

MediaTek Genio

		Genio 350 (MT8365)	Genio 510 (MT8370) (Pin compatible with Genio 700)	Genio 700 (MT8390) (Pin compatible with Genio 510)	Genio 1200 (MT8395)	Genio 520 (MT8371) (Pin compatible with Genio 720)	Genio 720 (MT8391) (Pin compatible with Genio 520)
Process	Process	14nm	6nm	6nm	6nm	6nm	6nm
Processor	Processor (CPU)	4x Arm Cortex-A53 2.0GHz	2x Arm Cortex-A78 2.0GHz 4x Arm Cortex-A55 2.0GHz	2x Arm Cortex-A78 2.2GHz 6x Arm Cortex-A55 2.0GHz	4x Arm Cortex-A78 2.2GHz 4x Arm Cortex-A55 2.0GHz	2x Arm Cortex-A78 2.0~2.2GHz 6x Arm Cortex-A55 1.8~2.0GHz	2x Arm Cortex-A78 2.4~2.6GHz 6x Arm Cortex-A55 2.0GHz
	Graphics Processor (GPU)	Arm Mali-G52 800MHz	Arm Mali-G57 MC2 950MHz	Arm Mali-G57 MC3 950MHz	Arm Mali-G57 MC5 880MHz	Arm Mali-G57 MC2 880MHz	Arm Mali-G57 MC2 1.1GHz
		OpenGL ES 3.2 Vulkan 1.1 OpenCL 2.0	OpenGL ES 3.2 Vulkan 1.1 OpenCL 2.2	OpenGL ES 3.2 Vulkan 1.1 OpenCL 2.2	OpenGL ES 3.2 Vulkan 1.1 OpenCL 2.2	OpenGL ES 3.2 Vulkan 1.1 OpenCL 2.2	OpenGL ES 3.2 Vulkan 1.1 OpenCL 2.2
		0.35 TOPS (1x Tensilica VP6)	MediaTek 5 th Gen NPU 3.2 TOPS (1x MDLA3.0 + 1x Tensilica VP6)	MediaTek 5 th Gen NPU 4.0 TOPS (1x MDLA3.0 + 1x Tensilica VP6)	MediaTek 3 rd Gen NPU 4.8 TOPS (2x MDLA2.0 + 2x Tensilica VP6)	MediaTek 8 th Gen NPU 9 TOPS (1x MDLA5.3, GenAI)	MediaTek 8 th Gen NPU 9 TOPS (1x MDLA5.3, GenAI)
	Audio DSP	Tensilica HiFi 4	Tensilica HiFi 5	Tensilica HiFi 5	Tensilica HiFi 4	N/A	N/A
Memory and Storage	Memory and Type	x32 LP3-1600 (up to 4GB) x32 LP4X-3200 (up to 4GB)	x32 LP4X-3733 (up to 8GB) x64 LP4X-3733 (up to 8GB)	x32 LP4X-3733 (up to 8GB) x64 LP4X-3733 (up to 8GB)	x64 LP4X-4266 (up to 16GB)	x32 LP4X-4266 (up to 8GB) x32 LP5(X)-6400 (up to 16GB)	x32 LP4X-4266 (up to 8GB) x32 LP5(X)-6400 (up to 16GB)
	Storage Type	eMMC 5.1 SD 3.0 SPI-NAND	eMMC 5.1 SD 3.0 SPI-NOR	eMMC 5.1 SD 3.0 SPI-NOR	eMMC 5.1 UFS 2.1 (1L) SD 3.0 SPI-NOR	eMMC5.1 UFS3.1 (2L) SD 3.0 SPI-NOR	eMMC5.1 UFS3.1 (2L) SD 3.0 SPI-NOR
Multimedia	Display Interface	1x MIPI-DSI (4L, 1.2Gbps/L) 1x DPI / 1x LVDS	2x MIPI-DSI (4L, 1.2Gbps/L) 1x eDP 1.2 (2L) 1x DP 1.4 (4L) 1x HDMI 2.0	2x MIPI-DSI (4L, 1.2Gbps/L) 1x eDP 1.2 (2L) 1x DP 1.4 (4L) 1x HDMI 2.0	2x MIPI-DSI (4L, 1.2Gbps/L) 1x eDP 1.4 (4L) 1x DP 1.4 (4L) 1x HDMI 2.0	1x MIPI-DSI (4L, 2.5Gbps/L) / LVDS 1x eDP1.4 (4L) 1x DP1.4/eDP1.2 (4L) (shared w/ USB 3.2)	1x MIPI-DSI (4L, 2.5Gbps/L) / LVDS 1x eDP1.4 (4L) 1x DP1.4/eDP1.2 (4L) (shared w/ USB 3.2)
	Display Controller	Dual Display, Max FHD+HD Single Display, Max FHD (Support PQ)	Dual Display, Max. 4K60+4K30 Single Display, Max. 4K60 (Support PQ/HDR10/HDR10+/HLG)	Dual Display, Max. 4K60+4K30 Single Display, Max. 4K60 (Support PQ/HDR10/HDR10+/HLG)	Triple Display, Max. 4K60+4K30+4K30 Dual Display, Max. 4K60+4K60 Single Display, Max. 4K60 (Support PQ/HDR10/HDR10+/HLG)	Dual Display, Max. 2.5K60+2.5K60 Single Display, Max. UW5K60 or 4K60 (Support PQ)	Dual Display, Max. 2.5K60+2.5K60 Single Display, Max. UW5K60 or 4K60 (Support PQ)
	Video-in Interface	2x MIPI CSI-2 (4L, 1.5 Gbps/L) (Virtual Channel: 4x)	2x MIPI CSI-2 (4L) (Virtual Channel: 8x FHD30)	2x MIPI CSI-2 (4L) (Virtual Channel: 8x FHD30)	3x MIPI-CSI (4L) (Virtual channel: 6x FHD30) HDMI-RX	2x MIPI-CSI (4L) (Virtual channel: 6x FHD30)	2x MIPI-CSI (4L) (Virtual channel: 6x FHD30)
	Image Signal Processor	1x ISP Single camera: 13MP @ 30fps (3A, NR, AI-FD, LSC, Warp Engine)	2x ISP Single camera: 32MP @ 30fps Dual camera: 16MP + 16MP @ 30fps (3A, NR, AI-FD, LSC, HDR, Warp Engine)	2x ISP Single camera: 32MP @ 30fps Dual camera: 16MP + 16MP @ 30fps (3A, NR, AI-FD, LSC, HDR, Warp Engine)	2x ISP Single camera: 48MP @ 30fps Dual camera: 16MP+16MP @ 30fps (3A, NR, AI-FD, LSC, HDR, Warp Engine)	1x ISP Single camera: 16MP @ 30fps (3A, NR, AI-FD, LSC, Warp Engine)	2x ISP Single camera: 32MP @ 30fps Dual camera: 16MP + 16MP @ 30fps (3A, NR, AI-FD, LSC, Warp Engine)
	Video Decode	H.264/H.265 (FHD60) MPEG4 (FHD60)	H.264/H.265/VP9/AV1 (4K60) MPEG4/VP8 (FHD60)	H.264/H.265/VP9/AV1 (4K75) MPEG4/VP8 (FHD60)	H.264/H.265/VP9/AV1 (4K90) MPEG4/VP8 (FHD60)	H.264/H.265/VP9 (4K60) MPEG4/VP8 (FHD60)	H.264/H.265/VP9 (4K60) MPEG4/VP8 (FHD60)
	Video Encode	H.264/H.265 (FHD60)	H.264/H.265 (4K30)	H.264/H.265 (4K30)	H.264/H.265 (4K60)	H.264/H.265 (4K30)	H.264/H.265 (4K30)
	JPEG Decode	N/A	250 MP/s	250 MP/s	250 MP/s	250 MP/s	250 MP/s
	JPEG Encode	Yes	250 MP/s	250 MP/s	250 MP/s	400 MP/s	400 MP/s
Interfaces	USB	1x USB 2.0 (Host) 1x USB 2.0 (Host/Device)	2x USB 2.0 (Host/Device) 1x USB 3.2 Gen1 (Host/Device)	2x USB 2.0 (Host/Device) 1x USB 3.2 Gen1 (Host/Device)	2x USB 2.0 (Host/Device) 1x USB 3.2 Gen1 (Host, shared with PCIe 2.0) 1x USB3.2 Gen1 (Host/Device)	3x USB 2.0 (Host) 1x USB 3.2 Gen1 (Host) 1x USB 3.2 Gen1 (Host/Device, shared with DP)	3x USB 2.0 (Host) 1x USB 3.2 Gen1 (Host) 1x USB 3.2 Gen1 (Host/Device, shared with DP)
	Ethernet	10/100 Ethernet MAC	1x GbE MAC (TSN)	1x GbE MAC (TSN)	1x GbE MAC (TSN)	1x GbE MAC (TSN)	1x GbE MAC (TSN)
	PCIe	N/A	1x PCIe 2.0 (1L, RC)	1x PCIe 2.0 (1L, RC)	1xPCIe 2.0 (1L, RC, shared with USB 3.2) 1x PCIe 3.0 (2L, RC/EP)	1x PCIe 2.0 (1L, RC, WoWLan)	1x PCIe 2.0 (1L, RC, WoWLan)
	UART	3x UART	4x UART	4x UART	6x UART	4x UART	4x UART
	I2C	4x I2C	5x I2C, 2x I2C/I3C	5x I2C, 2x I2C/I3C	6x I2C, 2x I2C/I3C	9x I2C	9x I2C
	SPI	1x SPI Master	6x SPI Master	6x SPI Master	6x SPI Master, 2x SPI Slave	6x SPI Master	6x SPI Master
	PWM	3x PWM	4x PWM	4x PWM	4x PWM	3x PWM	3x PWM
	I2S/TDM	2x I2S input, 2x I2S output 1x TDM input, 1x TDM ouput	2x I2S/TDM input 2x I2S/TDM output	2x I2S/TDM input 2x I2S/TDM output	2x I2S/TDM input 2x I2S/TDM output	2x I2S/TDM input 2x I2S/TDM output	2x I2S/TDM input 2x I2S/TDM output
	PDM	4x PDM input	4x PDM input	4x PDM input	4x PDM input	2x PDM input	2x PDM input
	PCM	1x PCM input/output	1x PCM input/output	1x PCM input/output	1x PCM input/output	1x PCM input/output	1x PCM input/output
	SPDIF	1x SPDIF input, 1x SPDIF output	1x SPDIF input, 1x SPDIF output	1x SPDIF input, 1x SPDIF output	1x SPDIF input, 1x SPDIF output	N/A	N/A
Temperature support	Temperature	-20°C to 105°C (Tj)	Consumer: -20°C to 95°C (Tj) Industrial: -40°C to 105°C (Tj)	Consumer: -20°C to 95°C (Tj) Industrial: -40°C to 105°C (Tj)	Consumer: -20°C to 95°C (Tj) Industrial: -40°C to 105°C (Tj)	Consumer: -20°C to 95°C (Tj) Industrial: -40°C to 105°C (Tj)	Consumer: -20°C to 95°C (Tj) Industrial: -40°C to 105°C (Tj)
Package Information	Package Type	VFBGA	VFBGA	VFBGA	VFBGA	VFBGA	VFBGA
	Package Dimension	12.2 x 11.8 x 0. 9 mm, 0.4 mm ball pitch	15 x 15 x 0.9 mm, 0.4 mm ball pitch	15 x 15 x 0.9 mm, 0.4 mm ball pitch	15 x 15 x 0.9 mm, 0.4 mm ball pitch	13.8 x 11.8 x 0.9 mm, 0.4 mm ball pitch	13.8 x 11.8 x 0.9 mm, 0.4 mm ball pitch
Wireless Connectivity	Integrated Wi-Fi Baseband	Wi-Fi 5 1x1 / BT 5.0 (MT6631)	N/A	N/A	N/A	WiFi-6 1x1/Bluetooth 5.3 (MT6631X), WiFi-6E 2x2/Bluetooth 5.3 (MT6637X)	WiFi-6 1x1/Bluetooth 5.3 (MT6631X), WiFi-6E 2x2/Bluetooth 5.3 (MT6637X)
Security	Security	ARM TrustZone Security Boot (RSA3072) Crypto Engine RNG	ARM TrustZone Security Boot (RSA4096) Crypto Engine RNG	ARM TrustZone Security Boot (RSA4096) Crypto Engine RNG	ARM TrustZone Security Boot (RSA3072) Crypto Engine RNG	ARM TrustZone Security Boot (RSA4096) Crypto Engine RNG	ARM TrustZone Security Boot (RSA4096) Crypto Engine RNG