
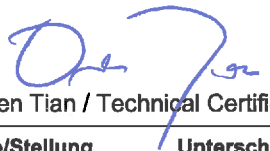


Prüfbericht-Nr.: <i>Test report No.:</i>	50066920 001	Auftrags-Nr.: <i>Order No.:</i>	164079406	Seite 1 von 29 Page 1 of 29
Kunden-Referenz-Nr.: <i>Client reference No.:</i>	N/A	Auftragsdatum: <i>Order date.:</i>	21.11.2016	
Auftraggeber: <i>Client:</i>	Cyber Acoustics (HK) Ltd. Unit A-B, 8/F, Yue Hing Building, 101-105 Hennessy Road, Wanchai, Hong Kong			
Prüfgegenstand: <i>Test item:</i>	2.1 wireless speaker system			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	NS-PSB4721			
Auftrags-Inhalt: <i>Order content:</i>	FCC and IC approval			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15.247 CFR47 FCC Part 15.207 CFR47 FCC Part 15.209 CFR47 FCC Part 2.1091	RSS-247 Issue 1 RSS-Gen Issue 4 RSS-102 Issue 5		
Wareneingangsdatum: <i>Date of receipt:</i>	08.08.2016	Please refer to photo documents		
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000467862-001 A000405894-002 A000405894-003			
Prüfzeitraum: <i>Testing period:</i>	15.08.2016 - 12.12.2016			
Ort der Prüfung: <i>Place of testing:</i>	Emtek (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
04.01.2017  Andy Yan / Project Manager		04.01.2017  Owen Tian / Technical Certifier		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>
				Unterschrift <i>Signature</i>
Sonstiges / Other:				
FCC ID: ODLPSB4721B IC: 10509A-PSB4721B HVIN: NS-PSB4721B				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>		
1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(all) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet		Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(all) = failed a.m. test specifications(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. <i>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.</i>				

V04

Test Summary

5.1.1 ANTENNA REQUIREMENT*RESULT: Pass***5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER***RESULT: Pass***5.1.3 CONDUCTED POWER SPECTRAL DENSITY***RESULT: Pass***5.1.4 6dB BANDWIDTH***RESULT: Pass***5.1.5 99% BANDWIDTH***RESULT: Pass***5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH***RESULT: Pass***5.1.7 RADIATED SPURIOUS EMISSION***RESULT: Pass***5.1.8 20dB BANDWIDTH***RESULT: Pass***5.1.9 CARRIER FREQUENCY SEPARATION***RESULT: Pass***5.1.10 NUMBER OF HOPPING FREQUENCY***RESULT: Pass***5.1.11 TIME OF OCCUPANCY***RESULT: Pass***5.1.12 CONDUCTED EMISSION ON AC MAINS***RESULT: Pass*

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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 A: Test Results of Bluetooth 4.2 (Dual mode) of Conducted Testing

Appendix B: Test Results of Bluetooth 4.2 (Dual mode) of Radiated Emission and AC Conducted Emission

2 Test Sites

2.1 Test Facilities

Emtek (Shenzhen) Co., Ltd.

Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen Guangdong, China

FCC Registration No.: 406365

Test site Industry Canada No.: 4480A-2

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

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Emtek (Shenzhen) Co., Ltd.

Radio Spectrum Test				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Spectrum Analyzer	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	28.05.2017
Spurious Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	Rohde & Schwarz	ESCI	101414	28.05.2017
Spectrum Analyzer	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	28.05.2017
Bilog Antenna	Schwarzbeck	VULB9163	660	29.05.2017
Loop Antenna	Schwarzbeck	FMZB 1519	1519-012	28.05.2017
Horn Antenna	Schwarzbeck	BBHA 9120	1178	29.05.2017
Horn Antenna	Schwarzbeck	BBHA 9170	RS1307229170547	29.05.2017
Pre-Amplifier	Lunar EM	LNA1G18-48	J1011131010001	28.05.2017
Pre-Amplifier	LUNAR-EM	LNA30M3G-25	J10100000071	28.05.2017
RF Coaxial Cable	H+B	NmNm-7-C15702	--	29.05.2017
RF Coaxial Cable	H+B	NmSm-05-C15052	--	29.05.2017
RF Coaxial Cable	H+B	NmSm-2-C15201	--	29.05.2017
RF Coaxial Cable	H+B	NmNm-7-C15702	--	29.05.2017
RF Coaxial Cable	H+B	SAC-40G-1	6200283933	29.05.2017
RF Coaxial Cable	H+B	SUCOFLEX104	--	29.05.2017
RF Coaxial Cable	H+B	BLU18A-NmSm-6500	--	29.05.2017
Conducted Emission on AC Mains				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Test Receiver	R&S	ESCI	26115-010-0027	28.05.2017
L.I.S.N.	R&S	ENV216	101161	28.05.2017
50Ω Coaxial Switch	Anritsu	MP59B	6100175589	29.05.2017

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 as below table

Item	Extended Uncertainty
Conducted Emission	± 2.96 dB
Radiated Emission (9kHz-30MHz)	Field strength (dBµV/m)
	U=3.78dB, k=2, σ=95%
Radiated Emission (30-1000MHz)	Field strength (dBµV/m)
	U=4.27dB, k=2, σ=95%
Radiated Emission (above 1000MHz)	Field strength (dBµV/m)
	U=4.96dB, k=2, σ=95%
Occupied Channel Bandwidth	±5.0 %
RF Output Power, Conducted	±1.5 dB
Power Spectral Density, Conducted	±3.0 dB
Unwanted Emission, Conducted	±3.0 dB
Duty Cycle	±5.0 %

2.6 Location of Original Data

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

2.7 Status of Facility Used for Testing

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

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a 2.1 wireless speaker system which supports Bluetooth 4.2 (dual mode) and AUX IN functions. This report is for Bluetooth function of DTS and DSS.

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

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	2.1 wireless speaker system
Type Designation	NS-PSB4721
FCC ID	ODLPSB4721B
IC	10509A-PSB4721B
HVIN	NS-PSB4721B
Operating Frequency	2402 - 2480 MHz
Operating Voltage	AC 120V, 60Hz
Testing Voltage	AC 120V, 60Hz
Type of Modulation	GFSK, $\pi/4$ DQPSK, 8DPSK
Channel Number	BDR & EDR mode:79 channels; Low Energy mode:40 channels
Channel Separation	BDR & EDR mode:1MHz; Low Energy mode:2MHz
Wireless Technology	Bluetooth 4.2 (Dual mode)
Antenna Type	Integral Antenna
Max. Antenna Gain	-0.68 dBi

Table 3: RF Channel and Frequency of Bluetooth

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
00	2402.00	20	2422.00	40	2442.00	60	2462.00
01	2403.00	21	2423.00	41	2443.00	61	2463.00
02	2404.00	22	2424.00	42	2444.00	62	2464.00
03	2405.00	23	2425.00	43	2445.00	63	2465.00
04	2406.00	24	2426.00	44	2446.00	64	2466.00
05	2407.00	25	2427.00	45	2447.00	65	2467.00
06	2408.00	26	2428.00	46	2448.00	66	2468.00
07	2409.00	27	2429.00	47	2449.00	67	2469.00
08	2410.00	28	2430.00	48	2450.00	68	2470.00
09	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00	--	--

Table 4: RF Channel and Frequency of Bluetooth Low Energy

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

Table 5: Frequency Hopping Information

Technical Specification	Description
Hopping Range	Hereby we declare that the frequency range of this device is 2402-2480MHz. This is according the Bluetooth Core Specification V2.1 + EDR for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests.
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	<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. On
 - 1. Bluetooth transmitting mode (BDR & EDR mode)
 - a) Low Channel
 - b) Middle Channel
 - c) High Channel
 - 2. Bluetooth transmitting mode (Low Energy mode)
 - a) Low Channel
 - b) Middle Channel
 - c) High Channel
- B. On, Transmitting on Hopping channel
- C. On, Bluetooth connecting mode

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

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

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

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

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

4.2 Test Operation and Test Software

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

4.3 Special Accessories and Auxiliary Equipment

Table 6: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
iPhone 5C	Apple	A1526	--	--
AUX IN Cable	N/A	N/A	--	Unshielded, Length 100cm

4.4 Countermeasures to Achieve EMC Compliance

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

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

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

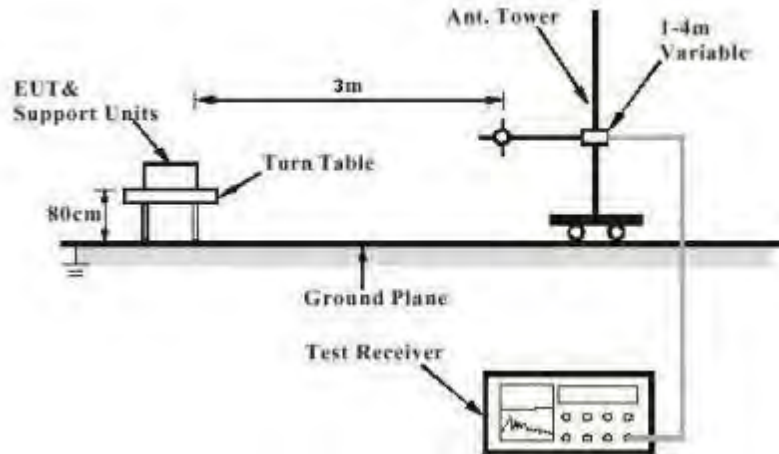


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

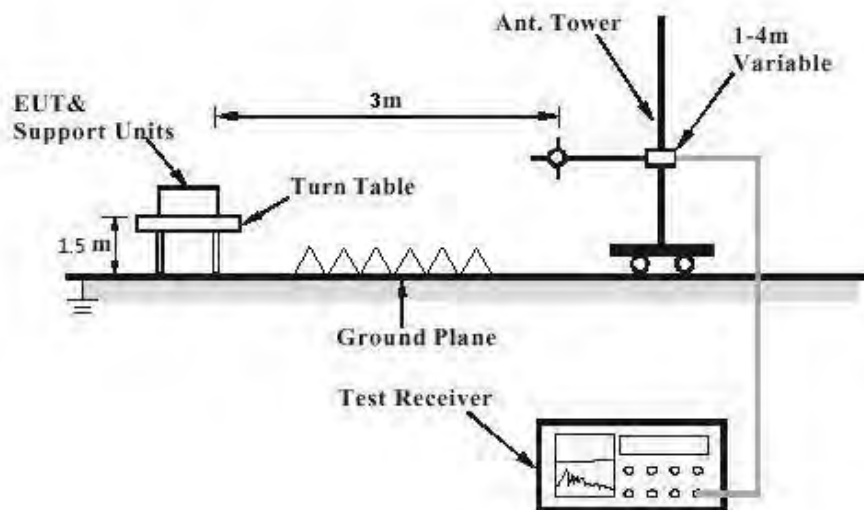


Diagram of Measurement Configuration for Mains Conduction Measurement

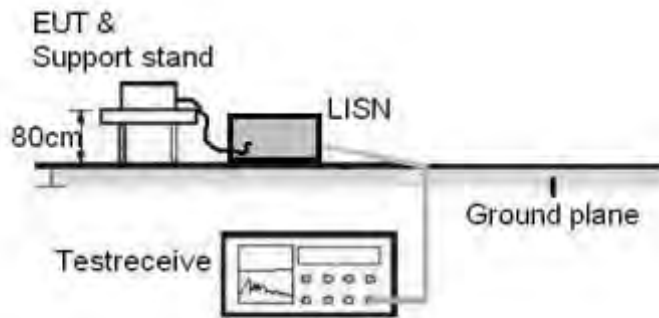
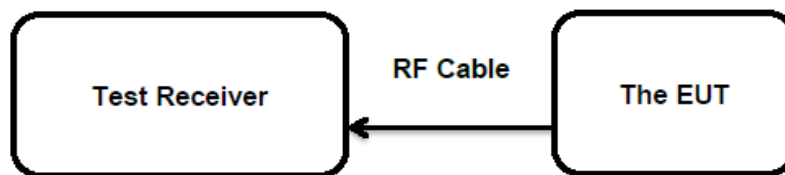


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(b)(4) and Part 15.203
RSS-Gen Clause 8.3

According to the manufacturer declared, the EUT has an integral antenna, the directional gain of antenna is -0.68 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

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

Refer to EUT Photo for further details.

5.1.2 Maximum Peak Conducted Output Power

RESULT:
Pass
Test Specification

Test standard	: FCC Part 15.247(b)(1)&(3) RSS-247 Clause 5.4(2)&(4)
Basic standard	: ANSI C63.10: 2013
Limits	: FHSS < 0.125 Watts, DSSS < 1.0 Watts
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 15.08.2016
Input voltage	: AC 120V/60Hz
Operation mode	: A.1, A.2
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Table 7: Test Result of Maximum Peak Conducted Output Power

Test Mode	Channel Frequency (MHz)	Measured Peak Output Power		Limit (W)
		(dBm)	(W)	
BDR	2402	5.91	0.00390	< 0.125
	2441	7.39	0.00548	
	2480	8.04	0.00637	
EDR	2402	7.45	0.00556	< 0.125
	2441	8.56	0.00718	
	2480	9.00	0.00794	
Low Energy	2402	6.19	0.00416	< 1.0
	2440	7.65	0.00582	
	2480	8.44	0.00698	
Maximum Measured Value		9.00	0.00794	/

Note: The cable loss 1.0 dB is taken into account in results.

This testing was carried out on all operation modes, but only the worst case was presented in this report.

For the measurement records, refer to the appendix A.

5.1.5 99% Bandwidth

RESULT:
Pass
Test Specification

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

Test Setup

Date of testing : 15.08.2016
 Input voltage : AC 120V/60Hz
 Operation mode : A.1, A.2
 Test channel : Low / Middle / High
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

Table 10: Test Result of 99% Bandwidth

Test Mode	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)
BDR	2402	923.08	/
	2441	923.08	
	2480	920.08	
EDR	2402	1183.82	/
	2441	1189.81	
	2480	1198.80	
Low Energy	2402	1036.96	/
	2440	1045.95	
	2480	1048.95	
Maximum Measured Value		1198.80	/

For the measurement records, refer to the appendix A.

5.1.6 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT: **Pass****Test Specification**

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

Test Setup

Date of testing	: 15.08.2016
Input voltage	: AC 120V/60Hz
Operation mode	: A.1, A.2
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to following test plot, and compliance is achieved as well.

For the measurement records, refer to the appendix A.

5.1.7 Radiated Spurious Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 4 & Table 5
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 16.08.2016 - 12.12.2016
Input voltage	: AC 120V/60Hz
Operation mode	: A.1, A.2, B
Test channel	: Low / Middle / High
Ambient temperature	: 24 °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 set-up photos.

Pre-test the EUT in continuous transmitting with different data packet. Compliance test in continuous transmitting mode with BDR and BLE mode as the worst case was found.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For the measurement records, refer to the appendix B.

5.1.10 Number of Hopping Frequency**RESULT:****Pass****Test Specification**

Test standard : FCC part 15.247(a)(1)(iii)
RSS-247 Clause 5.1(4)
Basic standard : ANSI C63.10: 2013
Limits : ≥ 15 non-overlapping channels
Kind of test site : Shielded Room

Test Setup

Date of testing : 15.08.2016
Input voltage : AC 120V/60Hz
Operation mode : B
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 13: Test Result of Number of Hopping Frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
2402 to 2480 MHz	79	≥ 15	Pass

For the measurement records, refer to the appendix A.

5.1.11 Time of Occupancy**RESULT:****Pass****Test Specification**

Test standard : FCC part 15.247(a)(1)(iii)
RSS-247 Clause 5.1(4)
Basic standard : ANSI C63.10: 2013
Limits : < 0.4s
Kind of test site : Shielded Room

Test Setup

Date of testing : 15.08.2016
Input voltage : AC 120V/60Hz
Operation mode : B
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 14: Test Result of Time of Occupancy

Test Mode	Test Channel	Data Packet	Pulse width (ms)	Measured Dwell time(s)	Limit (s)
BDR mode	2402	DH1	0.364	0.116	< 0.4s
		DH3	1.617	0.259	
		DH5	2.874	0.307	
	2441	DH1	0.364	0.116	
		DH3	1.617	0.259	
		DH5	2.864	0.306	
	2480	DH1	0.364	0.116	
		DH3	1.624	0.260	
		DH5	2.864	0.306	
EDR mode	2402	3DH1	0.387	0.124	
		3DH3	1.636	0.262	
		3DH5	2.889	0.308	
	2441	3DH1	0.383	0.123	
		3DH3	1.629	0.261	
		3DH5	2.889	0.308	
	2480	3DH1	0.383	0.123	
		3DH3	1.629	0.261	
		3DH5	2.889	0.308	
Maximum Measured Value			2.889	0.308	

Note:

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

Period = 0.4 x 79 (channel) = 31.6 seconds

This testing was carried out on all operation modes, but only the worst case was presented in this report.

For the measurement records, refer to the appendix A.

5.1.12 Conducted Emission on AC Mains**RESULT:****Pass****Test Specification**

Test standard	: FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a) RSS-Gen Table 3
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 18.08.2016-09.12.2016
Input voltage	: AC 120V/60Hz
Operation mode	: C
Earthing	: Not connected
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT: **Pass**

Test Specification

Test standard : CFR47 FCC Part 2.1091
RSS-102 Issue 5
Limit : CFR47 FCC Part 1.1310

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

MPE Calculation Method according to OET Bulletin 65

Power Density: $S_{(mW/cm^2)} = PG/4\pi R^2$ or $EIRP/4\pi R^2$

Where:

S = power density (mW/cm²)

P = power input to the antenna (mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (cm)

The maximum conducted output power specified: 10dBm

From the peak RF output power, the minimum mobile separation distance, d=20 cm, as well as the antenna gain (Max. -0.68 dBi), the RF power density can be calculated as below:

$S_{(mW/cm^2)} = PG/4\pi R^2 = 0.002mW/cm^2$

Limits for Maximum Permissible Exposure (MPE) according to FCC Part 1.1310: 1.0 mW/cm²

IC requirements: The EUT shall comply with the requirement of RSS-102 section 2.5.2.

Exemption from Routine Evaluation Limits – RF Exposure Evaluation

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:
at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where *f* is in MHz;

- RF exposure evaluation exempted power for Bluetooth: 2.676 W

The maximum conducted output power and e.i.r.p. are far below the exempted power level, so the RF exposure evaluation is not required.

“RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.”

7 Photographs of the Test Set-Up

Photograph 1: Set-up for Radiated Spurious Emission up to 1GHz

Please refer to the attached Test setup photos.

Photograph 2: Set-up for Radiated Spurious Emission above 1GHz

Please refer to the attached Test setup photos.

Photograph 3: Set-up for Conducted Emission on AC Mains

Please refer to the attached Test setup photos.

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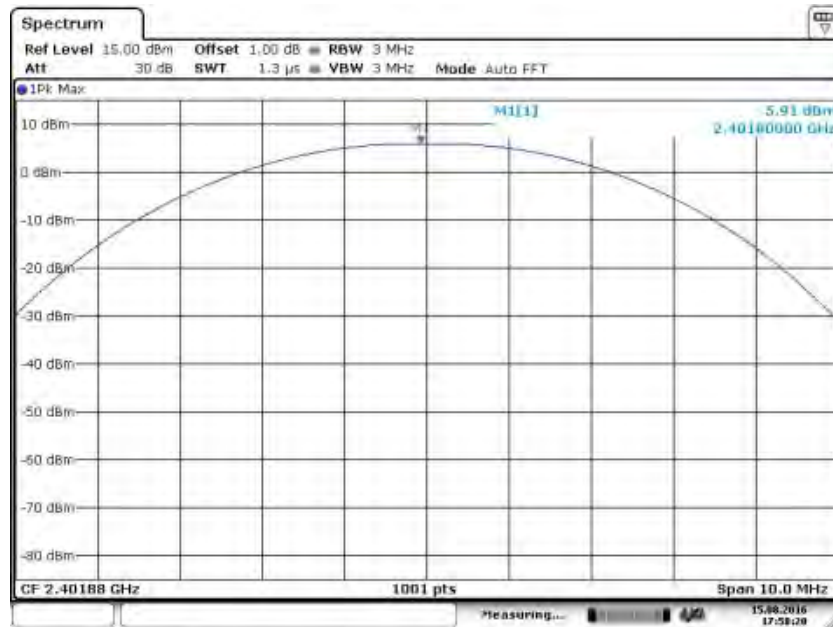
Appendix A

Test Results of Bluetooth 4.2 (Dual mode) of Conducted Testing

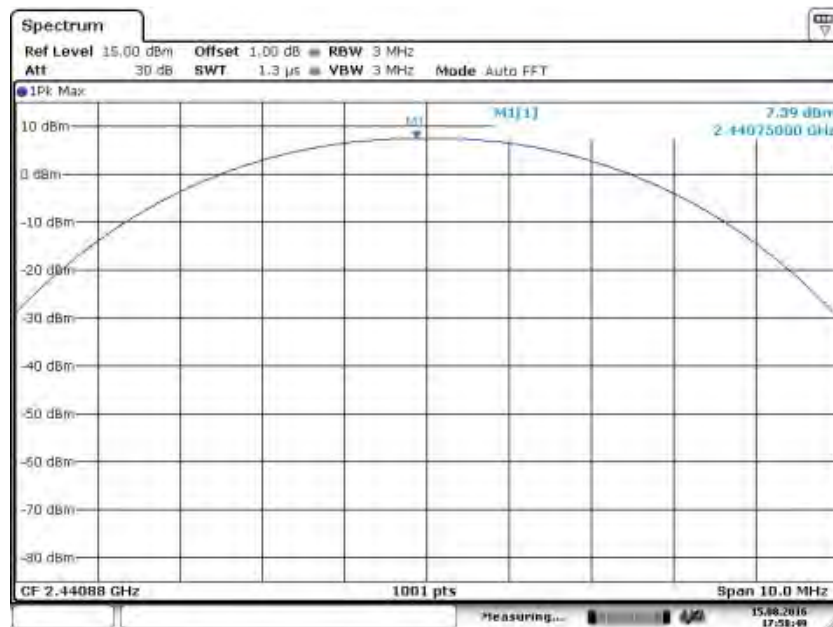
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Appendix A.1: Test Plots of Maximum Peak Conducted Output Power

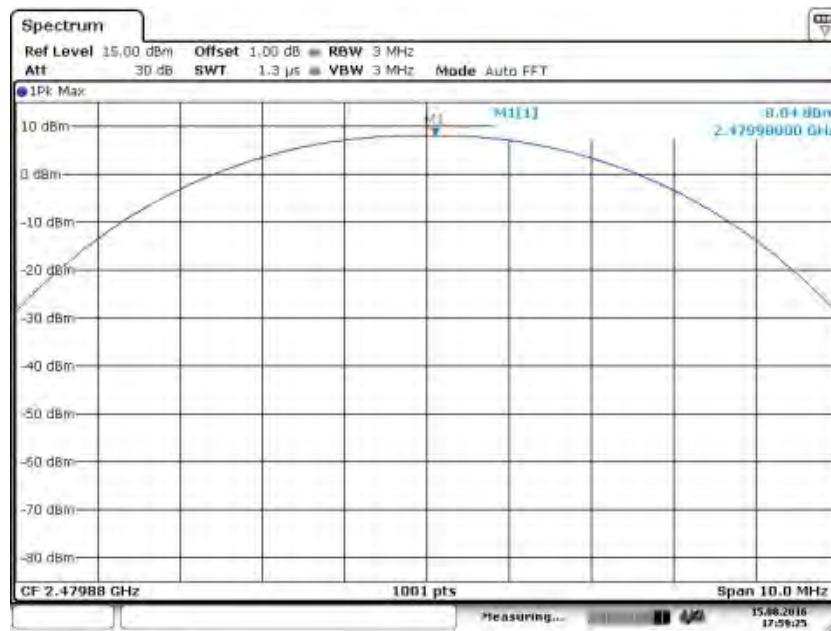
BDR Mode, DH1



Date: 15.AUG.2016 17:58:21

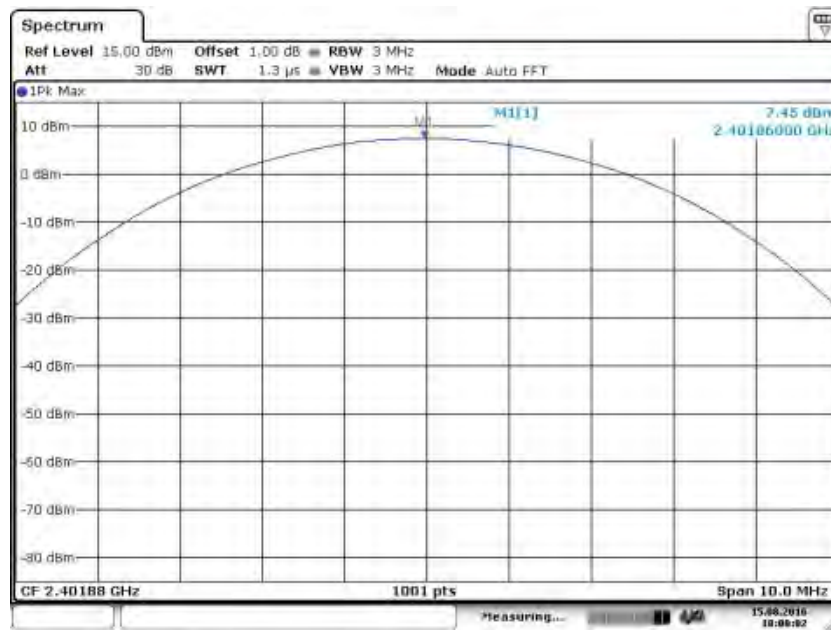


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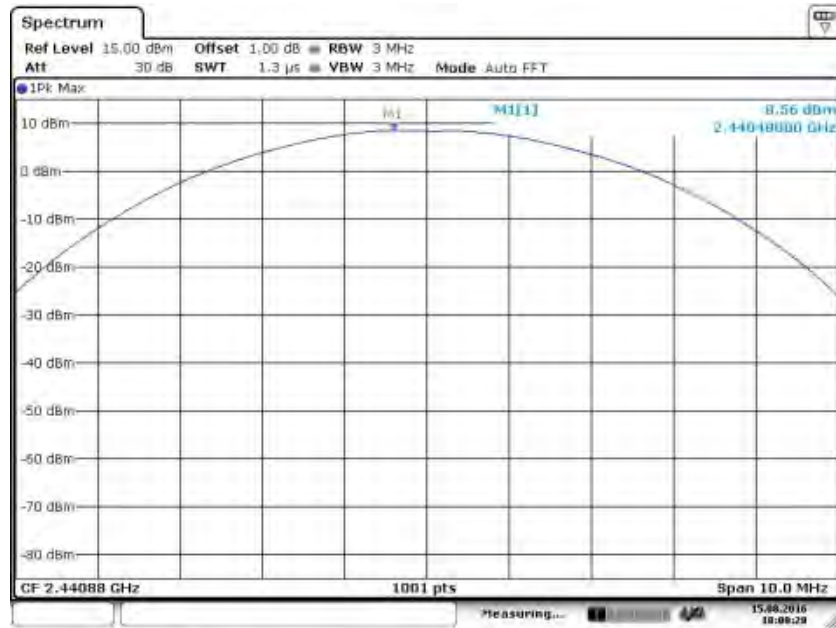


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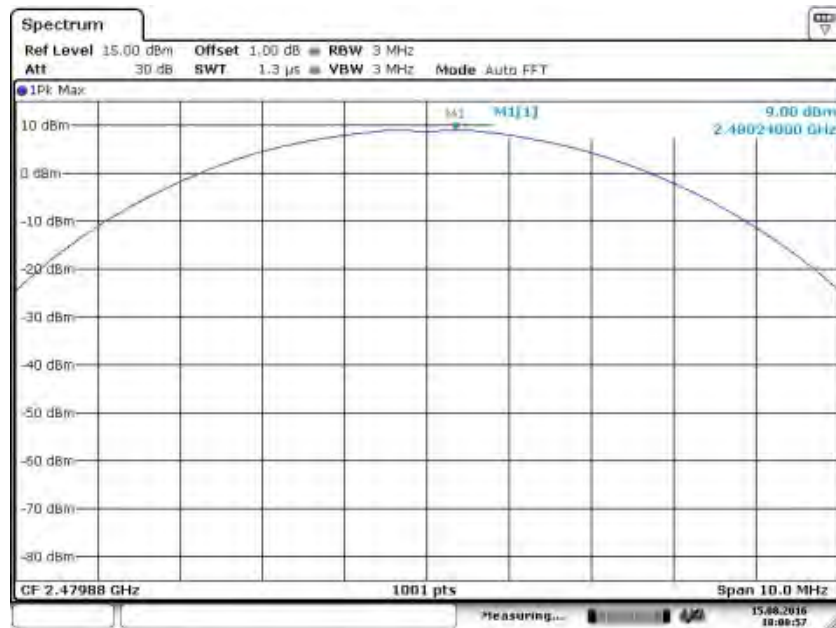
EDR Mode, 3DH1



Date: 15.AUG.2016 18:00:02

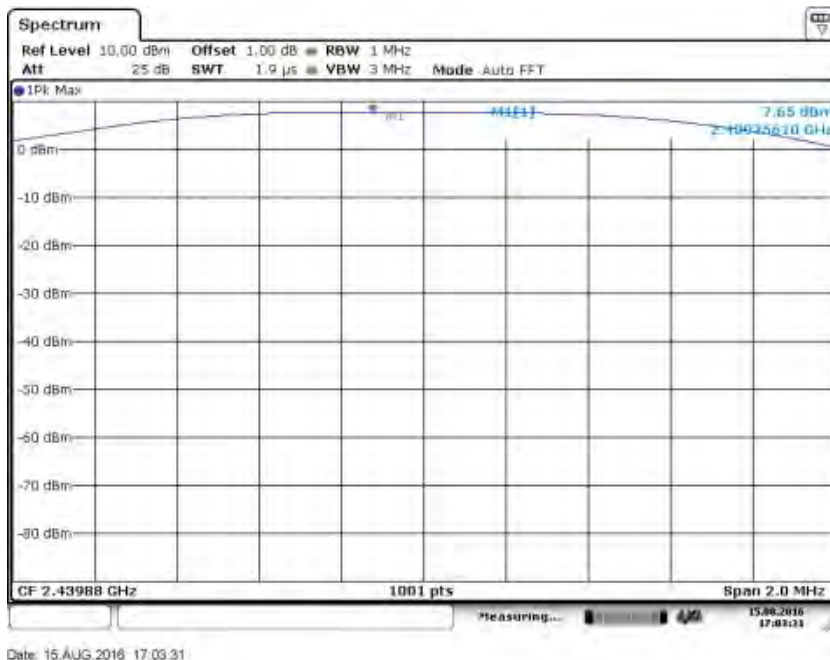
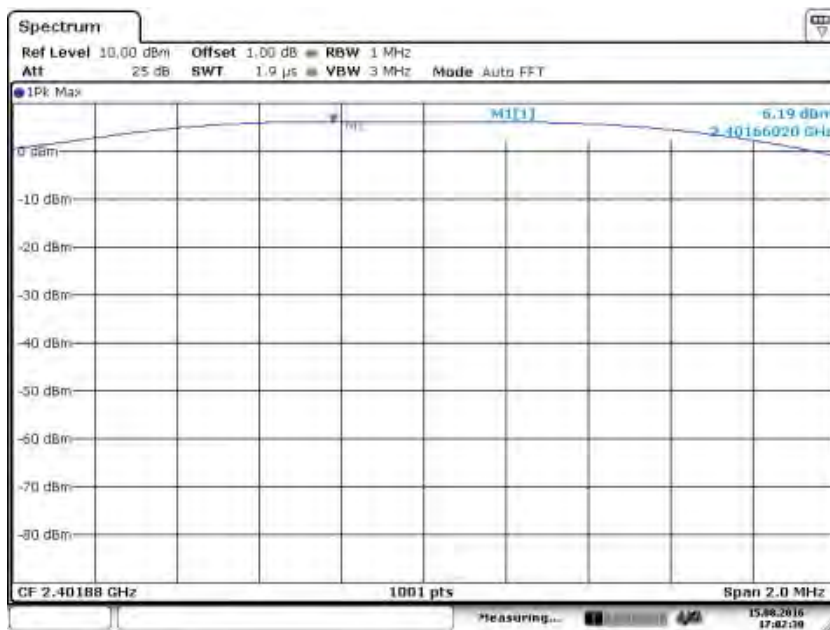


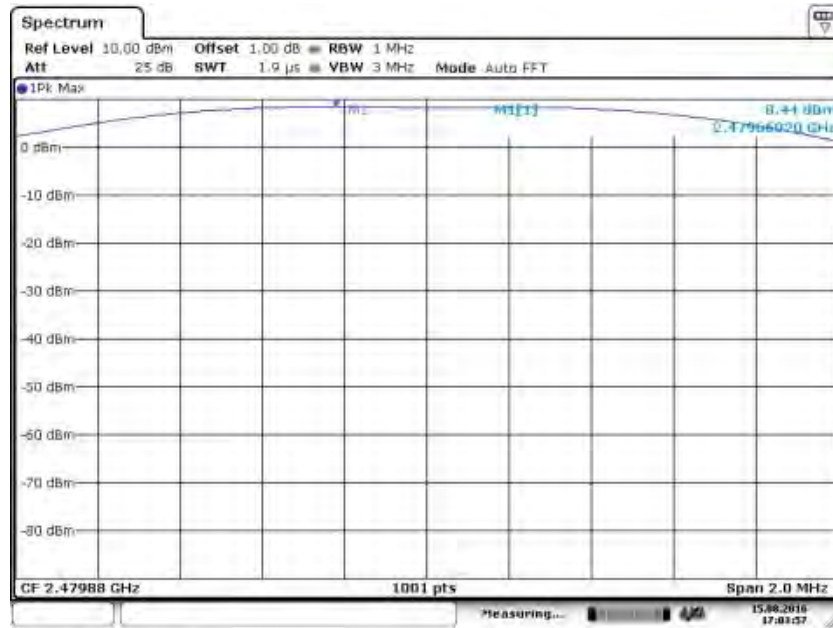
Date: 15.AUG.2016 18:00:28



Date: 15.AUG.2016 18:00:57

Low Energy Mode





Date: 15.AUG.2016 17:03:58

Appendix A.2: Test Plots of Conducted Power Spectral Density

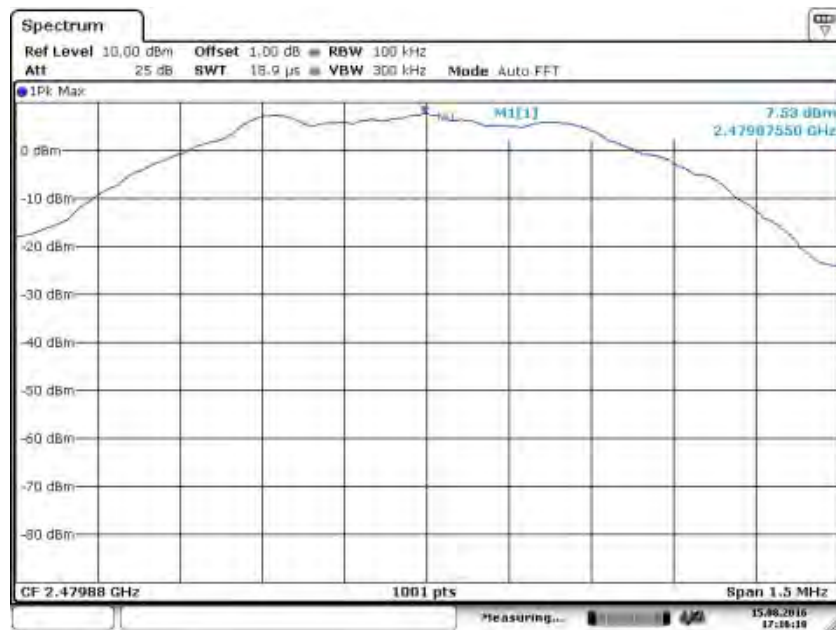
Low Energy Mode



Date: 15.AUG.2016 17:11:41



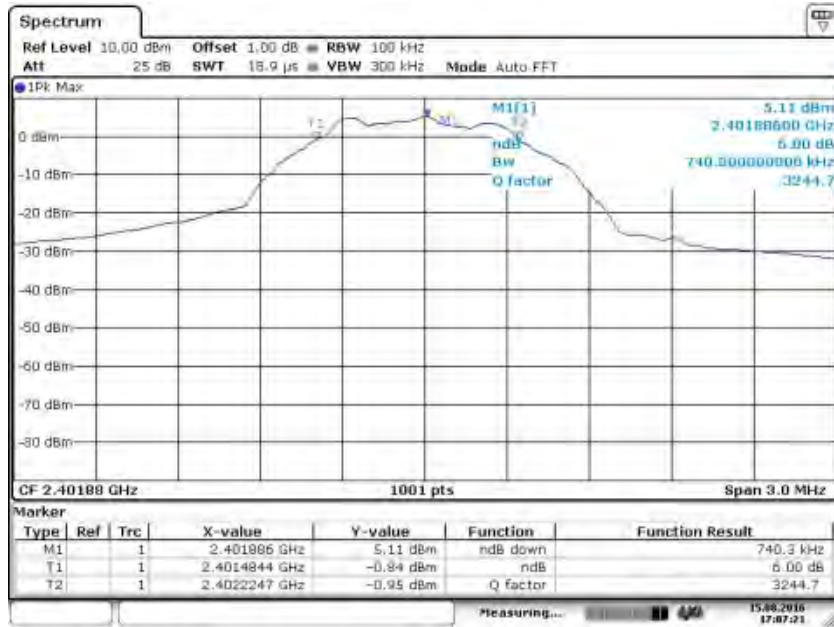
Date: 15.AUG.2016 17:14:45



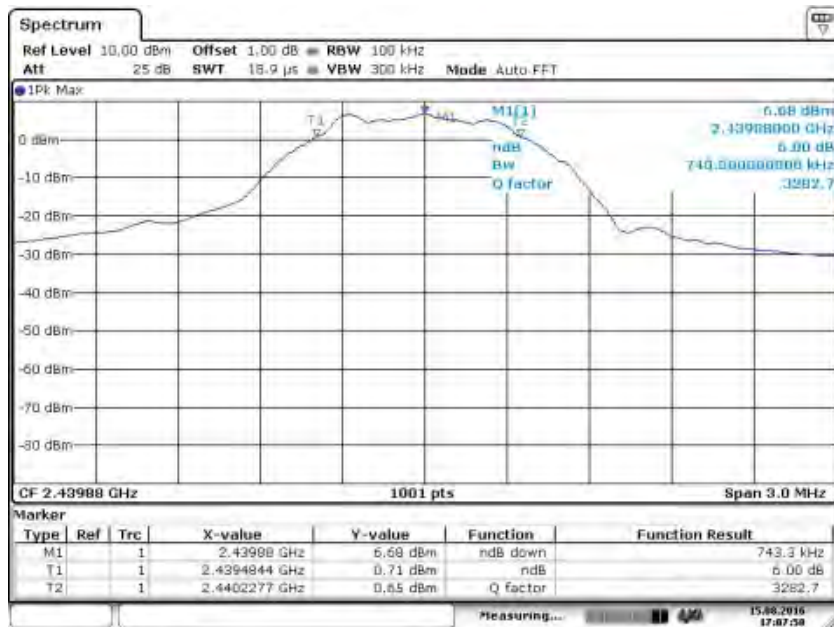
Date: 15.AUG.2016 17:16:18

Appendix A.3: Test Plots of 6dB Bandwidth

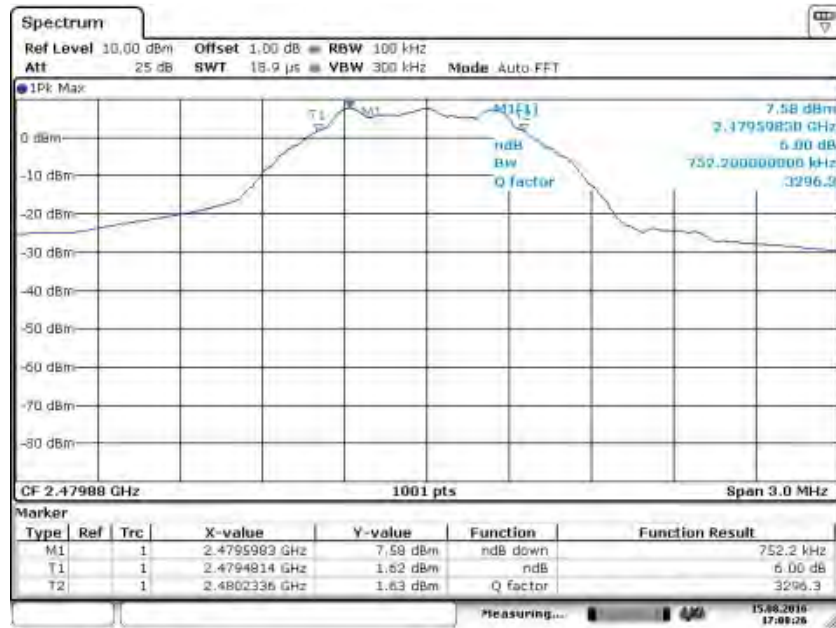
Low Energy Mode



Date: 15.AUG 2016 17:07:21



Date: 15.AUG 2016 17:07:58



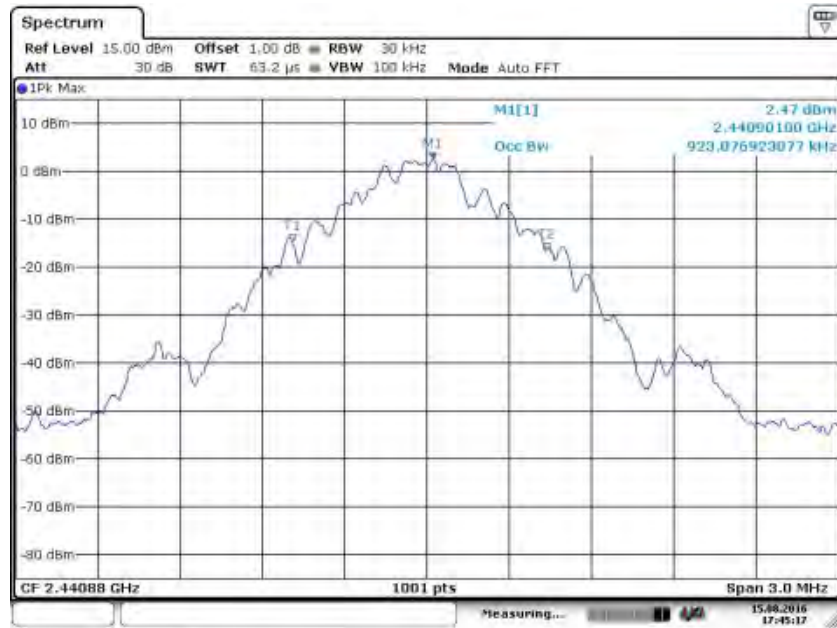
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Appendix A.4: Test Plots of 99% Bandwidth

BDR Mode, DH1



Date: 15.AUG.2016 17:47:38

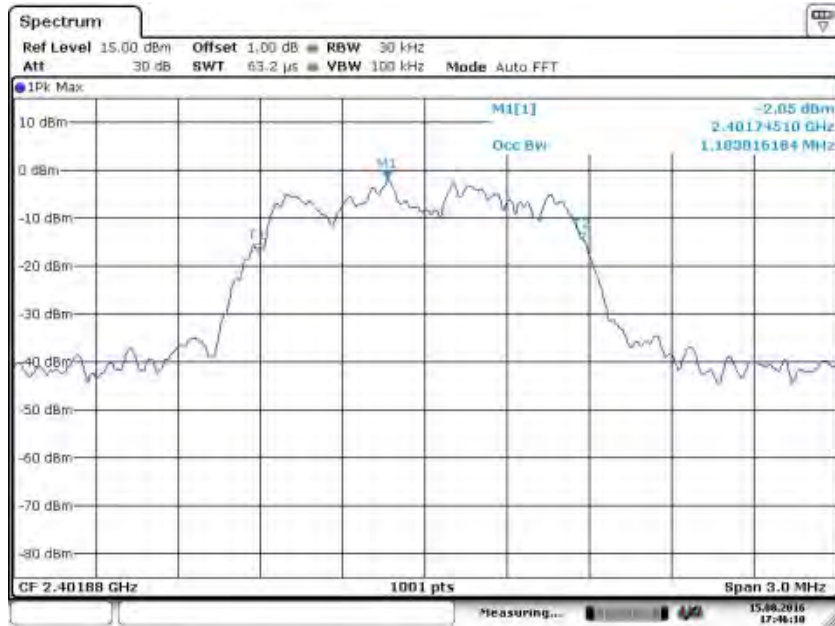


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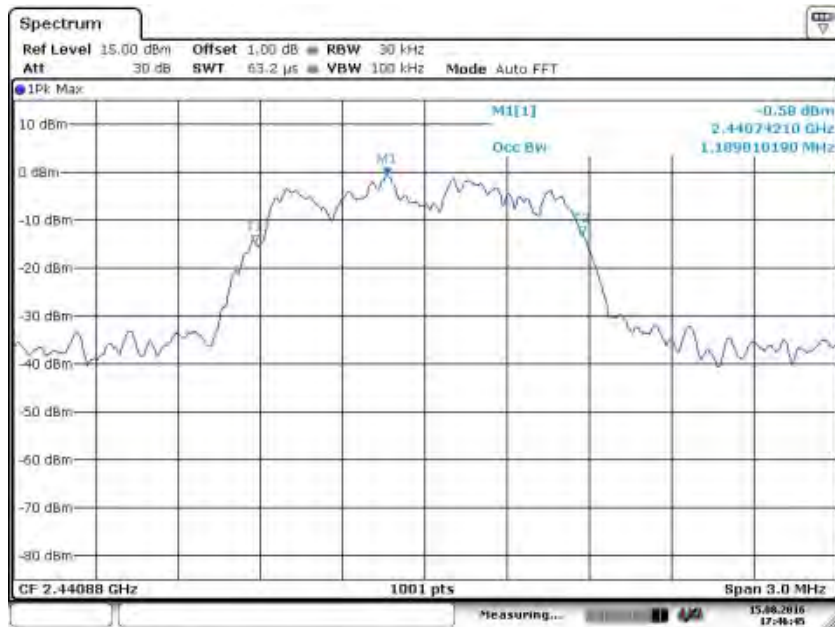


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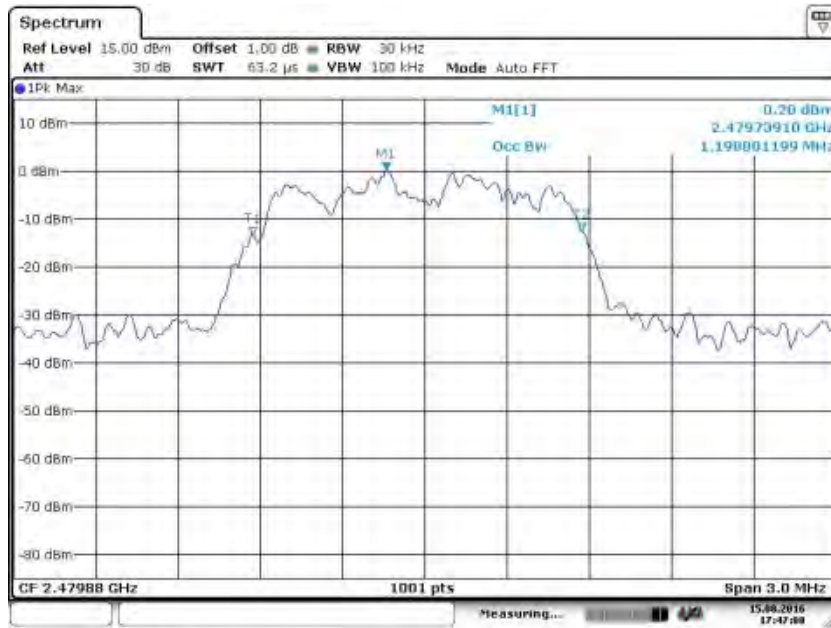
EDR Mode, 3DH1



Date: 15.AUG.2016 17:46:10



Date: 15.AUG.2016 17:46:45



Date: 15.AUG.2016 17:47:08

Low Energy Mode



Date: 15.AUG.2016 17:56:02



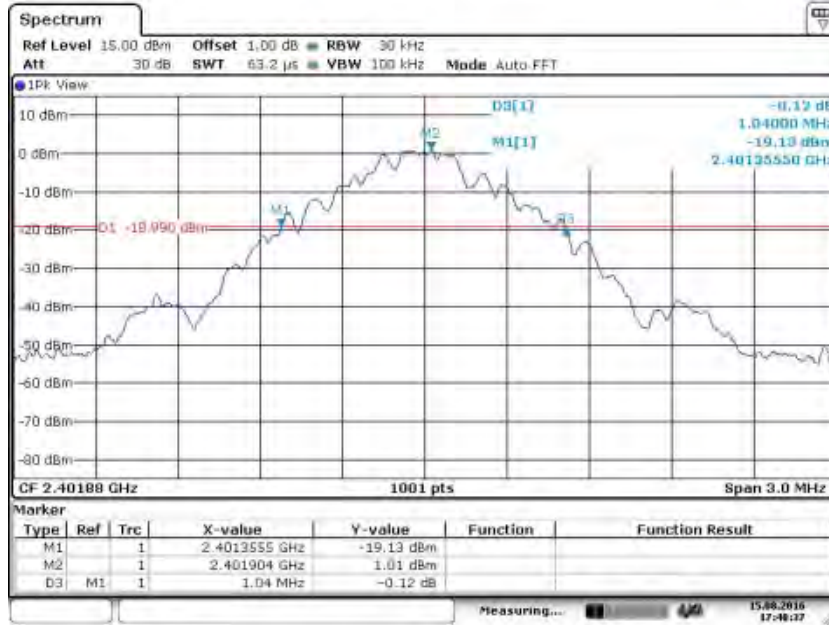
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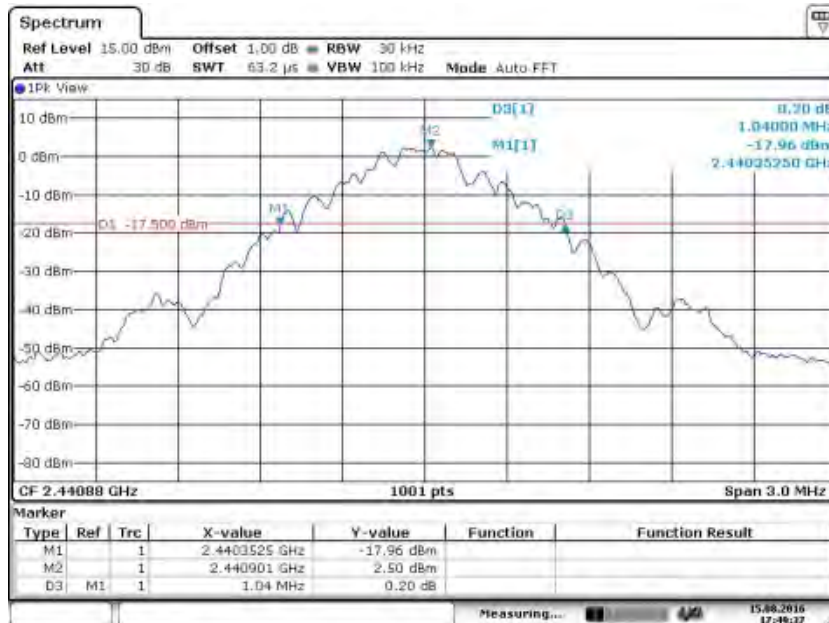
Date: 15.AUG.2016 17:57:05

Appendix A.5: Test Plots of 20dB Bandwidth

BDR Mode, DH1



Date: 15.AUG.2016 17:48:37



Date: 15.AUG.2016 17:49:37

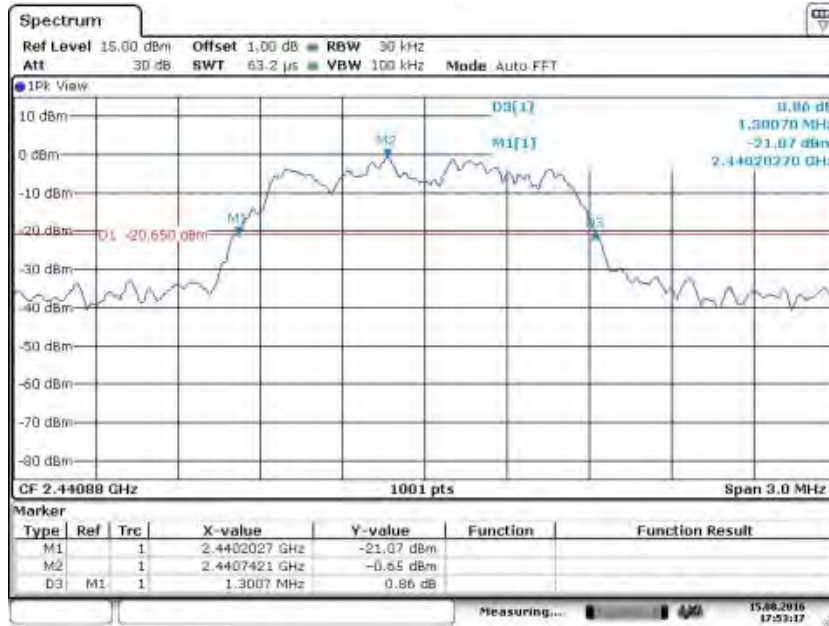


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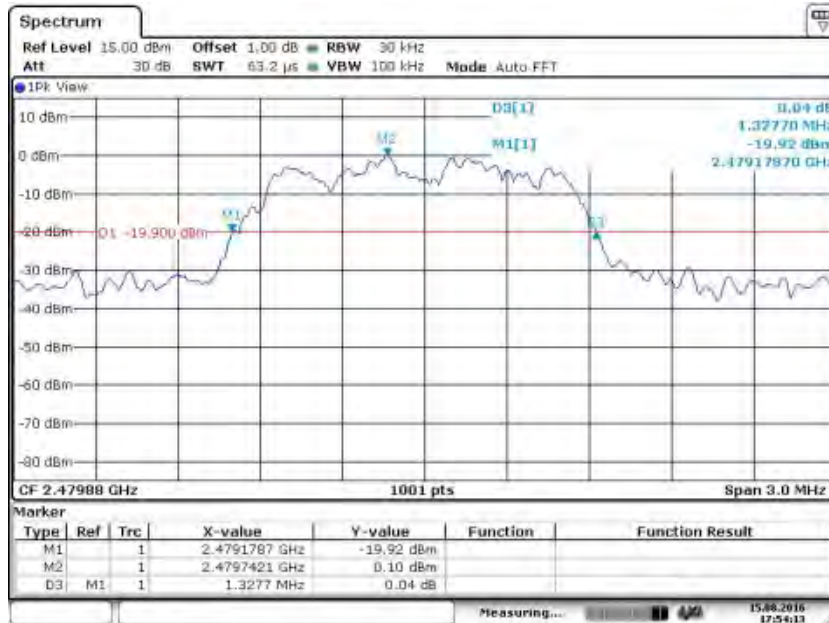
EDR Mode, 3DH1



Date: 15.AUG.2016 17:52:06



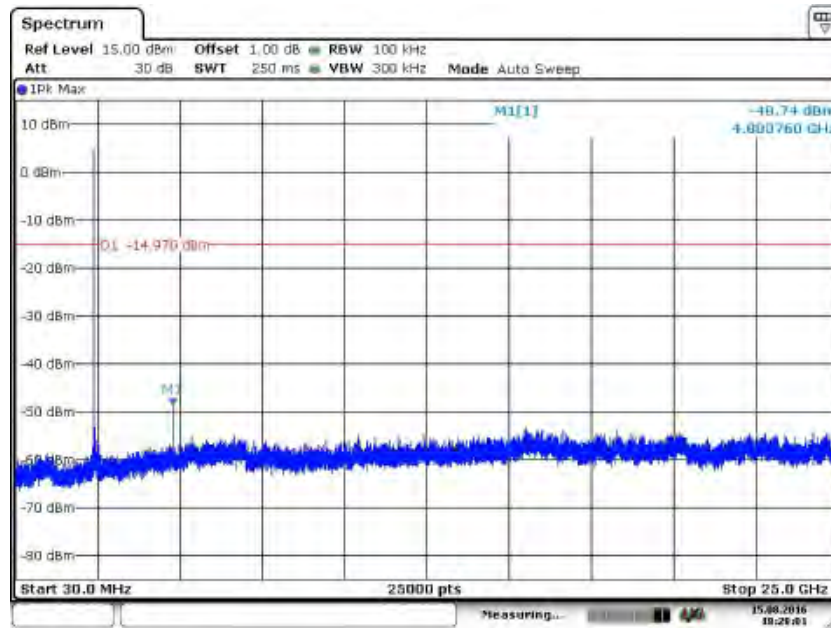
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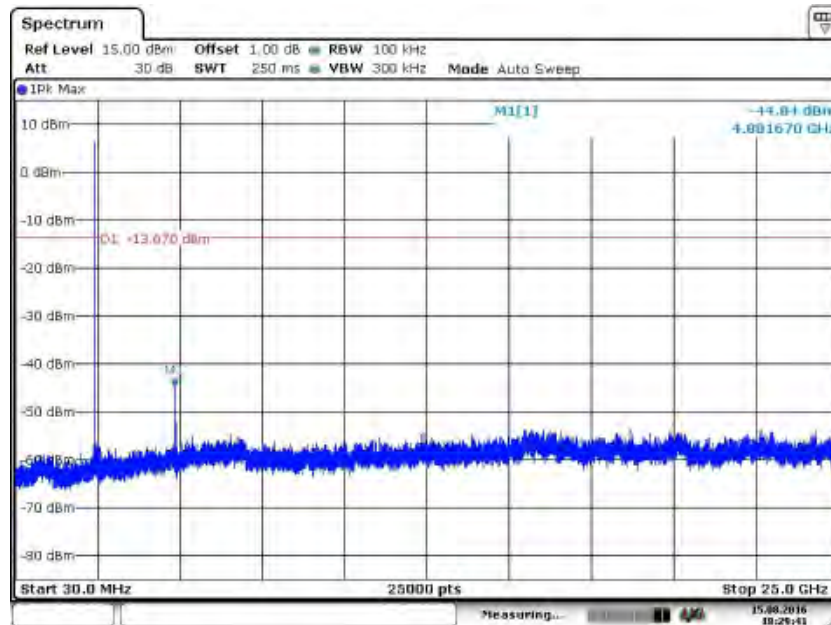
Date: 15.AUG.2016 17:54:13

Appendix A.6: Test Plots of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

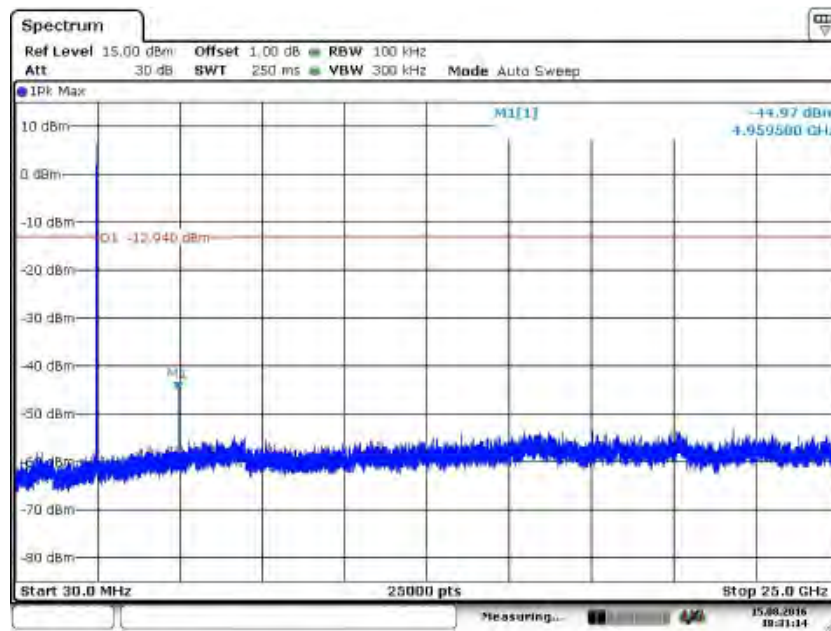
BDR Mode, DH1



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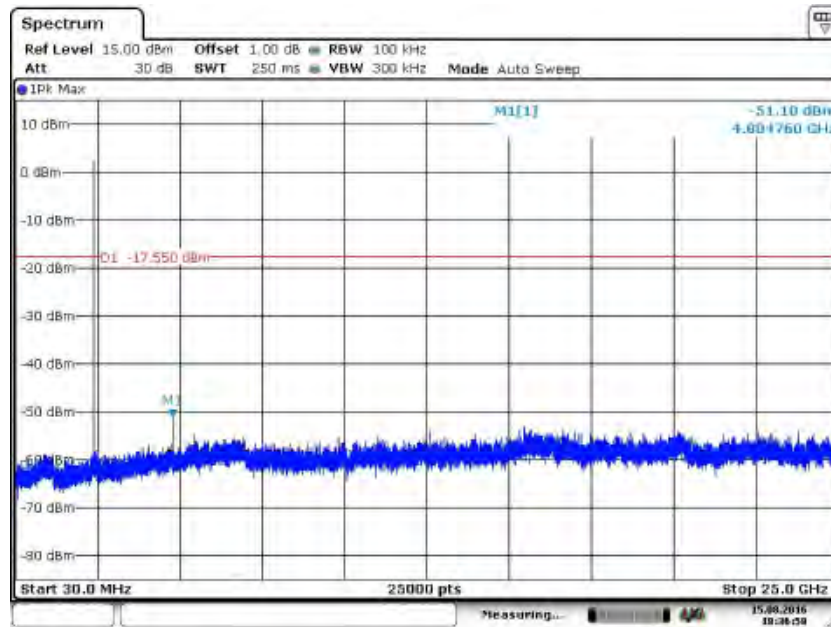


Date: 15.AUG.2016 18:29:40



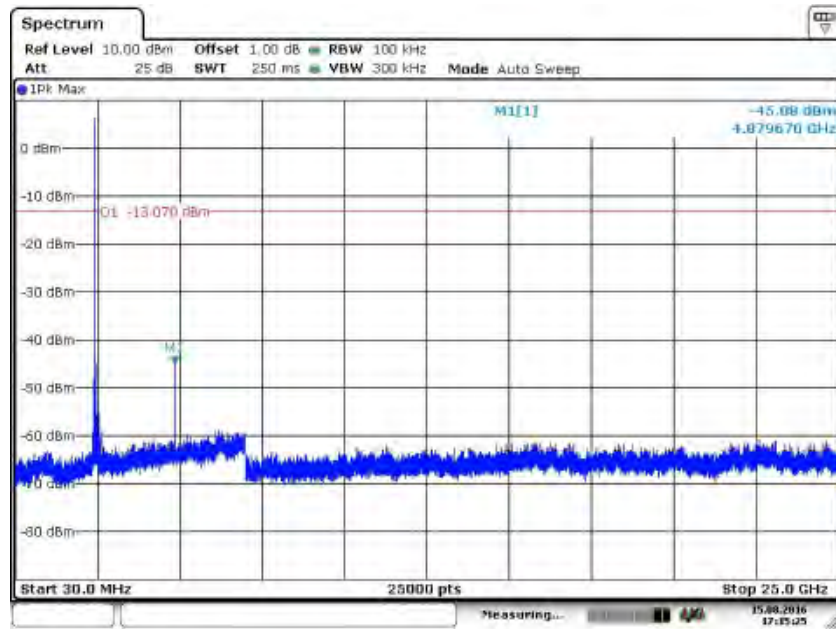
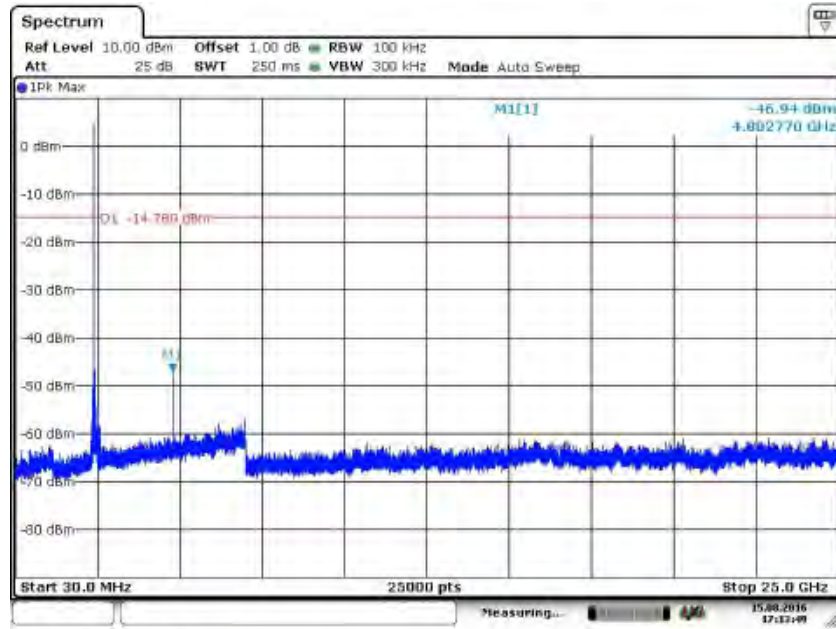
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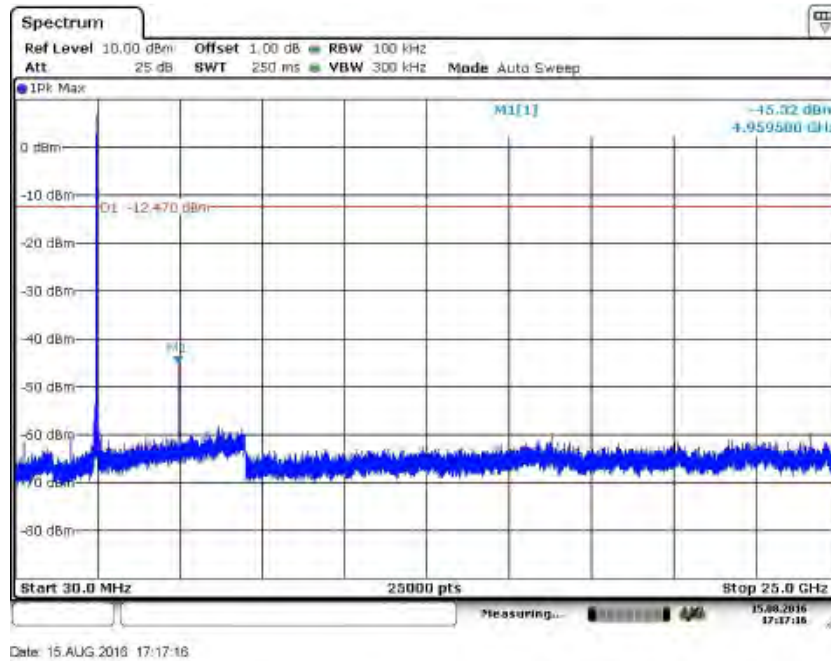
EDR Mode, 3DH1



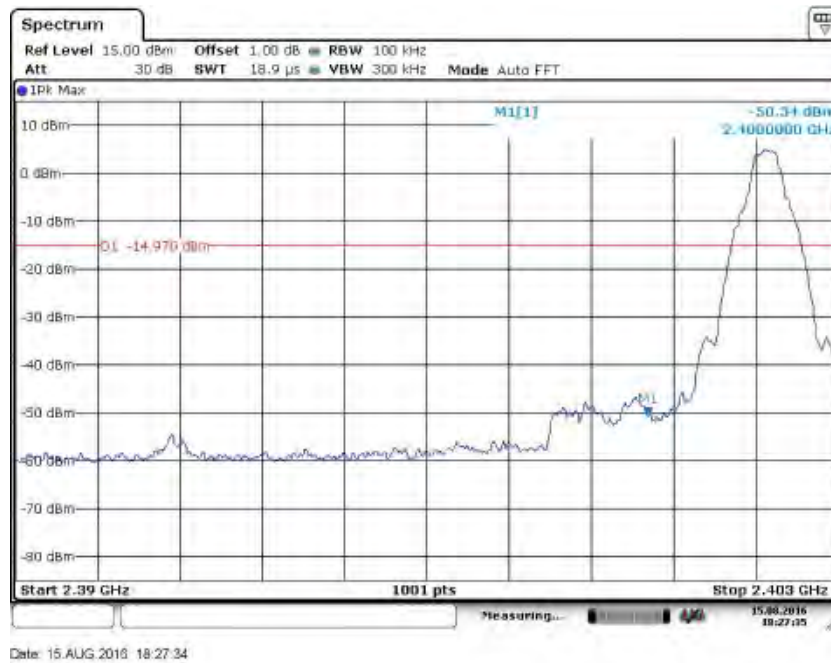
Date: 15.AUG.2016 18:30:58

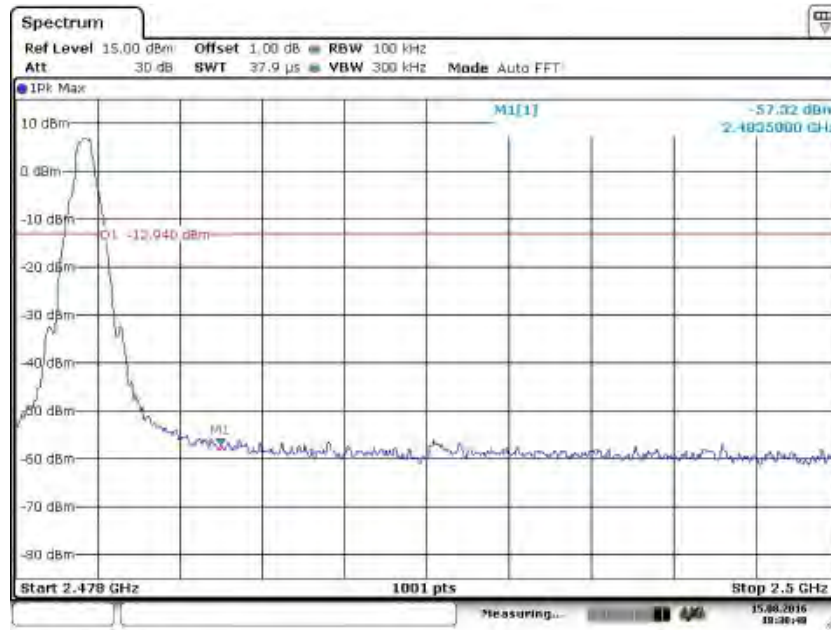
Low Energy Mode





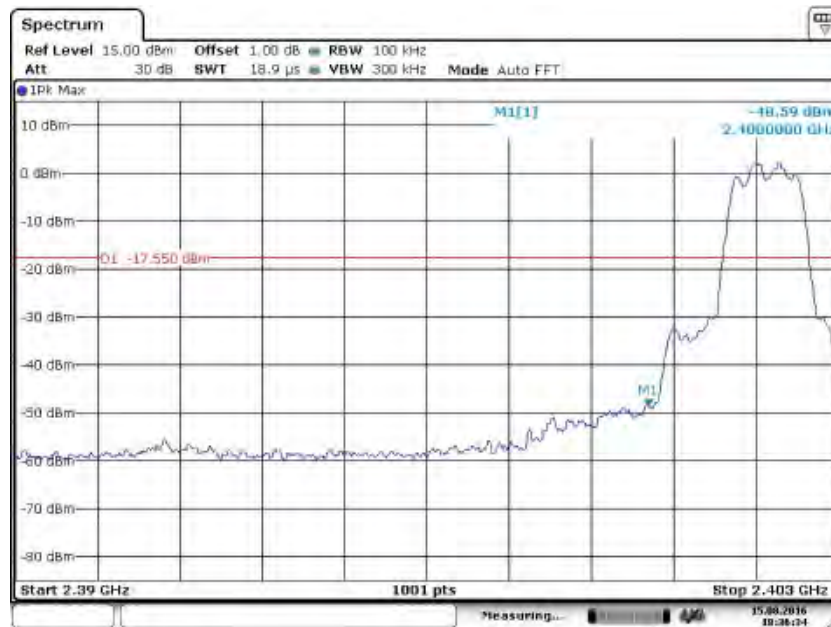
BDR Mode, Band Edge



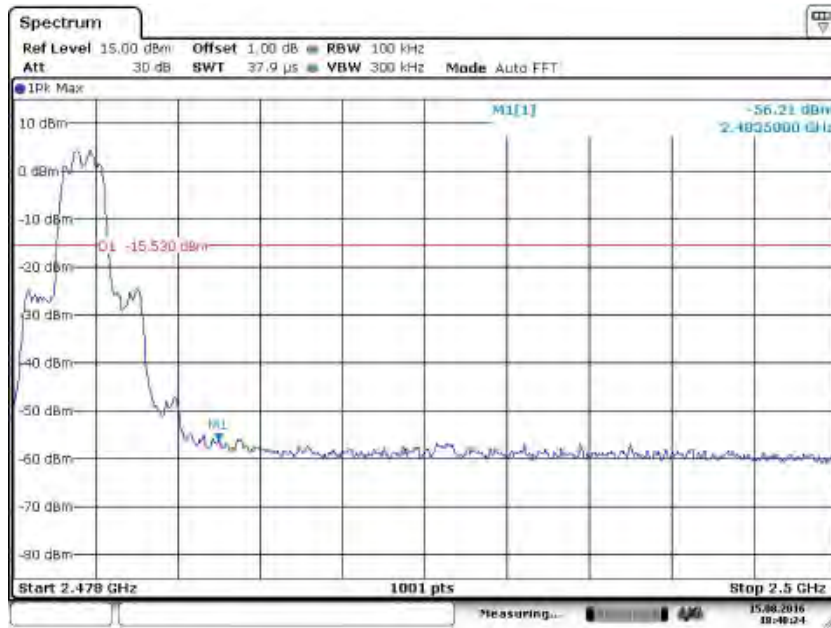


Date: 15.AUG.2016 18:30:48

EDR Mode, Band Edge

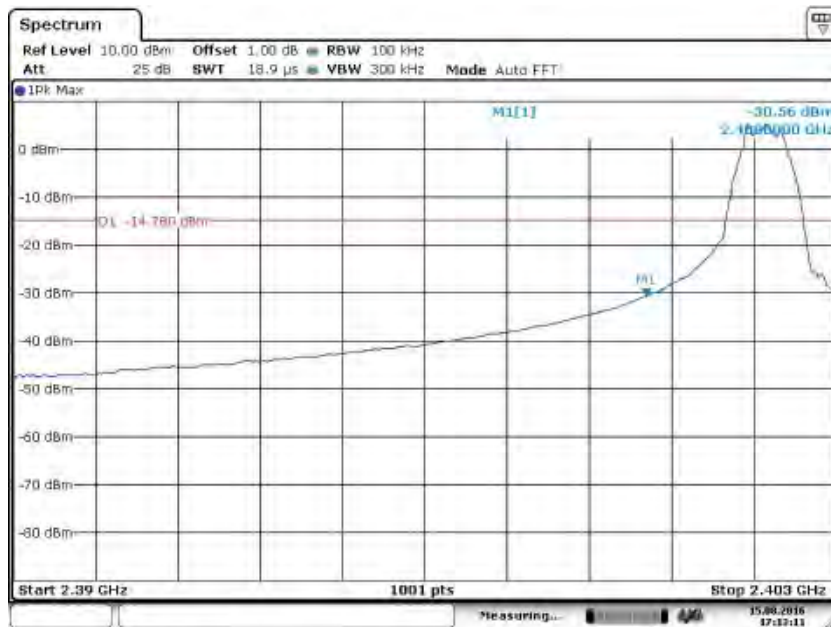


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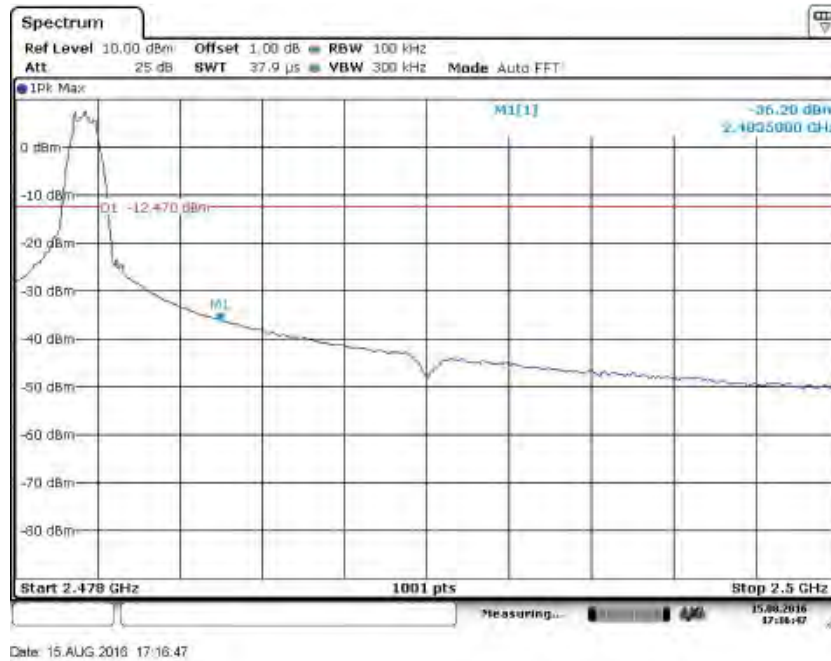


Date: 15.AUG.2016 18:40:24

Low Energy Mode, Band Edge

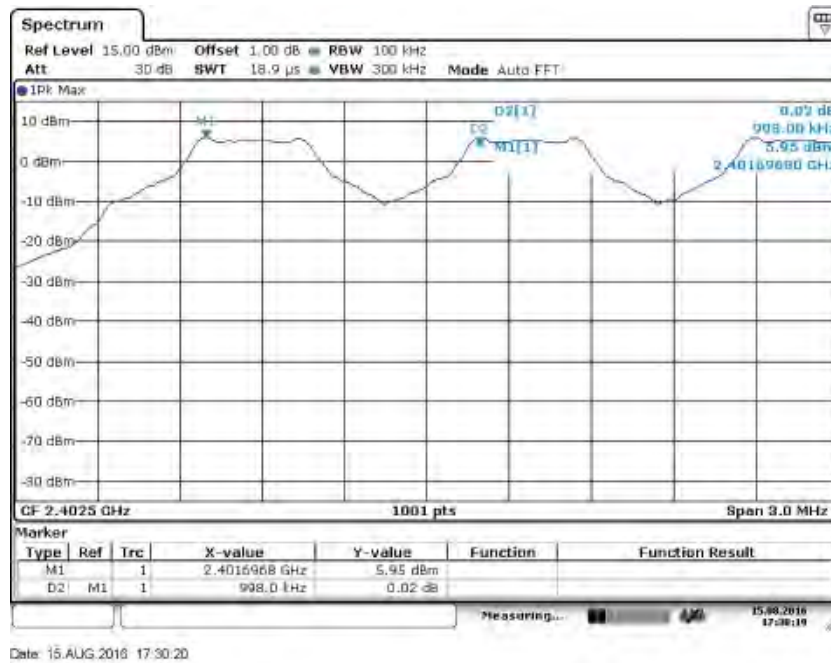


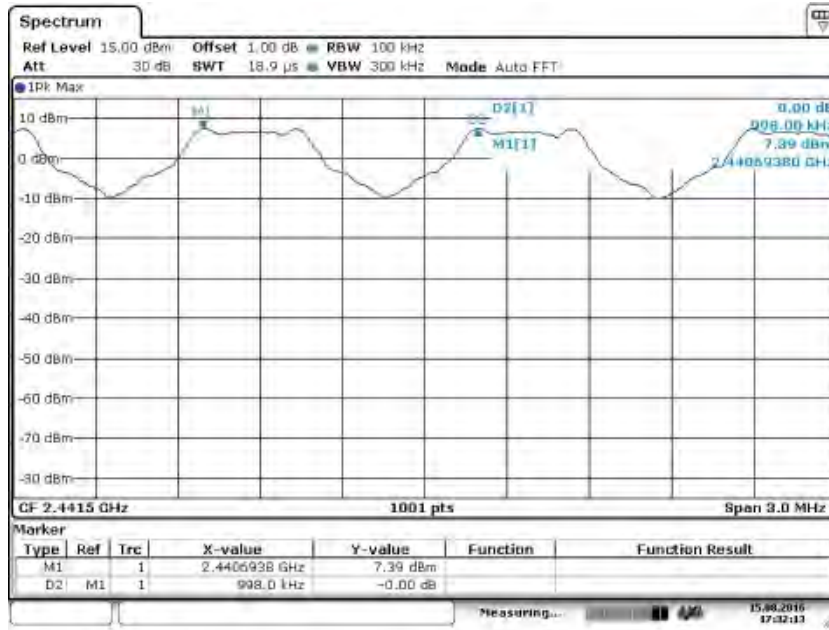
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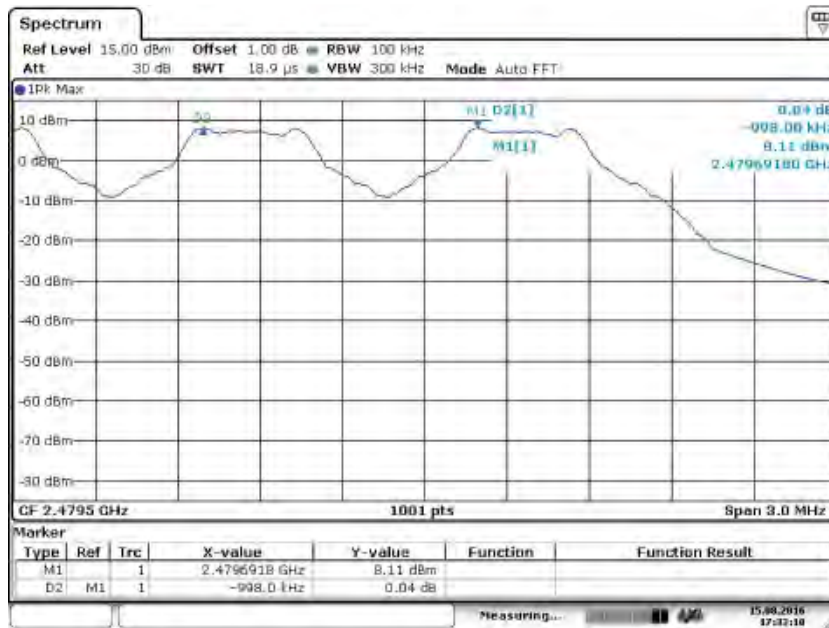
Appendix A.7: Test Plots of Carrier Frequency Separation

Hopping Mode





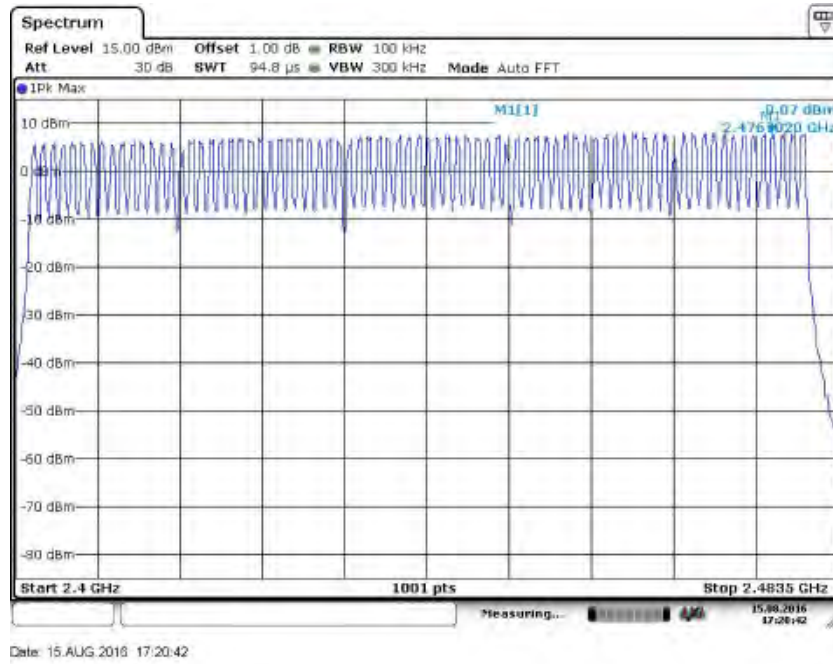
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Date: 15.AUG.2016 17:33:09

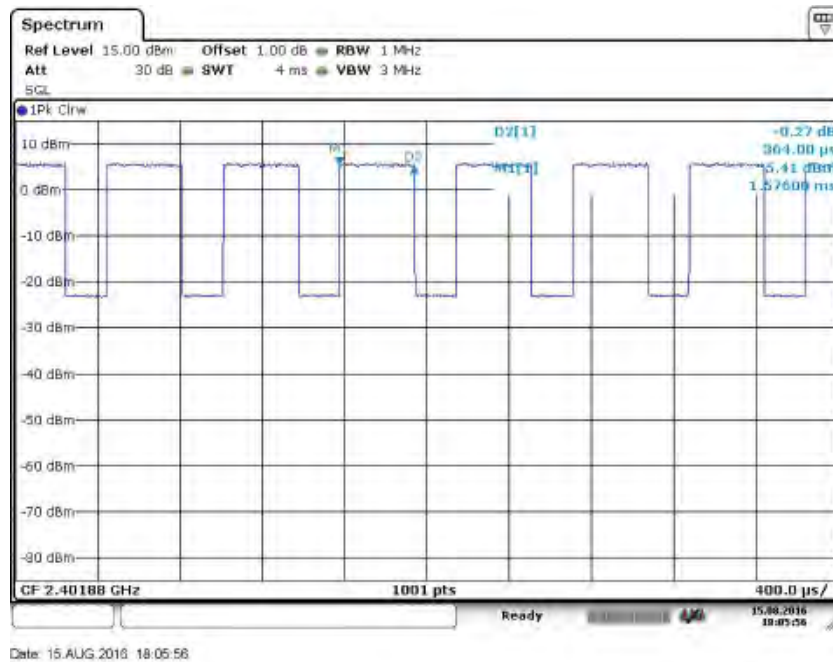
Appendix A.8: Test Plots of Number of Hopping Frequency

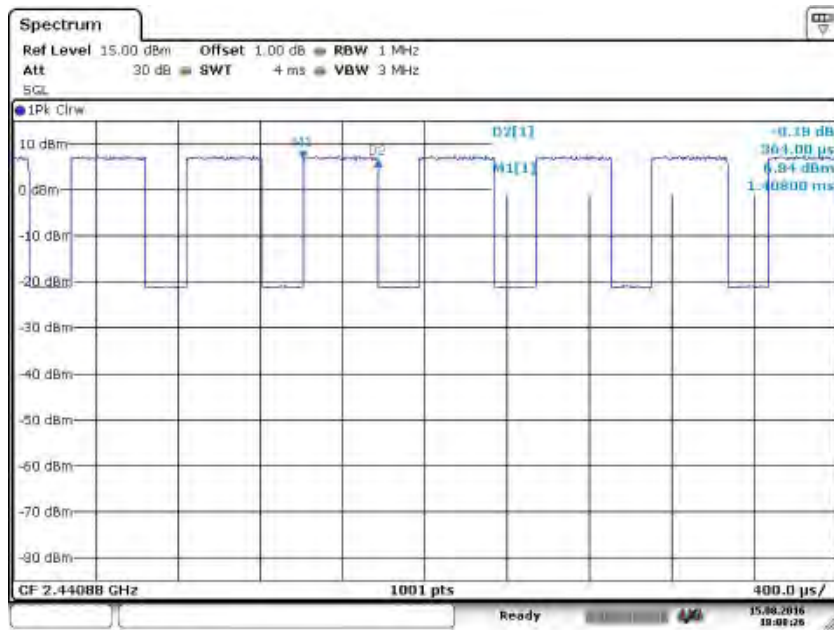
Hopping Mode



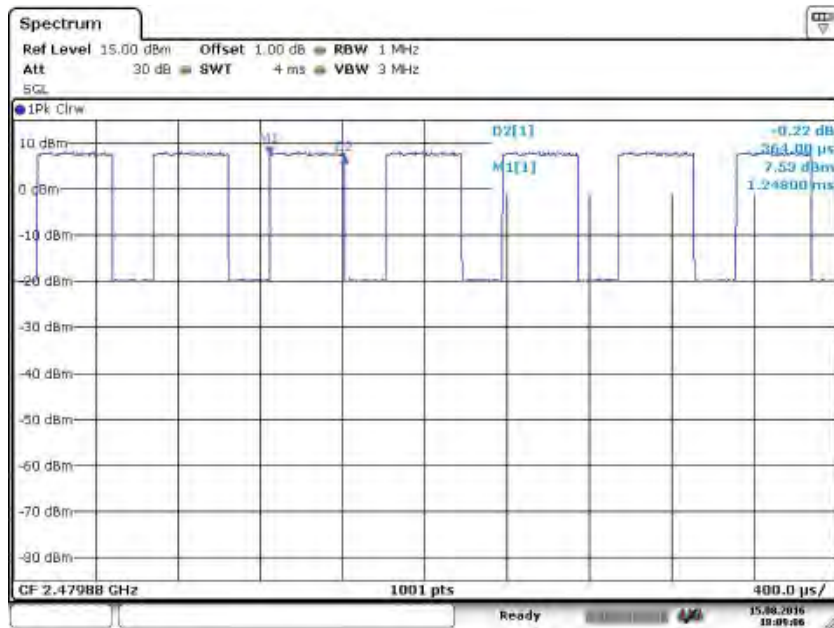
Appendix A.9: Test Plots of Time of Occupancy

BDR Mode, DH1



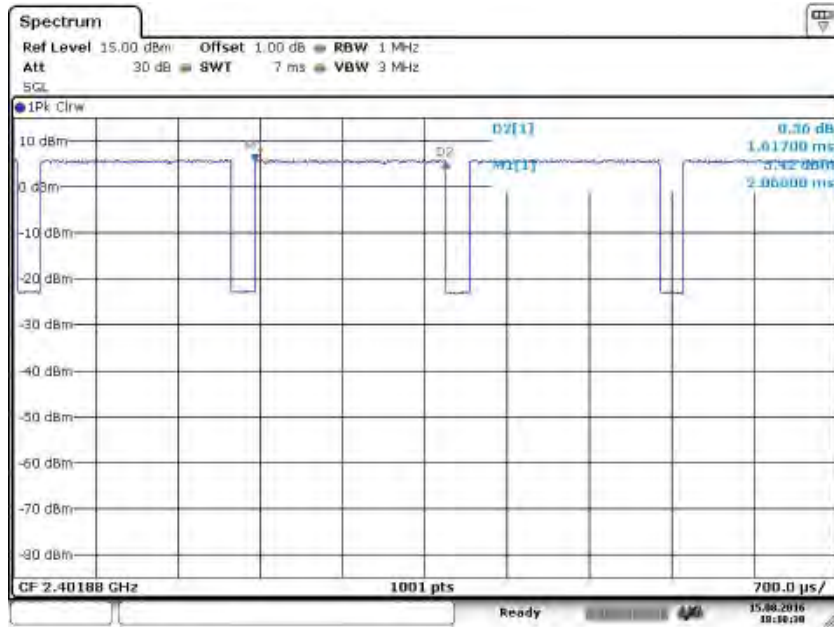


Date: 15.AUG.2016 18:08:26

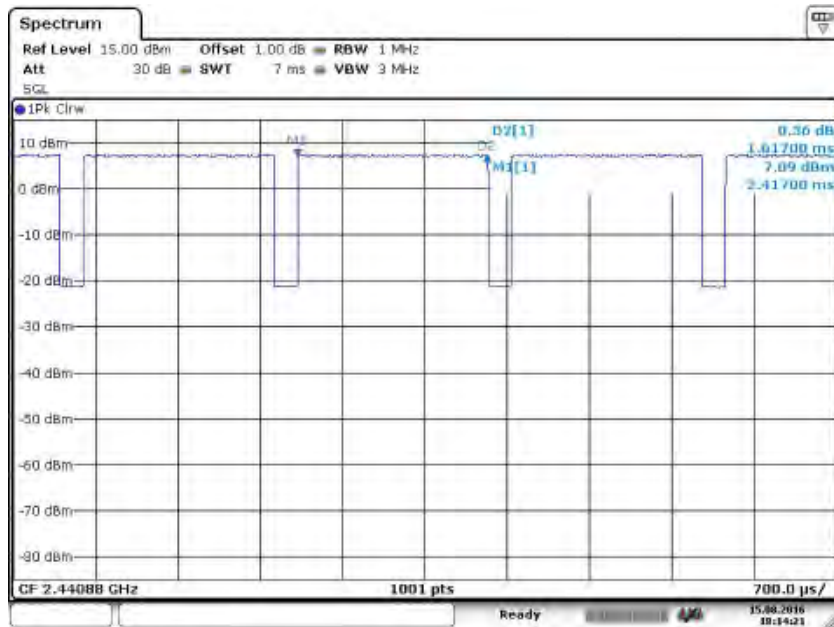


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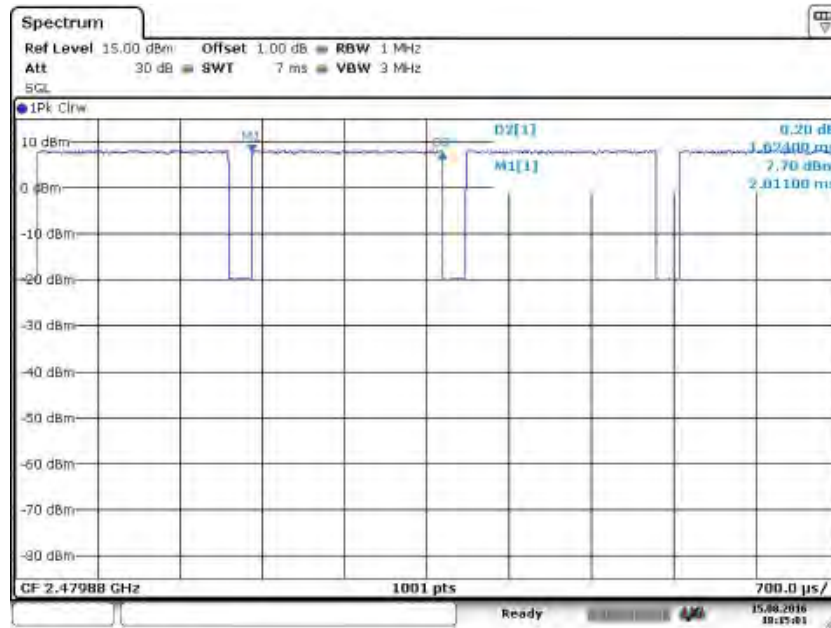
BDR Mode, DH3



Date: 15.AUG.2016 18:10:30

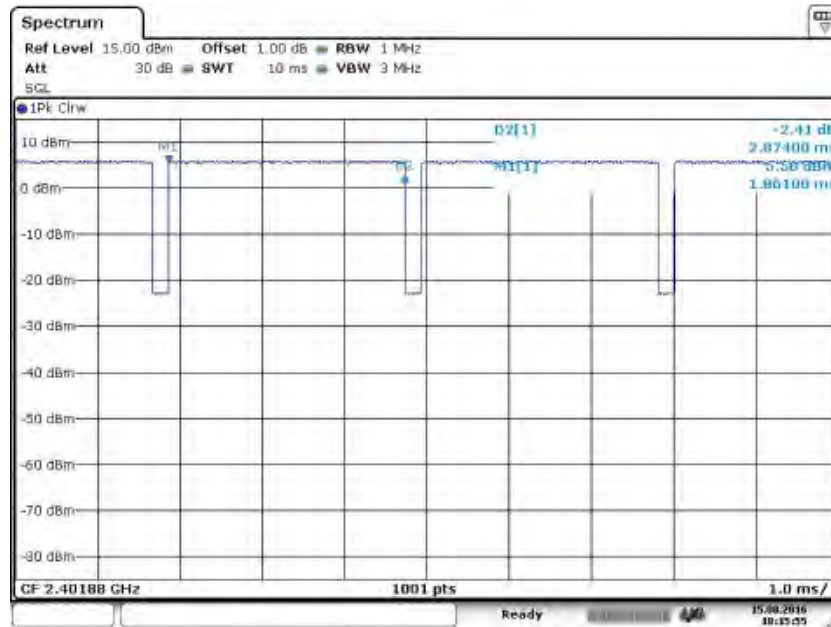


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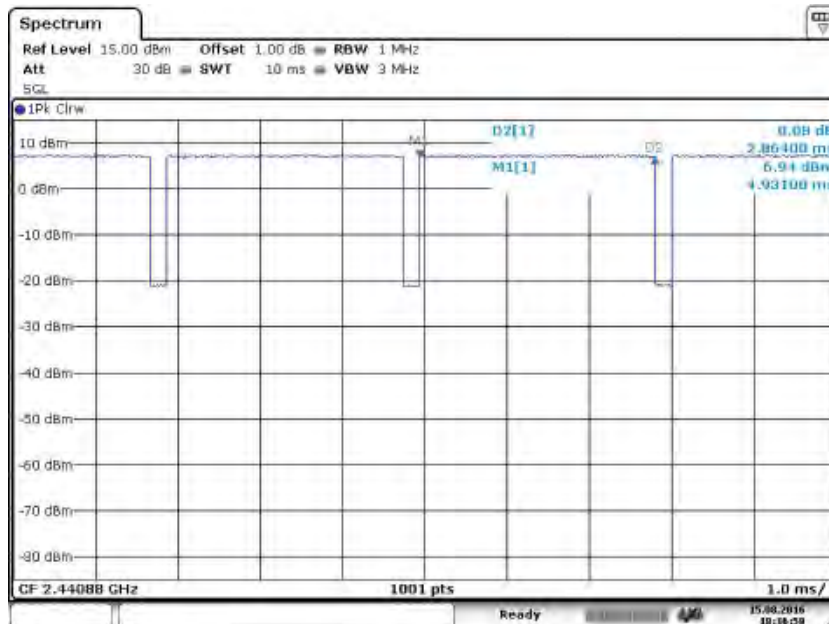


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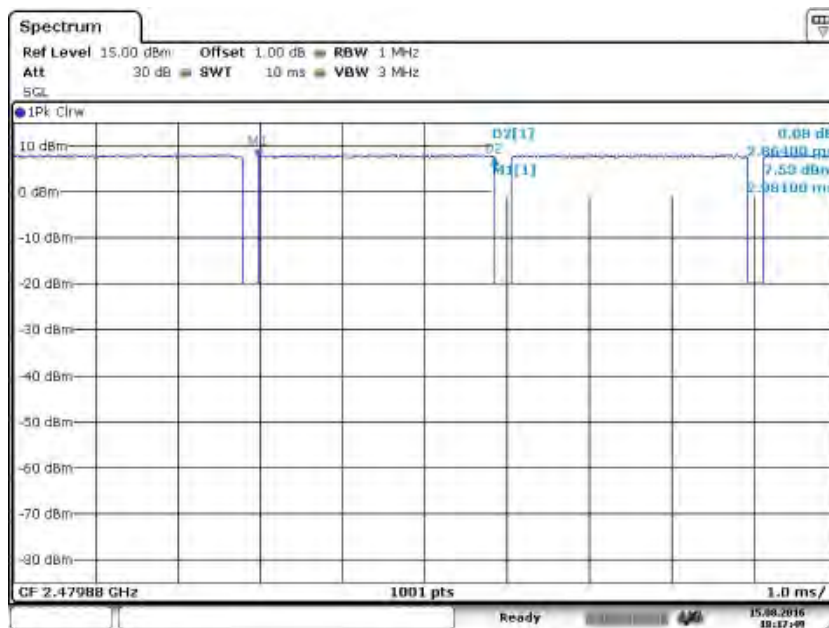
BDR Mode, DH5



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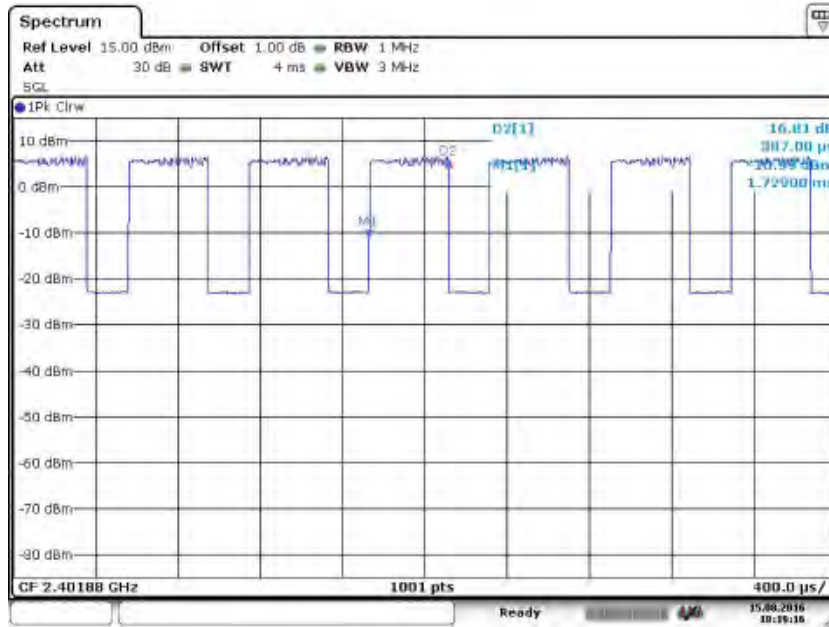


Date: 15.AUG.2016 18:16:58

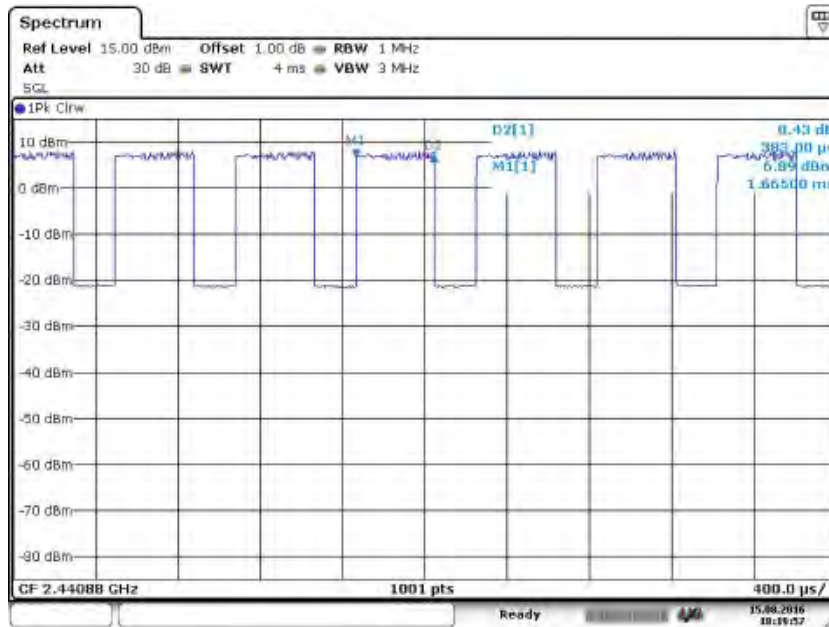


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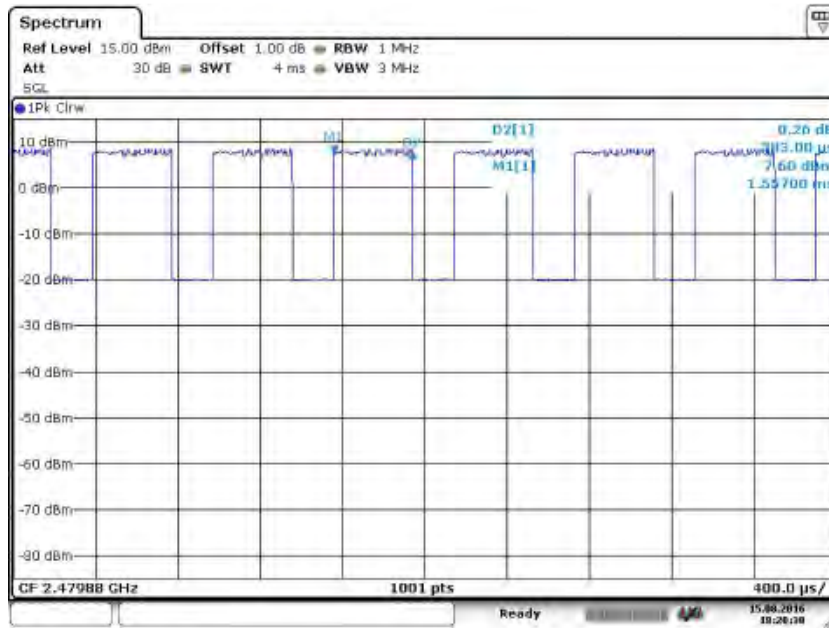
EDR Mode, 3DH1



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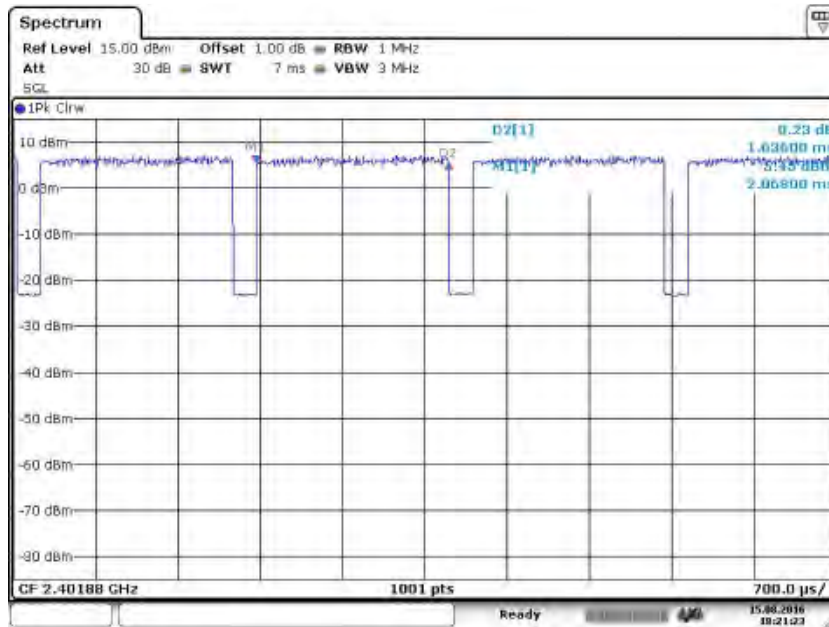


Date: 15.AUG.2016 18:19:58

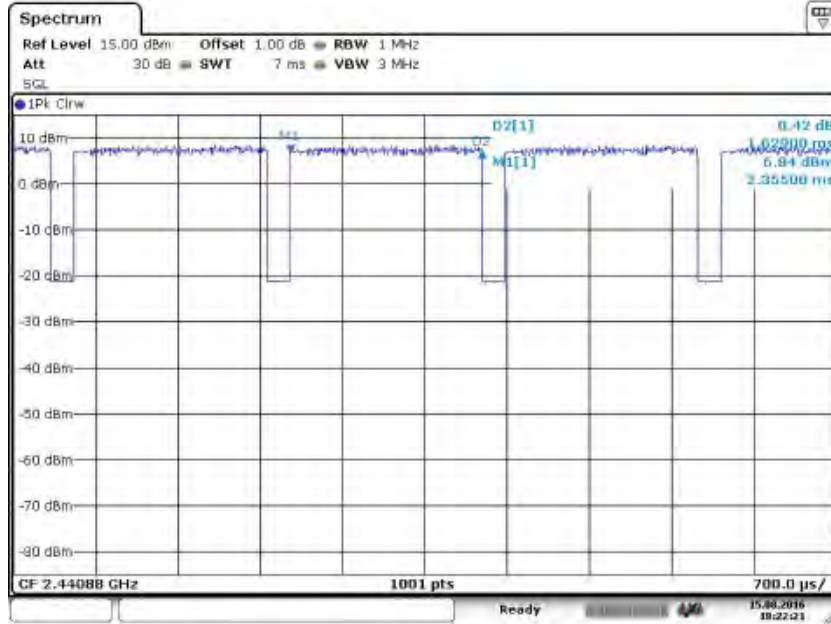


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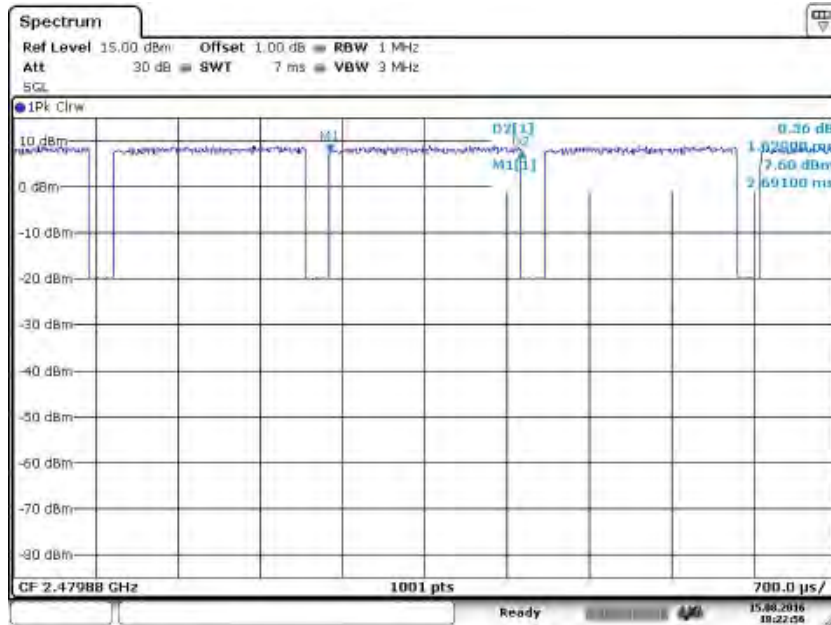
EDR Mode, 3DH3



Date: 15.AUG.2016 18:21:22

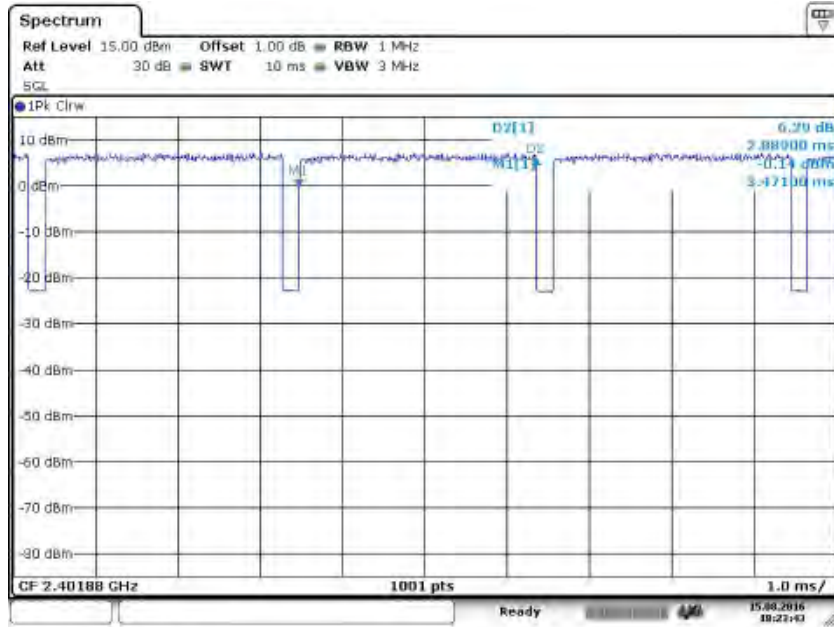


Date: 15.AUG.2016 18:22:22

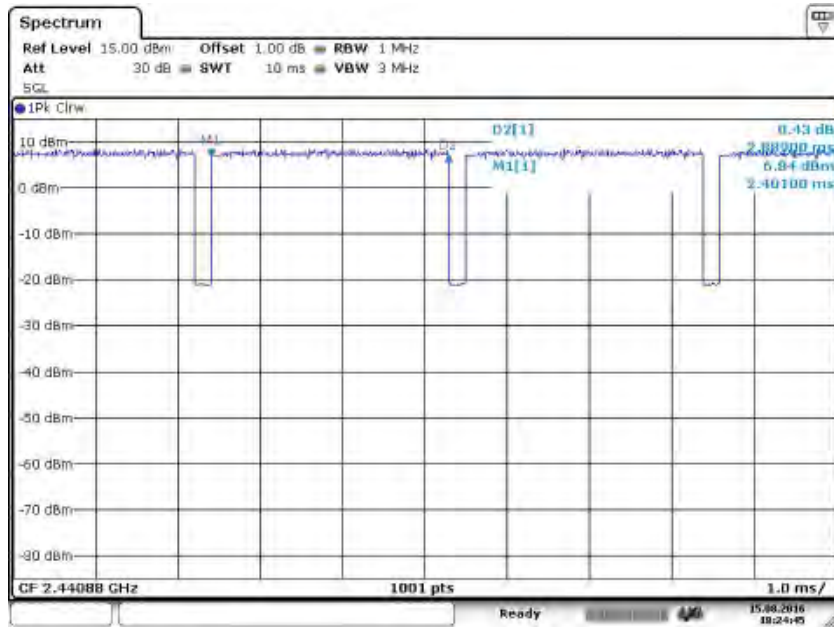


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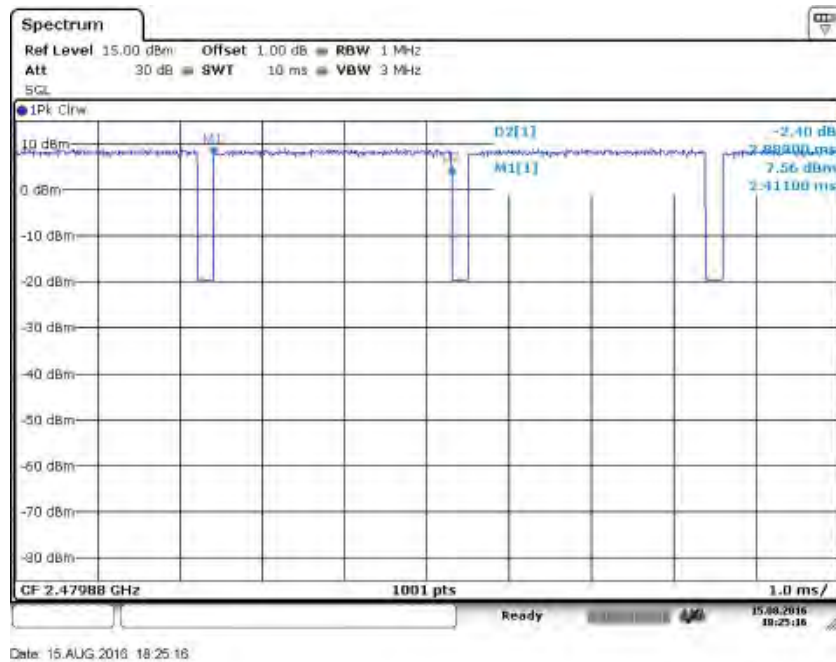
EDR Mode, 3DH5



Date: 15.AUG.2016 18:23:44



Date: 15.AUG.2016 18:24:46



Appendix B

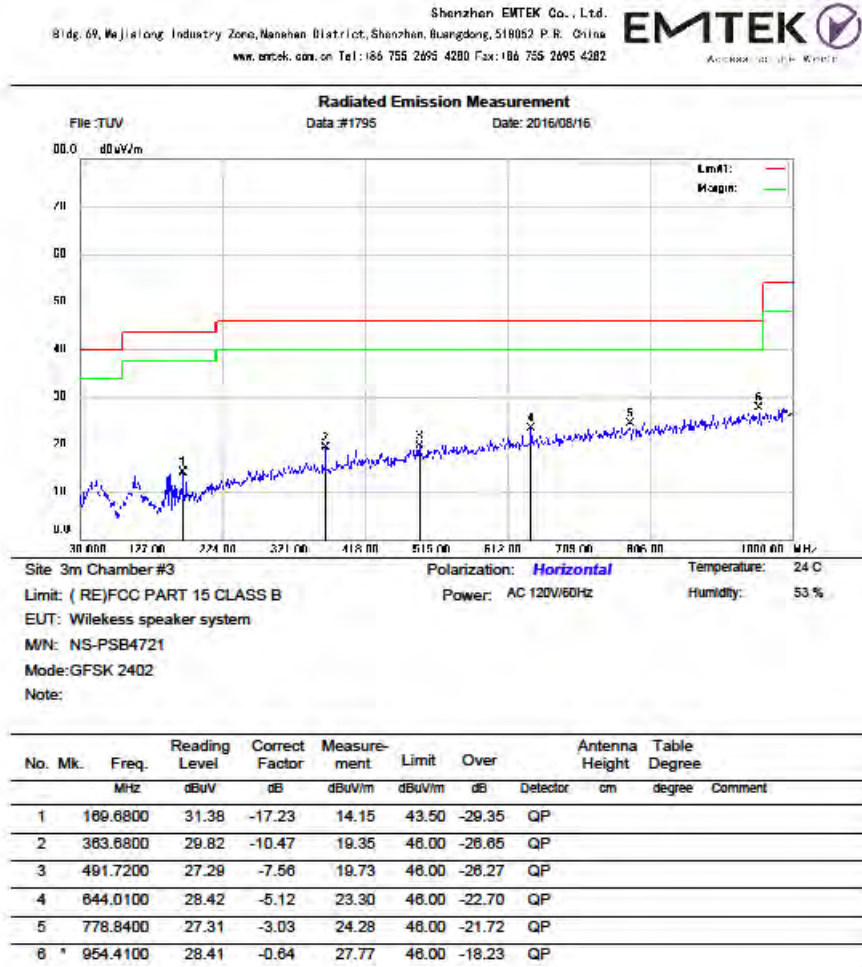
Test Results of Bluetooth 4.2 (Dual mode) of Radiated Emission and AC Conducted Emission

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<i>BDR mode, 18GHz - 26.5GHz</i>	14
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Note: The radiated spurious emission were measured from 9KHz to 26.5GHz, the measurements from 9KHz-30MHz with active loop antenna were greater than 20dB below the limit, so the radiated Spurious Emissions (9kHz – 30MHz) tests were recorded but not showed in the appendix B.

Appendix B.1: Test Plots of Radiated Spurious Emission

BDR mode, 30MHz - 1GHz



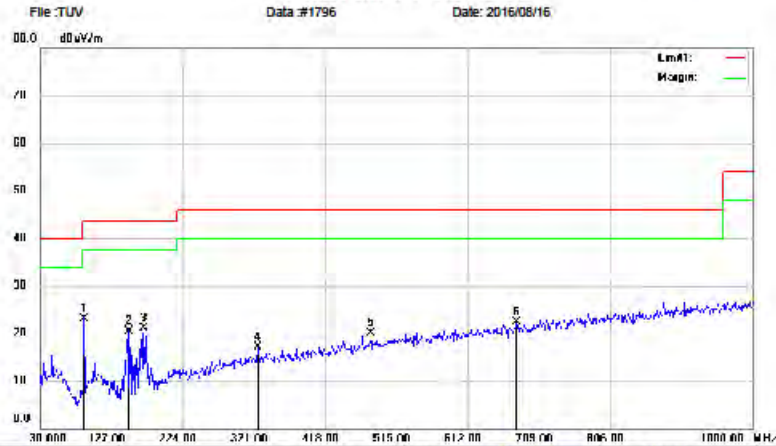
*:Maximum data x:Over limit f:over margin

Operator: KK

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
MN: NS-PSB4721
Mode: GFSK 2402
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1	*	90.1400	40.99	-17.79	23.20	43.50	-20.30	QP		
2		150.2800	39.22	-18.80	20.42	43.50	-23.08	QP		
3		171.6200	38.19	-17.17	21.02	43.50	-22.48	QP		
4		326.8200	28.04	-10.89	17.15	46.00	-28.85	QP		
5		481.0500	27.78	-7.73	20.05	46.00	-25.95	QP		
6		678.9300	26.82	-4.54	22.28	46.00	-23.72	QP		

*:Maximum data x:Over limit :over margin

Operator: KK

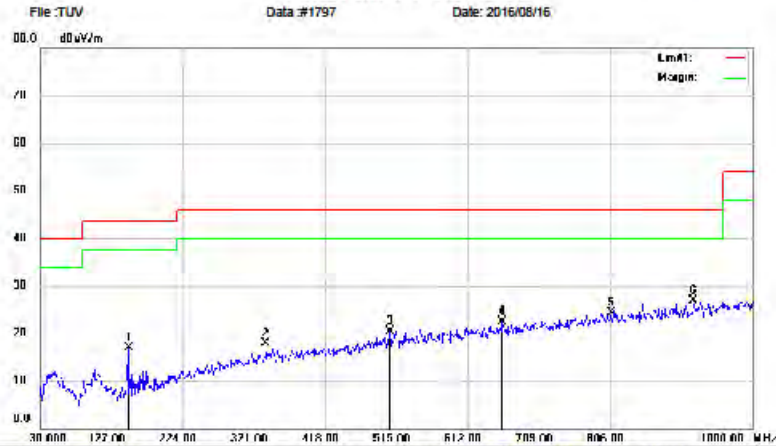
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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless speaker system
 MW: NS-PSB4721
 Mode: GFSK 2441
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		150.2800	35.86	-18.80	16.86	43.50	-26.64	QP	
2		337.4900	28.18	-10.34	17.84	46.00	-28.16	QP	
3		506.2700	27.89	-7.32	20.57	46.00	-25.43	QP	
4		659.5300	27.37	-4.87	22.50	46.00	-23.50	QP	
5		807.9400	26.91	-2.62	24.29	46.00	-21.71	QP	
6	*	919.4900	28.03	-1.17	26.86	46.00	-19.14	QP	

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

Operator: KK

File: TUVData #1797

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
MN: NS-PSB4721
Mode: GFSK 2441
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	*	90.1400	40.70	-17.79	22.91	43.50	-20.59	QP			
2		160.2800	37.32	-18.80	18.52	43.50	-24.98	QP			
3		169.6800	38.92	-17.23	21.69	43.50	-21.81	QP			
4		447.1000	27.01	-8.69	18.32	46.00	-27.68	QP			
5		572.2300	28.44	-8.29	22.15	46.00	-23.85	QP			
6		754.5900	27.77	-3.39	24.38	46.00	-21.62	QP			

*:Maximum data x:Over limit :over margin

Operator: KK

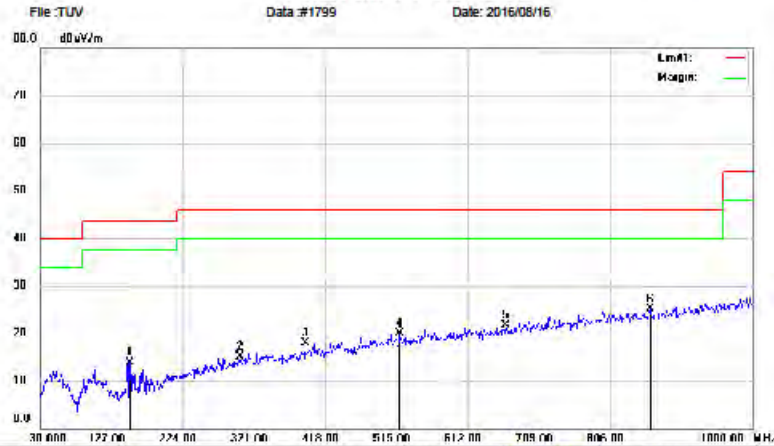
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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless speaker system
 MW: NS-PSB4721
 Mode: GFSK 2480
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		152.2200	32.71	-18.71	14.00	43.50	-29.50	QP		
2		301.6000	26.58	-11.48	15.10	46.00	-30.90	QP		
3		390.8400	27.55	-9.69	17.86	46.00	-28.14	QP		
4		519.8500	26.94	-7.11	19.83	46.00	-26.17	QP		
5		864.3800	26.52	-4.78	21.74	46.00	-24.26	QP		
6	*	860.3200	27.09	-1.96	25.13	46.00	-20.87	QP		

*:Maximum data x:Over limit :over margin

Operator: KK

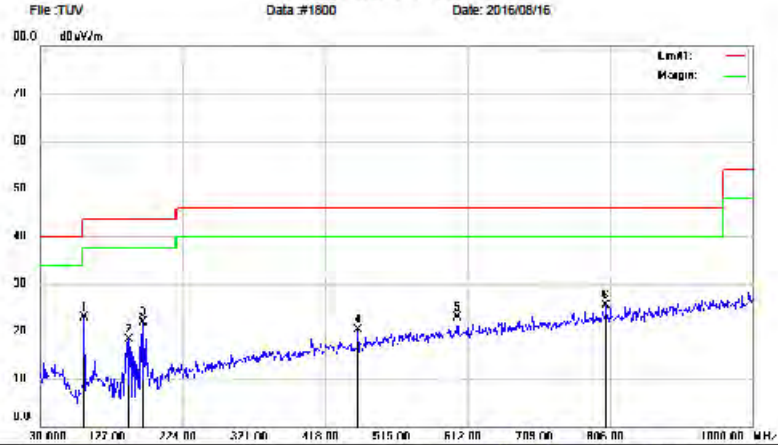
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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60HZ Humidity: 53 %
EUT: Wireless speaker system
M/N: NS-PSB4721
Mode: GFSK 2480
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		90.1400	40.70	-17.79	22.91	43.50	-20.59	QP		
2		150.2800	37.01	-18.80	18.21	43.50	-25.29	QP		
3		169.6800	39.23	-17.23	22.00	43.50	-21.50	QP		
4		402.6200	29.11	-8.73	20.38	46.00	-25.62	QP		
5		598.4200	28.71	-5.87	22.84	46.00	-23.16	QP		
6	*	800.1800	28.15	-2.72	25.43	46.00	-20.57	QP		

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

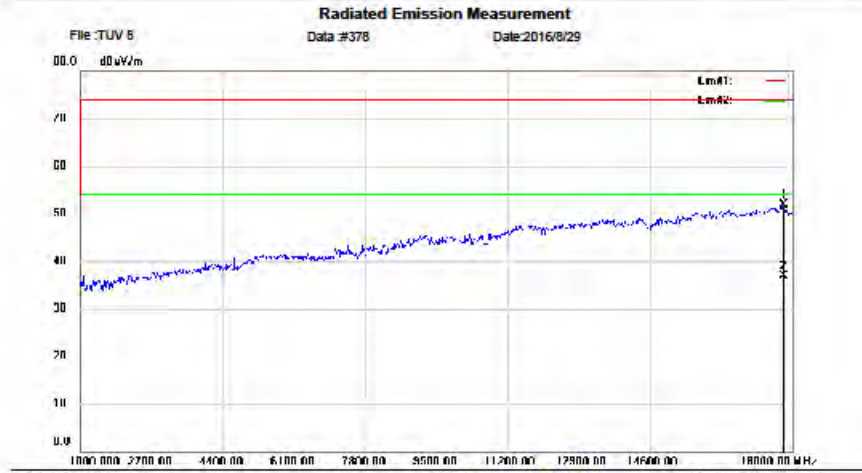
Operator: KK

File: TUVData #1800

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BDR mode, 1GHz - 18GHz

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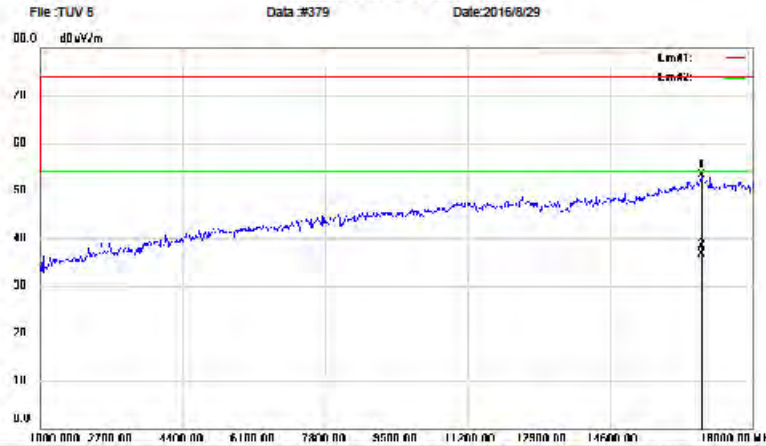
Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE) FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: GFSK 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		17779.00	51.88	0.23	51.91	74.00	-22.09	peak		0
2	*	17779.00	36.67	0.23	36.90	54.00	-17.10	AVG		0

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless Speaker System
MN: NS-PSB 4721
Mode: GFSK 2402
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		16793.00	63.37	-9.98	53.39	74.00	-20.61	peak	0	
2	*	16793.00	46.68	-9.88	36.70	54.00	-17.30	AVG	0	

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

Operator:

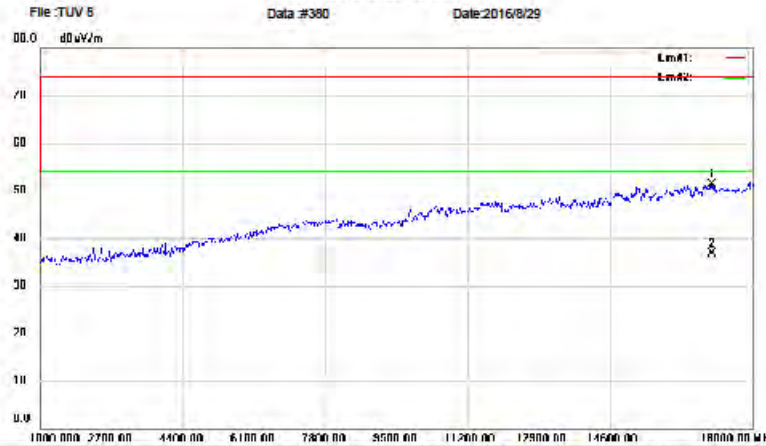
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: GFSK 2441
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		17031.00	60.19	-8.88	51.31	74.00	-22.69	peak	0	
2 *		17031.00	45.68	-8.88	36.80	54.00	-17.20	AVG	0	

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

Operator:

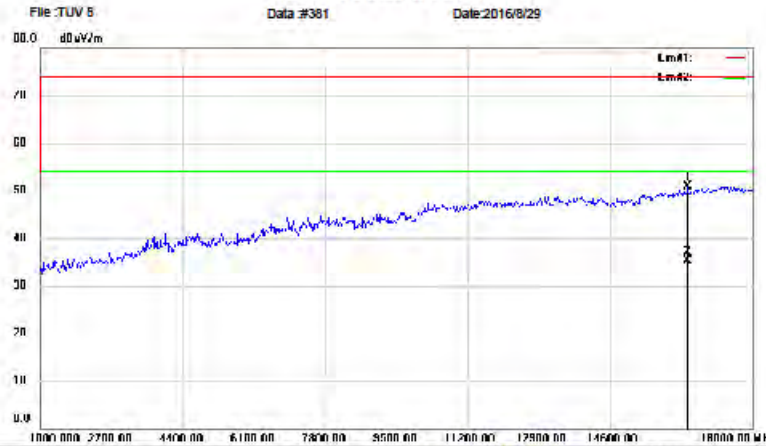
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: GFSK 2441
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		18453.00	61.98	-11.17	50.81	74.00	-23.19	peak		0	
2	*	18453.00	46.57	-11.17	35.40	54.00	-18.60	AVG		0	

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

Operator:

File: TUV 5>Data #381

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: GFSK 2480
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		15385.00	63.81	-10.74	53.07	74.00	-20.93	peak		0	
2	*	15385.00	49.34	-10.74	38.60	54.00	-15.40	AVG		0	

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

Operator: KK

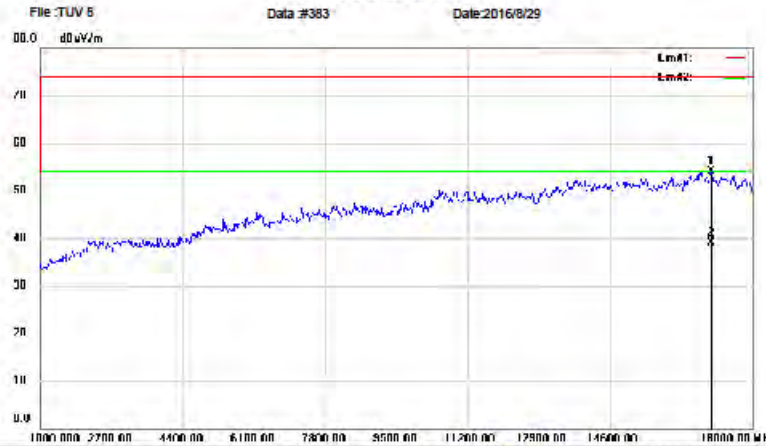
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MN: NS-PSB 4721
 Mode: GFSK 2480
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		17014.00	63.22	-9.09	54.13	74.00	-19.87	peak	0
2	*	17014.00	48.29	-9.09	39.20	54.00	-14.80	AVG	0

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

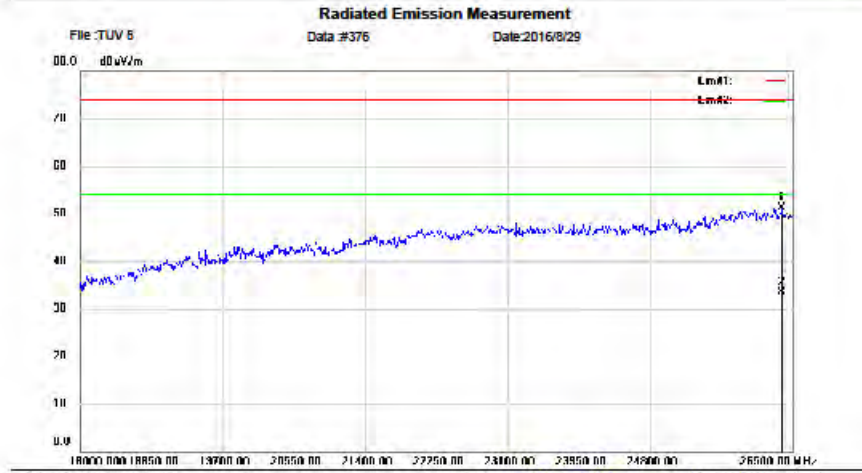
Operator: KK

File: TUV 5>Data #383

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BDR mode, 18GHz - 26.5GHz

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Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: GFSK 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		26372.50	86.62	-35.34	51.28	74.00	-22.72	peak		0
2	*	26372.50	88.84	-35.34	33.50	54.00	-20.50	AVG		0

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

Operator: KK

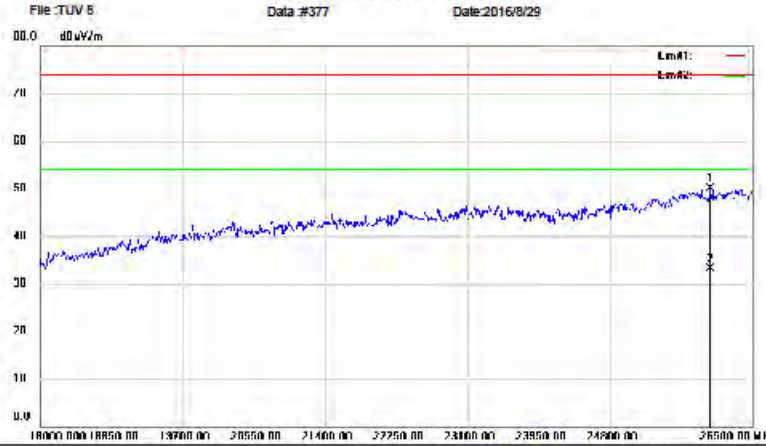
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: GFSK 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		25000.50	85.87	-35.79	50.08	74.00	-23.92	peak	0
2	*	25000.50	88.89	-35.79	33.10	54.00	-20.90	AVG	0

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

Operator: KK

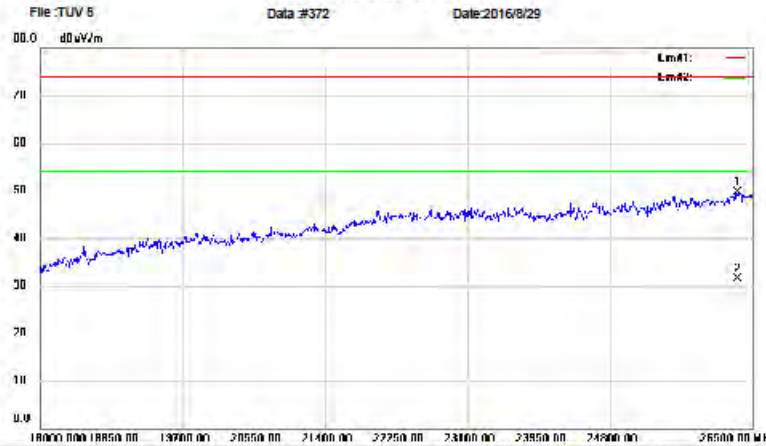
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: GFSK 2480
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		28321.50	85.06	-35.40	49.66	74.00	-24.34	peak	0	
2	*	28321.50	67.00	-35.40	31.60	54.00	-22.40	AVG	0	

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

Operator: KK

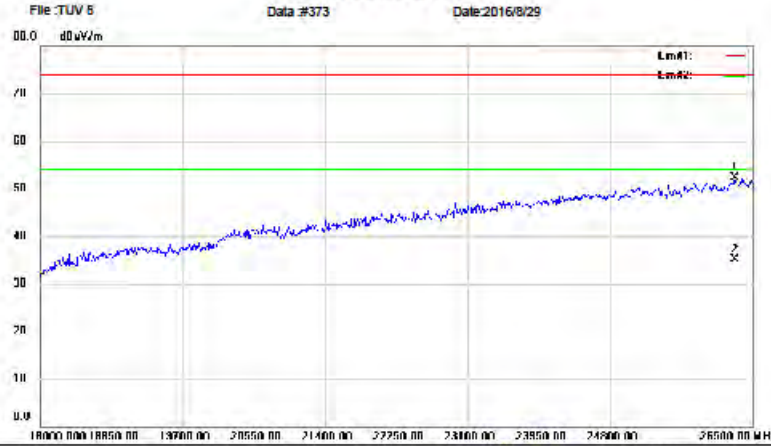
File: TUV 5>Data #372

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE) FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MN: NS-PSB 4721
 Mode: GFSK 2480
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		28287.50	87.86	-35.44	52.22	74.00	-21.78	peak	0
2	*	28287.50	70.64	-35.44	35.20	54.00	-18.80	AVG	0

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

Operator: KK

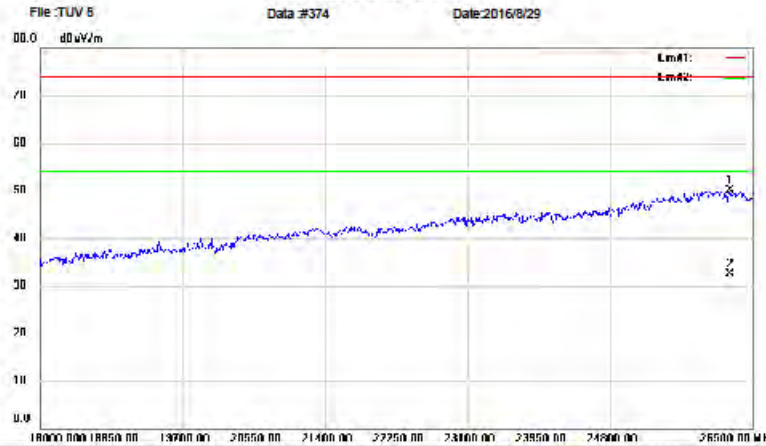
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Page: 1

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: GFSK 2441
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		28228.00	85.58	-35.51	50.07	74.00	-23.93	peak	0
2 *		28228.00	88.01	-35.51	32.50	54.00	-21.50	AVG	0

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

Operator: KK

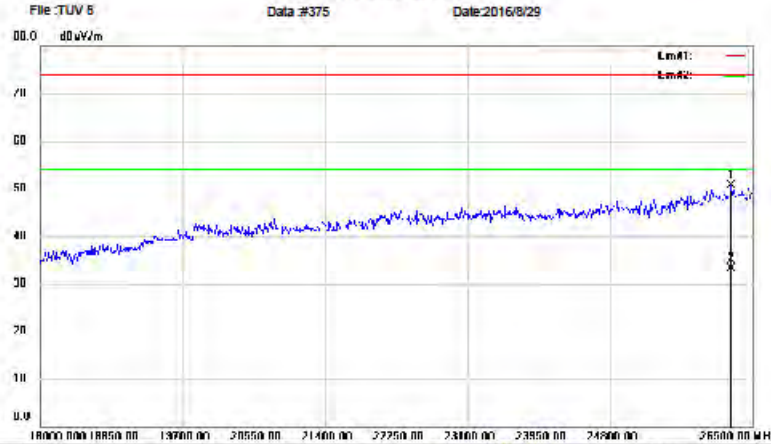
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MN: NS-PSB 4721
 Mode: GFSK 2441
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Detector	Table Height cm	Table Degree degree	Comment
1		28245.00	86.26	-35.49	50.77	74.00	-23.23	peak		0	
2	*	28245.00	88.89	-35.49	33.40	54.00	-20.60	AVG		0	

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

Operator: KK

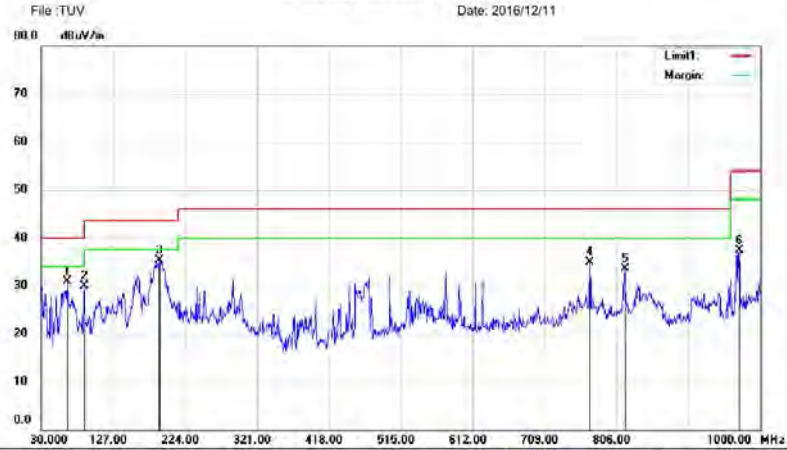
File: TUV 5>Data #375

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless speaker system
 M/N: NS-PSB4721
 Mode: Bluetooth Link Playing (Bluetooth Classic)
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Detector	Comment
1		65.8900	47.59	-16.73	30.86	40.00	-9.14	QP			
2		88.2000	48.09	-18.15	29.94	43.50	-13.56	QP			
3	*	190.0500	51.98	-16.74	35.24	43.50	-8.26	QP			
4		770.1100	38.12	-3.16	34.96	46.00	-11.04	QP			
5		817.6400	35.97	-2.49	33.48	46.00	-12.52	QP			
6		971.8700	37.63	-0.37	37.26	54.00	-16.74	QP			

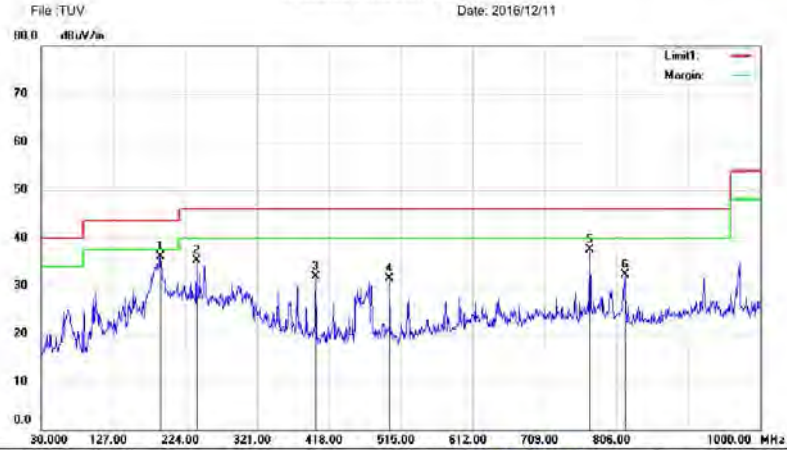
*:Maximum data x:Over limit !:over margin

Operator: KK

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless speaker system
 M/N: NS-PSB4721
 Mode: Bluetooth Link Playing (Bluetooth Classic)
 Note:

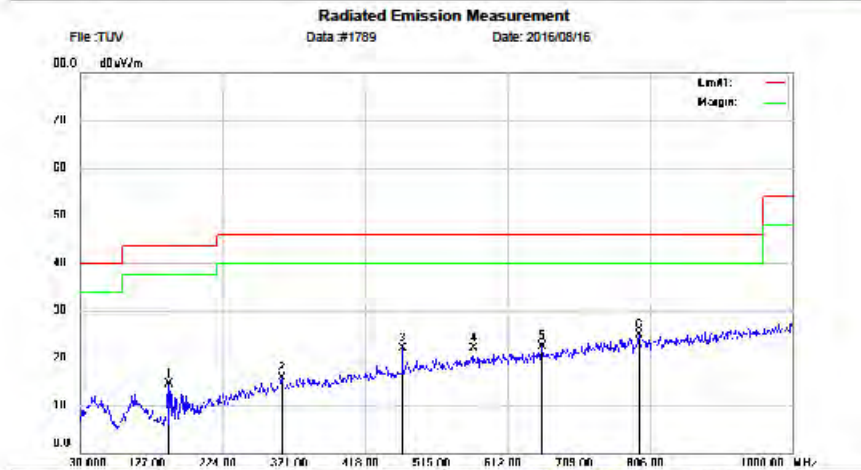
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1	*	191.0200	52.76	-16.63	36.13	43.50	-7.37	QP			
2		239.5200	49.11	-13.89	35.22	46.00	-10.78	QP			
3		400.5400	41.21	-9.34	31.87	46.00	-14.13	QP			
4		500.4500	38.97	-7.42	31.55	46.00	-14.45	QP			
5		770.1100	40.61	-3.16	37.45	46.00	-8.55	QP			
6		817.6400	34.72	-2.49	32.23	46.00	-13.77	QP			

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

Operator: KK

Low Energy mode, 30MHz - 1GHz

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Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless speaker system
 M/N: NS-PSB4721
 Mode: BLE 2402
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		150.2800	33.22	-18.80	14.42	43.50	-29.08	QP		
2		304.5100	27.26	-11.44	15.82	46.00	-30.18	QP		
3		468.4400	30.60	-8.40	22.20	46.00	-23.80	QP		
4		565.4400	28.47	-6.39	22.08	46.00	-23.92	QP		
5		658.5600	27.39	-4.88	22.51	46.00	-23.49	QP		
6	*	791.4500	27.84	-2.84	25.00	46.00	-21.00	QP		

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

Operator: KK

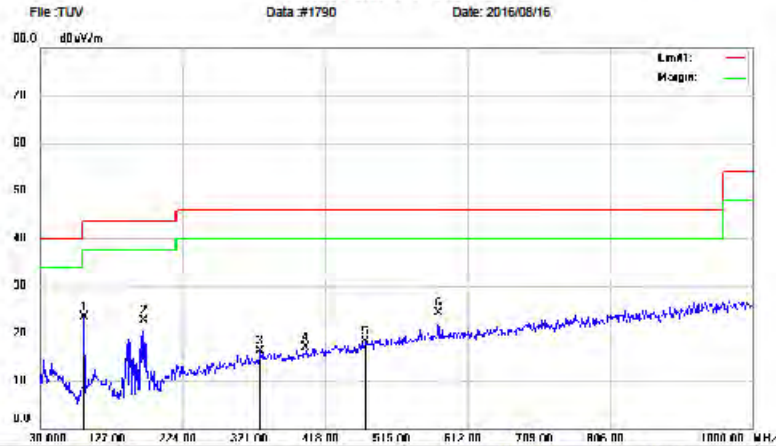
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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
MN: NS-PSB4721
Mode: BLE 2402
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	90.1400	41.25	-17.79	23.46	43.50	-20.04	QP	
2		171.6200	39.93	-17.17	22.76	43.50	-20.74	QP	
3		328.7600	27.03	-10.79	16.24	46.00	-29.76	QP	
4		391.8100	26.72	-9.86	17.06	46.00	-28.94	QP	
5		473.2900	26.36	-8.13	18.23	46.00	-27.77	QP	
6		572.2300	30.50	-6.29	24.21	46.00	-21.79	QP	

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

Operator: KK

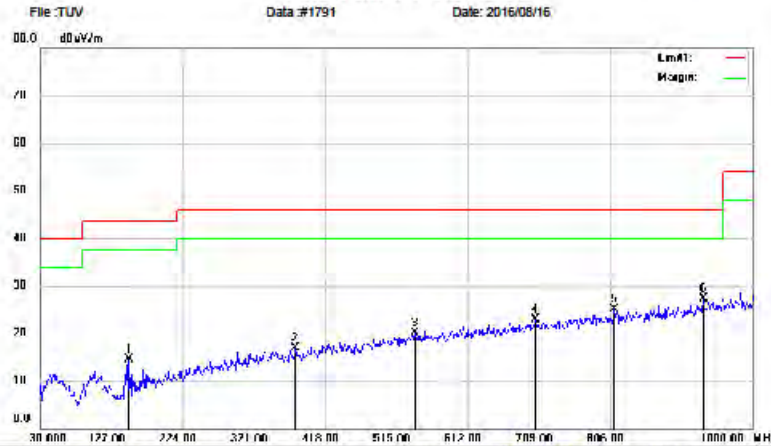
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Radiated Emission Measurement



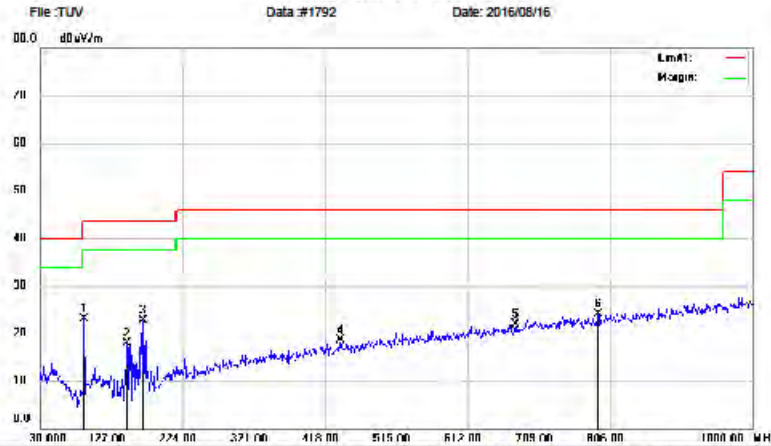
Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless speaker system
 MW: NS-PSB4721
 Mode: BLE 2440
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		150.2800	33.25	-18.80	14.45	43.50	-29.05	QP	
2		377.2600	26.99	-10.15	16.84	46.00	-29.16	QP	
3		540.2200	26.96	-6.80	20.16	46.00	-25.84	QP	
4		704.1500	26.96	-4.12	22.84	46.00	-23.16	QP	
5		811.8200	27.71	-2.66	25.15	46.00	-20.85	QP	
6	*	933.0700	28.36	-0.96	27.40	46.00	-18.60	QP	

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
MN: NS-PSB4721
Mode: BLE 2440
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1	*	90.1400	40.82	-17.79	23.03	43.50	-20.47	QP			
2		148.3400	36.78	-18.86	17.92	43.50	-25.58	QP			
3		169.6800	39.89	-17.23	22.66	43.50	-20.84	QP			
4		439.3400	27.21	-8.62	18.59	46.00	-27.41	QP			
5		878.9900	26.49	-4.56	21.93	46.00	-24.07	QP			
6		789.5100	26.98	-2.88	24.10	46.00	-21.90	QP			

*:Maximum data x:Over limit :over margin

Operator: KK

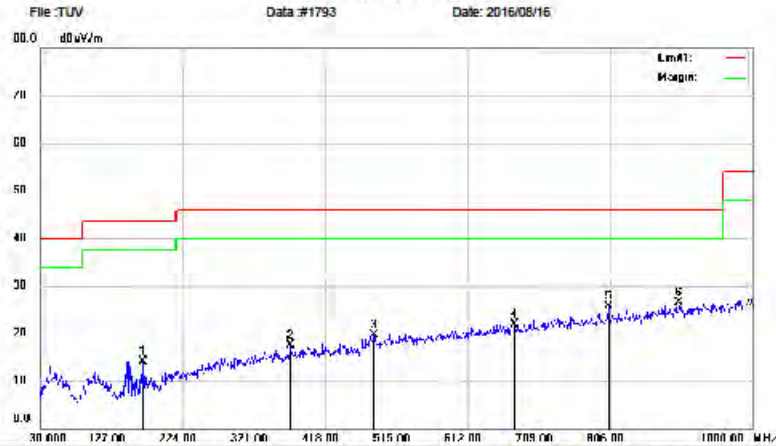
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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
MN: NS-PSB4721
Mode: BLE 2480
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		169.6800	31.28	-17.23	14.05	43.50	-29.45	QP	
2		370.4700	27.77	-10.31	17.46	46.00	-28.54	QP	
3		484.9300	27.38	-7.67	19.71	46.00	-26.29	QP	
4		676.0200	26.57	-4.59	21.98	46.00	-24.02	QP	
5		804.0600	28.27	-2.66	25.61	46.00	-20.39	QP	
6	*	900.0900	28.02	-1.46	26.56	46.00	-19.44	QP	

*:Maximum data x:Over limit :over margin

Operator: KK

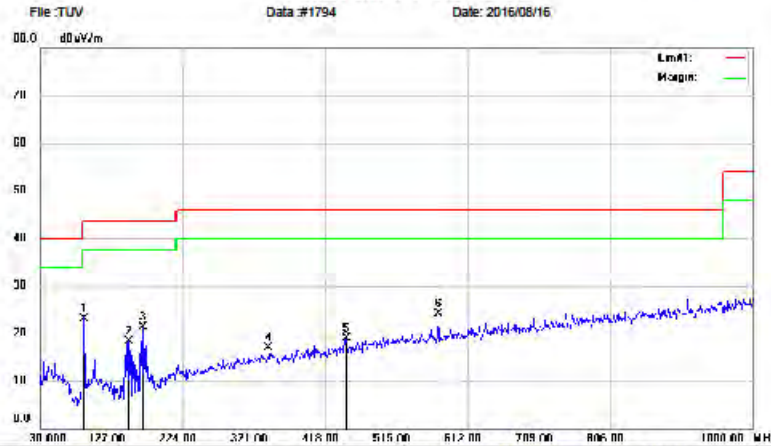
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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
MN: NS-PSB4721
Mode: BLE 2480
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1	*	90.1400	40.85	-17.79	23.06	43.50	-20.44	QP		
2		160.2800	37.07	-18.80	18.27	43.50	-25.23	QP		
3		169.6800	38.55	-17.23	21.32	43.50	-22.18	QP		
4		341.3700	27.19	-10.22	16.97	46.00	-29.03	QP		
5		447.1000	27.55	-8.69	18.86	46.00	-27.14	QP		
6		572.2300	30.33	-6.29	24.04	46.00	-21.96	QP		

*:Maximum data x:Over limit :over margin

Operator: KK

File: TUVData #1794

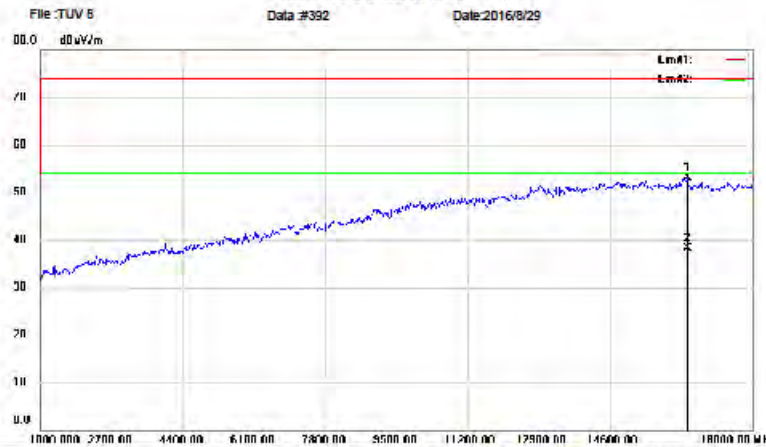
Page: 1

Low Energy mode, 1GHz - 18GHz

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE) FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: BLE 2440
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1		16438.00	64.43	-11.23	53.20	74.00	-20.80	peak		0	
2	*	16438.00	49.83	-11.23	38.40	54.00	-15.60	AVG		0	

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

Operator: KK

File: TUV 8>Data #392

Page: 1

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
EUT: Wireless Speaker System
MN: NS-PSB 4721
Mode: BLE 2440
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		16742.00	64.26	-10.16	54.10	74.00	-19.90	peak	0
2	*	16742.00	49.26	-10.16	39.10	54.00	-14.90	AVG	0

*: Maximum data x: Over limit l: Over margin

Operator: KK

File: TUV 5/Data #393

Page: 1

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: Vertical Temperature: 24 C
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless Speaker System
MN: NS-PSB 4721
Mode: BLE 2480
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		15620.00	64.86	-11.55	53.11	74.00	-20.89	peak	0	
2 *		15620.00	49.85	-11.55	38.30	54.00	-15.70	AVG	0	

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

Operator: KK

File: TUV 5/Data #394

Page: 1

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless Speaker System
MN: NS-PSB 4721
Mode: BLE 2480
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		17150.00	61.93	-7.44	54.49	74.00	-19.51	peak	0
2	*	17150.00	46.64	-7.44	39.20	54.00	-14.80	AVG	0

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

Operator: KK

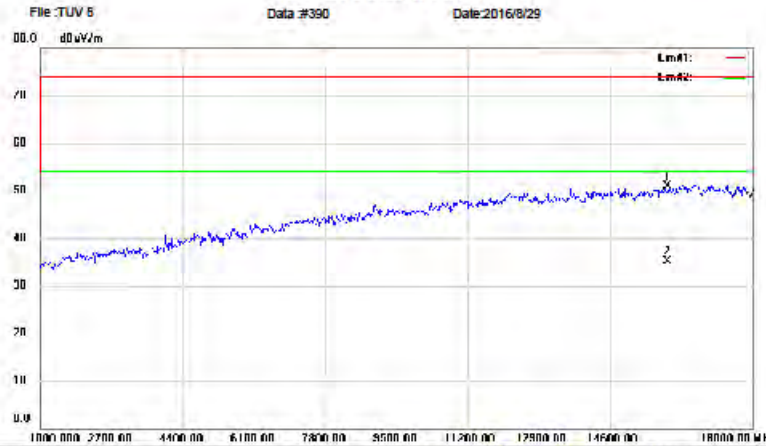
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		15977.00	63.57	-12.68	50.89	74.00	-23.11	peak	0
2	*	15977.00	47.88	-12.68	35.20	54.00	-18.80	AVG	0

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

Operator: KK

File: TUV 5/Data #390

Page: 1

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		17082.00	61.67	-8.26	53.41	74.00	-20.59	peak	0
2 *		17082.00	46.16	-8.26	37.90	54.00	-16.10	AVG	0

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

Operator: KK

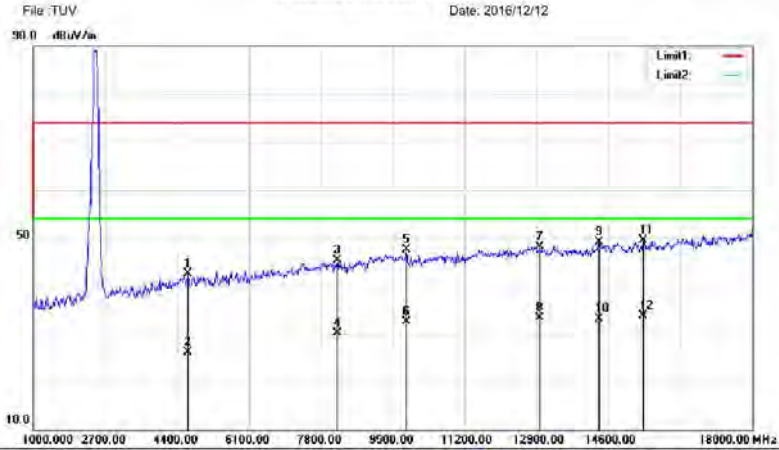
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Radiated Emission Measurement



File: TUV Date: 2016/12/12
Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
M/N: NS-PSB4721B
Mode: Bluetooth Link Playing Mode (Bluetooth Classic)
Note: The emission exceeds the limit is fundamental emission.

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		4655.000	63.92	-21.33	42.59	74.00	-31.41	peak	0	
2		4655.000	47.43	-21.33	26.10	54.00	-27.90	AVG	0	
3		8191.000	60.87	-15.49	45.38	74.00	-28.62	peak	0	
4		8191.000	45.59	-15.49	30.10	54.00	-23.90	AVG	0	
5		9823.000	63.41	-15.86	47.55	74.00	-26.45	peak	0	
6		9823.000	48.36	-15.86	32.50	54.00	-21.50	AVG	0	
7		12968.00	60.90	-12.75	48.15	74.00	-25.85	peak	0	
8		12968.00	46.15	-12.75	33.40	54.00	-20.60	AVG	0	
9		14379.00	57.50	-8.49	49.01	74.00	-24.99	peak	0	
10		14379.00	41.59	-8.49	33.10	54.00	-20.90	AVG	0	
11		15416.00	60.43	-10.90	49.53	74.00	-24.47	peak	0	
12	*	15416.00	44.70	-10.90	33.80	54.00	-20.20	AVG	0	

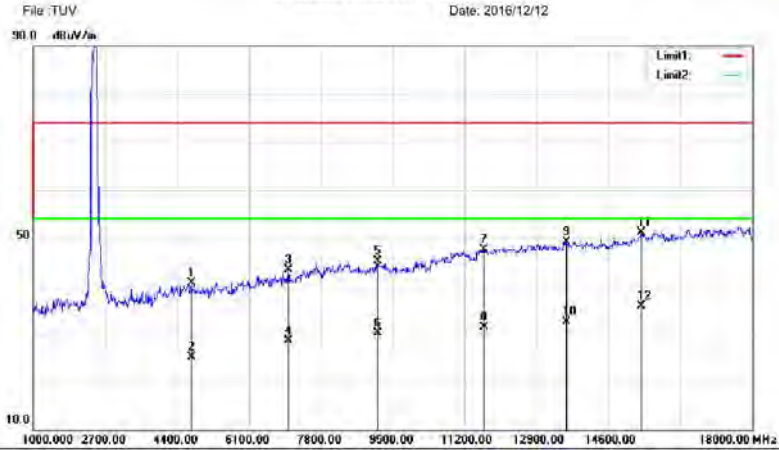
*:Maximum data x:Over limit !:over margin

Operator:KK

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Radiated Emission Measurement



File: TUV Date: 2016/12/12
Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless speaker system
M/N: NS-PSB4721B
Mode: Bluetooth Link Playing Mode (Bluetooth Classic)
Note: The emission exceeds the limit is fundamental emission.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		4740.000	61.58	-21.10	40.48	74.00	-33.52	peak	0	
2		4740.000	46.20	-21.10	25.10	54.00	-28.90	AVG	0	
3		7035.000	60.62	-17.41	43.21	74.00	-30.79	peak	0	
4		7035.000	46.01	-17.41	28.60	54.00	-25.40	AVG	0	
5		9143.000	60.75	-15.74	45.01	74.00	-28.99	peak	0	
6		9143.000	45.84	-15.74	30.10	54.00	-23.90	AVG	0	
7		11659.00	61.03	-13.48	47.55	74.00	-26.45	peak	0	
8		11659.00	44.88	-13.48	31.40	54.00	-22.60	AVG	0	
9		13614.00	58.90	-9.71	49.19	74.00	-24.81	peak	0	
10		13614.00	42.21	-9.71	32.50	54.00	-21.50	AVG	0	
11		15382.00	61.87	-10.79	51.08	74.00	-22.92	peak	0	
12	*	15382.00	46.49	-10.79	35.70	54.00	-18.30	AVG	0	

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

Operator:KK

Low Energy mode, 18GHz - 26.5GHz

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: BLE 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		24647.00	88.05	-37.05	51.00	74.00	-23.00	peak		0
2	*	24647.00	71.25	-37.05	34.20	54.00	-19.80	AVG		0

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

Operator: KK

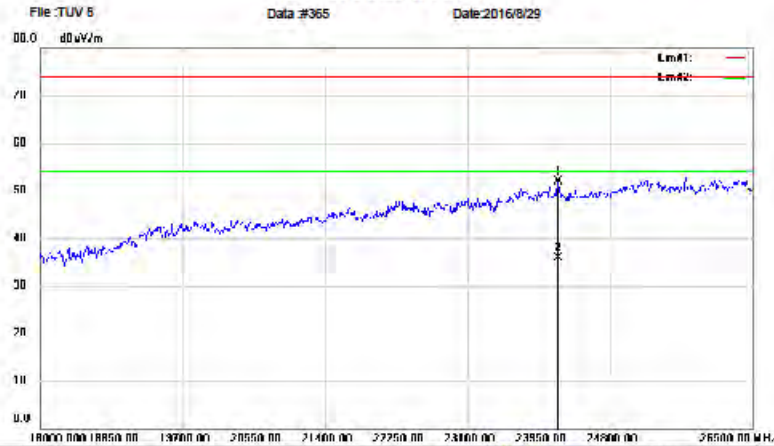
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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		24179.50	88.96	-37.11	51.85	74.00	-22.15	peak	0
2	*	24179.50	73.11	-37.11	36.00	54.00	-18.00	AVG	0

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

Operator: KK

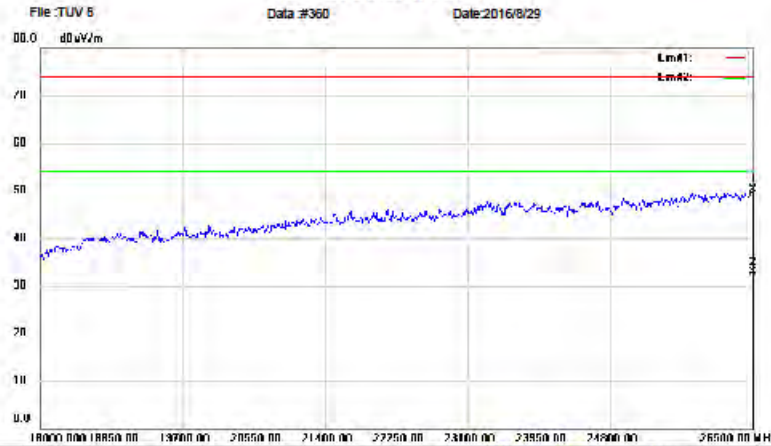
File: TUV 5>Data #365

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2480
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		28500.00	89.57	-39.34	50.23	74.00	-23.77	peak	0
2	*	28500.00	72.34	-39.34	33.00	54.00	-21.00	AVG	0

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

Operator: KK

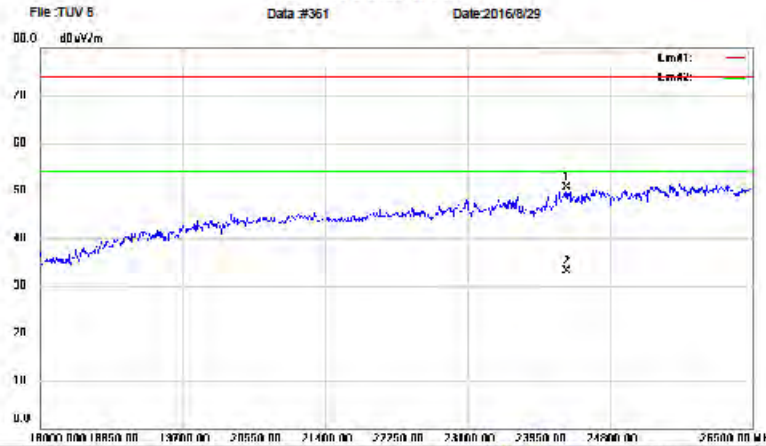
File: TUV 5/Data #360

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2480
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		24281.50	87.82	-37.10	50.72	74.00	-23.28	peak	0
2	*	24281.50	70.20	-37.10	33.10	54.00	-20.90	AVG	0

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

Operator: KK

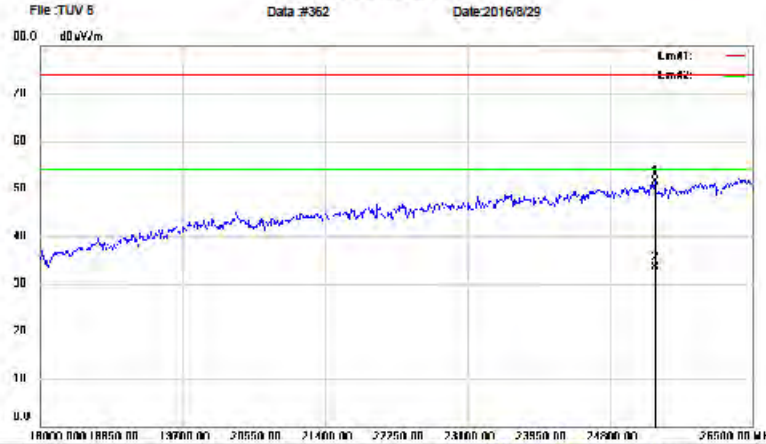
File: TUV 5>Data #361

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2440
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		25335.50	88.20	-36.60	51.60	74.00	-22.40	peak	0
2	*	25335.50	70.10	-36.60	33.50	54.00	-20.50	AVG	0

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

Operator: KK

File: TUV 5>Data #362

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2440
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		28007.00	87.93	-35.78	52.15	74.00	-21.85	peak	0
2	*	28007.00	71.38	-35.78	35.60	54.00	-18.40	AVG	0

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

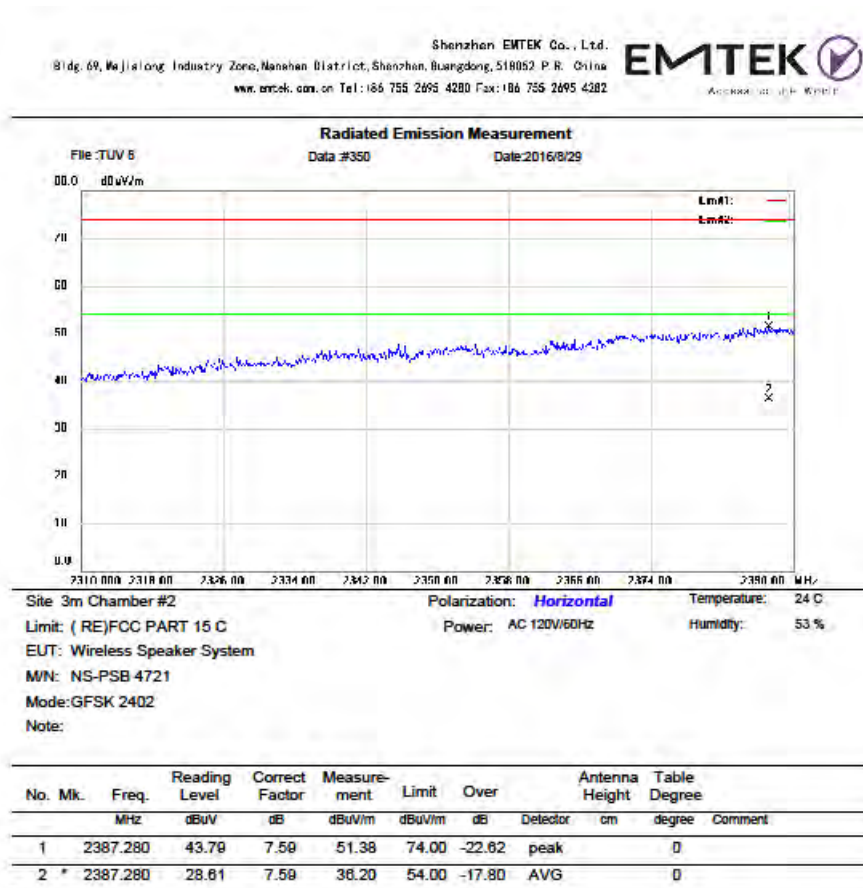
Operator: KK

File: TUV 5>Data #363

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Appendix B.2: Test Plots of Band Edge (Radiated)

BDR mode, Low Channel



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

Operator: KK

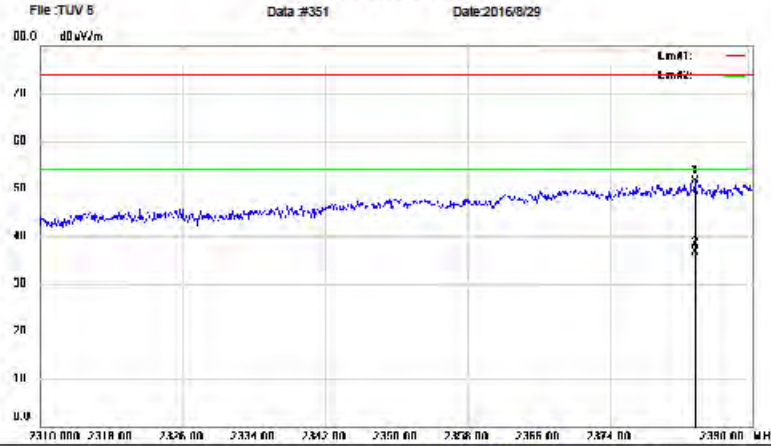
File: TUV 8/Data: #350

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless Speaker System
MN: NS-PSB 4721
Mode: GFSK 2402
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		2383.520	44.06	7.56	51.62	74.00	-22.38	peak	0
2	*	2383.520	29.24	7.56	36.80	54.00	-17.20	AVG	0

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

Operator: KK

File: TUV 5/Data #351

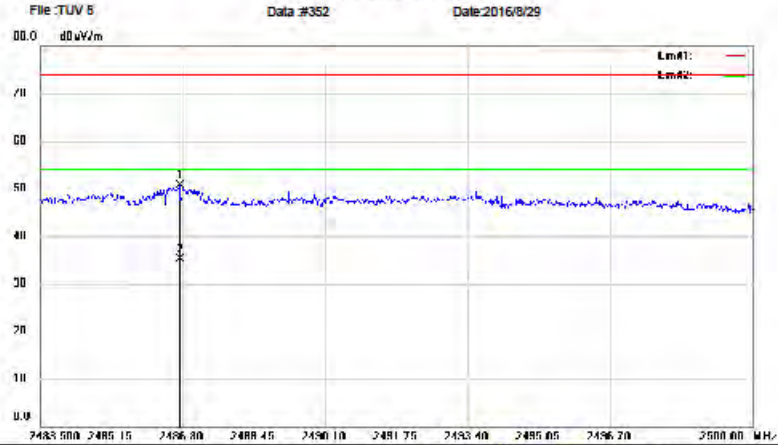
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BDR mode, High Channel

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE) FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
EUT: Wireless Speaker System
M/N: NS-PSB 4721
Mode: GFSK 2480
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2488.734	42.36	8.31	50.67	74.00	-23.33	peak		0
2	*	2488.734	26.89	8.31	35.20	54.00	-18.80	AVG		0

*: Maximum data x: Over limit f: Over margin

Operator: KK

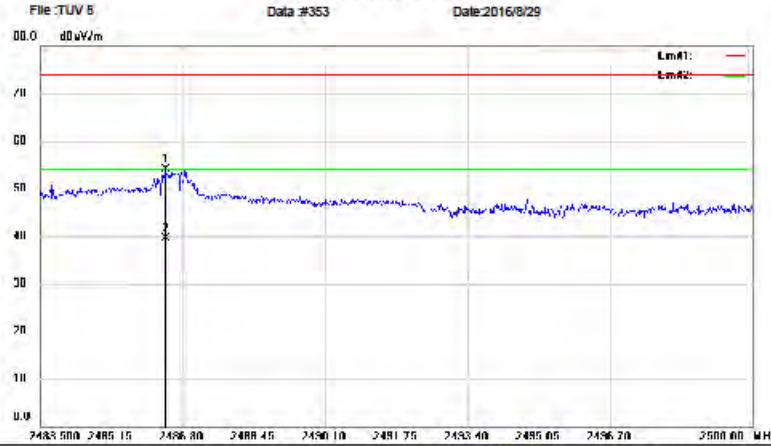
File: TUV 8>Data #352

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: GFSK 2480
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2486.421	45.76	8.31	54.07	74.00	-19.93	peak	0	
2	*	2486.421	31.29	8.31	39.60	54.00	-14.40	AVG	0	

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

Operator: KK

File: TUV 5>Data #353

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Low Energy mode, Low Channel

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: BLE 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2377.840	41.66	7.52	49.18	74.00	-24.82	peak		0
2	*	2377.840	25.58	7.52	33.10	54.00	-20.90	AVG		0

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

Operator: KK

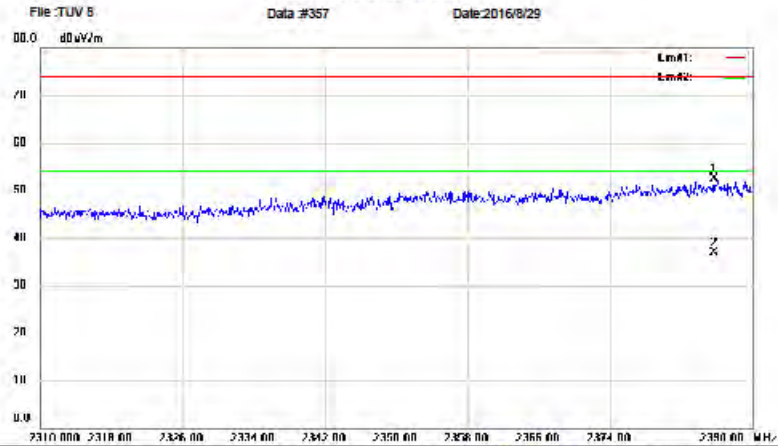
File: TUV 8>Data: #356

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: BLE 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2385.880	44.94	7.58	52.52	74.00	-21.48	peak	0	
2	*	2385.880	29.32	7.58	36.90	54.00	-17.10	AVG	0	

*: Maximum data x: Over limit f: Over margin

Operator: KK

File: TUV 8/Data #357

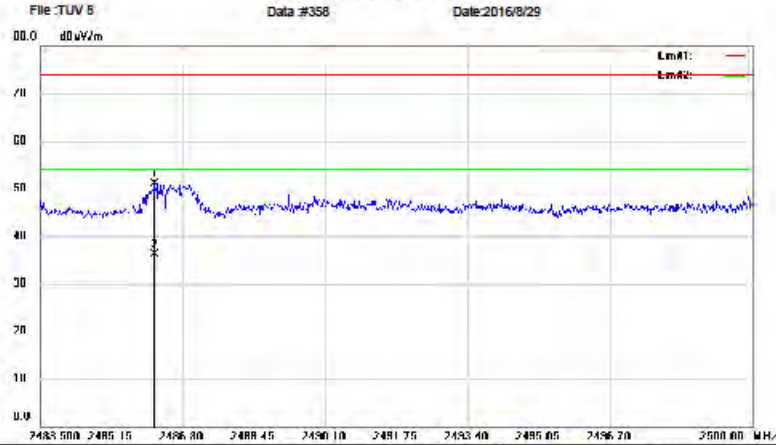
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Low Energy mode, High Channel

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 M/N: NS-PSB 4721
 Mode: BLE 2480
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2488.157	42.85	8.30	51.15	74.00	-22.85	peak		0
2	*	2488.157	27.80	8.30	38.10	54.00	-17.90	AVG		0

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

Operator: KK

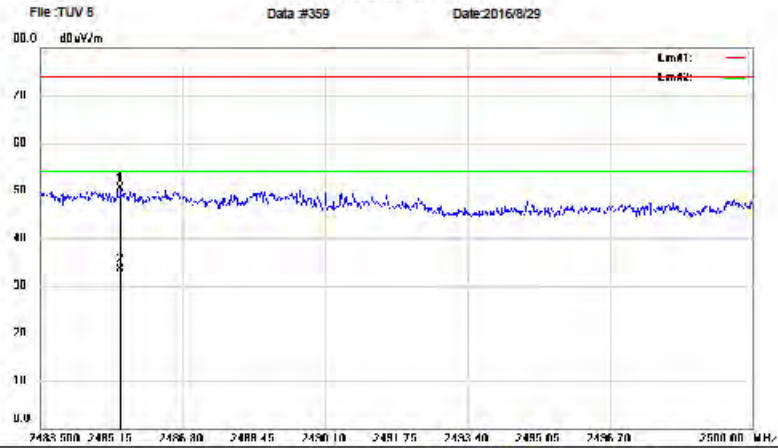
File: TUV 8>Data #358

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Radiated Emission Measurement



Site: 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60HZ Humidity: 53 %
 EUT: Wireless Speaker System
 MW: NS-PSB 4721
 Mode: BLE 2480
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2485.385	42.16	8.30	50.46	74.00	-23.54	peak		0	
2	*	2485.385	25.30	8.30	33.60	54.00	-20.40	AVG		0	

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

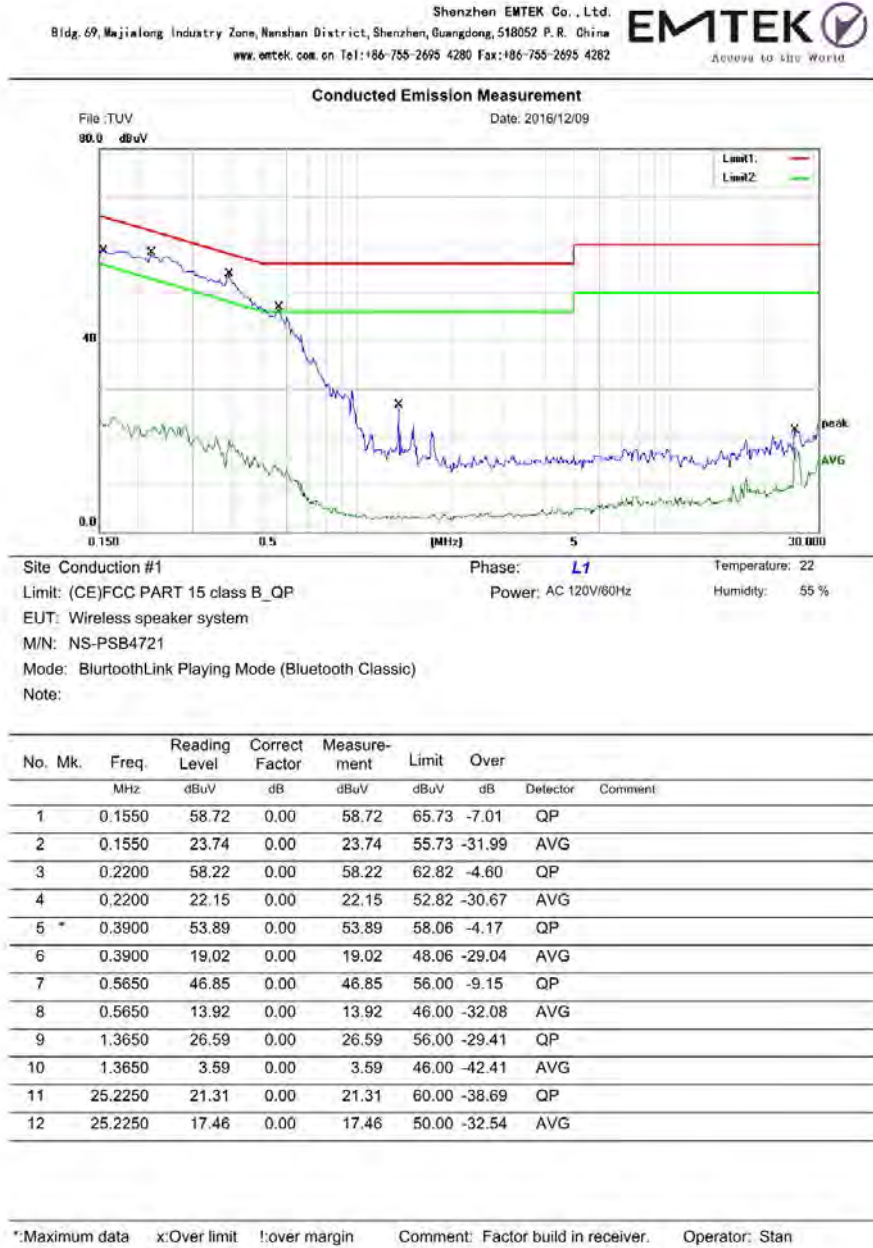
Operator: KK

File: TUV 8>Data #359

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Appendix B.3: Test Plots of Conducted Emission

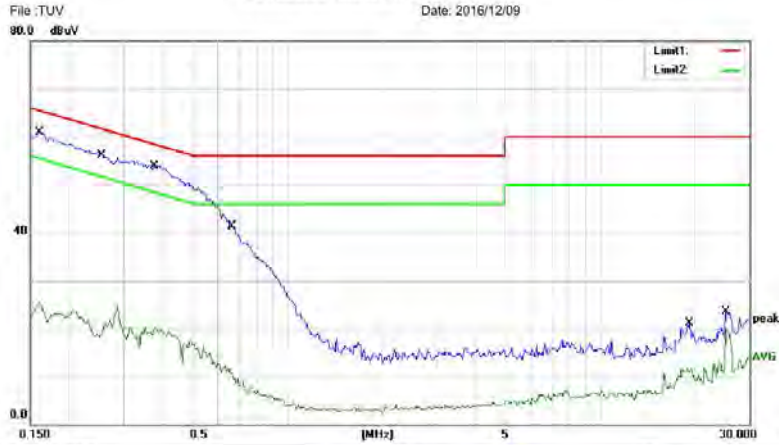
C Mode



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Conducted Emission Measurement



Site Conduction #1 Phase: **N** Temperature: 22
Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 55 %
EUT: Wireless speaker system
M/N: NS-PSB4721
Mode: BluetoothLink Playing Mode (Bluetooth Classic)
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Defector	Comment
1		0.1600	60.97	0.00	60.97	65.46	-4.49	QP	
2		0.1600	25.57	0.00	25.57	55.46	-29.89	AVG	
3		0.2575	56.05	0.00	56.05	61.51	-5.46	QP	
4		0.2575	24.86	0.00	24.86	51.51	-26.65	AVG	
5	*	0.3750	53.91	0.00	53.91	58.39	-4.48	QP	
6		0.3750	20.37	0.00	20.37	48.39	-28.02	AVG	
7		0.6650	41.34	0.00	41.34	56.00	-14.66	QP	
8		0.6650	12.74	0.00	12.74	46.00	-33.26	AVG	
9		19.2750	21.07	0.00	21.07	60.00	-38.93	QP	
10		19.2750	11.96	0.00	11.96	50.00	-38.04	AVG	
11		25.2250	23.42	0.00	23.42	60.00	-36.58	QP	
12		25.2250	19.92	0.00	19.92	50.00	-30.08	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: Stan

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Conducted Emission Measurement



Site: Conduction #1 Phase: N Temperature: 22
Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 55 %
EUT: WICELESS SPEAKER SYSTEM
MN: NS-PSB4721
Mode: BT4.0
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1700	57.10	0.00	57.10	64.96	-7.86	QP	
2		0.1700	27.52	0.00	27.52	54.96	-27.44	AVG	
3		0.2050	55.80	0.00	55.80	63.41	-7.61	QP	
4		0.2050	26.73	0.00	26.73	53.41	-26.68	AVG	
5	*	0.2500	55.00	0.00	55.00	61.76	-6.76	QP	
6		0.2500	26.44	0.00	26.44	51.76	-25.32	AVG	
7		0.2730	50.00	0.00	50.00	61.03	-11.03	QP	
8		0.2730	25.68	0.00	25.68	51.03	-25.35	AVG	
9		0.3400	48.80	0.00	48.80	59.20	-10.40	QP	
10		0.3400	22.71	0.00	22.71	49.20	-26.49	AVG	
11		0.4100	47.70	0.00	47.70	57.65	-9.95	QP	
12		0.4100	21.43	0.00	21.43	47.65	-26.22	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: WQG

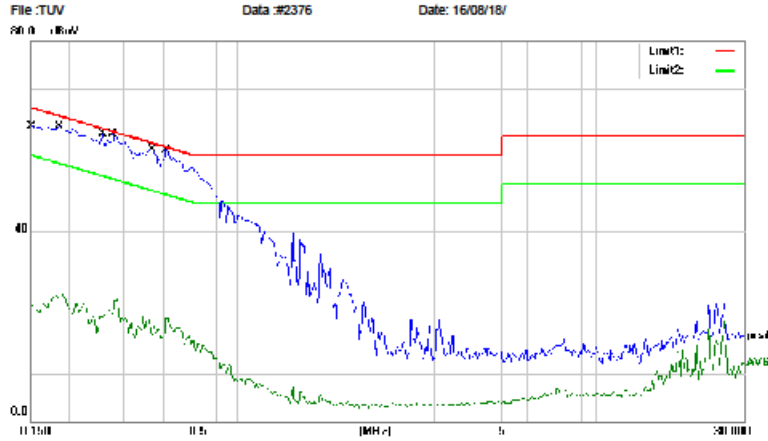
File: TUVData: #2375

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Conducted Emission Measurement



Site: Conduction #1 Phase: L1 Temperature: 22
Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 55 %
EUT: WICELESS SPEAKER SYSTEM
MN: NS-PSB4721
Mode: BT4.0
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1524	54.60	0.00	54.60	65.87	-11.27	QP	
2		0.1524	24.98	0.00	24.98	55.87	-30.89	AVG	
3		0.1825	53.00	0.00	53.00	64.37	-11.37	QP	
4		0.1825	26.50	0.00	26.50	54.37	-27.87	AVG	
5		0.2550	50.80	0.00	50.80	61.59	-10.79	QP	
6		0.2550	22.44	0.00	22.44	51.59	-29.15	AVG	
7	*	0.2750	50.60	0.00	50.60	60.97	-10.37	QP	
8		0.2750	25.95	0.00	25.95	50.97	-25.02	AVG	
9		0.3700	48.10	0.00	48.10	58.50	-10.40	QP	
10		0.3700	20.08	0.00	20.08	48.50	-28.42	AVG	
11		0.4105	47.20	0.00	47.20	57.64	-10.44	QP	
12		0.4105	21.76	0.00	21.76	47.64	-25.88	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: WQG

File :TUVData :#2376

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