



FCC RF Exposure Result

Applicant : Mobile Appliance, Inc.
 Address : 401, simin-daero, Dongan-gu, #1701-1706,
 Daerung Techno Town 15, Gwanyang-dong,
 Anyang-si, Gyeonggi-do, 14057, South Korea
 Equipment : UTR (Universal Traffic Recorder)
 Model No. : UTR (Universal Traffic Recorder)
 Trade Name : AUDI
 FCC ID : WHBAFUTR

I HEREBY CERTIFY THAT :

The sample was received on Oct. 07, 2016 and the testing was carried out on Oct. 12, 2016 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Ray Chou
Assistant Manager

Tested by:

Spree Yei
Engineer

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory



CerpPASS Technology(SuZhou) Co., Ltd.





Radio Frequency Exposure

Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1091)

KDB 447498

EUT Specification

EUT	In Wall AP
Frequency band (Operating)	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 5.150GHz ~ 5.250GHz <input type="checkbox"/> WLAN: 5.725GHz ~ 5.850GHz <input type="checkbox"/> Bluetooth: <u>2.402GHz ~ 2.480 GHz</u>
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input checked="" type="checkbox"/> Tx/Rx diversity
Max. output power	802.11b: 16.69dBm(46.67mW) 802.11g: 19.56dBm(90.36mW) 802.11n HT20: 19.52dBm(89.54mW)
Antenna gain (Max)	3.5dBi
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

Remark:

1. The maximum output power is 19.56dBm (90.36mW) at 2437MHz (with numeric 3.5 antenna gain.)
2. DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance.
3. For mobile or fixed location transmitters, no SAR consideration applied. The maximum power density is 1.0 mW/cm² even if the calculation indicates that the power density would be larger.



TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

- Where $E =$ Field strength in Volts / meter
- $P =$ Power in Watts
- $G =$ Numeric antenna gain
- $d =$ Distance in meters
- $S =$ Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770d^2}$$

Changing to units of mW and cm, using:

$P (mW) = P (W) / 1000$ and
 $d (cm) = d(m) / 100$

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

- Where $d =$ Distance in cm
- $P =$ Power in mW
- $G =$ Numeric antenna gain
- $S =$ Power density in mW / cm²



Maximum Permissible Exposure

Modulation Mode	Frequency band (MHz)	Max. Conducted output power(dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
802.11b	2412-2462	16.69	3.5	20	0.0208	1
802.11g	2412-2462	19.56	3.5	20	0.0402	1
802.11n HT20	2412-2462	19.52	3.5	20	0.0399	1

NOTE:

Total (Chain0+Chain1) , the formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density