

# Agilex

- The Agilex path provides significant growth opportunities for future expansion

Product Line	AGF 006	AGF 008	AGF 012	AGF 014	AGF 019	AGF 023	AGF 022	AGF 027	
Resources	Logic elements (LEs)	573,480	764,640	1,178,525	1,437,240	1,918,975	2,308,080	2,208,075	2,692,760
	Adaptive logic modules (ALMs)	194,400	259,200	399,500	487,200	650,500	782,400	748,500	912,800
	ALM registers	777,600	1,036,800	1,598,000	1,948,800	2,602,000	3,129,600	2,994,000	3,651,200
	High-performance crypto blocks	0	0	0	0	2	2	0	0
	eSRAM memory blocks	0	0	2	2	1	1	0	0
	eSRAM memory size (Mb)	0	0	36	36	18	18	0	0
	M20K memory blocks	2,844	3,792	5,900	7,110	8,500	10,464	10,900	13,272
	M20K memory size (Mb)	56	74	115	139	166	204	212	259
	MLAB memory count	9,720	12,960	19,975	24,360	32,525	39,120	37,425	45,640
	MLAB memory size (Mb)	6	8	12	15	20	24	23	28
	Fabric PLL	6	6	8	8	5	5	12	12
	I/O PLL	12	12	16	16	10	10	16	16
	Variable-precision digital signal processing (DSP) blocks	1,640	2,296	3,743	4,510	1,354	1,640	6,250	8,528
	18 x 19 multipliers	3,280	4,592	7,486	9,020	2,708	3,280	12,500	17,056
	Single-precision or half-precision floating point operations per second (TFLOPS)	2.5 / 5.0	3.5 / 6.9	6.0 / 12.0	6.8 / 13.6	2.0 / 4.0	2.5 / 5.0	9.4 / 18.8	12.8 / 25.6
Maximum Available Device Resources	Maximum EMIF x72 <sup>2</sup>	4	4	4	4	3	3	4	4
	Maximum differential (RX or TX) pairs	192	288	384	384	240	240	384	384
	Maximum AIB interfaces	2	2	2	2	4	4	4	4
	Memory devices supported	DDR4 and QDR IV							
	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 1.50 GHz with 32 KB L1/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							

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F-Tile - Package Options and I/O Pins								
GPIO (LVDS) / F-Tile 32G NRZ (58G PAM4)								
1546A (37.5 mm x 34 mm, 0.92 mm Hex)	384(192)/32(24)	384(192)/32(24)						
2340A (45 mm x 42 mm, 0.92 mm Hex)	576(288)/32(24)	576(288)/32(24)	744(372)/32(24)	744(372)/32(24)	480(240)/32(24)	480(240)/32(24)	744(372)/32(24)	744(372)/32(24)
3184C (56 mm x 45 mm, 0.92 mm Hex)					480(240)/64(48)	480(240)/64(48)	720(360)/64(48)	720(360)/64(48)