Intel® Server Compute Blade SBX82 Memory List Test Report Summary

Revision History		
Date	**Rev**	**Modifications**
Jun/05	1.0	Initial Release
Jun/05	2.0	Added Buffalo 256MB parts. Added Legacy, Kingston, Avant and ATP 1GB parts. Added ATP and Smart 2GB parts. (In shaded area)
Aug/05	3.0	Added ATP 512MB parts. Added Apacer Viking Smart and Dataram 1GB parts. Added Dataram 2GB parts. Removed column for "Low Profile" and replaced it with "Lead Free". (In shaded area)
Aug/05	4.0	Added Dataram, Legacy, Kingston and Apacer 512MB parts. Added Smart 1GB parts. Added Smart, Wintec and Dataram 2GB parts. (In shaded area)
Sept/05	5.0	Added Samsung 512MB and 1GB parts. Added Apacer 2GB part. (In shaded area)
Oct/05	6.0	Added Smart 1GB and 2GB parts. Added Wintec and Ventura 512MB parts. (In shaded area)
Oct/05	7.0	Added Nanya 512MB part. Added Kingston and Legend 1GB parts. Added Legacy and Smart 2GB parts. (In shaded area)
Nov/05	8.0	Added Nanya 1GB and 2GB parts. Added Smart 1GB and 4GB parts. Added Kingston 512MB and 2GB parts. (In shaded area)
Dec/05	9.0	Added Legacy 1GB part. (In shaded area)
Jan/06	10.0	Added Legacy 512MB part. (In shaded area)
Jan/06	11.0	Added Smart 1GB part. Added ATP 512MB part. (In shaded area)
Feb/06	12.0	Added Legend 512MB part. (In shaded area)
Mar/06	13.0	Added Smart 512MB part. (In shaded area)
Mar/06	14.0	Added Smart and Ventura 512MB parts. (In shaded area)
May/06	15.0	Infineon name change to Qimonda effective May 1st, 2006. Added Dataram 512MB & 1G parts. Added TRS 512MB, 1G & 2G parts. Added Kingston 1G part. (In shaded area)
Jun/06	16.0	Added Dataram 1G part. (In shaded area)
Jun/06	17.0	Updated verbiage to support 4G modules. (In shaded area)
Jul/06	18.0	Added TRS and Kingston 512MB parts. Added TRS and Ventura Technology Group 1GB parts. Added Kingston 2GB part. (In shaded area)
Aug/06	19.0	Added Ventura Technology Group 2GB part. (In shaded area)
Aug/06	20.0	Added Dane-Elec 1GB part. Added TRS 2GB part. (In shaded area)
Oct/06	21.0	Added TRS 512MB and 1GB parts. (In shaded area)
Nov/06	22.0	Added Kingston 1GB and 2GB parts. (In shaded area)
Jan/07	23.0	Added Kingston and TRS 512MB parts. (In shaded area)
Jan/07	24.0	Added TRS 1GB part. (In shaded area)
Feb/07	25.0	Added ATP Electronics 2GB part. (In shaded area)
Feb/07	26.0	Added TRS 1GB part. (In shaded area)
Mar/07	27.0	Updated contact information. No new parts added.
May/07	28.0	Additional memory parts added. (In shaded area)
Aug/07	29.0	Additional memory parts added. (In shaded area)

Please Note: DIMM devices with gold contacts should NOT be placed into DIMM sockets with tin-lead contacts or vice-versa. Mixing dissimilar metal contact types has been shown to result in unreliable memory operation. Intel recommends similar manufacturer and similar speeds in each bank on the memory module. Mixing of dissimilar memory manufacturer and similar speeds in each bank on the memory module is NOT recommended.

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Overview of Memory Testing

The following procedure is used to test memory modules for use in the Intel® Server Compute Blade SBX82. Memory is a vital subsystem in a platform. Intel Corporation requires strict guidelines to be met before a memory vendor and part is put onto the qualified memory list. Each Intel Server Blade product has a separate qualified memory list.

Memory qualification for Intel's Server Board products is performed by Intel's Memory Validation Laboratory (MVL), and by an independent external test laboratory, Computer Memory Test Lab (CMTL)[1]. CMTL is a leading memory testing organization responsible for testing a broad range of memory products. Memory devices tested by Intel's MVL or CMTL must undergo rigorous tests to ensure that the product will perform the intended server functions.

Intel®'s Server and Workstation board qualified memory lists categorize memory modules as Advanced Tested. The Advanced Testing process involves a paper qualification, a standard voltage and room temperature functional test, and a voltage and temperature margin functional test. A paper qualification is a review of critical timings, electrical characteristics, timing requirements, environmental requirements, and packaging requirements in order to see if the memory meets Intel's memory specifications. The standard voltage and room temperature test involves testing the memory module on the particular Intel Server Blade for which it is being qualified with test software operating under Microsoft* Windows* Server 2003 Enterprise Edition for no less than 24 hours. The voltage and temperature margin testing involves testing the memory module on the particular Intel Server Blade for which it is being qualified with various test software and operating systems for 48-72 hours under various voltage and temperature margin conditions. Memory modules that have completed Advanced Testing are known to be compatible with the product on which they were tested, and with the test software and operating system that was utilized during the test procedure.

For information regarding the testing procedure required to reach each phase, please contact your Intel Representative.

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[1] CMTL* is an independent memory testing organization responsible for testing a broad range of memory products. Receiving a "PASS" after being tested by CMTL, means that a product functions correctly and consumers can use it to perform the intended server functions. In order to pass these stringent standards, memory products must maintain the highest manufacturing procedures and pass an exacting battery of tests. Testing is performed with equipment and a procedure as defined by Intel's various functional testing levels. CMTL contact:

John Deters	Computer Memory Test Lab (CMTL)
949-716-8690 (voice)	24 Hammond Suite F
949-716-8691 (fax)	Irvine, CA 92618
	http://www.cmtlabs.com/

Qualified Memory for the Intel® Server Compute Blade SBX82

The memory module on the Intel® Server Compute Blade SBXL82 has 4 DIMM sockets, which can hold up to 16 GB of Registered ECC DDR2-400 memory using four 72-bit DIMM modules. The following memory features are supported:

- DDR2-400 (PC2300) Registered ECC in compliance with the standard DDR JEDEC DIMM Specification
- DIMMs with capacity of 256MB, 512MB, 1G, 2G & 4G modules. Other DRAM sizes may function correctly but will not be validated
- Minimum configuration is 512MB using two 256MB DIMMs
- Maximum Configuration is 16GB using four 4GB DIMMs
- Memory DIMMs are populated in sets of two identical DIMMS. Install the DIMMs in the following order:

Pair	DIMM Connectors
First	1 (J113) and 2 (J111)
Second	3 (J112) and 4 (J110)

- Refer to the Intel® Server Compute Blade SBX82 Installation and User's Guide for specifics of memory configuration and population rules

Below is a chart that lists the current supported memory types:

DDR2-400 Registered DRAM Module Configurations for CAS Latency 3, 4, & 5					
DIMM Capacity	DIMM Organization	DRAM Density	DRAM Organization	# DRAM Devices/rows/Banks	# Address bits rows/Banks/column
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10
512MB	64M x 72	256Mbit	64M x 8	18/1/4	13/2/11
512MB	64M x 72	256Mbit	64M x 4	18/1/4	13/2/11
512MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10
512MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10
1GB	128M x 72	512Mbit	128M x 4	18/1/4	14/2/11
1GB	128M x 72	512Mbit	128M x 4	18/1/4	14/2/11
2GB	256M x 72	1Gbit	128M x 8	18/2/8	14/2/11
2GB	256M x 72	512Mbit	128M x 8	36/2/4	13/2/12
4GB	512M x 72	2Gbit	256M x 8	18/2/8	15/3/10
4GB	512M x 72	2Gbit	512M x 4	18/1/8	15/3/11
4GB	512M x 72	4Gbit	512M x 8	9/1/8	TBD

The following table lists DIMM devices known to be compatible with the Intel® Server Compute Blade SBX82. Intel recommends that Advanced Tested DIMMs be used to establish reliable system operation. DIMM devices not listed can be used; but, in the event of unreliable system operation, the DIMM devices should be replaced with functionally Advanced Tested DIMMs to determine whether the DIMM devices are causing the problem.

Caution: Third party memory vendors may use the same module part number with different DRAM vendors and die revisions. To insure proper system operation, verify that each DRAM vendor and die revision has been separately tested and qualified. Please notify CMTL if there is a discrepancy.

Note: This list is not intended be all-inclusive. It is provided as a convenience to Intel's general customer base, but Intel does not make any representations or warranties whatsoever regarding the quality, reliability, functionality, or compatibility of these memory modules.

This list is subject to change without notice.

Intel® Server Compute Blade SBX82

Registered, ECC, DDR2-400 DIMM Modules
256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Micron	**MT9HTF3272Y-40EB2**	**MT47H32M8BP-37E**	**Micron**		**5/05**	**3**	**Yes**	**(32Mx8)*9**	
Samsung	M393T3253FG0-CCC	K4T56083QF-GCCC	Samsung		5/05	3		(32Mx8)*9	
Samsung	**M393T3253FZ0-CCC**	**K4T56083QF-ZCCC**	**Samsung**		**5/05**	**3**	**Yes**	**(32Mx8)*9**	
+Buffalo	D2R400A-ES256MBJ	MT47H32M8BP(FP)-5E rev B	Micron	2DRA18F-BA	6/05	3		(32Mx8)*9	

Modules shaded in blue are low profile.

Modules in bold text do not contain Lead.

 (+) This vendor is part of the CMTL Certification program. This means this part has/will been tested across all compatible Intel Server Blades.   For further information contact CMTL @ http://cmtlabs.com/

Caution: *Some modules on this list may contain "stacked" DRAM parts. These parts may have thermal & physical limitations in some chassis configurations. It is advised to verify that your chassis configuration will support "stacked" parts before purchase.*

Registered, ECC, DDR2-400 DIMM Modules
512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Micron	**MT18HTF6472Y-40EB1**		**Micron**		**5/05**	**3**	**Yes**	**(64Mx4)*18**	
Samsung	M393T6450FG0-CCC	K4T56043QF-GCCC	Samsung		5/05	3		(64Mx4)*18	
Samsung	**M393T6450FZ0-CCC**	**K4T56043QF-ZCCC**	**Samsung**		**5/05**	**3**	**Yes**	**(64Mx4)*18**	
Elpida*	**EBE51RD8ABFA-4A-E**	**EDE5108ABSE-4A**	**Elpida**		**5/05**	**3**	**Yes**	**(64Mx8)*9**	
Samsung	M393T6553BG0-CCC	K4T51083QB-GCCC	Samsung		5/05	3		(64Mx8)*9	
Samsung	**M393T6553BZ0-CCC**	**K4T51083QB-ZCCC**	**Samsung**		**5/05**	**3**	**Yes**	**(64Mx8)*9**	
+ATP Electronics	AH64K72N8BHC4S	K4T51083QB-GCCC rev B	Samsung	SH240N08K1	7/05	3		(64Mx8)*9	
+Legacy Electronics Inc.	L506472K20A-50A	G64Mx8DDR2	Legacy	LE9DD2F2408RRA rev A	08/05	3		(64Mx8)*9	
+Kingston	KVR400D2S8R3/512I	HYB18T512800AF37 rev A	~Qimonda (Infineon)	2025263-001.C00 na	08/05	3		(64Mx8)*9	
+Apacer	76.92220.B12	HYB18T512800AF5 rev A	~Qimonda (Infineon)	48.16188.011 rev 1	08/05	3		(64Mx8)*9	
+Dataram	DTM63311C	K4T56043QF-(Z)GCCC rev F	Samsung	40011A rev A	08/05	3		(64Mx4)*18	
Samsung	M393T6553CZ0-CCC	K4T51083QC-ZCCC rev C	Samsung	M393T6553BG0 na	9/8/05	3		(64Mx8)*9	
+Wintec Industries	39C921284B-GL	K4T51083QB-ZCD5 rev B	Samsung	D2R872 na	9/20/05	3		(64Mx8)*9	
+Ventura Technology Group	D2-52KC53SV-333	K4T56043QF-ZCD5 rev F	Samsung	D2R472 na	9/26/05	3		(64Mx4)*18	
Nanya Technology Corporation	**NT512T72U89A0BV-5A**	**NT5TU64M8AE-5A rev A**	**Nanya**	**NTPCB00020P (0509) na**	**10/05**	**3**	**Yes**	**(64Mx4)*18**	
+Kingston	KVR400D2S8R3/512I	NT5TU64M8AE-37B rev A	Nanya	2025263-001.C00 na	10/27/05	3		(64Mx8)*9	
+Legacy Electronics Inc.	B557K4C2AAA-50	K4T51083QC-ZCCC rev C	Samsung	LE9DD2F2408RRA rev A	12/16/05	3		(64Mx8)*9	
+ATP Electronics	**AH64K72F8BHC4S**	**K4T51083QC-ZCD5 rev C**	**Samsung**	**SH240F08K1 na**	**1/5/06**	**3**	**Yes**	**(64Mx8)*9**	
+Legend	**L64723C7-R41H2H1F**	**HY5PS12821FP-E3 rev 1st Gen.**	**Hynix**	**104 (0530,0534)**	**2/6/06**	**3**	**Yes**	**(64Mx8)*9**	
+Smart Modular Technologies	**SG647RDR264835-SC**	**K4T51083QC-ZCCC rev C**	**Samsung**	**M393T6553BG1 (KS-11A)**	**2/17/06**	**3**	**Yes**	**(64Mx8)*9**	
+Ventura Technology Group	**D2-52KD65SV-333**	**K4T51083QC-ZCD5 rev C**	**Samsung**	**D2R18A na**	**3/13/06**	**3**	**Yes**	**(64Mx8)*9**	

Registered, ECC, DDR2-400 DIMM Modules
512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
TRS	TRS31261	HYB18T256400AF5 rev A	~ Qimonda (Infineon)	M0549LA1 rev 1	04/11/06	3	Yes		
Dataram	DTM63315B	HYB18T256400AF5 rev A	~ Qimonda (Infineon)	40045 rev A	04/14/06	3	Yes		
TRS	TRS31260	HYB18T512800AF5 rev A	~ Qimonda (Infineon)	M0551LA1 rev 1	04/21/06	3	Yes		
Kingston	KVR400D2S8R3/512I	E5108AG-5C-E rev G	Elpida	2025263-001.C00 na	7/6/06	3	Yes	(64Mx8)*9	
TRS	TRS31260X	HYB18T512800AF5 rev A	~ Qimonda (Infineon)	M0551LA1 rev 1	6/30/06	3	Yes	(64Mx8)*9	
TRS	TRS31261X	HYB18T256400AF5 rev A	Qimonda (Infineon)	M0549LA1 rev 1	9/19/06	3	Yes	(64Mx4)*18	
TRS	TRS31275	E5108AG-5C-E rev G	Elpida	M0551LA1 rev 1	9/22/06	3	Yes	(64Mx8)*9	
Kingston	KVR400D2S8R3/512I	E5108AGBG-6E-E rev G	Elpida	2025263-001.C00 na	11/30/06	3	Yes	(64Mx8)*9	
TRS	TRS31275X	E5108AG-5C-E rev G	Elpida	M0551LA1 rev 1	12/22/06	3	Yes	(64Mx8)*9	

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~ Effective May 1st, 2006, Infineon memory products will be known as Qimonda

(+) This vendor is part of the CMTL Certification program. This means this part has/will been tested across all compatible Intel Server Blades.   For further information contact CMTL @ http://cmtlabs.com/

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Registered, ECC, DDR2-400 DIMM Modules
1GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Elpida	**EBE10RD4ABFA-4A-E**	**EDE5104ABSE-4A**	**Elpida**		**5/05**	**3**	**Yes**	**(128Mx4)*18**	
Samsung	M393T2950BG0-CCC	K4T51043QB-GCCC	Samsung		5/05	3		(128Mx4)*18	
Samsung	**M393T2950BZ0-CCC**	**K4T51043QB-ZCCC**	**Samsung**		**5/05**	**3**	**Yes**	**(128Mx4)*18**	
+Legacy Electronics Inc.	B512872M20A-50A	K4T51043QB-GCCC rev B	Samsung	LE18DD2F2404RRH rev A	6/05	3		(128Mx4)*18	
+Kingston	KVR400D2S4R3/1GI	E5104AE-5C-E rev E	Elpida	2025248-001.B00	6/05	3		(128Mx4)*18	
+ATP Electronics	AH28K72M4BHC4S	K4T51043QB-GCCC rev B	Samsung	SH240M04K1	6/05	3		(128Mx4)*18	
+Avant Technology	AVF7228R52E3400F0-MTB	MT47H64M8CB-37E rev B	Micron	50-1431-01B rev B	6/05	3		(64Mx8)*18	
+Apacer	78.01068.331	HYB18T512400AF5 rev A	~Qimonda (Infineon)	48.16189.011 rev 1	7/05	3		(128Mx4)*18	
+Viking	VR5ER287214EBPL1	MT47H128M4BT-37E rev A	Micron	0001009A rev A	7/05	3		(128Mx4)*18	
+Smart Modular Technologies	SB1287RDR212435IA	HYB18T512400AF5 rev A	~Qimonda (Infineon)	PB54G240NESUBRCC1 rev A	7/05	3		(128Mx4)*18	
+Dataram	DTM63310A	HYB18T512400AF5 rev A	~Qimonda (Infineon)	40011A rev A	7/05	3		(128Mx4)*18	
+Smart Modular Technologies	SB1287RDR21243-5-H	HY5PS12421FP-E3 A 1st Generation	Hynix	E72369 na	08/05	3		(128Mx4)*18	
Samsung	M393T2950CZ0-CCC	K4T51043QC-ZCCC rev C	Samsung	M393T2950BG0 na	9/12/05	3		(128Mx4)*18	
+Smart Modular Technologies	SB1287RDR21243-5-E	E5104AB-4A-E rev B	Elpida	Z10 026A na	9/05	3		(128Mx4)*18	
+Kingston	KVR400D2S4R3/1GI	HYB18T512400AF5 rev A	~Qimonda (Infineon)	2025248-001.B00 na	10//05	3		(128Mx4)*18	
+Legend	L12723C7-RCAH2HBF	HY5PS12821F-E3 rev A	Hynix	B62RRCA rev A	10/05	3		(64Mx8)*18	
Nanya Technology Corporation	**NT1GT72U4PA0BV-5A**	**NT5TU128M4AE-5A rev A**	**Nanya**	**NTPCB00019 (0519, 0515) na**	**10//05**	**3**	**Yes**	**(128Mx4)*18**	
+Smart Modular Technologies	SG1287RDR264835IA5	HYB18T512800AF5 rev A	~Qimonda (Infineon)	PG58G240NEBUB2RB rev A	11/05	3		(64Mx8)*18	
+Smart Modular Technologies	SG1287RDR264835IA	HYB18T512800AF37 rev A	~Qimonda (Infineon)	PG58G240NEBUB2RB rev A	11/05	3		(64Mx8)*18	
+Legacy Electronics Inc.	B517M4C2AHA-50	K4T51043QC-ZCCC rev C	Samsung	LE18DD2F2404RRH rev A	12/2/05	3		(128Mx4)*18	

Registered, ECC, DDR2-400 DIMM Modules **1GB Sizes (128Mx72)**									
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**CAS Latency**	**Lead Free**	**DRAM Organization**	**EOL**
+Smart Modular Technologies	**SG1287RDR264835SC**	**K4T51083QC-ZCD5 rev C**	**Samsung**	**PG58G240NEBUB2RB rev A**	**12/05**	**3**	**Yes**	**(64Mx8)*18**	
Kingston	**KVR400D2S4R3/1GI**	**HYB18T512400AF37 rev A**	**Infineon**	**2025248-001.B00 na**	**04/07/06**	**3**	**Yes**		
TRS	**TRS31265**	**HYB18T512400AF5 rev A**	**Infineon**	**M0549LA1 rev 1**	**04/19/06**	**3**	**Yes**		
Dataram	**DTM63316B**	**NT5TU128M4AE-5A rev A**	**Nanya**	**40045 rev A**	**04/25/06**	**3**	**Yes**		
Dataram	**DTM63310J**	**NT5TU128M4AE-5A rev A**	**Nanya**	**40011A rev A**	**05/04/06**	**3**	**Yes**		
TRS	**TRS31267**	**K4T51043QC-ZCCC rev C**	**Samsung**	**M0549LA1 rev 1**	**6/28/06**	**3**	**Yes**	**(128Mx4)*18**	
Ventura Technology Group	**D2-54KF53RV-333**	**NT5TU128M4AE-37B rev A**	**Nanya**	**D2R472 na**	**6/21/06**	**3**	**Yes**	**(128Mx4)*18**	
Dane-Elec	**DMD400R072283NG**	**EDE5108AESK-5C-E rev E**	**Elpida**	**D2R872 rev 1**	**7/27/06**	**3**	**Yes**	**(64Mx8)*18**	
TRS	**TRS31265X**	**HYB18T512400AF5 rev A**	**Qimonda (Infineon)**	**M0549LA1 rev 1**	**9/8/06**	**3**	**Yes**	**(128Mx4)*18**	
Kingston	**KVR400D2S4R3/1GI**	**E5104AG-5C-E rev G**	**Elpida**	**2025248-001.B00 na**	**10/9/06**	**3**	**Yes**	**(128Mx4)*18**	
TRS	**TRS31267X**	**K4T51043QC-ZCCC rev C**	**Samsung**	**M0549LA1 rev 1**	**1/10/07**	**3**	**Yes**	**(128Mx4)*18**	
TRS	**TRS31277X**	**E5104AG-5C-E rev G**	**Elpida**	**M0549LA1 rev 1**	**2/1/07**	**3**	**Yes**	**(128Mx4)*18**	
Kingston	**KVR400D2S4R3/1GI**	**E5104AHSE-6E-E rev H**	**Elpida**	**2025248-001.B00 na**	**5/1/07**	**3**	**Yes**	**(128Mx4)*18**	
Dataram	**DTM63310N**	**HY5PS12421CFP-Y5 rev C**	**Hynix**	**40011A rev A**	**8/7/07**	**3**	**Yes**	**(128Mx4)*18**	

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Registered, ECC, DDR2-400 DIMM Modules
2GB Sizes (256Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Elpida	**EBE21RD4ABHA-4A-E**		**Elpida**		**5/05**	**3**	**Yes**	**(128Mx4)*36**	
Samsung	M393T5750BS0-CCC	K45T1043QB-SCCC	Samsung		5/05	3		(128Mx4)*36	
Samsung	M393T5750BY0-CCC	K45T1043QB-YCCC	Samsung		5/05	3		(128Mx4)*36	
+ATP Electronics	AH56K72J4BHC4C	HYB18T512400AF5 rev A	~Qimonda (Infineon)	SH240J04K1	6/05	3		(128Mx4)*36	
+Smart Modular Technologies	SG2567RDR212835IA	HYB18T512400AF5 rev A	~Qimonda (Infineon)	PG52G240NESUB1RJ rev A	6/05	3		(128Mx4)*36	
+Dataram	DTM63309A	HYB18T512400AF5 rev A	~Qimonda (Infineon)	40040A rev A	7/05	3		(128Mx4)*36	
+Wintec Industries	39C941441A-L	HYB18T1G400AF-5 rev A	~Qimonda (Infineon)	D2R472 na	08/05	3		(256Mx4)*18	
+Smart Modular Technologies	SB2567RDR212835IA	HYB18T512400AF5 rev A	~Qimonda (Infineon)	PB52G240NESUB1RJ rev A	08/05	3		(128Mx4)*36	
+Dataram	DTM63309B	K4T51043QC-ZCCC rev C	Samsung	40040A rev A	08/05	3		(128Mx4)*36	
+Apacer	76.A2220.B10	HYB18T512400AF5 rev A	~Qimonda (Infineon)	48.1A189.012 rev 2	9/05	3		(128Mx4)*36	
+Smart Modular Technologies	SM2567RDR22543-5-I	HYB18T1G400AF-5 rev A	~Qimonda (Infineon)	240-13-5 (0516)	9/05	3		(256Mx4)*18	
+Legacy Electronics Inc.	B527M4C2BJA-50	K4T51043QC-ZCCC rev C	Samsung	LE36DD2F2404RRJ rev B	10/05	3		(128Mx4)*36	
+Smart Modular Technologies	**SG2567RDR21283-5-H**	**HY5PS1G421MP-E3 rev A**	**Hynix**	**0518-1,-2,-3,-4,-6**	**10/05**	**3**	**Yes**	**(256Mx4)*18**	
+Kingston	KVR400D2D4R3/2GI	HYB18T512400AF5 rev A	~Qimonda (Infineon)	2025292-001.B00 na	10/31/05	3		(128Mx4)*36	
Nanya Technology Corporation	**NT2GT72U4NA1BV-5A**	**NT5TU128M4AE-5A rev A**	**Nanya**	**NTPCB00037P (0514) na**	**10/19/05**	**3**	**Yes**	**(128Mx4)*36**	
Dataram	**DTM63309F**	**NT5TU128M4AE-5A rev A**	**Nanya**	**40040A rev A**	**03/30/06**	**3**	**Yes**		
TRS	**TRS31270**	**HYB18T1G400AF-5 rev A**	**Infineon**	**M0549LA1 rev 1**	**04/04/06**	**3**	**Yes**		
Kingston	**KVR400D2D4R3/2GI**	**NT5TU128M4AE-5A rev A**	**Nanya**	**2025292-001.B00 na**	**6/23/06**	**3**	**Yes**	**(128Mx4)*36**	
Ventura Technology Group	**D2-56KF66RV-333**	**NT5TU128M4AE-37B rev A**	**Nanya**	**D2R436 na**	**7/12/06**	**3**	**Yes**	**(128Mx4)*36**	

Registered, ECC, DDR2-400 DIMM Modules 2GB Sizes (256Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
TRS	TRS31270X	HYB18T1G400AF-5 rev A	Qimonda (Infineon)	M0549LA1 rev 1	8/2/06	3	Yes	(256Mx4)*18	
Kingston	KVR400D2D4R3/2GI	E5104AG-5C-E rev G	Elpida	2025292-001.B00 na	10/18/06	3	Yes	(128Mx4)*36	
ATP Electronics	AH56K72J4BHC4S	K4T51043QC-ZCCC rev C	Samsung	SH240J04K2 na	1/24/07	3	Yes	(128Mx4)*36	
Kingston	KVR400D2D4R3/2GI	E5104AHSE-6E-E rev H	Elpida	2025292-001.C00 na	5/8/07	3	Yes	(128Mx4)*36	

Modules shaded in blue are low profile.

Modules in bold text do not contain Lead.

~ Effective May 1st, 2006, Infineon memory products will be known as Qimonda

 (+) This vendor is part of the CMTL Certification program. This means this part has/will been tested across all compatible Intel Server Blades.   For further information contact CMTL @ http://cmtlabs.com/

Caution: *Some modules on this list may contain "stacked" DRAM parts. These parts may have thermal & physical limitations in some chassis configurations. It is advised to verify that your chassis configuration will support "stacked" parts before purchase.*

Registered, ECC, DDR2-400 DIMM Modules 4GB Sizes (512Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
+Smart Modular Technologies	SG5127RDR225635IA	HYB18T1G400AF-5 rev A	Qimonda (Infineon)	PG516G240NESUC1RK rev A	10/25/05	3	Yes	(256Mx4)*36	
Smart Modular Technologies	SG5127RDR225635ART	HYB18T1G400AF-5 rev A	Qimonda	XG58G240NESUB1TK rev A	5/4/07	3	Yes	(256Mx4)*36	
Legacy Electronics Inc.	M547RAE20LA-50R	MT47H256M4HQ-3 rev E	Micron	D2R24L rev E	5/10/07	3	Yes	(256Mx4)*36	

Modules shaded in blue are low profile.

Modules in bold text do not contain Lead.

~ Effective May 1st, 2006, Infineon memory products will be known as Qimonda

 (+) This vendor is part of the CMTL Certification program. This means this part has/will been tested across all compatible Intel Server Blades.   For further information contact CMTL @ http://cmtlabs.com/

Caution: *Some modules on this list may contain "stacked" DRAM parts. These parts may have thermal & physical limitations in some chassis configurations. It is advised to verify that your chassis configuration will support "stacked" parts before purchase.*

Sales Information

Vendor Name	Web URL	Vendor Direct Sales Info
ATP Electronics	http://www.atpinc.com/	John Cheng Tel 408-732-5875 Fax 408-732-5893 sales@atpusa.com
ATP Electronics -- Taiwan Inc.	http://www.atpinc.com/	Patty Kuo Tel 011-886-2-2659-6368 Fax 886-2-2659-4982
Avant Technology	http://www.avanttechnology.com	Brad Scoggins Phone: (512)491-7411 Fax: (512)491-7412 brads@avanttechnology.com
Aved Memory Products	http://www.avedmemory.com/	
Buffalo Technology	http://www.buffalotech.com/	(800) 967-0959 memory@buffalotech.com
Centon Electronics	http://www.centon.com	Tel: 949-855-9111 Fax: 949-855-6035
Corsair	http://www.corsairmicro.com/	Tel: 510-657-8747 Fax: 510-657-8748
Dane-Elec	http://www.dane-memory.com/	Michal Hassan @ (949)450-2941 or email @ Michal@Dane-memory.com
Dataram	http://www.dataram.com/	Paul Henke, 800-328-2726 x2239 in USA 609-799-0071 phenke@dataram.com
GoldenRAM	http://www.goldenram.com	Jason M. Barrette @ 800-222-861 x7546 jasonb@goldenram.com or Michael E. Meyer @800-222-8861 x7512 michaelm@goldenram.com
Hitachi	http://semiconductor.hitachi.com/pointer/	
Hyundai/Hynix Semiconductor	http://www.hea.com/	
~ Qimonda (Infineon)	http://www.infineon.com/business/distribut/index.htm	
ITAUCOM	http://www.itaucom.com.br	
JITCO CO LTD	http://www.jitco.net/	Seong Jeon Tel: 82-32-817-9740 s.jeon@jitco.net
Kingston	http://www.kingston.com	US.- Call (877) 435-8726 Asia – Call 886-3-564-1539 Europe – Call +44-1932-755205
Legacy Electronics Inc.	http://www.legacyelectronics.com	U.S. Contact: Gary Ridenour, 949-498-9600, Ext 350 European Contact: 49 89 370 664 11
Legend	http://www.legend.com.au	
Micron	http://silicon.micron.com/mktg/'http://silicon.micron.com/mktg/mbqual/qual_data.cfm	
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo 49-7249-910-417 Fax: 49-7249-910-229 wpe@msc-ge.com
Nanya Technology	http://www.ntc.com.tw	Winson Shao 886-3-328-1688, Ext 6018 winsonshao@ntc.com.tw
Netlist, Inc	http://www.netlistinc.com	Christopher Lopes 949.435.0025 tel 949.435.0031 fax sales@netlistinc.com

Vendor Name	Web URL	Vendor Direct Sales Info
Peripheral Enhancements	http://www.peripheral.com/	
PNY	http://www.pny.com/internet_explorer/LPB.HTML	
Samsung	http://www.korea.samsungsemi.com/locate/buy/list_na.html	For US customers go to: http://www.mymemorystore.com/
Silicon Tech	http://www.silicontech.com/contact/salescontacts.shtml	
Simple Tech	http://www.simpletech.com	Ron Darwish @ (949) 260-8230 or email @ Rdarwish@Simpletech.com
SMART Modular Technologies	http://www.smartm.com	Leo Alafriz 949-753-0116 ext. 125 leo.alafriz@smartm.com
TechnoLinc Corporation	http://www.technolinc.com	David Curtis 510-445-7400 davidc@technolinc.com
TRS* Tele-Radio-Space GmbH	http://www.certified-memory.com http://www.certified-memory.de	Vendor Direct Sales Info: Andreas Gruendl Tel: +49.89.945532-34 Fax: +49.89.945532-41 Andreas.gruendl@trs-eu.com
Unigen	http://www.unigen.com	
Ventura Technology Inc	http://www.venturatech.com	Sam Lewis 760 724-8700 ext. 103
Viking InterWorks	http://www.vikinginterworks.com	Adrian Proctor Tel: 949-643-7255 adrian.proctor@sanmina-sci.com
Virtium Technology Inc	http://www.virtium.com	Tod Skelton @ (949) 460-0020 ext. 146 or email @ tod.skelton@virtium.com
Wintec Industries	http://www.wintecindustries.com	Tel 510-360-6300 Fax 510-770-9338

CMTL* (Computer Memory Test Labs)

CMTL is a privately owned and operated memory testing organization responsible for testing a broad range of memory products. Memory devices tested by CMTL must undergo a rigorous battery of tests to ensure that the product will perform the intended server functions. Memory capability is a major factor your customers consider. CMTL has the ability to test and certify memory on Intel-based server platforms. The list of memory modules, which have undergone testing through the CMTL facility, should be referenced when considering modules for integration into this Intel server product. Stringent standards with regard to manufacturing procedures and quality must be met to pass the exacting tests required for qualification through the independent testing facility. Testing is performed by CMTL with Intel server products and test procedures defined by Intel's Memory Validation Lab. Intel routinely audits the CMTL facility to ensure all procedures, process handling, and testing methodologies are met.