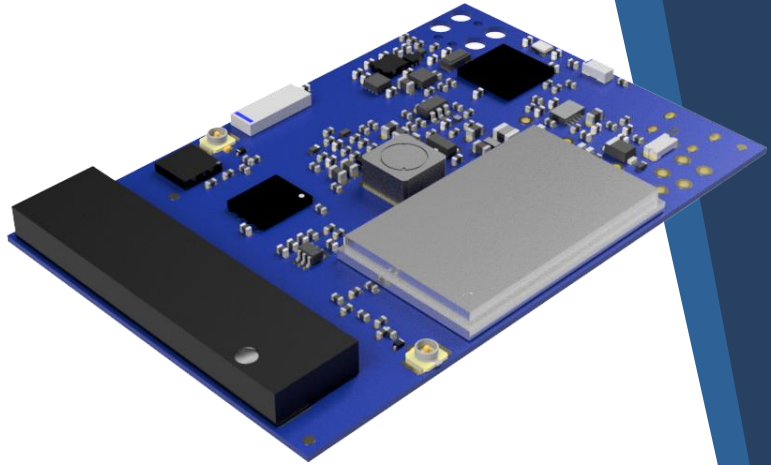


Intrack R3 – Basic – IoT Platform

1. Overview

The Intrack is a modular IoT device that can be used for many purposes, generally and primarily as a tracking device for indoor and outdoor positioning.

This ready to use module is a battery driven IoT – “Internet of Things” concept based on the newest wireless technologies



2. Key features

- Battery driven device
 - ◆ Ultra – Low Power Circuitry
 - ◆ Lifetime up to several years
- LPWA: NB – IoT/LTE cat. M1
 - ◆ PSM
 - ◆ eDRX
- BLE 5.0
 - ◆ BLE indoor positioning
- I2C/SPI/UART/USB available interfaces
- ADC available for external data
- Remote control over device behavior
- Complete IoT ECO environment
- Configurable working modes
- Movement/Activity detection
- Temperature measurements
- Variable message structure
- GNSS outdoor positioning
- Operating Temperature
 - ◆ $-20 \div 65[^\circ\text{C}]$

3. Applications

- Outdoor/Indoor tracking systems.
- Fixed indoor tracking systems.
- High performance sensor’s mesh.
- Anti-theft systems.
- Alarm systems.
- BLE/Narrowband IOT gateway
- Environmental monitoring

design is not enough

ELECTRICAL

Input Voltage		Power Consumption	
Typ.	3.6V	▪ Deep Sleep	Typ. 33[uA] @ 3.6[V]
Min.	3V	▪ Active	Mean 24[mA] @ 3.6[V]
Max.	4.2V		Peak 160[mA] @ 3.6[V]

GEOLOCATION

Constellation Support		Sensitivity	
Outdoor	▪ Hybrid GPS (SBAS Engine)	▪ Tracking	Max. -167 [dBm]
	▪ GLONASS	▪ Reacquisition	Max. -160 [dBm]
	▪ GALILEO	▪ Cold start	Max. -148 [dBm]
		▪ Hot start	Max. -157 [dBm]
Accuracy*:		Low Power Mode	≤ 20 [m]
		High Accuracy Mode	Up to 1 [m]

*Accuracy strongly depends on the use case/firmware version (different configurations of the GNSS module)

Technology		Range
Indoor	BLE Beacons detection	0.1 ÷ 100 [m]
	Monitoring Inertial Sensor	Monitoring relative movements

SENSORS

Environment			
Temperature	Typ.	±1 [°C]	@ Range: -40 ÷ 125 [°C]

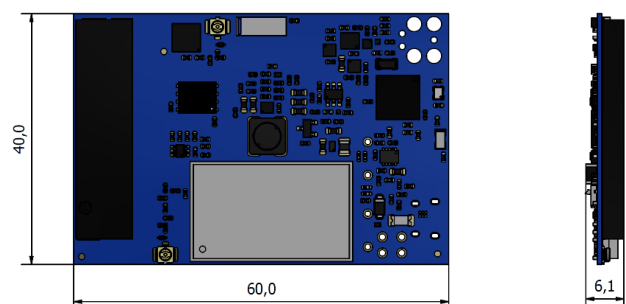
Motion			
Sensitivity	Accelerometer	Min.	187.5 [mg/digit] @ ±16 [gauss]
		Max.	31.2 [mg/digit] @ ±4 [gauss]

BATTERY

Capacity		Operating Temp.
Li-SOCl ₂	3500 [mAh]	-40 ÷ 85 [°C]
	x num. of cells	
Device battery life extremely depends on the set use case.		Example: Over 10k messages sent by the Intrack device driven by 2 cells.

LPWAN

Rel. 13	NB - IoT	LTE cat M1	
	164 [dB]	155.7 [dB]	Coverage
	180 [kHz]	1.08 [MHz]	Bandwidth
	Half duplex	Full/half-B duplex	Duplexing



design is not enough