Sapphire Stream Technology



SQT61M-KR Cellular Module

The SST SQT61M-KR is a low-cost cellular module that integrates Qualcomm® SDX61 5G Modem-RF system. It supports 5G NR Sub-6 GHz in both SA and NSA modes while maintaining backward compatibility with 4G LTE network.

Integrating the 4nm process of the SDX61 chipset, the SQT61M-KR complies with 3GPP Release 16, delivering superior performance and power efficiency. It enables ODMs and OEMs to easily bring high-speed connected devices to the Korea markets. This module is ideal for laptops and personal computers, with a rich set of Windows OS-related and security features. It is also well-suited for FWA CPE, industrial routers, mission-critical IoT applications (ambulance, security, robotics, AR/VR, livestreaming etc.), and remote health-tech (surgery, diagnostic, assistance, etc.) devices.

Applications

PC/Laptop

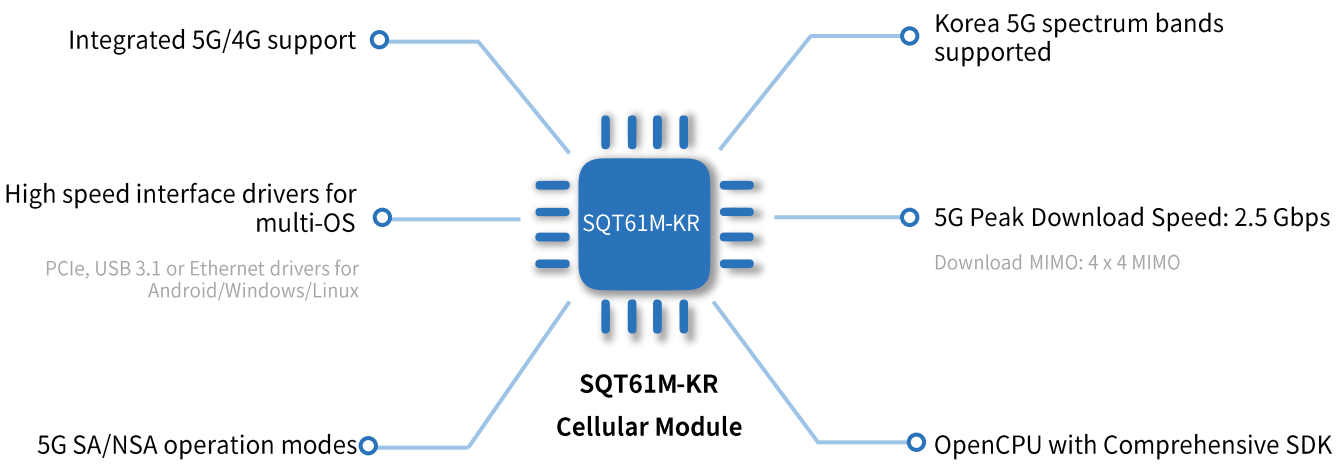
CPE/Router

Automated Guided Vehicle

Robotics

VR/AR

Features



SQT61M-KR Specifications

Category	Item	Description
SDX61 Chipset	CPU	Arm Cortex-A7 up to 1.8 GHz
	DSP	Qualcomm® Hexagon™ DSP processor at up to 1.5 GHz
	Power Management	PMX65
	RF Transceiver	SDR435
Memory	DRAM/NAND [1)]	4Gb LPDDR4 + 4Gb NAND
Air Interface	5G NR	Sub-6GHz: n28/n77/n78/n79
	LTE (DL Cat.16 UL Cat.18)	B1/B3/B5/B7/B8/B28
	GNSS	GPS/BeiDou/GLONASS/Galileo/QZSS, L1 band supported
Data Rate (Physical Layer)	Peak Download Speed [4)]	5G NR [2)]: 2.5 Gbps DL 4 x 4 MIMO LTE: 1 Gbps DL 4 x 4 MIMO
	Peak Upload Speed	5G NR [3)]: 900 Mbps UL 2 x 2 MIMO LTE: 200 Mbps UL 1 x 1 (No MIMO)
Connectivity and Peripheral Interface	Antenna Connector [5)]	4 x sub-6 GHz (1 multiplexed with GNSS)
	UIM	1 x USIM + 1 x eSIM (Optional)
	PCIe/USB	1 x Gen3 1-lane + 1 x USB 3.1 SS/USB 2.0 HS
		1 x Gen3 2-lane + 1 x USB 2.0 HS (optional)*
	I2S	1 x I2S/PCM
	I2C	1 x I2C
Form Factor	M.2 Key B	52.0mm x 30.0mm x 2.15mm
Certification	Regulatory & Carrier	KC*, SKT*/KT*/LG U+*
Weight	8+/-0.15g	
Power	Voltage Range	3.135V – 4.4V, typ. 3.3V
Temperature Range	Operating [6)]	-30°C –75°C
	Extended/Storage [7)]	-40°C – 85°C
Software	OS Support	Linux, can work with Windows/Ubuntu/Android
3GPP Compliance	5G NR Rel.16 4G LTE Rel.16	
LTE Category	DL Cat.16 /UL Cat.18	
Dual SIM	DSSA	

* Planning

[1)] Please note that storage devices such as UFS, eMMC, and NAND have a limit to the total amount of data that can be written. Exceeding this limit will cause damage to the storage device.

[2)] Peak Download Speed: 2.5 Gbps TDD duty cycle 95%.

[3)] UL 2x2 MIMO supports bands n77, n78, and n79.

[4)] [5)] For more information, refer to Table 2-20 in the datasheet.

[6)] In the operating temperature range, the module complies with 3GPP specifications when equipped with effective thermal dissipation solutions, such as passive or active heatsinks, heat pipes, or vapor chambers.

[7)] In the extended temperature range, compliance with 3GPP specifications cannot be guaranteed, even with these thermal solutions. However, once the temperature returns to the operating range, the module will regain compliance.

Sapphire Stream Tech
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