Monarch Go Arduino Shield

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Reach Further ™

The Monarch Go Arduino Shield is a cellular IoT enablement platform featuring the Sequans Monarch Go modem. This shield is an ideal starting point for LTE IoT application development. The production-certified Monarch Go modem is end application certified allowing for easy transition from development to production.

Out of box, the Monarch Go Arduino Shield in conjunction with the LPC55S69-EVK is enabled with Microsoft Azure and AWS cloud support. This includes an Azure IoT Central and Avnet IoTConnect cloud example. Having these examples available for user development out of box will save the user hundreds of hours in application development cost in addition to providing a time-to-market advantage.

In addition to providing Monarch Go LTE connectivity, the Monarch Go Arduino Shield is fitted with a MikroElektronika shuttle click expansion connector for click module ecosystem enablement. The click module ecosystem enables over 700 3.3V I/O, I2C, SPI, UART and GPIO-based click modules. This click module ecosystem enables sensors, interfaces, displays, motor controls and more to allow for thousands of LTE IoT development applications.

The Monarch Go Arduino Shield also has an onboard VEML6030 ambient light sensor and a SE050 plug-and-trust secure element. The availability of these capabilities on board enables prototyping of both motion and secure LTE applications out of box.

The Monarch Go Cat-M1 modem delivers the shortest possible route to market and lowest development cost for cellular IoT-connected devices. Unlike traditional cellular modules, this modem is certified for use on the Verizon network, which avoids costly lab testing while improving time to market. The Monarch Go has an integrated antenna and pre-installed Verizon ThingSpace IoT SIM card, giving developers an easy, cost-effective approach to developing LTE IoT solutions.

FEATURES

- Arduino form factor enables use with NXP EVK and third-party boards
- Monarch Go modem (Sequans) LTE Cat-M1 connectivity
- Integrated LTE antenna
- Pre-installed ThingsSpace IoT SIM card (Verizon)
- Production-ready, certified solution

- SE050 EdgeLock Plug & Trust Secure Element (NXP)
- VEML6030 ambient light sensor (Vishay)
- I/O Voltage level-shifters (1.8V to 3.3V)
- Shuttle expansion connector (for expansion via MikroE click boards)
    - I2C, SPI, GPIO, PWM, ADC, UART (3.3V I/O)

To purchase this kit, visit avnet.me/MonarchGo-Shield
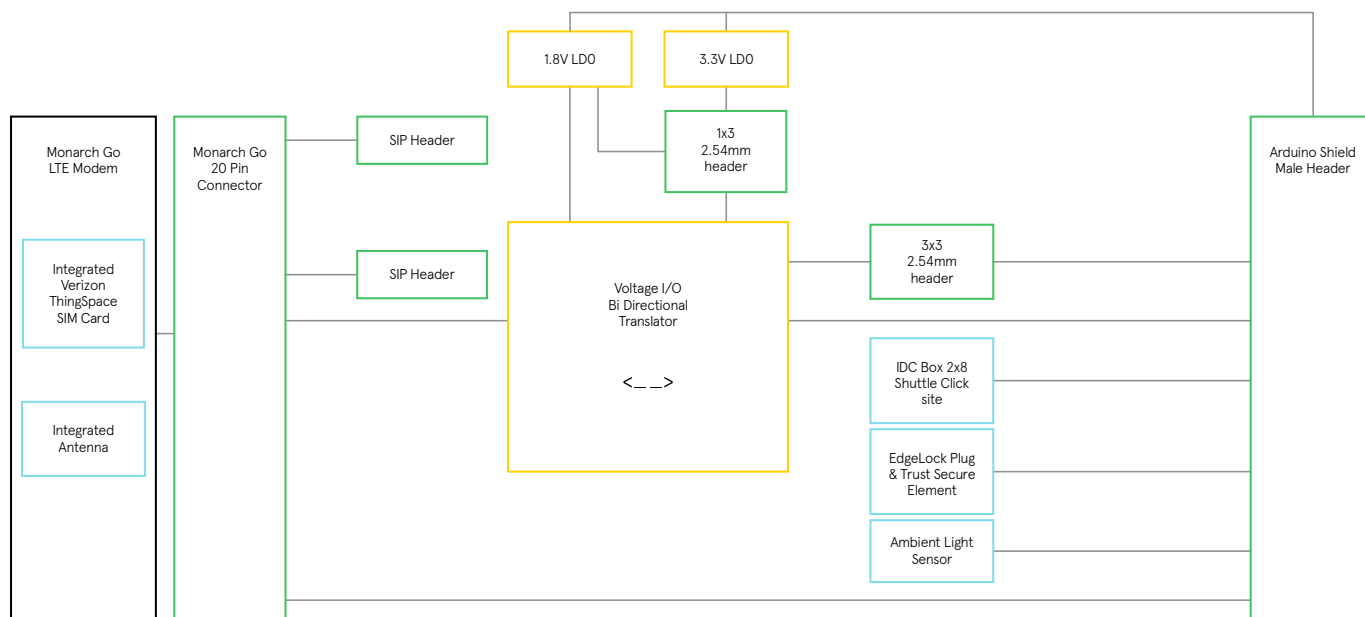
DESIGNED BY AVNET

KIT INCLUDES

- Avnet Monarch Go Arduino Shield
- Sequans Monarch Go LTE modem
- Verizon ThingSpace IoT SIM card
- Quick start card

TARGET APPS

- Asset tracking
- Remote monitoring
- Embedded kiosk
- LTE IoT platform enablement

BLOCK DIAGRAM

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                          ┌──────────┐   ┌──────────┐
                          │ 1.8V LD0 │   │ 3.3V LD0 │
                          └──────────┘   └──────────┘
                                              │
                                         ┌─────────┐
┌──────────────┐  ┌────────────┐  ┌────────────┐   │   1x3   │               ┌──────────────┐
│  Monarch Go  │  │ Monarch Go │  │ SIP Header │   │ 2.54mm  │               │ Arduino Shield│
│  LTE Modem   │  │  20 Pin    │  └────────────┘   │ header  │               │ Male Header  │
│              │  │ Connector  │                   └─────────┘               │              │
│ ┌──────────┐ │  │            │  ┌────────────┐  ┌──────────────┐  ┌────────┐│              │
│ │Integrated│ │  │            │  │ SIP Header │  │ Voltage I/O  │  │  3x3   ││              │
│ │ Verizon  │ │  │            │  └────────────┘  │Bi Directional│  │ 2.54mm ││              │
│ │ThingSpace│ │  │            │                  │  Translator  │  │ header ││              │
│ │ SIM Card │ │  │            │                  │              │  └────────┘│              │
│ └──────────┘ │  │            │                  │   <_ _>      │  ┌──────────────┐          │
│ ┌──────────┐ │  │            │                  │              │  │ IDC Box 2x8  │          │
│ │Integrated│ │  │            │                  │              │  │Shuttle Click │          │
│ │ Antenna  │ │  │            │                  │              │  │    site      │          │
│ └──────────┘ │  │            │                  │              │  └──────────────┘          │
│              │  │            │                  └──────────────┘  ┌──────────────┐          │
│              │  │            │                                    │ EdgeLock Plug│          │
│              │  │            │                                    │ & Trust Secure│         │
│              │  │            │                                    │   Element    │          │
│              │  │            │                                    └──────────────┘          │
│              │  │            │                                    ┌──────────────┐          │
│              │  │            │                                    │Ambient Light │          │
│              │  │            │                                    │   Sensor     │          │
└──────────────┘  └────────────┘                                   └──────────────┘ └────────┘
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FEATURED MANUFACTURERS

NXP   SEQUANS   MIKROE   VISHAY   molex

PARTS

Part Number	Description	Resale
AES-SQN-MNRCHGO-SHLD1-G	Implementation of the Monarch Go production-ready modem in an Arduino shield form factor	$69.95 USD

RELATED PARTS

Part Number	Description	Resale
MONARCH-GO	Production-certified LTE Cat-M1 modem	$38.00 USD
MONARCH-GO-GPS	Production-certified LTE Cat-M1 Modem w/ GPS	$44.67 USD
AES-NXP-MNRCH-M1-DK-G	Monarch LTE-M development kit that features the NXP LPC55S69 EVK paired with a Monarch Go Arduino shield and modem	$99.00 USD
AES-SQN-MNRCHGO-HT1-G	Monarch Go Pi HAT	$72.95 USD
MIKROE-2880	mikroBus socket expansion board	$8.00 USD

Countries Available for Purchase: United States

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