



TEST REPORT

Application No.: GZCR2203000250AT
Applicant: Skycatch, Inc
Address of Applicant: 424 9th St San Francisco CA 94103
Manufacturer: Skycatch, Inc
Address of Manufacturer: 424 9th St San Francisco CA 94103
Equipment Under Test (EUT):
EUT Name: Skycatch Secure Controller
Model No.: SKC-SC-01
Trade Mark:



Standard(s) : 47 CFR Part 15, Subpart E 15.407
Date of Receipt: 2022-03-08
Date of Test: 2022-03-10 to 2022-04-10
Date of Issue: 2022-04-11

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Kobe Jian
EMC Laboratory Manager



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

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2022-04-11		Original

Authorized for issue by:				
				
		Curry Wu/Project Engineer		
				
		Ricky Liu/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 C 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 & 15.407 b(6)	Pass
Duty Cycle		ANSI C63.10 (2013) Section 12.2	KDB 789033 D02 v02r01 II B 1	Pass
99% Bandwidth		KDB 789033 II D	N/A	Pass
26dB Emission bandwidth		KDB 789033 D02 II C 1	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band)		KDB 789033 D02 II C 2	47 CFR Part 15, Subpart C 15.407 (e)	Pass
Maximum Conducted output power		KDB 789033 D02 II E	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Peak Power spectrum density		KDB 789033 D02 II F	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Radiated Emissions (below 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Radiated Emissions (above 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Radiated Emissions which fall in the restricted bands		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Frequency Stability		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.407 (g)	Pass

Note:

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

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

EUT powered by built-in battery and external battery, both conditions are tested, EUT powered by built-in battery with the external battery is worst case; only worst case test data recorded in this report.



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4 General Information

4.1 Details of E.U.T.

Power supply:	External Battery: DC 7.6V,4920mAh Lithium-ion rechargeable battery (to be charged from type C port) Built-in Battery: DC 7.2V,5000mAh Lithium-ion rechargeable battery			
Operation Frequency	Band	Mode	Frequency Range (MHz)	Number of channels
	U-NII-1	802.11a/n20/ac20	5180-5240	4
		802.11n40/ac40	5190-5230	2
		802.11ac80	5210	1
	U-NII-3	802.11a/n20/ac20	5745-5825	5
		802.11n40/ac40	5755-5795	2
		802.11ac80	5775	1
Channel Spacing:	802.11a/n(HT20)/ac(HT20): 20MHz; 802.11n(HT40)/ac(HT40): 40MHz; 802.11ac(HT80): 80MHz			
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM);			
Antenna Type:	PCB pattern			
Antenna Gain:	U-NII-1: Antenna0&1: 3dBi declared by applicant U-NII-3: Antenna0&1: 5dBi declared by applicant			

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	Skycatch	QC24-CN	N/A

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	±2.76dB
Duty Cycle	± 0.37%
99% Bandwidth	± 3%
26dB Emission bandwidth	± 3%
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	± 3%
Maximum Conducted output power	± 0.75dB
Peak Power spectrum density	± 2.84dB
Radiated Emissions (below 1GHz)	±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m)
Radiated Emissions (above 1GHz)	± 4.52dB (1GHz-6GHz);± 4.54dB (above 6GHz)
Radiated Emissions which fall in the restricted bands	±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m);± 4.52dB (1GHz-6GHz);± 4.54dB (above 6GHz)
Frequency Stability	± 7.25 x 10-8
Remark: The U_{lab} (lab Uncertainty) is less than U_{CISPR} (CISPR Uncertainty), so the test results – compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit; – non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.	

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

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

No tests were sub-contracted.

4.5 Test Facility

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

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

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

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

- **ACMA**

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

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

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

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

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

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

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

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

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

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

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

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

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



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4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Network	Rohde & Schwarz	ENV216	EMC0118	2021-12-23	2022-12-22
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2021-09-24	2022-09-23
Coaxial Cable	HangTianXing	2m	EMC0107	2020-09-09	2022-09-08
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A
EMI Test Receiver(9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2021-06-01	2022-05-31

Duty Cycle					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

99% Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

26dB Emission bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A



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Minimum 6 dB bandwidth (5.725-5.85 GHz band)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

Maximum Conducted output power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A



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Peak Power spectrum density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

Radiated Emissions (below 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Chamber cable	HangTianXing	N/A	EMC0542	2020-09-09	2022-09-08
Trilog Broadband Antenna(25MHz-1GHz)-Lab	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-21
				2022-02-21	2025-02-20
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2022-04-06	2024-04-05
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
EMI Test Receiver(1Hz-8GHz)	Rohde & Schwarz	ESW8	EMC2220	2021-05-26	2022-05-25



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Radiated Emissions (above 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Chamber cable(Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna(1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-12-17	2022-12-16
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-12-17	2022-12-16
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-16	2022-09-15
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-29	2022-07-28
Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2021-08-30	2022-08-29

Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver(20Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-12-17	2022-12-16
Chamber cable(Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna(1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-12-17	2022-12-16
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
MXE EMI Receiver(10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2021-11-01	2022-10-31
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-16	2022-09-15
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-29	2022-07-28
Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27



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Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2021-08-30	2022-08-29
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Frequency Stability					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2021-07-05	2022-07-05
DMM	Fluke	73	EMC0007	2021-07-05	2022-07-05



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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

15.203 Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of 15.211, 15.213, 15.217, 15.219, 15.221, or 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the Antennas are following:

U-NII-1 Antenna Gain: Antenna0&1: 3dBi, U-NII-3 Antenna Gain: Antenna0&1: 5dBi.

U-NII-1 Directional Gain= $G_{Ant}+10\log(N_{Ant})$ dBi = $3+10\log(2)$ dBi = 6.01dBi.

U-NII-3 Directional Gain= $G_{Ant}+10\log(N_{Ant})$ dBi = $5+10\log(2)$ dBi = 8.01dBi.

Antenna location: Refer to Internal photo.

6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 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:

RF 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 & 15.407 b(6)

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: 24.5 °C

Humidity: 53.9 % RH

Atmospheric Pressure: 1003 mbar

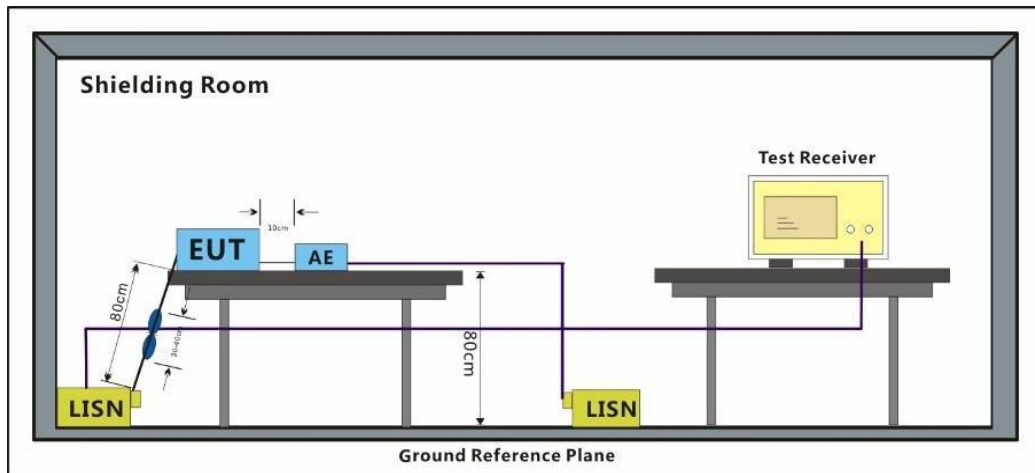
7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
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Pre-scan	03	Charge + TX mode (U-NII-1)_Keep the EUT in charging and 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
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Final test	05	Charge + TX mode (U-NII-3)_Keep the EUT in charging and 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
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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 $50\Omega/50\mu\text{H} + 50\Omega$ 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: LISN=Read Level+ Cable Loss+ LISN Factor

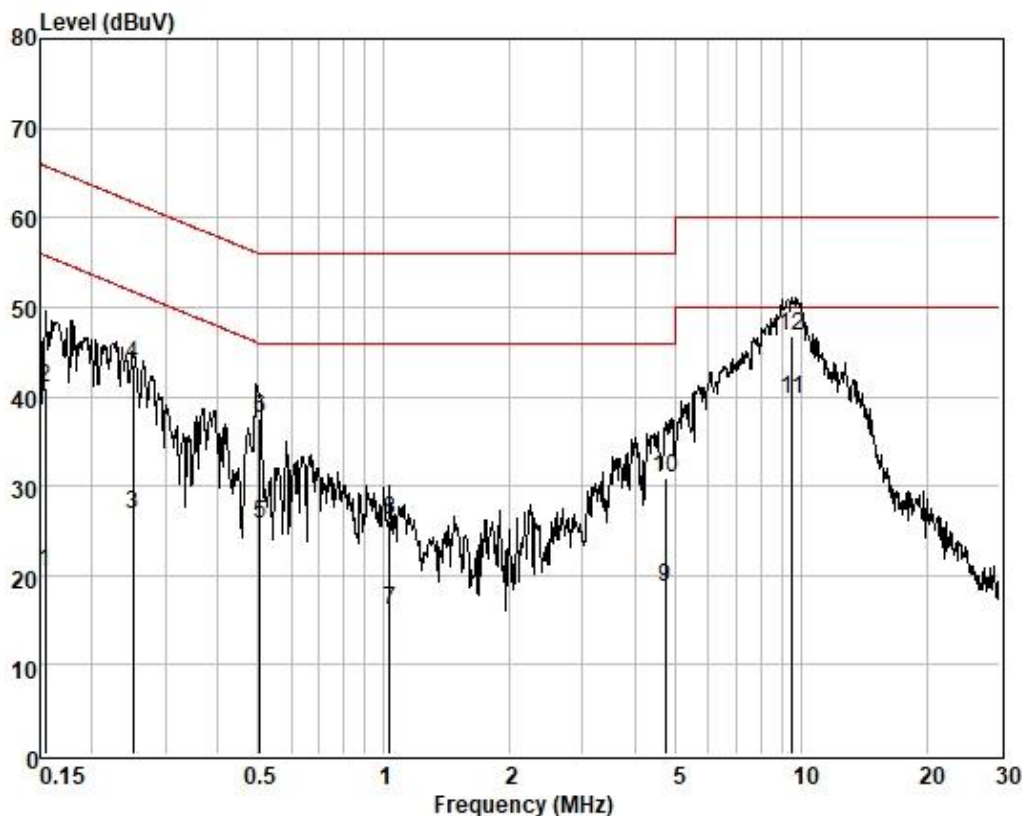


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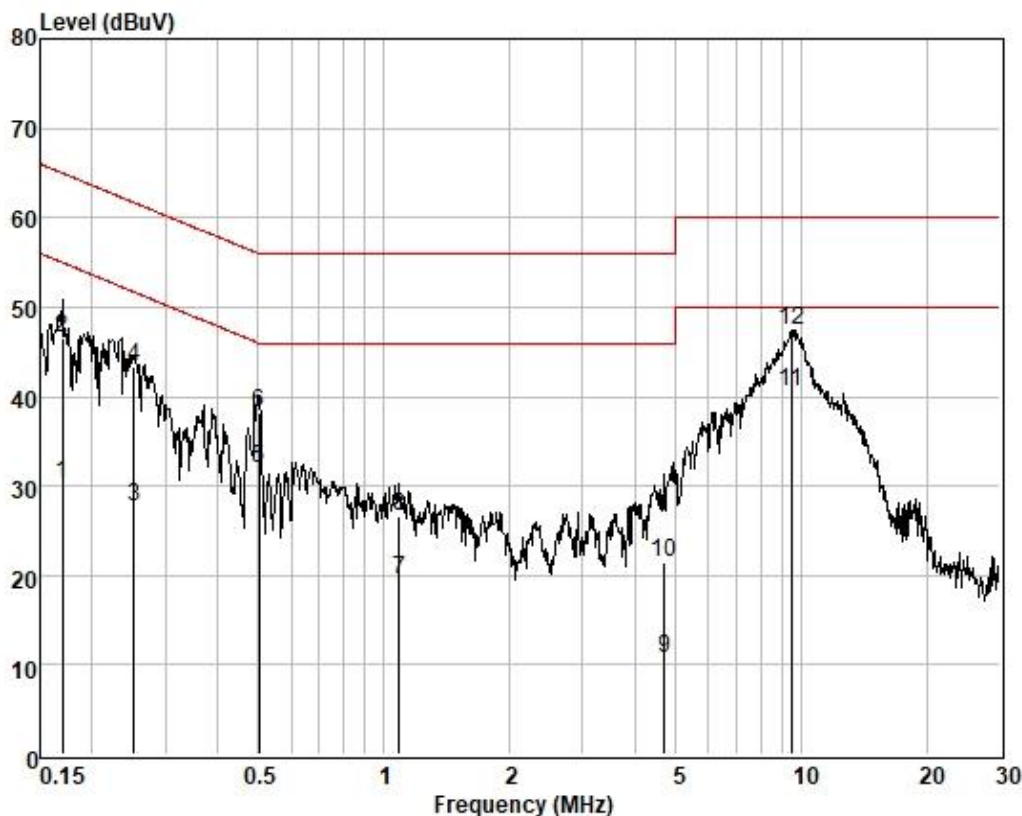
Test Mode: 05; Line: Live line



Condition: LINE
Mode : 5.8G WIFI
Model :

	Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	10.70	0.06	9.54	20.30	55.78	-35.48	Average
2	0.154	31.45	0.06	9.54	41.05	65.78	-24.73	QP
3	0.251	17.14	0.06	9.57	26.77	51.73	-24.96	Average
4	0.251	33.88	0.06	9.57	43.51	61.73	-18.22	QP
5	0.505	16.02	0.07	9.59	25.68	46.00	-20.32	Average
6	0.505	27.82	0.07	9.59	37.48	56.00	-18.52	QP
7	1.032	6.40	0.07	9.60	16.07	46.00	-29.93	Average
8	1.032	16.51	0.07	9.60	26.18	56.00	-29.82	QP
9	4.746	8.74	0.18	9.66	18.58	46.00	-27.42	Average
10	4.746	21.05	0.18	9.66	30.89	56.00	-25.11	QP
11	9.552	29.63	0.23	9.77	39.63	50.00	-10.37	Average
12	9.552	36.74	0.23	9.77	46.74	60.00	-13.26	QP

Test Mode: 05; Line: Neutral Line



Condition: NEUTRAL
Mode : 5.8G WIFI
Model :

	Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.169	20.59	0.06	9.54	30.19	54.99	-24.80	Average
2	0.169	36.84	0.06	9.54	46.44	64.99	-18.55	QP
3	0.252	18.08	0.06	9.56	27.70	51.69	-23.99	Average
4	0.252	33.74	0.06	9.56	43.36	61.69	-18.33	QP
5	0.502	22.27	0.07	9.58	31.92	46.00	-14.08	Average
6	0.502	28.53	0.07	9.58	38.18	56.00	-17.82	QP
7	1.088	9.83	0.08	9.59	19.50	46.00	-26.50	Average
8	1.088	16.85	0.08	9.59	26.52	56.00	-29.48	QP
9	4.721	1.00	0.18	9.65	10.83	46.00	-35.17	Average
10	4.721	11.63	0.18	9.65	21.46	56.00	-34.54	QP
11	9.502	30.52	0.23	9.78	40.53	50.00	-9.47	Average
12	9.502	37.35	0.23	9.78	47.36	60.00	-12.64	QP

7.2 Duty Cycle

Test Requirement

KDB 789033 D02 v02r01 II B 1

Test Method:

ANSI C63.10 (2013) Section 12.2

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 21.9 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 1003 mbar

7.2.2 Test Mode Description

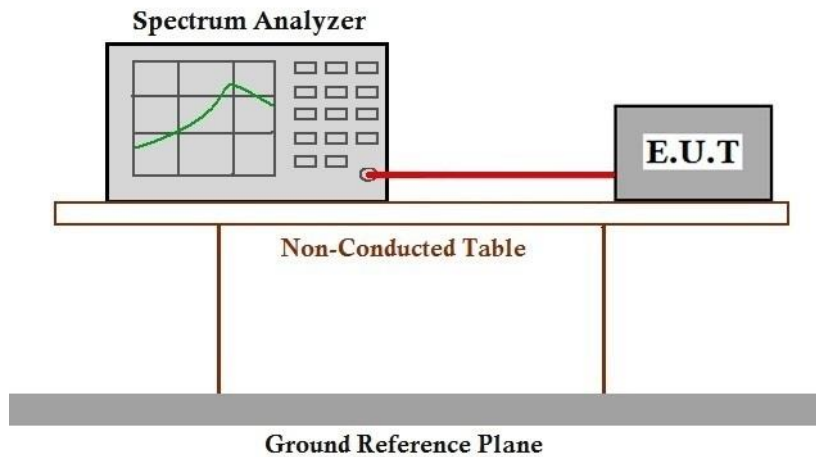
Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



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7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.3 99% Bandwidth

Test Requirement N/A
Test Method: KDB 789033 II D

7.3.1 E.U.T. Operation

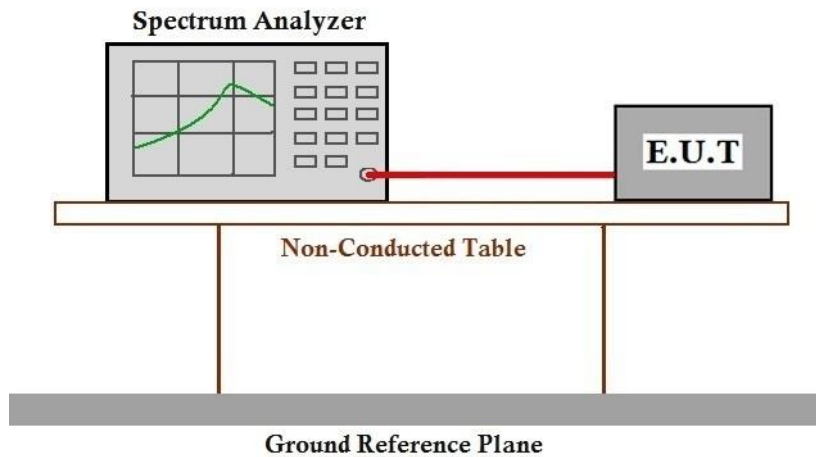
Operating Environment:
Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.4 26dB Emission bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)
Test Method: KDB 789033 D02 II C 1

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.4.2 Test Mode Description

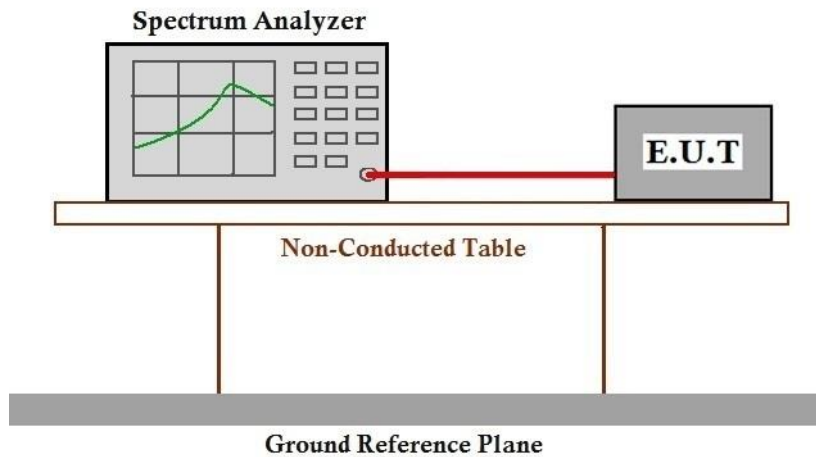
Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



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7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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

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

Test Method: KDB 789033 D02 II C 2

Limit:

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

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 21.9 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 1003 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
--------------------------	--------------	-------------

Final test	02	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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
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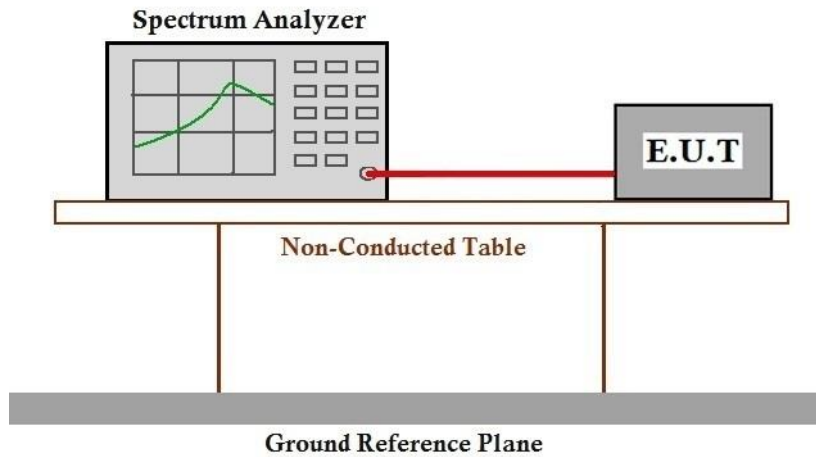
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
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7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.6 Maximum Conducted output power

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

Test Method: KDB 789033 D02 II E

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.

7.6.1 E.U.T. Operation

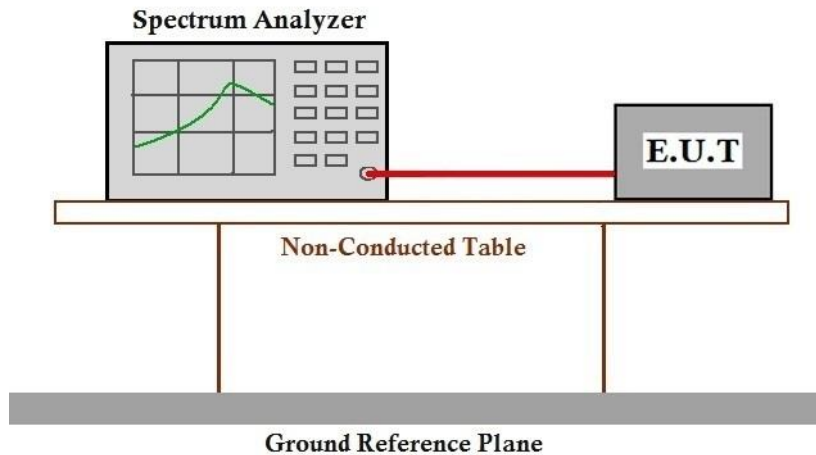
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). 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 Peak Power spectrum density

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

Test Method: KDB 789033 D02 II F

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.

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 21.9 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 1003 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
--------------------------	--------------	-------------

Final test	02	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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
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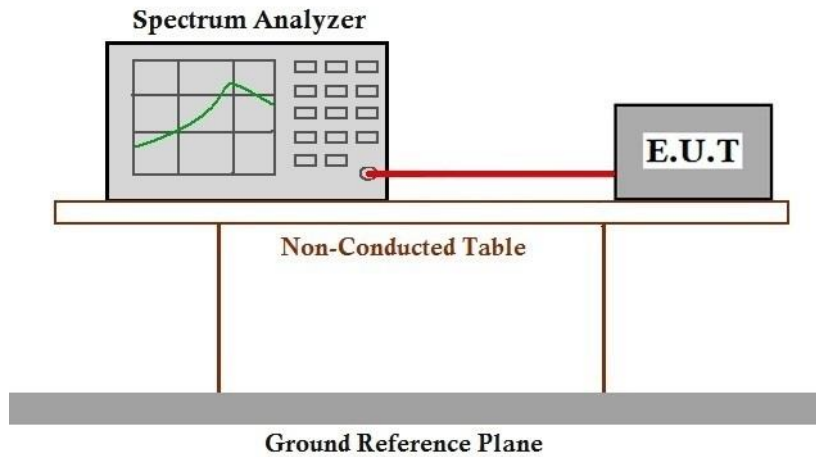
Final test	04	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
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7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 Radiated Emissions (below 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)

Test Method: KDB 789033 D02 II G

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.

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C Humidity: 52.4 % RH Atmospheric Pressure: 1003 mbar

7.8.2 Test Mode Description

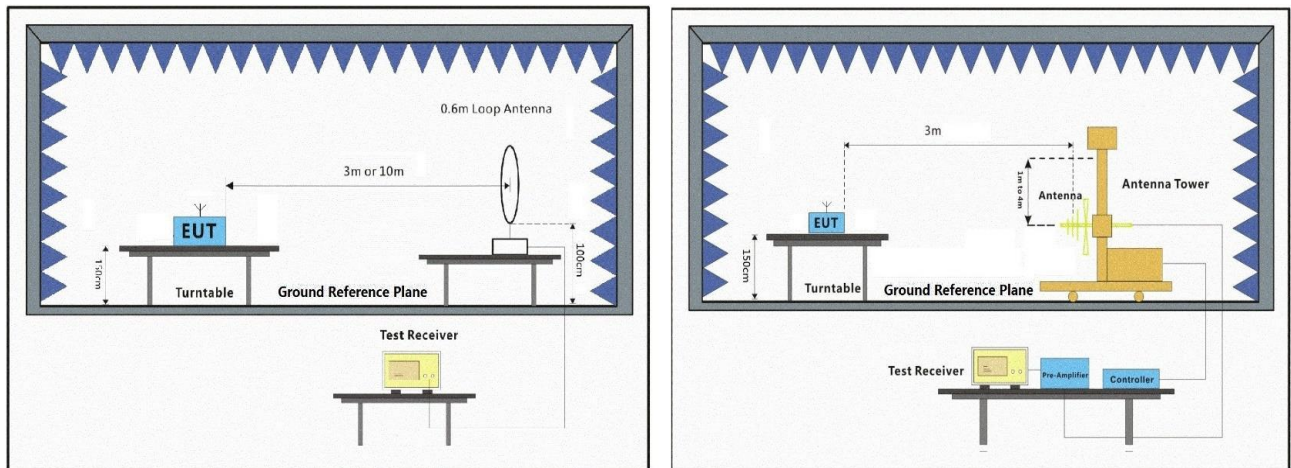
Pre-scan / Final test	Mode Code	Description
Pre-scan	02	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Pre-scan	03	Charge + TX mode (U-NII-1)_Keep the EUT in charging and 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	05	Charge + TX mode (U-NII-3)_Keep the EUT in charging and 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.



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7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

- 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.
- 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.
- 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.
- 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.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 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.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- 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.
- Repeat above procedures until all frequencies measured was complete.

Remark:

- Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 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.
- Scan from 9kHz to 1GHz, 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.



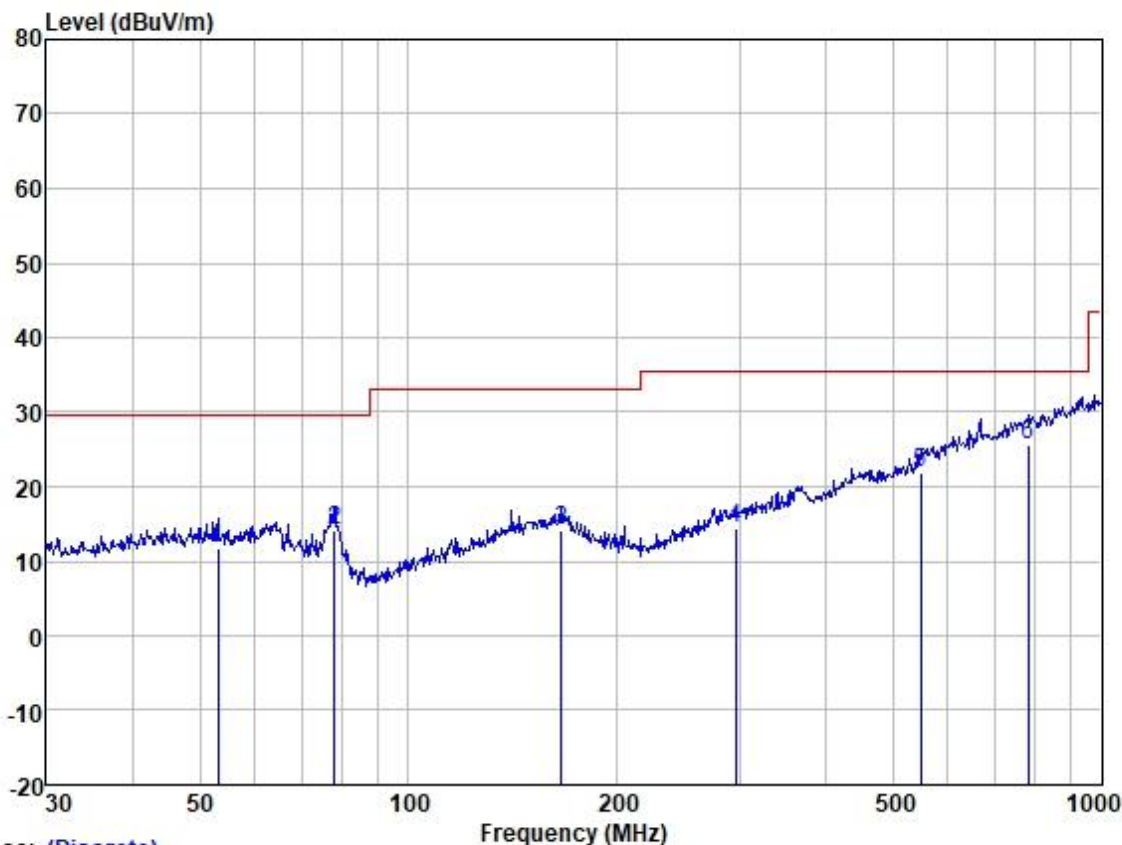
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中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Test Mode: 05; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel: Middle



Trace: (Discrete)

Site : SGS

Condition:

Job :

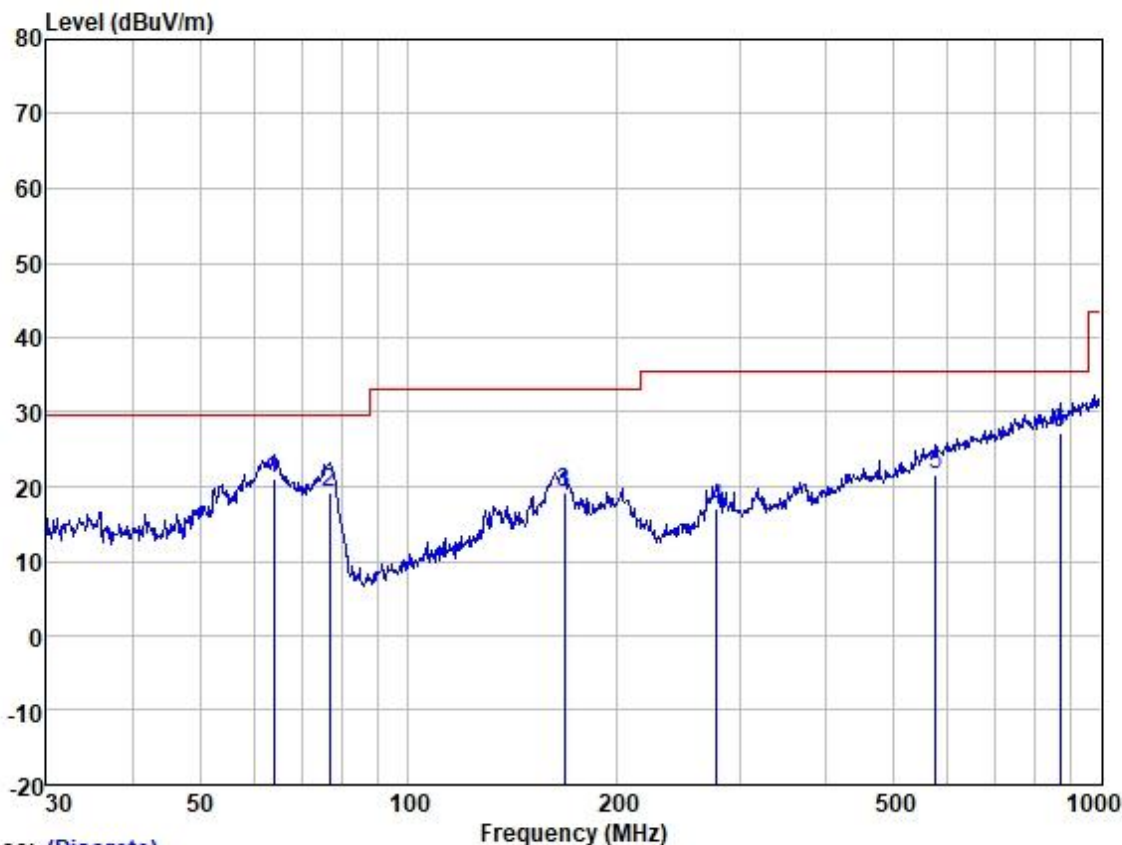
Model :

Power :

Test Mode: 5.8G WIFI

	Freq	ReadAntenna	Cable Preamp	Limit	Over					
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	53.131	24.09	13.70	1.17	27.17	11.79	29.50	-17.71	HORIZONTAL	QP
2	78.139	30.39	9.32	1.47	27.10	14.08	29.50	-15.42	HORIZONTAL	QP
3	166.068	25.48	12.95	2.37	26.78	14.02	33.10	-19.08	HORIZONTAL	QP
4	296.184	24.62	13.20	3.15	26.55	14.42	35.60	-21.18	HORIZONTAL	QP
5	549.020	26.82	18.27	4.76	28.10	21.75	35.60	-13.85	HORIZONTAL	QP
6	785.093	25.36	22.23	6.11	28.04	25.66	35.60	-9.94	HORIZONTAL	QP

Test Mode: 05; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel: Middle



Trace: (Discrete)

Site : SGS

Condition:

Job :

Model :

Power :

Test Mode: 5.8G WIFI

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	63.983	33.41	13.60	1.32	27.15	21.18	29.50	-8.32	VERTICAL	QP
2	76.781	35.13	9.70	1.46	27.10	19.19	29.50	-10.31	VERTICAL	QP
3	167.824	30.83	12.83	2.38	26.78	19.26	33.10	-13.84	VERTICAL	QP
4	278.067	27.83	12.83	3.09	26.57	17.18	35.60	-18.42	VERTICAL	QP
5	576.644	25.83	18.84	5.02	28.18	21.51	35.60	-14.09	VERTICAL	QP
6	872.183	25.76	22.66	6.71	27.89	27.24	35.60	-8.36	VERTICAL	QP

The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

$$L_3 / L_{10} = D_{10} / D_3$$

Note:

L_3 : Level @ 3m distance. Unit: $\mu\text{V/m}$;

L_{10} : Level @ 10m distance. Unit: $\mu\text{V/m}$;

D_3 : 3m distance. Unit: m

D_{10} : 10m distance. Unit: m

The level at 3m test distance is below:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m ($\mu\text{V/m}$)	Level @ 3m ($\mu\text{V/m}$)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
53.131	11.79	3.89	12.95	22.25	40	-17.75	H
78.139	14.08	5.06	16.86	24.54	40	-15.46	H
166.068	14.02	5.02	16.74	24.48	43.5	-19.02	H
296.184	14.42	5.26	17.53	24.88	46	-21.12	H
549.020	21.75	12.23	40.77	32.21	46	-13.79	H
785.093	25.66	19.19	63.96	36.12	46	-9.88	H
63.983	21.18	11.46	38.18	31.64	40	-8.36	V
76.781	19.19	9.11	30.37	29.65	40	-10.35	V
167.824	19.26	9.18	30.61	29.72	43.5	-13.78	V
278.067	17.18	7.23	24.09	27.64	46	-18.36	V
576.644	21.51	11.90	39.66	31.97	46	-14.03	V
872.183	27.24	23.01	76.71	37.70	46	-8.30	V

7.9 Radiated Emissions (above 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)

Test Method: KDB 789033 D02 II G

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.

7.9.1 E.U.T. Operation

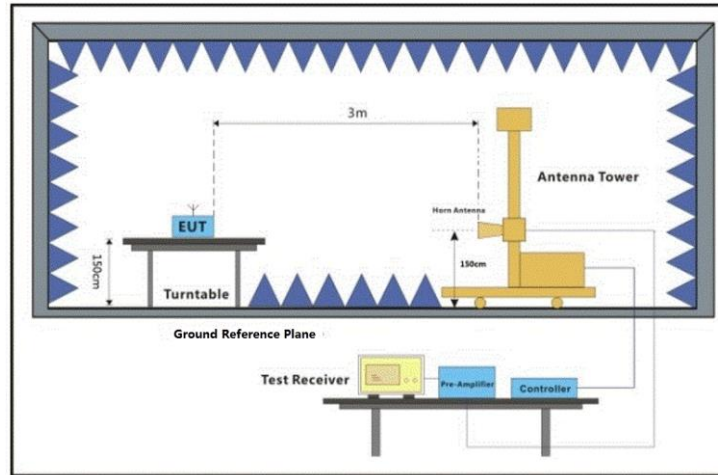
Operating Environment:

Temperature: 23.1 °C Humidity: 53.5 % RH Atmospheric Pressure: 1003 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. Charge + TX mode (U-NII-1)_Keep the EUT in charging and 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Pre-scan	03	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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. Charge + TX mode (U-NII-3)_Keep the EUT in charging and 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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Pre-scan	05	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(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



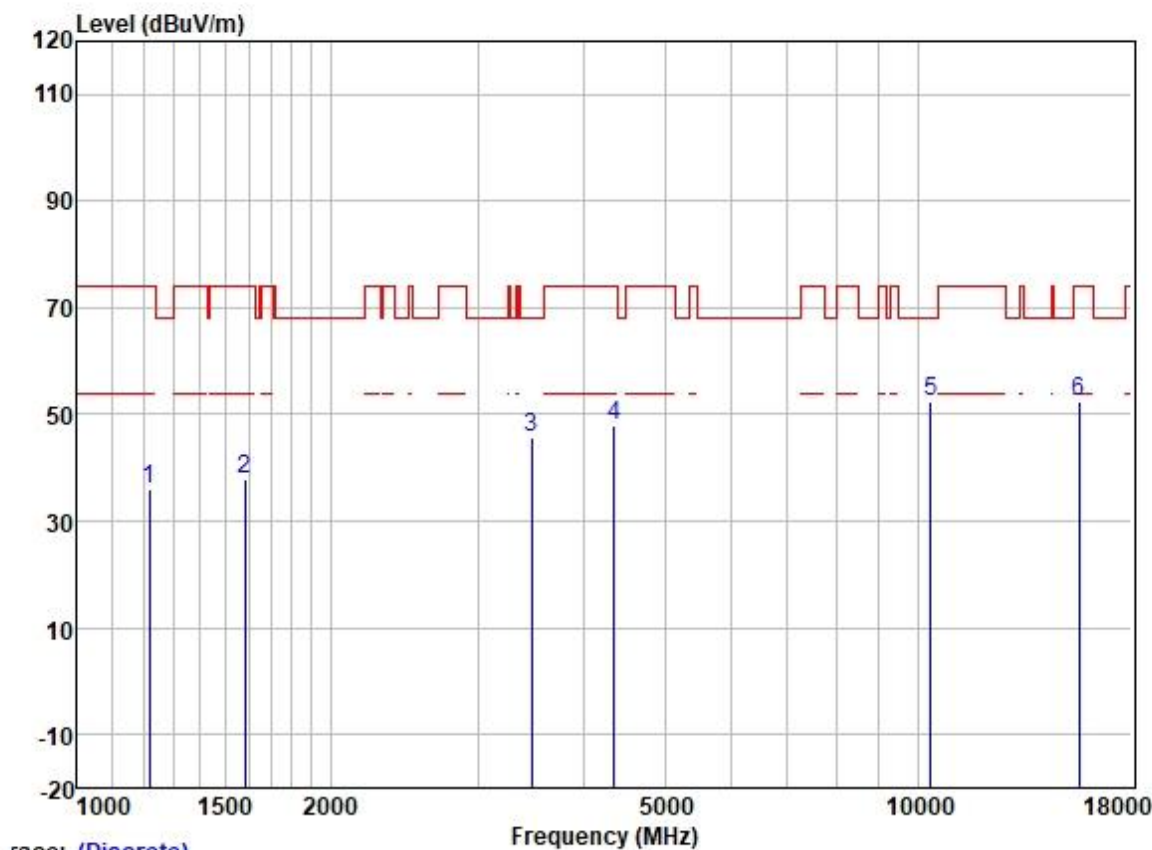
7.9.4 Measurement Procedure and Data

- a. 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 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 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, quasi-peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 1GHz to 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.
4. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

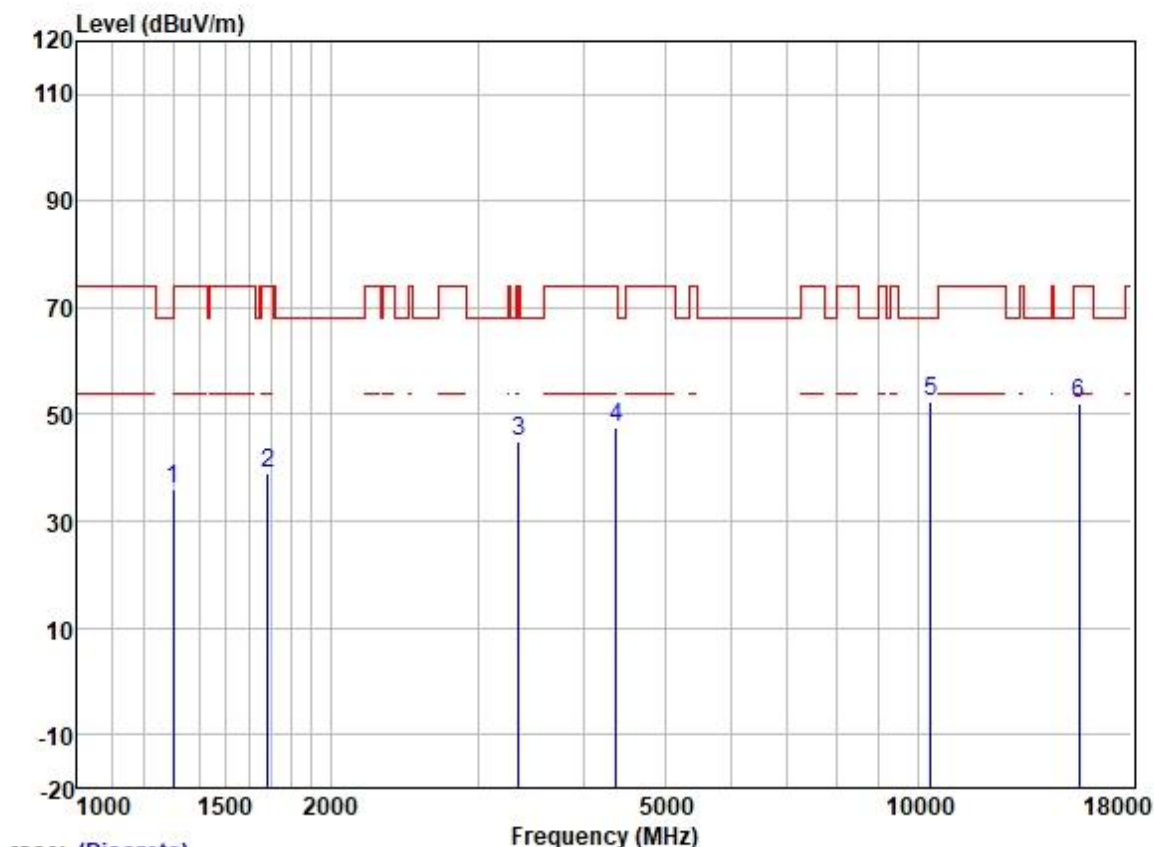
Test Mode: 02; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1217.190	47.30	24.79	2.32	38.37	36.04	74.00	-37.96	HORIZONTAL Peak
2	1583.392	47.47	25.56	2.80	38.00	37.83	74.00	-36.17	HORIZONTAL Peak
3	3475.541	49.49	28.89	4.25	36.95	45.68	68.20	-22.52	HORIZONTAL Peak
4	4354.454	49.33	30.59	4.68	36.81	47.79	74.00	-26.21	HORIZONTAL Peak
5	10360.000	43.35	39.28	7.29	37.37	52.55	68.20	-15.65	HORIZONTAL Peak
6	15540.000	38.99	39.05	9.88	35.39	52.53	74.00	-21.47	HORIZONTAL Peak

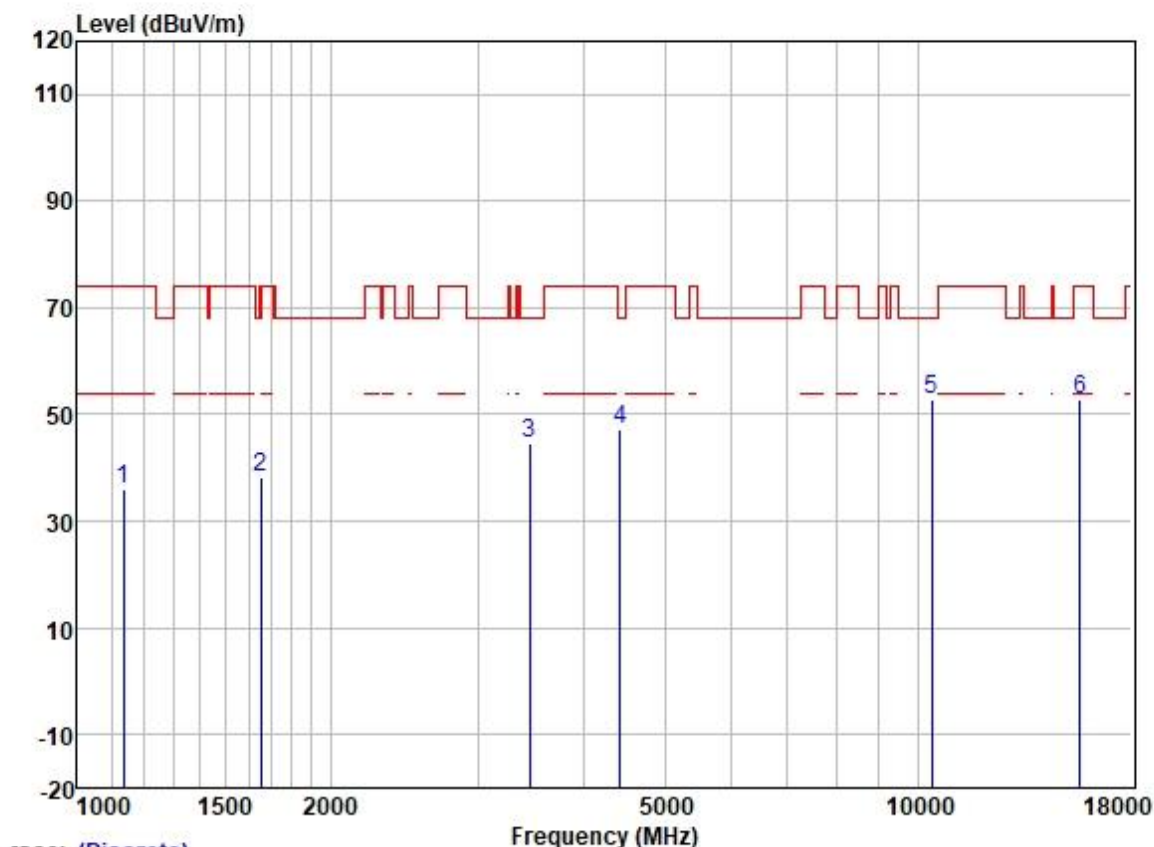
Test Mode: 02; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1300.858	46.52	25.20	2.60	38.31	36.01	74.00	-37.99	VERTICAL	Peak
2	1687.347	48.36	25.69	2.80	37.91	38.94	74.00	-35.06	VERTICAL	Peak
3	3347.371	48.96	28.80	4.08	37.01	44.83	74.00	-29.17	VERTICAL	Peak
4	4379.699	49.20	30.64	4.69	36.81	47.72	74.00	-26.28	VERTICAL	Peak
5	10360.000	43.10	39.28	7.29	37.37	52.30	68.20	-15.90	VERTICAL	Peak
6	15540.000	38.40	39.05	9.88	35.39	51.94	74.00	-22.06	VERTICAL	Peak

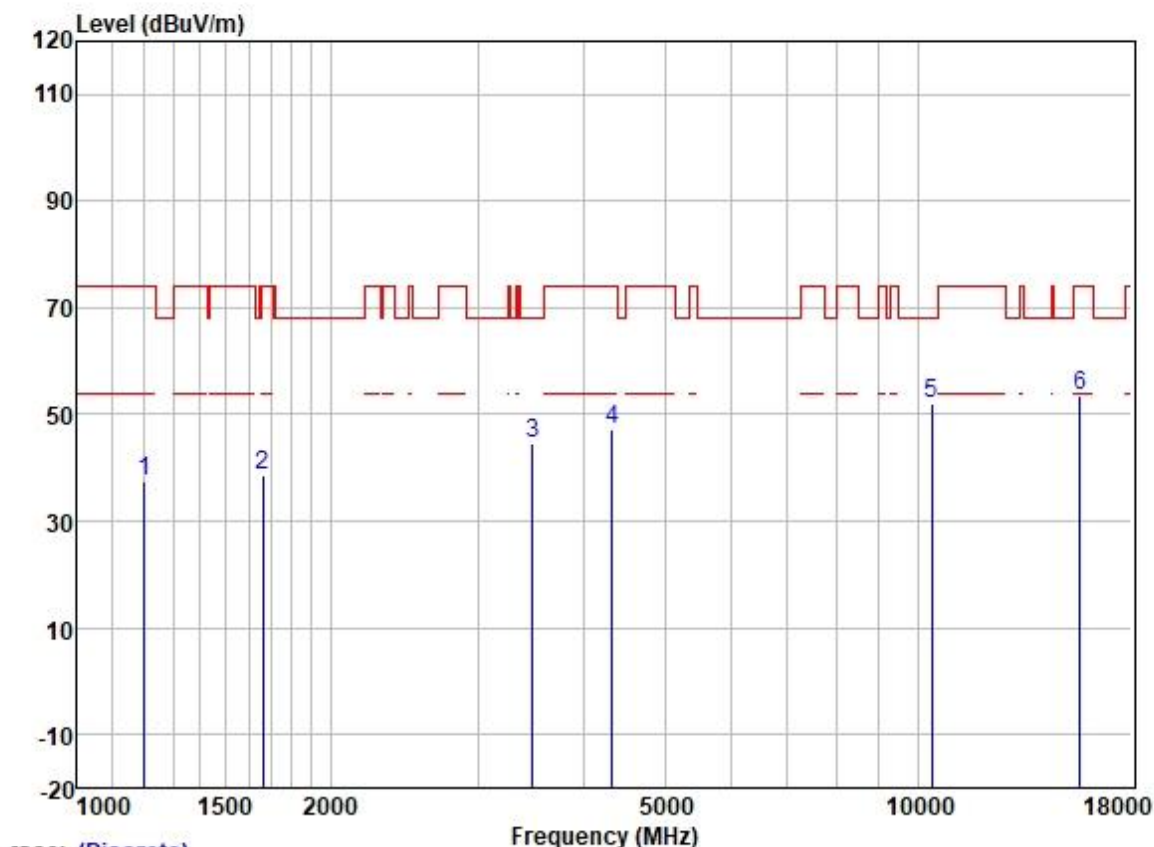
Test Mode: 02; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel: middle



race: (Discrete)

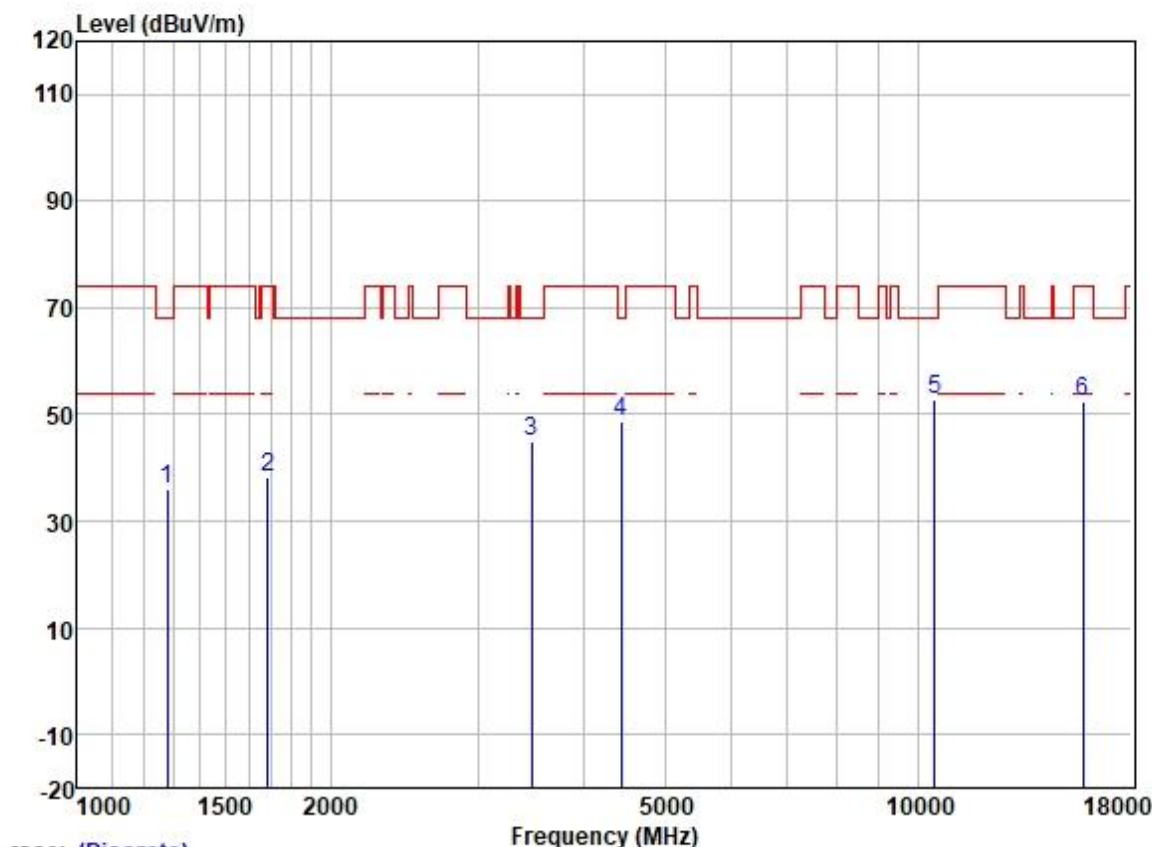
	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1135.617	47.75	24.45	2.25	38.43	36.02	74.00	-37.98	HORIZONTAL Peak
2	1653.550	47.84	25.64	2.80	37.93	38.35	68.20	-29.85	HORIZONTAL Peak
3	3455.508	48.64	28.88	4.20	36.96	44.76	68.20	-23.44	HORIZONTAL Peak
4	4430.628	48.38	30.72	4.78	36.81	47.07	68.20	-21.13	HORIZONTAL Peak
5	10400.000	43.62	39.33	7.32	37.36	52.91	68.20	-15.29	HORIZONTAL Peak
6	15600.000	39.40	38.99	9.88	35.39	52.88	74.00	-21.12	HORIZONTAL Peak

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



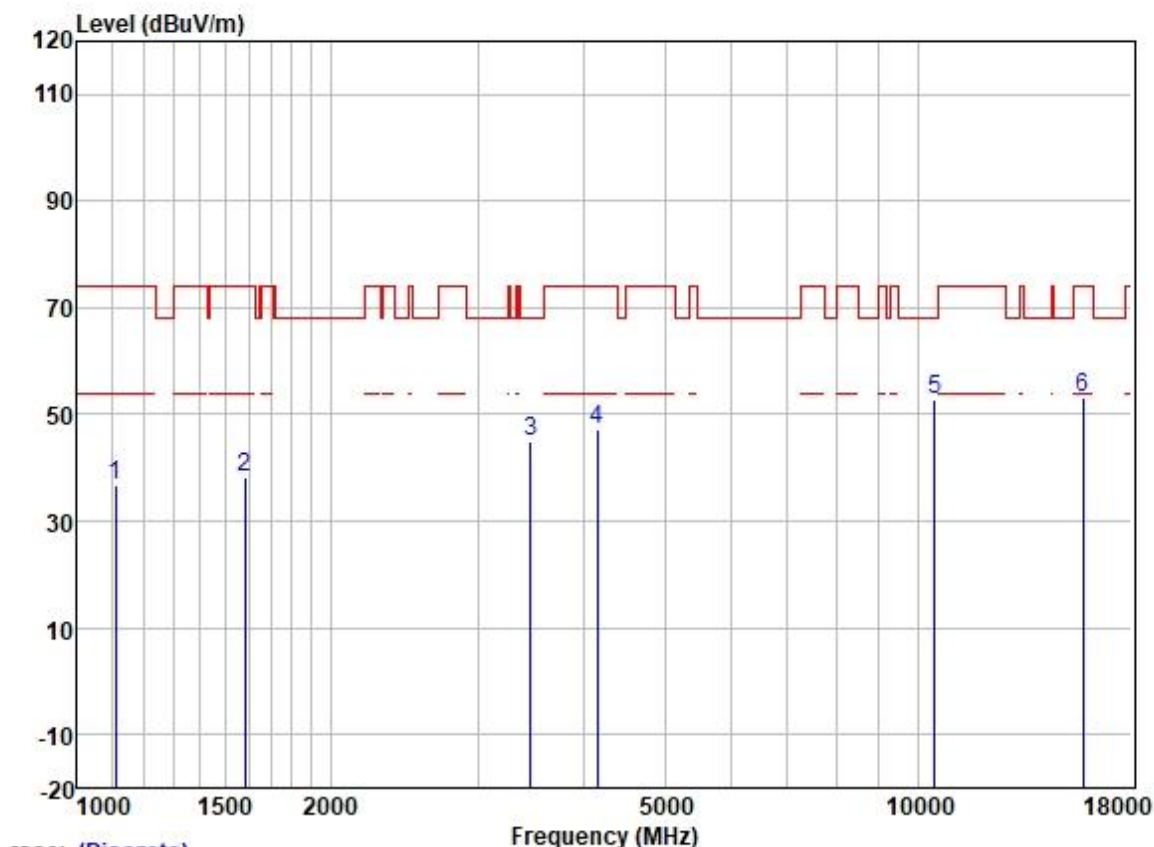
	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1203.199	48.68	24.70	2.34	38.39	37.33	74.00	-36.67	VERTICAL Peak
2	1663.137	47.99	25.65	2.80	37.91	38.53	74.00	-35.47	VERTICAL Peak
3	3485.601	48.27	28.89	4.27	36.95	44.48	68.20	-23.72	VERTICAL Peak
4	4329.354	48.79	30.54	4.67	36.81	47.19	74.00	-26.81	VERTICAL Peak
5	10400.000	42.83	39.33	7.32	37.36	52.12	68.20	-16.08	VERTICAL Peak
6	15600.000	39.98	38.99	9.88	35.39	53.46	74.00	-20.54	VERTICAL Peak

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



	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1278.492	46.83	25.14	2.50	38.33	36.14	68.20	-32.06	HORIZONTAL	Peak
2	1687.347	47.48	25.69	2.80	37.91	38.06	74.00	-35.94	HORIZONTAL	Peak
3	3475.541	48.93	28.89	4.25	36.95	45.12	68.20	-23.08	HORIZONTAL	Peak
4	4443.453	49.78	30.73	4.83	36.81	48.53	68.20	-19.67	HORIZONTAL	Peak
5	10480.000	43.40	39.46	7.40	37.36	52.90	68.20	-15.30	HORIZONTAL	Peak
6	15720.000	39.05	38.78	9.87	35.39	52.31	74.00	-21.69	HORIZONTAL	Peak

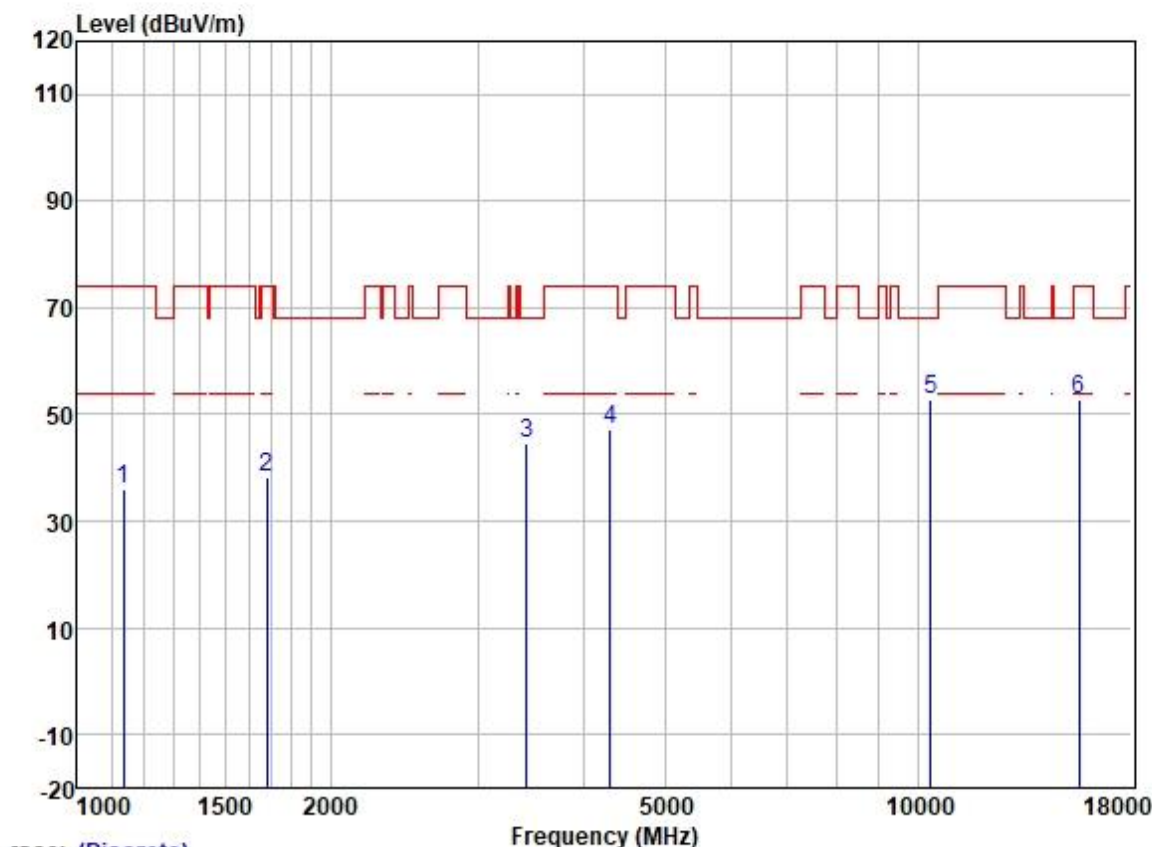
Test Mode: 02; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel: High



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1109.660	48.51	24.39	2.27	38.45	36.72	74.00	-37.28	VERTICAL Peak
2	1583.392	47.70	25.56	2.80	38.00	38.06	74.00	-35.94	VERTICAL Peak
3	3465.510	48.99	28.88	4.22	36.95	45.14	68.20	-23.06	VERTICAL Peak
4	4157.664	49.34	30.06	4.60	36.80	47.20	74.00	-26.80	VERTICAL Peak
5	10480.000	43.40	39.46	7.40	37.36	52.90	68.20	-15.30	VERTICAL Peak
6	15720.000	39.74	38.78	9.87	35.39	53.00	74.00	-21.00	VERTICAL Peak

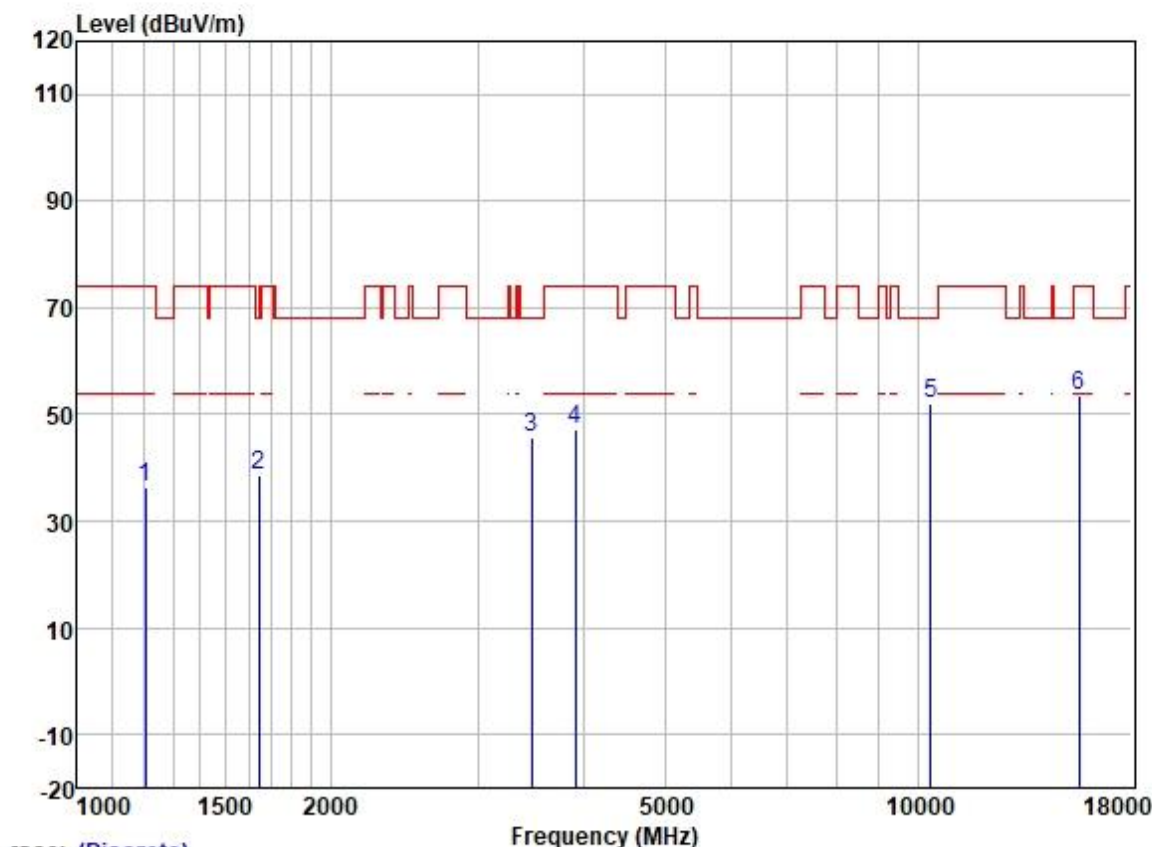
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

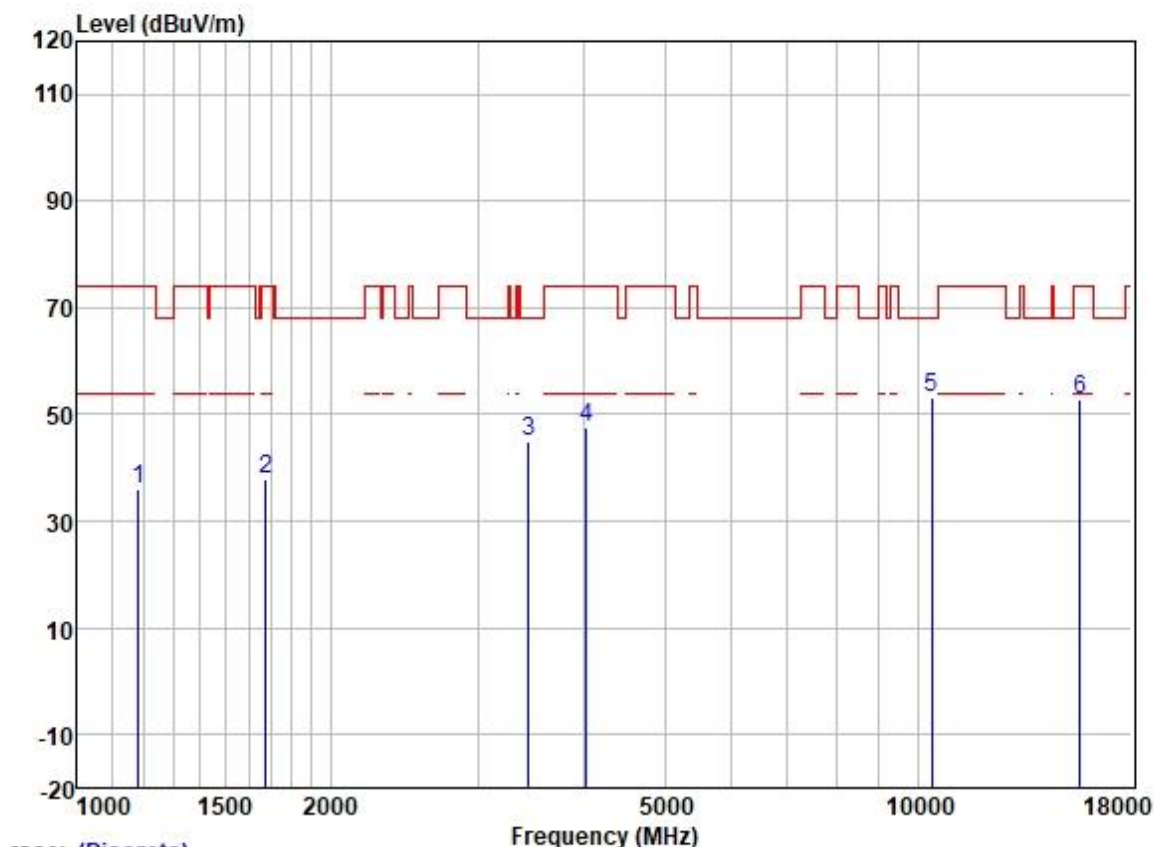
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1135.617	47.89	24.45	2.25	38.43	36.16	74.00	-37.84	HORIZONTAL	Peak
2	1682.477	47.60	25.68	2.80	37.91	38.17	74.00	-35.83	HORIZONTAL	Peak
3	3425.675	48.55	28.86	4.15	36.97	44.59	68.20	-23.61	HORIZONTAL	Peak
4	4304.400	48.72	30.48	4.65	36.81	47.04	74.00	-26.96	HORIZONTAL	Peak
5	10360.000	43.70	39.28	7.29	37.37	52.90	68.20	-15.30	HORIZONTAL	Peak
6	15540.000	39.33	39.05	9.88	35.39	52.87	74.00	-21.13	HORIZONTAL	Peak

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



	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1206.682	47.86	24.72	2.33	38.39	36.52	74.00	-37.48	VERTICAL	Peak
2	1644.019	48.04	25.63	2.80	37.93	38.54	68.20	-29.66	VERTICAL	Peak
3	3475.541	49.42	28.89	4.25	36.95	45.61	68.20	-22.59	VERTICAL	Peak
4	3912.809	49.84	29.70	4.60	36.82	47.32	74.00	-26.68	VERTICAL	Peak
5	10360.000	42.79	39.28	7.29	37.37	51.99	68.20	-16.21	VERTICAL	Peak
6	15540.000	39.89	39.05	9.88	35.39	53.43	74.00	-20.57	VERTICAL	Peak

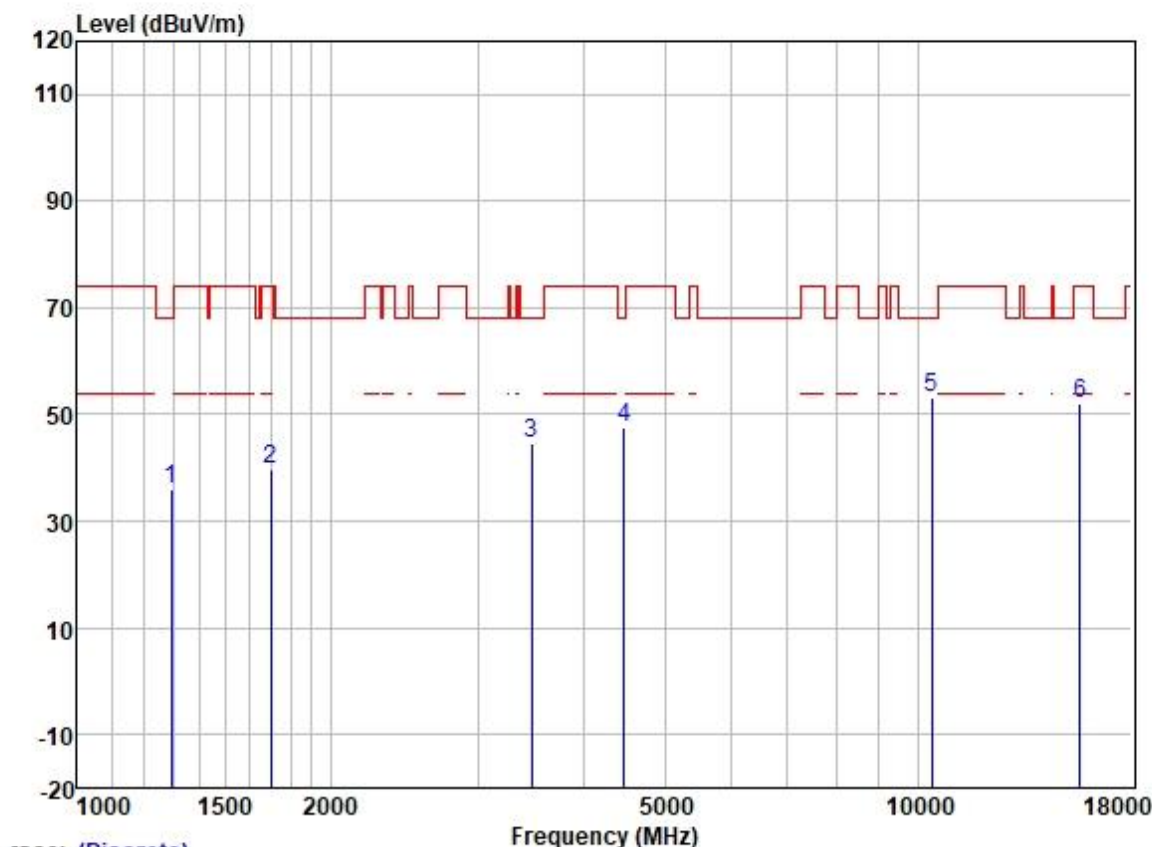
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel: middle



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1182.513	47.43	24.60	2.37	38.40	36.00	74.00	-38.00	HORIZONTAL	Peak
2	1677.621	47.29	25.68	2.80	37.91	37.86	74.00	-36.14	HORIZONTAL	Peak
3	3445.535	48.83	28.87	4.18	36.96	44.92	68.20	-23.28	HORIZONTAL	Peak
4	4039.212	49.96	29.85	4.60	36.80	47.61	74.00	-26.39	HORIZONTAL	Peak
5	10400.000	43.82	39.33	7.32	37.36	53.11	68.20	-15.09	HORIZONTAL	Peak
6	15600.000	39.30	38.99	9.88	35.39	52.78	74.00	-21.22	HORIZONTAL	Peak

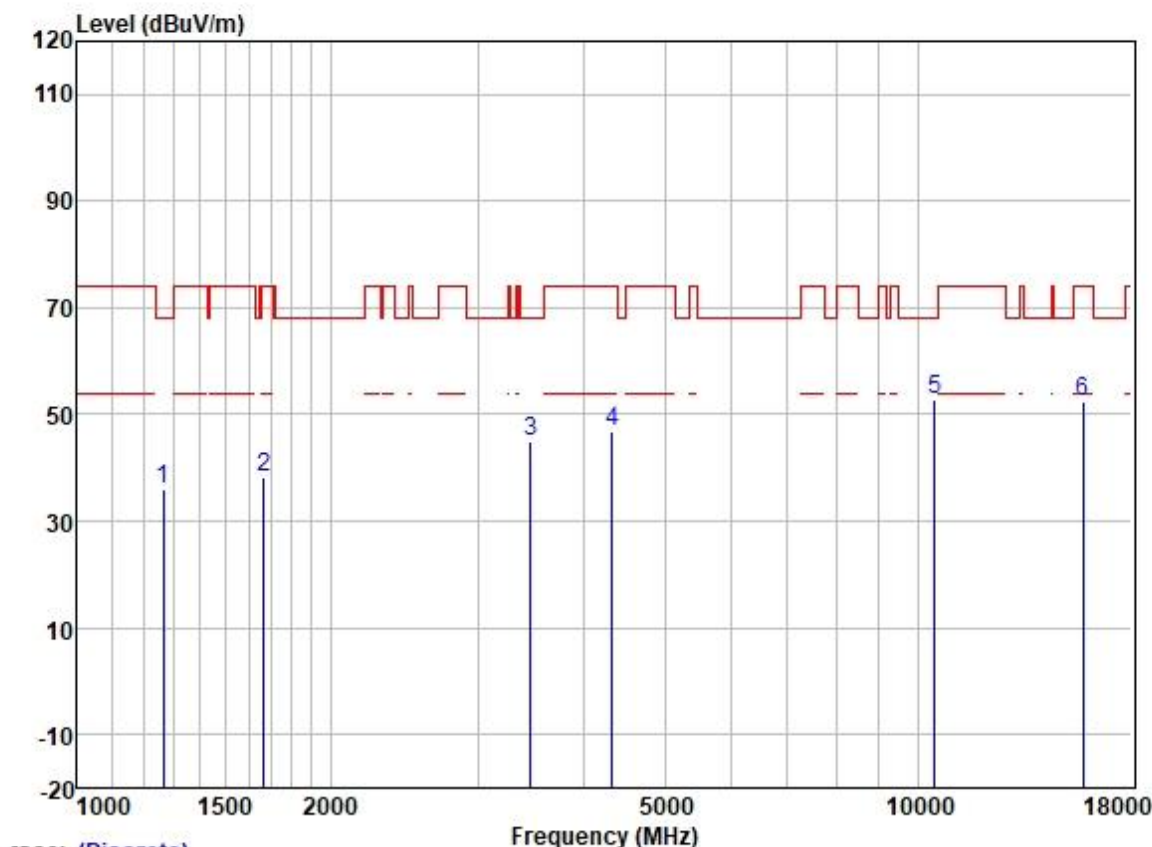
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel: middle



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1293.359	46.62	25.18	2.57	38.31	36.06	68.20	-32.14	VERTICAL Peak
2	1697.129	49.21	25.71	2.80	37.89	39.83	74.00	-34.17	VERTICAL Peak
3	3475.541	48.30	28.89	4.25	36.95	44.49	68.20	-23.71	VERTICAL Peak
4	4469.214	48.73	30.77	4.93	36.81	47.62	68.20	-20.58	VERTICAL Peak
5	10400.000	44.01	39.33	7.32	37.36	53.30	68.20	-14.90	VERTICAL Peak
6	15600.000	38.74	38.99	9.88	35.39	52.22	74.00	-21.78	VERTICAL Peak

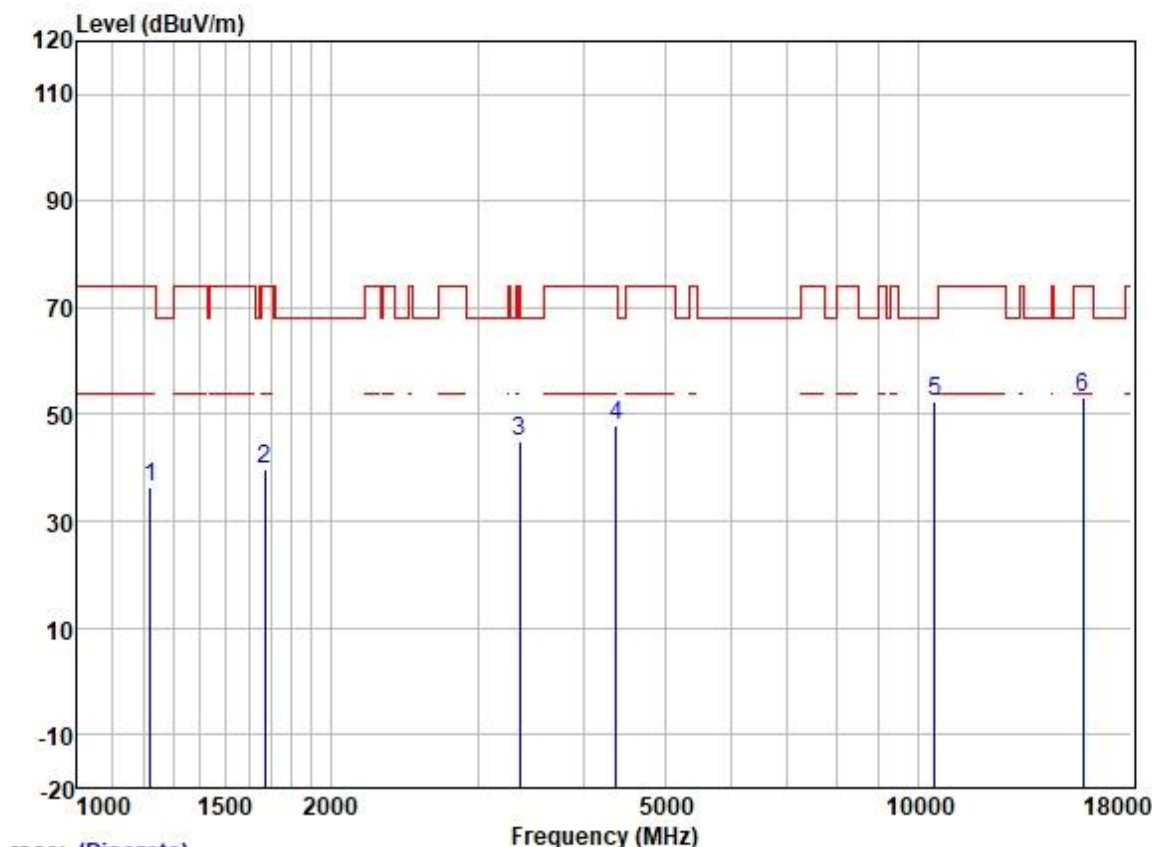
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel: High



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
		Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1267.454	46.95	25.10	2.44	38.33	36.16	68.20	-32.04	HORIZONTAL	Peak
2	1667.951	47.74	25.66	2.80	37.91	38.29	74.00	-35.71	HORIZONTAL	Peak
3	3465.510	48.64	28.88	4.22	36.95	44.79	68.20	-23.41	HORIZONTAL	Peak
4	4329.354	48.61	30.54	4.67	36.81	47.01	74.00	-26.99	HORIZONTAL	Peak
5	10480.000	43.40	39.46	7.40	37.36	52.90	68.20	-15.30	HORIZONTAL	Peak
6	15720.000	39.27	38.78	9.87	35.39	52.53	74.00	-21.47	HORIZONTAL	Peak

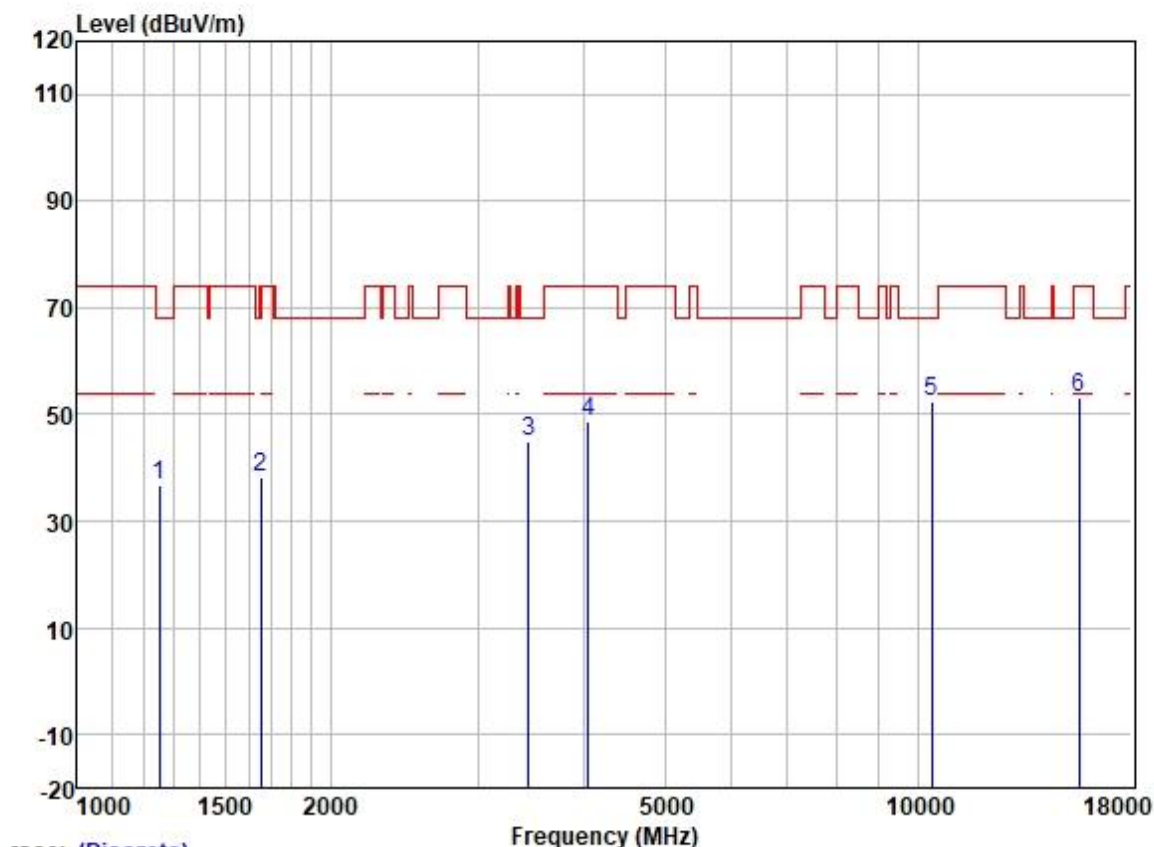
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel: High



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1220.714	47.58	24.82	2.32	38.37	36.35	74.00	-37.65	VERTICAL	Peak
2	1672.779	49.33	25.67	2.80	37.91	39.89	74.00	-34.11	VERTICAL	Peak
3	3357.061	49.15	28.81	4.09	37.01	45.04	74.00	-28.96	VERTICAL	Peak
4	4379.699	49.30	30.64	4.69	36.81	47.82	74.00	-26.18	VERTICAL	Peak
5	10480.000	42.91	39.46	7.40	37.36	52.41	68.20	-15.79	VERTICAL	Peak
6	15720.000	40.04	38.78	9.87	35.39	53.30	74.00	-20.70	VERTICAL	Peak

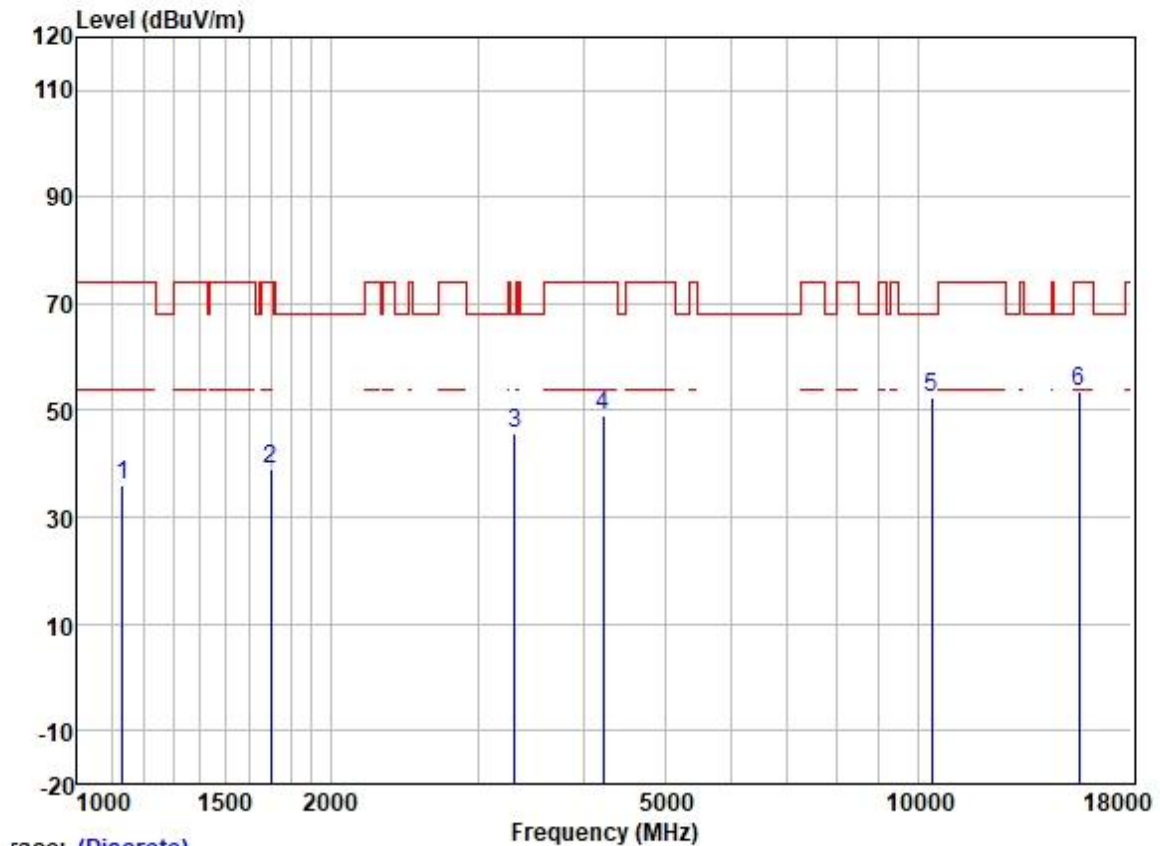
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel: Low



race: (Discrete)

		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1252.885	47.54	25.03	2.36	38.35	36.58	68.20	-31.62	HORIZONTAL	Peak
2	1653.550	47.68	25.64	2.80	37.93	38.19	68.20	-30.01	HORIZONTAL	Peak
3	3445.535	49.00	28.87	4.18	36.96	45.09	68.20	-23.11	HORIZONTAL	Peak
4	4050.904	51.17	29.87	4.60	36.80	48.84	74.00	-25.16	HORIZONTAL	Peak
5	10380.000	43.07	39.33	7.32	37.37	52.35	68.20	-15.85	HORIZONTAL	Peak
6	15570.000	39.58	38.99	9.88	35.39	53.06	74.00	-20.94	HORIZONTAL	Peak

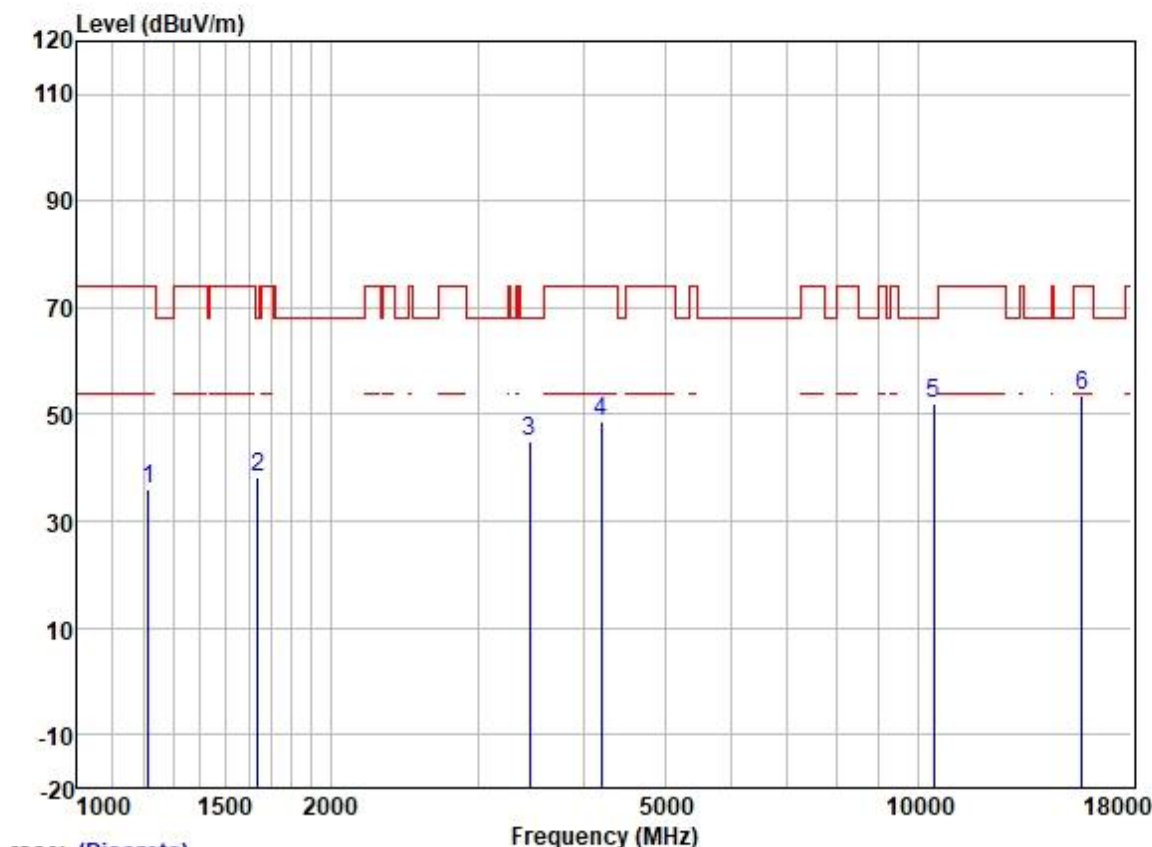
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel: Low



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1132.340	47.95	24.44	2.22	38.43	36.18	74.00	-37.82	VERTICAL	Peak
2	1697.129	48.34	25.71	2.80	37.89	38.96	74.00	-35.04	VERTICAL	Peak
3	3318.471	49.85	28.77	4.07	37.02	45.67	68.20	-22.53	VERTICAL	Peak
4	4230.396	50.92	30.26	4.61	36.81	48.98	74.00	-25.02	VERTICAL	Peak
5	10380.000	43.27	39.33	7.32	37.37	52.55	68.20	-15.65	VERTICAL	Peak
6	15570.000	39.93	38.99	9.88	35.39	53.41	74.00	-20.59	VERTICAL	Peak

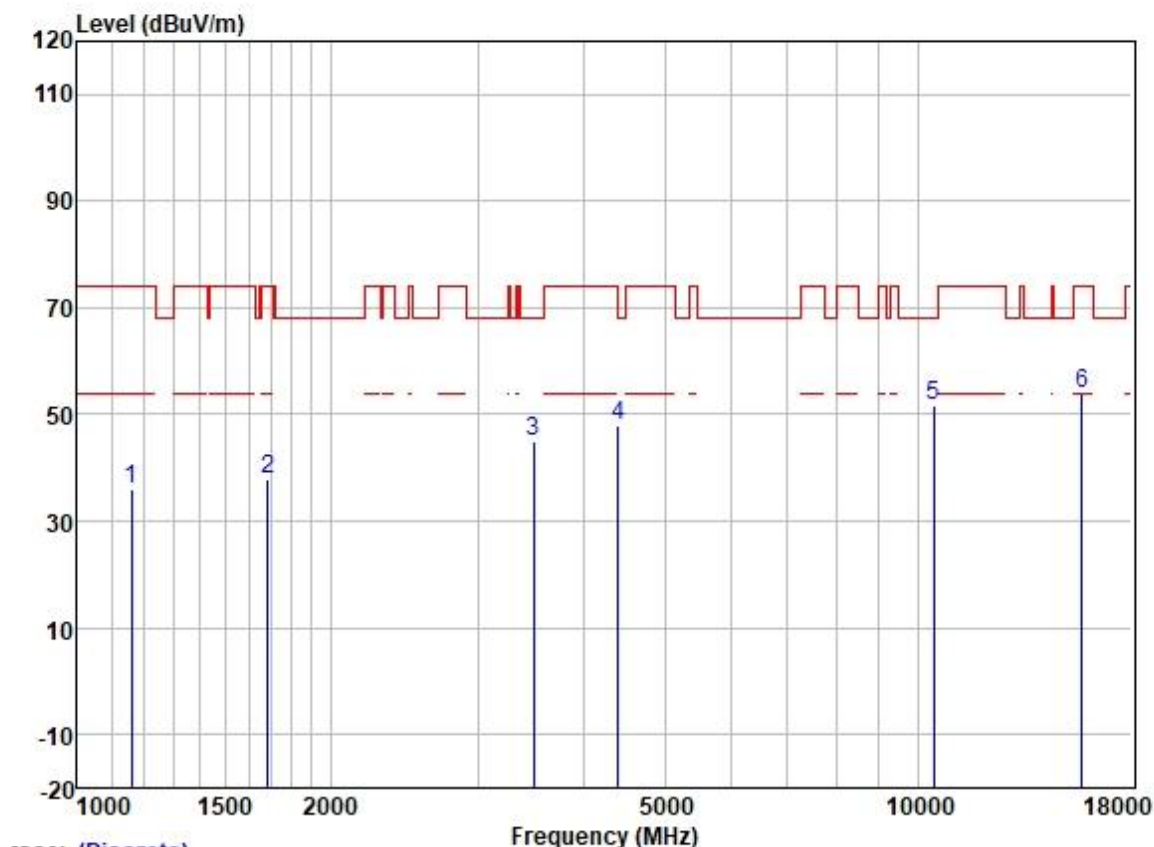
Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel: High



Trace: (Discrete)

		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1213.677	47.29	24.77	2.32	38.37	36.01	74.00	-37.99	HORIZONTAL	Peak
2	1639.274	47.87	25.62	2.80	37.93	38.36	68.20	-29.84	HORIZONTAL	Peak
3	3455.508	48.81	28.88	4.20	36.96	44.93	68.20	-23.27	HORIZONTAL	Peak
4	4206.011	50.75	30.18	4.60	36.81	48.72	74.00	-25.28	HORIZONTAL	Peak
5	10460.000	42.65	39.42	7.37	37.36	52.08	68.20	-16.12	HORIZONTAL	Peak
6	15690.000	40.13	38.86	9.87	35.39	53.47	74.00	-20.53	HORIZONTAL	Peak

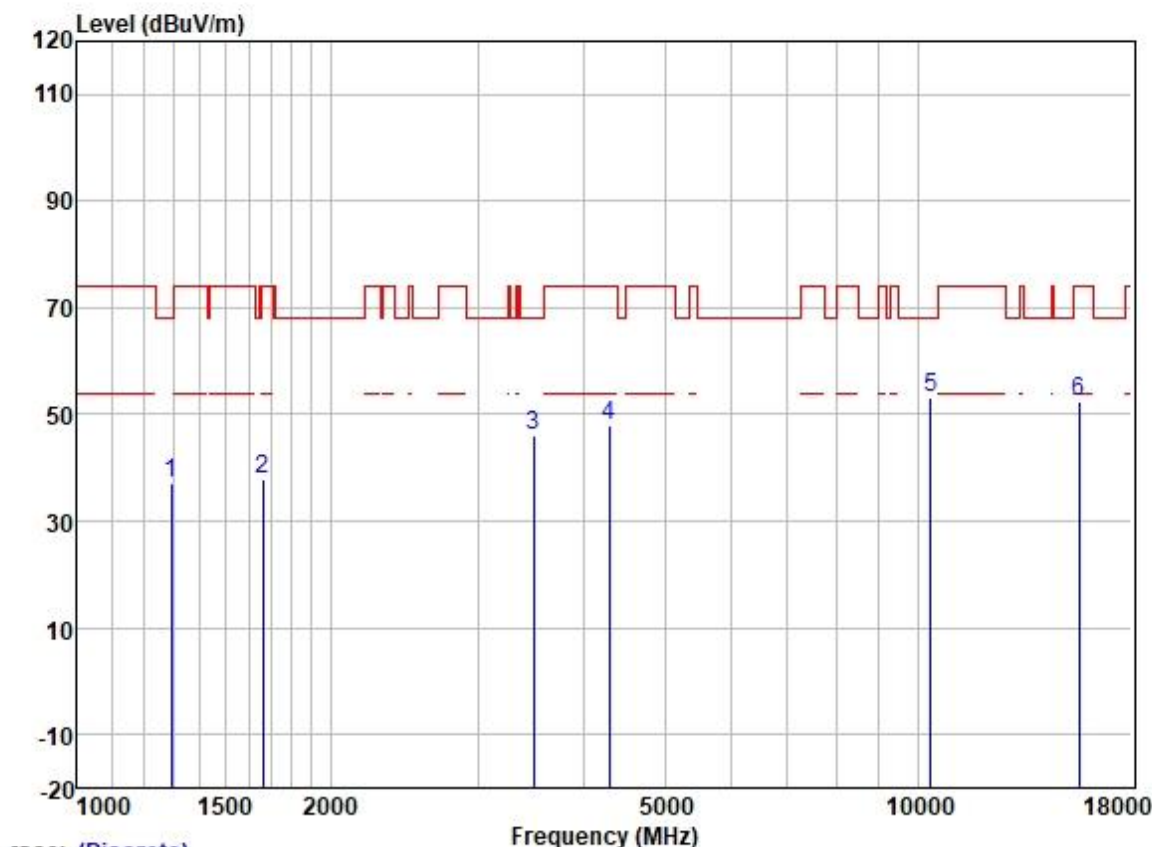
Test Mode: 02; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel: High



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1158.828	47.67	24.52	2.40	38.42	36.17	74.00	-37.83	VERTICAL	Peak
2	1687.347	47.38	25.69	2.80	37.91	37.96	74.00	-36.04	VERTICAL	Peak
3	3495.691	48.66	28.90	4.30	36.94	44.92	68.20	-23.28	VERTICAL	Peak
4	4405.090	49.22	30.68	4.70	36.81	47.79	68.20	-20.41	VERTICAL	Peak
5	10460.000	42.42	39.42	7.37	37.36	51.85	68.20	-16.35	VERTICAL	Peak
6	15690.000	40.46	38.86	9.87	35.39	53.80	74.00	-20.20	VERTICAL	Peak

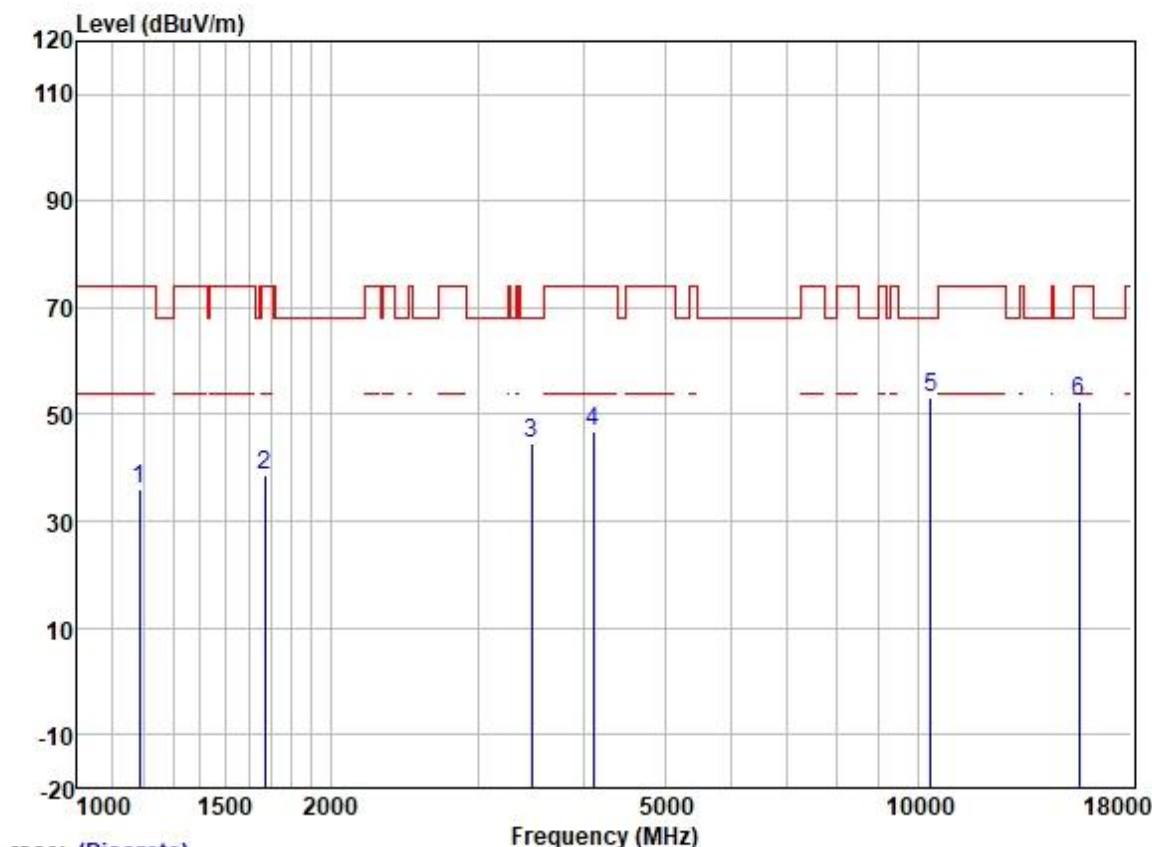
Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1293.359	47.67	25.18	2.57	38.31	37.11	68.20	-31.09	HORIZONTAL Peak
2	1663.137	47.46	25.65	2.80	37.91	38.00	74.00	-36.00	HORIZONTAL Peak
3	3495.691	49.77	28.90	4.30	36.94	46.03	68.20	-22.17	HORIZONTAL Peak
4	4291.977	49.78	30.45	4.64	36.81	48.06	74.00	-25.94	HORIZONTAL Peak
5	10360.000	43.86	39.28	7.29	37.37	53.06	68.20	-15.14	HORIZONTAL Peak
6	15540.000	38.95	39.05	9.88	35.39	52.49	74.00	-21.51	HORIZONTAL Peak

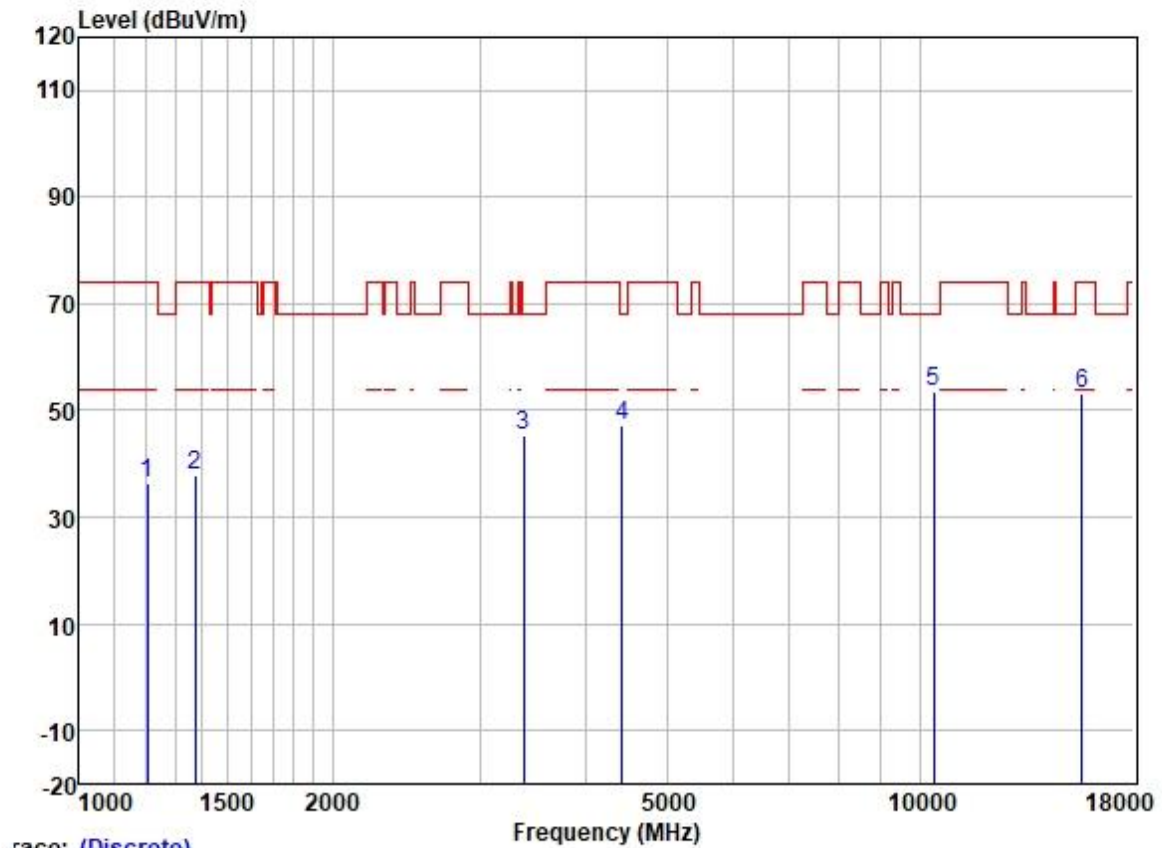
Test Mode: 02; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1185.936	47.38	24.62	2.37	38.40	35.97	74.00	-38.03	VERTICAL	Peak
2	1672.779	48.12	25.67	2.80	37.91	38.68	74.00	-35.32	VERTICAL	Peak
3	3475.541	48.33	28.89	4.25	36.95	44.52	68.20	-23.68	VERTICAL	Peak
4	4109.872	49.20	29.96	4.60	36.80	46.96	74.00	-27.04	VERTICAL	Peak
5	10360.000	44.04	39.28	7.29	37.37	53.24	68.20	-14.96	VERTICAL	Peak
6	15540.000	38.81	39.05	9.88	35.39	52.35	74.00	-21.65	VERTICAL	Peak

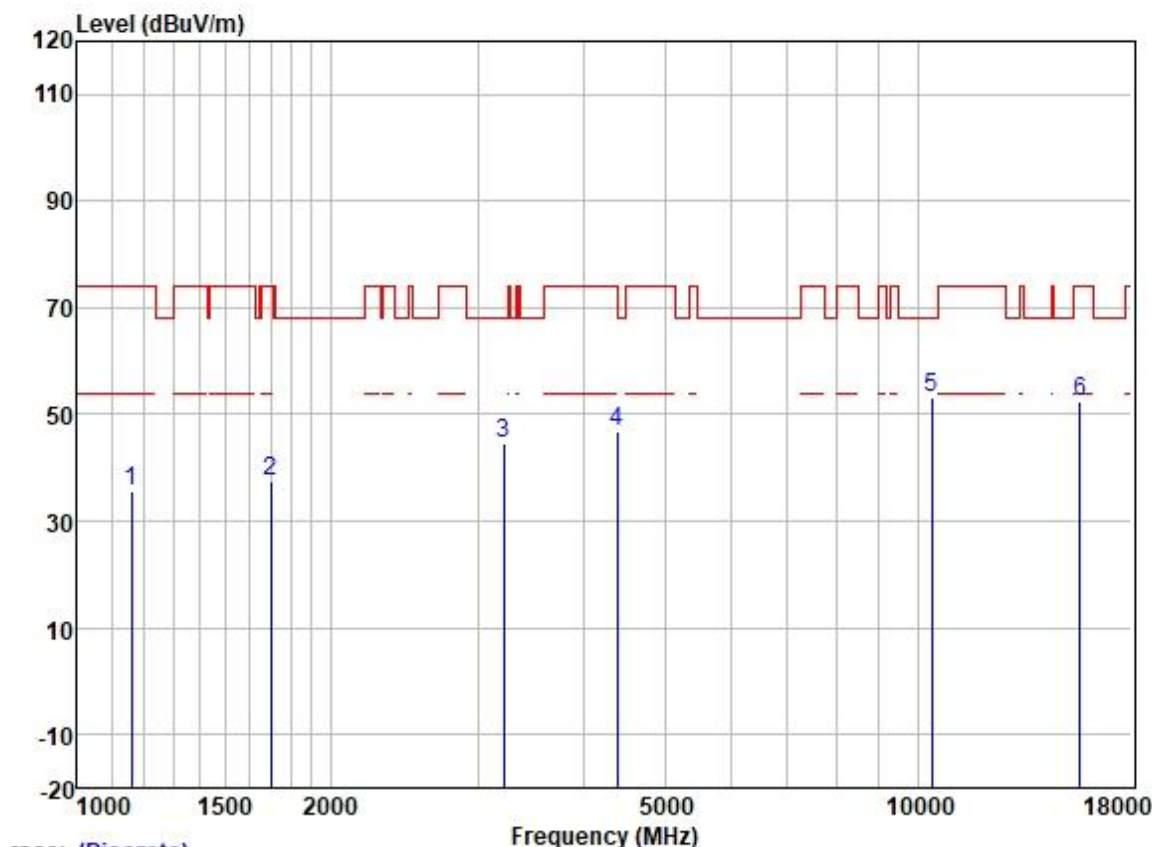
Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel: middle



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
		Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1206.682	47.77	24.72	2.33	38.39	36.43	74.00	-37.57	HORIZONTAL	Peak
2	1374.295	48.05	25.35	2.60	38.25	37.75	74.00	-36.25	HORIZONTAL	Peak
3	3376.523	49.31	28.83	4.09	36.99	45.24	68.20	-22.96	HORIZONTAL	Peak
4	4430.628	48.69	30.72	4.78	36.81	47.38	68.20	-20.82	HORIZONTAL	Peak
5	10400.000	44.27	39.33	7.32	37.36	53.56	68.20	-14.64	HORIZONTAL	Peak
6	15600.000	39.55	38.99	9.88	35.39	53.03	74.00	-20.97	HORIZONTAL	Peak

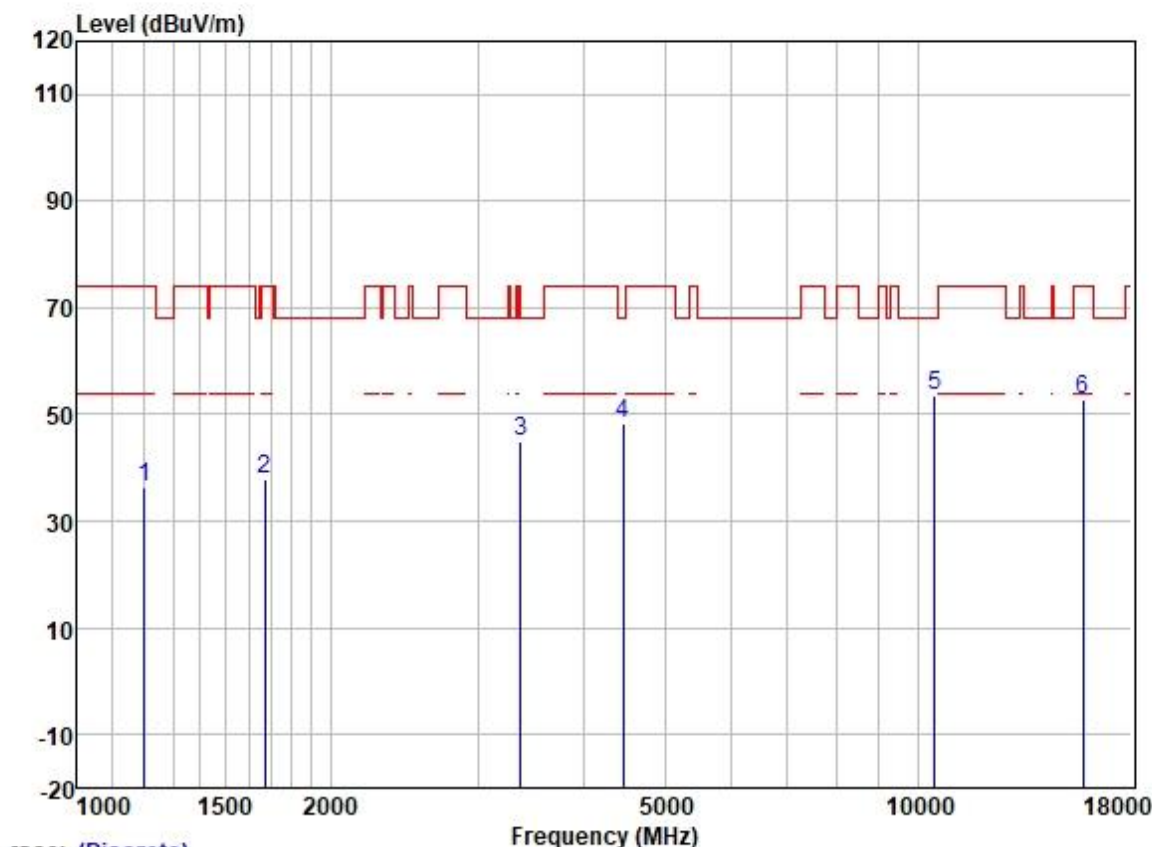
Test Mode: 02; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel: middle



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1158.828	47.24	24.52	2.40	38.42	35.74	74.00	-38.26	VERTICAL	Peak
2	1697.129	46.80	25.71	2.80	37.89	37.42	74.00	-36.58	VERTICAL	Peak
3	3214.623	49.11	28.61	4.01	37.07	44.66	68.20	-23.54	VERTICAL	Peak
4	4392.376	48.45	30.66	4.70	36.81	47.00	74.00	-27.00	VERTICAL	Peak
5	10400.000	43.79	39.33	7.32	37.36	53.08	68.20	-15.12	VERTICAL	Peak
6	15600.000	38.94	38.99	9.88	35.39	52.42	74.00	-21.58	VERTICAL	Peak

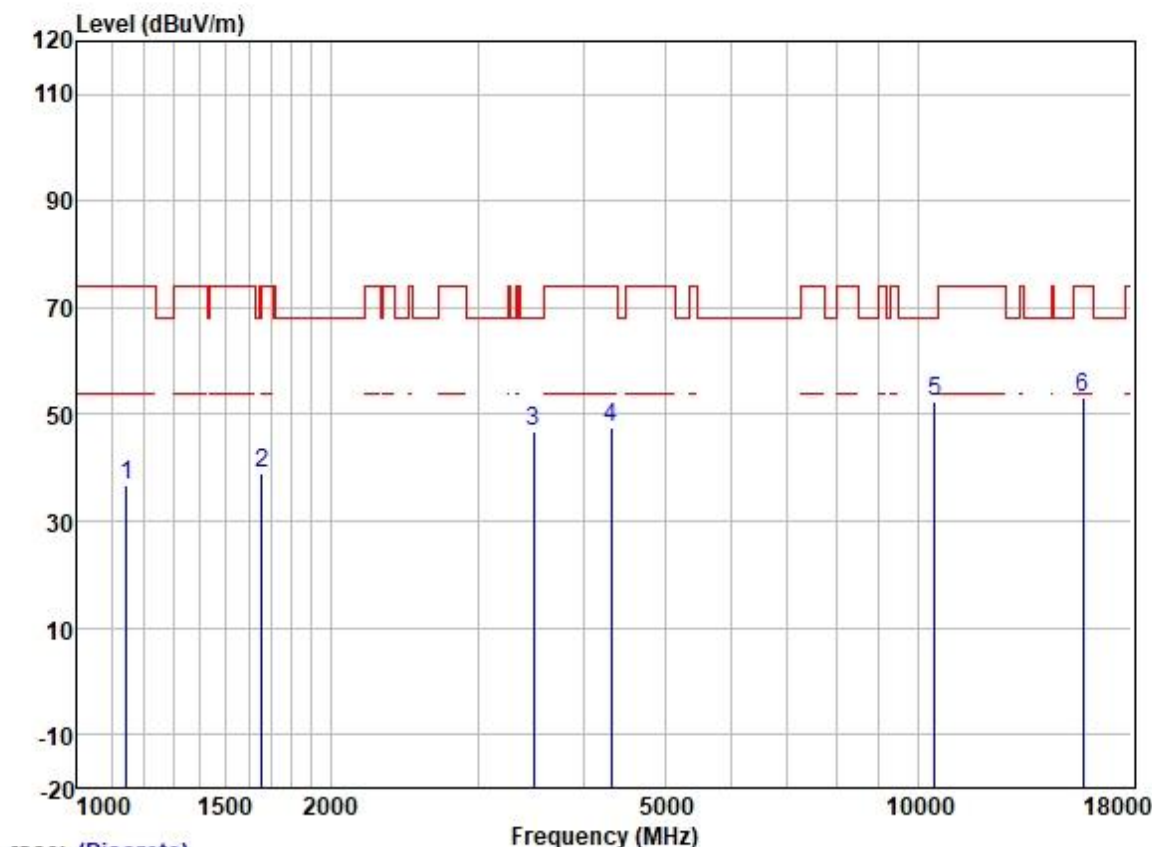
Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel: High



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1203.199	47.73	24.70	2.34	38.39	36.38	74.00	-37.62	HORIZONTAL Peak	
2	1672.779	47.34	25.67	2.80	37.91	37.90	74.00	-36.10	HORIZONTAL Peak	
3	3366.778	49.09	28.82	4.09	36.99	45.01	68.20	-23.19	HORIZONTAL Peak	
4	4456.315	49.32	30.75	4.88	36.81	48.14	68.20	-20.06	HORIZONTAL Peak	
5	10480.000	43.91	39.46	7.40	37.36	53.41	68.20	-14.79	HORIZONTAL Peak	
6	15720.000	39.53	38.78	9.87	35.39	52.79	74.00	-21.21	HORIZONTAL Peak	

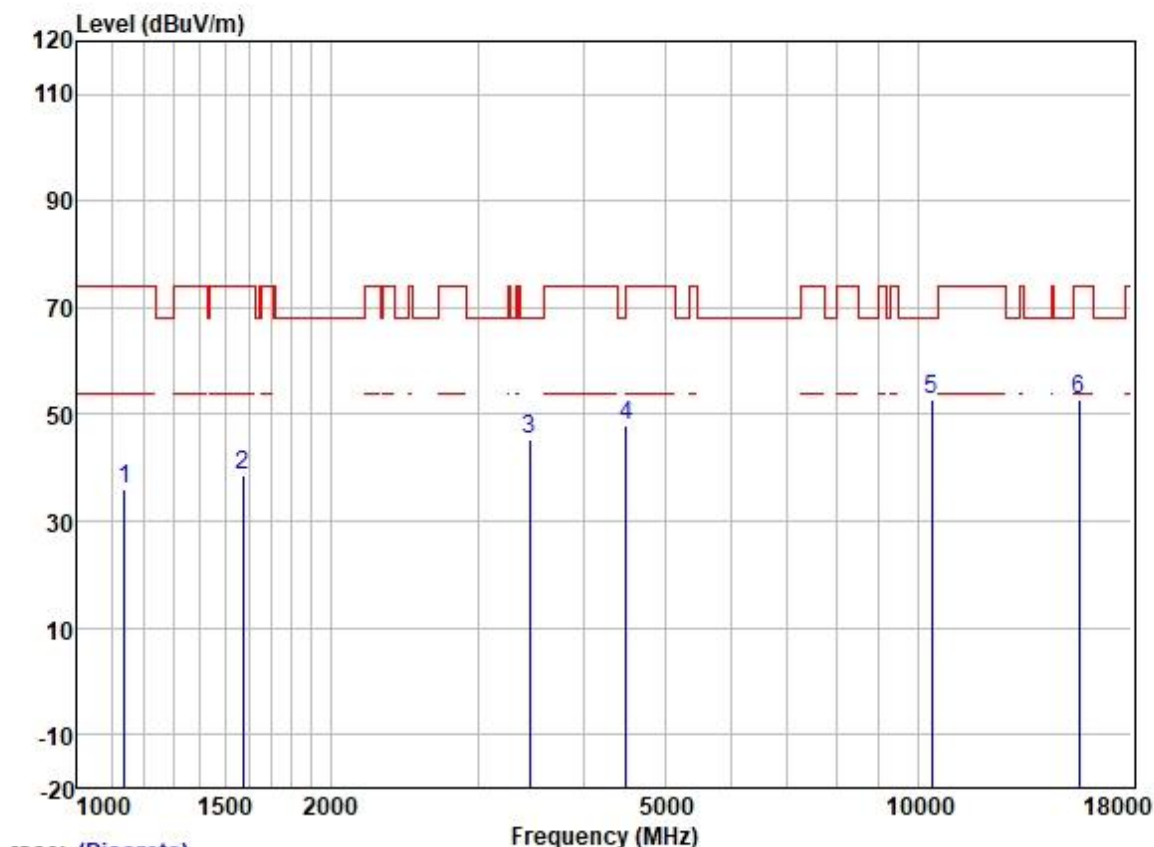
Test Mode: 02; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: High



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1145.507	48.47	24.48	2.32	38.42	36.85	74.00	-37.15	VERTICAL Peak
2	1658.337	48.59	25.65	2.80	37.93	39.11	68.20	-29.09	VERTICAL Peak
3	3495.691	50.63	28.90	4.30	36.94	46.89	68.20	-21.31	VERTICAL Peak
4	4316.859	49.21	30.51	4.66	36.81	47.57	74.00	-26.43	VERTICAL Peak
5	10480.000	42.78	39.46	7.40	37.36	52.28	68.20	-15.92	VERTICAL Peak
6	15720.000	39.85	38.78	9.87	35.39	53.11	74.00	-20.89	VERTICAL Peak

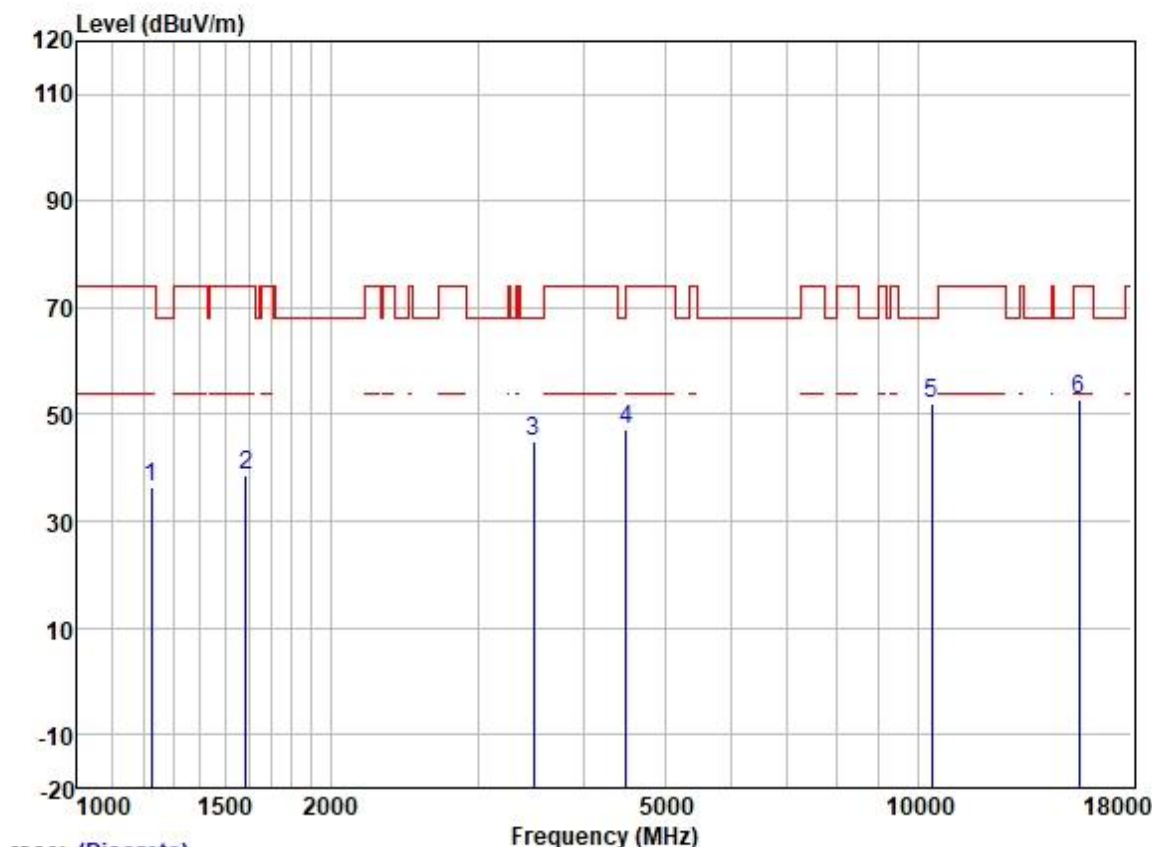
Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel: Low



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1138.904	47.84	24.46	2.27	38.42	36.15	74.00	-37.85	HORIZONTAL Peak
2	1574.265	48.34	25.56	2.80	38.00	38.70	74.00	-35.30	HORIZONTAL Peak
3	3455.508	49.34	28.88	4.20	36.96	45.46	68.20	-22.74	HORIZONTAL Peak
4	4495.125	48.85	30.80	5.05	36.82	47.88	68.20	-20.32	HORIZONTAL Peak
5	10380.000	43.53	39.33	7.32	37.37	52.81	68.20	-15.39	HORIZONTAL Peak
6	15570.000	39.21	38.99	9.88	35.39	52.69	74.00	-21.31	HORIZONTAL Peak

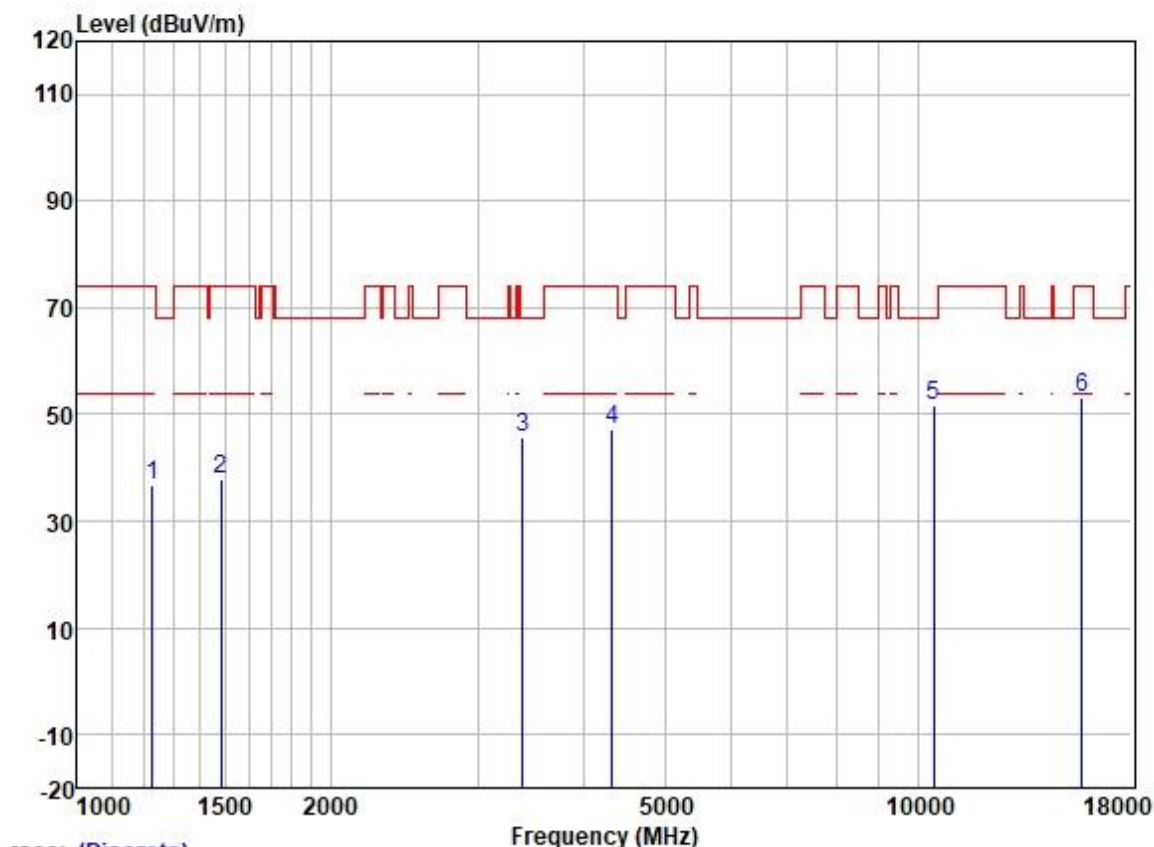
Test Mode: 02; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel: Low



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1224.247	47.42	24.85	2.31	38.37	36.21	74.00	-37.79	VERTICAL Peak
2	1587.975	48.05	25.57	2.80	37.98	38.44	74.00	-35.56	VERTICAL Peak
3	3495.691	48.56	28.90	4.30	36.94	44.82	68.20	-23.38	VERTICAL Peak
4	4495.125	48.19	30.80	5.05	36.82	47.22	68.20	-20.98	VERTICAL Peak
5	10380.000	42.59	39.33	7.32	37.37	51.87	68.20	-16.33	VERTICAL Peak
6	15570.000	39.16	38.99	9.88	35.39	52.64	74.00	-21.36	VERTICAL Peak

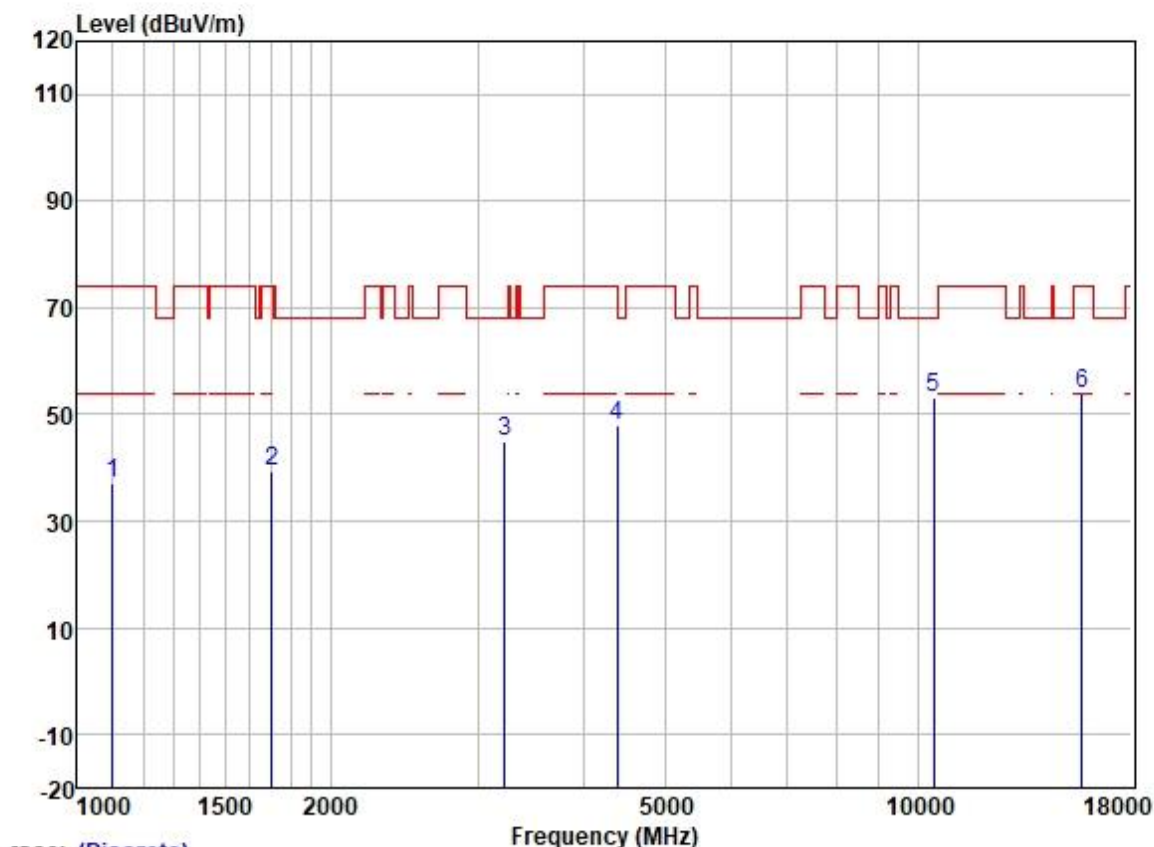
Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel: High



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1227.791	48.01	24.88	2.31	38.37	36.83	74.00	-37.17	HORIZONTAL	Peak
2	1481.553	47.76	25.48	2.77	38.13	37.88	74.00	-36.12	HORIZONTAL	Peak
3	3386.297	49.92	28.83	4.10	36.99	45.86	68.20	-22.34	HORIZONTAL	Peak
4	4329.354	48.86	30.54	4.67	36.81	47.26	74.00	-26.74	HORIZONTAL	Peak
5	10460.000	42.20	39.42	7.37	37.36	51.63	68.20	-16.57	HORIZONTAL	Peak
6	15690.000	39.87	38.86	9.87	35.39	53.21	74.00	-20.79	HORIZONTAL	Peak

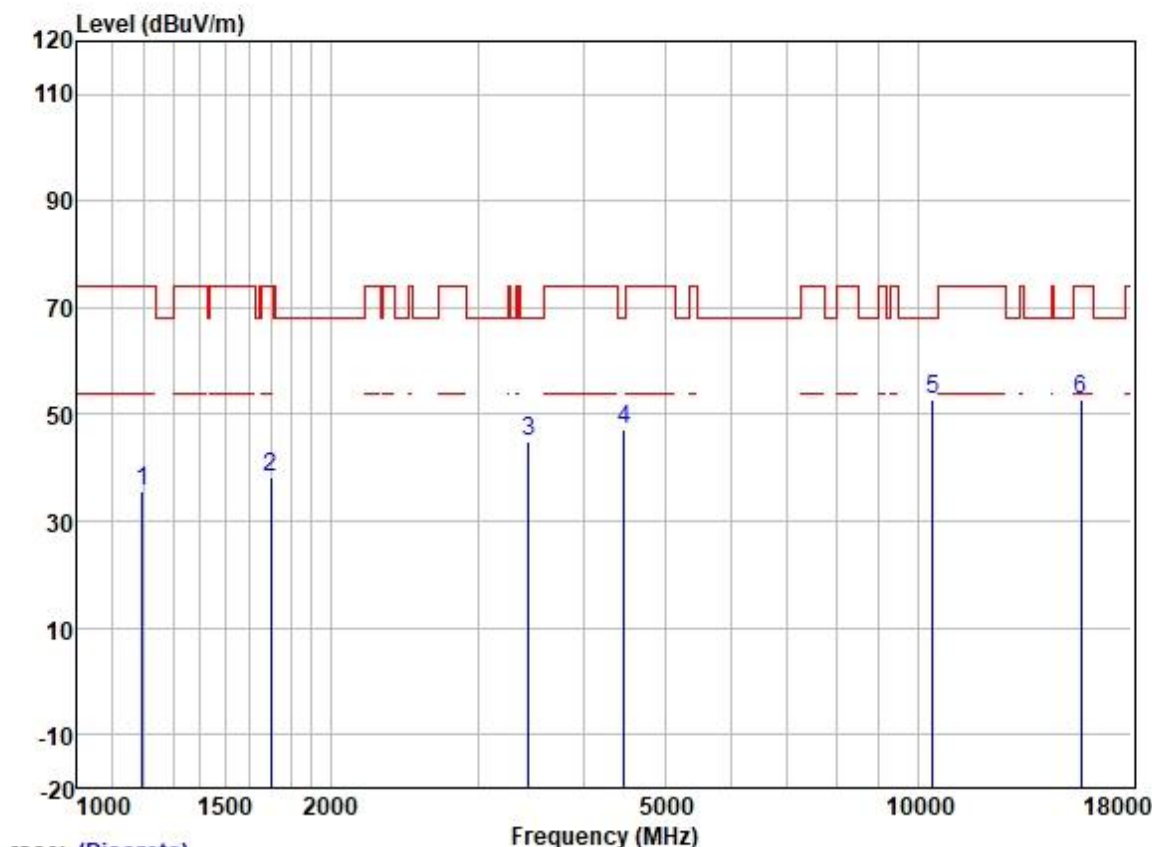
Test Mode: 02; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel: High



race: (Discrete)

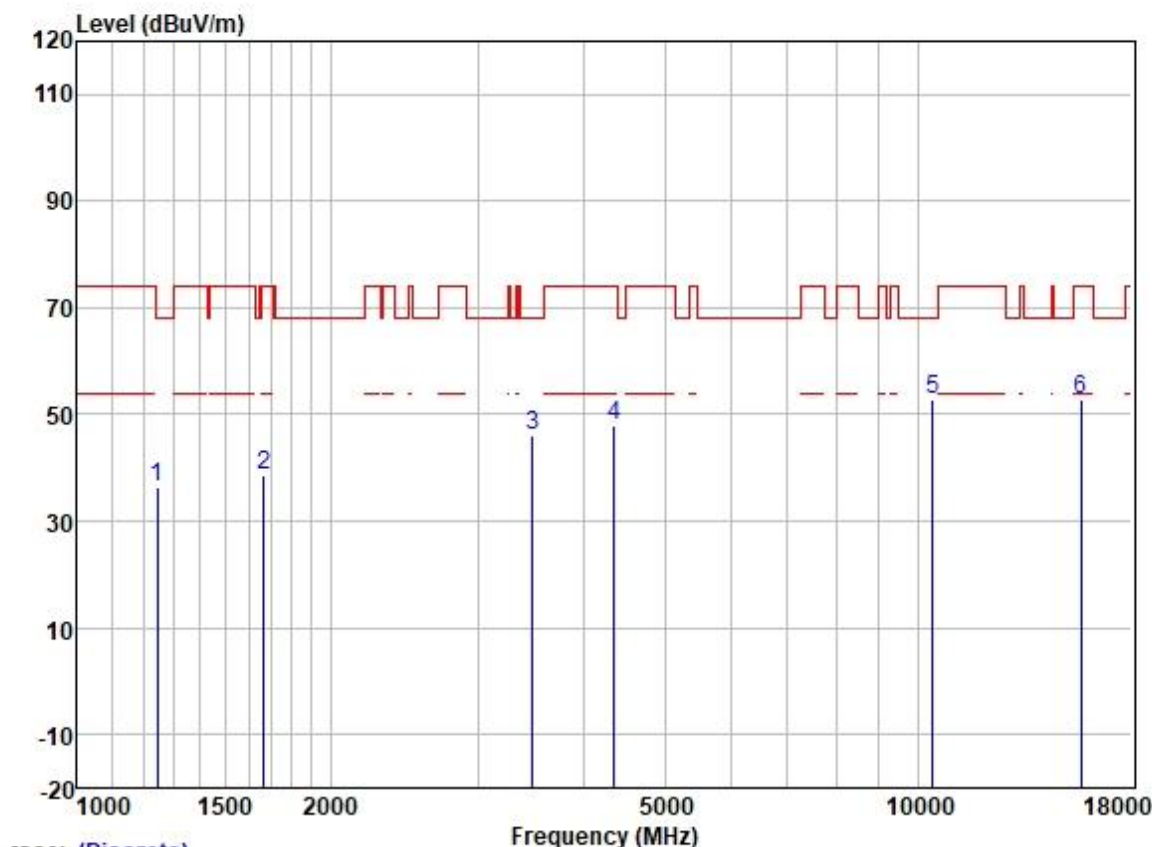
		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1100.079	48.73	24.37	2.30	38.45	36.95	74.00	-37.05	VERTICAL	Peak
2	1702.042	48.58	25.72	2.80	37.89	39.21	74.00	-34.79	VERTICAL	Peak
3	3223.928	49.29	28.63	4.01	37.07	44.86	68.20	-23.34	VERTICAL	Peak
4	4392.376	49.27	30.66	4.70	36.81	47.82	74.00	-26.18	VERTICAL	Peak
5	10460.000	43.58	39.42	7.37	37.36	53.01	68.20	-15.19	VERTICAL	Peak
6	15690.000	40.46	38.86	9.87	35.39	53.80	74.00	-20.20	VERTICAL	Peak

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



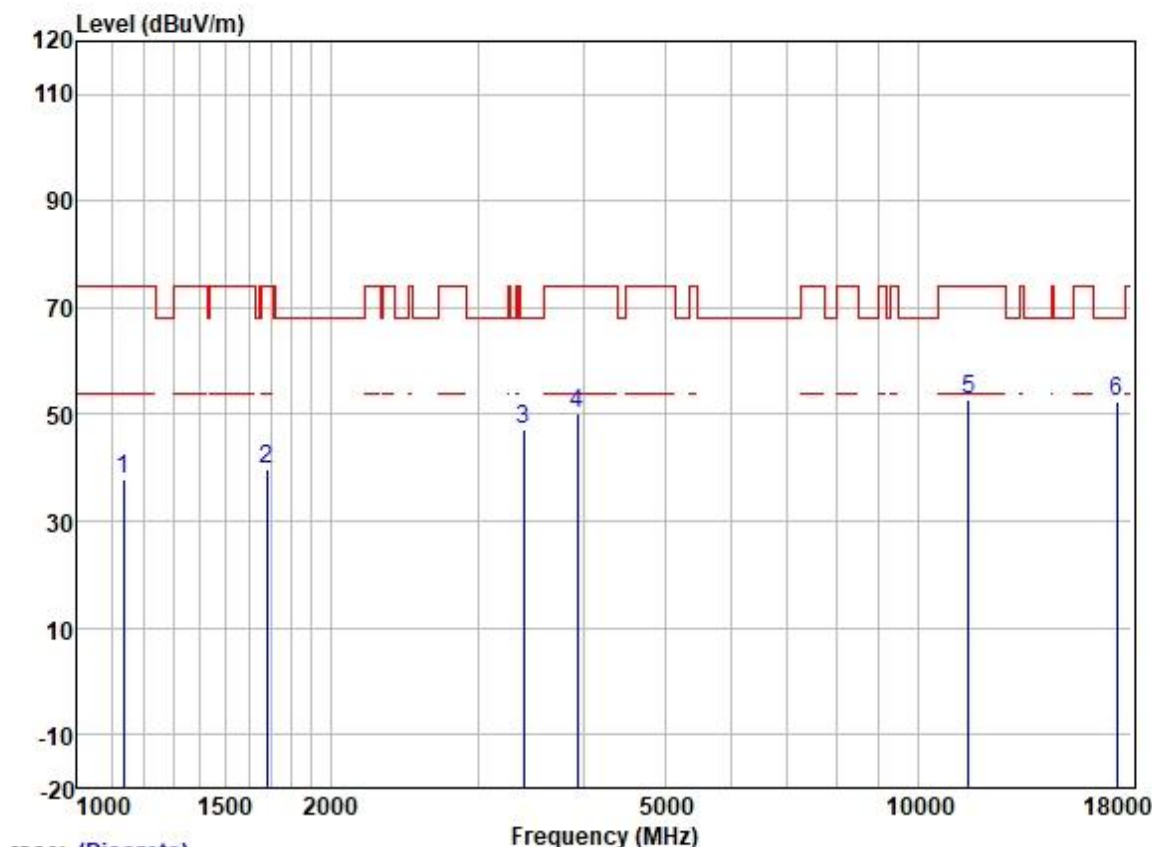
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1196.264	46.96	24.67	2.35	38.39	35.59	74.00	-38.41	HORIZONTAL	Peak
2	1697.129	47.61	25.71	2.80	37.89	38.23	74.00	-35.77	HORIZONTAL	Peak
3	3445.535	49.04	28.87	4.18	36.96	45.13	68.20	-23.07	HORIZONTAL	Peak
4	4469.214	48.48	30.77	4.93	36.81	47.37	68.20	-20.83	HORIZONTAL	Peak
5	10420.000	43.26	39.38	7.35	37.36	52.63	68.20	-15.57	HORIZONTAL	Peak
6	15630.000	39.50	38.92	9.87	35.39	52.90	74.00	-21.10	HORIZONTAL	Peak

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



	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1245.663	47.50	25.00	2.33	38.35	36.48	68.20	-31.72	VERTICAL	Peak
2	1667.951	48.16	25.66	2.80	37.91	38.71	74.00	-35.29	VERTICAL	Peak
3	3485.601	49.76	28.89	4.27	36.95	45.97	68.20	-22.23	VERTICAL	Peak
4	4354.454	49.67	30.59	4.68	36.81	48.13	74.00	-25.87	VERTICAL	Peak
5	10420.000	43.40	39.38	7.35	37.36	52.77	68.20	-15.43	VERTICAL	Peak
6	15630.000	39.58	38.92	9.87	35.39	52.98	74.00	-21.02	VERTICAL	Peak

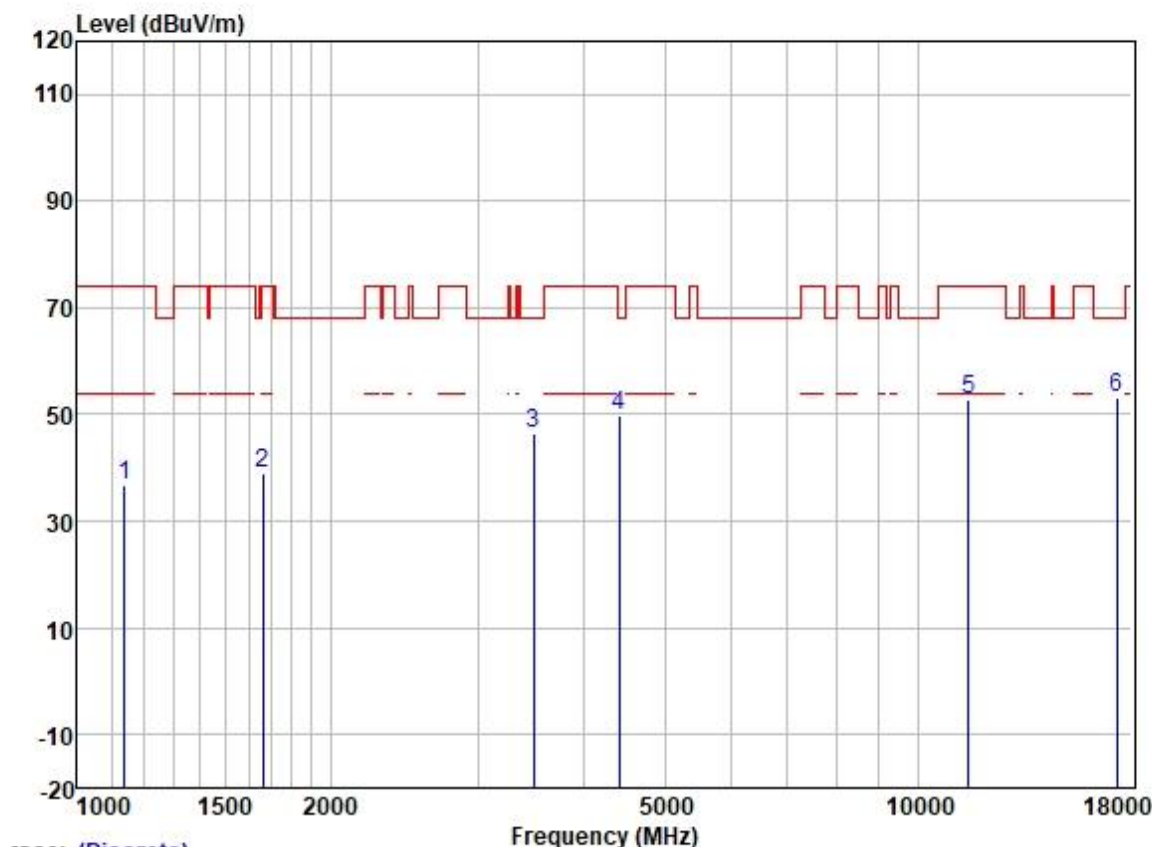
Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	ReadAntenna		Cable	Preamp		Limit	Over		
		Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1135.617	49.73	24.45	2.25	38.43	38.00	74.00	-36.00	HORIZONTAL	Peak
2	1682.477	49.22	25.68	2.80	37.91	39.79	74.00	-34.21	HORIZONTAL	Peak
3	3396.098	51.13	28.84	4.10	36.98	47.09	68.20	-21.11	HORIZONTAL	Peak
4	3935.493	52.52	29.73	4.60	36.82	50.03	74.00	-23.97	HORIZONTAL	Peak
5	11490.000	41.66	39.90	8.41	37.15	52.82	74.00	-21.18	HORIZONTAL	Peak
6	17235.000	34.67	43.01	10.08	35.33	52.43	68.20	-15.77	HORIZONTAL	Peak

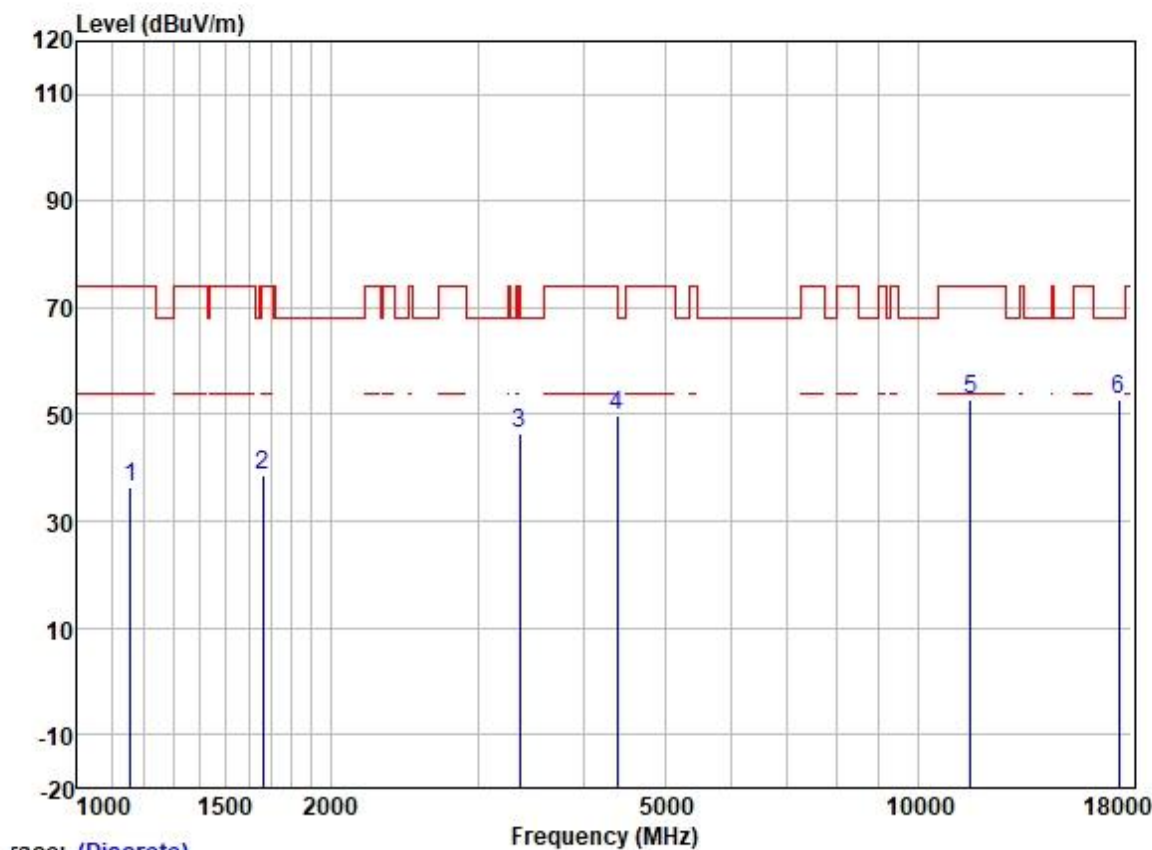
Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel: Low



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1138.904	48.41	24.46	2.27	38.42	36.72	74.00	-37.28	VERTICAL	Peak
2	1663.137	48.26	25.65	2.80	37.91	38.80	74.00	-35.20	VERTICAL	Peak
3	3495.691	50.10	28.90	4.30	36.94	46.36	68.20	-21.84	VERTICAL	Peak
4	4417.841	51.21	30.70	4.74	36.81	49.84	68.20	-18.36	VERTICAL	Peak
5	11490.000	41.49	39.90	8.41	37.15	52.65	74.00	-21.35	VERTICAL	Peak
6	17235.000	35.27	43.01	10.08	35.33	53.03	68.20	-15.17	VERTICAL	Peak

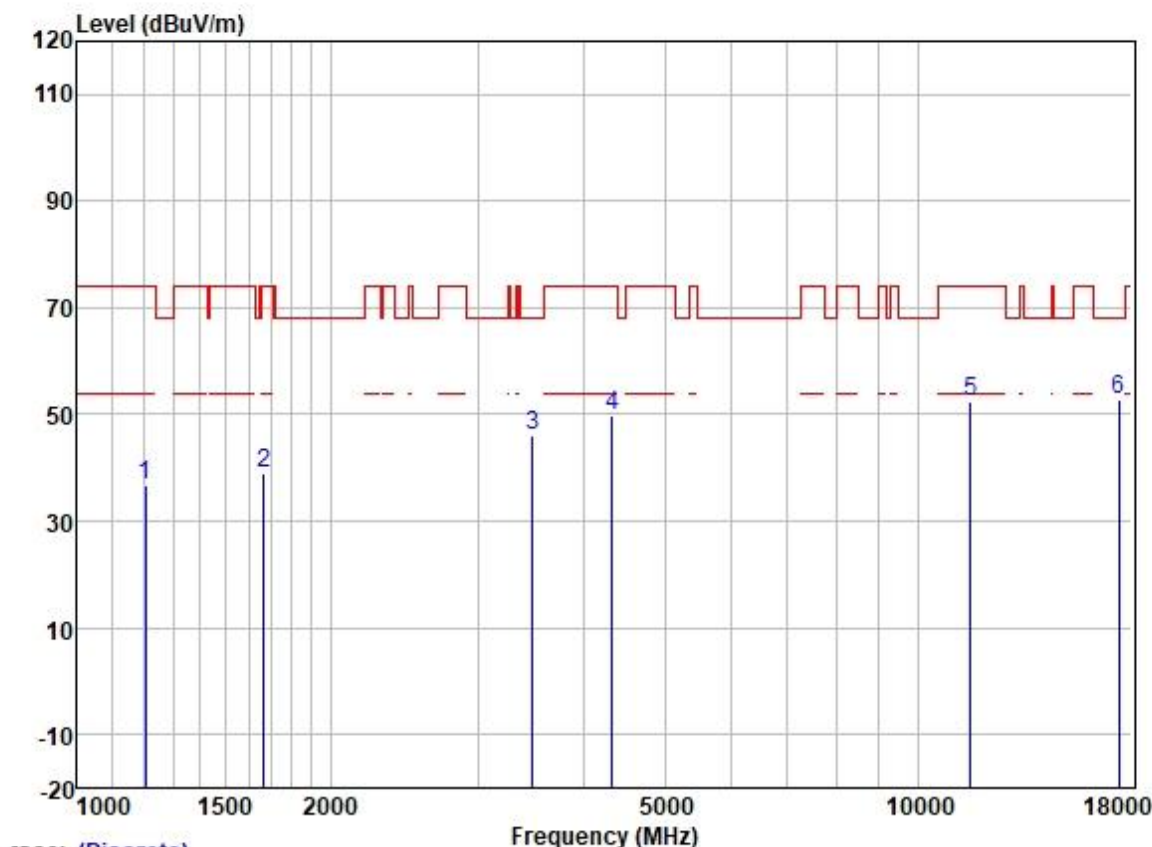
Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel: middle



race: (Discrete)

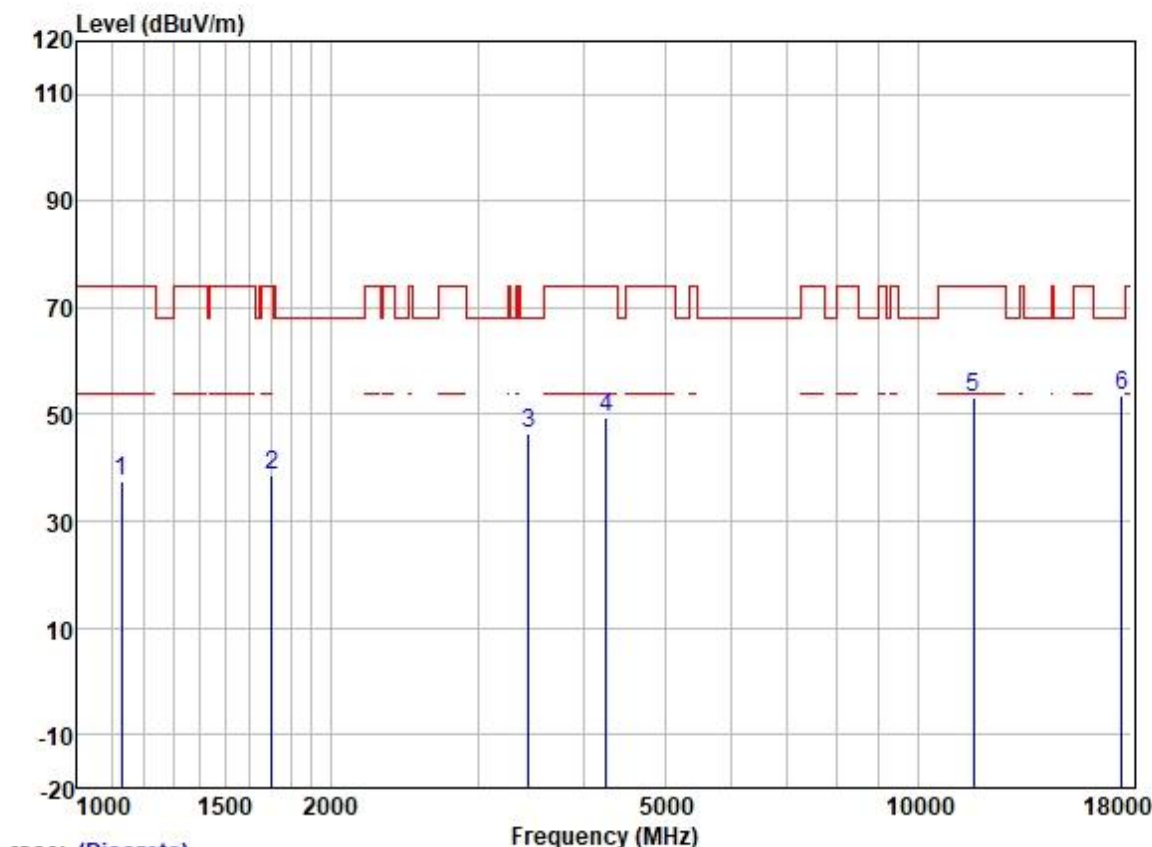
	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1155.483	47.83	24.51	2.38	38.42	36.30	74.00	-37.70	HORIZONTAL Peak
2	1663.137	48.00	25.65	2.80	37.91	38.54	74.00	-35.46	HORIZONTAL Peak
3	3357.061	50.57	28.81	4.09	37.01	46.46	74.00	-27.54	HORIZONTAL Peak
4	4392.376	51.22	30.66	4.70	36.81	49.77	74.00	-24.23	HORIZONTAL Peak
5	11570.000	41.60	39.78	8.38	37.14	52.62	74.00	-21.38	HORIZONTAL Peak
6	17355.000	34.18	43.40	10.39	35.32	52.65	68.20	-15.55	HORIZONTAL Peak

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



	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1206.682	48.13	24.72	2.33	38.39	36.79	74.00	-37.21	VERTICAL	Peak
2	1667.951	48.38	25.66	2.80	37.91	38.93	74.00	-35.07	VERTICAL	Peak
3	3485.601	49.97	28.89	4.27	36.95	46.18	68.20	-22.02	VERTICAL	Peak
4	4329.354	51.33	30.54	4.67	36.81	49.73	74.00	-24.27	VERTICAL	Peak
5	11570.000	41.52	39.78	8.38	37.14	52.54	74.00	-21.46	VERTICAL	Peak
6	17355.000	34.42	43.40	10.39	35.32	52.89	68.20	-15.31	VERTICAL	Peak

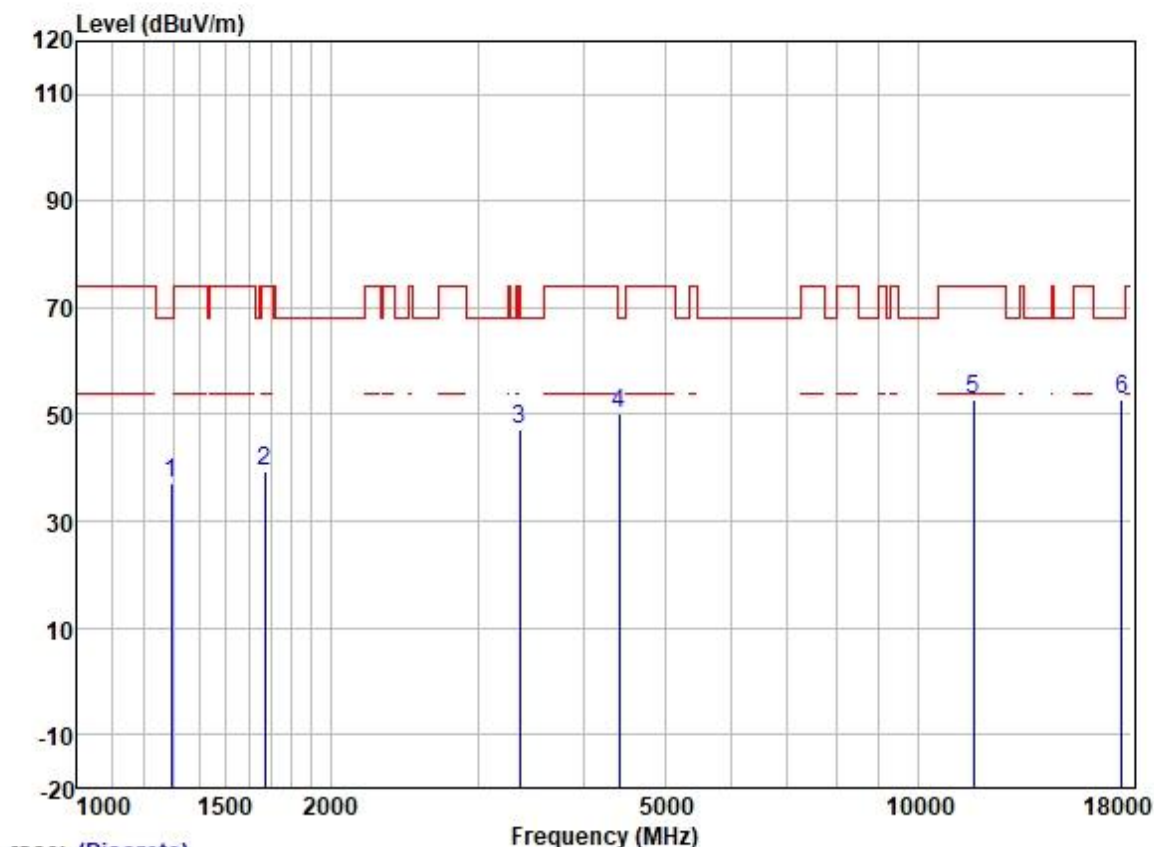
Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel: High



race: (Discrete)

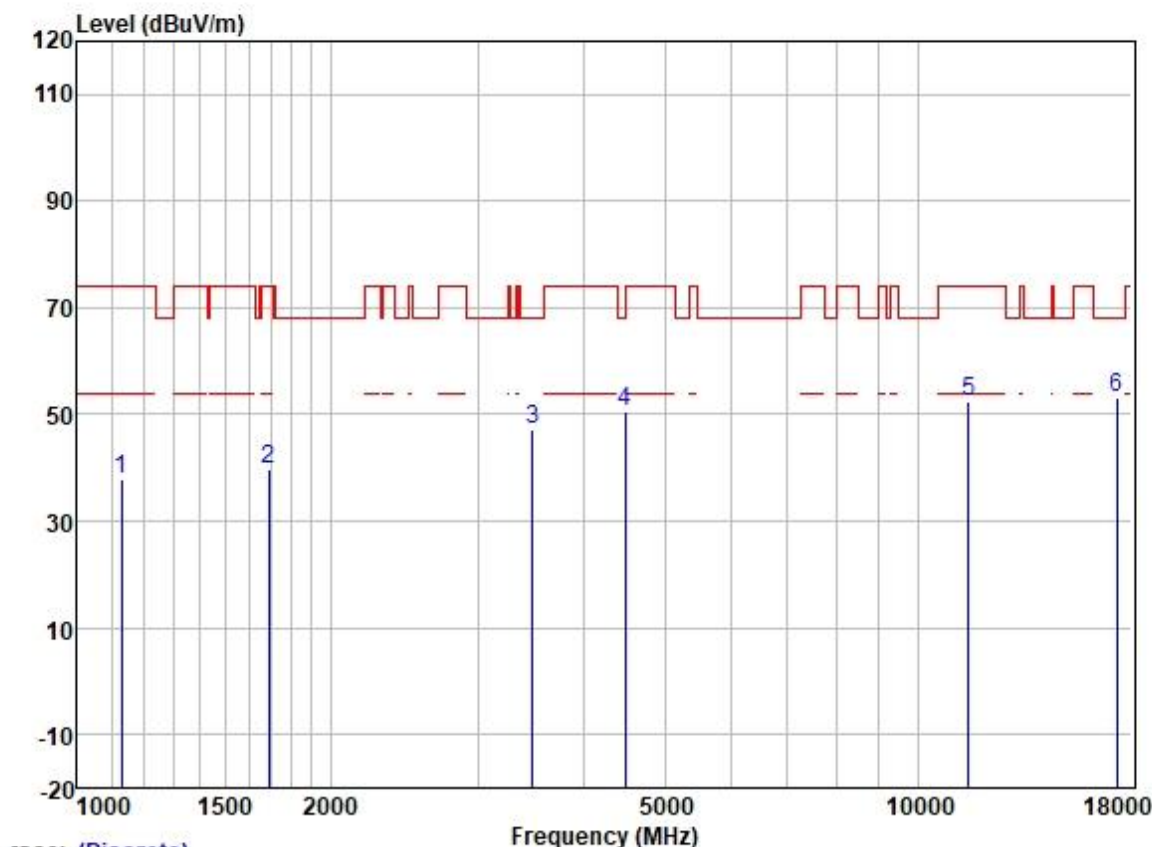
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1129.072	49.28	24.43	2.20	38.43	37.48	74.00	-36.52	HORIZONTAL	Peak
2	1702.042	48.11	25.72	2.80	37.89	38.74	74.00	-35.26	HORIZONTAL	Peak
3	3445.535	50.20	28.87	4.18	36.96	46.29	68.20	-21.91	HORIZONTAL	Peak
4	4254.921	51.20	30.34	4.62	36.81	49.35	74.00	-24.65	HORIZONTAL	Peak
5	11650.000	42.47	39.65	8.35	37.13	53.34	74.00	-20.66	HORIZONTAL	Peak
6	17475.000	34.11	43.90	10.77	35.32	53.46	68.20	-14.74	HORIZONTAL	Peak

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



	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1293.359	47.52	25.18	2.57	38.31	36.96	68.20	-31.24	VERTICAL Peak
2	1672.779	48.67	25.67	2.80	37.91	39.23	74.00	-34.77	VERTICAL Peak
3	3357.061	51.28	28.81	4.09	37.01	47.17	74.00	-26.83	VERTICAL Peak
4	4417.841	51.57	30.70	4.74	36.81	50.20	68.20	-18.00	VERTICAL Peak
5	11650.000	41.94	39.65	8.35	37.13	52.81	74.00	-21.19	VERTICAL Peak
6	17475.000	33.32	43.90	10.77	35.32	52.67	68.20	-15.53	VERTICAL Peak

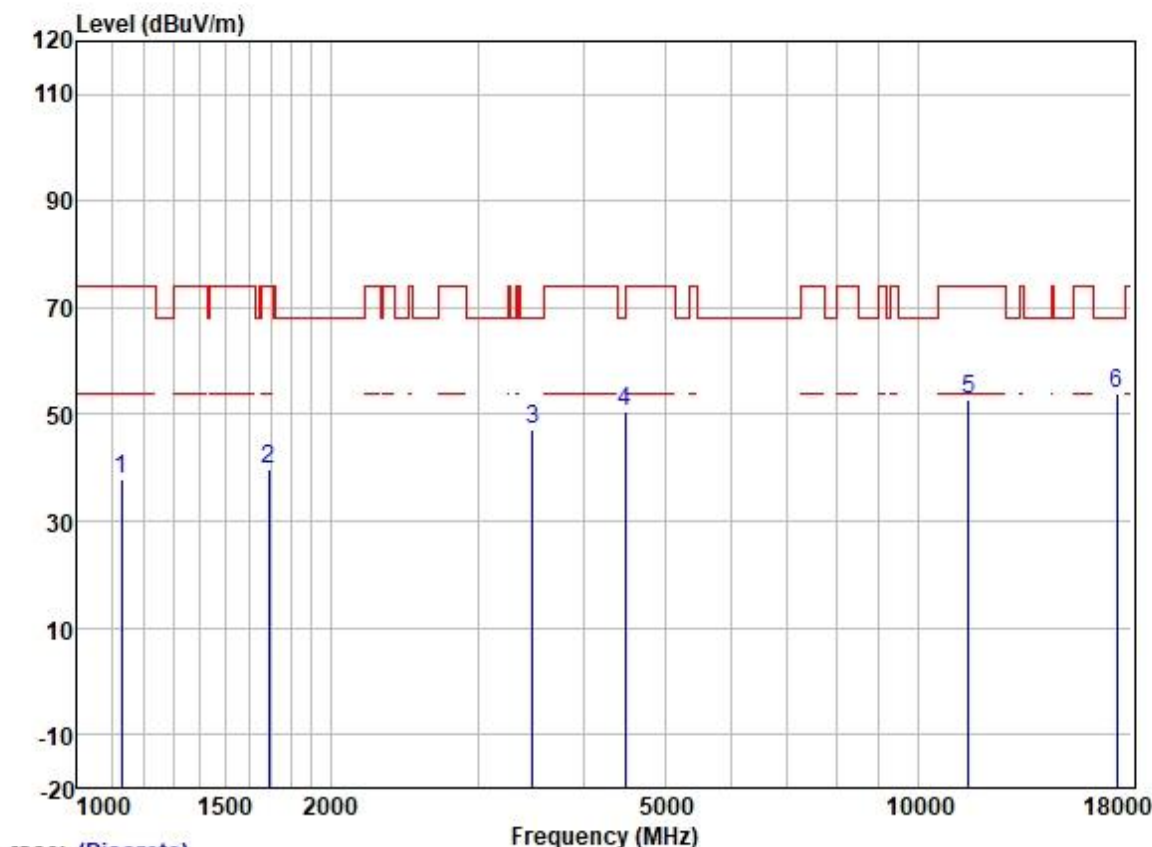
Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1129.072	49.48	24.43	2.20	38.43	37.68	74.00	-36.32	HORIZONTAL Peak
2	1692.231	49.05	25.70	2.80	37.89	39.66	74.00	-34.34	HORIZONTAL Peak
3	3485.601	51.04	28.89	4.27	36.95	47.25	68.20	-20.95	HORIZONTAL Peak
4	4482.150	51.58	30.78	4.99	36.81	50.54	68.20	-17.66	HORIZONTAL Peak
5	11490.000	41.40	39.90	8.41	37.15	52.56	74.00	-21.44	HORIZONTAL Peak
6	17235.000	35.51	43.01	10.08	35.33	53.27	68.20	-14.93	HORIZONTAL Peak

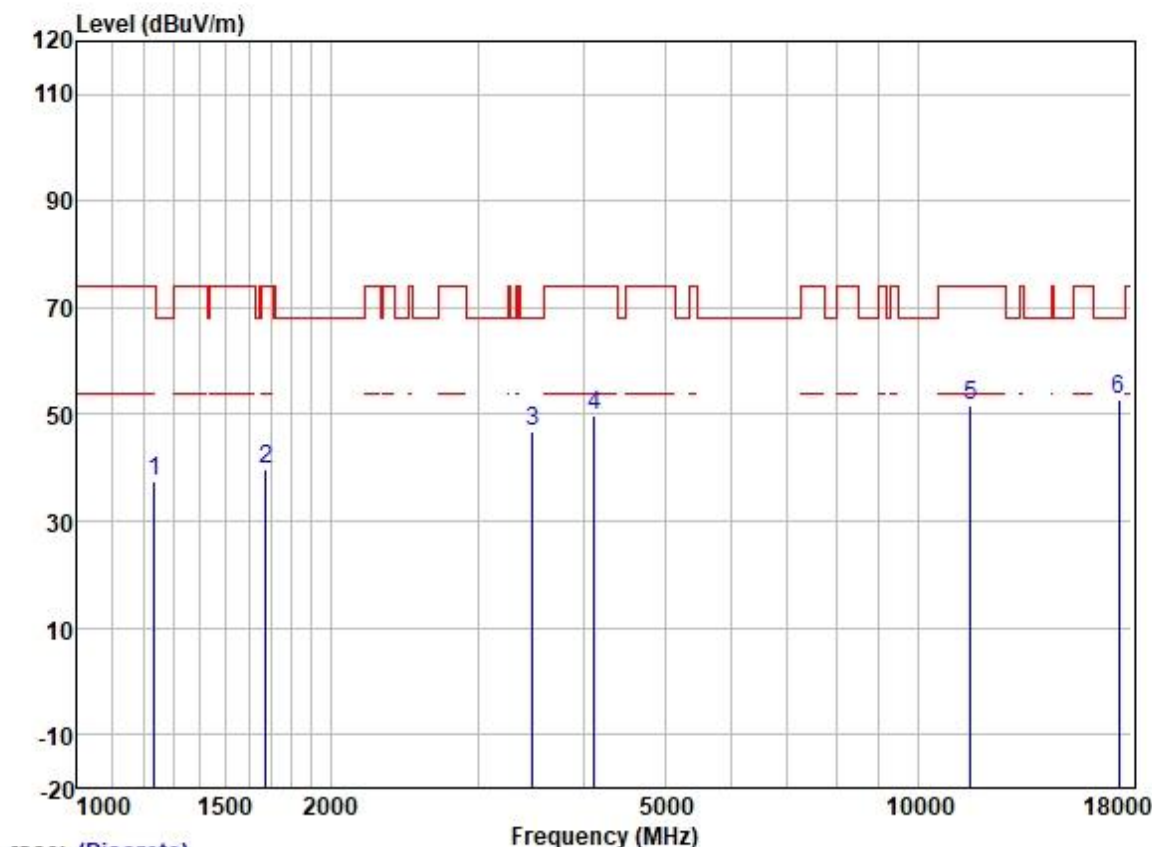
Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1129.072	49.48	24.43	2.20	38.43	37.68	74.00	-36.32	VERTICAL Peak
2	1692.231	49.05	25.70	2.80	37.89	39.66	74.00	-34.34	VERTICAL Peak
3	3485.601	51.04	28.89	4.27	36.95	47.25	68.20	-20.95	VERTICAL Peak
4	4482.150	51.58	30.78	4.99	36.81	50.54	68.20	-17.66	VERTICAL Peak
5	11490.000	41.82	39.90	8.41	37.15	52.98	74.00	-21.02	VERTICAL Peak
6	17235.000	35.99	43.01	10.08	35.33	53.75	68.20	-14.45	VERTICAL Peak

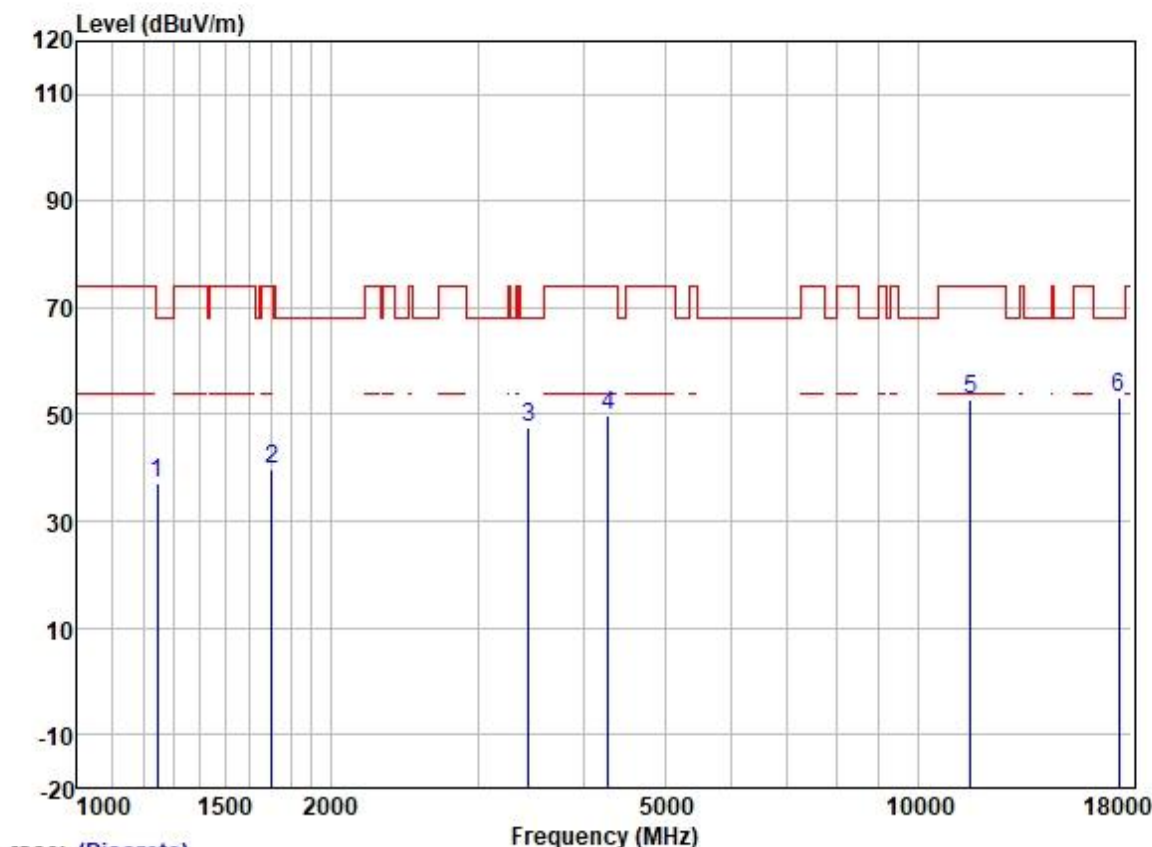
Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel: middle



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1234.909	48.48	24.93	2.30	38.37	37.34	74.00	-36.66	HORIZONTAL Peak
2	1677.621	49.23	25.68	2.80	37.91	39.80	74.00	-34.20	HORIZONTAL Peak
3	3485.601	50.63	28.89	4.27	36.95	46.84	68.20	-21.36	HORIZONTAL Peak
4	4121.768	52.04	29.98	4.60	36.80	49.82	74.00	-24.18	HORIZONTAL Peak
5	11570.000	40.58	39.78	8.38	37.14	51.60	74.00	-22.40	HORIZONTAL Peak
6	17355.000	34.51	43.40	10.39	35.32	52.98	68.20	-15.22	HORIZONTAL Peak

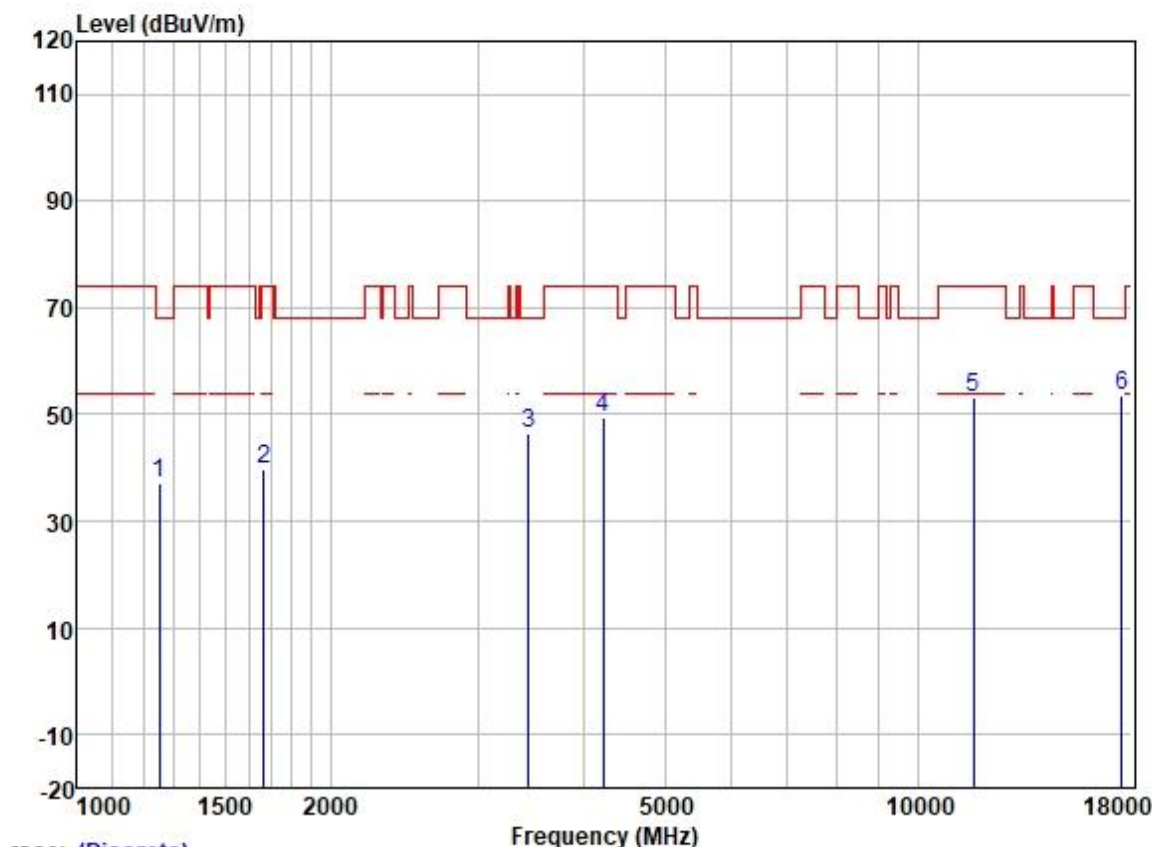
Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel: middle



Trace: (Discrete)

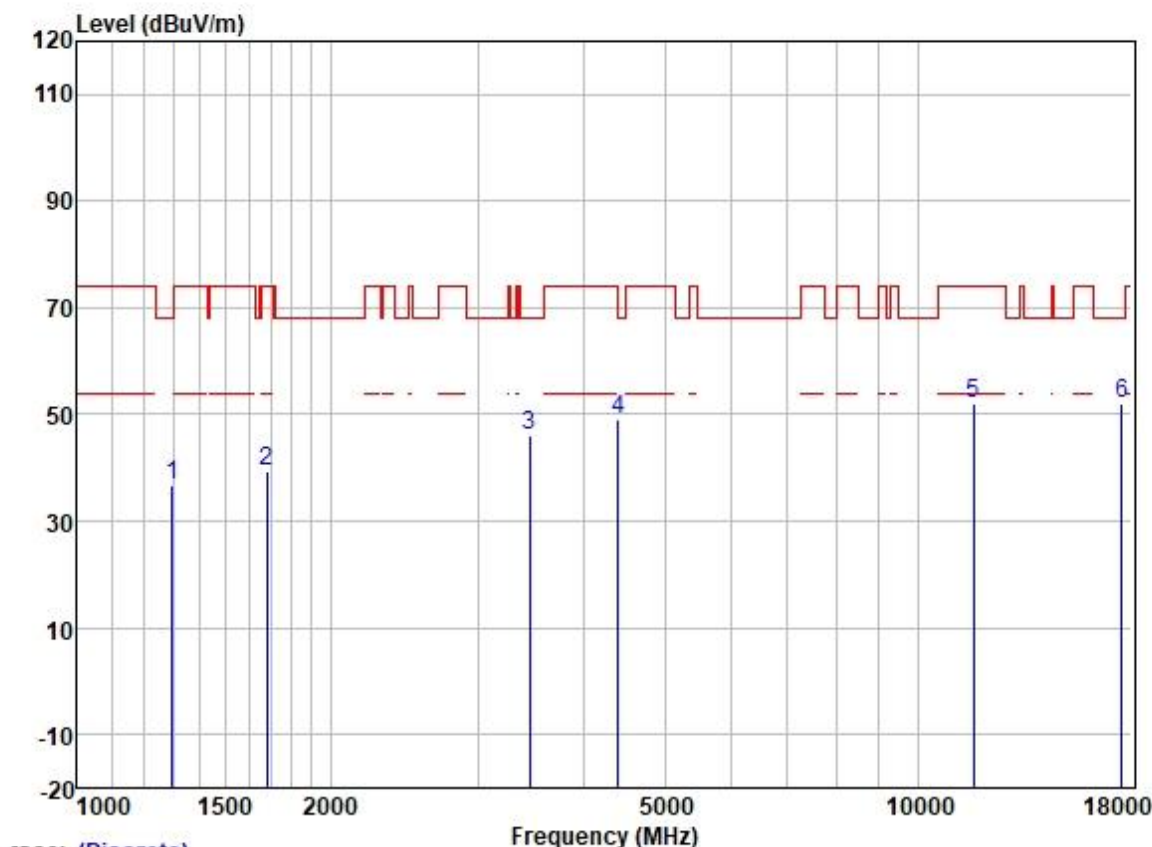
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1245.663	48.25	25.00	2.33	38.35	37.23	68.20	-30.97	VERTICAL	Peak
2	1702.042	49.11	25.72	2.80	37.89	39.74	74.00	-34.26	VERTICAL	Peak
3	3445.535	51.44	28.87	4.18	36.96	47.53	68.20	-20.67	VERTICAL	Peak
4	4279.589	51.74	30.42	4.63	36.81	49.98	74.00	-24.02	VERTICAL	Peak
5	11570.000	41.81	39.78	8.38	37.14	52.83	74.00	-21.17	VERTICAL	Peak
6	17355.000	34.63	43.40	10.39	35.32	53.10	68.20	-15.10	VERTICAL	Peak

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



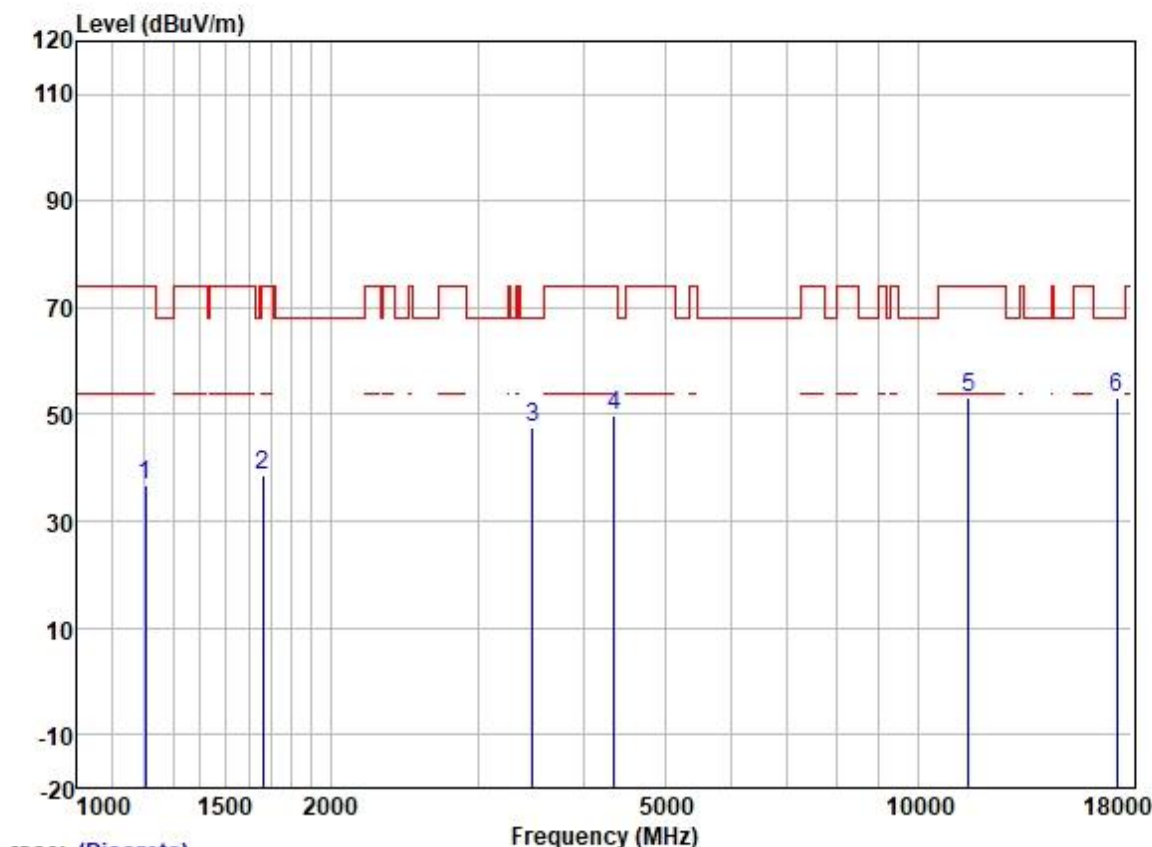
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1252.885	47.97	25.03	2.36	38.35	37.01	68.20	-31.19	HORIZONTAL	Peak
2	1667.951	49.27	25.66	2.80	37.91	39.82	74.00	-34.18	HORIZONTAL	Peak
3	3445.535	50.49	28.87	4.18	36.96	46.58	68.20	-21.62	HORIZONTAL	Peak
4	4230.396	51.46	30.26	4.61	36.81	49.52	74.00	-24.48	HORIZONTAL	Peak
5	11650.000	42.18	39.65	8.35	37.13	53.05	74.00	-20.95	HORIZONTAL	Peak
6	17475.000	34.14	43.90	10.77	35.32	53.49	68.20	-14.71	HORIZONTAL	Peak

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



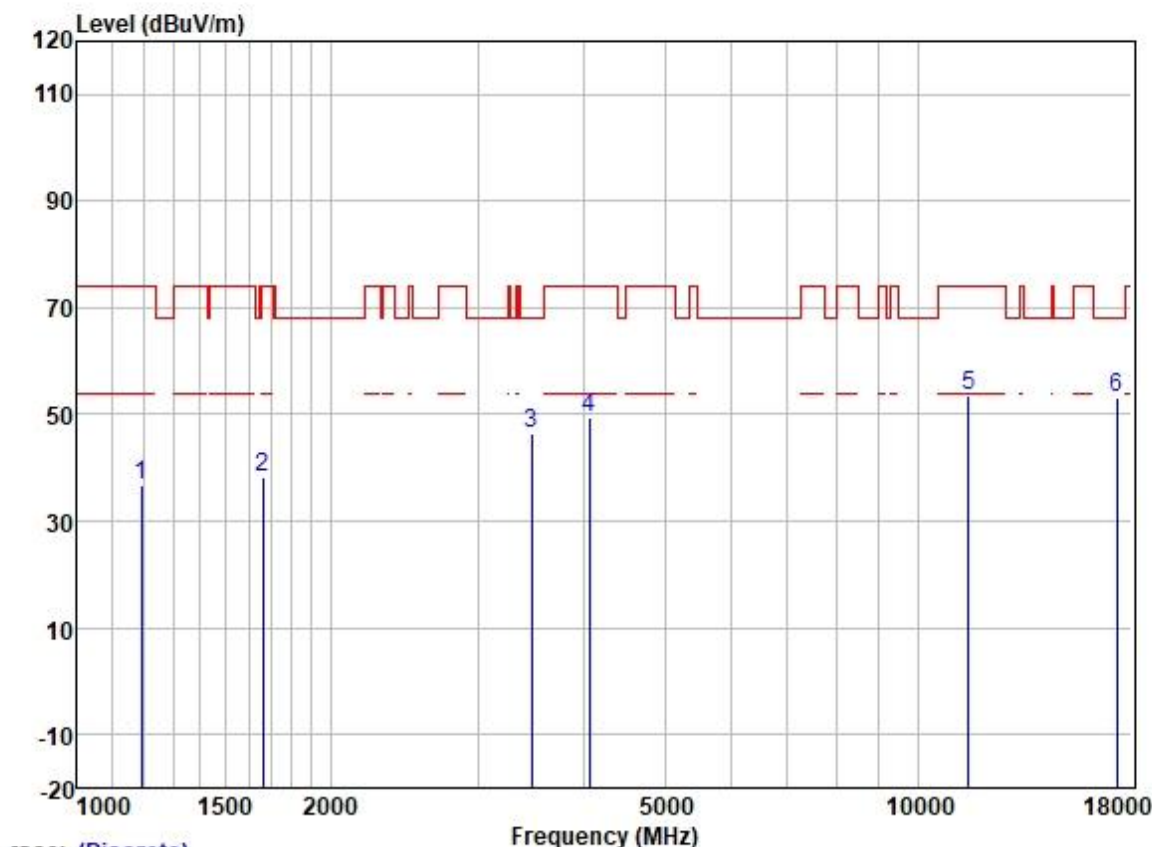
	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1297.103	47.34	25.19	2.58	38.31	36.80	68.20	-31.40	VERTICAL Peak
2	1682.477	48.82	25.68	2.80	37.91	39.39	74.00	-34.61	VERTICAL Peak
3	3455.508	50.06	28.88	4.20	36.96	46.18	68.20	-22.02	VERTICAL Peak
4	4405.090	50.65	30.68	4.70	36.81	49.22	68.20	-18.98	VERTICAL Peak
5	11650.000	41.26	39.65	8.35	37.13	52.13	74.00	-21.87	VERTICAL Peak
6	17475.000	32.87	43.90	10.77	35.32	52.22	68.20	-15.98	VERTICAL Peak

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



	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1206.682	48.08	24.72	2.33	38.39	36.74	74.00	-37.26	HORIZONTAL Peak
2	1663.137	48.23	25.65	2.80	37.91	38.77	74.00	-35.23	HORIZONTAL Peak
3	3485.601	51.19	28.89	4.27	36.95	47.40	68.20	-20.80	HORIZONTAL Peak
4	4354.454	51.24	30.59	4.68	36.81	49.70	74.00	-24.30	HORIZONTAL Peak
5	11510.000	41.96	39.90	8.41	37.15	53.12	74.00	-20.88	HORIZONTAL Peak
6	17265.000	34.92	43.21	10.24	35.33	53.04	68.20	-15.16	HORIZONTAL Peak

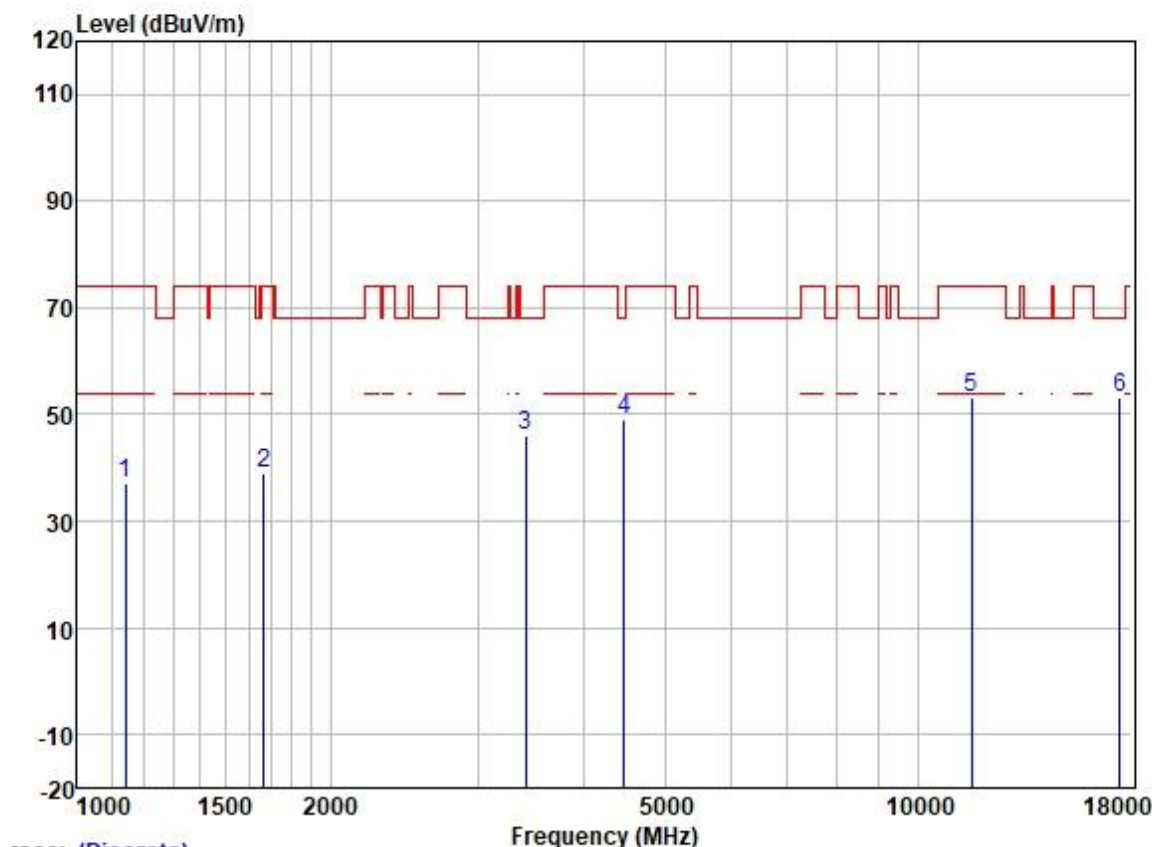
Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel: Low



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1192.811	48.31	24.65	2.36	38.39	36.93	74.00	-37.07	VERTICAL	Peak
2	1663.137	47.79	25.65	2.80	37.91	38.33	74.00	-35.67	VERTICAL	Peak
3	3475.541	50.26	28.89	4.25	36.95	46.45	68.20	-21.75	VERTICAL	Peak
4	4062.629	51.67	29.88	4.60	36.80	49.35	74.00	-24.65	VERTICAL	Peak
5	11510.000	42.20	39.90	8.41	37.15	53.36	74.00	-20.64	VERTICAL	Peak
6	17265.000	35.03	43.21	10.24	35.33	53.15	68.20	-15.05	VERTICAL	Peak

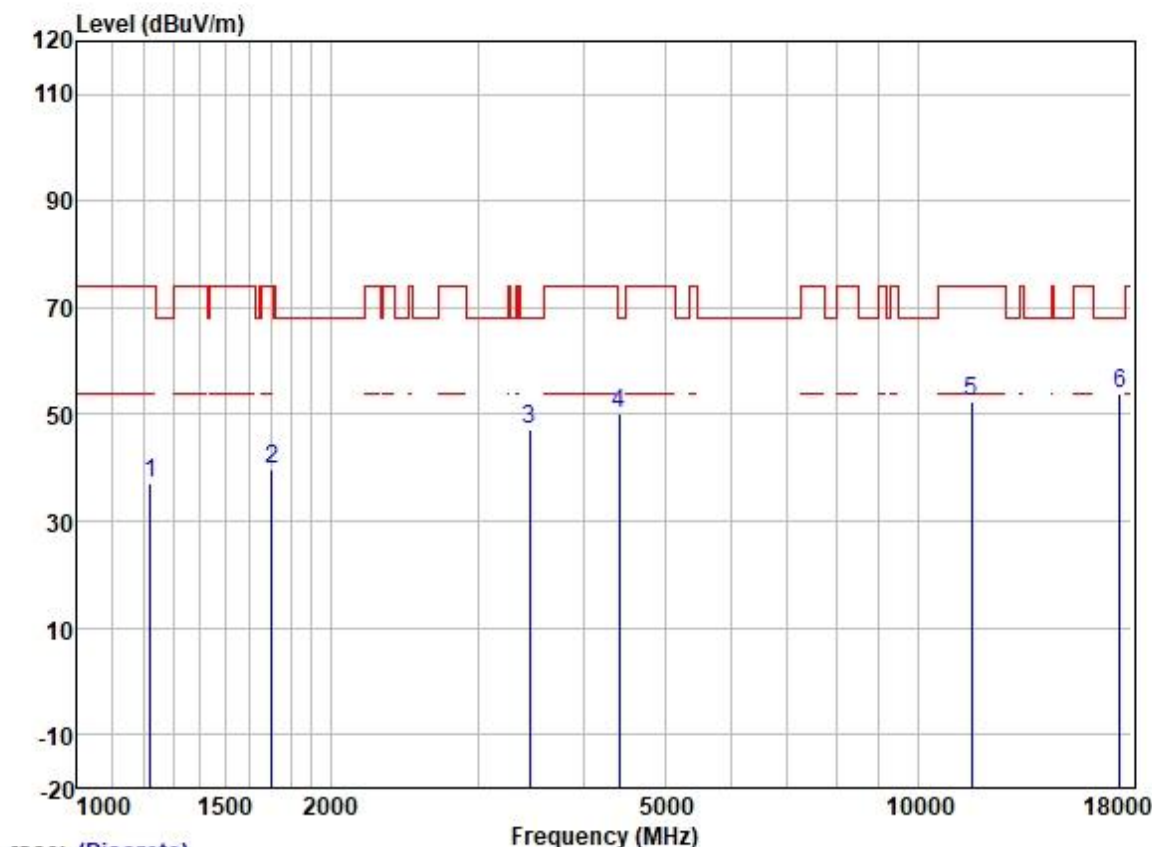
Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel: High



Trace: (Discrete)

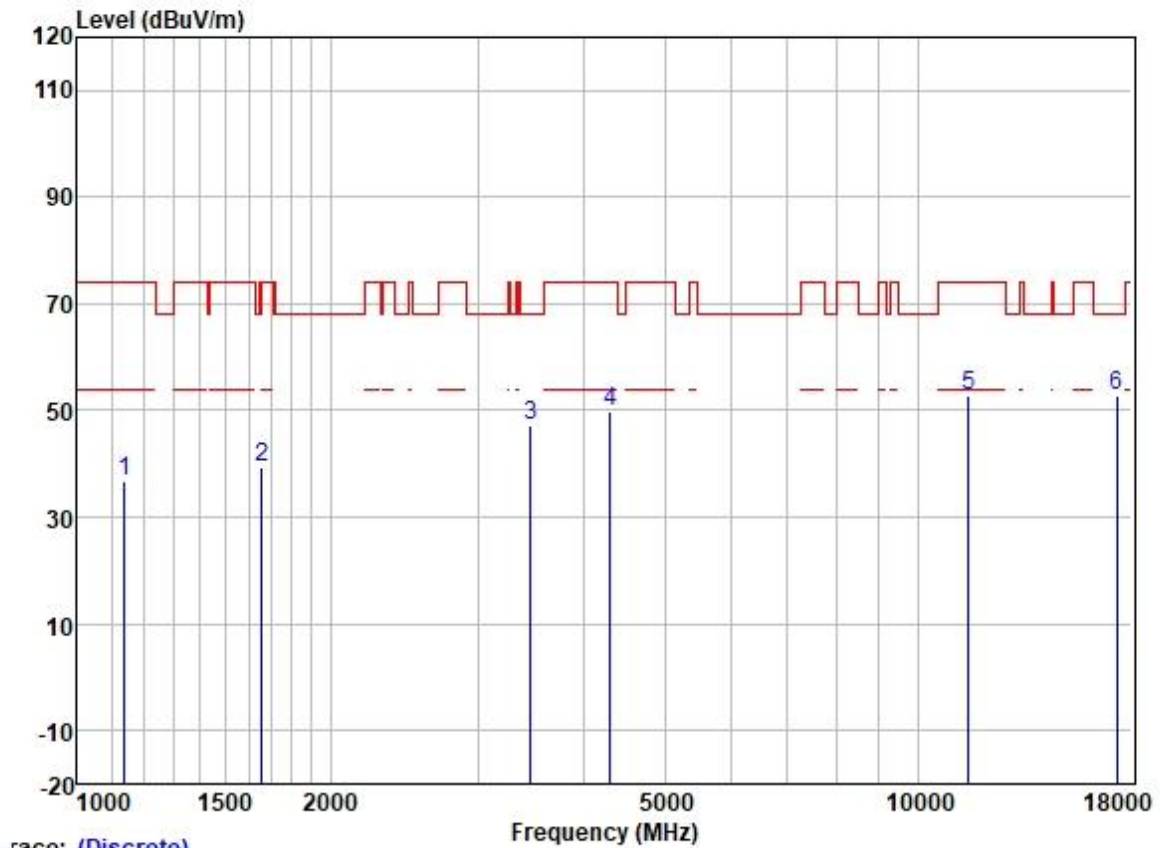
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1142.201	48.70	24.47	2.30	38.42	37.05	74.00	-36.95	HORIZONTAL	Peak
2	1667.951	48.33	25.66	2.80	37.91	38.88	74.00	-35.12	HORIZONTAL	Peak
3	3415.787	50.12	28.85	4.13	36.97	46.13	68.20	-22.07	HORIZONTAL	Peak
4	4469.214	50.17	30.77	4.93	36.81	49.06	68.20	-19.14	HORIZONTAL	Peak
5	11590.000	42.23	39.72	8.37	37.14	53.18	74.00	-20.82	HORIZONTAL	Peak
6	17385.000	34.31	43.57	10.53	35.32	53.09	68.20	-15.11	HORIZONTAL	Peak

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



	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1220.714	48.22	24.82	2.32	38.37	36.99	74.00	-37.01	VERTICAL Peak
2	1702.042	49.03	25.72	2.80	37.89	39.66	74.00	-34.34	VERTICAL Peak
3	3455.508	51.01	28.88	4.20	36.96	47.13	68.20	-21.07	VERTICAL Peak
4	4417.841	51.54	30.70	4.74	36.81	50.17	68.20	-18.03	VERTICAL Peak
5	11590.000	41.30	39.72	8.37	37.14	52.25	74.00	-21.75	VERTICAL Peak
6	17385.000	34.98	43.57	10.53	35.32	53.76	68.20	-14.44	VERTICAL Peak

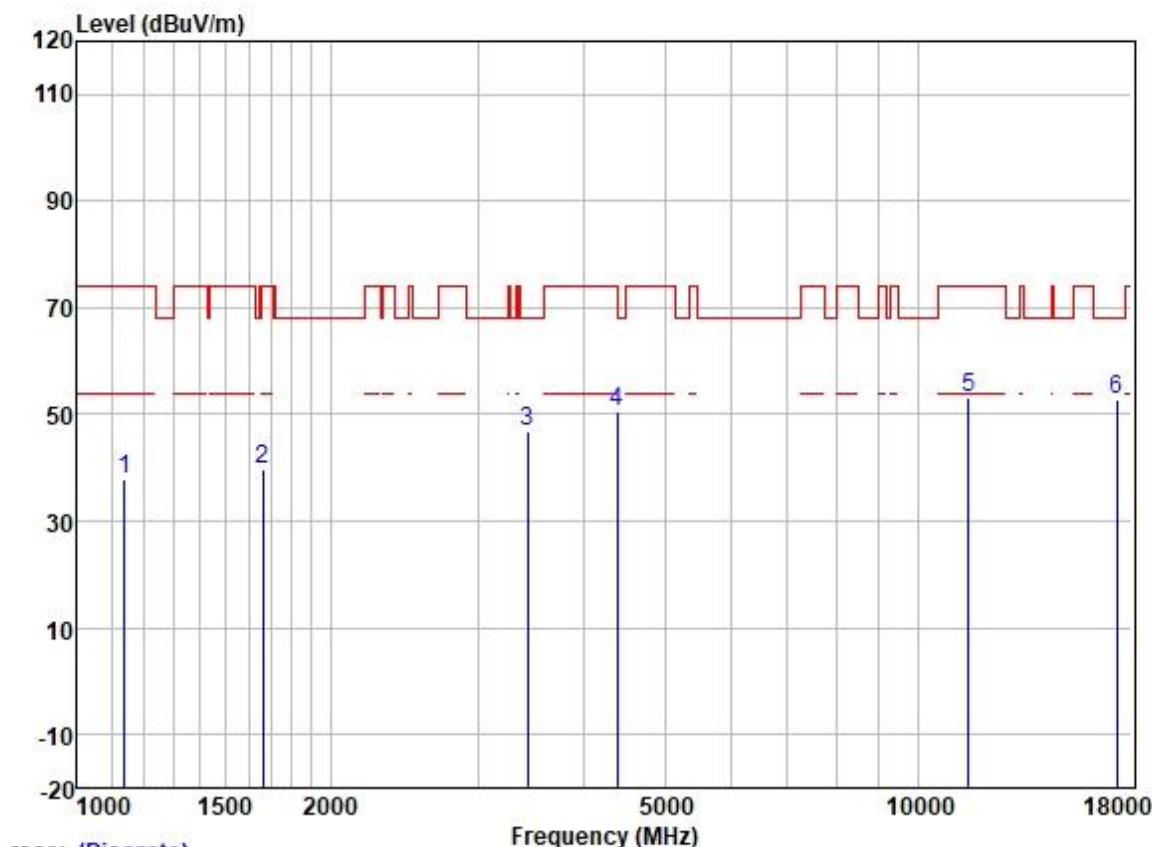
Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1138.904	48.48	24.46	2.27	38.42	36.79	74.00	-37.21	HORIZONTAL	Peak
2	1658.337	48.84	25.65	2.80	37.93	39.36	68.20	-28.84	HORIZONTAL	Peak
3	3465.510	50.99	28.88	4.22	36.95	47.14	68.20	-21.06	HORIZONTAL	Peak
4	4304.400	51.43	30.48	4.65	36.81	49.75	74.00	-24.25	HORIZONTAL	Peak
5	11490.000	41.68	39.90	8.41	37.15	52.84	74.00	-21.16	HORIZONTAL	Peak
6	17235.000	35.08	43.01	10.08	35.33	52.84	68.20	-15.36	HORIZONTAL	Peak

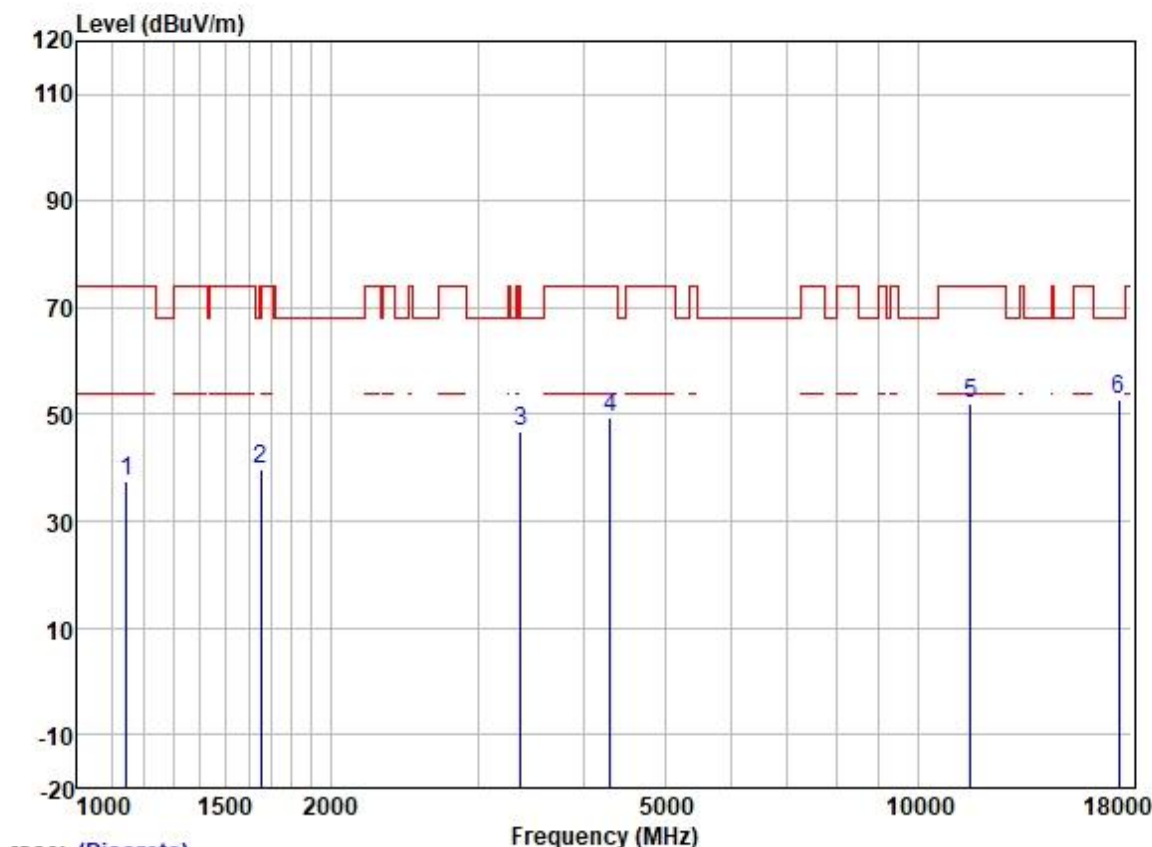
Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel: Low



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1138.904	49.70	24.46	2.27	38.42	38.01	74.00	-35.99	VERTICAL	Peak
2	1663.137	49.09	25.65	2.80	37.91	39.63	74.00	-34.37	VERTICAL	Peak
3	3435.590	50.73	28.87	4.16	36.97	46.79	68.20	-21.41	VERTICAL	Peak
4	4392.376	52.06	30.66	4.70	36.81	50.61	74.00	-23.39	VERTICAL	Peak
5	11490.000	42.06	39.90	8.41	37.15	53.22	74.00	-20.78	VERTICAL	Peak
6	17235.000	35.22	43.01	10.08	35.33	52.98	68.20	-15.22	VERTICAL	Peak

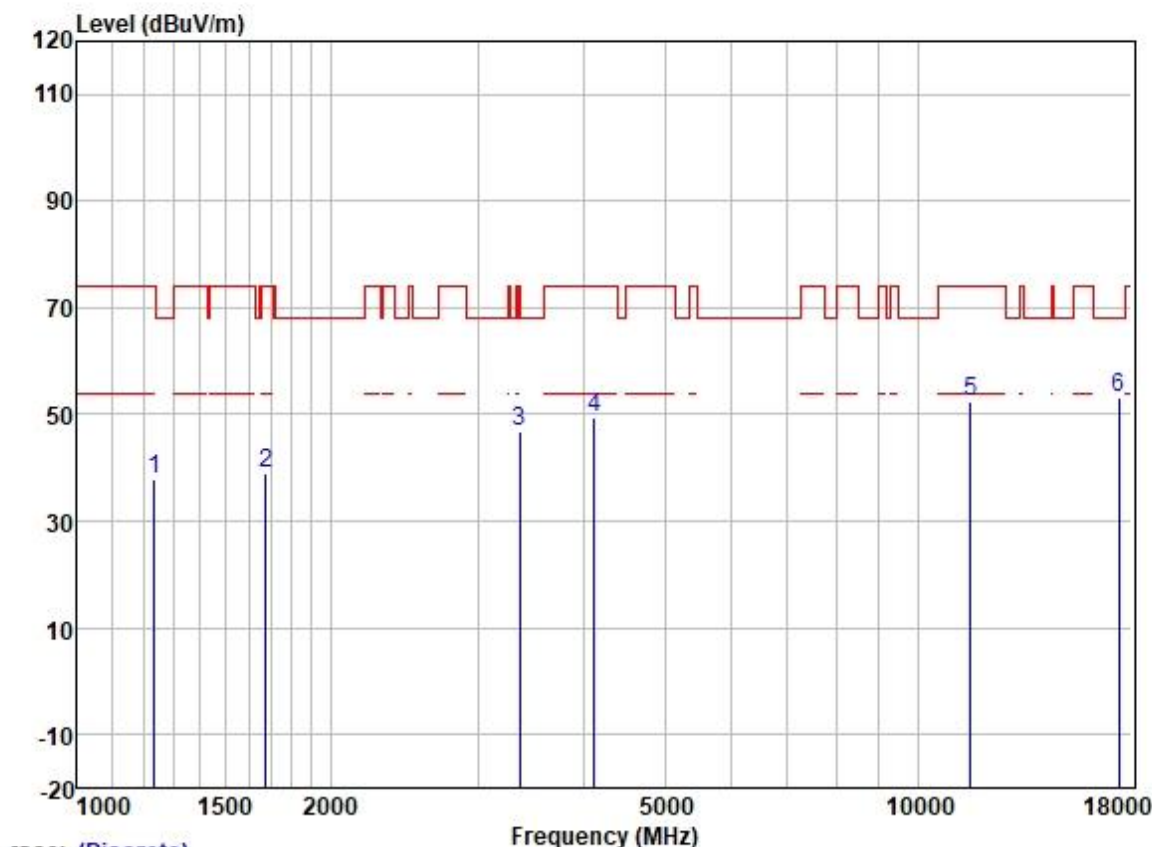
Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel: middle



Trace: (Discrete)

	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1145.507	48.97	24.48	2.32	38.42	37.35	74.00	-36.65	HORIZONTAL Peak
2	1653.550	49.22	25.64	2.80	37.93	39.73	68.20	-28.47	HORIZONTAL Peak
3	3366.778	50.90	28.82	4.09	36.99	46.82	68.20	-21.38	HORIZONTAL Peak
4	4304.400	51.13	30.48	4.65	36.81	49.45	74.00	-24.55	HORIZONTAL Peak
5	11570.000	40.99	39.78	8.38	37.14	52.01	74.00	-21.99	HORIZONTAL Peak
6	17355.000	34.48	43.40	10.39	35.32	52.95	68.20	-15.25	HORIZONTAL Peak

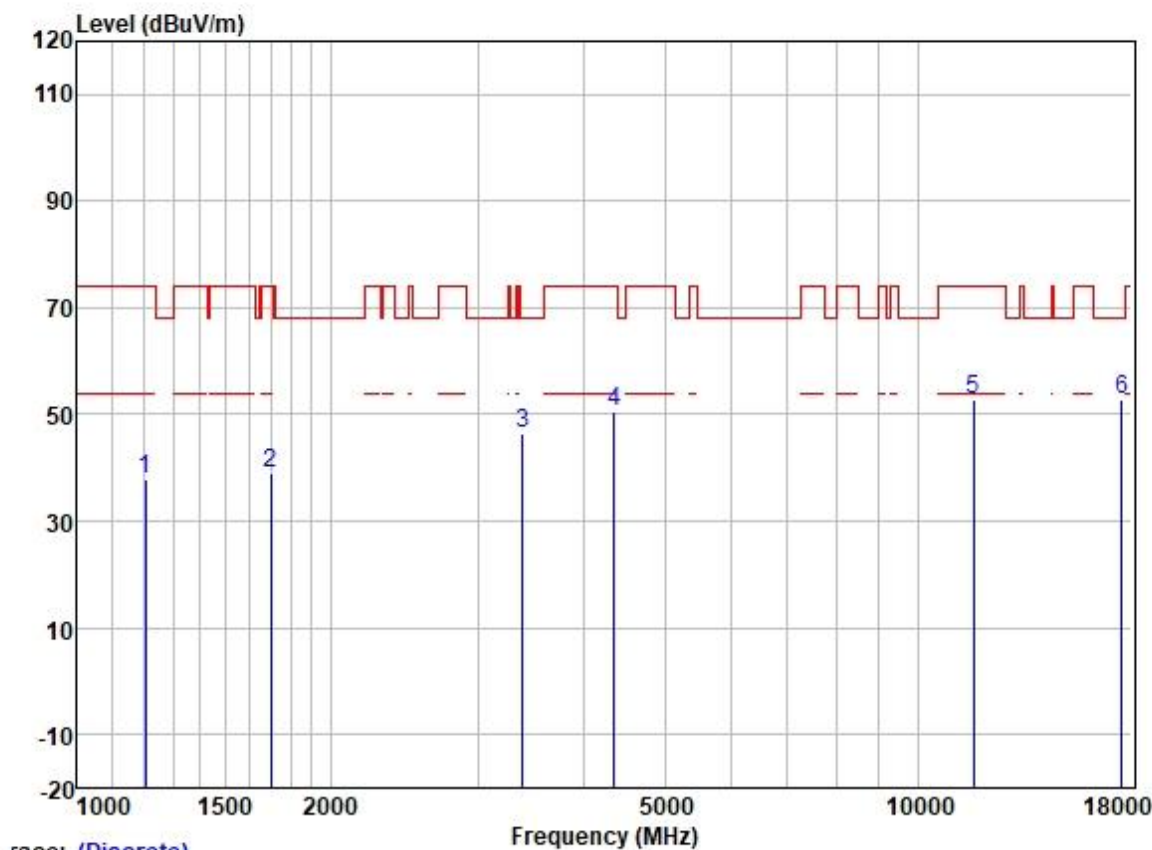
Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel: middle



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1234.909	48.92	24.93	2.30	38.37	37.78	74.00	-36.22	VERTICAL	Peak
2	1677.621	48.45	25.68	2.80	37.91	39.02	74.00	-34.98	VERTICAL	Peak
3	3357.061	50.85	28.81	4.09	37.01	46.74	74.00	-27.26	VERTICAL	Peak
4	4121.768	51.58	29.98	4.60	36.80	49.36	74.00	-24.64	VERTICAL	Peak
5	11570.000	41.33	39.78	8.38	37.14	52.35	74.00	-21.65	VERTICAL	Peak
6	17355.000	34.59	43.40	10.39	35.32	53.06	68.20	-15.14	VERTICAL	Peak

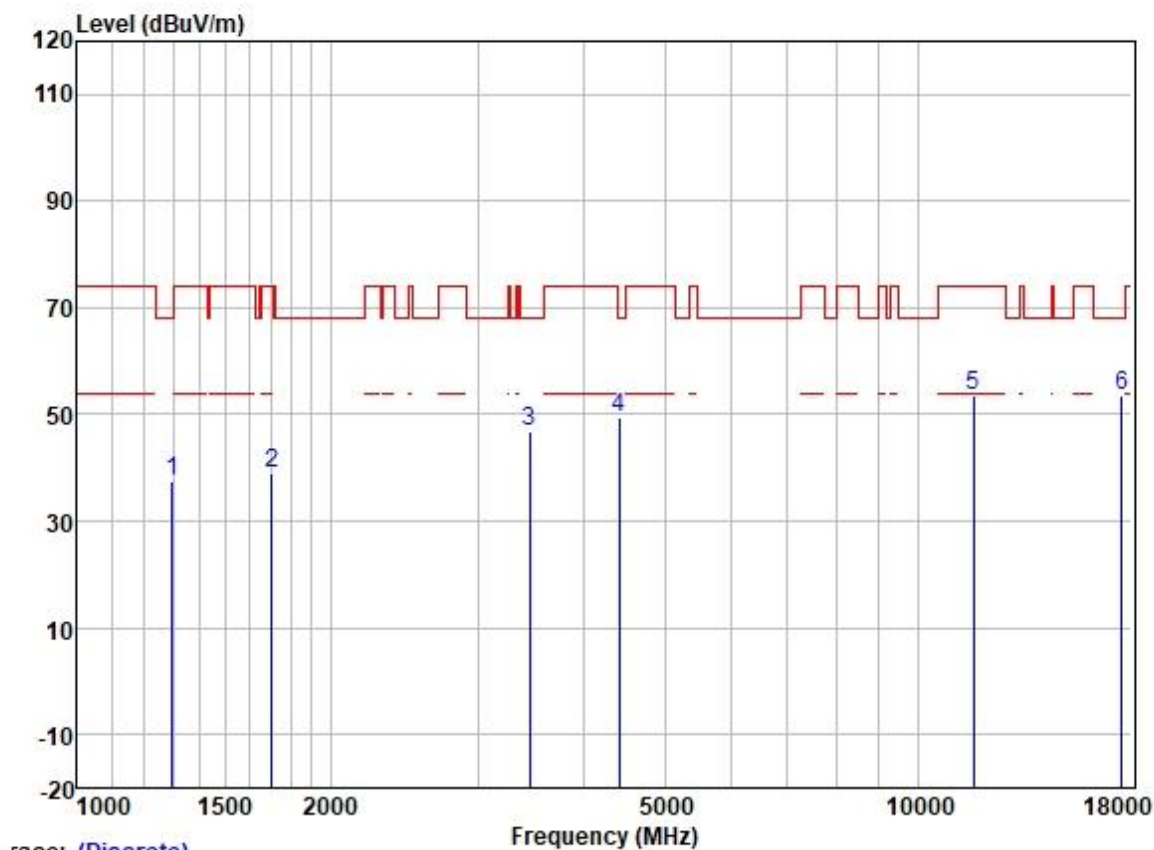
Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel: High



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1206.682	49.21	24.72	2.33	38.39	37.87	74.00	-36.13	HORIZONTAL Peak
2	1697.129	48.45	25.71	2.80	37.89	39.07	74.00	-34.93	HORIZONTAL Peak
3	3386.297	50.46	28.83	4.10	36.99	46.40	68.20	-21.80	HORIZONTAL Peak
4	4354.454	52.24	30.59	4.68	36.81	50.70	74.00	-23.30	HORIZONTAL Peak
5	11650.000	41.78	39.65	8.35	37.13	52.65	74.00	-21.35	HORIZONTAL Peak
6	17475.000	33.42	43.90	10.77	35.32	52.77	68.20	-15.43	HORIZONTAL Peak

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



	Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB		
1	1297.103	48.08	25.19	2.58	38.31	37.54	68.20	-30.66	VERTICAL Peak
2	1702.042	48.32	25.72	2.80	37.89	38.95	74.00	-35.05	VERTICAL Peak
3	3455.508	50.61	28.88	4.20	36.96	46.73	68.20	-21.47	VERTICAL Peak
4	4417.841	50.81	30.70	4.74	36.81	49.44	68.20	-18.76	VERTICAL Peak
5	11650.000	42.57	39.65	8.35	37.13	53.44	74.00	-20.56	VERTICAL Peak
6	17475.000	34.18	43.90	10.77	35.32	53.53	68.20	-14.67	VERTICAL Peak