


Prüfbericht - Nr.: 17024330 001		Seite 1 von 53			
Test Report No.:		Page 1 of 53			
Auftraggeber: Client:	Accesspro Electronics Co., Ltd. Room 3B27, 3F, No. 5, Sec. 5, Hsin Yi Road, Taipei 11011, Taiwan				
Gegenstand der Prüfung: Test item:	Portable Bluetooth Mini-Speaker				
Bezeichnung: Identification:	SP-1042, SP-1043, SP-1044, SP-1045, SP-1046, SP-1047	Serien-Nr.: Serial No.:	n.a.		
Wareneingangs-Nr.: Receipt No.:	163089002	Eingangsdatum: Date of receipt:	2012-02-15		
Zustand des Prüfgegenstandes bei Anlieferung: Condition of test item at delivery:	Test samples received are sufficient for testing and not damaged.				
Prüfört: Testing location:	Neutron Engineering Inc. No. 3 Jinshagang 1st Road, ShiXia, DaLang Town, Dong Guan, China FCC Registration No.: 319330				
Prüfgrundlage: Test specification:	FCC CFR47 Part 15: Subpart C Section 15.247 FCC CFR47 Part 15: Subpart C Section 15.207 FCC CFR47 Part 15: Subpart C Section 15.209 FCC CFR47 Part 15: Subpart B Section 15.107 FCC CFR47 Part 15: Subpart B Section 15.109				
Prüfergebnis: Test Result:	Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). The test item passed the test specification(s).				
Prüflaboratorium: Testing Laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.				
geprüft/ tested by:	kontrolliert/ reviewed by:				
2012-04-11	 Winnie Hou/ Project Manager	2012-04-11	 Shawn Peng/ Technical Certifier		
Datum Date	Name/Stellung Name/Position	Unterschrift Signature	Datum Date	Name/Stellung Name/Position	Unterschrift Signature
Sonstiges/ Other Aspects:					
Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar NIT = nicht getestet			Abbreviations: P(ass) = passed F(ail) = failed N/A = not applicable NIT = 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 relates to the a. m. test item. 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 safety mark on this or similar products.					

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 EMISSIONS***RESULT: Passed***6.1.1 ELECTROMAGNETIC FIELDS***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

Neutron Engineering Inc.

No. 3 Jinshagang 1st Road, ShiXia, DaLang Town, Dong Guan, China

FCC Registration No.: 319330

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				
EMI Test Receiver	ESVS10	834468/011	100216	2013-03-08
Spectrum Analyzer	Agilent	E4407B	MY4144029 2	2013-03-08
Trilog-Broadband Antenna	Schaffner	CBL6111C	2598	2013-03-08
Amplifier	HP	8447D	2648A0473 8	2013-03-08
RF Cable	MIYAZAKI	8D-FB	N/A	2013-03-08
Horn Antenna	EMCO	3115	9607-4877	2013-11-25
Loop Antenna	Chase	HLA6120	1062	2013-05-08
3m Anechoic Chamber	AUDIX	N/A	N/A	2013-12-05
Active Loop Antenna	R&S	HFH2-Z2	830749/020	2013-05-27
Radio Test Suite				
Test Receiver	Rohde & Schwarz	ESCI	100842	2013-10-20
Conducted Emission				
Receiver	R&S	ESHS20	836600/006	2013-03-08
Artificial Mains Network	R&S	ESH2-Z5	834066/011	2013-03-08

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 basis using in house standards or comparisons.

2.5 Measurement Uncertainty

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

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix 1 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 Neutron Engineering Inc. No. 3 Jinshagang 1st Road, ShiXia, DaLang Town, Dong Guan, 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 Portable Bluetooth Mini-Speaker with Bluetooth technology. The EUTs are available for either Bluetooth device or external media player. Its hands-free function makes the connectivity invisible and reliable, mini size and build-in battery make it easier to carry with. All models are identical in function, circuit design and components employed, except different enclosure and color. For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Portable Bluetooth Mini-Speaker
Type Designation:	SP-1042, SP-1043, SP-1044, SP-1045, SP-1046, SP-1047
FCC ID:	N5MSP1042

Table 3: Technical Specification of EUT

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Channel separation	1MHz
Extreme Temperature Range	-40°C to +85°C
Operation Voltage	DC 3.7V (via Lithium Battery)
Modulation	FHSS, GFSK, 8PSK, $\pi/4$ DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	3dBi
RF Output Power	0.00326W (5.14dBm)

Table 4: Frequency hopping information

Technical Specification	Description
Hopping Range	<p>Hereby we declare that the maximum frequency of this device is: 2402-2480MHz. This is according the Bluetooth Core Specification V3.0 for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/04-E).</p>
Hopping Sequence	<p>Example of a 79 hopping sequence in data mode:</p> <p>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,</p>
Receiver input bandwidth	<p>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.</p> <p>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.</p> <p>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.</p> <p>That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.</p>

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Standby
- C. Receiving
- D. Charging
- E. Off

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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' difference indicated in clause 3.1, full test was applied on model SP-1042 only.

Full test was applied on all test modes, but only worst case was shown.

4.3 Special Accessories and Auxiliary Equipment

Auxiliary equipment:

Description	Manufacturer	Model	S/N
PC	Dell	DCSM	G7K832X
LCD monitor	Dell	E177FPc	CNOFJ179-64180-6AG-1WNS
USB Keyboard	Dell	L100	CNORH6596589071T08NE
USB Mouse	Dell	MO56UOA	G01003HO
Modem	ACEEX	DM-1414V	0603002131
Printer	SII	DPU-414	3018507 B

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

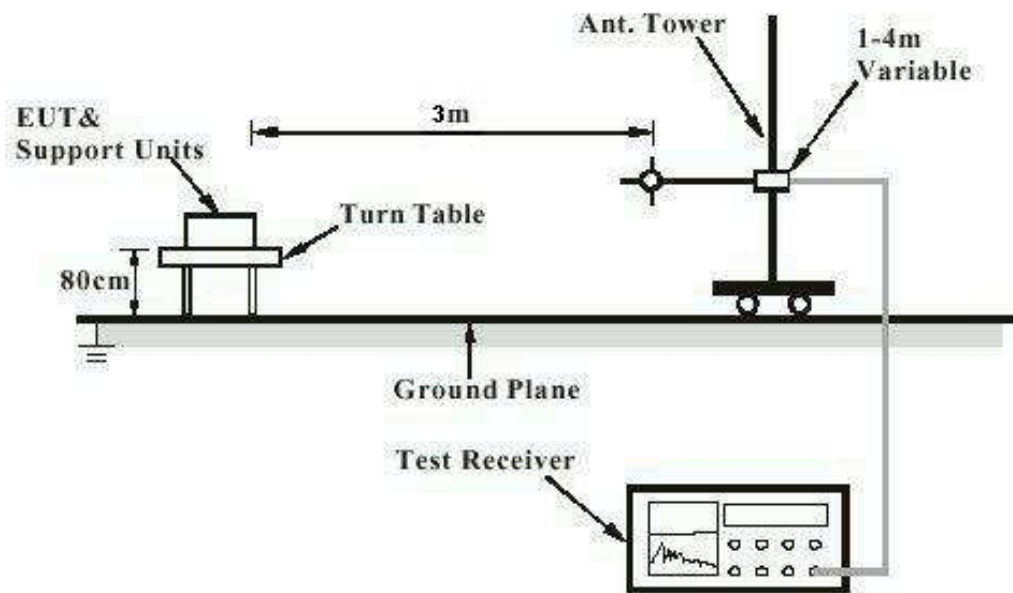


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

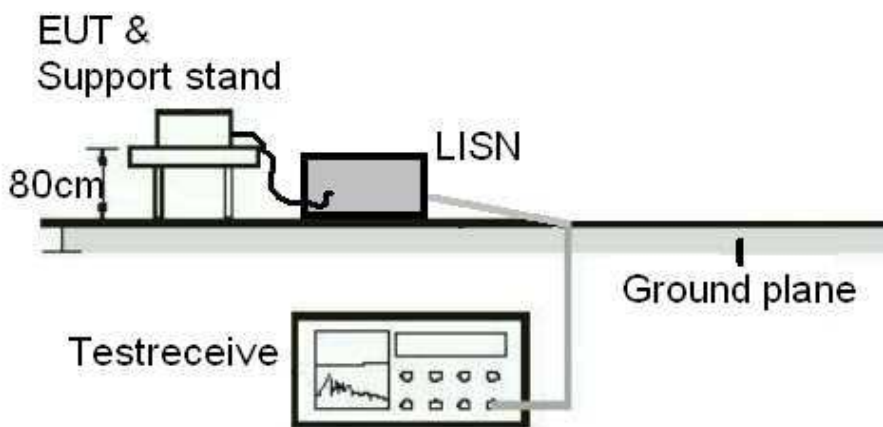
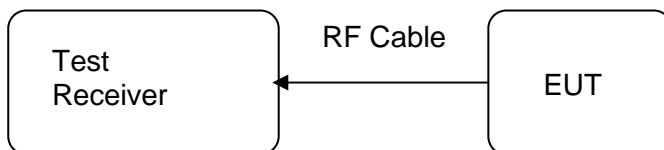


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test date : 2012-03-06
Test standard : FCC Part 15.247(b)(4) and Part 15.203
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 1.5dBi, 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 : 2012-03-06
 Test standard : FCC Part 15.247(b)(1)
 Basic standard : ANSI C63.4: 2003
 Limit : 0.125W
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 20°C
 Relative humidity : 50%
 Atmospheric pressure : 101 kPa

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

Channel	Channel Frequency (MHz)	Peak Output Power		Limit (W)
		(dBm)	(W)	
Low Channel	2402	3.35	0.00216	0.125
Middle Channel	2441	3.78	0.00239	0.125
High Channel	2480	3.81	0.00240	0.125

Remark: RBW is 1MHz

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

Channel	Channel Frequency (MHz)	Peak Output Power		Limit (W)
		(dBm)	(W)	
Low Channel	2402	4.74	0.00298	0.125
Middle Channel	2441	5.04	0.00319	0.125
High Channel	2480	5.14	0.00326	0.125

Remark: RBW is 3MHz

5.1.3 20dB Bandwidth

RESULT:
Passed

Date of testing : 2012-03-06
 Test standard : FCC Part 15.247(a)(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 : 20°C
 Relative humidity : 50%
 Atmospheric pressure : 101 kPa

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

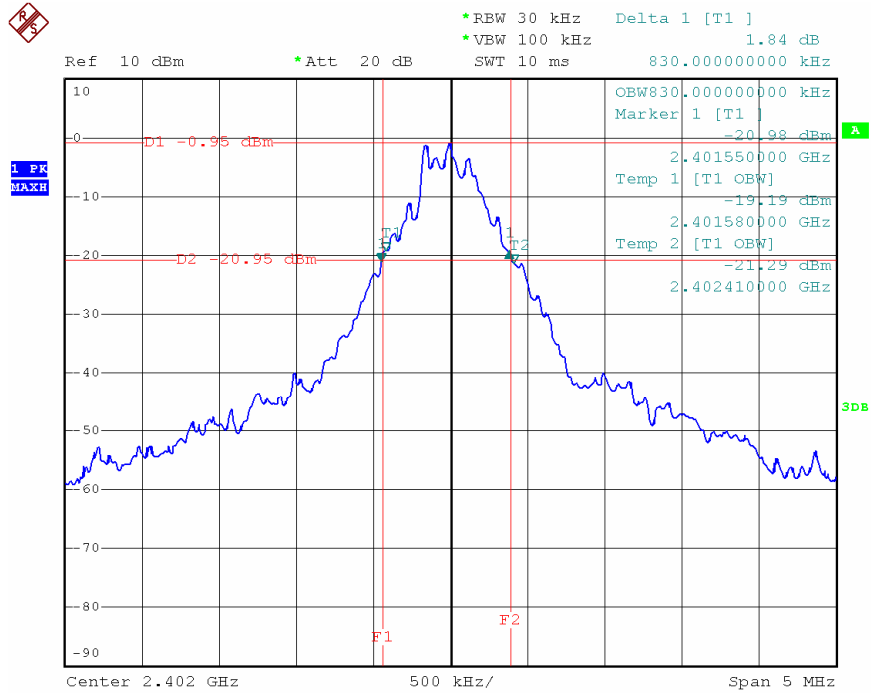
Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	830	/	Pass
Mid Channel	2441	830	/	Pass
High Channel	2480	830	/	Pass

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

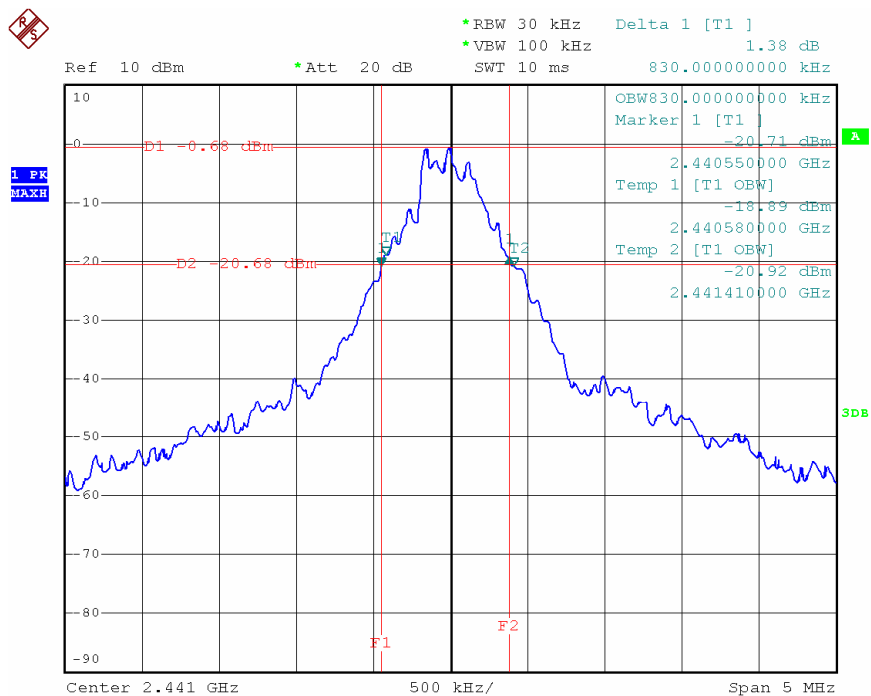
Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.21	/	Pass
Mid Channel	2441	1.21	/	Pass
High Channel	2480	1.21	/	Pass

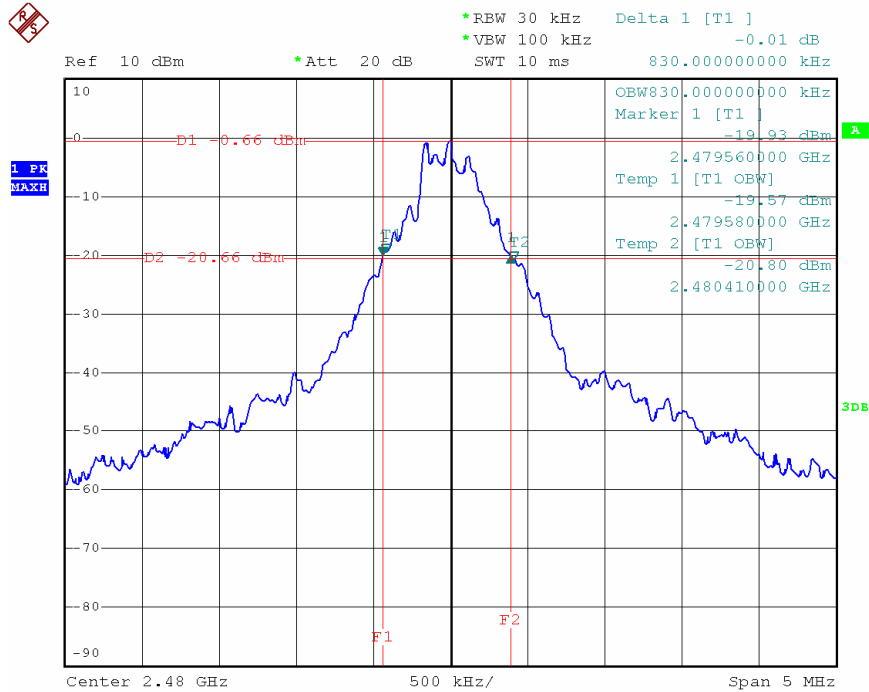
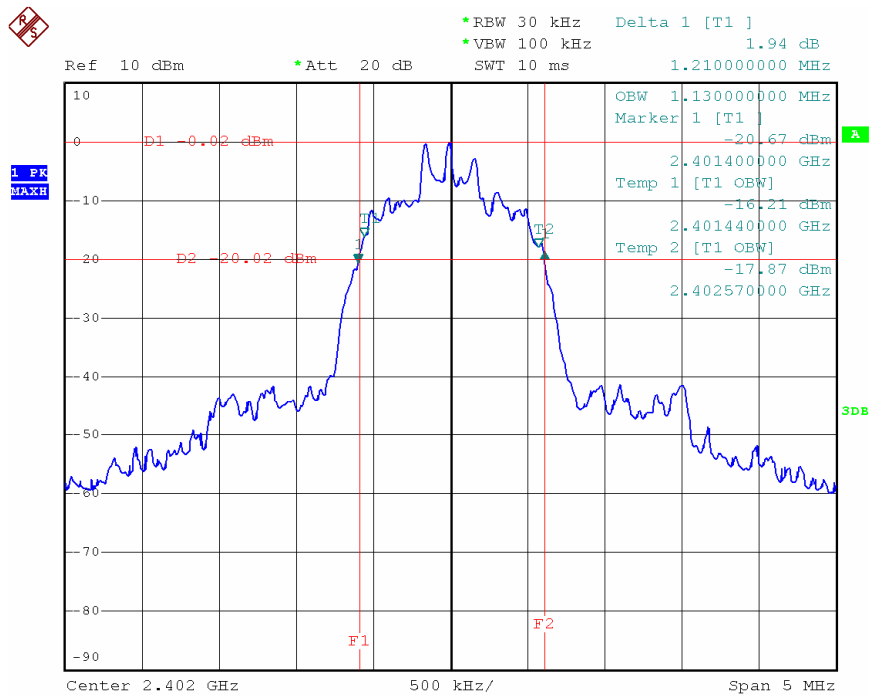
Test Plot of 20dB Bandwidth, GFSK modulation

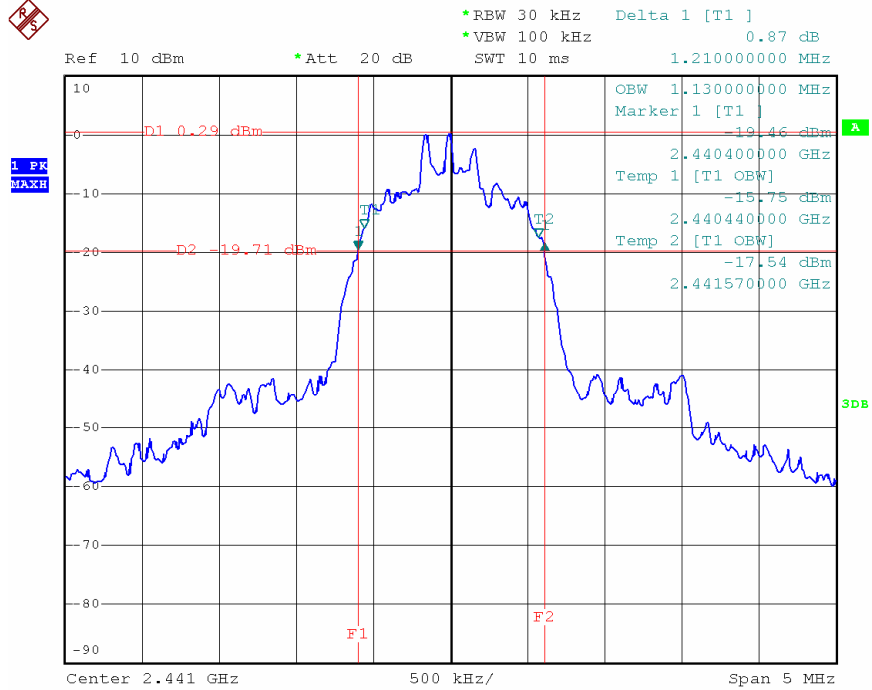
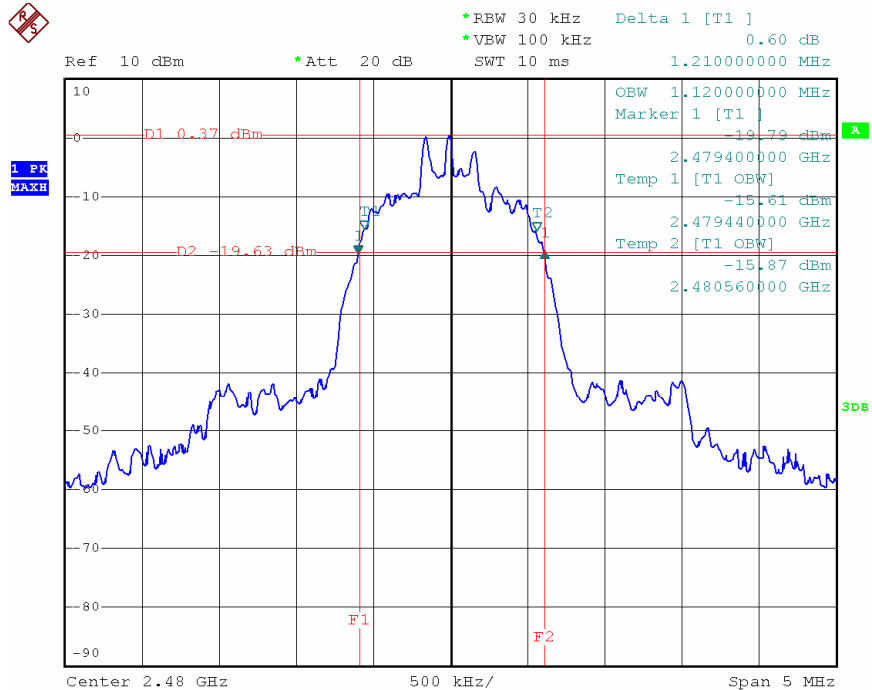
Low Channel



Middle Channel



High Channel

Test Plot of 20dB Bandwidth, 8DPSK modulation
Low Channel


Middle Channel

High Channel


5.1.4 Conducted spurious emissions measured in 100kHz Bandwidth

RESULT:**Passed**

Date of testing	:	2012-03-06
Test standard	:	FCC part 15.247(d)
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

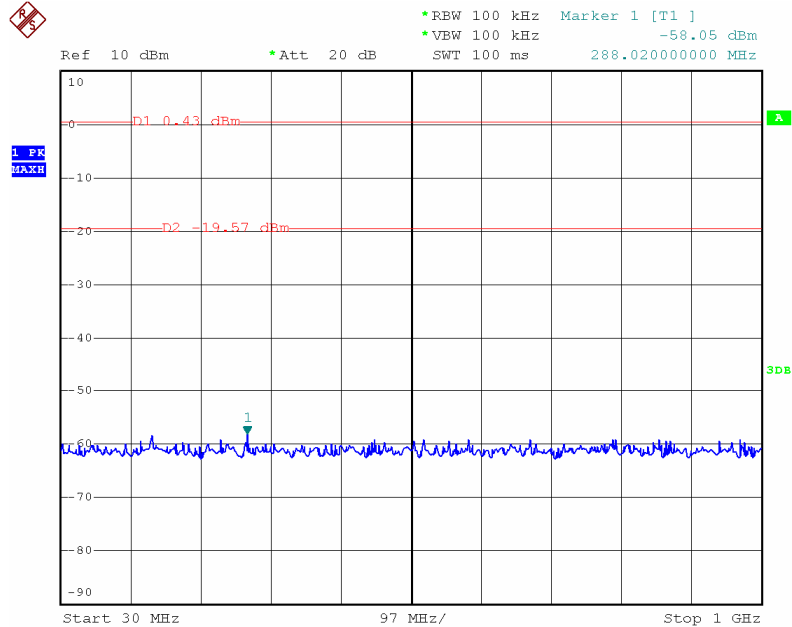
Test setup

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	22°C
Relative humidity	:	52%
Atmospheric pressure	:	101 kPa

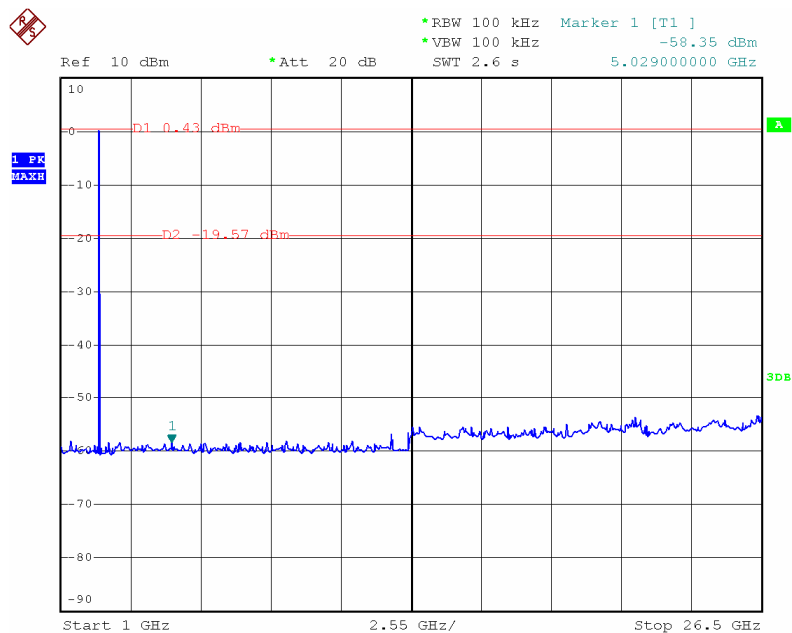
All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achieved as well.

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

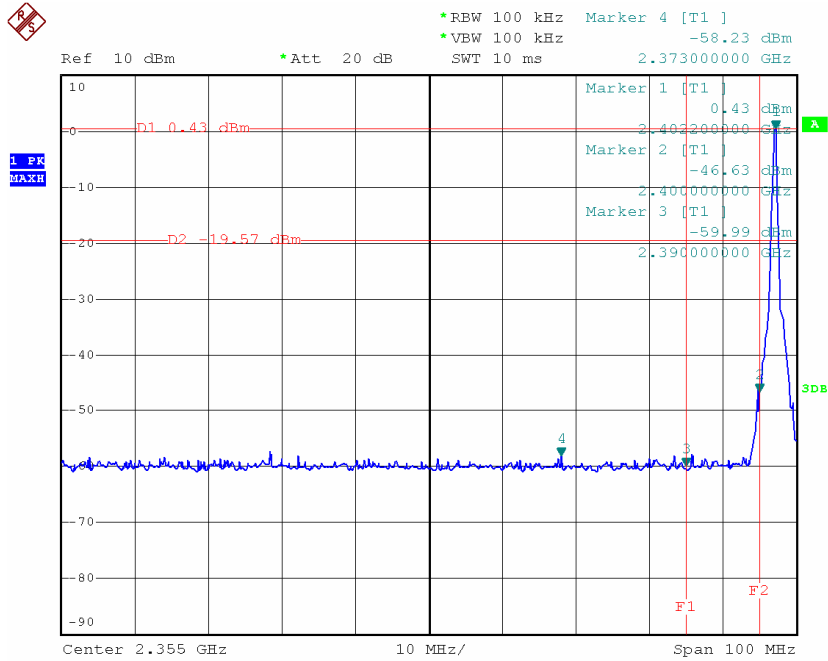
Low Channel



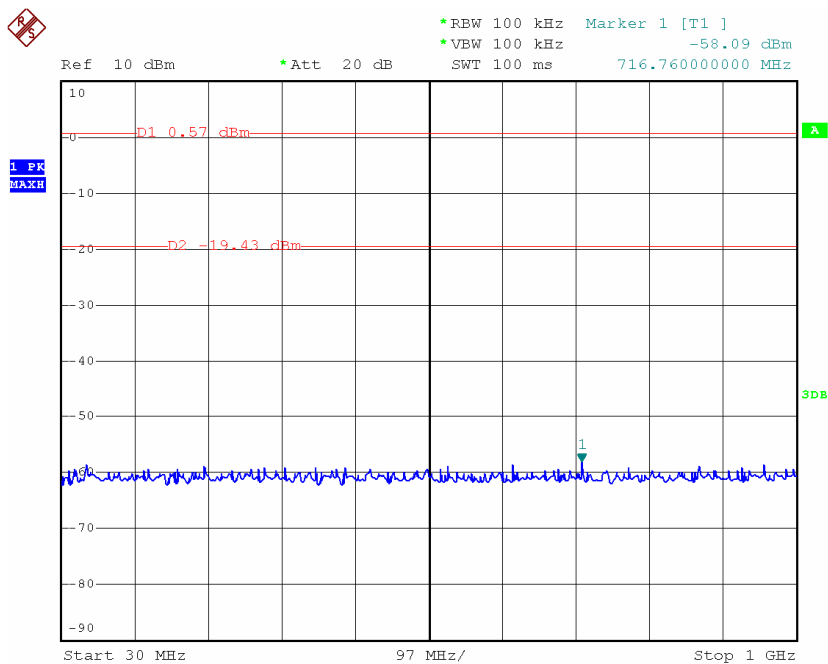
Date: 6.MAR.2012 13:13:50



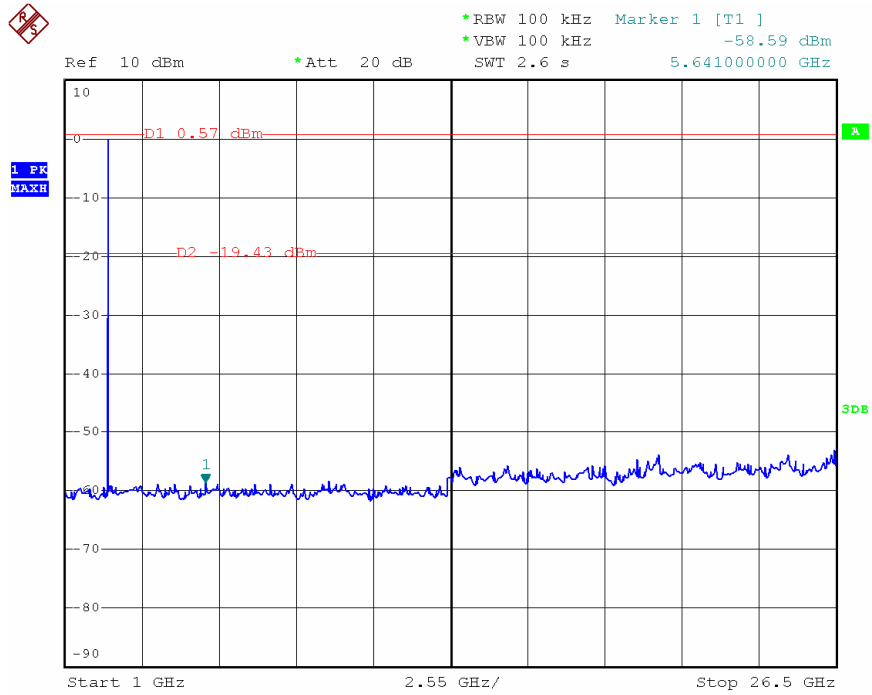
Date: 6.MAR.2012 13:14:36

Low Channel, Band Edge


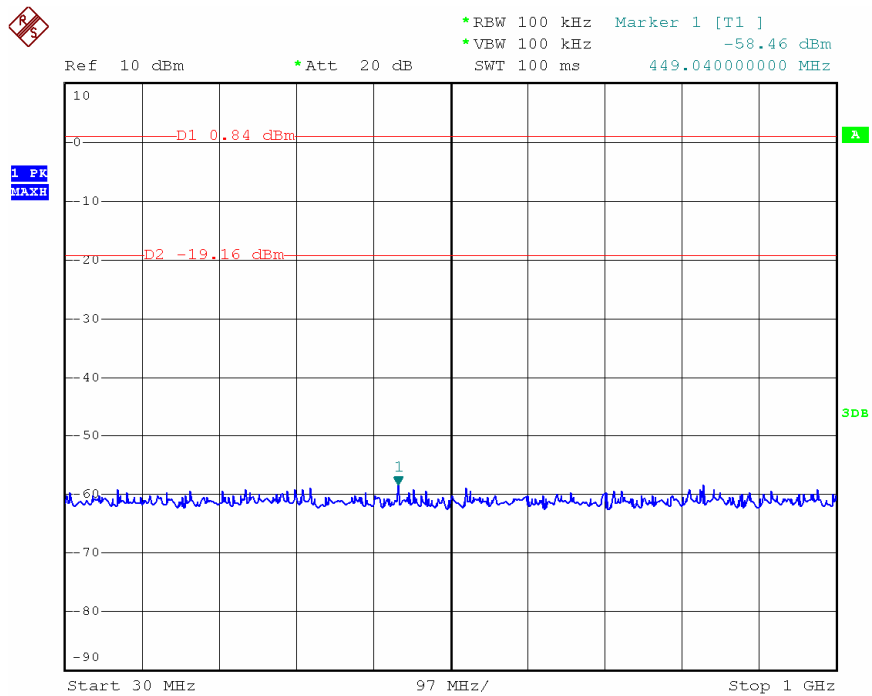
Date: 6.MAR.2012 13:12:35

Middle Channel


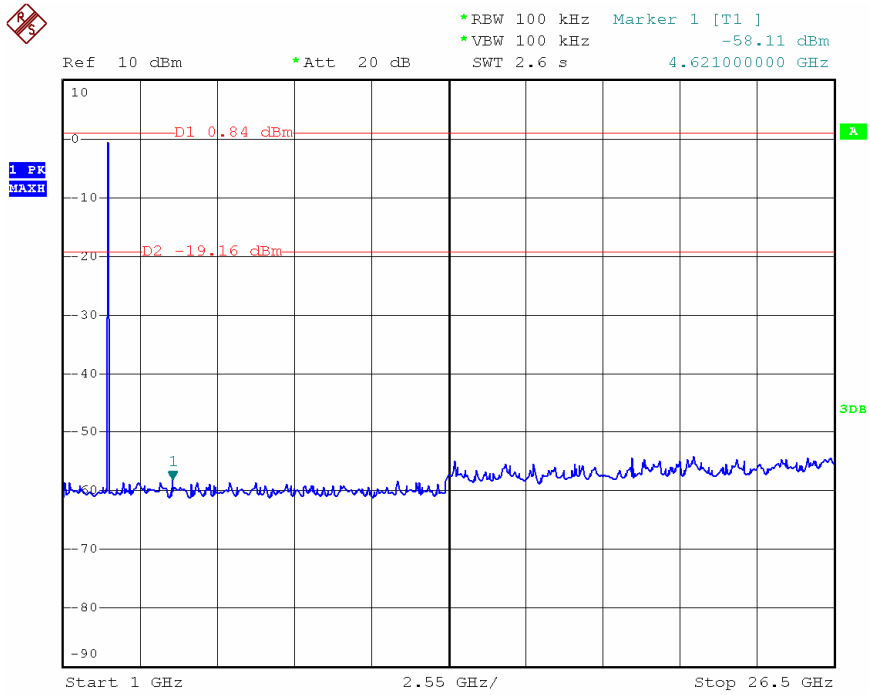
Date: 6.MAR.2012 13:23:00



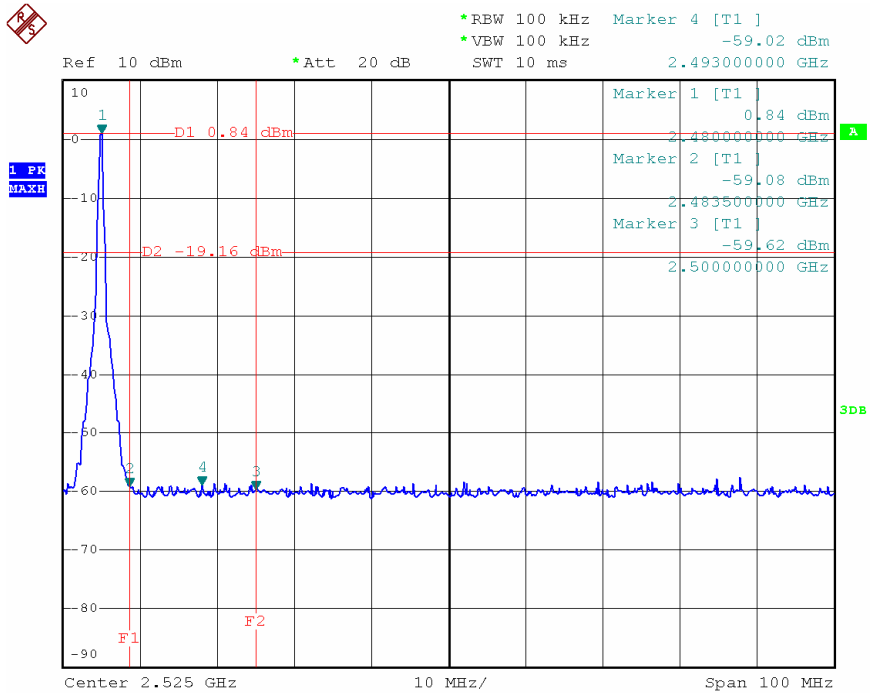
Date: 6.MAR.2012 13:23:19

High Channel


Date: 6.MAR.2012 13:19:20



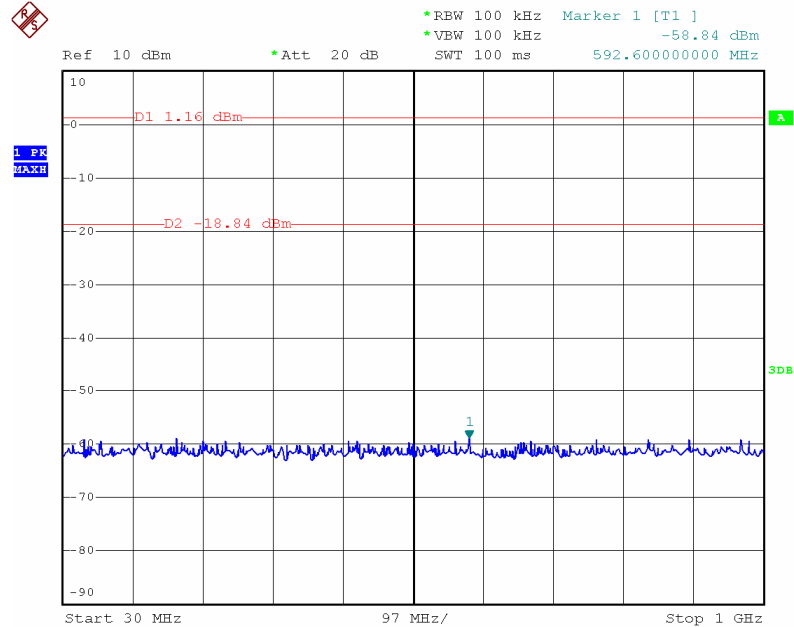
Date: 6.MAR.2012 13:19:44

High Channel, Band Edge


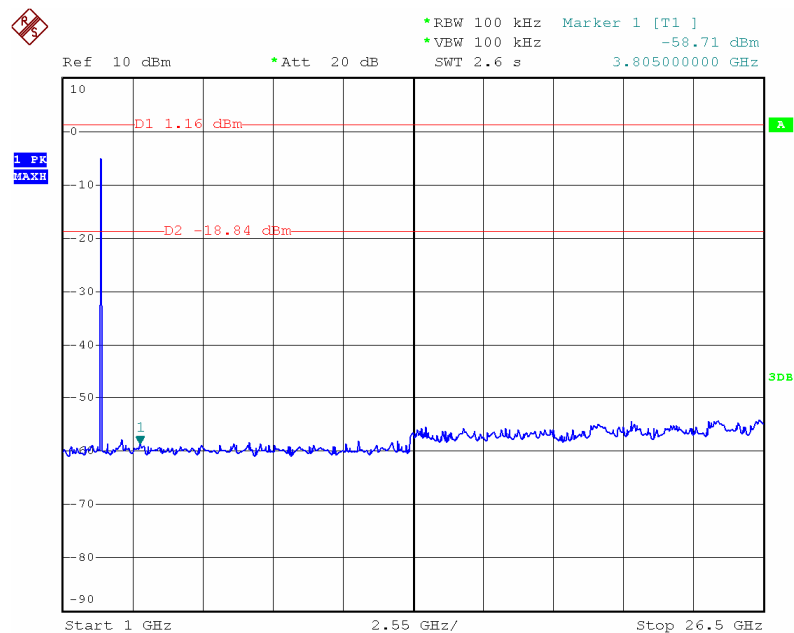
Date: 6.MAR.2012 13:19:01

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

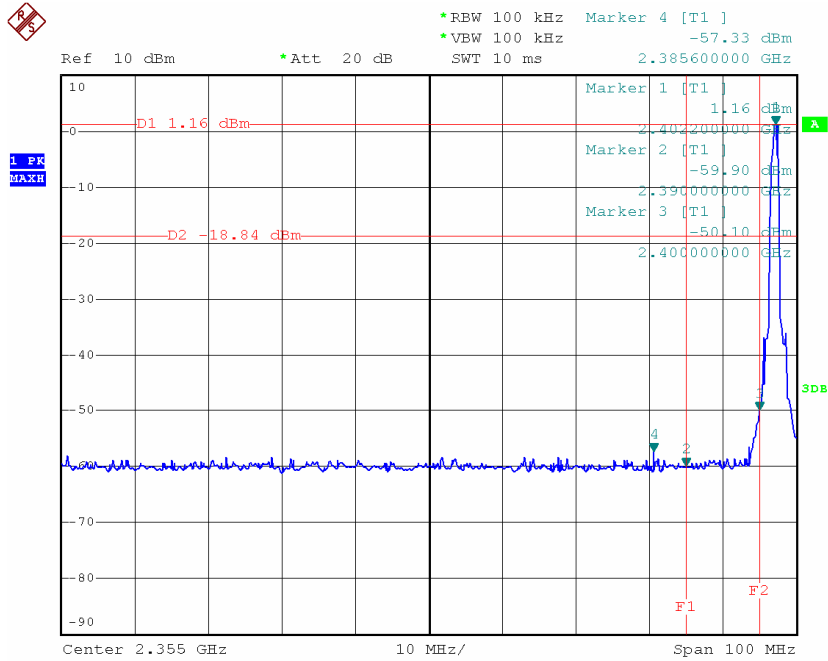
Low Channel



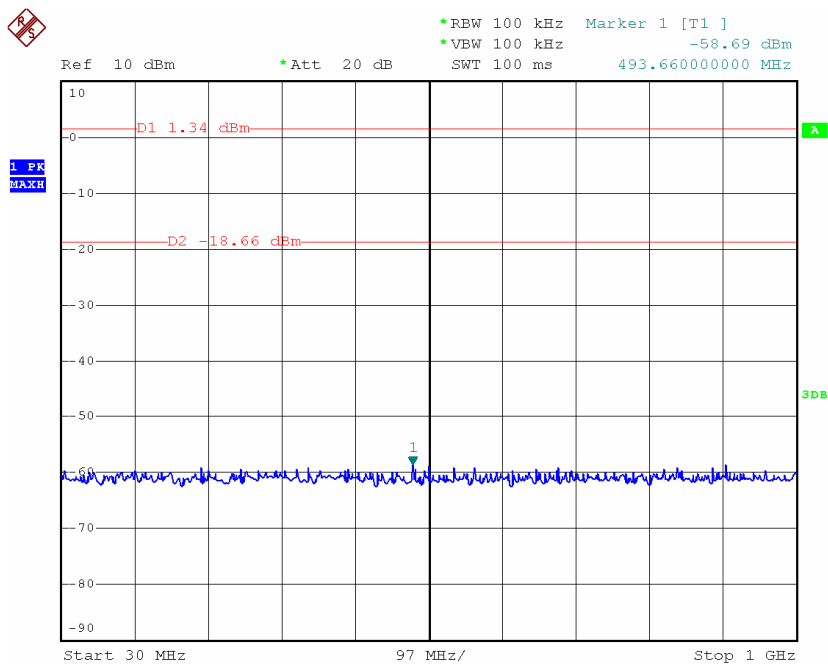
Date: 6.MAR.2012 13:51:06



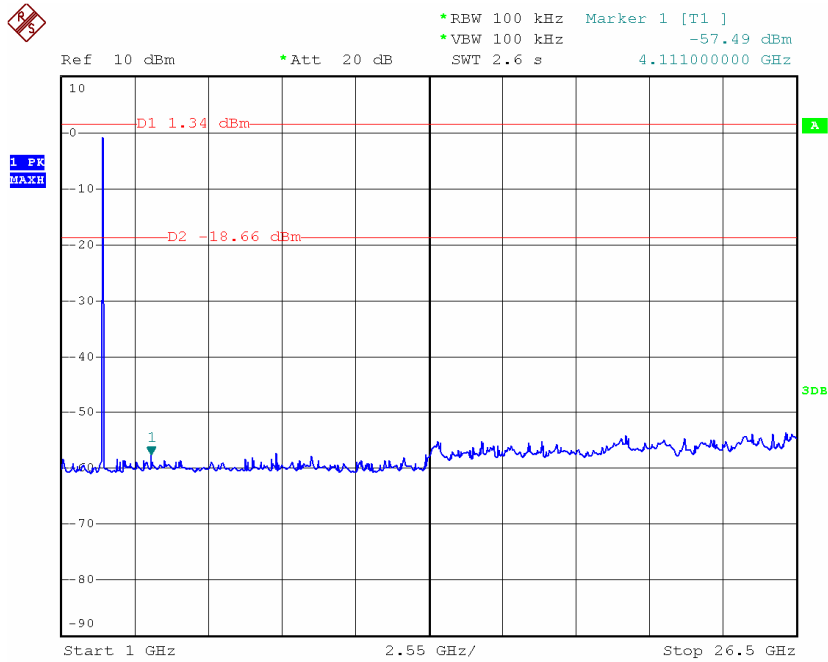
Date: 6.MAR.2012 13:51:37

Low Channel, Band Edge


Date: 6.MAR.2012 13:50:52

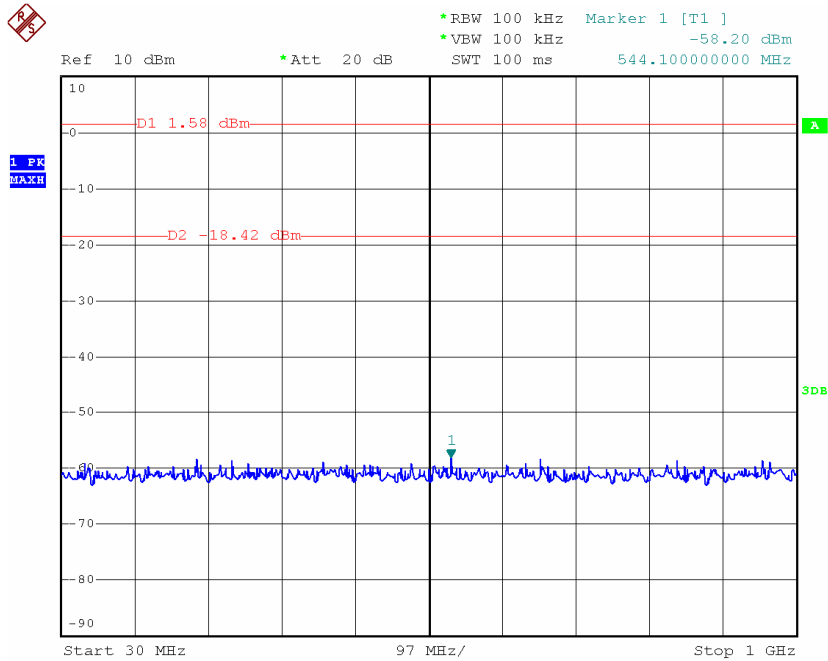
Middle Channel


Date: 6.MAR.2012 13:59:52

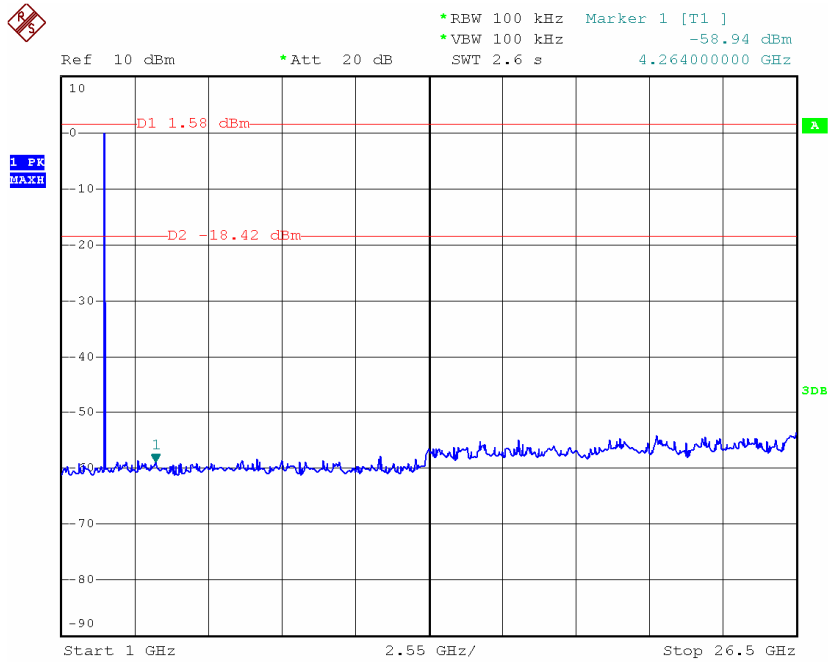


Date: 6.MAR.2012 14:00:21

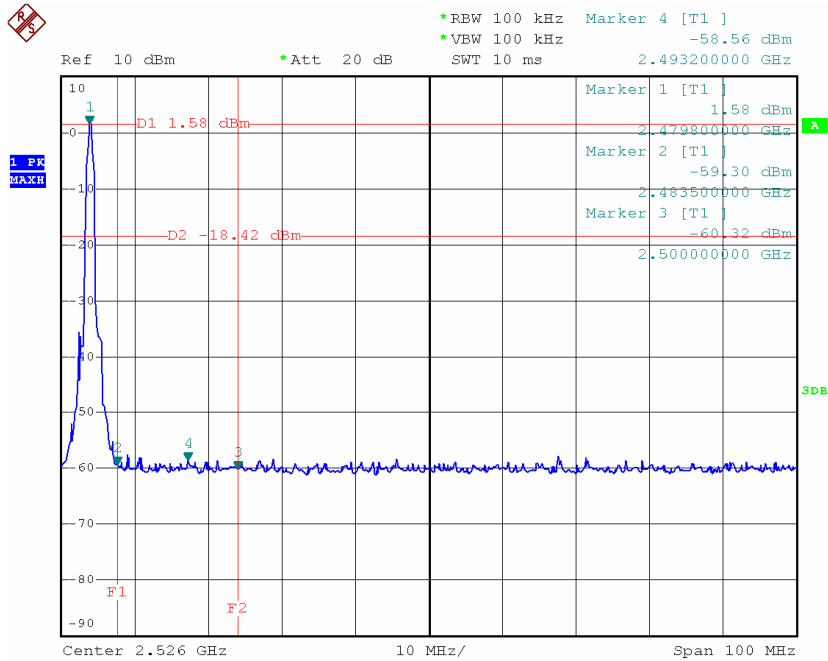
High Channel



Date: 6.MAR.2012 13:55:53



Date: 6.MAR.2012 13:56:15

High Channel, Band Edge


Date: 6.MAR.2012 13:55:38

5.1.5 Spurious Emission

RESULT:**Passed**

Date of testing : 2012-03-07 to 2012-03-09
Test standard : FCC part 15.247(d)
FCC Part 15.205
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 : 20°C
Relative humidity : 53%
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.

5.1.6 Frequency Separation

RESULT:
Passed

Date of testing : 2012-03-06
 Test standard : FCC part 15.247(a)(1)
 Basic standard : ANSI C63.4: 2003
 Limit : $\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth, whichever is greater

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 22°C
 Relative humidity : 52%
 Atmospheric pressure : 101 kPa

Table 9: Test result of Frequency Separation, GFSK modulation

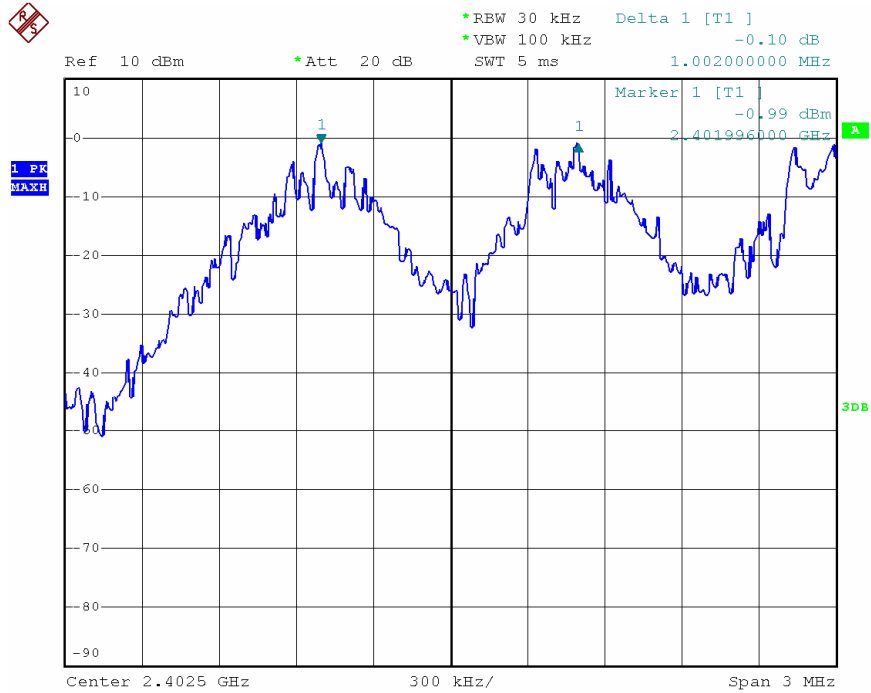
Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	$\geq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

Table 10: Test result of Frequency Separation, 8DPSK modulation

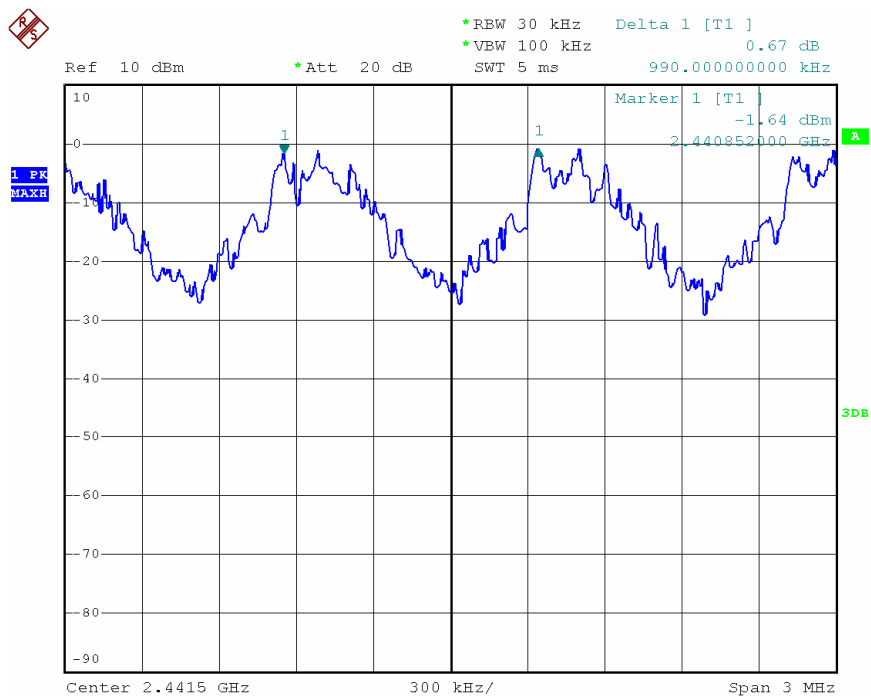
Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	$\geq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

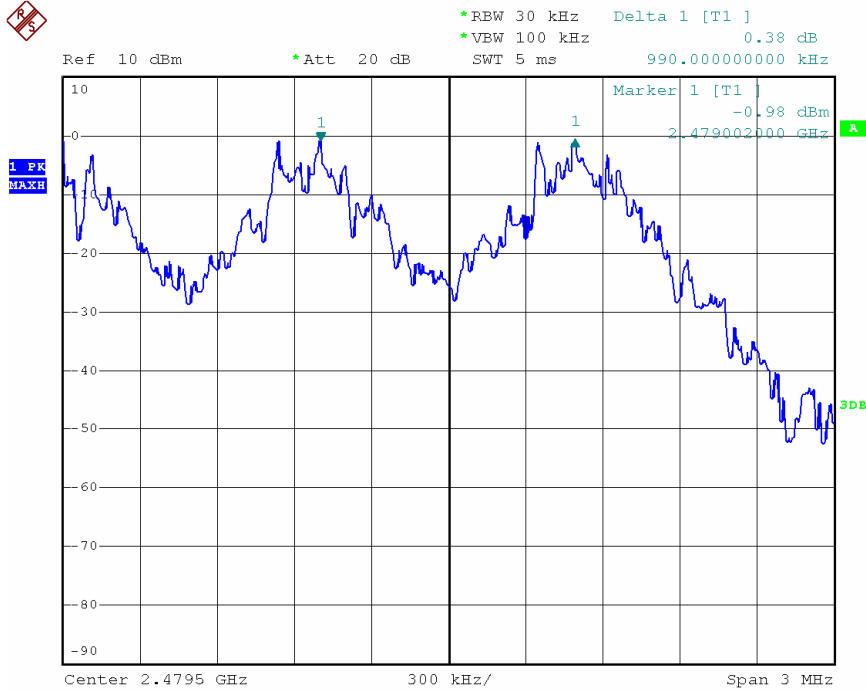
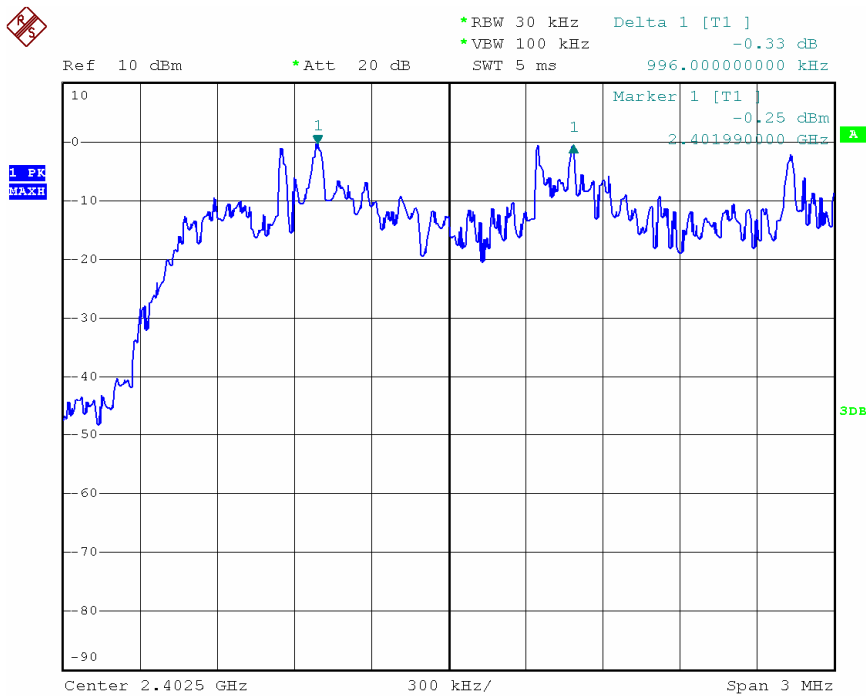
Test Plot of Frequency Separation, GFSK modulation

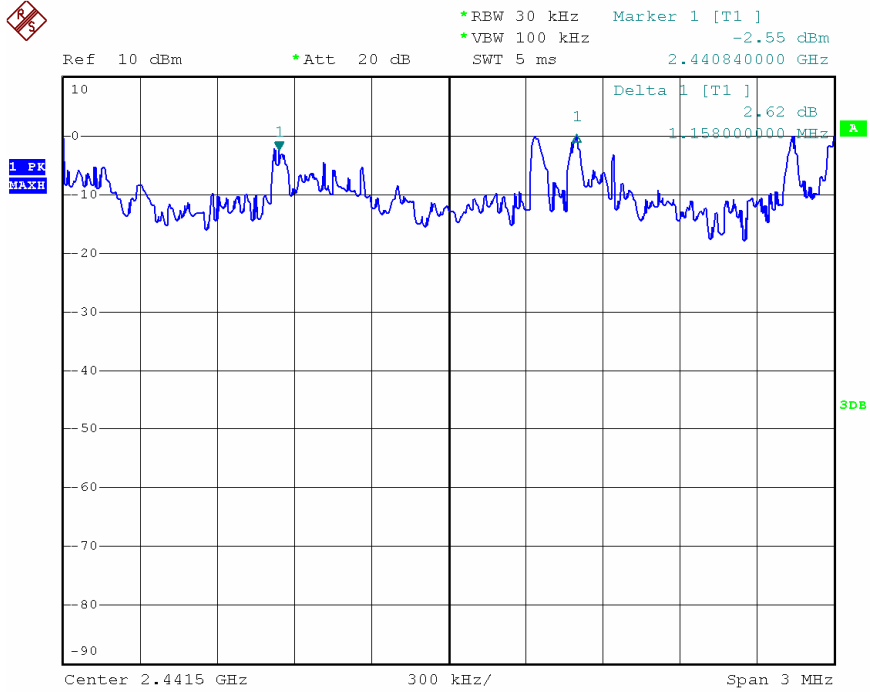
Low Channel



Middle Channel



High Channel

Test Plot of Frequency Separation, 8DPSK modulation
Low Channel


Middle Channel

High Channel


5.1.7 Number of hopping frequency

RESULT:**Passed**

Date of testing : 2012-03-06
Test standard : FCC part 15.247(a)(1)(iii)
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 : 22°C
Relative humidity : 52%
Atmospheric pressure : 101 kPa

Table 11: Test result of Number of hopping frequency

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

5.1.8 Time of Occupancy

RESULT:
Passed

Date of testing : 2012-03-06
 Test standard : FCC part 15.247(a)(1)(iii)
 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 : 20°C
 Relative humidity : 50%
 Atmospheric pressure : 101 kPa

Table 12: 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	0.138	0.4	Pass
	DH3	1.72	0.275	0.4	Pass
	DH5	3.00	0.320	0.4	Pass
Mid Channel	DH1	0.43	0.138	0.4	Pass
	DH3	1.72	0.275	0.4	Pass
	DH5	3.00	0.320	0.4	Pass
High Channel	DH1	0.43	0.138	0.4	Pass
	DH3	1.70	0.272	0.4	Pass
	DH5	3.00	0.320	0.4	Pass

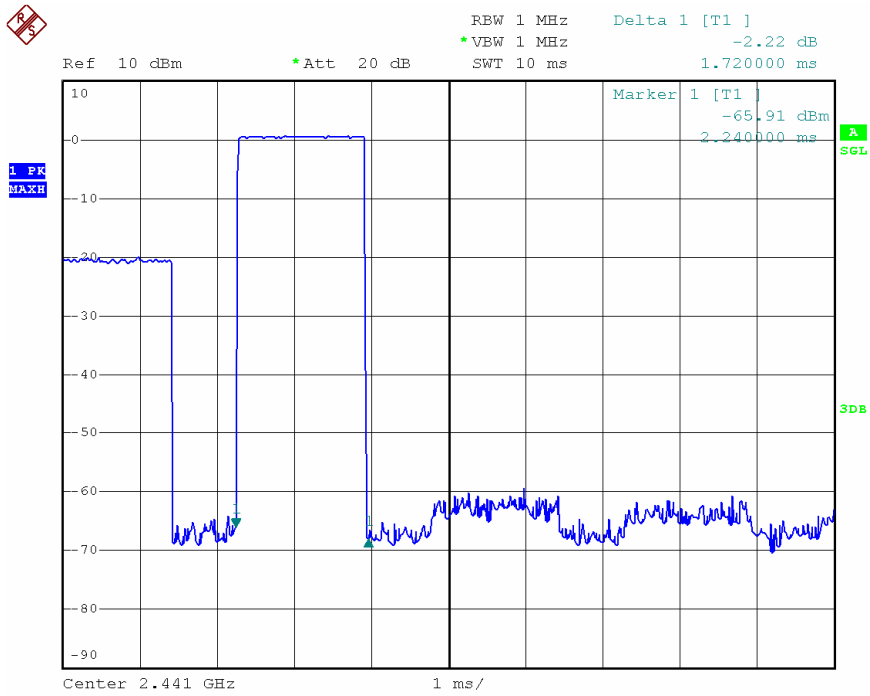
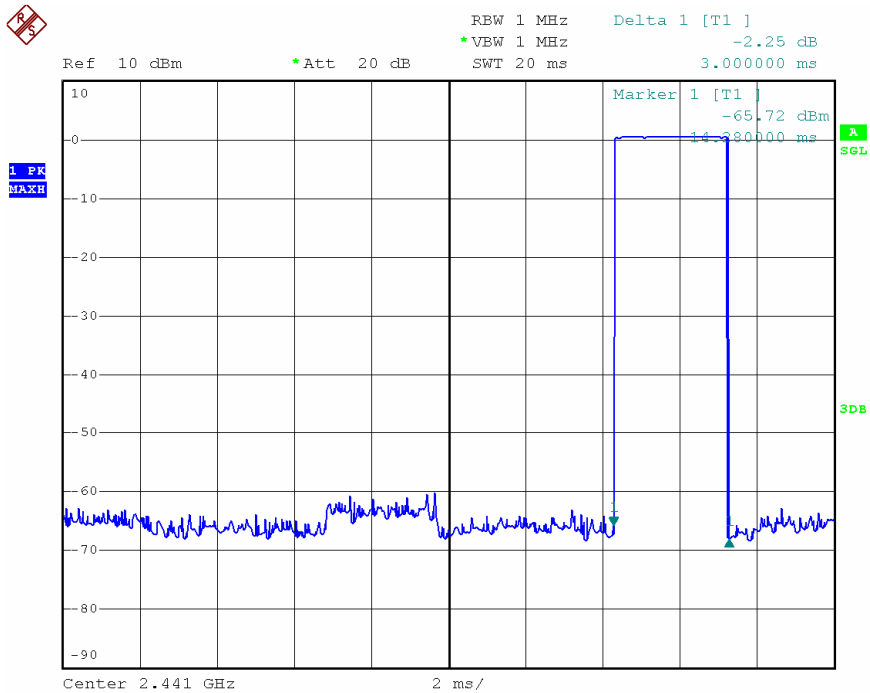
Table 13: Test result of Time of Occupancy, 8DPSK modulation

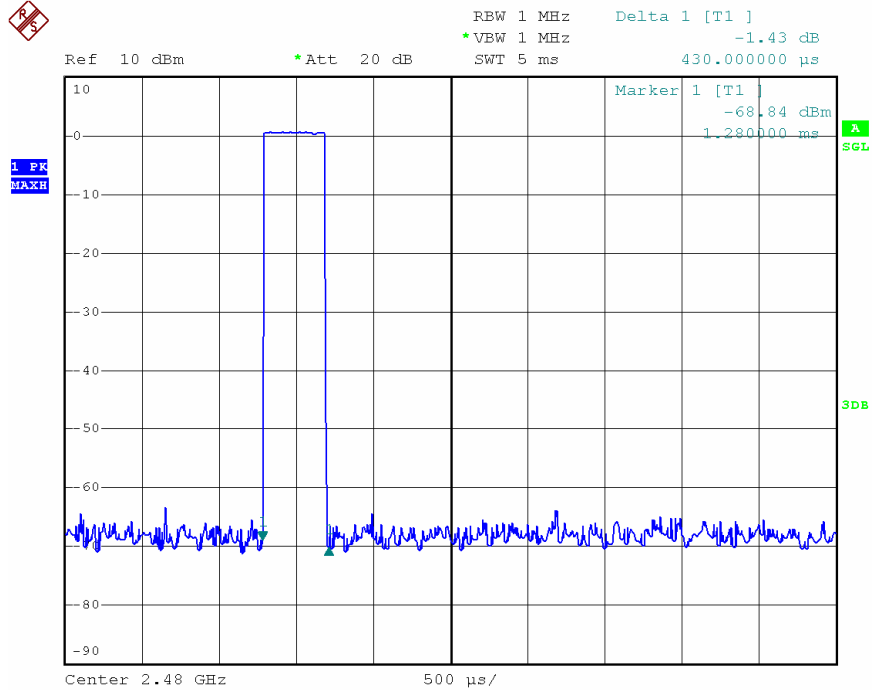
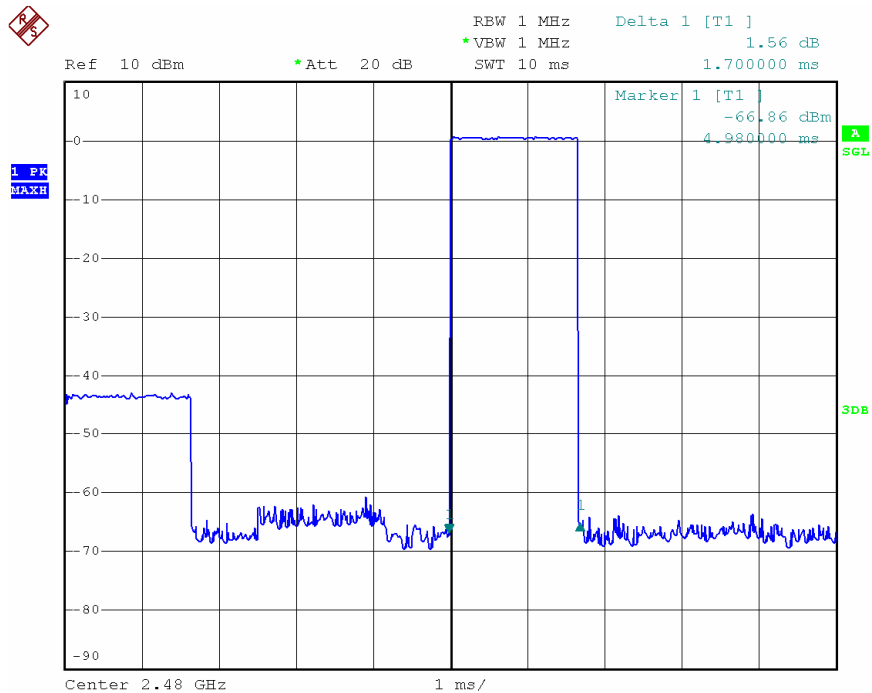
Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.45	0.144	0.4	Pass
	DH3	1.72	0.275	0.4	Pass
	DH5	3.00	0.320	0.4	Pass
Mid Channel	DH1	0.44	0.141	0.4	Pass
	DH3	1.72	0.275	0.4	Pass
	DH5	3.04	0.324	0.4	Pass
High Channel	DH1	0.44	0.141	0.4	Pass
	DH3	1.72	0.275	0.4	Pass
	DH5	3.00	0.320	0.4	Pass

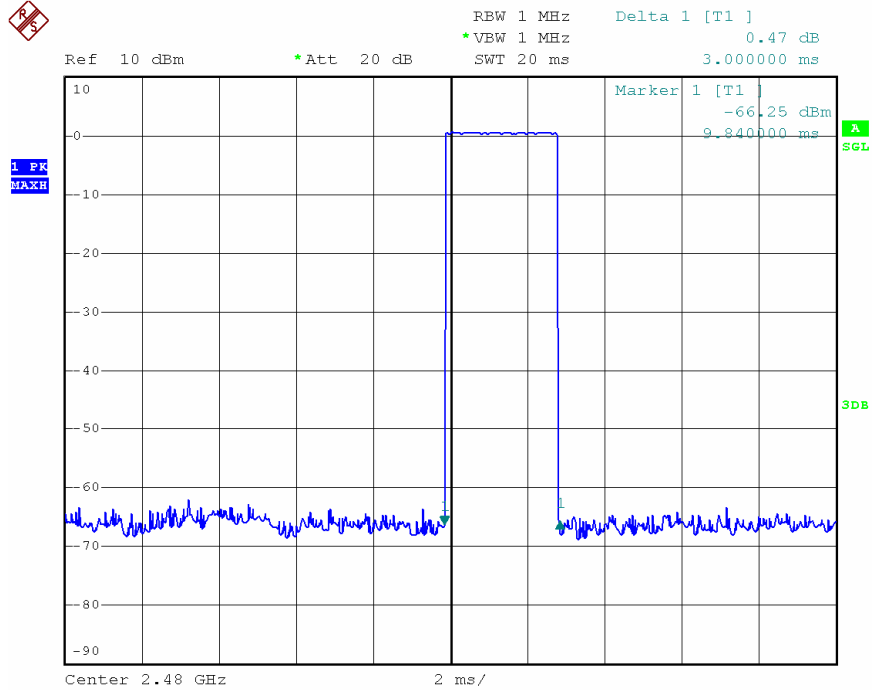
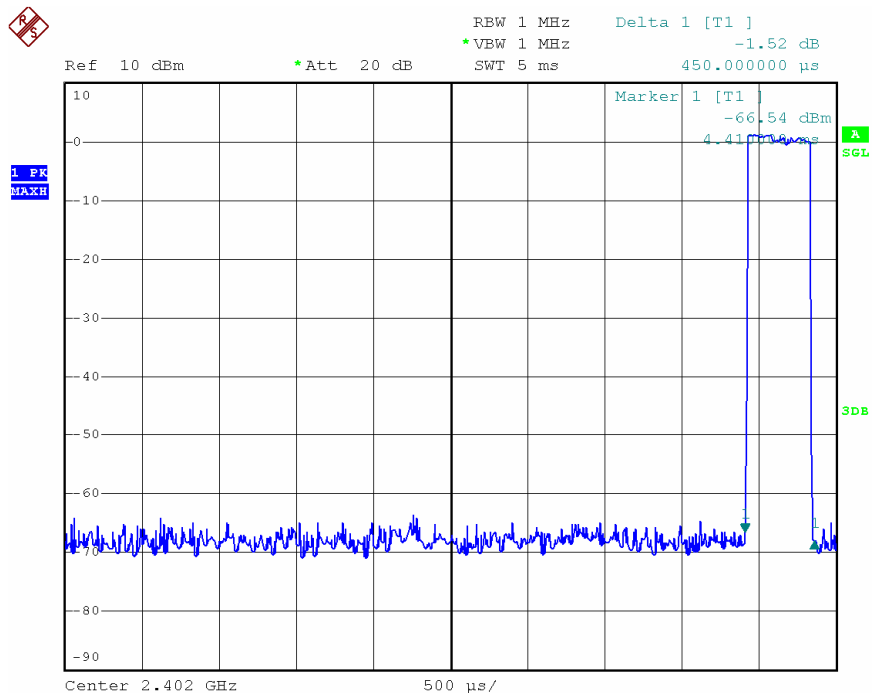
Note:

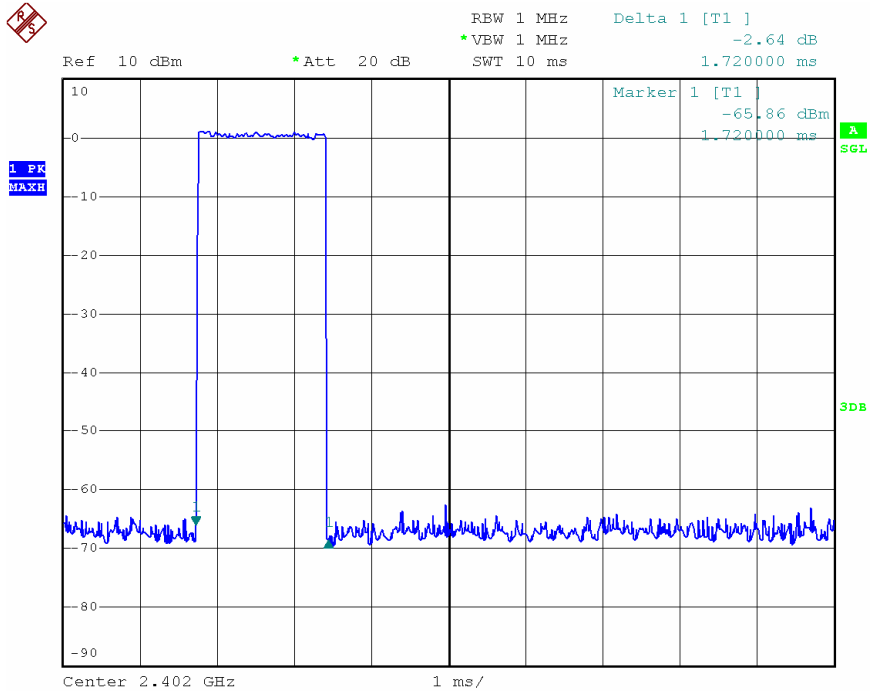
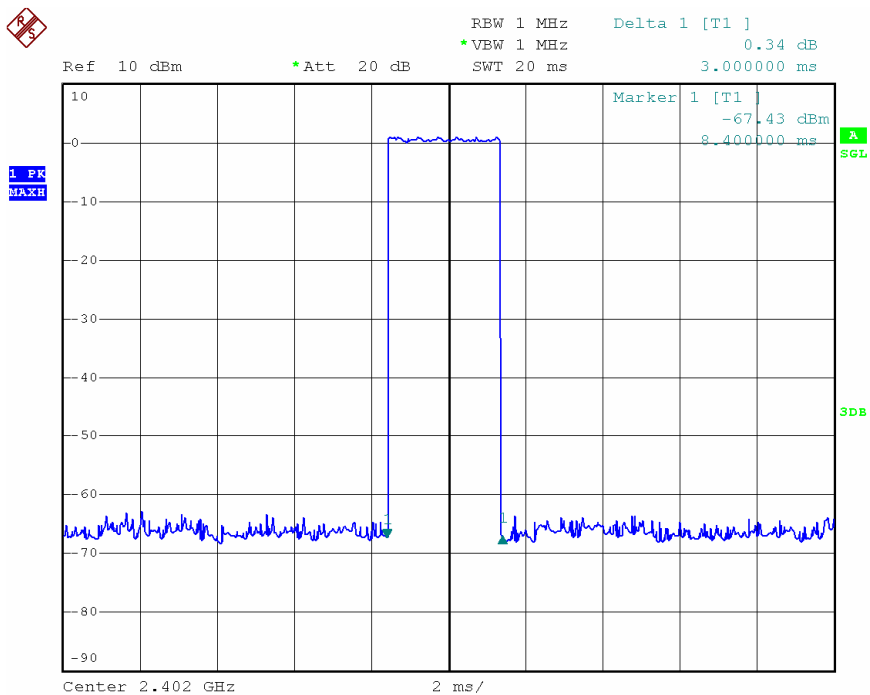
Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

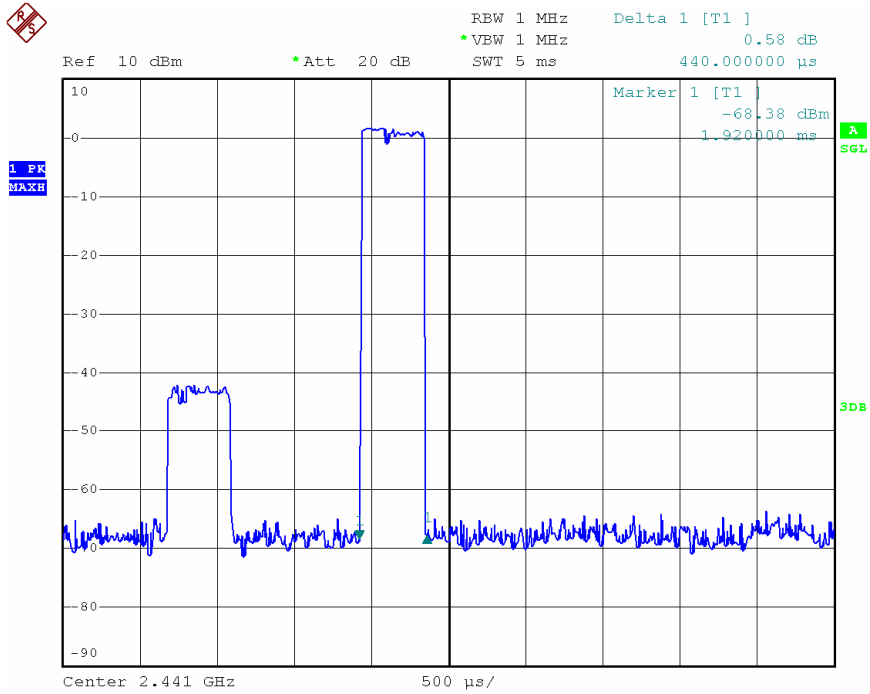
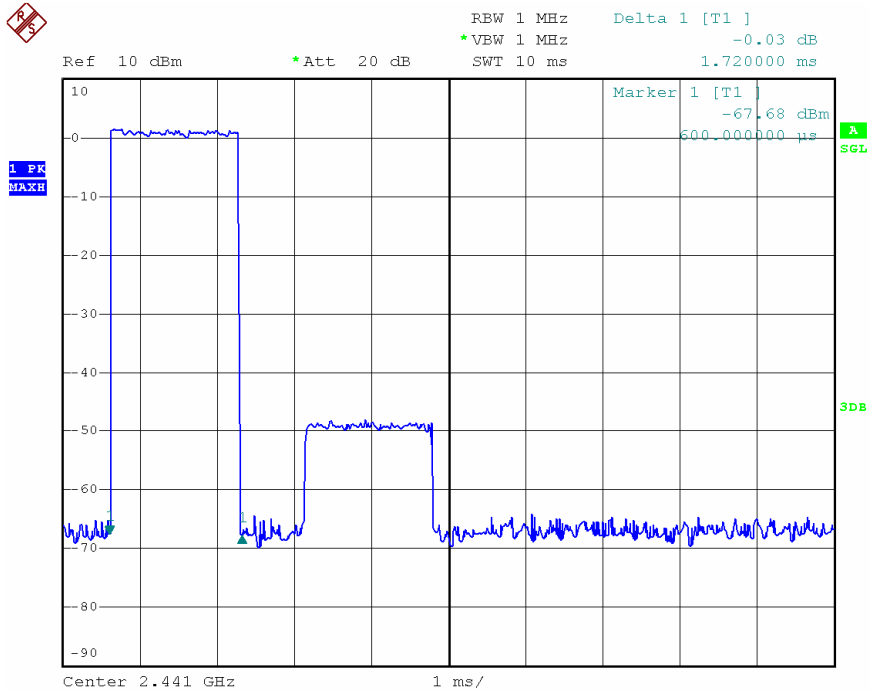
Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

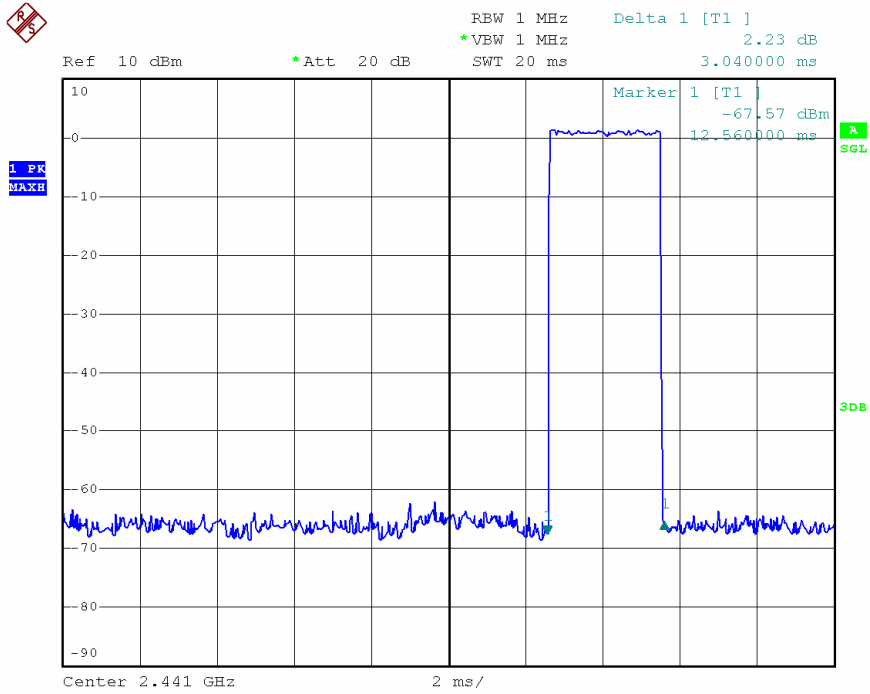
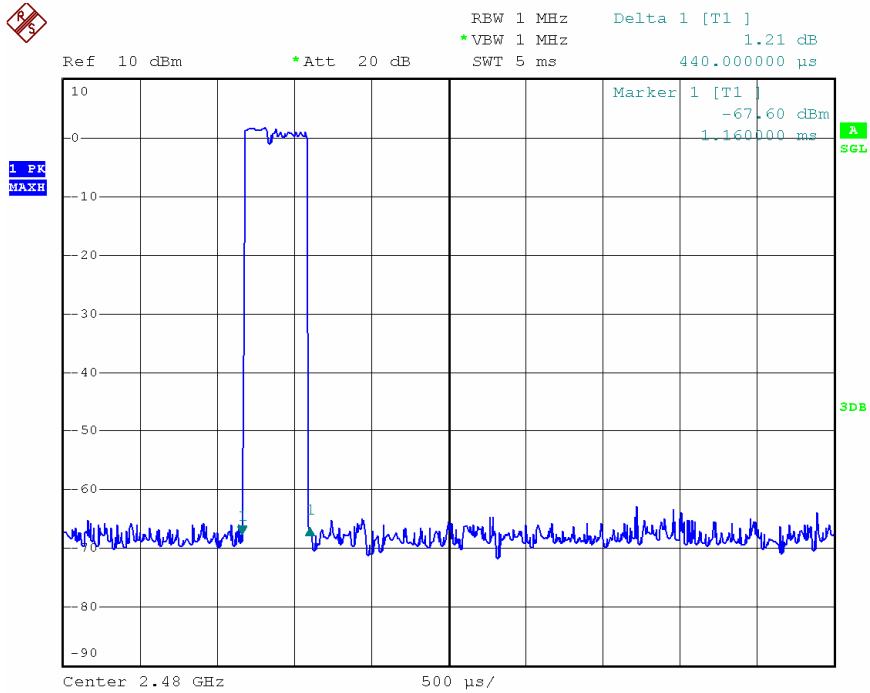
Middle Channel- DH3

Middle Channel- DH5


High Channel- DH1

High Channel- DH3


High Channel- DH5

Test Plot of Time of Occupancy, 8DPSK modulation
Low Channel- DH1


Low Channel- DH3

Low Channel- DH5


Middle Channel- DH1

Middle Channel- DH3


Middle Channel- DH5

High Channel- DH1


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5.1.9 Conducted emissions

RESULT:**Passed**

Date of testing	:	2012-03-08
Test standard	:	FCC Part 15.107(a), FCC Part 15.207(a)
Basic standard	:	ANSI C63.4: 2003
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.107(a), FCC Part 15.207(a)
Kind of test site	:	Shield room

Test setup

Input Voltage (to AC input of Adapter)	:	AC 120V, 60Hz
Operation Mode	:	A, D
Earthing	:	Not connected
Ambient temperature	:	25°C
Relative humidity	:	58%
Atmospheric pressure	:	101 kPa

For details refer to Appendix 1.

5.1.10 Radiated emissions

RESULT:**Passed**

Date of testing : 2012-03-07
Test standard : FCC Part 15.109
Basic standard : ANSI C63.4: 2003
Test frequency : 30 - 6000MHz
Limits : FCC Part 15.109(a)
Kind of test site : 3m Semi-Anechoic Chamber

Test Setup

Input Voltage (to AC input : AC 120V, 60Hz
of Adapter)
Operation Mode : D
Earthing : Not connected
Ambient temperature : 25°C
Relative humidity : 65%
Atmospheric pressure : 101 kPa

For details refer to Appendix 1.

The Radiated Emissions testing was performed in the X and Z axis mode. The X Axis mode is the worst-case recorded in this test report.

6. Safety Human exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

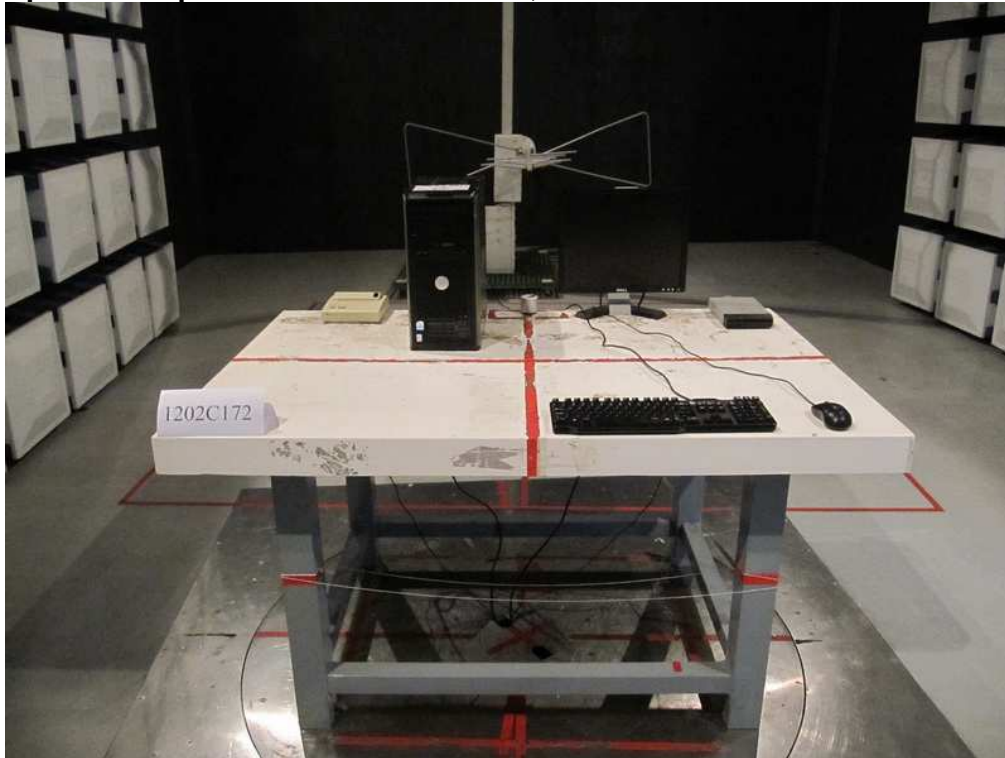
RESULT:**Passed**

Test standard : FCC KDB Publication 447498

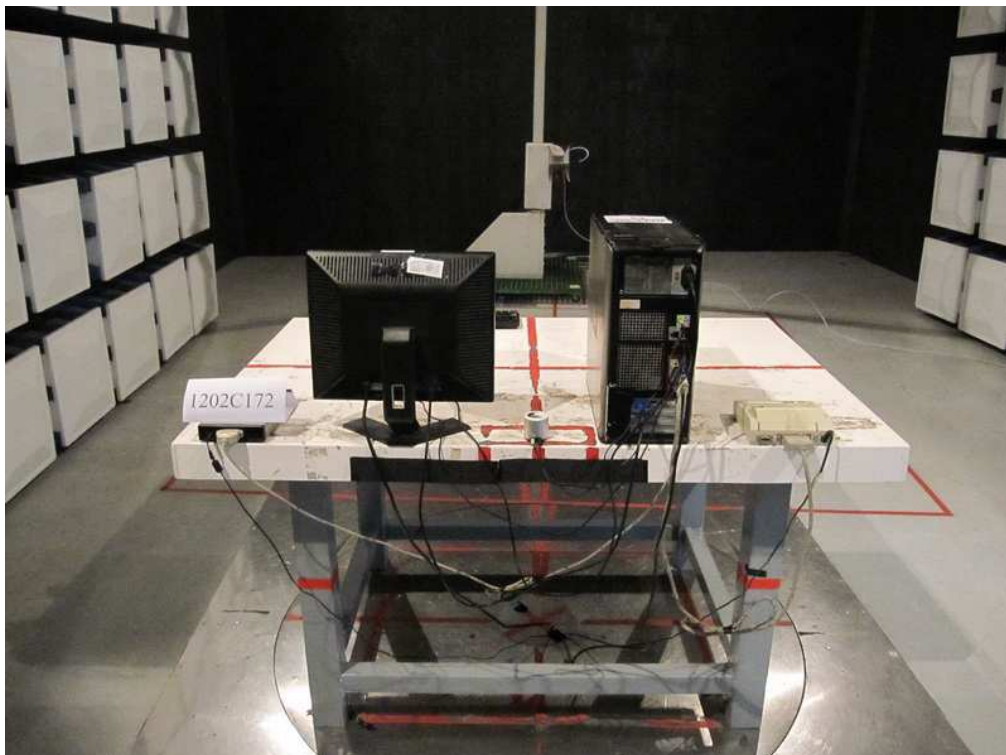
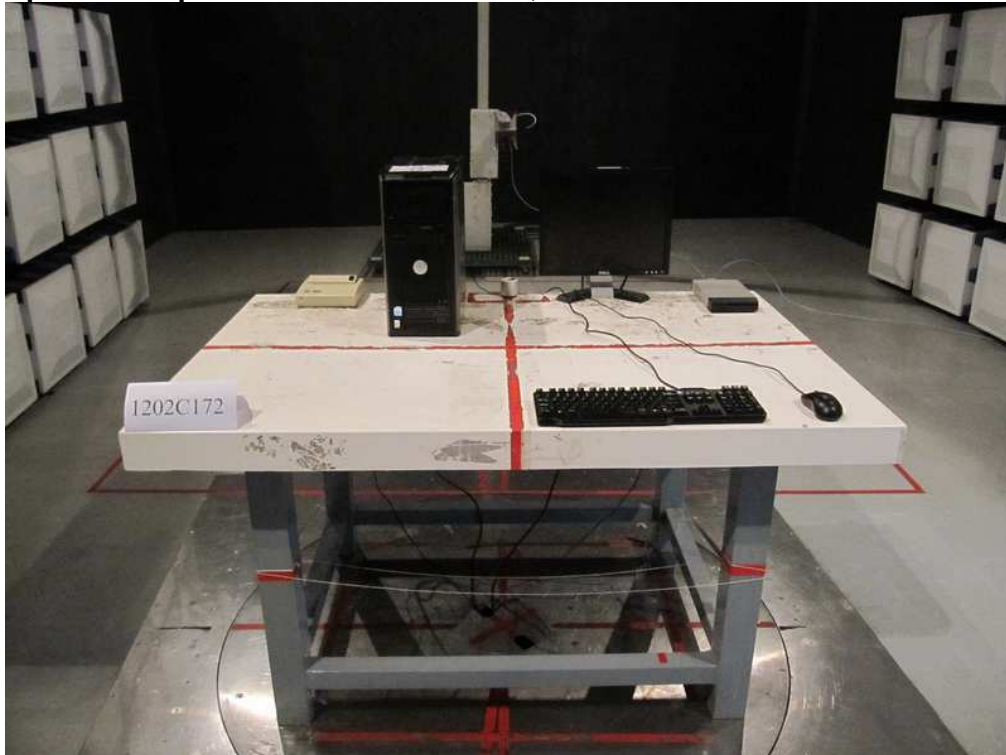
Since maximum peak output power of the transmitter is $<60/f(\text{GHz})\text{mW}$, i.e. $3.26\text{mW} < 25(=60/2.4)\text{mW}$, hence the EUT is excluded from SAR evaluation according to FCC KDB publication 447498 D01: Mobile Portable RF Exposure.

7. Photographs of the Test Set-Up

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



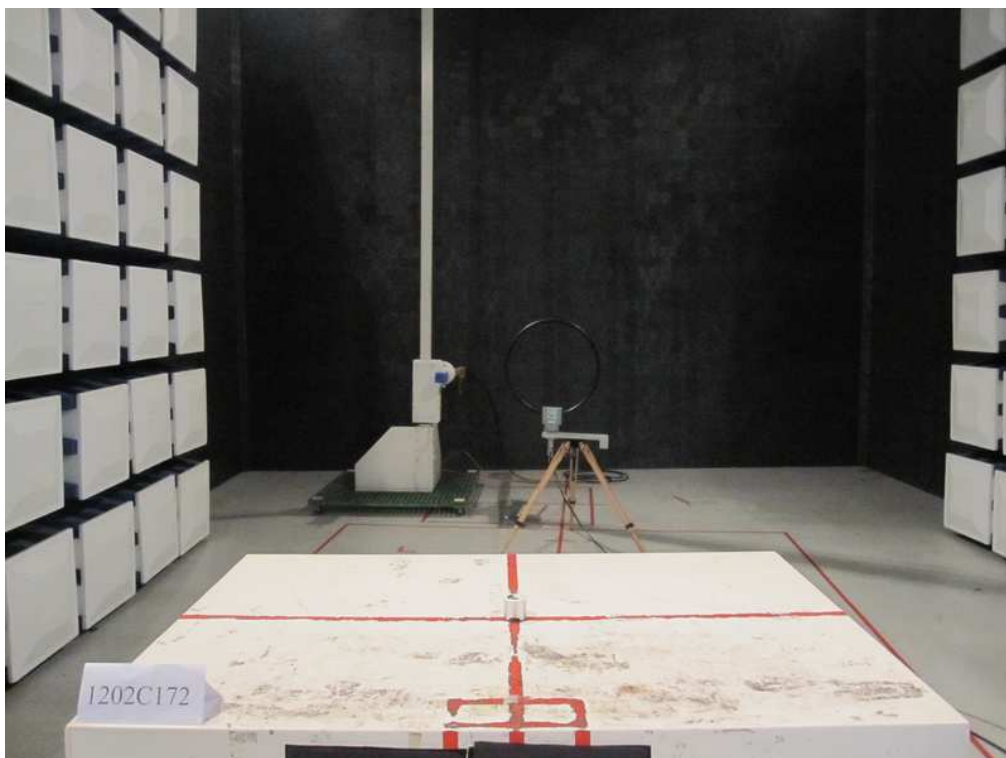
Photograph 2: Set-up for Radiated Emissions, above 1GHz



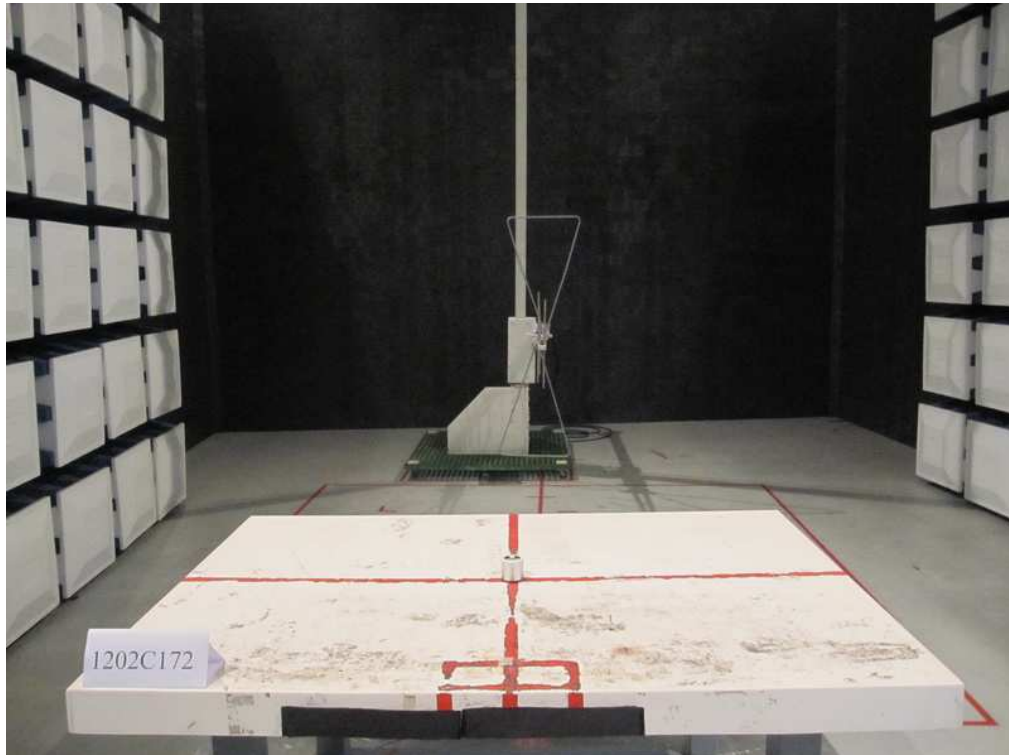
Photograph 3: Set-up for Coducted Emissions



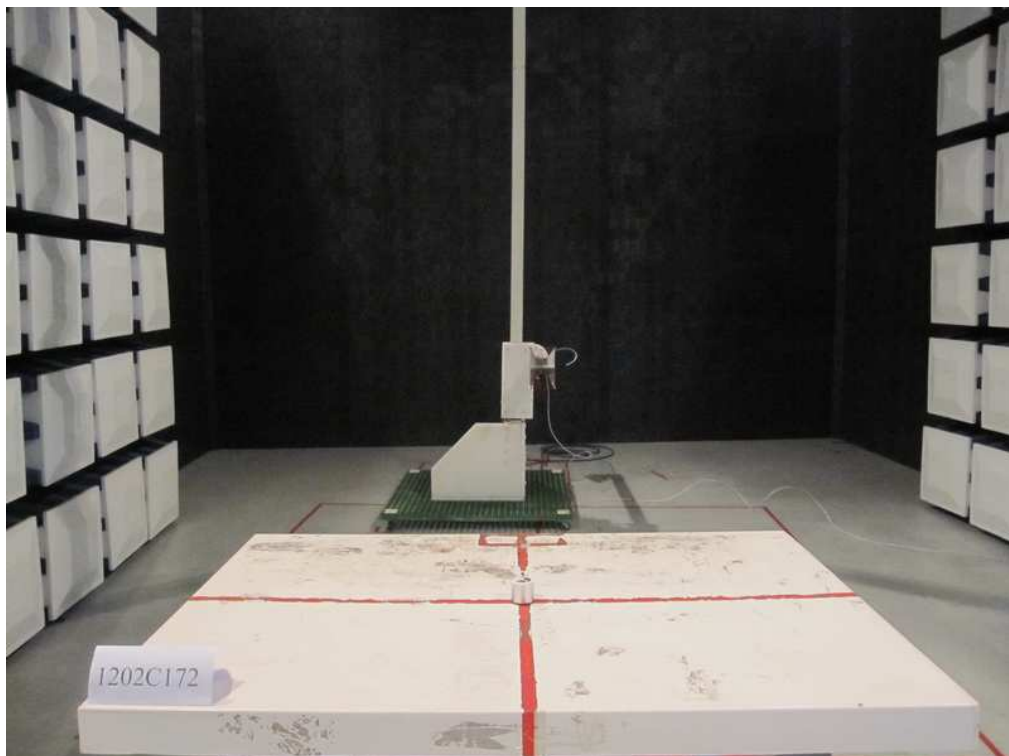
Photograph 4: Set-up for Spurious Emissions, below 30MHz



Photograph 5: Set-up for Spurious Emissions (30MHz-1GHz)



Photograph 6: Set-up for Spurious Emissions (1GHz-26GHz)



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Figure 1: Test figure of spurious emissions, mode A.1, Horizontal polarity (1.705MHz – 30MHz), GFSK Modulation



Neutron
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FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.048	32.41	22.52667	54.93667	113.9794001	-59.0427
0.476	29.62	19.8576	49.4776	94.05208578	-44.5745
1.524	26.22	19.5476	45.7676	63.94452549	-18.1769
4.727	23.48	18.4184	41.8984	69.54	-27.6416
10.693	24.05	17.84158	41.89158	69.54	-27.6484
15.37	28.37	18.0482	46.4182	69.54	-23.1218

Figure 2: Test figure of spurious emissions, mode A.1, Vertical polarity (1.705MHz – 30MHz), GFSK Modulation



Neutron
 Engineering Inc.

FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.0375	30.52	23.19167	53.71167	116.1235995	-62.4119
0.785	20.4	20.46	40.86	69.7068317	-28.8468
1.52	22.58	19.548	42.128	63.96735308	-21.8394
7.25	24.65	18.02	42.67	69.54	-26.87
11.86	30.27	17.9116	48.1816	69.54	-21.3584
17.81	27.71	17.7066	45.4166	69.54	-24.1234

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

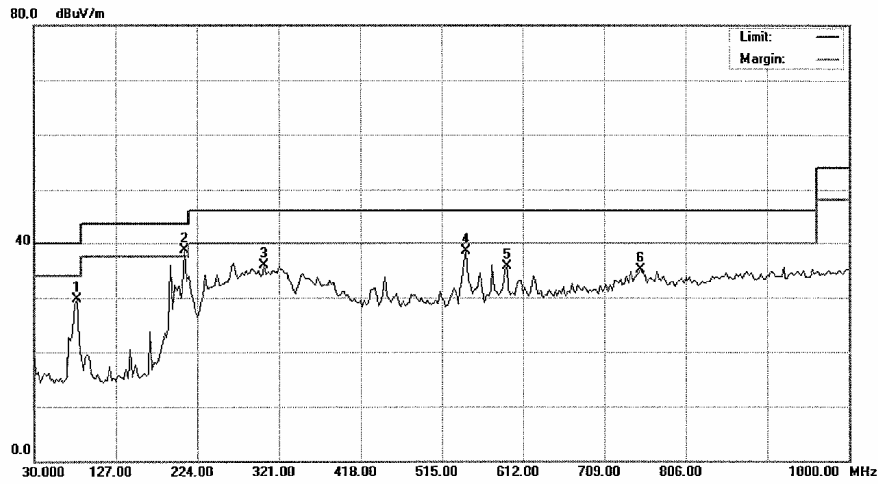


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Radiated Emission Measurement

File :FCBP-BELOW 1G Data :#2 Date: 2012-3-7 Time: 21:36:21



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		80.9250	48.77	-19.07	29.70	40.00	-10.30	peak	
2	*	209.4500	55.09	-16.33	38.76	43.50	-4.74	peak	
3		304.0250	47.87	-11.97	35.90	46.00	-10.10	peak	
4		544.1000	44.20	-5.71	38.49	46.00	-7.51	peak	
5		592.6000	40.24	-4.45	35.79	46.00	-10.21	peak	
6		752.6500	37.54	-2.52	35.02	46.00	-10.98	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

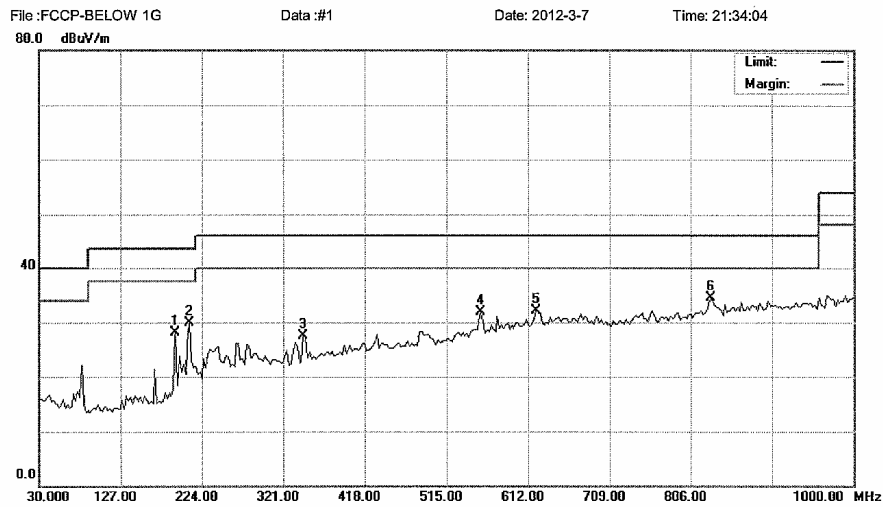
Figure 4: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz), GFSK Modulation



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Radiated Emission Measurement



Site DG-CB03 Polarization: **Vertical** Temperature: 25
 Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
 EUT: Bluetooth Speaker Distance: 3m
 M/N: SP-1042
 Mode: TX
 Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		192.4750	44.73	-16.69	28.04	43.50	-15.46	peak	
2		209.4500	46.27	-16.33	29.94	43.50	-13.56	peak	
3		345.2500	38.48	-10.95	27.53	46.00	-18.47	peak	
4		556.2250	37.16	-5.34	31.82	46.00	-14.18	peak	
5		621.7000	35.99	-3.86	32.13	46.00	-13.87	peak	
6	*	830.2500	35.69	-1.27	34.42	46.00	-11.58	peak	

*:Maximum data x:Over limit !:over margin <Reference Only

Figure 5: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz –26GHz), GFSK Modulation

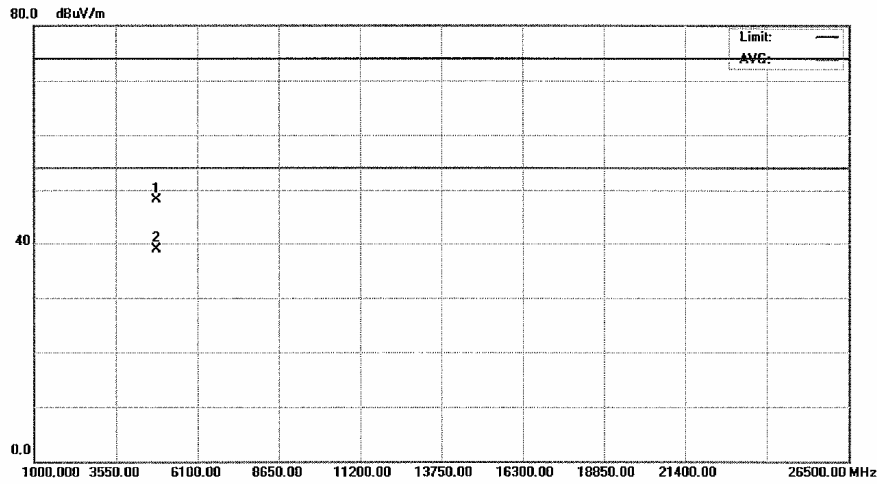


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<http://www.btl.org.cn>

Radiated Emission Measurement

File :FCCP Data :#24 Date: 2012-3-9 Time: 3:27:25



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4804.120	42.96	5.21	48.17	74.00	-25.83	peak	
2	*	4804.120	33.62	5.21	38.83	54.00	-15.17	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 6: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 26GHz), GFSK Modulation

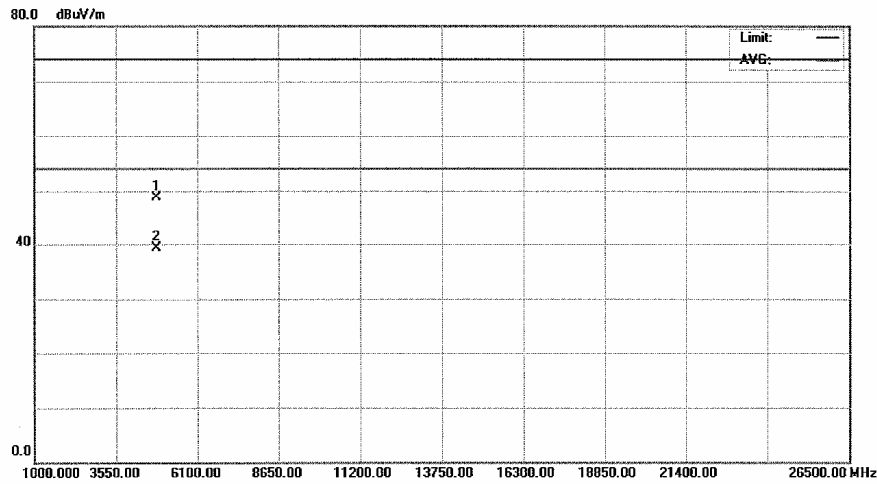


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<http://www.btl.org.cn>

Radiated Emission Measurement

File :FCCP Data :#23 Date: 2012-3-9 Time: 3:23:47



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4804.090	43.50	5.21	48.71	74.00	-25.29	peak	
2	*	4804.090	34.16	5.21	39.37	54.00	-14.63	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 7: Test figure of spurious emissions, mode A.2, Horizontal polarity (1.705MHz – 30MHz), GFSK Modulation



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FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	Read level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.044	27.68	22.78	50.46	114.7351713	-64.2752
0.462	27.66	19.8912	47.5512	94.31138532	-46.7602
1.52	24.33	19.548	43.878	63.96735308	-20.0894
4.167	21.56	18.8664	40.4264	69.54	-29.1136
10.927	23.29	17.85562	41.14562	69.54	-28.3944
15.24	26.81	18.0664	44.8764	69.54	-24.6636

Figure 8: Test figure of spurious emissions, mode A.2, Vertical polarity (1.705MHz – 30MHz), GFSK Modulation



Neutron
 Engineering Inc.

FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.0327	28.64	23.49567	52.13567	117.3132698	-65.1776
0.751	21.54	20.596	42.136	70.09142609	-27.9554
1.516	22.67	19.5484	42.2184	63.99024081	-21.7718
7.24	23.84	18.0208	41.8608	69.54	-27.6792
11.73	29.55	17.9038	47.4538	69.54	-22.0862
16.88	25.48	17.8368	43.3168	69.54	-26.2232

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

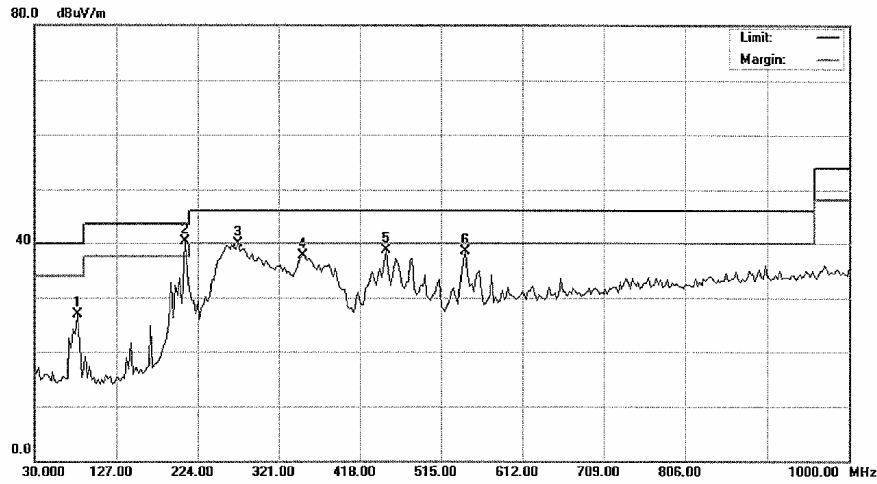


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<http://www.btl.org.cn>

Radiated Emission Measurement

File :FCCP-BELOW 1G Data :#3 Date: 2012-3-7 Time: 21:39:52



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1 M 2441MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		80.9250	45.93	-19.07	26.86	40.00	-13.14	peak	
2	*	209.4500	56.58	-16.33	40.25	43.50	-3.25	peak	
3		272.5000	52.95	-13.12	39.83	46.00	-6.17	peak	
4		350.1000	48.51	-10.84	37.67	46.00	-8.33	peak	
5		449.5250	46.81	-8.13	38.68	46.00	-7.32	peak	
6		544.1000	44.21	-5.71	38.50	46.00	-7.50	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 10: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GHz), GFSK Modulation



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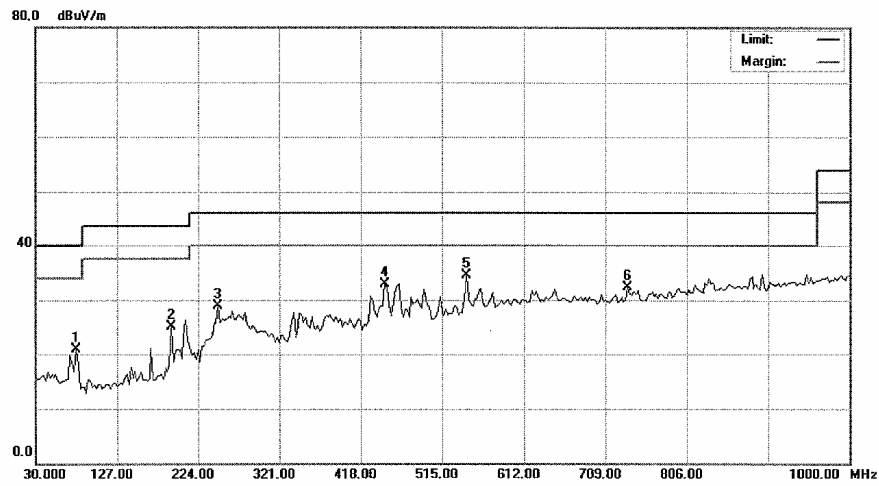
Radiated Emission Measurement

File :FCCP-BELOW 1G

Data :#4

Date: 2012-3-7

Time: 21:42:02



Site DG-CB03

Polarization: **Vertical**

Temperature: 25

Limit: FCC Class B 3M Radiation

Power: AC 120V/60Hz

Humidity: 65 %

EUT: Bluetooth Speaker

Distance: 3m

M/N: SP-1042

Mode: TX

Note: 1 M 2441MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		78.5000	39.90	-18.99	20.91	40.00	-19.09	peak	
2		192.4750	41.84	-16.69	25.15	43.50	-18.35	peak	
3		248.2500	43.49	-14.66	28.83	46.00	-17.17	peak	
4		447.1000	41.11	-8.17	32.94	46.00	-13.06	peak	
5	*	544.1000	40.15	-5.71	34.44	46.00	-11.56	peak	
6		735.6750	35.07	-2.73	32.34	46.00	-13.66	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Figure 11: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 26GHz), GFSK Modulation

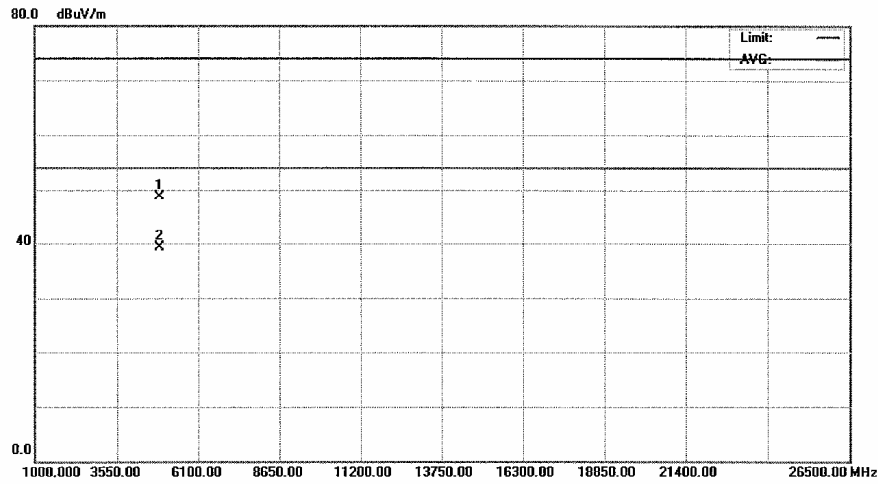


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Radiated Emission Measurement

File :FCCP Data :#21 Date: 2012-3-9 Time: 3:16:40



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2441MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4882.150	43.18	5.50	48.68	74.00	-25.32	peak	
2	*	4882.150	33.84	5.50	39.34	54.00	-14.66	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 12: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 26GHz), GFSK Modulation

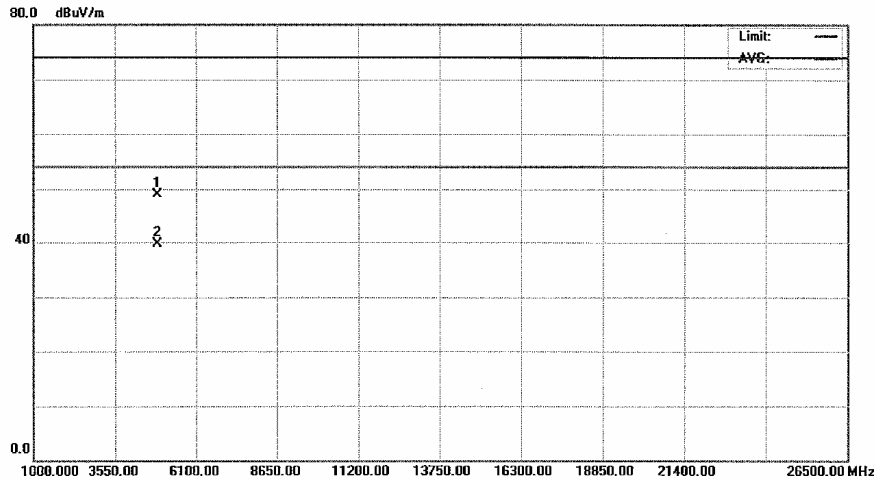


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Radiated Emission Measurement

File :FCCP Data :#22 Date: 2012-3-9 Time: 3:20:57



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2441MHZ

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4881.950	43.49	5.50	48.99	74.00	-25.01	peak	
2	*	4881.950	34.15	5.50	39.65	54.00	-14.35	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 13: Test figure of spurious emissions, mode A.3, Horizontal polarity (1.705MHz – 30MHz), GFSK Modulation



Neutron
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FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.053	31.54	22.34	53.88	113.1187074	-59.2387
0.468	28.66	19.8768	48.5368	94.19930777	-45.6625
1.532	25.25	19.5468	44.7968	63.89904953	-19.1022
4.683	24.31	18.4536	42.7636	69.54	-26.7764
10.537	23.86	17.83222	41.69222	69.54	-27.8478
15.27	29.34	18.0622	47.4022	69.54	-22.1378

Figure 14: Test figure of spurious emissions, mode A.3, Vertical polarity (1.705MHz – 30MHz), GFSK Modulation



Neutron
 Engineering Inc.

FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.0386	27.65	23.122	50.772	115.8724787	-65.1005
0.562	21.47	19.9984	41.4684	72.60949852	-31.1411
1.553	23.6	19.5447	43.1447	63.78079572	-20.6361
7.329	23.44	18.01368	41.45368	69.54	-28.0863
10.85	28.31	17.851	46.161	69.54	-23.379
16.95	25.36	17.827	43.187	69.54	-26.353

Figure 15: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz), GFSK Modulation

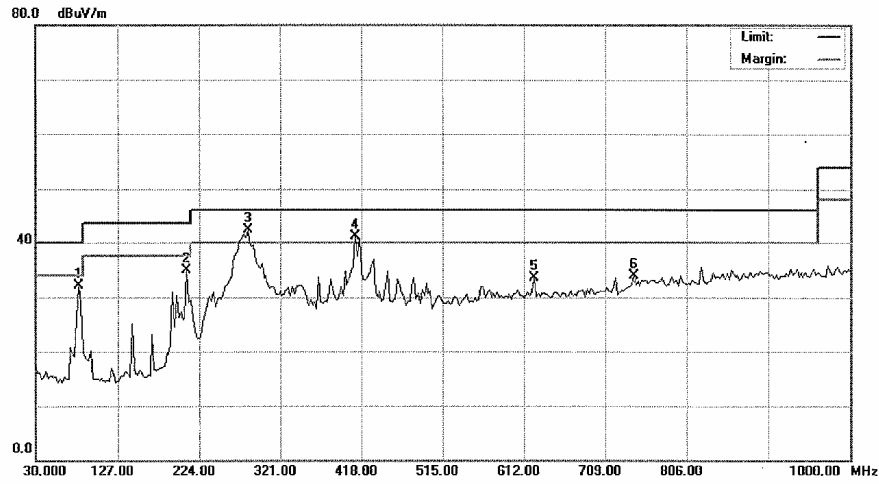


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Radiated Emission Measurement

File :FCCP-BELOW 1G Data :#6 Date: 2012-3-7 Time: 21:50:04



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1 M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		80.9250	51.10	-19.07	32.03	40.00	-7.97	peak	
2		209.4500	51.27	-16.33	34.94	43.50	-8.56	peak	
3	*	282.2000	54.85	-12.52	42.33	46.00	-3.67	peak	
4	!	410.7250	49.95	-8.83	41.12	46.00	-4.88	peak	
5		624.1250	37.37	-3.82	33.55	46.00	-12.45	peak	
6		742.9500	36.52	-2.65	33.87	46.00	-12.13	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 16: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz), GFSK Modulation

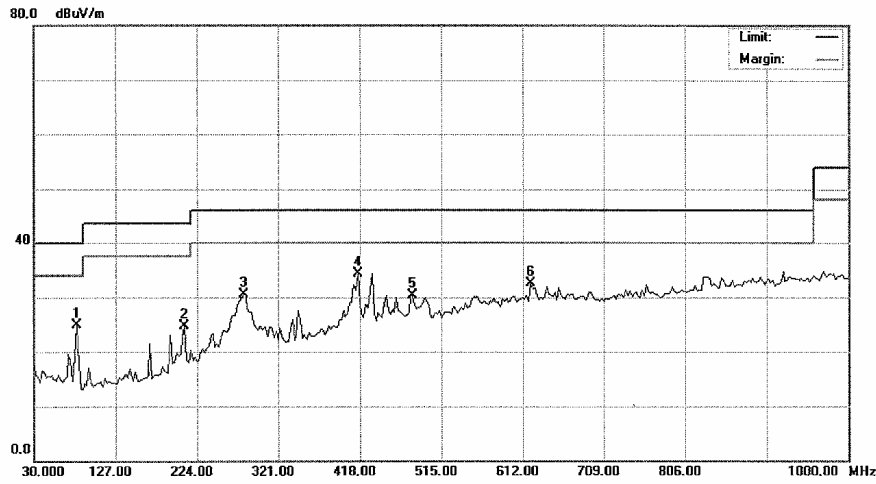


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Radiated Emission Measurement

File :FCCP-BELOW 1G Data :#5 Date: 2012-3-7 Time: 21:47:45



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1 M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		80.9250	44.04	-19.07	24.97	40.00	-15.03	peak	
2		209.4500	41.04	-16.33	24.71	43.50	-18.79	peak	
3		279.7750	43.14	-12.66	30.48	46.00	-15.52	peak	
4	*	415.5750	43.09	-8.74	34.35	46.00	-11.65	peak	
5		481.0500	38.00	-7.64	30.36	46.00	-15.64	peak	
6		621.7000	36.27	-3.86	32.41	46.00	-13.59	peak	

*:Maximum data x:Over limit !:over margin <Reference Only

Figure 17: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz –26GHz), GFSK Modulation

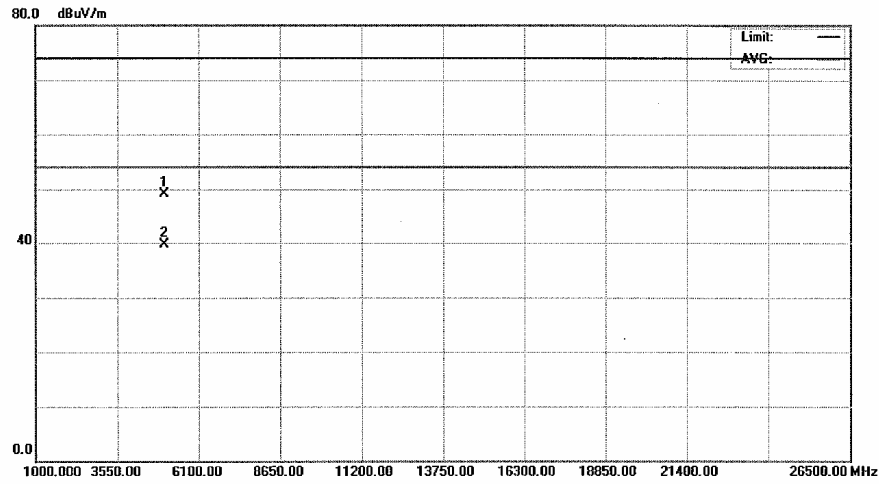


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Radiated Emission Measurement

File :FCCP Data :#20 Date: 2012-3-9 Time: 3:12:27



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4960.130	43.24	5.78	49.02	74.00	-24.98	peak	
2	*	4960.130	33.90	5.78	39.68	54.00	-14.32	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 18: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 26GHz), GFSK Modulation

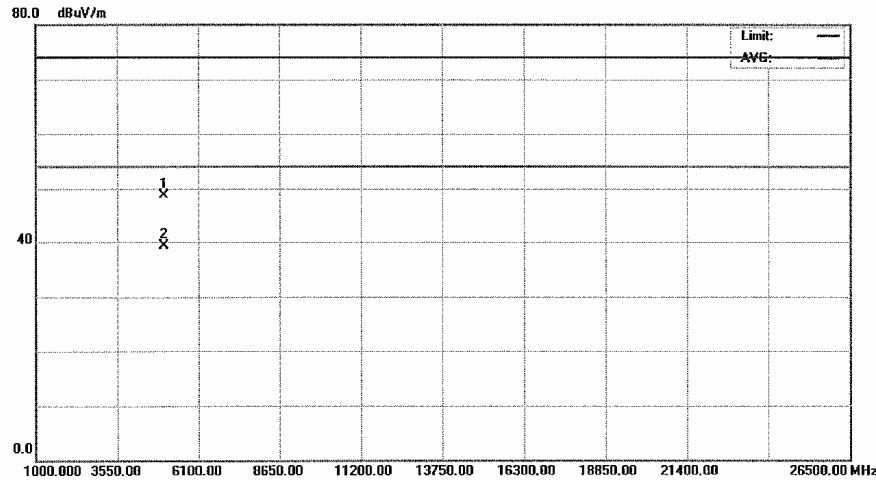


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Radiated Emission Measurement

File :FCCP Data :#19 Date: 2012-3-9 Time: 3:08:37



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4960.070	42.85	5.78	48.63	74.00	-25.37	peak	
2	*	4960.070	33.51	5.78	39.29	54.00	-14.71	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 19: Test figure of spurious emissions, mode A.1, Horizontal polarity (1.705MHz – 30MHz), 8DPSK Modulation



Neutron
 Engineering Inc.

FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	Read level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.046	28.69	22.65333	51.34333	114.3490682	-63.0057
0.449	28.34	19.9224	48.2624	94.55929801	-46.2969
1.527	27.69	19.5473	47.2373	63.92744409	-16.6901
4.763	22.83	18.3896	41.2196	69.54	-28.3204
11.284	23.59	17.87704	41.46704	69.54	-28.073
15.46	27.42	18.0356	45.4556	69.54	-24.0844

**Figure 20: Test figure of spurious emissions, mode A.1, Vertical polarity
 (1.705MHz – 30MHz), 8DPSK Modulation**



Neutron
 Engineering Inc.

FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.365	28.64	20.124	48.764	96.35836755	-47.5944
0.684	21.58	20.3888	41.9688	70.9031028	-28.9343
1.486	21.41	19.5514	40.9614	64.16384865	-23.2024
7.29	23.66	18.0168	41.6768	69.54	-27.8632
11.94	29.89	17.9164	47.8064	69.54	-21.7336
16.57	28.39	17.8802	46.2702	69.54	-23.2698

Figure 21: Test figure of spurious emissions, mode A.1, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation



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Radiated Emission Measurement

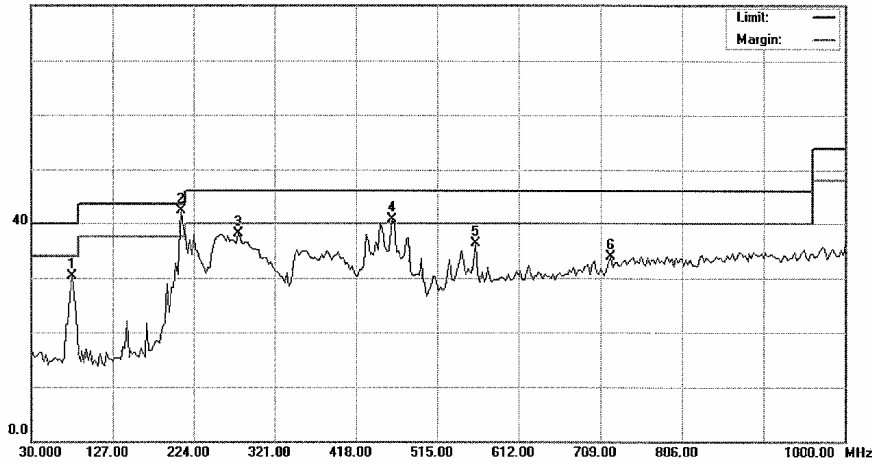
File :FCCP-BELOW 1G

Data :#7

Date: 2012-3-7

Time: 21:53:45

90.0 dBuV/m



Site DG-CB03

Polarization: **Horizontal**

Temperature: 25

Limit: FCC Class B 3M Radiation

Power: AC 120V/60Hz

Humidity: 65 %

EUT: Bluetooth Speaker

Distance: 3m

M/N: SP-1042

Mode: TX

Note: 3 M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		78.5000	49.25	-18.99	30.26	40.00	-9.74	peak	
2	*	209.4500	58.59	-16.33	42.26	43.50	-1.24	peak	
3		277.3500	50.88	-12.81	38.07	46.00	-7.93	peak	
4	!	461.6500	48.56	-7.93	40.63	46.00	-5.37	peak	
5		561.0750	41.49	-5.22	36.27	46.00	-9.73	peak	
6		721.1250	36.73	-2.92	33.81	46.00	-12.19	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Figure 22: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz), 8DPSK Modulation



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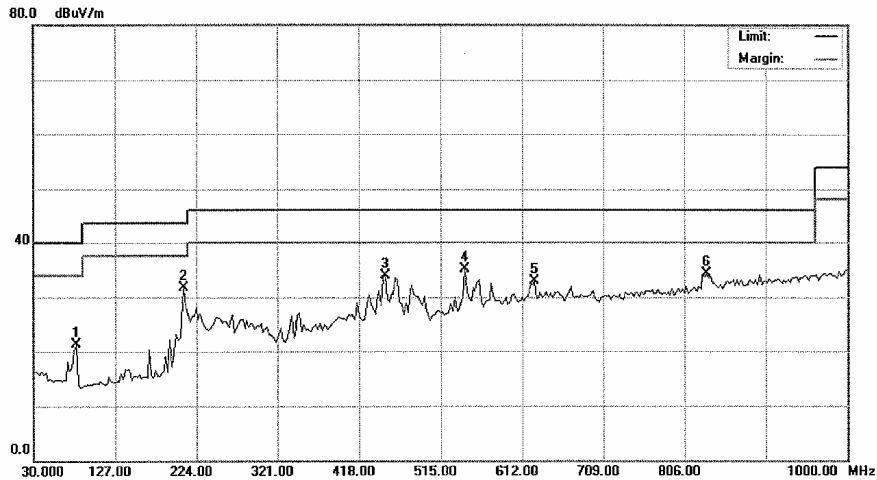
Radiated Emission Measurement

File :FCPP-BELOW 1G

Data :#8

Date: 2012-3-7

Time: 21:55:43



Site DG-CB03

Polarization: **Vertical**

Temperature: 25

Limit: FCC Class B 3M Radiation

Power: AC 120V/60Hz

Humidity: 65 %

EUT: Bluetooth Speaker

Distance: 3m

M/N: SP-1042

Mode: TX

Note: 3 M 2402MHZ

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		80.9250	40.32	-19.07	21.25	40.00	-18.75	peak	
2		209.4500	47.99	-16.33	31.66	43.50	-11.84	peak	
3		449.5250	42.01	-8.13	33.88	46.00	-12.12	peak	
4	*	544.1000	40.72	-5.71	35.01	46.00	-10.99	peak	
5		626.5500	36.61	-3.77	32.84	46.00	-13.16	peak	
6		832.6750	35.45	-1.22	34.23	46.00	-11.77	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Figure 23: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz –26GHz), 8DPSK Modulation

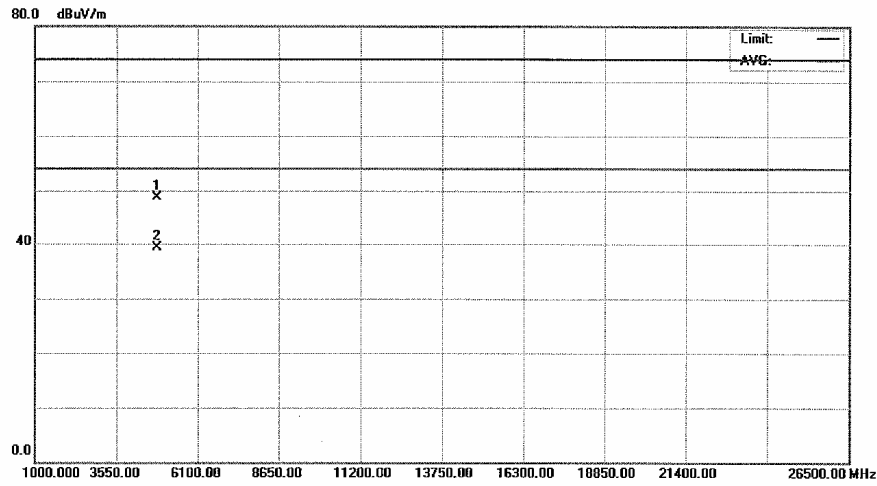


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Radiated Emission Measurement

File :FCCP Data :#13 Date: 2012-3-9 Time: 2:49:34



Site DG-CB03 Polarization: **Horizontal** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4804.140	43.52	5.21	48.73	74.00	-25.27	peak	
2	*	4804.140	34.18	5.21	39.39	54.00	-14.61	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :FCCP\Data :#13

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Figure 24: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 26GHz), 8DPSK Modulation

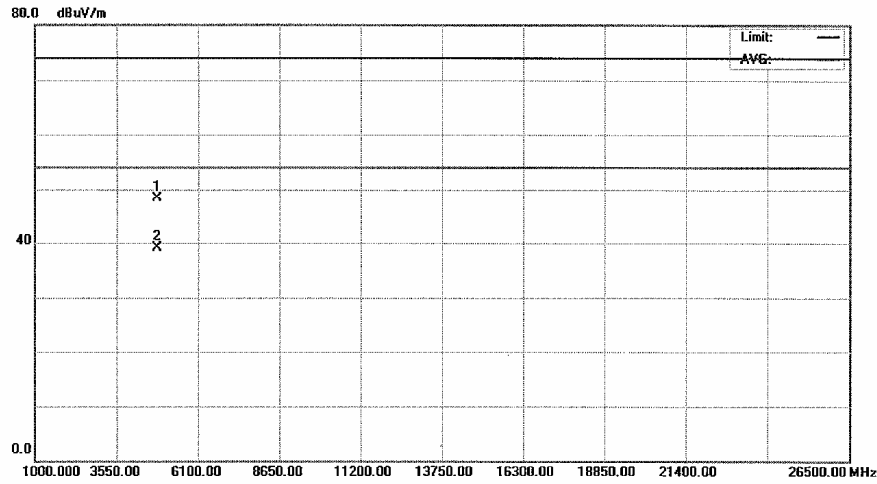


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Radiated Emission Measurement

File :FCCP Data :#14 Date: 2012-3-9 Time: 2:51:36



Site DG-CB03 Polarization: **Vertical** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4803.940	43.18	5.21	48.39	74.00	-25.61	peak	
2	*	4803.940	33.84	5.21	39.05	54.00	-14.95	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 25: Test figure of spurious emissions, mode A.2, Horizontal polarity (1.705MHz – 30MHz), 8DPSK Modulation



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FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.043	29.52	22.84333	52.36333	114.9348557	-62.5715
0.457	28.74	19.9032	48.6432	94.40590083	-45.7627
1.524	25.76	19.5476	45.3076	63.94452549	-18.6369
4.685	24.97	18.452	43.422	69.54	-26.118
11.246	24.57	17.87476	42.44476	69.54	-27.0952
15.36	27.62	18.0496	45.6696	69.54	-23.8704

**Figure 26: Test figure of spurious emissions, mode A.2, Vertical polarity
 (1.705MHz – 30MHz), 8DPSK Modulation**



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FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.0395	28.52	23.065	51.585	115.6722829	-64.0873
0.764	21.55	20.544	42.094	69.94235766	-27.8484
1.573	21.79	19.5427	41.3327	63.66965038	-22.337
7.35	24.86	18.012	42.872	69.54	-26.668
11.79	29.77	17.9074	47.6774	69.54	-21.8626
17.67	28.67	17.7262	46.3962	69.54	-23.1438

Figure 27: Test figure of spurious emissions, mode A.2, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation

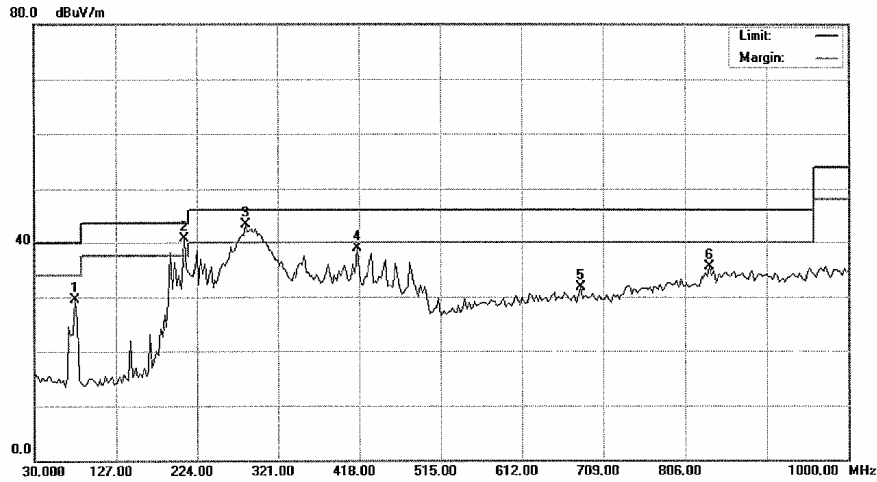


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Radiated Emission Measurement

File :FCCP-BELOW 1G Data :#10 Date: 2012-3-7 Time: 22:01:27



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3 M 2441MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		78.5000	48.55	-18.99	29.56	40.00	-10.44	peak	
2	*	209.4500	57.12	-16.33	40.79	43.50	-2.71	peak	
3	!	282.2000	55.81	-12.52	43.29	46.00	-2.71	peak	
4		415.5750	47.73	-8.74	38.99	46.00	-7.01	peak	
5		682.3250	35.02	-3.24	31.78	46.00	-14.22	peak	
6		835.1000	36.76	-1.17	35.59	46.00	-10.41	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 28: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GMHz), 8DPSK Modulation

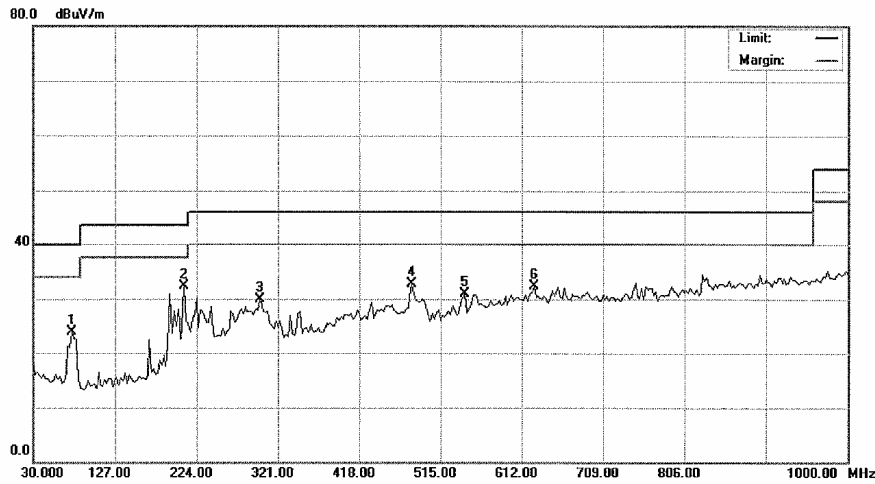


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Radiated Emission Measurement

File :FCCP-BELOW 1G Data :#9 Date: 2012-3-7 Time: 22:00:08



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3 M 2441MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		76.0750	42.80	-18.86	23.94	40.00	-16.06	peak	
2	*	209.4500	48.67	-16.33	32.34	43.50	-11.16	peak	
3		299.1750	41.93	-12.06	29.87	46.00	-16.13	peak	
4		481.0500	40.33	-7.64	32.69	46.00	-13.31	peak	
5		544.1000	36.70	-5.71	30.99	46.00	-15.01	peak	
6		626.5500	36.08	-3.77	32.31	46.00	-13.69	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 29: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 26GHz), 8DPSK Modulation

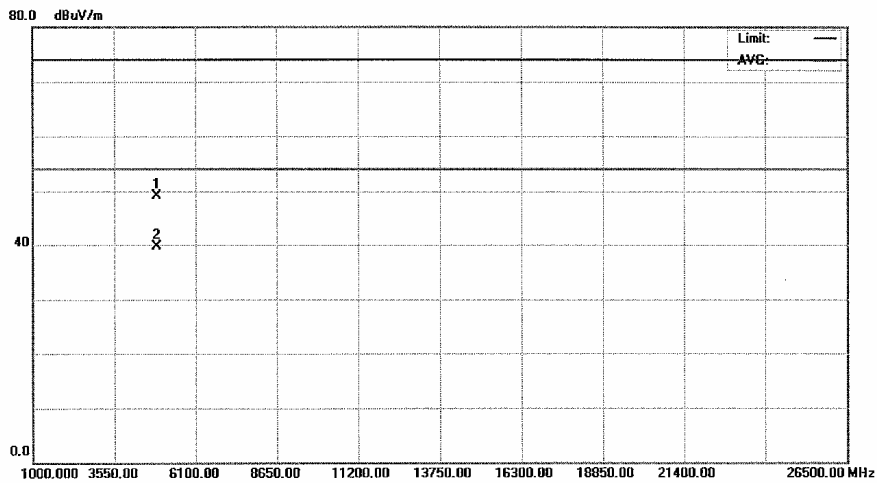


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Radiated Emission Measurement

File :FCCP Data :#16 Date: 2012-3-9 Time: 2:58:29



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2441MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4881.890	43.62	5.50	49.12	74.00	-24.88	peak	
2	*	4881.890	34.28	5.50	39.78	54.00	-14.22	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

File :FCCPData :#16

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Figure 30: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 26GHz), 8DPSK Modulation

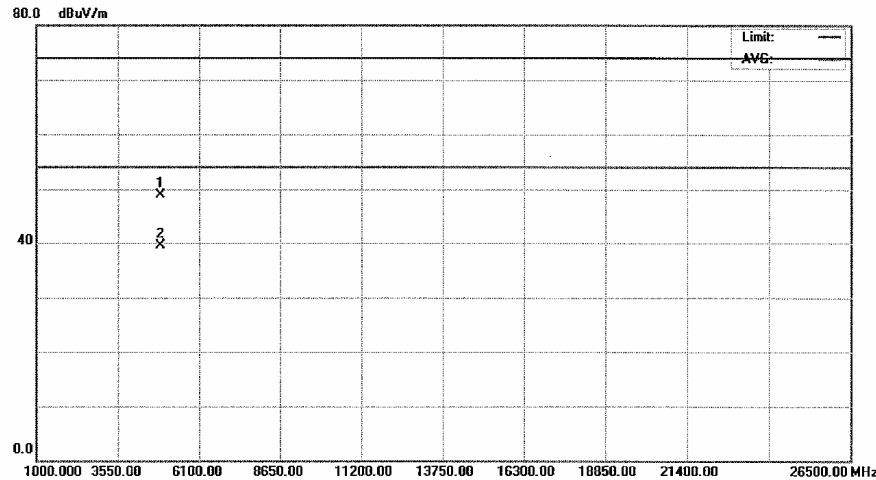


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Radiated Emission Measurement

File : FCCP Data : #15 Date : 2012-3-9 Time : 2:54:42



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2441MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4882.120	43.43	5.50	48.93	74.00	-25.07	peak	
2	*	4882.120	34.09	5.50	39.59	54.00	-14.41	AVG	

*:Maximum data x:Over limit !:over margin <Reference Only

Figure 31: Test figure of spurious emissions, mode A.3, Horizontal polarity (1.705MHz – 30MHz), 8DPSK Modulation



Neutron
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FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.047	31.78	22.59	54.37	114.1622677	-59.7923
0.458	28.65	19.9008	48.5508	94.38691527	-45.8361
1.539	27.38	19.5461	46.9261	63.85945244	-16.9334
4.692	24.56	18.4464	43.0064	69.54	-26.5336
10.835	25.08	17.8501	42.9301	69.54	-26.6099
15.46	28.73	18.0356	46.7656	69.54	-22.7744

Figure 32: Test figure of spurious emissions, mode A.3, Vertical polarity (1.705MHz – 30MHz), 8DPSK Modulation



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FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.0426	29.57	22.86867	52.43867	115.0160329	-62.5774
0.735	21.75	20.552	42.302	70.27847805	-27.9765
1.542	23.49	19.5458	43.0358	63.84253736	-20.8067
7.37	24.68	18.0104	42.6904	69.54	-26.8496
11.76	28.35	17.9056	46.2556	69.54	-23.2844
17.92	28.36	17.6912	46.0512	69.54	-23.4888

Figure 33: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation

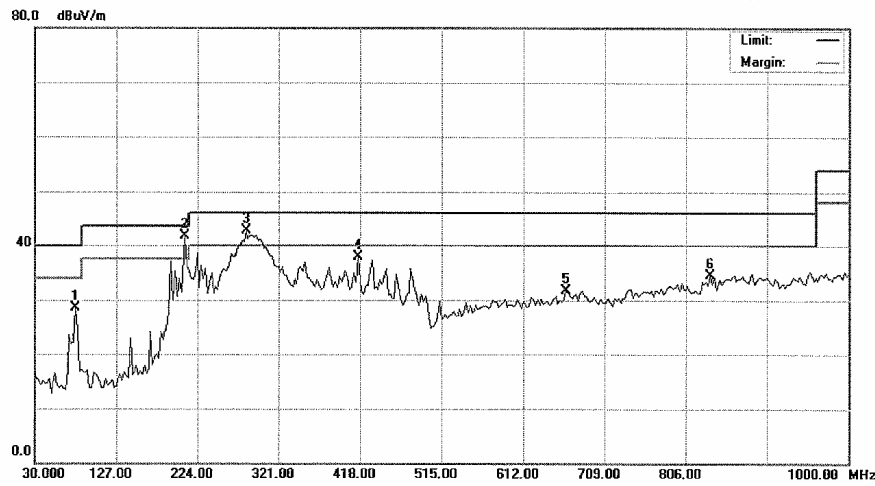


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Radiated Emission Measurement

File :FCCP-BELOW 1G Data #11 Date: 2012-3-7 Time: 22:05:38



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3 M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		78.5000	47.55	-18.99	28.56	40.00	-11.44	peak	
2	*	209.4500	58.12	-16.33	41.79	43.50	-1.71	peak	
3	!	282.2000	55.31	-12.52	42.79	46.00	-3.21	peak	
4		415.5750	46.73	-8.74	37.99	46.00	-8.01	peak	
5		662.9250	35.06	-3.29	31.77	46.00	-14.23	peak	
6		835.1000	35.76	-1.17	34.59	46.00	-11.41	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 34: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz), 8DPSK Modulation



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Radiated Emission Measurement

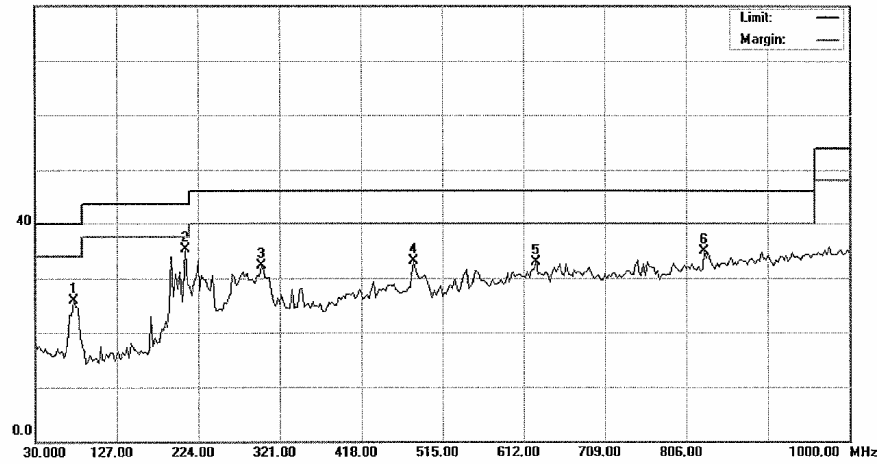
File :FCCP-BELOW 1G

Data :#12

Date: 2012-3-7

Time: 22:08:17

80.0 dBuV/m



Site DG-CB03

Limit: FCC Class B 3M Radiation

EUT: Bluetooth Speaker

M/N: SP-1042

Mode: TX

Note: 3 M 2480MHZ

Polarization: **Vertical**

Power: AC 120V/60Hz

Distance: 3m

Temperature: 25

Humidity: 65 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		76.0750	44.80	-18.86	25.94	40.00	-14.06	peak	
2	*	209.4500	51.67	-16.33	35.34	43.50	-8.16	peak	
3		299.1750	44.43	-12.06	32.37	46.00	-13.63	peak	
4		481.0500	40.83	-7.64	33.19	46.00	-12.81	peak	
5		626.5500	36.58	-3.77	32.81	46.00	-13.19	peak	
6		827.8250	36.27	-1.32	34.95	46.00	-11.05	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Figure 35: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz –26GHz), 8DPSK Modulation

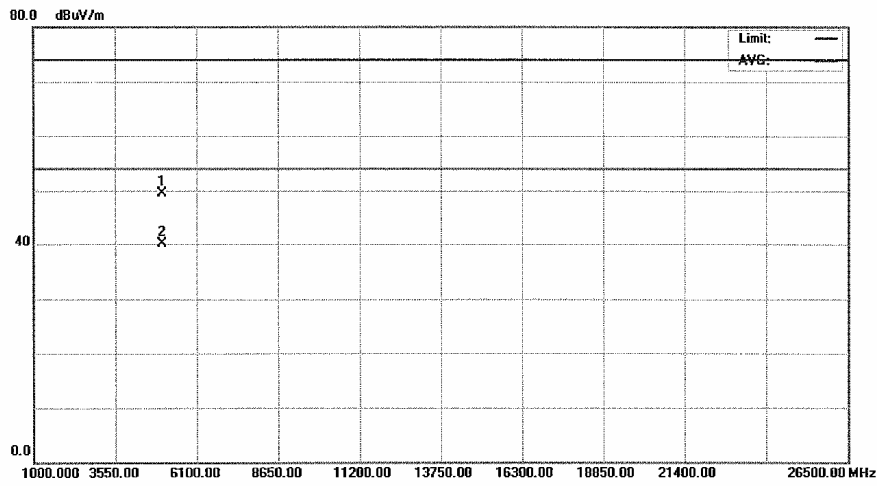


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Radiated Emission Measurement

File :FCCP Data :#17 Date: 2012-3-9 Time: 3:02:19



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4960.100	43.72	5.78	49.50	74.00	-24.50	peak	
2	*	4960.100	34.38	5.78	40.16	54.00	-13.84	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

File :FCCPData :#17

Page: 1

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Figure 36: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 26GHz), 8DPSK Modulation

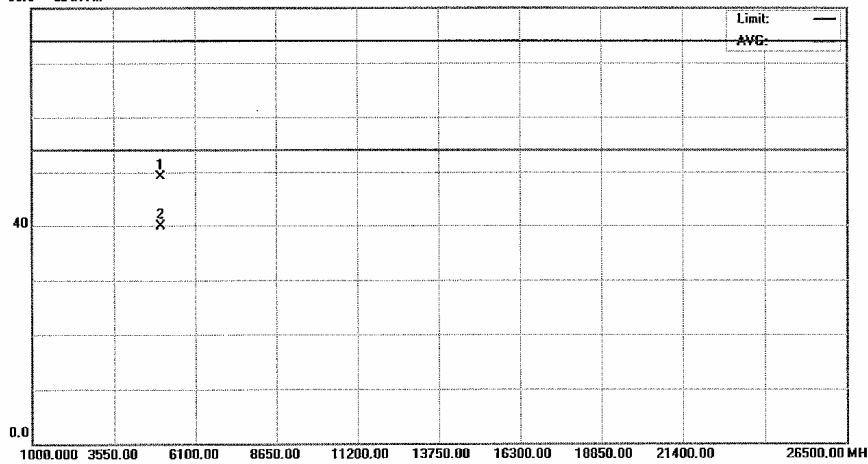


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Radiated Emission Measurement

File : FCCP Data : #18 Date : 2012-3-9 Time : 3:05:52
80.0 dBuV/m



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4959.920	43.40	5.78	49.18	74.00	-24.82	peak	
2	*	4959.920	34.06	5.78	39.84	54.00	-14.16	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

**Figure 37: Test figure of spurious emissions, mode C, Horizontal polarity
 (1.705MHz – 30MHz), 8DPSK Modulation**



Neutron
 Engineering Inc.

FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1202C172	
Produce Name:	Bluetooth Speaker	
Model/Type No. :	SP-1042	
Test Date:	3/7/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	Read level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.037	52.63	23.22333	75.85333	116.2401904	-40.3869
0.472	33.4	19.8672	53.2672	94.12538486	-40.8582
1.574	27.65	19.5426	47.1926	63.66413027	-16.4715
4.685	26.55	18.452	45.002	69.54	-24.538
11.592	33.78	17.89552	51.67552	69.54	-17.8645
15.49	30.52	18.0314	48.5514	69.54	-20.9886

**Figure 38: Test figure of spurious emissions, mode C, Vertical polarity
 (1.705MHz – 30MHz), 8DPSK Modulation**



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 Engineering Inc.

FCC 15.209 9K-30MHz

Test Data

3米測試距離量測表

Project No. :	1201C016	
Produce Name:	bund Kick Audio Syste	
Model/Type No. :	SFQ-04	
Test Date:	1/17/2012	
Temperature :	25	°C
Relative Humidity:	46	%

frequency (MHz)	Read level dBuV/m	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)
0.321	52.04	20.2296	72.2696	97.47412419	-25.2045
0.88	37.17	20.08	57.25	68.71457139	-11.4646
1.54	24.23	19.546	43.776	63.85381042	-20.0778
7.24	27.28	18.0208	45.3008	69.54	-24.2392
12.12	33.54	17.9272	51.4672	69.54	-18.0728
18.25	39.57	17.645	57.215	69.54	-12.325

Figure 39: Test figure of spurious emissions, mode C, Horizontal polarity (30MHz – 1GHz), 8DPSK Modulation

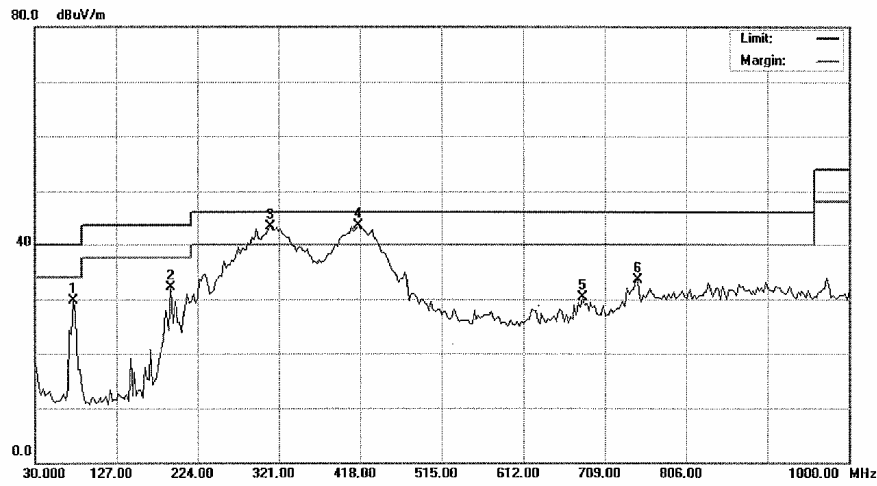


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Radiated Emission Measurement

File :RX-15 Data :#12 Date: 2012-3-9 Time: 5:00:20



Site DG-CB03 Polarization: **Horizontal** Temperature: 24
Limit: FCC Class B 3M Radiation Power: AC 110V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: RX
Note: 3M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		76.0750	48.51	-18.86	29.65	40.00	-10.35	peak	
2		192.4750	48.85	-16.69	32.16	43.50	-11.34	peak	
3	!	311.3000	55.05	-11.79	43.26	46.00	-2.74	peak	
4	*	415.5750	52.27	-8.74	43.53	46.00	-2.47	peak	
5		682.3250	33.56	-3.24	30.32	46.00	-15.68	peak	
6		747.8000	36.15	-2.59	33.56	46.00	-12.44	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :RX-15\Data :#12

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Figure 40: Test figure of spurious emissions, mode C, Vertical polarity (30MHz – 1GHz), 8DPSK Modulation

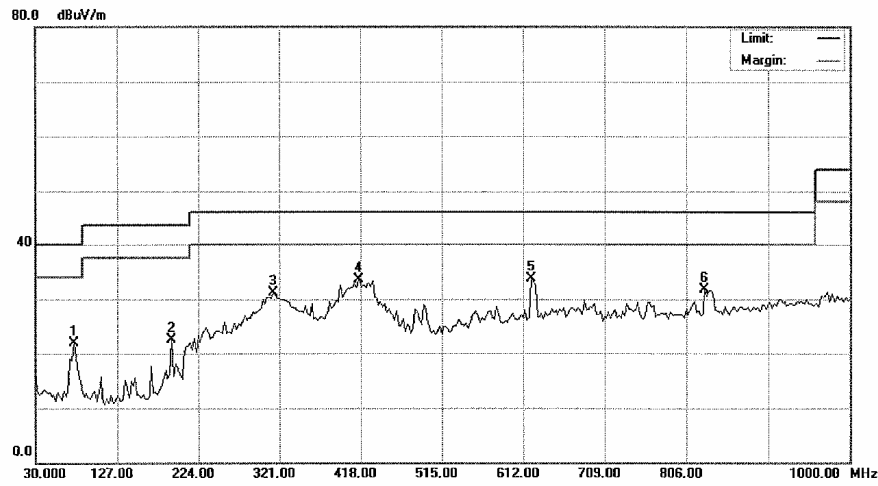


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Radiated Emission Measurement

File :RX-15 Data :#11 Date: 2012-3-9 Time: 4:59:11



Site DG-CB03 Polarization: **Vertical** Temperature: 24
Limit: FCC Class B 3M Radiation Power: AC 110V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: RX
Note: 3M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		76.0750	40.84	-18.86	21.98	40.00	-18.02	peak	
2		192.4750	39.25	-16.69	22.56	43.50	-20.94	peak	
3		313.7250	42.90	-11.74	31.16	46.00	-14.84	peak	
4		415.5750	42.33	-8.74	33.59	46.00	-12.41	peak	
5	*	621.7000	37.59	-3.86	33.73	46.00	-12.27	peak	
6		827.8250	33.08	-1.32	31.76	46.00	-14.24	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 41: Test figure of spurious emissions, mode C, Horizontal polarity (1GHz –26GHz), 8DPSK Modulation

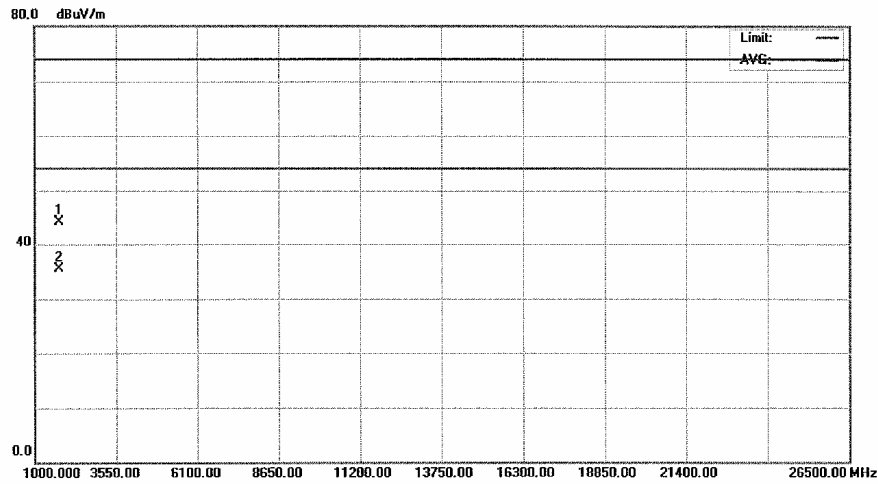


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Radiated Emission Measurement

File :RX-15 Data :#11 Date: 2012-3-9 Time: 7:07:37



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: RX
Note: 3M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		1735.000	47.98	-3.83	44.15	74.00	-29.85	peak	
2	*	1735.000	39.40	-3.83	35.57	54.00	-18.43	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 42: Test figure of spurious emissions, mode C, Vertical polarity (1GHz – 26GHz), 8DPSK Modulation



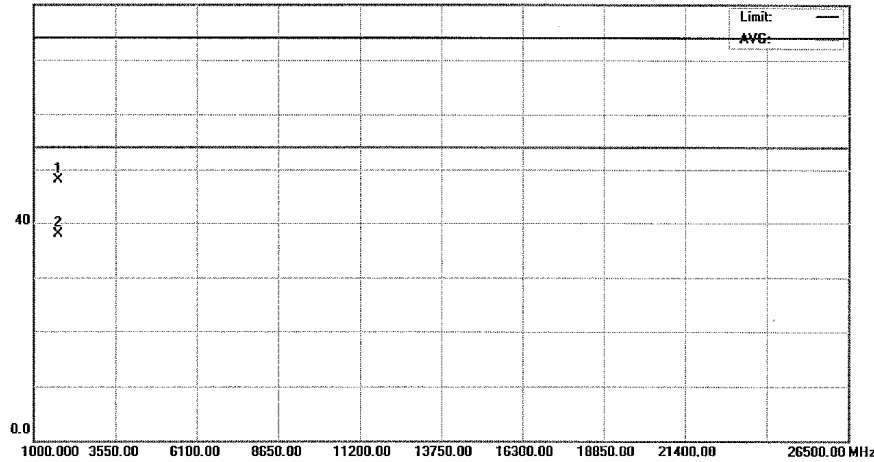
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Radiated Emission Measurement

File :RX-15 Data :#12 Date: 2012-3-9 Time: 7:10:45

80.0 dBuV/m



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: RX
Note: 3M 2402MHZ

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1729.000	51.88	-3.90	47.98	74.00	-26.02	peak	
2	*	1729.000	41.87	-3.90	37.97	54.00	-16.03	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

File :RX-15\Data :#12

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Figure 43: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal, GFSK Modulation

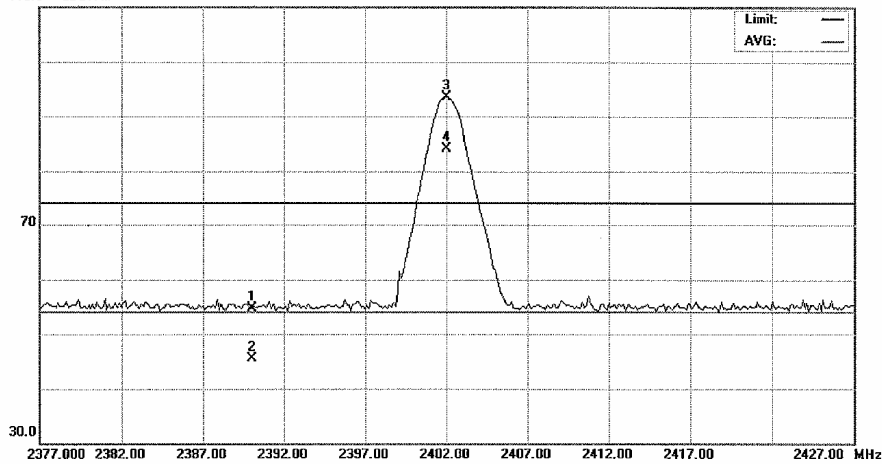


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Radiated Emission Measurement

File : FCCP Data : #1 Date: 2012-3-9 Time: 1:25:41
110.0 dBuV/m



Site DG-CB03 Polarization: **Horizontal** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	22.88	31.91	54.79	74.00	-19.21	peak	
2		2390.000	13.54	31.91	45.45	54.00	-8.55	AVG	
3	X	2402.000	61.52	31.90	93.42	74.00	19.42	peak	
4	*	2402.000	52.18	31.90	84.08	54.00	30.08	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

File : FCCP>Data : #1

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Figure 44: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical, GFSK Modulation

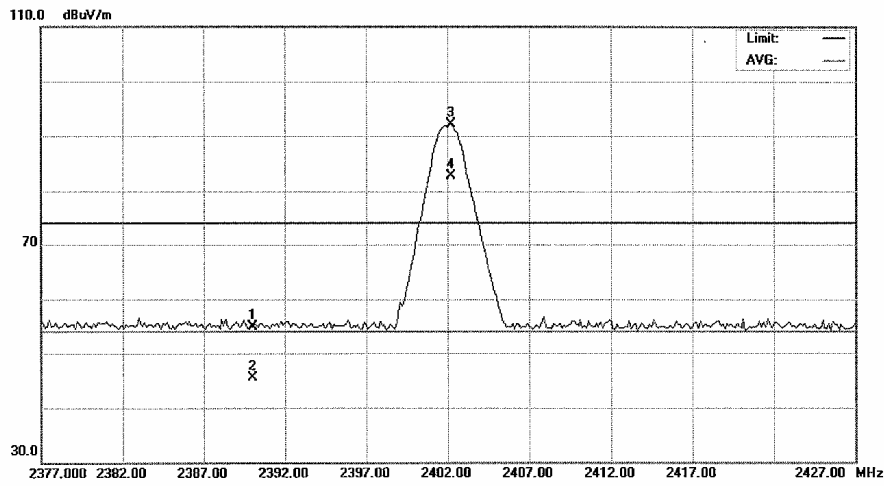


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Radiated Emission Measurement

File :FCCP Data :#2 Date: 2012-3-9 Time: 1:28:21



Site DG-CB03 Polarization: **Vertical** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	23.01	31.91	54.92	74.00	-19.08	peak	
2		2390.000	13.67	31.91	45.58	54.00	-8.42	AVG	
3	X	2402.250	60.19	31.90	92.09	74.00	18.09	peak	
4	*	2402.250	50.85	31.90	82.75	54.00	28.75	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :FCCP\Data :#2

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Figure 45: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal, GFSK Modulation

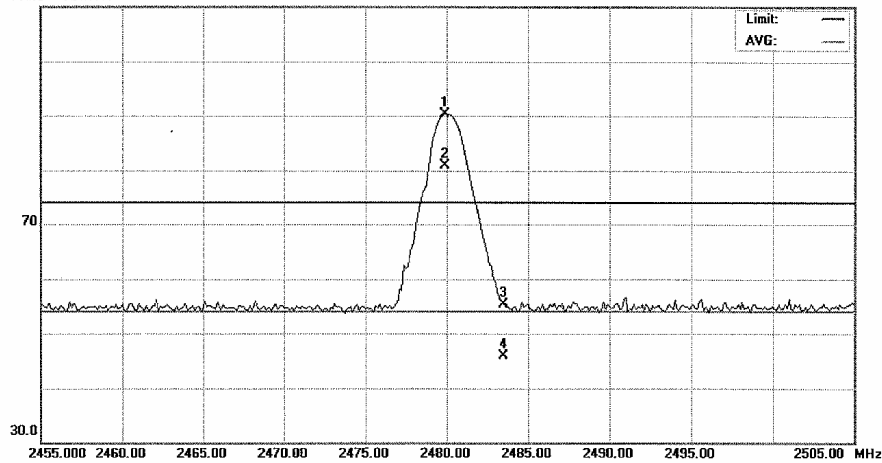


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Radiated Emission Measurement

File :FCCP Data :#5 Date: 2012-3-9 Time: 1:37:03
110.0 dBuV/m



Site DG-CB03 Polarization: **Horizontal** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	X	2479.875	58.51	31.80	90.31	74.00	16.31	peak	
2	*	2479.875	49.17	31.80	80.97	54.00	26.97	AVG	
3		2483.500	23.42	31.80	55.22	74.00	-18.78	peak	
4		2483.500	14.08	31.80	45.88	54.00	-8.12	AVG	

*:Maximum data x:Over limit !:over margin

(Reference Only)

File :FCCP\Data :#5

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Figure 46: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical, GFSK Modulation

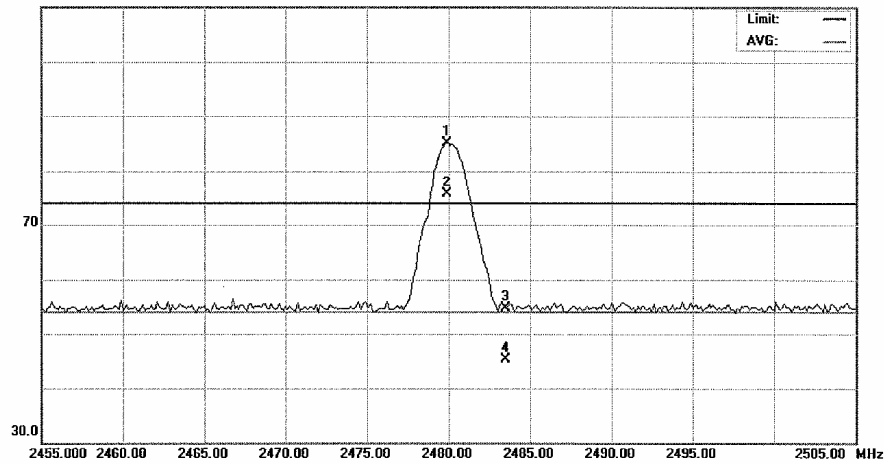


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Radiated Emission Measurement

File :FCCP Data :#6 Date: 2012-3-9 Time: 1:39:05
110.0 dBuV/m



Site DG-CB03 Polarization: **Vertical** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 1M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	X	2479.875	53.27	31.80	85.07	74.00	11.07	peak	
2	*	2479.875	43.93	31.80	75.73	54.00	21.73	AVG	
3		2483.500	22.91	31.80	54.71	74.00	-19.29	peak	
4		2483.500	13.57	31.80	45.37	54.00	-8.63	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :FCCP\Data :#6

Page: 1

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Figure 47: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal, 8DPSK Modulation

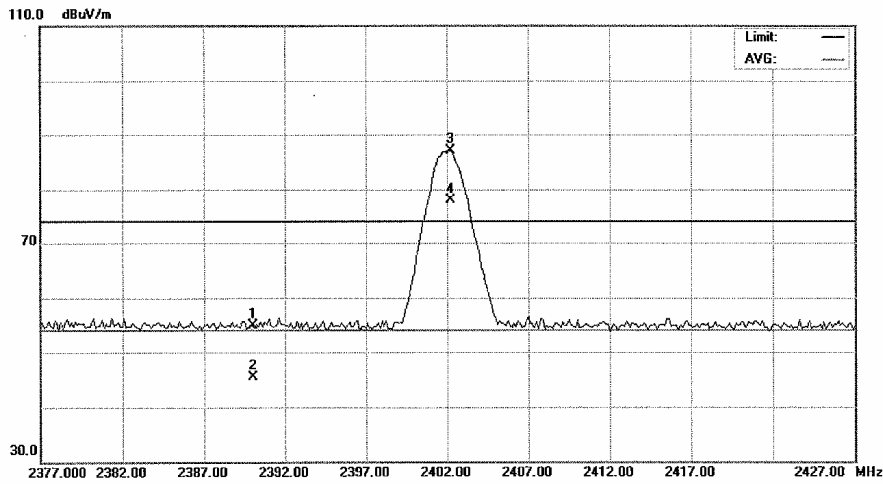


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Radiated Emission Measurement

File :FCCP Data :#11 Date: 2012-3-9 Time: 1:56:07



Site DG-CB03 Polarization: **Horizontal** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	22.97	31.91	54.88	74.00	-19.12	peak	
2		2390.000	13.63	31.91	45.54	54.00	-8.46	AVG	
3	X	2402.250	55.29	31.90	87.19	74.00	13.19	peak	
4	*	2402.250	45.95	31.90	77.85	54.00	23.85	AVG	

*:Maximum data x:Over limit !:over margin <Reference Only

File :FCCP\Data :#11

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Figure 48: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical, 8DPSK Modulation

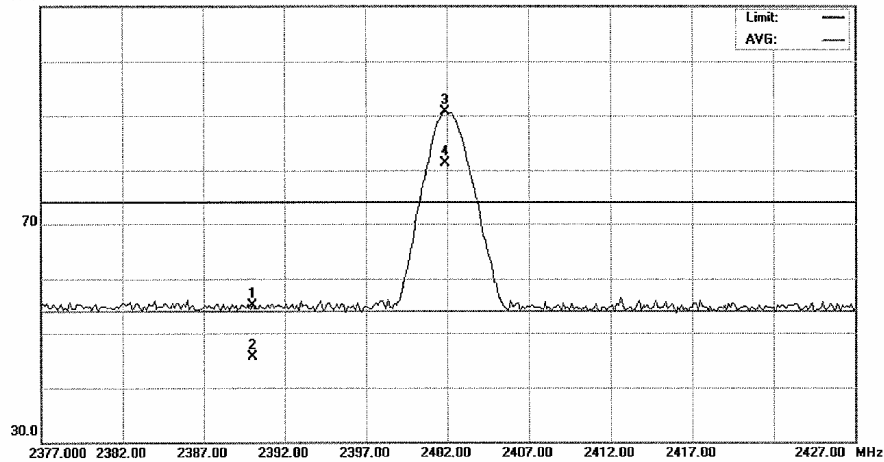


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Radiated Emission Measurement

File :FCCP Data :#12 Date: 2012-3-9 Time: 1:57:51
110.0 dBuV/m



Site DG-CB03 Polarization: **Vertical** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	23.22	31.91	55.13	74.00	-18.87	peak	
2		2390.000	13.88	31.91	45.79	54.00	-8.21	AVG	
3	X	2401.875	58.75	31.90	90.65	74.00	16.65	peak	
4	*	2401.875	49.41	31.90	81.31	54.00	27.31	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :FCCP\Data :#12

Page: 1

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Figure 49: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal, 8DPSK Modulation

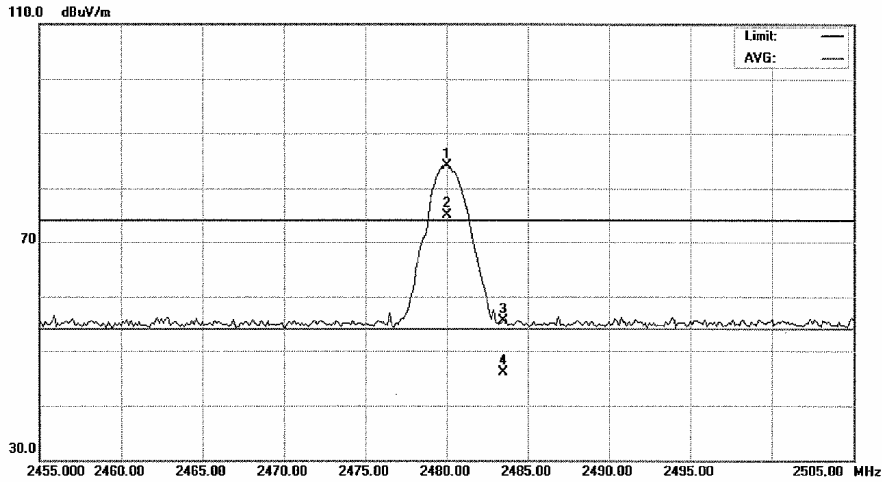


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Radiated Emission Measurement

File :FCCP Data :#7 Date: 2012-3-9 Time: 1:43:41



Site DG-CB03 Polarization: **Horizontal** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2480MHZ

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1 X	2480.000	52.38	31.80	84.18	74.00	10.18	peak	
2 *	2480.000	43.04	31.80	74.84	54.00	20.84	AVG	
3	2483.500	23.66	31.80	55.46	74.00	-18.54	peak	
4	2483.500	14.32	31.80	46.12	54.00	-7.88	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :FCCP\Data :#7

Page: 1

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Figure 50: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical, 8DPSK Modulation

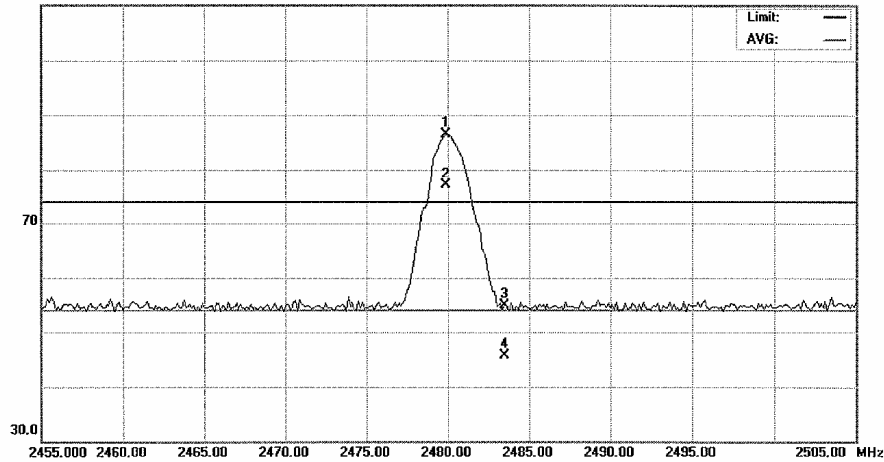


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Radiated Emission Measurement

File :FCCP Data :#8 Date: 2012-3-9 Time: 1:46:59
110.0 dBuV/m



Site DG-CB03 Polarization: **Vertical** Temperature: 24
Limit: FCC_RF_1G-40G_(Peak) Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: TX
Note: 3M 2480MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	X	2479.875	54.65	31.80	86.45	74.00	12.45	peak	
2	*	2479.875	45.31	31.80	77.11	54.00	23.11	AVG	
3		2483.500	23.15	31.80	54.95	74.00	-19.05	peak	
4		2483.500	13.81	31.80	45.61	54.00	-8.39	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :FCCP\Data :#8

Page: 1

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Figure 51: Test figure of conducted emissions, mode A, line live

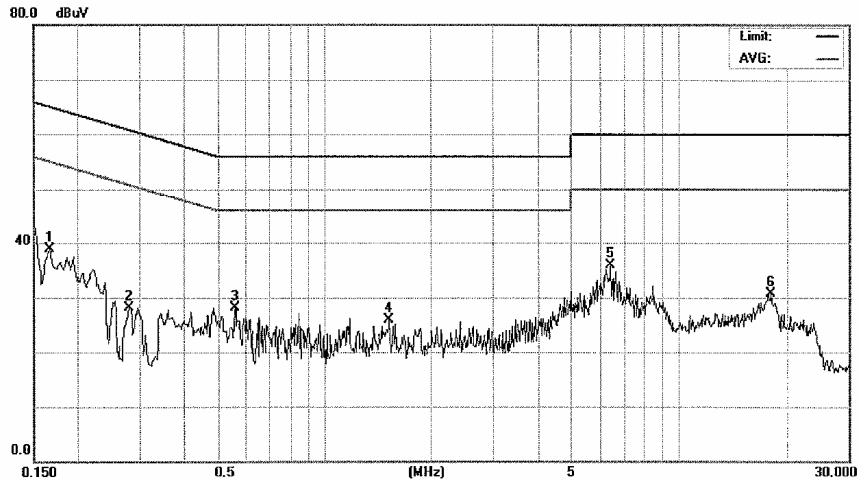


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Conducted Emission Measurement

File :1202C172-FCCP-CON Data :#4 Date: 2012/3/8 Time: 0:59:48



Site DG-C01 Phase: **L1** Temperature: 25
Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance:
M/N: SP-1042
Mode: TX
Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1658	29.05	9.79	38.84	65.17	-26.33	peak	
2		0.2772	18.39	9.79	28.18	60.90	-32.72	peak	
3		0.5552	18.28	9.81	28.09	56.00	-27.91	peak	
4		1.5193	15.99	9.91	25.90	56.00	-30.10	peak	
5	*	6.4198	25.81	10.07	35.88	60.00	-24.12	peak	
6		18.1352	20.23	10.42	30.65	60.00	-29.35	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

File :1202C172-FCCP-CONData :#4

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Figure 52: Test figure of conducted emissions, mode A, line neutral

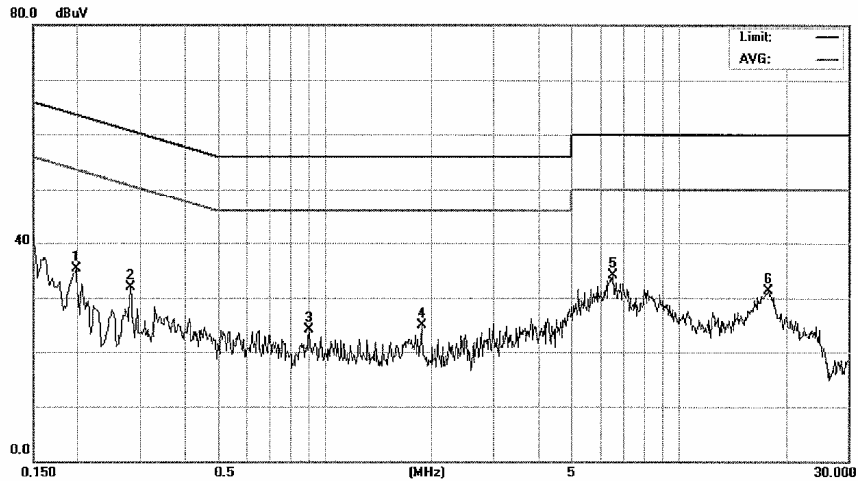


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Conducted Emission Measurement

File :1202C172-FCCP-CON Data :#3 Date: 2012/3/8 Time: 0:55:26



Site DG-C01 Phase: N Temperature: 25
Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 58 %
EUT: Bluetooth Speaker Distance:
M/N: SP-1042
Mode: TX
Note: 1M 2402MHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1975	25.63	9.66	35.29	63.72	-28.43	peak	
2		0.2816	22.31	9.67	31.98	60.77	-28.79	peak	
3		0.8991	14.43	9.70	24.13	56.00	-31.87	peak	
4		1.8680	15.07	9.76	24.83	56.00	-31.17	peak	
5	*	6.4881	24.21	9.98	34.19	60.00	-25.81	peak	
6		17.8490	20.80	10.41	31.21	60.00	-28.79	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

File :1202C172-FCCP-CONData :#3

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Figure 53: Test figure of conducted emissions, mode D, line live



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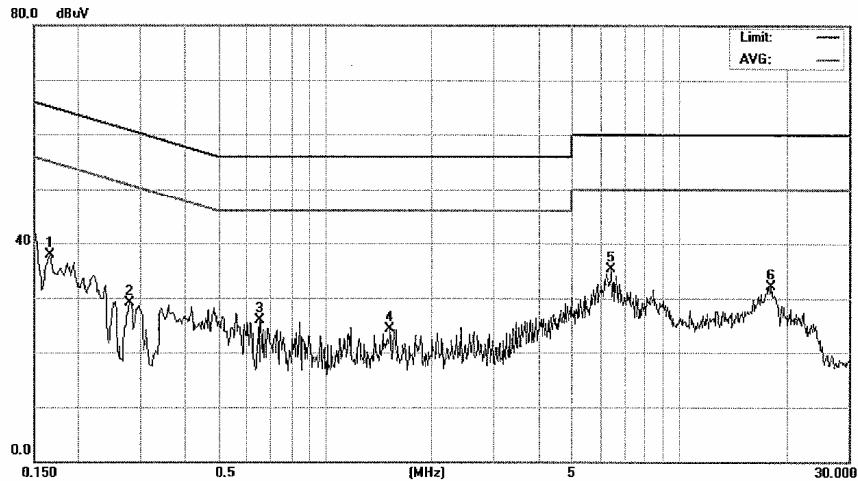
Conducted Emission Measurement

File :1202C172-FCC-CON

Data :#4

Date: 2012/3/8

Time: 0:49:36



Site DG-C01

Phase: L1

Temperature: 25

Limit: FCC Class B Conduction(QP)

Power: AC 120V/60Hz

Humidity: 58 %

EUT: Bluetooth Speaker

Distance:

M/N: SP-1042

Mode: CHARGING

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1658	28.05	9.79	37.84	65.17	-27.33	peak	
2		0.2772	19.39	9.79	29.18	60.90	-31.72	peak	
3		0.6508	16.00	9.83	25.83	56.00	-30.17	peak	
4		1.5193	14.49	9.91	24.40	56.00	-31.60	peak	
5	*	6.4198	25.31	10.07	35.38	60.00	-24.62	peak	
6		18.1352	21.73	10.42	32.15	60.00	-27.85	peak	

*:Maximum data x:Over limit !:over margin

<Reference Only

File :1202C172-FCC-CONData :#4

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Figure 54: Test figure of conducted emissions, mode D, line neutral



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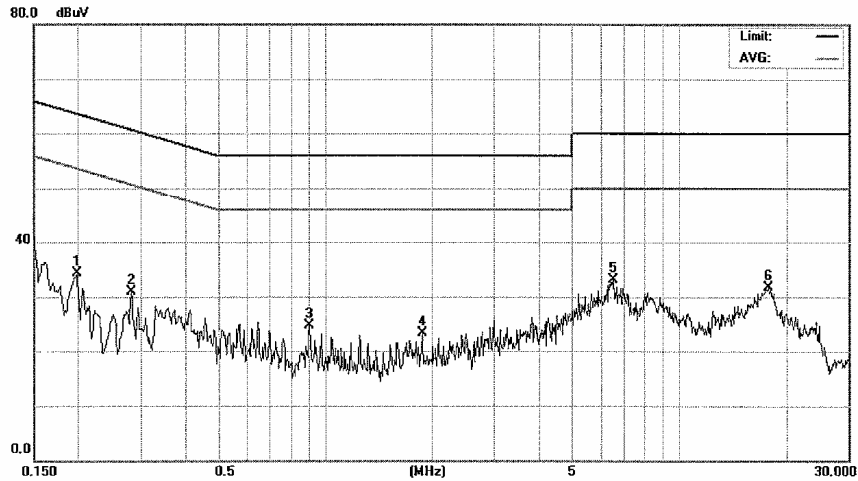
Conducted Emission Measurement

File :1202C172-FCC-CON

Data :#3

Date: 2012/3/8

Time: 0:44:27



Site DG-C01

Phase: N

Temperature: 25

Limit: FCC Class B Conduction(QP)

Power: AC 120V/60Hz

Humidity: 58 %

EUT: Bluetooth Speaker

Distance:

M/N: SP-1042

Mode: CHARGING

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1975	24.63	9.66	34.29	63.72	-29.43	peak	
2		0.2816	21.31	9.67	30.98	60.77	-29.79	peak	
3		0.8991	14.93	9.70	24.63	56.00	-31.37	peak	
4		1.8680	13.57	9.76	23.33	56.00	-32.67	peak	
5	*	6.4881	23.21	9.98	33.19	60.00	-26.81	peak	
6		17.8490	21.30	10.41	31.71	60.00	-28.29	peak	

*:Maximum data x:Over limit !:over margin

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File :1202C172-FCC-CONData :#3

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Figure 55: Test figure of Radiated emissions, mode D, Horizontal polarity (30MHz – 1GHz)

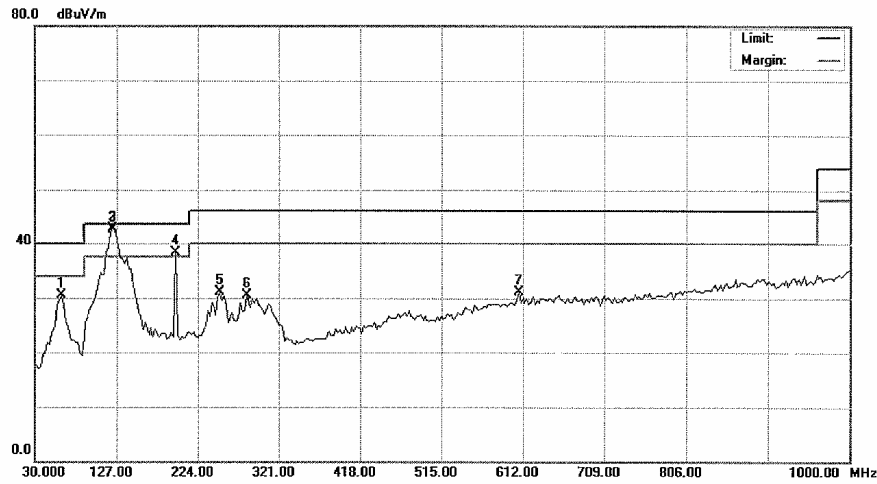


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Radiated Emission Measurement

File :FCCE Data :#1 Date: 2012-3-7 Time: 20:49:45



Site DG-CB03 Polarization: **Horizontal** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: charging
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		61.5250	48.02	-17.51	30.51	40.00	-9.49	peak	
2	*	122.1500	61.02	-18.25	42.77	43.50	-0.73	peak	
3	!	122.1500	60.70	-18.25	42.45	43.50	-1.05	QP	
4	!	197.3250	54.83	-16.62	38.21	43.50	-5.29	peak	
5		250.6750	45.55	-14.51	31.04	46.00	-14.96	peak	
6		282.2000	42.95	-12.52	30.43	46.00	-15.57	peak	
7		607.1500	35.31	-4.13	31.18	46.00	-14.82	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

File :FCCE\Data :#1

Page: 1

Engineer Signature:

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Figure 56: Test figure of Radiated emissions, mode D, Vertical polarity (30MHz – 1GHz)

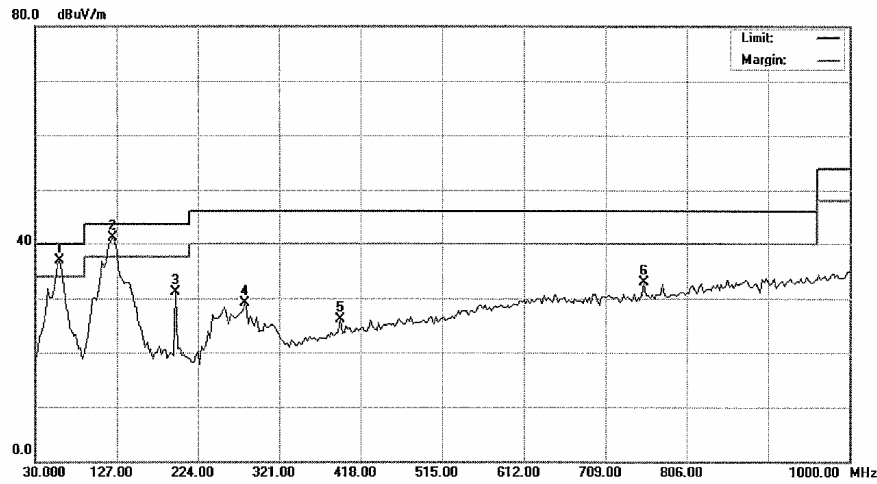


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Radiated Emission Measurement

File :FCCE Data :#2 Date: 2012-3-7 Time: 20:53:32



Site DG-CB03 Polarization: **Vertical** Temperature: 25
Limit: FCC Class B 3M Radiation Power: AC 120V/60Hz Humidity: 65 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: charging
Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1 !	59.1000	54.47	-17.50	36.97	40.00	-3.03	peak	
2 *	122.1500	59.33	-18.25	41.08	43.50	-2.42	peak	
3	197.3250	47.65	-16.62	31.03	43.50	-12.47	peak	
4	279.7750	41.72	-12.66	29.06	46.00	-16.94	peak	
5	393.7500	35.39	-9.25	26.14	46.00	-19.86	peak	
6	755.0750	35.40	-2.49	32.91	46.00	-13.09	peak	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 57: Test figure of Radiated emissions, mode D, Horizontal polarity (1GHz – 6GHz)

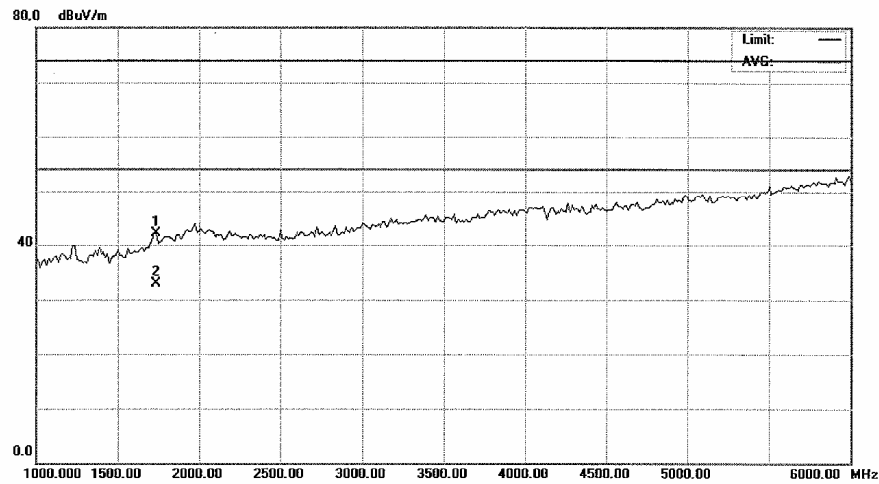


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Radiated Emission Measurement

File:FCCE Data: #4 Date: 2012-3-9 Time: 3:13:31



Site DG-CB03 Polarization: **Horizontal** Temperature: 24
Limit: FCC above 1G Radiation (Peak) Class B Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: charging
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		1737.500	45.94	-3.80	42.14	74.00	-31.86	peak	
2	*	1737.500	36.64	-3.80	32.84	54.00	-21.16	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only)

Figure 58: Test figure of Radiated emissions, mode D, Vertical polarity (1GHz – 6GHz)

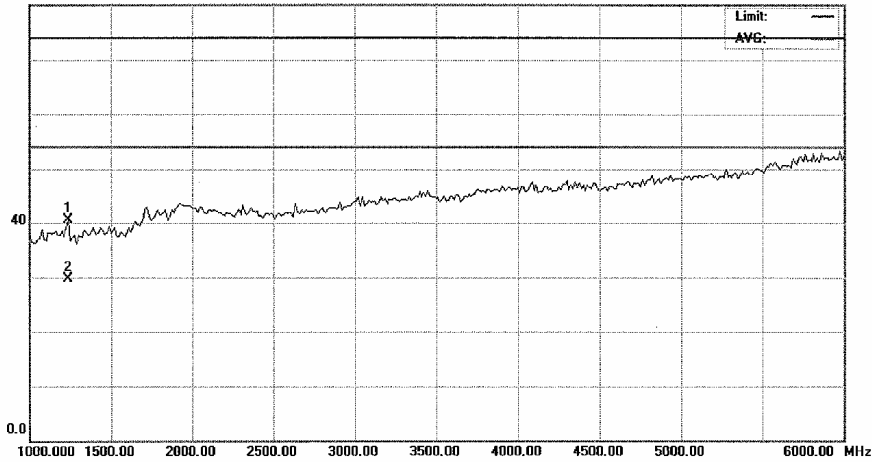


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Radiated Emission Measurement

File:FCCE Data:#3 Date: 2012-3-9 Time: 3:11:05
80.0 dBuV/m



Site DG-CB03 Polarization: **Vertical** Temperature: 24
Limit: FCC above 1G Radiation (Peak) Class B Power: AC 120V/60Hz Humidity: 66 %
EUT: Bluetooth Speaker Distance: 3m
M/N: SP-1042
Mode: charging
Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	1237.500	48.40	-7.81	40.59	74.00	-33.41	peak	
2 *	1237.500	37.42	-7.81	29.61	54.00	-24.39	AVG	

*:Maximum data x:Over limit !:over margin <Reference Only