

RF EXPOSURE EVALUATION**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:

$S = PG/(4R^2 \pi)$	Where,
$S = (1.04 * 1.66) / (4 * 5^2 * \pi)$	S = Maximum power density (mW/cm ²)
$S = 0.06$ mW/cm ²	P = Power input to the antenna (mW)
	G = Numeric power gain of the antenna
	R = Distance to the center of the radiation of the antenna
	(20 cm = limit for MPE)

1.3 MAXIMUM PERMISSIBLE EXPOSURE Prediction

- Calculated under the worst-case conditions of each mode.

(Measured power 0 dBm \pm 0.5dB)

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Max Peak output Power at antenna input terminal	0.17	dBm
Max Peak output Power at antenna input terminal	1.04	mW
Prediction distance	5	mm
Prediction frequency	902	MHz
Antenna Gain(typical)	2.2	dBi
Antenna Gain(numeric)	1.66	-
Power density at prediction frequency(S)	0.06	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	0.02	mW/cm ²

SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance \leq 50 mm = **Used**

$[(\text{max.power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}]$

$= [1.04 / 5] * [\sqrt{0.902}] = 0.198 \leq 3.0$, for 1g SAR

Thus, SAR for this device is not required.