

# RADWIN

## NEO DUO

### PtMP Base Station

## Data Sheet



### Product Overview

RADWIN NEO DUO is a low-priced dual-carrier Point-to-MultiPoint base station with an advanced beamforming antenna, that provides best-in-class radio interference mitigation and wide coverage, superior to any Access Points with a horn or uplink-only beamforming antenna. NEO DUO is the only PtMP base station in its price range that offers an integrated bi-directional (uplink and downlink) beamforming antenna that enables frequency reuse-2 per network.

Featuring PrimeCarrier for dynamic carrier selection per end-customer, NEO DUO ensures service reliability and high-capacity in the heavily congested unlicensed spectrum for both uplink and downlink directions.

Offering 1.5Gbps over a 90° sector, RADWIN NEO DUO ensures revenue growth with the lowest TCO and minimum spectrum usage, while delivering fiber-like residential services.

### Product Highlights

- » Advanced Beamforming antenna
- » Up to 1.5Gbps, 6Gbps per 4 sectors
- » Best in class interference immunity
- » PrimeCarrier for ultimate downlink performance
- » Frequency reuse-2 per network
- » Best-effort class of service
- » Built-in GPS
- » WAN connectivity over SFP
- » 5 GHz band

## Product specifications:

| Configuration                       |  |
|-------------------------------------|--|
| Architecture                        | Outdoor Unit with smart beamforming integrated antenna and built-in 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: 75m for 1000BaseT                    |
| Radio                               |  |
| Max capacity                        | 1.5 Gbps (2x 750 Mbps) net aggregate throughput                            |
| Maximum Subscriber Units            | Up to 128 per base station / up to 64 per each carrier                     |
| Range                               | Up to 40 km / 25 miles   |
| Channel Bandwidth                   | Configurable: 10, 20, 40, 80 MHz *   |
| Dynamic Channel Bandwidth selection | 20/40/80 MHz   |
| Multiplexing, Modulation            | OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)  |
| Error correction                    | FEC k = 1/2, 2/3, 3/4, 5/6   |
| Adaptive modulation and coding      | Supported  |
| DFS                                 | Supported *  |
| Duplex Technology                   | TDD  |
| Diversity                           | Supported  |
| Antenna modes                       | MIMO 2x2, diversity, adaptive MIMO/diversity                               |
| Dynamic Bandwidth management        | Best Effort service level  |
| Max TX Power                        | 25 dBm *   |
| Encryption                          | AES128   |
| TDD synchronization                 | Supported via built-in GPS receiver  |
| Uplink/Downlink allocation          | 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   |
| MTU size                            | Up to 9216 bytes   |
| ODU Management                      | IPv4/IPv6 dual-stack; SNMPv1, SNMPv3; HTTP/HTTPS using web browser         |
| 802.1x                              | Supported  |
| Option 82                           | Supported  |
| DHCP filtering                      | Supported  |
| IGMP snooping                       | Supported  |
| PPPoE filtering                     | Supported  |
| RADIUS Authorization                | Supported  |
| RADIUS User authentication          | Supported  |
| Syslog                              | Supported  |

## Physical Specification:

| Mechanical            |  |
|-----------------------|--|
| Dimension             | 32.5 (w) x 34.0(h) x 9.0 (d) cm / 12.8" (w) x 13.4" (h) x 3.5" (d) |
| Weight                | 3.51kg/7.74lbs   |
| Power                 |  |
| Power consumption     | <35W   |
| Power feeding         | Power provided over ODU-IDU cable                                  |
| POE nominal voltage   | 55V  |
| Environmental         |  |
| Operating Temperature | -35°C to 60°C / -31°F to 140°F                                     |
| Humidity              | 100% condensing  |
| Enclosure protection  | IP67 per EN/IEC 60529, NEMA Type 4 Enclosure                       |

## Antenna:

| Integrated Antenna       |  |
|--------------------------|--|
| Gain                     | 17 dBi                                 |
| VSWR                     | 2.0 : 1                                |
| 3 dB Azimuth Beamwidth   | 24° (typical) steered over 90 ° sector |
| 3 dB Elevation Beamwidth | 12° (typical)                          |
| Polarization             | Dual Linear (Vertical and Horizontal)  |
| Sidelobes Level          | -18 dB (typical)                       |
| Cross Polarization       | -30dB (typical)                        |
| F/B Ratio                | 30 dB                                  |
| Port To Port Isolation   | 35 dB (typical)                        |
| Lightning Protection     | DC Grounded                            |

## Regulatory compliance:

| Radio     |   |
|-----------|---|
| USA       | FCC 47CFR Part 15.407                                 |
| Canada    | ISED RSS-247  |
| EU        | ETSI EN 301 893; ETSI EN 302 502                      |
| Safety    |   |
| EU/ Int'l | EN/IEC 62368-1, EN/IEC 60950-22                       |
| USA       | 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, ETSI EN 301 489-4, ETSI 301 489-17 |
| USA       | FCC 47CFR Part 15 Subpart B, Class B                  |
| Canada    | ICES-003, CISPR 32 Class B                            |
| 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                           |
| 5.1 GHz UBR       | 5.130-5.875 GHz            | Universal                           |
| 5.9 GHz Universal | 5.710-5.990 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                          |

\* 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 band |
|----------------|--------------------------------------|------------|--------------|
| RW-5AG5-0L50   | RW5000/HBS/5AG5/F58/FCC/NEO-DUO/INT  | FCC        | 5.8 GHz      |
| RW-5AG5-1L54   | RW5000/HBS/5AG5/F54/IC/NEO-DUO/INT   | IC/ISED    | 5.4 GHz      |
| RW-5AG5-2L54   | RW5000/HBS/5AG5/F54/ETSI/NEO-DUO/INT | ETSI       | 5.4 GHz      |
| RW-5AG5-9L54   | RW5000/HBS/5AG5/F54/UNI/NEO-DUO/INT  | Universal  | 5.4 GHz      |

### PoE units

| Part Number  | Product Name        | Product Description   |
|--------------|---------------------|---|
| RW-9921-1049 | POE/DC/GBE/HP/20-60 | DC input 20V – 60V  |
| RW-9921-400X | POE/AC/2.5/GBE      | AC input 100VAC – 240VAC<br>See PoE datasheet for country specific power plug |

### PoE switch units

| Part Number  | Product Name | Product Description                                      |
|--------------|--------------|--|
| RW-7401-6006 | IDU-S/HP     | Managed indoor switch, 6x PoE ports, SFP/SFP+ interfaces |

## Package contents:

Radio unit

Mounting Kit

IP67 Cable glands

Datasheet information can be changed by manufacturer without prior notice