RF Exposure Compliance Requirement

Model no.: VX21113W,T0622,VX21113BZ, T0623

1. Standard requirement

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.

(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/cm²)	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/f²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100000	--	--	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/cm²)	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/f²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	F/1500	30
1500-100000	--	--	1.0	30

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

2. MPE Calculation Method

E (V/m)=(30*P*G)$^{0.5}$/d Power Density: Pd(W/m^2)=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= (30*P*G)/(377*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.

3. Calculated Result and Limit

2.4G:

Peak Output Power = -1.89dBm(max.value declared by client),antenna gain = -1dBi(declared by client)

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2410-2450	0.79	-1.89	0.65	0.00010	1	Complies

MPE ratio:

0.0001 (mW/cm2)/1(mW/cm2) = 0.0001

WIFI:

Peak Output Power = 15.92dBm(max.value declared by client), antenna gain = 2dBi(declared by client)

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2412-2462	1.58	15.92	39.08	0.01232	1	Complies

MPE ratio:

0.01232(mW/cm^2)/1(mW/cm^2) = 0.01232

Sum of the MPE ratio for all simultaneously transmitting antennas:

0.0001+0.01232= 0.01242< 1

According to MPE test Exclusion condition in KDB 447498 (D01) General RF Exposure Guidance D01 v06, the MPE report is not required.

Test Location:

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

All tests were performed at:

Room102/104, No 203, KeZhu Road, Science City, GETDD Guangzhou, China