



Samsung Galaxy S22 series

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Outline

- Introduction
- Technology analysis
- New Feature
- SWOT
- Reference



Samsung Galaxy s22 Spec

■ DISPLAY

Dynamic AMOLED 2X, 120Hz, HDR10+, 1300 nits (peak)

6.1 inches, 90.1 cm² (~87.4% screen-to-body ratio)

■ Chip

Exynos 2200 (4 nm)

Qualcomm Snapdragon 8 Gen 1 (4 nm)

■ MAIN CAMERA and self camera

10MP Selfie Camera. 12MP Ultra Wide Camera

■ Android 12



Samsung Galaxy s22 Spec

■ Battery Capacity

3700mAh (typical)

■ Network & Connectivity

5G Non-Standalone (NSA), Standalone (SA), Sub6 / mmWave
Wi-Fi 802.

Bluetooth® v 5.2

■ Memory

8GB RAM (LPDDR5) with 128/256 GB internal storage

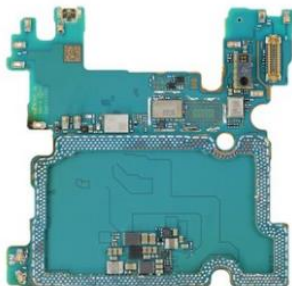
■ Samsung pay

■ S pen (ultra)

X-RAY SEE S22



CHIP ID



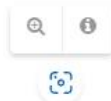
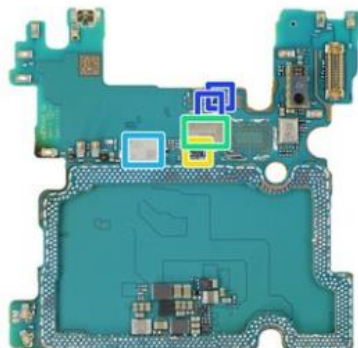
IC Identification pt. 1:

- Qualcomm **SM8450** Snapdragon 8 Gen 1 Octa-Core Processor layered under a Samsung K3LK7K70BM-BGCP 8 GB Mobile LPDDR5 SDRAM Memory
- Samsung **KLUDG4UHC-B0E1** 128 GB NAND Flash Memory (UFS 3.1)
- Maxim **MAX77705C** Power Management
- Qualcomm **PM3003** Power Management
- Silicon Mitus **SM3010** Power Management
- Knowles MEMS Microphone



IC Identification pt. 3 (sensors):

- Austria Microelectronics Ambient Light/Color/Gesture/Proximity Sensor



IC Identification pt. 2:

- NXP Semiconductor **SN220U** NFC Controller w/ Secure Element
- Qualcomm **SMR546** RF Transceiver
- NXP Semiconductor **BGU8103** GPS / GLONASS / Galileo / BeiDou Low Noise Amplifier
- Qualcomm **1G2W5** ? Front End Module (Likely)
- Murata **451** ? Antenna Switch Module (Likely)
- Infineon **BGSA20UGL8** Dual SPST Antenna Aperture Shunt Switch

S21 vs S22

	S21	S22
OPERATING SYSTEM	Updated to Android 12	Android 12
DISPLAY	6.2" flat FHD+ Dynamic AMOLED 2X	6.1" flat FHD+ Dynamic AMOLED 2X
MAXIMUM REFRESH RATE	up to 120Hz	up to 120Hz
DIMENSIONS	151.7 x 71.2 x 7.9 mm	146 x 70.6 x 7.6 mm
WEIGHT	169g	167g
BATTERY	4,000mAh	3,700mah
PROCESSOR	Snapdragon 888	4nm Snapdragon 8 Gen 1 CPU
RAM	8GB	8GB
STORAGE	128GB/256GB	128GB/256GB
REAR CAMERA	12MP (f/1.8) wide, 12MP (f/2.2) ultrawide, 64MP (f/2.0) telephoto	50MP (f/1.8) wide, 12MP (f/2.2) ultrawide, 10MP (f/2.4) telephoto
FRONT CAMERA	10MP (f/2.2)	10MP (f/2.2)
BIOMETRICS	Ultrasonic Fingerprint Sensor	Ultrasonic Fingerprint Sensor
WATER AND DUST PROTECTION	IP68	IP68
WIRELESS CONNECTIVITY	5G mmWave / sub-6GHz, LTE, Wi-Fi 6, Bluetooth 5.0	5G mmWave / sub-6GHz, LTE, Wi-Fi 6, Bluetooth 5.2
WIRELESS CHARGING	Yes	Yes

SPEC COMPARISON

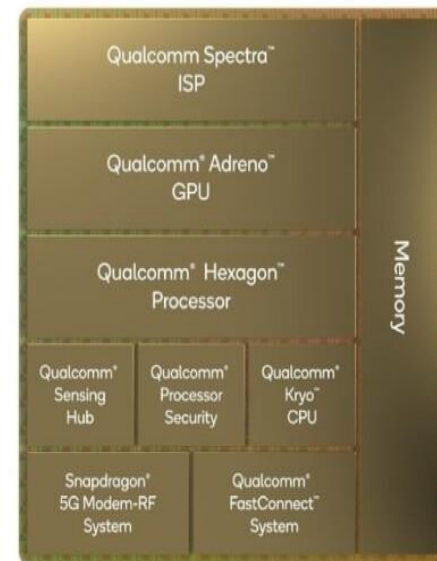
Phone	Galaxy S22	Galaxy S22+	Galaxy S22 Ultra
Chipset	Snapdragon 8 Gen 1/Exynos 2200	Snapdragon 8 Gen 1/Exynos 2200	Snapdragon 8 Gen 1/Exynos 2200
RAM	8GB	8GB	8GB, 12GB
Storage	128, 256GB	128, 256GB	128, 256, 512GB, 1TB
Display	6.1" FHD+ Dynamic AMOLED 2x, 48~120Hz refresh rate, 240Hz refresh rate	6.6" FHD+ Dynamic AMOLED 2x, 48~120Hz refresh rate, 240Hz refresh rate	6.8" QHD+ Dynamic AMOLED 2x LTPO, 1~120Hz refresh rate, 240Hz refresh rate
Battery	3,700mAh, 25W fast charging, 15W wireless charging, Reverse wireless charging	4,500mAh, 45W fast charging, 15W wireless charging, Reverse wireless charging	5000mAh, 45W fast charging, 15W wireless charging, Reverse wireless charging
Rear Cameras	50MP f/1.8 primary, Dual Pixel AF, OIS; 12MP f/2.2 ultra-wide (120° FoV); 10MP f/2.4 3x optical zoom sensor with OIS; 30x digital zoom	50MP f/1.8 primary, Dual Pixel AF, OIS; 12MP f/2.2 ultra-wide (120° FoV); 10MP f/2.4 3x optical zoom sensor with OIS; 30x digital zoom	108MP f/1.8 primary, 0.8µm large pixels, OIS and PDAF; 12MP f/2.2 ultra-wide (120° FoV); 10MP f/2.4 3x optical zoom sensor with OIS; 10MP f/4.9 10x optical zoom with OIS; 100x digital zoom
Front Camera	10MP f2.2	10MP f2.2	40MP f/2.2 with autofocus
Connectivity	5G, Wi-Fi 6, Bluetooth 5.2, NFC	5G, Wi-Fi 6E, Bluetooth 5.2, NFC, ultra-wideband	5G, Wi-Fi 6E, Bluetooth 5.2, NFC, ultra-wideband
Dimensions	70.6 x 146 x 7.6mm, 168g, IP68 certified	75.8 x 157.4 x 7.6mm, 196g, IP68 certified	163.3 x 77.9 x 8.9 mm, 229g, IP68 certified
Software	One UI 4.1/Android 12	One UI 4.1/Android 12	One UI 4.1/Android 12
S Pen	-	-	Yes
Colors	Phantom Black, Phantom White, Green, Pink Gold; Online exclusive colors: Graphite, Cream, Sky Blue, Violet	Phantom Black, Phantom White, Green, Pink Gold; Online exclusive colors: Graphite, Cream, Sky Blue, Violet	Phantom Black, Phantom White, Green, Burgundy; Online exclusive colors: Graphite, Sky Blue, Red
Price	Starting at \$800	Starting at \$1,000	Starting at \$1,200




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Snapdragon 8 Gen 1



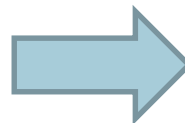
Qualcomm Spectra, Qualcomm Adreno, Qualcomm Hexagon, Qualcomm Sensing Hub, Qualcomm Processor Security, Qualcomm Kryo, Snapdragon and Qualcomm FastConnect are products of Qualcomm Technologies, Inc. and/or its subsidiaries.



CPU

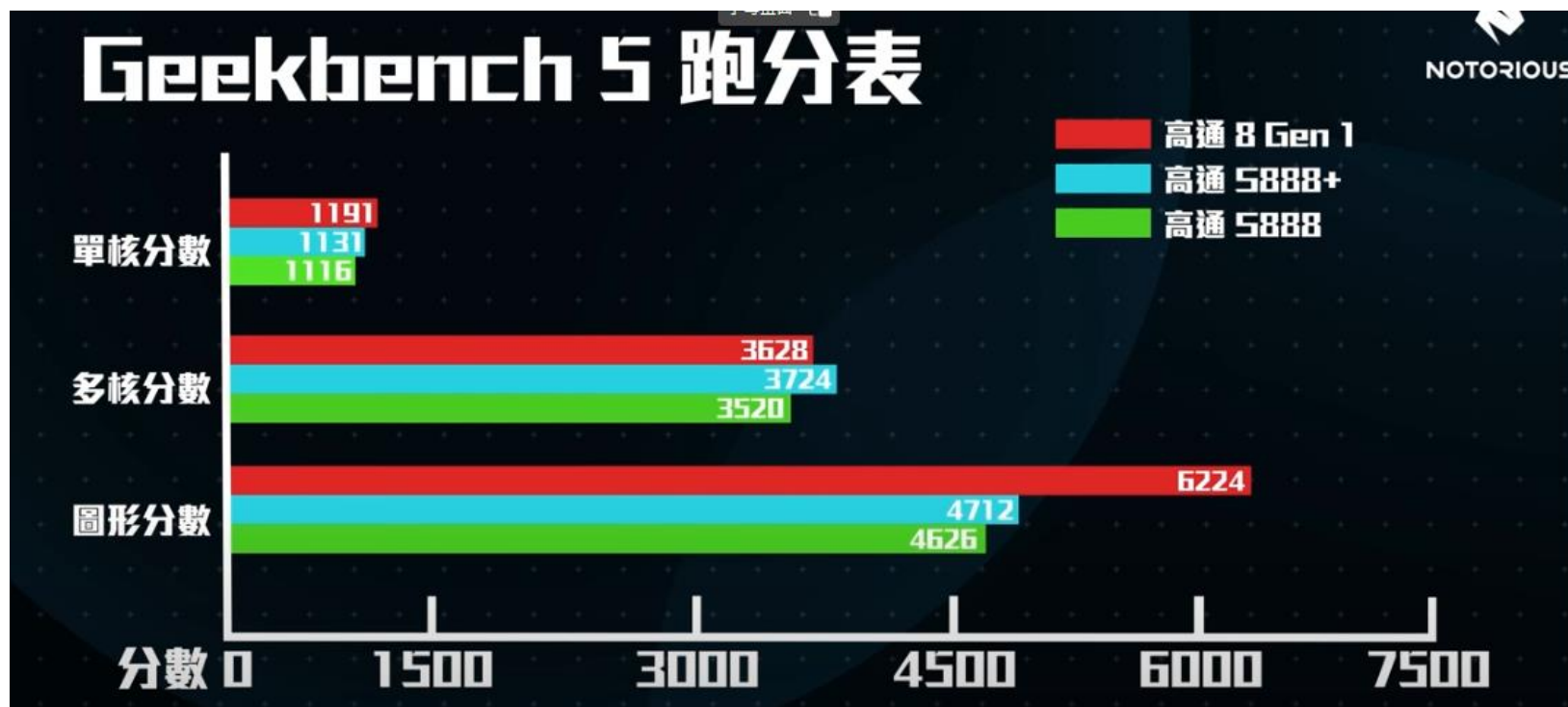


S888

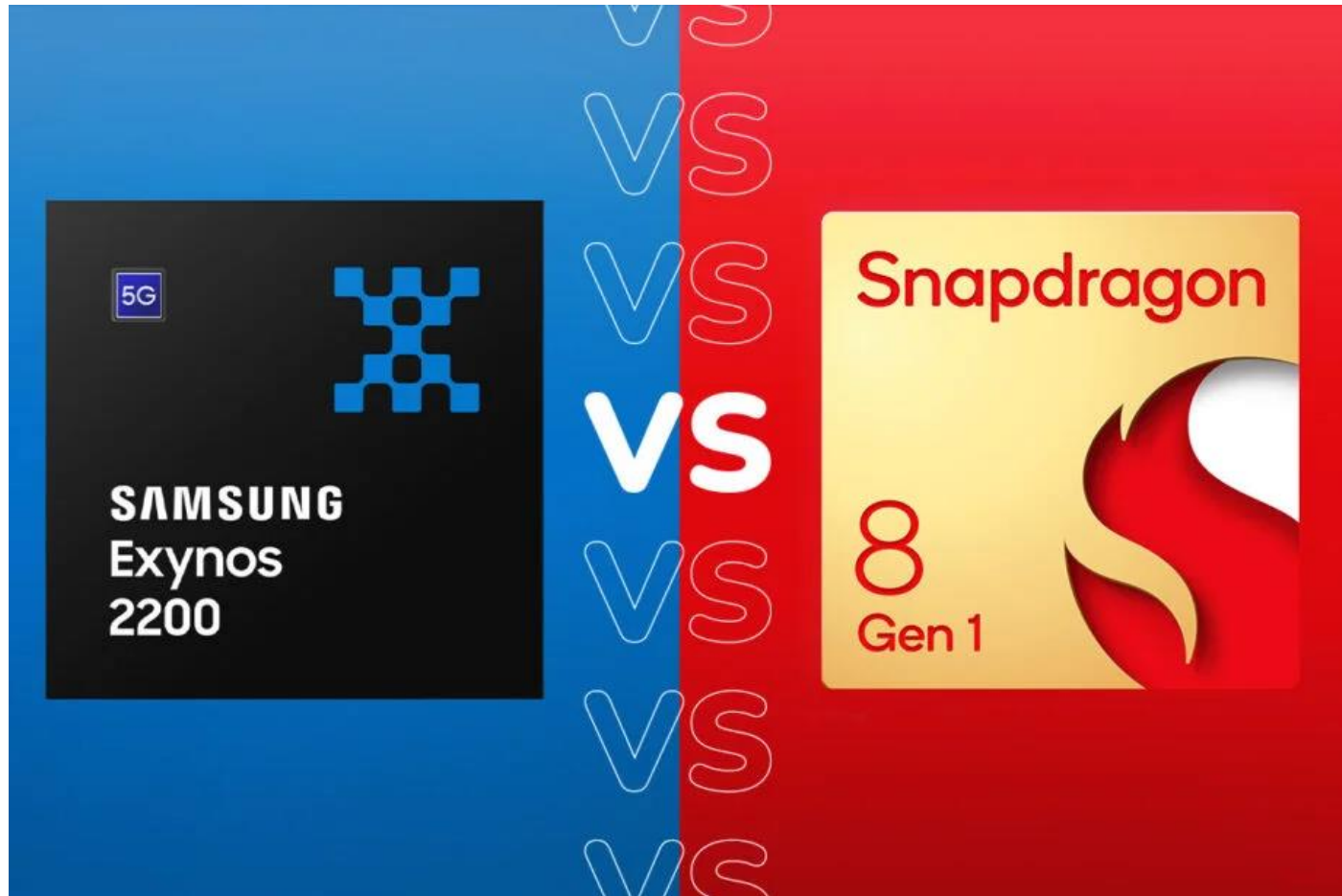


8 GEN 1

Geekbench score



Snapdragon 8 Gen vs Exynos 2200





Snapdragon 8 Gen vs Exynos 2200

	Qualcomm Snapdragon 8 Gen 1	Samsung Exynos 2200
CPU	1x Cortex-X2 @ 3GHz 3x Cortex-A710 @ 2.5GHz 4x Cortex-A510 @ 1.8GHz	1x Cortex-X2 @ 2.8GHz 3x Cortex-A710 @ 2.5GHz 4x Cortex-A510 @ 1.8GHz
GPU	Adreno 730	Xclipse 920 AMD RDNA2 cores
Machine learning	Hexagon	Dual-core NPU + DSP
Modem	10Gbps download (mmWave) Sub-6GHz speed unknown 3GPP Release 16 5G	7.35Gbps download (mmWave) 5.1Gbps download (sub-6GHz) 3GPP Release 16 5G
Camera	200MP single 64MP+36MP dual 36MP+36MP+36MP triple 8K/30fps HDR recording	200MP single 64MP+36MP dual 8K/30fps, 4K/120fps, 4K HDR recording
Video playback	8K, 4K 120fps H.264, H.265, VP9 decode	8K, 4K 120fps AV1, H.264, H.265, VP9 decode
RAM	LPDDR5	LPDDR5
Connectivity	Bluetooth 5.2 Wi-Fi 6E	Bluetooth 5.2 Wi-Fi 6E
Process	4nm Samsung	4nm Samsung

CPU & GPU Benchmarks





Outline

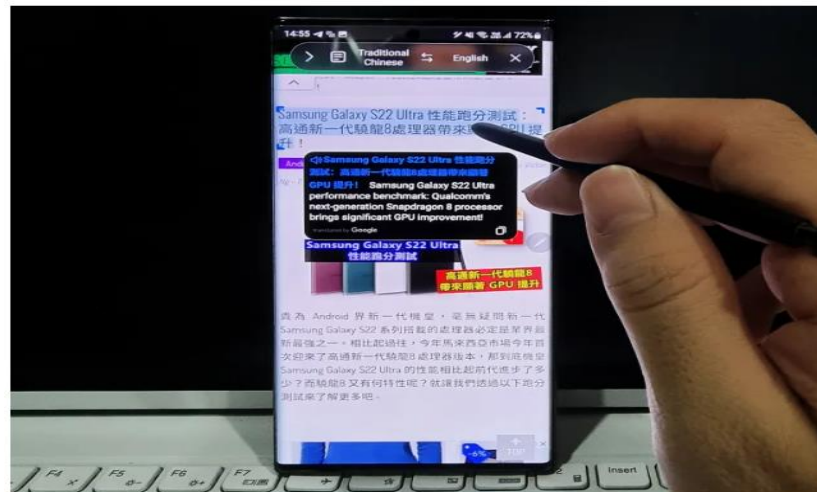
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S pen (Ultra)

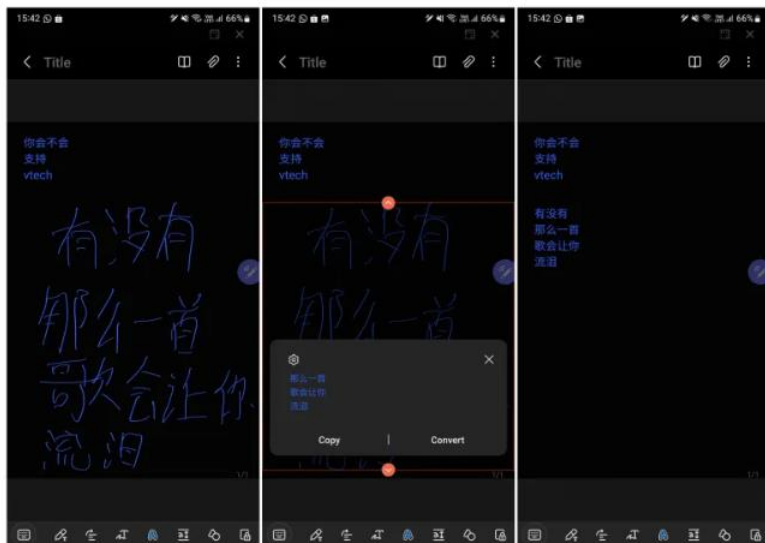
S PEN

The first Galaxy S with built-in S Pen

The iconic S Pen fits right into S for the first time. Eject it from the bottom to take notes, sketch, edit content with precision or control your phone.



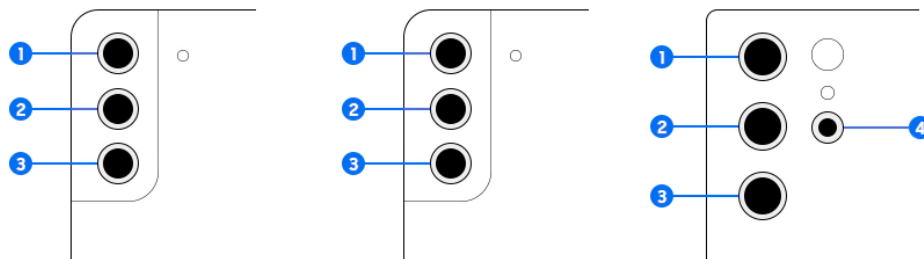
▲ 支援懸浮翻譯，只需將手寫筆停留在要翻譯的文字上就能迅速完成翻譯。



▲ Samsung Note 還能將您的手寫筆記直接轉換成文字。

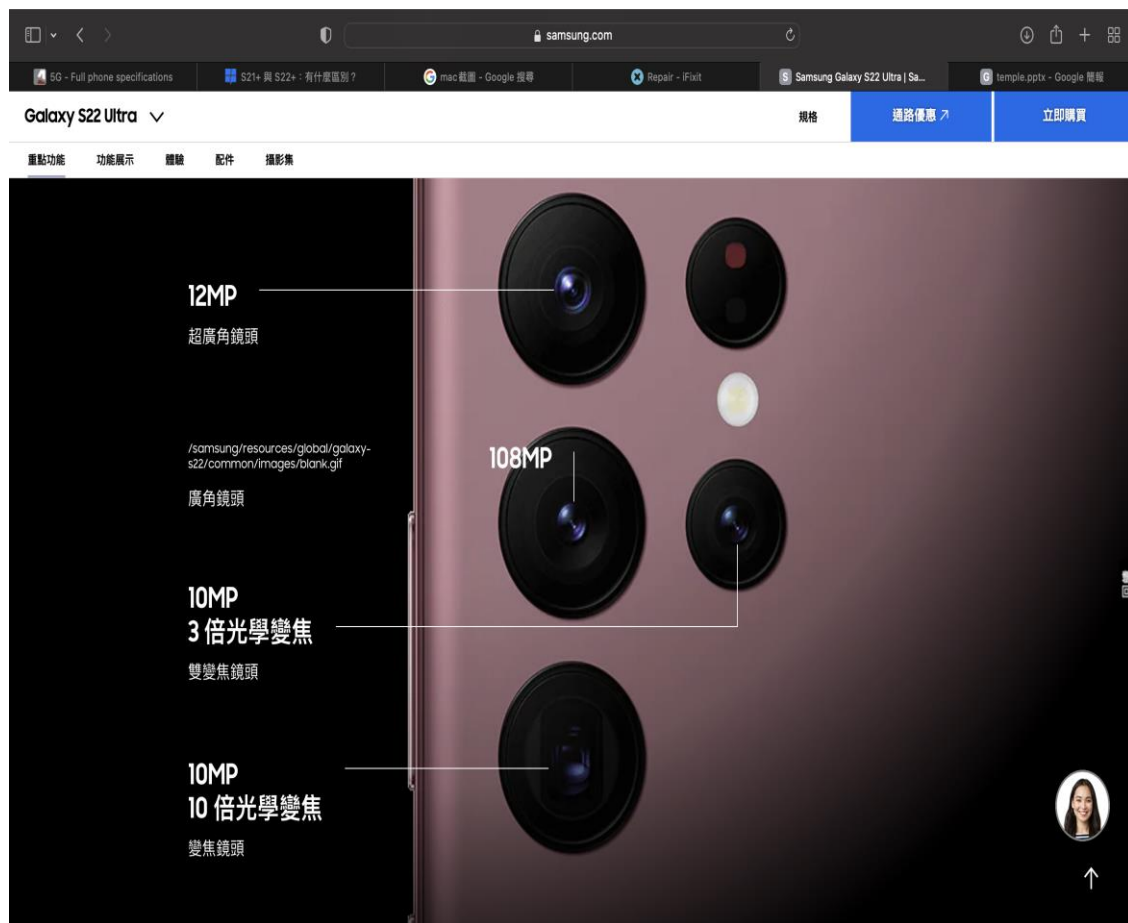


Camera



Camera	Galaxy S22	Galaxy S22+	Galaxy S22 Ultra
Front - Wide	10MP F2.2 [Dual Pixel AF], FOV 80°, 1/3.24", 1.22µm	10MP F2.2 [Dual Pixel AF], FOV 80°, 1/3.24", 1.22µm	40MP F2.2 [PDAF], FOV 80°, 1/2.8", 0.7µm
① Rear - Ultra Wide	12MP F2.2 [FF], FOV 120°, 1/2.55", 1.4µm	12MP F2.2 [FF], FOV 120°, 1/2.55", 1.4µm	12MP F2.2 [Dual Pixel AF], FOV 120°, 1/2.55", 1.4µm
② Rear - Wide angle	50MP F1.8 [Dual Pixel AF], OIS, FOV 85°, 1/1.56", 1.0µm with Adaptive Pixel	50MP F1.8 [Dual Pixel AF], OIS, FOV 85°, 1/1.56", 1.0µm with Adaptive Pixel	108MP F1.8 [PDAF], OIS, FOV 85°, 1/1.33", 0.8µm with Adaptive Pixel
③ Rear - Telephoto 1	10MP F2.4 [3x, PDAF], OIS FOV 36°, 1/3.94", 1.0µm	10MP F2.4 [3x, PDAF], OIS FOV 36°, 1/3.94", 1.0µm	10MP F2.4 [3x, Dual Pixel AF], OIS, FOV 36°, 1/3.52", 1.12µm
④ Rear - Telephoto 2	-	-	10MP F4.9 [10x, Dual Pixel AF], OIS, FOV 11°, 1/3.52", 1.12µm
Rear - Space Zoom	3x Optical Zoom Super Resolution Zoom up to 30x	3x Optical Zoom Super Resolution Zoom up to 30x	3x, 10x Dual Optical Zoom Super Resolution Zoom up to 100x

Camera(ULTRA)

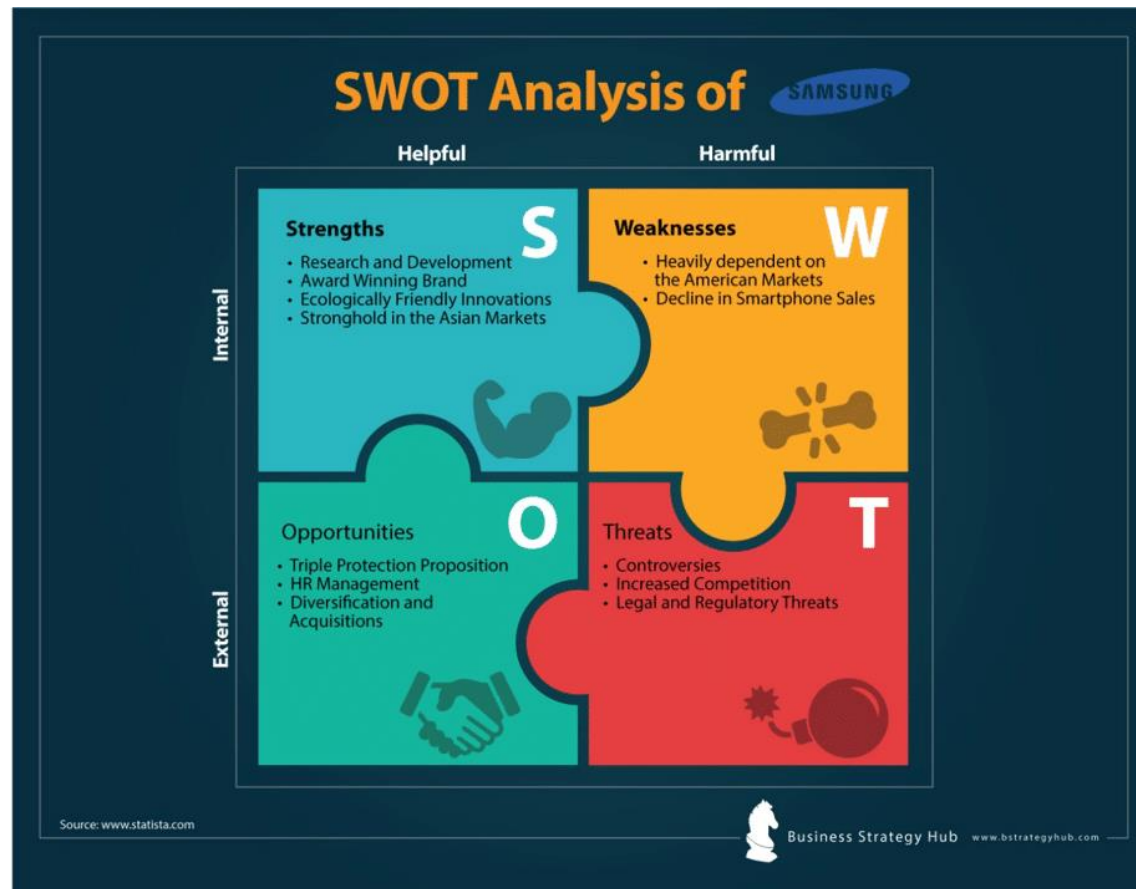




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SWOT





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- [Samsung Galaxy S22 benchmarked: Snapdragon 8 Gen 1 vs Exynos 2200 \(androidauthority.com\)](https://www.androidauthority.com/samsung-galaxy-s22-benchmarked-snapdragon-8-gen-1-vs-exynos-2200-10657054/)
- <https://www.samsung.com/uk/support/mobile-devices/check-out-the-new-camera-functions-of-the-galaxy-s22-series/>
- https://www.youtube.com/watch?v=pR6Q7Tk0A_k&t=1s
- https://www.sogi.com.tw/articles/qualcomm_snapdragon_8_gen_1/6257054



Thank you