SGS

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

TEST REPORT

Application No.:	SHCR2501000043HS
FCC ID:	2BFI4AL550
Applicant:	Shanghai MediWorks Precision Instruments CO., Ltd.
Address of Applicant:	No.7, Ming Pu Phase 2, No. 3279 San Lu Road, Min Hang District, 20110, Shanghai, China
Manufacturer:	Shanghai MediWorks Precision Instruments CO., Ltd.
Address of Manufacturer:	No.7, Ming Pu Phase 2, No. 3279 San Lu Road, Min Hang District, 20110, Shanghai, China
Factory:	Shanghai MediWorks Precision Instruments CO., Ltd.
Address of Factory:	No.7, Ming Pu Phase 2, No. 3279 San Lu Road, Min Hang District, 20110, Shanghai, China

Equipment Under Test (EUT):

EUT Name:	Optical Biometer
Model No.:	AL550, AL551, AL552
Trade Mark:	MediWorks™
Standard(s) :	47 CFR Part 15, Subpart E 15.407
Date of Receipt:	2025-01-07
Date of Test:	2025-01-13 to 2025-01-22
Date of Issue:	2025-01-22
Test Result:	**Pass***

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

Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2025-01-22	/

Authorized for issue by:			
Tested By	*Bill Wu* **Bill Wu/Project Engineer**		
Approved By	*Parlam zhan* **Parlam Zhan / Reviewer**		

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart C 15.203	Pass
Transmission in the Absence of Data		N/A	47 CFR Part 15, Subpart E 15.407 (c)	Pass

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207 & Subpart E 15.407 b(9)	Pass
Maximum Conducted output power		ANSI C63.10 (2013) Section 12.3	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Radiated Emissions (Below 1GHz)		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions (Above 1GHz)		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Duty Cycle		ANSI C63.10 (2013) Section 12.2	ANSI C63.10 (2013) Section 12.2	Pass
99% Bandwidth		ANSI C63.10 (2013) Section 12.4.2	ANSI C63.10 (2013) Section 12.4.2	Pass
26dB Emission bandwidth		ANSI C63.10 (2013) Section 12.4.1	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band)		ANSI C63.10 (2013) Section 6.9.2	47 CFR Part 15, Subpart E 15.407 (e)	Pass
Peak Power spectrum density		ANSI C63.10 (2013) Section 12.5	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Frequency Stability		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart E 15.407 (g)	Pass

Note: There are series models mentioned in this report, and they are the similar in electrical and electronic characters. Only difference is AL551 and AL552 have fewer software functions compared to AL550, Consider the difference only the model AL550 was tested.

3   Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	AC 100-240V,50/60Hz
Test Voltage:	AC 120V 60Hz

Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
	UNII Band I	802.11a/n(HT20)/ac(HT20)	5180-5240	4
		802.11n(HT40)/ac(HT40)	5190-5230	2
		802.11ac(HT80)	5210	1
	UNII Band II-A	802.11a/n(HT20)/ac(HT20)	5260-5320	4
		802.11n(HT40)/ac(HT40)	5270-5310	2
		802.11ac(HT80)	5290	1
	UNII Band II-C	802.11a/n(HT20)/ac(HT20)	5500-5700	11
		802.11n(HT40)/ac(HT40)	5510-5670	5
		802.11ac(HT80)	5530~5610	2
	UNII Band III	802.11a/n(HT20)/ac(HT20)	5745-5825	5
		802.11n(HT40)/ac(HT40)	5755-5795	2
		802.11ac(HT80)	5775	1
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK)			
	802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM)			
	802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)			
Date Rate:	802.11a:6/9/12/18/24/36/48/54Mbps			
	802.11n:MCS0-MCS7			
	802.11ac:VHT MCS0-MCS7			
Channel Spacing:	802.11a/n(HT20)/ac(HT20): 20MHz			
	802.11n(HT40)/ac(HT40): 40MHz			
	802.11ac(HT80): 80MHz			
Antenna Gain:	Antenna 1: 4.03 dBi Antenna 2: 4.03 dBi (Provided by manufacturer) Directional gain: 7.04dBi			
Antenna Type:	Antenna 1: PIFA Antenna Antenna 2: PIFA Antenna			
TPC Function:	Not support			
DFS Function:	Slaver without radar detection			

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Laptop	LENOVO	L460	-

4.3 Power level setting using in test

Test Mode	802.11a		802.11n (HT20)		802.11ac(VHT20)	
Channel	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
36	50	48	45	49	42	46
40	50	48	45	49	42	46
48	50	48	45	49	42	46
52	50	48	45	49	42	46
60	50	48	45	49	42	46
64	50	48	45	49	42	46
100	43	46	45	49	42	46
116	43	46	45	49	42	46
120	43	46	45	49	42	46
140	43	46	45	49	42	46
149	50	48	45	49	42	46
157	50	48	45	49	42	46
165	50	48	45	49	42	46

Test Mode	802.11n(HT40)		802.11ac(VHT40)	
Channel	Ant 1	Ant 2	Ant 1	Ant 2
38	45	49	42	46
46	45	49	42	46
54	45	49	42	46
62	45	49	42	46
102	41	44	42	46
110	41	44	42	46
118	41	44	42	46
134	41	44	42	46
151	45	49	42	46
159	45	49	42	46

Test Mode	802.ac(VHT80)	
Channel	Ant 1	Ant 2
42	42	46
58	42	46
106	42	46
122	42	46
155	42	46

4.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty cycle	0.4%
4	Occupied Bandwidth	3%
5	RF conducted power	0.6dB
6	RF power density	2.9dB
7	Conducted Spurious emissions	0.75dB
8	RF Radiated power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious emission test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-6GHz)
		5.4dB (6GHz-18GHz)
10	Temperature test	1°C
11	Humidity test	3%
12	Supply voltages	1.5%
13	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.5 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
Tel: +86 21 6191 5666   Fax: +86 21 6191 5678
No tests were sub-contracted.
Note:
1. SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).
3. Sample source: sent by customer.

4.6 Test Facility

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

• A2LA (Certificate No. 6332.01)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

• FCC (Designation Number: CN1301)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

• ISED (CAB Identifier: CN0020)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 8617A

• VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

5   Equipment List

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Conducted Test					
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2024/12/18	2025-12-17
Spectrum Analyzer	Keysight	N9020B	SHEM241-1	2024/12/18	2025-12-17
Spectrum Analyzer	Agilent	N9020A	SHEM181-1	2024-07-31	2025-07-30
Signal Generator	R&S	SMR20	SHEM006-1	2024-07-31	2025-07-30
Signal Generator	Agilent	N5182A	SHEM182-1	2024-07-31	2025-07-30
Communication Tester	R&S	CMW270	SHEM183-1	2024-05-23	2025-05-22
Communication Tester	R&S	CMW500	SHEM268-1	2024-05-23	2025-05-22
Power Sensor	Keysight	U2021XA * 4	SHEM293-1	2024-07-31	2025-07-30
Splitter	Anritsu	MA1612A	SHEM185-1	/	/
Coupler	e-meca	803-S-1	SHEM186-1	/	/
High-low Temp Cabinet	Suzhou Zhihe	TL-40	SHEM087-1	2024-11-05	2026-11-04
AC Power Stabilizer	APC	KDF-31020T-V0-F0	SHEM216-1	2024/12/18	2025-12-17
DC Power Supply	HP	6010A	SHEM222-1	2024/12/18	2025-12-17
Conducted test Cable	/	RF01~RF04	/	2024/12/18	2025-12-17
Switcher	Tonscend	JS0806	SHEM293-1	2024-07-31	2025-07-30
Test software	Tonscend	JS Tonscend BT/WIFI System	Version: 2.6	/	/
Switcher+Power Sensor	TST	TSPS2023R	SHEM263-1	2024-07-31	2025-07-30
Test software	TST	TST PASS	Version: 2.0	/	/
RF Radiated Test					
EMI test Receiver	R&S	ESU40	SHEM051-1	2024/12/18	2025-12-17
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2024/12/18	2025-12-17
Communication Tester	R&S	CMW500	SHEM268-1	2024-05-23	2025-05-22
Loop Antenna (9kHz-30MHz)	Schwarzbeck	FMZB1519	SHEM135-1	2024/12/18	2025-12-17
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM048-1	2023-09-03	2025-09-02
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM202-1	2023-04-17	2025-04-16
Horn Antenna (1-18GHz)	Schwarzbeck	HF906	SHEM009-1	2024-08-05	2026-08-04
Horn Antenna (1-18GHz)	Schwarzbeck	BBHA9120D	SHEM050-1	2023-09-03	2025-09-02
Horn Antenna (14-40GHz)	Schwarzbeck	BBHA 9170	SHEM049-1	2023-09-03	2025-09-02
Pre-Amplifier	HP	8447D	SHEM236-1	2024/12/18	2025-12-17
High-amplifier (14-40GHz)	Schwarzbeck	10001	SHEM049-2	2024/12/18	2025-12-17
Band Filter	LORCH	9BRX-875/X150	SHEM156-1	/	/
Band Filter	LORCH	13BRX-1950/X500	SHEM083-2	/	/
Band Filter	LORCH	5BRX-2400/X200	SHEM155-1	/	/
Band Filter	LORCH	5BRX-5500/X1000	SHEM157-2	/	/
High pass Filter	Wainwright	WHK3.0/18G	SHEM157-1	/	/
High pass Filter	Wainwright	WHKS1700	SHEM157-3	/	/
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2023-05-06	2026-05-05
RE test Cable	/	PT18-NMNM-10M	SHEM217-2	2024/12/18	2025-12-17
Test software	ESE	E3	Version: 6.111221a	/	/

Conducted Emissions at AC Power Port

Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
EMI test receiver	Rohde & Schwarz	ESR7	SHEM162-1	2024/12/18	2025/12/17
Line impedance stabilization network	SCHWARZBECK	NSLK8127	SHEM061-1	2024/12/18	2025/12/17
Line impedance stabilization network	EMCO	3816_2	SHEM019-1	2024/12/18	2025/12/17
Pulse limiter	Rohde & Schwarz	ESH3-Z2	SHEM029-1	2024/12/18	2025/12/17
Shielding Room	ZHONGYU	8*4*3M	SHEM079-2	2023/12/19	2026/12/18
CE test Cable	/	/	SHEM172-2	2024/12/18	2025/12/17
Test Software	ESE	e3	Version: 6.191211	N/A	N/A

6   Radio Spectrum Technical Requirement

6.1   Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna 1 and Antenna 2 is PIFA antenna and no consideration of replacement. The best case gain of the antenna 1 is 4.03 dBi and antenna 2 is 4.03 dBi. The directional gain is 7.04dBi.

Antenna location: Refer to internal photo.

6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart E 15.407 (c)

6.2.2 Conclusion

Standard Requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

Applicants shall include in their application for equipment authorization a description of how this requirement is met.

EUT Details:

WIFI chip support automatically discontinue transmission in case of either absence of information to transmit or operational failure, if the chip detect absence of information to transmit or operational failure, it will be automatically shut off.

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 & Subpart E 15.407 b(9)
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.		

7.1.1 E.U.T. Operation

Operating Environment:
Temperature: 22 °C   Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.1.3 Test Setup Diagram
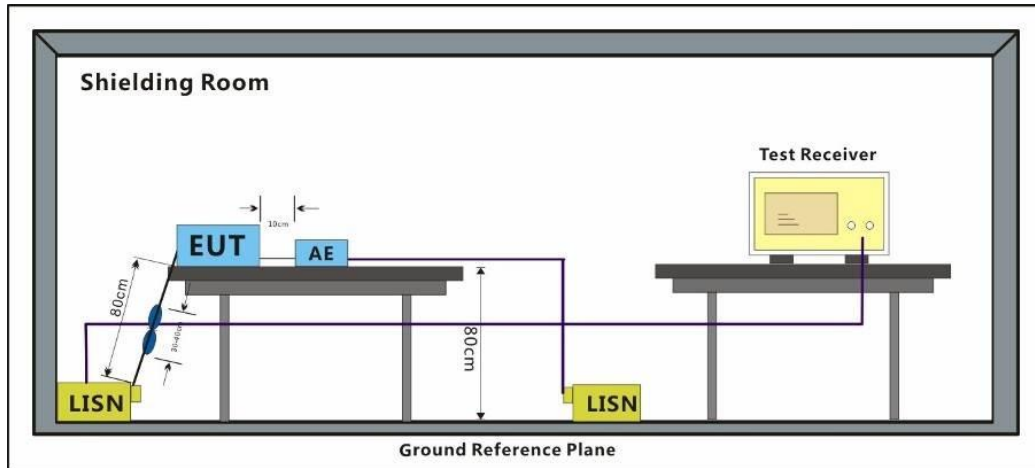
7.1.4 Measurement Procedure and Data

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: 01; Line: Live line
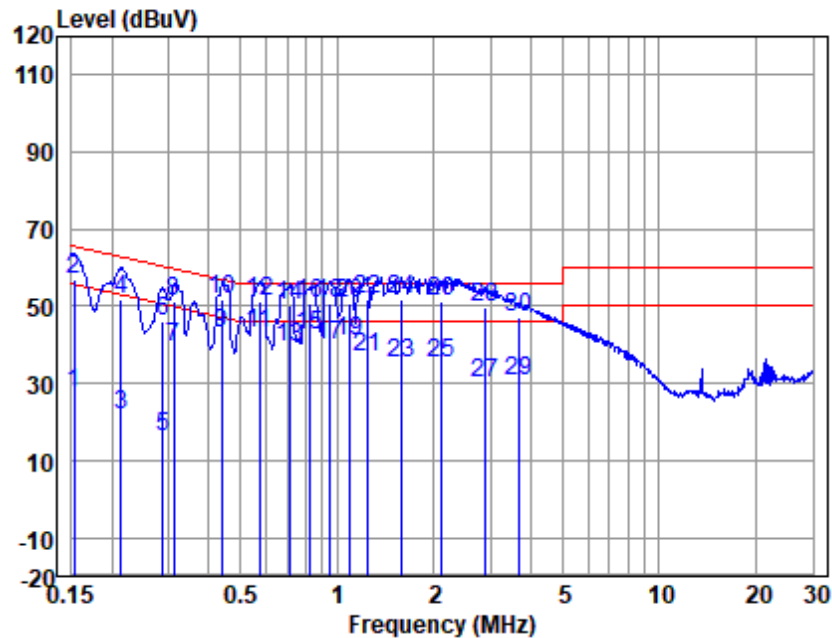
LISN　　　　　　　　: LINE
EUT/Project No : 0043HS
Test Mode　　　　: 01

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.15	16.89	0.50	9.90	27.29	55.87	-28.58	Average
2	0.15	46.75	0.50	9.90	57.15	65.87	-8.72	QP
3	0.21	11.56	0.48	9.90	21.94	53.10	-31.16	Average
4	0.21	41.33	0.48	9.90	51.71	63.10	-11.39	QP
5	0.29	5.72	0.38	9.90	16.00	50.59	-34.59	Average
6	0.29	36.02	0.38	9.90	46.30	60.59	-14.29	QP
7	0.31	29.07	0.35	9.90	39.32	49.93	-10.61	Average
8	0.31	40.88	0.35	9.90	51.13	59.93	-8.80	QP
9	0.44	32.75	0.24	9.90	42.89	47.07	-4.18	Average
10	0.44	41.89	0.24	9.90	52.03	57.07	-5.04	QP
11	0.58	33.16	0.20	9.90	43.26	46.00	-2.74	Average
12	0.58	41.39	0.20	9.90	51.49	56.00	-4.51	QP

Notes: Emission Level = Read Level +LISN Factor + Cable loss

Test Mode: 01; Line: Live line

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
13	0.72	29.06	0.20	9.91	39.17	46.00	-6.83	Average
14	0.72	39.89	0.20	9.91	50.00	56.00	-6.00	QP
15	0.83	32.15	0.20	9.95	42.30	46.00	-3.70	Average
16	0.83	40.48	0.20	9.95	50.63	56.00	-5.37	QP
17	0.94	29.60	0.20	9.98	39.78	46.00	-6.22	Average
18	0.94	40.69	0.20	9.98	50.87	56.00	-5.13	QP
19	1.09	30.76	0.20	10.01	40.97	46.00	-5.03	Average
20	1.09	40.41	0.20	10.01	50.62	56.00	-5.38	QP
21	1.24	26.50	0.20	10.03	36.73	46.00	-9.27	Average
22	1.24	41.35	0.20	10.03	51.58	56.00	-4.42	QP
23	1.58	25.19	0.20	10.07	35.46	46.00	-10.54	Average
24	1.58	41.59	0.20	10.07	51.86	56.00	-4.14	QP
25	2.10	24.97	0.21	10.11	35.29	46.00	-10.71	Average
26	2.10	41.16	0.21	10.11	51.48	56.00	-4.52	QP
27	2.88	19.48	0.24	10.14	29.86	46.00	-16.14	Average
28	2.88	39.22	0.24	10.14	49.60	56.00	-6.40	QP
29	3.66	19.99	0.27	10.17	30.43	46.00	-15.57	Average
30	3.66	36.56	0.27	10.17	47.00	56.00	-9.00	QP

Notes: Emission Level = Read Level +LISN Factor + Cable loss

Test Mode: 01; Line: Neutral Line
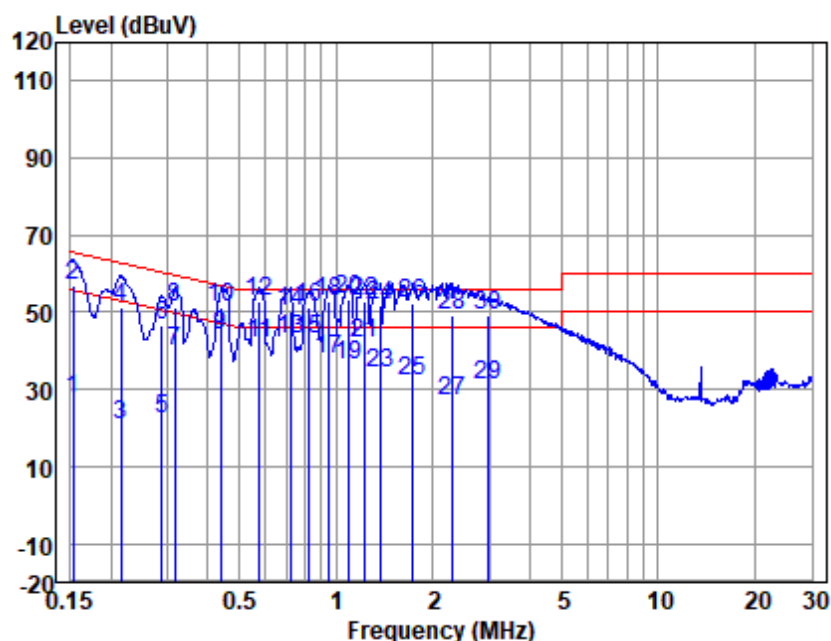
LISN   : NEUTRAL
EUT/Project No : 0043HS
Test Mode   : 01

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.15	17.27	0.34	9.90	27.51	55.87	-28.36	Average
2	0.15	46.87	0.34	9.90	57.11	65.87	-8.76	QP
3	0.22	10.74	0.30	9.90	20.94	53.01	-32.07	Average
4	0.22	41.18	0.30	9.90	51.38	63.01	-11.63	QP
5	0.29	12.32	0.30	9.90	22.52	50.59	-28.07	Average
6	0.29	36.42	0.30	9.90	46.62	60.59	-13.97	QP
7	0.31	29.63	0.30	9.90	39.83	49.84	-10.01	Average
8	0.31	41.07	0.30	9.90	51.27	59.84	-8.57	QP
9	0.44	33.78	0.30	9.90	43.98	47.07	-3.09	Average
10	0.44	41.32	0.30	9.90	51.52	57.07	-5.55	QP
11	0.58	31.75	0.30	9.90	41.95	46.00	-4.05	Average
12	0.58	42.87	0.30	9.90	53.07	56.00	-2.93	QP

Notes: Emission Level = Read Level +LISN Factor + Cable loss

Test Mode: 01; Line: Neutral Line

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
13	0.72	32.78	0.30	9.91	42.99	46.00	-3.01	Average
14	0.72	39.86	0.30	9.91	50.07	56.00	-5.93	QP
15	0.82	32.58	0.30	9.94	42.82	46.00	-3.18	Average
16	0.82	41.30	0.30	9.94	51.54	56.00	-4.46	QP
17	0.94	27.53	0.30	9.98	37.81	46.00	-8.19	Average
18	0.94	42.64	0.30	9.98	52.92	56.00	-3.08	QP
19	1.09	25.82	0.30	10.01	36.13	46.00	-9.87	Average
20	1.09	42.80	0.30	10.01	53.11	56.00	-2.89	QP
21	1.22	31.47	0.30	10.03	41.80	46.00	-4.20	Average
22	1.22	42.53	0.30	10.03	52.86	56.00	-3.14	QP
23	1.37	23.72	0.30	10.05	34.07	46.00	-11.93	Average
24	1.37	41.30	0.30	10.05	51.65	56.00	-4.35	QP
25	1.73	21.60	0.30	10.08	31.98	46.00	-14.02	Average
26	1.73	42.04	0.30	10.08	52.42	56.00	-3.58	QP
27	2.30	16.56	0.33	10.12	27.01	46.00	-18.99	Average
28	2.30	38.87	0.33	10.12	49.32	56.00	-6.68	QP
29	2.95	20.43	0.38	10.14	30.95	46.00	-15.05	Average
30	2.95	38.65	0.38	10.14	49.17	56.00	-6.83	QP

Notes: Emission Level = Read Level +LISN Factor + Cable loss

7.2   Maximum Conducted output power

Test Requirement   47 CFR Part 15, Subpart E 15.407 (a)

Test Method: ANSI C63.10 (2013) Section 12.3

Limit:

Frequency band(MHz)	Limit
5150-5250	≤1W(30dBm) for master device
	≤250mW(24dBm) for client device
5250-5350	≤250mW(24dBm) for client device or 11dBm+10logB*
5470-5725	≤250mW(24dBm) for client device or 11dBm+10logB*
5725-5850	≤1W(30dBm)
Remark:	* Where B is the 26dB emission bandwidth in MHz. The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22   °C   Humidity: 50   % RH   Atmospheric Pressure: 1010   mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.2.3 Test Setup Diagram
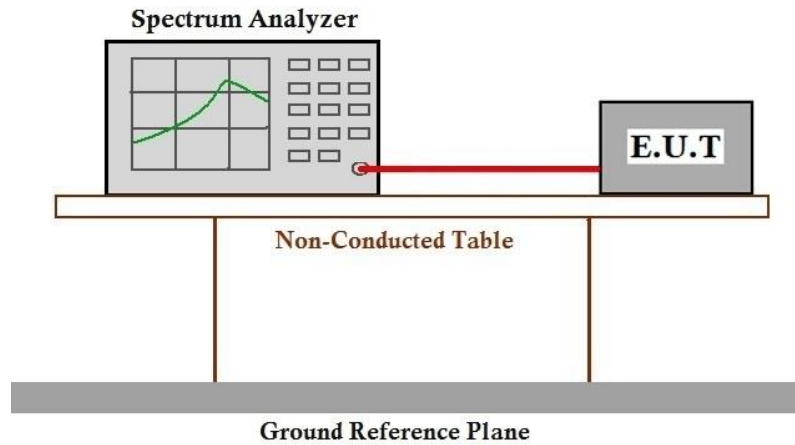
7.2.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details

7.3 Radiated Emissions (Below 1GHz)

Test Requirement   47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)
Test Method: ANSI C63.10 (2013) Section 6.4,6.5
Measurement Distance: 3m

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

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 20 °C   Humidity: 50 % RH   Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram

Below 30MHz   30MHz-1GHz
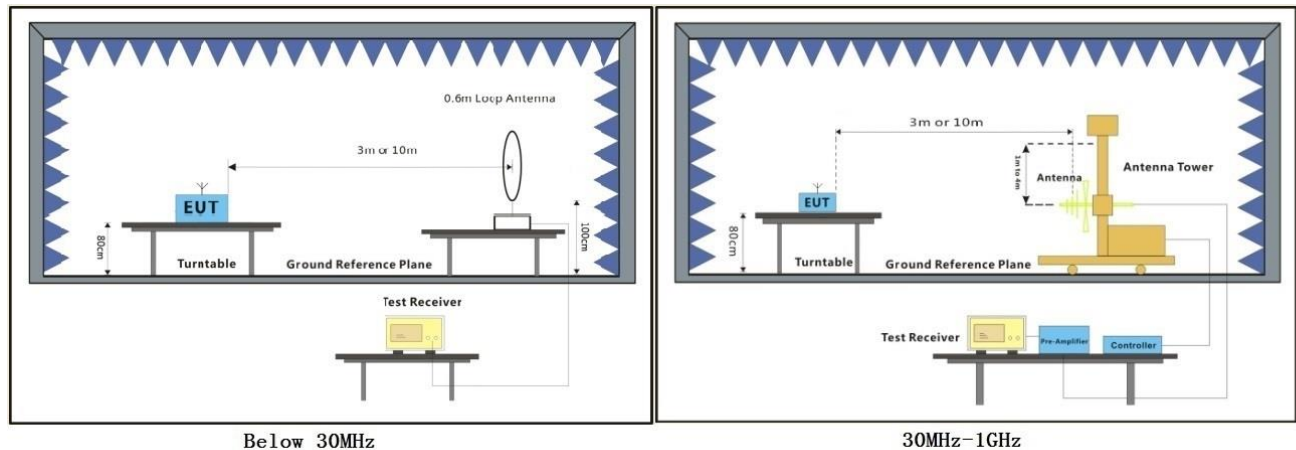
7.3.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 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. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.

3. 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.

4. 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: 01; Polarity: Horizontal
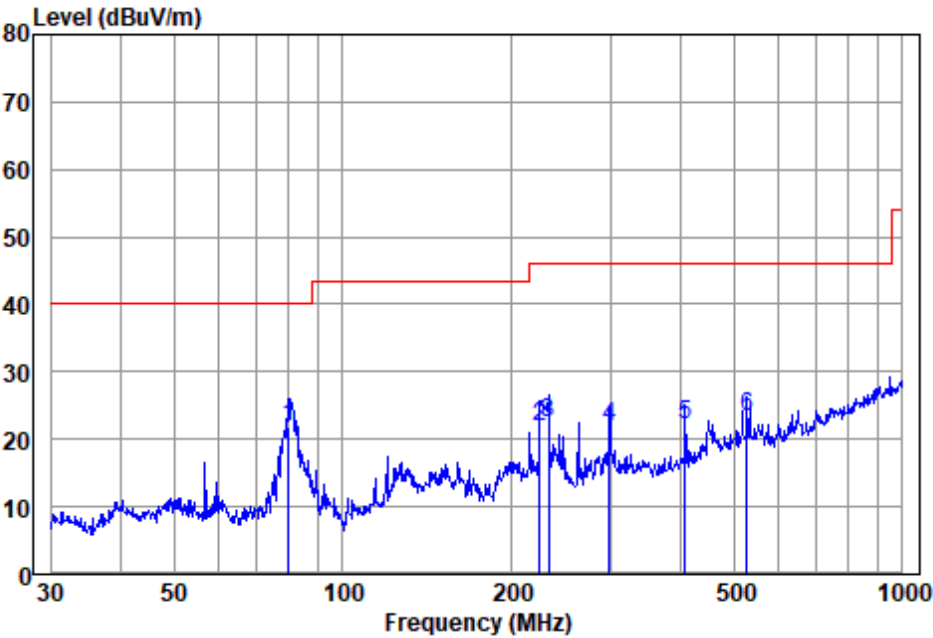
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS
Test mode   :01

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	80.081	44.22	9.00	1.87	33.20	21.89	40.00	-18.11	QP
2	224.519	41.51	9.99	3.17	32.90	21.77	46.00	-24.23	QP
3	233.349	41.72	10.40	3.24	32.86	22.50	46.00	-23.50	QP
4	299.316	37.40	13.37	3.89	32.80	21.86	46.00	-24.14	QP
5	408.946	34.67	15.89	4.44	32.78	22.22	46.00	-23.78	QP
6	526.397	32.67	18.42	5.03	32.70	23.42	46.00	-22.58	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical
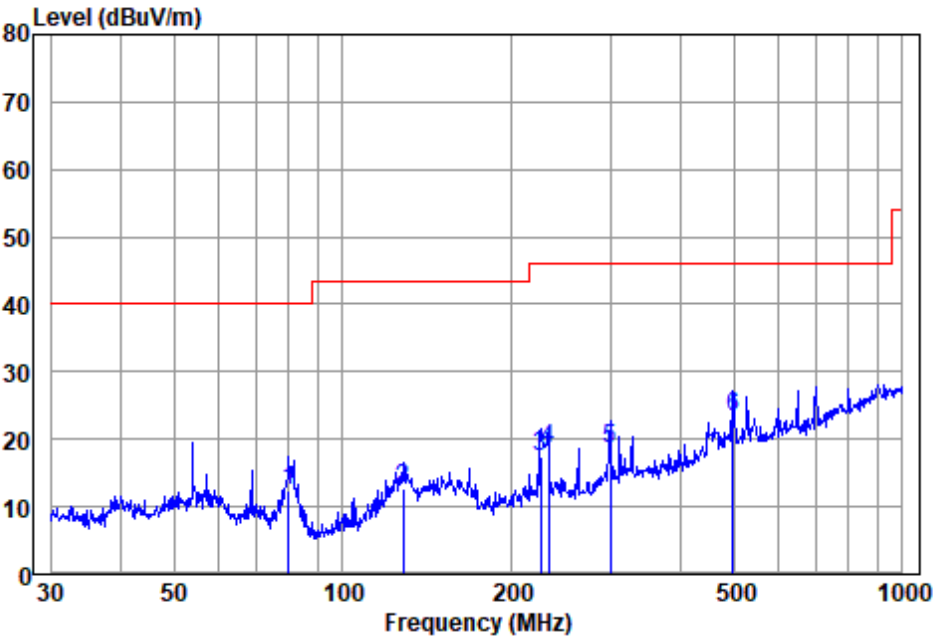
Antenna Polarity :VERTICAL
EUT/Project   :0043HS
Test mode   :01

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	80.081	34.82	9.00	1.87	33.20	12.49	40.00	-27.51	QP
2	128.113	31.22	11.90	2.56	33.08	12.60	43.50	-30.90	QP
3	225.308	37.26	10.01	3.18	32.89	17.56	46.00	-28.44	QP
4	233.349	37.68	10.40	3.24	32.86	18.46	46.00	-27.54	QP
5	300.367	34.20	13.40	3.86	32.80	18.66	46.00	-27.34	QP
6	497.677	33.08	17.96	4.91	32.70	23.25	46.00	-22.75	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

7.4 Radiated Emissions (Above 1GHz)

Test Requirement   47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)
Test Method: ANSI C63.10 (2013) Section 6.6
Measurement Distance: 3m

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22   °C   Humidity: 50   % RH   Atmospheric Pressure: 1010   mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram
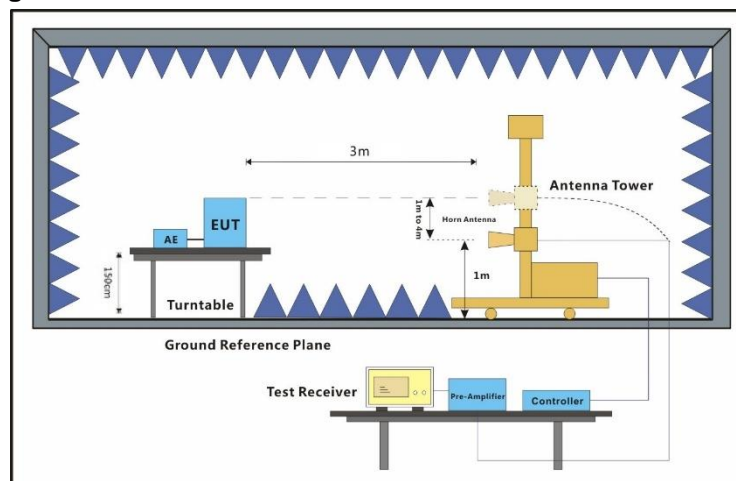
7.4.4 Measurement Procedure and Data

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 18GHz to 40GHz, 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.

4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

5. For devices with multiple operating modes, measurements on the middle channel is used to determine the worst-case mode(s). Only the worst case mode with the highest output power and the mode with the highest output power spectral density for each modulation family (e.g., OFDM and direct sequence spread spectrum) is recorded in the test report.

6.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

7. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq$1/T (Duty cycle$<$98%) or 10Hz (Duty cycle$\geq$98%) for Average detection (AV) at frequency above 1GHz.

8. This test item was investigated while operating in SISO and MIMO mode, however, it was determined that SISO antenna 1 operation for a modulation and MIMO antenna operation for n modulation produced the worst emissions. So the emissions produced from other operation are not recorded in report.

Test Mode: 01; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low
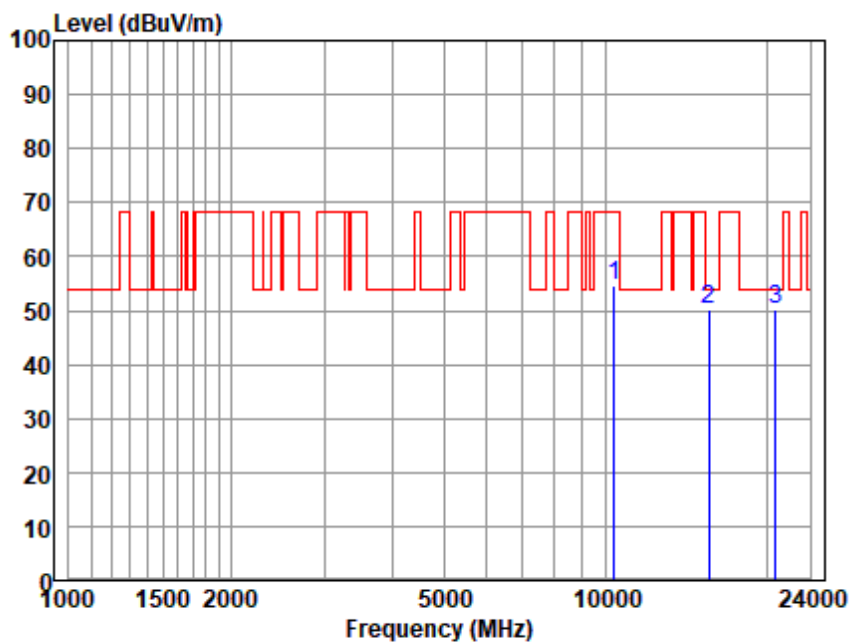
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10360.350	41.28	37.85	9.02	33.56	54.59	68.20	-13.61	Peak
15528.240	30.99	43.36	12.59	36.82	50.12	54.00	-3.88	Peak
20735.830	30.43	43.94	14.46	38.82	50.01	54.00	-3.99	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :VERTICAL
EUT/Project      :0043HS
```

```
           Read   Antenna Cable Preamp Emission Limit  Over
     Freq  Level  Factor  Loss  Factor Level    Line   Limit  Remark
     ------ -----  ------- ----- ------ ------   ------ ------ ------
     MHz    dBuv   dB/m    dB    dB     dBuv/m   dBuv/m dB
10360.350   39.75  37.85   9.02  33.56  53.06    68.20  -15.14 Peak
15528.240   31.40  43.36   12.59 36.82  50.53    54.00  -3.47  Peak
20735.830   29.63  43.94   14.46 38.82  49.21    54.00  -4.79  Peak
```

```
Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
```

Test Mode: 01; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle
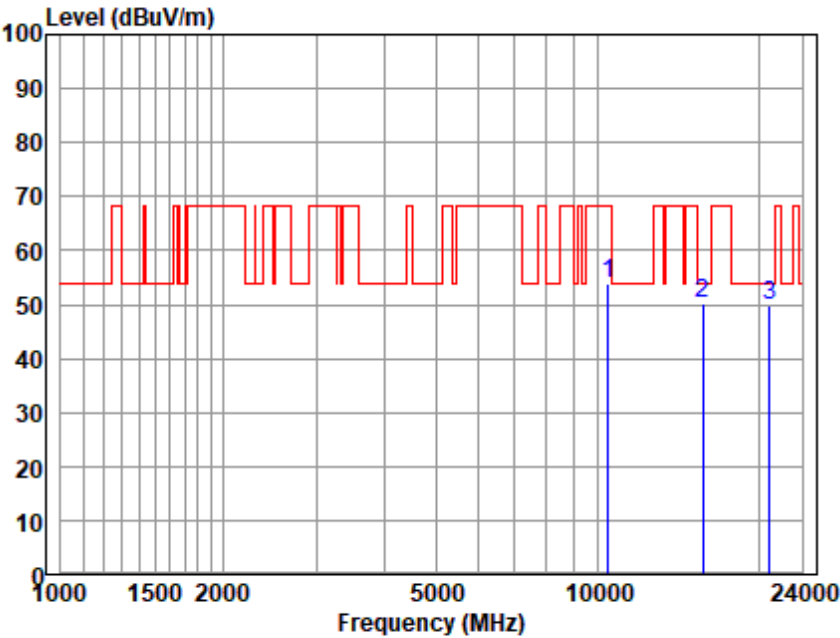
Antenna Polarity : HORIZONTAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10440.490	40.48	37.88	9.03	33.60	53.79	68.20	-14.41	Peak
15677.000	31.25	43.04	12.63	36.81	50.11	54.00	-3.89	Peak
20868.050	30.35	43.98	14.50	39.02	49.81	54.00	-4.19	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle
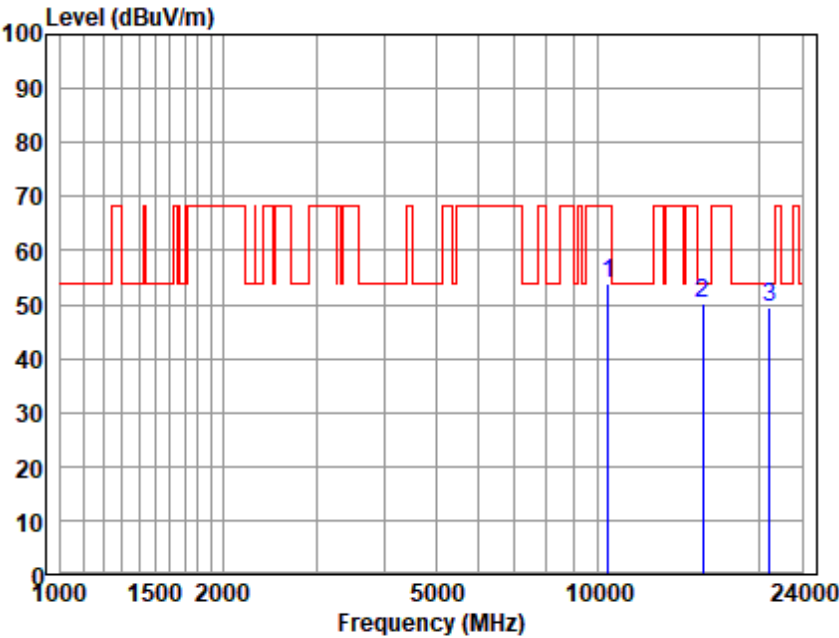
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10440.490	40.58	37.88	9.03	33.60	53.89	68.20	-14.31	Peak
15677.000	31.38	43.04	12.63	36.81	50.24	54.00	-3.76	Peak
20868.050	30.06	43.98	14.50	39.02	49.52	54.00	-4.48	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High
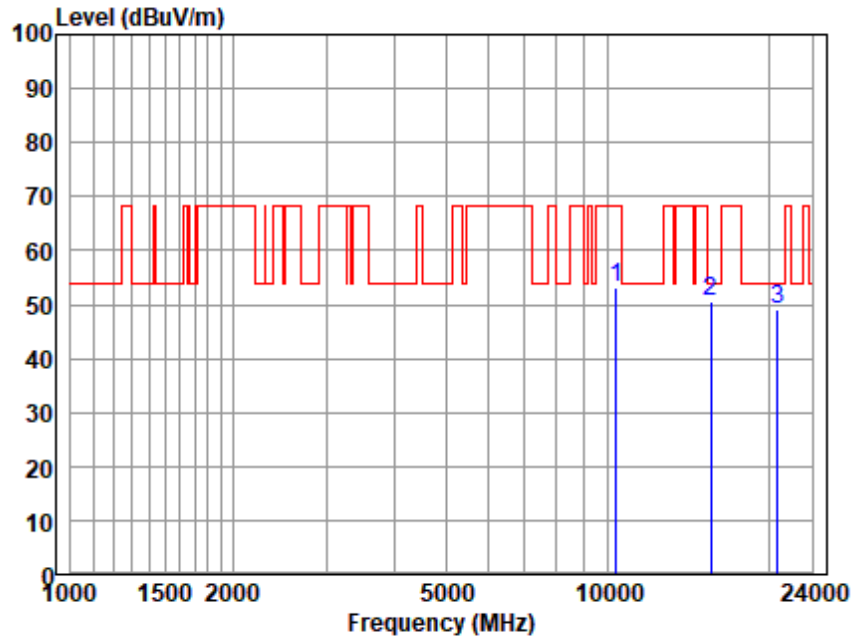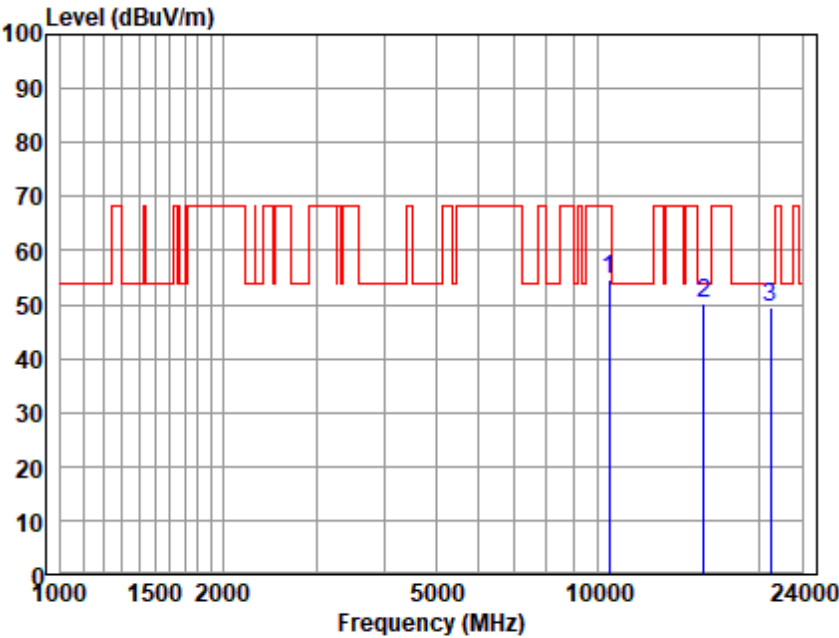

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10480.710	41.43	37.90	9.04	33.62	54.75	68.20	-13.45	Peak
15726.900	31.35	42.93	12.54	36.81	50.01	54.00	-3.99	Peak
20934.480	29.95	44.00	14.53	39.12	49.36	54.00	-4.64	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High
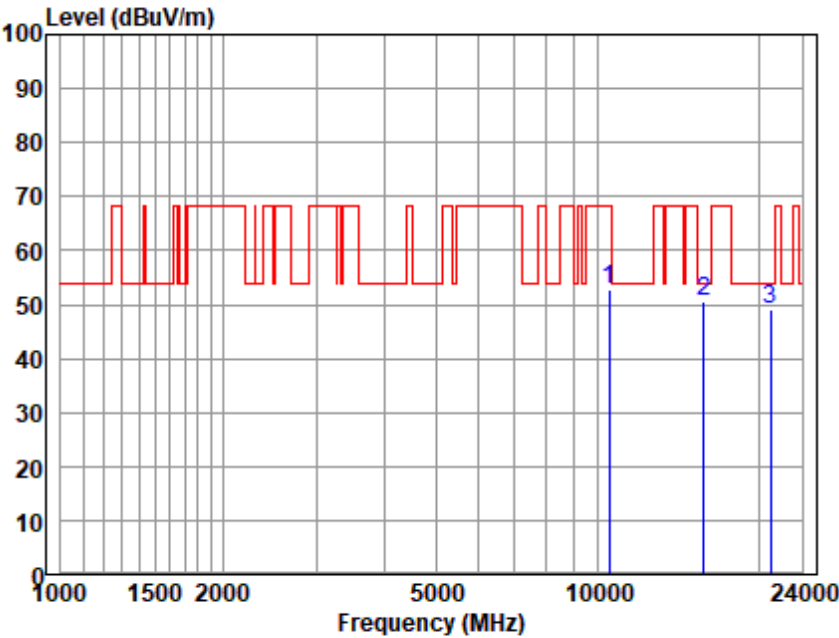
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10480.710	39.51	37.90	9.04	33.62	52.83	68.20	-15.37	Peak
15726.900	31.75	42.93	12.54	36.81	50.41	54.00	-3.59	Peak
20934.480	29.69	44.00	14.53	39.12	49.10	54.00	-4.90	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
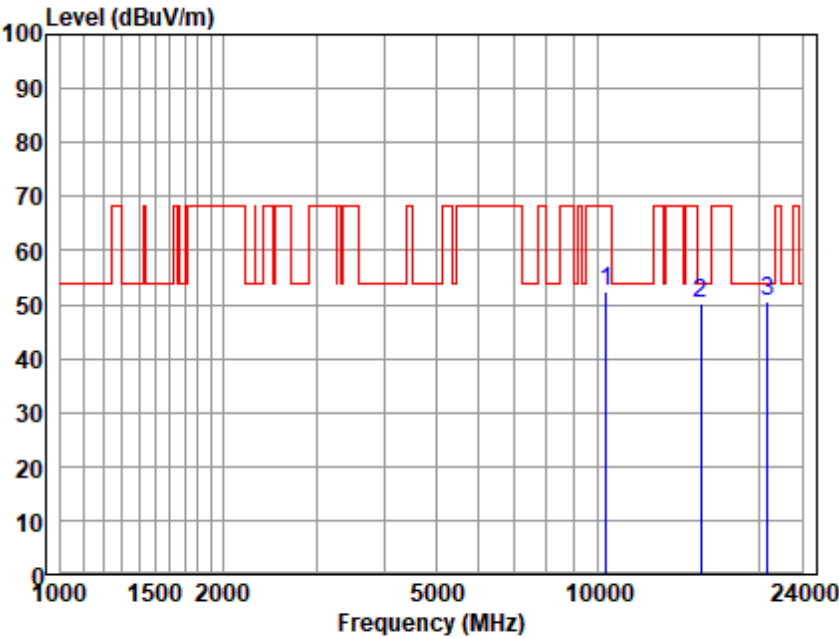
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10360.350	39.04	37.85	9.02	33.56	52.35	68.20	-15.85	Peak
15528.240	31.12	43.36	12.59	36.82	50.25	54.00	-3.75	Peak
20735.830	31.09	43.94	14.46	38.82	50.67	54.00	-3.33	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :VERTICAL
EUT/Project        :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10360.350	36.24	37.85	9.02	33.56	49.55	68.20	-18.65	Peak
15528.240	31.37	43.36	12.59	36.82	50.50	54.00	-3.50	Peak
20735.830	29.62	43.94	14.46	38.82	49.20	54.00	-4.80	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle
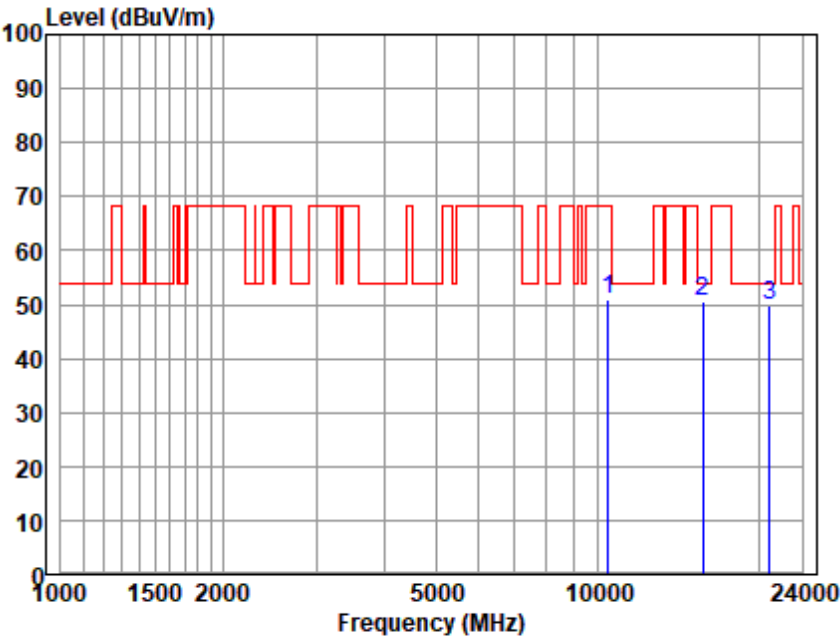
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10440.490	37.54	37.88	9.03	33.60	50.85	68.20	-17.35	Peak
15677.000	31.71	43.04	12.63	36.81	50.57	54.00	-3.43	Peak
20868.050	30.25	43.98	14.50	39.02	49.71	54.00	-4.29	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle


```
Antenna Polarity :VERTICAL
EUT/Project       :0043HS


             Read   Antenna Cable Preamp Emission Limit  Over
      Freq   Level  Factor  Loss  Factor Level    Line   Limit  Remark
      ------ -----  ------- ----- ------ ------   ------ ------ ------
      MHz    dBuv   dB/m    dB    dB     dBuv/m   dBuv/m dB
   10440.490 36.42  37.88   9.03  33.60  49.73    68.20  -18.47 Peak
   15677.000 31.39  43.04   12.63 36.81  50.25    54.00  -3.75  Peak
   20868.050 30.66  43.98   14.50 39.02  50.12    54.00  -3.88  Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
```

Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High
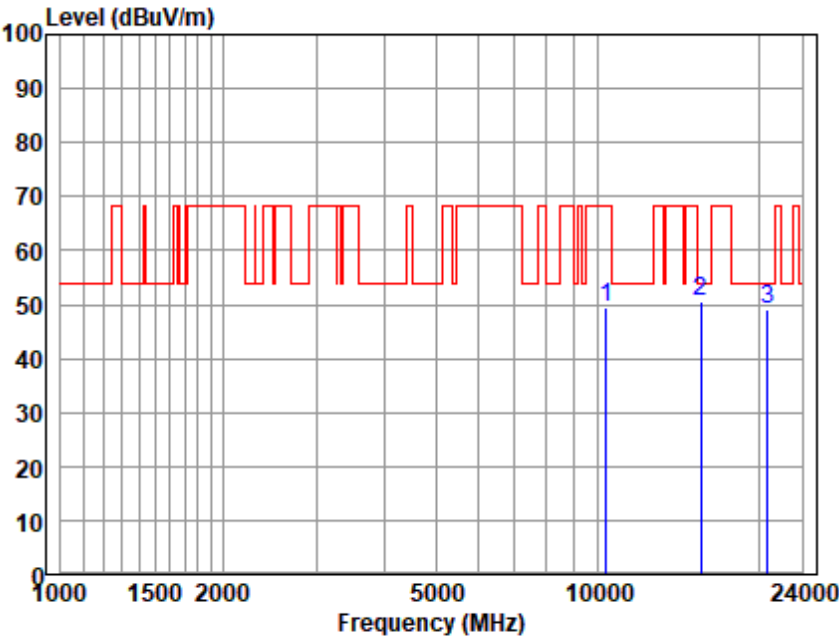


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Antenna Polarity :HORIZONTAL
EUT/Project       :0043HS
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Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10480.710	38.02	37.90	9.04	33.62	51.34	68.20	-16.86	Peak
15726.900	31.46	42.93	12.54	36.81	50.12	54.00	-3.88	Peak
20934.480	29.60	44.00	14.53	39.12	49.01	54.00	-4.99	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High
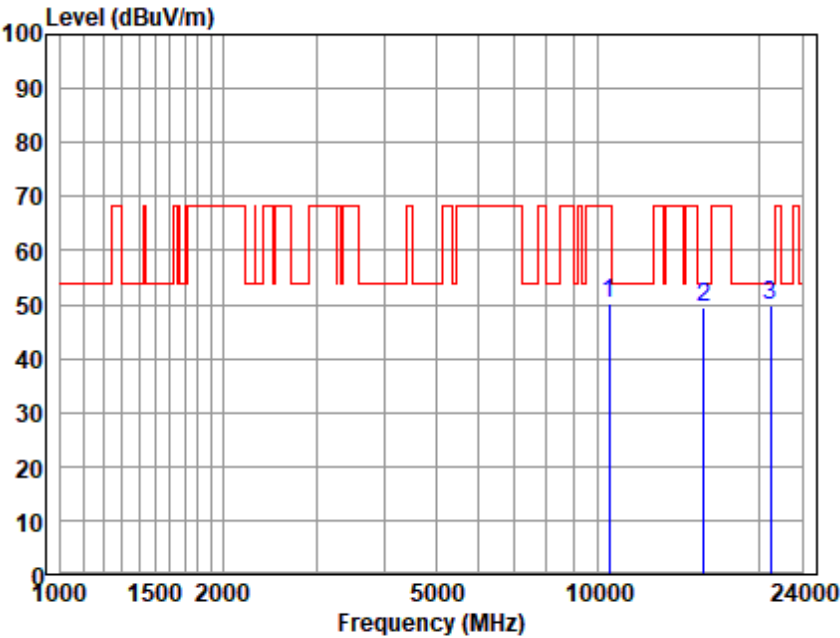
Antenna Polarity : VERTICAL
EUT/Project : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10480.710	37.01	37.90	9.04	33.62	50.33	68.20	-17.87	Peak
15726.900	30.88	42.93	12.54	36.81	49.54	54.00	-4.46	Peak
20934.480	30.55	44.00	14.53	39.12	49.96	54.00	-4.04	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

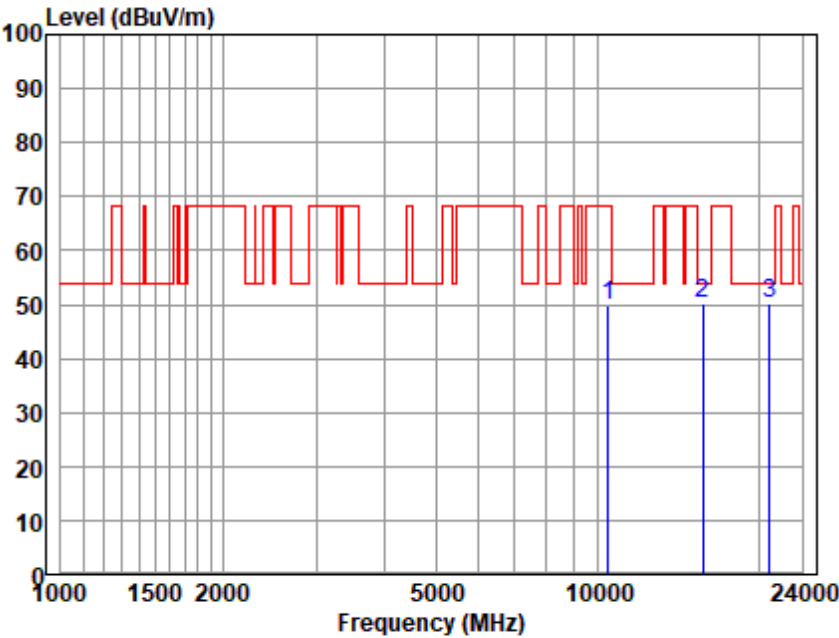Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low
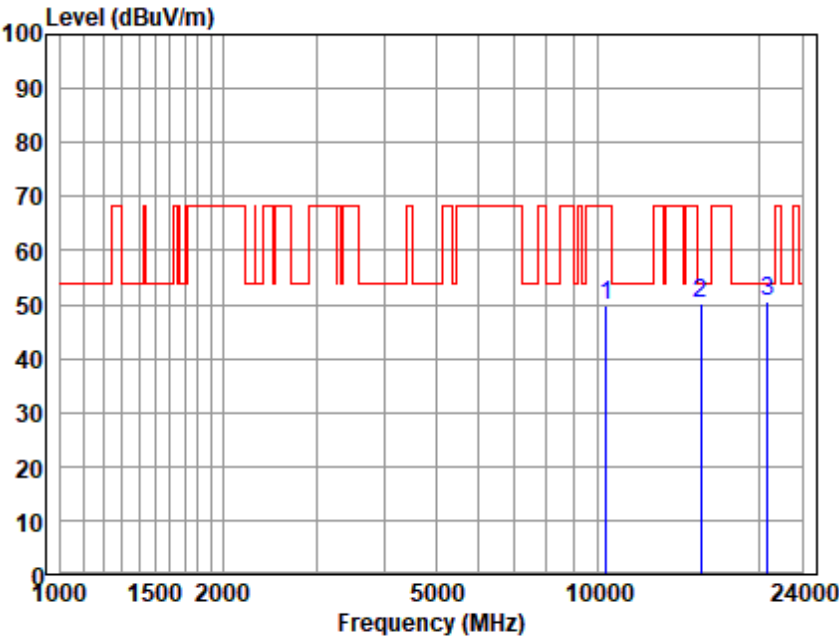
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10380.350	36.36	37.85	9.02	33.56	49.67	68.20	-18.53	Peak
15577.670	31.19	43.25	12.64	36.81	50.27	54.00	-3.73	Peak
20735.830	30.82	43.94	14.46	38.82	50.40	54.00	-3.60	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

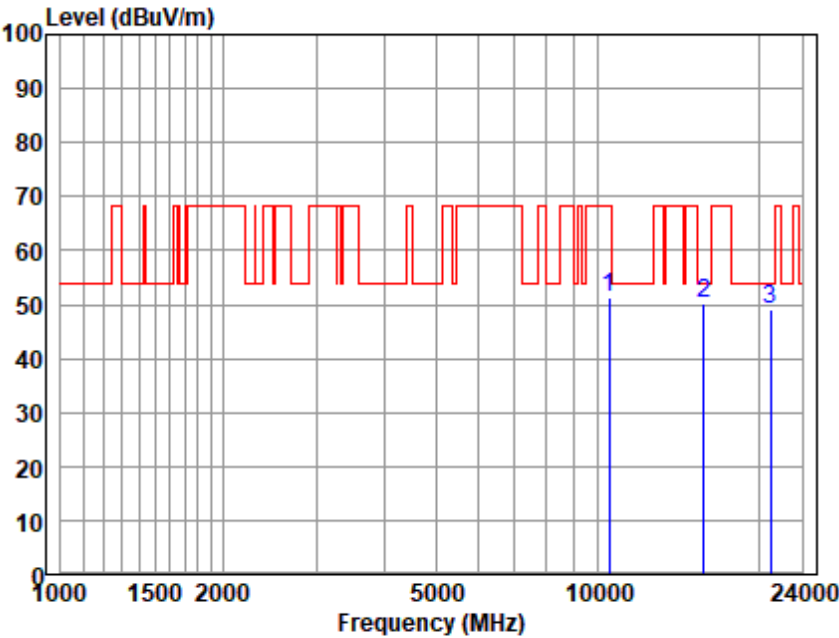
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10380.350	36.15	37.85	9.02	33.56	49.46	68.20	-18.74	Peak
15577.670	31.87	43.25	12.64	36.81	50.95	54.00	-3.05	Peak
20735.830	30.25	43.94	14.46	38.82	49.83	54.00	-4.17	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High
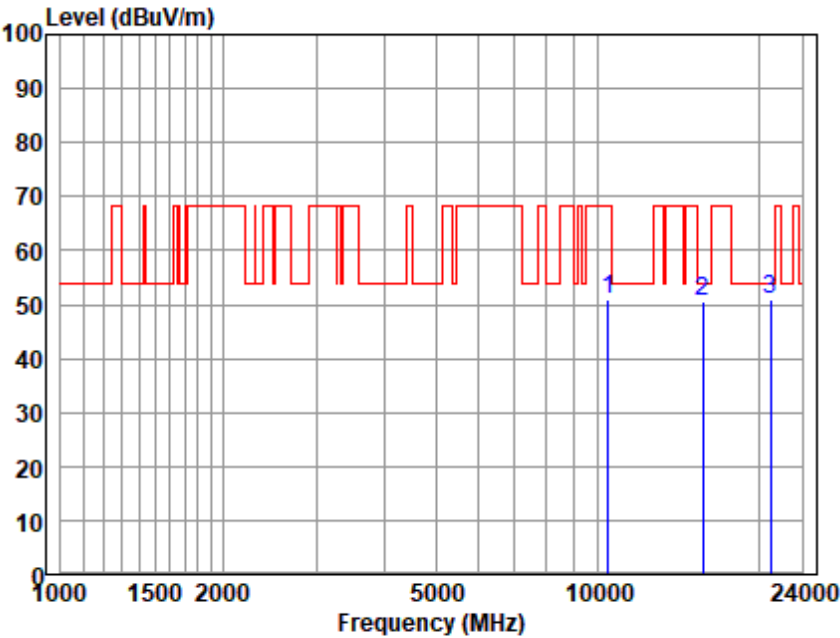
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10460.710	37.74	37.90	9.04	33.62	51.06	68.20	-17.14	Peak
15677.000	31.58	43.04	12.63	36.81	50.44	54.00	-3.56	Peak
20934.480	31.35	44.00	14.53	39.12	50.76	54.00	-3.24	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High
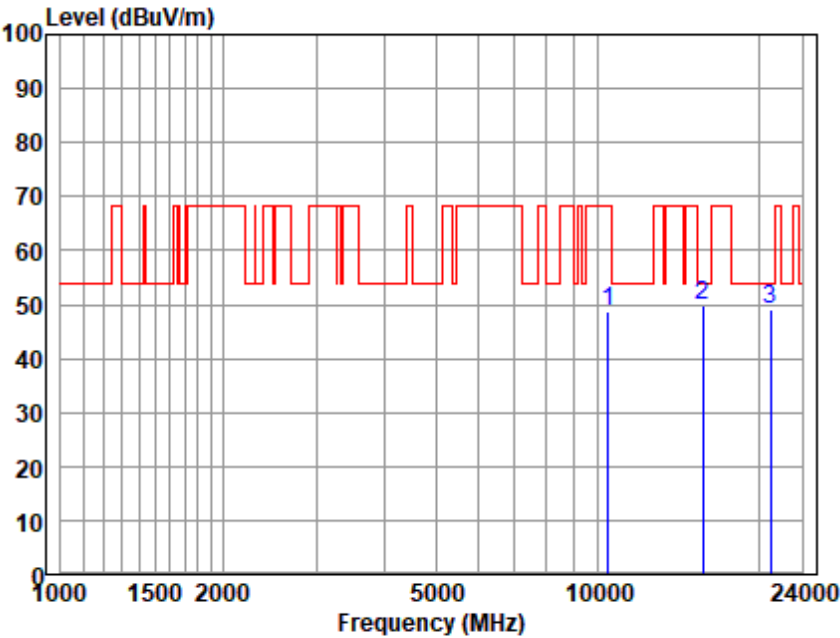
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10460.710	35.33	37.90	9.04	33.62	48.65	68.20	-19.55	Peak
15677.000	30.90	43.04	12.63	36.81	49.76	54.00	-4.24	Peak
20934.480	29.52	44.00	14.53	39.12	48.93	54.00	-5.07	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low
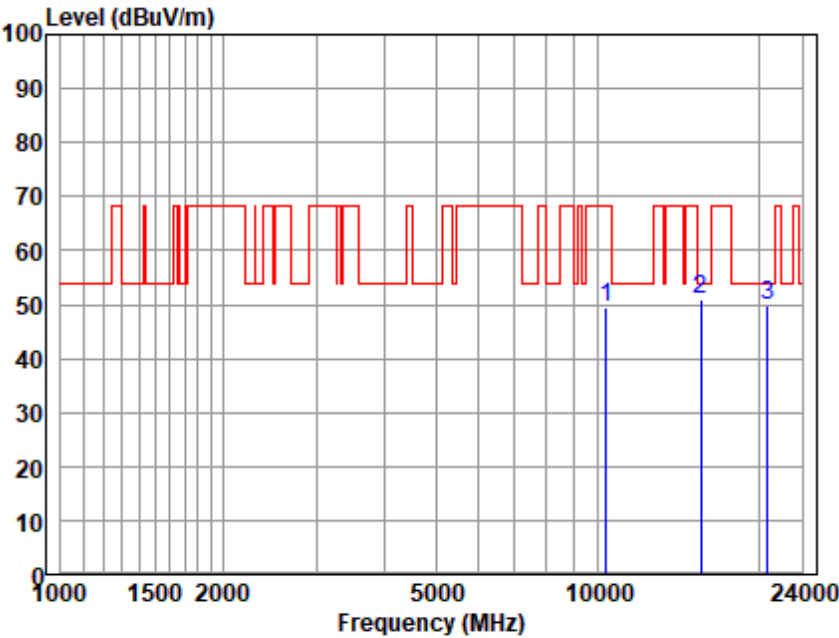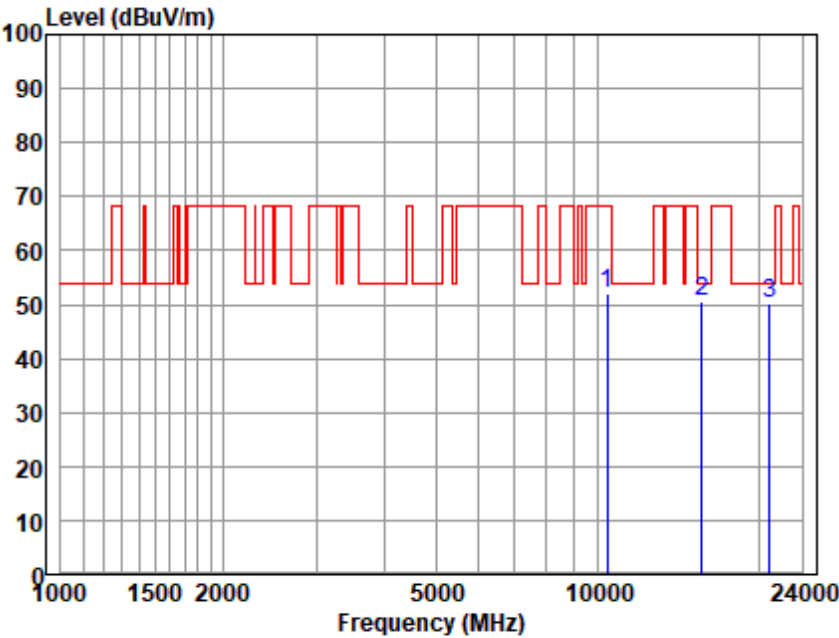

Antenna Polarity : HORIZONTAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10420.370	38.54	37.87	9.03	33.58	51.86	68.20	-16.34	Peak
15627.260	31.37	43.14	12.70	36.81	50.40	54.00	-3.60	Peak
20868.050	30.66	43.98	14.50	39.02	50.12	54.00	-3.88	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low
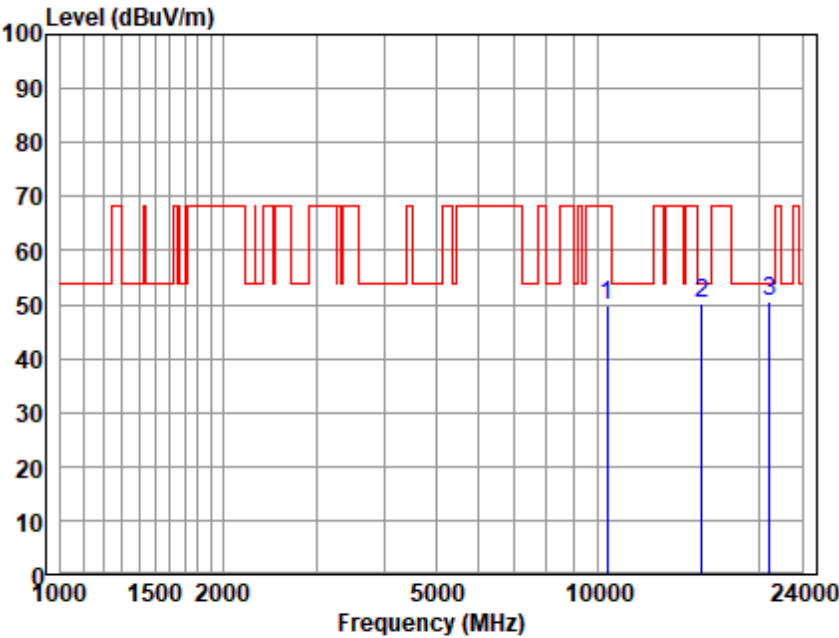
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10420.370	36.64	37.87	9.03	33.58	49.96	68.20	-18.24	Peak
15627.260	31.10	43.14	12.70	36.81	50.13	54.00	-3.87	Peak
20868.050	31.05	43.98	14.50	39.02	50.51	54.00	-3.49	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low
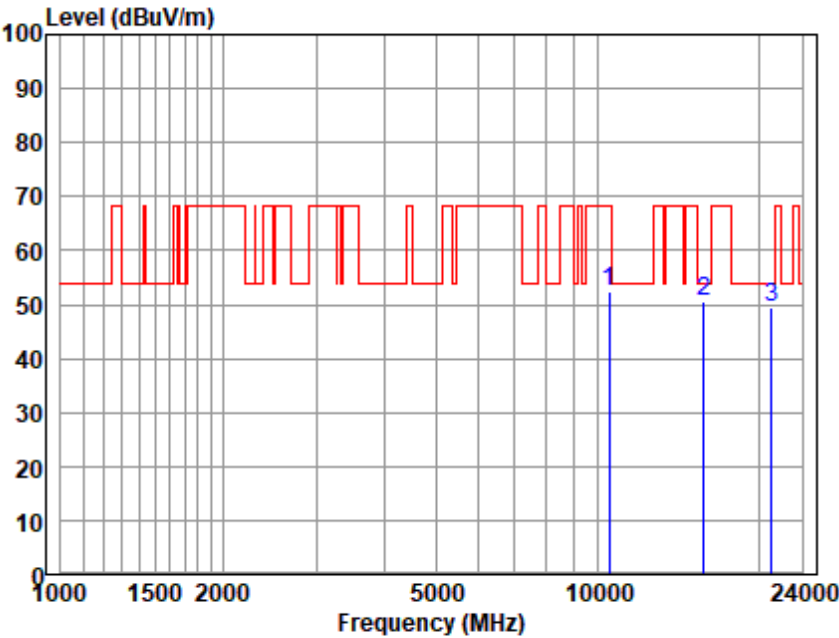
Antenna Polarity : HORIZONTAL
EUT/Project : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10520.040	39.06	37.91	9.05	33.63	52.39	68.20	-15.81	Peak
15776.960	32.16	42.79	12.50	36.80	50.65	54.00	-3.35	Peak
21067.960	30.21	44.05	14.57	39.31	49.52	54.00	-4.48	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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



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Antenna Polarity :VERTICAL
EUT/Project       :0043HS
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              Read  Antenna Cable Preamp Emission Limit  Over
       Freq   Level Factor  Loss  Factor Level    Line   Limit  Remark
       ------ ----- ------- ----- ------ -------- ------ ------ ------
       MHz    dBuv  dB/m    dB    dB     dBuv/m   dBuv/m dB
    10520.040 37.66 37.91   9.05  33.63  50.99    68.20  -17.21 Peak
    15776.960 32.20 42.79   12.50 36.80  50.69    54.00   -3.31 Peak
    21067.960 29.99 44.05   14.57 39.31  49.30    54.00   -4.70 Peak
```

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Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
```

Test Mode: 02; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle
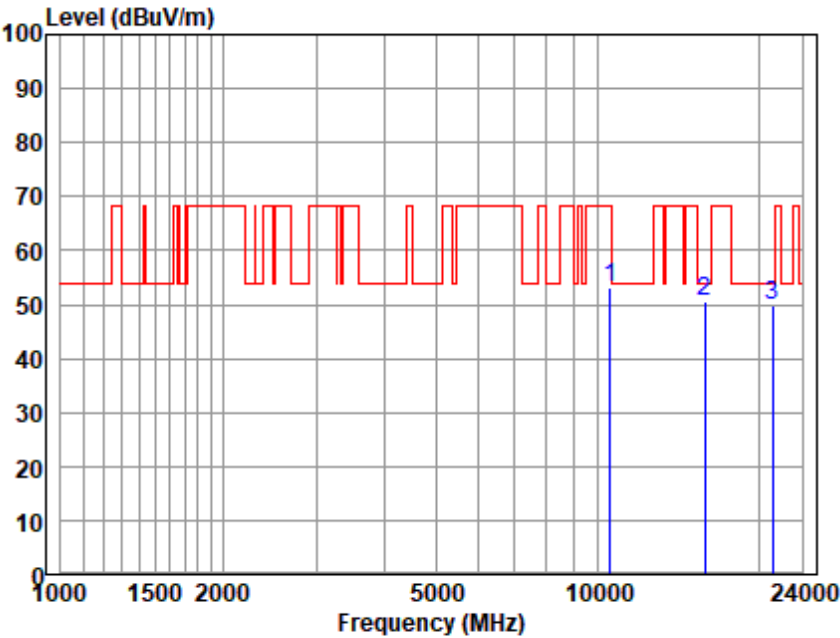
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10560.020	39.60	37.96	9.07	33.67	52.96	68.20	-15.24	Peak
15827.180	32.29	42.65	12.48	36.76	50.66	54.00	-3.34	Peak
21135.030	30.53	44.07	14.59	39.41	49.78	54.00	-4.22	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle
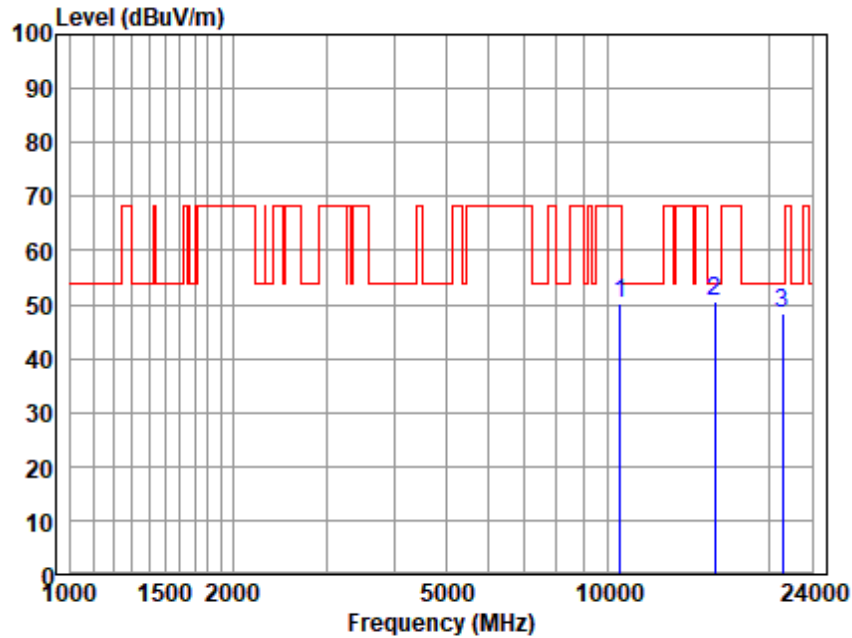
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10560.020	36.87	37.96	9.07	33.67	50.23	68.20	-17.97	Peak
15827.180	32.12	42.65	12.48	36.76	50.49	54.00	-3.51	Peak
21135.030	29.13	44.07	14.59	39.41	48.38	54.00	-5.62	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

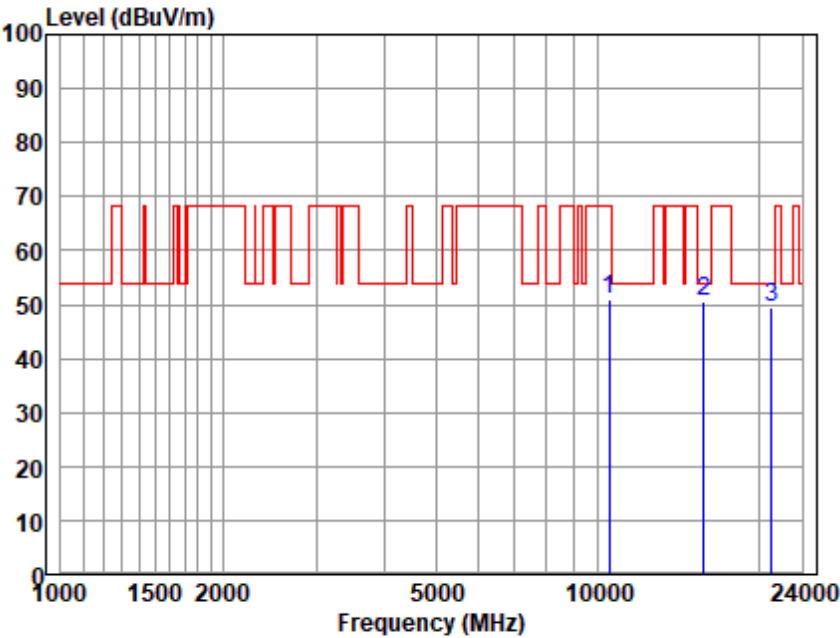Test Mode: 02; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High
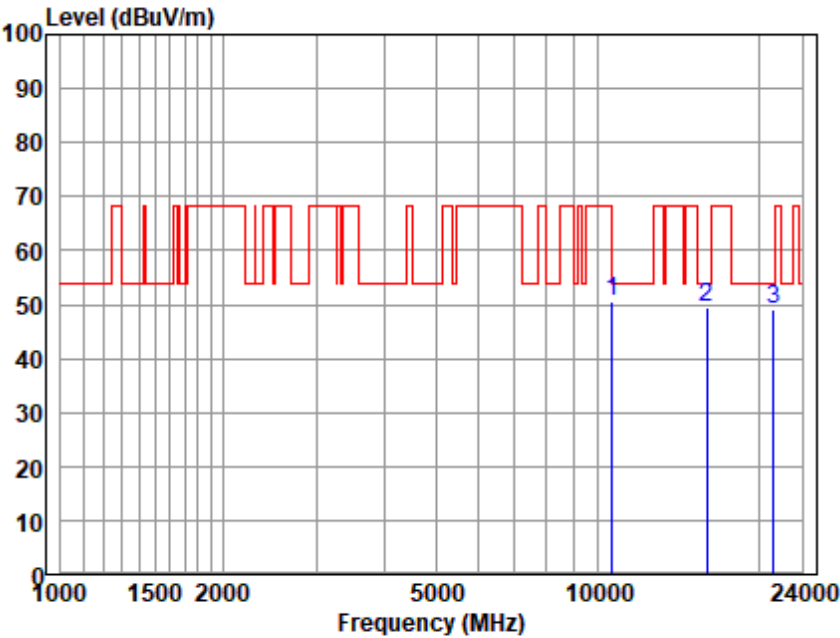
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10640.420	37.22	38.02	9.09	33.71	50.62	54.00	-3.38	Peak
15978.800	31.23	42.32	12.44	36.63	49.36	54.00	-4.64	Peak
21269.790	30.08	44.11	14.64	39.61	49.22	54.00	-4.78	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High
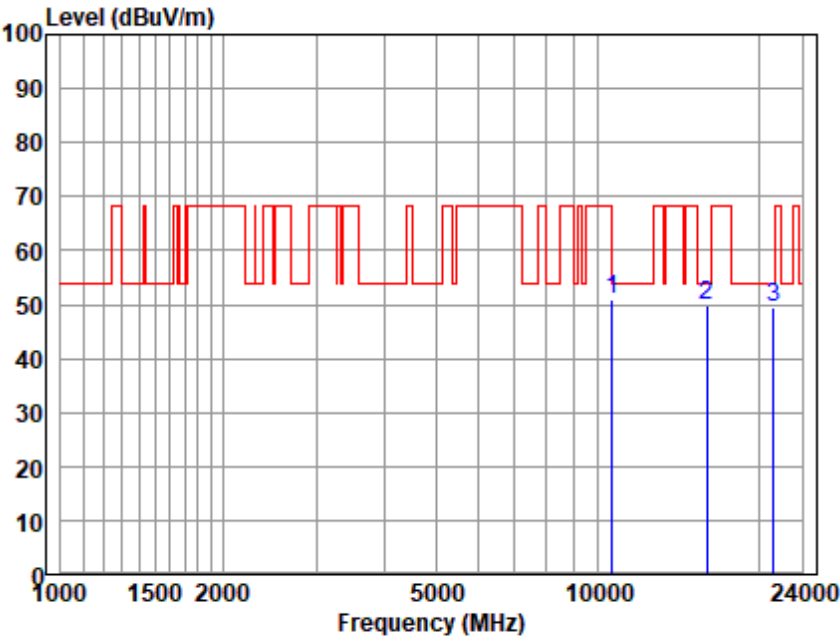
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10640.420	37.39	38.02	9.09	33.71	50.79	54.00	-3.21	Peak
15978.800	31.82	42.32	12.44	36.63	49.95	54.00	-4.05	Peak
21269.790	30.49	44.11	14.64	39.61	49.63	54.00	-4.37	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
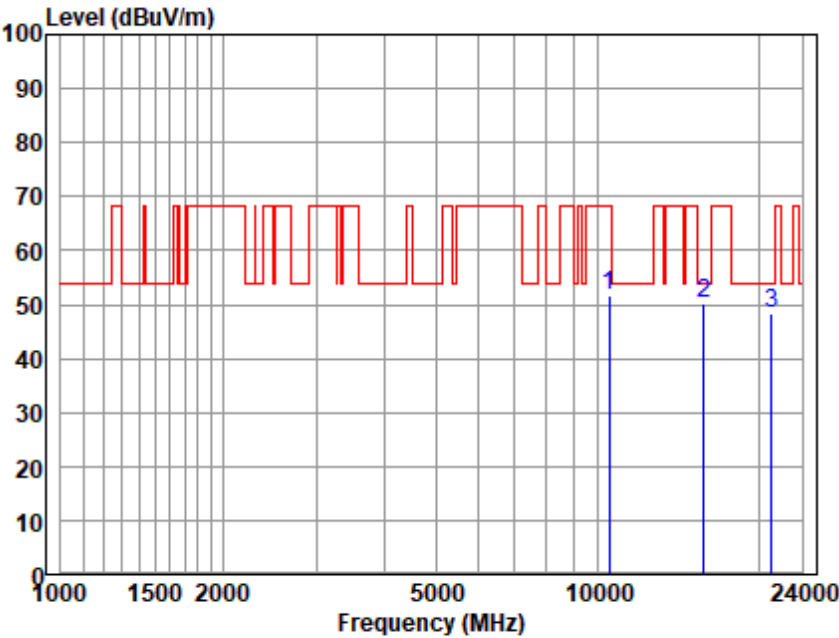
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10520.040	38.34	37.91	9.05	33.63	51.67	68.20	-16.53	Peak
15776.960	31.70	42.79	12.50	36.80	50.19	54.00	-3.81	Peak
21067.960	29.17	44.05	14.57	39.31	48.48	54.00	-5.52	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
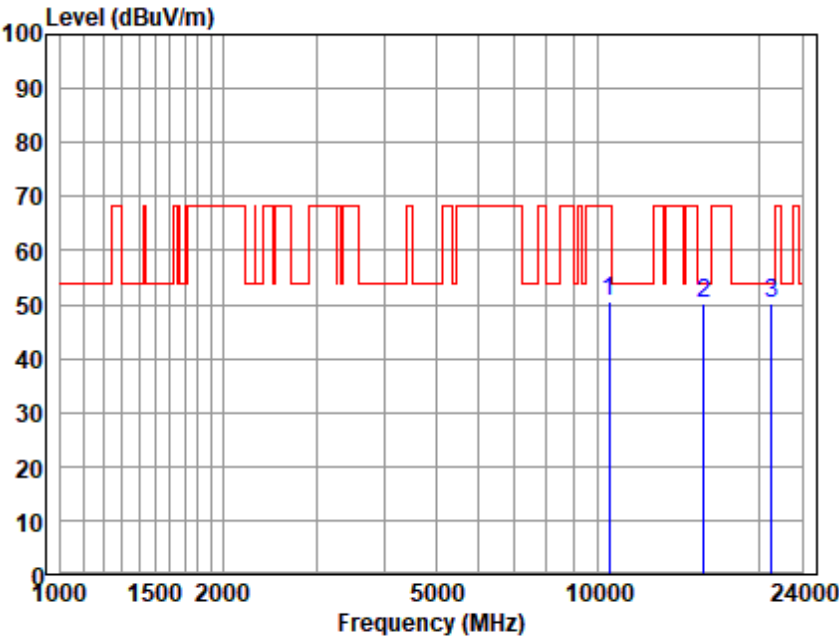
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10520.040	37.24	37.91	9.05	33.63	50.57	68.20	-17.63	Peak
15776.960	31.77	42.79	12.50	36.80	50.26	54.00	-3.74	Peak
21067.960	30.71	44.05	14.57	39.31	50.02	54.00	-3.98	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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


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Antenna Polarity :HORIZONTAL
EUT/Project        :0043HS
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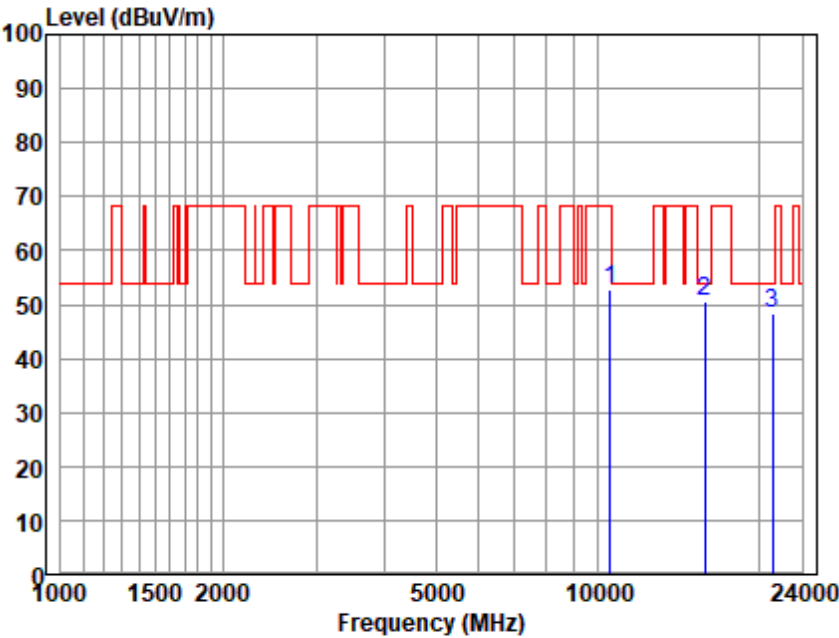
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10560.020	39.38	37.96	9.07	33.67	52.74	68.20	-15.46	Peak
15827.180	32.36	42.65	12.48	36.76	50.73	54.00	-3.27	Peak
21135.030	29.17	44.07	14.59	39.41	48.42	54.00	-5.58	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle
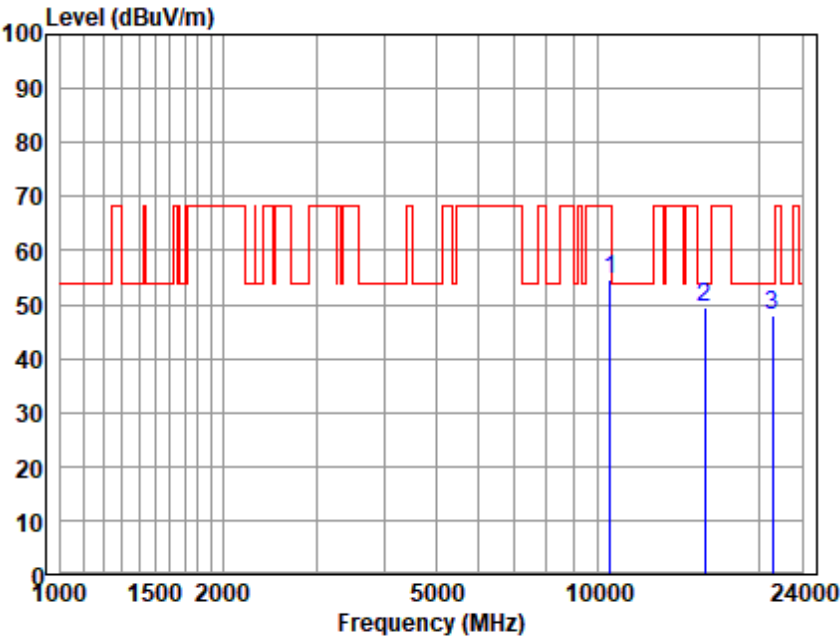
Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10560.020	41.09	37.96	9.07	33.67	54.45	68.20	-13.75	Peak
15827.180	30.98	42.65	12.48	36.76	49.35	54.00	-4.65	Peak
21135.030	28.80	44.07	14.59	39.41	48.05	54.00	-5.95	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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


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Antenna Polarity :HORIZONTAL
EUT/Project      :0043HS
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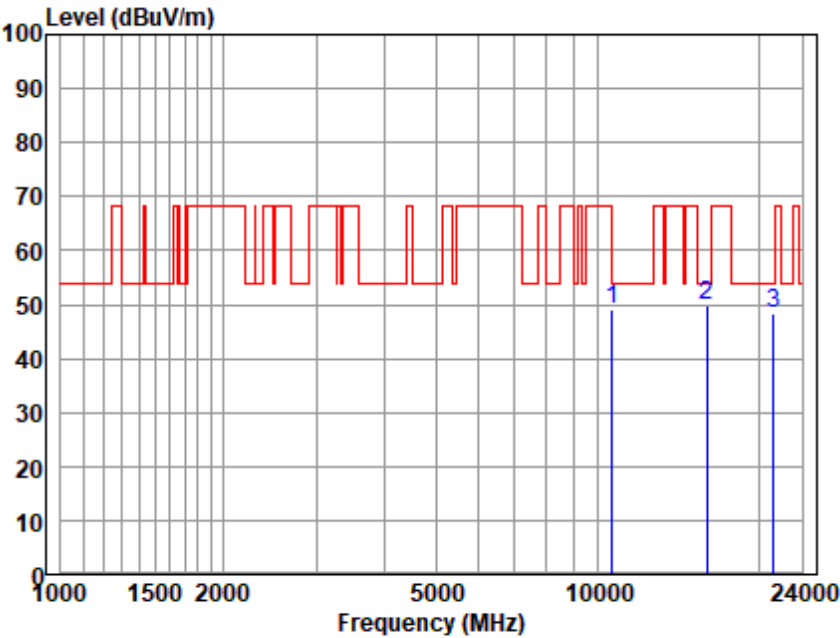
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10640.420	35.59	38.02	9.09	33.71	48.99	54.00	-5.01	Peak
15978.800	31.51	42.32	12.44	36.63	49.64	54.00	-4.36	Peak
21269.790	29.11	44.11	14.64	39.61	48.25	54.00	-5.75	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High
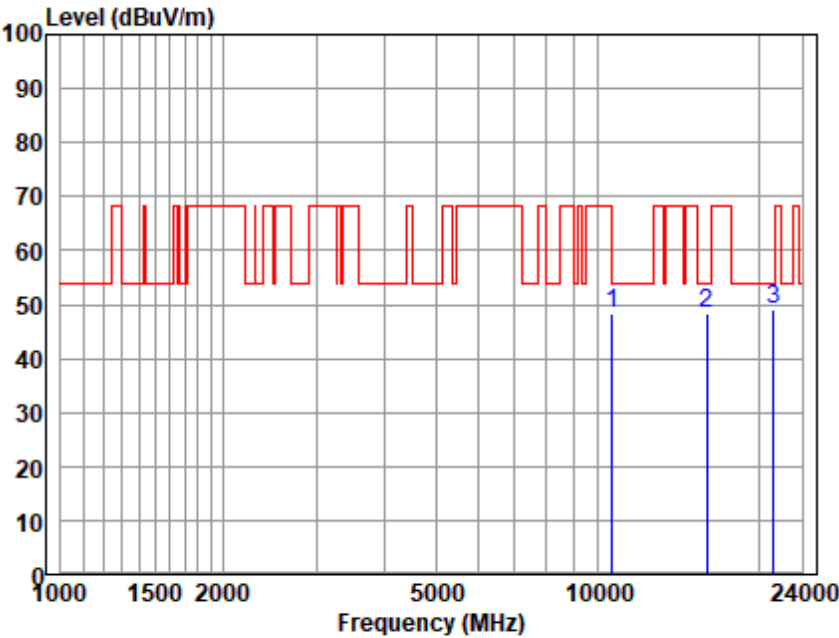
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10640.420	35.06	38.02	9.09	33.71	48.46	54.00	-5.54	Peak
15978.800	30.29	42.32	12.44	36.63	48.42	54.00	-5.58	Peak
21269.790	29.88	44.11	14.64	39.61	49.02	54.00	-4.98	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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


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Antenna Polarity :HORIZONTAL
EUT/Project       :0043HS
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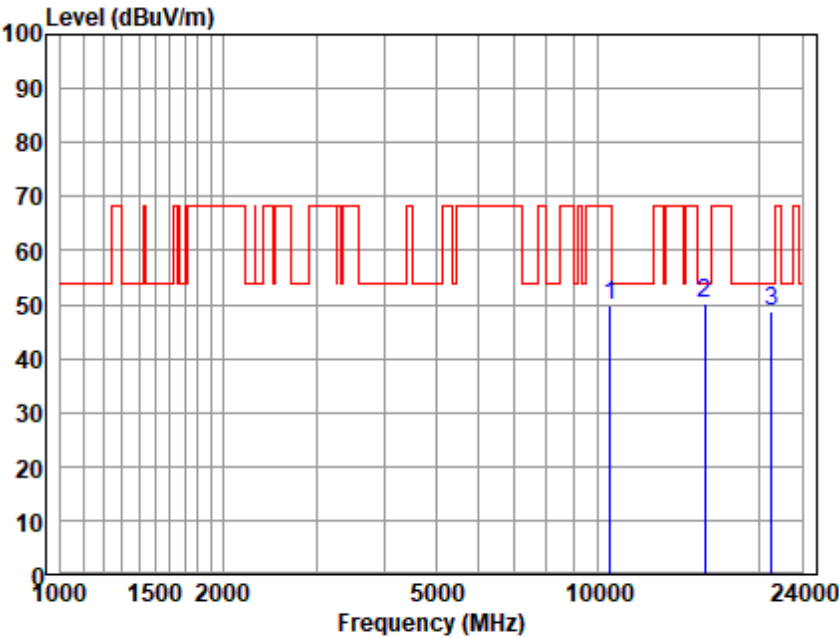
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10540.470	36.37	37.94	9.05	33.65	49.71	68.20	-18.49	Peak
15827.180	31.91	42.65	12.48	36.76	50.28	54.00	-3.72	Peak
21067.960	29.31	44.05	14.57	39.31	48.62	54.00	-5.38	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low
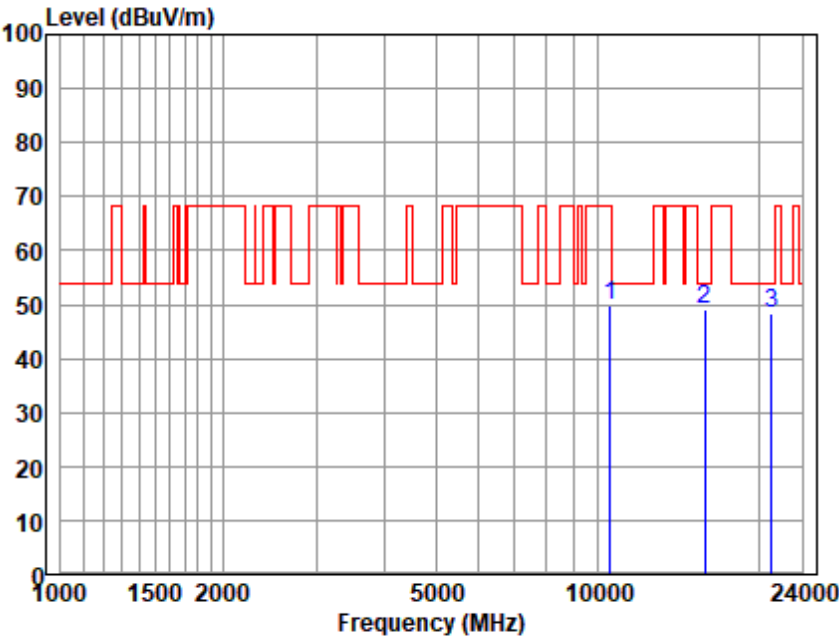
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10540.470	36.45	37.94	9.05	33.65	49.79	68.20	-18.41	Peak
15827.180	30.70	42.65	12.48	36.76	49.07	54.00	-4.93	Peak
21067.960	28.89	44.05	14.57	39.31	48.20	54.00	-5.80	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10620.670	34.17	37.99	9.08	33.69	47.55	54.00	-6.45	Peak
15928.100	31.98	42.37	12.46	36.67	50.14	54.00	-3.86	Peak
21269.790	29.24	44.11	14.64	39.61	48.38	54.00	-5.62	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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

Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10620.670	34.72	37.99	9.08	33.69	48.10	54.00	-5.90	Peak
15928.100	31.94	42.37	12.46	36.67	50.10	54.00	-3.90	Peak
21269.790	30.00	44.11	14.64	39.61	49.14	54.00	-4.86	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low
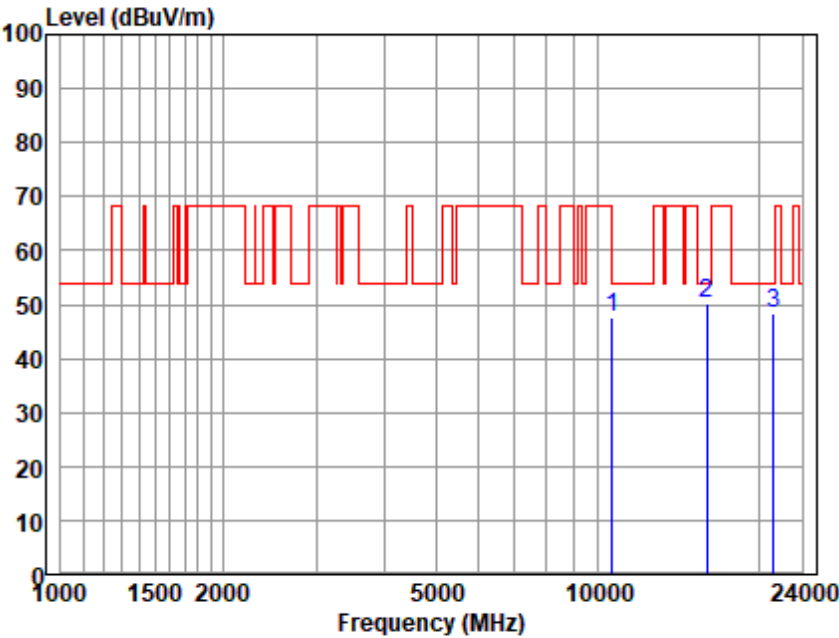


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Antenna Polarity :HORIZONTAL
EUT/Project      :0043HS
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Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10580.020	36.68	37.96	9.07	33.67	50.04	68.20	-18.16	Peak
15877.560	32.01	42.51	12.47	36.72	50.27	54.00	-3.73	Peak
21135.030	30.00	44.07	14.59	39.41	49.25	54.00	-4.75	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

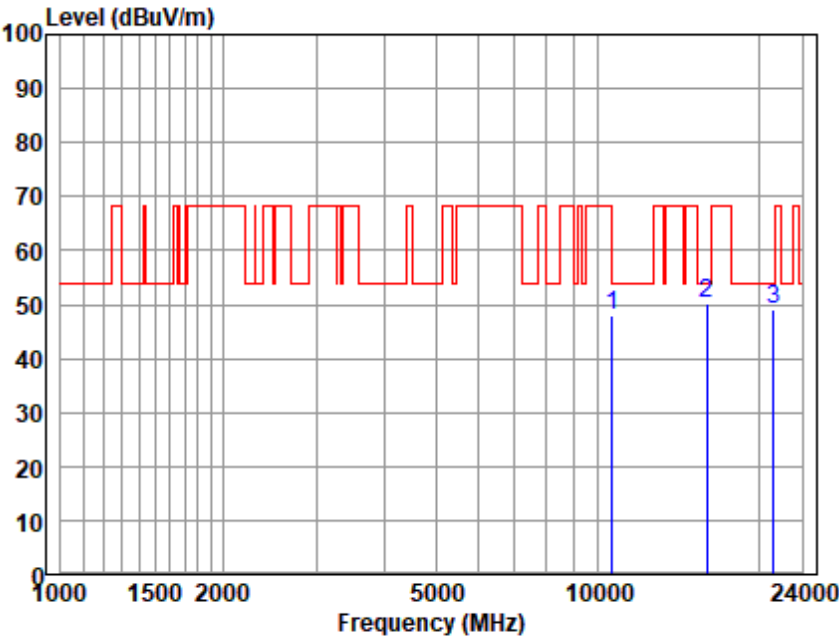Test Mode: 02; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low

Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
10580.020	37.81	37.96	9.07	33.67	51.17	68.20	-17.03	Peak
15877.560	31.94	42.51	12.47	36.72	50.20	54.00	-3.80	Peak
21135.030	29.24	44.07	14.59	39.41	48.49	54.00	-5.51	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

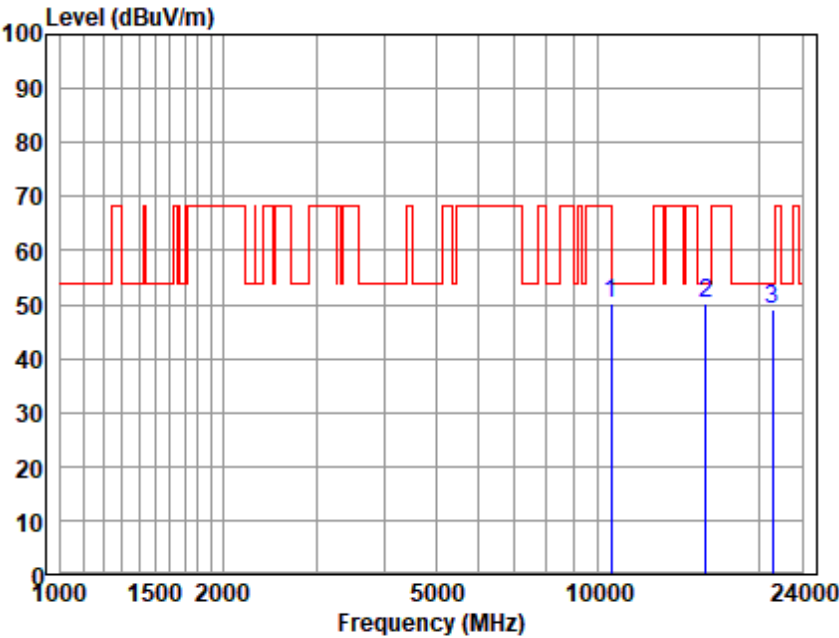Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11000.900	34.98	38.28	9.37	34.15	48.48	54.00	-5.52	Peak
16494.770	30.88	41.74	12.79	36.20	49.21	68.20	-18.99	Peak
22026.500	30.60	44.36	14.88	40.70	49.14	54.00	-4.86	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

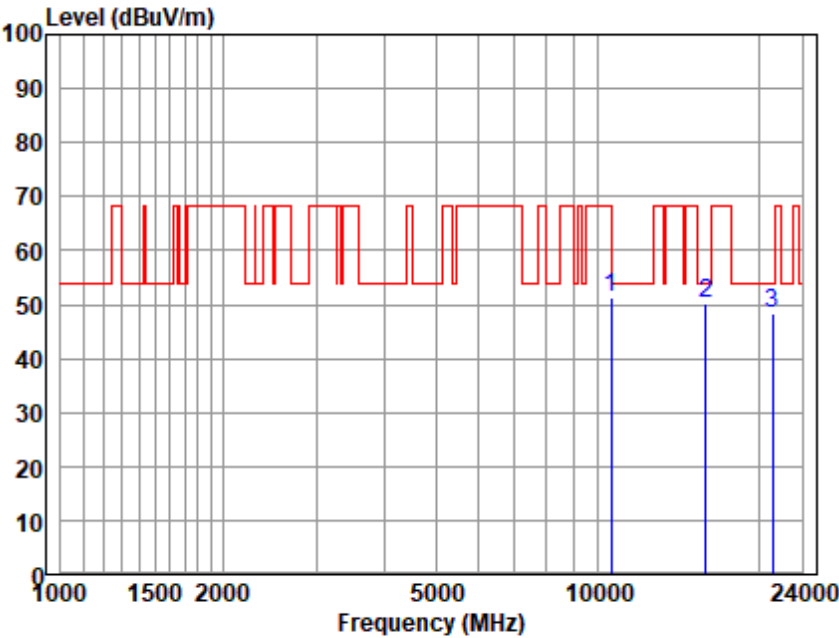Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11000.900	35.58	38.28	9.37	34.15	49.08	54.00	-4.92	Peak
16494.770	31.23	41.74	12.79	36.20	49.56	68.20	-18.64	Peak
22026.500	29.77	44.36	14.88	40.70	48.31	54.00	-5.69	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

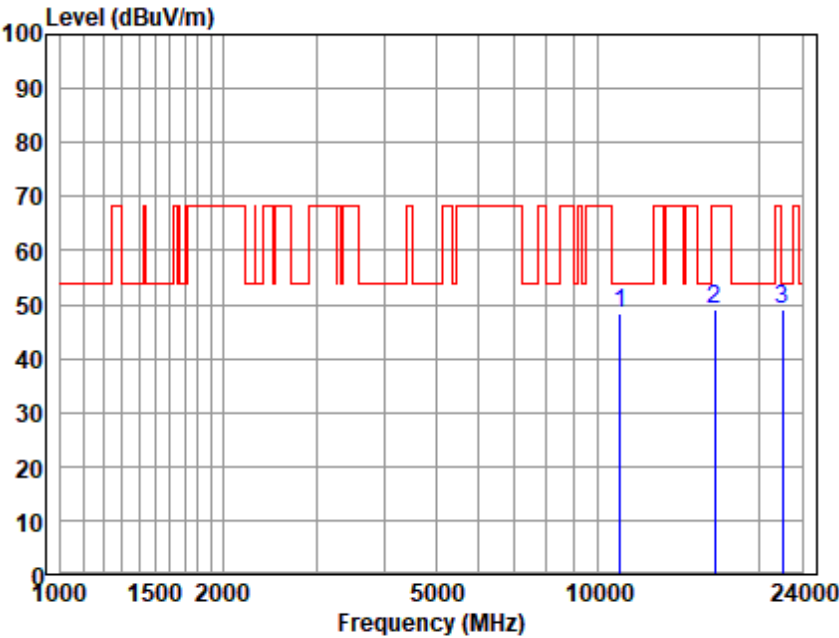Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11200.360	36.49	38.28	9.63	34.67	49.73	54.00	-4.27	Peak
16812.320	31.30	41.70	12.85	35.90	49.95	68.20	-18.25	Peak
22379.300	31.00	44.47	14.99	41.19	49.27	54.00	-4.73	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

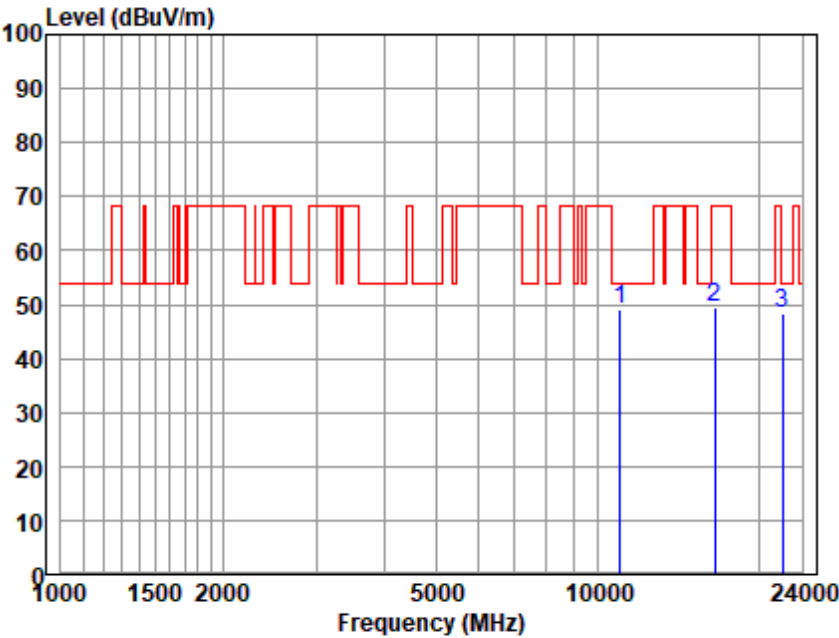Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11200.360	35.50	38.28	9.63	34.67	48.74	54.00	-5.26	Peak
16812.320	31.75	41.70	12.85	35.90	50.40	68.20	-17.80	Peak
22379.300	30.26	44.47	14.99	41.19	48.53	54.00	-5.47	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

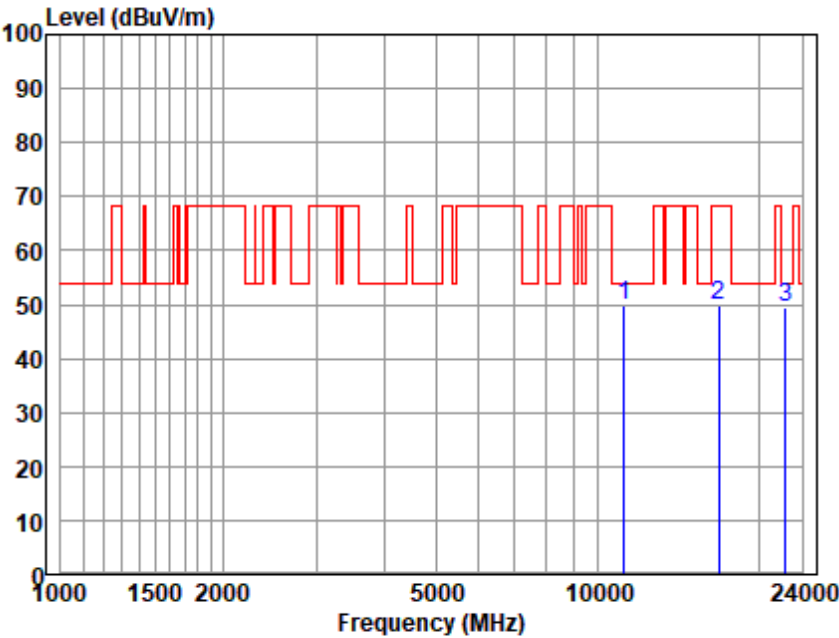Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High
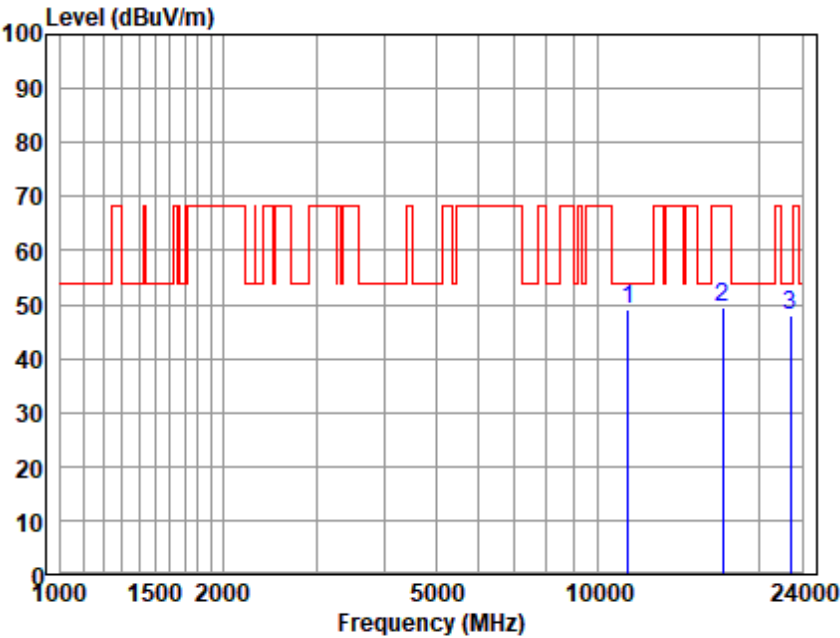
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11400.850	36.44	38.28	9.85	35.43	49.14	54.00	-4.86	Peak
17081.600	30.21	41.79	13.09	35.58	49.51	68.20	-18.69	Peak
22810.130	30.12	44.60	15.12	41.79	48.05	54.00	-5.95	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

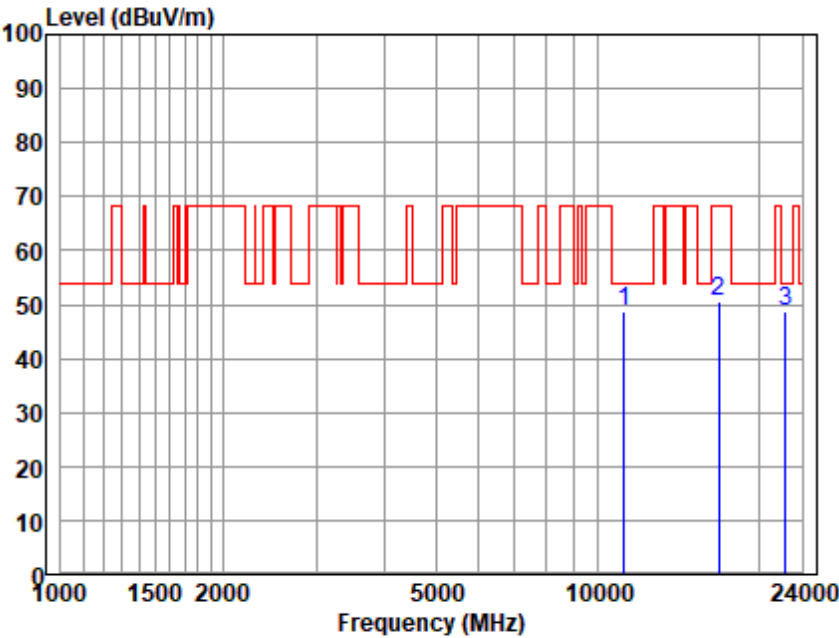Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11400.850	35.76	38.28	9.85	35.43	48.46	54.00	-5.54	Peak
17081.600	32.56	41.79	13.09	35.58	51.86	68.20	-16.34	Peak
22810.130	30.95	44.60	15.12	41.79	48.88	54.00	-5.12	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
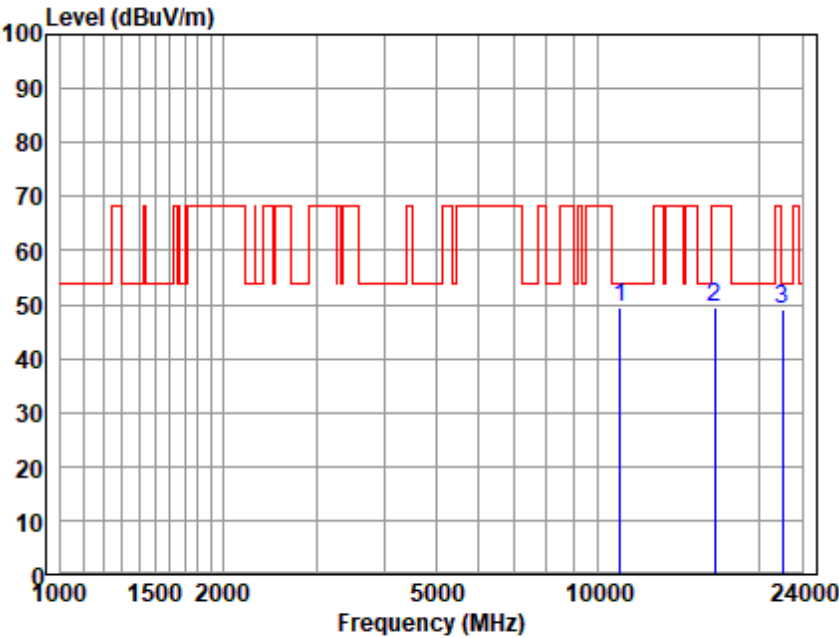
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11000.900	36.05	38.28	9.37	34.15	49.55	54.00	-4.45	Peak
16494.770	31.30	41.74	12.79	36.20	49.63	68.20	-18.57	Peak
22026.500	30.38	44.36	14.88	40.70	48.92	54.00	-5.08	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

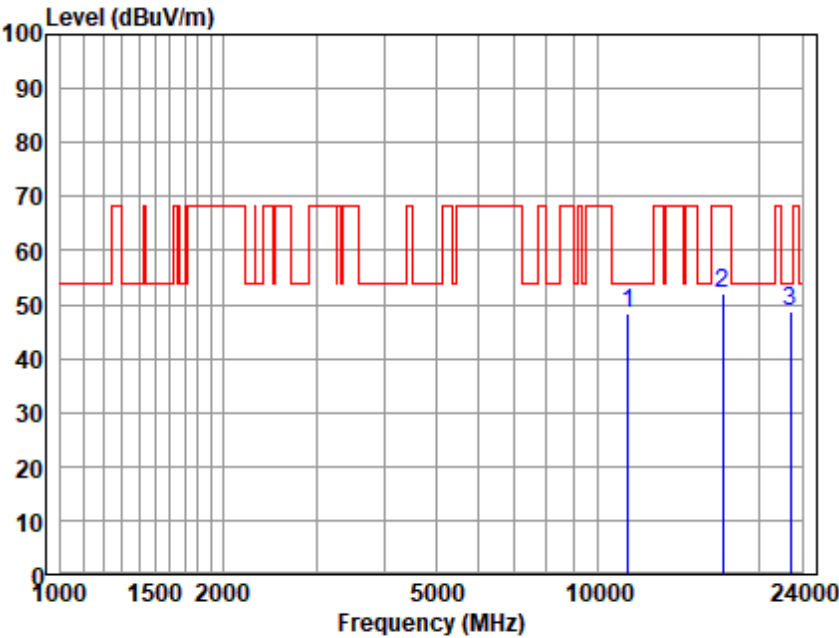Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
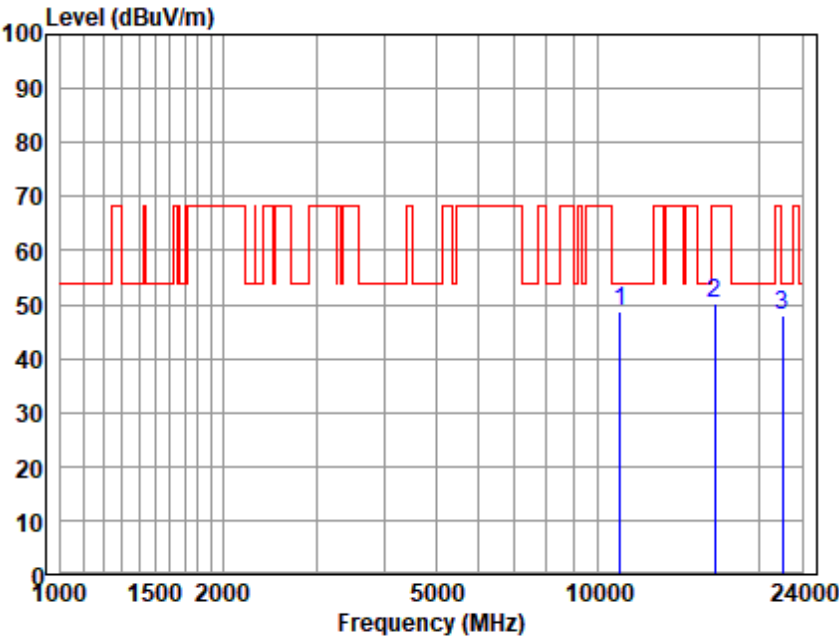
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11000.900	35.30	38.28	9.37	34.15	48.80	54.00	-5.20	Peak
16494.770	31.97	41.74	12.79	36.20	50.30	68.20	-17.90	Peak
22026.500	29.43	44.36	14.88	40.70	47.97	54.00	-6.03	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11200.360	35.28	38.28	9.63	34.67	48.52	54.00	-5.48	Peak
16812.320	31.63	41.70	12.85	35.90	50.28	68.20	-17.92	Peak
22379.300	31.17	44.47	14.99	41.19	49.44	54.00	-4.56	Peak

Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11200.360	34.58	38.28	9.63	34.67	47.82	54.00	-6.18	Peak
16812.320	31.49	41.70	12.85	35.90	50.14	68.20	-18.06	Peak
22379.300	31.47	44.47	14.99	41.19	49.74	54.00	-4.26	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

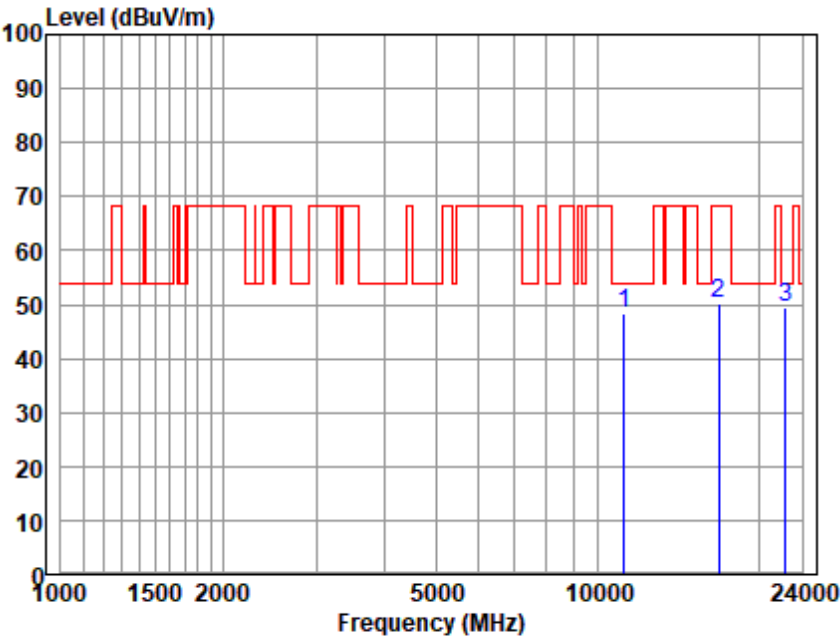Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11400.850	36.51	38.28	9.85	35.43	49.21	54.00	-4.79	Peak
17081.600	31.19	41.79	13.09	35.58	50.49	68.20	-17.71	Peak
22810.130	30.71	44.60	15.12	41.79	48.64	54.00	-5.36	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

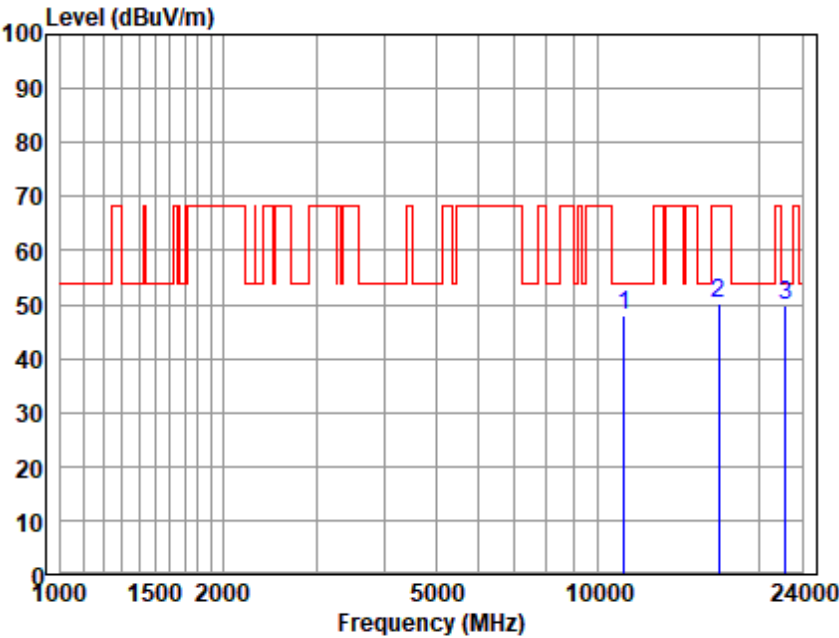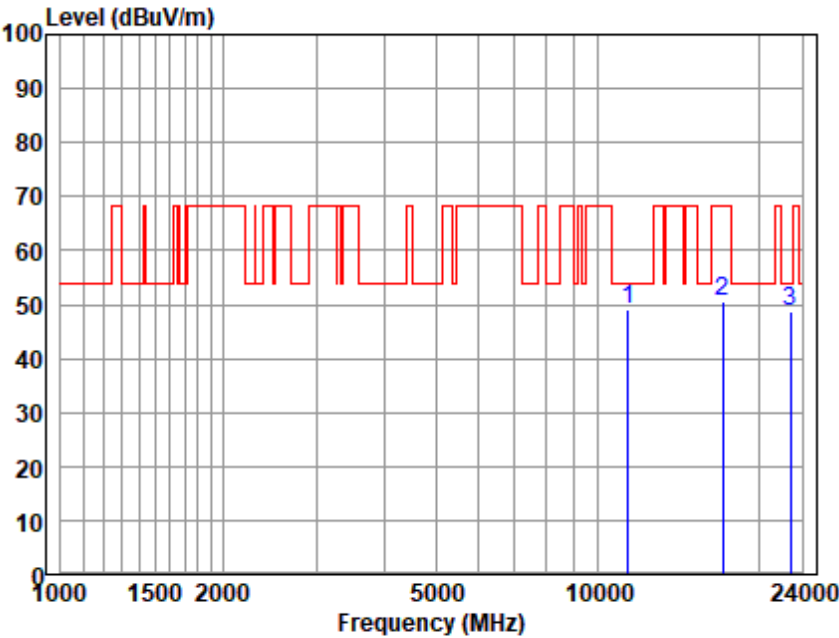Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11400.850	36.12	38.28	9.85	35.43	48.82	54.00	-5.18	Peak
17081.600	31.96	41.79	13.09	35.58	51.26	68.20	-16.94	Peak
22810.130	31.41	44.60	15.12	41.79	49.34	54.00	-4.66	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11020.360	35.90	38.28	9.37	34.15	49.40	54.00	-4.60	Peak
16547.280	32.30	41.67	12.79	36.16	50.60	68.20	-17.60	Peak
22026.500	31.57	44.36	14.88	40.70	50.11	54.00	-3.89	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

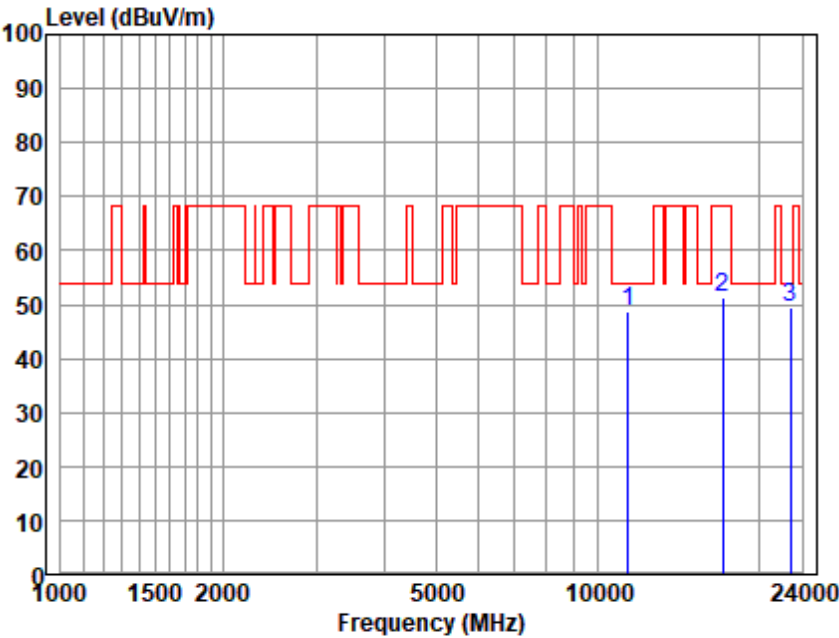
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11020.900	36.39	38.28	9.37	34.15	49.89	54.00	-4.11	Peak
16547.280	31.07	41.67	12.79	36.16	49.37	68.20	-18.83	Peak
22026.500	31.55	44.36	14.88	40.70	50.09	54.00	-3.91	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

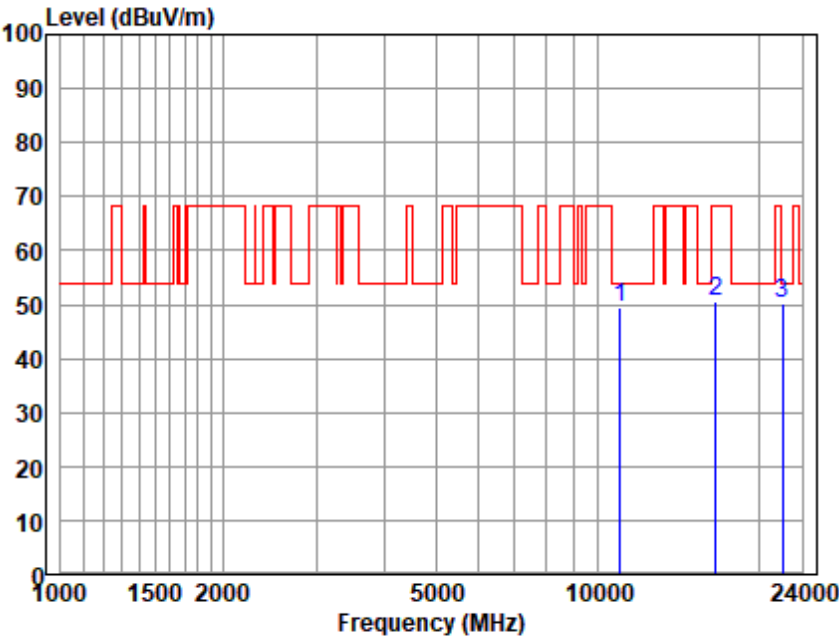Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:middle

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11180.360	37.21	38.28	9.63	34.67	50.45	54.00	-3.55	Peak
16758.970	32.13	41.69	12.78	35.97	50.63	68.20	-17.57	Peak
22379.300	31.48	44.47	14.99	41.19	49.75	54.00	-4.25	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:middle
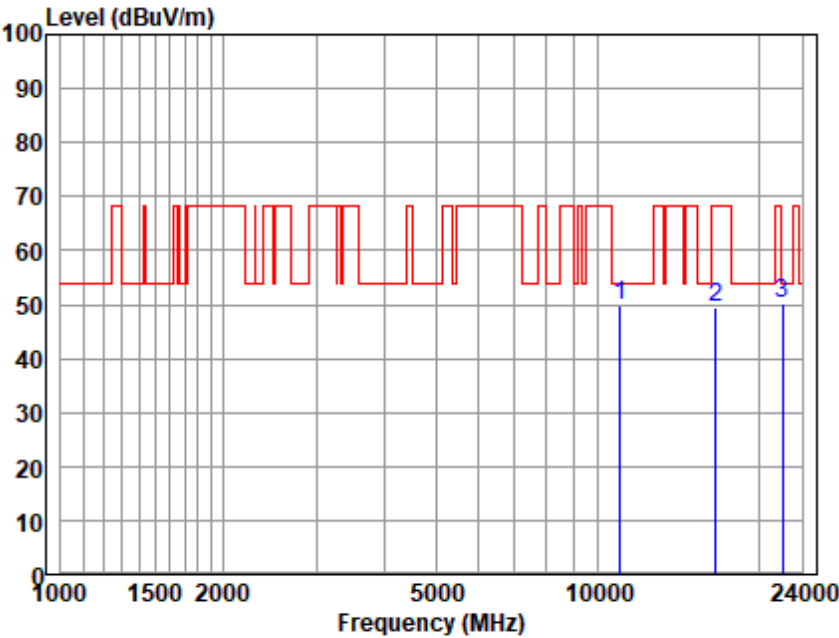

Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11180.360	35.92	38.28	9.63	34.67	49.16	54.00	-4.84	Peak
16758.970	31.36	41.69	12.78	35.97	49.86	68.20	-18.34	Peak
22379.300	30.91	44.47	14.99	41.19	49.18	54.00	-4.82	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

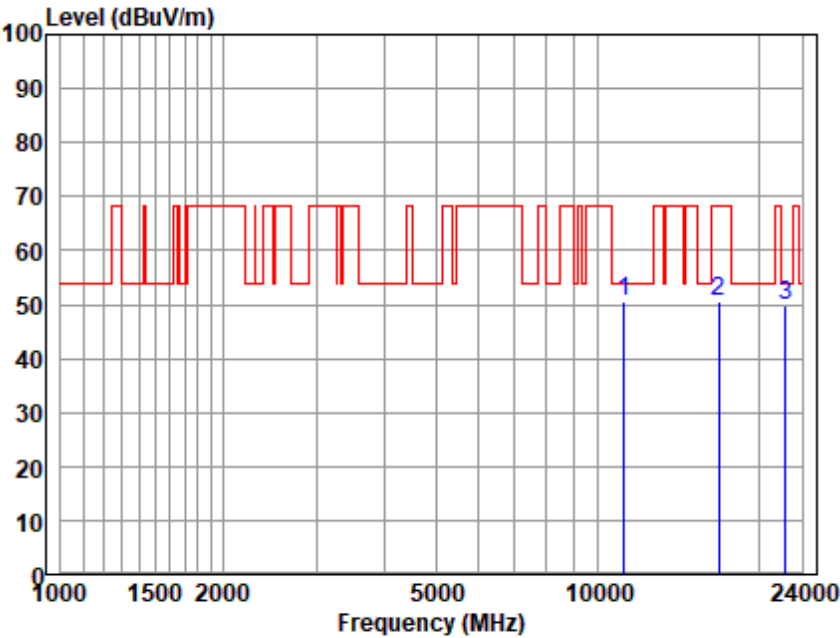Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High
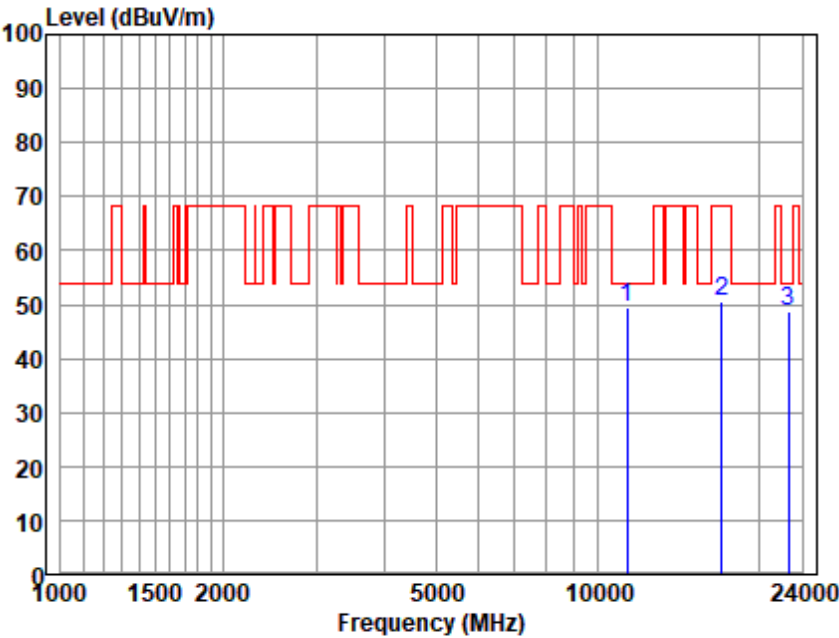
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11340.560	36.62	38.28	9.81	35.17	49.54	54.00	-4.46	Peak
17027.400	31.32	41.72	13.08	35.64	50.48	68.20	-17.72	Peak
22665.610	30.77	44.55	15.08	41.59	48.81	54.00	-5.19	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

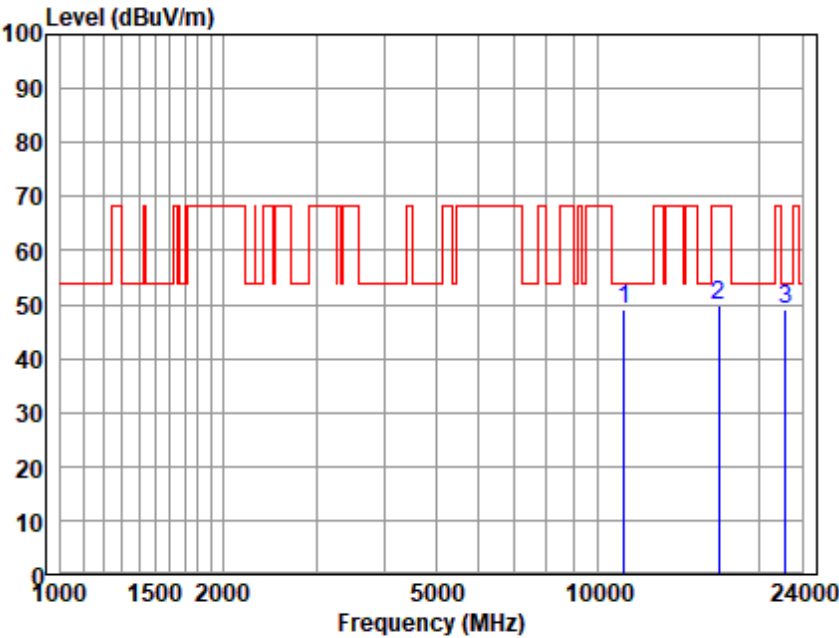Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11340.560	36.43	38.28	9.81	35.17	49.35	54.00	-4.65	Peak
17027.400	30.63	41.72	13.08	35.64	49.79	68.20	-18.41	Peak
22665.610	30.79	44.55	15.08	41.59	48.83	54.00	-5.17	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11060.970	36.14	38.28	9.42	34.25	49.59	54.00	-4.41	Peak
16599.950	31.52	41.61	12.79	36.12	49.80	68.20	-18.40	Peak
22096.620	29.44	44.38	14.90	40.80	47.92	54.00	-6.08	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low

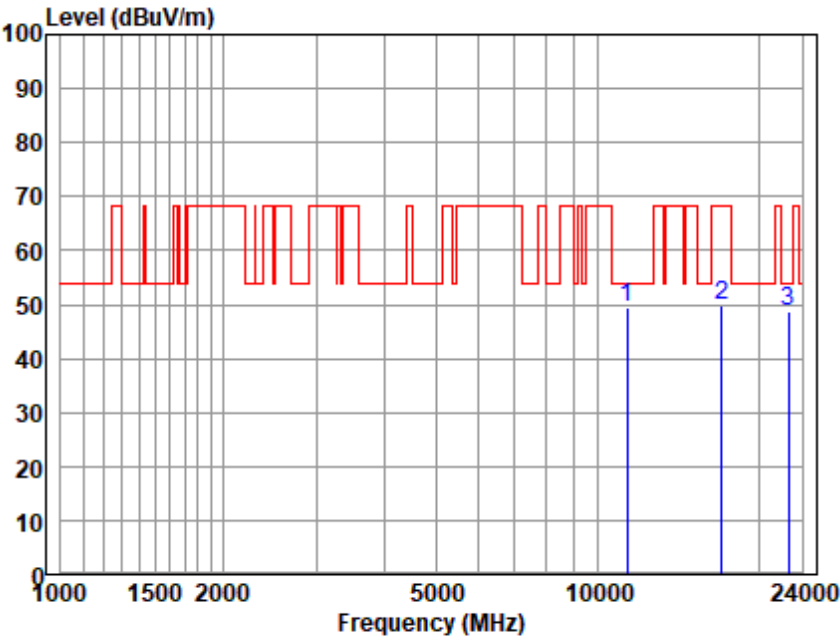

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11060.970	36.21	38.28	9.42	34.25	49.66	54.00	-4.34	Peak
16599.950	31.68	41.61	12.79	36.12	49.96	68.20	-18.24	Peak
22096.620	29.21	44.38	14.90	40.80	47.69	54.00	-6.31	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:High
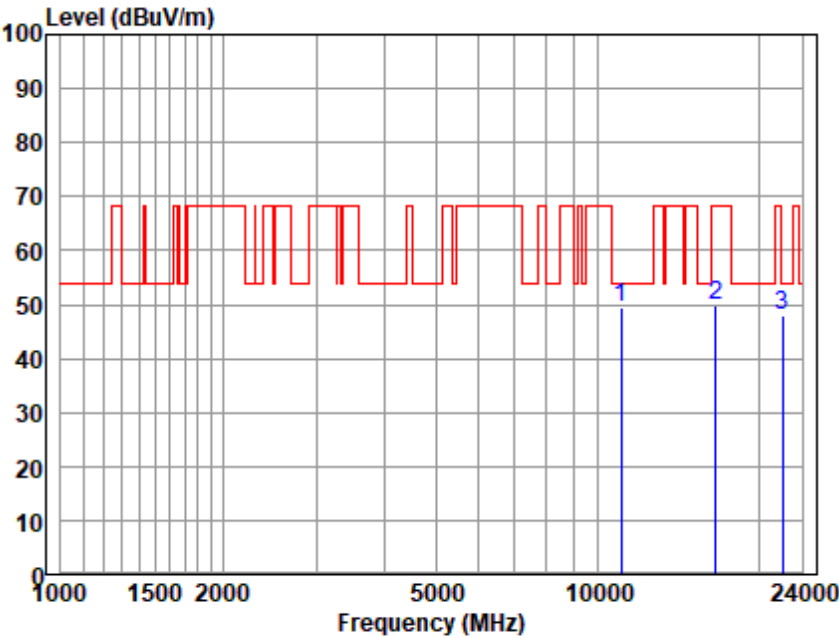

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11220.990	36.70	38.28	9.69	34.79	49.88	54.00	-4.12	Peak
16812.320	31.08	41.70	12.85	35.90	49.73	68.20	-18.47	Peak
22450.540	31.57	44.49	15.01	41.29	49.78	54.00	-4.22	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

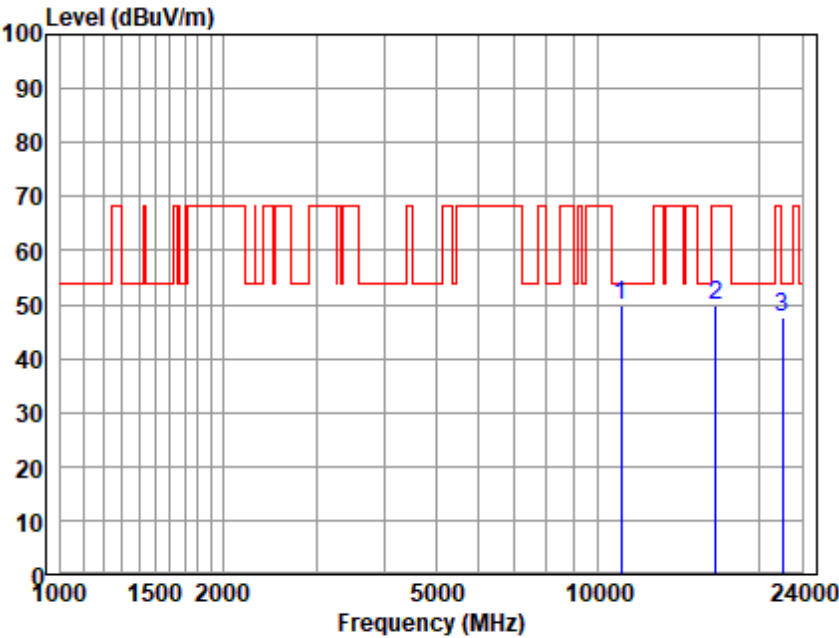Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:High

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11220.990	34.86	38.28	9.69	34.79	48.04	54.00	-5.96	Peak
16812.320	30.35	41.70	12.85	35.90	49.00	68.20	-19.20	Peak
22450.540	31.67	44.49	15.01	41.29	49.88	54.00	-4.12	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low
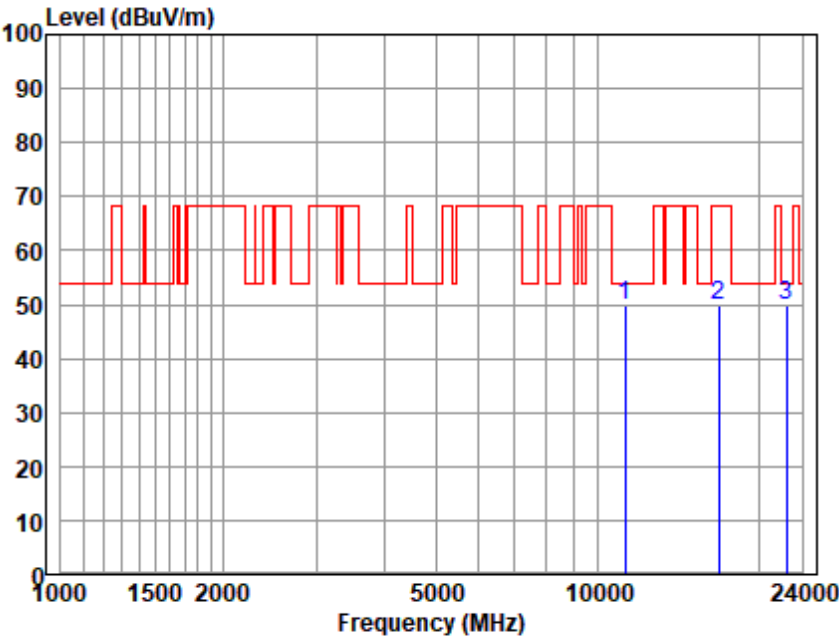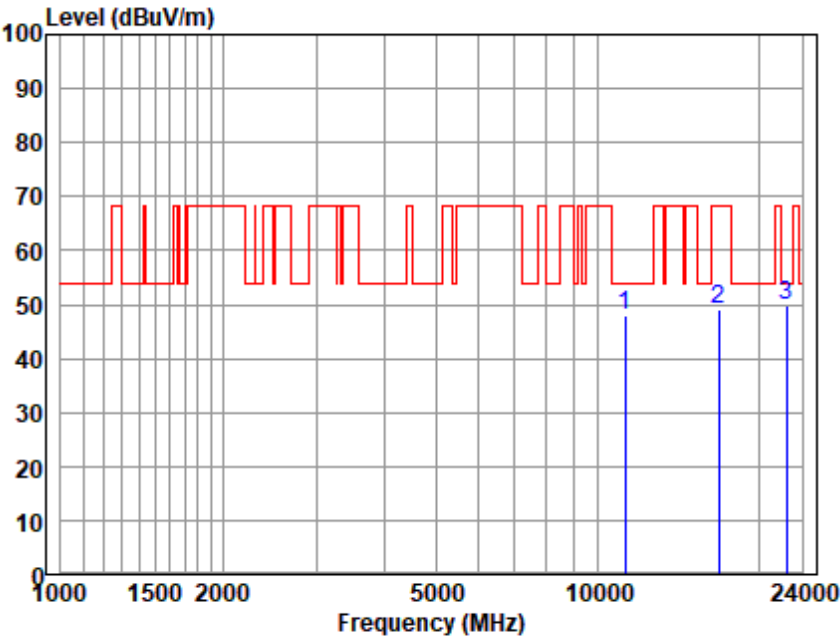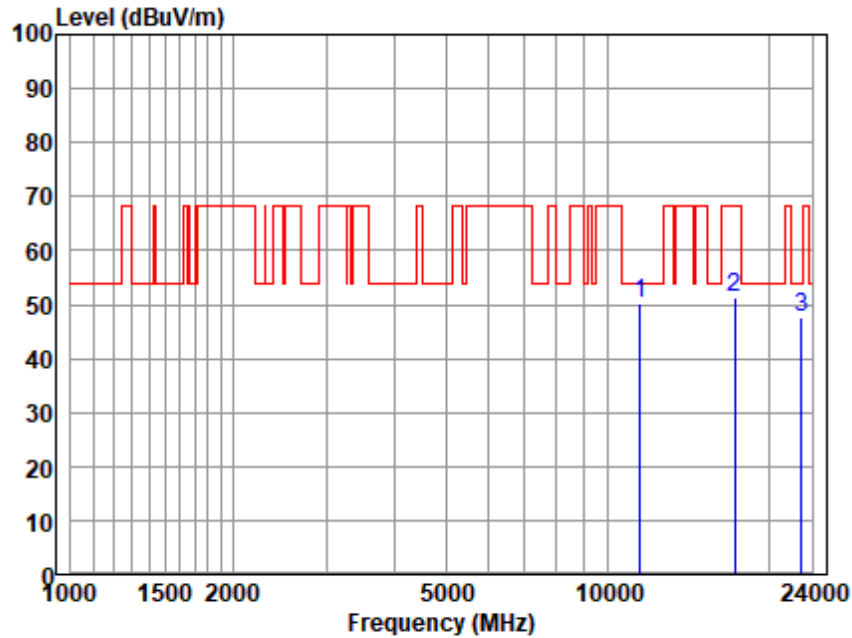

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11490.600	37.71	38.28	9.88	35.68	50.19	54.00	-3.81	Peak
17245.240	31.47	42.00	13.15	35.39	51.23	68.20	-16.97	Peak
22955.580	29.84	44.64	15.17	41.99	47.66	54.00	-6.34	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low
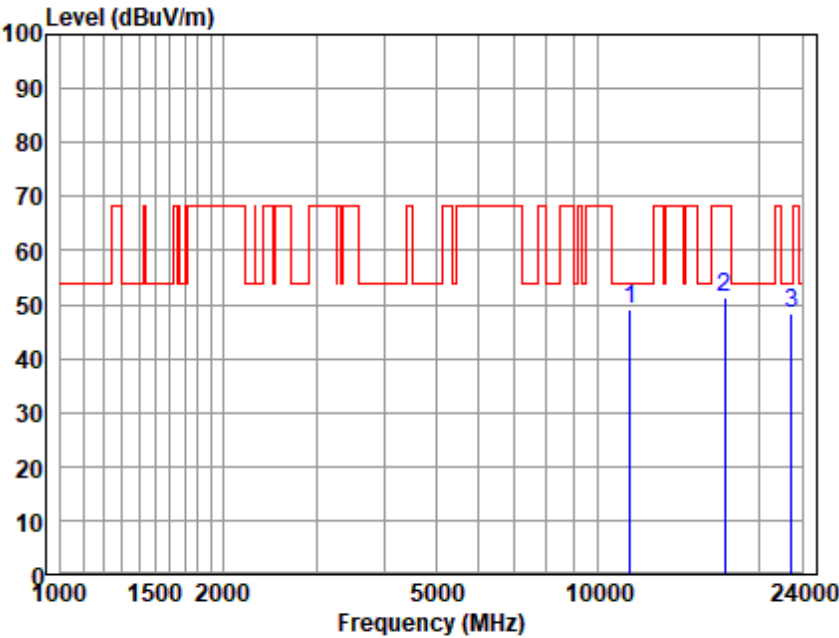
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11490.600	36.48	38.28	9.88	35.68	48.96	54.00	-5.04	Peak
17245.240	31.50	42.00	13.15	35.39	51.26	68.20	-16.94	Peak
22955.580	30.43	44.64	15.17	41.99	48.25	54.00	-5.75	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle


```
Antenna Polarity :HORIZONTAL
EUT/Project       :0043HS

             Read   Antenna Cable Preamp Emission Limit  Over
      Freq   Level  Factor  Loss  Factor Level    Line   Limit  Remark
      ------ -----  ------- ----- ------ ------   ------ ------ ------
      MHz    dBuv   dB/m    dB    dB     dBuv/m   dBuv/m dB
   11570.810 37.77  38.29   9.90  35.96  50.00    54.00  -4.00  Peak
   17355.200 31.19  42.22   13.19 35.24  51.36    68.20  -16.84 Peak
   23175.490 30.49  44.71   15.24 42.28  48.16    68.20  -20.04 Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
```

Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11570.810	37.11	38.29	9.90	35.96	49.34	54.00	-4.66	Peak
17355.200	32.06	42.22	13.19	35.24	52.23	68.20	-15.97	Peak
23175.490	29.34	44.71	15.24	42.28	47.01	68.20	-21.19	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

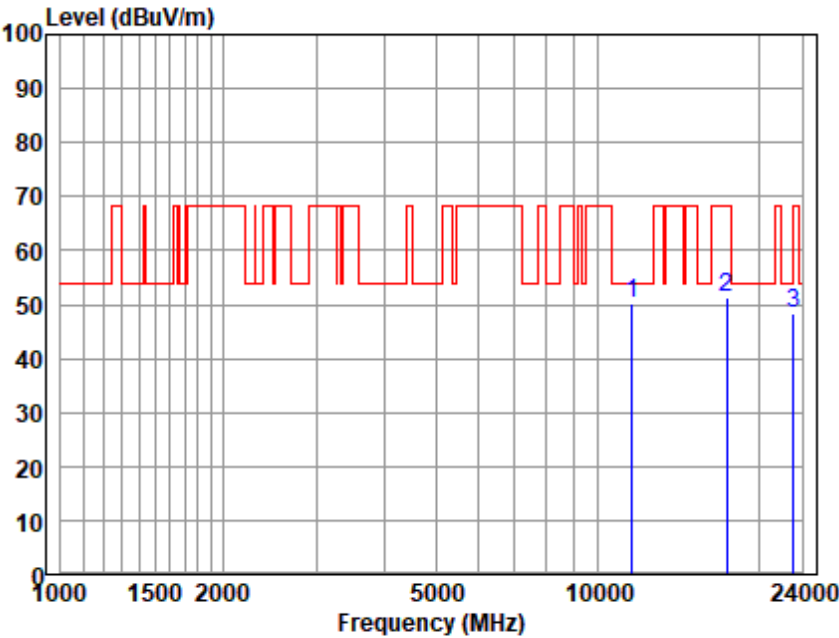Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High


```
Antenna Polarity :HORIZONTAL
EUT/Project      :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11650.500	36.74	38.30	9.91	36.41	48.54	54.00	-5.46	Peak
17465.870	31.47	42.26	13.23	35.08	51.88	68.20	-16.32	Peak
23323.270	30.33	44.75	15.28	42.48	47.88	68.20	-20.32	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

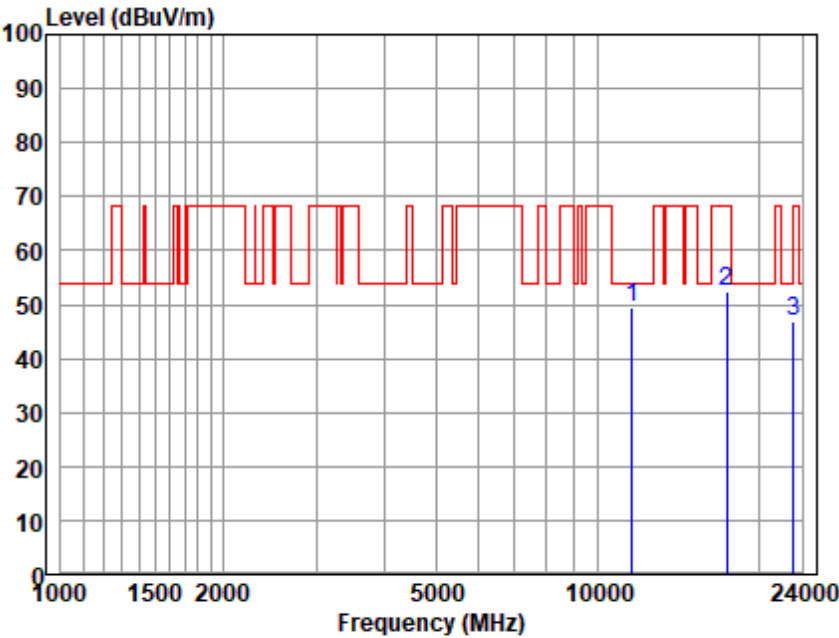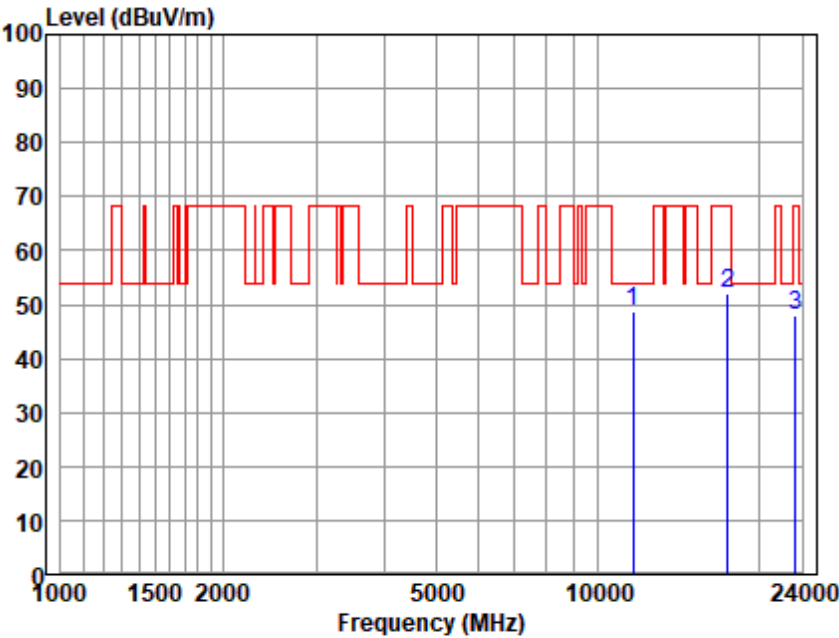Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High


```
Antenna Polarity :VERTICAL
EUT/Project      :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11650.500	37.83	38.30	9.91	36.41	49.63	54.00	-4.37	Peak
17465.870	32.43	42.26	13.23	35.08	52.84	68.20	-15.36	Peak
23323.270	30.51	44.75	15.28	42.48	48.06	68.20	-20.14	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
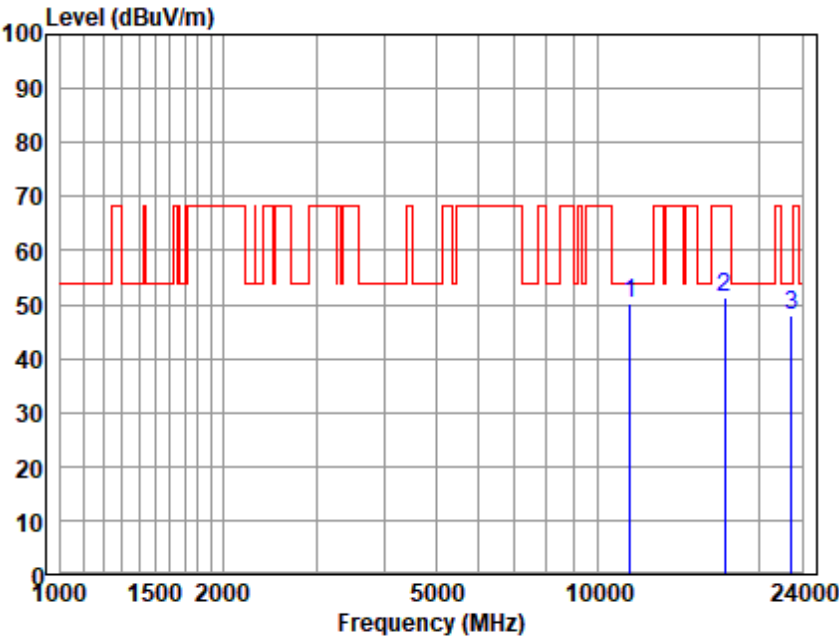
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11490.600	37.57	38.28	9.88	35.68	50.05	54.00	-3.95	Peak
17245.240	31.52	42.00	13.15	35.39	51.28	68.20	-16.92	Peak
22955.580	30.32	44.64	15.17	41.99	48.14	54.00	-5.86	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
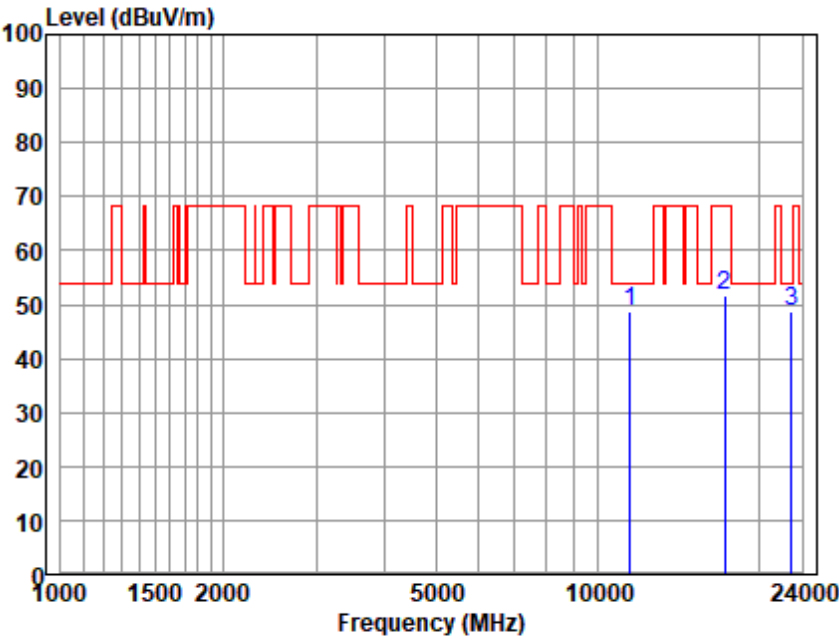
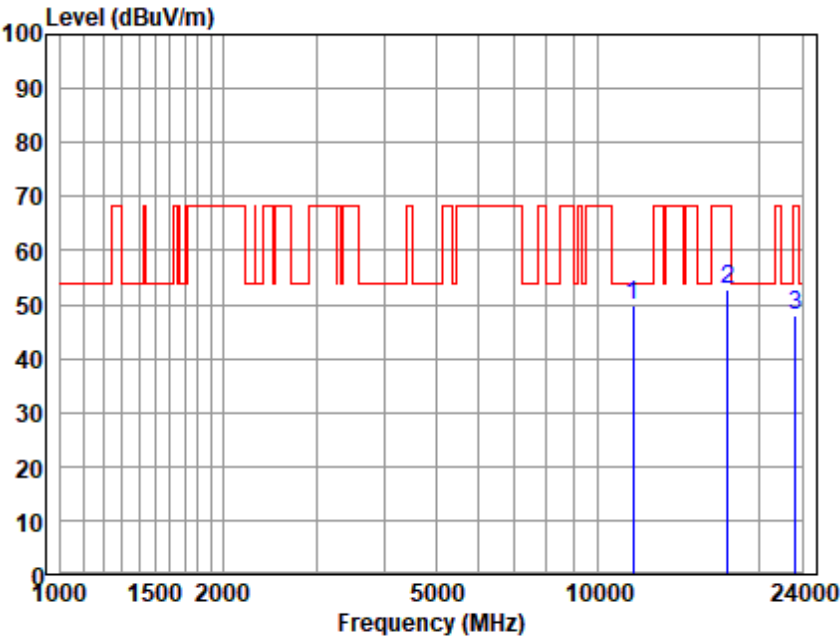
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11490.600	36.21	38.28	9.88	35.68	48.69	54.00	-5.31	Peak
17245.240	31.90	42.00	13.15	35.39	51.66	68.20	-16.54	Peak
22955.580	30.76	44.64	15.17	41.99	48.58	54.00	-5.42	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

```
                Read    Antenna Cable Preamp Emission Limit  Over
        Freq    Level   Factor  Loss  Factor Level    Line   Limit  Remark
        ------  -----   ------- ----- ------ ------   ------ ------ ------
        MHz     dBuv    dB/m    dB    dB     dBuv/m   dBuv/m  dB
  11570.810     37.58   38.29   9.90  35.96  49.81    54.00  -4.19   Peak
  17355.200     31.81   42.22   13.19 35.24  51.98    68.20  -16.22  Peak
  23175.490     29.13   44.71   15.24 42.28  46.80    68.20  -21.40  Peak
```

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

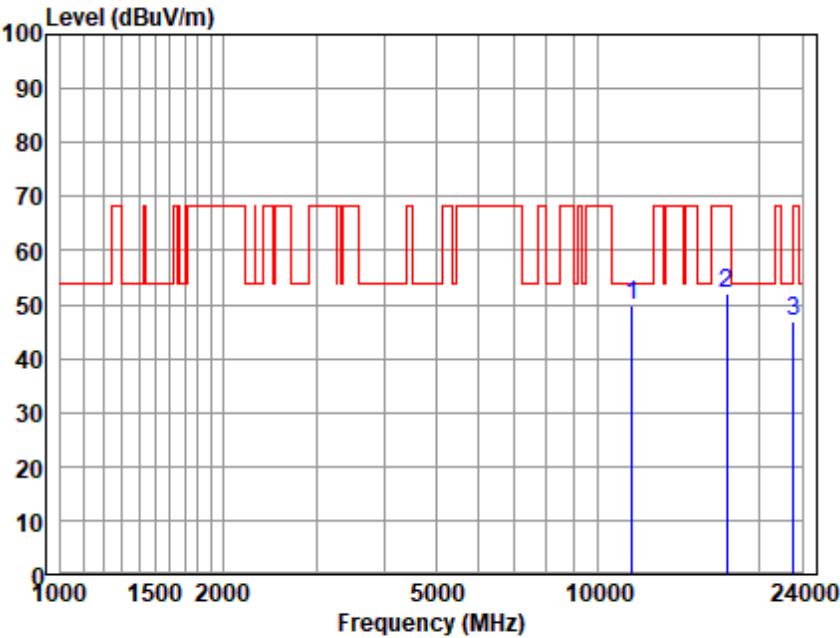Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle
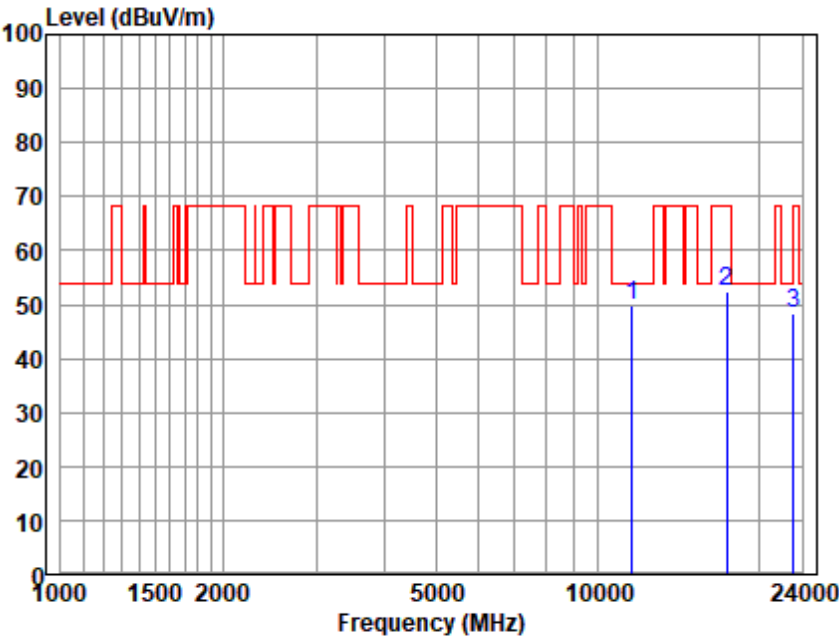
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11570.810	37.51	38.29	9.90	35.96	49.74	54.00	-4.26	Peak
17355.200	32.17	42.22	13.19	35.24	52.34	68.20	-15.86	Peak
23175.490	30.82	44.71	15.24	42.28	48.49	68.20	-19.71	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High


```
Antenna Polarity :HORIZONTAL
EUT/Project       :0043HS
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Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11650.500	37.13	38.30	9.91	36.41	48.93	54.00	-5.07	Peak
17465.870	32.97	42.26	13.23	35.08	53.38	68.20	-14.82	Peak
23323.270	30.74	44.75	15.28	42.48	48.29	68.20	-19.91	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

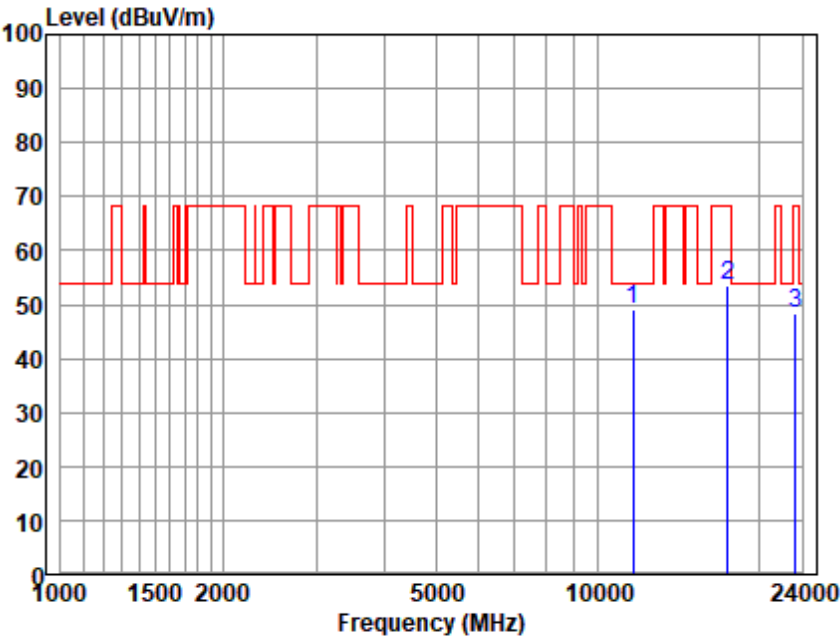Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High
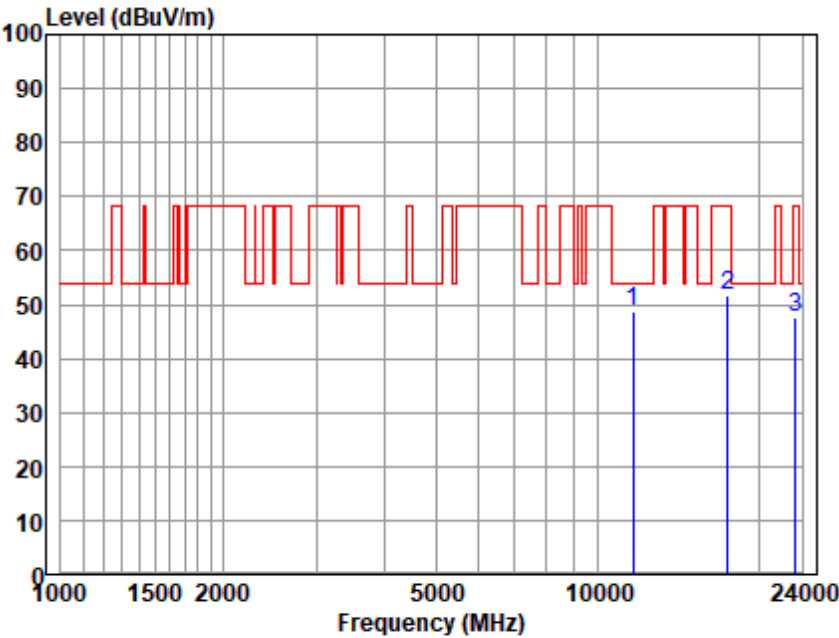
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11650.500	36.81	38.30	9.91	36.41	48.61	54.00	-5.39	Peak
17465.870	31.43	42.26	13.23	35.08	51.84	68.20	-16.36	Peak
23323.270	30.22	44.75	15.28	42.48	47.77	68.20	-20.43	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low
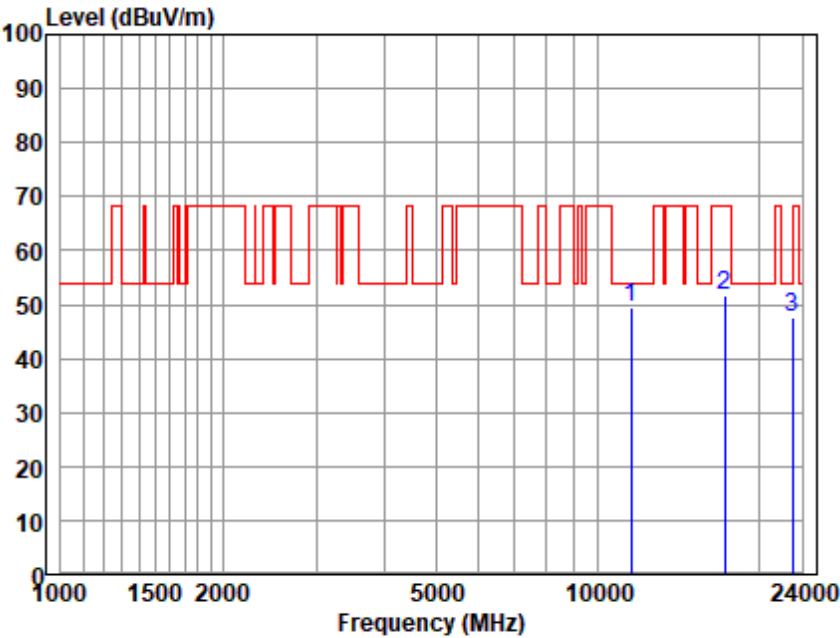
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11510.140	37.01	38.29	9.89	35.80	49.39	54.00	-4.61	Peak
17245.240	31.74	42.00	13.15	35.39	51.50	68.20	-16.70	Peak
23028.650	29.65	44.66	15.19	42.08	47.42	54.00	-6.58	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low
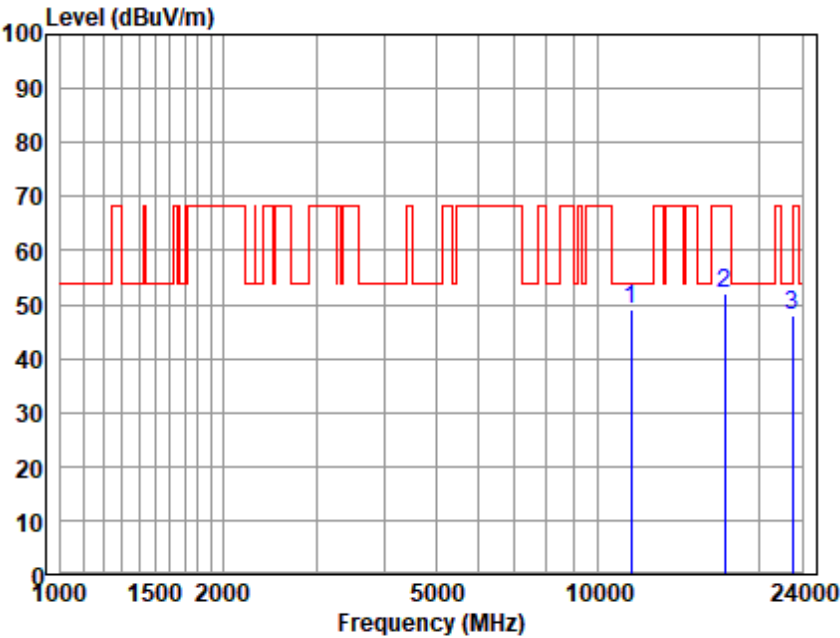
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11510.140	36.71	38.29	9.89	35.80	49.09	54.00	-4.91	Peak
17245.240	32.43	42.00	13.15	35.39	52.19	68.20	-16.01	Peak
23028.650	30.09	44.66	15.19	42.08	47.86	54.00	-6.14	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High
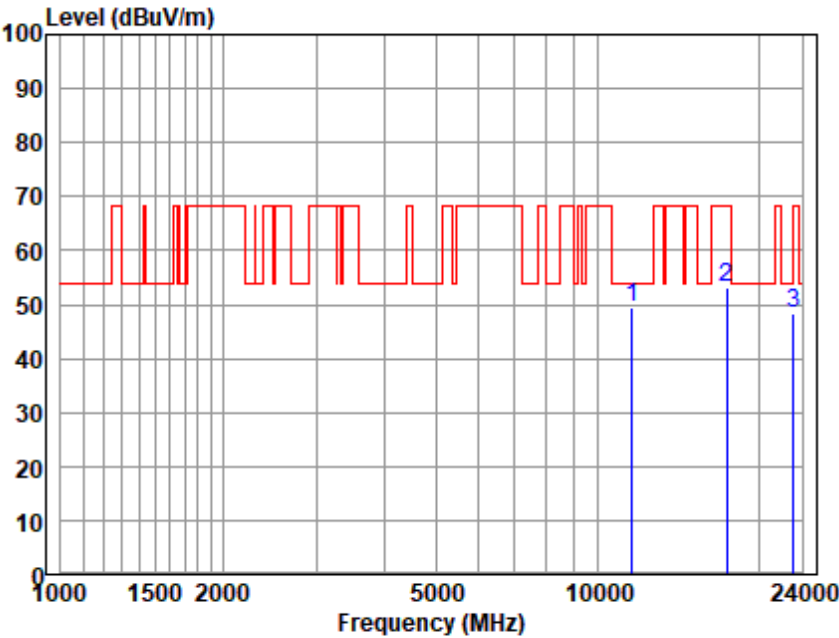
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11590.590	37.35	38.29	9.92	36.11	49.45	54.00	-4.55	Peak
17410.450	32.68	42.24	13.21	35.16	52.97	68.20	-15.23	Peak
23175.490	30.76	44.71	15.24	42.28	48.43	68.20	-19.77	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High
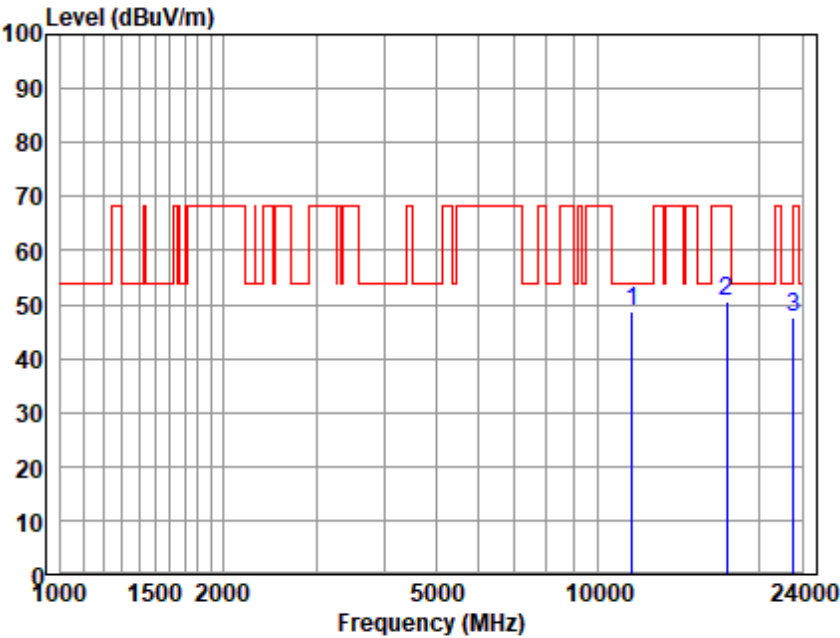
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11590.590	36.63	38.29	9.92	36.11	48.73	54.00	-5.27	Peak
17410.450	30.29	42.24	13.21	35.16	50.58	68.20	-17.62	Peak
23175.490	29.99	44.71	15.24	42.28	47.66	68.20	-20.54	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low
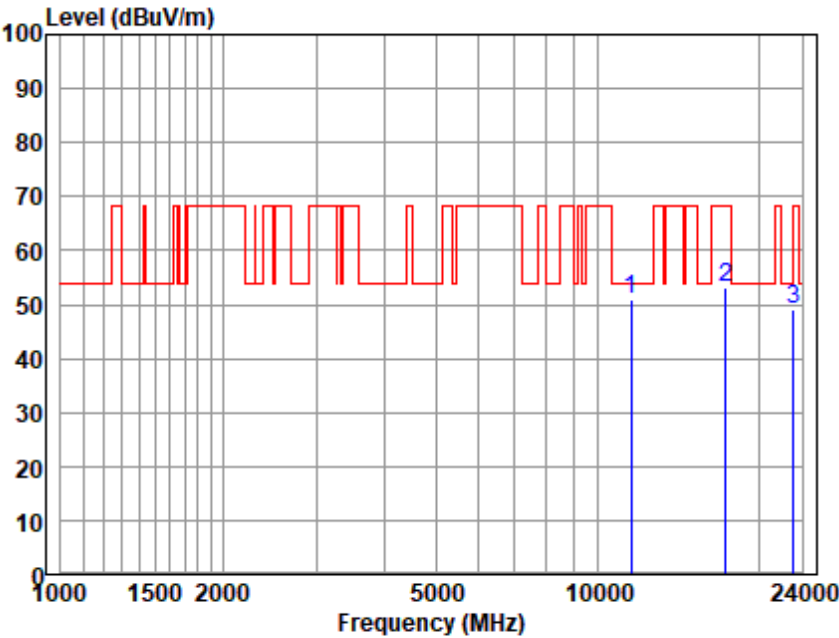
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11550.810	38.72	38.29	9.90	35.96	50.95	54.00	-3.05	Peak
17300.130	33.13	42.11	13.17	35.32	53.09	68.20	-15.11	Peak
23101.950	31.18	44.69	15.21	42.18	48.90	54.00	-5.10	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low


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Antenna Polarity :VERTICAL
EUT/Project      :0043HS
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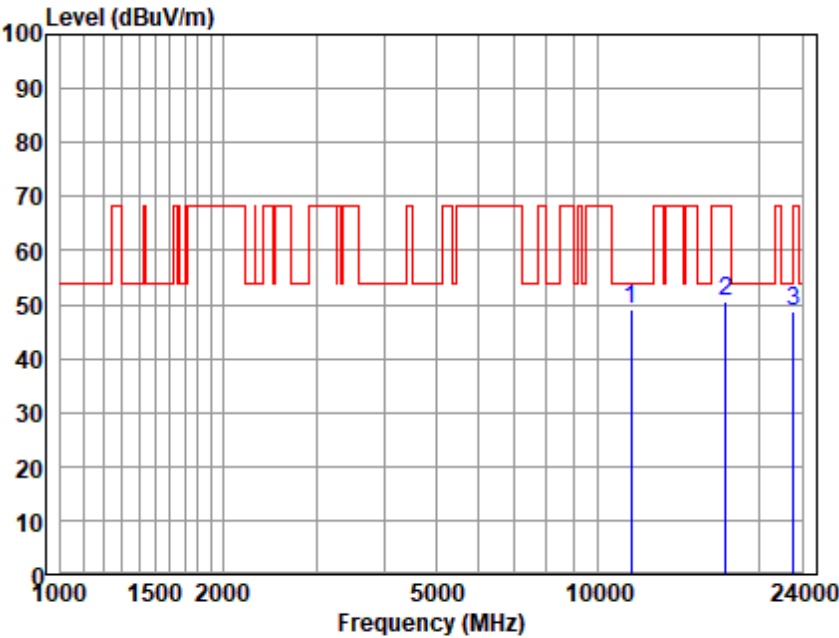
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
11550.810	36.69	38.29	9.90	35.96	48.92	54.00	-5.08	Peak
17300.130	30.53	42.11	13.17	35.32	50.49	68.20	-17.71	Peak
23101.950	31.06	44.69	15.21	42.18	48.78	54.00	-5.22	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

7.5　Radiated Emissions which fall in the restricted bands

Test Requirement　　47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)
Test Method:　　ANSI C63.10 (2013) Section 6.10.5
Measurement Distance: 3m

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

*(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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.

7.5.1 E.U.T. Operation

Operating Environment:

Temperature:　　22　°C　　　　Humidity:　50　% RH　　　Atmospheric Pressure:　1010　mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram
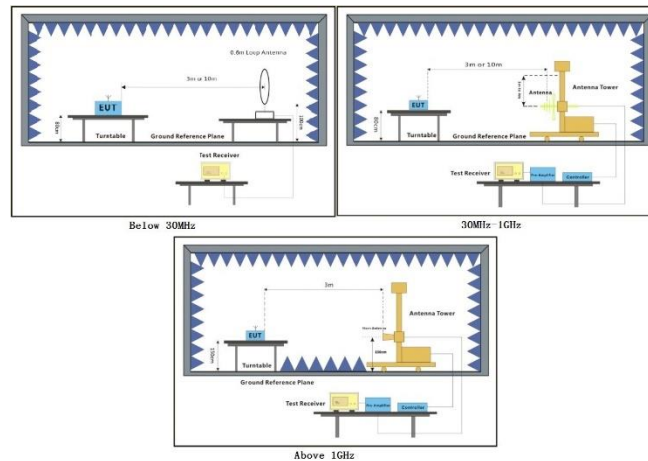
7.5.4 Measurement Procedure and Data

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.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

Remark 3. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq$1/T (Duty cycle$<$98%) or 10Hz (Duty cycle$\geq$98%) for Average detection (AV) at frequency above 1GHz.

Remark 4. This test item was investigated while operating in SISO and MIMO mode, however, it was determined that SISO antenna 1 operation for a modulation and MIMO antenna operation for n modulation produced the worst emissions. So the emissions produced from other operation are not recorded in report.

Test Mode: 01; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low
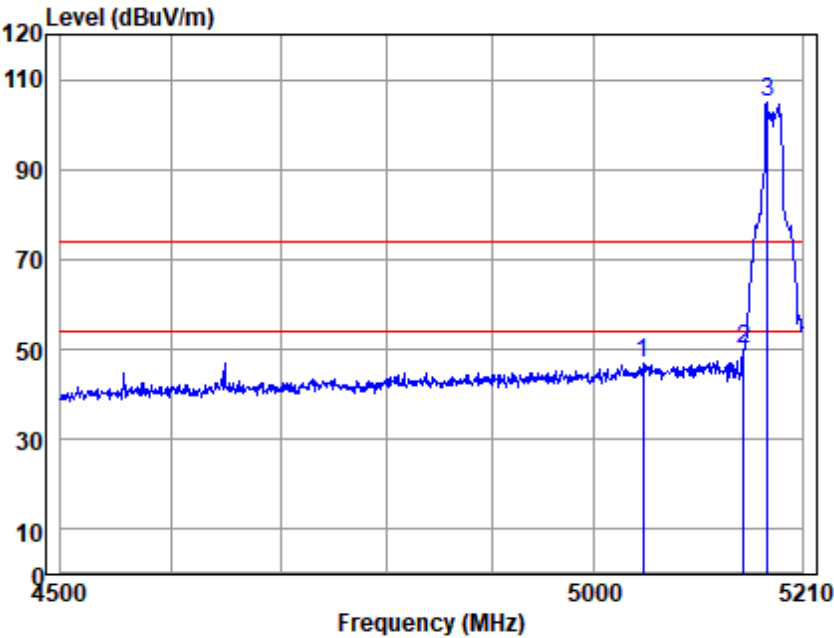
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5049.192	44.72	33.69	5.59	36.85	47.15	74.00	-26.85	Peak
5150.000	47.53	33.78	5.54	36.88	49.97	74.00	-24.03	Peak
5174.249	102.47	33.87	5.65	36.89	105.10	74.00	31.10	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5125.961	45.54	33.71	5.55	36.87	47.93	74.00	-26.07	Peak
5150.000	45.27	33.78	5.54	36.88	47.71	74.00	-26.29	Peak
5184.873	98.26	33.87	5.65	36.89	100.89	74.00	26.89	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
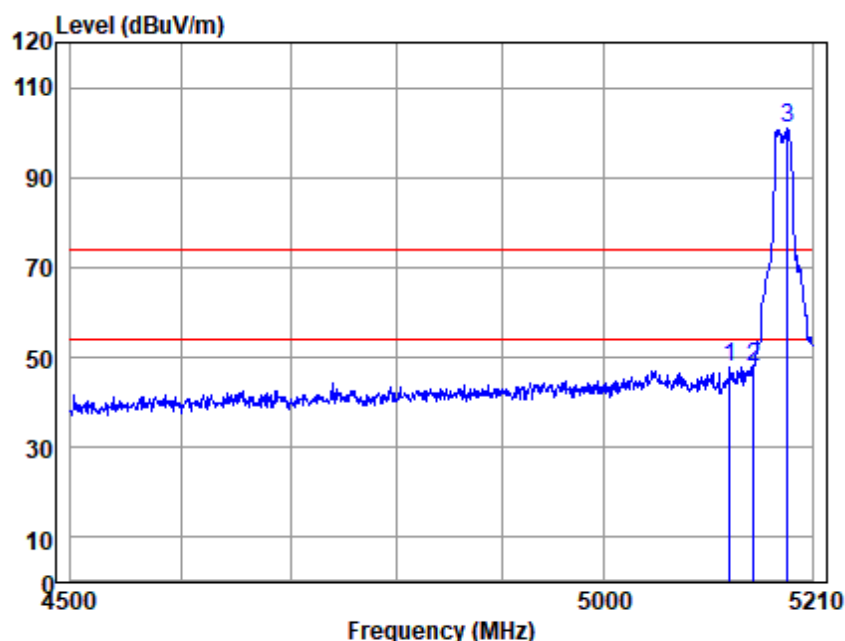

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5069.205	43.55	33.68	5.64	36.86	46.01	74.00	-27.99	Peak
5150.000	46.54	33.78	5.54	36.88	48.98	74.00	-25.02	Peak
5176.524	100.95	33.87	5.65	36.89	103.58	74.00	29.58	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
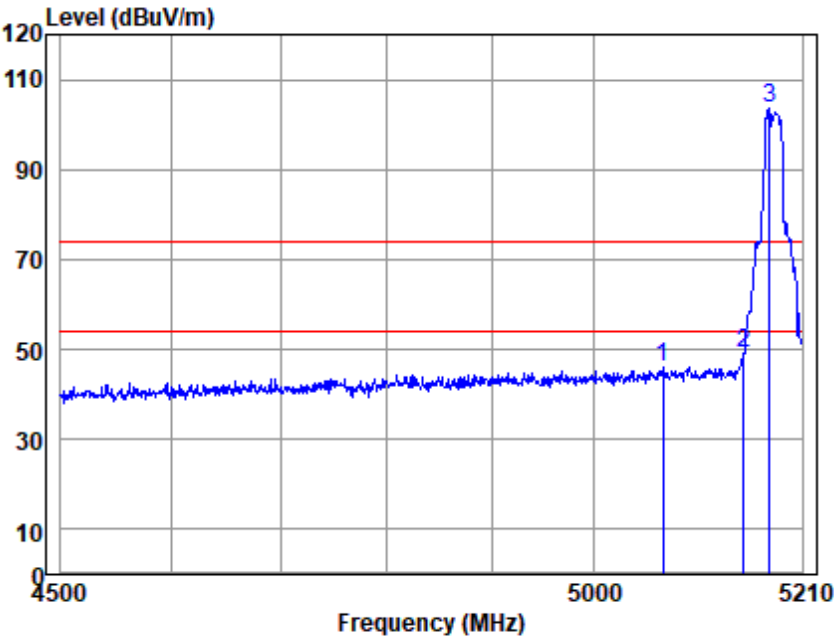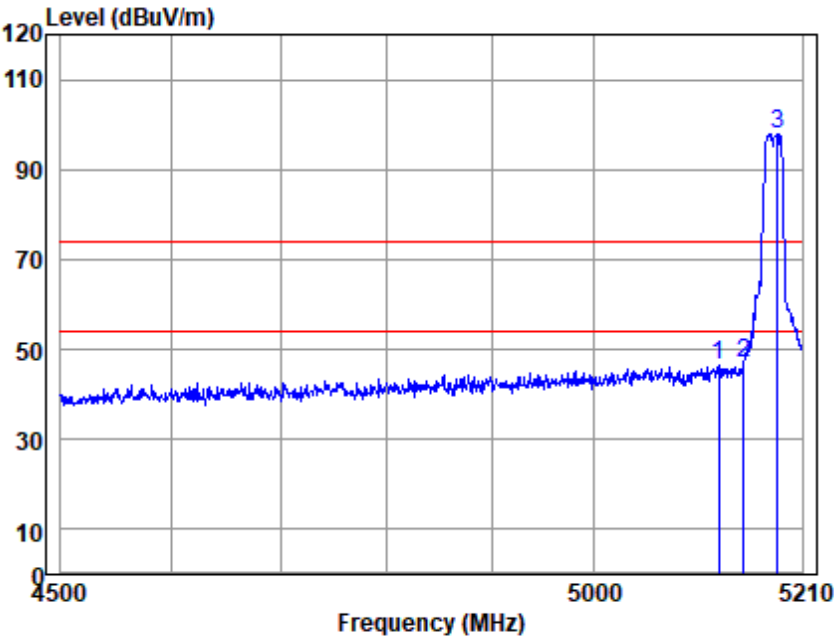

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5125.210	43.92	33.71	5.55	36.87	46.31	74.00	-27.69	Peak
5150.000	44.46	33.78	5.54	36.88	46.90	74.00	-27.10	Peak
5184.873	95.38	33.87	5.65	36.89	98.01	74.00	24.01	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5119.488	46.24	33.71	5.55	36.87	48.63	74.00	-25.37	Peak
5150.000	44.47	33.78	5.54	36.88	46.91	74.00	-27.09	Peak
5186.022	98.85	33.87	5.65	36.89	101.48	74.00	27.48	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low
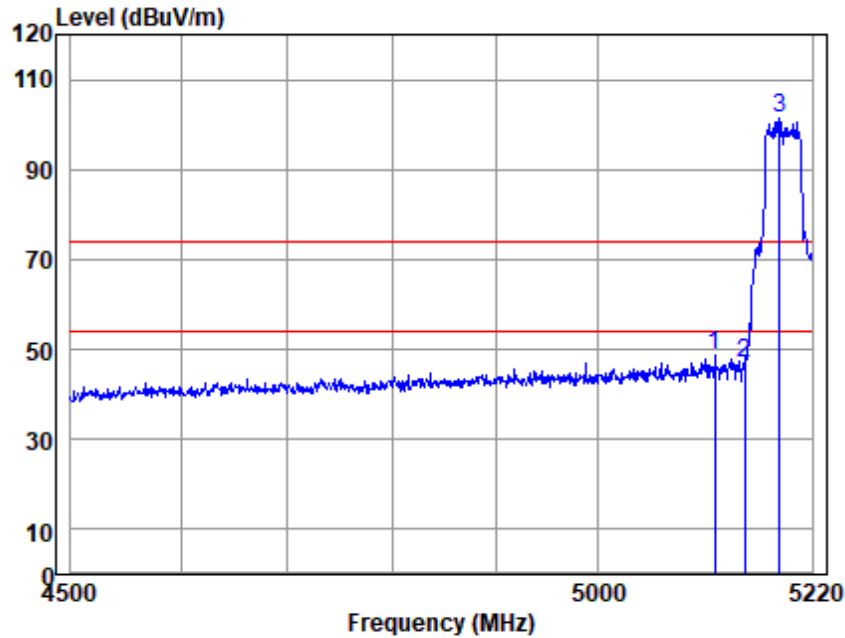

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5083.900	42.87	33.67	5.51	36.87	45.18	74.00	-28.82	Peak
5150.000	43.92	33.78	5.54	36.88	46.36	74.00	-27.64	Peak
5172.954	95.27	33.87	5.65	36.89	97.90	74.00	23.90	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 01; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low
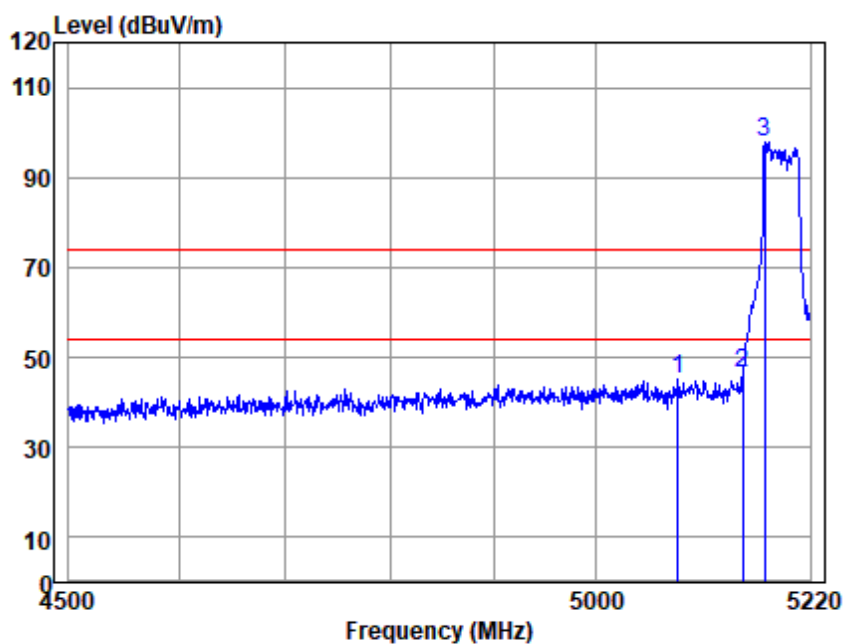


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Antenna Polarity :HORIZONTAL
EUT/Project      :0043HS
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Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5050.853	44.83	33.69	5.59	36.85	47.26	74.00	-26.74	Peak
5150.000	44.74	33.78	5.54	36.88	47.18	74.00	-26.82	Peak
5228.900	92.06	33.97	5.70	36.90	94.83	74.00	20.83	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

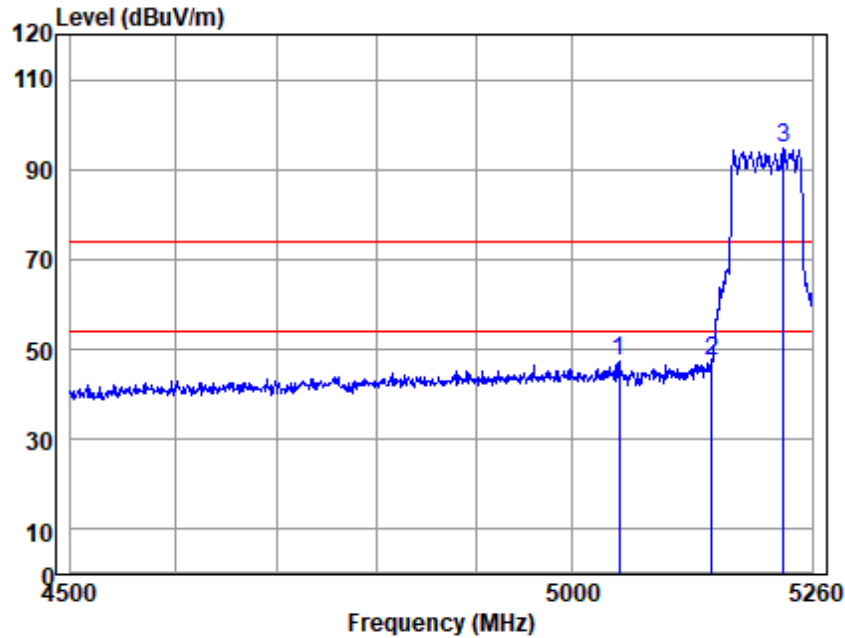Test Mode: 01; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low
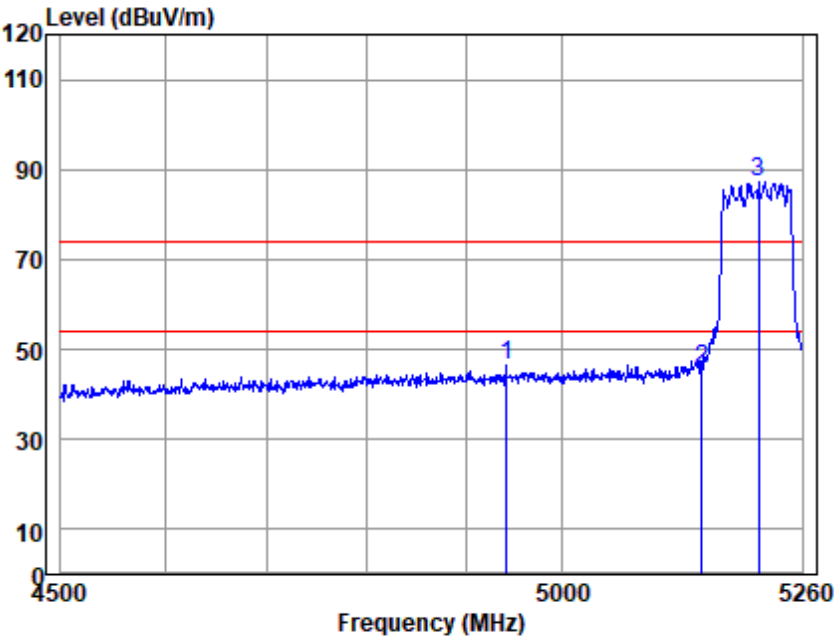
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4942.472	44.20	33.63	5.47	36.82	46.48	74.00	-27.52	Peak
5150.000	43.31	33.78	5.54	36.88	45.75	74.00	-28.25	Peak
5212.606	84.40	33.94	5.78	36.90	87.22	74.00	13.22	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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


```
Antenna Polarity :HORIZONTAL
EUT/Project        :0043HS
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Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5313.890	100.62	34.16	5.44	36.93	103.29	74.00	29.29	Peak
5350.000	47.80	34.19	5.60	36.94	50.65	74.00	-23.35	Peak
5352.752	47.99	34.19	5.60	36.94	50.84	74.00	-23.16	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

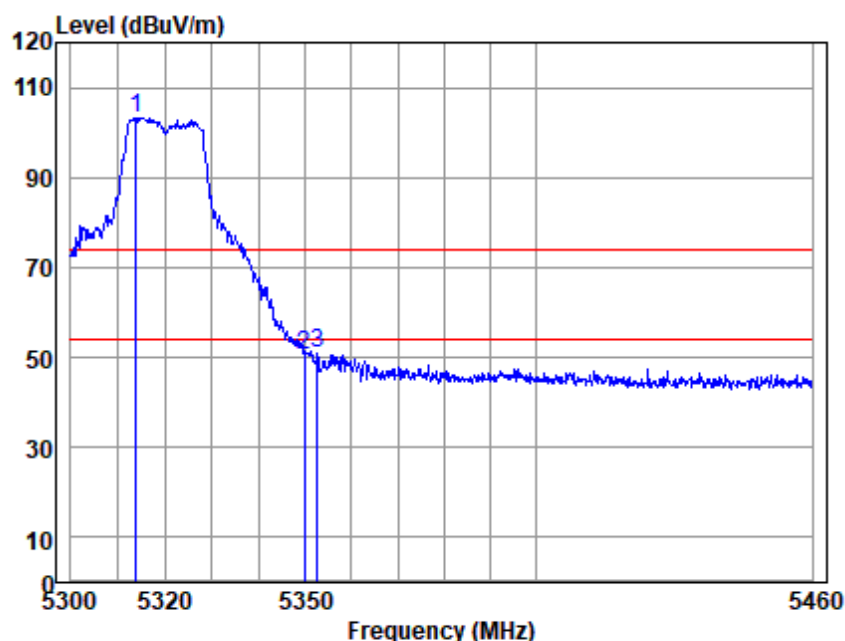Test Mode: 02; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :VERTICAL
EUT/Project       :0043HS
```

```
         Read  Antenna Cable Preamp Emission Limit  Over
   Freq  Level Factor  Loss  Factor Level    Line   Limit  Remark
   ----- ----- ------- ----- ------ ------   ------ ------ ------
   MHz   dBuv  dB/m    dB    dB     dBuv/m   dBuv/m dB
5324.489 94.64 34.17   5.47  36.93  97.35    74.00  23.35  Peak
5350.000 46.01 34.19   5.60  36.94  48.86    74.00  -25.14 Peak
5355.778 45.60 34.24   5.56  36.94  48.46    74.00  -25.54 Peak
```

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

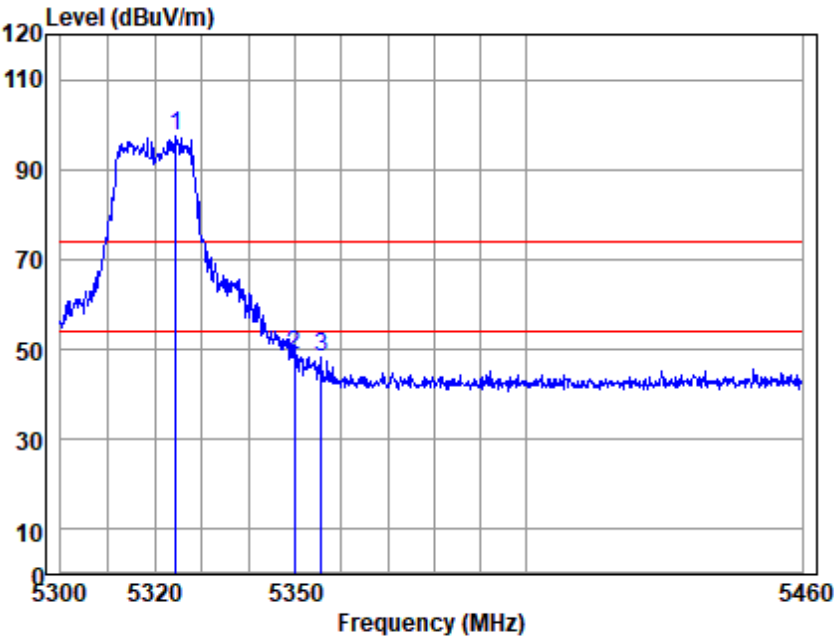Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High


```
Antenna Polarity :HORIZONTAL
EUT/Project        :0043HS


          Read   Antenna Cable Preamp Emission Limit  Over
    Freq  Level  Factor  Loss  Factor Level    Line   Limit  Remark
   ------ -----  ------- ----- ------ ------   ------ ------ ------
    MHz   dBuv    dB/m    dB    dB    dBuv/m   dBuv/m  dB
  5324.964 99.21  34.17  5.47  36.93 101.92   74.00   27.92  Peak
  5350.000 45.51  34.19  5.60  36.94  48.36   74.00  -25.64  Peak
  5355.459 47.77  34.24  5.56  36.94  50.63   74.00  -23.37  Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
```

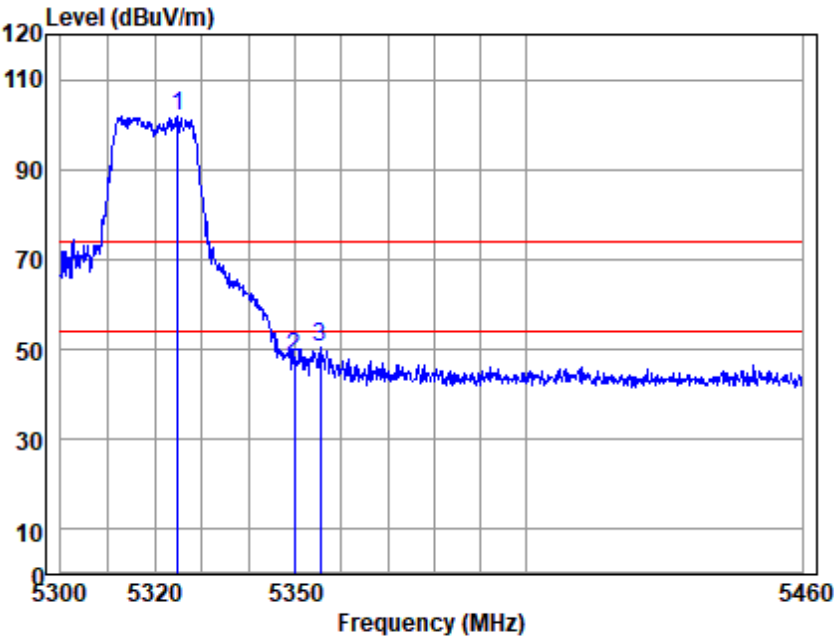Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High
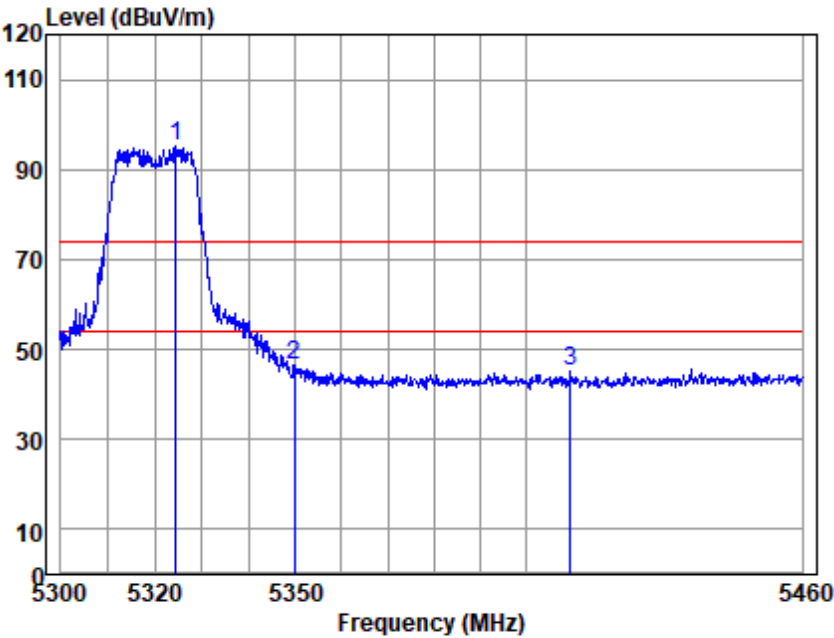
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5324.648	92.63	34.17	5.47	36.93	95.34	74.00	21.34	Peak
5350.000	43.67	34.19	5.60	36.94	46.52	74.00	-27.48	Peak
5409.568	42.02	34.36	5.75	36.95	45.18	74.00	-28.82	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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


```
Antenna Polarity :HORIZONTAL
EUT/Project        :0043HS
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```
              Read   Antenna Cable Preamp Emission Limit  Over
      Freq    Level  Factor  Loss  Factor Level    Line   Limit  Remark
      ------  -----  ------- ----- ------ ------   ------ ------ ------
      MHz     dBuv   dB/m    dB    dB     dBuv/m   dBuv/m  dB
      5313.025 95.61  34.16   5.44  36.93  98.28    74.00   24.28  Peak
      5350.000 44.30  34.19   5.60  36.94  47.15    74.00  -26.85  Peak
      5354.866 46.13  34.24   5.56  36.94  48.99    74.00  -25.01  Peak
```

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

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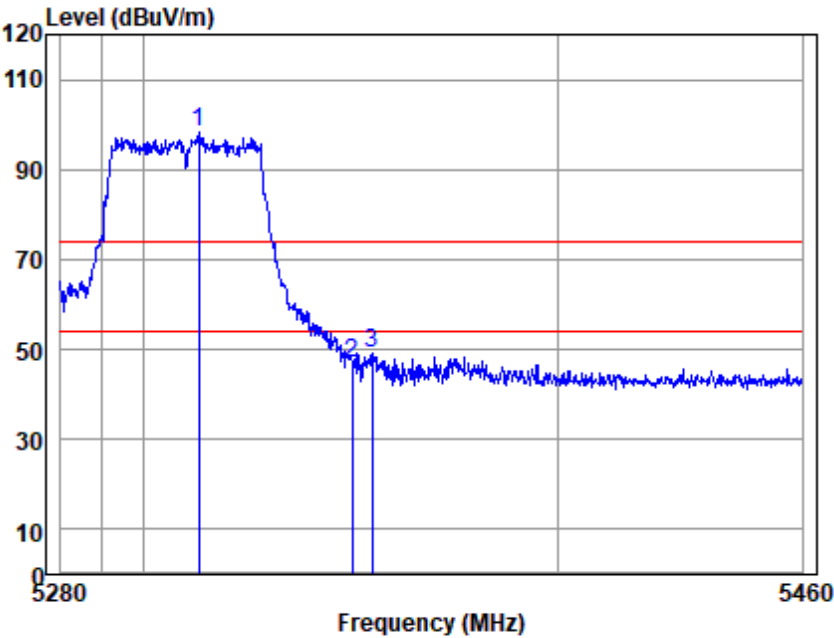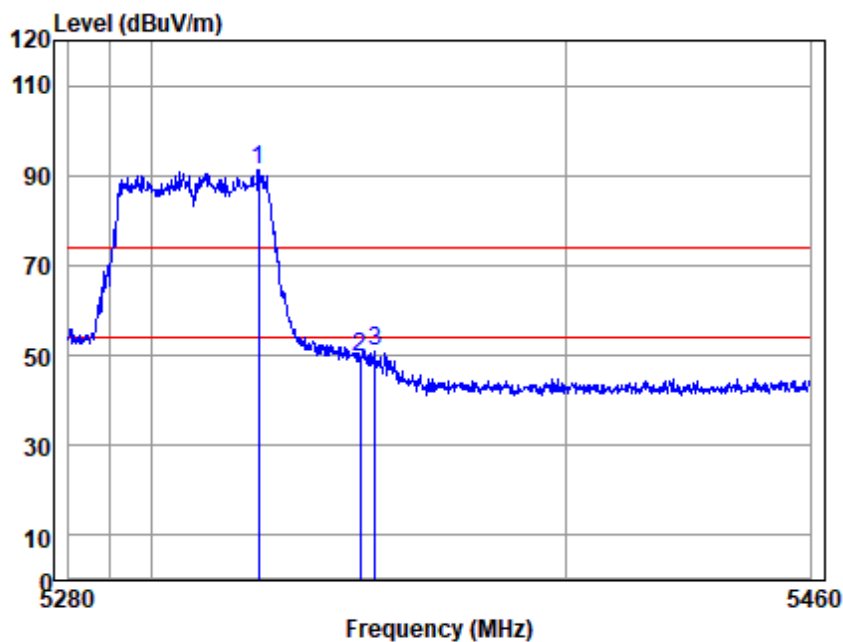

Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5325.507	88.39	34.17	5.47	36.93	91.10	74.00	17.10	Peak
5350.000	46.71	34.19	5.60	36.94	49.56	74.00	-24.44	Peak
5353.789	47.90	34.19	5.60	36.94	50.75	74.00	-23.25	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:High
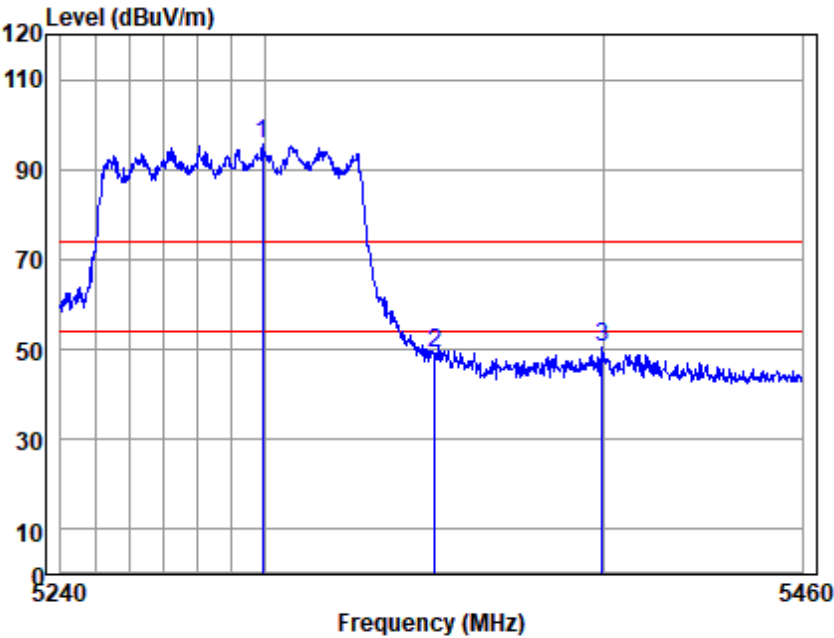
Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5298.947	92.81	34.14	5.63	36.92	95.66	74.00	21.66	Peak
5350.000	46.30	34.19	5.60	36.94	49.15	74.00	-24.85	Peak
5399.928	47.36	34.34	5.70	36.95	50.45	74.00	-23.55	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 02; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:High
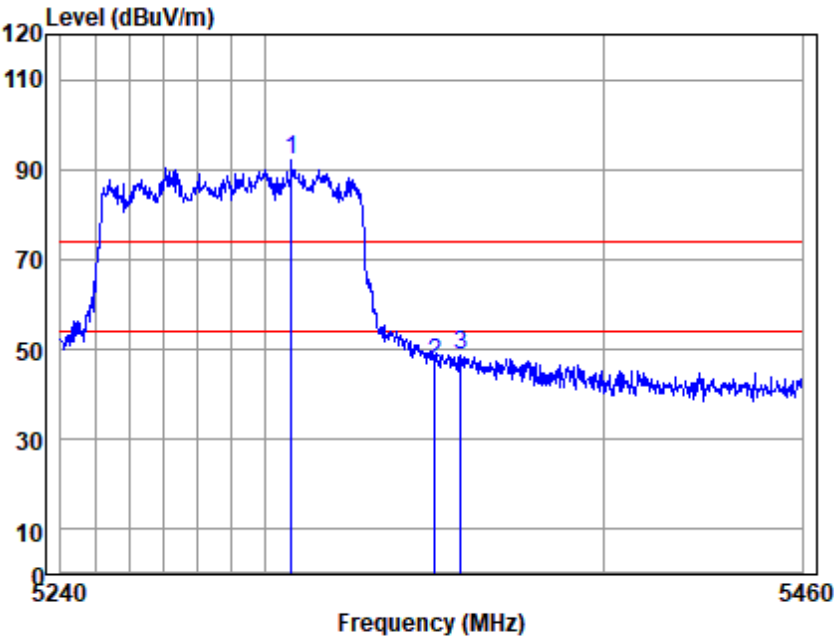
Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5307.453	89.05	34.14	5.63	36.92	91.90	74.00	17.90	Peak
5350.000	43.92	34.19	5.60	36.94	46.77	74.00	-27.23	Peak
5357.455	45.69	34.24	5.56	36.94	48.55	74.00	-25.45	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :HORIZONTAL
EUT/Project      :0043HS


          Read   Antenna Cable Preamp Emission Limit  Over
   Freq   Level  Factor  Loss  Factor Level    Line   Limit  Remark
   ------ -----  ------- ----- ------ ------   ------ ------ ------
   MHz    dBuv   dB/m    dB    dB     dBuv/m   dBuv/m dB
5443.693  44.08  34.42   5.72  36.96  47.26    74.00  -26.74 Peak
5460.000  41.52  34.44   5.75  36.97  44.74    74.00  -29.26 Peak
5493.644 101.31  34.49   5.67  36.98 104.49    74.00   30.49 Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
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SGS

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low

Antenna Polarity : VERTICAL
EUT/Project   : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5455.797	41.17	34.44	5.75	36.97	44.39	74.00	-29.61	Peak
5460.000	39.04	34.44	5.75	36.97	42.26	74.00	-31.74	Peak
5495.191	93.63	34.49	5.67	36.98	96.81	74.00	22.81	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

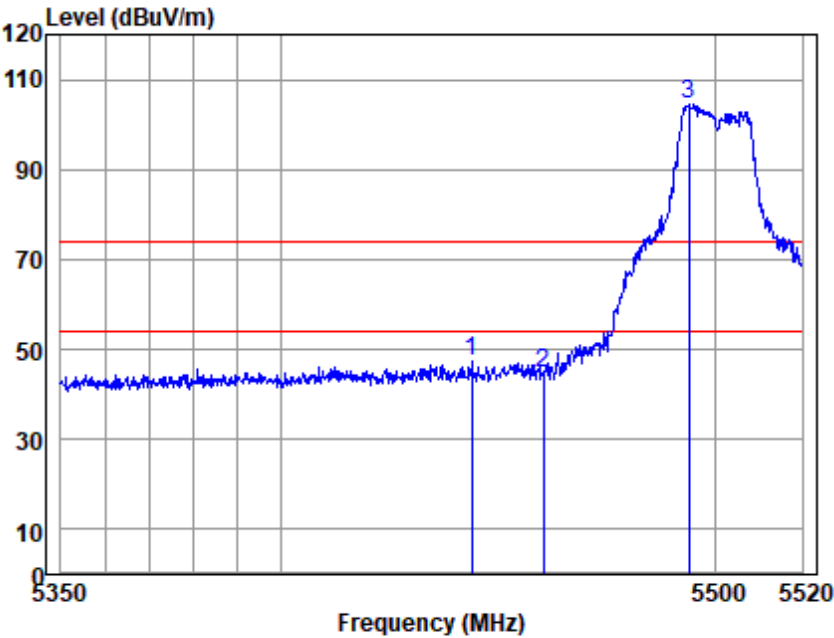Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low
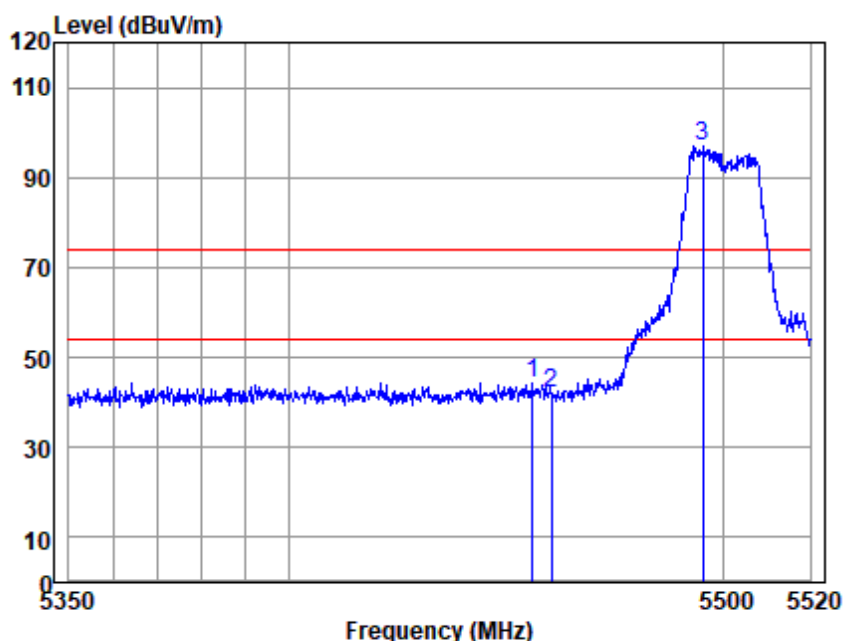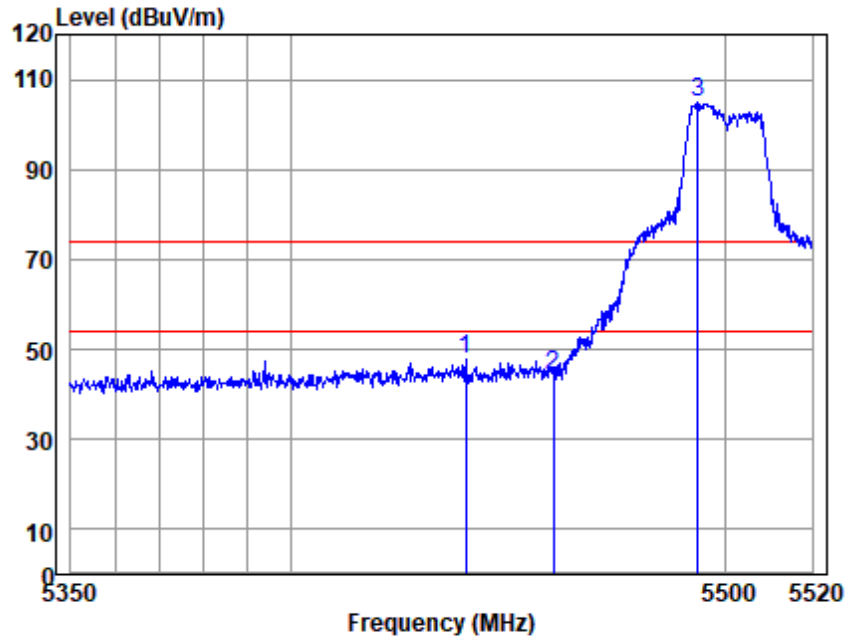

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5439.948	44.54	34.42	5.72	36.96	47.72	74.00	-26.28	Peak
5460.000	41.23	34.44	5.75	36.97	44.45	74.00	-29.55	Peak
5493.472	101.79	34.49	5.67	36.98	104.97	74.00	30.97	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :VERTICAL
EUT/Project      :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5425.672	41.21	34.39	5.64	36.96	44.28	74.00	-29.72	Peak
5460.000	40.16	34.44	5.75	36.97	43.38	74.00	-30.62	Peak
5493.988	94.08	34.49	5.67	36.98	97.26	74.00	23.26	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

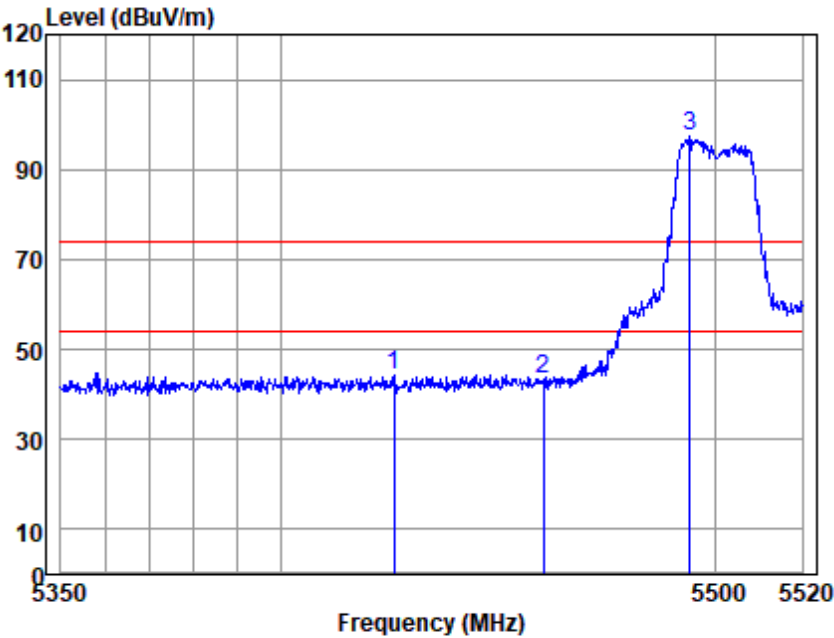Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5456.344	43.86	34.44	5.75	36.97	47.08	74.00	-26.92	Peak
5460.000	40.96	34.44	5.75	36.97	44.18	74.00	-29.82	Peak
5493.793	97.93	34.49	5.67	36.98	101.11	74.00	27.11	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low
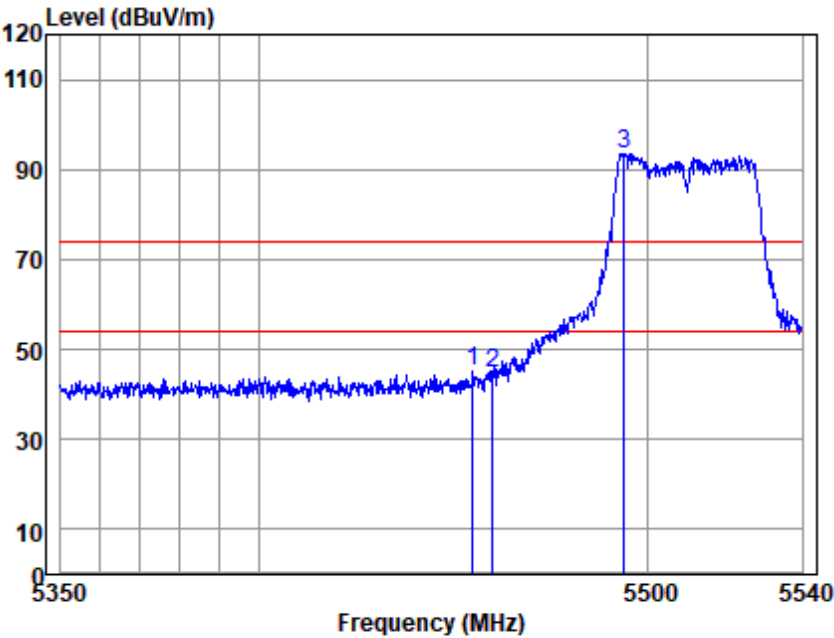
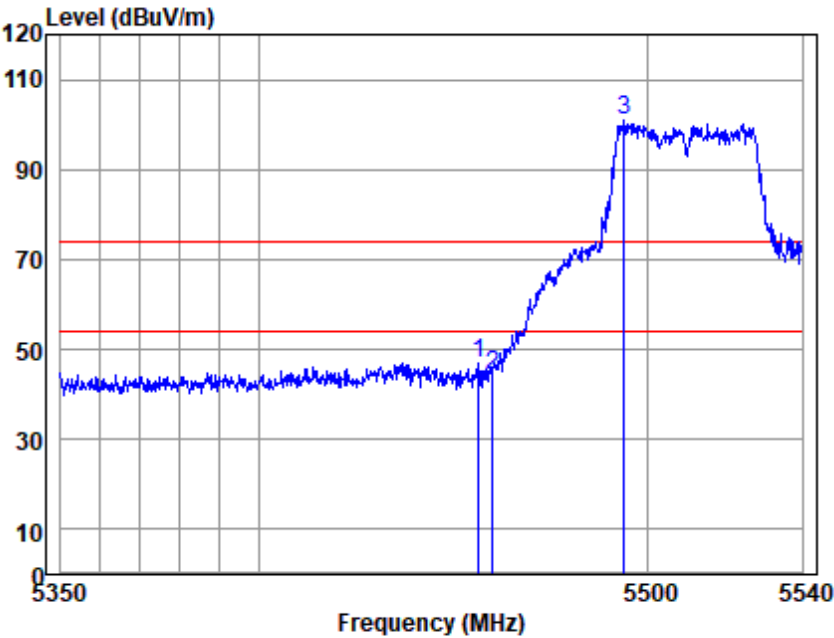Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5454.821	42.07	34.44	5.75	36.97	45.29	74.00	-28.71	Peak
5460.000	41.57	34.44	5.75	36.97	44.79	74.00	-29.21	Peak
5493.793	90.26	34.49	5.67	36.98	93.44	74.00	19.44	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5457.813	44.84	34.44	5.75	36.97	48.06	74.00	-25.94	Peak
5460.000	46.61	34.44	5.75	36.97	49.83	74.00	-24.17	Peak
5538.582	94.24	34.52	5.70	36.99	97.47	74.00	23.47	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low
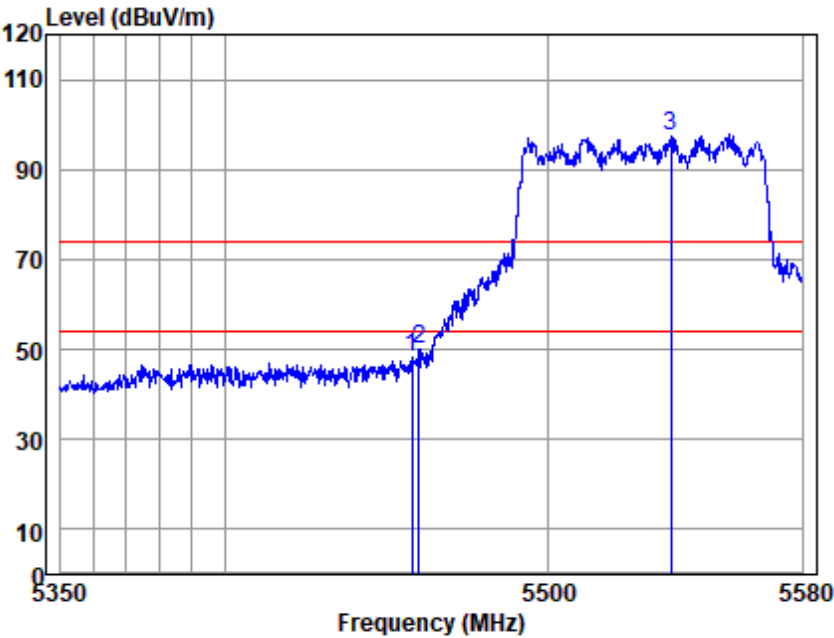


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Antenna Polarity :VERTICAL
EUT/Project       :0043HS
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Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5432.602	41.51	34.42	5.72	36.96	44.69	74.00	-29.31	Peak
5460.000	39.16	34.44	5.75	36.97	42.38	74.00	-31.62	Peak
5520.892	86.40	34.52	5.71	36.98	89.65	74.00	15.65	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

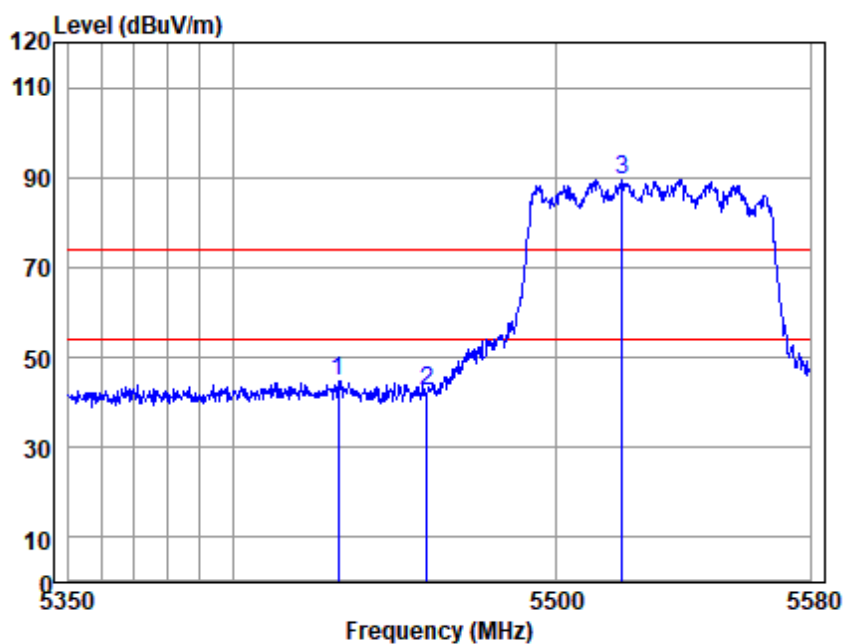Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :HORIZONTAL
EUT/Project       :0043HS
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```
          Read   Antenna Cable Preamp Emission Limit  Over
   Freq  Level  Factor  Loss  Factor Level    Line   Limit  Remark
   ------  -----  ------- ----- ------ ------   ------ ------ ------
   MHz    dBuv    dB/m    dB    dB    dBuv/m   dBuv/m  dB
5625.558  41.45  34.53  5.83  37.00  44.81    68.20  -23.39  Peak
5634.492  42.77  34.53  5.83  37.00  46.13    68.20  -22.07  Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
```

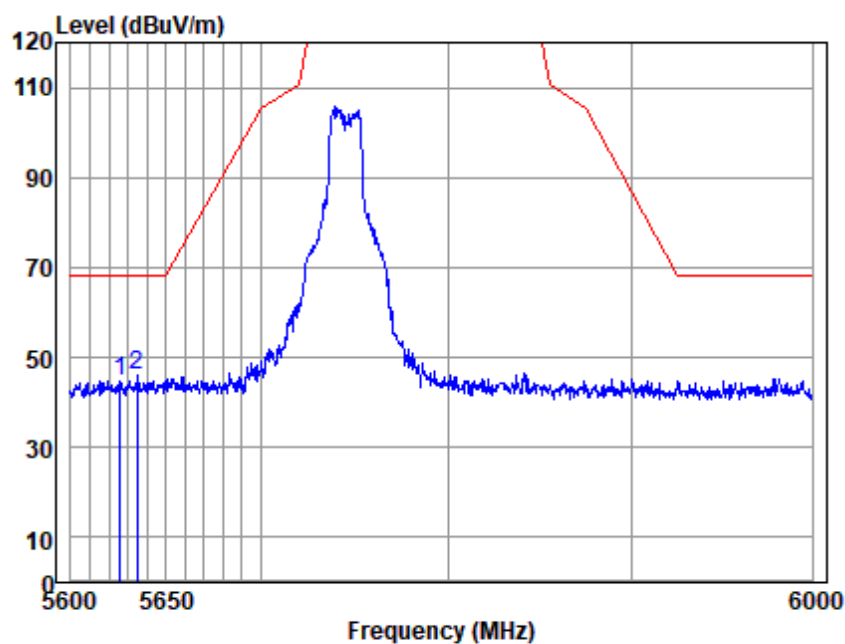Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :VERTICAL
EUT/Project      :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5620.902	41.77	34.52	5.79	37.00	45.08	68.20	-23.12	Peak
5640.715	40.85	34.53	5.87	37.00	44.25	68.20	-23.95	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

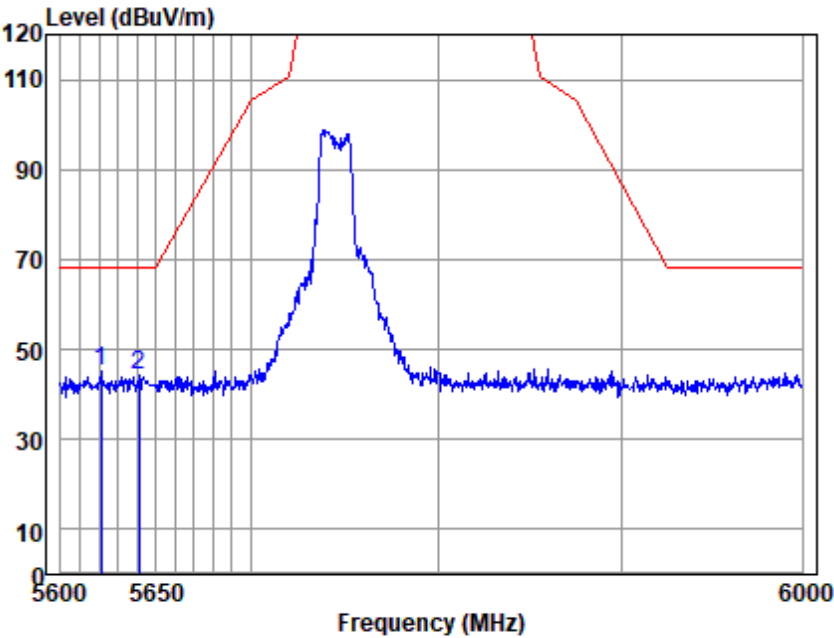Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High


```
Antenna Polarity :HORIZONTAL
EUT/Project       :0043HS


         Read   Antenna Cable Preamp Emission Limit  Over
         Level  Factor  Loss  Factor Level    Line   Limit  Remark
  Freq
  ------ -----  ------- ----- ------ ------   ------ ------ ------
   MHz   dBuv    dB/m    dB    dB    dBuv/m   dBuv/m  dB
5955.459  41.08  34.85  5.71  37.05  44.59   68.20  -23.61  Peak
5985.942  41.17  34.94  5.88  37.06  44.93   68.20  -23.27  Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor
```

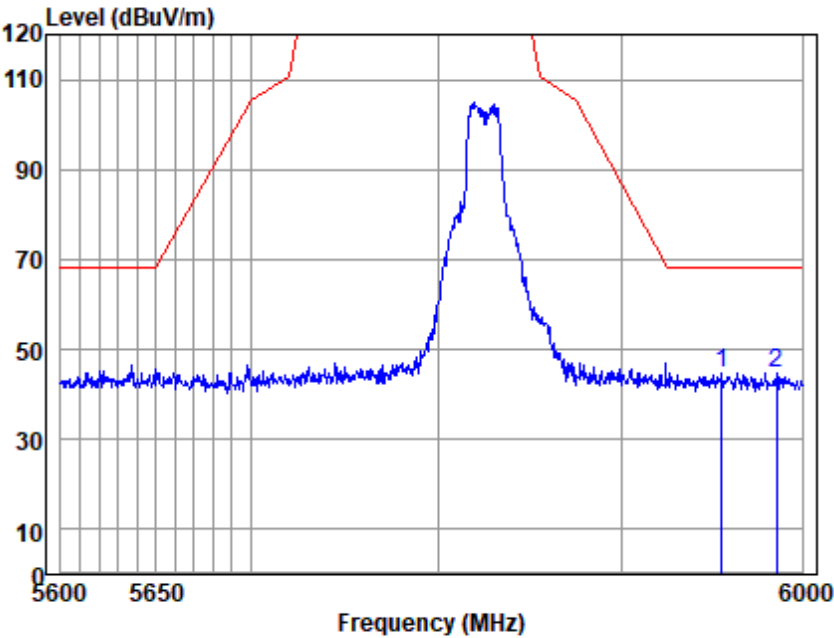Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5944.375	41.70	34.85	5.71	37.05	45.21	68.20	-22.99	Peak
5970.269	40.87	34.90	5.97	37.05	44.69	68.20	-23.51	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

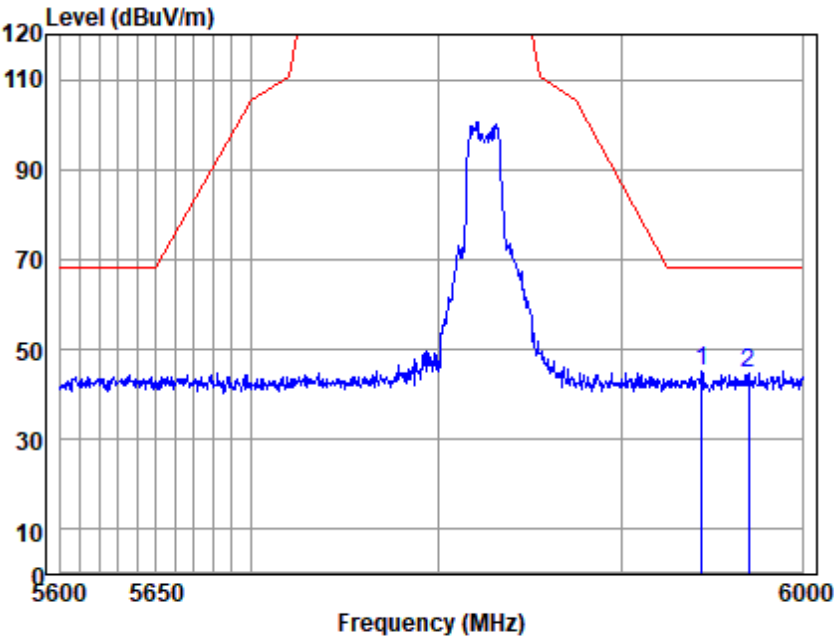Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :HORIZONTAL
EUT/Project      :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5608.894	42.35	34.52	5.79	37.00	45.66	68.20	-22.54	Peak
5640.715	42.87	34.53	5.87	37.00	46.27	68.20	-21.93	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

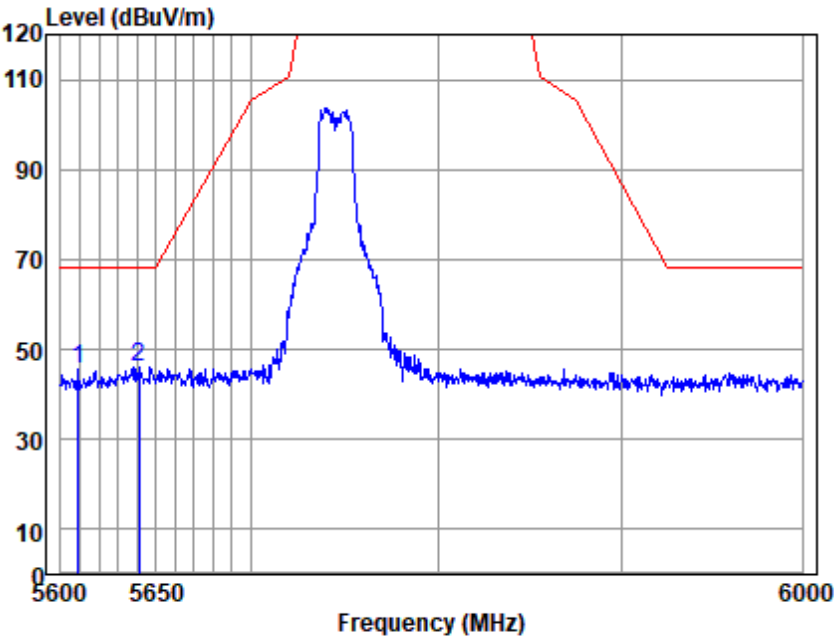Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low


```
Antenna Polarity :VERTICAL
EUT/Project       :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5622.454	41.45	34.52	5.79	37.00	44.76	68.20	-23.44	Peak
5634.103	41.28	34.53	5.83	37.00	44.64	68.20	-23.56	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

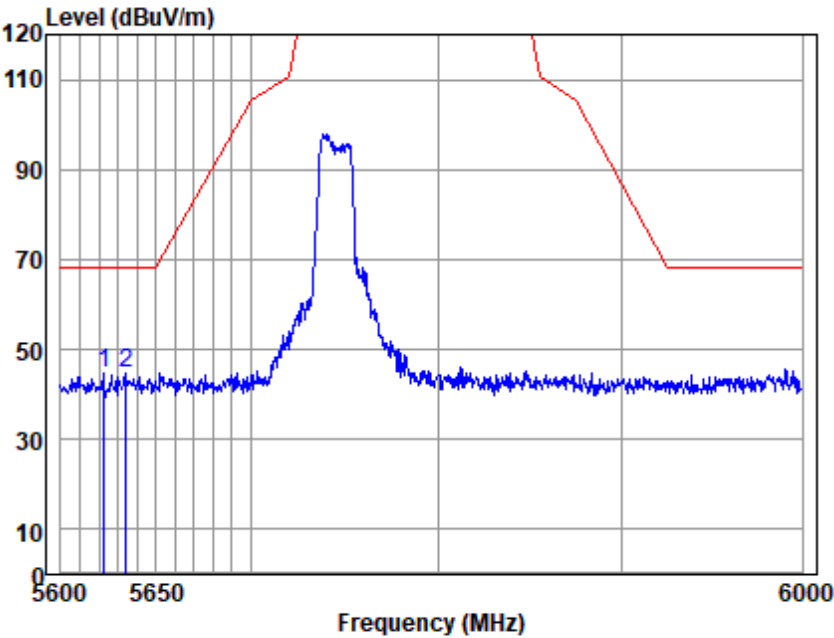Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High


```
Antenna Polarity :HORIZONTAL
EUT/Project      :0043HS
```

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5957.925	41.35	34.85	5.71	37.05	44.86	68.20	-23.34	Peak
5984.290	41.31	34.94	5.88	37.06	45.07	68.20	-23.13	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

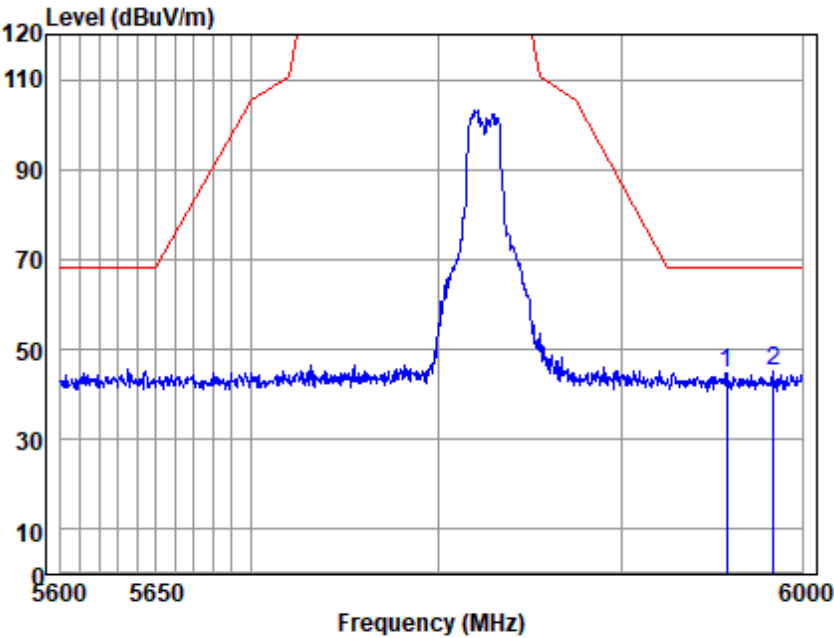Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5959.569	40.94	34.90	5.97	37.05	44.76	68.20	-23.44	Peak
5992.553	41.27	34.94	5.88	37.06	45.03	68.20	-23.17	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

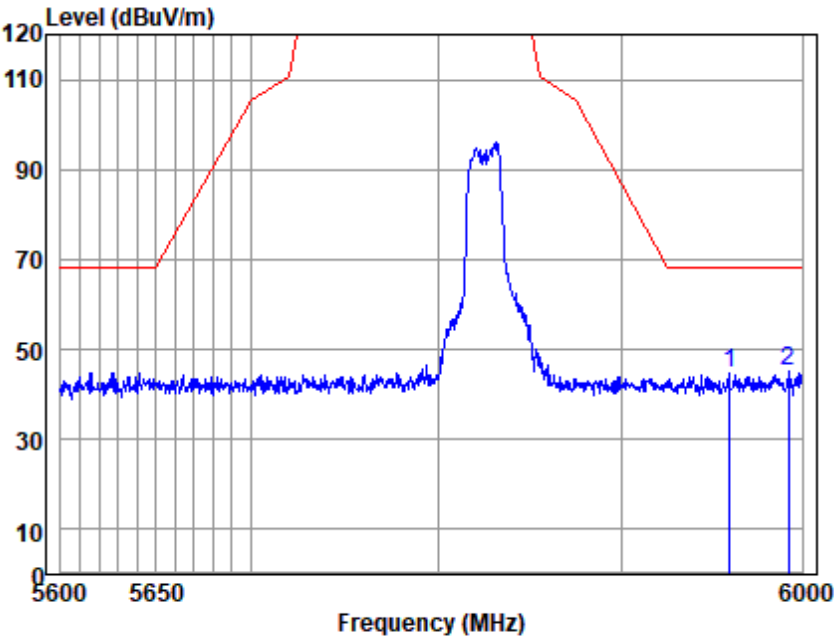Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5616.250	42.55	34.52	5.79	37.00	45.86	68.20	-22.34	Peak
5648.894	42.73	34.53	5.87	37.00	46.13	68.20	-22.07	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

SGS

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low

Antenna Polarity : VERTICAL
EUT/Project : 0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5624.782	41.73	34.53	5.83	37.00	45.09	68.20	-23.11	Peak
5635.270	41.21	34.53	5.83	37.00	44.57	68.20	-23.63	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

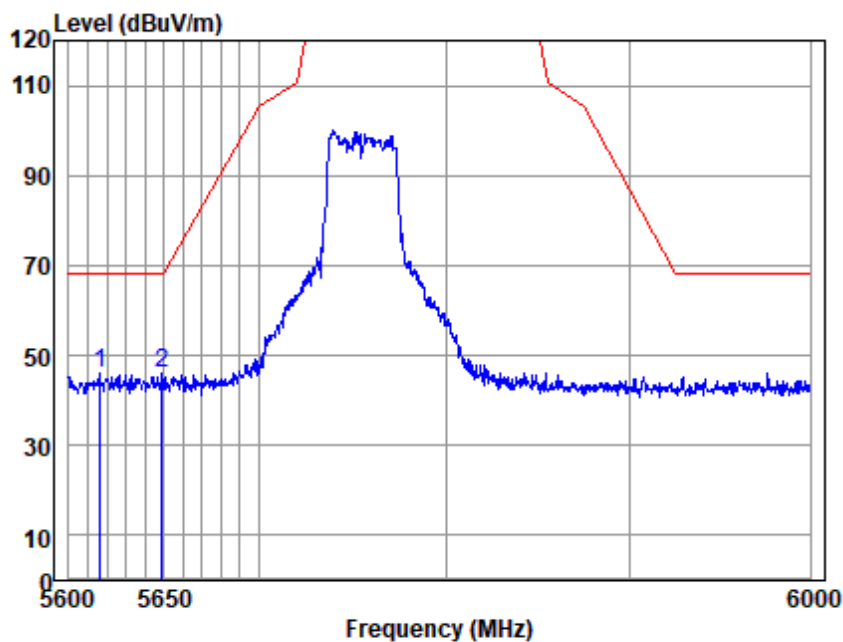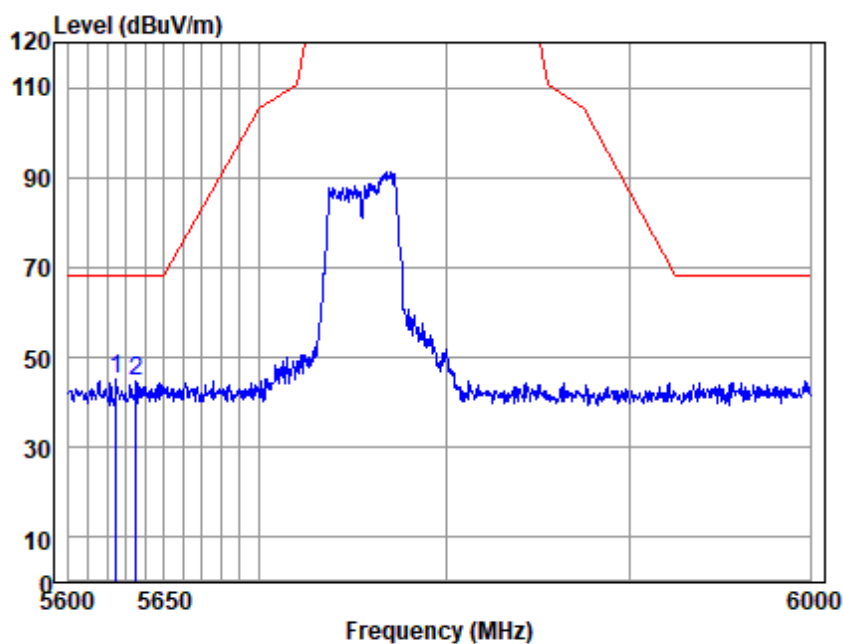Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5946.836	41.75	34.85	5.71	37.05	45.26	68.20	-22.94	Peak
5958.747	42.12	34.90	5.97	37.05	45.94	68.20	-22.26	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

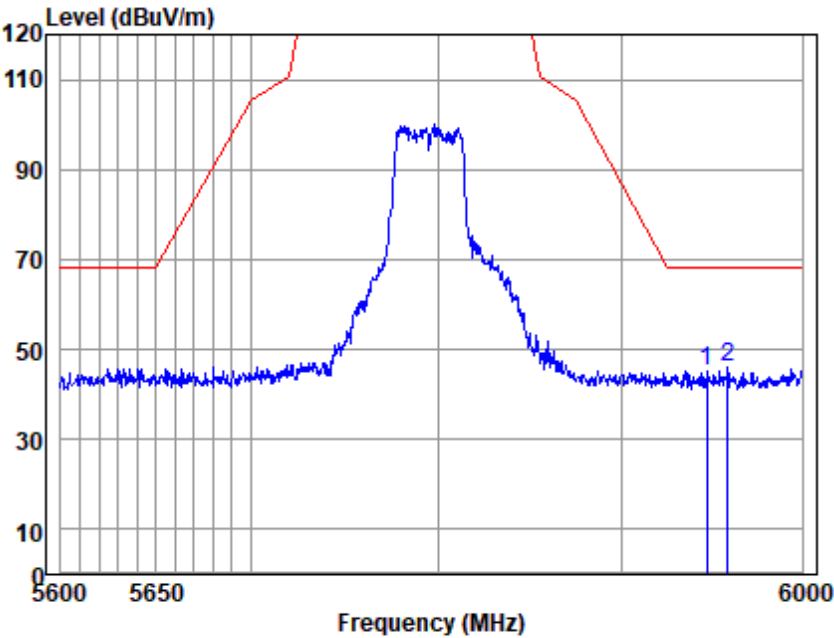Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5932.084	40.74	34.81	5.91	37.05	44.41	68.20	-23.79	Peak
5963.271	41.15	34.90	5.97	37.05	44.97	68.20	-23.23	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

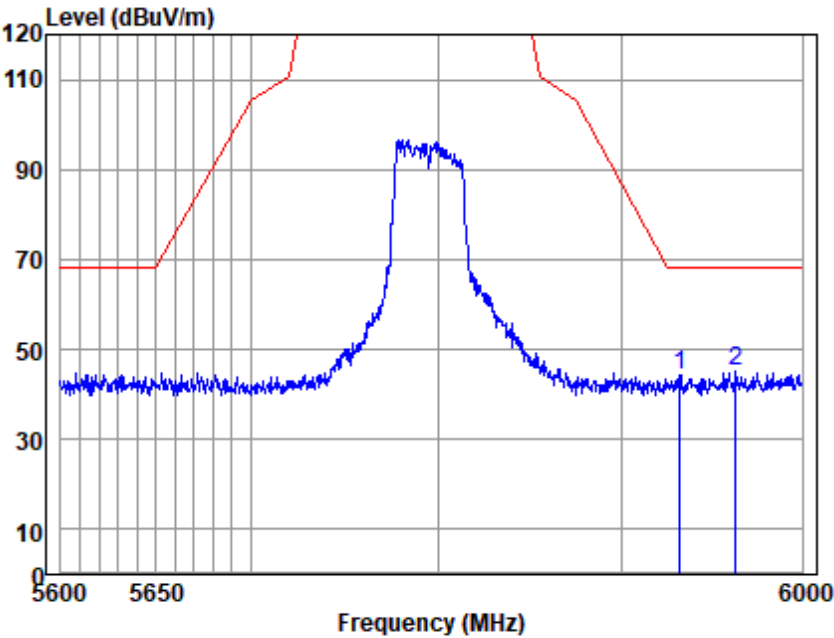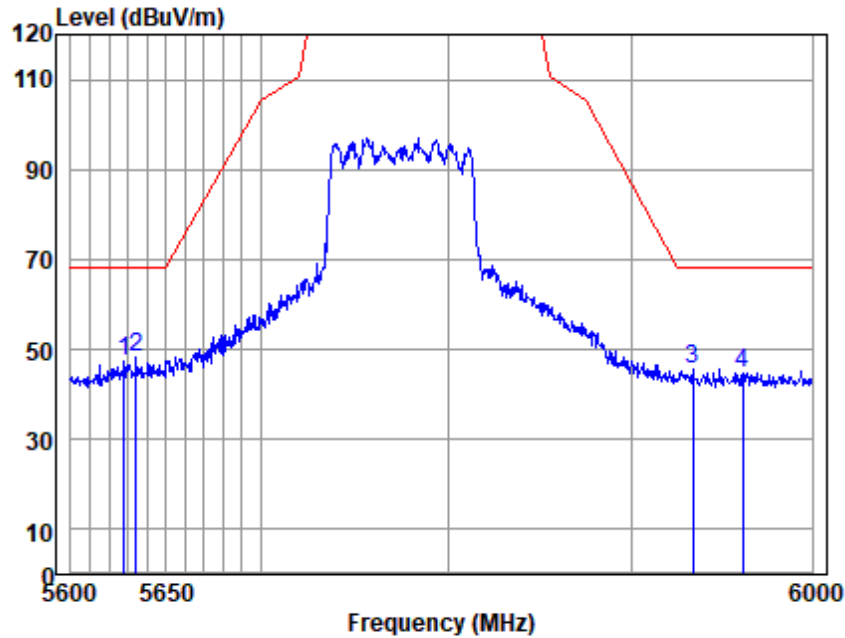Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low

Antenna Polarity :HORIZONTAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5627.887	43.86	34.53	5.83	37.00	47.22	68.20	-20.98	Peak
5634.103	44.91	34.53	5.83	37.00	48.27	68.20	-19.93	Peak
5933.722	42.04	34.81	5.91	37.05	45.71	68.20	-22.49	Peak
5961.214	40.89	34.90	5.97	37.05	44.71	68.20	-23.49	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

SGS

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

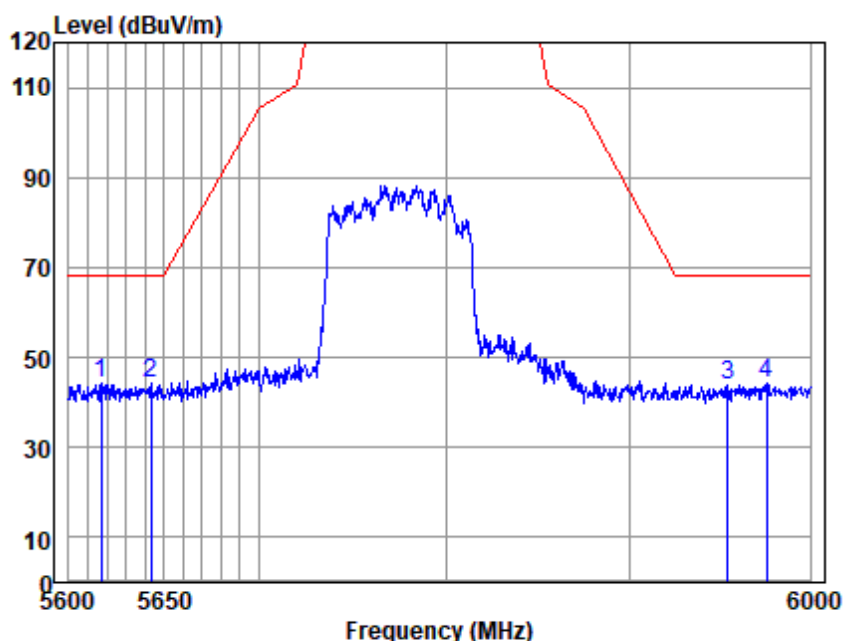Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low

Antenna Polarity :VERTICAL
EUT/Project   :0043HS

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
5617.026	41.16	34.52	5.79	37.00	44.47	68.20	-23.73	Peak
5643.051	40.75	34.53	5.87	37.00	44.15	68.20	-24.05	Peak
5954.226	40.19	34.85	5.71	37.05	43.70	68.20	-24.50	Peak
5975.626	40.38	34.90	5.97	37.05	44.20	68.20	-24.00	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

7.6　Duty Cycle

　　Test Requirement　　　ANSI C63.10 (2013) Section 12.2
　　Test Method:　　　　　ANSI C63.10 (2013) Section 12.2
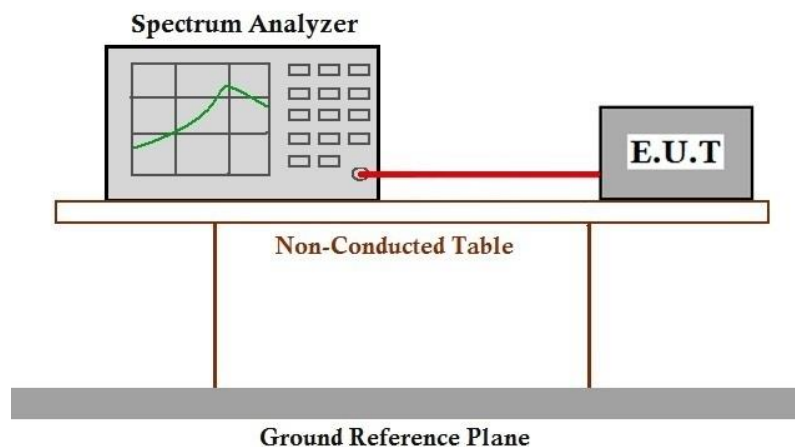
7.6.1 E.U.T. Operation

　　Operating Environment:
　　Temperature:　　22　°C　　　　Humidity:　50　% RH　　　Atmospheric Pressure: 1010　mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, 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   99% Bandwidth

Test Requirement   ANSI C63.10 (2013) Section 12.4.2

Test Method: ANSI C63.10 (2013) Section 12.4.2

Measurement Distance: 3m

7.7.1 E.U.T. Operation

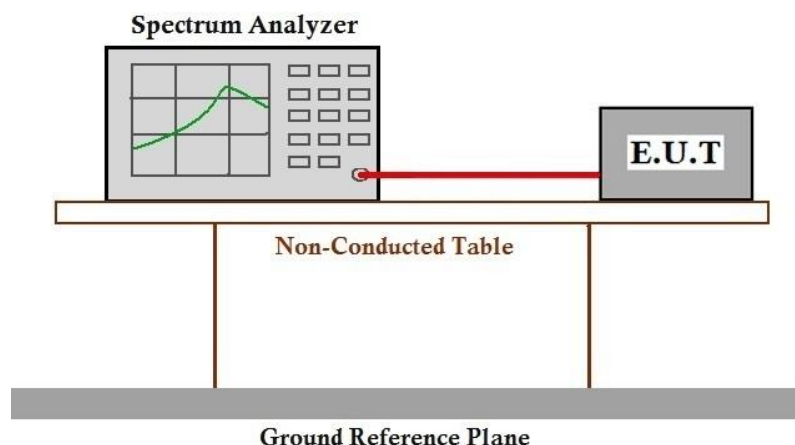Operating Environment:

Temperature: 22   °C   Humidity: 50   % RH   Atmospheric Pressure: 1010   mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.7.3 Test Setup Diagram

7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 26dB Emission bandwidth

Test Requirement   47 CFR Part 15, Subpart E 15.407 (a)
Test Method: ANSI C63.10 (2013) Section 12.4.1

7.8.1 E.U.T. Operation

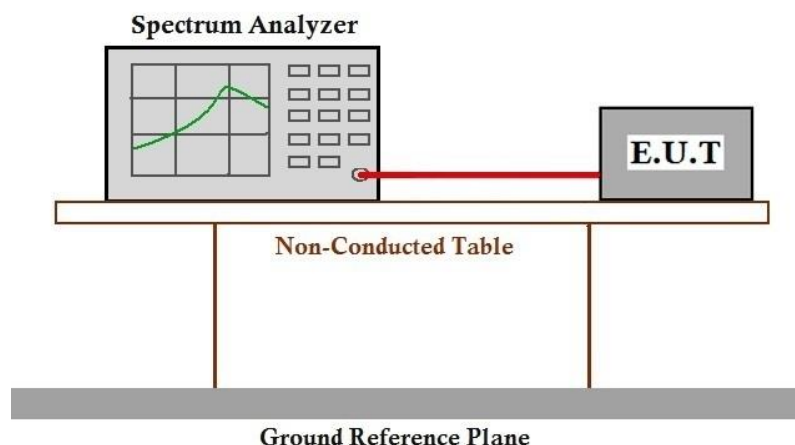Operating Environment:
Temperature: 22 °C   Humidity: 50 % RH   Atmospheric Pressure: 1010 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.8.3 Test Setup Diagram

7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.9 Minimum 6 dB bandwidth (5.725-5.85 GHz band)

Test Requirement 47 CFR Part 15, Subpart E 15.407 (e)

Test Method: ANSI C63.10 (2013) Section 6.9.2

Limit:

Frequency band(MHz)	Limit
5725-5850	≥500 kHz

7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C   Humidity: 50 % RH   Atmospheric Pressure: 1010 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram
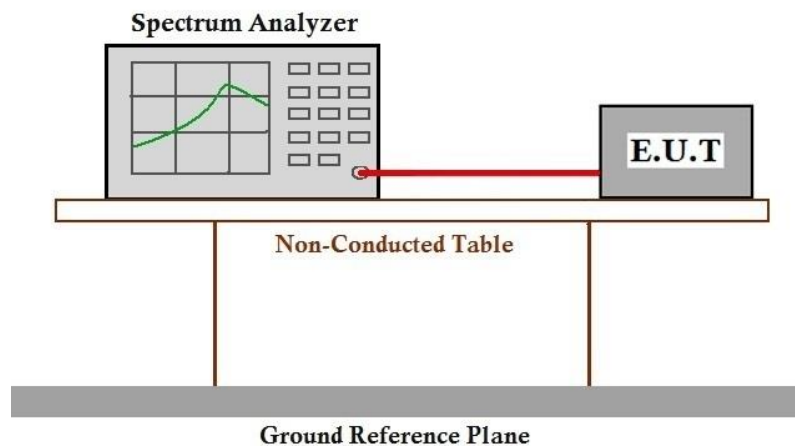
7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.10 Peak Power spectrum density

Test Requirement   47 CFR Part 15, Subpart E 15.407 (a)
Test Method: ANSI C63.10 (2013) Section 12.5

Limit:

Frequency band(MHz)	Limit
5150-5250	≤17dBm in 1MHz for master device
	≤11dBm in 1MHz for client device
5250-5350	≤11dBm in 1MHz for client device
5470-5725	≤11dBm in 1MHz for client device
5725-5850	≤30dBm in 500 kHz
Remark:	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.

7.10.1 E.U.T. Operation

Operating Environment:

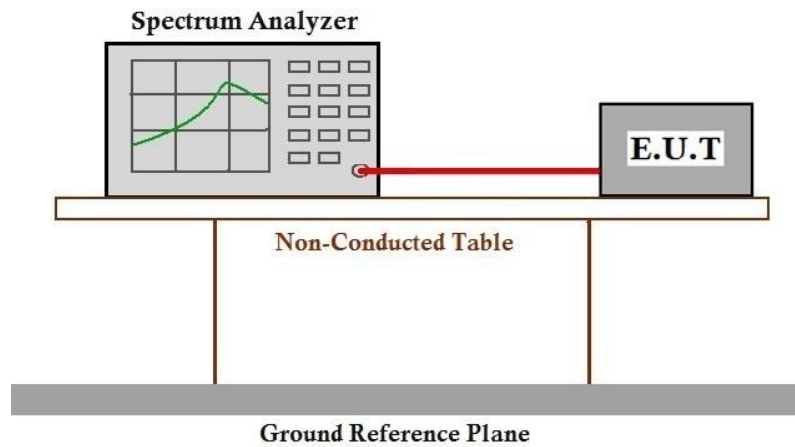Temperature: 22 °C   Humidity: 50   % RH   Atmospheric Pressure: 1010   mbar

7.10.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.10.3 Test Setup Diagram

7.10.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.11 Frequency Stability

Test Requirement   47 CFR Part 15, Subpart E 15.407 (g)

Test Method: ANSI C63.10 (2013) Section 6.8

7.11.1 E.U.T. Operation

Operating Environment:

Temperature: 22   °C   Humidity: 50   % RH   Atmospheric Pressure: 1010   mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode (U-NII-1)_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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	02	TX mode (U-NII-2A) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	03	TX mode (U-NII-2C) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	04	TX mode (U-NII-3) _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 @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.11.3 Test Setup Diagram
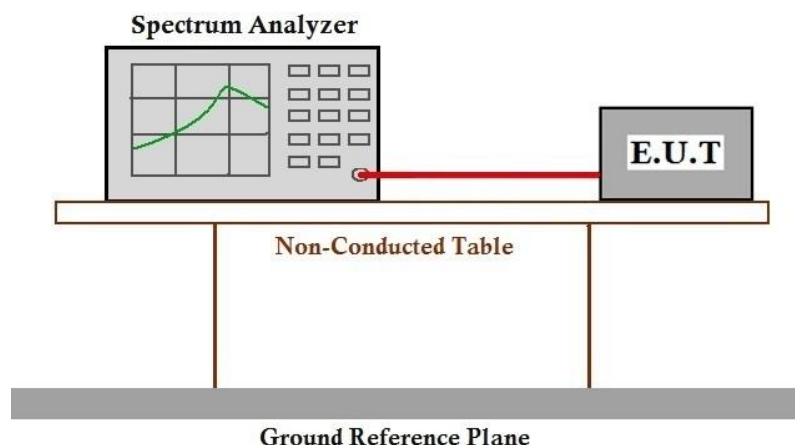
7.11.4 Measurement Procedure and Data

Please Refer to Appendix for Details

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for SHCR2501000043HS

9 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for SHCR2501000043HS

10 Appendix

10.1 Appendix A1: Emission Bandwidth

10.1.1 Test Result

Test Mode	Antenna	Channel	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	21.200	5169.240	5190.440	---	---
	Ant2	5180	20.640	5169.640	5190.280	---	---
	Ant1	5220	20.520	5209.640	5230.160	---	---
	Ant2	5220	20.640	5209.560	5230.200	---	---
	Ant1	5240	20.480	5229.720	5250.200	---	---
	Ant2	5240	20.760	5229.520	5250.280	---	---
	Ant1	5260	20.440	5249.800	5270.240	---	---
	Ant2	5260	20.640	5249.560	5270.200	---	---
	Ant1	5300	20.720	5289.560	5310.280	---	---
	Ant2	5300	20.760	5289.480	5310.240	---	---
	Ant1	5320	20.480	5309.640	5330.120	---	---
	Ant2	5320	20.720	5309.520	5330.240	---	---
	Ant1	5500	20.600	5489.800	5510.400	---	---
	Ant2	5500	20.320	5489.760	5510.080	---	---
	Ant1	5580	21.640	5569.440	5591.080	---	---
	Ant2	5580	20.280	5569.720	5590.000	---	---
	Ant1	5700	20.200	5689.680	5709.880	---	---
	Ant2	5700	20.200	5689.760	5709.960	---	---
	Ant1	5745	20.520	5734.680	5755.200	---	---
	Ant2	5745	20.240	5734.640	5754.880	---	---
	Ant1	5785	20.680	5774.600	5795.280	---	---
	Ant2	5785	20.520	5774.560	5795.080	---	---
	Ant1	5825	20.720	5814.600	5835.320	---	---
	Ant2	5825	20.440	5814.600	5835.040	---	---
11N20MIMO	Ant1	5180	21.120	5169.280	5190.400	---	---
	Ant2	5180	21.160	5169.400	5190.560	---	---
	Ant1	5220	21.240	5209.280	5230.520	---	---
	Ant2	5220	21.120	5209.360	5230.480	---	---
	Ant1	5240	21.200	5229.240	5250.440	---	---
	Ant2	5240	21.000	5229.360	5250.360	---	---
	Ant1	5260	21.360	5249.160	5270.520	---	---
	Ant2	5260	21.120	5249.360	5270.480	---	---
	Ant1	5300	21.280	5289.200	5310.480	---	---
	Ant2	5300	21.240	5289.160	5310.400	---	---
	Ant1	5320	20.960	5309.320	5330.280	---	---

	Ant2	5320	21.280	5309.200	5330.480	---	---
	Ant1	5500	20.960	5489.440	5510.400	---	---
	Ant2	5500	20.880	5489.600	5510.480	---	---
	Ant1	5580	21.360	5569.240	5590.600	---	---
	Ant2	5580	21.160	5569.280	5590.440	---	---
	Ant1	5700	21.040	5689.240	5710.280	---	---
	Ant2	5700	21.240	5689.360	5710.600	---	---
	Ant1	5745	20.960	5734.320	5755.280	---	---
	Ant2	5745	21.120	5734.280	5755.400	---	---
	Ant1	5785	21.280	5774.240	5795.520	---	---
	Ant2	5785	21.200	5774.280	5795.480	---	---
	Ant1	5825	20.760	5814.520	5835.280	---	---
	Ant2	5825	21.240	5814.280	5835.520	---	---
11N40MIMO	Ant1	5190	42.960	5168.240	5211.200	---	---
	Ant2	5190	42.640	5168.640	5211.280	---	---
	Ant1	5230	42.880	5208.400	5251.280	---	---
	Ant2	5230	43.120	5208.160	5251.280	---	---
	Ant1	5270	42.960	5248.400	5291.360	---	---
	Ant2	5270	43.200	5248.160	5291.360	---	---
	Ant1	5310	42.960	5288.320	5331.280	---	---
	Ant2	5310	43.200	5288.160	5331.360	---	---
	Ant1	5510	43.120	5488.320	5531.440	---	---
	Ant2	5510	42.400	5488.800	5531.200	---	---
	Ant1	5590	42.960	5568.400	5611.360	---	---
	Ant2	5590	42.960	5568.240	5611.200	---	---
	Ant1	5670	42.800	5648.480	5691.280	---	---
	Ant2	5670	42.640	5648.400	5691.040	---	---
	Ant1	5755	42.720	5733.400	5776.120	---	---
	Ant2	5755	43.120	5733.240	5776.360	---	---
	Ant1	5795	43.040	5773.400	5816.440	---	---
	Ant2	5795	43.360	5773.160	5816.520	---	---
11AC20MIMO	Ant1	5180	21.360	5169.320	5190.680	---	---
	Ant2	5180	21.400	5169.080	5190.480	---	---
	Ant1	5220	21.160	5209.200	5230.360	---	---
	Ant2	5220	21.160	5209.320	5230.480	---	---
	Ant1	5240	21.120	5229.240	5250.360	---	---
	Ant2	5240	21.240	5229.120	5250.360	---	---
	Ant1	5260	21.360	5249.120	5270.480	---	---
	Ant2	5260	21.240	5249.240	5270.480	---	---
	Ant1	5300	21.200	5289.240	5310.440	---	---
	Ant2	5300	21.360	5289.160	5310.520	---	---
	Ant1	5320	21.240	5309.200	5330.440	---	---
	Ant2	5320	21.400	5309.160	5330.560	---	---
	Ant1	5500	21.240	5489.360	5510.600	---	---
	Ant2	5500	20.920	5489.440	5510.360	---	---
	Ant1	5580	21.280	5569.400	5590.680	---	---
	Ant2	5580	21.000	5569.440	5590.440	---	---
	Ant1	5700	21.080	5689.320	5710.400	---	---
	Ant2	5700	21.200	5689.280	5710.480	---	---

	Ant1	5745	21.080	5734.280	5755.360	---	---
	Ant2	5745	21.120	5734.280	5755.400	---	---
	Ant1	5785	21.160	5774.240	5795.400	---	---
	Ant2	5785	21.120	5774.240	5795.360	---	---
	Ant1	5825	21.080	5814.280	5835.360	---	---
	Ant2	5825	21.160	5814.280	5835.440	---	---
11AC40MIMO	Ant1	5190	43.200	5168.320	5211.520	---	---
	Ant2	5190	43.120	5168.320	5211.440	---	---
	Ant1	5230	42.480	5208.800	5251.280	---	---
	Ant2	5230	43.200	5208.240	5251.440	---	---
	Ant1	5270	43.040	5248.560	5291.600	---	---
	Ant2	5270	43.120	5248.480	5291.600	---	---
	Ant1	5310	43.040	5288.320	5331.360	---	---
	Ant2	5310	43.280	5287.920	5331.200	---	---
	Ant1	5510	43.040	5488.560	5531.600	---	---
	Ant2	5510	43.040	5488.480	5531.520	---	---
	Ant1	5590	42.960	5568.560	5611.520	---	---
	Ant2	5590	43.280	5568.160	5611.440	---	---
	Ant1	5670	42.640	5648.480	5691.120	---	---
	Ant2	5670	42.880	5648.480	5691.360	---	---
	Ant1	5755	43.200	5733.480	5776.680	---	---
	Ant2	5755	42.800	5733.560	5776.360	---	---
	Ant1	5795	42.480	5773.800	5816.280	---	---
	Ant2	5795	42.640	5773.480	5816.120	---	---
11AC80MIMO	Ant1	5210	82.400	5168.880	5251.280	---	---
	Ant2	5210	83.360	5168.400	5251.760	---	---
	Ant1	5290	82.720	5248.880	5331.600	---	---
	Ant2	5290	83.360	5248.560	5331.920	---	---
	Ant1	5530	83.040	5488.720	5571.760	---	---
	Ant2	5530	82.560	5489.040	5571.600	---	---
	Ant1	5610	82.560	5569.040	5651.600	---	---
	Ant2	5610	82.880	5568.720	5651.600	---	---
	Ant1	5775	83.360	5733.400	5816.760	---	---
	Ant2	5775	83.040	5733.560	5816.600	---	---

10.1.2　Test Graphs

11A_Ant1_5180
11A_Ant2_5180
11A_Ant1_5220

11A_Ant2_5220

11A_Ant1_5240

11A_Ant2_5240

11A_Ant1_5260

11A_Ant2_5260

11A_Ant1_5300

11A_Ant2_5300

11A_Ant1_5320
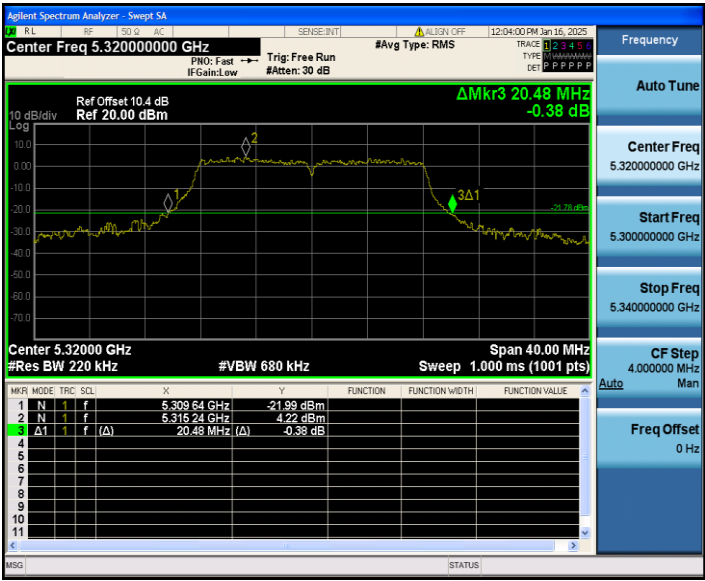
11A_Ant2_5320

11A_Ant1_5500

11A_Ant2_5500

11A_Ant1_5580

11A_Ant2_5580

11A_Ant1_5700

11A_Ant2_5700

11A_Ant1_5745

11A_Ant2_5745

11A_Ant1_5785
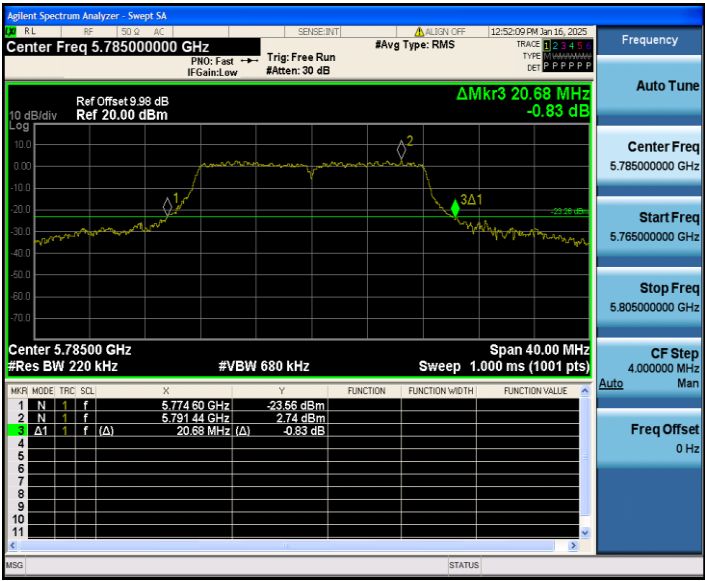
11A_Ant2_5785

11A_Ant1_5825