



M2400S Series™

2.4 GHz

Broadband Wireless System

The M2400S Series point-to-multipoint wireless broadband platform offers service providers and network operators a cost effective, enterprise grade solution for fixed wireless connectivity at 2.4 GHz. The system provides up to 5 Mbps to the subscriber and a range of 25 miles.

Product Highlights

- **RANGE**

The M2400S Access Point (AP) and Subscriber Unit (SU) both include integrated dual polarized patch antennas as well as a connector for an optional external antenna. Utilizing the internal antennas, the M2400S provides a range of 15 miles line-of-sight (LOS) with 10 dB fade margin to spare. Range can be extended to over 25 miles by attaching an optional grid antenna to the SU. On the AP, operators can utilize the internal sector antenna or attach an external sector or omni antenna.

- **FLEXIBILITY**

The M2400S is one of the most flexible 2.4 GHz systems available with eight channels that users can redefine by selecting frequencies in single MHz increments. The SU will scan all channels until it associates with a properly configured AP. This allows redundancy of APs as well as a simple and quick method to switch channels on an entire sector. In addition, the software switchable dual polarized antennas allow for outstanding frequency agility.

- **SPEED**

The M2400S delivers up to 5 Mbps and utilizes Trango's patent pending SmartPolling™ algorithm to dynamically and adaptively poll subscriber units, ensuring the lowest latency for active subscribers.

- **INTERFERENCE MITIGATION**

The M2400S offers powerful resistance to interference with the Automatic Repeat Request (ARQ) feature, which automatically re-transmits errored packets to mask RF errors to higher layer protocols. In addition, the M2400S provides mitigation tools such as dual polarity antennas, automatic SU power leveling, and threshold control.

- **INTEGRATED DESIGN**

The M2400S radios are fully weatherized outdoor units featuring Power-over-Ethernet (PoE) designed for quick deployment and easy installation.

- **SECURITY AND AUTHENTICATION**

The M2400S offers MAC-level authentication coupled with over-the-air data scrambling for secure operation.

- **MANAGEMENT FEATURES**

The M2400S offers remote and local management via Telnet, SNMP and HTTP via browser. Tools such as site survey and upstream/downstream CIR/MIR controls allow operators control and flexibility in managing networks.

Wireless Connectivity IS Our Business

M2400S Specifications

RADIO PARAMETERS

Frequency of Operation	2400 - 2483 MHz
Channels	8 non-overlapping, user changeable
Channel Spacing	10 MHz
RF Power Output (AP & SU)	+23 dBm Max Setting +10 dBm Min Setting
Modulation Format	Direct Sequence Spread Spectrum (DSSS)
Certification / Compliance	FCC Part 15.247
Receiver Sensitivity (BER 10 ⁻⁶)	-90 dBm typical

DATA AND OPERATIONAL PARAMETERS

Access Method	TDD with SmartPolling™
User Data throughput	Up to 5 Mbps
Upstream/Downstream Throughput	Dynamic, automatically adjusts to suit demand
Bandwidth Control	CIR and MIR upstream/downstream control by AP
Maximum Number SUs per AP	128
Interference Handling	Automatic Retransmit Request (ARQ) plus rate shifting to lower C/I.
Security	Trango proprietary authentication method, based on MAC address and alphanumeric base ID; over the air data scrambling.
Configuration & Management	Telnet, SNMP, TFTP, HTTP

ANTENNA PARAMETERS (AP)

Internal Antenna	Integrated 13 dBi 60° X 18° sectoral patch array dual polarized (HPOL/VPOL)
Omni Antenna (Optional)	+12 dBi
Sector Antenna (Optional)	+17 dBi 90° (available in horizontal or vertical polarization)

ANTENNA PARAMETERS (SU)

Internal Antenna	Integrated 15 dBi 32° X 18° patch array dual polarized (HPOL/VPOL)
Grid Antenna (Optional)	+24 dBi

RANGE (LOS)

Standard Integrated Antenna (Each End)	15 Miles (w/10 dB fade margin)
Standard AP Antenna and SU w/Grid Antenna	25 Miles (w/15 dB fade margin)

POWER PARAMETERS

Power Method	Power-over-Ethernet (PoE Injector JBox included)
Voltage Input	20 VDC
Standard Power Supply	120 VAC to 24 VDC
PoE Cat-5 Max Cable Length	300 feet on 24 AWG STP Cat-5 cable
Power	10 W max

PHYSICAL AND ENVIRONMENTAL

Ethernet Interface	RJ45, 10/100BaseT, auto sense, auto negotiate
External Antenna Connector	SMA reverse polarity
Reset Button	Resets unit to factory default settings
Radio Enclosure	All-weather, powder coated, cast aluminum with Polycarbonate radome
Temperature Range	-40° to 60° C (-40° to 140° F)
Radio Weight	4 lbs
Radio Dimensions	12.5" X 8" X 2.75"

Specifications are typical and subject to change without notice