The TrangoLINK-45® is a 5 GHz multi-band wireless backhaul radio that delivers up to 45 Mbps of sustained usable data throughput using OFDM technology. The multi-band feature provides a choice of 5.2, 5.3, 5.4 or 5.8 GHz in the convenience of one radio, enabling valuable operational flexibility in high RF noise environments. With unmatched interference mitigation and carrier-class performance, TrangoLINK-45™ offers an exceptional value for ISP backhaul, enterprise and municipal connectivity, IP video surveillance, leased-line replacement and “last mile” dedicated connectivity solutions (Internet, T1).

Industry Best Interference Mitigation
» Built-in **Auto RF RX Threshold** for superior interference mitigation—maintains superb link integrity in high noise floor
» Dynamic Frequency Selection (DFS) in 5.3/5.4 GHz
» Automatic Repeat reQuest (ARQ), Forward Error Correction (FEC)
» Automatic RF Transmit Power Control (ATPC)
» Site survey tools

Management Features
» Remote & local management via Telnet, SNMP and HTTP
» Asymmetrical bandwidth control, and remote temperature and input voltage measurements
» Built-in LED alignment tool, universal mounting bracket to minimize deployment costs

Compact/Rugged Designed for Outdoor Deployment
» Fully weatherized outdoor units
» Encased in a heavy-duty aluminum housing
» Rugged conduit adapter, while offering a small footprint
» Powered using Power-over-Ethernet (PoE) ensuring ease of installation and quick deployment

Highlights
- Up to 45 Mbps usable data throughput
- Multi-band versatility: 5.2, 5.3, 5.4, 5.8 GHz *
- Quality of Service (QoS) and VLAN support
- **Auto RF RX Threshold** for superior interference mitigation
- Up to 45-mile range
- Orthogonal Frequency Division Multiplexing (OFDM)

Performance & Flexibility
» License-exempt ISM band, lower U-NII band, upper U-NII band *
» OFDM radio with a contention-free point-to-point protocol
» User-selectable data rates of 6, 12, 18, 24, 36, 48 and 54 Mbps
» Packet aggregation allows superior FTP performance over long transmission ranges
» Adaptive Rate Modulation

Antenna Versatility
» INT models feature built-in dual-polarity panel antenna
» EXT model features two connectors for external antenna
» All models feature horizontal or vertical antenna polarity that is software-selectable

Channel Flexibility & Frequency Agility
» 24 possible non-overlapping channels across the U-NII and ISM bands *
» Up to 24 channels combined with dual-polarized antennas allows for exceptional frequency agility *

Security and Authentication
» MAC level address authentication
» 128-bit proprietary encryption, over-the-air data scrambling
» Two-level password control via SSL for secure operation
Specifications

RADIO PARAMETERS

Frequencies of Operation
5170 MHz - 5335 MHz (U-NII), 5490 MHz - 5710 MHz (U-NII), and 5725 MHz - 5850 MHz (ISM)

Channels *
24 possible non-overlapping channels (US model: 21 / Europe model: 19 / OEM model: 24) *

Channel Spacing
20 MHz

RF Power Output
models: P5055M-23 / P5055M-EXT

Model | U-NII (5250 MHz - 5335 MHz) | U-NII (5490 MHz - 5710 MHz) | ISM (5725 MHz - 5850 MHz)
US / IC models | 6 dBm / 2 dBm | 6 dBm / 2 dBm | 21 dBm @ 6 Mbps; 17 dBm @ 54 Mbps
Europe model | 0 dBm / N/A | 7 dBm / 3 dBm | N/A

Antenna Polarizations
Horizontal/Vertical (software switchable)

Modulation Format
OFDM (BPSK, QPSK, 16 QAM, 64 QAM)

Modulation Speeds
6, 12, 18, 24, 36, 48 and 54

Regulatory Compliance *
FCC 15.109, FCC 15.203, FCC 15.207, FCC 15.209, FCC 15.247, FCC 15.407, Class B Digital device verification, IC-RSS210 (Canada); EN-301-489-17 (EMC), EN-301-893 (radio compliance), EN 60950 (safety), EN 50385 (RF-exposure)

Receiver Sensitivity (10-S BER)
-90 dBm (6 Mbps mode) to -73 dBm (54 Mbps mode) typical

DATA AND OPERATIONAL PARAMETERS

User Data Throughput
5 Mbps (6 Mbps mode) to 45 Mbps (54 Mbps mode)

Upstream/Downstream Throughput
Dynamic, automatically adjusts to match demand

Bandwidth Control
Asymmetrical MIR bandwidth control

Latency
< 5 ms

Interference Handling
Forward Error Correction (FEC) & Automatic Retransmit Request (ARQ)

Security
Proprietary MAC address authentication; over the air data scrambling; two level password control

Encryption
128-bit STEP (Secure Trango Encryption Protocol)

Configuration & Management
Telnet, SNMP, HTTP, TFTP server daemon for firmware upgrades; Built-in Link Performance tests; Remote temperature and input voltage measurement.

DFS / ATPC
DFS/TPC support for operation in U-NII band

PHYSICAL INTERFACES

Ethernet (via shielded RJ45)
10/100 BaseT, auto-sense, auto-negotiate

Reset Switch
Reset radio to factory default: IP address, subnet mask, gateway and password

LED Indicators
7 LEDs including 4 RSSI

ANTENNA OPTIONS

TrangoLINK-45™ P5055M-19-US / IC (integrated antenna)
Gain: 23 dB, H-plane Beamwidth: 9°, H-Plane Beamwidth: 9°
Dimensions: 14.6" x 14.6" x 1.58" (371 mm x 371 mm x 40 mm); Weight: 5.5 lbs (2.51Kg)

TrangoLINK-45™ P5055M-23-US / IC (integrated antenna)
Gain: 20 dB, E-plane Beamwidth: 18°, H-Plane Beamwidth: 18°
Dimensions: 8.5" x 7.75" x 1.25" (216 mm x 197 mm x 32 mm); Weight: 2 lbs (.91Kg)

TrangoLINK-45™ P5055M-EXT-US / IC (optional external antenna) ‡
28 to 34 dB dual-polarized dish antennas, 2-4 ft. diameter †

POWER PARAMETERS

Power Method
Power-over-Ethernet (PoE) via DC voltage injected at PoE J-box

Voltage Input Limits into Radio
10.5 VDC to 24 VDC max

Standard power supply
90 - 260 VAC

PoE Cat-5 max cable Length
300 feet on 24AWG STP Cat-5 cable

Power
10 watts nominal

PHYSICAL AND ENVIRONMENTAL

External Antenna Connector
SMA reverse polarity (EXT Models only)

Mounting Provision
Mounts to wall or pole (1” diameter or greater)

Reset Button
Reset password and IP configuration

Radio enclosure
All-weather, powder coated, heavy duty aluminum construction with conduit adapter

Radio dimensions

Radio Weight

Temperature Range
-40° to 60° C (-40° to 140° F)

User Interface
RJ45 (shielded)

All specifications are typical and subject to change without notice.

* Legal regulations for specific frequencies vary from region to region—users are responsible for complying with their region’s regulations.

† Based on third-party antenna not supplied by Trango.
‡ At 5725-5850 of the ISM band.

Trango Systems, Inc.
14118 Stowe, Suite B, Poway, CA 92064
Tel: +1 (858) 391-0010 | Fax: +1 (858) 391-0020 | Email: sales@trangosys.com

© 2008 Trango Systems, Inc. All rights reserved. Content is subject to change without notice. DS-9019-F