RF Exposure

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

The highest output power of the EUT is 0.927 W and the gain of the antenna is 3 dBi. The max duty cycle is one transmission (100 mS) every 6 minutes. So the maximum percentage is 0.1/360 which is 0.0277 %

The output power is 0.927 Watts. 0.927 W * 0.000277 = 0.257 mW.
Accounting for the antenna, 3 dBi is equivalent to a multiplier of 2.0, so the average power = 0.514 mW

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 A, Table B** "Guidelines for General Population/Uncontrolled Exposure"

Transmitter	MHz	Max Power dBm	Max Ant Gain dBi	Duty Cycle %	EIRP W	(S) GP Limit mW/cm^2	MSD Meters	MPE Ratio from 20 cm	Notes
450-470	450	29.7	3	0.0277	0.00051	0.300	0.0037	0.018	
							Total MPE Ratio	0.018	

Notes on the above table:

a. S is the power density General Population Limit from OET 65 table B
b. EIRP Power is the Max Power corrected for Antenna Gain and Duty Cycle factor
c. MSD (Minimum Separation Distance) = ((EIRP*30)/3770*S)^0.5
d. 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 average e.i.r.p. is 0.00051 Watts and separation distance between the user and the radiating element of the device is always greater than 20 cm, it is exempt from routine SAR and RF exposure evaluations.

2.1 SAR Evaluation Exemption for RSS-102

Since the separation distance between personnel and the antenna is greater than or equal to 20 cm, it is exempt from routine SAR evaluations in accordance to Section 2.5.1 of RSS-102 issue 5, table 1.

2.2 RF Evaluation Exemption for RSS-102

Since the separation distance between personnel and the antenna of the device is greater than or equal to 20 cm AND the power is less than 0.852 watts, it is exempt from RF evaluation as per RSS-102 section 2.5.2.

Transmitter	MHz	Average Transmitter EIRP W	Limit for Exemption RSS-102 Max EIRP mW	Result
Business	450	0.00051	0.852	Exempt from SAR and RF exposure