SpecTek® Buyers Guides

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SpecTek Buyers Guide >> NAND

Grade	Product Type	Yield [1]	Customer Application	RMA Policy	Technical Notes	Sample MPNs	Web Links
AS More Details	Package	**~ 97%**	PCIe/SATA Consumer SSDs, USB/SD	**YES – 90 Days Warranty < 1,000pcs RMAs NOT Accepted**	• Datasheet Support. Use Factory Marked Blocks • DDP, QDP, 154b	• 1600MT/s: FBNN48R4T1KLMAEJ4-**AS** • 2400MT/s: FBNN48R4T1KLMAEJ4-**24AS** • 3600MT/s**:** FBNN48R4T1KLMAEJ4-**36AS**	• RMA Rapid Response • NAND Component/Die/Wafer Part Number Guide • Online Decoder • Device Markings • SpecTek Datasheets • Roadmap • Questions / Feedback
PG	Package	**~ 70%**	Consumer SATA SSDs, USB/ SD	**NO RMA:** will only review cases if yield loss is significant	• NVB Not Guaranteed. Sorting Needed • No Datasheet, Single/double plane firmware recommended	• FBMB27A8T0KTWAFM5-**PG**	
E0 More Details	Uncut Wafer	**~ 99%** [2]	PCIe/SATA Consumer SSDs, USB/SD, Mobile	**NO RMA on Wafer/Die**	• Datasheet Support. Use Factory Marked Blocks • Wafer Maps and Bonding Diagram available • Stack capable	• 2400MT/s (150us dSLC Program Time): WY4B68SNNNXAA-NA**E0**E • 2400MT/s (90us dSLC Program Time): WY4B68SNNNXAA-NA**E0**E**C** • 3600MT/s (80us dSLC Program Time): WY4B68SNNNXAA-NA**E0**E**K**	
E8	Cut Die on Reconstructed Wafer	**~ 80%**	PCIe/SATA Consumer SSDs, USB/SD	**NO RMA on Wafer/Die**	• Bonding Diagram Only. Sorting Needed	• WY4B68SNNNXAA-NA**E8**U	
E5	Cut Die on Reconstructed Wafer	**~ 50%**	Consumer SATA SSDs, USB/SD	**NO RMA on Wafer/Die**	• Bonding Diagram Only. Sorting Needed	• W3UB68SNUNXNZ-NA**E5**U	
EW	Carcass Die on Uncut Wafer	**N/A**	N/A	**NO RMA on Wafer/Die**	• Bonding Diagram Only. Sorting Needed	• WBUB68SDBNXNZ-NA**EW**A	
EX	Carcass Die	**N/A**	N/A	**NO RMA on Wafer/Die**	• Die Left on blue tape after all Micron and SpecTek die picked	• WBUL84DDBNXNZ-NA**EX**A	

General Support Notes (READ):
➢ **1** Yield estimates are averaged based on **SDP** packages and may vary lot to lot. Yields also influenced by controllers and firmware capabilities and validated on limited number of common controllers.
➢ **2** Yield Note: 99% yield is applicable to 150s/160s and for SDP assembly ONLY with up to 2% yield variations. Expect yields to be ~95% or better on 140s and prior.
➢ 150s/160s NAND devices are not recommended for use in applications that require data to be pre-programmed in the NAND array prior to Reflow, Surface Mount or any thermal processing. Please consult with your Micron representative for details.
➢ Cosmetic Defects are not covered under SpecTek RMA Policy. All RMAs **must** be returned in either the original packaging or an ESD safe container(trays, tape and reel) or the RMA may be rejected.
➢ Consumer SSDs: SSDs with Non-Binary Densities such as 500GB, 1000GB.

SpecTek Wafer/Package MPN Grade

WAFER (April 7, 2025)

MPN	IO Speed MT/s	Dynamic SLC tPROG	B58R Seq. R/W[1] in MB/s	N58R Seq. R/W[1] in MB/s	B68S Seq. R/W[1] in MB/s	N69R Seq. R/W[1] in MB/s
	Measured Typical Values		*Estimated Seq R/W values*			
E0EK	3,600[2]	80 us	--	--	**R/W:** 10,000 / 9,000 **ReadID:** 34h	**R/W:** 10,000 / 9,000 **ReadID:** 34h
E0EC	2,400	90 us	**R/W:** 7,000 / >7,000 **ReadID:** 30h	**R/W:** 7,000 / 5,500 **ReadID:** 30h	**R/W:** 7,000 / >7,000 **ReadID:** 34h	**R/W:** 7,000 / >7,000 **ReadID:** 34h
E0E	2,400[2]	150 us	**R/W:** 7,000 / 5,000 **ReadID:** 30h	**R/W:** 7,000 / 4,000 **ReadID:** 31h	**R/W:** 7,000 / 5,000 **ReadID:** 35h	**R/W:** 7,000 / 5,000 **ReadID:** 35h

PACKAGE

Package Grades	IO Speed MT/s	Dynamic SLC tPROG	Drive R/W	Packages
	Measured Typical Values		*Estimated Seq R/W values*	
-36AS	3,600	80 us	10,000 / 9,000	154b : DDP, QDP
-24AS	2,400	90 us	7,000 / >7,000[3]	154b : DDP, QDP
-AS	1,600	150 us	5,000 / <5,000[3]	154b : DDP, QDP

Notes:
1) Seq. Write is _estimated_ based on 1TB drive capacity (2TB for N69R). Lower capacity drives, e.g. 512GB, will have lower performance.
2) 160s NAND for 3600 MT/s & N58R for 2400 MT/s higher speed yields requires VCCQ=1.23v.
3) N58R has an estimated lower sequential write 5,500 MB/s (-24AS), 4,000MB/s (-AS)

SpecTek Buyers Guide >> NAND >> Approved Controller List

Updated: 4/04/25	Controller and Design ID Compatibility ✔ = SpecTek Internally Verified ◎ = External Source Verified						
Controller							
PCIe / M.2	**B68S**	**N58R**	**B58R**	**B57T**	**N48R**	**B47R**	**B47T**
IG5236 (Gen 4)		◎	◎		◎		
IG5220 (Gen 4)		◎	◎	◎	◎	◎	◎
IG5216 (Gen 3)					◎	◎	◎
MAP1202A (Gen 3)		✔				✔	✔
MAP1602 (Gen 4)	✔	✔	✔				
RTS5772DL (Gen3-4)			✔				
RTS5766DL (Gen 3)	✔	✔	✔	✔	✔	✔	✔
SM2263XT (Gen 3)					✔	✔	
SM2268XT2 (Gen4)	✔		✔				
TC2201 (Gen4)		◎	◎				
SATA	**B68S**	**N58R**	**B58R**	**B57T**	**N48R**	**B47R**	**B47T**
MAS1102B			✔		✔	✔	✔
PS3111 (& -6)						✔	
RTS5735DL	✔	✔	✔	✔	✔	✔	✔
SM2259XT (& -AC, -130)						✔	✔
SM2259XT2			✔		✔		✔
SM2259XT3		✔					
USB 3.0	**B68S**	**N58R**	**B58R**	**B57T**	**N48R**	**B47R**	**B47T**
AU89103-TA2			✔		✔	✔	✔
IS918M					✔	✔	
IS918EN				✔			
SM3265 (& -AC)						✔	✔
USB 2.0	**B68S**	**N58R**	**B58R**	**B57T**	**N48R**	**B47R**	**B47T**
AU6998 (& TA, TG, M85)					✔		✔
SD Card	**B68S**	**N58R**	**B58R**	**B57T**	**N48R**	**B47R**	**B47T**
AK2705EN (& ENLT)				✔		✔	

SpecTek Buyers Guide >> DRAM

Grade	Product Type	Yield [1]	Customer Application	RMA Policy	Technical Notes	Web Links
PRN / PRM	Package	~ 99%	UDIMM, SODIMM CUDIMM / CSODIMM Module	• **90 Days Warranty** • **Minimal RMA QTY: 1000 Units**	• Fully Tested & Speed Graded • Datasheet Support • Component Testing Not Required • Sample MPN: **PRN**1G16Z22AD8RC-062E	• [RMA Rapid Response](#) • [Motherboard Compatibility List](#)
PRN / PRM **OC**	Package	N/A	OC UDIMM	• **90 Days Warranty (JEDEC Timings Only)** • **Minimal RMA QTY: 1000 Units**	• Fully Tested & Speed Graded • Datasheet Support: Refer to JEDEC datasheet • Component Testing Recommended [4] • Sample MPN: **PRM2G8Y52KBFRZ-56B**	• [DRAM Component Part Numbering Guide](#) • [Online MPN Decoder](#)
TP	Package	~ 90%	UDIMM / CUDIMM 8-Chip Module	• **90 Days Warranty** • **Minimal RMA QTY: 1000 Units**	• Datasheet Support (Reference PRN Datasheet) • Component Testing Recommended [2] • Sample MPN: SUU512M16Z11BD8LY-**TP**	• [DRAM Component Mark Reference](#) • [Laser Mark to MPN Decoder](#)
XCB	Module	~ 75%	UDIMM / CUDIMM Module	• **No RMA:** will only review cases if yield loss is significant	• Components on module • No Datasheet • Component Testing Recommended [2] • Sample MPN:**XCB**512M8V00HG8DA-MSPD	• [SpecTek Datasheets](#) • [Roadmaps](#)
XCBB	Module	~ 75%	UDIMM / CUDIMM Module	• **No RMA:** will only review cases if yield loss is significant	• Components on module, reconfigured to 8 bits • No Datasheet • Component Testing Recommended [2] • Sample MPN: **XCBB**512M8V00HG8DA-MSPD	• [Questions / Feedback](#)
PG	Package	~ 50%	UDIMM / CUDIMM Module	• **No RMA:** will only review cases if yield loss is significant	• Partially Good components • No Datasheet • Component Testing Required [3] • Sample MPN: SUM1G16Z22AD8RC-**PG**	

General Support Notes (READ):
➢ Yield [1]: Based on MemTest test software.
➢ Testing Recommended [2] : Component testing is recommended prior to assembly.
➢ Testing Required [3]: Customer *must* test the product before assembly.
➢ Cosmetic Defects are not covered under RMA Policy. All RMAs must be returned in either the original packaging or an ESD safe container(trays, tape and reel) or the RMA may be rejected.
➢ Testing Recommended [4] for OC timings above JEDEC rated timings

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SpecTek Buyers Guide >> Low Power DRAM & MCPs

Grade	Product Type	Yield	RMA Policy	Technical Notes	Web Links
BT	Package	~ 85% - 95%	• **No RMA:** will only review cases if yield loss is significant	• Testing Required. Yield is dependent on application & chipsets • May also be referred to as "2P Packages" • No Datasheet • Sample MPN: SN512M32Z42MD1DNQ-053**BT**	• [RMA Rapid Response](#) • [Mobile DRAM Part Numbering Guide](#)
UT	Package	~ 80%	• **No RMA:** will only review cases if yield loss is significant	• Testing Required • No Datasheet • Sample MPN: SM2G64Z32MD8DTN-**UT**	• [All-in-One Part Numbering Guide](#) • [eMMC Part Numbering Guide](#)
PG	Package	~ 50%	• **No RMA:** will only review cases if yield loss is significant	• Testing Required • No Datasheet • Sample MPN: SM512M32Z42MD1DNQ-**PG**	• [NAND MCP Part Numbering Guide](#)
P2	Uncut Wafer	~ 99%	• **NO RMA on Wafer/Die**	• Wafer Maps and Bonding Diagram Support • Sample MPN: WJ3Z0AMNNNAF-**P2E0**D	• [LPDRAM Wafer/Die Part Numbering Guide](#) • [Online Decoder](#) • [SpecTek Datasheets](#)
FP	Cut Die on Reconstructed Wafer	~ 97%	• **NO RMA on Wafer/Die**	• Fully tested good die • May also be referred to as "1P dies" • Bonding Diagram Support Only • Sample MPN: WBFV01MDHAHP-**FPE0**D	• [Roadmaps](#) • [Questions / Feedback](#)
4P	Half Density Cut Die on Reconstructed Wafer	~ 98%	• **NO RMA on Wafer/Die**	• Fully tested Half-Density good die • Bonding Diagram Support Only • Sample MPN: WBXV01MDHABP-**4PE0**D	

General Support Notes (READ):
➢ Target Application: Low-End to Mid Range Tablets, Low-End Mobile Phones, IOT, OTT/STB applications
➢ Cosmetic Defects are not covered under RMA Policy. All RMAs **must** be returned in either the original packaging or an ESD safe container(trays, tape and reel) or the RMA may be rejected.