Calliope US130Q Module

Optimized, single-mode LTE category 1 connectivity solution for US LTE networks operating on LTE bands 2, 4, and 12

The Calliope US130Q module is an all-in-one, single-mode, LTE category 1 (Cat 1) module designed for US operators, supporting LTE bands 2, 4, and 12. The Calliope US130Q module comprises the Calliope Platform and all other elements necessary for a complete LTE modem system. These include an LTE-optimized transceiver, a complete triple-band RF front-end for bands 2, 4 and 12, and key interfaces, all in a single compact package. The Calliope US130Q module also includes Sequans' carrier-proven LTE protocol stack, an IMS client, and a comprehensive software package for over-the-air device management and packet routing. The Calliope US130Q module supports VoLTE and can easily be paired with a GNSS solution for asset and IoT tracking. It is compatible with Linux, Android, and Windows and a wide range of embedded and real-time OSes.

Highlights

- Certified by T-Mobile
- Operates on LTE bands 2, 4 and 12
- Ultra small 22.5 x 22.5 x 1.5 mm LGA module
- Based on Sequans' Calliope LTE Cat 1 platform
  - 3GPP Release 10; software-upgradeable to Release 11
  - PTCRB compliant
  - Category 1 throughput (10Mbps DL/ 5 Mbps UL)
  - Multi-band FDD and TDD capable
- Embedded OMA-DM and IMS clients
- Supports VoLTE
- Compatible with Linux, Android, Windows and a wide range of embedded and real-time OSes
- High-speed UART and USB 2.0 interfaces (including Microsoft-certified MBIM support)
- Fully tested and calibrated
- Pin-to-pin compatible with all Q series modules enabling single platform support for multiple LTE categories and multiple operators

Calliope LTE Platform

At the heart of the Calliope US130Q module is the Calliope LTE Platform, an ultra compact, cost and power-efficient LTE chipset for IoT and M2M device design. Calliope provides all necessary IoT features along with extremely low power consumption at a low cost for industry leading price/performance. Calliope's software suite is based on more than a decade of proven field experience. It is running in major 4G deployments around the world and is one of the most mature solutions in the global 4G ecosystem. It includes the entire LTE Release 10 software stack along with all drivers and host applications required for a complete 4G system. It includes a turnkey package compatible with Linux, Android, Windows and a wide range of embedded and real-time OSes, and contains Sequans' standard compliant OMA-DM and IMS clients. A field diagnostic tool is available for faster time-to-market.

Applications

The Calliope US130Q module is ideal for adding LTE connectivity to M2M and IoT devices. It is an ultra compact, but high performance solution, delivering a perfect blend of LTE features and ultra low power consumption. It supports a wide variety of interfaces, including USB 2.0 device, SDIO 3.0 host, USIM, HS-UART, I2S/PCM-TDM for audio and can seamlessly connect to a GNSS solution for asset and IoT device tracking.

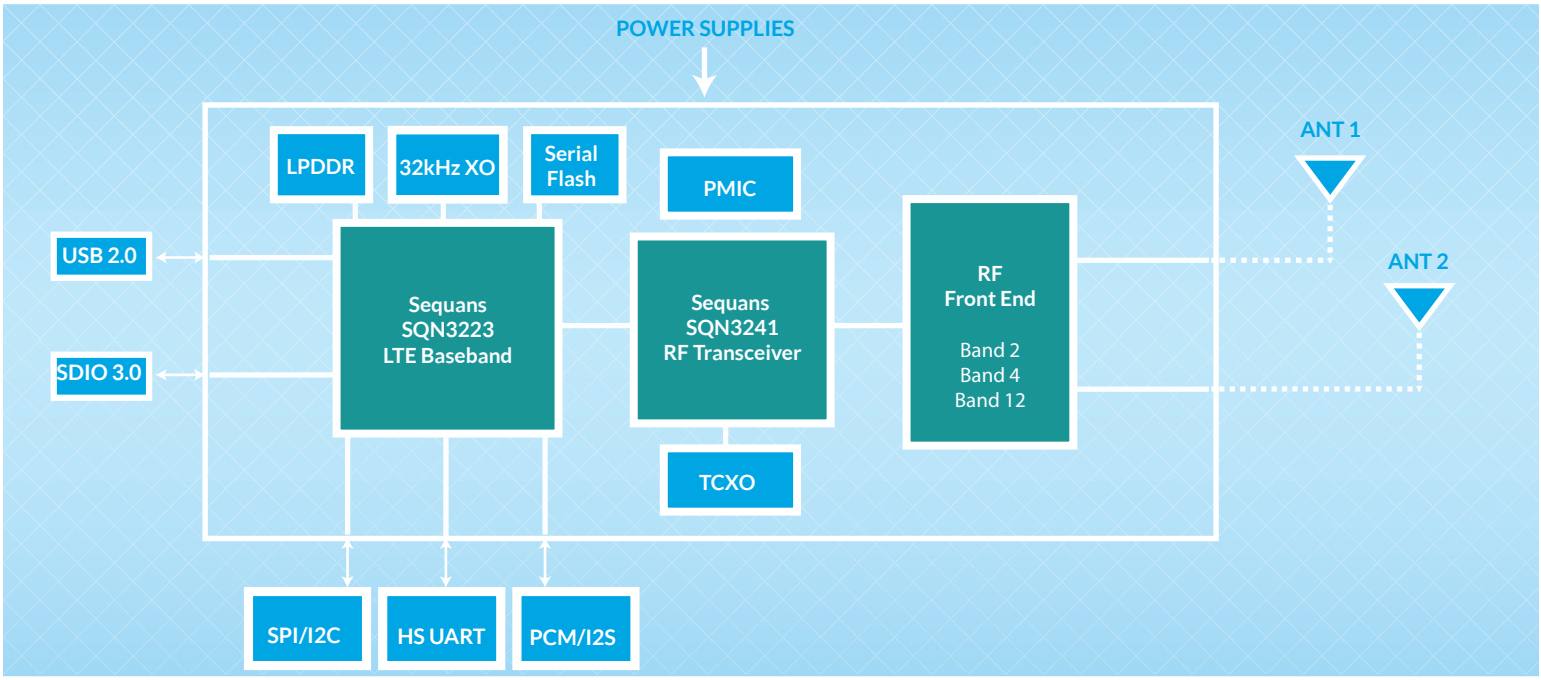
Calliope US130Q module Starter Kit

The Calliope US130Q module starter kit enables plug-and-play development with all major operating systems. The starter kit also includes schematic layout and BOM design files for use in PCB designs.

Calliope US130Q Module

Optimized, single-mode LTE category 1 connectivity solution for US LTE networks operating on LTE bands 2, 4, and 12

Calliope US130Q module block diagram



Product characteristics

LTE modem

- Certified compliant with T-Mobile specifications
- 22.5x22.5x1.5mm, LGA module
- Operates on FDD LTE bands 2,4 and 12
- 3GPP Release 10 and PTCRB compliant
- VoLTE ready
- Certified compliant with FCC modular requirements
- Max transmit power up to +23 dBm
- RoHS Compliant

Throughput

- LTE Category 1: 10 Mbps DL / 5 Mbps UL

Data Interfaces

- USB 2.0 device
- SDIO 3.0 host
- SPI
- High speed UART
- PCM-TDM and I2S (audio)

Environmental

- Operating temperature: -30˚ C to +60˚ C ambient
- Storage: -40˚ C to +85˚ C

PI-US130Q-4-20200615

SEQUANS