Monarch Go
Connected by Verizon

Certified LTE IoT category M1 modem component with embedded antenna and optional embedded GPS

Ready to Go. Connected by Verizon.

Monarch Go, connected by Verizon, is a comprehensive modem component offering device makers the shortest possible route to market and lowest total cost of ownership (TCO) to develop a cellular-IoT connected device. Unlike traditional cellular modules, it is already certified for use on the Verizon network, avoiding costly lab testing while improving time-to-market thanks to a reduced effort for board design. It completely removes the need to design and tune a cellular antenna as it embeds an optimized LTE antenna, saving months of design effort and lab testing. Monarch Go comes with a pre-installed ThingSpace IoT SIM and gives device makers the simplest, easiest, and most cost-effective solution for developing IoT devices --- simply plug it in and go.

Highlights

- LTE-M modem component with embedded antenna certified for use on the Verizon network
- Optional embedded GPS
- ThingSpace IoT SIM pre-installed
- Easy connection to cloud services from third party and geolocation
- ThingSpace online management
- Industry-leading network coverage in the USA
- Available from Avnet

Applications

The Monarch Go LTE-M modem component is perfectly suited for a broad range of IoT applications, including telemetry, vending machines, agriculture sensor applications, asset and transportation trackers, hardware tools, and home security monitoring applications.

Monarch Go

Monarch Go with embedded SIM and antenna is already certified for use on the Verizon network as a device, so there is no need for device makers to re-certify their devices in US. Monarch Go modem component comes with a default data plan and all applications benefit instantly from Verizon's excellent nationwide network coverage. Customer can contact Verizon representative to adjust the data plan.

The Monarch Go modem component greatly simplifies the integration of IoT devices with cloud platforms:
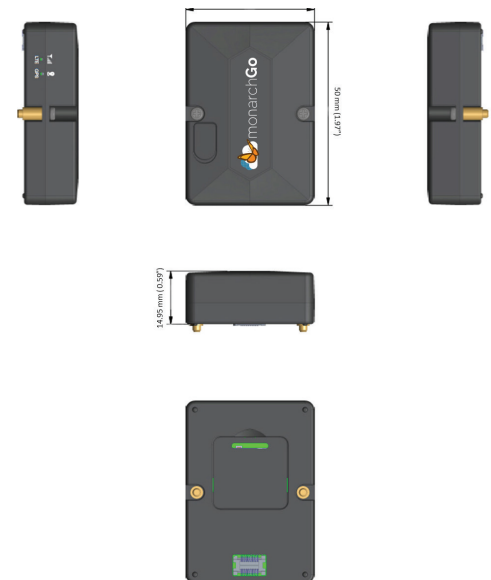
- It enables easy integration with cloud-based services such as AWS, Microsoft Azure or other third party cloud servers.

- It is integrated with ThingSpace online management platform for Verizon data plan selection and activation, and firmware upgrades over-the-air with Verizon FOTA service.

- It provides location-based services [1] for a wide range of tracking applications, from those needing coarse location accuracy (500-1000 meters) to those needing precise location accuracy (less than 5 meters).
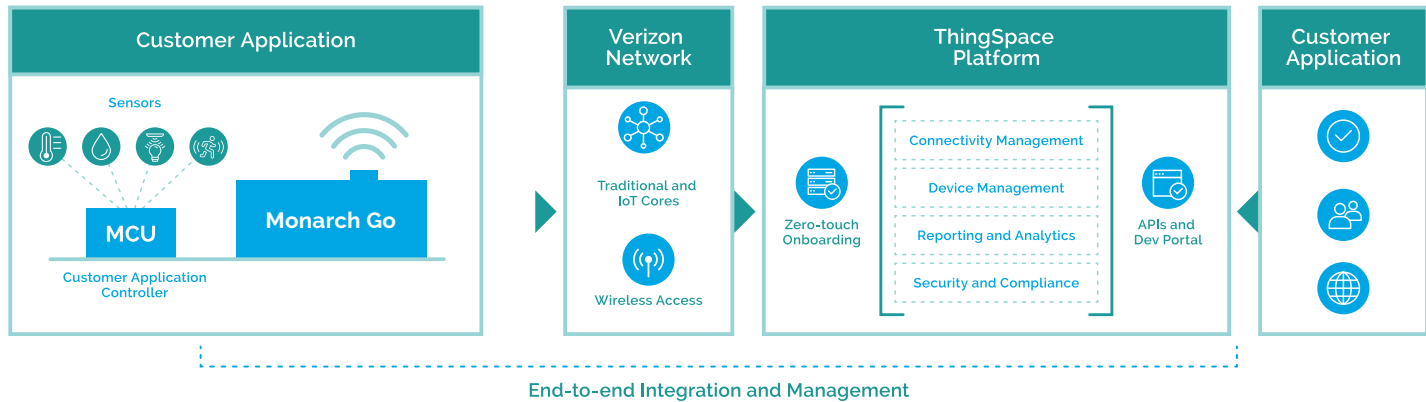
Easy Integration into IoT Devices

The mechanical integration of the Monarch Go LTE-M modem component into IoT devices is extremely simple, requiring only two screws, a single low profile board-to-board connector, and no soldering. Monarch Go includes an industry standard UART interface and a set of AT commands and examples for connection to your device application MCU controller.

ThingSpace Ready

End-to-end Integration and Management

Product Characteristics

Monarch Go can be ordered without GPS (Monarch Go)
or with GPS (Monarch Go-GPS).

Mechanical
- Small dimensions: 35 mm (1.38") x 50 mm (1.97") x 14.95 mm (0.59")
- Plastic enclosure fixable with 2 screws
- Shipped with ThingSpace SIM pre-installed
- Embedded LTE antenna
- Low profile 20-pin digital board-to-board connector to connect your application controller through industry standard UART interface
- LED for modem activity
- LED for GPS activity (only available with Monarch Go-GPS)
- 16 g weight

Modem
- Sequans Monarch™ LTE-M chip
- Pre-installed ThingSpace IoT SIM
- Certified for use on the Verizon network (LTE band 13) with roadmap for global band support
- Compatible with Linux, Windows and a wide range of embedded and real-time OSes
- High-speed UART as data and AT command interface
- Embedded IP stack with support for UDP, TCP, TFTP, FTP, HTTP, HTTPS, MQTT or MQTTS
- Location based services [1]
- SMS send and receive
- Low power modes PSM, eDRX, RRC IDLE

- Support for Verizon FOTA services from ThingSpace online management platform
- LTE Cat M1: 375 kbps uplink and 300 kbps downlink (peak)

LTE-M Data Plan
- Verizon LTE-M data plans available from ThingSpace online management platform
- Get started quickly by activating your device/s online at: https://thingspace.verizon.com/start

GPS
- Available only when ordering Monarch Go-GPS
- Sensitivity: Tracking -162 dBm; Acquisition -148 dBm
- Location update rate up to 1 Hz

Electrical and RF
- Regulated supply voltage 3.1 V to 5.5 V
- 1 µA ultra low power mode (PSM) without GPS; 35 µA with GPS
- 1.8 V UART interface
- Max transmit power up to +23 dBm, LTE band 13
- Certified FCC compliant

Starter Kit
- Available for rapid prototyping with Windows laptop

Environmental
- Operating temperature: -40˚ C to +80˚ C
- Storage: -40˚ C to +85˚ C
- RoHS compliant