

RADWIN

JET AIR, JET AIR DUO

PtMP Base Station

Data Sheet

RW-5NG6-U650

RW-5AG6-U650



Product Overview

RADWIN JET AIR and JET AIR DUO are single-carrier and dual-carrier base station radio units (HBS) that offer up to 750 Mbps and 1.5 Gbps net throughput, respectively. These units can connect up to 64 and 128 Subscriber Units (SUs), respectively.

These base stations operate in the 4.9 to 6.0 GHz frequency range and feature 15° beamforming antenna steered over 90°, with exceptionally low sidelobe level for optimal interference immunity. Additionally, the units include built-in GPS for TDD synchronization and collocation."

JET AIR units are compatible with all RADWIN 5GHz SUs and RADWIN 2000 Alpha units.

Product Highlights

- » JET AIR DUO: Up to 1.5 Gbps
- » JET AIR: Up to 750 Mbps
- » Beamforming antenna for best interference mitigation
- » 4.9 GHz – 6.0 GHz
- » Long range - Up to 40 km / 25 miles
- » Up to 64 /128 SUs in JET AIR / JET AIR DUO
- » Ethernet and SFP data interface
- » Advanced MIMO, OFDM and Diversity technologies
- » Robust and reliable operation in harsh conditions, extreme temperature, and near-line-of-sight scenarios
- » GPS-based regulation identification

Product specifications

Configuration		
Architecture	Outdoor Unit with a beamforming integrated antenna with embedded GPS	
Wireless topology	PtMP base station	
Data interfaces	10/100/1000 Mbps RJ45 PoE, 1Gbps SFP	
POE and ODU interfaces	Outdoor CAT-5e; Maximum cable length: 100m for 10/100BaseT and 75m for 1000BaseT	
Radio	JET AIR DUO	JET AIR
Max capacity	1.5 Gbps (2x 750 Mbps) net aggregate throughput*	750 Mbps net aggregate throughput*
Maximum Subscriber Units	Up to 128 (64 per carrier)	Up to 64
Range	Up to 40 km / 25 miles*	
Frequency Range	4.900 GHz – 6.000 GHz*	
Channel bandwidth	Configurable: 10, 20, 40, 80 MHz *	
Dynamic Channel bandwidth selection	20/40/80 MHz	
Multiplexing, Modulation	MIMO-OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)	
Error correction	FEC k = 1/2, 2/3, 3/4, 5/6	
Adaptive modulation and Coding	Supported	
Smart Bandwidth Management (DBA)	Supported	
DFS	Supported *	
Duplex technology	TDD	
Antenna modes	MIMO 2x2, diversity, adaptive MIMO/diversity	
Dynamic Bandwidth management	Best Effort service level	
Max TX power	24 dBm per chain	
Encryption	AES128	
TDD synchronization	Supported via built-in GPS / GNSS receiver	
Uplink/Downlink TDD ratio	Configurable: Symmetric or Asymmetric	
Networking		
Sub convergence layer	Layer 2, Bridging learning of 8K MAC addresses	
QoS	Packet classification to 4 priority queues according to 802.1P or Diffserv	
VLAN support	802.1Q, QinQ, 4094 VLANs	
ODU management	IPv4/IPv6 dual-stack; SNMPv1, SNMPv3; HTTP/HTTPS using web browser	
MTU	Up to 2047	
802.1x	Supported	
DHCP Option 82	Supported	
DHCP filtering	Supported	
IGMP snooping	Supported	
PPPoE filtering	Supported	
RADIUS Authorization	Supported	
RADIUS user authentication	Supported	
Syslog	Supported	
IGMP snooping	Supported	

* Subject to regulation

Supported frequency bands

Supported bands *					
Band	CBW 10MHz [GHz]	CBW 20MHz [GHz]	CBW 40MHz [GHz]	CBW 80MHz [GHz]	Radio Compliance
4.9 GHz Universal**	4.900-4.995	4.900-4.995	4.900-4.995	4.900-4.995	Universal
5.1 GHz Universal**	5.145-5.340	5.140-5.345	5.130-5.355	5.130-5.375	Universal
5.1 GHz UBR**	5.125-5.880	5.125-5.880	5.125-5.880	5.125-5.880	Universal
5.4 GHz Universal **	5.470-5.725	5.465-5.730	5.455-5.740	5.455-5.760	Universal
5.8 GHz Universal**	5.725-5.850	5.725-5.850	5.725-5.850	5.725-5.850	Universal
5.9 GHz Universal**	5.725-5.955	5.720-5.960	5.710-5.970	5.710-5.990	Universal
5.4 GHz ETSI	-	5.470-5.710	5.490-5.690	5.490-5.650	ETSI EN 301 893
5.8 GHz ETSI	5.735-5.865	5.735-5.865	-	-	ETSI EN 302 502
5.7 GHz ETSI/GER	-	5.735-5.865	5.735-5.865	5.735-5.865	ETSI EN 302 502; ECC Recommendation (06)04

* Actual supported bands are determined automatically according to the regulation allowed in the country in which the device is located and detected by the built-in GPS

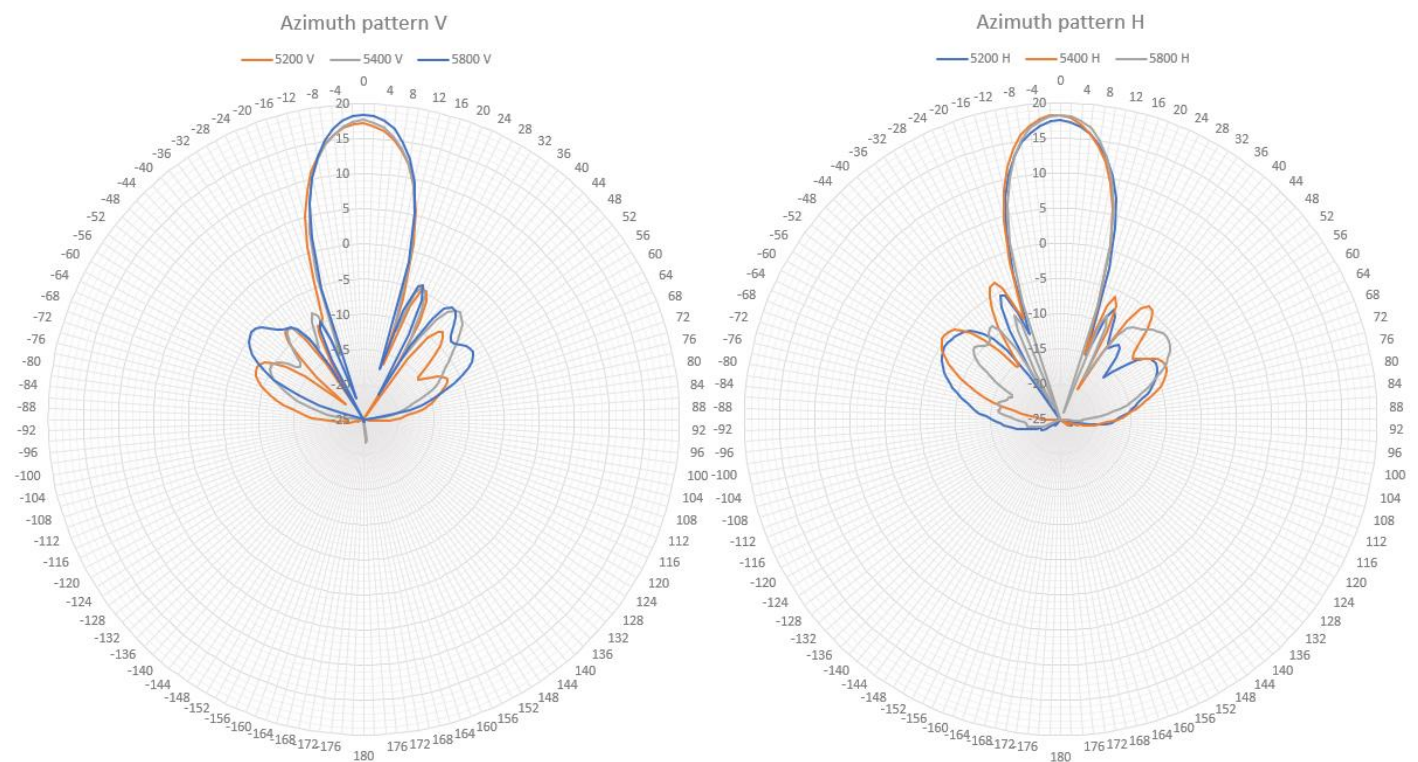
** In some countries, the supported bands can be extended by applying a license

Antenna (Integrated)

Integrated Antenna

Type	Beamforming Antenna Array 4th Generation
Gain	18 dBi
VSWR	<2.0
3 dB Azimuth beamwidth	15 deg beam (steered over 90 deg sector)
3 dB Elevation Beamwidth	20 deg
Polarization	Dual Linear (Vertical and Horizontal)
Sidelobes suppression	22 dB (typical)
Cross polarization	20 dB (typical)
F/B Ratio	40 dB (typical)
Port To Port isolation	>25 dB (typical)

Antenna Beam patterns:



Physical Specification

Mechanical	JET AIR DUO	JET AIR
Dimension	32.5 (w) x 32.5.0(h) x 9 (d) cm / 12.8'' (w) x 12.8'' (h) x 3.5'' (d)	32.5 (w) x 32.5.0(h) x 9 (d) cm / 12.8'' (w) x 12.8'' (h) x 3.5'' (d)
Weight	3.6kg/7.9lbs	3.9kg/8.6lbs
Power	JET AIR DUO	JET AIR
Power consumption	Standard POE: <60W comply to 802.3BT type 6 RADWIN POE: <55W	Standard POE: <60W comply to 802.3BT type 6 RADWIN POE: <35W
DC input range	42-57V	
Power feeding	Power provided over CAT-5e POE cable	
Environmental		
Operating temperature	-40°C to 60°C / -40°F to 140°F	
MTBF	546,000 hours (Telcordia SR332 @25°C)	
Wind Resistance operational	180Km/h / 110MpH	
Humidity	100% condensing	
Enclosure protection	IP67 per EN/IEC 60529, NEMA Type 4 Enclosure	

Regulatory compliance

Radio*	
Universal	
Canada	ISED RSS-247
EU	ETSI EN 301 893, ETSI EN 302 502
Australia	ETSI EN 301 893, ETSI EN 302 502
Safety	
EU	EN/IEC 62368-1, EN/IEC 60950-22
USA/Canada (cTUVus)	UL/CSA-C22.2 62368-1, UL/CSA-C22.2 60950-22
EMC	
EU	ETSI EN 301 489-1, ETSI EN 301 489-4, ETSI EN 301 489-17
Canada/CSA – CEI/IEC	ICES-003, CISPR 32 (issue 7) Class B
AS/NZS	CISPR 32 Class B

* The applicable regulation is automatically detected world-wide based on the built-in GPS

Product ordering

Radio units		
Part number	Product name	Part description
RW-5NG6-U650	RW5000/HBS/5NG6/F50/WW/JET-AIR-DUO/INT	JET AIR DUO – Dual carrier Base Station
RW-5AG6-U650	RW5000/HBS/5AG6/F50/WW/JET-AIR/INT	JET AIR – Single carrier Base Station
Supplementary equipment		
Part number	Product name	Product description
RW-9921-400X series	POE/AC/2.5/GBE/	POE AC indoor, 56V. Dedicated PN for each power plug type - For JET AIR DUO or for JET AIR
RW-9921-2059	POE/DC/GBE/ET/10-60	POE DC indoor 1G 35W - For JET AIR
RW-9921-1049	POE/DC/GBE/HP/20-60	POE DC indoor 1G 55W - For JET AIR DUO or for JET AIR
RW-7400-8008	IDU-SI	POE managed switch industrial grade
RW-7401-6006	IDU-S/HP	POE managed switch high power
RW-9924-0106/8	LPU	Outdoor LPU 2.5Gb

Package contents

P/N	Main content	Accessories
RW-5NG6-U650	JET AIR DUO – Dual carrier Base Station	Pole / wall Mounting Kit IP67 Cable gland
RW-5AG6-U650	JET AIR – Single carrier Base Station	Pole / wall Mounting Kit IP67 Cable gland