```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                      2 ************************************************************************
                                                      3 *
                                                      4 *        Zvector E6 instruction tests for VRR-j encoded:
                                                      5 *
                                                      6 *        E67D VCSPH   - VECTOR CONVERT HFP TO SCALED DECIMAL
                                                      7 *
                                                      8 *        James Wekel June 2024
                                                      9 ************************************************************************


                                                     11 ************************************************************************
                                                     12 *
                                                     13 *        basic instruction tests
                                                     14 *
                                                     15 ************************************************************************
                                                     16 *  This program tests proper functioning of the z/arch E6 VRR-j vector
                                                     17 *  convert HFP to scaled decimaal instruction.
                                                     18 *  Exceptions are not tested.
                                                     19 *
                                                     20 *  PLEASE NOTE that the tests are very SIMPLE TESTS designed to catch
                                                     21 *  obvious coding errors.  None of the tests are thorough.  They are
                                                     22 *  NOT designed to test all aspects of any of the instructions.
                                                     23 *
                                                     24 ************************************************************************
                                                     25 *
                                                     26 *  A cross-check test is performed if the rounding mode is zero,
                                                     27 *  and the shifted packed decimal source can be converted to a 64-bit
                                                     28 *  fixed value without overflow. The cross-check test converts the
                                                     29 *  packed decimal source, uses CEGR, CDGR or CXGR to convert to
                                                     30 *  HFP. This result is compared to VCSPH result. An XCHECK test
                                                     31 *  error message will be issued if there is a difference.
                                                     32 *
                                                     33 ************************************************************************
                                                     34 *
                                                     35 *   *Testcase zvector-e6-19-VCSPH: VECTOR E6 VRR-j VCSPH instruction
                                                     36 *   *
                                                     37 *   *        Zvector E6 instruction tests for VRR-j encoded:
                                                     38 *   *
                                                     39 *   *        E67D VCSPH   - VECTOR CONVERT HFP TO SCALED DECIMAL
                                                     40 *   *
                                                     41 *   *        # ---------------------------------------------------
                                                     42 *   *        #  This tests only the basic function of the instruction.
                                                     43 *   *        #  Exceptions are NOT tested.
                                                     44 *   *        # ---------------------------------------------------
                                                     45 *   *
                                                     46 *   mainsize    2
                                                     47 *   numcpu      1
                                                     48 *   sysclear
                                                     49 *   archlvl     z/Arch
                                                     50 *
                                                     51 *   loadcore    "$(testpath)/zvector-e6-19-VCSPH.core" 0x0
                                                     52 *
                                                     53 *   diag8cmd    enable    # (needed for messages to Hercules console)
                                                     54 *   runtest 2
                                                     55 *   diag8cmd    disable   # (reset back to default)
                                                     56 *
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                                                      57 *    *Done
                                                      58 *
                                                      59 ********************************************************************************
```

```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT

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

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    116 ********************************************************************************
                                                    117 *        Low core PSWs
                                                    118 ********************************************************************************

                             00000000  0000228F    120 ZVE6TST  START 0
00000000                     00000000                121          USING ZVE6TST,R0            Low core addressability
                                                     122
                             00000140  00000000    123 SVOLDPSW EQU   ZVE6TST+X'140'        z/Arch Supervisor call old PSW

00000000                     00000000  000001A0    125          ORG   ZVE6TST+X'1A0'        z/Architecure RESTART PSW
000001A0  00000001 80000000                         126          DC    X'0000000180000000'
000001A8  00000000 00000200                         127          DC    AD(BEGIN)

000001B0                     000001B0  000001D0    129          ORG   ZVE6TST+X'1D0'        z/Architecure PROGRAM CHECK PSW
000001D0  00020001 80000000                         130          DC    X'0002000180000000'
000001D8  00000000 0000DEAD                         131          DC    AD(X'DEAD')

000001E0                     000001E0  00000200    133          ORG   ZVE6TST+X'200'        Start of actual test program...
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     135
                                                     136 ********************************************************************************
                                                     137 *               The actual "ZVE6TST" program itself...
                                                     138 ********************************************************************************
                                                     139 *
                                                     140 *  Architecture Mode: z/Arch
                                                     141 *  Register Usage:
                                                     142 *
                                                     143 *   R0       (work)
                                                     144 *   R1-4     (work)
                                                     145 *   R5       Testing control table - current test base
                                                     146 *   R6-R7    (work)
                                                     147 *   R8       First base register
                                                     148 *   R9       Second base register
                                                     149 *   R10      Third base register
                                                     150 *   R11      E6TEST call return
                                                     151 *   R12      E6TESTS register
                                                     152 *   R13      (work)
                                                     153 *   R14      Subroutine call
                                                     154 *   R15      Secondary Subroutine call or work
                                                     155 *
                                                     156 ********************************************************************************
00000200                          00000200           158          USING  BEGIN,R8        FIRST Base Register
00000200                          00001200           159          USING  BEGIN+4096,R9   SECOND Base Register
00000200                          00002200           160          USING  BEGIN+8192,R10  THIRD Base Register
                                                     161
00000200  0580                                       162 BEGIN    BALR   R8,0            Initalize FIRST base register
00000202  0680                                       163          BCTR   R8,0            Initalize FIRST base register
00000204  0680                                       164          BCTR   R8,0            Initalize FIRST base register
                                                     165
00000206  4190 8800                       00000800   166          LA     R9,2048(,R8)    Initalize SECOND base register
0000020A  4190 9800                       00000800   167          LA     R9,2048(,R9)    Initalize SECOND base register
                                                     168
0000020E  41A0 9800                       00000800   169          LA     R10,2048(,R9)   Initalize THIRD base register
00000212  41A0 A800                       00000800   170          LA     R10,2048(,R10)  Initalize THIRD base register
                                                     171
00000216  B600 83CC                       000005CC   172          STCTL  R0,R0,CTLR0     Store CR0 to enable AFP
0000021A  9604 83CD                       000005CD   173          OI     CTLR0+1,X'04'   Turn on AFP bit
0000021E  9602 83CD                       000005CD   174          OI     CTLR0+1,X'02'   Turn on Vector bit
00000222  B700 83CC                       000005CC   175          LCTL   R0,R0,CTLR0     Reload updated CR0
                                                     176
                                                     177 ********************************************************************************
                                                     178 * Is Vector-packed-decimal-enhancement facility 2 installed  (bit 192)
                                                     179 ********************************************************************************
                                                     180
                                                     181          FCHECK 192,'vector-packed-decimal-enhancement facility 2'
00000226  47F0 80C8                       000002C8   182+         B      X0001
                                                     183+*                                  Fcheck data area
                                                     184+*                                  skip messgae
0000022A  40404040 40404040                          185+SKT0001  DC     C'          Skipping tests: '
00000244  A58583A3 96996097                          186+         DC     C'vector-packed-decimal-enhancement facility 2'
00000270  40868183 899389A3                          187+         DC     C' facility (bit 192) is not installed.'
                             0000006B     00000001   188+SKL0001  EQU    *-SKT0001
                                                     189+*                                  facility bits
00000298  00000000 00000000                          190+         DS     FD                gap
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
000002A0  00000000 00000000                       191+FB0001   DS    4FD
000002C0  00000000 00000000                       192+         DS    FD                        gap
                                                  193+*
                             000002C8  00000001   194+X0001    EQU   *
000002C8  4100 0004                    00000004   195+         LA    R0,((X0001-FB0001)/8)-1
000002CC  B2B0 80A0                    000002A0   196+         STFLE FB0001                    get facility bits
000002D0  B982 0000                               197+         XGR   R0,R0
000002D4  4300 80B8                    000002B8   198+         IC    R0,FB0001+24              get fbit byte
000002D8  5400 83D4                    000005D4   199+         N     R0,=F'128'                is bit set?
000002DC  4770 80F0                    000002F0   200+         BNZ   XC0001
                                                  201+*
                                                  202+* facility bit not set, issue message and exit
                                                  203+*
000002E0  4100 006B                    0000006B   204+         LA    R0,SKL0001                message length
000002E4  4110 802A                    0000022A   205+         LA    R1,SKT0001                message address
000002E8  4520 82E8                    000004E8   206+         BAL   R2,MSG
000002EC  47F0 83B0                    000005B0   207+         B     EOJ
                             000002F0  00000001   208+XC0001   EQU   *
                                                  209
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     211 ************************************************************************
                                                     212 *               Do tests in the E6TESTS table
                                                     213 ************************************************************************
                                                     214
000002F0  58C0 83D8                       000005D8  215           L     R12,=A(E6TESTS)       get table of test addresses
                                                     216
                                 000002F4  00000001  217 NEXTE6    EQU   *
000002F4  5850 C000                       00000000  218           L     R5,0(0,R12)       get test address
000002F8  1255                                      219           LTR   R5,R5                have a test?
000002FA  4780 82A0                       000004A0  220           BZ    ENDTEST                 done?
                                                     221
000002FE                          00000000          222           USING E6TEST,R5
                                                     223
000002FE  4800 5004                       00000004  224           LH    R0,TNUM           save current test number
00000302  5000 8E04                       00001004  225           ST    R0,TESTING        for easy reference
                                                     226
00000306  58B0 5000                       00000000  227           L     R11,TSUB          get address of test routine
0000030A  05BB                                      228           BALR  R11,R11           do test
                                                     229
0000030C  E710 8EF4 000E                  000010F4  230           VST   V1,V1OUTPUT       save result
                                                     231
00000312  45F0 812E                       0000032E  232           BAL   R15,XCHECK
                                                     233
00000316  E310 501C 0014                  0000001C  234           LGF   R1,READDR         expected result address
0000031C  D50F 8EF4 1000          000010F4  00000000  235           CLC   V1OUTPUT,0(R1)
00000322  4770 8228                       00000428  236           BNE   FAILMSG           no, issue failed message
                                                     237
00000326  41C0 C004                       00000004  238           LA    R12,4(0,R12)      next test address
0000032A  47F0 80F4                       000002F4  239           B     NEXTE6
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    241 *-------------------------------------------------------------------
                                                    242 * For small (19 digit) values, cross check result
                                                    243 * if rounding mode = 0 and convertion to 64-bit does not overflow
                                                    244 *
                                                    245 *        R15 - RETURN
                                                    246 *
                                                    247 *        v1,v2,v3 have result, source, scale
                                                    248 *-------------------------------------------------------------------
                                0000032E  00000001  249 XCHECK   EQU   *
0000032E  B982 0011                                 250          XGR   R1,R1           Only Xcheck when shift=0
00000332  4310 5008                       00000008  251          IC    R1,SCALE           get scale
00000336  1211                                      252          LTR   R1,R1
00000338  477F 0000                       00000000  253          BNZ   0(R15)          a scale/shit, so exit
                                                    254 *
                                                    255 *        convert source extended float to fixed (R0)
                                                    256 *
0000033C  E720 8210 000E                  00000410  257          VST   V2,XCV2         copy source
00000342  6840 8210                       00000410  258          LD    FPR4,XCV2       load extended HFP
00000346  6860 8218                       00000418  259          LD    FPR6,XCV2+8
                                                    260
0000034A  B982 0011                                 261          XGR   R1,R1           Is Rounding Mode = 0?
0000034E  4310 5007                       00000007  262          IC    R1,M4           get M4
00000352  A517 0001                                 263          NILL  r1,1            RM : bit 3
00000356  1211                                      264          LTR   R1,R1
00000358  4770 8166                       00000366  265          BNE   XCR01
                                                    266 *                              no rounding (to 0)
0000035C  B3CA 0004                                 267          CGXR  R0,0,FPR4
00000360  071F                                      268          BCR   1,15            cc=3: overflow: ignore and return
00000362  47F0 816C                       0000036C  269          B     XCR02
                                                    270 *                              Round to nearest with ties away from 0
00000366                                            271 XCR01    DS    0H
00000366  B3CA 1004                                 272          CGXR  R0,1,FPR4
0000036A  071F                                      273          BCR   1,15            cc=3: overflow: ignore and return
                                                    274 *
                                                    275 *        result to fixed (R1)
                                                    276 *
0000036C                                            277 XCR02    DS    0H
0000036C  E611 0018 0052                            278          VCVBG R1,V1,1,8
00000372  071F                                      279          BCR   1,15            cc=3: overflow: ignore and return
                                                    280 *
                                                    281 *        values match?
                                                    282 *
00000374  B9E9 1020                                 283          SGRK  R2,R0,R1        check difference
00000378  478F 0000                       00000000  284          BZ    0(R15)          Ok, exit
                                                    285
                                                    286 * xcheck failed message
                                                    287
0000037C  4820 5004                       00000004  288          LH    R2,TNUM                 get test number and convert
00000380  4E20 8ED3                       000010D3  289          CVD   R2,DECNUM
00000384  D211 8EBD 8EA7      000010BD    000010A7  290          MVC   PRT3,EDIT
0000038A  DE11 8EBD 8ED3      000010BD    000010D3  291          ED    PRT3,DECNUM
00000390  D202 8E61 8ECA      00001061    000010CA  292          MVC   XCPTNUM(3),PRT3+13      fill in message with test #
                                                    293
00000396  D207 8E83 5010      00001083    00000010  294          MVC   XCPNAME,OPNAME          fill in message with instruction
                                                    295
0000039C  B982 0022                                 296          XGR   R2,R2                   get m4 as U8
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000003A0  4320 5007                    00000007   297          IC    R2,M4
000003A4  4E20 8ED3                    000010D3   298          CVD   R2,DECNUM             and convert
000003A8  D211 8EBD 8EA7      000010BD  000010A7   299          MVC   PRT3,EDIT
000003AE  DE11 8EBD 8ED3      000010BD  000010D3   300          ED    PRT3,DECNUM
000003B4  D201 8E94 8ECB      00001094  000010CB   301          MVC   XCPM4(2),PRT3+14     fill in message with m4 field
                                                   302
000003BA  B982 0022                              303          XGR   R2,R2                get scale as U8
000003BE  4320 5008                    00000008  304          IC    R2,SCALE                and convert
000003C2  4E20 8ED3                    000010D3   305          CVD   R2,DECNUM
000003C6  D211 8EBD 8EA7      000010BD  000010A7   306          MVC   PRT3,EDIT
000003CC  DE11 8EBD 8ED3      000010BD  000010D3   307          ED    PRT3,DECNUM
000003D2  D202 8EA3 8ECA      000010A3  000010CA   308          MVC   XCPSCALE(3),PRT3+13  fill in message with scale field
                                                   309
000003D8  50F0 8220                    00000420   310          ST    R15,XCR15            save r15
000003DC  4100 0053                    00000053   311          LA    R0,XCPLNG            message length
000003E0  4110 8E54                    00001054   312          LA    R1,XCPLINE           messagfe address
000003E4  45F0 82AE                    000004AE   313          BAL   R15,RPTERROR
                                                   314
000003E8  58F0 8220                    00000420   315          L     R15,XCR15
000003EC  07FF                                   316          BR    R15          return from xcheck
                                                   317
000003F0                                         318          DS    0FD
000003F0  00000000 00000000                      319 XCRESULT DS    XL16
00000400  00000000 00000000                      320 XCV1     DS    XL16
00000410  00000000 00000000                      321 XCV2     DS    XL16
00000420  00000000 00000000                      322 XCR15    DS    FD
                                                   323
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    325 ************************************************************************
                                                    326 * result not as expected:
                                                    327 *        issue message with test number, instruction under test
                                                    328 *              and instruction m4
                                                    329 ************************************************************************
                                 00000428  00000001  330 FAILMSG  EQU   *
00000428  4820 5004                        00000004  331           LH    R2,TNUM              get test number and convert
0000042C  4E20 8ED3                        000010D3  332           CVD   R2,DECNUM
00000430  D211 8EBD 8EA7       000010BD    000010A7  333           MVC   PRT3,EDIT
00000436  DE11 8EBD 8ED3       000010BD    000010D3  334           ED    PRT3,DECNUM
0000043C  D202 8E15 8ECA       00001015    000010CA  335           MVC   PRTNUM(3),PRT3+13    fill in message with test #
                                                    336
00000442  D207 8E30 5010       00001030    00000010  337           MVC   PRTNAME,OPNAME       fill in message with instruction
                                                    338 *
00000448  B982 0022                                 339           XGR   R2,R2
0000044C  4320 5007                        00000007  340           IC    R2,M4                get m4 and convert
00000450  4E20 8ED3                        000010D3  341           CVD   R2,DECNUM
00000454  D211 8EBD 8EA7       000010BD    000010A7  342           MVC   PRT3,EDIT
0000045A  DE11 8EBD 8ED3       000010BD    000010D3  343           ED    PRT3,DECNUM
00000460  D201 8E41 8ECB       00001041    000010CB  344           MVC   PRTM4(2),PRT3+14     fill in message with m4 field
                                                    345 *
00000466  B982 0022                                 346           XGR   R2,R2
0000046A  4320 5008                        00000008  347           IC    R2,SCALE             get scale and convert
0000046E  4E20 8ED3                        000010D3  348           CVD   R2,DECNUM
00000472  D211 8EBD 8EA7       000010BD    000010A7  349           MVC   PRT3,EDIT
00000478  DE11 8EBD 8ED3       000010BD    000010D3  350           ED    PRT3,DECNUM
0000047E  D202 8E50 8ECA       00001050    000010CA  351           MVC   PRTSCALE(3),PRT3+13     fill in message with scale
                                                    352
00000484  4100 004C                        0000004C  353           LA    R0,PRTLNG            message length
00000488  4110 8E08                        00001008  354           LA    R1,PRTLINE           messagfe address
0000048C  45F0 82AE                        000004AE  355           BAL   R15,RPTERROR


                                                    357 ************************************************************************
                                                    358 * continue after a failed test
                                                    359 ************************************************************************
                                 00000490  00000001  360 FAILCONT EQU   *
00000490  5800 83DC                        000005DC  361           L     R0,=F'1'             set failed test indicator
00000494  5000 8E00                        00001000  362           ST    R0,FAILED
                                                    363
00000498  41C0 C004                        00000004  364           LA    R12,4(0,R12)         next test address
0000049C  47F0 80F4                        000002F4  365           B     NEXTE6


                                                    367 ************************************************************************
                                                    368 * end of testing; set ending psw
                                                    369 ************************************************************************
                                 000004A0  00000001  370 ENDTEST  EQU   *
000004A0  5810 8E00                        00001000  371           L     R1,FAILED            did a test fail?
000004A4  1211                                      372           LTR   R1,R1
000004A6  4780 83B0                        000005B0  373           BZ    EOJ                     No, exit
000004AA  47F0 83C8                        000005C8  374           B     FAILTEST                Yes, exit with BAD PSW
                                                    375
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    377 ************************************************************************
                                                    378 *        RPTERROR          Report instruction test in error
                                                    379 *                             R0 = MESSGAE LENGTH
                                                    380 *                             R1 = ADDRESS OF MESSAGE
                                                    381 ************************************************************************

000004AE  50F0 82CC                 000004CC    383 RPTERROR ST    R15,RPTSAVE          Save return address
000004B2  5050 82D0                 000004D0    384          ST    R5,RPTSVR5           Save R5
                                                    385 *
                                                    386 *        Use Hercules Diagnose for Message to console
                                                    387 *
000004B6  9002 82D8                 000004D8    388          STM   R0,R2,RPTDWSAV       save regs used by MSG
000004BA  4520 82E8                 000004E8    389          BAL   R2,MSG               call Hercules console MSG display
000004BE  9802 82D8                 000004D8    390          LM    R0,R2,RPTDWSAV       restore regs


000004C2  5850 82D0                 000004D0    392          L     R5,RPTSVR5           Restore R5
000004C6  58F0 82CC                 000004CC    393          L     R15,RPTSAVE          Restore return address
000004CA  07FF                                  394          BR    R15                  Return to caller

000004CC  00000000                              396 RPTSAVE  DC    F'0'                 R15 save area
000004D0  00000000                              397 RPTSVR5  DC    F'0'                 R5 save area

000004D8  00000000 00000000                     399 RPTDWSAV DC    2D'0'                R0-R2 save area for MSG call
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
                                                    401 ***************************************************************************
                                                    402 *        Issue HERCULES MESSAGE pointed to by R1, length in R0
                                                    403 *              R2 = return address
                                                    404 ***************************************************************************
000004E8  4900 83E0                    000005E0    406 MSG      CH    R0,=H'0'                Do we even HAVE a message?
000004EC  07D2                                     407          BNHR  R2                      No, ignore

000004EE  9002 8324                    00000524    409          STM   R0,R2,MSGSAVE           Save registers

000004F2  4900 83E2                    000005E2    411          CH    R0,=AL2(L'MSGMSG)       Message length within limits?
000004F6  47D0 82FE                    000004FE    412          BNH   MSGOK                   Yes, continue
000004FA  4100 005F                    0000005F    413          LA    R0,L'MSGMSG             No, set to maximum

000004FE  1820                                     415 MSGOK    LR    R2,R0                   Copy length to work register
00000500  0620                                     416          BCTR  R2,0                    Minus-1 for execute
00000502  4420 8330                    00000530    417          EX    R2,MSGMVC               Copy message to O/P buffer

00000506  4120 200A                    0000000A    419          LA    R2,1+L'MSGCMD(,R2)      Calculate true command length
0000050A  4110 8336                    00000536    420          LA    R1,MSGCMD               Point to true command

0000050E  83120008                                 422          DC    X'83',X'12',X'0008'     Issue Hercules Diagnose X'008'
00000512  4780 831E                    0000051E    423          BZ    MSGRET                  Return if successful
                                                    424
00000516  1222                                     425          LTR   R2,R2                   Is Diag8 Ry (R2) 0?
00000518  4780 831E                    0000051E    426          BZ    MSGRET                    an error occurred but coninue
                                                    427
0000051C  0000                                     428          DC    H'0'                    CRASH for debugging purposes

0000051E  9802 8324                    00000524    430 MSGRET   LM    R0,R2,MSGSAVE           Restore registers
00000522  07F2                                     431          BR    R2                      Return to caller

00000524  00000000 00000000                        433 MSGSAVE  DC    3F'0'                   Registers save area
00000530  D200 833F 1000       0000053F 00000000   434 MSGMVC   MVC   MSGMSG(0),0(R1)         Executed instruction

00000536  D4E2C7D5 D6C8405C                        436 MSGCMD   DC    C'MSGNOH * '            *** HERCULES MESSAGE COMMAND ***
0000053F  40404040 40404040                        437 MSGMSG   DC    CL95' '                 The message text to be displayed
                                                    438
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT
                                                      440 ************************************************************************
                                                      441 *        Normal completion or Abnormal termination PSWs
                                                      442 ************************************************************************


000005A0  00020001 80000000                           444 EOJPSW   DC    0D'0',X'0002000180000000',AD(0)

000005B0  B2B2 83A0                   000005A0        446 EOJ      LPSWE EOJPSW                Normal completion


000005B8  00020001 80000000                           448 FAILPSW  DC    0D'0',X'0002000180000000',AD(X'BAD')

000005C8  B2B2 83B8                   000005B8        450 FAILTEST LPSWE FAILPSW               Abnormal termination


                                                      452 ************************************************************************
                                                      453 *        Working Storage
                                                      454 ************************************************************************


000005CC  00000000                                    456 CTLR0    DS    F                    CR0
000005D0  00000000                                    457          DS    F


                                                      459
000005D4                                              460          LTORG ,                    Literals pool
000005D4  00000080                                    461                =F'128'
000005D8  000021D0                                    462                =A(E6TESTS)
000005DC  00000001                                    463                =F'1'
000005E0  0000                                        464                =H'0'
000005E2  005F                                        465                =AL2(L'MSGMSG)
                                                      466
                                                      467 *        some constants
                                                      468
                        00000400  00000001            469 K        EQU   1024                 One KB
                        00001000  00000001            470 PAGE     EQU   (4*K)                Size of one page
                        00010000  00000001            471 K64      EQU   (64*K)               64 KB
                        00100000  00000001            472 MB       EQU   (K*K)                 1 MB
                                                      473
                        AABBCCDD  00000001            474 REG2PATT EQU   X'AABBCCDD'    Polluted Register pattern
                        000000DD  00000001            475 REG2LOW  EQU         X'DD'    (last byte above)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    477 *=====================================================================
                                                    478 *
                                                    479 *  NOTE: start data on an address that is easy to display
                                                    480 *        within Hercules
                                                    481 *
                                                    482 *=====================================================================
                                                    483
000005E4                      000005E4  00001000    484          ORG   ZVE6TST+X'1000'
00001000  00000000                                  485 FAILED   DC    F'0'                    some test failed?
00001004  00000000                                  486 TESTING  DC    F'0'                    current test #


                                                    488 ***************************************************************************
                                                    489 *        TEST failed : result messgae
                                                    490 ***************************************************************************
                                                    491 *
                                                    492 *        failed message and associated editting
                                                    493 *
00001008  40404040 4040E385                         494 PRTLINE  DC    C'      Test # '
00001015  A7A7A7                                    495 PRTNUM   DC    C'xxx'
00001018  40868189 93858440                         496          DC    c' failed for instruction '
00001030  A7A7A7A7 A7A7A7A7                         497 PRTNAME  DC    CL8'xxxxxxxx'
00001038  40A689A3 884094F4                         498          DC    C' with m4='
00001041  A7A7                                      499 PRTM4    DC    C'xx'
00001043  6B40A689 A38840A2                         500          DC    C', with scale='
00001050  A7A7A7                                    501 PRTSCALE DC    C'xxx'
00001053  4B                                        502          DC    C'.'
                              0000004C  00000001    503 PRTLNG   EQU   *-PRTLINE


                                                    505 ***************************************************************************
                                                    506 *        TEST failed : XCHECK
                                                    507 ***************************************************************************
                                                    508 *
                                                    509 *        XCHECK failed message
                                                    510 *
00001054  40404040 4040E385                         511 XCPLINE  DC    C'      Test # '
00001061  A7A7A7                                    512 XCPTNUM  DC    C'xxx'
00001064  40E7C3C8 C5C3D240                         513          DC    c' XCHECK failed for instruction '
00001083  A7A7A7A7 A7A7A7A7                         514 XCPNAME  DC    CL8'xxxxxxxx'
0000108B  40A689A3 884094F4                         515          DC    C' with m4='
00001094  A7A7                                      516 XCPM4    DC    C'xx'
00001096  6B40A689 A38840A2                         517          DC    C', with scale='
000010A3  A7A7A7                                    518 XCPSCALE DC    C'xxx'
000010A6  4B                                        519          DC    C'.'
                              00000053  00000001    520 XCPLNG   EQU   *-XCPLINE
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                     522 ************************************************************************
                                                     523 *        TEST failed : message working storge
                                                     524 ************************************************************************
000010A7  40212020 20202020                          525 EDIT     DC    XL18'40212020202020202020202020202020'
                                                     526
000010B9  7E7E7E6E                                   527          DC    C'===>'
000010BD  40404040 40404040                          528 PRT3     DC    CL18' '
000010CF  4C7E7E7E                                   529          DC    C'<==='
000010D3  00000000 00000000                          530 DECNUM   DS    CL16


                                                     532 *
                                                     533 *        Vector instruction results, pollution and input
                                                     534 *
000010E3  E5F140D6 A4A397A4                          535          DC    C'V1 Output ===>'
000010F4                                             536          DS    0F
000010F4  00000000 00000000                          537 V1OUTPUT DS    XL16                                    V1 OUTPUT
00001104  00000000 00000000                          538          DS    XL16                                      gap
00001114  FFFFFFFF FFFFFFFF                          539 V1FUDGE  DC    XL16'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    V1 FUDGE
00001124  12345678 90123456                          540 V1INPUT  DC    XL16'1234567890123456789012345678901D'    V1 input
00001134  00000000 00000000                          541          DS    XL16
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     543 ********************************************************************************
                                                     544 *        E6TEST DSECT
                                                     545 ********************************************************************************


                                                     547 E6TEST   DSECT ,
00000000  00000000                                   548 TSUB     DC    A(0)           pointer  to test
00000004  0000                                       549 TNUM     DC    H'00'          Test Number
00000006  00                                         550          DC    X'00'
00000007  00                                         551 M4       DC    HL1'00'        m4 used
00000008  00                                         552 SCALE    DC    HL1'00'        scale used
0000000C  00000000                                   553 V2ADDR   DC    A(0)           address of v2: 16-byte packed decimal
00000010  40404040 40404040                          554 OPNAME   DC    CL8' '         E6 name
00000018  00000000                                   555 RELEN    DC    A(0)           result length
0000001C  00000000                                   556 READDR   DC    A(0)           expected result address
                                                     557
                                                     558 **
                                                     559 *        test routine will be here (from VRR-j macro)


                          00000000  0000228F   561 ZVE6TST  CSECT ,
00001144                                             562          DS    0F

                                                     564 ********************************************************************************
                                                     565 *     Macro to help build test tables
                                                     566 ********************************************************************************


                                                     568 *
                                                     569 * macro to generate individual test
                                                     570 *
                                                     571          MACRO
                                                     572          VRR_J &INST,&M4,&SCALE
                                                     573 .*                               &INST - VRR-j instruction under test
                                                     574 .*                               &m4   - m4 field
                                                     575          GBLA  &TNUM
                                                     576 &TNUM     SETA  &TNUM+1
                                                     577
                                                     578          DS    0FD
                                                     579          USING *,R5             base for test data and test routine
                                                     580
                                                     581 T&TNUM    DC    A(X&TNUM)        address of test routine
                                                     582          DC    H'&TNUM'         test number
                                                     583          DC    X'00'
                                                     584          DC    HL1'&M4'         m4
                                                     585 V3_&TNUM DC    HL1'&SCALE'      scale
                                                     586 V2_&TNUM DC    A(RE&TNUM+16)    address of v2: 16-byte packed decimal
                                                     587          DC    CL8'&INST'       instruction name
                                                     588          DC    A(16)            result length
                                                     589          DC    A(RE&TNUM)       address of expected result
                                                     590 .*
                                                     591 *
                                                     592 X&TNUM   DS    0F
                                                     593          VL    V1,V1FUDGE       fudge V1
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                                                      594
                                                      595          LGF   R2,V2_&TNUM       get v2
                                                      596          VL    V2,0(R2)
                                                      597
                                                      598          VLEB  V3,V3_&TNUM,7     get v3 scale
                                                      599
                                                      600          &INST V1,V2,V3,&M4    test instruction
                                                      601
                                                      602          BR    R11               return
                                                      603
                                                      604 RE&TNUM  DS    0F                expected 16 byte result
                                                      605          DROP  R5
                                                      606
                                                      607          MEND




                                                      609 *
                                                      610 * macro to generate table of pointers to individual tests
                                                      611 *
                                                      612          MACRO
                                                      613          PTTABLE
                                                      614          GBLA  &TNUM
                                                      615          LCLA  &CUR
                                                      616 &CUR     SETA  1
                                                      617 .*
                                                      618 TTABLE   DS    0F
                                                      619 .LOOP    ANOP
                                                      620 .*
                                                      621          DC    A(T&CUR)          TEST &CUR
                                                      622 .*
                                                      623 &CUR     SETA  &CUR+1
                                                      624          AIF   (&CUR LE &TNUM).LOOP
                                                      625 *
                                                      626          DC    A(0)              END OF TABLE
                                                      627          DC    A(0)
                                                      628 .*
                                                      629          MEND
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     631 ************************************************************************
                                                     632 *        E6 VRR-j tests
                                                     633 ************************************************************************
                                                     634          PRINT DATA
                                                     635 *
                                                     636 *        E67D VCSPH   - VECTOR CONVERT HFP TO SCALED DECIMAL
                                                     637 *
                                                     638 *------------------------------------------------------------------
                                                     639 * VCSPH   - VECTOR CONVERT HFP TO SCALED DECIMAL
                                                     640 *------------------------------------------------------------------
                                                     641 *   VRR-j   instruction, m4, scale(0-31)
                                                     642 *   followed by
                                                     643 *              followed by
                                                     644 *              v1 - 16 byte expected result
                                                     645 *              v2 - 16 byte extended HFP
                                                     646 *------------------------------------------------------------------
                                                     647 * No Round - NO Shift
                                                     648 *------------------------------------------------------------------
                                                     649 * +0
                                                     650          VRR_J VCSPH,0,0
00001148                                             651+         DS    0FD
00001148                          00001148           652+         USING *,R5              base for test data and test routine
00001148  00001168                                   653+T1       DC    A(X1)             address of test routine
0000114C  0001                                       654+         DC    H'1'              test number
0000114E  00                                         655+         DC    X'00'
0000114F  00                                         656+         DC    HL1'0'            m4
00001150  00                                         657+V3_1     DC    HL1'0'            scale
00001154  00001198                                   658+V2_1     DC    A(RE1+16)         address of v2: 16-byte packed decimal
00001158  E5C3E2D7 C8404040                          659+         DC    CL8'VCSPH'        instruction name
00001160  00000010                                   660+         DC    A(16)             result length
00001164  00001188                                   661+         DC    A(RE1)            address of expected result
                                                     662+*
00001168                                             663+X1       DS    0F
00001168  E710 8F14 0006                 00001114    664+         VL    V1,V1FUDGE        fudge V1
0000116E  E320 500C 0014                 00001154    665+         LGF   R2,V2_1           get v2
00001174  E722 0000 0006                 00000000    666+         VL    V2,0(R2)
0000117A  E730 5008 7000                 00001150    667+         VLEB  V3,V3_1,7         get v3 scale
00001180  E612 3000 007D                             668+         VCSPH V1,V2,V3,0      test instruction
00001186  07FB                                       669+         BR    R11               return
00001188                                             670+RE1      DS    0F                expected 16 byte result
00001188                                             671+         DROP  R5
00001188  00000000 00000000                          672          DC    XL16'0000000000000000000000000000000C'
00001190  00000000 0000000C
00001198  00000000 00000000                          673          DC    XL16'00000000000000000000000000000000'
000011A0  00000000 00000000
                                                     674
                                                     675 * +1
                                                     676          VRR_J VCSPH,0,0
000011A8                                             677+         DS    0FD
000011A8                          000011A8           678+         USING *,R5              base for test data and test routine
000011A8  000011C8                                   679+T2       DC    A(X2)             address of test routine
000011AC  0002                                       680+         DC    H'2'              test number
000011AE  00                                         681+         DC    X'00'
000011AF  00                                         682+         DC    HL1'0'            m4
000011B0  00                                         683+V3_2     DC    HL1'0'            scale
000011B4  000011F8                                   684+V2_2     DC    A(RE2+16)         address of v2: 16-byte packed decimal
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000011B8  E5C3E2D7 C8404040                          685+          DC    CL8'VCSPH'        instruction name
000011C0  00000010                                   686+          DC    A(16)             result length
000011C4  000011E8                                   687+          DC    A(RE2)            address of expected result
                                                     688+*
000011C8                                             689+X2        DS    0F
000011C8  E710 8F14 0006                 00001114    690+          VL    V1,V1FUDGE        fudge V1
000011CE  E320 500C 0014                 000011B4    691+          LGF   R2,V2_2           get v2
000011D4  E722 0000 0006                 00000000    692+          VL    V2,0(R2)
000011DA  E730 5008 7000                 000011B0    693+          VLEB  V3,V3_2,7         get v3 scale
000011E0  E612 3000 007D                             694+          VCSPH V1,V2,V3,0      test instruction
000011E6  07FB                                       695+          BR    R11               return
000011E8                                             696+RE2       DS    0F                expected 16 byte result
000011E8                                             697+          DROP  R5
000011E8  00000000 00000000                         698           DC    XL16'0000000000000000000000000000001C'
000011F0  00000000 0000001C
000011F8  41100000 00000000                         699           DC    XL16'41100000000000003300000000000000'
00001200  33000000 00000000
                                                     700
                                                     701 * -1
                                                     702           VRR_J VCSPH,0,0
00001208                                             703+          DS    0FD
00001208                         00001208            704+          USING *,R5              base for test data and test routine
00001208  00001228                                   705+T3        DC    A(X3)             address of test routine
0000120C  0003                                       706+          DC    H'3'              test number
0000120E  00                                         707+          DC    X'00'
0000120F  00                                         708+          DC    HL1'0'            m4
00001210  00                                         709+V3_3      DC    HL1'0'            scale
00001214  00001258                                   710+V2_3      DC    A(RE3+16)         address of v2: 16-byte packed decimal
00001218  E5C3E2D7 C8404040                          711+          DC    CL8'VCSPH'        instruction name
00001220  00000010                                   712+          DC    A(16)             result length
00001224  00001248                                   713+          DC    A(RE3)            address of expected result
                                                     714+*
00001228                                             715+X3        DS    0F
00001228  E710 8F14 0006                 00001114    716+          VL    V1,V1FUDGE        fudge V1
0000122E  E320 500C 0014                 00001214    717+          LGF   R2,V2_3           get v2
00001234  E722 0000 0006                 00000000    718+          VL    V2,0(R2)
0000123A  E730 5008 7000                 00001210    719+          VLEB  V3,V3_3,7         get v3 scale
00001240  E612 3000 007D                             720+          VCSPH V1,V2,V3,0      test instruction
00001246  07FB                                       721+          BR    R11               return
00001248                                             722+RE3       DS    0F                expected 16 byte result
00001248                                             723+          DROP  R5
00001248  00000000 00000000                         724           DC    XL16'0000000000000000000000000000001D'
00001250  00000000 0000001D
00001258  C1100000 00000000                         725           DC    XL16'C11000000000000B300000000000000'
00001260  B3000000 00000000
                                                     726
                                                     727 * +9000000000000001
                                                     728           VRR_J VCSPH,0,0
00001268                                             729+          DS    0FD
00001268                         00001268            730+          USING *,R5              base for test data and test routine
00001268  00001288                                   731+T4        DC    A(X4)             address of test routine
0000126C  0004                                       732+          DC    H'4'              test number
0000126E  00                                         733+          DC    X'00'
0000126F  00                                         734+          DC    HL1'0'            m4
00001270  00                                         735+V3_4      DC    HL1'0'            scale
00001274  000012B8                                   736+V2_4      DC    A(RE4+16)         address of v2: 16-byte packed decimal
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001278  E5C3E2D7 C8404040                        737+         DC    CL8'VCSPH'        instruction name
00001280  00000010                                 738+         DC    A(16)             result length
00001284  000012A8                                 739+         DC    A(RE4)            address of expected result
                                                   740+*
00001288                                           741+X4       DS    0F
00001288  E710 8F14 0006                 00001114  742+         VL    V1,V1FUDGE        fudge V1
0000128E  E320 500C 0014                 00001274  743+         LGF   R2,V2_4           get v2
00001294  E722 0000 0006                 00000000  744+         VL    V2,0(R2)
0000129A  E730 5008 7000                 00001270  745+         VLEB  V3,V3_4,7         get v3 scale
000012A0  E612 3000 007D                           746+         VCSPH V1,V2,V3,0      test instruction
000012A6  07FB                                     747+         BR    R11               return
000012A8                                           748+RE4      DS    0F                expected 16 byte result
000012A8                                           749+         DROP  R5
000012A8  00000000 00000009                       750          DC    XL16'0000000000000009000000000000001C'
000012B0  00000000 0000001C
000012B8  4E1FF973 CAFA8001                       751          DC    XL16'4E1FF973CAFA80014000000000000000'
000012C0  40000000 00000000
                                                   752
                                                   753
                                                   754 * -9223372036854775808
                                                   755          VRR_J VCSPH,0,0
000012C8                                           756+         DS    0FD
000012C8                      000012C8             757+         USING *,R5              base for test data and test routine
000012C8  000012E8                                 758+T5       DC    A(X5)             address of test routine
000012CC  0005                                     759+         DC    H'5'              test number
000012CE  00                                       760+         DC    X'00'
000012CF  00                                       761+         DC    HL1'0'            m4
000012D0  00                                       762+V3_5     DC    HL1'0'            scale
000012D4  00001318                                 763+V2_5     DC    A(RE5+16)         address of v2: 16-byte packed decimal
000012D8  E5C3E2D7 C8404040                        764+         DC    CL8'VCSPH'        instruction name
000012E0  00000010                                 765+         DC    A(16)             result length
000012E4  00001308                                 766+         DC    A(RE5)            address of expected result
                                                   767+*
000012E8                                           768+X5       DS    0F
000012E8  E710 8F14 0006                 00001114  769+         VL    V1,V1FUDGE        fudge V1
000012EE  E320 500C 0014                 000012D4  770+         LGF   R2,V2_5           get v2
000012F4  E722 0000 0006                 00000000  771+         VL    V2,0(R2)
000012FA  E730 5008 7000                 000012D0  772+         VLEB  V3,V3_5,7         get v3 scale
00001300  E612 3000 007D                           773+         VCSPH V1,V2,V3,0      test instruction
00001306  07FB                                     774+         BR    R11               return
00001308                                           775+RE5      DS    0F                expected 16 byte result
00001308                                           776+         DROP  R5
00001308  00000000 00009223                       777          DC    XL16'0000000000009223372036854775808D'
00001310  37203685 4775808D
00001318  D0800000 00000000                       778          DC    XL16'D080000000000000C200000000000000'
00001320  C2000000 00000000
                                                   779
                                                   780
                                                   781 *  9223372036854775807
                                                   782          VRR_J VCSPH,0,0
00001328                                           783+         DS    0FD
00001328                      00001328             784+         USING *,R5              base for test data and test routine
00001328  00001348                                 785+T6       DC    A(X6)             address of test routine
0000132C  0006                                     786+         DC    H'6'              test number
0000132E  00                                       787+         DC    X'00'
0000132F  00                                       788+         DC    HL1'0'            m4
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
00001330  00                                      789+V3_6     DC    HL1'0'            scale
00001334  00001378                                790+V2_6     DC    A(RE6+16)         address of v2: 16-byte packed decimal
00001338  E5C3E2D7 C8404040                       791+         DC    CL8'VCSPH'        instruction name
00001340  00000010                                792+         DC    A(16)             result length
00001344  00001368                                793+         DC    A(RE6)            address of expected result
                                                  794+*
00001348                                          795+X6       DS    0F
00001348  E710 8F14 0006                00001114  796+         VL    V1,V1FUDGE        fudge V1
0000134E  E320 500C 0014                00001334  797+         LGF   R2,V2_6           get v2
00001354  E722 0000 0006                00000000  798+         VL    V2,0(R2)
0000135A  E730 5008 7000                00001330  799+         VLEB  V3,V3_6,7         get v3 scale
00001360  E612 3000 007D                          800+         VCSPH V1,V2,V3,0      test instruction
00001366  07FB                                    801+         BR    R11               return
00001368                                          802+RE6      DS    0F                expected 16 byte result
00001368                                          803+         DROP  R5
00001368  00000000 00009223                       804          DC    XL16'0000000000009223372036854775807C'
00001370  37203685 4775807C
00001378  507FFFFF FFFFFFFF                       805          DC    XL16'507FFFFFFFFFFFF42FF000000000000'
00001380  42FF0000 00000000
                                                  806
                                                  807
                                                  808 * 18446744073709551615
                                                  809          VRR_J VCSPH,0,0
00001388                                          810+         DS    0FD
00001388                        00001388          811+         USING *,R5              base for test data and test routine
00001388  000013A8                                812+T7       DC    A(X7)             address of test routine
0000138C  0007                                    813+         DC    H'7'              test number
0000138E  00                                      814+         DC    X'00'
0000138F  00                                      815+         DC    HL1'0'            m4
00001390  00                                      816+V3_7     DC    HL1'0'            scale
00001394  000013D8                                817+V2_7     DC    A(RE7+16)         address of v2: 16-byte packed decimal
00001398  E5C3E2D7 C8404040                       818+         DC    CL8'VCSPH'        instruction name
000013A0  00000010                                819+         DC    A(16)             result length
000013A4  000013C8                                820+         DC    A(RE7)            address of expected result
                                                  821+*
000013A8                                          822+X7       DS    0F
000013A8  E710 8F14 0006                00001114  823+         VL    V1,V1FUDGE        fudge V1
000013AE  E320 500C 0014                00001394  824+         LGF   R2,V2_7           get v2
000013B4  E722 0000 0006                00000000  825+         VL    V2,0(R2)
000013BA  E730 5008 7000                00001390  826+         VLEB  V3,V3_7,7         get v3 scale
000013C0  E612 3000 007D                          827+         VCSPH V1,V2,V3,0      test instruction
000013C6  07FB                                    828+         BR    R11               return
000013C8                                          829+RE7      DS    0F                expected 16 byte result
000013C8                                          830+         DROP  R5
000013C8  00000000 00018446                       831          DC    XL16'0000000000018446744073709551615C'
000013D0  74407370 9551615C
000013D8  50FFFFFF FFFFFFFF                       832          DC    XL16'50FFFFFFFFFFFFF42FF000000000000'
000013E0  42FF0000 00000000
                                                  833
                                                  834 * +1.25
                                                  835          VRR_J VCSPH,0,0
000013E8                                          836+         DS    0FD
000013E8                        000013E8          837+         USING *,R5              base for test data and test routine
000013E8  00001408                                838+T8       DC    A(X8)             address of test routine
000013EC  0008                                    839+         DC    H'8'              test number
000013EE  00                                      840+         DC    X'00'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000013EF  00                                       841+          DC    HL1'0'              m4
000013F0  00                                       842+V3_8      DC    HL1'0'              scale
000013F4  00001438                                 843+V2_8      DC    A(RE8+16)           address of v2: 16-byte packed decimal
000013F8  E5C3E2D7 C8404040                        844+          DC    CL8'VCSPH'          instruction name
00001400  00000010                                 845+          DC    A(16)               result length
00001404  00001428                                 846+          DC    A(RE8)              address of expected result
                                                   847+*
00001408                                           848+X8        DS    0F
00001408  E710 8F14 0006                 00001114  849+          VL    V1,V1FUDGE          fudge V1
0000140E  E320 500C 0014                 000013F4  850+          LGF   R2,V2_8             get v2
00001414  E722 0000 0006                 00000000  851+          VL    V2,0(R2)
0000141A  E730 5008 7000                 000013F0  852+          VLEB  V3,V3_8,7           get v3 scale
00001420  E612 3000 007D                           853+          VCSPH V1,V2,V3,0      test instruction
00001426  07FB                                     854+          BR    R11                 return
00001428                                           855+RE8       DS    0F                  expected 16 byte result
00001428                                           856+          DROP  R5
00001428  00000000 00000000                        857           DC    XL16'0000000000000000000000000000001C'
00001430  00000000 0000001C
00001438  41140000 00000000                        858           DC    XL16'41140000000000003300000000000000'
00001440  33000000 00000000
                                                   859
                                                   860 * +1.5
                                                   861           VRR_J VCSPH,0,0
00001448                                           862+          DS    0FD
00001448                      00001448             863+          USING *,R5                base for test data and test routine
00001448  00001468                                 864+T9        DC    A(X9)               address of test routine
0000144C  0009                                     865+          DC    H'9'                test number
0000144E  00                                       866+          DC    X'00'
0000144F  00                                       867+          DC    HL1'0'              m4
00001450  00                                       868+V3_9      DC    HL1'0'              scale
00001454  00001498                                 869+V2_9      DC    A(RE9+16)           address of v2: 16-byte packed decimal
00001458  E5C3E2D7 C8404040                        870+          DC    CL8'VCSPH'          instruction name
00001460  00000010                                 871+          DC    A(16)               result length
00001464  00001488                                 872+          DC    A(RE9)              address of expected result
                                                   873+*
00001468                                           874+X9        DS    0F
00001468  E710 8F14 0006                 00001114  875+          VL    V1,V1FUDGE          fudge V1
0000146E  E320 500C 0014                 00001454  876+          LGF   R2,V2_9             get v2
00001474  E722 0000 0006                 00000000  877+          VL    V2,0(R2)
0000147A  E730 5008 7000                 00001450  878+          VLEB  V3,V3_9,7           get v3 scale
00001480  E612 3000 007D                           879+          VCSPH V1,V2,V3,0      test instruction
00001486  07FB                                     880+          BR    R11                 return
00001488                                           881+RE9       DS    0F                  expected 16 byte result
00001488                                           882+          DROP  R5
00001488  00000000 00000000                        883           DC    XL16'0000000000000000000000000000001C'
00001490  00000000 0000001C
00001498  41180000 00000000                        884           DC    XL16'41180000000000003300000000000000'
000014A0  33000000 00000000
                                                   885
                                                   886 * +1.75
                                                   887           VRR_J VCSPH,0,0
000014A8                                           888+          DS    0FD
000014A8                      000014A8             889+          USING *,R5                base for test data and test routine
000014A8  000014C8                                 890+T10       DC    A(X10)              address of test routine
000014AC  000A                                     891+          DC    H'10'               test number
000014AE  00                                       892+          DC    X'00'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
000014AF  00                                      893+         DC    HL1'0'            m4
000014B0  00                                      894+V3_10    DC    HL1'0'            scale
000014B4  000014F8                                895+V2_10    DC    A(RE10+16)        address of v2: 16-byte packed decimal
000014B8  E5C3E2D7 C8404040                       896+         DC    CL8'VCSPH'        instruction name
000014C0  00000010                                897+         DC    A(16)             result length
000014C4  000014E8                                898+         DC    A(RE10)           address of expected result
                                                  899+*
000014C8                                          900+X10      DS    0F
000014C8  E710 8F14 0006                 00001114 901+         VL    V1,V1FUDGE        fudge V1
000014CE  E320 500C 0014                 000014B4 902+         LGF   R2,V2_10          get v2
000014D4  E722 0000 0006                 00000000 903+         VL    V2,0(R2)
000014DA  E730 5008 7000                 000014B0 904+         VLEB  V3,V3_10,7        get v3 scale
000014E0  E612 3000 007D                          905+         VCSPH V1,V2,V3,0      test instruction
000014E6  07FB                                    906+         BR    R11               return
000014E8                                          907+RE10     DS    0F                expected 16 byte result
000014E8                                          908+         DROP  R5
000014E8  00000000 00000000                      909          DC    XL16'0000000000000000000000000000001C'
000014F0  00000000 0000001C
000014F8  411C0000 00000000                      910          DC    XL16'411C0000000000330000000000000000'
00001500  33000000 00000000
                                                  911 *-------------------------------------------------------------------
                                                  912 * NO Round - with shifts
                                                  913 *-------------------------------------------------------------------
                                                  914
                                                  915 * +0
                                                  916          VRR_J VCSPH,0,1
00001508                                          917+         DS    0FD
00001508                          00001508        918+         USING *,R5              base for test data and test routine
00001508  00001528                                919+T11      DC    A(X11)            address of test routine
0000150C  000B                                    920+         DC    H'11'             test number
0000150E  00                                      921+         DC    X'00'
0000150F  00                                      922+         DC    HL1'0'            m4
00001510  01                                      923+V3_11    DC    HL1'1'            scale
00001514  00001558                                924+V2_11    DC    A(RE11+16)        address of v2: 16-byte packed decimal
00001518  E5C3E2D7 C8404040                       925+         DC    CL8'VCSPH'        instruction name
00001520  00000010                                926+         DC    A(16)             result length
00001524  00001548                                927+         DC    A(RE11)           address of expected result
                                                  928+*
00001528                                          929+X11      DS    0F
00001528  E710 8F14 0006                 00001114 930+         VL    V1,V1FUDGE        fudge V1
0000152E  E320 500C 0014                 00001514 931+         LGF   R2,V2_11          get v2
00001534  E722 0000 0006                 00000000 932+         VL    V2,0(R2)
0000153A  E730 5008 7000                 00001510 933+         VLEB  V3,V3_11,7        get v3 scale
00001540  E612 3000 007D                          934+         VCSPH V1,V2,V3,0      test instruction
00001546  07FB                                    935+         BR    R11               return
00001548                                          936+RE11     DS    0F                expected 16 byte result
00001548                                          937+         DROP  R5
00001548  00000000 00000000                      938          DC    XL16'0000000000000000000000000000000C'
00001550  00000000 0000000C
00001558  00000000 00000000                      939          DC    XL16'00000000000000000000000000000000'
00001560  00000000 00000000
                                                  940
                                                  941 * +1
                                                  942          VRR_J VCSPH,0,1
00001568                                          943+         DS    0FD
00001568                          00001568        944+         USING *,R5              base for test data and test routine
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001568  00001588                                 945+T12      DC    A(X12)            address of test routine
0000156C  000C                                     946+         DC    H'12'             test number
0000156E  00                                       947+         DC    X'00'
0000156F  00                                       948+         DC    HL1'0'            m4
00001570  01                                       949+V3_12    DC    HL1'1'            scale
00001574  000015B8                                 950+V2_12    DC    A(RE12+16)        address of v2: 16-byte packed decimal
00001578  E5C3E2D7 C8404040                        951+         DC    CL8'VCSPH'        instruction name
00001580  00000010                                 952+         DC    A(16)             result length
00001584  000015A8                                 953+         DC    A(RE12)           address of expected result
                                                   954+*
00001588                                           955+X12      DS    0F
00001588  E710 8F14 0006                 00001114  956+         VL    V1,V1FUDGE        fudge V1
0000158E  E320 500C 0014                 00001574  957+         LGF   R2,V2_12          get v2
00001594  E722 0000 0006                 00000000  958+         VL    V2,0(R2)
0000159A  E730 5008 7000                 00001570  959+         VLEB  V3,V3_12,7        get v3 scale
000015A0  E612 3000 007D                           960+         VCSPH V1,V2,V3,0      test instruction
000015A6  07FB                                     961+         BR    R11               return
000015A8                                           962+RE12     DS    0F                expected 16 byte result
000015A8                                           963+         DROP  R5
000015A8  00000000 00000000                       964          DC    XL16'0000000000000000000000000000010C'
000015B0  00000000 0000010C
000015B8  41100000 00000000                       965          DC    XL16'41100000000000003300000000000000'
000015C0  33000000 00000000
                                                   966
                                                   967 * -1
                                                   968          VRR_J VCSPH,0,1
000015C8                                           969+         DS    0FD
000015C8                    000015C8               970+         USING *,R5              base for test data and test routine
000015C8  000015E8                                 971+T13      DC    A(X13)            address of test routine
000015CC  000D                                     972+         DC    H'13'             test number
000015CE  00                                       973+         DC    X'00'
000015CF  00                                       974+         DC    HL1'0'            m4
000015D0  01                                       975+V3_13    DC    HL1'1'            scale
000015D4  00001618                                 976+V2_13    DC    A(RE13+16)        address of v2: 16-byte packed decimal
000015D8  E5C3E2D7 C8404040                        977+         DC    CL8'VCSPH'        instruction name
000015E0  00000010                                 978+         DC    A(16)             result length
000015E4  00001608                                 979+         DC    A(RE13)           address of expected result
                                                   980+*
000015E8                                           981+X13      DS    0F
000015E8  E710 8F14 0006                 00001114  982+         VL    V1,V1FUDGE        fudge V1
000015EE  E320 500C 0014                 000015D4  983+         LGF   R2,V2_13          get v2
000015F4  E722 0000 0006                 00000000  984+         VL    V2,0(R2)
000015FA  E730 5008 7000                 000015D0  985+         VLEB  V3,V3_13,7        get v3 scale
00001600  E612 3000 007D                           986+         VCSPH V1,V2,V3,0      test instruction
00001606  07FB                                     987+         BR    R11               return
00001608                                           988+RE13     DS    0F                expected 16 byte result
00001608                                           989+         DROP  R5
00001608  00000000 00000000                       990          DC    XL16'0000000000000000000000000000010D'
00001610  00000000 0000010D
00001618  C1100000 00000000                       991          DC    XL16'C110000000000000B300000000000000'
00001620  B3000000 00000000
                                                   992
                                                   993
                                                   994 * +9000000000000001
                                                   995          VRR_J VCSPH,0,2
00001628                                           996+         DS    0FD
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00001628                     00001628              997+         USING *,R5              base for test data and test routine
00001628  00001648                                 998+T14      DC    A(X14)            address of test routine
0000162C  000E                                     999+         DC    H'14'             test number
0000162E  00                                      1000+         DC    X'00'
0000162F  00                                      1001+         DC    HL1'0'            m4
00001630  02                                      1002+V3_14    DC    HL1'2'            scale
00001634  00001678                                1003+V2_14    DC    A(RE14+16)        address of v2: 16-byte packed decimal
00001638  E5C3E2D7 C8404040                       1004+         DC    CL8'VCSPH'        instruction name
00001640  00000010                                1005+         DC    A(16)             result length
00001644  00001668                                1006+         DC    A(RE14)           address of expected result
                                                  1007+*
00001648                                          1008+X14      DS    0F
00001648  E710 8F14 0006              00001114    1009+         VL    V1,V1FUDGE        fudge V1
0000164E  E320 500C 0014              00001634    1010+         LGF   R2,V2_14          get v2
00001654  E722 0000 0006              00000000    1011+         VL    V2,0(R2)
0000165A  E730 5008 7000              00001630    1012+         VLEB  V3,V3_14,7        get v3 scale
00001660  E612 3000 007D                          1013+         VCSPH V1,V2,V3,0      test instruction
00001666  07FB                                    1014+         BR    R11               return
00001668                                          1015+RE14     DS    0F                expected 16 byte result
00001668                                          1016+         DROP  R5
00001668  00000000 00000900                       1017          DC    XL16'0000000000000900000000000000100C'
00001670  00000000 0000100C
00001678  4E1FF973 CAFA8001                       1018          DC    XL16'4E1FF973CAFA800140000000000000000'
00001680  40000000 00000000
                                                  1019
                                                  1020
                                                  1021 * -9223372036854775808
                                                  1022          VRR_J VCSPH,0,2
00001688                                          1023+         DS    0FD
00001688                     00001688             1024+         USING *,R5              base for test data and test routine
00001688  000016A8                                1025+T15      DC    A(X15)            address of test routine
0000168C  000F                                    1026+         DC    H'15'             test number
0000168E  00                                      1027+         DC    X'00'
0000168F  00                                      1028+         DC    HL1'0'            m4
00001690  02                                      1029+V3_15    DC    HL1'2'            scale
00001694  000016D8                                1030+V2_15    DC    A(RE15+16)        address of v2: 16-byte packed decimal
00001698  E5C3E2D7 C8404040                       1031+         DC    CL8'VCSPH'        instruction name
000016A0  00000010                                1032+         DC    A(16)             result length
000016A4  000016C8                                1033+         DC    A(RE15)           address of expected result
                                                  1034+*
000016A8                                          1035+X15      DS    0F
000016A8  E710 8F14 0006              00001114    1036+         VL    V1,V1FUDGE        fudge V1
000016AE  E320 500C 0014              00001694    1037+         LGF   R2,V2_15          get v2
000016B4  E722 0000 0006              00000000    1038+         VL    V2,0(R2)
000016BA  E730 5008 7000              00001690    1039+         VLEB  V3,V3_15,7        get v3 scale
000016C0  E612 3000 007D                          1040+         VCSPH V1,V2,V3,0      test instruction
000016C6  07FB                                    1041+         BR    R11               return
000016C8                                          1042+RE15     DS    0F                expected 16 byte result
000016C8                                          1043+         DROP  R5
000016C8  00000000 00922337                       1044          DC    XL16'00000000009223372036854775808D'
000016D0  20368547 7580800D
000016D8  D0800000 00000000                       1045          DC    XL16'D080000000000000C200000000000000'
000016E0  C2000000 00000000
                                                  1046
                                                  1047
                                                  1048 *  9223372036854775807
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1049          VRR_J VCSPH,0,2
000016E8                                            1050+         DS    0FD
000016E8                      000016E8              1051+         USING *,R5              base for test data and test routine
000016E8  00001708                                  1052+T16      DC    A(X16)            address of test routine
000016EC  0010                                      1053+         DC    H'16'             test number
000016EE  00                                        1054+         DC    X'00'
000016EF  00                                        1055+         DC    HL1'0'            m4
000016F0  02                                        1056+V3_16    DC    HL1'2'            scale
000016F4  00001738                                  1057+V2_16    DC    A(RE16+16)        address of v2: 16-byte packed decimal
000016F8  E5C3E2D7 C8404040                         1058+         DC    CL8'VCSPH'        instruction name
00001700  00000010                                  1059+         DC    A(16)             result length
00001704  00001728                                  1060+         DC    A(RE16)           address of expected result
                                                    1061+*
00001708                                            1062+X16      DS    0F
00001708  E710 8F14 0006              00001114      1063+         VL    V1,V1FUDGE        fudge V1
0000170E  E320 500C 0014              000016F4      1064+         LGF   R2,V2_16          get v2
00001714  E722 0000 0006              00000000      1065+         VL    V2,0(R2)
0000171A  E730 5008 7000              000016F0      1066+         VLEB  V3,V3_16,7        get v3 scale
00001720  E612 3000 007D                            1067+         VCSPH V1,V2,V3,0      test instruction
00001726  07FB                                      1068+         BR    R11               return
00001728                                            1069+RE16     DS    0F                expected 16 byte result
00001728                                            1070+         DROP  R5
00001728  00000000 00922337                         1071          DC    XL16'0000000000922337203685477580700C'
00001730  20368547 7580700C
00001738  507FFFFF FFFFFFFF                         1072          DC    XL16'507FFFFFFFFFFFF42FF000000000000'
00001740  42FF0000 00000000
                                                    1073
                                                    1074
                                                    1075 * 18446744073709551615
                                                    1076          VRR_J VCSPH,0,2
00001748                                            1077+         DS    0FD
00001748                      00001748              1078+         USING *,R5              base for test data and test routine
00001748  00001768                                  1079+T17      DC    A(X17)            address of test routine
0000174C  0011                                      1080+         DC    H'17'             test number
0000174E  00                                        1081+         DC    X'00'
0000174F  00                                        1082+         DC    HL1'0'            m4
00001750  02                                        1083+V3_17    DC    HL1'2'            scale
00001754  00001798                                  1084+V2_17    DC    A(RE17+16)        address of v2: 16-byte packed decimal
00001758  E5C3E2D7 C8404040                         1085+         DC    CL8'VCSPH'        instruction name
00001760  00000010                                  1086+         DC    A(16)             result length
00001764  00001788                                  1087+         DC    A(RE17)           address of expected result
                                                    1088+*
00001768                                            1089+X17      DS    0F
00001768  E710 8F14 0006              00001114      1090+         VL    V1,V1FUDGE        fudge V1
0000176E  E320 500C 0014              00001754      1091+         LGF   R2,V2_17          get v2
00001774  E722 0000 0006              00000000      1092+         VL    V2,0(R2)
0000177A  E730 5008 7000              00001750      1093+         VLEB  V3,V3_17,7        get v3 scale
00001780  E612 3000 007D                            1094+         VCSPH V1,V2,V3,0      test instruction
00001786  07FB                                      1095+         BR    R11               return
00001788                                            1096+RE17     DS    0F                expected 16 byte result
00001788                                            1097+         DROP  R5
00001788  00000000 01844674                         1098          DC    XL16'0000000001844674407370955161500C'
00001790  40737095 5161500C
00001798  50FFFFFF FFFFFFFF                         1099          DC    XL16'50FFFFFFFFFFFFF42FF000000000000'
000017A0  42FF0000 00000000
                                                    1100
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1101 * +1.25
                                                    1102          VRR_J VCSPH,0,1
000017A8                                            1103+         DS    0FD
000017A8                      000017A8              1104+         USING *,R5              base for test data and test routine
000017A8  000017C8                                  1105+T18      DC    A(X18)            address of test routine
000017AC  0012                                      1106+         DC    H'18'             test number
000017AE  00                                        1107+         DC    X'00'
000017AF  00                                        1108+         DC    HL1'0'            m4
000017B0  01                                        1109+V3_18    DC    HL1'1'            scale
000017B4  000017F8                                  1110+V2_18    DC    A(RE18+16)        address of v2: 16-byte packed decimal
000017B8  E5C3E2D7 C8404040                         1111+         DC    CL8'VCSPH'        instruction name
000017C0  00000010                                  1112+         DC    A(16)             result length
000017C4  000017E8                                  1113+         DC    A(RE18)           address of expected result
                                                    1114+*
000017C8                                            1115+X18      DS    0F
000017C8  E710 8F14 0006              00001114      1116+         VL    V1,V1FUDGE        fudge V1
000017CE  E320 500C 0014              000017B4      1117+         LGF   R2,V2_18          get v2
000017D4  E722 0000 0006              00000000      1118+         VL    V2,0(R2)
000017DA  E730 5008 7000              000017B0      1119+         VLEB  V3,V3_18,7        get v3 scale
000017E0  E612 3000 007D                            1120+         VCSPH V1,V2,V3,0      test instruction
000017E6  07FB                                      1121+         BR    R11               return
000017E8                                            1122+RE18     DS    0F                expected 16 byte result
000017E8                                            1123+         DROP  R5
000017E8  00000000 00000000                        1124          DC    XL16'0000000000000000000000000000012C'
000017F0  00000000 0000012C
000017F8  41140000 00000000                        1125          DC    XL16'41140000000000003300000000000000'
00001800  33000000 00000000
                                                    1126
                                                    1127 * +1.5
                                                    1128          VRR_J VCSPH,0,1
00001808                                            1129+         DS    0FD
00001808                      00001808              1130+         USING *,R5              base for test data and test routine
00001808  00001828                                  1131+T19      DC    A(X19)            address of test routine
0000180C  0013                                      1132+         DC    H'19'             test number
0000180E  00                                        1133+         DC    X'00'
0000180F  00                                        1134+         DC    HL1'0'            m4
00001810  01                                        1135+V3_19    DC    HL1'1'            scale
00001814  00001858                                  1136+V2_19    DC    A(RE19+16)        address of v2: 16-byte packed decimal
00001818  E5C3E2D7 C8404040                         1137+         DC    CL8'VCSPH'        instruction name
00001820  00000010                                  1138+         DC    A(16)             result length
00001824  00001848                                  1139+         DC    A(RE19)           address of expected result
                                                    1140+*
00001828                                            1141+X19      DS    0F
00001828  E710 8F14 0006              00001114      1142+         VL    V1,V1FUDGE        fudge V1
0000182E  E320 500C 0014              00001814      1143+         LGF   R2,V2_19          get v2
00001834  E722 0000 0006              00000000      1144+         VL    V2,0(R2)
0000183A  E730 5008 7000              00001810      1145+         VLEB  V3,V3_19,7        get v3 scale
00001840  E612 3000 007D                            1146+         VCSPH V1,V2,V3,0      test instruction
00001846  07FB                                      1147+         BR    R11               return
00001848                                            1148+RE19     DS    0F                expected 16 byte result
00001848                                            1149+         DROP  R5
00001848  00000000 00000000                        1150          DC    XL16'0000000000000000000000000000015C'
00001850  00000000 0000015C
00001858  41180000 00000000                        1151          DC    XL16'41180000000000003300000000000000'
00001860  33000000 00000000
                                                    1152
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1153 * +1.75
                                                    1154          VRR_J VCSPH,0,1
00001868                                            1155+         DS    0FD
00001868                      00001868              1156+         USING *,R5              base for test data and test routine
00001868  00001888                                  1157+T20      DC    A(X20)            address of test routine
0000186C  0014                                      1158+         DC    H'20'             test number
0000186E  00                                        1159+         DC    X'00'
0000186F  00                                        1160+         DC    HL1'0'            m4
00001870  01                                        1161+V3_20    DC    HL1'1'            scale
00001874  000018B8                                  1162+V2_20    DC    A(RE20+16)        address of v2: 16-byte packed decimal
00001878  E5C3E2D7 C8404040                         1163+         DC    CL8'VCSPH'        instruction name
00001880  00000010                                  1164+         DC    A(16)             result length
00001884  000018A8                                  1165+         DC    A(RE20)           address of expected result
                                                    1166+*
00001888                                            1167+X20      DS    0F
00001888  E710 8F14 0006                00001114    1168+         VL    V1,V1FUDGE        fudge V1
0000188E  E320 500C 0014                00001874    1169+         LGF   R2,V2_20          get v2
00001894  E722 0000 0006                00000000    1170+         VL    V2,0(R2)
0000189A  E730 5008 7000                00001870    1171+         VLEB  V3,V3_20,7        get v3 scale
000018A0  E612 3000 007D                            1172+         VCSPH V1,V2,V3,0      test instruction
000018A6  07FB                                      1173+         BR    R11               return
000018A8                                            1174+RE20     DS    0F                expected 16 byte result
000018A8                                            1175+         DROP  R5
000018A8  00000000 00000000                        1176          DC    XL16'0000000000000000000000000000017C'
000018B0  00000000 0000017C
000018B8  411C0000 00000000                        1177          DC    XL16'411C0000000000330000000000000000'
000018C0  33000000 00000000
                                                    1178
                                                    1179 *-------------------------------------------------------------------
                                                    1180 * ROUND - NO Shift
                                                    1181 *-------------------------------------------------------------------
                                                    1182 * +0
                                                    1183          VRR_J VCSPH,1,0
000018C8                                            1184+         DS    0FD
000018C8                      000018C8              1185+         USING *,R5              base for test data and test routine
000018C8  000018E8                                  1186+T21      DC    A(X21)            address of test routine
000018CC  0015                                      1187+         DC    H'21'             test number
000018CE  00                                        1188+         DC    X'00'
000018CF  01                                        1189+         DC    HL1'1'            m4
000018D0  00                                        1190+V3_21    DC    HL1'0'            scale
000018D4  00001918                                  1191+V2_21    DC    A(RE21+16)        address of v2: 16-byte packed decimal
000018D8  E5C3E2D7 C8404040                         1192+         DC    CL8'VCSPH'        instruction name
000018E0  00000010                                  1193+         DC    A(16)             result length
000018E4  00001908                                  1194+         DC    A(RE21)           address of expected result
                                                    1195+*
000018E8                                            1196+X21      DS    0F
000018E8  E710 8F14 0006                00001114    1197+         VL    V1,V1FUDGE        fudge V1
000018EE  E320 500C 0014                000018D4    1198+         LGF   R2,V2_21          get v2
000018F4  E722 0000 0006                00000000    1199+         VL    V2,0(R2)
000018FA  E730 5008 7000                000018D0    1200+         VLEB  V3,V3_21,7        get v3 scale
00001900  E612 3010 007D                            1201+         VCSPH V1,V2,V3,1      test instruction
00001906  07FB                                      1202+         BR    R11               return
00001908                                            1203+RE21     DS    0F                expected 16 byte result
00001908                                            1204+         DROP  R5
00001908  00000000 00000000                        1205          DC    XL16'0000000000000000000000000000000C'
00001910  00000000 0000000C
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001918  00000000 00000000                        1206          DC    XL16'00000000000000000000000000000000'
00001920  00000000 00000000
                                                   1207
                                                   1208
                                                   1209 * +1
                                                   1210          VRR_J VCSPH,1,0
00001928                                           1211+         DS    0FD
00001928                      00001928             1212+         USING *,R5              base for test data and test routine
00001928  00001948                                 1213+T22      DC    A(X22)            address of test routine
0000192C  0016                                     1214+         DC    H'22'             test number
0000192E  00                                       1215+         DC    X'00'
0000192F  01                                       1216+         DC    HL1'1'            m4
00001930  00                                       1217+V3_22    DC    HL1'0'            scale
00001934  00001978                                 1218+V2_22    DC    A(RE22+16)        address of v2: 16-byte packed decimal
00001938  E5C3E2D7 C8404040                        1219+         DC    CL8'VCSPH'        instruction name
00001940  00000010                                 1220+         DC    A(16)             result length
00001944  00001968                                 1221+         DC    A(RE22)           address of expected result
                                                   1222+*
00001948                                           1223+X22      DS    0F
00001948  E710 8F14 0006                00001114   1224+         VL    V1,V1FUDGE        fudge V1
0000194E  E320 500C 0014                00001934   1225+         LGF   R2,V2_22          get v2
00001954  E722 0000 0006                00000000   1226+         VL    V2,0(R2)
0000195A  E730 5008 7000                00001930   1227+         VLEB  V3,V3_22,7        get v3 scale
00001960  E612 3010 007D                           1228+         VCSPH V1,V2,V3,1      test instruction
00001966  07FB                                     1229+         BR    R11               return
00001968                                           1230+RE22     DS    0F                expected 16 byte result
00001968                                           1231+         DROP  R5
00001968  00000000 00000000                        1232          DC    XL16'0000000000000000000000000000001C'
00001970  00000000 0000001C
00001978  41100000 00000000                        1233          DC    XL16'41100000000000003300000000000000'
00001980  33000000 00000000
                                                   1234
                                                   1235 * -1
                                                   1236          VRR_J VCSPH,1,0
00001988                                           1237+         DS    0FD
00001988                      00001988             1238+         USING *,R5              base for test data and test routine
00001988  000019A8                                 1239+T23      DC    A(X23)            address of test routine
0000198C  0017                                     1240+         DC    H'23'             test number
0000198E  00                                       1241+         DC    X'00'
0000198F  01                                       1242+         DC    HL1'1'            m4
00001990  00                                       1243+V3_23    DC    HL1'0'            scale
00001994  000019D8                                 1244+V2_23    DC    A(RE23+16)        address of v2: 16-byte packed decimal
00001998  E5C3E2D7 C8404040                        1245+         DC    CL8'VCSPH'        instruction name
000019A0  00000010                                 1246+         DC    A(16)             result length
000019A4  000019C8                                 1247+         DC    A(RE23)           address of expected result
                                                   1248+*
000019A8                                           1249+X23      DS    0F
000019A8  E710 8F14 0006                00001114   1250+         VL    V1,V1FUDGE        fudge V1
000019AE  E320 500C 0014                00001994   1251+         LGF   R2,V2_23          get v2
000019B4  E722 0000 0006                00000000   1252+         VL    V2,0(R2)
000019BA  E730 5008 7000                00001990   1253+         VLEB  V3,V3_23,7        get v3 scale
000019C0  E612 3010 007D                           1254+         VCSPH V1,V2,V3,1      test instruction
000019C6  07FB                                     1255+         BR    R11               return
000019C8                                           1256+RE23     DS    0F                expected 16 byte result
000019C8                                           1257+         DROP  R5
000019C8  00000000 00000000                        1258          DC    XL16'0000000000000000000000000000001D'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000019D0  00000000 0000001D
000019D8  C1100000 00000000                        1259          DC    XL16'C110000000000000B300000000000000'
000019E0  B3000000 00000000
                                                   1260
                                                   1261
                                                   1262 * +9000000000000001
                                                   1263          VRR_J VCSPH,1,0
000019E8                                           1264+         DS    0FD
000019E8                      000019E8             1265+         USING *,R5              base for test data and test routine
000019E8  00001A08                                 1266+T24      DC    A(X24)            address of test routine
000019EC  0018                                     1267+         DC    H'24'             test number
000019EE  00                                       1268+         DC    X'00'
000019EF  01                                       1269+         DC    HL1'1'            m4
000019F0  00                                       1270+V3_24    DC    HL1'0'            scale
000019F4  00001A38                                 1271+V2_24    DC    A(RE24+16)        address of v2: 16-byte packed decimal
000019F8  E5C3E2D7 C8404040                        1272+         DC    CL8'VCSPH'        instruction name
00001A00  00000010                                 1273+         DC    A(16)             result length
00001A04  00001A28                                 1274+         DC    A(RE24)           address of expected result
                                                   1275+*
00001A08                                           1276+X24      DS    0F
00001A08  E710 8F14 0006                00001114   1277+         VL    V1,V1FUDGE        fudge V1
00001A0E  E320 500C 0014                000019F4   1278+         LGF   R2,V2_24          get v2
00001A14  E722 0000 0006                00000000   1279+         VL    V2,0(R2)
00001A1A  E730 5008 7000                000019F0   1280+         VLEB  V3,V3_24,7        get v3 scale
00001A20  E612 3010 007D                           1281+         VCSPH V1,V2,V3,1      test instruction
00001A26  07FB                                     1282+         BR    R11               return
00001A28                                           1283+RE24     DS    0F                expected 16 byte result
00001A28                                           1284+         DROP  R5
00001A28  00000000 00000009                        1285          DC    XL16'0000000000000009000000000000001C'
00001A30  00000000 0000001C
00001A38  4E1FF973 CAFA8001                        1286          DC    XL16'4E1FF973CAFA80014000000000000000'
00001A40  40000000 00000000
                                                   1287
                                                   1288
                                                   1289 * -9223372036854775808
                                                   1290          VRR_J VCSPH,1,0
00001A48                                           1291+         DS    0FD
00001A48                      00001A48             1292+         USING *,R5              base for test data and test routine
00001A48  00001A68                                 1293+T25      DC    A(X25)            address of test routine
00001A4C  0019                                     1294+         DC    H'25'             test number
00001A4E  00                                       1295+         DC    X'00'
00001A4F  01                                       1296+         DC    HL1'1'            m4
00001A50  00                                       1297+V3_25    DC    HL1'0'            scale
00001A54  00001A98                                 1298+V2_25    DC    A(RE25+16)        address of v2: 16-byte packed decimal
00001A58  E5C3E2D7 C8404040                        1299+         DC    CL8'VCSPH'        instruction name
00001A60  00000010                                 1300+         DC    A(16)             result length
00001A64  00001A88                                 1301+         DC    A(RE25)           address of expected result
                                                   1302+*
00001A68                                           1303+X25      DS    0F
00001A68  E710 8F14 0006                00001114   1304+         VL    V1,V1FUDGE        fudge V1
00001A6E  E320 500C 0014                00001A54   1305+         LGF   R2,V2_25          get v2
00001A74  E722 0000 0006                00000000   1306+         VL    V2,0(R2)
00001A7A  E730 5008 7000                00001A50   1307+         VLEB  V3,V3_25,7        get v3 scale
00001A80  E612 3010 007D                           1308+         VCSPH V1,V2,V3,1      test instruction
00001A86  07FB                                     1309+         BR    R11               return
00001A88                                           1310+RE25     DS    0F                expected 16 byte result
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001A88                                           1311+          DROP  R5
00001A88  00000000 00009223                        1312           DC    XL16'0000000000009223372036854775808D'
00001A90  37203685 4775808D
00001A98  D0800000 00000000                        1313           DC    XL16'D080000000000000C200000000000000'
00001AA0  C2000000 00000000
                                                   1314
                                                   1315
                                                   1316 *  9223372036854775807
                                                   1317           VRR_J VCSPH,1,0
00001AA8                                           1318+          DS    0FD
00001AA8                          00001AA8         1319+          USING *,R5              base for test data and test routine
00001AA8  00001AC8                                 1320+T26       DC    A(X26)            address of test routine
00001AAC  001A                                     1321+          DC    H'26'             test number
00001AAE  00                                       1322+          DC    X'00'
00001AAF  01                                       1323+          DC    HL1'1'            m4
00001AB0  00                                       1324+V3_26     DC    HL1'0'            scale
00001AB4  00001AF8                                 1325+V2_26     DC    A(RE26+16)        address of v2: 16-byte packed decimal
00001AB8  E5C3E2D7 C8404040                        1326+          DC    CL8'VCSPH'        instruction name
00001AC0  00000010                                 1327+          DC    A(16)             result length
00001AC4  00001AE8                                 1328+          DC    A(RE26)           address of expected result
                                                   1329+*
00001AC8                                           1330+X26       DS    0F
00001AC8  E710 8F14 0006                00001114   1331+          VL    V1,V1FUDGE        fudge V1
00001ACE  E320 500C 0014                00001AB4   1332+          LGF   R2,V2_26          get v2
00001AD4  E722 0000 0006                00000000   1333+          VL    V2,0(R2)
00001ADA  E730 5008 7000                00001AB0   1334+          VLEB  V3,V3_26,7        get v3 scale
00001AE0  E612 3010 007D                           1335+          VCSPH V1,V2,V3,1      test instruction
00001AE6  07FB                                     1336+          BR    R11               return
00001AE8                                           1337+RE26      DS    0F                expected 16 byte result
00001AE8                                           1338+          DROP  R5
00001AE8  00000000 00009223                        1339           DC    XL16'0000000000009223372036854775807C'
00001AF0  37203685 4775807C
00001AF8  507FFFFF FFFFFFFF                        1340           DC    XL16'507FFFFFFFFFFFF42FF000000000000'
00001B00  42FF0000 00000000
                                                   1341
                                                   1342
                                                   1343 * 18446744073709551615
                                                   1344           VRR_J VCSPH,1,0
00001B08                                           1345+          DS    0FD
00001B08                          00001B08         1346+          USING *,R5              base for test data and test routine
00001B08  00001B28                                 1347+T27       DC    A(X27)            address of test routine
00001B0C  001B                                     1348+          DC    H'27'             test number
00001B0E  00                                       1349+          DC    X'00'
00001B0F  01                                       1350+          DC    HL1'1'            m4
00001B10  00                                       1351+V3_27     DC    HL1'0'            scale
00001B14  00001B58                                 1352+V2_27     DC    A(RE27+16)        address of v2: 16-byte packed decimal
00001B18  E5C3E2D7 C8404040                        1353+          DC    CL8'VCSPH'        instruction name
00001B20  00000010                                 1354+          DC    A(16)             result length
00001B24  00001B48                                 1355+          DC    A(RE27)           address of expected result
                                                   1356+*
00001B28                                           1357+X27       DS    0F
00001B28  E710 8F14 0006                00001114   1358+          VL    V1,V1FUDGE        fudge V1
00001B2E  E320 500C 0014                00001B14   1359+          LGF   R2,V2_27          get v2
00001B34  E722 0000 0006                00000000   1360+          VL    V2,0(R2)
00001B3A  E730 5008 7000                00001B10   1361+          VLEB  V3,V3_27,7        get v3 scale
00001B40  E612 3010 007D                           1362+          VCSPH V1,V2,V3,1      test instruction
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001B46  07FB                                     1363+         BR    R11               return
00001B48                                           1364+RE27     DS    0F                expected 16 byte result
00001B48                                           1365+         DROP  R5
00001B48  00000000 00018446                        1366          DC    XL16'00000000000184467440737095516l5C'
00001B50  74407370 9551615C
00001B58  50FFFFFF FFFFFFFF                        1367          DC    XL16'50FFFFFFFFFFFFF42FF000000000000'
00001B60  42FF0000 00000000
                                                   1368
                                                   1369
                                                   1370 * 90090000000184467440737095516l5
                                                   1371          VRR_J VCSPH,1,0
00001B68                                           1372+         DS    0FD
00001B68                    00001B68               1373+         USING *,R5              base for test data and test routine
00001B68  00001B88                                 1374+T28      DC    A(X28)            address of test routine
00001B6C  001C                                     1375+         DC    H'28'             test number
00001B6E  00                                       1376+         DC    X'00'
00001B6F  01                                       1377+         DC    HL1'1'            m4
00001B70  00                                       1378+V3_28    DC    HL1'0'            scale
00001B74  00001BB8                                 1379+V2_28    DC    A(RE28+16)        address of v2: 16-byte packed decimal
00001B78  E5C3E2D7 C8404040                        1380+         DC    CL8'VCSPH'        instruction name
00001B80  00000010                                 1381+         DC    A(16)             result length
00001B84  00001BA8                                 1382+         DC    A(RE28)           address of expected result
                                                   1383+*
00001B88                                           1384+X28      DS    0F
00001B88  E710 8F14 0006              00001114     1385+         VL    V1,V1FUDGE        fudge V1
00001B8E  E320 500C 0014              00001B74     1386+         LGF   R2,V2_28          get v2
00001B94  E722 0000 0006              00000000     1387+         VL    V2,0(R2)
00001B9A  E730 5008 7000              00001B70     1388+         VLEB  V3,V3_28,7          get v3 scale
00001BA0  E612 3010 007D                           1389+         VCSPH V1,V2,V3,1        test instruction
00001BA6  07FB                                     1390+         BR    R11               return
00001BA8                                           1391+RE28     DS    0F                expected 16 byte result
00001BA8                                           1392+         DROP  R5
00001BA8  90090000 00018446                        1393          DC    XL16'90090000000184467440737095516l5C'
00001BB0  74407370 9551615C
00001BB8  5A71B5A6 23751870                        1394          DC    XL16'5A71B5A6237518704CDF6067FFFFFF00'
00001BC0  4CDF6067 FFFFFF00
                                                   1395
                                                   1396
                                                   1397 * 99999999900184467440737095516l5
                                                   1398          VRR_J VCSPH,1,0
00001BC8                                           1399+         DS    0FD
00001BC8                    00001BC8               1400+         USING *,R5              base for test data and test routine
00001BC8  00001BE8                                 1401+T29      DC    A(X29)            address of test routine
00001BCC  001D                                     1402+         DC    H'29'             test number
00001BCE  00                                       1403+         DC    X'00'
00001BCF  01                                       1404+         DC    HL1'1'            m4
00001BD0  00                                       1405+V3_29    DC    HL1'0'            scale
00001BD4  00001C18                                 1406+V2_29    DC    A(RE29+16)        address of v2: 16-byte packed decimal
00001BD8  E5C3E2D7 C8404040                        1407+         DC    CL8'VCSPH'        instruction name
00001BE0  00000010                                 1408+         DC    A(16)             result length
00001BE4  00001C08                                 1409+         DC    A(RE29)           address of expected result
                                                   1410+*
00001BE8                                           1411+X29      DS    0F
00001BE8  E710 8F14 0006              00001114     1412+         VL    V1,V1FUDGE        fudge V1
00001BEE  E320 500C 0014              00001BD4     1413+         LGF   R2,V2_29          get v2
00001BF4  E722 0000 0006              00000000     1414+         VL    V2,0(R2)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001BFA  E730 5008 7000                 00001BD0  1415+         VLEB  V3,V3_29,7        get v3 scale
00001C00  E612 3010 007D                           1416+         VCSPH V1,V2,V3,1      test instruction
00001C06  07FB                                     1417+         BR    R11               return
00001C08                                           1418+RE29     DS    0F                expected 16 byte result
00001C08                                           1419+         DROP  R5
00001C08  99999999 90018446                        1420          DC    XL16'999999990018446744073709551615C'
00001C10  74407370 9551615C
00001C18  5A7E37BE 1E05A6B0                        1421          DC    XL16'5A7E37BE1E05A6B04C816BCDBFFFFF00'
00001C20  4C816BCD BFFFFF00
                                                   1422
                                                   1423 * +1.25
                                                   1424          VRR_J VCSPH,1,0
00001C28                                           1425+         DS    0FD
00001C28                  00001C28                 1426+         USING *,R5              base for test data and test routine
00001C28  00001C48                                 1427+T30      DC    A(X30)            address of test routine
00001C2C  001E                                     1428+         DC    H'30'             test number
00001C2E  00                                       1429+         DC    X'00'
00001C2F  01                                       1430+         DC    HL1'1'            m4
00001C30  00                                       1431+V3_30    DC    HL1'0'            scale
00001C34  00001C78                                 1432+V2_30    DC    A(RE30+16)        address of v2: 16-byte packed decimal
00001C38  E5C3E2D7 C8404040                        1433+         DC    CL8'VCSPH'        instruction name
00001C40  00000010                                 1434+         DC    A(16)             result length
00001C44  00001C68                                 1435+         DC    A(RE30)           address of expected result
                                                   1436+*
00001C48                                           1437+X30      DS    0F
00001C48  E710 8F14 0006                 00001114  1438+         VL    V1,V1FUDGE        fudge V1
00001C4E  E320 500C 0014                 00001C34  1439+         LGF   R2,V2_30          get v2
00001C54  E722 0000 0006                 00000000  1440+         VL    V2,0(R2)
00001C5A  E730 5008 7000                 00001C30  1441+         VLEB  V3,V3_30,7        get v3 scale
00001C60  E612 3010 007D                           1442+         VCSPH V1,V2,V3,1      test instruction
00001C66  07FB                                     1443+         BR    R11               return
00001C68                                           1444+RE30     DS    0F                expected 16 byte result
00001C68                                           1445+         DROP  R5
00001C68  00000000 00000000                        1446          DC    XL16'0000000000000000000000000000001C'
00001C70  00000000 0000001C
00001C78  41140000 00000000                        1447          DC    XL16'41140000000000003300000000000000'
00001C80  33000000 00000000
                                                   1448
                                                   1449 * +1.5
                                                   1450          VRR_J VCSPH,1,0
00001C88                                           1451+         DS    0FD
00001C88                  00001C88                 1452+         USING *,R5              base for test data and test routine
00001C88  00001CA8                                 1453+T31      DC    A(X31)            address of test routine
00001C8C  001F                                     1454+         DC    H'31'             test number
00001C8E  00                                       1455+         DC    X'00'
00001C8F  01                                       1456+         DC    HL1'1'            m4
00001C90  00                                       1457+V3_31    DC    HL1'0'            scale
00001C94  00001CD8                                 1458+V2_31    DC    A(RE31+16)        address of v2: 16-byte packed decimal
00001C98  E5C3E2D7 C8404040                        1459+         DC    CL8'VCSPH'        instruction name
00001CA0  00000010                                 1460+         DC    A(16)             result length
00001CA4  00001CC8                                 1461+         DC    A(RE31)           address of expected result
                                                   1462+*
00001CA8                                           1463+X31      DS    0F
00001CA8  E710 8F14 0006                 00001114  1464+         VL    V1,V1FUDGE        fudge V1
00001CAE  E320 500C 0014                 00001C94  1465+         LGF   R2,V2_31          get v2
00001CB4  E722 0000 0006                 00000000  1466+         VL    V2,0(R2)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001CBA  E730 5008 7000                 00001C90  1467+         VLEB  V3,V3_31,7        get v3 scale
00001CC0  E612 3010 007D                           1468+         VCSPH V1,V2,V3,1      test instruction
00001CC6  07FB                                     1469+         BR    R11               return
00001CC8                                           1470+RE31     DS    0F                expected 16 byte result
00001CC8                                           1471+         DROP  R5
00001CC8  00000000 00000000                        1472          DC    XL16'00000000000000000000000000000002C'
00001CD0  00000000 0000002C
00001CD8  41180000 00000000                        1473          DC    XL16'41180000000000003300000000000000'
00001CE0  33000000 00000000
                                                   1474
                                                   1475 * +1.75
                                                   1476          VRR_J VCSPH,1,0
00001CE8                                           1477+         DS    0FD
00001CE8                       00001CE8            1478+         USING *,R5              base for test data and test routine
00001CE8  00001D08                                 1479+T32      DC    A(X32)            address of test routine
00001CEC  0020                                     1480+         DC    H'32'             test number
00001CEE  00                                       1481+         DC    X'00'
00001CEF  01                                       1482+         DC    HL1'1'            m4
00001CF0  00                                       1483+V3_32    DC    HL1'0'            scale
00001CF4  00001D38                                 1484+V2_32    DC    A(RE32+16)        address of v2: 16-byte packed decimal
00001CF8  E5C3E2D7 C8404040                        1485+         DC    CL8'VCSPH'        instruction name
00001D00  00000010                                 1486+         DC    A(16)             result length
00001D04  00001D28                                 1487+         DC    A(RE32)           address of expected result
                                                   1488+*
00001D08                                           1489+X32      DS    0F
00001D08  E710 8F14 0006                 00001114  1490+         VL    V1,V1FUDGE        fudge V1
00001D0E  E320 500C 0014                 00001CF4  1491+         LGF   R2,V2_32          get v2
00001D14  E722 0000 0006                 00000000  1492+         VL    V2,0(R2)
00001D1A  E730 5008 7000                 00001CF0  1493+         VLEB  V3,V3_32,7        get v3 scale
00001D20  E612 3010 007D                           1494+         VCSPH V1,V2,V3,1      test instruction
00001D26  07FB                                     1495+         BR    R11               return
00001D28                                           1496+RE32     DS    0F                expected 16 byte result
00001D28                                           1497+         DROP  R5
00001D28  00000000 00000000                        1498          DC    XL16'00000000000000000000000000000002C'
00001D30  00000000 0000002C
00001D38  411C0000 00000000                        1499          DC    XL16'411C0000000000003300000000000000'
00001D40  33000000 00000000
                                                   1500
                                                   1501 *-------------------------------------------------------------------
                                                   1502 * ROUND - with shifts
                                                   1503 *-------------------------------------------------------------------
                                                   1504 * +0
                                                   1505          VRR_J VCSPH,1,1
00001D48                                           1506+         DS    0FD
00001D48                       00001D48            1507+         USING *,R5              base for test data and test routine
00001D48  00001D68                                 1508+T33      DC    A(X33)            address of test routine
00001D4C  0021                                     1509+         DC    H'33'             test number
00001D4E  00                                       1510+         DC    X'00'
00001D4F  01                                       1511+         DC    HL1'1'            m4
00001D50  01                                       1512+V3_33    DC    HL1'1'            scale
00001D54  00001D98                                 1513+V2_33    DC    A(RE33+16)        address of v2: 16-byte packed decimal
00001D58  E5C3E2D7 C8404040                        1514+         DC    CL8'VCSPH'        instruction name
00001D60  00000010                                 1515+         DC    A(16)             result length
00001D64  00001D88                                 1516+         DC    A(RE33)           address of expected result
                                                   1517+*
00001D68                                           1518+X33      DS    0F
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001D68  E710 8F14 0006                 00001114  1519+          VL    V1,V1FUDGE        fudge V1
00001D6E  E320 500C 0014                 00001D54  1520+          LGF   R2,V2_33          get v2
00001D74  E722 0000 0006                 00000000  1521+          VL    V2,0(R2)
00001D7A  E730 5008 7000                 00001D50  1522+          VLEB  V3,V3_33,7        get v3 scale
00001D80  E612 3010 007D                           1523+          VCSPH V1,V2,V3,1      test instruction
00001D86  07FB                                     1524+          BR    R11               return
00001D88                                           1525+RE33      DS    0F                expected 16 byte result
00001D88                                           1526+          DROP  R5
00001D88  00000000 00000000                        1527           DC    XL16'0000000000000000000000000000000C'
00001D90  00000000 0000000C
00001D98  00000000 00000000                        1528           DC    XL16'00000000000000000000000000000000'
00001DA0  00000000 00000000
                                                   1529
                                                   1530
                                                   1531 * +1
                                                   1532           VRR_J VCSPH,1,1
00001DA8                                           1533+          DS    0FD
00001DA8                  00001DA8                 1534+          USING *,R5              base for test data and test routine
00001DA8  00001DC8                                 1535+T34       DC    A(X34)            address of test routine
00001DAC  0022                                     1536+          DC    H'34'             test number
00001DAE  00                                       1537+          DC    X'00'
00001DAF  01                                       1538+          DC    HL1'1'            m4
00001DB0  01                                       1539+V3_34     DC    HL1'1'            scale
00001DB4  00001DF8                                 1540+V2_34     DC    A(RE34+16)        address of v2: 16-byte packed decimal
00001DB8  E5C3E2D7 C8404040                        1541+          DC    CL8'VCSPH'        instruction name
00001DC0  00000010                                 1542+          DC    A(16)             result length
00001DC4  00001DE8                                 1543+          DC    A(RE34)           address of expected result
                                                   1544+*
00001DC8                                           1545+X34       DS    0F
00001DC8  E710 8F14 0006                 00001114  1546+          VL    V1,V1FUDGE        fudge V1
00001DCE  E320 500C 0014                 00001DB4  1547+          LGF   R2,V2_34          get v2
00001DD4  E722 0000 0006                 00000000  1548+          VL    V2,0(R2)
00001DDA  E730 5008 7000                 00001DB0  1549+          VLEB  V3,V3_34,7        get v3 scale
00001DE0  E612 3010 007D                           1550+          VCSPH V1,V2,V3,1      test instruction
00001DE6  07FB                                     1551+          BR    R11               return
00001DE8                                           1552+RE34      DS    0F                expected 16 byte result
00001DE8                                           1553+          DROP  R5
00001DE8  00000000 00000000                        1554           DC    XL16'0000000000000000000000000000010C'
00001DF0  00000000 0000010C
00001DF8  41100000 00000000                        1555           DC    XL16'41100000000000003300000000000000'
00001E00  33000000 00000000
                                                   1556
                                                   1557 * -1
                                                   1558           VRR_J VCSPH,1,1
00001E08                                           1559+          DS    0FD
00001E08                  00001E08                 1560+          USING *,R5              base for test data and test routine
00001E08  00001E28                                 1561+T35       DC    A(X35)            address of test routine
00001E0C  0023                                     1562+          DC    H'35'             test number
00001E0E  00                                       1563+          DC    X'00'
00001E0F  01                                       1564+          DC    HL1'1'            m4
00001E10  01                                       1565+V3_35     DC    HL1'1'            scale
00001E14  00001E58                                 1566+V2_35     DC    A(RE35+16)        address of v2: 16-byte packed decimal
00001E18  E5C3E2D7 C8404040                        1567+          DC    CL8'VCSPH'        instruction name
00001E20  00000010                                 1568+          DC    A(16)             result length
00001E24  00001E48                                 1569+          DC    A(RE35)           address of expected result
                                                   1570+*
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001E28                                           1571+X35      DS    0F
00001E28  E710 8F14 0006                 00001114  1572+          VL    V1,V1FUDGE        fudge V1
00001E2E  E320 500C 0014                 00001E14  1573+          LGF   R2,V2_35          get v2
00001E34  E722 0000 0006                 00000000  1574+          VL    V2,0(R2)
00001E3A  E730 5008 7000                 00001E10  1575+          VLEB  V3,V3_35,7        get v3 scale
00001E40  E612 3010 007D                           1576+          VCSPH V1,V2,V3,1      test instruction
00001E46  07FB                                     1577+          BR    R11               return
00001E48                                           1578+RE35      DS    0F                expected 16 byte result
00001E48                                           1579+          DROP  R5
00001E48  00000000 00000000                        1580           DC    XL16'0000000000000000000000000000010D'
00001E50  00000000 0000010D
00001E58  C1100000 00000000                        1581           DC    XL16'C11000000000000B300000000000000'
00001E60  B3000000 00000000
                                                   1582
                                                   1583
                                                   1584 * +9000000000000001
                                                   1585           VRR_J VCSPH,1,2
00001E68                                           1586+          DS    0FD
00001E68                         00001E68          1587+          USING *,R5              base for test data and test routine
00001E68  00001E88                                 1588+T36       DC    A(X36)            address of test routine
00001E6C  0024                                     1589+          DC    H'36'             test number
00001E6E  00                                       1590+          DC    X'00'
00001E6F  01                                       1591+          DC    HL1'1'            m4
00001E70  02                                       1592+V3_36     DC    HL1'2'            scale
00001E74  00001EB8                                 1593+V2_36     DC    A(RE36+16)        address of v2: 16-byte packed decimal
00001E78  E5C3E2D7 C8404040                        1594+          DC    CL8'VCSPH'        instruction name
00001E80  00000010                                 1595+          DC    A(16)             result length
00001E84  00001EA8                                 1596+          DC    A(RE36)           address of expected result
                                                   1597+*
00001E88                                           1598+X36       DS    0F
00001E88  E710 8F14 0006                 00001114  1599+          VL    V1,V1FUDGE        fudge V1
00001E8E  E320 500C 0014                 00001E74  1600+          LGF   R2,V2_36          get v2
00001E94  E722 0000 0006                 00000000  1601+          VL    V2,0(R2)
00001E9A  E730 5008 7000                 00001E70  1602+          VLEB  V3,V3_36,7        get v3 scale
00001EA0  E612 3010 007D                           1603+          VCSPH V1,V2,V3,1      test instruction
00001EA6  07FB                                     1604+          BR    R11               return
00001EA8                                           1605+RE36      DS    0F                expected 16 byte result
00001EA8                                           1606+          DROP  R5
00001EA8  00000000 00000900                        1607           DC    XL16'0000000000000900000000000000100C'
00001EB0  00000000 0000100C
00001EB8  4E1FF973 CAFA8001                        1608           DC    XL16'4E1FF973CAFA800140000000000000000'
00001EC0  40000000 00000000
                                                   1609
                                                   1610
                                                   1611 * -9223372036854775808
                                                   1612           VRR_J VCSPH,1,2
00001EC8                                           1613+          DS    0FD
00001EC8                         00001EC8          1614+          USING *,R5              base for test data and test routine
00001EC8  00001EE8                                 1615+T37       DC    A(X37)            address of test routine
00001ECC  0025                                     1616+          DC    H'37'             test number
00001ECE  00                                       1617+          DC    X'00'
00001ECF  01                                       1618+          DC    HL1'1'            m4
00001ED0  02                                       1619+V3_37     DC    HL1'2'            scale
00001ED4  00001F18                                 1620+V2_37     DC    A(RE37+16)        address of v2: 16-byte packed decimal
00001ED8  E5C3E2D7 C8404040                        1621+          DC    CL8'VCSPH'        instruction name
00001EE0  00000010                                 1622+          DC    A(16)             result length
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001EE4  00001F08                                1623+         DC    A(RE37)           address of expected result
                                                  1624+*
00001EE8                                          1625+X37      DS    0F
00001EE8  E710 8F14 0006                00001114  1626+         VL    V1,V1FUDGE        fudge V1
00001EEE  E320 500C 0014                00001ED4  1627+         LGF   R2,V2_37          get v2
00001EF4  E722 0000 0006                00000000  1628+         VL    V2,0(R2)
00001EFA  E730 5008 7000                00001ED0  1629+         VLEB  V3,V3_37,7        get v3 scale
00001F00  E612 3010 007D                          1630+         VCSPH V1,V2,V3,1      test instruction
00001F06  07FB                                    1631+         BR    R11               return
00001F08                                          1632+RE37     DS    0F                expected 16 byte result
00001F08                                          1633+         DROP  R5
00001F08  00000000 00922337                       1634          DC    XL16'00000000092233720368547758080D'
00001F10  20368547 7580800D
00001F18  D0800000 00000000                       1635          DC    XL16'D080000000000000C200000000000000'
00001F20  C2000000 00000000
                                                  1636
                                                  1637
                                                  1638 *  9223372036854775807
                                                  1639          VRR_J VCSPH,1,2
00001F28                                          1640+         DS    0FD
00001F28                        00001F28          1641+         USING *,R5              base for test data and test routine
00001F28  00001F48                                1642+T38      DC    A(X38)            address of test routine
00001F2C  0026                                    1643+         DC    H'38'             test number
00001F2E  00                                      1644+         DC    X'00'
00001F2F  01                                      1645+         DC    HL1'1'            m4
00001F30  02                                      1646+V3_38    DC    HL1'2'            scale
00001F34  00001F78                                1647+V2_38    DC    A(RE38+16)        address of v2: 16-byte packed decimal
00001F38  E5C3E2D7 C8404040                       1648+         DC    CL8'VCSPH'        instruction name
00001F40  00000010                                1649+         DC    A(16)             result length
00001F44  00001F68                                1650+         DC    A(RE38)           address of expected result
                                                  1651+*
00001F48                                          1652+X38      DS    0F
00001F48  E710 8F14 0006                00001114  1653+         VL    V1,V1FUDGE        fudge V1
00001F4E  E320 500C 0014                00001F34  1654+         LGF   R2,V2_38          get v2
00001F54  E722 0000 0006                00000000  1655+         VL    V2,0(R2)
00001F5A  E730 5008 7000                00001F30  1656+         VLEB  V3,V3_38,7        get v3 scale
00001F60  E612 3010 007D                          1657+         VCSPH V1,V2,V3,1      test instruction
00001F66  07FB                                    1658+         BR    R11               return
00001F68                                          1659+RE38     DS    0F                expected 16 byte result
00001F68                                          1660+         DROP  R5
00001F68  00000000 00922337                       1661          DC    XL16'00000000092233720368547758070C'
00001F70  20368547 7580700C
00001F78  507FFFFF FFFFFFFF                       1662          DC    XL16'507FFFFFFFFFFFF42FF000000000000'
00001F80  42FF0000 00000000
                                                  1663
                                                  1664
                                                  1665 * 18446744073709551615
                                                  1666          VRR_J VCSPH,1,2
00001F88                                          1667+         DS    0FD
00001F88                        00001F88          1668+         USING *,R5              base for test data and test routine
00001F88  00001FA8                                1669+T39      DC    A(X39)            address of test routine
00001F8C  0027                                    1670+         DC    H'39'             test number
00001F8E  00                                      1671+         DC    X'00'
00001F8F  01                                      1672+         DC    HL1'1'            m4
00001F90  02                                      1673+V3_39    DC    HL1'2'            scale
00001F94  00001FD8                                1674+V2_39    DC    A(RE39+16)        address of v2: 16-byte packed decimal
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001F98  E5C3E2D7 C8404040                        1675+          DC    CL8'VCSPH'         instruction name
00001FA0  00000010                                 1676+          DC    A(16)              result length
00001FA4  00001FC8                                 1677+          DC    A(RE39)            address of expected result
                                                   1678+*
00001FA8                                           1679+X39       DS    0F
00001FA8  E710 8F14 0006                 00001114  1680+          VL    V1,V1FUDGE         fudge V1
00001FAE  E320 500C 0014                 00001F94  1681+          LGF   R2,V2_39           get v2
00001FB4  E722 0000 0006                 00000000  1682+          VL    V2,0(R2)
00001FBA  E730 5008 7000                 00001F90  1683+          VLEB  V3,V3_39,7         get v3 scale
00001FC0  E612 3010 007D                           1684+          VCSPH V1,V2,V3,1       test instruction
00001FC6  07FB                                     1685+          BR    R11                return
00001FC8                                           1686+RE39      DS    0F                 expected 16 byte result
00001FC8                                           1687+          DROP  R5
00001FC8  00000000 01844674                        1688           DC    XL16'00000000184467440737095516150C'
00001FD0  40737095 5161500C
00001FD8  50FFFFFF FFFFFFFF                        1689           DC    XL16'50FFFFFFFFFFFF42FF000000000000'
00001FE0  42FF0000 00000000
                                                   1690
                                                   1691
                                                   1692 * 900900000001844674407370955161 5
                                                   1693           VRR_J VCSPH,1,3
00001FE8                                           1694+          DS    0FD
00001FE8                         00001FE8          1695+          USING *,R5               base for test data and test routine
00001FE8  00002008                                 1696+T40       DC    A(X40)             address of test routine
00001FEC  0028                                     1697+          DC    H'40'              test number
00001FEE  00                                       1698+          DC    X'00'
00001FEF  01                                       1699+          DC    HL1'1'             m4
00001FF0  03                                       1700+V3_40     DC    HL1'3'             scale
00001FF4  00002038                                 1701+V2_40     DC    A(RE40+16)         address of v2: 16-byte packed decimal
00001FF8  E5C3E2D7 C8404040                        1702+          DC    CL8'VCSPH'         instruction name
00002000  00000010                                 1703+          DC    A(16)              result length
00002004  00002028                                 1704+          DC    A(RE40)            address of expected result
                                                   1705+*
00002008                                           1706+X40       DS    0F
00002008  E710 8F14 0006                 00001114  1707+          VL    V1,V1FUDGE         fudge V1
0000200E  E320 500C 0014                 00001FF4  1708+          LGF   R2,V2_40           get v2
00002014  E722 0000 0006                 00000000  1709+          VL    V2,0(R2)
0000201A  E730 5008 7000                 00001FF0  1710+          VLEB  V3,V3_40,7         get v3 scale
00002020  E612 3010 007D                           1711+          VCSPH V1,V2,V3,1       test instruction
00002026  07FB                                     1712+          BR    R11                return
00002028                                           1713+RE40      DS    0F                 expected 16 byte result
00002028                                           1714+          DROP  R5
00002028  90000000 18446744                        1715           DC    XL16'900000001844674407370955161500C'
00002030  07370955 1615000C
00002038  5A71B5A6 23751870                        1716           DC    XL16'5A71B5A6237518704CDF6067FFFFFF00'
00002040  4CDF6067 FFFFFF00
                                                   1717
                                                   1718
                                                   1719 * 999999990018446744073709551615
                                                   1720           VRR_J VCSPH,1,3
00002048                                           1721+          DS    0FD
00002048                         00002048          1722+          USING *,R5               base for test data and test routine
00002048  00002068                                 1723+T41       DC    A(X41)             address of test routine
0000204C  0029                                     1724+          DC    H'41'              test number
0000204E  00                                       1725+          DC    X'00'
0000204F  01                                       1726+          DC    HL1'1'             m4
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00002050  03                                       1727+V3_41    DC    HL1'3'              scale
00002054  00002098                                 1728+V2_41    DC    A(RE41+16)          address of v2: 16-byte packed decimal
00002058  E5C3E2D7 C8404040                        1729+         DC    CL8'VCSPH'          instruction name
00002060  00000010                                 1730+         DC    A(16)               result length
00002064  00002088                                 1731+         DC    A(RE41)             address of expected result
                                                   1732+*
00002068                                           1733+X41      DS    0F
00002068  E710 8F14 0006                 00001114  1734+         VL    V1,V1FUDGE          fudge V1
0000206E  E320 500C 0014                 00002054  1735+         LGF   R2,V2_41            get v2
00002074  E722 0000 0006                 00000000  1736+         VL    V2,0(R2)
0000207A  E730 5008 7000                 00002050  1737+         VLEB  V3,V3_41,7          get v3 scale
00002080  E612 3010 007D                           1738+         VCSPH V1,V2,V3,1      test instruction
00002086  07FB                                     1739+         BR    R11                 return
00002088                                           1740+RE41     DS    0F                  expected 16 byte result
00002088                                           1741+         DROP  R5
00002088  99999900 18446744                        1742          DC    XL16'999999001844674407370955161500 0C'
00002090  07370955 1615000C
00002098  5A7E37BE 1E05A6B0                        1743          DC    XL16'5A7E37BE1E05A6B04C816BCDBFFFFF00'
000020A0  4C816BCD BFFFFF00
                                                   1744
                                                   1745
                                                   1746 * +1.25
                                                   1747          VRR_J VCSPH,1,1
000020A8                                           1748+         DS    0FD
000020A8                      000020A8             1749+         USING *,R5                base for test data and test routine
000020A8  000020C8                                 1750+T42      DC    A(X42)              address of test routine
000020AC  002A                                     1751+         DC    H'42'               test number
000020AE  00                                       1752+         DC    X'00'
000020AF  01                                       1753+         DC    HL1'1'              m4
000020B0  01                                       1754+V3_42    DC    HL1'1'              scale
000020B4  000020F8                                 1755+V2_42    DC    A(RE42+16)          address of v2: 16-byte packed decimal
000020B8  E5C3E2D7 C8404040                        1756+         DC    CL8'VCSPH'          instruction name
000020C0  00000010                                 1757+         DC    A(16)               result length
000020C4  000020E8                                 1758+         DC    A(RE42)             address of expected result
                                                   1759+*
000020C8                                           1760+X42      DS    0F
000020C8  E710 8F14 0006                 00001114  1761+         VL    V1,V1FUDGE          fudge V1
000020CE  E320 500C 0014                 000020B4  1762+         LGF   R2,V2_42            get v2
000020D4  E722 0000 0006                 00000000  1763+         VL    V2,0(R2)
000020DA  E730 5008 7000                 000020B0  1764+         VLEB  V3,V3_42,7          get v3 scale
000020E0  E612 3010 007D                           1765+         VCSPH V1,V2,V3,1      test instruction
000020E6  07FB                                     1766+         BR    R11                 return
000020E8                                           1767+RE42     DS    0F                  expected 16 byte result
000020E8                                           1768+         DROP  R5
000020E8  00000000 00000000                        1769          DC    XL16'0000000000000000000000000000013C'
000020F0  00000000 0000013C
000020F8  41140000 00000000                        1770          DC    XL16'411400000000000033000000000000000'
00002100  33000000 00000000
                                                   1771
                                                   1772 * +1.5
                                                   1773          VRR_J VCSPH,1,1
00002108                                           1774+         DS    0FD
00002108                      00002108             1775+         USING *,R5                base for test data and test routine
00002108  00002128                                 1776+T43      DC    A(X43)              address of test routine
0000210C  002B                                     1777+         DC    H'43'               test number
0000210E  00                                       1778+         DC    X'00'
```

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  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
0000210F  01                                       1779+          DC    HL1'1'            m4
00002110  01                                       1780+V3_43     DC    HL1'1'            scale
00002114  00002158                                 1781+V2_43     DC    A(RE43+16)        address of v2: 16-byte packed decimal
00002118  E5C3E2D7 C8404040                        1782+          DC    CL8'VCSPH'        instruction name
00002120  00000010                                 1783+          DC    A(16)             result length
00002124  00002148                                 1784+          DC    A(RE43)           address of expected result
                                                   1785+*
00002128                                           1786+X43       DS    0F
00002128  E710 8F14 0006                 00001114  1787+          VL    V1,V1FUDGE        fudge V1
0000212E  E320 500C 0014                 00002114  1788+          LGF   R2,V2_43          get v2
00002134  E722 0000 0006                 00000000  1789+          VL    V2,0(R2)
0000213A  E730 5008 7000                 00002110  1790+          VLEB  V3,V3_43,7        get v3 scale
00002140  E612 3010 007D                           1791+          VCSPH V1,V2,V3,1      test instruction
00002146  07FB                                     1792+          BR    R11               return
00002148                                           1793+RE43      DS    0F                expected 16 byte result
00002148                                           1794+          DROP  R5
00002148  00000000 00000000                        1795           DC    XL16'0000000000000000000000000000015C'
00002150  00000000 0000015C
00002158  41180000 00000000                        1796           DC    XL16'41180000000000003300000000000000'
00002160  33000000 00000000
                                                   1797
                                                   1798 * +1.75
                                                   1799           VRR_J VCSPH,1,1
00002168                                           1800+          DS    0FD
00002168                 00002168                  1801+          USING *,R5              base for test data and test routine
00002168  00002188                                 1802+T44       DC    A(X44)            address of test routine
0000216C  002C                                     1803+          DC    H'44'             test number
0000216E  00                                       1804+          DC    X'00'
0000216F  01                                       1805+          DC    HL1'1'            m4
00002170  01                                       1806+V3_44     DC    HL1'1'            scale
00002174  000021B8                                 1807+V2_44     DC    A(RE44+16)        address of v2: 16-byte packed decimal
00002178  E5C3E2D7 C8404040                        1808+          DC    CL8'VCSPH'        instruction name
00002180  00000010                                 1809+          DC    A(16)             result length
00002184  000021A8                                 1810+          DC    A(RE44)           address of expected result
                                                   1811+*
00002188                                           1812+X44       DS    0F
00002188  E710 8F14 0006                 00001114  1813+          VL    V1,V1FUDGE        fudge V1
0000218E  E320 500C 0014                 00002174  1814+          LGF   R2,V2_44          get v2
00002194  E722 0000 0006                 00000000  1815+          VL    V2,0(R2)
0000219A  E730 5008 7000                 00002170  1816+          VLEB  V3,V3_44,7        get v3 scale
000021A0  E612 3010 007D                           1817+          VCSPH V1,V2,V3,1      test instruction
000021A6  07FB                                     1818+          BR    R11               return
000021A8                                           1819+RE44      DS    0F                expected 16 byte result
000021A8                                           1820+          DROP  R5
000021A8  00000000 00000000                       1821           DC    XL16'0000000000000000000000000000018C'
000021B0  00000000 0000018C
000021B8  411C0000 00000000                       1822           DC    XL16'411C0000000000033000000000000000'
000021C0  33000000 00000000
                                                   1823
000021C8  00000000                                 1824           DC    F'0'     END OF TABLE
000021CC  00000000                                 1825           DC    F'0'
                                                   1826 *
                                                   1827 * table of pointers to individual tests
                                                   1828 *
000021D0                                           1829 E6TESTS   DS    0F
                                                   1830           PTTABLE
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000021D0                                         1831+TTABLE   DS    0F
000021D0  00001148                               1832+         DC    A(T1)             TEST &CUR
000021D4  000011A8                               1833+         DC    A(T2)             TEST &CUR
000021D8  00001208                               1834+         DC    A(T3)             TEST &CUR
000021DC  00001268                               1835+         DC    A(T4)             TEST &CUR
000021E0  000012C8                               1836+         DC    A(T5)             TEST &CUR
000021E4  00001328                               1837+         DC    A(T6)             TEST &CUR
000021E8  00001388                               1838+         DC    A(T7)             TEST &CUR
000021EC  000013E8                               1839+         DC    A(T8)             TEST &CUR
000021F0  00001448                               1840+         DC    A(T9)             TEST &CUR
000021F4  000014A8                               1841+         DC    A(T10)            TEST &CUR
000021F8  00001508                               1842+         DC    A(T11)            TEST &CUR
000021FC  00001568                               1843+         DC    A(T12)            TEST &CUR
00002200  000015C8                               1844+         DC    A(T13)            TEST &CUR
00002204  00001628                               1845+         DC    A(T14)            TEST &CUR
00002208  00001688                               1846+         DC    A(T15)            TEST &CUR
0000220C  000016E8                               1847+         DC    A(T16)            TEST &CUR
00002210  00001748                               1848+         DC    A(T17)            TEST &CUR
00002214  000017A8                               1849+         DC    A(T18)            TEST &CUR
00002218  00001808                               1850+         DC    A(T19)            TEST &CUR
0000221C  00001868                               1851+         DC    A(T20)            TEST &CUR
00002220  000018C8                               1852+         DC    A(T21)            TEST &CUR
00002224  00001928                               1853+         DC    A(T22)            TEST &CUR
00002228  00001988                               1854+         DC    A(T23)            TEST &CUR
0000222C  000019E8                               1855+         DC    A(T24)            TEST &CUR
00002230  00001A48                               1856+         DC    A(T25)            TEST &CUR
00002234  00001AA8                               1857+         DC    A(T26)            TEST &CUR
00002238  00001B08                               1858+         DC    A(T27)            TEST &CUR
0000223C  00001B68                               1859+         DC    A(T28)            TEST &CUR
00002240  00001BC8                               1860+         DC    A(T29)            TEST &CUR
00002244  00001C28                               1861+         DC    A(T30)            TEST &CUR
00002248  00001C88                               1862+         DC    A(T31)            TEST &CUR
0000224C  00001CE8                               1863+         DC    A(T32)            TEST &CUR
00002250  00001D48                               1864+         DC    A(T33)            TEST &CUR
00002254  00001DA8                               1865+         DC    A(T34)            TEST &CUR
00002258  00001E08                               1866+         DC    A(T35)            TEST &CUR
0000225C  00001E68                               1867+         DC    A(T36)            TEST &CUR
00002260  00001EC8                               1868+         DC    A(T37)            TEST &CUR
00002264  00001F28                               1869+         DC    A(T38)            TEST &CUR
00002268  00001F88                               1870+         DC    A(T39)            TEST &CUR
0000226C  00001FE8                               1871+         DC    A(T40)            TEST &CUR
00002270  00002048                               1872+         DC    A(T41)            TEST &CUR
00002274  000020A8                               1873+         DC    A(T42)            TEST &CUR
00002278  00002108                               1874+         DC    A(T43)            TEST &CUR
0000227C  00002168                               1875+         DC    A(T44)            TEST &CUR
                                                 1876+*
00002280  00000000                               1877+         DC    A(0)              END OF TABLE
00002284  00000000                               1878+         DC    A(0)
                                                 1879
00002288  00000000                               1880          DC    F'0'      END OF TABLE
0000228C  00000000                               1881          DC    F'0'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1883 ********************************************************************************
                                                    1884 *        Register equates
                                                    1885 ********************************************************************************

                             00000000  00000001  1887 R0       EQU   0
                             00000001  00000001  1888 R1       EQU   1
                             00000002  00000001  1889 R2       EQU   2
                             00000003  00000001  1890 R3       EQU   3
                             00000004  00000001  1891 R4       EQU   4
                             00000005  00000001  1892 R5       EQU   5
                             00000006  00000001  1893 R6       EQU   6
                             00000007  00000001  1894 R7       EQU   7
                             00000008  00000001  1895 R8       EQU   8
                             00000009  00000001  1896 R9       EQU   9
                             0000000A  00000001  1897 R10      EQU   10
                             0000000B  00000001  1898 R11      EQU   11
                             0000000C  00000001  1899 R12      EQU   12
                             0000000D  00000001  1900 R13      EQU   13
                             0000000E  00000001  1901 R14      EQU   14
                             0000000F  00000001  1902 R15      EQU   15

                                                    1904 ********************************************************************************
                                                    1905 *        Register equates
                                                    1906 ********************************************************************************

                             00000000  00000001  1908 FPR0     EQU   0
                             00000001  00000001  1909 FPR1     EQU   1
                             00000002  00000001  1910 FPR2     EQU   2
                             00000003  00000001  1911 FPR3     EQU   3
                             00000004  00000001  1912 FPR4     EQU   4
                             00000005  00000001  1913 FPR5     EQU   5
                             00000006  00000001  1914 FPR6     EQU   6
                             00000007  00000001  1915 FPR7     EQU   7
                             00000008  00000001  1916 FPR8     EQU   8
                             00000009  00000001  1917 FPR9     EQU   9
                             0000000A  00000001  1918 FPR10    EQU   10
                             0000000B  00000001  1919 FPR11    EQU   11
                             0000000C  00000001  1920 FPR12    EQU   12
                             0000000D  00000001  1921 FPR13    EQU   13
                             0000000E  00000001  1922 FPR14    EQU   14
                             0000000F  00000001  1923 FPR15    EQU   15

                                                    1925 ********************************************************************************
                                                    1926 *        Register equates
                                                    1927 ********************************************************************************

                             00000000  00000001  1929 V0       EQU   0
                             00000001  00000001  1930 V1       EQU   1
                             00000002  00000001  1931 V2       EQU   2
                             00000003  00000001  1932 V3       EQU   3
                             00000004  00000001  1933 V4       EQU   4
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2    STMT
                                00000005  00000001  1934 V5       EQU   5
                                00000006  00000001  1935 V6       EQU   6
                                00000007  00000001  1936 V7       EQU   7
                                00000008  00000001  1937 V8       EQU   8
                                00000009  00000001  1938 V9       EQU   9
                                0000000A  00000001  1939 V10      EQU   10
                                0000000B  00000001  1940 V11      EQU   11
                                0000000C  00000001  1941 V12      EQU   12
                                0000000D  00000001  1942 V13      EQU   13
                                0000000E  00000001  1943 V14      EQU   14
                                0000000F  00000001  1944 V15      EQU   15
                                00000010  00000001  1945 V16      EQU   16
                                00000011  00000001  1946 V17      EQU   17
                                00000012  00000001  1947 V18      EQU   18
                                00000013  00000001  1948 V19      EQU   19
                                00000014  00000001  1949 V20      EQU   20
                                00000015  00000001  1950 V21      EQU   21
                                00000016  00000001  1951 V22      EQU   22
                                00000017  00000001  1952 V23      EQU   23
                                00000018  00000001  1953 V24      EQU   24
                                00000019  00000001  1954 V25      EQU   25
                                0000001A  00000001  1955 V26      EQU   26
                                0000001B  00000001  1956 V27      EQU   27
                                0000001C  00000001  1957 V28      EQU   28
                                0000001D  00000001  1958 V29      EQU   29
                                0000001E  00000001  1959 V30      EQU   30
                                0000001F  00000001  1960 V31      EQU   31
                                                    1961
                                                    1962          END
```

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
BEGIN	I	00000200	2	162	127 158 159 160
CTLR0	F	000005CC	4	456	172 173 174 175
DECNUM	C	000010D3	16	530	289 291 298 300 305 307 332 334 341 343 348 350
E6TEST	4	00000000	32	547	222
E6TESTS	F	000021D0	4	1829	215
EDIT	X	000010A7	18	525	290 299 306 333 342 349
ENDTEST	U	000004A0	1	370	220
EOJ	I	000005B0	4	446	207 373
EOJPSW	D	000005A0	8	444	446
FAILCONT	U	00000490	1	360	
FAILED	F	00001000	4	485	362 371
FAILMSG	U	00000428	1	330	236
FAILPSW	D	000005B8	8	448	450
FAILTEST	I	000005C8	4	450	374
FB0001	F	000002A0	8	191	195 196 198
FPR0	U	00000000	1	1908	
FPR1	U	00000001	1	1909	
FPR10	U	0000000A	1	1918	
FPR11	U	0000000B	1	1919	
FPR12	U	0000000C	1	1920	
FPR13	U	0000000D	1	1921	
FPR14	U	0000000E	1	1922	
FPR15	U	0000000F	1	1923	
FPR2	U	00000002	1	1910	
FPR3	U	00000003	1	1911	
FPR4	U	00000004	1	1912	258 267 272
FPR5	U	00000005	1	1913	
FPR6	U	00000006	1	1914	259
FPR7	U	00000007	1	1915	
FPR8	U	00000008	1	1916	
FPR9	U	00000009	1	1917	
IMAGE	1	00000000	8848	0	
K	U	00000400	1	469	470 471 472
K64	U	00010000	1	471	
M4	U	00000007	1	551	262 297 340
MB	U	00100000	1	472	
MSG	I	000004E8	4	406	206 389
MSGCMD	C	00000536	9	436	419 420
MSGMSG	C	0000053F	95	437	413 434 411
MSGMVC	I	00000530	6	434	417
MSGOK	I	000004FE	2	415	412
MSGRET	I	0000051E	4	430	423 426
MSGSAVE	F	00000524	4	433	409 430
NEXTE6	U	000002F4	1	217	239 365
OPNAME	C	00000010	8	554	294 337
PAGE	U	00001000	1	470	
PRT3	C	000010BD	18	528	290 291 292 299 300 301 306 307 308 333 334 335 342 343 344 349 350 351
PRTLINE	C	00001008	13	494	503 354
PRTLNG	U	0000004C	1	503	353
PRTM4	C	00001041	2	499	344
PRTNAME	C	00001030	8	497	337
PRTNUM	C	00001015	3	495	335
PRTSCALE	C	00001050	3	501	351
R0	U	00000000	1	1887	121 172 175 195 197 198 199 204 224 225 267 272 283 311 353 361 362 388 390 406 409 411 413 415 430

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
R1	U	00000001	1	1888	205 234 235 250 251 252 261 262 263 264 278 283 312 354 371 372 420 434
R10	U	0000000A	1	1897	160 169 170
R11	U	0000000B	1	1898	227 228 669 695 721 747 774 801 828 854 880 906 935 961 987 1014 1041 1068 1095 1121 1147 1173 1202 1229 1255 1282 1309 1336 1363 1390 1417 1443 1469 1495 1524 1551 1577 1604 1631 1658 1685 1712 1739 1766 1792 1818
R12	U	0000000C	1	1899	215 218 238 364
R13	U	0000000D	1	1900	
R14	U	0000000E	1	1901	
R15	U	0000000F	1	1902	232 253 284 310 313 315 316 355 383 393 394
R2	U	00000002	1	1889	206 283 288 289 296 297 298 303 304 305 331 332 339 340 341 346 347 348 388 389 390 407 409 415 416 417 419 425 430 431 665 666 691 692 717 718 743 744 770 771 797 798 824 825 850 851 876 877 902 903 931 932 957 958 983 984 1010 1011 1037 1038 1064 1065 1091 1092 1117 1118 1143 1144 1169 1170 1198 1199 1225 1226 1251 1252 1278 1279 1305 1306 1332 1333 1359 1360 1386 1387 1413 1414 1439 1440 1465 1466 1491 1492 1520 1521 1547 1548 1573 1574 1600 1601 1627 1628 1654 1655 1681 1682 1708 1709 1735 1736 1762 1763 1788 1789 1814 1815
R3	U	00000003	1	1890	
R4	U	00000004	1	1891	
R5	U	00000005	1	1892	218 219 222 384 392 652 671 678 697 704 723 730 749 757 776 784 803 811 830 837 856 863 882 889 908 918 937 944 963 970 989 997 1016 1024 1043 1051 1070 1078 1097 1104 1123 1130 1149 1156 1175 1185 1204 1212 1231 1238 1257 1265 1284 1292 1311 1319 1338 1346 1365 1373 1392 1400 1419 1426 1445 1452 1471 1478 1497 1507 1526 1534 1553 1560 1579 1587 1606 1614 1633 1641 1660 1668 1687 1695 1714 1722 1741 1749 1768 1775 1794 1801 1820
R6	U	00000006	1	1893	
R7	U	00000007	1	1894	
R8	U	00000008	1	1895	158 162 163 164 166
R9	U	00000009	1	1896	159 166 167 169
RE1	F	00001188	4	670	658 661
RE10	F	000014E8	4	907	895 898
RE11	F	00001548	4	936	924 927
RE12	F	000015A8	4	962	950 953
RE13	F	00001608	4	988	976 979
RE14	F	00001668	4	1015	1003 1006
RE15	F	000016C8	4	1042	1030 1033
RE16	F	00001728	4	1069	1057 1060
RE17	F	00001788	4	1096	1084 1087
RE18	F	000017E8	4	1122	1110 1113
RE19	F	00001848	4	1148	1136 1139
RE2	F	000011E8	4	696	684 687
RE20	F	000018A8	4	1174	1162 1165
RE21	F	00001908	4	1203	1191 1194
RE22	F	00001968	4	1230	1218 1221
RE23	F	000019C8	4	1256	1244 1247
RE24	F	00001A28	4	1283	1271 1274
RE25	F	00001A88	4	1310	1298 1301
RE26	F	00001AE8	4	1337	1325 1328
RE27	F	00001B48	4	1364	1352 1355
RE28	F	00001BA8	4	1391	1379 1382

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES		
RE29	F	00001C08	4	1418	1406	1409	
RE3	F	00001248	4	722	710	713	
RE30	F	00001C68	4	1444	1432	1435	
RE31	F	00001CC8	4	1470	1458	1461	
RE32	F	00001D28	4	1496	1484	1487	
RE33	F	00001D88	4	1525	1513	1516	
RE34	F	00001DE8	4	1552	1540	1543	
RE35	F	00001E48	4	1578	1566	1569	
RE36	F	00001EA8	4	1605	1593	1596	
RE37	F	00001F08	4	1632	1620	1623	
RE38	F	00001F68	4	1659	1647	1650	
RE39	F	00001FC8	4	1686	1674	1677	
RE4	F	000012A8	4	748	736	739	
RE40	F	00002028	4	1713	1701	1704	
RE41	F	00002088	4	1740	1728	1731	
RE42	F	000020E8	4	1767	1755	1758	
RE43	F	00002148	4	1793	1781	1784	
RE44	F	000021A8	4	1819	1807	1810	
RE5	F	00001308	4	775	763	766	
RE6	F	00001368	4	802	790	793	
RE7	F	000013C8	4	829	817	820	
RE8	F	00001428	4	855	843	846	
RE9	F	00001488	4	881	869	872	
READDR	A	0000001C	4	556	234		
REG2LOW	U	000000DD	1	475			
REG2PATT	U	AABBCCDD	1	474			
RELEN	A	00000018	4	555			
RPTDWSAV	D	000004D8	8	399	388	390	
RPTERROR	I	000004AE	4	383	313	355	
RPTSAVE	F	000004CC	4	396	383	393	
RPTSVR5	F	000004D0	4	397	384	392	
SCALE	U	00000008	1	552	251	304	347
SKL0001	U	0000006B	1	188	204		
SKT0001	C	0000022A	26	185	188	205	
SVOLDPSW	U	00000140	0	123			
T1	A	00001148	4	653	1832		
T10	A	000014A8	4	890	1841		
T11	A	00001508	4	919	1842		
T12	A	00001568	4	945	1843		
T13	A	000015C8	4	971	1844		
T14	A	00001628	4	998	1845		
T15	A	00001688	4	1025	1846		
T16	A	000016E8	4	1052	1847		
T17	A	00001748	4	1079	1848		
T18	A	000017A8	4	1105	1849		
T19	A	00001808	4	1131	1850		
T2	A	000011A8	4	679	1833		
T20	A	00001868	4	1157	1851		
T21	A	000018C8	4	1186	1852		
T22	A	00001928	4	1213	1853		
T23	A	00001988	4	1239	1854		
T24	A	000019E8	4	1266	1855		
T25	A	00001A48	4	1293	1856		
T26	A	00001AA8	4	1320	1857		
T27	A	00001B08	4	1347	1858		
T28	A	00001B68	4	1374	1859		

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
T29	A	00001BC8	4	1401	1860
T3	A	00001208	4	705	1834
T30	A	00001C28	4	1427	1861
T31	A	00001C88	4	1453	1862
T32	A	00001CE8	4	1479	1863
T33	A	00001D48	4	1508	1864
T34	A	00001DA8	4	1535	1865
T35	A	00001E08	4	1561	1866
T36	A	00001E68	4	1588	1867
T37	A	00001EC8	4	1615	1868
T38	A	00001F28	4	1642	1869
T39	A	00001F88	4	1669	1870
T4	A	00001268	4	731	1835
T40	A	00001FE8	4	1696	1871
T41	A	00002048	4	1723	1872
T42	A	000020A8	4	1750	1873
T43	A	00002108	4	1776	1874
T44	A	00002168	4	1802	1875
T5	A	000012C8	4	758	1836
T6	A	00001328	4	785	1837
T7	A	00001388	4	812	1838
T8	A	000013E8	4	838	1839
T9	A	00001448	4	864	1840
TESTING	F	00001004	4	486	225
TNUM	H	00000004	2	549	224 288 331
TSUB	A	00000000	4	548	227
TTABLE	F	000021D0	4	1831	
V0	U	00000000	1	1929	
V1	U	00000001	1	1930	230 278 664 668 690 694 716 720 742 746 769 773 796 800 823 827 849 853 875 879 901 905 930 934 956 960 982 986 1009 1013 1036 1040 1063 1067 1090 1094 1116 1120 1142 1146 1168 1172 1197 1201 1224 1228 1250 1254 1277 1281 1304 1308 1331 1335 1358 1362 1385 1389 1412 1416 1438 1442 1464 1468 1490 1494 1519 1523 1546 1550 1572 1576 1599 1603 1626 1630 1653 1657 1680 1684 1707 1711 1734 1738 1761 1765 1787 1791 1813 1817
V10	U	0000000A	1	1939	
V11	U	0000000B	1	1940	
V12	U	0000000C	1	1941	
V13	U	0000000D	1	1942	
V14	U	0000000E	1	1943	
V15	U	0000000F	1	1944	
V16	U	00000010	1	1945	
V17	U	00000011	1	1946	
V18	U	00000012	1	1947	
V19	U	00000013	1	1948	
V1FUDGE	X	00001114	16	539	664 690 716 742 769 796 823 849 875 901 930 956 982 1009 1036 1063 1090 1116 1142 1168 1197 1224 1250 1277 1304 1331 1358 1385 1412 1438 1464 1490 1519 1546 1572 1599 1626 1653 1680 1707 1734 1761 1787 1813
V1INPUT	X	00001124	16	540	
V1OUTPUT	X	000010F4	16	537	230 235
V2	U	00000002	1	1931	257 666 668 692 694 718 720 744 746 771 773 798 800 825 827 851 853 877 879 903 905 932 934 958 960 984 986 1011 1013 1038 1040 1065 1067 1092 1094 1118 1120 1144 1146 1170 1172 1199 1201 1226 1228 1252 1254 1279 1281 1306 1308 1333 1335 1360 1362 1387 1389 1414 1416 1440 1442 1466 1468 1492 1494

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
					1521 1523 1548 1550 1574 1576 1601 1603 1628 1630 1655 1657 1682 1684 1709 1711 1736 1738 1763 1765 1789 1791 1815 1817
V20	U	00000014	1	1949	
V21	U	00000015	1	1950	
V22	U	00000016	1	1951	
V23	U	00000017	1	1952	
V24	U	00000018	1	1953	
V25	U	00000019	1	1954	
V26	U	0000001A	1	1955	
V27	U	0000001B	1	1956	
V28	U	0000001C	1	1957	
V29	U	0000001D	1	1958	
V2ADDR	A	0000000C	4	553	
V2_1	A	00001154	4	658	665
V2_10	A	000014B4	4	895	902
V2_11	A	00001514	4	924	931
V2_12	A	00001574	4	950	957
V2_13	A	000015D4	4	976	983
V2_14	A	00001634	4	1003	1010
V2_15	A	00001694	4	1030	1037
V2_16	A	000016F4	4	1057	1064
V2_17	A	00001754	4	1084	1091
V2_18	A	000017B4	4	1110	1117
V2_19	A	00001814	4	1136	1143
V2_2	A	000011B4	4	684	691
V2_20	A	00001874	4	1162	1169
V2_21	A	000018D4	4	1191	1198
V2_22	A	00001934	4	1218	1225
V2_23	A	00001994	4	1244	1251
V2_24	A	000019F4	4	1271	1278
V2_25	A	00001A54	4	1298	1305
V2_26	A	00001AB4	4	1325	1332
V2_27	A	00001B14	4	1352	1359
V2_28	A	00001B74	4	1379	1386
V2_29	A	00001BD4	4	1406	1413
V2_3	A	00001214	4	710	717
V2_30	A	00001C34	4	1432	1439
V2_31	A	00001C94	4	1458	1465
V2_32	A	00001CF4	4	1484	1491
V2_33	A	00001D54	4	1513	1520
V2_34	A	00001DB4	4	1540	1547
V2_35	A	00001E14	4	1566	1573
V2_36	A	00001E74	4	1593	1600
V2_37	A	00001ED4	4	1620	1627
V2_38	A	00001F34	4	1647	1654
V2_39	A	00001F94	4	1674	1681
V2_4	A	00001274	4	736	743
V2_40	A	00001FF4	4	1701	1708
V2_41	A	00002054	4	1728	1735
V2_42	A	000020B4	4	1755	1762
V2_43	A	00002114	4	1781	1788
V2_44	A	00002174	4	1807	1814
V2_5	A	000012D4	4	763	770
V2_6	A	00001334	4	790	797
V2_7	A	00001394	4	817	824
V2_8	A	000013F4	4	843	850

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
V2_9	A	00001454	4	869	876
V3	U	00000003	1	1932	667 668 693 694 719 720 745 746 772 773 799 800 826 827 852 853 878 879 904 905 933 934 959 960 985 986 1012 1013 1039 1040 1066 1067 1093 1094 1119 1120 1145 1146 1171 1172 1200 1201 1227 1228 1253 1254 1280 1281 1307 1308 1334 1335 1361 1362 1388 1389 1415 1416 1441 1442 1467 1468 1493 1494 1522 1523 1549 1550 1575 1576 1602 1603 1629 1630 1656 1657 1683 1684 1710 1711 1737 1738 1764 1765 1790 1791 1816 1817
V30	U	0000001E	1	1959	
V31	U	0000001F	1	1960	
V3_1	U	00001150	1	657	667
V3_10	U	000014B0	1	894	904
V3_11	U	00001510	1	923	933
V3_12	U	00001570	1	949	959
V3_13	U	000015D0	1	975	985
V3_14	U	00001630	1	1002	1012
V3_15	U	00001690	1	1029	1039
V3_16	U	000016F0	1	1056	1066
V3_17	U	00001750	1	1083	1093
V3_18	U	000017B0	1	1109	1119
V3_19	U	00001810	1	1135	1145
V3_2	U	000011B0	1	683	693
V3_20	U	00001870	1	1161	1171
V3_21	U	000018D0	1	1190	1200
V3_22	U	00001930	1	1217	1227
V3_23	U	00001990	1	1243	1253
V3_24	U	000019F0	1	1270	1280
V3_25	U	00001A50	1	1297	1307
V3_26	U	00001AB0	1	1324	1334
V3_27	U	00001B10	1	1351	1361
V3_28	U	00001B70	1	1378	1388
V3_29	U	00001BD0	1	1405	1415
V3_3	U	00001210	1	709	719
V3_30	U	00001C30	1	1431	1441
V3_31	U	00001C90	1	1457	1467
V3_32	U	00001CF0	1	1483	1493
V3_33	U	00001D50	1	1512	1522
V3_34	U	00001DB0	1	1539	1549
V3_35	U	00001E10	1	1565	1575
V3_36	U	00001E70	1	1592	1602
V3_37	U	00001ED0	1	1619	1629
V3_38	U	00001F30	1	1646	1656
V3_39	U	00001F90	1	1673	1683
V3_4	U	00001270	1	735	745
V3_40	U	00001FF0	1	1700	1710
V3_41	U	00002050	1	1727	1737
V3_42	U	000020B0	1	1754	1764
V3_43	U	00002110	1	1780	1790
V3_44	U	00002170	1	1806	1816
V3_5	U	000012D0	1	762	772
V3_6	U	00001330	1	789	799
V3_7	U	00001390	1	816	826
V3_8	U	000013F0	1	842	852
V3_9	U	00001450	1	868	878
V4	U	00000004	1	1933	
V5	U	00000005	1	1934	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
V6	U	00000006	1	1935	
V7	U	00000007	1	1936	
V8	U	00000008	1	1937	
V9	U	00000009	1	1938	
X0001	U	000002C8	1	194	182 195
X1	F	00001168	4	663	653
X10	F	000014C8	4	900	890
X11	F	00001528	4	929	919
X12	F	00001588	4	955	945
X13	F	000015E8	4	981	971
X14	F	00001648	4	1008	998
X15	F	000016A8	4	1035	1025
X16	F	00001708	4	1062	1052
X17	F	00001768	4	1089	1079
X18	F	000017C8	4	1115	1105
X19	F	00001828	4	1141	1131
X2	F	000011C8	4	689	679
X20	F	00001888	4	1167	1157
X21	F	000018E8	4	1196	1186
X22	F	00001948	4	1223	1213
X23	F	000019A8	4	1249	1239
X24	F	00001A08	4	1276	1266
X25	F	00001A68	4	1303	1293
X26	F	00001AC8	4	1330	1320
X27	F	00001B28	4	1357	1347
X28	F	00001B88	4	1384	1374
X29	F	00001BE8	4	1411	1401
X3	F	00001228	4	715	705
X30	F	00001C48	4	1437	1427
X31	F	00001CA8	4	1463	1453
X32	F	00001D08	4	1489	1479
X33	F	00001D68	4	1518	1508
X34	F	00001DC8	4	1545	1535
X35	F	00001E28	4	1571	1561
X36	F	00001E88	4	1598	1588
X37	F	00001EE8	4	1625	1615
X38	F	00001F48	4	1652	1642
X39	F	00001FA8	4	1679	1669
X4	F	00001288	4	741	731
X40	F	00002008	4	1706	1696
X41	F	00002068	4	1733	1723
X42	F	000020C8	4	1760	1750
X43	F	00002128	4	1786	1776
X44	F	00002188	4	1812	1802
X5	F	000012E8	4	768	758
X6	F	00001348	4	795	785
X7	F	000013A8	4	822	812
X8	F	00001408	4	848	838
X9	F	00001468	4	874	864
XC0001	U	000002F0	1	208	200
XCHECK	U	0000032E	1	249	232
XCPLINE	C	00001054	13	511	520 312
XCPLNG	U	00000053	1	520	311
XCPM4	C	00001094	2	516	301
XCPNAME	C	00001083	8	514	294
XCPSCALE	C	000010A3	3	518	308

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES					
XCPTNUM	C	00001061	3	512	292					
XCR01	H	00000366	2	271	265					
XCR02	H	0000036C	2	277	269					
XCR15	F	00000420	8	322	310	315				
XCRESULT	X	000003F0	16	319						
XCV1	X	00000400	16	320						
XCV2	X	00000410	16	321	257	258	259			
ZVE6TST	J	00000000	8848	120	123	125	129	133	484	121
=A(E6TESTS)	A	000005D8	4	462	215					
=AL2(L'MSGMSG)	R	000005E2	2	465	411					
=F'1'	F	000005DC	4	463	361					
=F'128'	F	000005D4	4	461	199					
=H'0'	H	000005E0	2	464	406					

```
 MACRO    DEFN  REFERENCES

FCHECK     72    181
PTTABLE   613   1830
VRR_J     572    650    676    702    728    755    782    809    835    861    887    916    942    968    995   1022   1049   1076
                1102   1128   1154   1183   1210   1236   1263   1290   1317   1344   1371   1398   1424   1450   1476   1505   1532
                1558   1585   1612   1639   1666   1693   1720   1747   1773   1799
```

```
   DESC      SYMBOL   SIZE     POS         ADDR

Entry: 0

Image       IMAGE    8848  0000-228F  0000-228F
  Region             8848  0000-228F  0000-228F
    CSECT   ZVE6TST  8848  0000-228F  0000-228F
```

```
   STMT                         FILE NAME
1     /home/tn529/sharedvfp/tests/zvector-e6-19-VCSPH.asm

** NO ERRORS FOUND **
```