

## RADWIN 2000

### RW-2050-H100 ODU Unit - Data Sheet



#### C-Series

#### RW-2050-H100

RW-2050-H100 is a carrier-class radio supporting the 5.x GHz bands and complying with FCC, IC (Canada), MII (China) and WPC (India) regulations (factory default: 5.8 GHz FCC). The multi-band radio is part of the RADWIN 2000 C-Series that delivers high capacity and extended range for carriers' backhaul needs.

RW-2050-H100 complies with HAZLOC standard and certified to operate under hazardous environment in explosive zones.

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-2050-H100 comes with an integrated antenna.

#### Product Highlights

- Support HAZLOC standard
- 200 Mbps Ethernet net throughput and up to 16E1s/T1s
- Native TDM transport
- GBE support
- Processing Speed 380,000 PPS
- 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

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## Product Specifications

|                                |                                                                                                                           |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Configuration</b>           |                                                                                                                           |
| Architecture                   | Outdoor Unit with Integrated Antenna                                                                                      |
| IDU to ODU Interface           | Outdoor CAT-5e cable; Maximum cable length: 100m @100BaseT and 75m @1000BaseT                                             |
| <b>Radio</b>                   |                                                                                                                           |
| Capacity                       | 200 Mbps net aggregate throughput (up to 16E1s/T1s plus Ethernet)                                                         |
| Range                          | Up to 120 km / 75 miles                                                                                                   |
| Channel Bandwidth              | Configurable: 5,10,20 and 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                   | 25 dBm                                                                                                                    |
| Duplex Technology              | TDD                                                                                                                       |
| Error Correction               | FEC k = 1/2, 2/3, 3/4, 5/6                                                                                                |
| Processing Speed               | 380,000 PPS                                                                                                               |
| 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 devices (RW-9921-001X / RW-9921-101X )                |
| 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 5000, RADWIN 2000 and/or WinLink 1000)                                                  |
| Monitored Hot Standby (MHS)    | 1+1 with RADWIN 2000 link or WinLink 1000 link                                                                            |

### Supported Bands

| Band                   | Channel BW 5MHz            | Channel BW 10MHz         | Channel BW 20MHz         | Channel BW 40MHz        | Radio Compliance                                    |
|------------------------|----------------------------|--------------------------|--------------------------|-------------------------|-----------------------------------------------------|
| <b>5.8 GHz FCC/IC*</b> | <b>5.7275 - 5.8475 GHz</b> | <b>5.725 - 5.850 GHz</b> | <b>5.725 - 5.850 GHz</b> | <b>5.725- 5.850 GHz</b> | <b>FCC 47CFR, Part 90, Subpart C and IC RSS-210</b> |
| 5.1 GHz Universal      | 5.1475 - 5.3375 GHz        | 5.1475 - 5.340 GHz       | 5.140 - 5.345 GHz        | 5.130- 5.355 GHz        |                                                     |
| 4.9 Universal          | 4.8975 - 4.9925 GHz        | 4.895-4.995 GHz          | 4.890-5.000GHz           | 4.880-5.000 GHz         |                                                     |
| 5.4 GHz Universal      | 5.4725 - 5.7225 GHz        | 5.470 - 5.725 GHz        | 5.465 - 5.730 GHz        | 5.455 - 5.740 GHz       |                                                     |
| 5.8 GHz MII China      | 5.7375 - 5.8375 GHz        | 5.735 - 5.8340 GHz       | 5.730- 5.845 GHz         | 5.720 - 5.855 GHz       | MI for 5.8 GHz                                      |
| 5.9 GHz Universal      | 5.7275 - 5.9525 GHz        | 5.725- 5.955 GHz         | 5.720- 5.960 GHz         | 5.710 - 5.970 GHz       |                                                     |
| 5.8 GHz WPC            | 5.8325 - 5.8675 GHz        | 5.830 - 5.870 GHz        | 5.825- 5.875 GHz         | 5.815 - 5.855 GHz       | WPC GSR-38                                          |

\* Factory Default

|                        |                                                                                                                                                                                  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mechanical</b>      |                                                                                                                                                                                  |
| Dimensions             | 37.1(w) x 37.1(h) x 11.0(d) cm                                                                                                                                                   |
| Weight                 | 3.5 kg / 7 lbs                                                                                                                                                                   |
| <b>Power</b>           |                                                                                                                                                                                  |
| Power Feeding          | Power provided over ODU-IDU cable                                                                                                                                                |
| Power Consumption      | <35W (IDU + ODU)                                                                                                                                                                 |
| <b>Environmental</b>   |                                                                                                                                                                                  |
| Operating Temperatures | -35°C - 60°C / -31°F – 140°F                                                                                                                                                     |
| Humidity               | 100% condensing, IP67 (totally protected against dust and against immersion up to 1m)                                                                                            |
| <b>Safety</b>          |                                                                                                                                                                                  |
| 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                                                                                                                                                  |
| <b>EMC</b>             |                                                                                                                                                                                  |
| 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                                                                                                                                                            |
| <b>Environmental</b>   |                                                                                                                                                                                  |
| ANSI/ISA               | Non-incentive Electrical Equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous Locations 12.12.01-2010, 1st Edition, Dated 1st January 2011 |
| CAN/CSA                | Non-incentive Electrical Equipment for use in Class I, Division 2 Hazardous Locations C22.2 No 2013-M1987,31st March 1987,Reaffirmed 2004                                        |

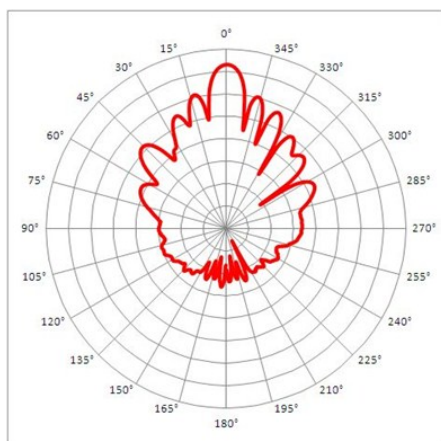
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### Integrated Antenna

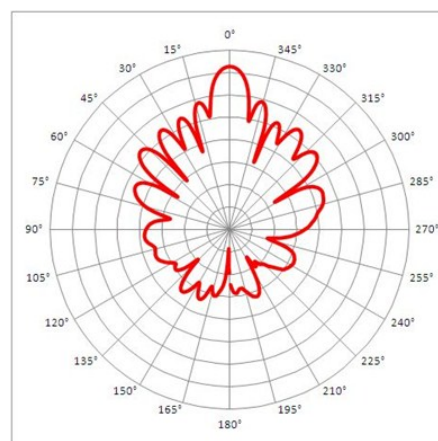
|                        |                                       |
|------------------------|---------------------------------------|
| Minimum Peak Gain      | 23 dBi $\pm$ 1                        |
| VSWR                   | 1.5 : 1 (typ) 1.7 : 1 (max)           |
| 3 dB Beamwidth AZ.     | 9° (typ)                              |
| 3 dB Beamwidth EL.     | 9° (typ)                              |
| 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                           |

### Antenna Patterns

Elevation @ 5.8GHz



Azimuth @ 5.8GHz



## Ordering Information

**Part Number:** RW-2050-H100

**Description:** RADWIN 2000 C-Series ODU with integrated antenna, supporting multi frequency bands at 5.x GHz, factory default 5.8 GHz FCC/IC, certified by HAZLOC standard

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