



# SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

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Report No.: SHEM140200036303  
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## 1 Cover Page

# FCC MPE REPORT

<b>Application No.:</b>	SHEM1402000363RF
<b>Applicant:</b>	Audio Partnership PLC
<b>Manufacturer:</b>	Audio Partnership PLC
<b>FCC ID:</b>	YKBBLT100-009
<b>IC:</b>	9095A-BLT100009
<b>Equipment Under Test (EUT):</b> <b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
<b>Product Name:</b>	Wireless Music System
<b>Model No.(EUT):</b>	Bluetone 100
<b>Standards:</b>	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance
<b>Date of Receipt:</b>	February 21, 2014
<b>Date of Test:</b>	February 24, 2014 to March 24, 2014
<b>Date of Issue:</b>	March 25, 2014
<b>Test Result:</b>	<b>Pass*</b>

\* In the configuration tested, the EUT complied with the standards specified above.



Tony Wu

E&E Section Manager

SGS-CSTC (Shanghai) Co., Ltd.



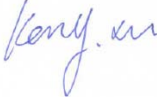
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	March 25, 2014	/	Original

<b>Authorized for issue by:</b>			
<b>Engineer</b>		Eddy Zong _____ <b>Print Name</b>	 _____ <b>Print Name</b>
<b>Clerk</b>		Susie Liu _____ <b>Print Name</b>	 _____ <b>Print Name</b>
<b>Reviewer</b>		Keny Xu _____ <b>Print Name</b>	 _____ <b>Print Name</b>

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## 4 General Information

### 4.1 Client Information

Applicant:	Audio Partnership PLC
Address of Applicant:	Gallery Court, Hankey Place, London, SE1 4BB, UNITED KINGDOM
Manufacturer:	Audio Partnership PLC
Address of Manufacturer:	Gallery Court, Hankey Place, London, SE1 4BB, UNITED KINGDOM
Factory:	Hansong (Nanjing) Technology Ltd.
Address of Factory:	8th Kangping Road, Jiangning Economy and Technology Development Zone, Nanjing, 211106, China

### 4.2 General Description of E.U.T.

Product Name:	Wireless Music System
Model No.(EUT):	Bluetone 100
Brand Name:	Cambridge Audio
Product Description:	Mobile product

### 4.3 Details of E.U.T.

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	3.0+EDR
Modulation Technique:	FHSS(GFSK, $\pi/4$ DQPSK, 8DPSK)
Number of Channel:	79
Antenna Type	Integral
Antenna Gain	2 dBi
Power Supply:	AC100-230V 50/60Hz
Rated Peak Power:	150W

#### **4.4 Test Location**

All tests were performed at SGS E&E EMC lab

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

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#### **4.5 Test Facility**

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2014-07-26.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2015-02-22.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2014-09-20.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.

## 5 Test Standards and Limits

According to §1.1310 Radiofrequency radiation exposure limits:

The limit for general population/uncontrolled exposures

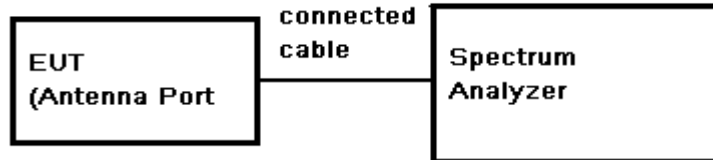
Frequency	Power density(mW/cm <sup>2</sup> )	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

## 6 Measurement and Calculation

### 6.1 Maximum transmit power

**EUT Operation:** Test in fixing frequency operating mode at lowest, middle and highest frequency.

**Test Configuration:**



**Test Data:**

Test mode	Channel	Reading Peak Power (dBm)	Cable Loss (dB)	Peak Power (dBm)	Peak Power (mW)	Peak Power Limit (dBm)	Result
GFSK	Low	2.16	0.5	2.66	1.30	30	PASS
	Mid	<b>2.34</b>	<b>0.5</b>	<b>2.84</b>	<b>1.92</b>	30	PASS
	High	1.92	0.5	2.42	1.75	30	PASS
$\pi/4$ DQPSK	Low	-0.45	0.5	0.05	1.01	30	PASS
	Mid	0.33	0.5	0.83	1.21	30	PASS
	High	0.02	0.5	0.52	1.13	30	PASS
8DPSK	Low	-0.28	0.5	0.22	1.05	30	PASS
	Mid	0.27	0.5	0.77	1.19	30	PASS
	High	-0.26	0.5	0.24	1.06	30	PASS

## 6.2 MPE Calculation

According to the formula  $S = \frac{PG}{4R^2\pi}$ , we can calculate S which is MPE.

Note:

- 1) P (Watts) = Power Input to antenna =  $10^{\frac{dBm}{10}} / 1000$
- 2) G (Antenna gain in numeric) =  $10^{\text{Antenna gain in dBi} / 10}$
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm<sup>2</sup>

The Max Conducted Peak Output Power is 2.84dBm(1.92mW) in middle channel of GFSK;

The best case gain of the antenna is 2dBi. 2dB logarithmic terms convert to numeric result is nearly 1.58

$$\text{So, } S = \frac{PG}{4R^2\pi} = \frac{1.92 \times 1.58}{4 \times 400 \times 3.14} = 0.0006 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

According to the KDB447498 D01 section 7.1 determine the device is exclusion from SAR test.

## 7 EUT Constructional Details

Refer to the < Bluetone 100 \_External Photos -FCC> & < Bluetone 100 \_Internal Photos-FCC>.

**--End of the Report--**