TEST REPORT

Application No.:	GZCR2203000240AT
Applicant:	FOSHAN KUROKU ELECTRONICS CO., LTD
Address of Applicant:	Room 2, 5th Floor, No. A3 Building, East yihuan Road, Xiabei Shanmian Industrial Park, Guicheng Town, Nanhai District, Foshan City, China
Manufacturer:	The same as applicant
Address of Manufacturer:	The same as applicant
Factory:	The same as applicant
Address of Factory:	The same as applicant
Equipment Under Test (EUT):	
EUT Name:	LED Projector
Model No.:	H3, TUSA18305 ♣
Trade Mark:	BAUHN
♣	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:	2022-03-08
Date of Test:	2022-03-16 to 2022-03-31
Date of Issue:	2022-05-06
Test Result:	**Pass***

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

Kobe Jian
EMC Laboratory Manager

Revision Record			
Version	**Report No.**	**Date**	**Remark**
01	GZCR220300024002	2022-05-06	Original

Authorized for issue by				
		Jim Li **Jim Li/Project Engineer**		
		Ricky Liu **Ricky Liu/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(b)(4)	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
Conducted Peak Output Power		ANSI C63.10 (2013) Section 11.9.2	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Minimum 6dB Bandwidth		ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectrum Density		ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement		ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions		ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	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**
**: The EUT passed Radiated Spurious Emissions Above 1GHz test after modification.				

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.

♣ Declaration of EUT Family Grouping:

Model No.: H3, TUSA18305.

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference on the model name.

Therefore only one model H3 was tested in this report.

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4 General Information

4.1 Details of E.U.T.

Power supply:	AC 100-240V, 50/60Hz
Rated power:	70W
Test voltage:	AC 120V, 60Hz
Cable(s):	AC mains, 2 wires, 1.6m, unshielded. AV 1 to 3 Port cable, 1.0m. USB Port x2. 3.5mm headphone Port x1 HDMI Port x1 VGA Port x1 AV Port x1
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz;802.11n(HT40): 2422MHz to 2452MHz
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
Channel Spacing:	5MHz
Antenna Type:	Integral Antenna
Antenna Gain:	2 dBi declared by applicant.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Note Book Computer	LENOVO	Lenovo Xiaoxinchao 5000	PF0TLJX7

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	±2.76dB
Conducted Peak Output Power	± 0.75dB
Minimum 6dB Bandwidth	± 3%
Power Spectrum Density	± 2.84dB
Conducted Band Edges Measurement	± 0.75dB
Conducted Spurious Emissions	± 0.75dB
Radiated Emissions which fall in the restricted bands	±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m);± 5.12dB (1GHz-6GHz);± 5.38dB (above 6GHz)
Radiated Spurious Emissions Below 1GHz	±5.00dB (3m); ±4.38dB (10m)
Radiated Spurious Emissions Above 1GHz	±5.12dB (1GHz-6GHz);±5.38dB(above 6GHz)

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:

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **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.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **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

None

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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	2020-09-09	2022-09-08
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	2019-10-20	2022-10-19
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2021-09-24	2022-09-23
EMI Test Receiver (9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2021-06-01	2022-05-31
Test Software E3r	Audix	Ver.6.11812	GZE100-77	N/A	N/A

Conducted Peak Output Power					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-02	2023-11-01
EXA Signal Analyzer	Agilent Technologies	N9010A	EMC2222	2021-06-22	2022-06-21
Power Meter (U2021XA_Ch1)	Agilent Technologies	U2021XA_Ch1	SEM009-01	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch4)	Agilent Technologies	U2021XA_Ch4	SEM009-04	2021-05-19	2022-05-18
Test Software JS1120-3	JS Tonscend	V2.6	GZE100-69	N/A	N/A

Minimum 6dB Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-02	2023-11-01
EXA Signal Analyzer	Agilent Technologies	N9010A	EMC2222	2021-06-22	2022-06-21
Power Meter (U2021XA_Ch1)	Agilent Technologies	U2021XA_Ch1	SEM009-01	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch4)	Agilent Technologies	U2021XA_Ch4	SEM009-04	2021-05-19	2022-05-18
Test Software JS1120-3	JS Tonscend	V2.6	GZE100-69	N/A	N/A

Power Spectrum Density					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-02	2023-11-01
EXA Signal Analyzer	Agilent Technologies	N9010A	EMC2222	2021-06-22	2022-06-21
Power Meter (U2021XA_Ch1)	Agilent Technologies	U2021XA_Ch1	SEM009-01	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch4)	Agilent Technologies	U2021XA_Ch4	SEM009-04	2021-05-19	2022-05-18
Test Software JS1120-3	JS Tonscend	V2.6	GZE100-69	N/A	N/A

Conducted Band Edges Measurement					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-02	2023-11-01
EXA Signal Analyzer	Agilent Technologies	N9010A	EMC2222	2021-06-22	2022-06-21
Power Meter (U2021XA_Ch1)	Agilent Technologies	U2021XA_Ch1	SEM009-01	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch4)	Agilent Technologies	U2021XA_Ch4	SEM009-04	2021-05-19	2022-05-18
Test Software JS1120-3	JS Tonscend	V2.6	GZE100-69	N/A	N/A

Conducted Spurious Emissions					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-02	2023-11-01
EXA Signal Analyzer	Agilent Technologies	N9010A	EMC2222	2021-06-22	2022-06-21
Power Meter (U2021XA_Ch1)	Agilent Technologies	U2021XA_Ch1	SEM009-01	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch4)	Agilent Technologies	U2021XA_Ch4	SEM009-04	2021-05-19	2022-05-18
Test Software JS1120-3	JS Tonscend	V2.6	GZE100-69	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	2021-12-17	2022-12-16
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-12-17	2022-12-16
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna (1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
Horn Antenna (14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-20	2022-09-19
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2021-11-01	2022-10-31
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**
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
Chamber cable	HangTianXing	N/A	EMC0542	2020-09-09	2022-09-08
Amplifier (9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2022-04-06	2024-04-05
EMI Test Receiver (1Hz-8GHz)	Rohde & Schwarz	ESW8	EMC2220	2021-05-26	2022-05-25
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Trilog Broadband Antenna (25MHz-1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	EMC2174	2019-08-08	2022-08-07

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	2021-12-17	2022-12-16
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-12-17	2022-12-16
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna (1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
Horn Antenna (14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-12-17	2022-12-16
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-20	2022-09-19
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2021-11-01	2022-10-31
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	2021-07-05	2022-07-05

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

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 is 2 dBi.

Antenna location: Refer to internal photo.

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

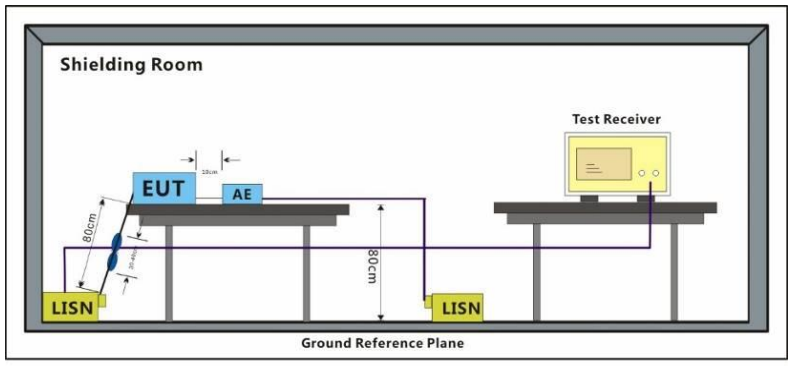
Operating Environment:

Temperature: 23.4 °C Humidity: 65.6 % RH Atmospheric Pressure: 1008 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

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.

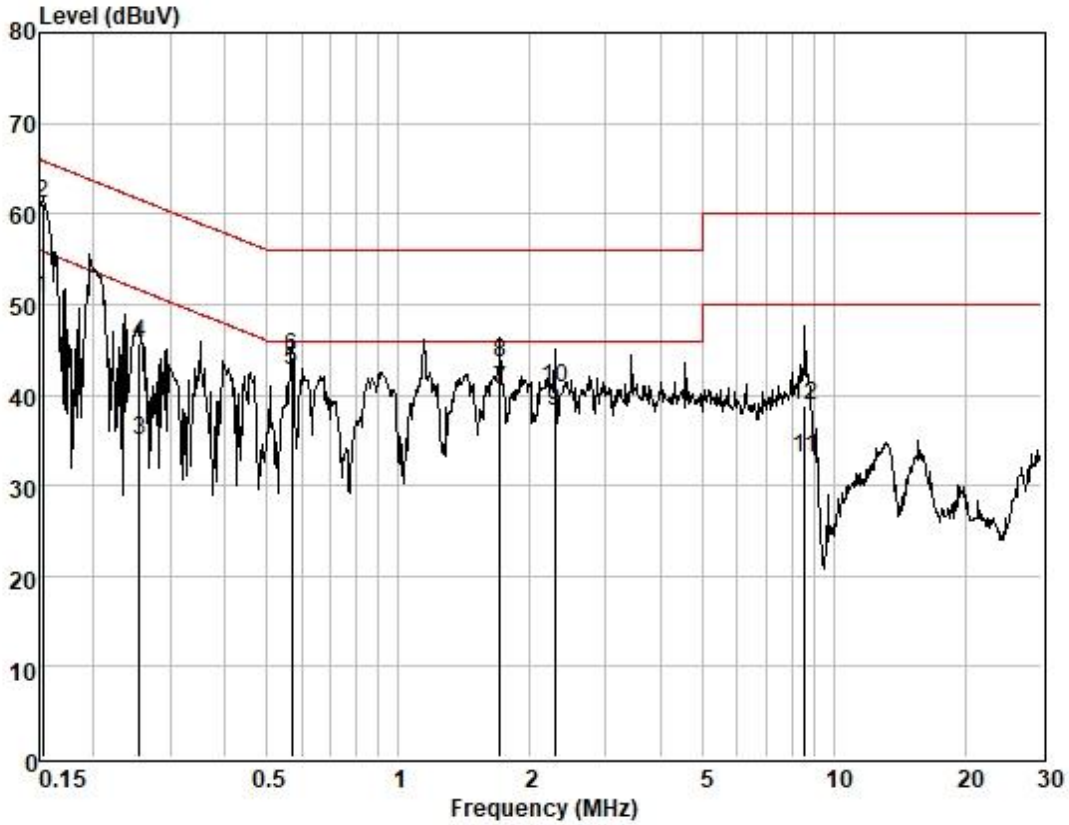
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.

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

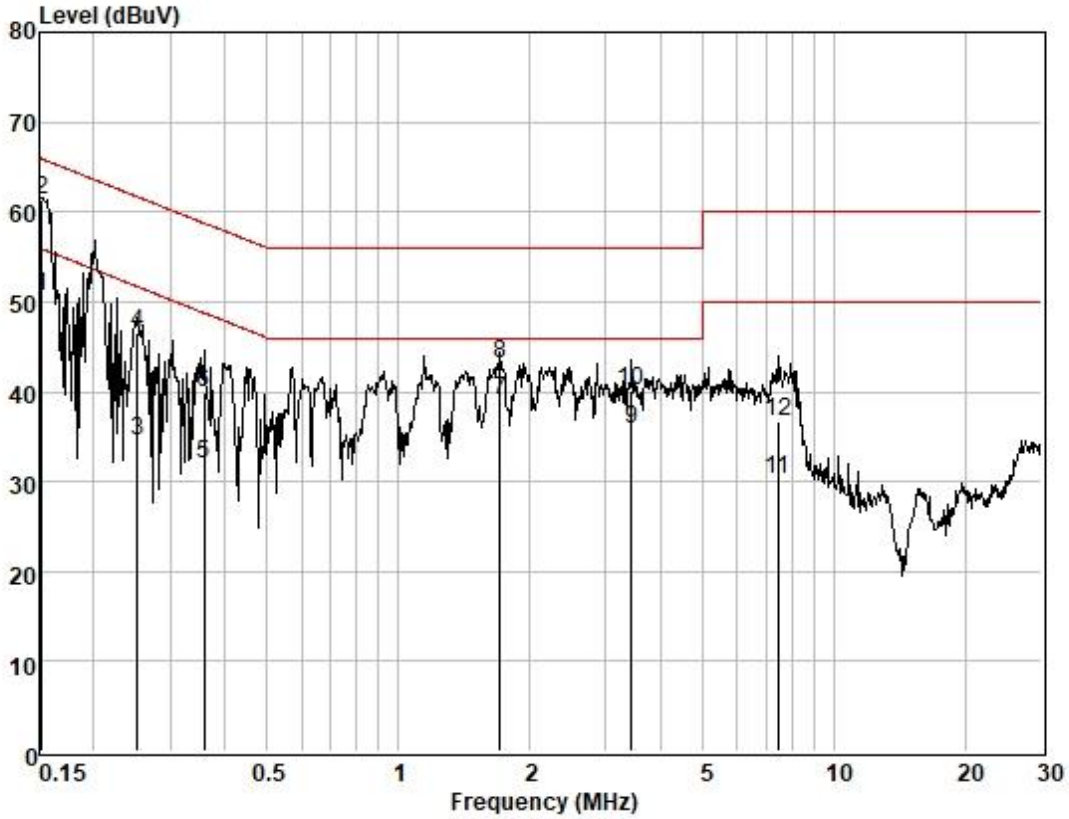
Test Mode: 00; Line: Live line; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Condition: LINE
Mode :
Model :

	Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.152	40.93	0.06	9.54	50.53	55.87	-5.34	Average
2	0.152	51.51	0.06	9.54	61.11	65.87	-4.76	QP
3	0.255	25.39	0.06	9.57	35.02	51.60	-16.58	Average
4	0.255	36.13	0.06	9.57	45.76	61.60	-15.84	QP
5	0.570	33.04	0.07	9.59	42.70	46.00	-3.30	Average
6	0.570	34.55	0.07	9.59	44.21	56.00	-11.79	QP
7	1.716	30.75	0.11	9.60	40.46	46.00	-5.54	Average
8	1.716	33.77	0.11	9.60	43.48	56.00	-12.52	QP
9	2.285	28.35	0.13	9.60	38.08	46.00	-7.92	Average
10	2.285	31.07	0.13	9.60	40.80	56.00	-15.20	QP
11	8.592	23.15	0.22	9.76	33.13	50.00	-16.87	Average
12	8.592	28.79	0.22	9.76	38.77	60.00	-21.23	QP

Test Mode: 00; Line: Neutral Line; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Condition: NEUTRAL
Mode :
Model :

	Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.152	41.01	0.06	9.53	50.60	55.91	-5.31	Average
2	0.152	51.85	0.06	9.53	61.44	65.91	-4.47	QP
3	0.252	24.94	0.06	9.56	34.56	51.69	-17.13	Average
4	0.252	36.84	0.06	9.56	46.46	61.69	-15.23	QP
5	0.360	22.37	0.06	9.57	32.00	48.74	-16.74	Average
6	0.360	30.19	0.06	9.57	39.82	58.74	-18.92	QP
7	1.716	29.39	0.11	9.59	39.09	46.00	-6.91	Average
8	1.716	33.38	0.11	9.59	43.08	56.00	-12.92	QP
9	3.436	25.99	0.16	9.62	35.77	46.00	-10.23	Average
10	3.436	30.42	0.16	9.62	40.20	56.00	-15.80	QP
11	7.446	20.22	0.21	9.75	30.18	50.00	-19.82	Average
12	7.446	26.68	0.21	9.75	36.64	60.00	-23.36	QP

7.2 Conducted Peak Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)

Test Method: ANSI C63.10 (2013) Section 11.9.2

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ hopping channels <50
	1 for digital modulation
2400-2483.5	1 for ≥75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

7.2.1 E.U.T. Operation

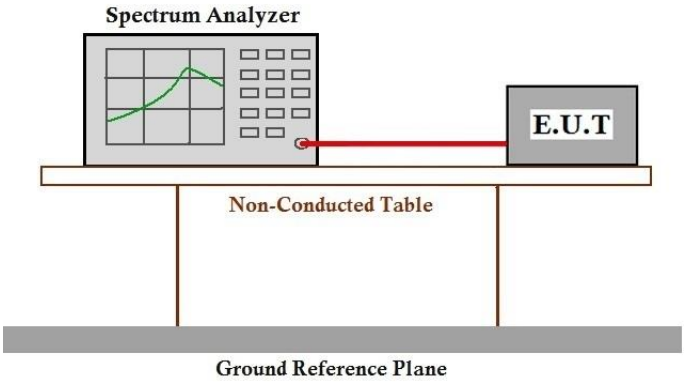
Operating Environment:

Temperature: 24.6 °C Humidity: 54.8 % RH Atmospheric Pressure: 1020 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.3 Minimum 6dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.247a(2)
Test Method:	ANSI C63.10 (2013) Section 11.8.1
Limit:	≥500 kHz

7.3.1 E.U.T. Operation

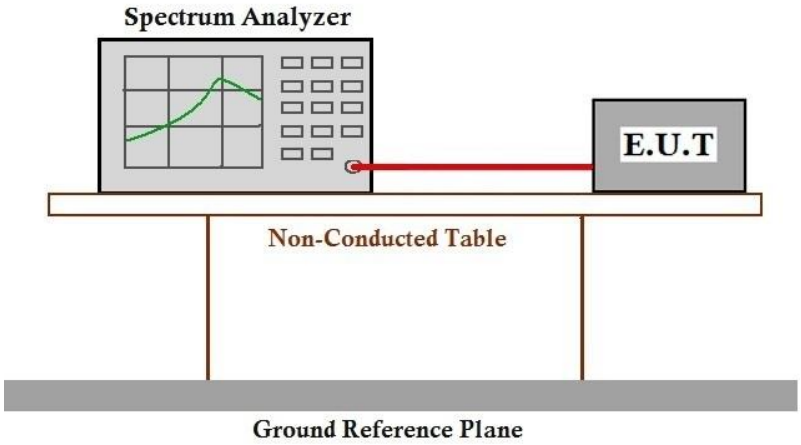
Operating Environment:

Temperature: 24.6 °C Humidity: 54.8 % RH Atmospheric Pressure: 1020 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.4 Power Spectrum Density

Test Requirement	47 CFR Part 15, Subpart C 15.247(e)
Test Method:	ANSI C63.10 (2013) Section 11.10.2
Limit:	≤8dBm in any 3 kHz band during any time interval of continuous transmission

7.4.1 E.U.T. Operation

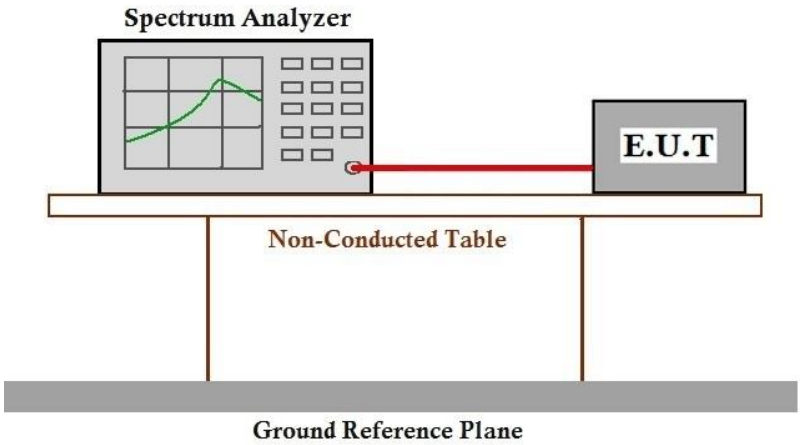
Operating Environment:

Temperature: 24.6 °C Humidity: 54.8 % RH Atmospheric Pressure: 1020 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.5 Conducted Band Edges Measurement

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2013) Section 11.13.3.2

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

7.5.1 E.U.T. Operation

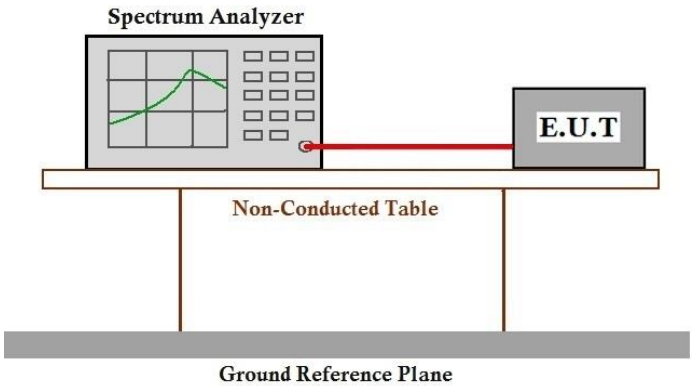
Operating Environment:

Temperature: 24.6 °C Humidity: 54.8 % RH Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.6 Conducted Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2013) Section 11.11

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

7.6.1 E.U.T. Operation

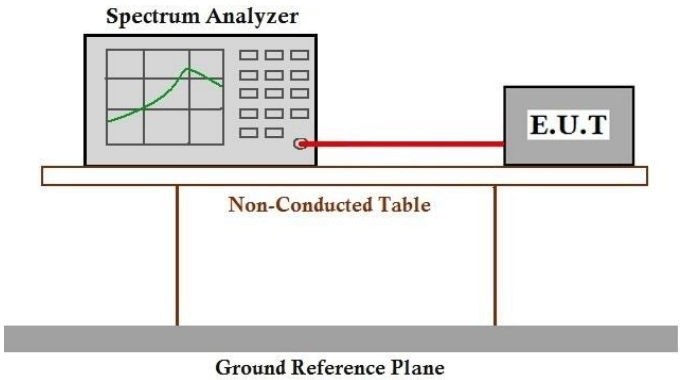
Operating Environment:

Temperature: 24.6 °C Humidity: 54.8 % RH Atmospheric Pressure: 1020 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.7 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 6.10.5

Limit:

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.		

7.7.1 E.U.T. Operation

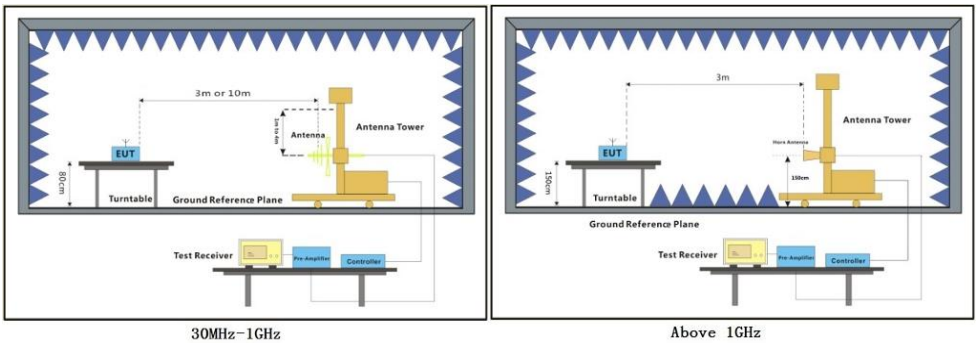
Operating Environment:

Temperature: 24.6 °C Humidity: 66.5 % RH Atmospheric Pressure: 1008 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.7.3 Test Setup Diagram



30MHz-1GHz Above 1GHz

7.7.4 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 middle channel, the Highest channel.

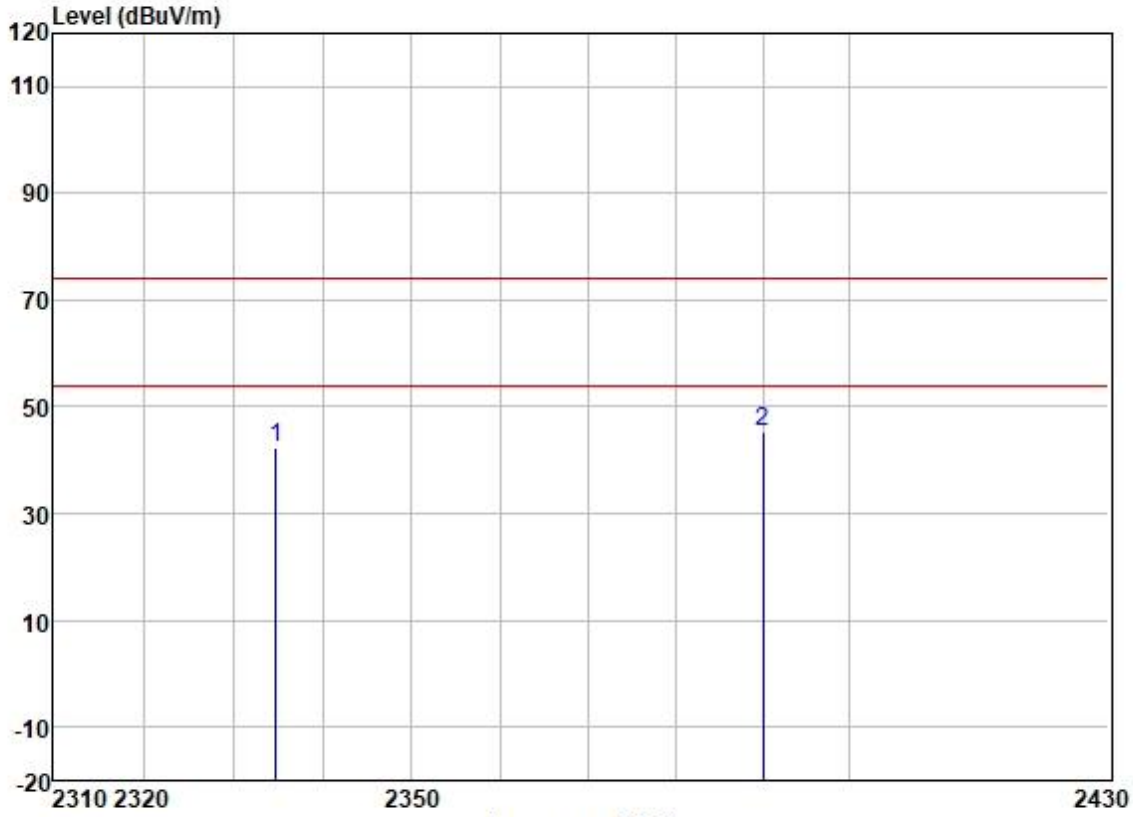
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

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.

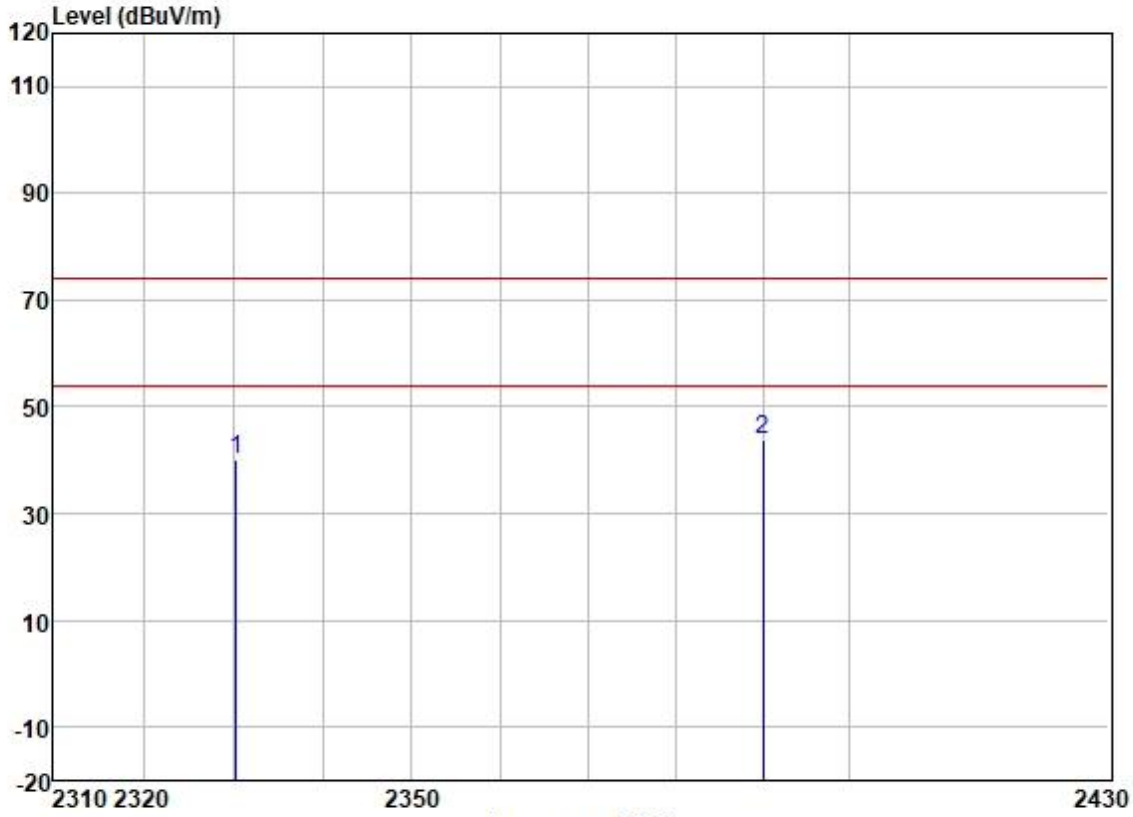
Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



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	2334.817	48.76	27.20	3.36	37.15	42.17	74.00	-31.83	VERTICAL	Peak
2	2390.000	51.79	27.33	3.48	37.14	45.46	74.00	-28.54	VERTICAL	Peak

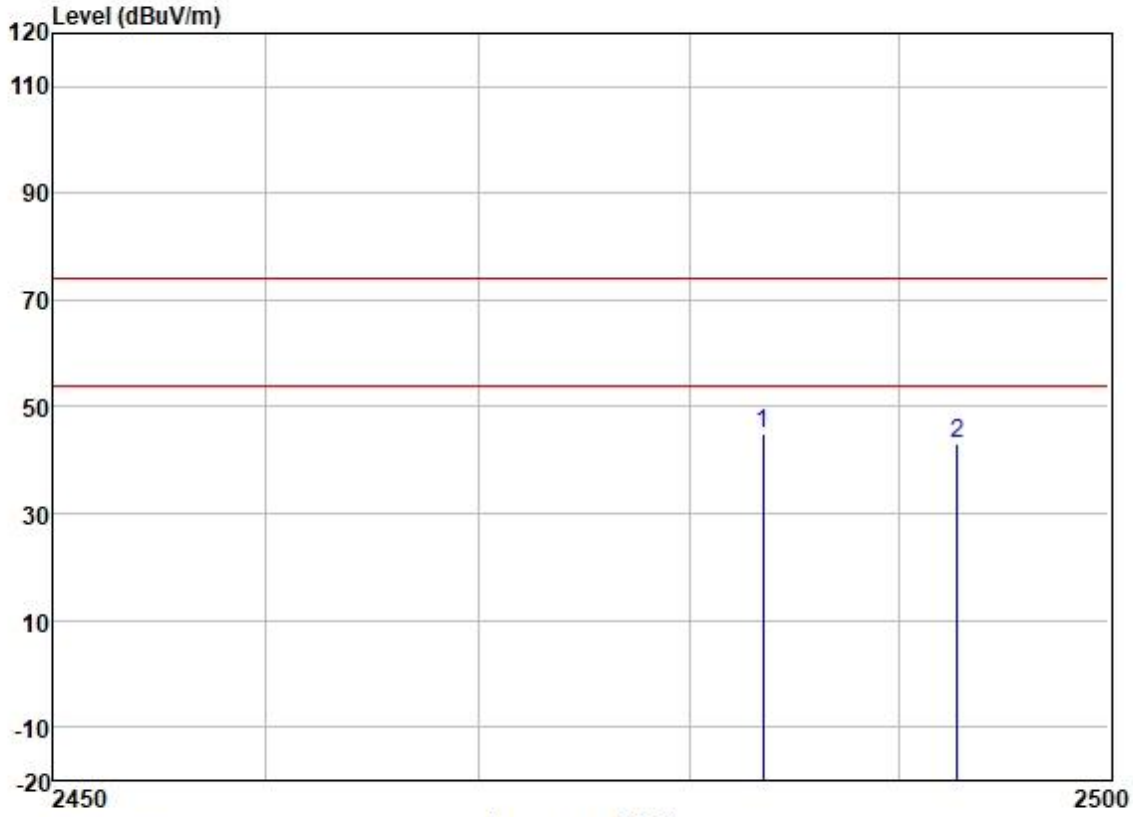
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



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	2330.328	46.84	27.20	3.36	37.15	40.25	74.00	-33.75	HORIZONTAL	Peak
2	2390.000	50.30	27.33	3.48	37.14	43.97	74.00	-30.03	HORIZONTAL	Peak

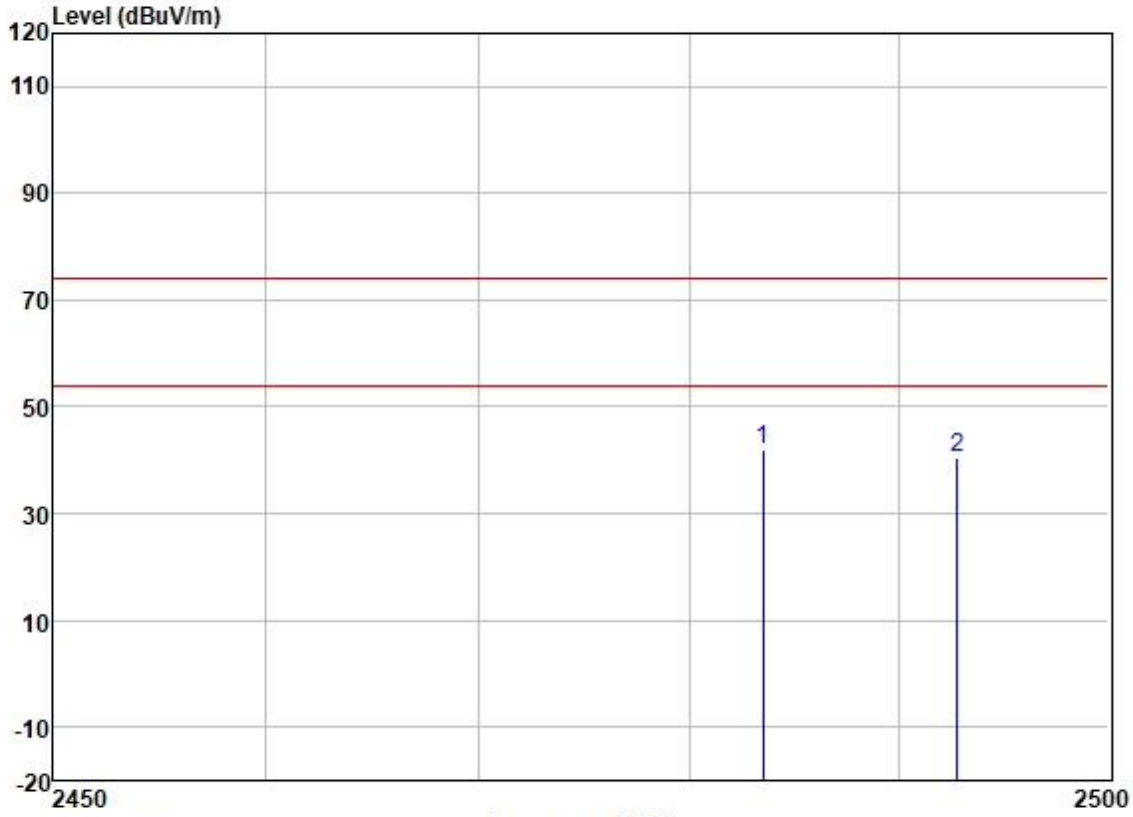
Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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	50.93	27.48	3.53	37.13	44.81	74.00	-29.19	VERTICAL	Peak
2	2492.738	49.16	27.49	3.47	37.12	43.00	74.00	-31.00	VERTICAL	Peak

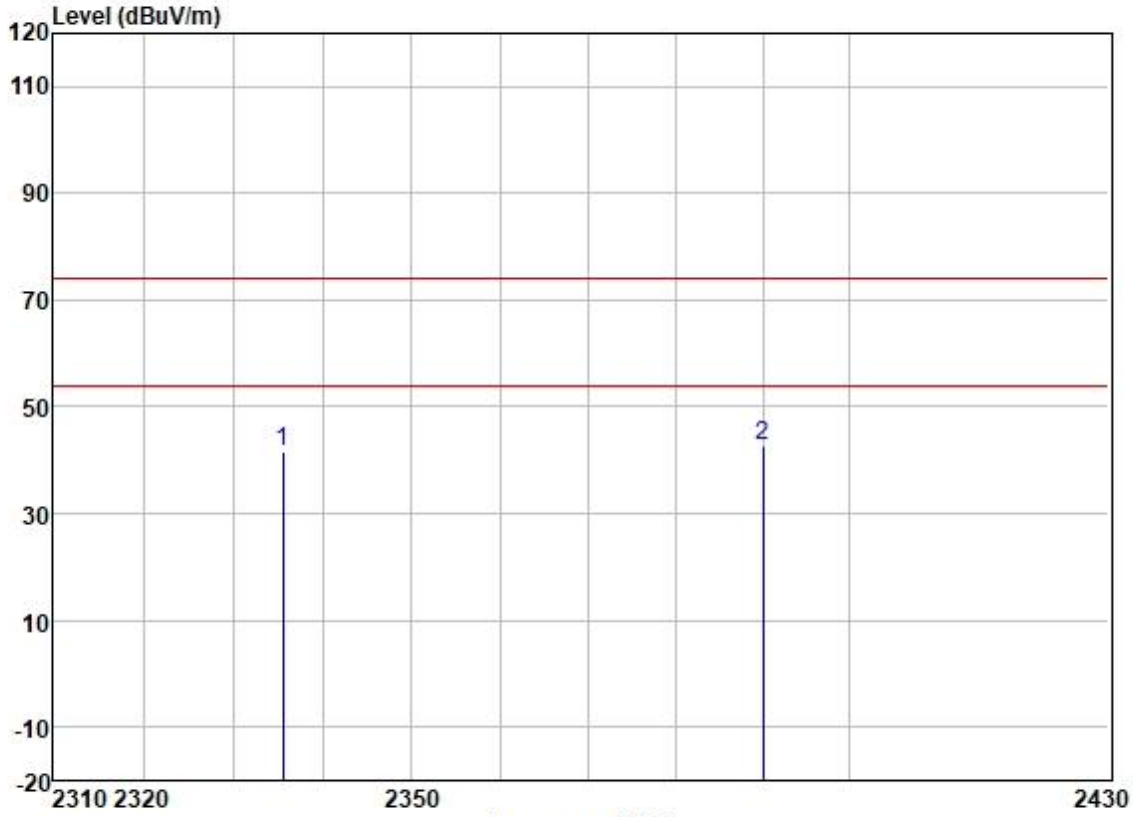
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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	47.96	27.48	3.53	37.13	41.84	74.00	-32.16	HORIZONTAL	Peak
2	2492.738	46.63	27.49	3.47	37.12	40.47	74.00	-33.53	HORIZONTAL	Peak

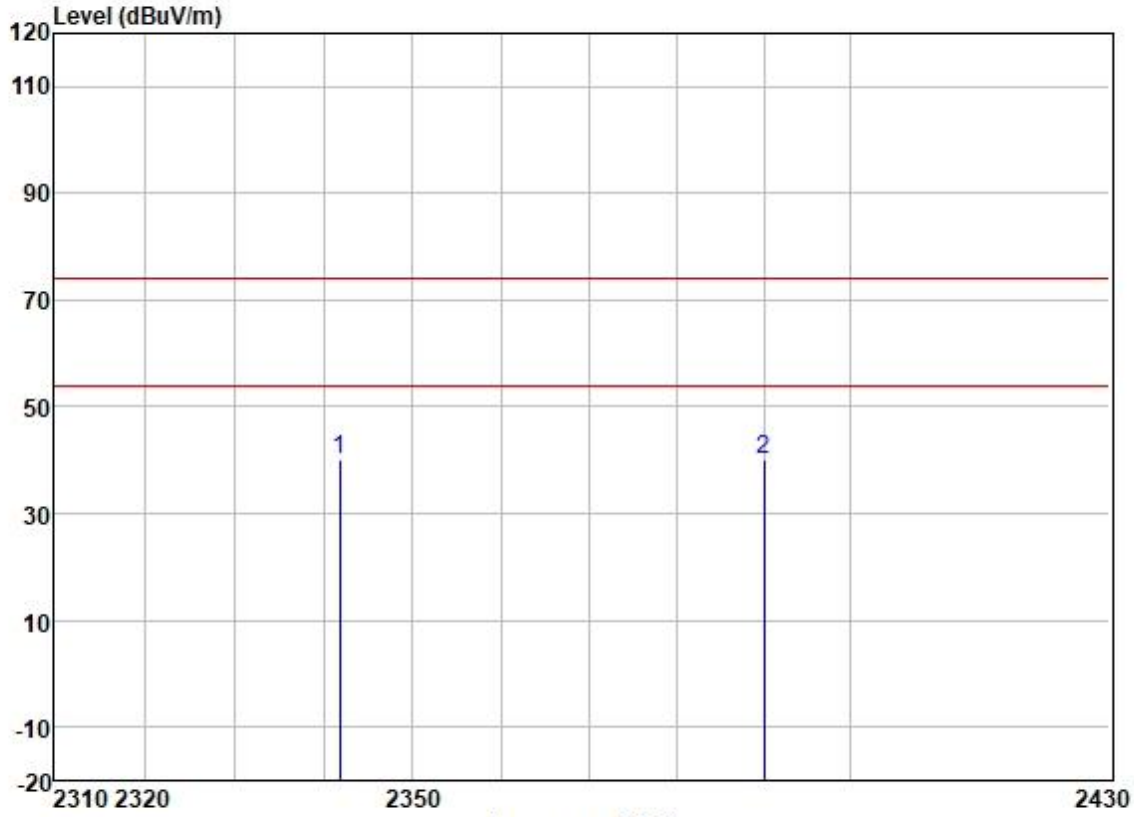
Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



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	2335.526	48.32	27.20	3.36	37.15	41.73	74.00	-32.27	VERTICAL	Peak
2	2390.000	49.11	27.33	3.48	37.14	42.78	74.00	-31.22	VERTICAL	Peak

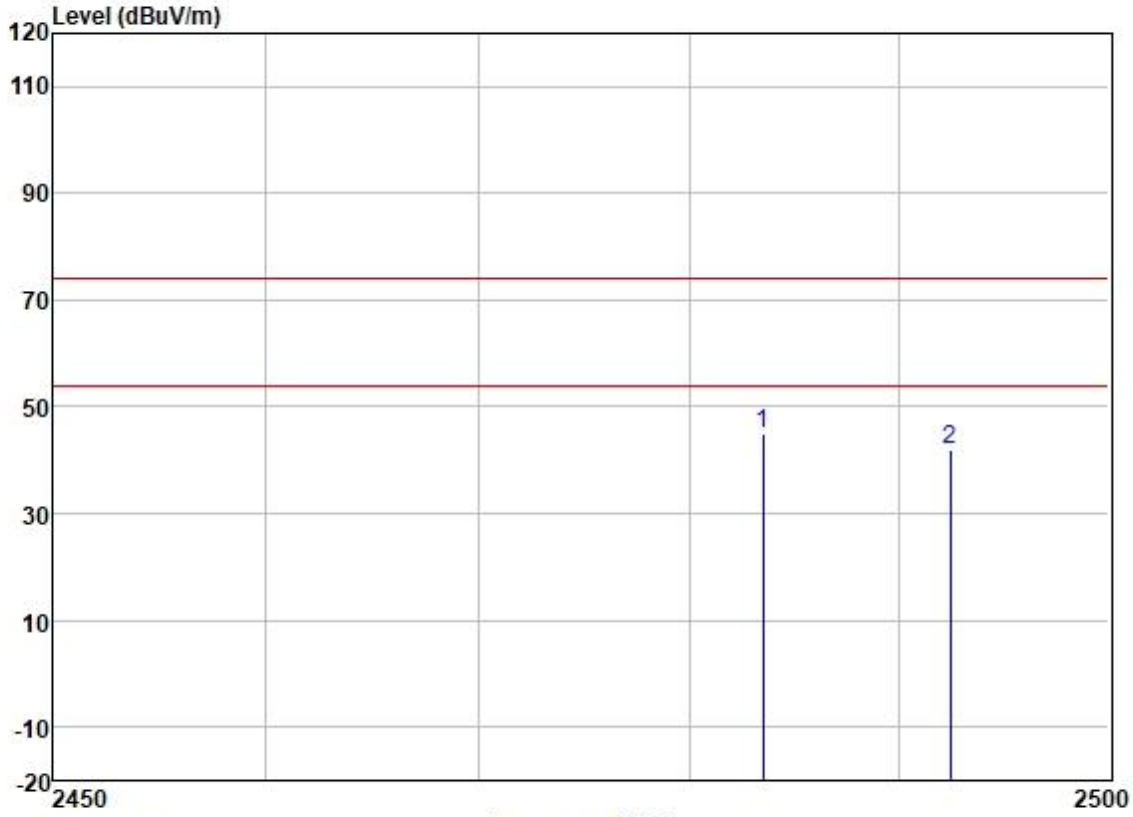
Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



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	2341.803	46.68	27.22	3.37	37.15	40.12	74.00	-33.88	HORIZONTAL	Peak
2	2390.000	46.45	27.33	3.48	37.14	40.12	74.00	-33.88	HORIZONTAL	Peak

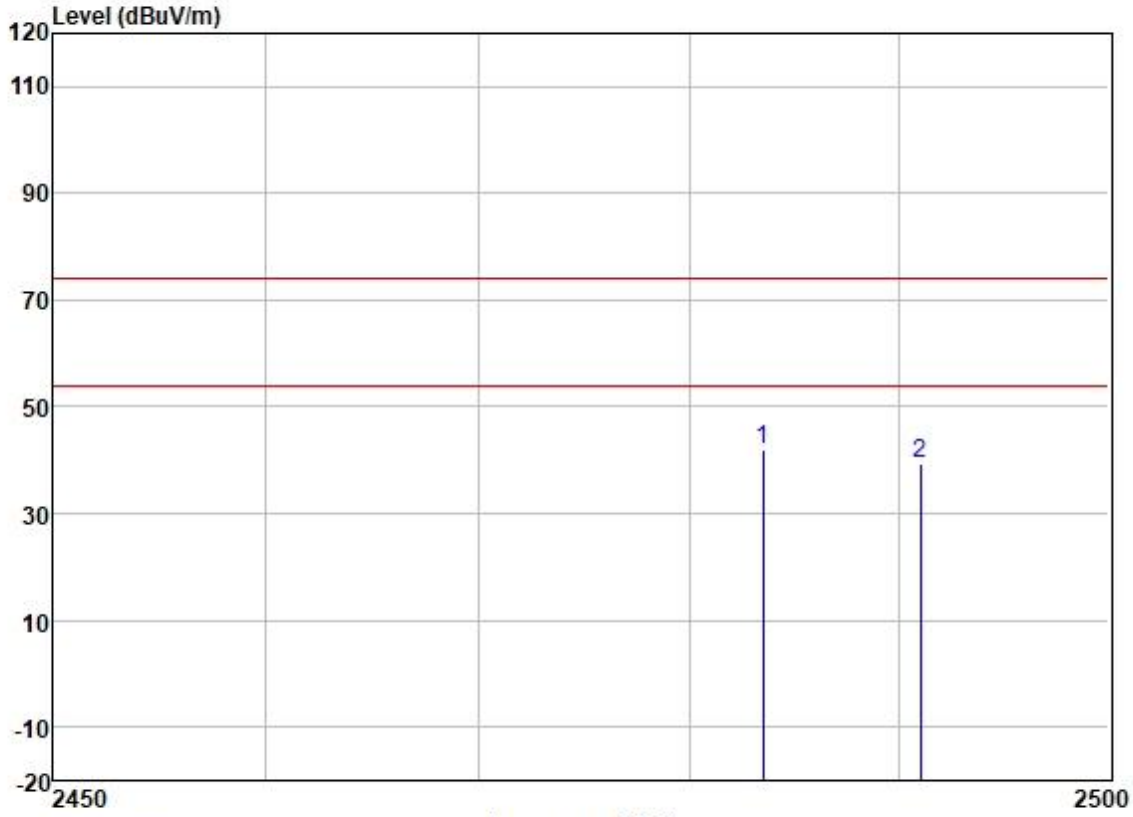
Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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	50.98	27.48	3.53	37.13	44.86	74.00	-29.14	VERTICAL	Peak
2	2492.436	48.05	27.49	3.47	37.12	41.89	74.00	-32.11	VERTICAL	Peak

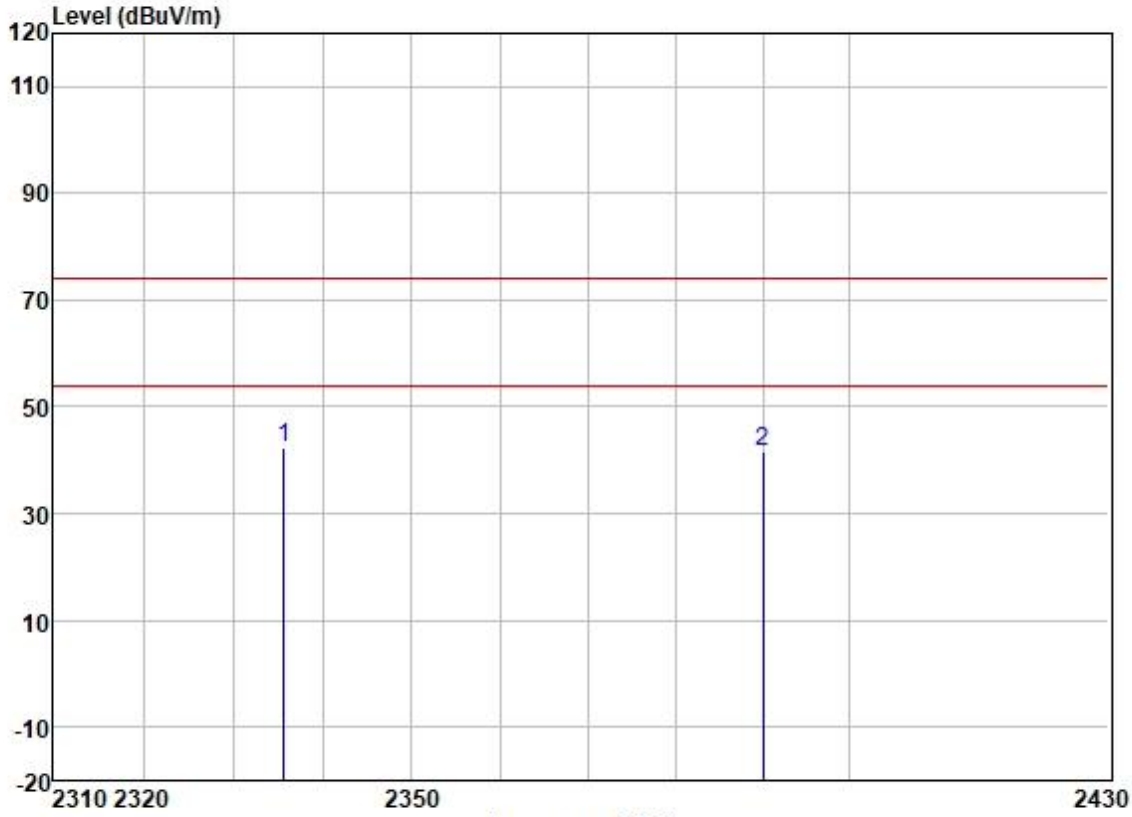
Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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	48.27	27.48	3.53	37.13	42.15	74.00	-31.85	HORIZONTAL	Peak
2	2490.976	45.50	27.49	3.47	37.12	39.34	74.00	-34.66	HORIZONTAL	Peak

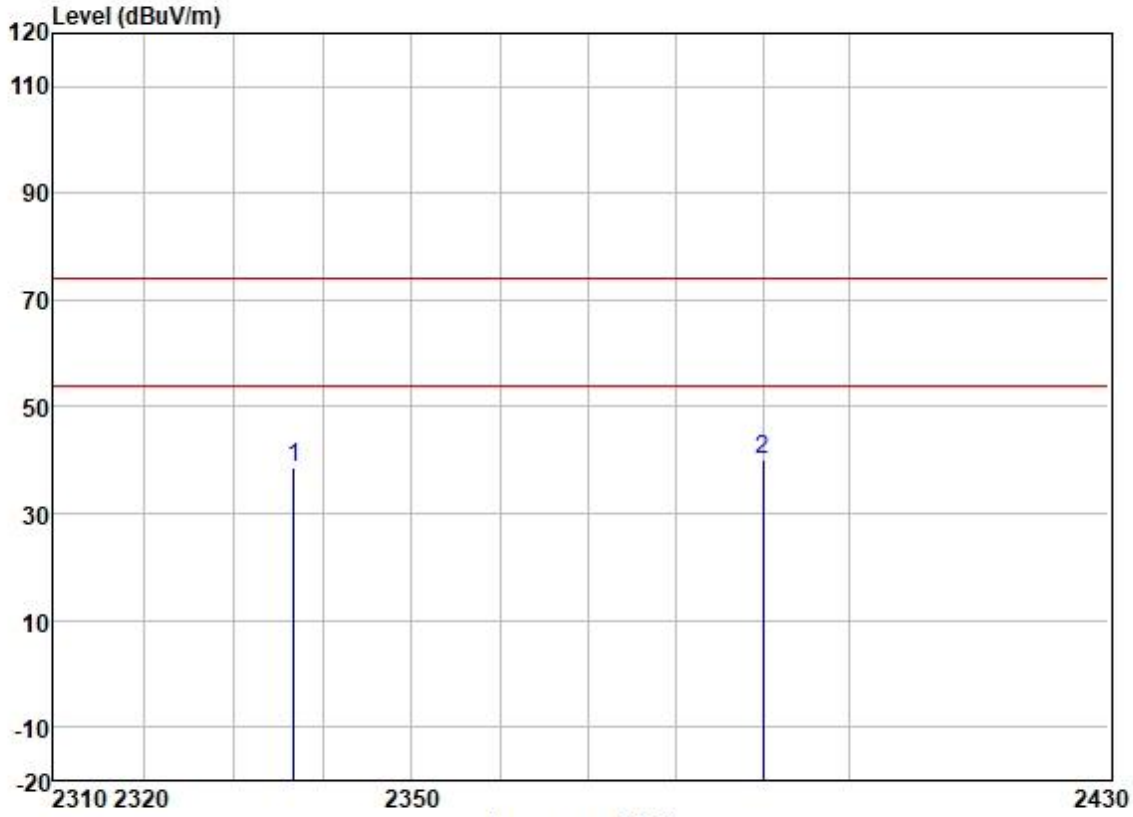
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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	2335.645	49.09	27.20	3.36	37.15	42.50	74.00	-31.50	VERTICAL	Peak
2	2390.000	47.94	27.33	3.48	37.14	41.61	74.00	-32.39	VERTICAL	Peak

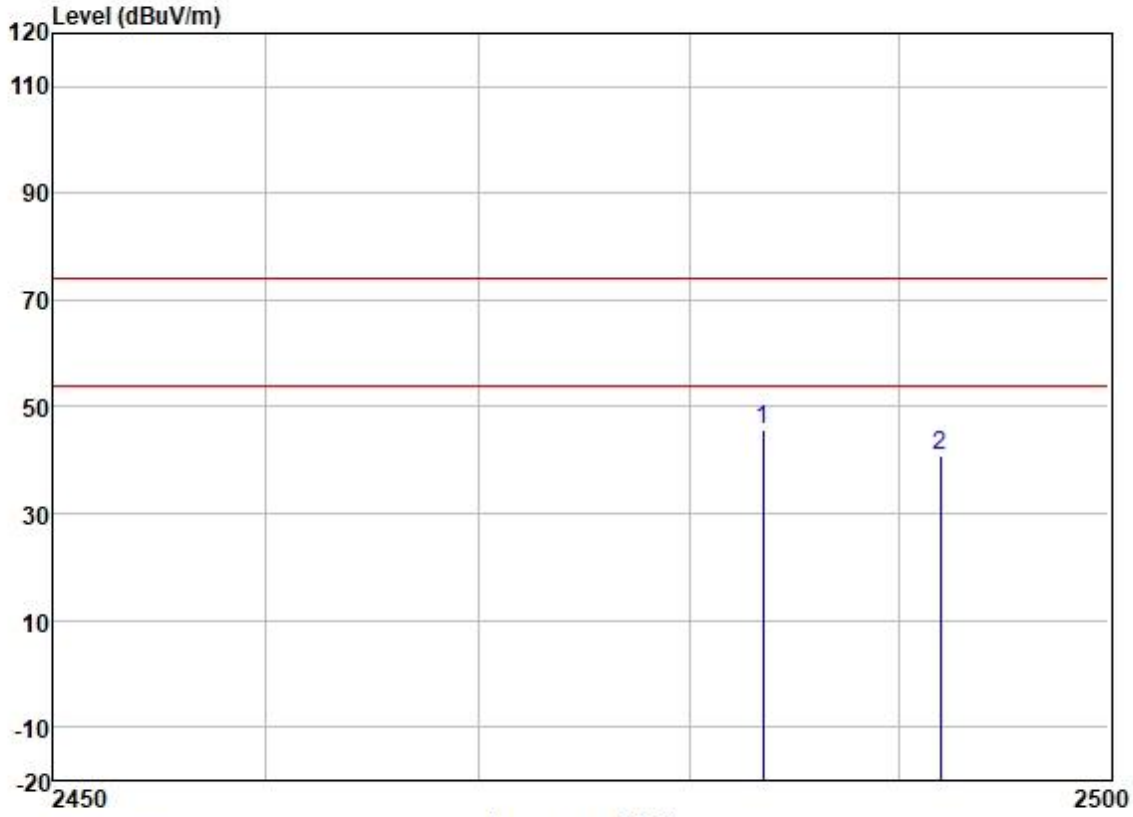
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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	2336.828	45.22	27.22	3.37	37.15	38.66	74.00	-35.34	HORIZONTAL	Peak
2	2390.000	46.42	27.33	3.48	37.14	40.09	74.00	-33.91	HORIZONTAL	Peak

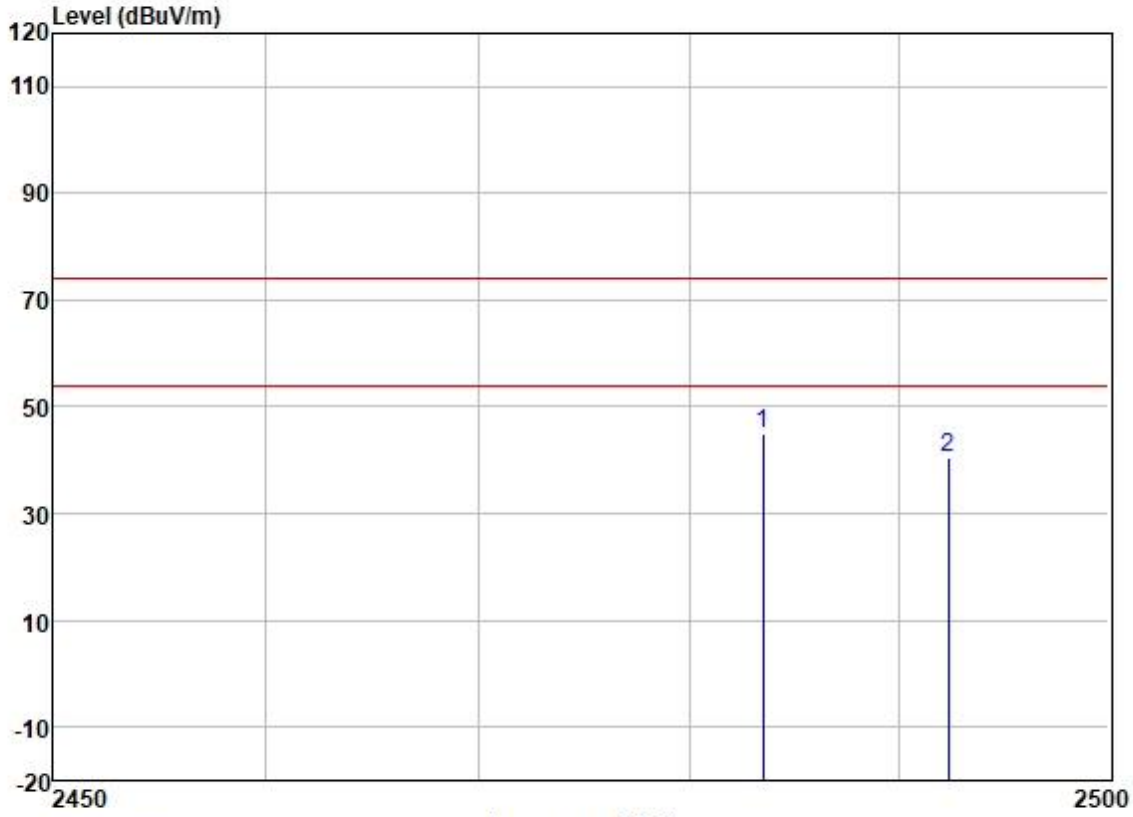
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



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	51.90	27.48	3.53	37.13	45.78	74.00	-28.22	VERTICAL	Peak
2	2491.932	47.18	27.49	3.47	37.12	41.02	74.00	-32.98	VERTICAL	Peak

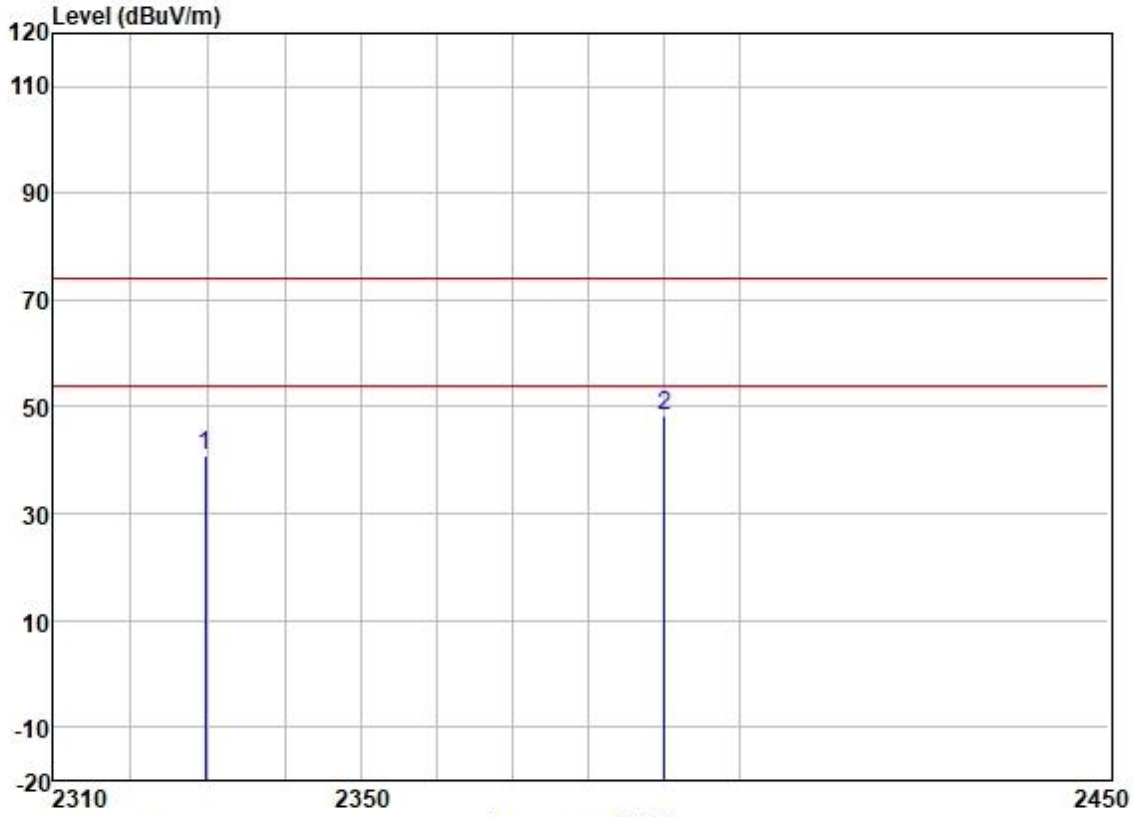
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



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	51.21	27.48	3.53	37.13	45.09	74.00	-28.91	HORIZONTAL	Peak
2	2492.335	46.48	27.49	3.47	37.12	40.32	74.00	-33.68	HORIZONTAL	Peak

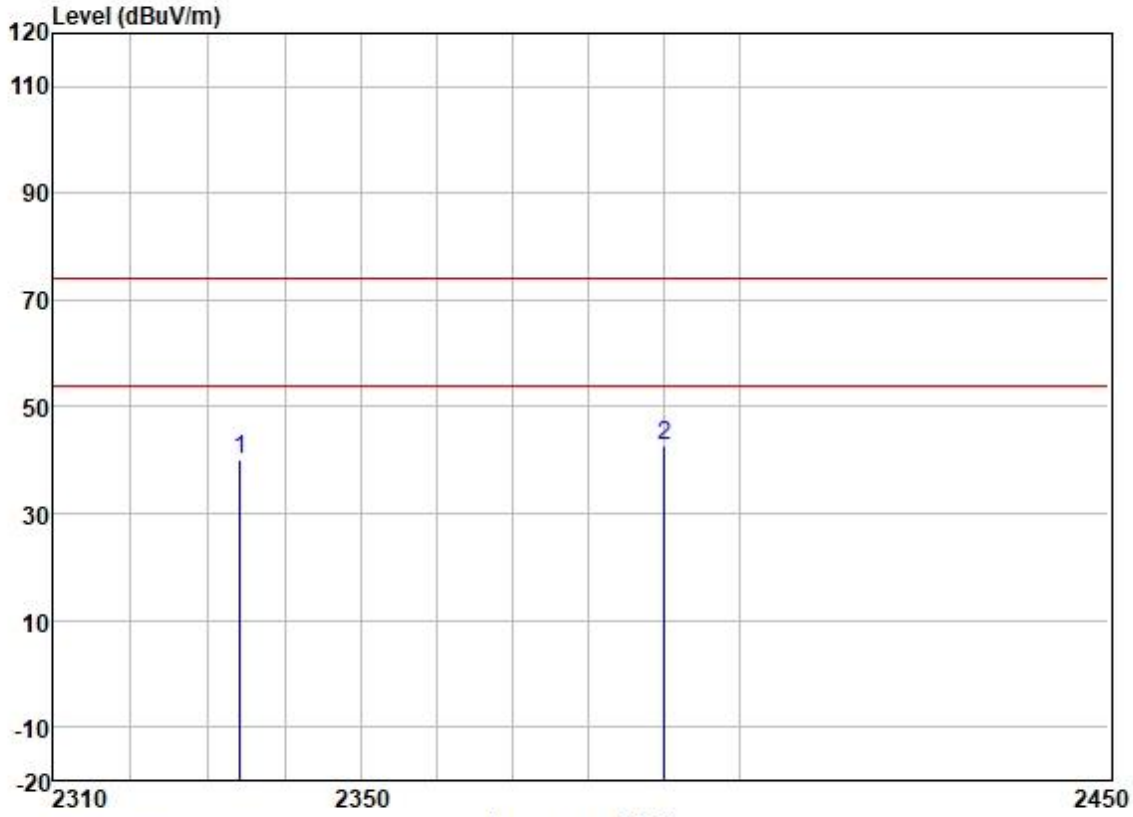
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



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	2329.656	47.33	27.20	3.36	37.15	40.74	74.00	-33.26	VERTICAL	Peak
2	2390.000	54.56	27.33	3.48	37.14	48.23	74.00	-25.77	VERTICAL	Peak

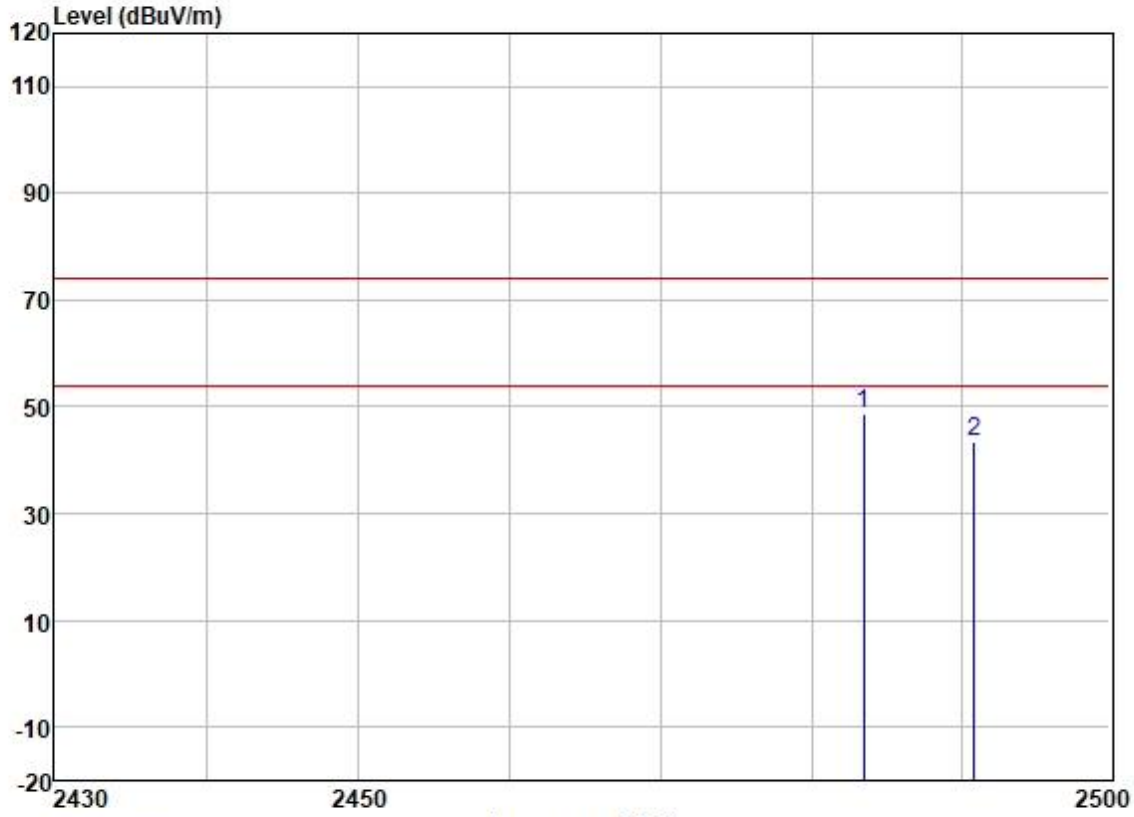
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



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	2334.184	46.79	27.20	3.36	37.15	40.20	74.00	-33.80	HORIZONTAL	Peak
2	2390.000	49.16	27.33	3.48	37.14	42.83	74.00	-31.17	HORIZONTAL	Peak

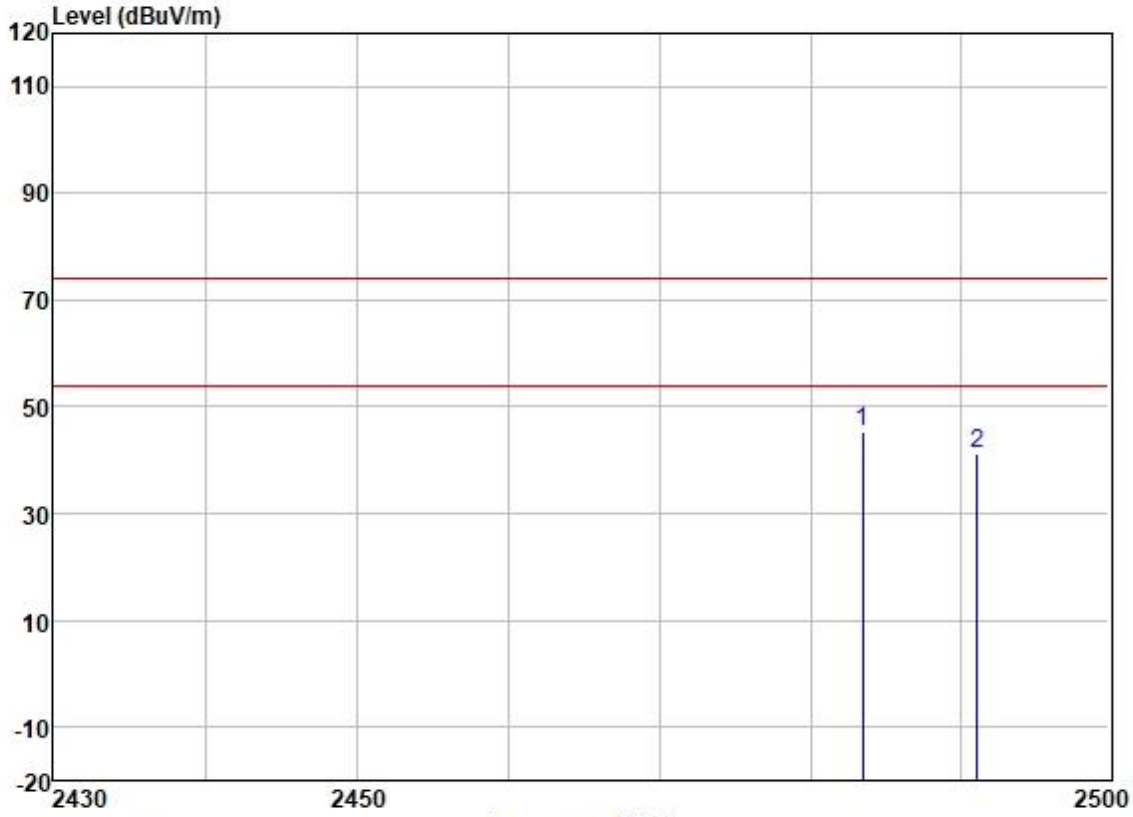
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



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	54.89	27.48	3.53	37.13	48.77	74.00	-25.23	VERTICAL	Peak
2	2490.858	49.80	27.49	3.47	37.12	43.64	74.00	-30.36	VERTICAL	Peak

Test Mode: 00; Polarity: Horizontal; 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	51.62	27.48	3.53	37.13	45.50	74.00	-28.50	HORIZONTAL	Peak
2	2491.141	47.47	27.49	3.47	37.12	41.31	74.00	-32.69	HORIZONTAL	Peak

7.8 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:

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

7.8.1 E.U.T. Operation

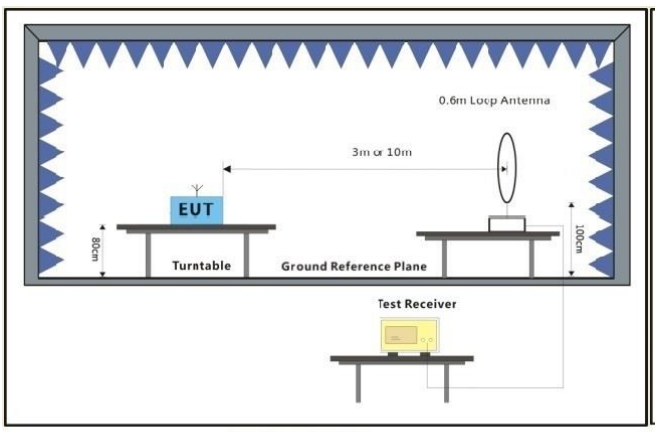
Operating Environment:

Temperature: 21.8 °C Humidity: 52 % RH Atmospheric Pressure: 1008 mbar

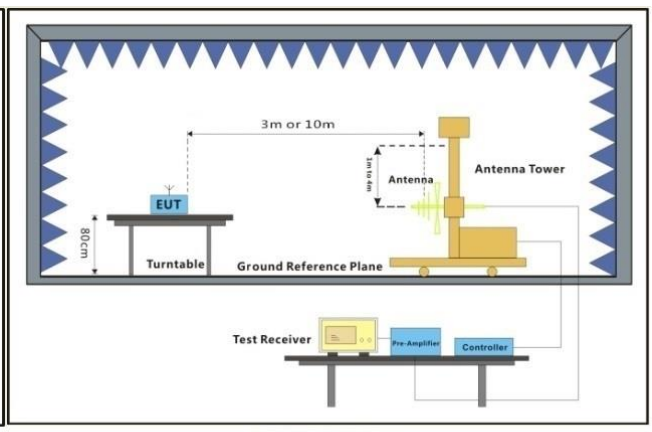
7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.8.3 Test Setup Diagram



Below 30MHz



30MHz-1GHz

7.8.4 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.

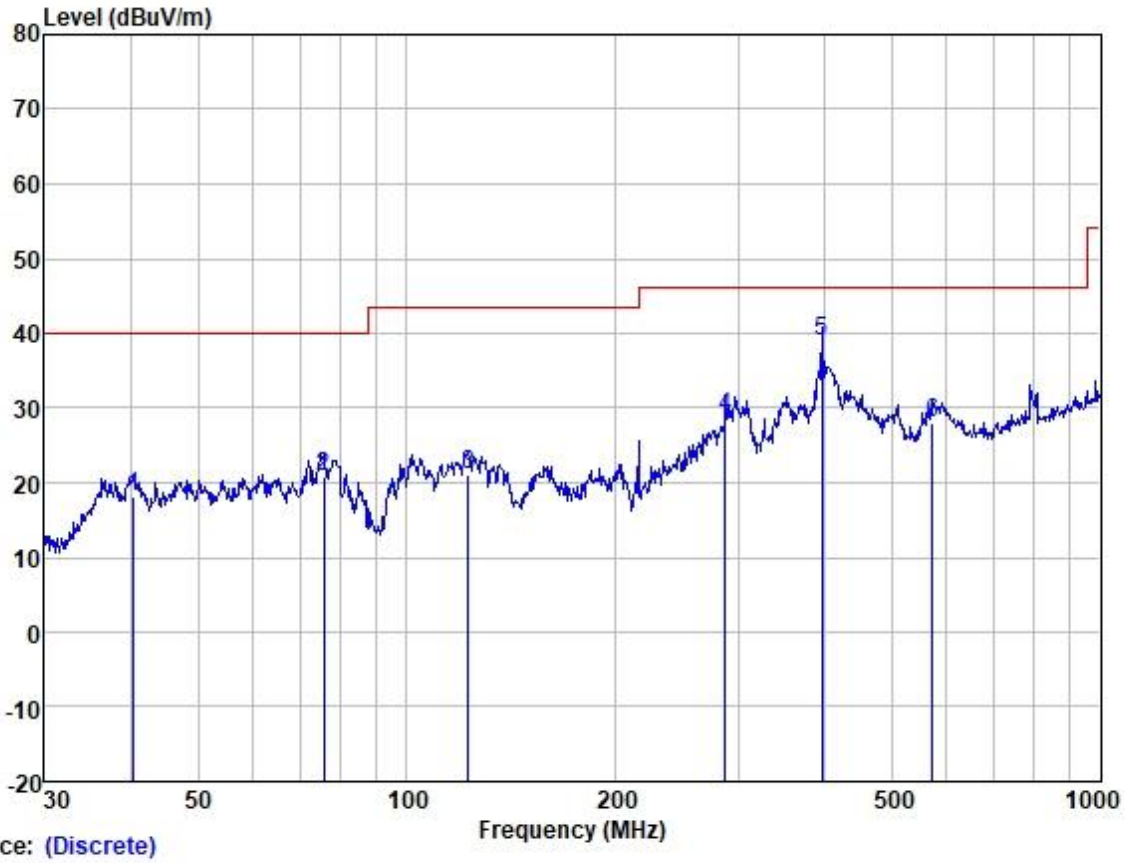
Remark:

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.

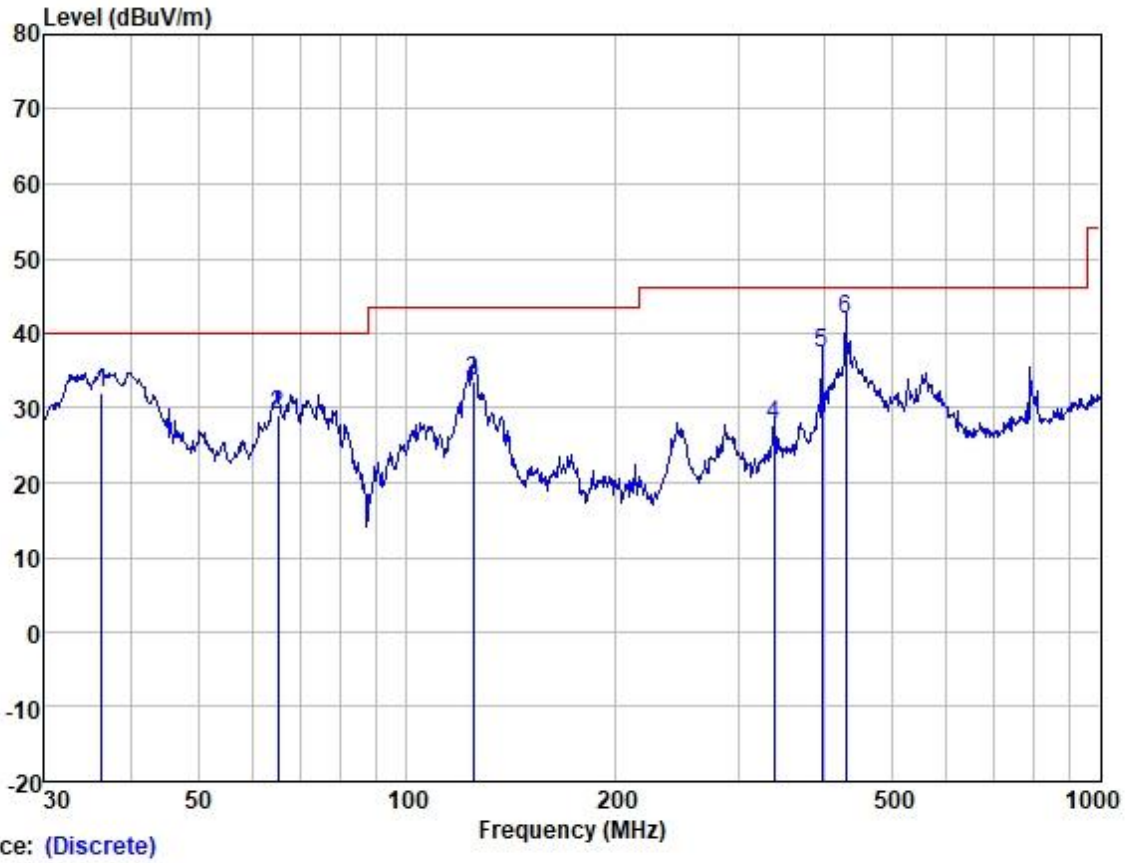
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Trace: (Discrete)
Site : SGS
Condition:
Job :
Model :
Power :
Test Mode:

	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	40.276	30.87	13.24	1.10	27.18	18.03	40.00	-21.97	HORIZONTAL	QP
2	75.977	36.42	10.00	1.45	27.10	20.77	40.00	-19.23	HORIZONTAL	QP
3	122.404	35.00	11.26	1.89	27.02	21.13	43.50	-22.37	HORIZONTAL	QP
4	287.990	39.12	13.15	3.12	26.56	28.83	46.00	-17.17	HORIZONTAL	QP
5	396.242	46.96	15.36	3.91	27.31	38.92	46.00	-7.08	HORIZONTAL	QP
6	572.614	32.40	18.75	4.98	28.17	27.96	46.00	-18.04	HORIZONTAL	QP

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Trace: (Discrete)
Site : SGS
Condition:
Job :
Model :
Power :
Test Mode:

	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	36.254	45.70	12.53	1.07	27.18	32.12	40.00	-7.88	VERTICAL	QP
2	65.114	41.85	12.92	1.35	27.15	28.97	40.00	-11.03	VERTICAL	QP
3	124.569	47.28	11.45	1.91	27.01	33.63	43.50	-9.87	VERTICAL	QP
4	338.400	36.91	14.10	3.50	26.82	27.69	46.00	-18.31	VERTICAL	QP
5	396.242	45.29	15.36	3.91	27.31	37.25	46.00	-8.75	VERTICAL	QP
6	429.523	48.67	16.50	4.07	27.49	41.75	46.00	-4.25	VERTICAL	QP

7.9 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

7.9.1 E.U.T. Operation

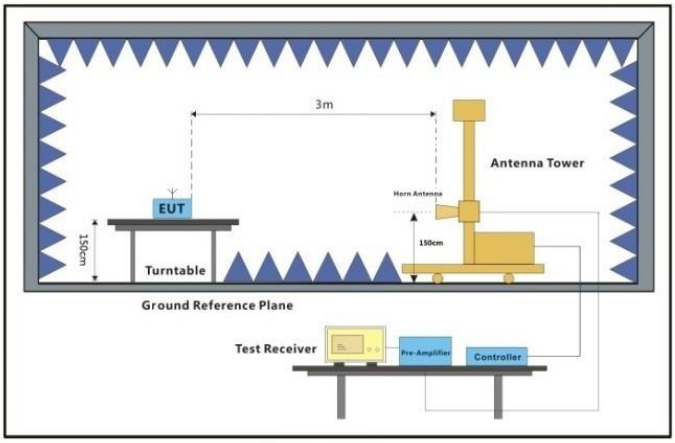
Operating Environment:

Temperature: 21.1 °C Humidity: 58.7 % RH Atmospheric Pressure: 1020 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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). Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



Above 1GHz

7.9.4 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.

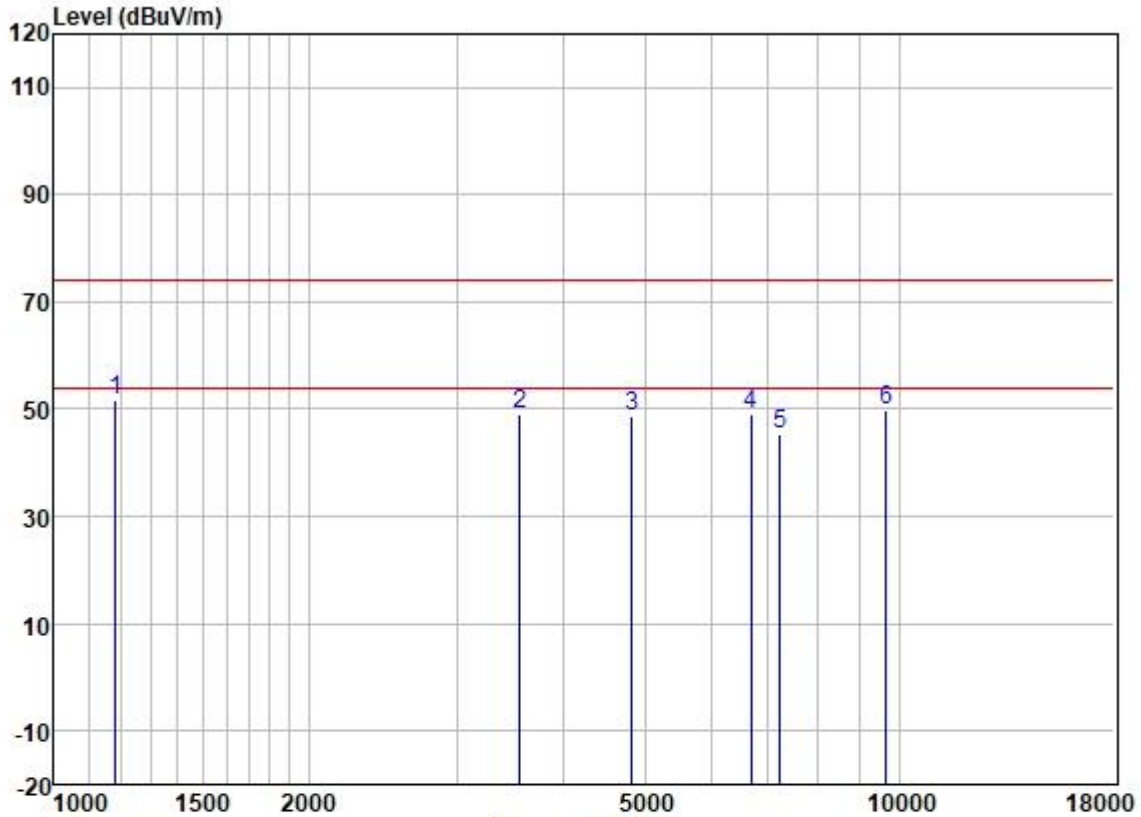
Remark:

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.

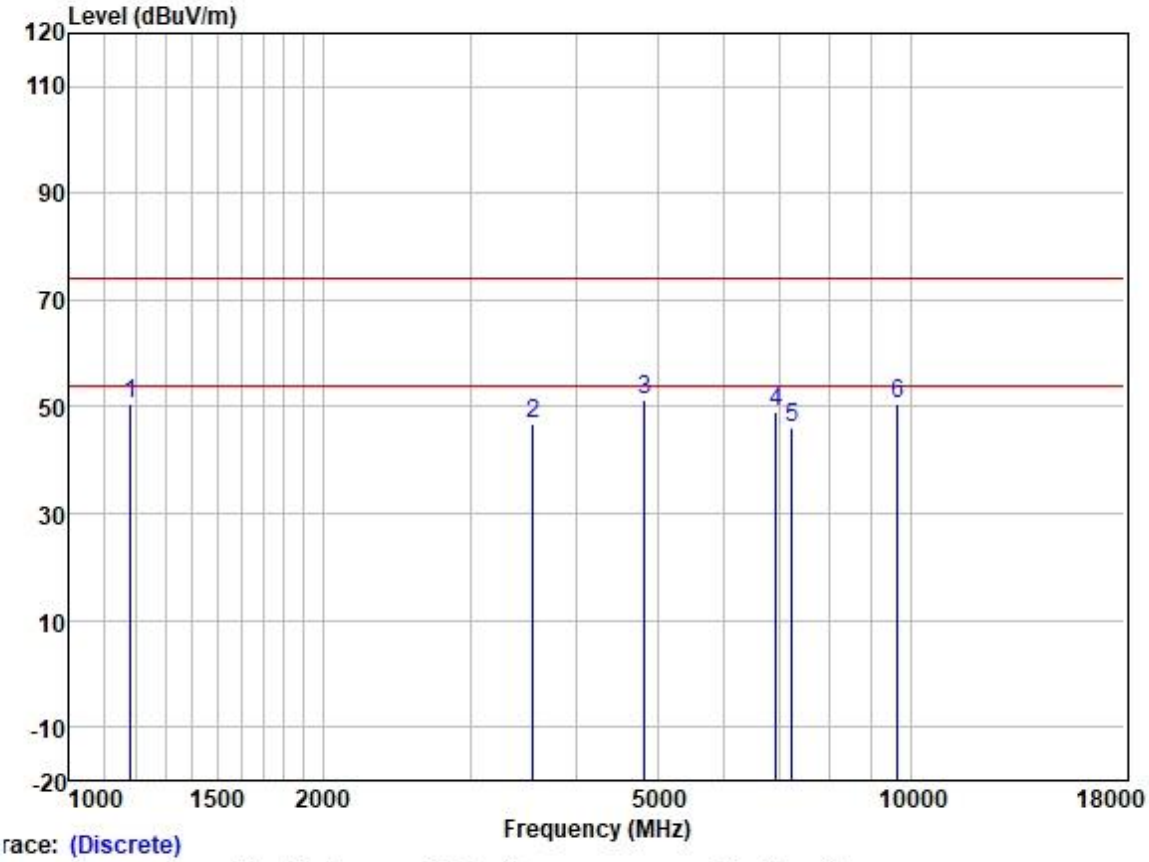
Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



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	1182.513	62.77	24.60	2.37	38.17	51.57	74.00	-22.43	VERTICAL	peak
2	3556.843	52.36	28.98	4.44	36.77	49.01	74.00	-24.99	VERTICAL	peak
3	4824.000	48.46	31.45	5.42	36.50	48.83	74.00	-25.17	VERTICAL	peak
4	6679.040	45.47	34.33	5.83	36.39	49.24	74.00	-24.76	VERTICAL	peak
5	7236.000	40.61	35.70	6.03	36.94	45.40	74.00	-28.60	VERTICAL	peak
6	9648.000	41.09	38.40	7.06	36.85	49.70	74.00	-24.30	VERTICAL	peak

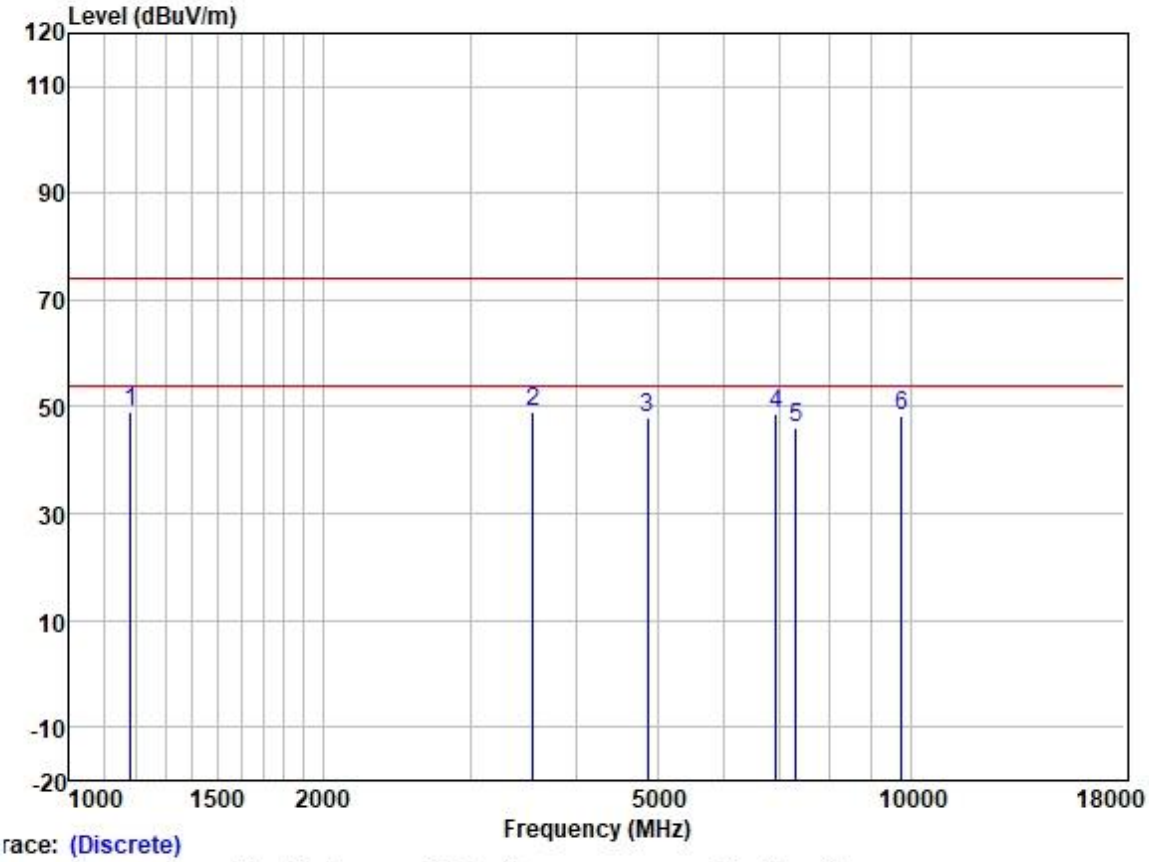
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



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	1182.513	61.60	24.60	2.37	38.17	50.40	74.00	-23.60	HORIZONTAL	peak
2	3556.843	50.34	28.98	4.44	36.77	46.99	74.00	-27.01	HORIZONTAL	peak
3	4824.000	50.95	31.45	5.42	36.50	51.32	74.00	-22.68	HORIZONTAL	peak
4	6914.763	44.82	34.89	5.81	36.60	48.92	74.00	-25.08	HORIZONTAL	peak
5	7236.000	41.18	35.70	6.03	36.94	45.97	74.00	-28.03	HORIZONTAL	peak
6	9648.000	41.80	38.40	7.06	36.85	50.41	74.00	-23.59	HORIZONTAL	peak

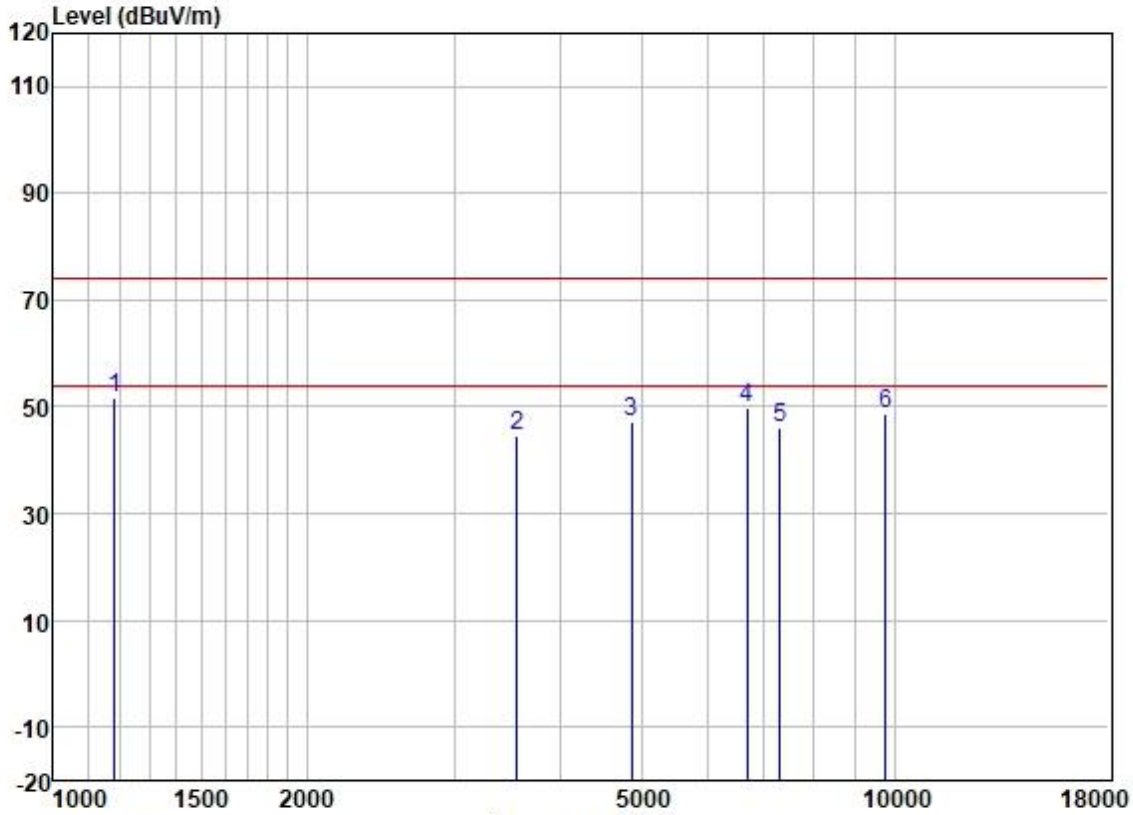
Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



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	1182.513	60.11	24.60	2.37	38.17	48.91	74.00	-25.09	VERTICAL	peak
2	3556.843	52.57	28.98	4.44	36.77	49.22	74.00	-24.78	VERTICAL	peak
3	4874.000	47.57	31.54	5.50	36.48	48.13	74.00	-25.87	VERTICAL	peak
4	6914.763	44.70	34.89	5.81	36.60	48.80	74.00	-25.20	VERTICAL	peak
5	7311.000	41.17	35.93	6.11	36.99	46.22	74.00	-27.78	VERTICAL	peak
6	9748.000	39.61	38.50	7.02	36.83	48.30	74.00	-25.70	VERTICAL	peak

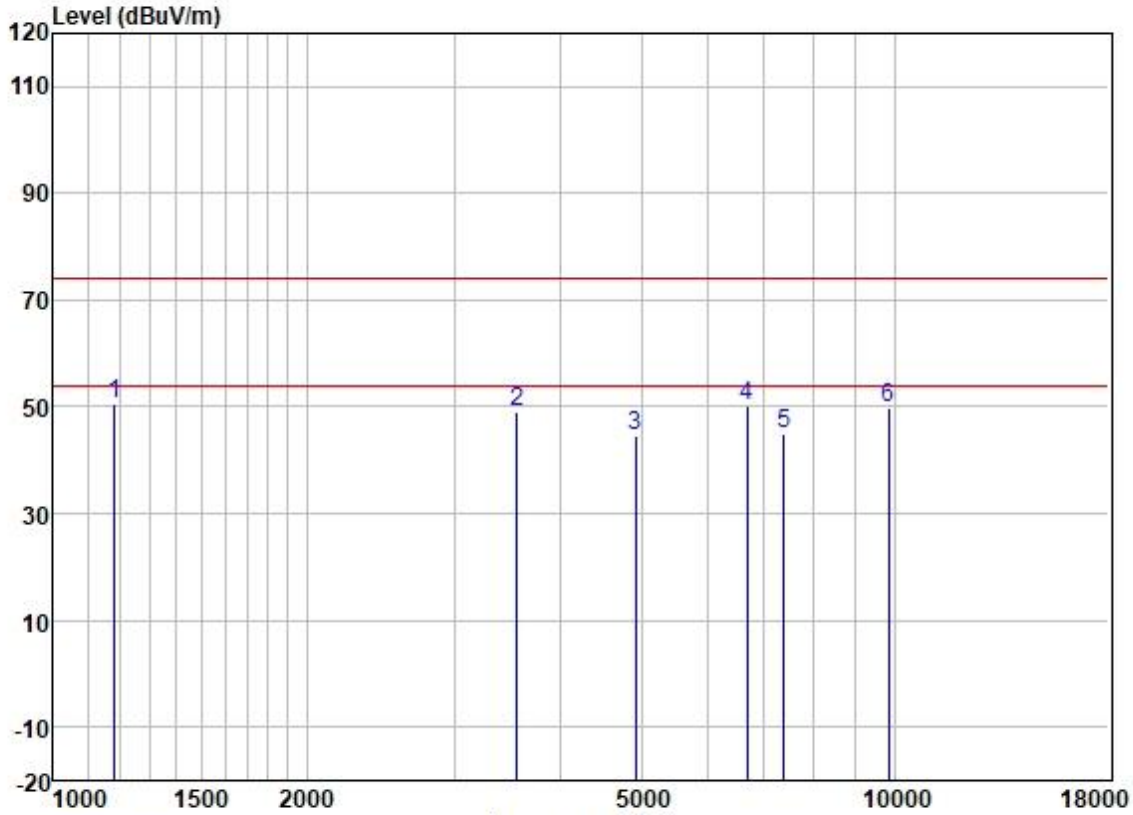
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



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	1182.513	63.00	24.60	2.37	38.17	51.80	74.00	-22.20	HORIZONTAL	peak
2	3556.843	48.07	28.98	4.44	36.77	44.72	74.00	-29.28	HORIZONTAL	peak
3	4874.000	46.60	31.54	5.50	36.48	47.16	74.00	-26.84	HORIZONTAL	peak
4	6679.040	46.20	34.33	5.83	36.39	49.97	74.00	-24.03	HORIZONTAL	peak
5	7311.000	41.00	35.93	6.11	36.99	46.05	74.00	-27.95	HORIZONTAL	peak
6	9748.000	40.00	38.50	7.02	36.83	48.69	74.00	-25.31	HORIZONTAL	peak

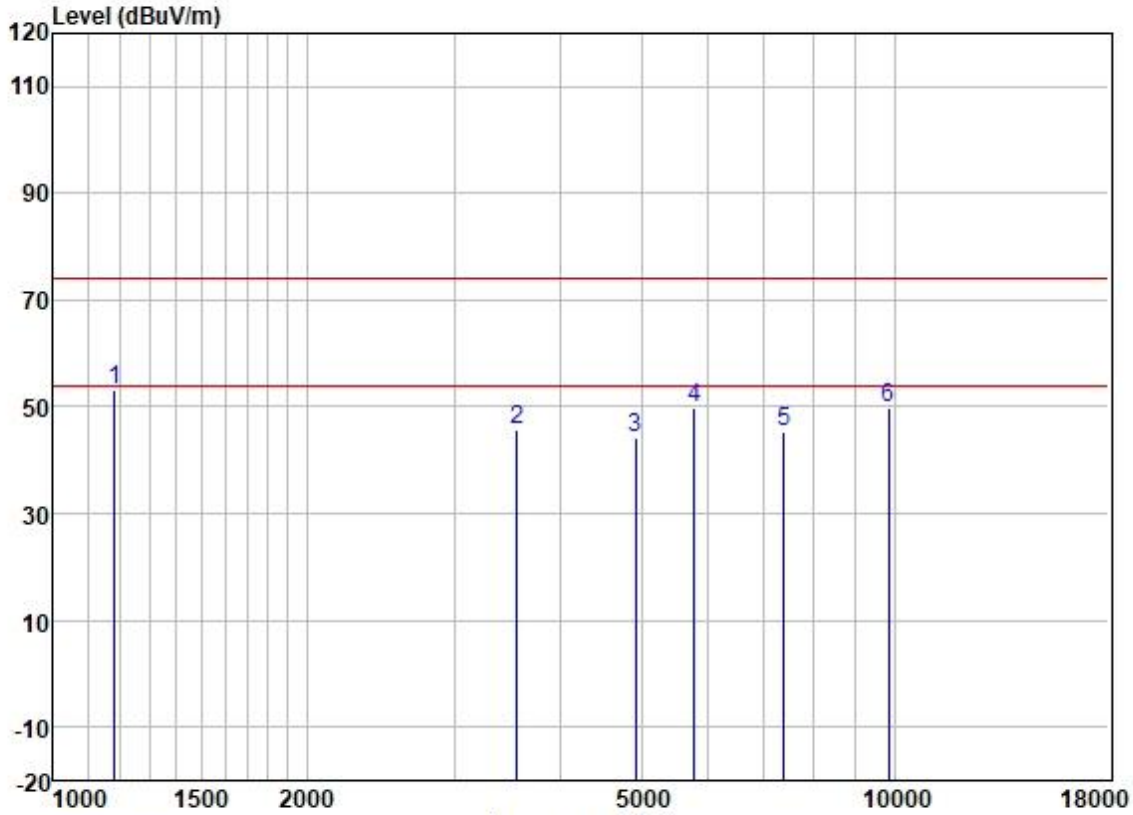
Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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	1182.513	61.58	24.60	2.37	38.17	50.38	74.00	-23.62	VERTICAL	peak
2	3556.843	52.52	28.98	4.44	36.77	49.17	74.00	-24.83	VERTICAL	peak
3	4924.000	43.98	31.62	5.60	36.45	44.75	74.00	-29.25	VERTICAL	peak
4	6679.040	46.53	34.33	5.83	36.39	50.30	74.00	-23.70	VERTICAL	peak
5	7386.000	39.56	36.17	6.19	37.04	44.88	74.00	-29.12	VERTICAL	peak
6	9848.000	40.94	38.58	6.99	36.82	49.69	74.00	-24.31	VERTICAL	peak

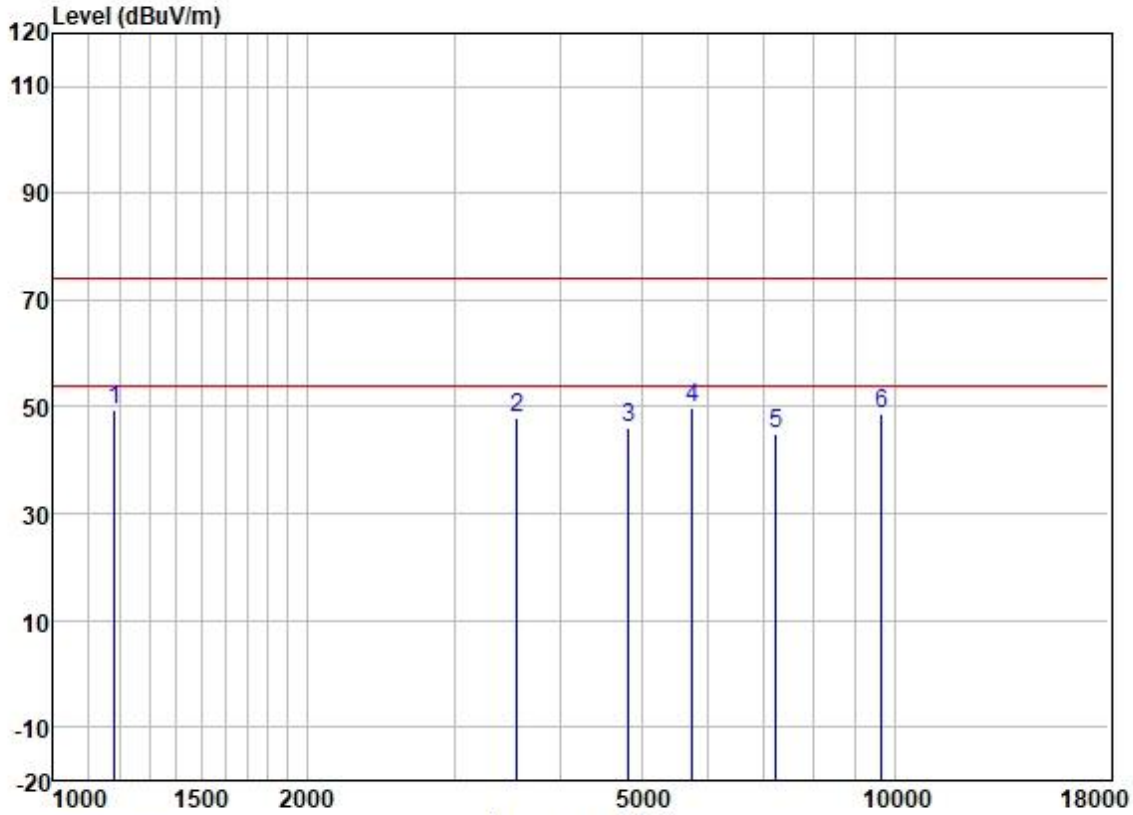
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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	1182.513	64.52	24.60	2.37	38.17	53.32	74.00	-20.68	HORIZONTAL	peak
2	3556.843	49.19	28.98	4.44	36.77	45.84	74.00	-28.16	HORIZONTAL	peak
3	4924.000	43.56	31.62	5.60	36.45	44.33	74.00	-29.67	HORIZONTAL	peak
4	5780.300	47.76	32.16	6.10	36.14	49.88	74.00	-24.12	HORIZONTAL	peak
5	7386.000	39.92	36.17	6.19	37.04	45.24	74.00	-28.76	HORIZONTAL	peak
6	9848.000	41.14	38.58	6.99	36.82	49.89	74.00	-24.11	HORIZONTAL	peak

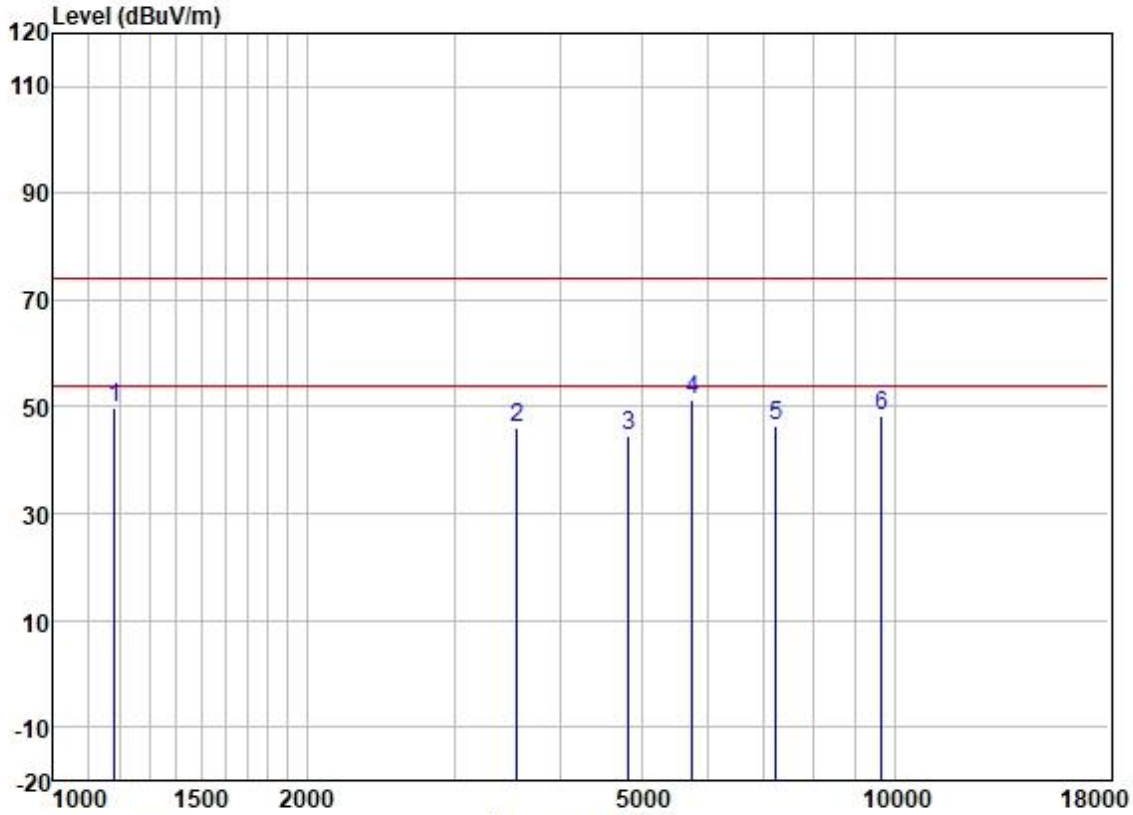
Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



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	1182.513	60.80	24.60	2.37	38.17	49.60	74.00	-24.40	VERTICAL	peak
2	3556.843	51.47	28.98	4.44	36.77	48.12	74.00	-25.88	VERTICAL	peak
3	4824.000	45.68	31.45	5.42	36.50	46.05	74.00	-27.95	VERTICAL	peak
4	5746.982	47.82	32.10	6.20	36.14	49.98	74.00	-24.02	VERTICAL	peak
5	7236.000	40.23	35.70	6.03	36.94	45.02	74.00	-28.98	VERTICAL	peak
6	9648.000	40.24	38.40	7.06	36.85	48.85	74.00	-25.15	VERTICAL	peak

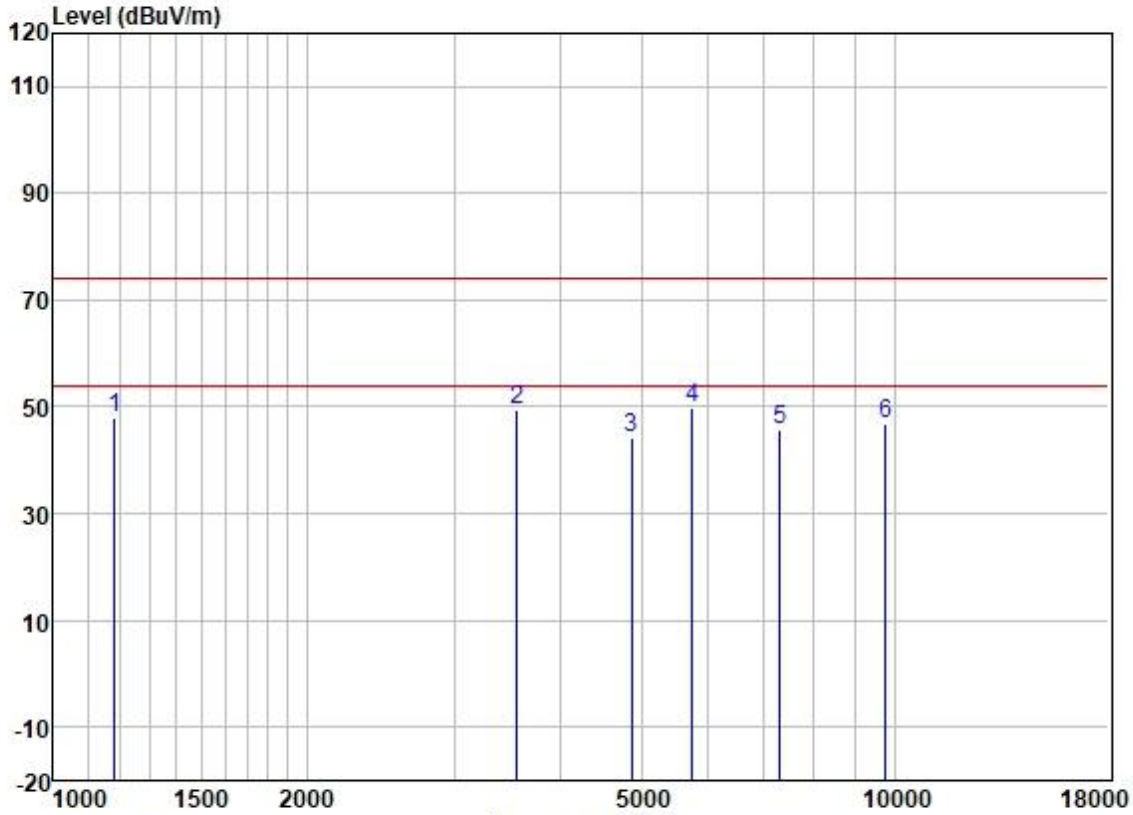
Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



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	1182.513	60.86	24.60	2.37	38.17	49.66	74.00	-24.34	HORIZONTAL	peak
2	3556.843	49.26	28.98	4.44	36.77	45.91	74.00	-28.09	HORIZONTAL	peak
3	4824.000	44.03	31.45	5.42	36.50	44.40	74.00	-29.60	HORIZONTAL	peak
4	5746.982	48.97	32.10	6.20	36.14	51.13	74.00	-22.87	HORIZONTAL	peak
5	7236.000	41.65	35.70	6.03	36.94	46.44	74.00	-27.56	HORIZONTAL	peak
6	9648.000	39.75	38.40	7.06	36.85	48.36	74.00	-25.64	HORIZONTAL	peak

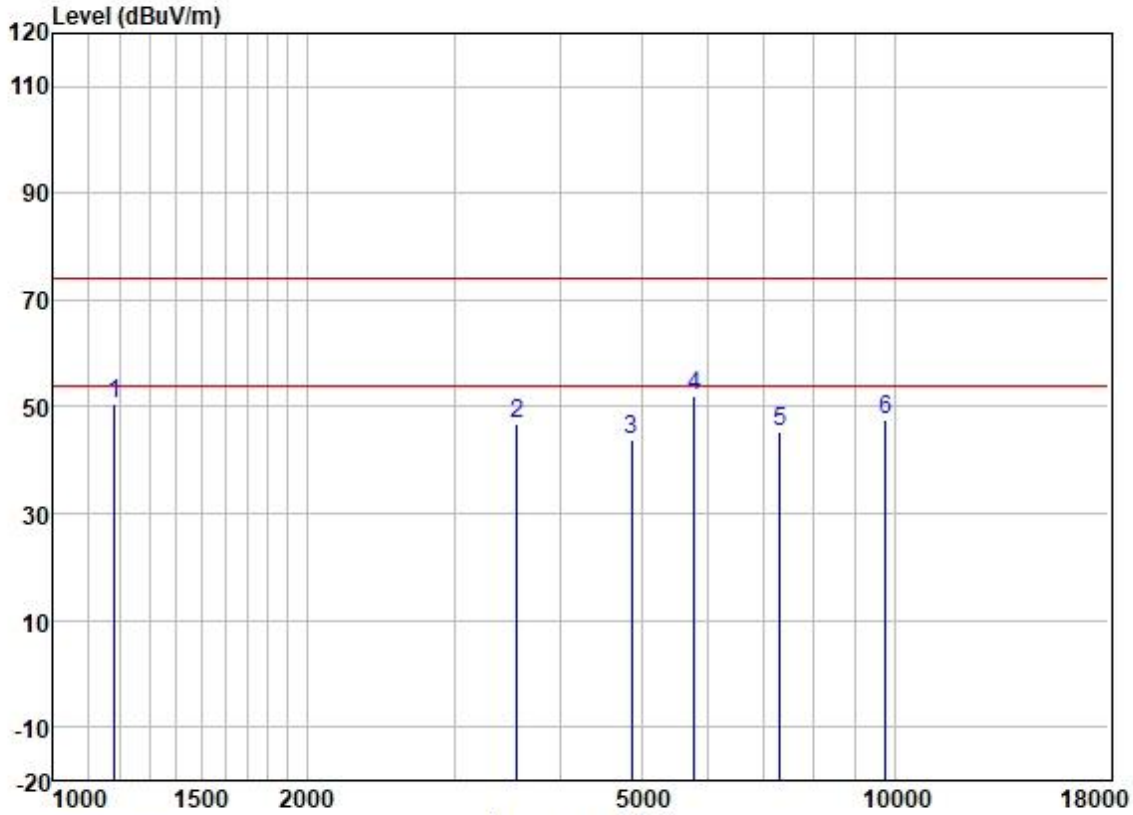
Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



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	1182.513	59.07	24.60	2.37	38.17	47.87	74.00	-26.13	VERTICAL	peak
2	3556.843	52.84	28.98	4.44	36.77	49.49	74.00	-24.51	VERTICAL	peak
3	4874.000	43.47	31.54	5.50	36.48	44.03	74.00	-29.97	VERTICAL	peak
4	5746.982	47.70	32.10	6.20	36.14	49.86	74.00	-24.14	VERTICAL	peak
5	7311.000	40.80	35.93	6.11	36.99	45.85	74.00	-28.15	VERTICAL	peak
6	9748.000	38.31	38.50	7.02	36.83	47.00	74.00	-27.00	VERTICAL	peak

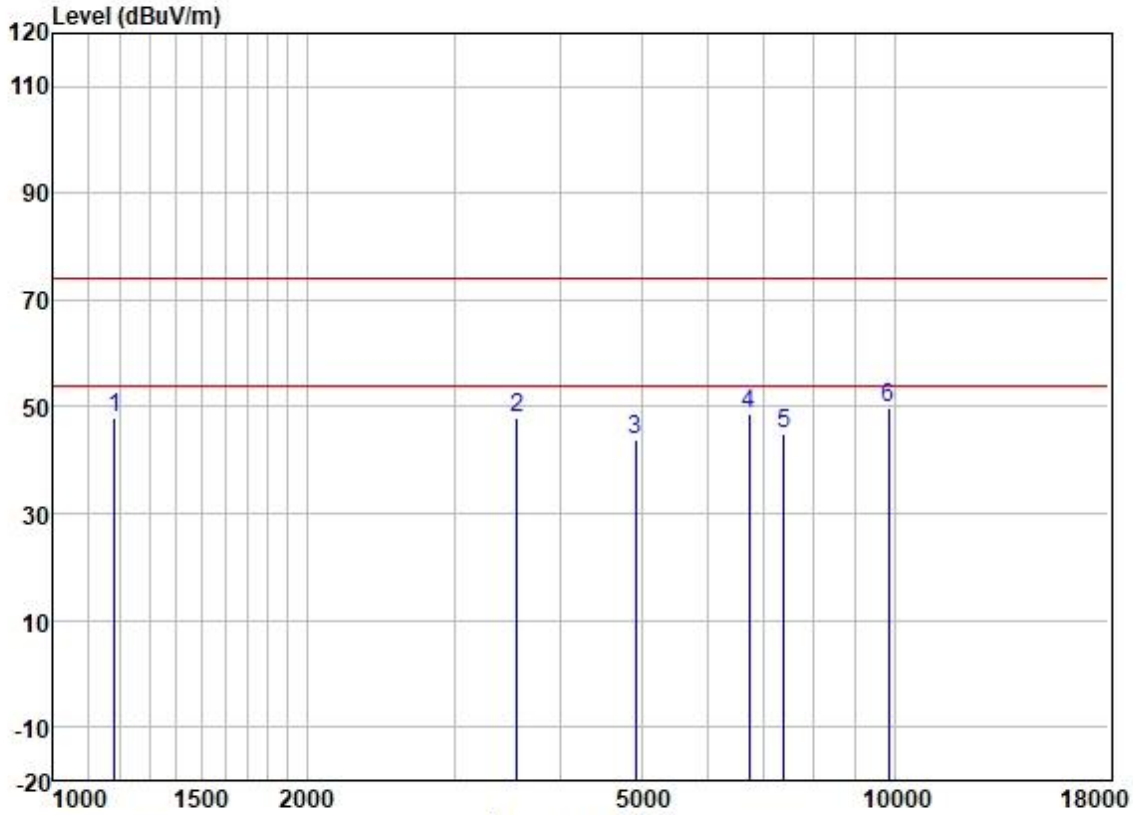
Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



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	1182.513	61.58	24.60	2.37	38.17	50.38	74.00	-23.62	HORIZONTAL	peak
2	3556.843	50.13	28.98	4.44	36.77	46.78	74.00	-27.22	HORIZONTAL	peak
3	4874.000	43.37	31.54	5.50	36.48	43.93	74.00	-30.07	HORIZONTAL	peak
4	5780.300	49.79	32.16	6.10	36.14	51.91	74.00	-22.09	HORIZONTAL	peak
5	7311.000	40.39	35.93	6.11	36.99	45.44	74.00	-28.56	HORIZONTAL	peak
6	9748.000	38.81	38.50	7.02	36.83	47.50	74.00	-26.50	HORIZONTAL	peak

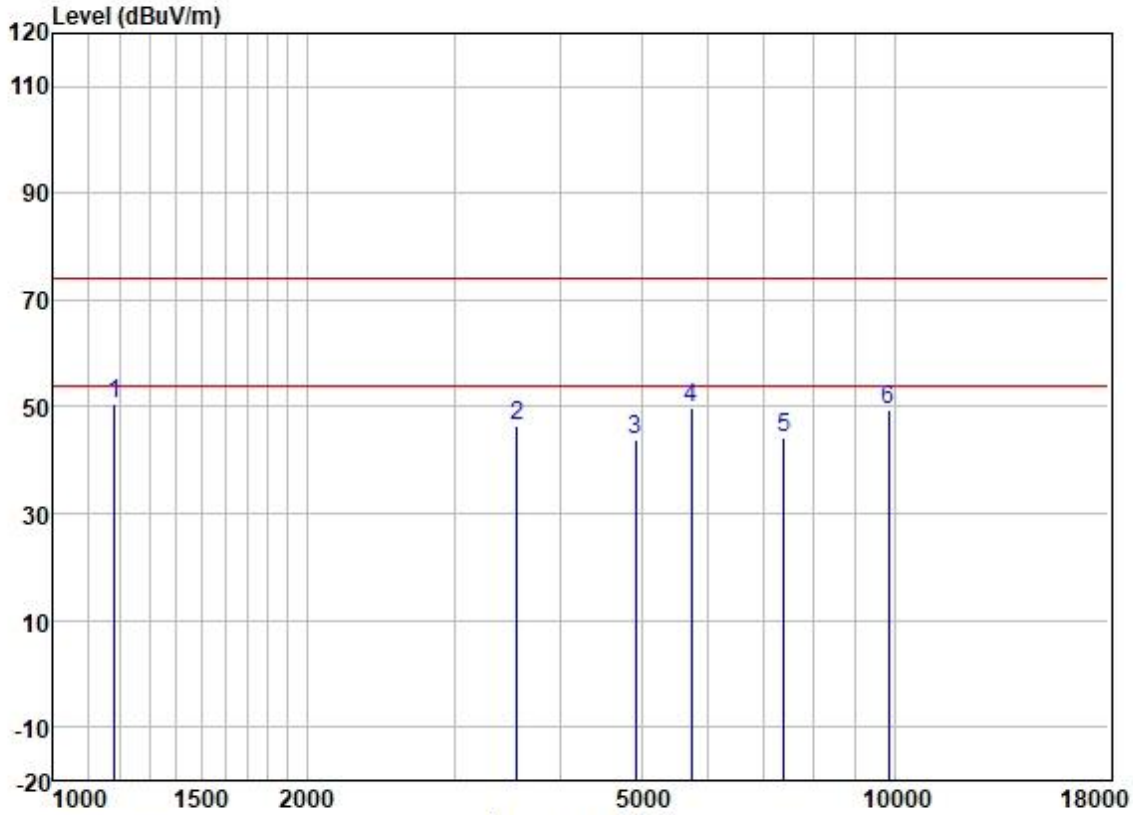
Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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	1182.513	59.20	24.60	2.37	38.17	48.00	74.00	-26.00	VERTICAL	peak
2	3556.843	51.41	28.98	4.44	36.77	48.06	74.00	-25.94	VERTICAL	peak
3	4924.000	43.21	31.62	5.60	36.45	43.98	74.00	-30.02	VERTICAL	peak
4	6717.762	44.97	34.44	5.83	36.42	48.82	74.00	-25.18	VERTICAL	peak
5	7386.000	39.70	36.17	6.19	37.04	45.02	74.00	-28.98	VERTICAL	peak
6	9848.000	40.97	38.58	6.99	36.82	49.72	74.00	-24.28	VERTICAL	peak

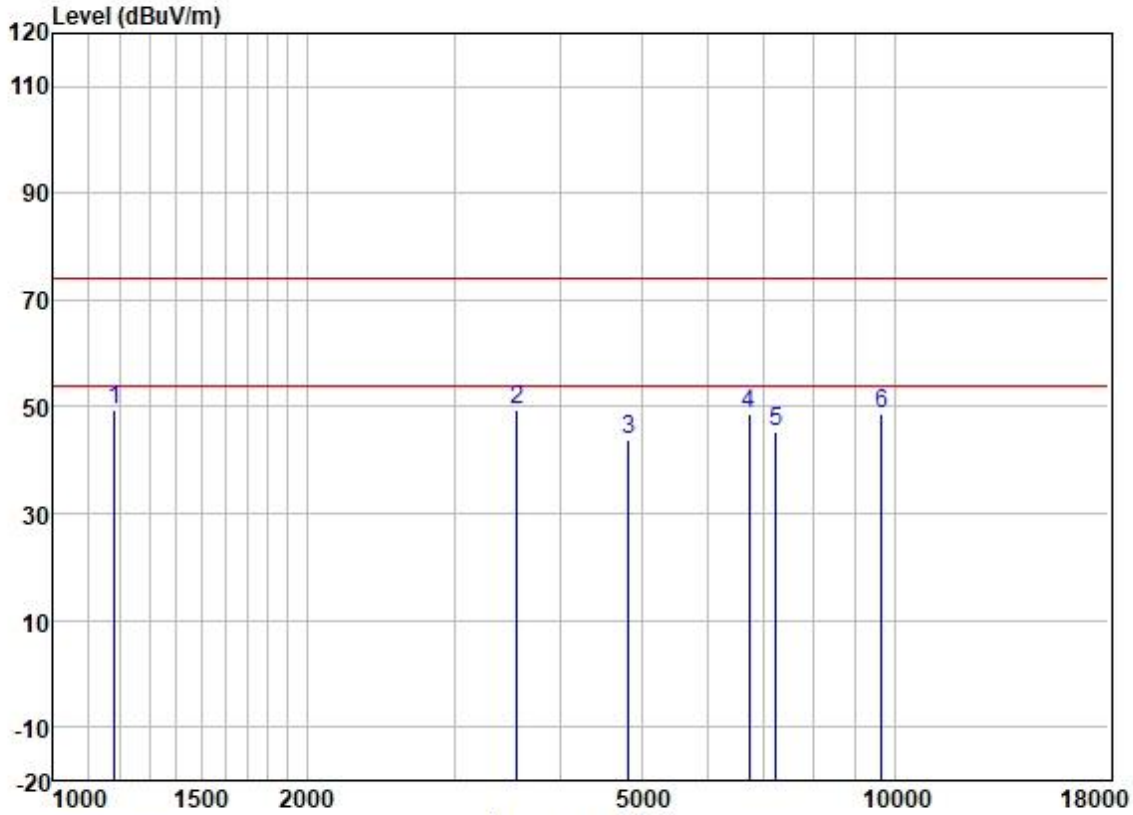
Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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	1182.513	61.89	24.60	2.37	38.17	50.69	74.00	-23.31	HORIZONTAL	peak
2	3556.843	49.99	28.98	4.44	36.77	46.64	74.00	-27.36	HORIZONTAL	peak
3	4924.000	43.15	31.62	5.60	36.45	43.92	74.00	-30.08	HORIZONTAL	peak
4	5730.396	47.55	32.07	6.25	36.15	49.72	74.00	-24.28	HORIZONTAL	peak
5	7386.000	38.98	36.17	6.19	37.04	44.30	74.00	-29.70	HORIZONTAL	peak
6	9848.000	40.76	38.58	6.99	36.82	49.51	74.00	-24.49	HORIZONTAL	peak

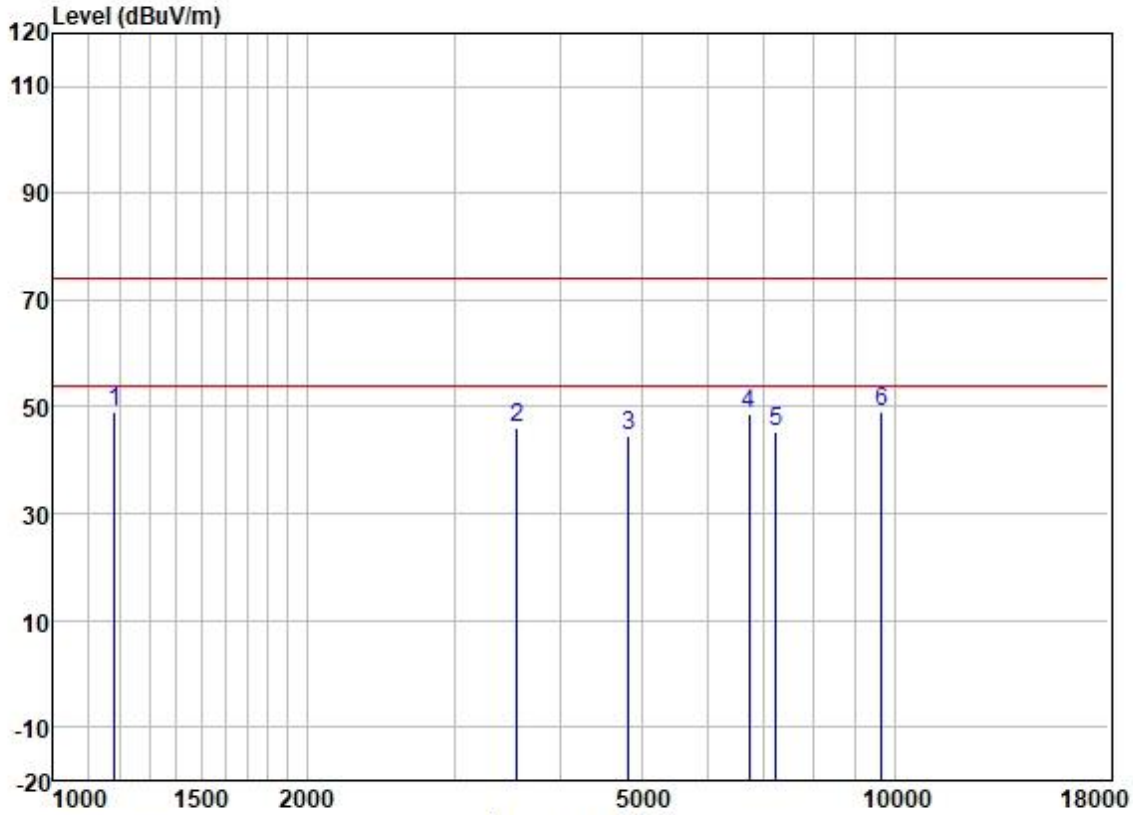
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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	1182.513	60.67	24.60	2.37	38.17	49.47	74.00	-24.53	VERTICAL	peak
2	3556.843	52.95	28.98	4.44	36.77	49.60	74.00	-24.40	VERTICAL	peak
3	4824.000	43.48	31.45	5.42	36.50	43.85	74.00	-30.15	VERTICAL	peak
4	6717.762	44.93	34.44	5.83	36.42	48.78	74.00	-25.22	VERTICAL	peak
5	7236.000	40.47	35.70	6.03	36.94	45.26	74.00	-28.74	VERTICAL	peak
6	9648.000	40.08	38.40	7.06	36.85	48.69	74.00	-25.31	VERTICAL	peak

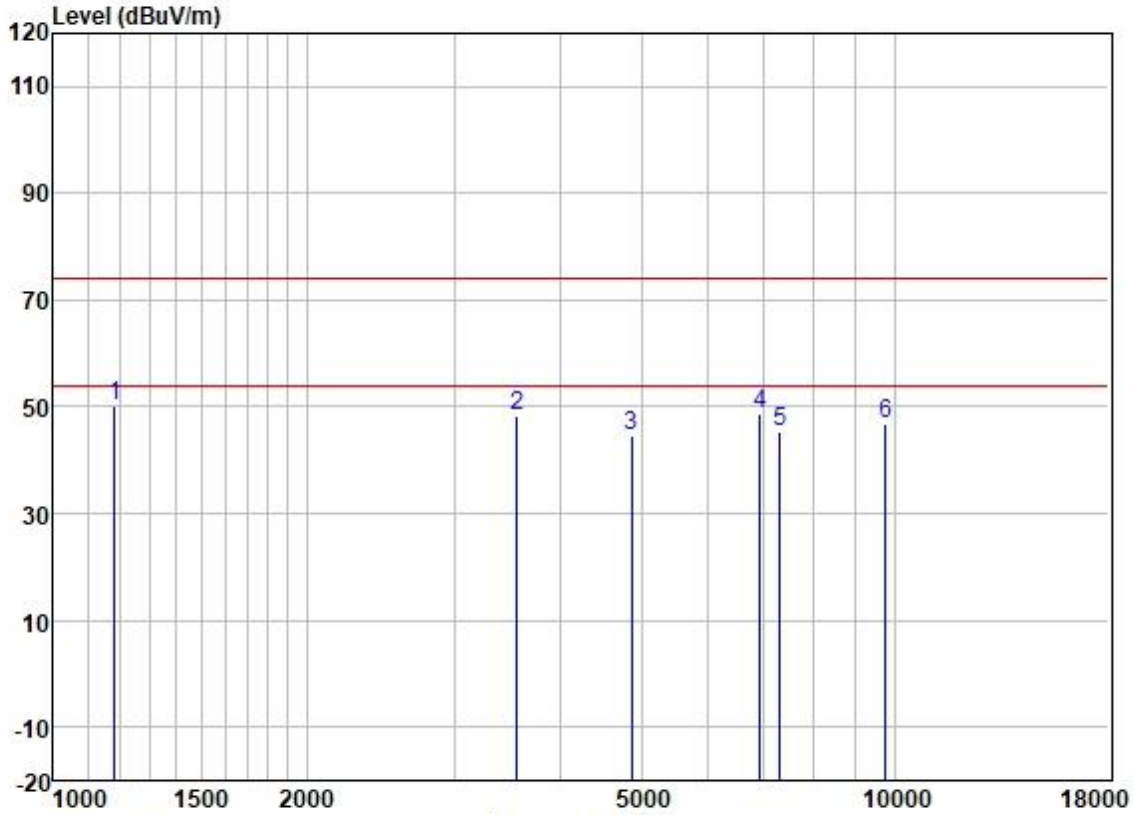
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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	1182.513	60.35	24.60	2.37	38.17	49.15	74.00	-24.85	HORIZONTAL	peak
2	3556.843	49.52	28.98	4.44	36.77	46.17	74.00	-27.83	HORIZONTAL	peak
3	4824.000	44.38	31.45	5.42	36.50	44.75	74.00	-29.25	HORIZONTAL	peak
4	6717.762	45.00	34.44	5.83	36.42	48.85	74.00	-25.15	HORIZONTAL	peak
5	7236.000	40.65	35.70	6.03	36.94	45.44	74.00	-28.56	HORIZONTAL	peak
6	9648.000	40.28	38.40	7.06	36.85	48.89	74.00	-25.11	HORIZONTAL	peak

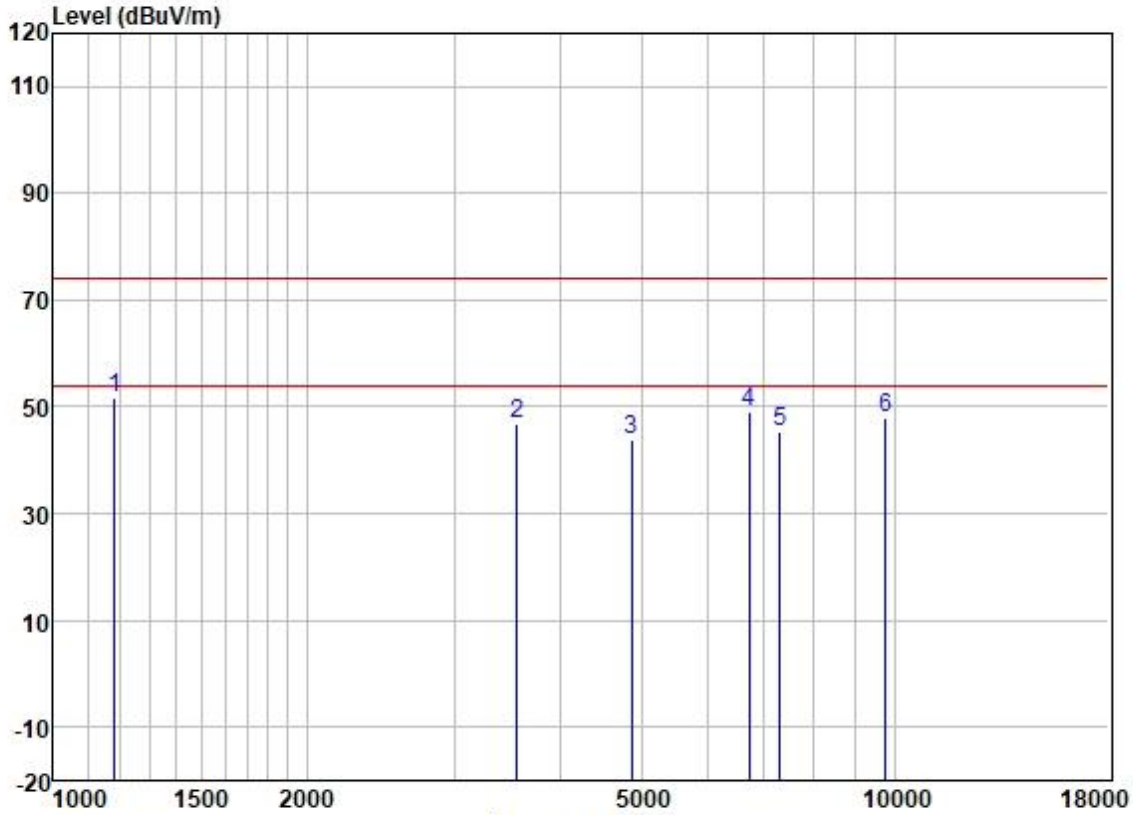
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



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	1182.513	61.21	24.60	2.37	38.17	50.01	74.00	-23.99	VERTICAL	peak
2	3556.843	51.85	28.98	4.44	36.77	48.50	74.00	-25.50	VERTICAL	peak
3	4874.000	44.07	31.54	5.50	36.48	44.63	74.00	-29.37	VERTICAL	peak
4	6914.763	44.56	34.89	5.81	36.60	48.66	74.00	-25.34	VERTICAL	peak
5	7311.000	40.44	35.93	6.11	36.99	45.49	74.00	-28.51	VERTICAL	peak
6	9748.000	38.29	38.50	7.02	36.83	46.98	74.00	-27.02	VERTICAL	peak

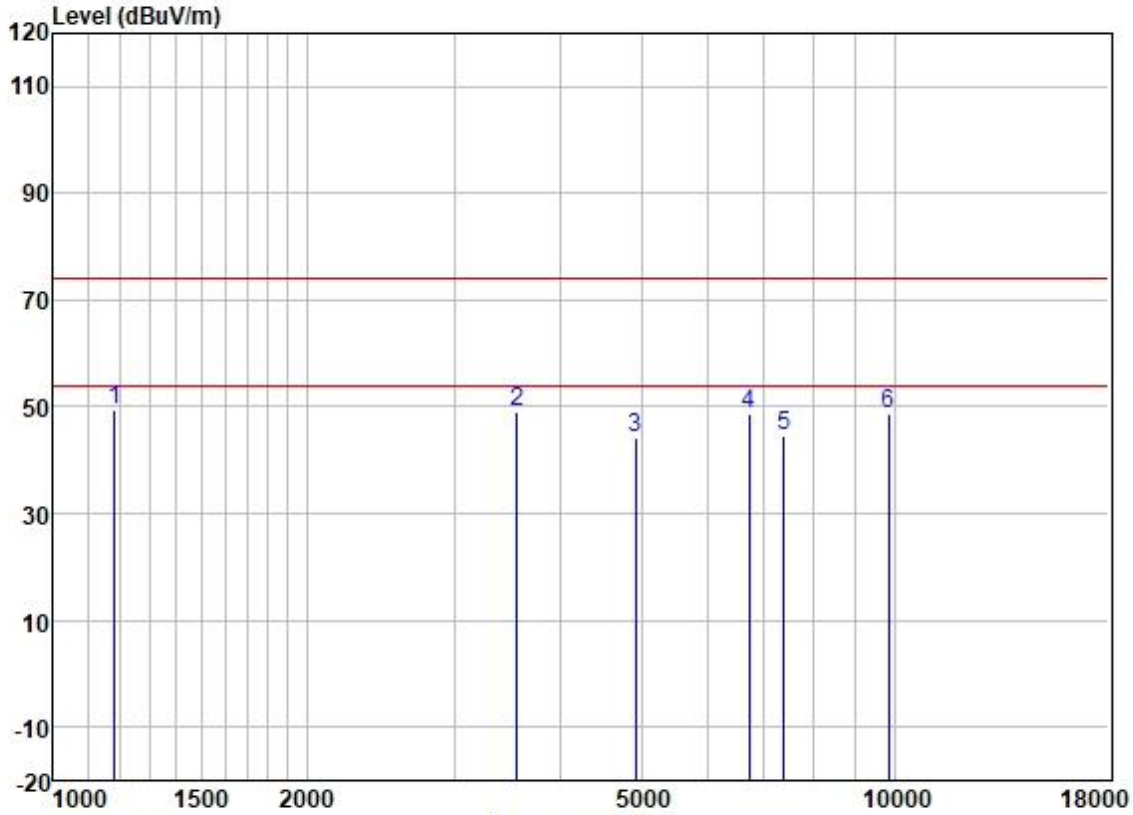
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



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	1182.513	62.79	24.60	2.37	38.17	51.59	74.00	-22.41	HORIZONTAL	peak
2	3556.843	50.29	28.98	4.44	36.77	46.94	74.00	-27.06	HORIZONTAL	peak
3	4874.000	43.38	31.54	5.50	36.48	43.94	74.00	-30.06	HORIZONTAL	peak
4	6717.762	45.38	34.44	5.83	36.42	49.23	74.00	-24.77	HORIZONTAL	peak
5	7311.000	40.30	35.93	6.11	36.99	45.35	74.00	-28.65	HORIZONTAL	peak
6	9748.000	39.07	38.50	7.02	36.83	47.76	74.00	-26.24	HORIZONTAL	peak

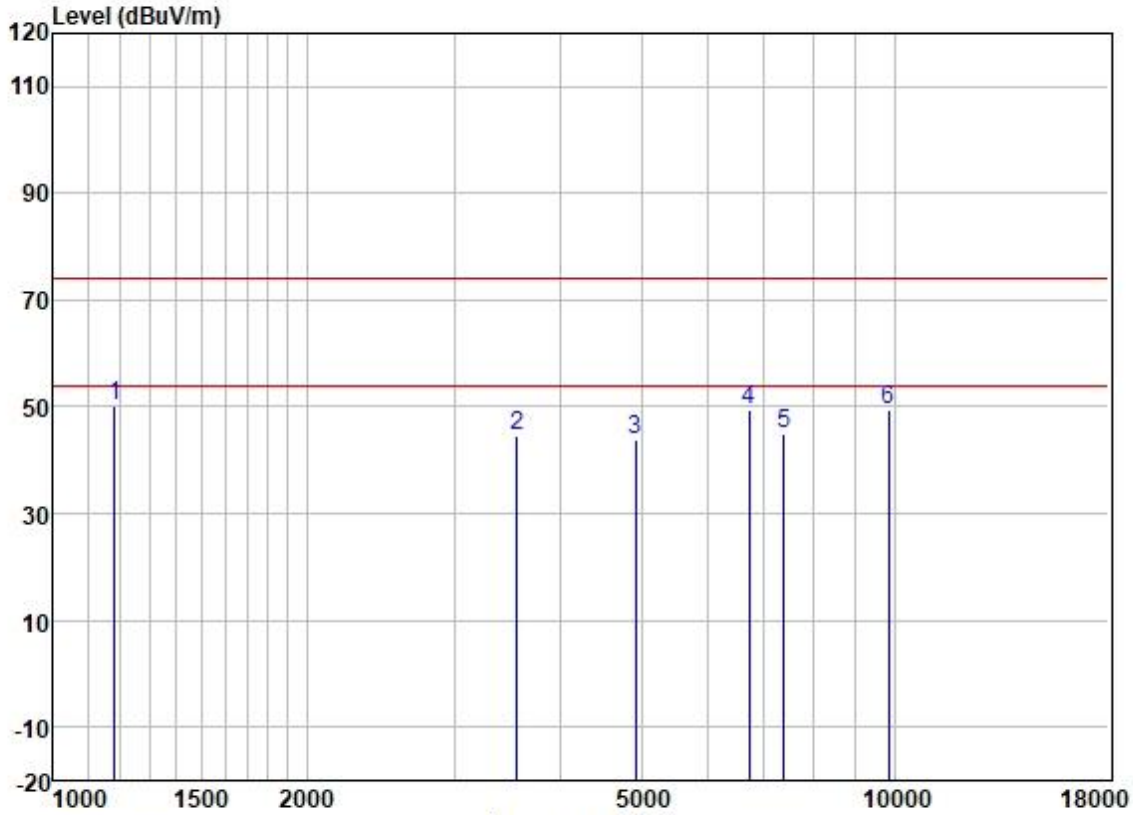
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



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	1182.513	60.74	24.60	2.37	38.17	49.54	74.00	-24.46	VERTICAL	peak
2	3556.843	52.33	28.98	4.44	36.77	48.98	74.00	-25.02	VERTICAL	peak
3	4924.000	43.28	31.62	5.60	36.45	44.05	74.00	-29.95	VERTICAL	peak
4	6717.762	44.82	34.44	5.83	36.42	48.67	74.00	-25.33	VERTICAL	peak
5	7386.000	39.22	36.17	6.19	37.04	44.54	74.00	-29.46	VERTICAL	peak
6	9848.000	40.04	38.58	6.99	36.82	48.79	74.00	-25.21	VERTICAL	peak

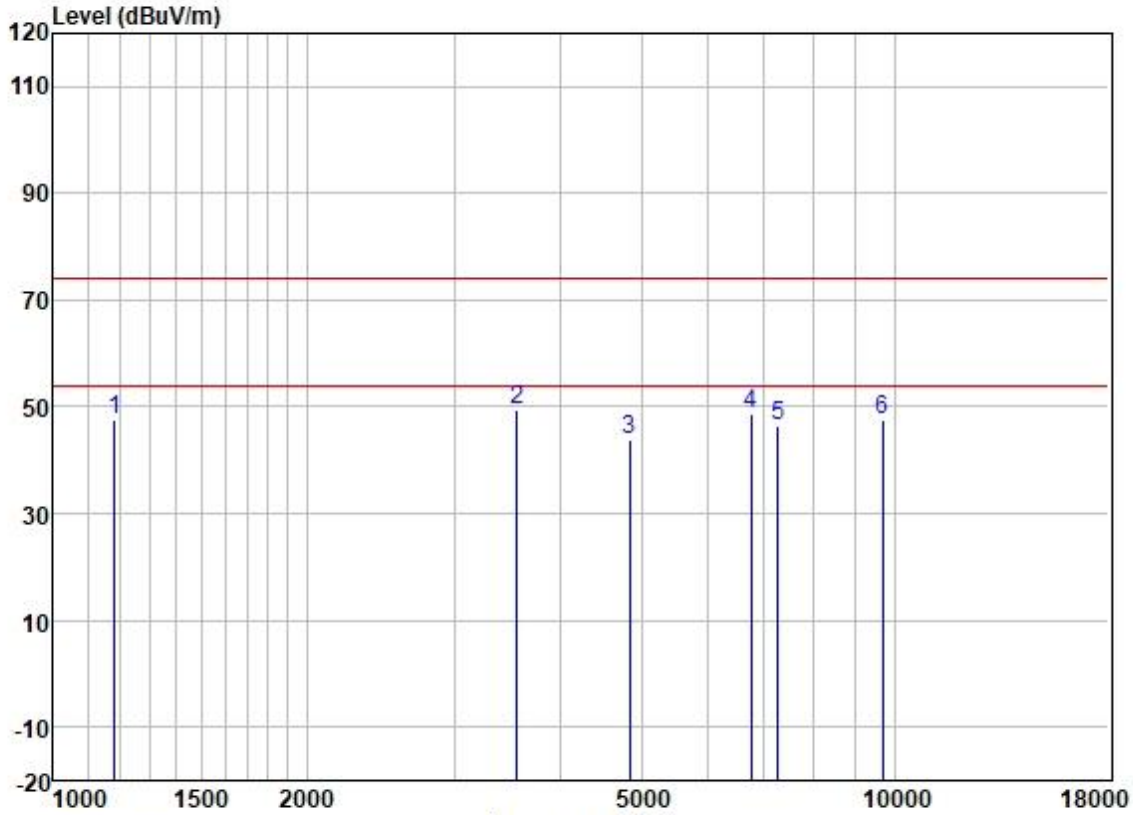
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



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	1182.513	61.31	24.60	2.37	38.17	50.11	74.00	-23.89	HORIZONTAL	peak
2	3556.843	47.90	28.98	4.44	36.77	44.55	74.00	-29.45	HORIZONTAL	peak
3	4924.000	43.05	31.62	5.60	36.45	43.82	74.00	-30.18	HORIZONTAL	peak
4	6717.762	45.50	34.44	5.83	36.42	49.35	74.00	-24.65	HORIZONTAL	peak
5	7386.000	39.78	36.17	6.19	37.04	45.10	74.00	-28.90	HORIZONTAL	peak
6	9848.000	40.53	38.58	6.99	36.82	49.28	74.00	-24.72	HORIZONTAL	peak

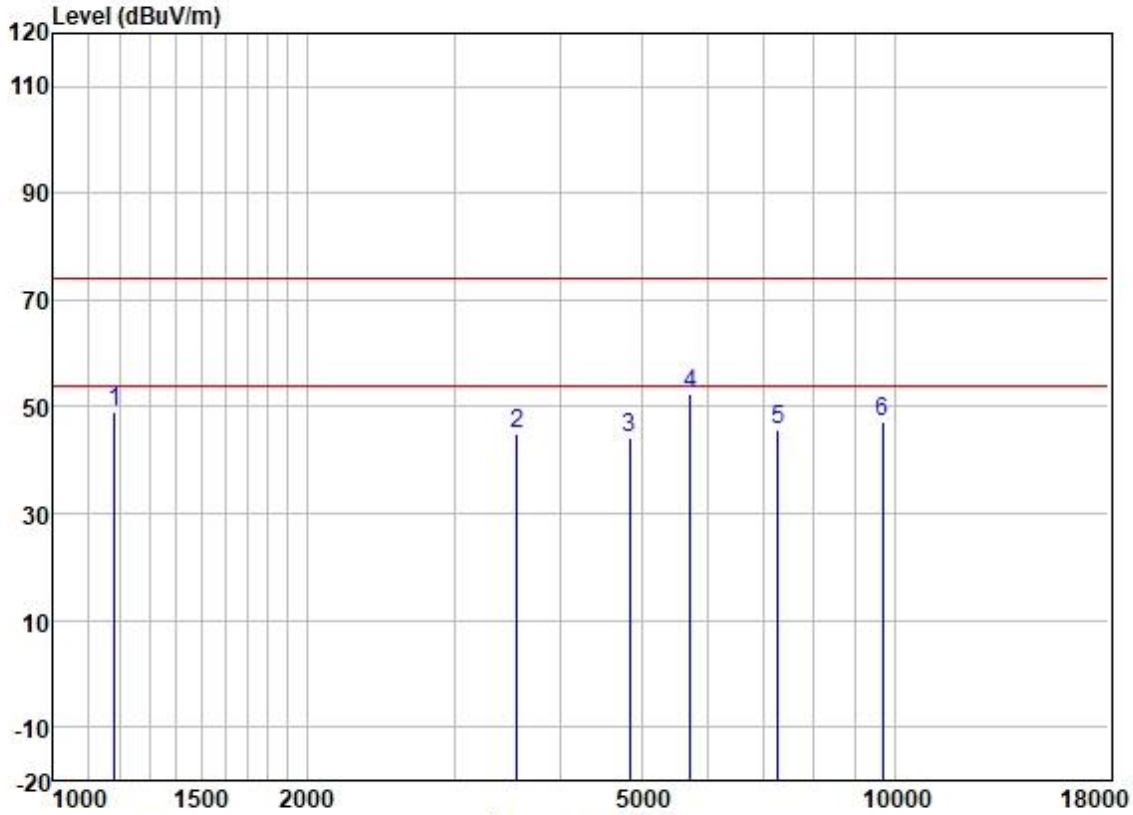
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



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	1182.513	58.67	24.60	2.37	38.17	47.47	74.00	-26.53	VERTICAL	peak
2	3556.843	52.69	28.98	4.44	36.77	49.34	74.00	-24.66	VERTICAL	peak
3	4844.000	43.42	31.50	5.45	36.49	43.88	74.00	-30.12	VERTICAL	peak
4	6756.708	44.63	34.56	5.82	36.44	48.57	74.00	-25.43	VERTICAL	peak
5	7266.000	41.41	35.78	6.06	36.98	46.27	74.00	-27.73	VERTICAL	peak
6	9688.000	39.07	38.44	7.04	36.84	47.71	74.00	-26.29	VERTICAL	peak

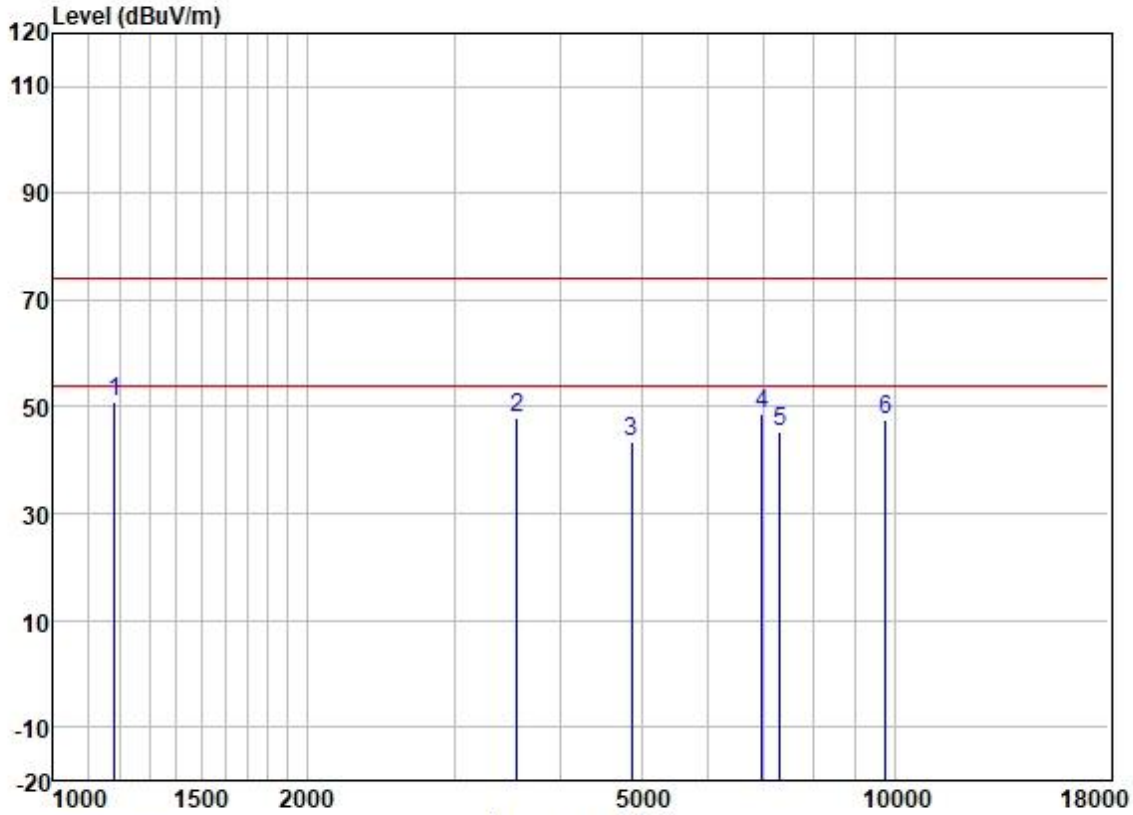
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



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	1182.513	60.32	24.60	2.37	38.17	49.12	74.00	-24.88	HORIZONTAL	peak
2	3556.843	48.44	28.98	4.44	36.77	45.09	74.00	-28.91	HORIZONTAL	peak
3	4844.000	43.86	31.50	5.45	36.49	44.32	74.00	-29.68	HORIZONTAL	peak
4	5713.856	50.18	32.04	6.33	36.15	52.40	74.00	-21.60	HORIZONTAL	peak
5	7266.000	40.85	35.78	6.06	36.98	45.71	74.00	-28.29	HORIZONTAL	peak
6	9688.000	38.41	38.44	7.04	36.84	47.05	74.00	-26.95	HORIZONTAL	peak

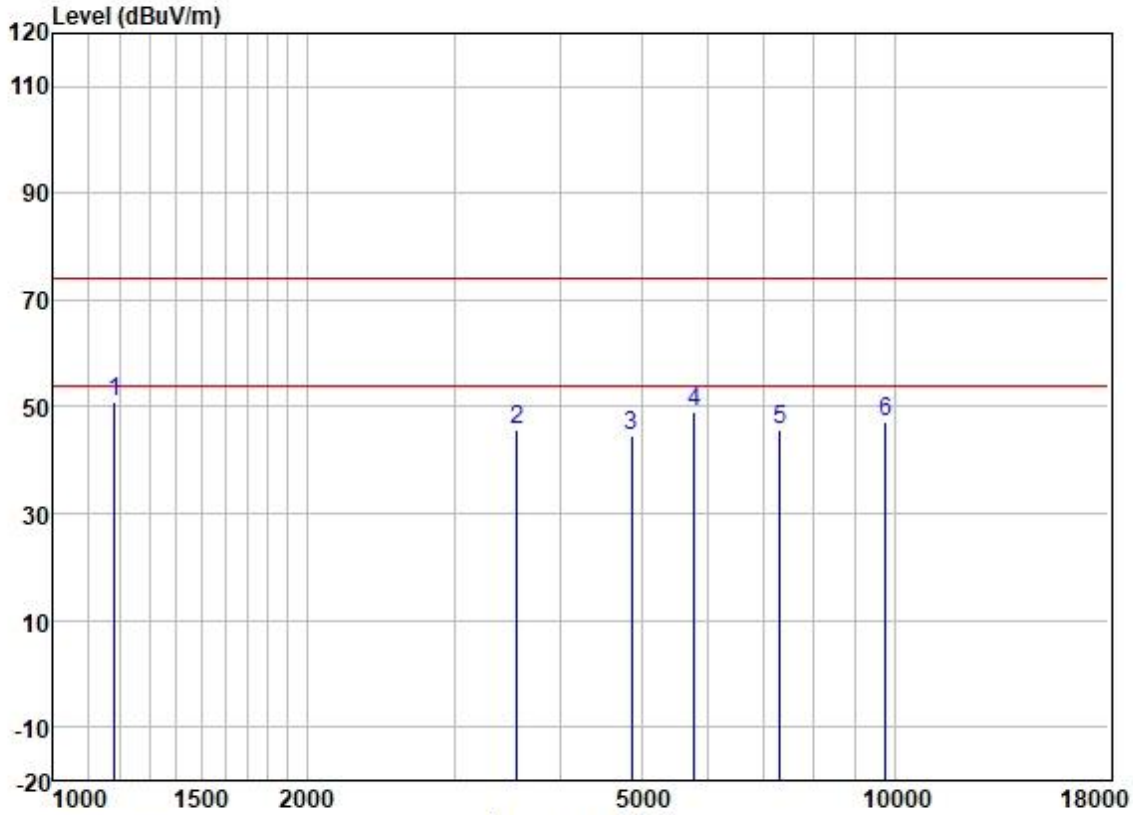
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



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	1182.513	62.10	24.60	2.37	38.17	50.90	74.00	-23.10	VERTICAL	peak
2	3556.843	51.36	28.98	4.44	36.77	48.01	74.00	-25.99	VERTICAL	peak
3	4874.000	43.02	31.54	5.50	36.48	43.58	74.00	-30.42	VERTICAL	peak
4	6954.852	44.70	34.95	5.81	36.63	48.83	74.00	-25.17	VERTICAL	peak
5	7311.000	40.33	35.93	6.11	36.99	45.38	74.00	-28.62	VERTICAL	peak
6	9748.000	38.82	38.50	7.02	36.83	47.51	74.00	-26.49	VERTICAL	peak

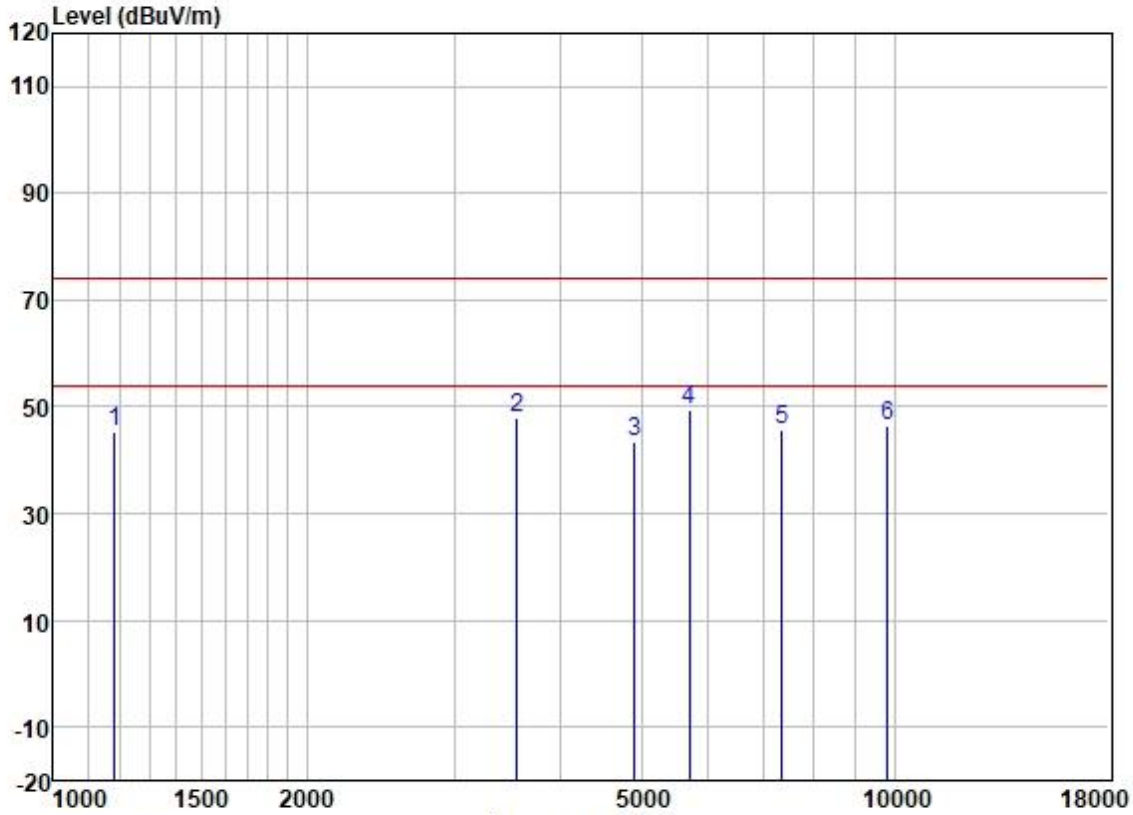
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



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	1182.513	62.27	24.60	2.37	38.17	51.07	74.00	-22.93	HORIZONTAL	peak
2	3556.843	49.19	28.98	4.44	36.77	45.84	74.00	-28.16	HORIZONTAL	peak
3	4874.000	44.00	31.54	5.50	36.48	44.56	74.00	-29.44	HORIZONTAL	peak
4	5780.300	46.84	32.16	6.10	36.14	48.96	74.00	-25.04	HORIZONTAL	peak
5	7311.000	40.71	35.93	6.11	36.99	45.76	74.00	-28.24	HORIZONTAL	peak
6	9748.000	38.45	38.50	7.02	36.83	47.14	74.00	-26.86	HORIZONTAL	peak

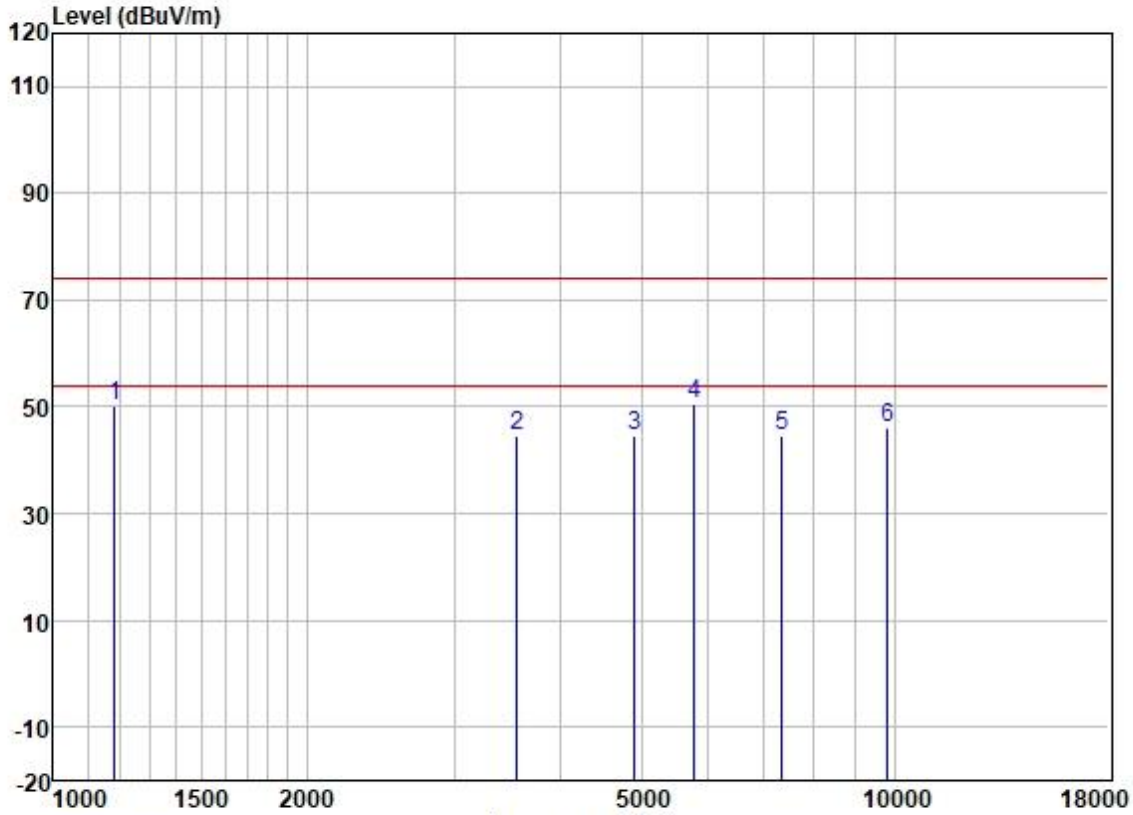
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



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	1182.513	56.66	24.60	2.37	38.17	45.46	74.00	-28.54	VERTICAL	peak
2	3556.843	51.36	28.98	4.44	36.77	48.01	74.00	-25.99	VERTICAL	peak
3	4904.000	42.86	31.58	5.55	36.46	43.53	74.00	-30.47	VERTICAL	peak
4	5697.365	47.26	32.01	6.40	36.15	49.52	74.00	-24.48	VERTICAL	peak
5	7356.000	40.36	36.06	6.15	37.03	45.54	74.00	-28.46	VERTICAL	peak
6	9808.000	37.84	38.56	7.00	36.83	46.57	74.00	-27.43	VERTICAL	peak

Test Mode: 00; Polarity: Horizontal; 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	1182.513	61.54	24.60	2.37	38.17	50.34	74.00	-23.66	HORIZONTAL	peak
2	3556.843	47.99	28.98	4.44	36.77	44.64	74.00	-29.36	HORIZONTAL	peak
3	4904.000	44.01	31.58	5.55	36.46	44.68	74.00	-29.32	HORIZONTAL	peak
4	5780.300	48.57	32.16	6.10	36.14	50.69	74.00	-23.31	HORIZONTAL	peak
5	7356.000	39.53	36.06	6.15	37.03	44.71	74.00	-29.29	HORIZONTAL	peak
6	9808.000	37.26	38.56	7.00	36.83	45.99	74.00	-28.01	HORIZONTAL	peak

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for GZCR220300024002

9 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for GZCR2203000240AT

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10 Appendix

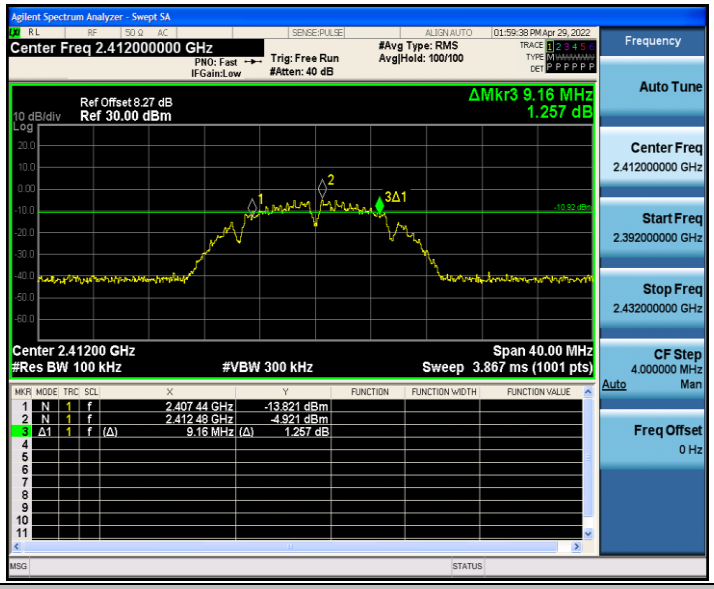
10.1 Appendix A: DTS Bandwidth

10.1.1 Test Result

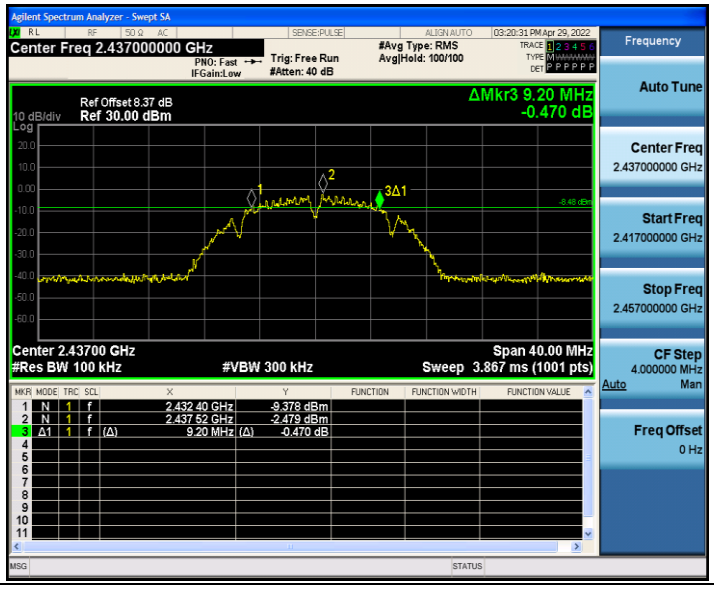
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Min Limit [MHz]	Verdict
11B	Ant1	2412	9.160	2407.440	2416.600	0.5	PASS
		2437	9.200	2432.400	2441.600	0.5	PASS
		2462	9.240	2457.400	2466.640	0.5	PASS
11G	Ant1	2412	16.400	2403.800	2420.200	0.5	PASS
		2437	16.400	2428.800	2445.200	0.5	PASS
		2462	16.160	2454.040	2470.200	0.5	PASS
11N20SISO	Ant1	2412	17.080	2403.720	2420.800	0.5	PASS
		2437	16.080	2429.480	2445.560	0.5	PASS
		2462	16.600	2454.200	2470.800	0.5	PASS
11N40SISO	Ant1	2422	35.840	2404.400	2440.240	0.5	PASS
		2437	35.840	2419.400	2455.240	0.5	PASS
		2452	34.320	2435.680	2470.000	0.5	PASS

10.1.2 Test Graphs

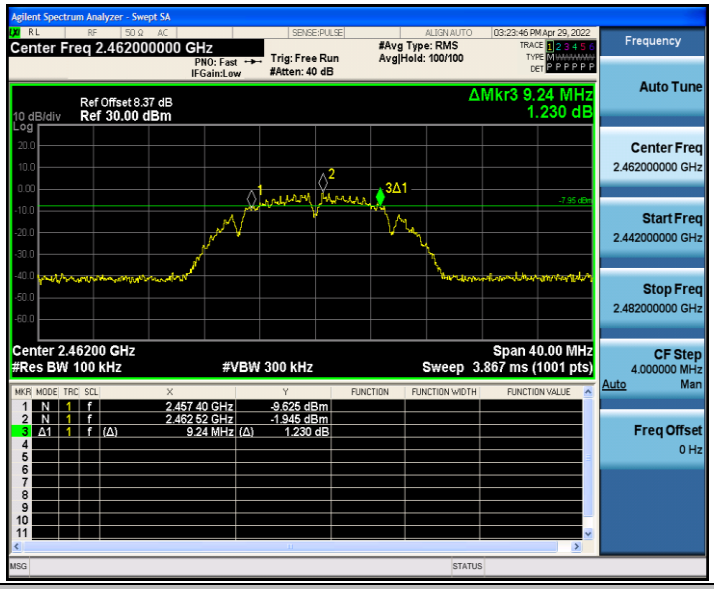
11B_Ant1_2412



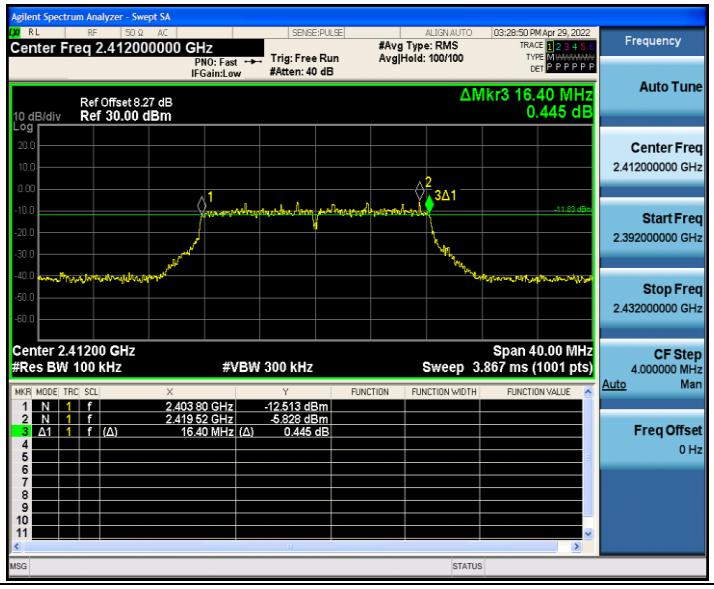
11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



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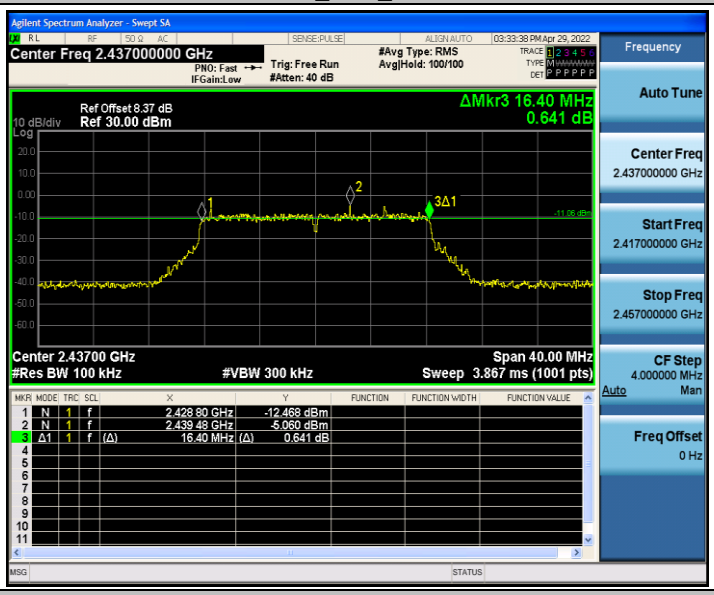
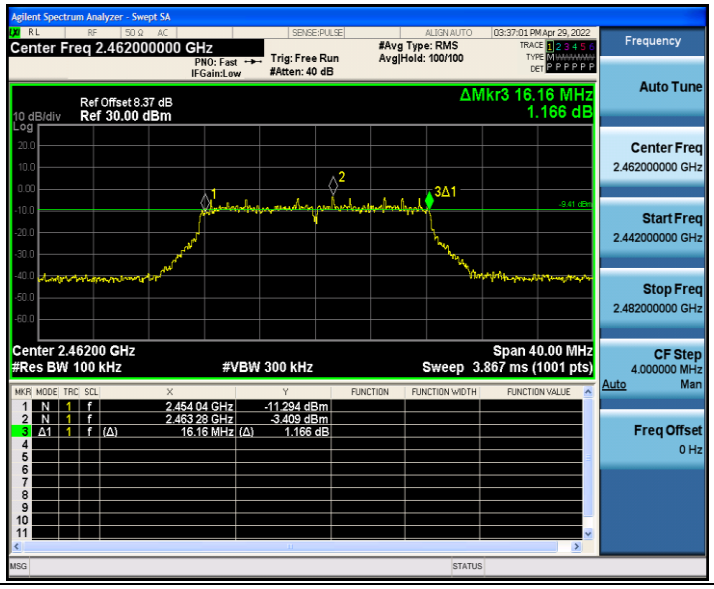


11G_Ant1_2462



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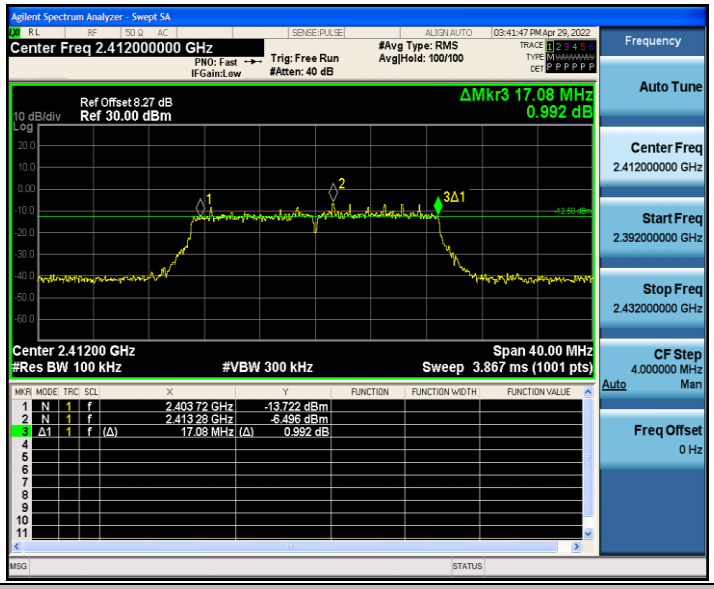

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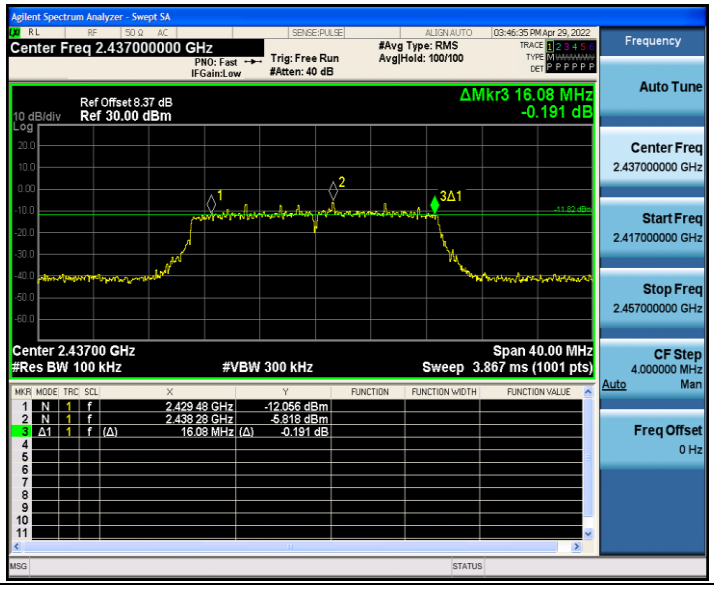

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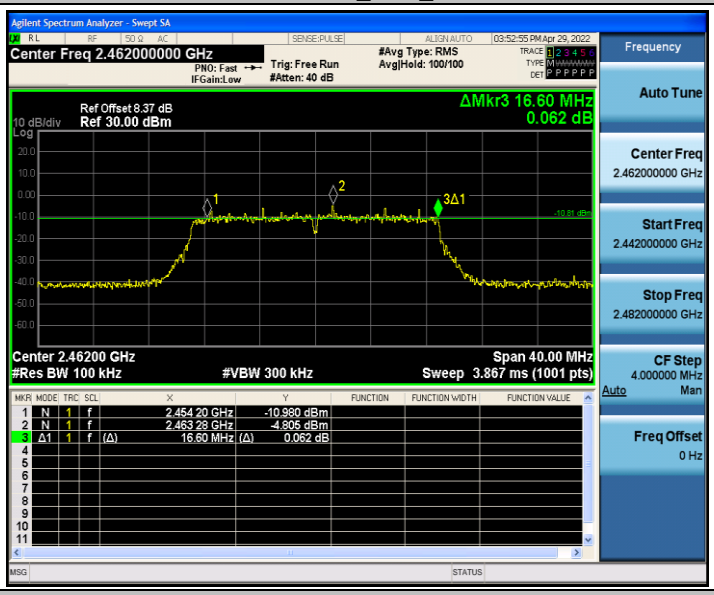
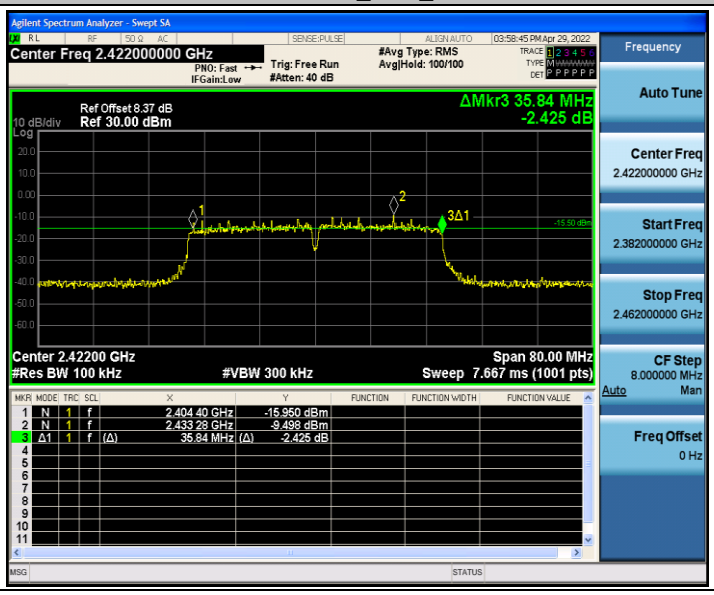
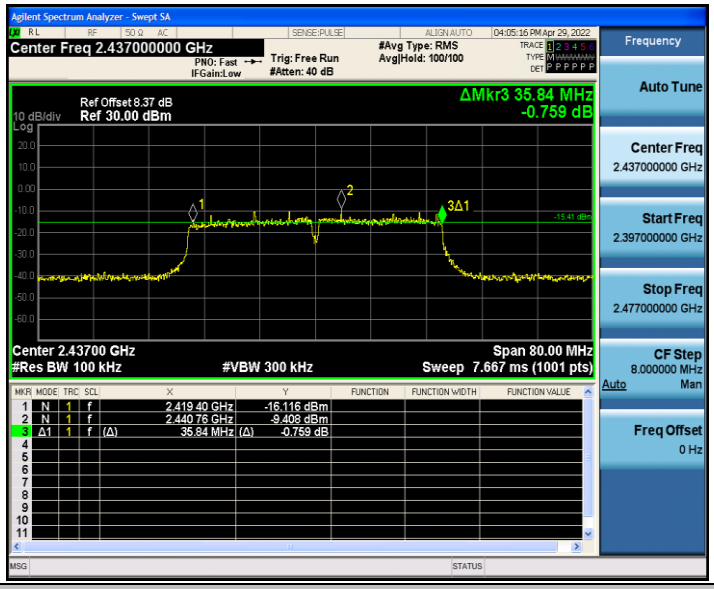

11N40SISO_Ant1_2422


11N40SISO_Ant1_2437

11N40SISO_Ant1_2452