



**Advanced Validation Labs, Inc.**  
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| Intel PCSD Server Memory Compatibility Test Certificate |                          |
|---|--------------------------|
| Test System: <b>Intel S4600LHP (Lizard Head Pass)</b>   | Test Result: <b>Pass</b> |

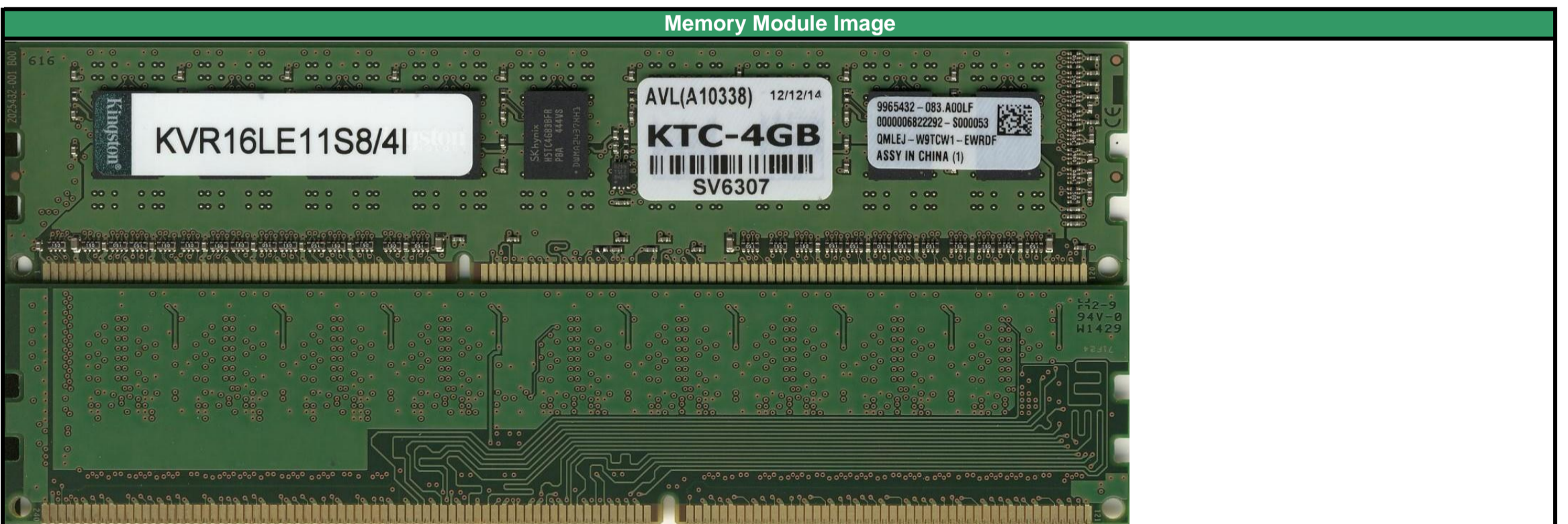
Leveraged System(s):N/A

| Module Information     |                  |                                  |           |      |                        |       |                  |     |      |
|------------------------|------------------|----------------------------------|-----------|------|------------------------|-------|------------------|-----|------|
| RPXXXXXXXXXXXXXXXXXXXX |                  |                                  |           |      |                        |       |                  |     |      |
| Rev. 03/01/2014        |                  |                                  |           |      |                        |       |                  |     |      |
| DIMM Vendor            | DIMM Part Number | Type                             | Voltage   | Size | Config.                | Speed | CL               | R/C | Rank |
| Kingston               | KVR16LE11S8/4I   | UDIMM ECC                        | 1.35V     | 4GB  | 512Mx72                | 1600  | 11               | D   | SR   |
| DRAM Vendor            | DRAM Part Number | DRAM Density / Width / Date Code |           |      | Register Vendor / Rev. |       | DIMM Composition |     |      |
| Hynix                  | H5TC4G83BFR-PBA  | 4Gb                              | 512Mx8bit | 1444 |                        |       | (512Mx8)*72      |     |      |

| Leveraged Memory Modules |          |               |           |      |       |      |
|--------------------------|----------|---------------|-----------|------|-------|------|
|                          | Vendor   | Type          | Voltage   | CL   | Speed |      |
| 1                        | Kingston | KVR16E11S8/4I | UDIMM ECC | 1.5V | 11    | 1600 |
| 2                        |          |               |           |      |       |      |
| 3                        |          |               |           |      |       |      |
| 4                        |          |               |           |      |       |      |
| 5                        |          |               |           |      |       |      |
| 6                        |          |               |           |      |       |      |

| System Configuration |  |              |
|----------------------|--|--------------|
| SETUP                | System #1  | System #2    |
| AVL S/N              | SQ8669   | SU3297       |
| System S/N           | BQLH31800042   | BQLH31800018 |
| Board Rev. (PBA)     | G30981-502   | G30981-402   |
| CPU Type             | E5-4650 v2 / 2.4 GHz                                       |              |
| Chipset              | Intel C602   |              |
| BIOS / Date          | 02.03.0002 / 03/21/2014                                    |              |
| BMC / ME             | 1.20.5446 / 02.01.07.328                                   |              |
| FUR/SDR              | 0.23   |              |
| OS                   | Windows 2008 Enterprise R2 64bit SP1                       |              |
| Test Tool            | iWVSS 2.5.3, SELViewer, Pvmode2, Syscfg, WinPIRA,MemPuller |              |

| Testing Summary                              |  |              |
|--|--|--------------|
| Test Items                                   | Test Description                                 | Test Results |
| 1. Latest BIOS Upgrade & Configuration check | Record memory Size and Speed detection from BIOS | Done         |
| 2. SPD Check                                 | DIMM SPD content check for JEDEC compliance      | Pass         |
| 3. Memory Stress                             | Test for 6 hours @ Max and Min Loading           | HVDD Hot     |
| 4. Memory Stress                             |  | HVDD Cold    |
| 5. Memory Stress                             |  | LVDD Hot     |
| 6. Memory Stress                             |  | LVDD Cold    |
| Note:  |  |              |



| AVL USE ONLY: |            |                  |          |        |        |         |        |
|---------------|------------|------------------|----------|--------|--------|---------|--------|
| Completed by: | Andy Chang | Completion Date: | 03/10/15 | AVL A# | A10338 | AVL W/O | WD2915 |
| Comments:     |            |                  |          |        |        |         |        |

Test Results

| 4C Minimum Loading |        |           |   |   |   |
|--------------------|--------|-----------|---|---|---|
| Start Date         |        | 1/29/2015 |   |   |   |
| DIMM Voltage       |        | 1.5v      |   |   |   |
| DIMM               | S/N    | A         | B | C | D |
| CPU1 A1            | SV6337 | P         | P | P | P |
| CPU1 A2            |        |           |   |   |   |
| CPU1 A3            |        |           |   |   |   |
| CPU1 B1            | SV6338 | P         | P | P | P |
| CPU1 B2            |        |           |   |   |   |
| CPU1 B3            |        |           |   |   |   |
| CPU1 C1            | SV6339 | P         | P | P | P |
| CPU1 C2            |        |           |   |   |   |
| CPU1 C3            |        |           |   |   |   |
| CPU1 D1            | SV6340 | P         | P | P | P |
| CPU1 D2            |        |           |   |   |   |
| CPU1 D3            |        |           |   |   |   |
| CPU2 E1            | SV6341 | P         | P | P | P |
| CPU2 E2            |        |           |   |   |   |
| CPU2 E3            |        |           |   |   |   |
| CPU2 F1            | SV6342 | P         | P | P | P |
| CPU2 F2            |        |           |   |   |   |
| CPU2 F3            |        |           |   |   |   |
| CPU2 G1            | SV6343 | P         | P | P | P |
| CPU2 G2            |        |           |   |   |   |
| CPU2 G3            |        |           |   |   |   |
| CPU2 H1            | SV6344 | P         | P | P | P |
| CPU2 H2            |        |           |   |   |   |
| CPU2 H3            |        |           |   |   |   |
| CPU3 L1            | SV6345 | P         | P | P | P |
| CPU3 L2            |        |           |   |   |   |
| CPU3 L3            |        |           |   |   |   |
| CPU3 M1            | SV3646 | P         | P | P | P |
| CPU3 M2            |        |           |   |   |   |
| CPU3 M3            |        |           |   |   |   |
| CPU3 J1            | SV6347 | P         | P | P | P |
| CPU3 J2            |        |           |   |   |   |
| CPU3 J3            |        |           |   |   |   |
| CPU3 K1            | SV6348 | P         | P | P | P |
| CPU3 K2            |        |           |   |   |   |
| CPU3 K3            |        |           |   |   |   |
| CPU4 R1            | SV6349 | P         | P | P | P |
| CPU4 R2            |        |           |   |   |   |
| CPU4 R3            |        |           |   |   |   |
| CPU4 T1            | SV6350 | P         | P | P | P |
| CPU4 T2            |        |           |   |   |   |
| CPU4 T3            |        |           |   |   |   |
| CPU4 N1            | SV6351 | P         | P | P | P |
| CPU4 N2            |        |           |   |   |   |
| CPU4 N3            |        |           |   |   |   |
| CPU4 P1            | SV6207 | P         | P | P | P |
| CPU4 P2            |        |           |   |   |   |
| CPU4 P3            |        |           |   |   |   |

| 4C Middle Loading |        |          |   |   |   |
|-------------------|--------|----------|---|---|---|
| Start Date        |        | 02/12/15 |   |   |   |
| DIMM Voltage      |        | 1.5v     |   |   |   |
| DIMM              | S/N    | A        | B | C | D |
| CPU1 A1           | SV6307 | P        | P | P | P |
| CPU1 A2           | SV6308 | P        | P | P | P |
| CPU1 A3           |        |          |   |   |   |
| CPU1 B1           | SV6309 | P        | P | P | P |
| CPU1 B2           | SV6310 | P        | P | P | P |
| CPU1 B3           |        |          |   |   |   |
| CPU1 C1           | SV6311 | P        | P | P | P |
| CPU1 C2           | SV6312 | P        | P | P | P |
| CPU1 C3           |        |          |   |   |   |
| CPU1 D1           | SV6313 | P        | P | P | P |
| CPU1 D2           | SV6314 | P        | P | P | P |
| CPU1 D3           |        |          |   |   |   |
| CPU2 E1           | SV6315 | P        | P | P | P |
| CPU2 E2           | SV6316 | P        | P | P | P |
| CPU2 E3           |        |          |   |   |   |
| CPU2 F1           | SV6317 | P        | P | P | P |
| CPU2 F2           | SV6318 | P        | P | P | P |
| CPU2 F3           |        |          |   |   |   |
| CPU2 G1           | SV6319 | P        | P | P | P |
| CPU2 G2           | SV6320 | P        | P | P | P |
| CPU2 G3           |        |          |   |   |   |
| CPU2 H1           | SV6321 | P        | P | P | P |
| CPU2 H2           | SV6322 | P        | P | P | P |
| CPU2 H3           |        |          |   |   |   |
| CPU3 L1           | SV6323 | P        | P | P | P |
| CPU3 L2           | SV6324 | P        | P | P | P |
| CPU3 L3           |        |          |   |   |   |
| CPU3 M1           | SV6325 | P        | P | P | P |
| CPU3 M2           | SV6326 | P        | P | P | P |
| CPU3 M3           |        |          |   |   |   |
| CPU3 J1           | SV6327 | P        | P | P | P |
| CPU3 J2           | SV6328 | P        | P | P | P |
| CPU3 J3           |        |          |   |   |   |
| CPU3 K1           | SV6329 | P        | P | P | P |
| CPU3 K2           | SV6330 | P        | P | P | P |
| CPU3 K3           |        |          |   |   |   |
| CPU4 R1           | SV6331 | P        | P | P | P |
| CPU4 R2           | SV6332 | P        | P | P | P |
| CPU4 R3           |        |          |   |   |   |
| CPU4 T1           | SV6333 | P        | P | P | P |
| CPU4 T2           | SV6334 | P        | P | P | P |
| CPU4 T3           |        |          |   |   |   |
| CPU4 N1           | SV6335 | P        | P | P | P |
| CPU4 N2           | SV6336 | P        | P | P | P |
| CPU4 N3           |        |          |   |   |   |
| CPU4 P1           | SV6337 | P        | P | P | P |
| CPU4 P2           | SV6207 | P        | P | P | P |
| CPU4 P3           |        |          |   |   |   |

| 4C Maximum Loading |     |      |   |   |   |
|--------------------|-----|------|---|---|---|
| Start Date         |     |      |   |   |   |
| DIMM Voltage       |     | 1.5v |   |   |   |
| DIMM               | S/N | A    | B | C | D |
| CPU1 A1            |     |      |   |   |   |
| CPU1 A2            |     |      |   |   |   |
| CPU1 A3            |     |      |   |   |   |
| CPU1 B1            |     |      |   |   |   |
| CPU1 B2            |     |      |   |   |   |
| CPU1 B3            |     |      |   |   |   |
| CPU1 C1            |     |      |   |   |   |
| CPU1 C2            |     |      |   |   |   |
| CPU1 C3            |     |      |   |   |   |
| CPU1 D1            |     |      |   |   |   |
| CPU1 D2            |     |      |   |   |   |
| CPU1 D3            |     |      |   |   |   |
| CPU2 E1            |     |      |   |   |   |
| CPU2 E2            |     |      |   |   |   |
| CPU2 E3            |     |      |   |   |   |
| CPU2 F1            |     |      |   |   |   |
| CPU2 F2            |     |      |   |   |   |
| CPU2 F3            |     |      |   |   |   |
| CPU2 G1            |     |      |   |   |   |
| CPU2 G2            |     |      |   |   |   |
| CPU2 G3            |     |      |   |   |   |
| CPU2 H1            |     |      |   |   |   |
| CPU2 H2            |     |      |   |   |   |
| CPU2 H3            |     |      |   |   |   |
| CPU3 L1            |     |      |   |   |   |
| CPU3 L2            |     |      |   |   |   |
| CPU3 L3            |     |      |   |   |   |
| CPU3 M1            |     |      |   |   |   |
| CPU3 M2            |     |      |   |   |   |
| CPU3 M3            |     |      |   |   |   |
| CPU3 J1            |     |      |   |   |   |
| CPU3 J2            |     |      |   |   |   |
| CPU3 J3            |     |      |   |   |   |
| CPU3 K1            |     |      |   |   |   |
| CPU3 K2            |     |      |   |   |   |
| CPU3 K3            |     |      |   |   |   |
| CPU4 R1            |     |      |   |   |   |
| CPU4 R2            |     |      |   |   |   |
| CPU4 R3            |     |      |   |   |   |
| CPU4 T1            |     |      |   |   |   |
| CPU4 T2            |     |      |   |   |   |
| CPU4 T3            |     |      |   |   |   |
| CPU4 N1            |     |      |   |   |   |
| CPU4 N2            |     |      |   |   |   |
| CPU4 N3            |     |      |   |   |   |
| CPU4 P1            |     |      |   |   |   |
| CPU4 P2            |     |      |   |   |   |
| CPU4 P3            |     |      |   |   |   |

| 4C Minimum Loading |        |          |   |   |   |
|--------------------|--------|----------|---|---|---|
| Start Date         |        | 2/3/2015 |   |   |   |
| DIMM Voltage       |        | 1.35v    |   |   |   |
| DIMM               | S/N    | E        | F | G | H |
| CPU1 A1            | SV6337 | P        | P | P | P |
| CPU1 A2            |        |          |   |   |   |
| CPU1 A3            |        |          |   |   |   |
| CPU1 B1            | SV6338 | P        | P | P | P |
| CPU1 B2            |        |          |   |   |   |
| CPU1 B3            |        |          |   |   |   |
| CPU1 C1            | SV6339 | P        | P | P | P |
| CPU1 C2            |        |          |   |   |   |
| CPU1 C3            |        |          |   |   |   |
| CPU1 D1            | SV6340 | P        | P | P | P |
| CPU1 D2            |        |          |   |   |   |
| CPU1 D3            |        |          |   |   |   |
| CPU2 E1            | SV6341 | P        | P | P | P |
| CPU2 E2            |        |          |   |   |   |
| CPU2 E3            |        |          |   |   |   |
| CPU2 F1            | SV6342 | P        | P | P | P |
| CPU2 F2            |        |          |   |   |   |
| CPU2 F3            |        |          |   |   |   |
| CPU2 G1            | SV6343 | P        | P | P | P |
| CPU2 G2            |        |          |   |   |   |
| CPU2 G3            |        |          |   |   |   |
| CPU2 H1            | SV6344 | P        | P | P | P |
| CPU2 H2            |        |          |   |   |   |
| CPU2 H3            |        |          |   |   |   |

| 4C Middle Loading |        |          |   |   |   |
|-------------------|--------|----------|---|---|---|
| Start Date        |        | 02/09/15 |   |   |   |
| DIMM Voltage      |        | 1.35v    |   |   |   |
| DIMM              | S/N    | E        | F | G | H |
| CPU1 A1           | SV6307 | P        | P | P | P |
| CPU1 A2           | SV6308 | P        | P | P | P |
| CPU1 A3           |        |          |   |   |   |
| CPU1 B1           | SV6309 | P        | P | P | P |
| CPU1 B2           | SV6310 | P        | P | P | P |
| CPU1 B3           |        |          |   |   |   |
| CPU1 C1           | SV6311 | P        | P | P | P |
| CPU1 C2           | SV6312 | P        | P | P | P |
| CPU1 C3           |        |          |   |   |   |
| CPU1 D1           | SV6313 | P        | P | P | P |
| CPU1 D2           | SV6314 | P        | P | P | P |
| CPU1 D3           |        |          |   |   |   |
| CPU2 E1           | SV6315 | P        | P | P | P |
| CPU2 E2           | SV6316 | P        | P | P | P |
| CPU2 E3           |        |          |   |   |   |
| CPU2 F1           | SV6317 | P        | P | P | P |
| CPU2 F2           | SV6318 | P        | P | P | P |
| CPU2 F3           |        |          |   |   |   |
| CPU2 G1           | SV6319 | P        | P | P | P |
| CPU2 G2           | SV6320 | P        | P | P | P |
| CPU2 G3           |        |          |   |   |   |
| CPU2 H1           | SV6321 | P        | P | P | P |
| CPU2 H2           | SV6322 | P        | P | P | P |
| CPU2 H3           |        |          |   |   |   |

| 4C Maximum Loading |     |       |   |   |   |
|--------------------|-----|-------|---|---|---|
| Start Date         |     |       |   |   |   |
| DIMM Voltage       |     | 1.35v |   |   |   |
| DIMM               | S/N | A     | B | C | D |
| CPU1 A1            |     |       |   |   |   |
| CPU1 A2            |     |       |   |   |   |
| CPU1 A3            |     |       |   |   |   |
| CPU1 B1            |     |       |   |   |   |
| CPU1 B2            |     |       |   |   |   |
| CPU1 B3            |     |       |   |   |   |
| CPU1 C1            |     |       |   |   |   |
| CPU1 C2            |     |       |   |   |   |
| CPU1 C3            |     |       |   |   |   |
| CPU1 D1            |     |       |   |   |   |
| CPU1 D2            |     |       |   |   |   |
| CPU1 D3            |     |       |   |   |   |
| CPU2 E1            |     |       |   |   |   |
| CPU2 E2            |     |       |   |   |   |
| CPU2 E3            |     |       |   |   |   |
| CPU2 F1            |     |       |   |   |   |
| CPU2 F2            |     |       |   |   |   |
| CPU2 F3            |     |       |   |   |   |
| CPU2 G1            |     |       |   |   |   |
| CPU2 G2            |     |       |   |   |   |
| CPU2 G3            |     |       |   |   |   |
| CPU2 H1            |     |       |   |   |   |
| CPU2 H2            |     |       |   |   |   |
| CPU2 H3            |     |       |   |   |   |

|         |        |   |   |   |   |
|---------|--------|---|---|---|---|
| CPU3 L1 | SV6345 | P | P | P | P |
| CPU3 L2 |        |   |   |   |   |
| CPU3 L3 |        |   |   |   |   |
| CPU3 M1 | SV3646 | P | P | P | P |
| CPU3 M2 |        |   |   |   |   |
| CPU3 M3 |        |   |   |   |   |
| CPU3 J1 | SV6347 | P | P | P | P |
| CPU3 J2 |        |   |   |   |   |
| CPU3 J3 |        |   |   |   |   |
| CPU3 K1 | SV6348 | P | P | P | P |
| CPU3 K2 |        |   |   |   |   |
| CPU3 K3 |        |   |   |   |   |
| CPU4 R1 | SV6349 | P | P | P | P |
| CPU4 R2 |        |   |   |   |   |
| CPU4 R3 |        |   |   |   |   |
| CPU4 T1 | SV6350 | P | P | P | P |
| CPU4 T2 |        |   |   |   |   |
| CPU4 T3 |        |   |   |   |   |
| CPU4 N1 | SV6351 | P | P | P | P |
| CPU4 N2 |        |   |   |   |   |
| CPU4 N3 |        |   |   |   |   |
| CPU4 P1 | SV6352 | P | P | P | P |
| CPU4 P2 |        |   |   |   |   |
| CPU4 P3 |        |   |   |   |   |

|         |        |   |   |   |   |
|---------|--------|---|---|---|---|
| CPU3 L1 | SV6323 | P | P | P | P |
| CPU3 L2 | SV6324 | P | P | P | P |
| CPU3 L3 |        |   |   |   |   |
| CPU3 M1 | SV6325 | P | P | P | P |
| CPU3 M2 | SV6326 | P | P | P | P |
| CPU3 M3 |        |   |   |   |   |
| CPU3 J1 | SV6327 | P | P | P | P |
| CPU3 J2 | SV6328 | P | P | P | P |
| CPU3 J3 |        |   |   |   |   |
| CPU3 K1 | SV6329 | P | P | P | P |
| CPU3 K2 | SV6330 | P | P | P | P |
| CPU3 K3 |        |   |   |   |   |
| CPU4 R1 | SV6331 | P | P | P | P |
| CPU4 R2 | SV6332 | P | P | P | P |
| CPU4 R3 |        |   |   |   |   |
| CPU4 T1 | SV6333 | P | P | P | P |
| CPU4 T2 | SV6334 | P | P | P | P |
| CPU4 T3 |        |   |   |   |   |
| CPU4 N1 | SV6335 | P | P | P | P |
| CPU4 N2 | SV6336 | P | P | P | P |
| CPU4 N3 |        |   |   |   |   |
| CPU4 P1 | SV6337 | P | P | P | P |
| CPU4 P2 | SV6338 | P | P | P | P |
| CPU4 P3 |        |   |   |   |   |

|         |  |  |  |  |  |
|---------|--|--|--|--|--|
| CPU3 L1 |  |  |  |  |  |
| CPU3 L2 |  |  |  |  |  |
| CPU3 L3 |  |  |  |  |  |
| CPU3 M1 |  |  |  |  |  |
| CPU3 M2 |  |  |  |  |  |
| CPU3 M3 |  |  |  |  |  |
| CPU3 J1 |  |  |  |  |  |
| CPU3 J2 |  |  |  |  |  |
| CPU3 J3 |  |  |  |  |  |
| CPU3 K1 |  |  |  |  |  |
| CPU3 K2 |  |  |  |  |  |
| CPU3 K3 |  |  |  |  |  |
| CPU4 R1 |  |  |  |  |  |
| CPU4 R2 |  |  |  |  |  |
| CPU4 R3 |  |  |  |  |  |
| CPU4 T1 |  |  |  |  |  |
| CPU4 T2 |  |  |  |  |  |
| CPU4 T3 |  |  |  |  |  |
| CPU4 N1 |  |  |  |  |  |
| CPU4 N2 |  |  |  |  |  |
| CPU4 N3 |  |  |  |  |  |
| CPU4 P1 |  |  |  |  |  |
| CPU4 P2 |  |  |  |  |  |
| CPU4 P3 |  |  |  |  |  |