

Overview

CQM220 is the latest 5G RedCap module in Cavli's C-Series portfolio based on 3GPP release 17 standards, supports SA mode and is backward compatible with 4G network. The module supports a theoretical data rate of 223Mbps and uplink speed of 123Mbps under the 5G RedCap network. It also offers multi-constellation dual band GNSS capability, with support for constellations like GPS, GLONASS, Galileo, NavIC, SBAS and QZSS.

The CQM220 is engineered in a compact LGA form factor, measuring 28.0mm x 25.5mm x 2.7 mm. Moreover, the CQM220 offers PCIe Gen2 interface support for high bandwidth peripheral connectivity to further elevate your connected solutions. The module currently comes in CQM220-WW variant that supports major World Wide bands, along with regional variants for North America, Eurasia & Japan, Latin America and India only. The CQM220 is an ideal candidate for IoT enabled applications that require high-throughput and precise location tracking such as Asset tracking, HD Smart Surveillance Solutions, Industry 4.0 etc.

Key Highlights



5G RedCap



In-built GNSS
(L1+L5)



LTE Cat 4
Fallback



Open SDK



USB 2.0
Interface



PCIe Interface
(Gen 2)



OpenWrt



Basic Module Information

Basic Specification

Processor:	Arm Cortex-A7 up to 1.9 GHz
RAM:	256/512 MB LPDDR2 512MB/1GB LPDDR4x
ROM:	256MB/512MB/1GB NAND
OS:	OpenWrt
Operating Mode:	Standalone

Radio Technology

RAT Used:	5G RedCap
3GPP Release:	17
Fall back:	LTE Cat 4

Network Speed (Peak Values)

5G RedCap:	DL 220Mbps & UL 50 Mbps
LTE Cat 4:	DL 150Mbps & UL 50 Mbps

Temperature Range

Operating Temperature:	-30°C to 85°C
------------------------	---------------

Interfaces

USB 2.0	x1
I ² C ³	x1
USIM (1.8V / 3.0V)	x2
SGMII	x1
SDC (WLAN-SDIO)	x1
PCIe _(Gen 2)	x1
I ² S	x1
UART	x2
Network Status	x2
ADC	x2
SPI	x1
JTAG	x1
GPIO	x1
Main ANT	x1
Diversity ANT	x1
GNSS ANT	x1

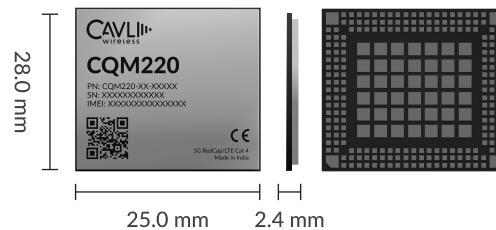
Applicable Region(s)

Global

¹ Optional

² Needs SDK

This document is a pre-release version. Some of the technical specifications are subjected to change.



Packaging

Form Factor:	LGA
Dimensions:	28.0 x 25.5 x 2.7(mm scale)
Other FF:	M.2

Power Characteristics

Operating Voltage:	3.4V - 4.5V
Typical:	3.8V

Constellation Coverage

Qualcomm Location Suite Gen 9 (L1+L5)
GPS/GLONASS/Galileo/BeiDou/NavIC/QZSS/SBAS

5G Bands

WW	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n38/n40/n41/n48/n66/n71/n77/n78
NA	n2/n5/n7/n12/n13/n14/n25/n48/n66/n71/n77/n78
EAJ	n1/n3/n5/n7/n8/n18/n20/n26/n28/n38/n40/n41/n48/n77/n78
IN	n1/n3/n5/n8/n38/n40/n41/n48/n77/n78
LA	n2/n5/n7/n8/n25/n28/n38/n41/n48/n66/n77/n78

LTE Bands

WW	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B15/B17/B18/B19/B20/B25/B26/B28/B34/B38/B39/B40/B41/B42/B43/B48/B66/B71
NA	B2/B4/B5/B7/B12/B13/B14/B17/B25/B42/B43/B48/B66/B71
EAJ	B1/B3/B5/B7/B8/B18/B19/B20/B26/B28/B34/B38/B39/B40/B41/B42/B43/B48
IN	B1/B3/B5/B8/B38/B40/B41/B42/B43/B48
LA	B2/B4/B5/B7/B8/B25/B28/B38/B40/B41/B42/B43/B48/B66

³ In Progress

⁴ Planned