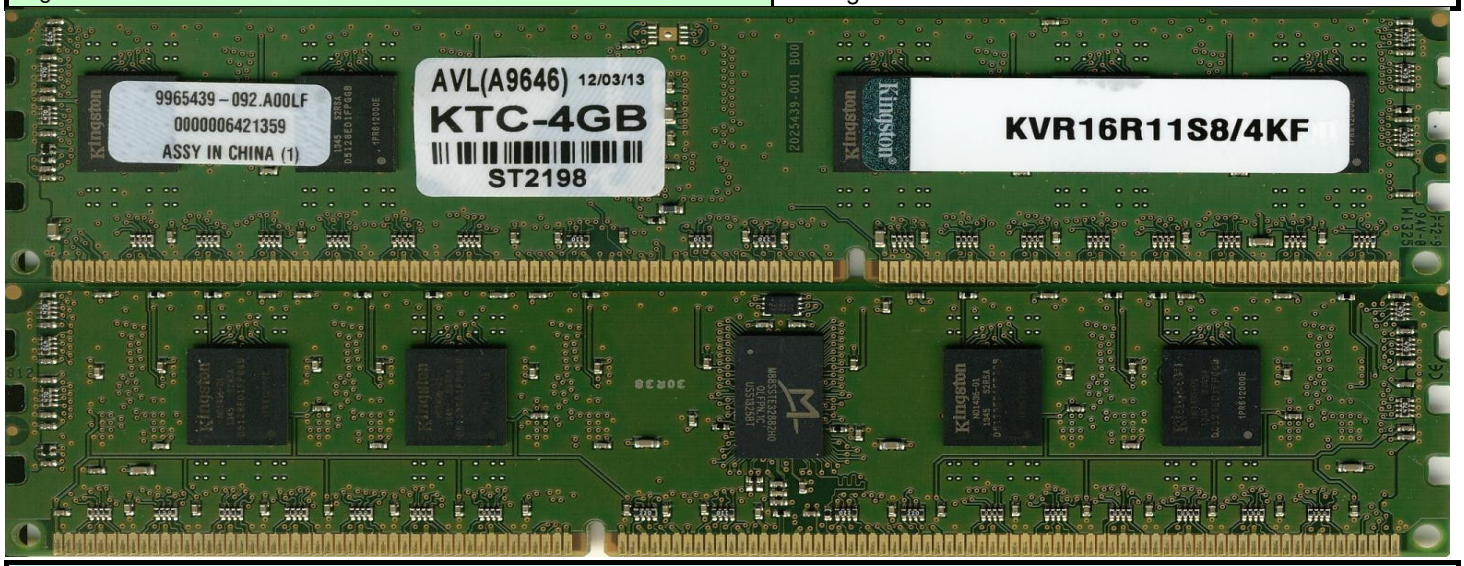
ADVANCED VALIDATION LABS, INC.	AVL Supermicro server platform Memory Module Qualification Test		
	Intel E5-2650(IVB) x 2, Intel C602	Test Results	Pass
	PN: KVR16R11S8/4KF (4GB / RDIMM / ECC) On: X9DR3-LN4F+ Rev.1.2		

RP77D3x-106-KI-SQ-SMC-V2	Module Information			Rev 05/30/2012
AVL WorkOrder #	WC9577	AVL A#	9646	
Start Date	3/4/2014	End Date	3/6/2014	
Tested By		Van N.		
Module Manufacturer		Kingston		
Module Part Number		KVR16R11S8/4KF		
Module BOM Number		9965439-092.A00LF		
Module Capacity / Memory Type / ECC		4GB	/ RDIMM	/ ECC
Module Configuration (Width, # of devices, # of Ranks)		512Mx72	/9 Devices	/ 1 Rank
Module Speed (Data rate of Mbps, CL-tRP-tRCD)		DDR3-1600	/11-11-11	
DRAM Device Vendor		Kingston		
DRAM Device Part Number / Date code		D5128ED1FPGGB		1345
DRAM Die Revision / Process Technology (nm)		F		
DRAM Device Config (Density / Width)		4Gbit	/ x8	512MX8bit
Thermal Sensor Device Vendor / Part Number / Revision		On-Semi		
Register Device Vendor / Part Number / Revision		Montage	M88SSTE32882H0	1.0



Platform System Information				
Motherboard Info (Model# & MB Revision & MB S/N & AVL S/N)	X9DR3-LN4F+	1.2	0M23S40378	SN9374
BIOS Revision / BIOS Date	3.0		7/5/2013	
CPU / Speed	Intel E5-2650(IVB) x 2		2.6GHz	
Chipset info (Stepping)	Intel C602			

AVL Supermicro server platform Memory Module Qualification Test

Intel E5-2650(IVB) x 2, Intel C602

PN: KVR16R11S8/4KF (4GB / RDIMM / ECC) On: X9DR3-LN4F+ Rev.1.2

Test Results:	PASS
Comments:	

AVL Memory Module Qual Test Results Summary

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

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