Prüfbericht-Nr.: *Test report No.:*	**50090617 002**	**Auftrags-Nr.:** *Order No.:*	164097035	Seite 1 von 29 *Page 1 of 29*
Kunden-Referenz-Nr.: *Client reference No.:*	N/A	**Auftragsdatum:** *Order date.:*	19.06.2017	
Auftraggeber: *Client:*	**Lightcomm Technology Co., Ltd.** RM 1808 18/F FO TAN INDUSTRIAL CENTRE NOS. 26-28 AU PUI WAN STREET FO TAN SHATIN NEW TERRITORIES			
Prüfgegenstand: *Test item:*	Bluetooth Stereo Speaker with Powerbank			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	NS-SPBTBRICK, NS-SPBTBRICK-C, NS-SPBTBRICK-SB, NS-SPBTBRICK-CM, NS-SPBTBRICK-BY, NS-SPBTBRICK-XX (XX represents different color), BTD01A-E (INSIGNIA)			
Auftrags-Inhalt: *Order content:*	FCC Certification			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 RSS-247 Issue 2 February 2017		FCC KDB Publication 447498 v06 RSS-Gen Issue 4 November 2014 RSS-102 Issue 5 March 2015	

Wareneingangsdatum: *Date of receipt:*	19.06.2017	Please refer to photo documents
Prüfmuster-Nr.: *Test sample No.:*	A000567247-003, A000567247004, A000569558-003	
Prüfzeitraum: *Testing period:*	19.06.2017 - 12.07.2017	
Ort der Prüfung: *Place of testing:*	EMTEK (Shenzhen) Co., Ltd.	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüfergebnis*: *Test result*:*	Pass	

geprüft von / *tested by:*			**kontrolliert von** / *reviewed by:*		
Jackson Yang					
12.07.2017	Jackson Yang / Project Engineer		12.07.2017	Owen Tian / Technical Certifier	
Datum *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*	**Datum** *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*

Sonstiges / *Other:*

FCC ID: XMF-BTD01AE
IC: 20064-BTD01AE
HVIN: NS-SPBTBRICK

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 = mangelhalt
	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 specifications(s)		F(ail) = failed a.m. test specifications(s)	N/A = not applicable	N/T = not tested

Test Summary

5.1.1 ANTENNA REQUIREMENT
RESULT: *Pass*

5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER
RESULT: *Pass*

5.1.3 99% BANDWIDTH
RESULT: *Passed*

5.1.4 CONDUCTED POWER SPECTRAL DENSITY
RESULT: *Pass*

5.1.5 6DB BANDWIDTH
RESULT: *Pass*

5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH
RESULT: *Pass*

5.1.7 RADIATED SPURIOUS EMISSION
RESULT: *Pass*

5.1.8 20DB BANDWIDTH
RESULT: *Pass*

5.1.9 CARRIER FREQUENCY SEPARATION
RESULT: *Pass*

5.1.10 NUMBER OF HOPPING FREQUENCY
RESULT: *Pass*

5.1.11 TIME OF OCCUPANCY
RESULT: *Pass*

5.1.12 CONDUCTED EMISSION ON AC MAINS
RESULT: *Pass*

6.1.1 ELECTROMAGNETIC FIELDS
RESULT: *Pass*

Table of Contents

1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:
Appendix A: Test Results of Bluetooth (DSS)
Appendix B: Test Result of Bluetooth (DTS)

2 Test Sites

2.1 Test Facilities

EMTEK (Shenzhen) Co., Ltd.
Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China.

FCC Registration No.: 406365

Test site Industry Canada No.: 4480A-2

The tests at the test sites have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

EMTEK (Shenzhen) Co., Ltd.

Radio						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Analyzer	Agilent	N9010A	My53470879	May 20, 2017	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	May 20, 2017	1 Year
3.	Power Analyzer	Agilent	PS-X10-200	N/A	May 20, 2017	1 Year
4.	Test Accessories	Agilent	PS-X10-100	N/A	May 20, 2017	1 Year
5.	Cable	Agilent	N/A	3#	May 20, 2017	1 Year
6.	Cable	Agilent	N/A	5#	May 20, 2017	1 Year
7.	Temperature&Humidity test chamber	ESPEC	EL-02KA	12107166	May 20, 2017	1 Year
Spurious Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	101414	May 20, 2017	1 Year
2.	Loop Antenna	Schwarzbeck	FMZB 1519	1519-012	May 20, 2017	1 Year
3.	Pre-Amplifier	LUNAR-EM	LNA30M3G-25	J101000000071	May 20, 2017	1 Year
4.	Bilog Antenna	Schwarzbeck	VULB9163	660	May 21, 2017	1 Year
5.	Cable	H+B	NmSm-05-C15052		May 21, 2017	1 Year
6.	Cable	H+B	NmSm-2-C15201		May 21, 2017	1 Year
7.	Cable	H+B	NmNm-7-C15702		May 21, 2017	1 Year
8.	EMI Test Receiver	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	May 20, 2017	1 Year
9.	Pre-Amplifier	Lunar EM	LNA1G18-48	J101113101000 1	May 20, 2017	1 Year
10.	Pre-Amplifier	Lunar EM	LNA18G26-40	J101213101000 1	May 20, 2017	1 Year
11.	Horn Antenna	Schwarzbeck	BBHA 9120	1178	May 21, 2017	1 Year
12.	Horn Antenna	Schwarzbeck	BBHA 9170	RS1307229170547	May 21, 2017	1 Year
13.	Horn Antenna	AHS/USA	SAS-573	184	May 21, 2017	1 Year
14.	Cable	H+B	SAC-40G-1	414	May 21, 2017	1 Year
15.	Cable	H+B	SUCOFLEX104	MY14871/4	May 21, 2017	1 Year
16.	Cable	H+B	BLU18A-NmSm-6500	D8501	May 21, 2017	1 Year
17.	Cable	A.H	SAC-40G-1	413	May 21, 2017	1 Year
Conducted Emissions						

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	26115-010-0027	May 20, 2017	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ENV216	101161	May 20, 2017	1 Year
3.	50Ω Coaxial Switch	Anritsu	MP59B	6100175589	May 21, 2017	1 Year
4.	Voltage Probe	Rohde & Schwarz	ESH2-Z3	100122	May 21, 2017	1 Year

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, 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 basics using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table:

Table 2: Measurement Uncertainty

Test Item	Uncertainty
RF Output Power	±1.444 dB
Power Spectral Density	±1.444 dB
Frequency Error	±3.3%
Occupied Channel Bandwidth	±1.0%
Conducted Spurious Emissions	±3.0 dB
Radiated Spurious Emissions	±3.0dB
Conducted Emissions	±2.0dB
Temperature	±0.5℃
Humidity	±3%

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A and Appendix B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The EMTEK (Shenzhen) Co., Ltd. Test facility located at Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China. is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a Bluetooth Stereo Speaker with Powerbank which supports Bluetooth V4.0 (dual mode) wireless technology. This report is only for Bluetooth functions of DTS and DSS. Other functions with different technologies are reported in the related reports.

All models are identical except the model number, brand name or color for marketing purpose only.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	Bluetooth Stereo Speaker with Powerbank
Type Designation	NS-SPBTBRICK, NS-SPBTBRICK-C, NS-SPBTBRICK-SB, NS-SPBTBRICK-CM, NS-SPBTBRICK-BY, NS-SPBTBRICK-XX (XX represents different color), BTD01A-E
Trade Mark	INSIGNIA
FCC ID	XMF-BTD01AE
IC	20064-BTD01AE
Operating Frequency	2402 - 2480 MHz
Operating Temperature Range	0 °C ~ +45 °C
Operating Voltage	USB Operated
Testing Voltage	Fully charged Lithium battery and 5Vdc from AC/DC Adapter with input 120Vac, 60Hz
Type of Modulation	GFSK, π/4DQPSK, 8DPSK
Channel Number	BDR & EDR mode:79 channels; Low Energy mode:40 channels
Channel Separation	BDR & EDR mode:1MHz; Low Energy mode:2MHz
Wireless Technology	Bluetooth 4.0 (Dual mode)
Antenna Type	Integral Antenna
Max. Antenna Gain	0.00 dBi

Table 4: RF Channel and Frequency of Bluetooth

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
00	2402.00	20	2422.00	40	2442.00	60	2462.00
01	2403.00	21	2423.00	41	2443.00	61	2463.00
02	2404.00	22	2424.00	42	2444.00	62	2464.00
03	2405.00	23	2425.00	43	2445.00	63	2465.00
04	2406.00	24	2426.00	44	2446.00	64	2466.00
05	2407.00	25	2427.00	45	2447.00	65	2467.00
06	2408.00	26	2428.00	46	2448.00	66	2468.00
07	2409.00	27	2429.00	47	2449.00	67	2469.00
08	2410.00	28	2430.00	48	2450.00	68	2470.00
09	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00

11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00	--	--

Table 5: RF Channel and Frequency of Bluetooth Low Energy

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
00	2402.00	10	2422.00	20	2442.00	30	2462.00
01	2404.00	11	2424.00	21	2444.00	31	2464.00
02	2406.00	12	2426.00	22	2446.00	32	2466.00
03	2408.00	13	2428.00	23	2448.00	33	2468.00
04	2410.00	14	2430.00	24	2450.00	34	2470.00
05	2412.00	15	2432.00	25	2452.00	35	2472.00
06	2414.00	16	2434.00	26	2454.00	36	2474.00
07	2416.00	17	2436.00	27	2456.00	37	2476.00
08	2418.00	18	2438.00	28	2458.00	38	2478.00
09	2420.00	19	2440.00	29	2460.00	39	2480.00

Table 6: Frequency Hopping Information

Technical Specification	Description
Hopping Range	Hereby we declare that the frequency range of this device is: 2402-2480MHz. This is according the Bluetooth Core Specification V2.1 + EDR for devices which will be operated in the USA.
Hopping Sequence	Example of a 79 hopping sequence in data mode: 33,04,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73, 07,75,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56, 69,62,71,64, 7,25,27,66,57,70,74,61,78,63,10,41,05,43, 15,44,64,68,02,70,06,01,51,03,55,05,03,66,53,49,36,47,
Receiver input bandwidth	The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

3.3 Independent Operation Modes

The basic operation modes are:

A. On
   1. Bluetooth transmitting mode (BDR & EDR mode)
      a) Low Channel
      b) Middle Channel
      c) High Channel
   2. Bluetooth transmitting mode (Low Energy mode)
      a) Low Channel
      b) Middle Channel
      c) High Channel

B. On, Transmitting on Hopping channel
C. On, Bluetooth connecting mode

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Block Diagram
- Schematics
- Technical Description
- FCC/IC Label and Location Info
- Photo Document
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

According to 3.1, we perform all tests on model: NS-SPBTBRICK-SB.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

4.3 Special Accessories and Auxiliary Equipment

Table 7: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
AC/DC Adapter	Lenovo	HKC0125024-1C	01YE5980006	Input:100-240V, 50/60Hz, 0.5A Output:5V/2.4A
Phone	Apple	A1526	N/A	N/A
AUX Cable	FENDA	Unshielded	N/A	Length: 1.0m
USB Cable	Lightcomm	Unshielded with a magnet ring	N/A	Length: 0.32m
Load	ChangHua	5R	N/A	N/A

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

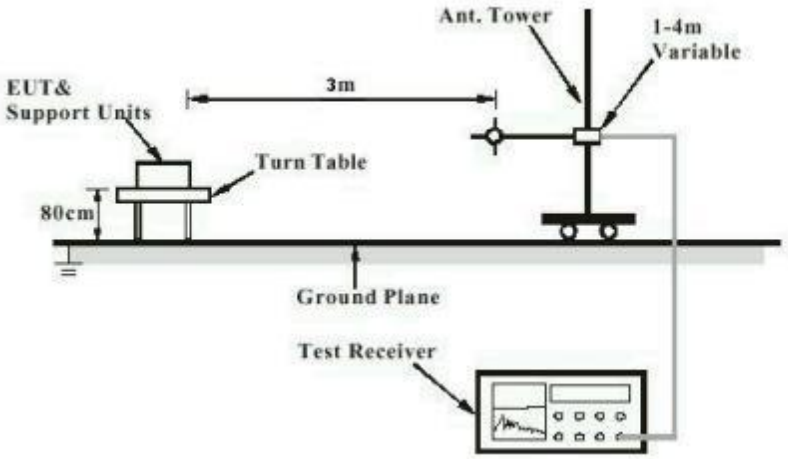

Ant. Tower
1-4m
Variable
EUT&
Support Units
3m
Turn Table
80cm
Ground Plane
Test Receiver

Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

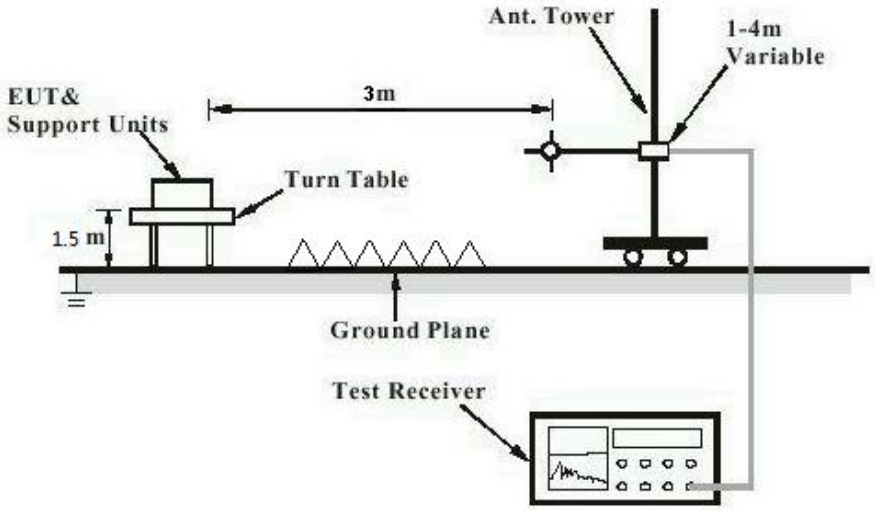


Diagram of Measurement Configuration for Mains Conduction Measurement

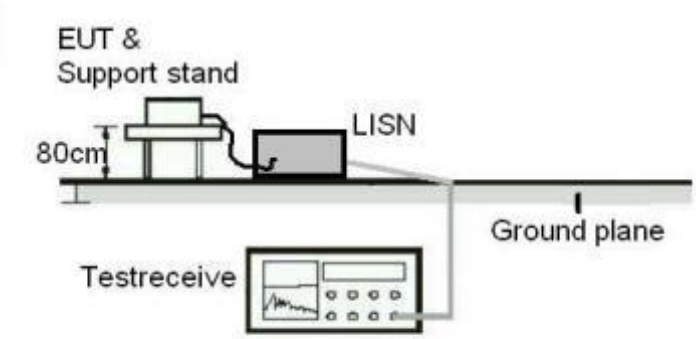
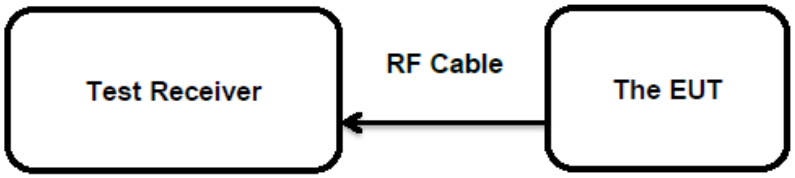


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: **Pass**

Test Specification
Test standard : FCC Part 15.247(b)(4) and Part 15.203
RSS-Gen Clause 6.7

According to the manufacturer declared, the EUT has an integral antenna, the directional gain of antenna is 0dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Maximum Peak Conducted Output Power

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(b)(1)&(3) RSS-247 Clause 5.4(b)&(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	FHSS < 0.125 Watts, DSSS < 1.0 Watts
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	10.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	A.1, A.2
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.
Refer to 50090617 002 Appendix B for DTS detail test data.

5.1.3 99% Bandwidth

RESULT: **Passed**

Test Specification

Test standard	:	RSS-Gen Clause 6.6
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

Test setup

Date of testing	:	10.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	A.1, A.2
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.
Refer to 50090617 002 Appendix B for DTS detail test data.

5.1.4 Conducted Power Spectral Density

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(e) RSS-247 Clause 5.2(b)
Basic standard	:	ANSI C63.10: 2013
Limits	:	8 dBm/3kHz
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	10.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	A.2
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix B for DTS detail test data.

5.1.5 6dB Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(2) RSS-247 Clause 5.2(a)
Basic standard	:	ANSI C63.10: 2013
Limits	:	More than 500 KHz
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	10.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	A.2
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix B for DTS detail test data.

5.1.6 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(d) RSS-247 Clause 5.5
Basic standard	:	ANSI C63.10: 2013
Limits	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power);
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	10.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	A.1, A.2
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.
Refer to 50090617 002 Appendix B for DTS detail test data.

5.1.7 Radiated Spurious Emission

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	29.06.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	A.1, A.2
Test channel	:	Low / Middle / High
Ambient temperature	:	22 ℃
Relative humidity	:	55 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.
Refer to 50090617 002 Appendix B for DTS detail test data.

5.1.8 20dB Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(1) RSS-247 Clause 5.1(a)
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	07.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	A.1
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.

5.1.9 Carrier Frequency Separation

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(1) RSS-247 Clause 5.1(b)
Basic standard	:	ANSI C63.10: 2013
Limits	:	≥ 25kHz or 2/3 of 20dB bandwidth, whichever is greater
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	07.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.

5.1.10 Number of Hopping Frequency

RESULT: **Pass**

Test Specification

Test standard	:	FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	≥ 15 non-overlapping channels
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	07.07.2017
Input voltage	:	Fully charged Lithium battery
Operation mode	:	B
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.

5.1.11 Time of Occupancy

RESULT: **Pass**

Test Specification

Test standard	:	FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	< 0.4s
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	21.10.2016
Input voltage	:	Fully charged Lithium battery
Operation mode	:	B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.

5.1.12 Conducted Emission on AC Mains

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.207(a) RSS GEN Clause 8.8
Basic standard	:	ANSI C63.10: 2013
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.207(a)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	05.07.2017
Input voltage	:	5Vdc from AC/DC Adapter with input 120Vac, 60Hz
Operation mode	:	C
Earthing	:	Not connected
Ambient temperature	:	22 ℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Refer to 50090617 002 Appendix A for DSS detail test data.
Refer to 50090617 002 Appendix B for DTS detail test data.

6 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT: **Pass**

Test Specification

Test standard : FCC KDB Publication 447498 v06
RSS-102 Issue 5 March 2015

Measurement Record:

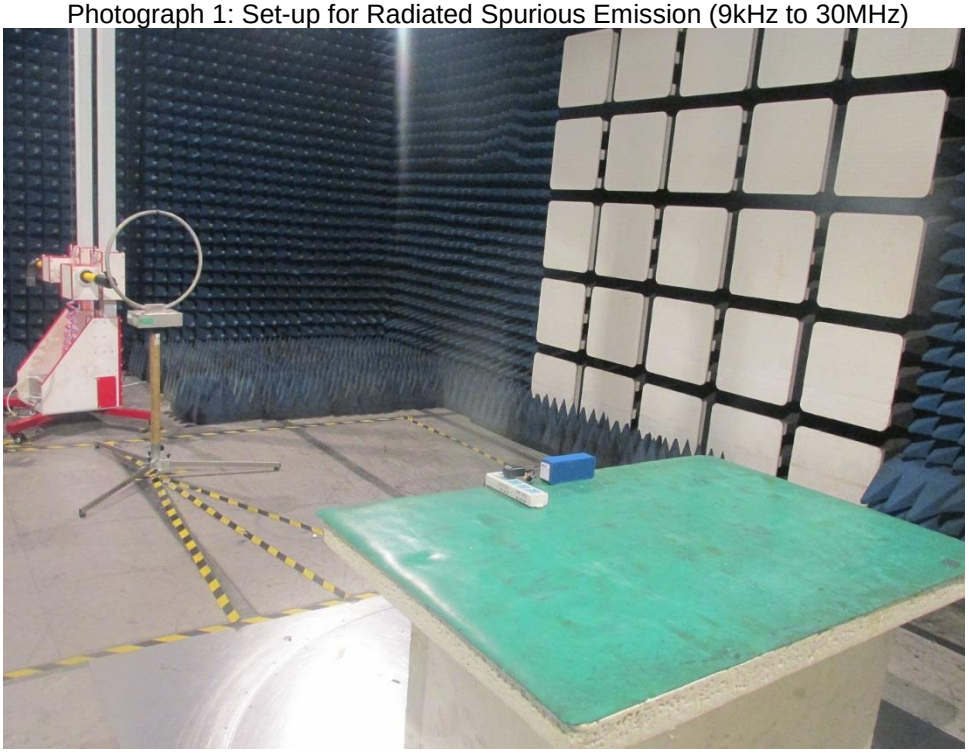
The minimum distance for the EUT is less than 5mm.

Since maximum peak output power of the transmitter is 4.82dBm ≈ 3.03mW <10 mW.
Hence the EUT is excluded from SAR evaluation according to FCC KDB Publication 447498 D01 General RF Exposure Guidance v06.

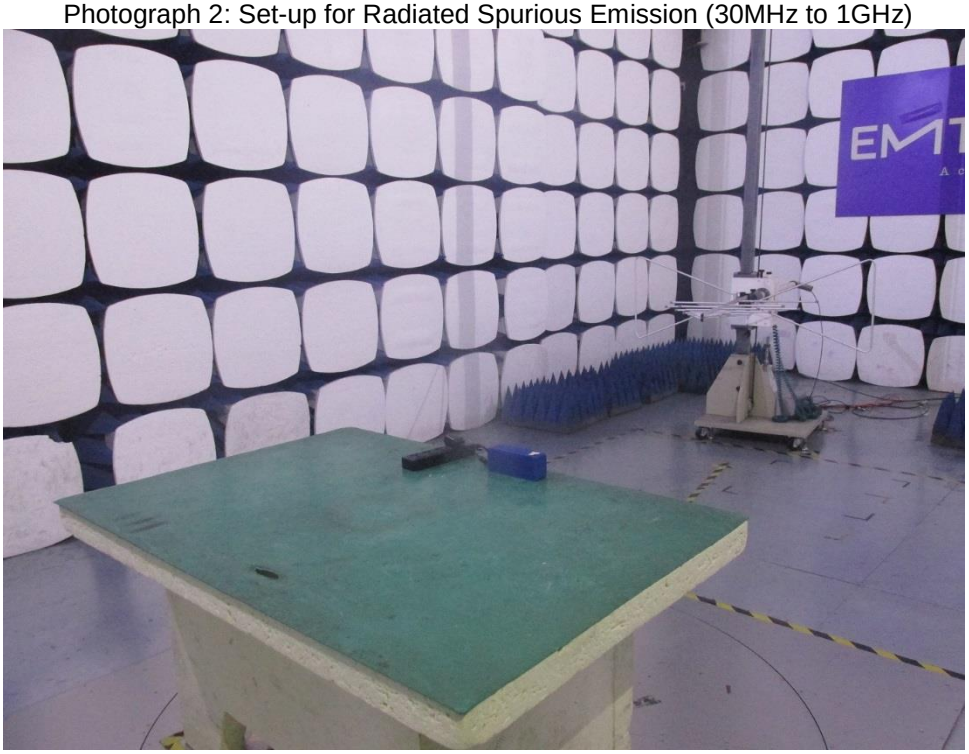
The maximum peak output power of the transmitter is 3.03mW (4.82dBm), which is far below the SAR exclusion threshold level 4 mW≈6.02 dBm.
Hence the EUT is exempted from routine evaluation limits (SAR Evaluation) according to clause 2.5.1 of RSS-102 Issue 5.

7 Photographs of the Test Set-Up

Photograph 1: Set-up for Radiated Spurious Emission (9kHz to 30MHz)

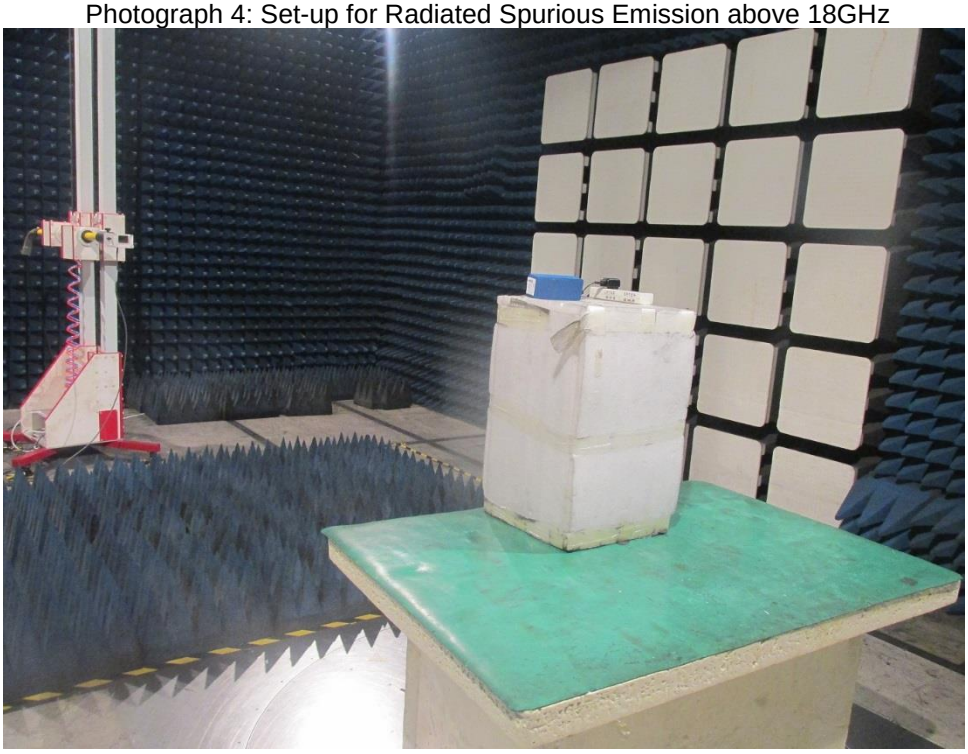


Photograph 2: Set-up for Radiated Spurious Emission (30MHz to 1GHz)

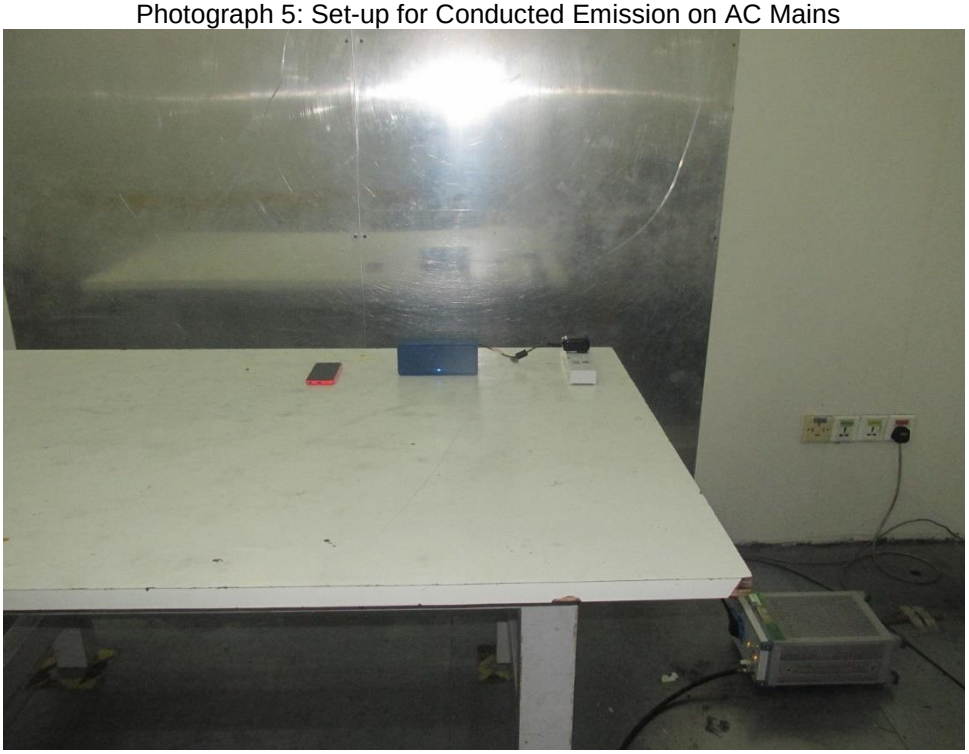


Photograph 3: Set-up for Radiated Spurious Emission (1GHz to 18GHz)

Photograph 4: Set-up for Radiated Spurious Emission above 18GHz



Photograph 5: Set-up for Conducted Emission on AC Mains



8 List of Tables

9 List of Photographs