

Prüfbericht-Nr.: Test Report No.:	50201690 001	Auftrags-Nr.: Order No.:	114082658	Seite 1 von 18 Page 1 of 18
Kunden-Referenz-Nr.: Client Reference No.:	N/A	Auftragsdatum: Order date:	03-Oct-2018	
Auftraggeber: Client:	嘉偉利股份有限公司 台北市敦化北路 222 巷 19 號			
Prüfgegenstand: Test item:	Bluetooth Speaker with alarm clock and wireless charging function			
Bezeichnung / Typ-Nr.: Identification / Type No.:	HS1-qi			
Auftrags-Inhalt: Order content:	NCC LP0002 Test report (WPC)			
Prüfgrundlage: Test specification:	NCC Low-power Radio-frequency Devices Technical Regulations LP0002(2018) Section 2.8			
Wareneingangsdatum: Date of receipt:	05-Oct-2018			
Prüfmuster-Nr.: Test sample No.:	A000799071-001			
Prüfzeitraum: Testing period:	01-Nov-2018 – 20-Nov-2018			
Ort der Prüfung: Place of testing:	EMC/RF Laboratory Taipei			
Prüflaboratorium: Testing laboratory:	TUV Rheinland Taiwan Ltd.			
Prüfergebnis*: Test result*:	Pass			
Report Date / tested by:		kontrolliert von / reviewed by:		
19-Nov-2018 Mars Y.J. Lin / Project Engineer		20-Nov-2018 Rene Charton / Expert, Electrical		
Datum Date	Name / Stellung Name / Position	Unterschrift Signature	Datum Date	Name / Stellung Name / Position
Sonstiges / Other:				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				

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TEST SUMMARY

5.1.1 FIELD STRENGTH OF FUNDAMENTAL

RESULT: Passed

5.1.2 SPURIOUS EMISSION

RESULT: Passed

5.2.1 CONDUCTED EMISSIONS LINE AND NEUTRAL

RESULT: Passed

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix P: Photo Documentation

(File Name: 50201690 001 Appendix P)

Appendix D: Test Result of Radiated Emissions

(File Name: 50201690 001 Appendix D)

Test Specifications

The following standards were applied.

Table 1: Applied Standard and Test Levels

Radio
NCC Low-power Radio-frequency Devices Technical Regulations LP0002(2018)(107年1月10日)

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2. Test Sites

2.1 Test Facilities

TUV Rheinland Taiwan Ltd.

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

FCC RegistrationNo.: 340738

IC Canada Registration No.: 9465A-1

TAF Accredited NCC Test Lab. No.:0759

TAF ISO17025 Certification effective periods: 2016-Jul-1st to 2019-Jun-30th



Testing Laboratory
0759

2.2 List of Test and Measurement Instruments

Table 2: List of Test and Measurement Equipment

Kind of Equipment	Manu-facturer	Type	S/N	Last Calibration	Next Calibration
Test Software	Farad	EZ_EMC	Ver. TUV3A1	N/A	N/A
EMI Test Receiver	R&S	ESR 7	101549	2018/11/10	2019/11/10
Spectrum Analyzer	R&S	FSV 40	100921	2018/05/02	2019/05/02
EXA Signal Analyzer	KEYSIGHT	N9010A	MY52221334	2018/02/05	2019/02/04
Preamplifier (30MHz -1GHz)	HP	8447F	2805A03335	2018/08/14	2019/08/14
Bilog Antenna	TESEQ	CBL6111D	29804	2018/08/18	2019/08/18
Loop Antenna	Schwarzbeck	FMZB 1513	1513-076	2018/06/14	2019/06/14
EMI Test Receiver	R&S	ESR 7	101549	2018/11/10	2019/11/10
Spectrum Analyzer	R&S	FSL3	101943	2018/09/07	2019/09/07
Temp. & Humid. Chamber	Giant Force	GCT-099-40-S	MAF0103-007	2017/03/09	2019/03/09
LISN (1 phase)	R&S	ENV216	101243	2018/06/18	2019/06/18
LISN	R&S	ENV216	101262	2018/06/22	2019/06/21

2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are $\pm 3\text{dB}$.

Table 3: Emission Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
RF power, conducted	$\pm 1.5 \text{ dB}$
RF power density, conducted	$\pm 3 \text{ dB}$
spurious emissions, conducted	$\pm 3 \text{ dB}$
all emissions, radiated	$\pm 6 \text{ dB}$
Temperature	$\pm 1 \text{ }^{\circ}\text{C}$
Humidity	$\pm 5 \%$

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a Bluetooth Speaker with alarm clock and wireless charging function, It contains a WPC compatible module enabling the user to charge the battery through a Wireless interface.

For details refer to the User Guide, Data Sheet and Block Diagram.

3.2 Ratings and System Details

Table 4: Basic Information of EUT

Item	EUT information
Kind of Equipment	Bluetooth Speaker with alarm clock and wireless charging function
Brand Name	Homtime
Type Designation	HS1-qi

Table 5: Technical Specification of EUT

Item	Value
Operating Frequency Band	110 - 205kHz
Operation Voltage	110Vac
Modulation	ASK

3.3 Independent Operation Modes

Basic operation modes are:

- A. Transmitting and receiving at fundamental frequency

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Block Diagram.

3.5 Submitted Documents

- Block Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum emission level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Setup for testing: Power on the EUT and put Load device on it. EUT will start providing wireless power. Power transmission and load status detection is done simultaneously using the fundamental frequency in the range of 110 - 205kHz.

4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

N/A

4.4 Test Environment

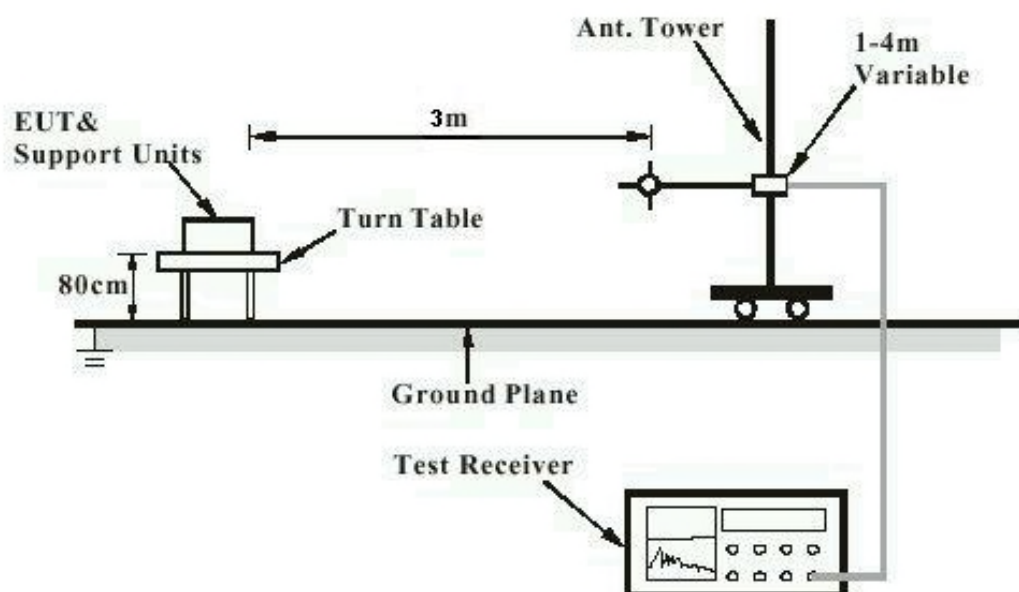
Ambient temperature	:	18-25 °C
Relative humidity	:	30-70 %

4.5 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.6 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



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5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Field strength of fundamental

RESULT:
Passed

Test standard : LP0002(2018) 2.9

Basic standard : LP0002(2018)

Kind of test site : Semi-Anechoic Chamber

Test setup

Operation Mode : A

Atmospheric pressure : 100-103 kPa

For detailed results of all frequencies tested, please refer to Appendix D.

Table 6: Test result of Field strength of fundamental

TX Freque ncy (MHz)	Measurement Level(dBuV/m)@3m	Measurement Level(dBuV/m) @300m	Detec tor Mode	Limit (dBuV/m) @3m	Limit (dBuV/m) @30m	Result
0.1534	69.40	-10.60	QP	103.89	23.89	Pass

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5.1.2 Spurious Emission

RESULT:**Passed**

Date of testing : Refer to AppendixD

Test standard : LP0002(2018) 2.8

Basic standard : LP0002(2018)

Limits : Radiated emissions which fall in the restricted bands, as defined in LP0002(2018) 2.8 must comply with the radiated emission limits specified in LP0002(2018) 2.8
Emission radiated outside the specified frequency bands must comply with the radiated emission limits specified in LP0002(2018) 2.8

Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Operation mode : A

Remark: Testing was carried out within frequency range 9kHz to the tenth harmonic.

For details refer to Appendix D.

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5.2 Mains Conducted Emissions

5.2.1 Conducted Emissions Line and Neutral

RESULT:**Passed**

Test standard : LP0002(2018) 2.3
Limits : Mains Conducted emissions as defined in
LP0002(2018) 2.3 , must comply with the
mains conducted emission limits specified
in LP0002(2018) 2.3
Kind of test site : Shielded Room

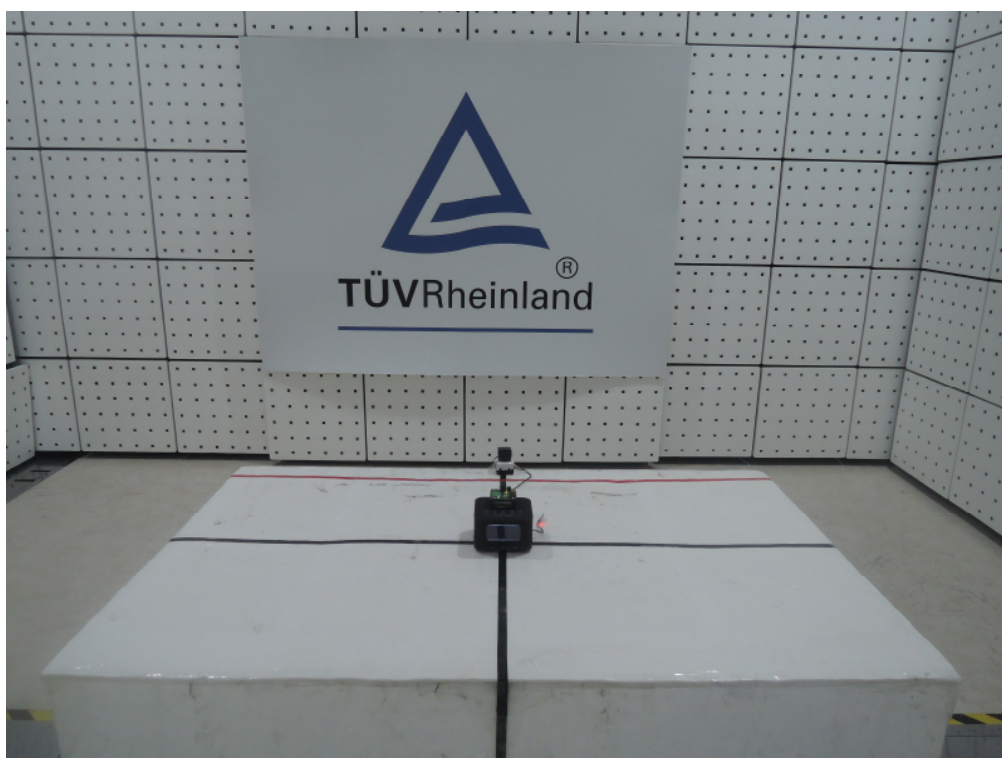
Test setup

Operation mode : A

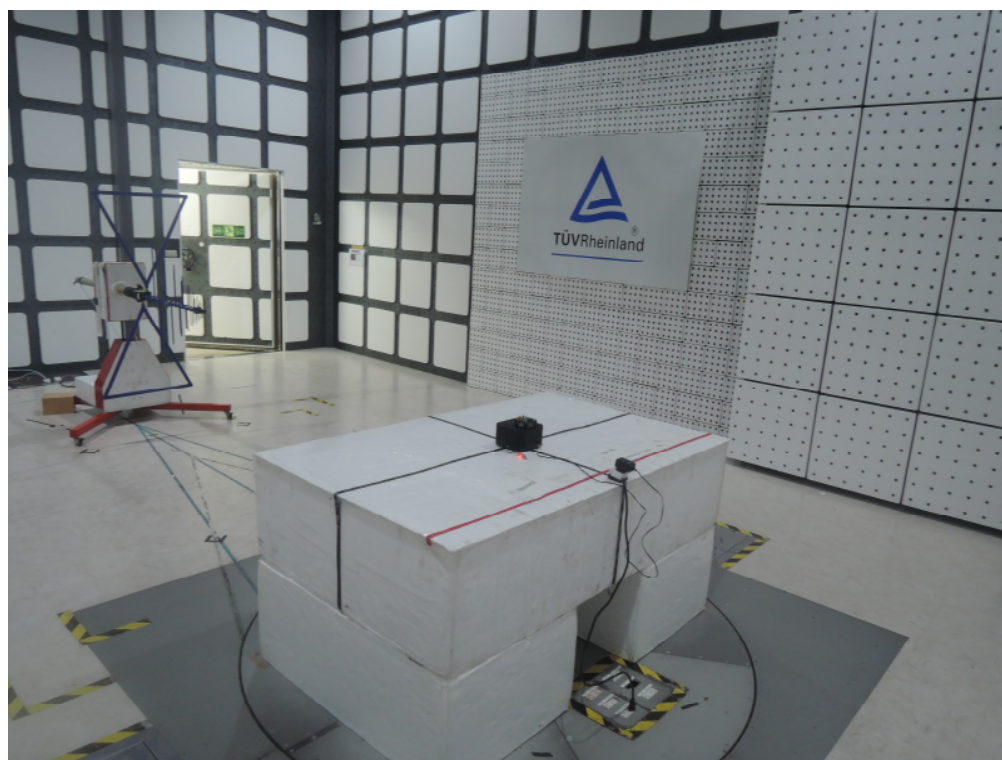
Remark: For details refer to Appendix D.

6. Photographs of the Test Set-Up

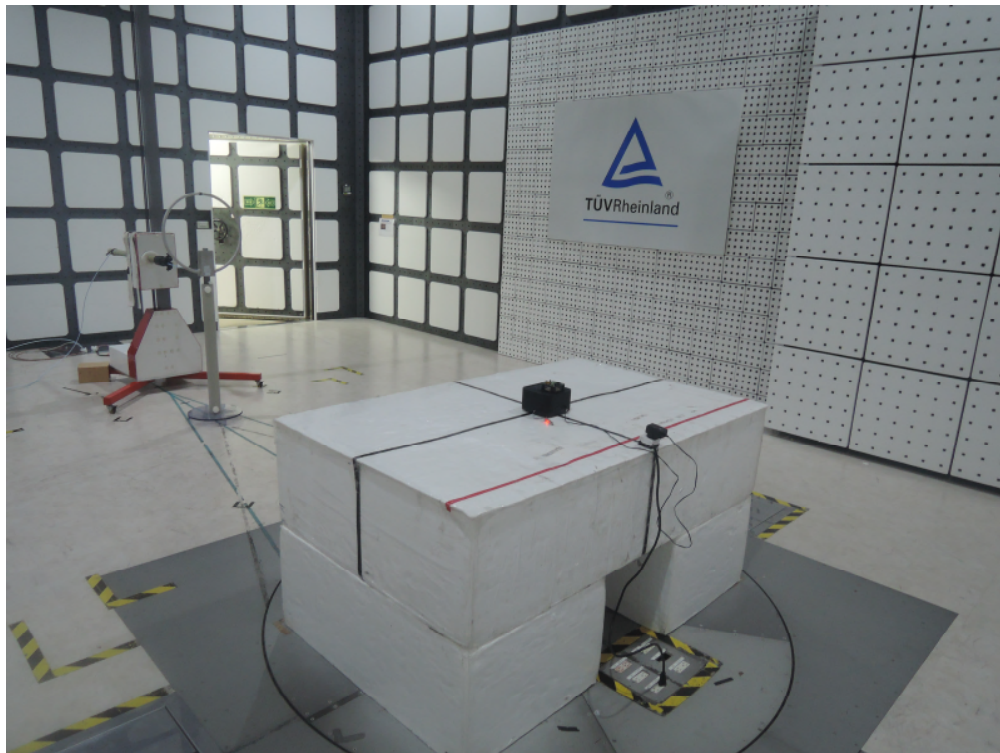
Photograph 1: Set-up for Spurious Emissions (Front View)



Photograph 2: Set-up for Spurious Emissions (Back View 1)



Photograph 3: Set-up for Spurious Emissions (Back View 2)



Photograph 4: Set-up for Spurious Emissions, AC Mains (Front View)



Photograph 5: Set-up for Spurious Emissions, AC Mains (Back View)



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