



September 19, 2017

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

RE: Maximum Permissible Exposure

FCC ID: EZZ6138X

Model: 613-8

SBIII Digital Signal Booster

To Whom It May Concern:

The equipment operating in the 700MHz public safety band, requires a separation distance of at least **68.6cm**. This distance must be maintained between the user and antenna when the product is used with a 10dBi antenna.

The equipment operating in the 800MHz public safety band, requires a separation distance of at least **65cm**. This distance must be maintained between the user and antenna when the product is used with a 10dBi antenna.

The equipment operating in the 800MHz CMRS band, requires a separation distance of at least **64.6cm**. This distance must be maintained between the user and antenna when the product is used with a 10dBi antenna.

This was calculated by the following:

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).

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

- 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 (typical) (dBi)	Antenna Gain Numerical	TX Power conducted (mW)	Power density limit* (mW/cm ²)	Power density calculated (mW/cm ²)	Calculated safety distance (cm)
700MHz PS	764	34	10	10.00	3014	0.51	6.00	68.6
800MHz PS	851	34	10	10.00	3014	0.57	6.00	65.0
800MHz CMRS	862	34	10	10.00	3014	0.57	6.00	64.6

* Limit for General Population/Uncontrolled Exposure

The uplink path in the EUT is not radiated by an antenna. It is connected directly to the base station.

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



Sincerely,

Amy L. Sanvido

On behalf of Bird Technologies

30303 Aurora Rd, Solon, OH 44139 | www.birdrf.com

e: asanvido@bird-technologies.com

w: 440.519.2179

f: 440.248.9593