



FCC 47 CFR MPE REPORT

Arovast Corporation

Tower Fan

Model Number: LTF-F362S-WUSR

Additional Model: LTF-F362S- Followed by up to 4 characters

FCC ID: 2ARBY-F362SWR

Applicant:	Arovast Corporation
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Maximum Permissible Exposure

1. Applicable Standards

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 level 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 0.2m normally can be maintained between the user and the device.

1.1. Limits for Maximum Permissible Exposure (MPE)

(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 Times 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)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			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 Times 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)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.0	30

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

1.2. MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

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

The formula can be changed to

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

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

2. Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)
BLE 1M	2402	11.16	13.062
	2440	11.73	14.894
	2480	10.71	11.776
BLE 2M	2402	11.17	13.092
	2440	11.70	14.791
	2480	10.81	12.050
IEEE 802.11b	2412	24.75	298.538
	2437	24.80	301.995
	2462	24.56	285.759
IEEE 802.11g	2412	24.96	313.329
	2437	24.99	315.500
	2462	25.09	322.849
IEEE 802.11n HT20	2412	23.89	244.906
	2437	23.98	250.035
	2462	23.98	250.035
IEEE 802.11n HT40	2422	23.57	227.510
	2437	23.60	229.087
	2452	23.66	232.274

3. Calculated Result and Limit

Mode	Peak output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW /cm²)	Limited of Power Density (S) (mW /cm²)	Test Result
				(dBi)	(Linear)			
2.4G Band								
BLE 1M	11.73	11±1	12	3.37	2.173	0.00685	1	Complies
BLE 2M	11.70	11±1	12	3.37	2.173	0.00685	1	Complies
IEEE 802.11b	24.80	24±1	25	3.37	2.173	0.13669	1	Complies
IEEE 802.11g	25.09	25±1	26	3.37	2.173	0.17208	1	Complies
IEEE 802.11n HT20	23.98	23±1	24	3.37	2.173	0.10857	1	Complies
IEEE 802.11n HT40	23.66	23±1	24	3.37	2.173	0.10857	1	Complies

End of Test Report