



# Technical Specification Document

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## CQM220

5G - redCap Module



# Cavli C-Series CQM220 Module



## 5G - redCap Module



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. CQM220 currently comes in CQM220-NA variant that supports major North American bands. It also comes with integrated GNSS that supports both L1 and L5 frequencies and supports integrated connectivity. CQM220 comes in a compact form factor 32mm x 29mm x TBD mm.

## Key features



redCap



Integrated GNSS  
L1+L5



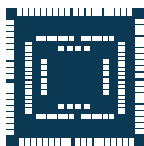
soft SIM



Cavli Hubble  
Platform



OpenSDK  
Support



LCC+LGA Package



M.2 Form Factor



USB 2.0 Interface



4G fallback

# CQM220-NA

## Basic Information

Region	North America
CPU	ARM Cortex - A7 @ 1.7 GHz
Memory	256 MB RAM/ 256 MB Flash
OS	Linux
Package	LCC+LGA/ M.2/ mPCIe <sup>3</sup> (Gen2 × 1 Lane)
Pin Count	172
Dimensions	32 x 29 x TBD mm
Weight	TBD
Operating Temperature	TBD
Extended Operating Temperature	TBD

## Radio Frequency Bands

RAT	5G - redCap with 4G fallback
Transmission Rates (Peak)	5G: DL 223 Mbps & UL 123 Mbps 4G: DL 195 Mbps & UL 105 Mbps
LTE Band List	5G - n2/n5/n7/n12/n13/n25/n66/n71 4G - B2/B4/B5/B7/B12/B13/B25/B41/B66/B71
3GPP Release	17

## GNSS Capability

Constellations	TBD
Time Taken for First Fix (@130dBm)	TBD
Accuracy	TBD
Sensitivity	TBD

## Network Protocols

Internet Protocols	TBD
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## Interfaces

UART	x3
USB 2.0 (HS)	x1
USIM (1.8V / 3.0V)	x1
SDC	x1
PCM	x1
SGMII	x1

<sup>1</sup>Optional

<sup>2</sup>Needs SDK

<sup>3</sup>In Progress

I2S	x1
I2C <sup>3</sup>	x1
Network status	x2
GNSS ANT	x1
Main ANT	x1
Diversity ANT	x1

## Electrical Characteristics

Operating Voltage	TBD
TxD Idle	TBD

## Certifications

Regulatory	North America : PTCRB <sup>3</sup> America : FCC <sup>3</sup> Canada : IC <sup>3</sup>
Carrier	Verizon <sup>3</sup> /AT&T <sup>3</sup> /T-Mobile <sup>3</sup>
Others	RoHS/REACH

## Other Features

Mini-PCIe Form Factor <sup>3</sup>	Optional
M.2 Form Factor	Optional

<sup>1</sup>Optional

<sup>2</sup>Needs SDK

<sup>3</sup>In Progress

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

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