Prüfbericht-Nr.: *Test report no.:*	**50355246 001**	**Auftrags-Nr.:** *Order no.:*	168144108	Seite 1 von 27 *Page 1 of 27*
Kunden-Referenz-Nr.: *Client reference no.:*	N/A	**Auftragsdatum:** *Order date:*	2019-12-26	
Auftraggeber: *Client:*	**SHENZHEN FENDA TECHNOLOGY CO., LTD.** Fenda Hi-Tech Park, Zhoushi Road, Shiyan Town, Baoan District, Shenzhen, China			
Prüfgegenstand: *Test item:*	Bookshelf Speakers with Active Speaker			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	R60BTUS (Trademark: amazonbasics)			
Auftrags-Inhalt: *Order content:*	FCC and IC approval			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 2.1093		RSS-247 Issue 2 February 2017 RSS-Gen Issue 5 March 2019 RSS-102 Issue 5 March 2015	

Wareneingangsdatum: *Date of sample receipt:*	2020-07-22	Please refer to photo documents
Prüfmuster-Nr.: *Test sample no.:*	A002879844	
Prüfzeitraum: *Testing period:*	2020-07-24 – 2020-08-13	
Ort der Prüfung: *Place of testing:*	TÜV Rheinland (Shenzhen) Co., Ltd. Testing Center	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüfergebnis*: *Test result*:*	Pass	

geprüft von: *tested by:*		**genehmigt von:** *authorized by:*	
Datum: *Date:* 2020-09-21	Alex Lan	**Ausstellungsdatum:** *Issue date:* 2020-09-21	Winnie Hou
Stellung / Position	Alex Lan / Senior Project Engineer	**Stellung** / Position	Winnie Hou / Technical Certifier

Sonstiges / *Other:*

FCC ID: HBOR60BT
IC: 10550A-R60BT HVIN: R60BT

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery:*	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged:*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhalt
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specifications(s)		*F(ail) = failed a.m. test specifications(s)*	*N/A = not applicable*	*N/T = not tested*

TUV Rheinland (Shenzhen) Co., Ltd. 1601 R&D Room, 1602-1604, 17-18F, Building 7 Site C, Vanke Cloud City Phase I, Xingke First Street, Xili Street, Xili Community, Nanshan District, Shenzhen 518052, P.R. China
Mail: info@sz.chn.tuv.com · Web: www.tuv.com

Test Summary

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER
RESULT: Pass

5.1.3 99% BANDWIDTH
RESULT: Pass

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

5.1.5 RADIATED SPURIOUS EMISSION
RESULT: Pass

5.1.6 20DB BANDWIDTH
RESULT: Pass

5.1.7 CARRIER FREQUENCY SEPARATION
RESULT: Pass

5.1.8 NUMBER OF HOPPING FREQUENCY
RESULT: Pass

5.1.9 TIME OF OCCUPANCY
RESULT: Pass

5.1.10 CONDUCTED EMISSION ON AC MAINS
RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS
RESULT: Pass

Contents

1 General Remarks

1.1 Complementary Materials

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

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of Conducted Testing

Appendix C: Test Results of Radiated Testing & AC Mains Conducted Emission

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd. Testing Center

No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China

FCC Registration No.: 694916

IC Registration No.: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radio Spectrum Testing				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Wireless Connectivity Tester	Rohde & Schwarz	CMW270	101375	2020-08-30
Signal Analyzer	Rohde & Schwarz	FSV 40	101441	2020-08-30
Vector Signal Generator	Rohde & Schwarz	SMBV100A	263301	2020-08-30
Signal Generator	Rohde & Schwarz	SMB100A	115186	2020-08-30
OSP	Rohde & Schwarz	OSP 150	101017	2020-12-20
Control PC	DELL	OptiPlex 7050	FTJZ9P2	N/A
Test Software	Rohde & Schwarz	WMS32 (V10.40.10)	N/A	N/A
Power Meter	Rohde & Schwarz	NRP2	107105	2020-12-20
Wideband Power Sensor	Rohde & Schwarz	NRP-Z81	105350	2020-12-20
Unwanted Emission Testing				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Signal Generator	Rohde & Schwarz	SMB100A	180840	2020-08-30
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	165339	2020-08-30
Signal Analyzer	Rohde & Schwarz	FSV 40	101440	2020-08-30
System Controller Interface	Rohde & Schwarz	SCI-100	S10010036	N/A
Filterbank	Rohde & Schwarz	CDMA	100751	2020-08-30
Filterbank	Rohde & Schwarz	GSM	100811	2020-08-30
OSP	Rohde & Schwarz	OSP 120	102041	N/A
OSP	Rohde & Schwarz	OSP 150	101385	N/A
Pre-amplifier	Rohde & Schwarz	SCU08F1	08320030	2020-08-30
Amplifier	Rohde & Schwarz	SCU-18F	180079	2020-08-30
Amplifier	Rohde & Schwarz	SCU40A	100450	2020-09-03
Trilog Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VULB9162	192	2020-09-02

Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218719	2020-09-02
Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18312	2020-09-02
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19066	2020-09-02
Biconical Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VUBA 9117	357	2020-09-02
Double Ridged Broadband Horn Antenna (1 – 18 GHz)	Schwarzbeck	BBHA 9120 D	01760	2020-09-02
Broadband Horn Antenna (15 – 40 GHz)	Schwarzbeck	BBHA 9170	00862	2020-09-02
Test software	Rohde & Schwarz	EMC32 (V10.40.00)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NW9P2	N/A
Conducted Emissions				
EMI Test Receiver	R&S	ESR3	102428	03.09.2020
Artificial Mains Network	R&S	ENV216	102333	19.08.2020
Artificial Mains Network	R&S	ENV432	101411	19.08.2020
Impedance Stabilisation Network	R&S	ENY81	100323	19.08.2020
Impedance Stabilisation Network	R&S	ENY81-CA6	101810	20.08.2020
Current Probe	R&S	EZ-17	101247	19.08.2020
Voltage Probe	R&S	ESH2-Z3	100557	19.08.2020
Attenuator	R&S	ESH2Z31	100300	19.08.2020
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A
Click test software	R&S	Click Rate Analyzer 2.4.2	N/A	N/A
Radiated Emissions				
3m SAC	ETS	SAC3	CT001632-Q1362	23.08.2020
EMI Test Receiver	R&S	ESR7	102111	23.01.2021
Horn Antenna	R&S	HF907	102706	01.09.2020
Preamplifier	FIT	SCU-18F	180077	19.08.2020
Active magnetic loop antenna	SCHWARZBECK	FMZB1519B	00080	19.08.2020
Trilog-Broadband antenna	SCHWARZBECK	VULB9168	0945	12.09.2020
Switching Controller Interface	R&S	OSP 120	102039	N/A
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

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

2.5 Measurement Uncertainty

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

Item		Extended Uncertainty
Conducted Emission		± 2.74 dB
Radiated Emission (30-1000MHz)	Field strength (dBμV/m)	4.27dB
Radiated Emission (above 1000MHz)	Field strength (dBμV/m)	4.46dB
Radio Spectrum		± 1.5 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B & C 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 TÜV Rheinland (Shenzhen) Co., Ltd. Testing Center Test facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of 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 an Bookshelf Speakers with Active Speaker which supports Bluetooth 5.0 (BDR&EDR) technology.

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	Bookshelf Speakers with Active Speaker
Type Designation	R60BTUS
Trademark	amazonbasics
FCC ID	HBOR60BT
IC	10550A-R60BT
HVIN	R60BT
Operating Voltage	AC 100-240V, 50/60Hz, 0.7A
Testing Voltage	AC 120V, 60Hz
Technical Specification of Bluetooth (BDR & EDR)	
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	4.2
Channel Number	79 channels
Channel separation	1MHz
Extreme Temperature Range	0ºC to +45ºC
Modulation	GFSK, 8DPSK, π/4DQPSK
Antenna Type	Internal Antenna
Antenna Gain	2.0 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: 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 V4.2 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	The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

3.3 Independent Operation Modes

The basic operation modes are:

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

B. On, Transmitting on Hopping channel

C. On, Bluetooth connecting mode

D. Off

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 5: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
iPhone6S PLUS	Apple	ML6D2 CH/A	C35QJ76JGRWM
DVD Player	KENUO	DVD-966S	2003010805086710
Audio Analyzer	R&S	SB3493	N/A

4.4 Countermeasures to Achieve EMC Compliance

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

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

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

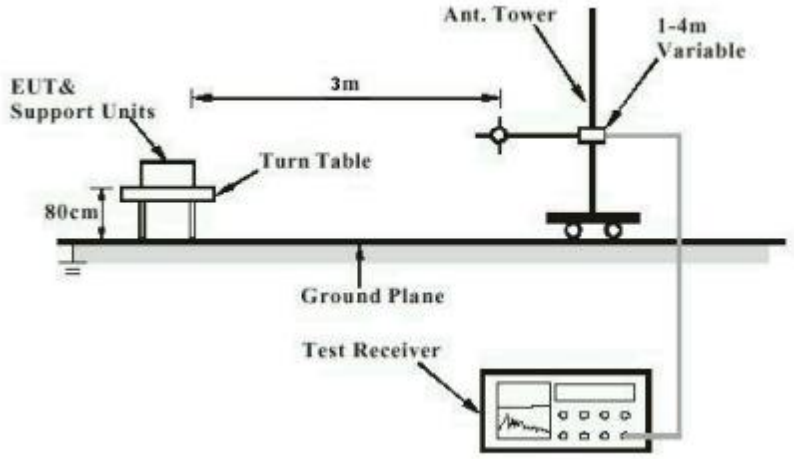


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

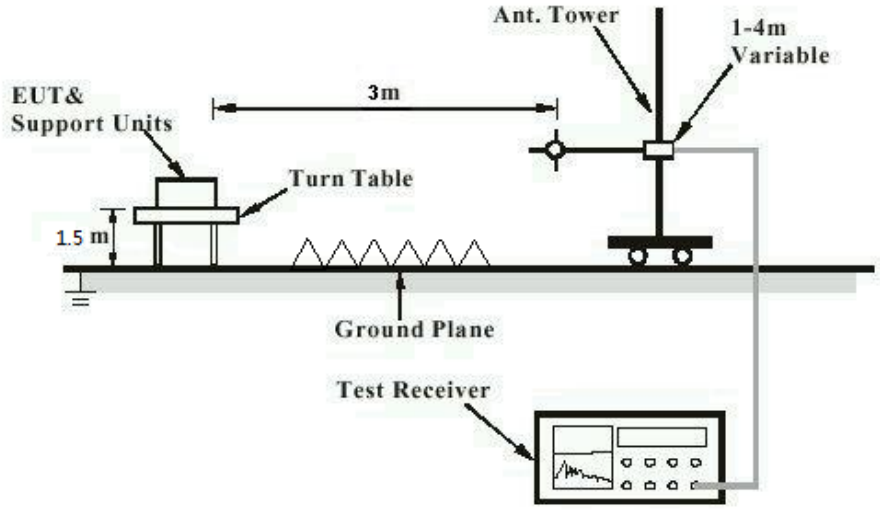


Diagram of Measurement Configuration for Mains Conduction Measurement

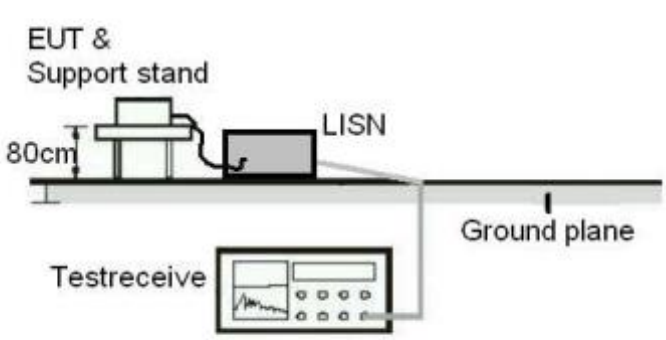
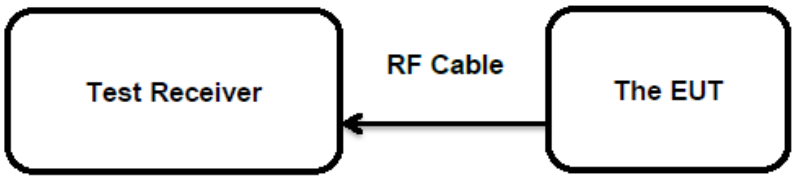


Diagram of Measurement Configuration for Conducted Transmitter Measurement



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

According to the manufacturer declared, the EUT has an integral antenna, the directional gain of antenna is 2 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.

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) RSS-247 Clause 5.4(b)
Basic standard	:	ANSI C63.10: 2013
Limits :		FHSS<0.125W(Maximum peak conducted output power) < 4 W (e.i.r.p.)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	13.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	A.1
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 6: Test Result of Maximum Peak Conducted Output Power

Test Mode	Channel Frequency (MHz)	Measured Peak Output Power		Limit (W)
		(dBm)	(W)	
BDR	2402	-3.02	0.00050	< 0.125
	2441	-6.44	0.00023	
	2480	-8.83	0.00013	
EDR	2402	-0.39	0.00091	< 0.125
	2441	-3.40	0.00046	
	2480	-5.94	0.00025	

Note: The cable loss is taken into account in results and the maximum e.i.r.p. is 1.61 dBm less than 4W(36dBm).

5.1.3 99% Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	RSS-Gen Clause 6.7
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	13.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	A.1
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 7: Test Result of 99% Bandwidth

Test Mode	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)
BDR	2402	856.73	/
	2441	856.73	
	2480	859.62	
EDR	2402	1180.90	/
	2441	1163.53	
	2480	1180.90	

For the measurement records, refer to the appendix B

5.1.4 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	:	13.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	A.1
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
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 B.

5.1.5 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 6 & Table 7
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	06.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	A.1, B
Test channel	:	Low / Middle / High
Ambient temperature	:	24 ℃
Relative humidity	:	45 %
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.

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

For the measurement records, refer to the appendix C.

5.1.6 20dB Bandwidth

RESULT: **Pass**

Test Specification

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

Test Setup

Date of testing	:	13.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	A.1
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 8: Test Result of 20dB Bandwidth

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (kHz)	2/3 of 20dB Bandwidth (kHz)	Limit (MHz)
BDR	2402	810.4	540.267	/
	2441	807.5	538.333	
	2480	807.5	538.333	
EDR	2402	1267.7	845.133	/
	2441	1267.7	845.133	
	2480	1267.7	845.133	

For the measurement records, refer to the appendix B.

5.1.7 Carrier Frequency Separation

RESULT: **Pass**

Test Specification

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

Test Setup

Date of testing	:	13.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 9: Test Result of Carrier Frequency Separation

Test Mode	Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
BDR	Low Channel	2402.00796	0.99855	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
	Adjacency Channel	2403.00651			
	Middle Channel	2441.00072	0.99855		Pass
	Adjacency Channel	2442.99927			
	High Channel	2479.00796	0.99855		Pass
	Adjacency Channel	2480.00651			
EDR	Low Channel	2402.00072	0.99855	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
	Adjacency Channel	2403.99927			
	Middle Channel	2441.00072	0.99855		Pass
	Adjacency Channel	2442.99927			
	High Channel	2479.00796	0.99855		Pass
	Adjacency Channel	2480.00651			

Note:

The limit is maximum 2/3 of the 20 dB bandwidth: 845.133 KHz.

For the measurement records, refer to the appendix B.

5.1.8 Number of Hopping Frequency

RESULT: **Pass**

Test Specification

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

Test Setup

Date of testing	:	13.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	B
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 10: 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 B.

5.1.9 Time of Occupancy

RESULT: **Pass**

Test Specification

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

Test Setup

Date of testing	:	13.08.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 11: Test Result of Time of Occupancy

Test Mode	Channel	Data Packet	Pulse width (ms)	Measured Dwell time(s)	Limit (s)
BDR	2441	DH1	0.348	0.111	< 0.4s
		DH3	1.609	0.257	
		DH5	2.848	0.304	
EDR	2441	2DH1	0.370	0.118	< 0.4s
		2DH3	1.609	0.257	
		2DH5	2.870	0.306	

Note:

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

Period = 0.4 x 79 (channel) = 31.6 seconds

5.1.10 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 4
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	24.07.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	C
Earthing	:	Not connected
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix C.

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT: **Pass**

Test Specification

Test standard	:	CFR47 FCC Part 2.1093
		RSS-102 Issue 5 March 2015
		FCC KDB Publication 447498 v06
Limit	:	CFR47 FCC Part 1.1310

The separation distance of the EUT should be 5mm.The measured maximum conducted power of the EUT is -0.39dBm ≈ 0.91 mW , which is far below the SAR exclusion threshold level 9.6mW (Appendix A, SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤50 mm), hence the EUT is excluded from SAR evaluation according to FCC KDB publication 447498 D01: Mobile and Portable RF Exposure. Guidance v06.

The separation distance of the EUT should be 5mm.The measured maximum specified e.i.r.p of the EUT is 1.61dBm ≈ 1.45mW, which is far below the SAR exclusion threshold level 4mW, hence the EUT is excluded from SAR evaluation according to RSS-102 Issue 5 section 2.5.1.

7 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

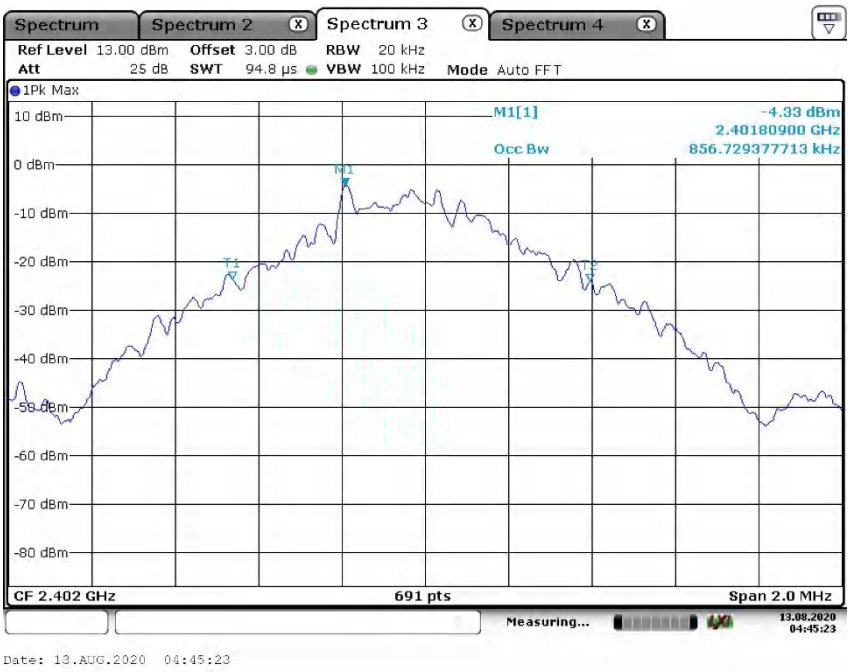
8 List of Tables

Appendix B

Test Results of Conducted Testing

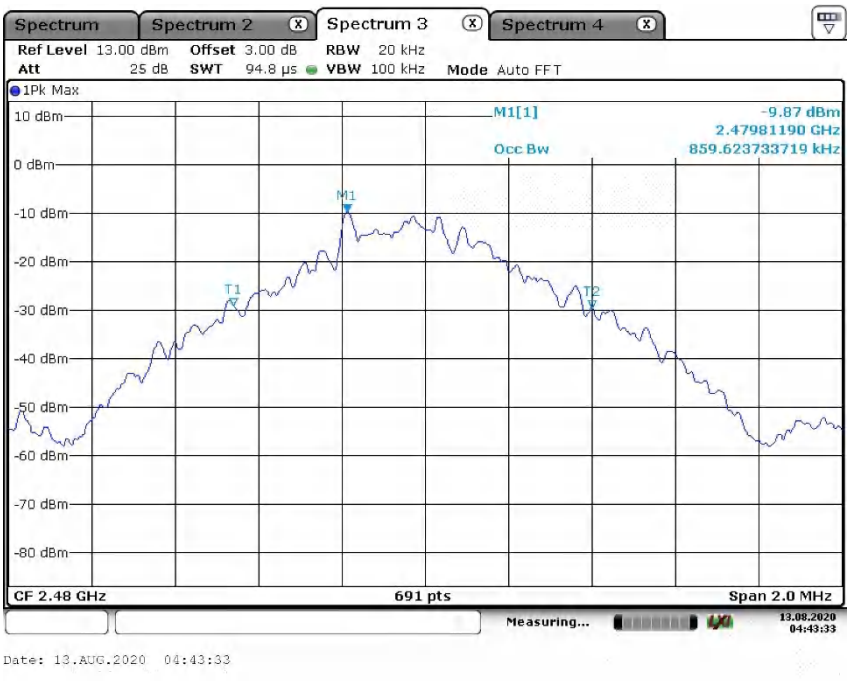
Appendix B.1: Test Plots of 99% Bandwidth

BDR Mode, DH1

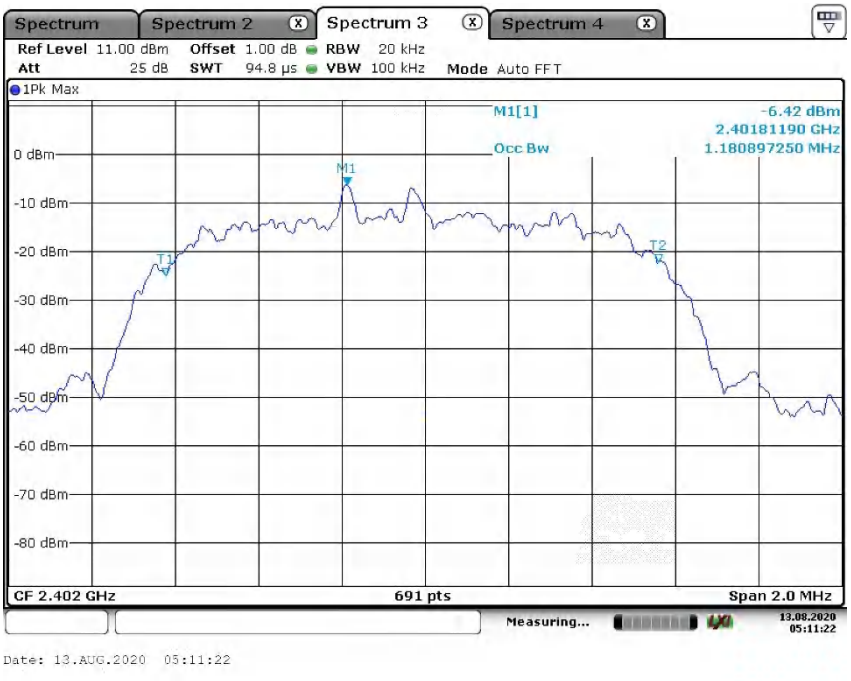


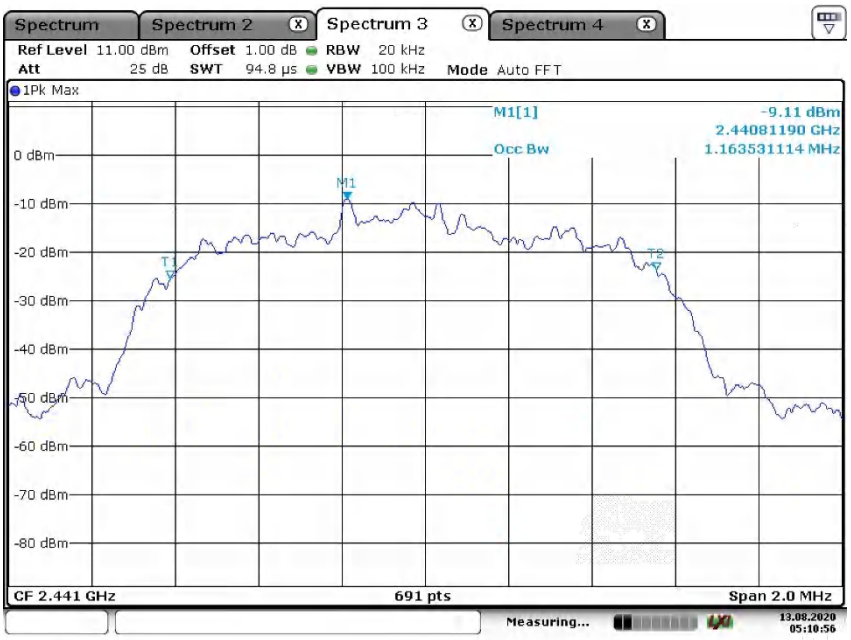
Date: 13.AUG.2020 04:45:23

Date: 13.AUG.2020 04:44:41

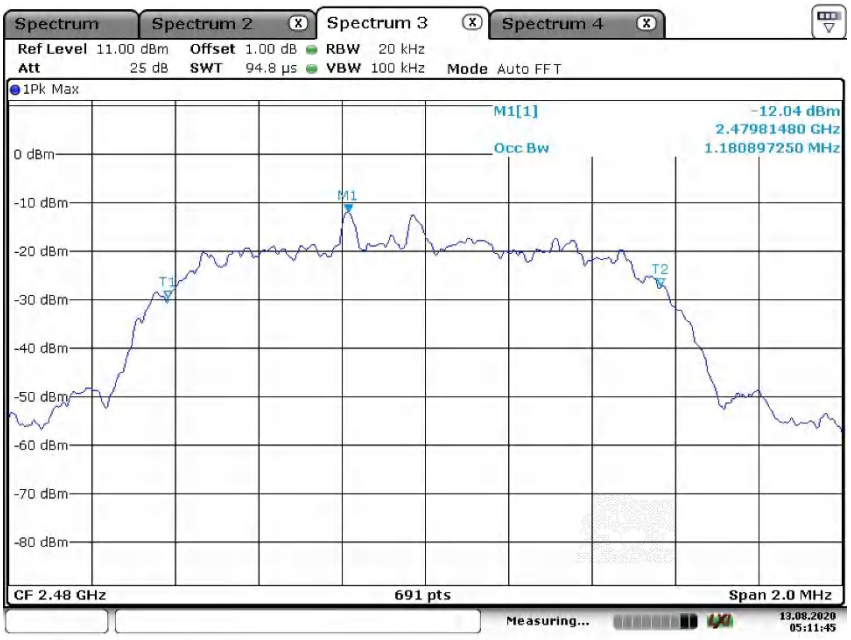


EDR Mode, 3DH1





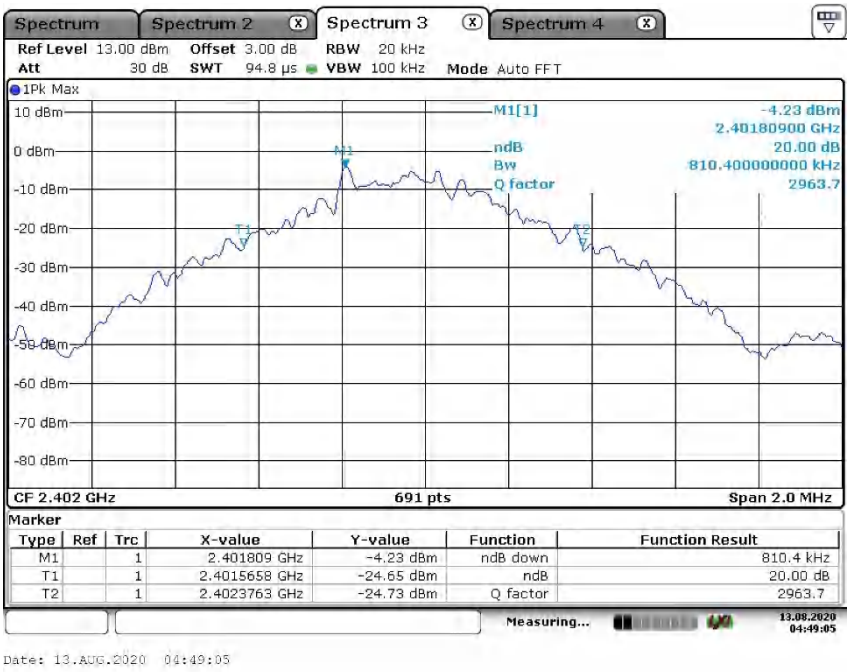
Date: 13.AUG.2020 05:10:56



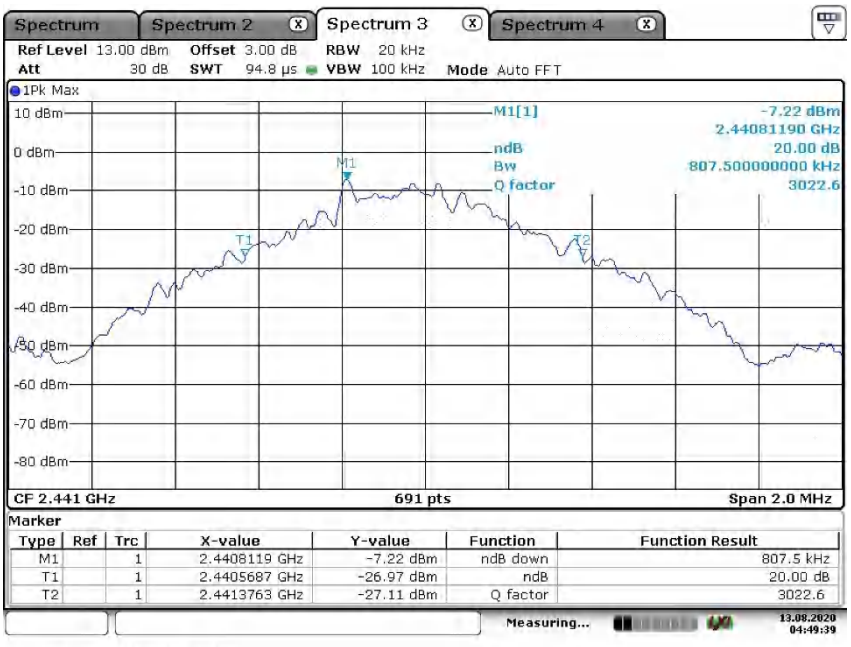
Date: 13.AUG.2020 05:11:45

Appendix B.2: Test Plots of 20dB Bandwidth

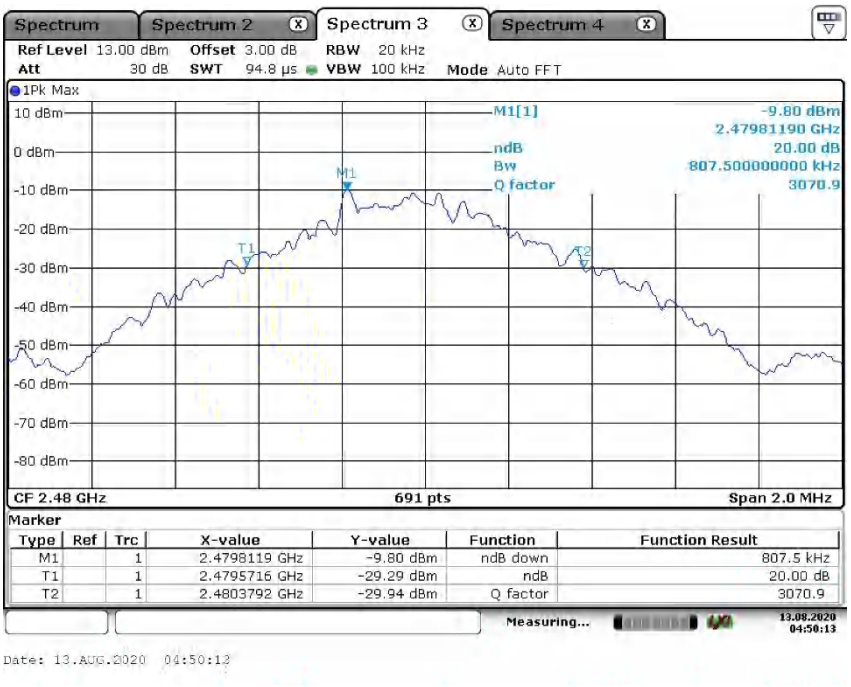
BDR Mode, DH1



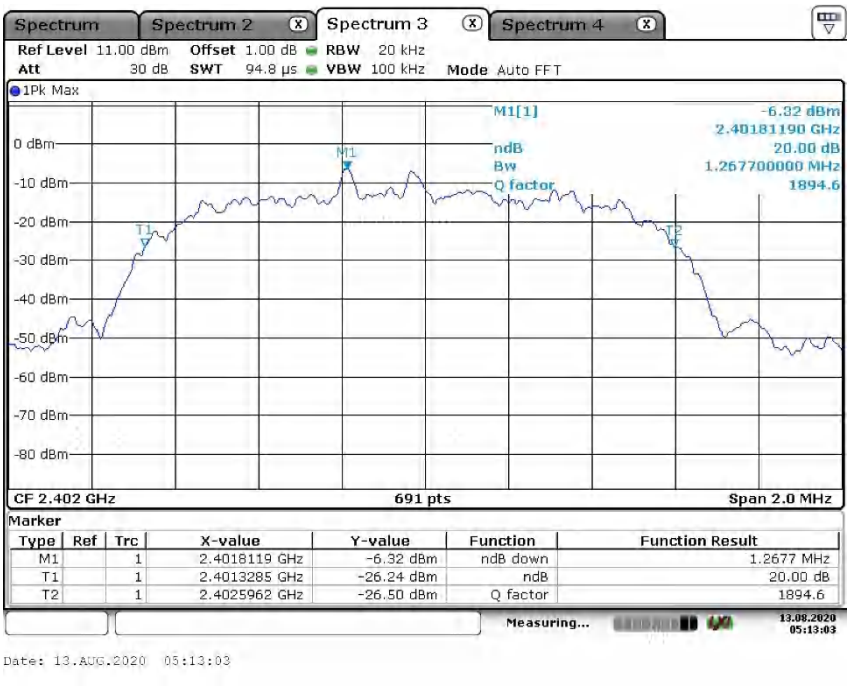
Date: 13.AUG.2020 04:49:05

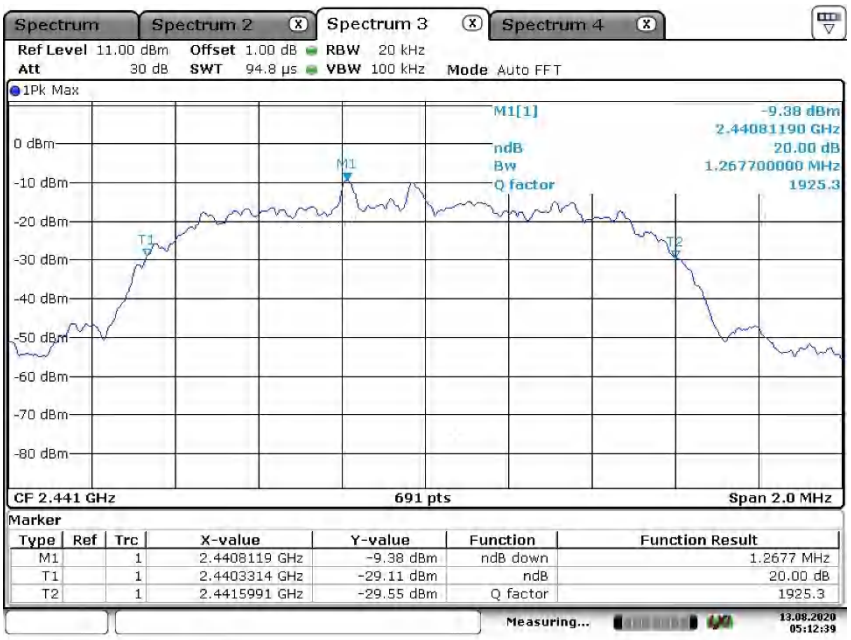


Date: 13.AUG.2020 04:49:39

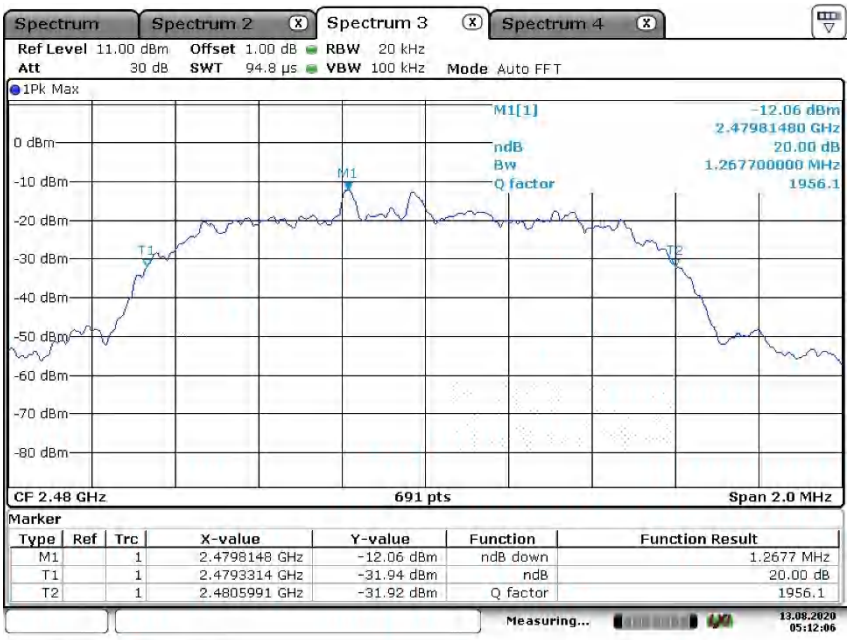


EDR Mode, 3DH1





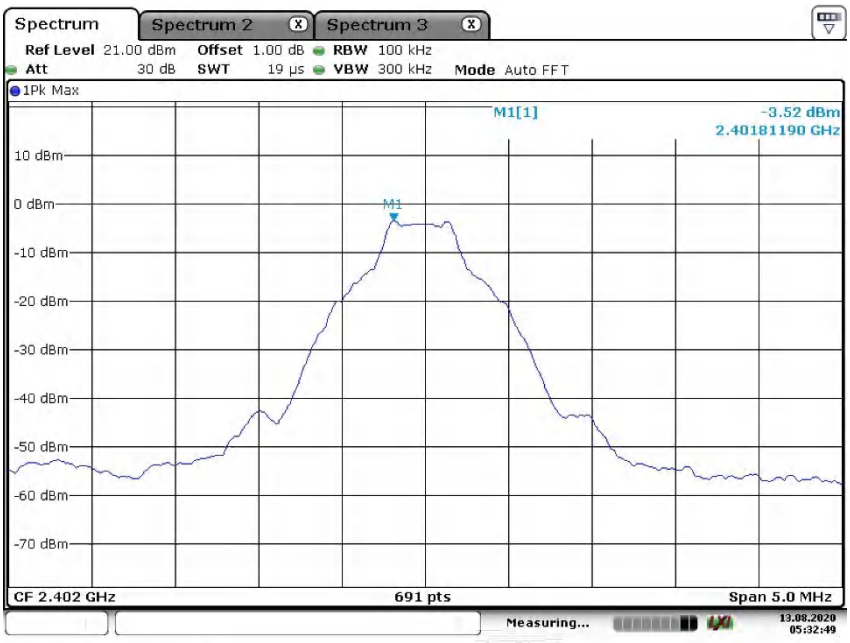
Date: 13.AUG.2020 05:12:40

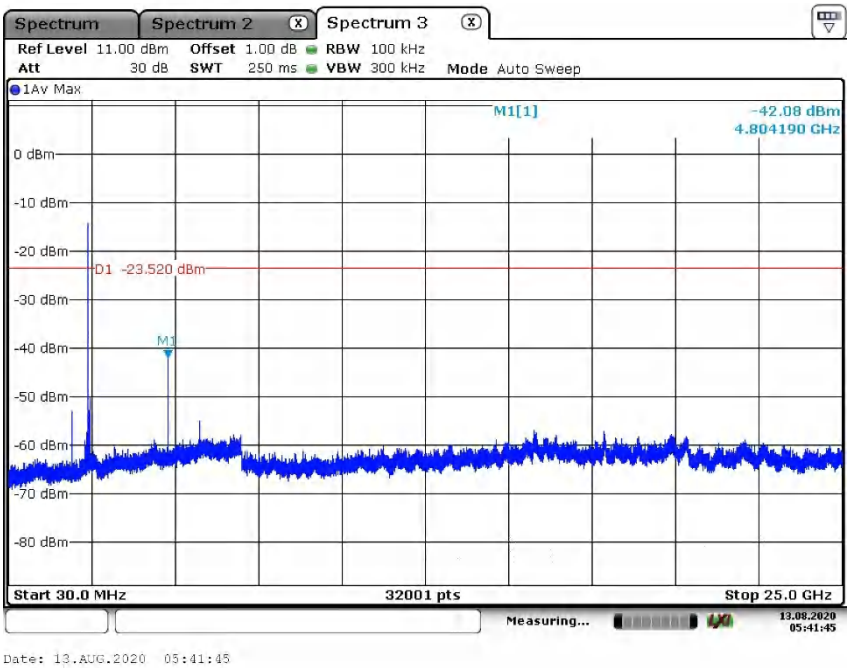


Date: 13.AUG.2020 05:12:06

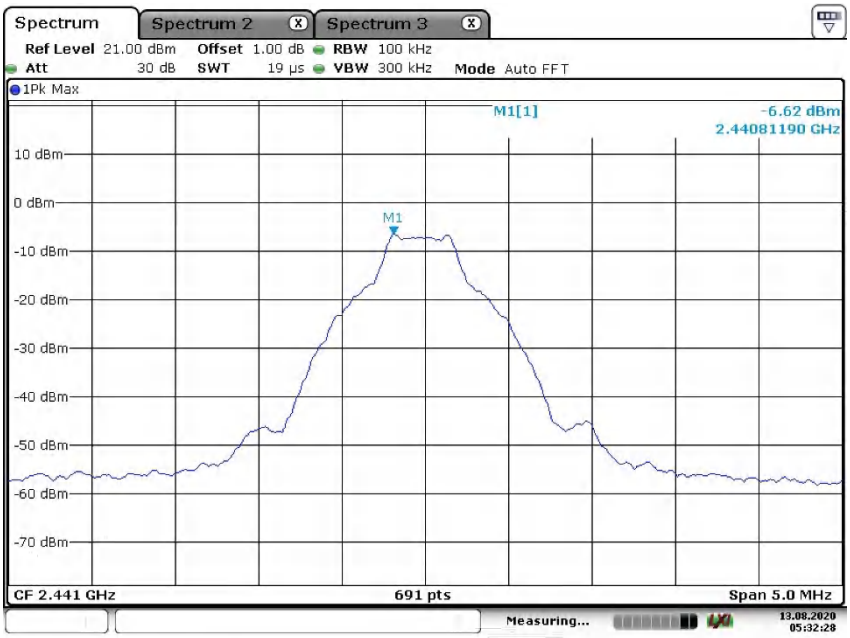
Appendix B.3: Test Plots of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

BDR Mode, Low Channel

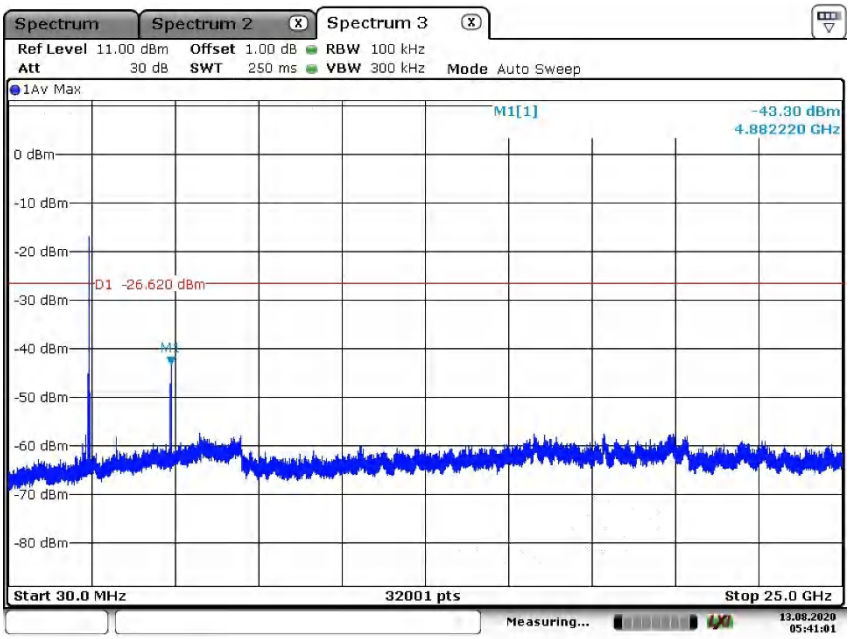




BDR Mode, Middle Channel

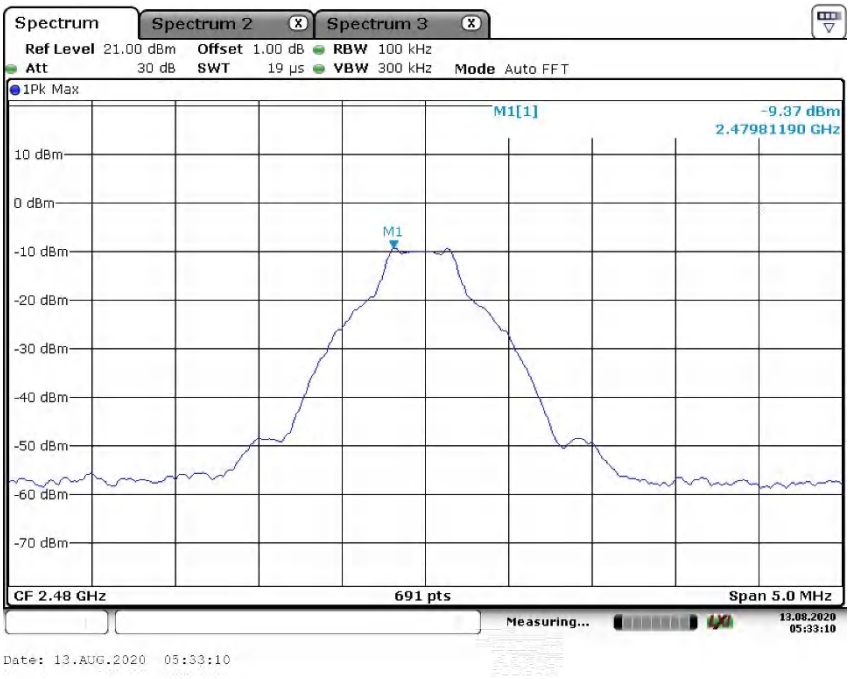


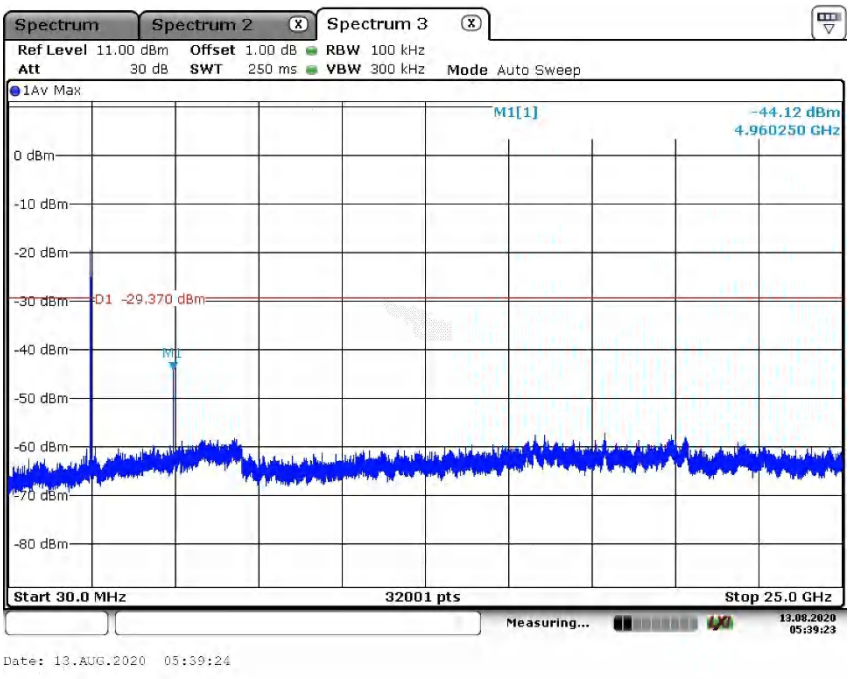
Date: 13.AUG.2020 05:32:28



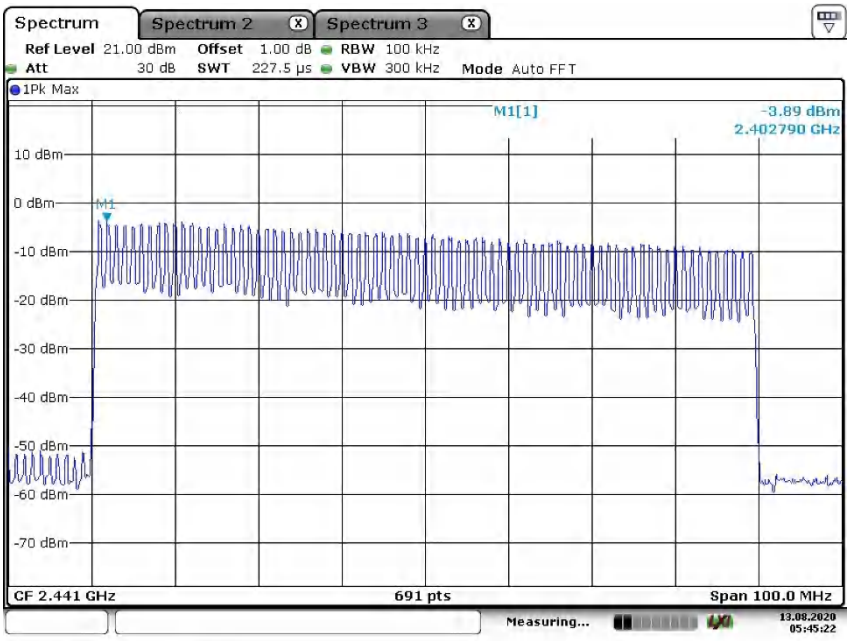
Date: 13.AUG.2020 05:41:01

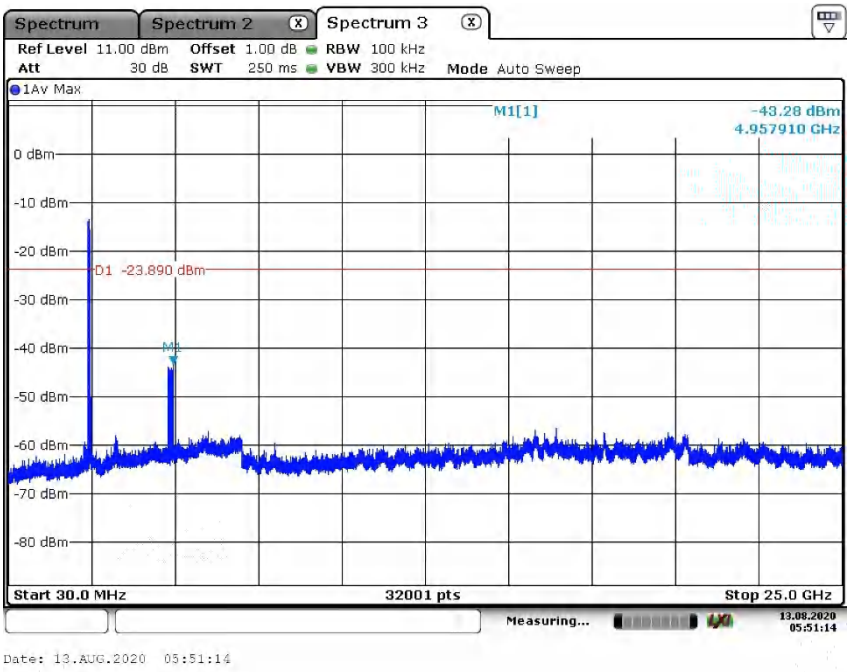
BDR Mode, High Channel



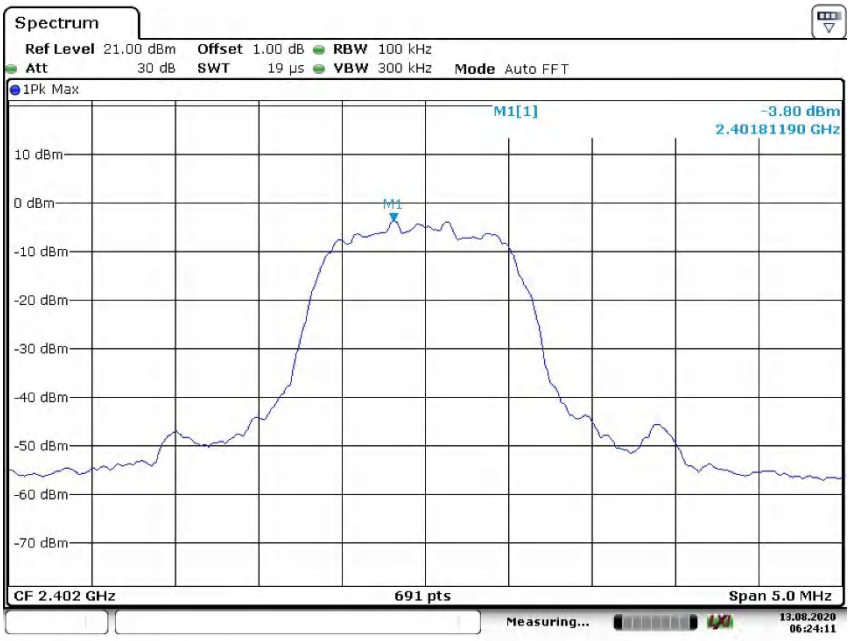


BDR, Hopping

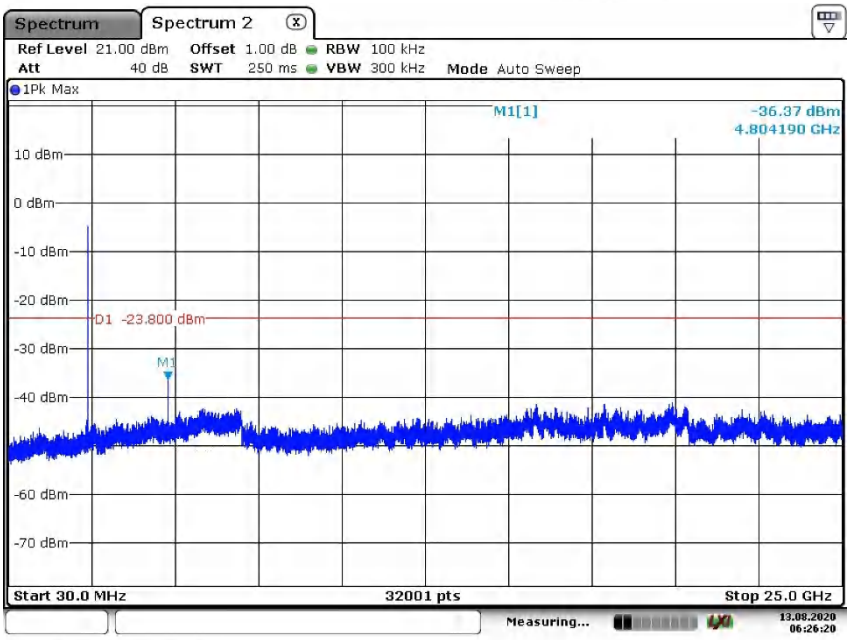

Spectrum
Spectrum 2
Spectrum 3
Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz
Att 30 dB SWT 227.5 µs VBW 300 kHz Mode Auto FFT
1Pk Max
M1[1] -3.89 dBm
2.402790 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.441 GHz
691 pts
Span 100.0 MHz
Measuring...
13.08.2020
05:45:22
Date: 13.AUG.2020 05:45:23


Spectrum
Spectrum 2
Spectrum 3
Ref Level 11.00 dBm Offset 1.00 dB RBW 100 kHz
Att 30 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep
1Av Max
M1[1] -43.28 dBm
4.957910 GHz
0 dBm
-10 dBm
-20 dBm
D1 -23.890 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
Start 30.0 MHz
32001 pts
Stop 25.0 GHz
Measuring...
13.08.2020
05:51:14
Date: 13.AUG.2020 05:51:14

EDR Mode, Low Channel

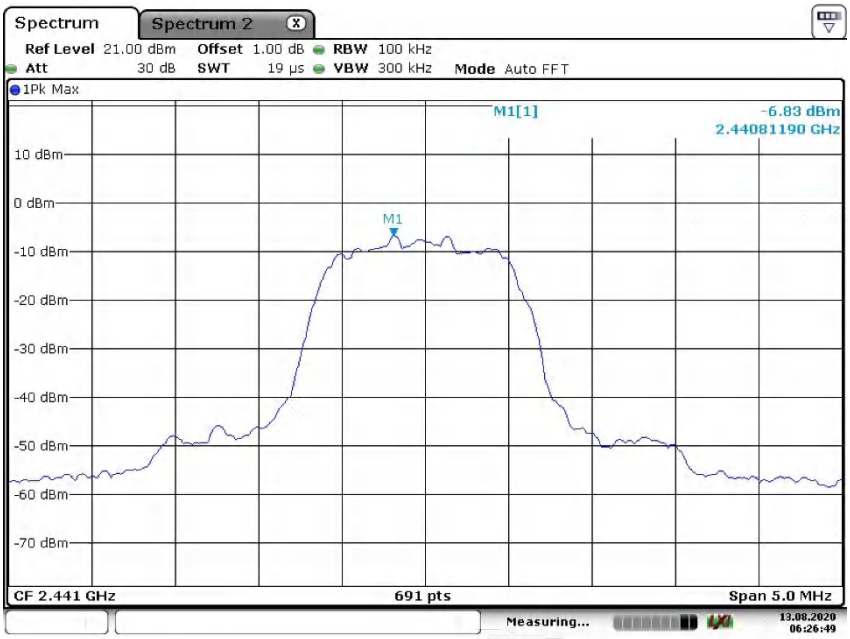


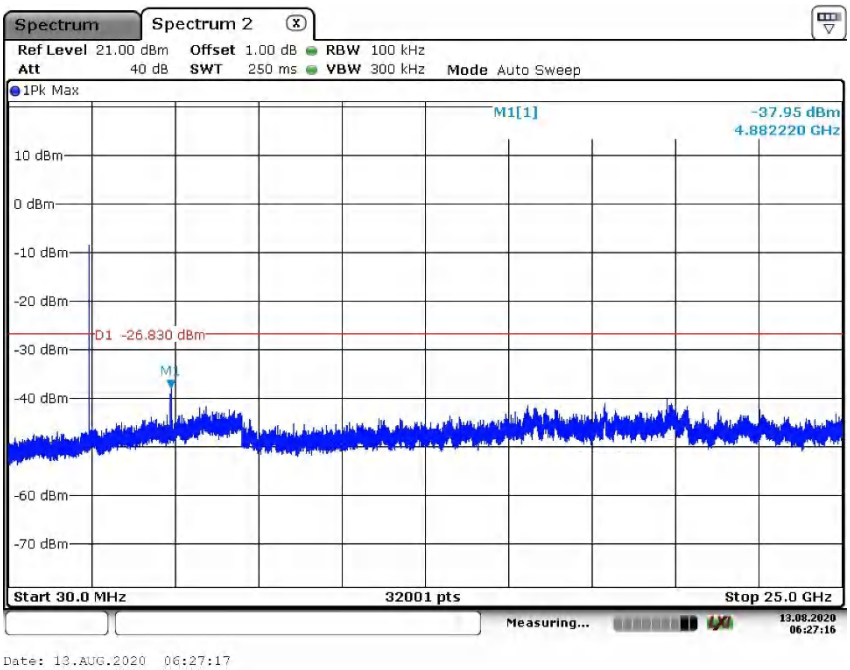
Date: 13.AUG.2020 06:24:11



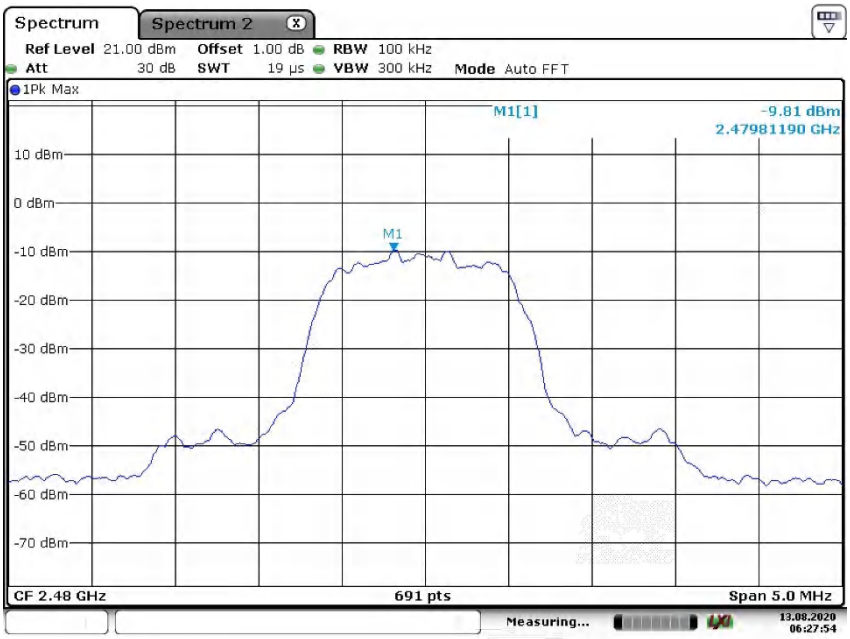
Date: 13.AUG.2020 06:26:21

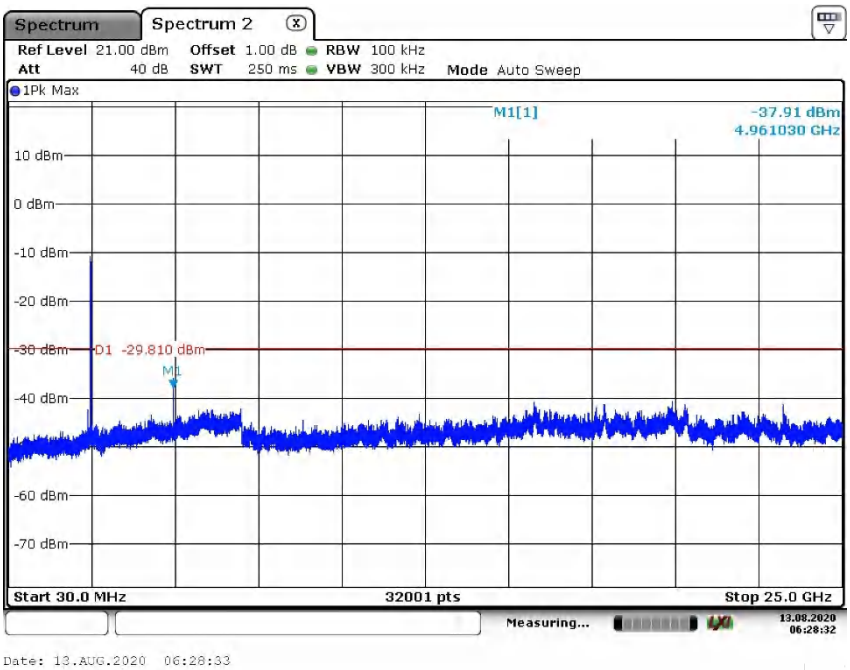
EDR Mode, Middle Channel



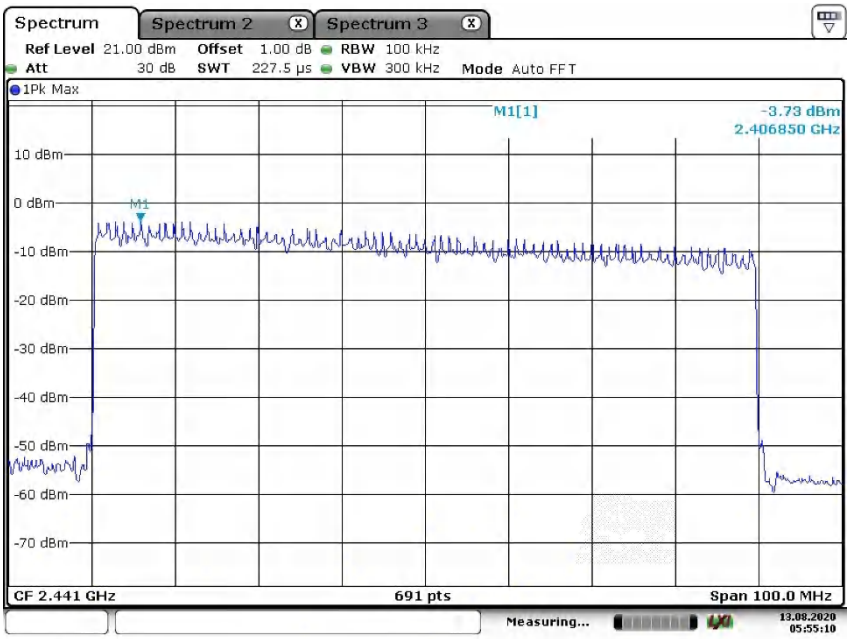


EDR Mode, High Channel

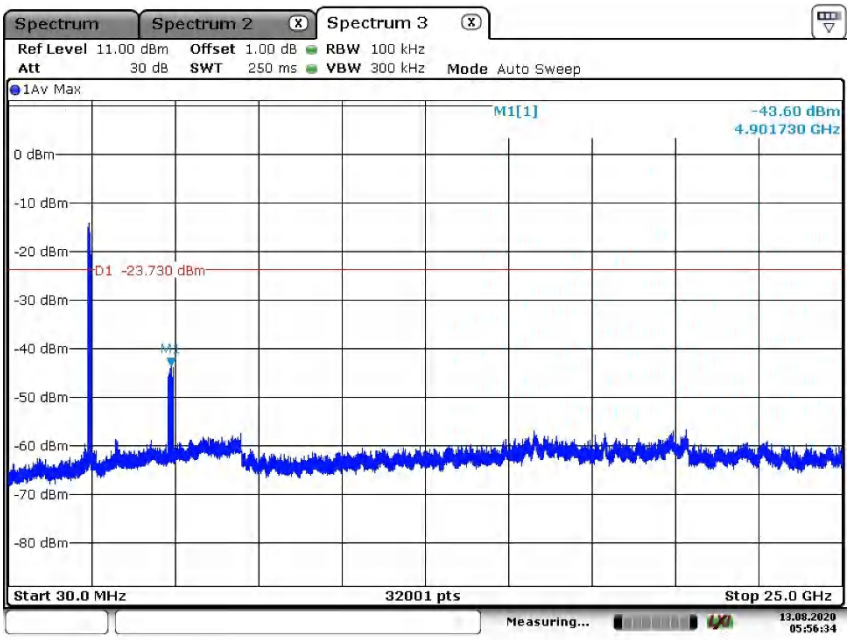




EDR, Hopping

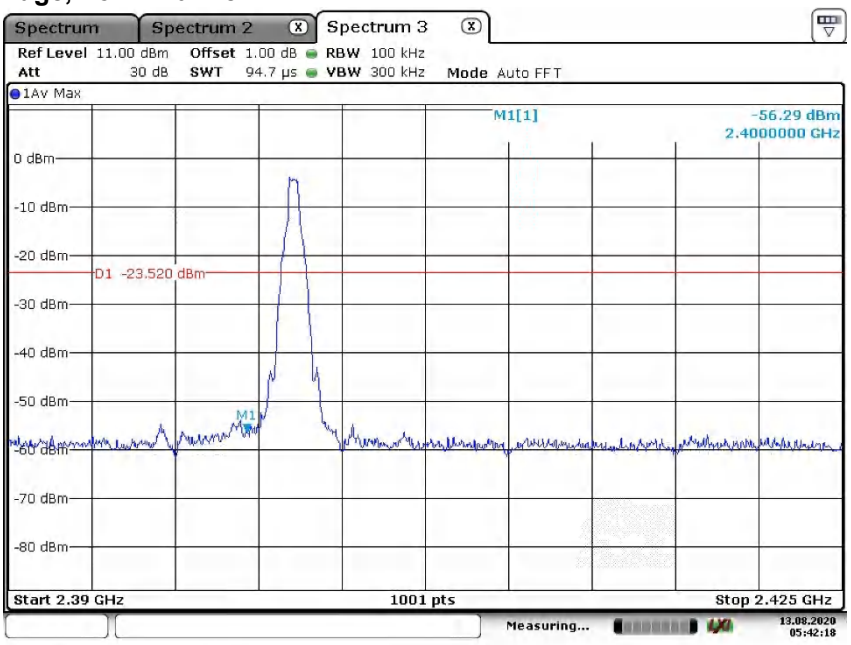


Date: 13.AUG.2020 05:55:10



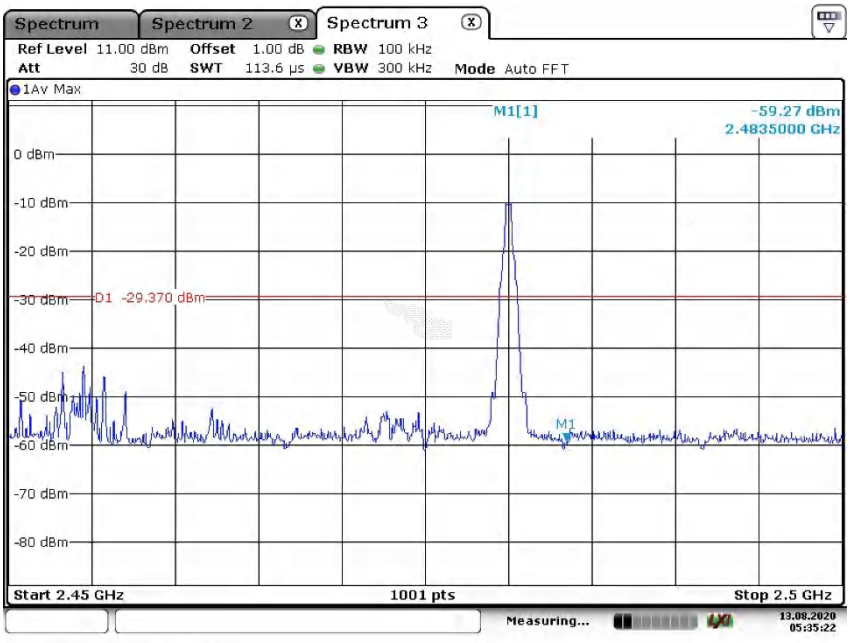
Date: 13.AUG.2020 05:56:34

BDR Mode, Band Edge, Low Channel



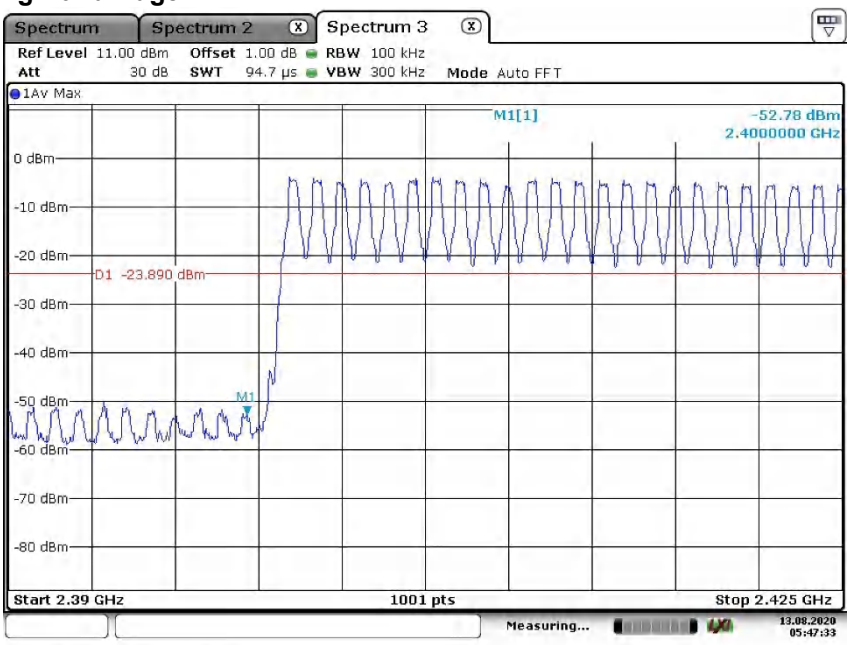
Date: 13.AUG.2020 05:42:19

BDR Mode, Band Edge, High Channel

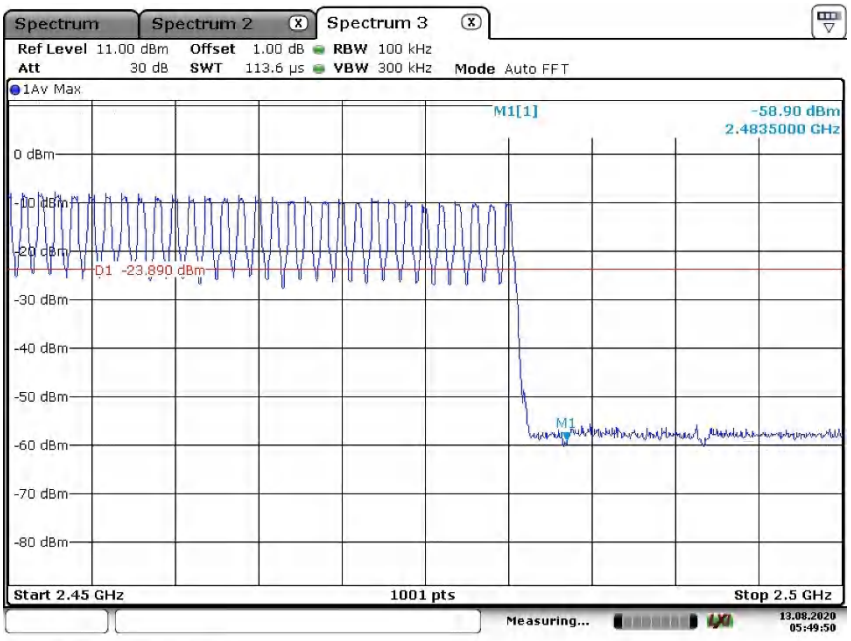


Date: 13.AUG.2020 05:35:22

BDR Mode, Hopping Band Edge

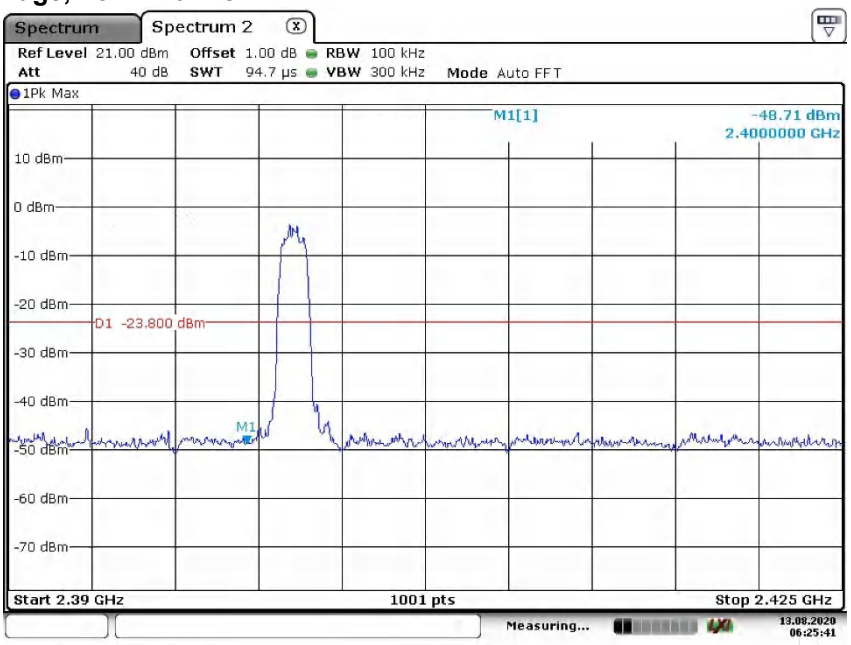


Date: 13.AUG.2020 05:47:33



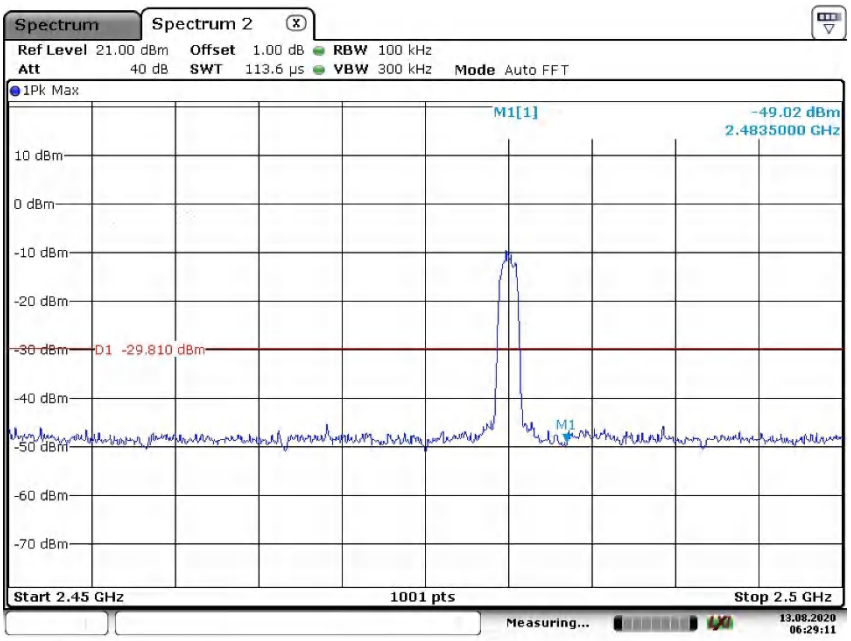
Date: 13.AUG.2020 05:49:51

EDR Mode, Band Edge, Low Channel



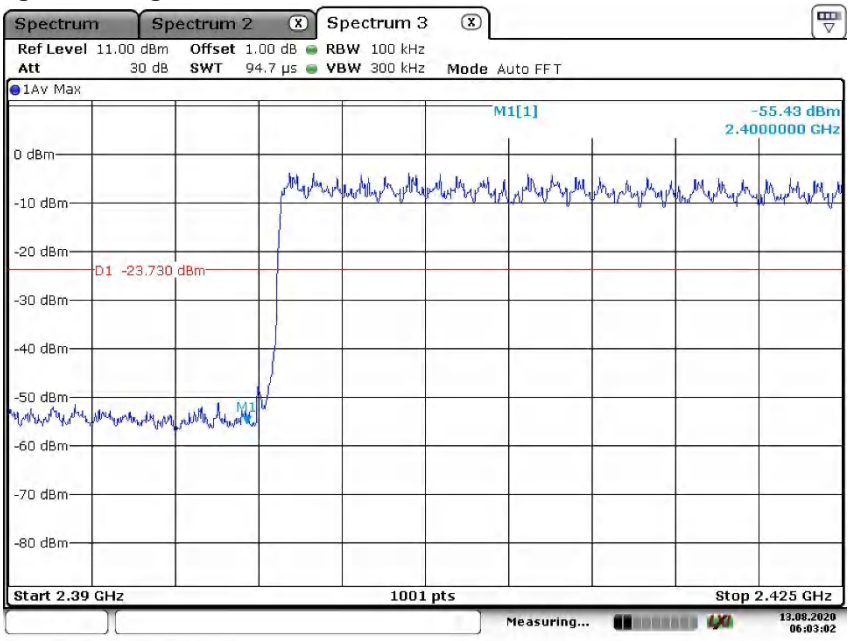
Date: 13.AUG.2020 06:25:41

EDR Mode, Band Edge, High Channel

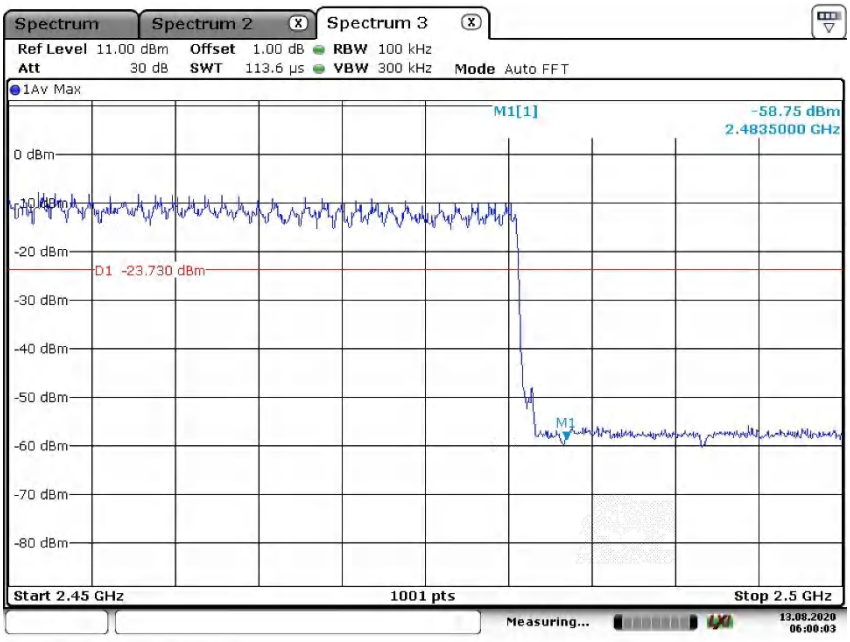


Date: 13.AUG.2020 06:29:11

EDR Mode, Hopping Band Edge



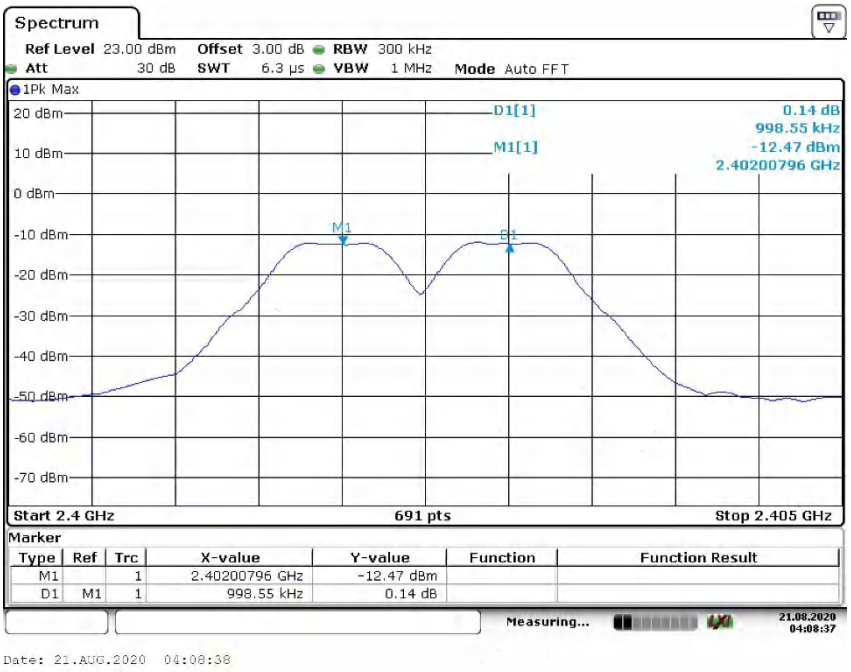
Date: 13.AUG.2020 06:03:02



Date: 13.AUG.2020 06:00:03

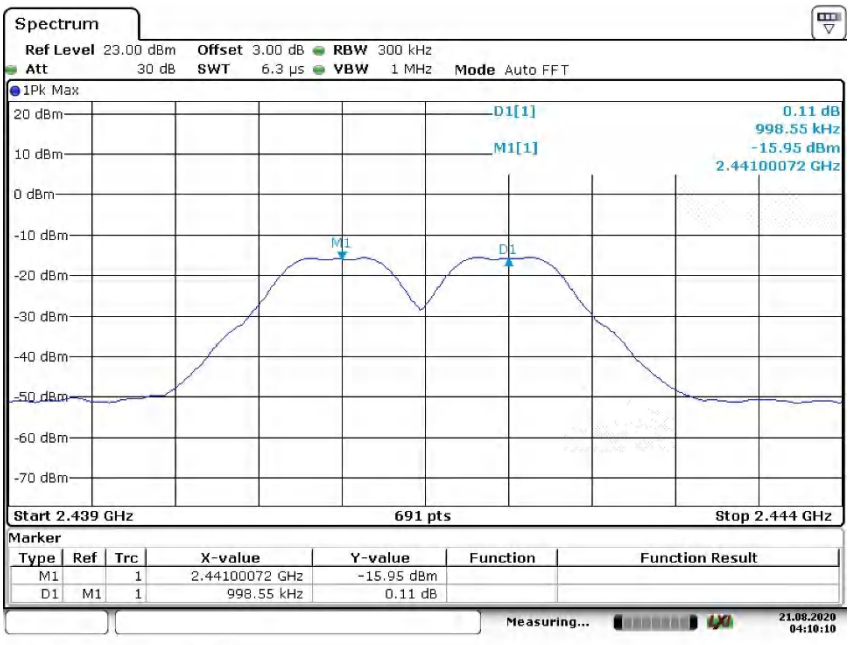
Appendix B.4: Test Plots of Carrier Frequency Separation

BDR, Low Channel



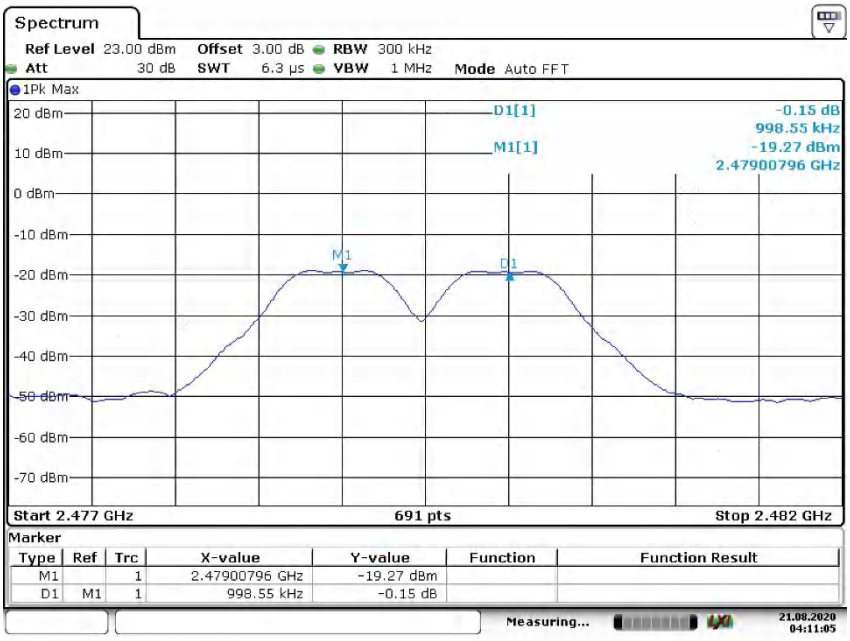
Date: 21.AUG.2020 04:08:38

BDR, Middle Channel



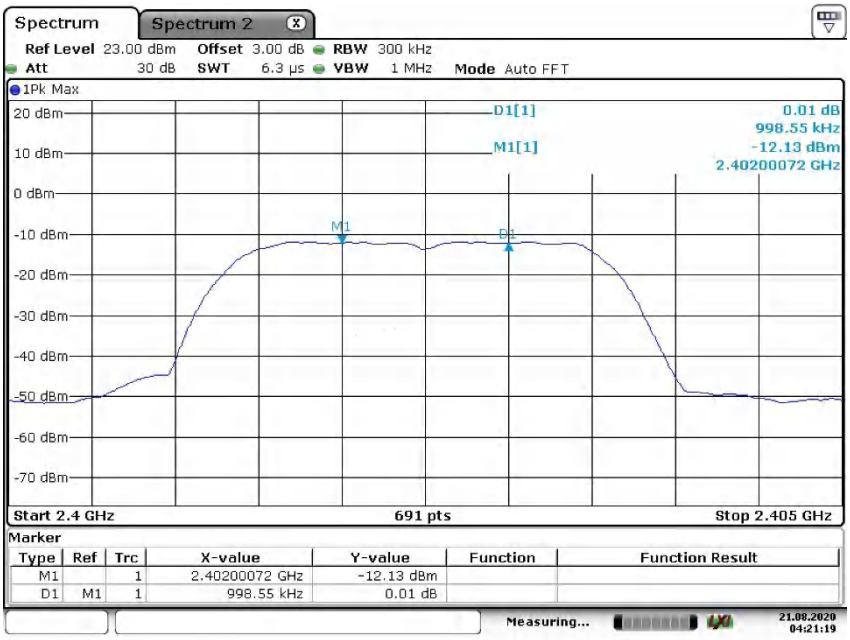
Date: 21.AUG.2020 04:10:10

BDR, High Channel



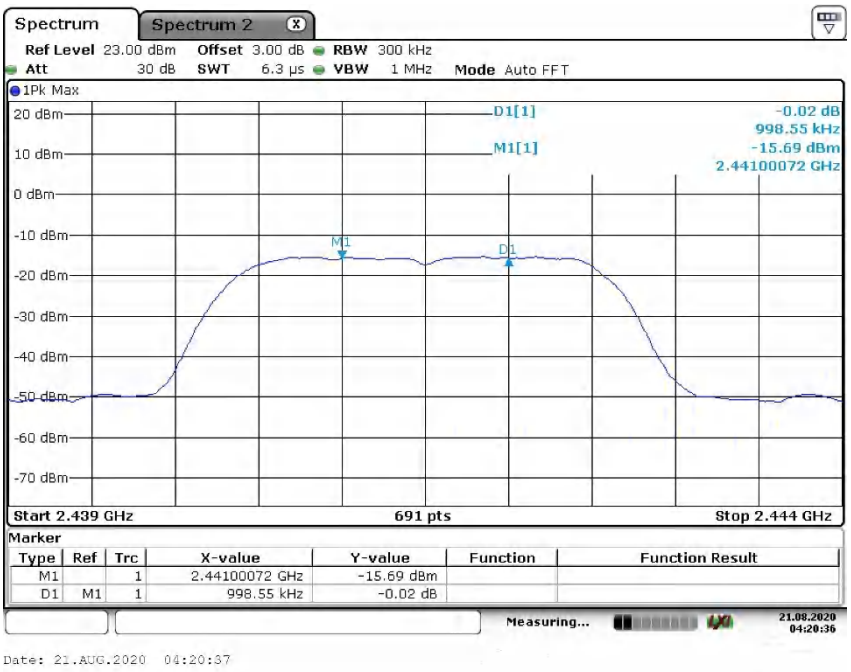
Date: 21.AUG.2020 04:11:05

EDR, Low Channel

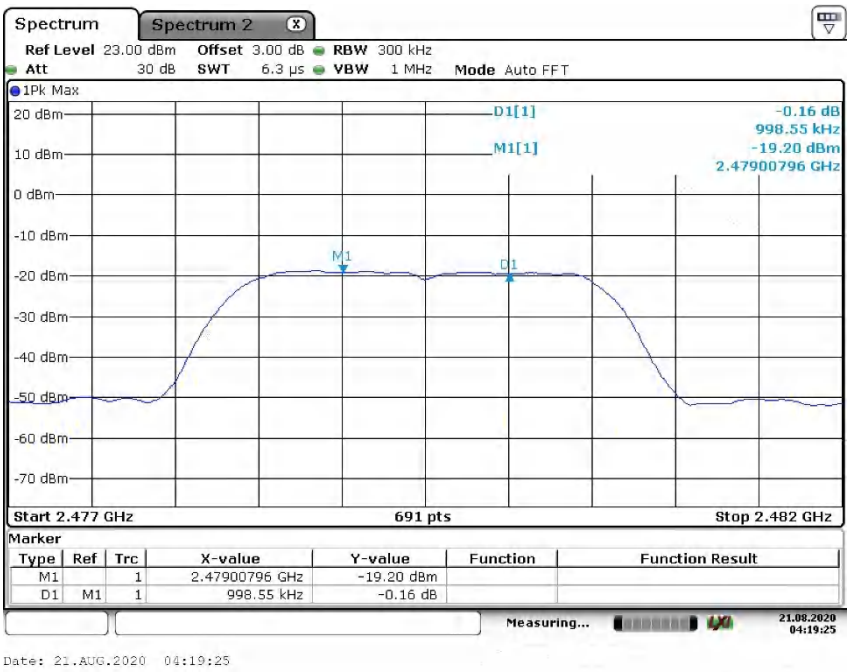


Date: 21.AUG.2020 04:21:20

EDR, Middle Channel

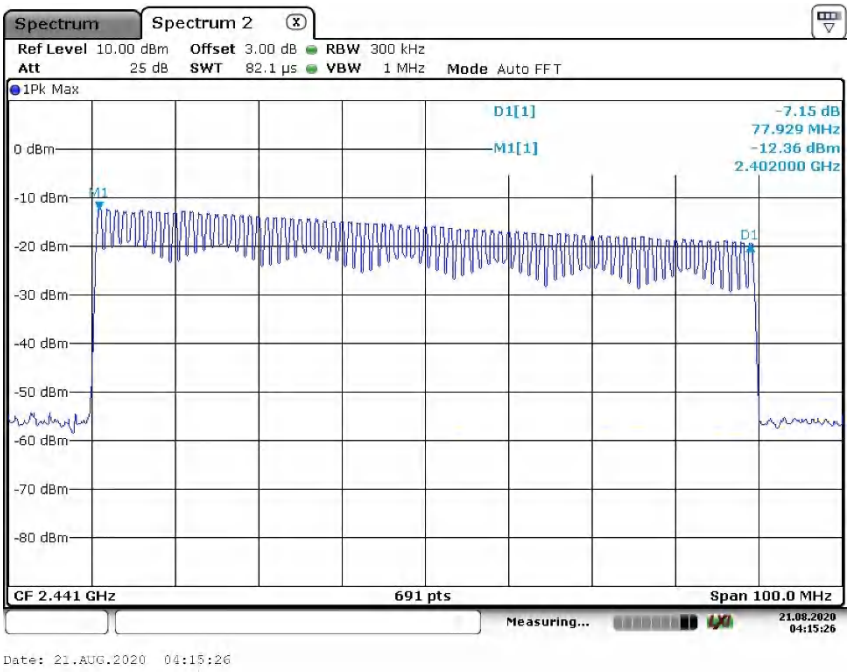


EDR, High Channel

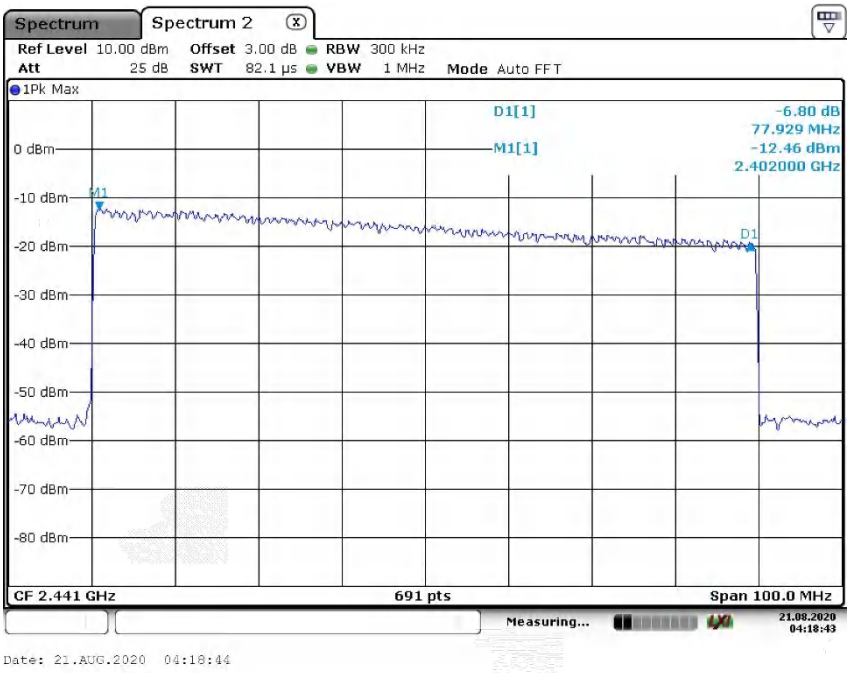


Appendix B.5: Test Plots of Number of Hopping Frequency

BDR, Hopping

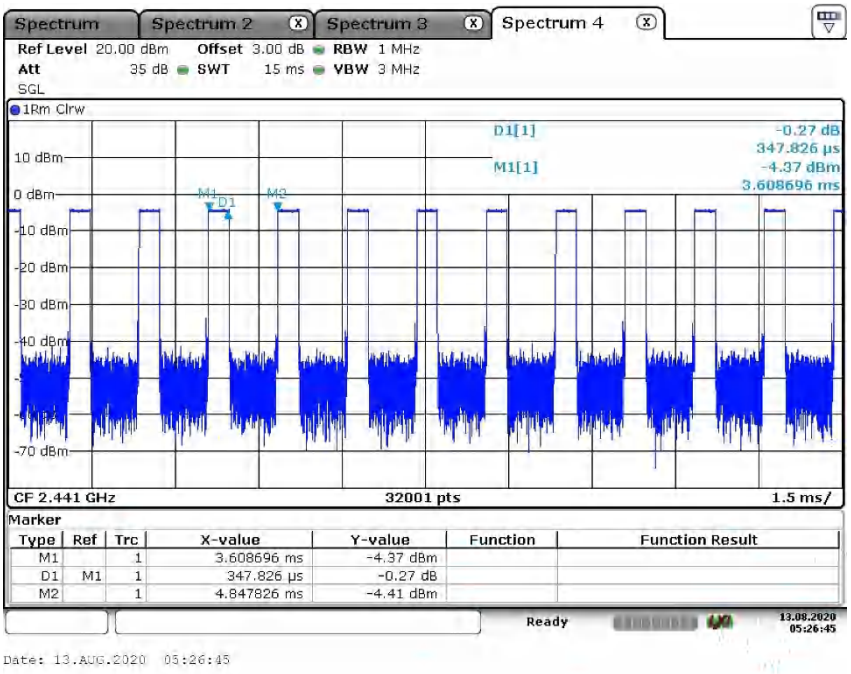


EDR, Hopping

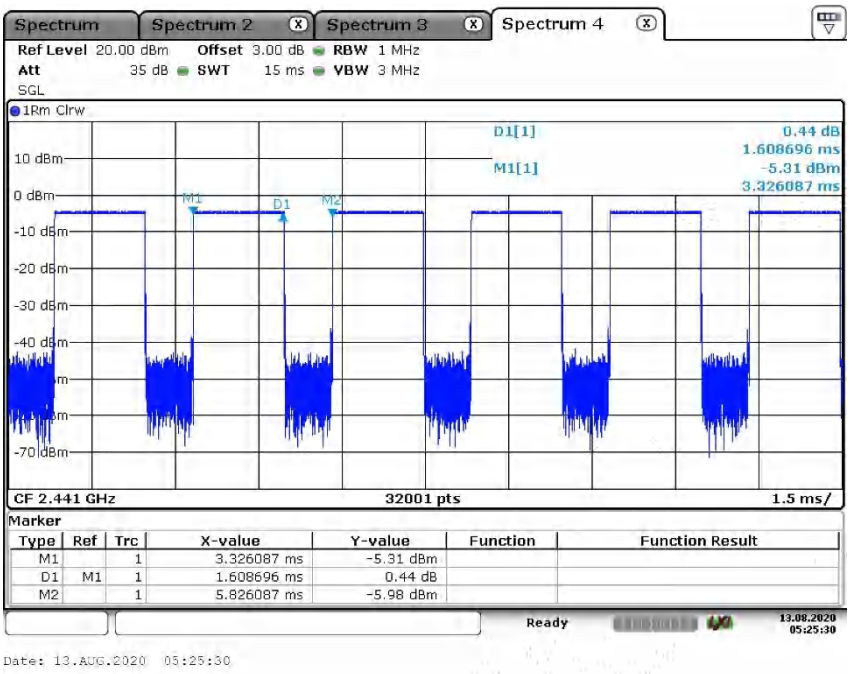


Appendix B.6: Test Plots of Time of Occupancy

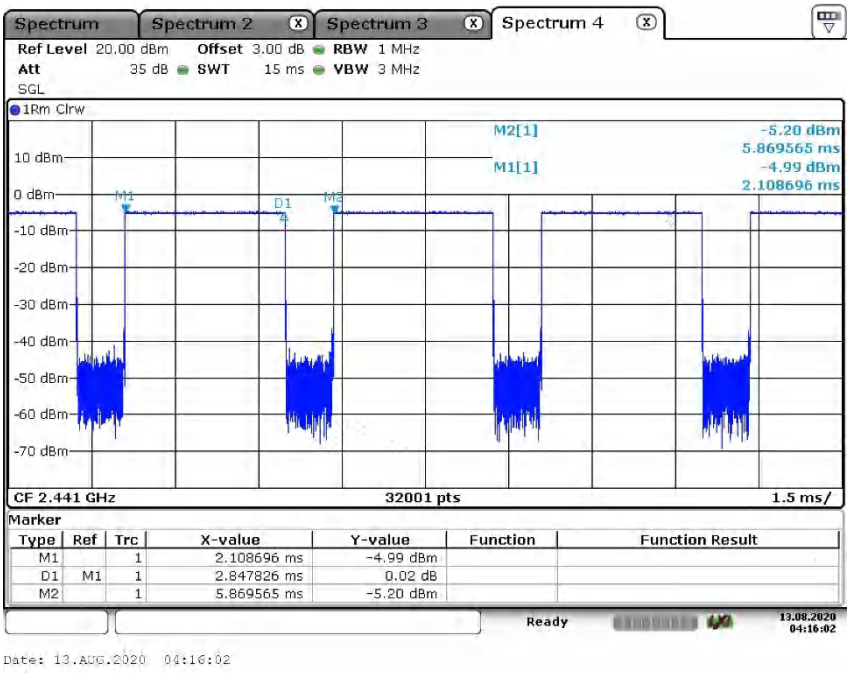
BDR Mode, DH1, Middle Channel



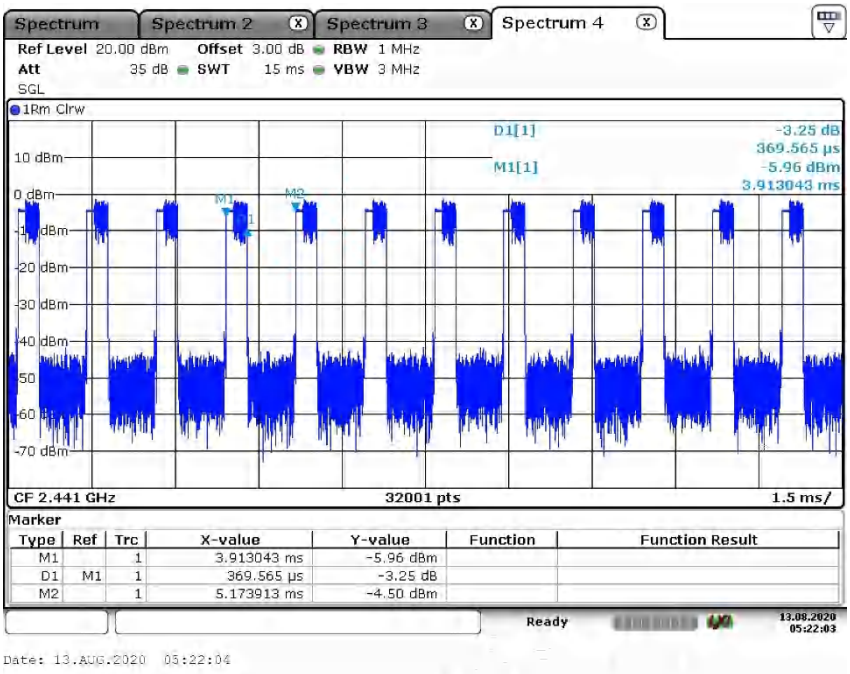
BDR Mode, DH3, Middle Channel



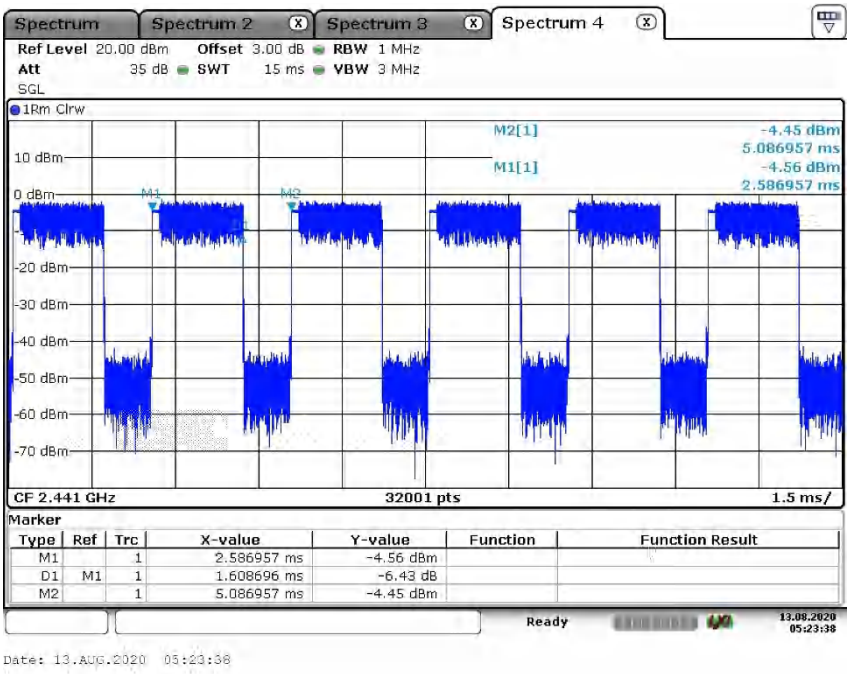
BDR Mode, DH5, Middle Channel
RBW=500KHzM, VBW=1MHz



EDR Mode, 3DH1, Middle Channel

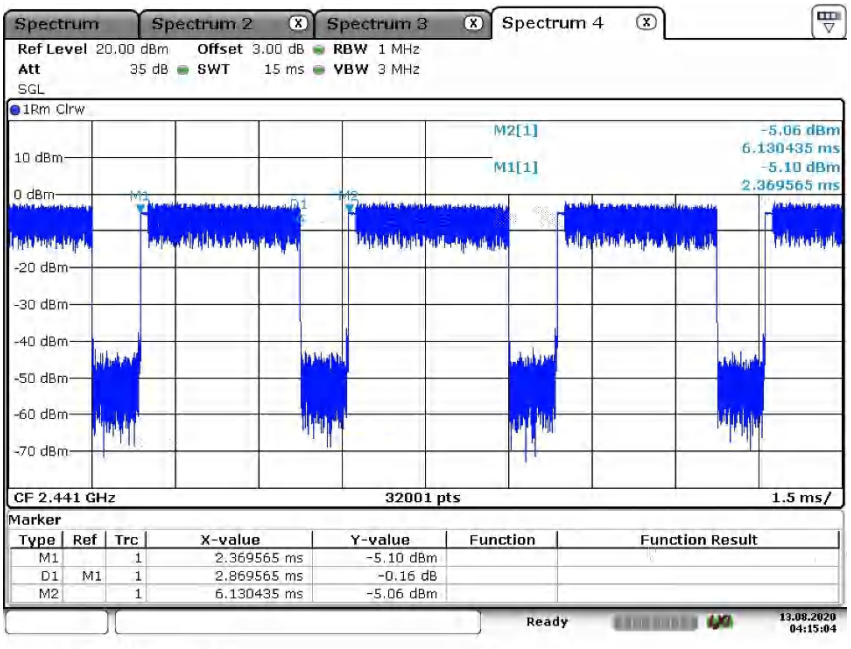


EDR Mode, 3DH3, Middle Channel



Date: 13.AUG.2020 05:23:38

EDR Mode, 3DH5, Middle Channel



Date: 13.AUG.2020 04:15:05

Appendix C

Test Results of Radiated Emission & AC Mains Conducted Emission

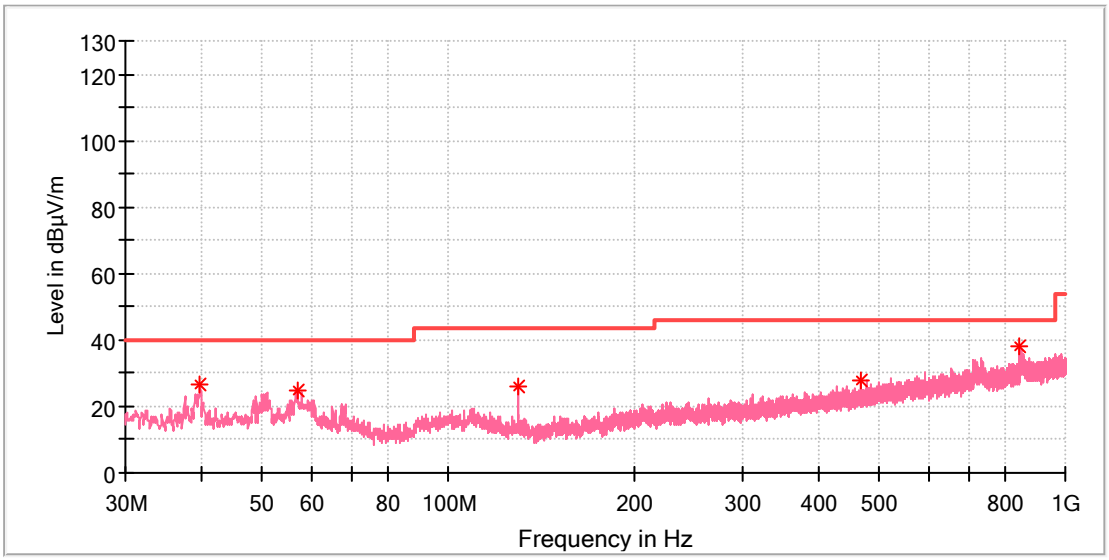
Note: The radiated spurious emission were measured from 9KHz to 26.5GHz, the measurement results below 30MHz and above 18GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

Appendix C.1: Test Plots of Radiated Spurious Emission

BDR mode, 30MHz - 1GHz

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

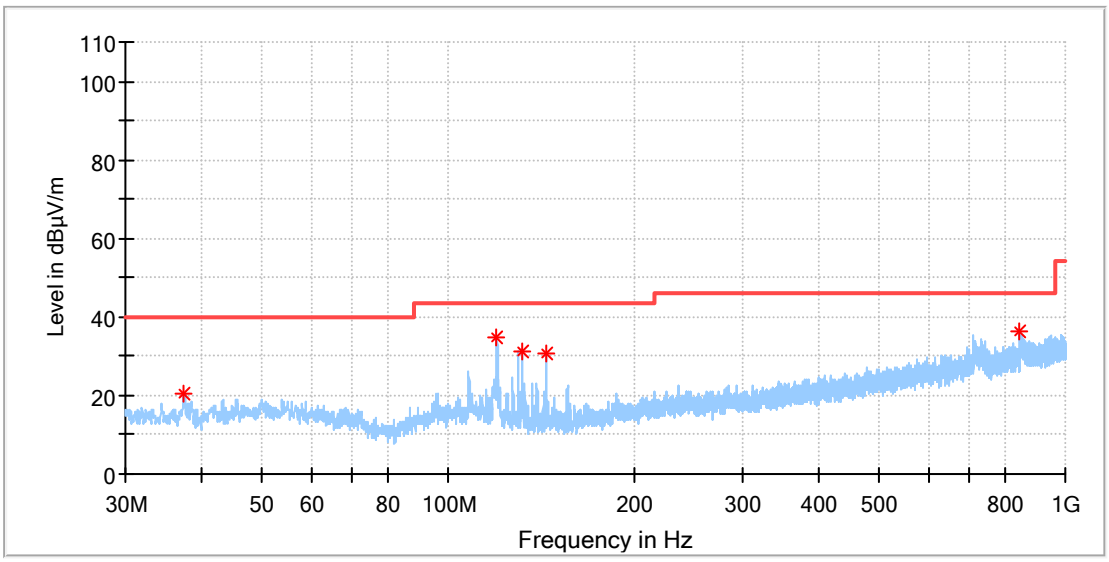


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.603000	26.72	---	40.00	13.28	100.0	V	301.0	-20.5
57.111500	24.70	---	40.00	15.30	100.0	V	231.0	-19.0
129.958500	25.72	---	43.50	17.78	100.0	V	6.0	-22.2
467.906500	27.69	---	46.00	18.31	100.0	V	231.0	-12.9
844.897000	38.06	---	46.00	7.94	100.0	V	301.0	-6.0

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

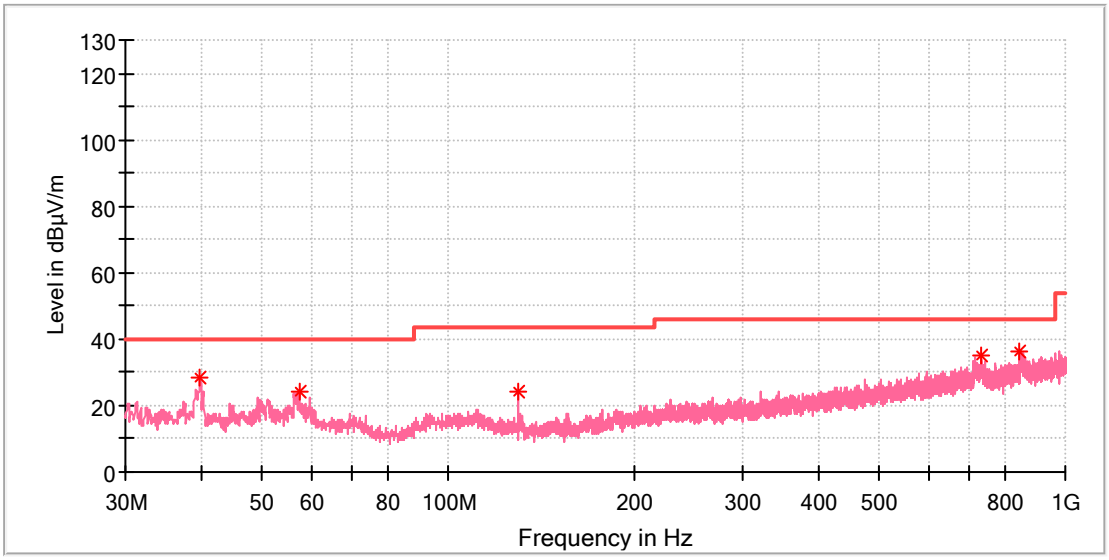


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.275000	20.46	---	40.00	19.54	100.0	H	140.0	-21.3
119.919000	34.57	---	43.50	8.93	100.0	H	265.0	-21.1
131.947000	31.38	---	43.50	12.12	100.0	H	67.0	-22.3
143.975000	30.67	---	43.50	12.83	100.0	H	67.0	-22.6
844.800000	36.38	---	46.00	9.62	100.0	H	40.0	-6.0

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

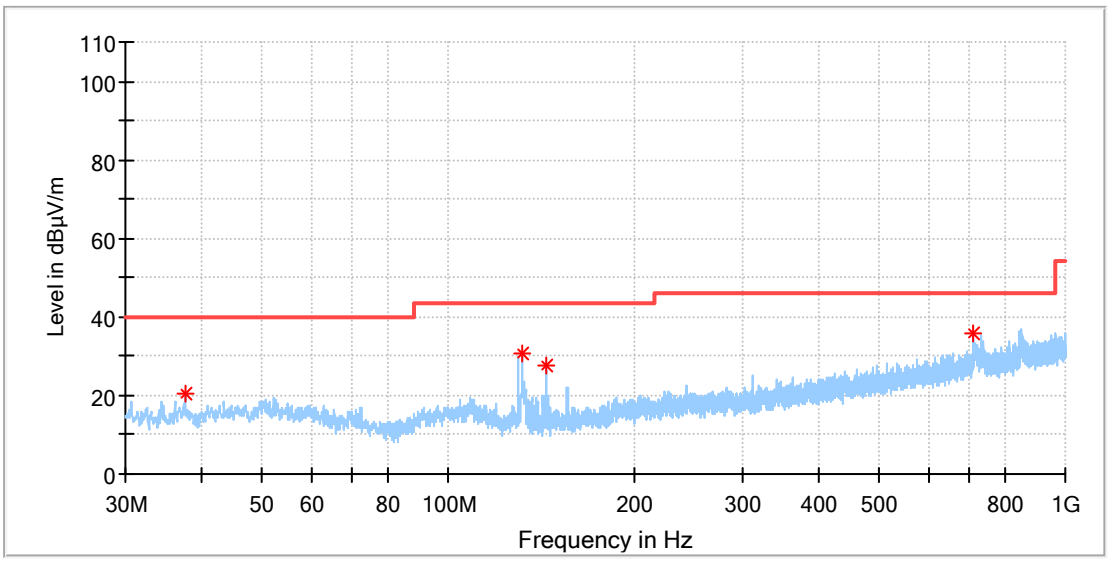


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.651500	28.17	---	40.00	11.83	100.0	V	137.0	-20.5
57.354000	24.23	---	40.00	15.77	100.0	V	315.0	-19.0
129.958500	23.95	---	43.50	19.55	100.0	V	3.0	-22.2
728.448500	35.07	---	46.00	10.93	100.0	V	25.0	-7.9
844.897000	36.43	---	46.00	9.57	100.0	V	34.0	-6.0

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



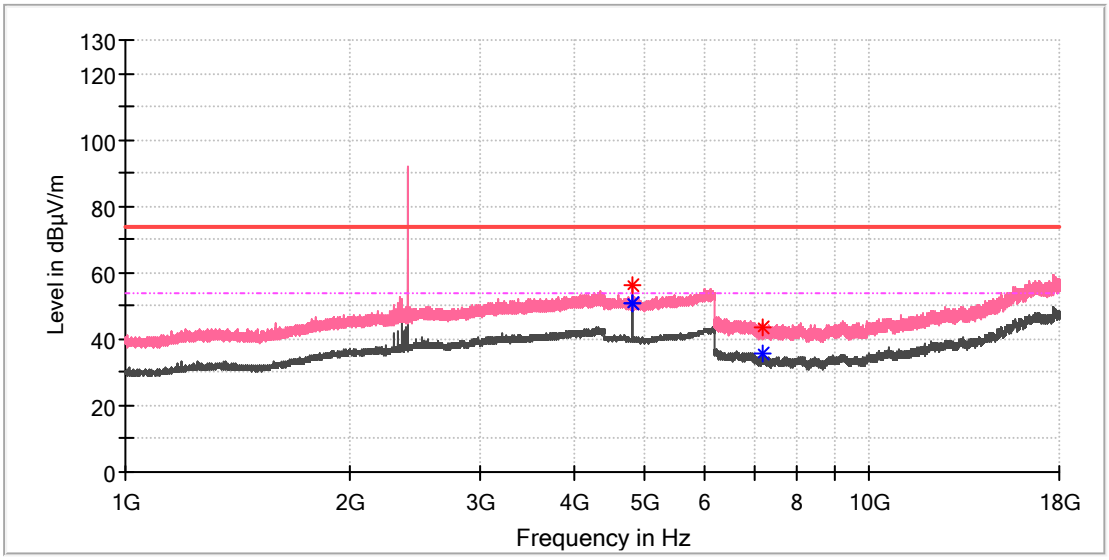
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	20.33	---	40.00	19.67	100.0	H	137.0	-21.3
131.995500	30.84	---	43.50	12.66	100.0	H	275.0	-22.3
143.975000	27.42	---	43.50	16.08	100.0	H	275.0	-22.6
709.485000	35.76	---	46.00	10.24	100.0	H	137.0	-8.3

BDR mode, 1GHz - 18GHz

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

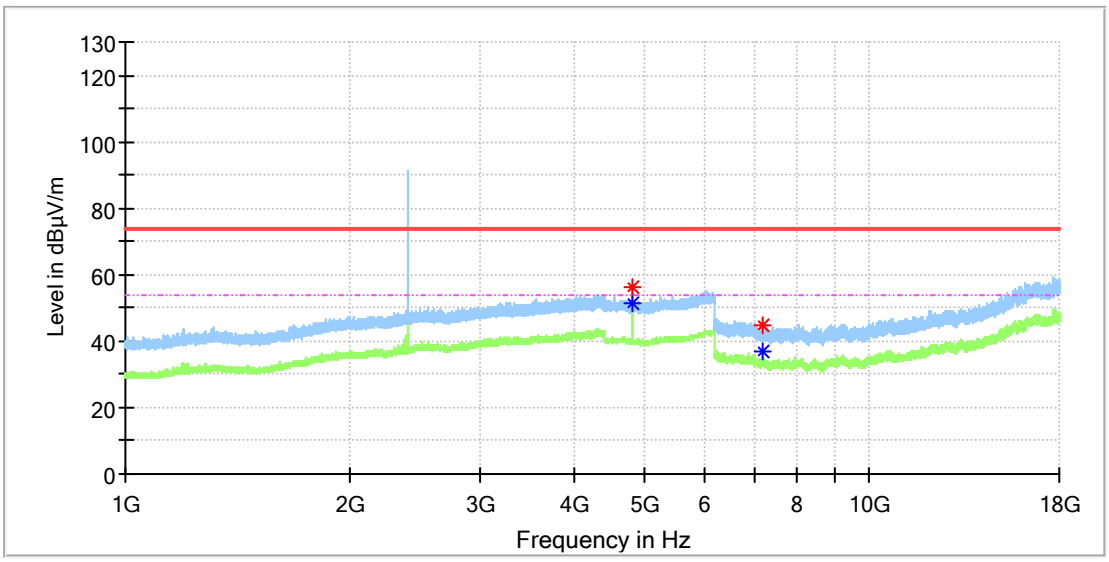


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	51.05	54.00	2.95	100.0	V	276.0	13.6
4804.000000	56.00	---	74.00	18.00	100.0	V	276.0	13.6
7204.966667	43.33	---	74.00	30.67	100.0	V	0.0	8.8
7205.458333	---	35.94	54.00	18.06	100.0	V	282.0	8.8

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

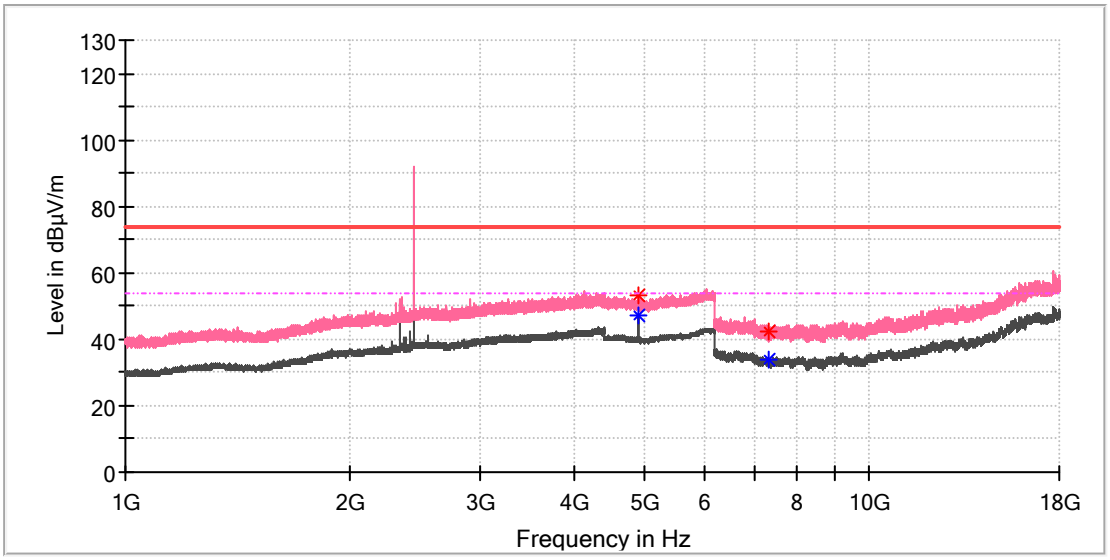


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	51.20	54.00	2.80	100.0	H	118.0	13.6
4804.000000	56.21	---	74.00	17.80	100.0	H	118.0	13.6
7205.950000	44.98	---	74.00	29.02	100.0	H	46.0	8.8
7205.950000	---	36.65	54.00	17.35	100.0	H	46.0	8.8

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Mid Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

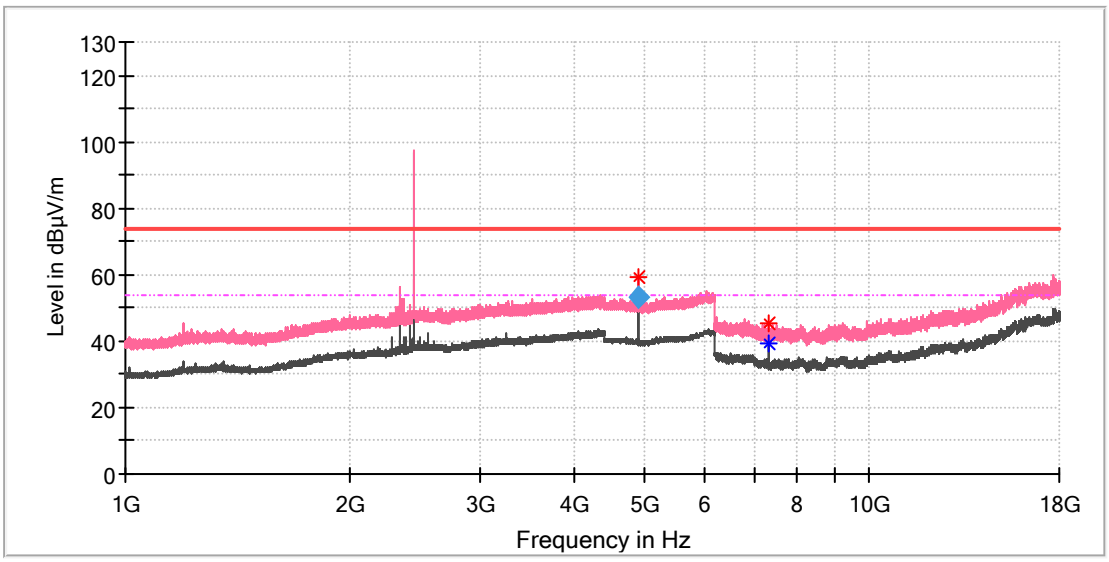


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4881.500000	53.03	---	74.00	20.97	100.0	V	256.0	13.4
4882.000000	---	47.41	54.00	6.59	100.0	V	278.0	13.4
7321.983333	42.38	---	74.00	31.62	100.0	V	325.0	8.2
7322.475000	---	34.08	54.00	19.92	100.0	V	238.0	8.2

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Mid Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

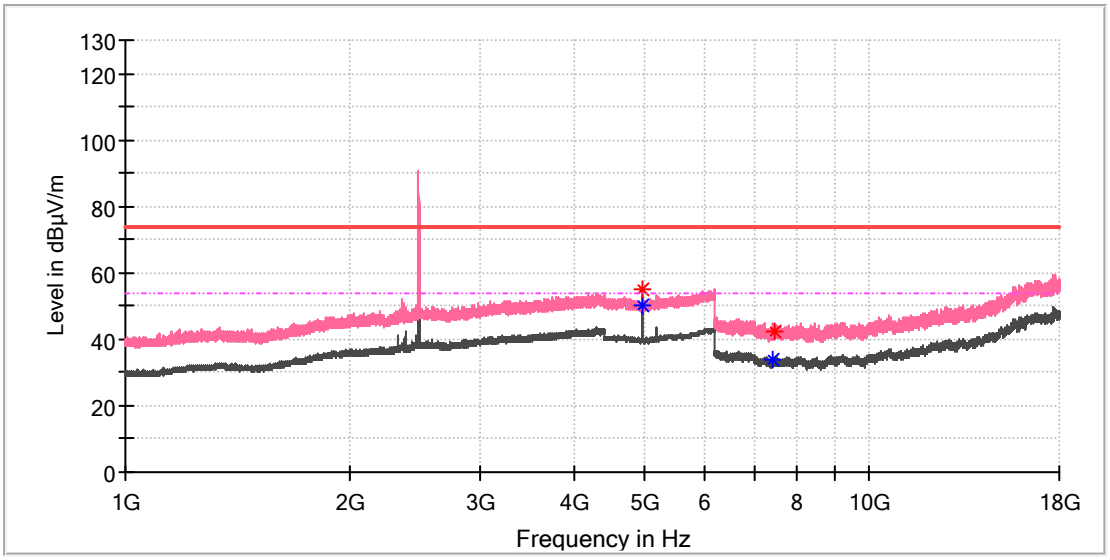


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4882.000000	59.11	---	74.00	14.89	100.0	V	271.0	13.4
7322.475000	45.32	---	74.00	28.68	100.0	V	289.0	8.2
7322.475000	---	39.16	54.00	14.84	100.0	V	289.0	8.2

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

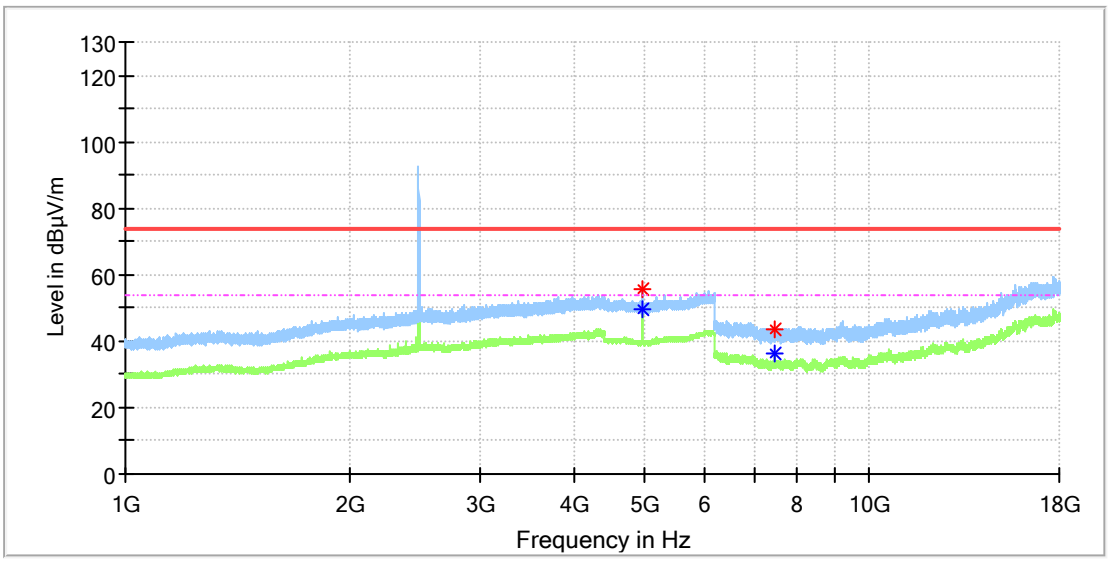


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	55.24	---	74.00	18.76	100.0	V	275.0	13.2
4960.000000	---	49.89	54.00	4.11	100.0	V	275.0	13.2
7436.050000	---	34.08	54.00	19.92	100.0	V	272.0	8.4
7440.475000	42.50	---	74.00	31.50	100.0	V	214.0	8.4

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



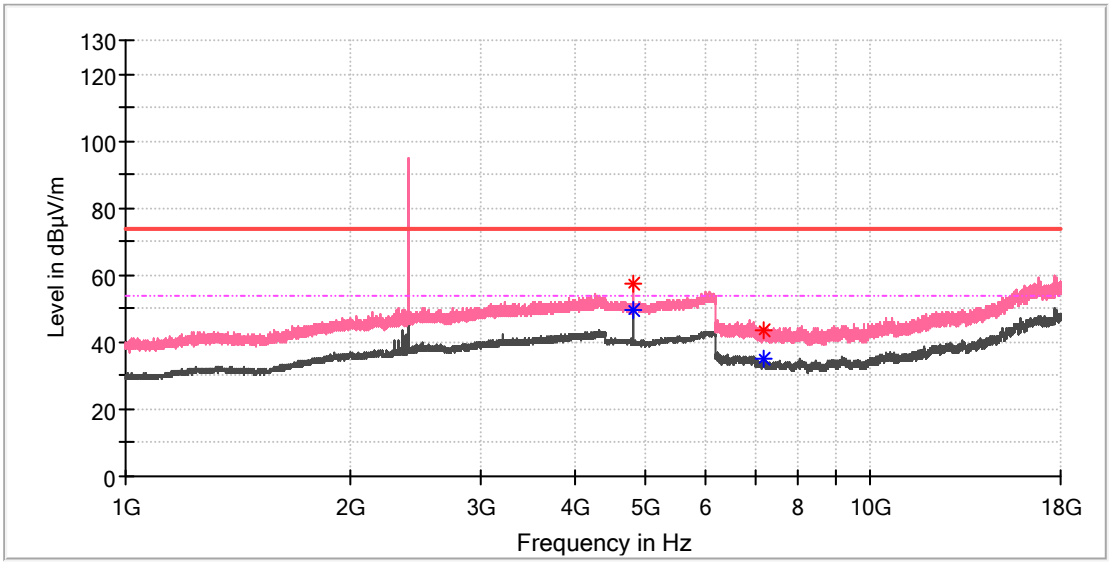
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	---	49.49	54.00	4.51	100.0	H	224.0	13.2
4960.000000	55.75	---	74.00	18.25	100.0	H	224.0	13.2
7439.491667	43.72	---	74.00	30.28	100.0	H	346.0	8.4
7439.983333	---	36.22	54.00	17.78	100.0	H	346.0	8.4

EDR mode, 1GHz - 18GHz

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

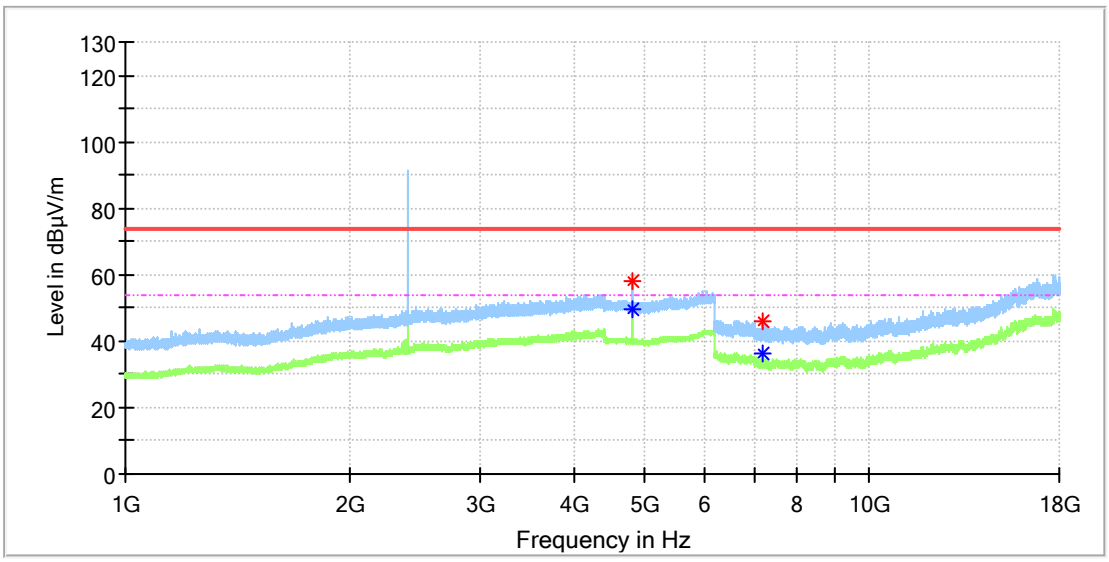


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.500000	57.26	---	74.00	16.74	100.0	V	274.0	13.6
4803.500000	---	49.63	54.00	4.37	100.0	V	274.0	13.6
7204.475000	43.75	---	74.00	30.25	100.0	V	81.0	8.8
7205.458333	---	34.93	54.00	19.07	100.0	V	1.0	8.8

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

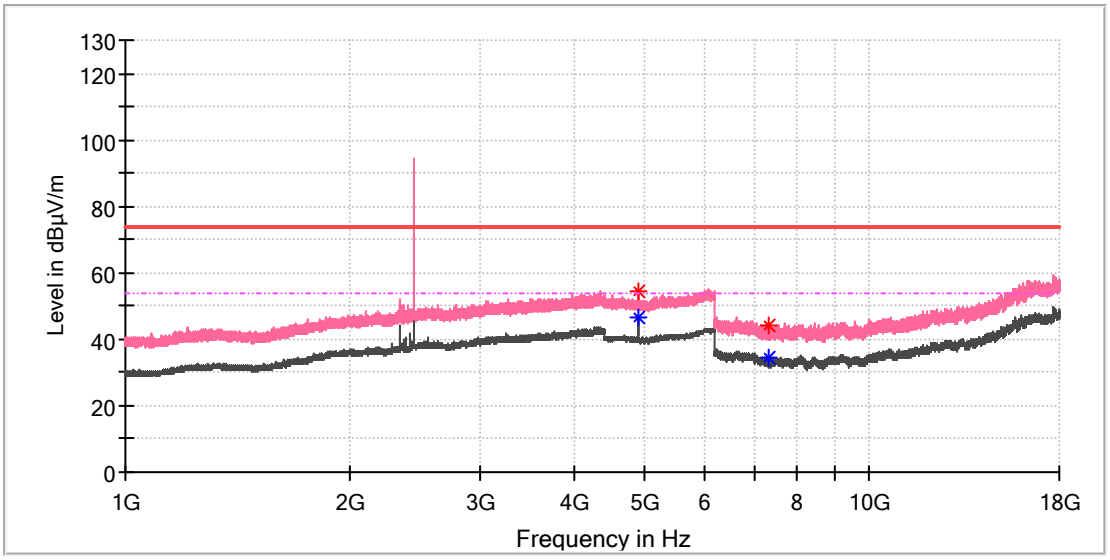


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.500000	---	49.28	54.00	4.72	100.0	H	259.0	13.6
4804.000000	58.06	---	74.00	15.94	100.0	H	259.0	13.6
7205.458333	46.16	---	74.00	27.84	100.0	H	5.0	8.8
7205.458333	---	36.25	54.00	17.75	100.0	H	5.0	8.8

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_Mid Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

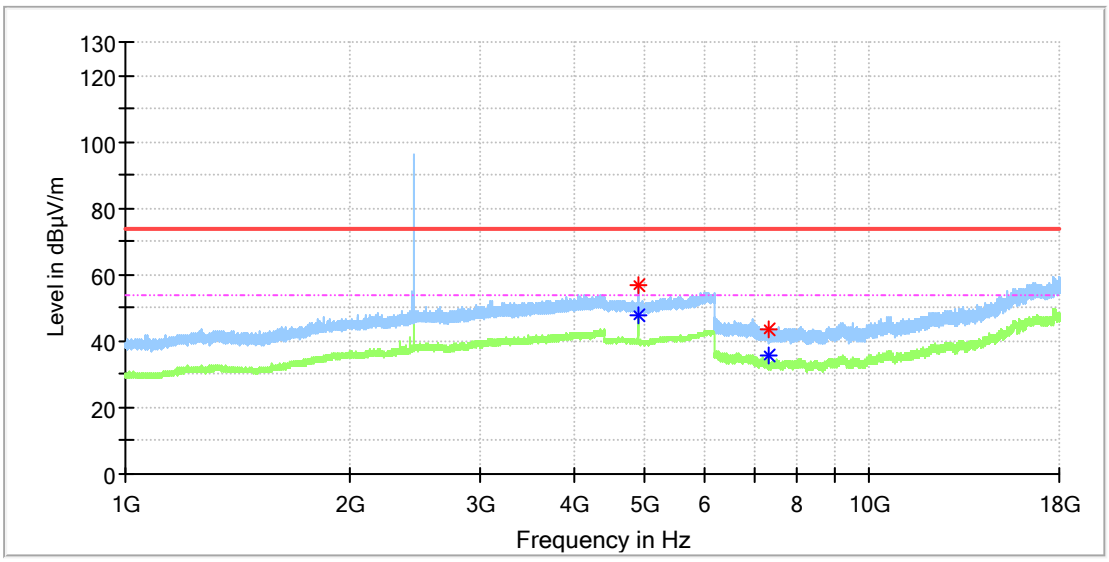


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4880.500000	---	46.66	54.00	7.34	100.0	V	293.0	13.4
4882.000000	54.36	---	74.00	19.64	100.0	V	264.0	13.4
7322.525000	44.36	---	74.00	29.64	100.0	V	288.0	8.2
7322.525000	---	34.56	54.00	19.44	100.0	V	288.0	8.2

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_Mid Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

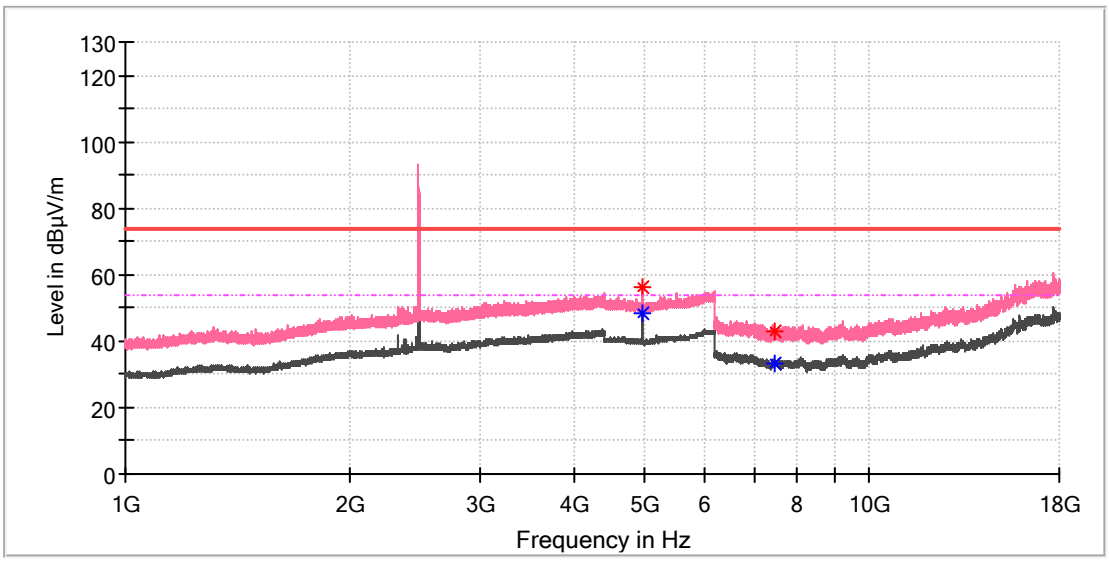


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4881.500000	56.54	---	74.00	17.46	100.0	H	312.0	13.4
4882.000000	---	47.48	54.00	6.52	100.0	H	312.0	13.4
7323.050000	43.41	---	74.00	30.59	100.0	H	1.0	8.2
7322.525000	---	35.72	54.00	18.28	100.0	H	200.0	8.2

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

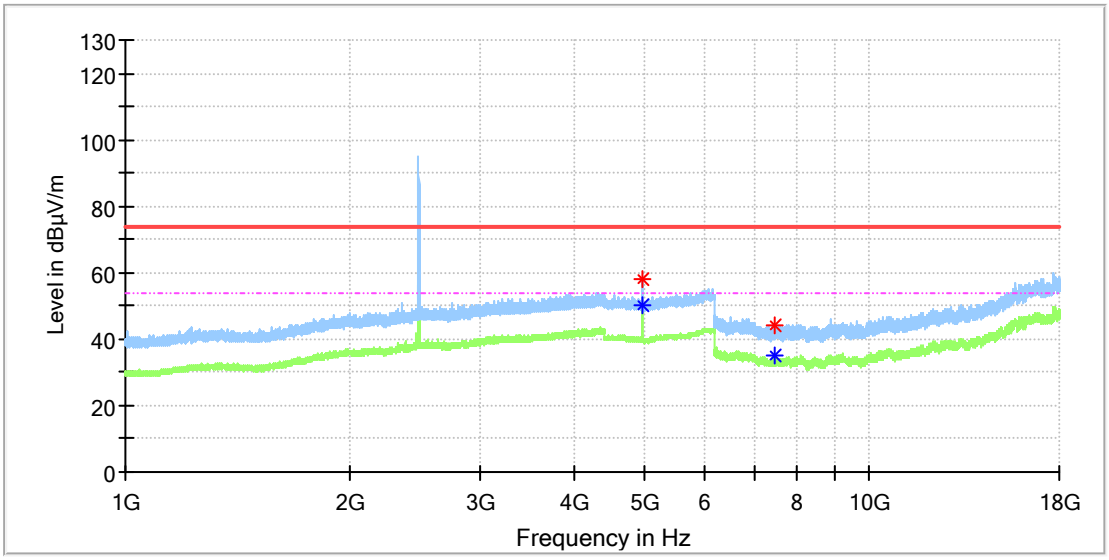


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4959.500000	---	48.36	54.00	5.64	100.0	V	277.0	13.2
4960.000000	56.17	---	74.00	17.83	100.0	V	277.0	13.2
7439.491667	---	33.53	54.00	20.47	100.0	V	217.0	8.4
7444.408333	43.17	---	74.00	30.83	100.0	V	278.0	8.5

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

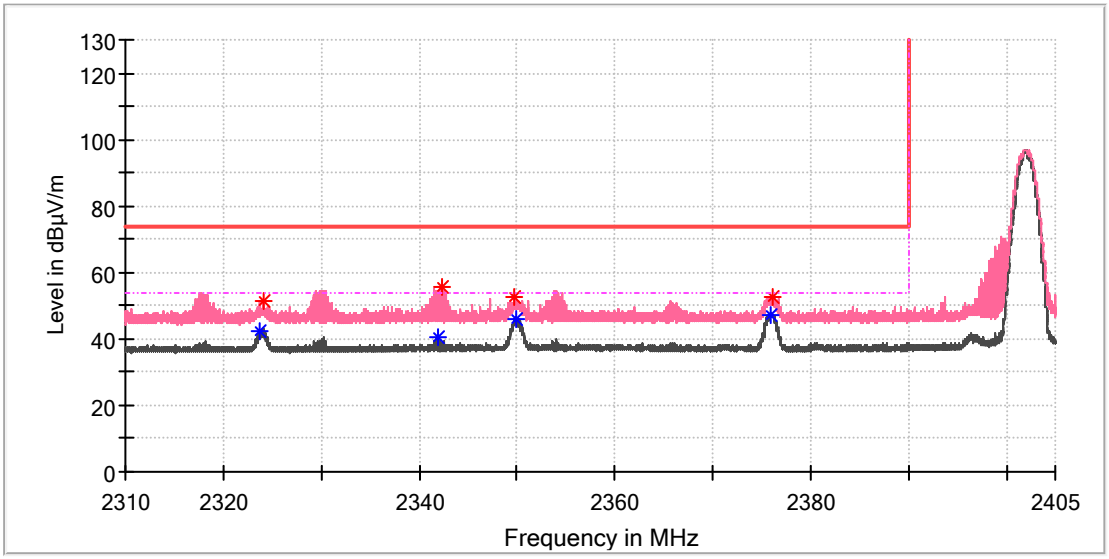
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4959.500000	58.08	---	74.00	15.92	100.0	H	226.0	13.2
4960.000000	---	50.37	54.00	3.63	100.0	H	226.0	13.2
7439.491667	---	34.89	54.00	19.11	100.0	H	214.0	8.4
7439.983333	44.09	---	74.00	29.91	100.0	H	37.0	8.4

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

BDR mode, Low Channel

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

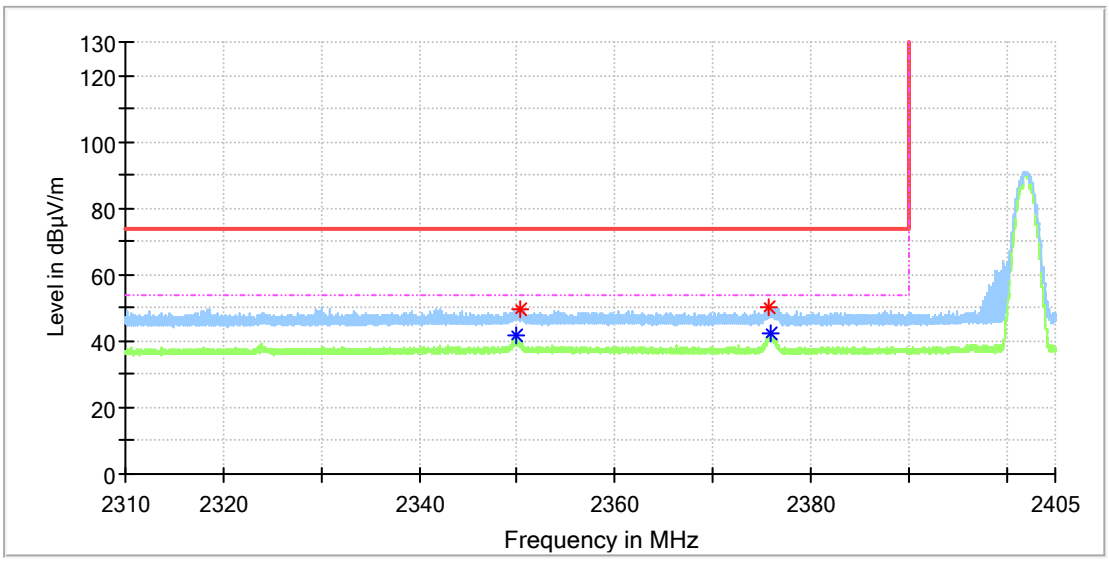


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2323.745313	---	42.19	54.00	11.81	100.0	V	273.0	6.6
2324.030313	51.51	---	74.00	22.49	100.0	V	273.0	6.6
2341.884375	---	40.32	54.00	13.68	100.0	V	286.0	6.8
2342.252500	55.65	---	74.00	18.35	100.0	V	286.0	6.8
2349.710000	52.88	---	74.00	21.12	100.0	V	286.0	6.9
2350.000938	---	46.09	54.00	7.91	100.0	V	315.0	6.9
2376.001250	---	47.45	54.00	6.55	100.0	V	273.0	6.9
2376.203125	52.57	---	74.00	21.43	100.0	V	0.0	6.9

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



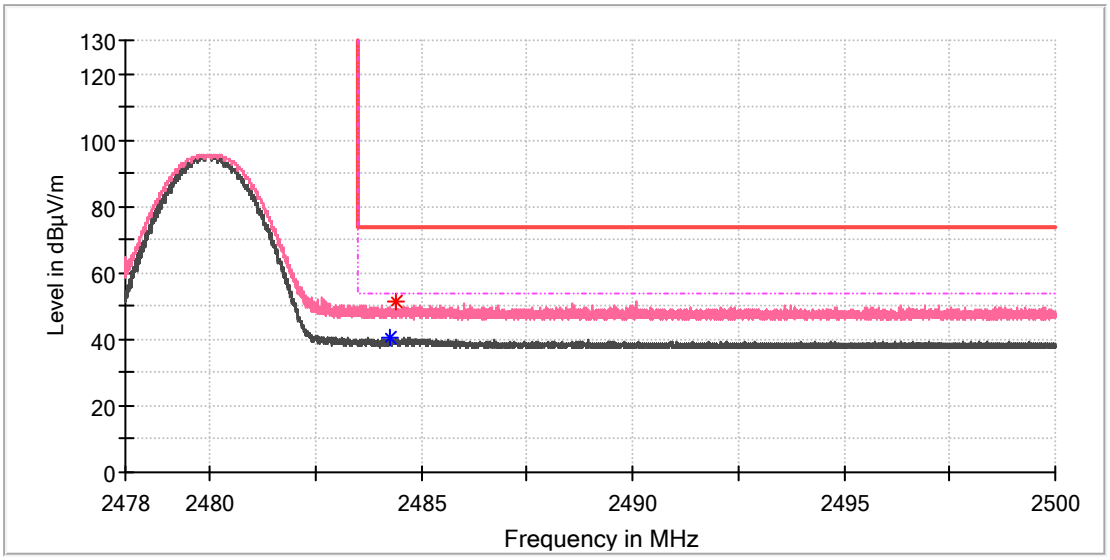
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2349.917813	---	41.48	54.00	12.52	100.0	H	56.0	6.9
2350.321563	49.59	---	74.00	24.41	100.0	H	56.0	6.9
2375.734063	50.42	---	74.00	23.58	100.0	H	7.0	6.9
2376.025000	---	42.53	54.00	11.47	100.0	H	7.0	6.9

BDR mode, High Channel

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

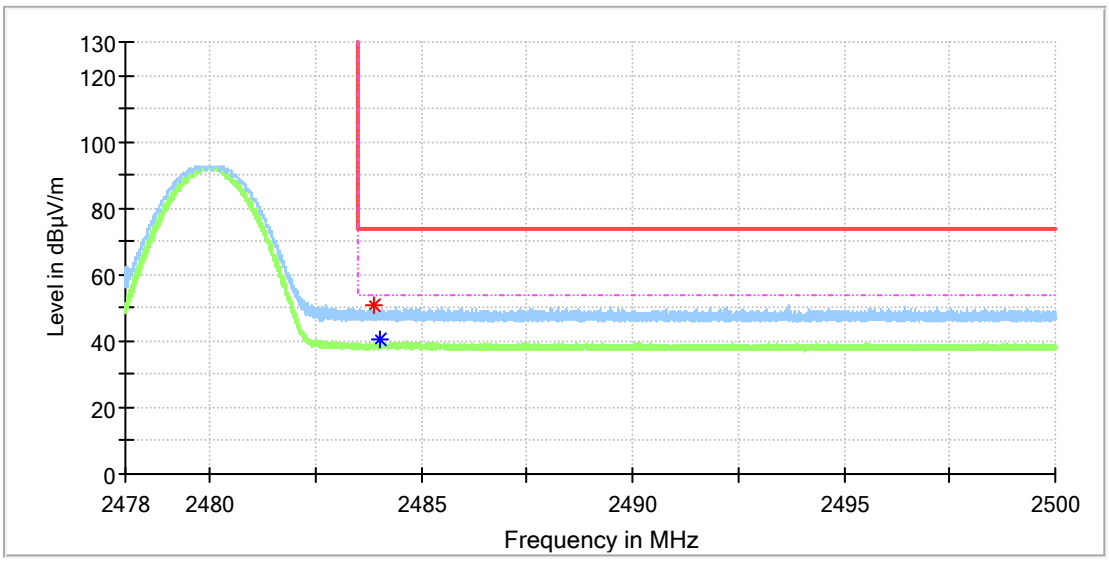


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2484.246625	---	40.35	54.00	13.65	100.0	V	0.0	7.4
2484.397875	51.14	---	74.00	22.86	100.0	V	6.0	7.4

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



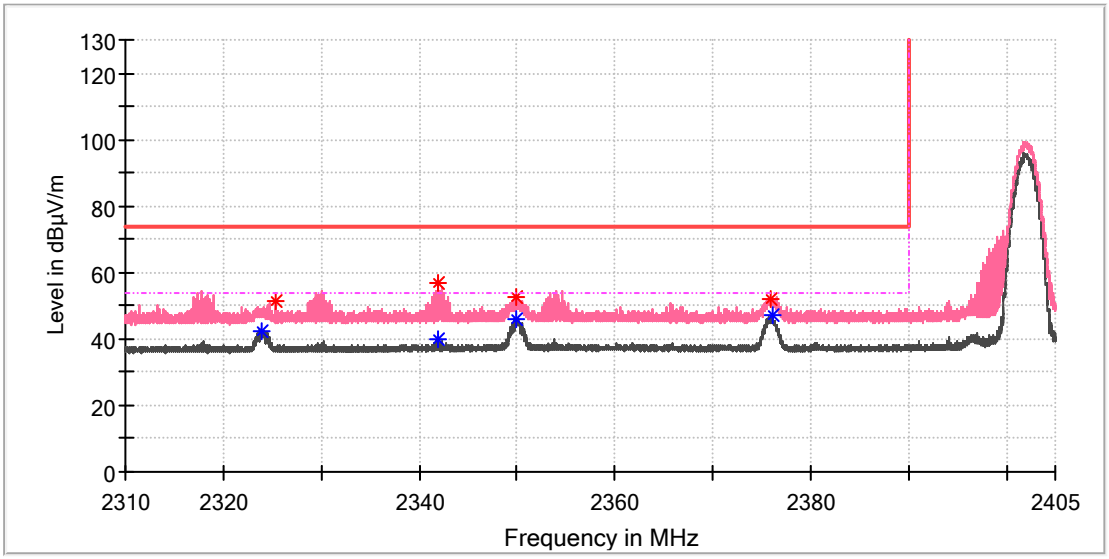
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.868500	50.55	---	74.00	23.45	100.0	H	15.0	7.4
2484.021125	---	40.68	54.00	13.32	100.0	H	15.0	7.4

EDR mode, Low Channel

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

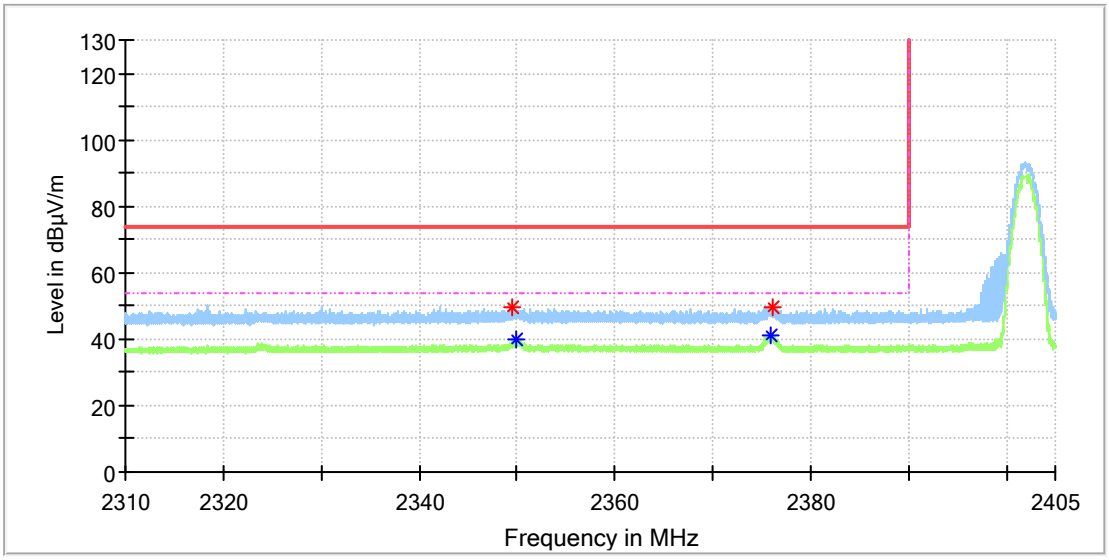


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2324.000625	---	42.62	54.00	11.38	100.0	V	300.0	6.6
2325.265313	51.64	---	74.00	22.36	100.0	V	161.0	6.7
2342.015000	---	40.15	54.00	13.85	100.0	V	300.0	6.8
2342.015000	56.97	---	74.00	17.03	100.0	V	300.0	6.8
2349.870313	---	46.04	54.00	7.96	100.0	V	300.0	6.9
2350.024688	52.89	---	74.00	21.11	100.0	V	300.0	6.9
2375.971563	51.90	---	74.00	22.10	100.0	V	300.0	6.9
2376.060625	---	47.04	54.00	6.96	100.0	V	0.0	6.9

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_Low Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



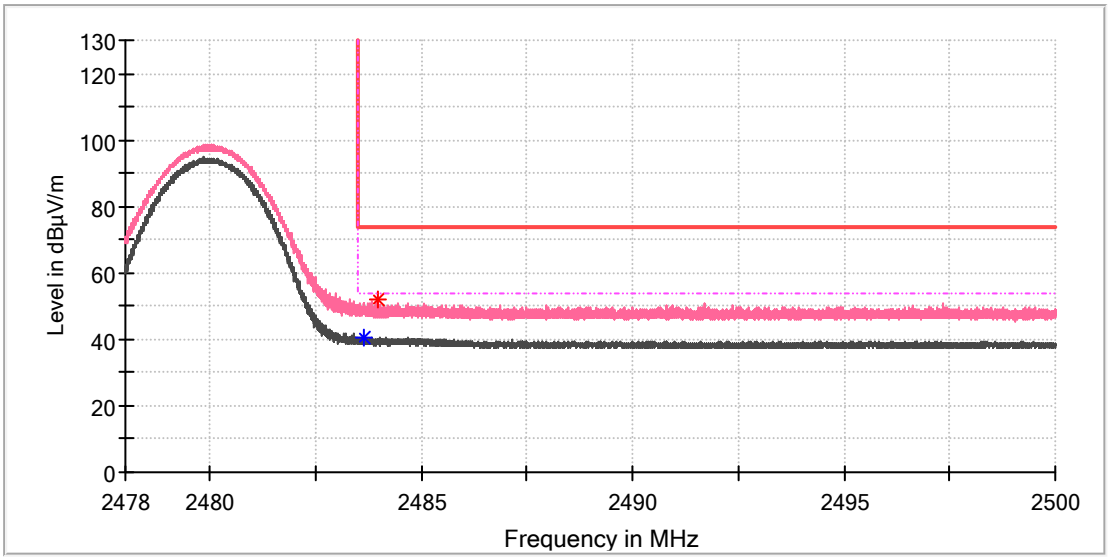
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2349.567500	49.69	---	74.00	24.31	100.0	H	0.0	6.9
2349.941563	---	39.79	54.00	14.21	100.0	H	0.0	6.9
2375.900313	---	41.04	54.00	12.96	100.0	H	194.0	6.9
2376.102188	49.76	---	74.00	24.24	100.0	H	355.0	6.9

EDR mode, High Channel

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

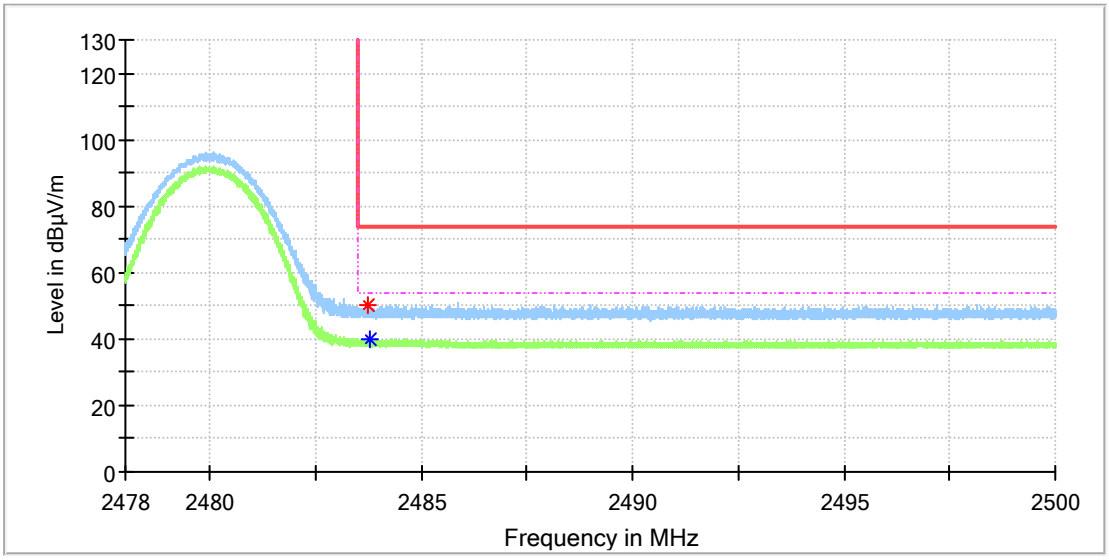


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.629250	---	40.55	54.00	13.45	100.0	V	329.0	7.4
2483.951000	51.71	---	74.00	22.29	100.0	V	260.0	7.4

EUT Information

EUT Name:	BT Speaker
Model:	R60BT
Test Mode:	TX_BT_3DH5_High Channel
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



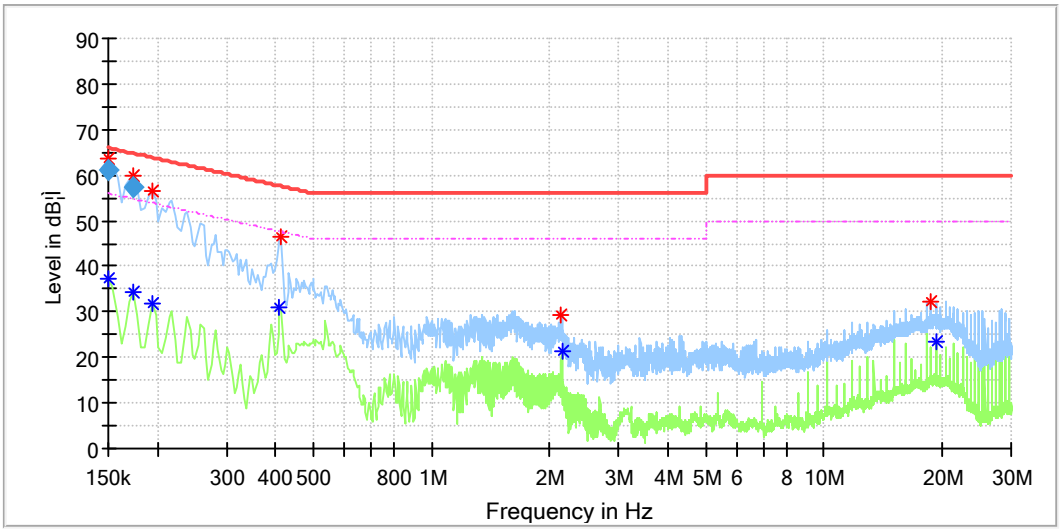
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.724125	50.35	---	74.00	23.65	100.0	H	0.0	7.4
2483.766750	---	39.82	54.00	14.18	100.0	H	358.0	7.4

Appendix C.3: Test Plots of AC Mains Conducted Emission

EUT Information

EUT Name:	BT SPEAKER
Model:	R60BT
Order No.:	168144108
Test Mode:	A
Test Voltage:	AC 120V/60Hz
Test By:	OUYANG
Review By:	Gary Chen
Remark:	SR2



Critical_Freqs

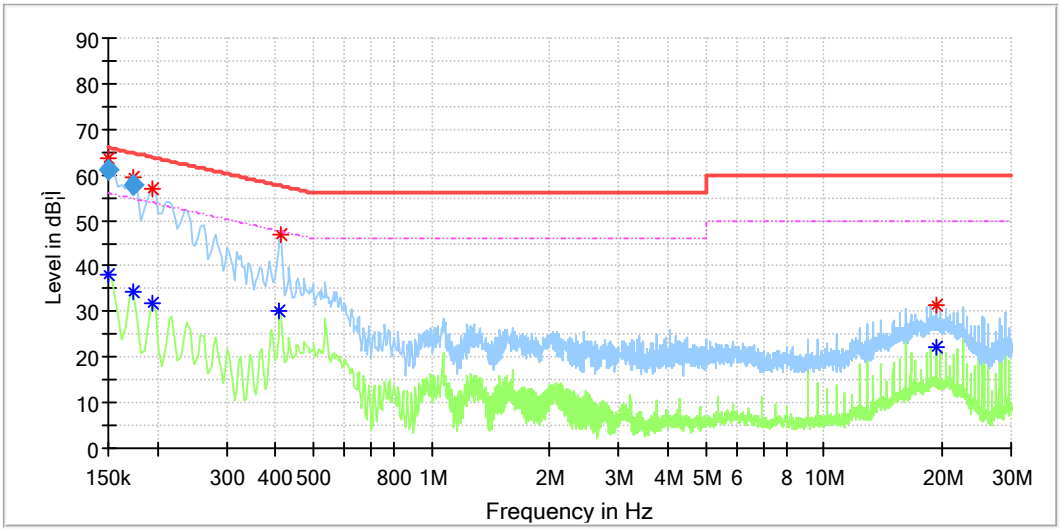
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.150000	---	37.07	56.00	18.93	L1	9.7
0.174000	---	34.35	54.77	20.42	L1	9.7
0.194000	---	31.88	53.86	21.99	L1	9.7
0.194000	56.48	---	63.86	7.39	L1	9.7
0.410000	---	30.98	47.65	16.67	L1	9.7
0.414000	46.45	---	57.57	11.12	L1	9.7
2.144000	29.14	---	56.00	26.86	L1	9.9
2.148000	---	21.18	46.00	24.82	L1	9.9
18.788000	32.36	---	60.00	27.64	L1	10.0
19.320000	---	23.53	50.00	26.47	L1	10.0

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	60.97	---	66.00	5.03	200.0	9.000	L1	9.7
0.173500	57.41	---	64.79	7.38	200.0	9.000	L1	9.7

EUT Information

EUT Name:	BT SPEAKER
Model:	R60BT
Order No.:	168144108
Test Mode:	A
Test Voltage:	AC 120V/60Hz
Test By:	OUYANG
Review By:	Gary Chen
Remark:	SR2



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.150000	---	37.98	56.00	18.02	N	9.6
0.174000	---	34.34	54.77	20.43	N	9.6
0.194000	---	31.97	53.86	21.89	N	9.6
0.194000	56.78	---	63.86	7.08	N	9.6
0.410000	---	30.33	47.65	17.31	N	9.6
0.414000	46.76	---	57.57	10.80	N	9.6
19.312000	31.56	---	60.00	28.44	N	9.8
19.316000	---	22.22	50.00	27.78	N	9.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	61.17	---	66.00	4.83	200.0	9.000	N	9.6
0.173500	57.73	---	64.79	7.06	200.0	9.000	N	9.6