

RADWIN

Alpha Connectorized

Data Sheet



Product overview

RADWIN 2000 Alpha connectorized series is an attractively priced 500Mbps Point-to-Point outdoor radio unit with N-type connectors for external antenna connection, that operates in the 5GHz band.

RADWIN Alpha includes a field proven air interface that ensures best-in-class link connectivity in harsh spectrum for backhaul and access as well as wireless CCTV and additional applications that require robust connectivity.

For this purpose, RADWIN Alpha was designed to deliver an impressive packet switching power as well as jumbo frame support to guarantee full capacity, regardless of traffic packet size.

Enabling minimum TCO, RADWIN Alpha is extremely reliable and durable, complying with IP 67 standard. The unit features a built-in GPS for TDD synchronization and can be powered by a RADWIN PoE unit or a RADWIN PoE switch. Alpha uniquely facilitates a 'dying gasp' message when local power failures occur, saving upon unnecessary maintenance efforts. The unit can also be used as SU PRO, enabling an initial low-cost deployment using PtP while seamlessly migrating to Point-to-MultiPoint with network growth.

Product Highlights

- » Up to 500Mbps PtP radio unit
- » 4.9-6.0 GHz
- » Up to 80 km / 50 miles
- » Built-in GPS
- » Dying gasp
- » Dynamic channel bandwidth
- » 350K Packets-Per-Second
- » Supports Jumbo frames
- » Operable also as PtMP SU
- » Highly durable - IP 67

Product specifications:

Configuration	
Architecture	Outdoor Unit with connectors for external antenna (2 x SMA)
Wireless topology	PtP unit / PtMP Subscriber unit
Data interfaces	10/100/1000 Mbps RJ45 PoE
POE and ODU interfaces	Outdoor CAT-5e; Maximum cable length: 75m for 1000BaseT
Radio	
Max capacity	500 Mbps net aggregate throughput (max 250Mbps per direction)
Range	Up to 80 km / 50 miles (in PtP mode) Up to 40 km / 25 miles (in PtMP mode)
Channel bandwidth	Configurable: 10, 20, 40, 80 MHz *
Dynamic Channel BW selection	20/40/80 MHz
Modulation	OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)
Error correction	FEC k = 1/2, 2/3, 3/4, 5/6
Adaptive modulation and Coding	Supported
Duplex technology	TDD
Automatic channel selection	Supported upon power up
DFS	Supported *
Antenna modes	MIMO 2x2 , diversity , adaptive MIMO/diversity
Dynamic Bandwidth management	Committed Information Rate (CIR) and Best Effort service level (in PtMP mode)
Nomadic mode of operation	Supported (in PtMP mode)
Max TX power	26 dBm *
Encryption	AES128
TDD synchronization	Supported via Ethernet, built-in GPS **
Uplink/Downlink allocation	Configurable: Symmetric or Asymmetric
Networking	
QoS	Packet classification to 4 priority queues according to 802.1P or Diffserv
VLAN support	802.1Q, QinQ, 4094 VLANs
MTU size	Up to 9216 bytes ***
ODU management	IPv4/IPv6 dual-stack; SNMPv1, SNMPv3; HTTP/HTTPS using web browser
Dying gasp notification	Supported (for remote PtP unit)
802.1x	Supported (for PtMP mode)
Option 82	Supported (for PtMP mode)
DHCP filtering	Supported (for PtMP mode)
IGMP snooping	Supported (for PtMP mode)
PPPoE filtering	Supported (for PtMP mode)
RADIUS authorization	Supported (for PtMP mode)
RADIUS User authentication	Supported
Syslog	Supported

* May be limited by regulation - please refer to technical datasheet for a specific part number

** Hardware ready, will be enabled via software upgrade

*** Depends on base station MTU size in case of PtMP operation

Physical Specification:

Mechanical	
Dimension	19.5 (w) x 12.5 (h) x 4.0 (d)cm / 7.7" (w) x 4.9" (h) x 1.6" (d)
Weight	0.5Kg / 1.1lbs
Power	
Power consumption	<13W
Power feeding	Power provided over ODU-IDU cable
POE nominal voltage	24-56V (POE voltage \geq 55V is required for dying gasp support)
Environmental	
Operating temperature	-35°C to 60°C / -31°F to 140°F
Humidity	100% condensing
Environmental protection	EN/IEC 60529, IP67, NEMA Type 4 Enclosure

Regulatory compliance:

Radio	
USA	FCC 47CFR Part 15.407
Canada	ISED RSS-247
EU	ETSI EN 301 893; ETSI EN 302 502
Safety	
CE/Intl'	EN/IEC 62368-1, EN/IEC 60950-22
USA	cTUVus: UL/CSA-C22.2 62368-1, UL/CSA-C22.2 60950-22
Canada	cTUVus: CSA-C22.2 62368-1, CSA-C22.2 60950-22
EMC	
EU	ETSI EN 301 489-1, EN 301 489-4, 301 489-17
USA	FCC 47CFR Part 15 Subpart B, Class B
Canada	ICES-003, CISPR 32
AS/NZS	CISPR 32 Class B

Supported Bands:

Band	Occupied Bandwidth Support	Radio Compliance
5.8 GHz FCC/ISED	5.730-5.845 GHz	FCC 47CFR Part 15.407, ISED RSS-247
5.4 GHz FCC/ISED	5.480-5.715 GHz	FCC 47CFR Part 15.407, ISED RSS-247
5.2 GHz FCC/ISED	5.250-5.340 GHz	FCC 47CFR Part 15.407, ISED RSS-247
5.1 GHz FCC	5.170-5.250 GHz	FCC 47CFR Part 15.407
4.9 GHz Universal	4.900-4.995 GHz	Universal
5.1 GHz Universal	5.130-5.375 GHz	Universal
5.4 GHz Universal	5.455-5.760 GHz	Universal
5.8 GHz Universal	5.730-5.845 GHz	Universal
5.8 GHz ETSI/ISR	5.73-5.875 GHz	ETSI IL (Israel) EN 302 502
5.1 GHz UBR	5.130-5.875 GHz	Universal
5.9 GHz Universal	5.710-5.990 GHz	Universal
6.0 GHz Universal	5.680-6.090 GHz	Universal
5.4 GHz ETSI	5.475-5.710 GHz	EN 301 893
5.8 GHz ETSI	5.735-5.865 GHz	EN 302 502
5.8 GHz ETSI/GER	5.735-5.865 GHz	EN 302 502 and ECC Recommendation (06)04
5.8 GHz WPC	5.825-5.875 GHz	WPC (India) G.S.R 38(E) / 19 January 2007
5.1 GHz WPC	5.150-5.875 GHz	WPC (India) G.S.R 1048(E) / 22 October 2018

* List of supported bands are limited by regulation - please refer to technical datasheet for a specific part number

Product ordering:

Radio Units			
Product Number	Product Name	Regulation	Default
RW-2050-62C5	RW2000/ODU/Alpha/F58/FCC/EXT/500M	FCC	5.8 GHz
RW-2154-62C5	RW2000/ODU/Alpha/F54/IC/EXT/500M	ISED	5.4 GHz
RW-2250-62C5	RW2000/ODU/Alpha/F54/ETSI/EXT/500M	ETSI	5.4 GHz
RW-2450-62C5	RW2000/ODU/Alpha/F58/WPC/EXT/500M	WPC	5.8 GHz
RW-2954-62C5	RW2000/ODU/Alpha/F54/UNI/EXT/500M	Universal	5.4 GHz
RW-2158-62C5	RW2000/ODU/Alpha/F58/IL/EXT/500M	IL	5.8 GHz
PoE units			
Part number	Product name	Part description	
RW-9921-1039	POE/DC/GBE/24-57	DC input 24VDC -57VDC	
RW-9921-400X	POE/AC/2.5/GBE	AC input 100VAC – 240VAC See PoE datasheet for country specific power plug	
PoE switching units			
Part number	Product name	Part description	
RW-7401-6006	IDU-S/HP	Managed indoor switch, 6x PoE ports, SFP/SFP+ interfaces	

Package contents:

Radio unit

Pole mount bands

IP67 Cable gland

Datasheet information can be changed by manufacturer without prior notice