



Intel® Core™ i5-1345URE Processor

4.6 GHz, 12 MB

[Intel® Core™ i5-1345URE Processor \(4.6 GHz, 12 MB Intel® Smart Cache\)](#)

<u>Code Name</u>	Products formerly Raptor Lake
<u>Essentials</u>	
Product Collection	13th Generation Intel® Core™ i5 Processors
Vertical Segment	Embedded
Processor Number	i5-1345URE
Lithography	Intel 7
<u>CPU Specifications</u>	
Total Cores	10
# of Performance-cores	2
# of Efficient-cores	8
Total Threads	12
Max Turbo Frequency	4.60 GHz
Performance-core Max Turbo Frequency	4.60 GHz
Efficient-core Max Turbo Frequency	3.40 GHz
Processor Base Frequency	1.40 GHz
Cache	12 MB Intel® Smart Cache
Processor Base Power	15 W
TDP	15 W
Maximum Turbo Power	55 W
Minimum Assured Power	12 W
Intel® Deep Learning Boost (Intel® DL Boost) on CPU	
Minimum Assured Frequency	1.00 GHz
Maximum Assured Power	28 W
Maximum Assured Frequency	2.50 GHz
<u>Supplemental Information</u>	
Marketing Status	Launched
Launch Date	Q1'23
Embedded Options Available	Yes

Use Conditions	Industrial Extended Temp
Functional Safety (FuSa) Documentation Available	
<u>Memory Specifications</u>	
Max Memory Size (dependent on memory type)	96 GB
Memory Types	Up to DDR5 5200 MT/s Up to DDR4 3200 MT/s Up to LPDDR5/x 6400 MT/s Up to LPDDR4x 4267 MT/s
Max # of Memory Channels	2
ECC Memory Supported ‡	Yes
<u>GPU Specifications</u>	
GPU Name‡	Intel® Iris® Xe Graphics eligible
Graphics Max Dynamic Frequency	1.25 GHz
Graphics Output	eDP 1.4b DP 1.4a HDMI 2.1
Execution Units	80
Max Resolution (HDMI)‡	4096 x 2304 @ 60Hz
Max Resolution (DP)‡	7680 x 4320 @ 60Hz
Max Resolution (eDP - Integrated Flat Panel)‡	4096 x 2304 @ 120Hz
DirectX* Support	12.1
OpenGL* Support	4.6
OpenCL* Support	3
Multi-Format Codec Engines	2
Intel® Quick Sync Video	Yes
# of Displays Supported ‡	4
Device ID	0xA7A1
<u>Expansion Options</u>	
Max # of PCI Express Lanes	20
Intel® Thunderbolt™ 4	Yes
Microprocessor PCIe Revision	Gen 4
Chipset / PCH PCIe Revision	Gen 3
<u>Package Specifications</u>	
Sockets Supported	FCBGA1744
Max CPU Configuration	1
TJUNCTION	100°C
Package Size	50mm x25mm

Max Operating Temperature	100 °C
<u>Advanced Technologies</u>	
Intel® Time Coordinated Computing (Intel® TCC)‡	Yes
Intel® Volume Management Device (VMD)	Yes
Intel® Gaussian & Neural Accelerator	3
Intel® Thread Director	Yes
Intel® Deep Learning Boost (Intel® DL Boost) on CPU	Yes
Intel® Speed Shift Technology	Yes
Intel® Hyper-Threading Technology ‡	Yes
Instruction Set	64-bit
Instruction Set Extensions	Intel® SSE4.1 Intel® SSE4.2 Intel® AVX2
Thermal Monitoring Technologies	Yes
Intel® Image Processing Unit	6
Intel® Smart Sound Technology	Yes
Intel® Wake on Voice	Yes
Intel® High Definition Audio	Yes
MIPI SoundWire*	1.2
Intel® Flex Memory Access	Yes
<u>Security & Reliability</u>	
Intel vPro® Eligibility ‡	Intel vPro® Enterprise
Intel® Hardware Shield Eligibility ‡	Yes
Intel® Threat Detection Technology (TDT)	Yes
Intel® Active Management Technology (AMT) ‡	Yes
Intel® Standard Manageability (ISM) ‡	Yes
Intel® Remote Platform Erase (RPE) ‡	Yes
Intel® One-Click Recovery ‡	Yes
Intel® Control-Flow Enforcement Technology	Yes
Intel® Total Memory Encryption	Yes
Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology ‡	Yes
Execute Disable Bit ‡	Yes
Intel® Boot Guard	Yes
Mode-based Execute Control (MBEC)	Yes
Intel® Stable IT Platform Program (SIPP)	Yes

Intel® Virtualization Technology with Redirect Protection (VT-rp) ‡	Yes
Intel® Virtualization Technology (VT-x) ‡	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡	Yes
Intel® Total Memory Encryption - Multi Key	Yes
Discrete Graphics	-
# of Displays Supported‡	-
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