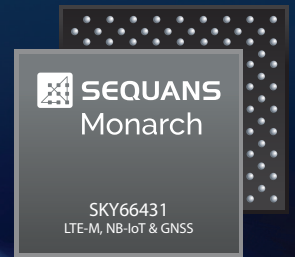


LTE-M, NB-IoT & GNSS

Monarch 2 SKY66431 SiP

Low Power System-in-Package



Co-developed by Sequans and Skyworks, the Monarch® 2 SKY66431 is an ultra-compact System-in-Package (SiP) designed for LTE-M and NB-IoT applications. With a conformal shielding for durability and environmental resistance, the Monarch 2 SKY66431 achieves an industry-leading compact footprint of just 8.8 x 11.3 x 1.585 mm in a BGA package. It integrates the complete RF front end, transceiver, power management, RAM, crystals, and baseband modem into a single multi-band LTE radio solution, supporting global connectivity across the 698–2200 MHz frequency range. Additionally, the Monarch 2 SiP optionally includes low-power GNSS functionality and delivers remarkably high levels of security and reliability.

Monarch 2 LTE-M & NB-IoT Platform

At the heart of Monarch 2 SKY66431 SiP is a flexible platform offering a variety of services. These include an open SDK environment allowing customer application development, a full IP stack delivering a high level of security, and compliance with the latest eSIM standards, with flexible support for customer-managed firmware updates (FOTA). An optional GNSS functionality, notably optimized in power consumption, further extends this platform.

Highlights

- + System-in-Package for ultra-small device
- + Conformal shielding for durability and environmental resistance
- + Ultra-low power
- + Worldwide bands for global coverage on public and private networks
- + Location services with integrated GNSS
- + Edge processing with an open SDK
- + Secure by design: native MQTT v5.0, TLS 1.3, and DTLS 1.2
- + Industrial grade: trusted by the most demanding LPWA applications

System-in-Package	Regions	LTE Bands Supported	GNSS
SKY66431	Worldwide	1, 2, 3, 4, 5, 8 (incl. US band 8), 12, 13, 17, 18, 19, 20, 25, 26, 28, 66, 85	Optional

Applications



Asset Tracking



Utility Meters



Industrial Sensors



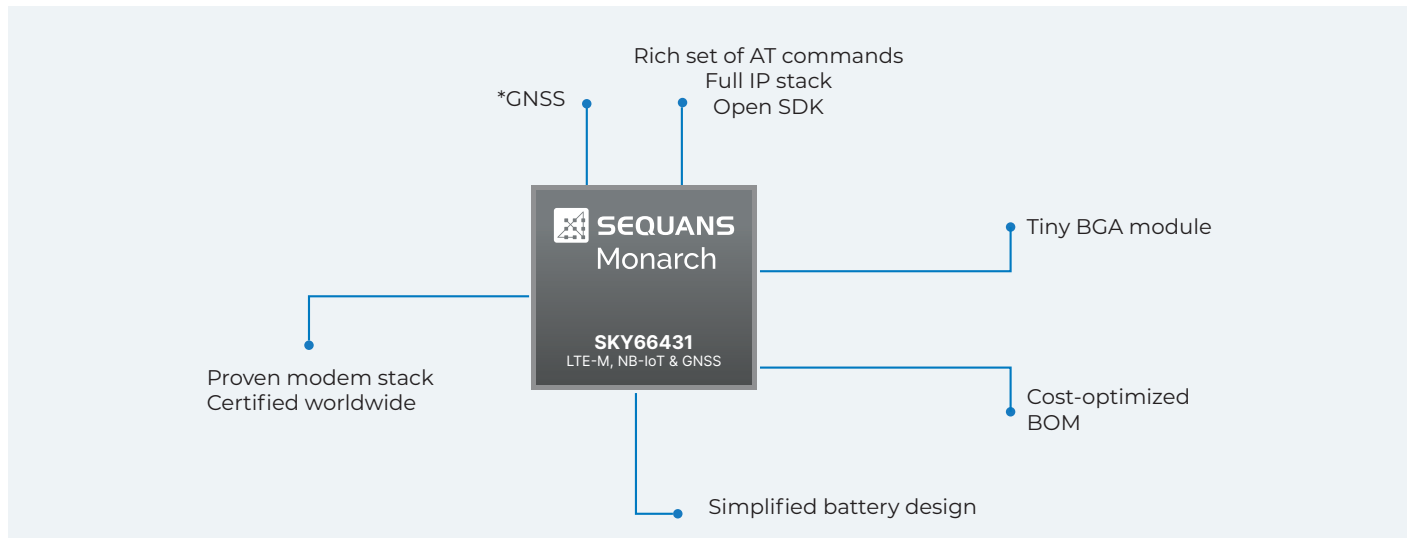
Health & Fitness Bands



Smart Home

Monarch 2 SKY66431 SiP

Low Power System-in-Package with LTE-M, NB-IoT & GNSS



LTE Modem

- + Industry lowest deep sleep mode at 1µA (used in PSM and eDRX)
- + 8.8 x 11.3 x 1.585 mm (max) BGA package, 0.5 and 1 mm pitch
- + 3GPP Release 14
- + Max transmit power up to +23dBm
- + Single power supply: 2.8-5.5V

Throughput

- + LTE Cat M1: up to 1.1 Mbps (UL) / 0.3 Mbps (DL)
- + LTE Cat NB1/NB2: up to 105 kbps (UL) / 80 kbps (DL)

Interfaces

- + UART x 3
- + USIM x 1 (ISO7816)
- + Quad-IO SPI interface (QSPI) for Flash access
- + JTAG, I2C, SPI
- + GPIO including multiple module wake inputs and high precision LTE-synchronized GPIOs
- + 50 Ohm cellular antenna interface
- + Dedicated GNSS RF input*

Software

- + Field proven LTE-M & NB-IoT LTE software stack
- + Rich set of AT commands compatible with other Sequans platforms
- + IP and non-IP data delivery
- + TCP/IP stack enabling HTTP(S), MQTT(S) v5.0, CoAP to connect to cloud platforms
- + TLS 1.3, DTLS 1.2
- + AT Command driven GNSS navigation modes*
- + eSIM-ready with GSMA SGP.22 & SGP.32 ecosystem support

Environmental

- + Operating temperature: -30°C to +85°C
- + Extended temperature: -40°C to +85°C
- + Silver (Ag) free conformal shielding, Halogen free, GaAs free
- + Storage: JEDEC MSL 3

GNSS*

- + L1 band
- + Very low-power consumption per fix (with configurable performance vs. power levels)

Certification

- + GCF, PTCRB and major MNOs
- + FCC, ISED/IC, RED, UKCA, ACMA

SKY66431 EVK

Connect to cellular networks and get GNSS location in minutes.

Also includes:

- + Global Soracom SIM card with promotional connectivity included
- + One MiniUSB cable, embedded antenna with antenna tuner
- + GNSS antenna



SKY66431 EVK

* optional

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