
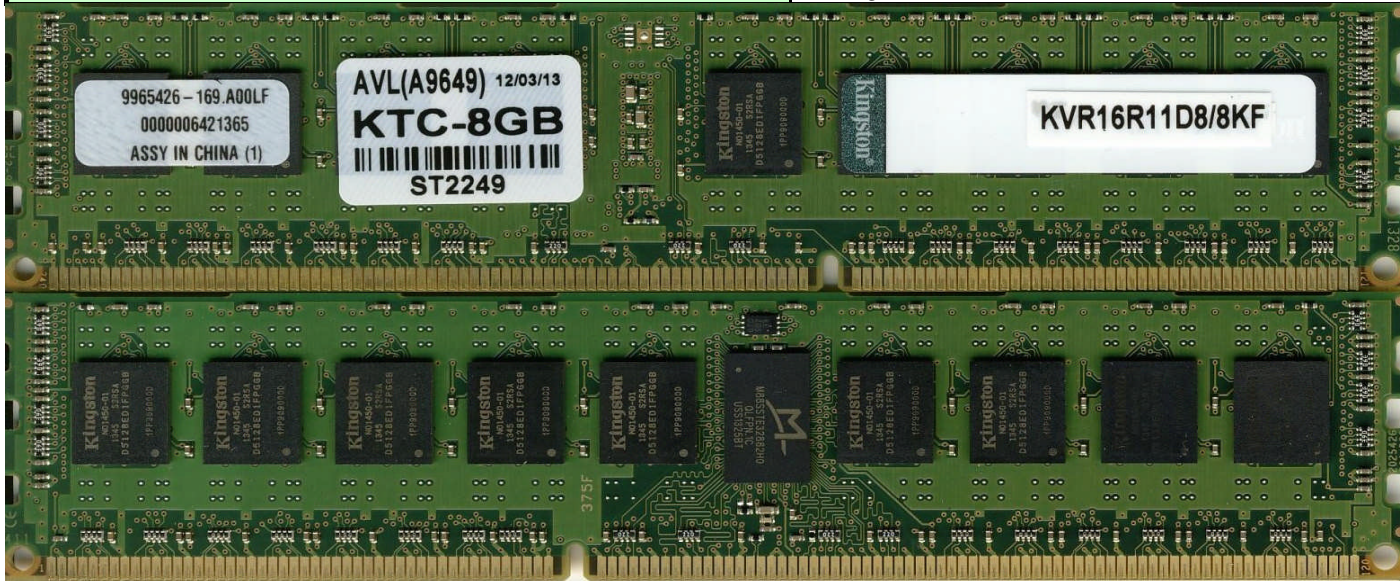


|   |  |                     |             |
|---|--|---------------------|-------------|
|  | <b>AVL Supermicro server platform Memory Module Qualification Test</b> |                     |             |
|   | <b>Intel X5650(WSM) x 2, Intel 5520 (Tylersburg), Rev C2</b>           | <b>Test Results</b> | <b>Pass</b> |
|   | <b>PN: KVR16R11D8/8KF (8GB / RDIMM / ECC ) On: X8DTU-F Rev.2.01</b>    |                     |             |

| RP77D3x-128-KI-SQ-SMC-V2                               |                             | Module Information |           | Rev 04/25/2013 |
|--|-----------------------------|--------------------|-----------|----------------|
| AVL WorkOrder #  | WC9373                      | AVL A#             | 9649      |                |
| Start Date   | 1/22/2014                   | End Date           | 1/23/2014 |                |
| Tested By  | Van N.                      |                    |           |                |
| Module Manufacturer                                    | Kingston                    |                    |           |                |
| Module Part Number                                     | KVR16R11D8/8KF              |                    |           |                |
| Module BOM Number                                      | 9965426-169.A00LF           |                    |           |                |
| Module Capacity / Memory Type / ECC                    | 8GB / RDIMM / ECC           |                    |           |                |
| Module Configuration (Width, # of devices, # of Ranks) | 1Gx72 /18 Devices / 2 Ranks |                    |           |                |
| Module Speed (Data rate of Mbps, CL-tRP-tRCD)          | DDR3-1600 /11-11-11         |                    |           |                |
| DRAM Device Vendor                                     | Kingston                    |                    |           |                |
| DRAM Device Part Number / Date code                    | D5128ED1FPGGGB              | 1345               |           |                |
| DRAM Die Revision / Process Technology ( nm )          | F                           |                    |           |                |
| DRAM Device Config (Density / Width)                   | 512Mbit / x8 / 256Mx8bit    |                    |           |                |
| Thermal Sensor Device Vendor / Part Number / Revision  | On-Semi                     |                    |           |                |
| Register Device Vendor / Part Number / Revision        | Montage                     | SSTE32882          | 1.0       |                |



| Platform System Information                                |                                 |            |            |        |
|--|---------------------------------|------------|------------|--------|
| Motherboard Info (Model# & MB Revision & MB S/N & AVL S/N) | X8DTU-F                         | 2.01       | VM1AS51160 | SM9021 |
| BISO Revision / BIOS Date / MRC Rev.                       | 2.1b                            | 12/30/2011 |            |        |
| CPU / Speed  | Intel X5650(WSM) x 2            |            | 2.66GHz    |        |
| Chipset info (Stepping)                                    | Intel 5520 (Tylersburg), Rev C2 |            |            |        |



## AVL Supermicro server platform Memory Module Qualification Test

Intel X5650(WSM) x 2, Intel 5520 (Tylersburg), Rev C2

PN: KVR16R11D8/8KF (8GB / RDIMM / ECC ) On: X8DTU-F Rev.2.01

**Test Results:**

**PASS**

Comments:

### AVL Memory Module Qual Test Results Summary

| Test # and name                                   | Test Description   | Specs                                 | Test Results | Comments                                     |
|---|--|---------------------------------------|--------------|--|
|   |  |                                       |              |  |
| <b>1. Latest BIOS Upgrade &amp; Configuration</b> | Download / Upgrade latest BIOS & record size and speed detection | Per test platform, DIMM & config spec | <b>Done</b>  | Record memory size & speed at each test only |
| <b>2. SPD Check</b>                               | Memory module SPD content check for JEDEC compliance             | JEDEC                                 | <b>Pass</b>  | Use proprietary tools                        |
| <b>3. Reset Cycle</b>                             | Run Linux based diags & utility software @55°C                   | 50 loops                              | <b>Pass</b>  | 1 DIMM Per Channel when applicable           |
| <b>4a. Stress Application Test</b>                | Run Linux based diags & utility software @55°C                   | 8 Hour per config                     | <b>Pass</b>  | DIMM Loading per spec                        |
| <b>4b. Stream Benchmark Test</b>                  |  | 5 loop per config                     | <b>Pass</b>  | DIMM Loading per spec                        |
| <b>4b. Reset Cycle</b>                            |  | 200 loop per config                   | <b>Pass</b>  | DIMM Loading per spec                        |
| <b>5. Functional Stress Test</b>                  | Memory Stress Test @55°C   | 12hrs                                 | <b>Pass</b>  | DIMM Loading per spec                        |
| <b>6. Stress Application Test</b>                 | Run Linux based diags & utility software @55°C                   | 8hrs                                  | <b>N/A</b>   | 3 DIMM Per Channel when applicable           |

Note: All test under IMC Vdd=Nom, Vref=Vddnom/2