



EMC-TRF-01 Rev 1.0

Report No.: GZCR210802082804

Page: 1 of 180

FCC ID: SS3-RM51021

## TEST REPORT

**Application No.:** GZCR2108020828AT  
**Applicant:** SZ DJI TECHNOLOGY CO.,LTD.  
**Address of Applicant:** 14th floor, West Wing, Skyworth Semiconductor Design Building NO.18  
Gaoxin South 4th Ave, Nanshan District, Shenzhen, Guangdong, China  
**Manufacturer:** SZ DJI TECHNOLOGY CO.,LTD.  
**Address of Manufacturer:** 14th floor, West Wing, Skyworth Semiconductor Design Building NO.18  
Gaoxin South 4th Ave, Nanshan District, Shenzhen, Guangdong, China  
**Equipment Under Test (EUT):**  
**EUT Name:** DJI RC Pro  
**Model No.:** RM510  
**Trade mark:** DJI  
**Standard(s) :** 47 CFR Part 15, Subpart E 15.407  
**Date of Receipt:** 2021-08-19  
**Date of Test:** 2021-08-20 to 2021-08-27  
**Date of Issue:** 2021-08-30

<b>Test Result:</b>	<b>Pass*</b>
---------------------	--------------

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

Kobe Jian  
EMC Laboratory Manager



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

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

No.198 Kexu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn  
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

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-08-30		Original

Authorized for issue by				
Tested By				
		Curry Wu /Project Engineer		
Reviewed By				
		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 E 15.407 (c)	Pass
Frequency Stability		KDB 789033 II A 3	47 CFR Part 15, Subpart E 15.407 (g)	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 & E 15.407 b(6)	Pass
Duty Cycle		KDB 789033 II B 1	KDB 789033 D02 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 E 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 E 15.407 (e)	Pass
Maximum Conducted output power		KDB 789033 D02 II E	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Peak Power spectrum density		KDB 789033 D02 II F	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Radiated Emissions		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & E 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 & E 15.407(b)	Pass
Band Edge		KDB 789033 D02 II	47 CFR Part 15, Subpart E 15.407(b)	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.

KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

### 3 Contents

	Page
<b>1 Cover Page .....</b>	<b>1</b>
<b>2 Test Summary .....</b>	<b>3</b>
<b>3 Contents .....</b>	<b>4</b>
<b>4 General Information.....</b>	<b>6</b>
4.1 Details of E.U.T. ....	6
4.2 Description of Support Units .....	6
4.3 Measurement Uncertainty .....	7
4.4 Test Location.....	7
4.5 Test Facility .....	8
4.6 Deviation from Standards.....	8
4.7 Abnormalities from Standard Conditions .....	8
<b>5 Equipment List .....</b>	<b>9</b>
<b>6 Radio Spectrum Technical Requirement .....</b>	<b>14</b>
6.1 Antenna Requirement .....	14
6.1.1 Test Requirement: .....	14
6.1.2 Conclusion .....	14
6.2 Transmission in the Absence of Data .....	15
6.2.1 Test Requirement: .....	15
6.2.2 Conclusion .....	15
6.3 Frequency Stability .....	15
6.3.1 Test Requirement: .....	15
6.3.2 Conclusion .....	15
<b>7 Radio Spectrum Matter Test Results .....</b>	<b>16</b>
7.1 Conducted Emissions at AC Power Line (150kHz-30MHz) .....	16
7.1.1 E.U.T. Operation .....	16
7.1.2 Test Mode Description .....	16
7.1.3 Test Setup Diagram .....	17
7.1.4 Measurement Procedure and Data.....	17
7.2 Duty Cycle .....	20
7.2.1 E.U.T. Operation .....	20
7.2.2 Test Mode Description .....	20
7.2.3 Test Setup Diagram .....	20
7.2.4 Measurement Procedure and Data.....	20
7.3 99% Bandwidth .....	21
7.3.1 E.U.T. Operation .....	21
7.3.2 Test Mode Description .....	21
7.3.3 Test Setup Diagram .....	22
7.3.4 Measurement Procedure and Data.....	22
7.4 26dB Emission bandwidth .....	23
7.4.1 E.U.T. Operation .....	23
7.4.2 Test Mode Description .....	23
7.4.3 Test Setup Diagram .....	24



7.4.4	Measurement Procedure and Data.....	24
7.5	Minimum 6 dB bandwidth (5.725-5.85 GHz band ).....	25
7.5.1	E.U.T. Operation .....	25
7.5.2	Test Mode Description .....	25
7.5.3	Test Setup Diagram .....	26
7.5.4	Measurement Procedure and Data.....	26
7.6	Maximum Conducted output power .....	27
7.6.1	E.U.T. Operation .....	27
7.6.2	Test Mode Description .....	27
7.6.3	Test Setup Diagram .....	28
7.6.4	Measurement Procedure and Data.....	28
7.7	Peak Power spectrum density.....	29
7.7.1	E.U.T. Operation .....	29
7.7.2	Test Mode Description .....	29
7.7.3	Test Setup Diagram .....	30
7.7.4	Measurement Procedure and Data.....	30
7.8	Radiated Emissions .....	31
7.8.1	E.U.T. Operation .....	31
7.8.2	Test Mode Description .....	32
7.8.3	Test Setup Diagram .....	32
7.8.4	Measurement Procedure and Data.....	33
7.9	Radiated Emissions which fall in the restricted bands .....	77
7.9.1	E.U.T. Operation .....	78
7.9.2	Test Mode Description .....	78
7.9.3	Test Setup Diagram .....	79
7.9.4	Measurement Procedure and Data.....	80
7.10	Band Edge.....	113
7.10.1	E.U.T. Operation.....	113
7.10.2	Test Mode Description.....	113
7.10.3	Test Setup Diagram.....	114
7.10.4	Measurement Procedure and Data .....	114
8	Test Setup Photo .....	115
9	EUT Constructional Details (EUT Photos) .....	115
10	Appendix.....	116



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

## 4 General Information

### 4.1 Details of E.U.T.

Power supply:	DC 7.2V Lithium-ion rechargeable battery (to be charged from type C port)
Antenna Type:	Dipole Antenna
Antenna Gain:	Antenna 1&2: 3.0dBi

Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
UNII Band III		802.11a/n(HT20)/ac(VHT20)/ax(HEW20)	5745-5825	5
		802.11n(HT40)/ac(VHT40)/ax(HEW40)	5755-5795	2
		802.11ac(VHT80)/ax(HEW80)	5775	1
Modulation Type:	802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDM&OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)			
Channel Spacing:	802.11a/n(HT20)/ac(VHT20)/ax(HEW20) : 20MHz 802.11n(HT40)/ac(VHT40)/ax(HEW40) : 40MHz 802.11ac(VHT80)/ax(HEW80) : 80MHz			

### 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
AC/DC Adapter	DJI	PD-65US	N/A

### 4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	3.12dB
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	5.06dB ( 30MHz-1GHz ; 3m ) 4.46dB ( 30MHz-1GHz ; 10m ) 5.08dB (1GHz-6GHz) 5.14dB (above 6GHz)
Radiated Emissions which fall in the restricted bands	5.06dB ( 30MHz-1GHz ; 3m ) 4.46dB ( 30MHz-1GHz ; 10m ) 5.08dB (1GHz-6GHz) 5.14dB (above 6GHz)
Frequency Stability	± 7.25 x 10 <sup>-8</sup>

### 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.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.  
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

## 4.5 Test Facility

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

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

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

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

- **ACMA**

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

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

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

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

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

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

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

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

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

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

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

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

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

## 4.6 Deviation from Standards

None

## 4.7 Abnormalities from Standard Conditions

None



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

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

No. 198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.com.cn  
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



## 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	2021-01-08	2022-01-06
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2020-09-25	2021-09-24
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	ESR4	EMC2221	2021/6/1	2022/5/31

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
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-15	2021-07-14
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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-15	2021-07-14
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd. No. 198 Kezhu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.com.cn  
Guangzhou Branch Testing & Inspection Laboratory 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

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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

**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
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-15	2021-07-14
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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

**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
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-15	2021-07-14
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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd. No. 198 Kezhu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgs.com.cn  
Guangzhou branch Testing & Inspection Laboratory 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

MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-15	2021-07-14
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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-15	2021-07-14
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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch  
No. 198 Kezhu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn  
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

**Radiated Emissions**

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver(20Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-01-08	2022-01-07
Chamber cable(Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020/9/9	2022/9/8
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	2021-01-08	2022-01-07
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	2020-11-13	2021-11-12
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-28	2022-07-27
Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2020-09-09	2021-09-08

**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	2021-01-08	2022-01-07
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	2021-01-08	2022-01-07
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	2020-11-13	2021-11-12
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)



Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-28	2022-07-27
Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2020-09-09	2021-09-08

Band Edge					
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
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-15	2021-07-14
EXA Signal Analyzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

## 6 Radio Spectrum Technical Requirement

### 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

#### 6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

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

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the Antenna 1: 3dBi; Antenna 2: 3dBi.

Antenna location: Refer to internal photo.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

## 6.2 Transmission in the Absence of Data

### 6.2.1 Test Requirement:

47 CFR Part 15, Subpart E 15.407 (c)

### 6.2.2 Conclusion

Standard Requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling 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:

Wi-Fi 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.

## 6.3 Frequency Stability

### 6.3.1 Test Requirement:

47 CFR Part 15, Subpart E 15.407 (g)

### 6.3.2 Conclusion

The grantee declared that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual, it comply the frequency stability requirement.

## 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 &amp; E 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: 22.3 °C

Humidity: 62.8 % RH

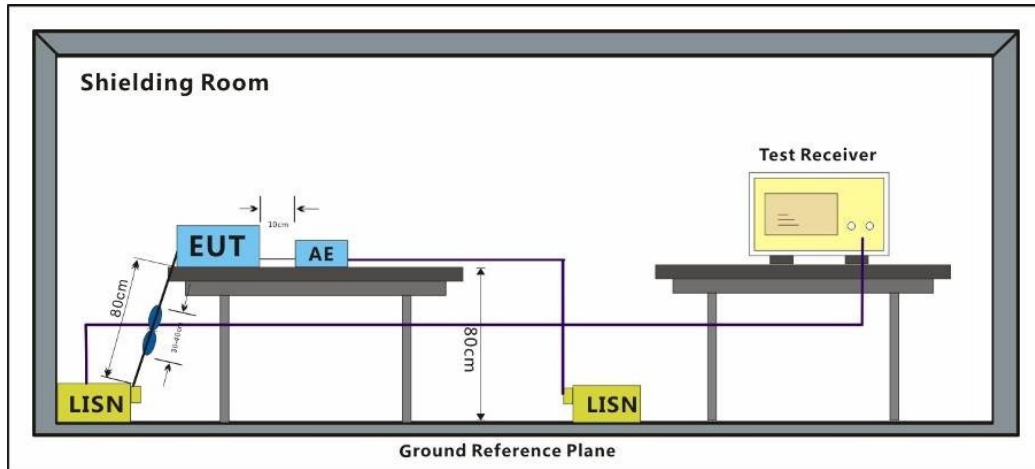
Atmospheric Pressure: 1010 mbar

#### 7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	24	Charge + TX mode (U-NII-4) 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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). Only the data of worst case is recorded in the report.



### 7.1.3 Test Setup Diagram

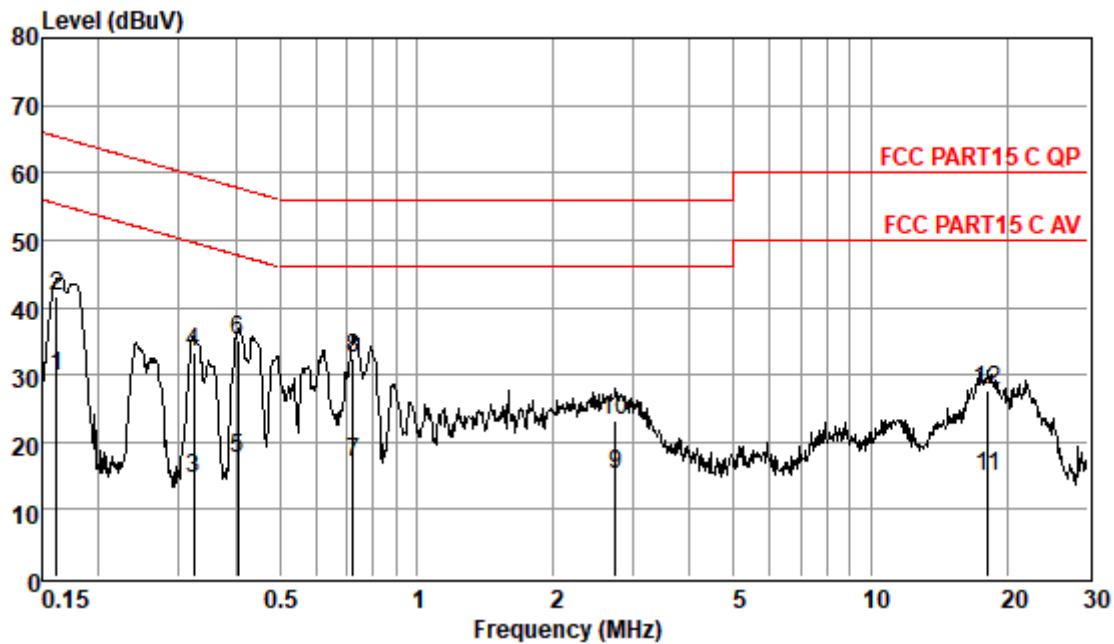


### 7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

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

Test Mode: 24; Line: Live line; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



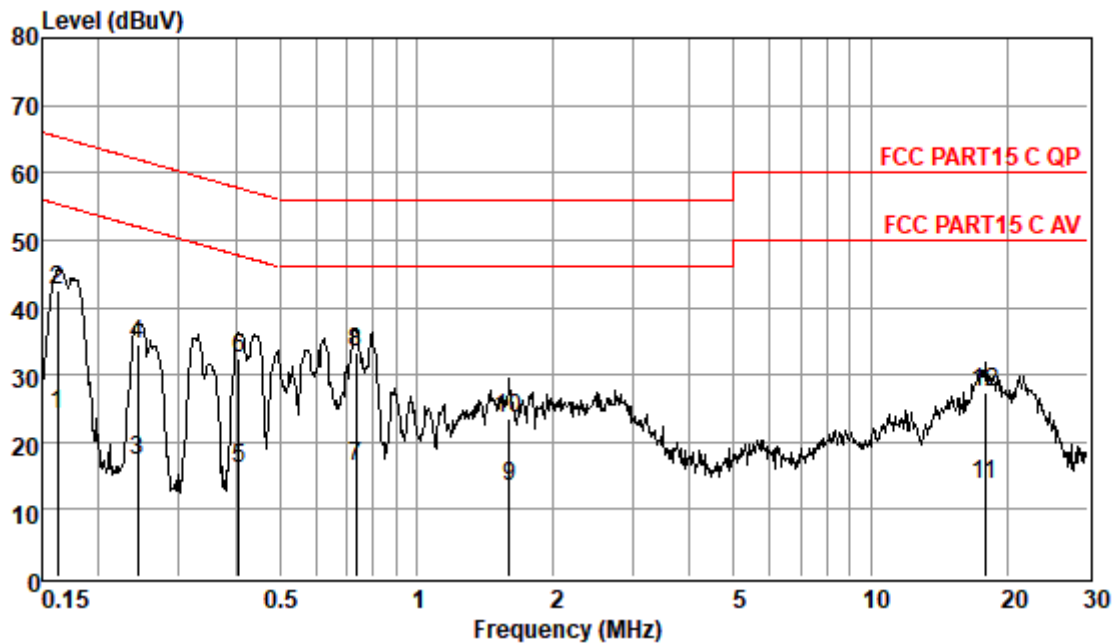
Pol :LINE

Mode :

Model :

Freque	Read	Cable	LISN	Measured	Limit	Over	Remark
MHz	Level	Loss	Factor	Level	Line	Limit	
	dBuV	dB	dB	dBuV	dBuV	dB	
0.16	20.15	0.06	9.62	29.83	55.38	-25.55	Average
0.16	32.01	0.06	9.62	41.69	65.38	-23.69	QP
0.32	4.83	0.06	9.62	14.51	49.62	-35.11	Average
0.32	23.70	0.06	9.62	33.38	59.62	-26.24	QP
0.40	8.00	0.06	9.62	17.68	47.77	-30.09	Average
0.40	25.30	0.06	9.62	34.98	57.77	-22.79	QP
0.72	7.32	0.07	9.63	17.02	46.00	-28.98	Average
0.72	22.76	0.07	9.63	32.46	56.00	-23.54	QP
2.74	5.40	0.14	9.62	15.16	46.00	-30.84	Average
2.74	13.43	0.14	9.62	23.19	56.00	-32.81	QP
18.14	4.63	0.35	9.75	14.73	50.00	-35.27	Average
18.14	17.46	0.35	9.75	27.56	60.00	-32.44	QP

Test Mode: 24; Line: Neutral Line; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Pol : NEUTRAL

Mode :

Model :

Frequency MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.16	14.52	0.06	9.55	24.13	55.34	-31.21	Average
0.16	32.94	0.06	9.55	42.55	65.34	-22.79	QP
0.24	7.71	0.06	9.55	17.32	52.00	-34.68	Average
0.24	24.91	0.06	9.55	34.52	62.00	-27.48	QP
0.41	6.51	0.06	9.56	16.13	47.73	-31.60	Average
0.41	22.80	0.06	9.56	32.42	57.73	-25.31	QP
0.74	6.70	0.07	9.55	16.32	46.00	-29.68	Average
0.74	23.58	0.07	9.55	33.20	56.00	-22.80	QP
1.60	3.63	0.10	9.55	13.28	46.00	-32.72	Average
1.60	13.84	0.10	9.55	23.49	56.00	-32.51	QP
17.85	3.75	0.34	9.66	13.75	50.00	-36.25	Average
17.85	17.32	0.34	9.66	27.32	60.00	-32.68	QP

### 7.2 Duty Cycle

Test Requirement: KDB 789033 D02 II B 1  
Test Method: KDB 789033 D02 II B 2

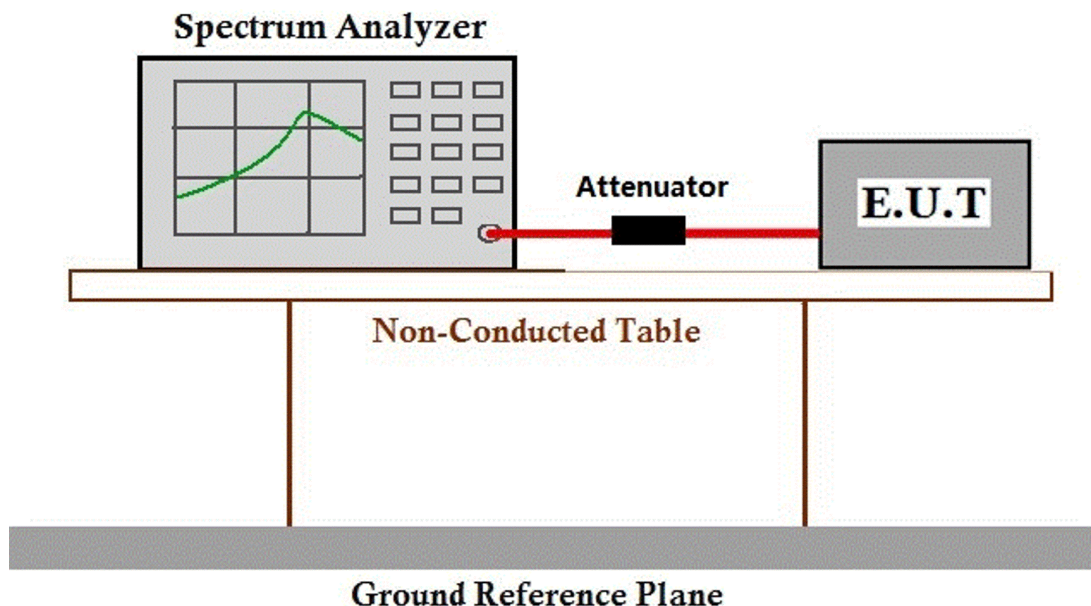
#### 7.2.1 E.U.T. Operation

Operating Environment:  
Temperature: 22.9 °C Humidity: 39.5 % RH Atmospheric Pressure: 1010 mbar

#### 7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	23	TX mode (U-NII-4)_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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). Only the data of worst case is recorded in the report.

#### 7.2.3 Test Setup Diagram



#### 7.2.4 Measurement Procedure and Data

Please Refer To Appendix For Details



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.  
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
No.198 Kezhu Road, Sciotech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn  
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



### 7.3 99% Bandwidth

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

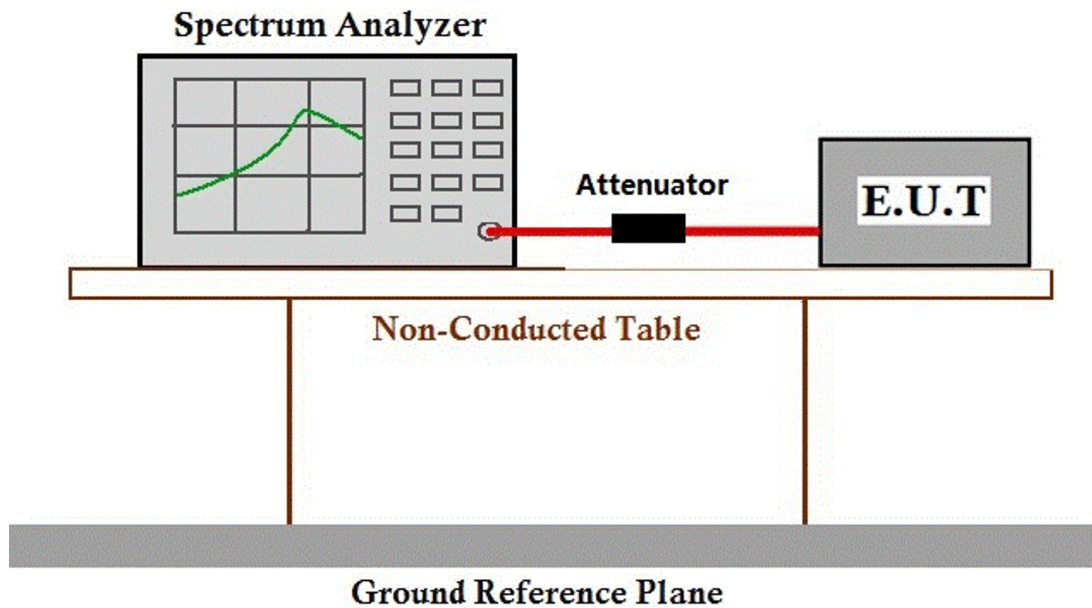
#### 7.3.1 E.U.T. Operation

Operating Environment:  
Temperature: 22.9 °C Humidity: 39.5 % RH Atmospheric Pressure: 1010 mbar

#### 7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	23	TX mode (U-NII-4)_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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). 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 E 15.407 (a)  
Test Method: KDB 789033 D02 II C 1

### 7.4.1 E.U.T. Operation

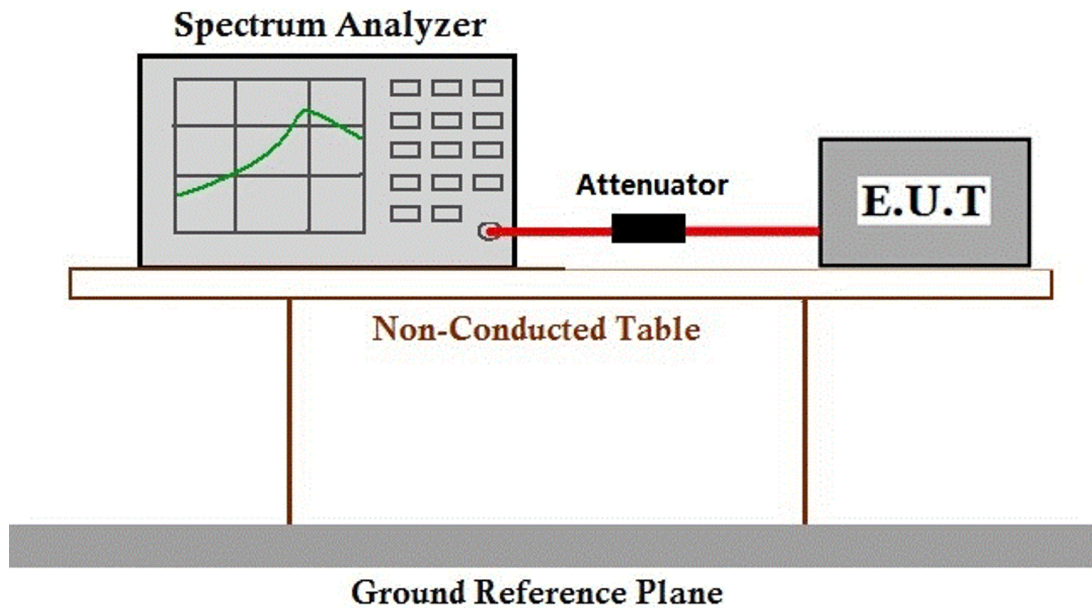
Operating Environment:

Temperature: 22.9 °C Humidity: 39.5 % RH Atmospheric Pressure: 1010 mbar

### 7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	23	TX mode (U-NII-4)_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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). Only the data of worst case is recorded in the report.

### 7.4.3 Test Setup Diagram



### 7.4.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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

Test Requirement 47 CFR Part 15, Subpart E 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: 22.9 °C

Humidity: 39.5 % RH

Atmospheric Pressure: 1010 mbar

**7.5.2 Test Mode Description**

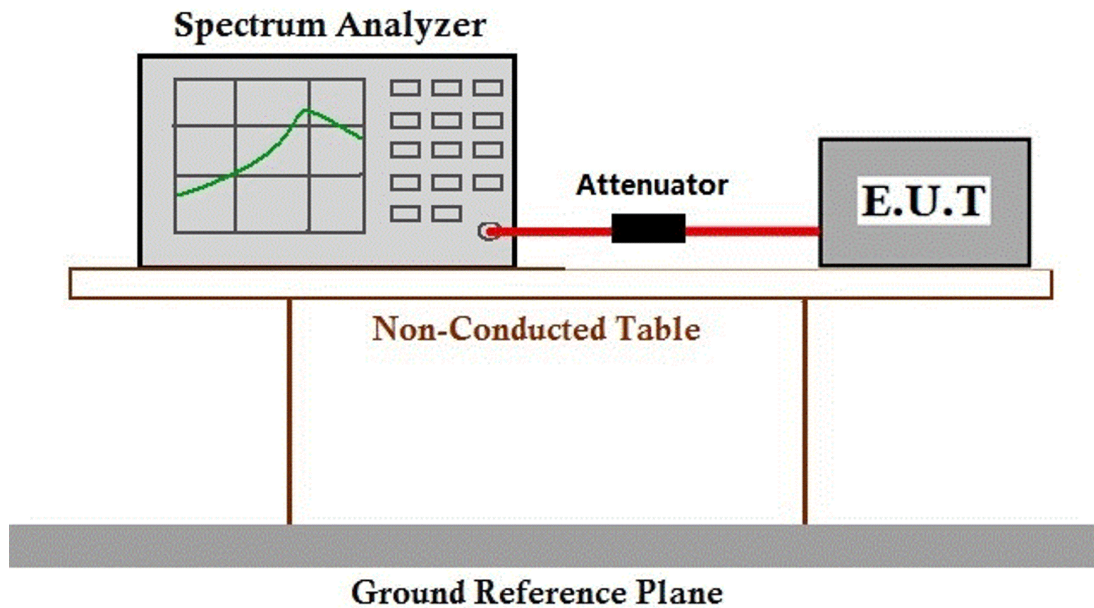
Pre-scan / Final test	Mode Code	Description
Final test	23	TX mode (U-NII-4) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst 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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). Only the data of worst case is recorded in the report.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

### 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 E 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:	<p>* Where B is the 26dB emission bandwidth in MHz.</p> <p>The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.</p>

**7.6.1 E.U.T. Operation**

Operating Environment:

Temperature: 22.9 °C

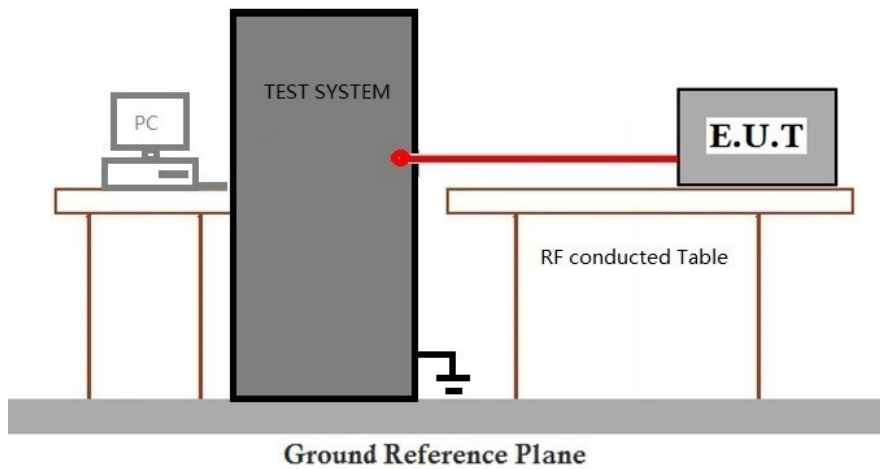
Humidity: 39.5 % RH

Atmospheric Pressure: 1010 mbar

**7.6.2 Test Mode Description**

Pre-scan / Final test	Mode Code	Description
Final test	23	TX mode (U-NII-4) 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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). 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 E 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: 22.9 °C

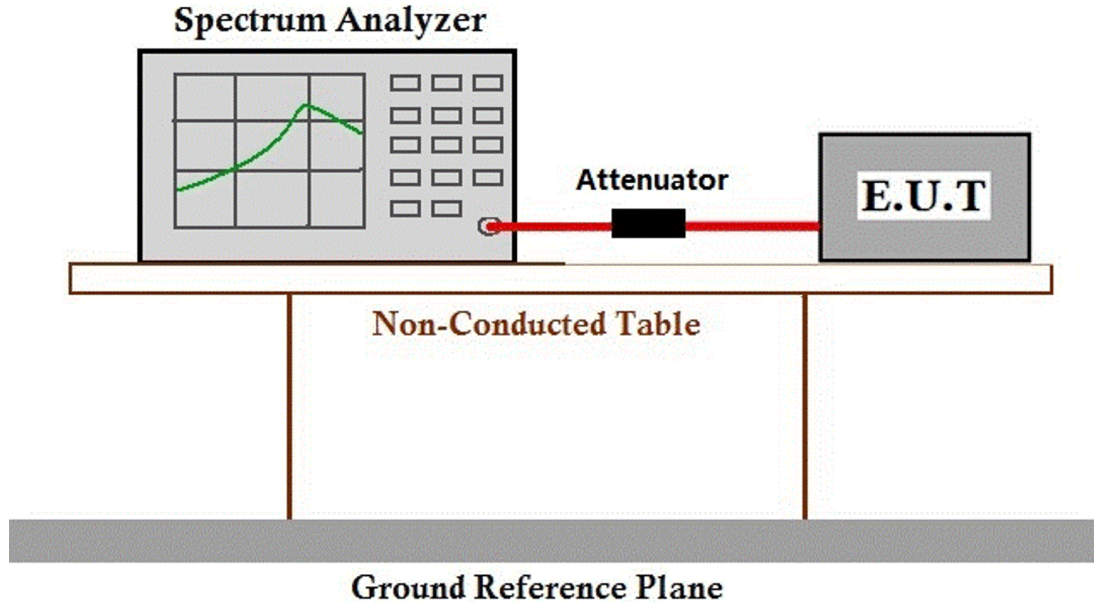
Humidity: 39.5 % RH

Atmospheric Pressure: 1010 mbar

### 7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	23	TX mode (U-NII-4)_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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). Only the data of worst case is recorded in the report.

### 7.7.3 Test Setup Diagram



### 7.7.4 Measurement Procedure and Data

Please Refer To Appendix For Details

## 7.8 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 &amp; E 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: 21.6 °C

Humidity: 51.9 % RH

Atmospheric Pressure: 1010 mbar



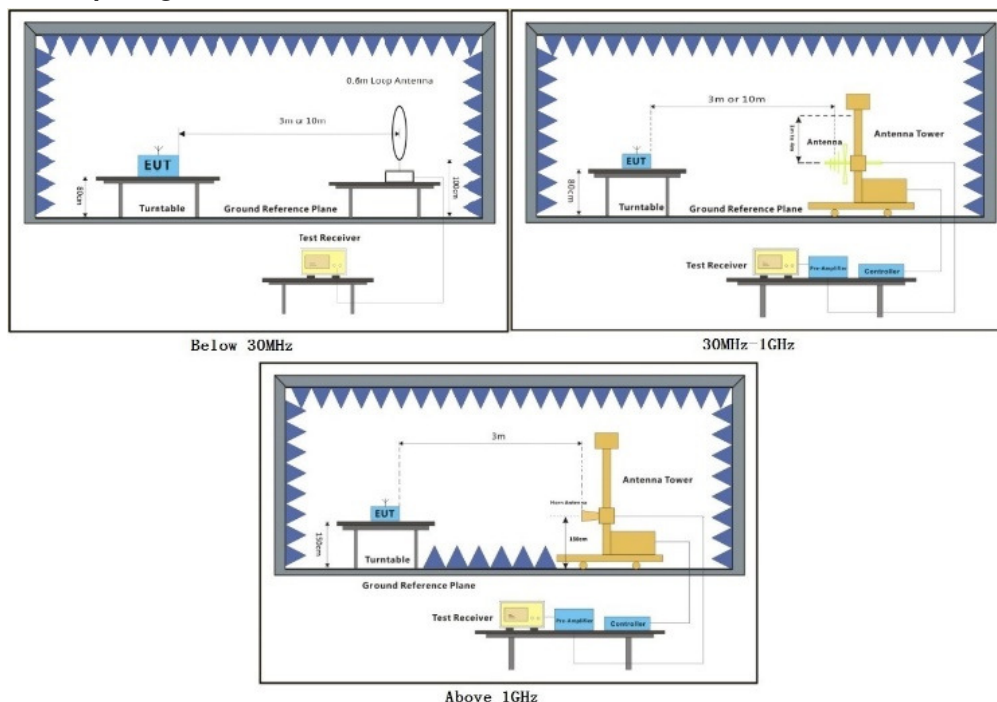
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

### 7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	23	TX mode (U-NII-4)_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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). Only the data of worst case is recorded in the report.
Final test	24	Charge + TX mode (U-NII-4)_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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW80). Only the data of worst case is recorded in the report.

### 7.8.3 Test Setup Diagram





#### 7.8.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

##### Remark1:

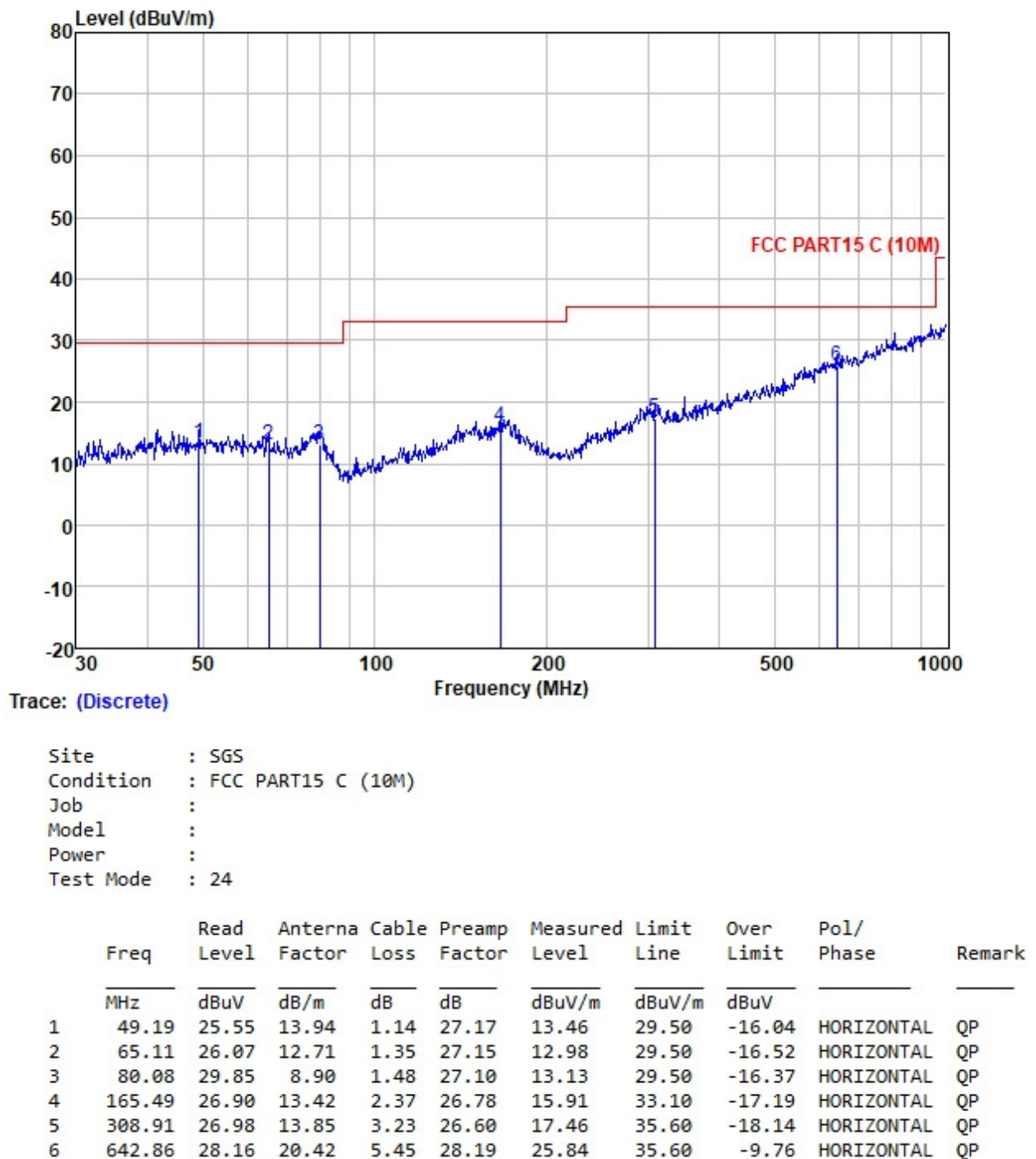
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11ac. Only the worst case is recorded in the report.
3. Scan from 9kHz to 40GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
4. 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.

##### Remark:

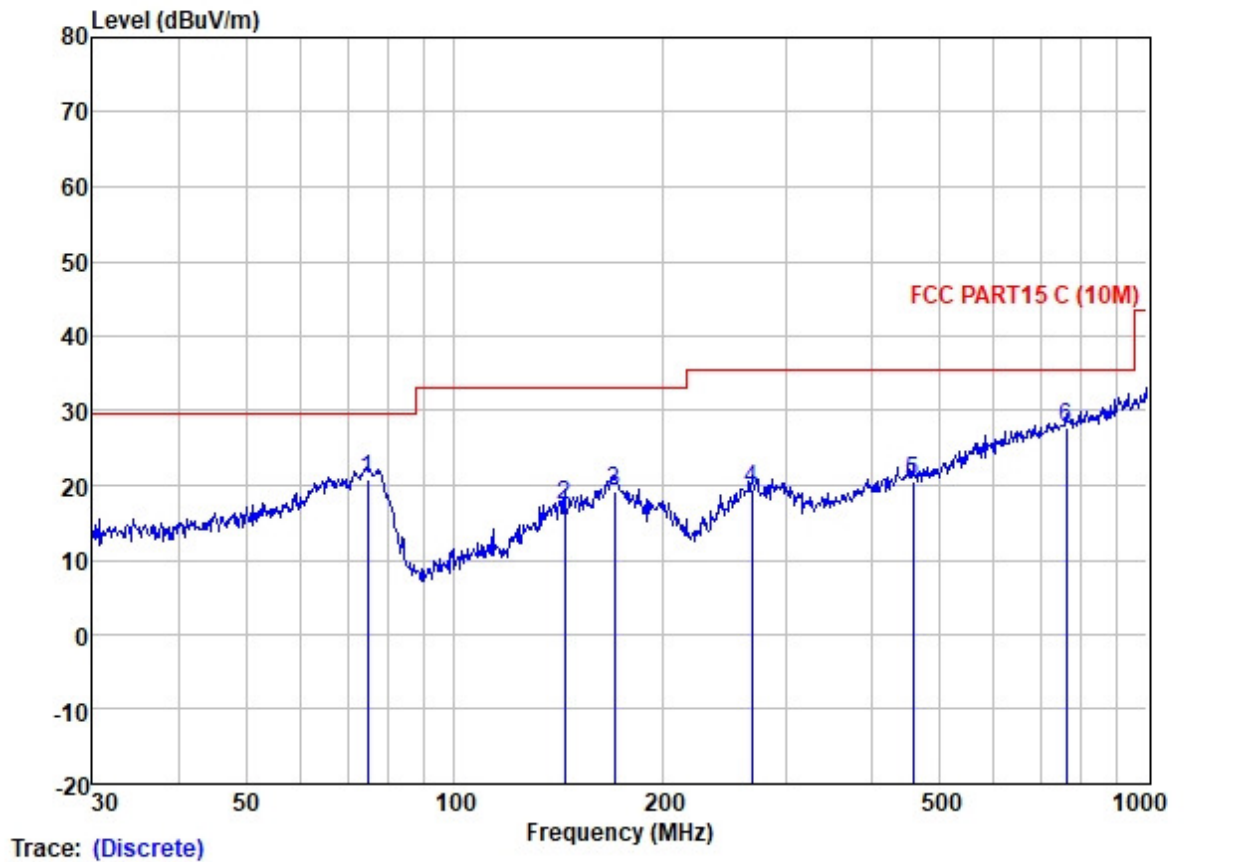
1. The disturbance below 30MHz and above 18GHz was very low, and the below harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
2. Pretest the EUT at antenna 1 and antenna 2 and MIMO mode find the worst case is MIMO mode.
3. For the emission 30MHz to 1Ghz, lowest, middle, highest channel test performed at band U-NII-3, find the worst case is band U-NII-3 802.11a mode lowest channel, only record the worst case.



Test Mode: 24; Polarity: Horizontal; Modulation: 802.11a; Bandwidth: 20MHz; Channel: Low



Test Mode: 24; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Site : SGS  
Condition : FCC PART15 C (10M)  
Job :  
Model :  
Power :  
Test Mode : 24

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	74.92	35.80	10.60	1.45	27.11	20.74	29.50	-8.76	VERTICAL	QP
2	144.33	28.47	13.62	2.15	26.87	17.37	33.10	-15.73	VERTICAL	QP
3	170.19	30.47	13.10	2.40	26.77	19.20	33.10	-13.90	VERTICAL	QP
4	268.49	30.31	12.60	3.04	26.58	19.37	35.60	-16.23	VERTICAL	QP
5	459.11	26.62	17.48	4.25	27.78	20.57	35.60	-15.03	VERTICAL	QP
6	763.38	27.43	22.20	6.05	28.07	27.61	35.60	-7.99	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

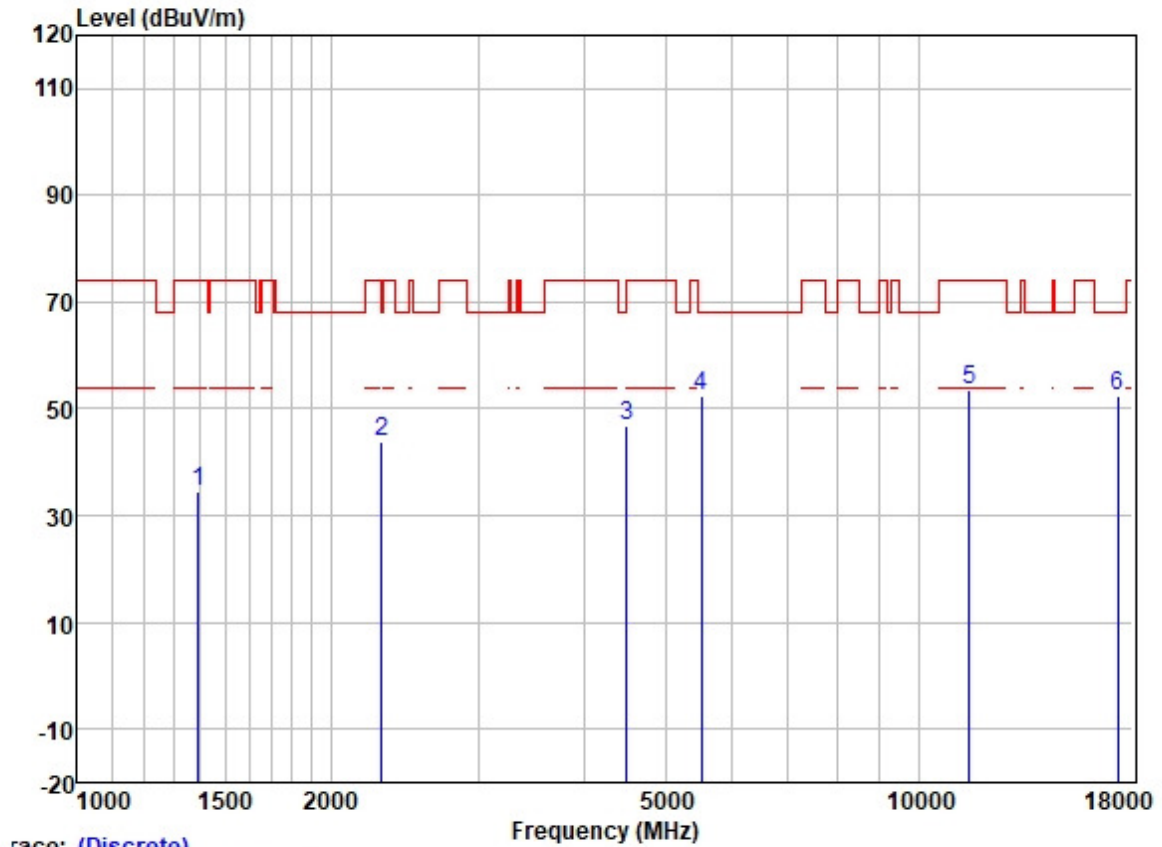
$D_{10}$ : 10m distance. Unit: m

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
74.92	20.74	10.89	36.30	31.20	40.00	-8.80	V
144.34	17.37	7.39	24.63	27.83	43.50	-15.67	V
170.20	19.2	9.12	30.40	29.66	43.50	-13.84	V
268.49	19.37	9.30	31.00	29.83	46.00	-16.17	V
459.11	20.57	10.68	35.59	31.03	46.00	-14.97	V
763.38	27.61	24.02	80.05	38.07	46.00	-7.93	V
49.19	13.46	4.71	15.70	23.92	40.00	-16.08	H
65.11	12.98	4.46	14.86	23.44	40.00	-16.56	H
80.08	13.13	4.53	15.11	23.59	40.00	-16.41	H
165.49	15.91	6.24	20.82	26.37	43.50	-17.13	H
308.91	17.46	7.46	24.88	27.92	46.00	-18.08	H
642.86	25.84	19.59	65.29	36.30	46.00	-9.70	H

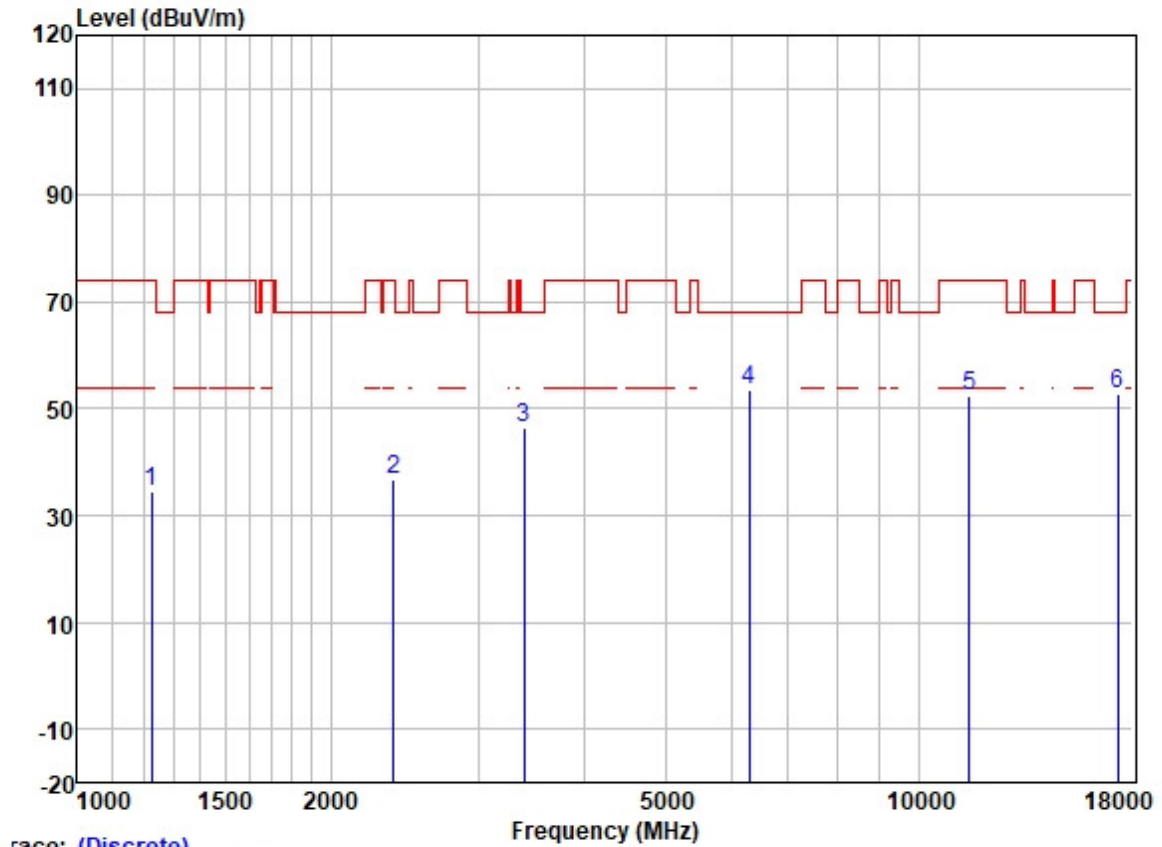


Test Mode: 24; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



		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	1390.721	44.82	25.38	2.60	38.22	34.58	74.00	-39.42	HORIZONTAL	Peak
2	2297.378	51.20	27.11	3.30	37.62	43.99	74.00	-30.01	HORIZONTAL	Peak
3	4499.279	47.68	30.80	5.05	36.82	46.71	68.20	-21.49	HORIZONTAL	Peak
4	5523.905	51.14	31.81	6.38	36.89	52.44	68.20	-15.76	HORIZONTAL	Peak
5	11490.000	42.33	39.90	8.41	37.15	53.49	74.00	-20.51	HORIZONTAL	Peak
6	17235.000	34.80	43.01	10.08	35.33	52.56	68.20	-15.64	HORIZONTAL	Peak

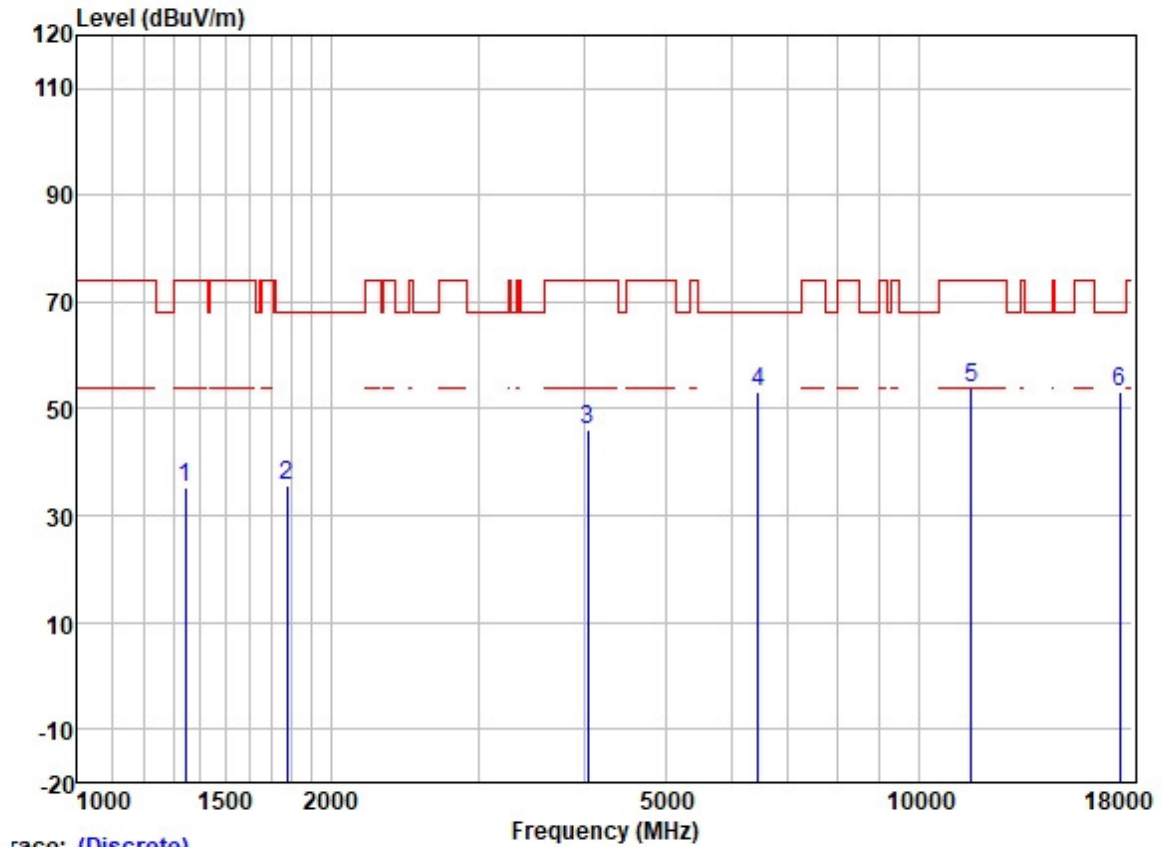
Test Mode: 24; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



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	1226.097	45.69	24.88	2.31	38.37	34.51	74.00	-39.49	VERTICAL	Peak
2	2376.985	43.54	27.31	3.46	37.60	36.71	74.00	-37.29	VERTICAL	Peak
3	3394.900	50.57	28.84	4.10	36.98	46.53	68.20	-21.67	VERTICAL	Peak
4	6296.382	51.01	33.44	5.97	36.96	53.46	68.20	-14.74	VERTICAL	Peak
5	11490.000	41.30	39.90	8.41	37.15	52.46	74.00	-21.54	VERTICAL	Peak
6	17235.000	35.11	43.01	10.08	35.33	52.87	68.20	-15.33	VERTICAL	Peak

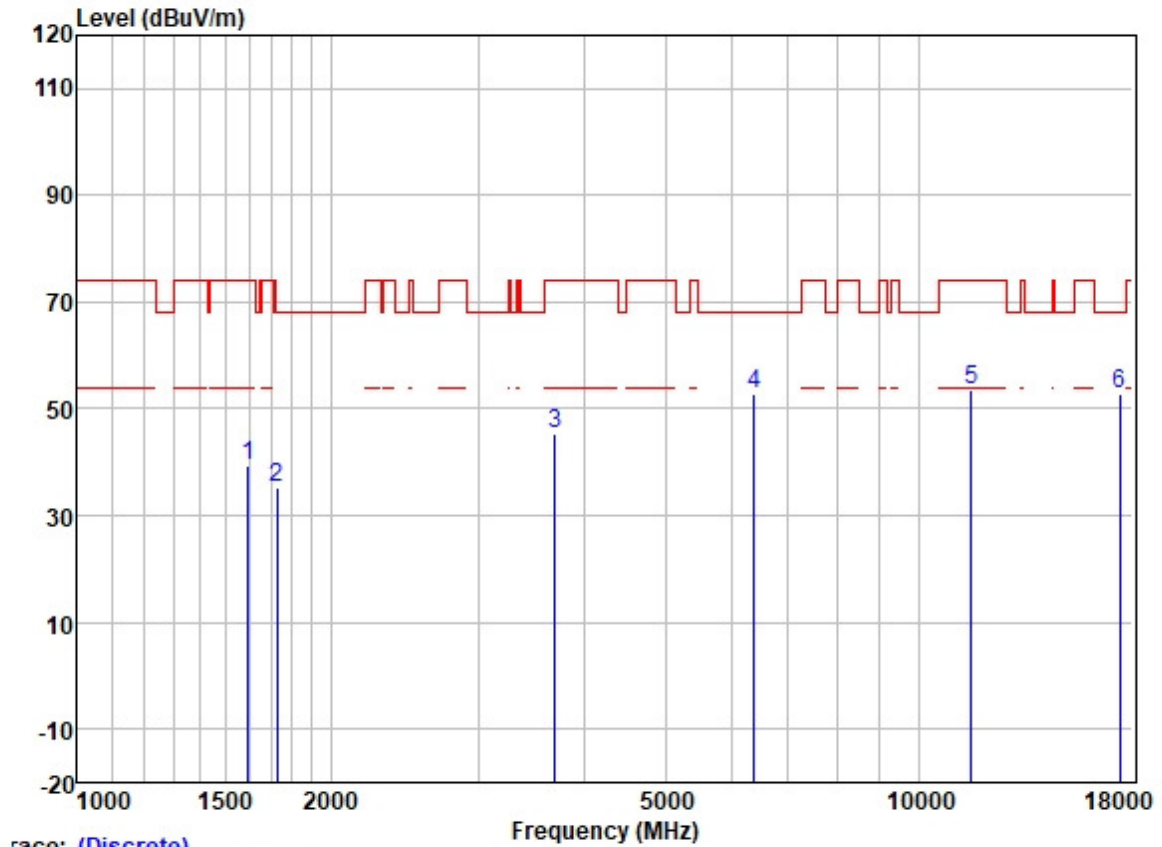
Test Mode: 24; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



		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	1343.786	45.63	25.30	2.60	38.27	35.26	74.00	-38.74	HORIZONTAL	Peak
2	1775.948	44.69	25.91	2.96	37.83	35.73	68.20	-32.47	HORIZONTAL	Peak
3	4044.185	48.30	29.85	4.60	36.80	45.95	74.00	-28.05	HORIZONTAL	Peak
4	6454.466	50.54	33.88	5.87	37.00	53.29	68.20	-14.91	HORIZONTAL	Peak
5	11570.000	42.72	39.78	8.38	37.14	53.74	74.00	-20.26	HORIZONTAL	Peak
6	17355.000	34.52	43.40	10.39	35.32	52.99	68.20	-15.21	HORIZONTAL	Peak



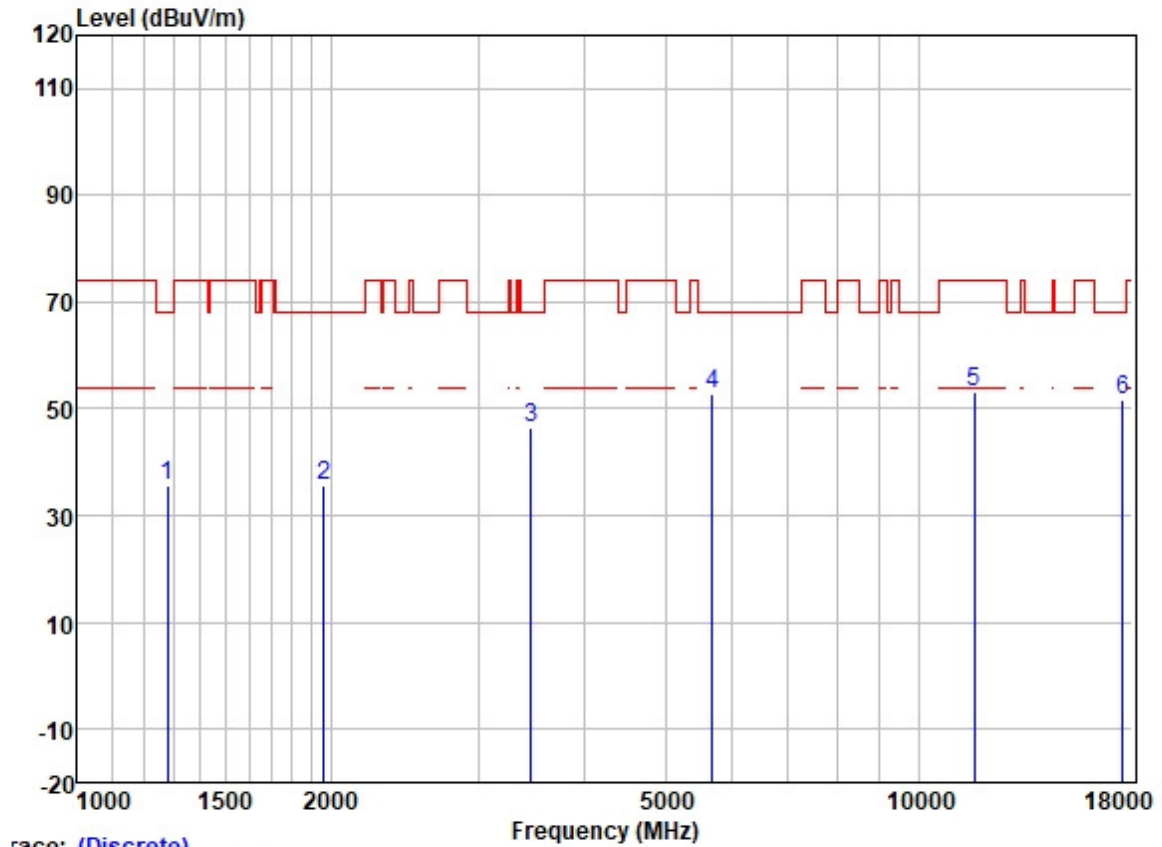
Test Mode: 24; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



		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	1595.884	49.12	25.58	2.80	37.98	39.52	74.00	-34.48	VERTICAL	Peak
2	1726.500	44.66	25.78	2.84	37.87	35.41	68.20	-32.79	VERTICAL	Peak
3	3693.181	48.61	29.22	4.55	36.88	45.50	74.00	-28.50	VERTICAL	Peak
4	6381.827	50.33	33.68	5.91	36.98	52.94	68.20	-15.26	VERTICAL	Peak
5	11570.000	42.67	39.78	8.38	37.14	53.69	74.00	-20.31	VERTICAL	Peak
6	17355.000	34.24	43.40	10.39	35.32	52.71	68.20	-15.49	VERTICAL	Peak

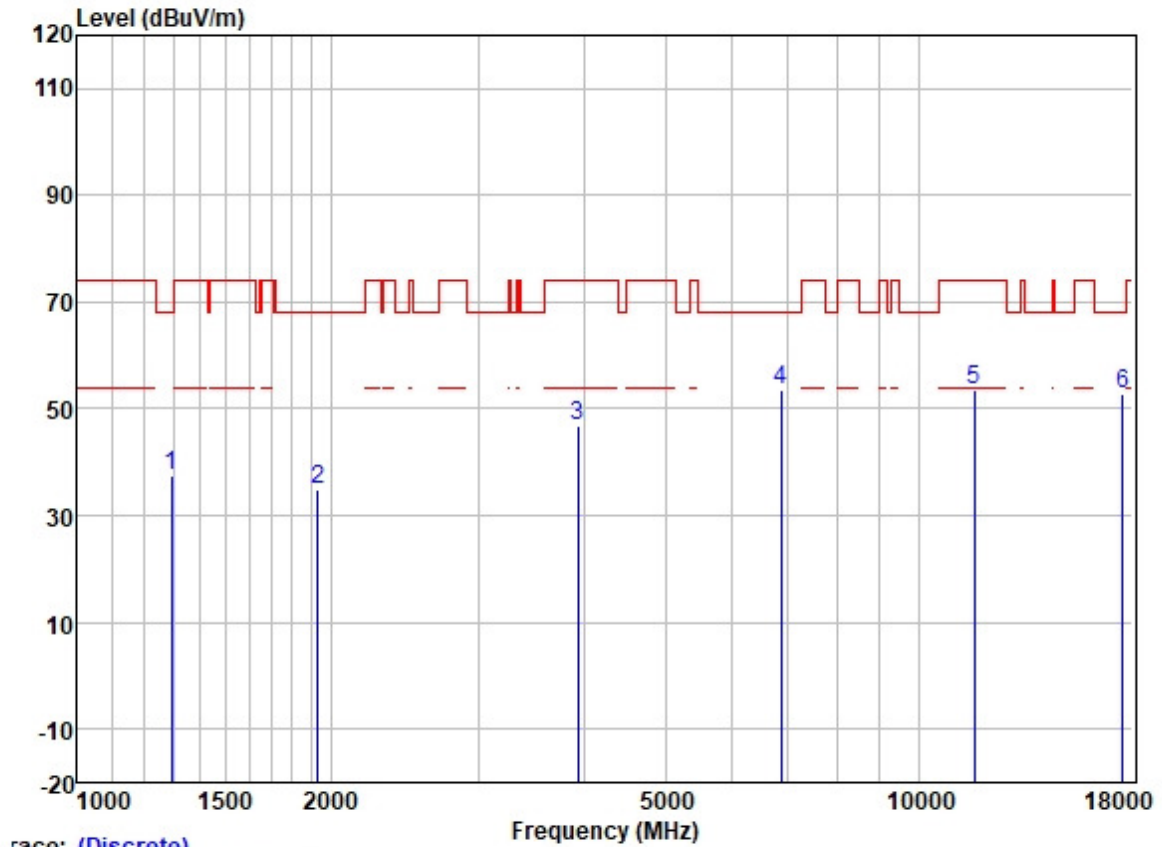


Test Mode: 24; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



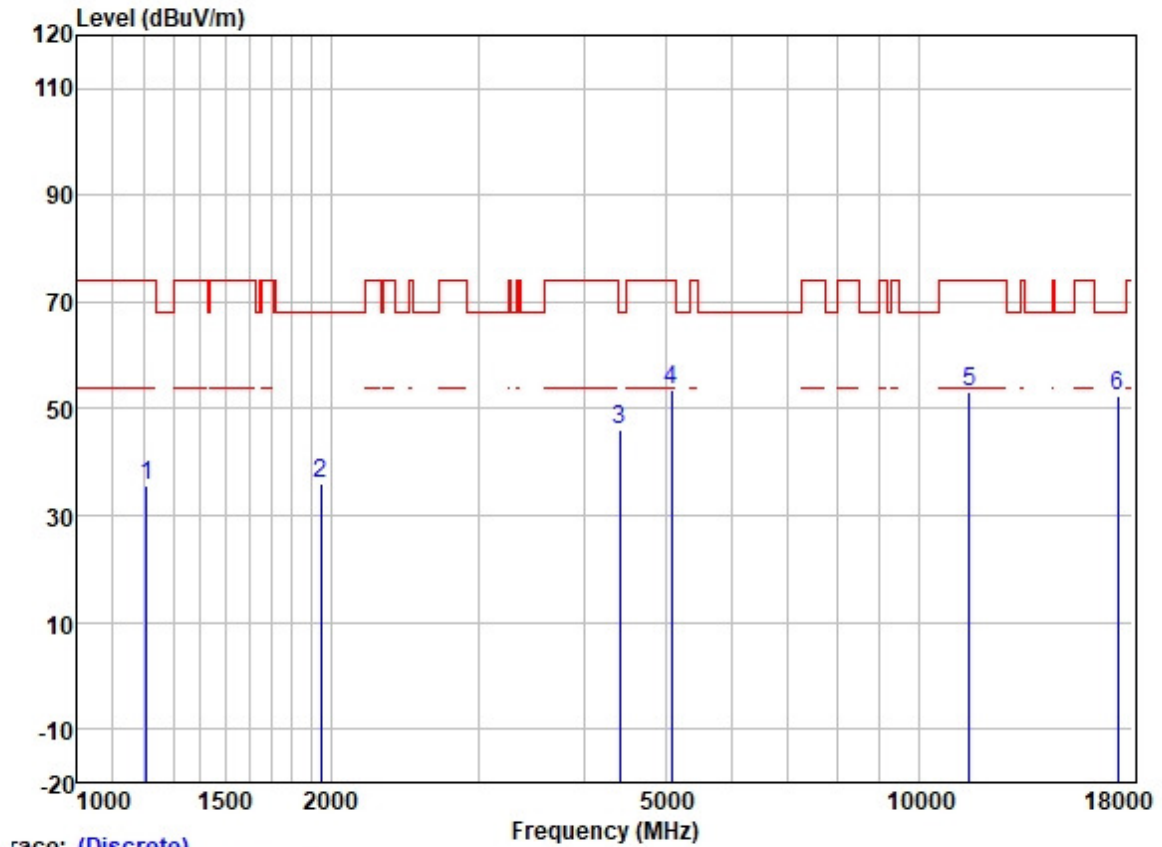
		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1278.348	46.43	25.14	2.50	38.33	35.74	68.20	-32.46	HORIZONTAL	Peak
2	1962.500	44.24	26.08	3.03	37.73	35.62	68.20	-32.58	HORIZONTAL	Peak
3	3458.753	50.17	28.88	4.20	36.96	46.29	68.20	-21.91	HORIZONTAL	Peak
4	5689.680	51.23	32.01	6.40	36.89	52.75	68.20	-15.45	HORIZONTAL	Peak
5	11650.000	42.39	39.65	8.35	37.13	53.26	74.00	-20.74	HORIZONTAL	Peak
6	17475.000	32.17	43.90	10.77	35.32	51.52	68.20	-16.68	HORIZONTAL	Peak

Test Mode: 24; 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	dBuV/m	dB	
1	1292.409	48.05	25.18	2.57	38.31	37.49	68.20	-30.71	VERTICAL Peak
2	1929.787	43.74	26.06	2.95	37.74	35.01	68.20	-33.19	VERTICAL Peak
3	3937.873	49.22	29.73	4.60	36.81	46.74	74.00	-27.26	VERTICAL Peak
4	6857.143	50.24	34.78	5.82	37.15	53.69	68.20	-14.51	VERTICAL Peak
5	11650.000	42.81	39.65	8.35	37.13	53.68	74.00	-20.32	VERTICAL Peak
6	17475.000	33.31	43.90	10.77	35.32	52.66	68.20	-15.54	VERTICAL Peak

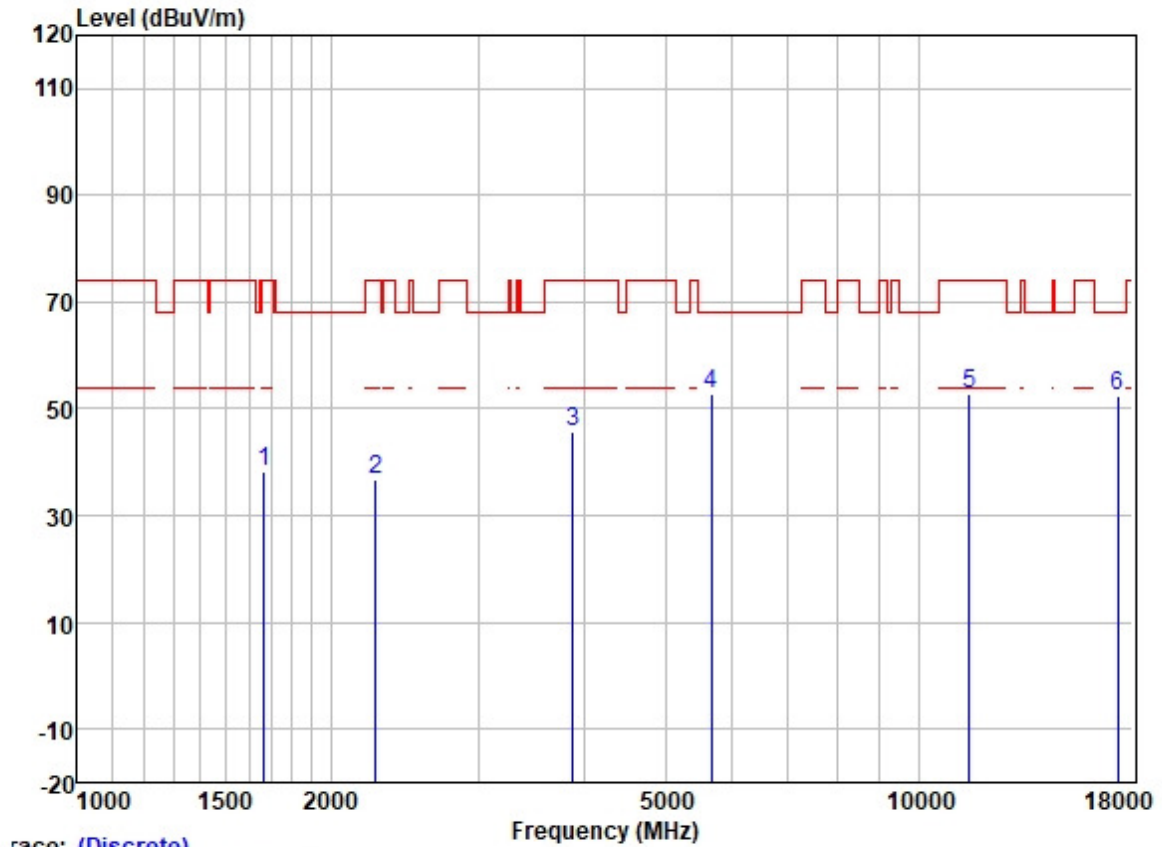
Test Mode: 24; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



		Read	Antenna	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	1207.566	47.12	24.72	2.33	38.39	35.78	74.00	-38.22	HORIZONTAL	Peak
2	1948.412	44.76	26.07	3.00	37.73	36.10	68.20	-32.10	HORIZONTAL	Peak
3	4410.453	47.39	30.68	4.70	36.81	45.96	68.20	-22.24	HORIZONTAL	Peak
4	5082.706	52.97	31.71	5.66	36.86	53.48	74.00	-20.52	HORIZONTAL	Peak
5	11490.000	42.09	39.90	8.41	37.15	53.25	74.00	-20.75	HORIZONTAL	Peak
6	17235.000	34.74	43.01	10.08	35.33	52.50	68.20	-15.70	HORIZONTAL	Peak



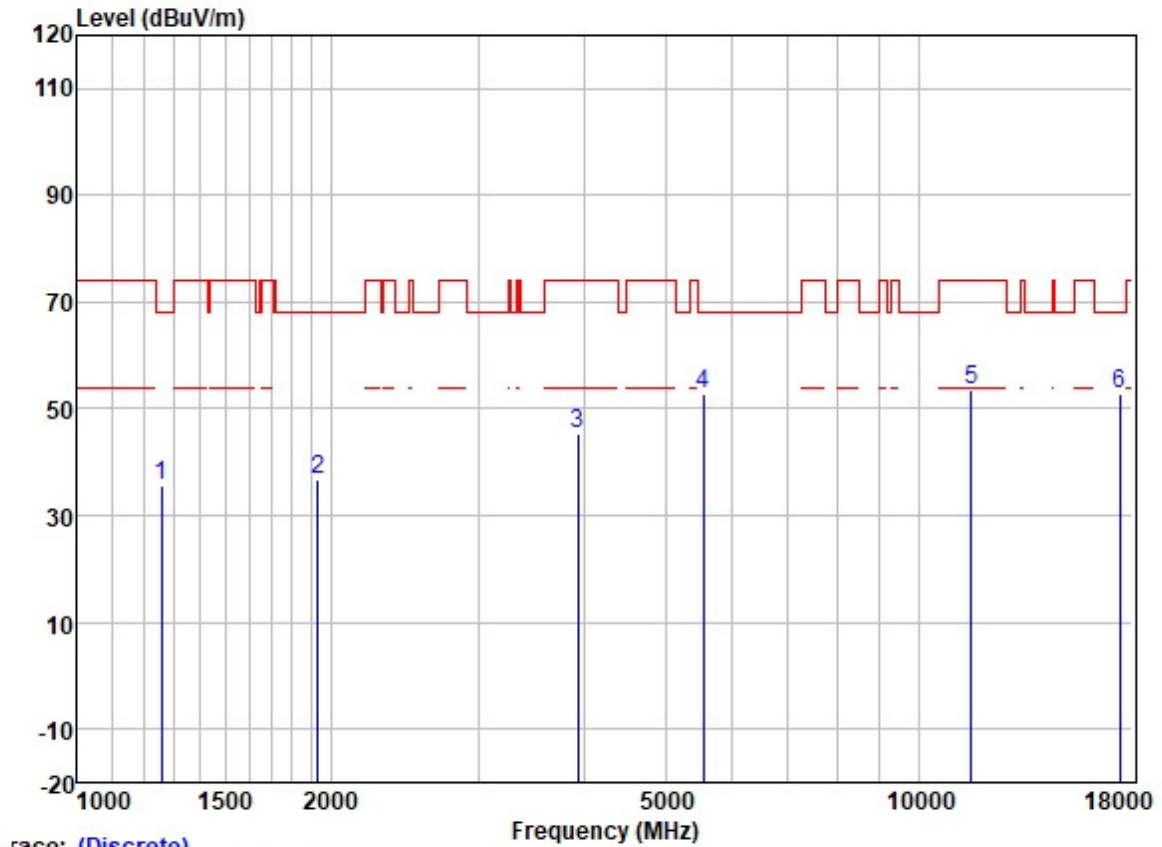
Test Mode: 24; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



		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	1665.084	47.85	25.65	2.80	37.91	38.39	74.00	-35.61	VERTICAL	Peak
2	2264.226	44.13	26.98	3.27	37.63	36.75	74.00	-37.25	VERTICAL	Peak
3	3879.365	48.33	29.66	4.60	36.83	45.76	74.00	-28.24	VERTICAL	Peak
4	5665.298	51.43	31.97	6.37	36.89	52.88	68.20	-15.32	VERTICAL	Peak
5	11490.000	41.64	39.90	8.41	37.15	52.80	74.00	-21.20	VERTICAL	Peak
6	17235.000	34.81	43.01	10.08	35.33	52.57	68.20	-15.63	VERTICAL	Peak

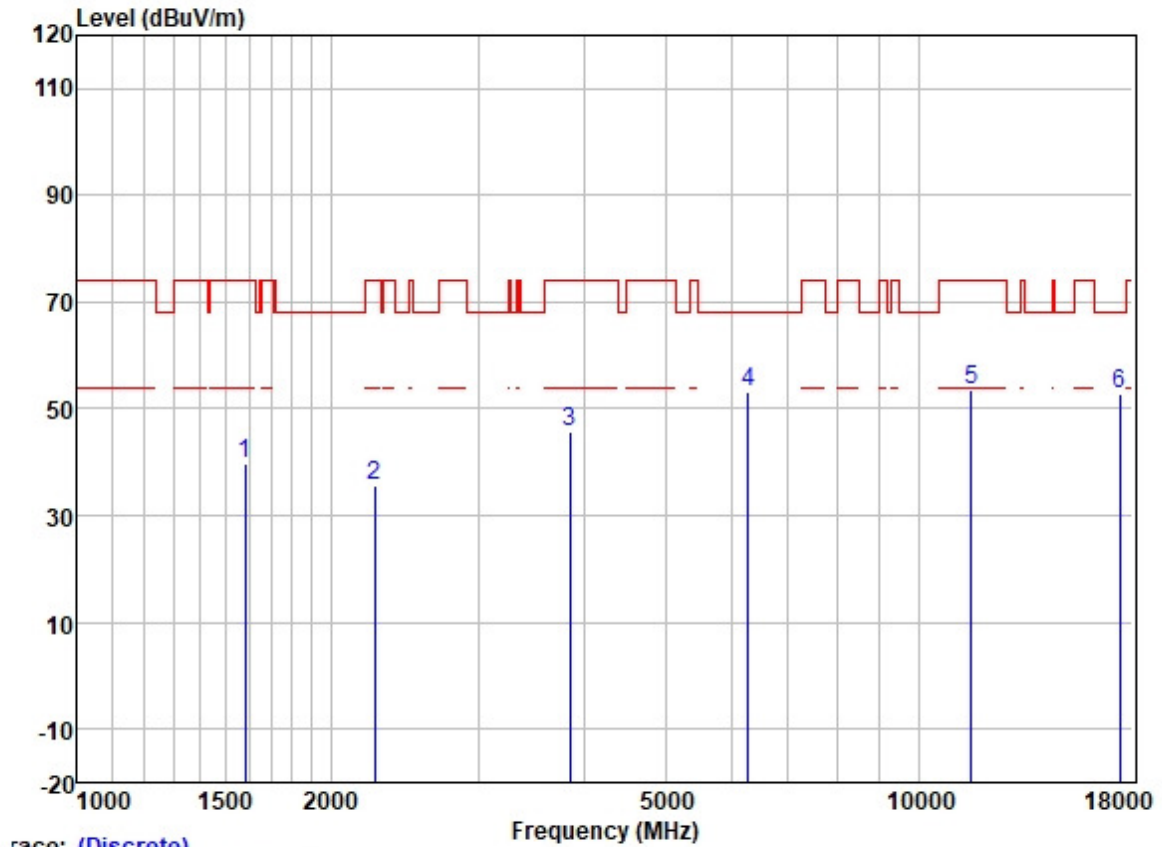


Test Mode: 24; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



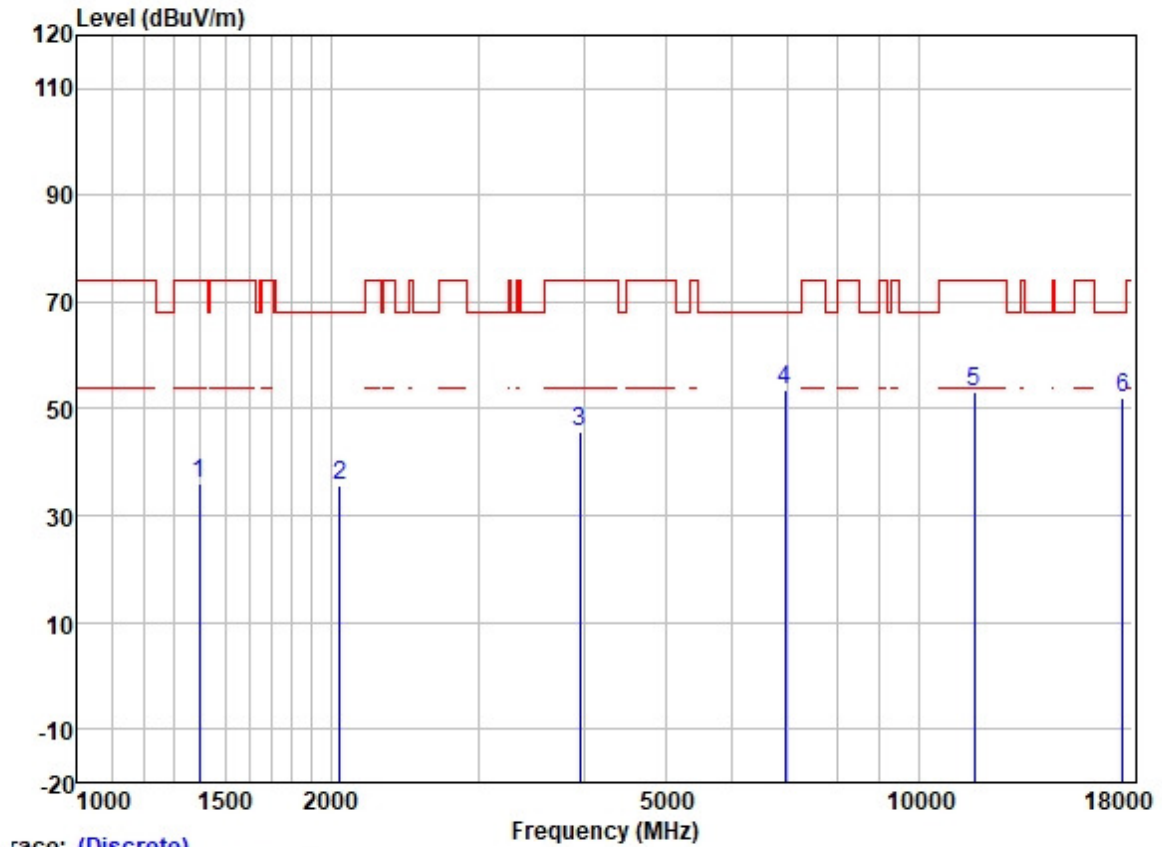
		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1257.591	46.67	25.05	2.38	38.35	35.75	68.20	-32.45	HORIZONTAL	Peak
2	1932.011	45.29	26.06	2.96	37.74	36.57	68.20	-31.63	HORIZONTAL	Peak
3	3933.309	47.85	29.73	4.60	36.82	45.36	74.00	-28.64	HORIZONTAL	Peak
4	5554.392	51.55	31.84	6.35	36.89	52.85	68.20	-15.35	HORIZONTAL	Peak
5	11570.000	42.37	39.78	8.38	37.14	53.39	74.00	-20.61	HORIZONTAL	Peak
6	17355.000	34.21	43.40	10.39	35.32	52.68	68.20	-15.52	HORIZONTAL	Peak

Test Mode: 24; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



		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	1583.144	49.33	25.56	2.80	38.00	39.69	74.00	-34.31	VERTICAL	Peak
2	2257.147	43.05	26.95	3.27	37.64	35.63	74.00	-38.37	VERTICAL	Peak
3	3850.382	48.18	29.60	4.60	36.84	45.54	74.00	-28.46	VERTICAL	Peak
4	6275.684	50.67	33.29	6.00	36.95	53.01	68.20	-15.19	VERTICAL	Peak
5	11570.000	42.44	39.78	8.38	37.14	53.46	74.00	-20.54	VERTICAL	Peak
6	17355.000	34.32	43.40	10.39	35.32	52.79	68.20	-15.41	VERTICAL	Peak

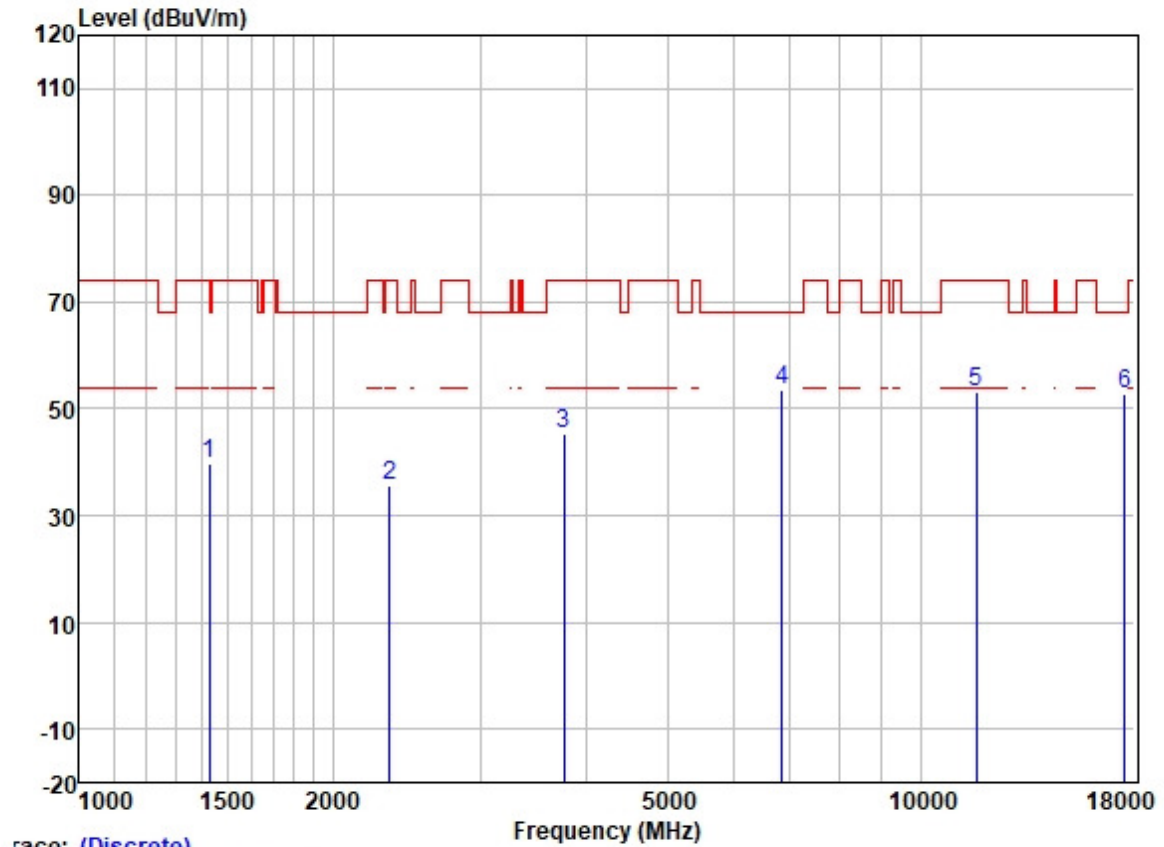
Test Mode: 24; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



		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	1397.744	46.29	25.39	2.60	38.22	36.06	74.00	-37.94	HORIZONTAL	Peak
2	2053.782	44.05	26.19	3.12	37.69	35.67	68.20	-32.53	HORIZONTAL	Peak
3	3959.119	48.12	29.75	4.60	36.81	45.66	74.00	-28.34	HORIZONTAL	Peak
4	6938.419	49.86	34.92	5.81	37.21	53.38	68.20	-14.82	HORIZONTAL	Peak
5	11650.000	42.17	39.65	8.35	37.13	53.04	74.00	-20.96	HORIZONTAL	Peak
6	17475.000	32.84	43.90	10.77	35.32	52.19	68.20	-16.01	HORIZONTAL	Peak



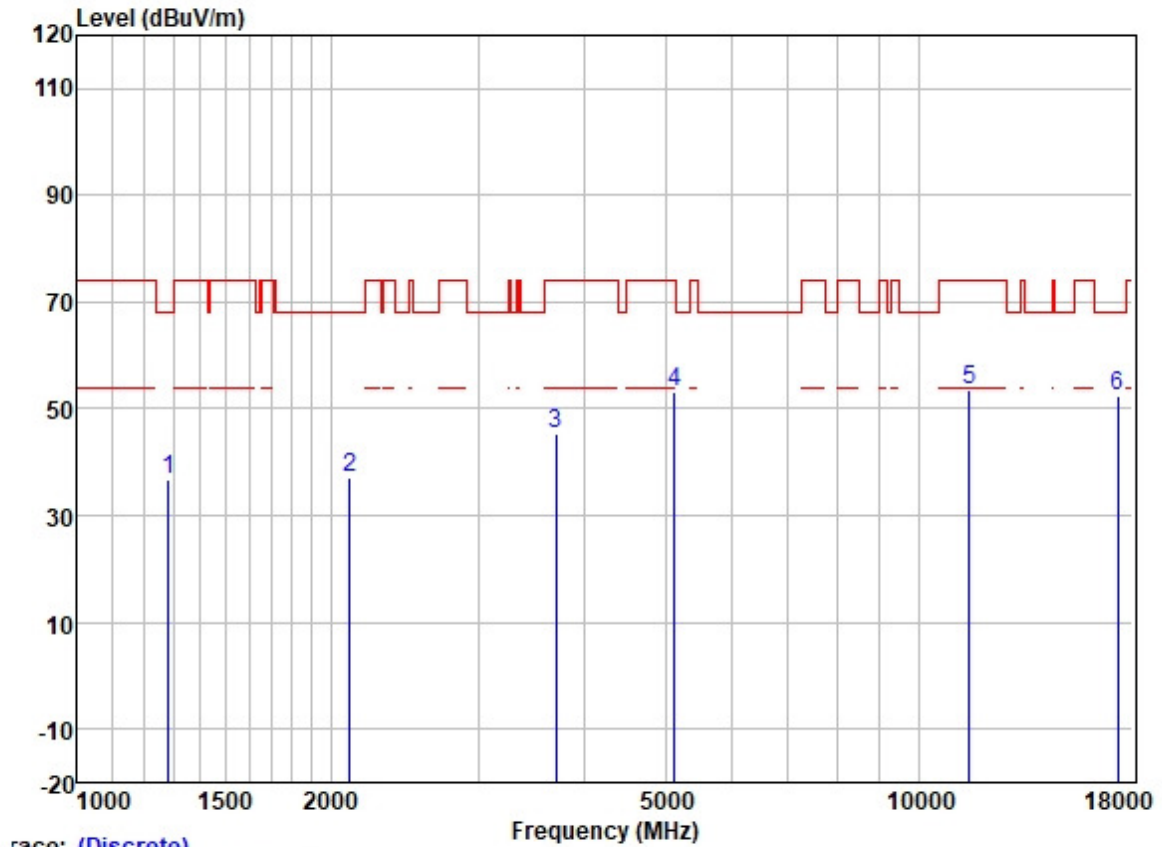
Test Mode: 24; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



	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	1425.818	49.83	25.43	2.65	38.20	39.71	74.00	-34.29	VERTICAL	Peak
2	2338.560	42.52	27.22	3.37	37.61	35.50	74.00	-38.50	VERTICAL	Peak
3	3769.190	48.14	29.45	4.59	36.86	45.32	74.00	-28.68	VERTICAL	Peak
4	6851.504	50.14	34.78	5.82	37.15	53.59	68.20	-14.61	VERTICAL	Peak
5	11650.000	42.20	39.65	8.35	37.13	53.07	74.00	-20.93	VERTICAL	Peak
6	17475.000	33.29	43.90	10.77	35.32	52.64	68.20	-15.56	VERTICAL	Peak

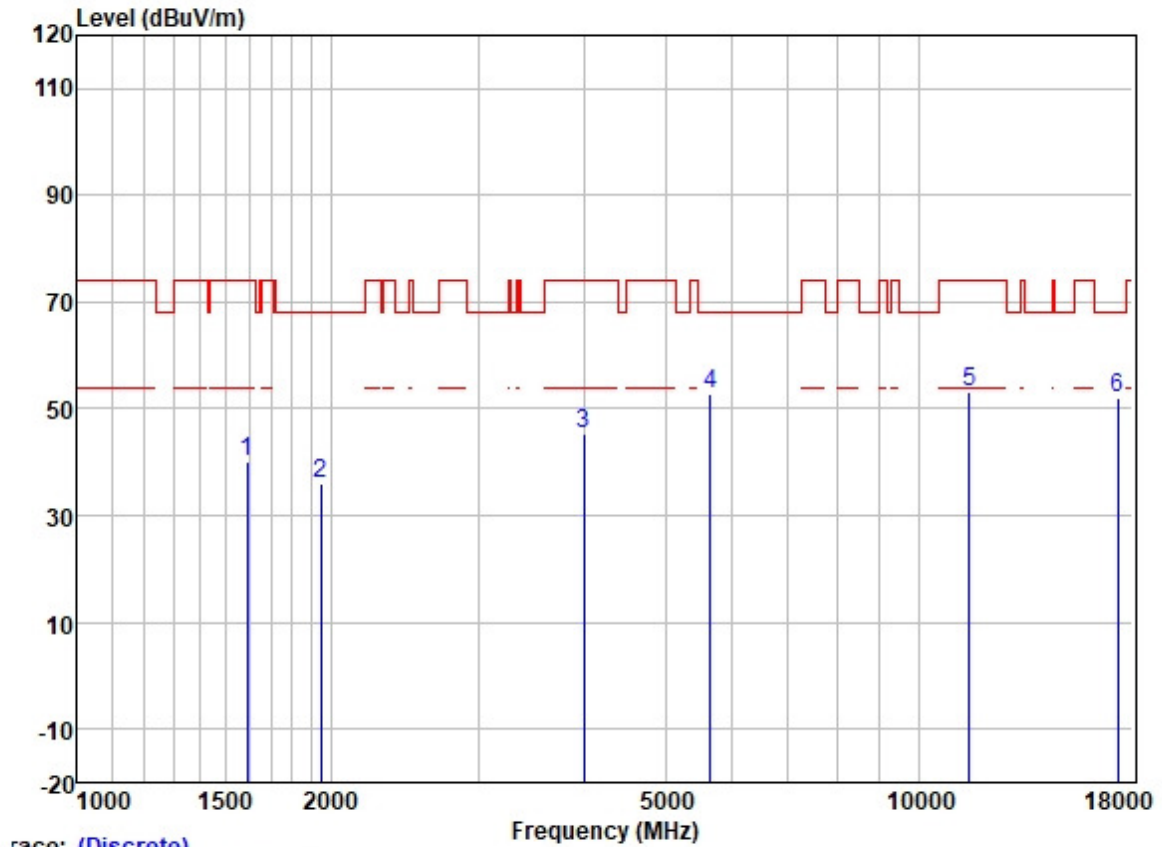


Test Mode: 24; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



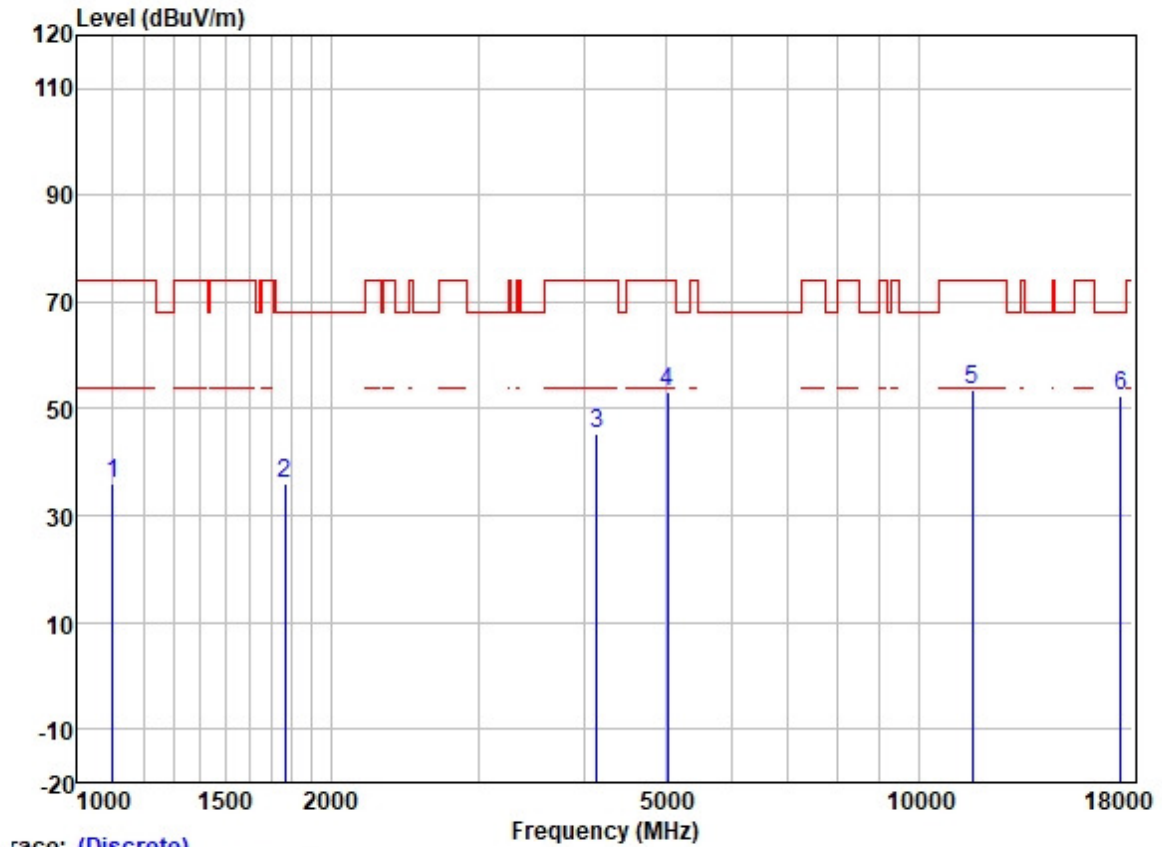
		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1283.315	47.48	25.15	2.52	38.33	36.82	68.20	-31.38	HORIZONTAL	Peak
2	2110.674	45.25	26.31	3.16	37.68	37.04	68.20	-31.16	HORIZONTAL	Peak
3	3704.258	48.44	29.25	4.56	36.88	45.37	74.00	-28.63	HORIZONTAL	Peak
4	5125.738	52.59	31.72	5.64	36.86	53.09	74.00	-20.91	HORIZONTAL	Peak
5	11510.000	42.52	39.90	8.41	37.15	53.68	74.00	-20.32	HORIZONTAL	Peak
6	17265.000	34.33	43.21	10.24	35.33	52.45	68.20	-15.75	HORIZONTAL	Peak

Test Mode: 24; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; 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	1589.834	49.68	25.57	2.80	37.98	40.07	74.00	-33.93	VERTICAL	Peak
2	1949.576	44.48	26.07	3.00	37.73	35.82	68.20	-32.38	VERTICAL	Peak
3	4003.132	47.63	29.80	4.60	36.80	45.23	74.00	-28.77	VERTICAL	Peak
4	5653.722	51.57	31.95	6.35	36.89	52.98	68.20	-15.22	VERTICAL	Peak
5	11510.000	42.06	39.90	8.41	37.15	53.22	74.00	-20.78	VERTICAL	Peak
6	17265.000	34.03	43.21	10.24	35.33	52.15	68.20	-16.05	VERTICAL	Peak

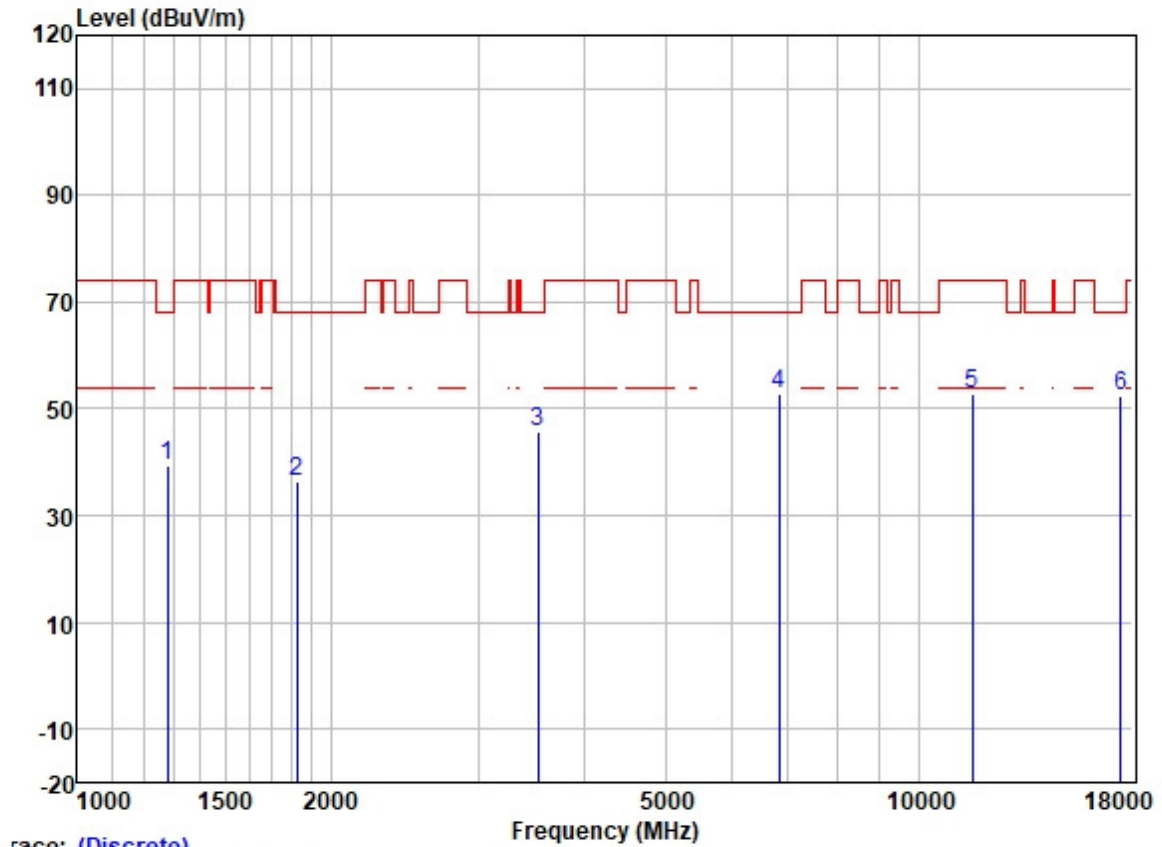
Test Mode: 24; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



		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	1100.437	47.78	24.37	2.30	38.45	36.00	74.00	-38.00	HORIZONTAL	Peak
2	1764.723	44.86	25.89	2.94	37.83	35.86	68.20	-32.34	HORIZONTAL	Peak
3	4146.896	47.61	30.03	4.60	36.80	45.44	74.00	-28.56	HORIZONTAL	Peak
4	5032.702	52.78	31.70	5.69	36.85	53.32	74.00	-20.68	HORIZONTAL	Peak
5	11590.000	42.58	39.72	8.37	37.14	53.53	74.00	-20.47	HORIZONTAL	Peak
6	17385.000	33.71	43.57	10.53	35.32	52.49	68.20	-15.71	HORIZONTAL	Peak



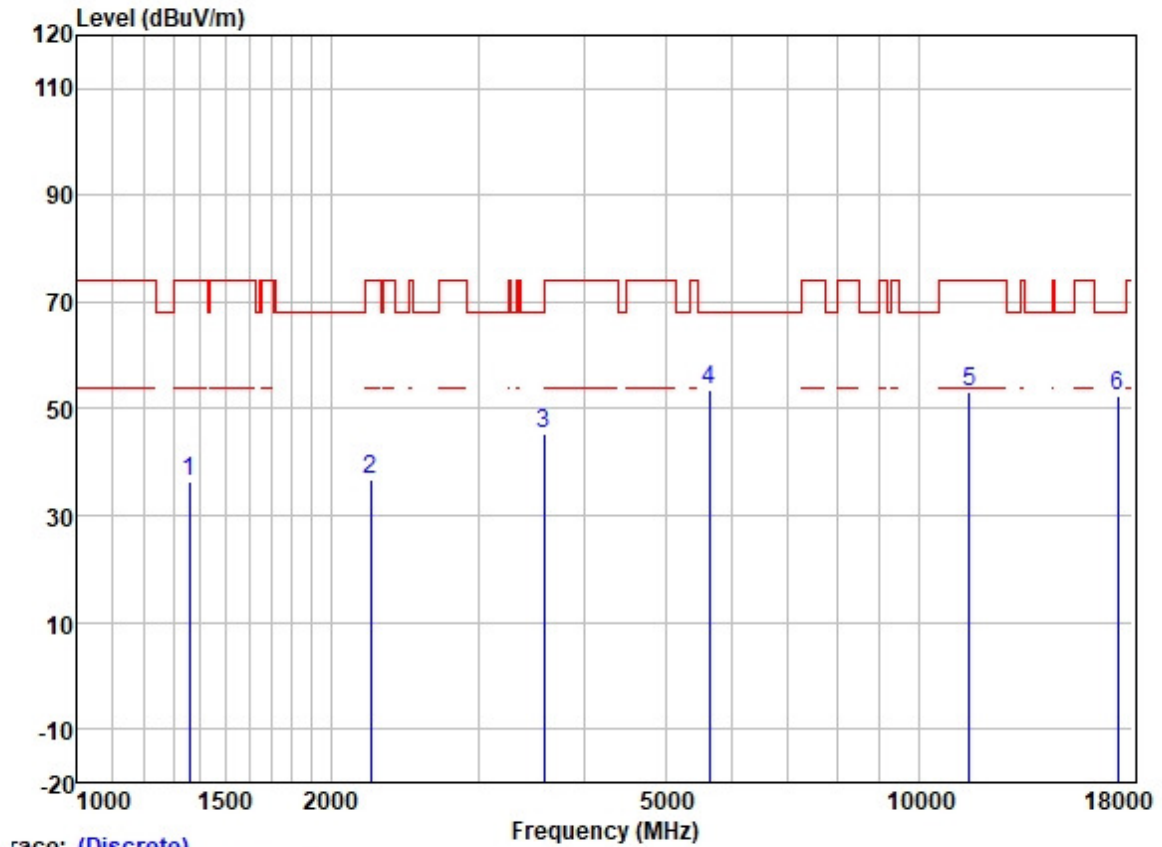
Test Mode: 24; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



		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	1280.436	49.89	25.15	2.52	38.33	39.23	68.20	-28.97	VERTICAL	Peak
2	1821.774	45.23	25.97	2.98	37.80	36.38	68.20	-31.82	VERTICAL	Peak
3	3529.055	49.47	28.94	4.38	36.93	45.86	68.20	-22.34	VERTICAL	Peak
4	6831.625	49.34	34.74	5.82	37.13	52.77	68.20	-15.43	VERTICAL	Peak
5	11590.000	41.96	39.72	8.37	37.14	52.91	74.00	-21.09	VERTICAL	Peak
6	17385.000	33.66	43.57	10.53	35.32	52.44	68.20	-15.76	VERTICAL	Peak

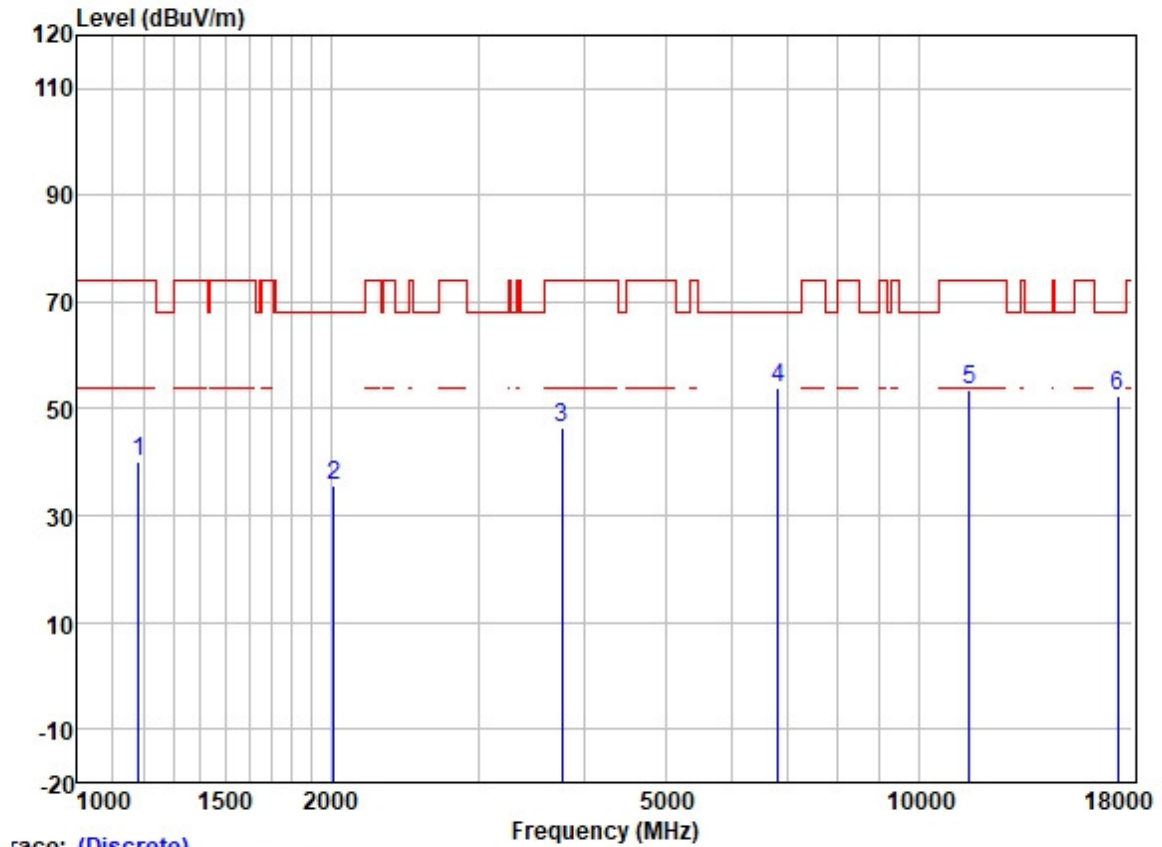


Test Mode: 24; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



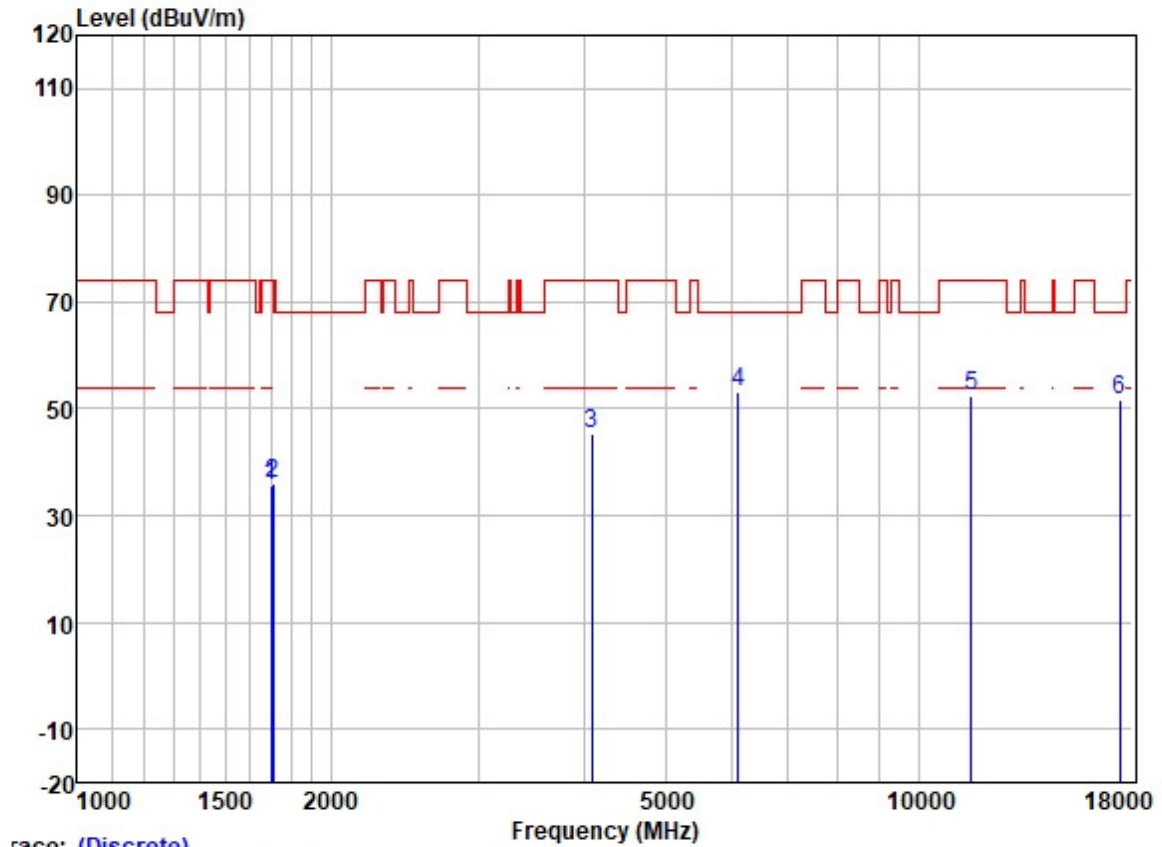
		Read	Antenna	Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1359.947	46.86	25.33	2.60	38.27	36.52	74.00	-37.48	HORIZONTAL	Peak
2	2231.673	44.42	26.80	3.23	37.64	36.81	74.00	-37.19	HORIZONTAL	Peak
3	3589.840	48.85	29.02	4.49	36.91	45.45	68.20	-22.75	HORIZONTAL	Peak
4	5636.143	52.31	31.93	6.33	36.89	53.68	68.20	-14.52	HORIZONTAL	Peak
5	11490.000	42.13	39.90	8.41	37.15	53.29	74.00	-20.71	HORIZONTAL	Peak
6	17235.000	34.50	43.01	10.08	35.33	52.26	68.20	-15.94	HORIZONTAL	Peak

Test Mode: 24; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



		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	1181.915	51.60	24.60	2.37	38.40	40.17	74.00	-33.83	VERTICAL	Peak
2	2018.674	44.01	26.13	3.11	37.69	35.56	68.20	-32.64	VERTICAL	Peak
3	3764.669	49.13	29.45	4.59	36.86	46.31	74.00	-27.69	VERTICAL	Peak
4	6817.800	50.49	34.70	5.82	37.13	53.88	68.20	-14.32	VERTICAL	Peak
5	11490.000	42.32	39.90	8.41	37.15	53.48	74.00	-20.52	VERTICAL	Peak
6	17235.000	34.76	43.01	10.08	35.33	52.52	68.20	-15.68	VERTICAL	Peak

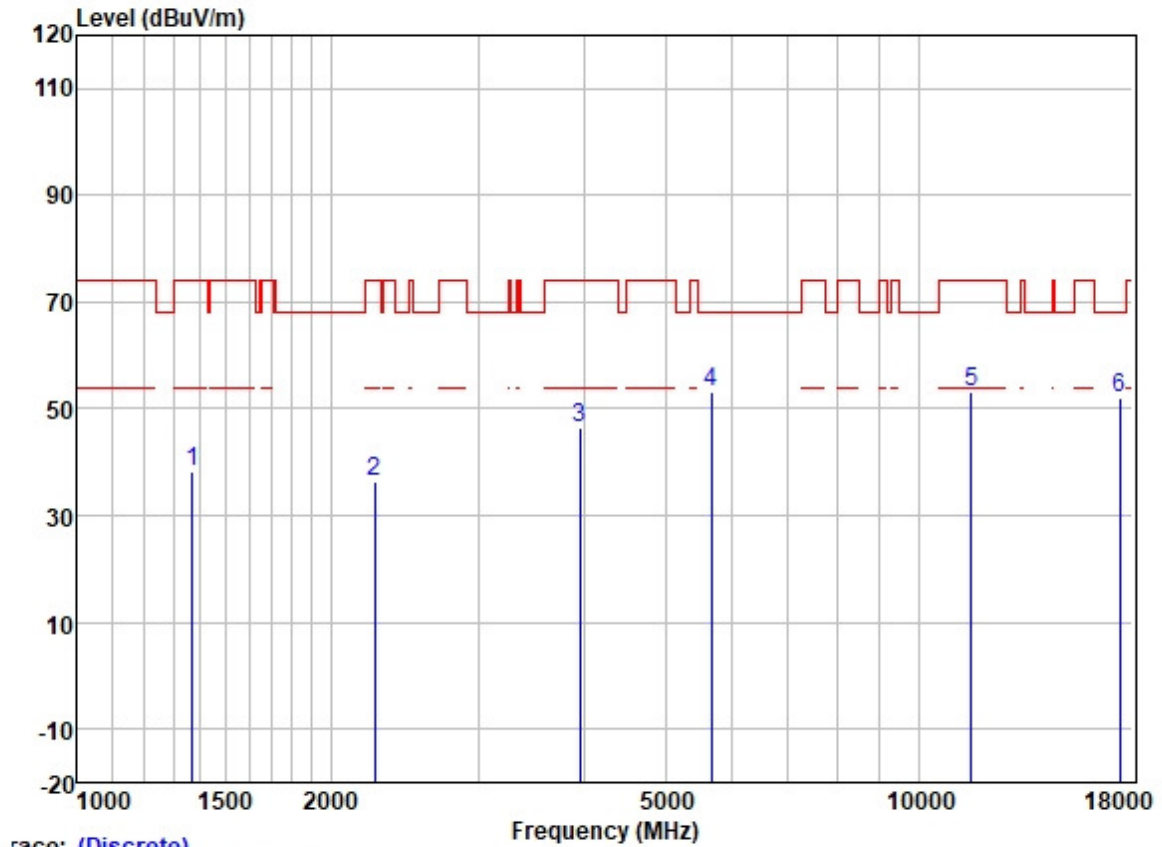
Test Mode: 24; Polarity: Horizontal; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: middle



		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	1698.623	44.93	25.71	2.80	37.89	35.55	74.00	-38.45	HORIZONTAL	Peak
2	1709.508	45.26	25.74	2.82	37.89	35.93	74.00	-38.07	HORIZONTAL	Peak
3	4084.625	47.67	29.92	4.60	36.80	45.39	74.00	-28.61	HORIZONTAL	Peak
4	6107.596	51.26	32.66	6.14	36.92	53.14	68.20	-15.06	HORIZONTAL	Peak
5	11570.000	41.54	39.78	8.38	37.14	52.56	74.00	-21.44	HORIZONTAL	Peak
6	17355.000	33.34	43.40	10.39	35.32	51.81	68.20	-16.39	HORIZONTAL	Peak



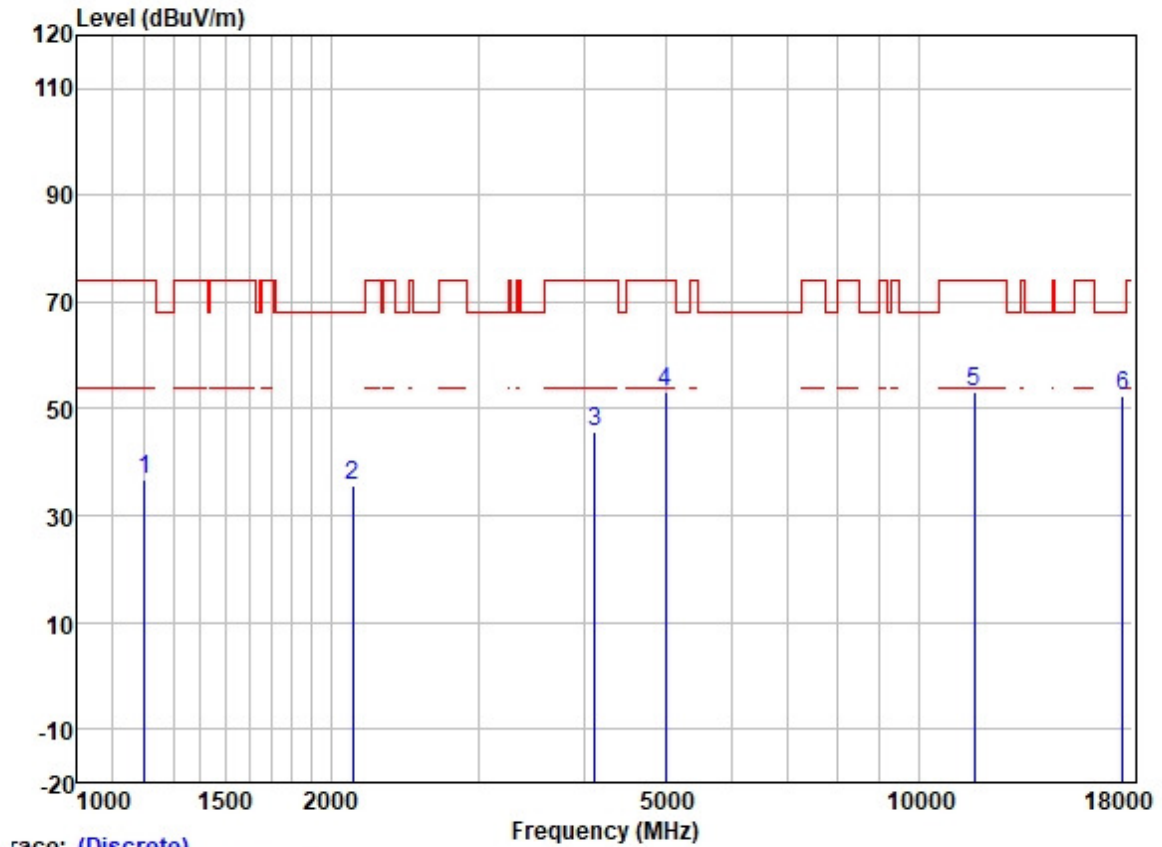
Test Mode: 24; Polarity: Vertical; Modulation: 802.11ac; Bandwidth: 20MHz; Channel: middle



		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	1370.370	48.48	25.35	2.60	38.25	38.18	74.00	-35.82	VERTICAL	Peak
2	2253.755	43.90	26.92	3.26	37.64	36.44	74.00	-37.56	VERTICAL	Peak
3	3962.008	48.88	29.75	4.60	36.81	46.42	74.00	-27.58	VERTICAL	Peak
4	5675.635	51.53	31.99	6.38	36.89	53.01	68.20	-15.19	VERTICAL	Peak
5	11570.000	41.98	39.78	8.38	37.14	53.00	74.00	-21.00	VERTICAL	Peak
6	17355.000	33.71	43.40	10.39	35.32	52.18	68.20	-16.02	VERTICAL	Peak

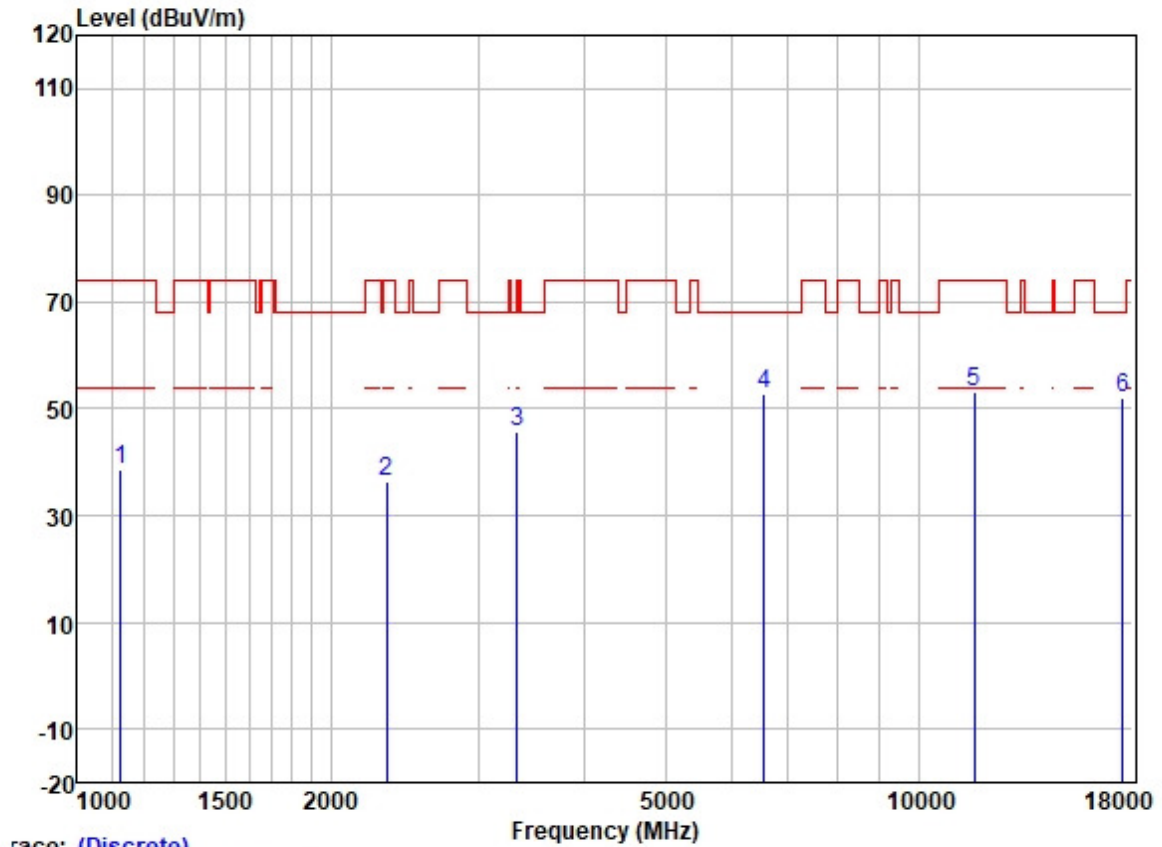


Test Mode: 24; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



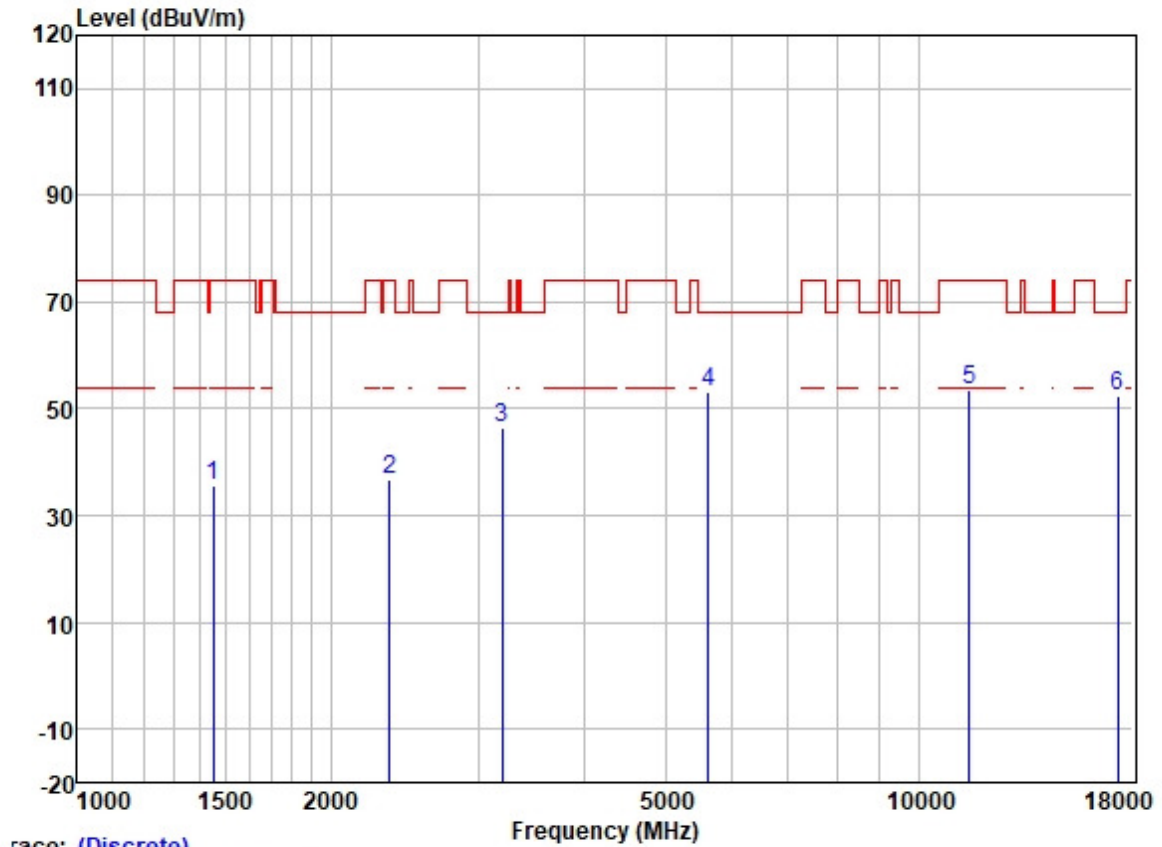
		Read	Antenna	Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1203.102	48.09	24.70	2.34	38.39	36.74	74.00	-37.26	HORIZONTAL	Peak
2	2125.501	43.94	26.36	3.17	37.67	35.80	68.20	-32.40	HORIZONTAL	Peak
3	4117.596	47.76	29.98	4.60	36.80	45.54	74.00	-28.46	HORIZONTAL	Peak
4	5006.973	52.79	31.70	5.70	36.85	53.34	74.00	-20.66	HORIZONTAL	Peak
5	11650.000	42.45	39.65	8.35	37.13	53.32	74.00	-20.68	HORIZONTAL	Peak
6	17475.000	33.26	43.90	10.77	35.32	52.61	68.20	-15.59	HORIZONTAL	Peak

Test Mode: 24; 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	dBuV/m	dB	
1	1124.327	50.23	24.42	2.21	38.43	38.43	74.00	-35.57	VERTICAL Peak
2	2333.129	43.33	27.20	3.36	37.62	36.27	74.00	-37.73	VERTICAL Peak
3	3331.418	49.76	28.78	4.07	37.02	45.59	68.20	-22.61	VERTICAL Peak
4	6563.117	49.83	34.09	5.84	37.03	52.73	68.20	-15.47	VERTICAL Peak
5	11650.000	42.37	39.65	8.35	37.13	53.24	74.00	-20.76	VERTICAL Peak
6	17475.000	32.75	43.90	10.77	35.32	52.10	68.20	-16.10	VERTICAL Peak

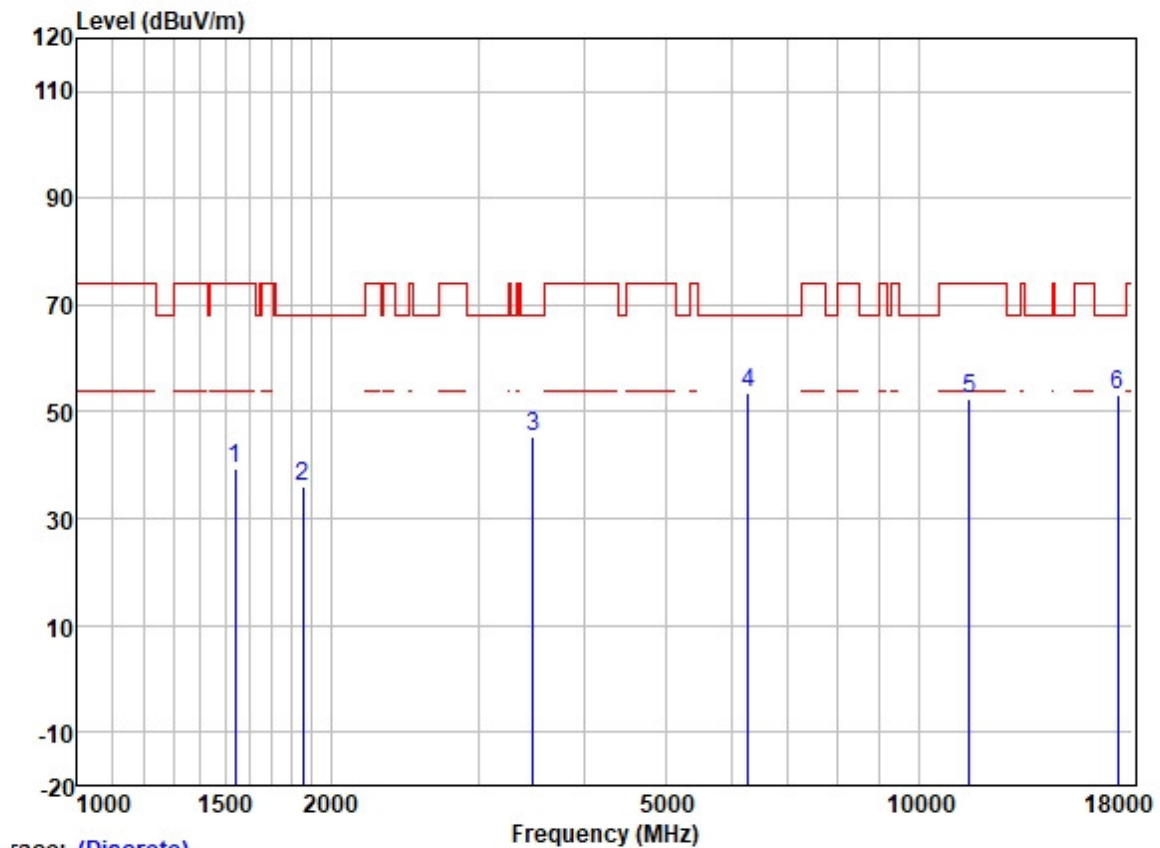
Test Mode: 24; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



		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	1451.266	45.69	25.45	2.71	38.17	35.68	74.00	-38.32	HORIZONTAL	Peak
2	2348.249	43.88	27.24	3.38	37.61	36.89	74.00	-37.11	HORIZONTAL	Peak
3	3202.365	50.79	28.60	4.00	37.09	46.30	68.20	-21.90	HORIZONTAL	Peak
4	5626.322	51.87	31.93	6.33	36.89	53.24	68.20	-14.96	HORIZONTAL	Peak
5	11510.000	42.51	39.90	8.41	37.15	53.67	74.00	-20.33	HORIZONTAL	Peak
6	17265.000	34.43	43.21	10.24	35.33	52.55	68.20	-15.65	HORIZONTAL	Peak



Test Mode: 24; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



		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	1539.502	49.17	25.53	2.80	38.03	39.47	74.00	-34.53	VERTICAL	Peak
2	1856.591	44.77	26.00	2.94	37.78	35.93	68.20	-32.27	VERTICAL	Peak
3	3480.615	48.98	28.89	4.27	36.95	45.19	68.20	-23.01	VERTICAL	Peak
4	6281.767	51.09	33.37	5.98	36.95	53.49	68.20	-14.71	VERTICAL	Peak
5	11510.000	41.41	39.90	8.41	37.15	52.57	74.00	-21.43	VERTICAL	Peak
6	17265.000	35.12	43.21	10.24	35.33	53.24	68.20	-14.96	VERTICAL	Peak