

7. Measurement Data (continued)

7.7. Public Exposure to Radio Frequency Energy Levels (15.247(i) (1.1307 (b)(1)) RSS-GEN 5.5, RSS 102

1. The measured output power was calculated from the peak field strength measurements using the following equation:

Channel	Frequency	Peak Field Strength	Distance	Antenna Gain ¹	Measured Output Power
	(MHz)	(dBµV/m)	(m)	(dBi)	(mW)
1	1395.9	111.87	3.0	2.0	29.11
3	1399.1	110.78	3.0	2.0	22.65
4	1427.9	111.09	3.0	2.0	24.32
6	1431.1	111.38	3.0	2.0	26.00

¹ Antenna gain value was supplied by the manufacturer

$$P = \frac{(E \times d)^2}{(30 \times G)}$$

P = the power in Watts.

E = the measured maximum field strength in V/m

G = the numeric gain of the transmitting antenna over an isotropic radiator.

d = the distance in meters of the field strength measurement.

2. The DUT output power was derived from the measured output power in the above table to determine the power density.

Channel Frequency	MPE Distance (cm)	DUT Output Power (dBm)	DUT Antenna Gain (dBi)	Power Density		Limit (mW/cm ²)	Result
				(mW/cm ²)	(W/m ²)		
				(1)	(2)		
1395.9	20.0	14.64	2.0	0.0091802	0.091802	0.93	Compliant
1399.1	20.0	13.55	2.0	0.0071425	0.071425	0.93	Compliant
1427.9	20.0	13.86	2.0	0.0076710	0.076710	0.95	Compliant
1431.1	20.0	14.15	2.0	0.0082007	0.082007	0.95	Compliant

$$PD = \frac{OP + AG}{(4 \times \pi \times d^2)}$$

PD = Power Density (mW/cm²)

OP = DUT Output Power (dBm)

AG = DUT Antenna Gain (dBi)

d = MPE Distance (cm)

- Reference CFR 2.1093(b): For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.
- Section 7.1 of this test report. Output power was calculated from the measured field strength.
- Antenna gain value for this product was taken from the client's specification data sheet.
- Power density is calculated from power measurement and antenna gain.
- Reference CFR 1.1310, Table 1: Limits for Maximum Permissible Exposure (MPE), Section (B): Limits for General Population/Uncontrolled Exposure.