



INTEL® AGILEX™ I-SERIES SOC FPGA PRODUCT TABLE

PRODUCT LINE		AGI 022	AGI 027
Resources	Logic elements (LEs)	2,200,000	2,692,760
	Adaptive logic modules (ALMs)	745,763	912,800
	ALM registers	2,983,051	3,651,200
	eSRAM memory blocks	0	0
	eSRAM memory size (Mb)	0	0
	M20K memory blocks	11,616	13,272
	M20K memory size (Mb)	210	259
	MLAB memory count	32,788	45,640
	MLAB memory size (Mb)	21	29.2
	Variable-precision digital signal processing (DSP) blocks	6,250	8,736
18 x 19 multipliers	12,500	17,056	
Single-precision or half-precision tera floating point operations per second (TFLOPS)	9.4 / 18.8	11.8 / 23.6	
Maximum Available Device Resources	Maximum differential (RX or TX) pairs	552	552
	Memory devices supported	DDR4, QDR IV, RDRAM 3	
	Secure data manager	AES-256/SHA-256 bitstream encryption or 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	
R-Tile Device Resources	R-Tile PCI Express® (PCIe®) hard IP blocks (Gen5x16) or bifurcateable 2X PCIe Gen5 x8 (EP) or 4X Gen5 x4 (RP)	3	3
	Compute Express Link (CXL) lanes	48	48
F-Tile Device Resources	F-Tile PCIe hard IP blocks (Gen4x16) or bifurcateable 2X PCIe Gen4 x8 (EP) or 4X Gen4 x4 (RP)	3	3
	F-Tile high-speed transceiver channel count PAM4 (up to 112 Gbps) - RS and KP forward error correction (FEC) Non-return-to-zero (NRZ) (up to 56 Gbps)	8x PAM-4 8x NRZ	8x PAM-4 8x NRZ
	F-Tile general-purpose transceiver channels count PAM4 (up to 58 Gbps) - RS and KP FEC NRZ (up to 32 Gbps)	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

GPIO (LVDS) / F-Tile 32 Gbps (58 Gbps) / High-Speed Transceiver 58 Gbps (112 Gbps)

Package Options	R3343A (F-Tile x4) (59 mm x 53 mm, Hex 1.0 mm pitch)	768(384) / 64(48) / 8(8)	768(384) / 64(48) / 8(8)
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GPIO (LVDS) / F-Tile 32 Gbps (58 Gbps) / High-Speed Transceiver 58 Gbps (112 Gbps) / R-Tile 32 Gbps PCIe (CXL) Lanes

Package Options	R2979A (F-Tile and R-Tile x3) (57.5 mm x 49 mm, Hex 1.0 mm pitch)	768(384)/16(12)/0(0)/48(48)	768(384)/16(12)/0(0)/48(48)
Package Options	R3803A (F-Tile x3 and R-Tile) (60 mm x 59 mm, Hex 1.0 mm pitch)	1104(552)/48(36)/8(8)/16(16)	1104(552)/48(36)/8(8)/16(16)

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