

1. 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.

This is a Mobile device, the MPE is required.

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

Limits for Maximum Permissive 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

Maximum Permissible Exposure (MPE) Evaluation

2.4GHz mode:

The worst case: refer to FCC test report for detail measurement date.

Power measurement:

BDR Mode

Frequency (MHz)	Peak Reading Power (dBm)	Cable Loss	Output Power (dBm)	Output Power (W)	Limit (W)
2402.00	-4.84	0.00	-4.84	0.00033	0.125
2441.00	1.67	0.00	1.67	0.00147	0.125
2480.00	3.47	0.00	3.47	0.00222	0.125

Prediction of MPE limit at a given distance

Equation from page 18 of 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

Maximum output power at antenna input terminal:	3.47	(dBm)
Maximum output power at antenna input terminal:	2.223309891	(mW)
Tune-Up power Tolerance:	2	dB
Duty cycle:	76	(%)
Maximum Pav :	2.67801862	(mW)
Antenna gain (typical):	2.1	(dBi)
Maximum antenna gain:	1.621810097	(numeric)
Prediction distance:	20	(cm)
MPE limit for uncontrolled exposure at prediction	1	(mW/cm ²)
Power density at predication frequency at 20 (cm)	0.0008645	(mW/cm ²)

Measurement Result:

The predicted power density level at 20 cm is 0.0008645 mW/cm². This is below the uncontrolled exposure limit of 1 mW/cm².

~ End of Report ~