

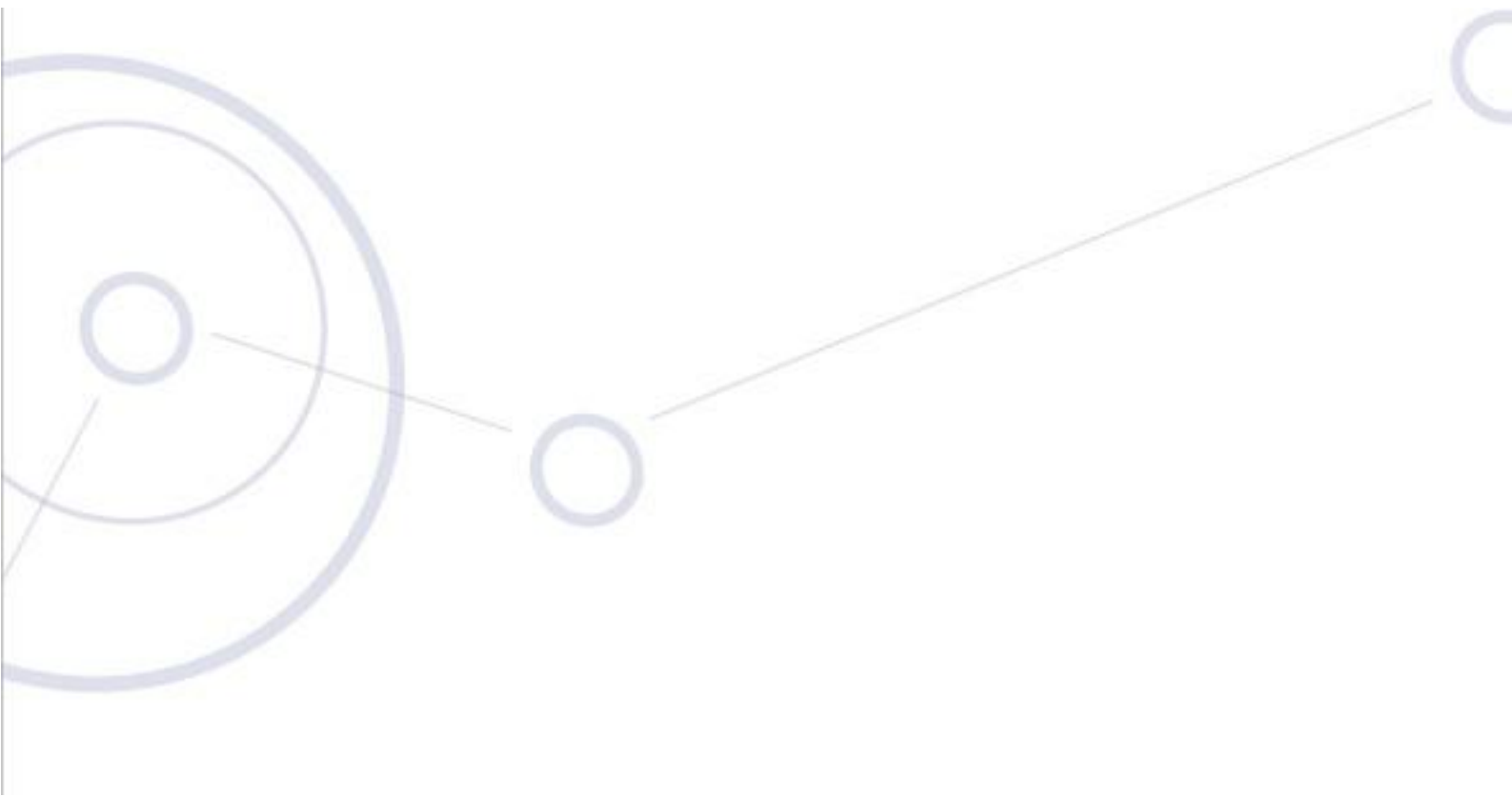
# RADWIN

AP0127450, AP0127460

RF Module Operating in the 2.4 GHz bands

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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 rules 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**

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**

This equipment should be installed and operated with a minimum distance of 354cm between the radiator and your body.

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**Avertissement**

Cet équipement doit être installé et utilisé à une distance minimale de 354cm entre le radiateur et votre corps.

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**Warning**

The module is granted to operate under FCC certification in the 2.4 GHz band only.

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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 AP0127450, AP0127460 is an RF module operating in the 2.4 GHz frequency band. It is a TDD OFDM radio supporting 802.11b/g/HT20/HT40 WiFi operating modes and 5 MHz, 10 MHz, 20 MHz and 40 MHz channel bandwidths based on 802.11n. The RF module can support 2x2 and 3x3 radio chains.

The RF module cannot work as a stand-alone device. It can operate and be controlled only when attached to a digital main board and altogether assembled in an enclosure suitable for outdoor use. The assembly of the RF module attached to the digital main board is hereafter referred to as 'ODU'. The ODU in its various outdoor enclosures is manufactured by RADWIN.

The RF module is certified as a limited modular approval type with the FCC ID: Q3KRW24MOD and IC: 5100A-RW24MOD.

## Condition of Use

The AP0127450, AP0127460 RF module is a proprietary radio interface and can only be connected to digital boards manufactured by RADWIN. The ODU resides in an outdoor enclosure also manufactured and assembled by RADWIN or its subcontractors. The RF module is not for sale to the general public.

## 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 AP0127450, AP0127460 RF module is certified with various antenna types covering both Point-to-Point and Point-to-Multipoint systems. There are Omni type antennas and dual pole cross polarized antennas. These antennas are the only ones to be used with the RF module.

## Certified Antennas

Following is the list of antennas certified for use with the AP0127450, AP0127460 RF module:

Antenna Type	Manufacturer	Model Number	Antenna Max Gain (dBi)
Flat Panel Dual Pole Cross Polarized External	RADWIN Ltd.	RW-9612-2427	20
Flat Panel Dual Pole Cross Polarized Integrated	RADWIN Ltd.	MT0073320	17.5
Sector Dual Pole Cross Polarized 80 Deg	RADWIN Ltd.	RW-9462-0827	9
Omni Directional Antenna	RADWIN Ltd.	MT0129070	8
Omni Directional Antenna	RADWIN Ltd.	RW-9463-0825	6.3
Omni Directional Antenna	RADWIN Ltd.	RW-9461-0827	4

## Maximum Output Power

The maximum output power can be set as follows, when operating in the 2.4 GHz band, under FCC and IC regulations. The power values are for systems with 0 to 6 dBi total antenna assembly gain. The total EIRP is limited to 36 dBm. Therefore the output power of these systems, using higher than 6 dBi total antenna assembly gains will be reduced to comply with 36 dBm EIRP. The following values are specified for 2x2 and 3x3 radio chains.

Channel BW (MHz)	Total Power @ 2x2 (dBm)	Total Power @ 3x3 (dBm)
5	29.62	N/A
10	29.58	N/A
20	29.73	29.31
40	29.18	29.29