



FCC ID.: Y4O-ACVM  
Report No.: T210316N04-MF

Page: 1 / 7  
Rev.: 00

**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**

**Musical keyboard with drum pads**

**Model: MPC Key 61**

**Trade Name:**



*Issued to*

**inMusic Brands, Inc.**  
**200 Scenic View Drive, Suite 201, Cumberland, RI 02864, U.S.A.**

*Issued By*

**Compliance Certification Services Inc.**  
**No.11, Wugong 6th Rd., Wugu Dist.,**  
**New Taipei City 24891, Taiwan. (R.O.C.)**

**Issued Date: October 05, 2021**

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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**Report No.:** T210316N04-MF

Page: 2 / 7  
Rev.: 00

## REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	October 05, 2021	Initial Issue	ALL	Angel Cheng



Report No.: T210316N04-MF

Page: 3 / 7  
Rev.: 00

TABLE OF CONTENTS

1. LIMIT..... 4

2. EUT SPECIFICATION ..... 5

3. TEST RESULTS..... 6

4. MAXIMUM PERMISSIBLE EXPOSURE..... 7



Report No.: T210316N04-MF

Page: 4 / 7  
Rev.: 00

## 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
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
Statements of Conformity	
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:


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Kevin Tsai  
Deputy Manager  
Compliance Certification Services Inc.

## 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	Musical keyboard with drum pads		
Model	MPC Key 61		
Brand			
RF Module	Broadcom	Model:	AP6256
Frequency band (Operating)	<input checked="" type="checkbox"/> IEEE 802.11b/g, 802.11n HT20: 2412MHz~2462MHz <input checked="" type="checkbox"/> Bluetooth 5.0: 2402MHz~2480MHz		
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others		
Exposure classification	<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> )		
Antenna Specification	WLAN EMBEDDEN ANTENNA / Gain: 4.6 dBi (Numeric gain: 2.88)		
Maximum Average output power	IEEE 802.11b Mode :	12.95 dBm	(19.724 mW)
	IEEE 802.11g Mode :	9.32 dBm	(8.551 mW)
	IEEE 802.11n HT20 Mode :	8.34 dBm	(6.823 mW)
	Bluetooth 5.0 Mode :	5.13 dBm	(3.258 mW)
Maximum Tune up Power	IEEE 802.11b Mode :	13.50 dBm	(22.387 mW)
	IEEE 802.11g Mode :	9.50 dBm	(8.913 mW)
	IEEE 802.11n HT20 Mode :	8.50 dBm	(7.079 mW)
	Bluetooth 5.0 Mode :	5.50 dBm	(3.548 mW)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A		
Received Date	March 16, 2021		
Reported Date	September 15, 2021		

### Remark:

1. RF power data reference report (T210316N04-RP1)
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

## 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:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

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<sup>2</sup>

## 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
High	2462	22.387	2.88	20	0.0128	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
High	2462	8.913	2.88	20	0.0051	1	Pass

IEEE 802.11n HT 20 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Mid	2437	7.079	2.88	20	0.0041	1	Pass

Bluetooth 5.0 Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Low	2402	3.548	2.88	20	0.0020	1	Pass