

# 12 RF EXPOSURE COMPLIANCE

## 12.1LIMIT

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)		Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	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)		Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	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.

# 12.2MEASUREMENT 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.

### **12.3MPE CALCULATION METHOD**

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

ower Density: 
$$Pd$$
 (W/m<sup>2</sup>) =

$$) = \frac{E^2}{377}$$

 $\mathbf{E} = \text{Electric field (V/m)}$ 

 $\mathbf{P}$  = 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

$$\mathsf{Pd} = \frac{30 \times P \times G}{2}$$

 $377 \times d^2$ 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



## **12.4TEST SETUP LAYOUT**

EUT Power Meter
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#### **12.5DEVIATION FROM TEST STANDARD**

No deviation

### **12.6EUT 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.

#### 12.7TEST RESULTS

The power is so low so there is no need for RF calculations.