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Report No.: GZEM190701429204
Page: 1 of 11

TEST REPORT

Application No.: GZEM1907014292CR
Applicant: Kysho Multimedia Ltd
Address of Applicant: Flat F,5/F Valiant Industrial. Centre, 2-12 Au Pui Wan St, Fo Tan, Shatin
Manufacturer: Kysho Multimedia Ltd
Address of Manufacturer: Flat F,5/F Valiant Industrial. Centre, 2-12 Au Pui Wan St, Fo Tan, Shatin
Factory: 1. Huizhou ShenKe XinFei Technology Co. Ltd; 2. Dongguan Longyi Electronics Co., Ltd
Address of Factory: 1. Building C Tangxia Area, Changjing Village Xinxu Town, Huiyang District, Huizhou Guangdong Province, China; 2. Jieling Industrial Zone No.8, GuangJingTou Village, Fenggang, Dongguan, 523690

Equipment Under Test (EUT):

EUT Name: Bluetooth Speaker
Model No.: IMW580L, IMW581L, IMW790L, IMW578L □
□ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Standard(s) : 47 CFR Part 1.1307, Part 1.1310

Date of Receipt: 2019-07-15

Date of Test: 2019-07-25 to 2019-08-05

Date of Issue: 2019-08-08

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Kobe Jian

Kobe Jian

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.



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-08-08		Original

Authorized for issue by:			
Tested By			2019-07-25 to 2019-08-05
Checked By			2019-08-08
	Curry_Wu /Project Engineer		Date
	Ricky_Liu /Reviewer		Date



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2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
RF Exposure	47 CFR Part 1.1307, Part 1.1310	CFR 47 Part 1.1310	CFR 47 Part 1.1310	Pass

Declaration of EUT Family Grouping:

Model No.: IMW580L, IMW581L, IMW790L, IMW578L

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference on the model No..

Therefore only one model IMW580L was tested in this report.



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3 Contents

	Page
1 Cover Page	1
2 Test Summary	3
3 Contents	4
4 General Information	5
4.1 Details of E.U.T.	5
4.2 Description of Support Units	5
4.3 Test Location	5
4.4 Test Facility	6
4.5 Deviation from Standards	7
4.6 Abnormalities from Standard Conditions	7
5 Equipment List.....	8
6 Radio Spectrum Technical Requirement	9
6.1 RF Exposure	9
6.1.1 Test Requirement:	9
6.1.2 Conclusion	10
7 Photographs	11
7.1 EUT Constructional Details.....	11



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4 General Information

4.1 Details of E.U.T.

Power Supply:	DC 5V 1A for charging DC 3.7V for working
Test Voltage:	DC 3.7V & AC 120V 60Hz
Cable:	about 0.5m unscreened USB cable
For 5.8G:	
Modulation Type	GFSK
Number of Channels	16
Operation Frequency	5727MHz-5800MHz
Antenna Gain	0dBi
Antenna Type	Integral Antenna
For Bluetooth:	
Antenna Gain	0dBi
Antenna Type	Integral Antenna
Channel Spacing	1MHz
Modulation Type	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels	79
Operation Frequency	2402MHz to 2480MHz

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



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4.4 Test Facility

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

● **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

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.

● **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

● **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

● **FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., 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 282399, May 31, 2002.

● **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

● **Industry Canada (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

● **VCCI (Registration No.: R-12460, C-12584, G-10449 and T-11179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-10449 and T-11179 respectively.

● **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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4.5 Deviation from Standards

None

4.6 Abnormalities from Standard Conditions

None



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5 Equipment List

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS	0.8M	EMC2136	2017-11-02	2019-11-01
MI CABLE	SGS	0.8M	EMC2137	2017-11-02	2019-11-01

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2019-07-16	2020-07-15
DMM	Fluke	73	EMC0007	2019-07-16	2020-07-15



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6 Radio Spectrum Technical Requirement

6.1 RF Exposure

6.1.1 Test Requirement:

CFR 47 Part 1.1310

Limit:

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in Part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

S = power density (mW/cm²)
P = the net power delivered to the antenna (mW)
G = gain of the antenna in linear scale
d = distance between observation point and center of the radiator (cm)



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6.1.2 Conclusion

For Bluetooth

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2402	1.000	1.528	1.422	0.00028	1	Complies
2442	1.000	1.761	1.500	0.00030	1	Complies
2480	1.000	1.38	1.374	0.00027	1	Complies

For 5.8G

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
5727	1.000	16.09	40.644	0.00809	1	Complies
5760	1.000	15.054	32.018	0.00637	1	Complies
5800	1.000	14.941	31.196	0.00621	1	Complies

The Bluetooth and 5.8G can be transmitted together, the result is

$$0.00030/1 + 0.00809/1 = 0.00839 < 1.0$$

So SAR report is not required.



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7 Photographs

7.1 EUT Constructional Details

Please refer to Appendix A - Photographs of EUT Constructional Details for GZEM1907014292CR.

--End of Report--



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