

RADIO FREQUENCY EXPOSURE EVALUATION

Evaluation Method:

KDB 447498 D01 v6

Applicable Standard:

FCC CFR 47§1.1310 : Radiofrequency radiation exposure limits.

TABLE 1—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 (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) 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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Note:

(1) Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

(2) General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

MPE Calculation Standard:

$$MPE(S) = PG/(4\pi R^2)$$

where: S = power density (in appropriate units, e.g. mW/ cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

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 (appropriate units, e.g., cm)

Calculation Result:

For this EUT, General population/uncontrolled exposure limits applied.

The limit value $1.0\text{mW}/\text{cm}^2$ is available for this EUT.

The Evaluation distance (R) = 20cm.

The Data derived from the RF test report.

And for this EUT, the WIFI and BT function cannot simultaneously transmit.

Modulation	Peak Output Power		Antenna Gain		MPE	Limit	Verdict
	(dBm)	(mW)	(dBi)	(Numeric)	(mW/cm^2)	(mW/cm^2)	
BLE	8.787	7.563	0.5	1.122	0.0017	1.0	Compliant
802.11b	12.86	19.320	0.5	1.122	0.0043	1.0	Compliant
802.11g	15.39	34.594	0.5	1.122	0.0077	1.0	Compliant
802.11n20	14.32	27.040	0.5	1.122	0.0060	1.0	Compliant