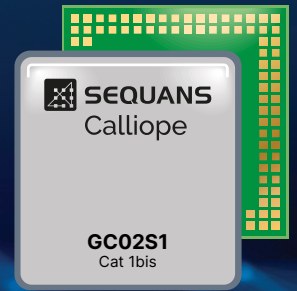


LTE Cat 1bis

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 delivers remarkably high levels of security and reliability.

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.

Highlights

- + Compact LGA Form Factor
- + First Cat 1bis module approved by 7 North American carriers (USA and Canada)
- + Field-validated satellite operation with commercial carrier D2C services
- + Ultra-low power
- + PSM and eDRX (GC02S1-WW)*
- + Worldwide bands for global coverage on public and private networks
- + Edge processing with an open SDK
- + Secure by design: native MQTT v5.0, TLS 1.3, and DTLS 1.2
- + Industrial grade: trusted by the most demanding Cat 1bis applications

** For future support*

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, 18, 19, 20, 25, 26, 28, 66

Applications



Asset Tracking



Telematics



Security Systems



Payment



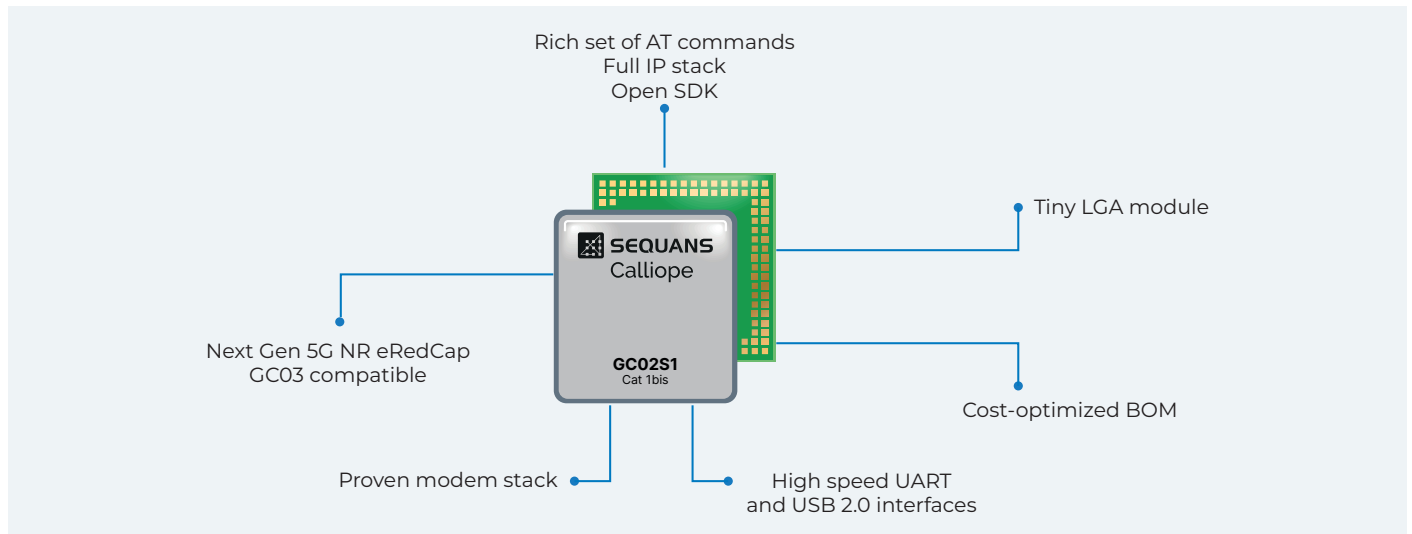
Wearable



Smart City

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LTE Modem

- + Industry lowest deep sleep mode at 1µA
- + PSM and eDRX (GC02S1-WW)*
- + 21 x 19.5 x 1.8 (typ.) mm LGA module
- + Compatible hardware variants
- + 3GPP Cat 1bis Release 14
- + Max transmit power up to +23 dBm
- + Single power supply: 3.3-4.5V

Throughput

- + LTE Cat 1bis: up to 5 Mbps (UL) / 10 Mbps (DL)

Interfaces

- + USB 2.0
- + UART x 3 (max 3.6 MBauds)
- + USIM x 2 (ISO7816)
- + JTAG, I2C, SPI
- + GPIO including multiple module wake inputs and high precision LTE-synchronized GPIOs
- + 50 Ohm cellular antenna interface

Software

- + Field proven LTE software stack
- + Rich set of AT commands compatible with other Sequans platforms
- + TCP/IP stack enabling HTTP(S), MQTT(S) v5.0, CoAP to connect to cloud platforms
- + TLS 1.3, DTLS 1.2
- + Virtual LAN over USB ECM
- + FOTA
- + eSIM-ready with GSMA SGP.22 & SGP.32 ecosystem support

Environmental

- + Operating temperature: -30° C to +85° C
- + Extended temperature: -40° C to +85° C
- + Storage: JEDEC MSL 3

Certification

- + GCF, PTCRB and major MNOs (incl. seven North American network operators)
- + Major regulatory certifications

GC02S1 EVKs

Connect to cellular networks in minutes.

Also includes:

- + Global Soracom SIM card with promotional connectivity included
- + One MiniUSB cable, embedded antenna with antenna tuner



* For future support

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