

LTE Cat 1bis

Calliope 2 GC02S1 Modules

Optimized LTE Cat 1bis connectivity
for IoT applications



The Calliope™ 2 GC02S1 modules are built on the robust Sequans Calliope SQN3530 chip, the second-generation Calliope Cat 1 platform. The GC02S1 is the first Cat 1bis module to be certified by seven network operators in North America. It is specifically designed for Industrial IoT applications, featuring an extended temperature range and ultra-low power consumption. With Sequans' 20 years of experience in developing semiconductors for IoT, the GC02S1 stands out as an optimized and reliable solution for IoT applications.

Calliope 2 Cat 1bis Platform

This platform leverages Sequans' extensive 4G experience, with millions of units deployed globally. The GC02S1 supports the optimized Cat 1bis standard, delivering ultra-low power consumption and capable of operating on any LTE network worldwide with a throughput of up to 10Mbps data downlink and 5Mbps data uplink.

Next-Gen: Calliope 3 Platform for 5G eRedCap

Currently in development, Calliope 3 builds on Sequans' deep expertise to deliver the most advanced cellular chip for LPWA applications. This next-generation will be footprint compatible with the current Calliope 2 and support 5G NR eRedCap and Cat 1bis into a single, ultra-efficient chip—setting a new benchmark for cost-optimized, low-power, size and robust connectivity.

Module Variant	Regions	LTE Bands Supported
GC02S1-NA	North America	2, 4, 5, 12, 13, 14, 17, 25, 66
GC02S1-EU	Europe	1, 3, 8, 20, 28
GC02S1-WW*	Worldwide	1, 2, 3, 4, 5, 8, 12, 13, 17, 18, 19, 20, 25, 26, 28, 66

*For future support

Highlights

- + Compact LGA Form Factor
- + Ultra-low power
- + First Cat 1bis module approved by 7 North American carriers (USA and Canada)
- + Worldwide bands for global coverage on public and private networks
- + Edge processing with an open SDK
- + Voice over LTE*
- + Industrial grade: trusted by the most demanding Cat 1bis applications

*For future support

Applications



Asset Tracking



Telematics



Security Systems



Payment



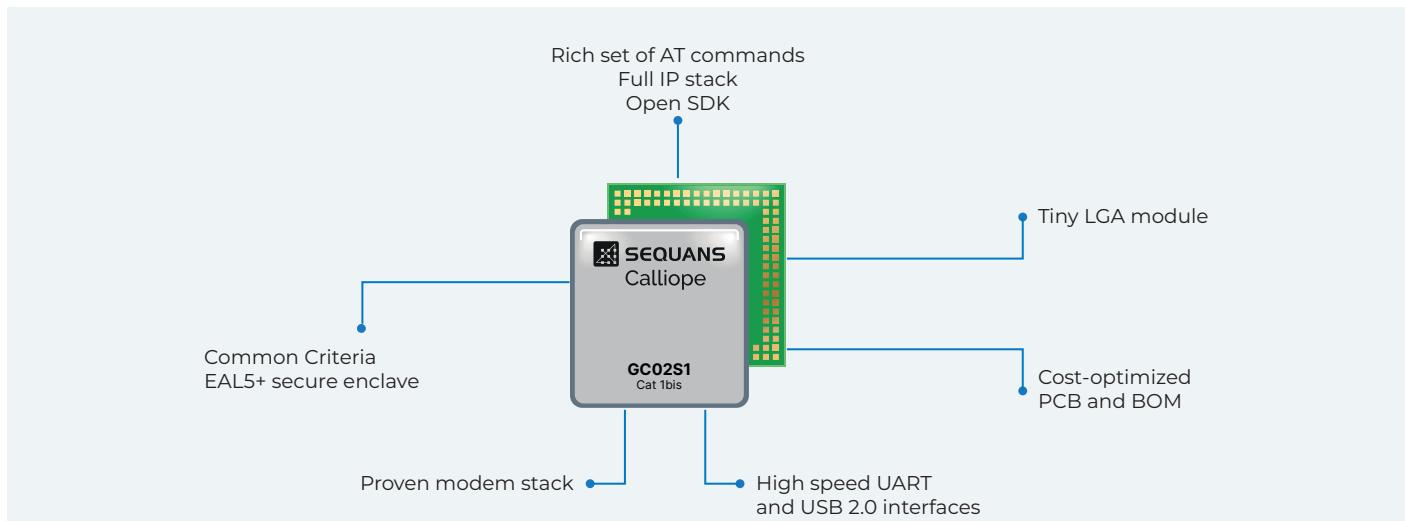
Wearable



Smart City

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LTE Modem

- + Industry lowest deep sleep mode at $1\mu\text{A}$
- + $21 \times 19.5 \times 1.8$ mm LGA module
- + Compatible hardware variants
- + 3GPP Cat 1bis Release 14 (upgradeable to Release 15)
- + Maximum transmit power up to +23 dBm
- + Single power supply: 3.3-5.5V
- + PSM and eDRX (GC02S1-WW)

Throughput

- + LTE Cat 1bis: up to 10 Mbps DL, 5 Mbps UL

Interfaces

- + UART x 3 (max 3.6 MBauds)
- + USB 2.0
- + USIM x 2 (ISO7816)

Software

- + Field proven LTE software stack
- + Rich set of AT commands compatible with other Sequans platforms
- + HTTPS, MQTT, CoAPs to connect to all cloud platforms
- + Virtual LAN over USB ECM
- + (D)FOTA

Environmental

- + Operating temperature: -40°C to $+85^\circ\text{C}$
- + Storage: JEDEC MSL 3

GC02S1 EVKs

Connect to LTE Cat 1bis networks in minutes.

Also includes :

- + Global SIM card from Soracom with 3 months connectivity (up to 30 USD)
- + One MiniUSB cable, embedded antenna with antenna tuner



*For future support

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