TEST REPORT

Application No.:	GZCR2306000619HS
Applicant:	Breville Pty Ltd
Address of Applicant:	Suit 2, 170-180 Bourke Rd, Alexandria, NSW, 2015, Australia
Manufacturer:	Sun Cupid
Address of Manufacturer:	No.7, Gaoke Blud, BaoLong Industrial City, LongGang District, ShenZhen, GZ 518118, China, CN
Factory:	Sun Cupid
Address of Factory:	No.7, Gaoke Blud, BaoLong Industrial City, LongGang District, ShenZhen, GZ 518118, China, CN
Equipment Under Test (EUT):	
EUT Name:	The Joule™ Oven Air Fryer Pro
Model No.:	BOV950 XXXYYY /ZZ X=0-9 or A-Z or blank, denotes different colour; Y=0-9 or A-Z or blank, denotes different country or region; Z=0-9 or A-Z or blank, when ZZ=Blank, "/" is ignored BOV950BSS, BOV950BST ♣
♣	Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.
Standard(s) :	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2023-06-30
Date of Test:	2023-07-13 to 2023-08-02
Date of Issue:	2023-09-13
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Ricky Liu
Manager

Revision Record			
Version	**Report No.**	**Date**	**Remark**
01	GZCR220200021102	2020-09-11	Original
02	GZEM200701390905	2022-09-21	Amendment report: Updated manufacturer's and factory's information; changed product description; deleted trade mark; changed the model number.
03	GZEM200701390908	2023-09-12	Amendment report: Alternative antenna #2 and some components.

Authorized for issue by				
		Kevin Zhang **Kevin Zhang /Project Engineer**		
		Vico Cui **Vico Cui/Reviewer**		

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2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 11.12	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Below 1GHz		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Above 1GHz		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

Remark for the report GZEM200701390905:

This test report GZEM200701390905 based on and only valid with the original test report GZEM200701390902, just updated manufacturer's and factory's information; changed product description; deleted trade mark; changed the model number. Details were shown as below:

1. Changed product description: The Joule™ Oven Airfryer Pro

2. Changed the model number from BOV950 to BOV950 XXXYYY /ZZ

According to the declaration of the applicant, the model **BOV950 BST** included in the original report GZEM200701390902 was changed the VALCD and the model **BOV950 BSS** in the original report GZEM200701390902 was changed the display driver (Holtec IC).

According to FCC Part 2 section 2.1043(b)(1), it is ok to update test report by updated manufacturer's and factory's information; changed product description; deleted trade mark; changed the model number without filing with the Commission.

FCC Part 2 section 2.1043(b)(1):

A Class I permissive change includes those modifications in the equipment which do not degrade the characteristics reported by the manufacturer and accepted by the Commission when certification is granted. No filing with the Commission is required for a Class I permissive change.

Considering to the difference above, Conducted Emissions at AC Power Line (150kHz-30MHz) and Radiated Spurious Emissions Below 1GHz were performed on models **BOV950BSS** and **BOV950 BST** and recorded the new test results in this report GZEM200701390905.

Other tests please refer to original report **GZEM200701390902** for details.

Remark for the report GZEM200701390908:

This report GZEM200701390908 was a copy report based on original report GZEM200701390905, with only alternative some components as below and antenna #2.

Description	Original Material	Original Supplier	Alternative Material	Alternative Supplier
Plastic PBT (V0)	4115	Chang Chung	403MG15	Nan Tong
Microswitch	KW3AH-01	Dongnan	G5H16	Greentech
DC Component Fan	RS5010B12L-F	Runda	JQ5010L12B	CG Fan
Relay (RE1)	HF115F-T/012-1HS3A	Hongfa	RB-112DMF5-S	Wangrong
Relay (RE2)	Type HF3FD/012-ZS3	Hongfa	Type RD-112DF-S	Wangrong
Triac (TR1, TR2, TR6)	BTA16-600B	ST	JST16A-600BW	JST
Triac (TR3)	BTB04-600SL	ST	JST04C-800SW	JST
DC-DC Driver	MT1470	Aerosemi	LC2332	LEADCHIP
Antenna	PCA-3520-2G4C1-A6-EV Antenna Gain: 5.5 dBi max	MAG. LAYERS	P-A66-01A-B-1-1A Antenna Gain: 3.28 dBi max	ARTtech

Consider the change as above, model BOV950BSS and BOV950BST with new antenna and components were tested full items in this report.

Tests for new data please refer to report GZEM200701390908 for details.

Tests for original data please refer to report GZEM200701390902 & GZEM200701390905 for details.

3 Contents

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Technical Service EEC Laboratory.
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4 General Information

4.1 Details of E.U.T.

Power supply:	AC 120 V, 60 Hz
Cable(s):	AC mains (unshielded, 1.2m)
For BT BLE	
BT Version	V4.2 for BLE only declared by applicant
Antenna Gain:	Option 1: 5.5 dBi for PCA-3520-2G4C1-A6-EV Option 2: 3.28 dBi for P-A66-01A-B-1-1A
Antenna Type:	Integral Antenna
Channel Spacing:	2MHz
Modulation Type:	GFSK
Number of Channels:	40
Operation Frequency:	2402MHz to 2480MHz
For Wi-Fi	
Antenna Gain:	Option 1: 5.5 dBi for PCA-3520-2G4C1-A6-EV Option 2: 3.28 dBi for P-A66-01A-B-1-1A
Antenna Type:	Integral Antenna
Channel Spacing:	5MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
S/N:	115-01-0236
Hardware:	B900-354-MP8
Firmware:	SV1.0
Test Software:	ESP32
Power Setting:	10dBm for BLE, 23 dBm for Wi-Fi can not be changed by user

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
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The EUT has been tested as an independent unit.			

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	±2.76dB
Radiated Emissions which fall in the restricted bands	±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m);± 5.12dB (1GHz-6GHz); ±5.38dB (6GHz-18GHz); ±5.61dB(18GHz-40GHz)
Radiated Spurious Emissions Below 1GHz	±5.00dB (3m); ±4.38dB (10m)
Radiated Spurious Emissions Above 1GHz	±5.12dB (1GHz-6GHz); ±5.38dB (6GHz-18GHz); ±5.61dB(18GHz-40GHz)
Remark: The U_{lab} (lab Uncertainty) is less than U_{ETSI} (ETSI Uncertainty), so the test results – compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit; – non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.	

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

The EUT passed the Radiated Spurious Emissions Above 1GHz test after modifications.

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Coaxial Cable	HangTianXing	2m	EMC0107	2023-08-04	2024-08-03
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	2022-10-16	2025-10-15
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2023-09-08	2024-09-07
EMI Test Receiver (9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2023-05-19	2024-05-18
Test Software E3r	Audix	Ver.6.11812	GZE100-77	N/A	N/A

Radiated Emissions which fall in the restricted bands					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2022-12-16	2023-12-15
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2022-12-16	2023-12-15
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2022-08-24	2024-08-23
Horn Antenna (1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2022-09-23	2025-09-22
Horn Antenna (14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2023-06-18	2026-06-17
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2023-08-23	2024-08-22
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2022-10-21	2023-10-20
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

Radiated Spurious Emissions Below 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
966 Anechoic Chamber	Shenzhen C.R.T	CRTSGSSAC966	EMC2230	2022-04-12	2025-04-11
EMI Test Receiver(1Hz-8GHz)	Rohde & Schwarz	ESW8	EMC2229	2023-02-20	2024-02-19
Amplifier(9k-1000MHz)	SONOMA	310	EMC2237	2023-04-13	2024-04-12
TRILOG Broadband Antenna（25M-2GHz)	SCHWRZBECK	VULB 9168	EMC2238	2022-04-20	2025-04-19
Coaxial Cable	Times Microwave	BL03-NMNM-6	EMC2239	2023-06-14	2025-06-13
Test Software E3	Audix	Ver.6.191211	GZE100-81	N/A	N/A
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2022-04-06	2024-04-05

Radiated Spurious Emissions Above 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2022-12-16	2023-12-15
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2022-12-16	2023-12-15
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2022-08-24	2024-08-23
Horn Antenna (1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2022-09-23	2025-09-22
Horn Antenna (14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2023-06-18	2026-06-17
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2022-12-16	2023-12-15
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2023-08-23	2024-08-22
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2022-10-21	2023-10-20
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DMM	Fluke	73	EMC0006	2023-06-11	2024-06-10

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(c)

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna are option 1: 5.5 dBi for PCA-3520-2G4C1-A6-EV and option 2: 3.28 dBi for P-A66-01A-B-1-1A.

7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		
Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz		

7.1.1 E.U.T. Operation

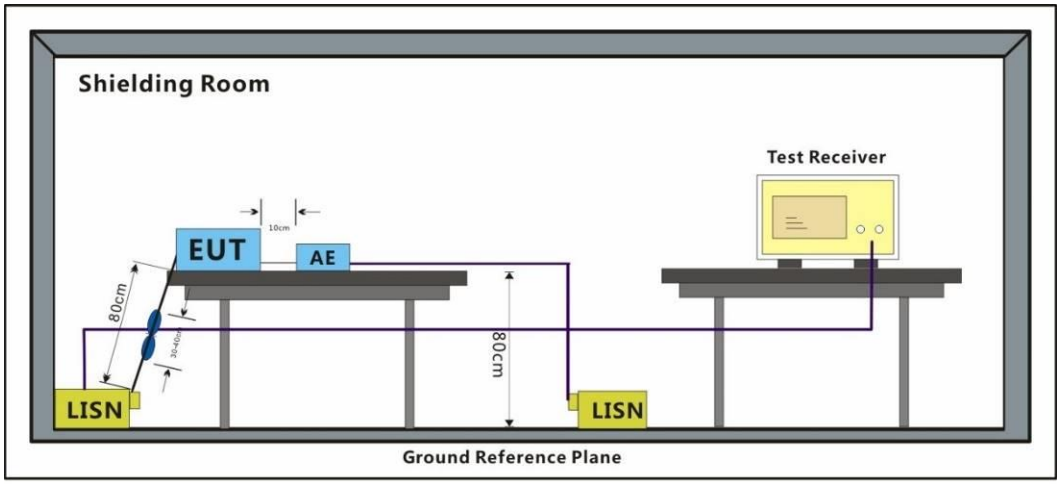
Operating Environment:

Temperature: 21.2 °C Humidity: 56.2 % RH Atmospheric Pressure: 1006 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BST.
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BST.
Final test	05	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BSS.
Final test	07	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BSS.

7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

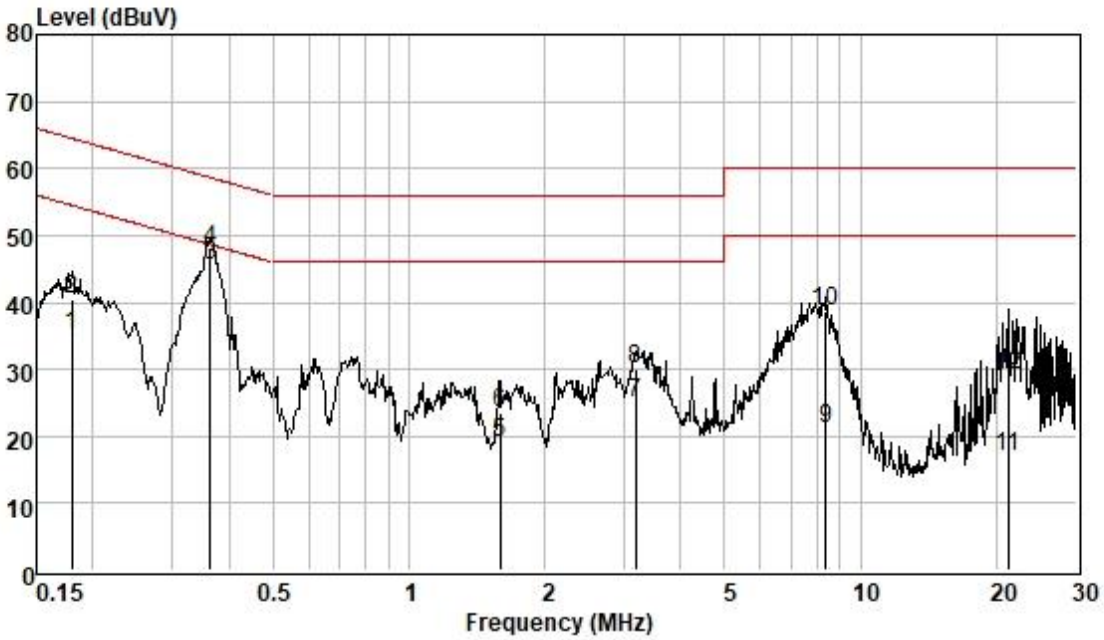
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: Level=Read Level+ Cable Loss+ LISN Factor

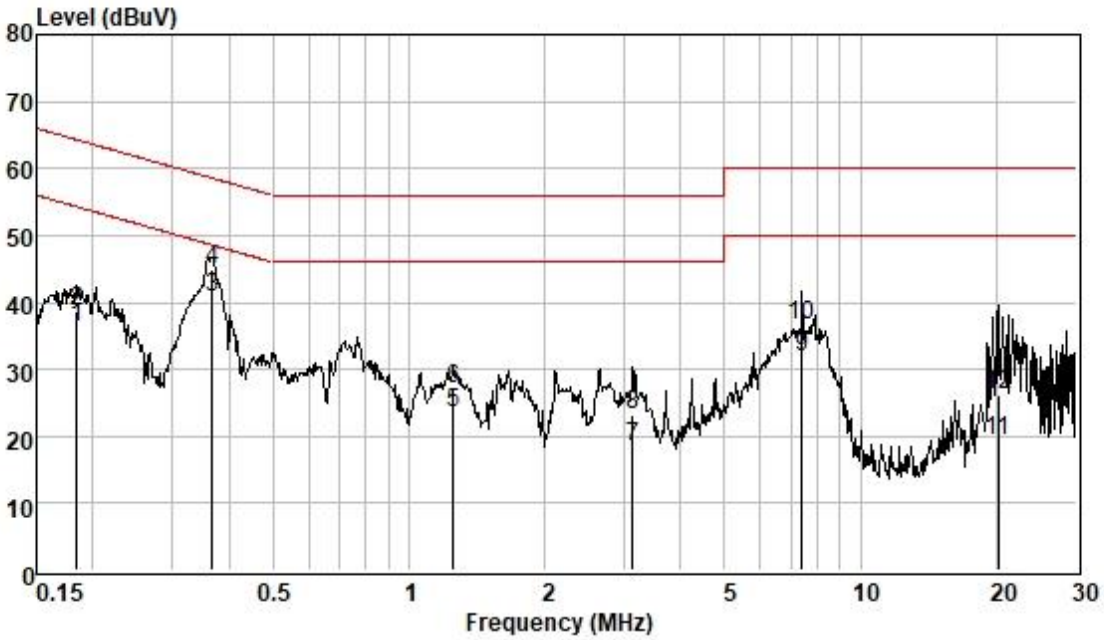
Test Mode: 00; Line: Live line



Pol :LINE
Mode :
Model :BST with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.180	25.46	0.06	9.61	35.13	54.50	-19.37	Average
2	0.180	30.89	0.06	9.61	40.56	64.50	-23.94	QP
3	0.363	35.75	0.06	9.60	45.41	48.65	-3.24	Average
4	0.363	38.14	0.06	9.60	47.80	58.65	-10.85	QP
5	1.593	9.40	0.10	9.61	19.11	46.00	-26.89	Average
6	1.593	13.93	0.10	9.61	23.64	56.00	-32.36	QP
7	3.173	15.34	0.15	9.63	25.12	46.00	-20.88	Average
8	3.173	20.38	0.15	9.63	30.16	56.00	-25.84	QP
9	8.367	11.21	0.21	9.66	21.08	50.00	-28.92	Average
10	8.367	28.70	0.21	9.66	38.57	60.00	-21.43	QP
11	21.147	7.07	0.36	9.67	17.10	50.00	-32.90	Average
12	21.147	19.13	0.36	9.67	29.16	60.00	-30.84	QP

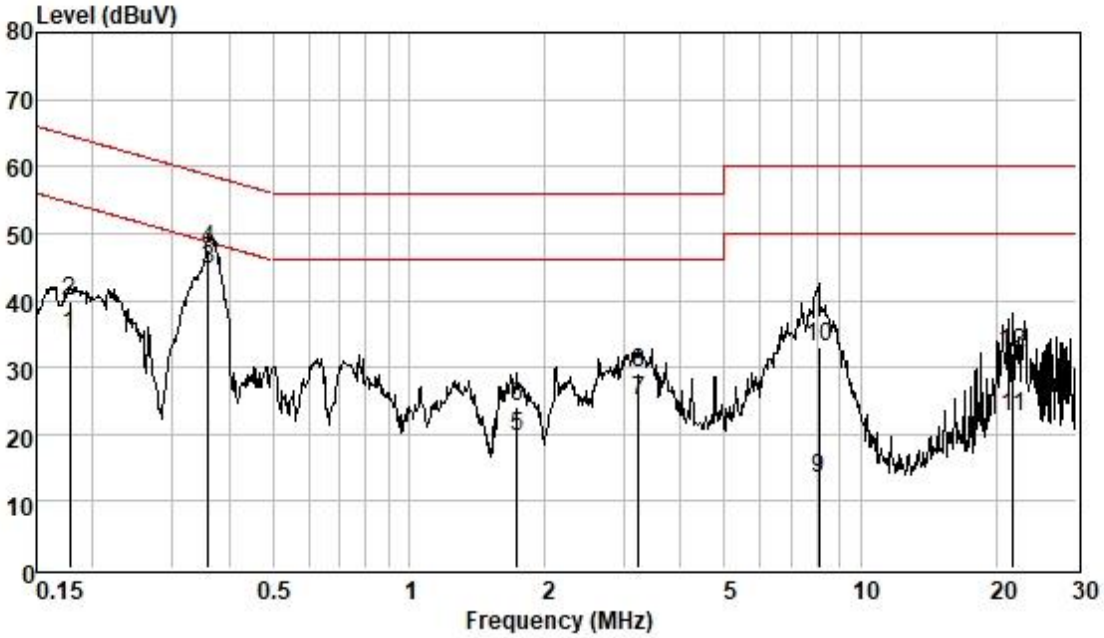
Test Mode: 00; Line: Neutral Line



Pol :NEUTRAL
Mode :
Model :BST with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.184	26.60	0.06	9.60	36.26	54.28	-18.02	Average
2	0.184	28.91	0.06	9.60	38.57	64.28	-25.71	QP
3	0.367	31.06	0.06	9.62	40.74	48.56	-7.82	Average
4	0.367	35.37	0.06	9.62	45.05	58.56	-13.51	QP
5	1.255	13.67	0.09	9.61	23.37	46.00	-22.63	Average
6	1.255	17.49	0.09	9.61	27.19	56.00	-28.81	QP
7	3.123	8.59	0.14	9.63	18.36	46.00	-27.64	Average
8	3.123	13.36	0.14	9.63	23.13	56.00	-32.87	QP
9	7.407	21.92	0.20	9.68	31.80	50.00	-18.20	Average
10	7.407	26.78	0.20	9.68	36.66	60.00	-23.34	QP
11	20.162	9.11	0.35	9.84	19.30	50.00	-30.70	Average
12	20.162	15.95	0.35	9.84	26.14	60.00	-33.86	QP

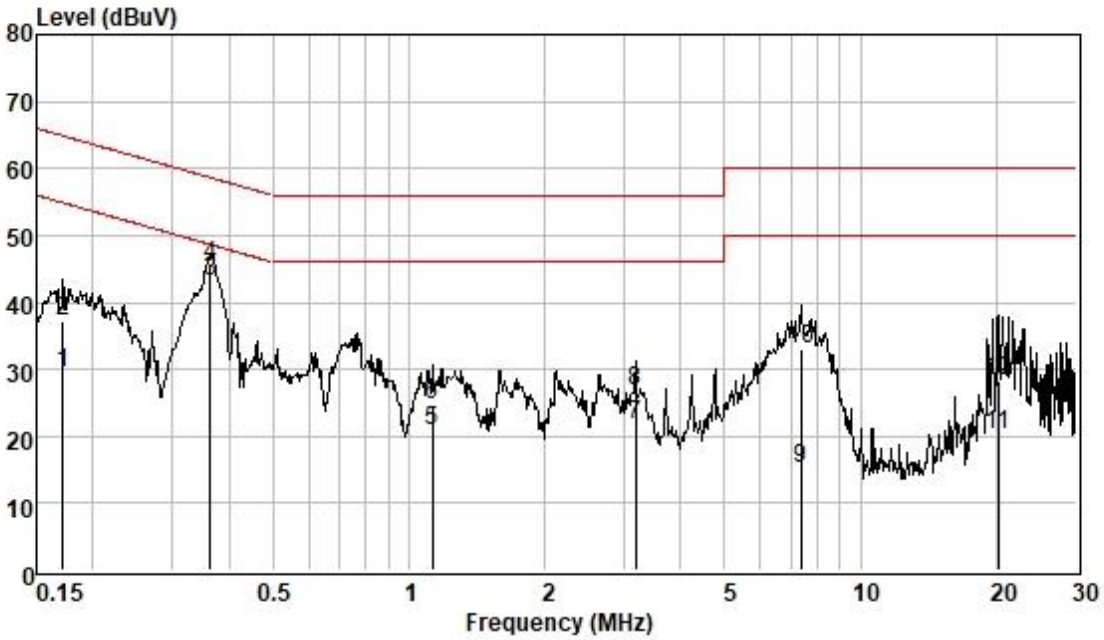
Test Mode: 02; Line: Live line



Pol :LINE
Mode :
Model :BST with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.178	25.21	0.06	9.61	34.88	54.59	-19.71	Average
2	0.178	30.31	0.06	9.61	39.98	64.59	-24.61	QP
3	0.360	35.05	0.06	9.60	44.71	48.74	-4.03	Average
4	0.360	37.95	0.06	9.60	47.61	58.74	-11.13	QP
5	1.734	10.01	0.11	9.62	19.74	46.00	-26.26	Average
6	1.734	14.26	0.11	9.62	23.99	56.00	-32.01	QP
7	3.224	15.11	0.15	9.63	24.89	46.00	-21.11	Average
8	3.224	19.45	0.15	9.63	29.23	56.00	-26.77	QP
9	8.062	3.66	0.21	9.66	13.53	50.00	-36.47	Average
10	8.062	23.02	0.21	9.66	32.89	60.00	-27.11	QP
11	21.715	12.70	0.36	9.67	22.73	50.00	-27.27	Average
12	21.715	22.03	0.36	9.67	32.06	60.00	-27.94	QP

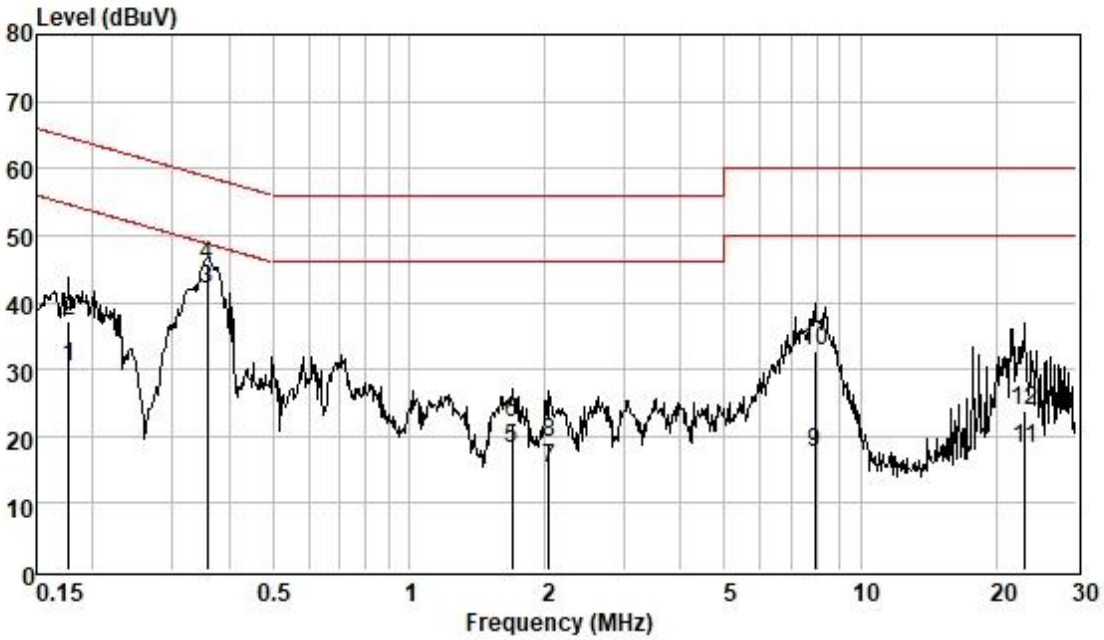
Test Mode: 02; Line: Neutral Line



Pol :NEUTRAL
Mode :
Model :BST with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.171	19.80	0.06	9.60	29.46	54.90	-25.44	Average
2	0.171	27.43	0.06	9.60	37.09	64.90	-27.81	QP
3	0.363	33.42	0.06	9.62	43.10	48.65	-5.55	Average
4	0.363	35.72	0.06	9.62	45.40	58.65	-13.25	QP
5	1.129	11.00	0.08	9.61	20.69	46.00	-25.31	Average
6	1.129	14.97	0.08	9.61	24.66	56.00	-31.34	QP
7	3.173	12.01	0.15	9.63	21.79	46.00	-24.21	Average
8	3.173	16.92	0.15	9.63	26.70	56.00	-29.30	QP
9	7.368	5.33	0.20	9.68	15.21	50.00	-34.79	Average
10	7.368	23.01	0.20	9.68	32.89	60.00	-27.11	QP
11	20.162	9.97	0.35	9.84	20.16	50.00	-29.84	Average
12	20.162	18.02	0.35	9.84	28.21	60.00	-31.79	QP

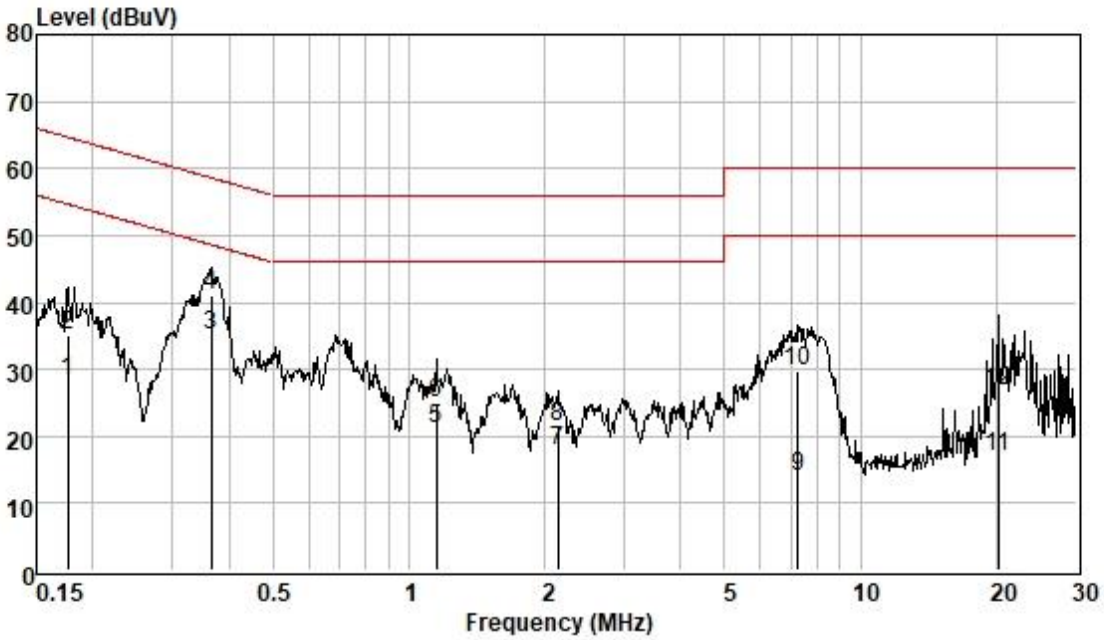
Test Mode: 05; Line: Live line



Pol :LINE
Mode :
Model :BSS with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.177	20.56	0.06	9.61	30.23	54.64	-24.41	Average
2	0.177	27.50	0.06	9.61	37.17	64.64	-27.47	QP
3	0.358	32.40	0.06	9.60	42.06	48.78	-6.72	Average
4	0.358	35.70	0.06	9.60	45.36	58.78	-13.42	QP
5	1.689	8.41	0.10	9.61	18.12	46.00	-27.88	Average
6	1.689	12.42	0.10	9.61	22.13	56.00	-33.87	QP
7	2.044	5.43	0.12	9.62	15.17	46.00	-30.83	Average
8	2.044	9.19	0.12	9.62	18.93	56.00	-37.07	QP
9	7.935	7.65	0.20	9.66	17.51	50.00	-32.49	Average
10	7.935	22.72	0.20	9.66	32.58	60.00	-27.42	QP
11	23.140	8.15	0.38	9.66	18.19	50.00	-31.81	Average
12	23.140	13.84	0.38	9.66	23.88	60.00	-36.12	QP

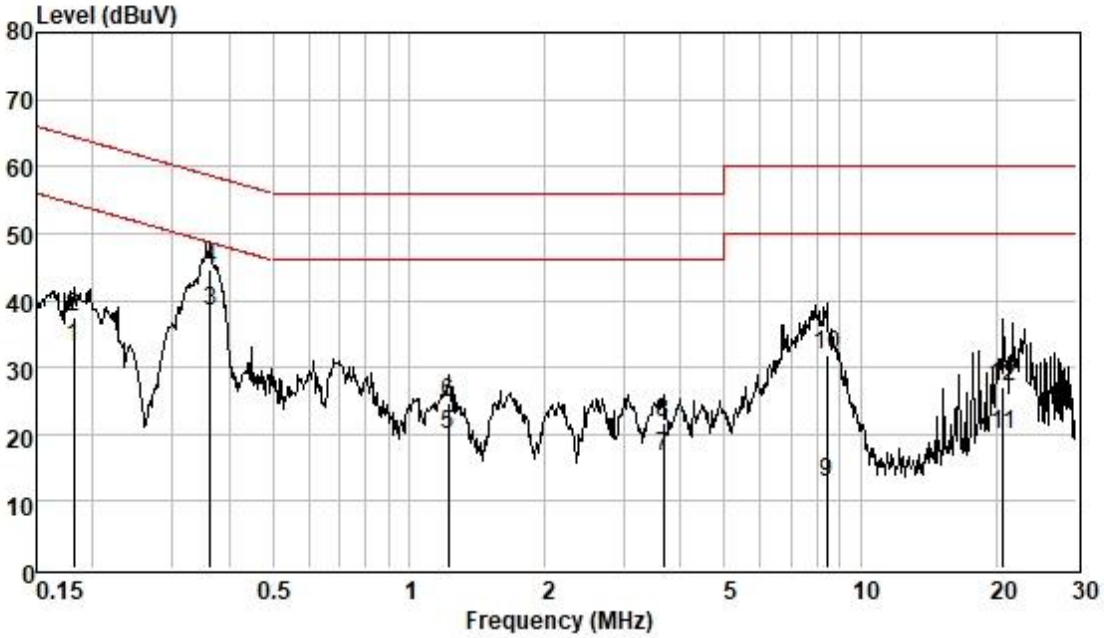
Test Mode: 05; Line: Neutral Line



Pol :NEUTRAL
Mode :
Model :BSS with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.176	18.65	0.06	9.60	28.31	54.68	-26.37	Average
2	0.176	25.55	0.06	9.60	35.21	64.68	-29.47	QP
3	0.365	25.49	0.06	9.62	35.17	48.61	-13.44	Average
4	0.365	31.47	0.06	9.62	41.15	58.61	-17.46	QP
5	1.153	11.46	0.08	9.61	21.15	46.00	-24.85	Average
6	1.153	15.20	0.08	9.61	24.89	56.00	-31.11	QP
7	2.133	8.01	0.12	9.61	17.74	46.00	-28.26	Average
8	2.133	11.60	0.12	9.61	21.33	56.00	-34.67	QP
9	7.252	4.15	0.20	9.68	14.03	50.00	-35.97	Average
10	7.252	19.95	0.20	9.68	29.83	60.00	-30.17	QP
11	20.162	6.73	0.35	9.84	16.92	50.00	-33.08	Average
12	20.162	16.48	0.35	9.84	26.67	60.00	-33.33	QP

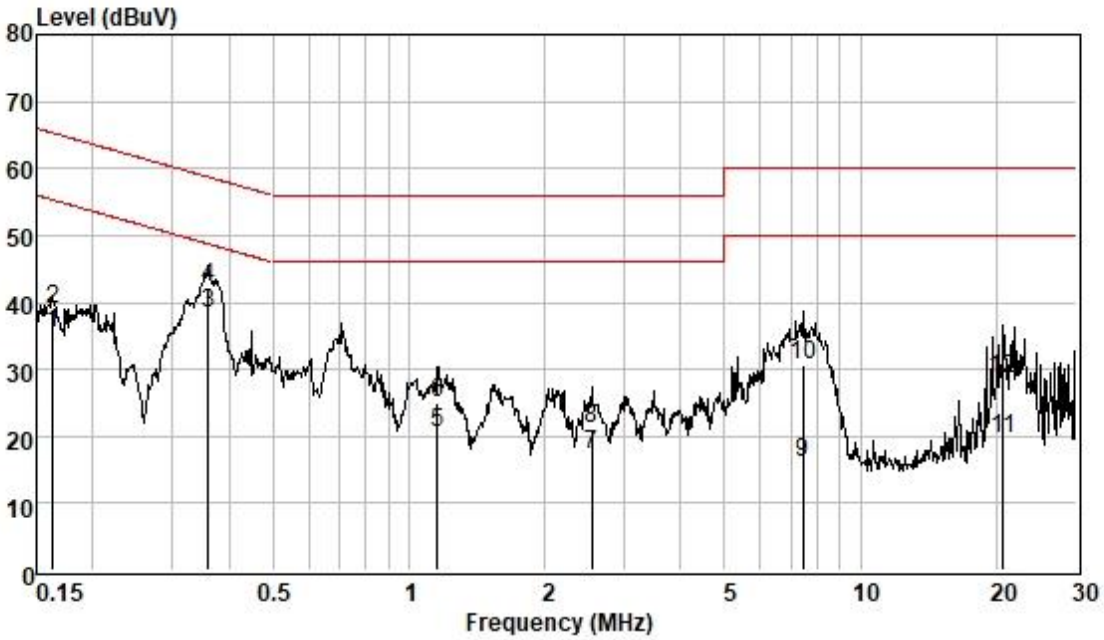
Test Mode: 07; Line: Live line



Pol :LINE
Mode :
Model :BSS with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.182	23.34	0.06	9.61	33.01	54.42	-21.41	Average
2	0.182	27.72	0.06	9.61	37.39	64.42	-27.03	QP
3	0.363	28.79	0.06	9.60	38.45	48.65	-10.20	Average
4	0.363	34.86	0.06	9.60	44.52	58.65	-14.13	QP
5	1.223	10.16	0.08	9.60	19.84	46.00	-26.16	Average
6	1.223	14.96	0.08	9.60	24.64	56.00	-31.36	QP
7	3.661	6.77	0.15	9.63	16.55	46.00	-29.45	Average
8	3.661	11.89	0.15	9.63	21.67	56.00	-34.33	QP
9	8.412	2.99	0.21	9.66	12.86	50.00	-37.14	Average
10	8.412	22.07	0.21	9.66	31.94	60.00	-28.06	QP
11	20.704	9.97	0.35	9.68	20.00	50.00	-30.00	Average
12	20.704	17.15	0.35	9.68	27.18	60.00	-32.82	QP

Test Mode: 07; Line: Neutral Line



Pol :NEUTRAL
Mode :
Model :BSS with ANT 2
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.163	25.72	0.06	9.61	35.39	55.30	-19.91	Average
2	0.163	29.38	0.06	9.61	39.05	65.30	-26.25	QP
3	0.360	28.63	0.06	9.62	38.31	48.74	-10.43	Average
4	0.360	32.69	0.06	9.62	42.37	58.74	-16.37	QP
5	1.160	10.83	0.08	9.61	20.52	46.00	-25.48	Average
6	1.160	15.35	0.08	9.61	25.04	56.00	-30.96	QP
7	2.540	7.44	0.13	9.61	17.18	46.00	-28.82	Average
8	2.540	11.46	0.13	9.61	21.20	56.00	-34.80	QP
9	7.446	6.09	0.20	9.68	15.97	50.00	-34.03	Average
10	7.446	20.82	0.20	9.68	30.70	60.00	-29.30	QP
11	20.704	9.47	0.35	9.85	19.67	50.00	-30.33	Average
12	20.704	18.40	0.35	9.85	28.60	60.00	-31.40	QP

7.2 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2013) Section 11.12

Limit:

Test Distance: 3 m

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

7.2.1 E.U.T. Operation

Operating Environment:

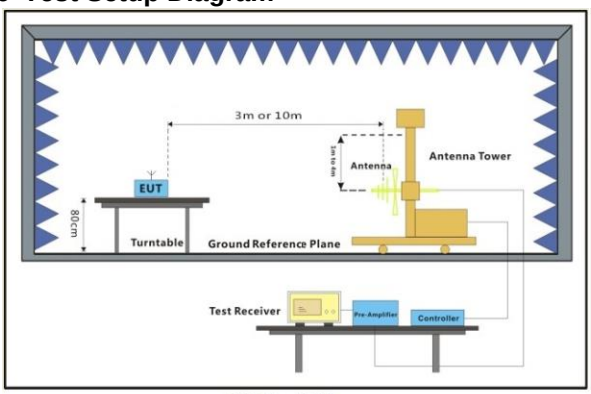
Temperature: 25.8 °C Humidity: 57.5 % RH Atmospheric Pressure: 1006 mbar

7.2.2 Test Mode Description

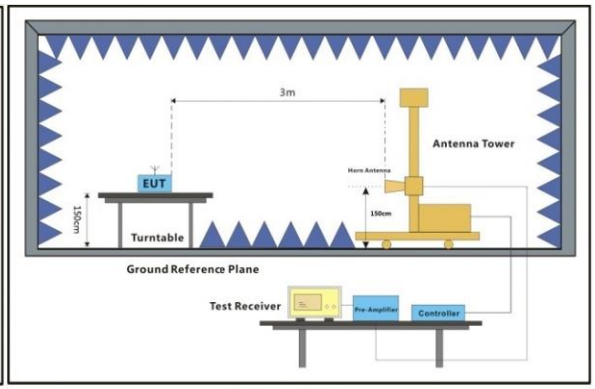
Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BST.
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BST.
Final test	05	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BSS.
Final test	07	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the

modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BSS.

7.2.3 Test Setup Diagram



30MHz-1GHz



Above 1GHz

7.2.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the Highest channel.

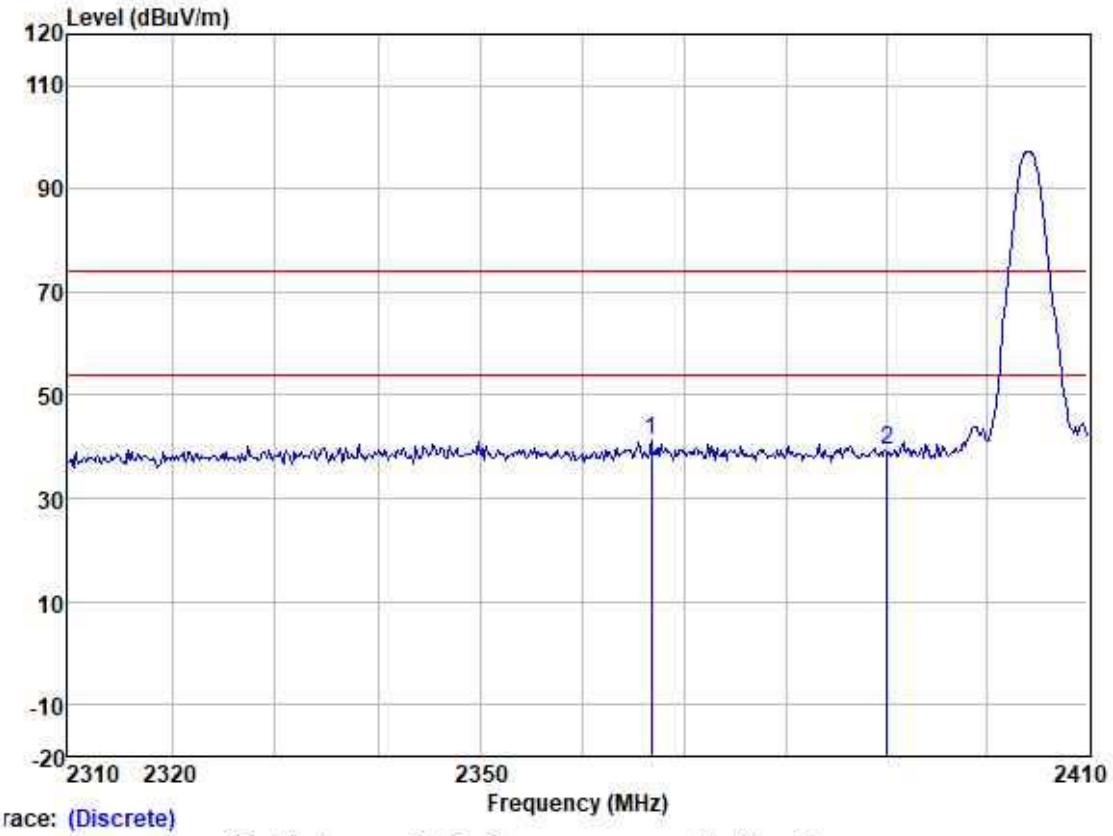
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

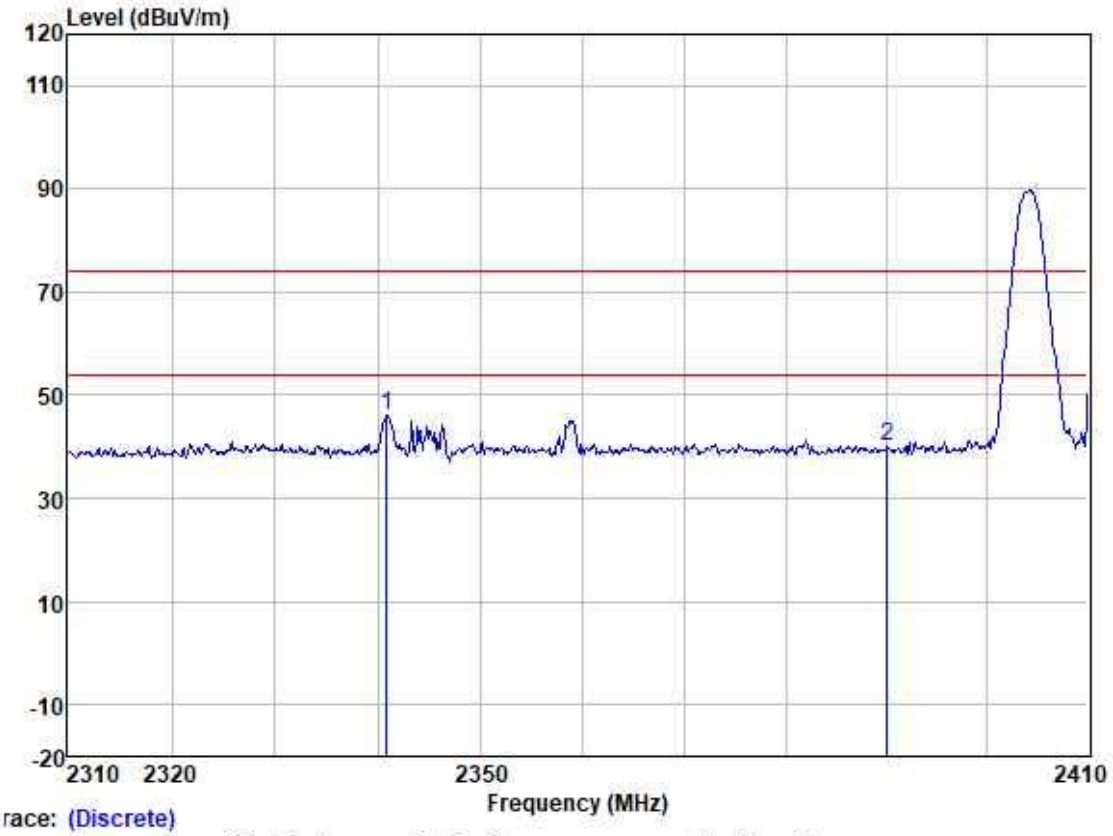
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2366.681	47.72	27.64	3.75	37.77	41.34	74.00	-32.66	VERTICAL	Peak
2	2390.000	45.78	27.68	3.77	37.76	39.47	74.00	-34.53	VERTICAL	Peak

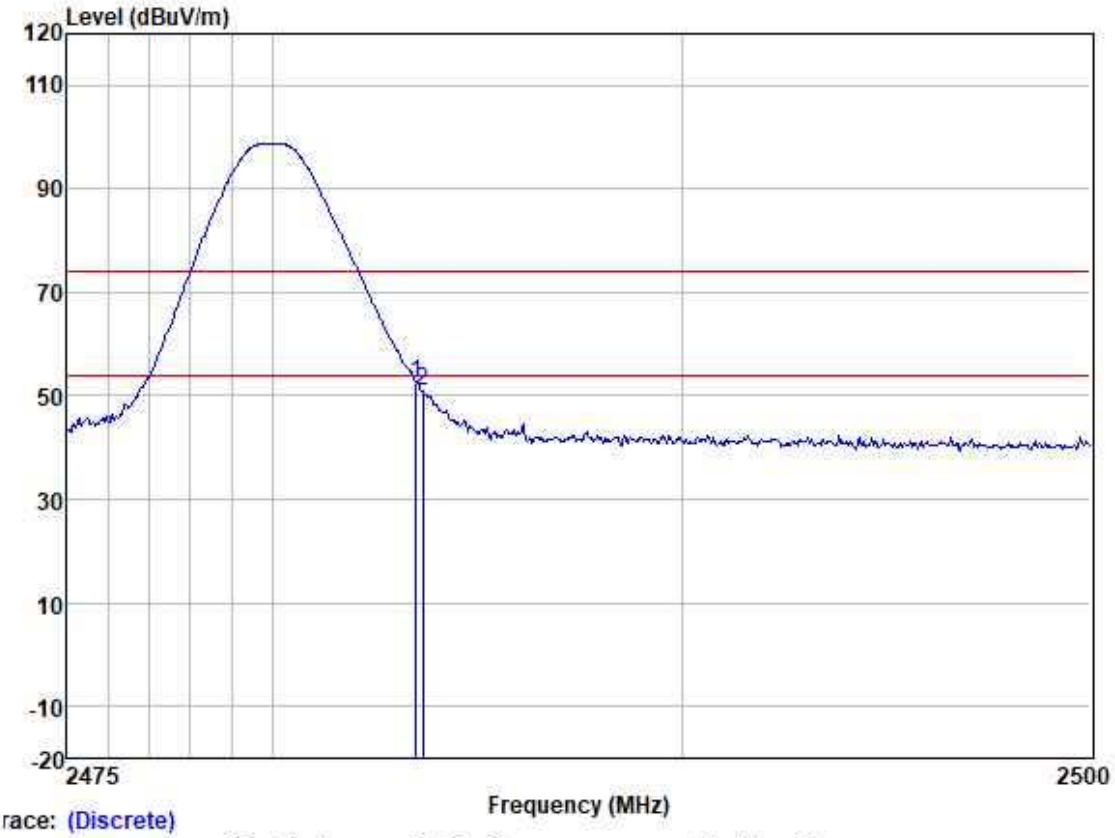
Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low



race: (Discrete)

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2340.845	52.72	27.57	3.73	37.78	46.24	74.00	-27.76	HORIZONTAL	Peak
2	2390.000	46.32	27.68	3.77	37.76	40.01	74.00	-33.99	HORIZONTAL	Peak

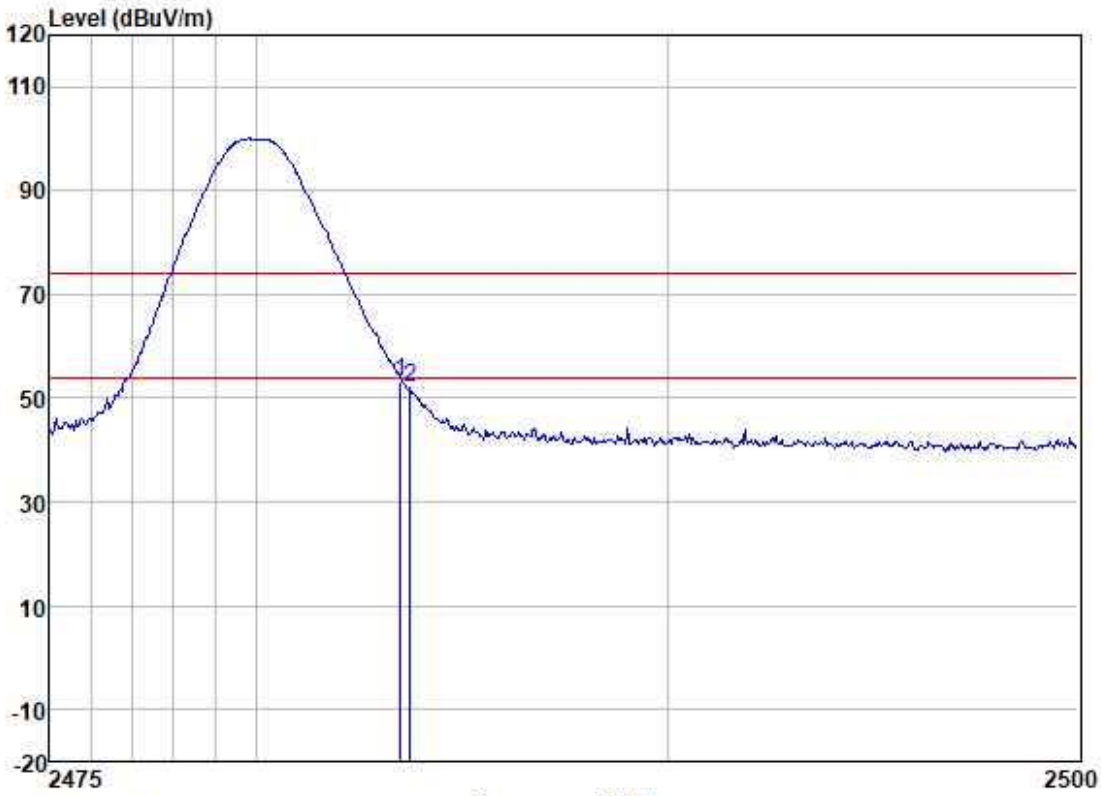
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	58.58	27.85	3.82	37.73	52.52	74.00	-21.48	VERTICAL	Peak
2	2483.672	57.03	27.85	3.82	37.73	50.97	74.00	-23.03	VERTICAL	Peak

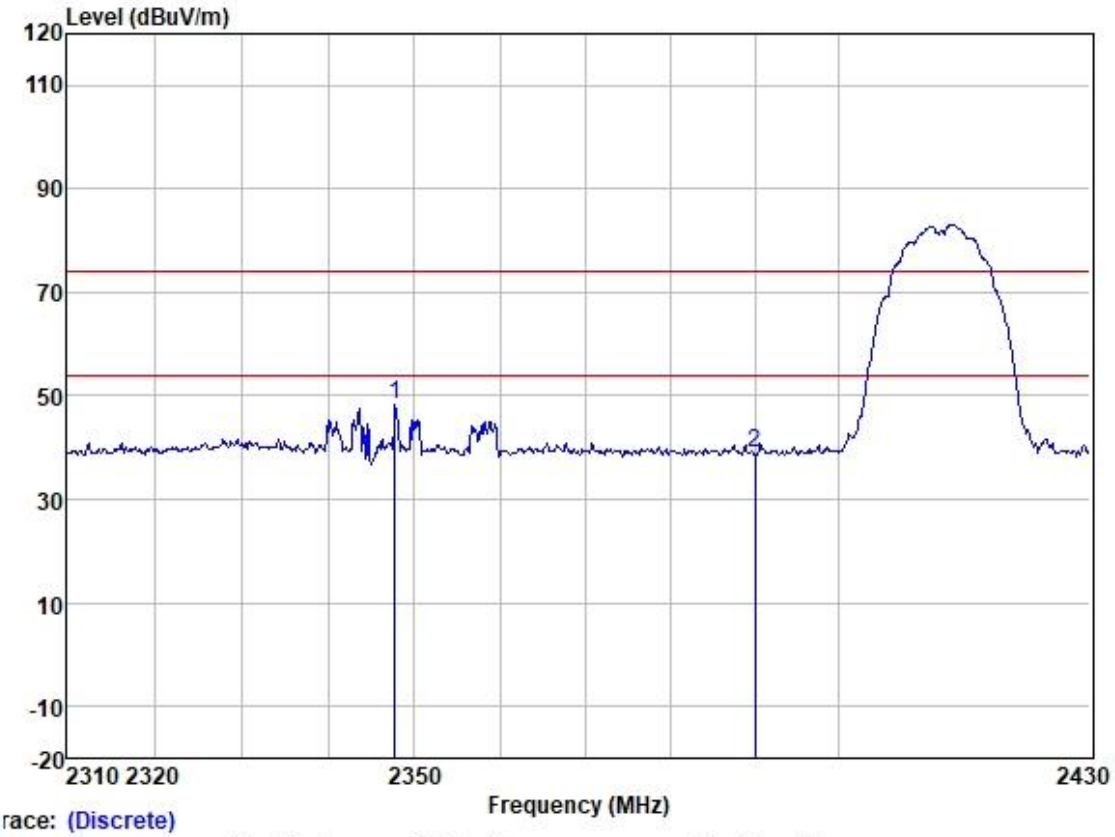
Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High



race: (Discrete)

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	59.40	27.85	3.82	37.73	53.34	74.00	-20.66	HORIZONTAL	Peak
2	2483.721	57.95	27.85	3.82	37.73	51.89	74.00	-22.11	HORIZONTAL	Peak

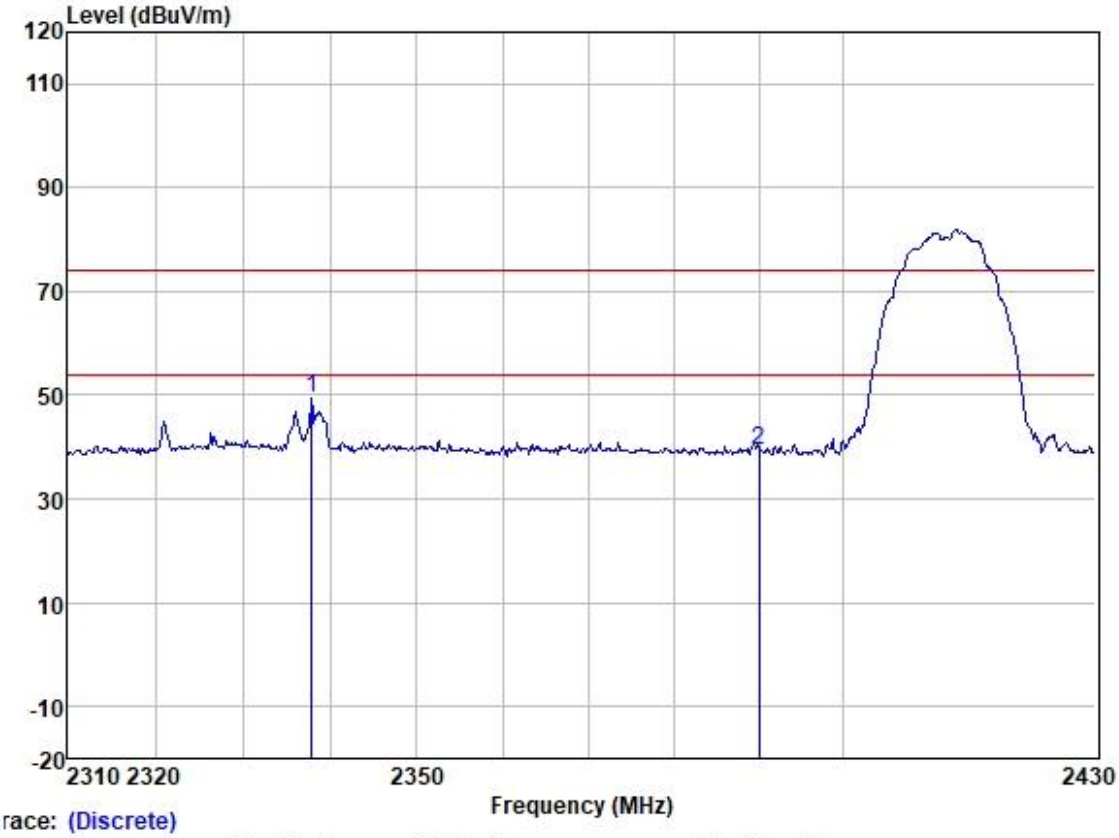
Test Mode: 02; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2347.741	54.03	27.59	4.60	37.78	48.44	74.00	-25.56	VERTICAL	Peak
2	2390.000	44.75	27.68	4.22	37.76	38.89	74.00	-35.11	VERTICAL	Peak

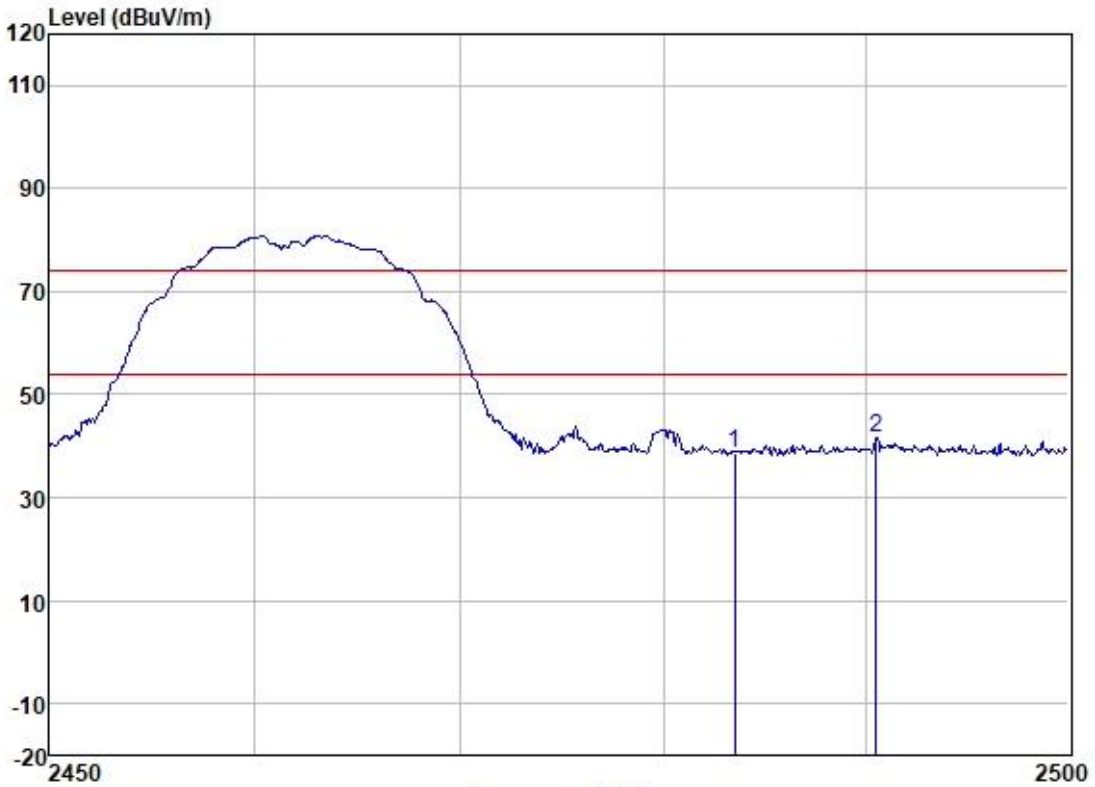
Test Mode: 02; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2337.893	55.14	27.57	4.68	37.79	49.60	74.00	-24.40	HORIZONTAL	Peak
2	2390.000	45.33	27.68	4.22	37.76	39.47	74.00	-34.53	HORIZONTAL	Peak

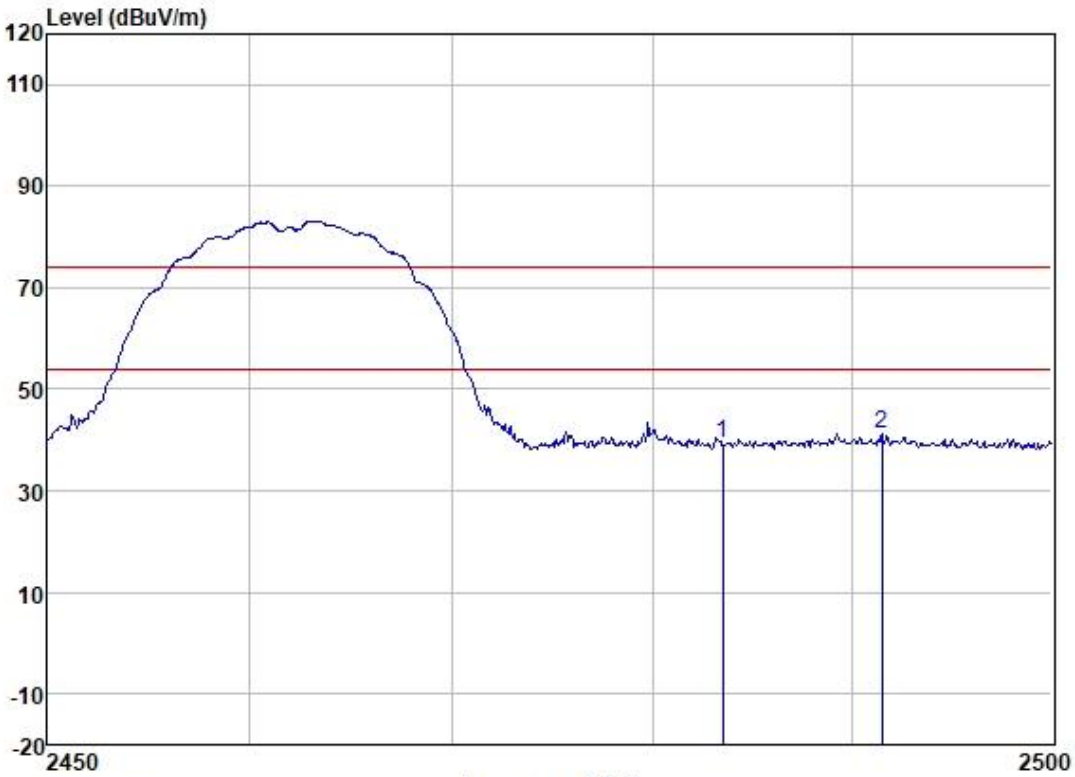
Test Mode: 02; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	44.75	27.85	3.82	37.73	38.69	74.00	-35.31	VERTICAL	Peak
2	2490.472	47.82	27.86	3.83	37.73	41.78	74.00	-32.22	VERTICAL	Peak

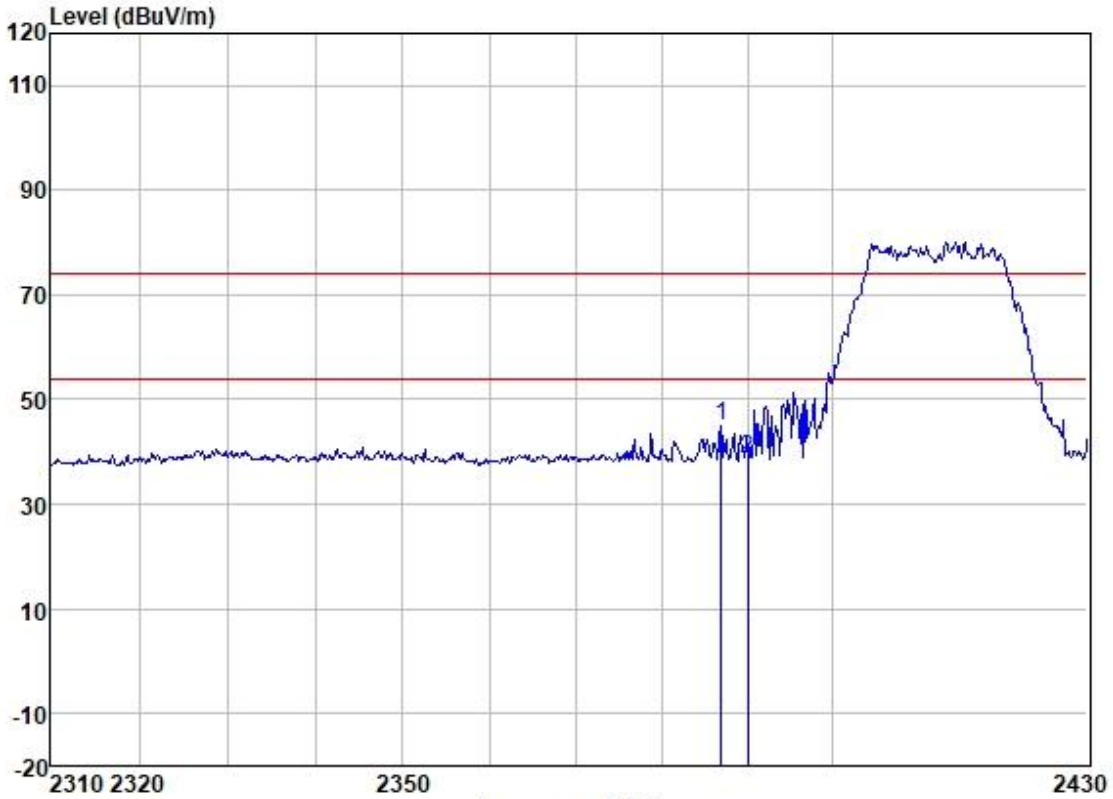
Test Mode: 02; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	45.43	27.85	3.82	37.73	39.37	74.00	-34.63	HORIZONTAL	Peak
2	2491.479	47.39	27.86	3.83	37.73	41.35	74.00	-32.65	HORIZONTAL	Peak

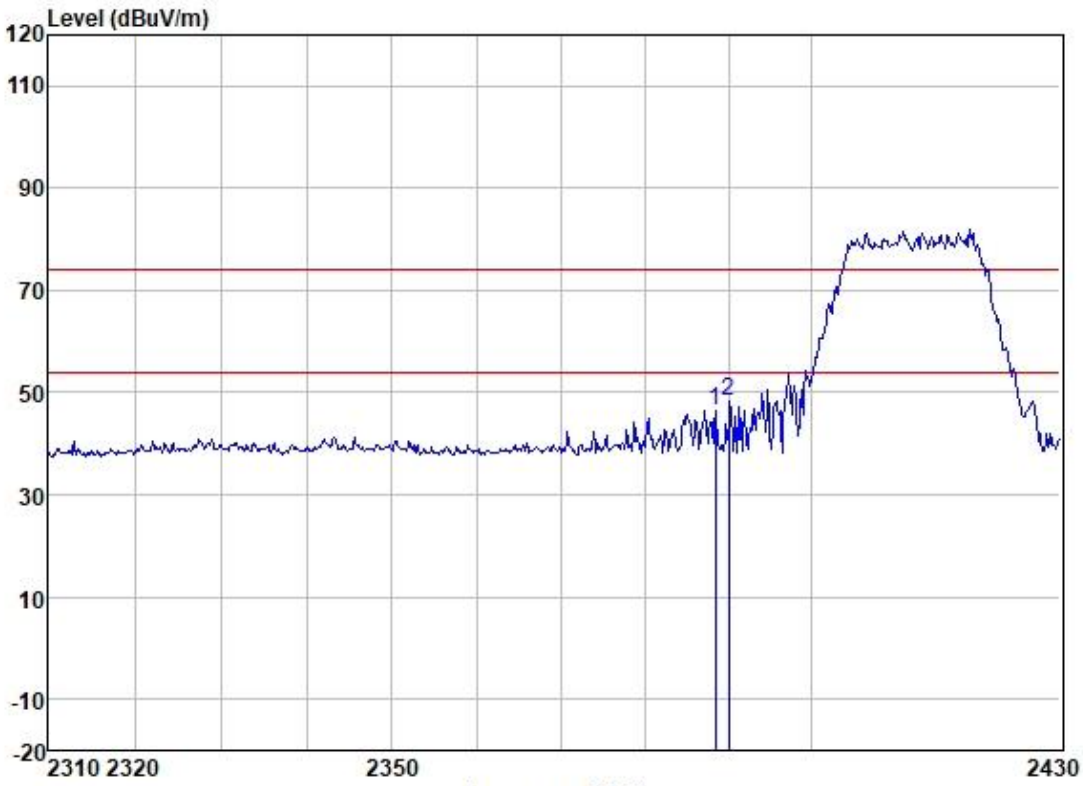
Test Mode: 02; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2386.944	51.28	27.68	3.77	37.77	44.96	74.00	-29.04	VERTICAL	Peak
2	2390.000	45.10	27.68	3.77	37.76	38.79	74.00	-35.21	VERTICAL	Peak

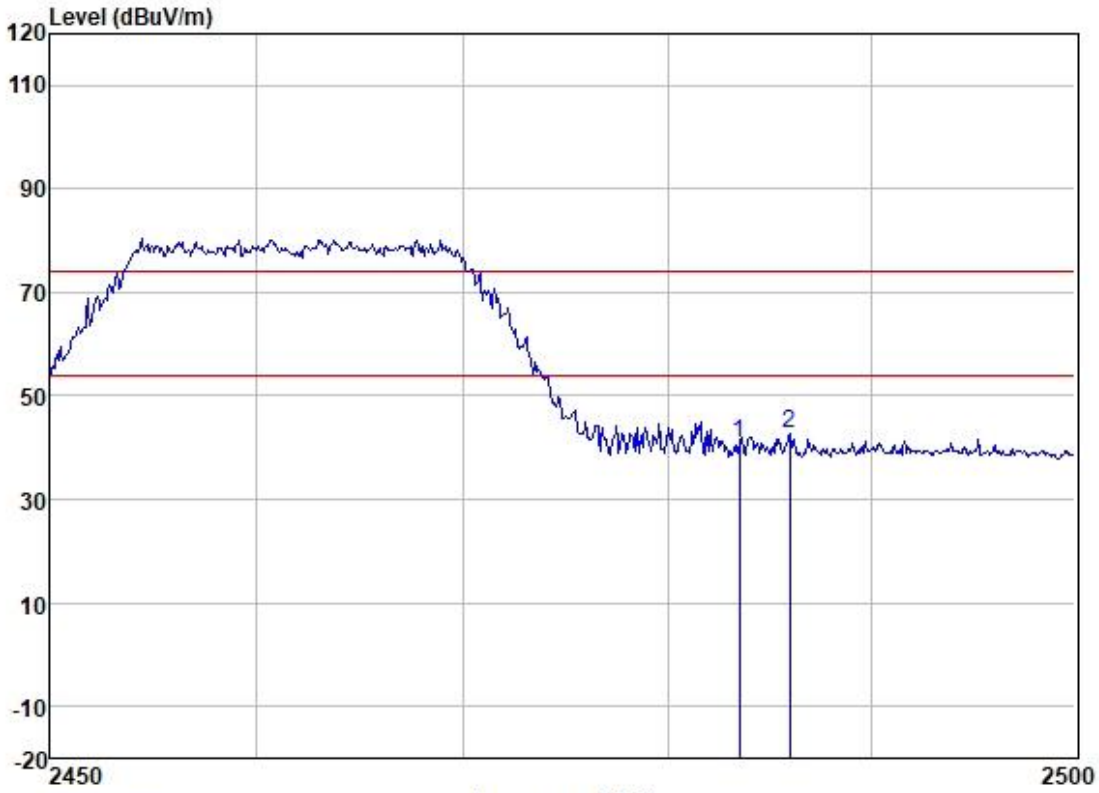
Test Mode: 02; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2388.395	52.89	27.68	3.77	37.77	46.57	74.00	-27.43	HORIZONTAL	Peak
2	2390.000	54.59	27.68	3.77	37.76	48.28	74.00	-25.72	HORIZONTAL	Peak

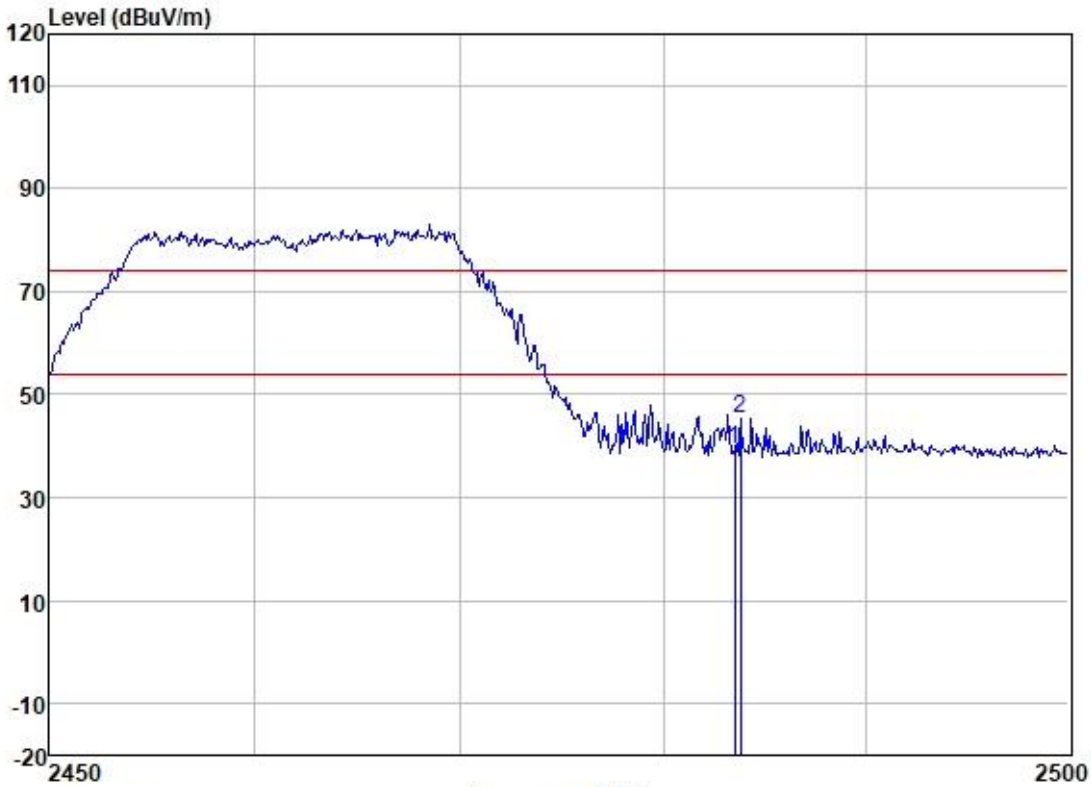
Test Mode: 02; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	46.85	27.85	3.82	37.73	40.79	74.00	-33.21	VERTICAL	Peak
2	2485.948	48.81	27.85	3.82	37.73	42.75	74.00	-31.25	VERTICAL	Peak

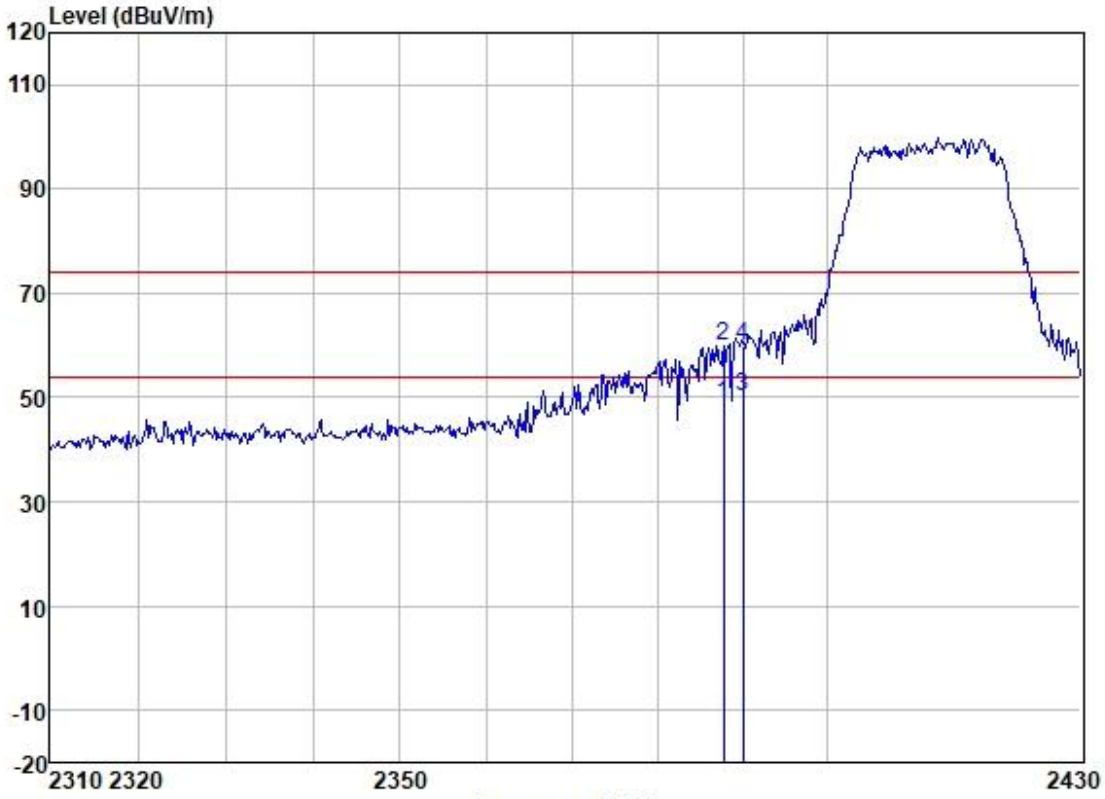
Test Mode: 02; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	45.42	27.85	3.82	37.73	39.36	74.00	-34.64	HORIZONTAL	Peak
2	2483.790	51.42	27.85	3.82	37.73	45.36	74.00	-28.64	HORIZONTAL	Peak

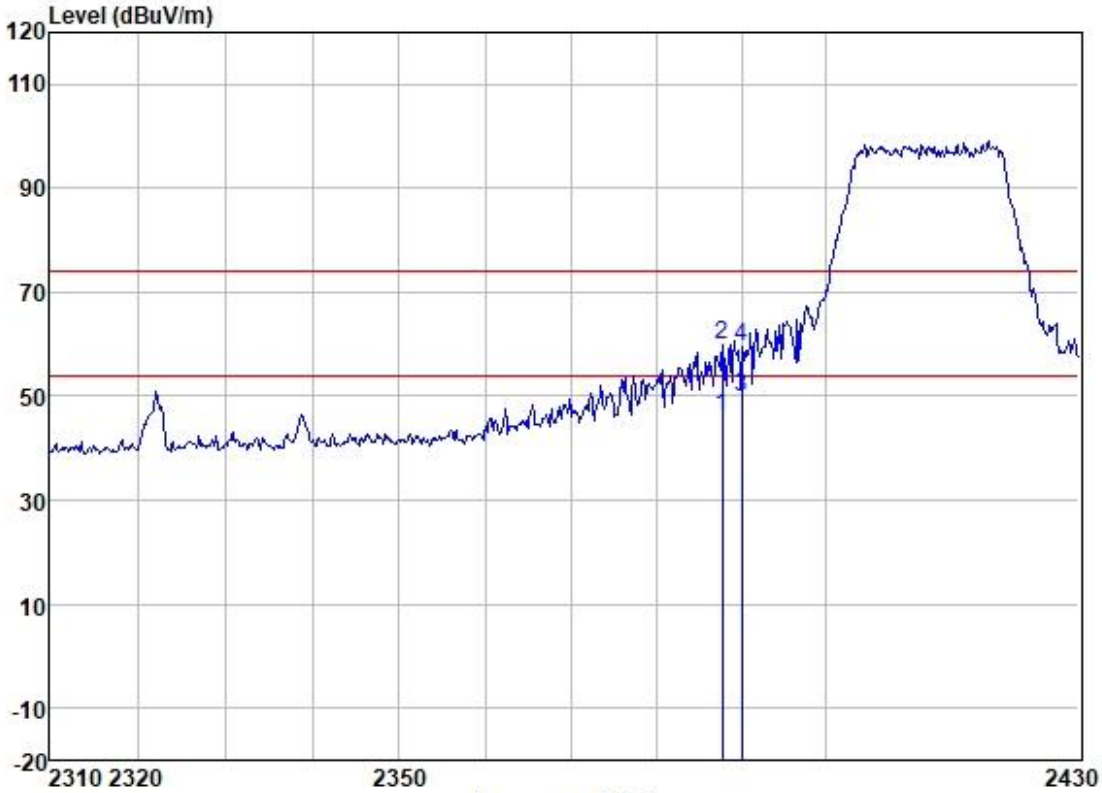
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2387.670	54.96	27.68	3.77	37.77	48.64	54.00	-5.36	VERTICAL	Average
2	2387.670	66.10	27.68	3.77	37.77	59.78	74.00	-14.22	VERTICAL	Peak
3	2390.000	56.59	27.68	3.77	37.76	50.28	54.00	-3.72	VERTICAL	Average
4	2390.000	66.26	27.68	3.77	37.76	59.95	74.00	-14.05	VERTICAL	Peak

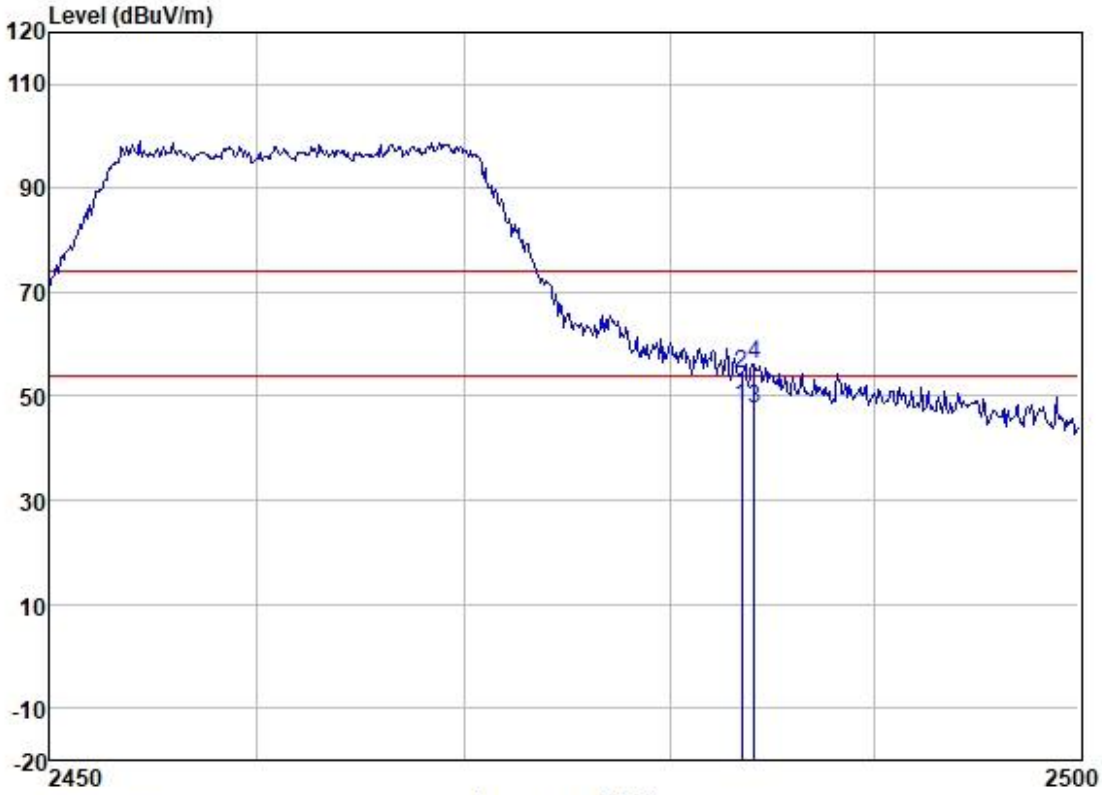
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2387.670	52.24	27.68	3.77	37.77	45.92	54.00	-8.08	HORIZONTAL	Average
2	2387.670	66.07	27.68	3.77	37.77	59.75	74.00	-14.25	HORIZONTAL	Peak
3	2390.000	56.28	27.68	3.77	37.76	49.97	54.00	-4.03	HORIZONTAL	Average
4	2390.000	65.71	27.68	3.77	37.76	59.40	74.00	-14.60	HORIZONTAL	Peak

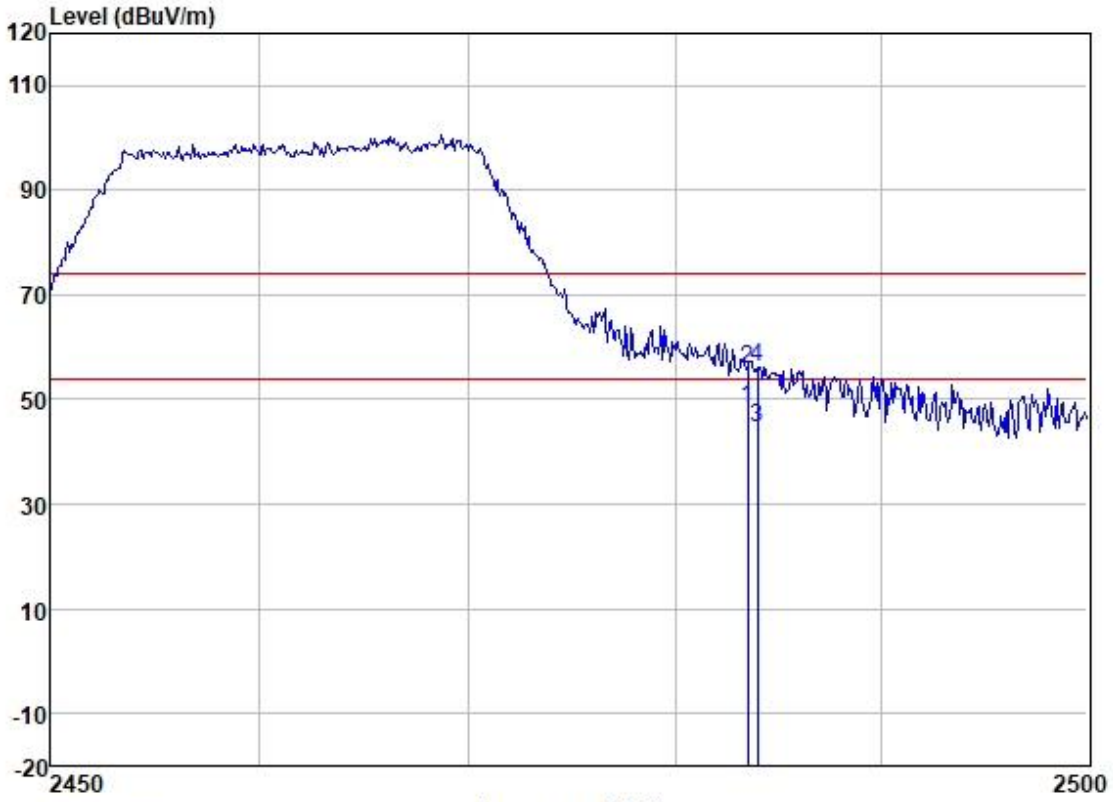
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	54.00	27.85	3.82	37.73	47.94	54.00	-6.06	VERTICAL	Average
2	2483.500	60.20	27.85	3.82	37.73	54.14	74.00	-19.86	VERTICAL	Peak
3	2484.091	53.59	27.85	3.82	37.73	47.53	54.00	-6.47	VERTICAL	Average
4	2484.091	62.16	27.85	3.82	37.73	56.10	74.00	-17.90	VERTICAL	Peak

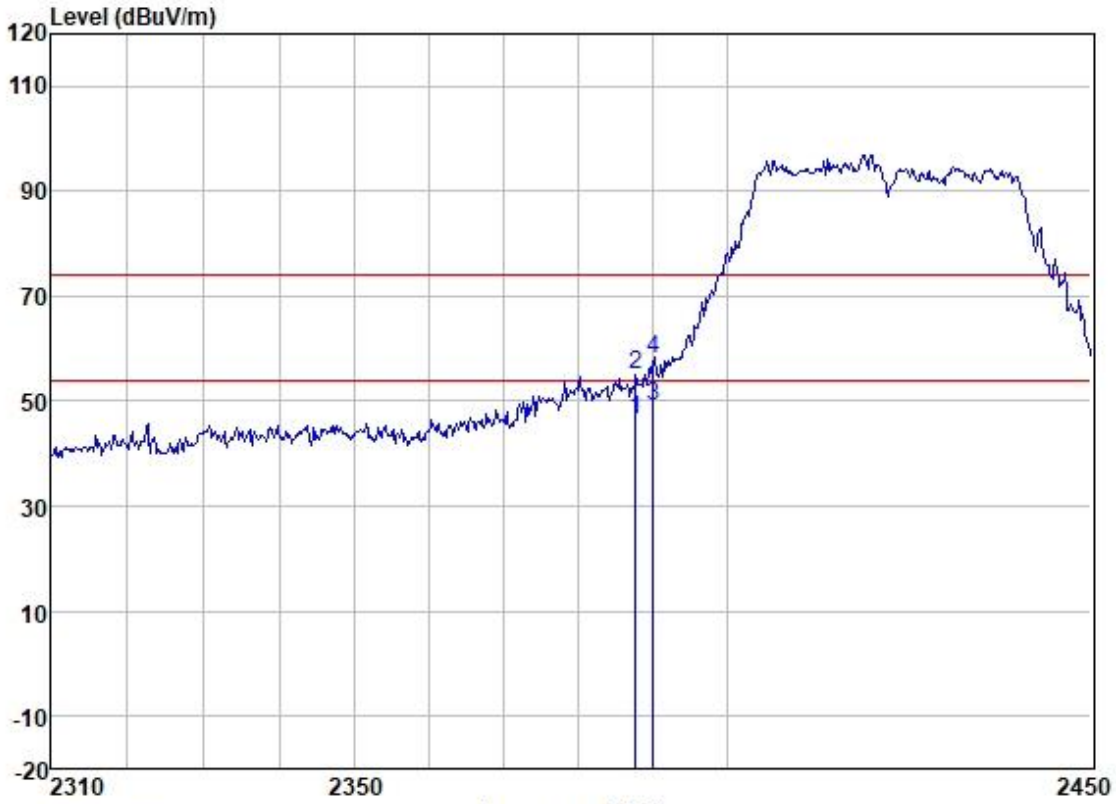
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	54.56	27.85	3.82	37.73	48.50	54.00	-5.50	HORIZONTAL	Average
2	2483.500	61.99	27.85	3.82	37.73	55.93	74.00	-18.07	HORIZONTAL	Peak
3	2483.990	50.51	27.85	3.82	37.73	44.45	54.00	-9.55	HORIZONTAL	Average
4	2483.990	62.37	27.85	3.82	37.73	56.31	74.00	-17.69	HORIZONTAL	Peak

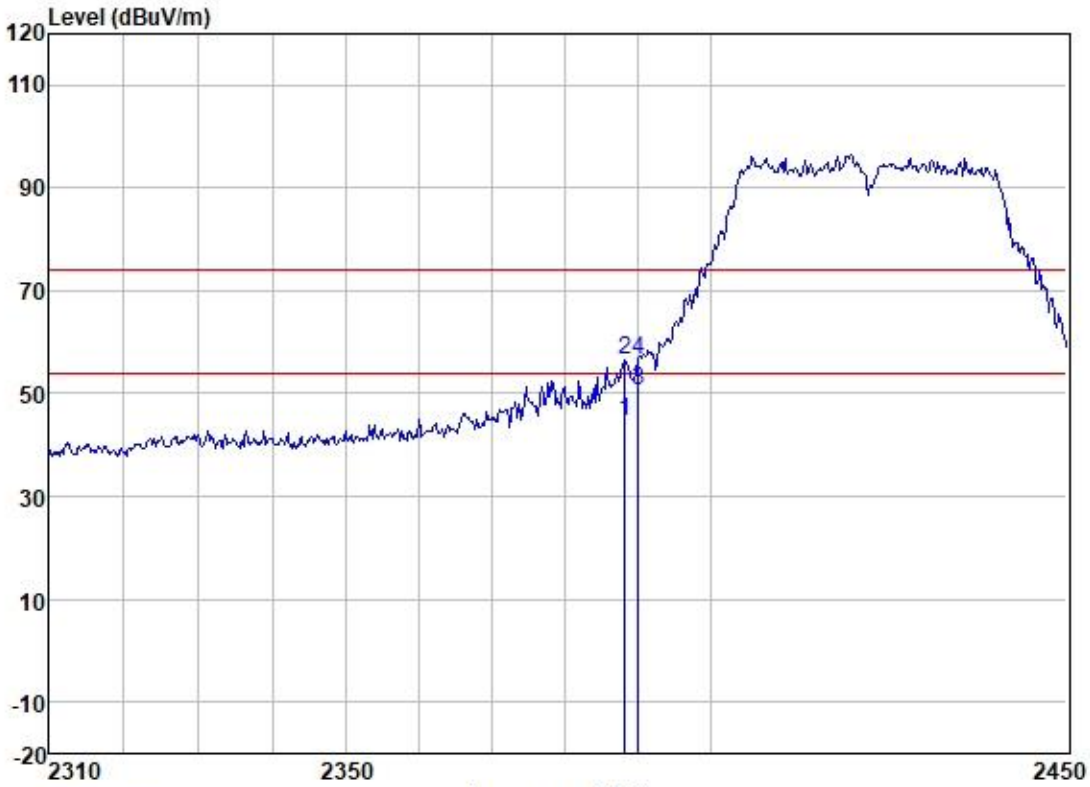
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2387.665	52.88	27.68	3.77	37.77	46.56	54.00	-7.44	VERTICAL	Average
2	2387.665	61.24	27.68	3.77	37.77	54.92	74.00	-19.08	VERTICAL	Peak
3	2390.000	55.50	27.68	3.77	37.76	49.19	54.00	-4.81	VERTICAL	Average
4	2390.000	64.31	27.68	3.77	37.76	58.00	74.00	-16.00	VERTICAL	Peak

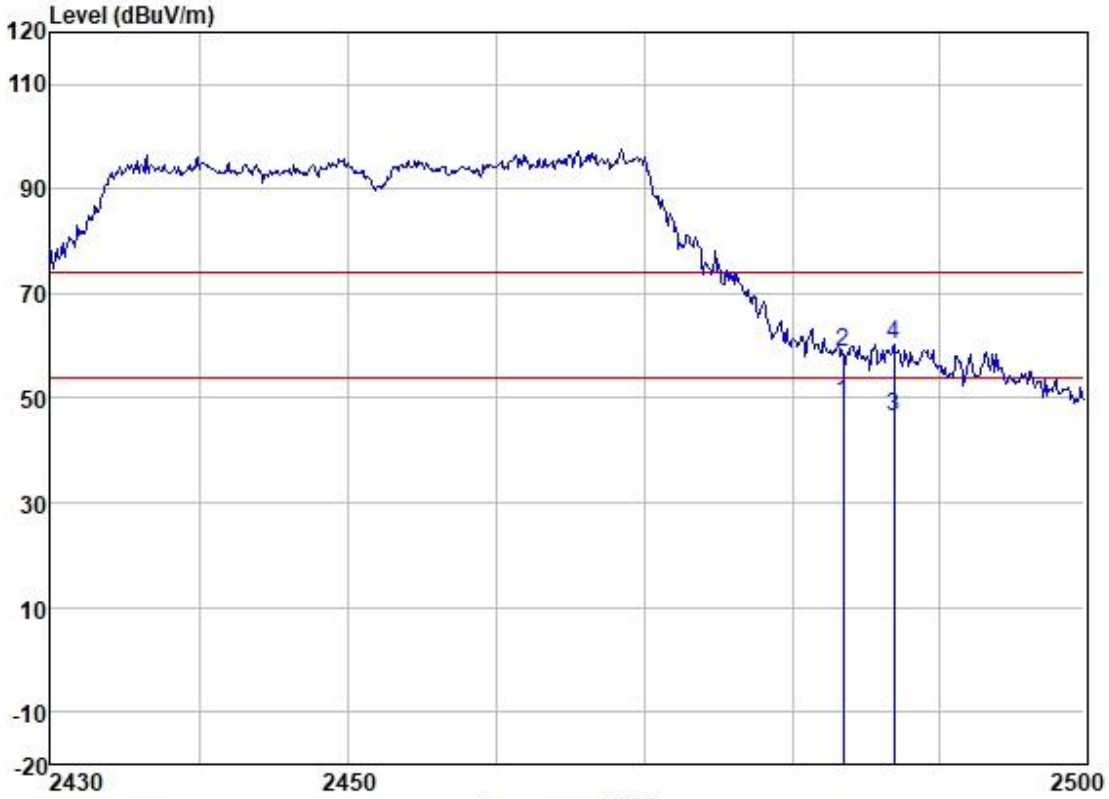
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2388.227	51.02	27.68	3.77	37.77	44.70	54.00	-9.30	HORIZONTAL	Average
2	2388.227	62.79	27.68	3.77	37.77	56.47	74.00	-17.53	HORIZONTAL	Peak
3	2390.000	56.97	27.68	3.77	37.76	50.66	54.00	-3.34	HORIZONTAL	Average
4	2390.000	62.89	27.68	3.77	37.76	56.58	74.00	-17.42	HORIZONTAL	Peak

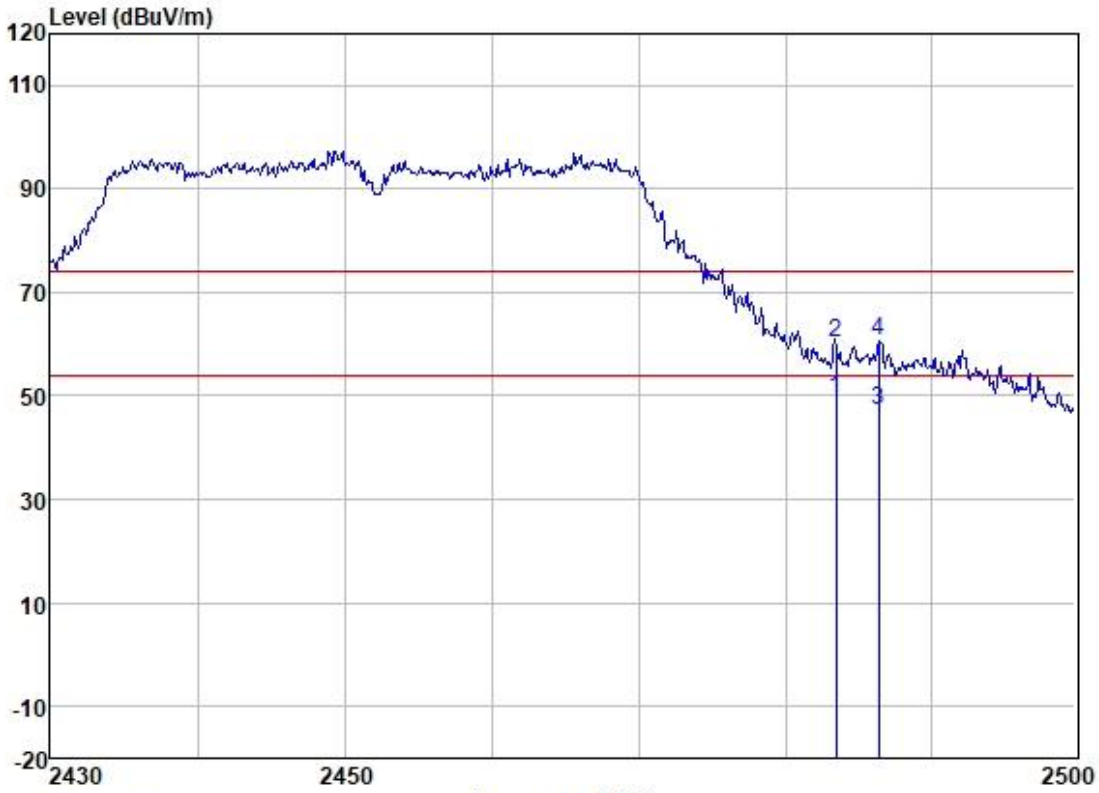
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	54.99	27.85	3.82	37.73	48.93	54.00	-5.07	HORIZONTAL	Average
2	2483.500	64.80	27.85	3.82	37.73	58.74	74.00	-15.26	HORIZONTAL	Peak
3	2486.970	52.45	27.85	3.82	37.73	46.39	54.00	-7.61	HORIZONTAL	Average
4	2486.970	66.51	27.85	3.82	37.73	60.45	74.00	-13.55	HORIZONTAL	Peak

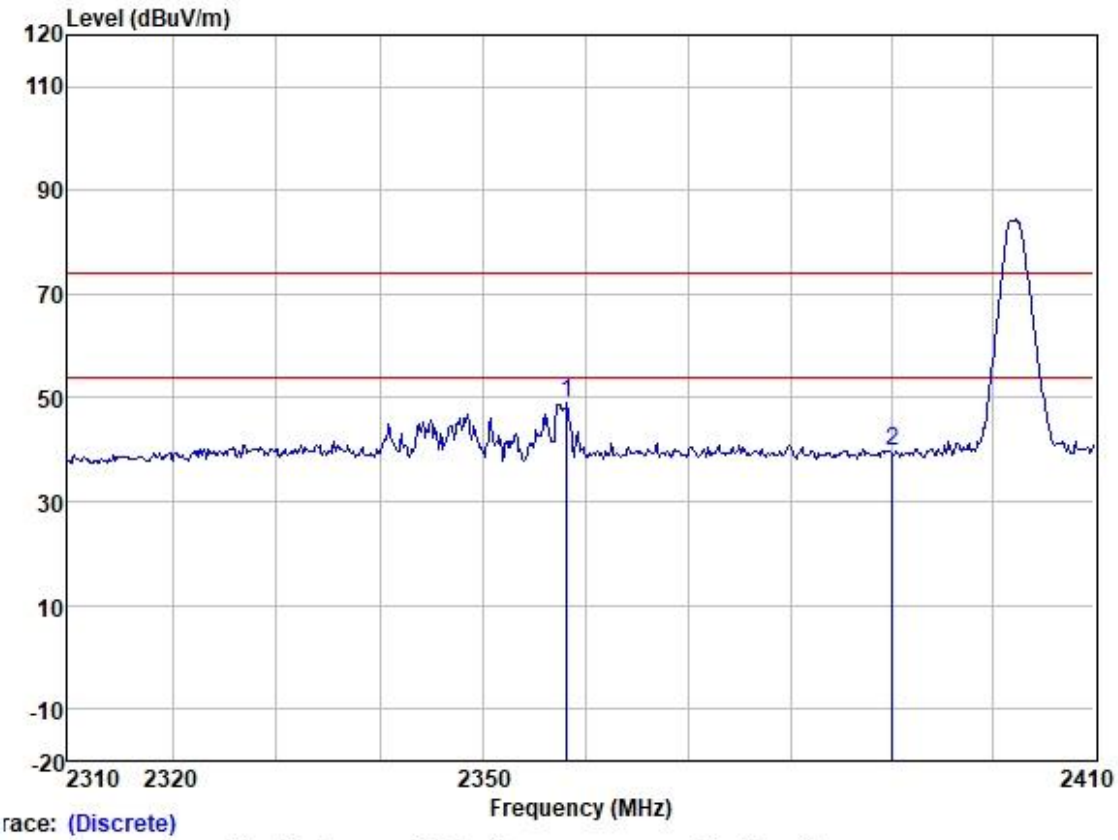
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	55.42	27.85	3.82	37.73	49.36	54.00	-4.64	VERTICAL	Average
2	2483.500	66.43	27.85	3.82	37.73	60.37	74.00	-13.63	VERTICAL	Peak
3	2486.405	53.34	27.85	3.82	37.73	47.28	54.00	-6.72	VERTICAL	Average
4	2486.405	66.52	27.85	3.82	37.73	60.46	74.00	-13.54	VERTICAL	Peak

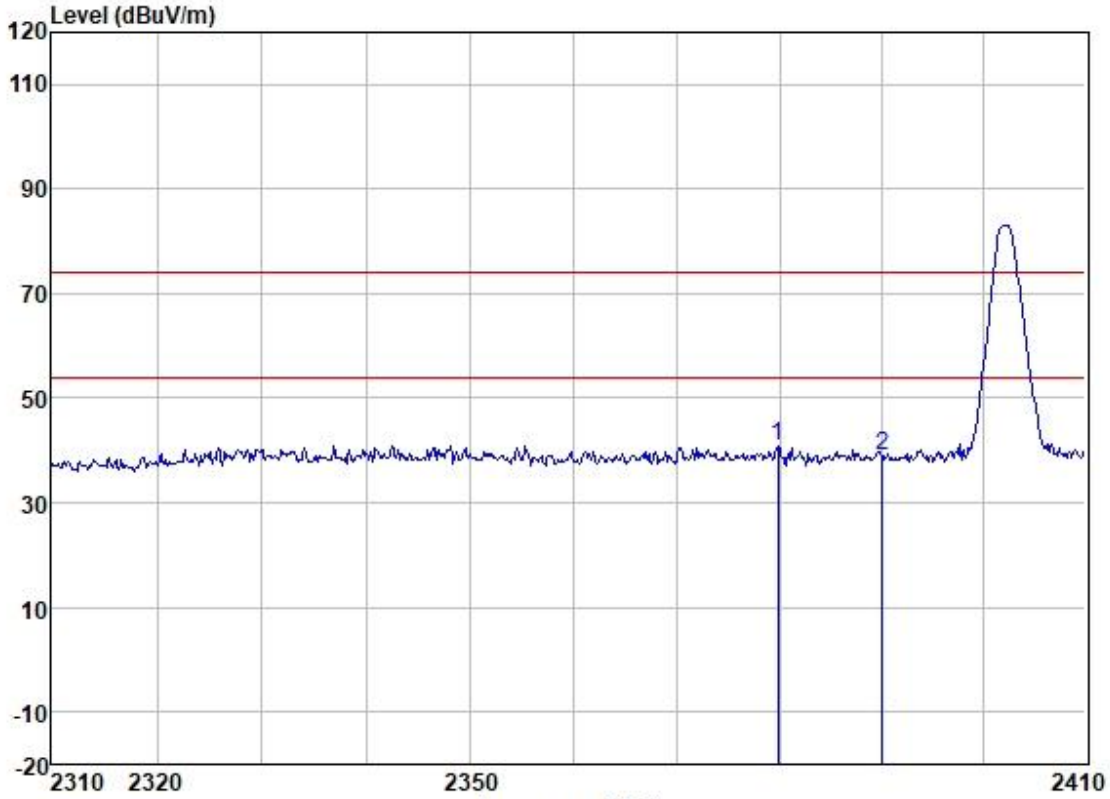
Test Mode: 05; Polarity: Vertical; Modulation:GFSK; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2358.071	55.34	27.62	3.75	37.78	48.93	74.00	-25.07	VERTICAL	Peak
2	2390.000	45.92	27.68	3.77	37.76	39.61	74.00	-34.39	VERTICAL	Peak

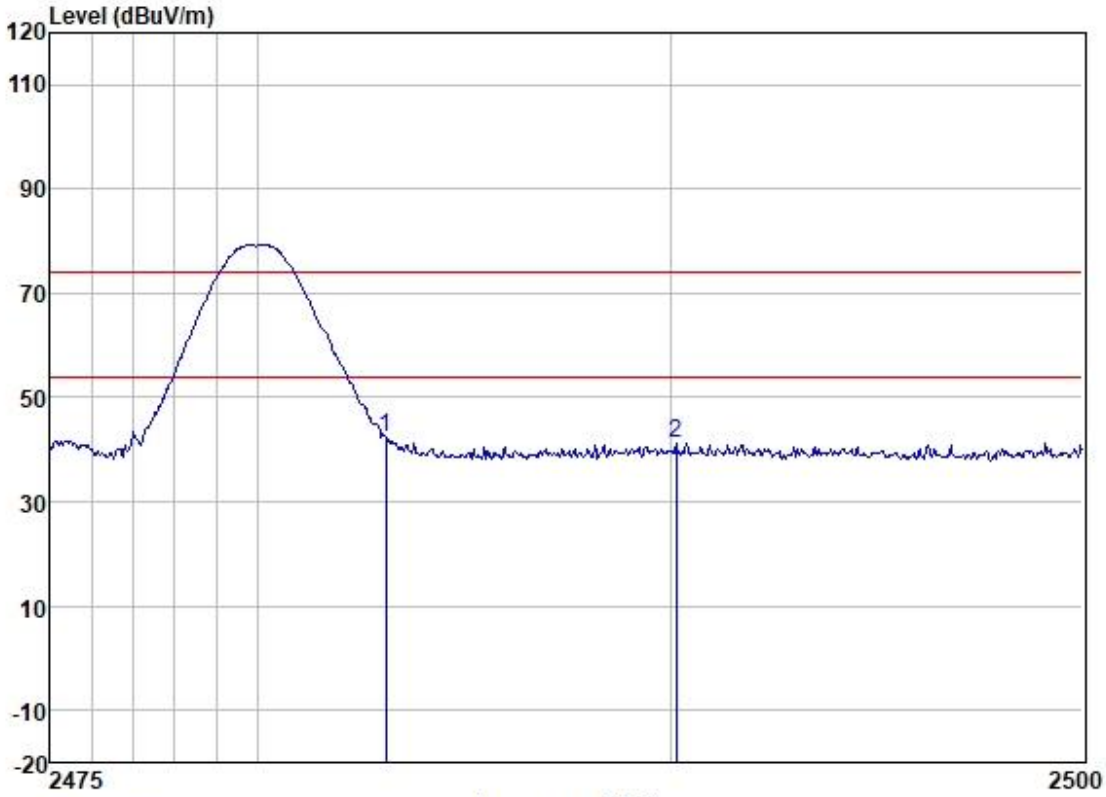
Test Mode: 05; Polarity: Horizontal; Modulation:GFSK; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2379.755	47.38	27.67	3.76	37.77	41.04	74.00	-32.96	HORIZONTAL	Peak
2	2390.000	45.35	27.68	3.77	37.76	39.04	74.00	-34.96	HORIZONTAL	Peak

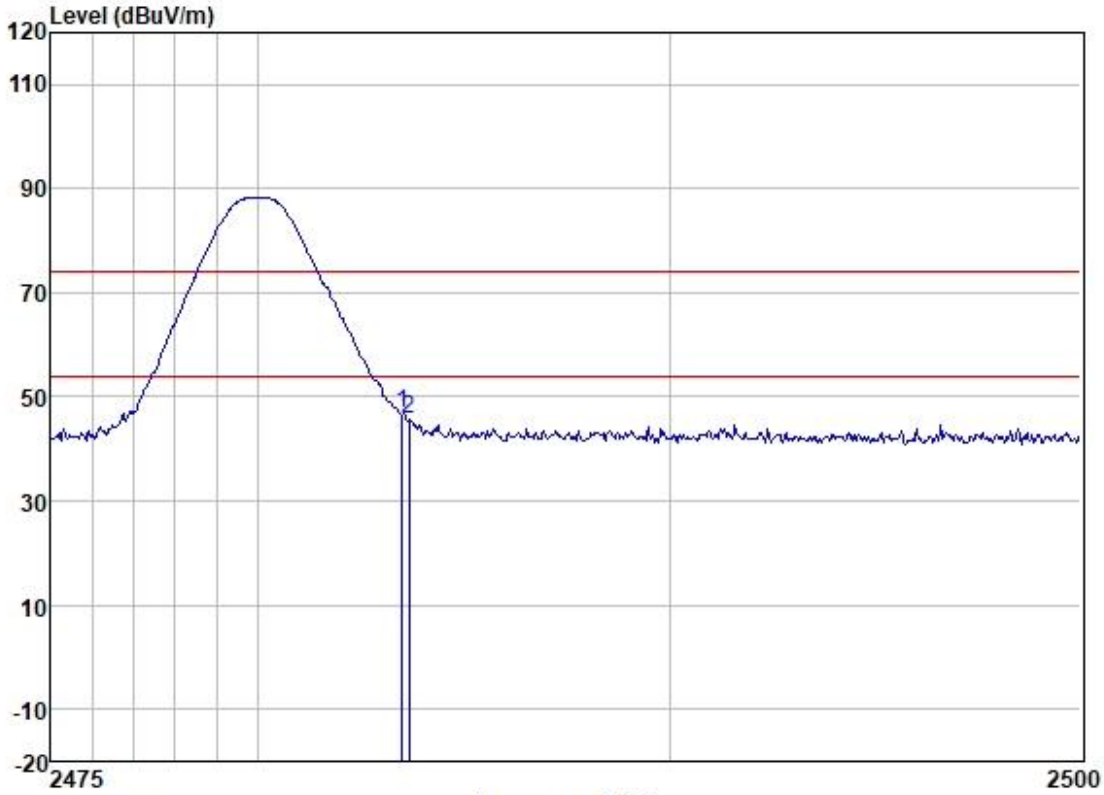
Test Mode: 05; Polarity: Vertical; Modulation:GFSK; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.097	48.37	27.85	3.82	37.73	42.31	74.00	-31.69	VERTICAL	Peak
2	2490.120	47.30	27.86	3.83	37.73	41.26	74.00	-32.74	VERTICAL	Peak

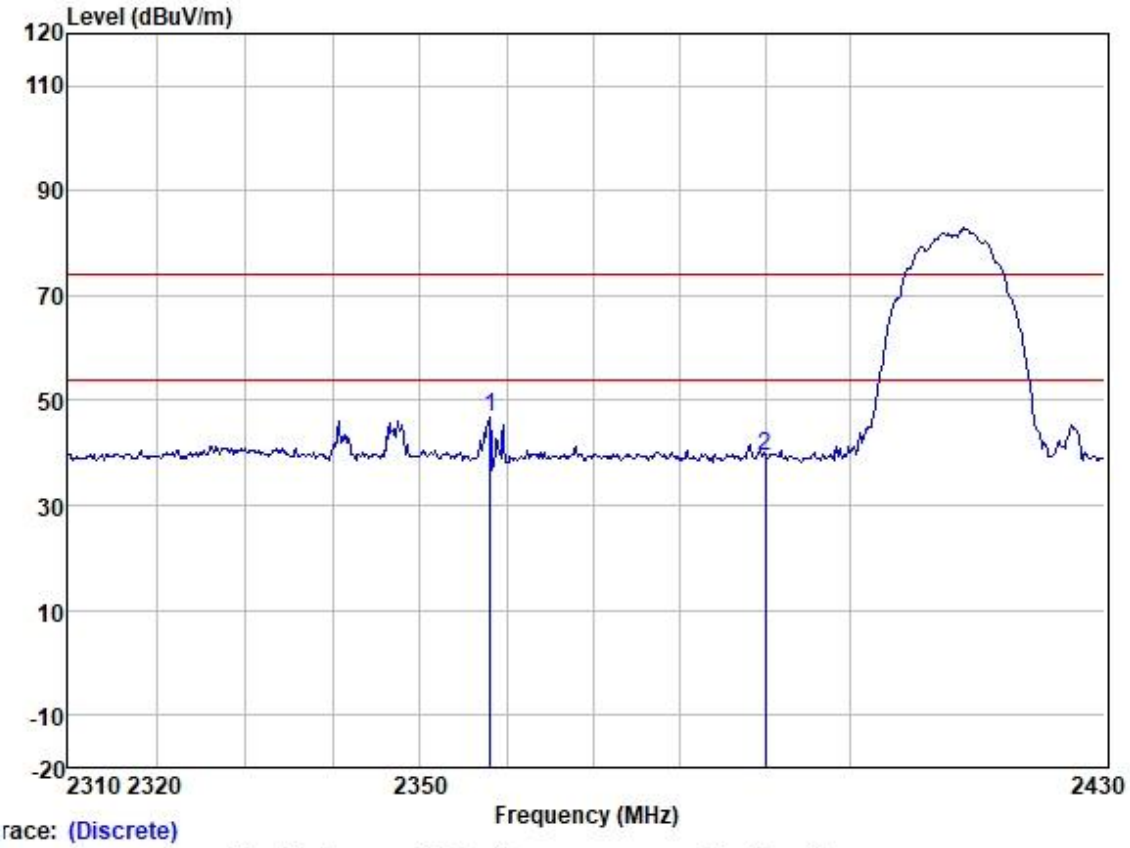
Test Mode: 05; Polarity: Horizontal; Modulation:GFSK; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	52.90	27.85	3.82	37.73	46.84	74.00	-27.16	HORIZONTAL	Peak
2	2483.672	51.92	27.85	3.82	37.73	45.86	74.00	-28.14	HORIZONTAL	Peak

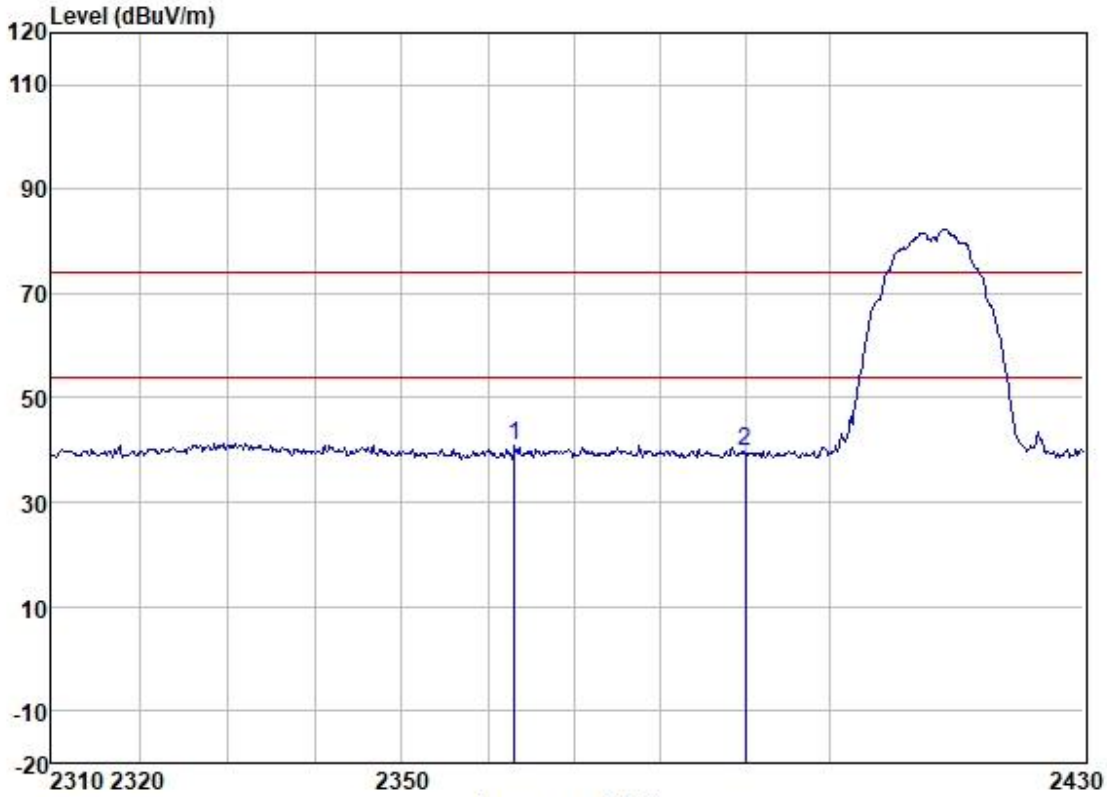
Test Mode: 07; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2358.108	52.53	27.62	4.46	37.78	46.83	74.00	-27.17	VERTICAL	Peak
2	2390.000	45.35	27.68	4.22	37.76	39.49	74.00	-34.51	VERTICAL	Peak

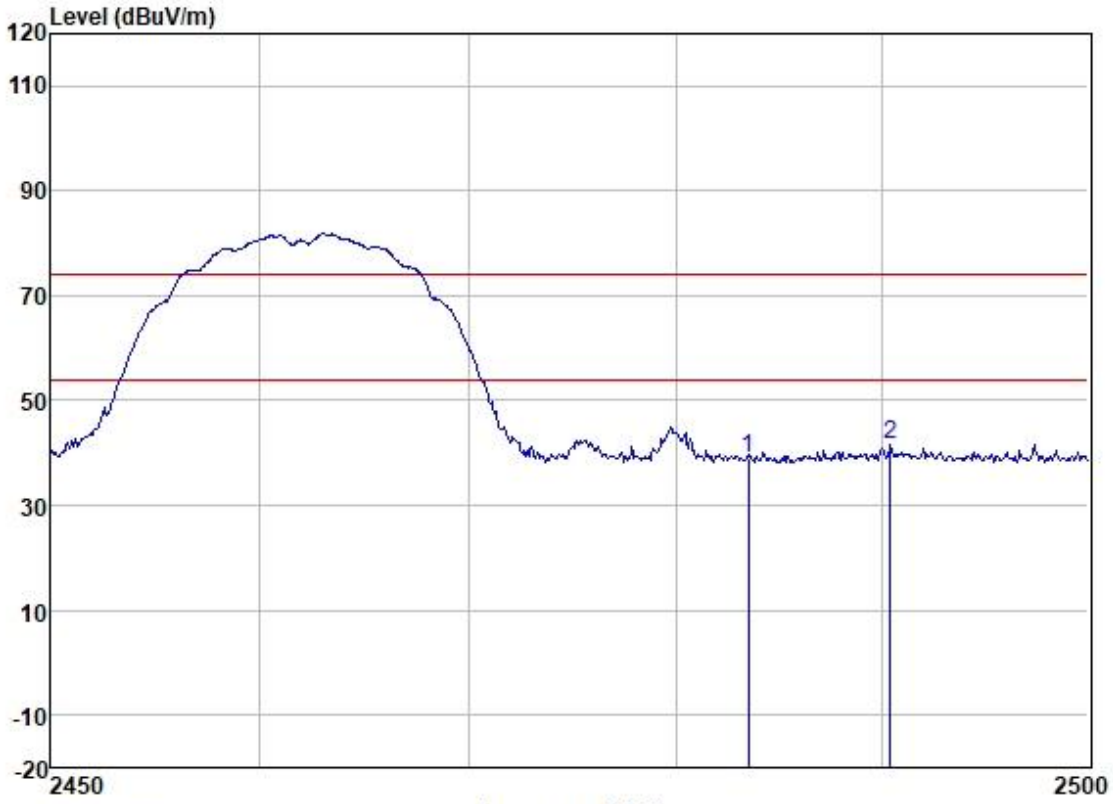
Test Mode: 07; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2363.129	46.58	27.64	4.39	37.78	40.83	74.00	-33.17	HORIZONTAL	Peak
2	2390.000	45.53	27.68	4.22	37.76	39.67	74.00	-34.33	HORIZONTAL	Peak

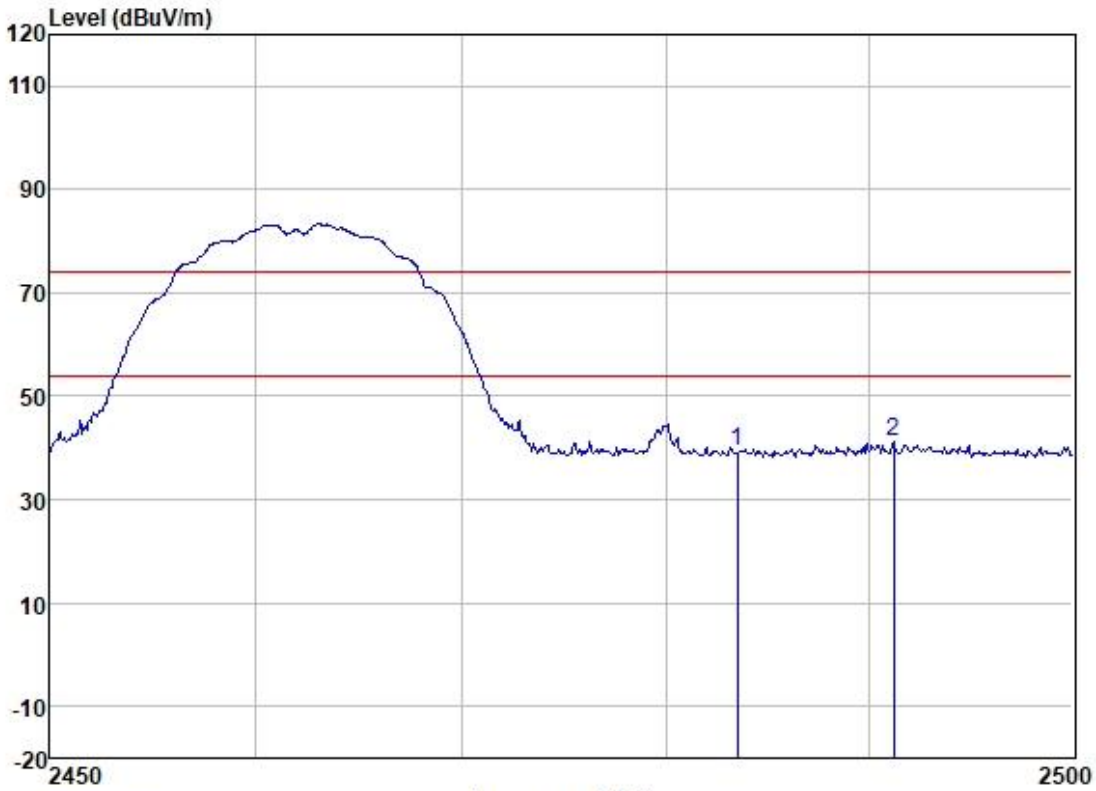
Test Mode: 07; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	45.10	27.85	3.82	37.73	39.04	74.00	-34.96	VERTICAL	Peak
2	2490.372	47.48	27.86	3.83	37.73	41.44	74.00	-32.56	VERTICAL	Peak

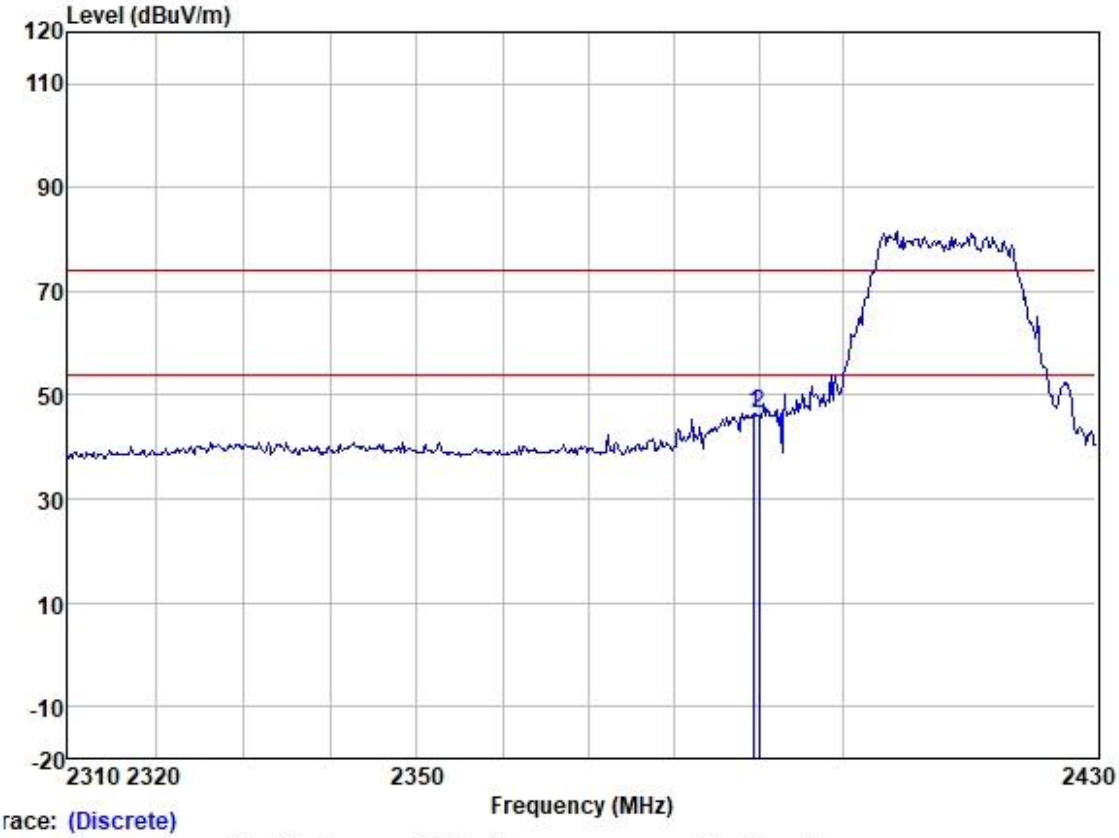
Test Mode: 07; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Trace: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	45.58	27.85	3.82	37.73	39.52	74.00	-34.48	HORIZONTAL	Peak
2	2491.177	47.43	27.86	3.83	37.73	41.39	74.00	-32.61	HORIZONTAL	Peak

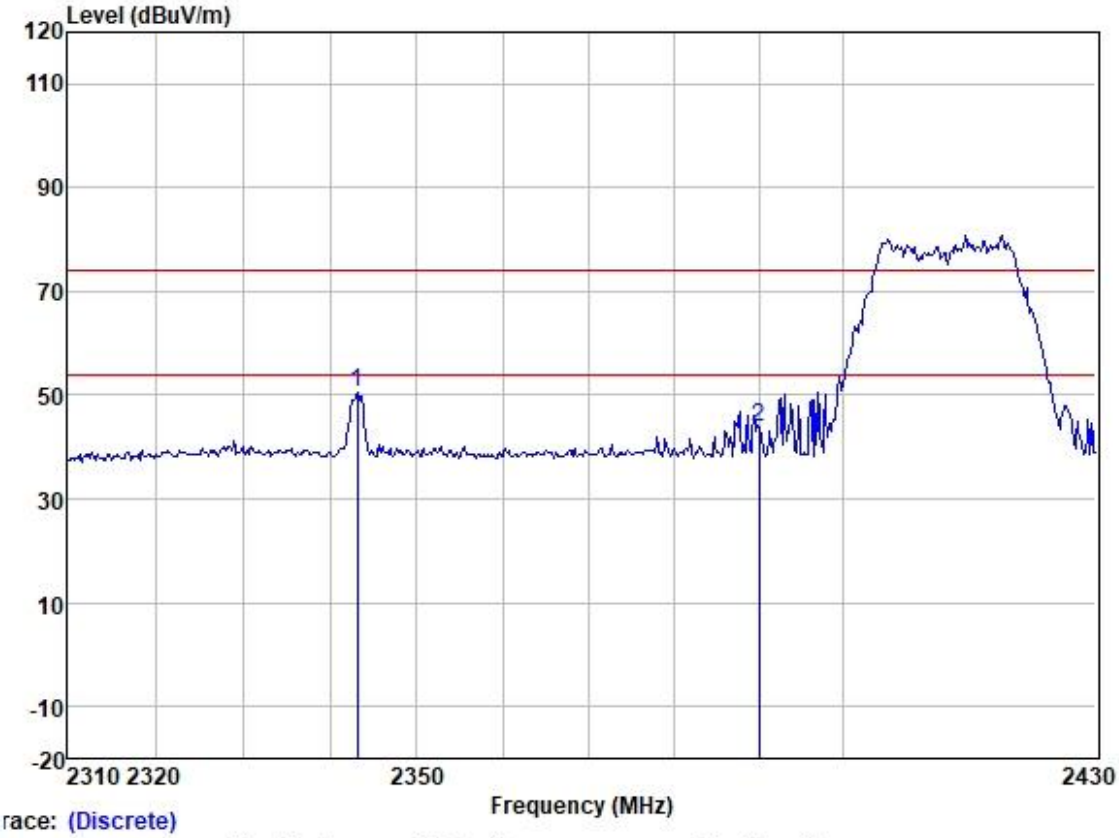
Test Mode: 07; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2389.363	52.72	27.68	3.77	37.77	46.40	74.00	-27.60	VERTICAL	Peak
2	2390.000	52.71	27.68	3.77	37.76	46.40	74.00	-27.60	VERTICAL	Peak

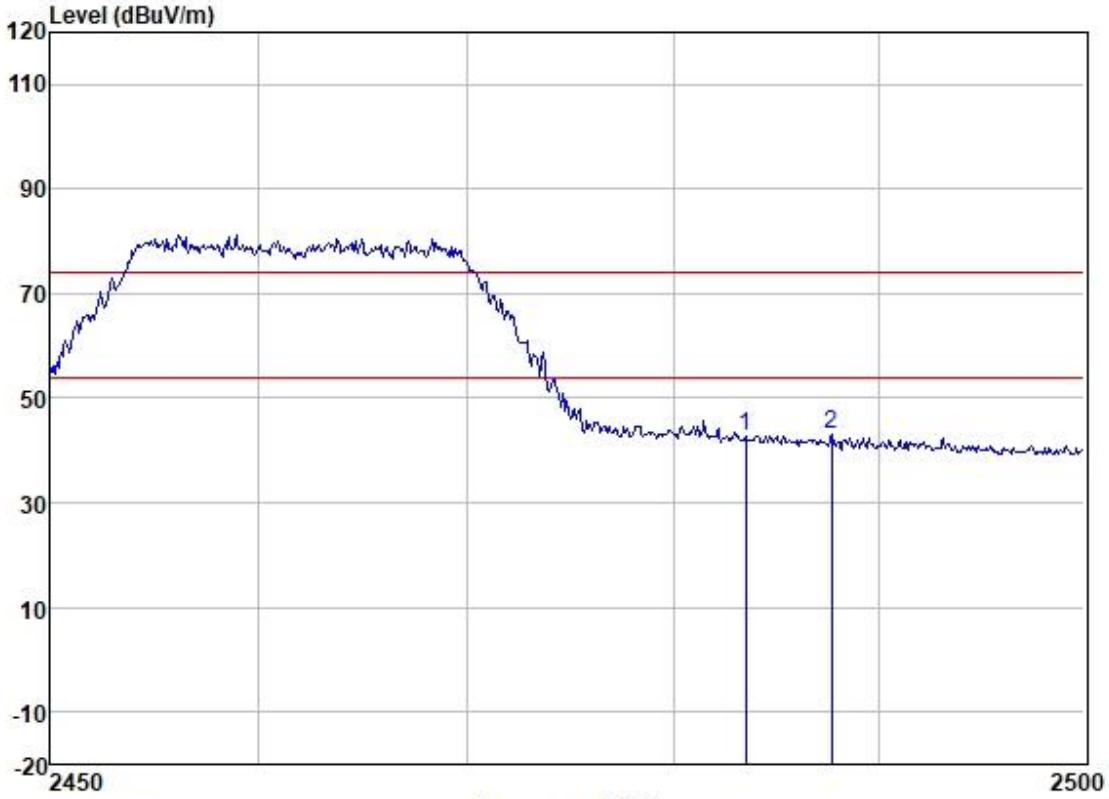
Test Mode: 07; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2343.227	56.87	27.59	3.74	37.78	50.42	74.00	-23.58	HORIZONTAL	Peak
2	2390.000	50.27	27.68	3.77	37.76	43.96	74.00	-30.04	HORIZONTAL	Peak

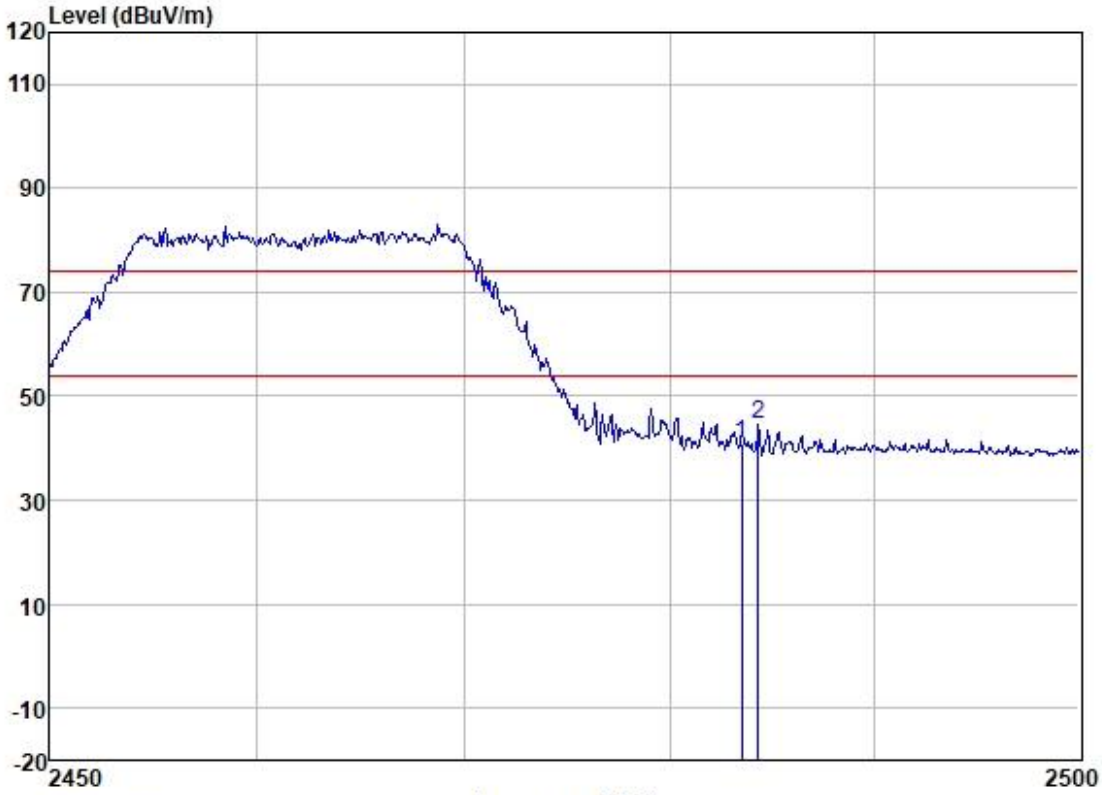
Test Mode: 07; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	48.61	27.85	3.82	37.73	42.55	74.00	-31.45	VERTICAL	Peak
2	2487.656	49.07	27.85	3.82	37.73	43.01	74.00	-30.99	VERTICAL	Peak

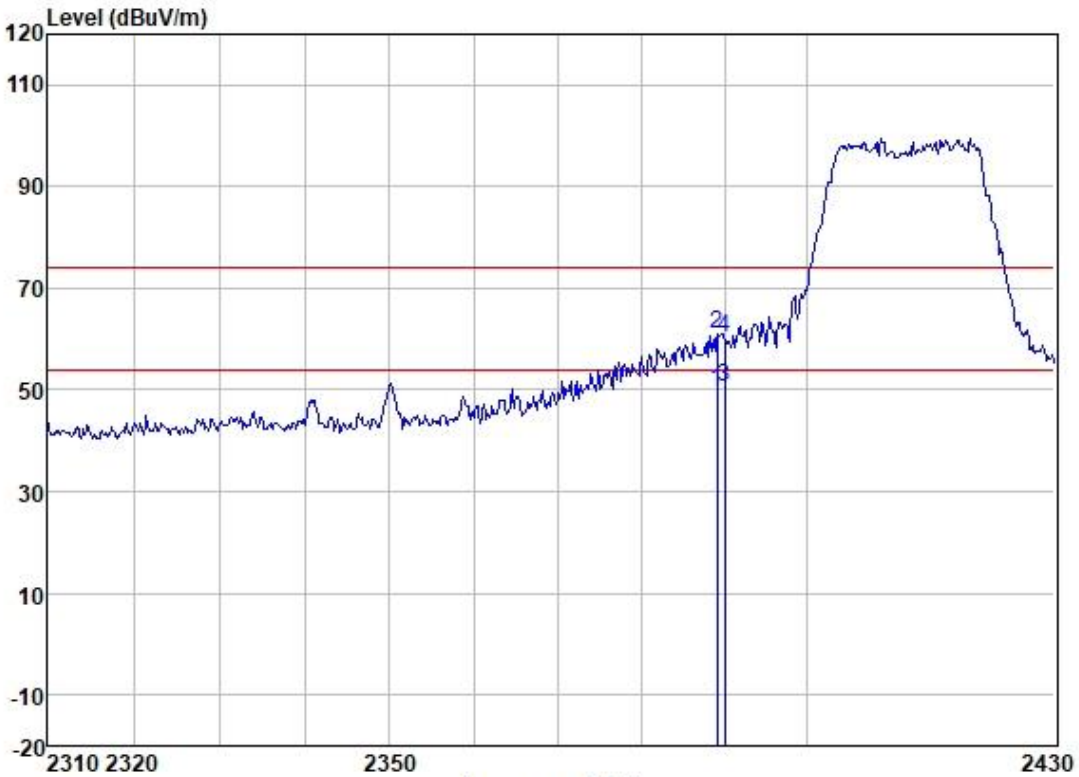
Test Mode: 07; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	46.95	27.85	3.82	37.73	40.89	74.00	-33.11	HORIZONTAL	Peak
2	2484.292	50.54	27.85	3.82	37.73	44.48	74.00	-29.52	HORIZONTAL	Peak

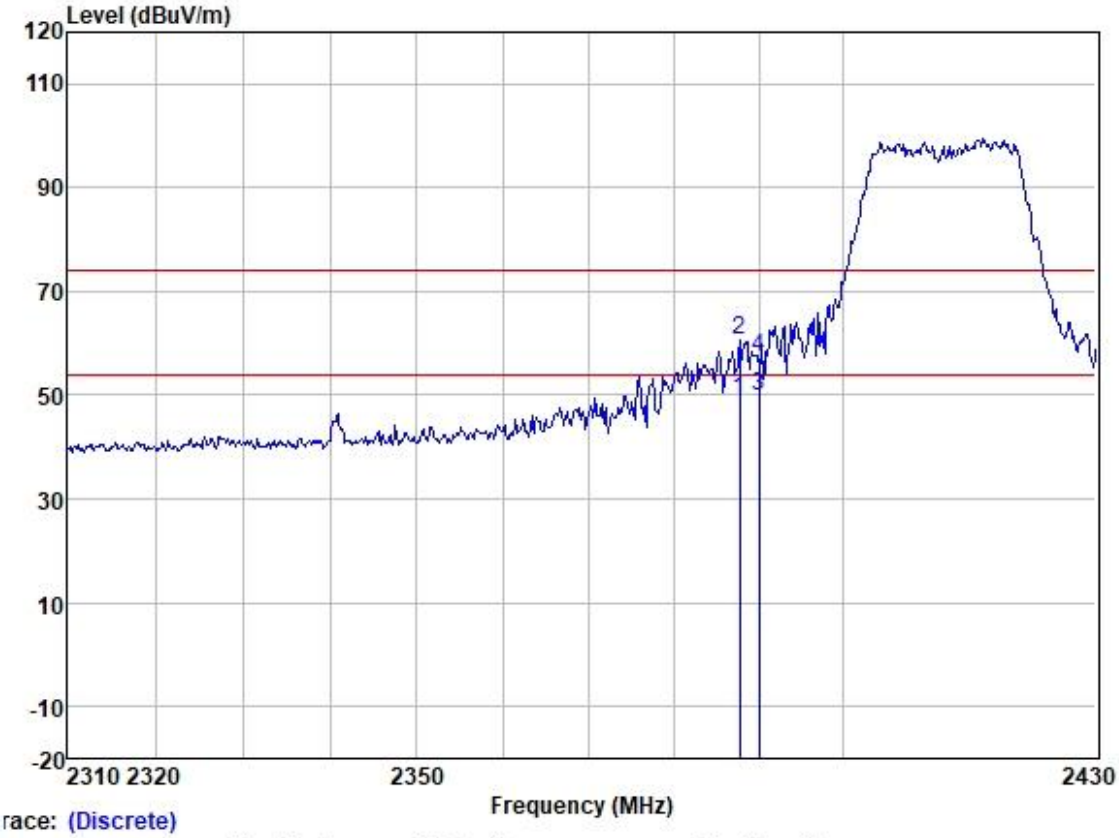
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2389.121	56.02	27.68	3.77	37.77	49.70	54.00	-4.30	VERTICAL	Average
2	2389.121	67.32	27.68	3.77	37.77	61.00	74.00	-13.00	VERTICAL	Peak
3	2390.000	56.95	27.68	3.77	37.76	50.64	54.00	-3.36	VERTICAL	Average
4	2390.000	66.44	27.68	3.77	37.76	60.13	74.00	-13.87	VERTICAL	Peak

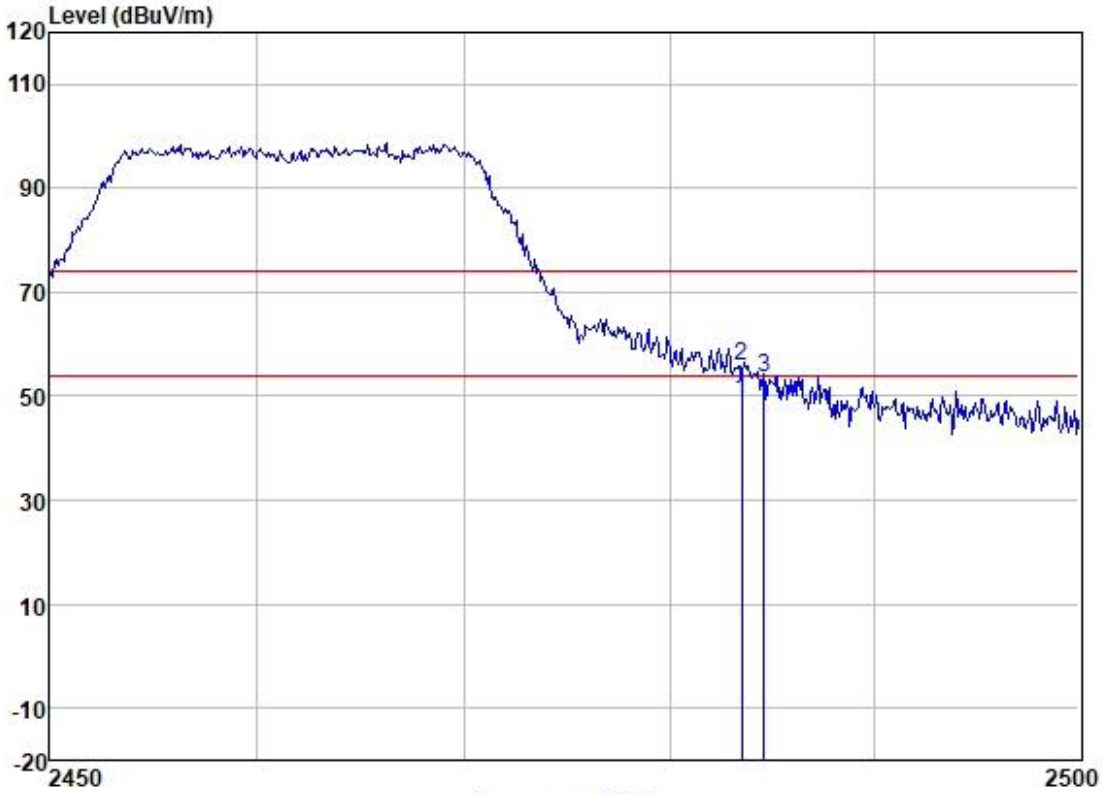
Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2387.670	55.29	27.68	3.77	37.77	48.97	54.00	-5.03	HORIZONTAL	Average
2	2387.670	66.78	27.68	3.77	37.77	60.46	74.00	-13.54	HORIZONTAL	Peak
3	2390.000	56.26	27.68	3.77	37.76	49.95	54.00	-4.05	HORIZONTAL	Average
4	2390.000	63.77	27.68	3.77	37.76	57.46	74.00	-16.54	HORIZONTAL	Peak

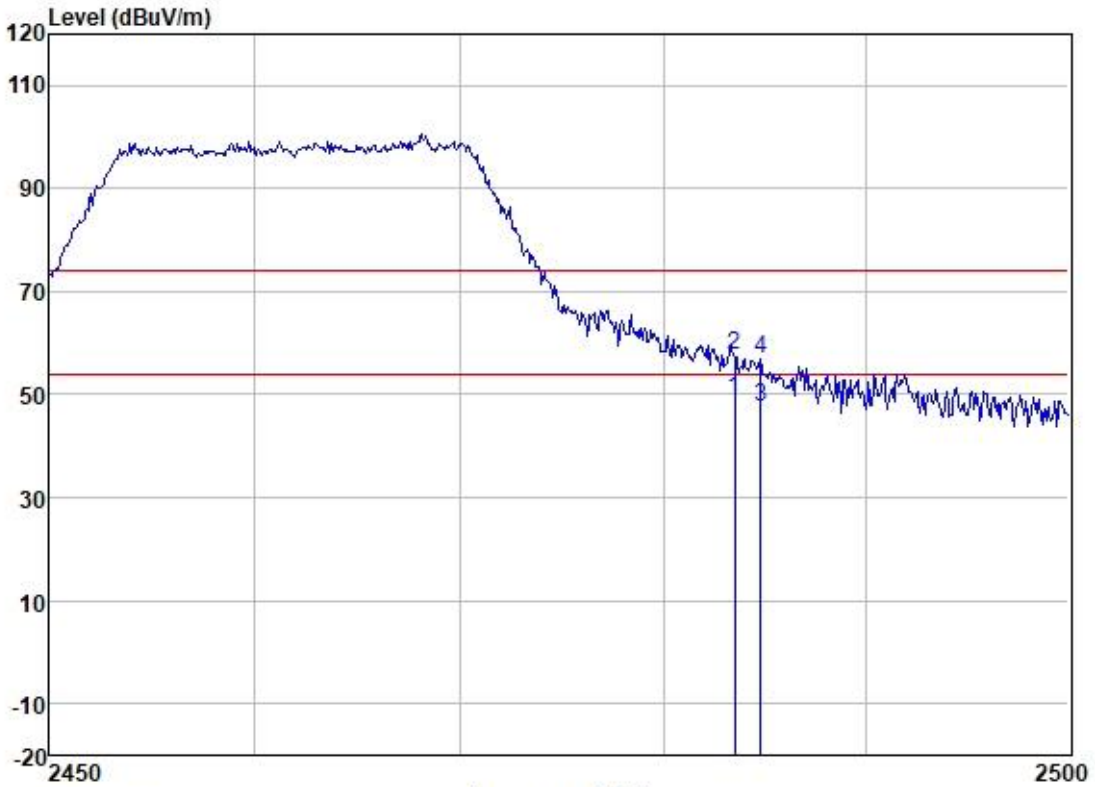
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	55.04	27.85	3.82	37.73	48.98	54.00	-5.02	VERTICAL	Average
2	2483.500	61.78	27.85	3.82	37.73	55.72	74.00	-18.28	VERTICAL	Peak
3	2484.593	59.49	27.85	3.82	37.73	53.43	74.00	-20.57	VERTICAL	Peak

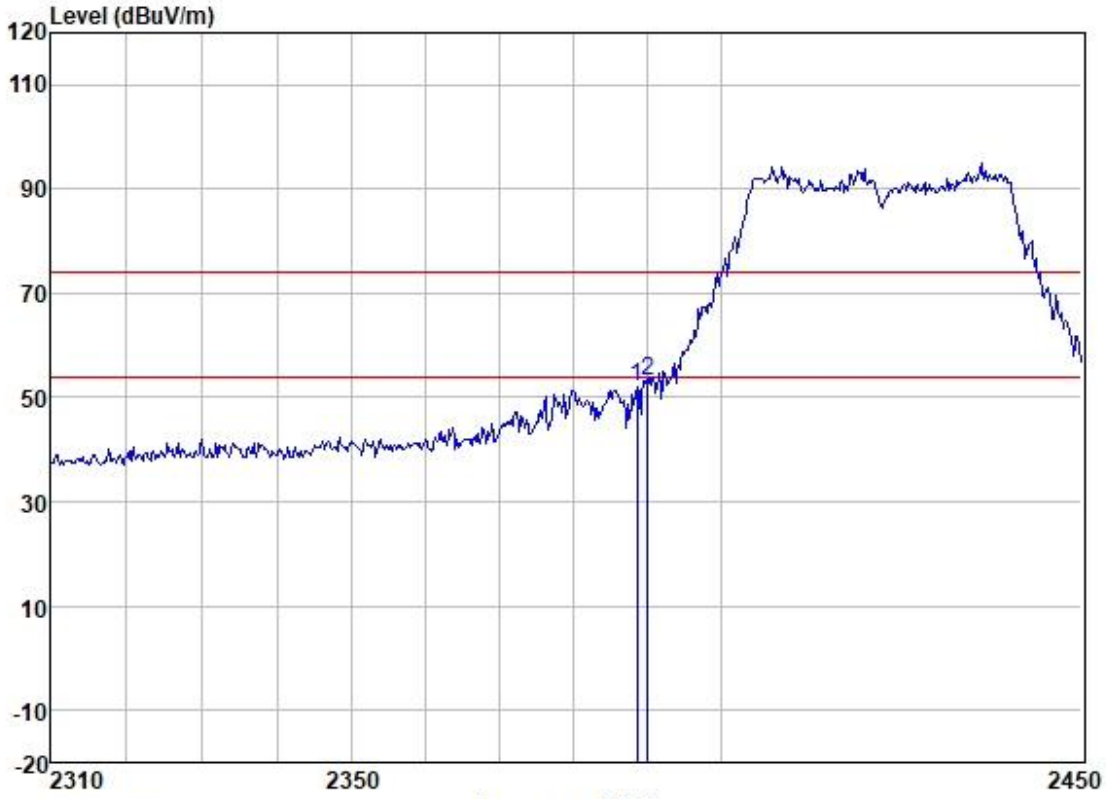
Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	55.11	27.85	3.82	37.73	49.05	54.00	-4.95	HORIZONTAL	Average
2	2483.500	63.71	27.85	3.82	37.73	57.65	74.00	-16.35	HORIZONTAL	Peak
3	2484.793	53.68	27.85	3.82	37.73	47.62	54.00	-6.38	HORIZONTAL	Average
4	2484.793	63.09	27.85	3.82	37.73	57.03	74.00	-16.97	HORIZONTAL	Peak

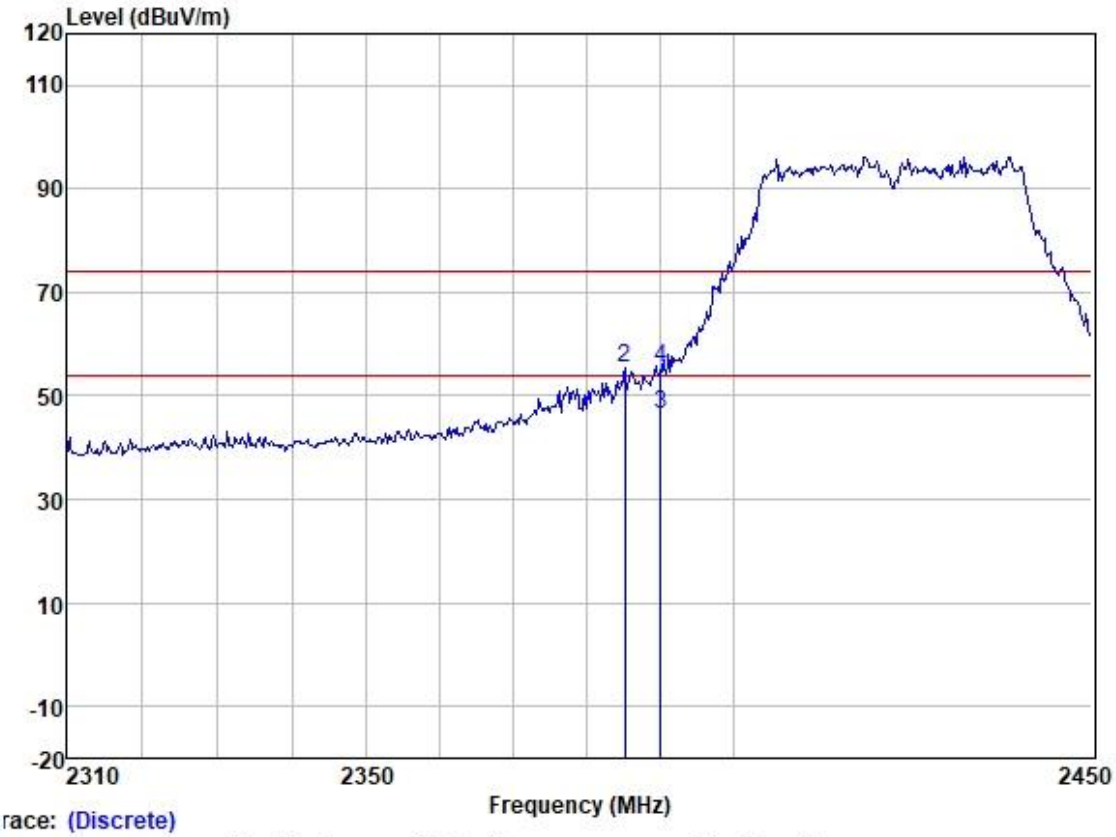
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2388.508	58.48	27.68	3.77	37.77	52.16	74.00	-21.84	VERTICAL	Peak
2	2390.000	59.52	27.68	3.77	37.76	53.21	74.00	-20.79	VERTICAL	Peak

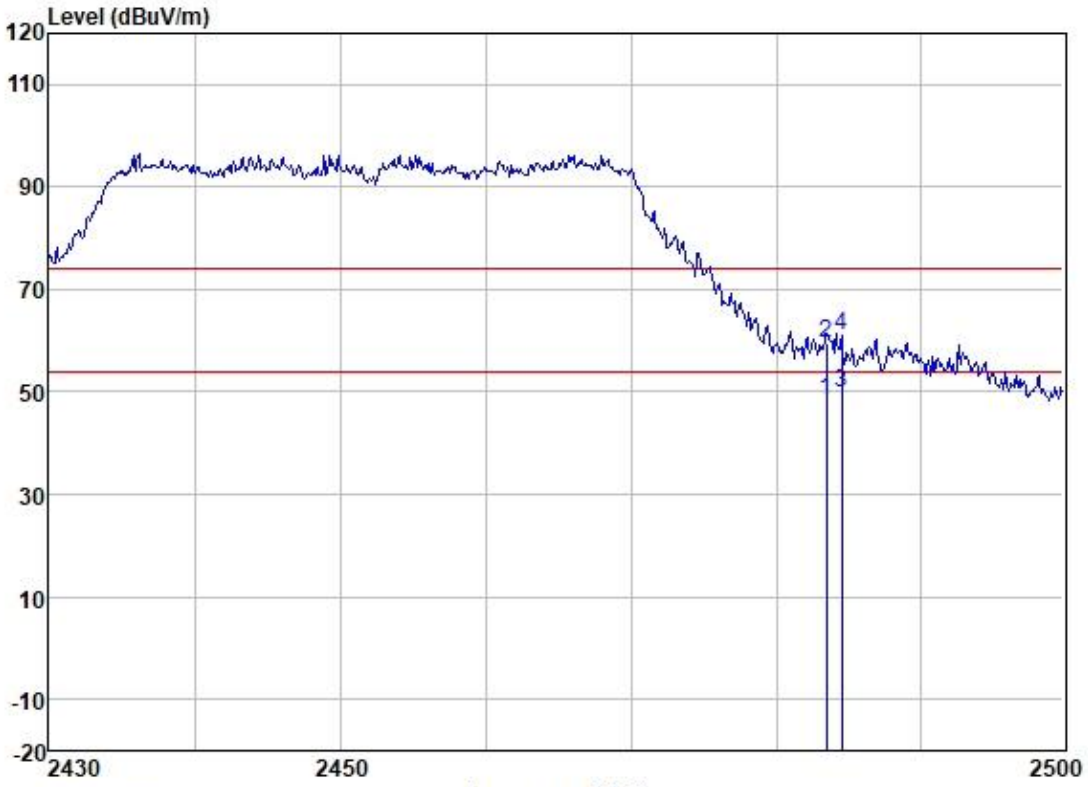
Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2385.137	54.88	27.68	3.77	37.77	48.56	54.00	-5.44	HORIZONTAL	Average
2	2385.137	61.83	27.68	3.77	37.77	55.51	74.00	-18.49	HORIZONTAL	Peak
3	2390.000	52.85	27.68	3.77	37.76	46.54	54.00	-7.46	HORIZONTAL	Average
4	2390.000	61.82	27.68	3.77	37.76	55.51	74.00	-18.49	HORIZONTAL	Peak

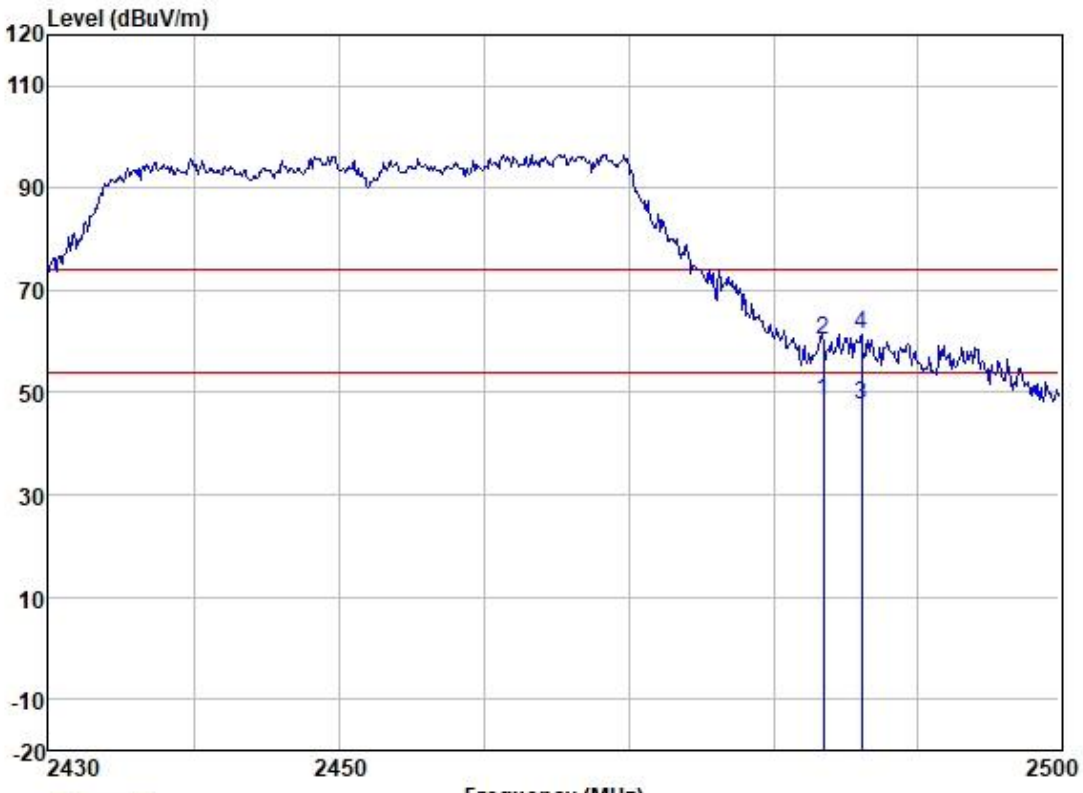
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	54.55	27.85	3.82	37.73	48.49	54.00	-5.51	VERTICAL	Average
2	2483.500	65.64	27.85	3.82	37.73	59.58	74.00	-14.42	VERTICAL	Peak
3	2484.570	55.98	27.85	3.82	37.73	49.92	54.00	-4.08	VERTICAL	Average
4	2484.570	66.91	27.85	3.82	37.73	60.85	74.00	-13.15	VERTICAL	Peak

Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2483.500	54.28	27.85	3.82	37.73	48.22	54.00	-5.78	HORIZONTAL	Average
2	2483.500	66.19	27.85	3.82	37.73	60.13	74.00	-13.87	HORIZONTAL	Peak
3	2486.123	53.53	27.85	3.82	37.73	47.47	54.00	-6.53	HORIZONTAL	Average
4	2486.123	67.52	27.85	3.82	37.73	61.46	74.00	-12.54	HORIZONTAL	Peak

7.3 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4,6.5

Limit:

Test Distance: 3 m

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

7.3.1 E.U.T. Operation

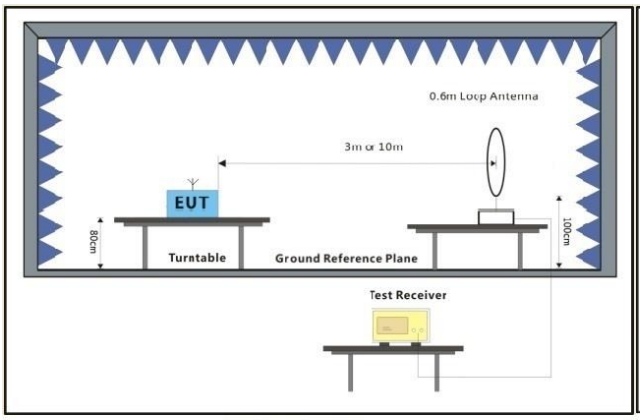
Operating Environment:

Temperature: 22.0 °C Humidity: 52.6 % RH Atmospheric Pressure: 1006 mbar

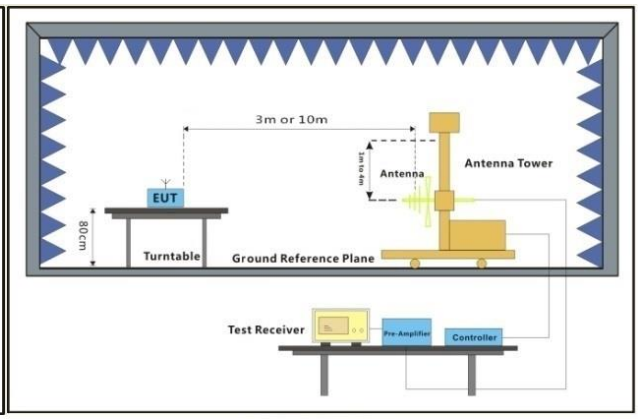
7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BST.
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BST.
Final test	05	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BSS.
Final test	07	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BSS.

7.3.3 Test Setup Diagram



Below 30MHz



30MHz-1GHz

7.3.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

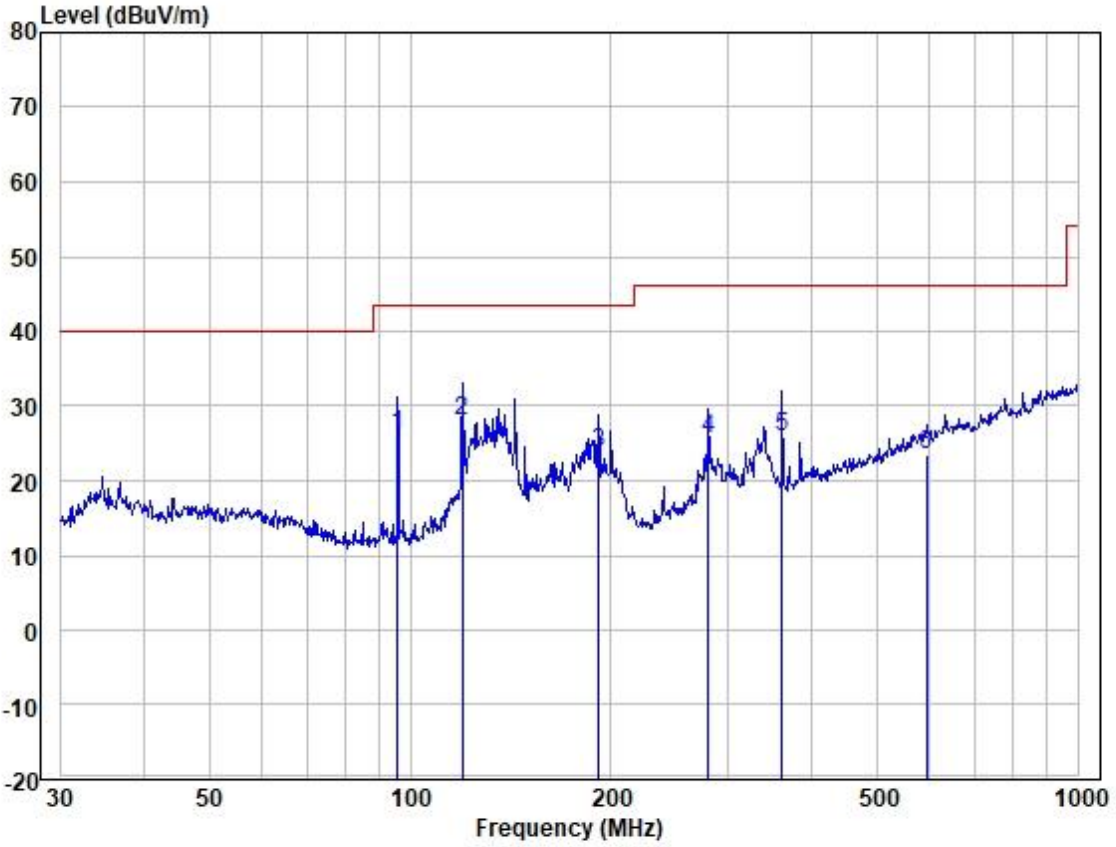
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

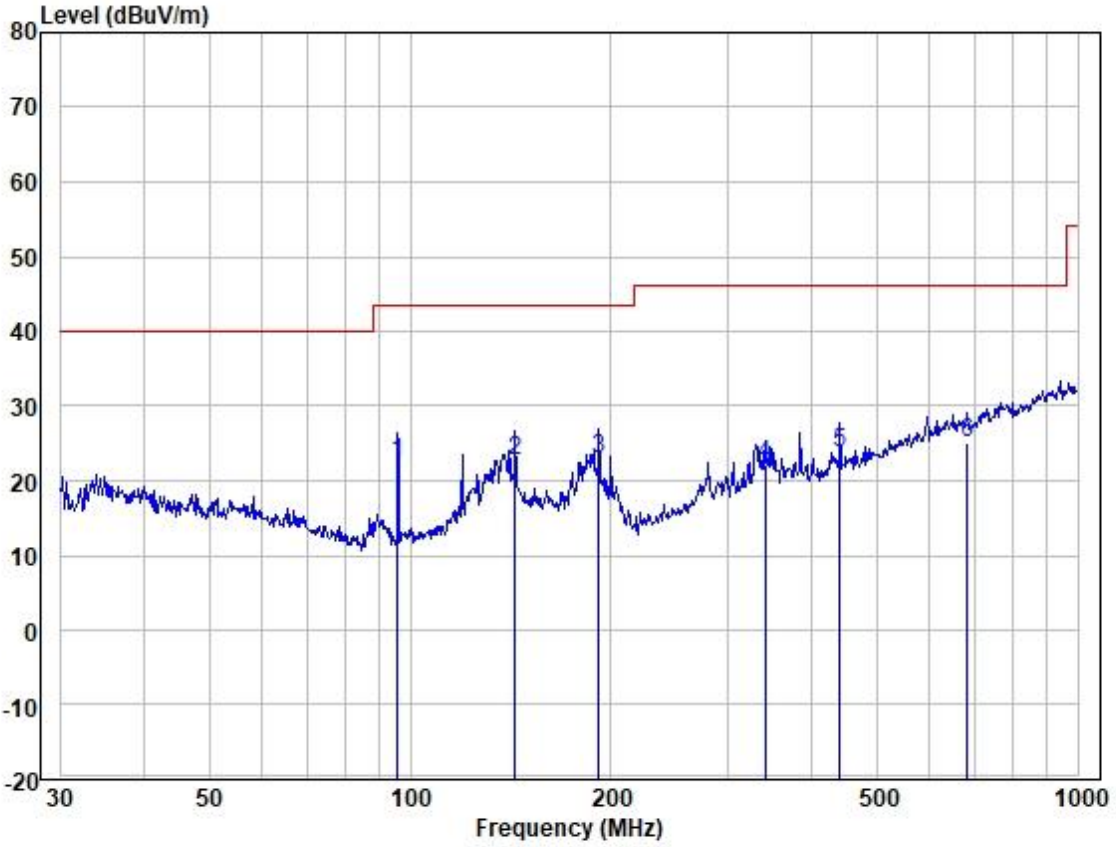
Test Mode: 00; Polarity: Horizontal



Site : 966 Chamber
Job :
Model : BOV950 BST ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	95.762	43.96	14.00	1.02	32.80	26.18	43.50	-17.32	HORIZONTAL	QP
2	119.856	42.32	17.26	1.20	32.80	27.98	43.50	-15.52	HORIZONTAL	QP
3	191.745	38.64	16.14	1.82	32.80	23.80	43.50	-19.70	HORIZONTAL	QP
4	280.024	37.57	18.84	2.01	32.80	25.62	46.00	-20.38	HORIZONTAL	QP
5	360.448	35.83	20.45	2.40	32.80	25.88	46.00	-20.12	HORIZONTAL	QP
6	593.050	27.60	25.38	3.27	32.90	23.35	46.00	-22.65	HORIZONTAL	QP

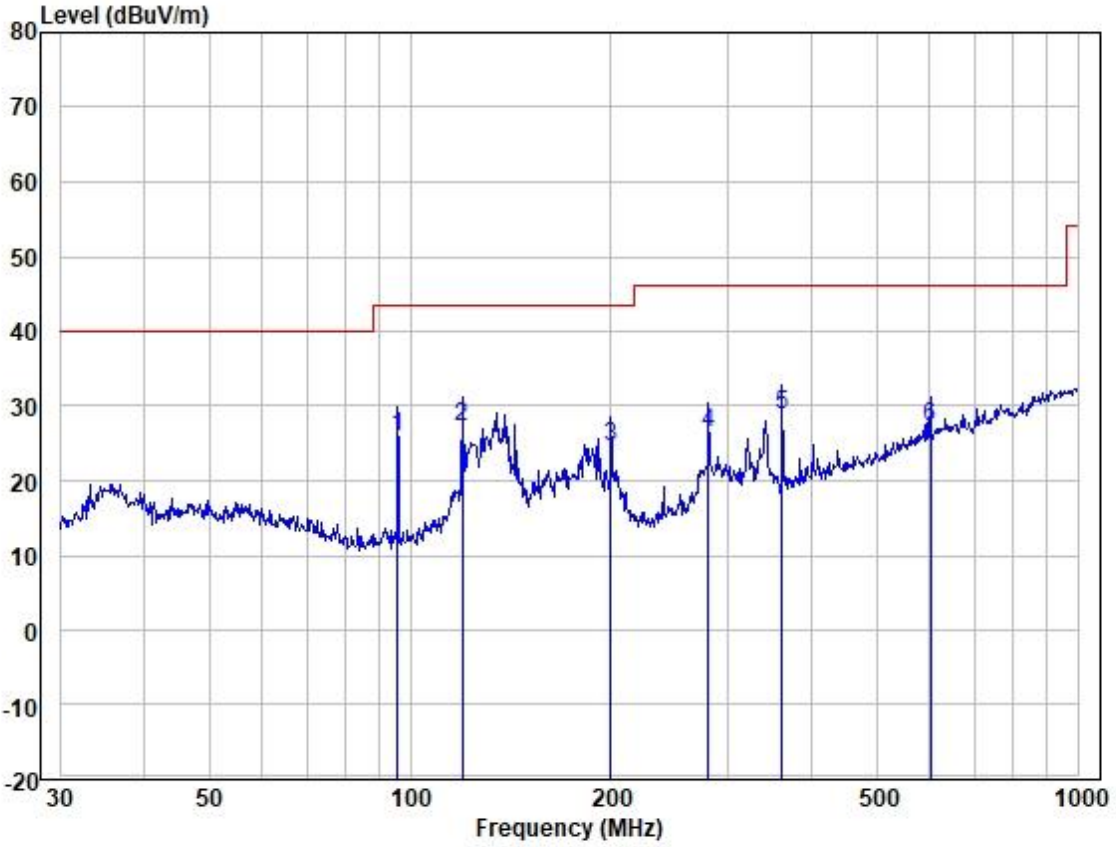
Test Mode: 00; Polarity: Vertical



Site : 966 Chamber
Job :
Model : BOV950 BST ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	95.762	40.09	14.00	1.02	32.80	22.31	43.50	-21.19	VERTICAL	QP
2	143.830	35.23	18.77	1.36	32.80	22.56	43.50	-20.94	VERTICAL	QP
3	191.745	37.80	16.14	1.82	32.80	22.96	43.50	-20.54	VERTICAL	QP
4	339.589	32.42	20.24	2.40	32.80	22.26	46.00	-23.74	VERTICAL	QP
5	440.196	31.49	22.45	2.65	32.83	23.76	46.00	-22.24	VERTICAL	QP
6	682.348	27.92	26.44	3.48	32.72	25.12	46.00	-20.88	VERTICAL	QP

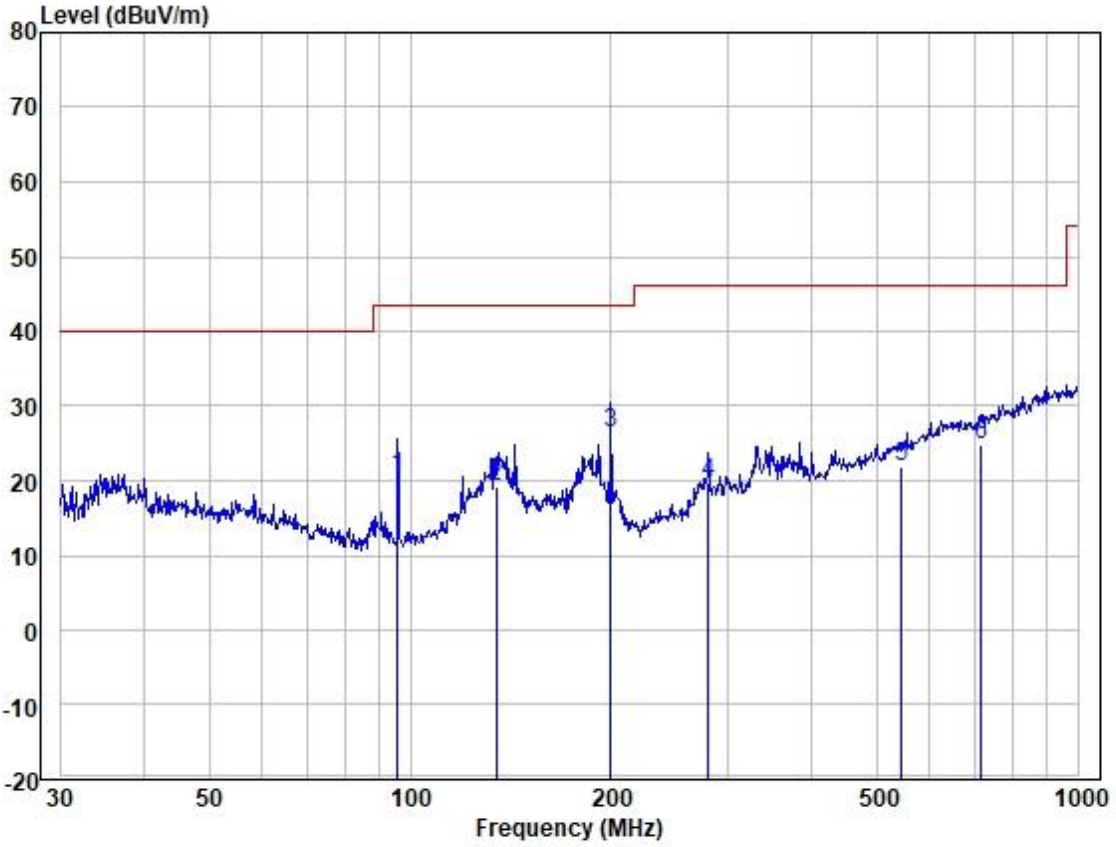
Test Mode: 02; Polarity: Horizontal



Site : 966 Chamber
Job :
Model : BOV950 BST ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	95.762	43.70	14.00	1.02	32.80	25.92	43.50	-17.58	HORIZONTAL	QP
2	119.856	41.55	17.26	1.20	32.80	27.21	43.50	-16.29	HORIZONTAL	QP
3	199.986	39.75	15.80	1.90	32.80	24.65	43.50	-18.85	HORIZONTAL	QP
4	280.024	38.37	18.84	2.01	32.80	26.42	46.00	-19.58	HORIZONTAL	QP
5	360.448	38.80	20.45	2.40	32.80	28.85	46.00	-17.15	HORIZONTAL	QP
6	601.427	31.29	25.52	3.30	32.90	27.21	46.00	-18.79	HORIZONTAL	QP

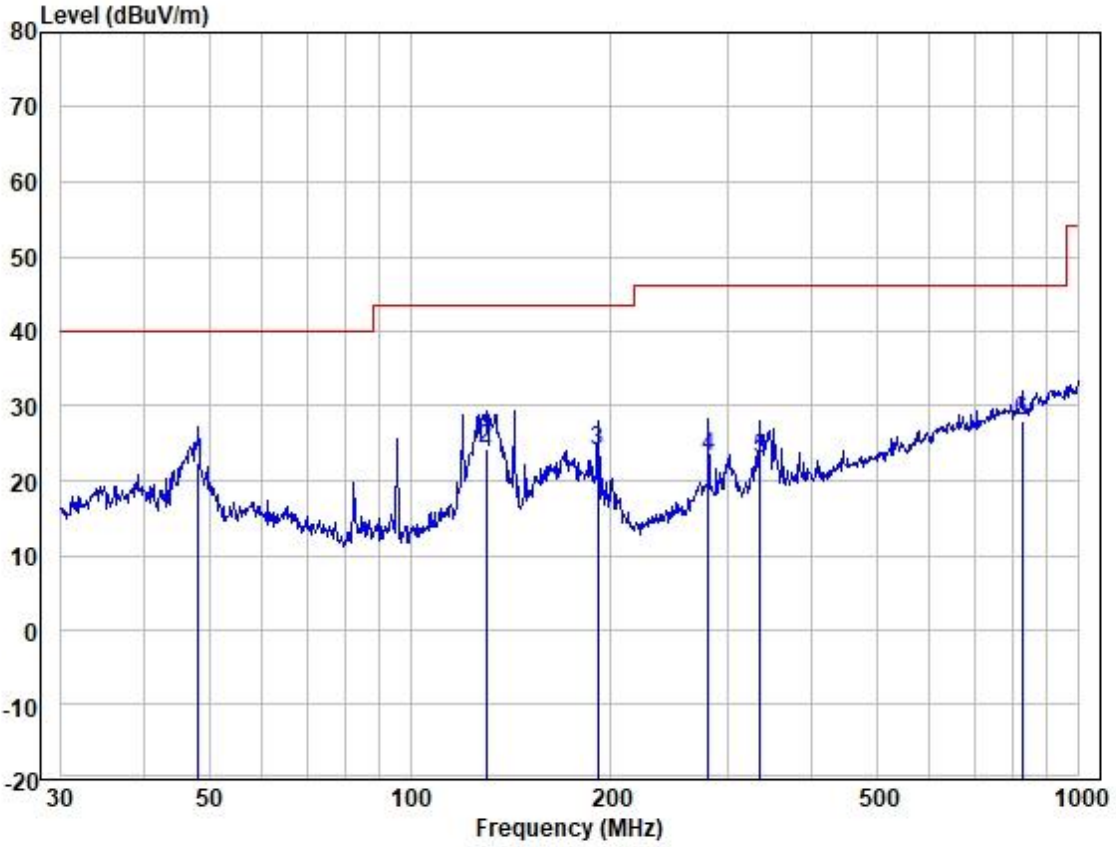
Test Mode: 02; Polarity: Vertical



Site : 966 Chamber
Job :
Model : BOV950 BST ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	95.762	38.27	14.00	1.02	32.80	20.49	43.50	-23.01	VERTICAL	QP
2	134.559	32.28	18.41	1.30	32.80	19.19	43.50	-24.31	VERTICAL	QP
3	199.986	41.42	15.80	1.90	32.80	26.32	43.50	-17.18	VERTICAL	QP
4	280.024	31.64	18.84	2.01	32.80	19.69	46.00	-26.31	VERTICAL	QP
5	545.183	27.31	24.31	3.08	32.90	21.80	46.00	-24.20	VERTICAL	QP
6	716.682	27.10	27.07	3.41	32.66	24.92	46.00	-21.08	VERTICAL	QP

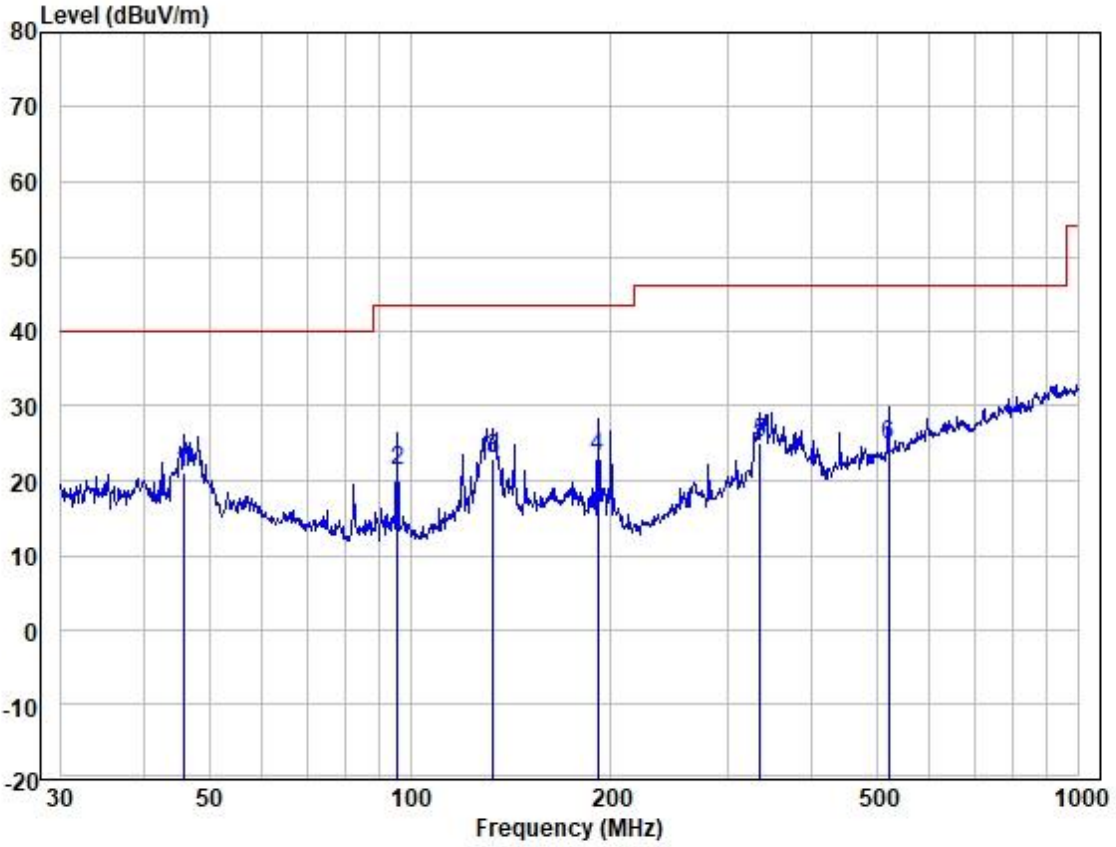
Test Mode: 05; Polarity: Horizontal



Site : 966 Chamber
Job :
Model : BOV950 BSS ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	48.163	34.82	19.52	0.74	32.80	22.28	40.00	-17.72	HORIZONTAL	QP
2	129.923	37.74	18.05	1.27	32.80	24.26	43.50	-19.24	HORIZONTAL	QP
3	191.074	38.83	16.23	1.81	32.80	24.07	43.50	-19.43	HORIZONTAL	QP
4	280.024	35.18	18.84	2.01	32.80	23.23	46.00	-22.77	HORIZONTAL	QP
5	334.859	33.06	20.21	2.40	32.80	22.87	46.00	-23.13	HORIZONTAL	QP
6	824.597	27.95	28.33	3.80	32.19	27.89	46.00	-18.11	HORIZONTAL	QP

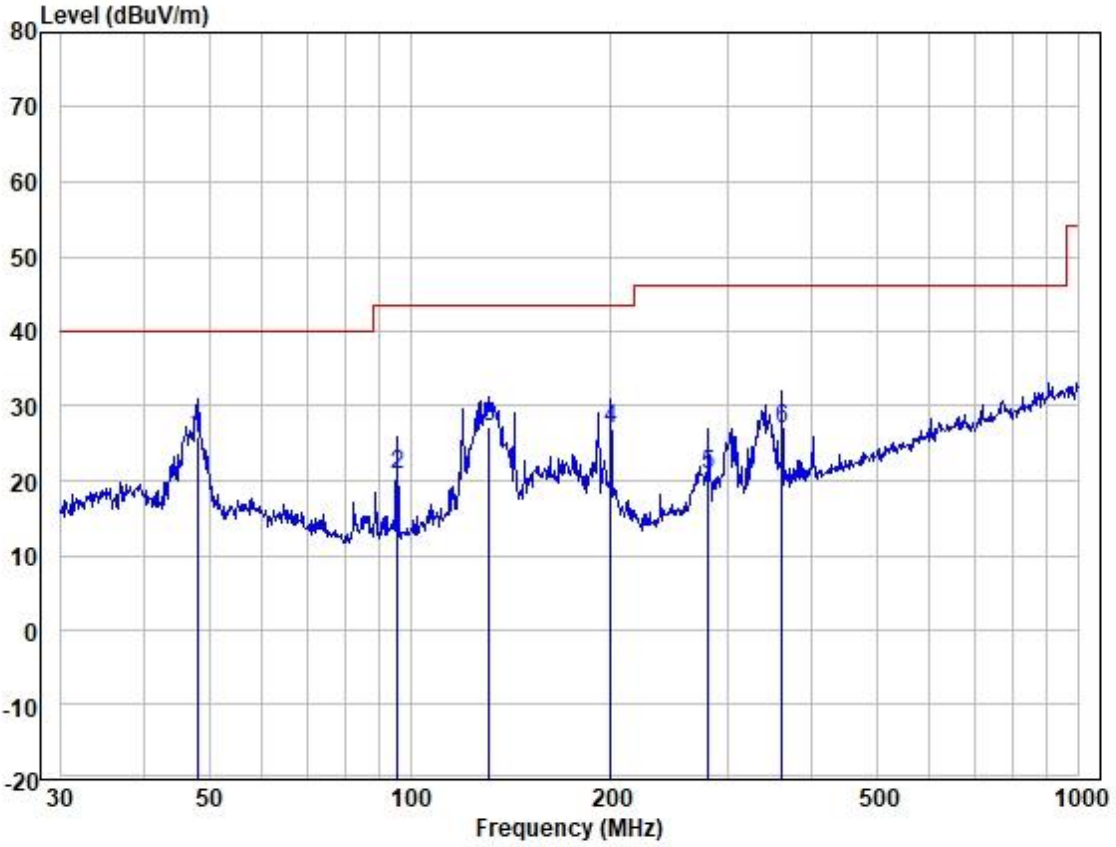
Test Mode: 05; Polarity: Vertical



Site : 966 Chamber
Job :
Model : BOV950 BSS ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	45.855	33.72	19.47	0.80	32.81	21.18	40.00	-18.82	VERTICAL	QP
2	95.762	39.14	14.00	1.02	32.80	21.36	43.50	-22.14	VERTICAL	QP
3	133.151	36.20	18.27	1.29	32.80	22.96	43.50	-20.54	VERTICAL	QP
4	191.074	37.91	16.23	1.81	32.80	23.15	43.50	-20.35	VERTICAL	QP
5	334.859	35.38	20.21	2.40	32.80	25.19	46.00	-20.81	VERTICAL	QP
6	520.888	30.72	24.10	2.96	32.90	24.88	46.00	-21.12	VERTICAL	QP

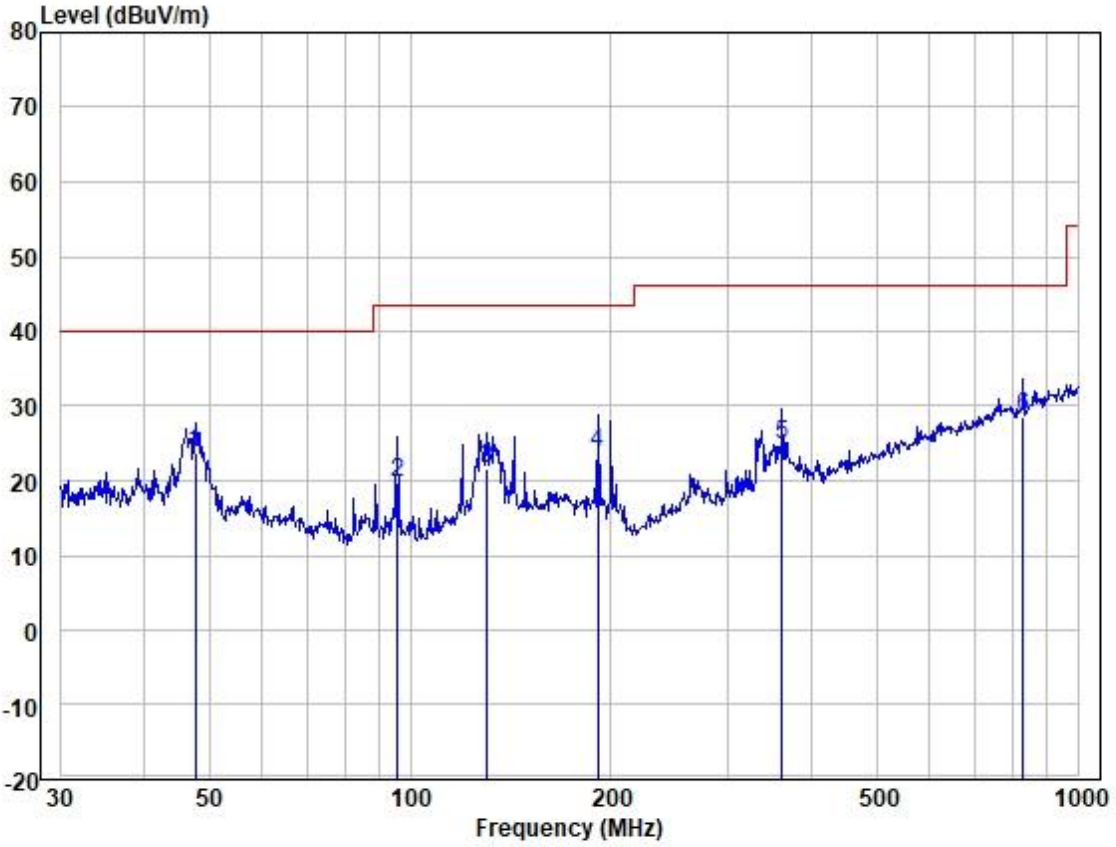
Test Mode: 07; Polarity: Horizontal



Site : 966 Chamber
Job :
Model : BOV950 BSS ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	47.994	38.40	19.52	0.74	32.80	25.86	40.00	-14.14	HORIZONTAL	QP
2	95.762	38.58	14.00	1.02	32.80	20.80	43.50	-22.70	HORIZONTAL	QP
3	131.297	40.51	18.12	1.28	32.80	27.11	43.50	-16.39	HORIZONTAL	QP
4	199.986	41.94	15.80	1.90	32.80	26.84	43.50	-16.66	HORIZONTAL	QP
5	280.024	32.86	18.84	2.01	32.80	20.91	46.00	-25.09	HORIZONTAL	QP
6	360.448	36.88	20.45	2.40	32.80	26.93	46.00	-19.07	HORIZONTAL	QP

Test Mode: 07; Polarity: Vertical



Site : 966 Chamber
Job :
Model : BOV950 BSS ANT 2
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	47.659	36.22	19.50	0.76	32.80	23.68	40.00	-16.32	VERTICAL	QP
2	95.762	37.60	14.00	1.02	32.80	19.82	43.50	-23.68	VERTICAL	QP
3	130.379	35.00	18.05	1.27	32.80	21.52	43.50	-21.98	VERTICAL	QP
4	191.074	38.59	16.23	1.81	32.80	23.83	43.50	-19.67	VERTICAL	QP
5	360.448	34.63	20.45	2.40	32.80	24.68	46.00	-21.32	VERTICAL	QP
6	827.493	28.57	28.41	3.80	32.18	28.60	46.00	-17.40	VERTICAL	QP

7.4 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2013) Section 6.6

Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

7.4.1 E.U.T. Operation

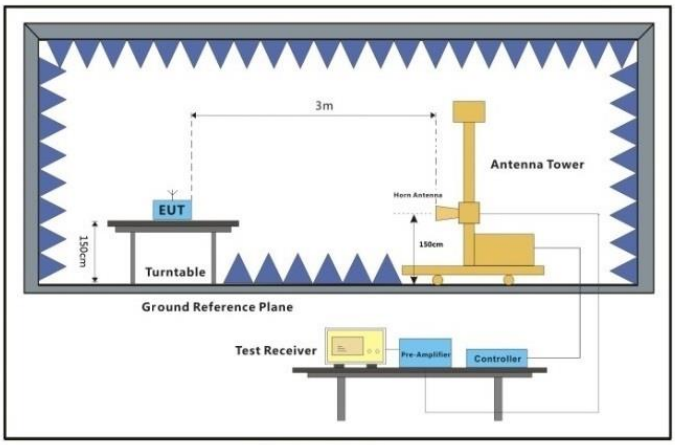
Operating Environment:

Temperature: 25.8 °C Humidity: 57.5 % RH Atmospheric Pressure: 1006 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BST.
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BST.
Final test	05	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation for BOV950 BSS.
Final test	07	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report for BOV950 BSS.

7.4.3 Test Setup Diagram



Above 1GHz

7.4.4 Measurement Procedure and Data

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

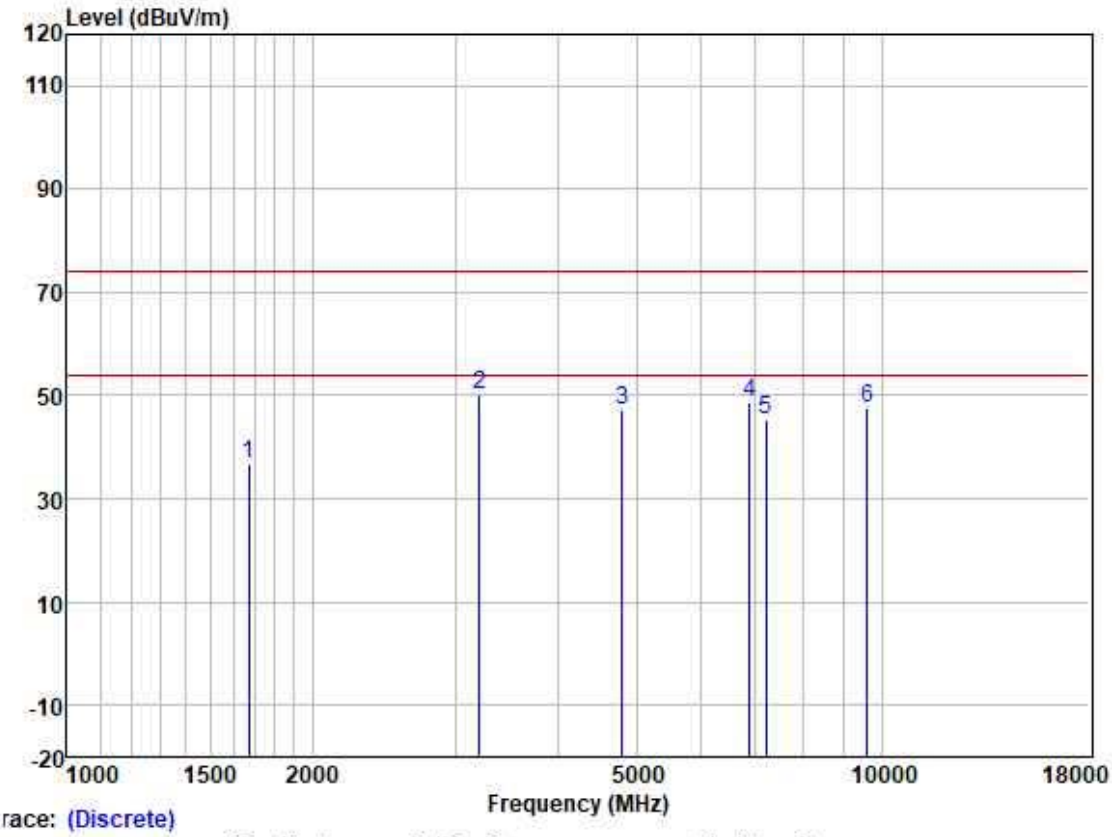
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

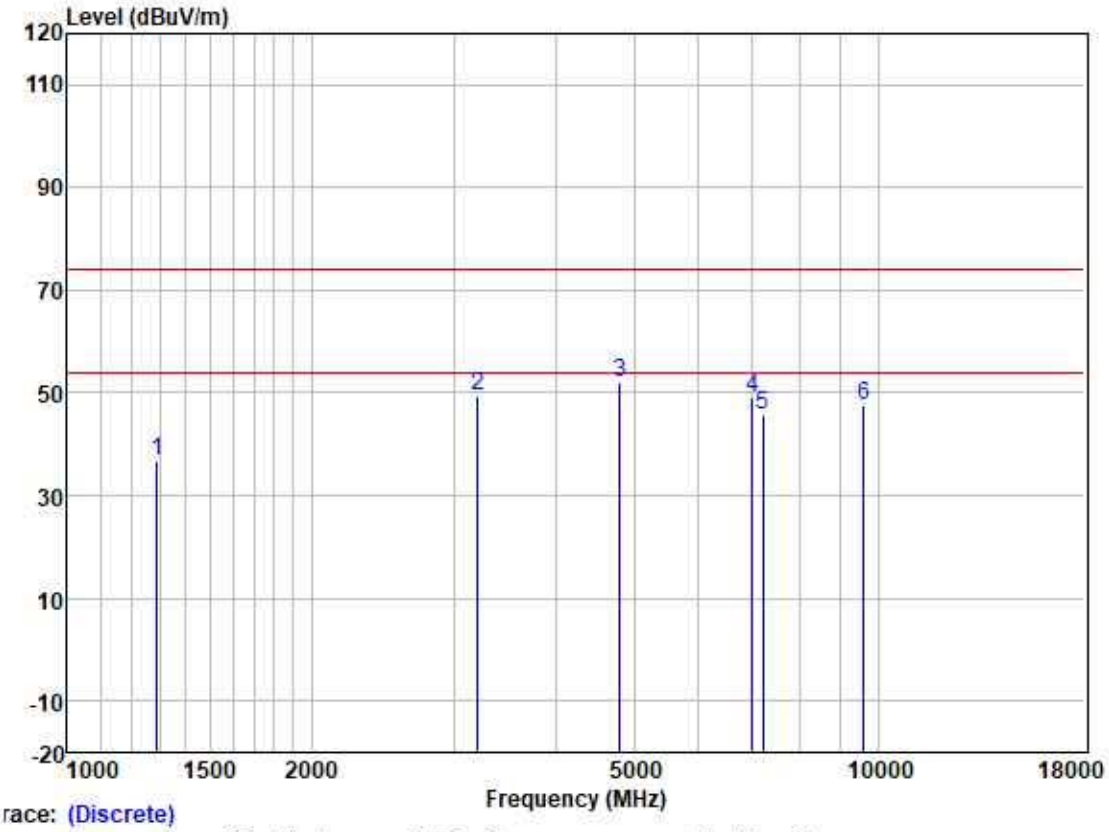
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1672.779	46.77	24.98	3.05	37.93	36.87	74.00	-37.13	VERTICAL	peak
2	3205.345	54.27	28.82	4.43	37.15	50.37	74.00	-23.63	VERTICAL	peak
3	4804.000	44.68	34.16	5.15	36.86	47.13	74.00	-26.87	VERTICAL	peak
4	6874.906	43.81	34.88	7.04	37.07	48.66	74.00	-25.34	VERTICAL	peak
5	7206.000	39.86	35.63	6.96	37.13	45.32	74.00	-28.68	VERTICAL	peak
6	9608.000	38.12	38.68	7.65	37.02	47.43	74.00	-26.57	VERTICAL	peak

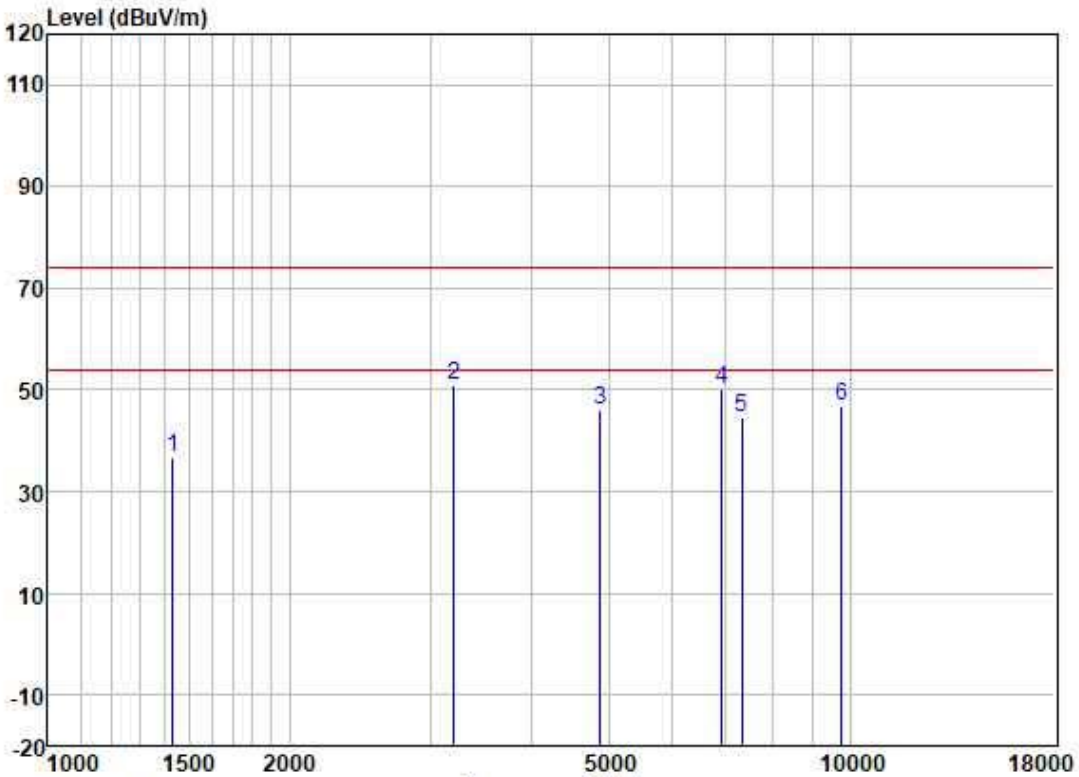
Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low



race: (Discrete)

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1289.627	48.08	23.92	2.79	37.98	36.81	74.00	-37.19	HORIZONTAL	peak
2	3205.345	53.39	28.82	4.43	37.15	49.49	74.00	-24.51	HORIZONTAL	peak
3	4804.000	49.78	34.16	5.15	36.86	52.23	74.00	-21.77	HORIZONTAL	peak
4	6995.172	43.82	35.11	7.13	37.09	48.97	74.00	-25.03	HORIZONTAL	peak
5	7206.000	40.35	35.63	6.96	37.13	45.81	74.00	-28.19	HORIZONTAL	peak
6	9608.000	38.44	38.68	7.65	37.02	47.75	74.00	-26.25	HORIZONTAL	peak

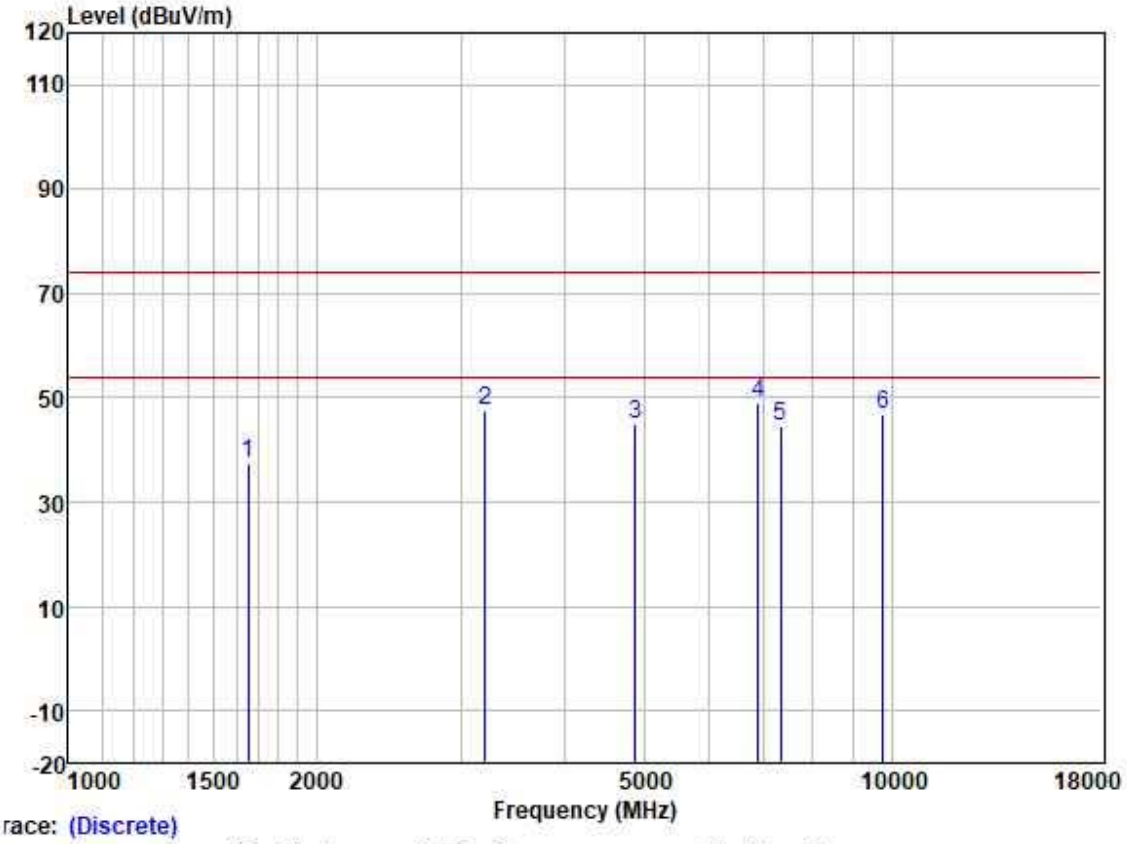
Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:middle



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1431.047	47.48	24.32	2.91	37.96	36.75	74.00	-37.25	VERTICAL	peak
2	3205.345	54.96	28.82	4.43	37.15	51.06	74.00	-22.94	VERTICAL	peak
3	4880.000	43.73	34.15	5.22	36.87	46.23	74.00	-27.77	VERTICAL	peak
4	6914.763	45.36	34.97	7.08	37.08	50.33	74.00	-23.67	VERTICAL	peak
5	7320.000	38.80	36.07	6.81	37.15	44.53	74.00	-29.47	VERTICAL	peak
6	9760.000	37.27	38.81	7.65	37.01	46.72	74.00	-27.28	VERTICAL	peak

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1653.550	47.60	24.89	3.03	37.93	37.59	74.00	-36.41	HORIZONTAL	peak
2	3205.345	51.63	28.82	4.43	37.15	47.73	74.00	-26.27	HORIZONTAL	peak
3	4880.000	42.61	34.15	5.22	36.87	45.11	74.00	-28.89	HORIZONTAL	peak
4	6874.906	44.31	34.88	7.04	37.07	49.16	74.00	-24.84	HORIZONTAL	peak
5	7320.000	38.81	36.07	6.81	37.15	44.54	74.00	-29.46	HORIZONTAL	peak
6	9760.000	37.50	38.81	7.65	37.01	46.95	74.00	-27.05	HORIZONTAL	peak