

# Micron® DRAM Support for Intel® IoT Platforms

Save yourself time and money—Micron memory for use on Intel platforms

	Form Factor	Density	Memory Configuration
<b>Intel Quark™ Processor</b>			
Quark SoC X1000 – <b>Clanton/Galileo Gen 2</b>	FBGA (memory down)*	2Gb	DDR3–1600
<b>Intel Atom™ Processor</b>			
Atom Processor E3900 series, Intel Celeron™ Processor N3350, and Intel Pentium™ Processor N4200 – <b>Apollo Lake</b>	FBGA (memory down)*	4Gb, 8Gb, 12Gb, 16Gb, 24Gb, 32Gb	LPDDR4-1600 x32
Atom x3-C3230RK Processor – <b>SoFIA 3G-R</b>	VFBGA eMCP*	8GB e.MMC 5.0 + 8Gb LPDDR3	e.MMC v5.0 + LPDDR3-1866 x32
Atom x5-Z8300 Processor – <b>Cherry Trail</b>	FBGA, PoP (memory down)	2Gb, 4Gb	LPDDR3-1866 x64
Pentium and Celeron Processor N3000 Product Families – <b>Brasswell</b>	FBGA (memory down)*	4Gb, 8Gb	DDR3L–1600
	ECC/non-ECC SODIMM*	2Gb, 4Gb, 8Gb	DDR3L–1600
Atom Processor E3800 – <b>Bay Trail</b>	FBGA (memory down)*	4Gb	DDR3L–1333/1600
Atom Processor C2000 – <b>Rangeley</b>	ECC SODIMM*	4Gb, 8Gb	DDR3L–1600
<b>Intel Core™ i5 and Core™ i7 Processors</b>			
6th Generation Intel Core Desktop/Mobile Processor Family with Intel 100 Series Chipsets and Intel Xeon® Processor E3-1200/ E3-1500 v5 Product Family with C230/CM230 Series Chipsets – <b>Skylake S/H/U</b>	FBGA (memory down)*	4Gb, 8Gb	DDR4–2133
	UDIMM, SODIMM*	4Gb, 8Gb, 16Gb	DDR4–2133
5th Generation Intel Core Processors with Mobile Intel QM87 and HM86 Chipsets – <b>Broadwell H/U</b>	FBGA (memory down)*	4Gb, 8Gb	DDR3L–1600
	SODIMM*	2Gb, 4Gb, 8Gb	DDR3L–1600
4th Generation Intel Core Processors with Intel Communications Chipset 89xxCC Series – <b>Glen Forest (Haswell Mobile + Cave Creek)</b>	FBGA (memory down)*	4Gb, 8Gb	DDR3L–1600
	SODIMM*	2Gb, 4Gb, 8Gb	DDR3L–1600
Intel Xeon, Intel Core, and Intel Pentium Processors with Intel Communications Chipset 89xx Series – <b>Crystal Forest/ Gladden Refresh</b>	ECC UDIMM*, LRDIMM, RDIMM, VLP RDIMM	2Gb, 4Gb, 8Gb	DDR3/L–1333/1600
4th Generation Intel Core Processors with Intel Q87 Chipset – <b>Shark Bay Desktop (Haswell + Lynx Point)</b>	UDIMM*	4Gb, 8Gb	DDR4–2133
4th Generation Core Processors with Mobile Intel QM87 and HM86 Chipsets – <b>Shark Bay Mobile (Haswell + Lynx Point)</b>	FBGA (memory down)*	4Gb, 8Gb	DDR3L–1600
	SODIMM*	2Gb, 4Gb, 8Gb	DDR3L–1600
<b>Intel Xeon® Processor</b>			
Intel Xeon Processor E5-2600 v4 Product Family with Intel C612 Chipset – <b>Grantley Refresh (Broadwell-EP + Wellsburg)</b>	RDIMM	8Gb, 16Gb, 32Gb	DDR4–1600/2133/2400
Intel Xeon Processor D-1500 Product Family – <b>Broadwell DE</b>	ECC UDIMM*	8Gb, 16Gb	DDR4–2133
Intel Xeon Processor E5-2600 v3 Product Family with Intel Communications Chipset 89xx Series – <b>River Forest (Haswell + Coletto Creek)</b> and Intel Xeon Processor E5-2600 v3 Product Family with Intel C612 Chipset – <b>Grantley (Haswell-EP + Wellsburg)</b>	LRDIMM	32Gb	DDR4–2133
	RDIMM	4Gb, 8Gb, 16Gb	DDR4–2133/2400
Intel Xeon Processor E5-2600 v2 Product Family with Intel Communications Chipset 89xx Series – <b>Crystal Forest/Server Refresh</b> and Intel Xeon Processor E5-2600 v2 Product Family with Intel C604 Chipset and Intel C602-J Chipset – <b>Romley-EP Refresh</b>	RDIMM	2Gb, 4Gb, 8Gb, 16Gb, 32Gb	DDR3/L–1066/1333/1600/1866
	LRDIMM	8Gb, 16Gb, 32Gb, 64Gb	DDR3/L–1333/1600/1866
	ECC UDIMM*	2Gb, 4Gb, 8Gb	DDR3–1600/1866
Intel Xeon Processor E3-1200 v3 Product Family with Intel HD Graphics P4600 and Intel C226 Chipset – <b>Denlow (Haswell + Lynx Point)</b>	ECC UDIMM*	2Gb, 4Gb, 8Gb	DDR3L–1600
Intel Xeon Processor E3-1200 v2 Series with Intel C216 Chipset – <b>Carlow</b>	ECC UDIMM*	2Gb, 4Gb, 8Gb	DDR3–1600

Please verify exact configuration and specification with your Intel or Micron representative.

\* These devices have lifecycles supported for 5 to 10+ years. For more details, go to [www.micron.com/lifecycle](http://www.micron.com/lifecycle) or contact your Micron representative. For more details on Micron memory for Intel platforms, go to [www.micron.com/solutions/micron-valued-partner-program/chipset-partner/intel](http://www.micron.com/solutions/micron-valued-partner-program/chipset-partner/intel).



# Micron® SPI NOR Flash/e.MMC Memory Support for Intel® IoT Platforms

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Micron Flash	Product	SPI NOR Flash				e.MMC		
	Family	M25PE <sup>1</sup>	N25Q <sup>1</sup>	N25Q <sup>1</sup>	N25Q <sup>1</sup> / MT25Q	v4.41	v4.51 <sup>2</sup>	v5.0 <sup>2</sup>
	Density	512Kb–2MB (4–16Mb)	4–16MB (32–128Mb)	4–16MB (32–128Mb)	32–64MB (256–512Mb)	4MB–128GB		
	Voltage	3V	3V	1.8V	3V/1.8V	3V V <sub>CC</sub> ; 3V/1.8V I/O		
	Speed	75 MHz	108 MHz	108 MHz	108/133/166 MHz	SDR/DDR 52 MHz	SDR/DDR 52 MHz, HS200	SDR/DDR 52 MHz, HS200 HS400
	Width	x1	x1, x2, x4			x1, x4, x8		
	Temperature/Grade	Industrial, Automotive				Automotive, Industrial, Wireless		
	Packages	SO8N	SO8W, SO16, DFN		SO16, DF- N6x8, BGA	100/153/169-ball BGA, 162-ball eMCP BGA		
	Intel Platforms	<b>Intel® Quark™ Processor</b>						
Quark SoC X1000 – <b>Clanton/Galileo Gen 2</b>						✓	✓	✓
<b>Intel Atom™ Processor</b>								
Atom Processor E3900 series, Intel Celeron™ Processor N3350 and Intel Pentium™ Processor N4200 – <b>Apollo Lake</b>					✓		✓	✓
Atom x3-C3230RK Processor – <b>SoFIA 3G-R</b>							✓	✓
Atom x5-Z8300 Processor – <b>Cherry Trail</b>			✓	✓		✓	✓	✓
Pentium and Celeron Processor N3000 Product Families – <b>Brasswell</b>			✓	✓		✓	✓	✓
Atom E3800 Processor – <b>Bay Trail</b>			✓	✓				
Atom Processor C2000 – <b>Rangeley</b>		✓	✓					
<b>Intel Core™ i5 and Core™ i7</b>								
6th Generation Intel Core Desktop/Mobile Processor Family with Intel 100 Series Chipsets and Intel Xeon Processor E3-1200/E3-1500 v5 Product Family with Intel C230/CM230 Series Chipsets – <b>Skylake S/H/U</b>			✓	✓	✓			
5th Generation Intel Core Processors with Mobile Intel QM87 and HM86 Chipsets – <b>Broadwell H/U</b>			✓		✓			
4th Generation Intel Core Processors with Intel Communications Chipset 89xxCC Series – <b>Glen Forest (Haswell Mobile + Cave Creek)</b>		✓	✓		✓			
Intel Xeon, Intel Core, and Intel Pentium® Processors with Intel Communications Chipset 89xx Series – <b>Crystal Forest/Gladden Refresh</b>		✓	✓		✓			
4th Generation Intel Core Processors with Intel Q87 Chipset – <b>Shark Bay Desktop (Haswell + Lynx Point)</b>		✓	✓		✓			
4th Generation Intel Core Processors with Mobile Intel QM87 and HM86 Chipsets – <b>Shark Bay Mobile (Haswell + Lynx Point)</b>		✓	✓		✓			
<b>Xeon® Processor</b>								
Intel Xeon Processor E5-2600 v4 Product Family with Intel C612 Chipset – <b>Grantley Refresh (Broadwell-EP + Wellsburg)</b>			✓		✓			
Intel Xeon Processor D-1500 Product Family – <b>Broadwell DE</b>			✓		✓			
Intel Xeon Processor E5-2600 v3 Product Family with Intel Communications Chipset 89xx Series – <b>River Forest (Haswell + Coletto Creek)</b> and Intel Xeon Processor E5-2600 v3 Product Family with Intel® C612 Chipset – <b>Grantley (Haswell-EP + Wellsburg)</b>		✓	✓		✓			
Intel Xeon Processor E5-2600 v2 Product Family with Intel Communications Chipset 89xx Series – <b>Crystal Forest/Server Refresh</b> and Intel Xeon Processor E5-2600 v2 Product Family with Intel C604 Chipset and Intel C602-J Chipset – <b>Romley-EP Refresh</b>	✓	✓						
Intel Xeon Processor E3-1200 v3 Product Family with Intel HD Graphics P4600 and Intel C226 Chipset – <b>Denlow (Haswell + Lynx Point)</b>	✓	✓						
Intel Xeon Processor E3-1200 v2 Series with Intel C216 Chipset – <b>Carlów</b>	✓	✓						

Please verify exact configuration and specification with your Intel or Micron representative.

1. EOL pending; please contact your Micron representative for details.
2. These devices have lifecycles supported for 5 to 10+ years. For more details, go to [www.micron.com/lifecycle](http://www.micron.com/lifecycle) or contact your Micron representative. For more details on Micron memory for Intel platforms, go to [www.micron.com/solutions/micron-valued-partner-program/chipset-partner/intel](http://www.micron.com/solutions/micron-valued-partner-program/chipset-partner/intel).