



# Radio Frequency Exposure Report

2.4 GHz and 5.7 GHz Frequencies

FCC Numbers: ROG466837HO553R24  
ROG466837HO553R58



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## Important Note on Modifications

Intentional or unintentional changes or modifications to the equipment must not be made unless under the express consent of the party responsible for compliance. Any such modifications could void the user's authority to operate the equipment and will void the manufacturer's warranty.

## U.S. Federal Communication Commission (FCC) Notifications

This device complies with part 15 of the U.S. FCC Rules and Regulations. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the U.S. FCC Rules and Regulations. 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 these instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to correct the interference by one or more of the following measures:

- Increase the separation between the affected equipment and the unit;
- Connect the affected equipment to a power outlet on different circuit from that which the receiver is connected to;
- Consult the dealer and/or experienced radio/TV technician for help

## Product Description

The products listed in this manual operate in the ISM 2400-2483.5 MHz and the U-NII 5725-5850 MHz frequency band range. The access method used is TDD / TDMA with a modulation of BFSK. All of the possible frequency options for the 2.4 GHz products are shown in the snapshot to the right.

Parameter	Value
Timing Mode	<input checked="" type="radio"/> Timing Master <input type="radio"/> Timing Slave
Modulation Scheme	<input checked="" type="radio"/> 10 Mb/s/Second (2 Level) <input type="radio"/> 20 Mb/s/Second (4 Level)
Sync Input	<input type="radio"/> Sync to Received Signal (Power Port) <input type="radio"/> Sync to Received Signal (Timing Port) <input checked="" type="radio"/> Generate Sync Signal
Link Negotiation Speeds	<input checked="" type="checkbox"/> 10 Base T Half Duplex <input checked="" type="checkbox"/> 10 Base T Full Duplex <input checked="" type="checkbox"/> 100 Base T Half Duplex <input checked="" type="checkbox"/> 100 Base T Full Duplex
RF Frequency Carrier	2452.5 <input type="button" value="v"/>
Downlink Data	Factory
Color Code	2415.0
Sector ID	2417.5 254)
Display-Only Access	2420.0 2422.5 2425.0 2427.5 2430.0 2432.5 2435.0 2437.5 2440.0 2442.5 2445.0 2447.5 2450.0 2452.5 2455.0 2457.5 None
Full Access	No Password
Webpage Auto Update	No Password
Airlink Security	nds (0 = Disable Auto Update)
Authentication Mode	on Disabled on Enabled ication Disabled ication Required
Authentication Key	(Using All 0xFF's Key) (Only Used if Authentication Required)

# RF Exposure Report

The following relates to the guidelines set forth by FCC OET Bulletin 65; which states that the maximum radio frequency power density exposure limit is 10 Watt/m<sup>2</sup> (1 mWatt/cm<sup>2</sup>). The corresponding compliance safe distances have been calculated for each frequency range. As a result of the change of gain in each antenna, a table has been compiled to show the safe distances for each radio and antenna combination. This table is shown below. The formula used to compute the peak power density ( $S$ ) in the far-field of a radio frequency source that transmits power  $P$  and antenna gain  $G$  at a distance  $d$  is:

$$S = \frac{P * G}{4\pi d^2}$$

The table below is the result of the equation above with  $P = 168mW$  for 2.4GHz combinations and  $P = 340mW$  for 5.7GHz combinations. With this information the safe distance for each radio and antenna combination can be calculated. All the values were calculated using  $S = 10 W/m^2$  (1 mWatt/cm<sup>2</sup>).

Antenna dBi	2.4 GHz Safe Distance $d$ (m)	2.4 GHz Safe Distance $d$ (cm)	5.7GHz Safe Distance $d$ (m)	5.7GHz Safe Distance $d$ (cm)
3	0.0516	5.1648	0.0735	7.3474
5	0.0650	6.5020	0.0925	9.2498
12	0.1456	14.5563	0.2071	20.7078
13	0.1633	16.3324	0.2323	23.2346
14	0.1833	18.3252	0.2607	26.0696
17	0.2589	25.8851	0.3682	36.8243
22	0.4603	46.0309	0.6548	65.4839
26	0.7295	72.9541	1.0378	103.7850
29	n/a	n/a	1.4660	146.002

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b):

## LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (in minutes)
<b>Limits for Occupational / Control Exposure</b>				
300 – 1,500	...	...	F/300	6
1,500 – 100,000	...	...	5	6
<b>Limits For General Population / Uncontrolled Exposure</b>				
300 – 1,500	...	...	F/1500	6
1,500 – 100,000	...	...	1.0	30

F = Frequency in Megahertz