

Snapdragon X2 Elite

A legendary leap in performance



Unleash your masterpiece with ultra-premium performance, multi-day battery life, and blazing AI processing power.

Comparison table

Snapdragon® X2 Elite Platforms			Qualcomm Oryon™ CPU						Qualcomm® Adreno™ GPU		Qualcomm® Hexagon™ NPU	Memory	
Platform	Part Number	Total Cores	Prime Core			Performance Core		Total Cache	Part Number	Max Frequency	TOPS	Type	Bandwidth
			Core Count	Max Multi-Core Frequency	Boost Frequency	Core Count	Max Multi-Core Frequency						
Snapdragon® X2 Elite Extreme	X2E-96-100	18	12	4.4 GHz	5.0 GHz Single-Core / 5.0 GHz Dual-Core	6	3.6 GHz	53MB	X2-90	1.85 GHz	80	LPDDR5x	228 GB/s
Snapdragon® X2 Elite Extreme	X2E-94-100	18	12	4.4 GHz	4.7 GHz Single-Core / 4.7 GHz Dual-Core	6	3.6 GHz	53MB	X2-90	1.85 GHz	80	LPDDR5x	228 GB/s
Snapdragon® X2 Elite	X2E-90-100	18	12	4.0 GHz	5.0 GHz Single-Core / 5.0 GHz Dual-Core	6	3.4 GHz	53MB	X2-90	1.70 GHz	85	LPDDR5x	152 GB/s
Snapdragon® X2 Elite	X2E-88-100	18	12	4.0 GHz	4.7 GHz Single-Core / 4.7 GHz Dual-Core	6	3.4 GHz	53MB	X2-90	1.70 GHz	80	LPDDR5x	152 GB/s
Snapdragon® X2 Elite	X2E-84-100	12	6	4.0 GHz	4.7 GHz Single-Core / 4.7 GHz Dual-Core	6	3.4 GHz	34MB	X2-85	1.70 GHz	85	LPDDR5x	152 GB/s
Snapdragon® X2 Elite	X2E-80-100	12	6	4.0 GHz	4.7 GHz Single-Core / 4.4 GHz Dual-Core	6	3.4 GHz	34MB	X2-85	1.70 GHz	80	LPDDR5x	152 GB/s
Snapdragon® X2 Elite	X2E-78-100	12	6	4.0 GHz	4.0 GHz Single-Core / 4.0 GHz Dual-Core	6	3.4 GHz	34MB	X2-85	1.35 GHz	80	LPDDR5x	152 GB/s

Performance

Snapdragon X2 Elite sets a new bar for groundbreaking performance, expanded memory cache, and graphics performance per watt for maximum productivity and speed.

- Best-in-class Qualcomm Oryon™ CPU up to 18 cores for the fastest and most power-efficient performance at up to 5.0 GHz frequency
- Up to 1.85 GHz GPU
- Multitasking across up to three 5K 60Hz monitors



Battery life

Experience multi-day battery life without compromising performance. Play and work longer with leading power efficiency.

- Multi-day battery life
- Truly mobile PC with sustained performance when on battery
- Optimized power consumption spreads workloads across the CPU, GPU, and NPU

AI

Snapdragon X2 Elite powers the most intelligent PCs with the industry-leading Qualcomm Hexagon™ NPU. Built to run multiple intelligent experience concurrently with faster responsiveness and reduced latency.

- Featuring up to 80 TOPS of AI processing
- AI acceleration for media editing, multimodal content generation, and agentic AI
- 64-bit NPU architecture with increased memory access to the latest AI models
- Powers Copilot+ PCs for the fastest, most intelligent Windows PCs

Security

Protect your data from the moment you turn on your device. Advanced security features ensure a secure and reliable computing experience wherever you go.

- State-of-the-art security from chip to cloud powered by the Qualcomm SPU that supports Microsoft Pluton
- Snapdragon® Guardian Technology for remote manageability
- Automatic presence detection & biometric authentication

Connectivity

Snapdragon X2 Elite delivers fast, intelligent connections with the latest in 5G, Wi-Fi 7, and Bluetooth® technologies.

- Lightning-fast 5G for up to 10 Gbps peak speeds
- Wi-Fi 7 with High Band Simultaneous for peak speeds of 5.8 Gbps
- Dual Bluetooth with Snapdragon Sound support

Specs and features



Name	Brand	Snapdragon® X2 Elite Extreme	Snapdragon® X2 Elite Extreme	Snapdragon® X2 Elite
	Part Number	X2E-96-100	X2E-94-100	X2E-90-100
3rd Gen Qualcomm Oryon™ CPU	Architecture	ARM64-Compatible	ARM64-Compatible	ARM64-Compatible
	Total Cores	18	18	18
	Prime Cores	12	12	12
	Multi-Core Max Frequency	4.4 GHz	4.4 GHz	4.0 GHz
	Boost Frequency	5.0 GHz Single-Core / 5.0 GHz Dual-Core	4.7 GHz Single-Core / 4.7 GHz Dual-Core	5.0 GHz Single-Core / 5.0 GHz Dual-Core
	Performance Cores	6	6	6
	Multi-Core Max Frequency	3.6 GHz	3.6 GHz	3.4 GHz
	Total Cache	53 MB	53 MB	53 MB
	Qualcomm® Adreno™ GPU	GPU Part Numbers	X2-90	X2-90
Max Frequency		1.85 GHz	1.85 GHz	1.70 GHz
API Support		DirectX 12.2 Ultimate, Vulkan 1.4, OpenCL 3.0	DirectX 12.2 Ultimate, Vulkan 1.4, OpenCL 3.0	DirectX 12.2 Ultimate, Vulkan 1.4, OpenCL 3.0
Qualcomm® Hexagon™ NPU	TOPS (INT8)	80	80	85
	Micro NPU	Dual Micro NPU on the Qualcomm® Sensing Hub	Dual Micro NPU on the Qualcomm® Sensing Hub	Dual Micro NPU on the Qualcomm® Sensing Hub
Memory	Memory Type	LPDDR5x	LPDDR5x	LPDDR5x
	Max Capacity	128+ GB	128+ GB	128 GB
	Configured Capacity	48 GB	Device-Specific	Device-Specific
	Transfer Rate	9523 MT/s	9523 MT/s	9523 MT/s
	Bus Width	192-bit	192-bit	128-bit
	Bandwidth	228 GB/s	228 GB/s	152 GB/s
Process	Process Node	3nm	3nm	3nm
Storage	NVMe	Supported via Dual PCIe 5.0	Supported via Dual PCIe 5.0	Supported via Dual PCIe 5.0
	UFS Version	4.0	4.0	4.0
	SD Standard	SDUC with SD Express SDXC with UHS-I	SDUC with SD Express SDXC with UHS-I	SDUC with SD Express SDXC with UHS-I
Display	Display Processing Unit Name	Qualcomm® Adreno™ DPU	Qualcomm® Adreno™ DPU	Qualcomm® Adreno™ DPU
	On-Device Display Standard	Embedded DisplayPort (eDP) 1.5	Embedded DisplayPort (eDP) 1.5	Embedded DisplayPort (eDP) 1.5
	Max. On-Device Display Resolution	4K at 144 Hz	4K at 144 Hz	4K at 144 Hz
	External Display Standard	Display Port 1.4	Display Port 1.4	Display Port 1.4
	Max. External Display Resolution	3 displays at up to 4K at 144 Hz or 5K at 60 Hz	3 displays at up to 4K at 144 Hz or 5K at 60 Hz	3 displays at up to 4K at 144 Hz or 5K at 60 Hz
Qualcomm® Adreno™ VPU	Encode	HEVC, AVC: Dual 8K UHD at 30 FPS AV1: 8K UHD at 15 FPS, UHD at 60 FPS	HEVC, AVC: Dual 8K UHD at 30 FPS AV1: 8K UHD at 15 FPS, UHD at 60 FPS	HEVC, AVC: Dual 8K UHD at 30 FPS AV1: 8K UHD at 15 FPS, UHD at 60 FPS
	Decode	AV1, HEVC, AVC: Dual 8K at 60 FPS	AV1, HEVC, AVC: Dual 8K at 60 FPS	AV1, HEVC, AVC: Dual 8K at 60 FPS
	Concurrency	8K UHD at 30 FPS Encode + 8K at 60 FPS Decode	8K UHD at 30 FPS Encode + 8K at 60 FPS Decode	8K UHD at 30 FPS Encode + 8K at 60 FPS Decode
Camera	Image Signal Processor Name	Qualcomm Spectra™ ISP	Qualcomm Spectra™ ISP	Qualcomm Spectra™ ISP
	ISP Bit Width	Dual 18-bit ISPs	Dual 18-bit ISPs	Dual 18-bit ISPs
	Always Sensing	Supported	Supported	Supported
	Dual Camera	Up to 36 MP	Up to 36 MP	Up to 36 MP
	Single Camera	Up to 36 MP	Up to 36 MP	Up to 36 MP
Video Capture	Up to 4K, 30 FPS	Up to 4K, 30 FPS	Up to 4K, 30 FPS	
Audio	Audio Technology	Qualcomm Aqstic™ Audio Codec, Qualcomm® aptX™ Audio Technology	Qualcomm Aqstic™ Audio Codec, Qualcomm® aptX™ Audio Technology	Qualcomm Aqstic™ Audio Codec, Qualcomm® aptX™ Audio Technology
Manageability	Out-of-Band Management via Cellular & Wi-Fi	Snapdragon® Guardian Technology	Snapdragon® Guardian Technology	Snapdragon® Guardian Technology
Cellular Modern-RF	Latest Supported System	Snapdragon® X75 5G Modem-RF System	Snapdragon® X75 5G Modem-RF System	Snapdragon® X75 5G Modem-RF System
	Peak Download Speed	Up to 10 Gbps	Up to 10 Gbps	Up to 10 Gbps
	Peak Upload Speed	Up to 3.5 Gbps	Up to 3.5 Gbps	Up to 3.5 Gbps
	Bandwidth	Up to 1000 MHz (5G)	Up to 1000 MHz (5G)	Up to 1000 MHz (5G)
	Interface	M.2 PCIe 3.0	M.2 PCIe 3.0	M.2 PCIe 3.0
Wi-Fi/ Bluetooth	Latest Supported System	Qualcomm® FastConnect™ 7800 System	Qualcomm® FastConnect™ 7800 System	Qualcomm® FastConnect™ 7800 System
	Generations	Up to Wi-Fi 7 (802.11be), 802.11ax, 802.11be, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a	Up to Wi-Fi 7 (802.11be), 802.11ax, 802.11be, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a	Up to Wi-Fi 7 (802.11be), 802.11ax, 802.11be, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a
	Bands	6 GHz, 5 GHz, 2.4 GHz	6 GHz, 5 GHz, 2.4 GHz	6 GHz, 5 GHz, 2.4 GHz
	Bluetooth Specification Version	Bluetooth 5.4	Bluetooth 5.4	Bluetooth 5.4
	Bluetooth Connection Technology	Bluetooth LE	Bluetooth LE	Bluetooth LE
	Interface	M.2 PCIe 3.0	M.2 PCIe 3.0	M.2 PCIe 3.0
USB	USB Specification Version	USB4 (40 Gbps)	USB4 (40 Gbps)	USB4 (40 Gbps)
	Interface Type	3x USB-C	3x USB-C	3x USB-C
PCIe	PCIe Gen 5.0 Lanes	12	12	12
	PCIe Gen 4.0 Lanes	4	4	4

Specs and features



Name	Brand	Snapdragon® X2 Elite	Snapdragon® X2 Elite	Snapdragon® X2 Elite	Snapdragon® X2 Elite
	Part Number	X2E-88-100	X2E-84-100	X2E-80-100	X2E-78-100
3rd Gen Qualcomm Oryon™ CPU	Architecture	ARM64-Compatible	ARM64-Compatible	ARM64-Compatible	ARM64-Compatible
	Total Cores	18	12	12	12
	Prime Cores	12	6	6	6
	Multi-Core Max Frequency	4.0 GHz	4.0 GHz	4.0 GHz	4.0 GHz
	Boost Frequency	4.7 GHz Single-Core / 4.7 GHz Dual-Core	4.7 GHz Single-Core / 4.7 GHz Dual-Core	4.7 GHz Single-Core / 4.4 GHz Dual-Core	4.0 GHz Single-Core / 4.0 GHz Dual-Core
	Performance Cores	6	6	6	6
	Multi-Core Max Frequency	3.4 GHz	3.4 GHz	3.4 GHz	3.4 GHz
	Total Cache	53 MB	34 MB	34 MB	34 MB
Qualcomm® Adreno™ GPU	GPU Part Numbers	X2-90	X2-85	X2-85	X2-85
	Max Frequency	1.70 GHz	1.70 GHz	1.70 GHz	1.35 GHz
	API Support	DirectX 12.2 Ultimate, Vulkan 1.4, OpenCL 3.0	DirectX 12.2 Ultimate, Vulkan 1.4, OpenCL 3.0	DirectX 12.2 Ultimate, Vulkan 1.4, OpenCL 3.0	DirectX 12.2 Ultimate, Vulkan 1.4, OpenCL 3.0
Qualcomm® Hexagon™ NPU	TOPS (INT8)	80	85	80	80
	Micro NPU	Dual Micro NPU on the Qualcomm® Sensing Hub	Dual Micro NPU on the Qualcomm® Sensing Hub	Dual Micro NPU on the Qualcomm® Sensing Hub	Dual Micro NPU on the Qualcomm® Sensing Hub
Memory	Memory Type	LPDDR5x	LPDDR5x	LPDDR5x	LPDDR5x
	Max Capacity	128 GB	128 GB	128 GB	128 GB
	Configured Capacity	Device-Specific	Device-Specific	Device-Specific	Device-Specific
	Transfer Rate	9523 MT/s	9523 MT/s	9523 MT/s	9523 MT/s
	Bus Width	128-bit	128-bit	128-bit	128-bit
	Bandwidth	152 GB/s	152 GB/s	152 GB/s	152 GB/s
Process	Process Node	3nm	3nm	3nm	3nm
Storage	NVMe	Supported via Dual PCIe 5.0	Supported via Dual PCIe 5.0	Supported via Dual PCIe 5.0	Supported via Dual PCIe 5.0
	UFS Version	4.0	4.0	4.0	4.0
	SD Standard	SDUC with SD Express SDXC with UHS-I	SDUC with SD Express SDXC with UHS-I	SDUC with SD Express SDXC with UHS-I	SDUC with SD Express SDXC with UHS-I
Display	Display Processing Unit Name	Qualcomm® Adreno™ DPU	Qualcomm® Adreno™ DPU	Qualcomm® Adreno™ DPU	Qualcomm® Adreno™ DPU
	On-Device Display Standard	Embedded Display-Port (eDP) 1.5	Embedded Display-Port (eDP) 1.5	Embedded Display-Port (eDP) 1.5	Embedded DisplayPort (eDP) 1.5
	Max. On-Device Display Resolution	4K at 144 Hz	4K at 144 Hz	4K at 144 Hz	4K at 144 Hz
	External Display Standard	Display Port 1.4	Display Port 1.4	Display Port 1.4	Display Port 1.4
	Max. External Display Resolution	3 displays at up to 4K at 144 Hz or 5K at 60 Hz	3 displays at up to 4K at 144 Hz or 5K at 60 Hz	3 displays at up to 4K at 144 Hz or 5K at 60 Hz	3 displays at up to 4K at 144 Hz or 5K at 60 Hz
Qualcomm® Adreno™ VPU	Encode	HEVC, AVC: Dual 8K UHD at 30 FPS AV1: 8K UHD at 15 FPS, UHD at 60 FPS	HEVC, AVC: Dual 8K UHD at 30 FPS AV1: 8K UHD at 15 FPS, UHD at 60 FPS	HEVC, AVC: 8K UHD at 30 FPS AV1: 8K UHD at 15 FPS, UHD at 60 FPS	HEVC, AVC: 8K UHD at 30 FPS AV1: 8K UHD at 15 FPS, UHD at 60 FPS
	Decode	AV1, HEVC, AVC: Dual 8K at 60 FPS	AV1, HEVC, AVC: Dual 8K/UHD at 60 FPS	AV1, HEVC, AVC: 8K at 60 FPS	AV1, HEVC, AVC: 8K at 60 FPS
	Concurrency	8K UHD at 30 FPS Encode + 8K at 60 FPS Decode	8K at 30 FPS Encode + 8K at 60 FPS Decode	UHD at 60 FPS Encode + 8K at 30 FPS Decode	UHD at 60 FPS Encode + 8K at 30 FPS Decode
Camera	Image Signal Processor Name	Qualcomm Spectra™ ISP	Qualcomm Spectra™ ISP	Qualcomm Spectra™ ISP	Qualcomm Spectra™ ISP
	ISP Bit Width	Dual 18-bit ISPs	Dual 18-bit ISPs	Dual 18-bit ISPs	Dual 18-bit ISPs
	Always Sensing	Supported	Supported	Supported	Supported
	Dual Camera	Up to 36 MP	Up to 36 MP	Up to 36 MP	Up to 36 MP
	Single Camera	Up to 36 MP	Up to 64 MP	Up to 36 MP	Up to 36 MP
	Video Capture	Up to 4K, 30 FPS	Up to 4K, 30 FPS, 10-bit HDR	Up to 4K, 30 FPS	Up to 4K, 30 FPS
Audio	Audio Technology	Qualcomm Aqstic™ Audio Codec, Qualcomm® aptX™ Audio Technology	Qualcomm Aqstic™ Audio Codec, Qualcomm® aptX™ Audio Technology	Qualcomm Aqstic™ Audio Codec, Qualcomm® aptX™ Audio Technology	Qualcomm Aqstic™ Audio Codec, Qualcomm® aptX™ Audio Technology
Manageability	Out-of-Band Management via Cellular & Wi-Fi	Snapdragon® Guardian Technology	Snapdragon® Guardian Technology	Snapdragon® Guardian Technology	Snapdragon® Guardian Technology
Cellular Modern-RF	Latest Supported System	Snapdragon® X75 5G Modem-RF System	Snapdragon® X75 5G Modem-RF System	Snapdragon® X75 5G Modem-RF System	Snapdragon® X75 5G Modem-RF System
	Peak Download Speed	Up to 10 Gbps	Up to 10 Gbps	Up to 10 Gbps	Up to 10 Gbps
	Peak Upload Speed	Up to 3.5 Gbps	Up to 3.5 Gbps	Up to 3.5 Gbps	Up to 3.5 Gbps
	Bandwidth	Up to 1000 MHz (5G)	Up to 1000 MHz (5G)	Up to 1000 MHz (5G)	Up to 1000 MHz (5G)
	Interface	M.2 PCIe 3.0	M.2 PCIe 3.0	M.2 PCIe 3.0	M.2 PCIe 3.0
Wi-Fi/Bluetooth	Latest Supported System	Qualcomm® FastConnect™ 7800 System	Qualcomm® FastConnect™ 7800 System	Qualcomm® FastConnect™ 7800 System	Qualcomm® FastConnect™ 7800 System
	Generations	Up to Wi-Fi 7 (802.11be), 802.11ax, 802.11be, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a	Up to Wi-Fi 7 (802.11be), 802.11ax, 802.11be, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a	Up to Wi-Fi 7 (802.11be), 802.11ax, 802.11be, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a	Up to Wi-Fi 7 (802.11be), 802.11ax, 802.11be, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a
	Bands	6 GHz, 5 GHz, 2.4 GHz	6 GHz, 5 GHz, 2.4 GHz	6 GHz, 5 GHz, 2.4 GHz	6 GHz, 5 GHz, 2.4 GHz
	Bluetooth Specification Version	Bluetooth 5.4	Bluetooth 5.4	Bluetooth 5.4	Bluetooth 5.4
	Bluetooth Connection Technology	Bluetooth LE	Bluetooth LE	Bluetooth LE	Bluetooth LE
	Interface	M.2 PCIe 3.0	M.2 PCIe 3.0	M.2 PCIe 3.0	M.2 PCIe 3.0
USB	USB Specification Version	USB4 (40 Gbps)	USB4 (40 Gbps)	USB4 (40 Gbps)	USB4 (40 Gbps)
	Interface Type	3x USB-C	3x USB-C	3x USB-C	3x USB-C
PCIe	PCIe Gen 5.0 Lanes	12	8	8	8
	PCIe Gen 4.0 Lanes	4	4	4	4