

Prüfbericht-Nr.: <i>Test report no.:</i>	60393071 001	Auftrags-Nr.: <i>Order no.:</i>	168263922	Seite 1 von 28 <i>Page 1 of 28</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2020-05-06	
Auftraggeber: <i>Client:</i>	Edifier International Limited P.O. Box 6264 General Post Office Hong Kong			
Prüfgegenstand: <i>Test item:</i>	ACTIVE SPEAKER SYSTEM			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	A300Pro (Trademark: AIRPULSE)			
Auftrags-Inhalt: <i>Order content:</i>	FCC and IC approval			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart E Section 15.407 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 2.1091 RSS-247 Issue 2 February 2017 RSS-Gen Issue 5 March 2019 RSS-102 Issue 5 March 2015			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2020-05-19	Please refer to photo documents		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A002828606			
Prüfzeitraum: <i>Testing period:</i>	2020-06-05 – 2020-08-25			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	genehmigt von: <i>authorized by:</i>			
Datum: <i>Date:</i> 2020-08-26				
Stellung / Position	Alex Lan / Senior Project Engineer	Stellung / Position	Winnie Hou / Technical Certifier	
Sonstiges / Other:				
FCC ID: Z9G-EDF103 IC: 10004A-EDF103 HVIN: A300Pro				
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>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = 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>				

V05

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 20dB BANDWIDTH***RESULT: Pass***5.1.5 CARRIER FREQUENCY SEPARATION***RESULT: Pass***5.1.6 NUMBER OF HOPPING FREQUENCY***RESULT: Pass***5.1.7 TIME OF OCCUPANCY***RESULT: Pass***5.1.8 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH***RESULT: Pass***5.1.9 RADIATED SPURIOUS EMISSION***RESULT: Pass***5.1.10 CONDUCTED EMISSION ON AC MAINS***RESULT: Pass***6.1.1 ELECTROMAGNETIC FIELDS***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: 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.

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

TÜV Rheinland (Shenzhen) Co., Ltd.

Conducted Emissions				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESR3	102428	2021-08-19
Artificial Mains Network	R&S	ENV216	102333	2021-08-19
Radio Spectrum Testing				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Wireless Connectivity Tester	Rohde & Schwarz	CMW270	101375	2021-08-30
Signal Analyzer	Rohde & Schwarz	FSV 40	101441	2021-08-30
Vector Signal Generator	Rohde & Schwarz	SMBV100A	263301	2021-08-30
Signal Generator	Rohde & Schwarz	SMB100A	115186	2021-08-30
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	2021-08-30
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	165339	2021-08-30
Signal Analyzer	Rohde & Schwarz	FSV 40	101440	2021-08-30
System Controller Interface	Rohde & Schwarz	SCI-100	S10010036	N/A
Filterbank	Rohde & Schwarz	CDMA	100751	2021-08-30
Filterbank	Rohde & Schwarz	GSM	100811	2021-08-30
OSP	Rohde & Schwarz	OSP 120	102041	N/A
OSP	Rohde & Schwarz	OSP 150	101385	N/A
Pre-amplifier	Rohde & Schwarz	SCU08F1	08320030	2021-08-30
Amplifier	Rohde & Schwarz	SCU-18F	180079	2021-08-30
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-	Steatite	QMS-00208	18312	2020-09-02

18 GHz)				
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

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		± 2.74 dB
Radiated Emission (30-1000MHz)	Field strength (dB μ V/m)	4.27dB
Radiated Emission (above 1000MHz)	Field strength (dB μ V/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. 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 ACTIVE SPEAKER SYSTEM with Bluetooth function used for audio entertainment in house or similar environment.

This product has two components: an active right and left speaker, the right speaker connected to left speaker via a 5.8GHz wireless module DWHP83; the right speaker supports Bluetooth and 5.8GHz wireless technology, the left speaker supports 5.8GHz wireless technology.

For 5.8GHz, only the radiated spurious emission was arranged evaluation and other test data refer to original FCC ID: Z9G-EDF24 and IC:10004A-EDF24.

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

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	ACTIVE SPEAKER SYSTEM
Type Designation	A300Pro
Trade Mark	AIRPULSE
Operating Temperature Range	0 °C ~ +45°C
Operating Voltage	AC 100-240V, 50/60Hz, 1.5A
Testing Voltage	AC 120V, 60Hz
Technical Specification of Bluetooth 5.0	
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	Bluetooth 5.0, BDR & EDR
Channel Number	79 channels
Channel separation	1MHz
Modulation	GFSK, 8DPSK, $\pi/4$ DQPSK
Antenna Type	Internal Antenna
Number of Antenna	1
Antenna Gain	-0.29dBi
Technical Specification of 5.8GHz	
Operating Frequency band	5725MHz ~ 5825MHz
Channel Number	3 channels
Modulation	QPSK
Antenna Type	Internal Antenna
Number of Antenna	2 (Only 'one' antenna is selected for use at any one time)
Antenna Gain	3.2dBi

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 5.8GHz

RF Channel	1	2	3
Frequency (MHz)	5736	5762	5814

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 V5.0 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, Bluetooth transmitting mode (BDR & EDR mode)
 - a) Low Channel
 - b) Middle Channel
 - c) High Channel
- B. 5.8GHz wireless transmitting mode
 - a) Low Channel
 - b) Middle Channel
 - c) High Channel
- C. On, Transmitting on Hopping channel
- D. On, Bluetooth connecting mode
- E. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

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

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
Notebook	Lenovo	ThinkPad X260	C35QJ76JGRWM

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)

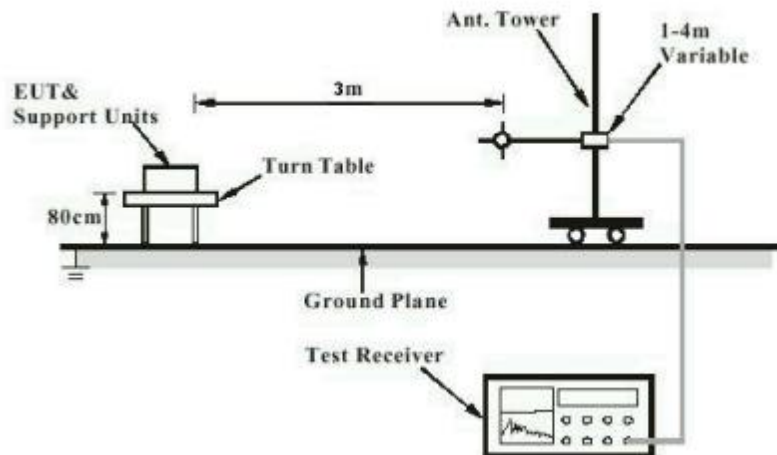


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

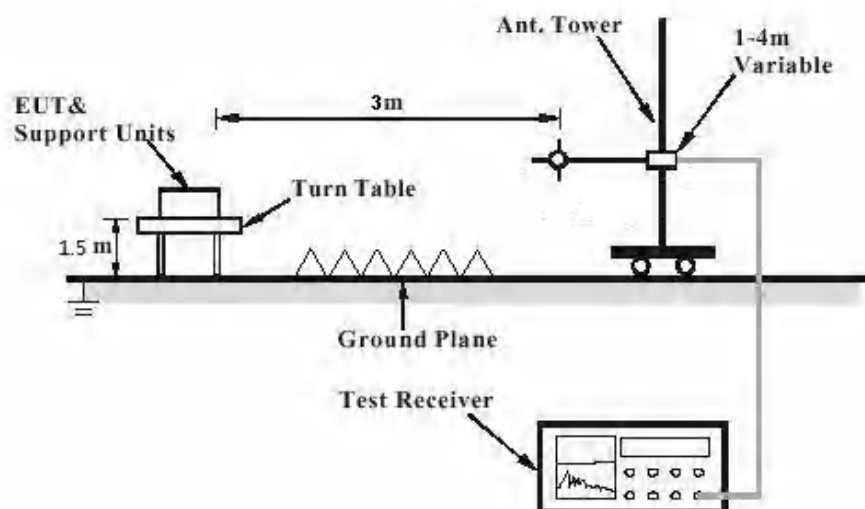


Diagram of Measurement Configuration for Mains Conduction Measurement

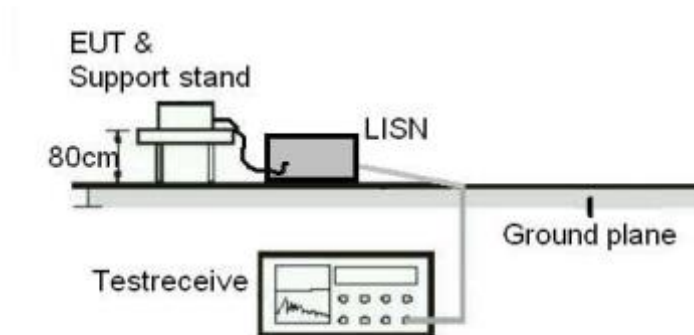
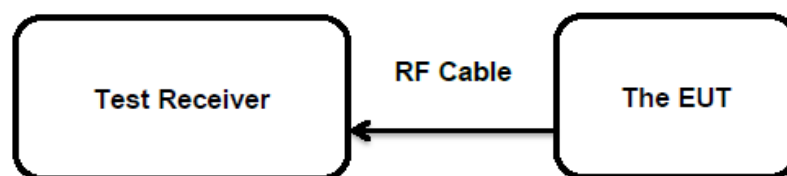


Diagram of Measurement Configuration for Conducted Transmitter Measurement



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 two integral antennas, the directional gain of antenna is -0.29 dBi for Bluetooth and 3.2 dBi for 5.8GHz, 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
FHSS<0.125W(Maximum peak conducted output power)

Limits : < 4 W (e.i.r.p.)

Kind of test site : Shielded Room

Test Setup

Date of testing : 05.06.2020

Input voltage : AC 120V/60Hz

Operation mode : A

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	4.46	0.00279	< 0.125
	2441	4.58	0.00287	
	2480	4.60	0.00288	
EDR	2402	6.74	0.00472	< 0.125
	2441	6.95	0.00495	
	2480	7.00	0.00501	

Note: The cable loss is taken into account in results and the maximum e.i.r.p. is 6.71 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 : 05.06.2020
Input voltage : AC 120V/60Hz
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 8: Test Result of 99% Bandwidth

Test Mode	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)
BDR	2402	865	/
	2441	865	
	2480	865	
EDR	2402	1195	/
	2441	1195	
	2480	1195	

For the measurement records, refer to the appendix B

5.1.4 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 : 05.06.2020
Input voltage : AC 120V/60Hz
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 9: Test Result of 20dB Bandwidth

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (kHz)	2/3 of 20dB Bandwidth (kHz)	Limit (MHz)
BDR	2402	930	620.000	/
	2441	930	620.000	
	2480	930	620.000	
EDR	2402	1295	863.333	/
	2441	1295	863.333	
	2480	1295	863.333	

For the measurement records, refer to the appendix B.

5.1.5 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	: $\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth, whichever is greater
Kind of test site	: Shielded Room

Test Setup

Date of testing	:	05.06.2020
Input voltage	:	AC 120V/60Hz
Operation mode	:	C
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 10: Test Result of Carrier Frequency Separation

Test Mode	Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
BDR	Low Channel	2402.024752	1.009901	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
	Adjacency Channel	2403.034653			
	Middle Channel	2441.024752	0.980198		Pass
	Adjacency Channel	2442.004950			
	High Channel	2479.024752	1.009901		Pass
	Adjacency Channel	2480.034653			
EDR	Low Channel	2402.054455	0.980198	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
	Adjacency Channel	2403.034653			
	Middle Channel	2441.054455	0.980198		Pass
	Adjacency Channel	2442.034653			
	High Channel	2479.054455	0.980198		Pass
	Adjacency Channel	2480.034653			

Note:

The limit is maximum 2/3 of the 20 dB bandwidth: 673.3 KHz.

For the measurement records, refer to the appendix B.

5.1.6 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 : 05.06.2020
Input voltage : AC 120V/60Hz
Operation mode : C
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 11: 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.

5.1.7 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 : 05.06.2020
 Input voltage : AC 120V/60Hz
 Operation mode : C
 Test channel : Low / Middle / High
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

Table 12: Test Result of Time of Occupancy

Test Mode	Channel	Data Packet	Pulse width (ms)	Number of Hops	Measured Dwell time(ms)	Limit (ms)
BDR - GFSK	2441	DH1	0.395	319	126.005	< 400
		DH3	1.651	159	262.509	
		DH5	2.899	106	307.294	
EDR – 8DPSK	2441	3DH1	0.405	319	129.195	< 400
		3DH3	1.654	159	262.986	
		3DH5	2.905	106	307.930	

Note:

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

Period = 0.4 x 79 (channel) = 31.6 seconds

5.1.8 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	: 05.06.2020
Input voltage	: AC 120V/60Hz
Operation mode	: A
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 B.

5.1.9 Radiated Spurious Emission

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

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 FCC Part 15.407(b) RSS-247 Clause 5.5 & 6.2.4
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	: 11.06.2020 - 11.06.2020
Input voltage	: AC 120V/60Hz
Operation mode	: A, B, A+B
Test channel	: Low / Middle / High
Ambient temperature	: 23 °C
Relative humidity	: 56 %
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 harmonics.

For the measurement records, refer to the appendix C.

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	: 10.07.2020
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 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: Section 2.1091
CFR47 FCC Part 1: Section 1.1310
FCC KDB Publication 447498 v06
FCC KDB Publication 865664 D02 v01r02
OET Bulletin 65 (Edition 97-01)
RSS-102 Issue 5 March 2015

➤ FCC requirements

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 nominal maximum conducted output power specified:

2.4GHz FHSS: 7.00 dBm

5.8GHz: 9.00 dBm

From the peak RF output power, the minimum mobile separation distance, d=20 cm, as well as the antenna gain (Max. -0.29 dBi for 2.4GHz FHSS and 3.2 dBi 5.8GHz), the RF power density can be calculated as below:

For 2.4GHz FHSS: $S_{(mW/cm^2)} = PG/4\pi R^2 = 0.0009 \text{ mW/cm}^2$

For 5.8GHz: $S_{(mW/cm^2)} = PG/4\pi R^2 = 0.003 \text{ mW/cm}^2$

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

For Simultaneous transmitting of 2.4GHz FHSS and 5.8GHz:

According to 865664D02 2.2 d) 1):

The sum of the ratios of the spatially averaged results to the applicable frequency dependent MPE limits =
 $0.0009/1 + 0.003/1 = 0.0039 < 1$

➤ **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 2.4GHz FHSS: 2.676 W
- RF exposure evaluation exempted power for 5.8GHz: 4.849 W

The nominal maximum conducted output power specified:

2.4GHz FHSS: 7.00 dBm

5.8GHz: 9.00 dBm

Antenna Gain: -0.29 dBi for 2.4GHz FHSS

Antenna Gain: 3.2 dBi for 5.8GHz

The Max. e.i.r.p. for 2.4GHz FHSS: 6.71 dBm = 0.005 W

The Max. e.i.r.p. for 5.8GHz: 12.20 dBm = 0.017 W

For Simultaneous transmitting of 2.4GHz FHSS and 5.8GHz:

According to 865664D02 2.2 d) 1):

The sum of the ratios of the spatially averaged results to the applicable frequency dependent MPE limits =
 $0.001/2.676 + 0.019/4.849 = 0.0043 < 1$

Both e.i.r.p. for the 2.4GHz FHSS and 5.8GHz are less than the RF exposure evaluation exempted power.
So 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

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

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Appendix B

Test Results of Conducted Testing

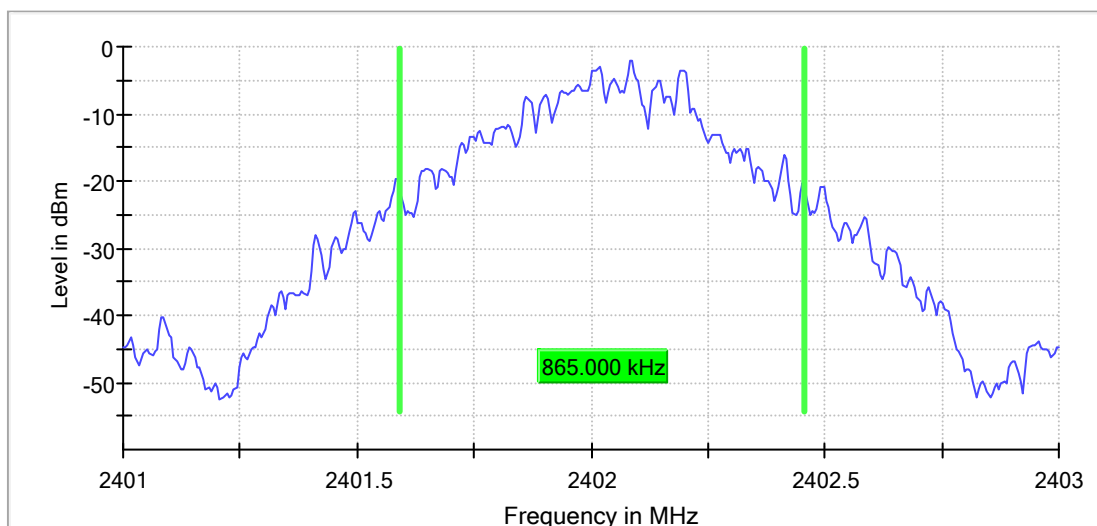
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Appendix B.1: Test Plots of 99% Bandwidth

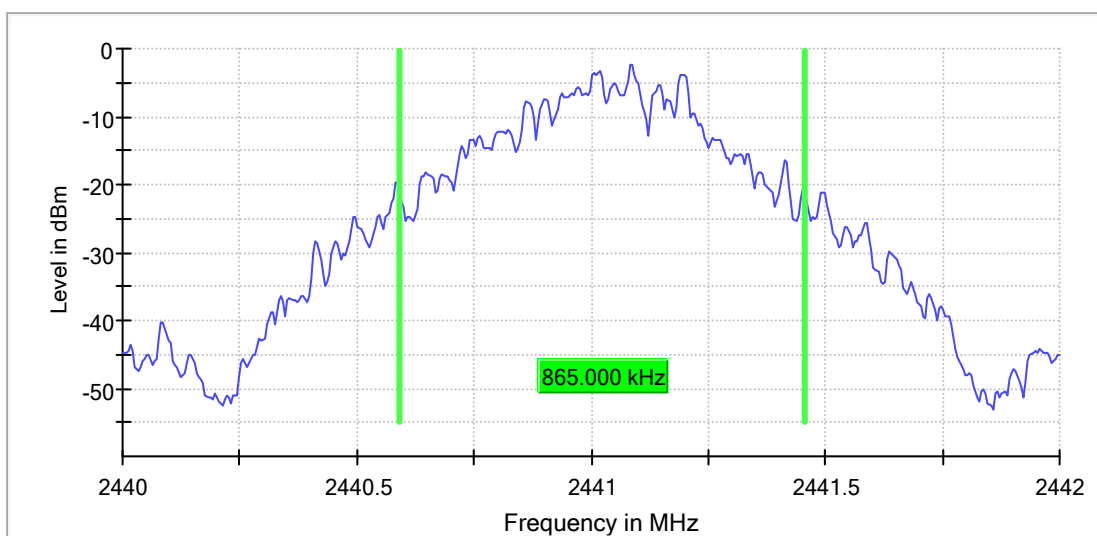
BDR Mode, DH1

RBW=10KHz, VBW=30KHz

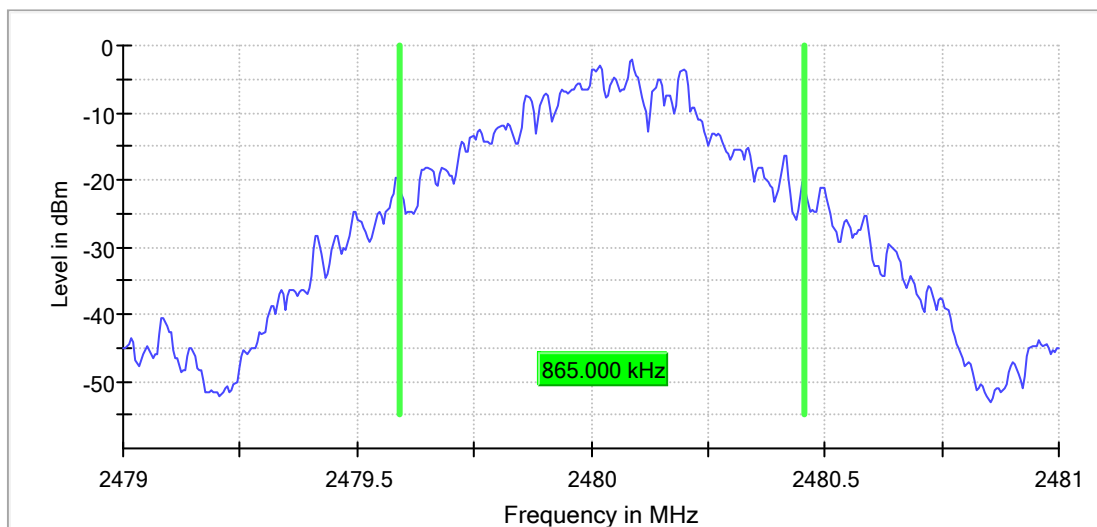
99 % Bandwidth



99 % Bandwidth



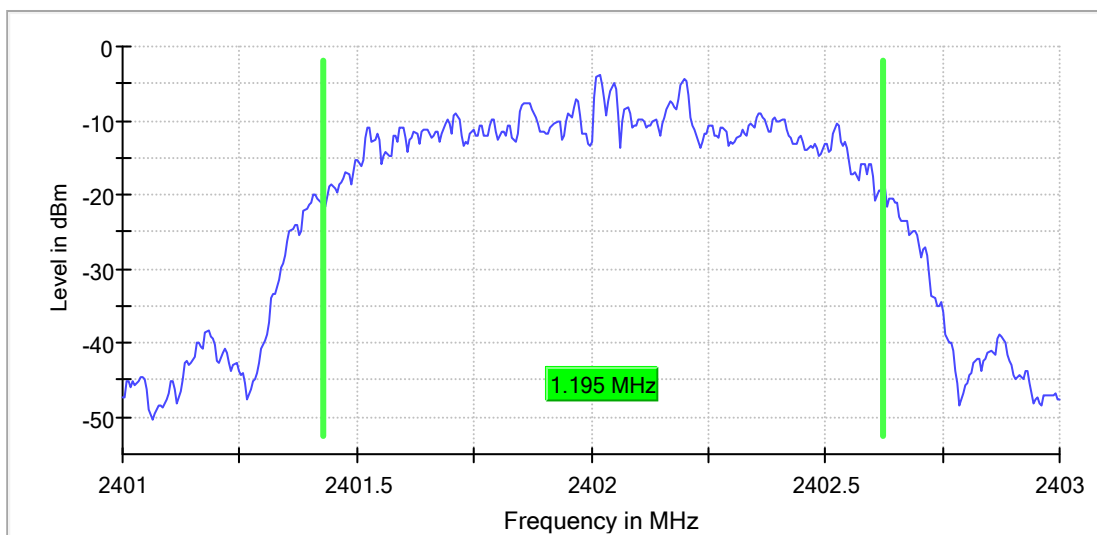
99 % Bandwidth



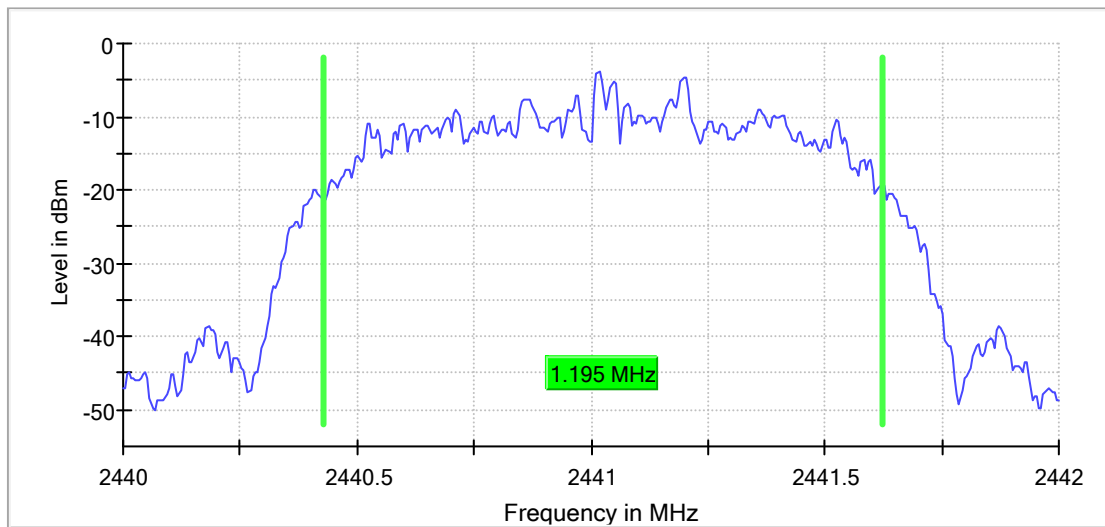
EDR Mode, 3DH1

RBW=30KHz VBW=100KHz

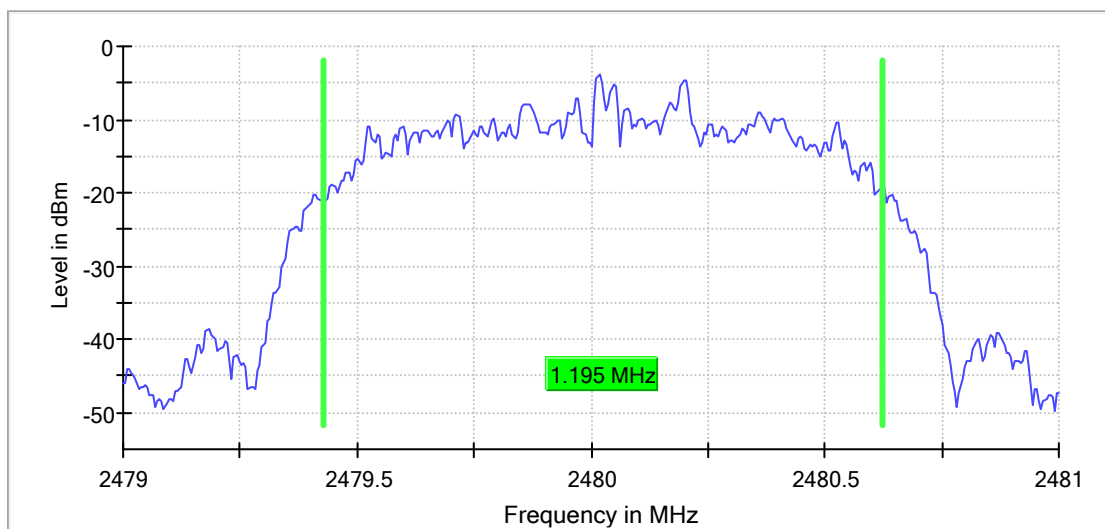
99 % Bandwidth



99 % Bandwidth



99 % Bandwidth

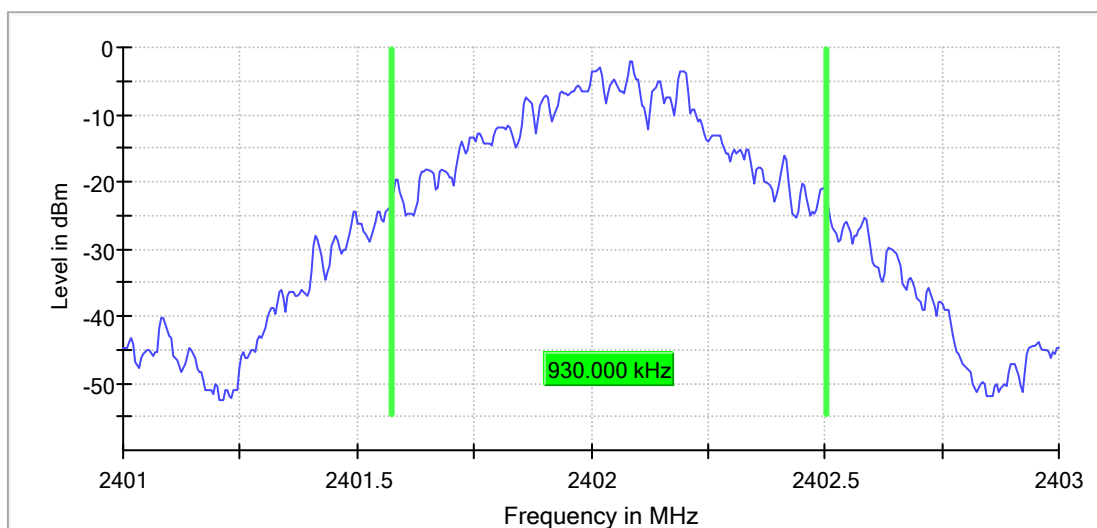


Appendix B.2: Test Plots of 20dB Bandwidth

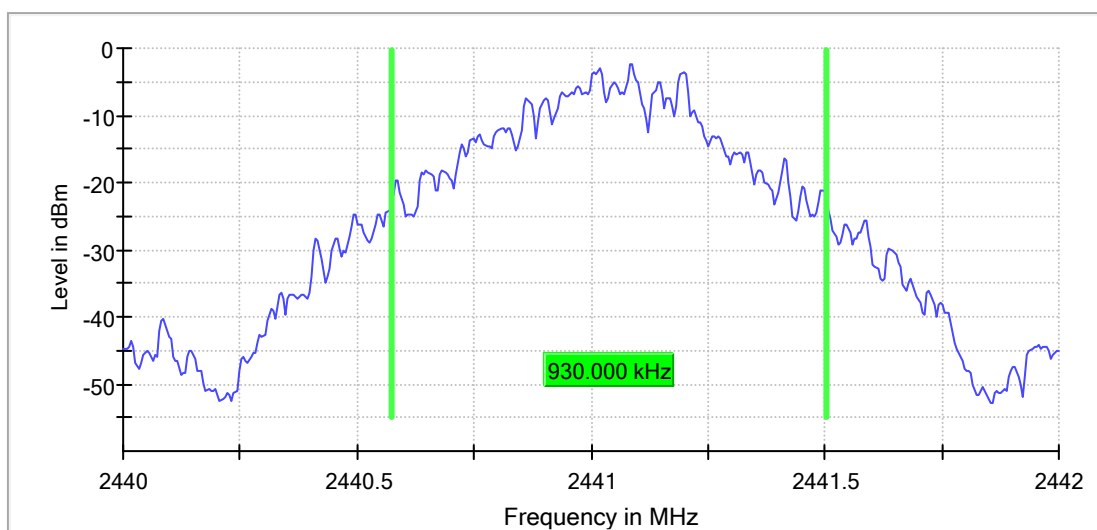
BDR Mode, DH1

RBW=10KHz VBW=30KHz

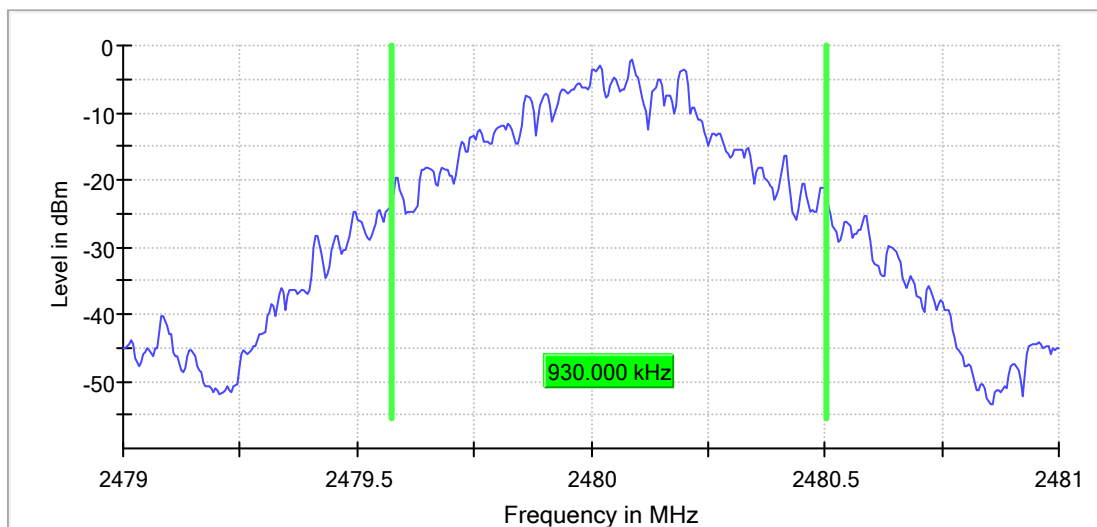
20 dB Bandwidth



20 dB Bandwidth



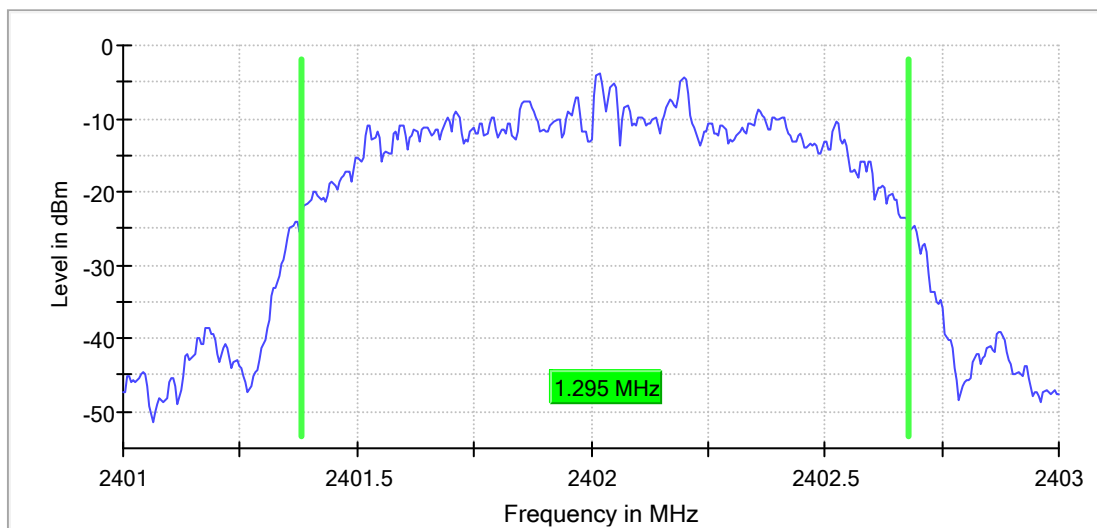
20 dB Bandwidth



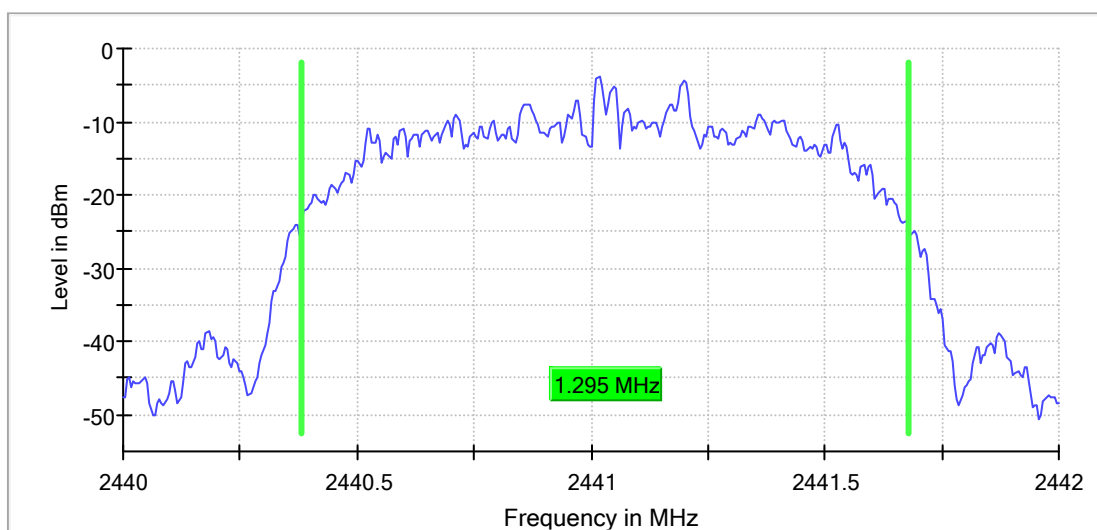
EDR Mode, 3DH1

RBW=30KHz VBW=100KHz

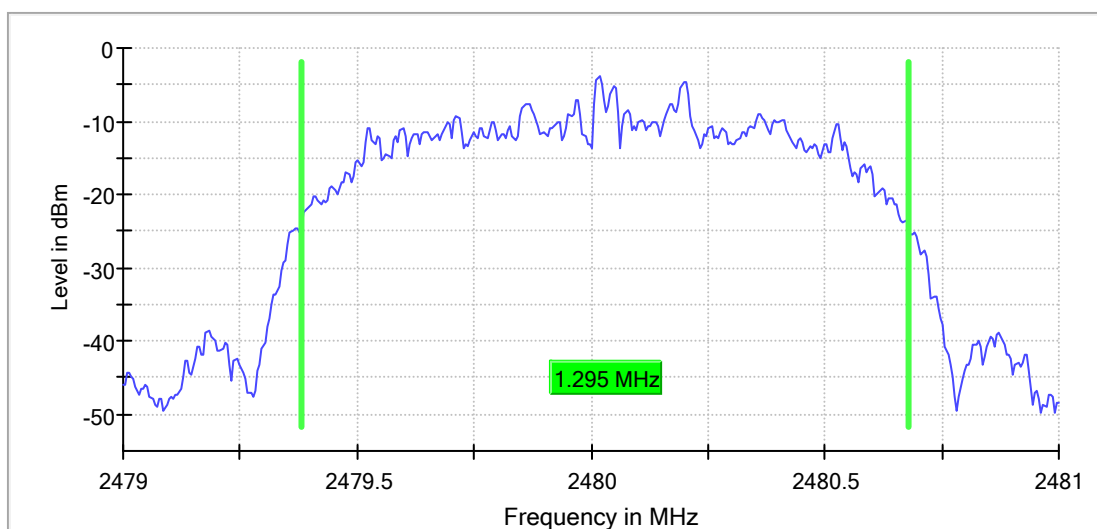
20 dB Bandwidth



20 dB Bandwidth



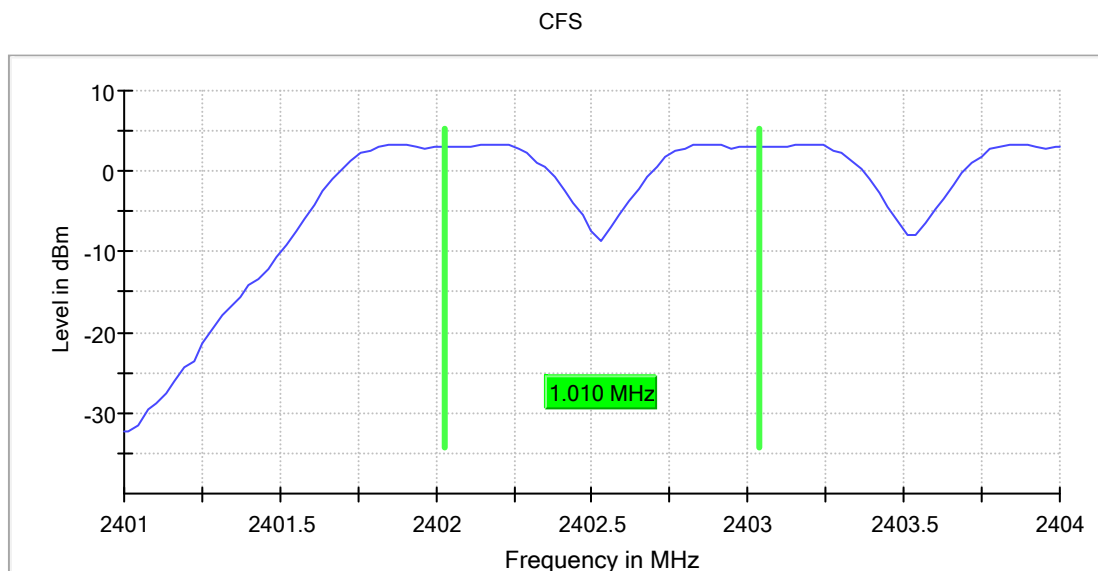
20 dB Bandwidth



Appendix B.3: Test Plots of Carrier Frequency Separation

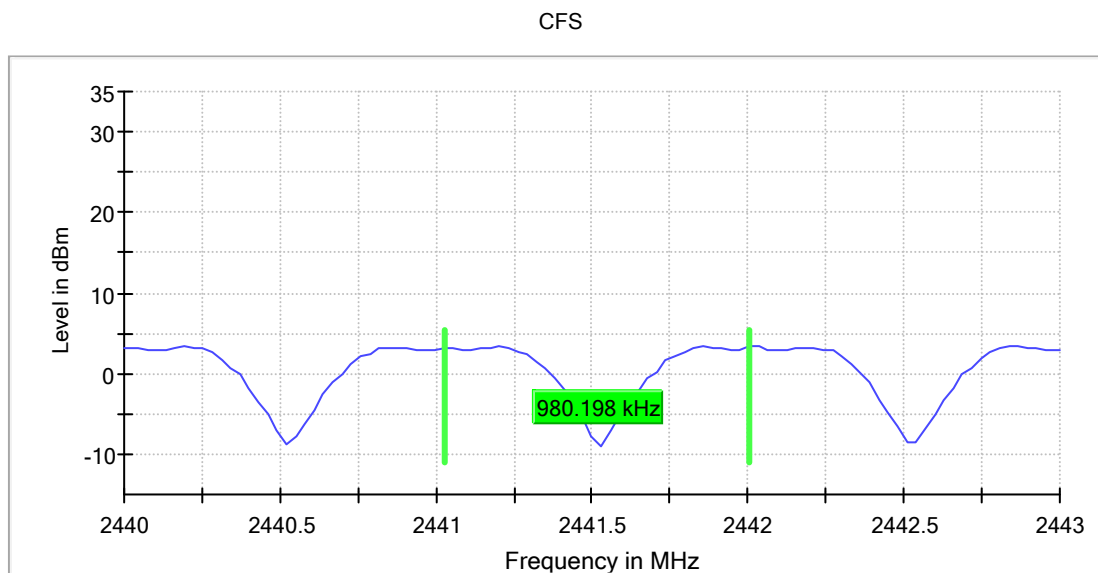
BDR, Low Channel

RBW=300KHz, VBW=300KHz



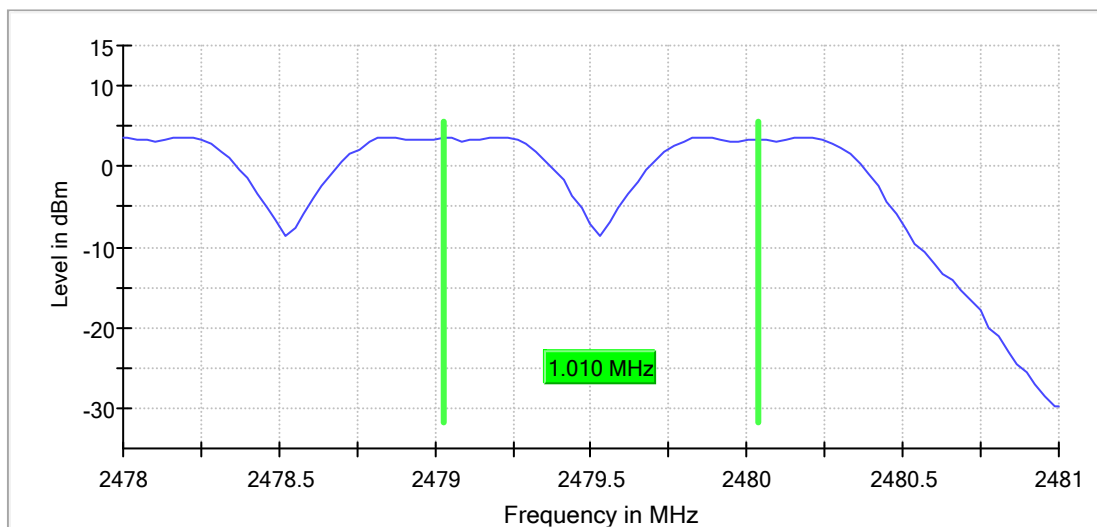
BDR, Middle Channel

RBW=300KHz, VBW=300KHz



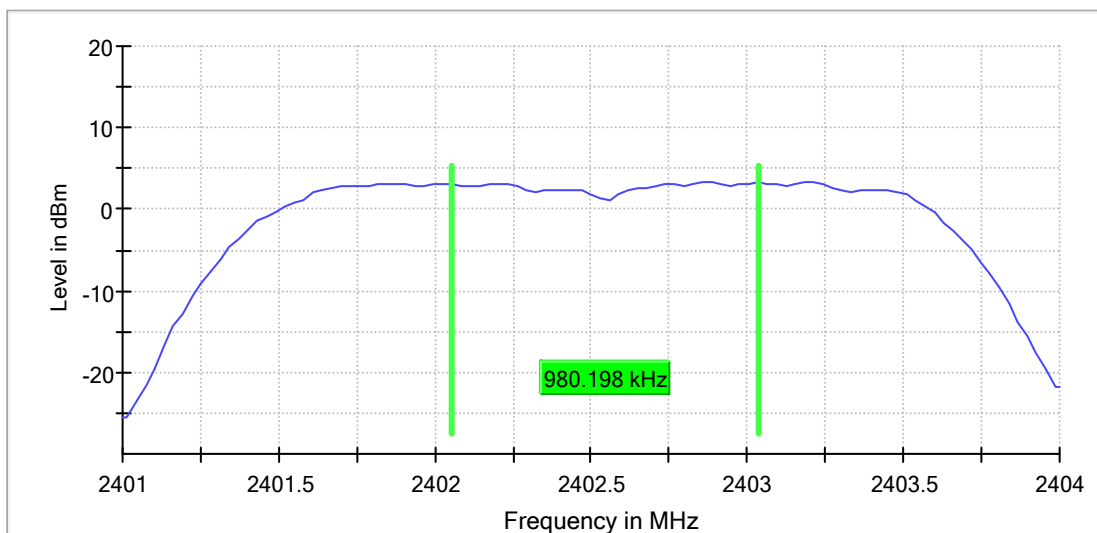
BDR, High Channel
RBW=300KHz, VBW=300KHz

CFS

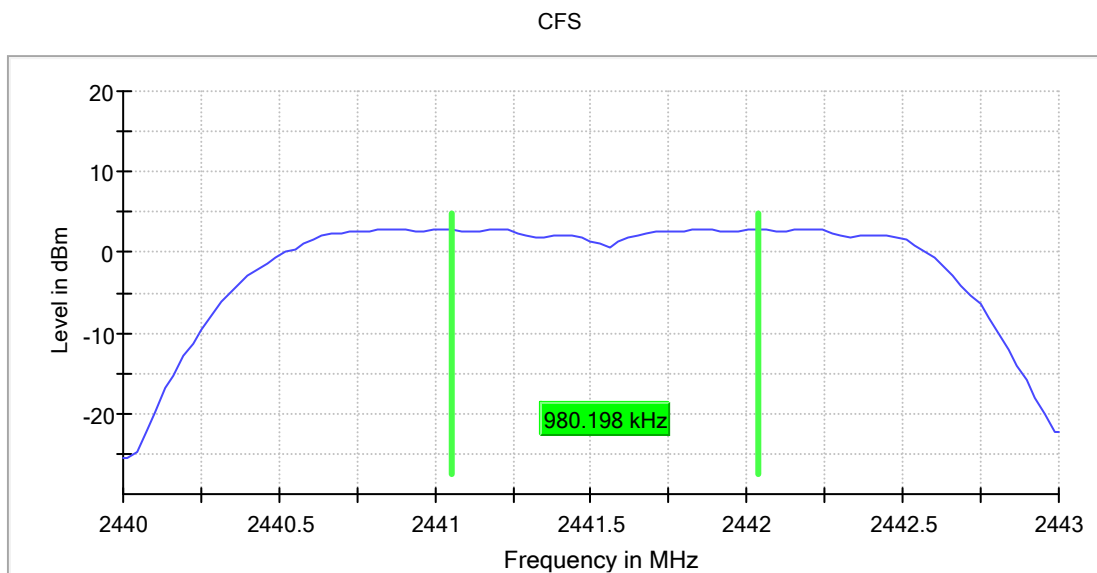


EDR, Low Channel
RBW=300KHz, VBW=300KHz

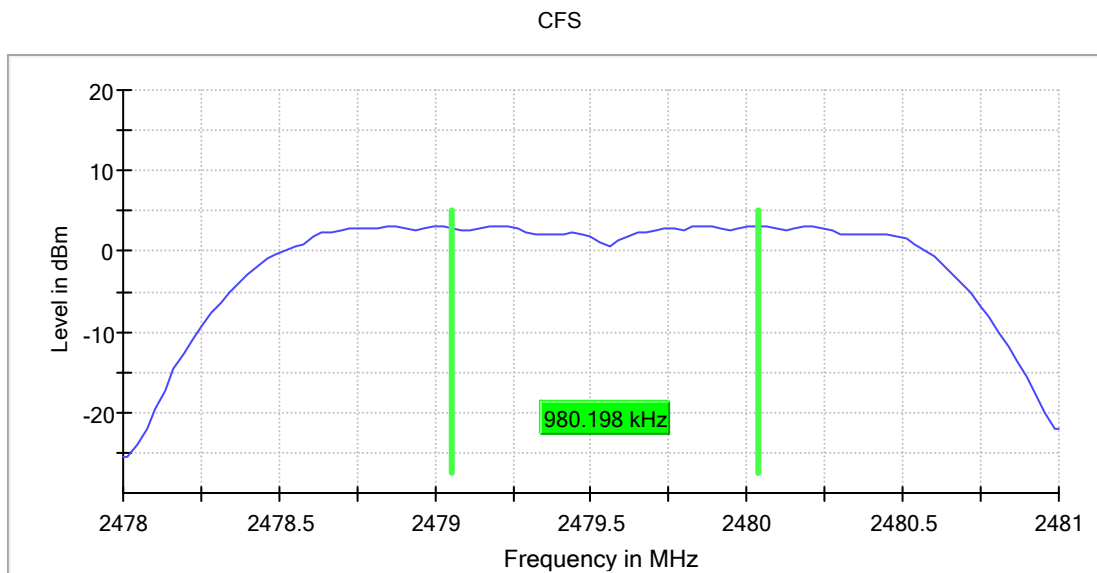
CFS



EDR, Middle Channel
RBW=300KHz, VBW=300KHz



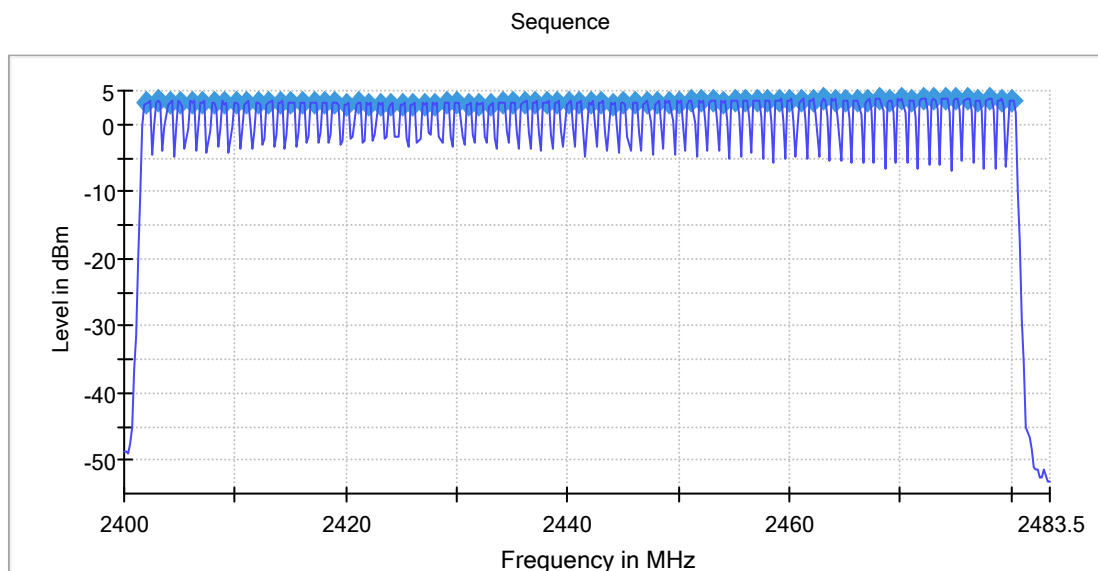
EDR, High Channel
RBW=300KHz, VBW=300KHz



Appendix B.4: Test Plots of Number of Hopping Frequency

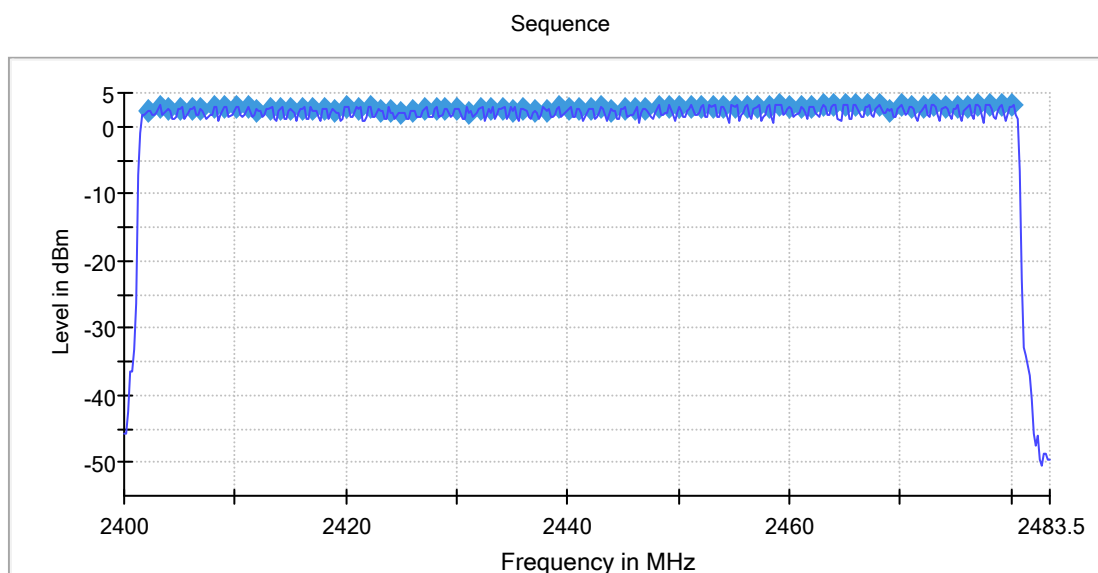
BDR, Hopping

RBW=200KHzM, VBW=200KHz



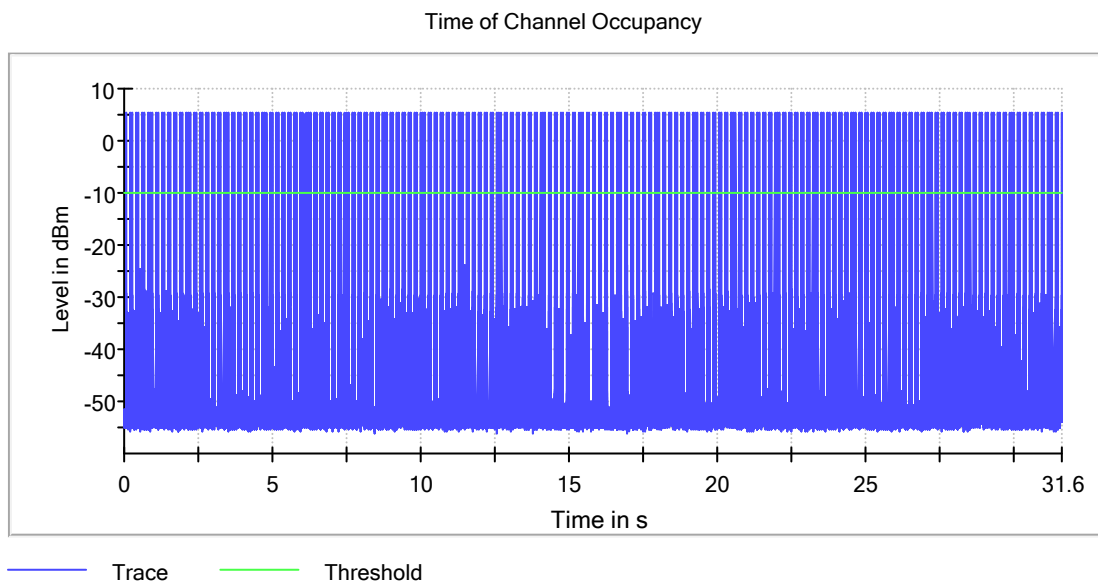
EDR, Hopping

RBW=200KHzM, VBW=200KHz

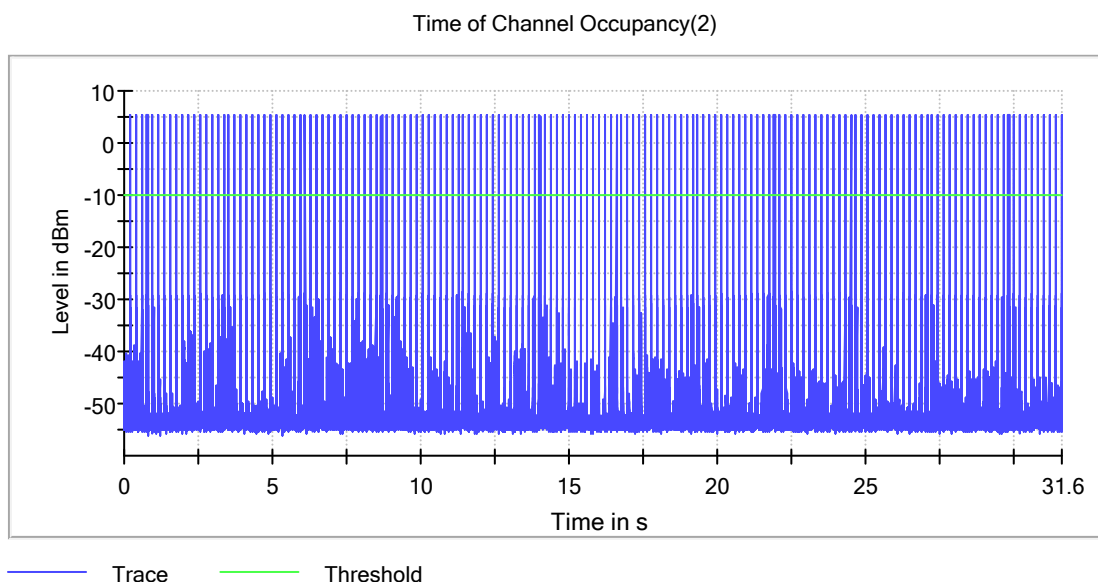


Appendix B.5: Test Plots of Time of Occupancy

BDR Mode, DH1, Middle Channel
RBW=500KHzM, VBW=1MHz



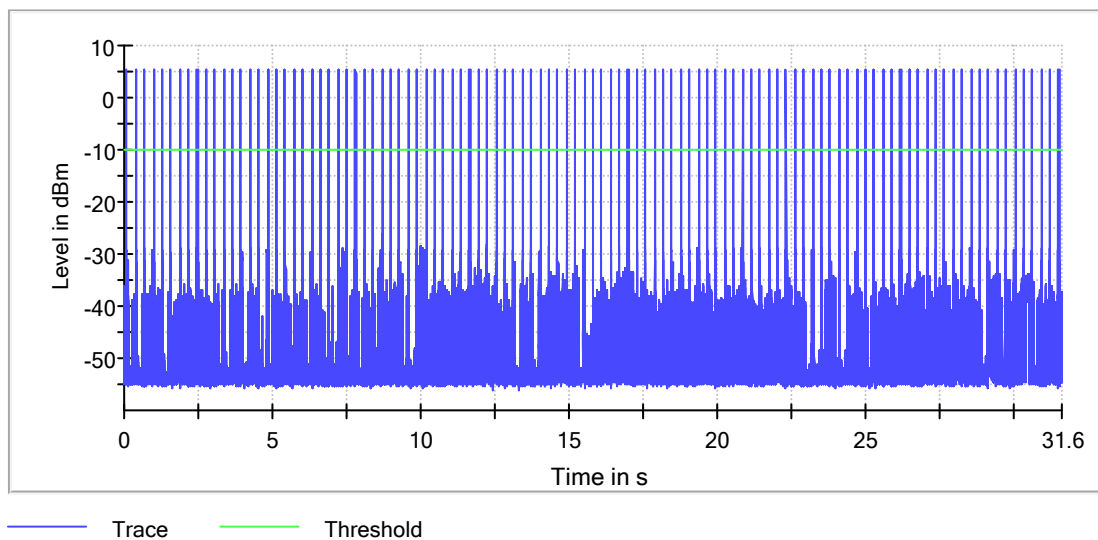
BDR Mode, DH3, Middle Channel
RBW=500KHzM, VBW=1MHz



BDR Mode, DH5, Middle Channel

RBW=500KHzM, VBW=1MHz

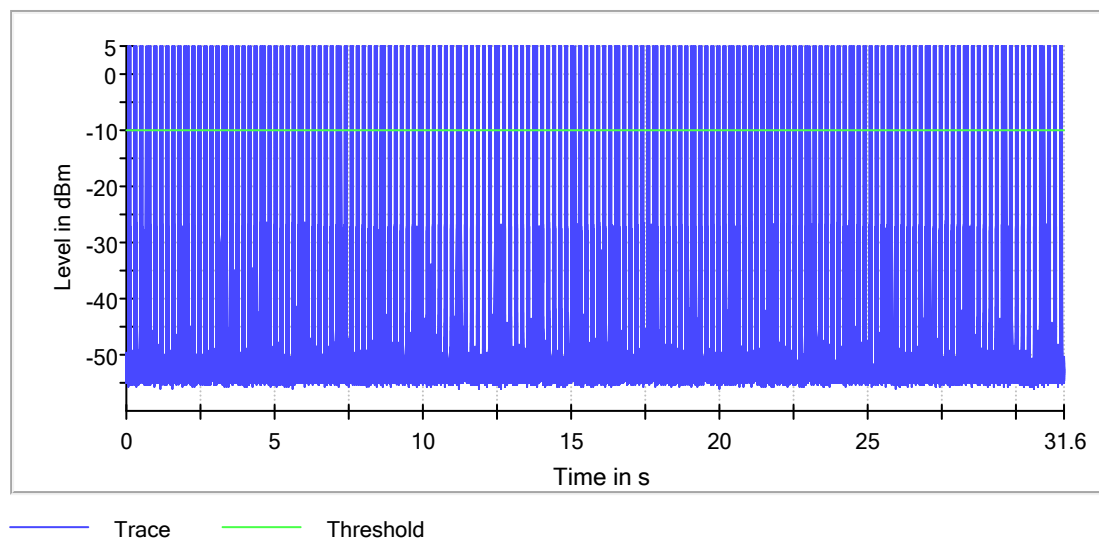
Time of Channel Occupancy(3)



EDR Mode, 3DH1, Middle Channel

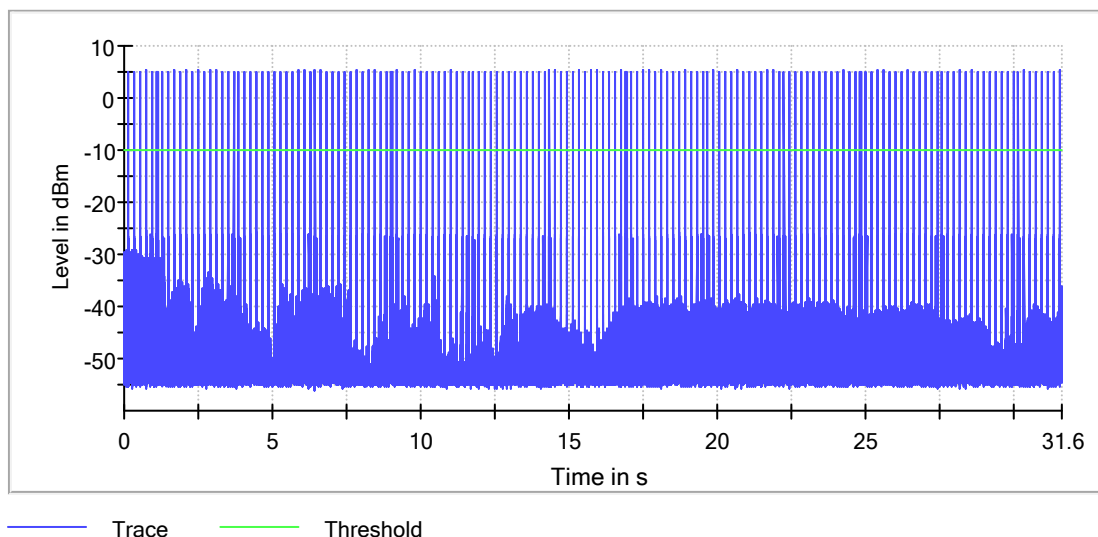
RBW=500KHzM, VBW=1MHz

Time of Channel Occupancy



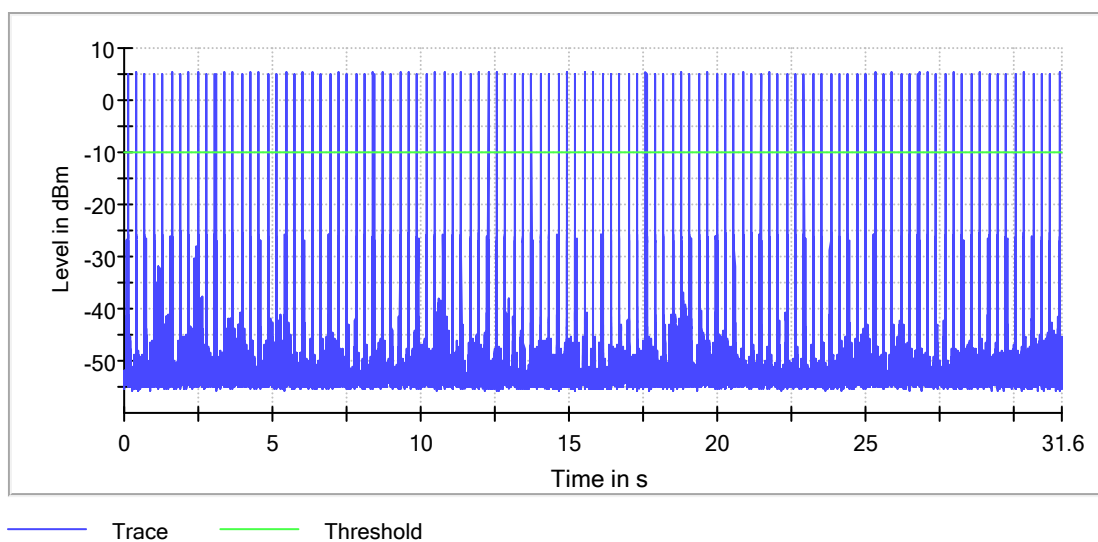
EDR Mode, 3DH3, Middle Channel
RBW=500KHzM, VBW=1MHz

Time of Channel Occupancy(2)



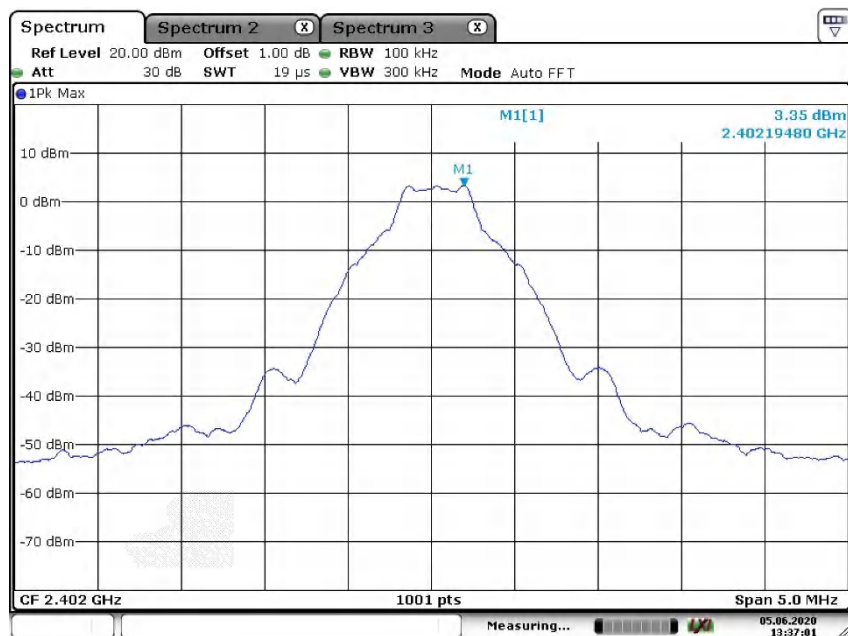
EDR Mode, 3DH5, Middle Channel
RBW=500KHzM, VBW=1MHz

Time of Channel Occupancy(3)

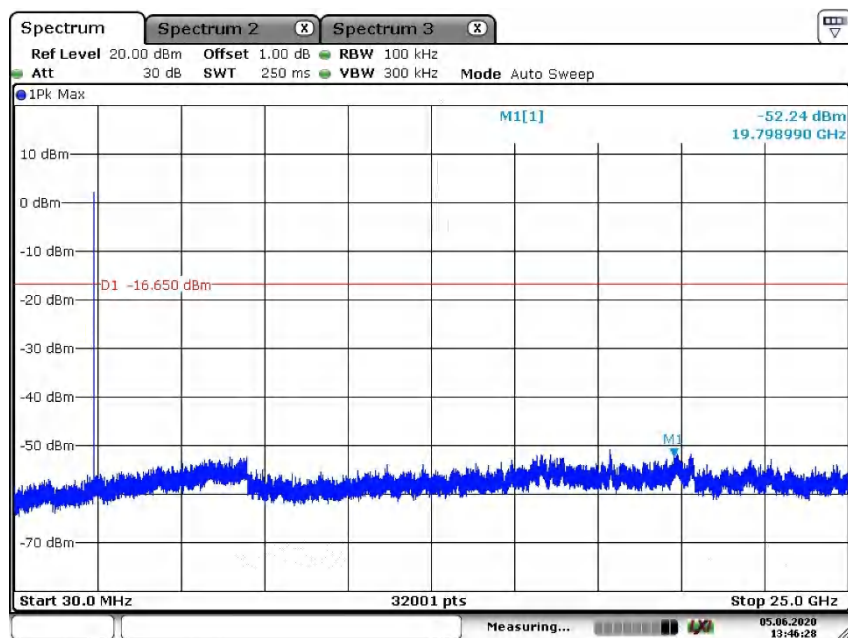


Appendix B.6: Test Plots of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

BDR Mode, Low Channel

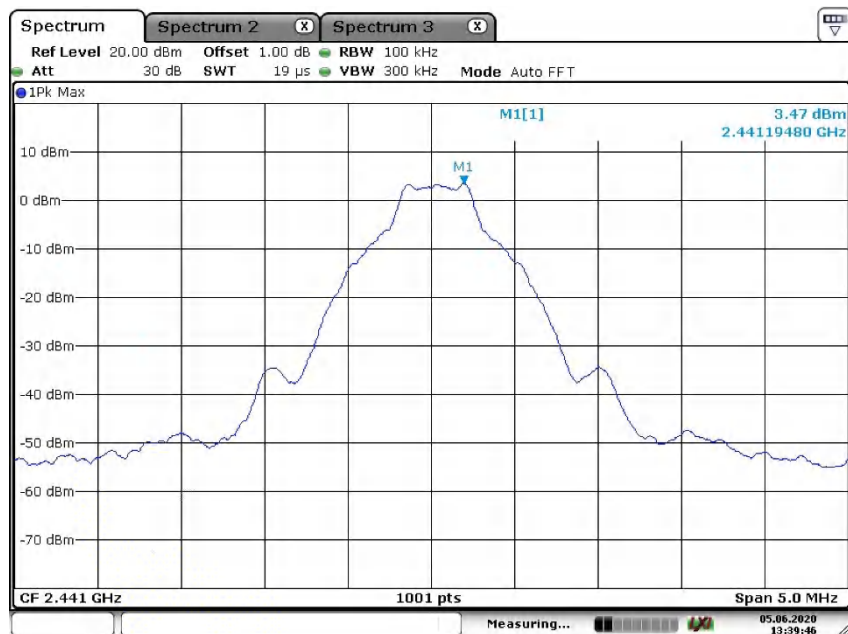


Date: 5.JUN.2020 13:37:01

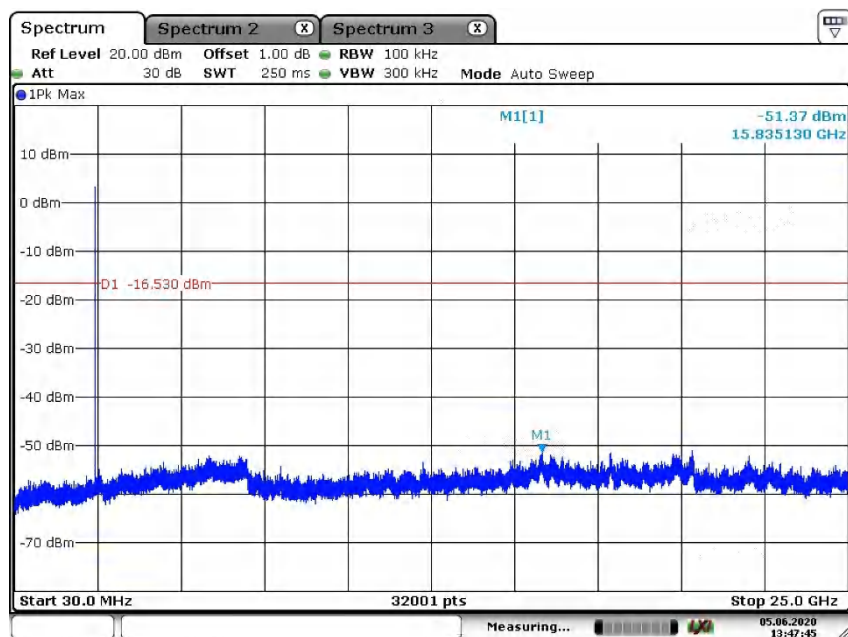


Date: 5.JUN.2020 13:46:28

BDR Mode, Middle Channel

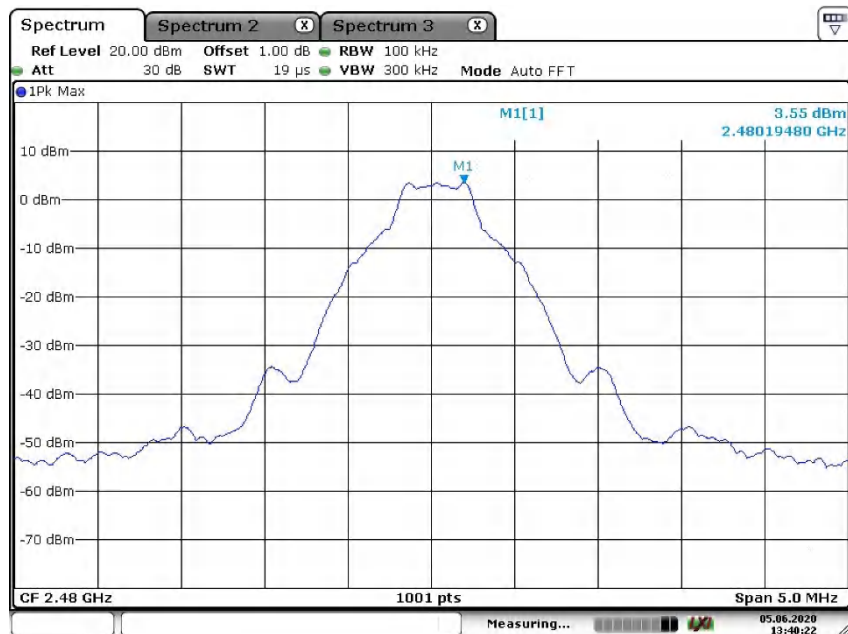


Date: 5.JUN.2020 13:39:46

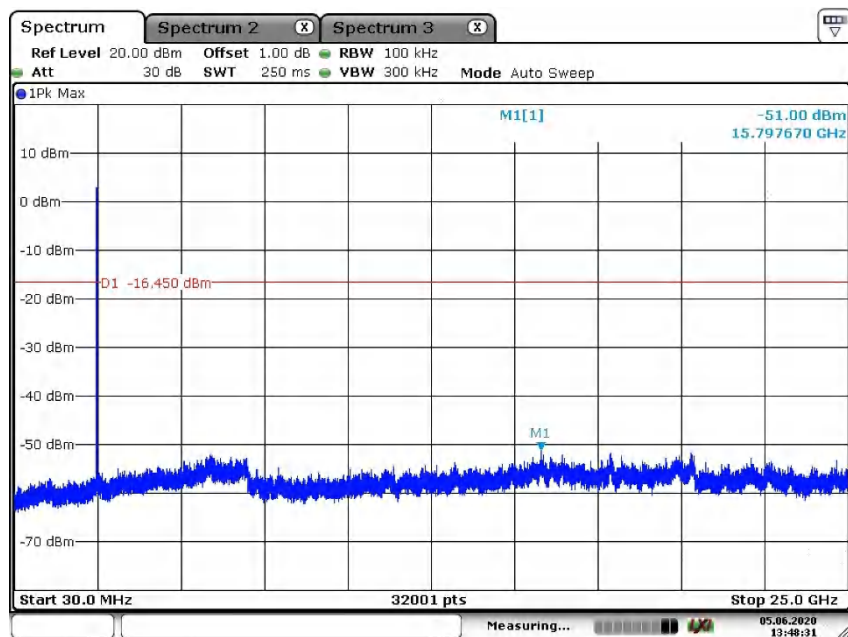


Date: 5.JUN.2020 13:47:45

BDR Mode, High Channel

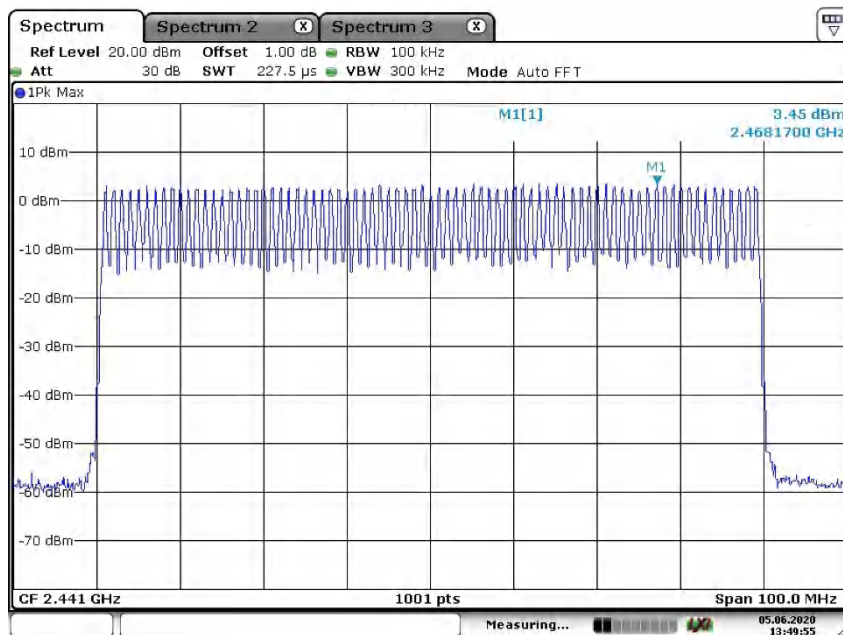


Date: 5.JUN.2020 13:40:22

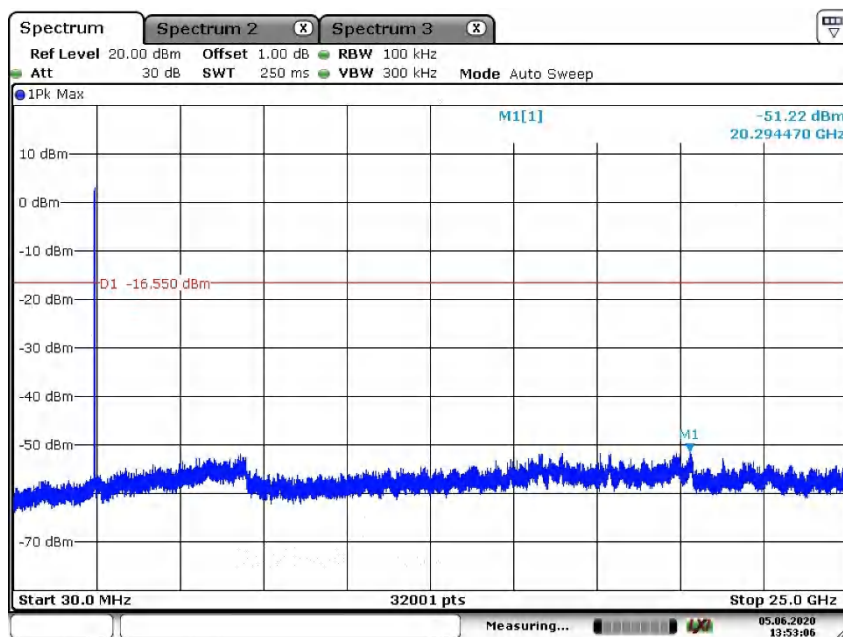


Date: 5.JUN.2020 13:40:31

BDR, Hopping

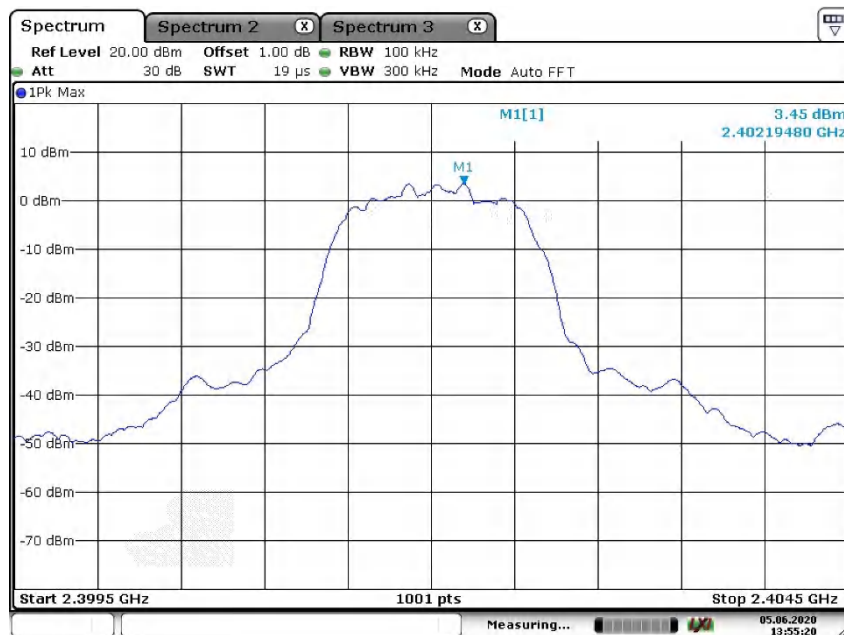


Date: 5.JUN.2020 13:49:55

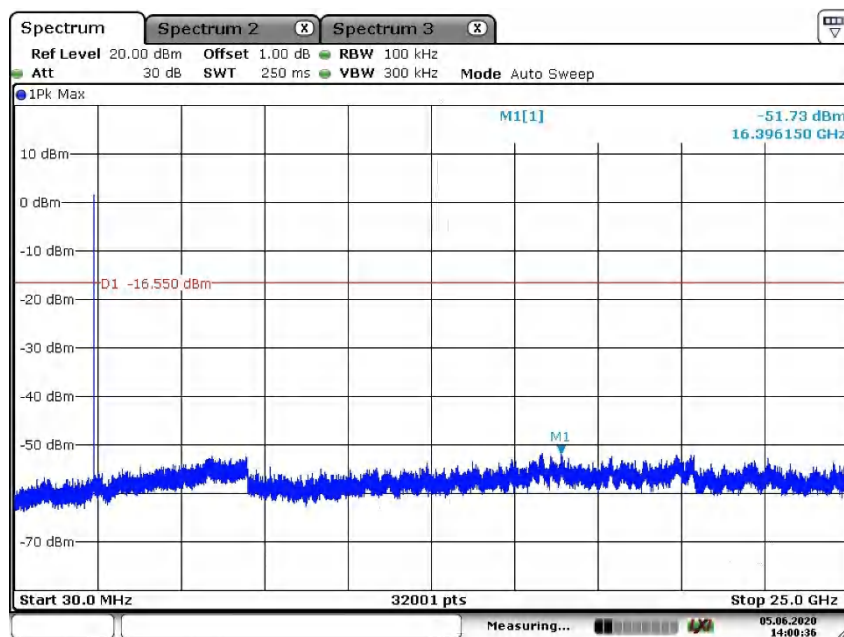


Date: 5.JUN.2020 13:53:06

EDR Mode, Low Channel

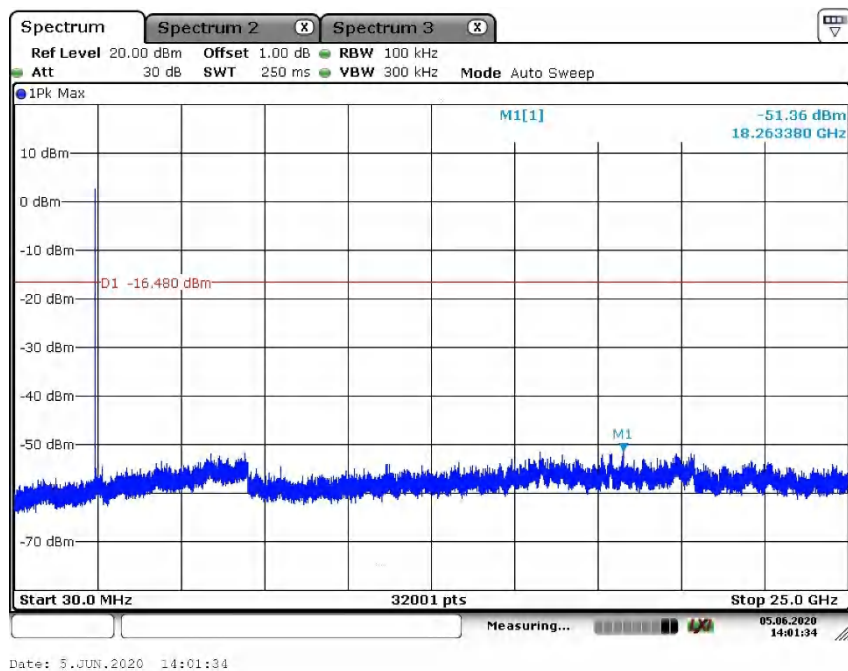
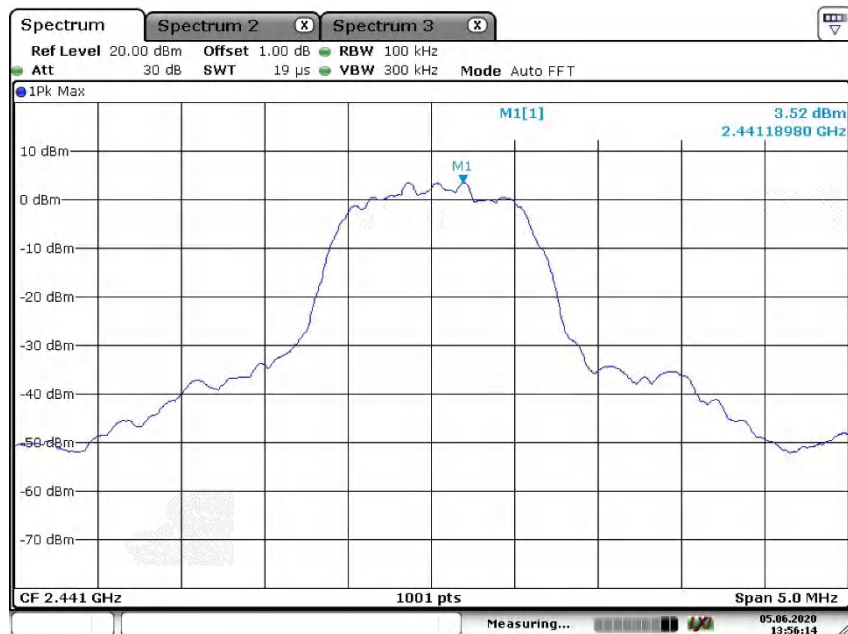


Date: 5.JUN.2020 13:55:21



Date: 5.JUN.2020 14:00:36

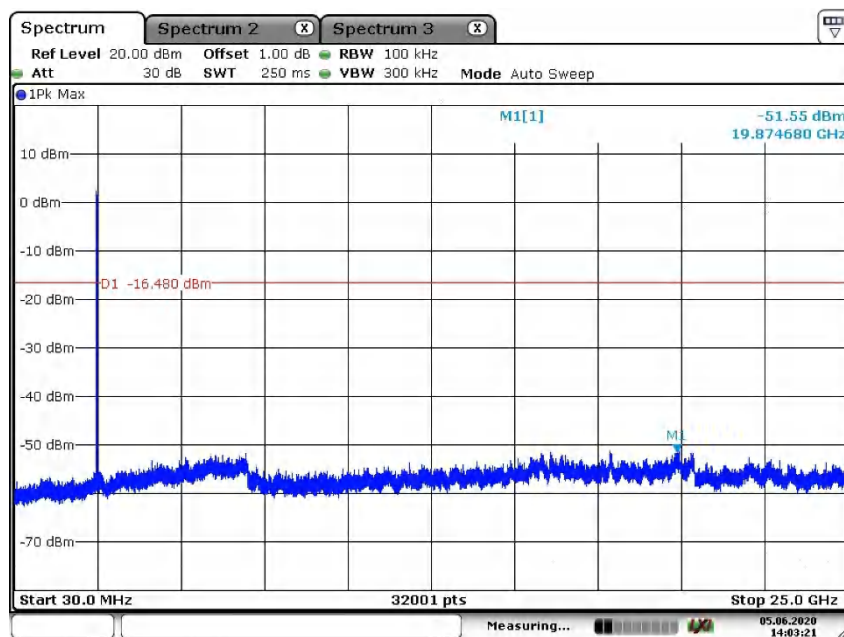
EDR Mode, Middle Channel



EDR Mode, High Channel

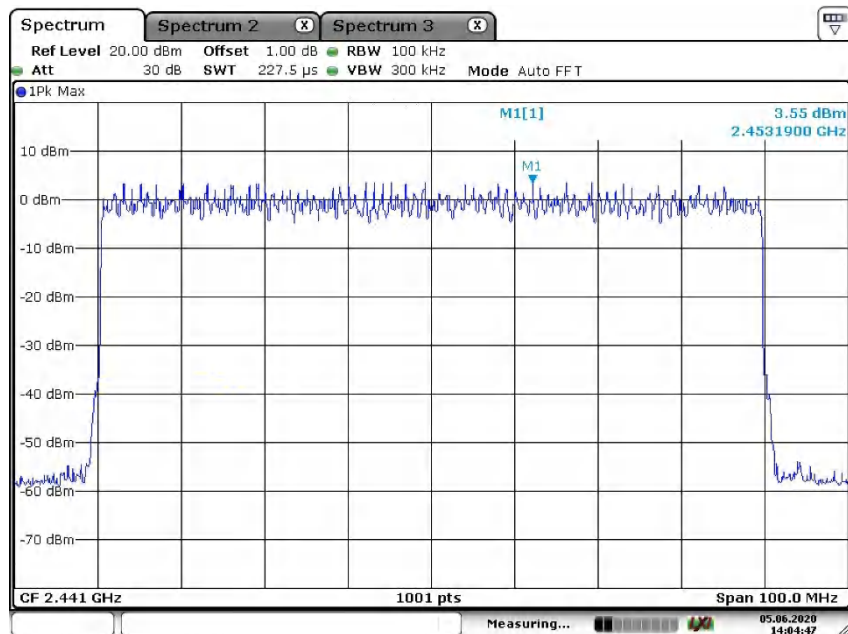


Date: 5.JUN.2020 13:56:47

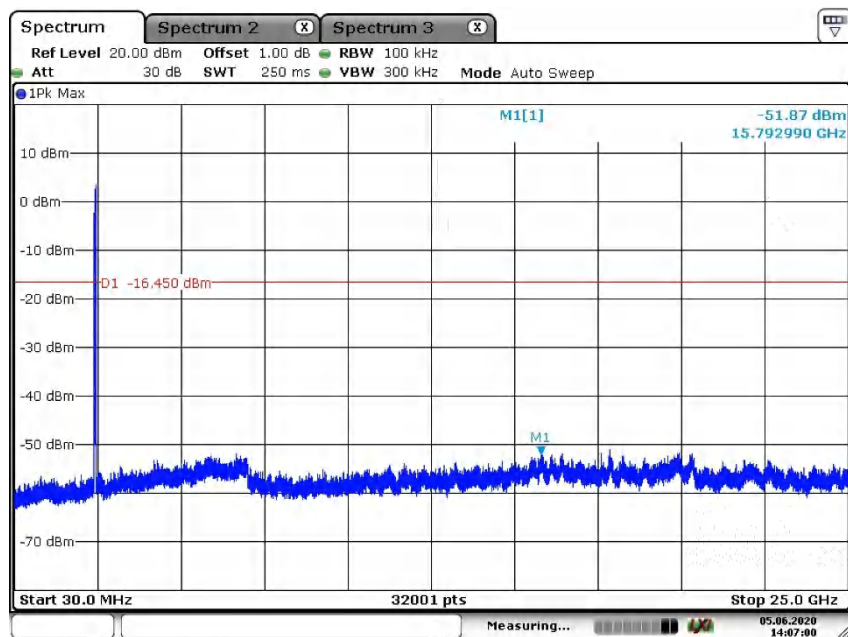


Date: 5.JUN.2020 14:03:22

EDR, Hopping

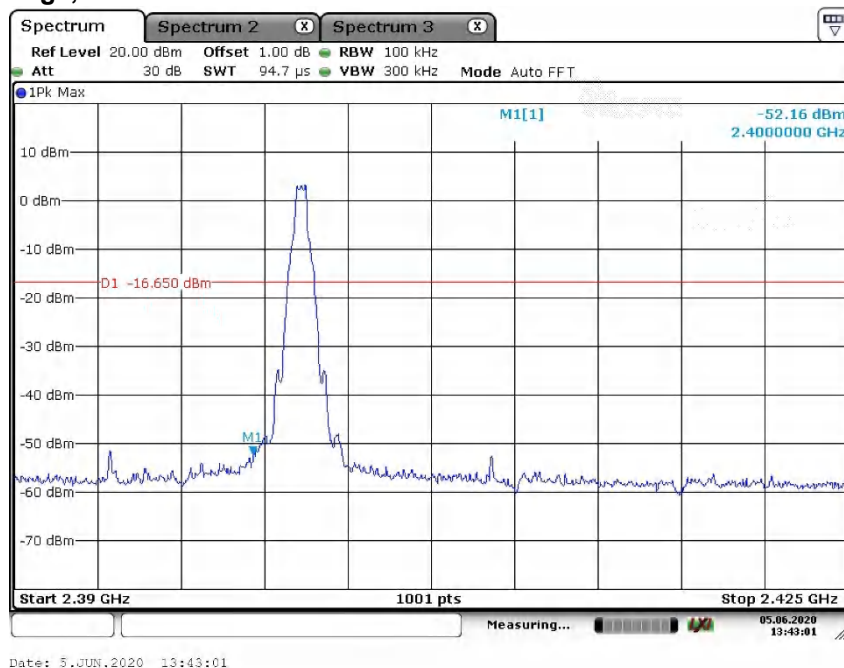


Date: 5.JUN.2020 14:04:47

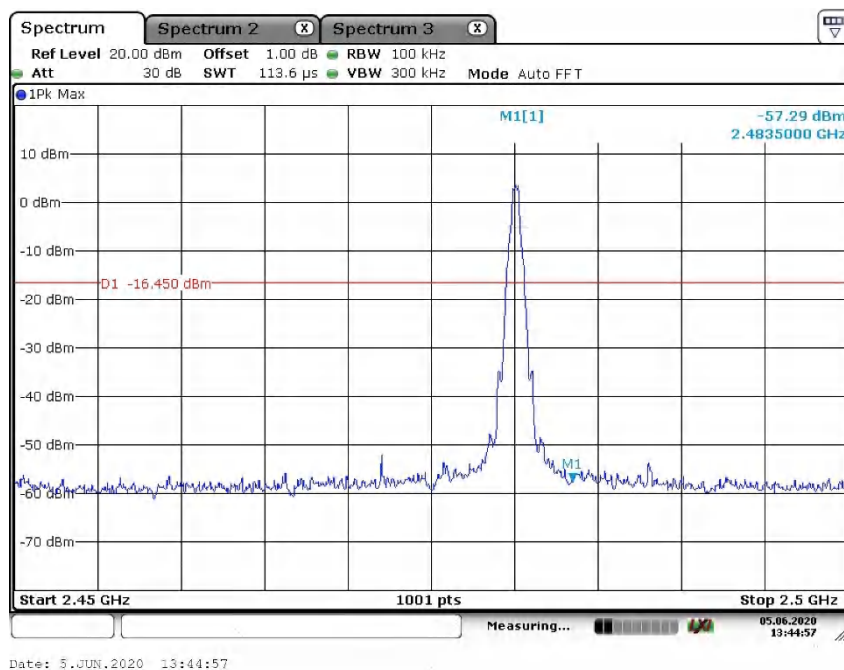


Date: 5.JUN.2020 14:07:00

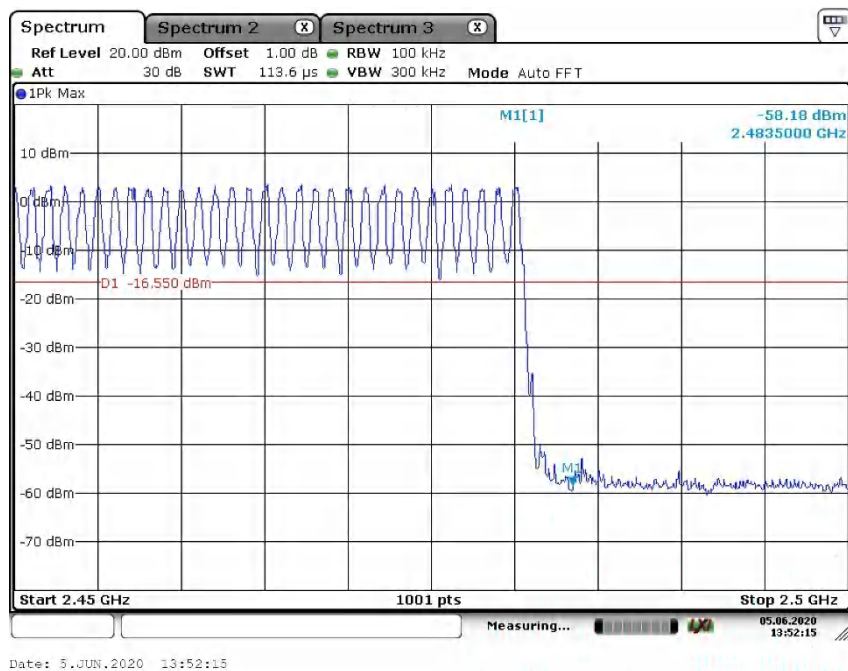
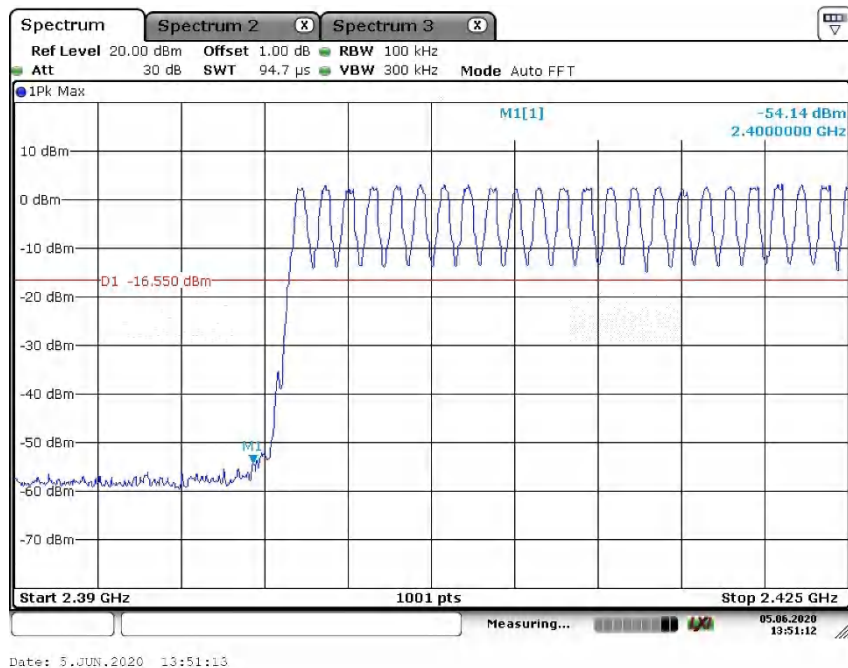
BDR Mode, Band Edge, Low Channel



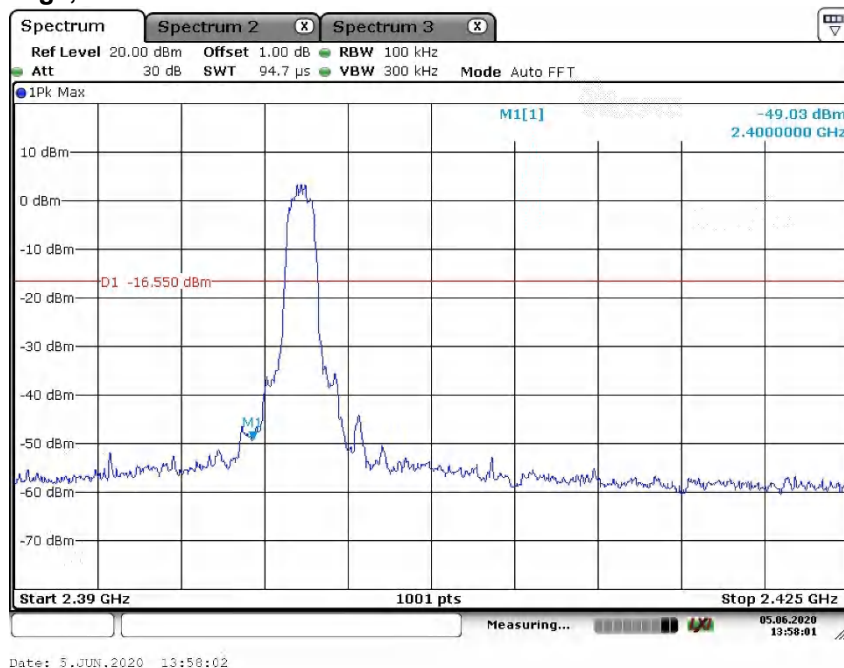
BDR Mode, Band Edge, High Channel



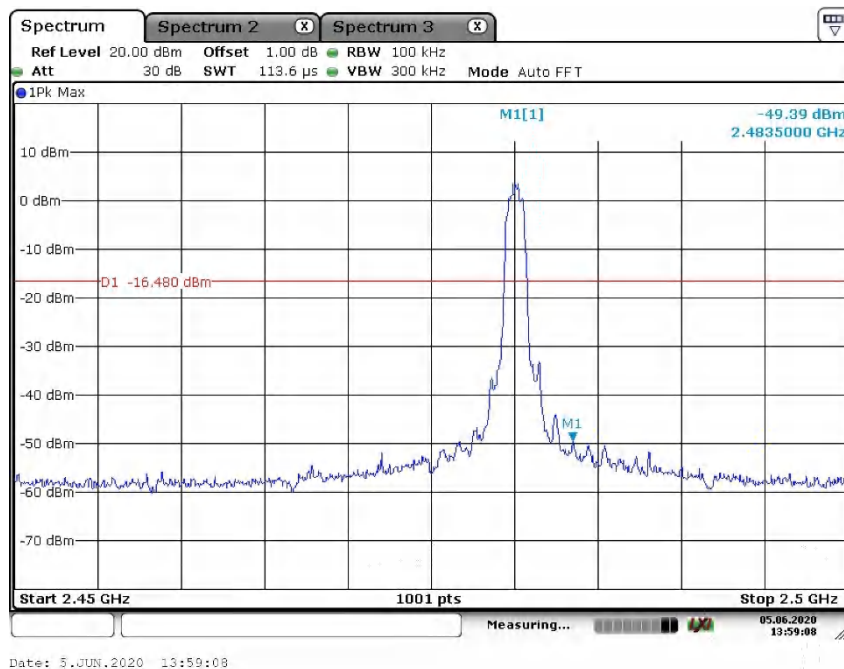
BDR Mode, Hopping Band Edge



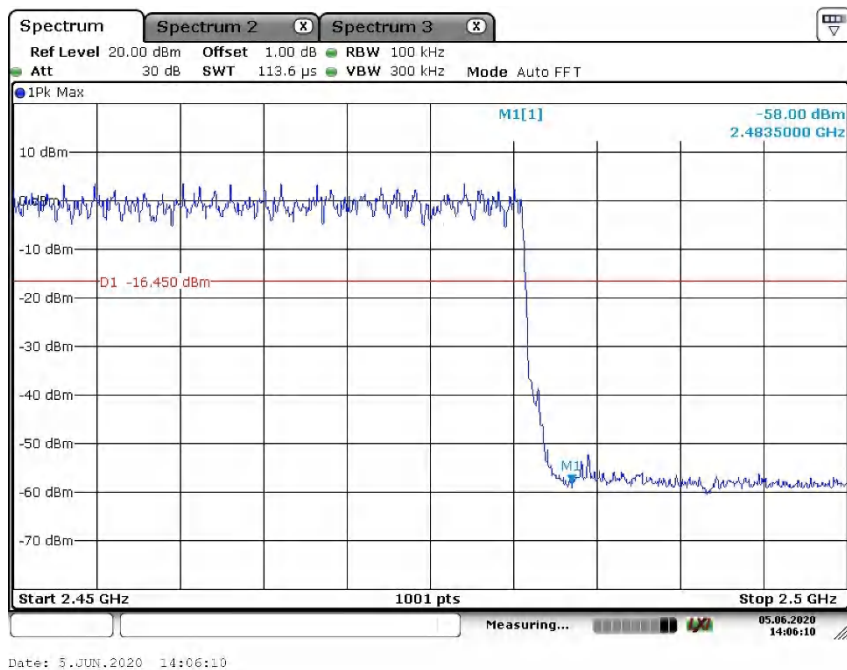
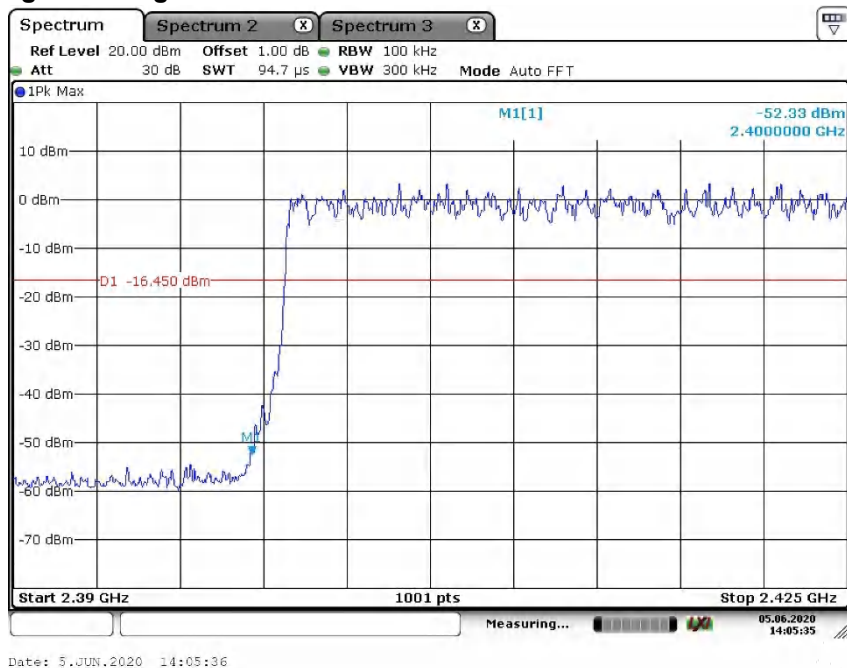
EDR Mode, Band Edge, Low Channel



EDR Mode, Band Edge, High Channel



EDR Mode, Hopping Band Edge



Appendix C

Test Results of Radiated Emission & AC Mains Conducted Emission

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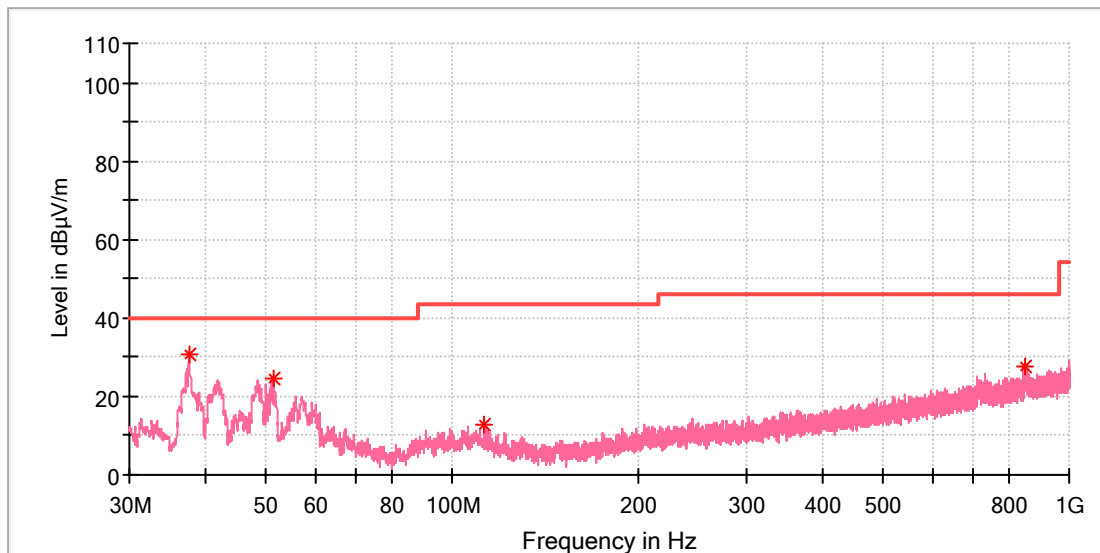
Note: The radiated spurious emission were measured from 9KHz to 40GHz, the measurements from 9KHz-30MHz with active loop antenna were greater than 20dB below the limit, so the radiated Spurious Emissions (9kHz – 30MHz) tests were recorded but not showed in the appendix B.

Appendix C.1: Test Plots of Radiated Spurious Emission

BDR mode, 30MHz - 1GHz

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_Low CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

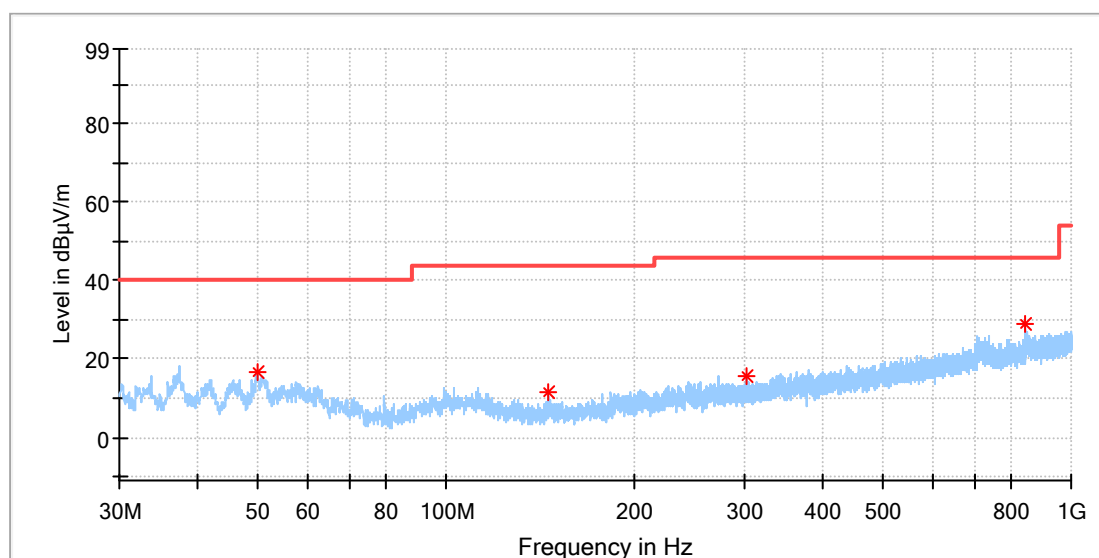


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	DET 2 (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	30.79	---	40.00	9.21	100.0	V	213.0	-21.3
51.437000	24.56	---	40.00	15.44	100.0	V	140.0	-18.6
112.886500	12.99	---	43.50	30.51	100.0	V	204.0	-19.8
846.206500	27.87	---	46.00	18.13	100.0	V	311.0	-6.0

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_Low CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

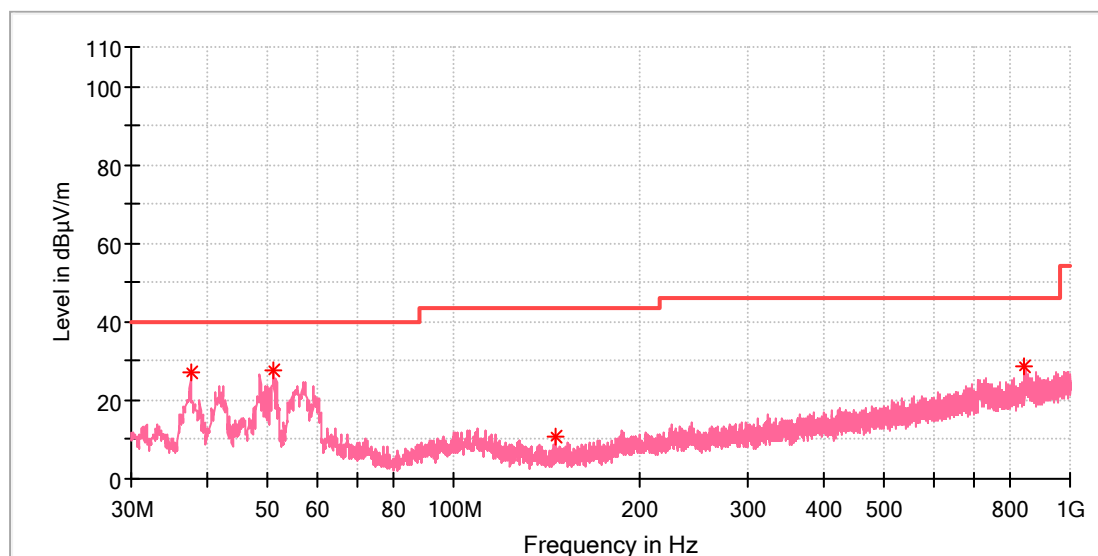


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	DET 2 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.982000	16.71	---	40.00	23.29	100.0	H	322.0	-18.6
145.963500	11.49	---	43.50	32.01	100.0	H	252.0	-22.6
302.521500	15.81	---	46.00	30.19	100.0	H	0.0	-16.6
845.139500	28.97	---	46.00	17.03	100.0	H	359.0	-6.0

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_DH5_High CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

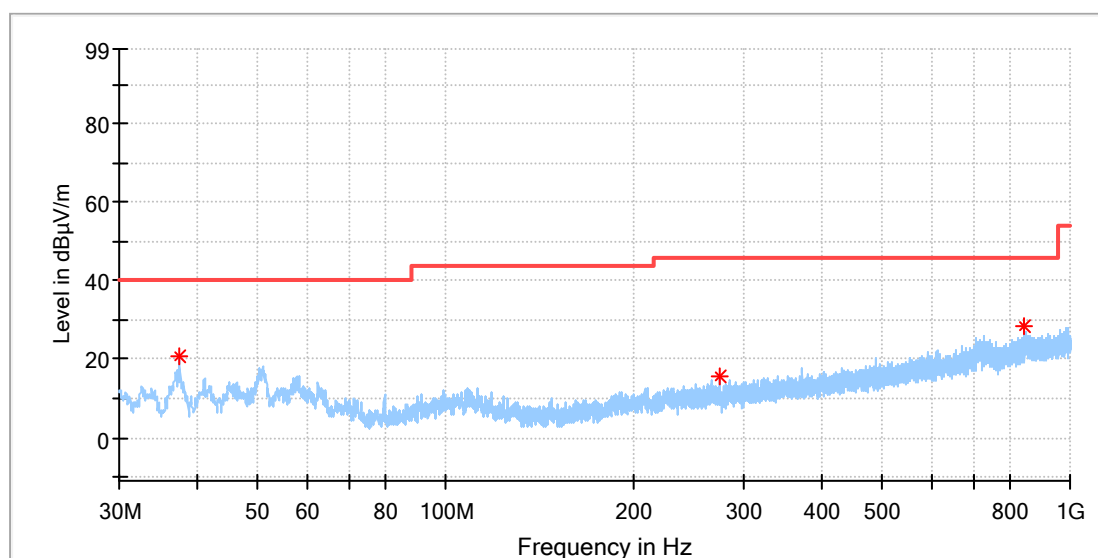


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	DET 2 (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	27.08	---	40.00	12.92	100.0	V	88.0	-21.3
51.049000	27.62	---	40.00	12.38	100.0	V	152.0	-18.6
146.739500	10.93	---	43.50	32.57	100.0	V	241.0	-22.6
844.800000	28.41	---	46.00	17.59	100.0	V	302.0	-6.0

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_High CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



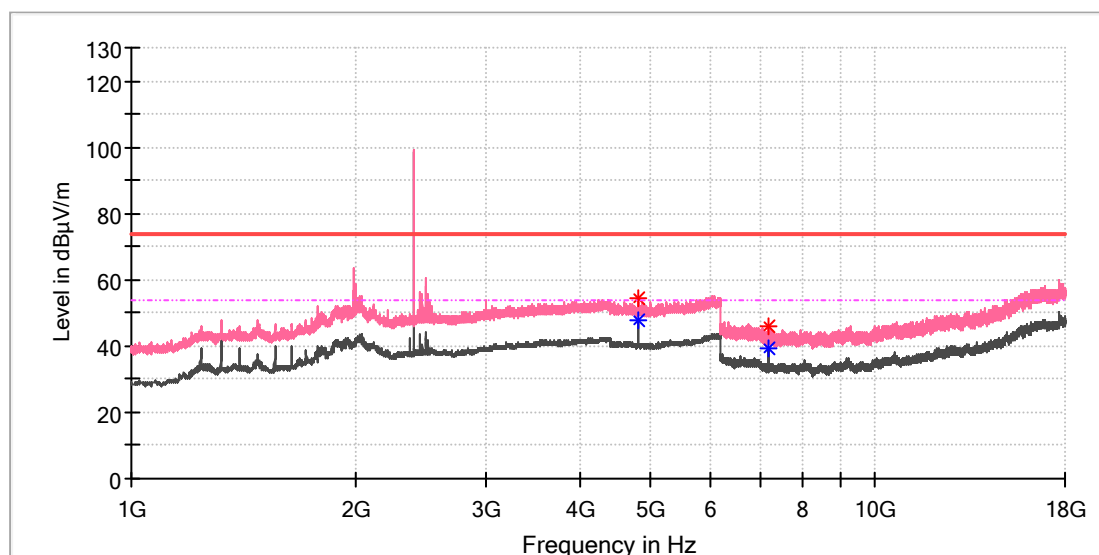
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	DET 2 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	20.68	---	40.00	19.32	100.0	H	238.0	-21.3
274.973500	15.81	---	46.00	30.19	100.0	H	17.0	-17.2
844.848500	28.16	---	46.00	17.84	100.0	H	5.0	-6.0

BDR mode, 1GHz - 18GHz

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_Low CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

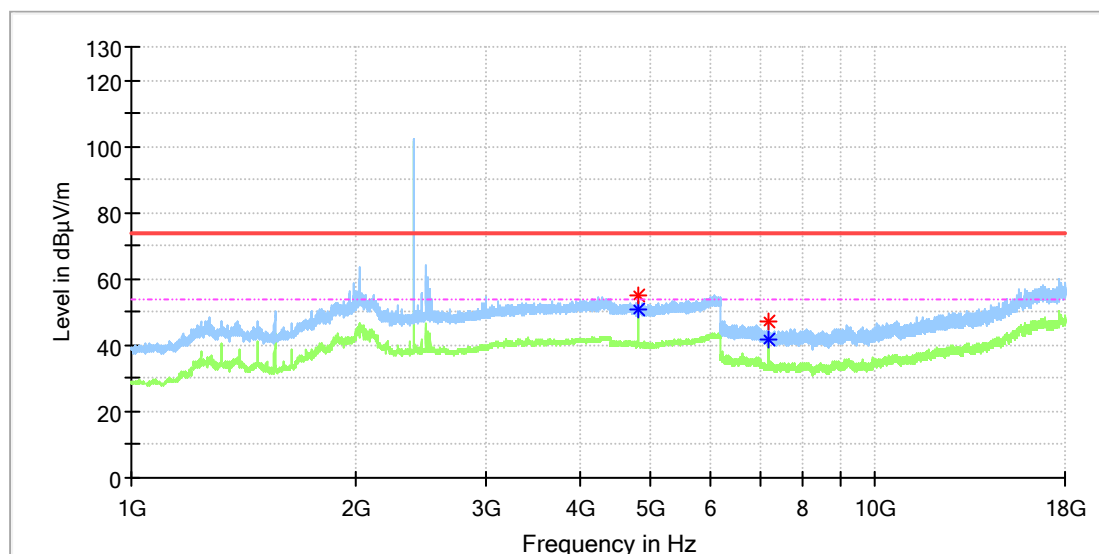


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	48.03	54.00	5.97	100.0	V	44.0	13.6
4804.000000	54.30	---	74.00	19.70	100.0	V	44.0	13.6
7205.458333	45.95	---	74.00	28.05	100.0	V	84.0	8.8
7205.950000	---	39.15	54.00	14.85	100.0	V	84.0	8.8

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_DH5_Low CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

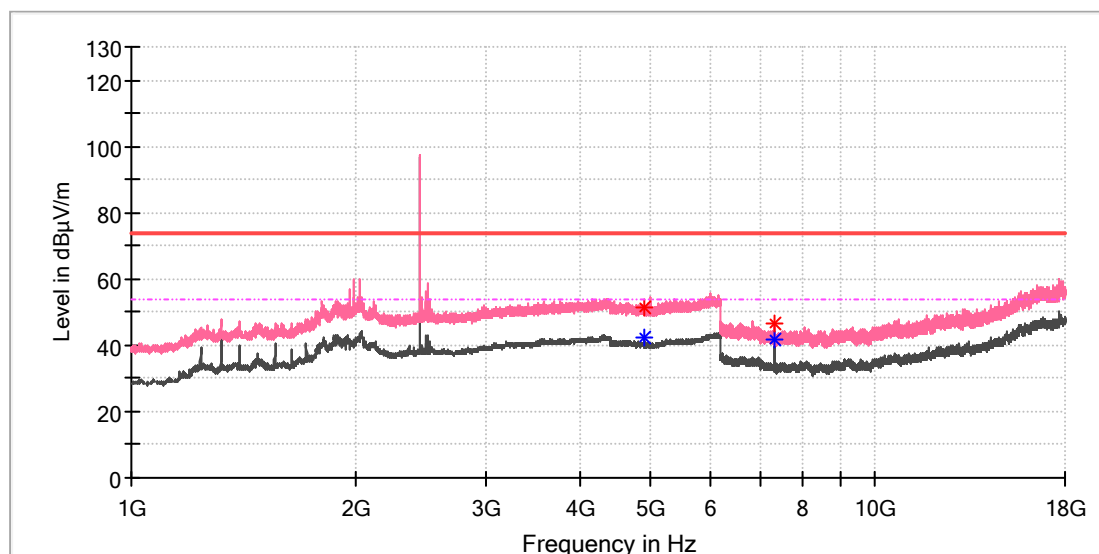


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	50.89	54.00	3.11	100.0	H	240.0	13.6
4804.000000	55.08	---	74.00	18.92	100.0	H	240.0	13.6
7205.950000	---	41.92	54.00	12.08	100.0	H	148.0	8.8
7205.950000	47.05	---	74.00	26.95	100.0	H	148.0	8.8

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_DH5_Mid CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

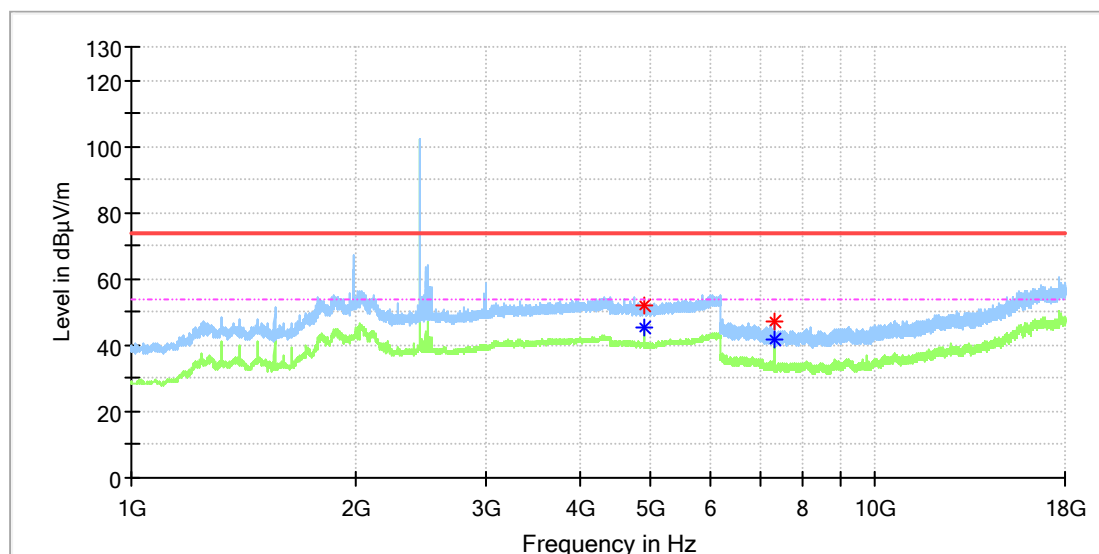


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4882.000000	51.46	---	74.00	22.54	100.0	V	240.0	13.4
4882.000000	---	42.35	54.00	11.65	100.0	V	240.0	13.4
7322.475000	---	41.99	54.00	12.01	100.0	V	86.0	8.2
7323.458333	46.46	---	74.00	27.54	100.0	V	86.0	8.2

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_DH5_Mid CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

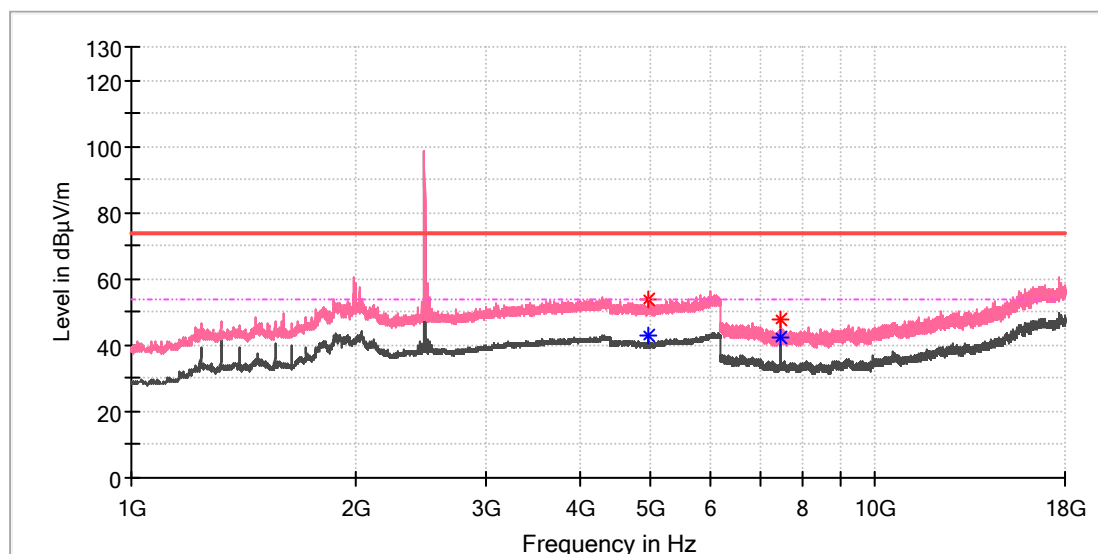


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4881.500000	52.04	---	74.00	21.96	100.0	H	173.0	13.4
4882.000000	---	45.54	54.00	8.46	100.0	H	162.0	13.4
7322.475000	---	41.98	54.00	12.02	100.0	H	337.0	8.2
7322.475000	47.20	---	74.00	26.80	100.0	H	337.0	8.2

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_DH5_High CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

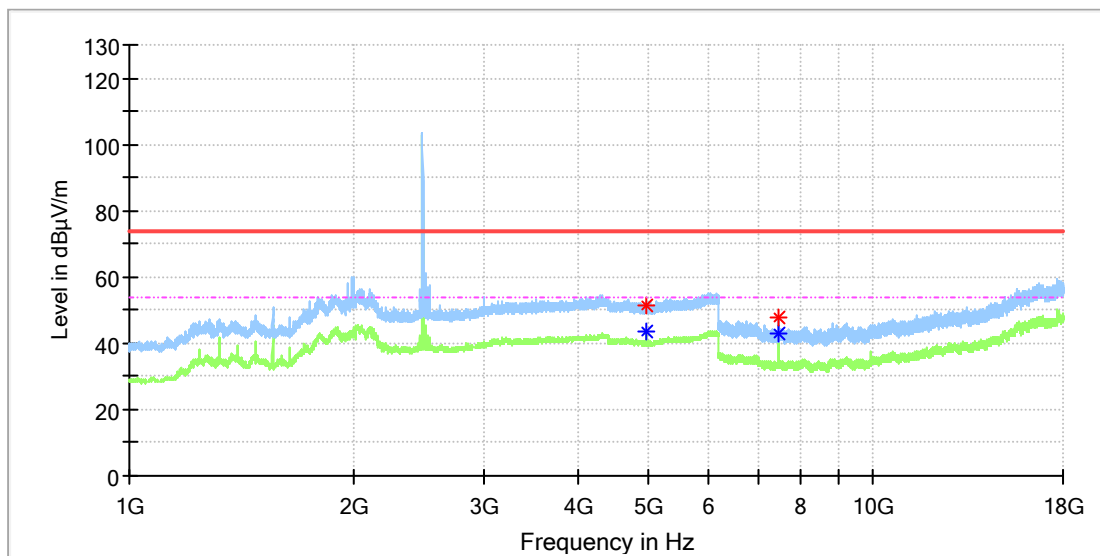


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	---	43.10	54.00	10.90	100.0	V	72.0	13.2
4960.000000	53.59	---	74.00	20.41	100.0	V	72.0	13.2
7439.491667	47.87	---	74.00	26.13	100.0	V	135.0	8.4
7439.983333	---	42.22	54.00	11.78	100.0	V	135.0	8.4

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_High CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



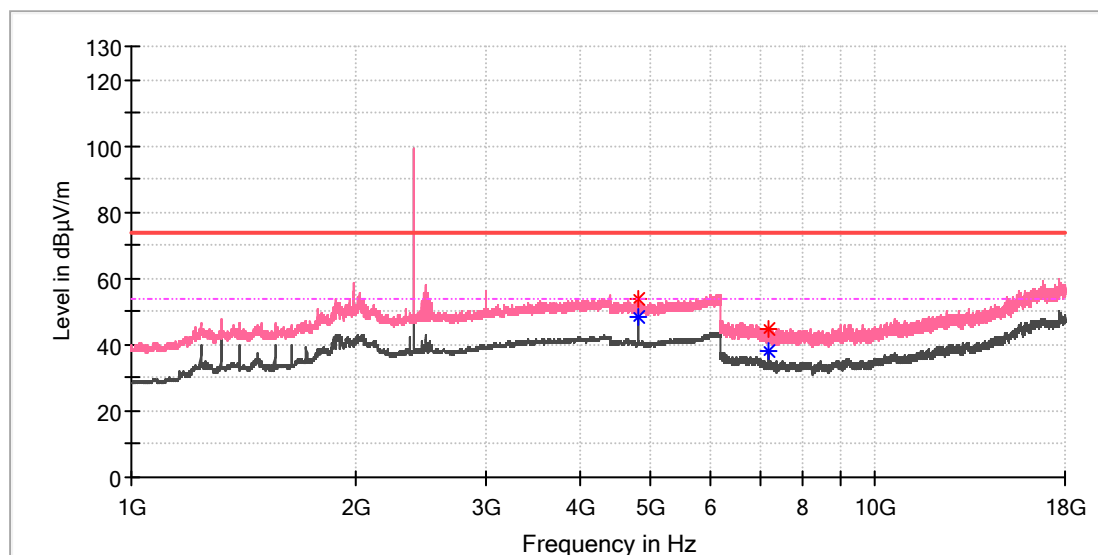
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.500000	51.25	---	74.00	22.76	100.0	H	161.0	13.2
4960.500000	---	43.51	54.00	10.49	100.0	H	161.0	13.2
7439.491667	---	43.05	54.00	10.95	100.0	H	45.0	8.4
7439.983333	47.81	---	74.00	26.19	100.0	H	150.0	8.4

EDR mode, 1GHz - 18GHz

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_3DH5_Low CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

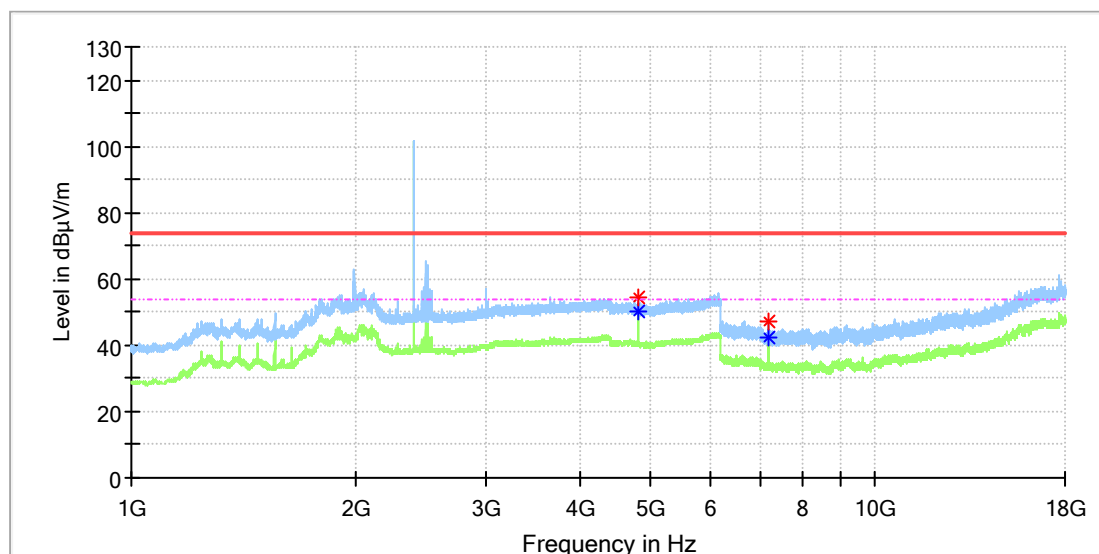


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	48.14	54.00	5.86	100.0	V	277.0	13.6
4804.000000	54.00	---	74.00	20.00	100.0	V	277.0	13.6
7205.458333	44.58	---	74.00	29.42	100.0	V	175.0	8.8
7205.950000	---	38.14	54.00	15.86	100.0	V	175.0	8.8

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_3DH5_Low CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

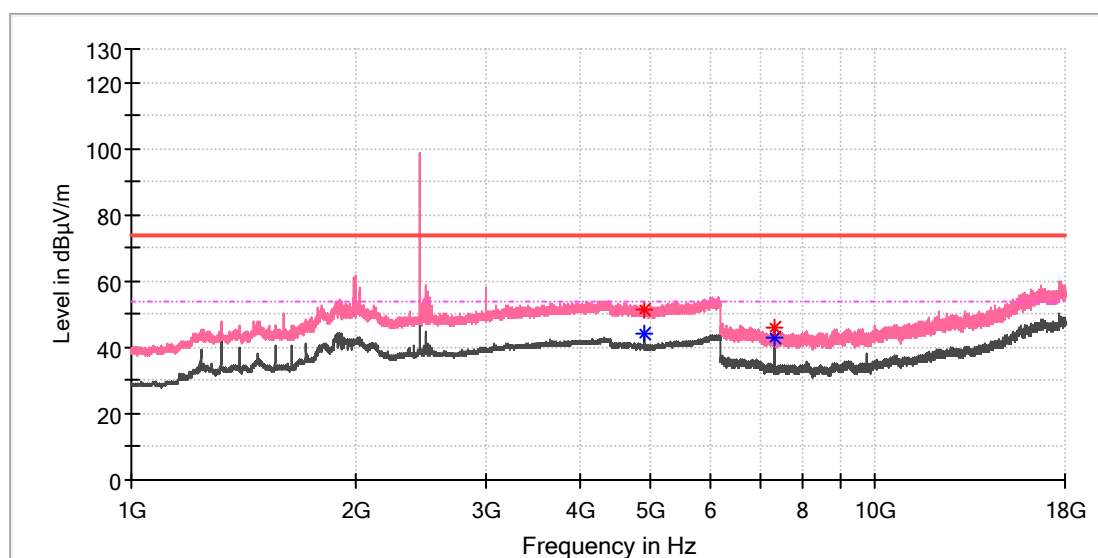


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	50.02	54.00	3.98	100.0	H	234.0	13.6
4804.000000	54.66	---	74.00	19.34	100.0	H	234.0	13.6
7205.950000	---	42.43	54.00	11.57	100.0	H	100.0	8.8
7205.950000	47.43	---	74.00	26.57	100.0	H	100.0	8.8

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_3DH5_Mid CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

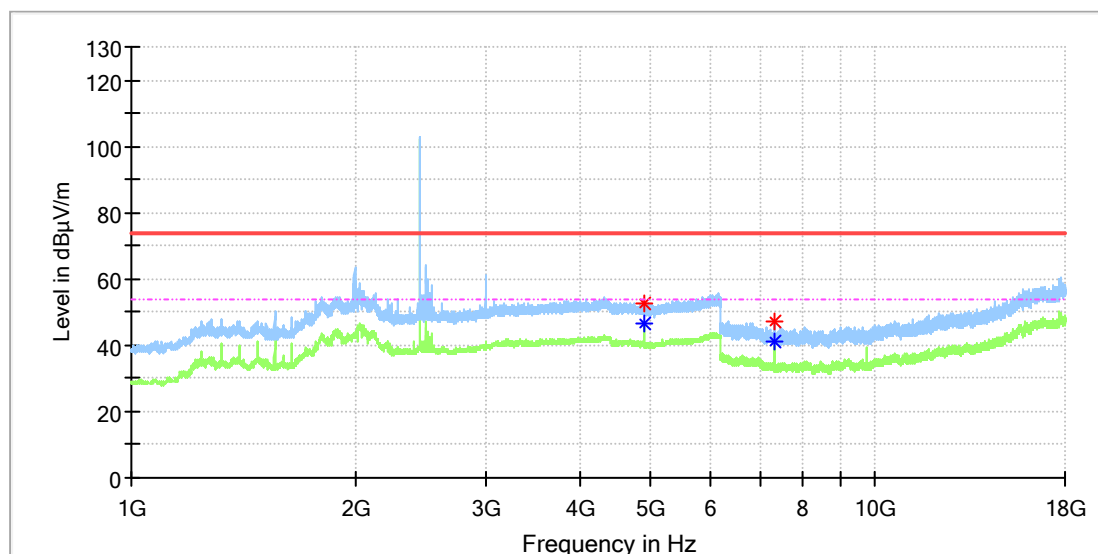


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4882.000000	51.48	---	74.00	22.52	100.0	V	274.0	13.4
4882.000000	---	44.30	54.00	9.70	100.0	V	274.0	13.4
7322.966667	---	42.64	54.00	11.36	100.0	V	82.0	8.2
7322.966667	46.21	---	74.00	27.79	100.0	V	82.0	8.2

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_3DH5_Mid CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

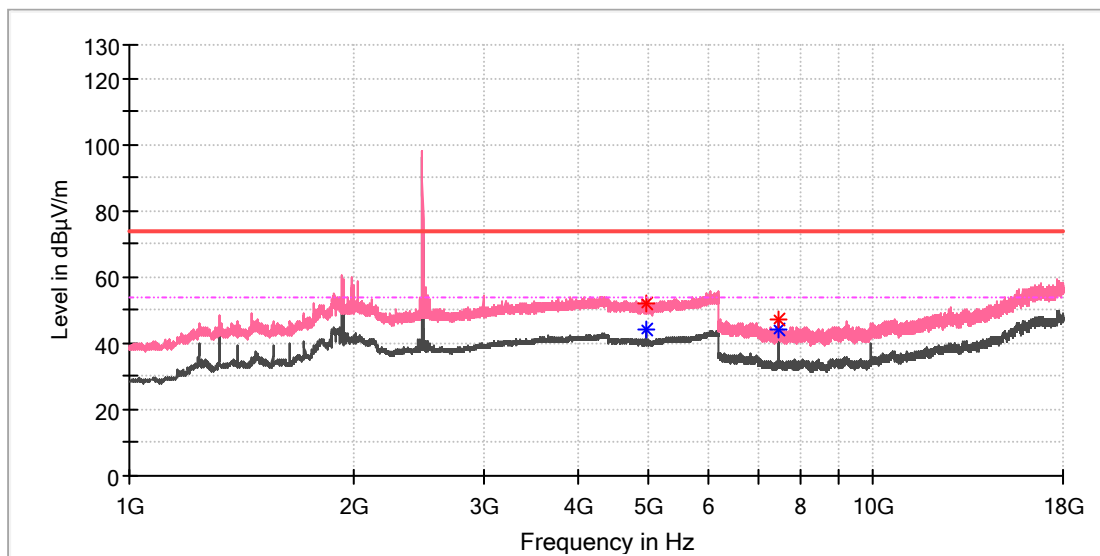


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4881.500000	52.38	---	74.00	21.62	100.0	H	166.0	13.4
4882.000000	---	46.64	54.00	7.36	100.0	H	166.0	13.4
7322.966667	---	41.36	54.00	12.64	100.0	H	45.0	8.2
7322.966667	47.09	---	74.00	26.91	100.0	H	45.0	8.2

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_3DH5_High CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

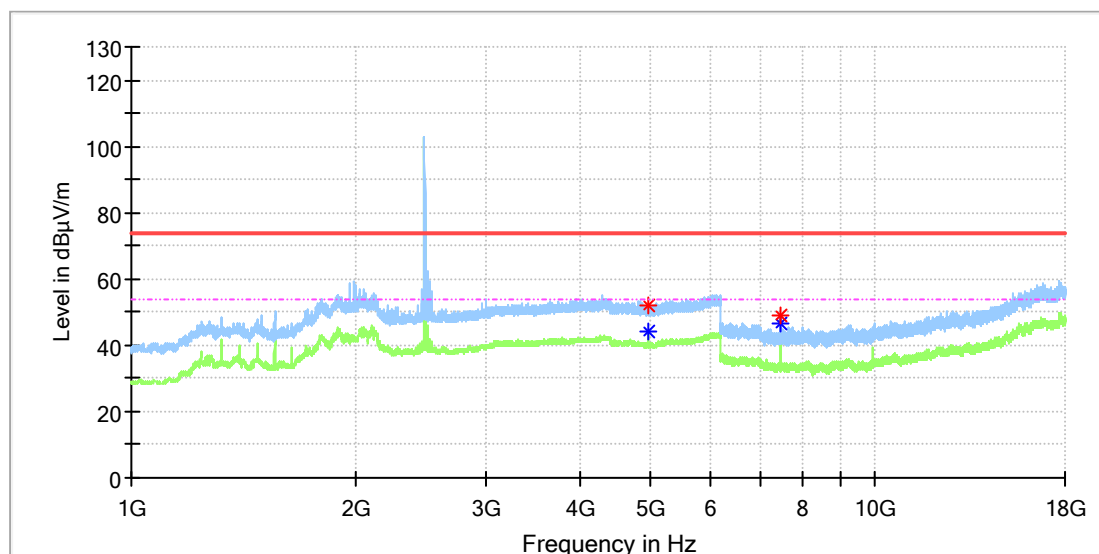


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	51.82	---	74.00	22.18	100.0	V	56.0	13.2
4960.000000	---	43.99	54.00	10.01	100.0	V	56.0	13.2
7439.983333	---	43.94	54.00	10.06	100.0	V	83.0	8.4
7439.983333	47.43	---	74.00	26.57	100.0	V	83.0	8.4

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_3DH5_High CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

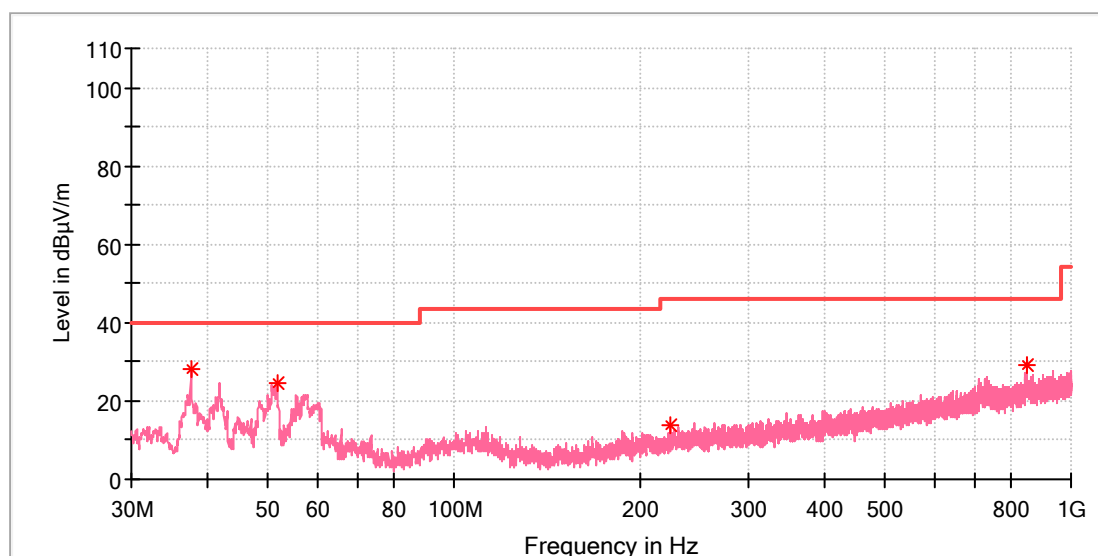


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	52.23	---	74.00	21.77	100.0	H	243.0	13.2
4960.000000	---	44.40	54.00	9.60	100.0	H	243.0	13.2
7439.491667	49.23	---	74.00	24.77	100.0	H	48.0	8.4
7439.983333	---	46.85	54.00	7.15	100.0	H	48.0	8.4

5.8GHz, below 1GHz**EUT Information**

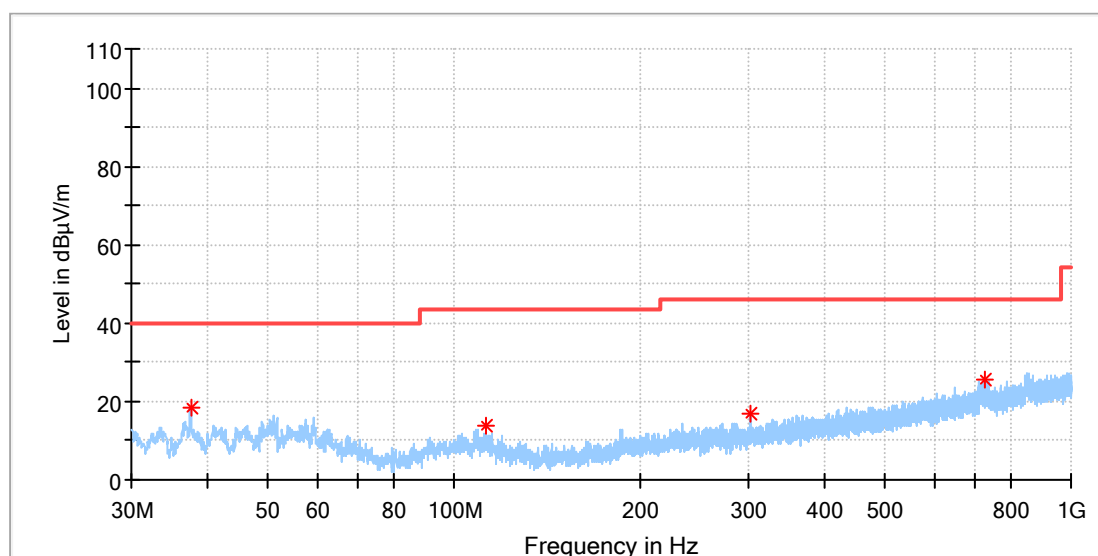
EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	5736MHz
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

**Critical Freqs**

Frequency (MHz)	MaxPeak (dBµV/m)	DET 2 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	28.02	---	40.00	11.98	100.0	V	61.0	-21.3
51.631000	24.56	---	40.00	15.44	100.0	V	34.0	-18.6
224.776000	13.86	---	46.00	32.14	100.0	V	61.0	-18.7
845.818500	29.16	---	46.00	16.84	100.0	V	0.0	-6.0

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5736MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

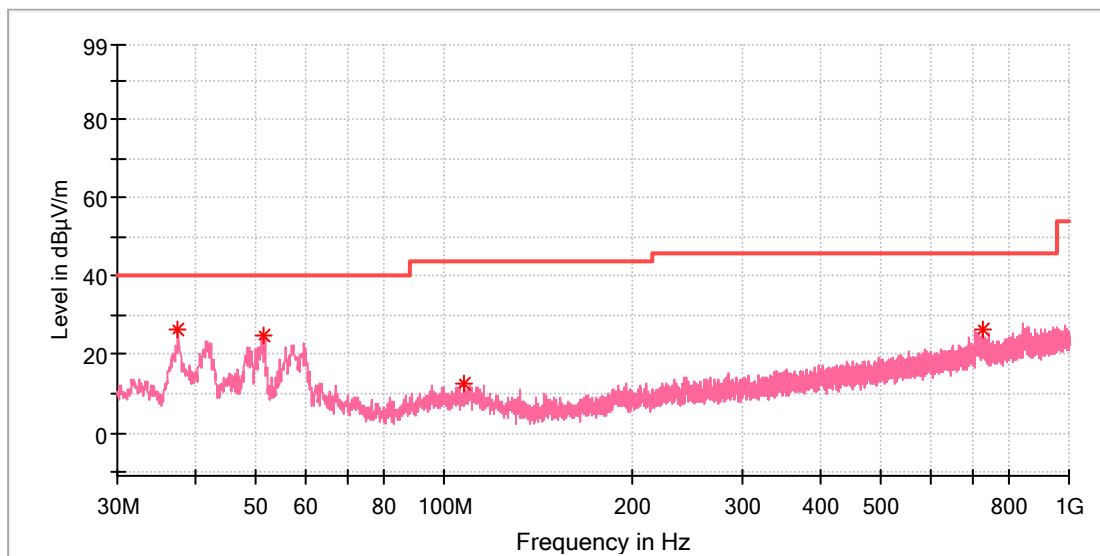


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	DET 2 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.420500	18.60	---	40.00	21.40	100.0	H	177.0	-21.3
112.450000	14.02	---	43.50	29.48	100.0	H	288.0	-19.7
301.842500	17.11	---	46.00	28.89	100.0	H	113.0	-16.6
722.871000	25.42	---	46.00	20.58	100.0	H	269.0	-8.0

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	5814MHz
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

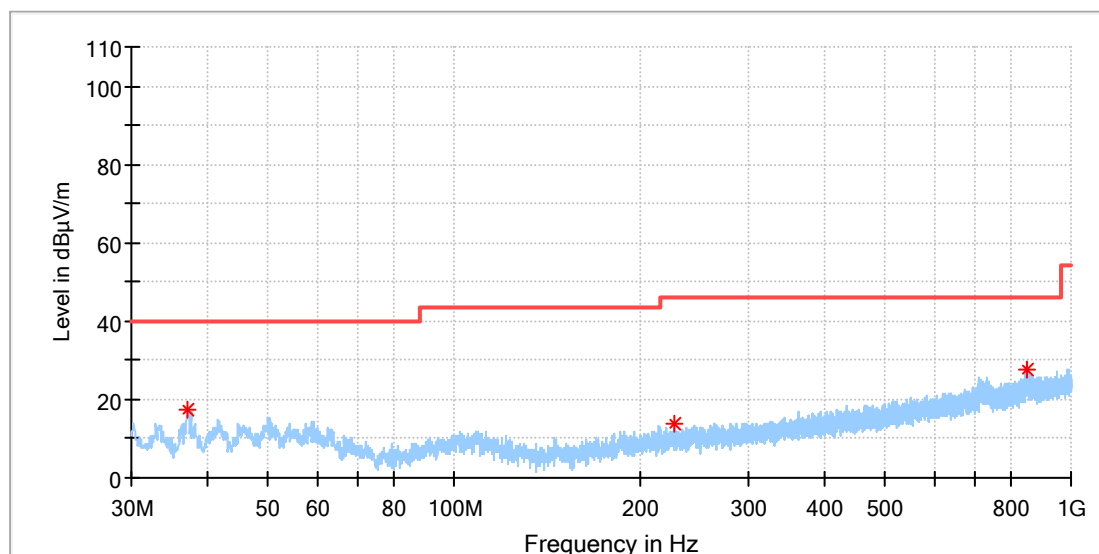


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	DET 2 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.517500	26.52	---	40.00	13.48	100.0	V	331.0	-21.2
51.437000	24.88	---	40.00	15.12	100.0	V	85.0	-18.6
107.939500	12.34	---	43.50	31.16	100.0	V	356.0	-19.3
728.885000	26.46	---	46.00	19.54	100.0	V	120.0	-7.9

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5814MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



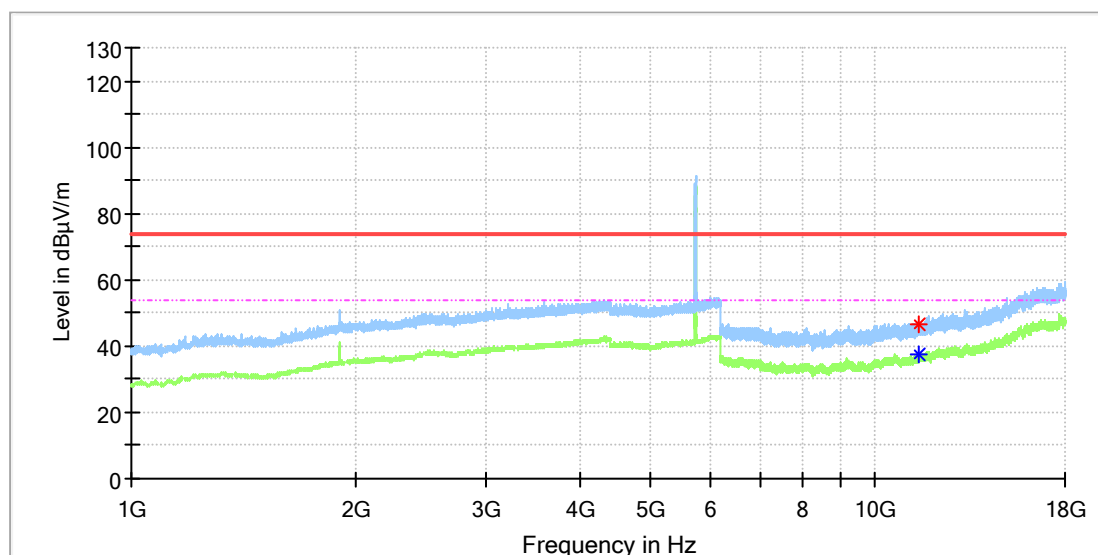
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	DET 2 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.081000	17.17	---	40.00	22.83	100.0	H	145.0	-21.4
227.395000	14.07	---	46.00	31.93	100.0	H	35.0	-18.5
848.534500	27.77	---	46.00	18.23	100.0	H	110.0	-5.9

5.8GHz, Above 1GHz

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	5736MHz
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.407
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

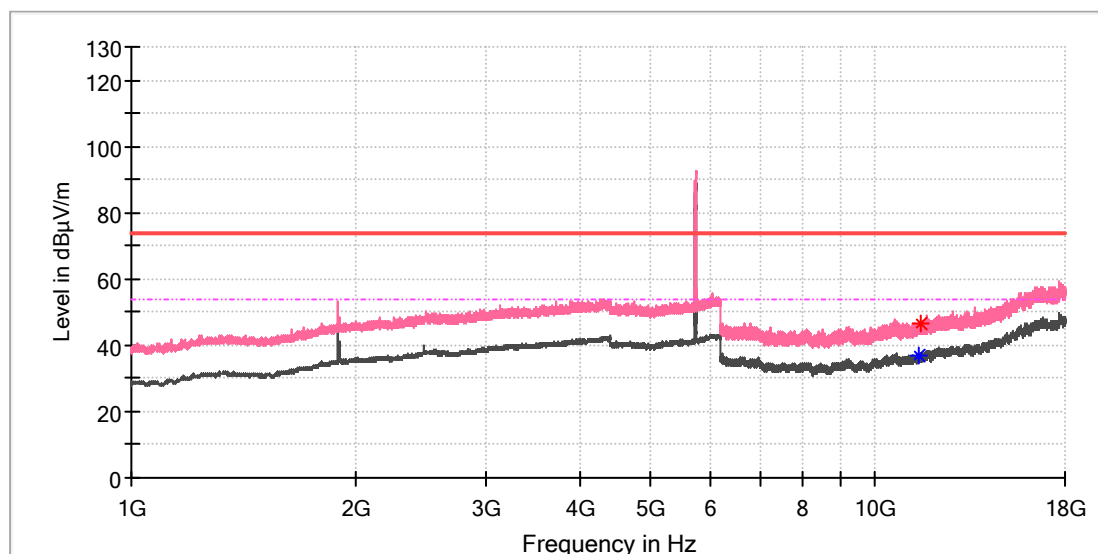


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
11433.300000	---	37.44	54.00	16.56	100.0	H	45.0	13.2
11455.425000	46.46	---	74.00	27.54	100.0	H	277.0	13.4

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5736MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.407
Tested By: Kei Zhang
Reviewed By: Terry Yin

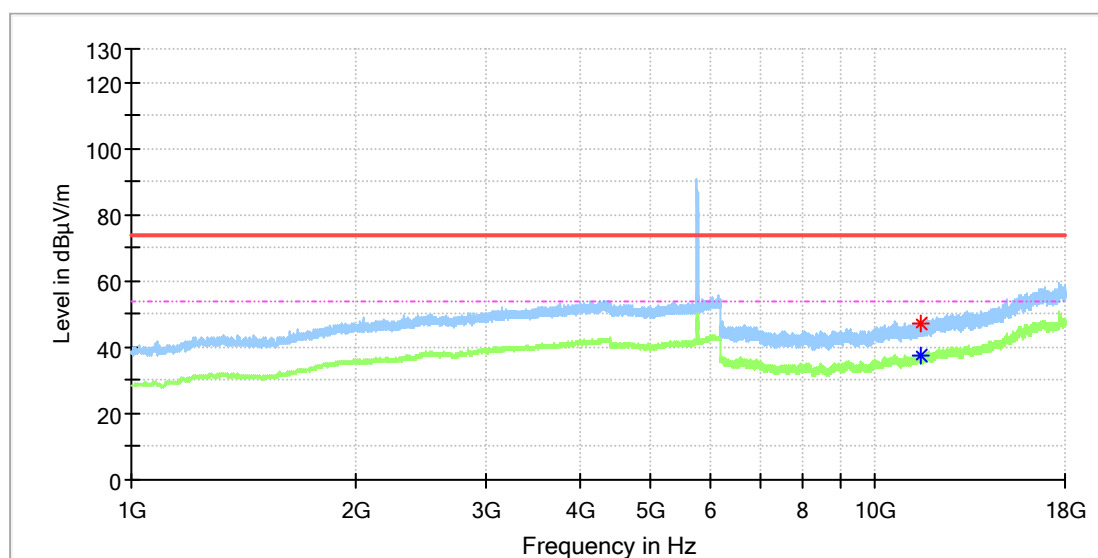


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
11475.091667	---	36.96	54.00	17.04	100.0	V	69.0	13.6
11480.991667	46.76	---	74.00	27.24	100.0	V	121.0	13.7

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
 Model: A300 PRO
 Test Mode: 5762MHz
 Test Voltage:: 120V/60Hz
 Remark: Temp 24 Humi:45%
 Test Standard: FCC 15.407
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

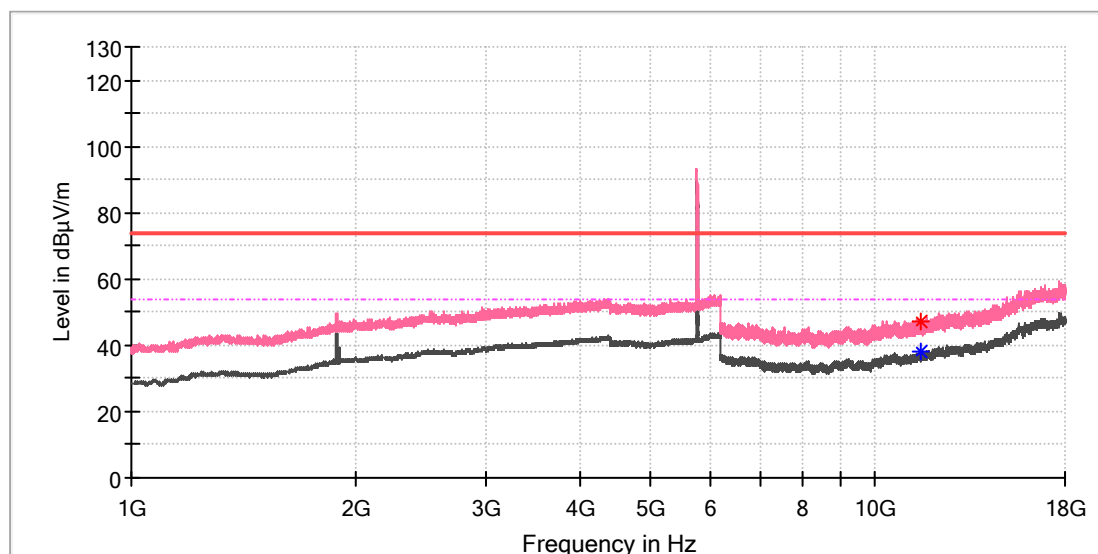


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
11523.766667	---	37.41	54.00	16.59	100.0	H	295.0	13.6
11529.175000	47.04	---	74.00	26.96	100.0	H	349.0	13.6

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5762MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.407
Tested By: Kei Zhang
Reviewed By: Terry Yin

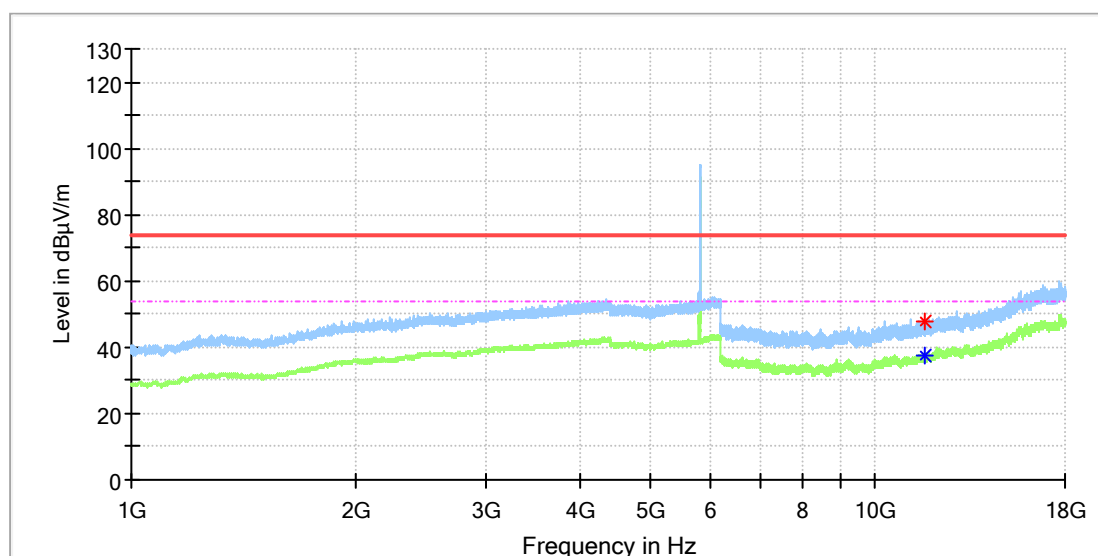


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
11521.800000	47.39	---	74.00	26.61	100.0	V	15.0	13.6
11531.633333	---	37.94	54.00	16.06	100.0	V	15.0	13.6

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5814MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.407
Tested By: Kei Zhang
Reviewed By: Terry Yin

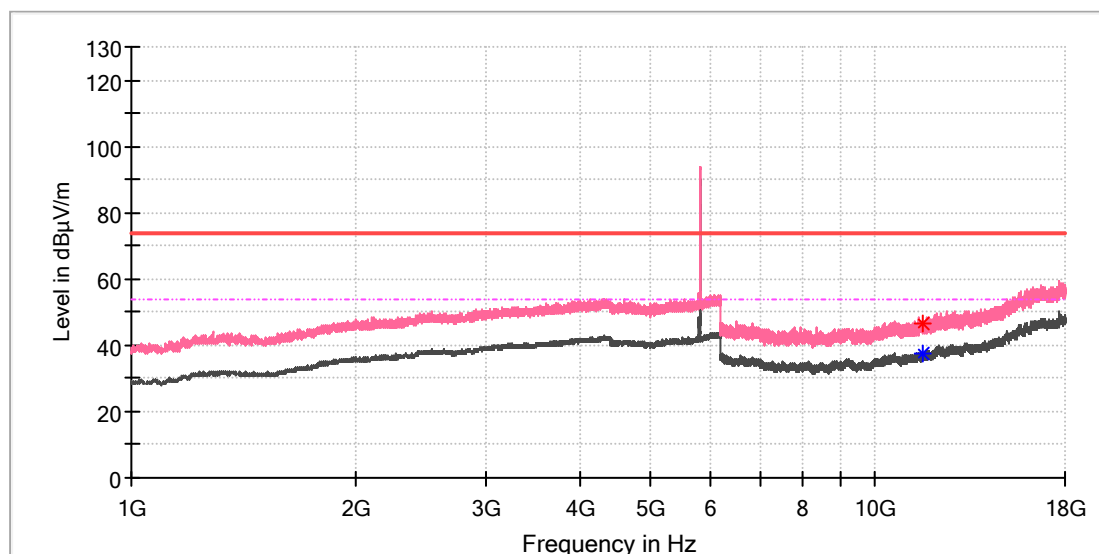


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
11627.508333	47.95	---	74.00	26.05	100.0	H	122.0	13.3
11628.000000	---	37.65	54.00	16.35	100.0	H	122.0	13.3

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5814MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.407
Tested By: Kei Zhang
Reviewed By: Terry Yin



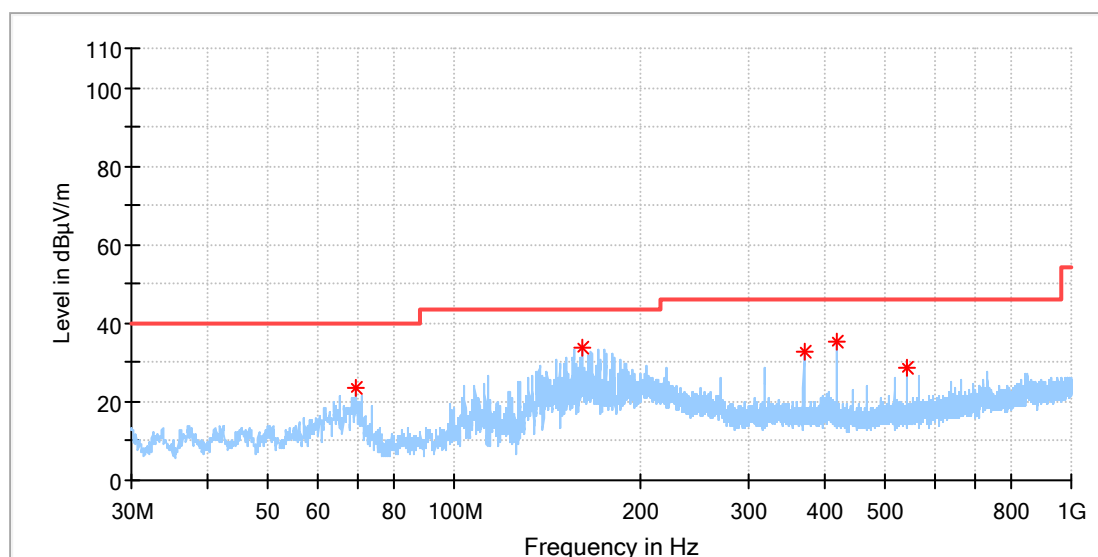
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
11620.625000	46.62	---	74.00	27.38	100.0	V	61.0	13.3
11623.575000	---	37.32	54.00	16.68	100.0	V	253.0	13.3

Bluetooth + 5.8GHz Simultaneous Transmission

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	Co-location_BT_DH5_Low channel & 5814GHz
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

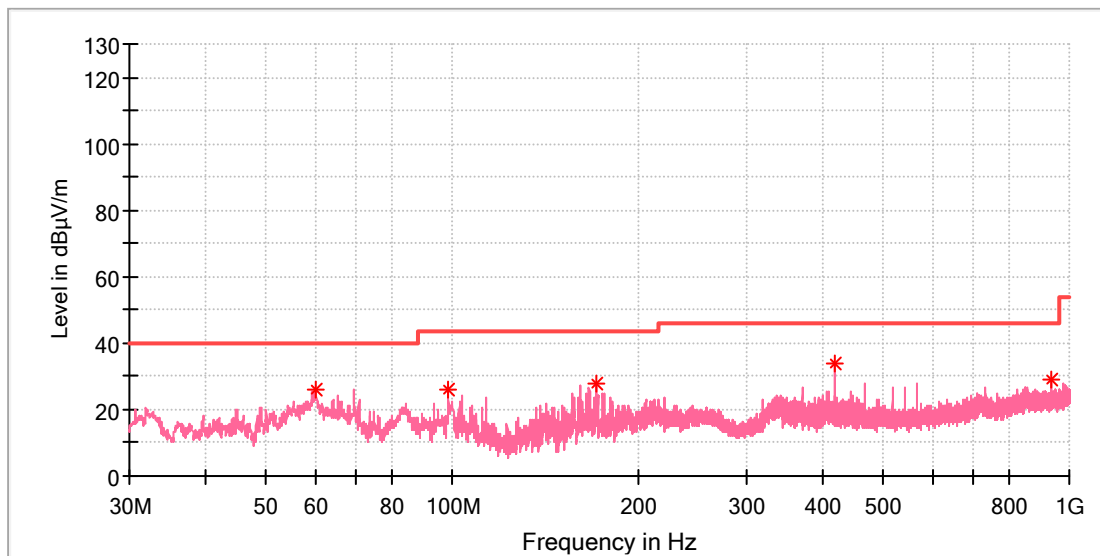


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
69.333500	23.31	---	40.00	16.69	100.0	H	258.0	-21.9
161.483500	33.54	---	43.50	9.96	100.0	H	61.0	-22.0
368.627000	32.85	---	46.00	13.15	100.0	H	204.0	-14.8
417.757500	35.10	---	46.00	10.90	100.0	H	204.0	-13.8
540.656500	28.88	---	46.00	17.12	100.0	H	186.0	-11.4

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
 Model: A300 PRO
 Test Mode: Co-location_BT_DH5_Low channel & 5814GHz
 Test Voltage:: 120V/60Hz
 Remark: Temp 24 Humi:45%
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

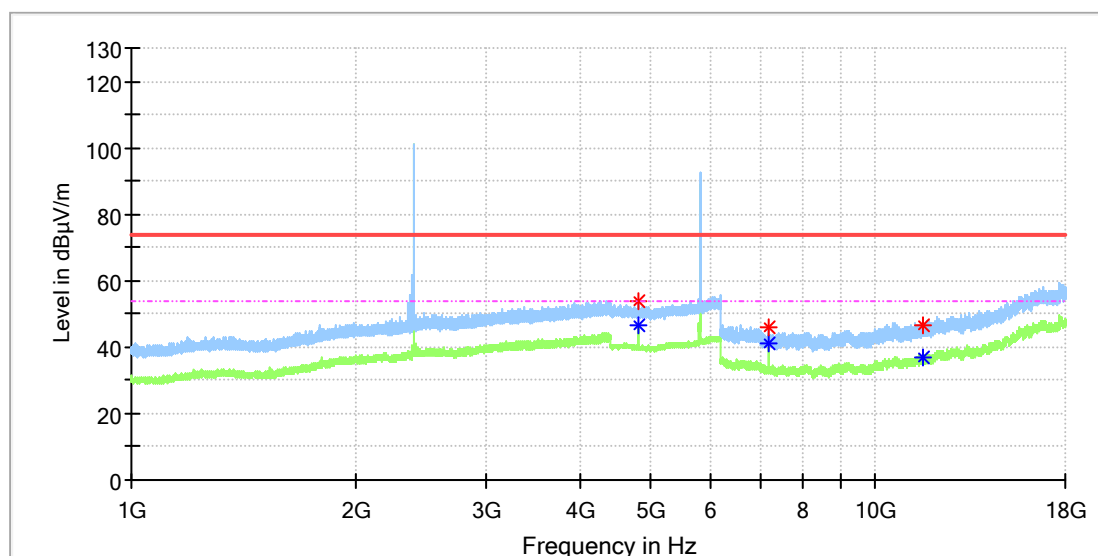


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
59.973000	25.73	---	40.00	14.27	100.0	V	319.0	-19.3
98.724500	26.09	---	43.50	17.41	100.0	V	88.0	-19.5
170.795500	27.95	---	43.50	15.55	100.0	V	194.0	-21.5
417.757500	33.68	---	46.00	12.32	100.0	V	161.0	-13.8
937.532000	28.93	---	46.00	17.07	100.0	V	0.0	-5.0

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: Co-location_BT_DH5_Low channel & 5814GHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Tested By: Kei Zhang
Reviewed By: Terry Yin

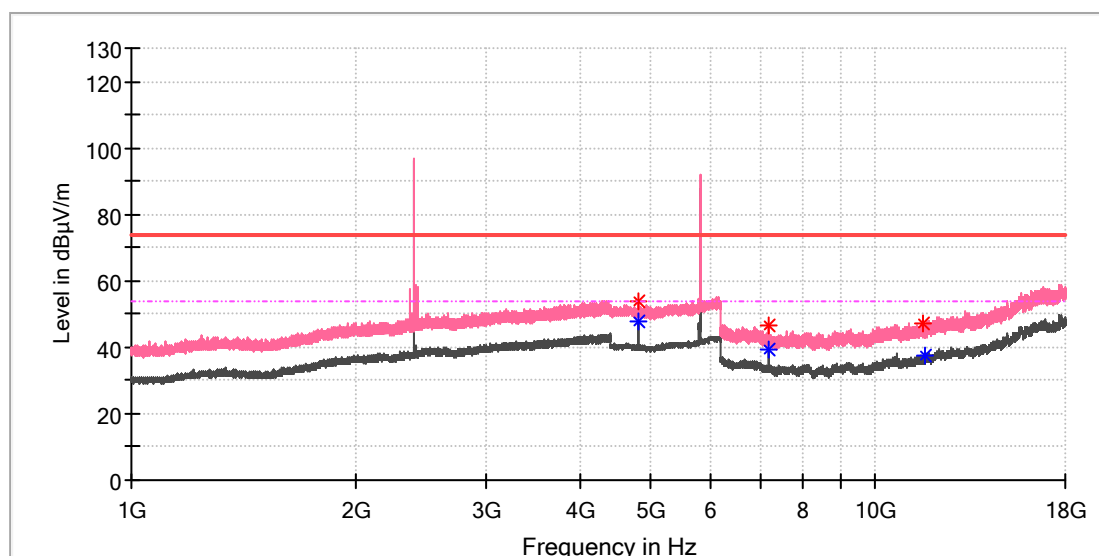


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	53.63	---	74.00	20.37	100.0	H	132.0	13.6
4804.000000	---	46.42	54.00	7.58	100.0	H	132.0	13.6
7205.950000	---	41.08	54.00	12.92	100.0	H	106.0	8.8
7206.441667	45.98	---	74.00	28.02	100.0	H	106.0	8.8
11618.166667	46.31	---	74.00	27.69	100.0	H	355.0	13.3
11623.575000	---	37.03	54.00	16.97	100.0	H	341.0	13.3

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: Co-location_BT_DH5_Low channel & 5814GHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

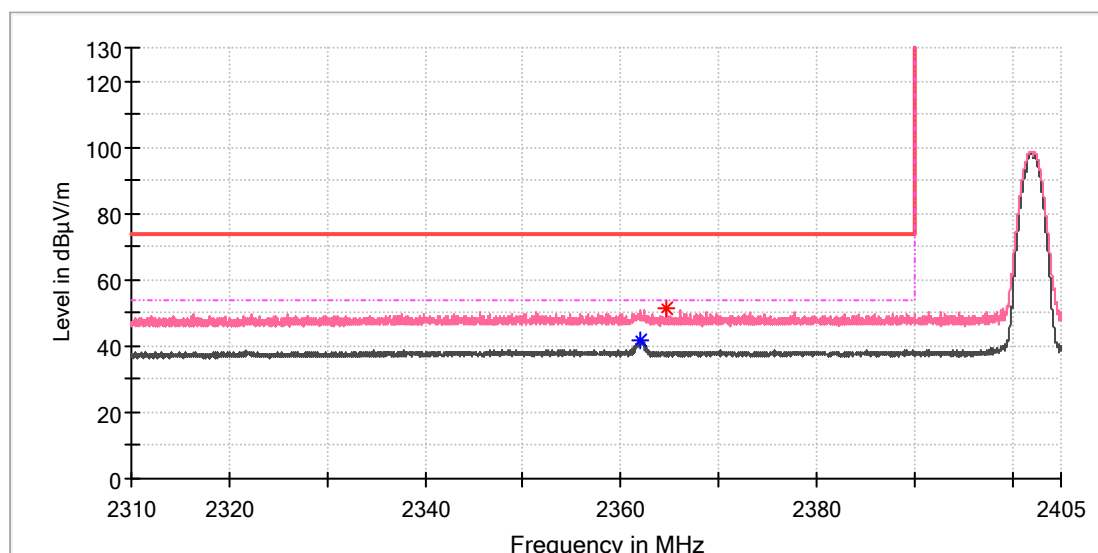
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	53.96	---	74.00	20.04	100.0	V	266.0	13.6
4804.000000	---	47.49	54.00	6.51	100.0	V	266.0	13.6
7205.950000	---	39.35	54.00	14.65	100.0	V	246.0	8.8
7205.950000	46.52	---	74.00	27.48	100.0	V	246.0	8.8
11608.825000	46.94	---	74.00	27.06	100.0	V	230.0	13.3
11639.800000	---	37.35	54.00	16.65	100.0	V	168.0	13.3

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

BDR mode, Low Channel

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_Low CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

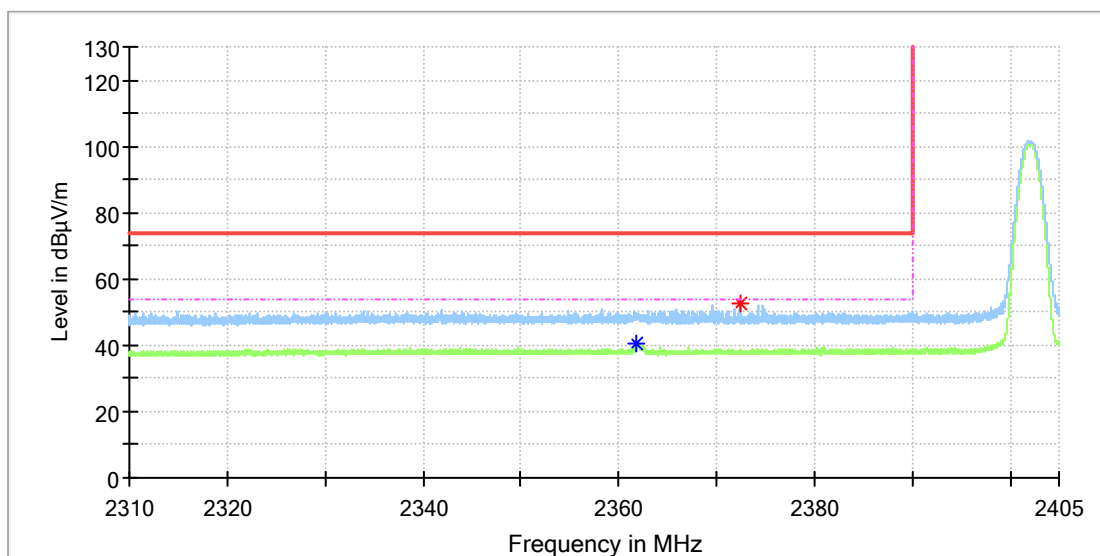


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2361.928677	---	41.84	54.00	12.16	100.0	V	147.0	6.9
2364.680882	51.13	---	74.00	22.87	100.0	V	103.0	6.9

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_Low CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



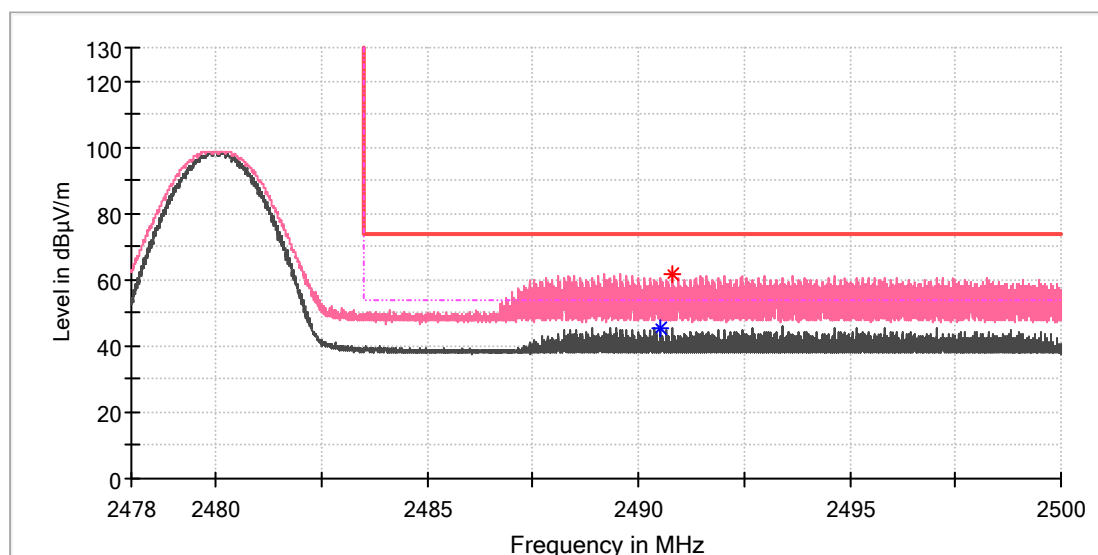
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2361.844853	---	40.54	54.00	13.46	100.0	H	154.0	6.9
2372.350735	52.40	---	74.00	21.60	100.0	H	180.0	6.9

BDR mode, High Channel

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_DH5_High CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

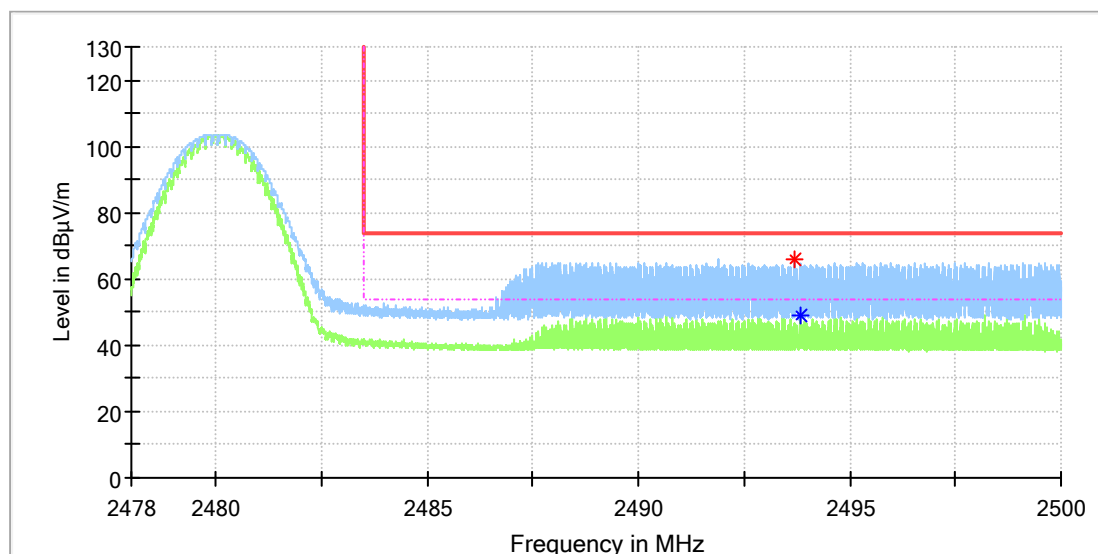


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2490.530294	---	45.43	54.00	8.57	100.0	V	30.0	7.4
2490.802059	61.59	---	74.00	12.41	100.0	V	30.0	7.4

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_DH5_High CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



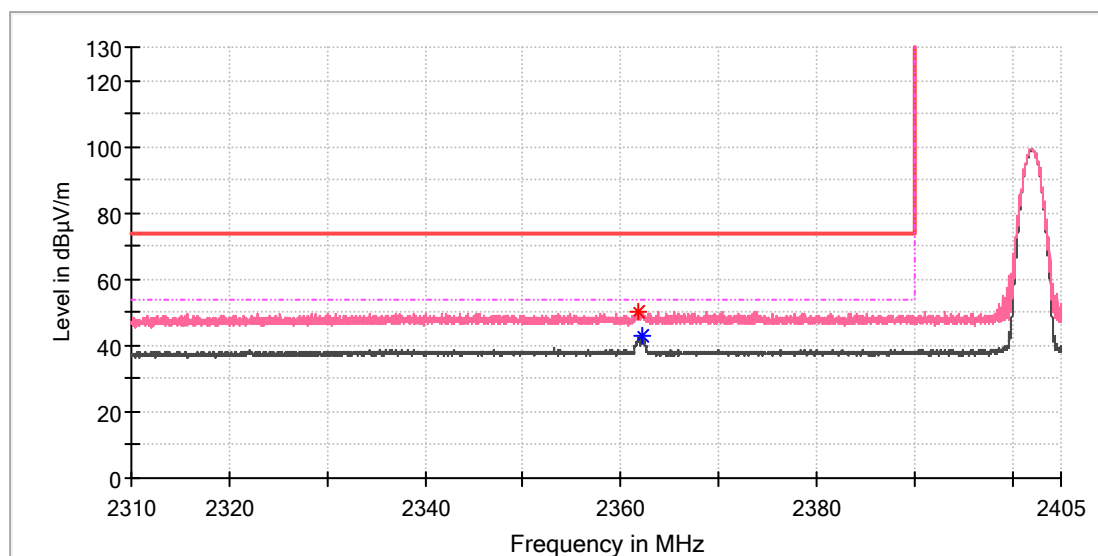
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2493.678235	66.12	---	74.00	7.88	100.0	H	149.0	7.4
2493.814118	---	48.80	54.00	5.20	100.0	H	149.0	7.4

EDR mode, Low Channel

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_3DH5_Low CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

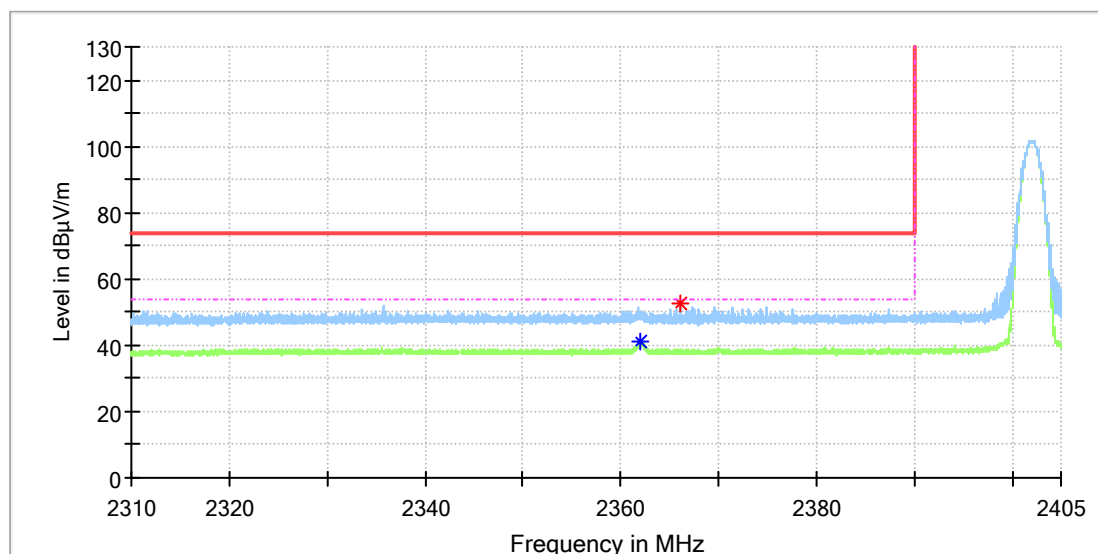


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2361.830882	50.23	---	74.00	23.77	100.0	V	141.0	6.9
2362.110294	---	42.88	54.00	11.12	100.0	V	282.0	6.9

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_3DH5_Low CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



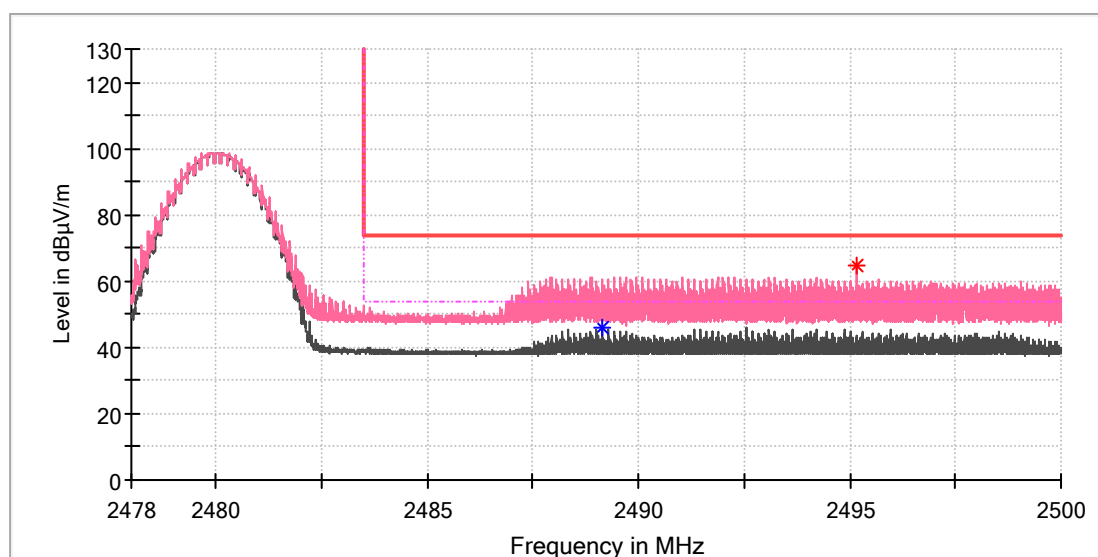
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2361.956618	---	41.30	54.00	12.70	100.0	H	145.0	6.9
2366.105882	52.48	---	74.00	21.52	100.0	H	134.0	6.9

EDR mode, High Channel

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	BT_3DH5_High CH
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

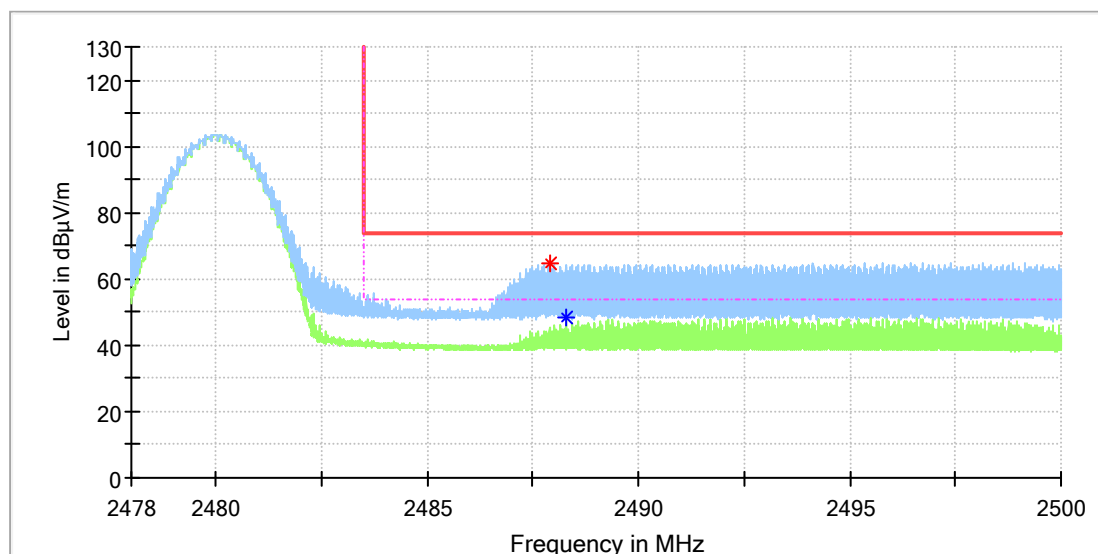


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2489.152059	---	46.23	54.00	7.77	100.0	V	29.0	7.4
2495.156765	64.57	---	74.00	9.43	100.0	V	80.0	7.4

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: BT_3DH5_High CH
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



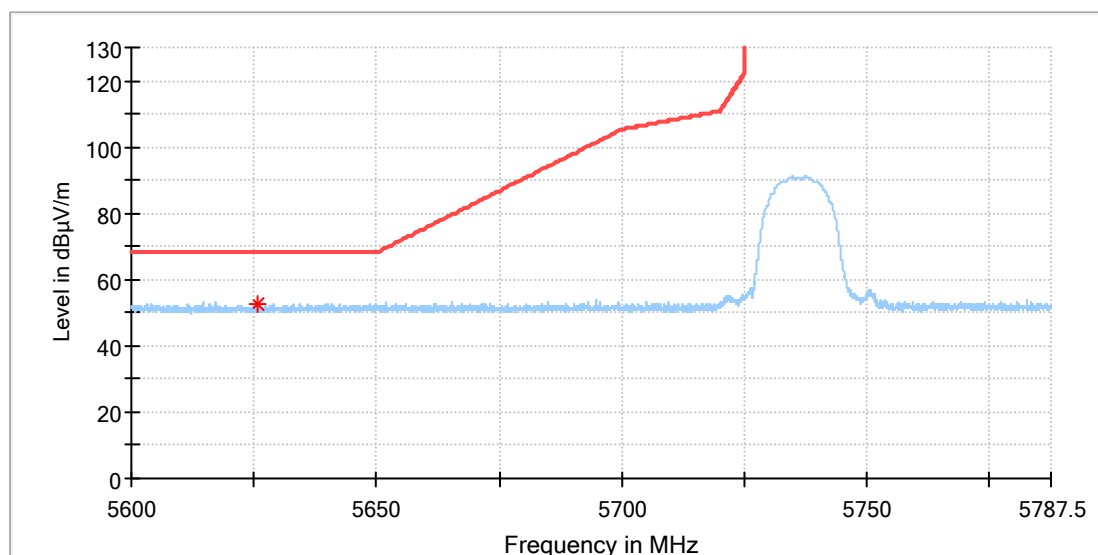
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2487.887059	64.40	---	74.00	9.60	100.0	H	147.0	7.4
2488.291471	---	48.44	54.00	5.56	100.0	H	147.0	7.4

5.8GHz, Low Channel

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	5736MHz
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.407
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

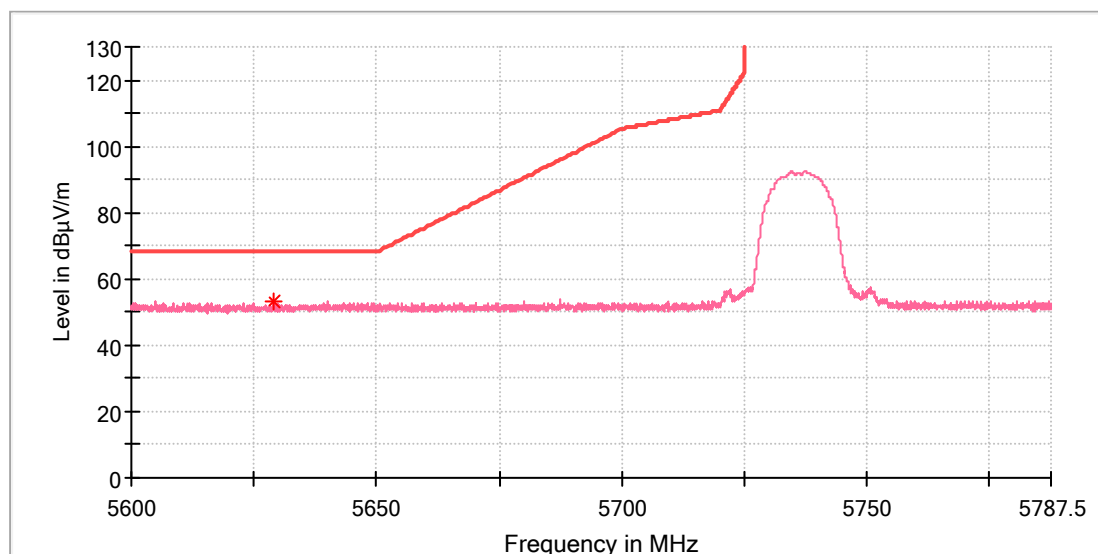


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	DET 2 (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5625.885417	52.66	---	68.20	15.54	100.0	H	0.0	14.3

EUT Information

EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5736MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.407
Tested By: Kei Zhang
Reviewed By: Terry Yin



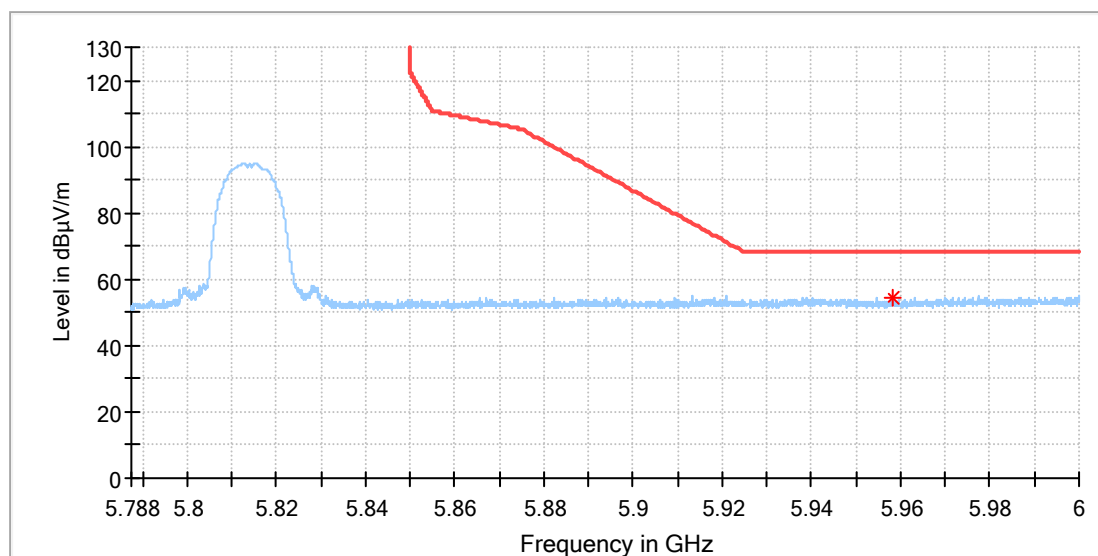
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	DET 2 (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5628.854167	53.17	---	68.20	15.03	100.0	V	0.0	14.3

5.8GHz, High Channel

EUT Information

EUT Name:	ACTIVE SPEAKER SYSTEM
Model:	A300 PRO
Test Mode:	5814MHz
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.407
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

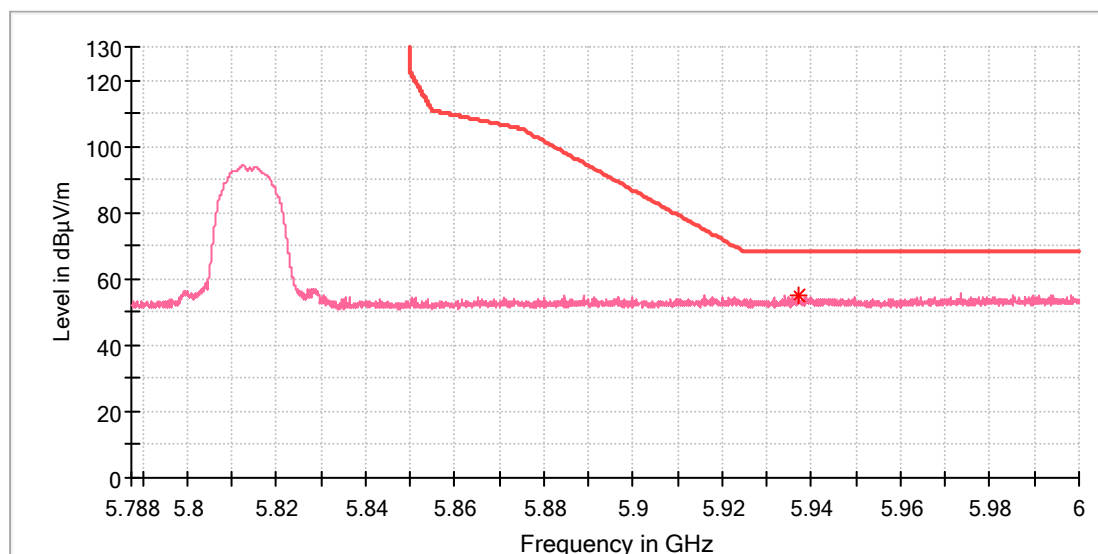


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	DET 2 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5958.326389	54.22	---	68.20	13.98	100.0	H	157.0	15.5

EUT Information

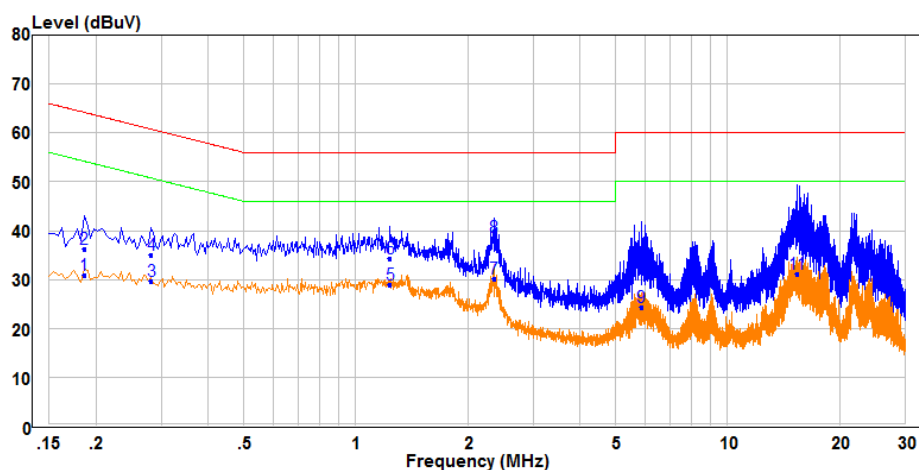
EUT Name: ACTIVE SPEAKER SYSTEM
Model: A300 PRO
Test Mode: 5814MHz
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.407
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	DET 2 (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5937.076389	55.28	---	68.20	12.92	100.0	V	304.0	15.4

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



Trace: 1

Condition: FCC CLASS-B QP Line

Remark : Temp:25.6°C, RH:57%, Press:100.9kPa

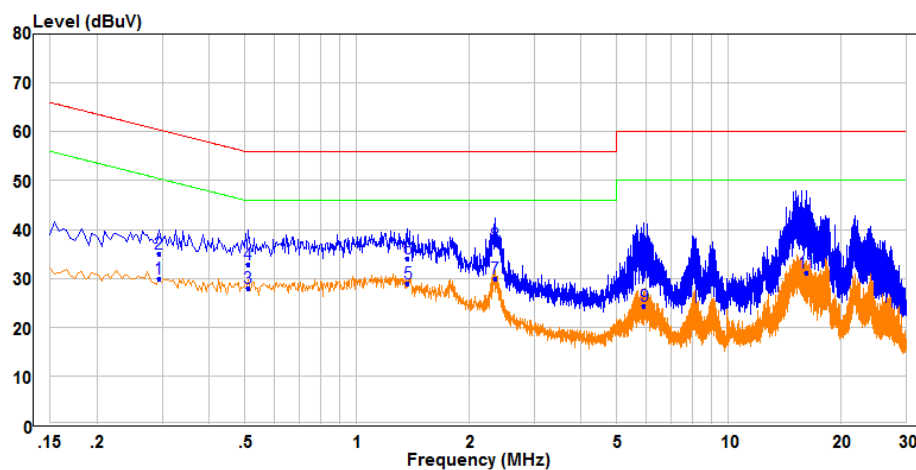
EUT name : ACTIVE SPEAKER SYSTEM

Model : A300 Pro

Test Mode: BT

equipment: major

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.186	21.51	9.49	31.00	54.21	-23.21	Average	Line
2	0.186	26.72	9.49	36.21	64.21	-28.00	QP	Line
3	0.282	20.25	9.49	29.74	50.76	-21.02	Average	Line
4	0.282	25.52	9.49	35.01	60.76	-25.75	QP	Line
5	1.238	19.53	9.52	29.05	46.00	-16.95	Average	Line
6	1.238	24.82	9.52	34.34	56.00	-21.66	QP	Line
7 PP	2.358	20.67	9.56	30.23	46.00	-15.77	Average	Line
8 QP	2.358	29.00	9.56	38.56	56.00	-17.44	QP	Line
9	5.854	14.67	9.72	24.39	50.00	-25.61	Average	Line
10	5.854	23.40	9.72	33.12	60.00	-26.88	QP	Line
11	15.381	21.33	9.91	31.24	50.00	-18.76	Average	Line
12	15.381	30.00	9.91	39.91	60.00	-20.09	QP	Line



Trace: 1

Condition: FCC CLASS-B QP Neutral

Remark : Temp:25.6°C, RH:57%, Press:100.9kPa

EUT name : ACTIVE SPEAKER SYSTEM

Model : A300 Pro

Test Mode: BT

equipment: major

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.294	20.42	9.48	29.90	50.41	-20.51	Average	Neutral
2	0.294	25.47	9.48	34.95	60.41	-25.46	QP	Neutral
3	0.510	18.46	9.60	28.06	46.00	-17.94	Average	Neutral
4	0.510	23.36	9.60	32.96	56.00	-23.04	QP	Neutral
5	1.370	19.34	9.72	29.06	46.00	-16.94	Average	Neutral
6	1.370	24.30	9.72	34.02	56.00	-21.98	QP	Neutral
7 PP	2.358	20.30	9.73	30.03	46.00	-15.97	Average	Neutral
8 QP	2.358	27.36	9.73	37.09	56.00	-18.91	QP	Neutral
9	5.934	14.41	9.81	24.22	50.00	-25.78	Average	Neutral
10	5.934	24.23	9.81	34.04	60.00	-25.96	QP	Neutral
11	16.165	21.10	9.96	31.06	50.00	-18.94	Average	Neutral
12	16.165	28.14	9.96	38.10	60.00	-21.90	QP	Neutral