

RF EXPOSURE EVULATION**1.1 Limit**

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

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength	Magnetic field Strength	Power density	Averaging time
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

1.2 MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

Power density at the specific separation:

$S = PG/(4R^2 \pi)$ $S = (39.6 * 1.86) / (4 * 20^2 * \pi)$ $S = 0.13 \text{mW/cm}^2$	<p>Where,</p> <p>S = Maximum power density (mW/cm²)</p> <p>P = Power input to the antenna (mW)</p> <p>G = Numeric power gain of the antenna</p> <p>R = Distance to the center of the radiation of the antenna (20 cm = limit for MPE)</p>
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1.3 MAXIMUM PERMISSIBLE EXPOSURE Prediction**(Measured power 16 dBm \pm 0.5dB)****3-1. WLAN**

Max Peak output Power at antenna input terminal	15.98	dBm
Max Peak output Power at antenna input terminal	39.6	mW
Prediction distance	5	cm
Prediction frequency	2442	MHz
Antenna Gain(typical)	2.7	dBi
Antenna Gain(numeric)	0.86	-
Power density at prediction frequency(S)	0.13	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	0.38	mW/cm ²

Simultaneous transmission operations

SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance \leq 50 mm = **Used**[(max.power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] * [\sqrt{f} (GHz)]= [39.6 / 50] * [$\sqrt{2.442}$] = 1.24 \leq 3, for 1g SAR**Thus, SAR for this device is not required.**