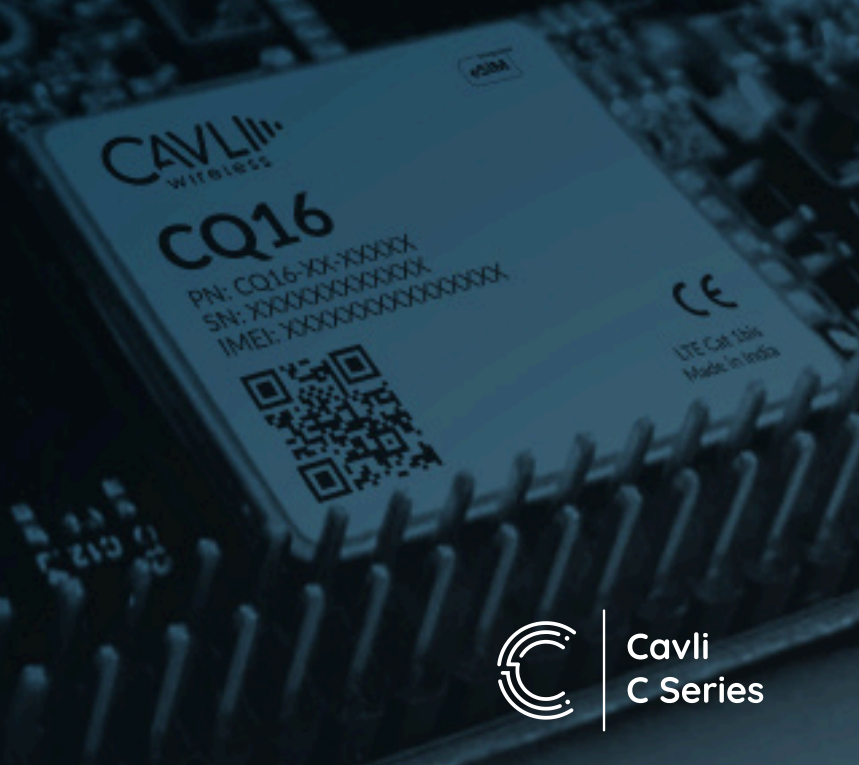




Technical Specification Document

CQ16

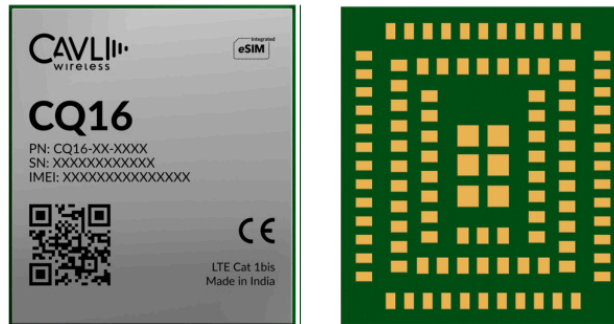
LTE Cat 1.bis
Smart Module



Cavli C-Series CQ16 Module



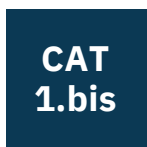
LTE Cat 1.bis Smart Module



CQ16 is a series of new LTE Cat1.bis modules with optional integrated eSIM optimized for IoT applications with low cost and low power consumption. It is compliant to 3GPP Rel 14 Cat.1bis standards and ideal for customers interested in switching from legacy 2G and 3G solutions to LTE. CQ16 comes with unique features that enables easy product development and faster go to market for product makers. Its enhanced power saving modes, including sleep features and low power modes making it ideal for applications such as asset tracking, POS and remote monitoring and energy metering. The module can be easily onboarded to Cavli Hubble, our proprietary cloud based modem management platform to enables hassle free global deployments.

CQ16 comes in 4 variants - North America, South-East Asia, Europe alone, Indian alone variant respectively, covering different countries and regions.

Key features



LTE Cat 1.bis



Small Form Factor Design



eSIM



USB 2.0 Interface



Cavli Hubble Platform



Low Power Consumption



Power Saving Mode

CQ16

Basic Information

Region	NA/ AN/ EU/ IN
CPU	ARM Cortex M3 processor @204MHz clock
Memory	4MB NOR Flash + 1.25MB RAM
OS	FreeRTOS
Package	LGA
Dimensions	17.7 x 15.8 x 2.5 mm
Weight	1.53 ± .01 g
Operating Temperature	-40°C to +85°C

Radio Frequency Bands

RAT	Cat 1.bis
Data Transmission Rates (Peak)	DL 10Mbps & UL 5 Mbps
LTE Band List	NA : 2 4/ 5/ 12/ 13/ 25/ 66 AN : 1/ 3/ 5/ 8/ 18/ 19/ 26/ 28 EU : 1/ 3/ 7/ 8/ 20/ 28 IN : 1/ 3/ 5/ 8/ 40/ 41
3GPP Release	14

Network Protocols

Internet Protocols	TCP(S), HTTP(S), MQTT(S), UDP, PPP
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Interfaces

UART	x3
USB 2.0	x1
USIM	x1
Network Status Indicator	x1
Power ON Status Indicator	x1
ADC ²	x2
I2S ²	x1
I2C ²	x1
SPI ²	x1
GPIO ²	x3
Main ANT	x1

² Needs SDK

³ In Progress

Electrical Characteristics

Operating Voltage	Range: 3.4 V to 4.2 V Typical: 3.7 V
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Power Consumption	TBD
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Enhanced Features

SMS-SG	Yes
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DFOTA	Yes
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Driver Support

USB Driver	RNDIS / CDC-ECM / CDC-ACM
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Certifications

Regulatory & Conformance	Europe : CE ³ UK : UKCA ³ Global : GCF ³ South Africa: ICASA ³
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Carrier	Telefonica ³ / DT ³ / Orange ³
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Others	RoHS/REACH
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Other Features

Integrated eSIM + Hubble	Optional
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² Needs SDK

³ In Progress

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

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