

cassiopeia

CA410 Modules

Private & Public
LTE Cat 4

Cellular IoT Connectivity for USA Private and Public LTE Networks

Sequans' Cassiopeia™ CA410 LTE Cat 4 modules are designed to support massive deployment of IoT devices on both private and public LTE networks in the USA. The modules uniquely combine support for CBRS band 48, Anterix band 8/band 106, and all major USA public mobile network operator bands in a single, all-in-one solution.

The CA410 module is available in two form factors: 1) LCC, a small form factor that enables easy mounting into small and thin devices; and 2) M.2, a standard form factor that enables immediate integration into devices with M.2 sockets. The modules are based on Sequans' Cassiopeia LTE Cat 4 technology and leverage Sequans' decades-long experience with US mobile network operator deployments, with millions of units deployed. Sequans CA410 modules are the first LTE Cat 4 modules to successfully integrate a field-proven support of band 106.



Highlights

- LTE Cat 4
 - Downlink : 150 Mbps
 - Uplink : 50 Mbps
- Bands supported
 - Private LTE bands: B48 (CBRS)/US B8 – B106 (Anterix)
 - Public USA MNO LTE bands: 2/4/5/12/13/14/26/66
- Form factors
 - LCC package: 32 x 29 x 2.4 mm
 - M.2 (type 3042): 42 x 30 x 3.2 mm
- Certified: FCC, ISCED, GCF, PTCRB
- Comprehensive set of interfaces
- Drivers compatible with Linux, Windows and a wide range of embedded and real time OS

Sequans Cassiopeia LTE platform

At the heart of the CA410 modules is Sequans' Cassiopeia LTE chipset, delivering 150 Mbps of downlink throughput. Cassiopeia is a cost and power-efficient chip platform, comprising optimized baseband and RF transceivers and a comprehensive software suite. Sequans designs and owns all its technology, from chip to software to module, thus ensuring an exceptionally low total cost of ownership and fast time to market.

Applications

The CA410 modules are ideal for adding LTE connectivity to IoT devices in numerous markets operating on private and/or public LTE networks. Applications include gateways and routers for the industrial IoT segment, broadband tablets and tracking devices, and smart meters and advanced metering infrastructure (AMI) equipment for the utilities segment. The LCC form factor allows for a simple PCB design and the M.2 form factor allows plug-and-play for those devices with M.2 connector slots.

Key Features

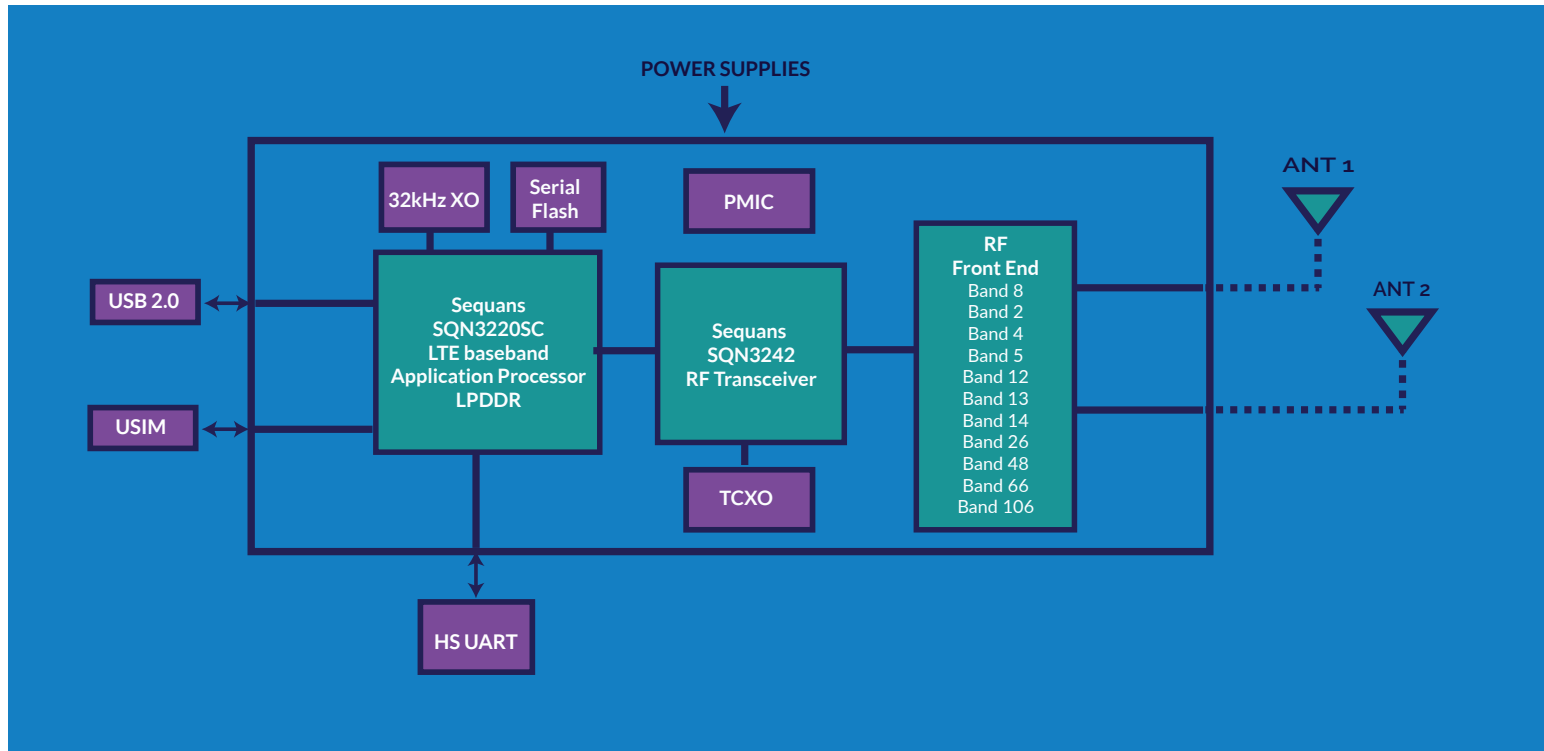
Anterix-Sequans Collaboration

Anterix is the largest holder of spectrum in the 900 MHz band and the CA410 modules offer special value to utilities companies who are members of the Anterix Active Ecosystem. The modules not only support the growth of the entire utility device ecosystem, but also serve to modernize and streamline energy distribution network operations, increasing the overall value of private LTE network investments.

Customer Assurance

The CA410 modules offer industry-leading reliability, scalability, and security for the design of Cat 4 IoT devices of nearly every kind. They are backed by Sequans extensive experience with USA mobile network operators, and by Sequans technology that is among the most mature and proven in the industry. The Cassiopeia chipset on which the CA410 modules are based is designed in the EU and manufactured in Taiwan, and the module is manufactured in Vietnam, ensuring that there is no country-of-origin issue within the USA critical utility market.

CA410 module block diagram



Product Characteristics

LTE modem

- ❖ TDD LTE band 48
- ❖ FDD LTE bands 2, 4, 5, US 8, 12, 13, 14, 26, 66, 106
- ❖ 3GPP Release 10
- ❖ Max TX power: +23dBm
- ❖ Rx diversity
- ❖ Power saving modes
- ❖ Power supply: 3.2 – 4.4V

Throughput

- ❖ LTE Cat 4
- ❖ Downlink: 100Mbps in TDD, 150Mbps in FDD
- ❖ Uplink: 15Mbps in TDD, 50Mbps in FDD

Interfaces

- ❖ USB 2.0 (high-speed)
- ❖ HS-UART (LCC package only)
- ❖ USIM

Packaging

- ❖ 144-pin pads: 80 LCC pads and 64 LGA pads, 32.0 x 29.0 x 2.4 mm
- ❖ M.2 type 3042, 42 x 30 x 3.2 mm

Environmental

- ❖ Operating temperature –40 °C to +85 °C
- ❖ RoHS compliant (lead-free)

