

Report No.: T180118N03-MF Page 1 of 7 Rev. 00 FCC ID: Y4O-ADA2

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

APC Clip Controller

Model: APC Live

Data Applies To: N/A

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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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
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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 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	APC Clip Controller				
Model	APC Live				
Brand	AKAI PROFESSIONAL				
RF Module	SMSC Model: AP6335				
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/cm²) General Population/Uncontrolled exposure (S=1mW/cm²) 				
Antenna Specification	PCB Antenna / Gain: 4.600 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 :	9.82 d 14.35 d : 14.43 d 1.24 d	Bm (dBm (dBm (Bm (9.594 mW) 27.227 mW) 27.733 mW) 1.330 mW)	
Maximum Tune up Power	IEEE 802.11b Mode : IEEE 802.11g Mode : IEEE 802.11n HT20 Mode Bluetooth 4.0 Mode :	10.320 14.850 : 14.930 1.740) dBm () dBm () dBm () dBm ((10.765 mW) (30.549 mW) (31.117 mW) (1.493 mW)	
Evaluation MPE Evaluation* applied SAR Evaluation N/A N/A					



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	10.765	2.88	20	0.0062	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
High	2462	30.549	2.88	20	0.0175	1	Pass
IEEE 802.11n HT 20 Mode:							
Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
Low	2012	31.117	2.88	20	0.0179	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	1.493	2.88	20	0.0009	1	Pass



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:

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

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