



## 12 RF EXPOSURE COMPLIANCE

### 12.1 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.

### 12.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	1128008	Jul. 22, 2013
2	Power Meter Sensor	Anritsu	MA2411B	1126001	Jul. 22, 2013

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

### 12.3 MPE CALCULATION METHOD

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

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

**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)

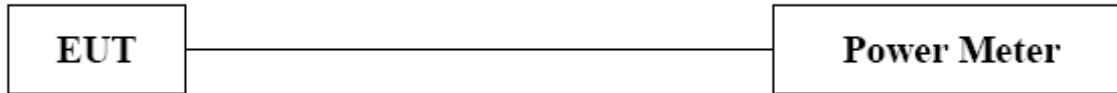
The formula can be changed to

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

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



#### **12.4 TEST SETUP LAYOUT**



#### **12.5 DEVIATION FROM TEST STANDARD**

No deviation

#### **12.6 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.

**12.7 TEST RESULTS**

EUT	SURROUNDBAR 9500BT	Model Name	SURROUNDBAR 9500BT
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz		
Test Mode	Bluetooth/1 Mbps/2402 MHz, 2441 MHz, 2480 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
2402 MHz	-0.46	0.8995	-1.6000	0.6918	0.000124	1	PASS
2441 MHz	-0.46	0.8995	-0.9500	0.8035	0.000144	1	PASS
2480 MHz	-0.46	0.8995	-0.4900	0.8933	0.000160	1	PASS



EUT	SURROUNDBAR 9500BT	Model Name	SURROUNDBAR 9500BT
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz		
Test Mode	Bluetooth/3 Mbps/2402 MHz, 2441 MHz, 2480 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
2402 MHz	-0.46	0.8995	-2.3900	0.5768	0.000103	1	PASS
2441 MHz	-0.46	0.8995	-1.1900	0.7603	0.000136	1	PASS
2480 MHz	-0.46	0.8995	-0.5500	0.8810	0.000158	1	PASS