



PRODUCT DATASHEET

proxigent

Ultra-Wideband Proximity Anchor

P/N: PX-A

PX-A is a fixed-infrastructure Ultra-Wideband (UWB) anchor designed for precise proximity detection of PP-TB Tags within indoor or semi-open environments. The device implements the IEEE 802.15.4ab draft-clause 3 physical layer and optimized ranging profiles enabling low-latency, high-accuracy proximity events for enterprise-grade systems such as asset tracking, personnel safety, hygiene compliance, and location-aware automation.

PX-A is engineered as an always-on proximity receiver with deterministic response characteristics, stable RF performance, and a hardened communication interface suitable for large-scale deployments. The module supports wired or wireless backhaul, integrated system health monitoring, and secure firmware update mechanisms.

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Radio Specification:

Parameter	Value / Description
Location Technology	Ultra-Wideband (UWB), 6.7–9.2 GHz center frequency
Standard Compliance	IEEE 802.15.4ab draft-clause 33
Channel Bandwidth	500 MHz (typical for UWB ranges in this band)
Antenna	Integrated UWB antenna (PCB-based, optimized for proximity detection)
Proximity Mode	UWB proximity burst-detection, anchor-as-receiver
Additional Wireless Interfaces	Wi-Fi 2.4 GHz (AP mode – blue LED, STA mode – green LED)
OTA Update Capability	Hardware-ready for OTA firmware upgrade

Electrical Specification:

Parameter	Value / Description
Primary MCU	STM32 series
Wireless Module	ESP32-C3 (Wi-Fi IEEE 802.11b/g/n + BLE 5)
Power Supply	USB-C (5 V)
Optional Battery	Rechargeable 18650 Li-Po battery
Battery Runtime	Up to 2 days (depending on Wi-Fi mode, duty cycle, and UWB scan behavior)
Trigger I/O (GPIO)	Input for external wake-up (functional behavior not verified)
System Status Indicators	Charging (red/green), Wi-Fi AP (blue), Wi-Fi STA (green)

Mechanical Specification:

Parameter	Value / Description
Dimensions	92.5 × 75 × 31.8 mm
Weight	127 g (with battery)
Enclosure	ABS/PC housing
Mounting Methods	Wall/ceiling mount or adhesive (depending on mechanical kit)

Environmental Conditions:

Parameter	Value / Description
Operating Temperature	0°C to 50°C
Storage Temperature	-25°C to 70°C
Operating Humidity	20-95% RH (non-condensing)
Storage Humidity	0-95% RH (non-condensing)
Environmental Rating	Indoor use, non-condensing
Compliance	RoHS, REACH, In preparation CE, FCC, UKCA

HOUSING PICTURE:



PCBA PICTURES:

