

Registration number: W6R22104-20827-C-7

FCC ID: GX9FPHUB3

3.2 Equivalent Isotropic Radiated Power (EIRP)

FCC Rule: 15.247(b)(3)

EIRP = max. conducted output power + antenna gain

EIRP = 13.71 dBm + 4.25 dBi [antenna gain claimed by manufacturer] = 17.96 dBm = 62.52 mW

Test equipment used: ETSTW-RE 055

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

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

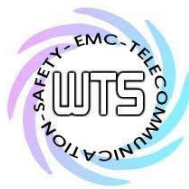
$$Pd = \frac{30 \times P \times G}{377 \times d^2} \text{ mW/cm}^2$$

Established separation distance is 20 cm.

Operating frequency band : 2412-2462 MHz

The product meets RF exposure requirement.

Because the power density of 0.0124 mW/cm² at 2412 MHz is below the power density limit of 1 mW/cm².



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10 Maximum Permissible Exposure

10.1 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)
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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

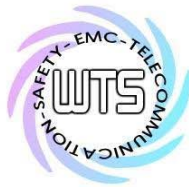
*Plane-wave equivalent power density

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

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

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

The formula can be changed to mW/cm².



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Frequency	Max output power		Antenna Gain	Power Density(S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
	(dBm)	(W)				
WCDMA Band II	22.79	0.1901	4.91	0.1171	1	Complies
WCDMA Band IV	23.27	0.2123	2.72	0.0790	1	Complies
WCDMA Band V	20.35	0.1084	-2.27	0.0128	0.5509	Complies
LTE Band II	22.59	0.1816	4.91	0.1119	1	Complies
LTE Band IV	21.98	0.1578	2.72	0.0587	1	Complies
LTE Band V	20.97	0.1250	-2.27	0.0147	0.5627	Complies
LTE Band XII	20.99	0.1256	1.05	0.0318	0.4717	Complies

From the peak EUT RF output power, the minimum mobile separation distance, $d=0.2$ m, as well as the gain of the used antenna, the RF power density can be obtained.