Prüfbericht-Nr.: *Test Report No.:*	**50283743 001**	**Auftrags-Nr.:** *Order No.:*	168124505	Seite 1 von 46 *Page 1 of 46*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	23.07.2019	
Auftraggeber: *Client:*	**Edifier International Limited** P.O. Box 6264 General Post Office Hong Kong			
Prüfgegenstand: *Test item:*	Powered Bookshelf Speakers			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	S2000MKIII (Trademark: EDIFIER)			
Auftrags-Inhalt: *Order content:*	RED approval			
Prüfgrundlage: *Test specification:*	EN 62479:2010 EN 62368-1:2014+A11:2017 EN 55032:2015 EN 55035:2017 EN 61000-3-2:2014		EN 61000-3-3:2013 EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 300 328 V2.1.1	
Wareneingangsdatum: *Date of receipt:*	19.07.2019			
Prüfmuster-Nr.: *Test sample No.:*	A000960611-003			
Prüfzeitraum: *Testing period:*	31.07.2019 - 09.08.2019			
Ort der Prüfung: *Place of testing:*	Refer to clause 2.1			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: *Test result*:*	Pass			



geprüft von / *tested by:*

Datum *Date*	Name/Stellung *Name/Position*	Unterschrift *Signature*
03.09.2019	Alex Lan / Senior Project Engineer	

kontrolliert von / *reviewed by:*

Datum *Date*	Name/Stellung *Name/Position*	Unterschrift *Signature*
03.09.2019	Winnie Hou / Technical Certifier	

Sonstiges / *Other:*

This report is for Article 3.2 Radio Spectrum, Article 3.1a Health and Article 3.1b EMC requirements only.
Refer to TÜV Rheinland report 50275693 001 for details of Article 3.1a Electrical Safety requirements.

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

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.

This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.

TÜV Rheinland (Shenzhen) Co., Ltd., East of F/1, F/2 - F/4, Building 1, Cybio Technology Building, No. 6 Langshan No. 2 Road, North Hi-tech Industry Park, Nanshan District, Shenzhen, P.R. China
http://www.tuv.com

Test Summary

5.1.1 RF OUTPUT POWER
RESULT: Pass

5.1.2 DUTY CYCLE, TX-SEQUENCE, TX-GAP
RESULT: Not applicable

5.1.3 ACCUMULATED TRANSMIT TIME, FREQUENCY OCCUPATION AND HOPPING SEQUENCE
RESULT: Pass

5.1.4 HOPPING FREQUENCY SEPARATION
RESULT: Pass

5.1.5 MEDIUM UTILISATION (MU) FACTOR
RESULT: Not applicable

5.1.6 ADAPTIVITY
RESULT: Not applicable

5.1.7 OCCUPIED CHANNEL BANDWIDTH
RESULT: Pass

5.1.8 TRANSMITTER UNWANTED EMISSIONS IN THE OUT-OF-BAND DOMAIN
RESULT: Pass

5.1.9 TRANSMITTER UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN
RESULT: Pass

5.2.1 RECEIVER SPURIOUS EMISSIONS
RESULT: Pass

5.2.2 RECEIVER BLOCKING
RESULT: Pass

5.2.3 GEO-LOCATION CAPABILITY
RESULT: Not applicable

5.3.1 HARMONICS CURRENT EMISSION ON AC MAINS PORT
RESULT: Pass

5.3.2 VOLTAGE FLUCTUATIONS AND FLICKER ON AC MAINS
RESULT: Pass

5.3.3 CONDUCTED EMISSIONS
RESULT: Pass

5.3.4 RADIATED EMISSIONS
RESULT: Pass

5.3.5 ELECTROSTATIC DISCHARGES (ESD)
RESULT: Pass

5.3.6 RADIO FREQUENCY ELECTROMAGNETIC FIELD (RS)
RESULT: Pass

5.3.8 FAST TRANSIENTS (EFT)
RESULT: Pass

5.3.9 SURGE
RESULT: Pass

5.3.10 RADIO-FREQUENCY CONTINUOUS CONDUCTED (CS)
RESULT: Pass

5.3.11 VOLTAGE DIPS AND INTERRUPTIONS
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: Test Results.

2 Test Sites

2.1 Test Facilities

Accurate Technology Co., Ltd.
F1, Bldg. A, Changyuan new Material Port, Keyuan Rd., Science & Industry Park, Nanshan, Shenzhen, Guangdong, P.R. China

Shenzhen Academy of Metrology and Quality Inspection (SMQ)
NETC Building, No. 4 Tongfa Rd., Xili, Nanshan, Shenzhen, China

TÜV Rheinland (Shenzhen) Co., Ltd. Testing Center
No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China.

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

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Conducted Emission (ATC)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Test Receiver	R & S	ESCS30	100307	05.01.2020
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	05.01.2020
Pulse Limiter	R & S	ESH3-Z2	100815	05.01.2020
50ΩCoaxial Switch	Anritsu Corp	MP59B	6200283933	05.01.2020
VOLTAGE PROBE	Schwarzbeck	TK9416	N/A	05.01.2020
RF CURRENT PROBE	R & S	EZ-17	100048	05.01.2020
8-Wire Impedance Stabilisation Network	Schwarzbeck	CAT5 8158	8158-0035	05.01.2020
RF Coaxial Cable	SUHNER	N-2m	No.2	05.01.2020
RF Coaxial Cable	SUHNER	N-2m	No.3	05.01.2020
RF Coaxial Cable	SUHNER	N-2m	No.14	05.01.2020
Radiated Emission (ATC)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Spectrum Analyzer	R & S	FSV40	101495	05.01.2020
Test Receiver	R & S	ESCS30	100307	05.01.2020
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	05.01.2020
Loop Antenna	Schwarzbeck	FMZB1516	1516131	05.01.2020
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	05.01.2020
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	05.01.2020
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	05.01.2020
Pre-Amplifier	R & S	CBLU11835 40-01	3791	05.01.2020
50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	05.01.2020
RF Coaxial Cable	SUHNER	N-3m	No.8	05.01.2020
RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	05.01.2020
RF Coaxial Cable	SUHNER	N-6m	No.10	05.01.2020
RF Coaxial Cable	RESENBERGER	N-12m	No.11	05.01.2020
RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	05.01.2020
Harmonic & Flicker (ATC)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
AC Power Source	California Instruments	5001iX-400	55689	05.01.2020
Test analyzer	California Instruments	PACS-1	72254	05.01.2020
Radio Frequency Continuous Conducted (CS) (SMQ)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Signal Generator	ROHDE&SCHWARZ	SMB100A	113195-Gr	2020/6/14
Power Amplifier	AR	150A220M6	305965	20201/5

CDN	EM TEST	CDN-M3	0006231C	2020/11/26
CDN	EM TEST	CDN-M2	0006140C	2020/11/26
CDN	EM TEST	CDN-T2	0009072C	2020/11/26
CDN	EM TEST	CDN-AF4	0004079C	2020/11/26
Audio Analyzer	ROHDE&SCHWARZ	UPL	100026	2020/11/30
MIC	BK	BK-2669B	2221912	2020/11/30
Artificial Mouth	BK	BK-4227	2255307	2020/3/15
Microphone	BK	BK-4182	2150782	2020/3/31
Bridge Circuit	SPARNEX	SFB 1050	1075	2020/11/1
Electrostatic Discharge (ESD) (ATC)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
ESD Generator	TESEQ	NSG 437	823	05.01.2020
Fast Transients Common Mode (EFT) (ATC)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
ULTRA COMPACT SIMULATOR	EM TEST	UCS 500 N5	V0928104968	05.01.2020
CAPACITIVE CLAMP	EM TEST	HFK	0509-34	05.01.2020
Surge and Voltage Dips and Interruptions (ATC)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
ULTRA COMPACT SIMULATOR	EM TEST	UCS 500 N5	V0928104968	05.01.2020
EMCPRO SYSTEM (IMMUNITY TESTER)	THERMO	EMC PRO Plus-BASE	1108237	05.01.2020
COUPLER DECOUPLER FOR TELECOM LINES	THERMO	CM-TEL-CD	0403273	05.01.2020
Radio Frequency Electromagnetic Fields (RS) (SMQ)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Signal Generator	ROHDE&SCHWARZ	SMB100A	113195-Gr	2020/6/14
Power Amplifier	AR	250W1000A	0335304	2020/1/9
Power Amplifier	MILMEGA	AS0860-75/45	1040084	2020/6/28
Power Amplifier	AR	150A220M6	305965	2020/1/5
Wide-band Antenna	ROHDE&SCHWARZ	CBL6112B	2591	2020/12/6
Antenna	AR	ATH800M5GA	0336342	2020/3/28
Audio Analyzer	ROHDE&SCHWARZ	UPL	100026	2020/11/30
Radio Spectrum Testing (TUV)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Wireless Connectivity Tester	Rohde & Schwarz	CMW270	101375	8/20/2020
Signal Analyzer	Rohde & Schwarz	FSV 40	101441	8/20/2020
Vector Signal Generator	Rohde & Schwarz	SMBV100A	263301	8/21/2020
Signal Generator	Rohde & Schwarz	SMB100A	115186	8/21/2020
OSP	Rohde & Schwarz	OSP 150	101017	12/20/2019

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	12/20/2019
Wideband Power Sensor	Rohde & Schwarz	NRP-Z81	105350	12/20/2019
Humid & Temp Programmable Tester	BOST	NTH090-60	19040801	4/16/2020
Shielding Room 8#	Albatross	SR8	APC17151-SR8	7/23/2020
Unwanted Emission Testing (TUV)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Signal Generator	Rohde & Schwarz	SMB100A	180840	2019-08-30
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	165339	2019-08-30
Signal Analyzer	Rohde & Schwarz	FSV 40	101440	2019-08-30
System Controller Interface	Rohde & Schwarz	SCI-100	S10010036	N/A
Filterbank	Rohde & Schwarz	CDMA	100751	2019-08-30
Filterbank	Rohde & Schwarz	GSM	100811	2019-08-30
OSP	Rohde & Schwarz	OSP 120	102041	N/A
OSP	Rohde & Schwarz	OSP 150	101385	N/A
Pre-amplifier	Rohde & Schwarz	SCU08F1	08320030	2019-08-30
Amplifier	Rohde & Schwarz	SCU-18F	180079	2019-08-30
Amplifier	Rohde & Schwarz	SCU40A	100450	2019-09-03
Trilog Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VULB9162	192	2019-09-02
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218719	2019-09-02
Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18312	2019-09-02
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19066	2019-09-02
Biconical Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VUBA 9117	357	2019-09-02
Double Ridged Broadband Horn Antenna (1 – 18 GHz)	Schwarzbeck	BBHA 9120 D	01760	2019-09-02
Broadband Horn Antenna (15 – 40 GHz)	Schwarzbeck	BBHA 9170	00862	2019-09-02
Test software	Rohde & Schwarz	EMC32 (V10.40.00)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NW9P2	N/A

2.3 Uncertainty of Measurement

The value of the measurement uncertainty of each parameter is listed as below:

Table 2: Maximum Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	±5.0 %
RF Output Power, Conducted	±1.5 dB
Power Spectral Density, Conducted	±3.0 dB
Unwanted Emission, Conducted	±3.0 dB
All Emissions, Radiated	±6.0 dB
Temperature	±1.0 °C
Supply voltages	±3.0 %
Time	±5.0 %

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a Powered Bookshelf Speakers with Bluetooth function used for audio entertainment in house or similar environment. It operates at 2.4GHz ISM frequency band.

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

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Powered Bookshelf Speakers
Type Designation	S2000MKIII
Trade Mark	EDIFIER
Operating Voltage	AC 100-240V, 50/60Hz, 0.5A
Testing Voltage	AC 230V, 50Hz
Technical Specification of Bluetooth (BDR & EDR)	
Operating Frequency band	2402 – 2480 MHz
Bluetooth Version	5.0
Channel Number	79 channels
Channel separation	1MHz
Extreme Temperature Range	0ºC to +45ºC
Modulation	GFSK, 8DPSK, π/4DQPSK
Antenna Type	Internal Antenna
Antenna Gain	2.59 dBi

Table 4: RF Channel and Frequency of Bluetooth (BDR & EDR)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	**2402.00**	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	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		

3.3 Independent Operation Modes

The basic operation modes are:

A. On, Bluetooth mode (BDR & EDR)
    1. Transmitting mode
        a. Low channel
        b. Middle channel
        c. High channel
    2. Receiving mode
        a. Low channel
        d. Middle channel
        b. High channel
B. On, Bluetooth playing
C. On, Line Input
D. On, Coaxial input
E. On, Optical Input
F. Off

3.4 Noise Generating and Noise Suppressing Parts

For details refer to the Circuit Diagram.

3.5 Submitted Documents

- Block Diagram
- Schematics
- Rating Label
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

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.

Immunity: The equipment under test (EUT) was configured to have its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the instructions for use.

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.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5 and chapter 7.

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
Notebook	Lenovo	ThinkPad X260	PC0GP71G

Table 6: List of cables

Description	Manufacturer	Model	specifications
Fiber optical audio cable	EDIFIER	N/A	Less than 3m
Aux in cable	EDIFIER	N/A	Less than 3m
Coaxial cable	EDIFIER	N/A	Less than 3m

4.4 Countermeasures to Achieve EMC Compliance

No additional measures were employed to achieve compliance.

5 Test Results ERM

5.1 Transmitter Requirement & Test Suites

5.1.1 RF Output Power

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.2 of EN 300 328
Limit	:	Clause 4.3.1.2.3 of EN 300 328
Test suites	:	Clause 5.4.2 of EN 300 328

Test Setup

Date of testing		06.08.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal and extreme temperature
Operation mode	:	A1
Ambient temperature	:	20 ℃
Relative humidity	:	60 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.1.2 Duty Cycle, TX-sequence, TX-gap

RESULT: **Not applicable**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.3 of EN 300 328
Limit	:	Clause 4.3.1.3.3 of EN 300 328
Test suites	:	Clause 5.4.2 of EN 300 328

Exemption Conditions:

☒ These requirements do not apply for equipment with a maximum declared RF Output power of less than 10 dBm e.i.r.p. or for equipment when operating in a mode where the RF Output power is less than 10 dBm e.i.r.p.

Conclusion:

The maximum declared RF output power is less than 10dBm e.i.r.p., hence this requirement is not applicable.

5.1.3 Accumulated Transmit Time, Frequency Occupation and Hopping Sequence

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.4 of EN 300 328
Limit	:	Clause 4.3.1.4.3 of EN 300 328
Test suites	:	Clause 5.4.4 of EN 300 328

Test Setup

Date of testing		06.08.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal temperature
Operation mode	:	A1
Ambient temperature	:	20 ℃
Relative humidity	:	60 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.1.4 Hopping Frequency Separation

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.5 of EN 300 328
Limit	:	Clause 4.3.1.5.3 of EN 300 328
Test suites	:	Clause 5.4.5 of EN 300 328

Test Setup

Date of testing		06.08.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal temperature
Operation mode	:	A1
Ambient temperature	:	20 ℃
Relative humidity	:	60 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.1.5 Medium Utilisation (MU) Factor

RESULT: **Not applicable**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.6 of EN 300 328
Limit	:	Clause 4.3.1.6.3 of EN 300 328
Test suites	:	Clause 5.4.2 of EN 300 328

Exemption Conditions:

☒ These requirements do not apply for equipment with a maximum declared RF Output power of less than 10 dBm e.i.r.p. or for equipment when operating in a mode where the RF Output power is less than 10 dBm e.i.r.p.

Conclusion:

The maximum declared RF output power is less than 10dBm e.i.r.p., hence this requirement is not applicable.

5.1.6 Adaptivity

RESULT: **Not applicable**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.7.2 of EN 300 328
		Clause 4.3.2.6.3 of EN 300 328
Limit	:	Clause 4.3.1.7.2.2 of EN 300 328
		Clause 4.3.2.6.3.2 of EN 300 328
Test suites	:	Clause 5.4.6 of EN 300 328

Exemption Conditions:

☒ These requirements do not apply for equipment with a maximum declared RF Output power of less than 10 dBm e.i.r.p. or for equipment when operating in a mode where the RF Output power is less than 10 dBm e.i.r.p.

Conclusion:

The maximum declared RF output power is less than 10dBm e.i.r.p., hence this requirement is not applicable.

5.1.7 Occupied Channel Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.8 of EN 300 328
Limit	:	Clause 4.3.1.8.3 of EN 300 328
Test suites	:	Clause 5.4.7 of EN 300 328

Test Setup

Date of testing		06.08.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal temperature
Operation mode	:	A1
Ambient temperature	:	20 ℃
Relative humidity	:	60 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.1.8 Transmitter Unwanted Emissions in the Out-of-band Domain

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.9 of EN 300 328
Limit	:	Clause 4.3.1.9.3 of EN 300 328
Test suites	:	Clause 5.4.8 of EN 300 328

Test Setup

Date of testing		06.08.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal temperature
Operation mode	:	A1
Ambient temperature	:	20 ℃
Relative humidity	:	60 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.1.9 Transmitter Unwanted Emissions in the Spurious Domain

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.10 of EN 300 328
Limit	:	Clause 4.3.1.10.3 of EN 300 328
Test suites	:	Clause 5.4.9 of EN 300 328

Test Setup

Date of testing		31.07.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal temperature
Operation mode	:	A1
Ambient temperature	:	22 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.2 Receiver Requirement & Test Suites

5.2.1 Receiver Spurious Emissions

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.11 of EN 300 328
Limit	:	Clause 4.3.1.11.3 of EN 300 328
Test suites	:	Clause 5.4.10 of EN 300 328

Test Setup

Date of testing		31.07.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal temperature
Operation mode	:	A2
Ambient temperature	:	22 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.2.2 Receiver Blocking

RESULT: **Pass**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.12 of EN 300 328
Limit	:	Clause 4.3.1.12.4 of EN 300 328
Test suites	:	Clause 5.4.11 of EN 300 328

Test Setup

Date of testing		08.08.2019
Test voltage	:	AC 230V, 50Hz
Test environment	:	Normal temperature
Operation mode	:	A2
Ambient temperature	:	22 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A.

5.2.3 Geo-location Capability

RESULT: **Not applicable**

Test Specification

Test standard	:	EN 300 328 V2.1.1
Test requirement	:	Clause 4.3.1.13 of EN 300 328

Exemption Conditions:

This requirement only applies to equipment with geo-location capability as defined in clause 4.3.1.13.2.

Conclusion:

The EUT is adaptive equipment and does not support geo-location capability, hence this requirement is not applicable.

5.3 Test Results of EMC Requirement

5.3.1 Harmonics Current Emission on AC Mains port

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-17 V3.2.0 (Draft)
Basic standard	:	EN 301 489-1 V2.2.1 (Draft) EN 61000-3-2: 2014
Test requirement	:	Clause 8.5 of EN 301 489-1 V2.2.1 (Draft)
Measured harmonics	:	2 - 40
Classification	:	Class A
Limit	:	Table 1 of EN 61000-3-2: 2014

Test Setup

Date of testing	06.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Earthing	Not connected
Ambient temperature	25 ℃
Relative humidity	56 %
Atmospheric pressure	101 kPa

For the measurement records, refer to the appendix A. (Only the worst case were recorded)

5.3.2 Voltage Fluctuations and Flicker on AC Mains

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-17 V3.2.0 (Draft)
Basic standard	:	EN 301 489-1 V2.2.1 (Draft)
		EN 61000-3-3: 2013
Test requirement	:	Clause 8.6 of EN 301 489-1 V2.2.1 (Draft)
Frequency range	:	0 – 2 kHz
Limit	:	Clause 5 of EN 61000-3-3: 2013

Test Setup

Date of testing		06.08.2019
Test voltage	:	AC 230V, 50Hz
Operation mode	:	B, C, D, E
Earthing	:	Not connected
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A. (Only the worst case were recorded)

5.3.3 Conducted Emissions

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55032: 2015
Frequency range		0.15 - 30MHz
Classification		Class B
Limit	:	Clause 8.4.3 of EN 301 489-1 V2.2.1 (Draft) Table A.10 of EN 55032: 2012
Kind of test site	:	Shielded room

Test Setup

Date of testing	07.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Test ports	AC mains terminals
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	21 ℃
Relative humidity	60 %
Atmospheric pressure	101 kPa

For the measurement records, refer to the appendix A.

5.3.4 Radiated Emissions

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55032: 2015
Frequency range		30 - 6000MHz
Classification		Class B
Limit	:	Clause 8.2.3 of EN 301 489-1 V2.2.1 (Draft) Table A.4 and A.5 of EN 55032: 2015
Kind of test site	:	3m Semi-Anechoic Chamber
Test ports		Enclosure

Test Setup

Date of testing	09.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	21 ℃
Relative humidity	60 %
Atmospheric pressure	101 kPa

For the measurement records, refer to the appendix A.

5.3.5 Electrostatic Discharges (ESD)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55035:2017
Basic standard	:	EN 61000-4-2:2009
Test Requirement	:	Clause 9.3.1 of EN 301 489-1 V2.2.1 (Draft) Table 1 of EN 55035:2017
Test level	:	Contact discharge: ± 2.0kV, ± 4.0kV Air discharge: ± 2.0kV, ± 4.0kV, ± 8.0kV
Position	:	All exposed surfaces
Criterion		Clause 6.4 and Clause 6.6 of EN 301 489-17 V3.2.0 (Draft) Clause 8 and Annex G of EN 55035:2017

Test Setup

Date of testing	08.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	22 ℃
Relative humidity	50 %
Atmospheric pressure	101 kPa

Table 7: Test result of Electrostatic Discharges (ESD)

Operation mode	Test Voltage	Location	Result
B, C, D, E	± 2.0kV, ± 4.0kV / Contact	HCP	A*
		VCP	A*
		Conducted Enclosure	A*
	± 2.0kV, ± 4.0kV, ± 8.0kV / Air	Non-conducted Enclosure	A*
		Button	A*
		Slot	A*

*Remark: No degradation was observed during and after the tests.

5.3.6 Radio Frequency Electromagnetic Field (RS)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55035:2017
Basic standard	:	EN 61000-4-3:2006+A1+A2
Test Requirement	:	Clause 9.2.1 of EN 301 489-1 V2.2.1 (Draft) Table 1 of EN 55035:2017
Test level	:	3V/m, (unmodulated, rms)
Modulation	:	80% AM by a sinusoidal signal of 1kHz
Frequency range	:	80MHz -6GHz
Criterion		Clause 6.3 and Clause 6.5 of EN 301 489-17 V3.2.0 (Draft) Clause 8 and Annex G of EN 55035:2017

Test Setup

Date of testing	08.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	22 ℃
Relative humidity	50 %
Atmospheric pressure	101 kPa

Table 8: Test result of Radio Frequency Electromagnetic Field (RS), for swept test

Test Frequency Band	Test port	Polarity	Location	Result
80MHz – 1000MHz	Enclosure	Vertical / Horizontal	Front	A*
			Rear	A*
			Left	A*
			Right	A*
Test Frequency Band	Test port	Polarity	Location	Result
1000MHz – 6000MHz	Enclosure	Vertical / Horizontal	Front	A*
			Rear	A*
			Left	A*
			Right	A*

Table 9: Test result of Radio Frequency Electromagnetic Field (RS), for spot test

Test Frequency	Test port	Polarity	Location	Result
1800MHz 2600MHz 3500MHz 5000MHz	Enclosure	Vertical / Horizontal	Front	A*
			Rear	A*
			Left	A*
			Right	A*

*Remark: No degradation was observed during and after the tests.

5.3.8 Fast Transients (EFT)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55035: 2017
Basic standard	:	EN 61000-4-4: 2004
Test Requirement	:	Clause 9.4.1 of EN 301 489-1 V2.2.1 (Draft) Table 4 of EN 55035:2017
Test level	:	±1kV
Test duration	:	≥60sec
Rise time	:	5/50ns
Repetition frequency		5kHz
Criterion		Clause 6.4 and Clause 6.6 of EN 301 489-17 V3.2.0 (Draft) Clause 8 and Annex G of EN 55035:2017

Test Setup

Date of testing	02.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	22 ℃
Relative humidity	50 %
Atmospheric pressure	101 kPa

Table 10: Test result of Electrical Fast Transients (EFT)

Test Mode	Coupling Method	Coupling Port	Test Level	Actual Performance
B, C, D, E	Direct Injection	Live + Neutral	±1kV on AC	A*

*Remark: No degradation was observed during and after the tests.

5.3.9 Surge

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55035: 2017
Basic standard		EN 61000-4-5: 2006
Test Requirement	:	Clause 9.8.1 of EN 301 489-1 V2.2.1 (Draft) Table 4 of EN 55035:2017
Test level	:	±1kV
Number of surges	:	5 (for each combination of parameters)
Repetition rate	:	Max. 1/min
Criterion		Clause 6.4 and Clause 6.6 of EN 301 489-17 V3.2.0 (Draft) Clause 8 and Annex G of EN 55035:2017

Test Setup

Date of testing	07.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	22 ℃
Relative humidity	50 %
Atmospheric pressure	101 kPa

Table 11: Test result of Surge

Test Mode	Coupling Port	Test Level (±kV)	Coupling Phase	Actual Performance
B, C, D, E	AC mains power port	± 1.0 kV line to line	0	A*
			π/2	A*
			π	A*
			3π/2	A*

*Remark: No degradation was observed during and after the tests.

5.3.10 Radio-Frequency Continuous Conducted (CS)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55035: 2017
Basic standard		EN 61000-4-6: 2007
Test Requirement	:	Clause 9.5.1 of EN 301 489-1 V2.2.1 (Draft) Table 4 of EN 55035:2017
Frequency range	:	0.15 - 80 MHz
Source impedance	:	150Ω
Test level	:	For EN 301 489-1: 3V, (unmodulated, r.m.s.) For EN 55035: 3V (150KHz – 10MHz) 3 to 1V (10MHz – 30MHz), 1V (30MHz – 80MHz)
Modulation	:	AM 80%, 1kHz sine-wave
Sweep mode	:	automatic
Sweep rate		$<1.5\times10^{-3}$ decade / sec.
Criterion		Clause 6.3 and Clause 6.5 of EN 301 489-17 V3.2.0 (Draft) Clause 8 and Annex G of EN 55035:2017

Test Setup

Date of testing	07.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	22 ℃
Relative humidity	50 %
Atmospheric pressure	101 kPa

Table 12: Test result of Injected Currents / Conducted Susceptibility (CS), for EN 301 489-1

Test Frequency Band	Coupling Method	Test Port	Test Level	Actual Performance
150KHz – 80MHz	Direct Injection	AC mains power port	3.0 V	A*

Table 13: Test result of Injected Currents / Conducted Susceptibility (CS), for EN 55035

Test Frequency Band	Coupling Method	Test Port	Test Level	Actual Performance
150KHz – 10MHz	Direct Injection	AC mains power port	3.0 V	A*
10MHz – 30MHz	Direct Injection	AC mains power port	3.0V to 1.0V	A*
30MHz – 80MHz	Direct Injection	AC mains power port	1.0 V	A*

*Remark: No degradation was observed during and after the tests.

5.3.11 Voltage Dips and Interruptions

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.1 (Draft) EN 301 489-17 V3.2.0 (Draft) EN 55035: 2017
Basic standard		EN 61000-4-11: 2004
Test Requirement	:	Clause 9.7.1 of EN 301 489-1 V2.2.1 (Draft) Table 4 of EN 55035:2017
Test level and durations	:	Voltage Dips: 100% reduction for 0.5 period 100% reduction for 1 periods 30% reduction for 25 periods Voltage interruptions: 0% reduction for 250 period
Criterion		Clause 6.4 and Clause 6.6 of EN 301 489-17 V3.2.0 (Draft) Clause 8 and Annex G of EN 55035:2017

Test Setup

Date of testing	08.08.2019
Test voltage	AC 230V, 50Hz
Operation mode	B, C, D, E
Earthing	Not connected
Test configuration	Table-top
Ambient temperature	22 ℃
Relative humidity	50 %
Atmospheric pressure	101 kPa

Table 14: Test result of Voltage Dips and Interruptions

Test Mode	Coupling Port	Voltage Reduction (%)	Reduction Duration (in Period)	Actual Performance
B, C, D, E	AC mains power port	100%	0.5	A*
		100%	1	A*
		30%	25	A*
		100%	250	B**

*Remark: No degradation was observed during and after the tests.
**Remark: During the test, the EUT turned off. However, it could automatically restore after test.

6 Safety Human Exposure

6.1 Human Exposure to Electromagnetic Fields 10MHz-300GHz

6.1.1 Electromagnetic Fields

RESULT: **Pass**

Test Specification

Test standard : EN 62479: 2010

The maximum measured peak power of EUT is only 4.1 dBm (2.570mW).

According to EN 62479:2010 clause 4.2, if the average total radiated power emitted by apparatus operating in the frequency range 10MHz-300GHz is less than or equal to 13.01dBm(20mW), then the apparatus is deemed to comply with the basic restrictions without testing.

7 Photographs of the Test Set-Up

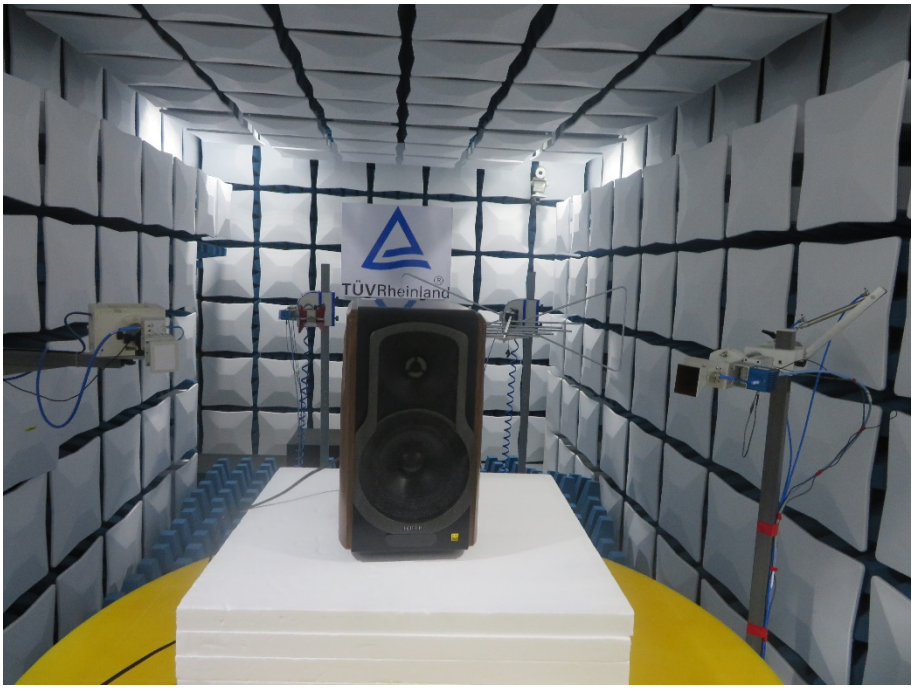
Photograph 1: Set-up for Radio Spectrum Testing, Normal Condition



Photograph 2: Set-up for Radio Spectrum Testing, Extreme Condition



Photograph 3: Set-up for Transmitter & Receiver Spurious Emissions



Photograph 4: Set-up for Conducted Emission on AC Mains



Photograph 5: Set-up for Harmonics& Flicker



Photograph 6: Set-up for Radiated Emission, Below 1GHz



Photograph 7: Set-up for Radiated Emission, Above 1GHz



Photograph 8: Set-up for Radio Frequency Electromagnetic Fields (RS, 80MHz-1GHz)



Photograph 9: Set-up for Radio Frequency Electromagnetic Fields (RS, 1GHz-6GHz)



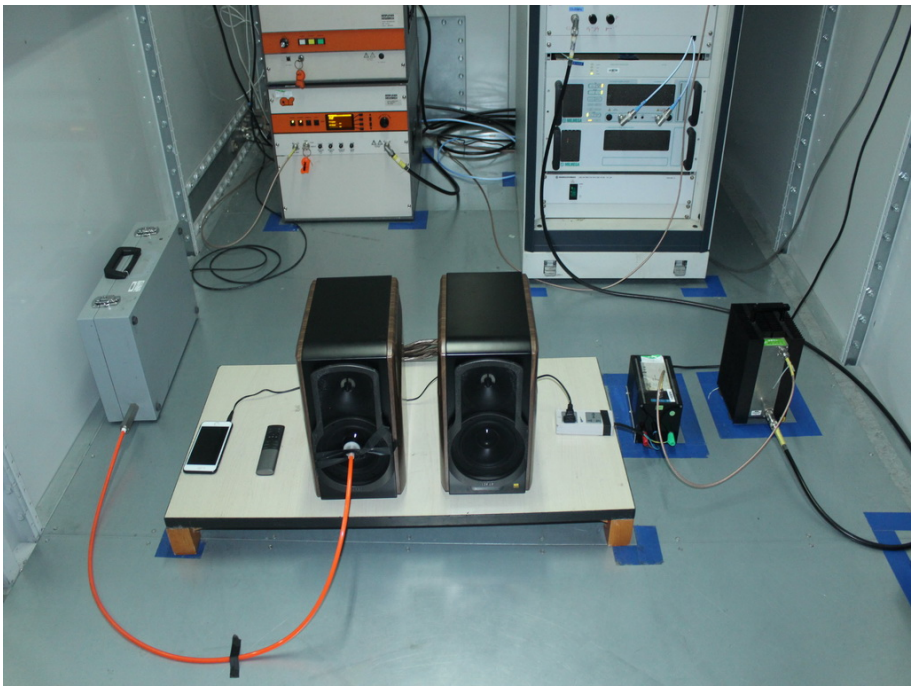
Photograph 10: Setup for Electrostatic Discharges (ESD)



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Photograph 12: Setup for Radio-frequency continuous conducted (CS)



Photograph 13: Setup for Surge& Voltage dips and interruptions



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Test results

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1 Appendix A.1 : RF output power

The RF output power is the mean equivalent isotropically radiated power (EIRP) during a transmission burst.
Only the worst case for all test modes reported.

BDR-GFSK	Max Burst EIRP (dBm)
TN/VN	3.70
TL/VN	4.10
TH/VN	3.48
Limits	20
Result	Complies
EDR-8DPSK	Max Burst EIRP (dBm)
TN/VN	3.80
TL/VN	4.10
TH/VN	3.54
Limits	20
Result	Complies

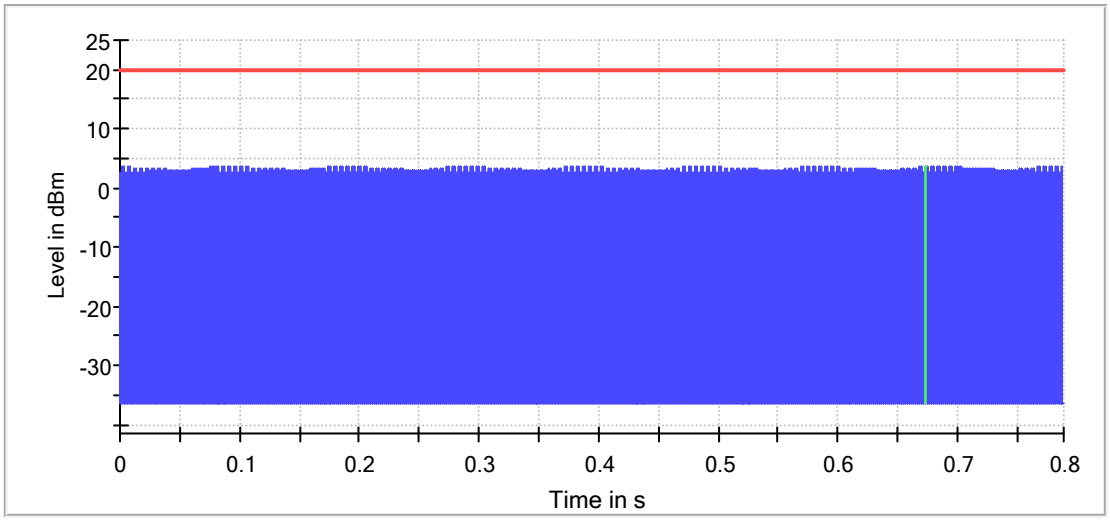
BDR-GFSK

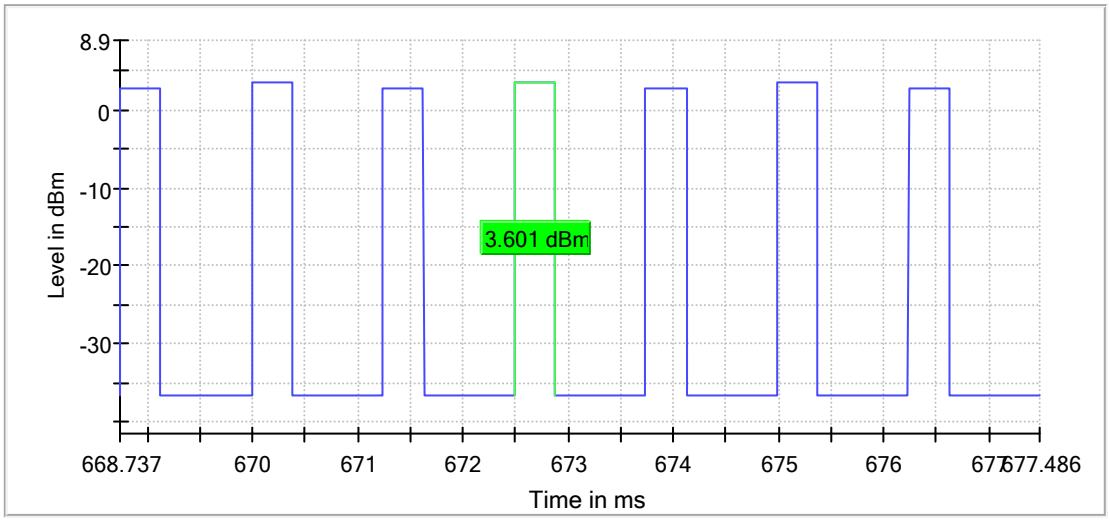
DutyCycle

DutyCycle (%)	Limit Max (%)	Result
31.105	---	PASS

MediumUtilization

MediumUtilization (%)	Limit Max (%)	Result
0.630	---	PASS





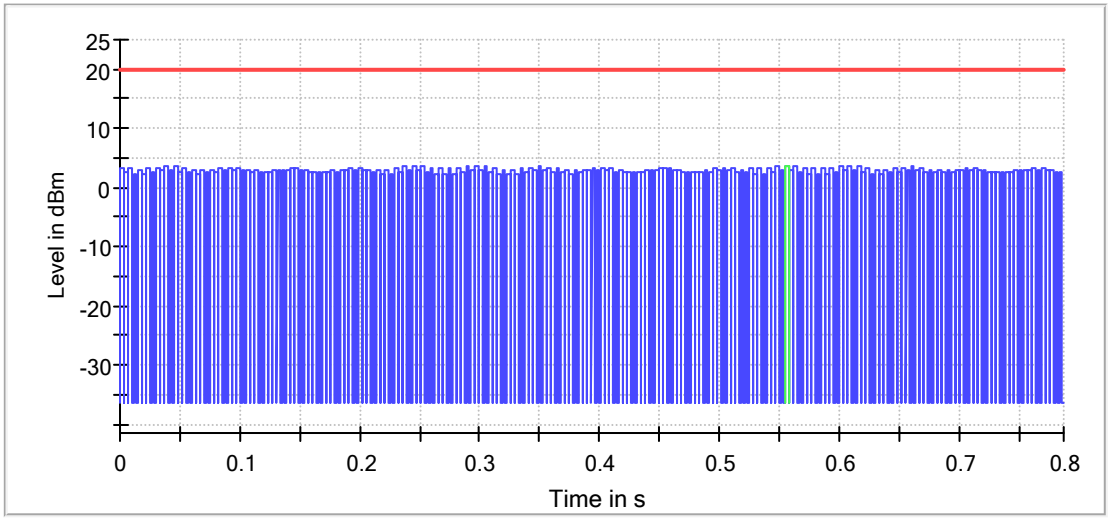
EDR-8DPSK

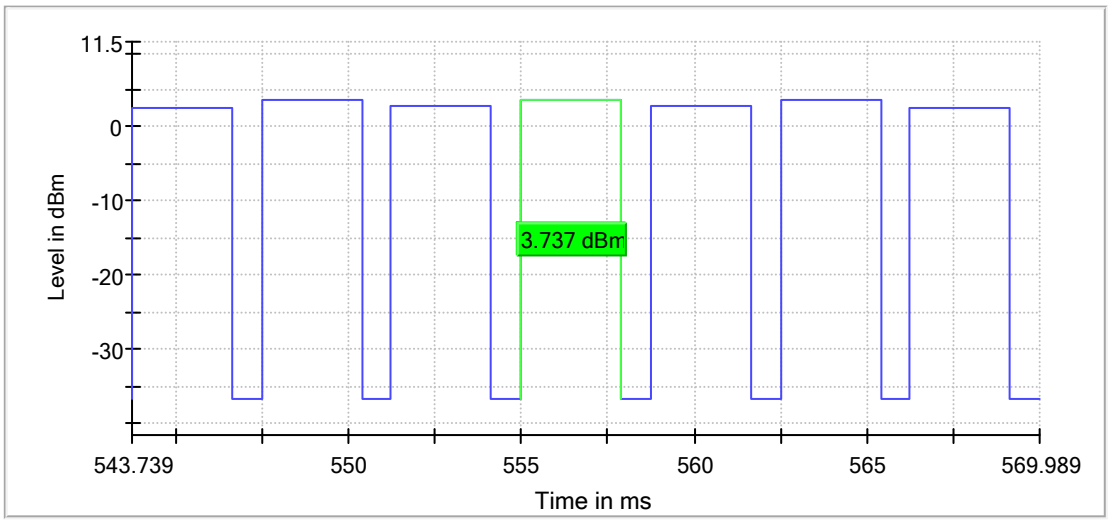
DutyCycle

DutyCycle (%)	Limit Max (%)	Result
77.343	---	PASS

MediumUtilization

MediumUtilization (%)	Limit Max (%)	Result
1.516	---	PASS



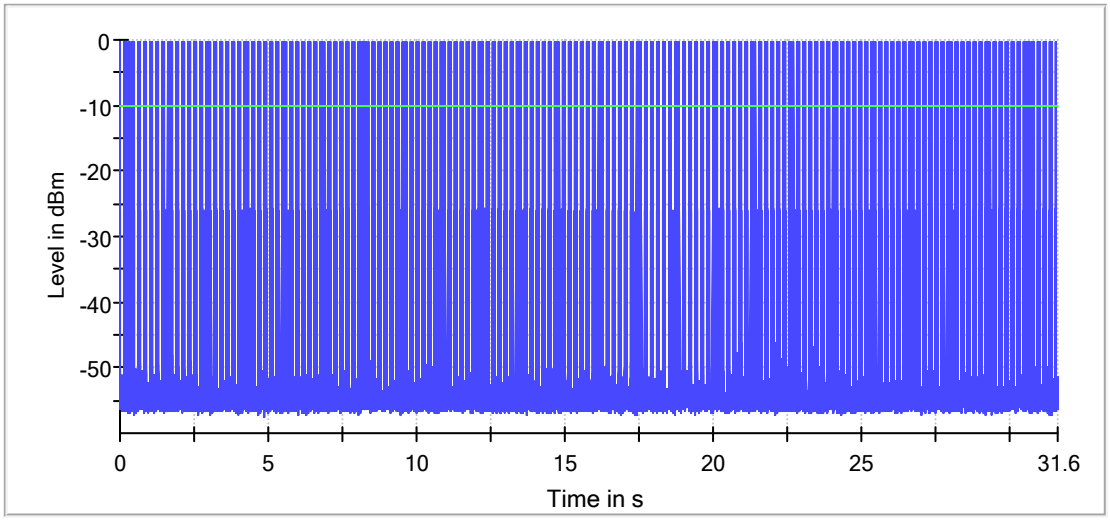


2 Appendix A.2 : Accumulated Transmit Time

BDR-GFSK, DH1

Result

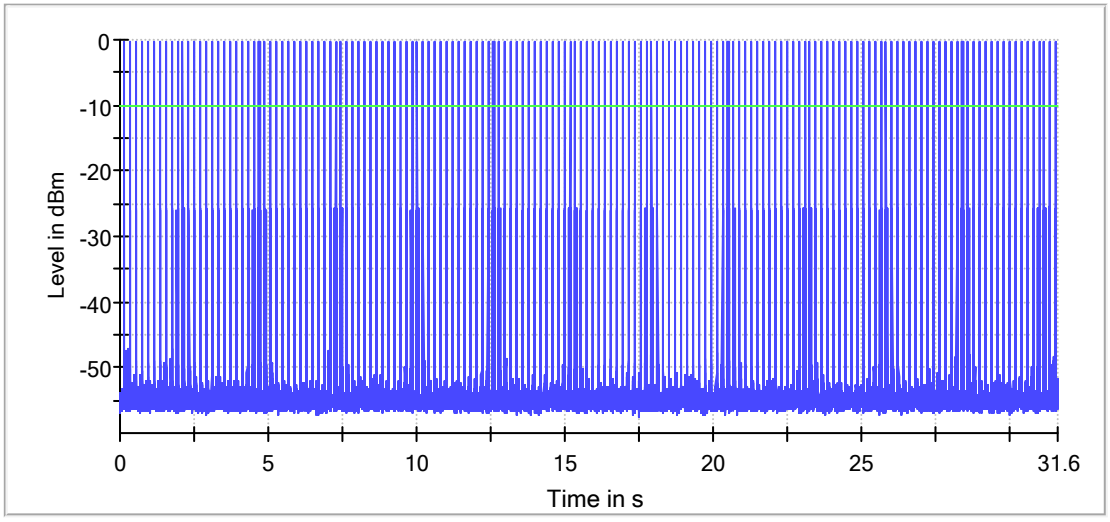
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	125.780	400.000	---	-10.0



BDR-GFSK, DH3

Result

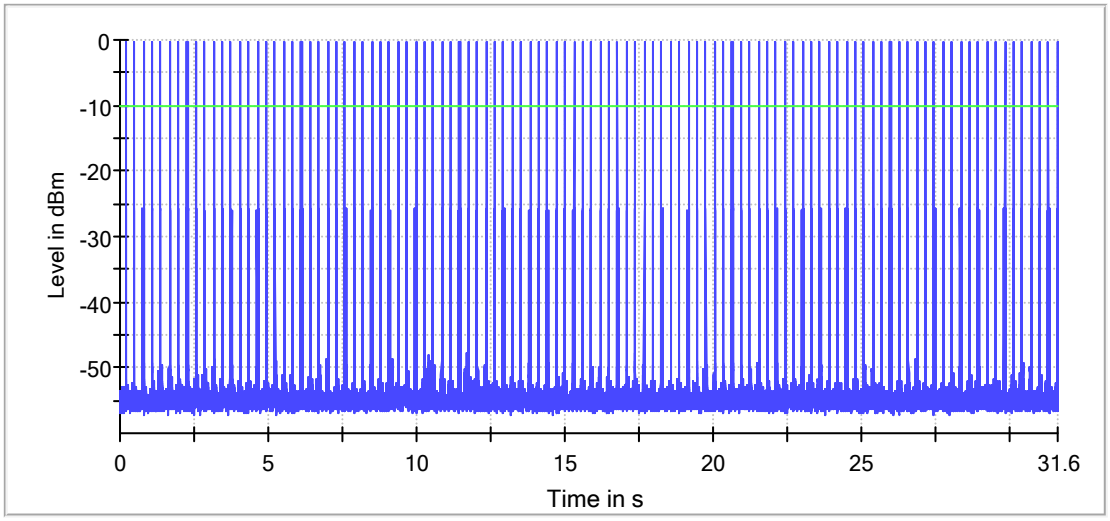
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	263.850	400.000	---	-10.0



BDR-GFSK, DH5

Result

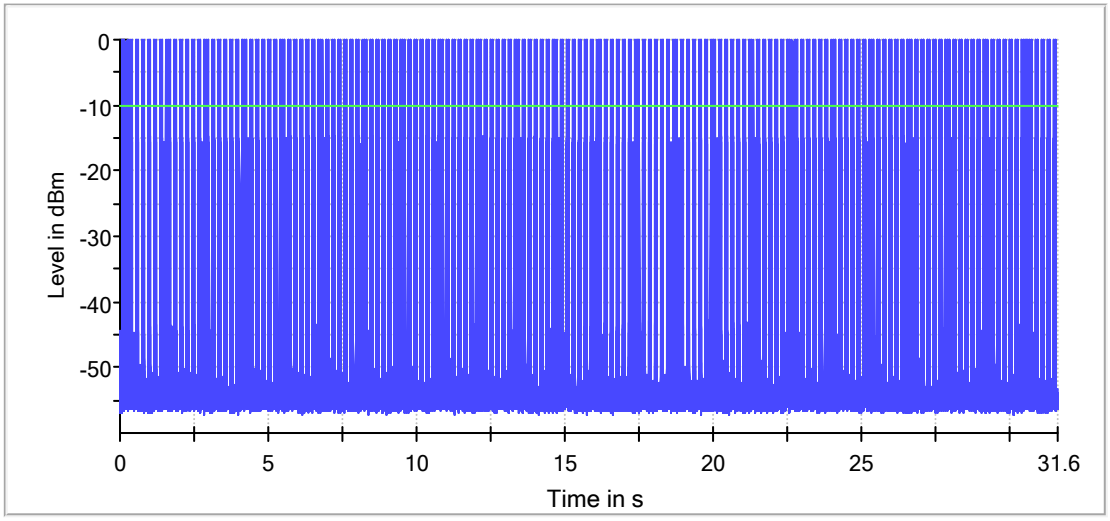
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	309.990	400.000	---	-10.0



EDR-8DPSK, DH1

Result

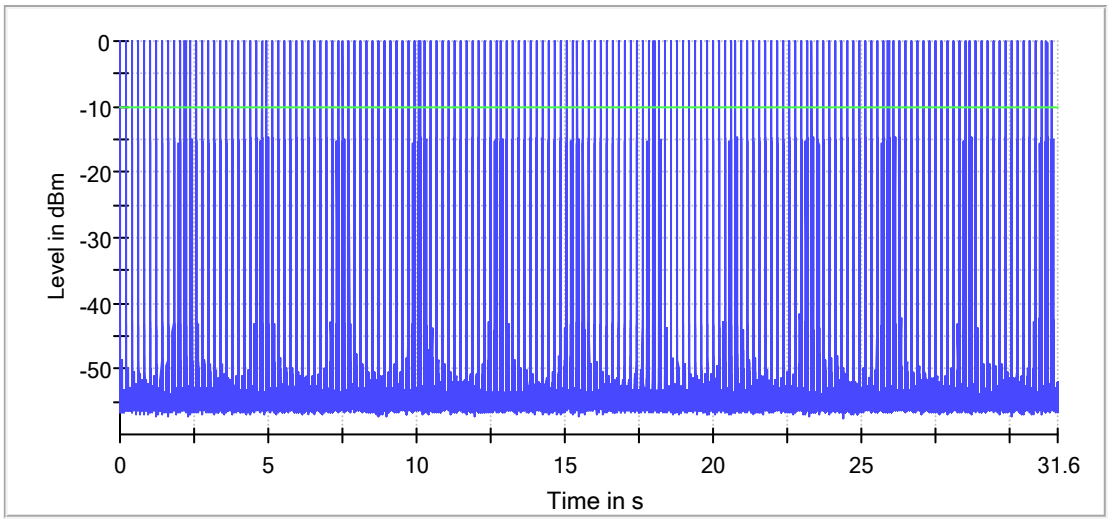
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	129.260	400.000	---	-10.0



EDR-8DPSK, DH3

Result

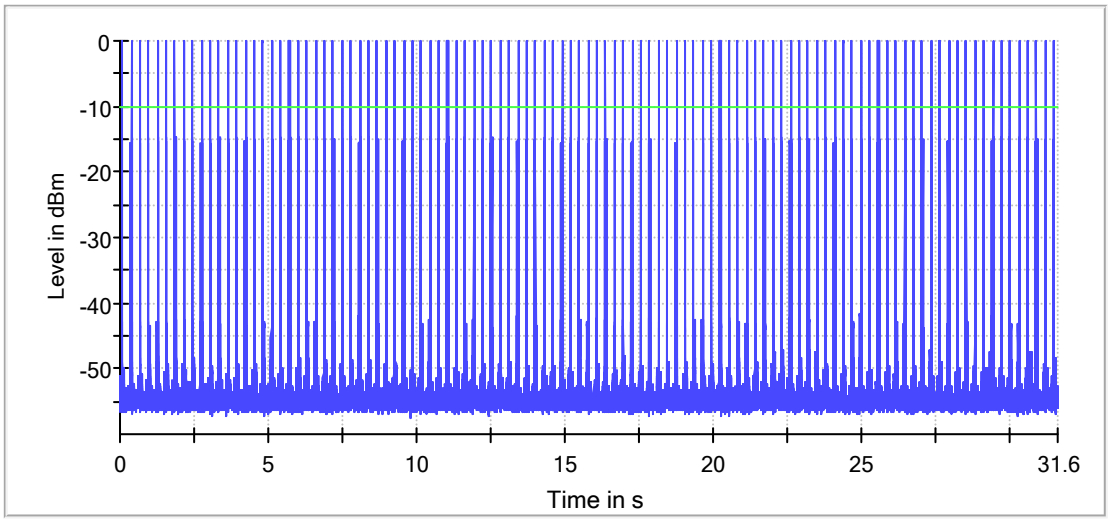
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	264.620	400.000	---	-10.0



EDR-8DPSK, DH5

Result

DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	310.860	400.000	---	-10.0

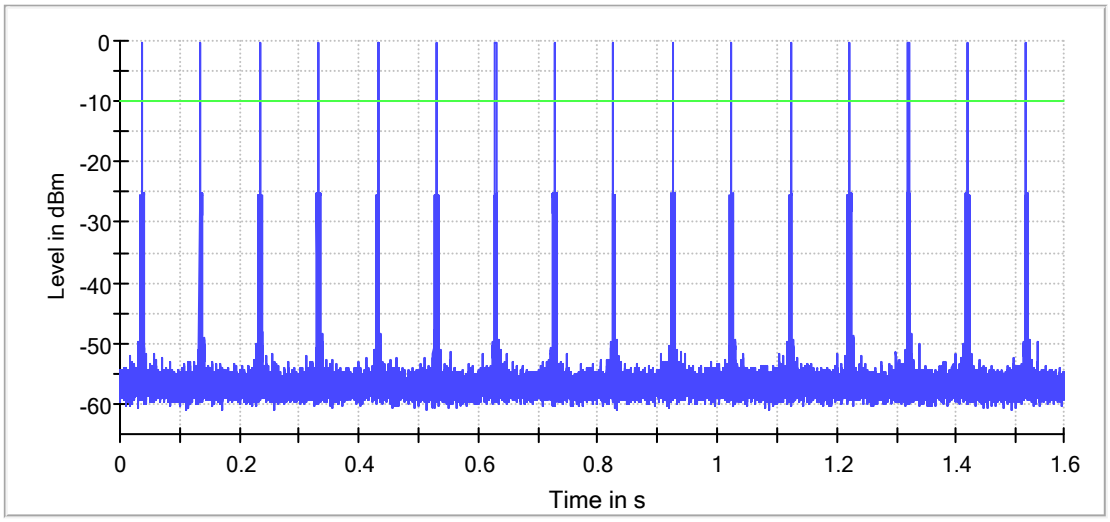


3 Appendix A.3 : Frequency Occupation

BDR-GFSK, DH1

Result

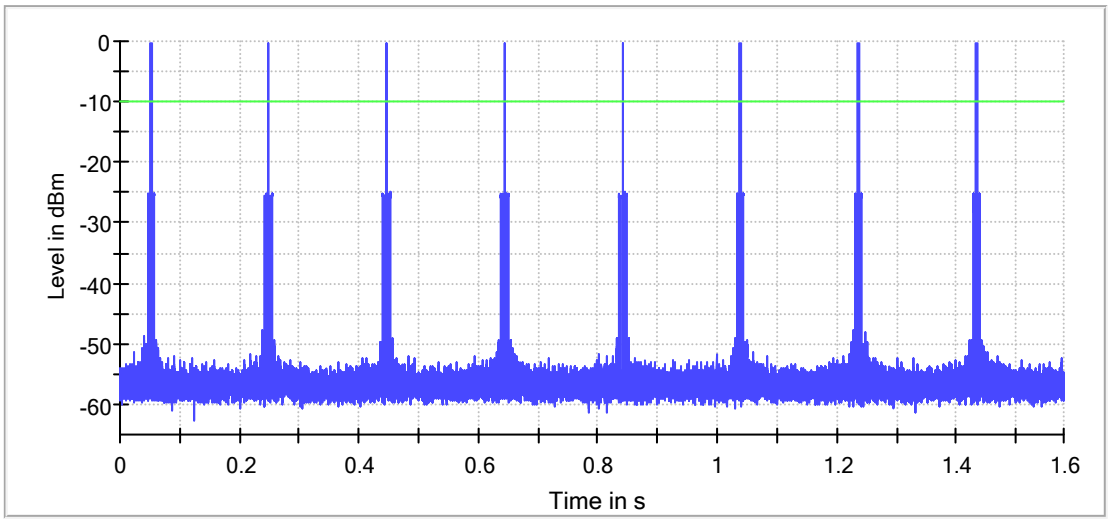
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	6.146	---	0.000	-10.0



BDR-GFSK, DH3

Result

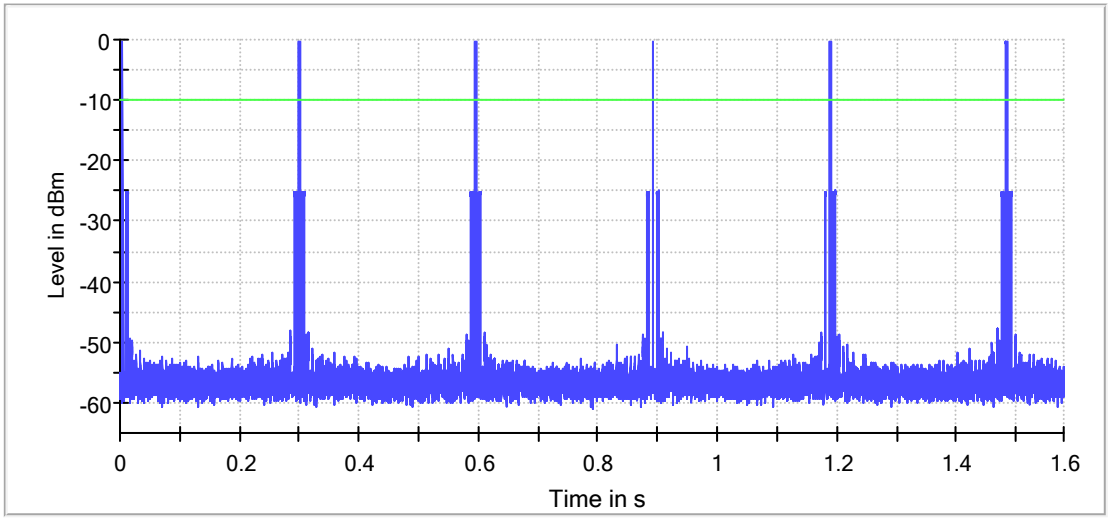
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	13.122	---	0.000	-10.0



BDR-GFSK, DH5

Result

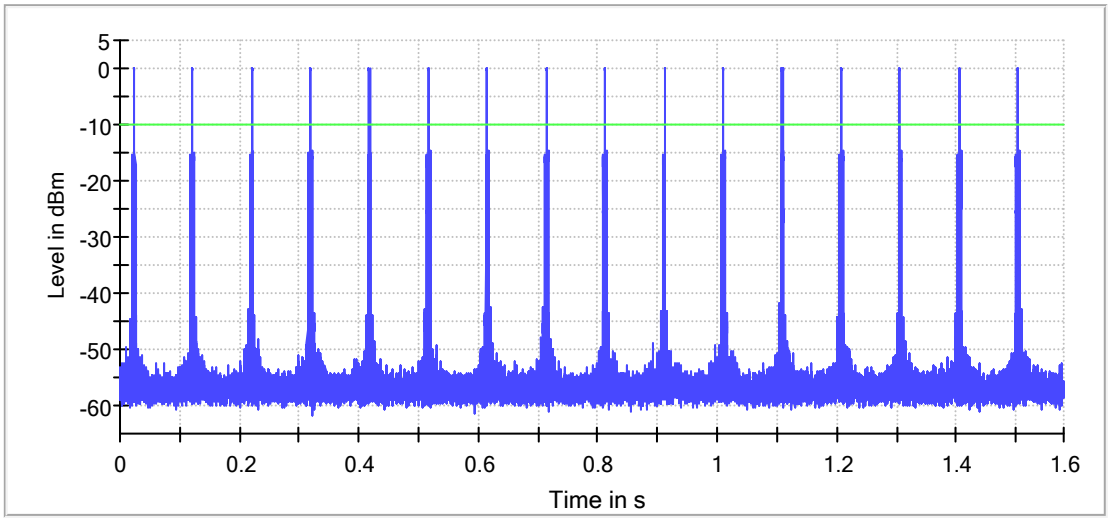
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	17.329	---	0.000	-10.0



EDR-8DPSK, DH1

Result

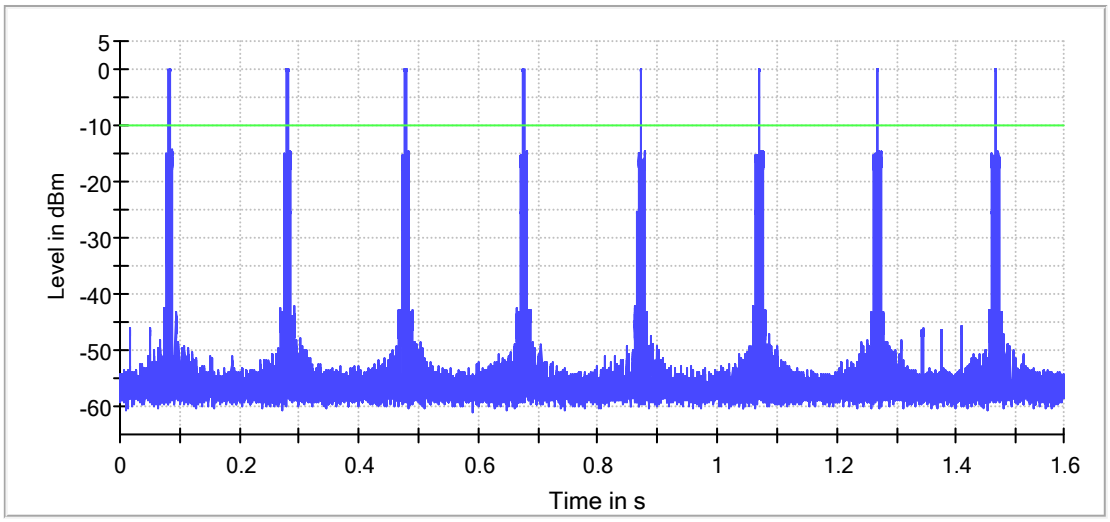
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	6.277	---	0.000	-10.0



EDR-8DPSK, DH3

Result

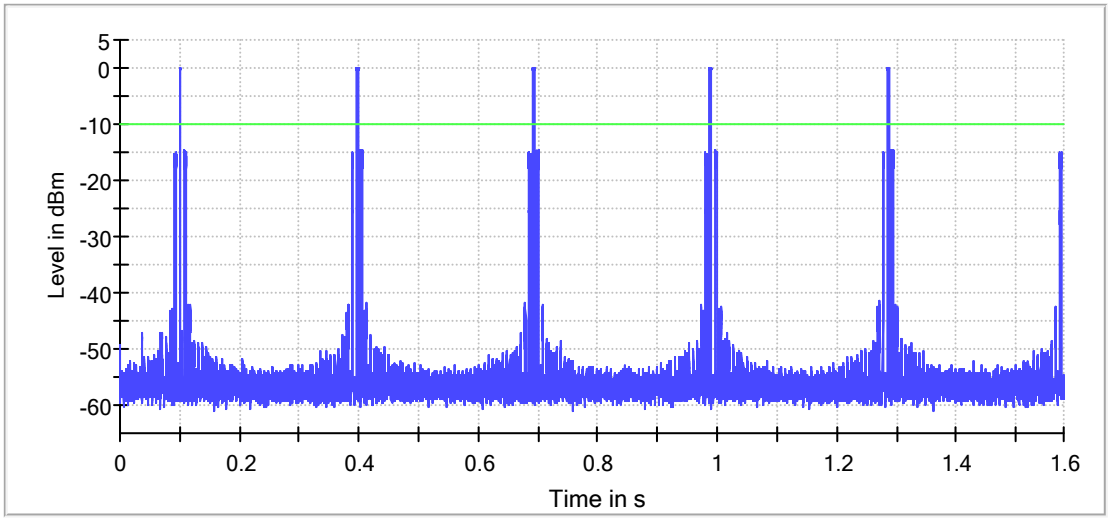
DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	13.006	---	0.000	-10.0



EDR-8DPSK, DH5

Result

DUT Frequency (MHz)	Result	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)
2441.000000	PASS	14.289	---	0.000	-10.0



4 Appendix A.4 : Hopping Sequence

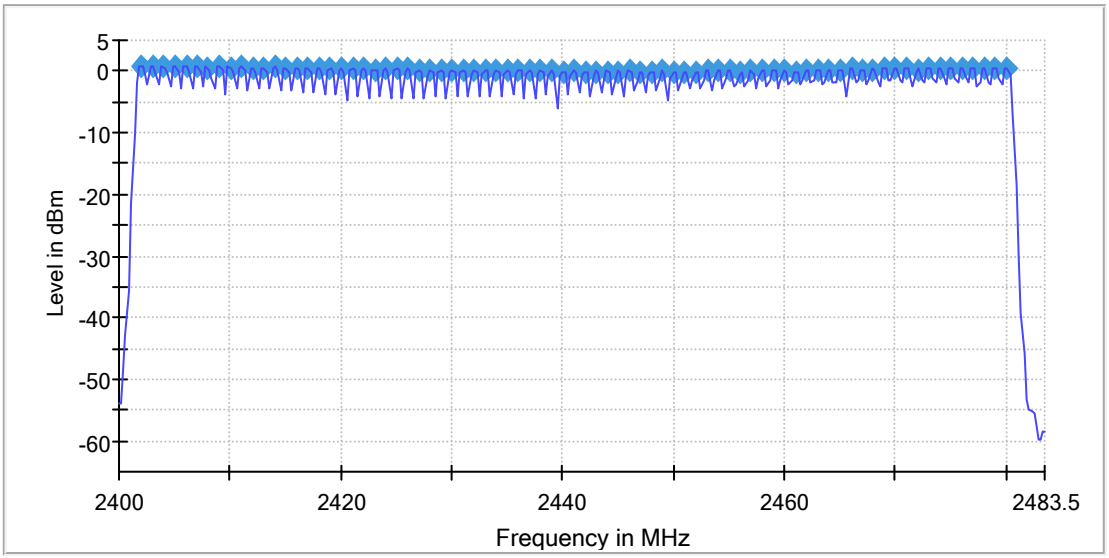
BDR-GFSK:

Hopping Frequencies

Hopping Frequencies	Limit Min	Limit Max	Result
79	15	---	PASS

Band Allocation

Band Allocation (MHz)	Band Allocation Low Frequency (MHz)	Band Allocation High Frequency (MHz)	Limit Min	Limit Max	Result
79.511940	2401.370896	2480.882836	58450000	---	PASS



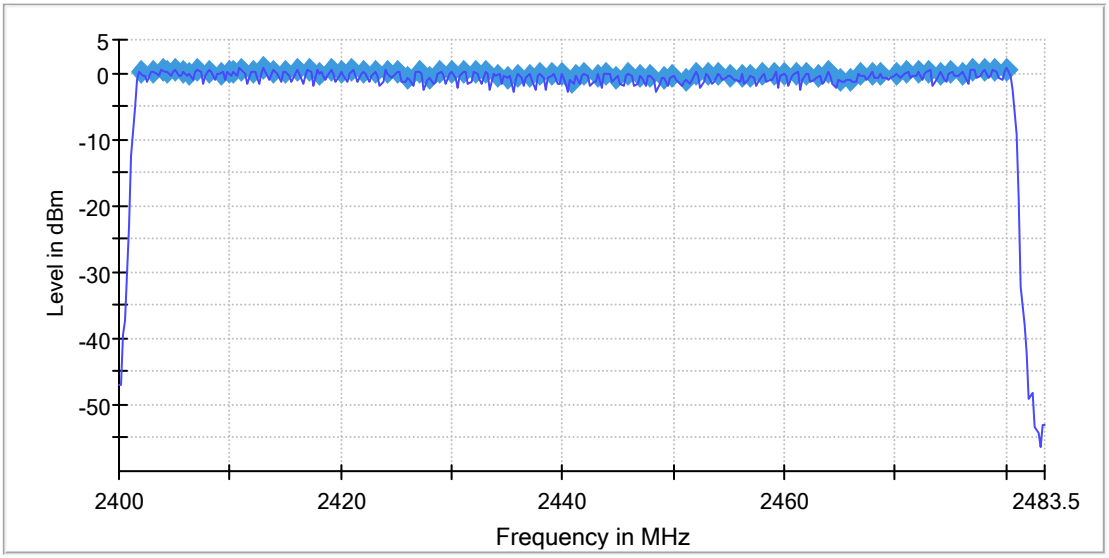
EDR-8DPSK:

Hopping Frequencies

Hopping Frequencies	Limit Min	Limit Max	Result
83	15	---	PASS

Band Allocation

Band Allocation (MHz)	Band Allocation Low Frequency (MHz)	Band Allocation High Frequency (MHz)	Limit Min	Limit Max	Result
80.010448	2401.121642	2481.132090	58450000	---	PASS

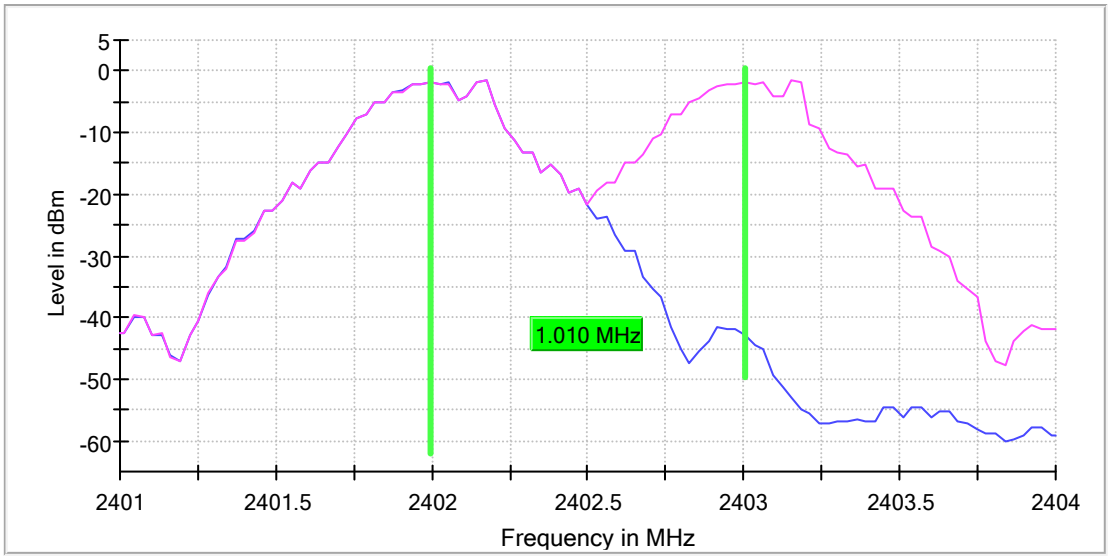


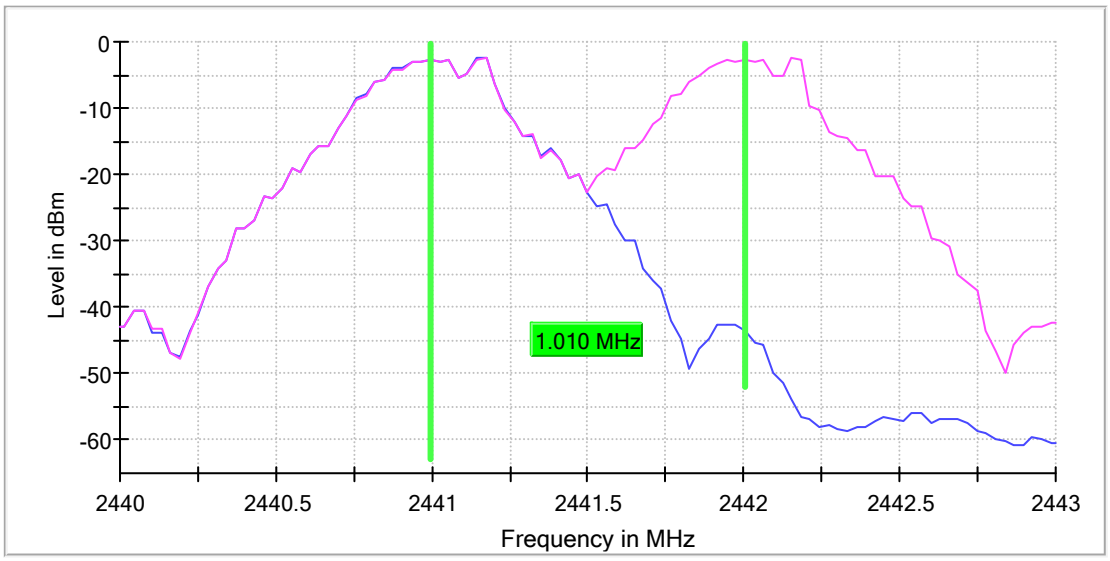
5 Appendix A.5: Hopping Frequency Separation

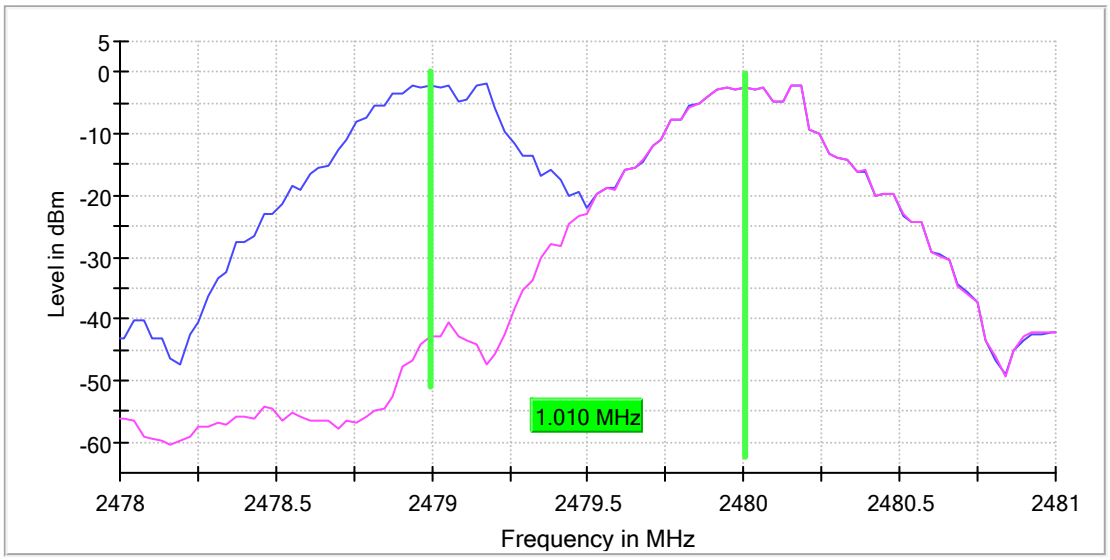
BDR-GFSK

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)	Result
2402.000000	1.009900	0.100000	---	2401.995050	2403.004950	PASS
2441.000000	1.009900	0.100000	---	2440.995050	2442.004950	PASS
2480.000000	1.009900	0.100000	---	2478.995050	2480.004950	PASS



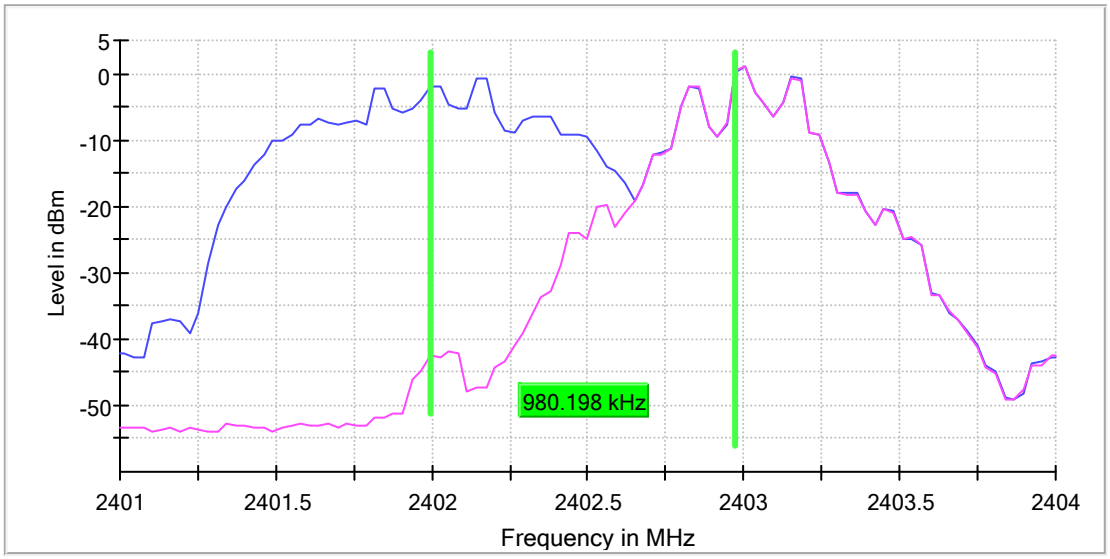


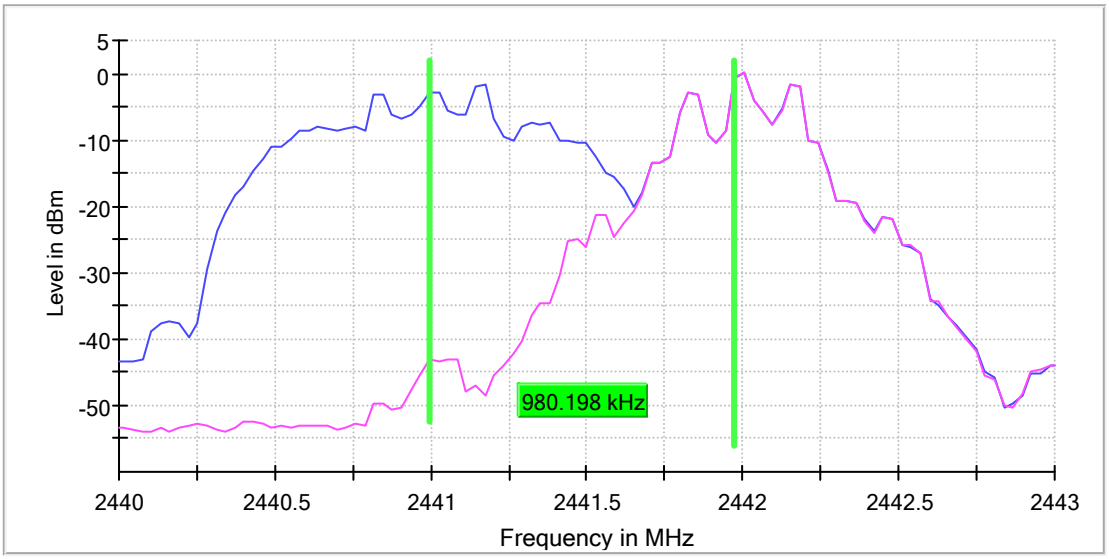


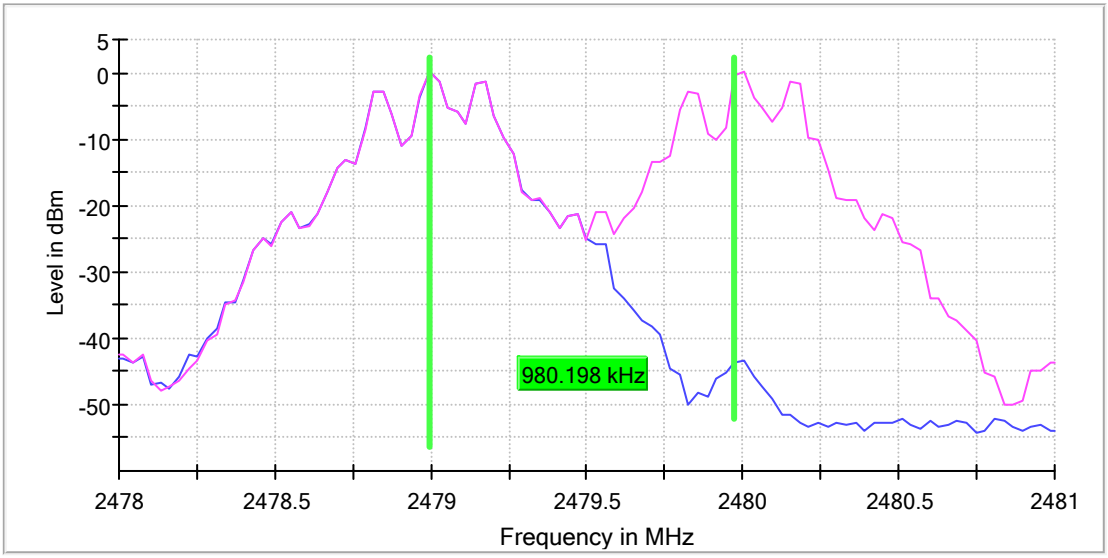
EDR-8DPSK

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)	Result
2402.000000	0.980198	0.100000	---	2401.995050	2402.975248	PASS
2441.000000	0.980198	0.100000	---	2440.995050	2441.975248	PASS
2480.000000	0.980198	0.100000	---	2478.995050	2479.975248	PASS




5
0
-10
-20
-30
-40
-50
Level in dBm
980.198 kHz
2440
2440.5
2441
2441.5
2442
2442.5
2443
Frequency in MHz


5
0
-10
-20
-30
-40
-50
Level in dBm
980.198 kHz
2478
2478.5
2479
2479.5
2480
2480.5
2481
Frequency in MHz

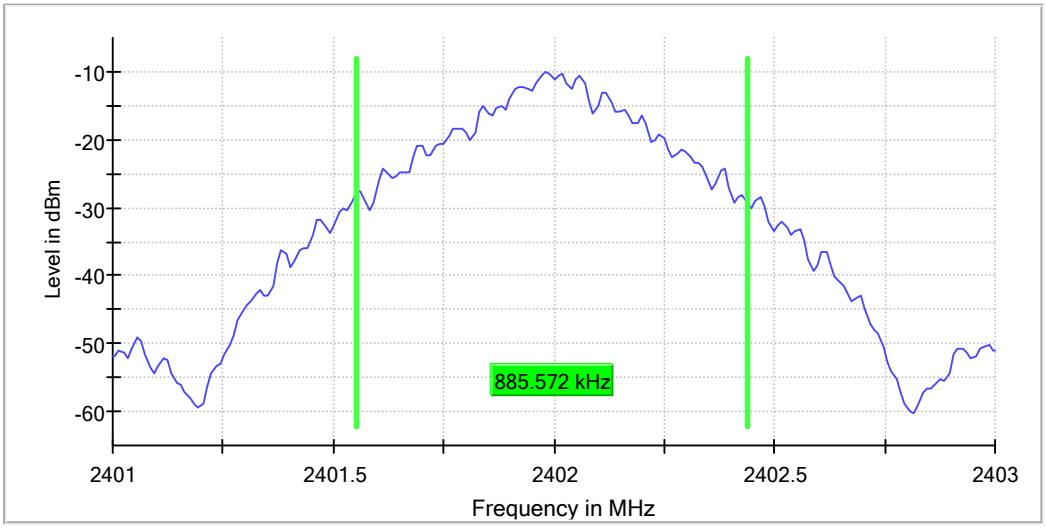
6 Appendix A.6: Occupied Channel Bandwidth

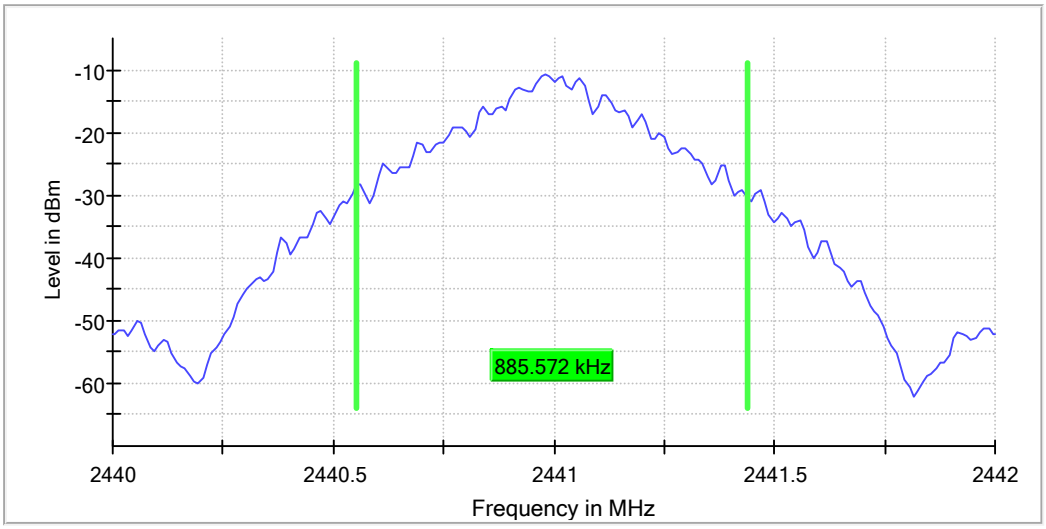
BDR-GFSK
99 % Bandwidth

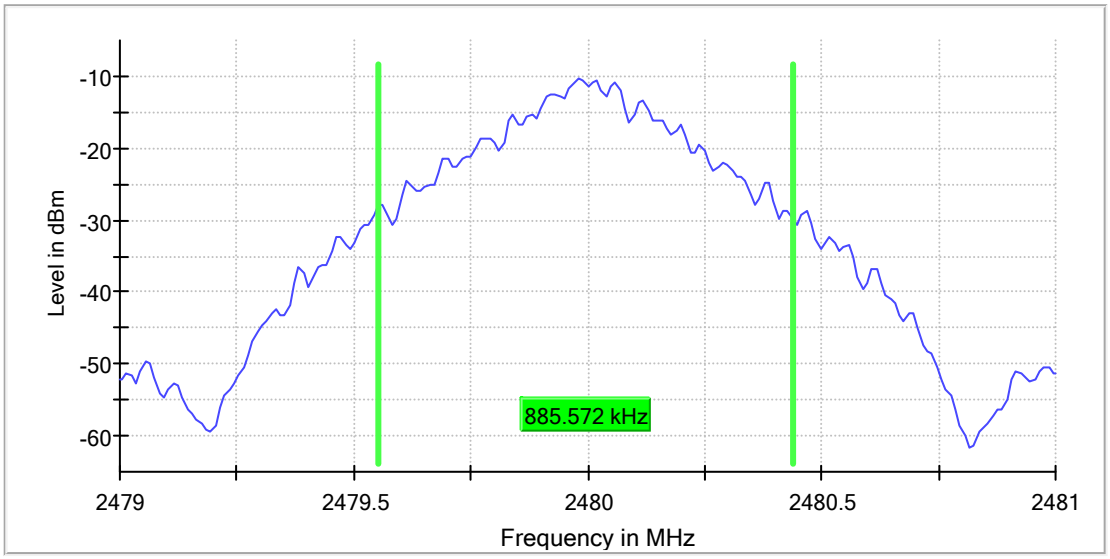
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Limit Min BE L (MHz)
2402.000000	0.885572	---	---	2401.552239	2400.000000
2441.000000	0.885572	---	---	2440.552239	2400.000000
2480.000000	0.885572	---	---	2479.552239	2400.000000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Band Edge Right (MHz)	Limit Max BE R (MHz)	Result
2402.000000	2402.437811	2483.500000	PASS
2441.000000	2441.437811	2483.500000	PASS
2480.000000	2480.437811	2483.500000	PASS







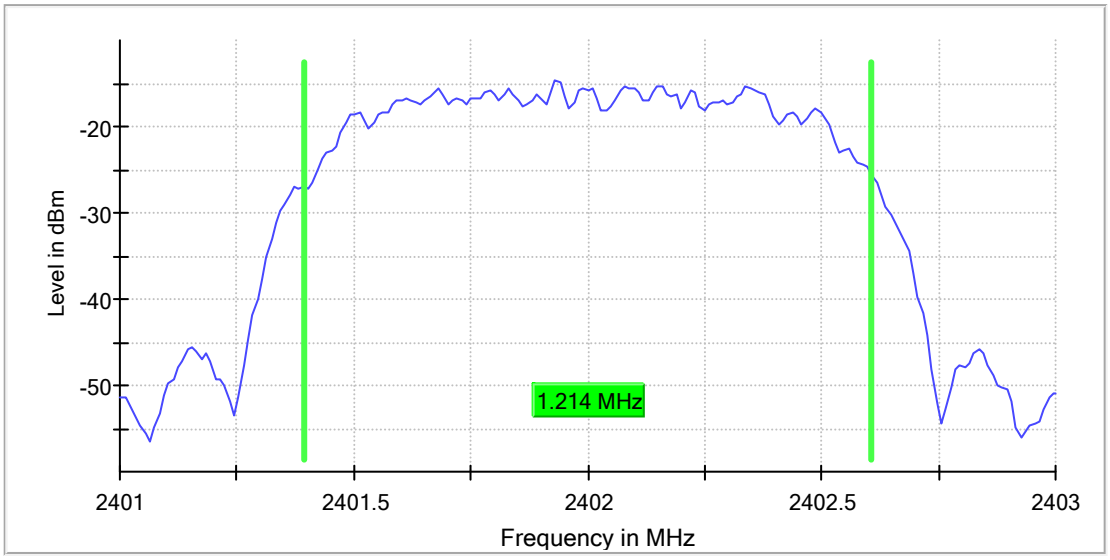
EDR-8DPSK

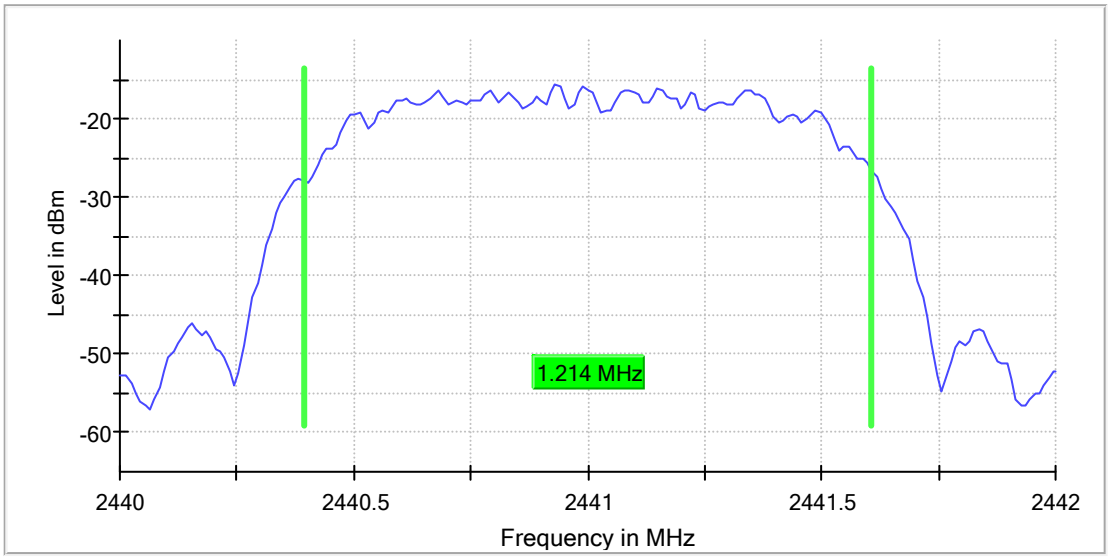
99 % Bandwidth

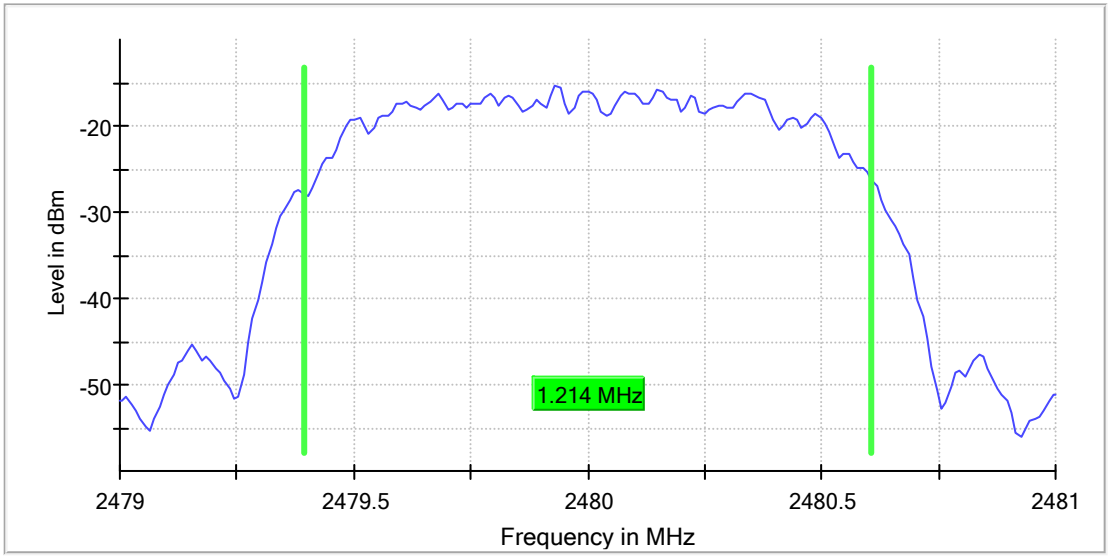
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Limit Min BE L (MHz)
2402.000000	1.213930	---	---	2401.393035	2400.000000
2441.000000	1.213930	---	---	2440.393035	2400.000000
2480.000000	1.213930	---	---	2479.393035	2400.000000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Band Edge Right (MHz)	Limit Max BE R (MHz)	Result
2402.000000	2402.606965	2483.500000	PASS
2441.000000	2441.606965	2483.500000	PASS
2480.000000	2480.606965	2483.500000	PASS




-20
-30
-40
-50
-60
Level in dBm
1.214 MHz
2440
2440.5
2441
2441.5
2442
Frequency in MHz


-20
-30
-40
-50
Level in dBm
1.214 MHz
2479
2479.5
2480
2480.5
2481
Frequency in MHz

7 Appendix A.7: Receiver Blocking

BDR-GFSK

Summary

DUT Frequency (MHz)	Receiver Category	Result
2403.000000	2	PASS

Leveling (ETSI step 3)

Additional Attenuation (dB)	CMW Level (dBm)	CMW Level at DUT (dBm)	Criterion 1	Performance
0.0	-10.0	-55.4	4.095	PASS
1.0	-11.0	-56.4	5.005	PASS
2.0	-12.0	-57.4	4.981	PASS
3.0	-13.0	-58.4	3.378	PASS
4.0	-14.0	-59.4	3.565	PASS
5.0	-15.0	-60.4	3.754	PASS
6.0	-16.0	-61.4	3.472	PASS
7.0	-17.0	-62.4	4.689	PASS
8.0	-18.0	-63.4	3.657	PASS
9.0	-19.0	-64.4	3.472	PASS
10.0	-20.0	-65.4	3.568	PASS
11.0	-21.0	-66.4	3.475	PASS
12.0	-22.0	-67.4	3.942	PASS
13.0	-23.0	-68.4	4.698	PASS
14.0	-24.0	-69.4	4.127	PASS
15.0	-25.0	-70.4	3.846	PASS
16.0	-26.0	-71.4	4.716	PASS
17.0	-27.0	-72.4	4.633	PASS
18.0	-28.0	-73.4	6.801	PASS
19.0	-29.0	-74.4	6.328	PASS
20.0	-30.0	-75.4	8.023	PASS

Blocker Results (ETSI step 4 and 5)

Number	Blocker Frequency (MHz)	Blocker Level at DUT Port (dBm)	Blocker Level at DUT Antenna (dBm)	Result
1	2300.000000	-47.0	-47.0	PASS
2	2380.000000	-57.0	-57.0	PASS
3	2503.500000	-57.0	-57.0	PASS
4	2583.500000	-47.0	-47.0	PASS

DUT Monitoring

Number	Blocker Frequency (MHz)	Blocker Level at DUT Port (dBm)	Blocker Level at DUT Antenna (dBm)	Name	Value	Limit Min	Limit Max	Result
1	2300.000000	-47.0	-47.0	PER	0.499	---	10.000	PASS
2	2380.000000	-57.0	-57.0	PER	1.597	---	10.000	PASS
3	2503.500000	-57.0	-57.0	PER	0.200	---	10.000	PASS
4	2583.500000	-47.0	-47.0	PER	0.200	---	10.000	PASS

8 Appendix A.8 : Tx unwanted emissions in the out-of-band domain

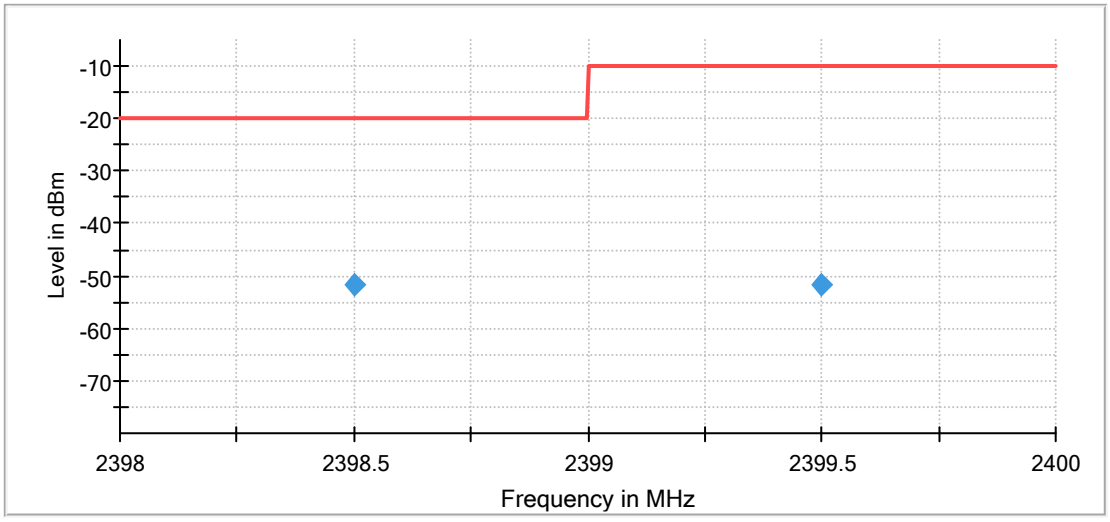
BDR-GFSK:

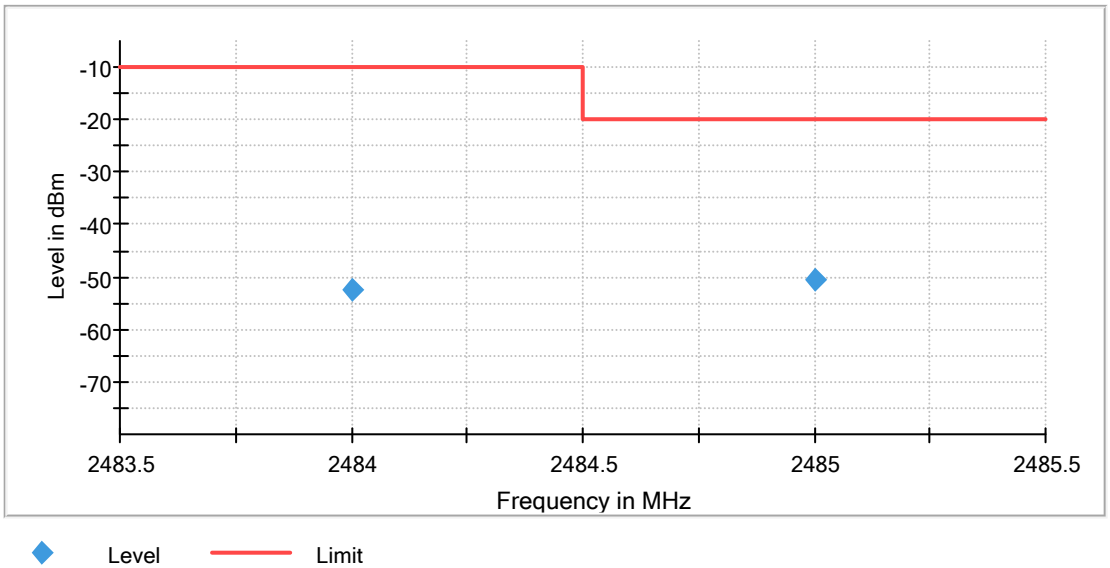
Summary

DUT Frequency (MHz)	FAIL	PASS	Result
hopping	0	4	PASS

Measurements

Frequency (MHz)	level (dBm)	Limit (dBm)	Result
2398.500000	-51.8	-20.0	PASS
2399.500000	-51.8	-10.0	PASS
2484.000000	-52.4	-10.0	PASS
2485.000000	-50.5	-20.0	PASS





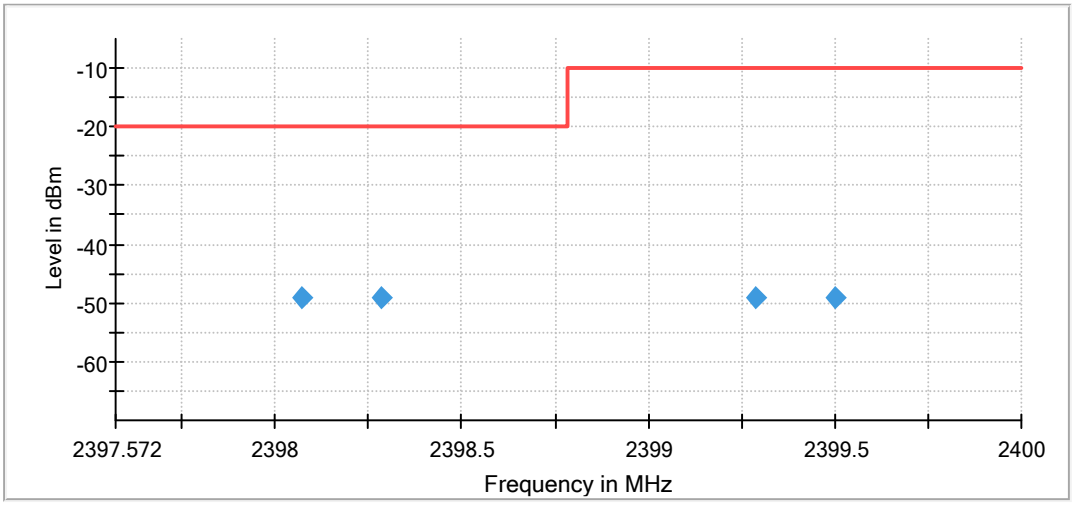
EDR-8DPSK:

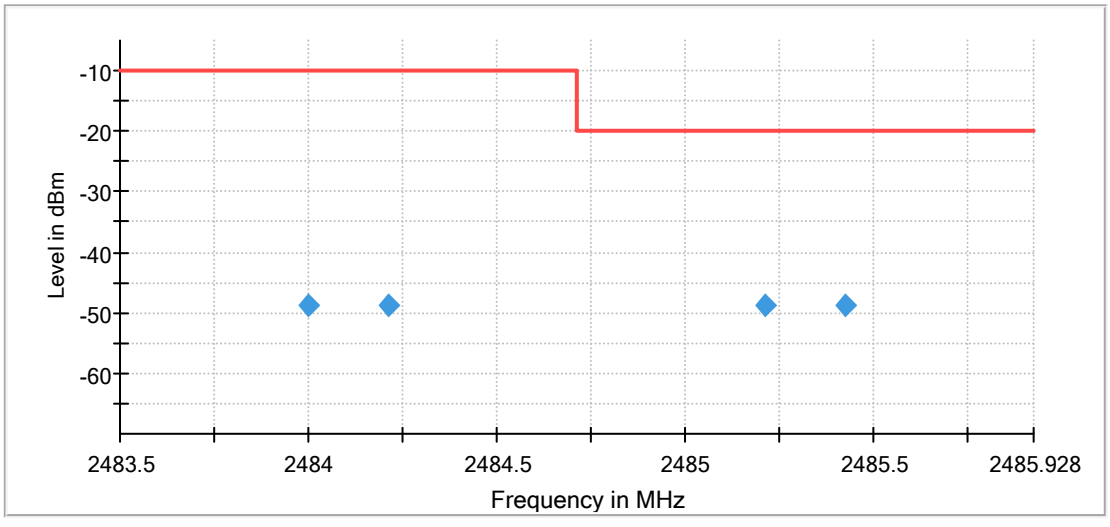
Summary

DUT Frequency (MHz)	FAIL	PASS	Result
hopping	0	8	PASS

Measurements

Frequency (MHz)	level (dBm)	Limit (dBm)	Result
2398.072140	-49.2	-20.0	PASS
2398.286070	-49.2	-20.0	PASS
2399.286070	-49.2	-10.0	PASS
2399.500000	-49.2	-10.0	PASS
2484.000000	-48.9	-10.0	PASS
2484.213930	-48.9	-10.0	PASS
2485.213930	-48.9	-20.0	PASS
2485.427860	-48.9	-20.0	PASS



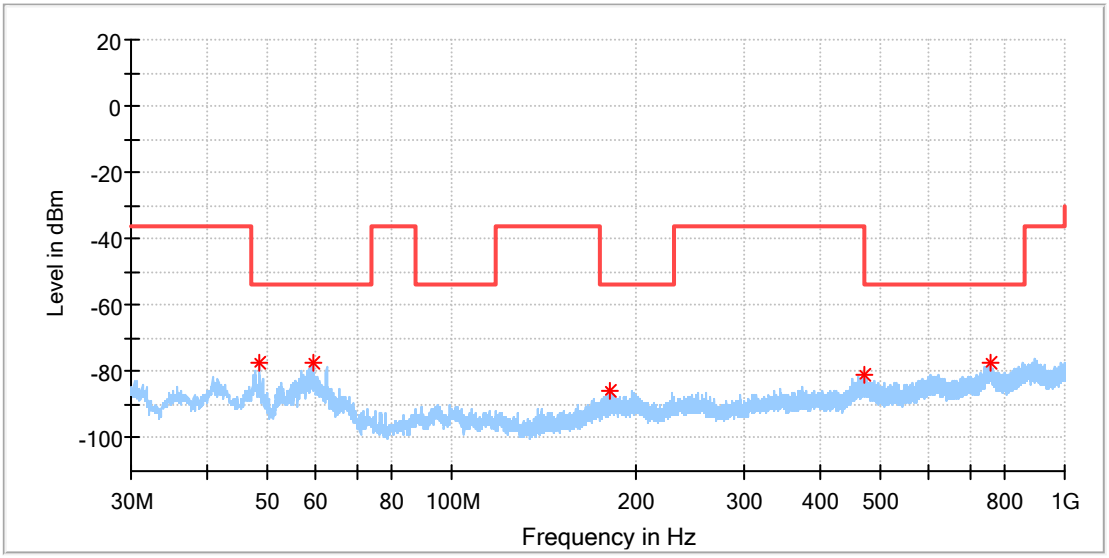


9 Appendix A.9 : Transmitter unwanted emissions

Note: This product without a temporary antenna, only the worst case were recorded in band 30MHz- 1GHz.

Below 1GHz

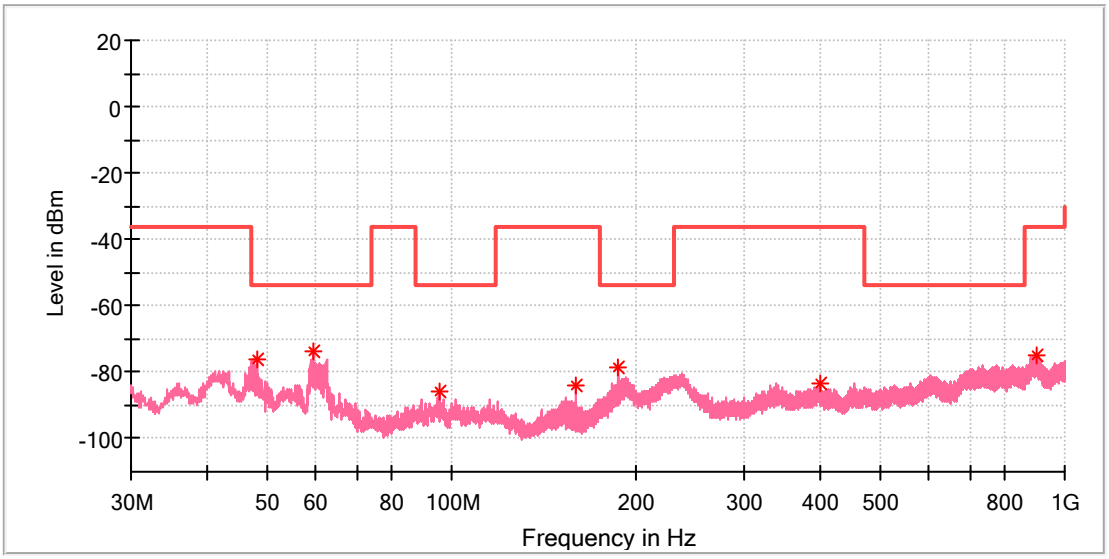
EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT TX Low Freq
Test Voltage:	AC 230V/50Hz



Critical_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
48.474091	-77.45	-54.00	23.45	190.0	H	49.0	-118.8	
59.364546	-77.55	-54.00	23.55	190.0	H	2.0	-116.1	
180.746818	-86.00	-54.00	32.00	190.0	H	11.0	-118.2	
471.482273	-80.97	-54.00	26.97	190.0	H	250.0	-109.1	
755.251364	-77.34	-54.00	23.34	190.0	H	160.0	-105.1	

EUT Name: Powered Bookshelf Speakers
Model: S2000MKIII
Test Mode: BT TX Low Freq
Test Voltage: AC 230V/50Hz

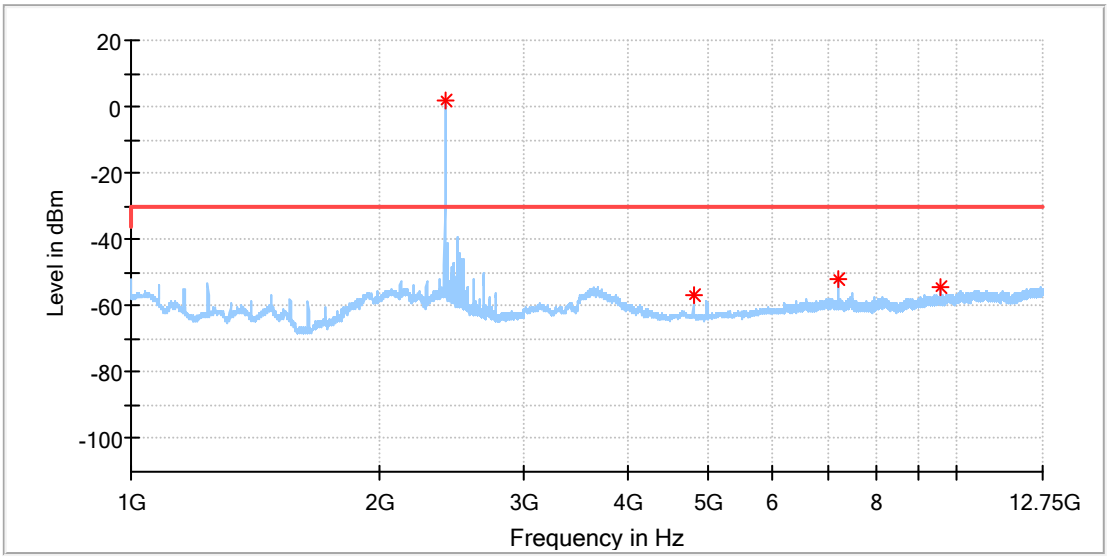


Critical_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
48.121364	-76.36	-54.00	22.36	190.0	V	65.0	-117.0	
59.364546	-73.74	-54.00	19.74	190.0	V	60.0	-117.0	
95.342727	-85.61	-54.00	31.61	190.0	V	336.0	-119.0	
159.450909	-84.21	-36.00	48.21	190.0	V	5.0	-121.4	
187.404546	-78.32	-54.00	24.32	190.0	V	260.0	-118.7	
398.423636	-83.16	-36.00	47.16	190.0	V	244.0	-111.9	
899.296364	-75.04	-36.00	39.04	190.0	V	179.0	-102.5	

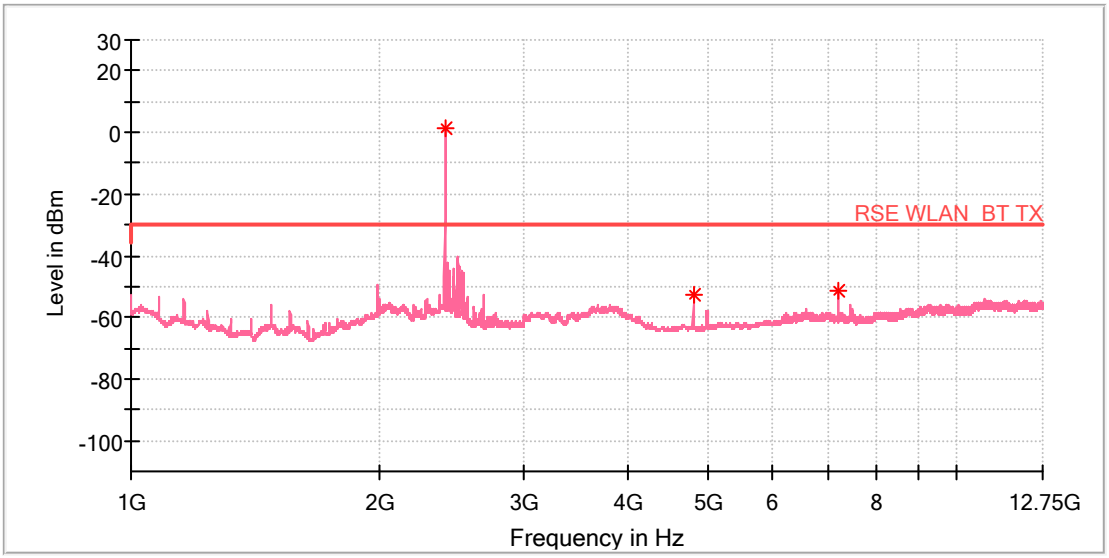
Above 1GHz

EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT GFSK TX 2402MHz High Freq
Test Voltage:	AC 230V/50Hz



Critical_Freqs

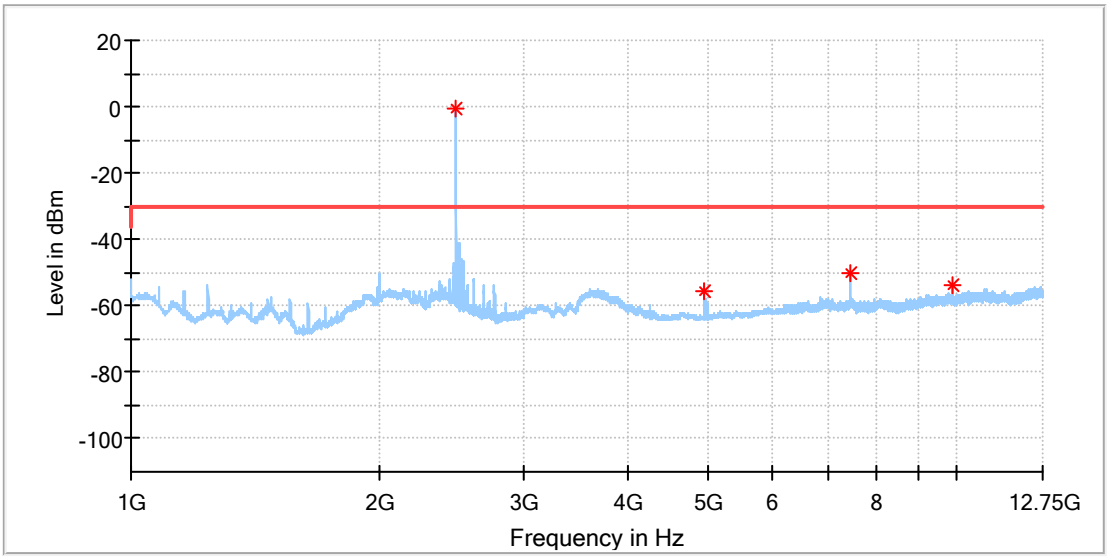
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2402.453333	2.11	-30.00	-32.11	190.0	H	146.0	-94.7	
4804.235294	-57.06	-30.00	27.06	190.0	H	307.0	-94.8	
7205.425000	-52.22	-30.00	22.22	190.0	H	338.0	-90.7	
9608.339286	-54.52	-30.00	24.52	190.0	H	15.0	-89.4	



Critical_Freqs

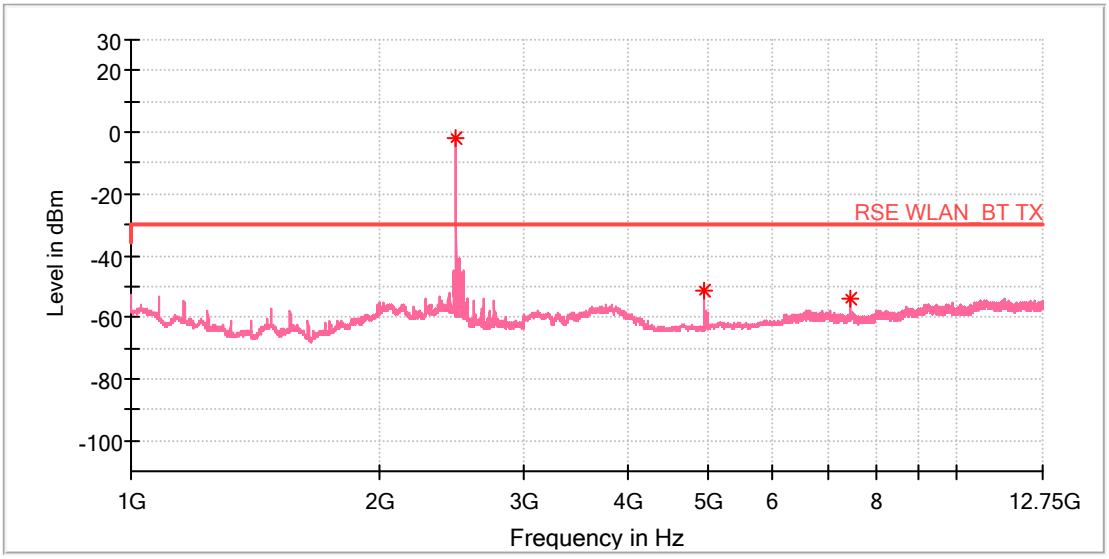
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2401.946667	1.05	-30.00	-31.05	190.0	V	52.0	-94.8	
4804.235294	-52.50	-30.00	22.50	190.0	V	343.0	-95.1	
7205.425000	-51.64	-30.00	21.64	190.0	V	340.0	-91.4	

EUT Name: Powered Bookshelf Speakers
Model: S2000MKIII
Test Mode: BT GFSK TX 2480MHz High Freq
Test Voltage: AC 230V/50Hz



Critical_Freqs

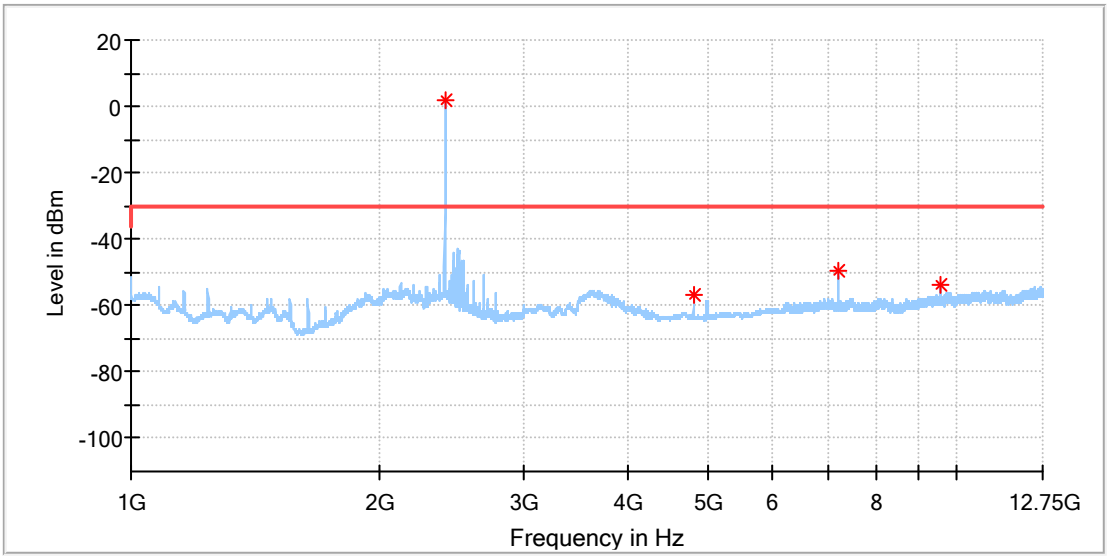
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2479.973333	-0.85	-30.00	-29.15	190.0	H	9.0	-94.4	
4960.470588	-55.53	-30.00	25.53	190.0	H	11.0	-94.8	
7439.353572	-49.94	-30.00	19.94	190.0	H	356.0	-90.6	
9920.867857	-53.47	-30.00	23.47	190.0	H	34.0	-89.5	



Critical_Freqs

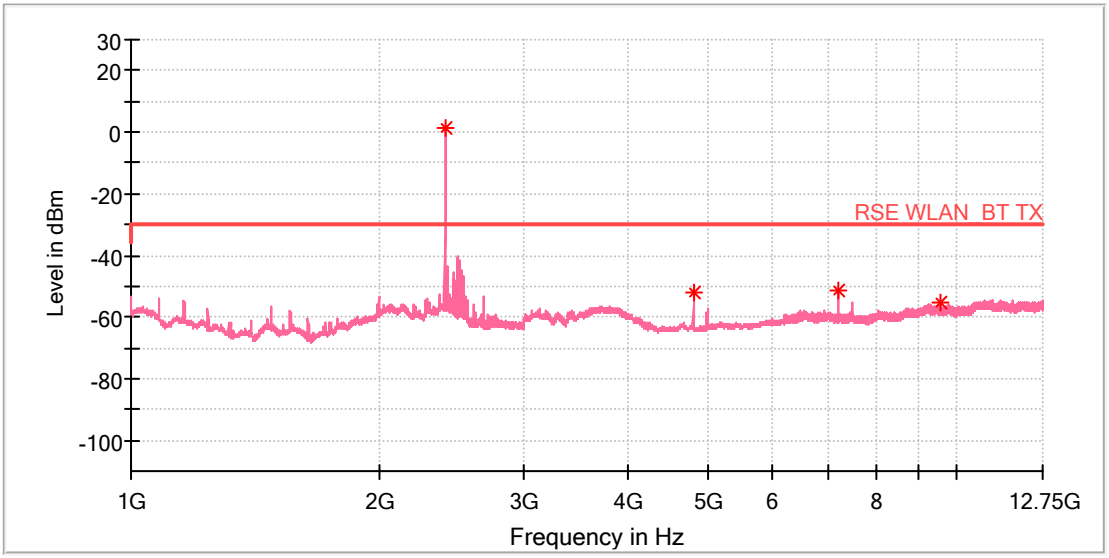
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2479.973333	-1.98	-30.00	-28.02	190.0	V	46.0	-94.5	
4960.470588	-51.09	-30.00	21.09	190.0	V	350.0	-95.0	
7439.821429	-53.71	-30.00	23.71	190.0	V	320.0	-91.6	

EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT 8DPSK TX 2402MHz High Freq
Test Voltage:	AC 230V/50Hz



Critical_Freqs

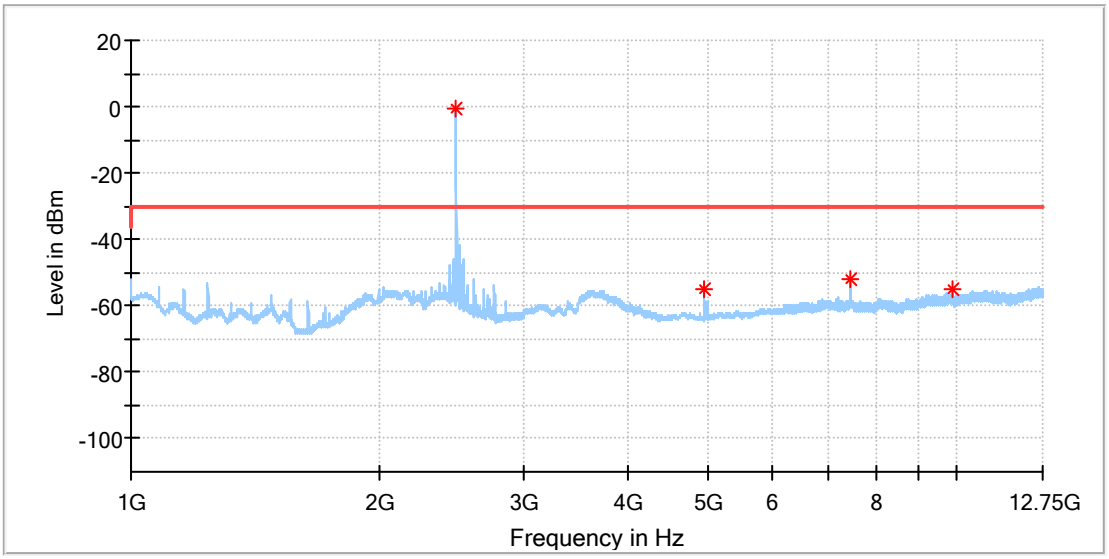
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2402.453333	2.12	-30.00	-32.12	190.0	H	148.0	-94.7	
4804.235294	-56.77	-30.00	26.77	190.0	H	303.0	-94.8	
7205.892857	-49.58	-30.00	19.58	190.0	H	358.0	-90.7	
9608.339286	-53.66	-30.00	23.66	190.0	H	353.0	-89.4	



Critical_Freqs

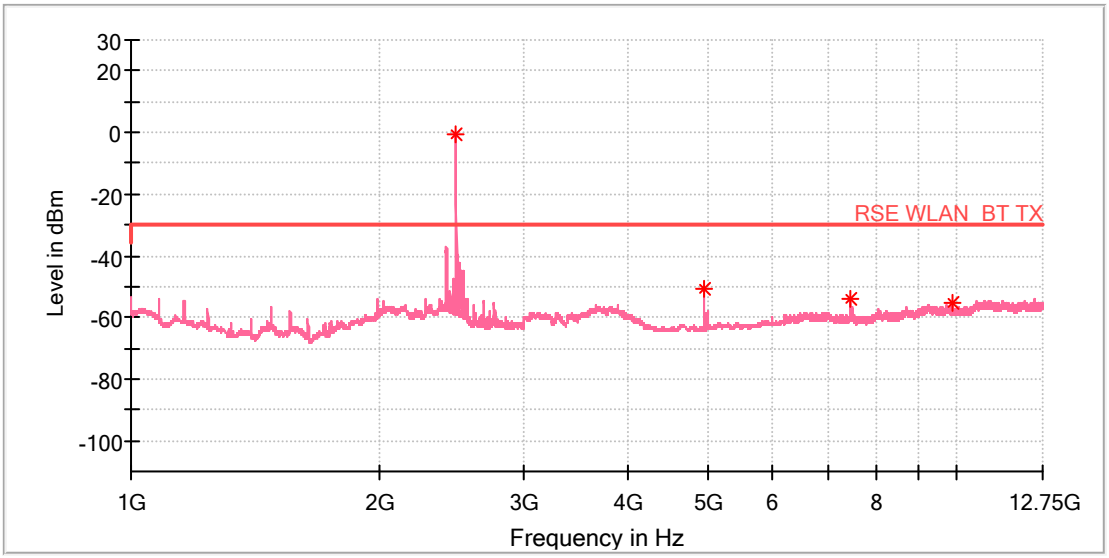
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2402.453333	1.22	-30.00	-31.22	190.0	V	54.0	-94.8	
4804.235294	-51.76	-30.00	21.76	190.0	V	341.0	-95.1	
7205.892857	-51.23	-30.00	21.23	190.0	V	342.0	-91.4	
9608.339286	-55.07	-30.00	25.07	190.0	V	358.0	-89.2	

EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT 8DPSK TX 2480MHz High Freq
Test Voltage:	AC 230V/50Hz



Critical_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2480.480000	-0.70	-30.00	-29.30	190.0	H	43.0	-94.4	
4959.529412	-54.68	-30.00	24.68	190.0	H	318.0	-94.8	
7439.353572	-52.20	-30.00	22.20	190.0	H	0.0	-90.6	
9920.400000	-54.73	-30.00	24.73	190.0	H	34.0	-89.5	



Critical_Freqs

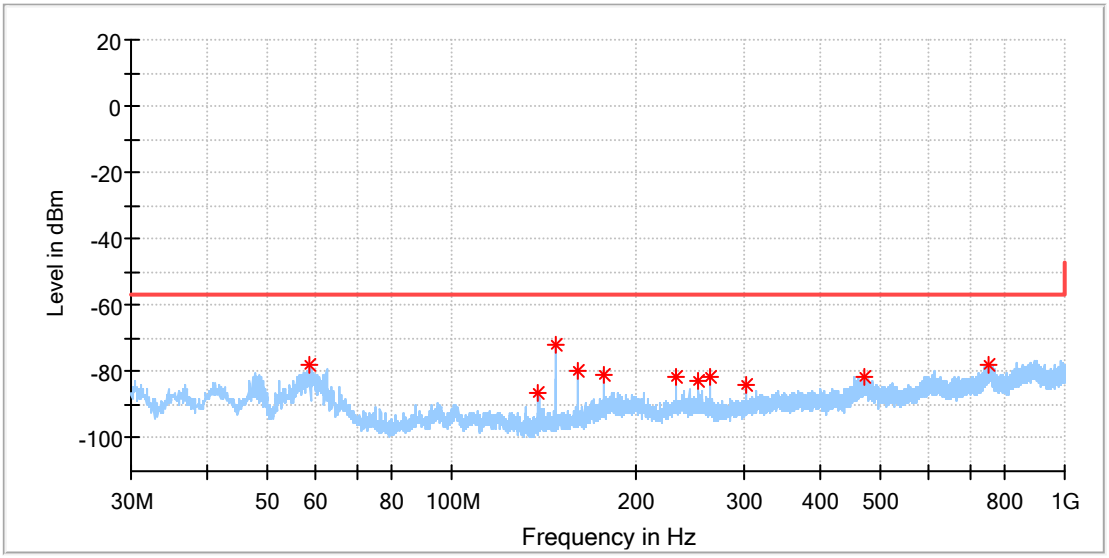
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
2479.973333	-0.78	-30.00	-29.22	190.0	V	55.0	-94.5	
4960.470588	-51.00	-30.00	21.00	190.0	V	351.0	-95.0	
7439.353572	-53.70	-30.00	23.70	190.0	V	322.0	-91.6	
9919.932143	-55.34	-30.00	25.34	190.0	V	341.0	-89.3	

10 Appendix A.10 : Receiver spurious emissions

Note: This product without a temporary antenna, only the worst case were recorded in band 30MHz-12.75GHz.

Below 1GHz

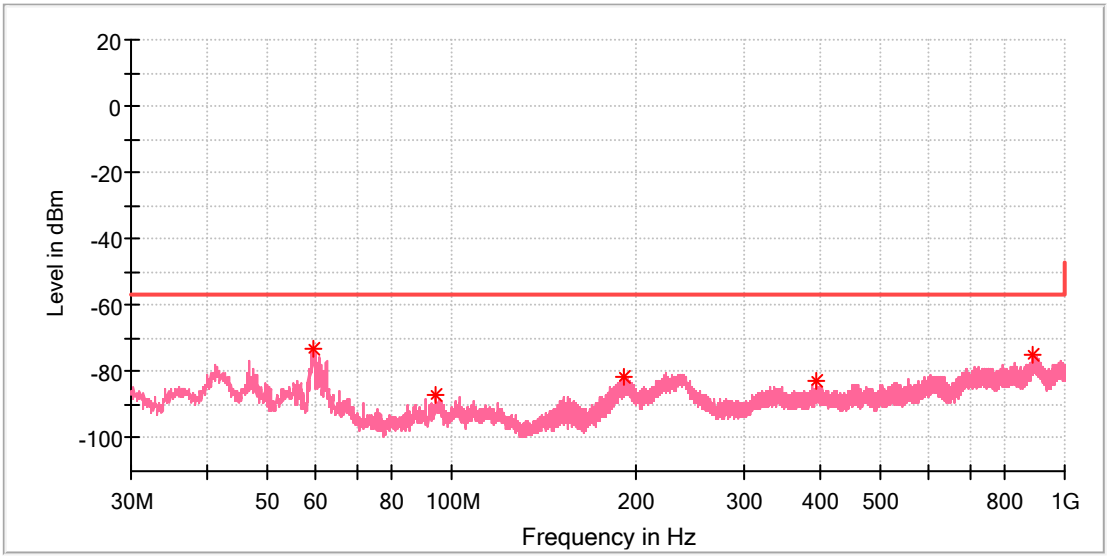
EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT RX Low Freq
Test Voltage:	AC 230V/50Hz



Critical_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
58.663500	-78.05	-57.00	21.05	190.0	H	15.0	-116.3	
138.688500	-86.31	-57.00	29.31	190.0	H	22.0	-122.6	
147.515500	-71.71	-57.00	14.71	190.0	H	261.0	-122.5	
160.513500	-79.50	-57.00	22.50	190.0	H	59.0	-120.4	
177.585500	-81.08	-57.00	24.08	190.0	H	4.0	-118.3	
233.021000	-81.77	-57.00	24.77	190.0	H	47.0	-116.2	
252.615000	-82.54	-57.00	25.54	190.0	H	100.0	-116.7	
264.158000	-81.36	-57.00	24.36	190.0	H	10.0	-117.6	
303.297500	-83.85	-57.00	26.85	190.0	H	66.0	-115.6	
471.350000	-81.29	-57.00	24.29	190.0	H	47.0	-109.1	
750.467500	-77.91	-57.00	20.91	190.0	H	72.0	-105.1	

EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT RX Low Freq
Test Voltage:	AC 230V/50Hz
Remark:	Temp:24; Humi:53%
Standard:	EN 300 328
Test By:	Kei Zhang
Review by	Terry Yin

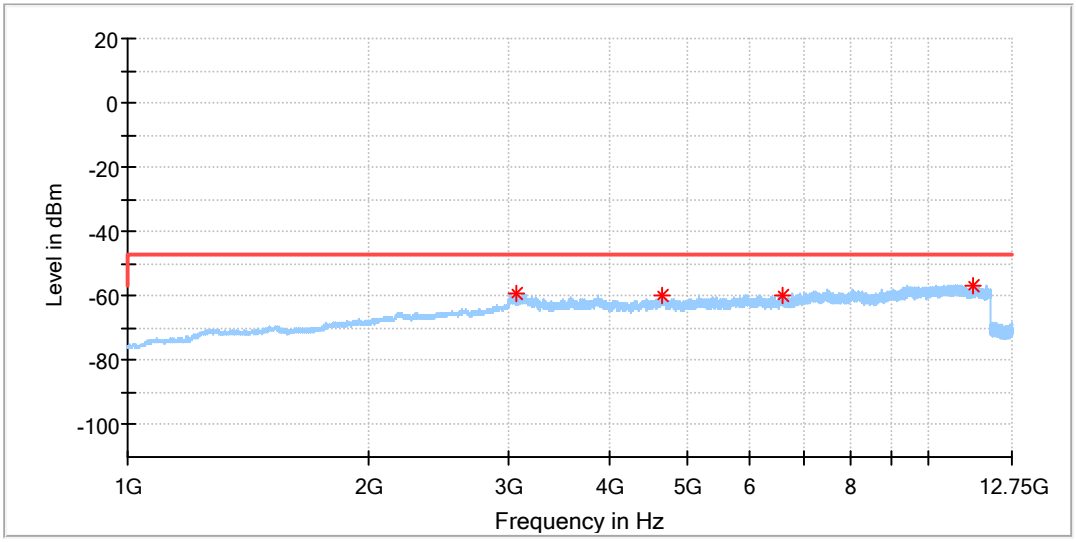


Critical_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
59.682000	-73.42	-57.00	16.42	190.0	V	93.0	-116.9	
94.408000	-87.07	-57.00	30.07	190.0	V	32.0	-119.0	
190.874500	-81.57	-57.00	24.57	190.0	V	110.0	-118.5	
393.168000	-83.04	-57.00	26.04	190.0	V	301.0	-112.2	
887.286000	-74.77	-57.00	17.77	190.0	V	43.0	-102.7	

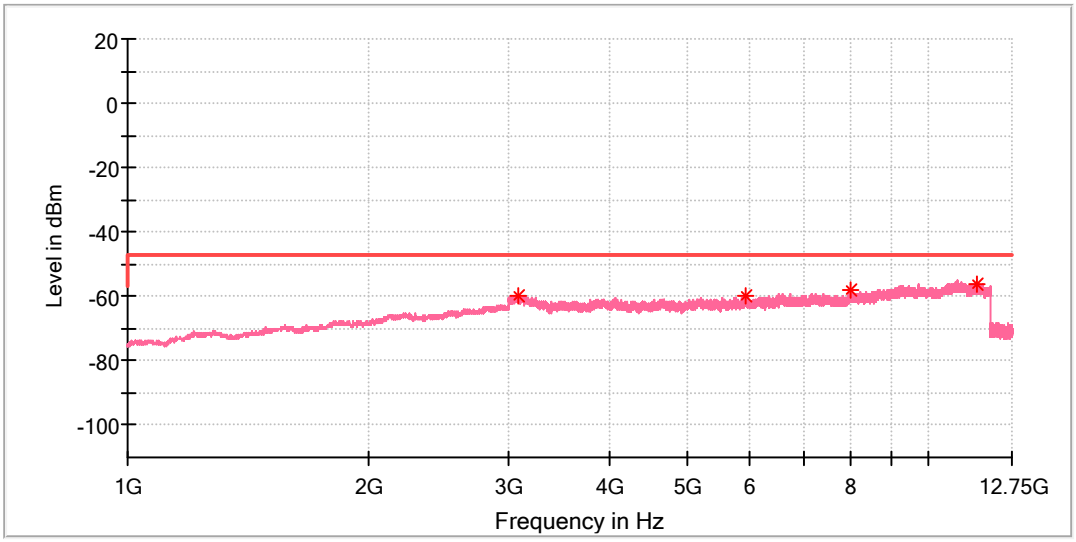
Above 1GHz

EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT RX 2402MHz High Freq
Test Voltage:	AC 230V/50Hz



Critical_Freqs

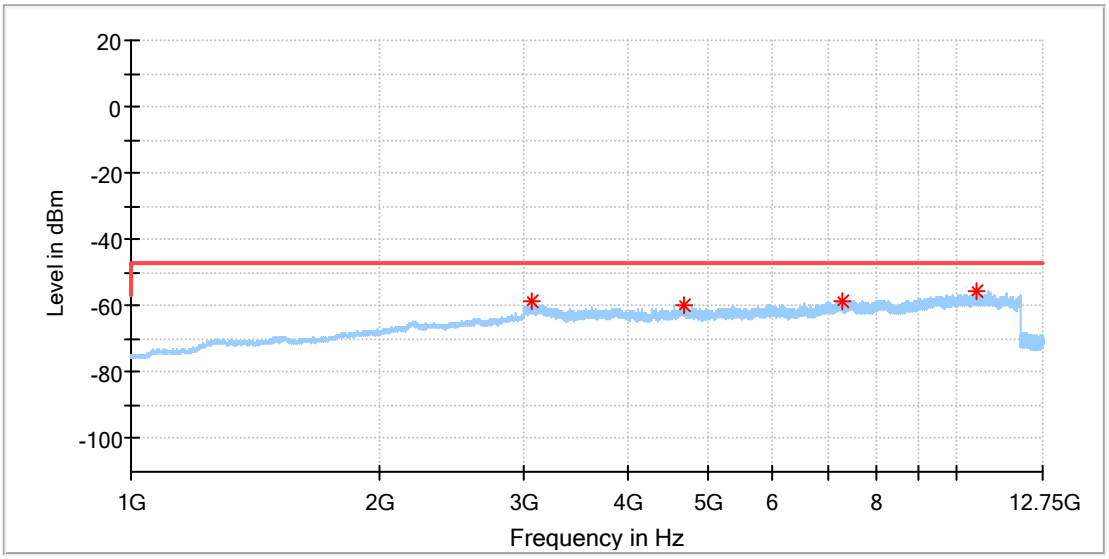
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
3061.500000	-59.46	-47.00	12.46	190.0	H	288.0	-96.2	
4669.000000	-59.96	-47.00	12.96	190.0	H	288.0	-94.6	
6579.000000	-59.81	-47.00	12.81	190.0	H	10.0	-91.7	
11414.000000	-57.02	-47.00	10.03	190.0	H	69.0	-88.3	



Critical_Freqs

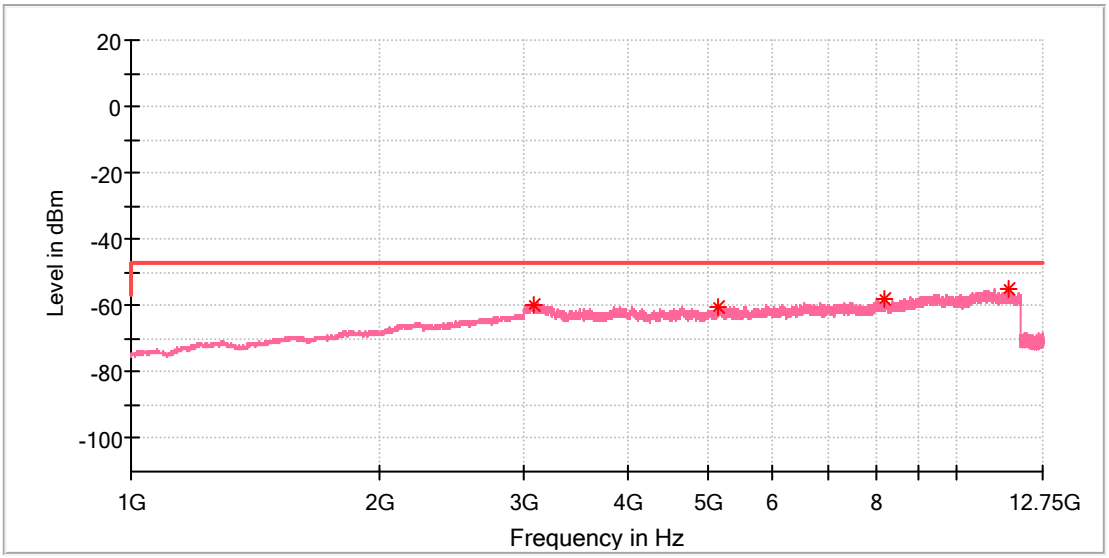
Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
3073.500000	-59.56	-47.00	12.56	190.0	V	165.0	-95.6	
5937.500000	-59.68	-47.00	12.68	190.0	V	104.0	-92.3	
8016.500000	-58.19	-47.00	11.19	190.0	V	159.0	-91.1	
11518.500000	-56.09	-47.00	9.09	190.0	V	267.0	-87.1	

EUT Name:	Powered Bookshelf Speakers
Model:	S2000MKIII
Test Mode:	BT RX 2480MHz High Freq
Test Voltage:	AC 230V/50Hz



Critical_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
3068.000000	-58.75	-47.00	11.76	190.0	H	109.0	-96.2	
4683.000000	-59.71	-47.00	12.71	190.0	H	256.0	-94.5	
7272.500000	-58.67	-47.00	11.67	190.0	H	45.0	-91.0	
10603.500000	-55.67	-47.00	8.67	190.0	H	0.0	-88.2	



Critical_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
3073.500000	-59.55	-47.00	12.55	190.0	V	40.0	-95.6	
5160.000000	-60.54	-47.00	13.54	190.0	V	359.0	-93.7	
8179.500000	-57.85	-47.00	10.85	190.0	V	232.0	-91.0	
11582.500000	-55.18	-47.00	8.18	190.0	V	275.0	-87.3	

11 Appendix A.11 : Harmonics Current Emission

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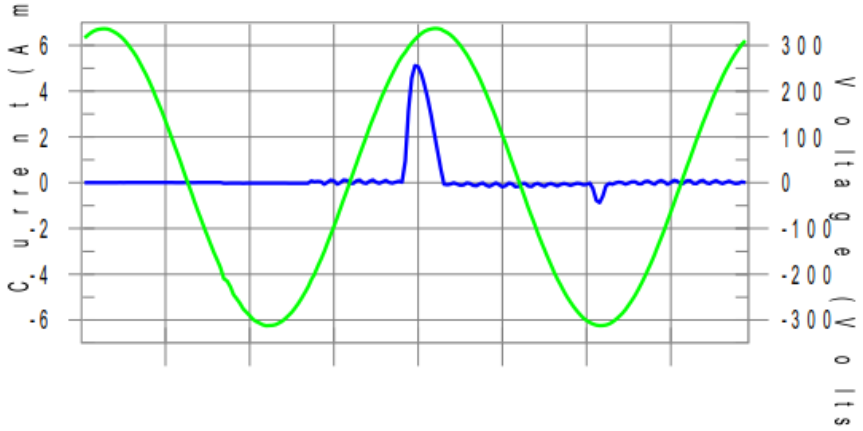
8/23/2019
1:52 PM

Harmonics – Class-A per Ed. 4.0 (2014)(Run time)

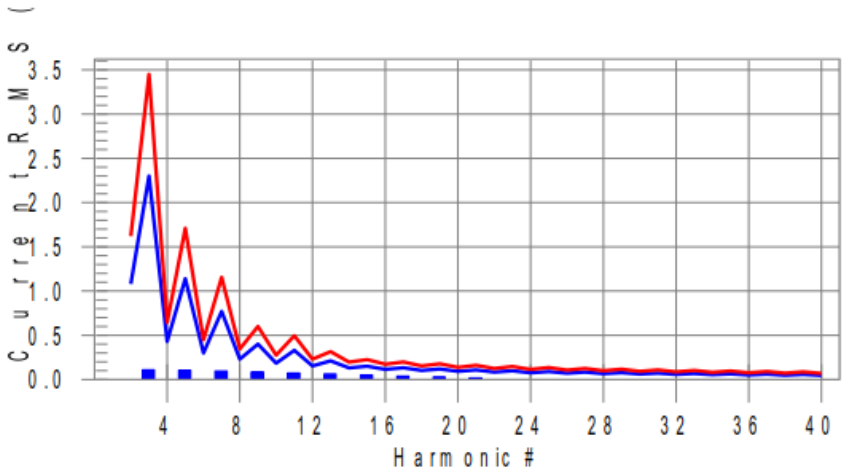
EUT: Powered Bookshelf Speakers M/N: S2000MKIII **Tested by: WADE**
Test category: Class-A per Ed. 4.0 (2014) (European limits) **Test Margin: 100**
Test date: 2019/8/8 **Start time: 17:30:57** **End time: 17:33:38**
Test duration (min): 2.5 **Data file name: H-000128.cts_data**
Comment: Bluetooth playing
Customer: EDIFIER

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass **Worst harmonics H15-30.9% of 150% limit, H15-32.9% of 100% limit**

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8/23/2019
1:52 PM

Current Test Result Summary (Run time)

EUT: Powered Bookshelf Speakers M/N: S2000MKIII **Tested by: WADE**
Test category: Class-A per Ed. 4.0 (2014) (European limits) **Test Margin: 100**
Test date: 2019/8/8 **Start time: 17:30:57** **End time: 17:33:38**
Test duration (min): 2.5 **Data file name: H-000128.cts_data**
Comment: Bluetooth playing
Customer: EDIFIER

Test Result: Pass **Source qualification: Normal**
THC(A): 0.232 **I-THD(%): 125.7** **POHC(A): 0.028** **POHC Limit(A): 0.251**

Highest parameter values during test:

V_RMS (Volts):	229.98	Frequency(Hz):	50.00
I_Peak (Amps):	5.159	I_RMS (Amps):	0.580
I_Fund (Amps):	0.185	Crest Factor:	31.329
Power (Watts):	40.2	Power Factor:	0.466

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.005	1.080	N/A	0.009	1.620	N/A	Pass
3	0.110	2.300	4.8	0.171	3.450	5.0	Pass
4	0.004	0.430	N/A	0.008	0.645	N/A	Pass
5	0.104	1.140	9.1	0.159	1.710	9.3	Pass
6	0.004	0.300	N/A	0.008	0.450	N/A	Pass
7	0.095	0.770	12.4	0.145	1.155	12.5	Pass
8	0.004	0.230	N/A	0.007	0.345	N/A	Pass
9	0.085	0.400	21.3	0.127	0.600	21.2	Pass
10	0.003	0.184	N/A	0.007	0.276	N/A	Pass
11	0.074	0.330	22.3	0.109	0.495	22.0	Pass
12	0.003	0.153	N/A	0.006	0.230	N/A	Pass
13	0.061	0.210	29.2	0.089	0.315	28.2	Pass
14	0.002	0.131	N/A	0.005	0.197	N/A	Pass
15	0.049	0.150	32.9	0.070	0.225	30.9	Pass
16	0.002	0.115	N/A	0.004	0.173	N/A	Pass
17	0.038	0.132	28.6	0.051	0.198	26.0	Pass
18	0.002	0.102	N/A	0.003	0.153	N/A	Pass
19	0.027	0.118	23.1	0.037	0.178	21.0	Pass
20	0.001	0.092	N/A	0.003	0.138	N/A	Pass
21	0.019	0.107	17.3	0.026	0.161	16.4	Pass
22	0.001	0.084	N/A	0.002	0.125	N/A	Pass
23	0.012	0.098	12.3	0.020	0.147	13.7	Pass
24	0.001	0.077	N/A	0.002	0.115	N/A	Pass
25	0.009	0.090	9.5	0.015	0.135	10.9	Pass
26	0.001	0.071	N/A	0.002	0.107	N/A	Pass
27	0.007	0.083	8.7	0.011	0.125	8.6	Pass
28	0.001	0.066	N/A	0.002	0.099	N/A	Pass
29	0.007	0.078	8.6	0.010	0.116	8.2	Pass
30	0.001	0.061	N/A	0.002	0.092	N/A	Pass
31	0.006	0.073	8.5	0.009	0.109	8.4	Pass
32	0.001	0.058	N/A	0.002	0.086	N/A	Pass
33	0.005	0.068	8.1	0.009	0.102	8.5	Pass
34	0.001	0.054	N/A	0.001	0.081	N/A	Pass
35	0.005	0.064	N/A	0.008	0.096	N/A	Pass
36	0.001	0.051	N/A	0.001	0.077	N/A	Pass
37	0.004	0.061	N/A	0.007	0.091	N/A	Pass
38	0.001	0.048	N/A	0.001	0.073	N/A	Pass
39	0.003	0.058	N/A	0.006	0.087	N/A	Pass
40	0.001	0.046	N/A	0.001	0.069	N/A	Pass

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1:52 PM

Voltage Source Verification Data (Run time)

EUT: Powered Bookshelf Speakers M/N: S2000MKIII **Tested by: WADE**
Test category: Class-A per Ed. 4.0 (2014) (European limits) **Test Margin: 100**
Test date: 2019/8/8 **Start time: 17:30:57** **End time: 17:33:38**
Test duration (min): 2.5 **Data file name: H-000128.cts_data**
Comment: Bluetooth playing
Customer: EDIFIER

Test Result: Pass **Source qualification: Normal**

Highest parameter values during test:

Voltage (Vrms):	229.98	Frequency(Hz):	50.00
I_Peak (Amps):	5.159	I_RMS (Amps):	0.580
I_Fund (Amps):	0.185	Crest Factor:	31.329
Power (Watts):	40.2	Power Factor:	0.466

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.152	0.460	32.97	OK
3	0.591	2.069	28.56	OK
4	0.111	0.460	24.15	OK
5	0.076	0.920	8.26	OK
6	0.056	0.460	12.14	OK
7	0.056	0.690	8.16	OK
8	0.025	0.460	5.37	OK
9	0.064	0.460	13.99	OK
10	0.025	0.460	5.42	OK
11	0.062	0.230	26.76	OK
12	0.020	0.230	8.70	OK
13	0.055	0.230	23.93	OK
14	0.011	0.230	4.66	OK
15	0.049	0.230	21.33	OK
16	0.018	0.230	7.81	OK
17	0.037	0.230	16.16	OK
18	0.015	0.230	6.45	OK
19	0.033	0.230	14.50	OK
20	0.015	0.230	6.49	OK
21	0.025	0.230	10.75	OK
22	0.009	0.230	4.06	OK
23	0.024	0.230	10.57	OK
24	0.008	0.230	3.37	OK
25	0.018	0.230	7.85	OK
26	0.010	0.230	4.18	OK
27	0.014	0.230	6.04	OK
28	0.010	0.230	4.48	OK
29	0.015	0.230	6.71	OK
30	0.009	0.230	4.06	OK
31	0.012	0.230	5.18	OK
32	0.011	0.230	4.61	OK
33	0.016	0.230	6.86	OK
34	0.008	0.230	3.59	OK
35	0.011	0.230	4.99	OK
36	0.007	0.230	2.98	OK
37	0.013	0.230	5.84	OK
38	0.004	0.230	1.70	OK
39	0.010	0.230	4.32	OK
40	0.006	0.230	2.62	OK

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San Diego, California

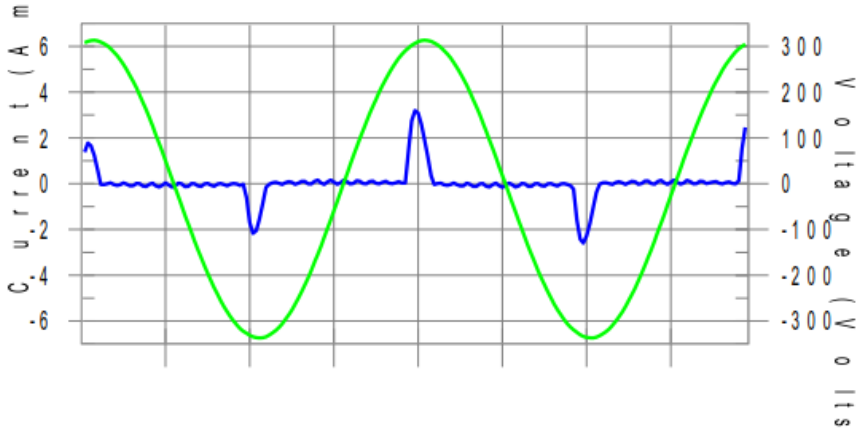
8/23/2019
1:52 PM

Harmonics – Class-A per Ed. 4.0 (2014)(Run time)

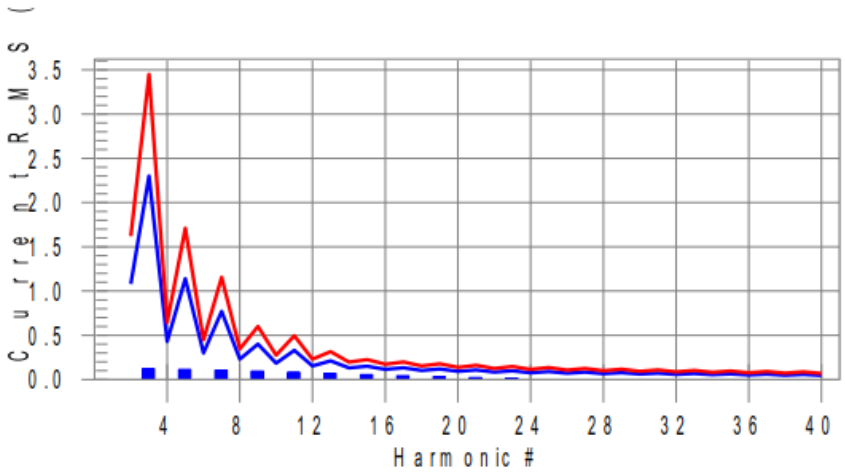
EUT: Powered Bookshelf Speakers M/N: S2000MKIII **Tested by: WADE**
Test category: Class-A per Ed. 4.0 (2014) (European limits) **Test Margin: 100**
Test date: 2019/8/8 **Start time: 17:45:32** **End time: 17:48:13**
Test duration (min): 2.5 **Data file name: H-000129.cts_data**
Comment: Aux in
Customer: EDIFIER

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass **Worst harmonics H15-32.5% of 150% limit, H15-36.6% of 100% limit**

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1:52 PM

Current Test Result Summary (Run time)

EUT: Powered Bookshelf Speakers M/N: S2000MKIII **Tested by: WADE**
Test category: Class-A per Ed. 4.0 (2014) (European limits) **Test Margin: 100**
Test date: 2019/8/8 **Start time: 17:45:32** **End time: 17:48:13**
Test duration (min): 2.5 **Data file name: H-000129.cts_data**
Comment: Aux in
Customer: EDIFIER

Test Result: Pass **Source qualification: Normal**
THC(A): 0.255 **I-THD(%): 138.0** **POHC(A): 0.031** **POHC Limit(A): 0.251**

Highest parameter values during test:

V_RMS (Volts):	229.97	Frequency(Hz):	50.00
I_Peak (Amps):	3.238	I_RMS (Amps):	0.576
I_Fund (Amps):	0.185	Crest Factor:	11.697
Power (Watts):	40.2	Power Factor:	0.451

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.005	1.080	0.5	0.010	1.620	0.6	Pass
3	0.120	2.300	5.2	0.170	3.450	4.9	Pass
4	0.005	0.430	1.2	0.010	0.645	1.6	Pass
5	0.114	1.140	10.0	0.161	1.710	9.4	Pass
6	0.005	0.300	N/A	0.010	0.450	N/A	Pass
7	0.105	0.770	13.6	0.148	1.155	12.8	Pass
8	0.004	0.230	N/A	0.008	0.345	N/A	Pass
9	0.094	0.400	23.4	0.131	0.600	21.8	Pass
10	0.004	0.184	N/A	0.007	0.276	N/A	Pass
11	0.081	0.330	24.6	0.112	0.495	22.7	Pass
12	0.003	0.153	N/A	0.005	0.230	N/A	Pass
13	0.068	0.210	32.5	0.093	0.315	29.4	Pass
14	0.003	0.131	N/A	0.005	0.197	N/A	Pass
15	0.055	0.150	36.6	0.073	0.225	32.5	Pass
16	0.002	0.115	N/A	0.004	0.173	N/A	Pass
17	0.042	0.132	32.1	0.055	0.198	27.6	Pass
18	0.002	0.102	N/A	0.004	0.153	N/A	Pass
19	0.031	0.118	26.1	0.040	0.178	22.6	Pass
20	0.002	0.092	N/A	0.003	0.138	N/A	Pass
21	0.021	0.107	19.7	0.028	0.161	17.5	Pass
22	0.002	0.084	N/A	0.003	0.125	N/A	Pass
23	0.013	0.098	13.8	0.021	0.147	14.6	Pass
24	0.001	0.077	N/A	0.002	0.115	N/A	Pass
25	0.009	0.090	10.0	0.016	0.135	11.9	Pass
26	0.001	0.071	N/A	0.002	0.107	N/A	Pass
27	0.007	0.083	9.0	0.012	0.125	9.6	Pass
28	0.001	0.066	N/A	0.002	0.099	N/A	Pass
29	0.007	0.078	9.0	0.009	0.116	8.0	Pass
30	0.001	0.061	N/A	0.002	0.092	N/A	Pass
31	0.006	0.073	8.8	0.009	0.109	8.3	Pass
32	0.001	0.058	N/A	0.002	0.086	N/A	Pass
33	0.006	0.068	8.4	0.009	0.102	8.6	Pass
34	0.001	0.054	N/A	0.001	0.081	N/A	Pass
35	0.005	0.064	N/A	0.008	0.096	N/A	Pass
36	0.001	0.051	N/A	0.001	0.077	N/A	Pass
37	0.004	0.061	N/A	0.007	0.091	N/A	Pass
38	0.001	0.048	N/A	0.001	0.073	N/A	Pass
39	0.003	0.058	N/A	0.006	0.087	N/A	Pass
40	0.001	0.046	N/A	0.001	0.069	N/A	Pass

California Instruments
San Diego, California

8/23/2019
1:52 PM

Voltage Source Verification Data (Run time)

EUT: Powered Bookshelf Speakers M/N: S2000MKIII **Tested by: WADE**
Test category: Class-A per Ed. 4.0 (2014) (European limits) **Test Margin: 100**
Test date: 2019/8/8 **Start time: 17:45:32** **End time: 17:48:13**
Test duration (min): 2.5 **Data file name: H-000129.cts_data**
Comment: Aux in
Customer: EDIFIER

Test Result: Pass **Source qualification: Normal**

Highest parameter values during test:

Voltage (Vrms):	229.97	Frequency(Hz):	50.00
I_Peak (Amps):	3.238	I_RMS (Amps):	0.576
I_Fund (Amps):	0.185	Crest Factor:	11.697
Power (Watts):	40.2	Power Factor:	0.451

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.152	0.460	32.99	OK
3	0.594	2.069	28.72	OK
4	0.113	0.460	24.66	OK
5	0.069	0.920	7.50	OK
6	0.071	0.460	15.53	OK
7	0.058	0.690	8.41	OK
8	0.028	0.460	5.99	OK
9	0.065	0.460	14.18	OK
10	0.023	0.460	4.94	OK
11	0.063	0.230	27.46	OK
12	0.023	0.230	10.11	OK
13	0.057	0.230	24.63	OK
14	0.012	0.230	5.02	OK
15	0.052	0.230	22.65	OK
16	0.020	0.230	8.56	OK
17	0.040	0.230	17.62	OK
18	0.017	0.230	7.50	OK
19	0.036	0.230	15.83	OK
20	0.015	0.230	6.54	OK
21	0.025	0.230	11.08	OK
22	0.008	0.230	3.55	OK
23	0.025	0.230	10.80	OK
24	0.009	0.230	3.75	OK
25	0.020	0.230	8.72	OK
26	0.010	0.230	4.24	OK
27	0.015	0.230	6.45	OK
28	0.010	0.230	4.26	OK
29	0.015	0.230	6.59	OK
30	0.008	0.230	3.42	OK
31	0.013	0.230	5.46	OK
32	0.006	0.230	2.81	OK
33	0.016	0.230	7.16	OK
34	0.005	0.230	2.22	OK
35	0.012	0.230	5.08	OK
36	0.004	0.230	1.62	OK
37	0.014	0.230	5.88	OK
38	0.003	0.230	1.49	OK
39	0.010	0.230	4.35	OK
40	0.006	0.230	2.53	OK

12 Appendix A.12 : Voltage Fluctuations and Flicker

California Instruments
San Diego, California

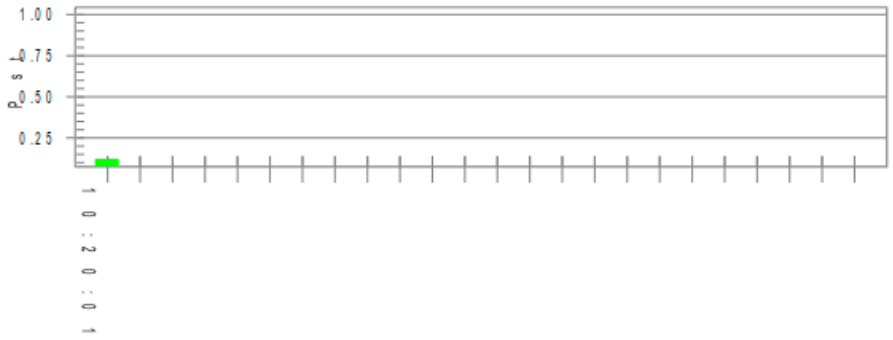
8/23/2019
1:52 PM

Flicker Test Summary per EN/IEC61000-3-3 Ed. 3.0 (2013) (Run time)

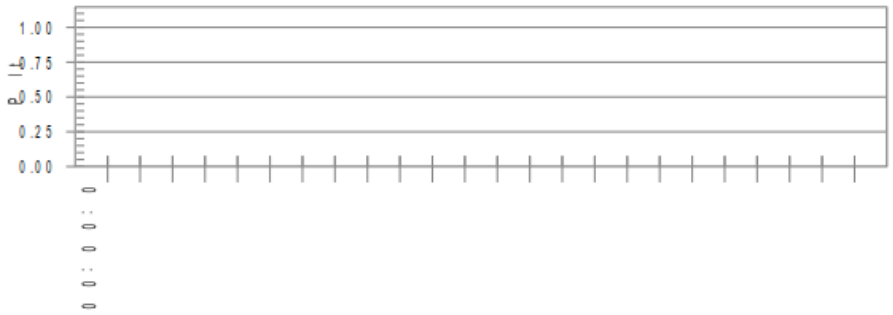
EUT: Powered Bookshelf Speakers M/N: S2000MKIII **Tested by: WADE**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 2019/8/9 **Start time: 10:09:40** **End time: 10:20:07**
Test duration (min): 10 **Data file name: F-000130.cts_data**
Comment: ON/OFF
Customer: EDIFIER

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	**229.62**			
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.71**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.119**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.052**	**Test limit:**	**0.650**	**Pass**

13 Appendix A.13 : Conducted Emissions

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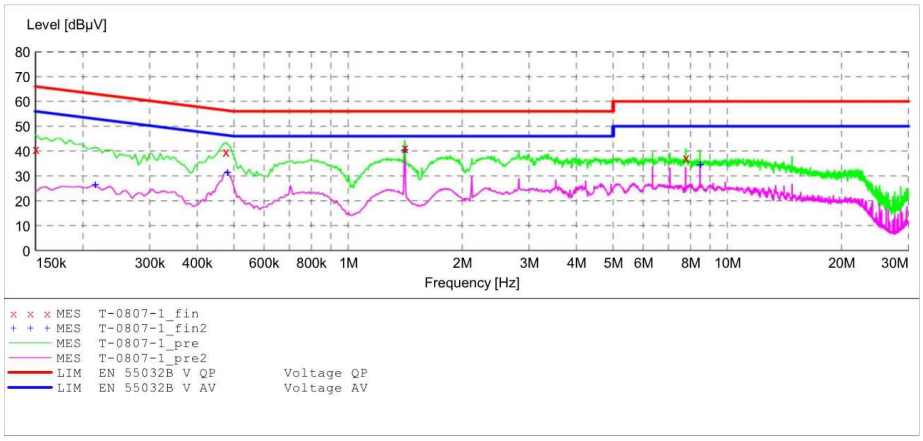
CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                 Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:        EDIFIER
Operating Condition: Coaxial in
Test Site:           1#Shielding Room
Operator:            WADE
Test Specification:  N 230V/50Hz
Comment:             Mains port
Start of Test:       8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "T-0807-1_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	41.00	10.5	66	25.0	QP	N	GND
0.475000	39.90	10.6	56	16.5	QP	N	GND
1.410000	41.40	10.7	56	14.6	QP	N	GND
7.760000	37.40	10.9	60	22.6	QP	N	GND

MEASUREMENT RESULT: "T-0807-1_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.215000	26.60	10.5	53	26.4	AV	N	GND
0.480000	31.50	10.6	46	14.8	AV	N	GND
1.410000	40.70	10.7	46	5.3	AV	N	GND
8.470000	34.80	10.9	50	15.2	AV	N	GND

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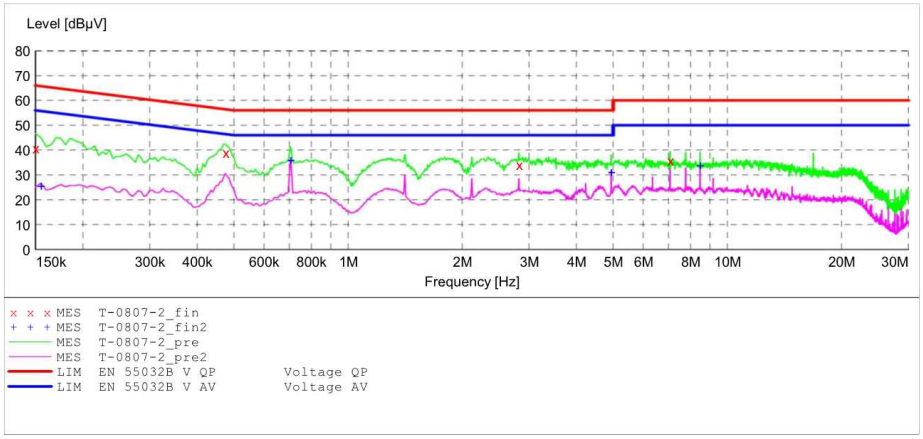
CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                  Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:         EDIFIER
Operating Condition:  Coaxial in
Test Site:            1#Shielding Room
Operator:             WADE
Test Specification:   L 230V/50Hz
Comment:              Mains port
Start of Test:        8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "T-0807-2_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	40.90	10.5	66	25.1	QP	L1	GND
0.475000	39.00	10.6	56	17.4	QP	L1	GND
2.820000	34.20	10.8	56	21.8	QP	L1	GND
7.060000	35.90	10.9	60	24.1	QP	L1	GND

MEASUREMENT RESULT: "T-0807-2_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.155000	25.60	10.5	56	30.1	AV	L1	GND
0.705000	36.00	10.6	46	10.0	AV	L1	GND
4.940000	31.10	10.8	46	14.9	AV	L1	GND
8.470000	33.90	10.9	50	16.1	AV	L1	GND

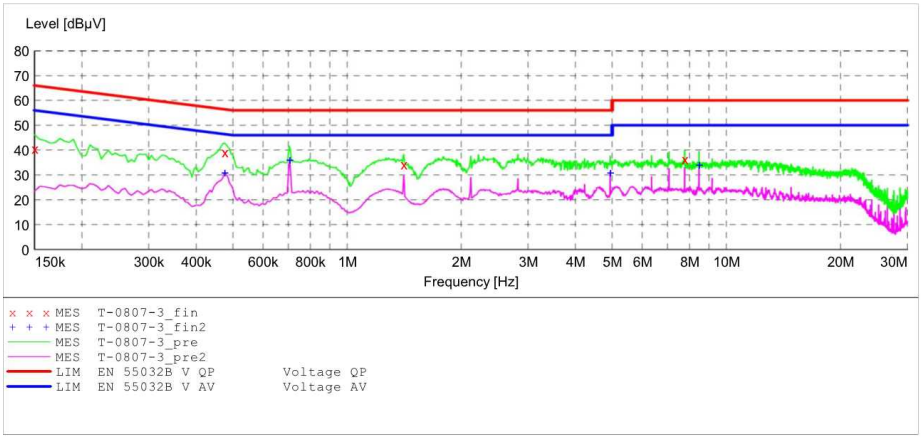
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                  Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:         EDIFIER
Operating Condition:  Optical in
Test Site:            1#Shielding Room
Operator:             WADE
Test Specification:   L 230V/50Hz
Comment:              Mains port
Start of Test:        8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

```
  Short Description:          _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  9.0 kHz    150.0 kHz  100.0 Hz  QuasiPeak 1.0 s     200 Hz  NSLK8126 2008
                                  Average
  150.0 kHz  30.0 MHz   5.0 kHz   QuasiPeak 1.0 s     9 kHz   NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "T-0807-3_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	40.70	10.5	66	25.3	QP	L1	GND
0.475000	39.20	10.6	56	17.2	QP	L1	GND
1.410000	34.40	10.7	56	21.6	QP	L1	GND
7.760000	36.50	10.9	60	23.5	QP	L1	GND

MEASUREMENT RESULT: "T-0807-3_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.475000	30.90	10.6	46	15.5	AV	L1	GND
0.705000	36.10	10.6	46	9.9	AV	L1	GND
4.940000	30.90	10.8	46	15.1	AV	L1	GND
8.470000	34.10	10.9	50	15.9	AV	L1	GND

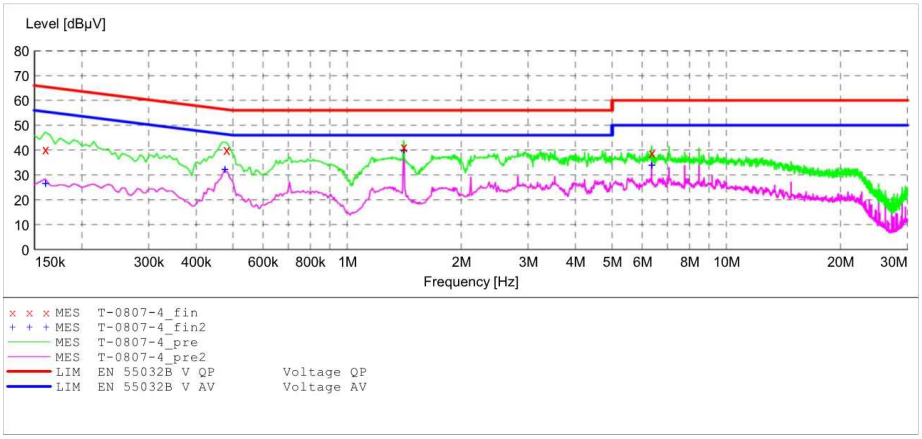
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                  Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:         EDIFIER
Operating Condition:  Optical in
Test Site:            1#Shielding Room
Operator:             WADE
Test Specification:   N 230V/50Hz
Comment:              Mains port
Start of Test:        8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

```
  Short Description:            _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width               Time      Bandw.
  9.0 kHz    150.0 kHz  100.0 Hz  QuasiPeak 1.0 s     200 Hz   NSLK8126 2008
                                  Average
  150.0 kHz  30.0 MHz   5.0 kHz   QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "T-0807-4_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.160000	40.50	10.5	66	25.0	QP	N	GND
0.480000	40.30	10.6	56	16.0	QP	N	GND
1.410000	41.40	10.7	56	14.6	QP	N	GND
6.350000	39.00	10.8	60	21.0	QP	N	GND

MEASUREMENT RESULT: "T-0807-4_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.160000	26.70	10.5	56	28.8	AV	N	GND
0.475000	32.40	10.6	46	14.0	AV	N	GND
1.410000	40.10	10.7	46	5.9	AV	N	GND
6.350000	34.10	10.8	50	15.9	AV	N	GND

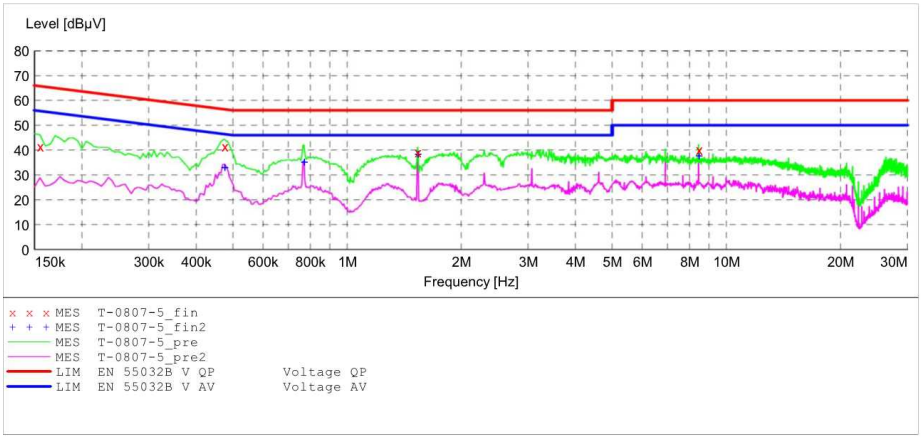
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                  Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:         EDIFIER
Operating Condition:  Line in 1
Test Site:            1#Shielding Room
Operator:             WADE
Test Specification:   N 230V/50Hz
Comment:              Mains port
Start of Test:        8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

```
  Short Description:            _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width               Time      Bandw.
  9.0 kHz    150.0 kHz  100.0 Hz  QuasiPeak 1.0 s     200 Hz   NSLK8126 2008
                                  Average
  150.0 kHz  30.0 MHz   5.0 kHz   QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "T-0807-5_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.155000	41.60	10.5	66	24.1	QP	N	GND
0.475000	41.60	10.6	56	14.8	QP	N	GND
1.535000	39.20	10.7	56	16.8	QP	N	GND
8.450000	40.30	10.9	60	19.7	QP	N	GND

MEASUREMENT RESULT: "T-0807-5_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.475000	33.10	10.6	46	13.3	AV	N	GND
0.770000	35.30	10.6	46	10.7	AV	N	GND
1.535000	38.50	10.7	46	7.5	AV	N	GND
8.450000	37.80	10.9	50	12.2	AV	N	GND

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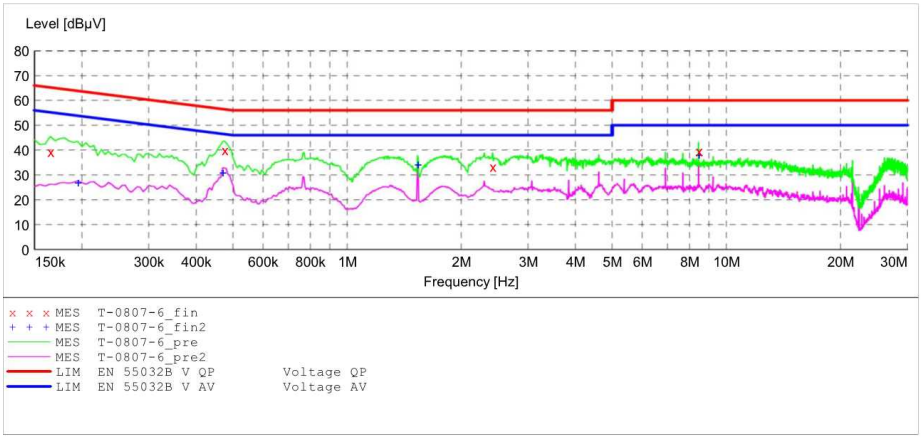
CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                 Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:        EDIFIER
Operating Condition: Line in 1
Test Site:           1#Shielding Room
Operator:            WADE
Test Specification:  L 230V/50Hz
Comment:             Mains port
Start of Test:       8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "T-0807-6_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.165000	39.40	10.5	65	25.8	QP	L1	GND
0.475000	40.10	10.6	56	16.3	QP	L1	GND
2.420000	33.40	10.8	56	22.6	QP	L1	GND
8.450000	39.70	10.9	60	20.3	QP	L1	GND

MEASUREMENT RESULT: "T-0807-6_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	26.90	10.5	54	26.9	AV	L1	GND
0.470000	30.90	10.6	47	15.6	AV	L1	GND
1.535000	34.20	10.7	46	11.8	AV	L1	GND
8.450000	38.10	10.9	50	11.9	AV	L1	GND

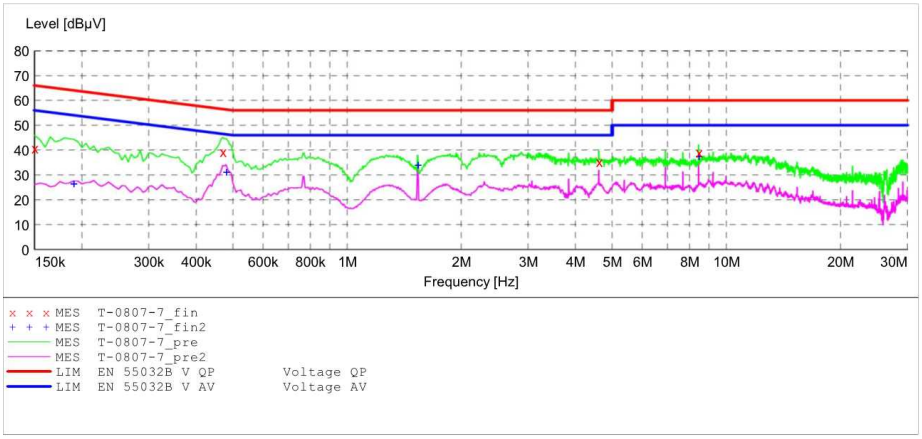
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                  Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:         EDIFIER
Operating Condition:  Line in 2
Test Site:            1#Shielding Room
Operator:             WADE
Test Specification:   L 230V/50Hz
Comment:              Mains port
Start of Test:        8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

```
  Short Description:            _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width               Time      Bandw.
  9.0 kHz    150.0 kHz  100.0 Hz  QuasiPeak 1.0 s     200 Hz   NSLK8126 2008
                                  Average
  150.0 kHz  30.0 MHz   5.0 kHz   QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "T-0807-7_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	40.90	10.5	66	25.1	QP	L1	GND
0.470000	39.40	10.6	57	17.1	QP	L1	GND
4.610000	35.40	10.8	56	20.6	QP	L1	GND
8.450000	39.10	10.9	60	20.9	QP	L1	GND

MEASUREMENT RESULT: "T-0807-7_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.190000	26.50	10.5	54	27.5	AV	L1	GND
0.480000	31.20	10.6	46	15.1	AV	L1	GND
1.535000	34.10	10.7	46	11.9	AV	L1	GND
8.450000	37.50	10.9	50	12.5	AV	L1	GND

ACCURATE TECHNOLOGY CO.,LTD

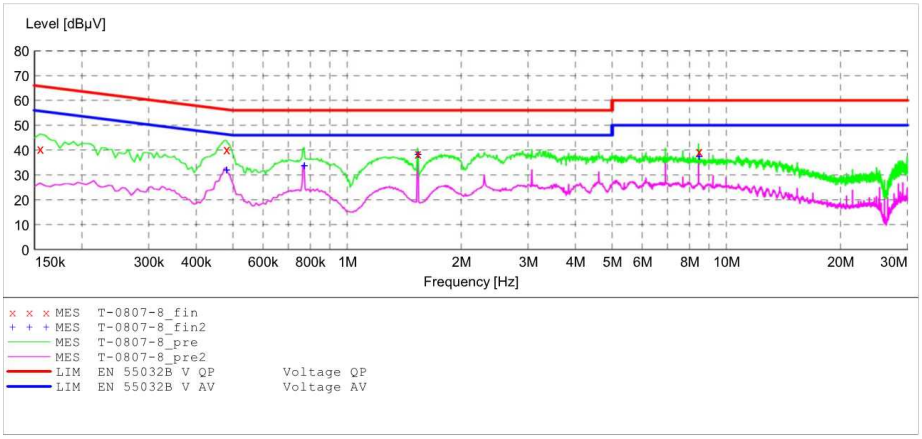
CONDUCTED EMISSION STANDARD EN 55032 B

```
EUT:                  Powered Bookshelf Speakers M/N:S2000MKIII
Manufacturer:         EDIFIER
Operating Condition:  Line in 2
Test Site:            1#Shielding Room
Operator:             WADE
Test Specification:   N 230V/50Hz
Comment:              Mains port
Start of Test:        8/7/2019 /
```

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "T-0807-8_fin"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.155000	40.70	10.5	66	25.0	QP	N	GND
0.480000	40.50	10.6	56	15.8	QP	N	GND
1.535000	38.80	10.7	56	17.2	QP	N	GND
8.450000	39.60	10.9	60	20.4	QP	N	GND

MEASUREMENT RESULT: "T-0807-8_fin2"

8/7/2019

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.480000	32.20	10.6	46	14.1	AV	N	GND
0.770000	33.90	10.6	46	12.1	AV	N	GND
1.535000	38.40	10.7	46	7.6	AV	N	GND
8.450000	37.60	10.9	50	12.4	AV	N	GND

14 Appendix A.14 : Radiated Emissions

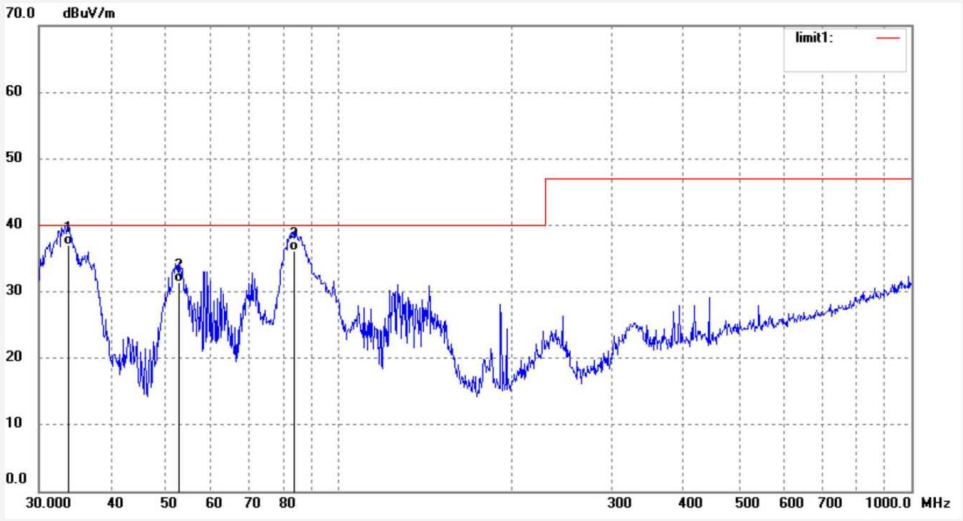
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3099
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 1
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.7986	47.05	-10.06	36.99	40.00	-3.01	QP			
2	52.5752	44.16	-12.77	31.39	40.00	-8.61	QP			
3	83.5221	51.85	-15.66	36.19	40.00	-3.81	QP			

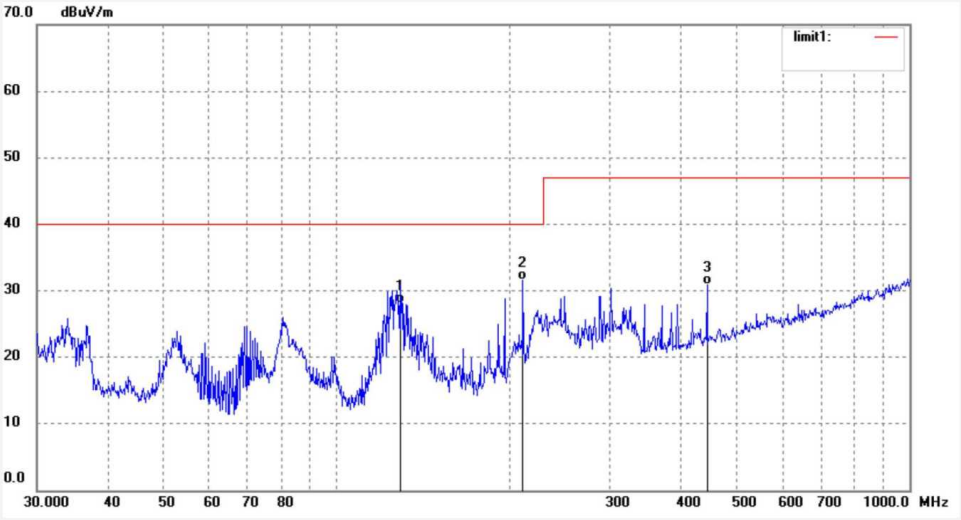
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3100
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 1
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	129.0146	41.78	-13.74	28.04	40.00	-11.96	QP			
2	211.5265	43.45	-11.90	31.55	40.00	-8.45	QP			
3	443.2943	36.37	-5.44	30.93	47.00	-16.07	QP			

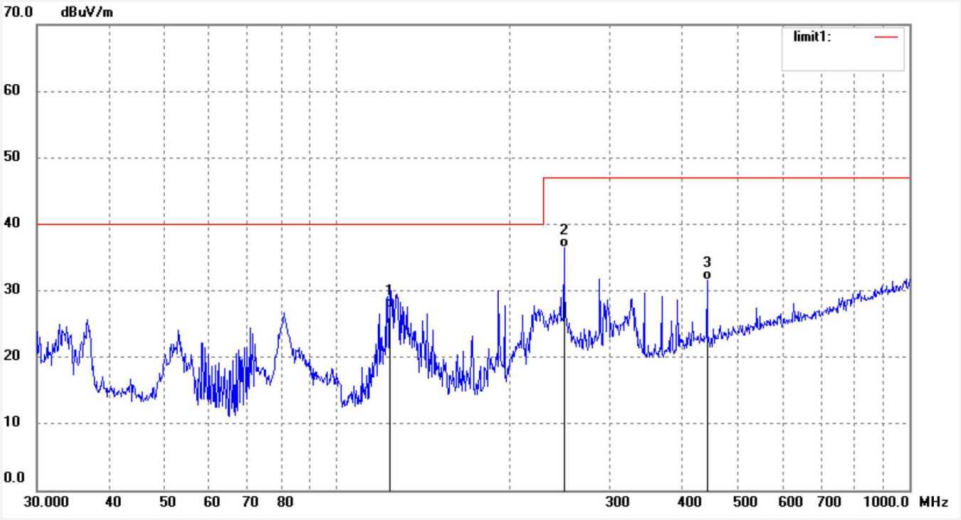
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3101
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 2
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	123.6985	40.80	-13.48	27.32	40.00	-12.68	QP			
2	249.4250	47.05	-10.54	36.51	47.00	-10.49	QP			
3	443.2943	36.98	-5.44	31.54	47.00	-15.46	QP			

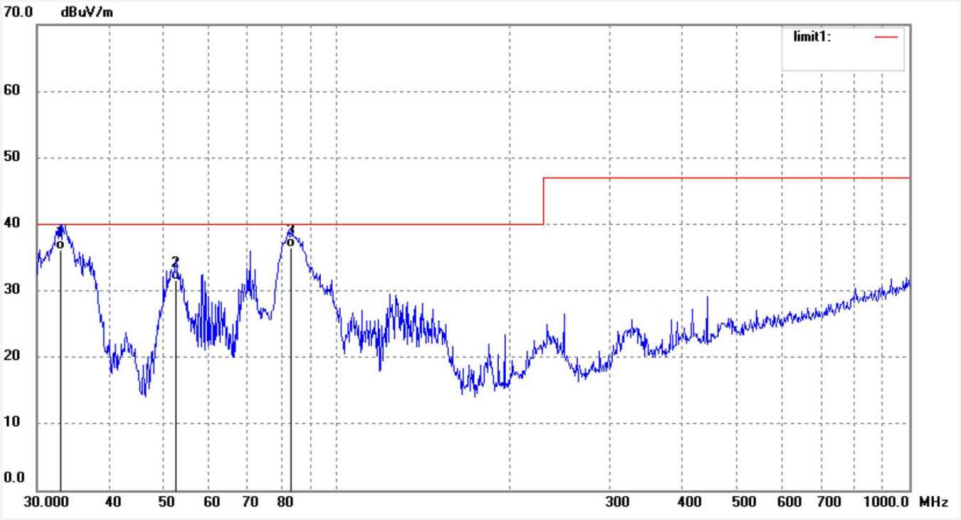
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3102
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 2
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.9791	45.88	-9.82	36.06	40.00	-3.94	QP			
2	52.3912	44.42	-12.76	31.66	40.00	-8.34	QP			
3	83.2298	52.15	-15.73	36.42	40.00	-3.58	QP			

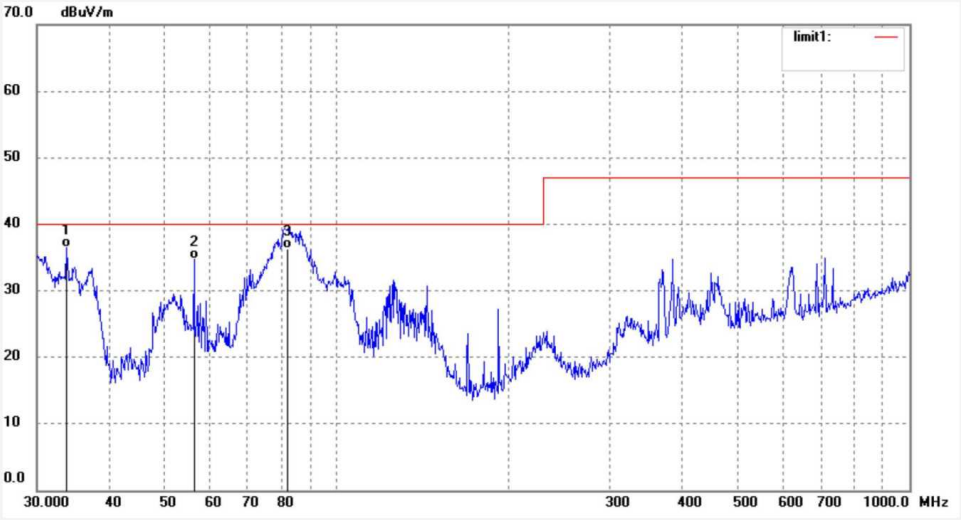
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3103
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Optical in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.7986	46.57	-10.06	36.51	40.00	-3.49	QP			
2	56.3947	47.87	-13.21	34.66	40.00	-5.34	QP			
3	82.0705	52.34	-16.01	36.33	40.00	-3.67	QP			

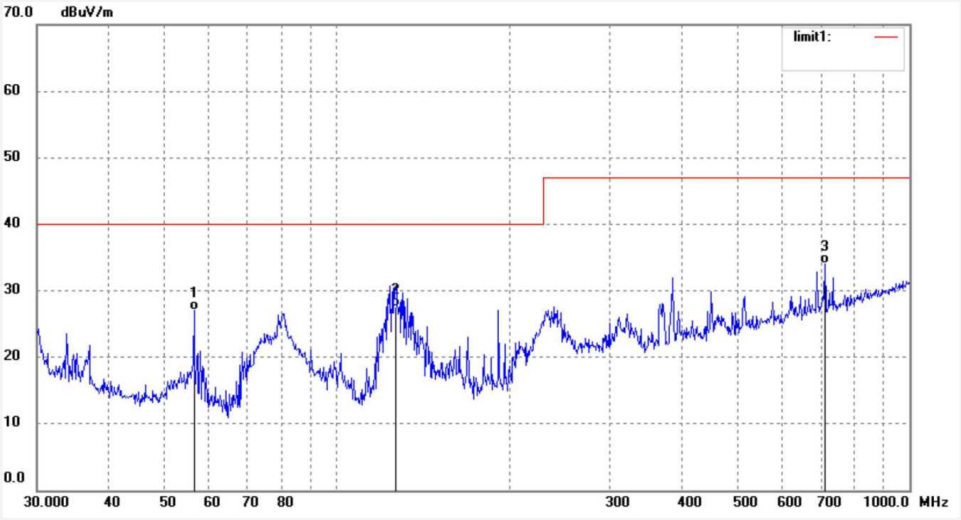
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3104
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Optical in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	56.3947	40.28	-13.21	27.07	40.00	-12.93	QP			
2	126.7723	41.31	-13.68	27.63	40.00	-12.37	QP			
3	711.6734	34.88	-0.89	33.99	47.00	-13.01	QP			

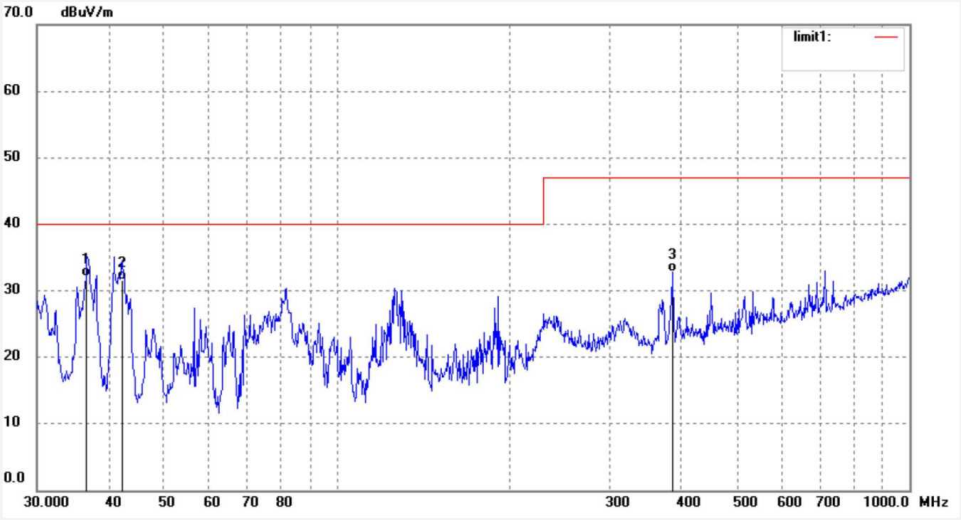
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3105
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Coaxial in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	36.6375	42.92	-10.77	32.15	40.00	-7.85	QP			
2	42.3021	43.57	-12.04	31.53	40.00	-8.47	QP			
3	386.6338	39.69	-6.90	32.79	47.00	-14.21	QP			

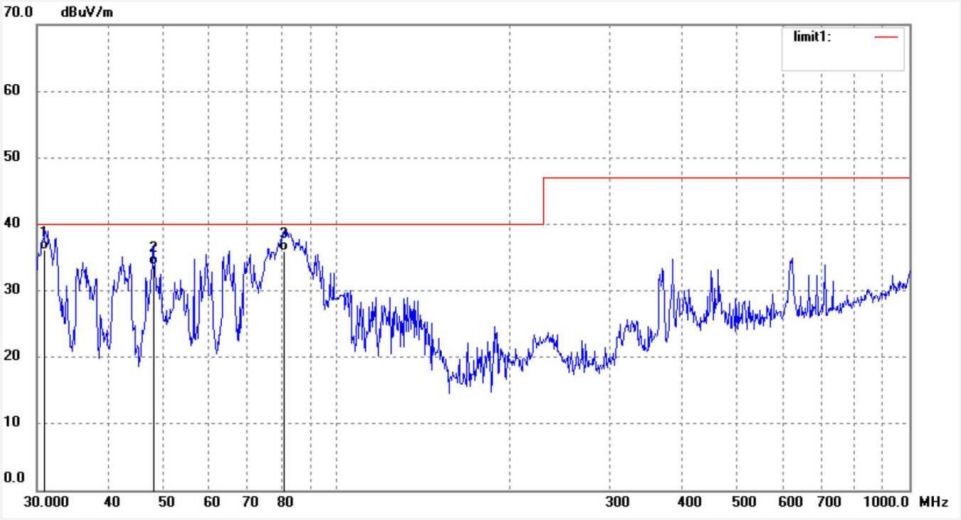
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3106
Standard: EN55032 CLASS B
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Coaxial in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.9618	45.35	-9.21	36.14	40.00	-3.86	QP			
2	47.9939	46.52	-12.60	33.92	40.00	-6.08	QP			
3	80.9274	52.22	-16.26	35.96	40.00	-4.04	QP			

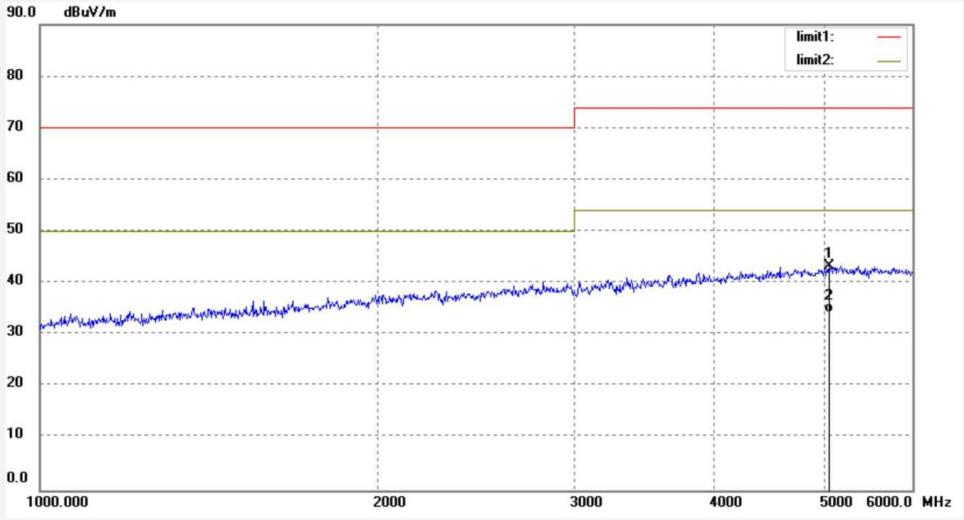
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3107
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Coaxial in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5060.890	34.54	8.72	43.26	74.00	-30.74	peak			
2	5060.890	25.52	8.72	34.24	54.00	-19.76	AVG			

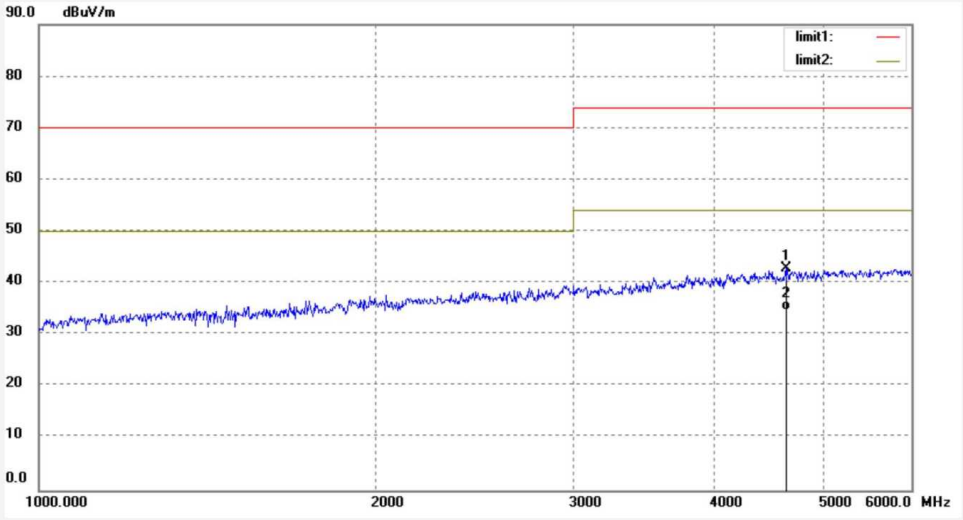
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3108
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Coaxial in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4635.509	36.21	6.63	42.84	74.00	-31.16	peak			
2	4635.509	28.05	6.63	34.68	54.00	-19.32	AVG			

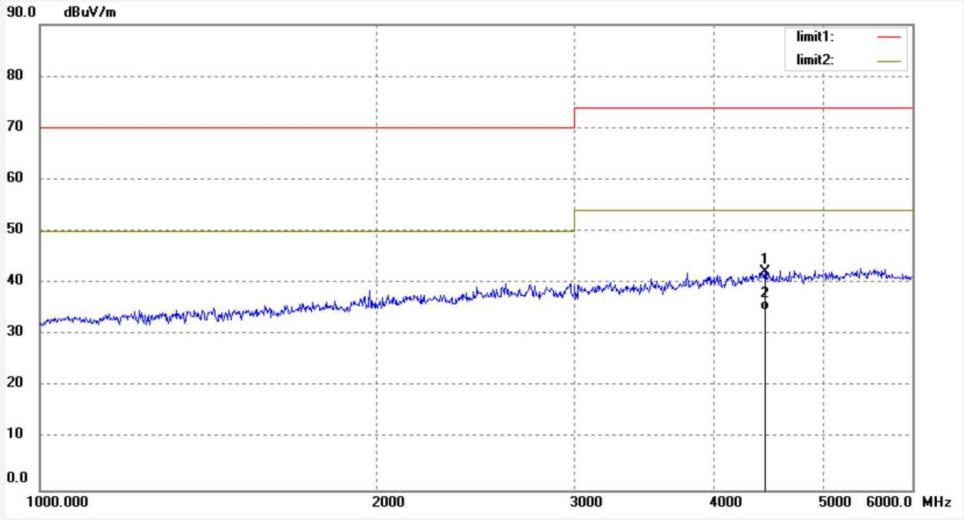
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3109
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Optical in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4432.448	36.69	5.59	42.28	74.00	-31.72	peak			
2	4432.448	29.09	5.59	34.68	54.00	-19.32	AVG			

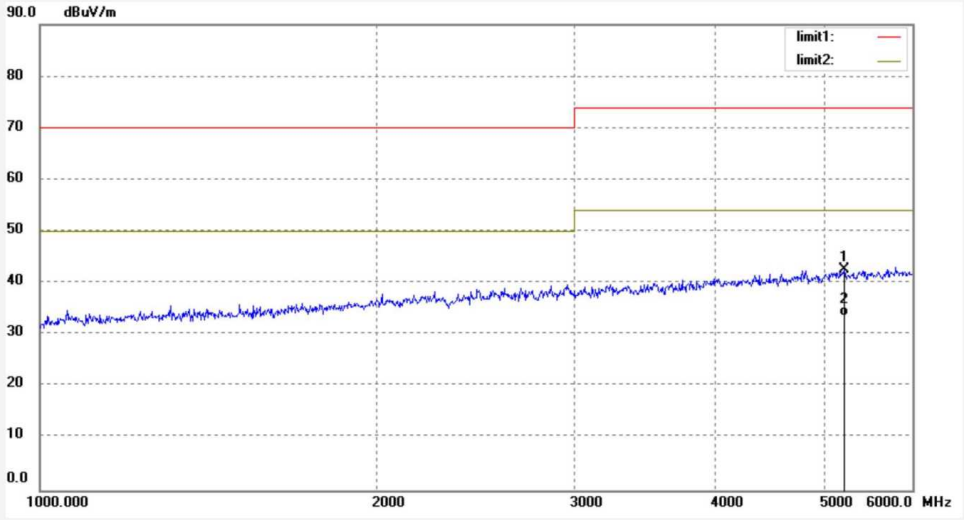
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3110
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Optical in
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5217.416	33.53	9.16	42.69	74.00	-31.31	peak			
2	5217.416	24.53	9.16	33.69	54.00	-20.31	AVG			

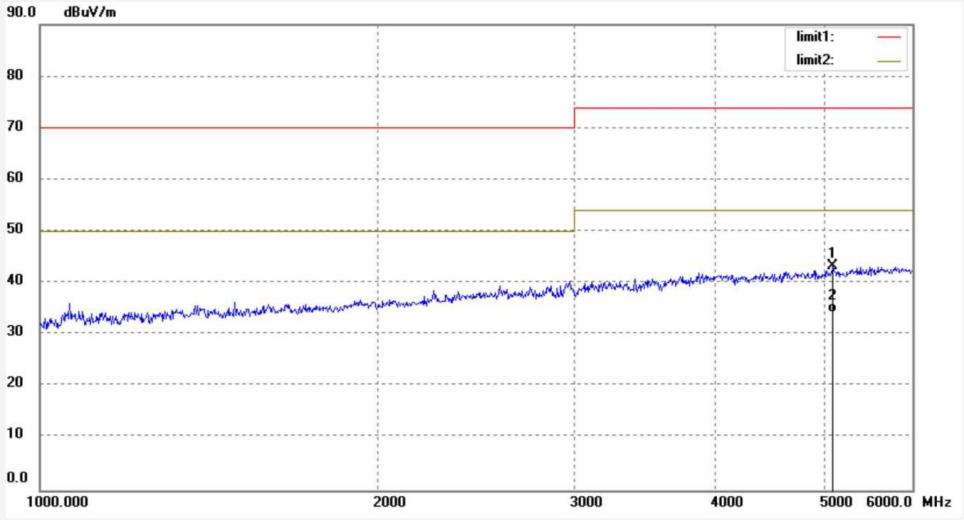
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3111
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 1
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5097.292	34.59	8.67	43.26	74.00	-30.74	peak			
2	5097.292	25.59	8.67	34.26	54.00	-19.74	AVG			

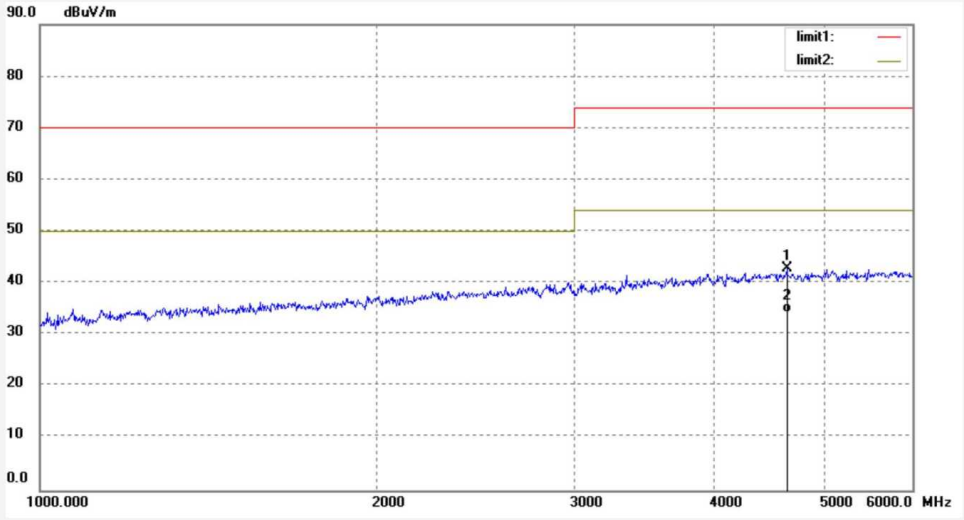
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3112
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 1
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4635.509	36.17	6.63	42.80	74.00	-31.20	peak			
2	4635.509	27.71	6.63	34.34	54.00	-19.66	AVG			

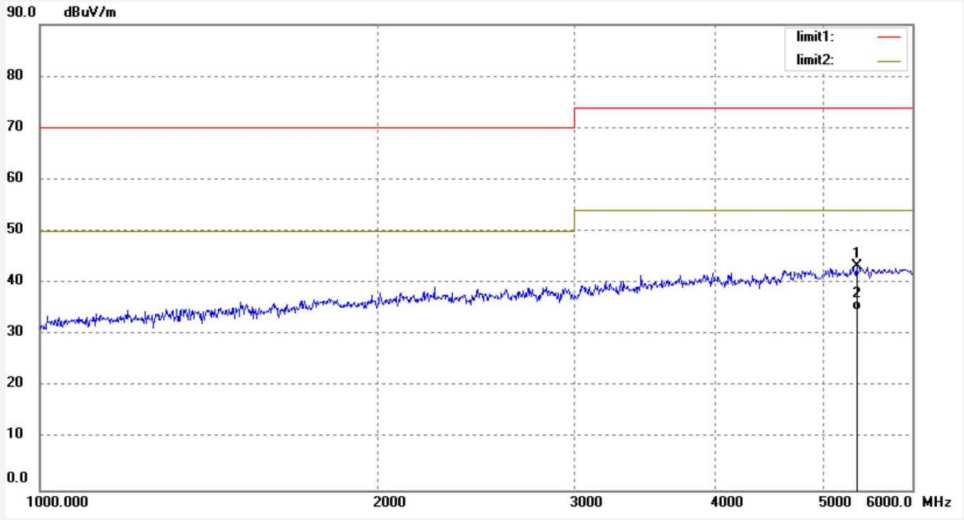
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3113
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 2
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Horizontal
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5349.948	33.86	9.36	43.22	74.00	-30.78	peak			
2	5349.948	25.32	9.36	34.68	54.00	-19.32	AVG			

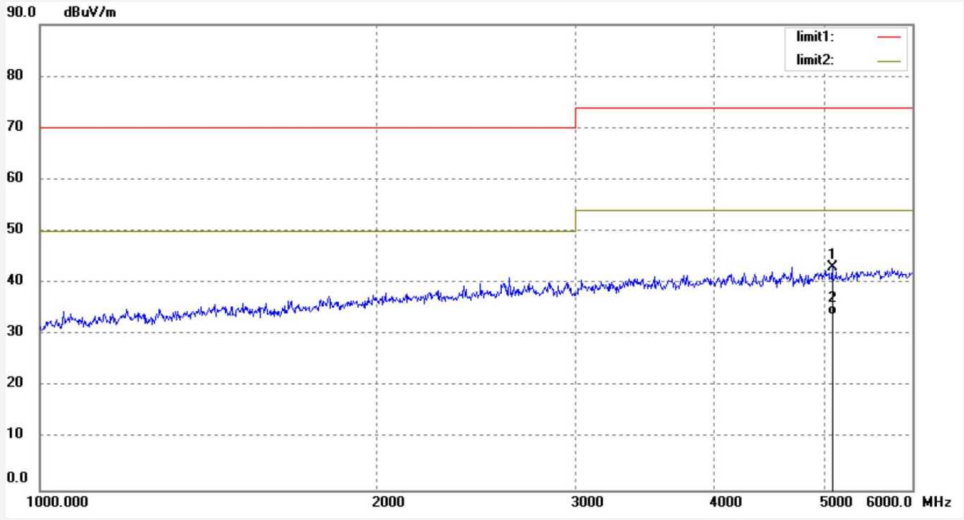
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #3114
Standard: EN55032 CLASSB above1GHz(PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT:Powered Bookshelf Speakers
Mode: Line in 2
Model: S2000MKIII
Manufacturer: EDIFIER

Polarization: Vertical
Power Source: AC 230V/50Hz
Date: 19/08/12/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5088.167	34.30	8.68	42.98	74.00	-31.02	peak			
2	5088.167	25.19	8.68	33.87	54.00	-20.13	AVG			