



Intel[®] Server Board SE7520BB2 Memory Test List

**Revision 20.0
July 2008**

Revision History

Date	Rev	Modifications
Mar/06	1.0	Document Release
Mar/06	2.0	Added ATP, Dataram and Smart 1GB and 512MB parts. Added Kingston 2GB part. (In shaded area)
Mar/06	3.0	Added Kingston 2GB part. Added Smart, Kingston and TRS 1GB parts. (In shaded area)
May/06	4.0	Infineon name change to Qimonda effective May 1 st , 2006. Added Dataram 1GB parts. Added Kingston 1GB, 2GB and 4GB parts. Added TRS 512MB and 1GB parts. Added Smart 512MB part. (In shaded area)
June/06	5.0	Added Apacer 1GB part. Added Dataram and Kingston 512MB and 1GB parts. Added Legacy 1GB and 2GB parts. (In shaded area)
July/06	6.0	Added TRS 512MB part. Added TRS, Kingston, Smart, and Wintec 1GB parts. Added Kingston 2GB part. (In shaded area)
Aug/06	7.0	Added Apacer 2GB part. (In shaded area)
Oct/06	8.0	Added TRS 512MB parts. Added Avant Technology and TRS 1GB parts. Added TRS and Smart 2GB parts. (In shaded area)
Nov/06	9.0	Added Kingston 512MB, 1GB, and 2GB parts. Added Avant Technology 1GB part. (In shaded area)
Jan/07	10.0	Added Kingston 1GB part. Added Kingston, ATP Electronics, and Smart 2GB parts. (In shaded area)
Jan/07	11.0	Added Smart Modular Technologies 4GB part. (In shaded area)
Feb/07	12.0	Added All Components and TRS 1GB parts. Added Kingston 4GB part. Updated vendor contact information. (In shaded area)
Mar/07	13.0	Updated contact information. Added US Technology 1GB parts. (In shaded area)
May/07	14.0	Added Kingston 1GB part. Added STEC Inc. and Kingston 2GB parts. (In shaded area)
May/07	15.0	Additional memory parts added. (In shaded area)
Nov/07	16.0	Additional memory parts added. (In shaded area)
Jan/08	17.0	Additional memory parts added. (In shaded area)
Mar/08	18.0	Additional memory parts added. (In shaded area)
May/08	19.0	Additional memory parts added. (In shaded area)
July/08	20.0	Additional memory parts added. (In shaded area)

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The Intel® Server Board SE7520BB2 may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

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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 Rank on the memory module. Mixing of dissimilar memory manufacturer and similar speeds in each Rank on the memory module is NOT recommended.*

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1. Overview of Memory Testing

The following test processes are used to qualify Dual In-Line Memory Modules (DIMMs) for use with the Intel® Server Board SE7520BB2. Memory is a vital subsystem in a server. Intel requires that strict guidelines be met before a DIMM vendor is added to the Tested Memory List. To be included on the list as a fully supported DIMM, the memory must undergo rigorous tests to ensure that the product will perform the intended server product functions. Memory qualification for Intel server, workstation and RAID Controller products is performed both by Intel's Memory Validation Lab (MVL) and by an independent external test lab, Computer Memory Test Lab* CMTL).

The Tested Memory Lists for Intel's server board, workstation board, and RAID controller products categorize memory modules as Advanced Tested. The Advanced Testing process includes a standard paper qualification and then is followed by two levels of functional testing. DIMMs that have completed and passed Advanced Testing are considered to be compatible with the product on which they were tested, and with the test software and operating systems that was used during the test process.

1.1 Paper Qualification

A paper qualification is performed to verify that the specifications of a given DIMM meet Intel's memory specifications for a given product. Specification criteria reviewed include: critical timings, electrical characteristics, timing requirements, environmental requirements, and packaging requirements.

1.2 Functional Testing

After a given DIMM passes the standard paper qualification, functionality of the DIMM is then tested with the intended Intel product. Two levels of functional testing is performed; Standard and Advanced.

Standard functional testing requires that the given DIMM and Intel product combination operate with no failures for a period of no less than 24 hours for both minimum and maximum DIMM configurations. Testing is performed using a Microsoft Windows* operating system and a custom test package. The test systems operate with standard voltage and at room temperature.

Advanced functional testing requires that the given DIMM and Intel product combination operate with no failures for a period of no less than 24 hours for both minimum and maximum DIMM configurations. Testing is performed with multiple operating systems and various custom test packages. Each test configuration is tested with various voltage and temperature margin conditions.

1.3 Computer Memory Test Lab*

Computer Memory Test Lab, also known as "CMTL" is a leading memory test organization responsible for testing a broad range of memory products. A memory product, which receives a "PASS" after being tested by CMTL, means it functions correctly and consumers can use the product 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 Intel supplied equipment and procedures defined by Intel's various functional testing levels.

Contact Info:

Main Office: (949) 716-8690
Fax: (949) 716-8691

Computer Memory Test Lab (CMTL)
24 Hammond Suite F
Irvine, CA 92618
<http://www.cmtlabs.com/>

2. Memory Subsystem

The Intel® Server Board SE7520BB2 supports DDR2 -400 memory technology.

NOTE: Industry naming conventions for equivalent memory technologies include the following:

DDR2-400 = PC2-3200

The following maximum memory capacities are supported based on the number of DIMM slots provided and maximum supported memory loads by the chipset:

16GB maximum capacity for DDR2-400

The minimum memory supported with the system running in single channel memory mode is:

256MB DDR2-400.

Supported DIMM capacities are as follows:

DDR2-400 Memory DIMM sizes include: 256MB, 512MB, 1GB, 2GB, and 4GB.

2.1 Memory Population

The Intel® Server Board SE7520BB2 has eight DIMM slots, or four DIMM banks. Both DIMMs in a bank should be identical (same manufacturer, CAS latency, number of rows, columns and devices, timing parameters etc.). Although DIMMs within a bank must be identical, the BIOS supports various DIMM sizes and configurations allowing the banks of memory to be different. Memory sizing and configuration is guaranteed only for qualified DIMMs approved by Intel.

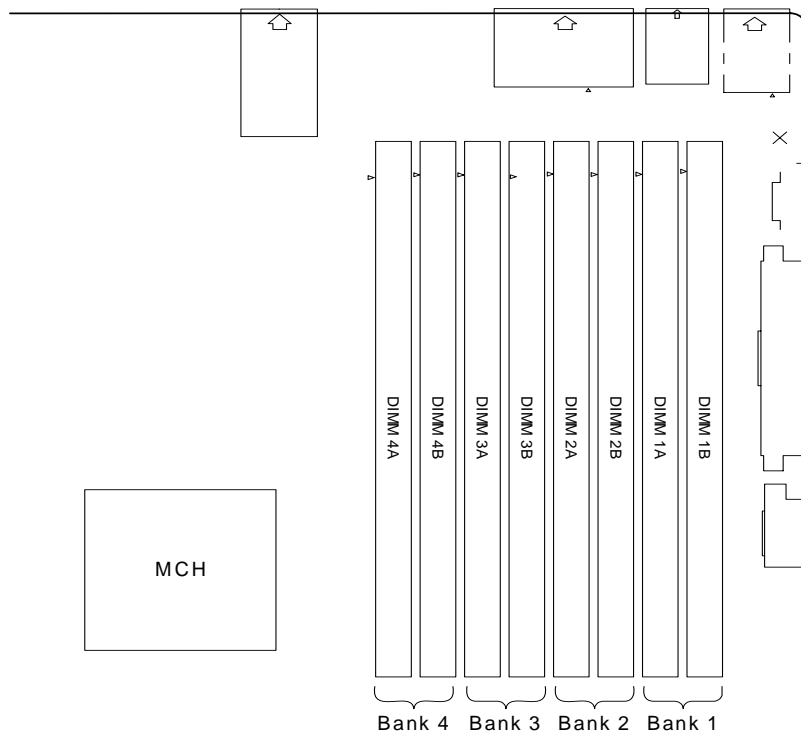


Figure 1. Identifying Banks of Memory

The memory controller is capable of supporting up to 4 loads per channel for DDR2-400. Memory technologies are classified as being either single rank or dual rank depending on the number of DRAM devices that are used on any one DIMM. A single rank DIMM is a single load device, ie) Single Rank = 1 Load. Dual rank DIMMs are dual load devices, ie) Dual Rank = 2 loads.

2.1.1 Memory Population

Using the following algorithm, the BIOS configures the memory controller of the MCH to either run in dual-channel mode or single-channel mode:

If one or more fully populated DIMM banks is detected, set the memory controller to dual-channel mode. Otherwise, go to step 2.

If DIMM 1A is present, set the memory controller to single-channel mode A. Otherwise, go to step 3.

If Channel 1B DIMM is present, set the memory controller to single-channel mode B. Otherwise, generate a memory configuration error.

DDR2-400 DIMM population rules are as follows:

- DIMMs banks must be populated in order starting with the slots furthest from MCH
- Dual rank DIMMs are populated before single rank DIMMs
- A total of four DIMMs can be populated when all four DIMMs are dual rank DDR2-400 DIMMs

The following tables show the supported memory configurations:

- s/r = single rank
- d/r = dual rank
- E = Empty

Table 1. Supported DDR2-400 DIMM Populations

Bank 4 – DIMMs 4A, 4B	Bank 3 – DIMMs 3A, 3B	Bank 2 – DIMMs 2A, 2B	Bank 1 – DIMMs 1A, 1B
E	E	E	S/R
E	E	E	D/R
E	E	S/R	S/R
E	E	S/R	D/R
E	E	D/R	D/R
E	S/R	S/R	S/R
E	S/R	S/R	D/R
S/R	S/R	S/R	S/R

Note: On the Intel® Server Board SE7520BB2, when using all dual rank DDR2-400 DIMMs, a total of four DIMMs can be populated. Configuring more than four dual rank DDR2-400 DIMMs will result in the BIOS generating a memory configuration error.

2.2 Identifying “Single Rank” or “Double Ranked” DIMMs

- **x8SR** = x8 *Single-Ranked modules* - have 5 DRAM's on the front and 4 DRAM's on the back with empty spots in between the DRAM's.
- **x8DR** = x8 *Double-Ranked modules* - have 9 DRAM's on each side for a total of 18 (no empty slots)
- **x4SR** = x4 *Single-Ranked modules* - have 9 DRAM's on each side for a total of 18 – and look similar to x8 Double-Ranked
- **x4DR** = x4 *Double-Ranked modules* - have 18 (stacked) DRAM's on each side for a total of 36

The following tables list the current supported memory types:

DDR2-400 Registered SDRAM Module Matrix						
DIMM Capacity	DIMM Organization	SDRAM Density	SDRAM Organization	# SDRAM Devices/rows/Ranks	# Address bits rows/Ranks/column	Ranked
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10	Single Ranked
512MB	64M x 72	256Mbit	64M x 4	18/1/4	13/2/11	Single Ranked
512MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10	Double Ranked
512MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10	Single Ranked
1GB	128M x 72	512Mbit	128M x 4	18/1/4	14/2/11	Single Ranked
1GB	128M x 72	512Mbit	64M x 8	18/2/4	14/2/10	Double Ranked
1GB	128M x 72	1Gbit	128M x 8	9/1/8	14/3/10	Single Ranked
2GB	256M x 72	1Gbit	256M x 4	18/1/8	14/3/11	Single Ranked
2GB	256M x 72	1Gbit	128M x 8	18/2/8	14/3/10	Double Ranked
2GB	256M x 72	2Gbit	256M x 8	9/1/8	15/3/10	Single Ranked
4GB	512M x 72	2Gbit	256M x 8	18/2/8	15/3/10	Double Ranked
4GB	512M x 72	2Gbit	512M x 4	18/1/8	15/3/11	Single Ranked
4GB	512M x 72	4Gbit	512M x 8	9/1/8	TBD	Single Ranked

3. Tested Memory

The following tables list DIMM devices tested to be compatible with the Intel® Server Board SE7520BB2. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Intel strongly recommends the use of ECC memory in all server products.

Memory modules not listed in the following tables have not been tested for compatibility and their use with the Intel® Server Board SE7520BB2 may result in unpredictable operation and data loss.

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. This list is subject to change without notice.

Note: This list is not intended to 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.

Intel® Server Board SE7520BB2
Registered ECC, DDR2-400 DIMM Modules
256MB Size (32M x 72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
Qimonda	HYS72T32000HR-5-A	HYB18T256800AF5-A	Qimonda		Yes	(32Mx8)*9	3/2/06
Samsung	M393T3253FZ3-CCC	K4T56083QF-ZCCC	Samsung		Yes	(32Mx8)*9	3/2/06
Samsung	M393T3253FG3-CCC	K4T56083QF-GCCC	Samsung			(32Mx8)*9	3/2/06
Samsung	M393T3253FZ0-CCC	K4T56083QF-ZCCC	Samsung		Yes	(32Mx8)*9	3/2/06
Samsung	M393T3253FG0-CCC	K4T56083QF-GCCC	Samsung			(32Mx8)*9	3/2/06
Micron	MT9HTF3272Y-40EB2	MT47H32M8BP-37E	Micron		Yes	(32Mx8)*9	3/2/06

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. 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.

Verify that the DRAM part number matches the DRAM on this list before purchasing.

Intel® Server Board SE7520BB2
Registered, ECC, DDR2-400 DIMM Modules
512 MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
Samsung	M393T6450FZ0-CCC	K4T56043QF-ZCCC	Samsung		Yes	(64Mx4)*18	3/02/06
Samsung	M393T6450FZ3-CCC	K4T56043QF-ZCCC	Samsung		Yes	(64Mx4)*18	3/02/06
Samsung	M393T6450FG3-CCC	K4T56043QF-GCCC	Samsung			(64Mx4)*18	3/02/06
Samsung	M393T6450FG0-CCC	K4T56043QF-GCCC	Samsung		Yes	(64Mx4)*18	3/02/06
Samsung	M393T6453FZ0-CCC	K4T56083QF-ZCCC	Samsung		Yes	(32Mx8)*18	3/02/06
Samsung	M393T6453FZ3-CCC	K4T56083QF-ZCCC	Samsung			(32Mx8)*18	3/02/06
Samsung	M393T6453FG3-CCC	K4T56083QF-GCCC	Samsung			(32Mx8)*18	3/02/06
Samsung	M393T6453FG0-CCC	K4T56083QF-GCCC	Samsung		Yes	(32Mx8)*18	3/02/06
Samsung	M393T6553BZ0-CCC	K4T51083QB-ZCCC	Samsung		Yes	(64Mx8)*9	3/02/06
Samsung	M393T6553CZ0-CCC	K4T51083QC-ZCCC	Samsung		Yes	(64Mx8)*9	3/02/06
Samsung	M393T6553CZ3-CCC	K4T51083QC-ZCCC	Samsung			(64Mx8)*9	3/02/06
Samsung	M393T6553BG0-CCC	K4T51083QB-GCCC	Samsung		Yes	(64Mx8)*9	3/02/06
Qimonda	HYS72T64000HR-5-A	HYB18T512800AC5	Qimonda		Yes	(64Mx8)*9	3/02/06
Qimonda	HYS72T64020HR-5-A	HYB18T256800AF5-A	Qimonda		Yes	(64Mx4)*18	3/02/06
Qimonda	HYS72T64001HR-5-A	HYB18T256400AF5-A	Qimonda		Yes	(64Mx4)*18	3/02/06
Micron	MT18HTF6472Y-40EB2	MT47H64M4BP-37E	Micron		Yes	(64Mx4)*18	3/02/06
Micron	MT9HTF6472Y-40EB2	MT47H64M8CB-5E	Micron			(64Mx8)*9	3/02/06
Qimonda	HYS72T64000GR-5-A	HYB18T512800AC5	Qimonda		Yes	(64Mx8)*9	3/02/06
Hynix	HYMP564R72P8-E3	HY5PS12821FP-E3	Hynix		Yes	(64Mx8)*9	3/02/06
Hynix	HYMP564R72BP8-E3	HY5PS12821BFP-E3	Hynix			(64Mx8)*9	3/02/06
+ATP Electronics	AH64K72F8BHC4S	K4T51083QC-ZCD5 rev C	Samsung	SH240F08 K1 na	Yes	(64Mx8)*9	1/26/06
+Smart Modular Technologies	SG647RDR264835-SC	K4T51083QC-ZCCC rev C	Samsung	M393T6553BG1 (KS-11A)	Yes	(64Mx8)*9	2/13/06
+Dataram	DTM63312B	NT5TU64M8AE-37B rev A	Nanya	40042A rev A	Yes	(64Mx8)*9	2/24/06
TRS	TRS31260	HYB18T512800AF5 rev A	Qimonda (Infineon)	M0551LA1 rev 1	Yes		03/29/06
TRS	TRS31261	HYB18T256400AF5 rev A	Qimonda (Infineon)	M0549LA1 rev 1	Yes		04/25/06
TRS	TRS31260	HYB18T512800AF5 rev A	Qimonda (Infineon)	M0551LA1 rev 1	Yes		03/29/06
Smart Modular Technologies	SG647RDR264835-SC	K4T51083QC-ZCCC rev C	Samsung	M393T6553BG1 (KS-11A)	Yes		04/14/06
TRS	TRS31261	HYB18T256400AF5 rev A	Qimonda (Infineon)	M0549LA1 rev 1	Yes		04/25/06
Kingston	KVR400D2S8R3/512I	HYB18T512800AF37 rev A	Qimonda (Infineon)	2025263-001.C00 na		(64Mx8)*9	05/09/06
Dataram	DTM63311D	HYB18T256400AF5 rev A	Qimonda (Infineon)	40011A rev A	Yes	(64Mx4)*18	05/11/06
TRS	TRS31260X	HYB18T512800AF5 rev A	Qimonda (Infineon)	M0551LA1 rev 1		(64Mx8)*9	6/23/06

Registered, ECC, DDR2-400 DIMM Modules 512 MB Sizes (64Mx72)							
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
TRS	TRS31261X	HYB18T256400AF5 rev A	Qimonda (Infineon)	M0549LA1 rev 1	Yes	(64Mx4)*18	8/28/06
TRS	TRS31275	E5108AG-5C-E rev G	Elpida	M0551LA1 rev 1	Yes	(64Mx8)*9	9/19/06
Kingston	KVR400D2S8R3/512I	E5108AGBG-6E-E rev G	Elpida	2025263- 001.C00 na	Yes	(64Mx8)*9	11/3/06

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. 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.

Verify that the DRAM part number matches the DRAM on this list before purchasing.

Intel® Server Board SE7520BB2
Registered, ECC, DDR2-400 DIMM Modules
1GB Size (128M x 72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
Samsung	M393T2953BZ0-CCC	K4T51083QB-ZCCC	Samsung		Yes	(64Mx8)*18	3/02/06
Samsung	M393T2953CZ0-CCC	K4T510830C-ZCCC	Samsung		Yes	(64Mx8)*18	3/02/06
Samsung	M393T2953CZ3-CCC	K4T510830C-ZCCC	Samsung		Yes	(64Mx8)*18	3/02/06
Samsung	M393T2950CZ3-CCC	K4T51043QC-ZCCC	Samsung		Yes	(128Mx4)*18	3/02/06
Samsung	M393T2953BG0-CCC	K4T510830B-GCCC	Samsung			(64Mx8)*18	3/02/06
Samsung	M393T2950BZ0-CCC	K4T51043QB-ZCCC	Samsung		Yes	(128Mx4)*18	3/02/06
Samsung	M393T2950CZ0-CCC	K4T51043QC-ZCCC	Samsung		Yes	(128Mx4)*18	3/02/06
Samsung	M393T2950BG0-CCC	K4T51043QB-GCCC	Samsung			(128Mx4)*18	3/02/06
Micron	MT18HTF12872Y-40EB3	MT47H128M4CB-5E:B	Micron		Yes	(128Mx4)*18	3/02/06
Micron	MT18HTF12872Y-40EA2	MT47H64M8BT-5E	Micron			(128Mx4)*18	3/02/06
Qimonda	HYS72T128020HR-5-A	HYB18T512800AF5-A	Qimonda			(64Mx8)*18	3/02/06
Qimonda	HYS72T128000HR-5-A	HYB18T512400AF5	Qimonda		Yes	(128Mx4)*18	3/02/06
Hynix	HYMP512R72P8-E3	HY5PS12821FP-E3	Hynix		Yes	(64Mx8)*18	3/02/06
Hynix	HYMP512R72P4-E3	HY5PS12421FP-E3	Hynix		Yes	(128Mx4)*18	3/02/06
Hynix	HYMP512R724-E3	HY5PS12421-F-E3	Hynix			(128Mx4)*18	3/02/06
+ATP Electronics	AH28K72M4BHC4S	K4T51043QC-ZCCC rev C	Samsung	SH240M04K 2 na	Yes	(128Mx4)*18	2/9/06
+Dataram	DTM63310J	NT5TU128M4AE-5A rev A	Nanya	40011A rev A	Yes	(128Mx4)*18	2/17/06
+Smart Modular Technologies	SG1287RDR264835SC	K4T51083QC-ZCD5 rev C	Samsung	PG58G240N EBUB2RB rev A	Yes	(64Mx8)*18	3/1/06
+Smart Modular Technologies	SG1287RDR264835IA	HYB18T512800AF37 rev A	Qimonda	PG58G240N EBUB2RB rev A		(64Mx8)*18	3/8/06
+Kingston	KVR400D2S4R3/1GI	HYB18T512400AF5 rev A	Qimonda	2025248- 001.B00 na		(128Mx4)*18	3/17/06
+TRS	TRS31265	HYB18T512400AF5 rev A	Qimonda	M0549LA1 rev 1	Yes	(128Mx4)*18	3/24/06
Kingston	KVR400D2S4R3/1GI	HYB18T512400AF37 rev A	Qimonda	2025248- 001.B00 na	Yes		04/04/06
Dataram	DTM63327B	NT5TU64M8AE-37B rev A	Nanya	40056A rev A	Yes		04/07/06
Kingston	KVR400D2S8R3/1GI	E1108AA-5C-E rev A	Elpida	2025263- 001.C00 na	Yes		04/12/06
TRS	TRS31265	HYB18T512400AF5 rev A	Qimonda	M0549LA1 rev 1	Yes		03/31/06
Kingston	KVR400D2S8R3/1GI	HYB18T1G800AF-5 rev A	Qimonda	2025263- 001.C00	Yes		05/05/06
Legacy Electronics Inc.	B517M4C2AHA-50	K4T51043QC-ZCCC rev C	Samsung	LE18DD2F2 404RRH rev A	Yes	(128Mx4)*18	05/15/06
Apacer	75.072A1.G00	K4T51043QC-ZCD5 rev C	Samsung	48.16189.01 1 rev 1	Yes	(128Mx4)*18	05/22/06
Kingston	KVR400D2S4R3/1GI	NT5U128M4AE-5A rev A	Nanya	2025248- 001.B00 na	Yes	(128Mx4)*18	6/7/06
Smart Modular Technologies	SG1287RDR212435NA	NT5TU128M4AE-5A rev A	Nanya	NTPCB0001 9P		(128Mx4)*18	7/7/06

Registered, ECC, DDR2-400 DIMM Modules 1GB Size (128M x 72)							
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
TRS	TRS31267	K4T51043QC-ZCCC rev C	Samsung	M0549LA1 rev 1	Yes	(128Mx4)*18	6/28/06
Wintec Industries	39C931344C-L	K4T51043QC-ZCCC rev C	Samsung	D2R472 na	Yes	(128Mx4)*18	6/14/06
Avant Technology	AVF7228R53E3400F0- MTB	MT47H128M4CB-5E rev B	Micron	50-1435-01B rev B	Yes	(128Mx4)*18	8/14/06
TRS	TRS31265X	HYB18T512400AF5 rev A	Qimonda (Infineon)	M0549LA1 rev 1	Yes	(128Mx4)*18	9/12/06
Avant Technology	AVF7228R52E3400F0- ELGP	EDE5108AGBG-5C-E rev G	Elpida	50-1431-01B rev B	Yes	(64Mx8)* 18	9/15/06
Kingston	KVR400D2S4R3/1GI	E5104AG-5C-E rev G	Elpida	2025248- 001.B00 na	Yes	(128Mx4)*18	10/12/06
Avant Technology	AVF7228R53E3400F0- ELEP	EDE5104AE-5C-E rev E	Elpida	50-1435-01B rev B	Yes	(128Mx4)*18	11/8/06
Kingston	KVR400D2S8R3/1GI	E1108AB-6E-E rev B	Elpida	2025263- 001.C00 na	Yes	(128Mx8)*9	11/27/06
TRS	TRS31277X	E5104AG-5C-E rev G	Elpida	M0549LA1 rev 1	Yes	(128Mx4)*18	2/22/07
All Components	AVF7228R52E3400F0- ELGP	EDE5108AGBG-5C-E rev G	Elpida	50-1431-01B rev B	Yes	(64Mx8)* 18	2/23/07
All Components	AVF7228R53E3400F0- ELEP	EDE5104AE-5C-E rev E	Elpida	50-1435-01B rev B	Yes	(128Mx4)*18	2/23/07
US Technology	AVF7228R52E3400F0- ELGP	EDE5108AGBG-5C-E rev G	Elpida	50-1431-01B rev B	Yes	(64Mx8)* 18	3/24/07
US Technology	AVF7228R53E3400F0- ELEP	EDE5104AE-5C-E rev E	Elpida	50-1435-01B rev B	Yes	(128Mx4)*18	3/24/07
Kingston	KVR400D2S8R3/1GI	MT47H128M8HQ-3 rev E	Micron	2025263- 001.C00 na	Yes	(128Mx8)*9	4/13/07
Smart Modular Technologies	SG1287RDR212435IB	HYB18T512400BF37 rev B	Qimonda	PG54G240N ESUBRCC1 rev A	Yes	(128Mx4)*18	10/19/07
Kingston	KVR400D2S4R3/1GI	NT5TU128M4BE-3C rev B	Nanya	2025248- 001B00	Yes	(128Mx4)*18	12/21/07

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. 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.

Verify that the DRAM part number matches the DRAM on this list before purchasing.

Intel® Server Board SE7520BB2
Registered, ECC, DDR2-400 DIMM Modules
2GB Size (256M x 72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
Hynix	HYMP125R72P4-E3	HY5PS1G431FP-E3	Hynix		Yes	(256Mx4)*18	3/02/06
Hynix	HYMP125R724-E3	HY5PS1G431F-E3	Hynix			(256Mx4)*18	3/02/06
Samsung	M393T5750CZ3-CCC	K45T1043QC-ZCCC	Samsung		Yes	(128Mx4)*36	3/02/06
Samsung	M393T5660MZ0-CCC	K4T1G044QM-ZCCC	Samsung		Yes	(256Mx4)*18	3/02/06
Samsung	M393T5660MZ3-CCC	K4T1G044QM-ZCCC	Samsung		Yes	(256Mx4)*18	3/02/06
Samsung	M393T5660AZ3-CCC	K4T1G044QA-ZCCC	Samsung		Yes	(256Mx4)*18	3/02/06
Samsung	M393T5750CZ0-CCC	K45T1043QC-ZCCC	Samsung			(128Mx4)*36	3/02/06
Qimonda	HYS72T256220HR-5-A	HYB18T512400AF5	Qimonda		Yes	(128Mx4)*36	3/02/06
Qimonda	HYS72T256000HR-5-A	HYB18T1G400AF-5	Qimonda		Yes	(256Mx4)*18	3/02/06
Micron	MT18HTF25672Y-40EA2	MT47H256M4BT-5E ES	Micron		Yes	(256Mx4)*18	3/02/06
Micron	MT36HTF25672Y-40EB1	MT47H128M4CB-37E:B	Micron		Yes	(128Mx4)*36	3/02/06
Qimonda	HYS72T512022HR-5-A	HYB18T2G402AF-5-A	Qimonda			(512Mx4)*18	3/02/06
Hynix	HYMP351R72MP4-E3	HY5PS2G431MP-E3	Hynix		Yes	(256Mx4)*36	3/02/06
+Kingston	KVR400D2D4R3/2GI	HYB18T512400AF5 rev A	Qimonda	2025292-001.B00 na		(128Mx4)*36	2/21/06
+Kingston	KVR400D2D4R3/2GI	HYB18T512400AF37 rev A	Qimonda	2025292-001.B00 na	Yes	(128Mx4)*36	3/6/06
Kingston	KVR400D2D8R3/2GI	E1108AA-5C-E rev A	Elpida	2025302-001.A00 na	Yes		04/14/06
TRS	TRS31270	HYB18T1G400AF-5 rev A	Qimonda	M0549LA1 rev 1	Yes		04/19/06
Dataram	DTM63309F	NT5TU128M4AE-5A rev A	Nanya	40040A rev A	Yes	(128Mx4)*36	04/27/06
Legacy Electronics Inc.	B527M4C2BJA-50	K4T51043QC-ZCCC rev C	Samsung	LE36DD2F2 404RRJ rev B	Yes	(128Mx4)*36	05/02/06
Kingston	KVR400D2D4R3/2GI	NT5TU128M4AE-5A rev A	Nanya	2025292-001.B00 na	Yes	(128Mx4)*36	6/19/06
Apacer	75.A72A1.G00	K4T51043QC-ZCCC rev C	Samsung	48.1A189.01 2 rev 2	Yes	(128Mx4)*36	8/8/06
TRS	TRS31270X	HYB18T1G400AF-5 rev A	Qimonda (Infineon)	M0549LA1 rev 1	Yes	(256Mx4)*36	8/16/06
Smart Modular Technologies	SG2567RDR225435-S	K4T1G044QA-ZCCC rev A	Samsung	M393T2950 BG1 na	Yes	(256Mx4)*36	9/6/06
Kingston	KVR400D2D4R3/2GI	E5104AG-5C-E rev G	Elpida	2025292-001.B00 na	Yes	(128Mx4)*36	10/10/06
ATP Electronics	AH56K72M4BJC4C	HYB18T1G400AF-5 rev A	Qimonda (Infineon)	SH240M04K 2 na	Yes	(256Mx4)*36	11/29/06
Smart Modular Technologies	SG2567RDR212435NB	NT5TU128M4BE-3C rev B	Nanya	PG52G240 NESUB3RJ rev A	Yes	(128Mx4)*36	12/5/06
Kingston	KVR400D2D8R3/2GI	E1108AB-6E-E rev B	Elpida	2025302-001.A00 na	Yes	(128Mx8)*18	12/11/06

Registered, ECC, DDR2-400 DIMM Modules 2GB Size (256M x 72)							
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
STEC Inc	INT72P4M256M8M-A05AYU	HYB18T512400AF37 rev A	Qimonda	01229 rev A	Yes	(128Mx4)*36	4/9/07
Kingston	KVR400D2D8R3/2GI	MT47H128M8HQ-3 rev E	Micron	2025302-001.A00 na	Yes	(128Mx8)*18	4/18/07
Kingston	KVR400D2D4R3/2GI	E5104AHSE-6E-E rev H	Elpida	2025292-001.C00 na	Yes	(128Mx4)*36	5/7/07
Smart Modular Technologies	SG2567RDR212435IB	HYB18T512400BF3S rev B	Qimonda	PG52G240 NESUB3RJ rev A	Yes	(128Mx4)*36	10/01/07
Smart Modular Technologies	SG2567RDR212435SE	K4T51043QE-ZCE6 rev E	Samsung	PG52G240 NESUB3RJ rev A	Yes	(128Mx4)*36	10/23/07
Kingston	KVR400D2D4R3/2GI	NT5TU128M4BE-3C rev B	Nanya	2025292-001.C00 na	Yes	(128Mx4)*36	1/4/08
Kingston	KVR400D2D8R3/2GI	HY5PS1G831CFP-Y5 rev C	Hynix	2025302001.A00 na	Yes	(128Mx8)*18	2/28/08
Kingston	KVR400D2D4R3/2GI	HYB18T512400AF37 rev A	Qimonda	2025292-001.C00 rev C	Yes	128Mx4)*36	4/18/08
Kingston	KVR400D2D8R3/2GI	E1108ACBG-8E-E rev C	Elpida	2025302-001.A00	Yes	(128Mx8)*18	6/23/08

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

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Verify that the DRAM part number matches the DRAM on this list before purchasing.

Intel® Server Board SE7520BB2
Registered, ECC, DDR2-400 DIMM Modules
4GB Size (256M x 72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Lead-Free	DRAM Organization	Date
Kingston	KVR400D2D4R3/4GI	K4T2G064QA-ZCD5 rev A	Samsung	M393T1G68MG1 na	Yes		04/21/06
Smart Modular Technologies	SG5127RDR225635ART	HYB18T1G400AF-5 rev A	Qimonda	XG58G240NESUB1TK rev A	Yes	(256Mx4)	1/5/07
Kingston	KVR400D2D4R3/4GI	E1108ABSH-E rev B	Elpida	Z10077 na	Yes	(256Mx4)	2/23/07

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. 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.

Verify that the DRAM part number matches the DRAM on this list before purchasing.

4. Sales Information

Vendor Name	Web URL	Vendor Direct Sales Info
ATP Electronics	http://www.atpinc.com/	Tel (1) 408-732-5000, ext 5858 Fax 408-732-5893 sales@atpusa.com
ATP Electronics -- Taiwan Inc.	http://www.atpinc.com/	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.heacom/	
Qimonda	http://www.infineon.com/business/distribut/index.htm	
ITAUCOM	http://www.itaucocom.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

Vendor Name	Web URL	Vendor Direct Sales Info
Netlist, Inc	http://www.netlistinc.com	Christopher Lopes 949.435.0025 tel 949.435.0031 fax sales@netlistinc.com
Peripheral Enhancements	http://www.peripheral.com/	
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	www.smartm.com/channel/hpc/	Gene Patino (949) 439-6167 Gene.Patino@Smartm.com
Swissbit	http://www.swissbit.com	Tony Cerreta Tel: 914-935-1400 x240 Fax: 914-935-9865 tony.cerreta@swissbitna.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

5. 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 Qualification Lab. Intel routinely audits the CMTL facility to ensure all procedures, process handling, and testing methodologies are met.

IMPORTANT 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 Rank on the memory module. Mixing of dissimilar memory manufacturer devices or dissimilar memory device speeds is not recommended. This document contains information which is the proprietary property of Intel Corporation. Nothing in this document constitutes a guaranty, warranty, or license, express or implied. Intel has tested the following DIMMs for minimum electrical and functional compatibility with the Intel® Server RAID Controller. This listing is not intended to be all inclusive; it only represents the DIMMs Intel or CMTL has tested. Users of this list are reminded to check with the DIMM manufacturer or Distributor to ensure that a particular DIMM model is adequate for the intended purpose on the Intel® Server RAID Controller. Intel provides no indemnities for and expressly disclaims all liabilities for any and all such guaranties, representations, and warranties (oral or written) whether express or implied, related to DIMMs in a Intel® Server RAID Controller product, including without limitation to: fitness for a particular purpose; merchantability; non-infringement of intellectual property or other rights of any third party or of Intel. The reader is advised that third parties may have intellectual property rights which may be relevant to this document and the technologies discussed herein, and is advised to seek the advice of competent legal counsel, without obligation of Intel. Intel retains the right to make changes to this document at any time, without notice. Intel makes no warranty or representation with respect to the use of this document or reliance by the reader upon its contents, and assumes no responsibility for any errors which may appear in the document nor does it make a commitment to update the information contained herein.

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