

MPE Calculation / RF Exposure

Product: EGADS 7 Inch single monitor

Applicant: CHEMTRONICS CO., LTD.

Model: WTD070F-CTXEG0

Address: 31, Baeil-gil, Jeondong-myeon, Sejong-si, Republic of Korea

FCC ID: 2BS7B-WTD070FCTXEG0

The FCC requires that the calculated MPE be equal to or less than a given limit dependent on frequency at a distance of 20 cm from the device to the body of the user. According to §2.1091, §2.1093 and §1.1307(b), 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 of the Commission's guidelines.

Classification The antenna of this product is at least 20 cm away from the body of the user.

[MPE Limits]

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

$$S = EIRP/4 \pi R^2$$

Where S = Power density
EIRP = Effective Isotropically Radiated Power
R = distance to the centre of radiation of the antenna

Values S = (180 / f²) mW/cm² for General population uncontrolled exposure (FCC Part 1.1310 Radiofrequency radiation exposure limits)

S = 0.979 mW/cm²

Max. Output Power = 54.65 dBuV/m @ 30 meter
= 94.65 dBuV/m @ 3 meter
R = 20 cm

Calculation $\text{EIRP} = 94.65 - 95.2 = -0.55 \text{ dBm}$
 $= 0.881 \text{ mW}$
 $S = 0.881 / (4 * \pi * (20)^2)$
S = 0.000 175 mW/cm²

Conclusion This confirms compliance to the required radio frequency radiation exposure limit of 0.979 mW/cm² at 20 cm operation.