



INTEL® AGILEX™ F-SERIES FPGA AND SOC FPGA PRODUCT TABLE

PRODUCT LINE		AGF 004	AGF 006	AGF 008	AGF 012	AGF 014	AGF 022	AGF 027
Resources	Logic elements (LEs)	392,000	573,480	764,640	1,200,000	1,437,240	2,200,000	2,692,760
	Adaptive logic modules (ALMs)	132,881	194,400	259,200	406,780	487,200	745,763	912,800
	ALM registers	531,525	777,600	1,036,800	1,627,119	1,948,800	2,983,051	3,651,200
	eSRAM memory blocks	0	0	0	2	2	0	0
	eSRAM memory size (Mb)	0	0	0	36	36	0	0
	M20K memory blocks	1,900	2,844	3,792	5,568	7,110	11,616	13,272
	M20K memory size (Mb)	38	56	74	110	139	210	259
	MLAB memory count	6644	9720	12960	20,338	24,360	32,788	45,640
	MLAB memory size (Mb)	4.3	6.2	8.3	13	15.6	21	29.2
	Variable-precision digital signal processing (DSP) blocks	1,640	1,640	2,296	4,000	4,510	6,250	8,736
18 x 19 multipliers	2,300	3,280	4,592	8,000	9,020	12,500	17,056	
Single-precision or half-precision floating point operations per second (TFLOPS)	1.7 / 3.4	2.5 / 5.0	3.5 / 6.9	6.0 / 12.0	7.0 / 13.9	9.4 / 18.8	11.8 / 23.6	
Maximum Available Device Resources	Maximum differential (RX or TX) pairs	192	192	288	384	384	384	384
	Memory devices supported	DDR4, QDR IV, RDRAM 3						
	Secure data manager	AES-256/SHA-256 bitstream encryption/authentication, physically unclonable function (PUF), ECDSA 256/384 boot code authentication, side channel attack protection						
	Hard processor system	Quad-core 64 bit Arm® Cortex®-A53 up to 1.5 GHz with 32 KB I/D cache, NEON® coprocessor, 1 MB L2 cache, direct memory access (DMA), system memory management unit, cache coherency unit, hard memory controllers, USB 2.0x2, 1G EMAC x3, UART x2, serial peripheral interface (SPI) x4, I2C x5, general purpose timers x7, watchdog timer x4						
F-Tile Device Resources	F-Tile PCI Express® (PCIe®) hard IP blocks (Gen4x16) or bifurcateable 2X PCIe Gen4 x8 (EP) or 4X Gen4 x4 (RP)	1	1	1	1	1	1	1
	F-Tile transceiver channel count PAM4 (up to 58 Gbps) - RS and KP forward error correction (FEC) Non-return-to-zero (NRZ) (up to 32 Gbps)	24x PAM-4 32x NRZ	24x PAM-4 32x NRZ	24x PAM-4 32x NRZ	24x PAM-4 32x NRZ	24x PAM-4 32x NRZ	48x PAM-4 64x NRZ	48x PAM-4 64x NRZ
	F-Tile 10/25/50/100/200/400G Ethernet MAC + FEC hard intellectual property (IP) blocks	2	2	2	2	2	4	4
E-Tile / P-Tile Device Resources	P-Tile PCIe hard IP blocks (Gen4x16) or bifurcateable 2X PCIe Gen4 x8 (EP) or 4X Gen4 x4 (RP)	-	-	1	1	1	1	1
	E-Tile transceiver channel count PAM4 (up to 57.8 Gbps) - RS and KP FEC NRZ (up to 28.9 Gbps)	-	-	12x PAM-4 24x NRZ	12x PAM-4 24x NRZ	12x PAM-4 24x NRZ	12x PAM-4 24x NRZ	12x PAM-4 24x NRZ
	E-Tile 100G Ethernet MAC + FEC hard IP blocks	-	-	4	4	4	4	4
GPIO (LVDS) / F-Tile 32 Gbps (56 Gbps)								
F-Tile - Package Options and I/O Pins	F894A (F-Tile x1) (29 mm x 29 mm, Hex 1.0 mm pitch)	384(192)/16(12)	384(192)/16(12)					
	R1681A (F-Tile x2) (46 mm x 35 mm, Hex 1.0 mm pitch)	384(192)/32(24)	384(192)/32(24)	384(192)/32(24)				
	R1957A (F-Tile x2) (50 mm x 37.5 mm, Hex 1.0 mm pitch)	384(192)/32(24)	384(192)/32(24)	576(288)/32(24)	576(288)/32(24)	576(288)/32(24)		
	R2280A (F-Tile x2) (50 mm x 42.5 mm, Hex 1.0 mm pitch)				768(384)/32(24)	768(384)/32(24)		
	R3343A (F-Tile x4) (59 mm x 53 mm, Hex 1.0 mm pitch)						768(384)/64(48)	768(384)/64(48)
GPIO (LVDS) / E-Tile 29 Gbps (58 Gbps) / P-Tile 16 Gbps PCIe								
E-Tile and P-Tile - Package Options and I/O Pins	R2068A (E-Tile + P-Tile) (52 mm x 37.5 mm, Hex 1.0 mm pitch)			576(288)/24(12)/16	576(288)/24(12)/16	576(288)/24(12)/16		
	R2486A (E-Tile + P-Tile) (55 mm x 42.5 mm, Hex 1.0 mm pitch)				768(384)/16(8)/16	768(384)/16(8)/16		
	R2486B (E-Tile + P-Tile) (55 mm x 42.5 mm, Hex 1.0 mm pitch)				768(384)/24(12)/16	768(384)/24(12)/16	768(384)/24(12)/16	768(384)/24(12)/16

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