4   FCC §2.1091 & §15.247 (i) – RF Exposure

4.1   Applicable Standard

According to FCC §15.247(i) and §1.1307(b)(1), 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 level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
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

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

4.2   MPE Prediction

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

$$S = PG/4\pi R^2$$

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 Results

Model: IR529UWP-915D/K9

Maximum peak output power at antenna input terminal (dBm):	25.49*
Maximum peak output power at antenna input terminal (mW):	354.00
Prediction distance (cm):	20
Prediction frequency (MHz):	902.5
Maximum Antenna Gain, typical (dBi):	9
Maximum Antenna Gain (numeric):	7.94
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.559
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	0.602

Model: IR529UBWP-915S/K9

Maximum peak output power at antenna input terminal (dBm):	29.79
Maximum peak output power at antenna input terminal (mW):	952.80
Prediction distance (cm):	20
Prediction frequency (MHz):	927.5
Maximum Antenna Gain, typical (dBi):	5
Maximum Antenna Gain (numeric):	3.162
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.599
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	0.618

Model: IR529UBWP-915D/K9

Maximum peak output power at antenna input terminal (dBm):	25.49*
Maximum peak output power at antenna input terminal (mW):	354.00
Prediction distance (cm):	20
Prediction frequency (MHz):	902.5
Maximum Antenna Gain, typical (dBi):	9
Maximum Antenna Gain (numeric):	7.94
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.559
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	0.602

*the measured conducted power is 26.49 dBm but connection cable with 1 dB insertion loss will be applied in installation. Thus, 25.49 dBm conducted output power was applied in RF Exposure calculation.

The devices are compliant with the requirement MPE limit for uncontrolled exposure.