RF Exposure

This calculation is based on the highest EIRP possible from the EUT considering maximum power and antenna gain.

The highest Average power of the EUT is 19.1 mW and the gain of the antenna is 2 dBi

1 MINIMUM SEPARATION DISTANCE PER OET 65

The following information provides the minimum separation distance for the EUT, as calculated from **FCC OET 65 Appendix B, Table 1A** "Guidelines for Occupational/Controlled Exposure"

Freq. MHz	S Controlled limit mW/cm^2	Maximum RF power dBm	Antenna Gain dB	EIRP dBm	EIRP watts	MSD d meters
2450	5	12.8	2	14.8	0.0302	0.0069

GP is the limit for general Population/Uncontrolled Exposure
MSD is the minimum Seperation Distance

Notes on above table.
(S) limit is the Occupational/Controlled limit from OET 65 table 1B
EIRP = Power in dBm + Antenna Gain in dBi
MSD (Minimum Separation Distance) = ((EIRP*30)/3770*S))^0.5

NOTE: For mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less.

2 RF EVAULATION FOR RSS-102E

Since the e.i.r.p. of the Product is 30.2 mW and it is for controlled use, it is exempt from routine SAR and RF exposure evaluations in accordance to Sections 2.5.1 or 2.5.2 of RSS-102e. The product is for controlled use. It will not be sold to the general public.

2.5.1 Exemption from Routine Evaluation Limits – SAR Evaluation

SAR evaluation is required if the separation distance between the user and the radiating element of the device is less than or equal to 20 cm, except when the device operates as follows:

- from 3 kHz up to 1 GHz inclusively, and with output power (i.e. the higher of the conducted or equivalent isotropically radiated power (e.i.r.p.) source-based,time-averaged output power) that is less than or equal to 200 mW for general public use and 1000 mW for controlled use;
- above 1 GHz and up to 2.2 GHz inclusively, and with output power (i.e. the higher of the conducted or radiated (e.i.r.p.) source-based, time-averaged output power) that is less than or equal to 100 mW for general public use and 500 mW for controlled use;
- above 2.2 GHz and up to 3 GHz inclusively, and with output power (i.e. the higher of the conducted or radiated (e.i.r.p.) source-based, time-averaged output power) that is less than or equal to 20 mW for general public use and 100 mW for controlled use;
- above 3 GHz and up to 6 GHz inclusively, and with output power (i.e. the higher of the conducted or radiated (e.i.r.p.) source-based, time-averaged output power) that is less than or equal to 10 mW for general public use and 50 mW for controlled use.

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the output power of the device was derived.

2.5.2 Exemption from Routine Evaluation Limits – RF Exposure Evaluation

RF exposure evaluation is required if the separation distance between the user and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 1.5 GHz and the maximum e.i.r.p. of the device is equal to or less than 2.5 W;
- at or above 1.5 GHz and the maximum e.i.r.p. of the device is equal to or less than 5 W.

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

The following information provides the calculation for section 4.2 of RSS-102e.

Freq.	RF Power	Antenna Gain	Effective RF power		Measurment Distance	RF field from EUT	Exposure GP limit	Exposure CU limit
MHz	dBm	dB	dBm	mW	meters	V/m	V/m rms	V/m rms
2450	12.8	2	14.8	30.20	0.025	38.1	61.4	137.0

GP is the limit for general Public
CU is the limit for Controlled Use

Note on above table.
ERP = (V/m * dist)^2/30