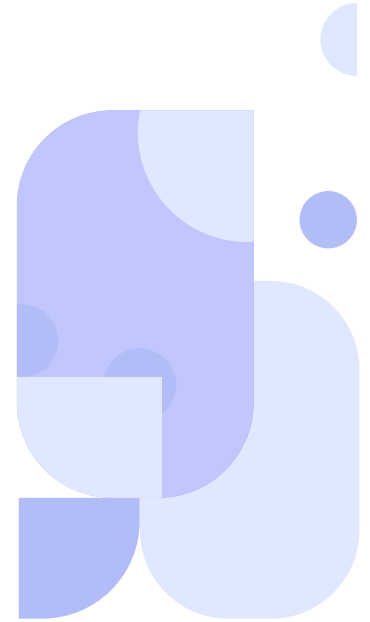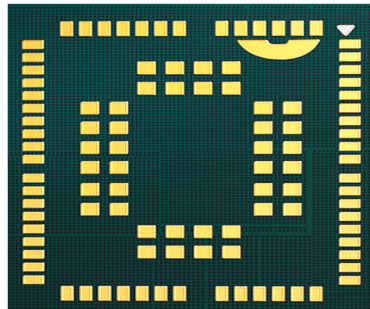# C16QS

Cavli C Series

Technical Document

Overview

C16QS is a LTE CAT 1.bis compatible Smart Module that comes with an integrated eSIM(MMF2) provision resulting in its global roaming capability*. Featuring an optional high precision GNSS chip that has multi constellation support which ensures fast fixes, less than 1m positioning capability and comes with the novelty of Hot Start.

Powered by Qualcomm's QCX216, that runs on the low power ARM Cortex M3 at 204MHz and Free RTOS, the module is fast to boot-up and swift to respond.

The module's basic network protocols and interfaces along with its flexible power saving mechanisms and thin form factor aid the customer in elevating C16QS's cutting edge, cost efficient implementation in desired IoT space

ARM Cortex M3 processor: 204MHz clock
4MB Flash + 1.25MB RAM
Operating System: FreeRTOS
Multi constellation Support for GNSS
Thin Form Factor Design
Ultra low Power Consumption
DRx and eDRx modes + PSM modes available = Flexible Power Management Design

Key Highlights

Integrated Hubble eSIM

Powered by Cavli Hubble

Region EMEA/APAC/NA

GNSS Support

Basic Module Information

Application Processor Specification

ARM Cortex M3 processor: QCX216 204MHz

Flash: 4MB

RAM: 1.25MB

Supported Bands

EMEA & APAC
FDD: B1 / B3/ B5/ B8/ B20

N. A
FDD: B2 / B4/ B5/ B12/ B13 /B66

Communication Protocols

HTTP(S), TCP(S), MQTT(S) , PPP, CoAP**

Temperature Range

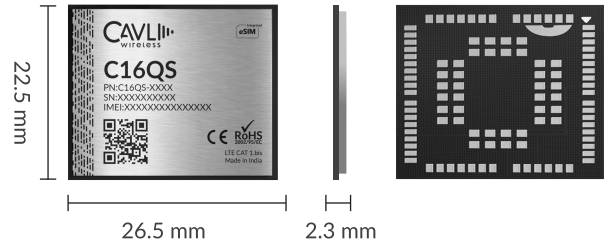|	
Normal working temperature:	-40°C to +85°C
Storage temperature:	-50°C to +150°C

Interfaces

1.8V/3V SIM Interface

1xUSB2.0, 4xUART (1-AT, 1-DM, 2-GNSS*), 1xSPI,
2xADC, 1xI2C, 1xUSIM, 4xGPIO, 1xI2S, 2xANT*,
1xSWD

22.5 mm

26.5 mm 2.3 mm

Packaging

Dimension: 26.5 x 22.5 x 2.3 mm, LGA Package

Network Speed (Peak values)

LTE CAT 1.bis: 5Mbps (UL), 10Mbps (DL)

Constellation Coverage

GPS /GLONASS /BeiDou /QZSS /Galileo /NavIC

Power Characteristics

Voltage Range:	3.4V to 4.2V
Typical Voltage:	3.7V
TxD Idle:	10 mA

Product Variants

Variants	EMEA/APAC	NA	GNSS	Internal eSIM
C16QS-EA-S00N	✓	✗	✗	✗
C16QS-EA-S00H	✓	✗	✗	✓
C16QS-EA-GNAN	✓	✗	✓	✗
C16QS-EA-GNAH	✓	✗	✓	✓
C16QS-EA-GNBN	✓	✗	✓	✗
C16QS-EA-GNBH	✓	✗	✓	✓
C16QS-NA-S00N	✗	✓	✗	✗
C16QS-NA-S00H	✗	✓	✗	✓
C16QS-NA-GNAN	✗	✓	✓	✗
C16QS-NA-GNAH	✗	✓	✓	✓
C16QS-NA-GNBN	✗	✓	✓	✗
C16QS-NA-GNBH	✗	✓	✓	✓

*Optional   **Under development

CAVLI
wireless