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.

Tainan Laboratory

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Issued Date: May 01, 2017

Testing Laboratory
1109

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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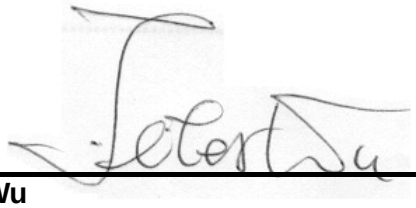
1. TEST RESULT CERTIFICATION

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.

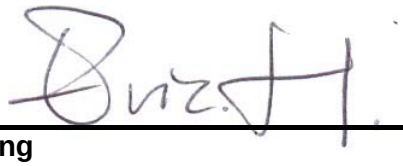
APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:



Jeter Wu
Assistant Manager

Reviewed by:



Eric Huang
Assistant Section Manager

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

EUT	MPC with touch display		
Model	MPC X		
Data Applies To	ACV5		
Brand	AKAI PROFESSIONAL		
RF Module	SMSC	**Model:**	USB5537BAKZ4
Frequency band (Operating)	☒ 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 802.11ac VHT80: 5.210GHz / 5.775GHz ☒ Others		
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others		
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm^2) ☒ General Population/Uncontrolled exposure (S=1mW/cm^2)		
Antenna Specification	PCB Antenna / Gain: 4.6 dBi (Numeric gain: 2.88) worst		
Maximum Average output power	IEEE 802.11b Mode : IEEE 802.11g Mode : IEEE 802.11n HT20 Mode : Bluetooth 4.0 Mode :	11.81 dBm 16.61 dBm 16.57 dBm 2.06 dBm	(15.171 mW) (45.814 mW) (45.394 mW) (1.607 mW)
Maximum Tune up Power	IEEE 802.11b Mode : IEEE 802.11g Mode : IEEE 802.11n HT20 Mode : Bluetooth 4.0 Mode :	11.91 dBm 11.71 dBm 16.67 dBm 2.16 dBm	(15.524 mW) (14.825 mW) (46.452 mW) (1.644 mW)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ 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:

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

Changing to units of mW and cm, using:

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

d (cm) = d(m) / 100

Yields

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

IEEE 802.11b Mode :

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