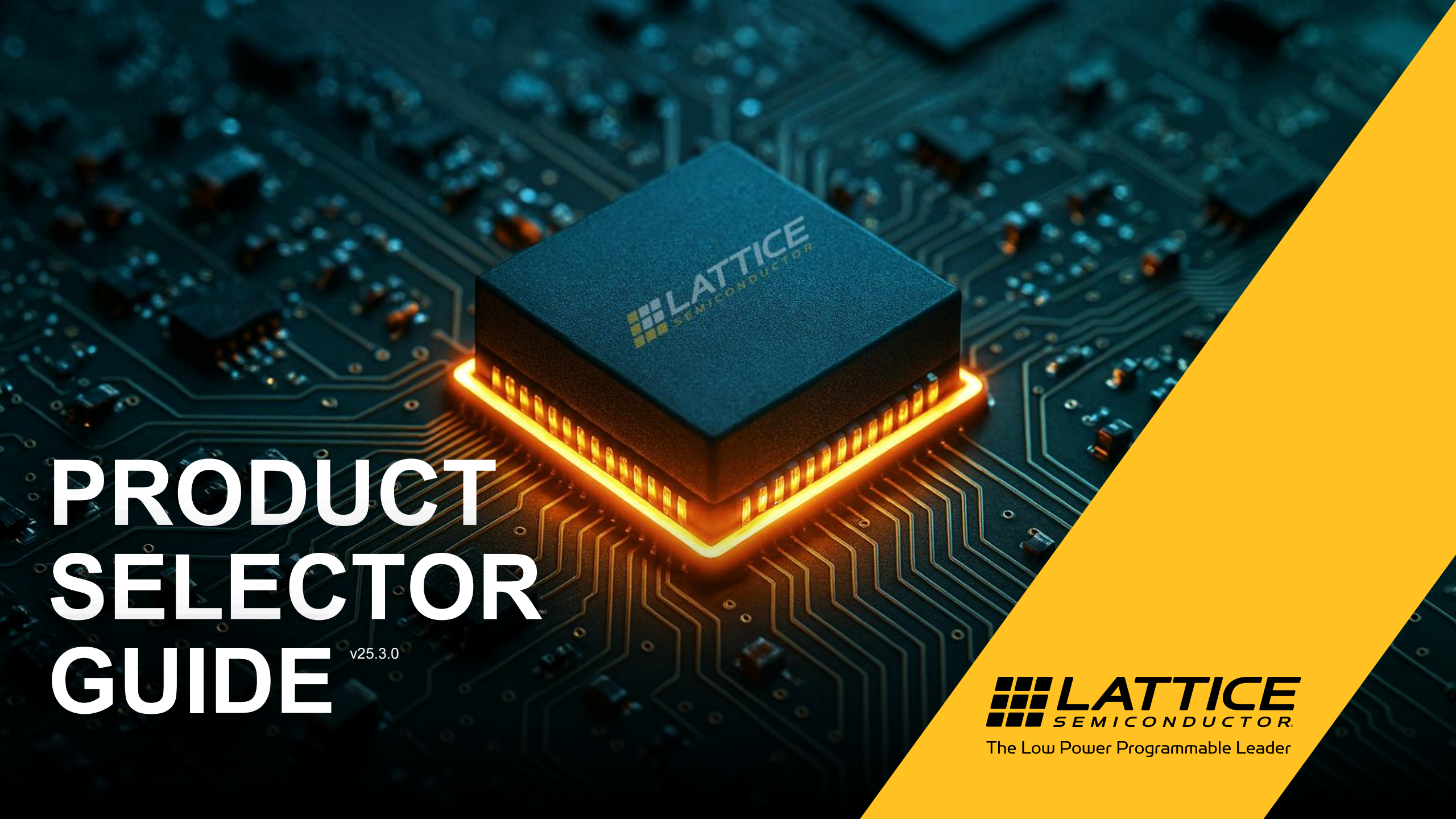

PRODUCT SELECTOR GUIDE

v25.3.0

LATTICE SEMICONDUCTOR

The Low Power Programmable Leader

Lattice FPGA Family

Platform	Family	Typical Application
Foundation	MachXO3 MachXO3D	Secure, low-power, instant-on FPGA for control and bridging
	MachXO4	
Nexus (Small)	Certus-NX CertusPro-NX	General purpose, low-power FPGA with high I/O and reliability
	CrossLink-NX	Video connectivity with MIPI D-PHY and USB
	MachXO5-NX	Secure, high-density FPGA advanced control system
Avant (Mid-range)	Avant-E	Low-power, high-performance FPGA for edge AI processing
	Avant-G	Low-power FPGA for general-purpose mid-range applications
	Avant-X	High-speed FPGA for secure, bandwidth-intensive systems

MachXO3/MachXO3D Product & Package Table

Features		MachXO3L/LF						MachXO3D	
		LCMXO3L/LF-640	LCMXO3L/LF-1300	LCMXO3L/LF-2100	LCMXO3L/LF-4300	LCMXO3L/LF-6900	LCMXO3L/LF-9400	LCMXO3D-4300	LCMXO3D-9400
Logic	LUT4 (LUT)	640	1300	2100	4300	6900 [1]	9400 [1]	4300	9400
Memory	EBR SRAM (kbits)	64	64	74	92	240	432	92	432
	Distributed RAM (kbits)	5	10	16	34	54	73	34	73
Configuration	User Flash Memory (kbits) (MachXO3LF Only)	64	64	80	96	256	448	367/1122 [2]	1088/2693 [2]
	Configuration Memory	On-chip Non-Volatile Configuration Memory (MachXO3L) On-chip Flash Memory (MachXO3LF)						On-chip Flash Memory	
	Dual Boot	External						On-Chip / External	
Embedded Function Block	I2C	2	2	2	2	2	2	2	2
	SPI	1	1	1	1	1	1	1	1
	Timer	1	1	1	1	1	1	1	1
	Oscillator	1	1	1	1	1	1	1	1
	Security	--	--	--	--	--	--	1	1
Other Features	MIPI D-PHY Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes [3]	Yes [3]
	I3C Compatible I/O	--	--	--	--	--	--	Yes [4]	Yes [4]
Device Options (Core Voltage)	Device E (1.2 V)	Yes	Yes	Yes	Yes	Yes	Yes	--	--
	Device C (2.5 - 3.3 V)	--	Yes	Yes	Yes	Yes	Yes	--	--
	Device HE (1.2 V)	--	--	--	--	--	--	--	Yes
	Device ZC/HC (2.5 - 3.3 V)	--	--	--	--	--	--	Yes	Yes
Temperature Grade	Commercial/Industrial/Automotive	C, I, A	C, I, A	C, I, A	C, I, A	C, I	C, I	C, I, A	C, I, A

Package (Type, Dimensions, Pitch)	Total I/O (Device Option)						Total I/O (Device Option)	
UWG36 (WLCSP, 2.5 x 2.5 mm, 0.4 mm)		28[5] (E)						
UWG49 (WLCSP, 3.2 x 3.2 mm, 0.4 mm)			38[5] (E)					
UWG81 (WLCSP, 3.8 x 3.8 mm, 0.4 mm)				63[5] (E)				
MG121 (csfBGA, 6 x 6 mm, 0.5 mm)	100[5] (E)	100[5] (E)	100[5] (E)	100[5] (E)				
MG132 (csBGA, 8 x 8 mm, 0.5 mm)	104 (E)	104 (E/C)	104 (E/C)	104 (E/C)				
MG256 (csfBGA, 9 x 9 mm, 0.5 mm)		206[5] (E)	206[5] (E)	206[5] (E)	206[5] (E)	206[5] (E)		
MG324 (csfBGA, 10 x 10 mm, 0.5 mm)			268[5] (E)	268[5] (E)	268[5] (E)			
SG72 (QFN, 10 × 10 mm, 0.5 mm)							58 (HC/ZC)	58 (HC/ZC)
TG100 (TQFP, 14 x 14 mm, 0.5 mm)	79 (E)	79 (E/C)	79 (E/C)					
UTG69 (WLCSP, 6.2 × 5.2 mm, 0.65 mm)								58 (HE)
BG256 (caBGA, 14 x 14 mm, 0.8 mm)		206[5] (C)	206[5] (C)	206[5] (C)	206[5] (C)	206[5] (C)	206 (HC[6]/ZC)	206 (HC/ZC/HE[6])
BG324 (caBGA, 15 x 15 mm, 0.8 mm)			279 (E/C)	279 (E/C)	279 (C)			
BG400 (caBGA, 17 x 17 mm, 0.8 mm)				335[5] (C)	335[5] (C)	335[5] (C)		335 (HC/ZC)
BG484 (caBGA, 19 x 19 mm, 0.8 mm)						384 (E/C)		383 (HC/ZC[6]/HE[6])
FTG256 (ftBGA, 17 × 17 mm, 1.0 mm)							206 (HC)	

Notes
1. Refer to Power and Thermal Estimation and Management for MachXO3 Devices (FPGA-TN-02059) for determination of safe ambient operating conditions.
2. When dual-boot is disabled, image space can be repurposed as extra UFM. Refer to MachXO3D UFM Size Table.
3. HC device only.
4. Four pairs of I/O in Bank 3 with I3C dynamic pull up capability.
5. Automotive device only for MachXO3LF. Only available in slowest speed grade.
6. Package is available for automotive devices only.

Temperature Grade
C - Commercial
I - Industrial
A - Automotive

MachXO4 Product & Package Table

Features		MachXO4					
		LFMXO4-010	LFMXO4-015	LFMXO4-025	LFMXO4-050	LFMXO4-080	LFMXO4-110
Logic	Logic Cells (kLC)	1.10	1.60	2.60	5.20	8.30	11.30
	LUT4 (LUT)	896	1280	2112	4320	6864	9400
Memory	EBR SRAM (kbits)	64	64	74	92	240	432
	Distributed RAM (kbits)	10	10	16	34	54	73
Configuration	User Flash Memory (kbits)	64	64	80	96	256	448
	Configuration Memory	On-chip Flash Memory					
	Dual Boot	External					
Embedded Function Block	I2C	2	2	2	2	2	2
	SPI	1	1	1	1	1	1
	Timer	1	1	1	1	1	1
	Oscillator	1	1	1	1	1	1
Other Features	MIPI D-PHY Support	Yes	Yes	Yes	Yes	Yes	Yes
Device Options (Core Voltage)	Device HC (2.5 - 3.3 V)	Yes	Yes	Yes	Yes	Yes	Yes
	Device HE (1.2 V)	Yes	Yes	Yes	Yes	Yes	Yes
Temperature Grade	Commercial/Industrial/Automotive	C, I, A	C, I, A	C, I, A	C, I, A	C, I	C, I

Package (Type, Dimensions, Pitch)	Total I/O (Device Option)					
UUG36 (WLCSP, 2.5 x 2.5 mm, 0.4 mm)		27 (HE)				
UUG49 (WLCSP, 3.2 x 3.2 mm, 0.4 mm)			37 (HE)			
UUG81 (WLCSP, 3.8 x 3.8 mm, 0.4 mm)				62 (HE)		
BSG132 (csBGA, 8 x 8 mm, 0.5 mm)	102 [1] (HC/HE)	102 [1] (HC/HE)	102 [1] (HC/HE)	102 [1] (HC/HE)		
TSG100 (TQFP, 14 x 14 mm, 0.5 mm)	78 [1] (HC/HE)	78 [1] (HC/HE)	78 [1] (HC/HE)			
TSG144 (TQFP, 20 x 20 mm, 0.5 mm)	105 (HC/HE)	105 (HC/HE)	109 (HC/HE)	112 (HC/HE)		
BBG256 (caBGA, 14 x 14 mm, 0.8 mm)		204 [1] (HC/HE)	204 [1] (HC/HE)	204 [1] (HC/HE)	204 [1] (HC/HE)	204 [1] (HC/HE)
BBG400 (caBGA, 17 x 17 mm, 0.8 mm)				333 (HC/HE)	333 (HC/HE)	333 (HC/HE)
BBG484 (caBGA, 19 x 19 mm, 0.8 mm)						382 (HC/HE)
BFG256 (ftBGA, 17 × 17 mm, 1.0 mm)		204 (HC/HE)	204 (HC/HE)	204 (HC/HE)		

Notes

1. Package is available for automotive devices. Only available in slowest speed grade.

Temperature Grade

C - Commercial
I - Industrial
A - Automotive

Certus-NX/CertusPro-NX Product & Package Table

Features		Certus-NX (Logic Optimized)				Certus-NX (I/O Optimized)				CertusPro-NX	
		LFD2NX-9	LFD2NX-17	LFD2NX-28	LFD2NX-40	LFD2NX-15	LFD2NX-25	LFD2NX-35	LFD2NX-65	LFCPNX-50	LFCPNX-100
Logic	Logic Cells (kLC)[1]	9	17	28	39	15	25	35	65	52	96
	LUT4 (LUT)	7500	14166	23333	32500	12500	20833	29166	54166	43333	80000
Memory	EBR SRAM (kbits)	270	432	1044	1512	864	1440	1890	2304	1728	3744
	EBR LRAM (kbits)	1536	2560	1024	1024	512	512	512	1024	2048	3584
	Distributed RAM (kbits)	57	108	180	252	108	180	232	432	344	639
DSP Blocks	18 x 18 Multipliers	12	24	40	56	12	20	48	128	96	156
High Speed Connectivity	PCIe Hard IP	--	--	Gen 2.0	Gen 2.0	--	--	Gen 2.0	Gen 2.0	Gen 3.0	Gen 3.0
	PCIe / SERDES Max Speed (Gbps)[2]	--	--	5	5	--	--	5	5	10.1325	10.1325
Other Features	DDR Memory Support	DDR3/DDR3L, LPDDR2 (Up to 1066 Mbps)								DDR3/DDR3L, LPDDR2, LPDDR4 (Up to 1066 Mbps)	
	ADC Channels[3]	2	2	2	2	2	2	2	2	2	2
	Security	AES256 Bitstream Encryption, ECDSA Bitstream Authentication, SHA & HMAC Hashing, TRNG, AES128/256 Encryption									

Package (Type, Dimensions, Pitch)	Total I/O (Wide Range, High Performance, ADC) / SERDES Lane Temperature Grade									
MG121 (csfBGA, 6 x 6 mm, 0.5 mm)	77 (23,48,6) C, I, A	77 (23,48,6) C, I, A	81 (23,58,0) / 1 C, I, A	81 (23,58,0) / 1 C, I, A						
ASG256 (FOWLCSP, 9 x 9 mm, 0.5 mm)									165 (75,84,6) / 4 C, I, A	165 (75,84,6) / 4 C, I, A
BG196 (caBGA, 12 x 12 mm, 0.8 mm)	77 (23,48,6) C, I, A	77 (23,48,6) C, I, A	156 (92,58,6) C, I, A	156 (92,58,6) C, I, A						
BG256 (caBGA, 14 x 14 mm, 0.8 mm)			191 (111,74,6) / 1 C, I, A	191 (111,74,6) / 1 C, I, A	205 (159,40,6) C, I	205 (159,40,6) C, I	181 (145, 30, 6) / 1 C, I	181 (145, 30, 6) / 1 C, I	165 (75,84,6) / 4 C, I, A	165 (75,84,6) / 4 C, I, A
BG400 (caBGA, 17 x 17 mm, 0.8 mm)					311 (257,48,6) C, I	311 (257,48,6) C, I	313 (259,48,6) C, I	313 (259,48,6) C, I		
BG484[4] (caBGA, 19 x 19 mm, 0.8 mm)							371 (317,48,6) / 1 C, I	371 (317,48,6) / 1 C, I	269 (167,96,6) / 4 C, I, A	305 (167,132,6) / 8 C, I, A
BFG484[5] (BGA(Wirebond), 23 x 23 mm, 1.0 mm)									269 (167,96,6) / 4 C, I	305 (167,132,6) / 4 C, I
LFG672 (Lidless fcBGA, 27 x 27 mm, 1.0 mm)										305 (167,132,6) / 8 C, I

Notes
1. Logic Cells = LUT4 × 1.2 effectiveness.
2. Each SERDES lane consists of a Tx and Rx complement pair. See datasheet for protocols supported.
3. ADC available in –8 and –9 speed grades. Each ADC has a dedicated differential pair of input pins and a VREF pin.
4. BBG package can support SerDes standards with data rate up to 6.25 Gbps.
5. BFG package can support SerDes standards with data rate up to 5.5 Gbps.

Temperature Grade
C - Commercial
I - Industrial
A - Automotive

CrossLink-NX Product & Package Table

Features		CrossLink-NX			CrossLinkU-NX
		LIFCL-17	LIFCL-33	LIFCL-40	LIFCL-33U
Logic	Logic Cells (kLC) [1]	17	33	39	33
	LUT4 (LUT)	14166	27500	32500	27500
Memory	EBR SRAM (kbits)	432	1152	1512	1152
	EBR LRAM (kbits)	2560	2560	1024	2560
	Distributed RAM (kbits)	108	220	252	220
DSP Blocks	18 x 18 Multipliers	24	64	56	64
High Speed Connectivity	PCIe Hard IP	--	--	Gen 2.0	--
	SERDES Max Speed (Gbps)	--	--	5	--
MIPI	Hardened 10 Gbps D-PHY Quads [2]	2	--	2	--
	Hardened 2.5 Gbps D-PHY Data Lanes (Total) [2]	8	--	8	--
USB	USB 2.0 / USB 3.2 Gen 1 Interface	--	--	--	1 / 1
Other Features	DDR Memory Support	DDR3/DDR3L, LPDDR2 (Up to 1066 Mbps)	--	DDR3/DDR3L, LPDDR2 (Up to 1066 Mbps)	--
	ADC Channels [3]	1	--	1	--
	Security	AES256 Bitstream Encryption, ECDSA Bitstream Authentication, SHA & HMAC Hashing, TRNG, AES128/256 Encryption			

Package (Type, Dimensions, Pitch)	Total I/O (Wide Range, High Performance, ADC) / (D-PHY Quads[4], SERDES Lane[5]) Temperature Grade			
UWG72 (WLCSP, 3.8 × 4.1 mm, 0.4 mm)	39 (15, 24, 0) / (1, 0) C, I			
USG84 (WLCSP, 3.1 × 7.3 mm, 0.5 mm)		60 (34, 26) C, I		44 (17, 27) C, I
MG121 (csfBGA, 6 × 6 mm, 0.5 mm)	71 (23, 48, 0) / (2, 0) C, I, A		71 (23, 48, 0) / (2, 0) C, I, A	
MG289 (csBGA, 9.5 × 9.5 mm, 0.5 mm)			179 (99, 74, 6) / (2, 1) C, I	
SG72 (QFN, 10 × 10 mm, 0.5 mm)	40 (18, 22, 0) / (1, 0) C, I		39 (17, 22, 0) / (1, 0) C, I	
CTG104 (FCCSP, 5.5 x 8.5 mm, 0.65 mm)				52 (20, 32) C, I
BG256 (caBGA, 14 × 14 mm, 0.8 mm)	77 (23, 48, 6) / (2, 0) C, I, A		162 (82, 74, 6) / (2, 1) C, I, A	
BG400 (caBGA, 17 × 17 mm, 0.8 mm)			191 (111, 74, 6) / (2, 1) C, I	

Notes
1. Logic Cells = LUT4 × 1.2 effectiveness.
2. Additional soft D-PHY Tx/Rx interfaces (at up to 1.5 Gbps per lane) are available using sysI/O.
3. ADC available in –8 and –9 speed grades. Each ADC has a dedicated differential pair of input pins and a VREF pin
4. Each D-PHY quad consists of 4 D-PHY data lanes.
5. Each SERDES lane consists of a Tx and Rx complement pair.

Temperature Grade
C - Commercial
I - Industrial
A - Automotive

MachXO5-NX Product & Package Table

Features		MachXO5-NX					MachXO5D-NX		MachXO5-NX TDQ		
		LFMXO5-25	LFMXO5-35/T	LFMXO5-55T	LFMXO5-65/T	LFMXO5-100T	LFMXO5-15D[1]	LFMXO5-55TD[1]	LFMXO5-20TDQ	LFMXO5-30TDQ	LFMXO5-55TDQ
Logic	Logic Cells (kLC) [2]	27	35	53	65	96	14	53	20	30	53
	LUT4 (LUT)	22500	29166	44166	54166	80000	11666	44166	16666	25000	44166
Memory	EBR SRAM (kbits)	1440	1890	2988	2304	3744	360	2988	756	828	1206
	EBR LRAM (kbits)	512	512	2,560	1024	3,584	512	2560	512	512	3072
	Distributed RAM (kbits)	184	260	320	300	639	112	320	122	190	248
DSP Blocks	18 x 18 Multipliers	20	48	146	128	156	16	110	48	48	93
High Speed Connectivity	PCIe Hard IP	--	Gen 2.0	Gen 2.0	Gen 2.0	Gen 2.0	--	Gen 2.0	Gen 2.0	Gen 2.0	Gen 2.0
	SERDES Max Speed (Gbps)	--	5	5	5	5	--	5	5	5	5
Flash Memory	User Flash Memory (kbits)[3]	15360	21504	79872	21504	79872	8160	14880	16320	16320	14880
Other Features	DDR Memory Support	DDR3, DDR3L (Up to 1066 Mbps)	DDR3, DDR3L (Up to 1066 Mbps)	DDR3, DDR3L, LPDDR4 (Up to 1066 Mbps)	DDR3, DDR3L (Up to 1066 Mbps)	DDR3, DDR3L, LPDDR4 (Up to 1066 Mbps)	DDR3, DDR3L (Up to 1066 Mbps)	DDR3, DDR3L, LPDDR4 (Up to 1066 Mbps)	DDR3, DDR3L (Up to 1066 Mbps)	DDR3, DDR3L (Up to 1066 Mbps)	DDR3, DDR3L, LPDDR4 (Up to 1066 Mbps)
	ADC Channels[4]	2	1	2	1	2	1	2	1	1	2
Security	Bitstream Authentication	ECDSA-256	ECDSA-256	ECDSA-256	ECDSA-256	ECDSA-256	ECDSA-384	ECDSA-384/521, RSA-3K/4K	ECDSA-384, XMSS/LMS[5]	ECDSA-384, XMSS/LMS[5]	ECDSA-384/521, XMSS/LMS, ML-DSA
	Highest Classic Crypto Services	AES-256, ECDSA-256, SHA/HMAC-256, TRNG	AES-256, ECDSA-256, SHA/HMAC-256, TRNG	AES-256, ECDSA-256, SHA/HMAC-256, TRNG	AES-256, ECDSA-256, SHA/HMAC-256, TRNG	AES-256, ECDSA-256, SHA/HMAC-256, TRNG	AES-256, ECDSA-384, SHA/HMAC-384, TRNG	AES-256, ECDSA-521, SHA/HMAC-512, TRNG	AES-256, ECDSA-384, SHA/HMAC-512, TRNG	AES-256, ECDSA-384, SHA/HMAC-512, TRNG	AES-256, ECDSA-521, SHA/HMAC-512, TRNG
	Highest PQC Crypto Services	--	--	--	--	--	--	--	XMSS/LMS[5]	XMSS/LMS[5]	XMSS/LMS, ML-DSA, ML-KEM

Package (Type, Dimensions, Pitch)	Total I/O (Wide Range, High Performance, ADC) / SERDES Lane Temperature Grade									
BBG256 (caBGA, 14 × 14 mm, 0.8 mm)	205 (159, 40, 6) C, I	195 (159, 30, 6) / 1 C, I		195 (159, 30, 6) / 1 C, I		205 (159, 40, 6) C, I		170 (134, 30, 6) / 1 C, I	170 (134, 30, 6) / 1 C, I	
BBG400 (caBGA, 17 × 17 mm, 0.8 mm)	305 (251, 48, 6) C, I	336 (282, 48, 6) C, I	297 (159, 132, 6) / 2 C, I	336 (282, 48, 6) C, I	297 (159, 132, 6) / 2 C, I	305 (251, 48, 6) C, I	297 (159, 132, 6) / 2 C, I	315 (261, 48, 6) C, I	315 (261, 48, 6) C, I	297 (159, 132, 6) / 2 C, I
BBG484 (caBGA, 19x19mm, 0.8 mm)		366 (330, 30, 6) / 6 C, I		366 (330, 30, 6) / 6 C, I				368 (314, 48, 6) / 1 C, I	368 (314, 48, 6) / 1 C, I	

Notes
1. Enhanced security devices in the MachXO5-NX family support up to 521-bit strength security.
2. Logic Cells = LUT4 × 1.2 effectiveness.
3. Without memory initialization
4. ADC available in –8 and –9 speed grades. Each ADC has a dedicated differential pair of input pins and a VREF pin.
5. PQC services available only in TDQ devices

Temperature Grade
C - Commercial
I - Industrial
A - Automotive

Certus-N2 Product & Package Table

Features		Certus-N2			
		LN2-CT06	LN2-CT10	LN2-CT16	LN2-CT20
Logic	System Logic Cells (kSLC)	65	100	160	220
	LUT4 (LUT)	40000	61000	98000	135000
Memory	EBR SRAM (Mbits)	4	5.5	8	12
	Distributed RAM (kbits)	416	636	1041	1272
DSP Blocks	18 x 18 Multipliers	120	240	360	520
High Speed Connectivity	PCIe Hard IP	Gen 4.0	Gen 4.0	Gen 4.0	Gen 4.0
	SERDES Max Speed (Gbps)	16	16	16	16
Other Features	DDR Memory Support	LPDDR4, DDR4 (Up to 2400 Mbps)			
	Security	Bitstream Encryption & Authentication			

Package[1] (Type, Dimensions, Pitch)	Total I/O (Wide Range, High Performance) / SERDES Lane Temperature Grade			
ASG273[2] (FOWLP, 9 × 9 mm, 0.5 mm)	112 (27, 85) / 4 C, I	112 (27, 85) / 4 C, I		
ASGA410[2] (FOWLP, 9 × 11 mm, 0.5 mm)			247[3] (94, 153) C, I	247[3] (94, 153) C, I
ASGA410[2] (FOWLP, 9 × 11 mm, 0.5 mm)			196 (43, 153) / 4 C, I	196 (43, 153) / 4 C, I
CBG256 (FCCSP, 14 × 14 mm, 0.8 mm)	153 (51, 102) / 2 C, I	153 (51, 102) / 2 C, I		
CBG484 (FCCSP, 18 × 18 mm, 0.8 mm)	196 (94, 102) / 4 C, I	196 (94, 102) / 4 C, I	247 (94, 153) / 4 C, I	247 (94, 153) / 4 C, I
LFG676 (fcBGA, 27 × 27 mm, 1.0 mm)			298 (43, 255) / 8 C, I	298 (43, 255) / 8 C, I

Notes
1. Refer to Ordering Information for more details.
2. Protocol Performance speeds met with LFG and CBG Packages. Other packages are limited to 10G.
3. Package option available in CT20E and CT16E only.

Temperature Grade
C - Commercial
I - Industrial
A - Automotive

Avant-E/G/X Product & Package Table

Features		Avant-E			Avant-G			Avant-X		
		LAV-AT-E30	LAV-AT-E50	LAV-AT-E70	LAV-AT-G30	LAV-AT-G50	LAV-AT-G70	LAV-AT-X30	LAV-AT-X50	LAV-AT-X70
Logic	System Logic Cells (kLC)	262	409	637	262	409	637	262	409	637
	LUT4 (LUT)	163000	255000	39700	163000	255000	39700	163000	255000	39700
Memory	EBR SRAM (Mbits)	14.4	22.7	35.6	14.4	22.7	35.6	14.4	22.7	35.6
	Distributed RAM (Mbits)	1.7	2.66	4.14	1.7	2.66	4.14	1.7	2.66	4.14
DSP Blocks	18 x 18 Multipliers	700	1120	1800	700	1120	1800	700	1120	1800
High Speed Connectivity	PCIe Hard IP	--	--	--	Gen 3.0	Gen 3.0	Gen 3.0	Gen 4.0	Gen 4.0	Gen 4.0
	SERDES Max Speed (Gbps)	--	--	--	12.5	12.5	12.5	25	25	25
Other Features	DDR Memory Support	LPDDR4/DDR4			LPDDR4/DDR4			LPDDR4/DDR4, DDR5 (Up to 2100 Mbps)		
	Security	--	--	--	Bitstream Encryption & Authentication			Bitstream Encryption & Authentication, User Security		

Package [1] (Type, Dimensions, Pitch)	Total I/O (Wide Range, High Performance) Temperature Grade			Total I/O (Wide Range, High Performance) / SERDES Lane Temperature Grade					
ASG410/ASGA410(FOWLP, 9 × 11 mm, 0.5 mm)	247 (94, 153) C, I								
ASG410[2] (FOWLP, 9 × 11 mm, 0.5 mm)				196 (43, 153) / 4 C, I			196 (43, 153) / 4 C, I		
CSG841 (FCCSP, 15 × 15 mm, 0.5 mm)		553 (94, 459) C, I	553 (94, 459) C, I						
CBG484 (FCCSP, 18 × 18 mm, 0.8 mm)	349 (94, 255) C, I	349 (94, 255) C, I	349 (94, 255) C, I						
LFG676[3] (fcBGA, 27 × 27 mm, 1.0 mm)			297 (42, 255) C, I	298 (43, 255) / 12 C, I	298 (43, 255) / 16 C, I	298 (43, 255) / 16 C, I	298 (43, 255) / 12 C, I	298 (43, 255) / 16 C, I	298 (43, 255) / 16 C, I
LFG1156[3] (fcBGA, 35 × 35 mm, 1.0 mm)			553 (94, 459) C, I			554 (95, 459) / 28 C, I			554 (95, 459) / 28 C, I

Notes
1. B variants only support limited package options. Refer to Ordering Information for more details.
2. SERDES performance is limited to 10G in this package.
3. Avant-E/G/X devices share the same WRIO and HPIO locations.

Temperature Grade
C - Commercial
I - Industrial
A - Automotive

Foundation Portfolio Density Migratable Group

Package	MachXO3L/LF						MachXO3D	
	LCMXO3L/LF-640	LCMXO3L/LF-1300	LCMXO3L/LF-2100	LCMXO3L/LF-4300	LCMXO3L/LF-6900	LCMXO3L/LF-9400	LCMXO3D-4300	LCMXO3D-9400
MG121	◆	◆	◆	◆				
MG132	◆	◆	◆	◆				
MG256		◆	◆	◆	◆	◆		
MG324			◆	◆	◆			
SG72							◆	◆
TG100	◆	◆	◆					
BG256		◆	◆	◆	◆	◆	◆	◆
BG324			◆	◆	◆			
BG400				◆	◆	◆		

Package	MachXO4					
	LFMXO4-010	LFMXO4-015	LFMXO4-025	LFMXO4-050	LFMXO4-080	LFMXO4-110
BSG132	◆	◆	◆	◆		
TSG100	◆	◆	◆			
TSG144	◆	◆	◆	◆		
BBG256		◆	◆	◆	◆	◆
BBG400				◆	◆	◆
BFG256		◆	◆	◆		

Nexus Portfolio Density Migratable Group

Package	Certus-NX (I/O Optimized)				Certus-NX (I/O Optimized)				CertusPro-NX	
	LFD2NX-9	LFD2NX-17	LFD2NX-28	LFD2NX-40	LFD2NX-15	LFD2NX-25	LFD2NX-35	LFD2NX-65	LFCPNX-50	LFCPNX-100
MG121	◆	◆	◆	◆						
ASG256									◆	◆
BG196	◆	◆	◆	◆						
BG256			◆	◆	◆	◆	◆	◆	◆	◆
BG400					◆	◆	◆	◆		
BG484							◆	◆	◆	◆
BFG484									◆	◆

Package	CrossLink-NX	
	LIFCL-17	LIFCL-40
MG121	◆	◆
SG72	◆	◆
BG256	◆	◆

Package	MachXO5-NX					MachXO5D-NX		MachXO5-NX TDQ		
	LFMXO5-25	LFMXO5-35/T	LFMXO5-55T	LFMXO5-65/T	LFMXO5-100T	LFMXO5-15D	LFMXO5-55TD	LFMXO5-20TDQ	LFMXO5-30TDQ	LFMXO5-55TDQ
BBG256		◆	◆	◆				◆	◆	
BBG400	◆	◆	◆	◆		◆		◆	◆	◆
BBG484		◆	◆	◆				◆	◆	

Nexus 2 Portfolio Density Migratable Group

Package	Certus-N2			
	LN2-CT06	LN2-CT10	LN2-CT16	LN2-CT20
ASG273	◆	◆		
ASGA410			◆	◆
ASGA410			◆	◆
CBG256	◆	◆		
CBG484	◆	◆	◆	◆
LFG676			◆	◆

Avant Portfolio Density Migratable Group

Package	Avant-E			Avant-G			Avant-X		
	LAV-AT-E30	LAV-AT-E50	LAV-AT-E70	LAV-AT-G30	LAV-AT-G50	LAV-AT-G70	LAV-AT-X30	LAV-AT-X50	LAV-AT-X70
CSG841		◆	◆						
CBG484	◆	◆	◆						
LFG676				◆	◆	◆	◆	◆	◆

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