Cassiopeia CB410L and CB610L CBRS Modules

Featuring Highly-optimized Cellular Connectivity to CBRS Networks

Sequans' CBRS modules are the industry's first cost-effective leadless chip carrier (LCC) modules designed from the ground up to enable easy and massive deployment of IoT devices on private LTE CBRS networks. The modules are suitable for a wide range of medium-rate data applications and are based on Sequans' Cassiopeia LTE technology. Benefiting from Sequans' decade-long experience in 3.5 GHz spectrum deployments, CB410L and CB610L offer the industry's most highly-optimized cellular connectivity for CBRS networks and they are pin-to-pin compatible, supporting LTE Cat 4 (CB410L) or LTE Cat 6 (CB610L). The very small form factor LCC package enables easy mounting into small and thin devices or onto mini-PCI or M.2 NGFF carriers. CB410L and CB610L embed Sequans' carrier-proven LTE protocol stack and comprehensive application software and are compliant with CBRS networks operating on LTE band 48 in USA. The modules can also operate on other networks in the 3.5 GHz spectrum block, including LTE bands 42 and 43. Drivers for all major host operating systems drivers are also available, optimizing time-to-market and product cost.

Highlights

- All-in-one standalone module
- Small 32 x 29 mm leadless chip carrier (LCC) package
- CBRS networks in USA on LTE band 48
- MNO networks worldwide on LTE bands 42/43
- FCC
- 3GPP Release 10
- Easy integration into IoT, M2M and broadband applications
- Drivers compatible with Linux, Android, Google Chrome, MAC OS, Windows and a wide range of embedded and real-time OSes
- Comprehensive set of interfaces

Sequans Cassiopeia LTE platform

Cassiopeia is a compact, cost and power-efficient chip platform optimized for IoT, M2M, and broadband devices for the design of medium-rate data applications. Cassiopeia provides all necessary features along with low power consumption at a low cost for an industry-leading price/performance capability. Cassiopeia's software suite includes the entire LTE Release 10 software stack along with all drivers and host applications required for a complete 4G system and a turnkey package for all major operating systems. Cassiopeia also includes Sequans' standard compliant OMA-DM and IMS clients and a wide range of application software for SMS, VoLTE, location-based services, Wi-Fi SoftAP. A field diagnostic tool is available for faster time-to-market.
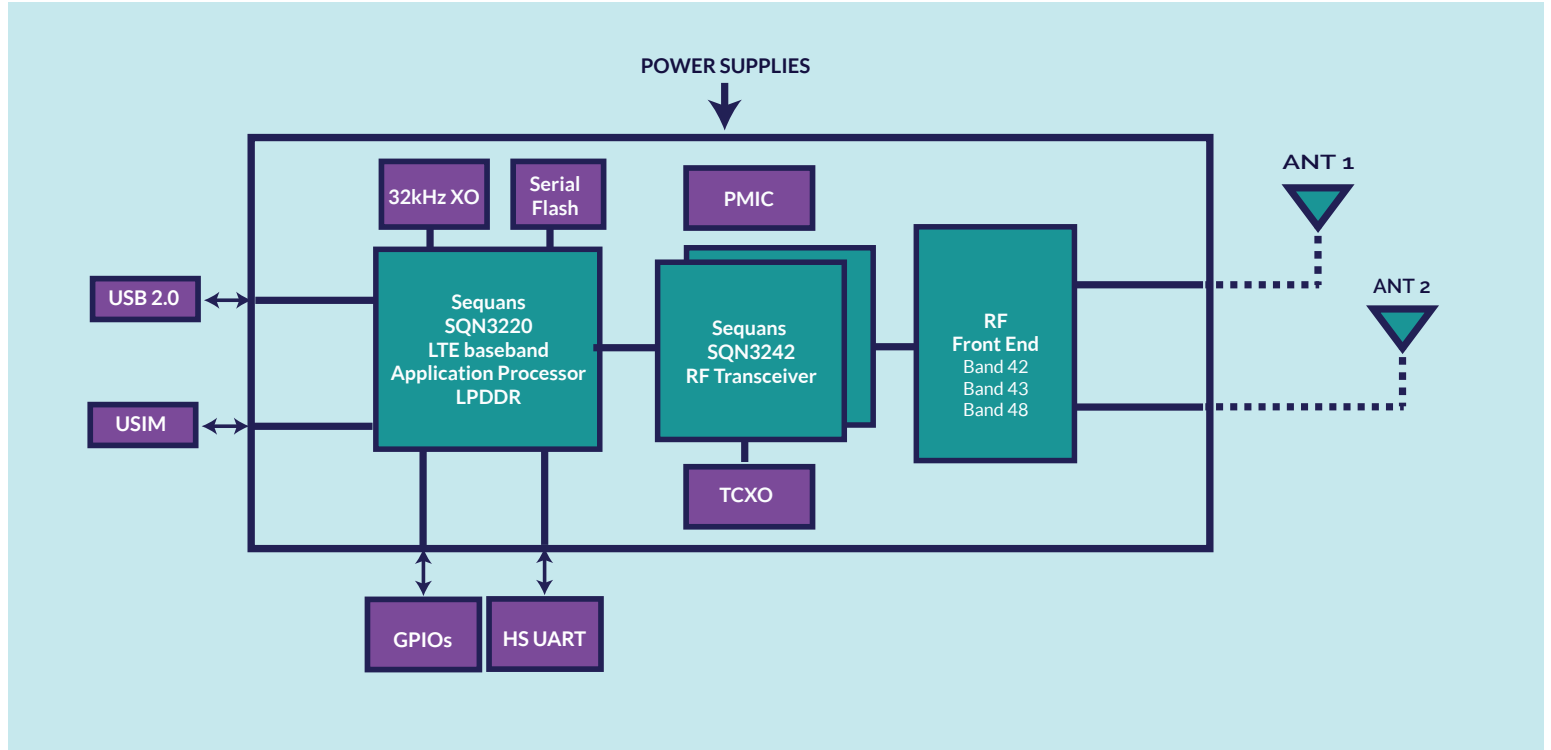
Applications

CB610L and CB410L are ideal for adding LTE connectivity to electronics devices for industrial Internet of Things (IoT), Machine-to-Machine (M2M) and broadband consumer applications. The LCC package allows for a cost-efficient platform and simple PCB design. The modules support a wide variety of interfaces, including USB 2.0 device and UARTs.

CBRS starter kit

The Starter Kit enables out-of-the-box testing of Sequans'Cassiopeia CB610L or CB410L module connectivity on a CBRS network or testing equipment. It supports integration of the module with a host platform through a USB interface. Connect the Starter Kit to your laptop's USB port and begin your tests by using its rich set of AT commands.

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CB610L module block diagram

POWER SUPPLIES

32kHz XO

Serial Flash

PMIC

USB 2.0

Sequans
SQN3220
LTE baseband
Application Processor
LPDDR

Sequans
SQN3242
RF Transceiver

RF
Front End
Band 42
Band 43
Band 48

ANT 1

ANT 2

USIM

TCXO

GPIOs

HS UART

Product Characteristics

LTE modem
- 3GPP Release 10
- Max TX power: +23dBm
- Rx diversity
- Power saving modes
- TDD LTE bands 42, 43, 48

CB410L throughput
- UE Cat 4
- Downlink packet data service up to 100 Mbps
- Uplink packet data service up to 20 Mbps

CB610L throughput
- UE Cat 6
- Downlink packet data service up to 200Mbps
- Downlink 2-CC Carrier Aggregation
- Uplink packet data service up to 20 Mbps

Interfaces
- USB 2.0 (high-speed)
- HS-UART
- USIM
- GPIOs

Packaging
- 80 pin LCC, 32.0 x 29.0 mm

Environmental
- Operating temperature –40 ˚C to +85 ˚C
- RoHS compliant (lead-free)

32 mm

29 mm

CB610L
Cassiopeia
RoHS
FCC ID:XXXXXXXXXX
IMEI:XXXXXXXXXXXX
S/N:XXXXXXXXXXX
Made in TW

SEQUANS