



Technical Specification Document

C11QM

LTE Cat 1 / 2G Module

CAVLI
wireless

C11QM

PN: C11QM-XX-XXXXX
SN: XXXXXXXXXXXXX
IMEI: XXXXXXXXXXXXXXX

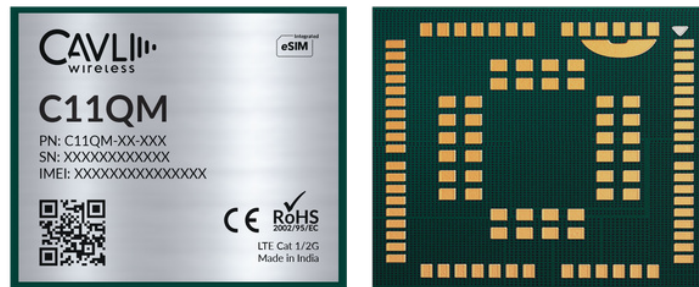


CE
LTE Cat 1/2G
Made in India



Cavli C-Series C11QM Module

LTE Cat 1/ 2G Module



C11QM is the series of LTE Cat 1 modules with 2G fall back supporting 3GPP E-UTRA release 10 designed for IoT and M2M applications. It delivers a maximum data rate of 10 Mbit/s DL & 5 Mbit/s UL. It has a compact LGA form factor which is pin compatible with C16QS Cat 1bis module which allows flexible migration. C11QM supports integrated GNSS with Qualcomm® location Gen8C engine (GPS, GLONASS, BeiDou/Compass, Galileo and QZSS), for precise and dependable positioning. C11QM supports VoLTE and SMS over IMS/SG/CS and supports wide set Internet protocols and industry-standard interfaces.

They come in 2 variants - C11QM-EA for the Europe and Asia market and C11QM-NA for the North America market. With optional integrated eSIM powered by Cavli Hubble platform, it provides global connectivity that helps to further reduce the time to market. C11QM is ideal for IoT applications such as asset tracking, e-mobility, data loggers, fleet management and environmental monitoring.

Key features



LTE Cat 1



eSIM



Cavli Hubble Platform



Integrated GNSS



USB 2.0 Interface



2G fallback



Small Form Factor Design



VoLTE Support



SMS over IMS/SG/CS

	C11QM-EA	C11QM-NA
Basic Information		
Region	EMEA, APAC	North America
CPU	ARM Cortex-A7 @ 1.3 GHz	ARM Cortex-A7 @ 1.3 GHz
Memory	128 MB RAM 128 MB Flash	128 MB RAM 128 MB Flash
OS	Yocto Linux/ ThreadX RTOS	Yocto Linux/ ThreadX RTOS
Package	LGA	LGA
Pin Count	102	102
Dimensions	26.5 x 22.5 x 2.3 mm	26.5 x 22.5 x 2.3 mm
Weight	3.9g	3.9g
Operating Temperature	-30 °C to +85 °C	-30 °C to +85 °C
Radio Frequency Bands		
RAT	Cat 1 GSM	Cat 1 GSM
Transmission Rates	Cat 1: DL 10 Mbps & UL 5 Mbps GSM (2G): DL 236.8 Kbps & UL 236.8 Kbps	Cat 1: DL 10 Mbps & UL 5 Mbps GSM (2G): DL 236.8 Kbps & UL 236.8 Kbps
LTE Band List GSM Band List	B1/ B3/ B5/ B8/ B20/ B40/ 41 900/ 1800MHz	B2/ B4/ B5/ B12/ B13/ B25/ B26/ B66 900/ 1800MHz
3GPP Release	10	10
GNSS Capability		
GNSS (GNA Variant)	GPS/ GLONASS/ BeiDou/ Galileo SBAS + QZSS Capable	GPS/ GLONASS/ BeiDou/ Galileo SBAS + QZSS Capable
TTFF	Hot - 1, Warm - 24, Cold - 28	Hot - 1, Warm - 24, Cold - 28
Network Protocols		
Internet Protocols	TCP(S), HTTP(S), MQTT(S), FTP(S), UDP, WS(S), PPP, SNMP	TCP(S), HTTP(S), MQTT(S), FTP(S), UDP, WS(S), PPP, SNMP
Interfaces		
UART	x3	x3
USB 2.0 (HS)	x1	x1
SDIO 3.0	x1	x1
SDC	x1	x1
USIM (DSSS) (1.8V / 3.0V)	x1	x1
Network Status Indicator	x1	x1
Power ON Status Indicator	x1	x1
ADC	x2	x2
I2C ²	x1	x1

¹Optional

²Needs SDK

³In Progress

	C11QM-EA	C11QM-NA
SPI ²	x1	x1
GPIO ²	x23	x23
PCM ²	x1	x1
JTAG	x1	x1
Main ANT	x1	x1
GNSS ANT	x1	x1

Electrical Characteristics

Operating Voltage	Range : 3.6 V to 4.5 V Typical : 3.8 V	Range : 3.6 V to 4.5 V Typical : 3.8 V
TxD Peak	970 mA	TBD
TxD Idle	60 mA	TBD
GNSS (Fix)	90 mA	90 mA

Enhanced Features

VoLTE	Yes	Yes
SMS - IMS	Yes	Yes
SMS - SG	Yes	Yes
SMS - CS	Yes	Yes

Driver Support

USB Driver	TBD	TBD
------------	-----	-----

Certifications

Regulatory	Global : GCF ³ Europe : CE ³ UK : UKCA ³ Taiwan : NCC ³ South Korea : KC ³	Global : GCF ³ North America : PTCRB ³ America : FCC ³ Canada : IC ³
Carrier	TBD	Verizon ³ /AT&T ³ /TMobile ³
Others	RoHS / REACH	RoHS / REACH

Other Features

Integrated GNSS	Optional	Optional
Integrated eSIM + Cavli Hubble Global Connectivity and Device Management Platform	Optional	Optional

¹Optional

²Needs SDK

³In Progress

Product Variants



Variant Name	Region	RAM	Flash	Integrated eSIM
C11QM-EA-GNN	EMEA, APAC	128 MB	128 MB	✗
C11QM-EA-GNH	EMEA, APAC	128 MB	128 MB	✓
C11QM-NA-GNN	North America	128 MB	128 MB	✗
C11QM-NA-GNH	North America	128 MB	128 MB	✓

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

Cavli Inc. All rights reserved. No portions of this document may be reproduced without prior written consent of Cavli Inc. Specifications are subject to change without notice. Cavli, the Cavli logo are trademarks or registered trademarks of Cavli Inc. in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.

For more information

Contact : sales@cavliwireless.com | Visit : www.cavliwireless.com

