```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                      2 ************************************************************************
                                                      3 *
                                                      4 *        Zvector E6 instruction tests for VRR-b encoded:
                                                      5 *
                                                      6 *        E67C VSCSHP - DECIMAL SCALE AND CONVERT AND SPLIT TO HFP
                                                      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-b decimal
                                                     17 *  scale adn convert and split to HFP 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 shifted packed decimal
                                                     27 *  source can be converted to a 64-bit fixed value without overflow.
                                                     28 *  The cross-check test converts the 64-bit fixed value to short
                                                     29 *  float (CEGR) to compare with the high result. The high result is
                                                     30 *  converted back to fixed, subtracted from source 64-bit fixed, and
                                                     31 *  converted to long float (CDGR) for create the low result.
                                                     32 *  This low result is compared to VSCSHP low result. An XCHECK test
                                                     33 *  error message will be issued if there is a difference.
                                                     34 *
                                                     35 ************************************************************************
                                                     36 *
                                                     37 *  *Testcase zvector-e6-18-VSCSHP: VECTOR E6 VRR-b VSCSHP instruction
                                                     38 *  *
                                                     39 *  *        Zvector E6 instruction tests for VRR-b encoded:
                                                     40 *  *
                                                     41 *  *        E67C VSCSHP - DECIMAL SCALE AND CONVERT AND SPLIT TO HFP
                                                     42 *  *
                                                     43 *  *        # ---------------------------------------------------------
                                                     44 *  *        #  This tests only the basic function of the instruction.
                                                     45 *  *        #  Exceptions are NOT tested.
                                                     46 *  *        # ---------------------------------------------------------
                                                     47 *  *
                                                     48 *  mainsize    2
                                                     49 *  numcpu      1
                                                     50 *  sysclear
                                                     51 *  archlvl     z/Arch
                                                     52 *
                                                     53 *  loadcore    "$(testpath)/zvector-e6-18-VSCSHP.core" 0x0
                                                     54 *
                                                     55 *  diag8cmd    enable    # (needed for messages to Hercules console)
                                                     56 *  runtest 2
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                                                      57 *  diag8cmd    disable   # (reset back to default)
                                                      58 *
                                                      59 *  *Done
                                                      60 *
                                                      61 ********************************************************************************
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                      63 ************************************************************************
                                                      64 *        FCHECK Macro - Is a Facility Bit set?
                                                      65 *
                                                      66 *        If the facility bit is NOT set, an message is issued and
                                                      67 *        the test is skipped.
                                                      68 *
                                                      69 *        Fcheck uses R0, R1 and R2
                                                      70 *
                                                      71 * eg.    FCHECK 134,'vector-packed-decimal'
                                                      72 ************************************************************************
                                                      73          MACRO
                                                      74          FCHECK &BITNO,&NOTSETMSG
                                                      75 .*                      &BITNO : facility bit number to check
                                                      76 .*                      &NOTSETMSG : 'facility name'
                                                      77          LCLA  &FBBYTE           Facility bit in Byte
                                                      78          LCLA  &FBBIT            Facility bit within Byte
                                                      79
                                                      80          LCLA  &L(8)
                                                      81 &L(1)    SetA  128,64,32,16,8,4,2,1  bit positions within byte
                                                      82
                                                      83 &FBBYTE  SETA  &BITNO/8
                                                      84 &FBBIT   SETA  &L((&BITNO-(&FBBYTE*8))+1)
                                                      85 .*       MNOTE 0,'checking Bit=&BITNO: FBBYTE=&FBBYTE, FBBIT=&FBBIT'
                                                      86
                                                      87          B     X&SYSNDX
                                                      88 *                                       Fcheck data area
                                                      89 *                                       skip messgae
                                                      90 SKT&SYSNDX DC  C'          Skipping tests: '
                                                      91          DC    C&NOTSETMSG
                                                      92          DC    C' facility (bit &BITNO) is not installed.'
                                                      93 SKL&SYSNDX EQU *-SKT&SYSNDX
                                                      94 *                                       facility bits
                                                      95          DS    FD                       gap
                                                      96 FB&SYSNDX DS   4FD
                                                      97          DS    FD                       gap
                                                      98 *
                                                      99 X&SYSNDX EQU *
                                                     100          LA    R0,((X&SYSNDX-FB&SYSNDX)/8)-1
                                                     101          STFLE FB&SYSNDX                get facility bits
                                                     102
                                                     103          XGR   R0,R0
                                                     104          IC    R0,FB&SYSNDX+&FBBYTE     get fbit byte
                                                     105          N     R0,=F'&FBBIT'            is bit set?
                                                     106          BNZ   XC&SYSNDX
                                                     107 *
                                                     108 * facility bit not set, issue message and exit
                                                     109 *
                                                     110          LA    R0,SKL&SYSNDX            message length
                                                     111          LA    R1,SKT&SYSNDX            message address
                                                     112          BAL   R2,MSG
                                                     113
                                                     114          B     EOJ
                                                     115 XC&SYSNDX EQU *
                                                     116          MEND
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    118 ********************************************************************************
                                                    119 *        Low core PSWs
                                                    120 ********************************************************************************


                             00000000  000019DB    122 ZVE6TST  START 0
00000000                     00000000                123          USING ZVE6TST,R0            Low core addressability
                                                     124
                             00000140  00000000    125 SVOLDPSW EQU   ZVE6TST+X'140'        z/Arch Supervisor call old PSW


00000000                     00000000  000001A0    127          ORG   ZVE6TST+X'1A0'        z/Architecure RESTART PSW
000001A0  00000001 80000000                         128          DC    X'0000000180000000'
000001A8  00000000 00000200                         129          DC    AD(BEGIN)


000001B0                     000001B0  000001D0    131          ORG   ZVE6TST+X'1D0'        z/Architecure PROGRAM CHECK PSW
000001D0  00020001 80000000                         132          DC    X'0002000180000000'
000001D8  00000000 0000DEAD                         133          DC    AD(X'DEAD')


000001E0                     000001E0  00000200    135          ORG   ZVE6TST+X'200'        Start of actual test program...
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     137
                                                     138 ********************************************************************************
                                                     139 *                The actual "ZVE6TST" program itself...
                                                     140 ********************************************************************************
                                                     141 *
                                                     142 *  Architecture Mode: z/Arch
                                                     143 *  Register Usage:
                                                     144 *
                                                     145 *   R0       (work)
                                                     146 *   R1-4     (work)
                                                     147 *   R5       Testing control table - current test base
                                                     148 *   R6-R7    (work)
                                                     149 *   R8       First base register
                                                     150 *   R9       Second base register
                                                     151 *   R10      Third base register
                                                     152 *   R11      E6TEST call return
                                                     153 *   R12      E6TESTS register
                                                     154 *   R13      (work)
                                                     155 *   R14      Subroutine call
                                                     156 *   R15      Secondary Subroutine call or work
                                                     157 *
                                                     158 ********************************************************************************
00000200                          00000200           160          USING  BEGIN,R8        FIRST Base Register
00000200                          00001200           161          USING  BEGIN+4096,R9   SECOND Base Register
00000200                          00002200           162          USING  BEGIN+8192,R10  THIRD Base Register
                                                     163
00000200  0580                                       164 BEGIN    BALR   R8,0            Initalize FIRST base register
00000202  0680                                       165          BCTR   R8,0            Initalize FIRST base register
00000204  0680                                       166          BCTR   R8,0            Initalize FIRST base register
                                                     167
00000206  4190 8800                       00000800   168          LA     R9,2048(,R8)    Initalize SECOND base register
0000020A  4190 9800                       00000800   169          LA     R9,2048(,R9)    Initalize SECOND base register
                                                     170
0000020E  41A0 9800                       00000800   171          LA     R10,2048(,R9)   Initalize THIRD base register
00000212  41A0 A800                       00000800   172          LA     R10,2048(,R10)  Initalize THIRD base register
                                                     173
00000216  B600 838C                       0000058C   174          STCTL  R0,R0,CTLR0     Store CR0 to enable AFP
0000021A  9604 838D                       0000058D   175          OI     CTLR0+1,X'04'   Turn on AFP bit
0000021E  9602 838D                       0000058D   176          OI     CTLR0+1,X'02'   Turn on Vector bit
00000222  B700 838C                       0000058C   177          LCTL   R0,R0,CTLR0     Reload updated CR0
                                                     178
                                                     179 ********************************************************************************
                                                     180 * Is Vector-packed-decimal-enhancement facility 2 installed  (bit 192)
                                                     181 ********************************************************************************
                                                     182
                                                     183          FCHECK 192,'vector-packed-decimal-enhancement facility 2'
00000226  47F0 80C8                       000002C8   184+         B      X0001
                                                     185+*                                 Fcheck data area
                                                     186+*                                 skip messgae
0000022A  40404040 40404040                          187+SKT0001  DC     C'          Skipping tests: '
00000244  A58583A3 96996097                          188+         DC     C'vector-packed-decimal-enhancement facility 2'
00000270  40868183 899389A3                          189+         DC     C' facility (bit 192) is not installed.'
                            0000006B      00000001   190+SKL0001  EQU    *-SKT0001
                                                     191+*                                 facility bits
00000298  00000000 00000000                          192+         DS     FD                gap
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000002A0  00000000 00000000                       193+FB0001   DS    4FD
000002C0  00000000 00000000                       194+         DS    FD                        gap
                                                  195+*
                             000002C8  00000001   196+X0001    EQU   *
000002C8  4100 0004                    00000004   197+         LA    R0,((X0001-FB0001)/8)-1
000002CC  B2B0 80A0                    000002A0   198+         STFLE FB0001                    get facility bits
000002D0  B982 0000                                199+         XGR   R0,R0
000002D4  4300 80B8                    000002B8   200+         IC    R0,FB0001+24              get fbit byte
000002D8  5400 8394                    00000594   201+         N     R0,=F'128'                is bit set?
000002DC  4770 80F0                    000002F0   202+         BNZ   XC0001
                                                  203+*
                                                  204+* facility bit not set, issue message and exit
                                                  205+*
000002E0  4100 006B                    0000006B   206+         LA    R0,SKL0001                message length
000002E4  4110 802A                    0000022A   207+         LA    R1,SKT0001                message address
000002E8  4520 82A8                    000004A8   208+         BAL   R2,MSG
000002EC  47F0 8370                    00000570   209+         B     EOJ
                             000002F0  00000001   210+XC0001   EQU   *
                                                  211
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    213 ********************************************************************************
                                                    214 *               Do tests in the E6TESTS table
                                                    215 ********************************************************************************
                                                    216
000002F0  58C0 8398                       00000598  217          L     R12,=A(E6TESTS)       get table of test addresses
                                                    218
                                 000002F4 00000001  219 NEXTE6   EQU   *
000002F4  5850 C000                       00000000  220          L     R5,0(0,R12)       get test address
000002F8  1255                                      221          LTR   R5,R5                  have a test?
000002FA  4780 8262                       00000462  222          BZ    ENDTEST                   done?
                                                    223
000002FE                          00000000          224          USING E6TEST,R5
                                                    225
000002FE  4800 5004                       00000004  226          LH    R0,TNUM           save current test number
00000302  5000 8E04                       00001004  227          ST    R0,TESTING        for easy reference
                                                    228
00000306  58B0 5000                       00000000  229          L     R11,TSUB          get address of test routine
0000030A  05BB                                      230          BALR  R11,R11           do test
                                                    231
0000030C  E710 8EDC 000E                  000010DC  232          VST   V1,V1OUTPUT       save result
                                                    233
00000312  45F0 812E                       0000032E  234          BAL   R15,XCHECK
                                                    235
00000316  E310 5018 0014                  00000018  236          LGF   R1,READDR         expected result address
0000031C  D50F 8EDC 1000          000010DC 00000000 237          CLC   V1OUTPUT,0(R1)
00000322  4770 8208                       00000408  238          BNE   FAILMSG           no, issue failed message
                                                    239
00000326  41C0 C004                       00000004  240          LA    R12,4(0,R12)      next test address
0000032A  47F0 80F4                       000002F4  241          B     NEXTE6
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT
                                                   243 *-------------------------------------------------------------------
                                                   244 * For small (19 digit) values, cross check result
                                                   245 * if rounding mode = 0 and convertion to 64-bit does not overflow
                                                   246 *
                                                   247 *        R15 - RETURN
                                                   248 *
                                                   249 *        v1,v2,v3 have result, source, scale
                                                   250 *-------------------------------------------------------------------
                           0000032E  00000001      251 XCHECK   EQU   *
                                                   252
0000032E  E7B2 0000 0056                           253          VLR   V11,V2          copy source
00000334  E6AB 3019 F072                           254          VSRPR V10,V11,V3,159,1    shift
0000033A  071F                                     255          BCR   1,R15           cc=3: overflow: ignore and return
                                                   256
0000033C  E60A 0018 0052                           257          VCVBG R0,V10,1,8      get 64-bit binary value
00000342  071F                                     258          BCR   1,15            cc=3: overflow: ignore and return
                                                   259
00000344  E640 839C 2004              0000059C     260          VLLEBRZ V4,=F'0',2    zero V4 (FPR4)
0000034A  E660 839C 2004              0000059C     261          VLLEBRZ V6,=F'0',2    zero V6 (FPR6)
                                                   262 *
                                                   263 * convert R0 to appropriate short HFP format (high result)
                                                   264 *
00000350  B3C4 0040                                265          CEGR  FPR4,R0         convert r0 to short hfp
00000354  E740 81E0 000E              000003E0     266          VST   V4,XCV4
0000035A  E710 81F0 000E              000003F0     267          VST   V1,XCV1
00000360  D507 81F0 81E0    000003F0  000003E0     268          CLC   XCV1(8),XCV4    compare short (long) HFP
00000366  4770 8188                   00000388     269          BNE   XCFAIL
                                                   270 *
                                                   271 * build low result & compare
                                                   272 *
0000036A  B3C8 1014                                273          CGER  R1,1,FPR4       convert high result back to fixed
0000036E  B9E9 1020                                274          SGRK  R2,R0,R1        split ie. subtract high result
00000372  B3C5 0042                                275          CDGR  FPR4,R2         convert r2 to long hfp
00000376  E740 81E0 000E              000003E0     276          VST   V4,XCV4
0000037C  D507 81F8 81E0    000003F8  000003E0     277          CLC   XCV1+8(8),XCV4  compare low result long HFP
00000382  4770 8188                   00000388     278          BNE   XCFAIL
00000386  07FF                                     279          BR    R15             Ok, exit
                                                   280
                                                   281 * xcheck failed message
00000388                                           282 XCFAIL   DS    0H
00000388  4820 5004                   00000004     283          LH    R2,TNUM               get test number and convert
0000038C  4E20 8EBB                   000010BB     284          CVD   R2,DECNUM
00000390  D211 8EA5 8E8F    000010A5  0000108F     285          MVC   PRT3,EDIT
00000396  DE11 8EA5 8EBB    000010A5  000010BB     286          ED    PRT3,DECNUM
0000039C  D202 8E55 8EB2    00001055  000010B2     287          MVC   XCPTNUM(3),PRT3+13    fill in message with test #
                                                   288
000003A2  D207 8E77 500C    00001077  0000000C     289          MVC   XCPNAME,OPNAME        fill in message with instruction
                                                   290
000003A8  B982 0022                                291          XGR   R2,R2                 get scale as U8
000003AC  4320 5007                   00000007     292          IC    R2,SCALE                 and convert
000003B0  4E20 8EBB                   000010BB     293          CVD   R2,DECNUM
000003B4  D211 8EA5 8E8F    000010A5  0000108F     294          MVC   PRT3,EDIT
000003BA  DE11 8EA5 8EBB    000010A5  000010BB     295          ED    PRT3,DECNUM
000003C0  D202 8E8B 8EB2    0000108B  000010B2     296          MVC   XCPSCALE(3),PRT3+13   fill in message with scale field
                                                   297
000003C6  50F0 8200                   00000400     298          ST    R15,XCR15             save r15
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

000003CA  4100 0047                       00000047   299           LA    R0,XCPLNG            message length
000003CE  4110 8E48                       00001048   300           LA    R1,XCPLINE           messagfe address
000003D2  45F0 8270                       00000470   301           BAL   R15,RPTERROR
                                                     302
000003D6  58F0 8200                       00000400   303           L     R15,XCR15
000003DA  07FF                                       304           BR    R15          return from xcheck
                                                     305
000003E0                                             306           DS    0FD
000003E0  00000000 00000000                          307 XCV4      DS    XL16
000003F0  00000000 00000000                          308 XCV1      DS    XL16
00000400  00000000 00000000                          309 XCR15     DS    FD
                                                     310
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    312 ************************************************************************
                                                    313 * result not as expected:
                                                    314 *        issue message with test number, instruction under test
                                                    315 *              and instruction i3
                                                    316 ************************************************************************
                                 00000408  00000001   317 FAILMSG  EQU   *
00000408  4820 5004                        00000004   318          LH    R2,TNUM              get test number and convert
0000040C  4E20 8EBB                        000010BB   319          CVD   R2,DECNUM
00000410  D211 8EA5 8E8F       000010A5    0000108F   320          MVC   PRT3,EDIT
00000416  DE11 8EA5 8EBB       000010A5    000010BB   321          ED    PRT3,DECNUM
0000041C  D202 8E15 8EB2       00001015    000010B2   322          MVC   PRTNUM(3),PRT3+13    fill in message with test #
                                                    323
00000422  D207 8E30 500C       00001030    0000000C   324          MVC   PRTNAME,OPNAME       fill in message with instruction
                                                    325 *
00000428  B982 0022                                 326          XGR   R2,R2
0000042C  4320 5007                        00000007   327          IC    R2,SCALE             get scale and convert
00000430  4E20 8EBB                        000010BB   328          CVD   R2,DECNUM
00000434  D211 8EA5 8E8F       000010A5    0000108F   329          MVC   PRT3,EDIT
0000043A  DE11 8EA5 8EBB       000010A5    000010BB   330          ED    PRT3,DECNUM
00000440  D202 8E44 8EB2       00001044    000010B2   331          MVC   PRTSCALE(3),PRT3+13     fill in message with scale
                                                    332
00000446  4100 0040                        00000040   333          LA    R0,PRTLNG            message length
0000044A  4110 8E08                        00001008   334          LA    R1,PRTLINE           messagfe address
0000044E  45F0 8270                        00000470   335          BAL   R15,RPTERROR
                                                    337 ************************************************************************
                                                    338 * continue after a failed test
                                                    339 ************************************************************************
                                 00000452  00000001   340 FAILCONT EQU   *
00000452  5800 83A0                        000005A0   341          L     R0,=F'1'             set failed test indicator
00000456  5000 8E00                        00001000   342          ST    R0,FAILED
                                                    343
0000045A  41C0 C004                        00000004   344          LA    R12,4(0,R12)         next test address
0000045E  47F0 80F4                        000002F4   345          B     NEXTE6
                                                    347 ************************************************************************
                                                    348 * end of testing; set ending psw
                                                    349 ************************************************************************
                                 00000462  00000001   350 ENDTEST  EQU   *
00000462  5810 8E00                        00001000   351          L     R1,FAILED            did a test fail?
00000466  1211                                      352          LTR   R1,R1
00000468  4780 8370                        00000570   353          BZ    EOJ                     No, exit
0000046C  47F0 8388                        00000588   354          B     FAILTEST                Yes, exit with BAD PSW
                                                    355
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    357 ************************************************************************
                                                    358 *        RPTERROR          Report instruction test in error
                                                    359 *                             R0 = MESSGAE LENGTH
                                                    360 *                             R1 = ADDRESS OF MESSAGE
                                                    361 ************************************************************************

00000470  50F0 8290                 00000490       363 RPTERROR ST    R15,RPTSAVE          Save return address
00000474  5050 8294                 00000494       364          ST    R5,RPTSVR5           Save R5
                                                    365 *
                                                    366 *        Use Hercules Diagnose for Message to console
                                                    367 *
00000478  9002 8298                 00000498       368          STM   R0,R2,RPTDWSAV       save regs used by MSG
0000047C  4520 82A8                 000004A8       369          BAL   R2,MSG               call Hercules console MSG display
00000480  9802 8298                 00000498       370          LM    R0,R2,RPTDWSAV       restore regs


00000484  5850 8294                 00000494       372          L     R5,RPTSVR5           Restore R5
00000488  58F0 8290                 00000490       373          L     R15,RPTSAVE          Restore return address
0000048C  07FF                                     374          BR    R15                  Return to caller

00000490  00000000                                 376 RPTSAVE  DC    F'0'                 R15 save area
00000494  00000000                                 377 RPTSVR5  DC    F'0'                 R5 save area

00000498  00000000 00000000                        379 RPTDWSAV DC    2D'0'                R0-R2 save area for MSG call
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    381 ************************************************************************
                                                    382 *        Issue HERCULES MESSAGE pointed to by R1, length in R0
                                                    383 *              R2 = return address
                                                    384 ************************************************************************
000004A8  4900 83A4                       000005A4  386 MSG      CH    R0,=H'0'                Do we even HAVE a message?
000004AC  07D2                                      387           BNHR  R2                      No, ignore

000004AE  9002 82E4                       000004E4  389           STM   R0,R2,MSGSAVE           Save registers

000004B2  4900 83A6                       000005A6  391           CH    R0,=AL2(L'MSGMSG)       Message length within limits?
000004B6  47D0 82BE                       000004BE  392           BNH   MSGOK                   Yes, continue
000004BA  4100 005F                       0000005F  393           LA    R0,L'MSGMSG             No, set to maximum

000004BE  1820                                      395 MSGOK     LR    R2,R0                   Copy length to work register
000004C0  0620                                      396           BCTR  R2,0                    Minus-1 for execute
000004C2  4420 82F0                       000004F0  397           EX    R2,MSGMVC               Copy message to O/P buffer

000004C6  4120 200A                       0000000A  399           LA    R2,1+L'MSGCMD(,R2)      Calculate true command length
000004CA  4110 82F6                       000004F6  400           LA    R1,MSGCMD               Point to true command

000004CE  83120008                                  402           DC    X'83',X'12',X'0008'     Issue Hercules Diagnose X'008'
000004D2  4780 82DE                       000004DE  403           BZ    MSGRET                  Return if successful
                                                    404
000004D6  1222                                      405           LTR   R2,R2                   Is Diag8 Ry (R2) 0?
000004D8  4780 82DE                       000004DE  406           BZ    MSGRET                    an error occurred but coninue
                                                    407
000004DC  0000                                      408           DC    H'0'                    CRASH for debugging purposes

000004DE  9802 82E4                       000004E4  410 MSGRET    LM    R0,R2,MSGSAVE           Restore registers
000004E2  07F2                                      411           BR    R2                      Return to caller

000004E4  00000000 00000000                         413 MSGSAVE   DC    3F'0'                   Registers save area
000004F0  D200 82FF 1000      000004FF  00000000    414 MSGMVC    MVC   MSGMSG(0),0(R1)         Executed instruction

000004F6  D4E2C7D5 D6C8405C                         416 MSGCMD    DC    C'MSGNOH * '            *** HERCULES MESSAGE COMMAND ***
000004FF  40404040 40404040                         417 MSGMSG    DC    CL95' '                 The message text to be displayed
                                                    418
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT
                                                      420 ********************************************************************************
                                                      421 *        Normal completion or Abnormal termination PSWs
                                                      422 ********************************************************************************


00000560  00020001 80000000                           424 EOJPSW   DC    0D'0',X'0002000180000000',AD(0)

00000570  B2B2 8360                   00000560        426 EOJ      LPSWE EOJPSW                Normal completion


00000578  00020001 80000000                           428 FAILPSW  DC    0D'0',X'0002000180000000',AD(X'BAD')

00000588  B2B2 8378                   00000578        430 FAILTEST LPSWE FAILPSW               Abnormal termination


                                                      432 ********************************************************************************
                                                      433 *        Working Storage
                                                      434 ********************************************************************************


0000058C  00000000                                    436 CTLR0    DS    F                     CR0
00000590  00000000                                    437          DS    F


                                                      439
00000594                                              440          LTORG ,                     Literals pool
00000594  00000080                                    441                =F'128'
00000598  00001974                                    442                =A(E6TESTS)
0000059C  00000000                                    443                =F'0'
000005A0  00000001                                    444                =F'1'
000005A4  0000                                        445                =H'0'
000005A6  005F                                        446                =AL2(L'MSGMSG)
                                                      447
                                                      448 *        some constants
                                                      449
                        00000400  00000001            450 K        EQU   1024                  One KB
                        00001000  00000001            451 PAGE     EQU   (4*K)                 Size of one page
                        00010000  00000001            452 K64      EQU   (64*K)                64 KB
                        00100000  00000001            453 MB       EQU   (K*K)                  1 MB
                                                      454
                        AABBCCDD  00000001            455 REG2PATT EQU   X'AABBCCDD'    Polluted Register pattern
                        000000DD  00000001            456 REG2LOW  EQU         X'DD'    (last byte above)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    458 *=========================================================================
                                                    459 *
                                                    460 *  NOTE: start data on an address that is easy to display
                                                    461 *        within Hercules
                                                    462 *
                                                    463 *=========================================================================
                                                    464
000005A8                      000005A8  00001000    465          ORG   ZVE6TST+X'1000'
00001000  00000000                                  466 FAILED   DC    F'0'                    some test failed?
00001004  00000000                                  467 TESTING  DC    F'0'                    current test #


                                                    469 ************************************************************************
                                                    470 *        TEST failed : result messgae
                                                    471 ************************************************************************
                                                    472 *
                                                    473 *        failed message and associated editting
                                                    474 *
00001008  40404040 4040E385                         475 PRTLINE  DC    C'      Test # '
00001015  A7A7A7                                    476 PRTNUM   DC    C'xxx'
00001018  40868189 93858440                         477          DC    c' failed for instruction '
00001030  A7A7A7A7 A7A7A7A7                         478 PRTNAME  DC    CL8'xxxxxxxx'
00001038  40A689A3 8840A283                         479          DC    C' with scale='
00001044  A7A7A7                                    480 PRTSCALE DC    C'xxx'
00001047  4B                                        481          DC    C'.'
                              00000040  00000001    482 PRTLNG   EQU   *-PRTLINE


                                                    484 ************************************************************************
                                                    485 *        TEST failed : XCHECK
                                                    486 ************************************************************************
                                                    487 *
                                                    488 *        XCHECK failed message
                                                    489 *
00001048  40404040 4040E385                         490 XCPLINE  DC    C'      Test # '
00001055  A7A7A7                                    491 XCPTNUM  DC    C'xxx'
00001058  40E7C3C8 C5C3D240                         492          DC    c' XCHECK failed for instruction '
00001077  A7A7A7A7 A7A7A7A7                         493 XCPNAME  DC    CL8'xxxxxxxx'
0000107F  40A689A3 8840A283                         494          DC    C' with scale='
0000108B  A7A7A7                                    495 XCPSCALE DC    C'xxx'
0000108E  4B                                        496          DC    C'.'
                              00000047  00000001    497 XCPLNG   EQU   *-XCPLINE
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     499 ************************************************************************
                                                     500 *        TEST failed : message working storge
                                                     501 ************************************************************************
0000108F  40212020 20202020                          502 EDIT     DC    XL18'40212020202020202020202020202020'
                                                     503
000010A1  7E7E7E6E                                   504          DC    C'===>'
000010A5  40404040 40404040                          505 PRT3     DC    CL18' '
000010B7  4C7E7E7E                                   506          DC    C'<===='
000010BB  00000000 00000000                          507 DECNUM   DS    CL16


                                                     509 *
                                                     510 *        Vector instruction results, pollution and input
                                                     511 *
000010CB  E5F140D6 A4A397A4                          512          DC    C'V1 Output ===>'
000010DC                                             513          DS    0F
000010DC  00000000 00000000                          514 V1OUTPUT DS    XL16                                    V1 OUTPUT
000010EC  00000000 00000000                          515          DS    XL16                                      gap
000010FC  FFFFFFFF FFFFFFFF                          516 V1FUDGE  DC    XL16'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    V1 FUDGE
0000110C  12345678 90123456                          517 V1INPUT  DC    XL16'1234567890123456789012345678901D'    V1 input
0000111C  00000000 00000000                          518          DS    XL16
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     520 ************************************************************************
                                                     521 *        E6TEST DSECT
                                                     522 ************************************************************************


                                                     524 E6TEST   DSECT ,
00000000  00000000                                   525 TSUB     DC    A(0)           pointer  to test
00000004  0000                                       526 TNUM     DC    H'00'          Test Number
00000006  00                                         527          DC    X'00'
00000007  00                                         528 SCALE    DC    HL1'00'        scale used
00000008  00000000                                   529 V2ADDR   DC    A(0)           address of v2: 16-byte packed decimal
0000000C  40404040 40404040                          530 OPNAME   DC    CL8' '         E6 name
00000014  00000000                                   531 RELEN    DC    A(0)           result length
00000018  00000000                                   532 READDR   DC    A(0)           expected result address
                                                     533
                                                     534 **
                                                     535 *        test routine will be here (from VRR-b macro)


                          00000000  000019DB         537 ZVE6TST  CSECT ,
0000112C                                             538          DS    0F


                                                     540 ************************************************************************
                                                     541 *     Macros to help build test tables
                                                     542 ************************************************************************


                                                     544 *
                                                     545 * macro to generate individual test
                                                     546 *
                                                     547          MACRO
                                                     548          VRR_B &INST,&SCALE
                                                     549 .*                              &INST - VRR-b instruction under test
                                                     550
                                                     551          GBLA  &TNUM
                                                     552 &TNUM    SETA  &TNUM+1
                                                     553
                                                     554          DS    0FD
                                                     555          USING *,R5             base for test data and test routine
                                                     556
                                                     557 T&TNUM   DC    A(X&TNUM)        address of test routine
                                                     558          DC    H'&TNUM'         test number
                                                     559          DC    X'00'
                                                     560 V3_&TNUM DC    HL1'&SCALE'      scale
                                                     561 V2_&TNUM DC    A(RE&TNUM+16)    address of v2: 16-byte packed decimal
                                                     562          DC    CL8'&INST'       instruction name
                                                     563          DC    A(16)            result length
                                                     564          DC    A(RE&TNUM)       address of expected result
                                                     565 .*
                                                     566 *
                                                     567 X&TNUM   DS    0F
                                                     568          VL    V1,V1FUDGE       fudge V1
                                                     569
                                                     570          LGF   R2,V2_&TNUM      get v2
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                                                      571           VL    V2,0(R2)
                                                      572
                                                      573           VLEB  V3,V3_&TNUM,7     get v3 scale
                                                      574
                                                      575           &INST V1,V2,V3          test instruction
                                                      576
                                                      577           BR    R11               return
                                                      578
                                                      579 RE&TNUM   DS    0F                expected 16 byte result
                                                      580           DROP  R5
                                                      581
                                                      582           MEND



                                                      584 *
                                                      585 * macro to generate table of pointers to individual tests
                                                      586 *
                                                      587           MACRO
                                                      588           PTTABLE
                                                      589           GBLA  &TNUM
                                                      590           LCLA  &CUR
                                                      591 &CUR      SETA  1
                                                      592 .*
                                                      593 TTABLE    DS    0F
                                                      594 .LOOP     ANOP
                                                      595 .*
                                                      596           DC    A(T&CUR)          TEST &CUR
                                                      597 .*
                                                      598 &CUR      SETA  &CUR+1
                                                      599           AIF   (&CUR LE &TNUM).LOOP
                                                      600 *
                                                      601           DC    A(0)              END OF TABLE
                                                      602           DC    A(0)
                                                      603 .*
                                                      604           MEND
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     606 ********************************************************************************
                                                     607 *        E6 VRR-b tests
                                                     608 ********************************************************************************
                                                     609          PRINT DATA
                                                     610 *
                                                     611 *         E67C VSCSHP - DECIMAL SCALE AND CONVERT AND SPLIT TO HFP
                                                     612 *
                                                     613 *-------------------------------------------------------------------------
                                                     614 * VSCSHP - DECIMAL SCALE AND CONVERT AND SPLIT TO HFP
                                                     615 *-------------------------------------------------------------------------
                                                     616 *   VRR-b   instruction
                                                     617 *   followed by
                                                     618 *              followed by
                                                     619 *              v1 - 16 byte expected result
                                                     620 *              v2 - 16 byte zoned decimal (operand)
                                                     621 *-------------------------------------------------------------------------
                                                     622 * NO Shift/Scale
                                                     623 *-------------------------------------------------------------------------
                                                     624
                                                     625 * +0
                                                     626          VRR_B VSCSHP,0
00001130                                             627+         DS    0FD
00001130                          00001130           628+         USING *,R5              base for test data and test routine
00001130  0000114C                                   629+T1       DC    A(X1)             address of test routine
00001134  0001                                       630+         DC    H'1'              test number
00001136  00                                         631+         DC    X'00'
00001137  00                                         632+V3_1     DC    HL1'0'            scale
00001138  0000117C                                   633+V2_1     DC    A(RE1+16)         address of v2: 16-byte packed decimal
0000113C  E5E2C3E2 C8D74040                          634+         DC    CL8'VSCSHP'       instruction name
00001144  00000010                                   635+         DC    A(16)             result length
00001148  0000116C                                   636+         DC    A(RE1)            address of expected result
                                                     637+*
0000114C                                             638+X1       DS    0F
0000114C  E710 8EFC 0006                 000010FC    639+         VL    V1,V1FUDGE        fudge V1
00001152  E320 5008 0014                 00001138    640+         LGF   R2,V2_1           get v2
00001158  E722 0000 0006                 00000000    641+         VL    V2,0(R2)
0000115E  E730 5007 7000                 00001137    642+         VLEB  V3,V3_1,7         get v3 scale
00001164  E612 3000 007C                             643+         VSCSHP V1,V2,V3         test instruction
0000116A  07FB                                       644+         BR    R11               return
0000116C                                             645+RE1      DS    0F                expected 16 byte result
0000116C                                             646+         DROP  R5
0000116C  00000000 00000000                          647          DC    XL16'00000000000000000000000000000000'
00001174  00000000 00000000
0000117C  00000000 00000000                          648          DC    XL16'0000000000000000000000000000000C'
00001184  00000000 0000000C
                                                     649 * -0
                                                     650          VRR_B VSCSHP,0
00001190                                             651+         DS    0FD
00001190                          00001190           652+         USING *,R5              base for test data and test routine
00001190  000011AC                                   653+T2       DC    A(X2)             address of test routine
00001194  0002                                       654+         DC    H'2'              test number
00001196  00                                         655+         DC    X'00'
00001197  00                                         656+V3_2     DC    HL1'0'            scale
00001198  000011DC                                   657+V2_2     DC    A(RE2+16)         address of v2: 16-byte packed decimal
0000119C  E5E2C3E2 C8D74040                          658+         DC    CL8'VSCSHP'       instruction name
000011A4  00000010                                   659+         DC    A(16)             result length
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000011A8  000011CC                             660+          DC    A(RE2)             address of expected result
                                               661+*
000011AC                                       662+X2        DS    0F
000011AC  E710 8EFC 0006              000010FC 663+          VL    V1,V1FUDGE         fudge V1
000011B2  E320 5008 0014              00001198 664+          LGF   R2,V2_2            get v2
000011B8  E722 0000 0006              00000000 665+          VL    V2,0(R2)
000011BE  E730 5007 7000              00001197 666+          VLEB  V3,V3_2,7          get v3 scale
000011C4  E612 3000 007C                       667+          VSCSHP V1,V2,V3          test instruction
000011CA  07FB                                 668+          BR    R11                return
000011CC                                       669+RE2       DS    0F                 expected 16 byte result
000011CC                                       670+          DROP  R5
000011CC  00000000 00000000                    671           DC    XL16'00000000000000000000000000000000'
000011D4  00000000 00000000
000011DC  00000000 00000000                    672           DC    XL16'0000000000000000000000000000000D'
000011E4  00000000 0000000D
                                               673 * +1
                                               674           VRR_B VSCSHP,0
000011F0                                       675+          DS    0FD
000011F0                      000011F0         676+          USING *,R5               base for test data and test routine
000011F0  0000120C                             677+T3        DC    A(X3)              address of test routine
000011F4  0003                                 678+          DC    H'3'               test number
000011F6  00                                   679+          DC    X'00'
000011F7  00                                   680+V3_3      DC    HL1'0'             scale
000011F8  0000123C                             681+V2_3      DC    A(RE3+16)          address of v2: 16-byte packed decimal
000011FC  E5E2C3E2 C8D74040                    682+          DC    CL8'VSCSHP'        instruction name
00001204  00000010                             683+          DC    A(16)              result length
00001208  0000122C                             684+          DC    A(RE3)             address of expected result
                                               685+*
0000120C                                       686+X3        DS    0F
0000120C  E710 8EFC 0006              000010FC 687+          VL    V1,V1FUDGE         fudge V1
00001212  E320 5008 0014              000011F8 688+          LGF   R2,V2_3            get v2
00001218  E722 0000 0006              00000000 689+          VL    V2,0(R2)
0000121E  E730 5007 7000              000011F7 690+          VLEB  V3,V3_3,7          get v3 scale
00001224  E612 3000 007C                       691+          VSCSHP V1,V2,V3          test instruction
0000122A  07FB                                 692+          BR    R11                return
0000122C                                       693+RE3       DS    0F                 expected 16 byte result
0000122C                                       694+          DROP  R5
0000122C  41100000 00000000                    695           DC    XL16'41100000000000000000000000000000'
00001234  00000000 00000000
0000123C  00000000 00000000                    696           DC    XL16'0000000000000000000000000000001C'
00001244  00000000 0000001C
                                               697 * -1
                                               698           VRR_B VSCSHP,0
00001250                                       699+          DS    0FD
00001250                      00001250         700+          USING *,R5               base for test data and test routine
00001250  0000126C                             701+T4        DC    A(X4)              address of test routine
00001254  0004                                 702+          DC    H'4'               test number
00001256  00                                   703+          DC    X'00'
00001257  00                                   704+V3_4      DC    HL1'0'             scale
00001258  0000129C                             705+V2_4      DC    A(RE4+16)          address of v2: 16-byte packed decimal
0000125C  E5E2C3E2 C8D74040                    706+          DC    CL8'VSCSHP'        instruction name
00001264  00000010                             707+          DC    A(16)              result length
00001268  0000128C                             708+          DC    A(RE4)             address of expected result
                                               709+*
0000126C                                       710+X4        DS    0F
0000126C  E710 8EFC 0006              000010FC 711+          VL    V1,V1FUDGE         fudge V1
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001272  E320 5008 0014                 00001258   712+         LGF   R2,V2_4           get v2
00001278  E722 0000 0006                 00000000   713+         VL    V2,0(R2)
0000127E  E730 5007 7000                 00001257   714+         VLEB  V3,V3_4,7         get v3 scale
00001284  E612 3000 007C                            715+         VSCSHP V1,V2,V3         test instruction
0000128A  07FB                                      716+         BR    R11               return
0000128C                                            717+RE4      DS    0F                expected 16 byte result
0000128C                                            718+         DROP  R5
0000128C  C1100000 00000000                         719          DC    XL16'C1100000000000000000000000000000'
00001294  00000000 00000000
0000129C  00000000 00000000                         720          DC    XL16'0000000000000000000000000000001D'
000012A4  00000000 0000001D
                                                    721
                                                    722 * -36650385409
                                                    723          VRR_B VSCSHP,0
000012B0                                            724+         DS    0FD
000012B0                         000012B0           725+         USING *,R5              base for test data and test routine
000012B0  000012CC                                  726+T5       DC    A(X5)             address of test routine
000012B4  0005                                      727+         DC    H'5'              test number
000012B6  00                                        728+         DC    X'00'
000012B7  00                                        729+V3_5     DC    HL1'0'            scale
000012B8  000012FC                                  730+V2_5     DC    A(RE5+16)         address of v2: 16-byte packed decimal
000012BC  E5E2C3E2 C8D74040                         731+         DC    CL8'VSCSHP'       instruction name
000012C4  00000010                                  732+         DC    A(16)             result length
000012C8  000012EC                                  733+         DC    A(RE5)            address of expected result
                                                    734+*
000012CC                                            735+X5       DS    0F
000012CC  E710 8EFC 0006                 000010FC   736+         VL    V1,V1FUDGE        fudge V1
000012D2  E320 5008 0014                 000012B8   737+         LGF   R2,V2_5           get v2
000012D8  E722 0000 0006                 00000000   738+         VL    V2,0(R2)
000012DE  E730 5007 7000                 000012B7   739+         VLEB  V3,V3_5,7         get v3 scale
000012E4  E612 3000 007C                            740+         VSCSHP V1,V2,V3         test instruction
000012EA  07FB                                      741+         BR    R11               return
000012EC                                            742+RE5      DS    0F                expected 16 byte result
000012EC                                            743+         DROP  R5
000012EC  C9888888 00000000                         744          DC    XL16'C9888888000000000C110000000000000'
000012F4  C1100000 00000000
000012FC  00000000 00000000                         745          DC    XL16'00000000000000000000036650385409D'
00001304  00003665 0385409D
                                                    746
                                                    747 * +9000000000000001
                                                    748          VRR_B VSCSHP,0
00001310                                            749+         DS    0FD
00001310                         00001310           750+         USING *,R5              base for test data and test routine
00001310  0000132C                                  751+T6       DC    A(X6)             address of test routine
00001314  0006                                      752+         DC    H'6'              test number
00001316  00                                        753+         DC    X'00'
00001317  00                                        754+V3_6     DC    HL1'0'            scale
00001318  0000135C                                  755+V2_6     DC    A(RE6+16)         address of v2: 16-byte packed decimal
0000131C  E5E2C3E2 C8D74040                         756+         DC    CL8'VSCSHP'       instruction name
00001324  00000010                                  757+         DC    A(16)             result length
00001328  0000134C                                  758+         DC    A(RE6)            address of expected result
                                                    759+*
0000132C                                            760+X6       DS    0F
0000132C  E710 8EFC 0006                 000010FC   761+         VL    V1,V1FUDGE        fudge V1
00001332  E320 5008 0014                 00001318   762+         LGF   R2,V2_6           get v2
00001338  E722 0000 0006                 00000000   763+         VL    V2,0(R2)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

0000133E  E730 5007 7000                 00001317   764+         VLEB  V3,V3_6,7         get v3 scale
00001344  E612 3000 007C                            765+         VSCSHP V1,V2,V3         test instruction
0000134A  07FB                                      766+         BR    R11               return
0000134C                                            767+RE6      DS    0F                expected 16 byte result
0000134C                                            768+         DROP  R5
0000134C  4E1FF973 00000000                         769          DC    XL16'4E1FF9730000000048CAFA8001000000'
00001354  48CAFA80 01000000
0000135C  00000000 00000009                         770          DC    XL16'0000000000000009000000000000001C'
00001364  00000000 0000001C
                                                    771
                                                    772 * -9223372036854775808
                                                    773          VRR_B VSCSHP,0
00001370                                            774+         DS    0FD
00001370                          00001370          775+         USING *,R5              base for test data and test routine
00001370  0000138C                                  776+T7       DC    A(X7)             address of test routine
00001374  0007                                      777+         DC    H'7'              test number
00001376  00                                        778+         DC    X'00'
00001377  00                                        779+V3_7     DC    HL1'0'            scale
00001378  000013BC                                  780+V2_7     DC    A(RE7+16)         address of v2: 16-byte packed decimal
0000137C  E5E2C3E2 C8D74040                         781+         DC    CL8'VSCSHP'       instruction name
00001384  00000010                                  782+         DC    A(16)             result length
00001388  000013AC                                  783+         DC    A(RE7)            address of expected result
                                                    784+*
0000138C                                            785+X7       DS    0F
0000138C  E710 8EFC 0006                 000010FC   786+         VL    V1,V1FUDGE        fudge V1
00001392  E320 5008 0014                 00001378   787+         LGF   R2,V2_7           get v2
00001398  E722 0000 0006                 00000000   788+         VL    V2,0(R2)
0000139E  E730 5007 7000                 00001377   789+         VLEB  V3,V3_7,7         get v3 scale
000013A4  E612 3000 007C                            790+         VSCSHP V1,V2,V3         test instruction
000013AA  07FB                                      791+         BR    R11               return
000013AC                                            792+RE7      DS    0F                expected 16 byte result
000013AC                                            793+         DROP  R5
000013AC  D0800000 00000000                         794          DC    XL16'D0800000000000000000000000000000'
000013B4  00000000 00000000
000013BC  00000000 00009223                         795          DC    XL16'0000000000009223372036854775808D'
000013C4  37203685 4775808D
                                                    796
                                                    797 *  9223372036854775807
                                                    798          VRR_B VSCSHP,0
000013D0                                            799+         DS    0FD
000013D0                          000013D0          800+         USING *,R5              base for test data and test routine
000013D0  000013EC                                  801+T8       DC    A(X8)             address of test routine
000013D4  0008                                      802+         DC    H'8'              test number
000013D6  00                                        803+         DC    X'00'
000013D7  00                                        804+V3_8     DC    HL1'0'            scale
000013D8  0000141C                                  805+V2_8     DC    A(RE8+16)         address of v2: 16-byte packed decimal
000013DC  E5E2C3E2 C8D74040                         806+         DC    CL8'VSCSHP'       instruction name
000013E4  00000010                                  807+         DC    A(16)             result length
000013E8  0000140C                                  808+         DC    A(RE8)            address of expected result
                                                    809+*
000013EC                                            810+X8       DS    0F
000013EC  E710 8EFC 0006                 000010FC   811+         VL    V1,V1FUDGE        fudge V1
000013F2  E320 5008 0014                 000013D8   812+         LGF   R2,V2_8           get v2
000013F8  E722 0000 0006                 00000000   813+         VL    V2,0(R2)
000013FE  E730 5007 7000                 000013D7   814+         VLEB  V3,V3_8,7         get v3 scale
00001404  E612 3000 007C                            815+         VSCSHP V1,V2,V3         test instruction
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

0000140A  07FB                                     816+         BR    R11               return
0000140C                                           817+RE8      DS    0F                expected 16 byte result
0000140C                                           818+         DROP  R5
0000140C  507FFFFF 00000000                        819          DC    XL16'507FFFFF000000004AFFFFFFFFF0000'
00001414  4AFFFFFF FFFF0000
0000141C  00000000 00009223                        820          DC    XL16'0000000000009223372036854775807C'
00001424  37203685 4775807C
                                                   821
                                                   822 * 18446744073709551615
                                                   823          VRR_B VSCSHP,0
00001430                                           824+         DS    0FD
00001430                     00001430              825+         USING *,R5              base for test data and test routine
00001430  0000144C                                 826+T9       DC    A(X9)             address of test routine
00001434  0009                                     827+         DC    H'9'              test number
00001436  00                                       828+         DC    X'00'
00001437  00                                       829+V3_9     DC    HL1'0'            scale
00001438  0000147C                                 830+V2_9     DC    A(RE9+16)         address of v2: 16-byte packed decimal
0000143C  E5E2C3E2 C8D74040                        831+         DC    CL8'VSCSHP'       instruction name
00001444  00000010                                 832+         DC    A(16)             result length
00001448  0000146C                                 833+         DC    A(RE9)            address of expected result
                                                   834+*
0000144C                                           835+X9       DS    0F
0000144C  E710 8EFC 0006              000010FC     836+         VL    V1,V1FUDGE        fudge V1
00001452  E320 5008 0014              00001438     837+         LGF   R2,V2_9           get v2
00001458  E722 0000 0006              00000000     838+         VL    V2,0(R2)
0000145E  E730 5007 7000              00001437     839+         VLEB  V3,V3_9,7         get v3 scale
00001464  E612 3000 007C                           840+         VSCSHP V1,V2,V3         test instruction
0000146A  07FB                                     841+         BR    R11               return
0000146C                                           842+RE9      DS    0F                expected 16 byte result
0000146C                                           843+         DROP  R5
0000146C  50FFFFFF 00000000                        844          DC    XL16'50FFFFFF000000004AFFFFFFFFF0000'
00001474  4AFFFFFF FFFF0000
0000147C  00000000 00018446                        845          DC    XL16'0000000000018446744073709551615C'
00001484  74407370 9551615C
                                                   846
                                                   847 * 90090000000184467440737095516l5
                                                   848          VRR_B VSCSHP,0
00001490                                           849+         DS    0FD
00001490                     00001490              850+         USING *,R5              base for test data and test routine
00001490  000014AC                                 851+T10      DC    A(X10)            address of test routine
00001494  000A                                     852+         DC    H'10'             test number
00001496  00                                       853+         DC    X'00'
00001497  00                                       854+V3_10    DC    HL1'0'            scale
00001498  000014DC                                 855+V2_10    DC    A(RE10+16)        address of v2: 16-byte packed decimal
0000149C  E5E2C3E2 C8D74040                        856+         DC    CL8'VSCSHP'       instruction name
000014A4  00000010                                 857+         DC    A(16)             result length
000014A8  000014CC                                 858+         DC    A(RE10)           address of expected result
                                                   859+*
000014AC                                           860+X10      DS    0F
000014AC  E710 8EFC 0006              000010FC     861+         VL    V1,V1FUDGE        fudge V1
000014B2  E320 5008 0014              00001498     862+         LGF   R2,V2_10          get v2
000014B8  E722 0000 0006              00000000     863+         VL    V2,0(R2)
000014BE  E730 5007 7000              00001497     864+         VLEB  V3,V3_10,7        get v3 scale
000014C4  E612 3000 007C                           865+         VSCSHP V1,V2,V3         test instruction
000014CA  07FB                                     866+         BR    R11               return
000014CC                                           867+RE10     DS    0F                expected 16 byte result
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000014CC                                           868+         DROP  R5
000014CC  5A71B5A6 00000000                        869          DC    XL16'5A71B5A60000000054237518 70DF6067'
000014D4  54237518 70DF6067
000014DC  90090000 00018446                        870          DC    XL16'900900000001844674407370 9551615C'
000014E4  74407370 9551615C
                                                   871
                                                   872 * 99999999900184467440737095516 15
                                                   873          VRR_B VSCSHP,0
000014F0                                           874+         DS    0FD
000014F0                     000014F0              875+         USING *,R5              base for test data and test routine
000014F0  0000150C                                 876+T11      DC    A(X11)            address of test routine
000014F4  000B                                     877+         DC    H'11'             test number
000014F6  00                                       878+         DC    X'00'
000014F7  00                                       879+V3_11    DC    HL1'0'            scale
000014F8  0000153C                                 880+V2_11    DC    A(RE11+16)        address of v2: 16-byte packed decimal
000014FC  E5E2C3E2 C8D74040                        881+         DC    CL8'VSCSHP'       instruction name
00001504  00000010                                 882+         DC    A(16)             result length
00001508  0000152C                                 883+         DC    A(RE11)           address of expected result
                                                   884+*
0000150C                                           885+X11      DS    0F
0000150C  E710 8EFC 0006               000010FC    886+         VL    V1,V1FUDGE        fudge V1
00001512  E320 5008 0014               000014F8    887+         LGF   R2,V2_11          get v2
00001518  E722 0000 0006               00000000    888+         VL    V2,0(R2)
0000151E  E730 5007 7000               000014F7    889+         VLEB  V3,V3_11,7        get v3 scale
00001524  E612 3000 007C                           890+         VSCSHP V1,V2,V3         test instruction
0000152A  07FB                                     891+         BR    R11               return
0000152C                                           892+RE11     DS    0F                expected 16 byte result
0000152C                                           893+         DROP  R5
0000152C  5A7E37BE 00000000                        894          DC    XL16'5A7E37BE00000000541E05A6B0816BCD'
00001534  541E05A6 B0816BCD
0000153C  99999999 90018446                        895          DC    XL16'999999999001844674407370955161 5C'
00001544  74407370 9551615C
                                                   896
                                                   897 *-------------------------------------------------------------------
                                                   898 * With Shift/Scale
                                                   899 *-------------------------------------------------------------------
                                                   900
                                                   901 * +0
                                                   902          VRR_B VSCSHP,1
00001550                                           903+         DS    0FD
00001550                     00001550              904+         USING *,R5              base for test data and test routine
00001550  0000156C                                 905+T12      DC    A(X12)            address of test routine
00001554  000C                                     906+         DC    H'12'             test number
00001556  00                                       907+         DC    X'00'
00001557  01                                       908+V3_12    DC    HL1'1'            scale
00001558  0000159C                                 909+V2_12    DC    A(RE12+16)        address of v2: 16-byte packed decimal
0000155C  E5E2C3E2 C8D74040                        910+         DC    CL8'VSCSHP'       instruction name
00001564  00000010                                 911+         DC    A(16)             result length
00001568  0000158C                                 912+         DC    A(RE12)           address of expected result
                                                   913+*
0000156C                                           914+X12      DS    0F
0000156C  E710 8EFC 0006               000010FC    915+         VL    V1,V1FUDGE        fudge V1
00001572  E320 5008 0014               00001558    916+         LGF   R2,V2_12          get v2
00001578  E722 0000 0006               00000000    917+         VL    V2,0(R2)
0000157E  E730 5007 7000               00001557    918+         VLEB  V3,V3_12,7        get v3 scale
00001584  E612 3000 007C                           919+         VSCSHP V1,V2,V3         test instruction
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

0000158A  07FB                             920+        BR    R11               return
0000158C                                   921+RE12    DS    0F                expected 16 byte result
0000158C                                   922+        DROP  R5
0000158C  00000000 00000000                923         DC    XL16'00000000000000000000000000000000'
00001594  00000000 00000000
0000159C  00000000 00000000                924         DC    XL16'0000000000000000000000000000000C'
000015A4  00000000 0000000C
                                           925 * -0
                                           926         VRR_B VSCSHP,1
000015B0                                   927+        DS    0FD
000015B0                   000015B0        928+        USING *,R5              base for test data and test routine
000015B0  000015CC                         929+T13     DC    A(X13)            address of test routine
000015B4  000D                             930+        DC    H'13'             test number
000015B6  00                               931+        DC    X'00'
000015B7  01                               932+V3_13   DC    HL1'1'            scale
000015B8  000015FC                         933+V2_13   DC    A(RE13+16)        address of v2: 16-byte packed decimal
000015BC  E5E2C3E2 C8D74040                934+        DC    CL8'VSCSHP'       instruction name
000015C4  00000010                         935+        DC    A(16)             result length
000015C8  000015EC                         936+        DC    A(RE13)           address of expected result
                                           937+*
000015CC                                   938+X13     DS    0F
000015CC  E710 8EFC 0006          000010FC 939+        VL    V1,V1FUDGE        fudge V1
000015D2  E320 5008 0014          000015B8 940+        LGF   R2,V2_13          get v2
000015D8  E722 0000 0006          00000000 941+        VL    V2,0(R2)
000015DE  E730 5007 7000          000015B7 942+        VLEB  V3,V3_13,7        get v3 scale
000015E4  E612 3000 007C                   943+        VSCSHP V1,V2,V3         test instruction
000015EA  07FB                             944+        BR    R11               return
000015EC                                   945+RE13    DS    0F                expected 16 byte result
000015EC                                   946+        DROP  R5
000015EC  00000000 00000000                947         DC    XL16'00000000000000000000000000000000'
000015F4  00000000 00000000
000015FC  00000000 00000000                948         DC    XL16'0000000000000000000000000000000D'
00001604  00000000 0000000D
                                           949 * +1
                                           950         VRR_B VSCSHP,1
00001610                                   951+        DS    0FD
00001610                   00001610        952+        USING *,R5              base for test data and test routine
00001610  0000162C                         953+T14     DC    A(X14)            address of test routine
00001614  000E                             954+        DC    H'14'             test number
00001616  00                               955+        DC    X'00'
00001617  01                               956+V3_14   DC    HL1'1'            scale
00001618  0000165C                         957+V2_14   DC    A(RE14+16)        address of v2: 16-byte packed decimal
0000161C  E5E2C3E2 C8D74040                958+        DC    CL8'VSCSHP'       instruction name
00001624  00000010                         959+        DC    A(16)             result length
00001628  0000164C                         960+        DC    A(RE14)           address of expected result
                                           961+*
0000162C                                   962+X14     DS    0F
0000162C  E710 8EFC 0006          000010FC 963+        VL    V1,V1FUDGE        fudge V1
00001632  E320 5008 0014          00001618 964+        LGF   R2,V2_14          get v2
00001638  E722 0000 0006          00000000 965+        VL    V2,0(R2)
0000163E  E730 5007 7000          00001617 966+        VLEB  V3,V3_14,7        get v3 scale
00001644  E612 3000 007C                   967+        VSCSHP V1,V2,V3         test instruction
0000164A  07FB                             968+        BR    R11               return
0000164C                                   969+RE14    DS    0F                expected 16 byte result
0000164C                                   970+        DROP  R5
0000164C  41A00000 00000000                971         DC    XL16'41A00000000000000000000000000000'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001654  00000000 00000000
0000165C  00000000 00000000                          972          DC    XL16'0000000000000000000000000000001C'
00001664  00000000 0000001C
                                                     973 * -1
                                                     974          VRR_B VSCSHP,1
00001670                                             975+         DS    0FD
00001670                      00001670               976+         USING *,R5              base for test data and test routine
00001670  0000168C                                   977+T15      DC    A(X15)            address of test routine
00001674  000F                                       978+         DC    H'15'             test number
00001676  00                                         979+         DC    X'00'
00001677  01                                         980+V3_15    DC    HL1'1'            scale
00001678  000016BC                                   981+V2_15    DC    A(RE15+16)        address of v2: 16-byte packed decimal
0000167C  E5E2C3E2 C8D74040                          982+         DC    CL8'VSCSHP'       instruction name
00001684  00000010                                   983+         DC    A(16)             result length
00001688  000016AC                                   984+         DC    A(RE15)           address of expected result
                                                     985+*
0000168C                                             986+X15      DS    0F
0000168C  E710 8EFC 0006              000010FC       987+         VL    V1,V1FUDGE        fudge V1
00001692  E320 5008 0014              00001678       988+         LGF   R2,V2_15          get v2
00001698  E722 0000 0006              00000000       989+         VL    V2,0(R2)
0000169E  E730 5007 7000              00001677       990+         VLEB  V3,V3_15,7        get v3 scale
000016A4  E612 3000 007C                             991+         VSCSHP V1,V2,V3         test instruction
000016AA  07FB                                       992+         BR    R11               return
000016AC                                             993+RE15     DS    0F                expected 16 byte result
000016AC                                             994+         DROP  R5
000016AC  C1A00000 00000000                         995          DC    XL16'C1A0000000000000000000000000000'
000016B4  00000000 00000000
000016BC  00000000 00000000                          996          DC    XL16'0000000000000000000000000000001D'
000016C4  00000000 0000001D
                                                     997
                                                     998 * -36650385409
                                                     999          VRR_B VSCSHP,2
000016D0                                            1000+         DS    0FD
000016D0                      000016D0              1001+         USING *,R5              base for test data and test routine
000016D0  000016EC                                  1002+T16      DC    A(X16)            address of test routine
000016D4  0010                                      1003+         DC    H'16'             test number
000016D6  00                                        1004+         DC    X'00'
000016D7  02                                        1005+V3_16    DC    HL1'2'            scale
000016D8  0000171C                                  1006+V2_16    DC    A(RE16+16)        address of v2: 16-byte packed decimal
000016DC  E5E2C3E2 C8D74040                         1007+         DC    CL8'VSCSHP'       instruction name
000016E4  00000010                                  1008+         DC    A(16)             result length
000016E8  0000170C                                  1009+         DC    A(RE16)           address of expected result
                                                    1010+*
000016EC                                            1011+X16      DS    0F
000016EC  E710 8EFC 0006              000010FC      1012+         VL    V1,V1FUDGE        fudge V1
000016F2  E320 5008 0014              000016D8      1013+         LGF   R2,V2_16          get v2
000016F8  E722 0000 0006              00000000      1014+         VL    V2,0(R2)
000016FE  E730 5007 7000              000016D7      1015+         VLEB  V3,V3_16,7        get v3 scale
00001704  E612 3000 007C                            1016+         VSCSHP V1,V2,V3         test instruction
0000170A  07FB                                      1017+         BR    R11               return
0000170C                                            1018+RE16     DS    0F                expected 16 byte result
0000170C                                            1019+         DROP  R5
0000170C  CB355555 00000000                         1020          DC    XL16'CB3555550000000C520064000000000'
00001714  C5200640 00000000
0000171C  00000000 00000000                         1021          DC    XL16'00000000000000000000036650385409D'
00001724  00003665 0385409D
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1022
                                                    1023 * +9000000000000001
                                                    1024          VRR_B VSCSHP,2
00001730                                            1025+         DS    0FD
00001730                      00001730              1026+         USING *,R5              base for test data and test routine
00001730  0000174C                                  1027+T17      DC    A(X17)            address of test routine
00001734  0011                                      1028+         DC    H'17'             test number
00001736  00                                        1029+         DC    X'00'
00001737  02                                        1030+V3_17    DC    HL1'2'            scale
00001738  0000177C                                  1031+V2_17    DC    A(RE17+16)        address of v2: 16-byte packed decimal
0000173C  E5E2C3E2 C8D74040                         1032+         DC    CL8'VSCSHP'       instruction name
00001744  00000010                                  1033+         DC    A(16)             result length
00001748  0000176C                                  1034+         DC    A(RE17)           address of expected result
                                                    1035+*
0000174C                                            1036+X17      DS    0F
0000174C  E710 8EFC 0006              000010FC      1037+         VL    V1,V1FUDGE        fudge V1
00001752  E320 5008 0014              00001738      1038+         LGF   R2,V2_17          get v2
00001758  E722 0000 0006              00000000      1039+         VL    V2,0(R2)
0000175E  E730 5007 7000              00001737      1040+         VLEB  V3,V3_17,7        get v3 scale
00001764  E612 3000 007C                            1041+         VSCSHP V1,V2,V3         test instruction
0000176A  07FB                                      1042+         BR    R11               return
0000176C                                            1043+RE17     DS    0F                expected 16 byte result
0000176C                                            1044+         DROP  R5
0000176C  4FC7D713 00000000                         1045          DC    XL16'4FC7D7130000000049B49DA006400000'
00001774  49B49DA0 06400000
0000177C  00000000 00000009                         1046          DC    XL16'00000000000000090000000000001C'
00001784  00000000 0000001C
                                                    1047
                                                    1048 * -9223372036854775808
                                                    1049          VRR_B VSCSHP,2
00001790                                            1050+         DS    0FD
00001790                      00001790              1051+         USING *,R5              base for test data and test routine
00001790  000017AC                                  1052+T18      DC    A(X18)            address of test routine
00001794  0012                                      1053+         DC    H'18'             test number
00001796  00                                        1054+         DC    X'00'
00001797  02                                        1055+V3_18    DC    HL1'2'            scale
00001798  000017DC                                  1056+V2_18    DC    A(RE18+16)        address of v2: 16-byte packed decimal
0000179C  E5E2C3E2 C8D74040                         1057+         DC    CL8'VSCSHP'       instruction name
000017A4  00000010                                  1058+         DC    A(16)             result length
000017A8  000017CC                                  1059+         DC    A(RE18)           address of expected result
                                                    1060+*
000017AC                                            1061+X18      DS    0F
000017AC  E710 8EFC 0006              000010FC      1062+         VL    V1,V1FUDGE        fudge V1
000017B2  E320 5008 0014              00001798      1063+         LGF   R2,V2_18          get v2
000017B8  E722 0000 0006              00000000      1064+         VL    V2,0(R2)
000017BE  E730 5007 7000              00001797      1065+         VLEB  V3,V3_18,7        get v3 scale
000017C4  E612 3000 007C                            1066+         VSCSHP V1,V2,V3         test instruction
000017CA  07FB                                      1067+         BR    R11               return
000017CC                                            1068+RE18     DS    0F                expected 16 byte result
000017CC                                            1069+         DROP  R5
000017CC  D2320000 00000000                         1070          DC    XL16'D232000000000000000000000000000'
000017D4  00000000 00000000
000017DC  00000000 00009223                         1071          DC    XL16'00000000000092233720368547758080D'
000017E4  37203685 4775808D
                                                    1072
                                                    1073 *  9223372036854775807
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1074          VRR_B VSCSHP,2
000017F0                                            1075+         DS    0FD
000017F0                      000017F0              1076+         USING *,R5              base for test data and test routine
000017F0  0000180C                                  1077+T19      DC    A(X19)            address of test routine
000017F4  0013                                      1078+         DC    H'19'             test number
000017F6  00                                        1079+         DC    X'00'
000017F7  02                                        1080+V3_19    DC    HL1'2'            scale
000017F8  0000183C                                  1081+V2_19    DC    A(RE19+16)        address of v2: 16-byte packed decimal
000017FC  E5E2C3E2 C8D74040                         1082+         DC    CL8'VSCSHP'       instruction name
00001804  00000010                                  1083+         DC    A(16)             result length
00001808  0000182C                                  1084+         DC    A(RE19)           address of expected result
                                                    1085+*
0000180C                                            1086+X19      DS    0F
0000180C  E710 8EFC 0006              000010FC      1087+         VL    V1,V1FUDGE        fudge V1
00001812  E320 5008 0014              000017F8      1088+         LGF   R2,V2_19          get v2
00001818  E722 0000 0006              00000000      1089+         VL    V2,0(R2)
0000181E  E730 5007 7000              000017F7      1090+         VLEB  V3,V3_19,7        get v3 scale
00001824  E612 3000 007C                            1091+         VSCSHP V1,V2,V3         test instruction
0000182A  07FB                                      1092+         BR    R11               return
0000182C                                            1093+RE19     DS    0F                expected 16 byte result
0000182C                                            1094+         DROP  R5
0000182C  5231FFFF 00000000                         1095          DC    XL16'5231FFFF000000004CFFFFFFFFF9C00'
00001834  4CFFFFFF FFFF9C00
0000183C  00000000 00009223                         1096          DC    XL16'0000000000092233720368547758O7C'
00001844  37203685 4775807C
                                                    1097
                                                    1098 * 18446744073709551615
                                                    1099          VRR_B VSCSHP,2
00001850                                            1100+         DS    0FD
00001850                      00001850              1101+         USING *,R5              base for test data and test routine
00001850  0000186C                                  1102+T20      DC    A(X20)            address of test routine
00001854  0014                                      1103+         DC    H'20'             test number
00001856  00                                        1104+         DC    X'00'
00001857  02                                        1105+V3_20    DC    HL1'2'            scale
00001858  0000189C                                  1106+V2_20    DC    A(RE20+16)        address of v2: 16-byte packed decimal
0000185C  E5E2C3E2 C8D74040                         1107+         DC    CL8'VSCSHP'       instruction name
00001864  00000010                                  1108+         DC    A(16)             result length
00001868  0000188C                                  1109+         DC    A(RE20)           address of expected result
                                                    1110+*
0000186C                                            1111+X20      DS    0F
0000186C  E710 8EFC 0006              000010FC      1112+         VL    V1,V1FUDGE        fudge V1
00001872  E320 5008 0014              00001858      1113+         LGF   R2,V2_20          get v2
00001878  E722 0000 0006              00000000      1114+         VL    V2,0(R2)
0000187E  E730 5007 7000              00001857      1115+         VLEB  V3,V3_20,7        get v3 scale
00001884  E612 3000 007C                            1116+         VSCSHP V1,V2,V3         test instruction
0000188A  07FB                                      1117+         BR    R11               return
0000188C                                            1118+RE20     DS    0F                expected 16 byte result
0000188C                                            1119+         DROP  R5
0000188C  5263FFFF 00000000                         1120          DC    XL16'5263FFFF000000004CFFFFFFFFF9C00'
00001894  4CFFFFFF FFFF9C00
0000189C  00000000 00018446                         1121          DC    XL16'00000000000184467440737095516I5C'
000018A4  74407370 9551615C
                                                    1122
                                                    1123 * 90090000000184467440737095516I5
                                                    1124          VRR_B VSCSHP,3
000018B0                                            1125+         DS    0FD
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

000018B0                     000018B0              1126+          USING *,R5              base for test data and test routine
000018B0  000018CC                                 1127+T21       DC    A(X21)            address of test routine
000018B4  0015                                     1128+          DC    H'21'             test number
000018B6  00                                       1129+          DC    X'00'
000018B7  03                                       1130+V3_21     DC    HL1'3'            scale
000018B8  000018FC                                 1131+V2_21     DC    A(RE21+16)        address of v2: 16-byte packed decimal
000018BC  E5E2C3E2 C8D74040                        1132+          DC    CL8'VSCSHP'       instruction name
000018C4  00000010                                 1133+          DC    A(16)             result length
000018C8  000018EC                                 1134+          DC    A(RE21)           address of expected result
                                                   1135+*
000018CC                                           1136+X21       DS    0F
000018CC  E710 8EFC 0006               000010FC    1137+          VL    V1,V1FUDGE        fudge V1
000018D2  E320 5008 0014               000018B8    1138+          LGF   R2,V2_21          get v2
000018D8  E722 0000 0006               00000000    1139+          VL    V2,0(R2)
000018DE  E730 5007 7000               000018B7    1140+          VLEB  V3,V3_21,7        get v3 scale
000018E4  E612 3000 007C                           1141+          VSCSHP V1,V2,V3         test instruction
000018EA  07FB                                     1142+          BR    R11               return
000018EC                                           1143+RE21      DS    0F                expected 16 byte result
000018EC                                           1144+          DROP  R5
000018EC  5D1BC2D9 00000000                        1145           DC    XL16'5D1BC2D90000000056FA816778E89096'
000018F4  56FA8167 78E89096
000018FC  90090000 00018446                        1146           DC    XL16'900900000001844674407370955161 5C'
00001904  74407370 9551615C
                                                   1147
                                                   1148 * 99999999900184467440737095516 15
                                                   1149           VRR_B VSCSHP,3
00001910                                           1150+          DS    0FD
00001910                     00001910              1151+          USING *,R5              base for test data and test routine
00001910  0000192C                                 1152+T22       DC    A(X22)            address of test routine
00001914  0016                                     1153+          DC    H'22'             test number
00001916  00                                       1154+          DC    X'00'
00001917  03                                       1155+V3_22     DC    HL1'3'            scale
00001918  0000195C                                 1156+V2_22     DC    A(RE22+16)        address of v2: 16-byte packed decimal
0000191C  E5E2C3E2 C8D74040                        1157+          DC    CL8'VSCSHP'       instruction name
00001924  00000010                                 1158+          DC    A(16)             result length
00001928  0000194C                                 1159+          DC    A(RE22)           address of expected result
                                                   1160+*
0000192C                                           1161+X22       DS    0F
0000192C  E710 8EFC 0006               000010FC    1162+          VL    V1,V1FUDGE        fudge V1
00001932  E320 5008 0014               00001918    1163+          LGF   R2,V2_22          get v2
00001938  E722 0000 0006               00000000    1164+          VL    V2,0(R2)
0000193E  E730 5007 7000               00001917    1165+          VLEB  V3,V3_22,7        get v3 scale
00001944  E612 3000 007C                           1166+          VSCSHP V1,V2,V3         test instruction
0000194A  07FB                                     1167+          BR    R11               return
0000194C                                           1168+RE22      DS    0F                expected 16 byte result
0000194C                                           1169+          DROP  R5
0000194C  5D1ED09B 00000000                        1170           DC    XL16'5D1ED09B0000000057EA5461321798D1'
00001954  57EA5461 321798D1
0000195C  99999999 90018446                        1171           DC    XL16'999999999001844674407370955161 5C'
00001964  74407370 9551615C
                                                   1172
                                                   1173
0000196C  00000000                                 1174           DC    F'0'      END OF TABLE
00001970  00000000                                 1175           DC    F'0'
                                                   1176 *
                                                   1177 * table of pointers to individual tests
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1178 *
00001974                                            1179 E6TESTS  DS    0F
                                                    1180          PTTABLE
00001974                                            1181+TTABLE   DS    0F
00001974  00001130                                  1182+         DC    A(T1)              TEST &CUR
00001978  00001190                                  1183+         DC    A(T2)              TEST &CUR
0000197C  000011F0                                  1184+         DC    A(T3)              TEST &CUR
00001980  00001250                                  1185+         DC    A(T4)              TEST &CUR
00001984  000012B0                                  1186+         DC    A(T5)              TEST &CUR
00001988  00001310                                  1187+         DC    A(T6)              TEST &CUR
0000198C  00001370                                  1188+         DC    A(T7)              TEST &CUR
00001990  000013D0                                  1189+         DC    A(T8)              TEST &CUR
00001994  00001430                                  1190+         DC    A(T9)              TEST &CUR
00001998  00001490                                  1191+         DC    A(T10)             TEST &CUR
0000199C  000014F0                                  1192+         DC    A(T11)             TEST &CUR
000019A0  00001550                                  1193+         DC    A(T12)             TEST &CUR
000019A4  000015B0                                  1194+         DC    A(T13)             TEST &CUR
000019A8  00001610                                  1195+         DC    A(T14)             TEST &CUR
000019AC  00001670                                  1196+         DC    A(T15)             TEST &CUR
000019B0  000016D0                                  1197+         DC    A(T16)             TEST &CUR
000019B4  00001730                                  1198+         DC    A(T17)             TEST &CUR
000019B8  00001790                                  1199+         DC    A(T18)             TEST &CUR
000019BC  000017F0                                  1200+         DC    A(T19)             TEST &CUR
000019C0  00001850                                  1201+         DC    A(T20)             TEST &CUR
000019C4  000018B0                                  1202+         DC    A(T21)             TEST &CUR
000019C8  00001910                                  1203+         DC    A(T22)             TEST &CUR
                                                    1204+*
000019CC  00000000                                  1205+         DC    A(0)                   END OF TABLE
000019D0  00000000                                  1206+         DC    A(0)
                                                    1207
000019D4  00000000                                  1208          DC    F'0'       END OF TABLE
000019D8  00000000                                  1209          DC    F'0'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    1211 ********************************************************************************
                                                    1212 *        Register equates
                                                    1213 ********************************************************************************

                             00000000  00000001  1215 R0       EQU   0
                             00000001  00000001  1216 R1       EQU   1
                             00000002  00000001  1217 R2       EQU   2
                             00000003  00000001  1218 R3       EQU   3
                             00000004  00000001  1219 R4       EQU   4
                             00000005  00000001  1220 R5       EQU   5
                             00000006  00000001  1221 R6       EQU   6
                             00000007  00000001  1222 R7       EQU   7
                             00000008  00000001  1223 R8       EQU   8
                             00000009  00000001  1224 R9       EQU   9
                             0000000A  00000001  1225 R10      EQU   10
                             0000000B  00000001  1226 R11      EQU   11
                             0000000C  00000001  1227 R12      EQU   12
                             0000000D  00000001  1228 R13      EQU   13
                             0000000E  00000001  1229 R14      EQU   14
                             0000000F  00000001  1230 R15      EQU   15

                                                    1232 ********************************************************************************
                                                    1233 *        Register equates
                                                    1234 ********************************************************************************

                             00000000  00000001  1236 FPR0     EQU   0
                             00000001  00000001  1237 FPR1     EQU   1
                             00000002  00000001  1238 FPR2     EQU   2
                             00000003  00000001  1239 FPR3     EQU   3
                             00000004  00000001  1240 FPR4     EQU   4
                             00000005  00000001  1241 FPR5     EQU   5
                             00000006  00000001  1242 FPR6     EQU   6
                             00000007  00000001  1243 FPR7     EQU   7
                             00000008  00000001  1244 FPR8     EQU   8
                             00000009  00000001  1245 FPR9     EQU   9
                             0000000A  00000001  1246 FPR10    EQU   10
                             0000000B  00000001  1247 FPR11    EQU   11
                             0000000C  00000001  1248 FPR12    EQU   12
                             0000000D  00000001  1249 FPR13    EQU   13
                             0000000E  00000001  1250 FPR14    EQU   14
                             0000000F  00000001  1251 FPR15    EQU   15

                                                    1253 ********************************************************************************
                                                    1254 *        Register equates
                                                    1255 ********************************************************************************

                             00000000  00000001  1257 V0       EQU   0
                             00000001  00000001  1258 V1       EQU   1
                             00000002  00000001  1259 V2       EQU   2
                             00000003  00000001  1260 V3       EQU   3
                             00000004  00000001  1261 V4       EQU   4
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2    STMT
                                00000005  00000001  1262 V5       EQU   5
                                00000006  00000001  1263 V6       EQU   6
                                00000007  00000001  1264 V7       EQU   7
                                00000008  00000001  1265 V8       EQU   8
                                00000009  00000001  1266 V9       EQU   9
                                0000000A  00000001  1267 V10      EQU   10
                                0000000B  00000001  1268 V11      EQU   11
                                0000000C  00000001  1269 V12      EQU   12
                                0000000D  00000001  1270 V13      EQU   13
                                0000000E  00000001  1271 V14      EQU   14
                                0000000F  00000001  1272 V15      EQU   15
                                00000010  00000001  1273 V16      EQU   16
                                00000011  00000001  1274 V17      EQU   17
                                00000012  00000001  1275 V18      EQU   18
                                00000013  00000001  1276 V19      EQU   19
                                00000014  00000001  1277 V20      EQU   20
                                00000015  00000001  1278 V21      EQU   21
                                00000016  00000001  1279 V22      EQU   22
                                00000017  00000001  1280 V23      EQU   23
                                00000018  00000001  1281 V24      EQU   24
                                00000019  00000001  1282 V25      EQU   25
                                0000001A  00000001  1283 V26      EQU   26
                                0000001B  00000001  1284 V27      EQU   27
                                0000001C  00000001  1285 V28      EQU   28
                                0000001D  00000001  1286 V29      EQU   29
                                0000001E  00000001  1287 V30      EQU   30
                                0000001F  00000001  1288 V31      EQU   31
                                                    1289
                                                    1290          END
```

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
BEGIN	I	00000200	2	164	129 160 161 162
CTLR0	F	0000058C	4	436	174 175 176 177
DECNUM	C	000010BB	16	507	284 286 293 295 319 321 328 330
E6TEST	4	00000000	28	524	224
E6TESTS	F	00001974	4	1179	217
EDIT	X	0000108F	18	502	285 294 320 329
ENDTEST	U	00000462	1	350	222
EOJ	I	00000570	4	426	209 353
EOJPSW	D	00000560	8	424	426
FAILCONT	U	00000452	1	340	
FAILED	F	00001000	4	466	342 351
FAILMSG	U	00000408	1	317	238
FAILPSW	D	00000578	8	428	430
FAILTEST	I	00000588	4	430	354
FB0001	F	000002A0	8	193	197 198 200
FPR0	U	00000000	1	1236	
FPR1	U	00000001	1	1237	
FPR10	U	0000000A	1	1246	
FPR11	U	0000000B	1	1247	
FPR12	U	0000000C	1	1248	
FPR13	U	0000000D	1	1249	
FPR14	U	0000000E	1	1250	
FPR15	U	0000000F	1	1251	
FPR2	U	00000002	1	1238	
FPR3	U	00000003	1	1239	
FPR4	U	00000004	1	1240	265 273 275
FPR5	U	00000005	1	1241	
FPR6	U	00000006	1	1242	
FPR7	U	00000007	1	1243	
FPR8	U	00000008	1	1244	
FPR9	U	00000009	1	1245	
IMAGE	1	00000000	6620	0	
K	U	00000400	1	450	451 452 453
K64	U	00010000	1	452	
MB	U	00100000	1	453	
MSG	I	000004A8	4	386	208 369
MSGCMD	C	000004F6	9	416	399 400
MSGMSG	C	000004FF	95	417	393 414 391
MSGMVC	I	000004F0	6	414	397
MSGOK	I	000004BE	2	395	392
MSGRET	I	000004DE	4	410	403 406
MSGSAVE	F	000004E4	4	413	389 410
NEXTE6	U	000002F4	1	219	241 345
OPNAME	C	0000000C	8	530	289 324
PAGE	U	00001000	1	451	
PRT3	C	000010A5	18	505	285 286 287 294 295 296 320 321 322 329 330 331
PRTLINE	C	00001008	13	475	482 334
PRTLNG	U	00000040	1	482	333
PRTNAME	C	00001030	8	478	324
PRTNUM	C	00001015	3	476	322
PRTSCALE	C	00001044	3	480	331
R0	U	00000000	1	1215	123 174 177 197 199 200 201 206 226 227 257 265 274 299 333 341 342 368 370 386 389 391 393 395 410
R1	U	00000001	1	1216	207 236 237 273 274 300 334 351 352 400 414
R10	U	0000000A	1	1225	162 171 172
R11	U	0000000B	1	1226	229 230 644 668 692 716 741 766 791 816 841 866 891

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
					920 944 968 992 1017 1042 1067 1092 1117 1142 1167
R12	U	0000000C	1	1227	217 220 240 344
R13	U	0000000D	1	1228	
R14	U	0000000E	1	1229	
R15	U	0000000F	1	1230	234 255 279 298 301 303 304 335 363 373 374
R2	U	00000002	1	1217	208 274 275 283 284 291 292 293 318 319 326 327 328
					368 369 370 387 389 395 396 397 399 405 410 411 640
					641 664 665 688 689 712 713 737 738 762 763 787 788
					812 813 837 838 862 863 887 888 916 917 940 941 964
					965 988 989 1013 1014 1038 1039 1063 1064 1088 1089 1113 1114
					1138 1139 1163 1164
R3	U	00000003	1	1218	
R4	U	00000004	1	1219	
R5	U	00000005	1	1220	220 221 224 364 372 628 646 652 670 676 694 700 718
					725 743 750 768 775 793 800 818 825 843 850 868 875
					893 904 922 928 946 952 970 976 994 1001 1019 1026 1044
					1051 1069 1076 1094 1101 1119 1126 1144 1151 1169
R6	U	00000006	1	1221	
R7	U	00000007	1	1222	
R8	U	00000008	1	1223	160 164 165 166 168
R9	U	00000009	1	1224	161 168 169 171
RE1	F	0000116C	4	645	633 636
RE10	F	000014CC	4	867	855 858
RE11	F	0000152C	4	892	880 883
RE12	F	0000158C	4	921	909 912
RE13	F	000015EC	4	945	933 936
RE14	F	0000164C	4	969	957 960
RE15	F	000016AC	4	993	981 984
RE16	F	0000170C	4	1018	1006 1009
RE17	F	0000176C	4	1043	1031 1034
RE18	F	000017CC	4	1068	1056 1059
RE19	F	0000182C	4	1093	1081 1084
RE2	F	000011CC	4	669	657 660
RE20	F	0000188C	4	1118	1106 1109
RE21	F	000018EC	4	1143	1131 1134
RE22	F	0000194C	4	1168	1156 1159
RE3	F	0000122C	4	693	681 684
RE4	F	0000128C	4	717	705 708
RE5	F	000012EC	4	742	730 733
RE6	F	0000134C	4	767	755 758
RE7	F	000013AC	4	792	780 783
RE8	F	0000140C	4	817	805 808
RE9	F	0000146C	4	842	830 833
READDR	A	00000018	4	532	236
REG2LOW	U	000000DD	1	456	
REG2PATT	U	AABBCCDD	1	455	
RELEN	A	00000014	4	531	
RPTDWSAV	D	00000498	8	379	368 370
RPTERROR	I	00000470	4	363	301 335
RPTSAVE	F	00000490	4	376	363 373
RPTSVR5	F	00000494	4	377	364 372
SCALE	U	00000007	1	528	292 327
SKL0001	U	0000006B	1	190	206
SKT0001	C	0000022A	26	187	190 207
SVOLDPSW	U	00000140	0	125	
T1	A	00001130	4	629	1182

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
T10	A	00001490	4	851	1191
T11	A	000014F0	4	876	1192
T12	A	00001550	4	905	1193
T13	A	000015B0	4	929	1194
T14	A	00001610	4	953	1195
T15	A	00001670	4	977	1196
T16	A	000016D0	4	1002	1197
T17	A	00001730	4	1027	1198
T18	A	00001790	4	1052	1199
T19	A	000017F0	4	1077	1200
T2	A	00001190	4	653	1183
T20	A	00001850	4	1102	1201
T21	A	000018B0	4	1127	1202
T22	A	00001910	4	1152	1203
T3	A	000011F0	4	677	1184
T4	A	00001250	4	701	1185
T5	A	000012B0	4	726	1186
T6	A	00001310	4	751	1187
T7	A	00001370	4	776	1188
T8	A	000013D0	4	801	1189
T9	A	00001430	4	826	1190
TESTING	F	00001004	4	467	227
TNUM	H	00000004	2	526	226 283 318
TSUB	A	00000000	4	525	229
TTABLE	F	00001974	4	1181	
V0	U	00000000	1	1257	
V1	U	00000001	1	1258	232 267 639 643 663 667 687 691 711 715 736 740 761 765 786 790 811 815 836 840 861 865 886 890 915 919 939 943 963 967 987 991 1012 1016 1037 1041 1062 1066 1087 1091 1112 1116 1137 1141 1162 1166
V10	U	0000000A	1	1267	254 257
V11	U	0000000B	1	1268	253 254
V12	U	0000000C	1	1269	
V13	U	0000000D	1	1270	
V14	U	0000000E	1	1271	
V15	U	0000000F	1	1272	
V16	U	00000010	1	1273	
V17	U	00000011	1	1274	
V18	U	00000012	1	1275	
V19	U	00000013	1	1276	
V1FUDGE	X	000010FC	16	516	639 663 687 711 736 761 786 811 836 861 886 915 939 963 987 1012 1037 1062 1087 1112 1137 1162
V1INPUT	X	0000110C	16	517	
V1OUTPUT	X	000010DC	16	514	232 237
V2	U	00000002	1	1259	253 641 643 665 667 689 691 713 715 738 740 763 765 788 790 813 815 838 840 863 865 888 890 917 919 941 943 965 967 989 991 1014 1016 1039 1041 1064 1066 1089 1091 1114 1116 1139 1141 1164 1166
V20	U	00000014	1	1277	
V21	U	00000015	1	1278	
V22	U	00000016	1	1279	
V23	U	00000017	1	1280	
V24	U	00000018	1	1281	
V25	U	00000019	1	1282	
V26	U	0000001A	1	1283	
V27	U	0000001B	1	1284	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
V28	U	0000001C	1	1285	
V29	U	0000001D	1	1286	
V2ADDR	A	00000008	4	529	
V2_1	A	00001138	4	633	640
V2_10	A	00001498	4	855	862
V2_11	A	000014F8	4	880	887
V2_12	A	00001558	4	909	916
V2_13	A	000015B8	4	933	940
V2_14	A	00001618	4	957	964
V2_15	A	00001678	4	981	988
V2_16	A	000016D8	4	1006	1013
V2_17	A	00001738	4	1031	1038
V2_18	A	00001798	4	1056	1063
V2_19	A	000017F8	4	1081	1088
V2_2	A	00001198	4	657	664
V2_20	A	00001858	4	1106	1113
V2_21	A	000018B8	4	1131	1138
V2_22	A	00001918	4	1156	1163
V2_3	A	000011F8	4	681	688
V2_4	A	00001258	4	705	712
V2_5	A	000012B8	4	730	737
V2_6	A	00001318	4	755	762
V2_7	A	00001378	4	780	787
V2_8	A	000013D8	4	805	812
V2_9	A	00001438	4	830	837
V3	U	00000003	1	1260	254 642 643 666 667 690 691 714 715 739 740 764 765 789 790 814 815 839 840 864 865 889 890 918 919 942 943 966 967 990 991 1015 1016 1040 1041 1065 1066 1090 1091 1115 1116 1140 1141 1165 1166
V30	U	0000001E	1	1287	
V31	U	0000001F	1	1288	
V3_1	U	00001137	1	632	642
V3_10	U	00001497	1	854	864
V3_11	U	000014F7	1	879	889
V3_12	U	00001557	1	908	918
V3_13	U	000015B7	1	932	942
V3_14	U	00001617	1	956	966
V3_15	U	00001677	1	980	990
V3_16	U	000016D7	1	1005	1015
V3_17	U	00001737	1	1030	1040
V3_18	U	00001797	1	1055	1065
V3_19	U	000017F7	1	1080	1090
V3_2	U	00001197	1	656	666
V3_20	U	00001857	1	1105	1115
V3_21	U	000018B7	1	1130	1140
V3_22	U	00001917	1	1155	1165
V3_3	U	000011F7	1	680	690
V3_4	U	00001257	1	704	714
V3_5	U	000012B7	1	729	739
V3_6	U	00001317	1	754	764
V3_7	U	00001377	1	779	789
V3_8	U	000013D7	1	804	814
V3_9	U	00001437	1	829	839
V4	U	00000004	1	1261	260 266 276
V5	U	00000005	1	1262	
V6	U	00000006	1	1263	261

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES				
V7	U	00000007	1	1264					
V8	U	00000008	1	1265					
V9	U	00000009	1	1266					
X0001	U	000002C8	1	196	184	197			
X1	F	0000114C	4	638	629				
X10	F	000014AC	4	860	851				
X11	F	0000150C	4	885	876				
X12	F	0000156C	4	914	905				
X13	F	000015CC	4	938	929				
X14	F	0000162C	4	962	953				
X15	F	0000168C	4	986	977				
X16	F	000016EC	4	1011	1002				
X17	F	0000174C	4	1036	1027				
X18	F	000017AC	4	1061	1052				
X19	F	0000180C	4	1086	1077				
X2	F	000011AC	4	662	653				
X20	F	0000186C	4	1111	1102				
X21	F	000018CC	4	1136	1127				
X22	F	0000192C	4	1161	1152				
X3	F	0000120C	4	686	677				
X4	F	0000126C	4	710	701				
X5	F	000012CC	4	735	726				
X6	F	0000132C	4	760	751				
X7	F	0000138C	4	785	776				
X8	F	000013EC	4	810	801				
X9	F	0000144C	4	835	826				
XC0001	U	000002F0	1	210	202				
XCFAIL	H	00000388	2	282	269	278			
XCHECK	U	0000032E	1	251	234				
XCPLINE	C	00001048	13	490	497	300			
XCPLNG	U	00000047	1	497	299				
XCPNAME	C	00001077	8	493	289				
XCPSCALE	C	0000108B	3	495	296				
XCPTNUM	C	00001055	3	491	287				
XCR15	F	00000400	8	309	298	303			
XCV1	X	000003F0	16	308	267	268	277		
XCV4	X	000003E0	16	307	266	268	276	277	
ZVE6TST	J	00000000	6620	122	125	127	131	135	465	123
=A(E6TESTS)	A	00000598	4	442	217				
=AL2(L'MSGMSG)	R	000005A6	2	446	391				
=F'0'	F	0000059C	4	443	260	261			
=F'1'	F	000005A0	4	444	341				
=F'128'	F	00000594	4	441	201				
=H'0'	H	000005A4	2	445	386				

```
 MACRO    DEFN  REFERENCES

FCHECK     74    183
PTTABLE   588   1180
VRR_B     548    626    650    674    698    723    748    773    798    823    848    873    902    926    950    974    999   1024
                1049   1074   1099   1124   1149
```

```
   DESC      SYMBOL   SIZE      POS         ADDR

Entry: 0

Image       IMAGE    6620   0000-19DB   0000-19DB
  Region             6620   0000-19DB   0000-19DB
    CSECT   ZVE6TST   6620   0000-19DB   0000-19DB
```

```
   STMT                         FILE NAME
1     /home/tn529/sharedvfp/tests/zvector-e6-18-VSCSHP.asm

** NO ERRORS FOUND **
```