```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     2 ************************************************************************
                                                     3 *
                                                     4 *   Zvector E7 instruction tests for VRR-b encoded:
                                                     5 *
                                                     6 *   E780 VFEE   - Vector Find Element Equal
                                                     7 *   E781 VFENE  - Vector Find Element Not Equal
                                                     8 *   E782 VFAE   - Vector Find Any Element Equal
                                                     9 *
                                                    10 *        James Wekel February 2025
                                                    11 ************************************************************************

                                                    13 ************************************************************************
                                                    14 *
                                                    15 *        basic instruction tests
                                                    16 *
                                                    17 ************************************************************************
                                                    18 *  This program tests proper functioning of the z/arch E7 VRR-b
                                                    19 *  Vector Find Element Equal, Vector Find Element Not Equal and
                                                    20 *  Vector Find Any Element Equal instructions.
                                                    21 *  Exceptions are not tested.
                                                    22 *
                                                    23 *  PLEASE NOTE that the tests are very SIMPLE TESTS designed to catch
                                                    24 *  obvious coding errors.  None of the tests are thorough.  They are
                                                    25 *  NOT designed to test all aspects of any of the instructions.
                                                    26 *
                                                    27 ************************************************************************
                                                    28 *
                                                    29 *    *Testcase zvector-e7-06-Find
                                                    30 *    *
                                                    31 *    *   Zvector E7 instruction tests for VRR-b encoded:
                                                    32 *    *
                                                    33 *    *   E780 VFEE   - Vector Find Element Equal
                                                    34 *    *   E781 VFENE  - Vector Find Element Not Equal
                                                    35 *    *   E782 VFAE   - Vector Find Any Element Equal
                                                    36 *    *
                                                    37 *    *   # ---------------------------------------------------------
                                                    38 *    *   #  This tests only the basic function of the instruction.
                                                    39 *    *   #  Exceptions are NOT tested.
                                                    40 *    *   # ---------------------------------------------------------
                                                    41 *    *
                                                    42 *    mainsize    2
                                                    43 *    numcpu      1
                                                    44 *    sysclear
                                                    45 *    archlvl     z/Arch
                                                    46 *
                                                    47 *    loadcore    "$(testpath)/zvector-e7-06-Find.core" 0x0
                                                    48 *
                                                    49 *    diag8cmd    enable    # (needed for messages to Hercules console)
                                                    50 *    runtest     10        #
                                                    51 *    diag8cmd    disable   # (reset back to default)
                                                    52 *
                                                    53 *    *Done
                                                    54 *
                                                    55 *
                                                    56 ************************************************************************
```

```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    58 ************************************************************************
                                                    59 *        FCHECK Macro - Is a Facility Bit set?
                                                    60 *
                                                    61 *        If the facility bit is NOT set, an message is issued and
                                                    62 *        the test is skipped.
                                                    63 *
                                                    64 *        Fcheck uses R0, R1 and R2
                                                    65 *
                                                    66 * eg.    FCHECK 134,'vector-packed-decimal'
                                                    67 ************************************************************************
                                                    68          MACRO
                                                    69          FCHECK &BITNO,&NOTSETMSG
                                                    70 .*                      &BITNO : facility bit number to check
                                                    71 .*                      &NOTSETMSG : 'facility name'
                                                    72          LCLA  &FBBYTE           Facility bit in Byte
                                                    73          LCLA  &FBBIT            Facility bit within Byte
                                                    74
                                                    75          LCLA  &L(8)
                                                    76 &L(1)    SetA  128,64,32,16,8,4,2,1  bit positions within byte
                                                    77
                                                    78 &FBBYTE  SETA  &BITNO/8
                                                    79 &FBBIT   SETA  &L((&BITNO-(&FBBYTE*8))+1)
                                                    80 .*       MNOTE 0,'checking Bit=&BITNO: FBBYTE=&FBBYTE, FBBIT=&FBBIT'
                                                    81
                                                    82          B     X&SYSNDX
                                                    83 *                                       Fcheck data area
                                                    84 *                                       skip messgae
                                                    85 SKT&SYSNDX DC  C'    Skipping tests: '
                                                    86          DC    C&NOTSETMSG
                                                    87          DC    C' (bit &BITNO) is not installed.'
                                                    88 SKL&SYSNDX EQU *-SKT&SYSNDX
                                                    89 *                                       facility bits
                                                    90          DS    FD                       gap
                                                    91 FB&SYSNDX DS   4FD
                                                    92          DS    FD                       gap
                                                    93 *
                                                    94 X&SYSNDX EQU *
                                                    95          LA    R0,((X&SYSNDX-FB&SYSNDX)/8)-1
                                                    96          STFLE FB&SYSNDX                get facility bits
                                                    97
                                                    98          XGR   R0,R0
                                                    99          IC    R0,FB&SYSNDX+&FBBYTE     get fbit byte
                                                   100          N     R0,=F'&FBBIT'            is bit set?
                                                   101          BNZ   XC&SYSNDX
                                                   102 *
                                                   103 * facility bit not set, issue message and exit
                                                   104 *
                                                   105          LA    R0,SKL&SYSNDX            message length
                                                   106          LA    R1,SKT&SYSNDX            message address
                                                   107          BAL   R2,MSG
                                                   108
                                                   109          B     EOJ
                                                   110 XC&SYSNDX EQU *
                                                   111          MEND
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     113 ************************************************************************
                                                     114 *        Low core PSWs
                                                     115 ************************************************************************
                               00000000  00004B33    116 ZVE7TST  START 0
00000000                       00000000              117          USING ZVE7TST,R0            Low core addressability
                                                     118
                               00000140  00000000    119 SVOLDPSW EQU   ZVE7TST+X'140'        z/Arch Supervisor call old PSW

00000000                       00000000  000001A0    121          ORG   ZVE7TST+X'1A0'       z/Architecure RESTART PSW
000001A0  00000001 80000000                          122          DC    X'0000000180000000'
000001A8  00000000 00000200                          123          DC    AD(BEGIN)

000001B0                       000001B0  000001D0    125          ORG   ZVE7TST+X'1D0'       z/Architecure PROGRAM CHECK PSW
000001D0  00020001 80000000                          126          DC    X'0002000180000000'
000001D8  00000000 0000DEAD                          127          DC    AD(X'DEAD')

000001E0                       000001E0  00000200    129          ORG   ZVE7TST+X'200'       Start of actual test program...

                                                     131 ************************************************************************
                                                     132 *                The actual "ZVE7TST" program itself...
                                                     133 ************************************************************************
                                                     134 *
                                                     135 *  Architecture Mode: z/Arch
                                                     136 *  Register Usage:
                                                     137 *
                                                     138 *    R0       (work)
                                                     139 *    R1-4     (work)
                                                     140 *    R5       Testing control table - current test base
                                                     141 *    R6-R7    (work)
                                                     142 *    R8       First base register
                                                     143 *    R9       Second base register
                                                     144 *    R10      Third base register
                                                     145 *    R11      E7TEST call return
                                                     146 *    R12      E7TESTS register
                                                     147 *    R13      (work)
                                                     148 *    R14      Subroutine call
                                                     149 *    R15      Secondary Subroutine call or work
                                                     150 *
                                                     151 ************************************************************************

00000200                       00000200              153          USING BEGIN,R8          FIRST Base Register
00000200                       00001200              154          USING BEGIN+4096,R9     SECOND Base Register
00000200                       00002200              155          USING BEGIN+8192,R10    THIRD Base Register

00000200  0580                                       157 BEGIN    BALR  R8,0              Initalize FIRST base register
00000202  0680                                       158          BCTR  R8,0              Initalize FIRST base register
00000204  0680                                       159          BCTR  R8,0              Initalize FIRST base register

00000206  4190 8800                    00000800      161          LA    R9,2048(,R8)      Initalize SECOND base register
0000020A  4190 9800                    00000800      162          LA    R9,2048(,R9)      Initalize SECOND base register
                                                     163
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
0000020E  41A0 9800                    00000800   164          LA    R10,2048(,R9)    Initalize THIRD base register
00000212  41A0 A800                    00000800   165          LA    R10,2048(,R10)   Initalize THIRD base register
                                                  166
00000216  B600 8354                    00000554   167          STCTL R0,R0,CTLR0      Store CR0 to enable AFP
0000021A  9604 8355                    00000555   168          OI    CTLR0+1,X'04'    Turn on AFP bit
0000021E  9602 8355                    00000555   169          OI    CTLR0+1,X'02'    Turn on Vector bit
00000222  B700 8354                    00000554   170          LCTL  R0,R0,CTLR0      Reload updated CR0
                                                  171
                                                  172 ********************************************************************
                                                  173 * Is z/Architecture vector facility installed  (bit 129)
                                                  174 ********************************************************************
                                                  175
                                                  176          FCHECK 129,'z/Architecture vector facility'
00000226  47F0 80A8                    000002A8  177+         B     X0001
                                                  178+*                                  Fcheck data area
                                                  179+*                                  skip messgae
0000022A  40404040 E2928997                       180+SKT0001  DC    C'    Skipping tests: '
0000023E  A961C199 838889A3                       181+         DC    C'z/Architecture vector facility'
0000025C  404D8289 A340F1F2                       182+         DC    C' (bit 129) is not installed.'
                           0000004E  00000001     183+SKL0001  EQU   *-SKT0001
                                                  184+*                                  facility bits
00000278  00000000 00000000                       185+         DS    FD               gap
00000280  00000000 00000000                       186+FB0001   DS    4FD
000002A0  00000000 00000000                       187+         DS    FD               gap
                                                  188+*
                           000002A8  00000001     189+X0001    EQU   *
000002A8  4100 0004                    00000004   190+         LA    R0,((X0001-FB0001)/8)-1
000002AC  B2B0 8080                    00000280   191+         STFLE FB0001           get facility bits
000002B0  B982 0000                               192+         XGR   R0,R0
000002B4  4300 8090                    00000290   193+         IC    R0,FB0001+16     get fbit byte
000002B8  5400 8368                    00000568   194+         N     R0,=F'64'        is bit set?
000002BC  4770 80D0                    000002D0   195+         BNZ   XC0001
                                                  196+*
                                                  197+* facility bit not set, issue message and exit
                                                  198+*
000002C0  4100 004E                    0000004E   199+         LA    R0,SKL0001       message length
000002C4  4110 802A                    0000022A   200+         LA    R1,SKT0001       message address
000002C8  4520 8270                    00000470   201+         BAL   R2,MSG
000002CC  47F0 8338                    00000538   202+         B     EOJ
                           000002D0  00000001     203+XC0001   EQU   *
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    205 ************************************************************************
                                                    206 *               Do tests in the E7TESTS table
                                                    207 ************************************************************************
                                                    208
000002D0  58C0 836C                       0000056C  209          L     R12,=A(E7TESTS)          get table of test addresses
                                                    210
                                 000002D4  00000001  211 NEXTE7   EQU   *
000002D4  5850 C000                       00000000  212          L     R5,0(0,R12)              get test address
000002D8  1255                                      213          LTR   R5,R5                       have a test?
000002DA  4780 8228                       00000428  214          BZ    ENDTEST                        done?
                                                    215
000002DE                          00000000          216          USING E7TEST,R5
                                                    217
000002DE  4800 5004                       00000004  218          LH    R0,TNUM                  save current test number
000002E2  5000 8E04                       00001004  219          ST    R0,TESTING               for easy reference
                                                    220
000002E6  E760 8EF8 0806                  000010F8  221          VL    V22,V1FUDGE              using V22 as v1 for instruction
000002EC  58B0 5000                       00000000  222          L     R11,TSUB                 get address of test routine
000002F0  05BB                                      223          BALR  R11,R11                  do test
                                                    224
000002F2  E310 500A 0076                  0000000A  225          LB    R1,CCMASK                (failure CC mask)
000002F8  8910 0004                       00000004  226          SLL   R1,4                     (shift to BC instr CC position)
000002FC  4410 8118                       00000318  227          EX    R1,TESTCC                fail if...
                                                    228
                                 00000300  00000001  229 TESTREST EQU   *
00000300  E310 5030 0014                  00000030  230          LGF   R1,READDR                get address of expected result
00000306  D50F 5040 1000       00000040  00000000  231          CLC   V1OUTPUT,0(R1)           valid?
0000030C  4770 81B0                       000003B0  232          BNE   FAILMSG                     no, issue failed message
                                                    233
00000310  41C0 C004                       00000004  234          LA    R12,4(0,R12)             next test address
00000314  47F0 80D4                       000002D4  235          B     NEXTE7
                                                    236
00000318  4700 811C                       0000031C  237 TESTCC   BC    0,CCMSG                  (unexpected condition code?)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    239 ********************************************************************************
                                                    240 * cc was not as expected
                                                    241 ********************************************************************************
                               0000031C  00000001   242 CCMSG    EQU   *
                                                    243 *
                                                    244 * is CS set by test?
                                                    245 *
0000031C  E310 5008 0076                 00000008   246          LB    R1,M5                    Get M5
00000322  E310 8360 0080                 00000560   247          NG    R1,=D'1'                   issolate CS
00000328  4780 8100                      00000300   248          BZ    TESTREST                     not set?
                                                    249 *
                                                    250 * extract CC from extracted PSW
                                                    251 *
0000032C  5810 500C                      0000000C   252          L     R1,CCPSW
00000330  8810 000C                      0000000C   253          SRL   R1,12
00000334  5410 8370                      00000570   254          N     R1,=XL4'3'
00000338  4210 5014                      00000014   255          STC   R1,CCFOUND               save cc
                                                    256 *
                                                    257 * FILL IN MESSAGE
                                                    258 *
0000033C  4820 5004                      00000004   259          LH    R2,TNUM                  get test number and convert
00000340  4E20 8ED6                      000010D6   260          CVD   R2,DECNUM
00000344  D211 8EC0 8EAA       000010C0  000010AA   261          MVC   PRT3,EDIT
0000034A  DE11 8EC0 8ED6       000010C0  000010D6   262          ED    PRT3,DECNUM
00000350  D202 8E65 8ECD       00001065  000010CD   263          MVC   CCPRTNUM(3),PRT3+13      fill in message with test #
                                                    264
00000356  D207 8E82 5015       00001082  00000015   265          MVC   CCPRTNAME,OPNAME         fill in message with instruction
                                                    266
0000035C  B982 0022                                 267          XGR   R2,R2                    get CC as U8
00000360  4320 5009                      00000009   268          IC    R2,CC
00000364  4E20 8ED6                      000010D6   269          CVD   R2,DECNUM                and convert
00000368  D211 8EC0 8EAA       000010C0  000010AA   270          MVC   PRT3,EDIT
0000036E  DE11 8EC0 8ED6       000010C0  000010D6   271          ED    PRT3,DECNUM
00000374  D200 8E98 8ECF       00001098  000010CF   272          MVC   CCPRTEXP(1),PRT3+15      fill in message with CC field
                                                    273
0000037A  B982 0022                                 274          XGR   R2,R2                    get CCFOUND as U8
0000037E  4320 5014                      00000014   275          IC    R2,CCFOUND
00000382  4E20 8ED6                      000010D6   276          CVD   R2,DECNUM                and convert
00000386  D211 8EC0 8EAA       000010C0  000010AA   277          MVC   PRT3,EDIT
0000038C  DE11 8EC0 8ED6       000010C0  000010D6   278          ED    PRT3,DECNUM
00000392  D200 8EA8 8ECF       000010A8  000010CF   279          MVC   CCPRTGOT(1),PRT3+15      fill in message with ccfound
                                                    280
00000398  4100 0055                      00000055   281          LA    R0,CCPRTLNG              message length
0000039C  4110 8E55                      00001055   282          LA    R1,CCPRTLINE             messagfe address
000003A0  45F0 8236                      00000436   283          BAL   R15,RPTERROR
                                                    284
000003A4  5800 8374                      00000574   285          L     R0,=F'1'                 set failed test indicator
000003A8  5000 8E00                      00001000   286          ST    R0,FAILED
                                                    287
000003AC  47F0 8100                      00000300   288          B     TESTREST
                                                    289
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    291 ************************************************************************
                                                    292 * result not as expected:
                                                    293 *        issue message with test number, instruction under test
                                                    294 *              and instruction m4, m5
                                                    295 ************************************************************************
                                 000003B0  00000001 296 FAILMSG  EQU   *
000003B0  4820 5004                        00000004 297          LH    R2,TNUM              get test number and convert
000003B4  4E20 8ED6                        000010D6 298          CVD   R2,DECNUM
000003B8  D211 8EC0 8EAA       000010C0   000010AA 299          MVC   PRT3,EDIT
000003BE  DE11 8EC0 8ED6       000010C0   000010D6 300          ED    PRT3,DECNUM
000003C4  D202 8E18 8ECD       00001018   000010CD 301          MVC   PRTNUM(3),PRT3+13    fill in message with test #
                                                    302
000003CA  D207 8E33 5015       00001033   00000015 303          MVC   PRTNAME,OPNAME       fill in message with instruction
                                                    304
000003D0  B982 0022                                305          XGR   R2,R2                get M4 as U8
000003D4  4320 5007                        00000007 306          IC    R2,M4
000003D8  4E20 8ED6                        000010D6 307          CVD   R2,DECNUM            and convert
000003DC  D211 8EC0 8EAA       000010C0   000010AA 308          MVC   PRT3,EDIT
000003E2  DE11 8EC0 8ED6       000010C0   000010D6 309          ED    PRT3,DECNUM
000003E8  D202 8E44 8ECD       00001044   000010CD 310          MVC   PRTM4(3),PRT3+13     fill in message with M4 field
                                                    311
000003EE  B982 0022                                312          XGR   R2,R2                get M5 as U8
000003F2  4320 5008                        00000008 313          IC    R2,M5
000003F6  4E20 8ED6                        000010D6 314          CVD   R2,DECNUM            and convert
000003FA  D211 8EC0 8EAA       000010C0   000010AA 315          MVC   PRT3,EDIT
00000400  DE11 8EC0 8ED6       000010C0   000010D6 316          ED    PRT3,DECNUM
00000406  D202 8E51 8ECD       00001051   000010CD 317          MVC   PRTM5(3),PRT3+13     fill in message with M5 field
                                                    318
0000040C  4100 004D                        0000004D 319          LA    R0,PRTLNG            message length
00000410  4110 8E08                        00001008 320          LA    R1,PRTLINE           messagfe address
00000414  45F0 8236                        00000436 321          BAL   R15,RPTERROR


                                                    323 ************************************************************************
                                                    324 * continue after a failed test
                                                    325 ************************************************************************
                                 00000418  00000001 326 FAILCONT EQU   *
00000418  5800 8374                        00000574 327          L     R0,=F'1'               set failed test indicator
0000041C  5000 8E00                        00001000 328          ST    R0,FAILED
                                                    329
00000420  41C0 C004                        00000004 330          LA    R12,4(0,R12)           next test address
00000424  47F0 80D4                        000002D4 331          B     NEXTE7


                                                    333 ************************************************************************
                                                    334 * end of testing; set ending psw
                                                    335 ************************************************************************
                                 00000428  00000001 336 ENDTEST  EQU   *
00000428  5810 8E00                        00001000 337          L     R1,FAILED              did a test fail?
0000042C  1211                                     338          LTR   R1,R1
0000042E  4780 8338                        00000538 339          BZ    EOJ                    No, exit
00000432  47F0 8350                        00000550 340          B     FAILTEST               Yes, exit with BAD PSW
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    342 ************************************************************************
                                                    343 *        RPTERROR          Report instruction test in error
                                                    344 *                             R0 = MESSGAE LENGTH
                                                    345 *                             R1 = ADDRESS OF MESSAGE
                                                    346 ************************************************************************

00000436  50F0 8254                 00000454   348 RPTERROR ST    R15,RPTSAVE          Save return address
0000043A  5050 8258                 00000458   349          ST    R5,RPTSVR5           Save R5
                                                    350 *
                                                    351 *        Use Hercules Diagnose for Message to console
                                                    352 *
0000043E  9002 8260                 00000460   353          STM   R0,R2,RPTDWSAV       save regs used by MSG
00000442  4520 8270                 00000470   354          BAL   R2,MSG               call Hercules console MSG display
00000446  9802 8260                 00000460   355          LM    R0,R2,RPTDWSAV       restore regs


0000044A  5850 8258                 00000458   357          L     R5,RPTSVR5           Restore R5
0000044E  58F0 8254                 00000454   358          L     R15,RPTSAVE          Restore return address
00000452  07FF                                 359          BR    R15                  Return to caller

00000454  00000000                             361 RPTSAVE  DC    F'0'                 R15 save area
00000458  00000000                             362 RPTSVR5  DC    F'0'                 R5 save area

00000460  00000000 00000000                    364 RPTDWSAV DC    2D'0'                R0-R2 save area for MSG call


                                                    366 ************************************************************************
                                                    367 *        Issue HERCULES MESSAGE pointed to by R1, length in R0
                                                    368 *             R2 = return address
                                                    369 ************************************************************************

00000470  4900 8378                 00000578   371 MSG      CH    R0,=H'0'             Do we even HAVE a message?
00000474  07D2                                 372          BNHR  R2                   No, ignore

00000476  9002 82AC                 000004AC   374          STM   R0,R2,MSGSAVE        Save registers

0000047A  4900 837A                 0000057A   376          CH    R0,=AL2(L'MSGMSG)    Message length within limits?
0000047E  47D0 8286                 00000486   377          BNH   MSGOK                Yes, continue
00000482  4100 005F                 0000005F   378          LA    R0,L'MSGMSG          No, set to maximum

00000486  1820                                 380 MSGOK    LR    R2,R0                Copy length to work register
00000488  0620                                 381          BCTR  R2,0                 Minus-1 for execute
0000048A  4420 82B8                 000004B8   382          EX    R2,MSGMVC            Copy message to O/P buffer

0000048E  4120 200A                 0000000A   384          LA    R2,1+L'MSGCMD(,R2)   Calculate true command length
00000492  4110 82BE                 000004BE   385          LA    R1,MSGCMD            Point to true command

00000496  83120008                             387          DC    X'83',X'12',X'0008'  Issue Hercules Diagnose X'008'
0000049A  4780 82A6                 000004A6   388          BZ    MSGRET               Return if successful
                                               389
0000049E  1222                                 390          LTR   R2,R2                Is Diag8 Ry (R2) 0?
000004A0  4780 82A6                 000004A6   391          BZ    MSGRET                 an error occurred but coninue
                                               392
000004A4  0000                                 393          DC    H'0'                 CRASH for debugging purposes

000004A6  9802 82AC                 000004AC   395 MSGRET   LM    R0,R2,MSGSAVE        Restore registers
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000004AA  07F2                                      396          BR    R2                    Return to caller


000004AC  00000000 00000000                         398 MSGSAVE  DC    3F'0'                 Registers save area
000004B8  D200 82C7 1000      000004C7  00000000    399 MSGMVC   MVC   MSGMSG(0),0(R1)       Executed instruction

000004BE  D4E2C7D5 D6C8405C                         401 MSGCMD   DC    C'MSGNOH * '          *** HERCULES MESSAGE COMMAND ***
000004C7  40404040 40404040                         402 MSGMSG   DC    CL95' '               The message text to be displayed
                                                    403
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    405 ************************************************************************
                                                    406 *        Normal completion or Abnormal termination PSWs
                                                    407 ************************************************************************

00000528  00020001 80000000                         409 EOJPSW   DC    0D'0',X'0002000180000000',AD(0)
00000538  B2B2 8328                   00000528      411 EOJ      LPSWE EOJPSW                   Normal completion

00000540  00020001 80000000                         413 FAILPSW  DC    0D'0',X'0002000180000000',AD(X'BAD')
00000550  B2B2 8340                   00000540      415 FAILTEST LPSWE FAILPSW                  Abnormal termination

                                                    417 ************************************************************************
                                                    418 *        Working Storage
                                                    419 ************************************************************************

00000554  00000000                                  421 CTLR0    DS    F                        CR0
00000558  00000000                                  422          DS    F

00000560                                            424          LTORG ,                        Literals pool
00000560  00000000 00000001                         425                =D'1'
00000568  00000040                                  426                =F'64'
0000056C  000049E8                                  427                =A(E7TESTS)
00000570  00000003                                  428                =XL4'3'
00000574  00000001                                  429                =F'1'
00000578  0000                                      430                =H'0'
0000057A  005F                                      431                =AL2(L'MSGMSG)
                                                    432
                                                    433 *        some constants
                                                    434
                          00000400  00000001        435 K        EQU   1024                     One KB
                          00001000  00000001        436 PAGE     EQU   (4*K)                    Size of one page
                          00010000  00000001        437 K64      EQU   (64*K)                   64 KB
                          00100000  00000001        438 MB       EQU   (K*K)                     1 MB
                                                    439
                          AABBCCDD  00000001        440 REG2PATT EQU   X'AABBCCDD'              Polluted Register pattern
                          000000DD  00000001        441 REG2LOW  EQU         X'DD'             (last byte above)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    443 *=====================================================================
                                                    444 *
                                                    445 *  NOTE: start data on an address that is easy to display
                                                    446 *        within Hercules
                                                    447 *
                                                    448 *=====================================================================
                                                    449
0000057C                      0000057C  00001000    450          ORG   ZVE7TST+X'1000'
00001000  00000000                                  451 FAILED   DC    F'0'                    some test failed?
00001004  00000000                                  452 TESTING  DC    F'0'                    current test number

                                                    454 ***************************************************************************
                                                    455 *        TEST failed : result messgae
                                                    456 ***************************************************************************
                                                    457 *
                                                    458 *        failed message and associated editting
                                                    459 *
00001008  40404040 40404040                         460 PRTLINE  DC    C'         Test # '
00001018  A7A7A7                                    461 PRTNUM   DC    C'xxx'
0000101B  40868189 93858440                         462          DC    C' failed for instruction '
00001033  A7A7A7A7 A7A7A7A7                         463 PRTNAME  DC    CL8'xxxxxxxx'
0000103B  40A689A3 884094F4                         464          DC    C' with m4='
00001044  A7A7A7                                    465 PRTM4    DC    C'xxx'
00001047  6B                                        466          DC    C','
00001048  40A689A3 884094F5                         467          DC    C' with m5='
00001051  A7A7A7                                    468 PRTM5    DC    C'xxx'
00001054  4B                                        469          DC    C'.'
                              0000004D  00000001    470 PRTLNG   EQU   *-PRTLINE
                                                    471
                                                    472 ***************************************************************************
                                                    473 *        TEST failed : CC message
                                                    474 ***************************************************************************
                                                    475 *
                                                    476 *        failed message and associated editting
                                                    477 *
00001055  40404040 40404040                         478 CCPRTLINE DC   C'         Test # '
00001065  A7A7A7                                    479 CCPRTNUM DC    C'xxx'
00001068  40A69996 95874083                         480          DC    c' wrong cc for instruction '
00001082  A7A7A7A7 A7A7A7A7                         481 CCPRTNAME DC    CL8'xxxxxxxx'
0000108A  4085A797 8583A385                         482          DC    C' expected: cc='
00001098  A7                                        483 CCPRTEXP DC    C'x'
00001099  6B                                        484          DC    C','
0000109A  40998583 8589A585                         485          DC    C' received: cc='
000010A8  A7                                        486 CCPRTGOT DC    C'x'
000010A9  4B                                        487          DC    C'.'
                              00000055  00000001    488 CCPRTLNG   EQU   *-CCPRTLINE
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                                                     490 ************************************************************************
                                                     491 *        TEST failed : message working storge
                                                     492 ************************************************************************
000010AA  40212020 20202020                          493 EDIT     DC    XL18'4021202020202020202020202020202020'
                                                     494
000010BC  7E7E7E6E                                   495          DC    C'===>'
000010C0  40404040 40404040                          496 PRT3     DC    CL18' '
000010D2  4C7E7E7E                                   497          DC    C'<==='
000010D6  00000000 00000000                          498 DECNUM   DS    CL16


                                                     500 ************************************************************************
                                                     501 *        Vector instruction results, pollution and input
                                                     502 ************************************************************************
000010E8                                             503          DS    0F
000010E8  00000000 00000000                          504          DS    XL16                                    gap
000010F8  FFFFFFFF FFFFFFFF                          505 V1FUDGE  DC    XL16'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    V1 FUDGE
00001108  00000000 00000000                          506          DS    XL16


                                                     508 ************************************************************************
                                                     509 *        E7TEST DSECT
                                                     510 ************************************************************************


                                                     512 E7TEST   DSECT ,
00000000  00000000                                   513 TSUB     DC    A(0)                      pointer  to test
00000004  0000                                       514 TNUM     DC    H'00'                     Test Number
00000006  00                                         515          DC    X'00'
00000007  00                                         516 M4       DC    HL1'00'                   m4 used
00000008  00                                         517 M5       DC    HL1'00'                   m5 used
00000009  00                                         518 CC       DC    HL1'00'                   cc expected
0000000A  00                                         519 CCMASK   DC    HL1'00'                   not expected CC mask
                                                     520 *
                                                     521 *        CC extrtaction
                                                     522 *
0000000C  00000000 00000000                          523 CCPSW    DS    2F                        extract PSW after test (has CC)
00000014  00                                         524 CCFOUND  DS    X                         extracted cc
                                                     525
00000015  40404040 40404040                          526 OPNAME   DC    CL8' '                    E7 name
00000020  00000000                                   527 V1ADDR   DC    A(0)                      address of v1 result
00000024  00000000                                   528 V2ADDR   DC    A(0)                      address of v2 source
00000028  00000000                                   529 V3ADDR   DC    A(0)                      address of v3 source
0000002C  00000000                                   530 RELEN    DC    A(0)                      RESULT LENGTH
00000030  00000000                                   531 READDR   DC    A(0)                      result (expected) address
00000038  00000000 00000000                          532          DS    FD                           gap
00000040  00000000 00000000                          533 V1OUTPUT DS    XL16                      V1 Output
00000050  00000000 00000000                          534          DS    FD                           gap
                                                     535
                                                     536 *        test routine will be here (from VRR-b macro)
                                                     537 *
                                                     538 *        followed by
                                                     539 *              EXPECTED RESULT
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                              00000000  00004B33   541 ZVE7TST  CSECT ,
00001118                                           542          DS    0F


                                                   544 ************************************************************************
                                                   545 *     Macros to help build test tables
                                                   546 ************************************************************************


                                                   548 *
                                                   549 * macro to generate individual test
                                                   550 *
                                                   551          MACRO
                                                   552          VRR_B &INST,&M4,&M5,&CC
                                                   553 .*                                 &INST   - VRR-b instruction under test
                                                   554 .*                                 &M4     - m4 field - element size
                                                   555 .*                                 &M5     - m5 field - IN, RT, ZS, CS
                                                   556 .*                                 &CC     - expected CC
                                                   557
                                                   558          LCLA  &XCC(4)  &XCC has mask values for FAILED condition codes
                                                   559 &XCC(1)  SETA  7                   CC != 0
                                                   560 &XCC(2)  SETA  11                  CC != 1
                                                   561 &XCC(3)  SETA  13                  CC != 2
                                                   562 &XCC(4)  SETA  14                  CC != 3
                                                   563
                                                   564          GBLA  &TNUM
                                                   565 &TNUM    SETA  &TNUM+1
                                                   566
                                                   567          DS    0FD
                                                   568          USING *,R5               base for test data and test routine
                                                   569
                                                   570 T&TNUM   DC    A(X&TNUM)          address of test routine
                                                   571          DC    H'&TNUM'           test number
                                                   572          DC    X'00'
                                                   573          DC    HL1'&M4'                m4 used
                                                   574          DC    HL1'&M5'                m5 used
                                                   575          DC    HL1'&CC'           CC
                                                   576          DC    HL1'&XCC(&CC+1)'   CC failed mask
                                                   577
                                                   578          DS    2F                 extracted PSW after test (has CC)
                                                   579          DC    X'FF'              extracted CC, if test failed
                                                   580
                                                   581          DC    CL8'&INST'         instruction name
                                                   582          DC    A(RE&TNUM)         address of v1 result
                                                   583          DC    A(RE&TNUM+16)      address of v2 source
                                                   584          DC    A(RE&TNUM+32)      address of v3 source
                                                   585          DC    A(16)              result length
                                                   586 REA&TNUM DC    A(RE&TNUM)         result address
                                                   587          DS    FD                 gap
                                                   588 V1O&TNUM DS    XL16               V1 output
                                                   589          DS    FD                 gap
                                                   590 .*
                                                   591 *
                                                   592 X&TNUM   DS    0F
                                                   593          LGF   R1,V2ADDR          load v2 source
                                                   594          VL    v22,0(R1)          use v21 to test decoder
```

```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                   595          LGF   R1,V3ADDR          load v3 source
                                                   596          VL    v23,0(R1)          use v22 to test decoder
                                                   597
                                                   598          &INST V21,V22,V23,&M4,&M5            test instruction
                                                   599
                                                   600          EPSW  R2,R0              extract psw
                                                   601          ST    R2,CCPSW              to save CC
                                                   602
                                                   603          VST   V21,V1O&TNUM       save v1 output
                                                   604
                                                   605          BR    R11                return
                                                   606
                                                   607 RE&TNUM  DC    0F                 V1 for this test
                                                   608
                                                   609          DROP  R5
                                                   610          MEND


                                                   612 *
                                                   613 * macro to generate table of pointers to individual tests
                                                   614 *
                                                   615          MACRO
                                                   616          PTTABLE
                                                   617          GBLA  &TNUM
                                                   618          LCLA  &CUR
                                                   619 &CUR     SETA  1
                                                   620 .*
                                                   621 TTABLE   DS    0F
                                                   622 .LOOP    ANOP
                                                   623 .*
                                                   624          DC    A(T&CUR)                 test address
                                                   625 .*
                                                   626 &CUR     SETA  &CUR+1
                                                   627          AIF   (&CUR LE &TNUM).LOOP
                                                   628 *
                                                   629          DC    A(0)                     end of table
                                                   630          DC    A(0)                     end of table
                                                   631 .*
                                                   632          MEND
                                                   633
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                                                      635 ********************************************************************************
                                                      636 *        E7 VRR-b tests
                                                      637 ********************************************************************************
                                                      638          PRINT DATA
                                                      639 *
                                                      640 *
                                                      641 *   E780 VFEE   - Vector Find Element Equal
                                                      642 *   E781 VFENE  - Vector Find Element Not Equal
                                                      643 *   E782 VFAE   - Vector Find Any Element Equal
                                                      644 *
                                                      645 *        VRR-b instruction,
                                                      646 *              M4,                    element size
                                                      647 *              M5,                    IN, RT, ZS, CS
                                                      648 *              CC                     expected condition code
                                                      649 *
                                                      650 *              followed by
                                                      651 *                 16 byte V1 result
                                                      652 *                 16 byte V2 source
                                                      653 *                 16 byte V3 source
                                                      654
                                                      655 *-------------------------------------------------------------------
                                                      656 * VFEE   - Vector Find Element Equal
                                                      657 *-------------------------------------------------------------------
                                                      658
                                                      659 *-------------------------------------------------------------------
                                                      660 * case 0 -  simple debug              CC=1                ZS=0, CS=1
                                                      661 *-------------------------------------------------------------------
                                                      662 *
                                                      663          VRR_B VFEE,0,1,1
00001118                                              664+         DS    0FD
00001118                        00001118              665+         USING *,R5               base for test data and test routine
00001118  00001170                                    666+T1       DC    A(X1)              address of test routine
0000111C  0001                                        667+         DC    H'1'               test number
0000111E  00                                          668+         DC    X'00'
0000111F  00                                          669+         DC    HL1'0'                  m4 used
00001120  01                                          670+         DC    HL1'1'                  m5 used
00001121  01                                          671+         DC    HL1'1'             CC
00001122  0B                                          672+         DC    HL1'11'            CC failed mask
00001124  00000000 00000000                           673+         DS    2F                 extracted PSW after test (has CC)
0000112C  FF                                          674+         DC    X'FF'              extracted CC, if test failed
0000112D  E5C6C5C5 40404040                           675+         DC    CL8'VFEE'          instruction name
00001138  000011A0                                    676+         DC    A(RE1)             address of v1 result
0000113C  000011B0                                    677+         DC    A(RE1+16)          address of v2 source
00001140  000011C0                                    678+         DC    A(RE1+32)          address of v3 source
00001144  00000010                                    679+         DC    A(16)              result length
00001148  000011A0                                    680+REA1     DC    A(RE1)             result address
00001150  00000000 00000000                           681+         DS    FD                 gap
00001158  00000000 00000000                           682+V1O1     DS    XL16               V1 output
00001160  00000000 00000000
00001168  00000000 00000000                           683+         DS    FD                 gap
                                                      684+*
00001170                                              685+X1       DS    0F
00001170  E310 5024 0014                  00000024    686+         LGF   R1,V2ADDR          load v2 source
00001176  E761 0000 0806                  00000000    687+         VL    v22,0(R1)          use v21 to test decoder
0000117C  E310 5028 0014                  00000028    688+         LGF   R1,V3ADDR          load v3 source
00001182  E771 0000 0806                  00000000    689+         VL    v23,0(R1)          use v22 to test decoder
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001188  E756 7010 0E80                          690+         VFEE  V21,V22,V23,0,1              test instruction
0000118E  B98D 0020                               691+         EPSW  R2,R0               extract psw
00001192  5020 500C                    0000000C   692+         ST    R2,CCPSW              to save CC
00001196  E750 5040 080E               00001158   693+         VST   V21,V1O1            save v1 output
0000119C  07FB                                    694+         BR    R11                 return
000011A0                                          695+RE1      DC    0F                  V1 for this test
000011A0                                          696+         DROP  R5
000011A0  00000000 00000000                      697          DC    XL16'00000000000000000000000000000000'   V1
000011A8  00000000 00000000
000011B0  00000000 00000000                      698          DC    XL16'00000000000000000000000000000000'   v2
000011B8  00000000 00000000
000011C0  00000000 00000000                      699          DC    XL16'00000000000000000000000000000000'   v3
000011C8  00000000 00000000
                                                 700
                                                 701 *-------------------------------------------------------------------
                                                 702 * case 1 - Hardware Verified
                                                 703 *-------------------------------------------------------------------
                                                 704 * Byte, No equal, no zero              cc=3
                                                 705          VRR_B VFEE,0,3,3
000011D0                                         706+         DS    0FD
000011D0                       000011D0          707+         USING *,R5                base for test data and test routine
000011D0  00001228                               708+T2       DC    A(X2)               address of test routine
000011D4  0002                                   709+         DC    H'2'                test number
000011D6  00                                     710+         DC    X'00'
000011D7  00                                     711+         DC    HL1'0'                  m4 used
000011D8  03                                     712+         DC    HL1'3'                  m5 used
000011D9  03                                     713+         DC    HL1'3'              CC
000011DA  0E                                     714+         DC    HL1'14'             CC failed mask
000011DC  00000000 00000000                      715+         DS    2F                  extracted PSW after test (has CC)
000011E4  FF                                     716+         DC    X'FF'               extracted CC, if test failed
000011E5  E5C6C5C5 40404040                      717+         DC    CL8'VFEE'           instruction name
000011F0  00001258                               718+         DC    A(RE2)              address of v1 result
000011F4  00001268                               719+         DC    A(RE2+16)           address of v2 source
000011F8  00001278                               720+         DC    A(RE2+32)           address of v3 source
000011FC  00000010                               721+         DC    A(16)               result length
00001200  00001258                               722+REA2     DC    A(RE2)              result address
00001208  00000000 00000000                      723+         DS    FD                  gap
00001210  00000000 00000000                      724+V1O2     DS    XL16                V1 output
00001218  00000000 00000000
00001220  00000000 00000000                      725+         DS    FD                  gap
                                                 726+*
00001228                                         727+X2       DS    0F
00001228  E310 5024 0014               00000024  728+         LGF   R1,V2ADDR           load v2 source
0000122E  E761 0000 0806               00000000  729+         VL    v22,0(R1)           use v21 to test decoder
00001234  E310 5028 0014               00000028  730+         LGF   R1,V3ADDR           load v3 source
0000123A  E771 0000 0806               00000000  731+         VL    v23,0(R1)           use v22 to test decoder
00001240  E756 7030 0E80                         732+         VFEE  V21,V22,V23,0,3             test instruction
00001246  B98D 0020                              733+         EPSW  R2,R0               extract psw
0000124A  5020 500C                    0000000C  734+         ST    R2,CCPSW              to save CC
0000124E  E750 9010 080E               00001210  735+         VST   V21,V1O2            save v1 output
00001254  07FB                                   736+         BR    R11                 return
00001258                                         737+RE2      DC    0F                  V1 for this test
00001258                                         738+         DROP  R5
00001258  00000000 00000010                      739          DC    XL16'00000000000000100000000000000000'   V1
00001260  00000000 00000000
00001268  5D3A5859 5A535953                      740          DC    XL16'5D3A58595A53595354454D445F444546'   v2
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001270  54454D44 5F444546
00001278  25252525 25252525                          741          DC    XL16'25252525252525252525252525252525'   v3
00001280  25252525 25252525
                                                     742
                                                     743 * Byte, No equal, with zero            cc=0
                                                     744          VRR_B VFEE,0,3,0
00001288                                             745+         DS    0FD
00001288                        00001288             746+         USING *,R5                base for test data and test routine
00001288  000012E0                                   747+T3       DC    A(X3)               address of test routine
0000128C  0003                                       748+         DC    H'3'                test number
0000128E  00                                         749+         DC    X'00'
0000128F  00                                         750+         DC    HL1'0'                   m4 used
00001290  03                                         751+         DC    HL1'3'                   m5 used
00001291  00                                         752+         DC    HL1'0'              CC
00001292  07                                         753+         DC    HL1'7'              CC failed mask
00001294  00000000 00000000                          754+         DS    2F                  extracted PSW after test (has CC)
0000129C  FF                                         755+         DC    X'FF'               extracted CC, if test failed
0000129D  E5C6C5C5 40404040                          756+         DC    CL8'VFEE'           instruction name
000012A8  00001310                                   757+         DC    A(RE3)              address of v1 result
000012AC  00001320                                   758+         DC    A(RE3+16)           address of v2 source
000012B0  00001330                                   759+         DC    A(RE3+32)           address of v3 source
000012B4  00000010                                   760+         DC    A(16)               result length
000012B8  00001310                                   761+REA3     DC    A(RE3)              result address
000012C0  00000000 00000000                          762+         DS    FD                  gap
000012C8  00000000 00000000                          763+V1O3     DS    XL16                V1 output
000012D0  00000000 00000000
000012D8  00000000 00000000                          764+         DS    FD                  gap
                                                     765+*
000012E0                                             766+X3       DS    0F
000012E0  E310 5024 0014                 00000024    767+         LGF   R1,V2ADDR           load v2 source
000012E6  E761 0000 0806                 00000000    768+         VL    v22,0(R1)           use v21 to test decoder
000012EC  E310 5028 0014                 00000028    769+         LGF   R1,V3ADDR           load v3 source
000012F2  E771 0000 0806                 00000000    770+         VL    v23,0(R1)           use v22 to test decoder
000012F8  E756 7030 0E80                             771+         VFEE  V21,V22,V23,0,3                test instruction
000012FE  B98D 0020                                  772+         EPSW  R2,R0               extract psw
00001302  5020 500C                      0000000C    773+         ST    R2,CCPSW               to save CC
00001306  E750 5040 080E                 000012C8    774+         VST   V21,V1O3            save v1 output
0000130C  07FB                                       775+         BR    R11                 return
00001310                                             776+RE3      DC    0F                  V1 for this test
00001310                                             777+         DROP  R5
00001310  00000000 00000009                          778          DC    XL16'00000000000000090000000000000000'   V1
00001318  00000000 00000000
00001320  5D3A5859 5A535953                          779          DC    XL16'5D3A58595A53595354004D445F444546'   v2
00001328  54004D44 5F444546
00001330  25252525 25252525                          780          DC    XL16'25252525252525252500252525252525'   v3
00001338  25002525 25252525
                                                     781
                                                     782 * Byte, Equal, no zero                 cc=1
                                                     783          VRR_B VFEE,0,3,1
00001340                                             784+         DS    0FD
00001340                        00001340             785+         USING *,R5                base for test data and test routine
00001340  00001398                                   786+T4       DC    A(X4)               address of test routine
00001344  0004                                       787+         DC    H'4'                test number
00001346  00                                         788+         DC    X'00'
00001347  00                                         789+         DC    HL1'0'                   m4 used
00001348  03                                         790+         DC    HL1'3'                   m5 used
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001349  01                                        791+         DC    HL1'1'              CC
0000134A  0B                                        792+         DC    HL1'11'             CC failed mask
0000134C  00000000 00000000                         793+         DS    2F                  extracted PSW after test (has CC)
00001354  FF                                        794+         DC    X'FF'               extracted CC, if test failed
00001355  E5C6C5C5 40404040                         795+         DC    CL8'VFEE'           instruction name
00001360  000013C8                                  796+         DC    A(RE4)              address of v1 result
00001364  000013D8                                  797+         DC    A(RE4+16)           address of v2 source
00001368  000013E8                                  798+         DC    A(RE4+32)           address of v3 source
0000136C  00000010                                  799+         DC    A(16)               result length
00001370  000013C8                                  800+REA4     DC    A(RE4)              result address
00001378  00000000 00000000                         801+         DS    FD                  gap
00001380  00000000 00000000                         802+V1O4     DS    XL16                V1 output
00001388  00000000 00000000
00001390  00000000 00000000                         803+         DS    FD                  gap
                                                    804+*
00001398                                            805+X4       DS    0F
00001398  E310 5024 0014                 00000024   806+         LGF   R1,V2ADDR           load v2 source
0000139E  E761 0000 0806                 00000000   807+         VL    v22,0(R1)           use v21 to test decoder
000013A4  E310 5028 0014                 00000028   808+         LGF   R1,V3ADDR           load v3 source
000013AA  E771 0000 0806                 00000000   809+         VL    v23,0(R1)           use v22 to test decoder
000013B0  E756 7030 0E80                            810+         VFEE  V21,V22,V23,0,3                test instruction
000013B6  B98D 0020                                 811+         EPSW  R2,R0               extract psw
000013BA  5020 500C                      0000000C   812+         ST    R2,CCPSW               to save CC
000013BE  E750 5040 080E                 00001380   813+         VST   V21,V1O4            save v1 output
000013C4  07FB                                      814+         BR    R11                 return
000013C8                                            815+RE4      DC    0F                  V1 for this test
000013C8                                            816+         DROP  R5
000013C8  00000000 00000005                         817          DC    XL16'00000000000000050000000000000000'   V1
000013D0  00000000 00000000
000013D8  5D3A5859 5A255953                         818          DC    XL16'5D3A58595A25595354454D445F444546'   v2
000013E0  54454D44 5F444546
000013E8  25252525 25252525                         819          DC    XL16'25252525252525252525252525252525'   v3
000013F0  25252525 25252525
                                                    820
                                                    821 * Byte, Equal before zero              cc=2
                                                    822          VRR_B VFEE,0,3,2
000013F8                                            823+         DS    0FD
000013F8                         000013F8           824+         USING *,R5                base for test data and test routine
000013F8  00001450                                  825+T5       DC    A(X5)               address of test routine
000013FC  0005                                      826+         DC    H'5'                test number
000013FE  00                                        827+         DC    X'00'
000013FF  00                                        828+         DC    HL1'0'                   m4 used
00001400  03                                        829+         DC    HL1'3'                   m5 used
00001401  02                                        830+         DC    HL1'2'              CC
00001402  0D                                        831+         DC    HL1'13'             CC failed mask
00001404  00000000 00000000                         832+         DS    2F                  extracted PSW after test (has CC)
0000140C  FF                                        833+         DC    X'FF'               extracted CC, if test failed
0000140D  E5C6C5C5 40404040                         834+         DC    CL8'VFEE'           instruction name
00001418  00001480                                  835+         DC    A(RE5)              address of v1 result
0000141C  00001490                                  836+         DC    A(RE5+16)           address of v2 source
00001420  000014A0                                  837+         DC    A(RE5+32)           address of v3 source
00001424  00000010                                  838+         DC    A(16)               result length
00001428  00001480                                  839+REA5     DC    A(RE5)              result address
00001430  00000000 00000000                         840+         DS    FD                  gap
00001438  00000000 00000000                         841+V1O5     DS    XL16                V1 output
00001440  00000000 00000000
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT
00001448  00000000 00000000                          842+          DS    FD                  gap
                                                     843+*
00001450                                             844+X5        DS    0F
00001450  E310 5024 0014                 00000024    845+          LGF   R1,V2ADDR          load v2 source
00001456  E761 0000 0806                 00000000    846+          VL    v22,0(R1)          use v21 to test decoder
0000145C  E310 5028 0014                 00000028    847+          LGF   R1,V3ADDR          load v3 source
00001462  E771 0000 0806                 00000000    848+          VL    v23,0(R1)          use v22 to test decoder
00001468  E756 7030 0E80                             849+          VFEE  V21,V22,V23,0,3                test instruction
0000146E  B98D 0020                                  850+          EPSW  R2,R0              extract psw
00001472  5020 500C                      0000000C    851+          ST    R2,CCPSW              to save CC
00001476  E750 5040 080E                 00001438    852+          VST   V21,V1O5           save v1 output
0000147C  07FB                                       853+          BR    R11                return
00001480                                             854+RE5       DC    0F                 V1 for this test
00001480                                             855+          DROP  R5
00001480  00000000 00000005                          856           DC    XL16'00000000000000050000000000000000'   V1
00001488  00000000 00000000
00001490  5D3A5859 5A255953                          857           DC    XL16'5D3A58595A25595354004D445F444546'   v2
00001498  54004D44 5F444546
000014A0  25252525 25252525                          858           DC    XL16'25252525252525252525252525252525'   v3
000014A8  25252525 25252525
                                                     859
                                                     860 * Byte, Equal after zero              cc=0
                                                     861           VRR_B VFEE,0,3,0
000014B0                                             862+          DS    0FD
000014B0                         000014B0            863+          USING *,R5               base for test data and test routine
000014B0  00001508                                   864+T6        DC    A(X6)              address of test routine
000014B4  0006                                       865+          DC    H'6'               test number
000014B6  00                                         866+          DC    X'00'
000014B7  00                                         867+          DC    HL1'0'                  m4 used
000014B8  03                                         868+          DC    HL1'3'                  m5 used
000014B9  00                                         869+          DC    HL1'0'             CC
000014BA  07                                         870+          DC    HL1'7'             CC failed mask
000014BC  00000000 00000000                          871+          DS    2F                 extracted PSW after test (has CC)
000014C4  FF                                         872+          DC    X'FF'              extracted CC, if test failed
000014C5  E5C6C5C5 40404040                          873+          DC    CL8'VFEE'          instruction name
000014D0  00001538                                   874+          DC    A(RE6)             address of v1 result
000014D4  00001548                                   875+          DC    A(RE6+16)          address of v2 source
000014D8  00001558                                   876+          DC    A(RE6+32)          address of v3 source
000014DC  00000010                                   877+          DC    A(16)              result length
000014E0  00001538                                   878+REA6      DC    A(RE6)             result address
000014E8  00000000 00000000                          879+          DS    FD                 gap
000014F0  00000000 00000000                          880+V1O6      DS    XL16               V1 output
000014F8  00000000 00000000
00001500  00000000 00000000                          881+          DS    FD                 gap
                                                     882+*
00001508                                             883+X6        DS    0F
00001508  E310 5024 0014                 00000024    884+          LGF   R1,V2ADDR          load v2 source
0000150E  E761 0000 0806                 00000000    885+          VL    v22,0(R1)          use v21 to test decoder
00001514  E310 5028 0014                 00000028    886+          LGF   R1,V3ADDR          load v3 source
0000151A  E771 0000 0806                 00000000    887+          VL    v23,0(R1)          use v22 to test decoder
00001520  E756 7030 0E80                             888+          VFEE  V21,V22,V23,0,3                test instruction
00001526  B98D 0020                                  889+          EPSW  R2,R0              extract psw
0000152A  5020 500C                      0000000C    890+          ST    R2,CCPSW              to save CC
0000152E  E750 5040 080E                 000014F0    891+          VST   V21,V1O6           save v1 output
00001534  07FB                                       892+          BR    R11                return
00001538                                             893+RE6       DC    0F                 V1 for this test
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001538                                             894+         DROP  R5
00001538  00000000 00000005                          895          DC    XL16'00000000000000050000000000000000'   V1
00001540  00000000 00000000
00001548  5D3A5859 5A005953                          896          DC    XL16'5D3A58595A00595354254D445F444546'   v2
00001550  54254D44 5F444546
00001558  25252525 25252525                          897          DC    XL16'25252525252525252525252525252525'   v3
00001560  25252525 25252525
                                                     898
                                                     899 * Halfword, No equal, no zero          cc=3
                                                     900          VRR_B VFEE,1,3,3
00001568                                             901+         DS    0FD
00001568                          00001568           902+         USING *,R5               base for test data and test routine
00001568  000015C0                                   903+T7       DC    A(X7)              address of test routine
0000156C  0007                                       904+         DC    H'7'               test number
0000156E  00                                         905+         DC    X'00'
0000156F  01                                         906+         DC    HL1'1'                  m4 used
00001570  03                                         907+         DC    HL1'3'                  m5 used
00001571  03                                         908+         DC    HL1'3'             CC
00001572  0E                                         909+         DC    HL1'14'            CC failed mask
00001574  00000000 00000000                          910+         DS    2F                 extracted PSW after test (has CC)
0000157C  FF                                         911+         DC    X'FF'              extracted CC, if test failed
0000157D  E5C6C5C5 40404040                          912+         DC    CL8'VFEE'          instruction name
00001588  000015F0                                   913+         DC    A(RE7)             address of v1 result
0000158C  00001600                                   914+         DC    A(RE7+16)          address of v2 source
00001590  00001610                                   915+         DC    A(RE7+32)          address of v3 source
00001594  00000010                                   916+         DC    A(16)              result length
00001598  000015F0                                   917+REA7     DC    A(RE7)             result address
000015A0  00000000 00000000                          918+         DS    FD                 gap
000015A8  00000000 00000000                          919+V1O7     DS    XL16               V1 output
000015B0  00000000 00000000
000015B8  00000000 00000000                          920+         DS    FD                 gap
                                                     921+*
000015C0                                             922+X7       DS    0F
000015C0  E310 5024 0014                 00000024    923+         LGF   R1,V2ADDR          load v2 source
000015C6  E761 0000 0806                 00000000    924+         VL    v22,0(R1)          use v21 to test decoder
000015CC  E310 5028 0014                 00000028    925+         LGF   R1,V3ADDR          load v3 source
000015D2  E771 0000 0806                 00000000    926+         VL    v23,0(R1)          use v22 to test decoder
000015D8  E756 7030 1E80                             927+         VFEE  V21,V22,V23,1,3            test instruction
000015DE  B98D 0020                                  928+         EPSW  R2,R0              extract psw
000015E2  5020 500C                      0000000C    929+         ST    R2,CCPSW              to save CC
000015E6  E750 5040 080E                 000015A8    930+         VST   V21,V1O7           save v1 output
000015EC  07FB                                       931+         BR    R11                return
000015F0                                             932+RE7      DC    0F                 V1 for this test
000015F0                                             933+         DROP  R5
000015F0  00000000 00000010                          934          DC    XL16'00000000000000100000000000000000'   V1
000015F8  00000000 00000000
00001600  5D3A5859 5A535953                          935          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00001608  54454D44 5F444546
00001610  25252525 25252525                          936          DC    XL16'25252525252525252525252525252525'   v3
00001618  25252525 25252525
                                                     937
                                                     938 * Halfword, Equal, no zero             cc=1
                                                     939          VRR_B VFEE,1,3,1
00001620                                             940+         DS    0FD
00001620                          00001620           941+         USING *,R5               base for test data and test routine
00001620  00001678                                   942+T8       DC    A(X8)              address of test routine
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001624  0008                                    943+         DC    H'8'                test number
00001626  00                                      944+         DC    X'00'
00001627  01                                      945+         DC    HL1'1'                   m4 used
00001628  03                                      946+         DC    HL1'3'                   m5 used
00001629  01                                      947+         DC    HL1'1'              CC
0000162A  0B                                      948+         DC    HL1'11'             CC failed mask
0000162C  00000000 00000000                       949+         DS    2F                  extracted PSW after test (has CC)
00001634  FF                                      950+         DC    X'FF'               extracted CC, if test failed
00001635  E5C6C5C5 40404040                       951+         DC    CL8'VFEE'           instruction name
00001640  000016A8                                952+         DC    A(RE8)              address of v1 result
00001644  000016B8                                953+         DC    A(RE8+16)           address of v2 source
00001648  000016C8                                954+         DC    A(RE8+32)           address of v3 source
0000164C  00000010                                955+         DC    A(16)               result length
00001650  000016A8                                956+REA8     DC    A(RE8)              result address
00001658  00000000 00000000                       957+         DS    FD                  gap
00001660  00000000 00000000                       958+V1O8     DS    XL16                V1 output
00001668  00000000 00000000
00001670  00000000 00000000                       959+         DS    FD                  gap
                                                  960+*
00001678                                          961+X8       DS    0F
00001678  E310 5024 0014                 00000024 962+         LGF   R1,V2ADDR           load v2 source
0000167E  E761 0000 0806                 00000000 963+         VL    v22,0(R1)           use v21 to test decoder
00001684  E310 5028 0014                 00000028 964+         LGF   R1,V3ADDR           load v3 source
0000168A  E771 0000 0806                 00000000 965+         VL    v23,0(R1)           use v22 to test decoder
00001690  E756 7030 1E80                          966+         VFEE  V21,V22,V23,1,3                 test instruction
00001696  B98D 0020                               967+         EPSW  R2,R0               extract psw
0000169A  5020 500C                      0000000C 968+         ST    R2,CCPSW                  to save CC
0000169E  E750 5040 080E                 00001660 969+         VST   V21,V1O8            save v1 output
000016A4  07FB                                    970+         BR    R11                 return
000016A8                                          971+RE8      DC    0F                  V1 for this test
000016A8                                          972+         DROP  R5
000016A8  00000000 00000006                       973          DC    XL16'00000000000000060000000000000000'   V1
000016B0  00000000 00000000
000016B8  5D3A5859 5A532525                       974          DC    XL16'5D3A58595A53252554454D445F444546'   v2
000016C0  54454D44 5F444546
000016C8  25252525 25252525                       975          DC    XL16'25252525252525252525252525252525'   v3
000016D0  25252525 25252525
                                                  976
                                                  977 * Halfword, Equal before zero          cc=2
                                                  978          VRR_B VFEE,1,3,2
000016D8                                          979+         DS    0FD
000016D8                      000016D8            980+         USING *,R5                base for test data and test routine
000016D8  00001730                                981+T9       DC    A(X9)               address of test routine
000016DC  0009                                    982+         DC    H'9'                test number
000016DE  00                                      983+         DC    X'00'
000016DF  01                                      984+         DC    HL1'1'                   m4 used
000016E0  03                                      985+         DC    HL1'3'                   m5 used
000016E1  02                                      986+         DC    HL1'2'              CC
000016E2  0D                                      987+         DC    HL1'13'             CC failed mask
000016E4  00000000 00000000                       988+         DS    2F                  extracted PSW after test (has CC)
000016EC  FF                                      989+         DC    X'FF'               extracted CC, if test failed
000016ED  E5C6C5C5 40404040                       990+         DC    CL8'VFEE'           instruction name
000016F8  00001760                                991+         DC    A(RE9)              address of v1 result
000016FC  00001770                                992+         DC    A(RE9+16)           address of v2 source
00001700  00001780                                993+         DC    A(RE9+32)           address of v3 source
00001704  00000010                                994+         DC    A(16)               result length
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001708  00001760                          995+REA9     DC    A(RE9)              result address
00001710  00000000 00000000                  996+         DS    FD                  gap
00001718  00000000 00000000                  997+V1O9     DS    XL16                V1 output
00001720  00000000 00000000
00001728  00000000 00000000                  998+         DS    FD                  gap
                                             999+*
00001730                                     1000+X9      DS    0F
00001730  E310 5024 0014            00000024 1001+        LGF   R1,V2ADDR           load v2 source
00001736  E761 0000 0806            00000000 1002+        VL    v22,0(R1)           use v21 to test decoder
0000173C  E310 5028 0014            00000028 1003+        LGF   R1,V3ADDR           load v3 source
00001742  E771 0000 0806            00000000 1004+        VL    v23,0(R1)           use v22 to test decoder
00001748  E756 7030 1E80                     1005+        VFEE  V21,V22,V23,1,3                test instruction
0000174E  B98D 0020                          1006+        EPSW  R2,R0               extract psw
00001752  5020 500C                 0000000C 1007+        ST    R2,CCPSW               to save CC
00001756  E750 5040 080E            00001718 1008+        VST   V21,V1O9            save v1 output
0000175C  07FB                               1009+        BR    R11                 return
00001760                                     1010+RE9     DC    0F                  V1 for this test
00001760                                     1011+        DROP  R5
00001760  00000000 00000006                  1012         DC    XL16'00000000000000060000000000000000'   V1
00001768  00000000 00000000
00001770  5D3A5859 5A532525                  1013         DC    XL16'5D3A58595A532525544500005F444546'   v2
00001778  54450000 5F444546
00001780  25252525 25252525                  1014         DC    XL16'25252525252525252525252525252525'   v3
00001788  25252525 25252525
                                             1015
                                             1016 * Halfword, No equal, no zero          cc=3
                                             1017         VRR_B VFEE,1,3,3
00001790                                     1018+        DS    0FD
00001790                    00001790         1019+        USING *,R5                base for test data and test routine
00001790  000017E8                           1020+T10     DC    A(X10)              address of test routine
00001794  000A                               1021+        DC    H'10'               test number
00001796  00                                 1022+        DC    X'00'
00001797  01                                 1023+        DC    HL1'1'                   m4 used
00001798  03                                 1024+        DC    HL1'3'                   m5 used
00001799  03                                 1025+        DC    HL1'3'              CC
0000179A  0E                                 1026+        DC    HL1'14'             CC failed mask
0000179C  00000000 00000000                  1027+        DS    2F                  extracted PSW after test (has CC)
000017A4  FF                                 1028+        DC    X'FF'               extracted CC, if test failed
000017A5  E5C6C5C5 40404040                  1029+        DC    CL8'VFEE'           instruction name
000017B0  00001818                           1030+        DC    A(RE10)             address of v1 result
000017B4  00001828                           1031+        DC    A(RE10+16)          address of v2 source
000017B8  00001838                           1032+        DC    A(RE10+32)          address of v3 source
000017BC  00000010                           1033+        DC    A(16)               result length
000017C0  00001818                           1034+REA10   DC    A(RE10)             result address
000017C8  00000000 00000000                  1035+        DS    FD                  gap
000017D0  00000000 00000000                  1036+V1O10   DS    XL16                V1 output
000017D8  00000000 00000000
000017E0  00000000 00000000                  1037+        DS    FD                  gap
                                             1038+*
000017E8                                     1039+X10     DS    0F
000017E8  E310 5024 0014            00000024 1040+        LGF   R1,V2ADDR           load v2 source
000017EE  E761 0000 0806            00000000 1041+        VL    v22,0(R1)           use v21 to test decoder
000017F4  E310 5028 0014            00000028 1042+        LGF   R1,V3ADDR           load v3 source
000017FA  E771 0000 0806            00000000 1043+        VL    v23,0(R1)           use v22 to test decoder
00001800  E756 7030 1E80                     1044+        VFEE  V21,V22,V23,1,3                test instruction
00001806  B98D 0020                          1045+        EPSW  R2,R0               extract psw
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
0000180A  5020 500C                    0000000C  1046+         ST    R2,CCPSW              to save CC
0000180E  E750 5040 080E               000017D0  1047+         VST   V21,V1O10           save v1 output
00001814  07FB                                   1048+         BR    R11                 return
00001818                                         1049+RE10     DC    0F                  V1 for this test
00001818                                         1050+         DROP  R5
00001818  00000000 00000010                      1051          DC    XL16'00000000000000100000000000000000'   V1
00001820  00000000 00000000
00001828  5D3A5859 5A535953                      1052          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00001830  54454D44 5F444546
00001838  25252525 25252525                      1053          DC    XL16'25252525252525252525252525252525'   v3
00001840  25252525 25252525
                                                 1054
                                                 1055 * Halfword, Equal, no zero            cc=1
                                                 1056          VRR_B VFEE,1,3,1
00001848                                         1057+         DS    0FD
00001848                 00001848                1058+         USING *,R5                base for test data and test routine
00001848  000018A0                               1059+T11      DC    A(X11)              address of test routine
0000184C  000B                                   1060+         DC    H'11'               test number
0000184E  00                                     1061+         DC    X'00'
0000184F  01                                     1062+         DC    HL1'1'                   m4 used
00001850  03                                     1063+         DC    HL1'3'                   m5 used
00001851  01                                     1064+         DC    HL1'1'              CC
00001852  0B                                     1065+         DC    HL1'11'             CC failed mask
00001854  00000000 00000000                      1066+         DS    2F                  extracted PSW after test (has CC)
0000185C  FF                                     1067+         DC    X'FF'               extracted CC, if test failed
0000185D  E5C6C5C5 40404040                      1068+         DC    CL8'VFEE'           instruction name
00001868  000018D0                               1069+         DC    A(RE11)             address of v1 result
0000186C  000018E0                               1070+         DC    A(RE11+16)          address of v2 source
00001870  000018F0                               1071+         DC    A(RE11+32)          address of v3 source
00001874  00000010                               1072+         DC    A(16)               result length
00001878  000018D0                               1073+REA11    DC    A(RE11)             result address
00001880  00000000 00000000                      1074+         DS    FD                  gap
00001888  00000000 00000000                      1075+V1O11    DS    XL16                V1 output
00001890  00000000 00000000
00001898  00000000 00000000                      1076+         DS    FD                  gap
                                                 1077+*
000018A0                                         1078+X11      DS    0F
000018A0  E310 5024 0014           00000024      1079+         LGF   R1,V2ADDR           load v2 source
000018A6  E761 0000 0806           00000000      1080+         VL    v22,0(R1)           use v21 to test decoder
000018AC  E310 5028 0014           00000028      1081+         LGF   R1,V3ADDR           load v3 source
000018B2  E771 0000 0806           00000000      1082+         VL    v23,0(R1)           use v22 to test decoder
000018B8  E756 7030 1E80                         1083+         VFEE  V21,V22,V23,1,3                 test instruction
000018BE  B98D 0020                              1084+         EPSW  R2,R0               extract psw
000018C2  5020 500C                    0000000C  1085+         ST    R2,CCPSW              to save CC
000018C6  E750 5040 080E               00001888  1086+         VST   V21,V1O11           save v1 output
000018CC  07FB                                   1087+         BR    R11                 return
000018D0                                         1088+RE11     DC    0F                  V1 for this test
000018D0                                         1089+         DROP  R5
000018D0  00000000 00000006                      1090          DC    XL16'00000000000000060000000000000000'   V1
000018D8  00000000 00000000
000018E0  5D3A5859 5A532525                      1091          DC    XL16'5D3A58595A53252554454D445F444546'   v2
000018E8  54454D44 5F444546
000018F0  25252525 25252525                      1092          DC    XL16'25252525252525252525252525252525'   v3
000018F8  25252525 25252525
                                                 1093
                                                 1094 * Halfword, Equal before zero         cc=2
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                   1095          VRR_B VFEE,1,3,2
00001900                                           1096+         DS    0FD
00001900                     00001900              1097+         USING *,R5              base for test data and test routine
00001900  00001958                                 1098+T12      DC    A(X12)            address of test routine
00001904  000C                                     1099+         DC    H'12'             test number
00001906  00                                       1100+         DC    X'00'
00001907  01                                       1101+         DC    HL1'1'                 m4 used
00001908  03                                       1102+         DC    HL1'3'                 m5 used
00001909  02                                       1103+         DC    HL1'2'            CC
0000190A  0D                                       1104+         DC    HL1'13'           CC failed mask
0000190C  00000000 00000000                        1105+         DS    2F                extracted PSW after test (has CC)
00001914  FF                                       1106+         DC    X'FF'             extracted CC, if test failed
00001915  E5C6C5C5 40404040                        1107+         DC    CL8'VFEE'         instruction name
00001920  00001988                                 1108+         DC    A(RE12)           address of v1 result
00001924  00001998                                 1109+         DC    A(RE12+16)        address of v2 source
00001928  000019A8                                 1110+         DC    A(RE12+32)        address of v3 source
0000192C  00000010                                 1111+         DC    A(16)             result length
00001930  00001988                                 1112+REA12    DC    A(RE12)           result address
00001938  00000000 00000000                        1113+         DS    FD                gap
00001940  00000000 00000000                        1114+V1O12    DS    XL16              V1 output
00001948  00000000 00000000
00001950  00000000 00000000                        1115+         DS    FD                gap
                                                   1116+*
00001958                                           1117+X12      DS    0F
00001958  E310 5024 0014                 00000024  1118+         LGF   R1,V2ADDR         load v2 source
0000195E  E761 0000 0806                 00000000  1119+         VL    v22,0(R1)         use v21 to test decoder
00001964  E310 5028 0014                 00000028  1120+         LGF   R1,V3ADDR         load v3 source
0000196A  E771 0000 0806                 00000000  1121+         VL    v23,0(R1)         use v22 to test decoder
00001970  E756 7030 1E80                           1122+         VFEE  V21,V22,V23,1,3                 test instruction
00001976  B98D 0020                                1123+         EPSW  R2,R0             extract psw
0000197A  5020 500C                      0000000C  1124+         ST    R2,CCPSW             to save CC
0000197E  E750 5040 080E                 00001940  1125+         VST   V21,V1O12         save v1 output
00001984  07FB                                     1126+         BR    R11               return
00001988                                           1127+RE12     DC    0F                V1 for this test
00001988                                           1128+         DROP  R5
00001988  00000000 00000006                        1129          DC    XL16'00000000000000060000000000000000'   V1
00001990  00000000 00000000
00001998  5D3A5859 5A532525                        1130          DC    XL16'5D3A58595A532525544500005F444546'   v2
000019A0  54450000 5F444546
000019A8  25252525 25252525                        1131          DC    XL16'25252525252525252525252525252525'   v3
000019B0  25252525 25252525
                                                   1132
                                                   1133 * Halfword, Equal before zero          cc=0
                                                   1134          VRR_B VFEE,1,3,0
000019B8                                           1135+         DS    0FD
000019B8                     000019B8              1136+         USING *,R5              base for test data and test routine
000019B8  00001A10                                 1137+T13      DC    A(X13)            address of test routine
000019BC  000D                                     1138+         DC    H'13'             test number
000019BE  00                                       1139+         DC    X'00'
000019BF  01                                       1140+         DC    HL1'1'                 m4 used
000019C0  03                                       1141+         DC    HL1'3'                 m5 used
000019C1  00                                       1142+         DC    HL1'0'            CC
000019C2  07                                       1143+         DC    HL1'7'            CC failed mask
000019C4  00000000 00000000                        1144+         DS    2F                extracted PSW after test (has CC)
000019CC  FF                                       1145+         DC    X'FF'             extracted CC, if test failed
000019CD  E5C6C5C5 40404040                        1146+         DC    CL8'VFEE'         instruction name
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000019D8  00001A40                                1147+          DC    A(RE13)             address of v1 result
000019DC  00001A50                                1148+          DC    A(RE13+16)          address of v2 source
000019E0  00001A60                                1149+          DC    A(RE13+32)          address of v3 source
000019E4  00000010                                1150+          DC    A(16)               result length
000019E8  00001A40                                1151+REA13     DC    A(RE13)             result address
000019F0  00000000 00000000                       1152+          DS    FD                  gap
000019F8  00000000 00000000                       1153+V1O13     DS    XL16                V1 output
00001A00  00000000 00000000
00001A08  00000000 00000000                       1154+          DS    FD                  gap
                                                  1155+*
00001A10                                          1156+X13       DS    0F
00001A10  E310 5024 0014                 00000024 1157+          LGF   R1,V2ADDR           load v2 source
00001A16  E761 0000 0806                 00000000 1158+          VL    v22,0(R1)           use v21 to test decoder
00001A1C  E310 5028 0014                 00000028 1159+          LGF   R1,V3ADDR           load v3 source
00001A22  E771 0000 0806                 00000000 1160+          VL    v23,0(R1)           use v22 to test decoder
00001A28  E756 7030 1E80                          1161+          VFEE  V21,V22,V23,1,3                test instruction
00001A2E  B98D 0020                               1162+          EPSW  R2,R0               extract psw
00001A32  5020 500C                      0000000C 1163+          ST    R2,CCPSW               to save CC
00001A36  E750 5040 080E                 000019F8 1164+          VST   V21,V1O13           save v1 output
00001A3C  07FB                                    1165+          BR    R11                 return
00001A40                                          1166+RE13      DC    0F                  V1 for this test
00001A40                                          1167+          DROP  R5
00001A40  00000000 00000006                       1168           DC    XL16'00000000000000060000000000000000'   V1
00001A48  00000000 00000000
00001A50  5D3A5859 5A530000                       1169           DC    XL16'5D3A58595A530000544525255F444546'   v2
00001A58  54452525 5F444546
00001A60  25252525 25252525                       1170           DC    XL16'25252525252525252525252525252525'   v3
00001A68  25252525 25252525
                                                  1171
                                                  1172 * Word, No equal, no zero              cc=3
                                                  1173           VRR_B VFEE,2,3,3
00001A70                                          1174+          DS    0FD
00001A70                       00001A70           1175+          USING *,R5                base for test data and test routine
00001A70  00001AC8                                1176+T14       DC    A(X14)              address of test routine
00001A74  000E                                    1177+          DC    H'14'               test number
00001A76  00                                      1178+          DC    X'00'
00001A77  02                                      1179+          DC    HL1'2'                   m4 used
00001A78  03                                      1180+          DC    HL1'3'                   m5 used
00001A79  03                                      1181+          DC    HL1'3'              CC
00001A7A  0E                                      1182+          DC    HL1'14'             CC failed mask
00001A7C  00000000 00000000                       1183+          DS    2F                  extracted PSW after test (has CC)
00001A84  FF                                      1184+          DC    X'FF'               extracted CC, if test failed
00001A85  E5C6C5C5 40404040                       1185+          DC    CL8'VFEE'           instruction name
00001A90  00001AF8                                1186+          DC    A(RE14)             address of v1 result
00001A94  00001B08                                1187+          DC    A(RE14+16)          address of v2 source
00001A98  00001B18                                1188+          DC    A(RE14+32)          address of v3 source
00001A9C  00000010                                1189+          DC    A(16)               result length
00001AA0  00001AF8                                1190+REA14     DC    A(RE14)             result address
00001AA8  00000000 00000000                       1191+          DS    FD                  gap
00001AB0  00000000 00000000                       1192+V1O14     DS    XL16                V1 output
00001AB8  00000000 00000000
00001AC0  00000000 00000000                       1193+          DS    FD                  gap
                                                  1194+*
00001AC8                                          1195+X14       DS    0F
00001AC8  E310 5024 0014                 00000024 1196+          LGF   R1,V2ADDR           load v2 source
00001ACE  E761 0000 0806                 00000000 1197+          VL    v22,0(R1)           use v21 to test decoder
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

00001AD4  E310 5028 0014                  00000028  1198+         LGF   R1,V3ADDR          load v3 source
00001ADA  E771 0000 0806                  00000000  1199+         VL    v23,0(R1)          use v22 to test decoder
00001AE0  E756 7030 2E80                            1200+         VFEE  V21,V22,V23,2,3              test instruction
00001AE6  B98D 0020                                 1201+         EPSW  R2,R0              extract psw
00001AEA  5020 500C                       0000000C  1202+         ST    R2,CCPSW              to save CC
00001AEE  E750 5040 080E                  00001AB0  1203+         VST   V21,V1O14          save v1 output
00001AF4  07FB                                      1204+         BR    R11                return
00001AF8                                            1205+RE14     DC    0F                 V1 for this test
00001AF8                                            1206+         DROP  R5
00001AF8  00000000 00000010                         1207          DC    XL16'00000000000000100000000000000000'   V1
00001B00  00000000 00000000
00001B08  5D3A5859 5A535953                         1208          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00001B10  54454D44 5F444546
00001B18  25252525 25252525                         1209          DC    XL16'25252525252525252525252525252525'   v3
00001B20  25252525 25252525
                                                    1210
                                                    1211 * Word, Equal, no zero                cc=1
                                                    1212          VRR_B VFEE,2,3,1
00001B28                                            1213+         DS    0FD
00001B28                          00001B28          1214+         USING *,R5               base for test data and test routine
00001B28  00001B80                                  1215+T15      DC    A(X15)             address of test routine
00001B2C  000F                                      1216+         DC    H'15'              test number
00001B2E  00                                        1217+         DC    X'00'
00001B2F  02                                        1218+         DC    HL1'2'                  m4 used
00001B30  03                                        1219+         DC    HL1'3'                  m5 used
00001B31  01                                        1220+         DC    HL1'1'             CC
00001B32  0B                                        1221+         DC    HL1'11'            CC failed mask
00001B34  00000000 00000000                         1222+         DS    2F                 extracted PSW after test (has CC)
00001B3C  FF                                        1223+         DC    X'FF'              extracted CC, if test failed
00001B3D  E5C6C5C5 40404040                         1224+         DC    CL8'VFEE'          instruction name
00001B48  00001BB0                                  1225+         DC    A(RE15)            address of v1 result
00001B4C  00001BC0                                  1226+         DC    A(RE15+16)         address of v2 source
00001B50  00001BD0                                  1227+         DC    A(RE15+32)         address of v3 source
00001B54  00000010                                  1228+         DC    A(16)              result length
00001B58  00001BB0                                  1229+REA15    DC    A(RE15)            result address
00001B60  00000000 00000000                         1230+         DS    FD                 gap
00001B68  00000000 00000000                         1231+V1O15    DS    XL16               V1 output
00001B70  00000000 00000000
00001B78  00000000 00000000                         1232+         DS    FD                 gap
                                                    1233+*
00001B80                                            1234+X15      DS    0F
00001B80  E310 5024 0014                  00000024  1235+         LGF   R1,V2ADDR          load v2 source
00001B86  E761 0000 0806                  00000000  1236+         VL    v22,0(R1)          use v21 to test decoder
00001B8C  E310 5028 0014                  00000028  1237+         LGF   R1,V3ADDR          load v3 source
00001B92  E771 0000 0806                  00000000  1238+         VL    v23,0(R1)          use v22 to test decoder
00001B98  E756 7030 2E80                            1239+         VFEE  V21,V22,V23,2,3              test instruction
00001B9E  B98D 0020                                 1240+         EPSW  R2,R0              extract psw
00001BA2  5020 500C                       0000000C  1241+         ST    R2,CCPSW              to save CC
00001BA6  E750 5040 080E                  00001B68  1242+         VST   V21,V1O15          save v1 output
00001BAC  07FB                                      1243+         BR    R11                return
00001BB0                                            1244+RE15     DC    0F                 V1 for this test
00001BB0                                            1245+         DROP  R5
00001BB0  00000000 00000004                         1246          DC    XL16'00000000000000040000000000000000'   V1
00001BB8  00000000 00000000
00001BC0  5D3A5859 25252525                         1247          DC    XL16'5D3A585925252554454D445F444546'   v2
00001BC8  54454D44 5F444546
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001BD0  25252525 25252525                        1248          DC    XL16'25252525252525252525252525252525'   v3
00001BD8  25252525 25252525
                                                   1249
                                                   1250 * Word, Equal before zero              cc=2
                                                   1251          VRR_B VFEE,2,3,2
00001BE0                                           1252+         DS    0FD
00001BE0                      00001BE0             1253+         USING *,R5                base for test data and test routine
00001BE0  00001C38                                 1254+T16      DC    A(X16)              address of test routine
00001BE4  0010                                     1255+         DC    H'16'               test number
00001BE6  00                                       1256+         DC    X'00'
00001BE7  02                                       1257+         DC    HL1'2'                   m4 used
00001BE8  03                                       1258+         DC    HL1'3'                   m5 used
00001BE9  02                                       1259+         DC    HL1'2'              CC
00001BEA  0D                                       1260+         DC    HL1'13'             CC failed mask
00001BEC  00000000 00000000                        1261+         DS    2F                  extracted PSW after test (has CC)
00001BF4  FF                                       1262+         DC    X'FF'               extracted CC, if test failed
00001BF5  E5C6C5C5 40404040                        1263+         DC    CL8'VFEE'           instruction name
00001C00  00001C68                                 1264+         DC    A(RE16)             address of v1 result
00001C04  00001C78                                 1265+         DC    A(RE16+16)          address of v2 source
00001C08  00001C88                                 1266+         DC    A(RE16+32)          address of v3 source
00001C0C  00000010                                 1267+         DC    A(16)               result length
00001C10  00001C68                                 1268+REA16    DC    A(RE16)             result address
00001C18  00000000 00000000                        1269+         DS    FD                  gap
00001C20  00000000 00000000                        1270+V1O16    DS    XL16                V1 output
00001C28  00000000 00000000
00001C30  00000000 00000000                        1271+         DS    FD                  gap
                                                   1272+*
00001C38                                           1273+X16      DS    0F
00001C38  E310 5024 0014                 00000024  1274+         LGF   R1,V2ADDR           load v2 source
00001C3E  E761 0000 0806                 00000000  1275+         VL    v22,0(R1)           use v21 to test decoder
00001C44  E310 5028 0014                 00000028  1276+         LGF   R1,V3ADDR           load v3 source
00001C4A  E771 0000 0806                 00000000  1277+         VL    v23,0(R1)           use v22 to test decoder
00001C50  E756 7030 2E80                           1278+         VFEE  V21,V22,V23,2,3                test instruction
00001C56  B98D 0020                                1279+         EPSW  R2,R0               extract psw
00001C5A  5020 500C                      0000000C  1280+         ST    R2,CCPSW               to save CC
00001C5E  E750 5040 080E                 00001C20  1281+         VST   V21,V1O16           save v1 output
00001C64  07FB                                     1282+         BR    R11                 return
00001C68                                           1283+RE16     DC    0F                  V1 for this test
00001C68                                           1284+         DROP  R5
00001C68  00000000 00000004                        1285          DC    XL16'00000000000000040000000000000000'   V1
00001C70  00000000 00000000
00001C78  5D3A5859 25252525                        1286          DC    XL16'5D3A5859252525000000005F444546'   v2
00001C80  00000000 5F444546
00001C88  25252525 25252525                        1287          DC    XL16'25252525252525252525252525252525'   v3
00001C90  25252525 25252525
                                                   1288
                                                   1289 * Word, Equal before zero              cc=0
                                                   1290          VRR_B VFEE,2,3,0
00001C98                                           1291+         DS    0FD
00001C98                      00001C98             1292+         USING *,R5                base for test data and test routine
00001C98  00001CF0                                 1293+T17      DC    A(X17)              address of test routine
00001C9C  0011                                     1294+         DC    H'17'               test number
00001C9E  00                                       1295+         DC    X'00'
00001C9F  02                                       1296+         DC    HL1'2'                   m4 used
00001CA0  03                                       1297+         DC    HL1'3'                   m5 used
00001CA1  00                                       1298+         DC    HL1'0'              CC
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001CA2  07                                      1299+          DC    HL1'7'              CC failed mask
00001CA4  00000000 00000000                       1300+          DS    2F                  extracted PSW after test (has CC)
00001CAC  FF                                      1301+          DC    X'FF'               extracted CC, if test failed
00001CAD  E5C6C5C5 40404040                       1302+          DC    CL8'VFEE'           instruction name
00001CB8  00001D20                                1303+          DC    A(RE17)             address of v1 result
00001CBC  00001D30                                1304+          DC    A(RE17+16)          address of v2 source
00001CC0  00001D40                                1305+          DC    A(RE17+32)          address of v3 source
00001CC4  00000010                                1306+          DC    A(16)               result length
00001CC8  00001D20                                1307+REA17     DC    A(RE17)             result address
00001CD0  00000000 00000000                       1308+          DS    FD                  gap
00001CD8  00000000 00000000                       1309+V1O17     DS    XL16                V1 output
00001CE0  00000000 00000000
00001CE8  00000000 00000000                       1310+          DS    FD                  gap
                                                  1311+*
00001CF0                                          1312+X17       DS    0F
00001CF0  E310 5024 0014                 00000024 1313+          LGF   R1,V2ADDR           load v2 source
00001CF6  E761 0000 0806                 00000000 1314+          VL    v22,0(R1)           use v21 to test decoder
00001CFC  E310 5028 0014                 00000028 1315+          LGF   R1,V3ADDR           load v3 source
00001D02  E771 0000 0806                 00000000 1316+          VL    v23,0(R1)           use v22 to test decoder
00001D08  E756 7030 2E80                          1317+          VFEE  V21,V22,V23,2,3               test instruction
00001D0E  B98D 0020                               1318+          EPSW  R2,R0               extract psw
00001D12  5020 500C                      0000000C 1319+          ST    R2,CCPSW               to save CC
00001D16  E750 5040 080E                 00001CD8 1320+          VST   V21,V1O17           save v1 output
00001D1C  07FB                                    1321+          BR    R11                 return
00001D20                                          1322+RE17      DC    0F                  V1 for this test
00001D20                                          1323+          DROP  R5
00001D20  00000000 00000004                       1324           DC    XL16'00000000000000040000000000000000'   V1
00001D28  00000000 00000000
00001D30  5D3A5859 00000000                       1325           DC    XL16'5D3A5859000000000252525255F444546'   v2
00001D38  25252525 5F444546
00001D40  25252525 25252525                       1326           DC    XL16'25252525252525252525252525252525'   v3
00001D48  25252525 25252525
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                   1328 *-------------------------------------------------------------------
                                                   1329 * VFENE  - Vector Find Element Not Equal
                                                   1330 *-------------------------------------------------------------------
                                                   1331
                                                   1332 *-------------------------------------------------------------------
                                                   1333 * case 0 -  simple debug               CC=1                ZS=0, CS=1
                                                   1334 *-------------------------------------------------------------------
                                                   1335 *
                                                   1336          VRR_B VFENE,0,1,3
00001D50                                           1337+         DS    0FD
00001D50                          00001D50         1338+         USING *,R5                base for test data and test routine
00001D50  00001DA8                                 1339+T18      DC    A(X18)              address of test routine
00001D54  0012                                     1340+         DC    H'18'               test number
00001D56  00                                       1341+         DC    X'00'
00001D57  00                                       1342+         DC    HL1'0'                   m4 used
00001D58  01                                       1343+         DC    HL1'1'                   m5 used
00001D59  03                                       1344+         DC    HL1'3'              CC
00001D5A  0E                                       1345+         DC    HL1'14'             CC failed mask
00001D5C  00000000 00000000                        1346+         DS    2F                  extracted PSW after test (has CC)
00001D64  FF                                       1347+         DC    X'FF'               extracted CC, if test failed
00001D65  E5C6C5D5 C5404040                        1348+         DC    CL8'VFENE'          instruction name
00001D70  00001DD8                                 1349+         DC    A(RE18)             address of v1 result
00001D74  00001DE8                                 1350+         DC    A(RE18+16)          address of v2 source
00001D78  00001DF8                                 1351+         DC    A(RE18+32)          address of v3 source
00001D7C  00000010                                 1352+         DC    A(16)               result length
00001D80  00001DD8                                 1353+REA18    DC    A(RE18)             result address
00001D88  00000000 00000000                        1354+         DS    FD                  gap
00001D90  00000000 00000000                        1355+V1O18    DS    XL16                V1 output
00001D98  00000000 00000000
00001DA0  00000000 00000000                        1356+         DS    FD                  gap
                                                   1357+*
00001DA8                                           1358+X18      DS    0F
00001DA8  E310 5024 0014                 00000024  1359+         LGF   R1,V2ADDR           load v2 source
00001DAE  E761 0000 0806                 00000000  1360+         VL    v22,0(R1)           use v21 to test decoder
00001DB4  E310 5028 0014                 00000028  1361+         LGF   R1,V3ADDR           load v3 source
00001DBA  E771 0000 0806                 00000000  1362+         VL    v23,0(R1)           use v22 to test decoder
00001DC0  E756 7010 0E81                           1363+         VFENE V21,V22,V23,0,1                test instruction
00001DC6  B98D 0020                                1364+         EPSW  R2,R0               extract psw
00001DCA  5020 500C                      0000000C  1365+         ST    R2,CCPSW               to save CC
00001DCE  E750 5040 080E                 00001D90  1366+         VST   V21,V1O18           save v1 output
00001DD4  07FB                                     1367+         BR    R11                 return
00001DD8                                           1368+RE18     DC    0F                  V1 for this test
00001DD8                                           1369+         DROP  R5
00001DD8  00000000 00000010                        1370          DC    XL16'00000000000000100000000000000000'   V1
00001DE0  00000000 00000000
00001DE8  00000000 00000000                        1371          DC    XL16'00000000000000000000000000000000'   v2
00001DF0  00000000 00000000
00001DF8  00000000 00000000                        1372          DC    XL16'00000000000000000000000000000000'   v3
00001E00  00000000 00000000
                                                   1373
                                                   1374 *-------------------------------------------------------------------
                                                   1375 * case 1 - Hardware Verified
                                                   1376 *-------------------------------------------------------------------
                                                   1377 * Byte, All equal, no zero            cc=3
                                                   1378          VRR_B VFENE,0,3,3
00001E08                                           1379+         DS    0FD
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001E08                     00001E08              1380+         USING *,R5              base for test data and test routine
00001E08  00001E60                                 1381+T19      DC    A(X19)            address of test routine
00001E0C  0013                                     1382+         DC    H'19'             test number
00001E0E  00                                       1383+         DC    X'00'
00001E0F  00                                       1384+         DC    HL1'0'                 m4 used
00001E10  03                                       1385+         DC    HL1'3'                 m5 used
00001E11  03                                       1386+         DC    HL1'3'            CC
00001E12  0E                                       1387+         DC    HL1'14'           CC failed mask
00001E14  00000000 00000000                        1388+         DS    2F                extracted PSW after test (has CC)
00001E1C  FF                                       1389+         DC    X'FF'             extracted CC, if test failed
00001E1D  E5C6C5D5 C5404040                        1390+         DC    CL8'VFENE'        instruction name
00001E28  00001E90                                 1391+         DC    A(RE19)           address of v1 result
00001E2C  00001EA0                                 1392+         DC    A(RE19+16)        address of v2 source
00001E30  00001EB0                                 1393+         DC    A(RE19+32)        address of v3 source
00001E34  00000010                                 1394+         DC    A(16)             result length
00001E38  00001E90                                 1395+REA19    DC    A(RE19)           result address
00001E40  00000000 00000000                        1396+         DS    FD                gap
00001E48  00000000 00000000                        1397+V1O19    DS    XL16              V1 output
00001E50  00000000 00000000
00001E58  00000000 00000000                        1398+         DS    FD                gap
                                                   1399+*
00001E60                                           1400+X19      DS    0F
00001E60  E310 5024 0014                 00000024  1401+         LGF   R1,V2ADDR         load v2 source
00001E66  E761 0000 0806                 00000000  1402+         VL    v22,0(R1)         use v21 to test decoder
00001E6C  E310 5028 0014                 00000028  1403+         LGF   R1,V3ADDR         load v3 source
00001E72  E771 0000 0806                 00000000  1404+         VL    v23,0(R1)         use v22 to test decoder
00001E78  E756 7030 0E81                           1405+         VFENE V21,V22,V23,0,3                 test instruction
00001E7E  B98D 0020                                1406+         EPSW  R2,R0             extract psw
00001E82  5020 500C                      0000000C  1407+         ST    R2,CCPSW             to save CC
00001E86  E750 5040 080E                 00001E48  1408+         VST   V21,V1O19         save v1 output
00001E8C  07FB                                     1409+         BR    R11               return
00001E90                                           1410+RE19     DC    0F                V1 for this test
00001E90                                           1411+         DROP  R5
00001E90  00000000 00000010                        1412          DC    XL16'00000000000000100000000000000000'   V1
00001E98  00000000 00000000
00001EA0  5D3A5859 5A535953                        1413          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00001EA8  54454D44 5F444546
00001EB0  5D3A5859 5A535953                        1414          DC    XL16'5D3A58595A53595354454D445F444546'   v3
00001EB8  54454D44 5F444546
                                                   1415
                                                   1416 * Byte, All equal, with zero          cc=0
                                                   1417          VRR_B VFENE,0,3,0
00001EC0                                           1418+         DS    0FD
00001EC0                       00001EC0            1419+         USING *,R5              base for test data and test routine
00001EC0  00001F18                                 1420+T20      DC    A(X20)            address of test routine
00001EC4  0014                                     1421+         DC    H'20'             test number
00001EC6  00                                       1422+         DC    X'00'
00001EC7  00                                       1423+         DC    HL1'0'                 m4 used
00001EC8  03                                       1424+         DC    HL1'3'                 m5 used
00001EC9  00                                       1425+         DC    HL1'0'            CC
00001ECA  07                                       1426+         DC    HL1'7'            CC failed mask
00001ECC  00000000 00000000                        1427+         DS    2F                extracted PSW after test (has CC)
00001ED4  FF                                       1428+         DC    X'FF'             extracted CC, if test failed
00001ED5  E5C6C5D5 C5404040                        1429+         DC    CL8'VFENE'        instruction name
00001EE0  00001F48                                 1430+         DC    A(RE20)           address of v1 result
00001EE4  00001F58                                 1431+         DC    A(RE20+16)        address of v2 source
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001EE8  00001F68                                1432+          DC    A(RE20+32)          address of v3 source
00001EEC  00000010                                1433+          DC    A(16)               result length
00001EF0  00001F48                                1434+REA20     DC    A(RE20)             result address
00001EF8  00000000 00000000                       1435+          DS    FD                  gap
00001F00  00000000 00000000                       1436+V1O20     DS    XL16                V1 output
00001F08  00000000 00000000
00001F10  00000000 00000000                       1437+          DS    FD                  gap
                                                  1438+*
00001F18                                          1439+X20       DS    0F
00001F18  E310 5024 0014                 00000024 1440+          LGF   R1,V2ADDR           load v2 source
00001F1E  E761 0000 0806                 00000000 1441+          VL    v22,0(R1)           use v21 to test decoder
00001F24  E310 5028 0014                 00000028 1442+          LGF   R1,V3ADDR           load v3 source
00001F2A  E771 0000 0806                 00000000 1443+          VL    v23,0(R1)           use v22 to test decoder
00001F30  E756 7030 0E81                          1444+          VFENE V21,V22,V23,0,3               test instruction
00001F36  B98D 0020                               1445+          EPSW  R2,R0               extract psw
00001F3A  5020 500C                      0000000C 1446+          ST    R2,CCPSW               to save CC
00001F3E  E750 5040 080E                 00001F00 1447+          VST   V21,V1O20           save v1 output
00001F44  07FB                                    1448+          BR    R11                 return
00001F48                                          1449+RE20      DC    0F                  V1 for this test
00001F48                                          1450+          DROP  R5
00001F48  00000000 00000009                       1451           DC    XL16'00000000000000090000000000000000'   V1
00001F50  00000000 00000000
00001F58  5D3A5859 5A535953                       1452           DC    XL16'5D3A58595A53595354004D445F444546'   v2
00001F60  54004D44 5F444546
00001F68  5D3A5859 5A535953                       1453           DC    XL16'5D3A58595A53595354004D445F444546'   v3
00001F70  54004D44 5F444546
                                                  1454
                                                  1455 * Byte, Not Equal, no zero            cc=1
                                                  1456           VRR_B VFENE,0,3,1
00001F78                                          1457+          DS    0FD
00001F78                  00001F78                1458+          USING *,R5                base for test data and test routine
00001F78  00001FD0                                1459+T21       DC    A(X21)              address of test routine
00001F7C  0015                                    1460+          DC    H'21'               test number
00001F7E  00                                      1461+          DC    X'00'
00001F7F  00                                      1462+          DC    HL1'0'                   m4 used
00001F80  03                                      1463+          DC    HL1'3'                   m5 used
00001F81  01                                      1464+          DC    HL1'1'              CC
00001F82  0B                                      1465+          DC    HL1'11'             CC failed mask
00001F84  00000000 00000000                       1466+          DS    2F                  extracted PSW after test (has CC)
00001F8C  FF                                      1467+          DC    X'FF'               extracted CC, if test failed
00001F8D  E5C6C5D5 C5404040                       1468+          DC    CL8'VFENE'          instruction name
00001F98  00002000                                1469+          DC    A(RE21)             address of v1 result
00001F9C  00002010                                1470+          DC    A(RE21+16)          address of v2 source
00001FA0  00002020                                1471+          DC    A(RE21+32)          address of v3 source
00001FA4  00000010                                1472+          DC    A(16)               result length
00001FA8  00002000                                1473+REA21     DC    A(RE21)             result address
00001FB0  00000000 00000000                       1474+          DS    FD                  gap
00001FB8  00000000 00000000                       1475+V1O21     DS    XL16                V1 output
00001FC0  00000000 00000000
00001FC8  00000000 00000000                       1476+          DS    FD                  gap
                                                  1477+*
00001FD0                                          1478+X21       DS    0F
00001FD0  E310 5024 0014                 00000024 1479+          LGF   R1,V2ADDR           load v2 source
00001FD6  E761 0000 0806                 00000000 1480+          VL    v22,0(R1)           use v21 to test decoder
00001FDC  E310 5028 0014                 00000028 1481+          LGF   R1,V3ADDR           load v3 source
00001FE2  E771 0000 0806                 00000000 1482+          VL    v23,0(R1)           use v22 to test decoder
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001FE8  E756 7030 0E81                         1483+         VFENE V21,V22,V23,0,3               test instruction
00001FEE  B98D 0020                              1484+         EPSW  R2,R0               extract psw
00001FF2  5020 500C                 0000000C     1485+         ST    R2,CCPSW               to save CC
00001FF6  E750 5040 080E            00001FB8     1486+         VST   V21,V1O21           save v1 output
00001FFC  07FB                                   1487+         BR    R11                 return
00002000                                         1488+RE21     DC    0F                  V1 for this test
00002000                                         1489+         DROP  R5
00002000  00000000 00000005                      1490          DC    XL16'00000000000000050000000000000000'   V1
00002008  00000000 00000000
00002010  5D3A5859 5A255953                      1491          DC    XL16'5D3A58595A25595354454D445F444546'   v2
00002018  54454D44 5F444546
00002020  5D3A5859 5A535953                      1492          DC    XL16'5D3A58595A53595354454D445F444546'   v3
00002028  54454D44 5F444546
                                                 1493
                                                 1494 * Byte, Not Equal before zero          cc=1
                                                 1495          VRR_B VFENE,0,3,1
00002030                                         1496+         DS    0FD
00002030                    00002030             1497+         USING *,R5                base for test data and test routine
00002030  00002088                               1498+T22      DC    A(X22)              address of test routine
00002034  0016                                   1499+         DC    H'22'               test number
00002036  00                                     1500+         DC    X'00'
00002037  00                                     1501+         DC    HL1'0'                    m4 used
00002038  03                                     1502+         DC    HL1'3'                    m5 used
00002039  01                                     1503+         DC    HL1'1'              CC
0000203A  0B                                     1504+         DC    HL1'11'             CC failed mask
0000203C  00000000 00000000                      1505+         DS    2F                  extracted PSW after test (has CC)
00002044  FF                                     1506+         DC    X'FF'               extracted CC, if test failed
00002045  E5C6C5D5 C5404040                      1507+         DC    CL8'VFENE'          instruction name
00002050  000020B8                               1508+         DC    A(RE22)             address of v1 result
00002054  000020C8                               1509+         DC    A(RE22+16)          address of v2 source
00002058  000020D8                               1510+         DC    A(RE22+32)          address of v3 source
0000205C  00000010                               1511+         DC    A(16)               result length
00002060  000020B8                               1512+REA22    DC    A(RE22)             result address
00002068  00000000 00000000                      1513+         DS    FD                  gap
00002070  00000000 00000000                      1514+V1O22    DS    XL16                V1 output
00002078  00000000 00000000
00002080  00000000 00000000                      1515+         DS    FD                  gap
                                                 1516+*
00002088                                         1517+X22      DS    0F
00002088  E310 5024 0014           00000024      1518+         LGF   R1,V2ADDR           load v2 source
0000208E  E761 0000 0806           00000000      1519+         VL    v22,0(R1)           use v21 to test decoder
00002094  E310 5028 0014           00000028      1520+         LGF   R1,V3ADDR           load v3 source
0000209A  E771 0000 0806           00000000      1521+         VL    v23,0(R1)           use v22 to test decoder
000020A0  E756 7030 0E81                         1522+         VFENE V21,V22,V23,0,3               test instruction
000020A6  B98D 0020                              1523+         EPSW  R2,R0               extract psw
000020AA  5020 500C                 0000000C     1524+         ST    R2,CCPSW               to save CC
000020AE  E750 5040 080E            00002070     1525+         VST   V21,V1O22           save v1 output
000020B4  07FB                                   1526+         BR    R11                 return
000020B8                                         1527+RE22     DC    0F                  V1 for this test
000020B8                                         1528+         DROP  R5
000020B8  00000000 00000005                      1529          DC    XL16'00000000000000050000000000000000'   V1
000020C0  00000000 00000000
000020C8  5D3A5859 5A255953                      1530          DC    XL16'5D3A58595A25595354004D445F444546'   v2
000020D0  54004D44 5F444546
000020D8  5D3A5859 5A535953                      1531          DC    XL16'5D3A58595A53595354454D445F444546'   v3
000020E0  54454D44 5F444546
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                   1532
                                                   1533 * Byte, Not Equal after zero          cc=1
                                                   1534          VRR_B VFENE,0,3,1
000020E8                                           1535+         DS    0FD
000020E8                       000020E8            1536+         USING *,R5                base for test data and test routine
000020E8  00002140                                 1537+T23      DC    A(X23)              address of test routine
000020EC  0017                                     1538+         DC    H'23'               test number
000020EE  00                                       1539+         DC    X'00'
000020EF  00                                       1540+         DC    HL1'0'                   m4 used
000020F0  03                                       1541+         DC    HL1'3'                   m5 used
000020F1  01                                       1542+         DC    HL1'1'              CC
000020F2  0B                                       1543+         DC    HL1'11'             CC failed mask
000020F4  00000000 00000000                        1544+         DS    2F                  extracted PSW after test (has CC)
000020FC  FF                                       1545+         DC    X'FF'               extracted CC, if test failed
000020FD  E5C6C5D5 C5404040                        1546+         DC    CL8'VFENE'          instruction name
00002108  00002170                                 1547+         DC    A(RE23)             address of v1 result
0000210C  00002180                                 1548+         DC    A(RE23+16)          address of v2 source
00002110  00002190                                 1549+         DC    A(RE23+32)          address of v3 source
00002114  00000010                                 1550+         DC    A(16)               result length
00002118  00002170                                 1551+REA23    DC    A(RE23)             result address
00002120  00000000 00000000                        1552+         DS    FD                  gap
00002128  00000000 00000000                        1553+V1O23    DS    XL16                V1 output
00002130  00000000 00000000
00002138  00000000 00000000                        1554+         DS    FD                  gap
                                                   1555+*
00002140                                           1556+X23      DS    0F
00002140  E310 5024 0014                 00000024  1557+         LGF   R1,V2ADDR           load v2 source
00002146  E761 0000 0806                 00000000  1558+         VL    v22,0(R1)           use v21 to test decoder
0000214C  E310 5028 0014                 00000028  1559+         LGF   R1,V3ADDR           load v3 source
00002152  E771 0000 0806                 00000000  1560+         VL    v23,0(R1)           use v22 to test decoder
00002158  E756 7030 0E81                           1561+         VFENE V21,V22,V23,0,3                test instruction
0000215E  B98D 0020                                1562+         EPSW  R2,R0               extract psw
00002162  5020 500C                      0000000C  1563+         ST    R2,CCPSW               to save CC
00002166  E750 5040 080E                 00002128  1564+         VST   V21,V1O23           save v1 output
0000216C  07FB                                     1565+         BR    R11                 return
00002170                                           1566+RE23     DC    0F                  V1 for this test
00002170                                           1567+         DROP  R5
00002170  00000000 00000005                        1568          DC    XL16'00000000000000050000000000000000'   V1
00002178  00000000 00000000
00002180  5D3A5859 5A005953                        1569          DC    XL16'5D3A58595A00595354254D445F444546'   v2
00002188  54254D44 5F444546
00002190  5D3A5859 5A535953                        1570          DC    XL16'5D3A58595A53595354454D445F444546'   v3
00002198  54454D44 5F444546
                                                   1571
                                                   1572 * Halfword, All equal, no zero        cc=3
                                                   1573          VRR_B VFENE,1,3,3
000021A0                                           1574+         DS    0FD
000021A0                       000021A0            1575+         USING *,R5                base for test data and test routine
000021A0  000021F8                                 1576+T24      DC    A(X24)              address of test routine
000021A4  0018                                     1577+         DC    H'24'               test number
000021A6  00                                       1578+         DC    X'00'
000021A7  01                                       1579+         DC    HL1'1'                   m4 used
000021A8  03                                       1580+         DC    HL1'3'                   m5 used
000021A9  03                                       1581+         DC    HL1'3'              CC
000021AA  0E                                       1582+         DC    HL1'14'             CC failed mask
000021AC  00000000 00000000                        1583+         DS    2F                  extracted PSW after test (has CC)
```

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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000021B4  FF                                       1584+          DC    X'FF'                extracted CC, if test failed
000021B5  E5C6C5D5 C5404040                        1585+          DC    CL8'VFENE'           instruction name
000021C0  00002228                                 1586+          DC    A(RE24)              address of v1 result
000021C4  00002238                                 1587+          DC    A(RE24+16)           address of v2 source
000021C8  00002248                                 1588+          DC    A(RE24+32)           address of v3 source
000021CC  00000010                                 1589+          DC    A(16)                result length
000021D0  00002228                                 1590+REA24     DC    A(RE24)              result address
000021D8  00000000 00000000                        1591+          DS    FD                   gap
000021E0  00000000 00000000                        1592+V1O24     DS    XL16                 V1 output
000021E8  00000000 00000000
000021F0  00000000 00000000                        1593+          DS    FD                   gap
                                                   1594+*
000021F8                                           1595+X24       DS    0F
000021F8  E310 5024 0014                 00000024  1596+          LGF   R1,V2ADDR            load v2 source
000021FE  E761 0000 0806                 00000000  1597+          VL    v22,0(R1)            use v21 to test decoder
00002204  E310 5028 0014                 00000028  1598+          LGF   R1,V3ADDR            load v3 source
0000220A  E771 0000 0806                 00000000  1599+          VL    v23,0(R1)            use v22 to test decoder
00002210  E756 7030 1E81                           1600+          VFENE V21,V22,V23,1,3                test instruction
00002216  B98D 0020                                1601+          EPSW  R2,R0                extract psw
0000221A  5020 500C                      0000000C  1602+          ST    R2,CCPSW                to save CC
0000221E  E750 5040 080E                 000021E0  1603+          VST   V21,V1O24            save v1 output
00002224  07FB                                     1604+          BR    R11                  return
00002228                                           1605+RE24      DC    0F                   V1 for this test
00002228                                           1606+          DROP  R5
00002228  00000000 00000010                        1607           DC    XL16'00000000000000100000000000000000'   V1
00002230  00000000 00000000
00002238  5D3A5859 5A535953                        1608           DC    XL16'5D3A58595A53595354454D445F444546'   v2
00002240  54454D44 5F444546
00002248  5D3A5859 5A535953                        1609           DC    XL16'5D3A58595A53595354454D445F444546'   v3
00002250  54454D44 5F444546
                                                   1610
                                                   1611 * Halfword, Not Equal, no zero         cc=1
                                                   1612           VRR_B VFENE,1,3,1
00002258                                           1613+          DS    0FD
00002258                           00002258        1614+          USING *,R5                 base for test data and test routine
00002258  000022B0                                 1615+T25       DC    A(X25)               address of test routine
0000225C  0019                                     1616+          DC    H'25'                test number
0000225E  00                                       1617+          DC    X'00'
0000225F  01                                       1618+          DC    HL1'1'                    m4 used
00002260  03                                       1619+          DC    HL1'3'                    m5 used
00002261  01                                       1620+          DC    HL1'1'               CC
00002262  0B                                       1621+          DC    HL1'11'              CC failed mask
00002264  00000000 00000000                        1622+          DS    2F                   extracted PSW after test (has CC)
0000226C  FF                                       1623+          DC    X'FF'                extracted CC, if test failed
0000226D  E5C6C5D5 C5404040                        1624+          DC    CL8'VFENE'           instruction name
00002278  000022E0                                 1625+          DC    A(RE25)              address of v1 result
0000227C  000022F0                                 1626+          DC    A(RE25+16)           address of v2 source
00002280  00002300                                 1627+          DC    A(RE25+32)           address of v3 source
00002284  00000010                                 1628+          DC    A(16)                result length
00002288  000022E0                                 1629+REA25     DC    A(RE25)              result address
00002290  00000000 00000000                        1630+          DS    FD                   gap
00002298  00000000 00000000                        1631+V1O25     DS    XL16                 V1 output
000022A0  00000000 00000000
000022A8  00000000 00000000                        1632+          DS    FD                   gap
                                                   1633+*
000022B0                                           1634+X25       DS    0F
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000022B0  E310 5024 0014                 00000024 1635+         LGF   R1,V2ADDR          load v2 source
000022B6  E761 0000 0806                 00000000 1636+         VL    v22,0(R1)          use v21 to test decoder
000022BC  E310 5028 0014                 00000028 1637+         LGF   R1,V3ADDR          load v3 source
000022C2  E771 0000 0806                 00000000 1638+         VL    v23,0(R1)          use v22 to test decoder
000022C8  E756 7030 1E81                          1639+         VFENE V21,V22,V23,1,3              test instruction
000022CE  B98D 0020                               1640+         EPSW  R2,R0              extract psw
000022D2  5020 500C                      0000000C 1641+         ST    R2,CCPSW              to save CC
000022D6  E750 5040 080E                 00002298 1642+         VST   V21,V1O25          save v1 output
000022DC  07FB                                    1643+         BR    R11                return
000022E0                                          1644+RE25     DC    0F                 V1 for this test
000022E0                                          1645+         DROP  R5
000022E0  00000000 00000006                       1646          DC    XL16'00000000000000060000000000000000'   V1
000022E8  00000000 00000000
000022F0  5D3A5859 5A532525                       1647          DC    XL16'5D3A58595A53252554454D445F444546'   v2
000022F8  54454D44 5F444546
00002300  5D3A5859 5A535953                       1648          DC    XL16'5D3A58595A53595354454D445F444546'   v3
00002308  54454D44 5F444546
                                                  1649
                                                  1650 * Halfword, Not Equal before zero      cc=1
                                                  1651          VRR_B VFENE,1,3,1
00002310                                          1652+         DS    0FD
00002310                 00002310                 1653+         USING *,R5               base for test data and test routine
00002310  00002368                                1654+T26      DC    A(X26)             address of test routine
00002314  001A                                    1655+         DC    H'26'              test number
00002316  00                                      1656+         DC    X'00'
00002317  01                                      1657+         DC    HL1'1'                  m4 used
00002318  03                                      1658+         DC    HL1'3'                  m5 used
00002319  01                                      1659+         DC    HL1'1'             CC
0000231A  0B                                      1660+         DC    HL1'11'            CC failed mask
0000231C  00000000 00000000                       1661+         DS    2F                 extracted PSW after test (has CC)
00002324  FF                                      1662+         DC    X'FF'              extracted CC, if test failed
00002325  E5C6C5D5 C5404040                       1663+         DC    CL8'VFENE'         instruction name
00002330  00002398                                1664+         DC    A(RE26)            address of v1 result
00002334  000023A8                                1665+         DC    A(RE26+16)         address of v2 source
00002338  000023B8                                1666+         DC    A(RE26+32)         address of v3 source
0000233C  00000010                                1667+         DC    A(16)              result length
00002340  00002398                                1668+REA26    DC    A(RE26)            result address
00002348  00000000 00000000                       1669+         DS    FD                 gap
00002350  00000000 00000000                       1670+V1O26    DS    XL16               V1 output
00002358  00000000 00000000
00002360  00000000 00000000                       1671+         DS    FD                 gap
                                                  1672+*
00002368                                          1673+X26      DS    0F
00002368  E310 5024 0014                 00000024 1674+         LGF   R1,V2ADDR          load v2 source
0000236E  E761 0000 0806                 00000000 1675+         VL    v22,0(R1)          use v21 to test decoder
00002374  E310 5028 0014                 00000028 1676+         LGF   R1,V3ADDR          load v3 source
0000237A  E771 0000 0806                 00000000 1677+         VL    v23,0(R1)          use v22 to test decoder
00002380  E756 7030 1E81                          1678+         VFENE V21,V22,V23,1,3              test instruction
00002386  B98D 0020                               1679+         EPSW  R2,R0              extract psw
0000238A  5020 500C                      0000000C 1680+         ST    R2,CCPSW              to save CC
0000238E  E750 5040 080E                 00002350 1681+         VST   V21,V1O26          save v1 output
00002394  07FB                                    1682+         BR    R11                return
00002398                                          1683+RE26     DC    0F                 V1 for this test
00002398                                          1684+         DROP  R5
00002398  00000000 00000006                       1685          DC    XL16'00000000000000060000000000000000'   V1
000023A0  00000000 00000000
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000023A8  5D3A5859 5A532525                        1686          DC    XL16'5D3A58595A532525544500005F444546'   v2
000023B0  54450000 5F444546
000023B8  5D3A5859 5A535953                        1687          DC    XL16'5D3A58595A53595354454D445F444546'   v3
000023C0  54454D44 5F444546
                                                   1688
                                                   1689 * Halfword, Not Equal after zero       cc=1
                                                   1690          VRR_B VFENE,1,3,1
000023C8                                           1691+         DS    0FD
000023C8                     000023C8              1692+         USING *,R5                base for test data and test routine
000023C8  00002420                                 1693+T27      DC    A(X27)              address of test routine
000023CC  001B                                     1694+         DC    H'27'               test number
000023CE  00                                       1695+         DC    X'00'
000023CF  01                                       1696+         DC    HL1'1'                   m4 used
000023D0  03                                       1697+         DC    HL1'3'                   m5 used
000023D1  01                                       1698+         DC    HL1'1'              CC
000023D2  0B                                       1699+         DC    HL1'11'             CC failed mask
000023D4  00000000 00000000                        1700+         DS    2F                  extracted PSW after test (has CC)
000023DC  FF                                       1701+         DC    X'FF'               extracted CC, if test failed
000023DD  E5C6C5D5 C5404040                        1702+         DC    CL8'VFENE'          instruction name
000023E8  00002450                                 1703+         DC    A(RE27)             address of v1 result
000023EC  00002460                                 1704+         DC    A(RE27+16)          address of v2 source
000023F0  00002470                                 1705+         DC    A(RE27+32)          address of v3 source
000023F4  00000010                                 1706+         DC    A(16)               result length
000023F8  00002450                                 1707+REA27    DC    A(RE27)             result address
00002400  00000000 00000000                        1708+         DS    FD                  gap
00002408  00000000 00000000                        1709+V1O27    DS    XL16                V1 output
00002410  00000000 00000000
00002418  00000000 00000000                        1710+         DS    FD                  gap
                                                   1711+*
00002420                                           1712+X27      DS    0F
00002420  E310 5024 0014                 00000024  1713+         LGF   R1,V2ADDR           load v2 source
00002426  E761 0000 0806                 00000000  1714+         VL    v22,0(R1)           use v21 to test decoder
0000242C  E310 5028 0014                 00000028  1715+         LGF   R1,V3ADDR           load v3 source
00002432  E771 0000 0806                 00000000  1716+         VL    v23,0(R1)           use v22 to test decoder
00002438  E756 7030 1E81                           1717+         VFENE V21,V22,V23,1,3                test instruction
0000243E  B98D 0020                                1718+         EPSW  R2,R0               extract psw
00002442  5020 500C                      0000000C  1719+         ST    R2,CCPSW               to save CC
00002446  E750 5040 080E                 00002408  1720+         VST   V21,V1O27           save v1 output
0000244C  07FB                                     1721+         BR    R11                 return
00002450                                           1722+RE27     DC    0F                  V1 for this test
00002450                                           1723+         DROP  R5
00002450  00000000 00000006                        1724          DC    XL16'00000000000000060000000000000000'   V1
00002458  00000000 00000000
00002460  5D3A5859 5A530000                        1725          DC    XL16'5D3A58595A530000544525255F444546'   v2
00002468  54452525 5F444546
00002470  5D3A5859 5A535953                        1726          DC    XL16'5D3A58595A53595354454D445F444546'   v3
00002478  54454D44 5F444546
                                                   1727
                                                   1728 * Word, All equal, no zero             cc=3
                                                   1729          VRR_B VFENE,2,3,3
00002480                                           1730+         DS    0FD
00002480                     00002480              1731+         USING *,R5                base for test data and test routine
00002480  000024D8                                 1732+T28      DC    A(X28)              address of test routine
00002484  001C                                     1733+         DC    H'28'               test number
00002486  00                                       1734+         DC    X'00'
00002487  02                                       1735+         DC    HL1'2'                   m4 used
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00002488  03                                       1736+         DC    HL1'3'                m5 used
00002489  03                                       1737+         DC    HL1'3'              CC
0000248A  0E                                       1738+         DC    HL1'14'             CC failed mask
0000248C  00000000 00000000                        1739+         DS    2F                  extracted PSW after test (has CC)
00002494  FF                                       1740+         DC    X'FF'               extracted CC, if test failed
00002495  E5C6C5D5 C5404040                        1741+         DC    CL8'VFENE'          instruction name
000024A0  00002508                                 1742+         DC    A(RE28)             address of v1 result
000024A4  00002518                                 1743+         DC    A(RE28+16)          address of v2 source
000024A8  00002528                                 1744+         DC    A(RE28+32)          address of v3 source
000024AC  00000010                                 1745+         DC    A(16)               result length
000024B0  00002508                                 1746+REA28    DC    A(RE28)             result address
000024B8  00000000 00000000                        1747+         DS    FD                  gap
000024C0  00000000 00000000                        1748+V1O28    DS    XL16                V1 output
000024C8  00000000 00000000
000024D0  00000000 00000000                        1749+         DS    FD                  gap
                                                   1750+*
000024D8                                           1751+X28      DS    0F
000024D8  E310 5024 0014                 00000024  1752+         LGF   R1,V2ADDR           load v2 source
000024DE  E761 0000 0806                 00000000  1753+         VL    v22,0(R1)           use v21 to test decoder
000024E4  E310 5028 0014                 00000028  1754+         LGF   R1,V3ADDR           load v3 source
000024EA  E771 0000 0806                 00000000  1755+         VL    v23,0(R1)           use v22 to test decoder
000024F0  E756 7030 2E81                           1756+         VFENE V21,V22,V23,2,3               test instruction
000024F6  B98D 0020                                1757+         EPSW  R2,R0               extract psw
000024FA  5020 500C                      0000000C  1758+         ST    R2,CCPSW               to save CC
000024FE  E750 5040 080E                 000024C0  1759+         VST   V21,V1O28           save v1 output
00002504  07FB                                     1760+         BR    R11                 return
00002508                                           1761+RE28     DC    0F                  V1 for this test
00002508                                           1762+         DROP  R5
00002508  00000000 00000010                        1763          DC    XL16'00000000000000100000000000000000'   V1
00002510  00000000 00000000
00002518  5D3A5859 5A535953                        1764          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00002520  54454D44 5F444546
00002528  5D3A5859 5A535953                        1765          DC    XL16'5D3A58595A53595354454D445F444546'   v3
00002530  54454D44 5F444546
                                                   1766
                                                   1767 * Word, Not Equal, no zero          cc=1
                                                   1768          VRR_B VFENE,2,3,1
00002538                                           1769+         DS    0FD
00002538                         00002538          1770+         USING *,R5                base for test data and test routine
00002538  00002590                                 1771+T29      DC    A(X29)              address of test routine
0000253C  001D                                     1772+         DC    H'29'               test number
0000253E  00                                       1773+         DC    X'00'
0000253F  02                                       1774+         DC    HL1'2'                m4 used
00002540  03                                       1775+         DC    HL1'3'                m5 used
00002541  01                                       1776+         DC    HL1'1'              CC
00002542  0B                                       1777+         DC    HL1'11'             CC failed mask
00002544  00000000 00000000                        1778+         DS    2F                  extracted PSW after test (has CC)
0000254C  FF                                       1779+         DC    X'FF'               extracted CC, if test failed
0000254D  E5C6C5D5 C5404040                        1780+         DC    CL8'VFENE'          instruction name
00002558  000025C0                                 1781+         DC    A(RE29)             address of v1 result
0000255C  000025D0                                 1782+         DC    A(RE29+16)          address of v2 source
00002560  000025E0                                 1783+         DC    A(RE29+32)          address of v3 source
00002564  00000010                                 1784+         DC    A(16)               result length
00002568  000025C0                                 1785+REA29    DC    A(RE29)             result address
00002570  00000000 00000000                        1786+         DS    FD                  gap
00002578  00000000 00000000                        1787+V1O29    DS    XL16                V1 output
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
00002580  00000000 00000000
00002588  00000000 00000000                       1788+         DS    FD                gap
                                                  1789+*
00002590                                          1790+X29      DS    0F
00002590  E310 5024 0014                 00000024 1791+         LGF   R1,V2ADDR          load v2 source
00002596  E761 0000 0806                 00000000 1792+         VL    v22,0(R1)         use v21 to test decoder
0000259C  E310 5028 0014                 00000028 1793+         LGF   R1,V3ADDR         load v3 source
000025A2  E771 0000 0806                 00000000 1794+         VL    v23,0(R1)         use v22 to test decoder
000025A8  E756 7030 2E81                          1795+         VFENE V21,V22,V23,2,3               test instruction
000025AE  B98D 0020                               1796+         EPSW  R2,R0             extract psw
000025B2  5020 500C                      0000000C 1797+         ST    R2,CCPSW             to save CC
000025B6  E750 5040 080E                 00002578 1798+         VST   V21,V1O29         save v1 output
000025BC  07FB                                    1799+         BR    R11               return
000025C0                                          1800+RE29     DC    0F                V1 for this test
000025C0                                          1801+         DROP  R5
000025C0  00000000 00000004                       1802          DC    XL16'00000000000000040000000000000000'   V1
000025C8  00000000 00000000
000025D0  5D3A5859 25252525                       1803          DC    XL16'5D3A5859252525255445D445F444546'   v2
000025D8  54454D44 5F444546
000025E0  5D3A5859 5A535953                       1804          DC    XL16'5D3A58595A53595354454D445F444546'   v3
000025E8  54454D44 5F444546
                                                  1805
                                                  1806 * Word, Not Equal before zero          cc=1
                                                  1807          VRR_B VFENE,2,3,1
000025F0                                          1808+         DS    0FD
000025F0                         000025F0         1809+         USING *,R5              base for test data and test routine
000025F0  00002648                                1810+T30      DC    A(X30)            address of test routine
000025F4  001E                                    1811+         DC    H'30'             test number
000025F6  00                                      1812+         DC    X'00'
000025F7  02                                      1813+         DC    HL1'2'                 m4 used
000025F8  03                                      1814+         DC    HL1'3'                 m5 used
000025F9  01                                      1815+         DC    HL1'1'            CC
000025FA  0B                                      1816+         DC    HL1'11'           CC failed mask
000025FC  00000000 00000000                       1817+         DS    2F                extracted PSW after test (has CC)
00002604  FF                                      1818+         DC    X'FF'             extracted CC, if test failed
00002605  E5C6C5D5 C5404040                       1819+         DC    CL8'VFENE'        instruction name
00002610  00002678                                1820+         DC    A(RE30)           address of v1 result
00002614  00002688                                1821+         DC    A(RE30+16)        address of v2 source
00002618  00002698                                1822+         DC    A(RE30+32)        address of v3 source
0000261C  00000010                                1823+         DC    A(16)             result length
00002620  00002678                                1824+REA30    DC    A(RE30)           result address
00002628  00000000 00000000                       1825+         DS    FD                gap
00002630  00000000 00000000                       1826+V1O30    DS    XL16              V1 output
00002638  00000000 00000000
00002640  00000000 00000000                       1827+         DS    FD                gap
                                                  1828+*
00002648                                          1829+X30      DS    0F
00002648  E310 5024 0014                 00000024 1830+         LGF   R1,V2ADDR         load v2 source
0000264E  E761 0000 0806                 00000000 1831+         VL    v22,0(R1)         use v21 to test decoder
00002654  E310 5028 0014                 00000028 1832+         LGF   R1,V3ADDR         load v3 source
0000265A  E771 0000 0806                 00000000 1833+         VL    v23,0(R1)         use v22 to test decoder
00002660  E756 7030 2E81                          1834+         VFENE V21,V22,V23,2,3               test instruction
00002666  B98D 0020                               1835+         EPSW  R2,R0             extract psw
0000266A  5020 500C                      0000000C 1836+         ST    R2,CCPSW             to save CC
0000266E  E750 5040 080E                 00002630 1837+         VST   V21,V1O30         save v1 output
00002674  07FB                                    1838+         BR    R11               return
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00002678                                           1839+RE30     DC    0F                  V1 for this test
00002678                                           1840+         DROP  R5
00002678  00000000 00000004                        1841          DC    XL16'00000000000000040000000000000000'   V1
00002680  00000000 00000000
00002688  5D3A5859 25252525                        1842          DC    XL16'5D3A585925252525000000005F444546'   v2
00002690  00000000 5F444546
00002698  5D3A5859 5A535953                        1843          DC    XL16'5D3A58595A53595354454D445F444546'   v3
000026A0  54454D44 5F444546
                                                   1844
                                                   1845 * Word, Not Equal after zero          cc=1
                                                   1846          VRR_B VFENE,2,3,1
000026A8                                           1847+         DS    0FD
000026A8                      000026A8             1848+         USING *,R5                 base for test data and test routine
000026A8  00002700                                 1849+T31      DC    A(X31)               address of test routine
000026AC  001F                                     1850+         DC    H'31'                test number
000026AE  00                                       1851+         DC    X'00'
000026AF  02                                       1852+         DC    HL1'2'                    m4 used
000026B0  03                                       1853+         DC    HL1'3'                    m5 used
000026B1  01                                       1854+         DC    HL1'1'               CC
000026B2  0B                                       1855+         DC    HL1'11'              CC failed mask
000026B4  00000000 00000000                        1856+         DS    2F                   extracted PSW after test (has CC)
000026BC  FF                                       1857+         DC    X'FF'                extracted CC, if test failed
000026BD  E5C6C5D5 C5404040                        1858+         DC    CL8'VFENE'           instruction name
000026C8  00002730                                 1859+         DC    A(RE31)              address of v1 result
000026CC  00002740                                 1860+         DC    A(RE31+16)           address of v2 source
000026D0  00002750                                 1861+         DC    A(RE31+32)           address of v3 source
000026D4  00000010                                 1862+         DC    A(16)                result length
000026D8  00002730                                 1863+REA31    DC    A(RE31)              result address
000026E0  00000000 00000000                        1864+         DS    FD                   gap
000026E8  00000000 00000000                        1865+V1O31    DS    XL16                 V1 output
000026F0  00000000 00000000
000026F8  00000000 00000000                        1866+         DS    FD                   gap
                                                   1867+*
00002700                                           1868+X31      DS    0F
00002700  E310 5024 0014                 00000024  1869+          LGF   R1,V2ADDR            load v2 source
00002706  E761 0000 0806                 00000000  1870+          VL    v22,0(R1)            use v21 to test decoder
0000270C  E310 5028 0014                 00000028  1871+          LGF   R1,V3ADDR            load v3 source
00002712  E771 0000 0806                 00000000  1872+          VL    v23,0(R1)            use v22 to test decoder
00002718  E756 7030 2E81                           1873+          VFENE V21,V22,V23,2,3                test instruction
0000271E  B98D 0020                                1874+          EPSW  R2,R0                extract psw
00002722  5020 500C                      0000000C  1875+          ST    R2,CCPSW                to save CC
00002726  E750 5040 080E                 000026E8  1876+          VST   V21,V1O31            save v1 output
0000272C  07FB                                     1877+          BR    R11                  return
00002730                                           1878+RE31     DC    0F                   V1 for this test
00002730                                           1879+         DROP  R5
00002730  00000000 00000004                        1880          DC    XL16'00000000000000040000000000000000'   V1
00002738  00000000 00000000
00002740  5D3A5859 00000000                        1881          DC    XL16'5D3A5859000000025252255F444546'   v2
00002748  25252525 5F444546
00002750  5D3A5859 5A535953                        1882          DC    XL16'5D3A58595A53595354454D445F444546'   v3
00002758  54454D44 5F444546
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                    1884 *-------------------------------------------------------------------
                                                    1885 * VFAE   - Vector Find Any Element Equal
                                                    1886 *-------------------------------------------------------------------
                                                    1887
                                                    1888 *-------------------------------------------------------------------
                                                    1889 * case 0 -  simple debug               CC=1  IN=0, RT=0, ZS=0, CS=1
                                                    1890 *-------------------------------------------------------------------
                                                    1891 *
                                                    1892          VRR_B VFAE,0,1,1
00002760                                            1893+         DS    0FD
00002760                          00002760          1894+         USING *,R5                base for test data and test routine
00002760  000027B8                                  1895+T32      DC    A(X32)              address of test routine
00002764  0020                                      1896+         DC    H'32'               test number
00002766  00                                        1897+         DC    X'00'
00002767  00                                        1898+         DC    HL1'0'                   m4 used
00002768  01                                        1899+         DC    HL1'1'                   m5 used
00002769  01                                        1900+         DC    HL1'1'              CC
0000276A  0B                                        1901+         DC    HL1'11'             CC failed mask
0000276C  00000000 00000000                         1902+         DS    2F                  extracted PSW after test (has CC)
00002774  FF                                        1903+         DC    X'FF'               extracted CC, if test failed
00002775  E5C6C1C5 40404040                         1904+         DC    CL8'VFAE'           instruction name
00002780  000027E8                                  1905+         DC    A(RE32)             address of v1 result
00002784  000027F8                                  1906+         DC    A(RE32+16)          address of v2 source
00002788  00002808                                  1907+         DC    A(RE32+32)          address of v3 source
0000278C  00000010                                  1908+         DC    A(16)               result length
00002790  000027E8                                  1909+REA32    DC    A(RE32)             result address
00002798  00000000 00000000                         1910+         DS    FD                  gap
000027A0  00000000 00000000                         1911+V1O32    DS    XL16                V1 output
000027A8  00000000 00000000
000027B0  00000000 00000000                         1912+         DS    FD                  gap
                                                    1913+*
000027B8                                            1914+X32      DS    0F
000027B8  E310 5024 0014                 00000024   1915+         LGF   R1,V2ADDR           load v2 source
000027BE  E761 0000 0806                 00000000   1916+         VL    v22,0(R1)           use v21 to test decoder
000027C4  E310 5028 0014                 00000028   1917+         LGF   R1,V3ADDR           load v3 source
000027CA  E771 0000 0806                 00000000   1918+         VL    v23,0(R1)           use v22 to test decoder
000027D0  E756 7010 0E82                            1919+         VFAE  V21,V22,V23,0,1                test instruction
000027D6  B98D 0020                                 1920+         EPSW  R2,R0               extract psw
000027DA  5020 500C                      0000000C   1921+         ST    R2,CCPSW               to save CC
000027DE  E750 5040 080E                 000027A0   1922+         VST   V21,V1O32           save v1 output
000027E4  07FB                                      1923+         BR    R11                 return
000027E8                                            1924+RE32     DC    0F                  V1 for this test
000027E8                                            1925+         DROP  R5
000027E8  00000000 00000000                         1926          DC    XL16'00000000000000000000000000000000'   V1
000027F0  00000000 00000000
000027F8  00000000 00000000                         1927          DC    XL16'00000000000000000000000000000000'   v2
00002800  00000000 00000000
00002808  00000000 00000000                         1928          DC    XL16'00000000000000000000000000000000'   v3
00002810  00000000 00000000
                                                    1929
                                                    1930 *-------------------------------------------------------------------
                                                    1931 * case 1 - Hardware Verified
                                                    1932 *-------------------------------------------------------------------
                                                    1933 * Byte, No equal, no zero
                                                    1934          VRR_B VFAE,0,3,3            cc=3 M5=2+1               ZS CS
00002818                                            1935+         DS    0FD
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00002818                     00002818              1936+          USING *,R5              base for test data and test routine
00002818  00002870                                 1937+T33       DC    A(X33)            address of test routine
0000281C  0021                                     1938+          DC    H'33'             test number
0000281E  00                                       1939+          DC    X'00'
0000281F  00                                       1940+          DC    HL1'0'                 m4 used
00002820  03                                       1941+          DC    HL1'3'                 m5 used
00002821  03                                       1942+          DC    HL1'3'            CC
00002822  0E                                       1943+          DC    HL1'14'           CC failed mask
00002824  00000000 00000000                        1944+          DS    2F                extracted PSW after test (has CC)
0000282C  FF                                       1945+          DC    X'FF'             extracted CC, if test failed
0000282D  E5C6C1C5 40404040                        1946+          DC    CL8'VFAE'         instruction name
00002838  000028A0                                 1947+          DC    A(RE33)           address of v1 result
0000283C  000028B0                                 1948+          DC    A(RE33+16)        address of v2 source
00002840  000028C0                                 1949+          DC    A(RE33+32)        address of v3 source
00002844  00000010                                 1950+          DC    A(16)             result length
00002848  000028A0                                 1951+REA33     DC    A(RE33)           result address
00002850  00000000 00000000                        1952+          DS    FD                gap
00002858  00000000 00000000                        1953+V1O33     DS    XL16              V1 output
00002860  00000000 00000000
00002868  00000000 00000000                        1954+          DS    FD                gap
                                                   1955+*
00002870                                           1956+X33       DS    0F
00002870  E310 5024 0014                 00000024  1957+          LGF   R1,V2ADDR         load v2 source
00002876  E761 0000 0806                 00000000  1958+          VL    v22,0(R1)         use v21 to test decoder
0000287C  E310 5028 0014                 00000028  1959+          LGF   R1,V3ADDR         load v3 source
00002882  E771 0000 0806                 00000000  1960+          VL    v23,0(R1)         use v22 to test decoder
00002888  E756 7030 0E82                           1961+          VFAE  V21,V22,V23,0,3                 test instruction
0000288E  B98D 0020                                1962+          EPSW  R2,R0             extract psw
00002892  5020 500C                      0000000C  1963+          ST    R2,CCPSW             to save CC
00002896  E750 5040 080E                 00002858  1964+          VST   V21,V1O33         save v1 output
0000289C  07FB                                     1965+          BR    R11               return
000028A0                                           1966+RE33      DC    0F                V1 for this test
000028A0                                           1967+          DROP  R5
000028A0  00000000 00000010                        1968           DC    XL16'00000000000000100000000000000000'   V1
000028A8  00000000 00000000
000028B0  5D3A5859 5A535953                        1969           DC    XL16'5D3A58595A53595354454D445F444546'   v2
000028B8  54454D44 5F444546
000028C0  25252525 25252525                        1970           DC    XL16'25252525252525252525252525252525'   v3
000028C8  25252525 25252525
                                                   1971
                                                   1972 * Byte, No equal, no zero
                                                   1973           VRR_B VFAE,0,7,3              cc=3 M5=4+2+1          RT ZS CS
000028D0                                           1974+          DS    0FD
000028D0                         000028D0          1975+          USING *,R5              base for test data and test routine
000028D0  00002928                                 1976+T34       DC    A(X34)            address of test routine
000028D4  0022                                     1977+          DC    H'34'             test number
000028D6  00                                       1978+          DC    X'00'
000028D7  00                                       1979+          DC    HL1'0'                 m4 used
000028D8  07                                       1980+          DC    HL1'7'                 m5 used
000028D9  03                                       1981+          DC    HL1'3'            CC
000028DA  0E                                       1982+          DC    HL1'14'           CC failed mask
000028DC  00000000 00000000                        1983+          DS    2F                extracted PSW after test (has CC)
000028E4  FF                                       1984+          DC    X'FF'             extracted CC, if test failed
000028E5  E5C6C1C5 40404040                        1985+          DC    CL8'VFAE'         instruction name
000028F0  00002958                                 1986+          DC    A(RE34)           address of v1 result
000028F4  00002968                                 1987+          DC    A(RE34+16)        address of v2 source
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000028F8  00002978                                1988+          DC    A(RE34+32)          address of v3 source
000028FC  00000010                                1989+          DC    A(16)               result length
00002900  00002958                                1990+REA34     DC    A(RE34)             result address
00002908  00000000 00000000                       1991+          DS    FD                  gap
00002910  00000000 00000000                       1992+V1O34     DS    XL16                V1 output
00002918  00000000 00000000
00002920  00000000 00000000                       1993+          DS    FD                  gap
                                                  1994+*
00002928                                          1995+X34       DS    0F
00002928  E310 5024 0014                 00000024 1996+          LGF   R1,V2ADDR           load v2 source
0000292E  E761 0000 0806                 00000000 1997+          VL    v22,0(R1)           use v21 to test decoder
00002934  E310 5028 0014                 00000028 1998+          LGF   R1,V3ADDR           load v3 source
0000293A  E771 0000 0806                 00000000 1999+          VL    v23,0(R1)           use v22 to test decoder
00002940  E756 7070 0E82                          2000+          VFAE  V21,V22,V23,0,7               test instruction
00002946  B98D 0020                               2001+          EPSW  R2,R0               extract psw
0000294A  5020 500C                      0000000C 2002+          ST    R2,CCPSW               to save CC
0000294E  E750 5040 080E                 00002910 2003+          VST   V21,V1O34           save v1 output
00002954  07FB                                    2004+          BR    R11                 return
00002958                                          2005+RE34      DC    0F                  V1 for this test
00002958                                          2006+          DROP  R5
00002958  00000000 00000000                       2007           DC    XL16'00000000000000000000000000000000'   V1
00002960  00000000 00000000
00002968  5D3A5859 5A535953                       2008           DC    XL16'5D3A58595A53595354454D445F444546'   v2
00002970  54454D44 5F444546
00002978  25252525 25252525                       2009           DC    XL16'25252525252525252525252525252525'   v3
00002980  25252525 25252525
                                                  2010
                                                  2011 * Byte, No equal, no zero
                                                  2012           VRR_B VFAE,0,15,1             cc=1 M5=8+4+2+1     IN RT ZS CS
00002988                                          2013+          DS    0FD
00002988                  00002988                2014+          USING *,R5                base for test data and test routine
00002988  000029E0                                2015+T35       DC    A(X35)              address of test routine
0000298C  0023                                    2016+          DC    H'35'               test number
0000298E  00                                      2017+          DC    X'00'
0000298F  00                                      2018+          DC    HL1'0'                   m4 used
00002990  0F                                      2019+          DC    HL1'15'                  m5 used
00002991  01                                      2020+          DC    HL1'1'              CC
00002992  0B                                      2021+          DC    HL1'11'             CC failed mask
00002994  00000000 00000000                       2022+          DS    2F                  extracted PSW after test (has CC)
0000299C  FF                                      2023+          DC    X'FF'               extracted CC, if test failed
0000299D  E5C6C1C5 40404040                       2024+          DC    CL8'VFAE'           instruction name
000029A8  00002A10                                2025+          DC    A(RE35)             address of v1 result
000029AC  00002A20                                2026+          DC    A(RE35+16)          address of v2 source
000029B0  00002A30                                2027+          DC    A(RE35+32)          address of v3 source
000029B4  00000010                                2028+          DC    A(16)               result length
000029B8  00002A10                                2029+REA35     DC    A(RE35)             result address
000029C0  00000000 00000000                       2030+          DS    FD                  gap
000029C8  00000000 00000000                       2031+V1O35     DS    XL16                V1 output
000029D0  00000000 00000000
000029D8  00000000 00000000                       2032+          DS    FD                  gap
                                                  2033+*
000029E0                                          2034+X35       DS    0F
000029E0  E310 5024 0014                 00000024 2035+          LGF   R1,V2ADDR           load v2 source
000029E6  E761 0000 0806                 00000000 2036+          VL    v22,0(R1)           use v21 to test decoder
000029EC  E310 5028 0014                 00000028 2037+          LGF   R1,V3ADDR           load v3 source
000029F2  E771 0000 0806                 00000000 2038+          VL    v23,0(R1)           use v22 to test decoder
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000029F8  E756 70F0 0E82                          2039+         VFAE  V21,V22,V23,0,15              test instruction
000029FE  B98D 0020                               2040+         EPSW  R2,R0                 extract psw
00002A02  5020 500C                    0000000C   2041+         ST    R2,CCPSW                 to save CC
00002A06  E750 5040 080E               000029C8   2042+         VST   V21,V1O35           save v1 output
00002A0C  07FB                                    2043+         BR    R11                 return
00002A10                                          2044+RE35     DC    0F                  V1 for this test
00002A10                                          2045+         DROP  R5
00002A10  FFFFFFFF FFFFFFFF                       2046          DC    XL16'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF'   V1
00002A18  FFFFFFFF FFFFFFFF
00002A20  5D3A5859 5A535953                       2047          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00002A28  54454D44 5F444546
00002A30  25252525 25252525                       2048          DC    XL16'25252525252525252525252525252525'   v3
00002A38  25252525 25252525
                                                  2049
                                                  2050 * Byte, No equal, no zero
                                                  2051          VRR_B VFAE,0,5,3              cc=3 M5=4+1             RT    CS
00002A40                                          2052+         DS    0FD
00002A40                          00002A40        2053+         USING *,R5                  base for test data and test routine
00002A40  00002A98                                2054+T36      DC    A(X36)              address of test routine
00002A44  0024                                    2055+         DC    H'36'               test number
00002A46  00                                      2056+         DC    X'00'
00002A47  00                                      2057+         DC    HL1'0'                   m4 used
00002A48  05                                      2058+         DC    HL1'5'                   m5 used
00002A49  03                                      2059+         DC    HL1'3'              CC
00002A4A  0E                                      2060+         DC    HL1'14'             CC failed mask
00002A4C  00000000 00000000                       2061+         DS    2F                  extracted PSW after test (has CC)
00002A54  FF                                      2062+         DC    X'FF'               extracted CC, if test failed
00002A55  E5C6C1C5 40404040                       2063+         DC    CL8'VFAE'           instruction name
00002A60  00002AC8                                2064+         DC    A(RE36)             address of v1 result
00002A64  00002AD8                                2065+         DC    A(RE36+16)          address of v2 source
00002A68  00002AE8                                2066+         DC    A(RE36+32)          address of v3 source
00002A6C  00000010                                2067+         DC    A(16)               result length
00002A70  00002AC8                                2068+REA36    DC    A(RE36)             result address
00002A78  00000000 00000000                       2069+         DS    FD                  gap
00002A80  00000000 00000000                       2070+V1O36    DS    XL16                V1 output
00002A88  00000000 00000000
00002A90  00000000 00000000                       2071+         DS    FD                  gap
                                                  2072+*
00002A98                                          2073+X36      DS    0F
00002A98  E310 5024 0014               00000024   2074+         LGF   R1,V2ADDR           load v2 source
00002A9E  E761 0000 0806               00000000   2075+         VL    v22,0(R1)           use v21 to test decoder
00002AA4  E310 5028 0014               00000028   2076+         LGF   R1,V3ADDR           load v3 source
00002AAA  E771 0000 0806               00000000   2077+         VL    v23,0(R1)           use v22 to test decoder
00002AB0  E756 7050 0E82                          2078+         VFAE  V21,V22,V23,0,5               test instruction
00002AB6  B98D 0020                               2079+         EPSW  R2,R0               extract psw
00002ABA  5020 500C                    0000000C   2080+         ST    R2,CCPSW                 to save CC
00002ABE  E750 5040 080E               00002A80   2081+         VST   V21,V1O36           save v1 output
00002AC4  07FB                                    2082+         BR    R11                 return
00002AC8                                          2083+RE36     DC    0F                  V1 for this test
00002AC8                                          2084+         DROP  R5
00002AC8  00000000 00000000                       2085          DC    XL16'00000000000000000000000000000000'   V1
00002AD0  00000000 00000000
00002AD8  5D3A5859 5A535953                       2086          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00002AE0  54454D44 5F444546
00002AE8  25252525 25252525                       2087          DC    XL16'25252525252525252525252525252525'   v3
00002AF0  25252525 25252525
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    2088
                                                    2089 * Byte, No equal, no zero
                                                    2090          VRR_B VFAE,0,13,1             cc=1 M5=8=4+1       IN RT   CS
00002AF8                                            2091+         DS    0FD
00002AF8                        00002AF8            2092+         USING *,R5                  base for test data and test routine
00002AF8  00002B50                                  2093+T37      DC    A(X37)                address of test routine
00002AFC  0025                                      2094+         DC    H'37'                 test number
00002AFE  00                                        2095+         DC    X'00'
00002AFF  00                                        2096+         DC    HL1'0'                     m4 used
00002B00  0D                                        2097+         DC    HL1'13'                    m5 used
00002B01  01                                        2098+         DC    HL1'1'                CC
00002B02  0B                                        2099+         DC    HL1'11'               CC failed mask
00002B04  00000000 00000000                         2100+         DS    2F                    extracted PSW after test (has CC)
00002B0C  FF                                        2101+         DC    X'FF'                 extracted CC, if test failed
00002B0D  E5C6C1C5 40404040                         2102+         DC    CL8'VFAE'             instruction name
00002B18  00002B80                                  2103+         DC    A(RE37)               address of v1 result
00002B1C  00002B90                                  2104+         DC    A(RE37+16)            address of v2 source
00002B20  00002BA0                                  2105+         DC    A(RE37+32)            address of v3 source
00002B24  00000010                                  2106+         DC    A(16)                 result length
00002B28  00002B80                                  2107+REA37    DC    A(RE37)               result address
00002B30  00000000 00000000                         2108+         DS    FD                    gap
00002B38  00000000 00000000                         2109+V1O37    DS    XL16                  V1 output
00002B40  00000000 00000000
00002B48  00000000 00000000                         2110+         DS    FD                    gap
                                                    2111+*
00002B50                                            2112+X37      DS    0F
00002B50  E310 5024 0014                 00000024   2113+         LGF   R1,V2ADDR             load v2 source
00002B56  E761 0000 0806                 00000000   2114+         VL    v22,0(R1)             use v21 to test decoder
00002B5C  E310 5028 0014                 00000028   2115+         LGF   R1,V3ADDR             load v3 source
00002B62  E771 0000 0806                 00000000   2116+         VL    v23,0(R1)             use v22 to test decoder
00002B68  E756 70D0 0E82                            2117+         VFAE  V21,V22,V23,0,13                test instruction
00002B6E  B98D 0020                                 2118+         EPSW  R2,R0                 extract psw
00002B72  5020 500C                      0000000C   2119+         ST    R2,CCPSW                 to save CC
00002B76  E750 5040 080E                 00002B38   2120+         VST   V21,V1O37             save v1 output
00002B7C  07FB                                      2121+         BR    R11                   return
00002B80                                            2122+RE37     DC    0F                    V1 for this test
00002B80                                            2123+         DROP  R5
00002B80  FFFFFFFF FFFFFFFF                         2124          DC    XL16'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF'   V1
00002B88  FFFFFFFF FFFFFFFF
00002B90  5D3A5859 5A535953                         2125          DC    XL16'5D3A58595A53595354454D445F444546'   v2
00002B98  54454D44 5F444546
00002BA0  25252525 25252525                         2126          DC    XL16'25252525252525252525252525252525'   v3
00002BA8  25252525 25252525
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                   2128 *-------------------------------------------------------------------
                                                   2129 * Byte, Equal, no zero
                                                   2130          VRR_B VFAE,0,3,1              cc=1 M5=2+1              ZS CS
00002BB0                                           2131+         DS    0FD
00002BB0                       00002BB0            2132+         USING *,R5                base for test data and test routine
00002BB0  00002C08                                 2133+T38      DC    A(X38)              address of test routine
00002BB4  0026                                     2134+         DC    H'38'               test number
00002BB6  00                                       2135+         DC    X'00'
00002BB7  00                                       2136+         DC    HL1'0'                   m4 used
00002BB8  03                                       2137+         DC    HL1'3'                   m5 used
00002BB9  01                                       2138+         DC    HL1'1'              CC
00002BBA  0B                                       2139+         DC    HL1'11'             CC failed mask
00002BBC  00000000 00000000                        2140+         DS    2F                  extracted PSW after test (has CC)
00002BC4  FF                                       2141+         DC    X'FF'               extracted CC, if test failed
00002BC5  E5C6C1C5 40404040                        2142+         DC    CL8'VFAE'           instruction name
00002BD0  00002C38                                 2143+         DC    A(RE38)             address of v1 result
00002BD4  00002C48                                 2144+         DC    A(RE38+16)          address of v2 source
00002BD8  00002C58                                 2145+         DC    A(RE38+32)          address of v3 source
00002BDC  00000010                                 2146+         DC    A(16)               result length
00002BE0  00002C38                                 2147+REA38    DC    A(RE38)             result address
00002BE8  00000000 00000000                        2148+         DS    FD                  gap
00002BF0  00000000 00000000                        2149+V1O38    DS    XL16                V1 output
00002BF8  00000000 00000000
00002C00  00000000 00000000                        2150+         DS    FD                  gap
                                                   2151+*
00002C08                                           2152+X38      DS    0F
00002C08  E310 5024 0014                 00000024  2153+         LGF   R1,V2ADDR           load v2 source
00002C0E  E761 0000 0806                 00000000  2154+         VL    v22,0(R1)           use v21 to test decoder
00002C14  E310 5028 0014                 00000028  2155+         LGF   R1,V3ADDR           load v3 source
00002C1A  E771 0000 0806                 00000000  2156+         VL    v23,0(R1)           use v22 to test decoder
00002C20  E756 7030 0E82                           2157+         VFAE  V21,V22,V23,0,3                test instruction
00002C26  B98D 0020                                2158+         EPSW  R2,R0               extract psw
00002C2A  5020 500C                      0000000C  2159+         ST    R2,CCPSW               to save CC
00002C2E  E750 5040 080E                 00002BF0  2160+         VST   V21,V1O38           save v1 output
00002C34  07FB                                     2161+         BR    R11                 return
00002C38                                           2162+RE38     DC    0F                  V1 for this test
00002C38                                           2163+         DROP  R5
00002C38  00000000 00000005                        2164          DC    XL16'00000000000000050000000000000000'   V1
00002C40  00000000 00000000
00002C48  5D3A5859 5A255953                        2165          DC    XL16'5D3A58595A25595354454D445F444546'   v2
00002C50  54454D44 5F444546
00002C58  25252525 25252525                        2166          DC    XL16'25252525252525252525252525252525'   v3
00002C60  25252525 25252525
                                                   2167
                                                   2168 * Byte, Equal, no zero
                                                   2169          VRR_B VFAE,0,7,1              cc=1 M5=4+2+1         RT ZS CS
00002C68                                           2170+         DS    0FD
00002C68                       00002C68            2171+         USING *,R5                base for test data and test routine
00002C68  00002CC0                                 2172+T39      DC    A(X39)              address of test routine
00002C6C  0027                                     2173+         DC    H'39'               test number
00002C6E  00                                       2174+         DC    X'00'
00002C6F  00                                       2175+         DC    HL1'0'                   m4 used
00002C70  07                                       2176+         DC    HL1'7'                   m5 used
00002C71  01                                       2177+         DC    HL1'1'              CC
00002C72  0B                                       2178+         DC    HL1'11'             CC failed mask
00002C74  00000000 00000000                        2179+         DS    2F                  extracted PSW after test (has CC)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00002C7C  FF                                       2180+          DC    X'FF'                extracted CC, if test failed
00002C7D  E5C6C1C5 40404040                        2181+          DC    CL8'VFAE'            instruction name
00002C88  00002CF0                                 2182+          DC    A(RE39)              address of v1 result
00002C8C  00002D00                                 2183+          DC    A(RE39+16)           address of v2 source
00002C90  00002D10                                 2184+          DC    A(RE39+32)           address of v3 source
00002C94  00000010                                 2185+          DC    A(16)                result length
00002C98  00002CF0                                 2186+REA39     DC    A(RE39)              result address
00002CA0  00000000 00000000                        2187+          DS    FD                   gap
00002CA8  00000000 00000000                        2188+V1O39     DS    XL16                 V1 output
00002CB0  00000000 00000000
00002CB8  00000000 00000000                        2189+          DS    FD                   gap
                                                   2190+*
00002CC0                                           2191+X39       DS    0F
00002CC0  E310 5024 0014                 00000024  2192+          LGF   R1,V2ADDR            load v2 source
00002CC6  E761 0000 0806                 00000000  2193+          VL    v22,0(R1)            use v21 to test decoder
00002CCC  E310 5028 0014                 00000028  2194+          LGF   R1,V3ADDR            load v3 source
00002CD2  E771 0000 0806                 00000000  2195+          VL    v23,0(R1)            use v22 to test decoder
00002CD8  E756 7070 0E82                           2196+          VFAE  V21,V22,V23,0,7                test instruction
00002CDE  B98D 0020                                2197+          EPSW  R2,R0                extract psw
00002CE2  5020 500C                      0000000C  2198+          ST    R2,CCPSW               to save CC
00002CE6  E750 5040 080E                 00002CA8  2199+          VST   V21,V1O39            save v1 output
00002CEC  07FB                                     2200+          BR    R11                  return
00002CF0                                           2201+RE39      DC    0F                   V1 for this test
00002CF0                                           2202+          DROP  R5
00002CF0  00000000 00FF0000                        2203           DC    XL16'0000000000FF00000000000000000000'   V1
00002CF8  00000000 00000000
00002D00  5D3A5859 5A255953                        2204           DC    XL16'5D3A58595A25595354454D445F444546'   v2
00002D08  54454D44 5F444546
00002D10  25252525 25252525                        2205           DC    XL16'25252525252525252525252525252525'   v3
00002D18  25252525 25252525
                                                   2206
                                                   2207 * Byte, Equal, no zero
                                                   2208           VRR_B VFAE,0,15,1            cc=1 M5=8+4+2+1    IN RT ZS CS
00002D20                                           2209+          DS    0FD
00002D20                         00002D20          2210+          USING *,R5                 base for test data and test routine
00002D20  00002D78                                 2211+T40       DC    A(X40)               address of test routine
00002D24  0028                                     2212+          DC    H'40'                test number
00002D26  00                                       2213+          DC    X'00'
00002D27  00                                       2214+          DC    HL1'0'                   m4 used
00002D28  0F                                       2215+          DC    HL1'15'                  m5 used
00002D29  01                                       2216+          DC    HL1'1'               CC
00002D2A  0B                                       2217+          DC    HL1'11'              CC failed mask
00002D2C  00000000 00000000                        2218+          DS    2F                   extracted PSW after test (has CC)
00002D34  FF                                       2219+          DC    X'FF'                extracted CC, if test failed
00002D35  E5C6C1C5 40404040                        2220+          DC    CL8'VFAE'            instruction name
00002D40  00002DA8                                 2221+          DC    A(RE40)              address of v1 result
00002D44  00002DB8                                 2222+          DC    A(RE40+16)           address of v2 source
00002D48  00002DC8                                 2223+          DC    A(RE40+32)           address of v3 source
00002D4C  00000010                                 2224+          DC    A(16)                result length
00002D50  00002DA8                                 2225+REA40     DC    A(RE40)              result address
00002D58  00000000 00000000                        2226+          DS    FD                   gap
00002D60  00000000 00000000                        2227+V1O40     DS    XL16                 V1 output
00002D68  00000000 00000000
00002D70  00000000 00000000                        2228+          DS    FD                   gap
                                                   2229+*
00002D78                                           2230+X40       DS    0F
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00002D78  E310 5024 0014                 00000024 2231+         LGF   R1,V2ADDR          load v2 source
00002D7E  E761 0000 0806                 00000000 2232+         VL    v22,0(R1)          use v21 to test decoder
00002D84  E310 5028 0014                 00000028 2233+         LGF   R1,V3ADDR          load v3 source
00002D8A  E771 0000 0806                 00000000 2234+         VL    v23,0(R1)          use v22 to test decoder
00002D90  E756 70F0 0E82                          2235+         VFAE  V21,V22,V23,0,15             test instruction
00002D96  B98D 0020                               2236+         EPSW  R2,R0              extract psw
00002D9A  5020 500C                      0000000C 2237+         ST    R2,CCPSW              to save CC
00002D9E  E750 5040 080E                 00002D60 2238+         VST   V21,V1O40          save v1 output
00002DA4  07FB                                    2239+         BR    R11                return
00002DA8                                          2240+RE40     DC    0F                 V1 for this test
00002DA8                                          2241+         DROP  R5
00002DA8  FFFFFFFF FF00FFFF                       2242          DC    XL16'FFFFFFFFFF00FFFFFFFFFFFFFFFFFFFF'   V1
00002DB0  FFFFFFFF FFFFFFFF
00002DB8  5D3A5859 5A255953                       2243          DC    XL16'5D3A58595A25595354454D445F444546'   v2
00002DC0  54454D44 5F444546
00002DC8  25252525 25252525                       2244          DC    XL16'25252525252525252525252525252525'   v3
00002DD0  25252525 25252525
                                                  2245
                                                  2246 * Byte, Equal, no zero
                                                  2247          VRR_B VFAE,0,1,1             cc=1 M5=1                   CS
00002DD8                                          2248+         DS    0FD
00002DD8                          00002DD8        2249+         USING *,R5               base for test data and test routine
00002DD8  00002E30                                2250+T41      DC    A(X41)             address of test routine
00002DDC  0029                                    2251+         DC    H'41'              test number
00002DDE  00                                      2252+         DC    X'00'
00002DDF  00                                      2253+         DC    HL1'0'                  m4 used
00002DE0  01                                      2254+         DC    HL1'1'                  m5 used
00002DE1  01                                      2255+         DC    HL1'1'             CC
00002DE2  0B                                      2256+         DC    HL1'11'            CC failed mask
00002DE4  00000000 00000000                       2257+         DS    2F                 extracted PSW after test (has CC)
00002DEC  FF                                      2258+         DC    X'FF'              extracted CC, if test failed
00002DED  E5C6C1C5 40404040                       2259+         DC    CL8'VFAE'          instruction name
00002DF8  00002E60                                2260+         DC    A(RE41)            address of v1 result
00002DFC  00002E70                                2261+         DC    A(RE41+16)         address of v2 source
00002E00  00002E80                                2262+         DC    A(RE41+32)         address of v3 source
00002E04  00000010                                2263+         DC    A(16)              result length
00002E08  00002E60                                2264+REA41    DC    A(RE41)            result address
00002E10  00000000 00000000                       2265+         DS    FD                 gap
00002E18  00000000 00000000                       2266+V1O41    DS    XL16               V1 output
00002E20  00000000 00000000
00002E28  00000000 00000000                       2267+         DS    FD                 gap
                                                  2268+*
00002E30                                          2269+X41      DS    0F
00002E30  E310 5024 0014                 00000024 2270+         LGF   R1,V2ADDR          load v2 source
00002E36  E761 0000 0806                 00000000 2271+         VL    v22,0(R1)          use v21 to test decoder
00002E3C  E310 5028 0014                 00000028 2272+         LGF   R1,V3ADDR          load v3 source
00002E42  E771 0000 0806                 00000000 2273+         VL    v23,0(R1)          use v22 to test decoder
00002E48  E756 7010 0E82                          2274+         VFAE  V21,V22,V23,0,1              test instruction
00002E4E  B98D 0020                               2275+         EPSW  R2,R0              extract psw
00002E52  5020 500C                      0000000C 2276+         ST    R2,CCPSW              to save CC
00002E56  E750 5040 080E                 00002E18 2277+         VST   V21,V1O41          save v1 output
00002E5C  07FB                                    2278+         BR    R11                return
00002E60                                          2279+RE41     DC    0F                 V1 for this test
00002E60                                          2280+         DROP  R5
00002E60  00000000 00000005                       2281          DC    XL16'00000000000000050000000000000000'   V1
00002E68  00000000 00000000
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00002E70  5D3A5859 5A255953                        2282          DC    XL16'5D3A58595A25595354454D445F444546'   v2
00002E78  54454D44 5F444546
00002E80  25252525 25252525                        2283          DC    XL16'25252525252525252525252525252525'   v3
00002E88  25252525 25252525
                                                   2284
                                                   2285 * Byte, Equal, no zero
                                                   2286          VRR_B VFAE,0,5,1              cc=1 M5=4+1           RT    CS
00002E90                                           2287+         DS    0FD
00002E90                     00002E90              2288+         USING *,R5                 base for test data and test routine
00002E90  00002EE8                                 2289+T42      DC    A(X42)               address of test routine
00002E94  002A                                     2290+         DC    H'42'                test number
00002E96  00                                       2291+         DC    X'00'
00002E97  00                                       2292+         DC    HL1'0'                    m4 used
00002E98  05                                       2293+         DC    HL1'5'                    m5 used
00002E99  01                                       2294+         DC    HL1'1'               CC
00002E9A  0B                                       2295+         DC    HL1'11'              CC failed mask
00002E9C  00000000 00000000                        2296+         DS    2F                   extracted PSW after test (has CC)
00002EA4  FF                                       2297+         DC    X'FF'                extracted CC, if test failed
00002EA5  E5C6C1C5 40404040                        2298+         DC    CL8'VFAE'            instruction name
00002EB0  00002F18                                 2299+         DC    A(RE42)              address of v1 result
00002EB4  00002F28                                 2300+         DC    A(RE42+16)           address of v2 source
00002EB8  00002F38                                 2301+         DC    A(RE42+32)           address of v3 source
00002EBC  00000010                                 2302+         DC    A(16)                result length
00002EC0  00002F18                                 2303+REA42    DC    A(RE42)              result address
00002EC8  00000000 00000000                        2304+         DS    FD                   gap
00002ED0  00000000 00000000                        2305+V1O42    DS    XL16                 V1 output
00002ED8  00000000 00000000
00002EE0  00000000 00000000                        2306+         DS    FD                   gap
                                                   2307+*
00002EE8                                           2308+X42      DS    0F
00002EE8  E310 5024 0014                 00000024  2309+         LGF   R1,V2ADDR            load v2 source
00002EEE  E761 0000 0806                 00000000  2310+         VL    v22,0(R1)            use v21 to test decoder
00002EF4  E310 5028 0014                 00000028  2311+         LGF   R1,V3ADDR            load v3 source
00002EFA  E771 0000 0806                 00000000  2312+         VL    v23,0(R1)            use v22 to test decoder
00002F00  E756 7050 0E82                           2313+         VFAE  V21,V22,V23,0,5                test instruction
00002F06  B98D 0020                                2314+         EPSW  R2,R0                extract psw
00002F0A  5020 500C                      0000000C  2315+         ST    R2,CCPSW                to save CC
00002F0E  E750 5040 080E                 00002ED0  2316+         VST   V21,V1O42            save v1 output
00002F14  07FB                                     2317+         BR    R11                  return
00002F18                                           2318+RE42     DC    0F                   V1 for this test
00002F18                                           2319+         DROP  R5
00002F18  00000000 00FF0000                        2320          DC    XL16'0000000000FF00000000000000000000'   V1
00002F20  00000000 00000000
00002F28  5D3A5859 5A255953                        2321          DC    XL16'5D3A58595A25595354454D445F444546'   v2
00002F30  54454D44 5F444546
00002F38  25252525 25252525                        2322          DC    XL16'25252525252525252525252525252525'   v3
00002F40  25252525 25252525
                                                   2323
                                                   2324 * Byte, Equal, no zero
                                                   2325          VRR_B VFAE,0,13,1             cc=1 M5=8+4+1      IN RT    CS
00002F48                                           2326+         DS    0FD
00002F48                     00002F48              2327+         USING *,R5                 base for test data and test routine
00002F48  00002FA0                                 2328+T43      DC    A(X43)               address of test routine
00002F4C  002B                                     2329+         DC    H'43'                test number
00002F4E  00                                       2330+         DC    X'00'
00002F4F  00                                       2331+         DC    HL1'0'                    m4 used
```

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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00002F50  0D                                       2332+          DC    HL1'13'                 m5 used
00002F51  01                                       2333+          DC    HL1'1'                CC
00002F52  0B                                       2334+          DC    HL1'11'               CC failed mask
00002F54  00000000 00000000                        2335+          DS    2F                    extracted PSW after test (has CC)
00002F5C  FF                                       2336+          DC    X'FF'                 extracted CC, if test failed
00002F5D  E5C6C1C5 40404040                        2337+          DC    CL8'VFAE'             instruction name
00002F68  00002FD0                                 2338+          DC    A(RE43)               address of v1 result
00002F6C  00002FE0                                 2339+          DC    A(RE43+16)            address of v2 source
00002F70  00002FF0                                 2340+          DC    A(RE43+32)            address of v3 source
00002F74  00000010                                 2341+          DC    A(16)                 result length
00002F78  00002FD0                                 2342+REA43     DC    A(RE43)               result address
00002F80  00000000 00000000                        2343+          DS    FD                    gap
00002F88  00000000 00000000                        2344+V1O43     DS    XL16                  V1 output
00002F90  00000000 00000000
00002F98  00000000 00000000                        2345+          DS    FD                    gap
                                                   2346+*
00002FA0                                           2347+X43       DS    0F
00002FA0  E310 5024 0014                 00000024  2348+          LGF   R1,V2ADDR             load v2 source
00002FA6  E761 0000 0806                 00000000  2349+          VL    v22,0(R1)             use v21 to test decoder
00002FAC  E310 5028 0014                 00000028  2350+          LGF   R1,V3ADDR             load v3 source
00002FB2  E771 0000 0806                 00000000  2351+          VL    v23,0(R1)             use v22 to test decoder
00002FB8  E756 70D0 0E82                           2352+          VFAE  V21,V22,V23,0,13              test instruction
00002FBE  B98D 0020                                2353+          EPSW  R2,R0                 extract psw
00002FC2  5020 500C                      0000000C  2354+          ST    R2,CCPSW                 to save CC
00002FC6  E750 5040 080E                 00002F88  2355+          VST   V21,V1O43             save v1 output
00002FCC  07FB                                     2356+          BR    R11                   return
00002FD0                                           2357+RE43      DC    0F                      V1 for this test
00002FD0                                           2358+          DROP  R5
00002FD0  FFFFFFFF FF00FFFF                        2359           DC    XL16'FFFFFFFFFF00FFFFFFFFFFFFFFFFFFFF'   V1
00002FD8  FFFFFFFF FFFFFFFF
00002FE0  5D3A5859 5A255953                        2360           DC    XL16'5D3A58595A25595354454D445F444546'   v2
00002FE8  54454D44 5F444546
00002FF0  25252525 25252525                        2361           DC    XL16'25252525252525252525252525252525'   v3
00002FF8  25252525 25252525
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                   2363 *-------------------------------------------------------------------
                                                   2364 * Byte, Equal before zero
                                                   2365          VRR_B VFAE,0,3,2             cc=2 M5=2+1              ZS CS
00003000                                           2366+         DS    0FD
00003000                         00003000          2367+         USING *,R5                base for test data and test routine
00003000  00003058                                 2368+T44      DC    A(X44)              address of test routine
00003004  002C                                     2369+         DC    H'44'               test number
00003006  00                                       2370+         DC    X'00'
00003007  00                                       2371+         DC    HL1'0'                   m4 used
00003008  03                                       2372+         DC    HL1'3'                   m5 used
00003009  02                                       2373+         DC    HL1'2'              CC
0000300A  0D                                       2374+         DC    HL1'13'             CC failed mask
0000300C  00000000 00000000                        2375+         DS    2F                  extracted PSW after test (has CC)
00003014  FF                                       2376+         DC    X'FF'               extracted CC, if test failed
00003015  E5C6C1C5 40404040                        2377+         DC    CL8'VFAE'           instruction name
00003020  00003088                                 2378+         DC    A(RE44)             address of v1 result
00003024  00003098                                 2379+         DC    A(RE44+16)          address of v2 source
00003028  000030A8                                 2380+         DC    A(RE44+32)          address of v3 source
0000302C  00000010                                 2381+         DC    A(16)               result length
00003030  00003088                                 2382+REA44    DC    A(RE44)             result address
00003038  00000000 00000000                        2383+         DS    FD                  gap
00003040  00000000 00000000                        2384+V1O44    DS    XL16                V1 output
00003048  00000000 00000000
00003050  00000000 00000000                        2385+         DS    FD                  gap
                                                   2386+*
00003058                                           2387+X44      DS    0F
00003058  E310 5024 0014                 00000024  2388+         LGF   R1,V2ADDR           load v2 source
0000305E  E761 0000 0806                 00000000  2389+         VL    v22,0(R1)           use v21 to test decoder
00003064  E310 5028 0014                 00000028  2390+         LGF   R1,V3ADDR           load v3 source
0000306A  E771 0000 0806                 00000000  2391+         VL    v23,0(R1)           use v22 to test decoder
00003070  E756 7030 0E82                           2392+         VFAE  V21,V22,V23,0,3                test instruction
00003076  B98D 0020                                2393+         EPSW  R2,R0               extract psw
0000307A  5020 500C                      0000000C  2394+         ST    R2,CCPSW               to save CC
0000307E  E750 5040 080E                 00003040  2395+         VST   V21,V1O44           save v1 output
00003084  07FB                                     2396+         BR    R11                 return
00003088                                           2397+RE44     DC    0F                  V1 for this test
00003088                                           2398+         DROP  R5
00003088  00000000 00000005                        2399          DC    XL16'00000000 00000005 00000000 00000000'   V1
00003090  00000000 00000000
00003098  5D3A5859 5A255953                        2400          DC    XL16'5D3A5859 5A255953 54004D44 5F444546'   v2
000030A0  54004D44 5F444546
000030A8  25252525 25252525                        2401          DC    XL16'25252525 25252525 25252525 25252525'   v3
000030B0  25252525 25252525
                                                   2402
                                                   2403 * Byte, Equal before zero
                                                   2404          VRR_B VFAE,0,7,2             cc=2 M5=4+2+1         RT ZS CS
000030B8                                           2405+         DS    0FD
000030B8                         000030B8          2406+         USING *,R5                base for test data and test routine
000030B8  00003110                                 2407+T45      DC    A(X45)              address of test routine
000030BC  002D                                     2408+         DC    H'45'               test number
000030BE  00                                       2409+         DC    X'00'
000030BF  00                                       2410+         DC    HL1'0'                   m4 used
000030C0  07                                       2411+         DC    HL1'7'                   m5 used
000030C1  02                                       2412+         DC    HL1'2'              CC
000030C2  0D                                       2413+         DC    HL1'13'             CC failed mask
000030C4  00000000 00000000                        2414+         DS    2F                  extracted PSW after test (has CC)
```

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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000030CC  FF                                       2415+          DC    X'FF'                extracted CC, if test failed
000030CD  E5C6C1C5 40404040                        2416+          DC    CL8'VFAE'            instruction name
000030D8  00003140                                 2417+          DC    A(RE45)              address of v1 result
000030DC  00003150                                 2418+          DC    A(RE45+16)           address of v2 source
000030E0  00003160                                 2419+          DC    A(RE45+32)           address of v3 source
000030E4  00000010                                 2420+          DC    A(16)                result length
000030E8  00003140                                 2421+REA45     DC    A(RE45)              result address
000030F0  00000000 00000000                        2422+          DS    FD                   gap
000030F8  00000000 00000000                        2423+V1O45     DS    XL16                 V1 output
00003100  00000000 00000000
00003108  00000000 00000000                        2424+          DS    FD                   gap
                                                   2425+*
00003110                                           2426+X45       DS    0F
00003110  E310 5024 0014                 00000024  2427+          LGF   R1,V2ADDR            load v2 source
00003116  E761 0000 0806                 00000000  2428+          VL    v22,0(R1)            use v21 to test decoder
0000311C  E310 5028 0014                 00000028  2429+          LGF   R1,V3ADDR            load v3 source
00003122  E771 0000 0806                 00000000  2430+          VL    v23,0(R1)            use v22 to test decoder
00003128  E756 7070 0E82                           2431+          VFAE  V21,V22,V23,0,7                test instruction
0000312E  B98D 0020                                2432+          EPSW  R2,R0                extract psw
00003132  5020 500C                      0000000C  2433+          ST    R2,CCPSW                to save CC
00003136  E750 5040 080E                 000030F8  2434+          VST   V21,V1O45            save v1 output
0000313C  07FB                                     2435+          BR    R11                  return
00003140                                           2436+RE45      DC    0F                   V1 for this test
00003140                                           2437+          DROP  R5
00003140  00000000 00FF0000                        2438           DC    XL16'00000000 00FF0000 00000000 00000000'   V1
00003148  00000000 00000000
00003150  5D3A5859 5A255953                        2439           DC    XL16'5D3A5859 5A255953 54004D44 5F444546'   v2
00003158  54004D44 5F444546
00003160  25252525 25252525                        2440           DC    XL16'25252525 25252525 25252525 25252525'   v3
00003168  25252525 25252525
                                                   2441
                                                   2442 * Byte, Equal before zero
                                                   2443           VRR_B VFAE,0,15,2            cc=2 M5=8+4+2+1    IN RT ZS CS
00003170                                           2444+          DS    0FD
00003170                         00003170          2445+          USING *,R5                 base for test data and test routine
00003170  000031C8                                 2446+T46       DC    A(X46)               address of test routine
00003174  002E                                     2447+          DC    H'46'                test number
00003176  00                                       2448+          DC    X'00'
00003177  00                                       2449+          DC    HL1'0'                    m4 used
00003178  0F                                       2450+          DC    HL1'15'                   m5 used
00003179  02                                       2451+          DC    HL1'2'               CC
0000317A  0D                                       2452+          DC    HL1'13'              CC failed mask
0000317C  00000000 00000000                        2453+          DS    2F                   extracted PSW after test (has CC)
00003184  FF                                       2454+          DC    X'FF'                extracted CC, if test failed
00003185  E5C6C1C5 40404040                        2455+          DC    CL8'VFAE'            instruction name
00003190  000031F8                                 2456+          DC    A(RE46)              address of v1 result
00003194  00003208                                 2457+          DC    A(RE46+16)           address of v2 source
00003198  00003218                                 2458+          DC    A(RE46+32)           address of v3 source
0000319C  00000010                                 2459+          DC    A(16)                result length
000031A0  000031F8                                 2460+REA46     DC    A(RE46)              result address
000031A8  00000000 00000000                        2461+          DS    FD                   gap
000031B0  00000000 00000000                        2462+V1O46     DS    XL16                 V1 output
000031B8  00000000 00000000
000031C0  00000000 00000000                        2463+          DS    FD                   gap
                                                   2464+*
000031C8                                           2465+X46       DS    0F
```

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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000031C8  E310 5024 0014                 00000024  2466+         LGF   R1,V2ADDR          load v2 source
000031CE  E761 0000 0806                 00000000  2467+         VL    v22,0(R1)          use v21 to test decoder
000031D4  E310 5028 0014                 00000028  2468+         LGF   R1,V3ADDR          load v3 source
000031DA  E771 0000 0806                 00000000  2469+         VL    v23,0(R1)          use v22 to test decoder
000031E0  E756 70F0 0E82                           2470+         VFAE  V21,V22,V23,0,15             test instruction
000031E6  B98D 0020                                2471+         EPSW  R2,R0              extract psw
000031EA  5020 500C                      0000000C  2472+         ST    R2,CCPSW              to save CC
000031EE  E750 5040 080E                 000031B0  2473+         VST   V21,V1O46          save v1 output
000031F4  07FB                                     2474+         BR    R11                return
000031F8                                           2475+RE46     DC    0F                 V1 for this test
000031F8                                           2476+         DROP  R5
000031F8  FFFFFFFF FF00FFFF                        2477          DC    XL16'FFFFFFFF FF00FFFF FFFFFFFF FFFFFFFF'   V1
00003200  FFFFFFFF FFFFFFFF
00003208  5D3A5859 5A255953                        2478          DC    XL16'5D3A5859 5A255953 54004D44 5F444546'   v2
00003210  54004D44 5F444546
00003218  25252525 25252525                        2479          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003220  25252525 25252525
                                                   2480
                                                   2481 * Byte, Equal before zero
                                                   2482          VRR_B VFAE,0,1,1              cc=1 M5=1                   CS
00003228                                           2483+         DS    0FD
00003228                 00003228                  2484+         USING *,R5               base for test data and test routine
00003228  00003280                                 2485+T47      DC    A(X47)             address of test routine
0000322C  002F                                     2486+         DC    H'47'              test number
0000322E  00                                       2487+         DC    X'00'
0000322F  00                                       2488+         DC    HL1'0'                  m4 used
00003230  01                                       2489+         DC    HL1'1'                  m5 used
00003231  01                                       2490+         DC    HL1'1'             CC
00003232  0B                                       2491+         DC    HL1'11'            CC failed mask
00003234  00000000 00000000                        2492+         DS    2F                 extracted PSW after test (has CC)
0000323C  FF                                       2493+         DC    X'FF'              extracted CC, if test failed
0000323D  E5C6C1C5 40404040                        2494+         DC    CL8'VFAE'          instruction name
00003248  000032B0                                 2495+         DC    A(RE47)            address of v1 result
0000324C  000032C0                                 2496+         DC    A(RE47+16)         address of v2 source
00003250  000032D0                                 2497+         DC    A(RE47+32)         address of v3 source
00003254  00000010                                 2498+         DC    A(16)              result length
00003258  000032B0                                 2499+REA47    DC    A(RE47)            result address
00003260  00000000 00000000                        2500+         DS    FD                 gap
00003268  00000000 00000000                        2501+V1O47    DS    XL16               V1 output
00003270  00000000 00000000
00003278  00000000 00000000                        2502+         DS    FD                 gap
                                                   2503+*
00003280                                           2504+X47      DS    0F
00003280  E310 5024 0014                 00000024  2505+         LGF   R1,V2ADDR          load v2 source
00003286  E761 0000 0806                 00000000  2506+         VL    v22,0(R1)          use v21 to test decoder
0000328C  E310 5028 0014                 00000028  2507+         LGF   R1,V3ADDR          load v3 source
00003292  E771 0000 0806                 00000000  2508+         VL    v23,0(R1)          use v22 to test decoder
00003298  E756 7010 0E82                           2509+         VFAE  V21,V22,V23,0,1              test instruction
0000329E  B98D 0020                                2510+         EPSW  R2,R0              extract psw
000032A2  5020 500C                      0000000C  2511+         ST    R2,CCPSW              to save CC
000032A6  E750 5040 080E                 00003268  2512+         VST   V21,V1O47          save v1 output
000032AC  07FB                                     2513+         BR    R11                return
000032B0                                           2514+RE47     DC    0F                 V1 for this test
000032B0                                           2515+         DROP  R5
000032B0  00000000 00000005                        2516          DC    XL16'00000000 00000005 00000000 00000000'   V1
000032B8  00000000 00000000
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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000032C0  5D3A5859 5A255953                        2517          DC    XL16'5D3A5859 5A255953 54004D44 5F444546'   v2
000032C8  54004D44 5F444546
000032D0  25252525 25252525                        2518          DC    XL16'25252525 25252525 25252525 25252525'   v3
000032D8  25252525 25252525
                                                   2519
                                                   2520 * Byte, Equal before zero
                                                   2521          VRR_B VFAE,0,5,1              cc=1 M5=4+1          RT    CS
000032E0                                           2522+         DS    0FD
000032E0                      000032E0             2523+         USING *,R5                 base for test data and test routine
000032E0  00003338                                 2524+T48      DC    A(X48)               address of test routine
000032E4  0030                                     2525+         DC    H'48'                test number
000032E6  00                                       2526+         DC    X'00'
000032E7  00                                       2527+         DC    HL1'0'                    m4 used
000032E8  05                                       2528+         DC    HL1'5'                    m5 used
000032E9  01                                       2529+         DC    HL1'1'               CC
000032EA  0B                                       2530+         DC    HL1'11'              CC failed mask
000032EC  00000000 00000000                        2531+         DS    2F                   extracted PSW after test (has CC)
000032F4  FF                                       2532+         DC    X'FF'                extracted CC, if test failed
000032F5  E5C6C1C5 40404040                        2533+         DC    CL8'VFAE'            instruction name
00003300  00003368                                 2534+         DC    A(RE48)              address of v1 result
00003304  00003378                                 2535+         DC    A(RE48+16)           address of v2 source
00003308  00003388                                 2536+         DC    A(RE48+32)           address of v3 source
0000330C  00000010                                 2537+         DC    A(16)                result length
00003310  00003368                                 2538+REA48    DC    A(RE48)              result address
00003318  00000000 00000000                        2539+         DS    FD                   gap
00003320  00000000 00000000                        2540+V1O48    DS    XL16                 V1 output
00003328  00000000 00000000
00003330  00000000 00000000                        2541+         DS    FD                   gap
                                                   2542+*
00003338                                           2543+X48      DS    0F
00003338  E310 5024 0014                 00000024  2544+         LGF   R1,V2ADDR            load v2 source
0000333E  E761 0000 0806                 00000000  2545+         VL    v22,0(R1)            use v21 to test decoder
00003344  E310 5028 0014                 00000028  2546+         LGF   R1,V3ADDR            load v3 source
0000334A  E771 0000 0806                 00000000  2547+         VL    v23,0(R1)            use v22 to test decoder
00003350  E756 7050 0E82                           2548+         VFAE  V21,V22,V23,0,5                test instruction
00003356  B98D 0020                                2549+         EPSW  R2,R0                extract psw
0000335A  5020 500C                      0000000C  2550+         ST    R2,CCPSW                to save CC
0000335E  E750 5040 080E                 00003320  2551+         VST   V21,V1O48            save v1 output
00003364  07FB                                     2552+         BR    R11                  return
00003368                                           2553+RE48     DC    0F                   V1 for this test
00003368                                           2554+         DROP  R5
00003368  00000000 00FF0000                        2555          DC    XL16'00000000 00FF0000 00000000 00000000'   V1
00003370  00000000 00000000
00003378  5D3A5859 5A255953                        2556          DC    XL16'5D3A5859 5A255953 54004D44 5F444546'   v2
00003380  54004D44 5F444546
00003388  25252525 25252525                        2557          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003390  25252525 25252525
                                                   2558
                                                   2559 * Byte, Equal before zero
                                                   2560          VRR_B VFAE,0,13,1             cc=1 M5=8+4+1      IN RT    CS
00003398                                           2561+         DS    0FD
00003398                      00003398             2562+         USING *,R5                 base for test data and test routine
00003398  000033F0                                 2563+T49      DC    A(X49)               address of test routine
0000339C  0031                                     2564+         DC    H'49'                test number
0000339E  00                                       2565+         DC    X'00'
0000339F  00                                       2566+         DC    HL1'0'                    m4 used
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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000033A0  0D                                      2567+          DC    HL1'13'                 m5 used
000033A1  01                                      2568+          DC    HL1'1'                CC
000033A2  0B                                      2569+          DC    HL1'11'               CC failed mask
000033A4  00000000 00000000                       2570+          DS    2F                    extracted PSW after test (has CC)
000033AC  FF                                      2571+          DC    X'FF'                 extracted CC, if test failed
000033AD  E5C6C1C5 40404040                       2572+          DC    CL8'VFAE'             instruction name
000033B8  00003420                                2573+          DC    A(RE49)               address of v1 result
000033BC  00003430                                2574+          DC    A(RE49+16)            address of v2 source
000033C0  00003440                                2575+          DC    A(RE49+32)            address of v3 source
000033C4  00000010                                2576+          DC    A(16)                 result length
000033C8  00003420                                2577+REA49     DC    A(RE49)               result address
000033D0  00000000 00000000                       2578+          DS    FD                    gap
000033D8  00000000 00000000                       2579+V1049     DS    XL16                  V1 output
000033E0  00000000 00000000
000033E8  00000000 00000000                       2580+          DS    FD                    gap
                                                  2581+*
000033F0                                          2582+X49       DS    0F
000033F0  E310 5024 0014                 00000024 2583+          LGF   R1,V2ADDR             load v2 source
000033F6  E761 0000 0806                 00000000 2584+          VL    v22,0(R1)             use v21 to test decoder
000033FC  E310 5028 0014                 00000028 2585+          LGF   R1,V3ADDR             load v3 source
00003402  E771 0000 0806                 00000000 2586+          VL    v23,0(R1)             use v22 to test decoder
00003408  E756 70D0 0E82                          2587+          VFAE  V21,V22,V23,0,13              test instruction
0000340E  B98D 0020                               2588+          EPSW  R2,R0                 extract psw
00003412  5020 500C                      0000000C 2589+          ST    R2,CCPSW                 to save CC
00003416  E750 5040 080E                 000033D8 2590+          VST   V21,V1049             save v1 output
0000341C  07FB                                    2591+          BR    R11                   return
00003420                                          2592+RE49      DC    0F                      V1 for this test
00003420                                          2593+          DROP  R5
00003420  FFFFFFFF FF00FFFF                       2594           DC    XL16'FFFFFFFF FF00FFFF FFFFFFFF FFFFFFFF'   V1
00003428  FFFFFFFF FFFFFFFF
00003430  5D3A5859 5A255953                       2595           DC    XL16'5D3A5859 5A255953 54004D44 5F444546'   v2
00003438  54004D44 5F444546
00003440  25252525 25252525                       2596           DC    XL16'25252525 25252525 25252525 25252525'   v3
00003448  25252525 25252525
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                   2598 *-------------------------------------------------------------------
                                                   2599 * Byte Equal after zero
                                                   2600          VRR_B VFAE,0,3,0            cc=0 M5=2+1             ZS CS
00003450                                           2601+         DS    0FD
00003450                         00003450          2602+         USING *,R5                base for test data and test routine
00003450  000034A8                                 2603+T50      DC    A(X50)              address of test routine
00003454  0032                                     2604+         DC    H'50'               test number
00003456  00                                       2605+         DC    X'00'
00003457  00                                       2606+         DC    HL1'0'                   m4 used
00003458  03                                       2607+         DC    HL1'3'                   m5 used
00003459  00                                       2608+         DC    HL1'0'              CC
0000345A  07                                       2609+         DC    HL1'7'              CC failed mask
0000345C  00000000 00000000                        2610+         DS    2F                  extracted PSW after test (has CC)
00003464  FF                                       2611+         DC    X'FF'               extracted CC, if test failed
00003465  E5C6C1C5 40404040                       2612+         DC    CL8'VFAE'           instruction name
00003470  000034D8                                 2613+         DC    A(RE50)             address of v1 result
00003474  000034E8                                 2614+         DC    A(RE50+16)          address of v2 source
00003478  000034F8                                 2615+         DC    A(RE50+32)          address of v3 source
0000347C  00000010                                 2616+         DC    A(16)               result length
00003480  000034D8                                 2617+REA50    DC    A(RE50)             result address
00003488  00000000 00000000                        2618+         DS    FD                  gap
00003490  00000000 00000000                        2619+V1O50    DS    XL16                V1 output
00003498  00000000 00000000
000034A0  00000000 00000000                        2620+         DS    FD                  gap
                                                   2621+*
000034A8                                           2622+X50      DS    0F
000034A8  E310 5024 0014                 00000024  2623+         LGF   R1,V2ADDR           load v2 source
000034AE  E761 0000 0806                 00000000  2624+         VL    v22,0(R1)           use v21 to test decoder
000034B4  E310 5028 0014                 00000028  2625+         LGF   R1,V3ADDR           load v3 source
000034BA  E771 0000 0806                 00000000  2626+         VL    v23,0(R1)           use v22 to test decoder
000034C0  E756 7030 0E82                           2627+         VFAE  V21,V22,V23,0,3                test instruction
000034C6  B98D 0020                                2628+         EPSW  R2,R0               extract psw
000034CA  5020 500C                      0000000C  2629+         ST    R2,CCPSW               to save CC
000034CE  E750 5040 080E                 00003490  2630+         VST   V21,V1O50           save v1 output
000034D4  07FB                                     2631+         BR    R11                 return
000034D8                                           2632+RE50     DC    0F                  V1 for this test
000034D8                                           2633+         DROP  R5
000034D8  00000000 00000005                        2634          DC    XL16'00000000 00000005 00000000 00000000'   V1
000034E0  00000000 00000000
000034E8  5D3A5859 5A005953                        2635          DC    XL16'5D3A5859 5A005953 54254D44 5F444546'   v2
000034F0  54254D44 5F444546
000034F8  25252525 25252525                        2636          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003500  25252525 25252525
                                                   2637
                                                   2638 * Byte Equal after zero
                                                   2639          VRR_B VFAE,0,7,0            cc=0 M5=4+2+1        RT ZS CS
00003508                                           2640+         DS    0FD
00003508                         00003508          2641+         USING *,R5                base for test data and test routine
00003508  00003560                                 2642+T51      DC    A(X51)              address of test routine
0000350C  0033                                     2643+         DC    H'51'               test number
0000350E  00                                       2644+         DC    X'00'
0000350F  00                                       2645+         DC    HL1'0'                   m4 used
00003510  07                                       2646+         DC    HL1'7'                   m5 used
00003511  00                                       2647+         DC    HL1'0'              CC
00003512  07                                       2648+         DC    HL1'7'              CC failed mask
00003514  00000000 00000000                        2649+         DS    2F                  extracted PSW after test (has CC)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

0000351C  FF                                       2650+          DC    X'FF'                extracted CC, if test failed
0000351D  E5C6C1C5 40404040                        2651+          DC    CL8'VFAE'            instruction name
00003528  00003590                                 2652+          DC    A(RE51)              address of v1 result
0000352C  000035A0                                 2653+          DC    A(RE51+16)           address of v2 source
00003530  000035B0                                 2654+          DC    A(RE51+32)           address of v3 source
00003534  00000010                                 2655+          DC    A(16)                result length
00003538  00003590                                 2656+REA51     DC    A(RE51)              result address
00003540  00000000 00000000                        2657+          DS    FD                   gap
00003548  00000000 00000000                        2658+V1O51     DS    XL16                 V1 output
00003550  00000000 00000000
00003558  00000000 00000000                        2659+          DS    FD                   gap
                                                   2660+*
00003560                                           2661+X51       DS    0F
00003560  E310 5024 0014                 00000024  2662+          LGF   R1,V2ADDR            load v2 source
00003566  E761 0000 0806                 00000000  2663+          VL    v22,0(R1)            use v21 to test decoder
0000356C  E310 5028 0014                 00000028  2664+          LGF   R1,V3ADDR            load v3 source
00003572  E771 0000 0806                 00000000  2665+          VL    v23,0(R1)            use v22 to test decoder
00003578  E756 7070 0E82                           2666+          VFAE  V21,V22,V23,0,7                test instruction
0000357E  B98D 0020                                2667+          EPSW  R2,R0                extract psw
00003582  5020 500C                      0000000C  2668+          ST    R2,CCPSW                to save CC
00003586  E750 5040 080E                 00003548  2669+          VST   V21,V1O51            save v1 output
0000358C  07FB                                     2670+          BR    R11                  return
00003590                                           2671+RE51      DC    0F                   V1 for this test
00003590                                           2672+          DROP  R5
00003590  00000000 00000000                        2673           DC    XL16'00000000 00000000 00FF0000 00000000'   V1
00003598  00FF0000 00000000

000035A0  5D3A5859 5A005953                        2674           DC    XL16'5D3A5859 5A005953 54254D44 5F444546'   v2
000035A8  54254D44 5F444546
000035B0  25252525 25252525                        2675           DC    XL16'25252525 25252525 25252525 25252525'   v3
000035B8  25252525 25252525
                                                   2676
                                                   2677 * Byte Equal after zero
                                                   2678           VRR_B VFAE,0,15,2              cc=2 M5=8+4+2+1   IN RT ZS CS
000035C0                                           2679+          DS    0FD
000035C0                         000035C0          2680+          USING *,R5                 base for test data and test routine
000035C0  00003618                                 2681+T52       DC    A(X52)               address of test routine
000035C4  0034                                     2682+          DC    H'52'                test number
000035C6  00                                       2683+          DC    X'00'
000035C7  00                                       2684+          DC    HL1'0'                    m4 used
000035C8  0F                                       2685+          DC    HL1'15'                   m5 used
000035C9  02                                       2686+          DC    HL1'2'               CC
000035CA  0D                                       2687+          DC    HL1'13'              CC failed mask
000035CC  00000000 00000000                        2688+          DS    2F                   extracted PSW after test (has CC)
000035D4  FF                                       2689+          DC    X'FF'                extracted CC, if test failed
000035D5  E5C6C1C5 40404040                        2690+          DC    CL8'VFAE'            instruction name
000035E0  00003648                                 2691+          DC    A(RE52)              address of v1 result
000035E4  00003658                                 2692+          DC    A(RE52+16)           address of v2 source
000035E8  00003668                                 2693+          DC    A(RE52+32)           address of v3 source
000035EC  00000010                                 2694+          DC    A(16)                result length
000035F0  00003648                                 2695+REA52     DC    A(RE52)              result address
000035F8  00000000 00000000                        2696+          DS    FD                   gap
00003600  00000000 00000000                        2697+V1O52     DS    XL16                 V1 output
00003608  00000000 00000000
00003610  00000000 00000000                        2698+          DS    FD                   gap
                                                   2699+*
00003618                                           2700+X52       DS    0F
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00003618  E310 5024 0014                 00000024  2701+         LGF   R1,V2ADDR          load v2 source
0000361E  E761 0000 0806                 00000000  2702+         VL    v22,0(R1)          use v21 to test decoder
00003624  E310 5028 0014                 00000028  2703+         LGF   R1,V3ADDR          load v3 source
0000362A  E771 0000 0806                 00000000  2704+         VL    v23,0(R1)          use v22 to test decoder
00003630  E756 70F0 0E82                           2705+         VFAE  V21,V22,V23,0,15             test instruction
00003636  B98D 0020                                2706+         EPSW  R2,R0              extract psw
0000363A  5020 500C                      0000000C  2707+         ST    R2,CCPSW              to save CC
0000363E  E750 5040 080E                 00003600  2708+         VST   V21,V1O52          save v1 output
00003644  07FB                                     2709+         BR    R11                return
00003648                                           2710+RE52     DC    0F                 V1 for this test
00003648                                           2711+         DROP  R5
00003648  FFFFFFFF FFFFFFFF                        2712          DC    XL16'FFFFFFFF FFFFFFFF FF00FFFF FFFFFFFF'   V1
00003650  FF00FFFF FFFFFFFF
00003658  5D3A5859 5A005953                        2713          DC    XL16'5D3A5859 5A005953 54254D44 5F444546'   v2
00003660  54254D44 5F444546
00003668  25252525 25252525                        2714          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003670  25252525 25252525
                                                   2715
                                                   2716 * Byte Equal after zero
                                                   2717          VRR_B VFAE,0,1,1             cc=1 M5=1                   CS
00003678                                           2718+         DS    0FD
00003678                 00003678                  2719+         USING *,R5               base for test data and test routine
00003678  000036D0                                 2720+T53      DC    A(X53)             address of test routine
0000367C  0035                                     2721+         DC    H'53'              test number
0000367E  00                                       2722+         DC    X'00'
0000367F  00                                       2723+         DC    HL1'0'                  m4 used
00003680  01                                       2724+         DC    HL1'1'                  m5 used
00003681  01                                       2725+         DC    HL1'1'             CC
00003682  0B                                       2726+         DC    HL1'11'            CC failed mask
00003684  00000000 00000000                        2727+         DS    2F                 extracted PSW after test (has CC)
0000368C  FF                                       2728+         DC    X'FF'              extracted CC, if test failed
0000368D  E5C6C1C5 40404040                        2729+         DC    CL8'VFAE'          instruction name
00003698  00003700                                 2730+         DC    A(RE53)            address of v1 result
0000369C  00003710                                 2731+         DC    A(RE53+16)         address of v2 source
000036A0  00003720                                 2732+         DC    A(RE53+32)         address of v3 source
000036A4  00000010                                 2733+         DC    A(16)              result length
000036A8  00003700                                 2734+REA53    DC    A(RE53)            result address
000036B0  00000000 00000000                        2735+         DS    FD                 gap
000036B8  00000000 00000000                        2736+V1O53    DS    XL16               V1 output
000036C0  00000000 00000000
000036C8  00000000 00000000                        2737+         DS    FD                 gap
                                                   2738+*
000036D0                                           2739+X53      DS    0F
000036D0  E310 5024 0014                 00000024  2740+         LGF   R1,V2ADDR          load v2 source
000036D6  E761 0000 0806                 00000000  2741+         VL    v22,0(R1)          use v21 to test decoder
000036DC  E310 5028 0014                 00000028  2742+         LGF   R1,V3ADDR          load v3 source
000036E2  E771 0000 0806                 00000000  2743+         VL    v23,0(R1)          use v22 to test decoder
000036E8  E756 7010 0E82                           2744+         VFAE  V21,V22,V23,0,1              test instruction
000036EE  B98D 0020                                2745+         EPSW  R2,R0              extract psw
000036F2  5020 500C                      0000000C  2746+         ST    R2,CCPSW              to save CC
000036F6  E750 5040 080E                 000036B8  2747+         VST   V21,V1O53          save v1 output
000036FC  07FB                                     2748+         BR    R11                return
00003700                                           2749+RE53     DC    0F                 V1 for this test
00003700                                           2750+         DROP  R5
00003700  00000000 00000009                        2751          DC    XL16'00000000 00000009 00000000 00000000'   V1
00003708  00000000 00000000
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00003710  5D3A5859 5A005953                        2752          DC    XL16'5D3A5859 5A005953 54254D44 5F444546'   v2
00003718  54254D44 5F444546
00003720  25252525 25252525                        2753          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003728  25252525 25252525
                                                   2754
                                                   2755 * Byte Equal after zero
                                                   2756          VRR_B VFAE,0,5,1              cc=1 M5=4+1          RT    CS
00003730                                           2757+         DS    0FD
00003730                    00003730               2758+         USING *,R5                 base for test data and test routine
00003730  00003788                                 2759+T54      DC    A(X54)               address of test routine
00003734  0036                                     2760+         DC    H'54'                test number
00003736  00                                       2761+         DC    X'00'
00003737  00                                       2762+         DC    HL1'0'                    m4 used
00003738  05                                       2763+         DC    HL1'5'                    m5 used
00003739  01                                       2764+         DC    HL1'1'               CC
0000373A  0B                                       2765+         DC    HL1'11'              CC failed mask
0000373C  00000000 00000000                        2766+         DS    2F                   extracted PSW after test (has CC)
00003744  FF                                       2767+         DC    X'FF'                extracted CC, if test failed
00003745  E5C6C1C5 40404040                       2768+         DC    CL8'VFAE'            instruction name
00003750  000037B8                                 2769+         DC    A(RE54)              address of v1 result
00003754  000037C8                                 2770+         DC    A(RE54+16)           address of v2 source
00003758  000037D8                                 2771+         DC    A(RE54+32)           address of v3 source
0000375C  00000010                                 2772+         DC    A(16)                result length
00003760  000037B8                                 2773+REA54    DC    A(RE54)              result address
00003768  00000000 00000000                        2774+         DS    FD                   gap
00003770  00000000 00000000                        2775+V1O54    DS    XL16                 V1 output
00003778  00000000 00000000
00003780  00000000 00000000                        2776+         DS    FD                   gap
                                                   2777+*
00003788                                           2778+X54      DS    0F
00003788  E310 5024 0014                 00000024  2779+         LGF   R1,V2ADDR            load v2 source
0000378E  E761 0000 0806                 00000000  2780+         VL    v22,0(R1)            use v21 to test decoder
00003794  E310 5028 0014                 00000028  2781+         LGF   R1,V3ADDR            load v3 source
0000379A  E771 0000 0806                 00000000  2782+         VL    v23,0(R1)            use v22 to test decoder
000037A0  E756 7050 0E82                           2783+         VFAE  V21,V22,V23,0,5                test instruction
000037A6  B98D 0020                                2784+         EPSW  R2,R0                extract psw
000037AA  5020 500C                      0000000C  2785+         ST    R2,CCPSW                to save CC
000037AE  E750 5040 080E                 00003770  2786+         VST   V21,V1O54            save v1 output
000037B4  07FB                                     2787+         BR    R11                  return
000037B8                                           2788+RE54     DC    0F                   V1 for this test
000037B8                                           2789+         DROP  R5
000037B8  00000000 00000000                        2790          DC    XL16'00000000 00000000 00FF0000 00000000'   V1
000037C0  00FF0000 00000000
000037C8  5D3A5859 5A005953                        2791          DC    XL16'5D3A5859 5A005953 54254D44 5F444546'   v2
000037D0  54254D44 5F444546
000037D8  25252525 25252525                        2792          DC    XL16'25252525 25252525 25252525 25252525'   v3
000037E0  25252525 25252525
                                                   2793
                                                   2794 * Byte Equal after zero
                                                   2795          VRR_B VFAE,0,13,1             cc=1 M5=8+4+1     IN RT    CS
000037E8                                           2796+         DS    0FD
000037E8                    000037E8               2797+         USING *,R5                 base for test data and test routine
000037E8  00003840                                 2798+T55      DC    A(X55)               address of test routine
000037EC  0037                                     2799+         DC    H'55'                test number
000037EE  00                                       2800+         DC    X'00'
000037EF  00                                       2801+         DC    HL1'0'                    m4 used
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000037F0  0D                                       2802+          DC    HL1'13'                 m5 used
000037F1  01                                       2803+          DC    HL1'1'                CC
000037F2  0B                                       2804+          DC    HL1'11'               CC failed mask
000037F4  00000000 00000000                        2805+          DS    2F                    extracted PSW after test (has CC)
000037FC  FF                                       2806+          DC    X'FF'                 extracted CC, if test failed
000037FD  E5C6C1C5 40404040                        2807+          DC    CL8'VFAE'             instruction name
00003808  00003870                                 2808+          DC    A(RE55)               address of v1 result
0000380C  00003880                                 2809+          DC    A(RE55+16)            address of v2 source
00003810  00003890                                 2810+          DC    A(RE55+32)            address of v3 source
00003814  00000010                                 2811+          DC    A(16)                 result length
00003818  00003870                                 2812+REA55     DC    A(RE55)               result address
00003820  00000000 00000000                        2813+          DS    FD                    gap
00003828  00000000 00000000                        2814+V1O55     DS    XL16                  V1 output
00003830  00000000 00000000
00003838  00000000 00000000                        2815+          DS    FD                    gap
                                                   2816+*
00003840                                           2817+X55       DS    0F
00003840  E310 5024 0014                 00000024  2818+          LGF   R1,V2ADDR             load v2 source
00003846  E761 0000 0806                 00000000  2819+          VL    v22,0(R1)             use v21 to test decoder
0000384C  E310 5028 0014                 00000028  2820+          LGF   R1,V3ADDR             load v3 source
00003852  E771 0000 0806                 00000000  2821+          VL    v23,0(R1)             use v22 to test decoder
00003858  E756 70D0 0E82                           2822+          VFAE  V21,V22,V23,0,13              test instruction
0000385E  B98D 0020                                2823+          EPSW  R2,R0                 extract psw
00003862  5020 500C                      0000000C  2824+          ST    R2,CCPSW                 to save CC
00003866  E750 5040 080E                 00003828  2825+          VST   V21,V1O55             save v1 output
0000386C  07FB                                     2826+          BR    R11                   return
00003870                                           2827+RE55      DC    0F                      V1 for this test
00003870                                           2828+          DROP  R5
00003870  FFFFFFFF FFFFFFFF                        2829           DC    XL16'FFFFFFFF FFFFFFFF FF00FFFF FFFFFFFF'   V1
00003878  FF00FFFF FFFFFFFF
00003880  5D3A5859 5A005953                        2830           DC    XL16'5D3A5859 5A005953 54254D44 5F444546'   v2
00003888  54254D44 5F444546
00003890  25252525 25252525                        2831           DC    XL16'25252525 25252525 25252525 25252525'   v3
00003898  25252525 25252525
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                   2833 *-------------------------------------------------------------------
                                                   2834 * Halfword, No equal, no zero
                                                   2835          VRR_B VFAE,1,3,3              cc=3 M5=2+1              ZS CS
000038A0                                           2836+         DS    0FD
000038A0                       000038A0            2837+         USING *,R5                base for test data and test routine
000038A0  000038F8                                 2838+T56      DC    A(X56)              address of test routine
000038A4  0038                                     2839+         DC    H'56'               test number
000038A6  00                                       2840+         DC    X'00'
000038A7  01                                       2841+         DC    HL1'1'                   m4 used
000038A8  03                                       2842+         DC    HL1'3'                   m5 used
000038A9  03                                       2843+         DC    HL1'3'              CC
000038AA  0E                                       2844+         DC    HL1'14'             CC failed mask
000038AC  00000000 00000000                        2845+         DS    2F                  extracted PSW after test (has CC)
000038B4  FF                                       2846+         DC    X'FF'               extracted CC, if test failed
000038B5  E5C6C1C5 40404040                        2847+         DC    CL8'VFAE'           instruction name
000038C0  00003928                                 2848+         DC    A(RE56)             address of v1 result
000038C4  00003938                                 2849+         DC    A(RE56+16)          address of v2 source
000038C8  00003948                                 2850+         DC    A(RE56+32)          address of v3 source
000038CC  00000010                                 2851+         DC    A(16)               result length
000038D0  00003928                                 2852+REA56    DC    A(RE56)             result address
000038D8  00000000 00000000                        2853+         DS    FD                  gap
000038E0  00000000 00000000                        2854+V1O56    DS    XL16                V1 output
000038E8  00000000 00000000
000038F0  00000000 00000000                        2855+         DS    FD                  gap
                                                   2856+*
000038F8                                           2857+X56      DS    0F
000038F8  E310 5024 0014                 00000024  2858+         LGF   R1,V2ADDR           load v2 source
000038FE  E761 0000 0806                 00000000  2859+         VL    v22,0(R1)           use v21 to test decoder
00003904  E310 5028 0014                 00000028  2860+         LGF   R1,V3ADDR           load v3 source
0000390A  E771 0000 0806                 00000000  2861+         VL    v23,0(R1)           use v22 to test decoder
00003910  E756 7030 1E82                           2862+         VFAE  V21,V22,V23,1,3                test instruction
00003916  B98D 0020                                2863+         EPSW  R2,R0               extract psw
0000391A  5020 500C                      0000000C  2864+         ST    R2,CCPSW               to save CC
0000391E  E750 5040 080E                 000038E0  2865+         VST   V21,V1O56           save v1 output
00003924  07FB                                     2866+         BR    R11                 return
00003928                                           2867+RE56     DC    0F                  V1 for this test
00003928                                           2868+         DROP  R5
00003928  00000000 00000010                        2869          DC    XL16'00000000 00000010 00000000 00000000'   V1
00003930  00000000 00000000
00003938  5D3A5859 5A535953                        2870          DC    XL16'5D3A5859 5A535953 54454D44 5F444546'   v2
00003940  54454D44 5F444546
00003948  25252525 25252525                        2871          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003950  25252525 25252525
                                                   2872
                                                   2873 * Halfword, No equal, no zero
                                                   2874          VRR_B VFAE,1,7,3              cc=3 M5=4+2+1         RT ZS CS
00003958                                           2875+         DS    0FD
00003958                       00003958            2876+         USING *,R5                base for test data and test routine
00003958  000039B0                                 2877+T57      DC    A(X57)              address of test routine
0000395C  0039                                     2878+         DC    H'57'               test number
0000395E  00                                       2879+         DC    X'00'
0000395F  01                                       2880+         DC    HL1'1'                   m4 used
00003960  07                                       2881+         DC    HL1'7'                   m5 used
00003961  03                                       2882+         DC    HL1'3'              CC
00003962  0E                                       2883+         DC    HL1'14'             CC failed mask
00003964  00000000 00000000                        2884+         DS    2F                  extracted PSW after test (has CC)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
0000396C  FF                                      2885+          DC    X'FF'                extracted CC, if test failed
0000396D  E5C6C1C5 40404040                       2886+          DC    CL8'VFAE'            instruction name
00003978  000039E0                                2887+          DC    A(RE57)              address of v1 result
0000397C  000039F0                                2888+          DC    A(RE57+16)           address of v2 source
00003980  00003A00                                2889+          DC    A(RE57+32)           address of v3 source
00003984  00000010                                2890+          DC    A(16)                result length
00003988  000039E0                                2891+REA57     DC    A(RE57)              result address
00003990  00000000 00000000                       2892+          DS    FD                   gap
00003998  00000000 00000000                       2893+V1O57     DS    XL16                 V1 output
000039A0  00000000 00000000
000039A8  00000000 00000000                       2894+          DS    FD                   gap
                                                  2895+*
000039B0                                          2896+X57       DS    0F
000039B0  E310 5024 0014                 00000024 2897+          LGF   R1,V2ADDR            load v2 source
000039B6  E761 0000 0806                 00000000 2898+          VL    v22,0(R1)            use v21 to test decoder
000039BC  E310 5028 0014                 00000028 2899+          LGF   R1,V3ADDR            load v3 source
000039C2  E771 0000 0806                 00000000 2900+          VL    v23,0(R1)            use v22 to test decoder
000039C8  E756 7070 1E82                          2901+          VFAE  V21,V22,V23,1,7                test instruction
000039CE  B98D 0020                               2902+          EPSW  R2,R0                extract psw
000039D2  5020 500C                      0000000C 2903+          ST    R2,CCPSW                to save CC
000039D6  E750 5040 080E                 00003998 2904+          VST   V21,V1O57            save v1 output
000039DC  07FB                                    2905+          BR    R11                  return
000039E0                                          2906+RE57      DC    0F                   V1 for this test
000039E0                                          2907+          DROP  R5
000039E0  00000000 00000000                       2908           DC    XL16'00000000 00000000 00000000 00000000'   V1
000039E8  00000000 00000000
000039F0  5D3A5859 5A535953                       2909           DC    XL16'5D3A5859 5A535953 54454D44 5F444546'   v2
000039F8  54454D44 5F444546
00003A00  25252525 25252525                       2910           DC    XL16'25252525 25252525 25252525 25252525'   v3
00003A08  25252525 25252525
                                                  2911
                                                  2912 * Halfword, No equal, no zero
                                                  2913           VRR_B VFAE,1,15,1                cc=1 M5=8+4+2+1    IN RT ZS CS
00003A10                                          2914+          DS    0FD
00003A10                         00003A10         2915+          USING *,R5                 base for test data and test routine
00003A10  00003A68                                2916+T58       DC    A(X58)               address of test routine
00003A14  003A                                    2917+          DC    H'58'                test number
00003A16  00                                      2918+          DC    X'00'
00003A17  01                                      2919+          DC    HL1'1'                   m4 used
00003A18  0F                                      2920+          DC    HL1'15'                  m5 used
00003A19  01                                      2921+          DC    HL1'1'               CC
00003A1A  0B                                      2922+          DC    HL1'11'              CC failed mask
00003A1C  00000000 00000000                       2923+          DS    2F                   extracted PSW after test (has CC)
00003A24  FF                                      2924+          DC    X'FF'                extracted CC, if test failed
00003A25  E5C6C1C5 40404040                       2925+          DC    CL8'VFAE'            instruction name
00003A30  00003A98                                2926+          DC    A(RE58)              address of v1 result
00003A34  00003AA8                                2927+          DC    A(RE58+16)           address of v2 source
00003A38  00003AB8                                2928+          DC    A(RE58+32)           address of v3 source
00003A3C  00000010                                2929+          DC    A(16)                result length
00003A40  00003A98                                2930+REA58     DC    A(RE58)              result address
00003A48  00000000 00000000                       2931+          DS    FD                   gap
00003A50  00000000 00000000                       2932+V1O58     DS    XL16                 V1 output
00003A58  00000000 00000000
00003A60  00000000 00000000                       2933+          DS    FD                   gap
                                                  2934+*
00003A68                                          2935+X58       DS    0F
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00003A68  E310 5024 0014                 00000024  2936+         LGF   R1,V2ADDR          load v2 source
00003A6E  E761 0000 0806                 00000000  2937+         VL    v22,0(R1)          use v21 to test decoder
00003A74  E310 5028 0014                 00000028  2938+         LGF   R1,V3ADDR          load v3 source
00003A7A  E771 0000 0806                 00000000  2939+         VL    v23,0(R1)          use v22 to test decoder
00003A80  E756 70F0 1E82                           2940+         VFAE  V21,V22,V23,1,15           test instruction
00003A86  B98D 0020                                2941+         EPSW  R2,R0              extract psw
00003A8A  5020 500C                      0000000C  2942+         ST    R2,CCPSW              to save CC
00003A8E  E750 5040 080E                 00003A50  2943+         VST   V21,V1O58          save v1 output
00003A94  07FB                                     2944+         BR    R11                return
00003A98                                           2945+RE58     DC    0F                 V1 for this test
00003A98                                           2946+         DROP  R5
00003A98  FFFFFFFF FFFFFFFF                        2947          DC    XL16'FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF'   V1
00003AA0  FFFFFFFF FFFFFFFF
00003AA8  5D3A5859 5A535953                        2948          DC    XL16'5D3A5859 5A535953 54454D44 5F444546'   v2
00003AB0  54454D44 5F444546
00003AB8  25252525 25252525                        2949          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003AC0  25252525 25252525
                                                   2950
                                                   2951 * Halfword, Equal, no zero
                                                   2952          VRR_B VFAE,1,3,1             cc=1 M5=2+1              ZS CS
00003AC8                                           2953+         DS    0FD
00003AC8                 00003AC8                  2954+         USING *,R5               base for test data and test routine
00003AC8  00003B20                                 2955+T59      DC    A(X59)             address of test routine
00003ACC  003B                                     2956+         DC    H'59'              test number
00003ACE  00                                       2957+         DC    X'00'
00003ACF  01                                       2958+         DC    HL1'1'                 m4 used
00003AD0  03                                       2959+         DC    HL1'3'                 m5 used
00003AD1  01                                       2960+         DC    HL1'1'             CC
00003AD2  0B                                       2961+         DC    HL1'11'            CC failed mask
00003AD4  00000000 00000000                        2962+         DS    2F                 extracted PSW after test (has CC)
00003ADC  FF                                       2963+         DC    X'FF'              extracted CC, if test failed
00003ADD  E5C6C1C5 40404040                        2964+         DC    CL8'VFAE'          instruction name
00003AE8  00003B50                                 2965+         DC    A(RE59)            address of v1 result
00003AEC  00003B60                                 2966+         DC    A(RE59+16)         address of v2 source
00003AF0  00003B70                                 2967+         DC    A(RE59+32)         address of v3 source
00003AF4  00000010                                 2968+         DC    A(16)              result length
00003AF8  00003B50                                 2969+REA59    DC    A(RE59)            result address
00003B00  00000000 00000000                        2970+         DS    FD                 gap
00003B08  00000000 00000000                        2971+V1O59    DS    XL16               V1 output
00003B10  00000000 00000000
00003B18  00000000 00000000                        2972+         DS    FD                 gap
                                                   2973+*
00003B20                                           2974+X59      DS    0F
00003B20  E310 5024 0014                 00000024  2975+         LGF   R1,V2ADDR          load v2 source
00003B26  E761 0000 0806                 00000000  2976+         VL    v22,0(R1)          use v21 to test decoder
00003B2C  E310 5028 0014                 00000028  2977+         LGF   R1,V3ADDR          load v3 source
00003B32  E771 0000 0806                 00000000  2978+         VL    v23,0(R1)          use v22 to test decoder
00003B38  E756 7030 1E82                           2979+         VFAE  V21,V22,V23,1,3            test instruction
00003B3E  B98D 0020                                2980+         EPSW  R2,R0              extract psw
00003B42  5020 500C                      0000000C  2981+         ST    R2,CCPSW              to save CC
00003B46  E750 5040 080E                 00003B08  2982+         VST   V21,V1O59          save v1 output
00003B4C  07FB                                     2983+         BR    R11                return
00003B50                                           2984+RE59     DC    0F                 V1 for this test
00003B50                                           2985+         DROP  R5
00003B50  00000000 00000006                        2986          DC    XL16'00000000 00000006 00000000 00000000'   V1
00003B58  00000000 00000000
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00003B60  5D3A5859 5A532525                        2987          DC    XL16'5D3A5859 5A532525 54454D44 5F444546'   v2
00003B68  54454D44 5F444546
00003B70  25252525 25252525                        2988          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003B78  25252525 25252525
                                                   2989
                                                   2990 * Halfword, Equal, no zero
                                                   2991          VRR_B VFAE,1,7,1              cc=1 M5=4+2+1         RT ZS CS
00003B80                                           2992+         DS    0FD
00003B80                          00003B80         2993+         USING *,R5                 base for test data and test routine
00003B80  00003BD8                                 2994+T60      DC    A(X60)               address of test routine
00003B84  003C                                     2995+         DC    H'60'                test number
00003B86  00                                       2996+         DC    X'00'
00003B87  01                                       2997+         DC    HL1'1'                    m4 used
00003B88  07                                       2998+         DC    HL1'7'                    m5 used
00003B89  01                                       2999+         DC    HL1'1'               CC
00003B8A  0B                                       3000+         DC    HL1'11'              CC failed mask
00003B8C  00000000 00000000                        3001+         DS    2F                   extracted PSW after test (has CC)
00003B94  FF                                       3002+         DC    X'FF'                extracted CC, if test failed
00003B95  E5C6C1C5 40404040                        3003+         DC    CL8'VFAE'            instruction name
00003BA0  00003C08                                 3004+         DC    A(RE60)              address of v1 result
00003BA4  00003C18                                 3005+         DC    A(RE60+16)           address of v2 source
00003BA8  00003C28                                 3006+         DC    A(RE60+32)           address of v3 source
00003BAC  00000010                                 3007+         DC    A(16)                result length
00003BB0  00003C08                                 3008+REA60    DC    A(RE60)              result address
00003BB8  00000000 00000000                        3009+         DS    FD                   gap
00003BC0  00000000 00000000                        3010+V1O60    DS    XL16                 V1 output
00003BC8  00000000 00000000
00003BD0  00000000 00000000                        3011+         DS    FD                   gap
                                                   3012+*
00003BD8                                           3013+X60      DS    0F
00003BD8  E310 5024 0014                 00000024  3014+         LGF   R1,V2ADDR            load v2 source
00003BDE  E761 0000 0806                 00000000  3015+         VL    v22,0(R1)            use v21 to test decoder
00003BE4  E310 5028 0014                 00000028  3016+         LGF   R1,V3ADDR            load v3 source
00003BEA  E771 0000 0806                 00000000  3017+         VL    v23,0(R1)            use v22 to test decoder
00003BF0  E756 7070 1E82                           3018+         VFAE  V21,V22,V23,1,7                test instruction
00003BF6  B98D 0020                                3019+         EPSW  R2,R0                extract psw
00003BFA  5020 500C                      0000000C  3020+         ST    R2,CCPSW                to save CC
00003BFE  E750 5040 080E                 00003BC0  3021+         VST   V21,V1O60            save v1 output
00003C04  07FB                                     3022+         BR    R11                  return
00003C08                                           3023+RE60     DC    0F                   V1 for this test
00003C08                                           3024+         DROP  R5
00003C08  00000000 0000FFFF                        3025          DC    XL16'00000000 0000FFFF 00000000 00000000'   V1
00003C10  00000000 00000000
00003C18  5D3A5859 5A532525                        3026          DC    XL16'5D3A5859 5A532525 54454D44 5F444546'   v2
00003C20  54454D44 5F444546
00003C28  25252525 25252525                        3027          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003C30  25252525 25252525
                                                   3028
                                                   3029 * Halfword, Equal, no zero
                                                   3030          VRR_B VFAE,1,15,1             cc=1 M5=8+4+2+1    IN RT ZS CS
00003C38                                           3031+         DS    0FD
00003C38                          00003C38         3032+         USING *,R5                 base for test data and test routine
00003C38  00003C90                                 3033+T61      DC    A(X61)               address of test routine
00003C3C  003D                                     3034+         DC    H'61'                test number
00003C3E  00                                       3035+         DC    X'00'
00003C3F  01                                       3036+         DC    HL1'1'                    m4 used
```

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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00003C40  0F                                      3037+          DC    HL1'15'                m5 used
00003C41  01                                      3038+          DC    HL1'1'              CC
00003C42  0B                                      3039+          DC    HL1'11'             CC failed mask
00003C44  00000000 00000000                       3040+          DS    2F                  extracted PSW after test (has CC)
00003C4C  FF                                      3041+          DC    X'FF'               extracted CC, if test failed
00003C4D  E5C6C1C5 40404040                       3042+          DC    CL8'VFAE'           instruction name
00003C58  00003CC0                                3043+          DC    A(RE61)             address of v1 result
00003C5C  00003CD0                                3044+          DC    A(RE61+16)          address of v2 source
00003C60  00003CE0                                3045+          DC    A(RE61+32)          address of v3 source
00003C64  00000010                                3046+          DC    A(16)               result length
00003C68  00003CC0                                3047+REA61     DC    A(RE61)             result address
00003C70  00000000 00000000                       3048+          DS    FD                  gap
00003C78  00000000 00000000                       3049+V1O61     DS    XL16                V1 output
00003C80  00000000 00000000
00003C88  00000000 00000000                       3050+          DS    FD                  gap
                                                  3051+*
00003C90                                          3052+X61       DS    0F
00003C90  E310 5024 0014                 00000024 3053+          LGF   R1,V2ADDR           load v2 source
00003C96  E761 0000 0806                 00000000 3054+          VL    v22,0(R1)           use v21 to test decoder
00003C9C  E310 5028 0014                 00000028 3055+          LGF   R1,V3ADDR           load v3 source
00003CA2  E771 0000 0806                 00000000 3056+          VL    v23,0(R1)           use v22 to test decoder
00003CA8  E756 70F0 1E82                          3057+          VFAE  V21,V22,V23,1,15              test instruction
00003CAE  B98D 0020                               3058+          EPSW  R2,R0               extract psw
00003CB2  5020 500C                      0000000C 3059+          ST    R2,CCPSW               to save CC
00003CB6  E750 5040 080E                 00003C78 3060+          VST   V21,V1O61           save v1 output
00003CBC  07FB                                    3061+          BR    R11                 return
00003CC0                                          3062+RE61      DC    0F                  V1 for this test
00003CC0                                          3063+          DROP  R5
00003CC0  FFFFFFFF FFFF0000                       3064           DC    XL16'FFFFFFFF FFFF0000 FFFFFFFF FFFFFFFF'   V1
00003CC8  FFFFFFFF FFFFFFFF
00003CD0  5D3A5859 5A532525                       3065           DC    XL16'5D3A5859 5A532525 54454D44 5F444546'   v2
00003CD8  54454D44 5F444546
00003CE0  25252525 25252525                       3066           DC    XL16'25252525 25252525 25252525 25252525'   v3
00003CE8  25252525 25252525
                                                  3067
                                                  3068 * Halfword, Equal before zero
                                                  3069           VRR_B VFAE,1,3,2              cc=2 M5=2+1              ZS CS
00003CF0                                          3070+          DS    0FD
00003CF0                         00003CF0         3071+          USING *,R5                base for test data and test routine
00003CF0  00003D48                                3072+T62       DC    A(X62)              address of test routine
00003CF4  003E                                    3073+          DC    H'62'               test number
00003CF6  00                                      3074+          DC    X'00'
00003CF7  01                                      3075+          DC    HL1'1'                 m4 used
00003CF8  03                                      3076+          DC    HL1'3'                 m5 used
00003CF9  02                                      3077+          DC    HL1'2'              CC
00003CFA  0D                                      3078+          DC    HL1'13'             CC failed mask
00003CFC  00000000 00000000                       3079+          DS    2F                  extracted PSW after test (has CC)
00003D04  FF                                      3080+          DC    X'FF'               extracted CC, if test failed
00003D05  E5C6C1C5 40404040                       3081+          DC    CL8'VFAE'           instruction name
00003D10  00003D78                                3082+          DC    A(RE62)             address of v1 result
00003D14  00003D88                                3083+          DC    A(RE62+16)          address of v2 source
00003D18  00003D98                                3084+          DC    A(RE62+32)          address of v3 source
00003D1C  00000010                                3085+          DC    A(16)               result length
00003D20  00003D78                                3086+REA62     DC    A(RE62)             result address
00003D28  00000000 00000000                       3087+          DS    FD                  gap
00003D30  00000000 00000000                       3088+V1O62     DS    XL16                V1 output
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
00003D38  00000000 00000000
00003D40  00000000 00000000                       3089+         DS    FD                  gap
                                                  3090+*
00003D48                                          3091+X62      DS    0F
00003D48  E310 5024 0014                 00000024 3092+         LGF   R1,V2ADDR           load v2 source
00003D4E  E761 0000 0806                 00000000 3093+         VL    v22,0(R1)           use v21 to test decoder
00003D54  E310 5028 0014                 00000028 3094+         LGF   R1,V3ADDR           load v3 source
00003D5A  E771 0000 0806                 00000000 3095+         VL    v23,0(R1)           use v22 to test decoder
00003D60  E756 7030 1E82                          3096+         VFAE  V21,V22,V23,1,3                test instruction
00003D66  B98D 0020                               3097+         EPSW  R2,R0               extract psw
00003D6A  5020 500C                      0000000C 3098+         ST    R2,CCPSW               to save CC
00003D6E  E750 5040 080E                 00003D30 3099+         VST   V21,V1O62           save v1 output
00003D74  07FB                                    3100+         BR    R11                 return
00003D78                                          3101+RE62     DC    0F                  V1 for this test
00003D78                                          3102+         DROP  R5
00003D78  00000000 00000006                       3103          DC    XL16'00000000 00000006 00000000 00000000'   V1
00003D80  00000000 00000000
00003D88  5D3A5859 5A532525                       3104          DC    XL16'5D3A5859 5A532525 54450000 5F444546'   v2
00003D90  54450000 5F444546
00003D98  25252525 25252525                       3105          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003DA0  25252525 25252525
                                                  3106
                                                  3107 * Halfword, Equal before zero
                                                  3108          VRR_B VFAE,1,7,2              cc=2 M5=4+2+1         RT ZS CS
00003DA8                                          3109+         DS    0FD
00003DA8                         00003DA8         3110+         USING *,R5                base for test data and test routine
00003DA8  00003E00                                3111+T63      DC    A(X63)              address of test routine
00003DAC  003F                                    3112+         DC    H'63'               test number
00003DAE  00                                      3113+         DC    X'00'
00003DAF  01                                      3114+         DC    HL1'1'                   m4 used
00003DB0  07                                      3115+         DC    HL1'7'                   m5 used
00003DB1  02                                      3116+         DC    HL1'2'              CC
00003DB2  0D                                      3117+         DC    HL1'13'             CC failed mask
00003DB4  00000000 00000000                       3118+         DS    2F                  extracted PSW after test (has CC)
00003DBC  FF                                      3119+         DC    X'FF'               extracted CC, if test failed
00003DBD  E5C6C1C5 40404040                       3120+         DC    CL8'VFAE'           instruction name
00003DC8  00003E30                                3121+         DC    A(RE63)             address of v1 result
00003DCC  00003E40                                3122+         DC    A(RE63+16)          address of v2 source
00003DD0  00003E50                                3123+         DC    A(RE63+32)          address of v3 source
00003DD4  00000010                                3124+         DC    A(16)               result length
00003DD8  00003E30                                3125+REA63    DC    A(RE63)             result address
00003DE0  00000000 00000000                       3126+         DS    FD                  gap
00003DE8  00000000 00000000                       3127+V1O63    DS    XL16                V1 output
00003DF0  00000000 00000000
00003DF8  00000000 00000000                       3128+         DS    FD                  gap
                                                  3129+*
00003E00                                          3130+X63      DS    0F
00003E00  E310 5024 0014                 00000024 3131+         LGF   R1,V2ADDR           load v2 source
00003E06  E761 0000 0806                 00000000 3132+         VL    v22,0(R1)           use v21 to test decoder
00003E0C  E310 5028 0014                 00000028 3133+         LGF   R1,V3ADDR           load v3 source
00003E12  E771 0000 0806                 00000000 3134+         VL    v23,0(R1)           use v22 to test decoder
00003E18  E756 7070 1E82                          3135+         VFAE  V21,V22,V23,1,7                test instruction
00003E1E  B98D 0020                               3136+         EPSW  R2,R0               extract psw
00003E22  5020 500C                      0000000C 3137+         ST    R2,CCPSW               to save CC
00003E26  E750 5040 080E                 00003DE8 3138+         VST   V21,V1O63           save v1 output
00003E2C  07FB                                    3139+         BR    R11                 return
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00003E30                                           3140+RE63     DC    0F                  V1 for this test
00003E30                                           3141+         DROP  R5
00003E30  00000000 0000FFFF                        3142          DC    XL16'00000000 0000FFFF 00000000 00000000'   V1
00003E38  00000000 00000000
00003E40  5D3A5859 5A532525                        3143          DC    XL16'5D3A5859 5A532525 54450000 5F444546'   v2
00003E48  54450000 5F444546
00003E50  25252525 25252525                        3144          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003E58  25252525 25252525
                                                   3145
                                                   3146 * Halfword, Equal before zero
                                                   3147          VRR_B VFAE,1,15,2             cc=2 M5=8+4+2+1    IN RT ZS CS
00003E60                                           3148+         DS    0FD
00003E60                      00003E60             3149+         USING *,R5                  base for test data and test routine
00003E60  00003EB8                                 3150+T64      DC    A(X64)                address of test routine
00003E64  0040                                     3151+         DC    H'64'                 test number
00003E66  00                                       3152+         DC    X'00'
00003E67  01                                       3153+         DC    HL1'1'                     m4 used
00003E68  0F                                       3154+         DC    HL1'15'                    m5 used
00003E69  02                                       3155+         DC    HL1'2'                CC
00003E6A  0D                                       3156+         DC    HL1'13'               CC failed mask
00003E6C  00000000 00000000                        3157+         DS    2F                    extracted PSW after test (has CC)
00003E74  FF                                       3158+         DC    X'FF'                 extracted CC, if test failed
00003E75  E5C6C1C5 40404040                        3159+         DC    CL8'VFAE'             instruction name
00003E80  00003EE8                                 3160+         DC    A(RE64)               address of v1 result
00003E84  00003EF8                                 3161+         DC    A(RE64+16)            address of v2 source
00003E88  00003F08                                 3162+         DC    A(RE64+32)            address of v3 source
00003E8C  00000010                                 3163+         DC    A(16)                 result length
00003E90  00003EE8                                 3164+REA64    DC    A(RE64)               result address
00003E98  00000000 00000000                        3165+         DS    FD                    gap
00003EA0  00000000 00000000                        3166+V1O64    DS    XL16                  V1 output
00003EA8  00000000 00000000
00003EB0  00000000 00000000                        3167+         DS    FD                    gap
                                                   3168+*
00003EB8                                           3169+X64      DS    0F
00003EB8  E310 5024 0014                 00000024  3170+         LGF   R1,V2ADDR             load v2 source
00003EBE  E761 0000 0806                 00000000  3171+         VL    v22,0(R1)             use v21 to test decoder
00003EC4  E310 5028 0014                 00000028  3172+         LGF   R1,V3ADDR             load v3 source
00003ECA  E771 0000 0806                 00000000  3173+         VL    v23,0(R1)             use v22 to test decoder
00003ED0  E756 70F0 1E82                           3174+         VFAE  V21,V22,V23,1,15                test instruction
00003ED6  B98D 0020                                3175+         EPSW  R2,R0                 extract psw
00003EDA  5020 500C                      0000000C  3176+         ST    R2,CCPSW                 to save CC
00003EDE  E750 5040 080E                 00003EA0  3177+         VST   V21,V1O64             save v1 output
00003EE4  07FB                                     3178+         BR    R11                   return
00003EE8                                           3179+RE64     DC    0F                    V1 for this test
00003EE8                                           3180+         DROP  R5
00003EE8  FFFFFFFF FFFF0000                        3181          DC    XL16'FFFFFFFF FFFF0000 FFFFFFFF FFFFFFFF'   V1
00003EF0  FFFFFFFF FFFFFFFF
00003EF8  5D3A5859 5A532525                        3182          DC    XL16'5D3A5859 5A532525 54450000 5F444546'   v2
00003F00  54450000 5F444546
00003F08  25252525 25252525                        3183          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003F10  25252525 25252525
                                                   3184
                                                   3185 * Halfword, Equal after zero
                                                   3186          VRR_B VFAE,1,3,0              cc=0 M5=2+1              ZS CS
00003F18                                           3187+         DS    0FD
00003F18                      00003F18             3188+         USING *,R5                  base for test data and test routine
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00003F18  00003F70                        3189+T65      DC    A(X65)             address of test routine
00003F1C  0041                            3190+         DC    H'65'              test number
00003F1E  00                              3191+         DC    X'00'
00003F1F  01                              3192+         DC    HL1'1'                  m4 used
00003F20  03                              3193+         DC    HL1'3'                  m5 used
00003F21  00                              3194+         DC    HL1'0'             CC
00003F22  07                              3195+         DC    HL1'7'             CC failed mask
00003F24  00000000 00000000               3196+         DS    2F                 extracted PSW after test (has CC)
00003F2C  FF                              3197+         DC    X'FF'              extracted CC, if test failed
00003F2D  E5C6C1C5 40404040               3198+         DC    CL8'VFAE'          instruction name
00003F38  00003FA0                        3199+         DC    A(RE65)            address of v1 result
00003F3C  00003FB0                        3200+         DC    A(RE65+16)         address of v2 source
00003F40  00003FC0                        3201+         DC    A(RE65+32)         address of v3 source
00003F44  00000010                        3202+         DC    A(16)              result length
00003F48  00003FA0                        3203+REA65    DC    A(RE65)            result address
00003F50  00000000 00000000               3204+         DS    FD                 gap
00003F58  00000000 00000000               3205+V1O65    DS    XL16               V1 output
00003F60  00000000 00000000
00003F68  00000000 00000000               3206+         DS    FD                 gap
                                          3207+*
00003F70                                  3208+X65      DS    0F
00003F70  E310 5024 0014          00000024 3209+         LGF   R1,V2ADDR          load v2 source
00003F76  E761 0000 0806          00000000 3210+         VL    v22,0(R1)          use v21 to test decoder
00003F7C  E310 5028 0014          00000028 3211+         LGF   R1,V3ADDR          load v3 source
00003F82  E771 0000 0806          00000000 3212+         VL    v23,0(R1)          use v22 to test decoder
00003F88  E756 7030 1E82                   3213+         VFAE  V21,V22,V23,1,3                test instruction
00003F8E  B98D 0020                        3214+         EPSW  R2,R0              extract psw
00003F92  5020 500C               0000000C 3215+         ST    R2,CCPSW              to save CC
00003F96  E750 5040 080E          00003F58 3216+         VST   V21,V1O65          save v1 output
00003F9C  07FB                             3217+         BR    R11                return
00003FA0                                   3218+RE65     DC    0F                 V1 for this test
00003FA0                                   3219+         DROP  R5
00003FA0  00000000 00000006                3220          DC    XL16'00000000 00000006 00000000 00000000'   V1
00003FA8  00000000 00000000
00003FB0  5D3A5859 5A530000                3221          DC    XL16'5D3A5859 5A530000 54452525 5F444546'   v2
00003FB8  54452525 5F444546
00003FC0  25252525 25252525                3222          DC    XL16'25252525 25252525 25252525 25252525'   v3
00003FC8  25252525 25252525
                                           3223
                                           3224 * Halfword, Equal after zero
                                           3225          VRR_B VFAE,1,7,0              cc=0 M5=4+2+1         RT ZS CS
00003FD0                                   3226+         DS    0FD
00003FD0                  00003FD0         3227+         USING *,R5               base for test data and test routine
00003FD0  00004028                         3228+T66      DC    A(X66)             address of test routine
00003FD4  0042                             3229+         DC    H'66'              test number
00003FD6  00                               3230+         DC    X'00'
00003FD7  01                               3231+         DC    HL1'1'                  m4 used
00003FD8  07                               3232+         DC    HL1'7'                  m5 used
00003FD9  00                               3233+         DC    HL1'0'             CC
00003FDA  07                               3234+         DC    HL1'7'             CC failed mask
00003FDC  00000000 00000000                3235+         DS    2F                 extracted PSW after test (has CC)
00003FE4  FF                               3236+         DC    X'FF'              extracted CC, if test failed
00003FE5  E5C6C1C5 40404040                3237+         DC    CL8'VFAE'          instruction name
00003FF0  00004058                         3238+         DC    A(RE66)            address of v1 result
00003FF4  00004068                         3239+         DC    A(RE66+16)         address of v2 source
00003FF8  00004078                         3240+         DC    A(RE66+32)         address of v3 source
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00003FFC  00000010                        3241+          DC    A(16)              result length
00004000  00004058                        3242+REA66     DC    A(RE66)            result address
00004008  00000000 00000000               3243+          DS    FD                 gap
00004010  00000000 00000000               3244+V1O66     DS    XL16               V1 output
00004018  00000000 00000000
00004020  00000000 00000000               3245+          DS    FD                 gap
                                          3246+*
00004028                                  3247+X66       DS    0F
00004028  E310 5024 0014          00000024 3248+          LGF   R1,V2ADDR          load v2 source
0000402E  E761 0000 0806          00000000 3249+          VL    v22,0(R1)          use v21 to test decoder
00004034  E310 5028 0014          00000028 3250+          LGF   R1,V3ADDR          load v3 source
0000403A  E771 0000 0806          00000000 3251+          VL    v23,0(R1)          use v22 to test decoder
00004040  E756 7070 1E82                   3252+          VFAE  V21,V22,V23,1,7              test instruction
00004046  B98D 0020                        3253+          EPSW  R2,R0              extract psw
0000404A  5020 500C               0000000C 3254+          ST    R2,CCPSW              to save CC
0000404E  E750 5040 080E          00004010 3255+          VST   V21,V1O66          save v1 output
00004054  07FB                             3256+          BR    R11                return
00004058                                  3257+RE66      DC    0F                 V1 for this test
00004058                                  3258+          DROP  R5
00004058  00000000 00000000               3259           DC    XL16'00000000 00000000 0000FFFF 00000000'   V1
00004060  0000FFFF 00000000
00004068  5D3A5859 5A530000               3260           DC    XL16'5D3A5859 5A530000 54452525 5F444546'   v2
00004070  54452525 5F444546
00004078  25252525 25252525               3261           DC    XL16'25252525 25252525 25252525 25252525'   v3
00004080  25252525 25252525
                                          3262
                                          3263 * Halfword, Equal after zero
                                          3264           VRR_B VFAE,1,15,2          cc=2 M5=8+4+2+1    IN RT ZS CS
00004088                                  3265+          DS    0FD
00004088                  00004088        3266+          USING *,R5               base for test data and test routine
00004088  000040E0                        3267+T67       DC    A(X67)             address of test routine
0000408C  0043                            3268+          DC    H'67'              test number
0000408E  00                              3269+          DC    X'00'
0000408F  01                              3270+          DC    HL1'1'                  m4 used
00004090  0F                              3271+          DC    HL1'15'                 m5 used
00004091  02                              3272+          DC    HL1'2'             CC
00004092  0D                              3273+          DC    HL1'13'            CC failed mask
00004094  00000000 00000000               3274+          DS    2F                 extracted PSW after test (has CC)
0000409C  FF                              3275+          DC    X'FF'              extracted CC, if test failed
0000409D  E5C6C1C5 40404040               3276+          DC    CL8'VFAE'          instruction name
000040A8  00004110                        3277+          DC    A(RE67)            address of v1 result
000040AC  00004120                        3278+          DC    A(RE67+16)         address of v2 source
000040B0  00004130                        3279+          DC    A(RE67+32)         address of v3 source
000040B4  00000010                        3280+          DC    A(16)              result length
000040B8  00004110                        3281+REA67     DC    A(RE67)            result address
000040C0  00000000 00000000               3282+          DS    FD                 gap
000040C8  00000000 00000000               3283+V1O67     DS    XL16               V1 output
000040D0  00000000 00000000
000040D8  00000000 00000000               3284+          DS    FD                 gap
                                          3285+*
000040E0                                  3286+X67       DS    0F
000040E0  E310 5024 0014          00000024 3287+          LGF   R1,V2ADDR          load v2 source
000040E6  E761 0000 0806          00000000 3288+          VL    v22,0(R1)          use v21 to test decoder
000040EC  E310 5028 0014          00000028 3289+          LGF   R1,V3ADDR          load v3 source
000040F2  E771 0000 0806          00000000 3290+          VL    v23,0(R1)          use v22 to test decoder
000040F8  E756 70F0 1E82                   3291+          VFAE  V21,V22,V23,1,15             test instruction
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000040FE  B98D 0020                            3292+         EPSW  R2,R0              extract psw
00004102  5020 500C                  0000000C  3293+         ST    R2,CCPSW             to save CC
00004106  E750 5040 080E             000040C8  3294+         VST   V21,V1O67           save v1 output
0000410C  07FB                                 3295+         BR    R11                 return
00004110                                       3296+RE67     DC    0F                  V1 for this test
00004110                                       3297+         DROP  R5
00004110  FFFFFFFF FFFFFFFF                    3298          DC    XL16'FFFFFFFF FFFFFFFF FFFF0000 FFFFFFFF'   V1
00004118  FFFF0000 FFFFFFFF
00004120  5D3A5859 5A530000                    3299          DC    XL16'5D3A5859 5A530000 54452525 5F444546'   v2
00004128  54452525 5F444546
00004130  25252525 25252525                    3300          DC    XL16'25252525 25252525 25252525 25252525'   v3
00004138  25252525 25252525
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                   3302 *-------------------------------------------------------------------
                                                   3303 * Word, No equal, no zero
                                                   3304          VRR_B VFAE,2,3,3            cc=3 M5=2+1              ZS CS
00004140                                           3305+         DS    0FD
00004140                       00004140            3306+         USING *,R5                base for test data and test routine
00004140  00004198                                 3307+T68      DC    A(X68)              address of test routine
00004144  0044                                     3308+         DC    H'68'               test number
00004146  00                                       3309+         DC    X'00'
00004147  02                                       3310+         DC    HL1'2'                   m4 used
00004148  03                                       3311+         DC    HL1'3'                   m5 used
00004149  03                                       3312+         DC    HL1'3'              CC
0000414A  0E                                       3313+         DC    HL1'14'             CC failed mask
0000414C  00000000 00000000                        3314+         DS    2F                  extracted PSW after test (has CC)
00004154  FF                                       3315+         DC    X'FF'               extracted CC, if test failed
00004155  E5C6C1C5 40404040                        3316+         DC    CL8'VFAE'           instruction name
00004160  000041C8                                 3317+         DC    A(RE68)             address of v1 result
00004164  000041D8                                 3318+         DC    A(RE68+16)          address of v2 source
00004168  000041E8                                 3319+         DC    A(RE68+32)          address of v3 source
0000416C  00000010                                 3320+         DC    A(16)               result length
00004170  000041C8                                 3321+REA68    DC    A(RE68)             result address
00004178  00000000 00000000                        3322+         DS    FD                  gap
00004180  00000000 00000000                        3323+V1O68    DS    XL16                V1 output
00004188  00000000 00000000
00004190  00000000 00000000                        3324+         DS    FD                  gap
                                                   3325+*
00004198                                           3326+X68      DS    0F
00004198  E310 5024 0014                 00000024  3327+         LGF   R1,V2ADDR           load v2 source
0000419E  E761 0000 0806                 00000000  3328+         VL    v22,0(R1)           use v21 to test decoder
000041A4  E310 5028 0014                 00000028  3329+         LGF   R1,V3ADDR           load v3 source
000041AA  E771 0000 0806                 00000000  3330+         VL    v23,0(R1)           use v22 to test decoder
000041B0  E756 7030 2E82                           3331+         VFAE  V21,V22,V23,2,3                test instruction
000041B6  B98D 0020                                3332+         EPSW  R2,R0               extract psw
000041BA  5020 500C                      0000000C  3333+         ST    R2,CCPSW               to save CC
000041BE  E750 5040 080E                 00004180  3334+         VST   V21,V1O68           save v1 output
000041C4  07FB                                     3335+         BR    R11                 return
000041C8                                           3336+RE68     DC    0F                  V1 for this test
000041C8                                           3337+         DROP  R5
000041C8  00000000 00000010                        3338          DC    XL16'00000000 00000010 00000000 00000000'   V1
000041D0  00000000 00000000
000041D8  5D3A5859 5A535953                        3339          DC    XL16'5D3A5859 5A535953 54454D44 5F444546'   v2
000041E0  54454D44 5F444546
000041E8  25252525 25252525                        3340          DC    XL16'25252525 25252525 25252525 25252525'   v3
000041F0  25252525 25252525
                                                   3341
                                                   3342 * Word, No equal, no zero
                                                   3343          VRR_B VFAE,2,7,3            cc=3 M5=4+2+1          RT ZS CS
000041F8                                           3344+         DS    0FD
000041F8                       000041F8            3345+         USING *,R5                base for test data and test routine
000041F8  00004250                                 3346+T69      DC    A(X69)              address of test routine
000041FC  0045                                     3347+         DC    H'69'               test number
000041FE  00                                       3348+         DC    X'00'
000041FF  02                                       3349+         DC    HL1'2'                   m4 used
00004200  07                                       3350+         DC    HL1'7'                   m5 used
00004201  03                                       3351+         DC    HL1'3'              CC
00004202  0E                                       3352+         DC    HL1'14'             CC failed mask
00004204  00000000 00000000                        3353+         DS    2F                  extracted PSW after test (has CC)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

0000420C  FF                                       3354+          DC    X'FF'                extracted CC, if test failed
0000420D  E5C6C1C5 40404040                        3355+          DC    CL8'VFAE'            instruction name
00004218  00004280                                 3356+          DC    A(RE69)              address of v1 result
0000421C  00004290                                 3357+          DC    A(RE69+16)           address of v2 source
00004220  000042A0                                 3358+          DC    A(RE69+32)           address of v3 source
00004224  00000010                                 3359+          DC    A(16)                result length
00004228  00004280                                 3360+REA69     DC    A(RE69)              result address
00004230  00000000 00000000                        3361+          DS    FD                   gap
00004238  00000000 00000000                        3362+V1O69     DS    XL16                 V1 output
00004240  00000000 00000000
00004248  00000000 00000000                        3363+          DS    FD                   gap
                                                   3364+*
00004250                                           3365+X69       DS    0F
00004250  E310 5024 0014                 00000024  3366+          LGF   R1,V2ADDR            load v2 source
00004256  E761 0000 0806                 00000000  3367+          VL    v22,0(R1)            use v21 to test decoder
0000425C  E310 5028 0014                 00000028  3368+          LGF   R1,V3ADDR            load v3 source
00004262  E771 0000 0806                 00000000  3369+          VL    v23,0(R1)            use v22 to test decoder
00004268  E756 7070 2E82                           3370+          VFAE  V21,V22,V23,2,7                test instruction
0000426E  B98D 0020                                3371+          EPSW  R2,R0                extract psw
00004272  5020 500C                      0000000C  3372+          ST    R2,CCPSW                to save CC
00004276  E750 5040 080E                 00004238  3373+          VST   V21,V1O69            save v1 output
0000427C  07FB                                     3374+          BR    R11                  return
00004280                                           3375+RE69      DC    0F                   V1 for this test
00004280                                           3376+          DROP  R5
00004280  00000000 00000000                        3377           DC    XL16'00000000 00000000 00000000 00000000'   V1
00004288  00000000 00000000
00004290  5D3A5859 5A535953                        3378           DC    XL16'5D3A5859 5A535953 54454D44 5F444546'   v2
00004298  54454D44 5F444546
000042A0  25252525 25252525                        3379           DC    XL16'25252525 25252525 25252525 25252525'   v3
000042A8  25252525 25252525
                                                   3380
                                                   3381 * Word, No equal, no zero
                                                   3382           VRR_B VFAE,2,15,1                cc=1 M5=8+4+2+1   IN RT ZS CS
000042B0                                           3383+          DS    0FD
000042B0                         000042B0          3384+          USING *,R5                 base for test data and test routine
000042B0  00004308                                 3385+T70       DC    A(X70)               address of test routine
000042B4  0046                                     3386+          DC    H'70'                test number
000042B6  00                                       3387+          DC    X'00'
000042B7  02                                       3388+          DC    HL1'2'                   m4 used
000042B8  0F                                       3389+          DC    HL1'15'                  m5 used
000042B9  01                                       3390+          DC    HL1'1'               CC
000042BA  0B                                       3391+          DC    HL1'11'              CC failed mask
000042BC  00000000 00000000                        3392+          DS    2F                   extracted PSW after test (has CC)
000042C4  FF                                       3393+          DC    X'FF'                extracted CC, if test failed
000042C5  E5C6C1C5 40404040                        3394+          DC    CL8'VFAE'            instruction name
000042D0  00004338                                 3395+          DC    A(RE70)              address of v1 result
000042D4  00004348                                 3396+          DC    A(RE70+16)           address of v2 source
000042D8  00004358                                 3397+          DC    A(RE70+32)           address of v3 source
000042DC  00000010                                 3398+          DC    A(16)                result length
000042E0  00004338                                 3399+REA70     DC    A(RE70)              result address
000042E8  00000000 00000000                        3400+          DS    FD                   gap
000042F0  00000000 00000000                        3401+V1O70     DS    XL16                 V1 output
000042F8  00000000 00000000
00004300  00000000 00000000                        3402+          DS    FD                   gap
                                                   3403+*
00004308                                           3404+X70       DS    0F
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00004308  E310 5024 0014                 00000024  3405+         LGF   R1,V2ADDR          load v2 source
0000430E  E761 0000 0806                 00000000  3406+         VL    v22,0(R1)          use v21 to test decoder
00004314  E310 5028 0014                 00000028  3407+         LGF   R1,V3ADDR          load v3 source
0000431A  E771 0000 0806                 00000000  3408+         VL    v23,0(R1)          use v22 to test decoder
00004320  E756 70F0 2E82                           3409+         VFAE  V21,V22,V23,2,15             test instruction
00004326  B98D 0020                                3410+         EPSW  R2,R0              extract psw
0000432A  5020 500C                      0000000C  3411+         ST    R2,CCPSW              to save CC
0000432E  E750 5040 080E                 000042F0  3412+         VST   V21,V1O70          save v1 output
00004334  07FB                                     3413+         BR    R11                return
00004338                                           3414+RE70     DC    0F                 V1 for this test
00004338                                           3415+         DROP  R5
00004338  FFFFFFFF FFFFFFFF                        3416          DC    XL16'FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF'   V1
00004340  FFFFFFFF FFFFFFFF
00004348  5D3A5859 5A535953                        3417          DC    XL16'5D3A5859 5A535953 54454D44 5F444546'   v2
00004350  54454D44 5F444546
00004358  25252525 25252525                        3418          DC    XL16'25252525 25252525 25252525 25252525'   v3
00004360  25252525 25252525
                                                   3419
                                                   3420 * Word, Equal, no zero
                                                   3421          VRR_B VFAE,2,3,1              cc=1 M5=2+1              ZS CS
00004368                                           3422+         DS    0FD
00004368                 00004368                  3423+         USING *,R5               base for test data and test routine
00004368  000043C0                                 3424+T71      DC    A(X71)             address of test routine
0000436C  0047                                     3425+         DC    H'71'              test number
0000436E  00                                       3426+         DC    X'00'
0000436F  02                                       3427+         DC    HL1'2'                  m4 used
00004370  03                                       3428+         DC    HL1'3'                  m5 used
00004371  01                                       3429+         DC    HL1'1'             CC
00004372  0B                                       3430+         DC    HL1'11'            CC failed mask
00004374  00000000 00000000                        3431+         DS    2F                 extracted PSW after test (has CC)
0000437C  FF                                       3432+         DC    X'FF'              extracted CC, if test failed
0000437D  E5C6C1C5 40404040                        3433+         DC    CL8'VFAE'          instruction name
00004388  000043F0                                 3434+         DC    A(RE71)            address of v1 result
0000438C  00004400                                 3435+         DC    A(RE71+16)         address of v2 source
00004390  00004410                                 3436+         DC    A(RE71+32)         address of v3 source
00004394  00000010                                 3437+         DC    A(16)              result length
00004398  000043F0                                 3438+REA71    DC    A(RE71)            result address
000043A0  00000000 00000000                        3439+         DS    FD                 gap
000043A8  00000000 00000000                        3440+V1O71    DS    XL16               V1 output
000043B0  00000000 00000000
000043B8  00000000 00000000                        3441+         DS    FD                 gap
                                                   3442+*
000043C0                                           3443+X71      DS    0F
000043C0  E310 5024 0014                 00000024  3444+         LGF   R1,V2ADDR          load v2 source
000043C6  E761 0000 0806                 00000000  3445+         VL    v22,0(R1)          use v21 to test decoder
000043CC  E310 5028 0014                 00000028  3446+         LGF   R1,V3ADDR          load v3 source
000043D2  E771 0000 0806                 00000000  3447+         VL    v23,0(R1)          use v22 to test decoder
000043D8  E756 7030 2E82                           3448+         VFAE  V21,V22,V23,2,3              test instruction
000043DE  B98D 0020                                3449+         EPSW  R2,R0              extract psw
000043E2  5020 500C                      0000000C  3450+         ST    R2,CCPSW              to save CC
000043E6  E750 5040 080E                 000043A8  3451+         VST   V21,V1O71          save v1 output
000043EC  07FB                                     3452+         BR    R11                return
000043F0                                           3453+RE71     DC    0F                 V1 for this test
000043F0                                           3454+         DROP  R5
000043F0  00000000 00000004                        3455          DC    XL16'00000000 00000004 00000000 00000000'   V1
000043F8  00000000 00000000
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00004400  5D3A5859 25252525                       3456          DC    XL16'5D3A5859 25252525 54454D44 5F444546'   v2
00004408  54454D44 5F444546
00004410  25252525 25252525                       3457          DC    XL16'25252525 25252525 25252525 25252525'   v3
00004418  25252525 25252525
                                                  3458
                                                  3459 * Word, Equal, no zero
                                                  3460          VRR_B VFAE,2,7,1              cc=1 M5=4+2+1         RT ZS CS
00004420                                          3461+         DS    0FD
00004420                    00004420              3462+         USING *,R5                  base for test data and test routine
00004420  00004478                                3463+T72      DC    A(X72)                address of test routine
00004424  0048                                    3464+         DC    H'72'                 test number
00004426  00                                      3465+         DC    X'00'
00004427  02                                      3466+         DC    HL1'2'                     m4 used
00004428  07                                      3467+         DC    HL1'7'                     m5 used
00004429  01                                      3468+         DC    HL1'1'                CC
0000442A  0B                                      3469+         DC    HL1'11'               CC failed mask
0000442C  00000000 00000000                       3470+         DS    2F                    extracted PSW after test (has CC)
00004434  FF                                      3471+         DC    X'FF'                 extracted CC, if test failed
00004435  E5C6C1C5 40404040                       3472+         DC    CL8'VFAE'             instruction name
00004440  000044A8                                3473+         DC    A(RE72)               address of v1 result
00004444  000044B8                                3474+         DC    A(RE72+16)            address of v2 source
00004448  000044C8                                3475+         DC    A(RE72+32)            address of v3 source
0000444C  00000010                                3476+         DC    A(16)                 result length
00004450  000044A8                                3477+REA72    DC    A(RE72)               result address
00004458  00000000 00000000                       3478+         DS    FD                    gap
00004460  00000000 00000000                       3479+V1O72    DS    XL16                  V1 output
00004468  00000000 00000000
00004470  00000000 00000000                       3480+         DS    FD                    gap
                                                  3481+*
00004478                                          3482+X72      DS    0F
00004478  E310 5024 0014                00000024  3483+         LGF   R1,V2ADDR             load v2 source
0000447E  E761 0000 0806                00000000  3484+         VL    v22,0(R1)             use v21 to test decoder
00004484  E310 5028 0014                00000028  3485+         LGF   R1,V3ADDR             load v3 source
0000448A  E771 0000 0806                00000000  3486+         VL    v23,0(R1)             use v22 to test decoder
00004490  E756 7070 2E82                          3487+         VFAE  V21,V22,V23,2,7                 test instruction
00004496  B98D 0020                               3488+         EPSW  R2,R0                 extract psw
0000449A  5020 500C                     0000000C  3489+         ST    R2,CCPSW                 to save CC
0000449E  E750 5040 080E                00004460  3490+         VST   V21,V1O72             save v1 output
000044A4  07FB                                    3491+         BR    R11                   return
000044A8                                          3492+RE72     DC    0F                    V1 for this test
000044A8                                          3493+         DROP  R5
000044A8  00000000 FFFFFFFF                       3494          DC    XL16'00000000 FFFFFFFF 00000000 00000000'   V1
000044B0  00000000 00000000
000044B8  5D3A5859 25252525                       3495          DC    XL16'5D3A5859 25252525 54454D44 5F444546'   v2
000044C0  54454D44 5F444546
000044C8  25252525 25252525                       3496          DC    XL16'25252525 25252525 25252525 25252525'   v3
000044D0  25252525 25252525
                                                  3497
                                                  3498 * Word, Equal, no zero
                                                  3499          VRR_B VFAE,2,15,1             cc=1 M5=8+4+2+1    IN RT ZS CS
000044D8                                          3500+         DS    0FD
000044D8                    000044D8              3501+         USING *,R5                  base for test data and test routine
000044D8  00004530                                3502+T73      DC    A(X73)                address of test routine
000044DC  0049                                    3503+         DC    H'73'                 test number
000044DE  00                                      3504+         DC    X'00'
000044DF  02                                      3505+         DC    HL1'2'                     m4 used
```

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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000044E0  0F                                      3506+          DC    HL1'15'                 m5 used
000044E1  01                                      3507+          DC    HL1'1'                CC
000044E2  0B                                      3508+          DC    HL1'11'               CC failed mask
000044E4  00000000 00000000                       3509+          DS    2F                    extracted PSW after test (has CC)
000044EC  FF                                      3510+          DC    X'FF'                 extracted CC, if test failed
000044ED  E5C6C1C5 40404040                       3511+          DC    CL8'VFAE'             instruction name
000044F8  00004560                                3512+          DC    A(RE73)               address of v1 result
000044FC  00004570                                3513+          DC    A(RE73+16)            address of v2 source
00004500  00004580                                3514+          DC    A(RE73+32)            address of v3 source
00004504  00000010                                3515+          DC    A(16)                 result length
00004508  00004560                                3516+REA73     DC    A(RE73)               result address
00004510  00000000 00000000                       3517+          DS    FD                    gap
00004518  00000000 00000000                       3518+V1O73     DS    XL16                  V1 output
00004520  00000000 00000000
00004528  00000000 00000000                       3519+          DS    FD                    gap
                                                  3520+*
00004530                                          3521+X73       DS    0F
00004530  E310 5024 0014                 00000024 3522+          LGF   R1,V2ADDR             load v2 source
00004536  E761 0000 0806                 00000000 3523+          VL    v22,0(R1)             use v21 to test decoder
0000453C  E310 5028 0014                 00000028 3524+          LGF   R1,V3ADDR             load v3 source
00004542  E771 0000 0806                 00000000 3525+          VL    v23,0(R1)             use v22 to test decoder
00004548  E756 70F0 2E82                          3526+          VFAE  V21,V22,V23,2,15              test instruction
0000454E  B98D 0020                               3527+          EPSW  R2,R0                 extract psw
00004552  5020 500C                      0000000C 3528+          ST    R2,CCPSW                 to save CC
00004556  E750 5040 080E                 00004518 3529+          VST   V21,V1O73             save v1 output
0000455C  07FB                                    3530+          BR    R11                   return
00004560                                          3531+RE73      DC    0F                    V1 for this test
00004560                                          3532+          DROP  R5
00004560  FFFFFFFF 00000000                       3533           DC    XL16'FFFFFFFF 00000000 FFFFFFFF FFFFFFFF'   V1
00004568  FFFFFFFF FFFFFFFF
00004570  5D3A5859 25252525                       3534           DC    XL16'5D3A5859 25252525 54454D44 5F444546'   v2
00004578  54454D44 5F444546
00004580  25252525 25252525                       3535           DC    XL16'25252525 25252525 25252525 25252525'   v3
00004588  25252525 25252525
                                                  3536
                                                  3537 * Word, Equal before zero
                                                  3538           VRR_B VFAE,2,3,2              cc=2 M5=2+1              ZS CS
00004590                                          3539+          DS    0FD
00004590                          00004590        3540+          USING *,R5                  base for test data and test routine
00004590  000045E8                                3541+T74       DC    A(X74)                address of test routine
00004594  004A                                    3542+          DC    H'74'                 test number
00004596  00                                      3543+          DC    X'00'
00004597  02                                      3544+          DC    HL1'2'                    m4 used
00004598  03                                      3545+          DC    HL1'3'                    m5 used
00004599  02                                      3546+          DC    HL1'2'                CC
0000459A  0D                                      3547+          DC    HL1'13'               CC failed mask
0000459C  00000000 00000000                       3548+          DS    2F                    extracted PSW after test (has CC)
000045A4  FF                                      3549+          DC    X'FF'                 extracted CC, if test failed
000045A5  E5C6C1C5 40404040                       3550+          DC    CL8'VFAE'             instruction name
000045B0  00004618                                3551+          DC    A(RE74)               address of v1 result
000045B4  00004628                                3552+          DC    A(RE74+16)            address of v2 source
000045B8  00004638                                3553+          DC    A(RE74+32)            address of v3 source
000045BC  00000010                                3554+          DC    A(16)                 result length
000045C0  00004618                                3555+REA74     DC    A(RE74)               result address
000045C8  00000000 00000000                       3556+          DS    FD                    gap
000045D0  00000000 00000000                       3557+V1O74     DS    XL16                  V1 output
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000045D8  00000000 00000000
000045E0  00000000 00000000                       3558+         DS    FD                  gap
                                                  3559+*
000045E8                                          3560+X74      DS    0F
000045E8  E310 5024 0014                 00000024 3561+         LGF   R1,V2ADDR           load v2 source
000045EE  E761 0000 0806                 00000000 3562+         VL    v22,0(R1)           use v21 to test decoder
000045F4  E310 5028 0014                 00000028 3563+         LGF   R1,V3ADDR           load v3 source
000045FA  E771 0000 0806                 00000000 3564+         VL    v23,0(R1)           use v22 to test decoder
00004600  E756 7030 2E82                          3565+         VFAE  V21,V22,V23,2,3                test instruction
00004606  B98D 0020                               3566+         EPSW  R2,R0               extract psw
0000460A  5020 500C                      0000000C 3567+         ST    R2,CCPSW               to save CC
0000460E  E750 5040 080E                 000045D0 3568+         VST   V21,V1O74           save v1 output
00004614  07FB                                    3569+         BR    R11                 return
00004618                                          3570+RE74     DC    0F                  V1 for this test
00004618                                          3571+         DROP  R5
00004618  00000000 00000004                       3572          DC    XL16'00000000 00000004 00000000 00000000'   V1
00004620  00000000 00000000
00004628  5D3A5859 25252525                       3573          DC    XL16'5D3A5859 25252525 00000000 5F444546'   v2
00004630  00000000 5F444546
00004638  25252525 25252525                       3574          DC    XL16'25252525 25252525 25252525 25252525'   v3
00004640  25252525 25252525
                                                  3575
                                                  3576 * Word, Equal before zero
                                                  3577          VRR_B VFAE,2,7,2              cc=2 M5=4+2+1         RT ZS CS
00004648                                          3578+         DS    0FD
00004648                         00004648         3579+         USING *,R5                base for test data and test routine
00004648  000046A0                                3580+T75      DC    A(X75)              address of test routine
0000464C  004B                                    3581+         DC    H'75'               test number
0000464E  00                                      3582+         DC    X'00'
0000464F  02                                      3583+         DC    HL1'2'                   m4 used
00004650  07                                      3584+         DC    HL1'7'                   m5 used
00004651  02                                      3585+         DC    HL1'2'              CC
00004652  0D                                      3586+         DC    HL1'13'             CC failed mask
00004654  00000000 00000000                       3587+         DS    2F                  extracted PSW after test (has CC)
0000465C  FF                                      3588+         DC    X'FF'               extracted CC, if test failed
0000465D  E5C6C1C5 40404040                       3589+         DC    CL8'VFAE'           instruction name
00004668  000046D0                                3590+         DC    A(RE75)             address of v1 result
0000466C  000046E0                                3591+         DC    A(RE75+16)          address of v2 source
00004670  000046F0                                3592+         DC    A(RE75+32)          address of v3 source
00004674  00000010                                3593+         DC    A(16)               result length
00004678  000046D0                                3594+REA75    DC    A(RE75)             result address
00004680  00000000 00000000                       3595+         DS    FD                  gap
00004688  00000000 00000000                       3596+V1O75    DS    XL16                V1 output
00004690  00000000 00000000
00004698  00000000 00000000                       3597+         DS    FD                  gap
                                                  3598+*
000046A0                                          3599+X75      DS    0F
000046A0  E310 5024 0014                 00000024 3600+         LGF   R1,V2ADDR           load v2 source
000046A6  E761 0000 0806                 00000000 3601+         VL    v22,0(R1)           use v21 to test decoder
000046AC  E310 5028 0014                 00000028 3602+         LGF   R1,V3ADDR           load v3 source
000046B2  E771 0000 0806                 00000000 3603+         VL    v23,0(R1)           use v22 to test decoder
000046B8  E756 7070 2E82                          3604+         VFAE  V21,V22,V23,2,7                test instruction
000046BE  B98D 0020                               3605+         EPSW  R2,R0               extract psw
000046C2  5020 500C                      0000000C 3606+         ST    R2,CCPSW               to save CC
000046C6  E750 5040 080E                 00004688 3607+         VST   V21,V1O75           save v1 output
000046CC  07FB                                    3608+         BR    R11                 return
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000046D0                                           3609+RE75     DC    0F                  V1 for this test
000046D0                                           3610+         DROP  R5
000046D0  00000000 FFFFFFFF                        3611          DC    XL16'00000000 FFFFFFFF 00000000 00000000'   V1
000046D8  00000000 00000000
000046E0  5D3A5859 25252525                        3612          DC    XL16'5D3A5859 25252525 00000000 5F444546'   v2
000046E8  00000000 5F444546
000046F0  25252525 25252525                        3613          DC    XL16'25252525 25252525 25252525 25252525'   v3
000046F8  25252525 25252525
                                                   3614
                                                   3615 * Word, Equal before zero
                                                   3616          VRR_B VFAE,2,15,2             cc=2 M5=8+4+2+1    IN RT ZS CS
00004700                                           3617+         DS    0FD
00004700                      00004700             3618+         USING *,R5                  base for test data and test routine
00004700  00004758                                 3619+T76      DC    A(X76)                address of test routine
00004704  004C                                     3620+         DC    H'76'                 test number
00004706  00                                       3621+         DC    X'00'
00004707  02                                       3622+         DC    HL1'2'                     m4 used
00004708  0F                                       3623+         DC    HL1'15'                    m5 used
00004709  02                                       3624+         DC    HL1'2'                CC
0000470A  0D                                       3625+         DC    HL1'13'               CC failed mask
0000470C  00000000 00000000                        3626+         DS    2F                    extracted PSW after test (has CC)
00004714  FF                                       3627+         DC    X'FF'                 extracted CC, if test failed
00004715  E5C6C1C5 40404040                        3628+         DC    CL8'VFAE'             instruction name
00004720  00004788                                 3629+         DC    A(RE76)               address of v1 result
00004724  00004798                                 3630+         DC    A(RE76+16)            address of v2 source
00004728  000047A8                                 3631+         DC    A(RE76+32)            address of v3 source
0000472C  00000010                                 3632+         DC    A(16)                 result length
00004730  00004788                                 3633+REA76    DC    A(RE76)               result address
00004738  00000000 00000000                        3634+         DS    FD                    gap
00004740  00000000 00000000                        3635+V1O76    DS    XL16                  V1 output
00004748  00000000 00000000
00004750  00000000 00000000                        3636+         DS    FD                    gap
                                                   3637+*
00004758                                           3638+X76      DS    0F
00004758  E310 5024 0014                 00000024  3639+         LGF   R1,V2ADDR             load v2 source
0000475E  E761 0000 0806                 00000000  3640+         VL    v22,0(R1)             use v21 to test decoder
00004764  E310 5028 0014                 00000028  3641+         LGF   R1,V3ADDR             load v3 source
0000476A  E771 0000 0806                 00000000  3642+         VL    v23,0(R1)             use v22 to test decoder
00004770  E756 70F0 2E82                           3643+         VFAE  V21,V22,V23,2,15                test instruction
00004776  B98D 0020                                3644+         EPSW  R2,R0                 extract psw
0000477A  5020 500C                      0000000C  3645+         ST    R2,CCPSW                 to save CC
0000477E  E750 5040 080E                 00004740  3646+         VST   V21,V1O76             save v1 output
00004784  07FB                                     3647+         BR    R11                   return
00004788                                           3648+RE76     DC    0F                    V1 for this test
00004788                                           3649+         DROP  R5
00004788  FFFFFFFF 00000000                        3650          DC    XL16'FFFFFFFF 00000000 FFFFFFFF FFFFFFFF'   V1
00004790  FFFFFFFF FFFFFFFF
00004798  5D3A5859 25252525                        3651          DC    XL16'5D3A5859 25252525 00000000 5F444546'   v2
000047A0  00000000 5F444546
000047A8  25252525 25252525                        3652          DC    XL16'25252525 25252525 25252525 25252525'   v3
000047B0  25252525 25252525
                                                   3653
                                                   3654 * Word, Equal after zero
                                                   3655          VRR_B VFAE,2,3,0              cc=0 M5=2+1              ZS CS
000047B8                                           3656+         DS    0FD
000047B8                      000047B8             3657+         USING *,R5                  base for test data and test routine
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000047B8  00004810                                3658+T77      DC    A(X77)              address of test routine
000047BC  004D                                    3659+         DC    H'77'               test number
000047BE  00                                      3660+         DC    X'00'
000047BF  02                                      3661+         DC    HL1'2'                   m4 used
000047C0  03                                      3662+         DC    HL1'3'                   m5 used
000047C1  00                                      3663+         DC    HL1'0'              CC
000047C2  07                                      3664+         DC    HL1'7'              CC failed mask
000047C4  00000000 00000000                       3665+         DS    2F                  extracted PSW after test (has CC)
000047CC  FF                                      3666+         DC    X'FF'               extracted CC, if test failed
000047CD  E5C6C1C5 40404040                       3667+         DC    CL8'VFAE'           instruction name
000047D8  00004840                                3668+         DC    A(RE77)             address of v1 result
000047DC  00004850                                3669+         DC    A(RE77+16)          address of v2 source
000047E0  00004860                                3670+         DC    A(RE77+32)          address of v3 source
000047E4  00000010                                3671+         DC    A(16)               result length
000047E8  00004840                                3672+REA77    DC    A(RE77)             result address
000047F0  00000000 00000000                       3673+         DS    FD                  gap
000047F8  00000000 00000000                       3674+V1O77    DS    XL16                V1 output
00004800  00000000 00000000
00004808  00000000 00000000                       3675+         DS    FD                  gap
                                                  3676+*
00004810                                          3677+X77      DS    0F
00004810  E310 5024 0014                 00000024 3678+         LGF   R1,V2ADDR           load v2 source
00004816  E761 0000 0806                 00000000 3679+         VL    v22,0(R1)           use v21 to test decoder
0000481C  E310 5028 0014                 00000028 3680+         LGF   R1,V3ADDR           load v3 source
00004822  E771 0000 0806                 00000000 3681+         VL    v23,0(R1)           use v22 to test decoder
00004828  E756 7030 2E82                          3682+         VFAE  V21,V22,V23,2,3                test instruction
0000482E  B98D 0020                               3683+         EPSW  R2,R0               extract psw
00004832  5020 500C                      0000000C 3684+         ST    R2,CCPSW               to save CC
00004836  E750 5040 080E                 000047F8 3685+         VST   V21,V1O77           save v1 output
0000483C  07FB                                    3686+         BR    R11                 return
00004840                                          3687+RE77     DC    0F                  V1 for this test
00004840                                          3688+         DROP  R5
00004840  00000000 00000004                       3689          DC    XL16'00000000 00000004 00000000 00000000'   V1
00004848  00000000 00000000
00004850  5D3A5859 00000000                       3690          DC    XL16'5D3A5859 00000000 25252525 5F444546'   v2
00004858  25252525 5F444546
00004860  25252525 25252525                       3691          DC    XL16'25252525 25252525 25252525 25252525'   v3
00004868  25252525 25252525
                                                  3692
                                                  3693 * Word, Equal after zero
                                                  3694          VRR_B VFAE,2,7,0                cc=0 M5=4+2+1         RT ZS CS
00004870                                          3695+         DS    0FD
00004870                 00004870                 3696+         USING *,R5                base for test data and test routine
00004870  000048C8                                3697+T78      DC    A(X78)              address of test routine
00004874  004E                                    3698+         DC    H'78'               test number
00004876  00                                      3699+         DC    X'00'
00004877  02                                      3700+         DC    HL1'2'                   m4 used
00004878  07                                      3701+         DC    HL1'7'                   m5 used
00004879  00                                      3702+         DC    HL1'0'              CC
0000487A  07                                      3703+         DC    HL1'7'              CC failed mask
0000487C  00000000 00000000                       3704+         DS    2F                  extracted PSW after test (has CC)
00004884  FF                                      3705+         DC    X'FF'               extracted CC, if test failed
00004885  E5C6C1C5 40404040                       3706+         DC    CL8'VFAE'           instruction name
00004890  000048F8                                3707+         DC    A(RE78)             address of v1 result
00004894  00004908                                3708+         DC    A(RE78+16)          address of v2 source
00004898  00004918                                3709+         DC    A(RE78+32)          address of v3 source
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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
0000489C  00000010                                3710+          DC    A(16)               result length
000048A0  000048F8                                3711+REA78     DC    A(RE78)             result address
000048A8  00000000 00000000                       3712+          DS    FD                  gap
000048B0  00000000 00000000                       3713+V1O78     DS    XL16                V1 output
000048B8  00000000 00000000
000048C0  00000000 00000000                       3714+          DS    FD                  gap
                                                  3715+*
000048C8                                          3716+X78       DS    0F
000048C8  E310 5024 0014                 00000024 3717+          LGF   R1,V2ADDR           load v2 source
000048CE  E761 0000 0806                 00000000 3718+          VL    v22,0(R1)           use v21 to test decoder
000048D4  E310 5028 0014                 00000028 3719+          LGF   R1,V3ADDR           load v3 source
000048DA  E771 0000 0806                 00000000 3720+          VL    v23,0(R1)           use v22 to test decoder
000048E0  E756 7070 2E82                          3721+          VFAE  V21,V22,V23,2,7               test instruction
000048E6  B98D 0020                               3722+          EPSW  R2,R0               extract psw
000048EA  5020 500C                      0000000C 3723+          ST    R2,CCPSW               to save CC
000048EE  E750 5040 080E                 000048B0 3724+          VST   V21,V1O78           save v1 output
000048F4  07FB                                    3725+          BR    R11                 return
000048F8                                          3726+RE78      DC    0F                  V1 for this test
000048F8                                          3727+          DROP  R5
000048F8  00000000 00000000                       3728           DC    XL16'00000000 00000000 FFFFFFFF 00000000'   V1
00004900  FFFFFFFF 00000000
00004908  5D3A5859 00000000                       3729           DC    XL16'5D3A5859 00000000 25252525 5F444546'   v2
00004910  25252525 5F444546
00004918  25252525 25252525                       3730           DC    XL16'25252525 25252525 25252525 25252525'   v3
00004920  25252525 25252525
                                                  3731
                                                  3732 * Word, Equal after zero
                                                  3733           VRR_B VFAE,2,15,2             cc=2 M5=8+4+2+1    IN RT ZS CS
00004928                                          3734+          DS    0FD
00004928                  00004928                3735+          USING *,R5                base for test data and test routine
00004928  00004980                                3736+T79       DC    A(X79)              address of test routine
0000492C  004F                                    3737+          DC    H'79'               test number
0000492E  00                                      3738+          DC    X'00'
0000492F  02                                      3739+          DC    HL1'2'                   m4 used
00004930  0F                                      3740+          DC    HL1'15'                  m5 used
00004931  02                                      3741+          DC    HL1'2'              CC
00004932  0D                                      3742+          DC    HL1'13'             CC failed mask
00004934  00000000 00000000                       3743+          DS    2F                  extracted PSW after test (has CC)
0000493C  FF                                      3744+          DC    X'FF'               extracted CC, if test failed
0000493D  E5C6C1C5 40404040                       3745+          DC    CL8'VFAE'           instruction name
00004948  000049B0                                3746+          DC    A(RE79)             address of v1 result
0000494C  000049C0                                3747+          DC    A(RE79+16)          address of v2 source
00004950  000049D0                                3748+          DC    A(RE79+32)          address of v3 source
00004954  00000010                                3749+          DC    A(16)               result length
00004958  000049B0                                3750+REA79     DC    A(RE79)             result address
00004960  00000000 00000000                       3751+          DS    FD                  gap
00004968  00000000 00000000                       3752+V1O79     DS    XL16                V1 output
00004970  00000000 00000000
00004978  00000000 00000000                       3753+          DS    FD                  gap
                                                  3754+*
00004980                                          3755+X79       DS    0F
00004980  E310 5024 0014                 00000024 3756+          LGF   R1,V2ADDR           load v2 source
00004986  E761 0000 0806                 00000000 3757+          VL    v22,0(R1)           use v21 to test decoder
0000498C  E310 5028 0014                 00000028 3758+          LGF   R1,V3ADDR           load v3 source
00004992  E771 0000 0806                 00000000 3759+          VL    v23,0(R1)           use v22 to test decoder
00004998  E756 70F0 2E82                          3760+          VFAE  V21,V22,V23,2,15              test instruction
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

0000499E  B98D 0020                            3761+          EPSW  R2,R0              extract psw
000049A2  5020 500C                  0000000C  3762+          ST    R2,CCPSW             to save CC
000049A6  E750 5040 080E             00004968  3763+          VST   V21,V1079           save v1 output
000049AC  07FB                                 3764+          BR    R11                 return
000049B0                                       3765+RE79      DC    0F                  V1 for this test
000049B0                                       3766+          DROP  R5
000049B0  FFFFFFFF FFFFFFFF                    3767           DC    XL16'FFFFFFFF FFFFFFFF 00000000 FFFFFFFF'   V1
000049B8  00000000 FFFFFFFF
000049C0  5D3A5859 00000000                    3768           DC    XL16'5D3A5859 00000000 25252525 5F444546'   v2
000049C8  25252525 5F444546
000049D0  25252525 25252525                    3769           DC    XL16'25252525 25252525 25252525 25252525'   v3
000049D8  25252525 25252525
                                               3770
                                               3771
                                               3772
000049E0  00000000                             3773           DC    F'0'     END OF TABLE
000049E4  00000000                             3774           DC    F'0'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                    3776 *
                                                    3777 * table of pointers to individual tests
                                                    3778 *
000049E8                                            3779 E7TESTS  DS    0F
                                                    3780          PTTABLE
000049E8                                            3781+TTABLE   DS    0F
000049E8  00001118                                  3782+         DC    A(T1)                    test address
000049EC  000011D0                                  3783+         DC    A(T2)                    test address
000049F0  00001288                                  3784+         DC    A(T3)                    test address
000049F4  00001340                                  3785+         DC    A(T4)                    test address
000049F8  000013F8                                  3786+         DC    A(T5)                    test address
000049FC  000014B0                                  3787+         DC    A(T6)                    test address
00004A00  00001568                                  3788+         DC    A(T7)                    test address
00004A04  00001620                                  3789+         DC    A(T8)                    test address
00004A08  000016D8                                  3790+         DC    A(T9)                    test address
00004A0C  00001790                                  3791+         DC    A(T10)                   test address
00004A10  00001848                                  3792+         DC    A(T11)                   test address
00004A14  00001900                                  3793+         DC    A(T12)                   test address
00004A18  000019B8                                  3794+         DC    A(T13)                   test address
00004A1C  00001A70                                  3795+         DC    A(T14)                   test address
00004A20  00001B28                                  3796+         DC    A(T15)                   test address
00004A24  00001BE0                                  3797+         DC    A(T16)                   test address
00004A28  00001C98                                  3798+         DC    A(T17)                   test address
00004A2C  00001D50                                  3799+         DC    A(T18)                   test address
00004A30  00001E08                                  3800+         DC    A(T19)                   test address
00004A34  00001EC0                                  3801+         DC    A(T20)                   test address
00004A38  00001F78                                  3802+         DC    A(T21)                   test address
00004A3C  00002030                                  3803+         DC    A(T22)                   test address
00004A40  000020E8                                  3804+         DC    A(T23)                   test address
00004A44  000021A0                                  3805+         DC    A(T24)                   test address
00004A48  00002258                                  3806+         DC    A(T25)                   test address
00004A4C  00002310                                  3807+         DC    A(T26)                   test address
00004A50  000023C8                                  3808+         DC    A(T27)                   test address
00004A54  00002480                                  3809+         DC    A(T28)                   test address
00004A58  00002538                                  3810+         DC    A(T29)                   test address
00004A5C  000025F0                                  3811+         DC    A(T30)                   test address
00004A60  000026A8                                  3812+         DC    A(T31)                   test address
00004A64  00002760                                  3813+         DC    A(T32)                   test address
00004A68  00002818                                  3814+         DC    A(T33)                   test address
00004A6C  000028D0                                  3815+         DC    A(T34)                   test address
00004A70  00002988                                  3816+         DC    A(T35)                   test address
00004A74  00002A40                                  3817+         DC    A(T36)                   test address
00004A78  00002AF8                                  3818+         DC    A(T37)                   test address
00004A7C  00002BB0                                  3819+         DC    A(T38)                   test address
00004A80  00002C68                                  3820+         DC    A(T39)                   test address
00004A84  00002D20                                  3821+         DC    A(T40)                   test address
00004A88  00002DD8                                  3822+         DC    A(T41)                   test address
00004A8C  00002E90                                  3823+         DC    A(T42)                   test address
00004A90  00002F48                                  3824+         DC    A(T43)                   test address
00004A94  00003000                                  3825+         DC    A(T44)                   test address
00004A98  000030B8                                  3826+         DC    A(T45)                   test address
00004A9C  00003170                                  3827+         DC    A(T46)                   test address
00004AA0  00003228                                  3828+         DC    A(T47)                   test address
00004AA4  000032E0                                  3829+         DC    A(T48)                   test address
00004AA8  00003398                                  3830+         DC    A(T49)                   test address
00004AAC  00003450                                  3831+         DC    A(T50)                   test address
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00004AB0  00003508                        3832+          DC    A(T51)                  test address
00004AB4  000035C0                        3833+          DC    A(T52)                  test address
00004AB8  00003678                        3834+          DC    A(T53)                  test address
00004ABC  00003730                        3835+          DC    A(T54)                  test address
00004AC0  000037E8                        3836+          DC    A(T55)                  test address
00004AC4  000038A0                        3837+          DC    A(T56)                  test address
00004AC8  00003958                        3838+          DC    A(T57)                  test address
00004ACC  00003A10                        3839+          DC    A(T58)                  test address
00004AD0  00003AC8                        3840+          DC    A(T59)                  test address
00004AD4  00003B80                        3841+          DC    A(T60)                  test address
00004AD8  00003C38                        3842+          DC    A(T61)                  test address
00004ADC  00003CF0                        3843+          DC    A(T62)                  test address
00004AE0  00003DA8                        3844+          DC    A(T63)                  test address
00004AE4  00003E60                        3845+          DC    A(T64)                  test address
00004AE8  00003F18                        3846+          DC    A(T65)                  test address
00004AEC  00003FD0                        3847+          DC    A(T66)                  test address
00004AF0  00004088                        3848+          DC    A(T67)                  test address
00004AF4  00004140                        3849+          DC    A(T68)                  test address
00004AF8  000041F8                        3850+          DC    A(T69)                  test address
00004AFC  000042B0                        3851+          DC    A(T70)                  test address
00004B00  00004368                        3852+          DC    A(T71)                  test address
00004B04  00004420                        3853+          DC    A(T72)                  test address
00004B08  000044D8                        3854+          DC    A(T73)                  test address
00004B0C  00004590                        3855+          DC    A(T74)                  test address
00004B10  00004648                        3856+          DC    A(T75)                  test address
00004B14  00004700                        3857+          DC    A(T76)                  test address
00004B18  000047B8                        3858+          DC    A(T77)                  test address
00004B1C  00004870                        3859+          DC    A(T78)                  test address
00004B20  00004928                        3860+          DC    A(T79)                  test address
                                          3861+*
00004B24  00000000                        3862+          DC    A(0)                    end of table
00004B28  00000000                        3863+          DC    A(0)                    end of table
                                          3864
00004B2C  00000000                        3865           DC    F'0'     END OF TABLE
00004B30  00000000                        3866           DC    F'0'
```

```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                  3868 ********************************************************************************
                                                  3869 *        Register equates
                                                  3870 ********************************************************************************

                                00000000  00000001  3872 R0       EQU   0
                                00000001  00000001  3873 R1       EQU   1
                                00000002  00000001  3874 R2       EQU   2
                                00000003  00000001  3875 R3       EQU   3
                                00000004  00000001  3876 R4       EQU   4
                                00000005  00000001  3877 R5       EQU   5
                                00000006  00000001  3878 R6       EQU   6
                                00000007  00000001  3879 R7       EQU   7
                                00000008  00000001  3880 R8       EQU   8
                                00000009  00000001  3881 R9       EQU   9
                                0000000A  00000001  3882 R10      EQU   10
                                0000000B  00000001  3883 R11      EQU   11
                                0000000C  00000001  3884 R12      EQU   12
                                0000000D  00000001  3885 R13      EQU   13
                                0000000E  00000001  3886 R14      EQU   14
                                0000000F  00000001  3887 R15      EQU   15


                                                  3889 ********************************************************************************
                                                  3890 *        Register equates
                                                  3891 ********************************************************************************


                                00000000  00000001  3893 V0       EQU   0
                                00000001  00000001  3894 V1       EQU   1
                                00000002  00000001  3895 V2       EQU   2
                                00000003  00000001  3896 V3       EQU   3
                                00000004  00000001  3897 V4       EQU   4
                                00000005  00000001  3898 V5       EQU   5
                                00000006  00000001  3899 V6       EQU   6
                                00000007  00000001  3900 V7       EQU   7
                                00000008  00000001  3901 V8       EQU   8
                                00000009  00000001  3902 V9       EQU   9
                                0000000A  00000001  3903 V10      EQU   10
                                0000000B  00000001  3904 V11      EQU   11
                                0000000C  00000001  3905 V12      EQU   12
                                0000000D  00000001  3906 V13      EQU   13
                                0000000E  00000001  3907 V14      EQU   14
                                0000000F  00000001  3908 V15      EQU   15
                                00000010  00000001  3909 V16      EQU   16
                                00000011  00000001  3910 V17      EQU   17
                                00000012  00000001  3911 V18      EQU   18
                                00000013  00000001  3912 V19      EQU   19
                                00000014  00000001  3913 V20      EQU   20
                                00000015  00000001  3914 V21      EQU   21
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT
                                                    3915 V22       EQU   22
                                00000016  00000001  3916 V23       EQU   23
                                00000017  00000001  3917 V24       EQU   24
                                00000018  00000001  3918 V25       EQU   25
                                00000019  00000001  3919 V26       EQU   26
                                0000001A  00000001  3920 V27       EQU   27
                                0000001B  00000001  3921 V28       EQU   28
                                0000001C  00000001  3922 V29       EQU   29
                                0000001D  00000001  3923 V30       EQU   30
                                0000001E  00000001  3924 V31       EQU   31
                                0000001F  00000001  3925
                                                    3926           END
```

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
BEGIN	I	00000200	2	157	123 153 154 155
CC	U	00000009	1	518	268
CCFOUND	X	00000014	1	524	255 275
CCMASK	U	0000000A	1	519	225
CCMSG	U	0000031C	1	242	237
CCPRTEXP	C	00001098	1	483	272
CCPRTGOT	C	000010A8	1	486	279
CCPRTLINE	C	00001055	16	478	488 282
CCPRTLNG	U	00000055	1	488	281
CCPRTNAME	C	00001082	8	481	265
CCPRTNUM	C	00001065	3	479	263
CCPSW	F	0000000C	4	523	252 692 734 773 812 851 890 929 968 1007 1046 1085 1124 1163 1202 1241 1280 1319 1365 1407 1446 1485 1524 1563 1602 1641 1680 1719 1758 1797 1836 1875 1921 1963 2002 2041 2080 2119 2159 2198 2237 2276 2315 2354 2394 2433 2472 2511 2550 2589 2629 2668 2707 2746 2785 2824 2864 2903 2942 2981 3020 3059 3098 3137 3176 3215 3254 3293 3333 3372 3411 3450 3489 3528 3567 3606 3645 3684 3723 3762
CTLR0	F	00000554	4	421	167 168 169 170
DECNUM	C	000010D6	16	498	260 262 269 271 276 278 298 300 307 309 314 316
E7TEST	4	00000000	88	512	216
E7TESTS	F	000049E8	4	3779	209
EDIT	X	000010AA	18	493	261 270 277 299 308 315
ENDTEST	U	00000428	1	336	214
EOJ	I	00000538	4	411	202 339
EOJPSW	D	00000528	8	409	411
FAILCONT	U	00000418	1	326	
FAILED	F	00001000	4	451	286 328 337
FAILMSG	U	000003B0	1	296	232
FAILPSW	D	00000540	8	413	415
FAILTEST	I	00000550	4	415	340
FB0001	F	00000280	8	186	190 191 193
IMAGE	1	00000000	19252	0	
K	U	00000400	1	435	436 437 438
K64	U	00010000	1	437	
M4	U	00000007	1	516	306
M5	U	00000008	1	517	246 313
MB	U	00100000	1	438	
MSG	I	00000470	4	371	201 354
MSGCMD	C	000004BE	9	401	384 385
MSGMSG	C	000004C7	95	402	378 399 376
MSGMVC	I	000004B8	6	399	382
MSGOK	I	00000486	2	380	377
MSGRET	I	000004A6	4	395	388 391
MSGSAVE	F	000004AC	4	398	374 395
NEXTE7	U	000002D4	1	211	235 331
OPNAME	C	00000015	8	526	265 303
PAGE	U	00001000	1	436	
PRT3	C	000010C0	18	496	261 262 263 270 271 272 277 278 279 299 300 301 308 309 310 315 316 317
PRTLINE	C	00001008	16	460	470 320
PRTLNG	U	0000004D	1	470	319
PRTM4	C	00001044	3	465	310
PRTM5	C	00001051	3	468	317
PRTNAME	C	00001033	8	463	303
PRTNUM	C	00001018	3	461	301

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
R0	U	00000000	1	3872	117 167 170 190 192 193 194 199 218 219 281 285 286 319 327 328 353 355 371 374 376 378 380 395 691 733 772 811 850 889 928 967 1006 1045 1084 1123 1162 1201 1240 1279 1318 1364 1406 1445 1484 1523 1562 1601 1640 1679 1718 1757 1796 1835 1874 1920 1962 2001 2040 2079 2118 2158 2197 2236 2275 2314 2353 2393 2432 2471 2510 2549 2588 2628 2667 2706 2745 2784 2823 2863 2902 2941 2980 3019 3058 3097 3136 3175 3214 3253 3292 3332 3371 3410 3449 3488 3527 3566 3605 3644 3683 3722 3761
R1	U	00000001	1	3873	200 225 226 227 230 231 246 247 252 253 254 255 282 320 337 338 385 399 686 687 688 689 728 729 730 731 767 768 769 770 806 807 808 809 845 846 847 848 884 885 886 887 923 924 925 926 962 963 964 965 1001 1002 1003 1004 1040 1041 1042 1043 1079 1080 1081 1082 1118 1119 1120 1121 1157 1158 1159 1160 1196 1197 1198 1199 1235 1236 1237 1238 1274 1275 1276 1277 1313 1314 1315 1316 1359 1360 1361 1362 1401 1402 1403 1404 1440 1441 1442 1443 1479 1480 1481 1482 1518 1519 1520 1521 1557 1558 1559 1560 1596 1597 1598 1599 1635 1636 1637 1638 1674 1675 1676 1677 1713 1714 1715 1716 1752 1753 1754 1755 1791 1792 1793 1794 1830 1831 1832 1833 1869 1870 1871 1872 1915 1916 1917 1918 1957 1958 1959 1960 1996 1997 1998 1999 2035 2036 2037 2038 2074 2075 2076 2077 2113 2114 2115 2116 2153 2154 2155 2156 2192 2193 2194 2195 2231 2232 2233 2234 2270 2271 2272 2273 2309 2310 2311 2312 2348 2349 2350 2351 2388 2389 2390 2391 2427 2428 2429 2430 2466 2467 2468 2469 2505 2506 2507 2508 2544 2545 2546 2547 2583 2584 2585 2586 2623 2624 2625 2626 2662 2663 2664 2665 2701 2702 2703 2704 2740 2741 2742 2743 2779 2780 2781 2782 2818 2819 2820 2821 2858 2859 2860 2861 2897 2898 2899 2900 2936 2937 2938 2939 2975 2976 2977 2978 3014 3015 3016 3017 3053 3054 3055 3056 3092 3093 3094 3095 3131 3132 3133 3134 3170 3171 3172 3173 3209 3210 3211 3212 3248 3249 3250 3251 3287 3288 3289 3290 3327 3328 3329 3330 3366 3367 3368 3369 3405 3406 3407 3408 3444 3445 3446 3447 3483 3484 3485 3486 3522 3523 3524 3525 3561 3562 3563 3564 3600 3601 3602 3603 3639 3640 3641 3642 3678 3679 3680 3681 3717 3718 3719 3720 3756 3757 3758 3759
R10	U	0000000A	1	3882	155 164 165
R11	U	0000000B	1	3883	222 223 694 736 775 814 853 892 931 970 1009 1048 1087 1126 1165 1204 1243 1282 1321 1367 1409 1448 1487 1526 1565 1604 1643 1682 1721 1760 1799 1838 1877 1923 1965 2004 2043 2082 2121 2161 2200 2239 2278 2317 2356 2396 2435 2474 2513 2552 2591 2631 2670 2709 2748 2787 2826 2866 2905 2944 2983 3022 3061 3100 3139 3178 3217 3256 3295 3335 3374 3413 3452 3491 3530 3569 3608 3647 3686 3725 3764
R12	U	0000000C	1	3884	209 212 234 330
R13	U	0000000D	1	3885	
R14	U	0000000E	1	3886	
R15	U	0000000F	1	3887	283 321 348 358 359
R2	U	00000002	1	3874	201 259 260 267 268 269 274 275 276 297 298 305 306 307 312 313 314 353 354 355 372 374 380 381 382 384 390 395 396 691 692 733 734 772 773 811 812 850 851 889 890 928 929 967 968 1006 1007 1045 1046 1084 1085 1123 1124 1162 1163 1201 1202 1240 1241 1279 1280 1318 1319 1364 1365 1406 1407 1445 1446 1484 1485 1523 1524 1562 1563 1601 1602 1640 1641 1679 1680 1718 1719 1757 1758 1796 1797 1835 1836 1874 1875 1920 1921 1962 1963 2001 2002 2040 2041 2079 2080 2118 2119 2158 2159 2197 2198 2236 2237 2275 2276 2314 2315 2353 2354 2393 2394 2432 2433 2471 2472 2510 2511 2549 2550 2588 2589 2628 2629 2667

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES												
					2668	2706	2707	2745	2746	2784	2785	2823	2824	2863	2864	2902	2903
					2941	2942	2980	2981	3019	3020	3058	3059	3097	3098	3136	3137	3175
					3176	3214	3215	3253	3254	3292	3293	3332	3333	3371	3372	3410	3411
					3449	3450	3488	3489	3527	3528	3566	3567	3605	3606	3644	3645	3683
					3684	3722	3723	3761	3762								
R3	U	00000003	1	3875													
R4	U	00000004	1	3876													
R5	U	00000005	1	3877	212	213	216	349	357	665	696	707	738	746	777	785	816
					824	855	863	894	902	933	941	972	980	1011	1019	1050	1058
					1089	1097	1128	1136	1167	1175	1206	1214	1245	1253	1284	1292	1323
					1338	1369	1380	1411	1419	1450	1458	1489	1497	1528	1536	1567	1575
					1606	1614	1645	1653	1684	1692	1723	1731	1762	1770	1801	1809	1840
					1848	1879	1894	1925	1936	1967	1975	2006	2014	2045	2053	2084	2092
					2123	2132	2163	2171	2202	2210	2241	2249	2280	2288	2319	2327	2358
					2367	2398	2406	2437	2445	2476	2484	2515	2523	2554	2562	2593	2602
					2633	2641	2672	2680	2711	2719	2750	2758	2789	2797	2828	2837	2868
					2876	2907	2915	2946	2954	2985	2993	3024	3032	3063	3071	3102	3110
					3141	3149	3180	3188	3219	3227	3258	3266	3297	3306	3337	3345	3376
					3384	3415	3423	3454	3462	3493	3501	3532	3540	3571	3579	3610	3618
					3649	3657	3688	3696	3727	3735	3766						
R6	U	00000006	1	3878													
R7	U	00000007	1	3879													
R8	U	00000008	1	3880	153	157	158	159	161								
R9	U	00000009	1	3881	154	161	162	164									
RE1	F	000011A0	4	695	676	677	678	680									
RE10	F	00001818	4	1049	1030	1031	1032	1034									
RE11	F	000018D0	4	1088	1069	1070	1071	1073									
RE12	F	00001988	4	1127	1108	1109	1110	1112									
RE13	F	00001A40	4	1166	1147	1148	1149	1151									
RE14	F	00001AF8	4	1205	1186	1187	1188	1190									
RE15	F	00001BB0	4	1244	1225	1226	1227	1229									
RE16	F	00001C68	4	1283	1264	1265	1266	1268									
RE17	F	00001D20	4	1322	1303	1304	1305	1307									
RE18	F	00001DD8	4	1368	1349	1350	1351	1353									
RE19	F	00001E90	4	1410	1391	1392	1393	1395									
RE2	F	00001258	4	737	718	719	720	722									
RE20	F	00001F48	4	1449	1430	1431	1432	1434									
RE21	F	00002000	4	1488	1469	1470	1471	1473									
RE22	F	000020B8	4	1527	1508	1509	1510	1512									
RE23	F	00002170	4	1566	1547	1548	1549	1551									
RE24	F	00002228	4	1605	1586	1587	1588	1590									
RE25	F	000022E0	4	1644	1625	1626	1627	1629									
RE26	F	00002398	4	1683	1664	1665	1666	1668									
RE27	F	00002450	4	1722	1703	1704	1705	1707									
RE28	F	00002508	4	1761	1742	1743	1744	1746									
RE29	F	000025C0	4	1800	1781	1782	1783	1785									
RE3	F	00001310	4	776	757	758	759	761									
RE30	F	00002678	4	1839	1820	1821	1822	1824									
RE31	F	00002730	4	1878	1859	1860	1861	1863									
RE32	F	000027E8	4	1924	1905	1906	1907	1909									
RE33	F	000028A0	4	1966	1947	1948	1949	1951									
RE34	F	00002958	4	2005	1986	1987	1988	1990									
RE35	F	00002A10	4	2044	2025	2026	2027	2029									
RE36	F	00002AC8	4	2083	2064	2065	2066	2068									
RE37	F	00002B80	4	2122	2103	2104	2105	2107									
RE38	F	00002C38	4	2162	2143	2144	2145	2147									

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES			
RE39	F	00002CF0	4	2201	2182	2183	2184	2186
RE4	F	000013C8	4	815	796	797	798	800
RE40	F	00002DA8	4	2240	2221	2222	2223	2225
RE41	F	00002E60	4	2279	2260	2261	2262	2264
RE42	F	00002F18	4	2318	2299	2300	2301	2303
RE43	F	00002FD0	4	2357	2338	2339	2340	2342
RE44	F	00003088	4	2397	2378	2379	2380	2382
RE45	F	00003140	4	2436	2417	2418	2419	2421
RE46	F	000031F8	4	2475	2456	2457	2458	2460
RE47	F	000032B0	4	2514	2495	2496	2497	2499
RE48	F	00003368	4	2553	2534	2535	2536	2538
RE49	F	00003420	4	2592	2573	2574	2575	2577
RE5	F	00001480	4	854	835	836	837	839
RE50	F	000034D8	4	2632	2613	2614	2615	2617
RE51	F	00003590	4	2671	2652	2653	2654	2656
RE52	F	00003648	4	2710	2691	2692	2693	2695
RE53	F	00003700	4	2749	2730	2731	2732	2734
RE54	F	000037B8	4	2788	2769	2770	2771	2773
RE55	F	00003870	4	2827	2808	2809	2810	2812
RE56	F	00003928	4	2867	2848	2849	2850	2852
RE57	F	000039E0	4	2906	2887	2888	2889	2891
RE58	F	00003A98	4	2945	2926	2927	2928	2930
RE59	F	00003B50	4	2984	2965	2966	2967	2969
RE6	F	00001538	4	893	874	875	876	878
RE60	F	00003C08	4	3023	3004	3005	3006	3008
RE61	F	00003CC0	4	3062	3043	3044	3045	3047
RE62	F	00003D78	4	3101	3082	3083	3084	3086
RE63	F	00003E30	4	3140	3121	3122	3123	3125
RE64	F	00003EE8	4	3179	3160	3161	3162	3164
RE65	F	00003FA0	4	3218	3199	3200	3201	3203
RE66	F	00004058	4	3257	3238	3239	3240	3242
RE67	F	00004110	4	3296	3277	3278	3279	3281
RE68	F	000041C8	4	3336	3317	3318	3319	3321
RE69	F	00004280	4	3375	3356	3357	3358	3360
RE7	F	000015F0	4	932	913	914	915	917
RE70	F	00004338	4	3414	3395	3396	3397	3399
RE71	F	000043F0	4	3453	3434	3435	3436	3438
RE72	F	000044A8	4	3492	3473	3474	3475	3477
RE73	F	00004560	4	3531	3512	3513	3514	3516
RE74	F	00004618	4	3570	3551	3552	3553	3555
RE75	F	000046D0	4	3609	3590	3591	3592	3594
RE76	F	00004788	4	3648	3629	3630	3631	3633
RE77	F	00004840	4	3687	3668	3669	3670	3672
RE78	F	000048F8	4	3726	3707	3708	3709	3711
RE79	F	000049B0	4	3765	3746	3747	3748	3750
RE8	F	000016A8	4	971	952	953	954	956
RE9	F	00001760	4	1010	991	992	993	995
REA1	A	00001148	4	680				
REA10	A	000017C0	4	1034				
REA11	A	00001878	4	1073				
REA12	A	00001930	4	1112				
REA13	A	000019E8	4	1151				
REA14	A	00001AA0	4	1190				
REA15	A	00001B58	4	1229				
REA16	A	00001C10	4	1268				
REA17	A	00001CC8	4	1307				

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
REA18	A	00001D80	4	1353	
REA19	A	00001E38	4	1395	
REA2	A	00001200	4	722	
REA20	A	00001EF0	4	1434	
REA21	A	00001FA8	4	1473	
REA22	A	00002060	4	1512	
REA23	A	00002118	4	1551	
REA24	A	000021D0	4	1590	
REA25	A	00002288	4	1629	
REA26	A	00002340	4	1668	
REA27	A	000023F8	4	1707	
REA28	A	000024B0	4	1746	
REA29	A	00002568	4	1785	
REA3	A	000012B8	4	761	
REA30	A	00002620	4	1824	
REA31	A	000026D8	4	1863	
REA32	A	00002790	4	1909	
REA33	A	00002848	4	1951	
REA34	A	00002900	4	1990	
REA35	A	000029B8	4	2029	
REA36	A	00002A70	4	2068	
REA37	A	00002B28	4	2107	
REA38	A	00002BE0	4	2147	
REA39	A	00002C98	4	2186	
REA4	A	00001370	4	800	
REA40	A	00002D50	4	2225	
REA41	A	00002E08	4	2264	
REA42	A	00002EC0	4	2303	
REA43	A	00002F78	4	2342	
REA44	A	00003030	4	2382	
REA45	A	000030E8	4	2421	
REA46	A	000031A0	4	2460	
REA47	A	00003258	4	2499	
REA48	A	00003310	4	2538	
REA49	A	000033C8	4	2577	
REA5	A	00001428	4	839	
REA50	A	00003480	4	2617	
REA51	A	00003538	4	2656	
REA52	A	000035F0	4	2695	
REA53	A	000036A8	4	2734	
REA54	A	00003760	4	2773	
REA55	A	00003818	4	2812	
REA56	A	000038D0	4	2852	
REA57	A	00003988	4	2891	
REA58	A	00003A40	4	2930	
REA59	A	00003AF8	4	2969	
REA6	A	000014E0	4	878	
REA60	A	00003BB0	4	3008	
REA61	A	00003C68	4	3047	
REA62	A	00003D20	4	3086	
REA63	A	00003DD8	4	3125	
REA64	A	00003E90	4	3164	
REA65	A	00003F48	4	3203	
REA66	A	00004000	4	3242	
REA67	A	000040B8	4	3281	
REA68	A	00004170	4	3321	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES	
REA69	A	00004228	4	3360		
REA7	A	00001598	4	917		
REA70	A	000042E0	4	3399		
REA71	A	00004398	4	3438		
REA72	A	00004450	4	3477		
REA73	A	00004508	4	3516		
REA74	A	000045C0	4	3555		
REA75	A	00004678	4	3594		
REA76	A	00004730	4	3633		
REA77	A	000047E8	4	3672		
REA78	A	000048A0	4	3711		
REA79	A	00004958	4	3750		
REA8	A	00001650	4	956		
REA9	A	00001708	4	995		
READDR	A	00000030	4	531	230	
REG2LOW	U	000000DD	1	441		
REG2PATT	U	AABBCCDD	1	440		
RELEN	A	0000002C	4	530		
RPTDWSAV	D	00000460	8	364	353	355
RPTERROR	I	00000436	4	348	283	321
RPTSAVE	F	00000454	4	361	348	358
RPTSVR5	F	00000458	4	362	349	357
SKL0001	U	0000004E	1	183	199	
SKT0001	C	0000022A	20	180	183	200
SVOLDPSW	U	00000140	0	119		
T1	A	00001118	4	666	3782	
T10	A	00001790	4	1020	3791	
T11	A	00001848	4	1059	3792	
T12	A	00001900	4	1098	3793	
T13	A	000019B8	4	1137	3794	
T14	A	00001A70	4	1176	3795	
T15	A	00001B28	4	1215	3796	
T16	A	00001BE0	4	1254	3797	
T17	A	00001C98	4	1293	3798	
T18	A	00001D50	4	1339	3799	
T19	A	00001E08	4	1381	3800	
T2	A	000011D0	4	708	3783	
T20	A	00001EC0	4	1420	3801	
T21	A	00001F78	4	1459	3802	
T22	A	00002030	4	1498	3803	
T23	A	000020E8	4	1537	3804	
T24	A	000021A0	4	1576	3805	
T25	A	00002258	4	1615	3806	
T26	A	00002310	4	1654	3807	
T27	A	000023C8	4	1693	3808	
T28	A	00002480	4	1732	3809	
T29	A	00002538	4	1771	3810	
T3	A	00001288	4	747	3784	
T30	A	000025F0	4	1810	3811	
T31	A	000026A8	4	1849	3812	
T32	A	00002760	4	1895	3813	
T33	A	00002818	4	1937	3814	
T34	A	000028D0	4	1976	3815	
T35	A	00002988	4	2015	3816	
T36	A	00002A40	4	2054	3817	
T37	A	00002AF8	4	2093	3818	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
T38	A	00002BB0	4	2133	3819
T39	A	00002C68	4	2172	3820
T4	A	00001340	4	786	3785
T40	A	00002D20	4	2211	3821
T41	A	00002DD8	4	2250	3822
T42	A	00002E90	4	2289	3823
T43	A	00002F48	4	2328	3824
T44	A	00003000	4	2368	3825
T45	A	000030B8	4	2407	3826
T46	A	00003170	4	2446	3827
T47	A	00003228	4	2485	3828
T48	A	000032E0	4	2524	3829
T49	A	00003398	4	2563	3830
T5	A	000013F8	4	825	3786
T50	A	00003450	4	2603	3831
T51	A	00003508	4	2642	3832
T52	A	000035C0	4	2681	3833
T53	A	00003678	4	2720	3834
T54	A	00003730	4	2759	3835
T55	A	000037E8	4	2798	3836
T56	A	000038A0	4	2838	3837
T57	A	00003958	4	2877	3838
T58	A	00003A10	4	2916	3839
T59	A	00003AC8	4	2955	3840
T6	A	000014B0	4	864	3787
T60	A	00003B80	4	2994	3841
T61	A	00003C38	4	3033	3842
T62	A	00003CF0	4	3072	3843
T63	A	00003DA8	4	3111	3844
T64	A	00003E60	4	3150	3845
T65	A	00003F18	4	3189	3846
T66	A	00003FD0	4	3228	3847
T67	A	00004088	4	3267	3848
T68	A	00004140	4	3307	3849
T69	A	000041F8	4	3346	3850
T7	A	00001568	4	903	3788
T70	A	000042B0	4	3385	3851
T71	A	00004368	4	3424	3852
T72	A	00004420	4	3463	3853
T73	A	000044D8	4	3502	3854
T74	A	00004590	4	3541	3855
T75	A	00004648	4	3580	3856
T76	A	00004700	4	3619	3857
T77	A	000047B8	4	3658	3858
T78	A	00004870	4	3697	3859
T79	A	00004928	4	3736	3860
T8	A	00001620	4	942	3789
T9	A	000016D8	4	981	3790
TESTCC	I	00000318	4	237	227
TESTING	F	00001004	4	452	219
TESTREST	U	00000300	1	229	248 288
TNUM	H	00000004	2	514	218 259 297
TSUB	A	00000000	4	513	222
TTABLE	F	000049E8	4	3781	
V0	U	00000000	1	3893	
V1	U	00000001	1	3894	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
V10	U	0000000A	1	3903	
V11	U	0000000B	1	3904	
V12	U	0000000C	1	3905	
V13	U	0000000D	1	3906	
V14	U	0000000E	1	3907	
V15	U	0000000F	1	3908	
V16	U	00000010	1	3909	
V17	U	00000011	1	3910	
V18	U	00000012	1	3911	
V19	U	00000013	1	3912	
V1ADDR	A	00000020	4	527	
V1FUDGE	X	000010F8	16	505	221
V1O1	X	00001158	16	682	693
V1O10	X	000017D0	16	1036	1047
V1O11	X	00001888	16	1075	1086
V1O12	X	00001940	16	1114	1125
V1O13	X	000019F8	16	1153	1164
V1O14	X	00001AB0	16	1192	1203
V1O15	X	00001B68	16	1231	1242
V1O16	X	00001C20	16	1270	1281
V1O17	X	00001CD8	16	1309	1320
V1O18	X	00001D90	16	1355	1366
V1O19	X	00001E48	16	1397	1408
V1O2	X	00001210	16	724	735
V1O20	X	00001F00	16	1436	1447
V1O21	X	00001FB8	16	1475	1486
V1O22	X	00002070	16	1514	1525
V1O23	X	00002128	16	1553	1564
V1O24	X	000021E0	16	1592	1603
V1O25	X	00002298	16	1631	1642
V1O26	X	00002350	16	1670	1681
V1O27	X	00002408	16	1709	1720
V1O28	X	000024C0	16	1748	1759
V1O29	X	00002578	16	1787	1798
V1O3	X	000012C8	16	763	774
V1O30	X	00002630	16	1826	1837
V1O31	X	000026E8	16	1865	1876
V1O32	X	000027A0	16	1911	1922
V1O33	X	00002858	16	1953	1964
V1O34	X	00002910	16	1992	2003
V1O35	X	000029C8	16	2031	2042
V1O36	X	00002A80	16	2070	2081
V1O37	X	00002B38	16	2109	2120
V1O38	X	00002BF0	16	2149	2160
V1O39	X	00002CA8	16	2188	2199
V1O4	X	00001380	16	802	813
V1O40	X	00002D60	16	2227	2238
V1O41	X	00002E18	16	2266	2277
V1O42	X	00002ED0	16	2305	2316
V1O43	X	00002F88	16	2344	2355
V1O44	X	00003040	16	2384	2395
V1O45	X	000030F8	16	2423	2434
V1O46	X	000031B0	16	2462	2473
V1O47	X	00003268	16	2501	2512
V1O48	X	00003320	16	2540	2551
V1O49	X	000033D8	16	2579	2590

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
V105	X	00001438	16	841	852
V1050	X	00003490	16	2619	2630
V1051	X	00003548	16	2658	2669
V1052	X	00003600	16	2697	2708
V1053	X	000036B8	16	2736	2747
V1054	X	00003770	16	2775	2786
V1055	X	00003828	16	2814	2825
V1056	X	000038E0	16	2854	2865
V1057	X	00003998	16	2893	2904
V1058	X	00003A50	16	2932	2943
V1059	X	00003B08	16	2971	2982
V106	X	000014F0	16	880	891
V1060	X	00003BC0	16	3010	3021
V1061	X	00003C78	16	3049	3060
V1062	X	00003D30	16	3088	3099
V1063	X	00003DE8	16	3127	3138
V1064	X	00003EA0	16	3166	3177
V1065	X	00003F58	16	3205	3216
V1066	X	00004010	16	3244	3255
V1067	X	000040C8	16	3283	3294
V1068	X	00004180	16	3323	3334
V1069	X	00004238	16	3362	3373
V107	X	000015A8	16	919	930
V1070	X	000042F0	16	3401	3412
V1071	X	000043A8	16	3440	3451
V1072	X	00004460	16	3479	3490
V1073	X	00004518	16	3518	3529
V1074	X	000045D0	16	3557	3568
V1075	X	00004688	16	3596	3607
V1076	X	00004740	16	3635	3646
V1077	X	000047F8	16	3674	3685
V1078	X	000048B0	16	3713	3724
V1079	X	00004968	16	3752	3763
V108	X	00001660	16	958	969
V109	X	00001718	16	997	1008
V10UTPUT	X	00000040	16	533	231
V2	U	00000002	1	3895	
V20	U	00000014	1	3913	
V21	U	00000015	1	3914	690 693 732 735 771 774 810 813 849 852 888 891 927 930 966 969 1005 1008 1044 1047 1083 1086 1122 1125 1161 1164 1200 1203 1239 1242 1278 1281 1317 1320 1363 1366 1405 1408 1444 1447 1483 1486 1522 1525 1561 1564 1600 1603 1639 1642 1678 1681 1717 1720 1756 1759 1795 1798 1834 1837 1873 1876 1919 1922 1961 1964 2000 2003 2039 2042 2078 2081 2117 2120 2157 2160 2196 2199 2235 2238 2274 2277 2313 2316 2352 2355 2392 2395 2431 2434 2470 2473 2509 2512 2548 2551 2587 2590 2627 2630 2666 2669 2705 2708 2744 2747 2783 2786 2822 2825 2862 2865 2901 2904 2940 2943 2979 2982 3018 3021 3057 3060 3096 3099 3135 3138 3174 3177 3213 3216 3252 3255 3291 3294 3331 3334 3370 3373 3409 3412 3448 3451 3487 3490 3526 3529 3565 3568 3604 3607 3643 3646 3682 3685 3721 3724 3760 3763
V22	U	00000016	1	3915	221 687 690 729 732 768 771 807 810 846 849 885 888 924 927 963 966 1002 1005 1041 1044 1080 1083 1119 1122 1158 1161 1197 1200 1236 1239 1275 1278 1314 1317 1360 1363 1402 1405 1441 1444 1480 1483 1519 1522 1558 1561 1597 1600 1636 1639 1675 1678 1714 1717 1753 1756 1792 1795 1831 1834 1870 1873 1916 1919

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
					1958 1961 1997 2000 2036 2039 2075 2078 2114 2117 2154 2157 2193
					2196 2232 2235 2271 2274 2310 2313 2349 2352 2389 2392 2428 2431
					2467 2470 2506 2509 2545 2548 2584 2587 2624 2627 2663 2666 2702
					2705 2741 2744 2780 2783 2819 2822 2859 2862 2898 2901 2937 2940
					2976 2979 3015 3018 3054 3057 3093 3096 3132 3135 3171 3174 3210
					3213 3249 3252 3288 3291 3328 3331 3367 3370 3406 3409 3445 3448
					3484 3487 3523 3526 3562 3565 3601 3604 3640 3643 3679 3682 3718
					3721 3757 3760
V23	U	00000017	1	3916	689 690 731 732 770 771 809 810 848 849 887 888 926
					927 965 966 1004 1005 1043 1044 1082 1083 1121 1122 1160 1161
					1199 1200 1238 1239 1277 1278 1316 1317 1362 1363 1404 1405 1443
					1444 1482 1483 1521 1522 1560 1561 1599 1600 1638 1639 1677 1678
					1716 1717 1755 1756 1794 1795 1833 1834 1872 1873 1918 1919 1960
					1961 1999 2000 2038 2039 2077 2078 2116 2117 2156 2157 2195 2196
					2234 2235 2273 2274 2312 2313 2351 2352 2391 2392 2430 2431 2469
					2470 2508 2509 2547 2548 2586 2587 2626 2627 2665 2666 2704 2705
					2743 2744 2782 2783 2821 2822 2861 2862 2900 2901 2939 2940 2978
					2979 3017 3018 3056 3057 3095 3096 3134 3135 3173 3174 3212 3213
					3251 3252 3290 3291 3330 3331 3369 3370 3408 3409 3447 3448 3486
					3487 3525 3526 3564 3565 3603 3604 3642 3643 3681 3682 3720 3721
					3759 3760
V24	U	00000018	1	3917	
V25	U	00000019	1	3918	
V26	U	0000001A	1	3919	
V27	U	0000001B	1	3920	
V28	U	0000001C	1	3921	
V29	U	0000001D	1	3922	
V2ADDR	A	00000024	4	528	686 728 767 806 845 884 923 962 1001 1040 1079 1118 1157
					1196 1235 1274 1313 1359 1401 1440 1479 1518 1557 1596 1635 1674
					1713 1752 1791 1830 1869 1915 1957 1996 2035 2074 2113 2153 2192
					2231 2270 2309 2348 2388 2427 2466 2505 2544 2583 2623 2662 2701
					2740 2779 2818 2858 2897 2936 2975 3014 3053 3092 3131 3170 3209
					3248 3287 3327 3366 3405 3444 3483 3522 3561 3600 3639 3678 3717
					3756
V3	U	00000003	1	3896	
V30	U	0000001E	1	3923	
V31	U	0000001F	1	3924	
V3ADDR	A	00000028	4	529	688 730 769 808 847 886 925 964 1003 1042 1081 1120 1159
					1198 1237 1276 1315 1361 1403 1442 1481 1520 1559 1598 1637 1676
					1715 1754 1793 1832 1871 1917 1959 1998 2037 2076 2115 2155 2194
					2233 2272 2311 2350 2390 2429 2468 2507 2546 2585 2625 2664 2703
					2742 2781 2820 2860 2899 2938 2977 3016 3055 3094 3133 3172 3211
					3250 3289 3329 3368 3407 3446 3485 3524 3563 3602 3641 3680 3719
					3758
V4	U	00000004	1	3897	
V5	U	00000005	1	3898	
V6	U	00000006	1	3899	
V7	U	00000007	1	3900	
V8	U	00000008	1	3901	
V9	U	00000009	1	3902	
X0001	U	000002A8	1	189	177 190
X1	F	00001170	4	685	666
X10	F	000017E8	4	1039	1020
X11	F	000018A0	4	1078	1059
X12	F	00001958	4	1117	1098
X13	F	00001A10	4	1156	1137

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
X14	F	00001AC8	4	1195	1176
X15	F	00001B80	4	1234	1215
X16	F	00001C38	4	1273	1254
X17	F	00001CF0	4	1312	1293
X18	F	00001DA8	4	1358	1339
X19	F	00001E60	4	1400	1381
X2	F	00001228	4	727	708
X20	F	00001F18	4	1439	1420
X21	F	00001FD0	4	1478	1459
X22	F	00002088	4	1517	1498
X23	F	00002140	4	1556	1537
X24	F	000021F8	4	1595	1576
X25	F	000022B0	4	1634	1615
X26	F	00002368	4	1673	1654
X27	F	00002420	4	1712	1693
X28	F	000024D8	4	1751	1732
X29	F	00002590	4	1790	1771
X3	F	000012E0	4	766	747
X30	F	00002648	4	1829	1810
X31	F	00002700	4	1868	1849
X32	F	000027B8	4	1914	1895
X33	F	00002870	4	1956	1937
X34	F	00002928	4	1995	1976
X35	F	000029E0	4	2034	2015
X36	F	00002A98	4	2073	2054
X37	F	00002B50	4	2112	2093
X38	F	00002C08	4	2152	2133
X39	F	00002CC0	4	2191	2172
X4	F	00001398	4	805	786
X40	F	00002D78	4	2230	2211
X41	F	00002E30	4	2269	2250
X42	F	00002EE8	4	2308	2289
X43	F	00002FA0	4	2347	2328
X44	F	00003058	4	2387	2368
X45	F	00003110	4	2426	2407
X46	F	000031C8	4	2465	2446
X47	F	00003280	4	2504	2485
X48	F	00003338	4	2543	2524
X49	F	000033F0	4	2582	2563
X5	F	00001450	4	844	825
X50	F	000034A8	4	2622	2603
X51	F	00003560	4	2661	2642
X52	F	00003618	4	2700	2681
X53	F	000036D0	4	2739	2720
X54	F	00003788	4	2778	2759
X55	F	00003840	4	2817	2798
X56	F	000038F8	4	2857	2838
X57	F	000039B0	4	2896	2877
X58	F	00003A68	4	2935	2916
X59	F	00003B20	4	2974	2955
X6	F	00001508	4	883	864
X60	F	00003BD8	4	3013	2994
X61	F	00003C90	4	3052	3033
X62	F	00003D48	4	3091	3072
X63	F	00003E00	4	3130	3111
X64	F	00003EB8	4	3169	3150

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
X65	F	00003F70	4	3208	3189
X66	F	00004028	4	3247	3228
X67	F	000040E0	4	3286	3267
X68	F	00004198	4	3326	3307
X69	F	00004250	4	3365	3346
X7	F	000015C0	4	922	903
X70	F	00004308	4	3404	3385
X71	F	000043C0	4	3443	3424
X72	F	00004478	4	3482	3463
X73	F	00004530	4	3521	3502
X74	F	000045E8	4	3560	3541
X75	F	000046A0	4	3599	3580
X76	F	00004758	4	3638	3619
X77	F	00004810	4	3677	3658
X78	F	000048C8	4	3716	3697
X79	F	00004980	4	3755	3736
X8	F	00001678	4	961	942
X9	F	00001730	4	1000	981
XC0001	U	000002D0	1	203	195
ZVE7TST	J	00000000	19252	116	119 121 125 129 450 117
=A(E7TESTS)	A	0000056C	4	427	209
=AL2(L'MSGMSG)	R	0000057A	2	431	376
=D'1'	D	00000560	8	425	247
=F'1'	F	00000574	4	429	285 327
=F'64'	F	00000568	4	426	194
=H'0'	H	00000578	2	430	371
=XL4'3'	X	00000570	4	428	254

```
 MACRO    DEFN  REFERENCES

FCHECK     69    176
PTTABLE   616   3780
VRR_B     552    663    705    744    783    822    861    900    939    978   1017   1056   1095   1134   1173   1212   1251   1290
                1336   1378   1417   1456   1495   1534   1573   1612   1651   1690   1729   1768   1807   1846   1892   1934   1973
                2012   2051   2090   2130   2169   2208   2247   2286   2325   2365   2404   2443   2482   2521   2560   2600   2639
                2678   2717   2756   2795   2835   2874   2913   2952   2991   3030   3069   3108   3147   3186   3225   3264   3304
                3343   3382   3421   3460   3499   3538   3577   3616   3655   3694   3733
```

```
   DESC      SYMBOL    SIZE      POS         ADDR

Entry: 0

Image       IMAGE     19252  0000-4B33  0000-4B33
  Region              19252  0000-4B33  0000-4B33
    CSECT   ZVE7TST   19252  0000-4B33  0000-4B33
```

```
   STMT                        FILE NAME
1     /home/tn529/sharedvfp/tests/zvector-e7-06-Find.asm

** NO ERRORS FOUND **
```