## 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,26,2014 |
| 2 | Power Meter Sensor | Anritsu | MA2411B | 1126001 | Feb,26,2014 |

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

### 11.3 MPE CALCULATION METHOD

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

**E** = Electric field (V/m)
**P** = Peak RF output power (W)
**G** =  EUT Antenna numeric gain (numeric)
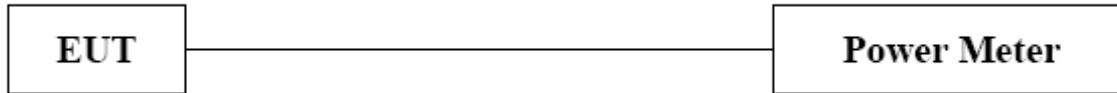**d** = Separation distance between radiator and human body (m)
The formula can be changed to

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

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**

| EUT | ———————————— | Power Meter |

**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.

*Neutron Engineering Inc.*

**11.7 TEST RESULTS**

| E.U.T | Home Theatre System | Model Name | JS6303WA (Part No.: JS6303WA Subwoofer) |
|---|---|---|---|
| Temperature | 26°C | Relative Humidity | 60% |
| Test Voltage | AC 120V/60Hz | | |
| Test Mode | 2405.376 MHz, 2433.024 MHz, 2466.816 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 |
|---|---|---|---|---|---|---|---|
| 2405.376 MHz | 2.32 | 1.7061 | 15.1200 | 32.5087 | 0.011040 | 1 | PASS |
| 2433.024 MHz | 2.32 | 1.7061 | 14.4300 | 27.7332 | 0.009418 | 1 | PASS |
| 2466.816 MHz | 2.32 | 1.7061 | 14.3200 | 27.0396 | 0.009182 | 1 | PASS |