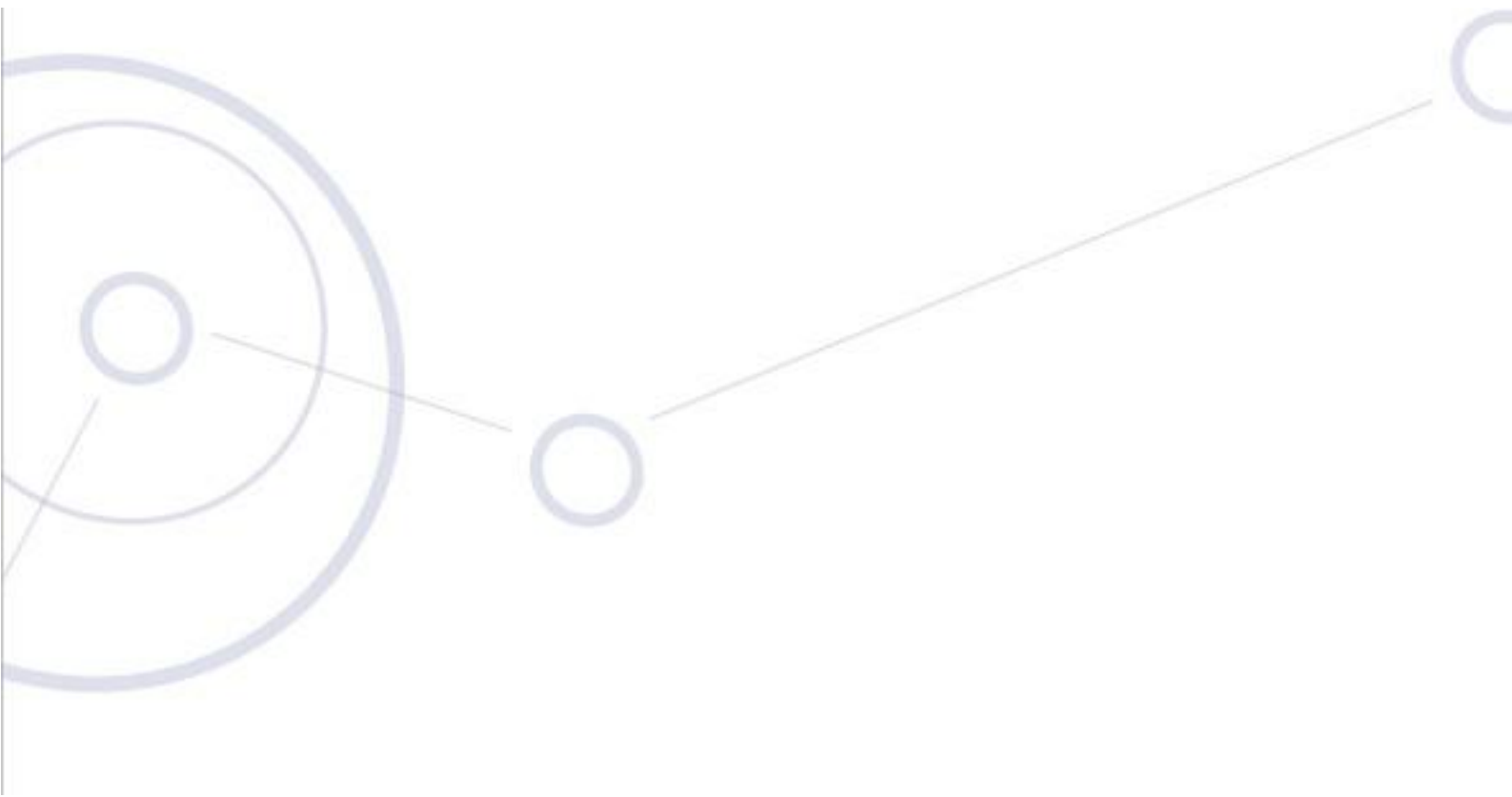


RADWIN

AP0136450

RF Module Operating in the 3.4-3.7 GHz bands

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.

RADWIN Ltd. is not responsible for any radio or communication interference caused by using other than specified or recommended cables and battery or by unauthorized changes or modifications to this equipment. Changes or modifications or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.



Warning

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.



Avertissement

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



Caution

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.



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.



Warning

This equipment should be installed and operated with a minimum distance of 57cm between the radiator and your body when operating in the 3.65-3.7 GHz band and 110cm when operating in the 3.45-3.65 GHz band.



Avertissement

Cet équipement doit être installé et utilisé à une distance minimale de 57cm entre le radiateur et votre corps lors d'opérations dans la bande de 3.65 à 3.7 GHz et 110cm quand fonctionnant dans la bande de 3,45 à 3,65 GHz



Warning

The module is granted to operate under FCC/IC certification in the 3.65-3.70 GHz band and under IC certification in the 3.45-.365 GHz band only.

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

Overview

The AP0136450 is an RF module operating in the 3.4 – 3.7 GHz frequency bands. It is a TDD OFDM radio supporting 5 MHz, 10 MHz, 20 MHz and 40 MHz channel bandwidths.

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: Q3KRW3XMOD and IC: 5100A-RW3XMOD.

Condition of Use

The AP0136450 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 AP0136450 RF module is certified with various antenna types covering both Point-to-Point and Point-to-Multipoint systems. They are all dual pole cross polarized antennas and they are the only ones to be used with the RF module.

Certified Antennas

Following is the list of antennas certified for use with the AP0136450 RF module:

Antenna Type	Manufacturer	Model Number	Antenna Max Gain (dBi)
Dual Pole Dish	RADWIN Ltd.	RW-9722-3338	26
External Flat Panel Dual Pole	RADWIN Ltd.	RW-9612-3338	22
Integrated Flat Panel Dual Pole	RADWIN Ltd.	MT0099910	22
Integrated Flat Panel Dual Pole	RADWIN Ltd.	MT0140780	17
Integrated Flat Panel Dual Pole	RADWIN Ltd.	AM0140450	14
Sector Dual Pole 120 Deg	RADWIN Ltd.	RW-9061-3003	15
Sector Dual Pole 90 Deg	RADWIN Ltd.	RW-9061-3001	14

Maximum Output Power

3650 – 3700 MHz band - FCC/IC

The maximum output power can be set as follows, when operating in the 3.7 GHz band, under FCC and IC regulations.

Antenna gain (dBi)	CBW (MHz)	Max output power (dBm)	EIRP limit (dBm)
14	5	23	37
	10/20/40	25	39
15	5	22	37
	10/20/40	25	40
17	5	20	37
	10	23	40
	20/40	25	42
22	5	15	37
	10	18	40
	20	21	43
	40	24	46
24	5	13	37
	10	16	40
	20	19	43
	40	22	46
26	5	11	37
	10	14	40
	20	17	43
	40	20	46

Declared channel bandwidths and frequency ranges

Channel BW [MHz]	Center Freq. Range [MHz]
5	3652.5 – 3697.5
10	3655 – 3695
20	3660 – 3690
40	3670 - 3680

3450 – 3650 MHz band - IC

The maximum output power can be set as follows, when operating in the 3.5 GHz band, under IC regulation.

The antenna giving the highest EIRP value is a Dual Pole 26 dBi Dish.

The declared maximum output power is 25 ± 2 dBm.

Channel BW [MHz]	Center Freq. Range [MHz]
5	3452.5 – 3697.5
10	3655 - 3695
20	3660 - 3690
40	3670 - 3680