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 1.884 W and the gain of the antenna is 3 dBi.
The EUT transmits at most once per 30 seconds. Each transmission is at most 70mSec. Therefore, the duty cycle is 0.233%. For all calculations, 1 % will be used as a worst case in any given 6-minute period, as this is a worst case.

1.0 RF EXPOSURE PER FCC 1.1310

MHz	Max Power dBm	Max Ant Gain dBi	Duty Cycle %	EIRP Watts	(S) GP Limit mW/cm^2	Declared Minimum seperation Distance (cm)	EUT power Density mW/cm2	Result
450	32.63	3	1	0.0366	0.300	20.0	0.0073	Pass
460	32.75	3	1	0.0376	0.307	20.0	0.0075	Pass
470	32.56	3	1	0.0360	0.313	20.0	0.0072	Pass

Notes on the above table:
  a. S is the power density General Population Limit from FCC 1.1310 Table 1
  b. EIRP Power is the Peak Effective Radiated Power.
     EIRP = (Average Conducted Power + Antenna gain) * Duty Cycle.

POWER DENSITY

Power density is given by:

$$S = EIRP / (4 * Pi * D^2)$$

Where

S = Power density in mW/cm^2
EIRP = Equivalent Isotropic Radiated Power in mW
D = Separation distance in cm

Since the calculated power density is less than the limit, this product fully meets the OET 65 requirements for the general population.