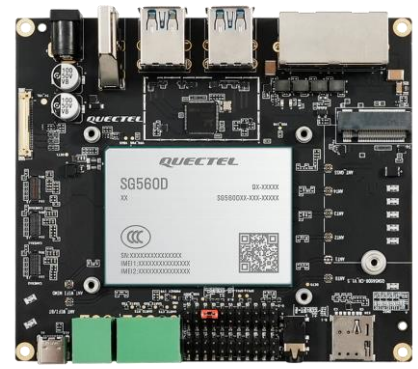




120.5 mm × 106 mm × 22.5 mm

Quectel QSM560DR Series

Fully Featured ARM Platform

5G Sub-6 GHz, Wi-Fi 6E and Bluetooth

QSM560DR series product is Quectel's multi-mode 5G smart control panel with built-in Ubuntu/ Android*/ Windows* operating system based on Quectel SG560D series smart module. With high performance built-in QCM6490/ QCS6490 64-bit octa-core processors and Adreno™ 643 GPU, it is ideal for both industrial and consumer applications requiring high data rates, high edge computing powers and multiple multimedia functions.

QSM560DR series product supports 3GPP Release 15 specification, both 5G NSA and SA modes with 4G/ 3G fallback, Wi-Fi 6E & DBS, Wi-Fi 2 × 2 MU-MIMO and Bluetooth 5.2.

QSM560DR series product supports 5G & LTE Multiple-Input Multiple-Output (MIMO) technology. Utilizing multiple antennas simultaneously on the same frequency band at the receiver end significantly reduces errors and optimizes the data transfer rate. The module also combines high-speed wireless connectivity with embedded multi-constellation and high-sensitivity GNSS (GPS/ GLONASS/ BDS/ NavIC/ Galileo/ QZSS/ SBAS) receivers for positioning.

A rich set of interfaces (such as HDMI, eDP, Ethernet, USB, CAN, RS-232, RS485 etc.) extends the applicability of QSM560DR series product to a wide range of M2M edge computing use cases, including robots, smart retail, smart industrial park, smart safety, industrial use cases, etc.

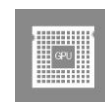


Key Features

- ✓ Octa-core 1.9–2.7 GHz CPU
- ✓ Adreno™ 643 GPU
- ✓ 12 TOPS NPU
- ✓ 5G, Wi-Fi, Bluetooth and GNSS
- ✓ USB/ Ethernet/ RS232/ RS485/ CAN
- ✓ HDMI/ eDP/ MIPI CSI/ SIM/ SD
- ✓ Ubuntu/ Android*/ Windows*
- ✓ Auto start after power-on, Wake-on-LAN, watchdog, ultra low power consumption, etc.



5G Sub-6 GHz



Qualcomm
Adreno™ 643 GPU



Ubuntu/ Android*/
Windows*



LTE Cat 18
LTE Cat 4



IEEE 802.11
a/ b/ g/ n/ ac/ ax



Bluetooth 5.2



Abundant Peripheral
Interfaces



Powerful Computing
Power



GPS/ GLONASS/ BDS/
NavIC/ Galileo/
QZSS/ SBAS

Version: 1.1 | Status: Released

Quectel QSM560DR Series

QSM560DR Series	QSM560DR-CN	QSM560DR-WF
Region/ Operator	China/ India	Global
Platform	QCM6490	QCS6490
CPU	Octa-core 5G SoC 1 × Gold Plus @ 2.7 GHz + 3 × Gold @ 2.4 GHz + 4 × Silver @ 1.9 GHz	Octa-core 5G SoC 1 × Gold Plus @ 2.7 GHz + 3 × Gold @ 2.4 GHz + 4 × Silver @ 1.9 GHz
GPU	Adreno™ 643 @ 812 MHz	Adreno™ 643 @ 812 MHz
Memory	4 GB LPDDR4X + 64 GB UFS (Default) 8 GB LPDDR4X + 128 GB UFS (Optional)	4 GB LPDDR4X + 64 GB UFS (Default) 8 GB LPDDR4X + 128 GB UFS (Optional) 8 GB LPDDR4X + 256 GB UFS (Optional)
OS	Ubuntu 20.04/ Android 13*/ Windows*	Ubuntu 20.04/ Android 13*/ Windows*
Dimensions (mm)	120.5 × 106 × 22.5	120.5 × 106 × 22.5
NPU	12 TOPS	12 TOPS
Weight (g)	Approx. 120	Approx. 120
Temperature Range		
Operating Temperature	-35 °C to +75 °C	-35 °C to +75 °C
Frequency Bands		
5G SA/ NSA	n 1/ 3/ 5/ 8/ 28/ 41/ 78/ 79	-
5G MIMO	4 × 4 MIMO (DL): n1/ 41/ 78/ 79 2 × 2 MIMO (UL): n41/ 78/ 79	-
LTE FDD	B1/ 3/ 5/ 8	-
LTE TDD	B34/ 38/ 39/ 40/ 41	-
LTE MIMO	4 × 4 MIMO (DL): B1/ 41	-
WCDMA	B1/ 5/ 8	-
WLAN	2.4/ 5/ 6 GHz 802.11a/ b/ g/ n/ ac/ ax, DBS, 2 × 2 MU-MIMO	2.4/ 5/ 6 GHz 802.11a/ b/ g/ n/ ac/ ax, DBS, 2 × 2 MU-MIMO
Bluetooth	Bluetooth 5.2	Bluetooth 5.2
Certifications		
Regulatory	China: CCC ^①	Europe: CE ^① Australia/ New Zealand: RCM ^① UK: UKCA ^① USA: FCC ^① Canada: IC ^①
Others	RoHS/ REACH	RoHS/ REACH
Data Rate		
5G SA	2.1 Gbps (DL)/ 900 Mbps (UL)	-
5G NSA	2.5 Gbps (DL)/ 550 Mbps (UL)	-
LTE	1.2 Gbps (DL)/ 200 Mbps (UL)	-
DC-HSPA+	42 Mbps (DL)/ 5.76 Mbps (UL)	-
WCDMA	384 kbps (DL)/ 384 kbps (UL)	-
Enhanced Features		
Modem	5G: Release 15 LTE: Release 15	-
Rx-diversity	●	-
DL MIMO 4 × 4	●	-
(U)SIM Detection	●	-
Firmware Upgrade via USB	●	●
Firmware Upgrade via OTA	●	●

- Notes:
- : Supported
 - ①: TBD (To Be Determined)
 - *: Under development/ in progress/ planning



Quectel QSM560DR Series

QSM560DR Series	General Features
Interfaces	
eDP	× 1, supporting DisplayPort 1.4, up to 4K (3840 × 2160) @ 30 fps
HDMI	× 1, HDMI 1080P @ 60 Hz
MIPI Camera	× 3
Ethernet	× 2, 10/100/1000 Mbps ethernet ports
M.2	× 1, supporting external M.2 4G modules
Video	Encoding: 4K (H.264/ H.265) @ 30 fps Decoding: 4K (H.264/ H.265/ VP9) @ 30 fps
Audio	× 1, supporting 3.5 mm headset output by default
USB ①	× 5 4 USB 3.0 Type-A classic interfaces 1 USB Type-C interface (only supporting USB 2.0, used for debugging and firmware upgrade)
(U)SIM	× 1, supporting 1.8/ 2.95 V (U)SIM card
RS-485	× 1
RS-232	× 2
CAN	× 1
DMIC	× 2
GPIO	× 7
SD Card	× 1, SD 3.0
Antenna	× 7 (cellular antennas × 4, Wi-Fi/ Bluetooth antenna × 1, Wi-Fi MIMO antenna × 1 and GNSS antenna × 1)
Electrical Features	
Power Supply Specification	DC 7–12 V (supporting wide input voltage range and the typical value is 12 V @ 3 A)

Note:
①: Type-A and Type-C interfaces cannot be used concurrently