§1.1307 (b) (1) &§2.1091 –MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to FCC §15.319(i), FCC §2.1091 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 Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
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	/	/	1.0	30

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

MPE Calculation

1. Predication of MPE limit at a given distance

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

Where: S = power density (in appropriate units, e.g. mW/cm^2);
   P = power input to the antenna (in appropriate units, e.g., mW);
   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 (appropriate units, e.g., cm);

For worst case:

Channel	Frequency (MHz)	Antenna Gain		Target Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
Low	1921.536	0	1	20.00	100.00	20	0.02	1.0

Note: The module supports the highest gain of antenna is 0dBi when install to the end product.

Result: Compliance

2. Simultaneous transmission RF exposure exclusion considerations

Mode	Signal Module Power Density (mW/cm^2)	Signal Module Power Density/MPE Limit (%)	Total Percent (%)	Limit (%)
DECT	0.02	2.0	8.0	100

Note: The EUT has four same DECT modules
　　　So the total percent = 4 * Signal Module Power Density/MPE Limit

Result: Compliance