Ultra Wirepas

Wirepas Mesh 2.4GHz indoor anchor with optional sensors

Data sheet

Key features

- **Suitable for indoor localization and tracking**
- **Based on Nordic nRF52832**
- **Firmware based on Wirepas libraries**
- **Directive antenna for higher accuracy**
- **Enclosure suitable for wall/ceiling installation**
- **Optional versions with environmental sensors**
- **Powered by 4x alkaline batteries or USB**

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	Opportunistic anchor
BLE beaconing	iBeacon, Eddystone UID, Eddystone URL (fixed packet)
BlueUp PosApp	
Configuration and diagnostics	WNT (Wirepas Network Tool) / BlueUp MeshCube
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
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	3 dB (max)
Radiation diagram	Directive with 10dB front-to-back ratio (FBR)

Power				
Version	ZERO	BASE	PLUS	DELUXE
Power supply	Battery	Battery and external 5Vdc		
Replaceable battery	Yes			
Battery type	4x AA (1.5V, alkaline)			
Model	Panasonic LR6 or equivalent (typical tot. capacity 5600 mAh @ 25°C)			
External supply		MicroUSB port (5Vdc)		

Sensors and interfaces				
Version	ZERO	BASE	PLUS	DELUXE
Sensors	-	-	Temperature Humidity	Temperature Humidity Pressure CO2
Interfaces	-	Button, LED		

Sensors specifications	
Temperature	$\pm0.2°C$ (0-70°C), $\pm0.3°C$ (-40-100°C)
Humidity	3%RH (RH=0 to 85%RH), 4%RH (RH=85 to 95%RH)
Pressure	$\pm9Pa$ (900-1100hPa, 25-40°C), $\pm50Pa$ (300-1100hPa, 0-65°C)
CO2	±40 ppm +5% (400 to 5000 ppm); range: 400 to 32768 ppm

Mechanical specifications	
Material	ABS plastic
Color	White
Size	100 x 100 x 28 mm (without flanges) 124 x 100 x 28 mm (including flanges)
Weight	197 gr
Fastening	Lateral flanges for 2x M4 screws (optional plastic holder available)
Opening	4 screws on back panel
Protection	IP40 (Ver. Zero); - (other versions)
Flammability	UL 94 V0

Environmental specifications	
Operating temperature	-20°C to +60°C (battery operating life sharply decreases under 0°C)
Storage temperature	+10°C to +30°C (with battery), -40°C to +85°C (without battery)

Certifications	
CE	

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