

RADWIN FiberinMotion® TBS plus Model

Transportation Base Station - Data Sheet (RW5000/TBS/5T02)



RW-5T02-XXXX

Product Description

RADWIN TBS plus model is a 3rd generation of Transportation Base Station (TBS) Radio unit, providing peak capacity up to 750* Mbps net aggregate throughput for mobile connectivity. The TBS plus delivers access connectivity for multiple Mobile Units (TMU plus units). TBS plus supports 4.9 to 6.0 GHz frequency range. RADWIN TBS plus is connectorized for external antenna (6 x N-type).

* Actual performance may vary

Product Highlights

- Supports capacity up to 750 Mbps
- Supports up to 3X3 MIMO / Diversity
- Integrated GPS for synchronization
- 2nd receiver for Dynamic Spectrum Management and wireless synchronization for tunnels
- Enhanced processing power
- Wide coverage - up to 3km/1.9 miles (above ground) and 1 km / 0.6 miles (underground)
- Fast handover < 50msec
- High speed up to 350Km/h
- Outstanding short and constant latency
- Guaranteed Service per TMU
- Robust and reliable to operate in harsh environment and extreme temperatures
- Copper and Optic (SFP) connectivity
- Supports Layer2 and Layer3 network architecture
- Ease of operation and maintenance

Product Specifications:

Configuration	
Architecture	Outdoor Unit connectorized for external antenna (6 x N-type)
PoE to ODU Interface	Outdoor CAT-5e; Maximum cable length: 100m for 10/100BaseT and 75m for 1000BaseT
Radio	
Max Capacity	750 Mbps net aggregate throughput
Mobile Units (TMUs) support	Up to 32 TMUs
Channel Bandwidth	Configurable: 20, 40, 80 MHz (for the default band)
Modulation	3x3 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)
Adaptive Modulation & Coding	Supported
Smart Bandwidth Management (DBA)	Supported
DFS	Supported (per regulation)
Diversity	Supported
Max Tx Power	19.5 dBm per chain; max EIRP 36 dBm (per regulation for default band)
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Uplink / Downlink Allocation	Configurable: Symmetric or Asymmetric
End to End Latency	Typical: 3.5msec @ 2 TMUs; 12msec @ 16 TMUs
Layer 2	Bridging learning of 5K MAC addresses
Layer 3	Routing with CenterNet
QoS	Packet classification to 4 priority queues according to 802.1P or Diffserv
VLAN Support	802.1Q, QinQ, 4094 VLANs
TDD Inter Site Synchronization	Supported through common GPS receiver per site, or synchronization over Ethernet
ODU Management	IPv4/IPv6 dual-stack; SNMP v1 and v3; HTTP using web browser
Mechanical	
ODU Dimensions	25.2(w) x 28.3(h) x 7.85(d) cm
ODU Weight	3.39 kg / 7.47 lbs
Power	
Power Feeding	Power provided over ODU-IDU cable
Power Feeding	Power provided by RADWIN PoE or 802.3at PoE devices
Power Consumption	<30W
Network Devices	
AC PoE	RW-9921-008x
DC PoE	RW-9921-022x & RW-9921-2069
Environmental	
Operating Temperatures	-40° to 70°C / -40° to 158°F (Operating) no forced convection -40° to 85°C / -40° to 185°F (Storage)
Humidity	100% condensing, IP67 (totally protected against dust and against immersion in water up to 1m)
MTBF	410,000 hours (Telcordia SR332 @25°C)
Wind Resistance operational	180Km/h
Safety	
US/CAN (cTUVus)	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22
CE/IEC	EN/IEC 60950-1, EN/IEC 60950-22
EMC	
FCC	47 CFR, Part15, Subpart B, Class B
CE	EN 301 489-1, EN 301 489-4, EN 301 489-17
ETSI	EN 300 386, EN 301 489-1, EN 301 489-4
CAN/CSA-CEI/IEC	CISPR 22-2010 Class B
AS/NZS	CISPR 22-2010 Class B
Railway	
EMC for railway applications	EN 50121-3-2, EN 50121-4 Class B
Railway applications - Electronic	EN 50155, IEC 60571
Shock & Vibration	EN 61373, EN 50155, IEC 60571
Cyber and Security	
Cryptographic and Encryption	IEEE 802.11i (phase iii) compliance Data and MAC address encryption by CCM/AES 128-bit with key and a nonce, that are periodically changed, providing confidentiality and integrity of data and message authentication.
Authentication and Authorization	RADWIN system incorporates proprietary air interface and as such, it is not possible for non-RADWIN devices (such as APs, smartphones, sensors, etc.) to connect to RADWIN system; Layer-2 and Layer-3 compatibility. RADIUS Authorization of radio units. RADIUS/ACL Authentication and Authorization of management and monitor systems' users.
Railway Safety and signaling	EN 50129 (EN 50128 SW)
Fire	
Fire Safe Material	EN 45545