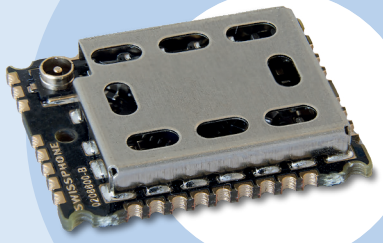
mioty® Module m.YON

SWISSPHONE

Small and Flexible – For Demanding IoT Applications



Swissphone's mioty® end-point module is designed for applications that require an optimal bidirectional link budget while keeping cost to a minimum. The compact size and the flexible RF connection of the module enables it to be easily integrated on a large variety of IoT boards with on-board or external antennas. The module comes pre-loaded with Swissphone's mioty® firmware offering a serial AT-protocol over UART or binary SPI access.

Mioty® is a low power wide area network (LPWAN) technology that uses Telegram Splitting to achieve high interference resilience against radio transmissions of other radio sources within a dense and uncontrolled ISM environment. This makes mioty® an extremely robust and resilient LPWAN connection with excellent network coverage, energy efficiency and scalability, suitable also for mobile applications. In addition, mioty® integrates modern security features for today's most demanding IoT and industrial IoT (IIoT) applications.

Mioty® TS-UNB is standardized by the European Telecommunications Standards Institute (ETSI TS 103 357) and is thus the first non-proprietary radio data transmission standard for LPWAN in the license-free frequency band. For users, this ensures a high degree of future security with long-term investment protection and worldwide interoperability.

Key Performance Features

- Mioty® Class A end-point module
- Up to +18 dBm output power and -132 dBm sensitivity
- Compact LCC form factor: 18.0 × 14.3 × 3.0 mm
- Operating temperature range: -20 °C to +55 °C
- Optimized for license free SRD 868 MHz band in Europe
- Radio protocol: ETSI TS103357 TS-UNB / mioty alliance CVT compliant
- Compact SoC solution based on Silicon Labs EFR32FG14 radio
- Flexible RF interface (direct PCB / U.FL)
- Dual mode host interface (AT UART / binary SPI)
- Pre-loaded Class A EU868 modem stack with boot loader
- Variant for Class Z / US915W / IN866 on request

mioty alliance

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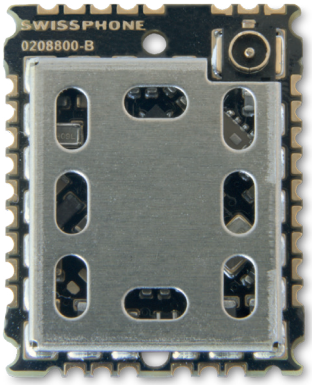
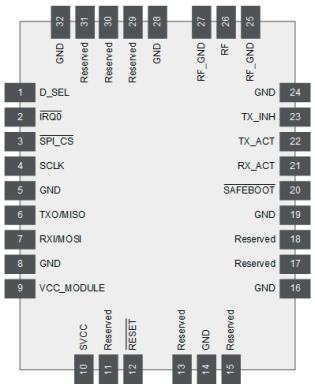
	Performance features	Technical data
Radio	SoC	EFR32FG14
mioty® RF performance	Regional radio profiles	EU868A / EU868 US915W / IN866 (on request)
	Frequency stability	± 1 ppm (factory tuned) ± 20 ppm (over temperature and age)
	RF power output	+18 dBm
	RF sensitivity (ACK)	< -132 dBm @ 10 % PER
Power supply	Internal DC/DC	2.5 to 3.6 V
	Uplink transmission @ +18 dBm (1 core frame, 10 bytes, 363 ms on-air time)	~71 µWh ~16 mA average / 108 mA peak current
	Downlink reception (1 core frame + extension frame)	~26 µWh ~5 mA average / 18 mA peak current
	Idle state (UART / SPI)	~3 µA / ~8 µA
	Shutdown state	< 100 nA
Interfaces	RF port	Direct edge contact to PCB and U.FL / MHF I / UMCC connector
	Serial	UART SPI
	Updates	via UART/SPI boot loader
	Digital	3 Inputs (DSEL, TX-Inhibit, Safe-boot) 3 Outputs (RX-/TX-Active, IRQ)
Protocols		mioty® EP AT protocol (UART)
		SWION binary (SPI)
General	Package & size	32 pin LCC (Leadless Chip Carrier): 18.0 × 14.3 × 3.0 mm
	Weight	1.0 g
	Operating temperature range	-20 °C to +55 °C
	Humidity range	10 % to 95 % rel. (non-condensing)
	Compliance with EU regulations: Radio Equipment Directive (RED), 2014/53/EU RoHS Recast Directive, 2011/65/EU WEEE Directive, 2012/19/EU	Safety EN 62368 Radio ETSI EN 300 220 (pre-compliant for conducted requirement) ETSI TS103357 «mioty alliance EP CVT certified»

Specifications are subject to change without notice.





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