



SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

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Report No.: GZEM190101047802

Page: 1 of 12

TEST REPORT

Application No.:	GZEM1901010478CR
Applicant:	MMD Hong Kong Holding Limited
Address of Applicant:	Units 1006-1007, 10th Floor, C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
Manufacturer:	Same as applicant
Address of Manufacturer:	Same as applicant
Factory:	Guangzhou Panyu Juda Car Audio Equipment Co., Ltd.
Address of Factory:	Vtrek Dewei Industrial Garden, Shibei Industrial Road, Dashi Town, Panyu Borough, Guangzhou City, Guangdong Province, China
Equipment Under Test (EUT):	
EUT Name:	Soundbar Speaker
Model No.:	HTL1510B/37, HTL1505/37. ✕
✕	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark:	PHILIPS
Standard(s) :	47 CFR Part 1.1307, Part 2.1093, KDB 447498
Date of Receipt:	2019-01-25
Date of Test:	2019-02-01 to 2019-02-18
Date of Issue:	2019-02-21
Test Result:	Pass*

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



Kobe Jian
Lab 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		2019-02-21		Original

Authorized for issue by:			
Tested By		Curry_Wu /Project Engineer	2019-02-01 to 2019-02-18
			Date
Checked By		Ricky_Liu /Reviewer	2019-02-21
			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 2.1093, KDB 447498	CFR 47 Part 2.1093	CFR 47 Part 2.1093	Pass

Declaration of EUT Family Grouping:

Model No.: HTL1510B/37, HTL1505/37.

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 as below:

HTL1510B/37 with Subwoofer, is the Main Unit

HTL1505/37 without Subwoofer.

Therefore only one model **HTL1510B/37** was tested in this report.



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4 General Information

4.1 Details of E.U.T.

Power Supply:	Model: YN-24WA150160EU INPUT: AC100-240V 50/60Hz 0.75A OUTPUT: DC15V 1.6A
Test Voltage:	AC 120V 60Hz
Cable:	about 1.5m x 2 wires DC mains cable about 1.2m x 2 wires AC mains cable
Bluetooth:	
Antenna Gain	0dBi
Antenna Type	PCB antenna
Channel Spacing	1MHz
Modulation Type	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels	79
915Mhz:	
Antenna Type	Integrated antenna
Number of Channels	1
Operation Frequency	915MHz
Antenna Gain	0dBi

4.2 Description of Support Units

The EUT has been tested as an independent unit.



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4.3 Measurement Uncertainty

RF

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 5.5 \times 10^{-8}$
2	Duty cycle	$\pm 0.57\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF Conducted power	$\pm 0.68\text{dB}$
5	RF Power Density	$\pm 1.50\text{dB}$
6	Conducted Spurious Emissions	$\pm 1.04\text{dB}$
7	RF Radiated Power	$\pm 4.5\text{dB}$ (below 1GHz)
		$\pm 4.8\text{dB}$ (above 1GHz)
8	Radiated Spurious Emission Test	$\pm 4.5\text{dB}$ (30MHz-1GHz)
		$\pm 4.8\text{dB}$ (1GHz-18GHz)
9	Temperature	$\pm 0.4^\circ\text{C}$
10	Humidity	$\pm 1.3\%$
11	Supply Voltages	$\pm 1.5\%$
12	Time	$\pm 3\%$

4.4 Test Location

All tests were performed at:

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198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

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No tests were sub-contracted.



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4.5 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-CL01:2006 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2005 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-1)**

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

● **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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4.6 Deviation from Standards

None

4.7 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

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2018-07-20	2019-07-19
DMM	Fluke	73	EMC0007	2018-07-19	2019-07-18



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6 Radio Spectrum Technical Requirement

6.1 RF Exposure

6.1.1 Test Requirement:

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 level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S)(mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	F/300	6
1500-100000	--	--	5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S)(mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	F/1500	30
1500-100000	--	--	1.0	30

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



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6.1.2 MPE Calculation Method

$E (V/m) = (30 \cdot P \cdot G)^{0.5} / d$ Power Density: $P_d (W/m^2) = E^2 / 377$

E=Electric Field (V/m)

P=Peak RF output Power (W)

G=EUT Antenna numeric gain (numeric)

d= Separation distance between radiator and human body (m)

The formula can be changed to

$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$

From the peak EUT RF output power, the minimum mobile separation distance, $d=0.2m$, as well as the gain of the used antenna, the RF power density can be obtained.

6.1.3 Calculated Result and Limit

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	4.505	2.822	0.00056	1	Complies
2441	1.000	4.482	2.807	0.00056	1	Complies
2480	1.000	3.613	2.298	0.00046	1	Complies

For 915Mhz:

The max field strength is $E = 45.71 dB_{\mu V/m} = 192.97 \mu V/m$.

Antenna gain: 0dBi, the numerical value is 1.

$P = \text{Peak RF output Power (W)} = 1.117 \times 10^{-5} \text{ W} = -49.51 \text{ dBm}$

The **Power Density (S) (mW/cm²)** = $(30 \cdot P \cdot G) / (377 \cdot d^2) = 0.000000002 \text{ (mW/cm}^2\text{)}$

915MHz and Bluetooth modules can simultaneous transmitting, so the maximum rate of MPE is $(0.00056/1) + (0.000000002/0.604) \leq 1.0$. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.



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7 Photographs

7.1 EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for GZEM1901010478CR

--End of Report--



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