RF Exposure

FCC ID: W4P-SP-W10

1.0 INTRODUCTION

These calculations are based on the highest EIRP possible from the EUT, measured in the radiated mode.

2.0 MPE CALCULATION FROM OET 65 & 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
2480	15.8	0.0	1.6	0.0006	1.000	5.0	0.0020	Pass

Notes on the above table:
Power Density is calculated by
$S = P*G/(4*\pi*R^2)$
Where
S = power density (mW/cm2)
P = power input to the antenna (mW)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (cm)

S is the power density General Population Limit from FCC 1.1310 Table 1
EIRP Power is the Peak Effective Isotropically Radiated Power.
EIRP = (Average Conducted Power + Antenna gain) * Duty Cycle.

Field Strength Approach (linear terms):

$$\mathbf{eirp} = \mathbf{p_t \times g_t} = \mathbf{(E \times d)^2/30} \qquad (1)$$

where:

- $\mathbf{p_t}$ = transmitter output power in watts,
- $\mathbf{g_t}$ = numeric gain of the transmitting antenna (unitless),
- **E** = electric field strength in V/m,
- **d** = measurement distance in meters (m).

$$\mathbf{erp} = \mathbf{eirp/1.64} = \mathbf{(E \times d)^2/(30 \times 1.64)} \qquad (2)$$

Since the calculated power density is less than the limit, this product fully meets the OET 65 & FCC 1.1310 requirements for the general population.

3.0 KDB 447498 D04 TEST EXEMPTION

As per Section 2.1.2: of KDB 447498 D04 v01:

"*Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption."*

As can be seen in the table above, the average power is much less than 1 mW, therefore it is exempt from testing.

Judgement: The product is exempt from SAR testing