Monarch GM01Q Module
Optimized, single-mode LTE category M1/NB1 IoT connectivity solution for worldwide use

The Monarch GM01Q module is an all-in-one, single-mode LTE category M1/NB1 module with worldwide deployment and roaming capability. The Monarch GM01Q module comprises Sequans' Monarch LTE Platform and all other elements necessary for a complete LTE modem system. These include an LTE-optimized transceiver, a complete Single SKU™ RF front-end to support LTE bands worldwide, and key interfaces, all in a single compact LGA package. The Monarch GM01Q module also includes Sequans' carrier-proven LTE protocol stack and a comprehensive software package for over-the-air device management and packet routing. The Monarch GM01Q module is compatible with any host running Linux, Windows and a wide range of embedded and real-time operating systems.

Monarch LTE Platform
At the heart of the Monarch GM01Q module is the Monarch LTE-M/NB-IoT chip platform, an ultra-compact, cost and power-efficient LTE chip for IoT and M2M device design. Monarch provides all necessary IoT features along with extremely low power consumption at a low cost for industry leading price/performance. Monarch’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 13 software stack. It contains Sequans' standard compliant LWM2M client. A field diagnostic tool is available for faster time-to-market.

Applications
The Monarch GM01Q module is ideal for adding LTE connectivity to M2M and IoT devices. It is an ultra-compact, high performance solution, delivering a perfect blend of LTE features and ultra-low power consumption ideal for the design of cellular devices including sensors, meters, buttons, and trackers of all kinds.

Monarch GM01Q Module Evaluation Kit
The Monarch GM01Q module evaluation kit enables plug-and-play development with all major operating systems. The evaluation kit also includes a schematic layout and BOM design files for use in PCB designs.
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Monarch GM01Q module block diagram

Product characteristics

**LTE Modem**
- Certified by operators: AT&T, Deutsche Telekom, KDDI, NTT Docomo, Orange, Softbank, Sprint, Telstra, TELUS, Verizon Wireless
- 20 x 21 x 1.5 mm LGA module
- HD-FDD low and mid LTE bands (1, 2, 3, 4, 5, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 66)
- 3GPP Release 13 upgradable to 14
- SMS over SG
- No IMS
- LWM2M client
- Certified compliant with FCC, GCF, PTRCB, IC, ACMA, JATE, TELEC
- Max transmit power up to +23 dBm
- RoHS compliant

**Throughput**
- LTE UE category M1 (1.4 MHz bandwidth) up to 300 kbps DL/375 kbps UL in HD-FDD
- LTE UE category NB1 (200 kHz bandwidth) up to 40 kbps DL/55 kbps UL in HD-FDD

**Interfaces**
- High speed UART
- USIM
- 50 ohm antenna interface

**Environmental**
- Operating temperature: -30°C to +85°C
- Storage: -40°C to +85°C

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