

Maximum Permissible Exposure (MPE)

Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

RSS 102 issue 5.

This is a Mobile device, the MPE is required.

FCC: According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissible Exposure (MPE)

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	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-15000	/	/	1.0	30

F = frequency in MHz,

* = Plane-wave equipment power density

FCC: 2.4GHz mode: 802.11 b mode

Maximum Permissible Exposure (MPE) Evaluation: The worst case of Average power

Power measurement: refer to Part15.247 report for details.

802.11g

Cable loss = 0	Output Power Detector		Limit (dBm)
CH	PK (dBm)	AV (dBm)	
Low	14.55	12.56	30
Mid	14.95	12.93	
High	14.82	12.81	

Power Tolerance: +/- 1 dBm

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

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

	CH 1-11	
Tune-Up power at antenna input terminal:	12.93	(dBm)
Tune-Up power at antenna input terminal:	19.63	(mW)
Tune-Up power Tolerance:	1.00	dB
Duty cycle:	100.00	(%)
Maximum Pav :	24.72	(mW)
Antenna gain (typical):	2.00	(dBi)
Maximum antenna gain:	1.58	(numeric)
Prediction distance:	20.00	(cm)
MPE limit for uncontrolled exposure at prediction	1.00	(mW/cm ²)
Power density at predication frequency at 20 (cm) distance	0.0078	(mW/cm ²)

Measurement Result:

The worst power density is 0.0078 mW/cm² which is less than 1 mW/cm².

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