



Registration number: W6M22108-21187-C-1

FCC ID: SNE-WLS-002

3.2 Equivalent Isotropic Radiated Power (EIRP)

FCC Rule: 15.247(b)(3)

BLE 1M

EIRP = max. conducted output power + antenna gain

EIRP = 4.83 dBm + 2.6 dBi [antenna gain claimed by manufacturer] = 7.43 dBm = 5.5335 mW

BLE 2M

EIRP = max. conducted output power + antenna gain

EIRP = 4.92 dBm + 2.6 dBi [antenna gain claimed by manufacturer] = 7.52 dBm = 5.6494 mW

Thread

EIRP = max. conducted output power + antenna gain

EIRP = 8.03 dBm + 2.6 dBi [antenna gain claimed by manufacturer] = 10.63 dBm = 11.5611 mW

3.3 Exemption Limits for Routine Evaluation according to 47 CFR FCC Part 2 Subpart J, section 2.1091

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.

The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20 cm normally can be maintained between the user and the device.

MPE Calculation Method

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

*Plane-wave equivalent power density



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E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to mW/m².

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

BLE 1M

Established separation distance is 20 cm.

Operating frequency band: 2402~2480 MHz

The product meets RF exposure requirement.

Because the power density of 0.0011 mW/cm² at 2440MHz is below the power density limit of 1 mW/cm².

BLE 2M

Established separation distance is 20 cm.

Operating frequency band: 2402~2480 MHz

The product meets RF exposure requirement.

Because the power density of 0.0011 mW/cm² at 2440MHz is below the power density limit of 1 mW/cm².

Thread

Established separation distance is 20 cm.

Operating frequency band: 2405~2480 MHz

The product meets RF exposure requirement.

Because the power density of 0.0023 mW/cm² at 2405MHz is below the power density limit of 1 mW/cm².