4 FCC §2.1091 - RF Exposure

4.1 Applicable Standards

FCC §2.1091, (a) Requirements of this section are a consequence of Commission responsibilities under the National Environmental Policy Act to evaluate the environmental significance of its actions. See subpart I of part 1 of this chapter, in particular §1.1307(b).

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	842/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	30	

Limits for Exposure

4.2 MPE Prediction

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

$S=PG/4\pi R^{\mathbf{2}}$

Where: S = *power density*

P = power input to antenna

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

4.3 MPE Prediction

IFBT4-944

Maximum output power at antenna input terminal (dBm):		
Maximum output power at antenna input terminal (mW):		
Prediction distance (cm):	<u>20</u>	
Prediction frequency (MHz):	<u>944.1</u>	
Maximum Antenna Gain, typical (dBi):	2.15	
Maximum Antenna Gain (numeric):	1.64	
Power density of prediction frequency at 20 cm (mW/cm ²):	0.082	
FCC MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²):		

Conclusion

The device is compliant with the requirement MPE limit for uncontrolled exposure. All transceiver modules must be installed with a separation distance of no less than 20 cm from all persons.