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FCC ID: RWBMT9104CTM
IC:115A-MT9104CTM

NOTE: The pre-certified cellular module and the 916.5 MHz ISM band radio will never transmit at the same time. They are limited by firmware.

FCC

Maximum exposure limits from CFR 47, FCC Part 1.1310:

Table 1—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f^2	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f^2	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

The power density is calculated as shown below:

$$S = (P \times G)/(4 \times \pi \times d^2) - \text{used to calculate exposure at 20 cm}$$

$$d = \sqrt{(S/(P \times G) \times 4 \times \pi)} - \text{used to calculate minimum distance to meet limits}$$

S= power density
P = transmitter conducted power (in mW)
G = antenna numeric gain
D = distance to radiation center (20 cm)

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Table 2 – Power Density Calculations

Frequency	Antenna Gain	Output power	Power Density	Limit	Distance
MHz	numerical	mW	mW/cm^2	mW/cm^2	
916.5	1	0.40	0.00001	0.6110	20

Note: This equipment is not intended to be operated by hand, and instead is operated by a separate handheld remote. It is expected that a 20cm separation will be maintained at all times.

Output power = $10^{(-3.98 \text{ dBm}/10)}$ = 0.40 mW

-3.98dBm was measured in NCEE Labs report R20170113-20A

IC / ISED

Using RSS-102, Issue 5, Section 2.5.2

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows: • below 20 MHz6 and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance); • at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 4.49/ƒ0.5 W (adjusted for tune-up tolerance), where ƒ is in MHz; • at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance); • at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1.31 x 10-2 ƒ0.6834 W (adjusted for tune-up tolerance), where ƒ is in MHz; • at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance). In these cases, the information contained in the RF exposure

EIRP compared to Limit

CHANNEL	CHANNEL FREQUENCY (MHz)	EIRP PEAK POWER OUTPUT (dBm)	EIRP PEAK POWER OUTPUT (W)	EIRP PEAK POWER OUTPUT (W) +10% tolerance	THRESHHOLD FOR EXEMPTION W (EIRP)	RESULT
1	916.5	-3.98	0.00040	0.00044	1.39	EXEMPT

*Limit = 1.31 x 10^(-2) * ƒ^(0.6834) W = 1.39 W*

10% = 20log(1+ 0.1) = 0.83