



**RADWIN 5000 HPMP**  
**HIGH CAPACITY**  
**POINT TO MULTI-POINT**

**RIDE RADWIN 5000 HPMP WIRELESS HIGHWAY**

RADWIN 5000 HPMP Point-to-MultiPoint delivers up to 200Mbps per sector and is the ideal choice for last mile enterprise connectivity and high-end applications that demand guaranteed bandwidth per subscriber.

The logo consists of the word "WIN" in a bold, orange, sans-serif font, centered within a white square.

### **RADWIN 5000 HPMP Highlights**

- » Up to 200Mbps per Base Station sector
- » Unique mechanism guaranteeing SLA per subscriber
- » Variety of Subscriber Units – 50, 20, 10Mbps
- » Small Form Factor MIMO Subscriber Unit
- » OFDM MiMO 2x2 / Diversity enables nLOS deployment
- » Low latency
- » Long range – 40 km
- » Supporting Multiband 4.9 to 6GHz in the same unit
- » Coexists with RADWIN's Point-to-Point solutions

### **RADWIN 5000 HPMP APPLICATIONS**

#### **CARRIERS & ISPS**

RADWIN 5000 HPMP is an excellent revenue generator for Carriers and ISPs that are looking to deploy last mile enterprise connectivity and deliver high-capacity broadband access to end users. Carriers can leverage upon RADWIN 5000 HPMP high capacity capabilities to backhaul wireless and landline access systems such as Wi-Fi hot spots, cellular base stations and DSLAMs.

#### **GOVERNMENT & ENTERPRISE NETWORKS**

RADWIN 5000 HPMP offers exclusive wireless broadband infrastructure for Government and Enterprise networks to dramatically reduce their total cost of ownership when implementing the following applications:

- » Connectivity of high resolution video surveillance
- » Wide range Inter-office connectivity
- » Mission critical broadband applications



**RADWIN 5000 HPMP is ideal for carriers and ISPs providing last mile enterprise connectivity as well as government and enterprise networks delivering high capacity for mission critical applications.**

## **Product Key Benefits**

### **Highest Base Station Capacity for the Best User Experience**

RADWIN 5000 HPMP base station supports up to 200Mbps per sector, delivering high capacity over a single radio unit. Together with High capacity Subscriber Units (HSUs), RADWIN 5000 HPMP enables a service capacity of up to 50Mbps per subscriber.

### **Greater Spectrum Efficiency for Faster ROI**

RADWIN 5000 HPMP provides the highest spectrum efficiency available (5bps/Hz) in the Point-to-MultiPoint Sub 6GHz arena for greater throughput over narrower channel bandwidth.

### **Secured Service Level Agreement for Demanding Applications**

RADWIN 5000 HPMP uniquely secures available bandwidth per end user for guaranteed Service Level Agreement (SLA). Subscriber's capacity is unaffected by the transmission performance fluctuation of other Subscribers, due to interference or other causes.

### **Superb Performance in Harsh Conditions**

RADWIN 5000 HPMP incorporates advanced interference mitigation techniques that assure superior operation in harsh conditions, either in licensed or unlicensed bands. Combined with OFDM, MIMO 2x2 and antenna diversity, RADWIN 5000 HPMP establishes robust performance in nLOS /NLOS deployments.

### **Multi-Band Capabilities -All in a Single Unit**

RADWIN 5000 HPMP radios, including Base Station and Subscriber Units, support an extensive range of frequency bands in the same unit (4.9 - 6GHz or 3.3 - 3.8GHz) for flexible radio planning.

### **Low Visual Impact Subscriber Units**

RADWIN 5000 HPMP offers a variety of HSUs, some guaranteeing exceptionally low visual impact due to the small form factor integrated MIMO antenna. With built-in connectors, these HSUs maintain the flexibility to utilize an external antenna whenever needed.

### **TDD synchronization, enabling dense deployments with maximum performance**

RADWIN 5000 Base station enables TDD synchronization of all collocated sectors within a site and between base stations located in different sites. This Synchronization prevents mutual interference between closely situated Radio units and saves tower space and spectrum.

### **Co-exist with RADWIN PtP**

RADWIN 5000 HPMP and RADWIN Point to Point solutions create a complimentary TDD synchronized solutions for last mile and backhaul deployments, both using the same RADWIN Network Management System (RNMS).

## RADWIN 5000 HPMP Components

RADWIN 5000 HPMP Base Station and Subscriber units comply with IP67 for effective deployment in harsh conditions. Supporting multi frequency bands, 4.9 to 6.06GHz or 3.3 to 3.8GHz these units comply with a variety of regulations: ETSI, FCC, IC (Canada) WPC (India) and MII (China). All Radio units consume low power and are fed through a PoE device.



### **HBS –High Capacity Base station**

HBS is a high capacity OFDM / MiMO 2x2 outdoor Base station radio unit that covers a single sector in MIMO mode or dual sectors in diversity mode. The unit is light and compact and includes connectors for an external antenna.

RADWIN 5000 HPMP provides a variety of Subscriber units that deliver 10, 20 and 50Mbps. Three types of models are available to maximize transmission performance as well as simplify the installation process and reduce operational efforts.



### **HSU with Integrated Small Form Factor MIMO Antenna**

This HSU model includes a low visual impact dual polarized MIMO antenna that is attached to the Radio Unit for easy installation in close proximity to the Base Station. The Radio Unit has dual connectors to attach high gain external antennas when needed. The model is available in HSU510 & HSU520, supporting 10 & 20Mbps respectively.



### **HSU with High Gain Integrated MIMO Antenna**

This HSU model includes a high gain dual polarized antenna attached to the Radio Unit for maximum performance in medium range and high capacity deployments. The model is available in HSU520 & HSU550 and supports 20 & 50Mbps respectively.



### **Connectorized HSU for External Antennas**

This HSU model includes dual connectors for a high gain external antenna that enables long range high capacity deployments. The model is available in HSU550 that supports 50Mbps.

## Product Specifications

### Configuration

	Base Station	Subscriber Unit		
	HBS- 5200	HSU-5550	HSU-5520	HSU-5510
<b>Connectorized ODU (Outdoor Radio Unit)</b>	Supported	Supported	N/A	N/A
<b>ODU with High gain Integrated antenna – 23dbi</b>	N/A	Supported	Supported	N/A
<b>Connectorized ODU with Small Form Factor antenna (15dbi)</b>	N/A	N/A	Supported	Supported
<b>PoE to ODU Interface</b>	Outdoor CAT-5e; Maximum cable length: 100 m @ 10/100BaseT, 75 m @ 1000BaseT			

### Radio

<b>Max net aggregate capacity</b>	100 Mbps @20MHz 200 Mbps @40MHz <sup>1</sup>	50Mbps	20Mbps	10Mbps
<b>Number of HSUs per HBS</b>	Up to 16 HSUs			
<b>Range</b>	Up to 40 km / 25 miles			
<b>Frequency bands</b>	Multiband Radio supporting 4.900 to 6.06GHz or Multiband 3.300-3.800GHz <sup>2</sup>			
<b>Channel Bandwidth</b>	Configurable: 10 <sup>1</sup> , 20 , 40 <sup>1</sup> MHz			
<b>Modulation</b>	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)			
<b>Adaptive Modulation &amp; Coding</b>	Supported			
<b>Sector Bandwidth allocation</b>	Configurable: Symmetric or Asymmetric <sup>1</sup>			
<b>DFS (FCC &amp; ETSI)</b>	Supported			
<b>End to End Latency</b>	Typical: 4msec to 10msec			
<b>Diversity</b>	Supported <sup>1</sup> at HBS & HSU			
<b>Spectrum Viewer</b>	Supported <sup>1</sup> at HBS & HSU			
<b>Max Tx Power</b>	25 dBm typical at HBS & HSU			
<b>Duplex Technology</b>	TDD			
<b>TDD Synchronization</b>	Inter & Intra site synchronization (supporting RADWIN PtP)			
<b>Encryption</b>	AES 128			

### Interfaces

<b>Ethernet Interface</b>	HBS: 10/100BaseT, 1000BaseT HSU: 10/100BaseT
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### Networking

<b>Sub convergence layer</b>	Layer 2
<b>QoS</b>	Supported <sup>1</sup> Packet classification to 4 queues according to 802.1p and Diffserv
<b>VLAN</b>	Supported <sup>1</sup> 802.1Q, 802.1P, QinQ

### Management

<b>HBS &amp; HSU Management Application</b>	RADWIN Manager
<b>Protocol</b>	SNMP and Telnet <sup>1</sup>
<b>NMS Application</b>	RADWIN NMS (RNMS)

Note<sup>1</sup> –Feature will be provided by Q3/2011 via a software upgrade

Note<sup>2</sup> –Dedicated product, due on Q3/2011

## Mechanical

<b>ODU Dimensions</b>	Connectorized HBS : 19.5(w) x 27.0(h) x 8.0(d) cm Connectorized HSU: 19.5(w) x 27.0(h) x 8.0 (d) cm Small Form Factor HSU: 19.5(w) x 27.0(h) 9.0 (d) cm High gain Antenna HSU: 37.1(w) x 37.1(h) x 11.0(d) cm
<b>ODU Weight</b>	Connectorized HBS: 1.8 kg / 3.6 lbs Connectorized & Small Form Factor HSU: 1.8 kg / 3.6 lbs High gain antenna HSU: 3.5 kg / 7 lbs

## Power

<b>Power Feeding</b>	Power provided over PoE interface
<b>Power Consumption</b>	HBS <25W, HSU< 20W

## Environmental

<b>Operating Temperatures</b>	-35°C to 60°C / -31°F to 140°F
<b>Humidity</b>	100% condensing, IP67

## Radio Regulation

<b>FCC</b>	FCC 47CFR, Part 15, Subpart C and Subpart E , FCC 47CFR, Part 90, Subpart Y, FCC 47CFR, Part 90 – Restricted Mode <sup>2</sup>
<b>IC</b>	IC RSS-210, IC RSS-111, IC RSS 192, issue-3 <sup>2</sup>
<b>ETSI</b>	ETSI EN 302 502, ETSI EN 301 893, EN 302 326-2 V1.2.2 <sup>2</sup>
<b>WPC</b>	WPC GSR-38
<b>MII</b>	MII for 5.8 GHz

## Safety

<b>FCC/IC (cTUVus)</b>	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22
<b>ETSI</b>	EN/IEC 60950-1, EN/IEC 60950-22

## EMC

<b>FCC</b>	47 CFR Class B, Part15, Subpart B
<b>ETSI</b>	EN 300 386, EN 301 489-1, EN 301 489-4
<b>CAN/CSA-CEI/IEC</b>	CISPR 22-04 Class B
<b>AS/NZS</b>	CISPR 22-2004 Class B

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## About RADWIN

Delivering best of breed wireless connectivity solutions, RADWIN is committed to providing a complete offering for the Sub 6GHz domain. Recognized as the market leader, RADWIN provides competitively priced products that achieve unmatched reliability, flexibility and installation simplicity. Deployed in over 130 countries around the world, RADWIN's success is due to swift delivery of high quality wireless connectivity products that secure unrivaled performance for broadband access, backhaul connectivity, private networks and specialized broadband mobility applications.

## Corporate Headquarters

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