SGS-CSTC Standards Technical Services Co., Ltd.

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SAR Evaluation Report

Application No.:	SZEM1409005474ET(SGS SZ NO.:SZTY1409000791EM)
Applicant:	Fisher-Price Inc.
Manufacturer:	Qualiman
Product Name:	Mattel Bluetooth Low Energy Module
Model No.:	1100153650
FCC ID:	CCT-CBV76-14
Host name:	SMART CONNECT BLUETOOTH MOBILE
Host No.	CMK04
Standards:	47 CFR Part 1.1307(2013) 47 CFR Part 2.1093 (2013) KDB447498D01 General RF Exposure Guidance v05
Date of Receipt:	2014-09-30
Date of Test:	2014-10-27
Date of Issue:	2014-10-29
Test Result :	**PASS***

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

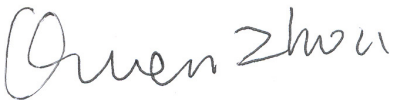
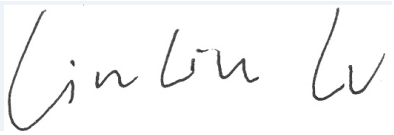
Authorized Signature:

Jack Zhang
EMC Laboratory Manager

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. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.
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.

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00		2014-10-29		Original

Authorized for issue by:				
Tested By		 **(Owen Zhou) /Project Engineer**		2014-10-27 **Date**
Prepared By		 **(Linlin Lv) /Clerk**		2014-10-29 **Date**
Checked By		 **(Emen Li) /Reviewer**		2014-10-30 **Date**

3 Contents

4 General Information

4.1 Client Information

Applicant:	Fisher-Price Inc.
Address of Applicant:	636 Girard Avenue East Aurora, NY 14052-1885
Manufacturer:	Qualiman

4.2 General Description of EUT

Product Name:	Mattel Bluetooth Low Energy Module
Style/Item No.:	1100153650
Host name:	SMART CONNECT BLUETOOTH MOBILE
Host No.	CMK04
Labelled Age Grading:	0+
Requested Age Grading:	0+
Associated Toy number:	CDM85
Ref. No.:	HG-FN-140040
Country of Origin:	China
Date Code:	2704QM
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.0
Modulation Type:	GFSK
Number of Channel:	40
Sample Type:	Fixed production
Antenna Type and Gain:	Type :Integral Gain :3.4dBi
Battery:	DC 6.0V (4*1.5V " D/LR20" Button Cells)

Declare that the reasons for this Class II permissive change are as below：

(The difference is the control functions after the control data received, the data transmission protocol, electrical characteristic, power and communication formal are same. So the transmission characteristic on both products should be same).

1) The module used on the original product (CBV76) is totally same on the existing application item (CMK04).
2) Both RF electrical characteristics on the host are same, the functional application events is difference only.
3) All RF control signal, data and protocol are same. And then RF electrical characteristics are same.

On the other hand, the difference on both hosts parts are below:

1) For the difference user operation, the input key functions are difference.
2) For the output, the sound contents is difference. (The music play is difference).

3) For the lighting control, there are some LEDs lights on the new product (CMK04).
4) For the motor control, the original product is with feedback control. But on the new product, it is not included.

4.3 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab
No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057
Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594
No tests were sub-contracted.

4.4 Test Facility

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

- **CNAS (No. CNAS L2929)**

  CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.

- **VCCI**

  The 3m Semi-anechoic chamber, Full-anechoic Chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197, G-416, T-1153 and C-2383 respectively.

- **FCC – Registration No.: 556682**

  SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

- **Industry Canada (IC)**

  Two 3m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1 & 4620C-2.

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v05

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation[17]
The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

The Max Conducted Peak Output Power is -1.74dBm in Highest channel(2.402 GHz)；

The best case gain of the antenna is 0dBi

EIRP= -1.74 dBm +3.4 dBi =1.66 dBm

1.66 dBm logarithmic terms convert to numeric result is nearly 1.4655 mW

According to the formula. calculate the EIRP test result:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)]

General RF Exposure = (1.4655 mW / 5 mm) x √2.402 GHz = 0.4543 ①

SAR requirement:

S= 3.0 ②；

① < ②.

So the SAR report is not required.

5.2 EUT Constructional Details

Refer to Report No. SZEM140900547401 for EUT external and internal photos.