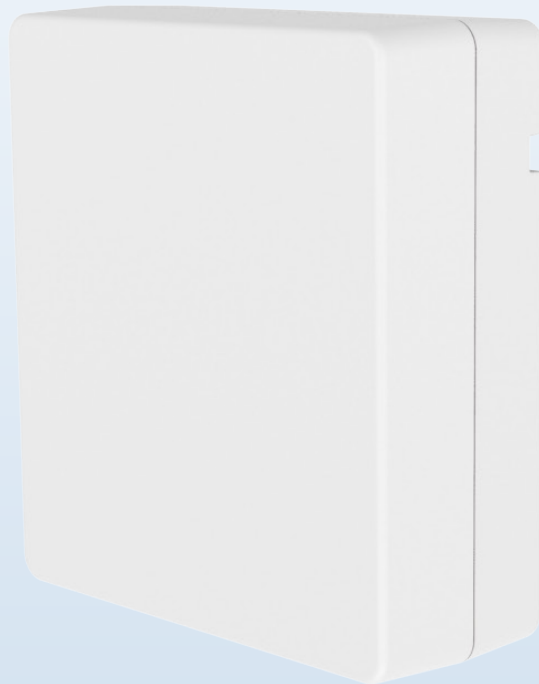




MNDBPOE1 PoE Dual Band Bridge

Datasheet



PRODUCT OVERVIEW

Wiliot bridges serve 3 operational tasks: energizing Wiliot IOT Pixels, receiving and filtering packets from Pixels, and echoing the filtered packets to gateways. The Minew Dual Band Reference Bridge runs Wiliot firmware and is optimized for Wiliot deployments. It features a Sub-1 GHz antenna for energizing Pixels and a 2.4 GHz antenna for echoing Wiliot Bluetooth packets.



DETAILED SPECIFICATION

| | Parameter | Description |
|---------------|-----------------------|---|
| Functionality | Common Uses | Asset Tracking, Inventory, Temperature Sensing, Proximity |
| | Supported Products | Dual Band Pixel, Single Band Pixel, Battery Assisted Pixel |
| | Key Functions | Energizing Pixels, Rebroadcast (Echo) Pixel Packets to gateway, Pacing Data |
| Hardware | Antennas | 2.4GHz: 5dBi,Linear polarization, 915MHz: 2.5dBi,Linear polarization WiFi: 3dBi,Linear polarization |
| | LED Indicators | Blue and Red (Power and Data) |
| | Firmware | Firmware provided by Wiliot |
| | Power | PoE IEEE 802.3af (PoE + Ethernet) 5 volt ,1amp, USB C (USB C Power and WiFi) |
| | Network connection | PoE/Wifi |
| Package | Detailed Dimensions | 11 x 10 x 4 cm |
| | Weight | 6.9 oz |
| | Installation | IScrew sockets, cable tie slots, ¼-20 threaded insert |
| | Certifications | WIP |
| | Operating temperature | -20~65°C |

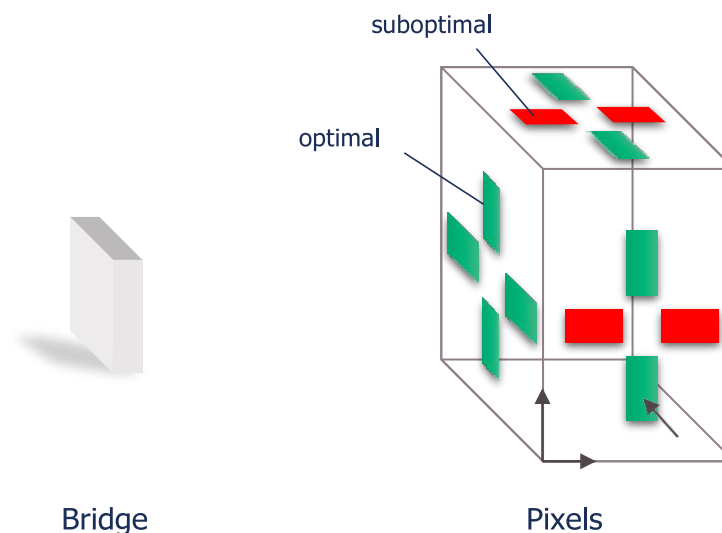
DETAILED SPECIFICATION

RADIO

| Parameter | | Pixel Packet Echo | Pixel Energizing |
|-----------|------------------------------|---|------------------------|
| | Function | Retransmit Wiliot Pixel packets, calibrate nearby Wiliot Pixels | Energize nearby pixels |
| Broadcast | Signal Protocol | Bluetooth® Low Energy (LE) 5.2 (2.4 GHz) | FSK\CSS (915MHz) |
| | Signal Strength | EIRP +20dBm@2.4GHz Max | EIRP +26dBm@915MHz Max |
| | Range | 50-100 meters to gateway | 15 meters |
| Payload | Broadcast Packet | Standard Bluetooth Low Energy Packet (PDU), payload: Wiliot Ephemeral ID (WEID) | -- |
| | Security | AES-128, encryption and authentication | |
| | Pixel Calibration Beacons | 3 BLE advertisements every 90ms (default) | |
| | Default Echo Pacing Interval | 15 s (configurable) | |

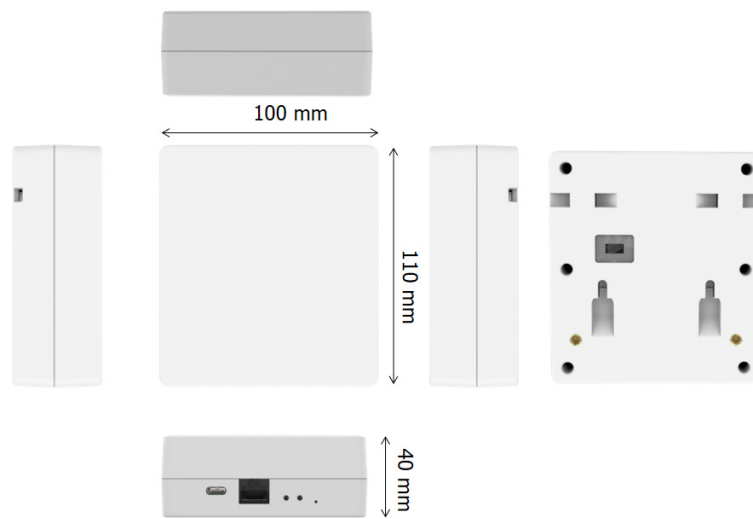
BRIDGE AND TAG ORIENTATION

The relative orientation of the bridge and tag antenna will affect energizing and broadcasting performance. The Dual Linear antenna in the Minew Dual Band Bridge makes it agnostic to in-plane (zy) tag orientation, and more capable of out-of-plane tag (xz and xy) energizing.



Optimal pixel orientation shown in green, and suboptimal in red, relative to the energizing bridge antenna. In the drawing, the antenna's dual linear polarizations are aligned with the y axis and z axis.

DETAILED DRAWINGS



QUALITY ASSURANCE

The factory has already obtained the certification of ISO9001 Quality System. Each product has been strictly tested (tests include transmission power, sensitivity, power consumption, stability, aging, etc.).
Warranty Period: 12 months from the date of shipping (other accessories excluded).

DECLARATION

Statement of Rights:

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