# FCC 47 CFR MPE REPORT

INMUSIC BRANDS INC

Internet Radio

Model Number: DN-300UI

Additional Model: DP15

FCC ID: Y4O-DP15

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# Maximum Permissible Exposure

## 1、Applicable Standard

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 level 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 0.2m 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/cm2) | Averaging Times｜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 |
| 1500-10000 | | | 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/cm2) | Averaging Times｜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 |
| 1500-10000 | | | 1.o | 30 |

Note: f=frequency in MHz; *Plane-wave equivalent power density

## 2、MPE Calculation Method

$E$ (V/m) = $(30 * P * G)^{0.5}/d$          Power Density: $P_d$ (W/m2) = $E^2/377$

$E$ = 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

$P_d = (30 * P * G) / (377 * d^2)$

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

## 3、**Calculated Result and Limit**

| Mode | Frequency (MHz) | output power (dBm) | output power (mW) | Target power（dBm） | Antenna gain | | Power Density (S) (mW /cm2) | Limited of Power Density (S) (mW /cm2) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | (dBi) | (Linear) | | | |
| IEEE 802.11b | 2412 | 11.46 | 14.00 | 11±2 | 2.0 | 1.58 | 0.00629 | 1 | Compiles |
| | 2437 | 12.16 | 16.44 | 12±2 | 2.0 | 1.58 | 0.00792 | 1 | Compiles |
| | 2462 | 13.41 | 21.93 | 13±2 | 2.0 | 1.58 | 0.00997 | 1 | Compiles |
| IEEE 802.11g | 2412 | 10.90 | 12.30 | 10±2 | 2.0 | 1.58 | 0.00500 | 1 | Compiles |
| | 2437 | 11.93 | 15.60 | 11±2 | 2.0 | 1.58 | 0.00629 | 1 | Compiles |
| | 2462 | 13.49 | 22.34 | 13±2 | 2.0 | 1.58 | 0.00997 | 1 | Compiles |
| IEEE 802.11n HT20 | 2412 | 9.95 | 9.89 | 9±2 | 2.0 | 1.58 | 0.00397 | 1 | Compiles |
| | 2437 | 11.19 | 13.15 | 11±2 | 2.0 | 1.58 | 0.00629 | 1 | Compiles |
| | 2462 | 12.33 | 17.10 | 12±2 | 2.0 | 1.58 | 0.00792 | 1 | Compiles |
| IEEE 802.11n HT40 | 2422 | 7.95 | 6.24 | 7±2 | 2.0 | 1.58 | 0.00250 | 1 | Compiles |
| | 2437 | 9.04 | 8.02 | 9±2 | 2.0 | 1.58 | 0.00397 | 1 | Compiles |
| | 2452 | 9.13 | 8.18 | 9±2 | 2.0 | 1.58 | 0.00397 | 1 | Compiles |