RF exposure exhibit

FCC RF Exposure Requirements

General information:

FCCID: TOXPS-3000
Modulation:
Device category: Mobile per Part 2.1091
Environment: General Population/Uncontrolled Exposure

Otherwise, compliance with the power density limits of 1.1310 is required.

Antenna:
The device has a portable antenna to be used for the purpose of reading tags

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Indoor	None	Helical	0.5

Operating configuration and exposure conditions:

The conducted output power is 0.416 W

MPE Calculation:

The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$$

The limit for general population/uncontrolled exposure environment is **0.3m**W/cm2* for a Channel Frequency: 457.5750 MHz

(A)

Separation Distance		Antenna Gain (dBi)	
		0.5	
Power Conducted (W)	Duty Cycle (%)	(in)	(cm)
0.416	100		**11.1**
-	-	-	-

(B)

Power Density at 20 cm distance			Max. Antenna Gain (dBi)		
			0.5	-	-
Freq (MHz)	Power Coducted (W)	Duty Cycle (%)	(mW/cm^2)	(mW/cm^2)	(mW/cm^2)
457.5750	0.416	100	0.09	-	-
				-	-

Conclusion:

The device complies with the MPE requirements by providing a safe separation distance of 20 cm between the antenna, including any radiating structure, and any persons when normally operated .

*

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
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
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density