



September 30, 2016

Compliance Testing LLC
1724 S. Nevada Way
Mesa, AZ 85204

RE: Maximum Permissible Exposure

FCCID:EZZ26076
Model:3-26076-XX
UHF Public Safety Class B Signal Booster

To Whom It May Concern:

The equipment operating in the UHF Public Safety Band (450-512MHz) requires a separation distance of at least 32.5cm from the Donor and DAS antennas. This distance must be maintained between the user and antenna when the product is used with a 0dBi antenna.

This was calculated by the following:

MPE limit according to 47CFR §1.1310

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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				
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

The power density can be calculated from the equation below (equation #4 from OET Bulletin 65, 97-01 edition, page 19)



$$S = \frac{P \cdot G}{4 \cdot \pi \cdot R^2}$$

S Power Density (mW/cm²)

P Conducted Power (mW)

R Distance (cm)

G Numerical Antenna Gain

From this equation we can calculate the safety distance needed to fulfill the MPE limits

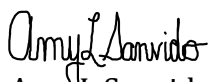
In the calculations we have assumed no feeder loss and the max antenna gain was calculated based on the noise figure limits.

				G	P	S	S	R
Amplifier	Freq (MHz)	Output power to antenna (dBm)	Antenna gain (max) (dBi)	Antenna Gain Numerical	TX Power conducted (mW)	Power density limit* (mW/cm ²)	Power density calculated (mW/cm ²)	Calculated safety distance (cm)
UHF	450	35.2	0	1.00	3974	0.30	0.79	32.5
	460	35.2	0	1.00	3974	0.31	0.79	32.1
	490	35.2	0	1.00	3974	0.33	0.79	31.1
	512	35.2	0	1.00	3974	0.34	0.79	30.4

* Limit for General Population/Uncontrolled Exposure

Please contact me if there is any other information you may need.

Sincerely,


Amy L Sanvido

On behalf of Bird Technologies

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