TinySensor Wirepas
Wirepas Mesh 2.4GHz sensor

Data sheet

Key features

- **Customizable sensor in Wirepas Mesh 2.4GHz technology**
- **Based on Tinygateway WiFi hardware platform**
- **Integrates standard MicroBUS socket for integration of sensors from the MicroE Click boards catalogue**
- **Power supply via USB-C port or internal connector**
- **It can be used as a development board to accelerate IoT projects on Wirepas Mesh**

GATT and advertising	
Based on Wirepas Mesh 2.4GHz stack v5.x	
Available applications: Wirepas PosApp, BlueUp PosApp	
Wirepas PosApp	
Configuration and diagnostics	WNT (Wirepas Network Tool)
Operating modes	Router node (anchor tag with sensors)
BLE beaconing	iBeacon, Eddystone UID, Eddystone URL (fixed packet)
BlueUp PosApp	
Configuration and diagnostics	WNT (Wirepas Network Tool), Wirepas Gateway APIs, MeshCube APIs
Operating modes	Opportunistic anchor (Low Energy or Low Latency)
BLE beaconing	iBeacon, Eddystone UID (configurable packet)
Sensor interval	Configurable (from 1 minute to 1 hour)

Device specifications	
Electrical specifications	
Core module	Nordic nRF52832 SoC (MCU and radio transceiver)
MCU core	ARM Cortex-M4 32-bit CPU
Current consumption (25°C)	Radio TX: 7.1 mA (0 dBm TX); Radio RX: 6.5 mA Idle mode: 3 µA; Idle mode with accelerometer ON: 7 µA
Radio specifications	
Standard	Wirepas Mesh 2.4GHz (stack v5.x)
Frequency band	2.402 to 2.480 GHz
Channel spacing	2 MHz

Radio specifications (cont.)	
BLE beaconing channels	CH37 (2.402 GHz), CH38 (2.426 GHz), CH39 (2.480 GHz)
TX power	Conducted: +4 dBm (max) EIRP (Equivalent Isotropic Radiated Power): +7 dBm (max)
Antenna	
Type	Directive planar printed antenna
Gain	2 dBi (max)
Radiation diagram	Directive with 10dB front-to-back ratio (FBR)
Power	
Power supply	• USB: USB-C connector • Internal 2-port: pluggable connector, Würth series 301/3157 compatible. Rear knockout for cable entry (20mm diameter)
Power voltage	• 5 Vdc (USB) • 4.5 to 30 Vdc (internal 2-port)
Current	Depends on the type of the sensor and on the configuration
Sensors and interfaces	
Sensors	Can be selected from MicroE Click Boards catalog or a custom design can be requested
Interfaces	Compatible with MicroBUS standard
Mechanical specifications	
Material	Recyclable ABS plastic (flame-resistant)
Color	White
Size	74 x 74 x 25.5 mm
Weight	50 gr
Protection	- (vented enclosure)
Assembly	Front and back clip together construction (tool required for disassembly once mounted)
Mounting options	Dual-adhesive or screws
Environmental specifications	
Operating temperature	-40°C to +65°C
Storage temperature	-40°C to +105°C