



9. RF EXPOSURE TEST

9.1 APPLIED PROCEDURES / 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

9.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2487A	6K00004714	Feb. 12, 2009
2	Power Meter Sensor	Anritsu	MA2491A	34138	Feb. 12, 2009

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

9.1.2 MPE CALCULATION METHOD

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

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



9.1.3 DEVIATION FROM STANDARD

No deviation.

9.1.4 TEST SETUP



9.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



9.1.6 TEST RESULTS

EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b		

Frequency (MHz)	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)
2412	2.00	1.5849	18.5000	70.7946	0.022333	1
2437	2.00	1.5849	18.6000	72.4436	0.022853	1
2462	2.00	1.5849	18.6800	73.7904	0.023278	1

EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g		

Frequency (MHz)	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)
2412	2.00	1.5849	24.5200	283.1392	0.089320	1
2437	2.00	1.5849	25.8200	381.9443	0.120490	1
2462	2.00	1.5849	25.2700	336.5116	0.106157	1



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EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11n HT20 Single TX Port. 0		

Frequency (MHz)	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)
2412	2.00	1.5849	21.9400	156.3148	0.049312	1
2437	2.00	1.5849	23.2500	211.3489	0.066673	1
2462	2.00	1.5849	24.2600	266.6859	0.084130	1

EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11n HT20 Single TX Port. 1		

Frequency (MHz)	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)
2412	2.00	1.5849	22.5100	178.2379	0.056228	1
2437	2.00	1.5849	23.5400	225.9436	0.071277	1
2462	2.00	1.5849	23.7300	236.0478	0.074465	1

EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11n HT20 Dual TX (Port. 0 + Port. 1)		

Frequency (MHz)	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)
2412	4.00	2.5119	25.2446	334.5526	0.167269	1
2437	4.00	2.5119	26.4077	437.2925	0.218636	1
2462	4.00	2.5119	27.0134	502.7337	0.251355	1

Remark :

- (1) The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



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EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11n HT40 Single TX Port. 0		

Frequency (MHz)	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)
2412	2.00	1.5849	20.6600	116.4126	0.036724	1
2437	2.00	1.5849	22.4800	177.0109	0.055841	1
2462	2.00	1.5849	22.7500	188.3649	0.059422	1

EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11n HT40 Single TX Port. 1		

Frequency (MHz)	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)
2412	2.00	1.5849	20.5600	113.7627	0.035888	1
2437	2.00	1.5849	22.8700	193.6422	0.061087	1
2462	2.00	1.5849	22.0400	159.9558	0.050460	1

EUT :	N_Max Wireless Access Point	Model Name :	WAP-6010
Temperature :	13 °C	Relative Humidity :	64 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11n HT40 Dual TX (Port. 0 + Port. 1)		

Frequency (MHz)	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)
2412	4.00	2.5119	23.6206	230.1753	0.115082	1
2437	4.00	2.5119	25.6897	370.6531	0.185318	1
2462	4.00	2.5119	25.4198	348.3207	0.174152	1

Remark :

- (1) The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.