



**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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> 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**

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

**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)

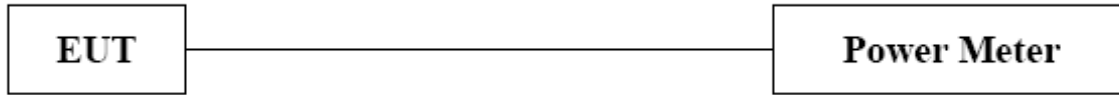
The formula can be changed to

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

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



**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 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.



**11.7 TEST RESULTS - 2400-2483.5 MHZ**

E.U.T	MONDOCENTER	Model Name	INF-MCENTER
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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2412 MHz	2.00	1.5849	15.5200	35.6451	0.011245	1	PASS
2437 MHz	2.00	1.5849	15.2600	33.5738	0.010591	1	PASS
2462 MHz	2.00	1.5849	15.1300	32.5837	0.010279	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
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/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2412 MHz	2.00	1.5849	19.8200	95.9401	0.030266	1	PASS
2437 MHz	2.00	1.5849	20.8000	120.2264	0.037927	1	PASS
2462 MHz	2.00	1.5849	20.2000	104.7129	0.033033	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/2412 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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2412 MHz	2.00	1.5849	18.2300	66.5273	0.020987	1	PASS
2437 MHz	2.00	1.5849	19.6200	91.6220	0.028903	1	PASS
2462 MHz	2.00	1.5849	18.1500	65.3131	0.020604	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (20 MHz)/ANT.2/2412 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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2412 MHz	2.00	1.5849	18.3600	68.5488	0.021625	1	PASS
2437 MHz	2.00	1.5849	19.8700	97.0510	0.030616	1	PASS
2462 MHz	2.00	1.5849	18.2200	66.3743	0.020939	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2412 MHz	4.00	2.5119	21.3058	135.0761	0.067535	1	PASS
2437 MHz	4.00	2.5119	22.7571	188.6730	0.094332	1	PASS
2462 MHz	4.00	2.5119	21.1954	131.6874	0.065841	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2422 MHz	2.00	1.5849	19.3000	85.1138	0.026850	1	PASS
2437 MHz	2.00	1.5849	19.5800	90.7821	0.028639	1	PASS
2452 MHz	2.00	1.5849	19.4200	87.4984	0.027603	1	PASS





E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (40 MHz)/ANT.2/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2422 MHz	2.00	1.5849	19.7000	93.3254	0.029441	1	PASS
2437 MHz	2.00	1.5849	19.6800	92.8966	0.029306	1	PASS
2452 MHz	2.00	1.5849	19.7400	94.1890	0.029713	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/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/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
2422 MHz	4.00	2.5119	22.5149	178.4392	0.089216	1	PASS
2437 MHz	4.00	2.5119	22.6406	183.6787	0.091835	1	PASS
2452 MHz	4.00	2.5119	22.5932	181.6873	0.090840	1	PASS



**11.8 TEST RESULTS - 5745-5850 MHZ**

E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11a/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
5745 MHz	2.00	1.5849	19.6500	92.2571	0.029104	1	PASS
5785 MHz	2.00	1.5849	19.0500	80.3526	0.025348	1	PASS
5825 MHz	2.00	1.5849	17.4500	55.5904	0.017537	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
5745 MHz	2.00	1.5849	18.2800	67.2977	0.021230	1	PASS
5785 MHz	2.00	1.5849	17.5500	56.8853	0.017945	1	PASS
5825 MHz	2.00	1.5849	16.4500	44.1570	0.013930	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (20 MHz)/ANT.2/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
5745 MHz	2.00	1.5849	19.1900	82.9851	0.026179	1	PASS
5785 MHz	2.00	1.5849	18.6500	73.2825	0.023118	1	PASS
5825 MHz	2.00	1.5849	17.7200	59.1562	0.018662	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
5745 MHz	4.00	2.5119	21.7691	150.2827	0.075138	1	PASS
5785 MHz	4.00	2.5119	21.1450	130.1677	0.065081	1	PASS
5825 MHz	4.00	2.5119	20.1416	103.3132	0.051654	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5755 MHz, 5795 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
5755 MHz	2.00	1.5849	18.4500	69.9842	0.022078	1	PASS
5795 MHz	2.00	1.5849	17.3300	54.0754	0.017059	1	PASS



E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (40 MHz)/ANT.2/5755 MHz, 5795 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
5755 MHz	2.00	1.5849	19.0300	79.9834	0.025232	1	PASS
5795 MHz	2.00	1.5849	18.3400	68.2339	0.021525	1	PASS





E.U.T	MONDOCENTER	Model Name	INF-MCENTER
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5755 MHz, 5795 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power ( mW )	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
5755 MHz	4.00	2.5119	21.7600	149.9676	0.074980	1	PASS
5795 MHz	4.00	2.5119	20.8746	122.3093	0.061152	1	PASS