FCC §15.247 (i), §2.1091 – RF Exposure

FCC ID: 2AUVX-KW06S

Applied procedures / limit

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 Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Note: f is frequency in MHz

* = Power density limit is applicable at frequencies greater than 100 MHz

Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz

* = Plane-wave equivalent power density

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,R=20cm

Test Result of RF Exposure Evaluation

	Max PK Outpout power (dBm)	Output power(mW)	Antenna Gain (dBi)	MPE(mW/cm2)	Limit (mW/cm2)	Result
GSM1900	29.96	990.832	2.4 (1.74)	0.342729	1	PASS
GSM 850	29.89	974.99	1 (1.26)	0.244315	0.55	PASS
eMTC Band 2	24.69	294.442	2.5 (1.78)	0.104220	1	PASS
eMTC Band 4	24.52	283.139	2.3 (1.70)	0.095708	1	PASS
eMTC Band 12	24.47	279.898	0.8 (1.20)	0.066981	0.47	PASS
eMTC Band 13	24.57	286.418	0.9 (1.23)	0.070138	0.52	PASS