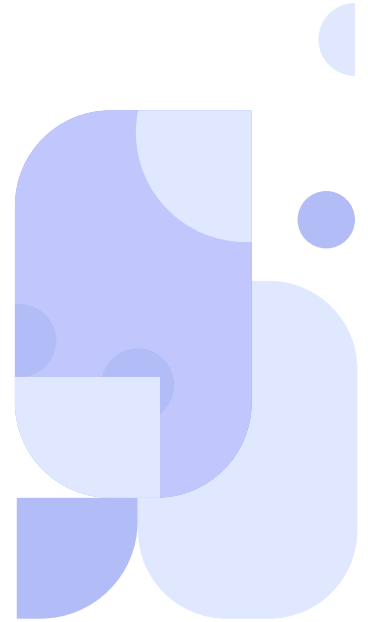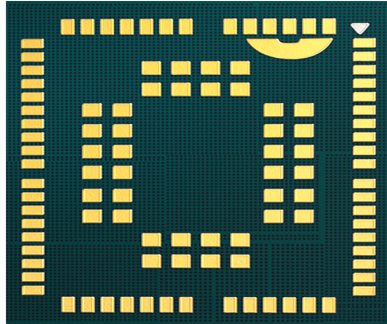# C16QS

Cavli
C Series

Overview

Cavli C16QS modules use their LTE Cat 1.bis technology and optional Integrated GNSS tracking capabilities to simplify global connectivity and tracking solutions. Coming with an optional integrated SIM and Cavli Hubble Device management platform, C16QS is capable of ensuring remote management and seamless global coverage. The module comes in five region-specific variants which can be deployed according to the customer requirements. The C16QS series, with its power saving and DRx/eDRx modes, ensure prolonged battery life.

The module's LTE and GNSS subsystems can be operated independently resulting in an optimized workflow. Being pin compatible with Cavli's C42QM and C42GM, C16QS enables easy design migration.

The above-mentioned features along with its small form-factor and interfacing capabilities ensure simpler designs and makes C16QS ideal for solutions that require reliable connectivity, tracking capabilities or, are constrained by space and power.

Key Highlights

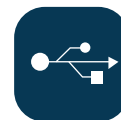|			
LTE Cat 1.bis	Integrated GNSS	Integrated eSIM	Cavli Hubble Platform
Power Saving Mode	Low Power Consumption	Small Form Factor Design	USB 2.0 Interface

CAVLI
wireless

Basic Module Information

Basic Specification

Processor: ARM Cortex M3 processor @204MHz clock

Flash:	4MB
RAM:	1.25MB
RTOS:	FreeRTOS

Radio Technology

RAT Used:	Cat 1.bis
3GPP Release:	14

Network Speed (Peak values)

CAT 1.bis:	DL 10Mbps & UL 5Mbps

LTE Bands

EA:	B1/B3/B5/B8/B20
NA:	B2/B4/B5/B12/B13/B66
LA:	B2/B3/B4/B7/B8/B28
AN:	B1/B5/B3/B8/B18/B19/B26/B28
WW:	B1/B2/B3/B4/B5/B7/B8/B12/B18/ B19/B20/B25/B26/B28/B40/B41/B66

Internet Protocols

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

Interfaces

UART	x3
USB 2.0	x1
USIM (DSSS) (1.8V / 3.0 V)	x1
SWD	x1
Network Status Indicator	x1
Power ON Status Indicator	x1
ADC [2]	x2
I2S [2]	x1
I2C [2]	x1
SPI [2]	x1
GPIO [2]	x4
Main ANT	x1
GNSS ANT [1]	x1

22.5 mm

26.5 mm   2.3 mm
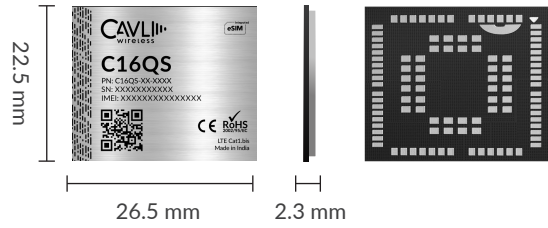
Packaging

Form Factor:	LGA
Dimensions:	26.5 x 22.5 x 2.3 (mm scale)
Pin Count:	102 Pins
Weight:	3.9 mg
Other FF:	mPCIe

Constellation Coverage

GPS/ BeiDou & SBAS + QZSS Capable

Hot Start / Warm Start / Cold Start with AGNSS Support

Temperature Range

Operating Temperature:	-20 °C to 55 °C[4]
Extended Operating Temp:	-30 °C to 75 °C[4]
Storage Temperature:	-45 °C to 90 °C[4]

Power Characteristics

Voltage Range:	3.4 V to 4.2 V
Typical Voltage:	3.7 V

	EA	AN	NA	LA	WW
TxD Peak (@23bBm)	620 mA	TBD	620 mA	TBD	TBD
TxD Typical	70 mA	TBD	68 mA	TBD	TBD
TxD Idle (@23bBm)	18 mA	TBD	16 mA	TBD	TBD
Sleep Mode	TBD	TBD	TBD	TBD	TBD
GNSS (Fix)	60 mA	TBD	60 mA	TBD	TBD

Applicable Region

EMEA & APAC, North America, Latin America, World Wide, Australia, New Zealand, Taiwan, Japan and South Korea

Product Variants

Features	EA EMEA and APAC	AN Australia, New Zealand, Taiwan, Japan and South Korea	NA North America	LA Latin America	WW World Wide
Modem Only	C16QS-EA-S00N	C16QS-AN-S00N	C16QS-NA-S00N	C16QS-LA-S00N	C16QS-WW-S00N
Modem + eSIM	C16QS-EA-S00H	C16QS-AN-S00H	C16QS-NA-S00H	C16QS-LA-S00H	C16QS-WW-S00H
Modem + GNSS (L1)	C16QS-EA-GNAN	C16QS-AN-GNAN	C16QS-NA-GNAN	C16QS-LA-GNAN	C16QS-WW-GNAN
Modem + eSIM + GNSS (L1)	C16QS-EA-GNAH	C16QS-AN-GNAH	C16QS-NA-GNAH	C16QS-LA-GNAH	C16QS-WW-GNAH

[1] Optional   [2] Needs SDK   [3] In Progress   [4] Planned

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