

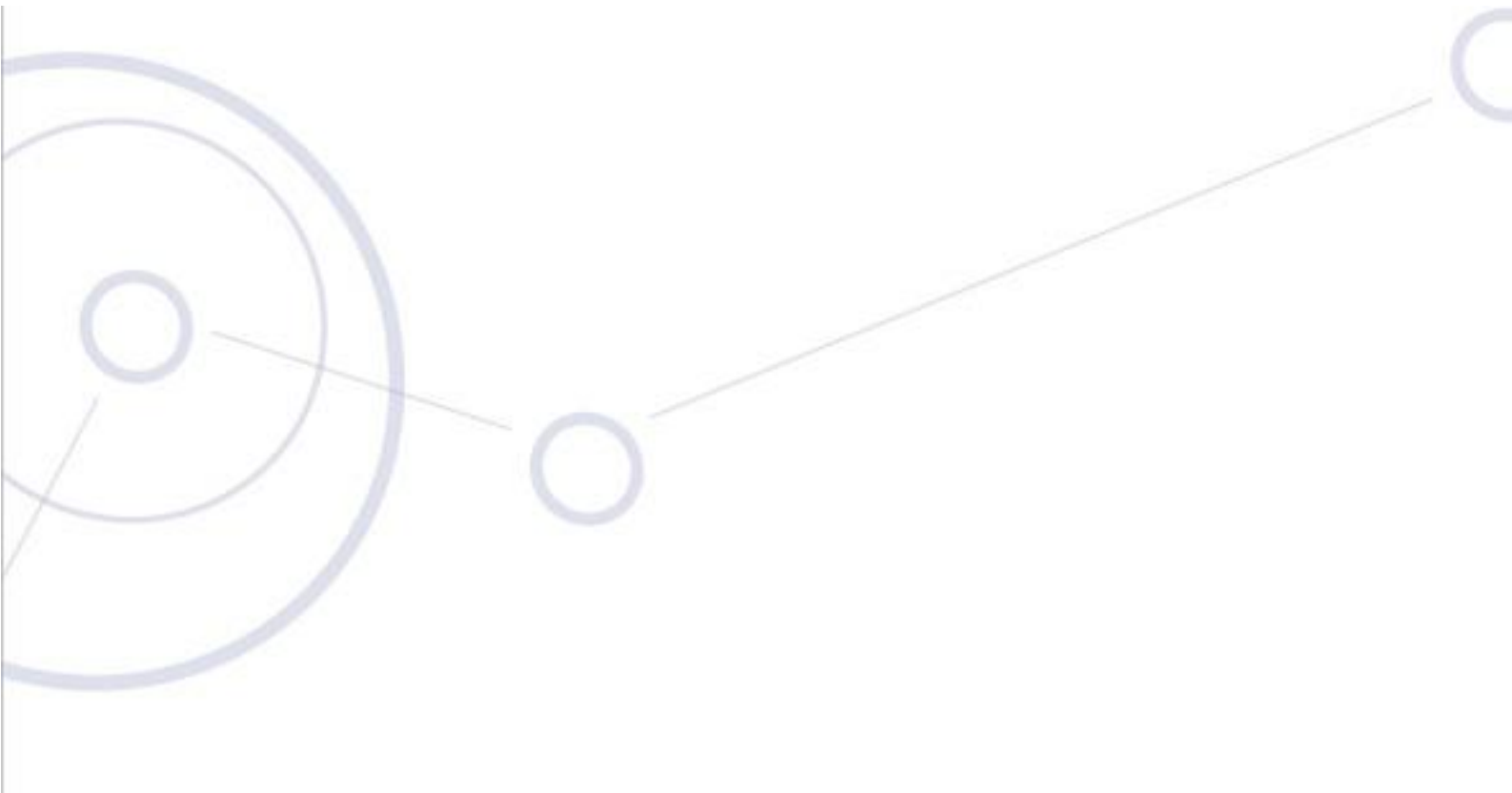
# RADWIN

SU Pro, SU Air

Outdoor Subscriber Radio Unit

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**REFERENCE GUIDE**



# Regulatory Compliance

## FCC/IC - 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 IC 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.



### Warning

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It is the responsibility of the installer to ensure that when using the outdoor antenna kits, only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden by FCC 47 CFR Part 15.204 and IC RSS standards.

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### Avertissement

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Il est de la responsabilité de l'installateur de s'assurer que lorsque vous utilisez les kits d'antennes extérieures, seules les antennes certifiés avec le produit sont utilisés. L'utilisation d'une antenne autre que ceux qui sont certifiés avec le produit est expressément interdite par la réglementation FCC partie 47 CFR 15.204 et IC normes RSS.

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### 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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### Prudence

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Les unités extérieures et les antennes doivent être installés que par des professionnels expérimentés d'installation qui sont familiers avec les normes locales et les codes de sécurité et, si applicable, sont agréées par les autorités gouvernementales de réglementation compétents. Ne pas le faire peut annuler la garantie du produit et peuvent exposer l'utilisateur final ou le fournisseur de services d'obligations juridiques et financiers. Revendeurs ou distributeurs de ces équipements ne sont pas responsables des blessures, des dommages ou violation des règlements liés à l'installation des unités extérieures ou des antennes. L'installateur doit configurer le niveau de puissance de sortie des antennes conformément aux réglementations nationales et le type d'antenne.

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### Warning

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This equipment should be installed and operated with a minimum distance of 110 cm between the radiator and your body.

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### Avertissement

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Cet équipement doit être installé et utilisé à une distance minimale de 110 cm entre le radiateur et votre corps.

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### Warning

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The module is granted to operate under FCC Rules in the 2.4 / 4.9 / 5.4 / 5.8 GHz bands.

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This device complies with Part 15 of the FCC rules and with Industry Canada 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.

Cet appareil est conforme la norme d'Industrie Canada exempts de licence RSS (s). Son fonctionnement est soumis aux deux conditions suivantes:

1. Cet appareil ne peut pas causer d'interférences, et
2. Cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

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

Cet appareil numérique de la classe B est conforme la norme NMB-003 du Canada

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## Overview

The 'SU Pro, SU Air' is an Outdoor Subscriber Radio Unit operating in the 4.9 – 5.8 GHz frequency bands. It is a TDD OFDM radio supporting 10 MHz, 20 MHz, 40 MHz and 80 MHz channel bandwidths. The 2.4 GHz WiFi interface supports standard 802.11/n HT-20, HT-40 operation modes.

The 'SU Pro, SU Air' supports cross polarized 2x2 MIMO antenna configuration for PtP and PtMP systems. The 'SU Pro, SU Air' supports 2 RF connectors for interfacing external cross polarized 2x2 MIMO antenna. The 'SU Pro, SU Air' also features an on-board WiFi 2.4 GHz interface module for short range control purposes. The 'SU Pro, SU Air' is powered by a 24Vdc PoE device.

The 'SU Pro, SU Air' is certified with the FCC ID: Q3K-5XACULC-X and IC: 5100A-5XACULCX.

## Condition of Use

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

## FCC rules and IC Regulation Restrictions

The ODU firmware is factory programmed to operate under the FCC rules and Industry Canada 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.

## Antennas

The 'SU Pro, SU Air' is certified with a 17 dBi integrated flat crossed dual pole antenna type and with a 23 dBi external antenna, both covering Point-to-Point and Point-to-Multipoint operation configurations.

## Certified Antenna

Following are the antennas certified for use with the 'SU Pro, SU Air':

Antenna Type	Manufacturer	Model Number	Frequency Range	Antenna Max Gain (dBi)
Dual Pole Integrated	RADWIN Ltd.	MP0179180	4940-4990	14
			5150-5350	16
			5470-5725	17
			5725-5850	16
Dual Pole External	RADWIN Ltd.	RW-9614-5359	4940-4990	23
			5150-5350	23
			5470-5725	23
			5725-5850	23
Omni	RADWIN Ltd.	On-Board	2400-2483.5	3

## Maximum Output Power

### 5725 – 5850 MHz band - FCC/IC

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 IC 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 output power of these systems will be reduced to comply with 36 dBm EIRP limit.

The highest conducted output power shall be limited to 29 dBm in all channel bandwidths

### 4940 – 4990 MHz band - FCC/IC

The maximum output power can be set as follows, when operating in the 4.9 GHz band, under FCC 47 CFR Part 90Y Rule and IC RSS-111 regulations.

10 MHz: 21.0 dBm

20 MHz: 21.0 dBm

### 5150 – 5250 MHz band – FCC

The maximum output power can be set as follows when transmitting in the 5.1 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.

The total EIRP limit for PtMP applications when transmitting at elevations above 30° relative to the horizon is 21 dBm.

10 MHz: 26.0 dBm

20 MHz: 28.0 dBm

40 MHz: 28.0 dBm

80 MHz: 29.0 dBm

**2400 – 2483.5 MHz band - FCC/IC**

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 IC 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 26 dBm in all channel bandwidths

**5250 – 5350 MHz band – FCC/IC**

The maximum output power can be set as follows, when operating in the 5.3 GHz band. The total EIRP limit is 30 dBm.

10 MHz: 11.0 dBm

20 MHz: 14.0 dBm

40 MHz: 14.0 dBm

80 MHz: 14.0 dBm

**5470 – 5725 MHz band – FCC/IC**

The maximum output power can be set as follows, when operating in the 5.4 GHz band. The total EIRP limit is 30 dBm.

10 MHz: 10.0 dBm

20 MHz: 13.0 dBm

40 MHz: 13.0 dBm

80 MHz: 13.0 dBm

**Channel Bandwidths and Frequency Range**

<b>Channel BW [MHz]</b>	<b>Center Freq. Range [MHz]</b>
10	5730 - 5845
20	5735 - 5840
40	5745 - 5830
80	5765 - 5810
10	4945 - 4985
20	4950 - 4980
10	5160 - 5245
20	5165 - 5240
40	5170 - 5230
80	5190 - 5210
20	2412 - 2462
40	2422 - 2452
10	5255 - 5340
20	5260 - 5340
40	5270 - 5330
80	5290 - 5310
10	5480 - 5715
20	5485 - 5710
40	5495 - 5700
80	5520 - 5680

## **Radio parameters accessed by end-user**

The following parameters can be accessed by user:

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