### **RADWIN Alpha Model**

Point-to-Point Radio - Data Sheet (RW2000/ODU/Alpha/F64/UNI/INT/250M/25)



#### RW-2964-6HB0

## **Product Description**

RW-2964-6HB0 is a carrier-class radio that belongs to the RADWIN Alpha Model and supports 5.1 to 6.4 GHz frequency range.

RW-2964-6HB0 delivers up to 250 Mbps throughput.

The unit includes an integrated antenna.

# **Product Highlights**

- Up to 250 Mbps net aggregated throughput
- Telco-grade, extremely robust in harsh conditions
- Supports intra-site and inter-site synchronization via optional GPS receiver
- Configurable asymmetric throughput
- Advanced OFDM & MIMO technologies for operation in nLOS and dense radio environments
- Integrated 25dBi antenna
- IP-67
- Can operate as PtMP subscriber
- Support AES 256 encryption over the air (from release 5.1.30)

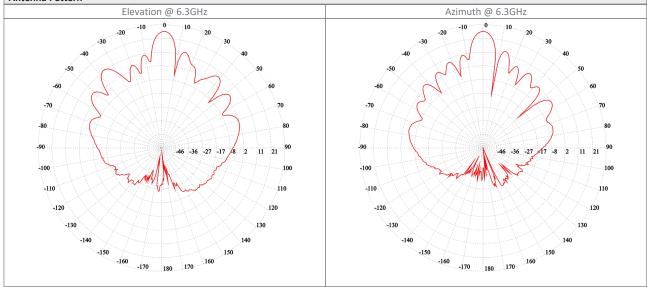


# **Product Specifications:**

Configuration							
Architecture	Outdoor Unit with an integrated antenna						
PoE to ODU Interface	Outdoor CAT-5e; Maximum cable length: 100m for 10/100BaseT and 75m for 1000BaseT						
Radio		,		-,			
Max Capacity	250 Mbps net aggregate throughput						
Range	Up to 120 km / 75 miles *						
Channel Bandwidth	Configurable: 10, 20, 40, 80 MHz (for the default band); Dynamic Channel BW selection (20/40/80 MHz)						
Modulation	MIMO-OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)						
Adaptive Modulation & Coding	Supported						
Automatic Channel Selection	Supported upon power up						
DFS	Not Supported						
Diversity	Supported						
Spectrum Viewer							
1	Supported						
Max Tx Power	24 dBm per chain						
Duplex Technology							
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6						
Encryption	AES 128						
Support Indoor units	RADWIN PoE devices (9921-400X)						
Uplink / Downlink Allocation	Configurable: Symmetric or Asymmetric						
QoS	Packet classification to 4 priority queues according to 802.1P or Diffserv						
VLAN Support		802.1Q, QinQ, 4094 VLANs					
TDD Intra Site Synchronization	Supported through common GPS receiver per site						
TDD Inter Site Synchronization	Supported through common GPS receiver per site						
ODU Management	IPv4/IPv6 dual-stack; SNMPv1, SNMPv3; HTTP/HTTPS using web browser						
Option 82	Supported						
RADIUS Authorization	Supported						
RADIUS User authentication	Supported						
Syslog	Supported						
Supported Bands							
Band	CBW 10MHz [GHz]	CBW 20MHz [GHz]	CBW 40MHz [GHz]	CBW 80MHz [GHz]	Radio Compliance		
6.4 GHz Universal (default)	5.950-6.425	5.950-6.425	5.950-6.425	5.950-6.425	Universal		
5.1 GHz Universal	5.100-5.950	5.100-5.950	5.100-5.950	5.100-5.950	Universal		
Mechanical	3.100 3.330	5.100 5.550	5.100 5.550	5.100 5.550	oniversar		
ODU Dimensions	37 0(w) x 37 0(h	) x 11 5(d) cm					
ODU Weight	37.0(w) x 37.0(h) x 11.5(d) cm 3.4 kg / 7.50 lbs						
Power	3.4 Kg / 7.30 lb3						
Power Feeding							
	Power provided over ODU-IDU cable						
Power Consumption	<13W						
Environmental	40% C L = C 0% C /	40%5 1 - 4 40%5					
Operating Temperatures	-40°C to 60°C / -						
Operating Temperatures Humidity			rotected against (	dust and against i	mmersion in water up to 1m)		
Operating Temperatures Humidity Safety	100% condensir	ng, IP67 (totally p					
Operating Temperatures Humidity Safety US/CAN (cTUVus)	100% condensir UL 60950-1, UL	ng, IP67 (totally p 60950-22, CAN/C	SA C22.2 60950-1	1, CAN/CSA C22.2			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC	100% condensir UL 60950-1, UL	ng, IP67 (totally p 60950-22, CAN/C		1, CAN/CSA C22.2			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC	100% condensir UL 60950-1, UL Design to meet	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623	SA C22.2 60950-: 368-1, EN/IEC 609	1, CAN/CSA C22.2			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC	UL 60950-1, UL Design to meet	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S	SA C22.2 60950-2 868-1, EN/IEC 609 ubpart B, Class B	1, CAN/CSA C22.2 50-22			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC ETSI	UL 60950-1, UL Design to meet Design to meet	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S EN 301 489-1, EN	SA C22.2 60950-3 68-1, EN/IEC 609 ubpart B, Class B I 301 489-4, EN 30	1, CAN/CSA C22.2 50-22			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC ETSI CAN/CSA	UL 60950-1, UL Design to meet Design to meet	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S	SA C22.2 60950-3 68-1, EN/IEC 609 ubpart B, Class B I 301 489-4, EN 30	1, CAN/CSA C22.2 50-22			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC ETSI	UL 60950-1, UL Design to meet Design to meet Design to meet Design to meet	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S EN 301 489-1, EN	SA C22.2 60950- 368-1, EN/IEC 609 ubpart B, Class B 1 301 489-4, EN 3( 5 B	1, CAN/CSA C22.2 50-22			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC ETSI CAN/CSA	UL 60950-1, UL Design to meet Design to meet Design to meet Design to meet	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S EN 301 489-1, EN CISPR 22-10 Class	SA C22.2 60950- 368-1, EN/IEC 609 ubpart B, Class B 1 301 489-4, EN 3( 5 B	1, CAN/CSA C22.2 50-22			
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC ETSI CAN/CSA	100% condensir UL 60950-1, UL Design to meet Design to meet Design to meet Design to meet Design to meet Alpha outdoor r	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S EN 301 489-1, EN CISPR 22-10 Class CISPR 32 2015 Cl adio with an inte	CSA C22.2 60950-3 368-1, EN/IEC 609 ubpart B, Class B I 301 489-4, EN 30 5 B ass B grated antenna	1, CAN/CSA C22.2 150-22 01 489-17	60950-22		
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC ETSI CAN/CSA AS/NZS	100% condensir UL 60950-1, UL Design to meet Design to meet Design to meet Design to meet Design to meet Alpha outdoor r	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S EN 301 489-1, EN CISPR 22-10 Class CISPR 32 2015 Cl adio with an inte	CSA C22.2 60950-3 368-1, EN/IEC 609 ubpart B, Class B I 301 489-4, EN 30 5 B ass B grated antenna	1, CAN/CSA C22.2 50-22	60950-22		
Operating Temperatures Humidity Safety US/CAN (cTUVus) CE/IEC EMC FCC ETSI CAN/CSA AS/NZS Radio	UL 60950-1, UL Design to meet Design to meet Design to meet Design to meet Design to meet Design to meet Alpha outdoor r Die-cast alumini	ng, IP67 (totally p 60950-22, CAN/C EN/IEC 60950623 47 CFR, Part15, S EN 301 489-1, EN CISPR 22-10 Class CISPR 32 2015 Cl adio with an inte	CSA C22.2 60950-3 368-1, EN/IEC 609 ubpart B, Class B I 301 489-4, EN 36 s B ass B grated antenna for wall-mount o	1, CAN/CSA C22.2 150-22 01 489-17	60950-22		



Integrated Antenna	
Gain	25 dBi
VSWR	2.0:1
3 dB Azimuth Beamwidth	8 Deg. (typ)
Polarization	Dual Linear (Vertical and Horizontal)
Sidelobes Level	-12db
Cross Polarization	-23db
F/B Ratio	-35db
Port To Port Isolation	-30db
Lightning Protection	DC Grounded
Antenna Pattern	



#### Ordering Info

Part Number: RW-2964-6HB0 Description: RADWIN Alpha ODU, with an integrated antenna, supporting multi frequency bands at 5.x GHz, factory default 6.4 GHz Universal.

\* May be limited by regulation in the specific band being used

Datasheet information can be changed by manufacturer without prior notice

