

IEEE C95.1  
KDB 447498 D03  
47 C.F.R. Part 1, Subpart I, Section 1.1310  
47 C.F.R. Part 2, Subpart J, Section 2.1091

## RF EXPOSURE REPORT

For

**MPC with touch display**

**Model: MPC X**

**Data Applies To: ACV5**

**Trade Name: AKAI PROFESSIONAL**

*Issued to*

**inMusic Brands, Inc.  
200 Scenic View Drive, Cumberland, RI 02864, U.S.A.**

**Issued By  
Compliance Certification Services Inc.**

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Page 2 of 7 Rev. 00  
FCC ID: Y4O-ACV5

## Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	May 01, 2017	See the following note rev.00	ALL	Eva Lin

**Note:**

*Rev.00:*

- ※ *Update the adapter (model from SYS1548-6519-T3 to FSP065-REBN2. ) and modify the EMI (CON · RAD) test data.*

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## 1. TEST RESULT CERTIFICATION

### We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

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## 2. LIMIT

According to §15.247(i), 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 of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

## 3. EUT SPECIFICATION

<b>EUT</b>	MPC with touch display		
<b>Model</b>	MPC X		
<b>Data Applies To</b>	ACV5		
<b>Brand</b>	AKAI PROFESSIONAL		
<b>RF Module</b>	SMSC	<b>Model:</b>	USB5537BAKZ4
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> 802.11b/g/n HT20: 2.412GHz ~ 2.462GHz 802.11n HT40: 2.422GHz ~ 2.452GHz 802.11a/n HT20: 5.180GHz ~ 5.240GHz / 5.745 ~ 5.825GHz 802.11n HT40: 5.190GHz ~ 5.230GHz / 5.755~ 5.795GHz <input checked="" type="checkbox"/> 802.11ac VHT80: 5.210GHz / 5.775GHz <input checked="" type="checkbox"/> Others		
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others		
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )		
<b>Antenna Specification</b>	PCB Antenna / Gain: <input type="text" value="4.6 dBi"/> (Numeric gain: <input type="text" value="2.88"/> worst		
<b>Maximum Average output power</b>	IEEE 802.11b Mode :	11.81 dBm	(15.171 mW)
	IEEE 802.11g Mode :	16.61 dBm	(45.814 mW)
	IEEE 802.11n HT20 Mode :	16.57 dBm	(45.394 mW)
	Bluetooth 4.0 Mode :	2.06 dBm	(1.607 mW)
<b>Maximum Tune up Power</b>	IEEE 802.11b Mode :	11.91 dBm	(15.524 mW)
	IEEE 802.11g Mode :	11.71 dBm	(14.825 mW)
	IEEE 802.11n HT20 Mode :	16.67 dBm	(46.452 mW)
	Bluetooth 4.0 Mode :	2.16 dBm	(1.644 mW)
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A		

## 4. TEST RESULTS

**No non-compliance noted.**

### Calculation

Given  $E = \frac{\sqrt{30 \times P \times G}}{d}$  &  $S = \frac{E^2}{377}$

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:

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

Changing to units of mW and cm, using:

$P$  (mW) =  $P$  (W) / 1000 and

$d$  (cm) =  $d$ (m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW /  $cm^2$

## 5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using  $d = 20$  cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where  $P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

IEEE 802.11b Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Mid	2437	15.524	2.88	20	0.0089	1	Pass

IEEE 802.11g Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Mld	2437	14.825	2.88	20	0.0085	1	Pass

IEEE 802.11n HT20 Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Low	2437	46.452	2.88	20	0.0266	1	Pass

Bluetooth 4.0 Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Mid	2442	1.644	2.88	20	0.0009	1	Pass