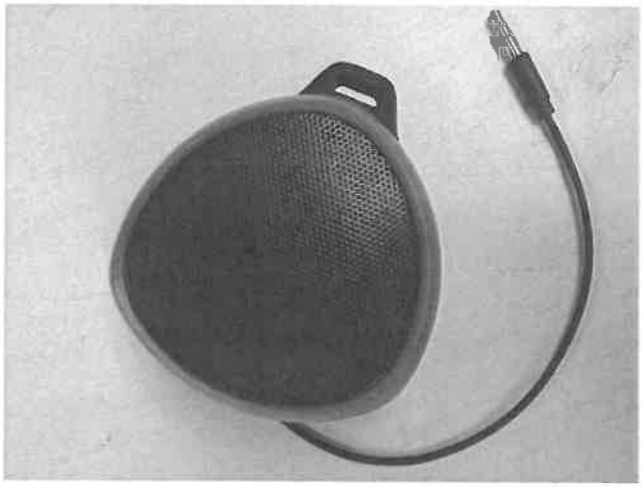
Prüfbericht-Nr.: *Test Report No.:*	**17039136 001**	**Auftrags-Nr.:** *Order No.:*	164012012	Seite 1 von 37 *Page 1 of 37*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	26.03.2014	
Auftraggeber: *Client:*	Compupal (Group) Corporation No. 1555 Jiashan Avenue, Jiashan, Zhejiang 314113, P.R.China			
Prüfgegenstand: *Test item:*	Bluetooth Portable speaker with handle			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	NS-SPBT02-BL, NS-SPBT02-G, NS-SPBT02-P, NS-SPBT02-Y, NS-SPBT02-BL-C, NS-SPBT02-G-C, NS-SPBT02-P-C, NS-SPBT02-Y-C			
Auftrags-Inhalt: *Order content:*	FCC Certification and Verification			
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 CFR47 FCC Part 15: Subpart C Section 15.107 CFR47 FCC Part 15: Subpart C Section 15.109 RSS-210 Issue 8 December 2010 RSS-Gen Issue 3 December 2010 RSS-102 Issue 4 March 2010			

Wareneingangsdatum: *Date of receipt:*	27.03.2014
Prüfmuster-Nr.: *Test sample No.:*	A000042346-001, A000042346-002
Prüfzeitraum: *Testing period:*	28.03.2014 - 30.03.2014
Ort der Prüfung: *Place of testing:*	Shenzhen Accurate Technology Co., Ltd.
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.
Prüfergebnis*: *Test result*:*	Bitte wählen / Please select...



geprüft von / *tested by*:

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
14.04.2014	Owen Tian / Project Manager	

kontrolliert von / *reviewed by*:

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
15.04.2014	Winnie Hou / Technical Certifier	

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.
V04

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT
RESULT: Passed

5.1.2 PEAK OUTPUT POWER
RESULT: Passed

5.1.3 20DB BANDWIDTH
RESULT: Passed

5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100KHZ BANDWIDTH
RESULT: Passed

5.1.5 SPURIOUS EMISSION
RESULT: Passed

5.1.6 FREQUENCY SEPARATION
RESULT: Passed

5.1.7 NUMBER OF HOPPING FREQUENCY
RESULT: Passed

5.1.8 TIME OF OCCUPANCY
RESULT: Passed

5.1.9 CONDUCTED EMISSIONS
RESULT: Passed

5.1.10 RADIATED EMISSION
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 1: Test Result

2. Test Sites

2.1 Test Facilities

Shenzhen Accurate Technology Co., Ltd.

F1, Bldg. A, Changyuan New Meterial Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. China

FCC Registration No.: 752051

The tests at the test site 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

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Spurious emission and Radiated emission				
Signal Generator	Rohde&Schwarz	SMT03	100059	2015-01-11
Voltage Probe	Rohde&Schwarz	URV5-Z2	100012	2015-01-11
Voltage Probe	Rohde&Schwarz	URV5-Z2	100013	2015-01-11
Field Probe	ETS	HI-6005	121578	2015-01-11
Power Amplifier	AR	250W1000A	335304	2015-01-11
Power Amplifier	MILMEGA	AS0860-75/45	1040084	2015-01-11
Power Meter	Rohde & Schwarz	NRVD	100041	2015-01-11
Broadband antenna	CHASE	CBL6111C	2576	N/A
Horn Antenna	AR	AT4002A	305754	N/A
Radio Test Suite				
Receiver	Rohde & Schwarz	ESCS30	100307	2015-01-11
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCS30	100307	2015-01-11
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	2015-01-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	2015-01-11
50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	2015-01-11

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 are ±3dB.

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix1 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 Shenzhen Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Meterial Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. 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 EUTs are Bluetooth Portable speaker with handle.
All EUTs are indentical in function, circuit design and components employed, except different color of enclosure.
For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Bluetooth Portable speaker with handle
Type Designation:	NS-SPBT02-BL, NS-SPBT02-G, NS-SPBT02-P, NS-SPBT02-Y, NS-SPBT02-BL-C, NS-SPBT02-G-C, NS-SPBT02-P-C, NS-SPBT02-Y-C
FCC ID	Z5YNS-SPBT02
IC	10828A-SPBT02

Table 3: Technical Specification of EUT

Technical Specification	**Value**
Operating Frequency band	2402 – 2480 MHz
Channel separation	1MHz
Extreme Temperature Range	-20ºC to +55ºC
Operation Voltage	DC3.7V via lithium Battery
Modulation	GFSK, $\pi/4$ DQPSK, 8DPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	2dBi
RF Output Power	0.00114W (0.56dBm)

Table 4: Frequency hopping information

Technical Specification	Description
Hopping Range	Hereby we declare that the maximum frequency 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. This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/04-E).
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. BT Transmitting
   1. Low channel
   2. Middle channel
   3. High channel
B. BT Receiving
C. Audio in
D. Charging
E. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Technical Description
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

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

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 C63.4: 2003.

Due to models' description indicated in clause 3.1, full test was applied on models NS-SPBT02-Y and NS-SPBT02-BL only.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested with following accessories

Description	Manufacturer	Type	S/N
Notebook	Lenovo	4290-RT8	R9-FW93G
Printer	HP	HP laseriet 1015	CNFG030424
iPhone	Apple	MD235ZP/A	C8PJLWZNDTC0

4.4 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.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

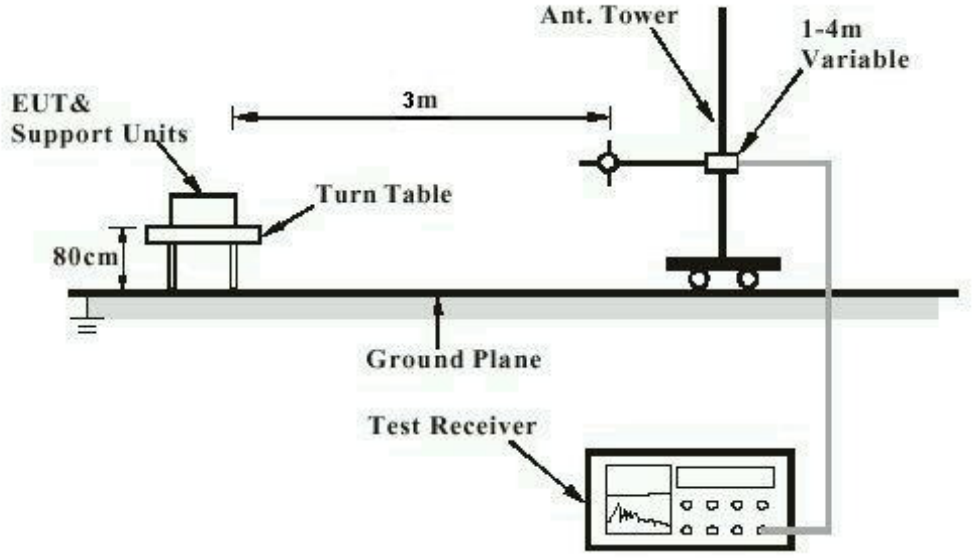


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

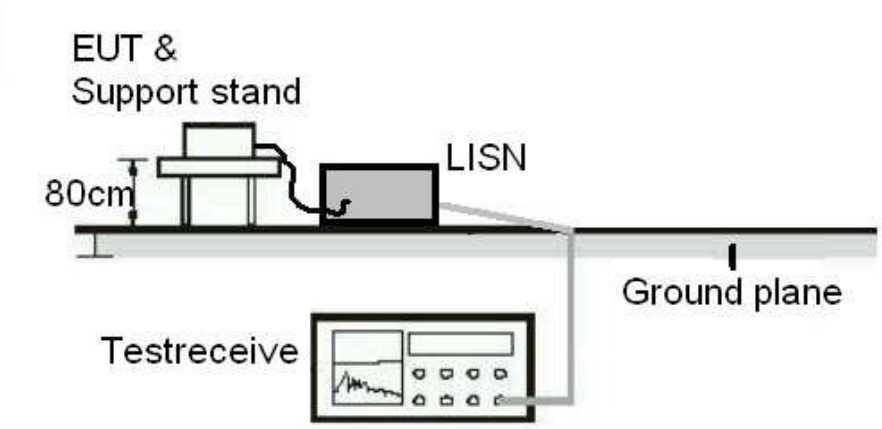
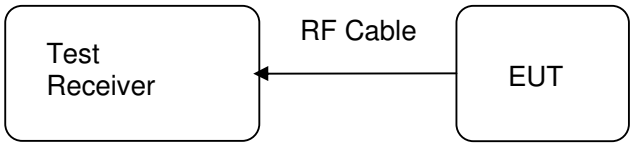


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: **Passed**

Test date	:	2014-03-29
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203 RSS-Gen 7.1.4
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal 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.

Refer to EUT photo for details.

5.1.2 Peak Output Power

RESULT: **Passed**

Test date	:	2014-03-29
Test standard	:	FCC Part 15.247(b)(1) RSS-210 A8.4 (2)
Basic standard	:	ANSI C63.4: 2003
Limit	:	0.125 Watt
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 5: Test result of Peak Output Power, GFSK modulation

Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(W)	(W)
Low Channel	2402	-0.46	0.00090	0.125
Middle Channel	2441	0.23	0.00105	0.125
High Channel	2480	0.56	0.00114	0.125

Remark: RBW is 1MHz

Table 6: Test result of Peak Output Power, 8DPSK modulation

Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(W)	(W)
Low Channel	2402	-1.81	0.00066	0.125
Middle Channel	2441	-1.02	0.00079	0.125
High Channel	2480	-0.65	0.00086	0.125

Remark: RBW is 3MHz

5.1.3 20dB Bandwidth

RESULT: **Passed**

Date of testing	:	2013-03-26
Test standard	:	FCC Part 15.247(a)(1) RSS-210 A8.1 (a)
Basic standard	:	ANSI C63.4: 2003
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 7: Test result of 20dB Bandwidth, GFSK modulation

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	930	/	Pass
Mid Channel	2441	936	/	Pass
High Channel	2480	930	/	Pass

Table 8: Test result of 20dB Bandwidth, 8DPSK modulation

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	1206	/	Pass
Mid Channel	2441	1206	/	Pass
High Channel	2480	1200	/	Pass

5.1.4 99% Bandwidth

RESULT: **Passed**

Date of testing	:	2013-03-26
Test standard	:	RSS-Gen clause 4.6.1
Basic standard	:	ANSI C63.4: 2003
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 9: Test result of 99% Bandwidth, GFSK modulation

Channel	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	942	/	Pass
Mid Channel	2441	948	/	Pass
High Channel	2480	936	/	Pass

Table 10: Test result of 99% Bandwidth, 8DPSK modulation

Channel	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	1206	/	Pass
Mid Channel	2441	1206	/	Pass
High Channel	2480	1206	/	Pass

5.1.5 Conducted spurious emissions measured in 100kHz Bandwidth

RESULT: **Passed**

Date of testing	:	2013-03-26
Test standard	:	FCC part 15.247(d) RSS-210 A8.5
Basic standard	:	ANSI C63.4: 2003
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room

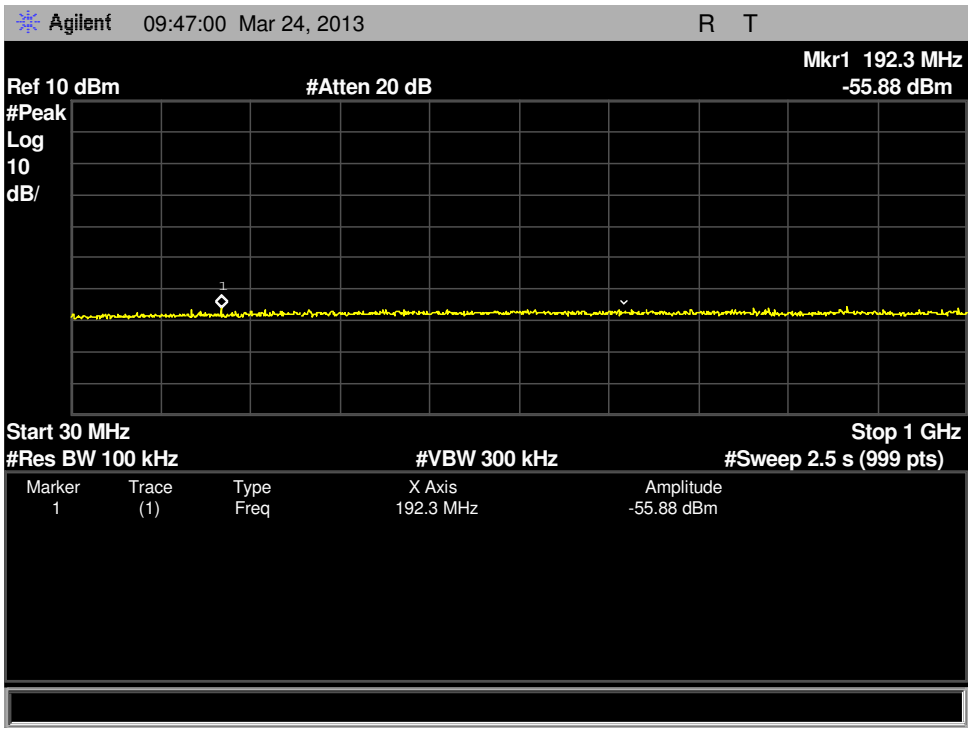
Test setup

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

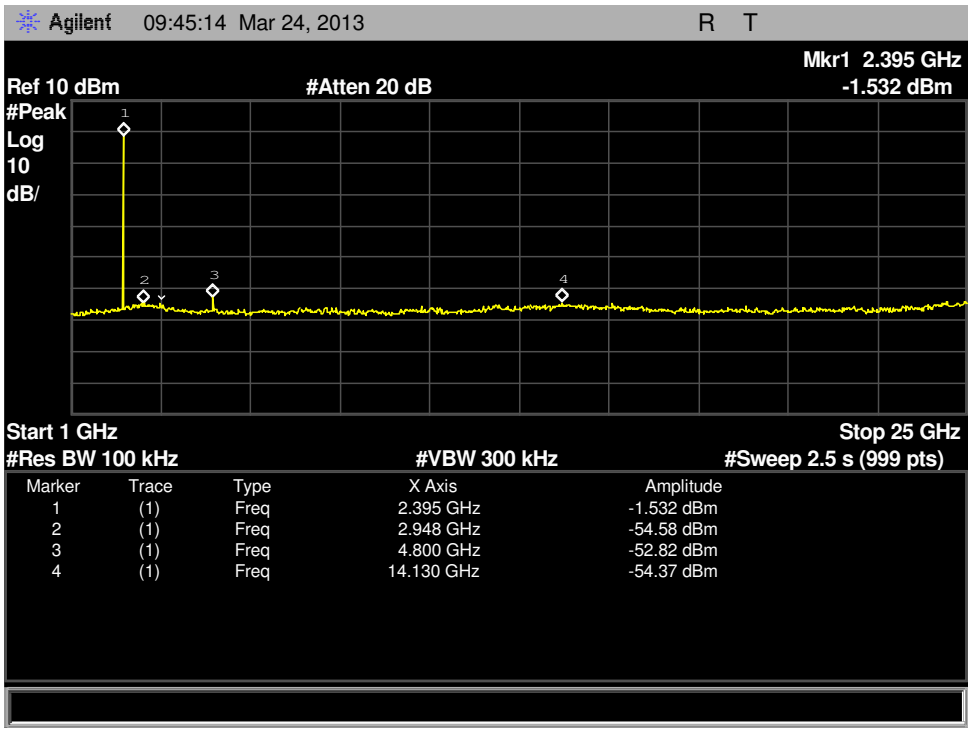
All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achived as well.

Test Plot of 100kHz Bandwidth of Frequency Band Edge, GFSK modulation

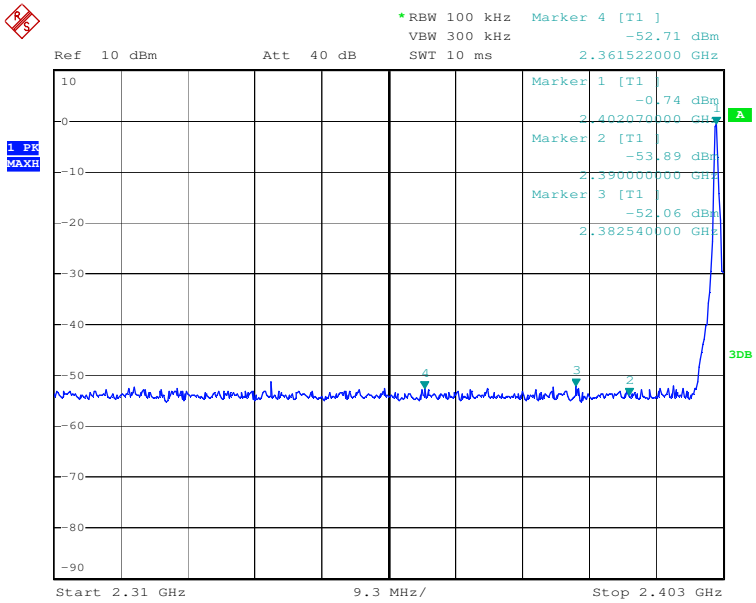
Low Channel, below 1GHz



Low Channel, above 1GHz



Low Channel, Band Edge



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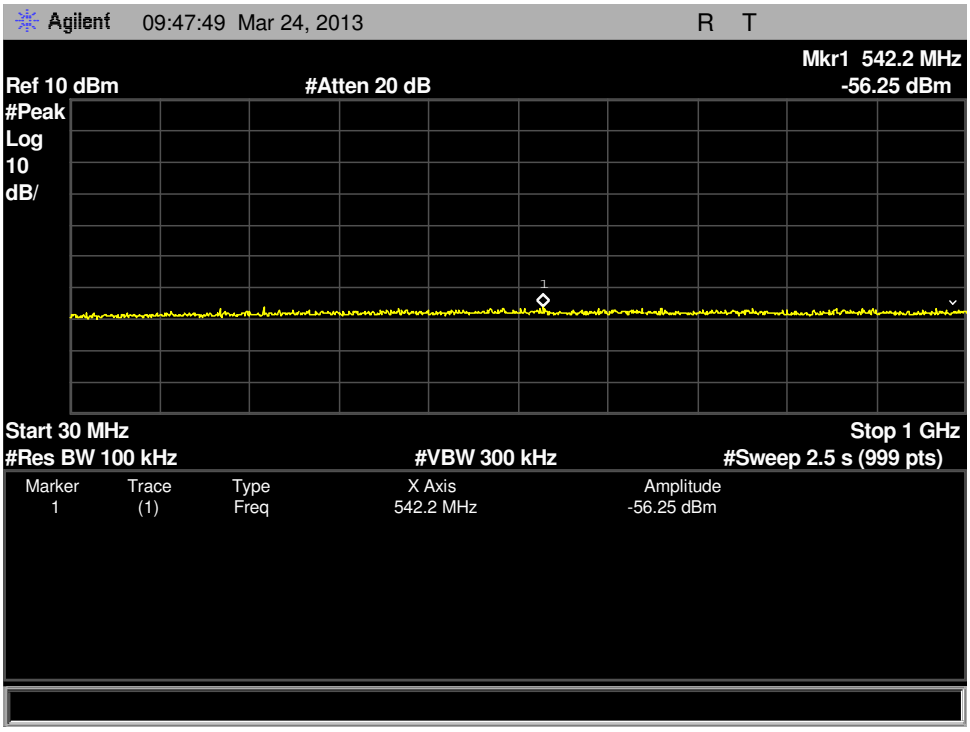
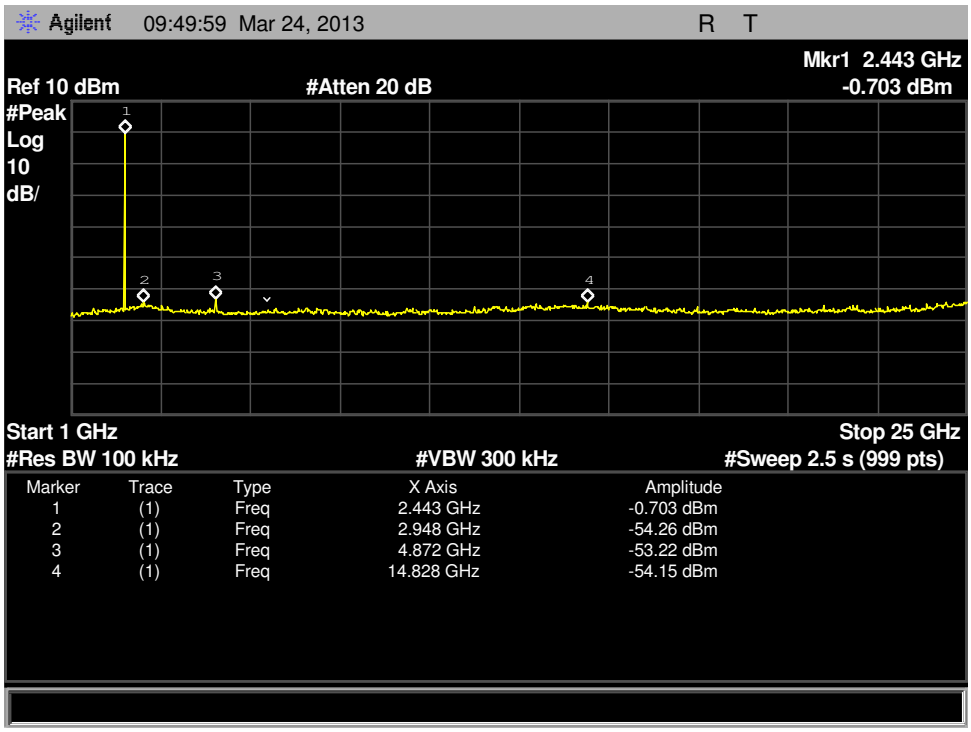
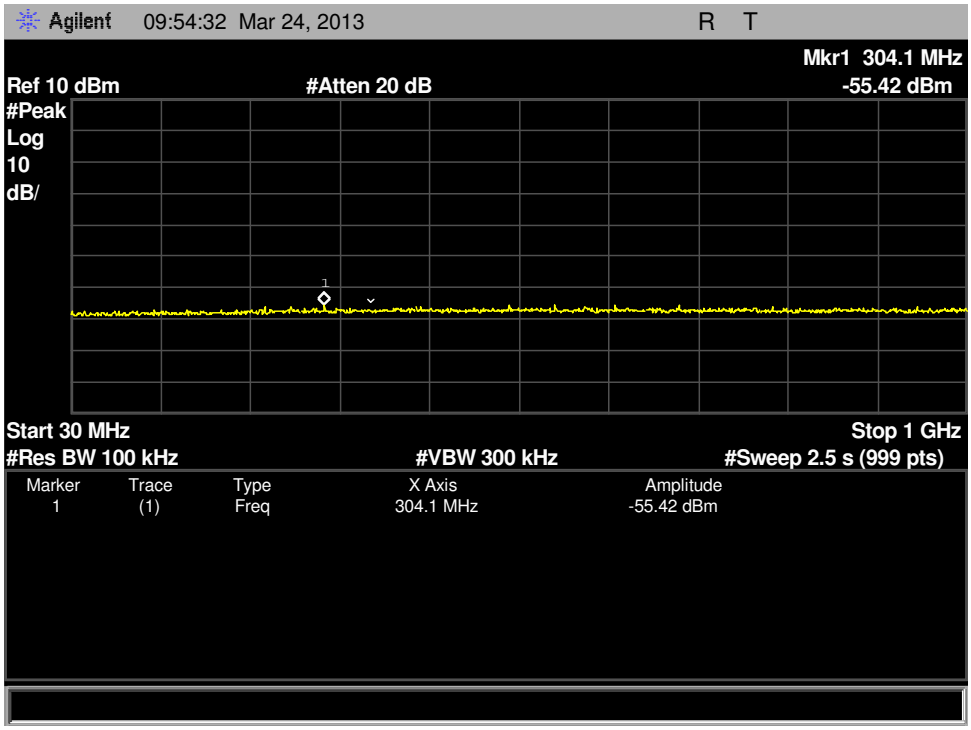
Middle Channel, below 1GHz



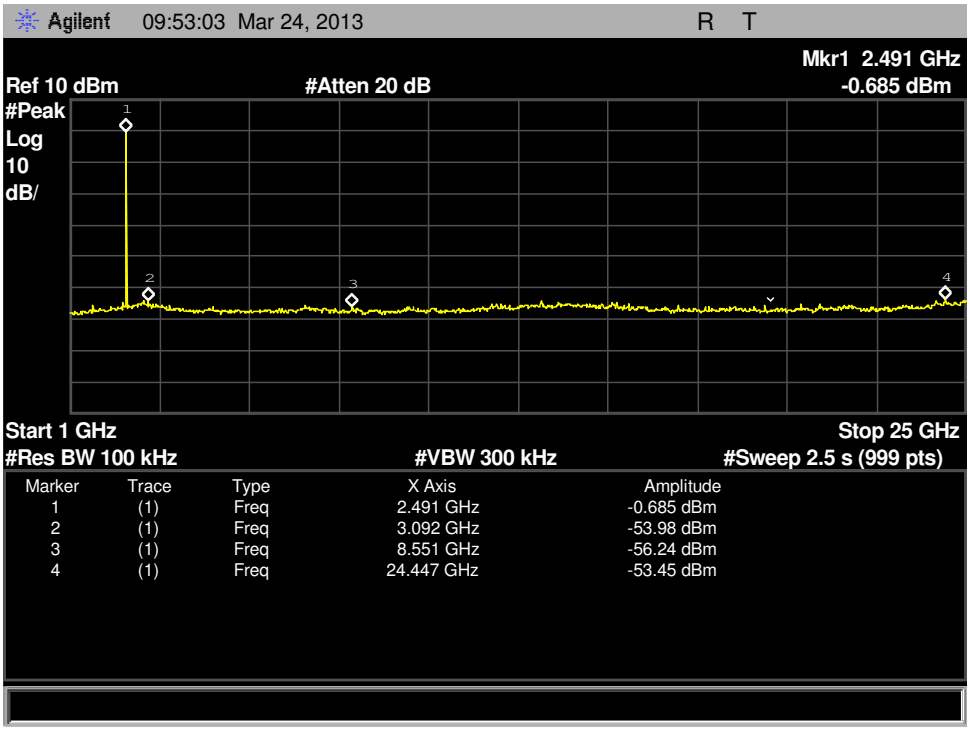
Middle Channel, above 1GHz



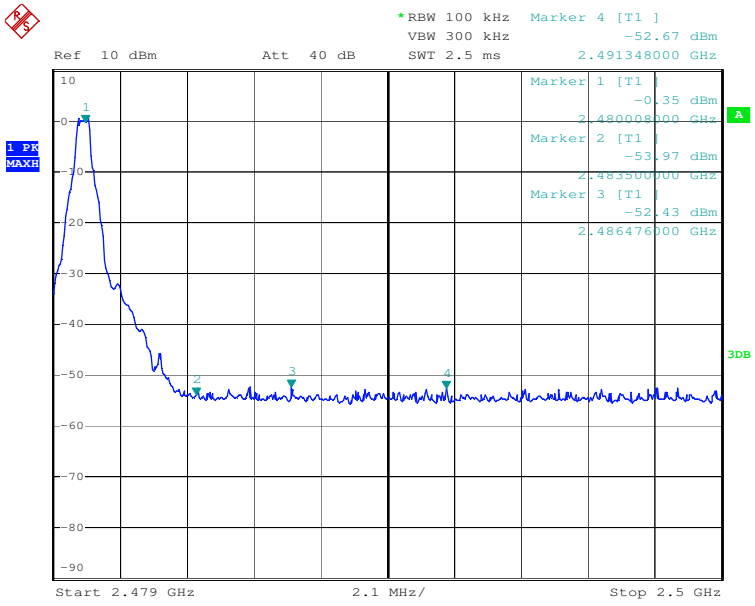
High Channel, below 1GHz



High Channel, above 1GHz



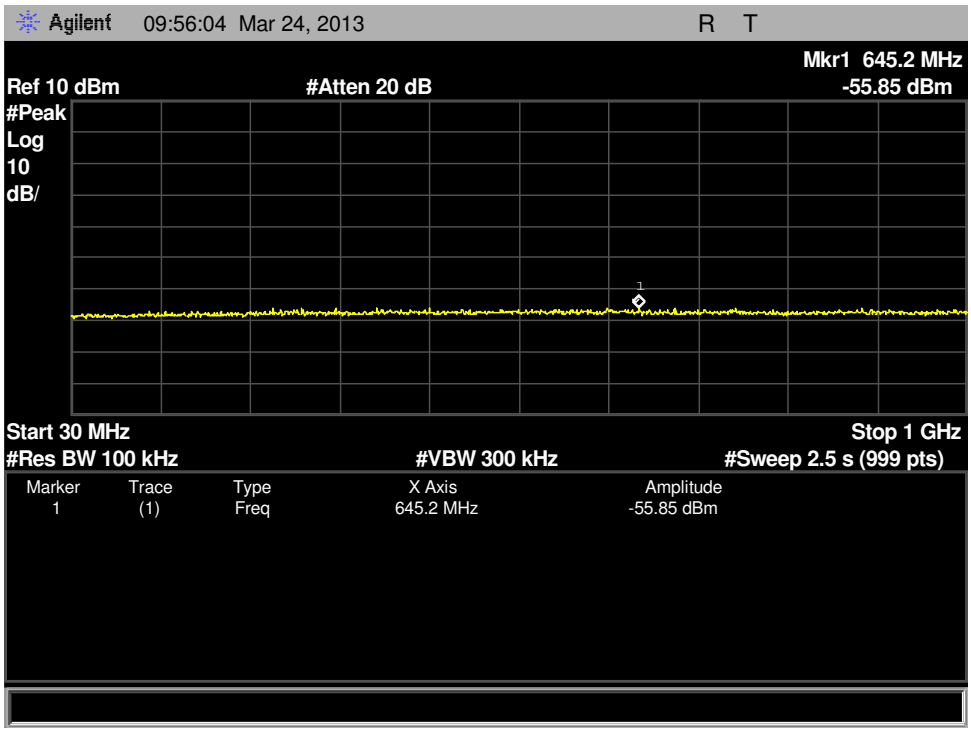
High Channel, Band Edge



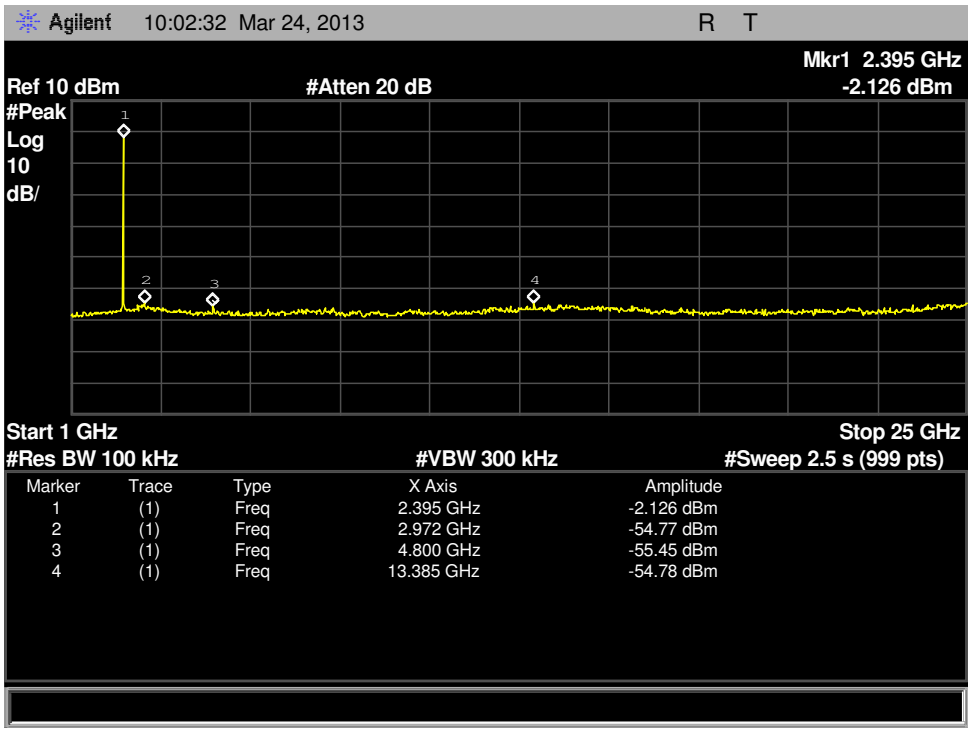
Date: 26.MAR.2013 10:31:38

Test Plot of 100kHz Bandwidth of Frequency Band Edge, 8DPSK modulation

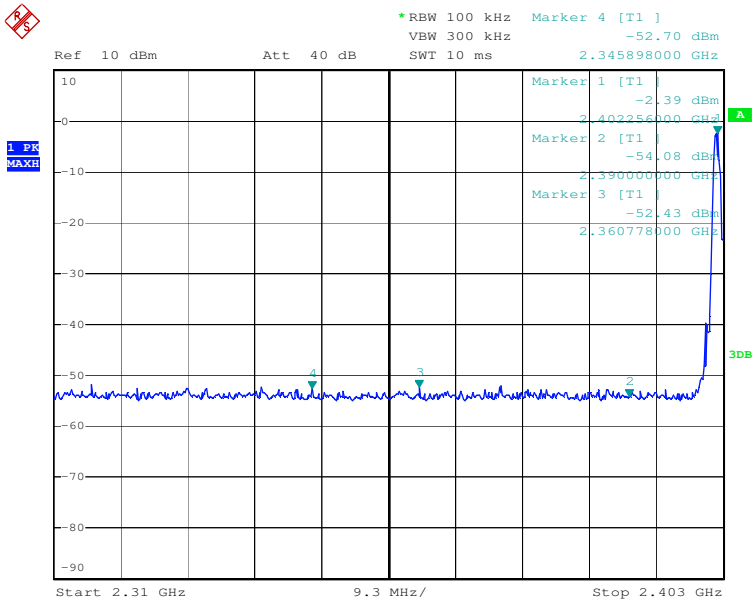
Low Channel, below 1GHz



Low Channel, above 1GHz

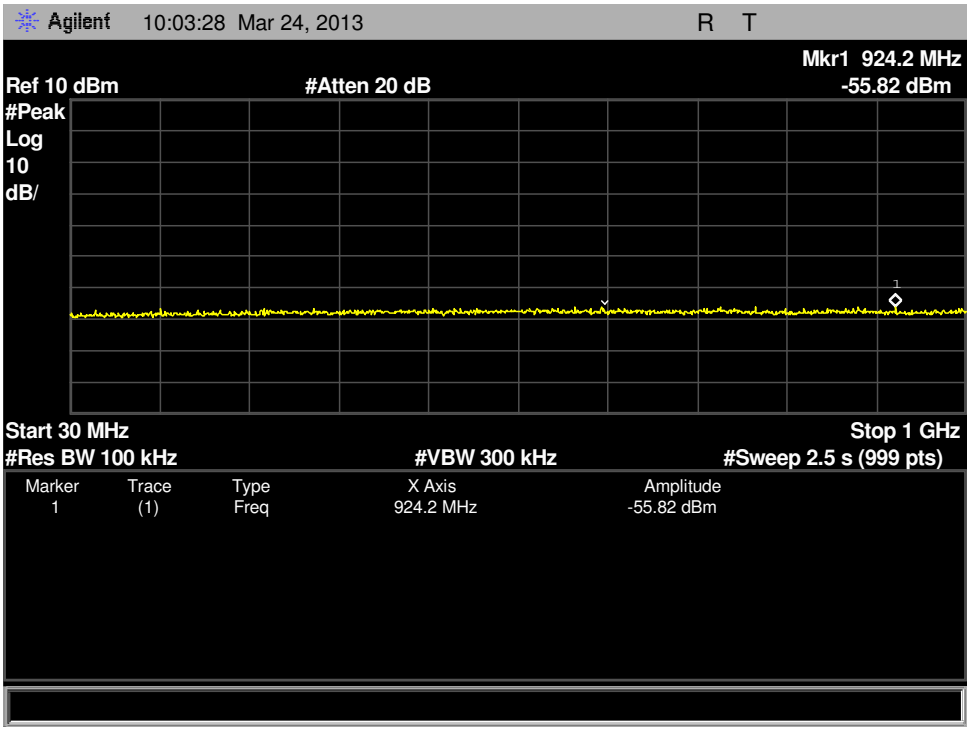


Low Channel, Band Edge

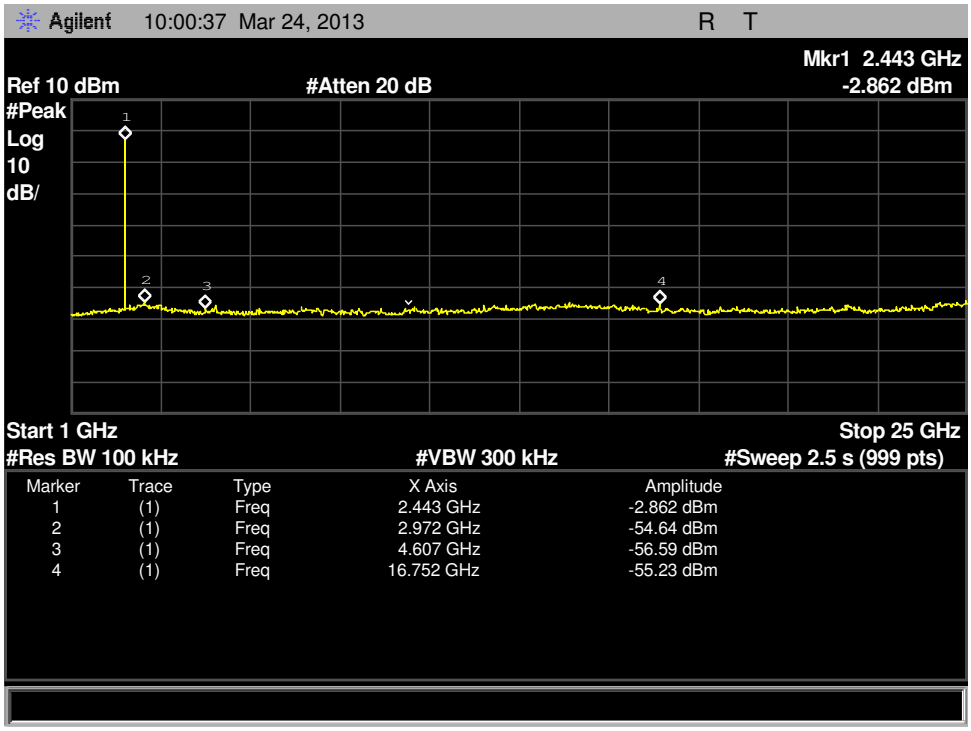


Date: 26.MAR.2013 10:28:53

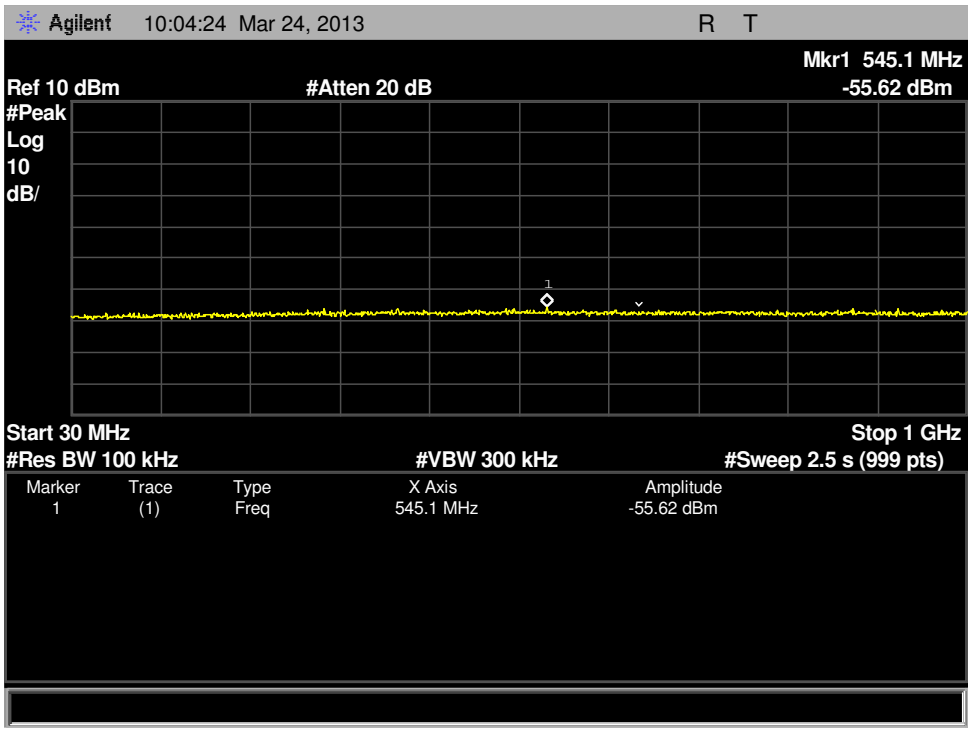
Middle Channel, below 1GHz



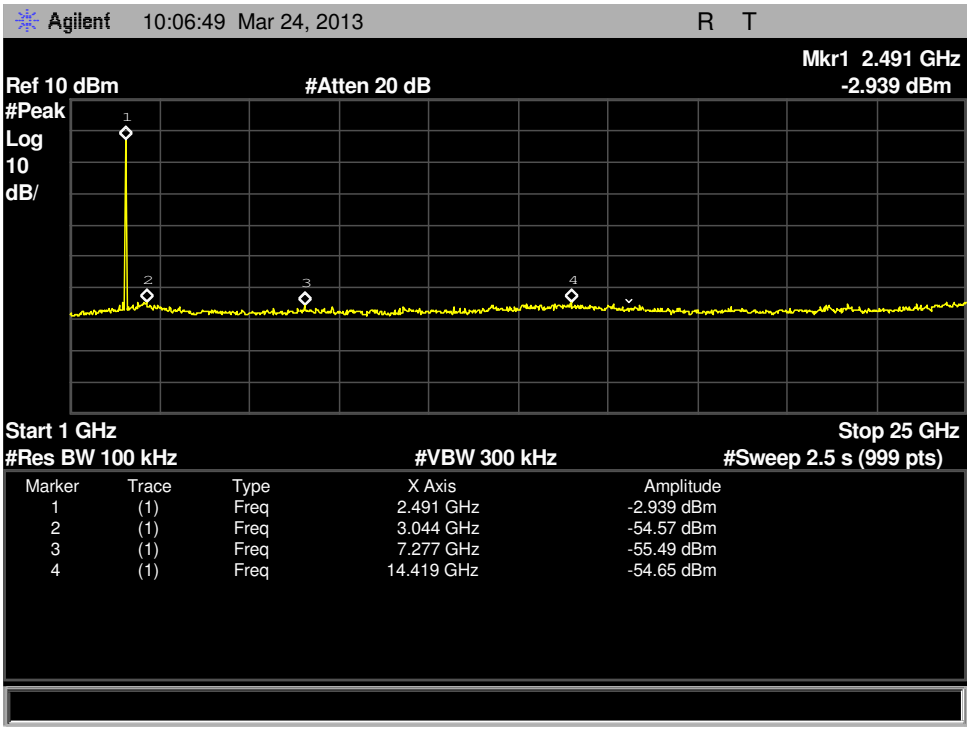
Middle Channel, above 1GHz



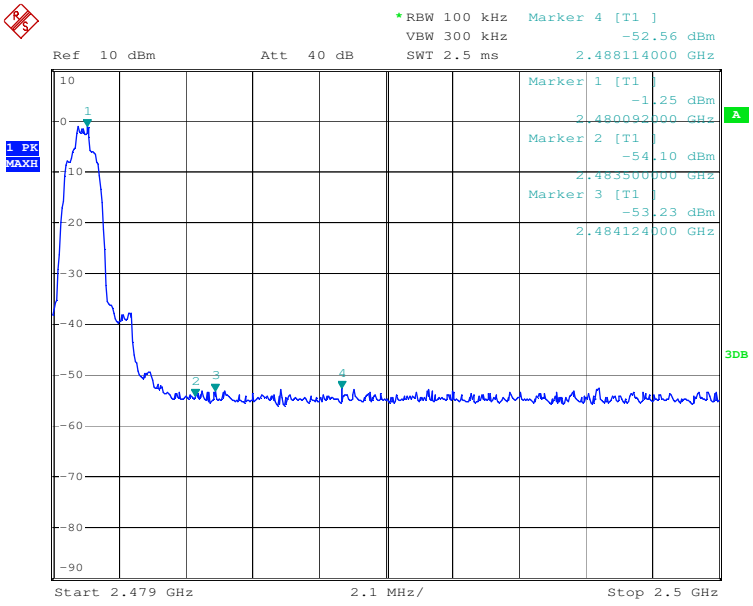
High Channel, below 1GHz



High Channel, above 1GHz



High Channel, Band Edge



Date: 26.MAR.2013 10:30:14

5.1.6 Spurious Emission

RESULT: **Passed**

Date of testing	:	2013-03-16 to 2013-03-22
Test standard	:	FCC part 15.247(d) FCC Part 15.205 RSS-210 Clause 2.2
Basic standard	:	ANSI C63.4: 2003
Limits	:	Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A, C
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Remark:
During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test setup photos.
Testing was carried out within frequency range 9kHz to the tenth harmonics.

For details refer to Appendix 1.

5.1.7 Frequency Separation

RESULT: **Passed**

Date of testing	:	2013-03-26
Test standard	:	FCC part 15.247(a)(1) RSS-210 A8.1 (b)
Basic standard	:	ANSI C63.4: 2003
Limit	:	≥ 25kHz or 2/3 of 20dB bandwidth, whichever is greater

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 11: Test result of Frequency Separation

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2479			

5.1.8 Number of hopping frequency

RESULT: **Passed**

Date of testing	:	2013-03-26
Test standard	:	FCC part 15.247(a)(1)(iii) RSS-210 A8.1 (d)
Basic standard	:	ANSI C63.4: 2003
Limits	:	≥ 15 non-overlapping channels
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 12: Test result of Number of hopping frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
2400 to 2483.5 MHz	79	≥15	Pass

5.1.9 Time of Occupancy

RESULT: **Passed**

Date of testing	:	2013-03-26
Test standard	:	FCC part 15.247(a)(1)(iii) RSS-210 A8.1 (d)
Basic standard	:	ANSI C63.4: 2003
Limits	:	0.4s
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 13: Test result of Time of Occupancy, GFSK modulation

Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.43	0.14	0.4	Pass
	DH3	1.72	0.28	0.4	Pass
	DH5	2.97	0.32	0.4	Pass
Mid Channel	DH1	0.43	0.14	0.4	Pass
	DH3	1.70	0.27	0.4	Pass
	DH5	2.97	0.32	0.4	Pass
High Channel	DH1	0.43	0.14	0.4	Pass
	DH3	1.70	0.27	0.4	Pass
	DH5	2.97	0.32	0.4	Pass

Table 14: Test result of Time of Occupancy, 8DPSK modulation

Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.44	0.14	0.4	Pass
	DH3	1.72	0.28	0.4	Pass
	DH5	3.00	0.32	0.4	Pass
Mid Channel	DH1	0.45	0.14	0.4	Pass
	DH3	1.72	0.28	0.4	Pass
	DH5	3.00	0.32	0.4	Pass
High Channel	DH1	0.44	0.14	0.4	Pass
	DH3	1.72	0.28	0.4	Pass
	DH5	3.00	0.32	0.4	Pass

Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

5.1.10 Conducted emissions

RESULT: **Passed**

Date of testing	:	2013-03-18
Test standard	:	FCC Part 15.207(a)
Basic standard	:	ANSI C63.4: 2003
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.207(a)
Kind of test site	:	Shield room

Test setup

Input Voltage	:	AC 120V, 60Hz via AC input of Notebook
Operation Mode	:	D
Earthing	:	Not connected
Ambient temperature	:	25℃
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

For details refer to Appendix 1.

5.1.11 Radiated Emission

RESULT: **Passed**

Date of testing	:	2013-03-26
Test standard	:	FCC Part 15 Per Section 15.209(a) Clause 5.5 of ICES-003 RSS-Gen 7.1.4
Frequency range	:	30 - 6000MHz
Classification	:	Class B
Test procedure	:	ANSI C63.4: 2003 CAN/CSA-CEI/IEC CISPR 22-02 RSS-Gen Table 5
Kind of test site	:	3m Semi-Anechoic Chamber

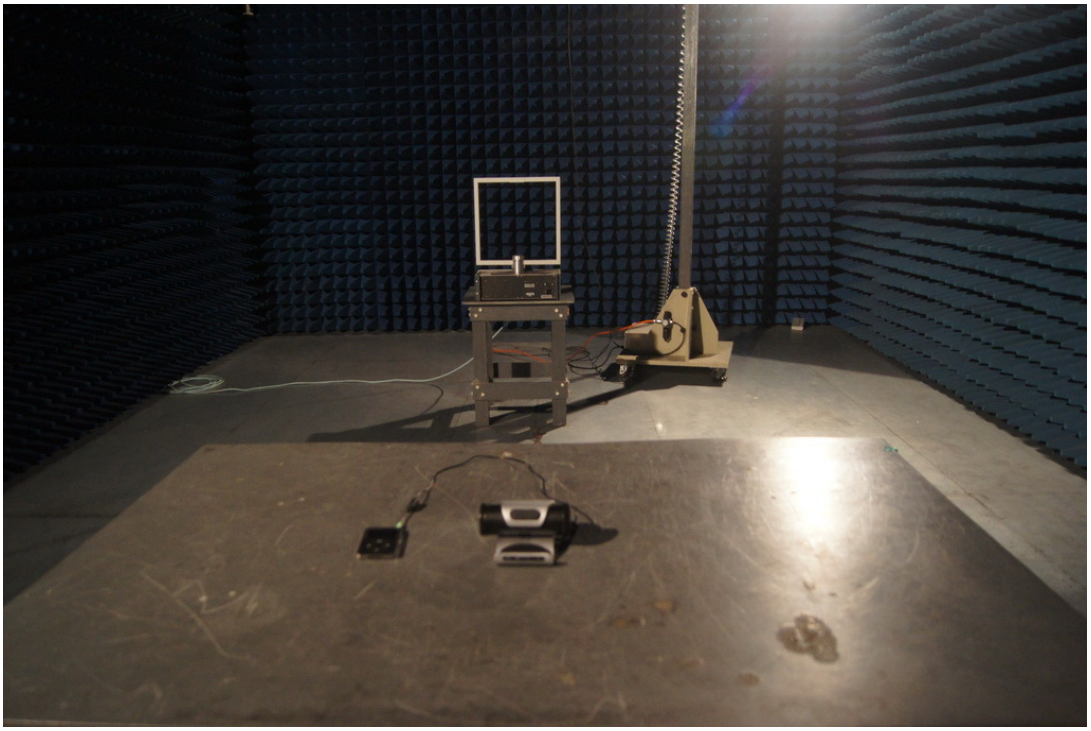
Test setup

Input Voltage	:	DC 3.7V
Operation mode	:	C, D
Earthing	:	Not connected
Ambient temperature	:	Refer to Appendix 1
Relative humidity	:	Refer to Appendix 1
Atmospheric pressure	:	Refer to Appendix 1

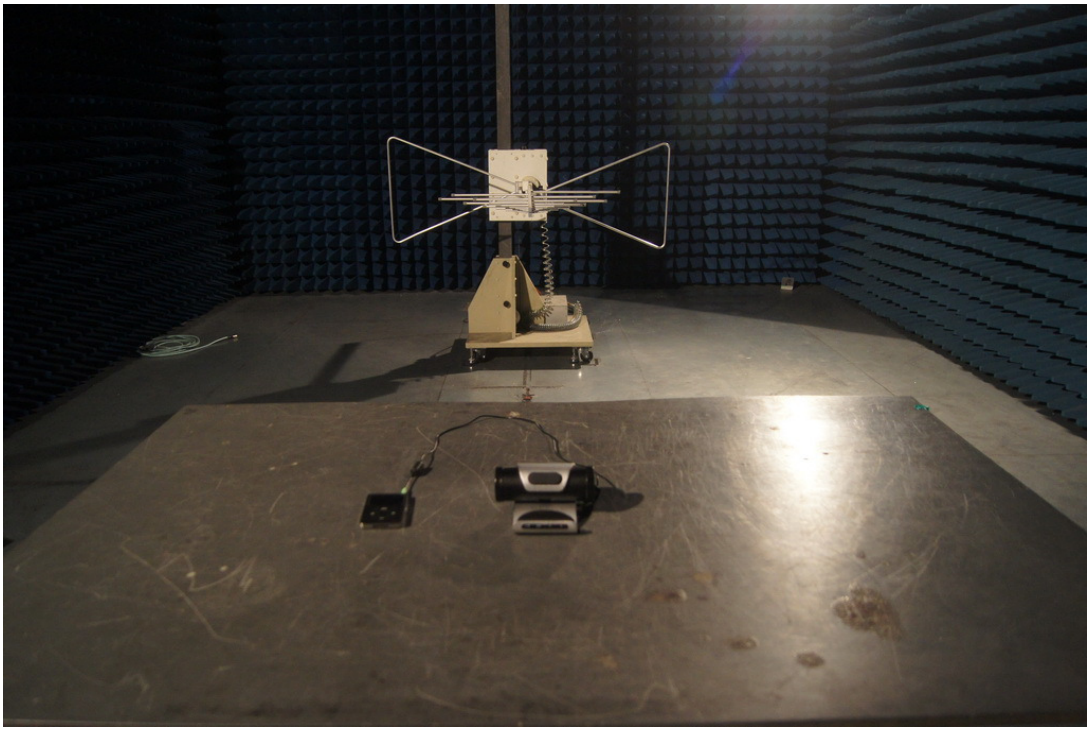
Test data refer to Appendix 1.

6. Photographs of the Test Set-Up

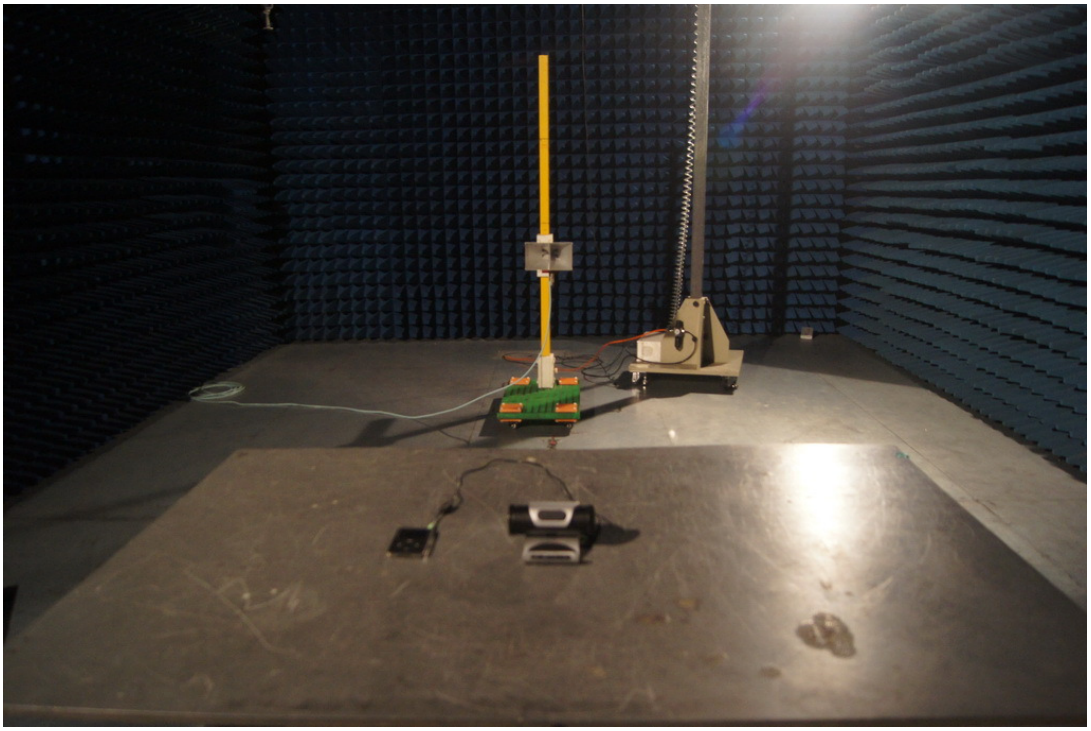
Photograph 1: Set-up for Spurious Emissions (9kHz-30MHz)



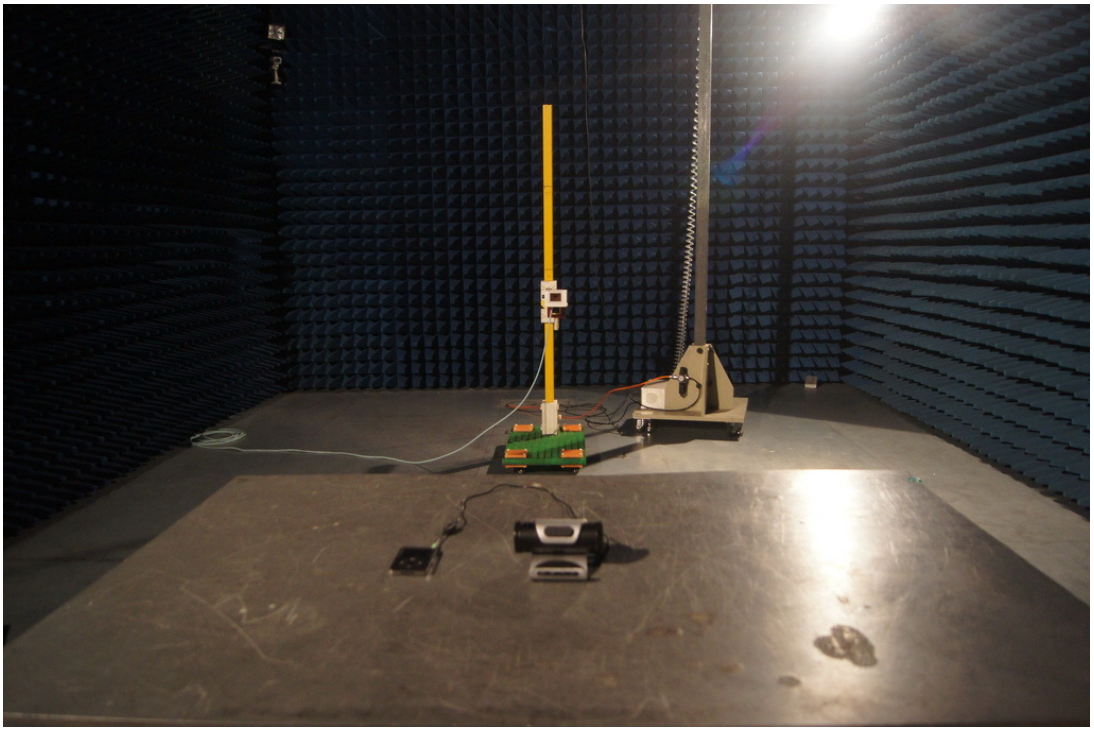
Photograph 2: Set-up for Spurious Emissions (30MHz-1GHz)



Photograph 3: Set-up for Spurious Emissions (1GHz-18GHz)

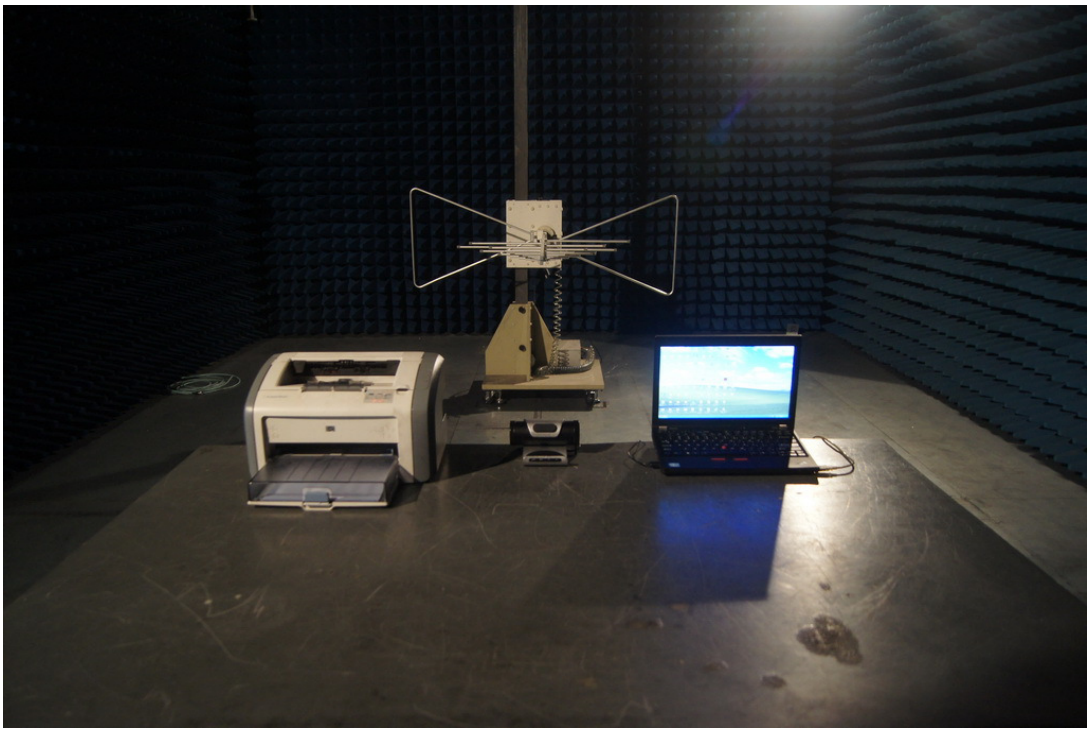


Photograph 4: Set-up for Spurious Emissions (18GHz-26GHz)



Photograph 5: Set-up for Conducted Emissions

Photograph 6: Set-up for Radiated Emissions, below 1GHz



Photograph 7: Set-up for Radiated Emissions, above 1GHz

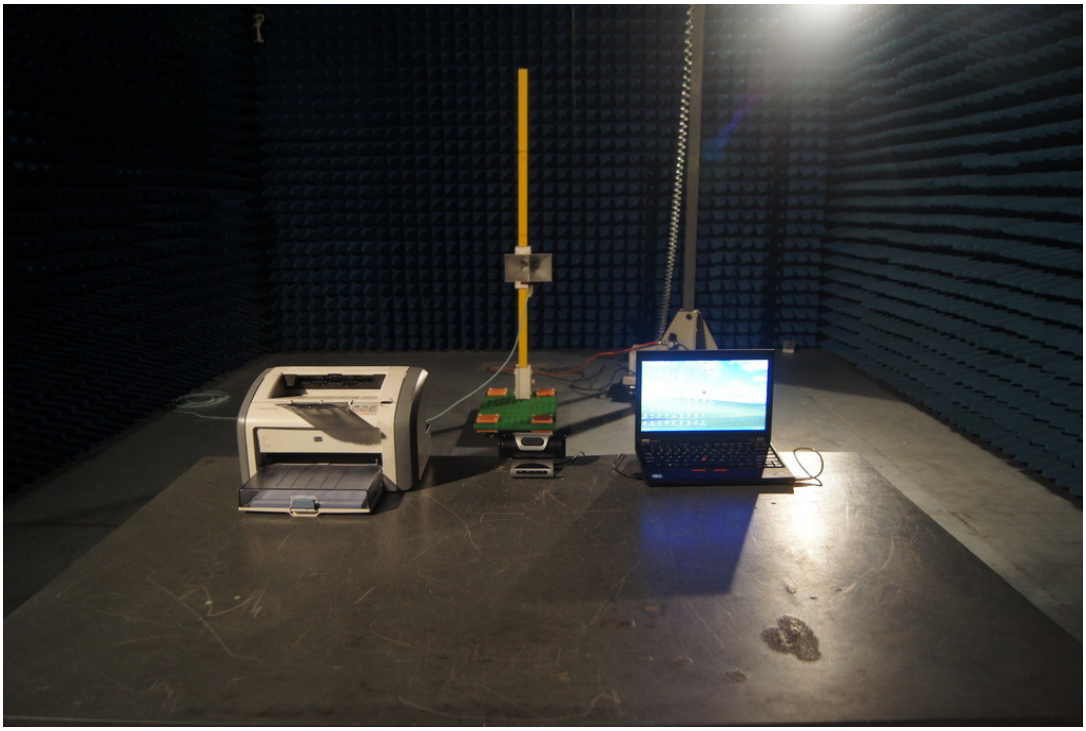


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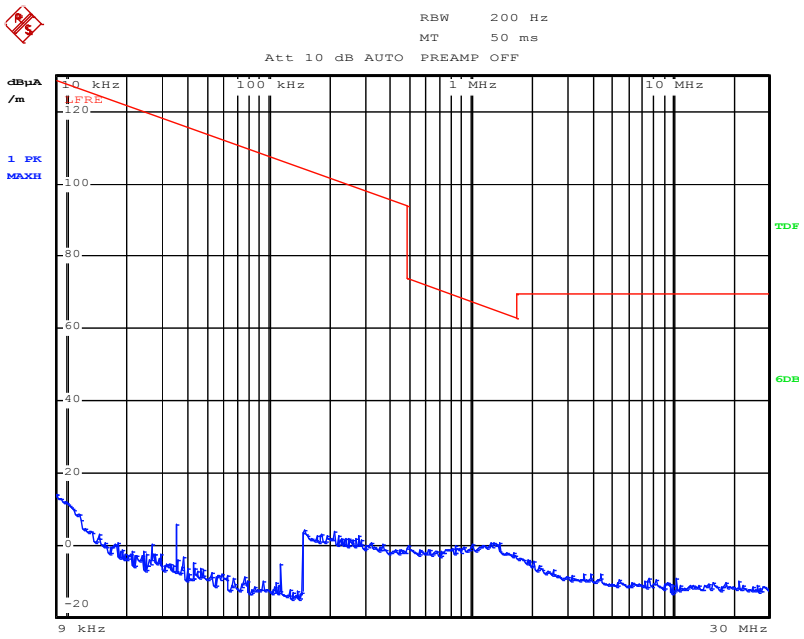
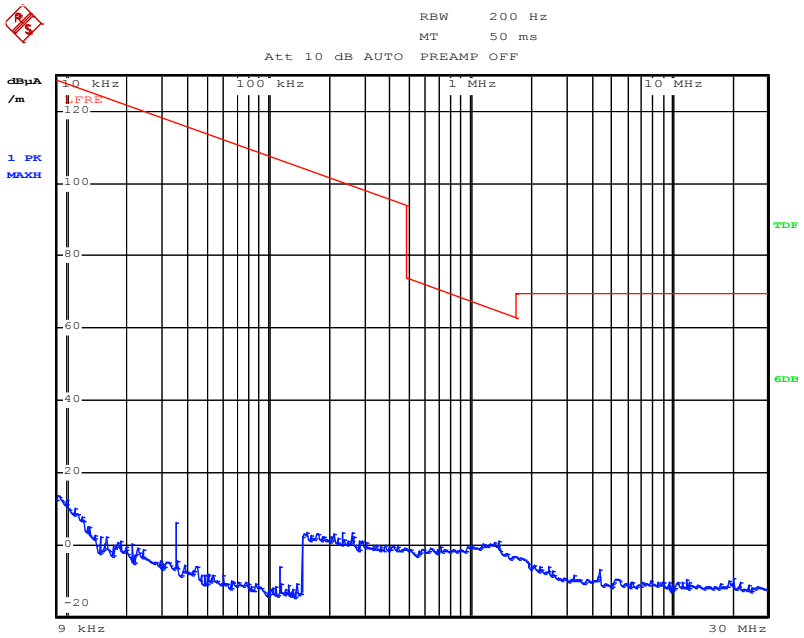
Figure 1: Test figure of spurious emissions, mode A.1, Horizontal polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:29:22

Figure 2: Test figure of spurious emissions, mode A.1, Vertical polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:31:19

Figure 3: Test figure of spurious emissions, mode A.1, Horizontal polarity (30MHz – 1GHz), GFSK Modulation

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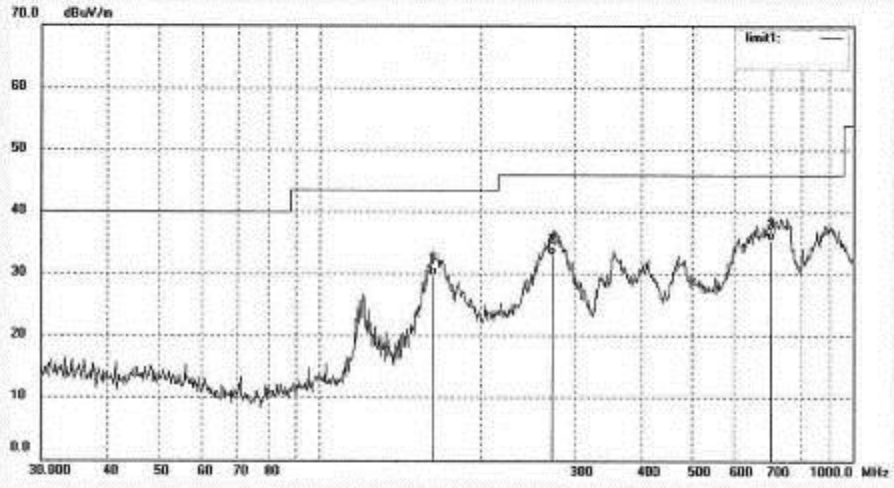
ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg.A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2455	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 10:40:03
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	162.5900	44.13	-14.50	29.63	43.50	-13.87	QP			
2	271.5686	43.12	-10.11	33.01	46.00	-12.99	QP			
3	701.2631	37.10	-1.74	35.36	46.00	-10.64	QP			

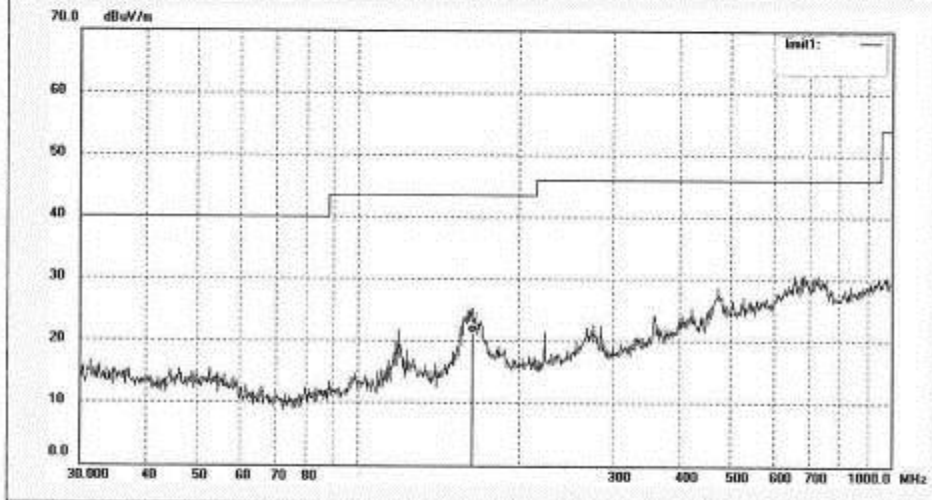
Figure 4: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2456
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 46 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2402MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 10:49:10
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	163.1622	35.80	-14.49	21.31	43.50	-22.19	QP			

Figure 5: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz –18GHz), GFSK Modulation

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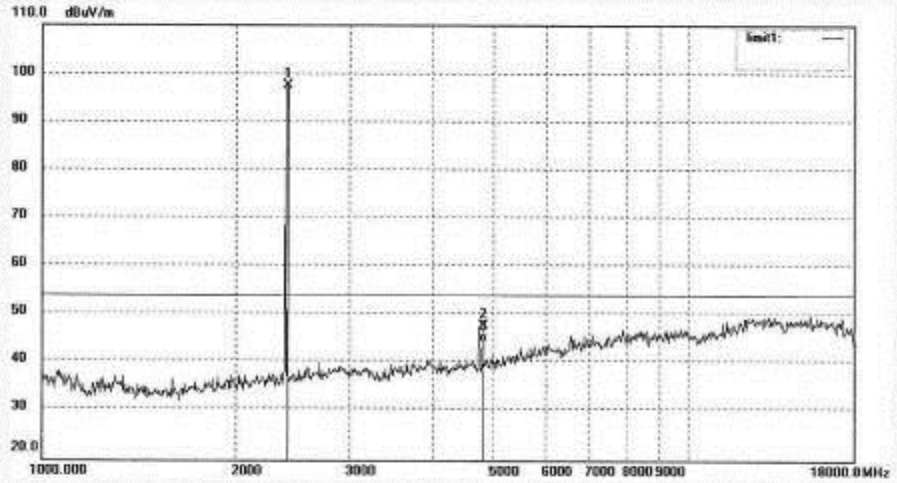
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2479	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 12:58:43
EUT: Bluetooth Portable Speaker with handle	Engineer Signature
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	105.06	-7.45	97.61	/	/	peak			
2	4804.020	48.19	-0.30	47.89	74.00	-26.11	peak			
3	4804.020	44.63	-0.30	44.33	54.00	-9.67	AVG			

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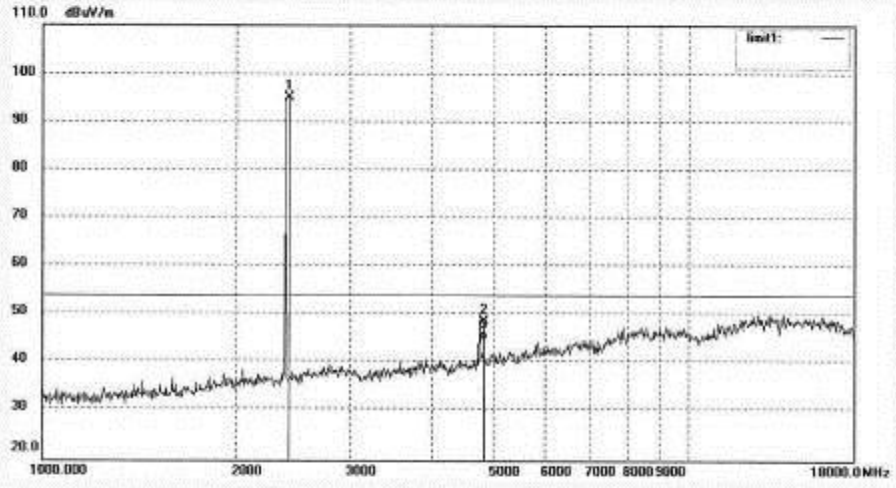
Figure 6: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 18GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2480
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2402MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 13:08:13
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.034	102.53	-7.45	95.08	/	/	peak			
2	4804.025	49.10	-0.30	48.80	74.00	-25.20	peak			
3	4804.025	45.09	-0.30	44.79	54.00	-9.21	AVG			

Figure 7: Test figure of spurious emissions, mode A.1, Horizontal polarity (18GHz –25GHz), GFSK Modulation

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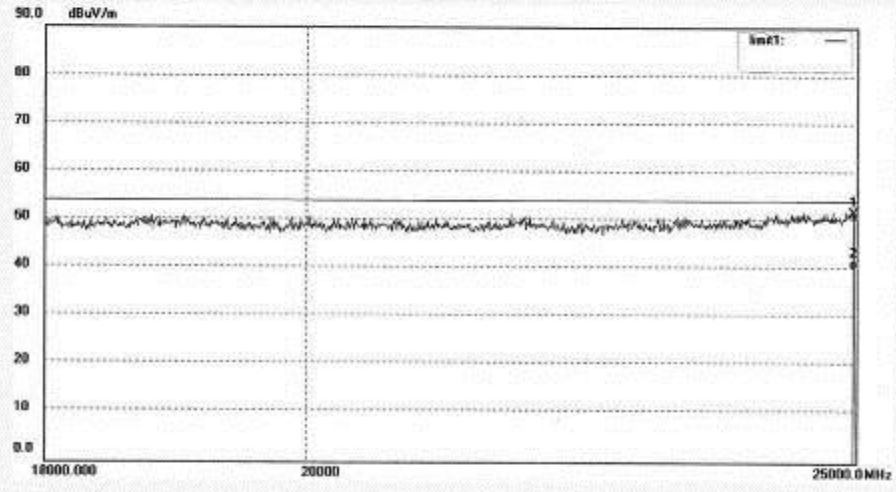
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2505	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 17:08:52
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24975.227	32.70	18.87	51.57	74.00	-22.43	peak			
2	24975.227	21.23	18.87	40.10	54.00	-13.90	AVG			

Figure 8: Test figure of spurious emissions, mode A.1, Vertical polarity (18GHz – 25GHz), GFSK Modulation

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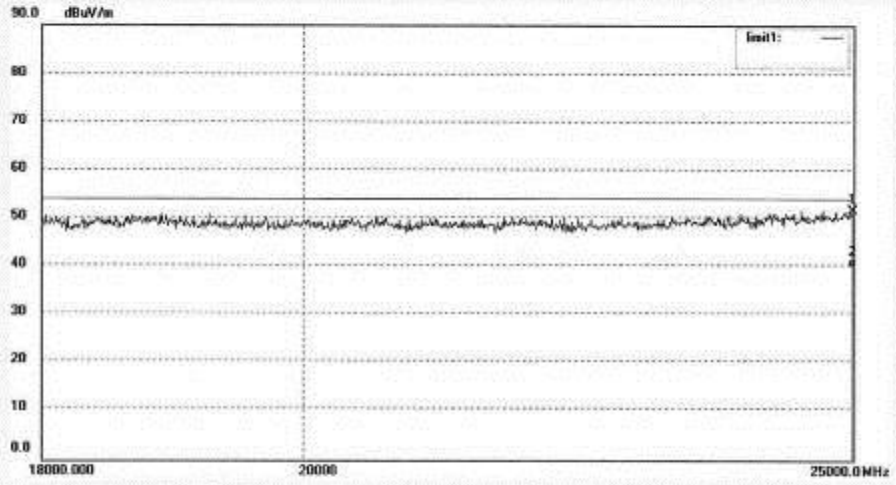
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2506
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2402MHz
Model: NS-SPBT02
Manufacturer:

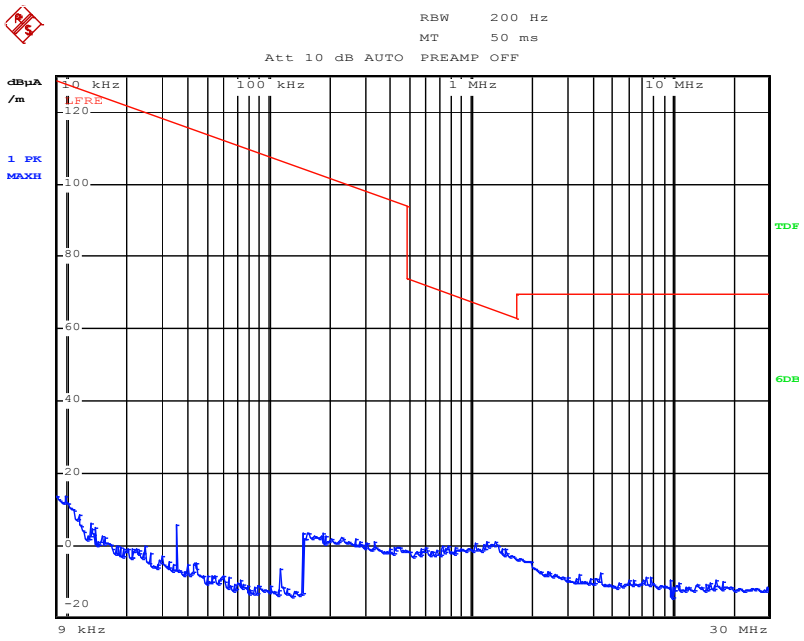
Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 17:16:21
Engineer Signature:
Distance: 3m

Note: BDR



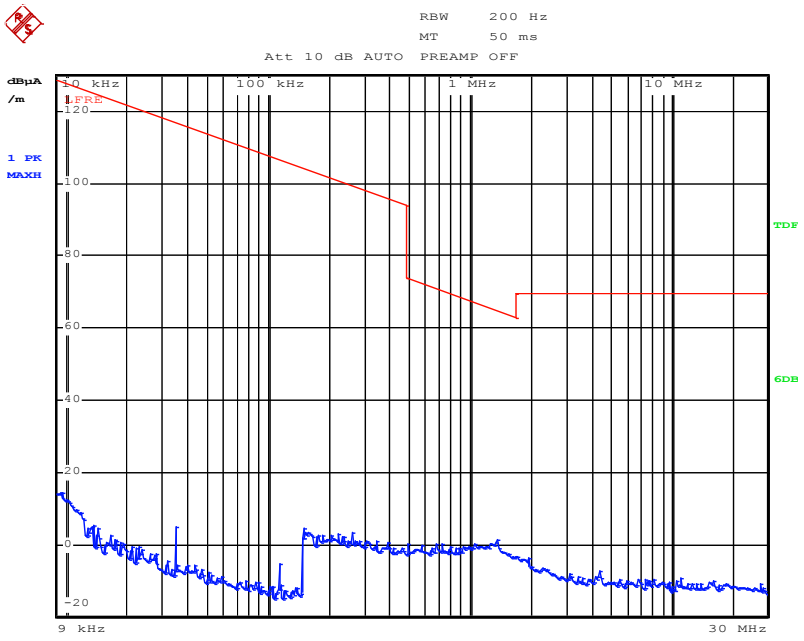
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24990.990	32.83	18.89	51.72	74.00	-22.28	peak			
2	24990.990	21.01	18.89	39.90	54.00	-14.10	AVG			

Figure 9: Test figure of spurious emissions, mode A.2, Horizontal polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:35:20

Figure 10: Test figure of spurious emissions, mode A.2, Vertical polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:37:17

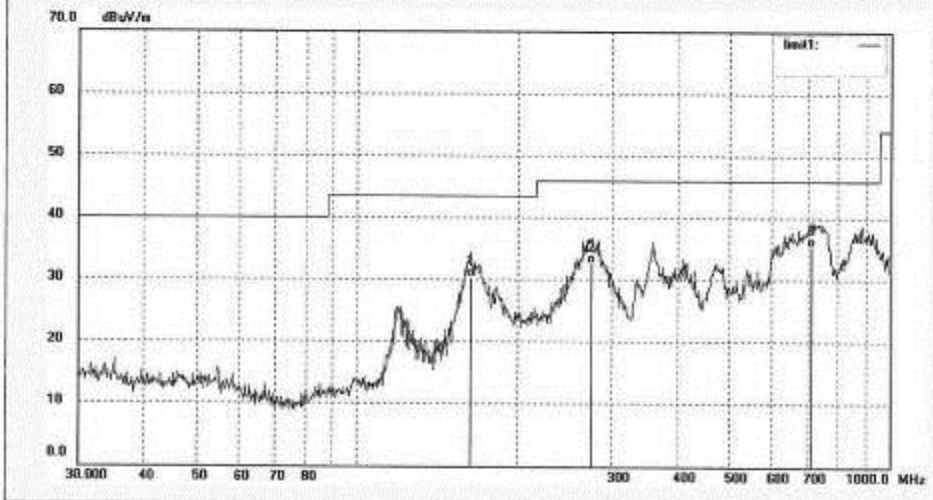
Figure 11: Test figure of spurious emissions, mode A.2, Horizontal polarity (30MHz – 1GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2457
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2441MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 10:57:20
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	162.5900	44.81	-14.50	30.31	43.50	-13.19	QP			
2	274.4463	42.67	-10.01	32.66	46.00	-13.34	QP			
3	713.6915	37.08	-1.56	35.52	46.00	-10.48	QP			

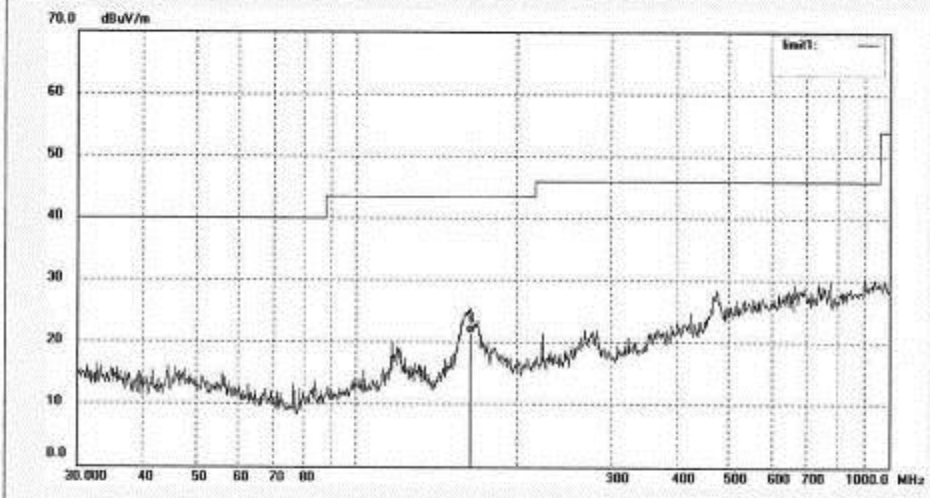
Figure 12: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2458
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2441MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 11:07:06
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	163.7366	35.95	-14.49	21.46	43.50	-22.04	QP			

Figure 13: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 18GHz), GFSK Modulation

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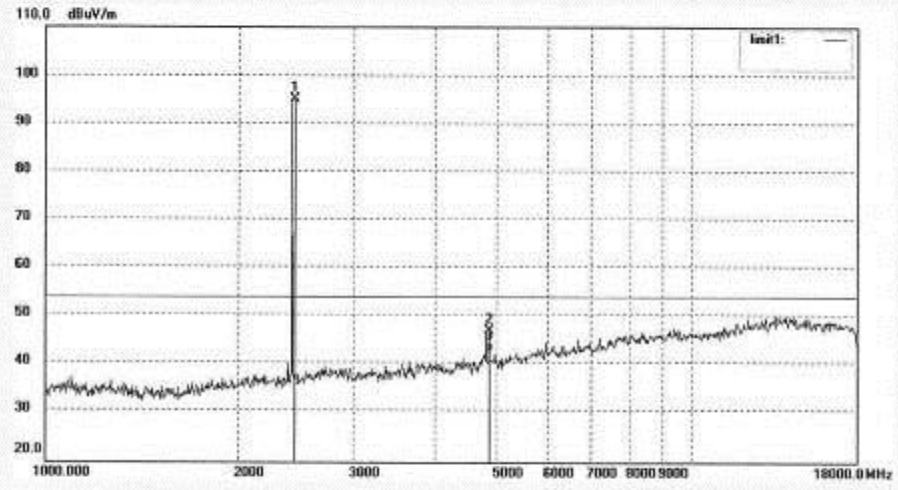
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2482	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 13:31:00
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	102.39	-7.35	95.04	/	/	peak			
2	4882.031	47.01	0.14	47.15	74.00	-26.85	peak			
3	4882.031	42.67	0.14	42.81	54.00	-11.19	AVG			

Figure 14: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 18GHz), GFSK Modulation

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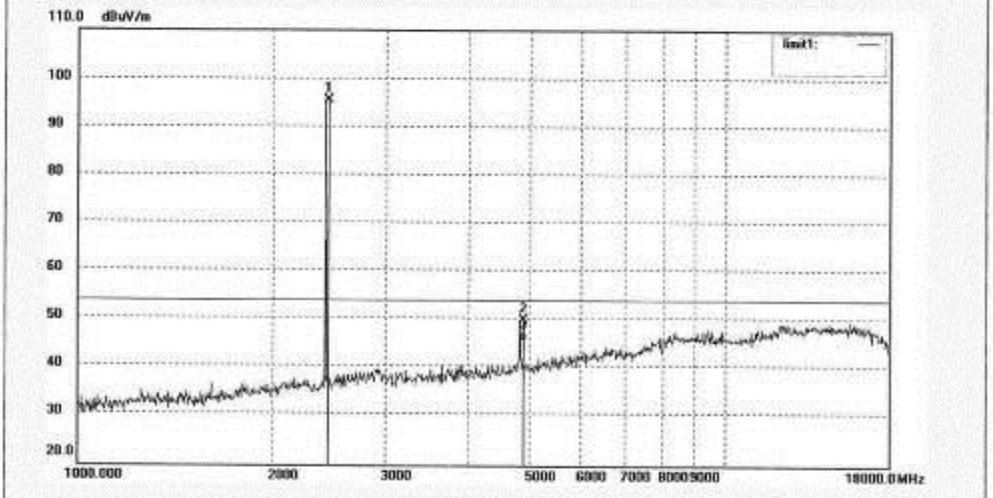
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2481	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 13:19:03
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	102.74	-7.35	95.39	/	/	peak			
2	4882.019	49.80	0.14	49.94	74.00	-24.06	peak			
3	4882.019	45.57	0.14	45.71	54.00	-8.29	AVG			

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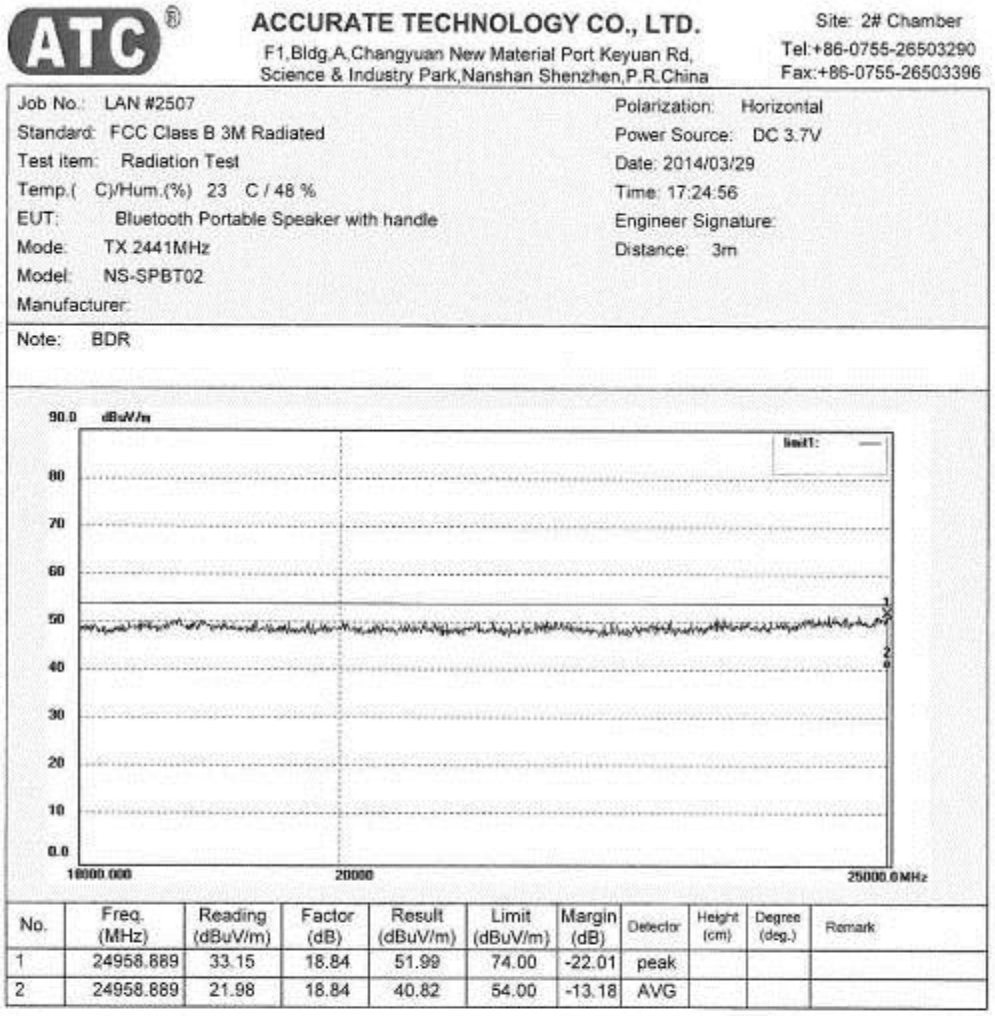
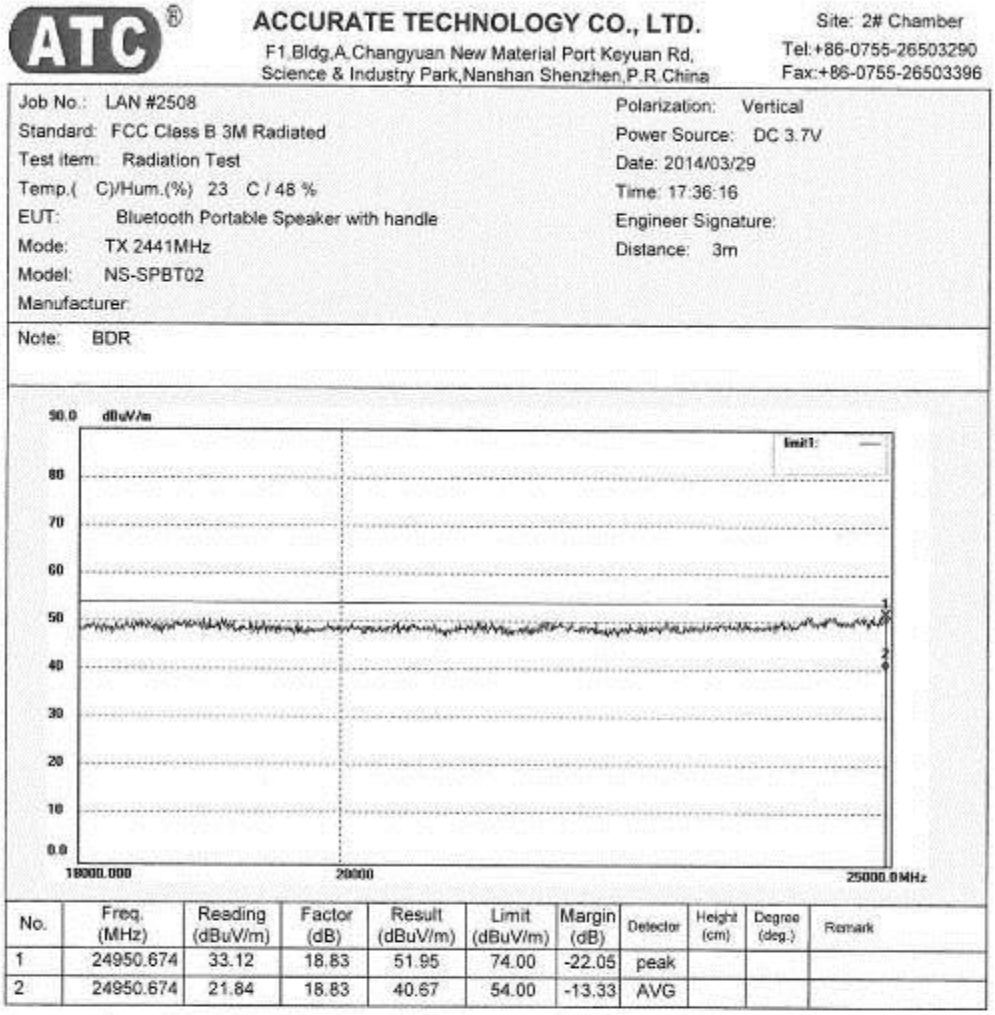
Figure 15: Test figure of spurious emissions, mode A.2, Horizontal polarity (18GHz – 25GHz), GFSK Modulation



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24958.889	33.15	18.84	51.99	74.00	-22.01	peak			
2	24958.889	21.98	18.84	40.82	54.00	-13.18	AVG			

Figure 16: Test figure of spurious emissions, mode A.2, Vertical polarity (18GHz – 25GHz), GFSK Modulation



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Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2508	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 17:36:16
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24950.674	33.12	18.83	51.95	74.00	-22.05	peak			
2	24950.674	21.84	18.83	40.67	54.00	-13.33	AVG			

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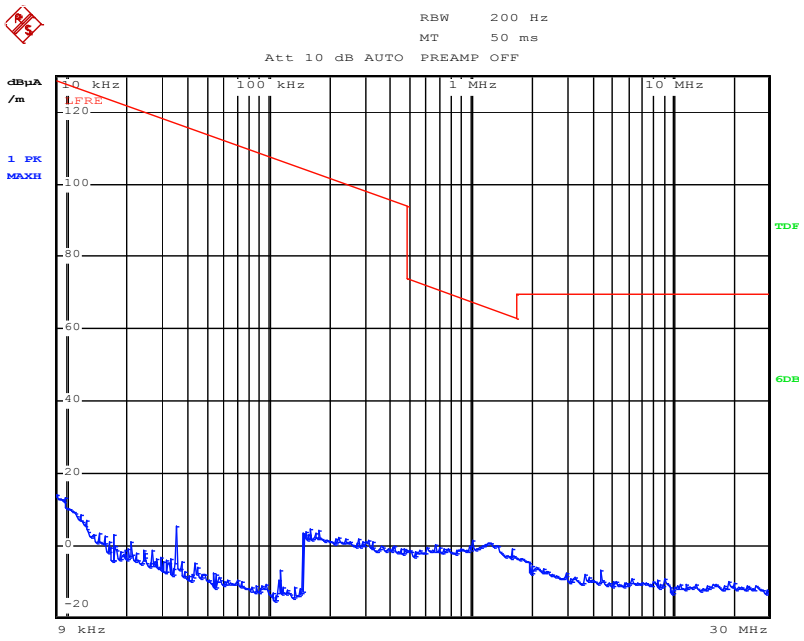
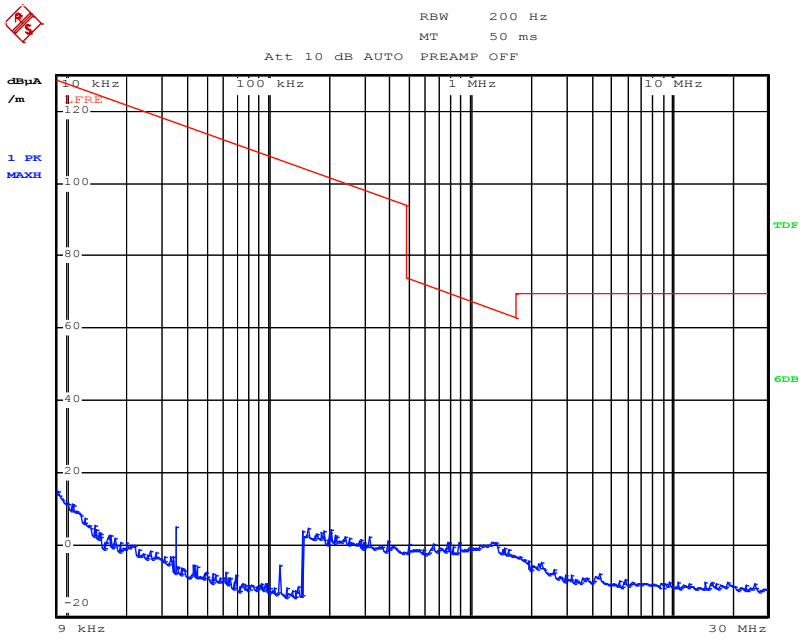
Figure 17: Test figure of spurious emissions, mode A.3, Horizontal polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:41:24

Figure 18: Test figure of spurious emissions, mode A.3, Vertical polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:43:32

Figure 19: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz), GFSK Modulation

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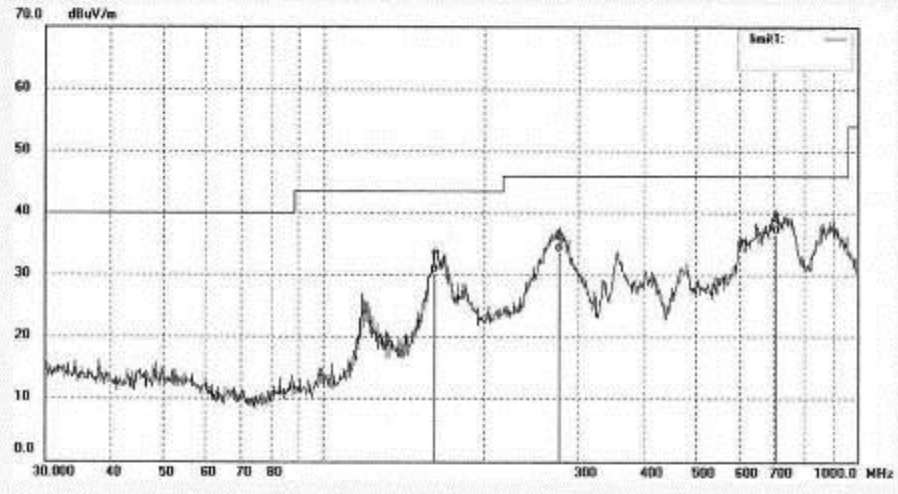
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2459	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 11:16:51
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	161.4515	44.91	-14.52	30.39	43.50	-13.11	QP			
2	275.4123	43.71	-9.96	33.75	46.00	-12.25	QP			
3	706.2083	38.29	-1.63	36.66	46.00	-9.34	QP			

Figure 20: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz), GFSK Modulation

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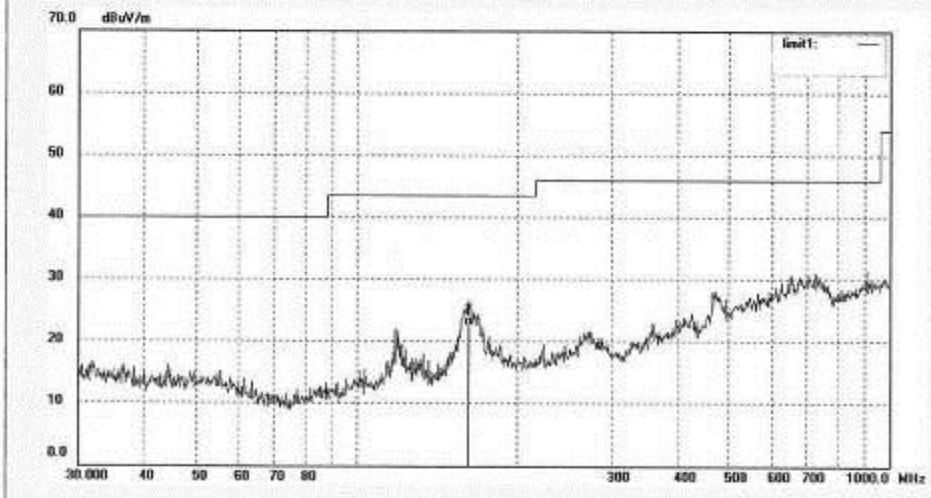
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2460
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2480MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 11:25:01
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	162.0197	37.04	-14.52	22.52	43.50	-20.98	QP			

Figure 21: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz –18GHz), GFSK Modulation

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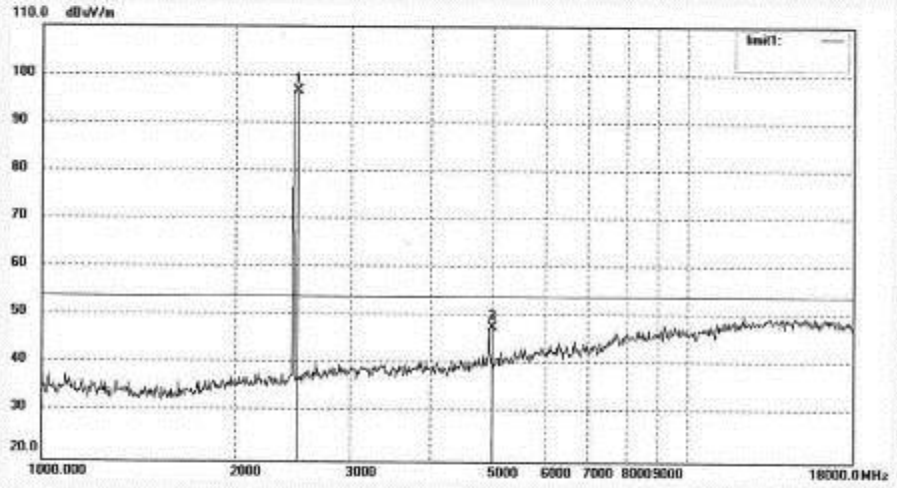
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2483	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 13:43:44
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	103.98	-7.37	96.61	/	/	peak			
2	4960.018	47.35	0.52	47.87	74.00	-26.13	peak			
3	4960.018	47.35	0.52	47.87	54.00	-6.13	peak			

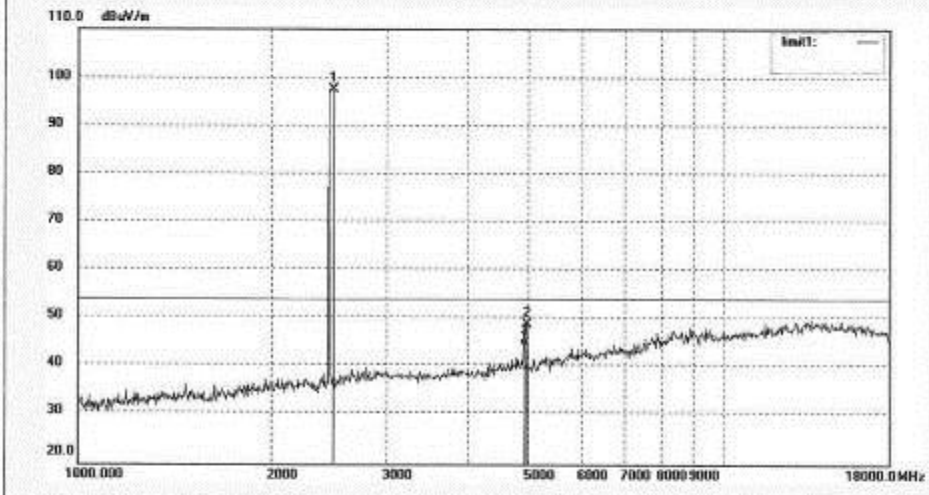
Figure 22: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 18GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2484
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2480MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 13:54:42
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	104.90	-7.37	97.53	/	/	peak			
2	4960.014	48.40	0.52	48.92	74.00	-25.08	peak			
3	4960.014	43.93	0.52	44.45	54.00	-9.55	AVG			

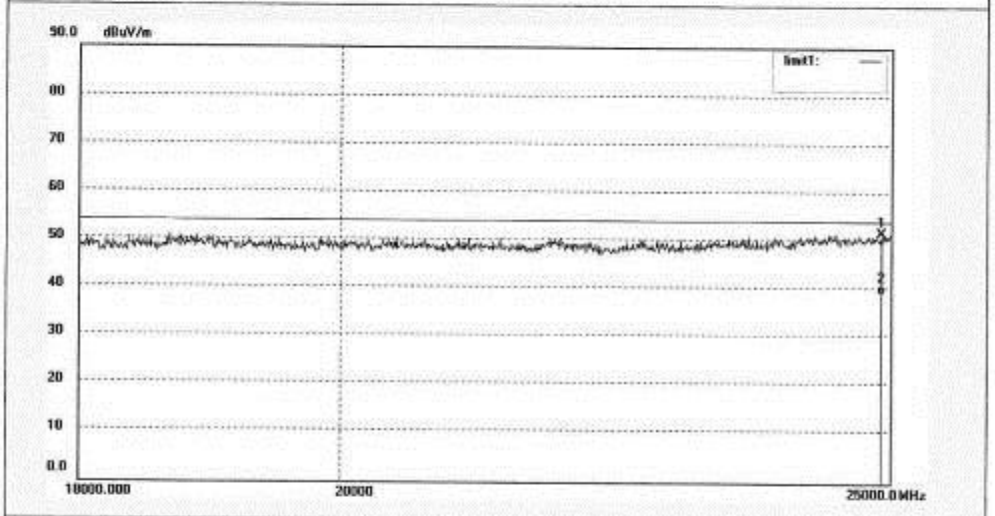
Figure 23: Test figure of spurious emissions, mode A.3, Horizontal polarity (18GHz –25GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2509
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2480MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 17:45:51
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24909.644	32.93	18.77	51.70	74.00	-22.30	peak			
2	24909.644	20.45	18.77	39.22	54.00	-14.78	AVG			

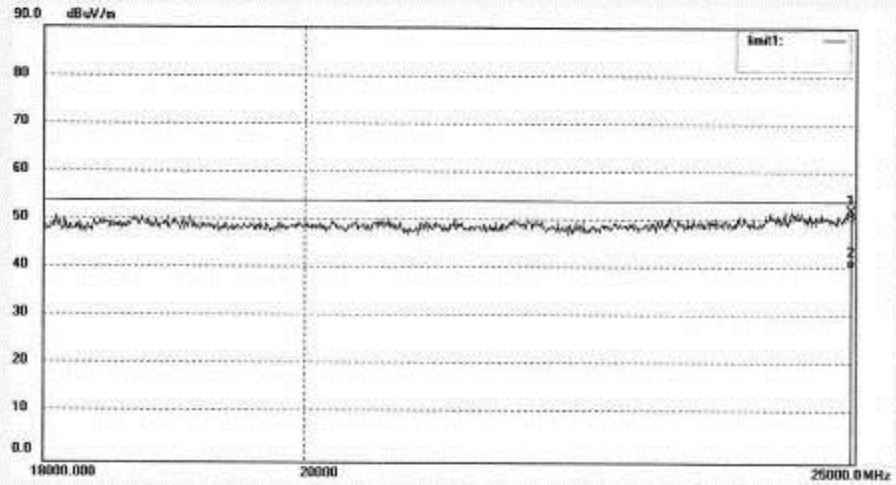
Figure 24: Test figure of spurious emissions, mode A.3, Vertical polarity (18GHz – 25GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2510
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2480MHz
Model: NS-SPBT02
Manufacturer:

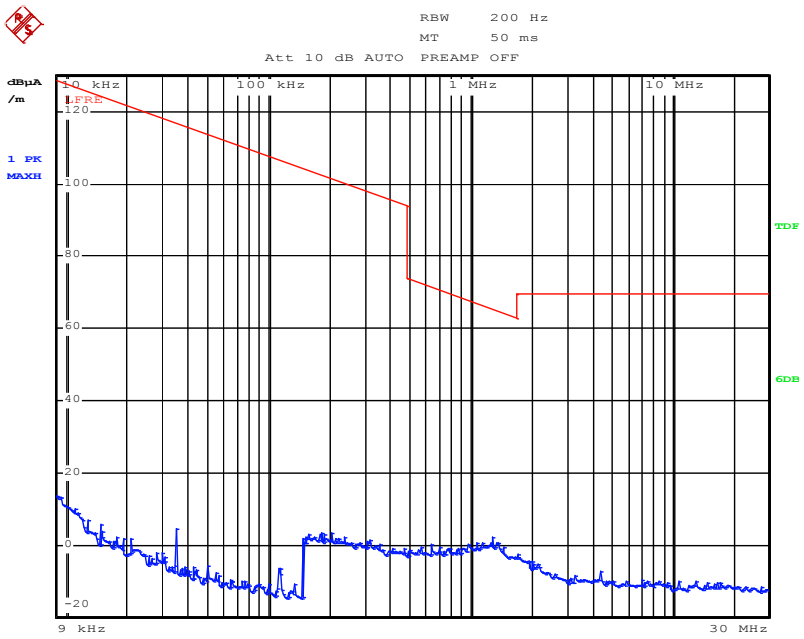
Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 17:53:11
Engineer Signature:
Distance: 3m

Note: BDR



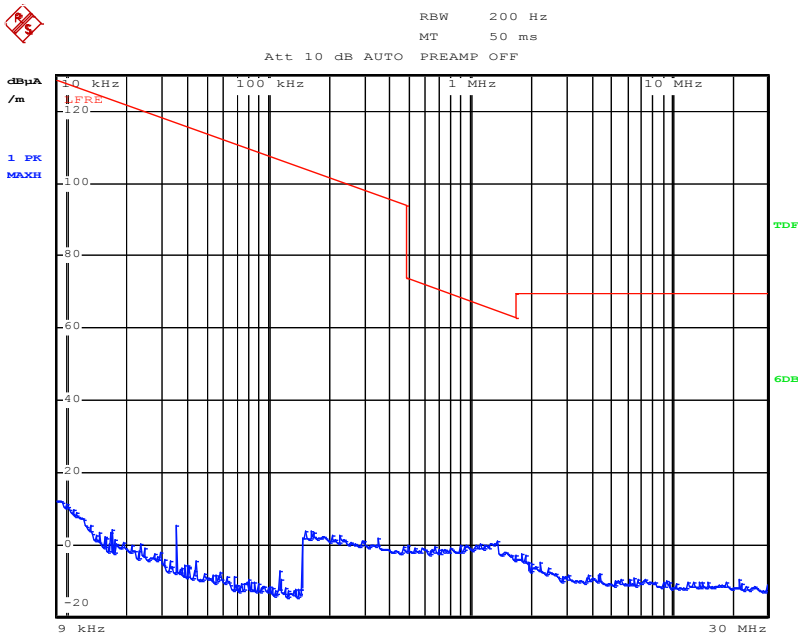
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24967.105	33.30	18.85	52.15	74.00	-21.85	peak			
2	24967.105	21.54	18.85	40.39	54.00	-13.61	AVG			

Figure 25: Test figure of spurious emissions, mode A.1, Horizontal polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 20:54:19

Figure 26: Test figure of spurious emissions, mode A.1, Vertical polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 20:56:20

Figure 27: Test figure of spurious emissions, mode A.1, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation

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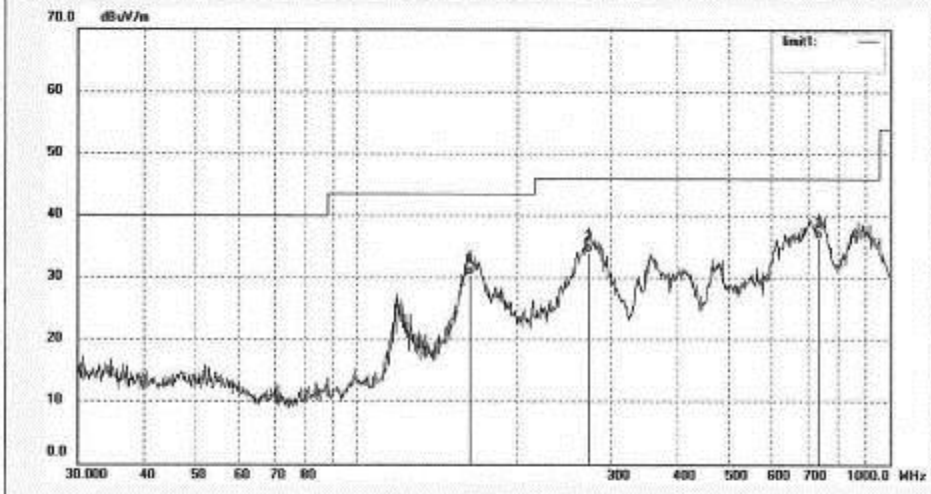
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

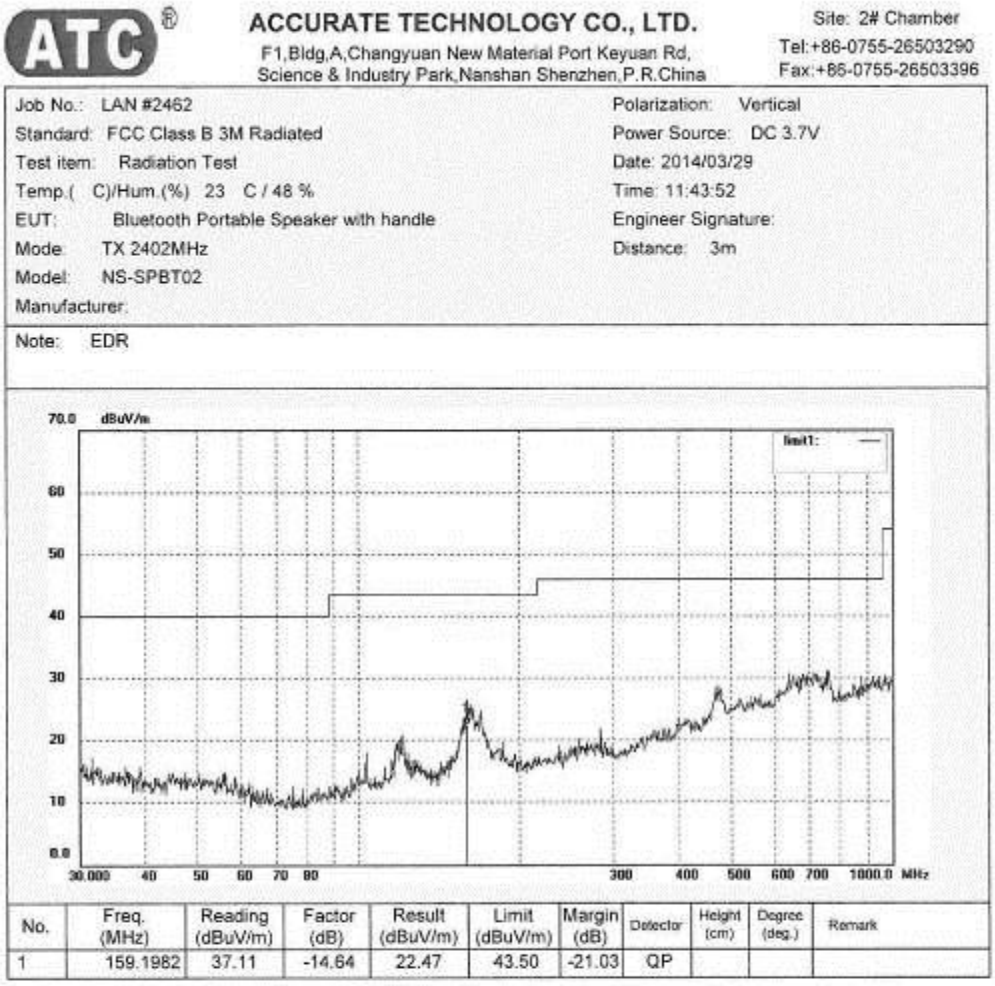
Job No.: LAN #2461	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 11:34:04
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	162.5900	44.94	-14.50	30.44	43.50	-13.06	QP			
2	272.5246	44.12	-10.08	34.04	46.00	-11.96	QP			
3	736.6209	37.58	-1.25	36.33	46.00	-9.67	QP			

Figure 28: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz), 8DPSK Modulation



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	159.1982	37.11	-14.64	22.47	43.50	-21.03	QP			

Figure 29: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz –18GHz), 8DPSK Modulation

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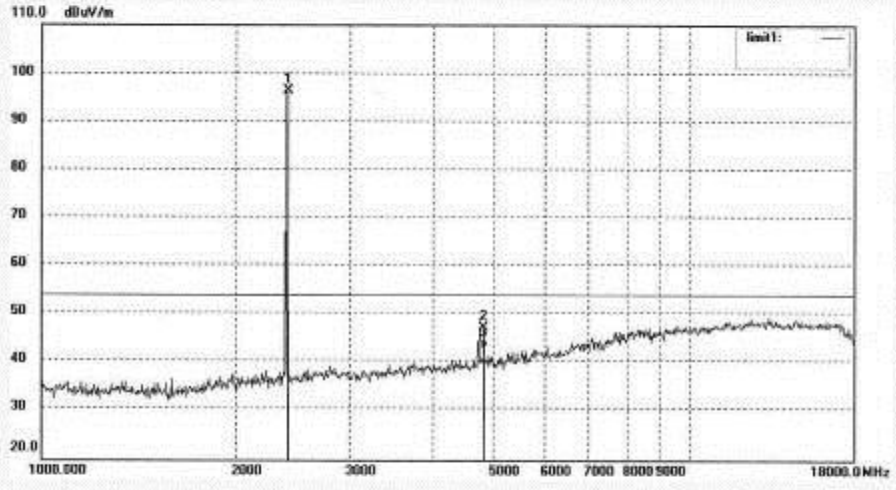
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2486	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 14:15:38
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	103.94	-7.45	96.49	/	/	peak			
2	4804.030	47.64	-0.30	47.34	74.00	-26.66	peak			
3	4804.030	43.47	-0.30	43.17	54.00	-10.83	AVG			

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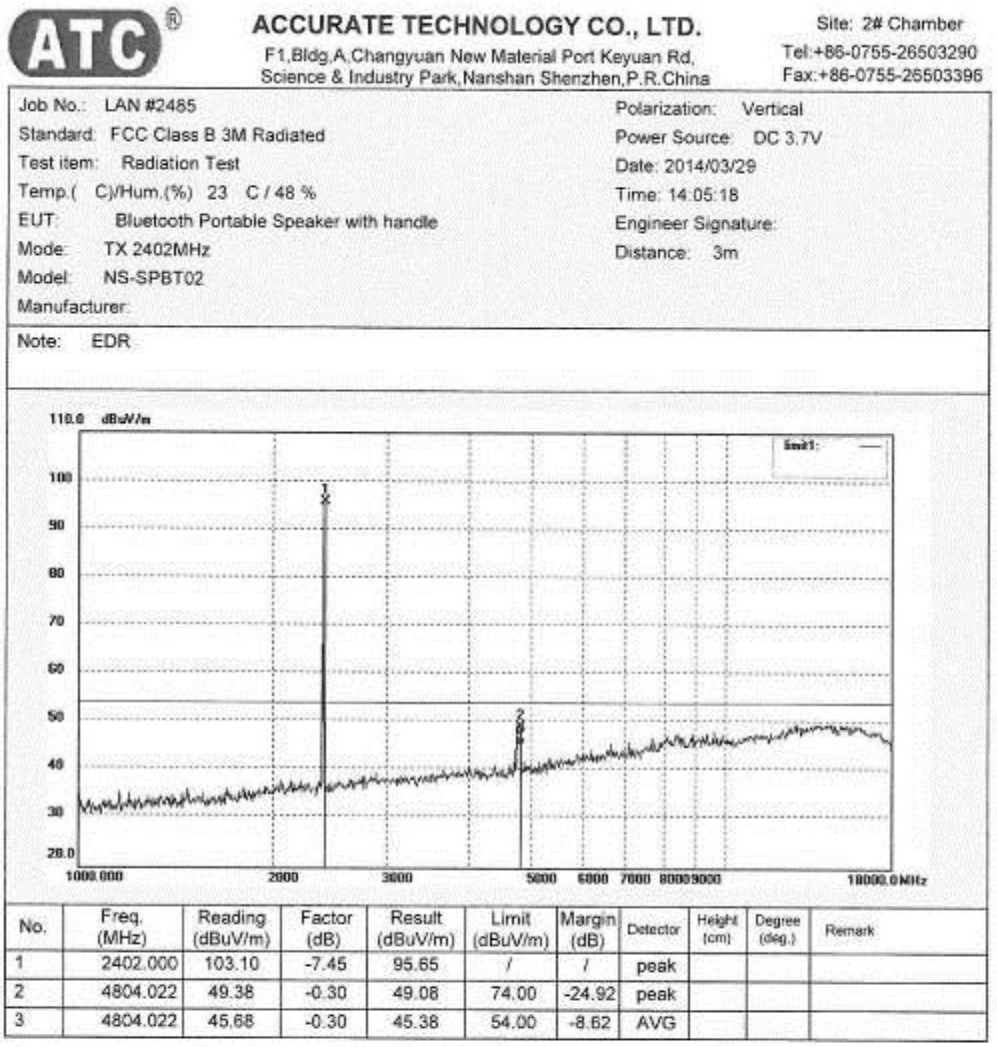
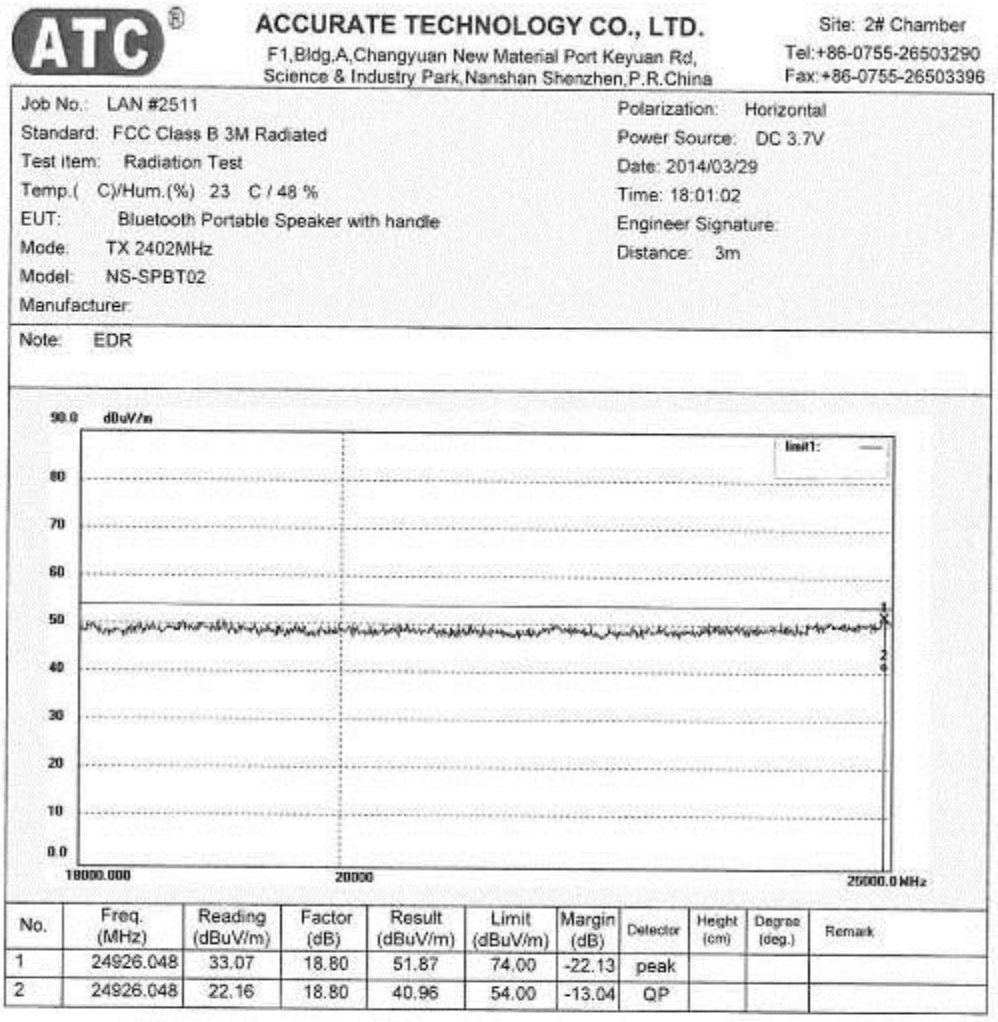
Figure 30: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 18GHz), 8DPSK Modulation



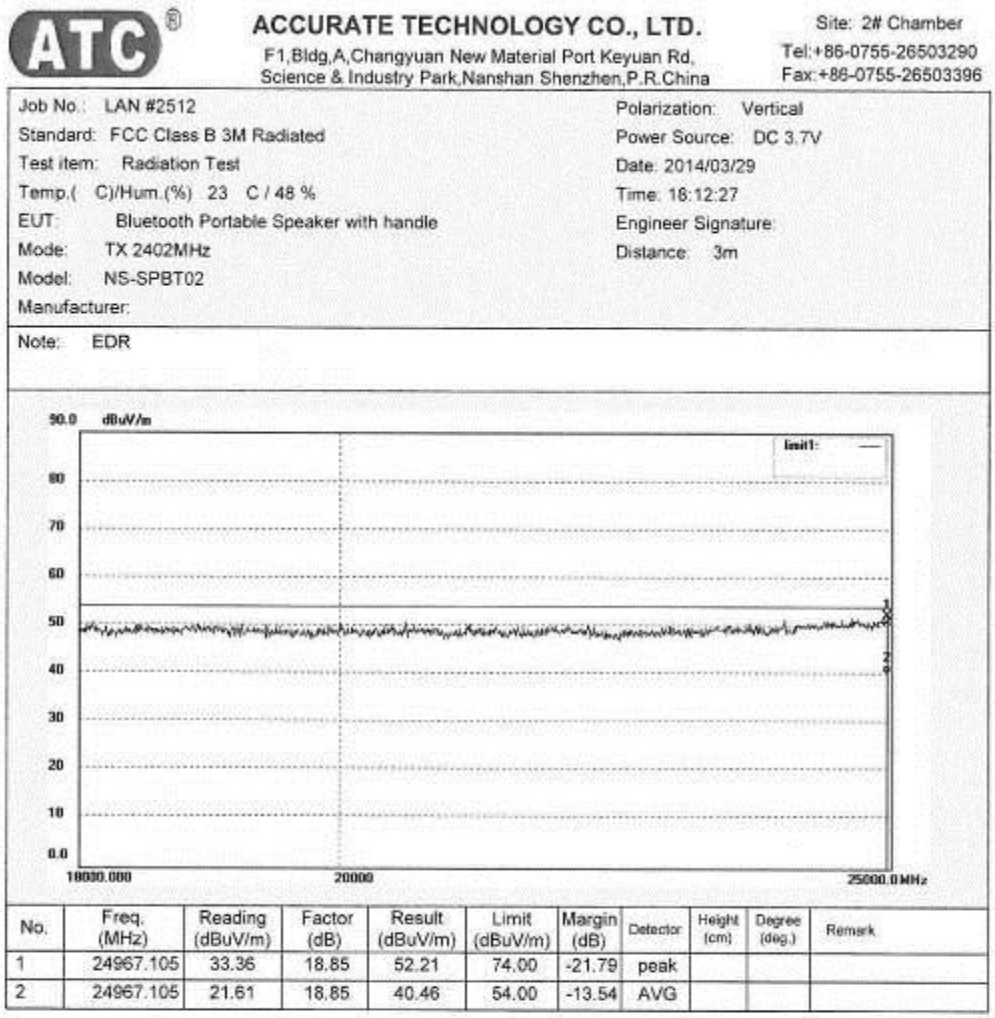
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	103.10	-7.45	95.65	/	/	peak			
2	4804.022	49.38	-0.30	49.08	74.00	-24.92	peak			
3	4804.022	45.68	-0.30	45.38	54.00	-8.62	AVG			

Figure 31: Test figure of spurious emissions, mode A.1, Horizontal polarity (18GHz –25GHz), 8DPSK Modulation



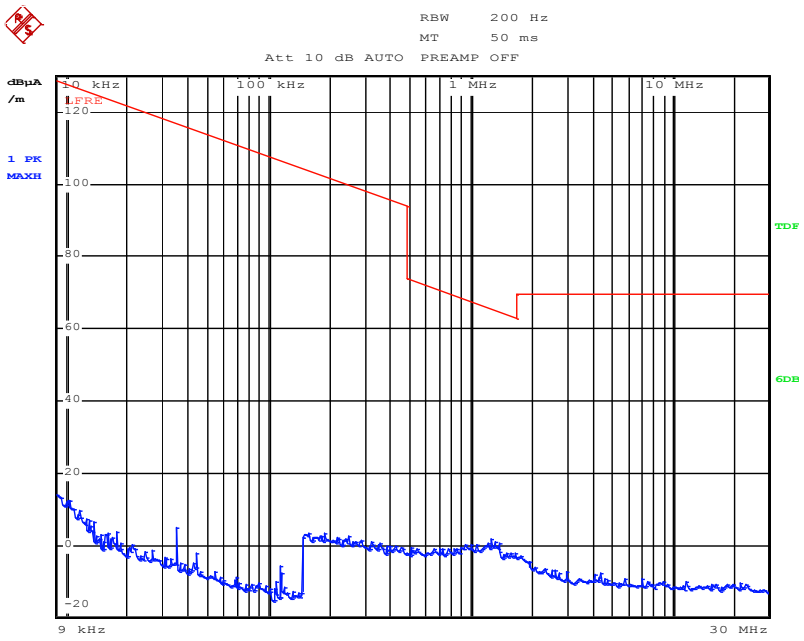
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24926.048	33.07	18.80	51.87	74.00	-22.13	peak			
2	24926.048	22.16	18.80	40.96	54.00	-13.04	QP			

Figure 32: Test figure of spurious emissions, mode A.1, Vertical polarity (18GHz – 25GHz), 8DPSK Modulation



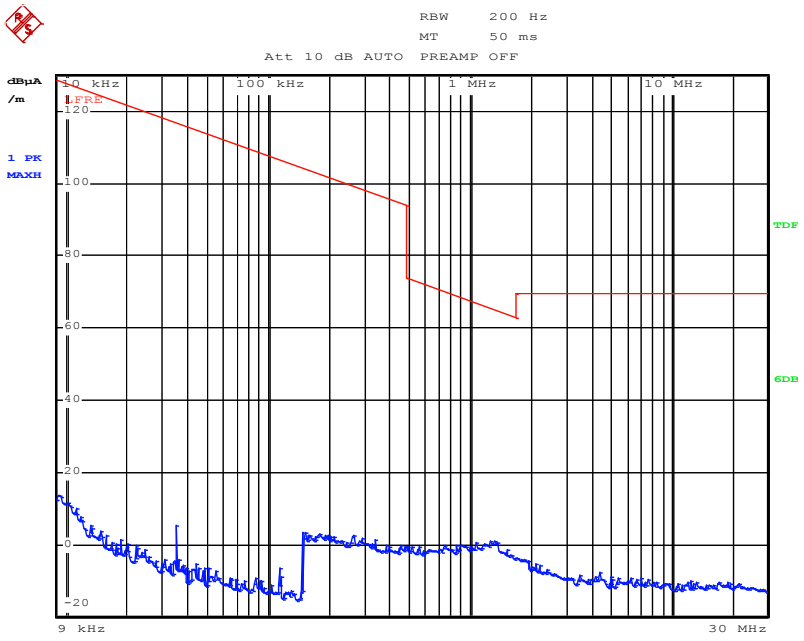
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24967.105	33.36	18.85	52.21	74.00	-21.79	peak			
2	24967.105	21.61	18.85	40.46	54.00	-13.54	AVG			

Figure 33: Test figure of spurious emissions, mode A.2, Horizontal polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 21:00:29

Figure 34: Test figure of spurious emissions, mode A.2, Vertical polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 21:02:31

Figure 35: Test figure of spurious emissions, mode A.2, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation

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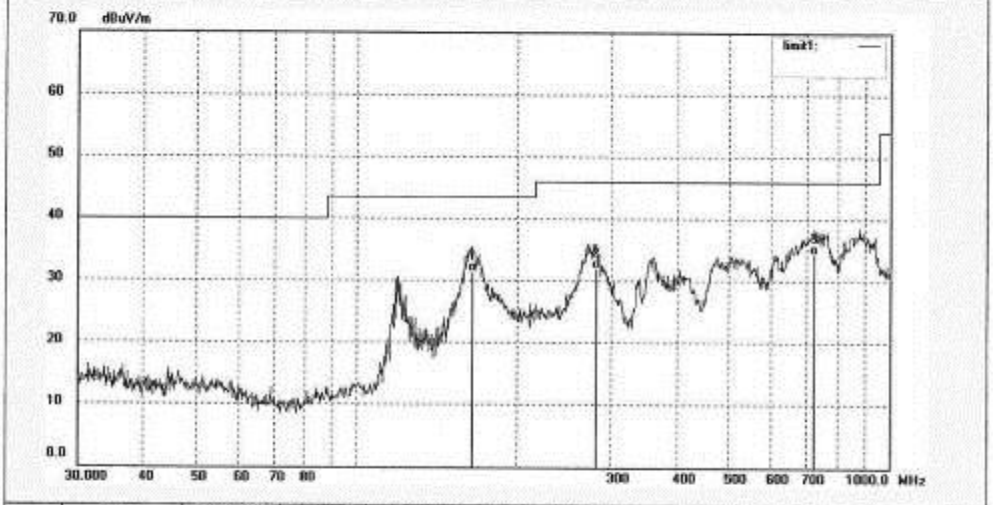
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2463	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 11:51:33
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	164.3129	45.93	-14.48	31.45	43.50	-12.05	QP			
2	281.2800	41.81	-9.81	32.00	46.00	-14.00	QP			
3	721.2544	35.85	-1.47	34.38	46.00	-11.62	QP			

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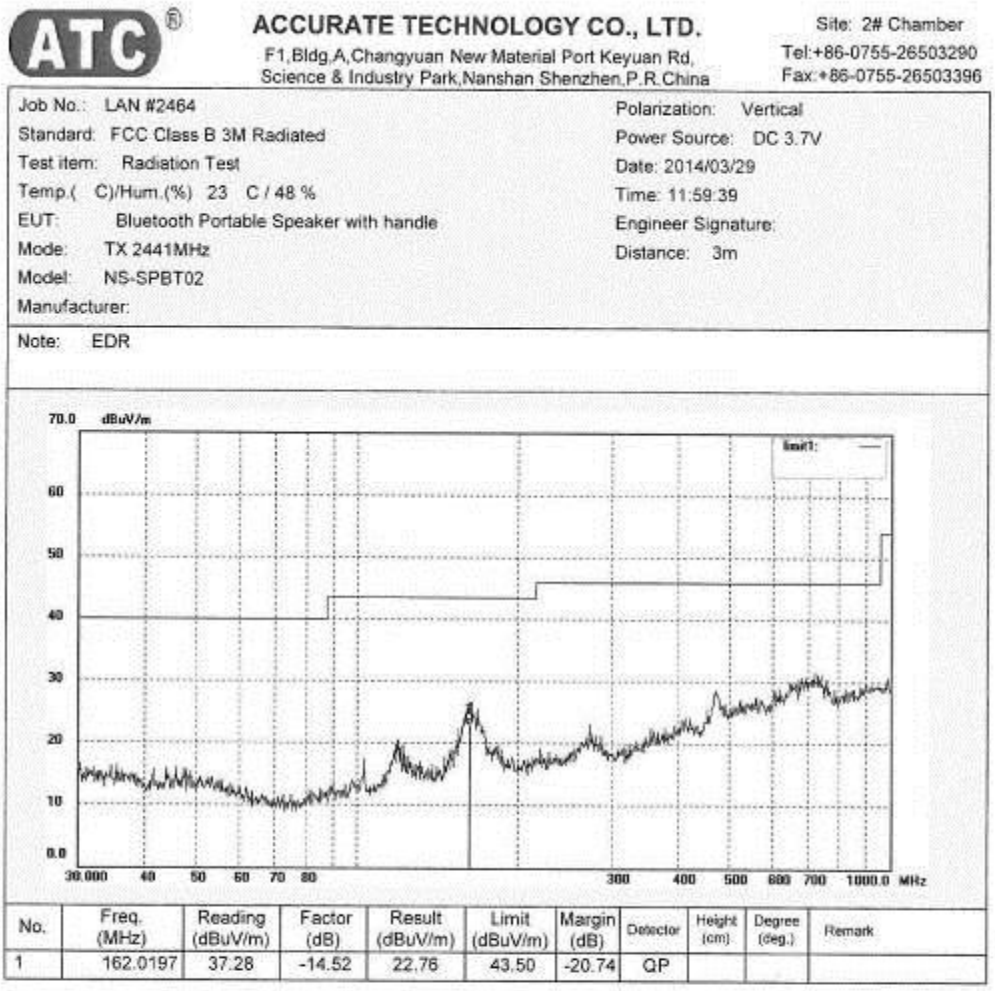
Figure 36: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GMHz), 8DPSK Modulation



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	162.0197	37.28	-14.52	22.76	43.50	-20.74	QP			

Figure 37: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 18GHz), 8DPSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
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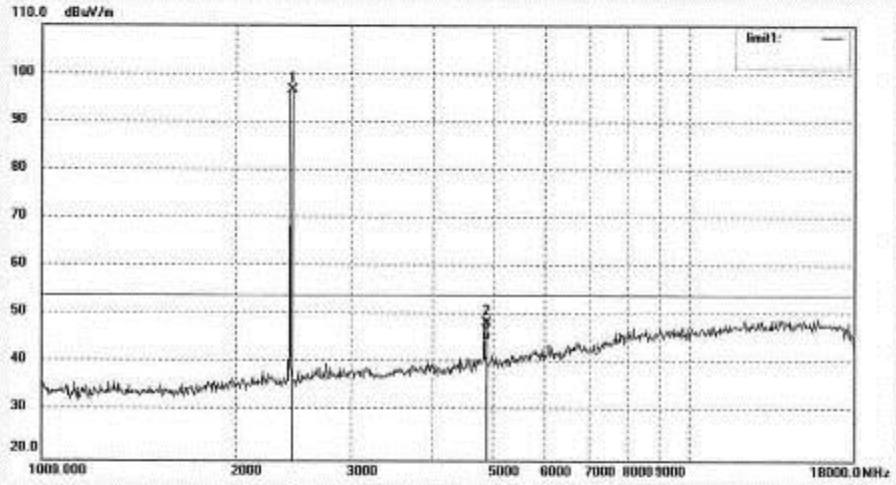
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2487
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2441MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 14:27:56
Engineer Signature:
Distance: 3m

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	103.97	-7.35	96.62	/	/	peak			
2	4882.021	48.30	0.14	48.44	74.00	-25.56	peak			
3	4882.021	44.72	0.14	44.86	54.00	-9.14	AVG			

Figure 38: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 18GHz), 8DPSK Modulation

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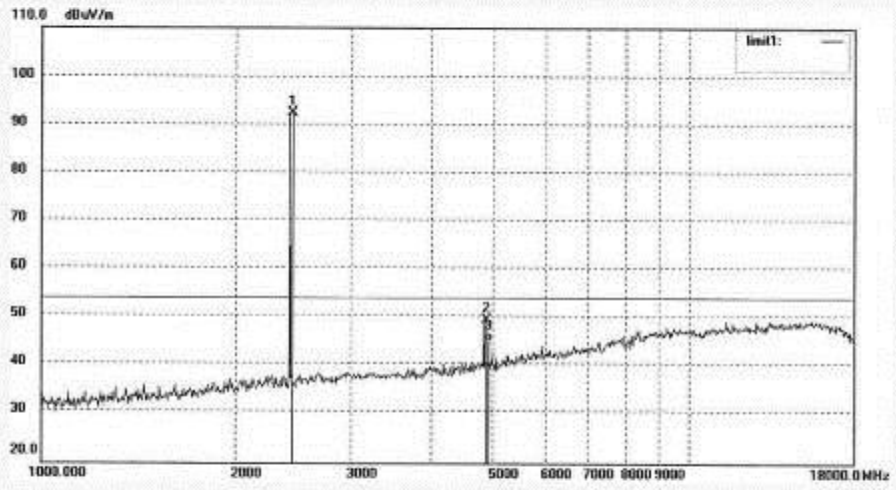
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2488	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 14:39:02
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	99.78	-7.35	92.43	/	/	peak			
2	4882.024	49.36	0.14	49.50	74.00	-24.50	peak			
3	4882.024	44.89	0.14	45.03	54.00	-8.97	AVG			

Figure 39: Test figure of spurious emissions, mode A.2, Horizontal polarity (18GHz – 25GHz), 8DPSK Modulation

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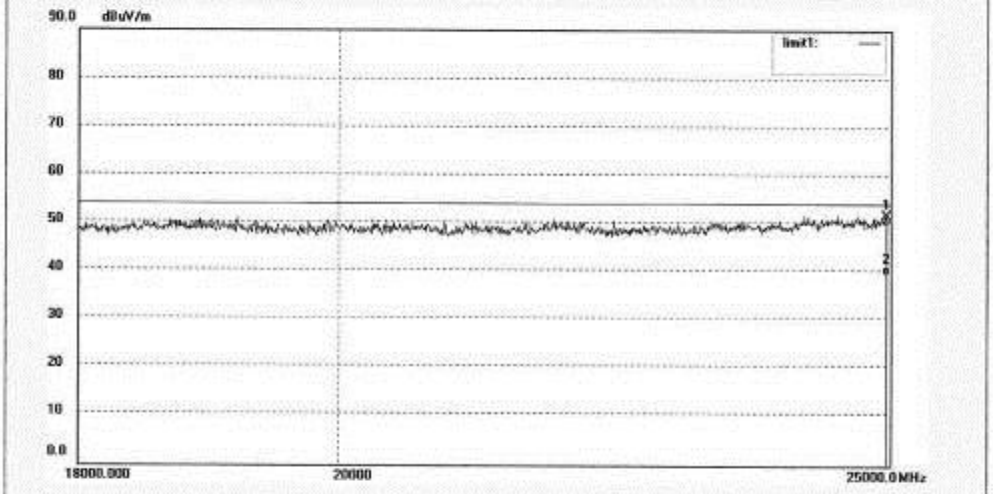
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2513	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 18:23:50
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24958.889	32.88	18.84	51.72	74.00	-22.28	peak			
2	24958.889	20.57	18.84	39.41	54.00	-14.59	AVG			

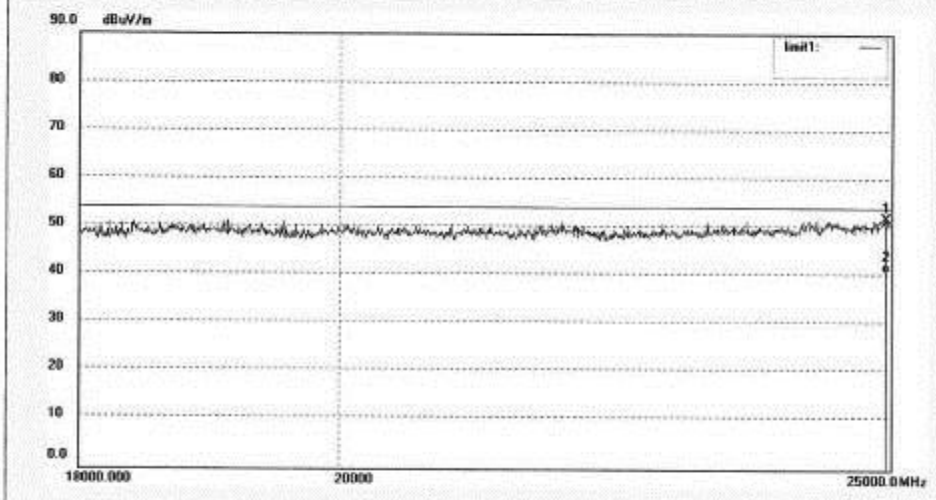
Figure 40: Test figure of spurious emissions, mode A.2, Vertical polarity (18GHz – 25GHz), 8DPSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2514
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2441MHz
Model: NS-SPBT02
Manufacturer:

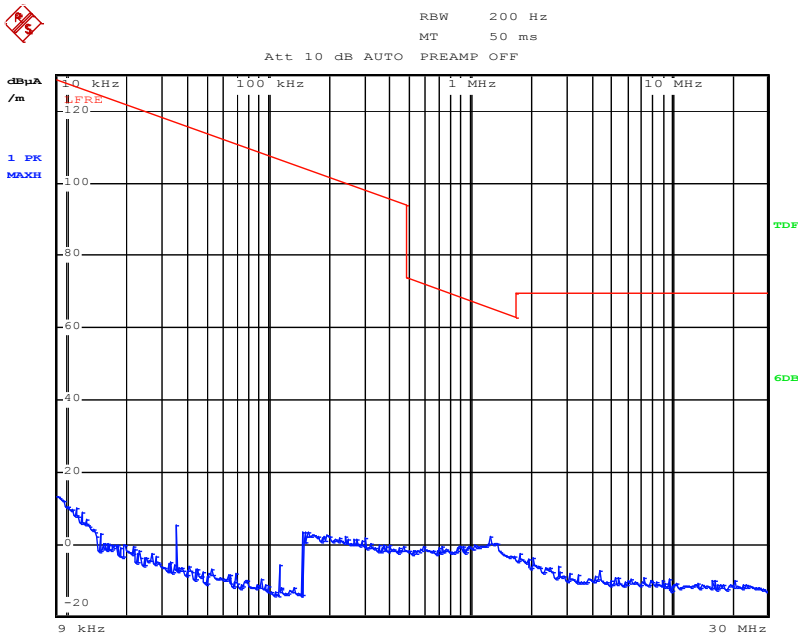
Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 18:30:10
Engineer Signature:
Distance: 3m

Note: EDR



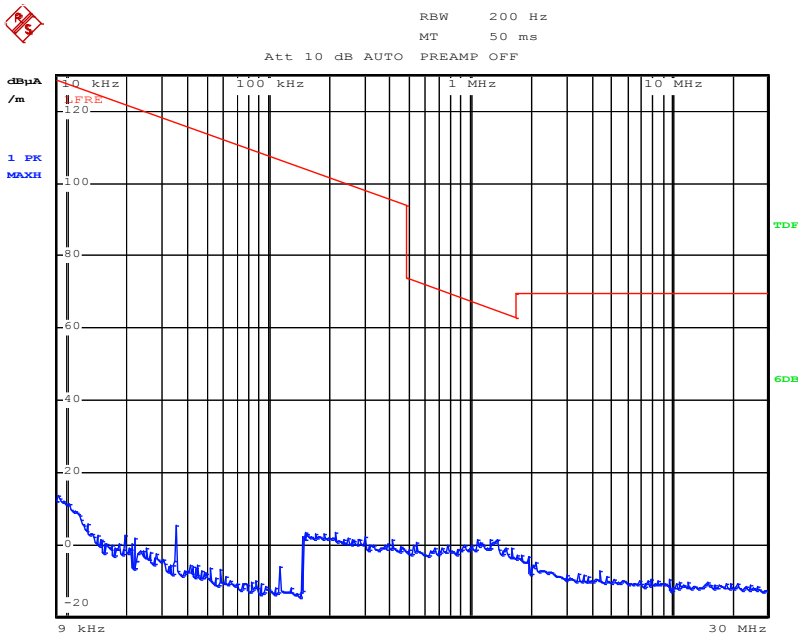
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24950.674	33.14	18.83	51.97	74.00	-22.03	peak			
2	24950.674	22.09	18.83	40.92	54.00	-13.08	AVG			

Figure 41: Test figure of spurious emissions, mode A.3, Horizontal polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 21:06:29

Figure 42: Test figure of spurious emissions, mode A.3, Vertical polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 21:08:23

Figure 43: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation

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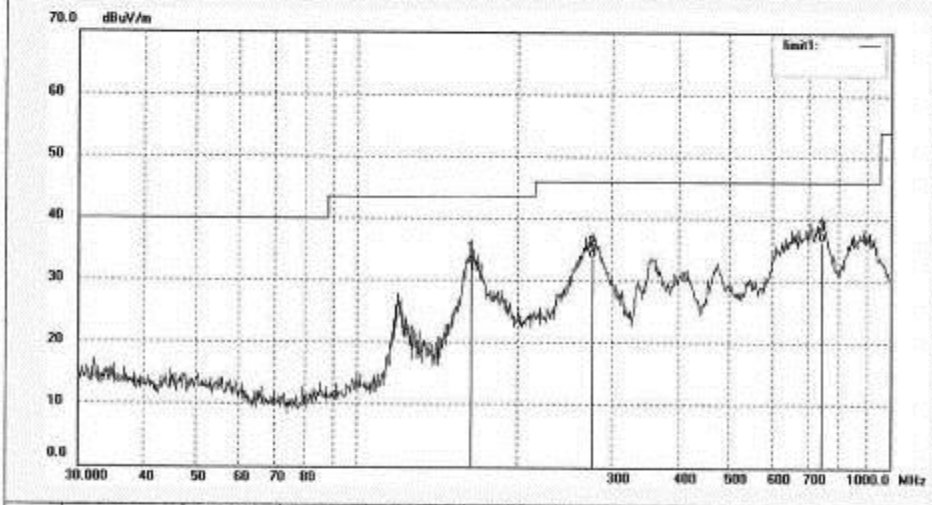
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2465	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 12:08:46
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



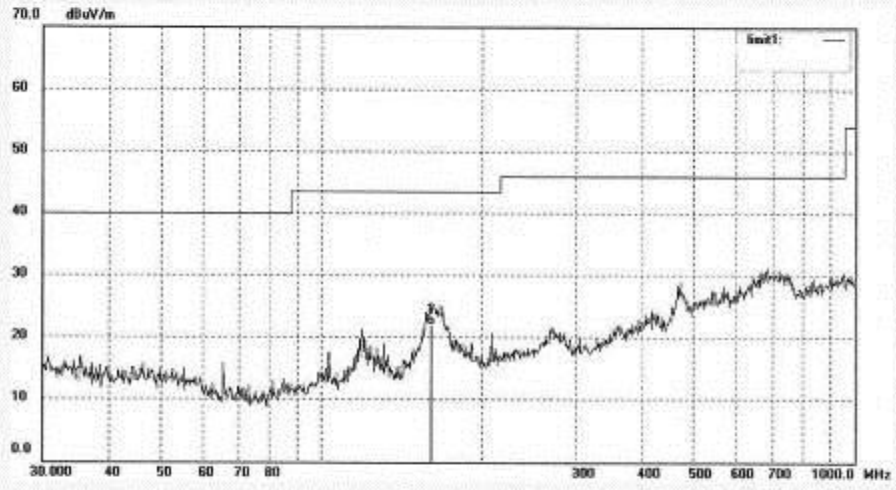
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	163.1622	47.06	-14.49	32.57	43.50	-10.93	QP			
2	275.4123	43.72	-9.96	33.76	46.00	-12.24	QP			
3	747.0465	37.65	-1.08	36.57	46.00	-9.43	QP			

Figure 44: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz), 8DPSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

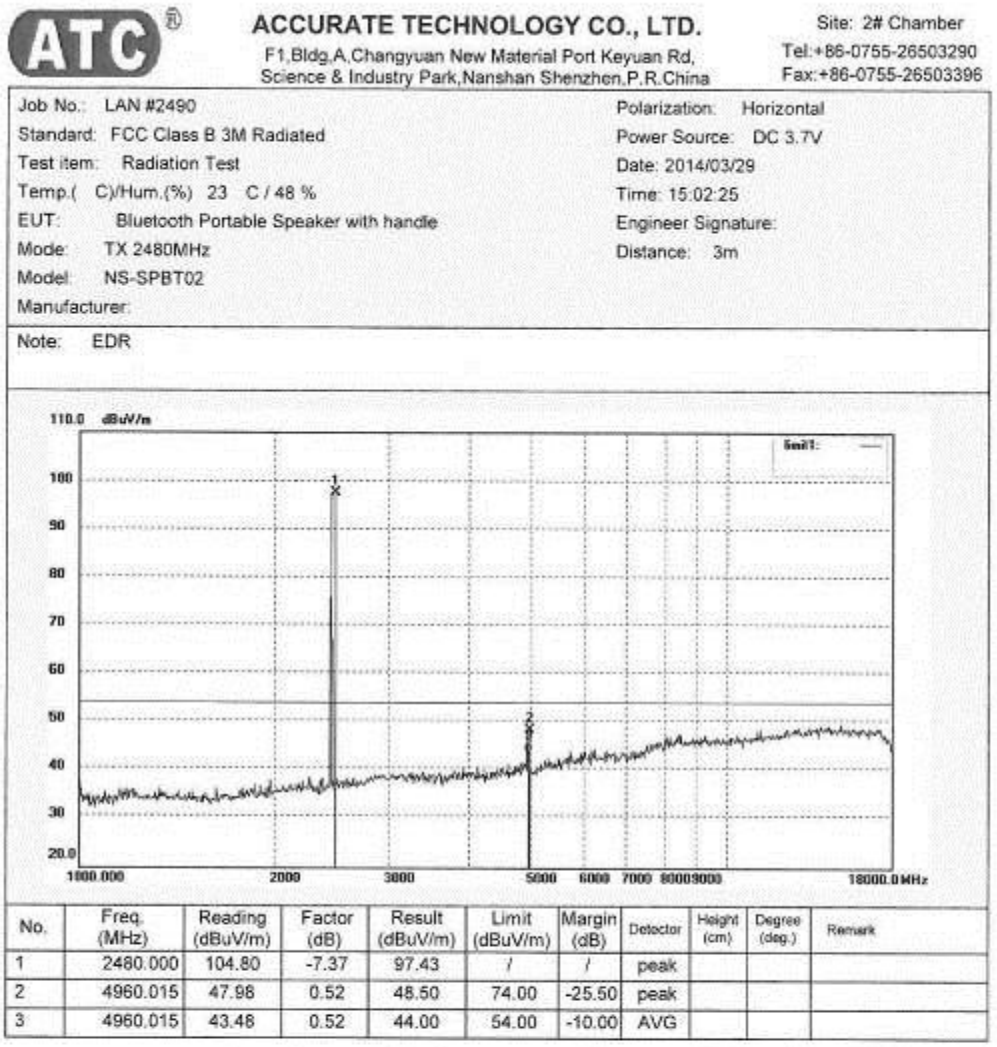
Job No.: LAN #2466	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 12:16:51
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	160.3206	36.47	-14.54	21.93	43.50	-21.57	QP			

Figure 45: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz –18GHz), 8DPSK Modulation



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	104.80	-7.37	97.43	/	/	peak			
2	4960.015	47.98	0.52	48.50	74.00	-25.50	peak			
3	4960.015	43.48	0.52	44.00	54.00	-10.00	AVG			

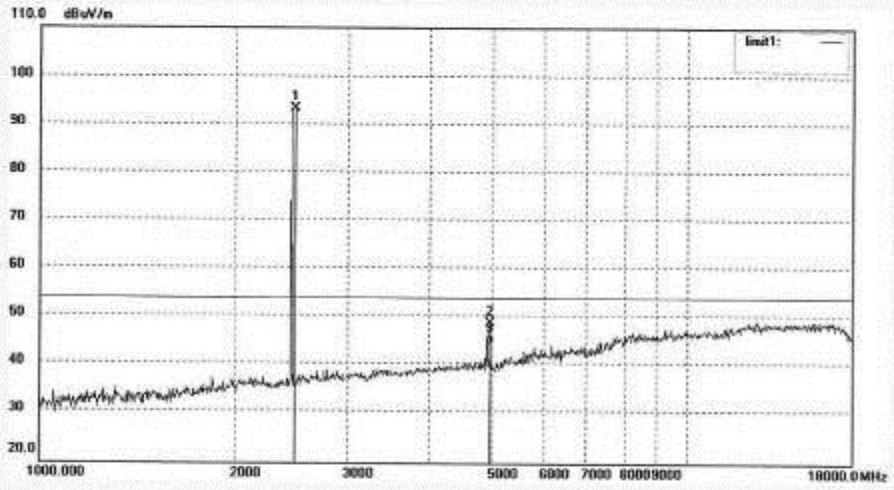
Figure 46: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 18GHz), 8DPSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2489
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2480MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 14:50:49
Engineer Signature:
Distance: 3m

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	100.67	-7.37	93.30	/	/	peak			
2	4960.020	48.33	0.52	48.85	74.00	-25.15	peak			
3	4960.020	44.05	0.52	44.57	54.00	-9.43	AVG			

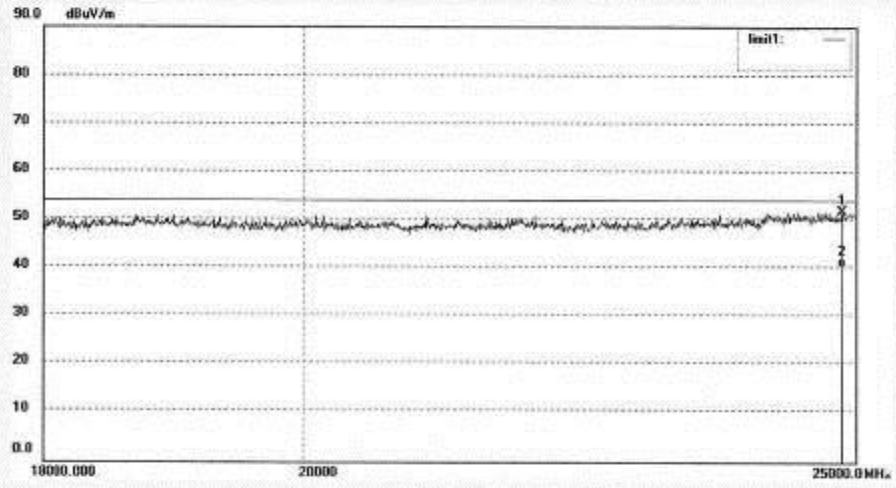
Figure 47: Test figure of spurious emissions, mode A.3, Horizontal polarity (18GHz –25GHz), 8DPSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2515
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2480MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 18:39:37
Engineer Signature:
Distance: 3m

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24860.497	33.09	18.70	51.79	74.00	-22.21	peak			
2	24860.497	21.76	18.70	40.46	54.00	-13.54	AVG			

Figure 48: Test figure of spurious emissions, mode A.3, Vertical polarity (18GHz – 25GHz), 8DPSK Modulation

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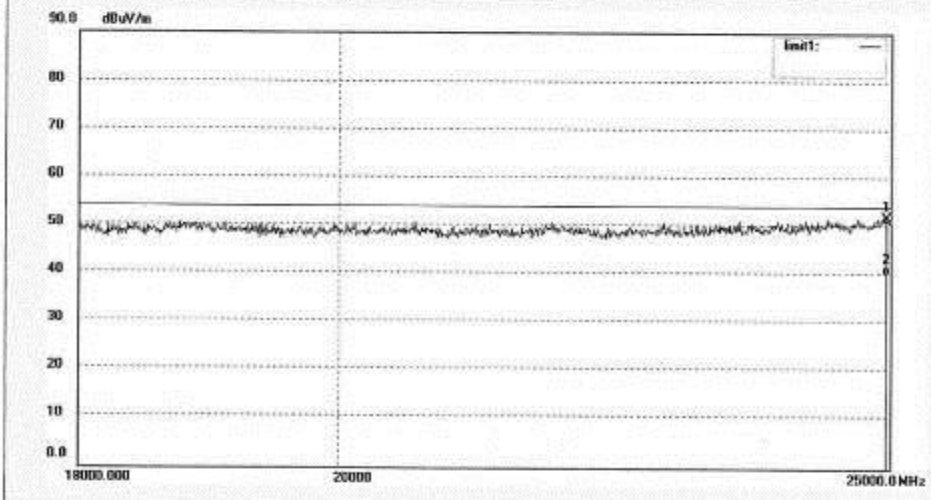
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

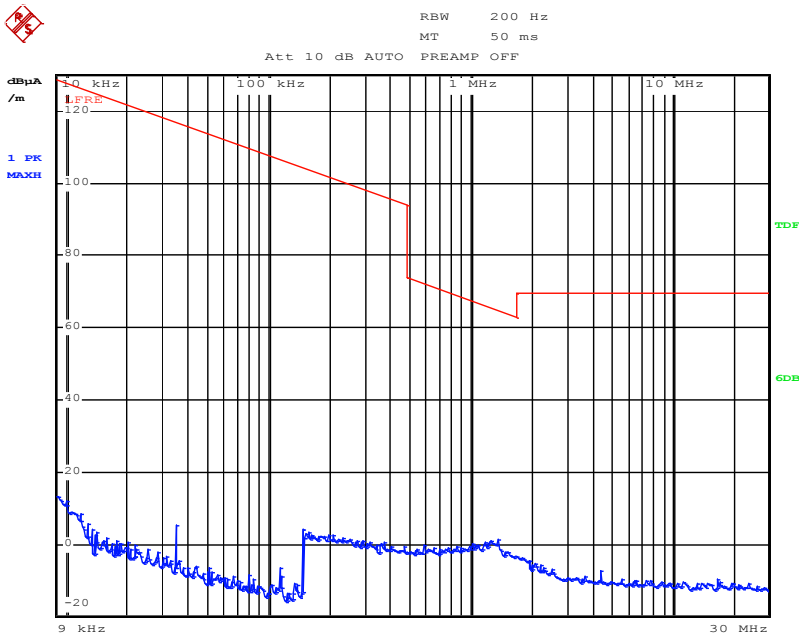
Job No.: LAN #2516	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 18:47:54
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



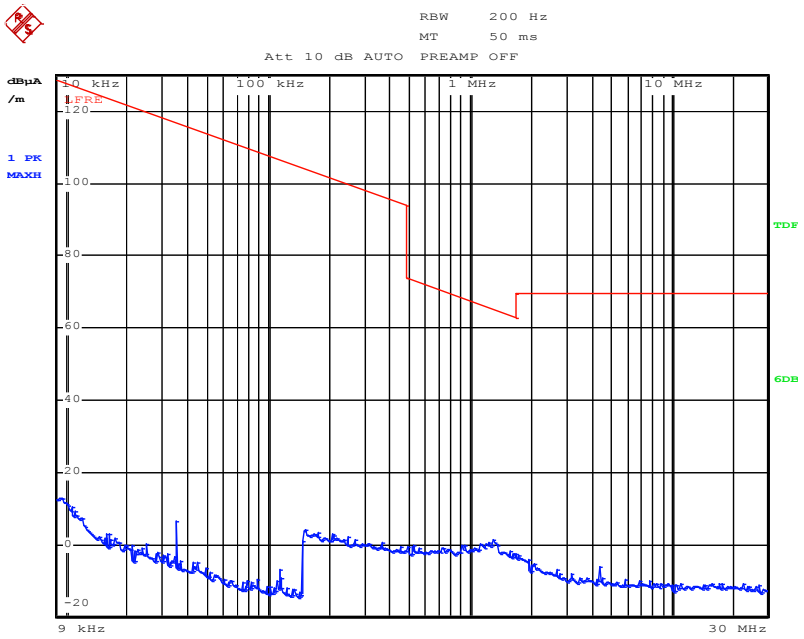
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24958.889	33.12	18.84	51.96	74.00	-22.04	peak			
2	24958.889	21.38	18.84	40.22	54.00	-13.78	AVG			

Figure 49: Test figure of spurious emissions, mode B, Horizontal polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:52:20

Figure 50: Test figure of spurious emissions, mode B, Vertical polarity (9kHz – 30MHz), GFSK Modulation



Date: 29.MAR.2014 20:48:30

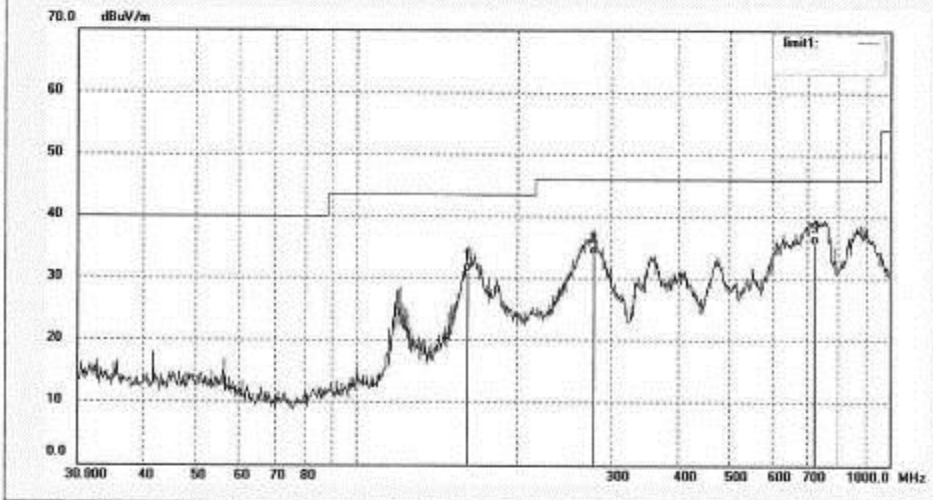
Figure 51: Test figure of spurious emissions, mode B, Horizontal polarity (30MHz – 1GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2467
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: RX 2402MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 12:25:55
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	161.4515	45.53	-14.52	31.01	43.50	-12.49	QP			
2	278.3308	43.78	-9.89	33.89	46.00	-12.11	QP			
3	723.7930	37.01	-1.43	35.58	46.00	-10.42	QP			

Figure 52: Test figure of spurious emissions, mode B, Vertical polarity (30MHz – 1GHz), GFSK Modulation

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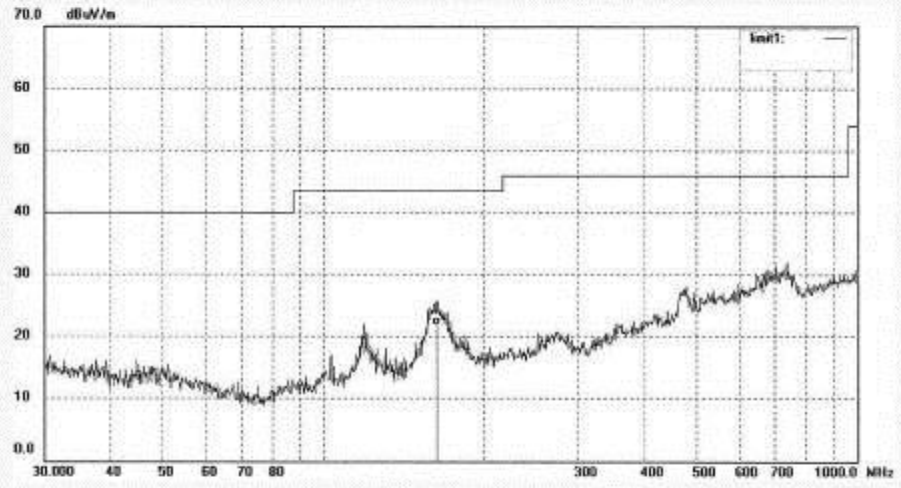
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2468	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 12:34:07
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: RX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	162.5900	36.28	-14.50	21.78	43.50	-21.72	QP			

Figure 53: Test figure of spurious emissions, mode B, Horizontal polarity (1GHz –18GHz), GFSK Modulation

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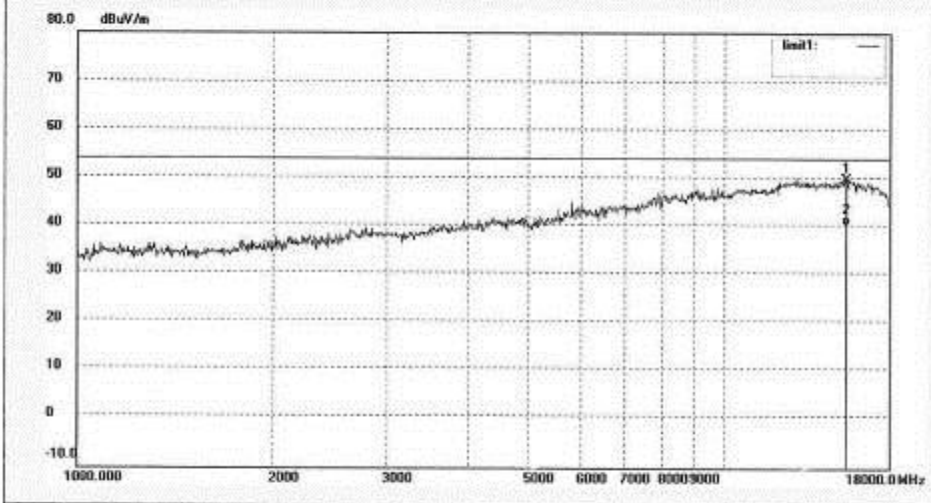
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2491
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: RX 2402MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 15:13:14
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	15471.706	9.64	40.16	49.80	74.00	-24.20	peak			
2	15471.706	0.15	40.16	40.31	54.00	-13.69	AVG			

Figure 54: Test figure of spurious emissions, mode B, Vertical polarity (1GHz – 18GHz), GFSK Modulation

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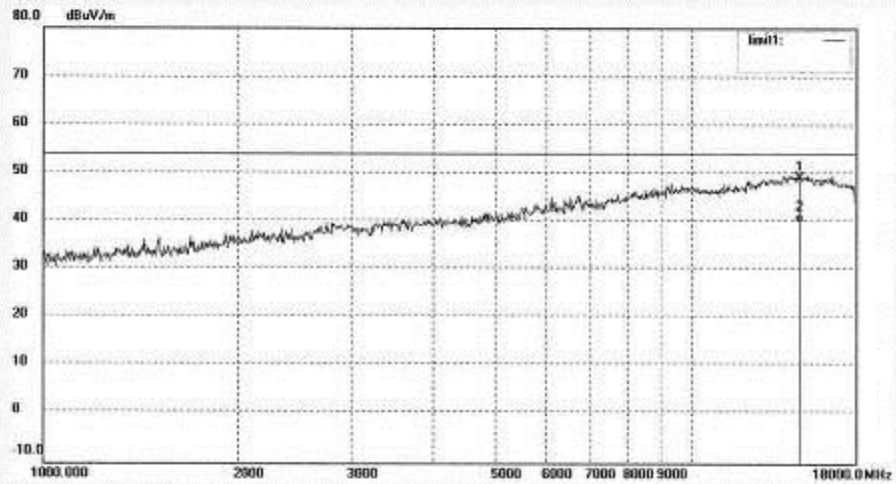
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2492	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 15:22:19
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: RX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14767.679	7.36	41.80	49.16	74.00	-24.84	peak			
2	14767.679	-2.03	41.80	39.77	54.00	-14.23	AVG			

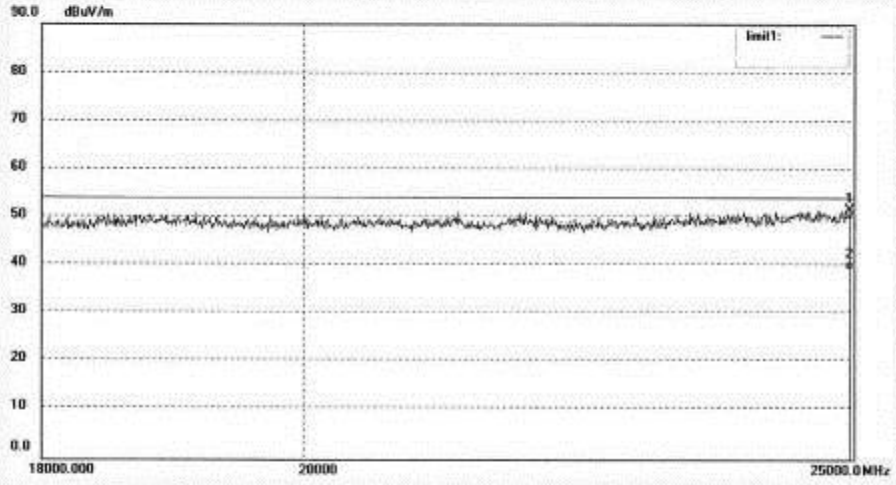
Figure 55: Test figure of spurious emissions, mode B, Horizontal polarity (18GHz –25GHz), GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2517
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: RX 2402MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 18:54:43
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24967.105	32.88	18.85	51.73	74.00	-22.27	peak			
2	24967.105	20.34	18.85	39.19	54.00	-14.81	AVG			

Figure 56: Test figure of spurious emissions, mode B, Vertical polarity (18GHz – 25GHz), GFSK Modulation

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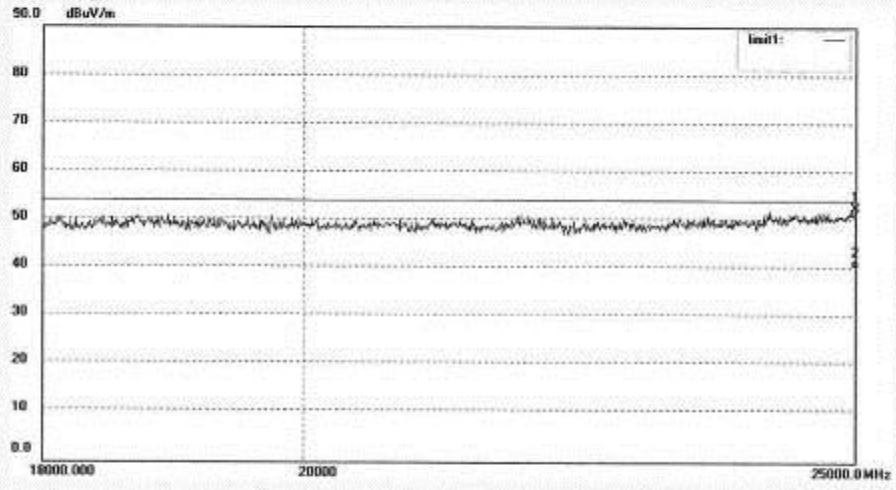
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

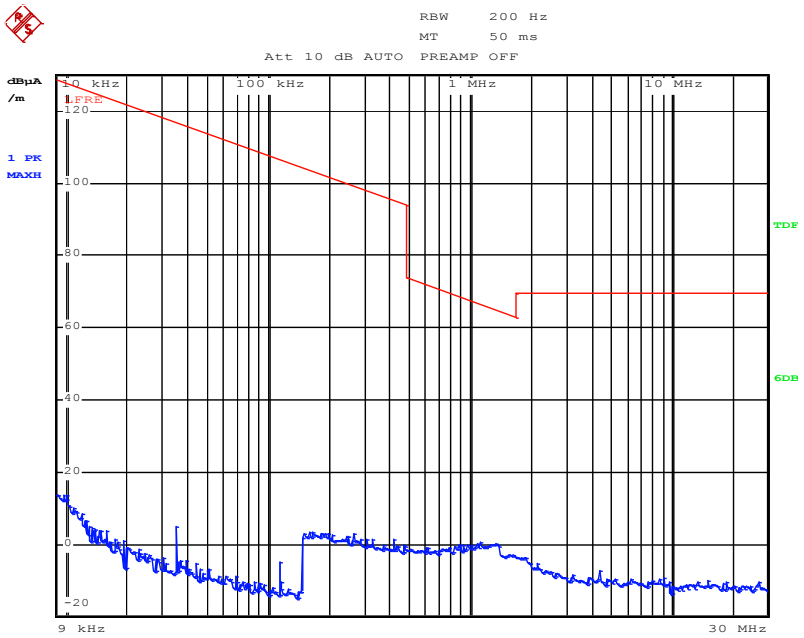
Job No.: LAN #2518	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 19:03:35
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: RX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



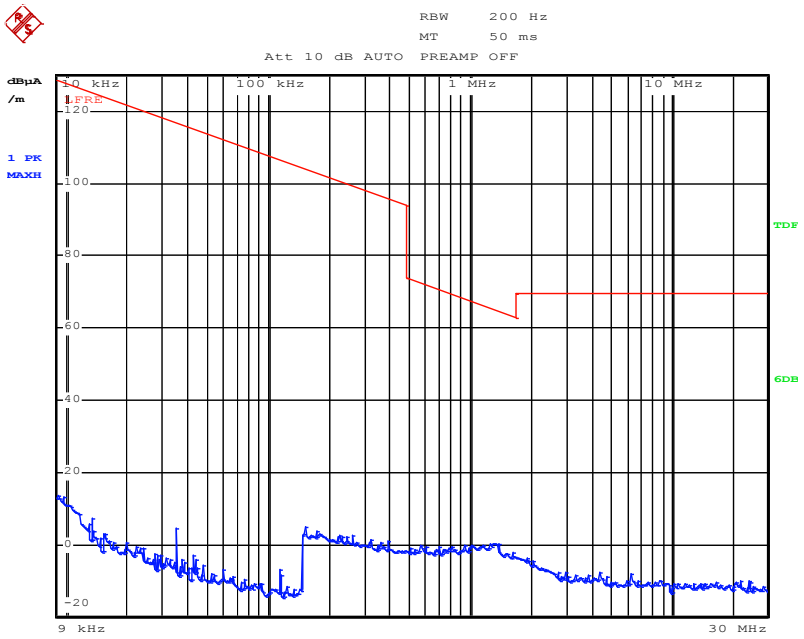
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25000.000	33.67	18.90	52.57	74.00	-21.43	peak			
2	25000.000	21.21	18.90	40.11	54.00	-13.89	AVG			

Figure 57: Test figure of spurious emissions, mode B, Horizontal polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 21:12:24

Figure 58: Test figure of spurious emissions, mode B, Vertical polarity (9kHz – 30MHz), 8DPSK Modulation



Date: 29.MAR.2014 21:14:18

Figure 59: Test figure of spurious emissions, mode B, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation

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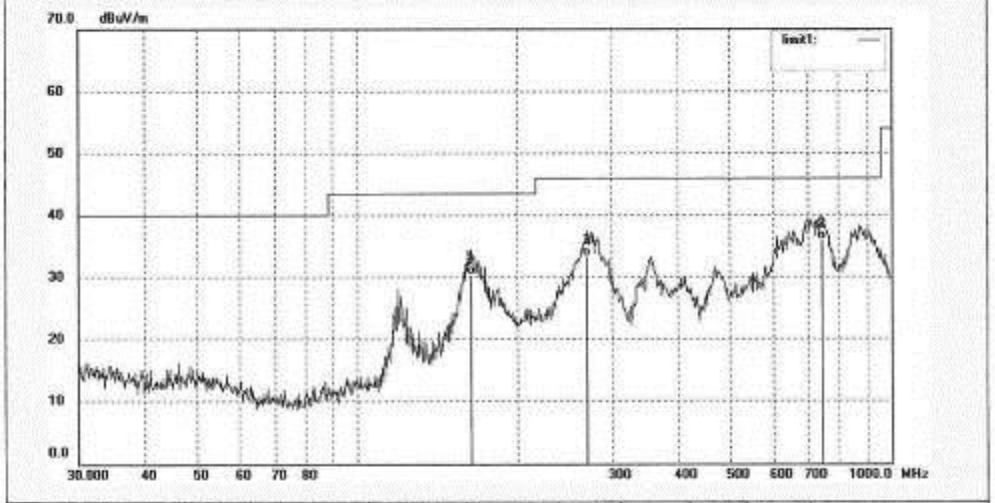
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

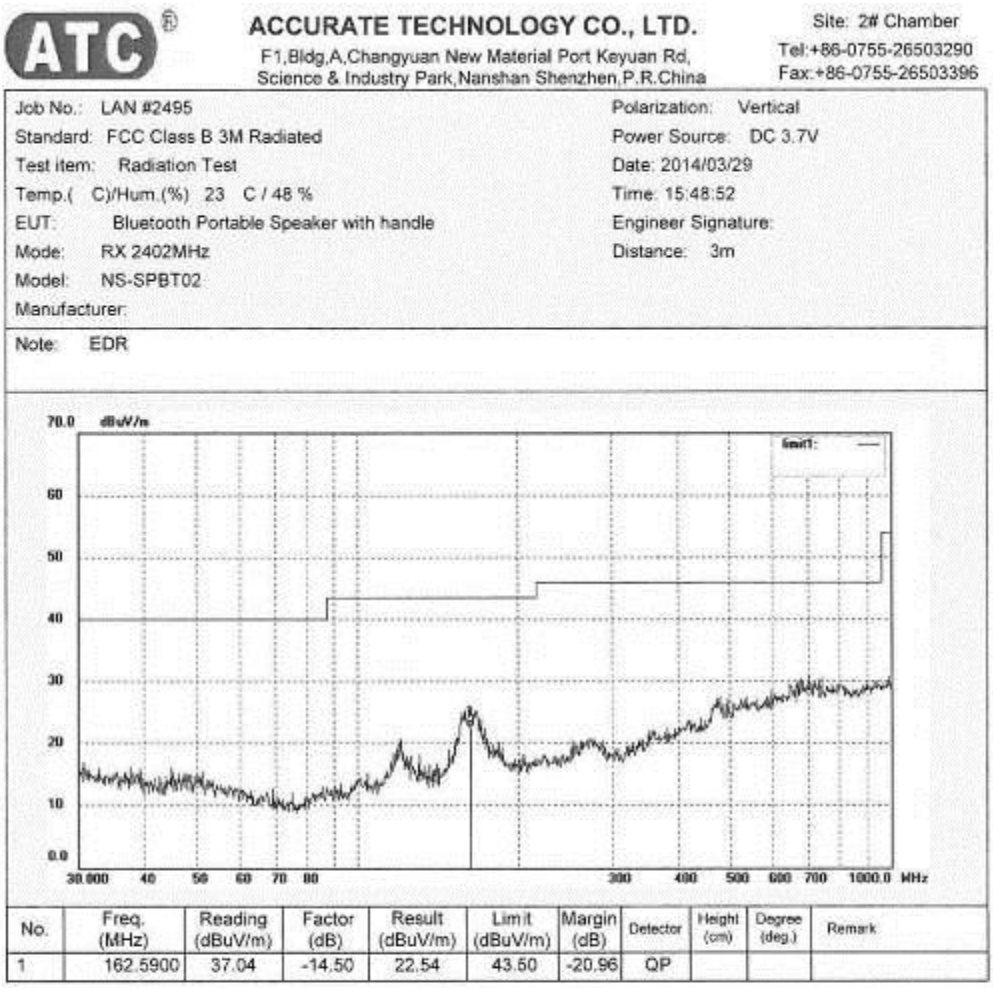
Job No.: LAN #2473	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 12:46:32
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: RX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



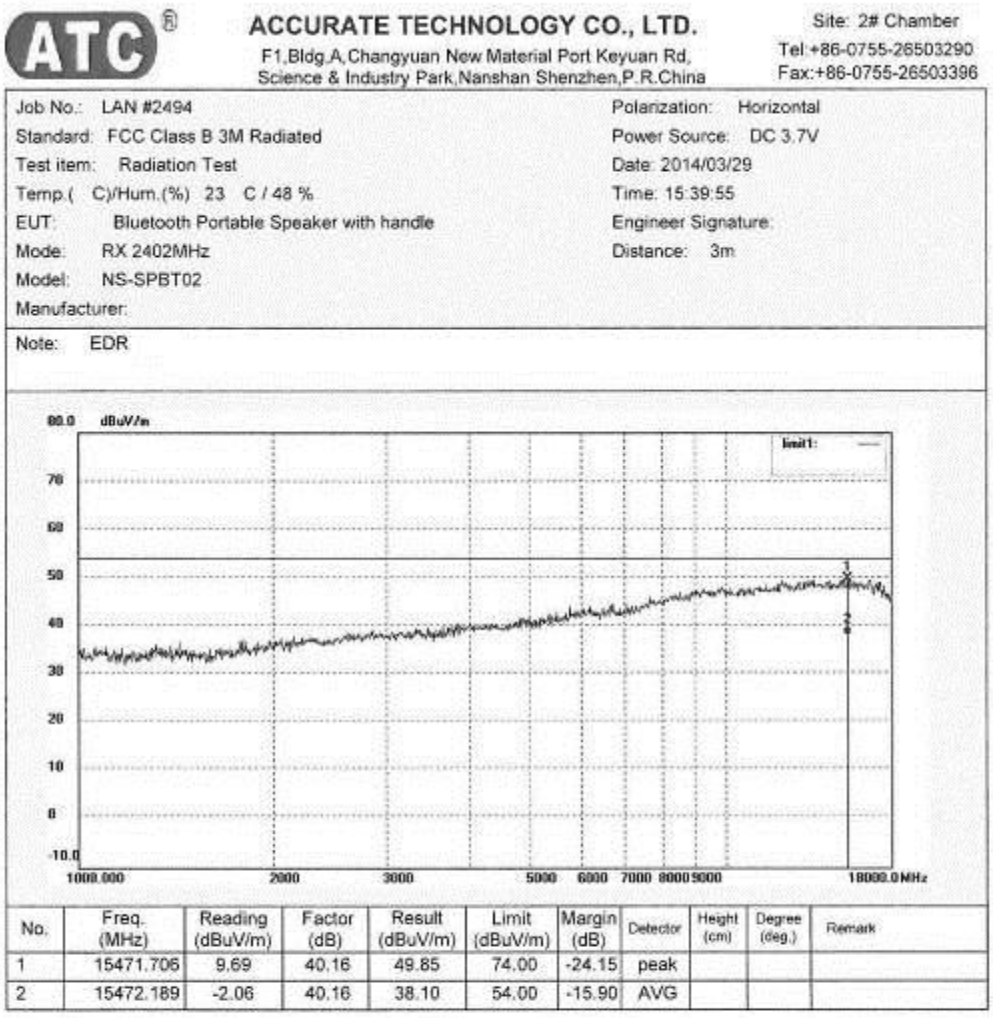
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	163.7366	44.80	-14.49	30.31	43.50	-13.19	QP			
2	269.6668	43.51	-10.20	33.31	46.00	-12.69	QP			
3	741.8155	37.06	-1.17	35.89	46.00	-10.11	QP			

Figure 60: Test figure of spurious emissions, mode B, Vertical polarity (30MHz – 1GHz), 8DPSK Modulation



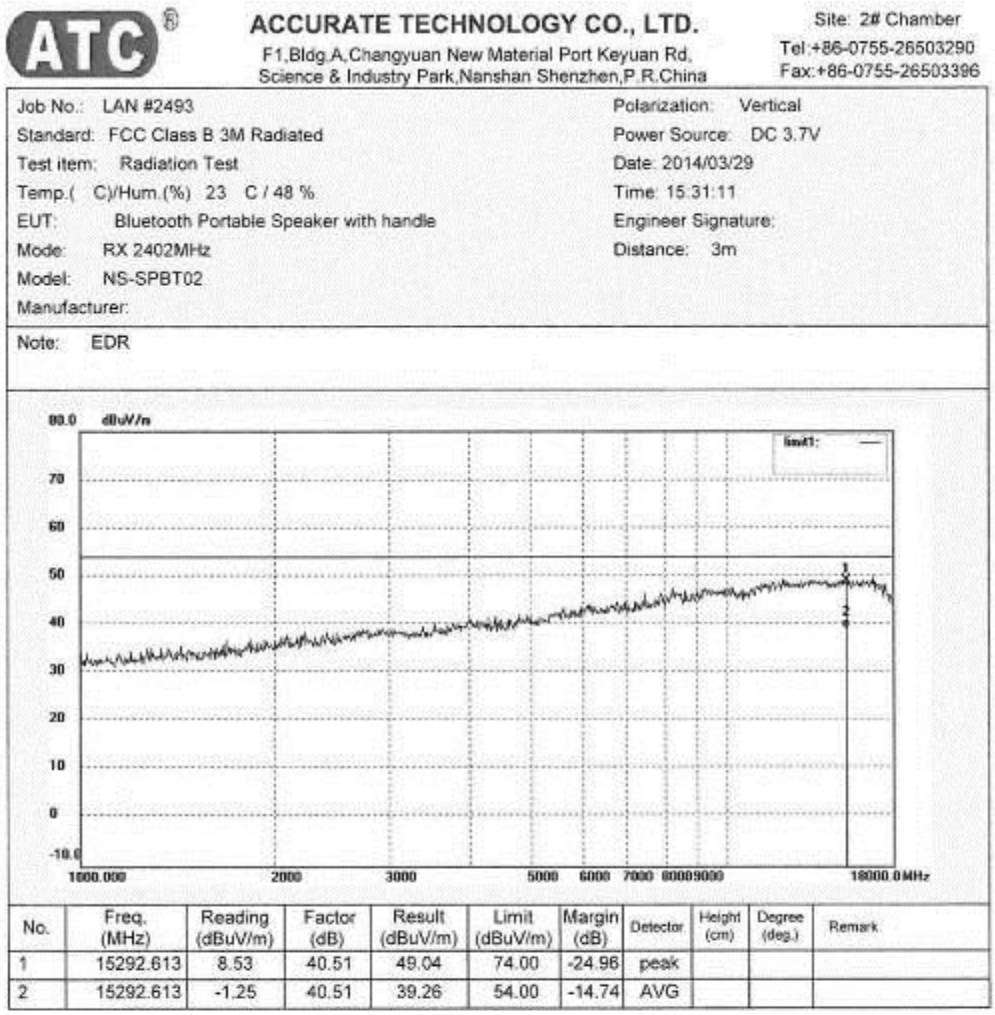
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	162.5900	37.04	-14.50	22.54	43.50	-20.96	QP			

Figure 61: Test figure of spurious emissions, mode B, Horizontal polarity (1GHz –18GHz), 8DPSK Modulation



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	15471.706	9.69	40.16	49.85	74.00	-24.15	peak			
2	15472.189	-2.06	40.16	38.10	54.00	-15.90	AVG			

Figure 62: Test figure of spurious emissions, mode B, Vertical polarity (1GHz – 18GHz), 8DPSK Modulation



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	15292.613	8.53	40.51	49.04	74.00	-24.96	peak			
2	15292.613	-1.25	40.51	39.26	54.00	-14.74	AVG			

Figure 63: Test figure of spurious emissions, mode B, Horizontal polarity (18GHz –25GHz), 8DPSK Modulation

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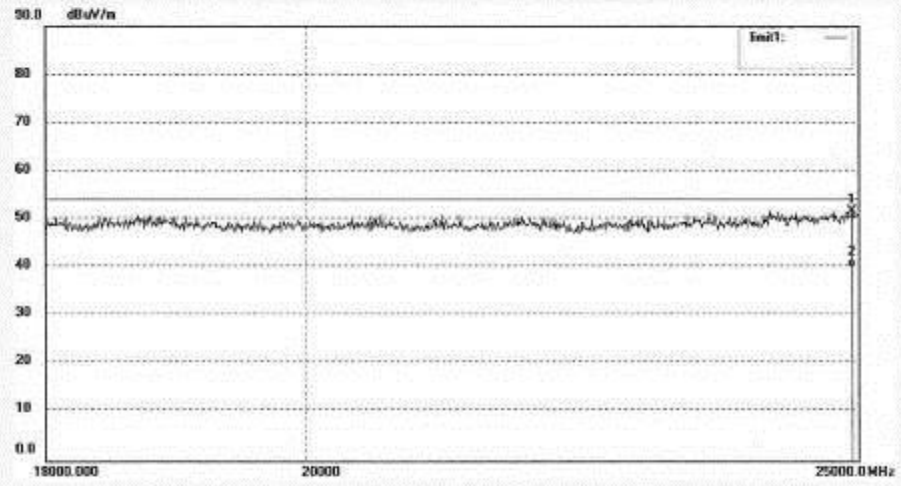
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2520	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 19:20:18
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: RX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24942.463	32.89	18.82	51.71	74.00	-22.29	peak			
2	24942.463	21.05	18.82	39.87	54.00	-14.13	AVG			

Figure 64: Test figure of spurious emissions, mode B, Vertical polarity (18GHz – 25GHz), 8DPSK Modulation

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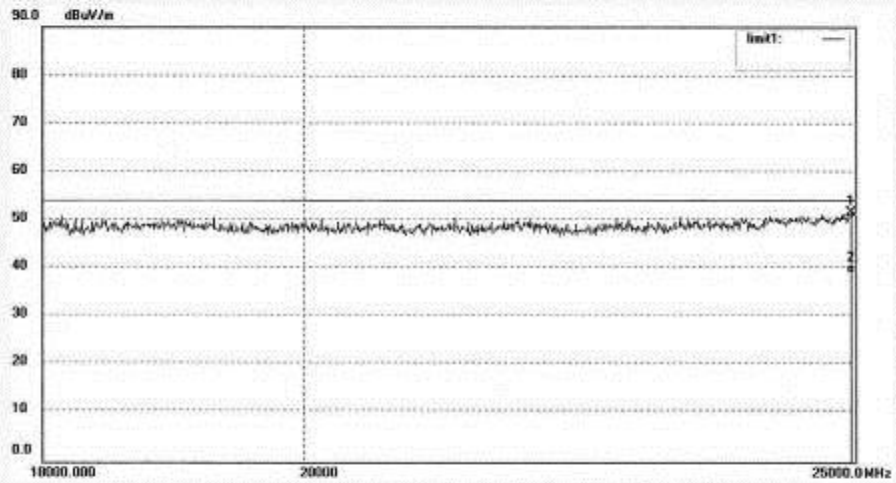
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2519	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 19:11:37
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: RX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24956.889	32.85	18.84	51.69	74.00	-22.31	peak			
2	24956.889	20.19	18.84	39.03	54.00	-14.97	AVG			

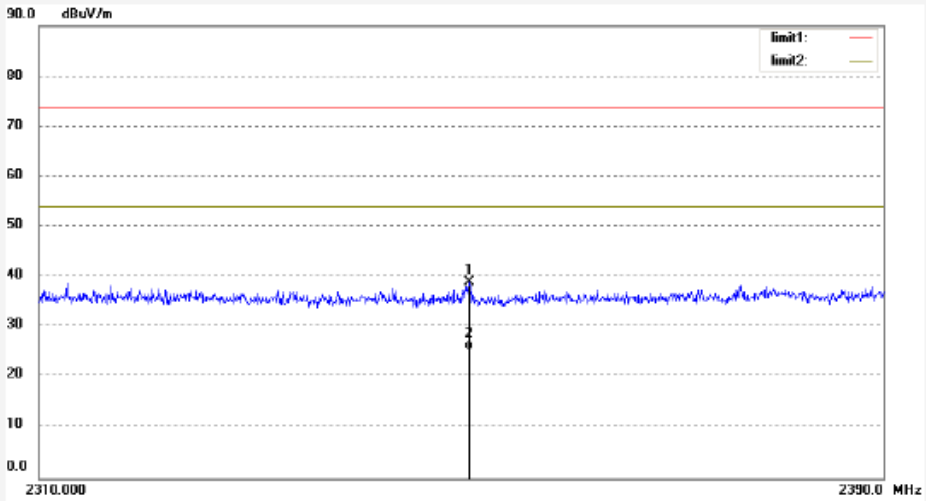
Figure 65: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal, GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2496
Standard: FCC Part 15 Band Edge (2.4G)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: TX 2402MHz
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 16:00:59
Engineer Signature:
Distance: 3m

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2350.461	46.80	-7.79	39.01	74.00	-34.99	peak			
2	2350.461	33.25	-7.79	25.46	54.00	-28.54	AVG			

Figure 66: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical, GFSK Modulation

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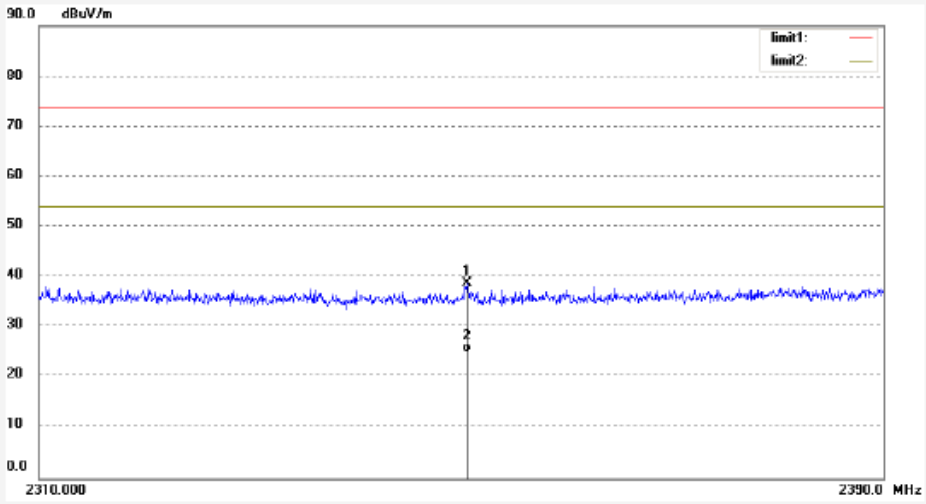
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2497	Polarization: Vertical
Standard: FCC Part 15 Band Edge (2.4G)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 16:08:43
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2350.221	46.63	-7.79	38.84	74.00	-35.16	peak			
2	2350.221	32.96	-7.79	25.17	54.00	-28.83	AVG			

Figure 67: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal, GFSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
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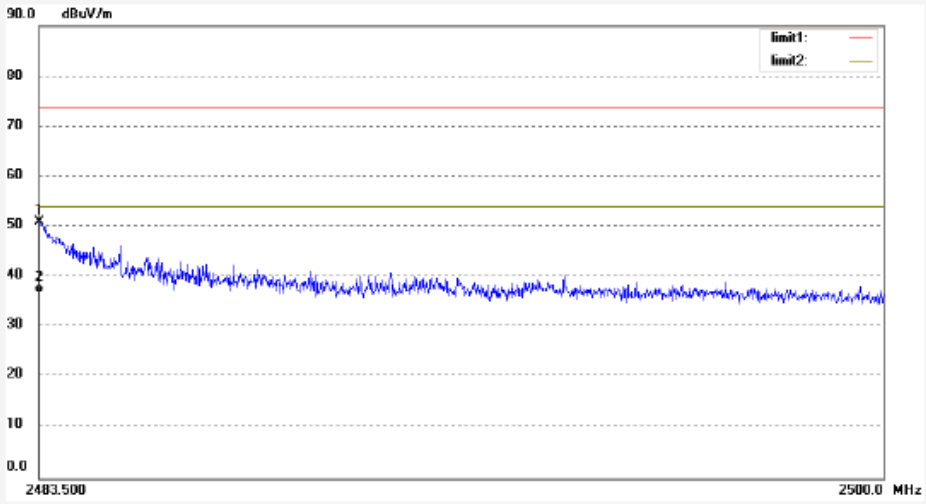
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2498	Polarization: Vertical
Standard: FCC Part 15 Band Edge (2.4G)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 16:17:06
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.530	58.24	-7.37	50.87	74.00	-23.13	peak			
2	2483.530	44.07	-7.37	36.70	54.00	-17.30	AVG			

Figure 68: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical, GFSK Modulation

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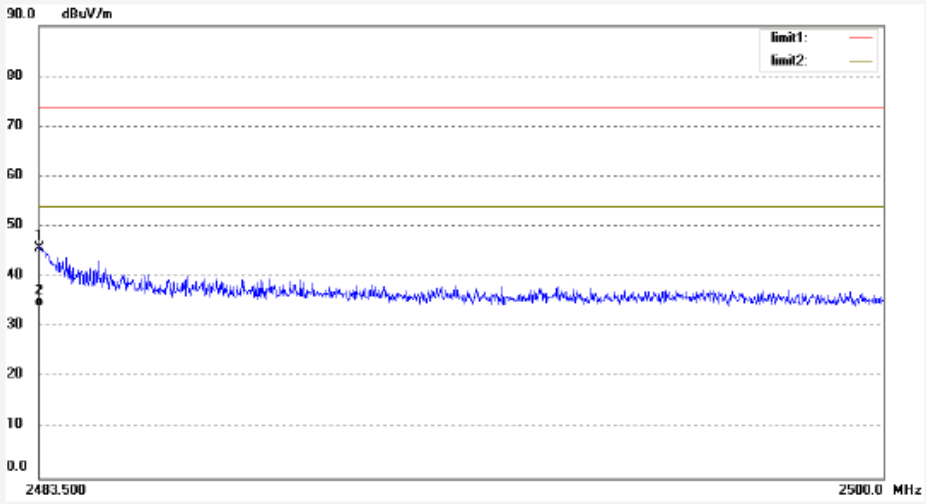
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2499	Polarization: Horizontal
Standard: FCC Part 15 Band Edge (2.4G)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 16:25:22
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: BDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	53.08	-7.37	45.71	74.00	-28.29	peak			
2	2483.500	41.47	-7.37	34.10	54.00	-19.90	AVG			

Figure 69: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal, 8DPSK Modulation

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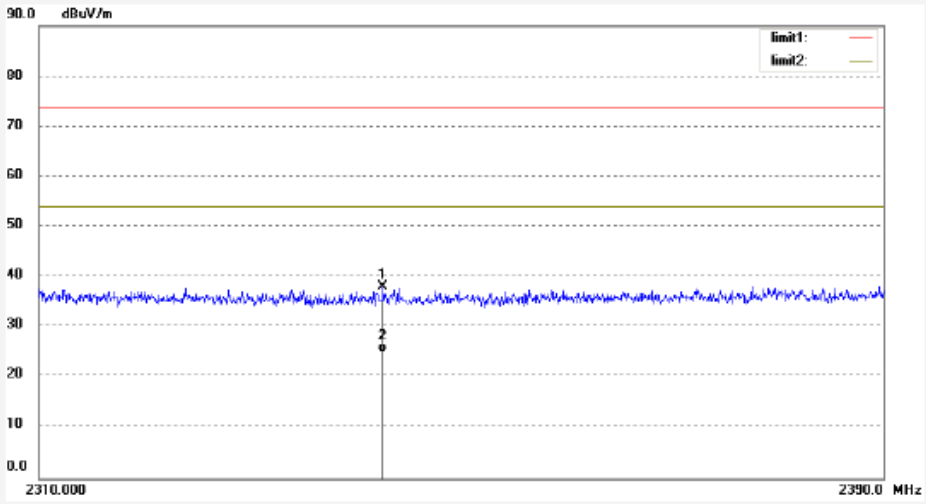
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2500	Polarization: Horizontal
Standard: FCC Part 15 Band Edge (2.4G)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 16:34:50
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2342.297	45.85	-7.80	38.05	74.00	-35.95	peak			
2	2342.297	32.99	-7.80	25.19	54.00	-28.81	AVG			

Figure 70: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical, 8DP SK Modulation

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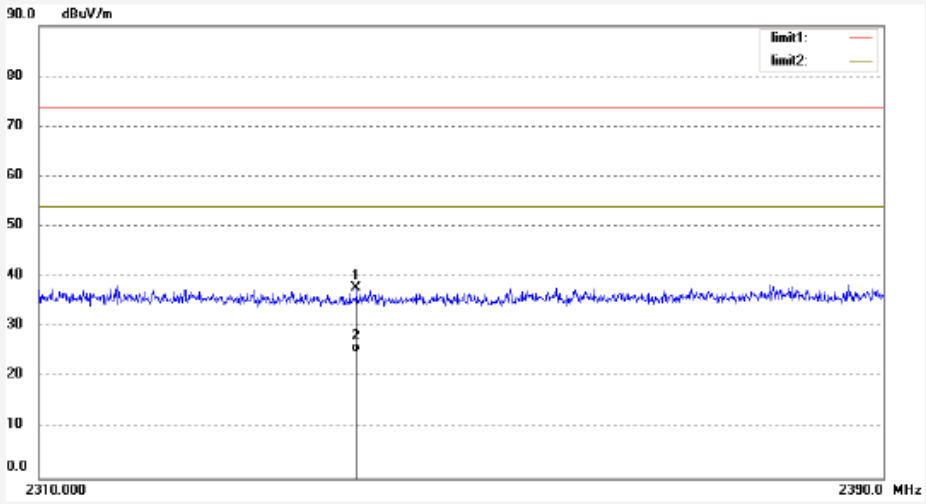
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2501	Polarization: Vertical
Standard: FCC Part 15 Band Edge (2.4G)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 16:42:44
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2339.741	45.63	-7.80	37.83	74.00	-36.17	peak			
2	2339.741	32.87	-7.80	25.07	54.00	-28.93	AVG			

Figure 71: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal, 8DPSK Modulation

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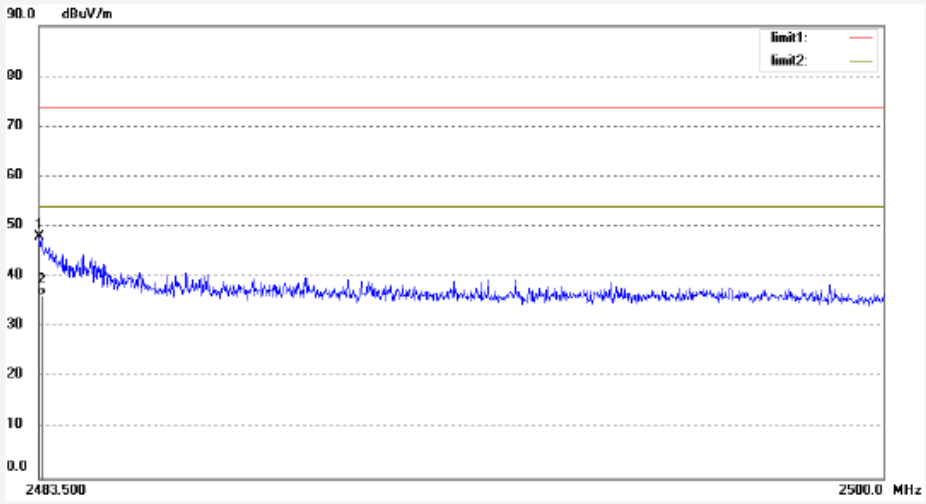
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2502	Polarization: Vertical
Standard: FCC Part 15 Band Edge (2.4G)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 16:50:16
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	55.48	-7.37	48.11	74.00	-25.89	peak			
2	2483.500	43.69	-7.37	36.32	54.00	-17.68	AVG			

Figure 72: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical, 8DPSK Modulation

ACCURATE TECHNOLOGY CO., LTD.
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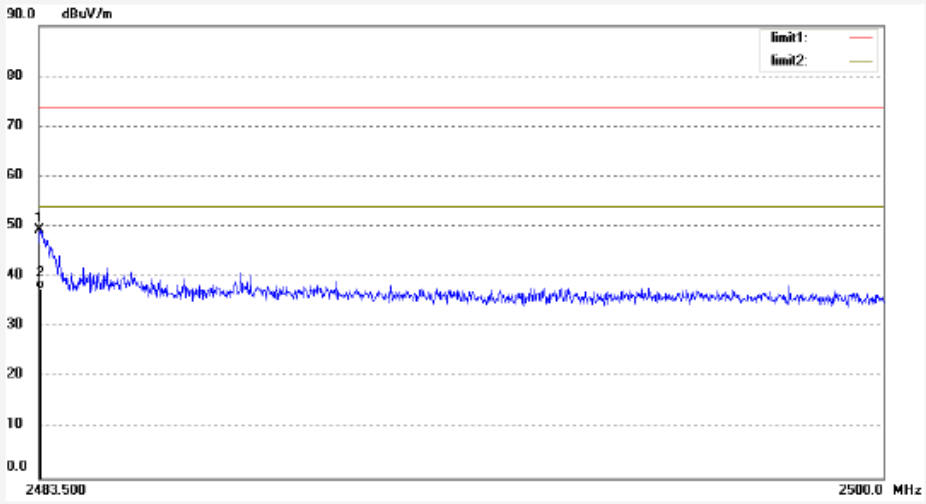
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2503	Polarization: Horizontal
Standard: FCC Part 15 Band Edge (2.4G)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 16:59:42
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note: EDR



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	56.86	-7.37	49.49	74.00	-24.51	peak			
2	2483.500	44.97	-7.37	37.60	54.00	-16.40	AVG			

Figure 73: Test figure of Conducted emissions, Mode C, line live

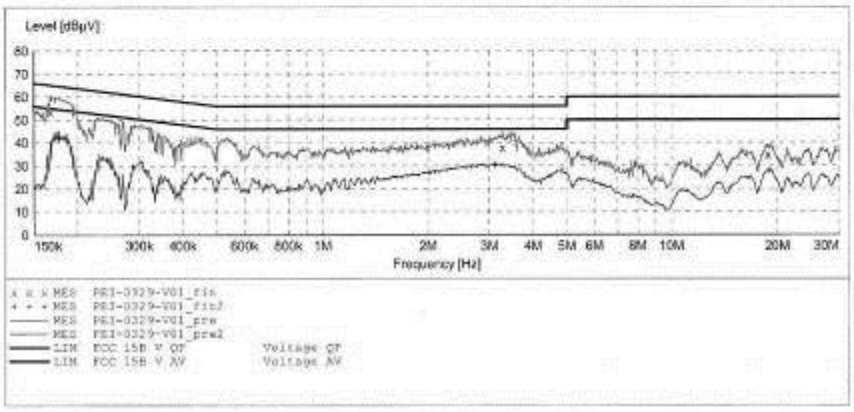
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

```
EUT:                Bluetooth Portable Speaker with handle M/N:NS-SPBT02
Manufacturer:
Operating Condition: Charging
Test Site:          1#Shielding Room
Operator:           PEI
Test Specification: L 120V/60Hz
Comment:
Start of Test:      3/29/2014 / 9:17:20PM
```

SCAN TABLE: "V 150K-30MHz fin"

```
Short Description:              SUB_STD_VTERM2 1.70
Start      Stop       Step      Detector  Meas.     IF       Transducer
Frequency  Frequency  Width               Time      Bandw.
150.0 kHz  30.0 MHz   4.5 kHz   QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                Average
```



MEASUREMENT RESULT: "PEI-0329-V01_fin"

3/29/2014 9:25PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.167071	53.50	10.5	65	11.6	QP	L1	GND
3.269773	37.90	11.1	56	18.1	QP	L1	GND
18.788139	34.60	11.4	60	25.4	QP	L1	GND

MEASUREMENT RESULT: "PEI-0329-V01_fin2"

3/29/2014 9:25PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.176674	41.70	10.5	55	12.9	AV	L1	GND
3.104411	30.30	11.1	46	15.7	AV	L1	GND
19.014499	27.80	11.4	50	22.2	AV	L1	GND

Figure 74: Test figure of Conducted emissions, Mode C, line neutral

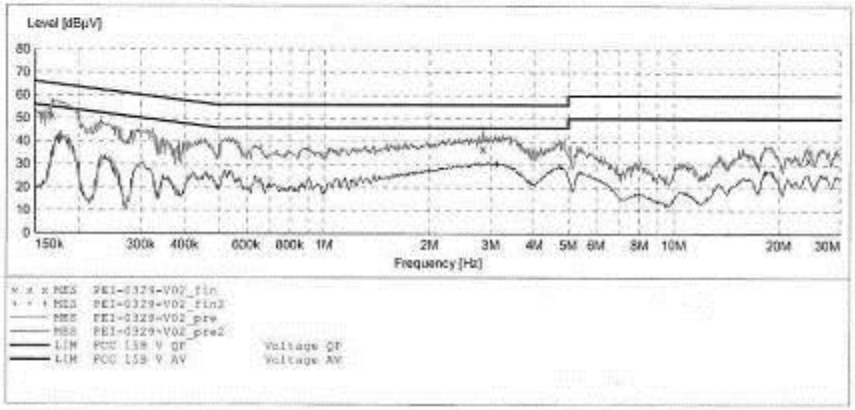
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

```
EUT:                Bluetooth Portable Speaker with handle M/N:NS-SPBT02
Manufacturer:       BMZ
Operating Condition: Charging
Test Site:          1#Shielding Room
Operator:           PEI
Test Specification: N 120V/60Hz
Comment:
Start of Test:      3/29/2014 / 9:26:20PM
```

SCAN TABLE: "V 150K-30MHz fin"

```
Short Description:                  _SUB_STD_VTERM2 1.70
Start      Stop       Step      Detector  Meas.     IF       Transducer
Frequency  Frequency  Width               Time      Bandw.
150.0 kHz  30.0 MHz   4.5 kHz   QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                Average
```



MEASUREMENT RESULT: "PEI-0329-V02_fin"

3/29/2014 9:35PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.167071	51.30	10.5	65	13.8	QP	N	GND
2.843398	36.90	11.0	56	19.1	QP	N	GND
24.257240	32.20	11.5	60	27.8	QP	N	GND

MEASUREMENT RESULT: "PEI-0329-V02_fin2"

3/29/2014 9:35PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.175970	41.00	10.5	55	13.7	AV	N	GND
3.116829	30.30	11.1	46	15.7	AV	N	GND
18.270388	26.40	11.4	50	23.6	AV	N	GND

Figure 75: Test figure of Radiated emissions, Mode C, Below 1GHz, Horizontal

ACCURATE TECHNOLOGY CO., LTD.
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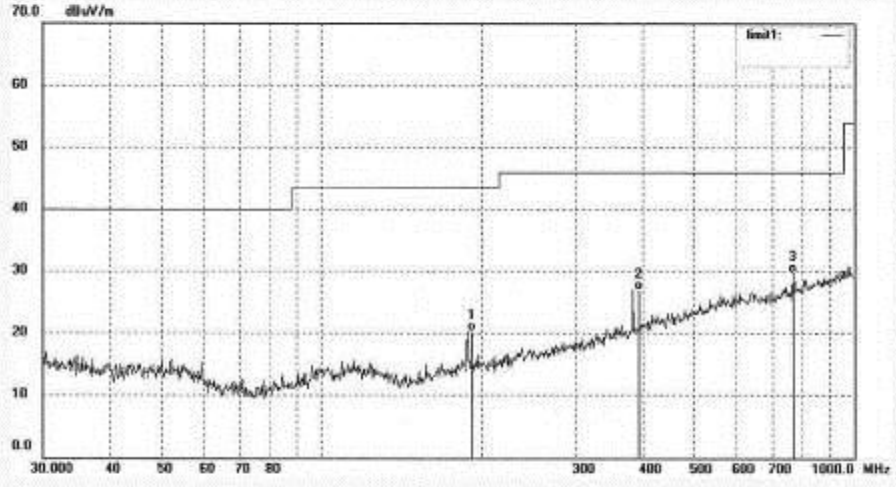
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2521
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: Aux in
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 19:27:07
Engineer Signature:
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	190.8340	33.04	-12.61	20.43	43.50	-23.07	QP			
2	390.0116	34.32	-7.22	27.10	46.00	-18.90	QP			
3	770.3431	30.59	-0.69	29.90	46.00	-16.10	QP			

Figure 76: Test figure of Radiated emissions, Mode C, Below 1GHz, Vertical

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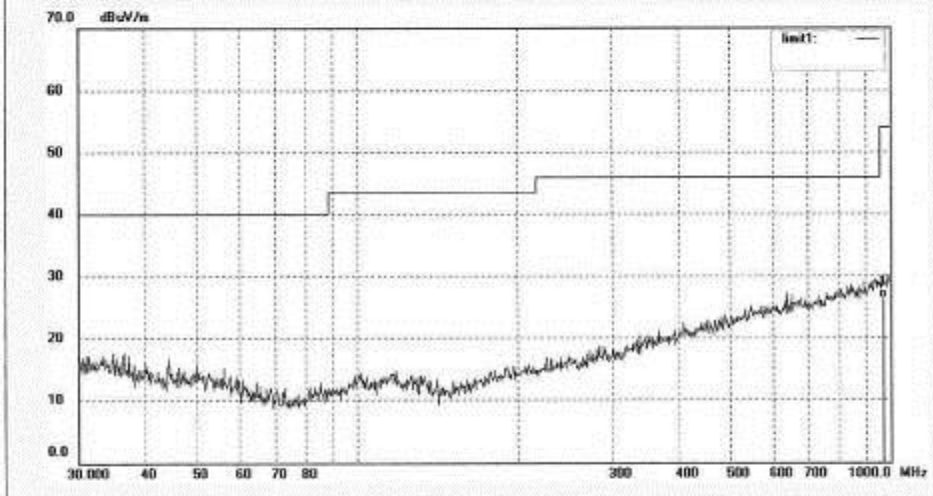
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2522
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: Aux in
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 3.7V
Date: 2014/03/29
Time: 19:35:17
Engineer Signature:
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	960.0000	23.94	2.37	26.31	46.00	-19.69	QP			

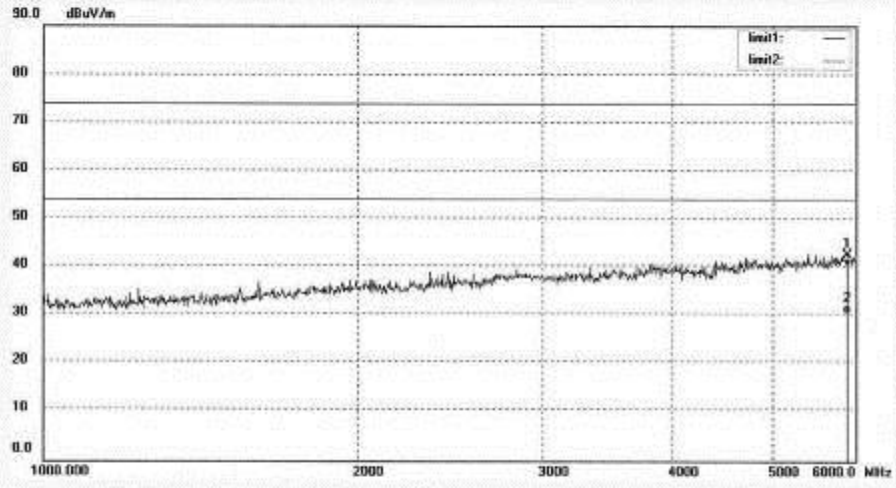
Figure 77: Test figure of Radiated emissions, Mode C, Above 1GHz, Horizontal

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2527
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: Aux in
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2014/03/29
Time: 20:24:56
Engineer Signature:
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5892.815	40.77	1.94	42.71	74.00	-31.29	peak			
2	5892.815	28.52	1.94	30.46	54.00	-23.54	AVG			

Figure 78: Test figure of Radiated emissions, Mode C, Above 1GHz, Vertical

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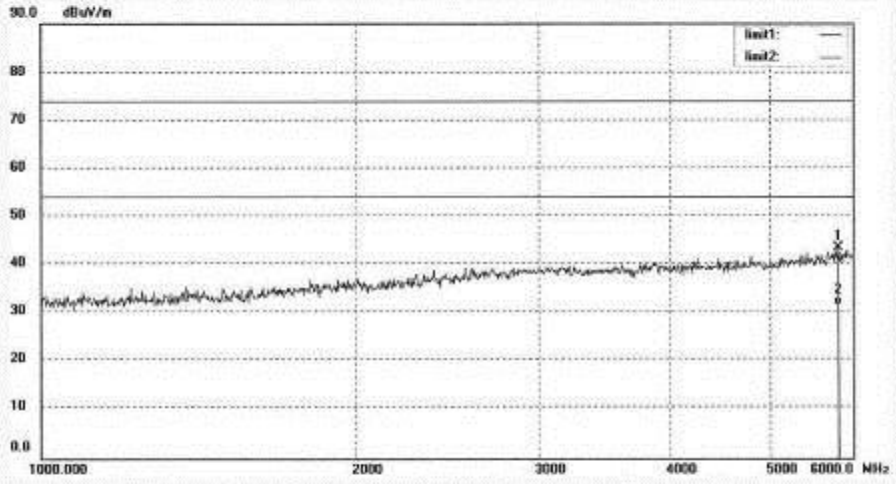
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2528	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 20:33:32
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5808.446	41.51	1.97	43.48	74.00	-30.52	peak			
2	5808.446	29.75	1.97	31.72	54.00	-22.28	AVG			

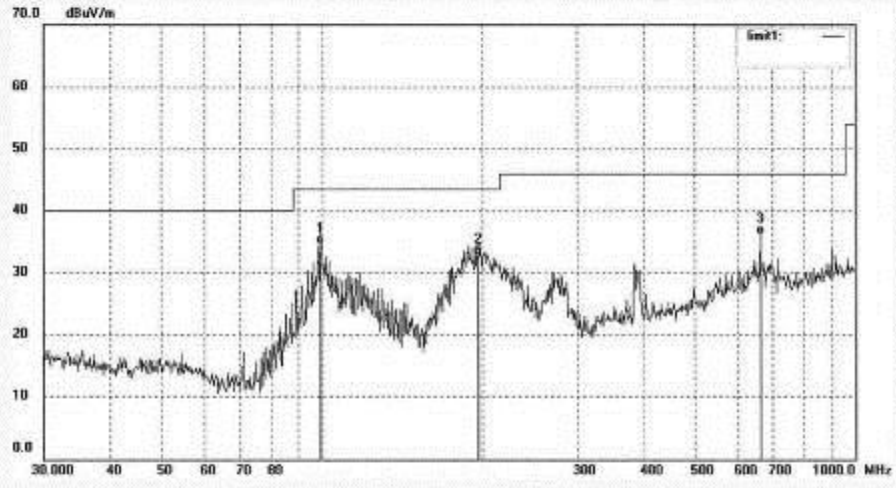
Figure 79: Test figure of Radiated emissions, Mode D, Below 1GHz, Horizontal

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2523
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: Charging
Model: NS-SPBT02
Manufacturer:

Polarization: Horizontal
Power Source: DC 5V
Date: 2014/03/29
Time: 19:45:01
Engineer Signature:
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	99.6684	47.82	-13.23	34.59	43.50	-8.91	QP			
2	195.8701	45.31	-12.47	32.84	43.50	-10.66	QP			
3	665.6470	38.39	-2.19	36.20	46.00	-9.80	QP			

Figure 80: Test figure of Radiated emissions, Mode D, Below 1GHz, Vertical

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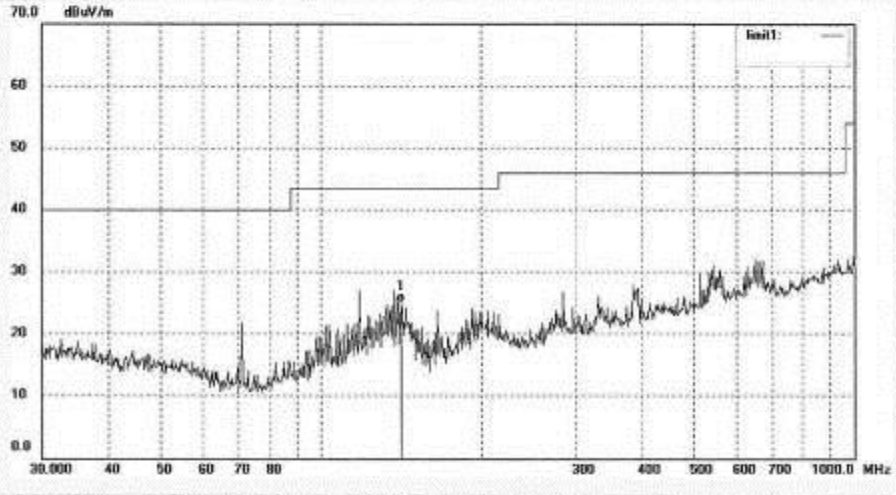
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2524	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 19:54:38
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: Charging	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	142.0100	40.34	-15.23	25.11	43.50	-18.39	QP			

Figure 81: Test figure of Radiated emissions, Mode D, Above 1GHz, Horizontal

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ACCURATE TECHNOLOGY CO., LTD.
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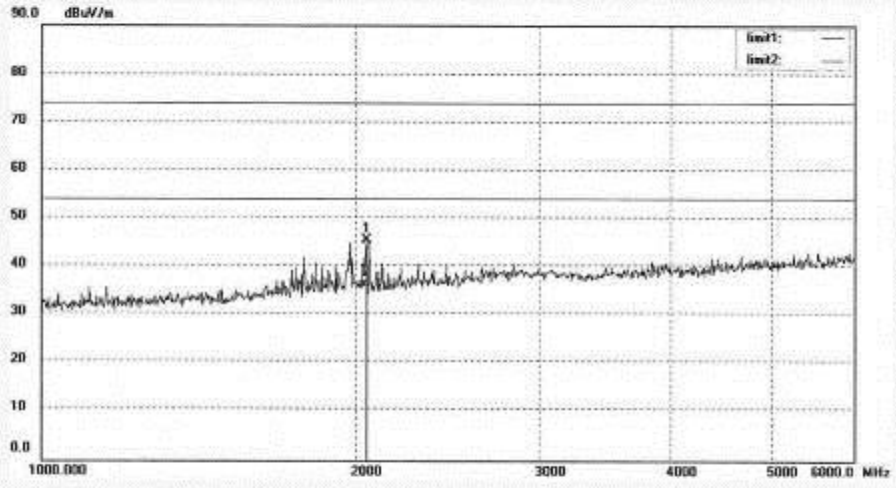
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2526	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2014/03/29
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 20:13:26
EUT: Bluetooth Portable Speaker with handle	Engineer Signature:
Mode: Charging	Distance: 3m
Model: NS-SPBT02	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2045.459	54.43	-8.97	45.46	74.00	-28.54	peak			
2	2045.459	44.68	-8.97	35.71	54.00	-18.29	AVG			

Figure 82: Test figure of Radiated emissions, Mode D, Above 1GHz, Vertical

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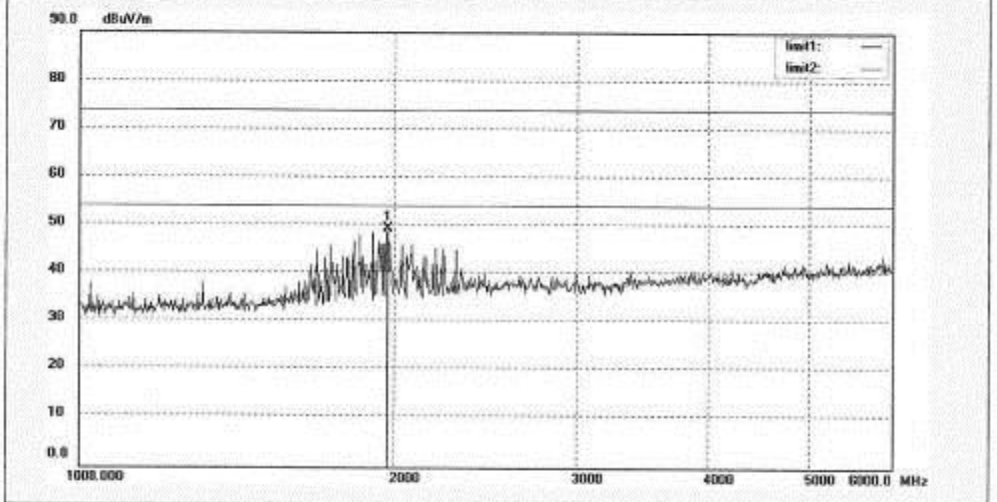
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN #2525
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Portable Speaker with handle
Mode: Charging
Model: NS-SPBT02
Manufacturer:

Polarization: Vertical
Power Source: DC 5V
Date: 2014/03/29
Time: 20:03:53
Engineer Signature:
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1973.031	58.64	-9.16	49.48	74.00	-24.52	peak			
2	1973.031	49.05	-9.16	39.89	54.00	-14.11	AVG			