RF EXPOSURE FCC ID : 2AABFSSTUSURFR01B

1. FCC Regulation

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See §1.1307(b)(1) of this Chapter.

Limits for Maximum Permissive Exposure: RF exposure is calculated.

Frequency Range	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm^2]	Averaging Time [minute]
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/1 500	< 30
1 500 ~ 15 000	/	/	1.0	< 30

f=frequency in MHz, *= plane-wave equivalent power density

MPE (Maximum Permissive Exposure) Prediction

Predication of MPE limit at a given distance: Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2 \quad \left(\Rightarrow R = \sqrt{PG/4\pi S}\right)$$

S = power density [mW/cm^2]
P = Power input to 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]

2. RF Exposure Compliance Issue

The information should be included in the user's manual:
This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter. A minimum separation distance of 20 cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

MPE Calculations

- Frequency Range: 902.75 MHz ~ 927.25 MHz

- Measured RF Maximum Output Power: 24.37 dBm

- Target Power & Tolerance: 23.50 dBm & ± 1.00 dB

(Maximum : 24.50 dBm & Minimum : 22.50 dBm)

- Maximum Peak Antenna Gain: 10.99 dBi

- Maximum Output Power for the Calculation: 24.50 dBm

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the The MPE Calculations for this exposure is shown below.

- EIRP = P + G = 24.50 dBm + 10.99 dBi = 35.49 dBm = 3539.97 mW	- NOTE P : Max tuneup power (dBm) G : Maximum peak antenna gain (dBi)

Power Density at the Specific Separation

- S = EIRP / (4 X R^2 X π) = 3539.97 / (4 X 20^2 X π) = **0.704 255** mW/cm^2 (Limit : 1.00)	- NOTE S : Maximum power density (mW/cm^2) EIRP : Equivalent isotropic radiated power (mW) R : Distance to the center of the radiation of the antenna (20 cm)