



11 RF EXPOSURE COMPLIANCE

11.1 LIMIT

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 0.2 m 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/ 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)*	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)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

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

11.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	1128008	Feb,20,2013
2	Power Meter Sensor	Anritsu	MA2411B	1126001	Feb,20,2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

11.3 MPE CALCULATION METHOD

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

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

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

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

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



11.4 TEST SETUP LAYOUT



11.5 DEVIATION FROM TEST STANDARD

No deviation

11.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**11.7 TEST RESULTS**

EUT	Mobile Computer	Model Name	8630
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	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)	Result
2412 MHz	-0.11	0.9750	17.0000	50.1187	0.009726	1	PASS
2437 MHz	-0.11	0.9750	16.7600	47.4242	0.009203	1	PASS
2462 MHz	-0.11	0.9750	16.5600	45.2898	0.008789	1	PASS



EUT	Mobile Computer	Model Name	8630
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	-0.11	0.9750	19.9700	99.3116	0.019273	1	PASS
2437 MHz	-0.11	0.9750	20.0100	100.2305	0.019451	1	PASS
2462 MHz	-0.11	0.9750	20.1300	103.0386	0.019996	1	PASS



EUT	Mobile Computer	Model Name	8630
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	-0.11	0.9750	19.5600	90.3649	0.017537	1	PASS
2437 MHz	-0.11	0.9750	19.3600	86.2979	0.016748	1	PASS
2462 MHz	-0.11	0.9750	19.6700	92.6830	0.017987	1	PASS



EUT	Mobile Computer	Model Name	8630
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	-0.11	0.9750	19.4300	87.7001	0.017020	1	PASS
2437 MHz	-0.11	0.9750	19.2200	83.5603	0.016216	1	PASS
2462 MHz	-0.11	0.9750	19.5400	89.9498	0.017456	1	PASS