APPENDIX L

: RF EXPOSURE EVALUATION

EUT Type: BLE Module

FCC ID.: 2A2URS907BLE

1. RF Exposure Evaluation

Radiofrequency radiation exposure limits.

Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b) of this part within the frequency range of 100 kHz to 6 GHz (inclusive).

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) 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
(ii) 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.

Friis Formula

Friis transmission formula: $Pd = (Pout*G) / (4*pi*r^2)$

where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = distance between observation point and center of the radiator in cm

If we know the maximum Gain of the antenna and the total power input to the antenna, through the calculation, we will know the MPE value at distance r.

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Antenna Gain: 1.24 dBi

Frequency (MHz)	Average Conducted Output Power (dBm)	Average Conducted Output Power (mW)	Distance (cm)	Power Density (mW/cm^2)	Limit of Power Density (mW/cm^2)
2 402	-0.5	0.892	20	0.000 220	1.0
2 440	-0.3	0.934	20	0.000 230	1.0
2 480	-0.7	0.852	20	0.000 210	1.0

※ Device must be operated at least 20cm from the user.

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