

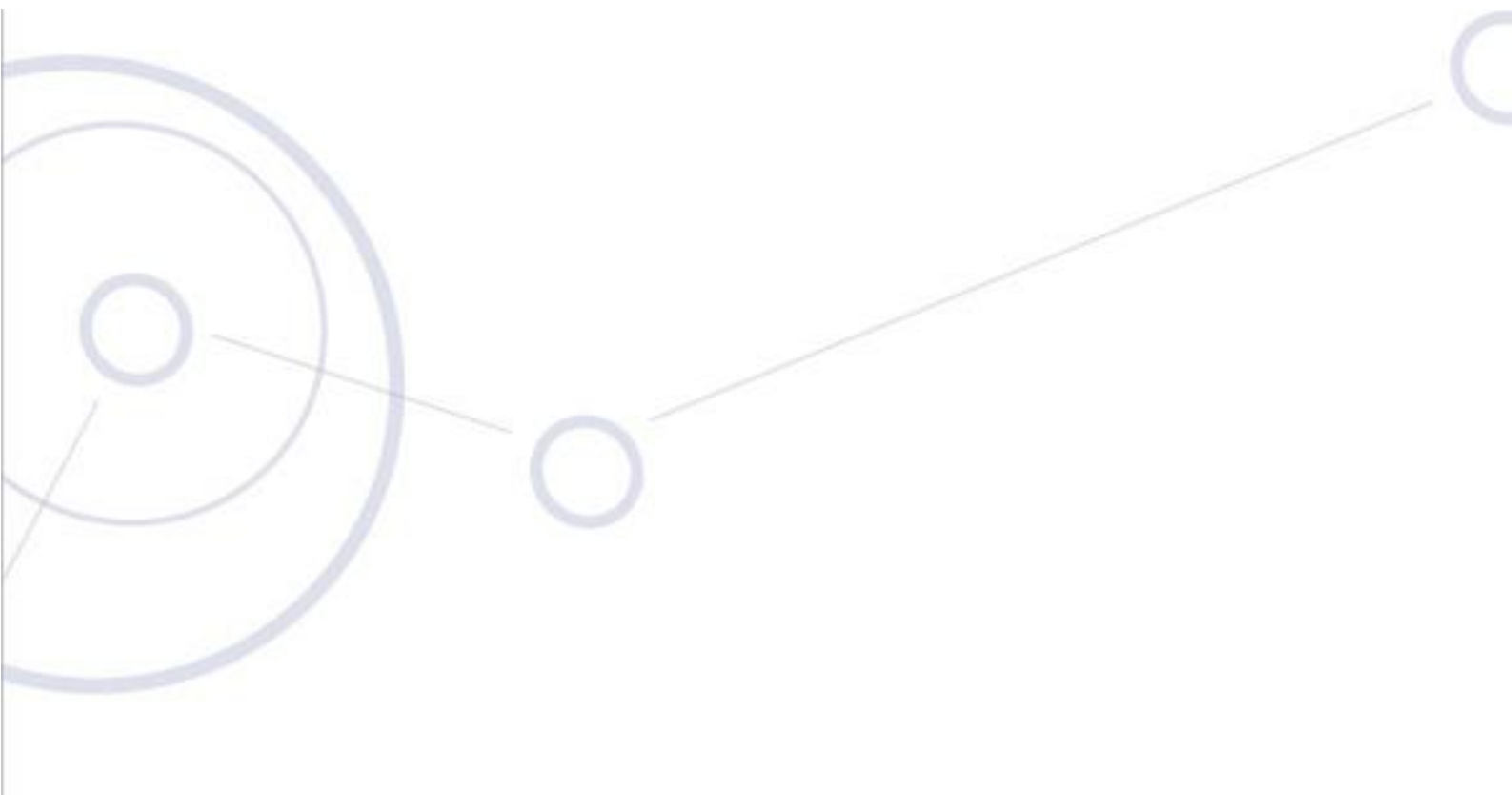
# **RADWIN**

RADWIN 2000 Alpha INT,  
RADWIN 5000 SU-Air INT,  
RADWIN 5000 SU-Pro INT

5 GHz Outdoor PtP/PtMP High Gain Radio Unit

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## **REFERENCE GUIDE**



# Regulatory Compliance

## FCC/ISED - Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and ISED RSS standards. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



### Caution

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Outdoor units and antennas should be installed ONLY by experienced installation professionals who are familiar with local building and safety codes and, wherever applicable, are licensed by the appropriate government regulatory authorities. Failure to do so may void the product warranty and may expose the end user or the service provider to legal and financial liabilities. Resellers or distributors of this equipment are not liable for injury, damage or violation of regulations associated with the installation of outdoor units or antennas. The installer should configure the output power level of antennas according to country regulations and antenna type.

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**Warning**

This equipment should be installed and operated with a minimum distance of 70 cm between the radiator and your body.

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**Warning**

The module is granted to operate under FCC Rules in the 2.4 / 5.1 / 5.3 / 5.4 / 5.8 GHz bands.

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**Warning**

The module is granted to operate under ISED Standards in the 2.4 / 5.4 / 5.8 GHz bands.

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This device complies with Part 15 of the FCC rules and with ISED license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003.

## Overview

The RADWIN 2000 Alpha INT, RADWIN 5000 SU-Air INT and RADWIN 5000 SU-Pro INT are model names for a high gain, integrated 2x2 MIMO XP antenna, outdoor radio transceiver device that comes in various software configurations depending on installation purpose.

The RADWIN 2000 Alpha INT is a point to point radio unit providing wireless backhaul for variety of applications, as well as wireless access for enterprise customers. It provides aggregate capacity up to 350 Mbps.

The RADWIN 5000 SU-Air INT is a Point to MultiPoint subscriber unit built for residential customers and provides aggregate capacity up to 100 Mbps.

The RADWIN 5000 SU-Pro INT is a Point to MultiPoint subscriber unit for enterprise customers and can provide aggregate capacity up to 250 Mbps while guarantying minimum level of capacity in case of traffic overload over the air.

All units support 10\*\*, 20, 40, 80 MHz channel bandwidths in the frequency ranges 5.15-5.25 GHz\*, 5.25-5.35 GHz\*, 5.47-5.725 GHz, 5.725-5.85 GHz using OFDM transmission technique in TDD scheme. All units include a high gain cross polarized integrated 2x2 MIMO antenna.

The units are equipped with an on-board 2.4 GHz WiFi interface module supporting HT20, HT40 modes of operation.

The RADWIN 2000 Alpha INT, RADWIN 5000 SU-Air INT, RADWIN 5000 SU-Pro INT is certified under the identification numbers FCC ID: Q3K-5XACULCHG and IC: 5100A-5XACULCHG.

\* Only supported under FCC Rules

\*\* 10 MHz channel bandwidth supported only in 5.15-5.25 GHz and 5.725-5.85 GHz bands

## Condition of Use

The RADWIN 2000 Alpha INT, RADWIN 5000 SU-Air INT, RADWIN 5000 SU-Pro INT is a proprietary radio device and can only be deployed and maintained by RADWIN professional installers or its authorized subcontractors

## FCC Rules and ISED Regulation Restrictions

The ODU firmware is factory programmed to operate under the FCC rules and ISED regulation restrictions. The firmware is locked and inaccessible by any third party. As a result of the above the user interface allows both the installer and the user to control the ODU only within the boundaries of the regional restrictions.

## Antenna

The RADWIN 2000 Alpha INT, RADWIN 5000 SU-Air INT, RADWIN 5000 SU-Pro INT is certified with a 22 dBi integrated flat crossed dual pole antenna type.

## Certified Antenna

Following is the antennas certified for use with the 'RADWIN 2000 Alpha INT, RADWIN 5000 SU-Air INT, RADWIN 5000 SU-Pro INT':

Antenna Type	Manufacturer	Model Number	Antenna Max Gain (dBi)
Dual FP Cross Pole Integrated	RADWIN Ltd.	MR0204670	22

## Maximum Output Power

### 5725 – 5850 MHz band - FCC/ ISED

The maximum output power can be set as follows, when operating in the 5.8 GHz band, under FCC 47 CFR Part 15.407 New Rules and ISED RSS-247 regulations. The power values are for PtP systems and PtMP systems.

For PtMP systems the total EIRP is limited to 36 dBm. Therefore the conducted output power of these systems will be limited to 14 dBm.

For PtP systems the highest conducted power shall be limited to 27 dBm.

### 5150 – 5250 MHz band – FCC

The maximum output power can be set as follows when transmitting in the 5.2 GHz band, under FCC 47 CFR Part 15.407 New Rules and regulations.

The total EIRP limit for PtP applications is 45 dBm.

The total EIRP limit for PtMP applications is 36 dBm.

### 5250 – 5350 MHz band – FCC

The maximum output power can be set as follows when transmitting in the 5.3 GHz band, under FCC 47 CFR Part 15.407 New Rules and regulations.

The total EIRP limit for all applications is 30 dBm.

### 5470 – 5725 MHz band – FCC/ISED

The maximum output power can be set as follows when transmitting in the 5.4 GHz band, under FCC 47 CFR Part 15.407 New Rules and regulations.

The total EIRP limit for all applications is 30 dBm.

### 2400 – 2483.5 MHz WiFi band - FCC/ISED

The maximum output power can be set as follows, when operating in the 2.4 GHz band, under FCC 47 CFR Part 15.247 and ISED RSS-247 regulations. The power values are for Wi-Fi systems for HT-20 and HT-40 Channel BW.

The highest conducted output power shall be limited to 17 dBm in HT-20 and to 15 dBm in HT-40

## Radio parameters accessed by end-user

The following parameters can be accessed by user:

1. Output Power
2. Frequency channel
3. Channel bandwidth

### Channel Bandwidths and Carrier Frequency Ranges

Channel BW [MHz]	Carrier Freq. Range [MHz]
<b>5.8 GHz Band</b>	
10	5730 - 5845
20	5735 - 5840
40	5745 - 5830
80	5765 - 5810
<b>5.2 GHz Band</b>	
10	5175 - 5245
20	5180 - 5240
40	5190 - 5230
80	5210
<b>5.3 GHz Band</b>	
20	5260 - 5330
40	5270 - 5320
80	5290 - 5300
<b>5.4 GHz Band</b>	
20	5490 - 5705
40	5500 - 5695
80	5525 - 5675 (FCC)
80	5525 - 5560 (ISED)
<b>2.4 GHz WiFi Band</b>	
20	2412 - 2462
40	2422 - 2452