



Technical Specification Document

C10GS LTE Cat 1 Module



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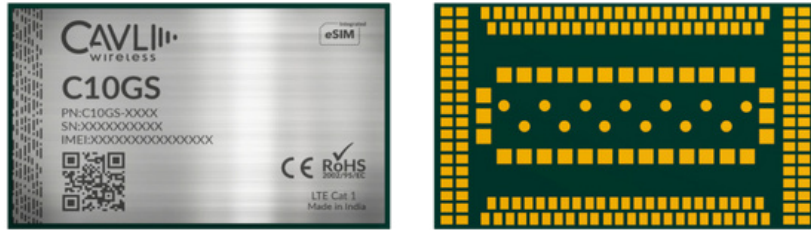


Cavli
C Series

Cavli C-Series C10GS Module



LTE Cat 1 Module



C10GS is an LTE Cat 1 module compatible with 3GPP release 9 standards for IoT and M2M applications. It delivers maximum data rates up to 10 Mbps downlink and 5 Mbps uplink. It has a compact LGA form factor.

C10GS supports an optional integrated eSIM providing global connectivity via Cavli Hubble Device and connectivity management platform. C10GS also supports an optional integrated GNSS making it ideal for location tracking applications. The module comes with Linux-based OpenSDK ensuring application-level coding for specific use cases without requiring an external host MCU.

C10GS is perfect for applications that require medium to high data throughput with location information and global deployments such as Asset Tracking, Vehicular Telemetry System, Portable PoS Machines, etc.

Key features



LTE Cat 1



Integrated GNSS



eSIM



Cavli Hubble
Platform



OpenSDK
Support



Deep Sleep Mode



USB 2.0 Interface

C10GS

Basic Information

Region	Global
CPU	ARM 11@ 400MHz clock
Memory	128 MB RAM + 256 MB Flash
OS	Linux
Package	LGA
Pin Count	211
Dimensions	37 x 21.8 x 2.8 mm
Weight	5.8 g (approx)
Operating Temperature	-20°C to +75°C
Extended Operating Temperature	-30°C to +85°C

Radio Frequency Bands

RAT	LTE Cat 1
Transmission Rates (Peak)	LTE Cat 1: DL 10Mbps & UL 5Mbps
LTE Band List	B1/ B2/ B3/ B4/ B5/ B6/ B8/ B10/ B18/ B19/ B20/ B25/ B26/ B40/ B66
3GPP Release	9

GNSS Capability

Constellations	GPS, GLONASS, BEIDOU, Galileo SBAS + QZSS Capable L1 Band
Time Taken for First Fix (@130dBm)	Cold start: < 27s Hot start: < 1s
Accuracy	Positioning accuracy: 1.5 m CEP (Autonomous) Timing accuracy: 1PPS ±10 ns
Sensitivity	Acquisition: -148 dBm Reacquisition: -160 dBm Tracking: -166 dBm

Network Protocols

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

UART	x4
USB 2.0	x1
USIM (DSSS) (1.8V / 3.0V)	x1
JTAG	x1

¹Optional

²Needs SDK

³In Progress

Network Status Indicator	x1
Power ON Status Indicator	x1
I2C** (5.0 Protocol) (1.8V) (400KHz)	x1
PCM** (16-bits Linear / 8-bits A-Rate / 8-bits U-Rate Encoding) (2048KHz Clock) (8KHz Sync)	x1
SDIO 3.0 4-bits (1.8V / 2.95 V) (Upto 50MHz) (Max: 32GB)	x1
RGMII	x1
SPI**	x1
GPIO**	x13
Main ANT	x1
GNSS ANT*	x1

Electrical Characteristics

Operating Voltage	Range: 3.6V to 4.5V Typical: 3.8V
TxD Idle	210 mA
DRX Mode (Avg)	17 mA
Deep Sleep Mode	1.078 mA

Driver Support

USB Driver	Windows 7 and above, Linux Kernal 3.14 - 5.15
RNDIS Driver	Windows 7 and above
CDC ACM Driver	Linux Kernal 3.14 - 5.15
Android Driver	Android 9 and above

Certifications

Regulatory	Global: GCF ³ Europe: CE UK: UKCA ³ Taiwan: NCC ³ South Korea: KC ³
Carrier	Verizon ³ /AT&T ³ /T-Mobile ³
Others	RoHS/REACH

Other Features

Integrated GNSS	Optional
Integrated eSIM + Hubble Connectivity and Device Management Access	Optional
Mini-PCIe Form Factor	Optional

¹Optional

²Needs SDK

³In Progress



Product Variants

Variant Name	Region	Integrated eSIM	Internal GNSS	OpenSDK
C10GS-S001N	Global	✗	✗	✓
C10GS-S001H		✓	✗	✓
C10GS-GNA1N		✗	✓	✓
C10GS-GNA1H		✓	✓	✓



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