

## Anexo 3 – Hojas de especificaciones

### 9.1. Estaciones Base

#### 9.1.1. HBS RW-5050-2250

##### **RADWIN 5000 – HPMP**

Sector Base Station RW-5050-2250

Data Sheet

**HBS 5050 SERIES**



##### **Sector Base Station - RW-5050-2250**

RADWIN RW-5050-2250 is a Sector Base Station Radio unit, providing up to 50Mbps net aggregate throughput and delivering access connectivity for up to 16 Subscriber Units (HSUs).

RW-5050-2250 supports 5.X GHz and complies with ETSI regulation.

RADWIN RW-5050-2250 is connectorized for use with an external antenna.

##### **Product Highlights**

- High Capacity sector Base Station
- Up to 50 Mbps aggregated throughput
- Guaranteed Service level Agreement (SLA) per HSU
- Outstanding short and constant latency
- Support up to 16 HSUs
- Long range – up to 40 km/25 miles
- Single radio supporting multiple bands
- Advanced MIMO, OFDM and Diversity technologies
- Excellent operation in nLOS and NLOS scenarios
- Robust and reliable to operate in tough conditions, extreme temperatures
- Ease of operation and maintenance

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### HBS 5050-2250 - Product Specifications

CONFIGURATION	
Architecture	Outdoor Unit Connectorized for External Antenna
PoE to ODU Interface	Outdoor CAT-5e; Maximum cable length: 100m for 10/100BaseT and 75m for 1000BaseT
RADIO	
Capacity	50 Mbps net aggregate throughput @ 10MHz Channel BW
Subscriber Units (HSUs) support	Up to 16 HSUs
Range	Up to 40 km / 25 miles
Channel Bandwidth	10 MHz
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Adaptive Modulation & Coding	Supported
Bandwidth allocation	Symmetric and Asymmetric
DFS	Supported
End to End Latency	Typical: 3.5msec @ 2 HSUs; 15msec @ 16 HSUs
Diversity	Supported
Spectrum Viewer	Supported
Max Tx Power	23 dBm (*)
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Ethernet Interface	10/100BaseT, 1000BaseT (supported via indoor PoE device)
Layer 2	Bridging learning of 5K MAC addresses
QoS	Supported Packet classification to 4 queues according to 802.1p and Diffserv
VLAN	Supported 802.1Q, 802.1P, QinQ
TDD Intra Site Synchronization	Supported
TDD Inter Site Synchronization	Supported through common GPS receiver per site

Note (\*) –Subject to regulation in each country

SUPPORTED BANDS RW-5050-2250		
5.4 GHz ETSI*	5.475 - 5.720 GHz	ETSI EN 301 893
5.8 GHz ETSI	5.725 - 5.875 GHz	ETSI EN 302 502
5.3 GHz ETSI	5.150 - 5.350 GHz	ETSI EN 301 893
*Default Band		
MECHANICAL		
ODU Dimensions	19.5(w) x 27.0(h) x 8.0(d) cm	
ODU Weight	1.8 kg / 3.6 lbs	
POWER		
Power Feeding	Power provided over ODU-IDU cable using PoE	
Power Consumption	<25W	
ENVIRONMENTAL		
Operating Temperatures	-35°C to 60°C / -31°F to 140°F	
Humidity	100% condensing, IP67 (totally protected against dust and against immersion up to 1m)	
SAFETY		
FCC/IC (cTUVus)	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22	
ETSI	EN/IEC 60950-1, EN/IEC 60950-22	
EMC		
FCC	47 CFR Class B, Part15, Subpart B	
ETSI	EN 300 386, EN 301 489-1, EN 301 489-4	
CAN/CSA-CEI/IEC	CISPR 22-04 Class B	
AS/NZS	CISPR 22-2004 Class B	

**Ordering Info**

**Part Number:** RW-5050-2250

**Description:** RADWIN HBS 5050 Series, Base Station Radio Connectorized for external antenna (2xN-type), supporting multi frequency bands at 5.x GHz, factory default 5.4 GHz ETSI



## 9.1.2. HBS RW-5200-2250

**RADWIN 5000 – HPMP**

Sector Base Station RW-5200-2250

Data Sheet

**HBS 5200 SERIES****Sector Base Station - RW-5200-2250**

RADWIN RW-5200-2250 is a Sector Base Station Radio unit, providing up to 200Mbps net aggregate throughput and delivering access connectivity up to 32 Subscriber Units (HSUs).

RW-5200-2250 supports 5.X GHz and complies with ETSI regulation.

RADWIN RW-5200-2250 is connectorized for use with external antenna.

**Product Highlights**

- High Capacity sector Base Station
- Up to 200 Mbps aggregated throughput
- Guaranteed Service level Agreement (SLA) per HSU
- Outstanding short and constant latency
- Support up to 32 HSUs
- Long range – up to 40 km/25 miles
- Single radio supporting multiple bands
- Advanced MIMO, OFDM and Diversity technologies
- Excellent operation in nLOS and NLOS scenarios
- Robust and reliable to operate in tough conditions, extreme temperatures
- Ease of operation and maintenance

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**RADWIN**

### HBS 5200-2250 - Product Specifications

CONFIGURATION	
Architecture	Outdoor Unit Connectorized for External Antenna
PoE to ODU Interface	Outdoor CAT-5e; Maximum cable length: 100m for 10/100BaseT and 75m for 1000BaseT
RADIO	
Capacity	200 Mbps net aggregate throughput @ 40MHz 100 Mbps net aggregate throughput @ 20MHz
Subscriber Units (SUs) support	Up to 32 HSUs
Range	Up to 40 km / 25 miles
Channel Bandwidth	Configurable: 5, 10, 20 and 40MHz (*)
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Adaptive Modulation & Coding	Supported
Bandwidth allocation	Symmetric and Asymmetric
DFS	Supported
End to End Latency	Typical: 3.5msec @ 2 HSUs; 20msec @ 32 HSUs
Diversity	Supported
Spectrum Viewer	Supported
Max Tx Power	25 dBm (*)
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Ethernet Interface	10/100BaseT, 1000BaseT (supported via indoor PoE device RW-9924-101X)
Layer 2	Bridging, learning of 5K MAC addresses
QoS	Supported, Packet classification to 4 queues according to 802.1p and Diffserv
VLAN	Supported, 802.1Q, 802.1P, QinQ
TDD Intra Site Synchronization	Supported
TDD Inter Site Synchronization	Supported through common GPS receiver per site

Note (\*) –Subject to regulation in each country

SUPPORTED BANDS RW-5200-2250		
5.4 GHz ETSI*	5.475 - 5.720 GHz	ETSI EN 301 893
5.8 GHz ETSI	5.725 - 5.875 GHz	ETSI EN 302 502
5.3 GHz ETSI	5.150 - 5.350 GHz	ETSI EN 301 893

*Default Band	
MECHANICAL	
ODU Dimensions	19.5(w) x 27.0(h) x 8.0(d) cm
ODU Weight	1.8 kg / 3.6 lbs
POWER	
Power Feeding	Power provided over ODU-IDU cable using PoE
Power Consumption	<25W
ENVIRONMENTAL	
Operating Temperatures	-35°C to 60°C / -31°F to 140°F
Humidity	100% condensing, IP67 (totally protected against dust and against immersion up to 1m)
SAFETY	
FCC/IC (cTUVus)	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22
ETSI	EN/IEC 60950-1, EN/IEC 60950-22
EMC	
FCC	47 CFR Class B, Part15, Subpart B
ETSI	EN 300 386, EN 301 489-1, EN 301 489-4
CAN/CSA-CEI/IEC	CISPR 22-04 Class B
AS/NZS	CISPR 22-2004 Class B

**Ordering Info**

**Part Number:** RW-5200-2250

**Description:** RADWIN HBS 5200 Series, Base Station Radio Connectorized for external antenna (2xN-type), supporting multi frequency bands at 5.x GHz, factory default 5.4 GHz ETSI



## 9.2. Unidades suscriptoras

### 9.2.1. HSU RW-5510-2350

#### **RADWIN 5000 – HPMP**

RW-5510-2350 Subscriber Unit – Data Sheet



#### **HSU 510 SERIES**

#### **Subscriber Units - RW-5510-2350**

RADWIN RW-5510-2350 Subscriber Unit (HSU) provides high capacity access connectivity of up to 10Mbps net aggregate throughput. RW-5510-2350 works with HBS-5200 base station.

RW-5510-2350 supports 5.X GHz and complies with ETSI regulations.

#### **Product Highlights**

- Up to 10 Mbps net aggregate throughput
- Guaranteed Service level Agreement (SLA) per HSU
- Outstanding short and constant latency
- Long range – up to 40 km/25 miles
- Advanced MIMO, OFDM and Diversity technologies
- Excellent operation in nLOS and NLOS scenarios
- Ease of operation and maintenance

**RADWIN**

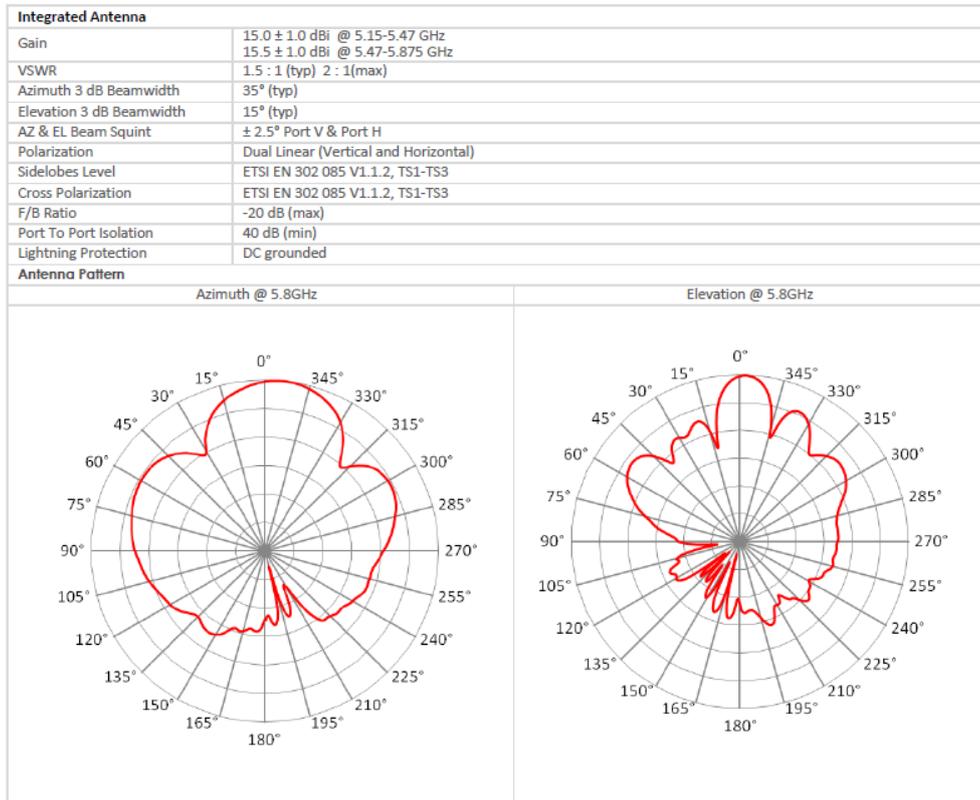
### RW-5510-2350 - Product Specifications

CONFIGURATION	
Architecture	Outdoor Unit Connectorized for External Antenna with small form factor antenna
PoE to ODU Interface	Outdoor CAT-5e cable; Maximum cable length: 100 m
RADIO	
Capacity net aggregate throughput	10 Mbps
Range	Up to 40 km / 25 miles
Channel Bandwidth	Configurable: 10, 20 and 40 MHz (*)
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Bandwidth allocation	Symmetric and Asymmetric
Adaptive Modulation & Coding	Supported
DFS	Supported
Diversity	Supported
Spectrum Viewer	Supported
Max Tx Power	25 dBm (*)
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Supported Indoor Units	RADWIN PoE device (RW-9921-001X)
Ethernet Interface	10/100 BaseT
Layer 2	Hub Mode
QoS	Supported Packet classification to 4 queues according to 802.1p and Diffserv
VLAN	Supported 802.1Q, 8021.P, QinQ

Note (\*) - Subject to regulation in each country

SUPPORTED BANDS RW-5510-2350		
5.4 GHz ETSI*	5.475 - 5.720 GHz	ETSI EN 301 893
5.8 GHz ETSI	5.725 - 5.875 GHz	ETSI EN 302 502
5.3 GHz ETSI	5.150 - 5.350 GHz	ETSI EN 301 893
*Default Band		
MECHANICAL		
ODU Dimensions	19.5(w) x 27.0(h) x 9.0(d) cm	
ODU Weight	1.8 kg / 3.6 lbs	
POWER		
Power Feeding	Power provided over ODU-IDU cable using PoE	
Power Consumption	<20W	
ENVIRONMENTAL		
Operating Temperatures	-35°C to 60°C / -31°F to 140°F	
Humidity	100% condensing, IP67 (totally protected against dust and against immersion up to 1m)	
SAFETY		
FCC/IC (cTUVus)	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22	
ETSI	EN/IEC 60950-1, EN/IEC 60950-22	
EMC		
FCC	47 CFR Class B, Part15, Subpart B	
ETSI	EN 300 386, EN 301 489-1, EN 301 489-4	
CAN/CSA-CEI/IEC	CISPR 22-04 Class B	
AS/NZS	CISPR 22-2004 Class B	





**Ordering Info**

**Part Number:** RW-5510-2350

**Description:** RADWIN HSU 510 Series Subscriber Unit Radio with small-form-factor integrated antenna and Connectorized for external antenna (2xN-type), supporting multi frequency bands at 5.x GHz, factory default 5.4 GHz ETSI

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## 9.2.2. HSU RW-5550-2150

**RADWIN 5000 – HPMP**

RW-5550-2150 Subscriber Unit – Data Sheet

**HSU 550 SERIES****Subscriber Units - RW-5550-2150**

RADWIN RW-5550-2150 Subscriber Unit (HSU) provides high capacity access connectivity of up to 50Mbps net aggregate throughput. RW-5550-2150 works with HBS-5200 base station. RW-5550-2150 supports 5.X GHz and complies with ETSI regulations.

**Product Highlights**

- Up to 50 Mbps net aggregate throughput
- Guaranteed Service level Agreement (SLA) per HSU
- Outstanding short and constant latency
- Long range – up to 40 km/25 miles
- Advanced MIMO, OFDM and Diversity technologies
- Excellent operation in nLOS and NLOS scenarios
- Ease of operation and maintenance

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### RW-5550-2150 - Product Specifications

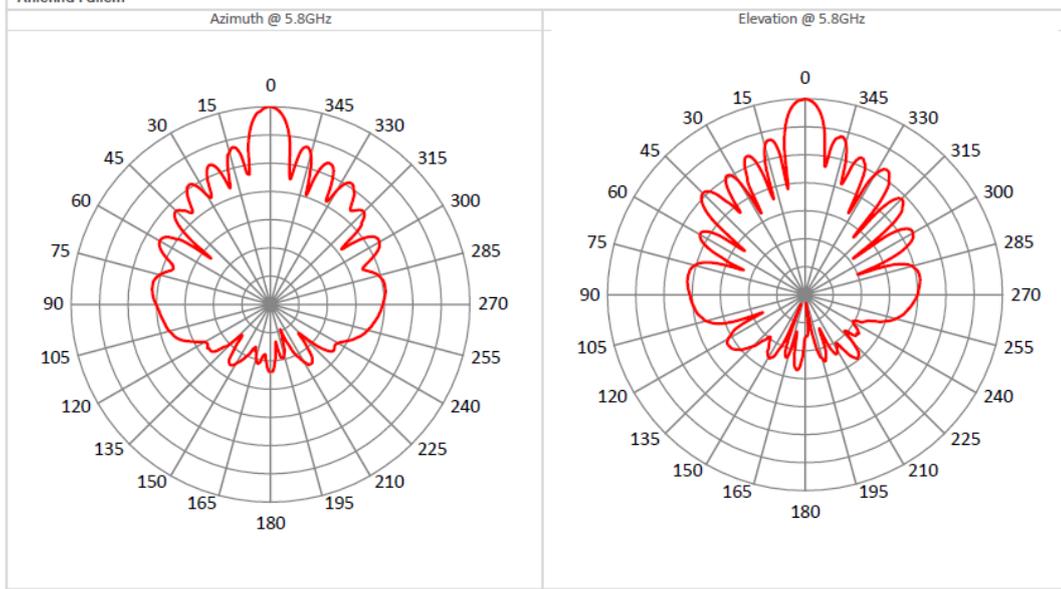
CONFIGURATION	
Architecture	Outdoor Unit with Integrated Antenna
PoE to ODU Interface	Outdoor CAT-5e cable; Maximum cable length: 100 m
RADIO	
Capacity net aggregate throughput	50 Mbps
Range	Up to 40 km / 25 miles
Channel Bandwidth	Configurable: 10, 20 and 40 MHz (*)
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Bandwidth allocation	Symmetric and Asymmetric
Adaptive Modulation & Coding	Supported
DFS	Supported
Diversity	Supported
Spectrum Viewer	Supported
Max Tx Power	25 dBm (*)
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Supported Indoor Units	RADWIN PoE device (RW-9921-001X)
Ethernet Interface	10/100 BaseT
Layer 2	Hub Mode
QoS	Supported Packet classification to 4 queues according to 802.1p and Diffserv
VLAN	Supported 802.1Q, 8021.P, QinQ

Note (\*) - Subject to regulation in each country

SUPPORTED BANDS RW-5550-2150		
5.4 GHz ETSI*	5.475 - 5.720 GHz	ETSI EN 301 893
5.8 GHz ETSI	5.725 - 5.875 GHz	ETSI EN 302 502
5.3 GHz ETSI	5.150 - 5.350 GHz	ETSI EN 301 893
*Default Band		
MECHANICAL		
ODU Dimensions	37.1(w) x 37.1(h) x 11.0(d) cm	
ODU Weight	3.5 kg / 7 lbs	
POWER		
Power Feeding	Power provided over ODU-IDU cable using PoE	
Power Consumption	<20W	
ENVIRONMENTAL		
Operating Temperatures	-35°C to 60°C / -31°F to 140°F	
Humidity	100% condensing, IP67 (totally protected against dust and against immersion up to 1m)	
SAFETY		
FCC/IC (cTUVus)	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22	
ETSI	EN/IEC 60950-1, EN/IEC 60950-22	
EMC		
FCC	47 CFR Class B, Part15, Subpart B	
ETSI	EN 300 386, EN 301 489-1, EN 301 489-4	
CAN/CSA-CEI/IEC	CISPR 22-04 Class B	
AS/NZS	CISPR 22-2004 Class B	



Integrated Antenna	
Gain	22.5 dBi @ 5.15-5.875 GHz
VSWR	1.5 : 1 (typ)
3 dB Beamwidth	9° (typ)
AZ & EL Beam Squint	± 2° Port V & Port H
Polarization	Dual Linear (Vertical and Horizontal)
Sidelobes Level	ETSI EN 302 085 V1.1.2, TS1-TS3
Cross Polarization	ETSI EN 302 085 V1.1.2, TS1-TS3
F/B Ratio	-35 dB (max)
Port To Port Isolation	40 dB (min)
Lightning Protection	DC grounded



**Ordering Info**

**Part Number:** RW-5550-2150

**Description:** RADWIN HSU 550 Series Subscriber Unit Radio with high gain integrated antenna, supporting multi frequency bands at 5.x GHz, factory default 5.4 GHz ETSI

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### 9.3. Antenas sectoriales externas

#### 9.3.1. Antena sectorial 90°, RW-9061-5001

##### **RW-9061-5001**

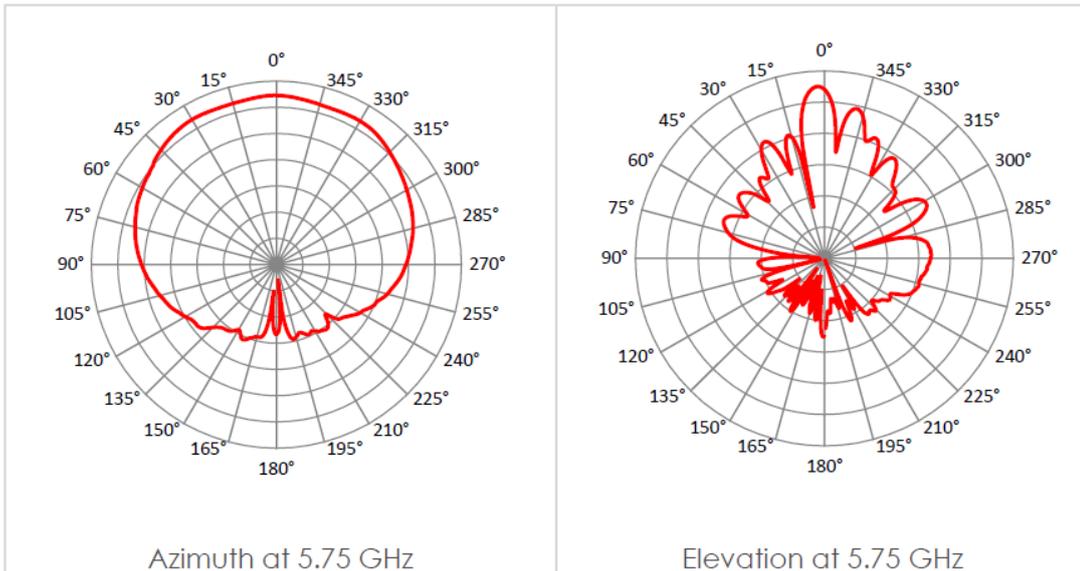
Product Data Sheet



**RADWIN ANTENNAS**

RW-9061-5001 is a 4.90 – 5.95 GHz, 14 dBi 90deg Dual Polarization Base Station Antenna, compatible with RADWIN 5000 portfolio

##### **Antenna Pattern**



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## RW-9061-5001 - Product Specifications

ELECTRICAL	
Frequency Range	4.90 – 5.95 GHz
Minimum Peak Gain	14 dBi (min)
VSWR	2 :1 (max) 1.7 : 1 (typ)
3 dB Beamwidth (Azimuth )	Port-V 90° (typ) @11dBi Gain Port-H 90° (typ) @10dBi Gain
3 dB Beamwidth (Elevation )	8° (typ)
Polarization	Dual Linear Vertical + Horizontal
Side Lobes Level	-10 dB (typ.)
Cross Polarization	-25dB (typ) -15dB (max)
F/B Ratio	- 25 dB (max)
Port to Port isolation	- 30 dB (min)
MECHANICAL	
Dimensions (L x W x H)	500 x 200 x 30 mm
Weight	1.5 kg
Connector	2 x N-type female
Radome	Plastic
Base Plate	Aluminum with chemical conversion coating
Mounting Kit	Supplied
ENVIRONMENTAL	
Temperature	-55°C to +71°C (IEC 68-2-1)
Humidity	Up to 95% (ETSI EN300-2-4, T4.1E)
Water Tightness	IEC 529, IP67
Flammability	UL 94, class HB
Solar Radiation	ASTM G53
Salt Spray	IEC 68-2-11 Ka
Ice and Snow	Up to 25mm
Wind Speed	Survival 220 km/h Operation 160 km/h

### Ordering Info

**Part Number:** RW-9061-5001

**Description:** Base station Flat panel antenna, dual polarization, gain 14dBi, 4.90-5.950 GHz bands, 90°

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### 9.3.2. Antena sectorial 60°, RW-9061-5002

#### RW-9061-5002

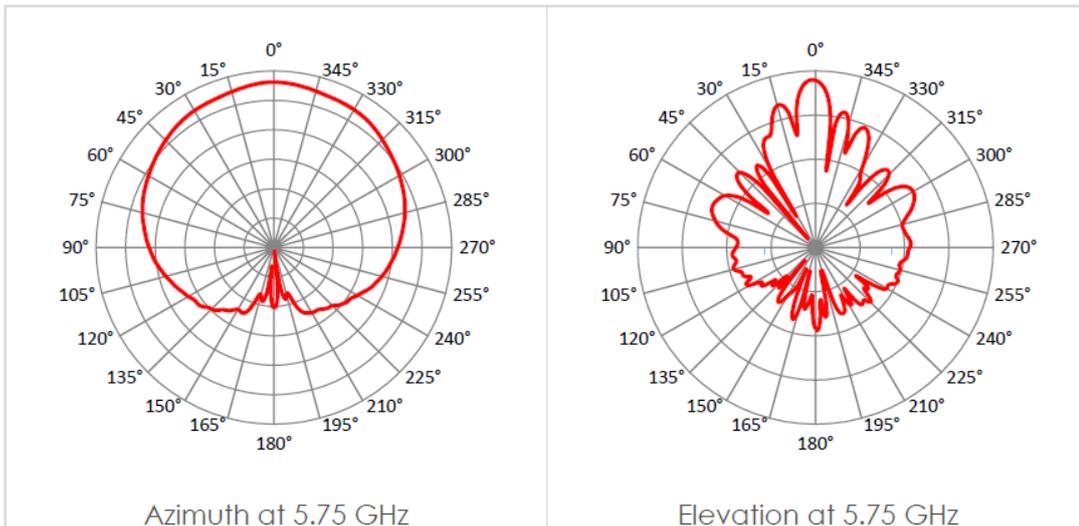
Product Data Sheet



**RADWIN ANTENNAS**

RW-9061-5002 is a 4.9 – 6.06 GHz, 16.5dBi, 60° Dual Polarization Base Station Antenna, compatible with RADWIN 5000 portfolio

#### Antenna Pattern



**RADWIN**

### RW-9061-5002 - Product Specifications

ELECTRICAL	
Frequency Range	4.9 – 6.06 GHz
Minimum Peak Gain	14.5 dBi @ 4.9 - 4.95 GHz 15.0 dBi @ 4.95 - 5.15 GHz 15.5 dBi @ 5.15 – 5.47 GHz 16.5 dBi @ 5.47 – 6.0 GHz 13.5 dBi @ 6.0 – 6.06 GHz
VSWR	2 :1 (max) 1.7 : 1 (typ) @ 4.9-6.0 GHz 2.5 :1 (max) @ 6.0-6.06 GHz
3 dB Beamwidth (Azimuth )	60° (typ)
3 dB Beamwidth (Elevation )	8° (typ)
Polarization	Dual Linear Vertical + Horizontal
Cross Polarization	-15 dB (typ)
F/B Ratio	20dB (max)
El Side lobes Level	-12dB (typ)
Port To Port Isolation	22 dB (min) 25 dB (typ)
Input Impedance	50 Ω
Input Power	20W (max)
Lightning Protection	DC Grounded
MECHANICAL	
Dimensions ( L x W x D )	500 x 200 x 30 mm (max)
Weight	1.5 kg (max)
Connectors	2 x N-type female
Base Plate	Aluminum with chemical conversion coating
Radome	Plastic
Mounting Kit	Supplied
ENVIRONMENTAL	
Temperature	-55°C to +71°C (IEC 68-2-1)
Humidity	Up to 95% (ETSI EN300-2-4, T4.1E)
Water Tightness	IEC 529, IP67
Flammability	UL 94, class HB
Solar Radiation	ASTM G53
Salt Spray	IEC 68-2-11 Ka
Ice and Snow	Up to 25mm
Wind Speed	Survival 220 km/h Operation 160 km/h

**Ordering Info**

**Part Number:** RW-9061-5002

**Description:** Base station Flat panel antenna, dual polarization, gain 15dBi, 4.90-5.950 GHz bands, 60°

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## 9.4. Enlace punto a punto, RW-2250-0100

### RADWIN 2000 C-Series



### RW-2250-0100

#### RW-2250-0100

RW-2250-0100 is a carrier-class radio supporting the 5.3 GHz, 5.4 GHz and 5.8 GHz bands and complying with ETSI regulations (factory default: 5.4 GHz ETSI). The multi-band radio is part of the RADWIN 2000 C-Series that delivers highest capacity and extended range for carriers' backhaul needs

Packing native TDM and Ethernet over a single wireless link, the RADWIN 2000 C-Series provides 200 Mbps net aggregate throughput (up to 16XE1/T1 plus Ethernet) at a range of up to 120 km/75 miles.

RADWIN RW-2250-0100 comes with an integrated antenna.

#### Product Highlights

- 200 Mbps Ethernet net throughput and up to 16E1s/T1s
- Native TDM transport
- GBE support
- Long range – up to 120 km/75 miles
- Adaptive asymmetric throughput – dynamic allocation between uplink and downlink
- Single radio supporting multiple bands (5.x GHz)
- Advanced MIMO, OFDM and Diversity technologies
- Robust and reliable to operate in tough conditions, extreme temperatures and non line-of-sight scenarios

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## Product Specifications

Configuration	
Architecture	Outdoor Unit with Integrated Antenna
IDU to ODU Interface	Outdoor CAT-5e cable; Maximum cable length: 100m @100BaseT and 70m @1000BaseT
Radio	
Capacity	200 Mbps net aggregate throughput (up to 16E1s/T1s plus Ethernet)
Range	Up to 120 km / 75 miles
Channel Bandwidth	Configurable: 10,20 or 40 MHz
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Adaptive Modulation & Coding	Supported
Automatic Channel Selection	Supported
Diversity	Supported
Spectrum View	Supported
Max Tx Power	5.8 GHz: 9dBm / total 36 dBm EIRP 5.4 GHz: 3.5 dBm / total 30 dBm EIRP 5.3 GHz: -3.5 dBm / total 23 dBm EIRP
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Ethernet Interface	10/100/1000BaseT
Supported Indoor Units	IDU-C Series (RW-72XX-2000), IDU-E Series (RW-71XX-1000) RADWIN PoE device (RW-9921-001X)
QoS	Packet classification to 4 queues according to 802.1p and Diffserv, Dynamic scheduling according to air interface changes
VLAN	Supported
Ethernet Ring Protection	Supported, including Ethernet 1+1
Hub Site Synchronization (HSS)	Up to 16 collocated links (RADWIN 2000 and/or WinLink 1000)
Monitored Hot Standby (MHS)	1+1 with RADWIN 2000 link or WinLink 1000 link

Supported Bands		
Band	Occupied Frequency Range	Radio Compliance
5.8 GHz ETSI	5.735 – 5.865	ETSI EN 302 502
5.4 GHz ETSI*	5.480 – 5.715	ETSI EN 301 893
5.3 GHz ETSI	5.160 – 5.340	ETSI EN 301 893

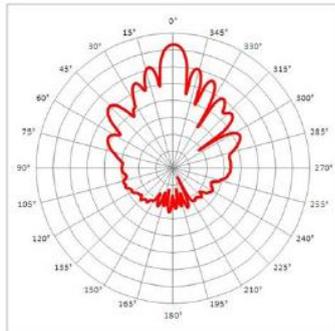
\* Factory Default

Mechanical	
Dimensions	37.1(w) x 37.1(h) x 11.0(d) cm
Weight	3.5 kg / 7 lbs
Power	
Power Feeding	Power provided over ODU-IDU cable
Power Consumption	<35W (IDU + ODU)
Environmental	
Operating Temperatures	-35°C - 60°C / -31°F – 140°F
Humidity	100% condensing, IP67 (totally protected against dust and against immersion up to 1m)
Safety	
FCC/IC (cTUVus)	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22
ETSI	EN/IEC 60950-1, EN/IEC 60950-22
EMC	
FCC	CFR47 Class B, Part15, Subpart B
ETSI	EN 300 386, EN 301 489-1, EN 301 489-4
CAN/CSA-CEI/IEC	CISPR 22-04 Class B
AS/NZS	CISPR 22-2004 Class B

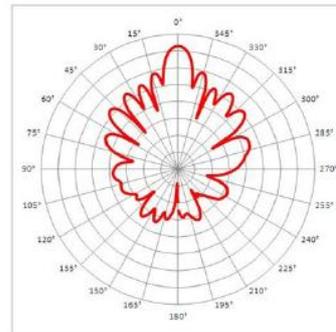
**RADWIN**

Integrated Antenna	
Minimum Peak Gain	22.5 dBi ± 0.5 @ 5.15-5.25 GHz
VSWR	23 dBi ± 0.5 @ 5.25-5.875 GHz
3 dB Beamwidth	1.5 : 1 (typ) 1.7 : 1 (max)
AZ & EL Beam Squint	9° (typ)
Polarization	± 2° Port V & Port H
Sidelobes Level	Dual Linear (Vertical and Horizontal)
Cross Polarization	ETSI EN 302 085 V1.1.2, TS1-TS3
F/B Ratio	ETSI EN 302 085 V1.1.2, TS1-TS3
F/B Ratio	35 dB (max)
Port To Port Isolation	40 dB (min)
Lightning Protection	DC grounded

Elevation @ 5.8GHz



Azimuth @ 5.8GHz



**Ordering Information**

Part Number: RW-2250-0100

Description:

RADWIN 2000 C-Series ODU with integrated antenna, supporting multi frequency bands at 5.x GHz,

Factory default 5.4 GHz ETSI

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DS RW-2250-0100/07.11



### 9.5. Equipo de interior PoE, RW-9921-101x

#### RW-9921-101X

PoE device FE/GbE



PoE device

#### Ordering Info :

RW-9921-101X	PoE device 100BaseT/GbE interface for RADWIN radios With AC power feeding (see note below)
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#### Note:

Replace X with a digit from the list according to AC plug type

required: 1 – European AC plug

2 – US AC Plug

3 – UK AC Plug

4 – Indian AC Plug

5 – Australian AC Plug

6 – AC open connector

7 – Argentina AC Plug

8 – South Africa AC Plug

B – for Brazilian AC plug

Examples: RW-9921-1011 for European AC plug, RW-9921-1014 for Indian AC plug.



### RW-9921-101X - Product Specifications

<b>ELECTRICAL</b>	
AC Input Voltage	100-240VAC nominal, 90-264VAC max range
Input Frequency	47-63Hz
Input Current	2.0A (rms) 115VAC at Max. load 1.2A (rms) 230VAC at Max. load
Max. In-rush current	30A for 115VAC at Max. load 60A for 230VAC at Max. load
Standby Power	0.5W(Max)at 240Vac
DC Output Voltage	56V
Protection	Short circuit protection Auto recovery Over voltage protection
<b>Environmental</b>	
Operating Temperatures	0°C - 40°C/32°F - 104°F
Humidity	90% non-condensing
<b>Safety</b>	
UL	60950
C-UL	60950
TUV/GS	IEC/EN 60950
<b>EMC</b>	
ESD	61000-4-2
RS	61000-4-3
EFT	61000-4-4
Surge	61000-4-5
CS	61000-4-6
DIPS	61000-4-11
EMI	FCC part 15 class B, CISPR Pub 22 class B
<b>Mechanical</b>	
Case	Plastic
Dimensions	163mm(L) x 65mm(W) x 36mm(H)
Weight	400g/0.88lb
<b>Interfaces</b>	
PoE output	RJ-45 connector
Ethernet input	RJ-45 connector
AC input on device	Standard socket IEC320 C14 type
AC cable	Variety of AC plugs available (see below)
Ethernet / ODU	RJ-45 connector

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