

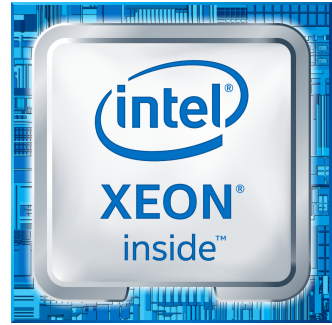
Intel Xeon E-2278GEL processor 2 GHz 16 MB

Brand : Intel

Product family: Xeon

Product code:
CM8068404311303

Product name : E-2278GEL



Intel Xeon E-2278GEL Processor (16MB Cache, up to 3.9 GHz)

Intel Xeon E-2278GEL. Processor family: Intel Xeon E, Processor socket: LGA 1151 (Socket H4), Processor lithography: 14 nm. Memory channels: Dual-channel, Maximum internal memory supported by processor: 128 GB, Memory types supported by processor: DDR4-SDRAM. On-board graphics card model: Intel® UHD Graphics 630, Maximum on-board graphics card memory: 128 GB, On-board graphics card outputs supported: Embedded DisplayPort (eDP), DisplayPort, HDMI, DVI. Market segment: Embedded, PCI Express configurations: 1x16, 2x8, 1x8+2x4, Supported instruction sets: SSE4.1, SSE4.2, AVX 2.0. Intel® Turbo Boost Technology 2.0 frequency: 3.9 GHz

Processor		Features	
Processor manufacturer *	Intel	Maximum number of PCI Express lanes	16
Processor model *	E-2278GEL	PCI Express slots version	3.0
Processor base frequency *	2 GHz	PCI Express configurations	1x16, 2x8, 1x8+2x4
Processor family *	Intel Xeon E	Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0
Processor cores *	8	Scalability	1S
Processor socket *	LGA 1151 (Socket H4)	CPU configuration (max)	1
Component for	Laptop	Embedded options available	✓
Processor lithography *	14 nm	PCI Express CEM revision	3.0
Processor threads	16	Export Control Classification Number (ECCN)	5A992C
System bus rate	8 GT/s	Commodity Classification Automated Tracking System (CCATS)	G077159
Processor operating modes *	64-bit	Processor special features	
Processor boost frequency	3.9 GHz	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Processor cache	16 MB	Intel® Turbo Boost Technology	2.0
Thermal Design Power (TDP)	35 W	Intel® Quick Sync Video Technology	✓
Box *	✗	Intel® InTru™ 3D Technology	✓
Cooler included *	✗	Intel® Clear Video HD Technology (Intel® CVT HD)	✓
Memory bandwidth supported by processor (max)	41.6 GB/s	Intel® AES New Instructions (Intel® AES-NI)	✓
Processor codename	Coffee Lake	Enhanced Intel SpeedStep Technology	✓
Processor ARK ID	195323	Intel Trusted Execution Technology	✓
Memory		Intel® Memory Protection Extensions (Intel® MPX)	✓
Maximum internal memory supported by processor	128 GB	Intel® Turbo Boost Technology 2.0 frequency	3.9 GHz
Memory types supported by processor	DDR4-SDRAM	Intel® Transactional Synchronization Extensions	✓
Memory clock speeds supported by processor	2666 MHz	Intel VT-x with Extended Page Tables (EPT)	✓
Memory channels *	Dual-channel	Intel® Secure Key	✓
ECC	✓	Intel TSX-NI	✓
Graphics		Intel® OS Guard	✓
On-board graphics card *	✓	Intel Clear Video Technology	✓
Discrete graphics card *	✗	Intel Software Guard Extensions (Intel SGX)	✓
On-board graphics card model *	Intel® UHD Graphics 630	Intel 64	✓
Maximum on-board graphics card memory	128 GB		
On-board graphics card outputs supported	Embedded DisplayPort (eDP), DisplayPort, HDMI, DVI		
On-board graphics card base frequency	350 MHz		
On-board graphics card dynamic frequency (max)	1200 MHz		

Graphics		Processor special features	
Number of displays supported (on-board graphics)	3	Intel Virtualization Technology (VT-x)	✓
On-board graphics card 4K support	✓	Intel Virtualization Technology for Directed I/O (VT-d)	✓
On-board graphics card DirectX version	12.0	Intel® Optane™ Memory Ready	✓
On-board graphics card OpenGL version	4.5	Intel® Boot Guard	✓
On-board graphics card maximum resolution (DisplayPort)	4096 x 2304 pixels	Intel® vPro™ Platform Eligibility	✓
On-board graphics card maximum resolution (eDP - Integrated Flat Panel)	4096 x 2304 pixels	Technical details	
On-board graphics card maximum resolution (HDMI)	4096 x 2160 pixels	Launch date	Q2'19
On-board graphics card refresh rate at maximum resolution (DisplayPort)	60 Hz	Maximum resolution & refresh rate (DisplayPort)	4096x2304@60Hz
On-board graphics card refresh rate at maximum resolution (eDP - Integrated Flat Panel)	60 Hz	Product type	Processor
On-board graphics card refresh rate at maximum resolution (HDMI)	30 Hz	Status	Launched
On-board graphics card ID	0x3E9A	Maximum memory	128 GB
Discrete graphics card model *	Not available	Supported memory types	DDR4-SDRAM
Features		Bus speed	8 GT/s
Execute Disable Bit	✓	Maximum graphics card memory	128 GB
Idle States	✓	Processor ID	0x3E9A
Thermal Monitoring Technologies	✓	Servicing status	Baseline Servicing
Market segment	Embedded	Logistics data	
		Harmonized System (HS) code	8542310001
		Weight & dimensions	
		Processor package size	37.5 x 37.5 mm
		Other features	
		Maximum internal memory	128 GB
		Graphics output	eDP/DP/HDMI/DVI

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