5.7. RF EXPOSURE REQUIRMENTS [§§ 15.247(e)(i), 1.1310 & 2.1091]

§ 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b).

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)		
(A) Limits for Occupational/Controlled Exposures						
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		
300-1500			f/300	6		
1500-100,000			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		
300-1500			f/1500	30		
1500-100,000			1.0	30		

f = frequency in MHz

Note 1: Occupational/controlled 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 an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

Page 113 of 116

FCC ID: S38-WIFIBT

^{* =} Plane-wave equivalent power density

Page 114 of 116 FCC ID: S38-WIFIBT

5.7.1. Method of Measurements

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi \cdot r^2} = \frac{EIRP}{4\pi \cdot r^2}$$

Where, P: power input to the antenna in mW

EIRP: Equivalent (effective) isotropic radiated power.

S: power density mW/cm²

G: numeric gain of antenna relative to isotropic radiator

r: distance to centre of radiation in cm

$$r = \sqrt{\frac{PG}{4\pi \cdot S}} = \sqrt{\frac{EIRP}{4\pi \cdot S}}$$

5.7.2. Evaluation of RF Exposure Compliance Requirements

Operating Mode	WiFi	BT	WiFi + BT
Maximum RF Power conducted, Pconducted[dBm]:	23.94	9.90	24.11
Antenna Gain, G[dBi] :	2	2	2
Maximum EIRP, P _{EIRP} [dBm]:	25.94	11.90	26.11
MPE Limit for General Population/Uncontrolled Exposure, S _{controlled} [mW/cm ²]:	1.0	1.0	1.0
Calculated RF Safety Distance for General Population/Uncontrolled Exposure, r _{safety controlled} [cm]:	5.59	1.11	5.70