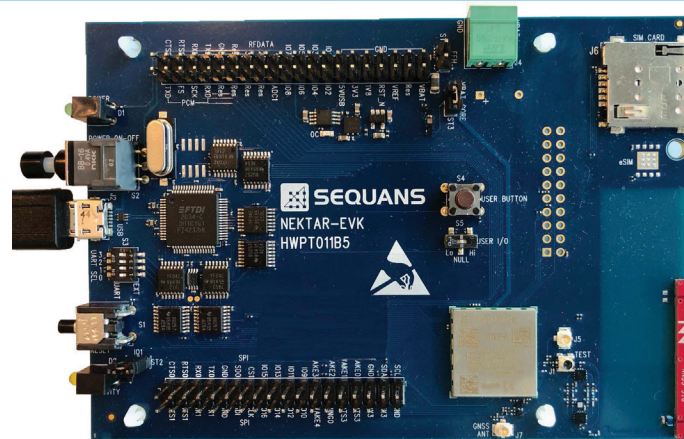# monarch**2**
GM02SP - NEKTAR Evaluation Kit

LTE-M & NB-IoT

NEKTAR Evaluation Kit --- Ready to Connect and Provide GNSS Location

In minutes, the Monarch 2 GM02SP-NEKTAR evaluation kit (EVK) allows you to connect to cellular LTE-M/NB-IoT networks and receive GNSS positioning information. The NEKTAR EVK comes pre-packaged with a global SIM card with pre-paid connectivity and an internal antenna. You can connect the NEKTAR EVK to your PC via the USB port, or you can connect it directly to your favorite MCU by using the UART port available on header pins. The NEKTAR EVK supports worldwide cellular IoT connectivity, as well as GNSS location positioning and is powered by Sequans' Monarch 2 GM02SP module. With NEKTAR you can very easily measure the ultra-low power consumption of Monarch 2 GM02SP and test its rich set of AT commands.

Highlights

- Pre-paid SIM with global connectivity included
- Integrated, on-board LTE antenna from Ignion, 617-900Mhz, 1695-2200Mhz
- GNSS location positioning support
- Easy power measurement with external power supply
- Suitable for lab or field testing
- Access to all module interfaces for development and testing
- NEKTAR-CONNEKT interface connector for daughter boards

Product Characteristics

Interfaces
- 4xUART over USB
- UART direct access
- Removable SIM
- MFF2 SIM
- JTAG
- Power plug
- LTE RF connector
- GNSS RF input (external antenna)

Other Features
- Soldering bridges to easily change pull-up/pull-down configuration
- Remote reset over USB
- Automatic switching when using external power supply

Software
- Field proven LTE software stack
- Adjustable GNSS operating modes

Reference Design
- Schematics, BOM and layout of NEKTAR available as reference design

RF Frequency
- Worldwide Single SKU™ design
- 617 – 2200MHz (incl. bands 1,2,3,4,5,8,12,13, 14,17,18,19,20,25,26,28,66,71,85)
- L1 band support for GPS and Galileo satellite constellations

Operating Supply
- 5V when operated via USB
- 2.2V-5.5V when using external power supply
- UART/GPIO logic: 1.8V

Evaluation Kit Description
- Based on Monarch 2 GM02SP
- Pre-paid SIM card with 150MB of data (90 days validity)
- One MiniUSB cable, embedded Ignion® antenna with antenna tuner, and external GNSS antenna with cable
- User manual available for download

Usage
- Connecting to a host PC (Windows / Linux) via USB cable
- Connecting to a MCU via the header UART pins (1.8V)
- Controlling the module through AT commands
- Attaching to LTE live network or test equipment (CMW500 or similar)
- Determining location via GNSS technology
- Sending data through PPP, or Sockets (TCP, UDP) with support of MQTTS, HTTPS, CoAP
- Measuring power consumption of Monarch 2 GM02SP

For more documentation on Monarch 2 GM02SP-NEKTAR EVK, check our documentation site https://cloud.sequans.com/

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