



TEST REPORT

Application No.: GZCR2106020438AT
Applicant: Lorex Technology Inc.
Address of Applicant: 250 Royal Crest Court, Markham, ON L3R 3S1 Canada
Manufacturer: The same as applicant
Address of Manufacturer: The same as applicant
Factory: The same as applicant
Address of Factory: The same as applicant
Equipment Under Test (EUT):
EUT Name: 2k 8ch WF NVR
Model No.: L4248-Z
Trade Mark: LOREX
Standard(s) : 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2021-06-15
Date of Test: 2021-06-25 to 2021-08-06
Date of Issue: 2021-08-11

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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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-08-11		Original

Authorized for issue by			
		Kevin Zhang/Project Engineer	
		Ricky Liu/Reviewer	

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2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Conducted Peak Output Power		ANSI C63.10 (2013) Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Minimum 6dB Bandwidth		ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectrum Density		ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement		ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions		ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5 & 11.12.1	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass**
Radiated Spurious Emissions		ANSI C63.10 (2013) Section 6.4,6.5,6.6 & 11.12.1	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass

**: The EUT passed Radiated Emissions which fall in the restricted bands tests after modification.

Note:

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

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

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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 12 V
Cable(s):	DC input ports HDMI ports LAN ports USB ports*2 Micro SD card ports
Test Voltage:	AC 120 V, 60 Hz powered by AC/DC adapter refer to section 4.2
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz;802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK);802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11;802.11n(HT40):7
Channel Spacing:	5MHz
Antenna Type:	Integral Antenna
Antenna Number:	2
Antenna Gain:	0 dBi declared by applicant for both 2 antennas Two antennas support MIMO synchronous transmission for 801.11n
Firmware Version:	SV01
Hardware Version:	DG610_V10
Testing Software:	SecureCRT_6.70
Sample NO.:	GZ_SP_20210632820 M2
Power Setting:	Default
Function:	Wireless Network Video Recorder with Wi-Fi function

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Note Book Computer	LENOVO	ThinkPad T490	PF1D1MVJ
AC/DC adapter	/	FJ-SW1202000U Input: AC 100-240 V, 50/60 Hz, 0.6 A max Output: DC 12 V, 2000 mA	/

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4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	±3.12dB
Conducted Peak Output Power	± 0.75dB
Minimum 6dB Bandwidth	± 3%
Power Spectrum Density	± 2.84dB
Conducted Band Edges Measurement	± 0.75dB
Conducted Spurious Emissions	± 0.75dB
Radiated Emissions which fall in the restricted bands	± 4.5dB (Below 1GHz); ± 4.8dB (Above 1GHz)
Radiated Spurious Emissions	±5.06dB (3m); ±4.46dB (10m)

4.4 Test Location

All tests were performed at:

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

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

No tests were sub-contracted.

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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, IEC60061 and Rules of procedure IEC60062, and the relevant IEC60065 CB-Scheme Operational documents.

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4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 Duty cycle of the EUT

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percent.

Formula:

Duty Cycle = $T_{on}/(T_{on}+T_{off})$

Measurement Procedure:

1. Set span = Zero
2. RBW=8MHz
3. VBW=8MHz
4. Detector=Peak

Please refer to appendix for details.



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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	2021-01-08	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	2021-06-01	2022-05-31

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
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

Minimum 6dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
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

Power Spectrum Density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
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

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Conducted Band Edges Measurement

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
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

Conducted Spurious Emissions

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
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

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
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	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	2021-07-29	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	2020-09-09	2021-09-08

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Radiated Spurious Emissions

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	2022-02-22
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2019-12-27	2021-12-26
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

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 & 15.247(b)(4)

6.1.2 Conclusion

Standard Requirement:

Testing shall be performed using the highest gain antenna of each combination of licence-exempt transmitter and antenna type, with the transmitter output power set at the maximum level.

When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

15.247(b) (4) requirement:

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

EUT Antenna:

The 2 antennas are integrated on the main PCB and no consideration of replacement. The best case gain of both antennas are 0 dBi.

Please refer to internal photos.

EUT support 2x2 MIMO for 802.11n, any transmit signals are correlated with each other, as unequal antenna gains for antenna 1 and antenna 2 but with equal transmit power, therefore,

$$\text{Directional gain} = G_{\text{ANT}} + 10 \log (N_{\text{ANT}}) \text{ dBi}$$

Directional gain= $0+10\log (2)$ dBi=3.01 dBi



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7 Radio Spectrum Matter Test Results

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

Test Requirement 47 CFR Part 15, Subpart C 15.207

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

Limit:

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

7.1.1 E.U.T. Operation

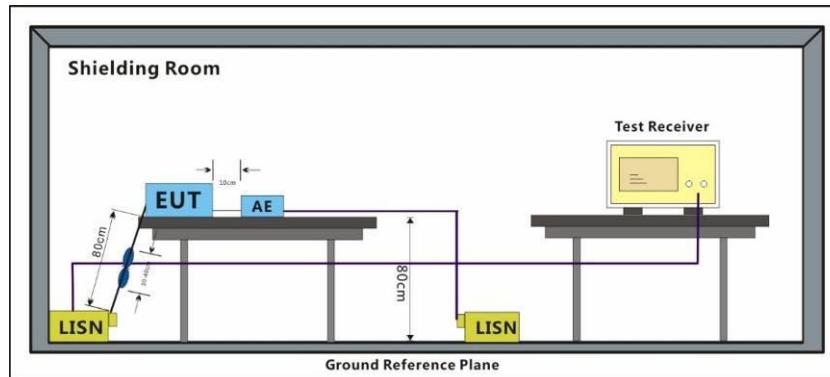
Operating Environment:

Temperature: 25.5 °C Humidity: 52 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Mode Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.1.3 Test Setup Diagram



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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

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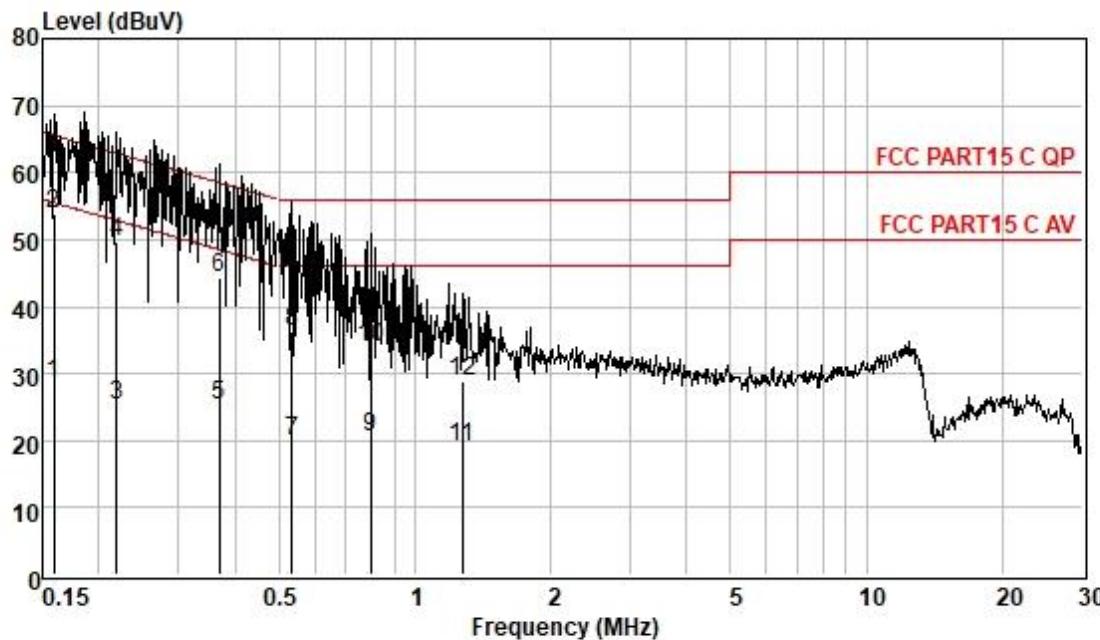
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Test Mode: 01; Line: Live line



Pol :LINE

Mode :

Model :

Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.16	18.97	0.06	9.62	28.65	55.52	-26.87	Average
0.16	44.27	0.06	9.62	53.95	65.52	-11.57	QP
0.22	15.55	0.06	9.63	25.24	52.88	-27.64	Average
0.22	39.90	0.06	9.63	49.59	62.88	-13.29	QP
0.37	15.66	0.06	9.63	25.35	48.52	-23.17	Average
0.37	34.50	0.06	9.63	44.19	58.52	-14.33	QP
0.53	10.20	0.07	9.63	19.90	46.00	-26.10	Average
0.53	26.60	0.07	9.63	36.30	56.00	-19.70	QP
0.80	10.69	0.07	9.63	20.39	46.00	-25.61	Average
0.80	24.11	0.07	9.63	33.81	56.00	-22.19	QP
1.28	9.29	0.09	9.61	18.99	46.00	-27.01	Average
1.28	19.10	0.09	9.61	28.80	56.00	-27.20	QP

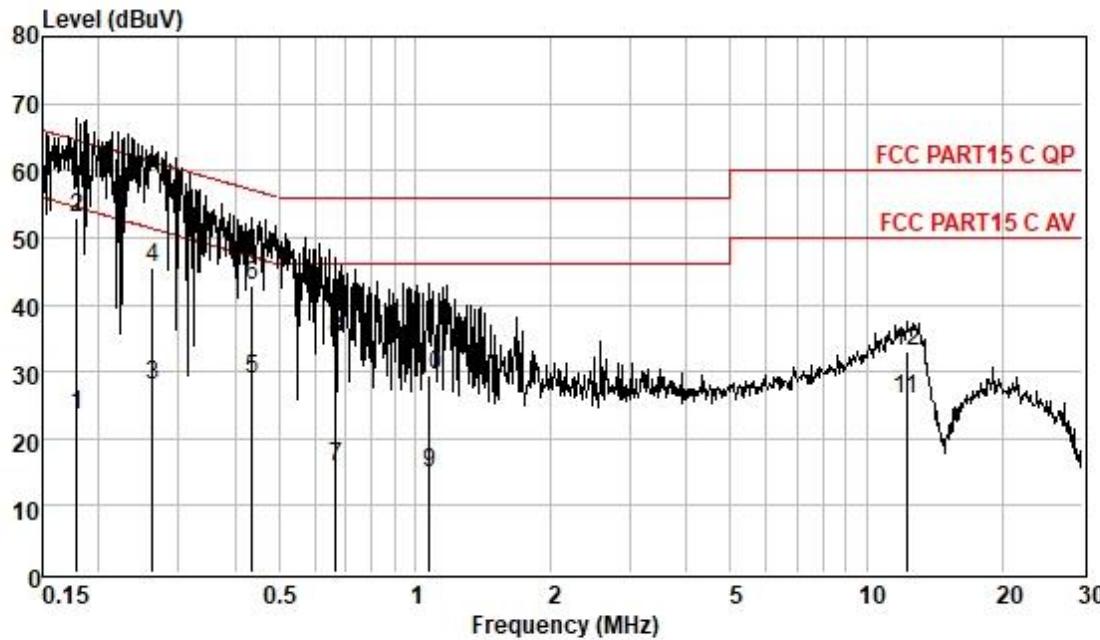
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Test Mode: 01; Line: Neutral Line



Pol : NEUTRAL

Mode :

Model :

Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.18	13.75	0.06	9.55	23.36	54.55	-31.19	Average
0.18	43.24	0.06	9.55	52.85	64.55	-11.70	QP
0.26	18.25	0.06	9.55	27.86	51.34	-23.48	Average
0.26	35.86	0.06	9.55	45.47	61.34	-15.87	QP
0.44	19.15	0.06	9.56	28.77	47.11	-18.34	Average
0.44	33.11	0.06	9.56	42.73	57.11	-14.38	QP
0.67	6.27	0.07	9.55	15.89	46.00	-30.11	Average
0.67	25.11	0.07	9.55	34.73	56.00	-21.27	QP
1.08	5.32	0.08	9.55	14.95	46.00	-31.05	Average
1.08	19.77	0.08	9.55	29.40	56.00	-26.60	QP
12.25	16.11	0.27	9.61	25.99	50.00	-24.01	Average
12.25	23.20	0.27	9.61	33.08	60.00	-26.92	QP

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7.2 Conducted Peak Output Power

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

Test Method: ANSI C63.10 (2013) Section 11.9.1.3

Limit:

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

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 32.0 °C Humidity: 34.6 % RH Atmospheric Pressure: 1005 mbar

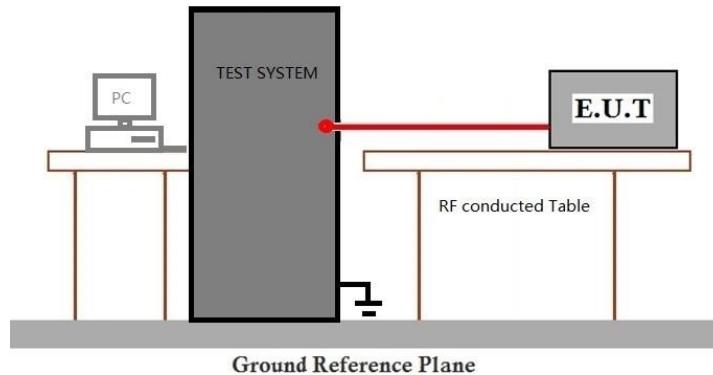
7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

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7.2.3 Test Setup Diagram**7.2.4 Measurement Procedure and Data**

cable loss=0.9dB

Please Refer To Appendix For Details



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7.3 Minimum 6dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.247a(2)

Test Method: ANSI C63.10 (2013) Section 11.8.1

Limit: ≥ 500 kHz

7.3.1 E.U.T. Operation

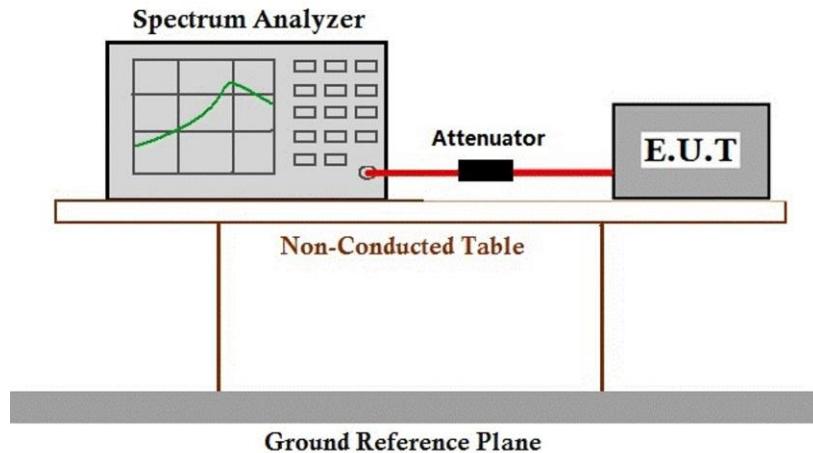
Operating Environment:

Temperature: 32.0 °C Humidity: 34.6 % RH Atmospheric Pressure: 1005 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

cable loss=0.9dB

Please Refer To Appendix For Details

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7.4 Power Spectrum Density

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

Test Method: ANSI C63.10 (2013) Section 11.10.2

Limit:

≤8dBm in any 3 kHz band during any time interval of continuous transmission

7.4.1 E.U.T. Operation

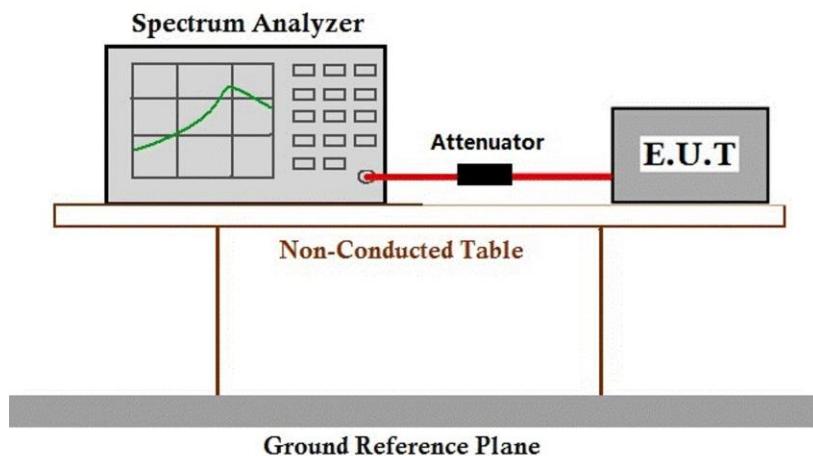
Operating Environment:

Temperature: 32.0 °C Humidity: 34.6 % RH Atmospheric Pressure: 1005 mbar

7.4.2 Test Mode Description

Pre-scan / Mode Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

cable loss=0.9dB

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7.5 Conducted Band Edges Measurement

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

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

Limit:

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

7.5.1 E.U.T. Operation

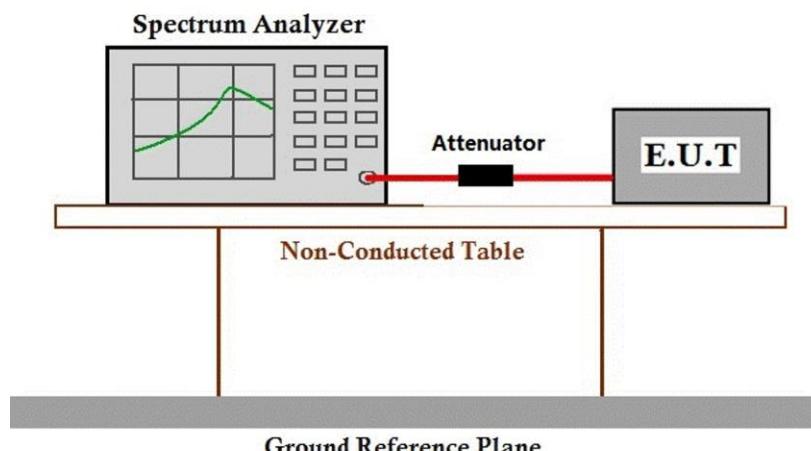
Operating Environment:

Temperature: 32.0 °C Humidity: 34.6 % RH Atmospheric Pressure: 1005 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



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7.5.4 Measurement Procedure and Data

cable loss=0.9dB

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7.6 Conducted Spurious Emissions

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

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

Limit:

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

7.6.1 E.U.T. Operation

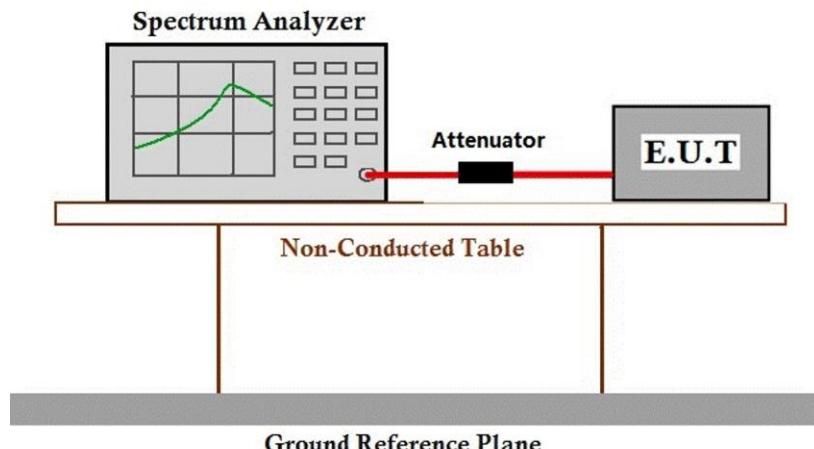
Operating Environment:

Temperature: 32.0 °C Humidity: 34.6 % RH Atmospheric Pressure: 1005 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.6.3 Test Setup Diagram



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7.6.4 Measurement Procedure and Data

cable loss=0.9dB

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7.7 Radiated Emissions which fall in the restricted bands

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

Test Method: ANSI C63.10 (2013) Section 6.10.5 & 11.12.1

Limit:

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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.7.1 E.U.T. Operation

Operating Environment:

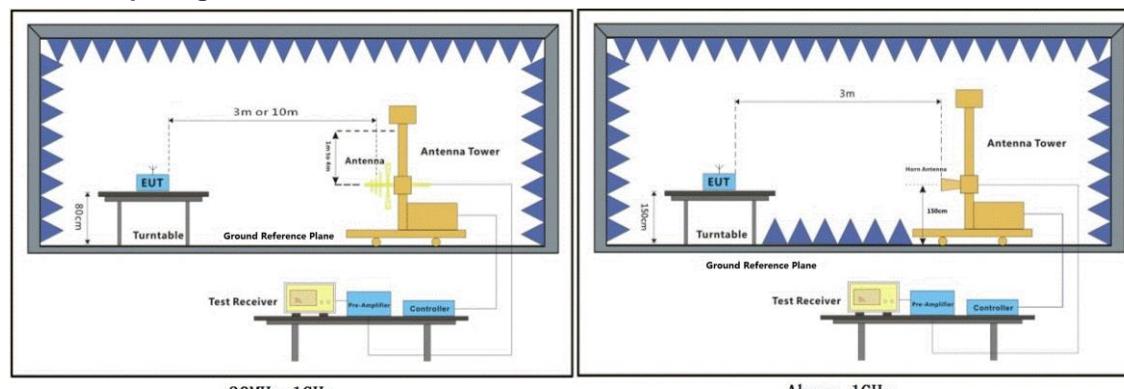
Temperature: 25.9 °C

Humidity: 54.0 % RH

Atmospheric Pressure: 1005 mbar

7.7.2 Test Mode Description

Pre-scan / Mode Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.7.3 Test Setup Diagram

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7.7.4 Measurement Procedure and Data

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

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

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

Remark 3: Pretest the EUT at antenna 1 and antenna 2 and MIMO mode find antenna 1 for 802.11b/g and MIMO mode for 802.11n are the worst-case mode. only record the worst-case test data 802.11b/g/n in this report.

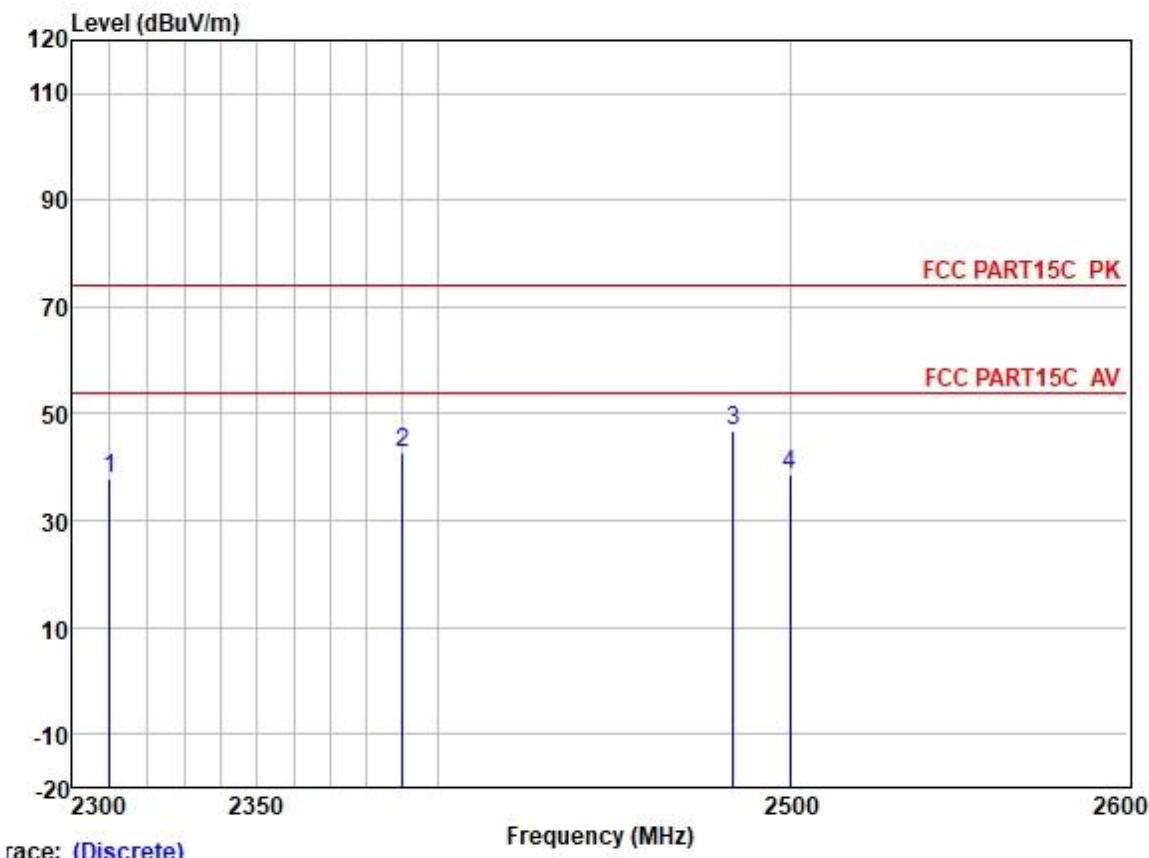
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor	dB	dBuV/m	dBuV/m	dB
1	2310.000	45.09	27.15	3.32	37.62	37.94	74.00	-36.06 HORIZONTAL Peak
2	2390.000	49.36	27.33	3.48	37.59	42.58	74.00	-31.42 HORIZONTAL Peak
3	2483.500	53.48	27.48	3.53	37.57	46.92	74.00	-27.08 HORIZONTAL Peak
4	2500.000	45.18	27.50	3.40	37.56	38.52	74.00	-35.48 HORIZONTAL Peak

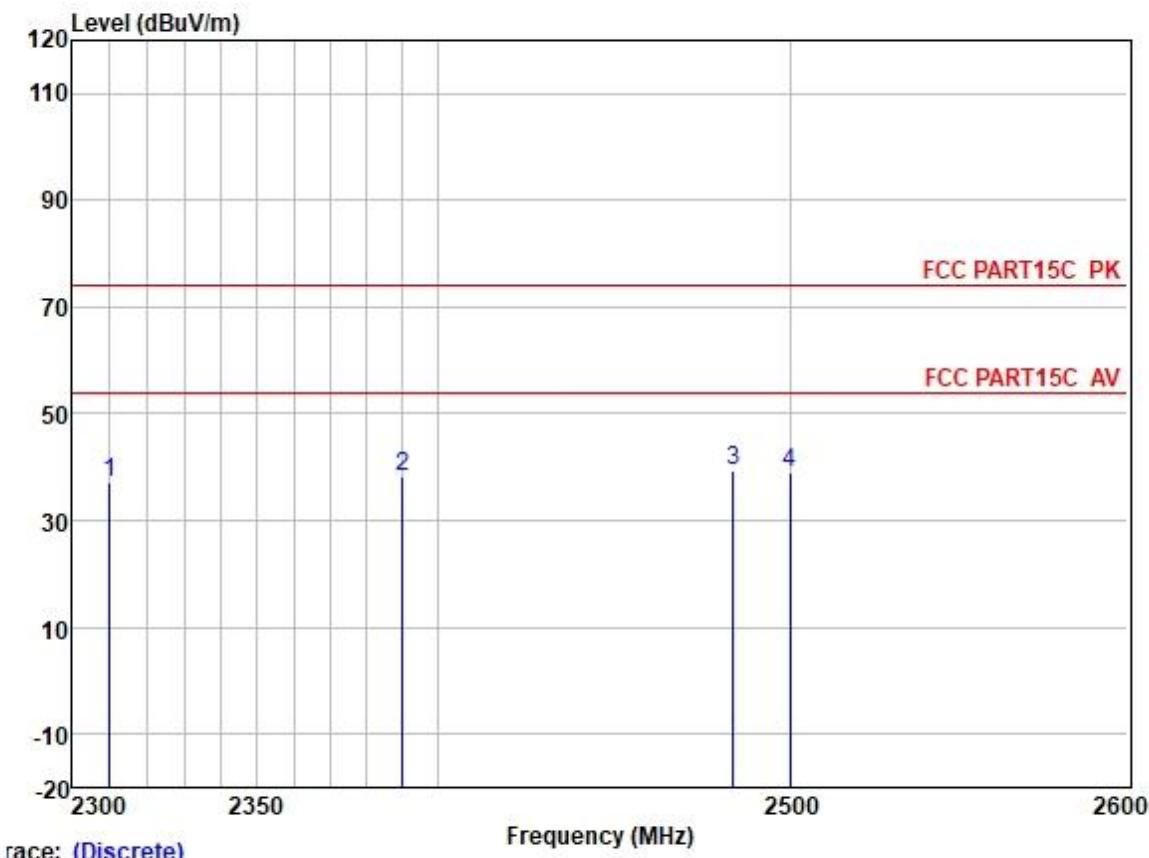
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Freq	ReadAntenna		Cable Preamp		Limit Line	Over Line	Pol/Phase	Remark
	Level	Factor	Loss	Factor				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 2310.000	44.44	27.15	3.32	37.62	37.29	74.00	-36.71	HORIZONTAL Peak
2 2390.000	45.17	27.33	3.48	37.59	38.39	74.00	-35.61	HORIZONTAL Peak
3 2483.500	45.84	27.48	3.53	37.57	39.28	74.00	-34.72	HORIZONTAL Peak
4 2500.000	45.70	27.50	3.40	37.56	39.04	74.00	-34.96	HORIZONTAL Peak

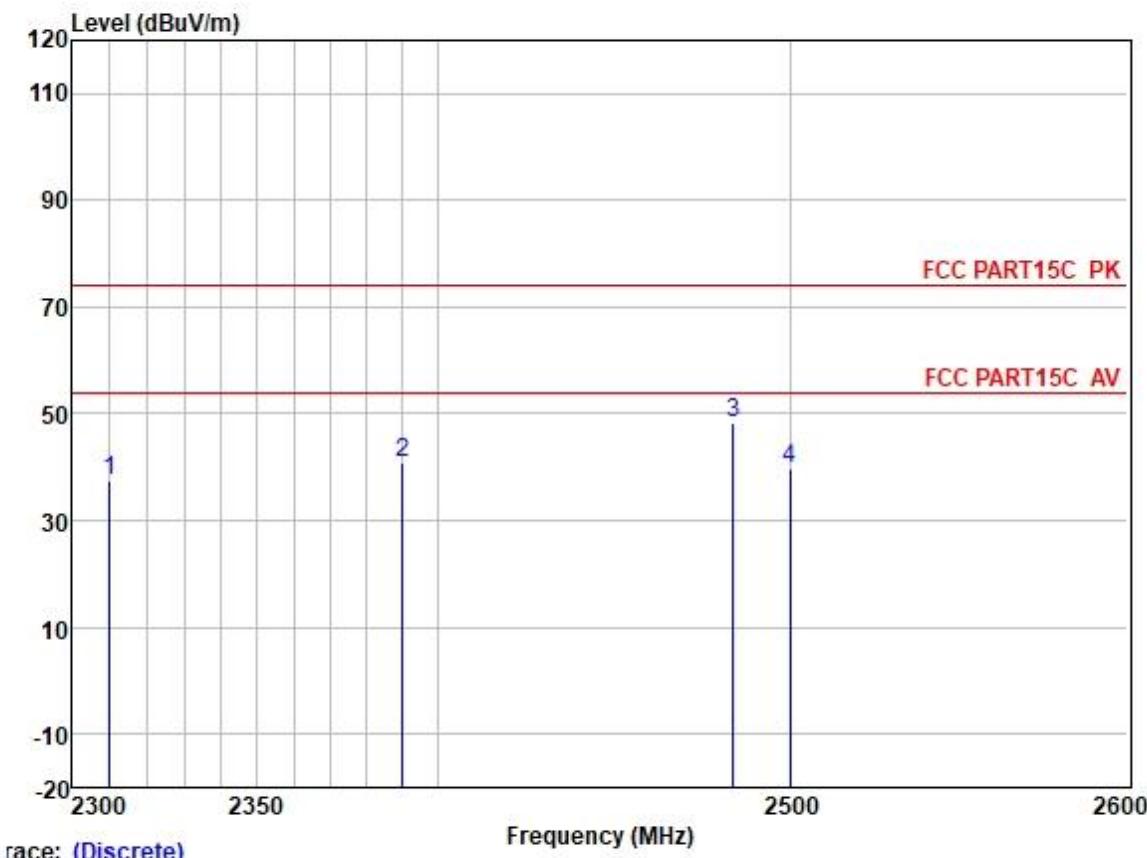
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor				dB	dB	dBuV/m	dBuV/m	dB	
1	2310.000	44.63	27.15	3.32	37.62	37.48	74.00	-36.52	HORIZONTAL	Peak			
2	2390.000	47.56	27.33	3.48	37.59	40.78	74.00	-33.22	HORIZONTAL	Peak			
3	2483.500	54.72	27.48	3.53	37.57	48.16	74.00	-25.84	HORIZONTAL	Peak			
4	2500.000	46.27	27.50	3.40	37.56	39.61	74.00	-34.39	HORIZONTAL	Peak			

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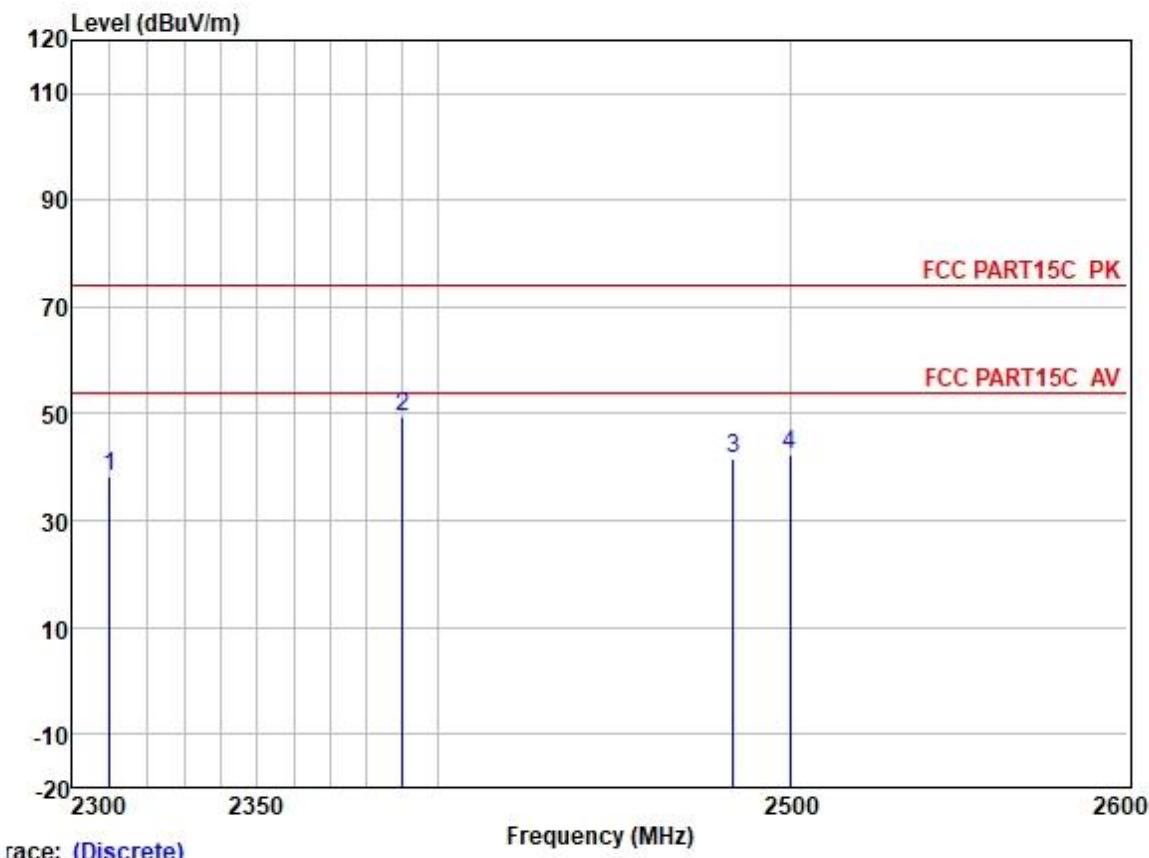
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor	dB	dBuV/m	dBuV/m	dB
1	2310.000	45.47	27.15	3.32	37.62	38.32	74.00	-35.68 HORIZONTAL Peak
2	2390.000	56.34	27.33	3.48	37.59	49.56	74.00	-24.44 HORIZONTAL Peak
3	2483.500	48.15	27.48	3.53	37.57	41.59	74.00	-32.41 HORIZONTAL Peak
4	2500.000	49.00	27.50	3.40	37.56	42.34	74.00	-31.66 HORIZONTAL Peak

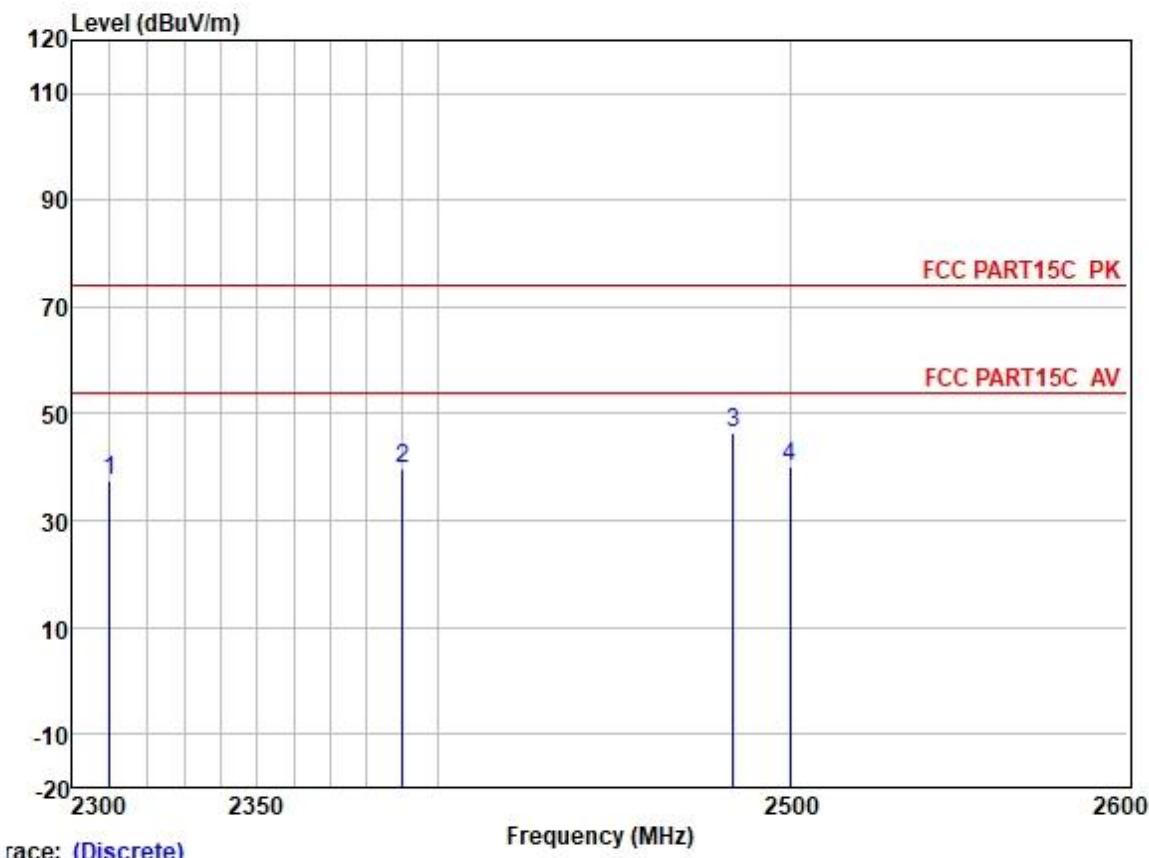
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	dB				
1	2310.000	44.57	27.15	3.32	37.62	37.42	74.00	-36.58 HORIZONTAL Peak
2	2390.000	46.50	27.33	3.48	37.59	39.72	74.00	-34.28 HORIZONTAL Peak
3	2483.500	53.01	27.48	3.53	37.57	46.45	74.00	-27.55 HORIZONTAL Peak
4	2500.000	46.69	27.50	3.40	37.56	40.03	74.00	-33.97 HORIZONTAL Peak

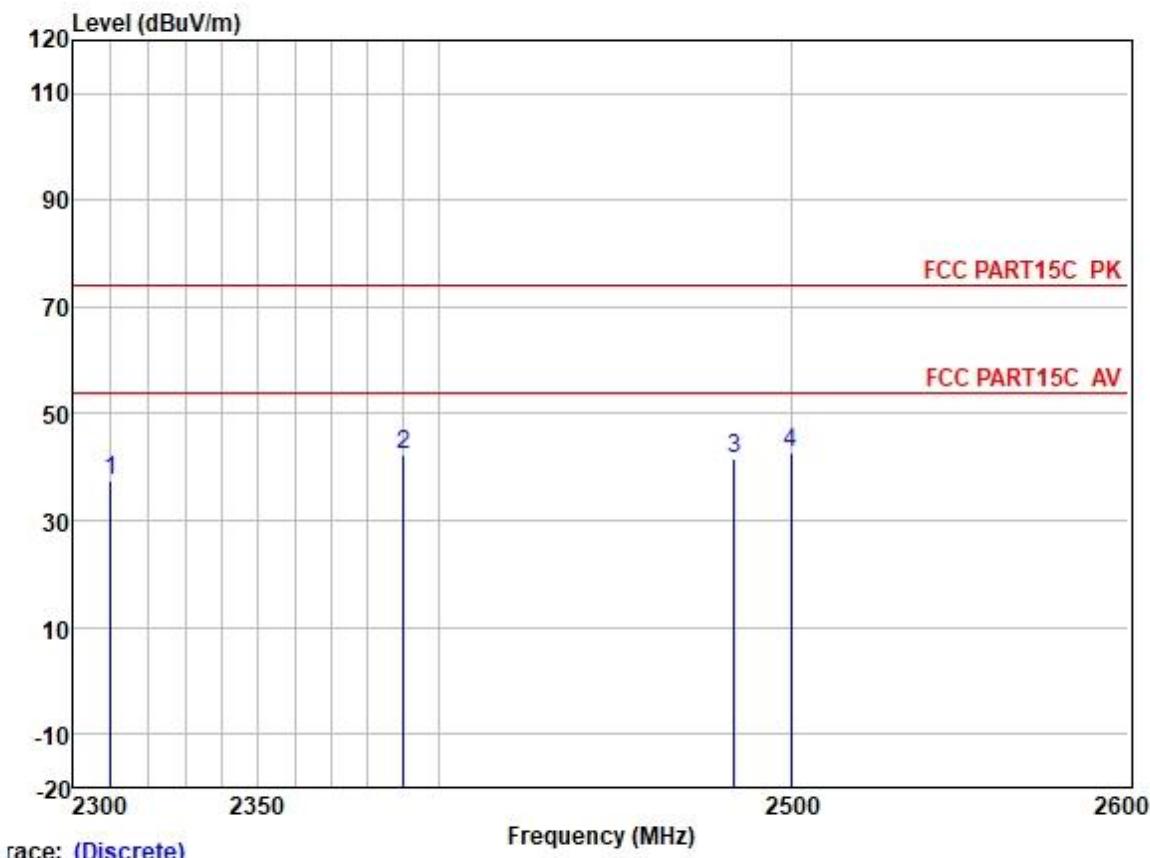
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Line	Pol/Phase	Remark
	Level	Factor	Loss	Factor				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 2310.000	44.81	27.15	3.32	37.62	37.66	74.00	-36.34	HORIZONTAL Peak
2 2390.000	49.29	27.33	3.48	37.59	42.51	74.00	-31.49	HORIZONTAL Peak
3 2483.500	48.12	27.48	3.53	37.57	41.56	74.00	-32.44	HORIZONTAL Peak
4 2500.000	49.55	27.50	3.40	37.56	42.89	74.00	-31.11	HORIZONTAL Peak

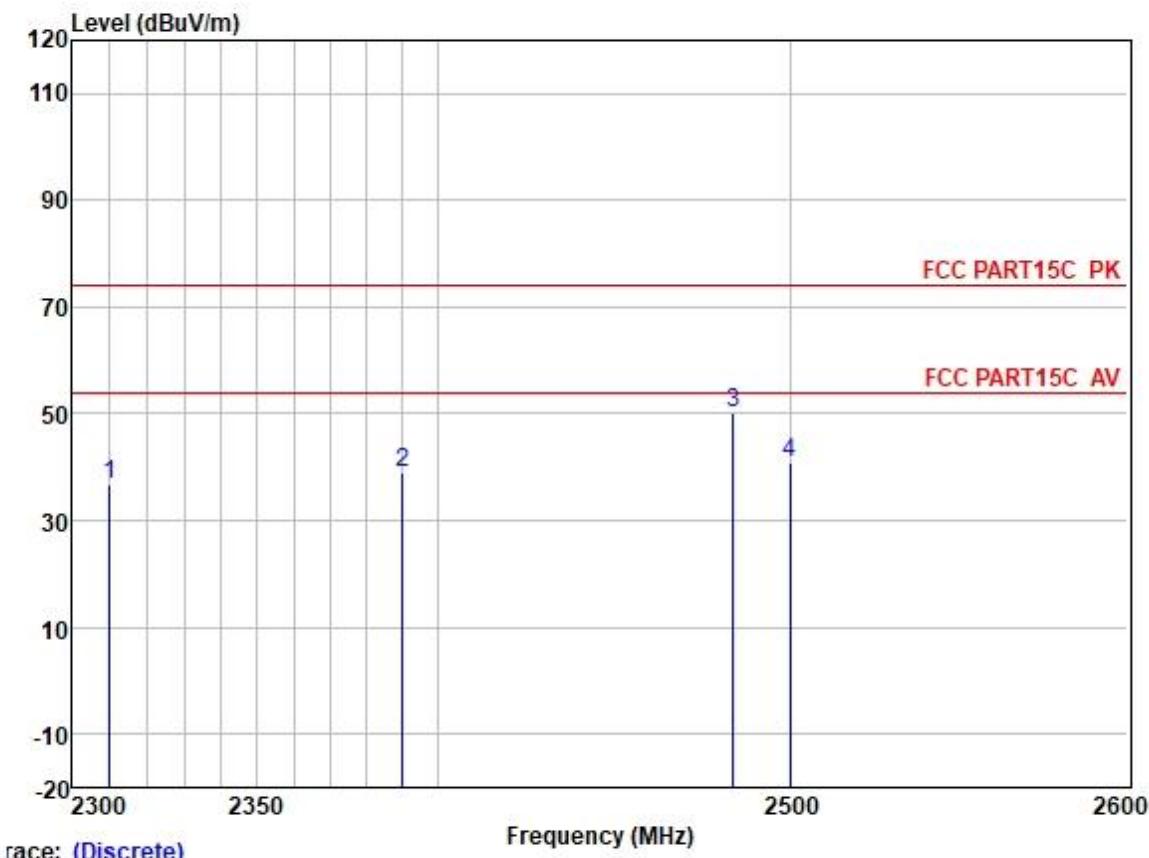
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Mode: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
1	2310.000	44.08	27.15	3.32	37.62	36.93	74.00	-37.07 HORIZONTAL Peak
2	2390.000	45.61	27.33	3.48	37.59	38.83	74.00	-35.17 HORIZONTAL Peak
3	2483.500	56.61	27.48	3.53	37.57	50.05	74.00	-23.95 HORIZONTAL Peak
4	2500.000	47.40	27.50	3.40	37.56	40.74	74.00	-33.26 HORIZONTAL Peak

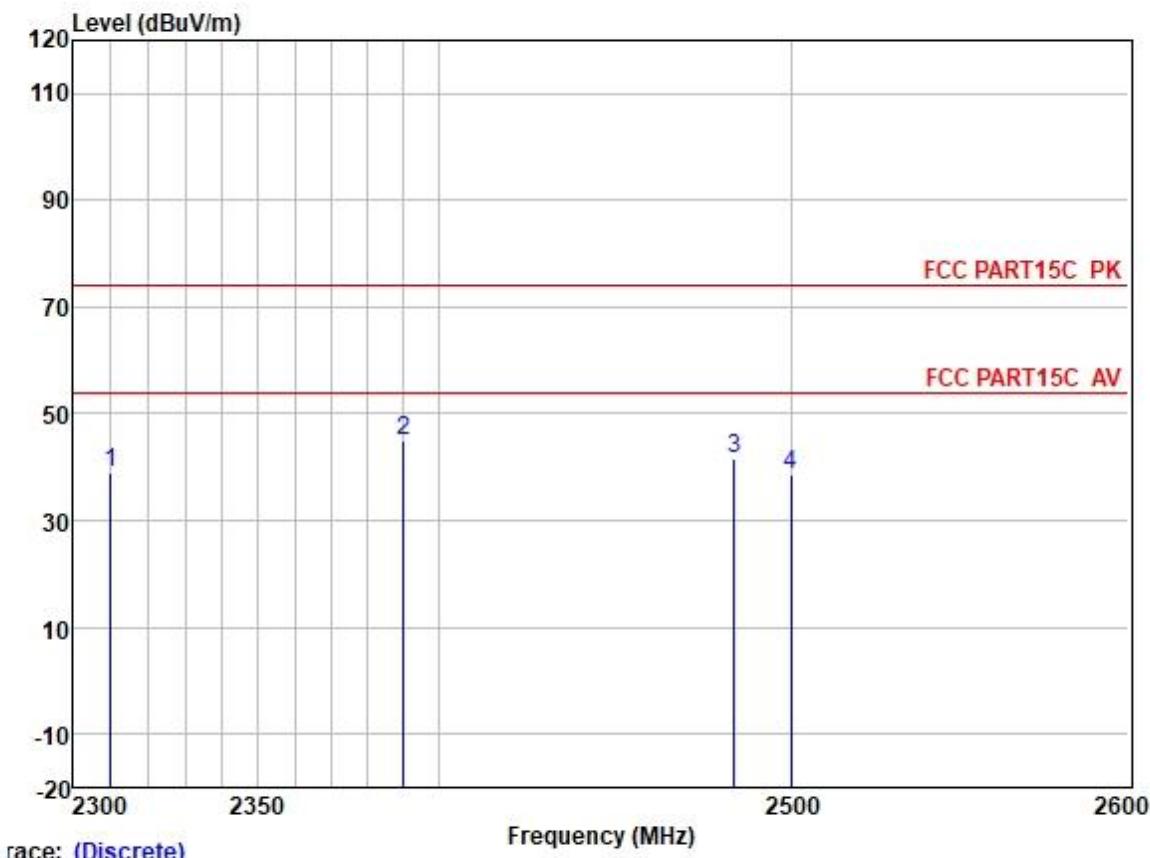
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	Level	Factor	Loss	Factor				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 2310.000	46.03	27.15	3.32	37.62	38.88	74.00	-35.12	HORIZONTAL Peak
2 2390.000	51.77	27.33	3.48	37.59	44.99	74.00	-29.01	HORIZONTAL Peak
3 2483.500	48.21	27.48	3.53	37.57	41.65	74.00	-32.35	HORIZONTAL Peak
4 2500.000	45.12	27.50	3.40	37.56	38.46	74.00	-35.54	HORIZONTAL Peak

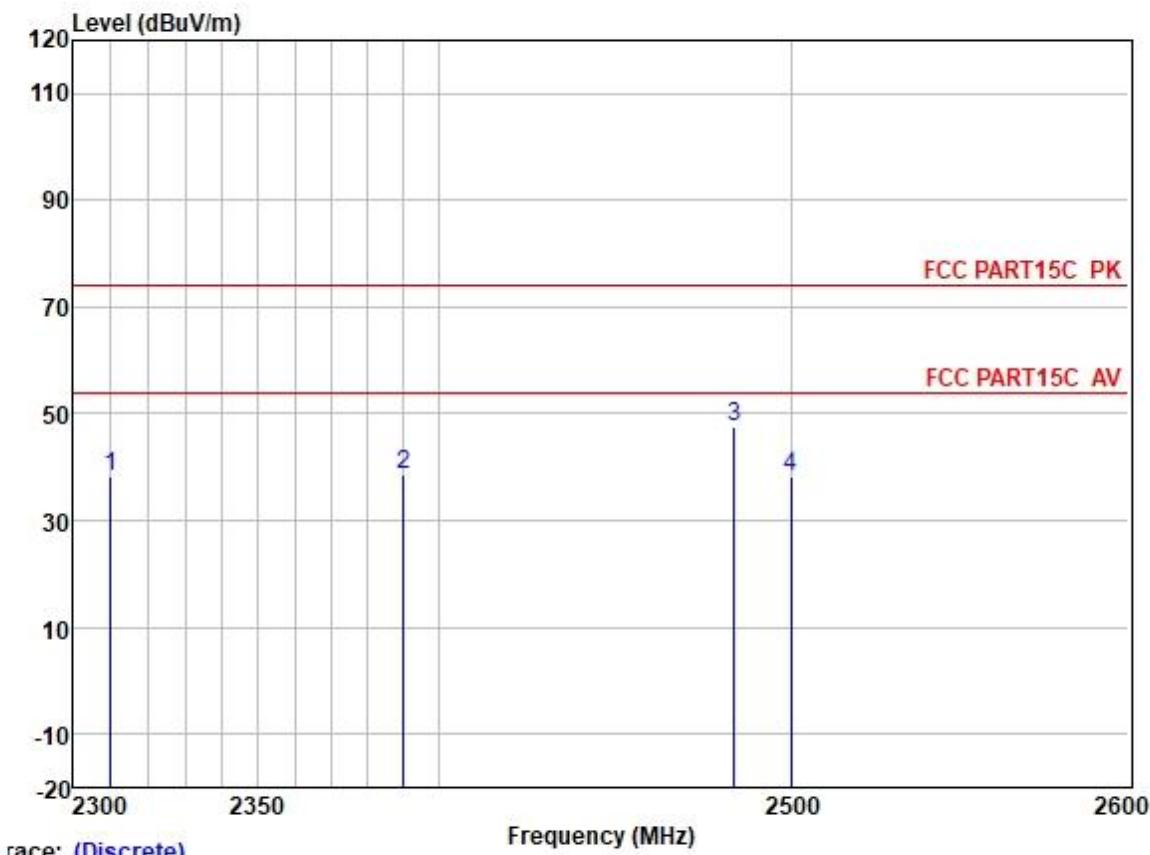
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Test Mode: 01; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

Point	Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
		Level	Factor	Loss	Factor					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	45.45	27.15	3.32	37.62	38.30	74.00	-35.70	VERTICAL	Peak
2	2390.000	45.43	27.33	3.48	37.59	38.65	74.00	-35.35	VERTICAL	Peak
3	2483.500	54.15	27.48	3.53	37.57	47.59	74.00	-26.41	VERTICAL	Peak
4	2500.000	44.77	27.50	3.40	37.56	38.11	74.00	-35.89	VERTICAL	Peak

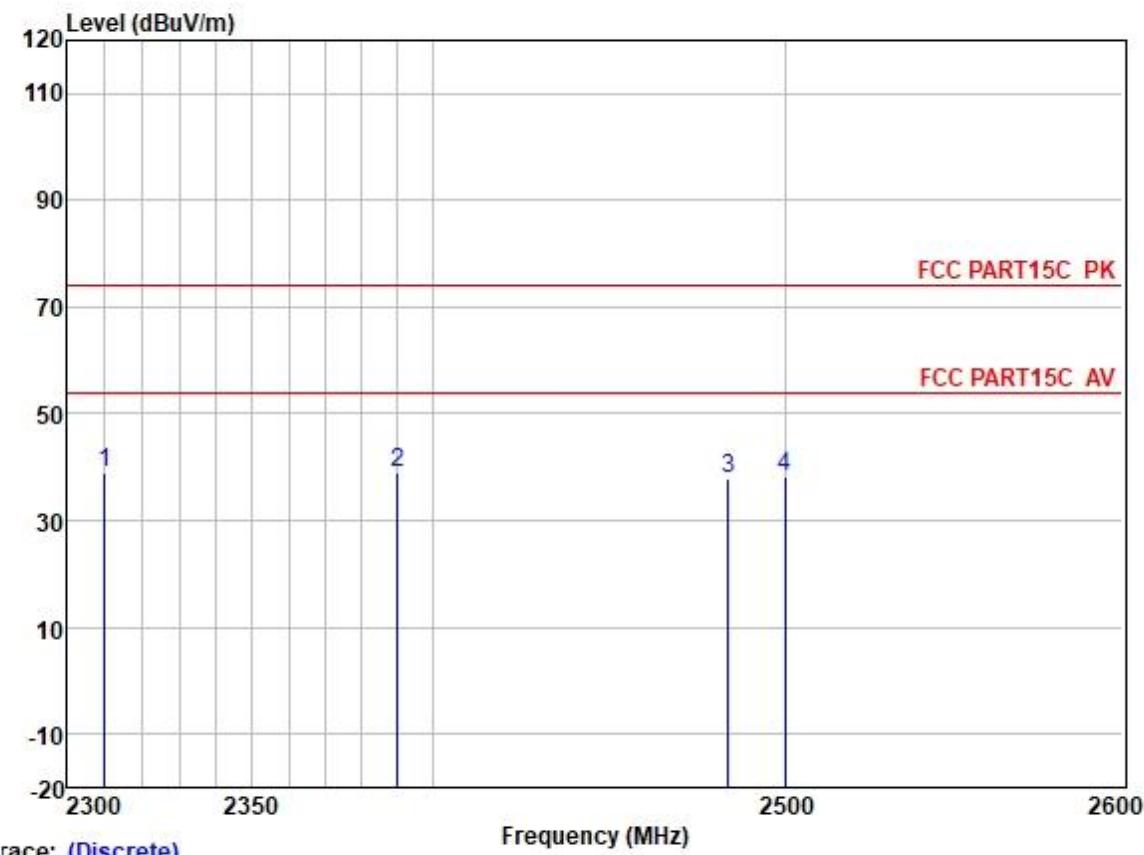
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Test Mode: 01; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
1	2310.000	46.09	27.15	3.32	37.62	38.94	74.00	-35.06 VERTICAL Peak
2	2390.000	45.89	27.33	3.48	37.59	39.11	74.00	-34.89 VERTICAL Peak
3	2483.500	44.59	27.48	3.53	37.57	38.03	74.00	-35.97 VERTICAL Peak
4	2500.000	45.07	27.50	3.40	37.56	38.41	74.00	-35.59 VERTICAL Peak

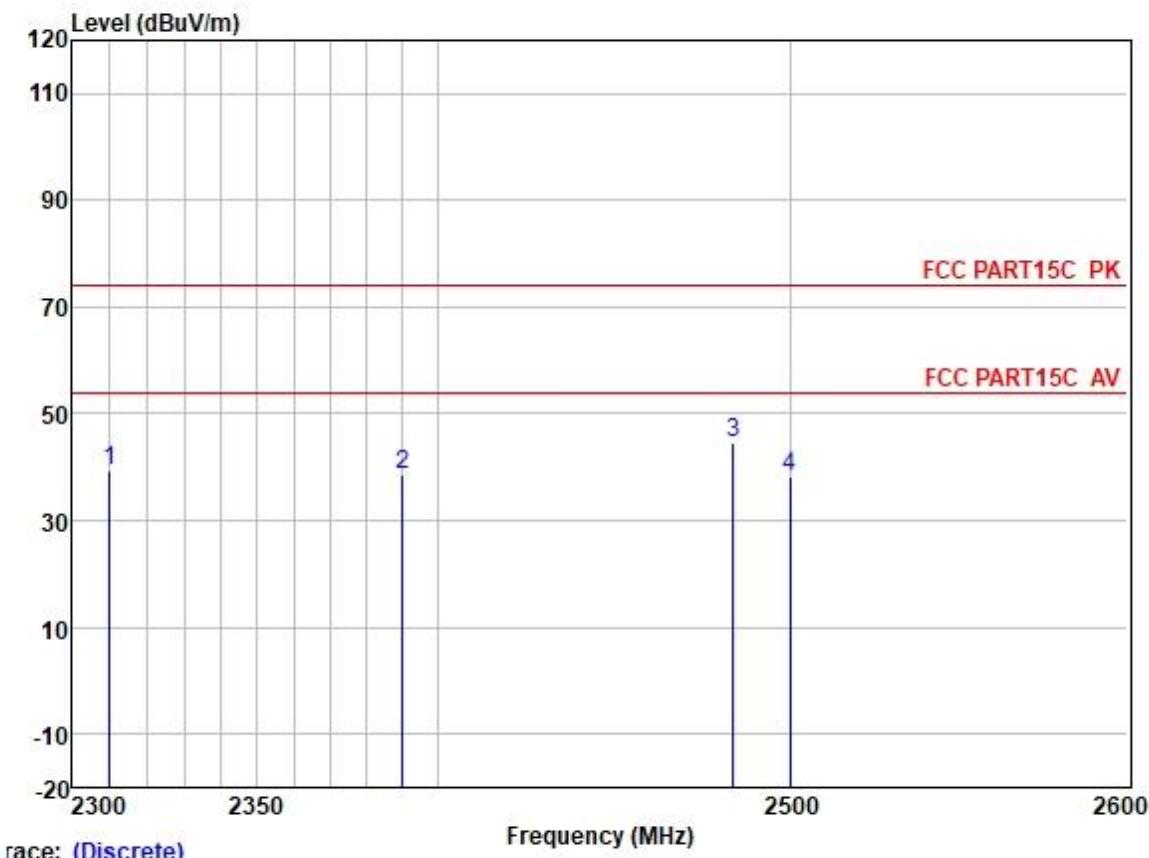
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Test Mode: 01; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

Point	Freq	ReadAntenna		Cable		Preamp	Loss Factor	Level	Limit	Over	Line	Limit	Pol/Phase	Remark
		MHz	dBuV	Level	Factor									
1	2310.000	46.35	46.35	27.15	3.32	37.62	39.20	74.00	-34.80	VERTICAL	Peak			
2	2390.000	45.45	45.45	27.33	3.48	37.59	38.67	74.00	-35.33	VERTICAL	Peak			
3	2483.500	51.18	51.18	27.48	3.53	37.57	44.62	74.00	-29.38	VERTICAL	Peak			
4	2500.000	45.03	45.03	27.50	3.40	37.56	38.37	74.00	-35.63	VERTICAL	Peak			

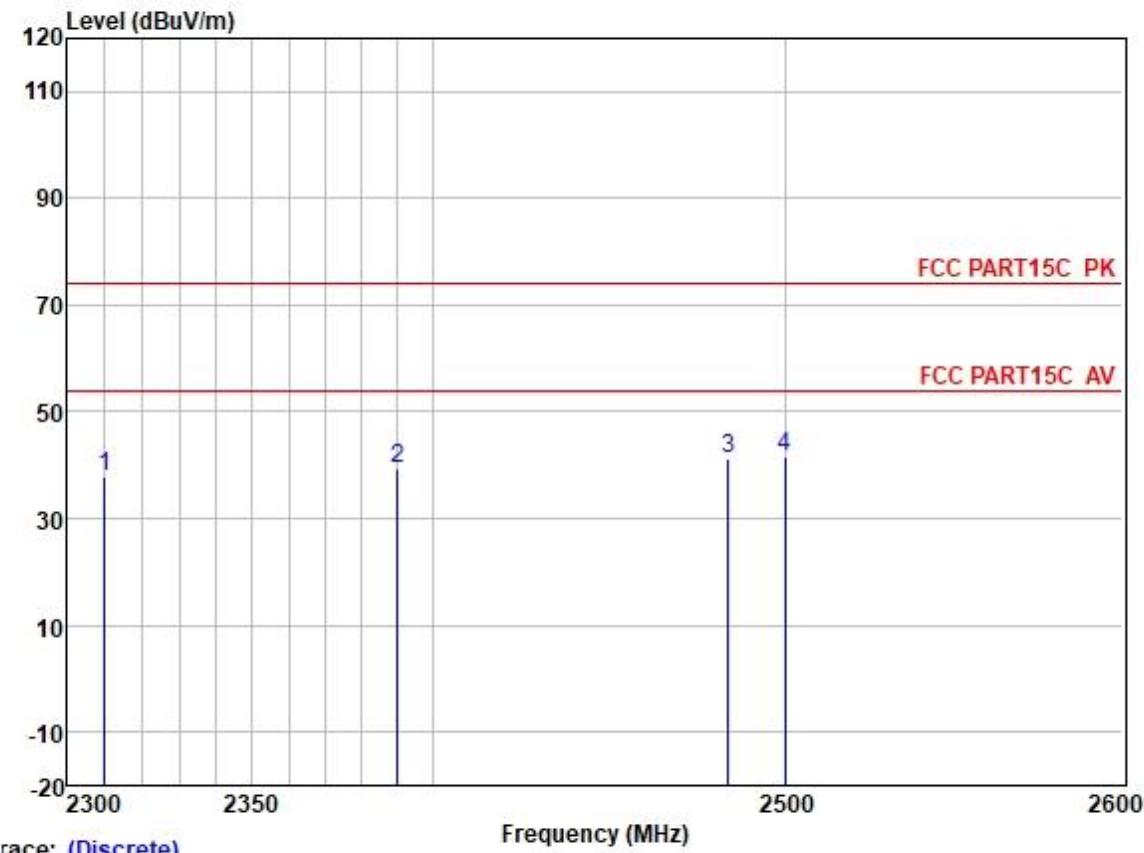
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Test Mode: 01; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



1	2	3	4	ReadAntenna	Cable	Preamp	Limit Line	Over Line	Pol/Phase	Remark
				Freq	Level	Factor				
MHz	dBuV	dB/m					dBuV/m	dBuV/m		dB
2310.000	44.98	27.15		3.32	37.62	37.83	74.00	-36.17	VERTICAL	Peak
2390.000	46.08	27.33		3.48	37.59	39.30	74.00	-34.70	VERTICAL	Peak
2483.500	47.96	27.48		3.53	37.57	41.40	74.00	-32.60	VERTICAL	Peak
2500.000	48.15	27.50		3.40	37.56	41.49	74.00	-32.51	VERTICAL	Peak

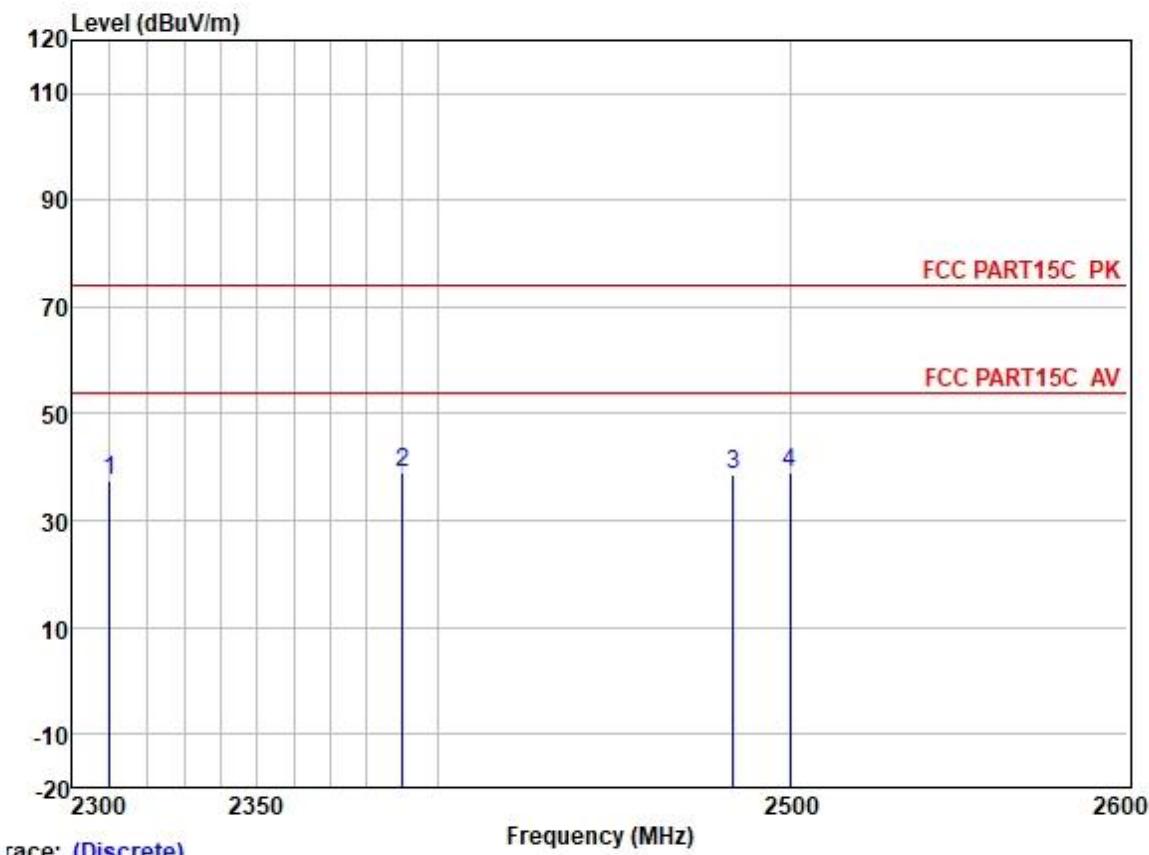
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Over Pol/Phase	Remark	
	MHz	dBuV	Level Factor	Cable Loss Factor	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	44.48	27.15	3.32	37.62	37.33	74.00	-36.67	VERTICAL Peak
2	2390.000	45.72	27.33	3.48	37.59	38.94	74.00	-35.06	VERTICAL Peak
3	2483.500	45.21	27.48	3.53	37.57	38.65	74.00	-35.35	VERTICAL Peak
4	2500.000	45.52	27.50	3.40	37.56	38.86	74.00	-35.14	VERTICAL Peak

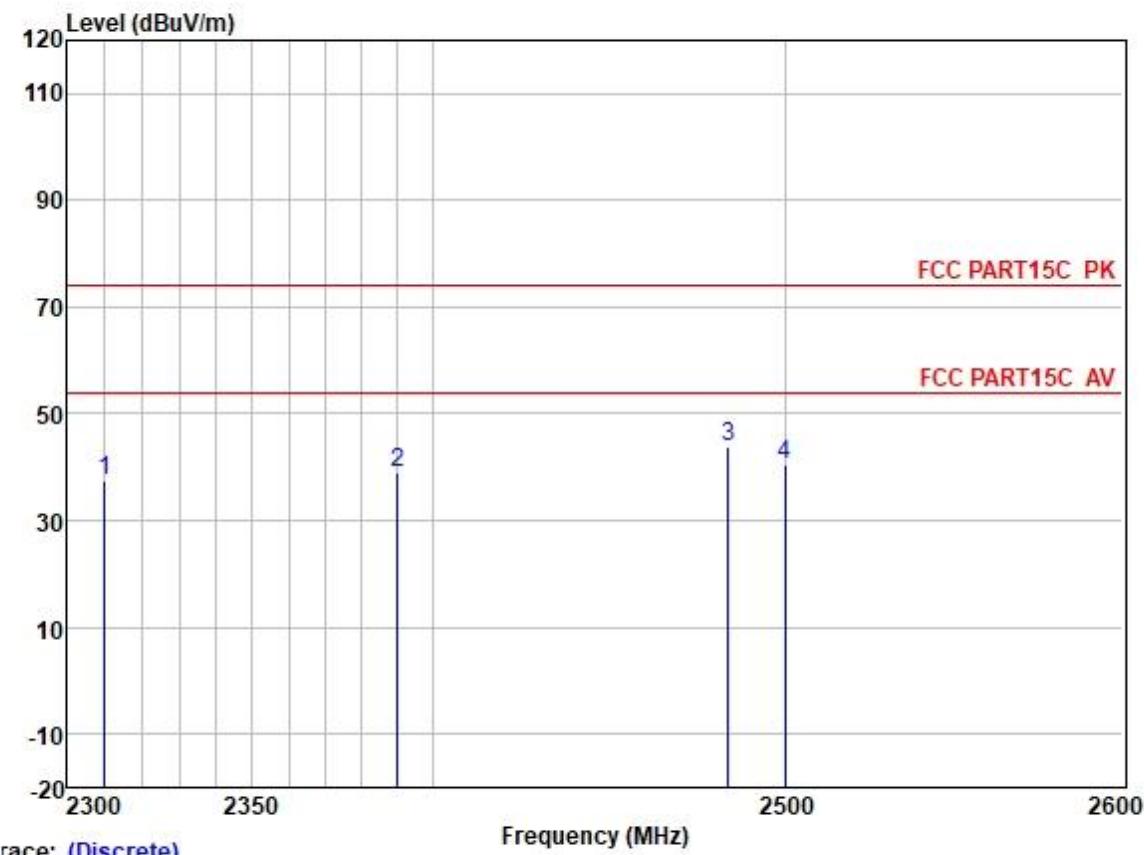
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Factor	Loss Factor				
1	2310.000	44.59	27.15	3.32	37.62	37.44	74.00	-36.56 VERTICAL Peak
2	2390.000	45.66	27.33	3.48	37.59	38.88	74.00	-35.12 VERTICAL Peak
3	2483.500	50.29	27.48	3.53	37.57	43.73	74.00	-30.27 VERTICAL Peak
4	2500.000	47.25	27.50	3.40	37.56	40.59	74.00	-33.41 VERTICAL Peak

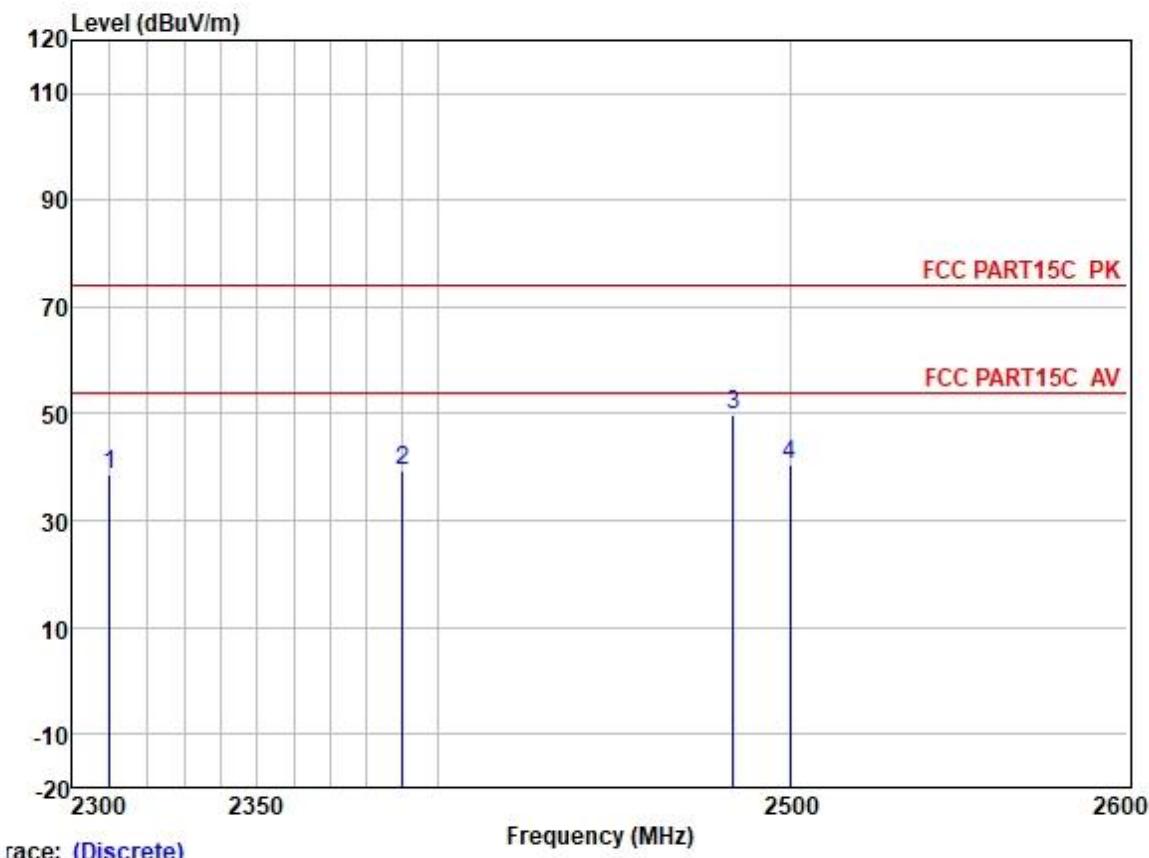
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Factor	Loss				
1	2310.000	45.66	27.15	3.32	37.62	38.51	74.00	-35.49 VERTICAL Peak
2	2390.000	46.14	27.33	3.48	37.59	39.36	74.00	-34.64 VERTICAL Peak
3	2483.500	56.31	27.48	3.53	37.57	49.75	74.00	-24.25 VERTICAL Peak
4	2500.000	47.30	27.50	3.40	37.56	40.64	74.00	-33.36 VERTICAL Peak

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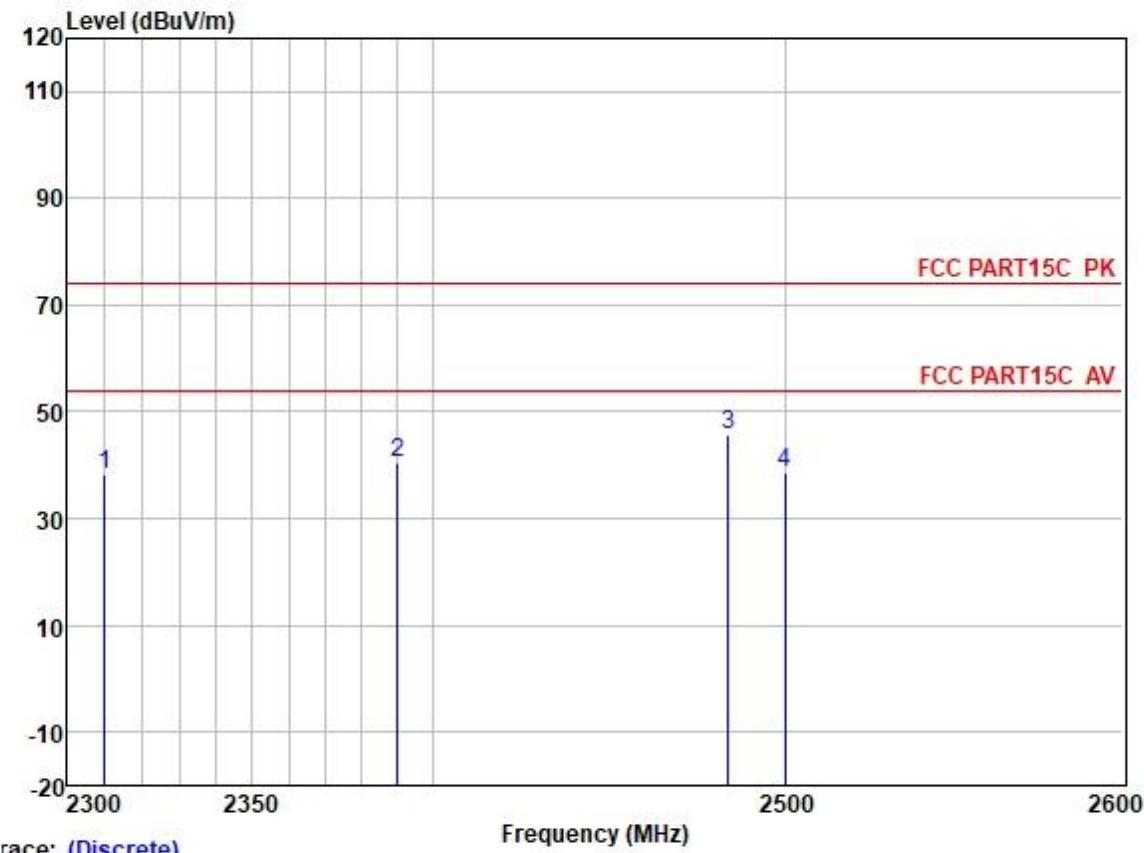
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor							
1	2310.000	45.28	27.15	3.32	37.62	38.13	74.00	-35.87	VERTICAL	Peak	
2	2390.000	47.29	27.33	3.48	37.59	40.51	74.00	-33.49	VERTICAL	Peak	
3	2483.500	52.12	27.48	3.53	37.57	45.56	74.00	-28.44	VERTICAL	Peak	
4	2500.000	45.16	27.50	3.40	37.56	38.50	74.00	-35.50	VERTICAL	Peak	

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7.8 Radiated Spurious Emissions

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

Test Method: ANSI C63.10 (2013) Section 6.4,6.5,6.6 & 11.12.1

Limit:

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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 25.6 °C Humidity: 52.8 % RH Atmospheric Pressure: 995 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode / Code	Description
Final test	01	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

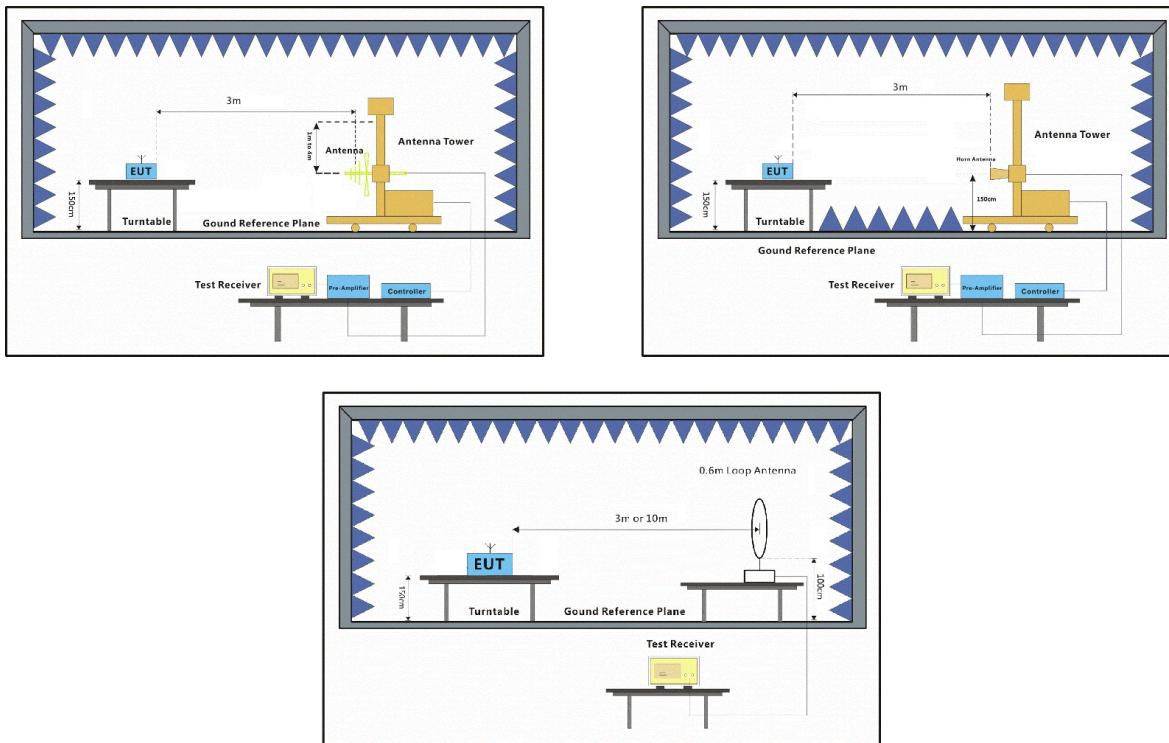
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7.8.3 Test Setup Diagram

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7.8.4 Measurement Procedure and Data

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

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
- 3) Scan from 9kHz to 25GHz, 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) 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.
- 5) Pretest the EUT at antenna 1 and antenna 2 and MIMO mode find antenna 1 for 802.11b/g and MIMO mode for 802.11n are the worst-case mode. only record the worst-case test data 802.11b/g/n in this report.

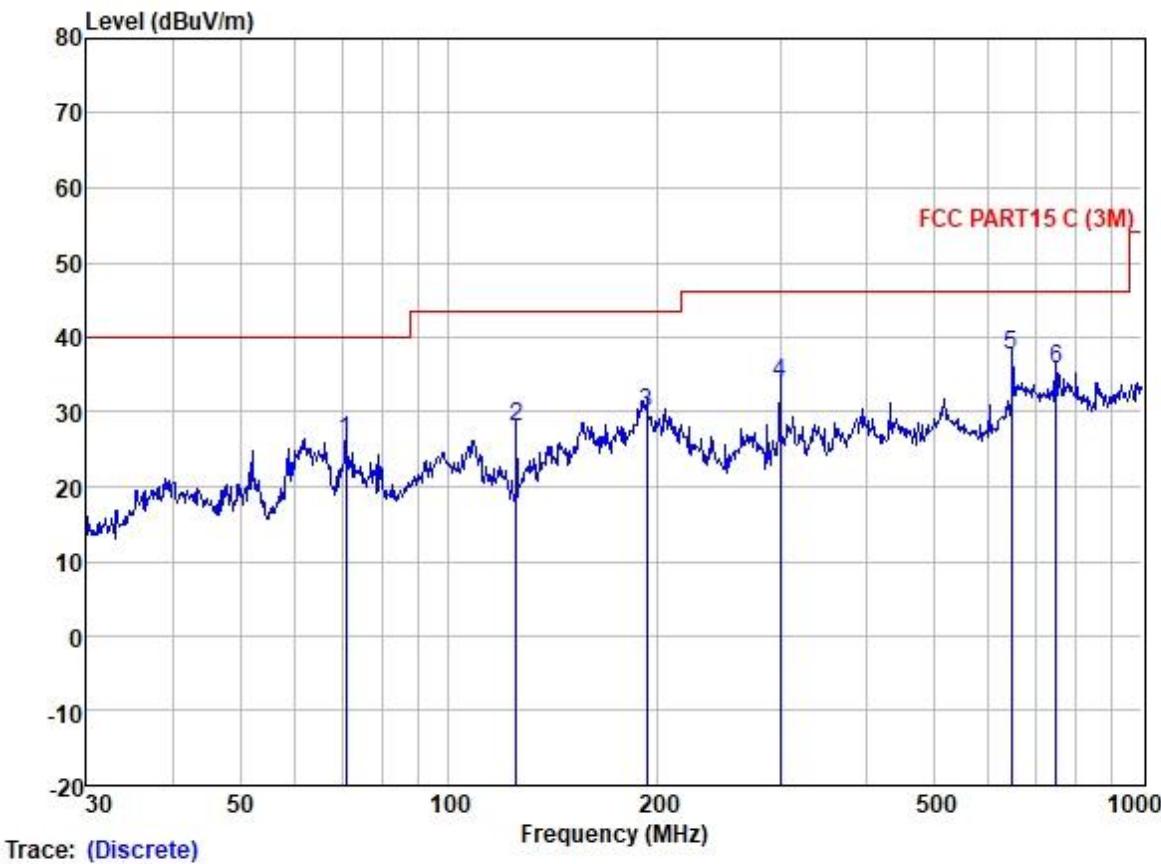
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Trace: (Discrete)

Site : SGS
Condition : FCC PART15 C (3M) HORIZONTAL
Job :
Model :
Power :
Test Mode : 摄像头AC

Freq	Read	Antenna	Cable	Preamp	Measured	Limit	Over	Pol/	Remark
	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	
1 71.08	40.05	11.70	1.41	27.12	26.04	40.00	-13.96	HORIZONTAL	QP
2 125.01	41.66	11.50	1.91	27.01	28.06	43.50	-15.44	HORIZONTAL	QP
3 193.09	43.25	10.83	2.50	26.74	29.84	43.50	-13.66	HORIZONTAL	QP
4 300.37	43.68	13.60	3.16	26.56	33.88	46.00	-12.12	HORIZONTAL	QP
5 648.00	39.75	20.48	5.51	28.18	37.56	46.00	-8.44	HORIZONTAL	QP
6 750.11	35.63	22.20	5.97	28.10	35.70	46.00	-10.30	HORIZONTAL	QP

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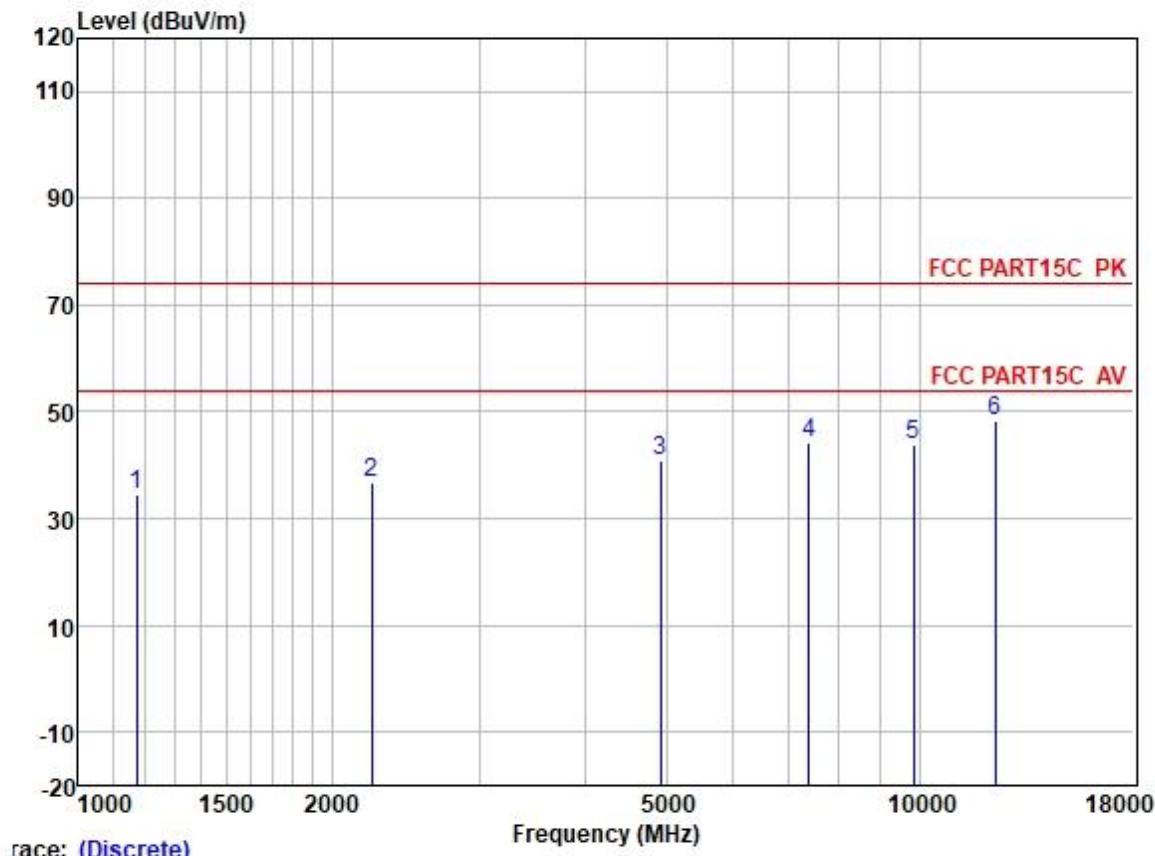
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



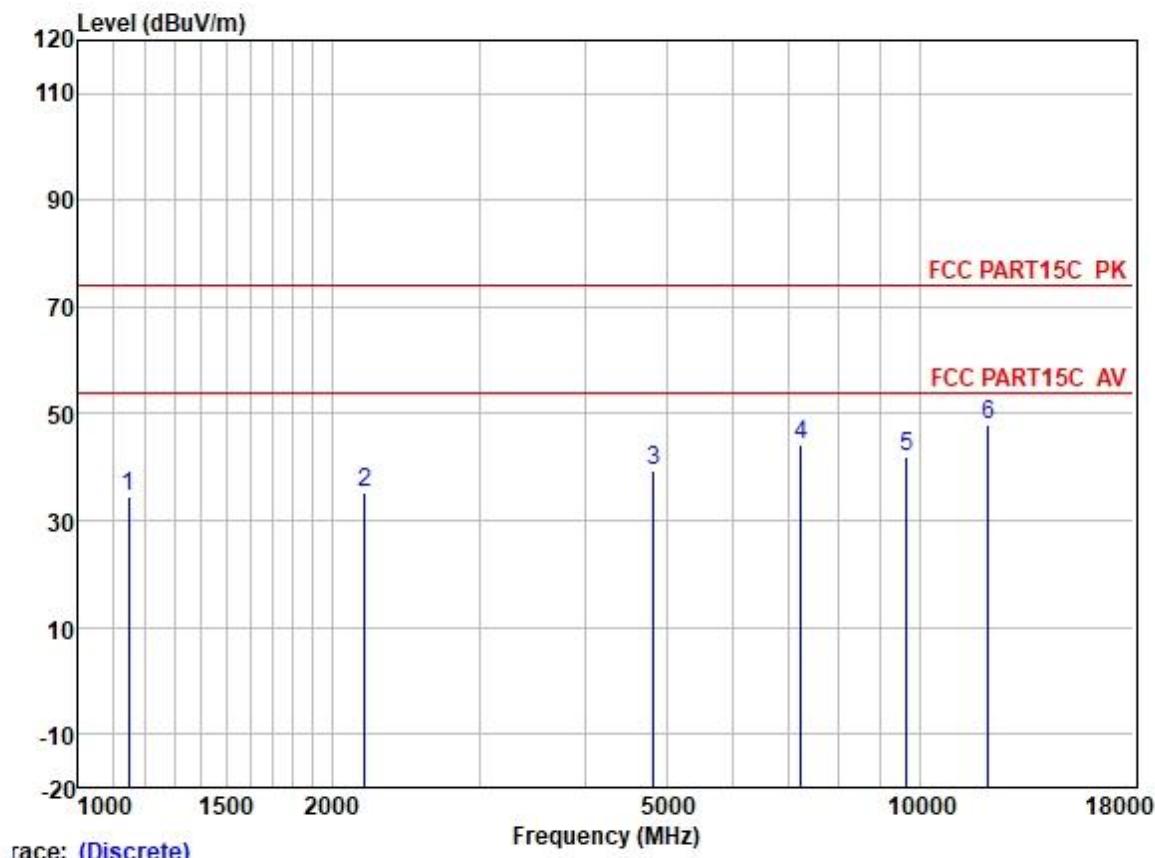
Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss Factor	dB	dBuV/m	dBuV/m	dB
1	1172.303	46.03	24.56	2.39	38.40	34.58	74.00	-39.42 HORIZONTAL Peak
2	2233.396	44.51	26.80	3.23	37.64	36.90	74.00	-37.10 HORIZONTAL Peak
3	4924.033	40.66	31.62	5.60	36.84	41.04	74.00	-32.96 HORIZONTAL Peak
4	7386.921	39.21	36.17	6.19	37.45	44.12	74.00	-29.88 HORIZONTAL Peak
5	9848.461	35.56	38.58	6.99	37.41	43.72	74.00	-30.28 HORIZONTAL Peak
6	12310.510	38.78	38.63	8.01	36.95	48.47	74.00	-25.53 HORIZONTAL Peak

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



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss				
1	1148.823	45.99	24.49	2.34	38.42	34.40	74.00	-39.60 HORIZONTAL Peak
2	2188.663	43.27	26.56	3.20	37.65	35.38	74.00	-38.62 HORIZONTAL Peak
3	4824.033	39.27	31.45	5.42	36.83	39.31	74.00	-34.69 HORIZONTAL Peak
4	7236.421	39.84	35.70	6.03	37.39	44.18	74.00	-29.82 HORIZONTAL Peak
5	9648.292	33.77	38.40	7.06	37.42	41.81	74.00	-32.19 HORIZONTAL Peak
6	12060.100	38.02	38.88	8.17	37.08	47.99	74.00	-26.01 HORIZONTAL Peak

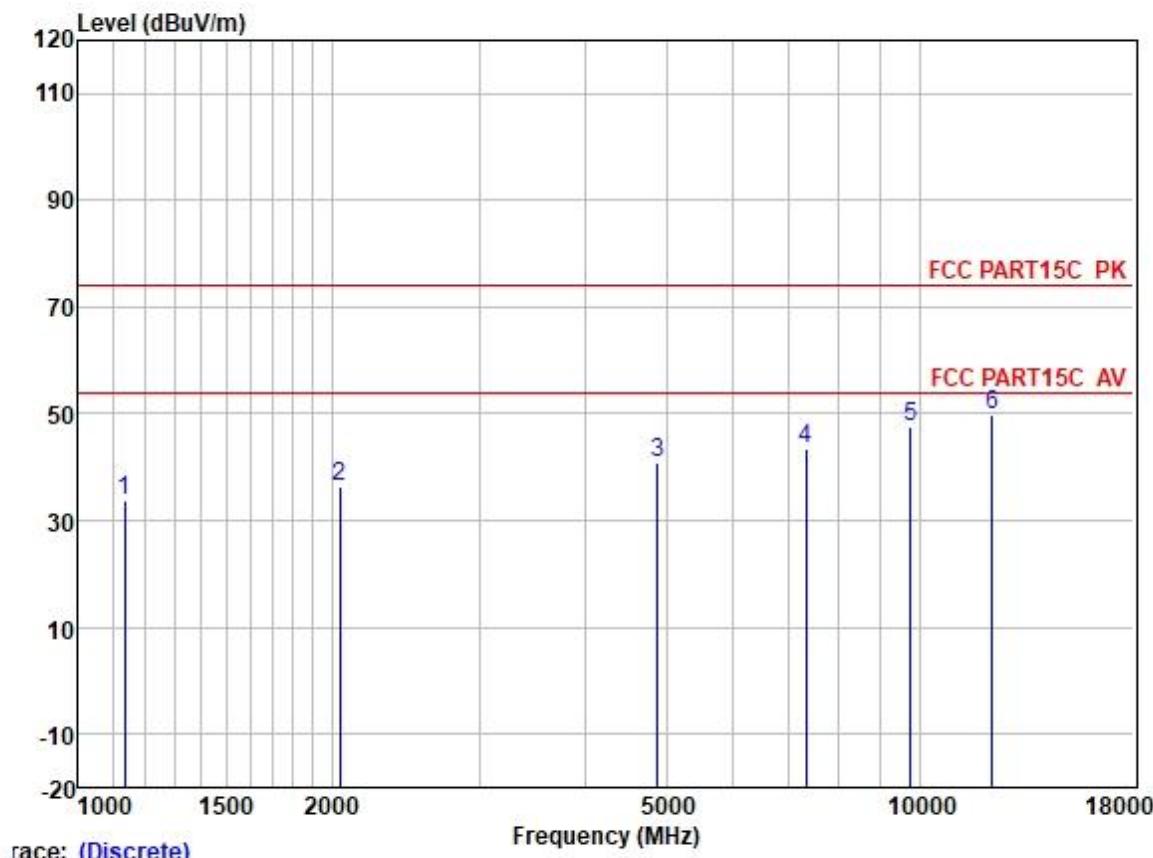
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle

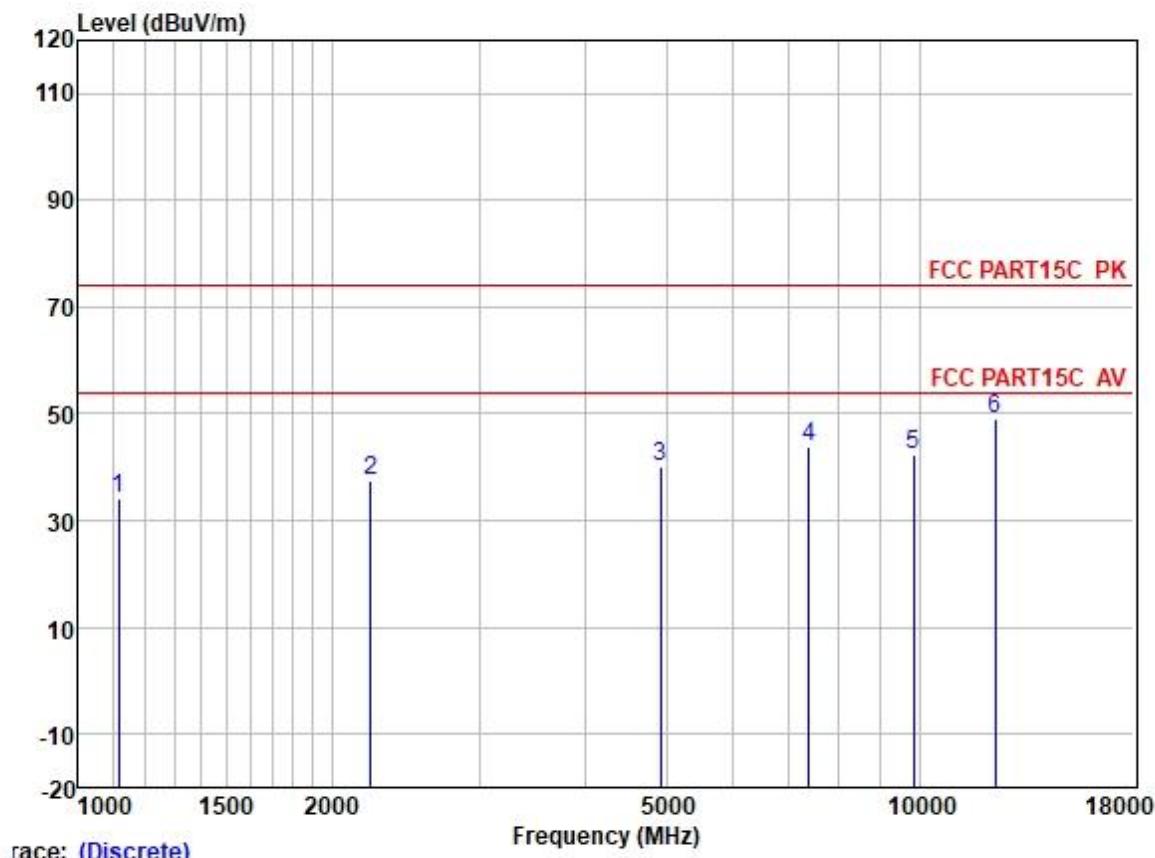


Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark	
	MHz	dBuV	Level Factor	Cable Loss Factor	dB	dB	dBuV/m	dBuV/m	dB
1	1135.617	45.48	24.45	2.25	38.43	33.75	74.00	-40.25	HORIZONTAL Peak
2	2047.895	44.95	26.18	3.12	37.69	36.56	74.00	-37.44	HORIZONTAL Peak
3	4884.345	40.70	31.56	5.52	36.84	40.94	74.00	-33.06	HORIZONTAL Peak
4	7326.307	38.66	36.00	6.13	37.43	43.36	74.00	-30.64	HORIZONTAL Peak
5	9768.906	39.56	38.53	7.01	37.41	47.69	74.00	-26.31	HORIZONTAL Peak
6	12210.670	40.10	38.74	8.08	37.00	49.92	74.00	-24.08	HORIZONTAL Peak

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



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	1116.093	45.84	24.40	2.25	38.43	34.06	74.00	-39.94 HORIZONTAL Peak
2	2226.950	45.15	26.76	3.23	37.64	37.50	74.00	-36.50 HORIZONTAL Peak
3	4924.033	39.86	31.62	5.60	36.84	40.24	74.00	-33.76 HORIZONTAL Peak
4	7386.075	38.96	36.17	6.19	37.45	43.87	74.00	-30.13 HORIZONTAL Peak
5	9848.254	34.24	38.58	6.99	37.41	42.40	74.00	-31.60 HORIZONTAL Peak
6	12310.540	39.51	38.63	8.01	36.95	49.20	74.00	-24.80 HORIZONTAL Peak

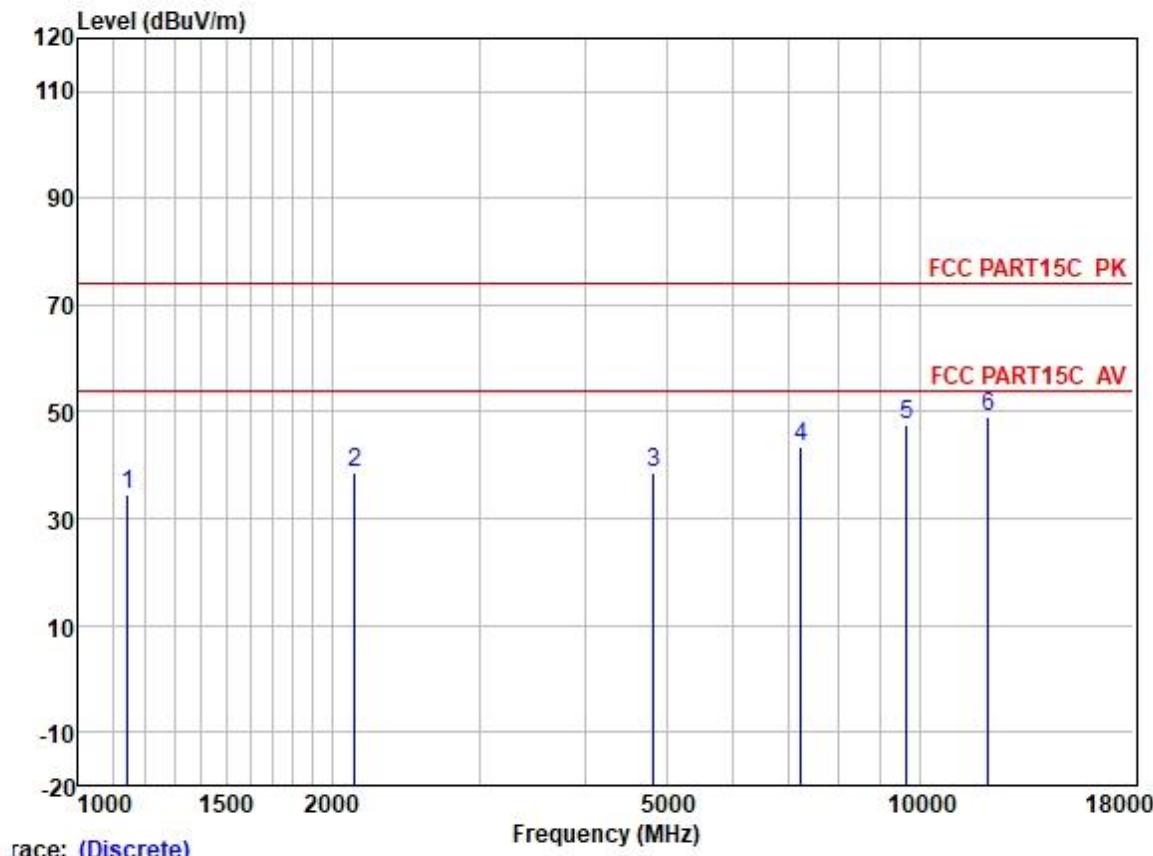
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



Mode: (Discrete)

Point	Freq	ReadAntenna		Cable		Preamp	Limit	Over	Limit	Pol/Phase	Remark
		Level	Factor	Loss	Factor						
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	1145.507	46.04	24.48	2.32	38.42	34.42	74.00	-39.58	HORIZONTAL	Peak	
2	2132.462	46.88	26.37	3.17	37.67	38.75	74.00	-35.25	HORIZONTAL	Peak	
3	4824.584	38.73	31.45	5.42	36.83	38.77	74.00	-35.23	HORIZONTAL	Peak	
4	7236.760	39.08	35.70	6.03	37.39	43.42	74.00	-30.58	HORIZONTAL	Peak	
5	9648.778	39.40	38.40	7.06	37.42	47.44	74.00	-26.56	HORIZONTAL	Peak	
6	12060.530	39.19	38.88	8.17	37.08	49.16	74.00	-24.84	HORIZONTAL	Peak	

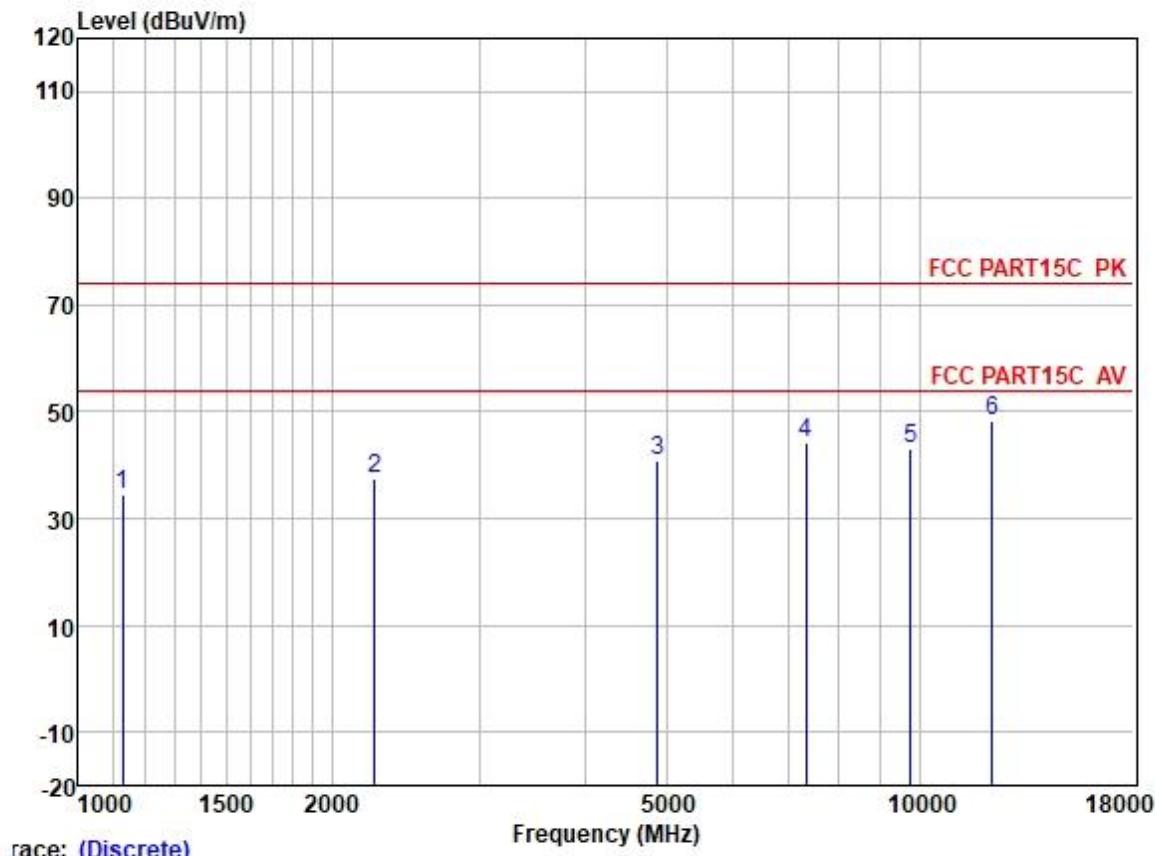
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

	ReadAntenna		Cable Preamp		Limit	Over	Limit	Pol/Phase	Remark
	Freq	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1129.072	46.28	24.43	2.20	38.43	34.48	74.00	-39.52	HORIZONTAL Peak
2	2252.846	44.93	26.92	3.26	37.64	37.47	74.00	-36.53	HORIZONTAL Peak
3	4884.843	40.68	31.56	5.52	36.84	40.92	74.00	-33.08	HORIZONTAL Peak
4	7326.529	39.50	36.00	6.13	37.43	44.20	74.00	-29.80	HORIZONTAL Peak
5	9768.200	35.03	38.53	7.01	37.41	43.16	74.00	-30.84	HORIZONTAL Peak
6	12210.640	38.65	38.74	8.08	37.00	48.47	74.00	-25.53	HORIZONTAL Peak

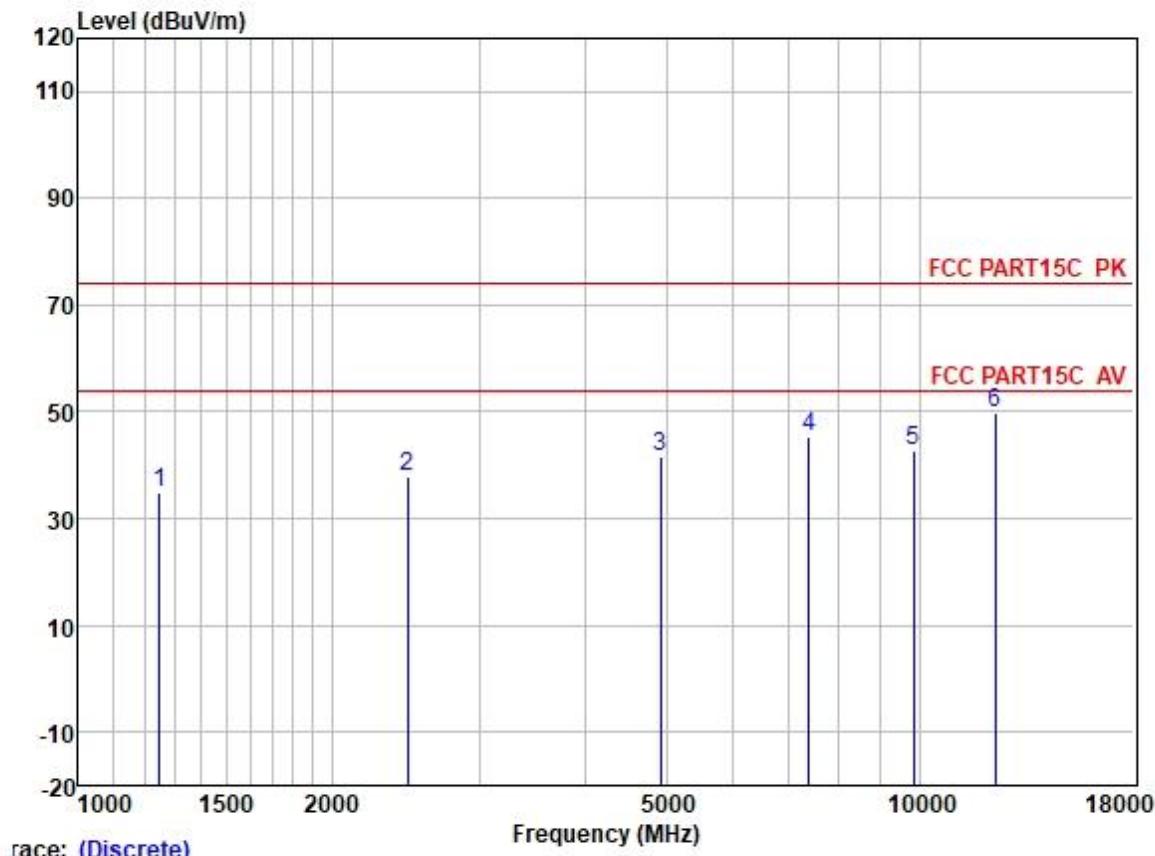
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	Level	Factor	Loss							
1	1249.269	45.93	25.02	2.34	38.35	34.94	74.00	-39.06	HORIZONTAL	Peak	
2	2464.024	44.50	27.45	3.50	37.57	37.88	74.00	-36.12	HORIZONTAL	Peak	
3	4924.904	41.15	31.62	5.60	36.84	41.53	74.00	-32.47	HORIZONTAL	Peak	
4	7386.421	40.26	36.17	6.19	37.45	45.17	74.00	-28.83	HORIZONTAL	Peak	
5	9848.804	34.46	38.58	6.99	37.41	42.62	74.00	-31.38	HORIZONTAL	Peak	
6	12310.250	40.02	38.63	8.01	36.95	49.71	74.00	-24.29	HORIZONTAL	Peak	

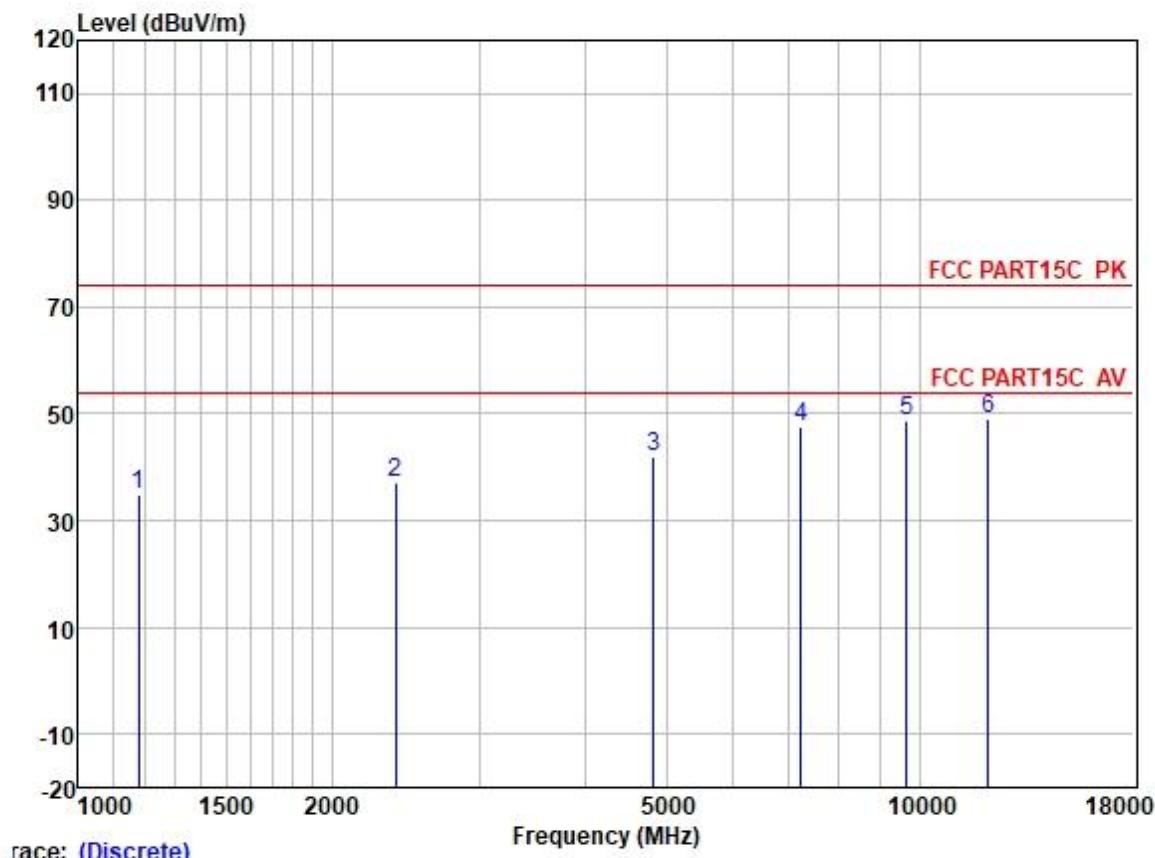
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp Loss Factor	Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level	dB					
1	1179.100	46.25	24.59	2.38	38.40	34.82	74.00	-39.18	HORIZONTAL Peak
2	2380.026	44.00	27.31	3.46	37.60	37.17	74.00	-36.83	HORIZONTAL Peak
3	4824.977	42.11	31.45	5.42	36.83	42.15	74.00	-31.85	HORIZONTAL Peak
4	7236.763	43.08	35.70	6.03	37.39	47.42	74.00	-26.58	HORIZONTAL Peak
5	9648.020	40.61	38.40	7.06	37.42	48.65	74.00	-25.35	HORIZONTAL Peak
6	12060.690	39.26	38.88	8.17	37.08	49.23	74.00	-24.77	HORIZONTAL Peak

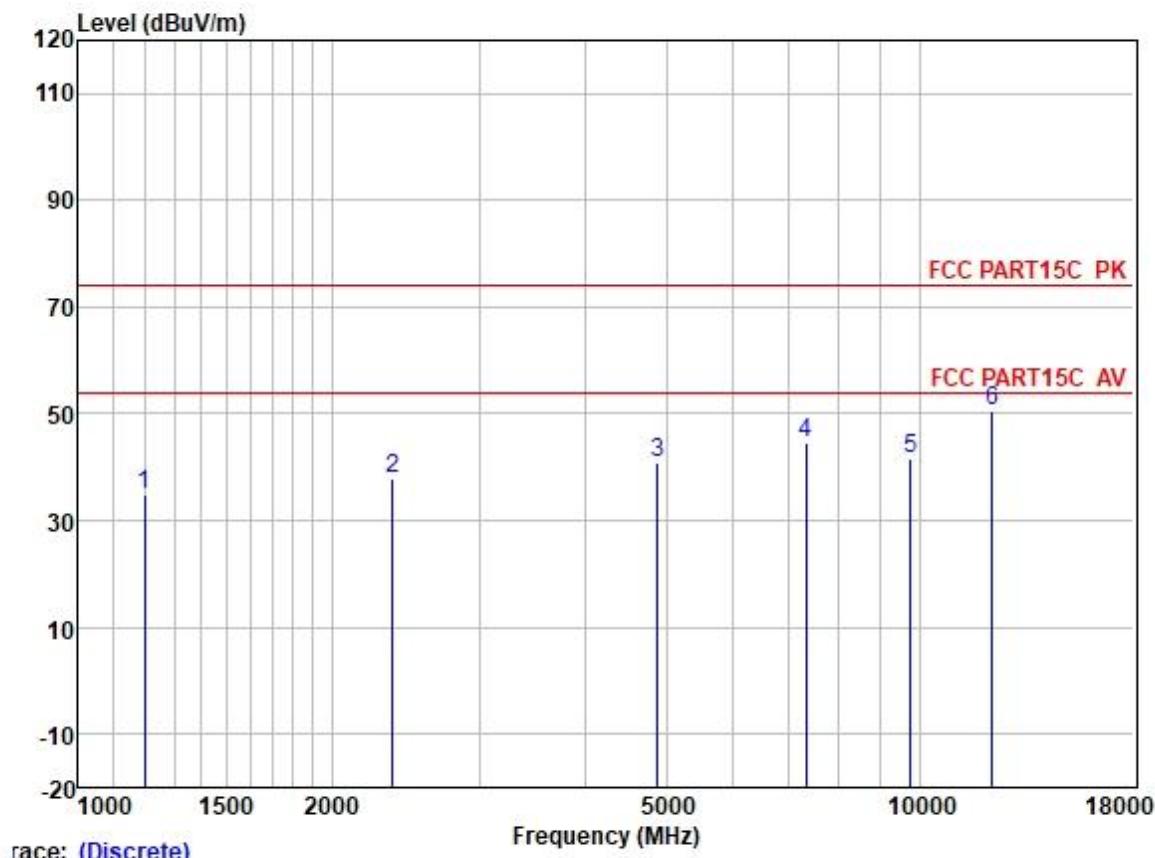
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss	Preamp Factor			
1	1199.726	46.30	24.68	2.34	38.39	34.93	74.00	-39.07 HORIZONTAL Peak
2	2366.308	44.58	27.28	3.43	37.60	37.69	74.00	-36.31 HORIZONTAL Peak
3	4884.582	40.63	31.56	5.52	36.84	40.87	74.00	-33.13 HORIZONTAL Peak
4	7326.358	39.72	36.00	6.13	37.43	44.42	74.00	-29.58 HORIZONTAL Peak
5	9768.020	33.59	38.53	7.01	37.41	41.72	74.00	-32.28 HORIZONTAL Peak
6	12210.000	40.65	38.74	8.08	37.00	50.47	74.00	-23.53 HORIZONTAL Peak

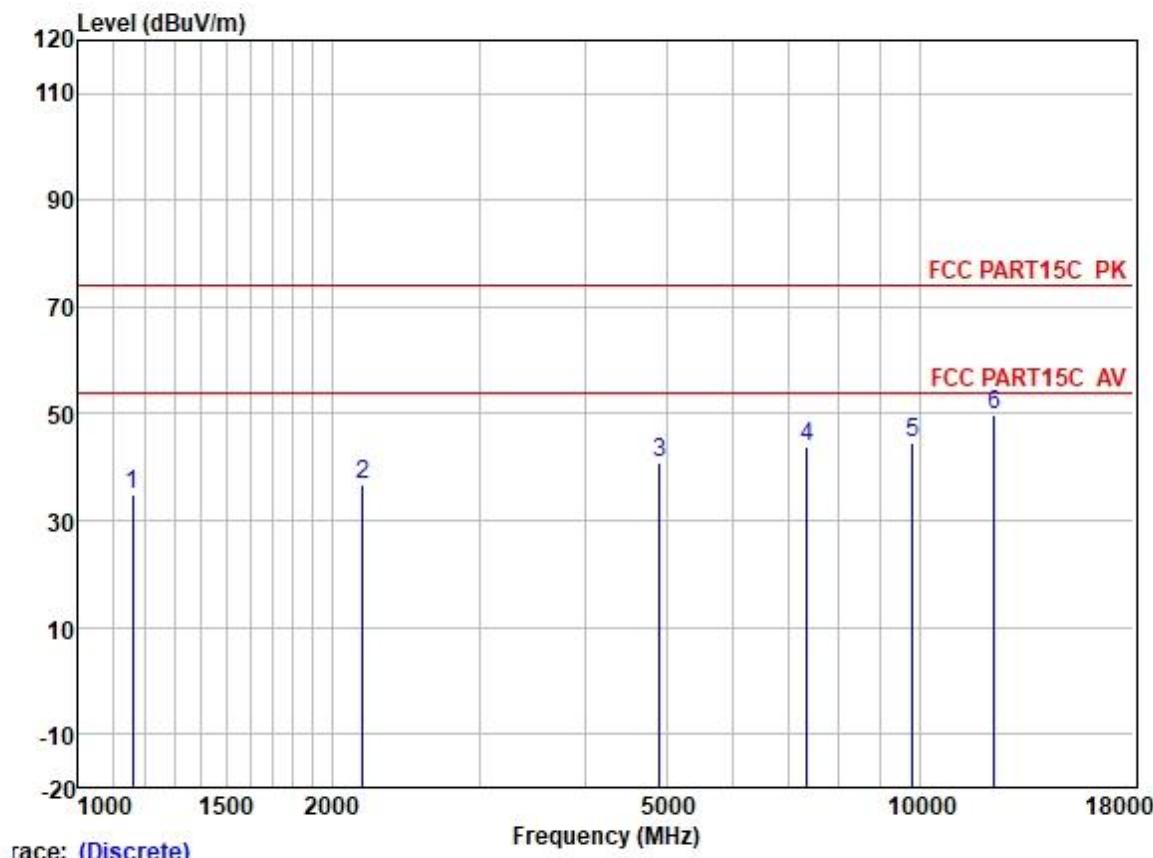
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor							
1	1158.828	46.43	24.52	2.40	38.42	34.93	74.00	-39.07	HORIZONTAL	Peak	
2	2176.047	44.58	26.51	3.19	37.66	36.62	74.00	-37.38	HORIZONTAL	Peak	
3	4904.778	40.57	31.58	5.55	36.84	40.86	74.00	-33.14	HORIZONTAL	Peak	
4	7356.200	39.00	36.06	6.15	37.44	43.77	74.00	-30.23	HORIZONTAL	Peak	
5	9808.461	36.27	38.56	7.00	37.41	44.42	74.00	-29.58	HORIZONTAL	Peak	
6	12260.100	40.11	38.70	8.06	36.98	49.89	74.00	-24.11	HORIZONTAL	Peak	

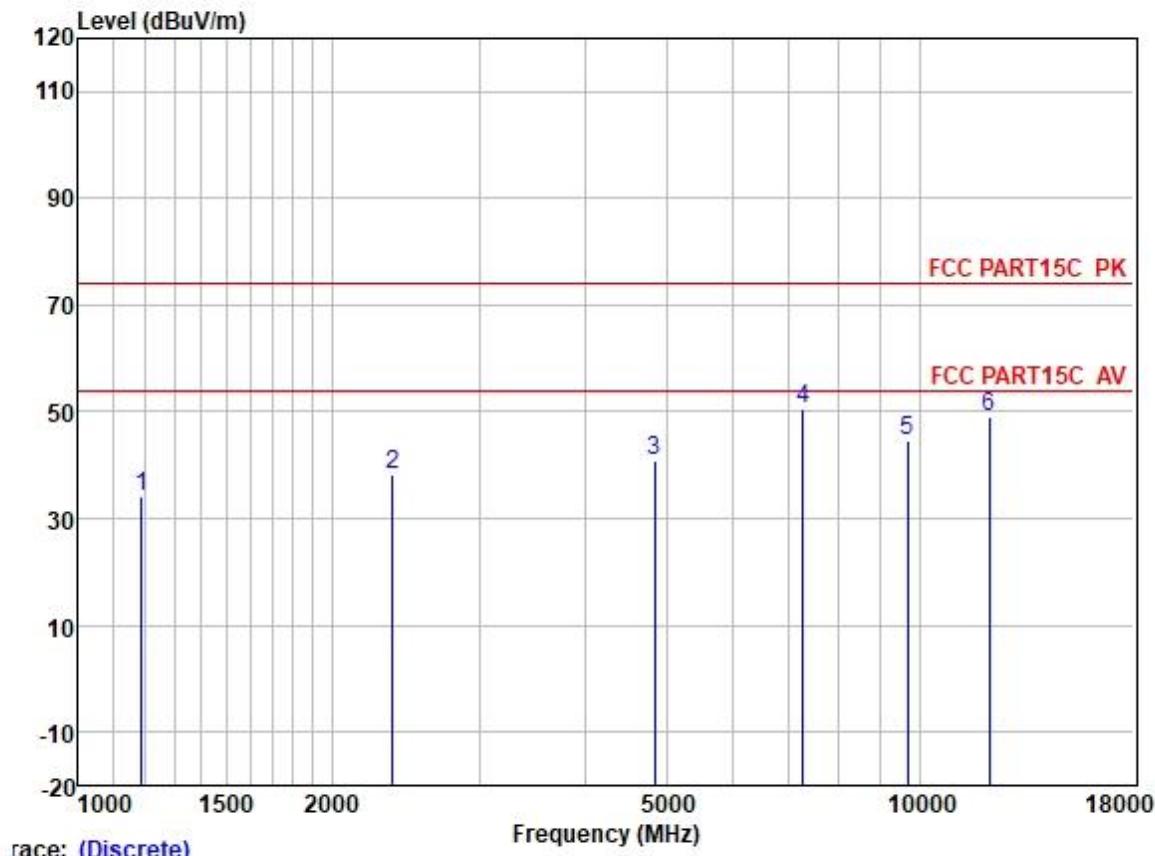
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp Loss Factor	dB	dBuV/m	Limit Line	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	dB/m	dB							
1	1189.368	45.49	24.63	2.36	38.39	34.09	74.00	-39.91	HORIZONTAL	Peak	
2	2366.308	45.05	27.28	3.43	37.60	38.16	74.00	-35.84	HORIZONTAL	Peak	
3	4844.629	40.87	31.50	5.45	36.84	40.98	74.00	-33.02	HORIZONTAL	Peak	
4	7266.300	46.01	35.78	6.06	37.41	50.44	74.00	-23.56	HORIZONTAL	Peak	
5	9688.909	36.71	38.44	7.04	37.42	44.77	74.00	-29.23	HORIZONTAL	Peak	
6	12110.130	39.10	38.83	8.14	37.05	49.02	74.00	-24.98	HORIZONTAL	Peak	

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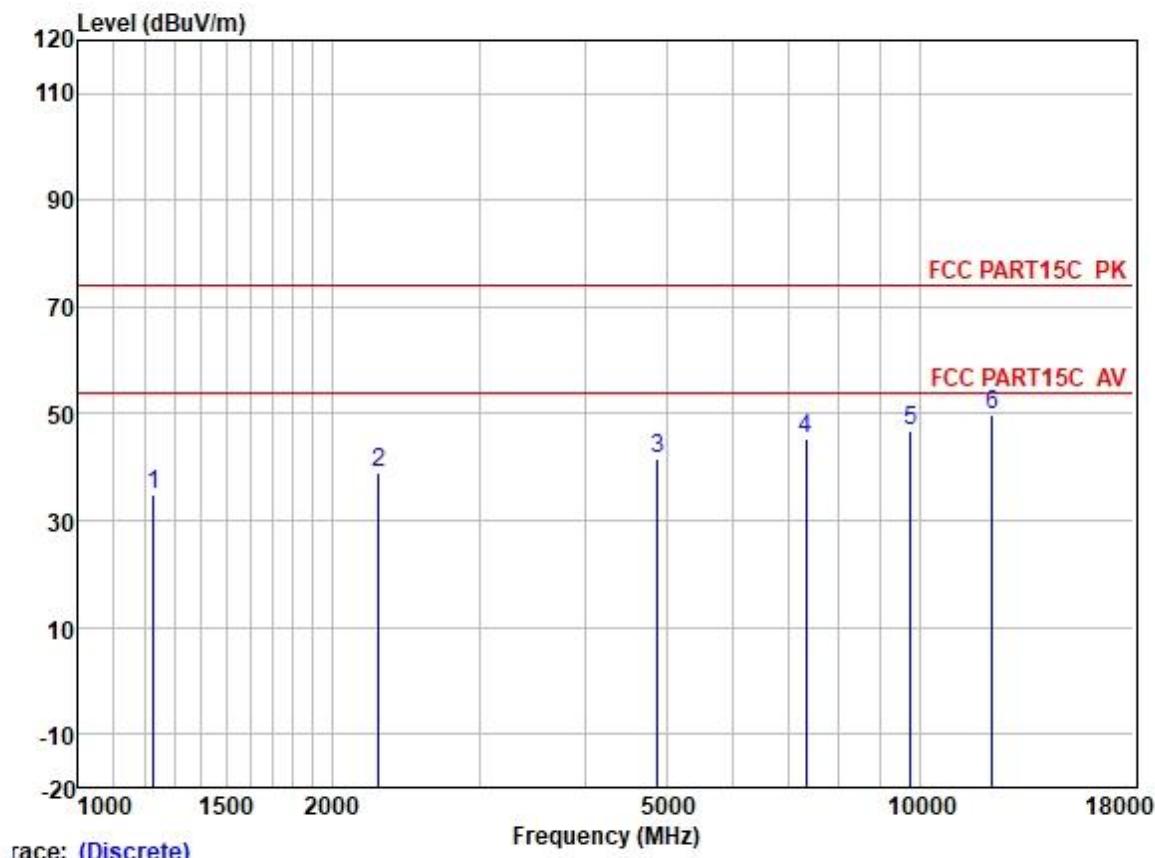
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Test Mode: 01; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss Factor				
1	1227.791	45.93	24.88	2.31	38.37	34.75	74.00	-39.25 HORIZONTAL Peak
2	2272.466	46.42	27.01	3.28	37.63	39.08	74.00	-34.92 HORIZONTAL Peak
3	4884.537	41.26	31.56	5.52	36.84	41.50	74.00	-32.50 HORIZONTAL Peak
4	7326.464	40.46	36.00	6.13	37.43	45.16	74.00	-28.84 HORIZONTAL Peak
5	9768.151	38.76	38.53	7.01	37.41	46.89	74.00	-27.11 HORIZONTAL Peak
6	12210.740	39.81	38.74	8.08	37.00	49.63	74.00	-24.37 HORIZONTAL Peak

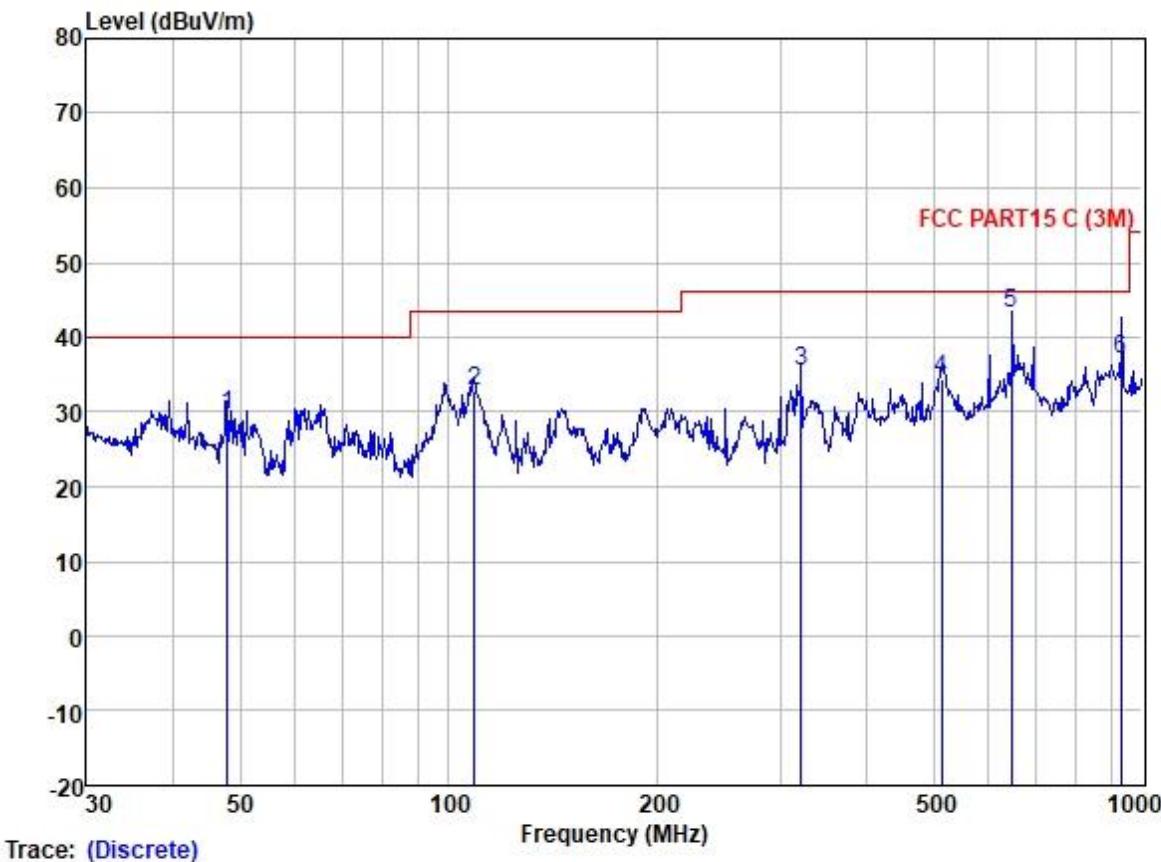
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Test Mode: 01; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Site : SGS
Condition : FCC PART15 C (3M) VERTICAL
Job :
Model :
Power :
Test Mode : 摄像头AC

Freq	Read	Antenna	Cable	Preamp	Measured	Limit	Over	Pol/	Remark
	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	
1 47.83	41.63	13.99	1.13	27.17	29.58	40.00	-10.42	VERTICAL	QP
2 108.65	47.73	10.33	1.78	27.06	32.78	43.50	-10.72	VERTICAL	QP
3 322.19	44.34	14.35	3.35	26.67	35.37	46.00	-10.63	VERTICAL	QP
4 513.63	39.79	18.13	4.51	28.00	34.43	46.00	-11.57	VERTICAL	QP
5 648.00	45.29	20.48	5.51	28.18	43.10	46.00	-2.90	VERTICAL	QP
6 931.81	33.90	23.80	7.06	27.79	36.97	46.00	-9.03	VERTICAL	QP

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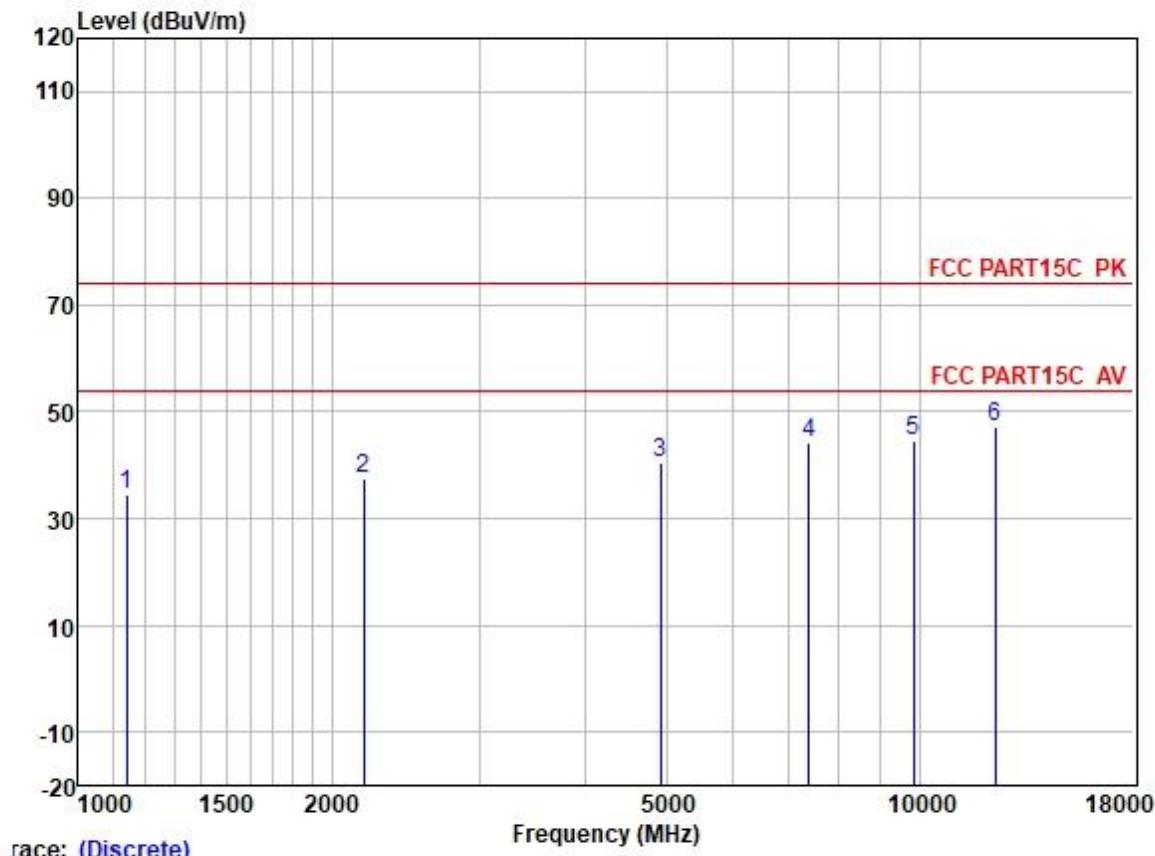
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Test Mode: 01; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss Factor	dB	dBuV/m	dBuV/m	dB
1	1142.201	46.14	24.47	2.30	38.42	34.49	74.00	-39.51 VERTICAL Peak
2	2182.346	45.42	26.54	3.19	37.66	37.49	74.00	-36.51 VERTICAL Peak
3	4924.422	40.06	31.62	5.60	36.84	40.44	74.00	-33.56 VERTICAL Peak
4	7386.529	39.49	36.17	6.19	37.45	44.40	74.00	-29.60 VERTICAL Peak
5	9848.429	36.37	38.58	6.99	37.41	44.53	74.00	-29.47 VERTICAL Peak
6	12310.390	37.34	38.63	8.01	36.95	47.03	74.00	-26.97 VERTICAL Peak

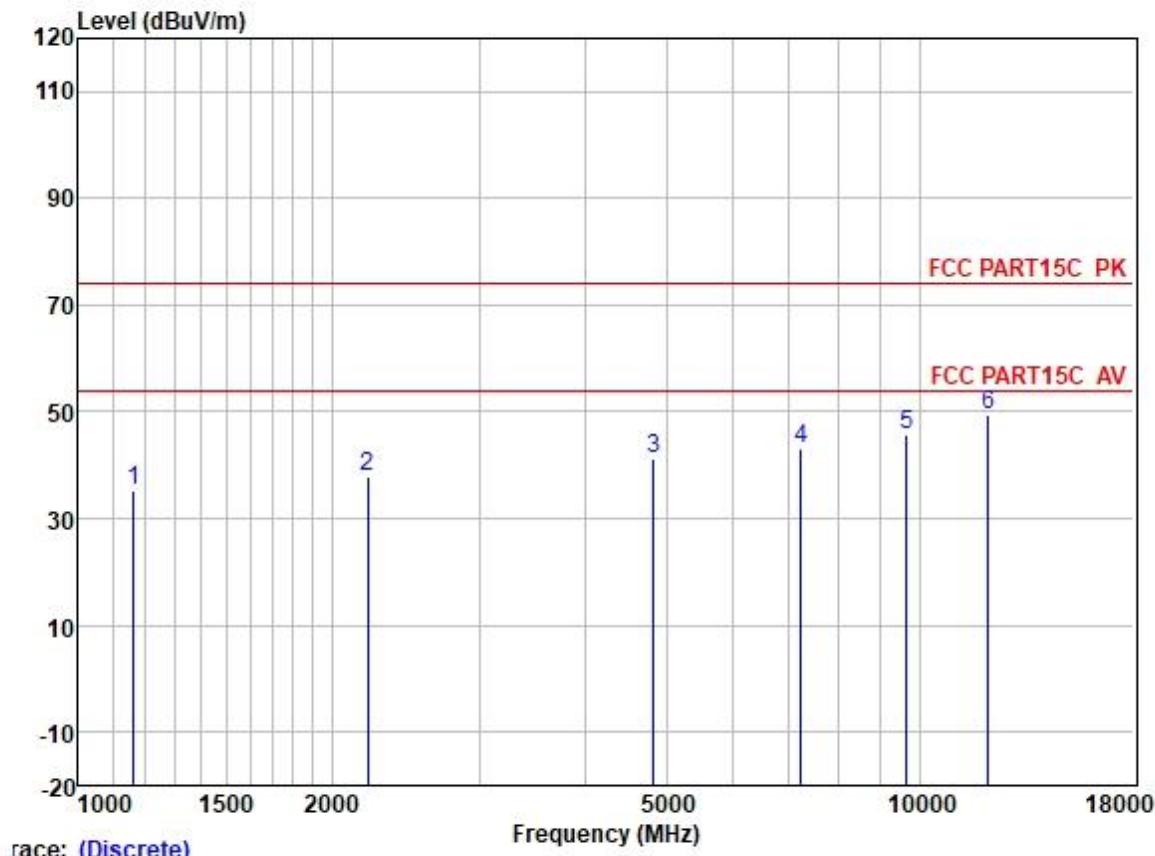
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Test Mode: 01; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Device: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss	Preamp Factor			
1	1162.182	46.73	24.53	2.40	38.42	35.24	74.00	-38.76 VERTICAL Peak
2	2207.723	45.70	26.65	3.21	37.65	37.91	74.00	-36.09 VERTICAL Peak
3	4824.637	41.17	31.45	5.42	36.83	41.21	74.00	-32.79 VERTICAL Peak
4	7236.072	38.83	35.70	6.03	37.39	43.17	74.00	-30.83 VERTICAL Peak
5	9648.144	37.69	38.40	7.06	37.42	45.73	74.00	-28.27 VERTICAL Peak
6	12060.530	39.57	38.88	8.17	37.08	49.54	74.00	-24.46 VERTICAL Peak

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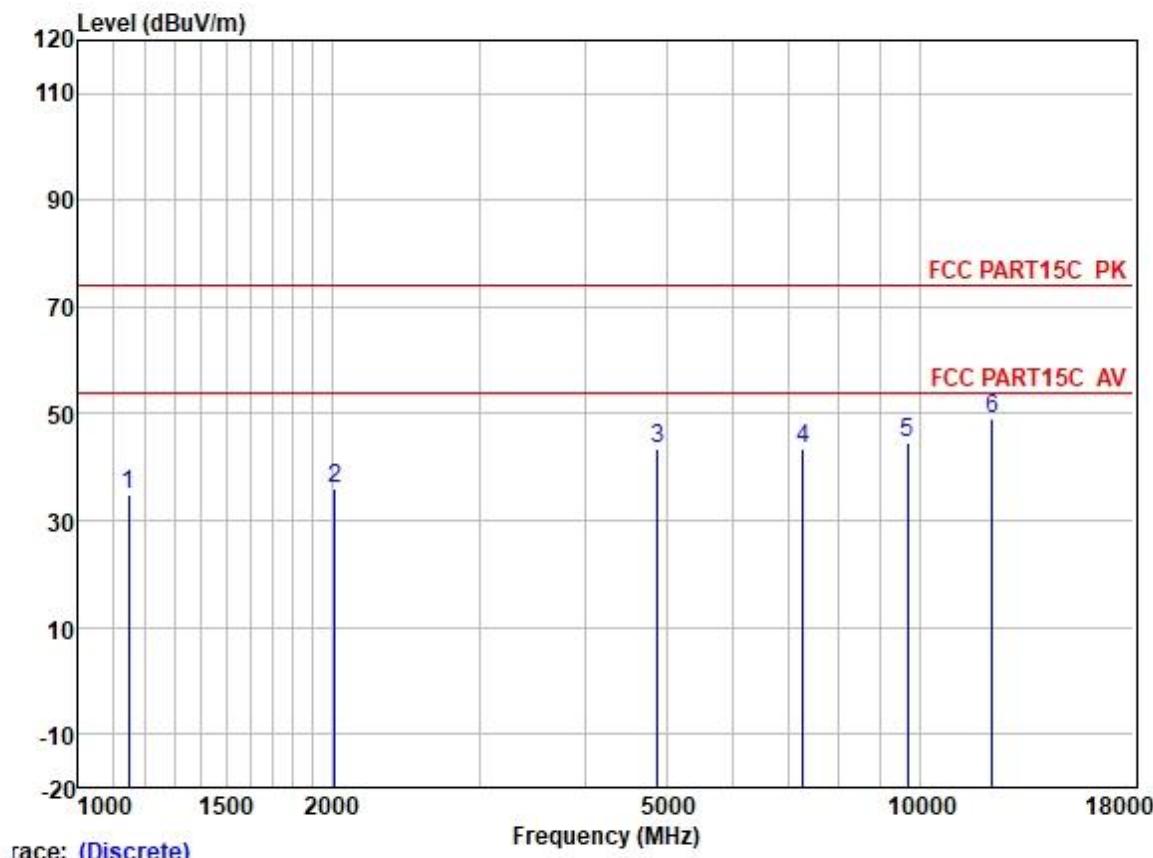
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Test Mode: 01; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss	Preamp Factor			
1	1148.823	46.46	24.49	2.34	38.42	34.87	74.00	-39.13 VERTICAL Peak
2	2018.511	44.54	26.13	3.11	37.69	36.09	74.00	-37.91 VERTICAL Peak
3	4884.077	43.14	31.56	5.52	36.84	43.38	74.00	-30.62 VERTICAL Peak
4	7266.440	39.00	35.78	6.06	37.41	43.43	74.00	-30.57 VERTICAL Peak
5	9688.420	36.45	38.44	7.04	37.42	44.51	74.00	-29.49 VERTICAL Peak
6	12210.710	39.15	38.74	8.08	37.00	48.97	74.00	-25.03 VERTICAL Peak

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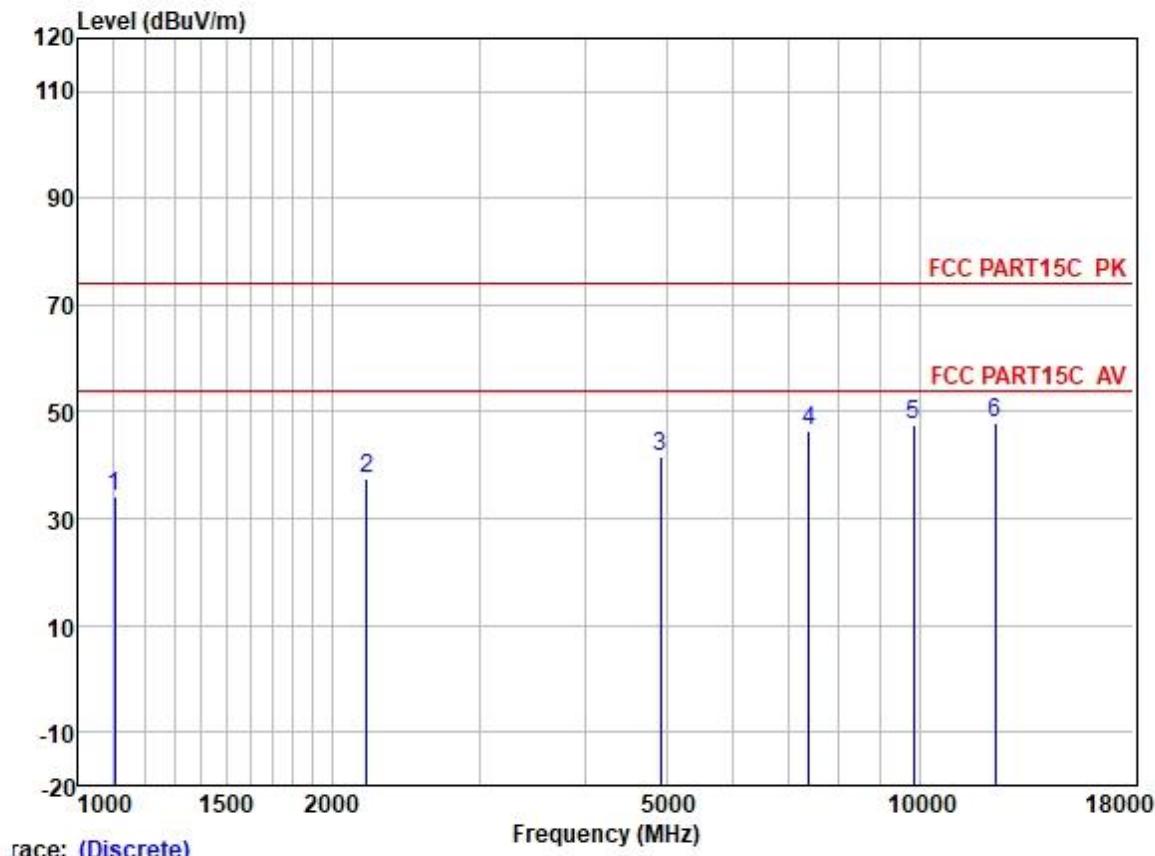
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Test Mode: 01; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	Level	Factor	Loss	Factor							
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB				
1 1103.264	45.92	24.37	2.29	38.45	34.13	74.00	-39.87	VERTICAL	Peak		
2 2201.352	45.39	26.62	3.20	37.65	37.56	74.00	-36.44	VERTICAL	Peak		
3 4924.297	41.12	31.62	5.60	36.84	41.50	74.00	-32.50	VERTICAL	Peak		
4 7386.373	41.37	36.17	6.19	37.45	46.28	74.00	-27.72	VERTICAL	Peak		
5 9848.390	39.35	38.58	6.99	37.41	47.51	74.00	-26.49	VERTICAL	Peak		
6 12310.700	38.11	38.63	8.01	36.95	47.80	74.00	-26.20	VERTICAL	Peak		

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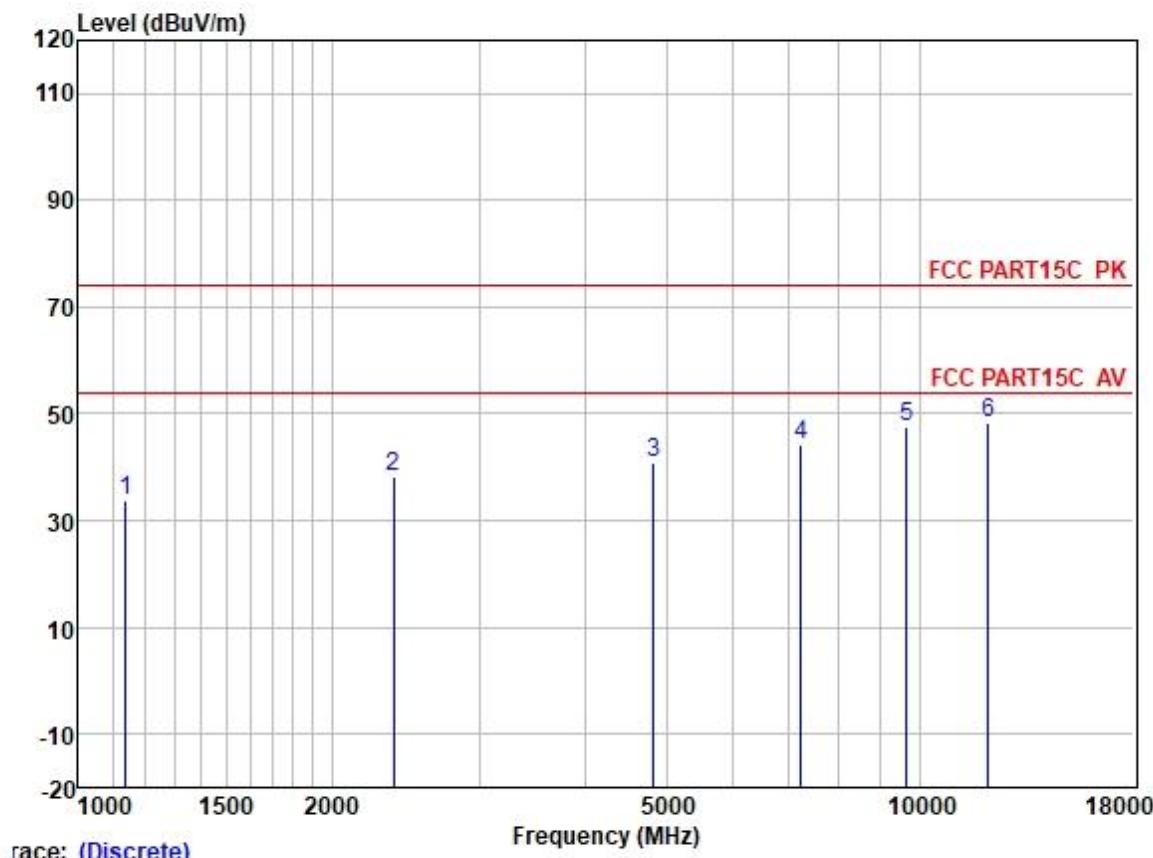
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Test Mode: 01; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss Factor				
1	1138.904	45.63	24.46	2.27	38.42	33.94	74.00	-40.06 VERTICAL Peak
2	2373.157	44.96	27.30	3.45	37.60	38.11	74.00	-35.89 VERTICAL Peak
3	4824.203	40.67	31.45	5.42	36.83	40.71	74.00	-33.29 VERTICAL Peak
4	7236.440	39.92	35.70	6.03	37.39	44.26	74.00	-29.74 VERTICAL Peak
5	9648.278	39.54	38.40	7.06	37.42	47.58	74.00	-26.42 VERTICAL Peak
6	12060.900	38.32	38.88	8.17	37.08	48.29	74.00	-25.71 VERTICAL Peak

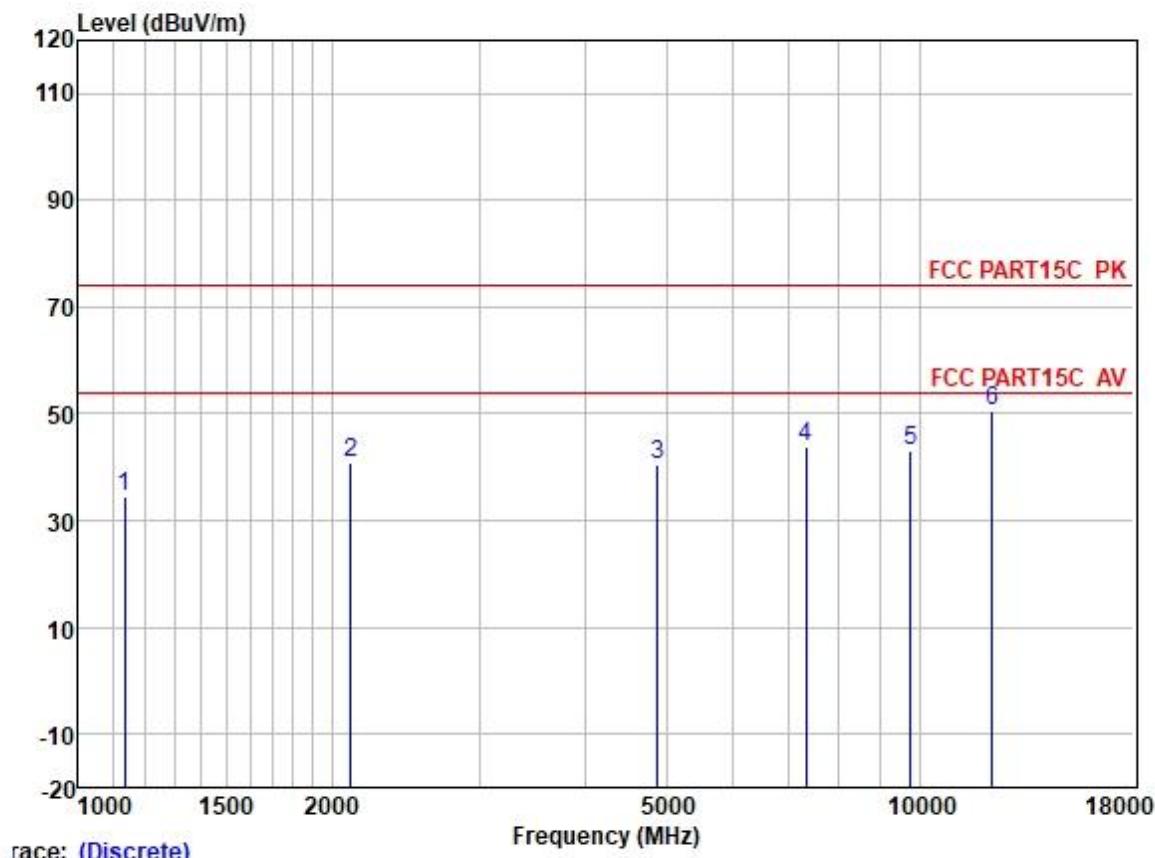
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Test Mode: 01; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



	ReadAntenna		Cable Preamp		Limit	Over	Line	Limit	Pol/Phase	Remark
	Freq	Level	Factor	Loss	Factor					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1135.617	46.15	24.45	2.25	38.43	34.42	74.00	-39.58	VERTICAL	Peak
2	2107.950	48.98	26.31	3.16	37.68	40.77	74.00	-33.23	VERTICAL	Peak
3	4884.691	40.11	31.56	5.52	36.84	40.35	74.00	-33.65	VERTICAL	Peak
4	7326.412	39.19	36.00	6.13	37.43	43.89	74.00	-30.11	VERTICAL	Peak
5	9768.836	34.94	38.53	7.01	37.41	43.07	74.00	-30.93	VERTICAL	Peak
6	12210.100	40.80	38.74	8.08	37.00	50.62	74.00	-23.38	VERTICAL	Peak

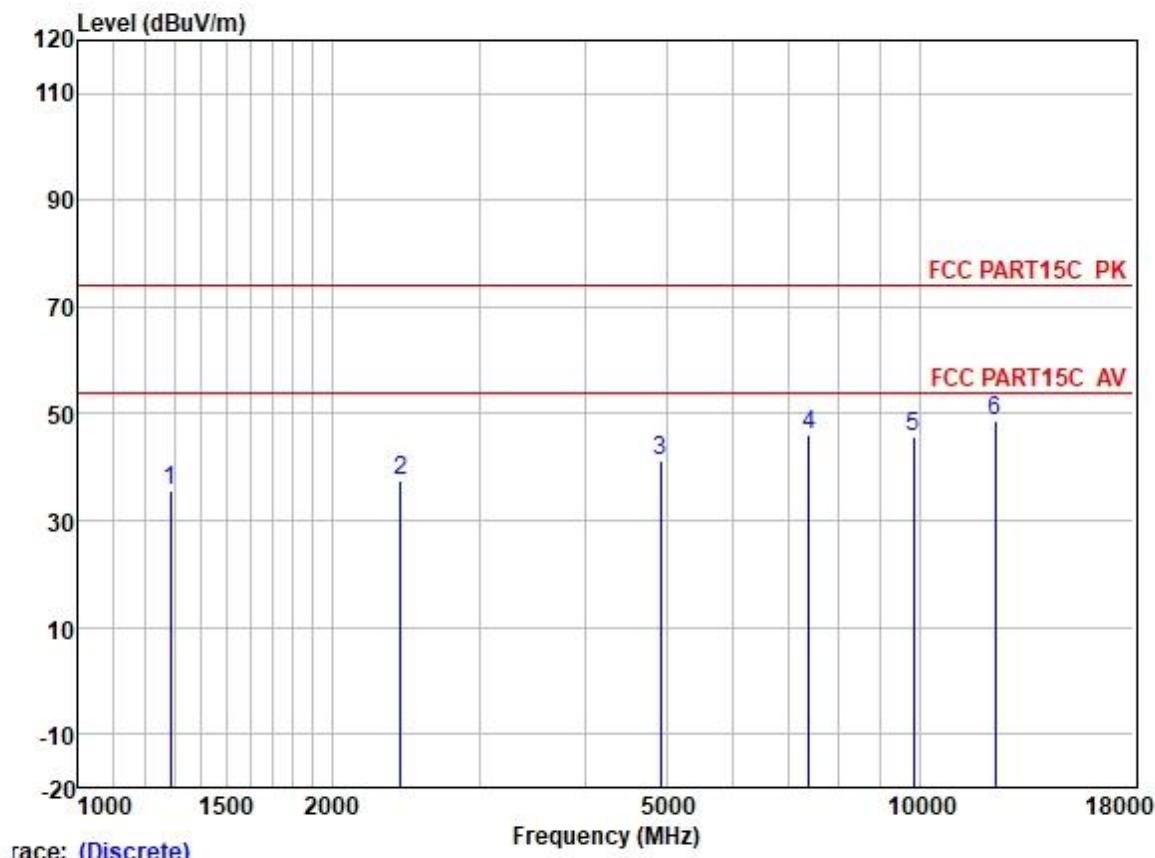
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss				
1	1285.904	46.17	25.16	2.53	38.33	35.53	74.00	-38.47 VERTICAL Peak
2	2414.672	44.06	27.38	3.47	37.58	37.33	74.00	-36.67 VERTICAL Peak
3	4924.746	40.83	31.62	5.60	36.84	41.21	74.00	-32.79 VERTICAL Peak
4	7386.373	41.11	36.17	6.19	37.45	46.02	74.00	-27.98 VERTICAL Peak
5	9848.460	37.72	38.58	6.99	37.41	45.88	74.00	-28.12 VERTICAL Peak
6	12310.700	39.08	38.63	8.01	36.95	48.77	74.00	-25.23 VERTICAL Peak

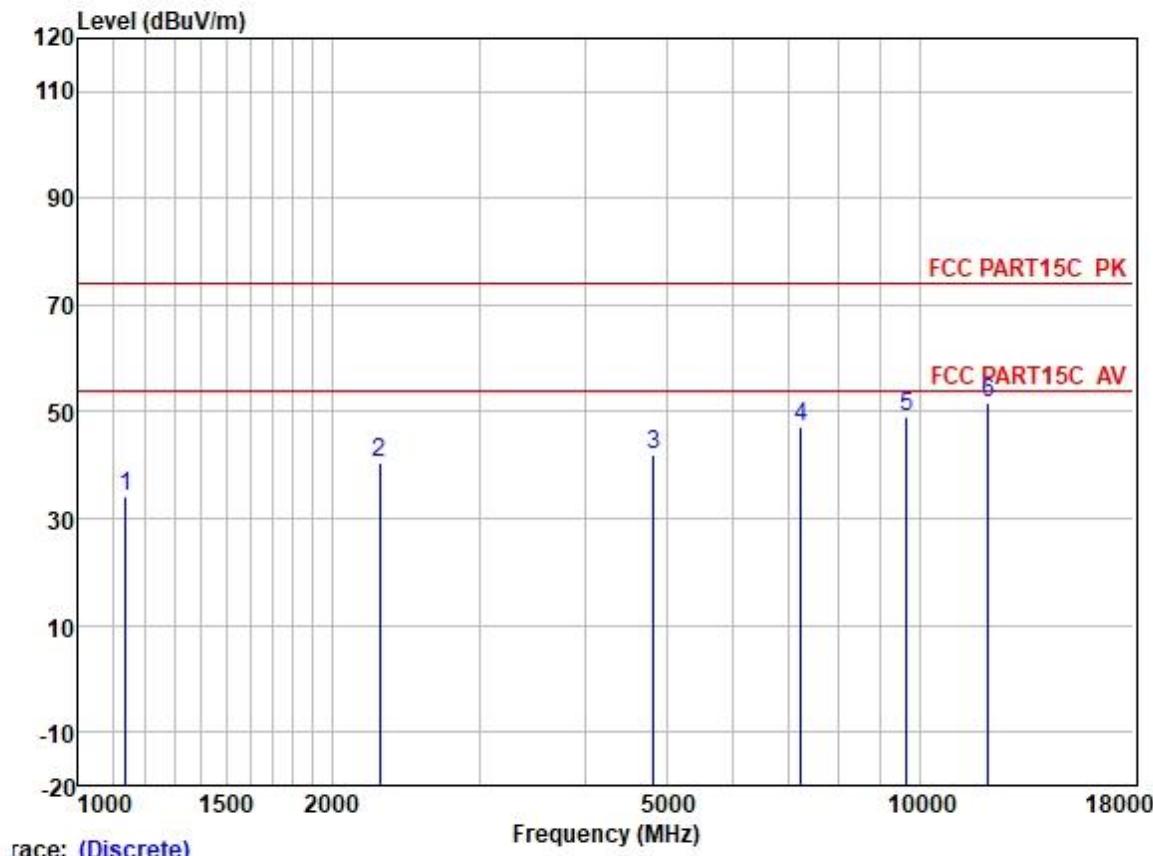
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

	ReadAntenna		Cable Preamp		Limit	Over	Line	Limit	Pol/Phase	Remark
	Freq	Level	Factor	Loss						
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1138.904	45.65	24.46	2.27	38.42	33.96	74.00	-40.04	VERTICAL	Peak
2	2279.044	47.73	27.03	3.28	37.63	40.41	74.00	-33.59	VERTICAL	Peak
3	4824.212	42.02	31.45	5.42	36.83	42.06	74.00	-31.94	VERTICAL	Peak
4	7236.265	42.68	35.70	6.03	37.39	47.02	74.00	-26.98	VERTICAL	Peak
5	9648.010	40.96	38.40	7.06	37.42	49.00	74.00	-25.00	VERTICAL	Peak
6	12060.720	41.80	38.88	8.17	37.08	51.77	74.00	-22.23	VERTICAL	Peak

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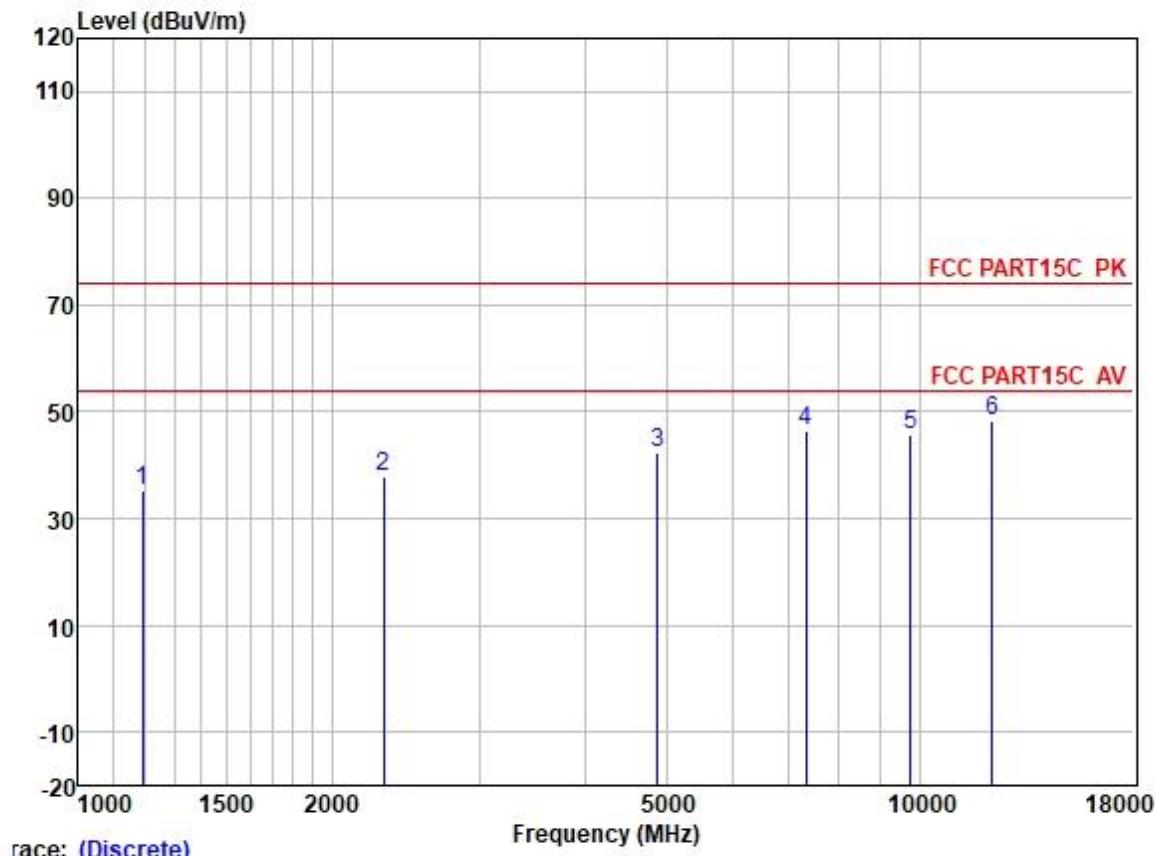
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss	Preamp Factor			
1	1192.811	46.63	24.65	2.36	38.39	35.25	74.00	-38.75 VERTICAL Peak
2	2305.546	45.16	27.13	3.31	37.62	37.98	74.00	-36.02 VERTICAL Peak
3	4884.257	42.16	31.56	5.52	36.84	42.40	74.00	-31.60 VERTICAL Peak
4	7326.436	41.76	36.00	6.13	37.43	46.46	74.00	-27.54 VERTICAL Peak
5	9768.460	37.72	38.53	7.01	37.41	45.85	74.00	-28.15 VERTICAL Peak
6	12210.620	38.55	38.74	8.08	37.00	48.37	74.00	-25.63 VERTICAL Peak

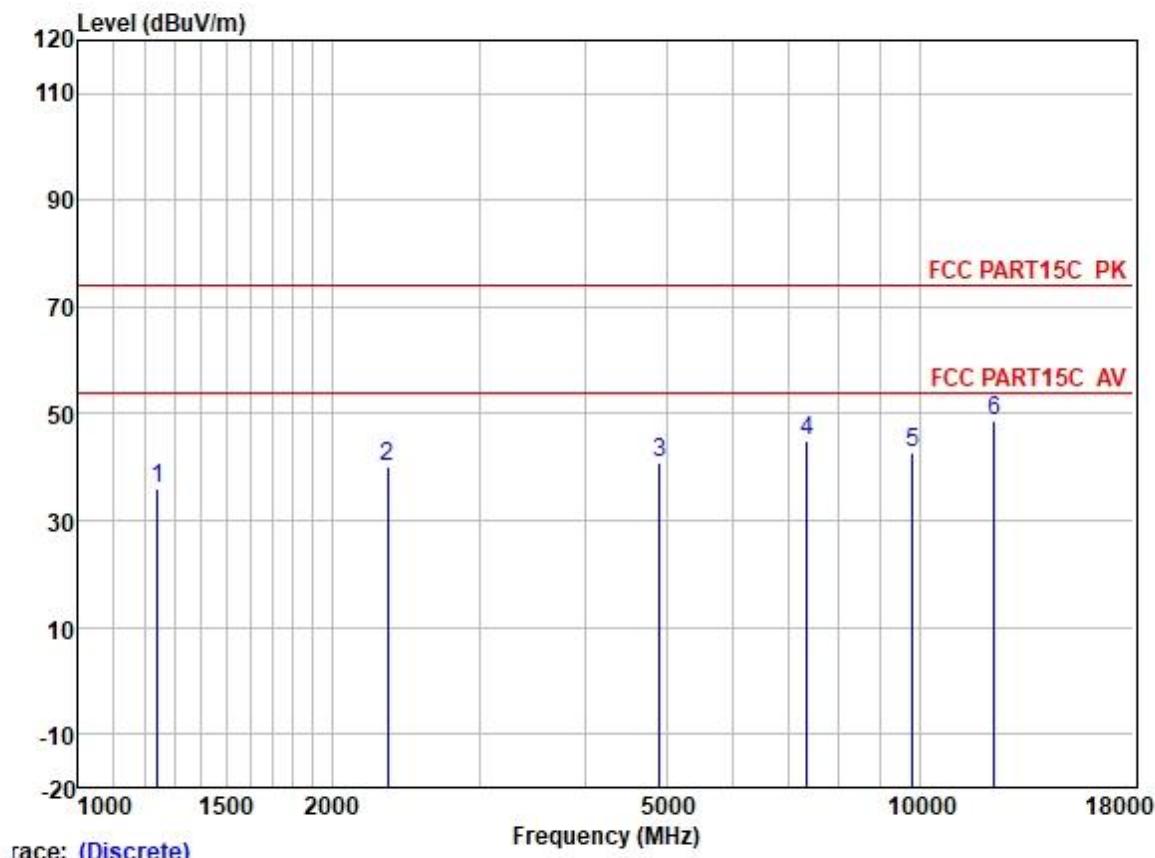
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Line	Pol/Phase	Remark
	MHz	Level	Factor	Loss				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	1242.068	47.08	24.98	2.31	38.35	36.02	74.00	-37.98 VERTICAL Peak
2	2332.356	47.08	27.20	3.36	37.62	40.02	74.00	-33.98 VERTICAL Peak
3	4904.374	40.67	31.58	5.55	36.84	40.96	74.00	-33.04 VERTICAL Peak
4	7356.626	40.12	36.06	6.15	37.44	44.89	74.00	-29.11 VERTICAL Peak
5	9808.860	34.71	38.56	7.00	37.41	42.86	74.00	-31.14 VERTICAL Peak
6	12260.390	38.84	38.70	8.06	36.98	48.62	74.00	-25.38 VERTICAL Peak

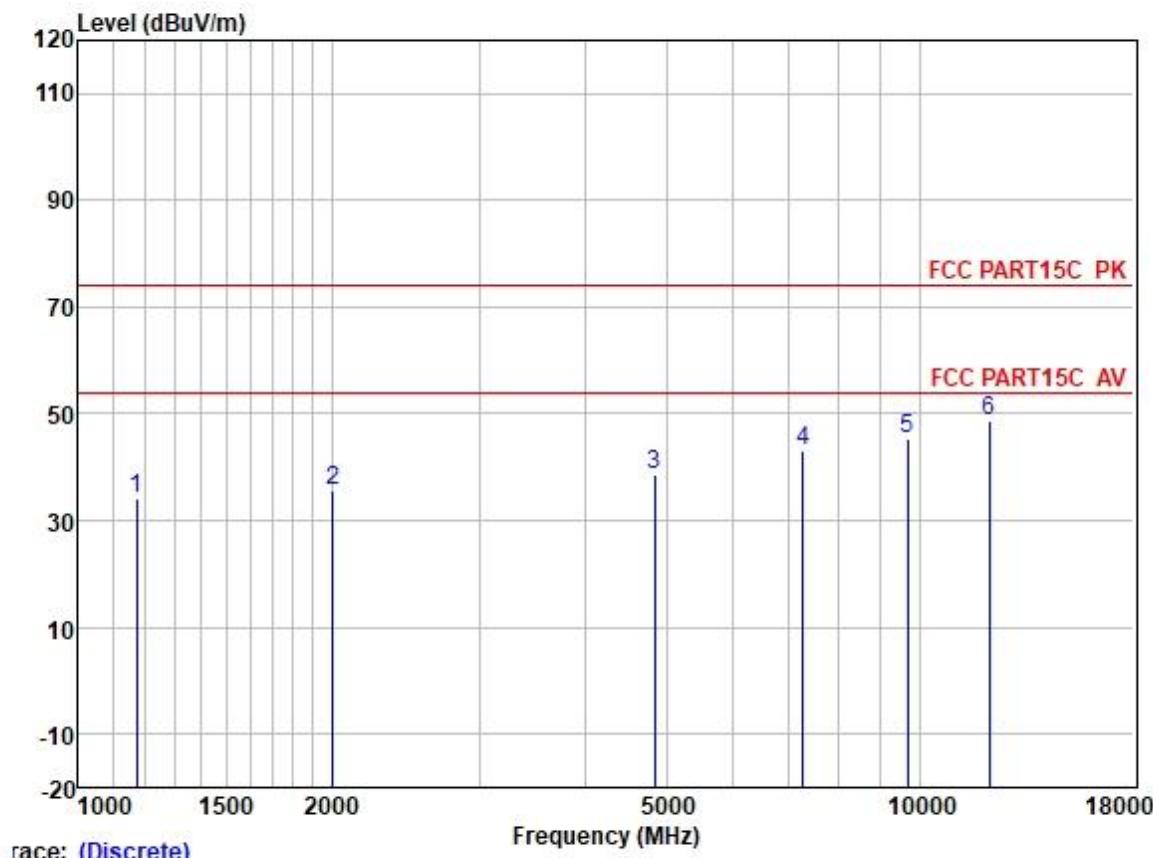
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss Factor				
1	1172.303	45.55	24.56	2.39	38.40	34.10	74.00	-39.90 VERTICAL Peak
2	2006.877	44.19	26.11	3.10	37.70	35.70	74.00	-38.30 VERTICAL Peak
3	4844.174	38.56	31.50	5.45	36.84	38.67	74.00	-35.33 VERTICAL Peak
4	7266.887	38.66	35.78	6.06	37.41	43.09	74.00	-30.91 VERTICAL Peak
5	9688.542	37.33	38.44	7.04	37.42	45.39	74.00	-28.61 VERTICAL Peak
6	12110.540	38.89	38.83	8.14	37.05	48.81	74.00	-25.19 VERTICAL Peak

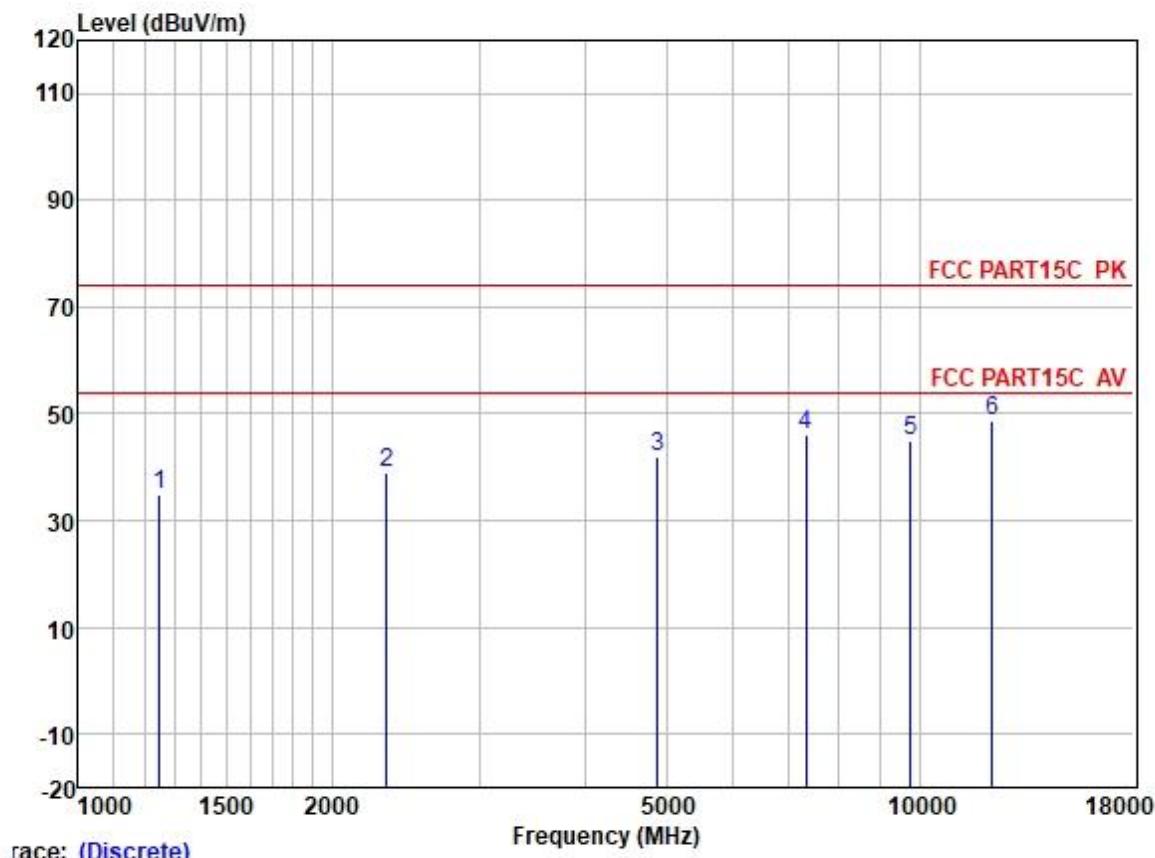
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Test Mode: 01; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
1	1249.269	45.91	25.02	2.34	38.35	34.92	74.00	-39.08 VERTICAL Peak
2	2325.624	46.01	27.19	3.34	37.62	38.92	74.00	-35.08 VERTICAL Peak
3	4884.699	41.58	31.56	5.52	36.84	41.82	74.00	-32.18 VERTICAL Peak
4	7326.026	41.32	36.00	6.13	37.43	46.02	74.00	-27.98 VERTICAL Peak
5	9768.972	36.71	38.53	7.01	37.41	44.84	74.00	-29.16 VERTICAL Peak
6	12210.390	39.02	38.74	8.08	37.00	48.84	74.00	-25.16 VERTICAL Peak

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8 Appendix

8.1 Appendix A: DTS Bandwidth

8.1.1 Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.880	2407.440	2416.320	≥ 0.5	PASS
		2442	9.120	2437.440	2446.560	≥ 0.5	PASS
		2462	8.400	2457.800	2466.200	≥ 0.5	PASS
11G	Ant1	2412	15.080	2404.480	2419.560	≥ 0.5	PASS
		2442	12.720	2434.400	2447.120	≥ 0.5	PASS
		2462	15.160	2454.400	2469.560	≥ 0.5	PASS
11N20SISO	Ant1	2412	15.200	2404.400	2419.600	≥ 0.5	PASS
		2442	15.200	2434.400	2449.600	≥ 0.5	PASS
		2462	16.080	2454.400	2470.480	≥ 0.5	PASS
11N40SISO	Ant1	2422	35.200	2404.400	2439.600	≥ 0.5	PASS
		2442	35.200	2424.400	2459.600	≥ 0.5	PASS
		2452	35.200	2434.400	2469.600	≥ 0.5	PASS
11B	Ant2	2412	8.800	2407.800	2416.600	≥ 0.5	PASS
		2442	10.040	2437.000	2447.040	≥ 0.5	PASS
		2462	7.920	2458.120	2466.040	≥ 0.5	PASS
11G	Ant2	2412	15.200	2404.400	2419.600	≥ 0.5	PASS
		2442	15.160	2434.440	2449.600	≥ 0.5	PASS
		2462	15.800	2453.800	2469.600	≥ 0.5	PASS
11N20SISO	Ant2	2412	15.200	2404.400	2419.600	≥ 0.5	PASS
		2442	15.200	2434.400	2449.600	≥ 0.5	PASS
		2462	15.200	2454.400	2469.600	≥ 0.5	PASS
11N40SISO	Ant2	2422	35.200	2404.400	2439.600	≥ 0.5	PASS
		2442	35.200	2424.400	2459.600	≥ 0.5	PASS
		2452	35.200	2434.400	2469.600	≥ 0.5	PASS

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