

Overview

C20QM is the series of LTE Cat 4 modules with 2G fall back supporting 3GPP release 10 designed for IoT and M2M applications. It delivers a maximum data rate of 150 Mbit/s DL & 50 Mbit/s UL. It has a compact LGA form factor which is pin compatible with C10QM LTE Cat 1 module which allows flexible migration. C20QM supports in-built GNSS with Qualcomm® Location Suite Gen8C Lite engine (GPS, GLONASS, BeiDou/ Compass, Galileo and QZSS), for precise and dependable positioning. C20QM supports VoLTE and SMS over IMS/SG/CS and supports wide set Internet protocols and industry-standard interfaces.

They come in 5 variants - C20QM-EAJ for the Europe, Asia and Japan market, C20QM-NA for the North America market, C20QM-EU for the European market and C20QM-AN for Australia, New Zealand market, C20QM-IN for the Indian market. With optional integrated eSIM powered by Cavli Hubble platform, it provides global connectivity that helps to further reduce the time to market. C20QM is ideal for IoT applications such as asset tracking, e-mobility, data loggers, fleet management and environmental monitoring.

Key Highlights



LTE Cat 4



In-built GNSS



Integrated eSIM



Cavli Hubble Platform



Virtual CAN Support



VoLTE Support



Integrated MIPI-DBI Interface



2G Fallback



SDK Support



DFOTA Available

Basic Module Information

Basic Specification

Processor: ARM Cortex-A7 @ Speed upto 1.3 GHz

RAM: 256 MB / 512 MB

Flash: 256 MB / 512 MB

OS: Yocto Linux (Kernel 4.14)

LTE Bands

NA: B2/B4/B5/B12/B13/B17/B25/B66

AN: B1/B3/B5/B8/B18/B19/B26/B28
GSM 900/1800 MHz

EAJ: B1/B3/B5/B7/B8/B18/B19/
B20/B26/B28/B38/B40/B41
GSM 900/1800 MHz

IN: B1/B3/B5/B8/B40/B41
GSM 900/1800 MHz

EU: B1/B3/B7/B8/B20/B28
GSM 900/1800 MHz

Interfaces

UART x3

USB 2.0 x1

SDIO 3.0 x1

SDC x1

USIM x1

JTAG x1

Network Status Indicator x1

Module Status Indicator x1

SGMII x1

PCM² x1

I2C² x1

SPI² x1

GPIO² x9

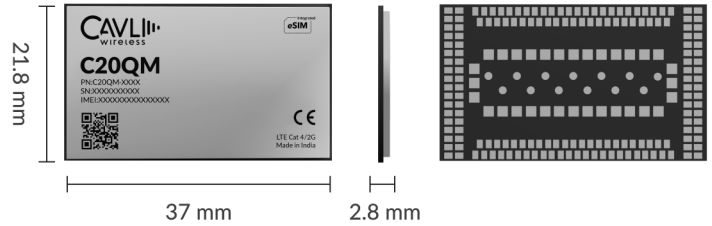
LCD(DBI 8-bit) x1

ADC x2

Main ANT x1

Diversity ANT x1

GNSS ANT x1



Packaging

Form Factor: LGA

Dimensions: 37 x 21.8 x 2.8 (mm scale)

Pin Count: 233 Pins

Other FF: mPCIe

Weight: 5.53g

Radio Technology

RAT Used: LTE Cat 4 with 2G

3GPP Release: 10

Network Speed (Peak Values)

Cat 4: DL 150Mbps & UL 50 Mbps

GSM: DL 236.8Kbps & UL 236.8 Kbps

Constellation Coverage

GPS/GLO/GAL/BDS/QZSS with SBAS

Qualcomm Location Suite Gen 8C Lite

Internet Protocols

TCP(S), HTTP(S), MQTT(S), FTP(S), UDP, PPP⁴

Temperature Range

Operating Temperature: -30 °C to 85 °C

Power Characteristics

Voltage Range: 3.4 V to 4.5 V

Typical Voltage: 3.8 V

TxD Peak 790 mA

TxD Idle 56 mA

GNSS (Fix) 90 mA

Applicable Region(s)

NA, EAJ, AN, EU, IN

¹ Optional

² Needs SDK

³ In Progress

⁴ Planned