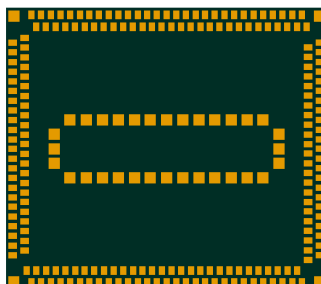


# CQS290 Cavli C Series



## Overview

CQS290 is the LTE Cat 4 module from Cavli C-Series module family that supports data rates up to 150 Mbit/s in downlink and 50 Mbit/s in uplink with 2G fall back. The Android smart module is equipped with the Cortex A53 quad-core CPU architecture with built-in Adreno™ 702 GPU delivering higher graphics capabilities, better quality images and excellent power performance. The module comes in 2 variants - CQS290-EA and CQS290-NA and both variants support multi-constellation GNSS supporting GPS, BDS, GLONASS, Galileo, QZSS and SBAS. CQS290 supports versatile features such as USB 3.1 Type-C/Micro USB, Wi-Fi and Bluetooth & FM making it ideal for wide range of applications such as two wheelers, emobility, telematics, fleet management etc. The module supports Qualcomm LA2.1 automotive middleware that supports advanced features such as Telemetry and device management functionalities for connected 2 wheelers. CQS290 comes with optional integrated eSIM with global connectivity powered by the Cavli Hubble platform.

## Key Highlights



ARM Cortex-A53  
64-bit Processor  
(Quad-core)



Qualcomm  
Adreno™ 702 GPU



Android OS



LTE Cat 4



LGA Package



GPS/BDS/GLONASS/  
Galileo/QZSS/SBAS



Superior Multimedia  
Functions



IEEE 802.11  
a/b/g/n/ac



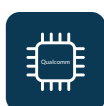
Bluetooth 5.0  
(BR/EDR + BLE)



eSIM



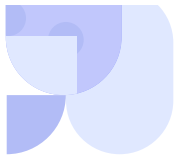
Hubble  
Connectivity Platform



Qualcomm LA2.1  
Automotive Middleware



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## Basic Module Information

### Basic Specification

Processor:	Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz
Inbuilt GPU:	Adreno 702 @ 845 MHz (64-bit)
Flash:	16 GB eMMC / 64 GB eMMC
RAM:	2 GB LPDDR4X / 3 GB LPDDR4X
OS:	Android 12 + Service till Android 15

### Radio Technology

RAT Used:	LTE Cat 4 with 2G (EGPRS)
3GPP Release:	10
Secondary Wireless Protocols:	WLAN, BLE and FM

### LTE Bands

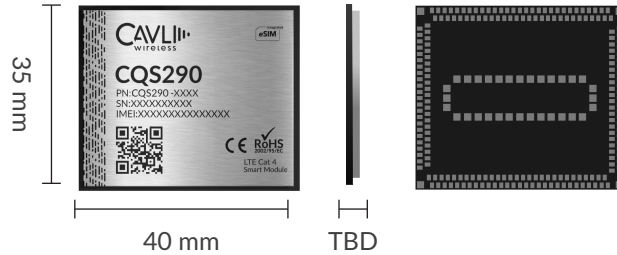
EA:	B1 /B3 /B5 /B8 /B20 /B40
NA:	B2 /B4 /B5 /B12 /B13 /B66

### GSM Bands

EA:	900 /1800 MHz
NA:	N/A

### Interfaces

LCM (DSI)	x1
Camera (CSI)	x2
MIC (Analog)	x2
Analog Audio Out	x2
USB (3.1)	x1
USIM (DSDS) (1.8V/2.95V)	x1
UART	x3
JTAG	x1
Main ANT	x1
DIV ANT	x1
GNSS ANT	x1
Wi-Fi & Bluetooth ANT	x1
GPIO	x33
SDC (4 bit)	x1
ADC (Accelerometer & Gyrometer)	x1
I2C	x2
CCI I2C	x1
Capacitive Touch Panel (I2C)	x1
I3C	x1
SPI	x1
LED Indicators	x3
Motor Driver	x1



### WLAN and BLE Specifications

WLAN Frequencies:	2.4GHz & 5GHz
WLAN Standard:	802.11a/b/g/n/ac
BLE Specifications:	v2.1 + EDR and v3.0 + HS Modes
BLE Standard:	BLE 5.0 Modes

### Internet Protocols

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

### Packaging

Form Factor:	LGA
Dimensions:	40.4 x 35.4 x 2.7 (mm scale)
Pin Count:	208

### Network Speed (Peak Values)

Cat 4:	DL 150Mbps & UL 50 Mbps
GSM:	DL 236.8Kbps & UL 236.8 Kbps

### Constellation Coverage

GPS/BDS/GLONASS/Galileo/QZSS/SBAS, L1  
Qualcomm Location Suite Gen 9

### Temperature Range

Operating Temperature: -35 °C to +75 °C

### Power Characteristics

Voltage Range:	3.5 V to 4.4 V
Typical Voltage:	3.8 V

### Applicable Region

EA:	EMEA & APAC
NA:	North America

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