TX-E Connect - Internal

Product Specification | **DRAFT** | March 2026

1. Product Overview

The TX-E Connect - Internal is a compact, wall-mountable NAT router bridging Wi-Fi HaLow (IEEE 802.11ah) and 2.4 GHz Wi-Fi networks. It delivers reliable wireless links up to 1 km using Wi-Fi HaLow while remaining compatible with standard Wi-Fi devices.

Either radio can act as the network uplink, with the other serving as a local access point for up to 10 devices. Uplink mode is selected on first use via the TX-E Connect app.

2. Key Features

- Dual-mode NAT router — selectable HaLow or 2.4 GHz uplink
- Wi-Fi HaLow range up to 1 km (line of sight)
- Supports up to 10 simultaneous client connections
- USB Type-C powered
- Wall-mountable ABS enclosure, bracket included
- Managed and updated via TX-E Connect over Bluetooth
- Operating temperature: -20°C to +75°C

3. Wireless Specifications

Wi-Fi HaLow (IEEE 802.11ah)

Standard	IEEE 802.11ah
Bands	915 MHz (US, Canada) / 920 MHz (AU, NZ, Japan)
Target Range	1 km (line of sight)
Max Range	Exceeds 1 km
Upload	~5 Mbps
Download	~6 Mbps
Antenna	5 dBi external, SMA connector

2.4 GHz Wi-Fi (IEEE 802.11 b/g/n)

Standard	IEEE 802.11 b/g/n
Frequency	2.4 GHz ISM band
Antenna	Internal PCB antenna

4. Networking

Mode A	HaLow uplink (WAN) + 2.4 GHz AP (LAN)
Mode B	2.4 GHz uplink (WAN) + HaLow AP (LAN)
Max Clients	10 devices
Max Sessions	10 NAT sessions
Routing	IPv4 NAT
DHCP	Server on LAN interface

5. Power

Connection	USB Type-C
Input Voltage	5 V DC
Idle	0.75 W (150 mA)
Active TX	2.25 W (450 mA)

6. Physical

Enclosure	ABS plastic
Mounting	Wall bracket included
Dimensions	To be confirmed
Operating Temp	-20°C to +75°C
Storage Temp	-30°C to +85°C

7. Mobile Application

App Name	TX-E Connect
Platforms	iOS and Android
Connection	Bluetooth LE (BLE 5.0)
First-Time Setup	Uplink mode selected on first connection
Configuration	Network settings, device status
Firmware Updates	Wirelessly via TX-E Connect over BLE

8. Regulatory

Certifications	FCC and RCM (in progress)
Markets	US, Canada, Australia, New Zealand, Japan