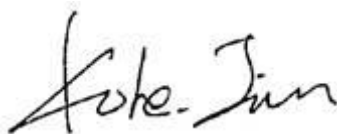


TEST REPORT

Application No.: GZEM2003011025CR
Applicant: Terrailon SAS
Address of Applicant: 1 rue Ernest Gouin CS50001, Croissy Sur Seine, France, 78290
Manufacturer: Zhongshan Transtek Electronics Co.,Ltd
Address of Manufacturer: No.23, Jin'an Road, Minzhong, Zhongshan, Guangdong, China
Factory: Zhongshan Transtek Electronics Co.,Ltd
Address of Factory: No.23, Jin'an Road, Minzhong, Zhongshan, Guangdong, China
Equipment Under Test (EUT):
FCC ID: 2AM6B-14711
EUT Name: Wifi Body Scale
Model No.: Master Form, GBS-1267-F2
 Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Standard(s): 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2020-03-20
Date of Test: 2020-04-16
Date of Issue: 2020-04-21

Test Result:	Pass*
---------------------	--------------

* 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		2020-04-21		Original

Authorized for issue by:			
Tested By	 Lily_Kuang /Project Engineer	2020-04-16	Date
Checked By	 Jerry_Chan /Reviewer	2020-04-21	Date



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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(c)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	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	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass

■ Declaration of EUT Family Grouping:

Model No.: Master Form, GBS-1267-F2

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

Therefore only one model GBS-1267-F2 was tested in this report.



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4 General Information

4.1 Details of E.U.T.

Power Supply:	DC 6V =4 x DC 1.5V size of "AAA" batteries
Test Voltage:	DC 6V
Antenna Gain	0 dBi
Antenna Type	PCB Antenna
Channel Spacing	5MHz
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
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	IBM	T30	S/N78-3VMLX 06/01
BT test board	SGS EMC	RF 07	RF 07

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 5.5 \times 10^{-8}$
2	Duty cycle	$\pm 0.57\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF Conducted power	$\pm 0.68\text{dB}$
5	RF Power Density	$\pm 1.50\text{dB}$
6	Conducted Spurious Emissions	$\pm 1.04\text{dB}$
7	RF Radiated Power	$\pm 4.5\text{dB}$ (below 1GHz)
		$\pm 4.8\text{dB}$ (above 1GHz)
8	Radiated Spurious Emission Test	$\pm 4.5\text{dB}$ (30MHz-1GHz)
		$\pm 4.8\text{dB}$ (1GHz-18GHz)
9	Temperature	$\pm 0.4^\circ\text{C}$
10	Humidity	$\pm 1.3\%$
11	Supply Voltages	$\pm 1.5\%$
12	Time	$\pm 3\%$



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4.4 Test Location

All tests were performed at:

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 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.



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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 C-Tick mark as a result of our NVLAP accreditation.

● 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 2.948 Listed Test Firm(Registration No.: 282399)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

● 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, Jul 13, 2017.

● Industry Canada (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-10449 and T-11179)

The 10m Semi-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-10449 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 17025:2005, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

Minimum 6dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2019-11-18	2020-11-17
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

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2019-11-18	2020-11-17
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

Power Spectrum Density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2019-11-18	2020-11-17
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

Conducted Band Edges Measurement					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer	AgilentTechnologies	N9020A	SEM004-10	2020-03-02	2021-03-01
ESG Vector Signal Generator	Keysight	E4438C	SEM006-03	2020-03-31	2021-03-30
EXG Analog Signal Generator	AgilentTechnologies	N5171B	SEM006-04	2017-07-26	2020-07-25
Power Meter	AgilentTechnologies	U2021XA_Ch2	SEM009-02	2019-05-29	2020-05-28
Power Meter	AgilentTechnologies	U2021XA_Ch3	SEM009-03	2019-05-29	2020-05-28
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2019-11-18	2020-11-17
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



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Conducted Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2019-11-18	2020-11-17
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

Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2020-01-10	2021-01-09
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2020-01-10	2021-01-09
Chamber cable	HangTianXing	N/A	EMC0542	2019-06-28	2021-06-27
Trilog Broadband Antenna 25MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	EMC2174	2018-09-06	2021-09-05
Bi-log Type Antenna	Schaffner Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna	SCHWARZBECKME SS-ELEKTRONIK	BBHA 9120D	EMC2016	2019-09-25	2022-09-24
Horn Antenna 1GHz-18GHz	Rohde & Schwarz	HF906	EMC0518	2018-09-02	2021-09-01
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2020-01-10	2021-01-09
Amplifier	HP	8447F	EMC2065	2019-05-29	2020-05-28
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2019-11-18	2020-11-17
Active Loop Antenna	EMCO	6502	EMC0523	2018-03-05	2021-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2020-01-10	2021-01-09
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2020-01-10	2021-01-09
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2020-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2019-11-18	2020-11-17
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2019-11-18	2020-11-17
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A



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Radiated Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2020-01-10	2021-01-09
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2020-01-10	2021-01-09
Chamber cable	HangTianXing	N/A	EMC0542	2019-06-28	2021-06-27
Trilog Broadband Antenna 25MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	EMC2174	2018-09-06	2021-09-05
Bi-log Type Antenna	Schaffner Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna	SCHWARZBECKME SS-ELEKTRONIK	BBHA 9120D	EMC2016	2019-09-25	2022-09-24
Horn Antenna 1GHz-18GHz	Rohde & Schwarz	HF906	EMC0518	2018-09-02	2021-09-01
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2020-01-10	2021-01-09
Amplifier	HP	8447F	EMC2065	2019-05-29	2020-05-28
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2019-11-18	2020-11-17
Active Loop Antenna	EMCO	6502	EMC0523	2018-03-05	2021-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2020-01-10	2021-01-09
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2020-01-10	2021-01-09
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2020-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2019-11-18	2020-11-17
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2019-11-18	2020-11-17
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2019-07-16	2020-07-15
DMM	Fluke	73	EMC0007	2019-07-16	2020-07-15



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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(c)

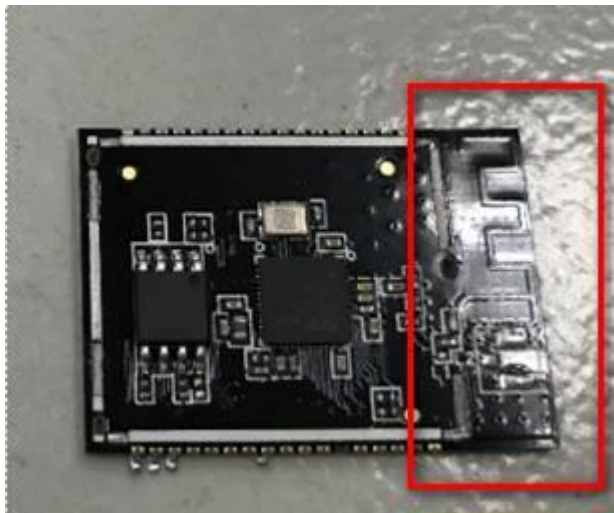
6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

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



EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.



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7 Radio Spectrum Matter Test Results

7.1 Minimum 6dB Bandwidth

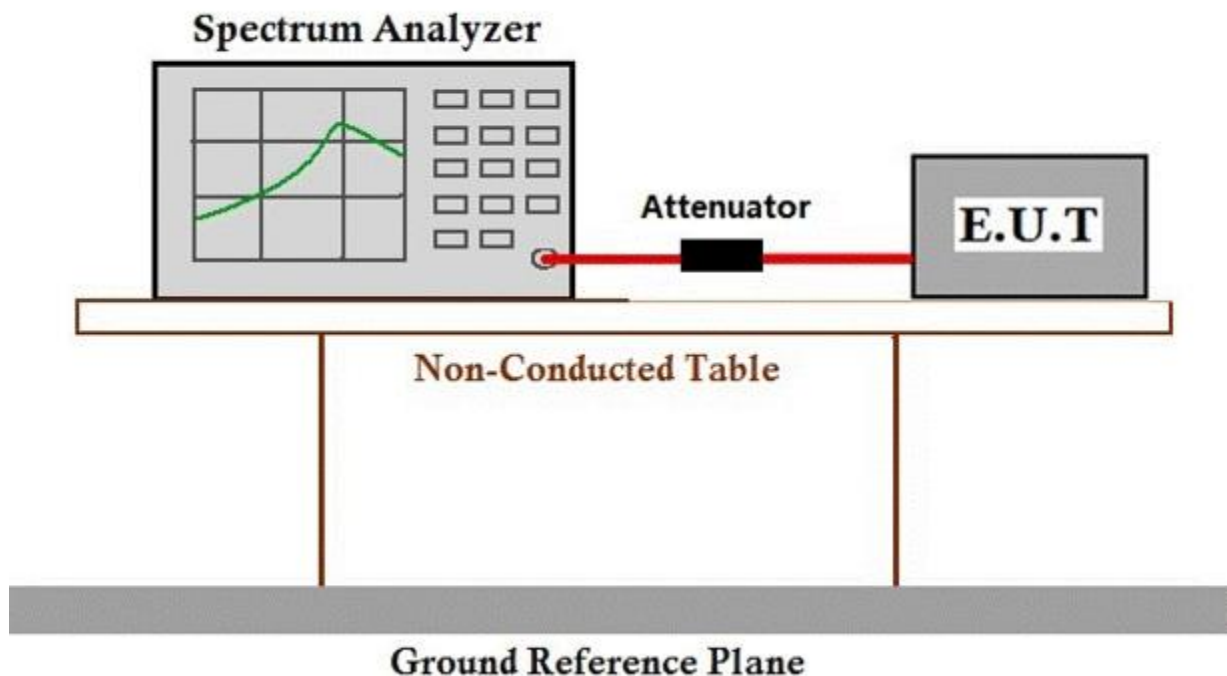
Test Requirement 47 CFR Part 15, Subpart C 15.247a(2)
Test Method: ANSI C63.10 (2013) Section 11.8.1
Limit: ≥ 500 kHz

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 53.9 % RH Atmospheric Pressure: 1020 mbar
Test mode b: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). Only the data of worst case is recorded in the report.

7.1.2 Test Setup Diagram



7.1.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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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

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



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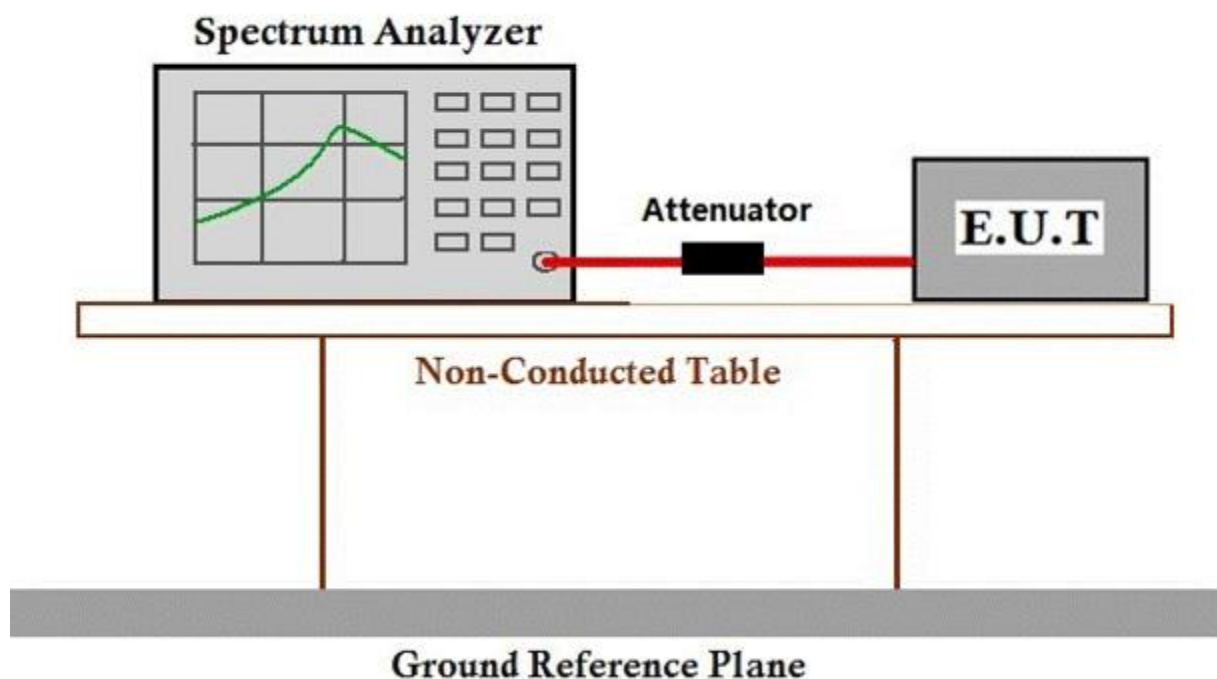
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 53.9 % RH Atmospheric Pressure: 1020 mbar

Test mode b: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). Only the data of worst case is recorded in the report.

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.3 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: $\leq 8\text{dBm}$ in any 3 kHz band during any time interval of continuous transmission

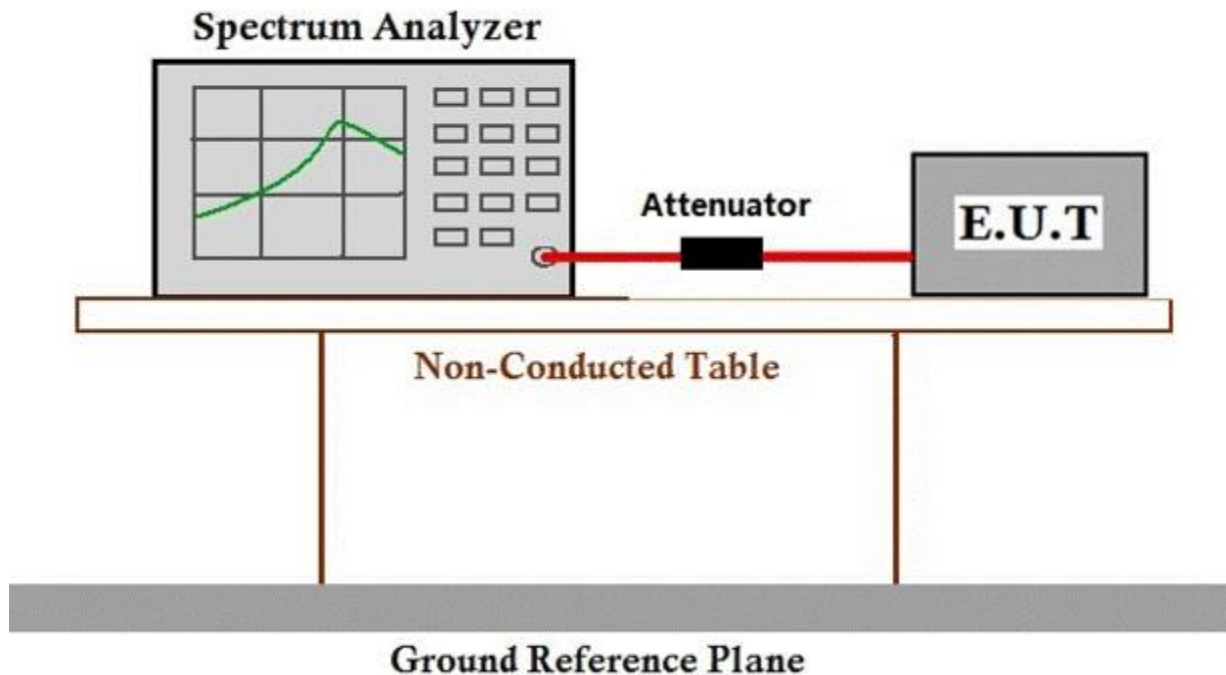
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 53.9 % RH Atmospheric Pressure: 1020 mbar

Test mode b: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). Only the data of worst case is recorded in the report.

7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



7.4 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))



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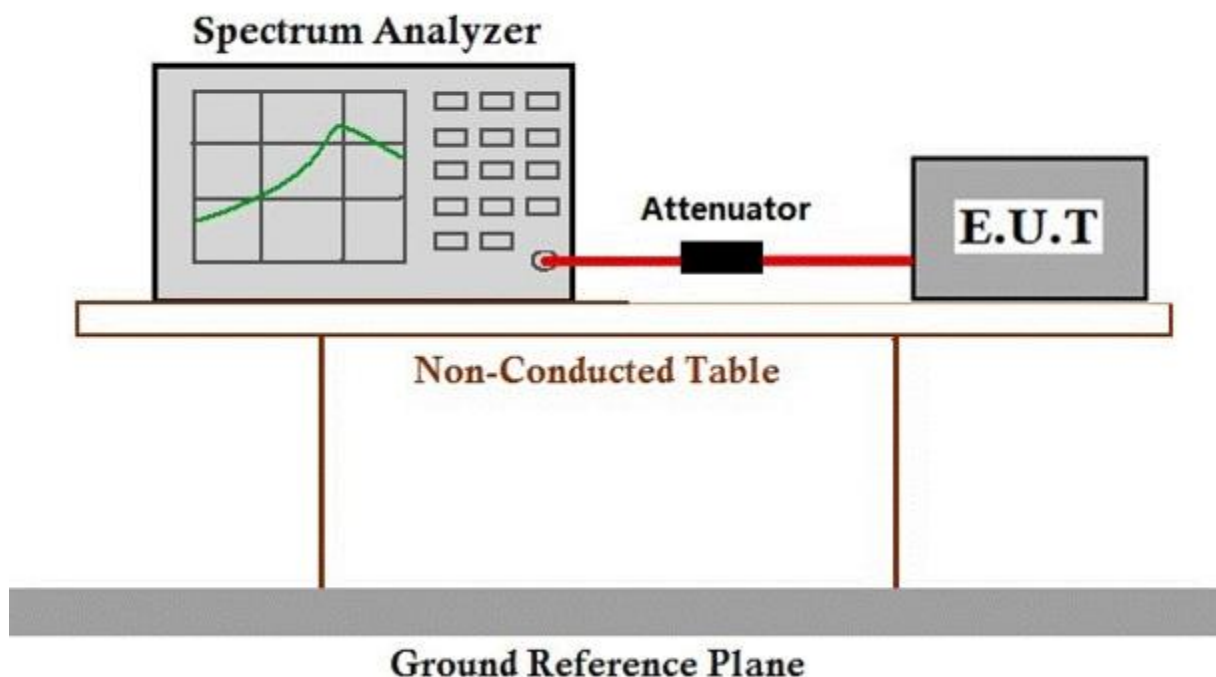
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7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 53.9 % RH Atmospheric Pressure: 1020 mbar
 Test mode b: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). Only the data of worst case is recorded in the report.

7.4.2 Test Setup Diagram



7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.5 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))



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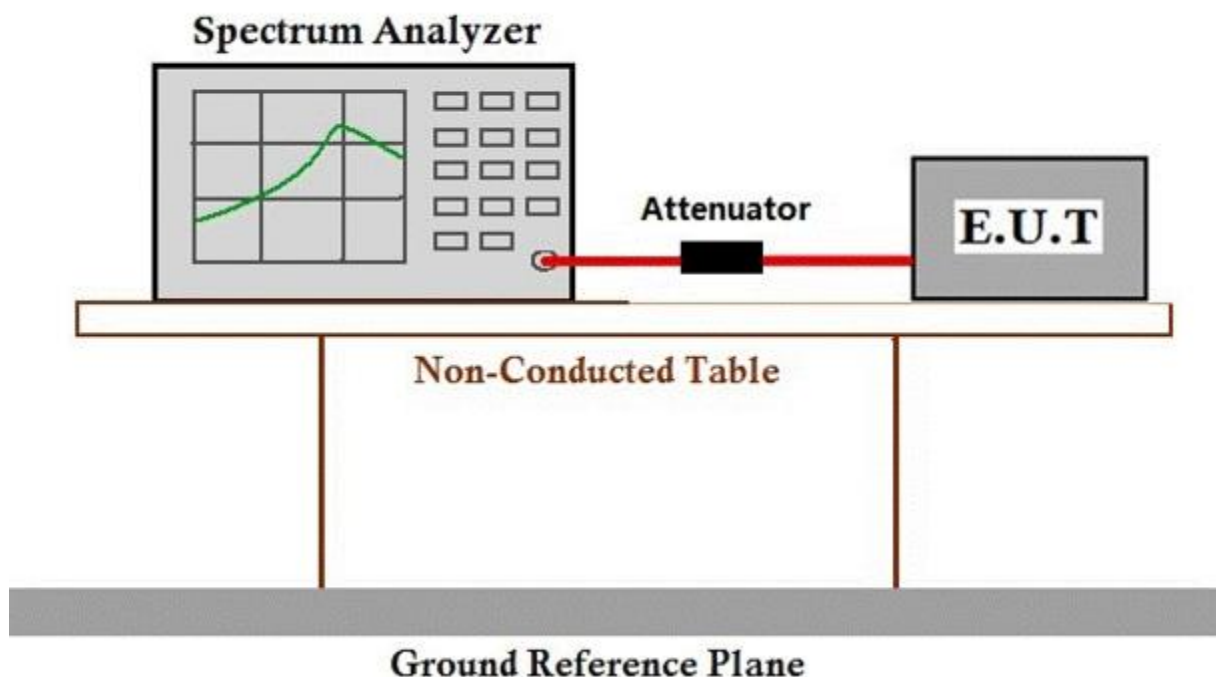
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7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 53.9 % RH Atmospheric Pressure: 1020 mbar
 Test mode b: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). Only the data of worst case is recorded in the report.

7.5.2 Test Setup Diagram



7.5.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.6 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.247(d)

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

Measurement Distance: 3m

Limit:

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

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.

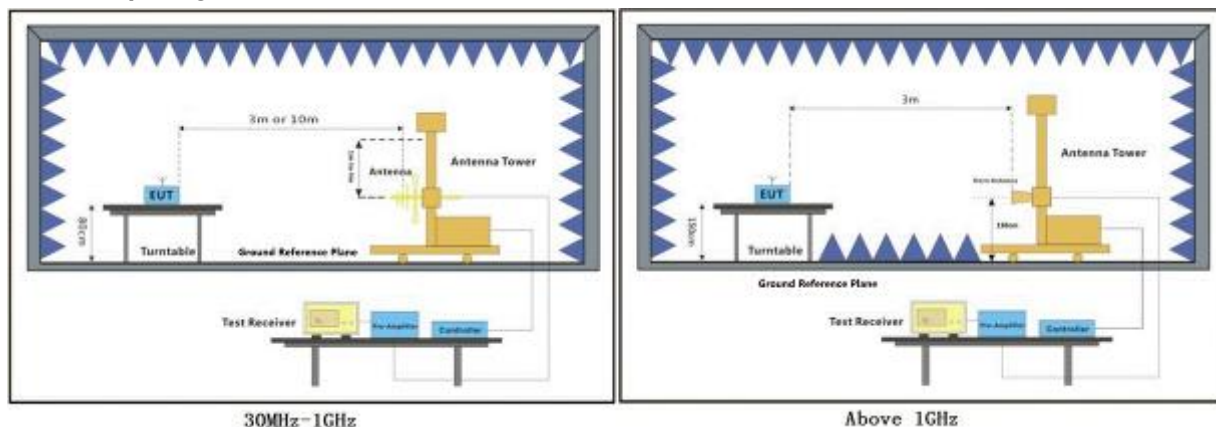
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 23.7 °C Humidity: 63.7 % RH Atmospheric Pressure: 1020 mbar

Test mode b: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). Only the data of worst case is recorded in the report.

7.6.2 Test Setup Diagram



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7.6.3 Measurement Procedure and Data

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

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

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

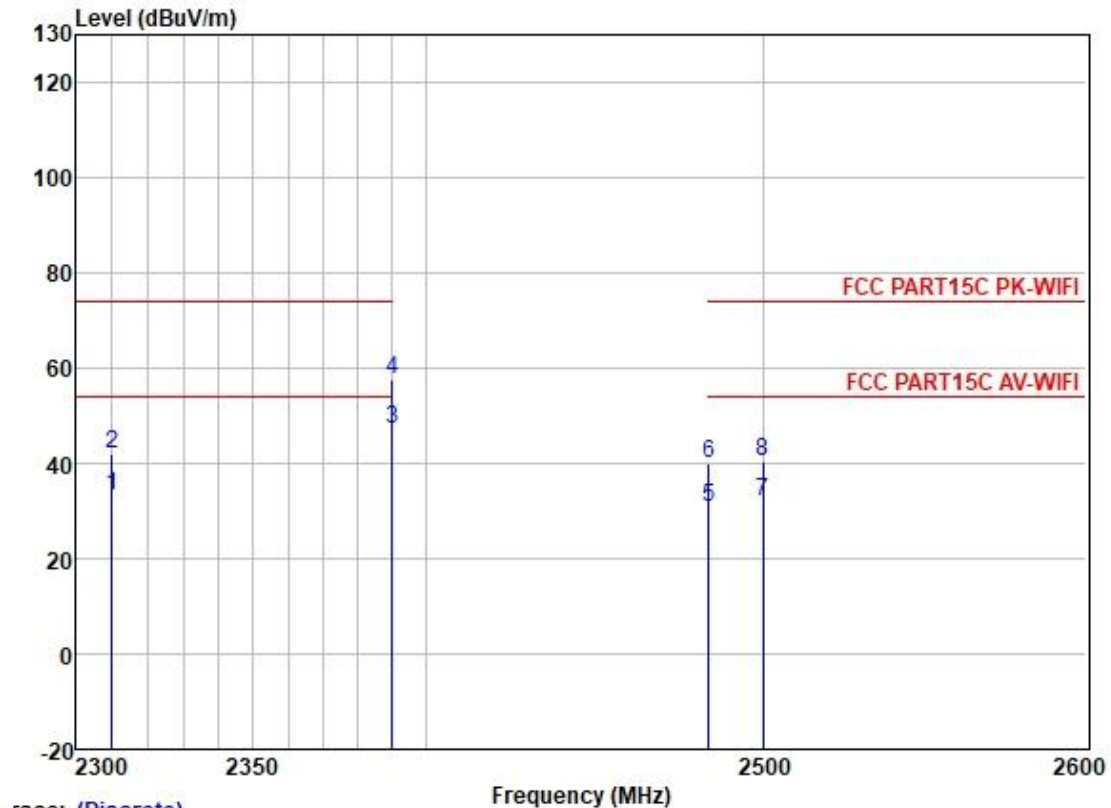
Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor



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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low



race: (Discrete)

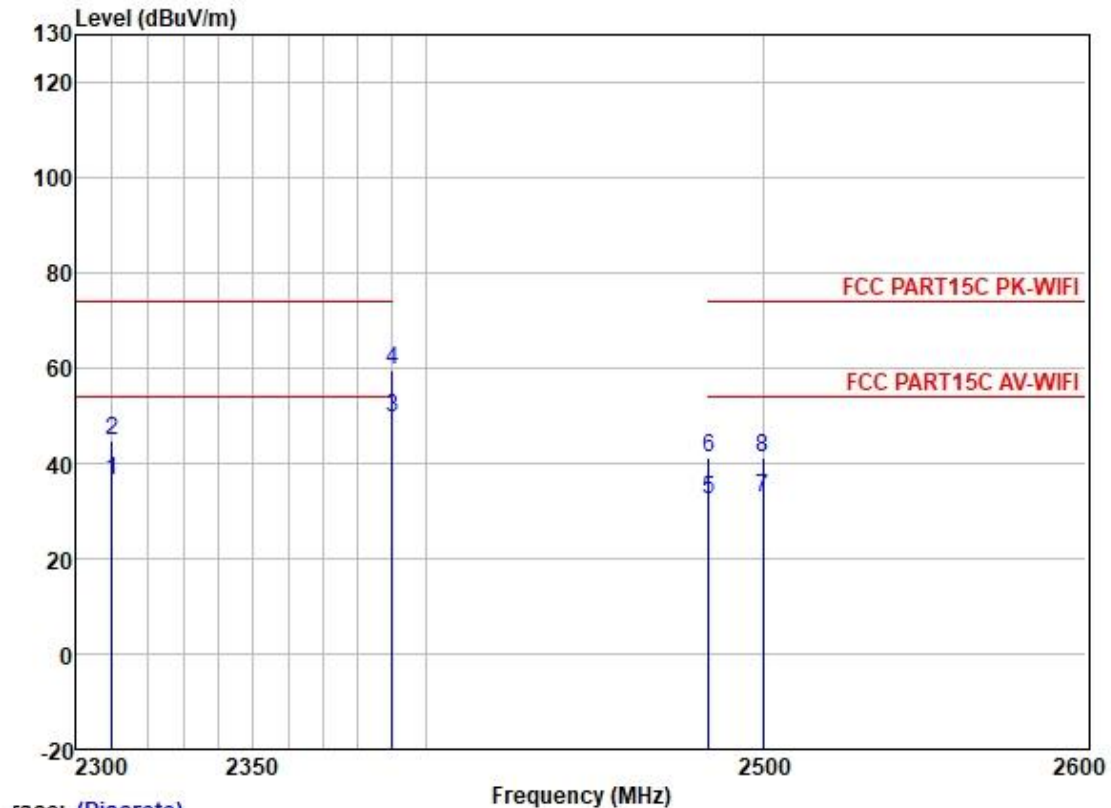
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	39.65	27.15	3.32	36.94	33.18	54.00	-20.82	HORIZONTAL	Average
2	2310.000	48.66	27.15	3.32	36.94	42.19	74.00	-31.81	HORIZONTAL	Peak
3	2390.000	53.18	27.33	3.48	36.92	47.07	54.00	-6.93	HORIZONTAL	Average
4	2390.000	63.76	27.33	3.48	36.92	57.65	74.00	-16.35	HORIZONTAL	Peak
5	2483.500	36.65	27.48	3.53	36.90	30.76	54.00	-23.24	HORIZONTAL	Average
6	2483.500	46.00	27.48	3.53	36.90	40.11	74.00	-33.89	HORIZONTAL	Peak
7	2500.000	37.86	27.50	3.40	36.89	31.87	54.00	-22.13	HORIZONTAL	Average
8	2500.000	46.53	27.50	3.40	36.89	40.54	74.00	-33.46	HORIZONTAL	Peak



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Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low



race: (Discrete)

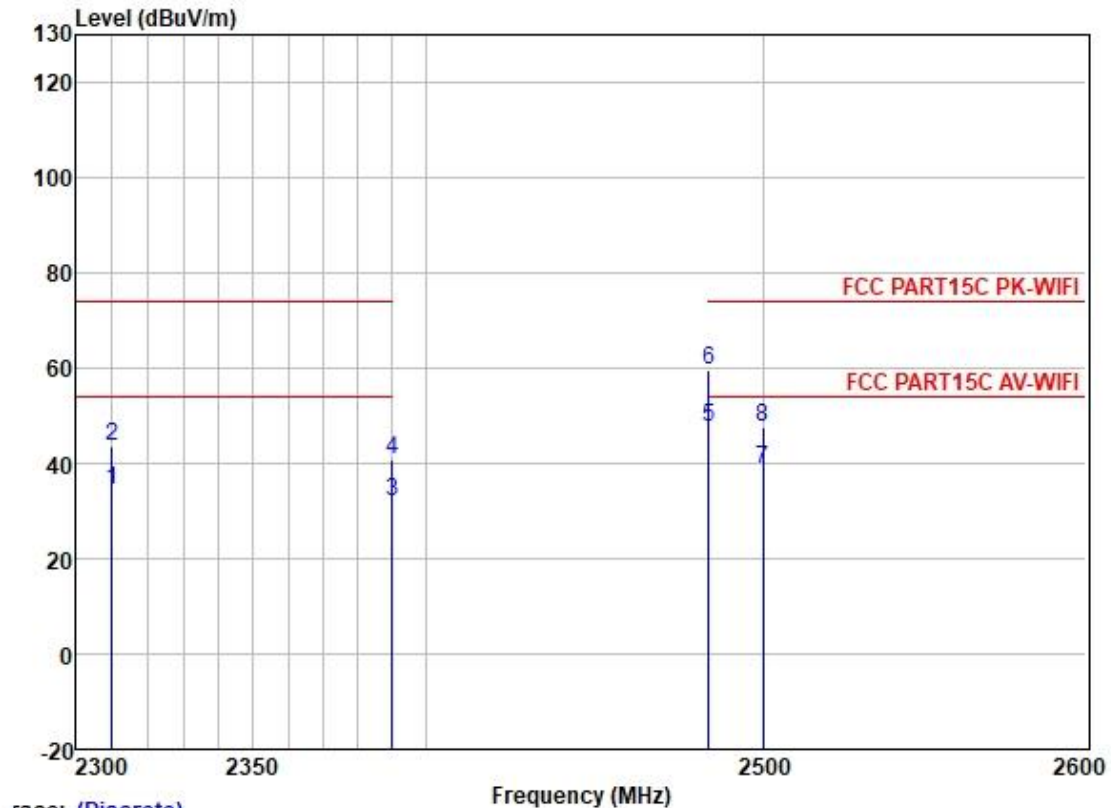
	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	42.96	27.15	3.32	36.94	36.49	54.00	-17.51	VERTICAL
2	2310.000	51.16	27.15	3.32	36.94	44.69	74.00	-29.31	VERTICAL
3	2390.000	55.66	27.33	3.48	36.92	49.55	54.00	-4.45	VERTICAL
4	2390.000	65.63	27.33	3.48	36.92	59.52	74.00	-14.48	VERTICAL
5	2483.500	38.33	27.48	3.53	36.90	32.44	54.00	-21.56	VERTICAL
6	2483.500	47.03	27.48	3.53	36.90	41.14	74.00	-32.86	VERTICAL
7	2500.000	38.65	27.50	3.40	36.89	32.66	54.00	-21.34	VERTICAL
8	2500.000	47.02	27.50	3.40	36.89	41.03	74.00	-32.97	VERTICAL



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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High



race: (Discrete)

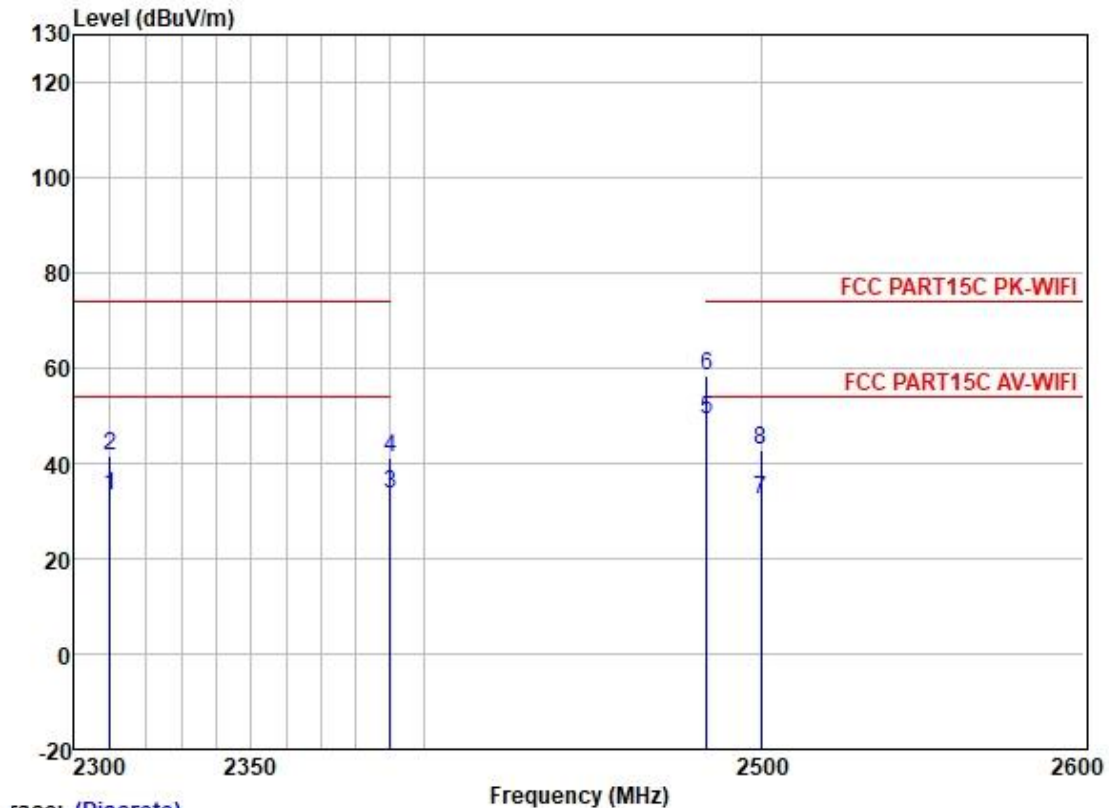
	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2310.000	40.96	27.15	3.32	36.94	34.49	54.00	-19.51	HORIZONTAL Average
2	2310.000	50.15	27.15	3.32	36.94	43.68	74.00	-30.32	HORIZONTAL Peak
3	2390.000	37.96	27.33	3.48	36.92	31.85	54.00	-22.15	HORIZONTAL Average
4	2390.000	46.79	27.33	3.48	36.92	40.68	74.00	-33.32	HORIZONTAL Peak
5	2483.500	53.57	27.48	3.53	36.90	47.68	54.00	-6.32	HORIZONTAL Average
6	2483.500	65.66	27.48	3.53	36.90	59.77	74.00	-14.23	HORIZONTAL Peak
7	2500.000	44.95	27.50	3.40	36.89	38.96	54.00	-15.04	HORIZONTAL Average
8	2500.000	53.51	27.50	3.40	36.89	47.52	74.00	-26.48	HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:High



race: (Discrete)

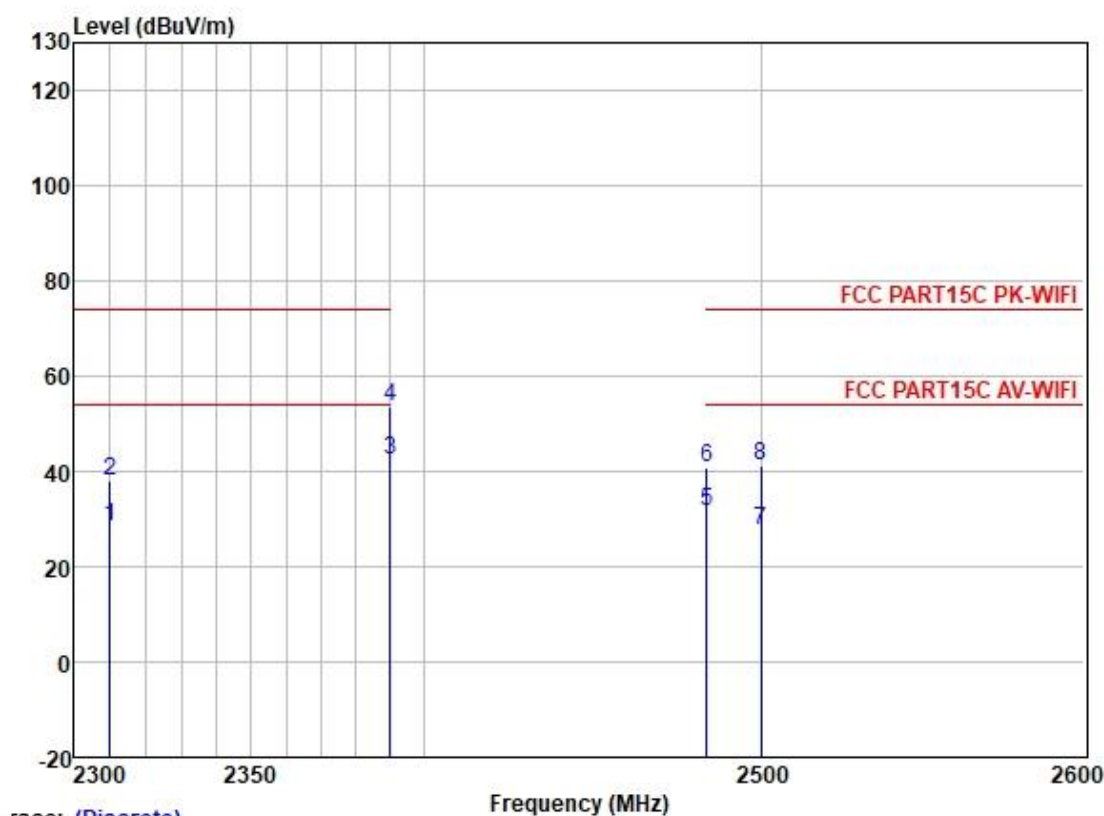
	ReadAntenna	Cable	Preamp		Limit	Over			
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	39.65	27.15	3.32	36.94	33.18	54.00	-20.82	VERTICAL
2	2310.000	48.07	27.15	3.32	36.94	41.60	74.00	-32.40	VERTICAL
3	2390.000	39.67	27.33	3.48	36.92	33.56	54.00	-20.44	VERTICAL
4	2390.000	47.34	27.33	3.48	36.92	41.23	74.00	-32.77	VERTICAL
5	2483.500	55.17	27.48	3.53	36.90	49.28	54.00	-4.72	VERTICAL
6	2483.500	64.26	27.48	3.53	36.90	58.37	74.00	-15.63	VERTICAL
7	2500.000	38.54	27.50	3.40	36.89	32.55	54.00	-21.45	VERTICAL
8	2500.000	48.91	27.50	3.40	36.89	42.92	74.00	-31.08	VERTICAL



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Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low



Trace: (Discrete)

	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	2310.000	34.69	27.15	3.32	36.94	28.22	54.00	-25.78	HORIZONTAL Average
2	2310.000	44.50	27.15	3.32	36.94	38.03	74.00	-35.97	HORIZONTAL Peak
3	2390.000	48.34	27.33	3.48	36.92	42.23	54.00	-11.77	HORIZONTAL Average
4	2390.000	59.64	27.33	3.48	36.92	53.53	74.00	-20.47	HORIZONTAL Peak
5	2483.500	37.55	27.48	3.53	36.90	31.66	54.00	-22.34	HORIZONTAL Average
6	2483.500	46.59	27.48	3.53	36.90	40.70	74.00	-33.30	HORIZONTAL Peak
7	2500.000	33.64	27.50	3.40	36.89	27.65	54.00	-26.35	HORIZONTAL Average
8	2500.000	47.29	27.50	3.40	36.89	41.30	74.00	-32.70	HORIZONTAL Peak



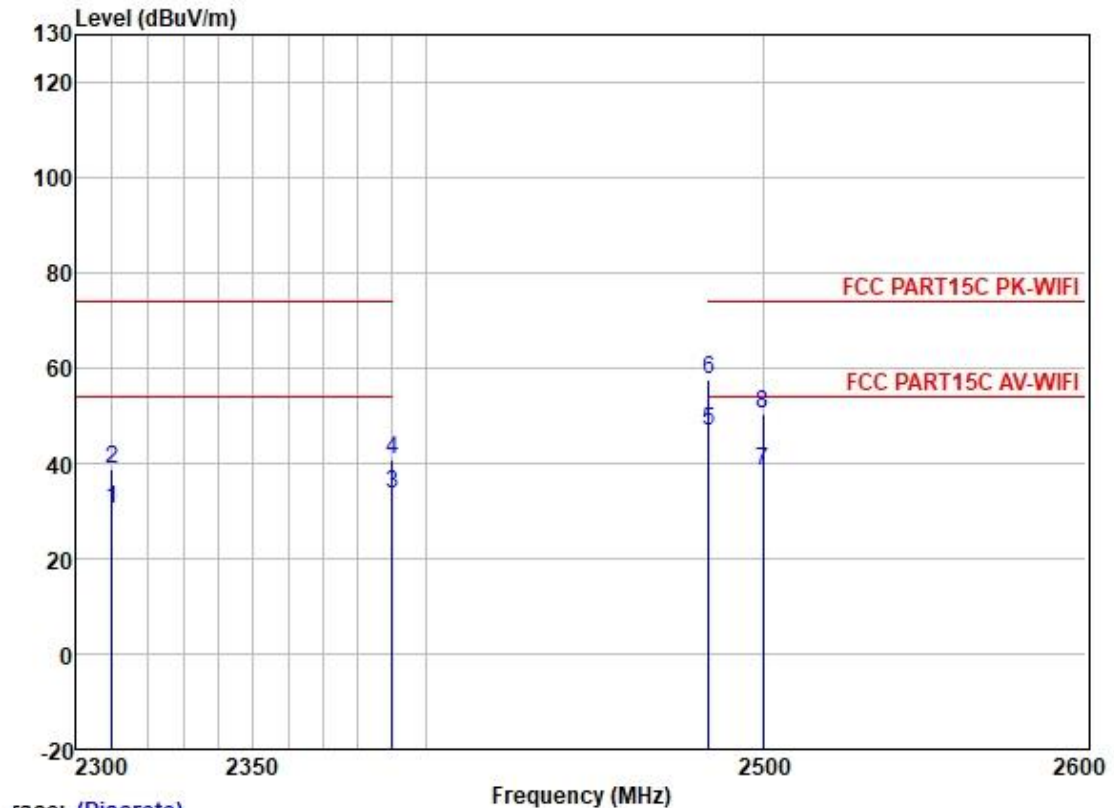
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Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low



race: (Discrete)

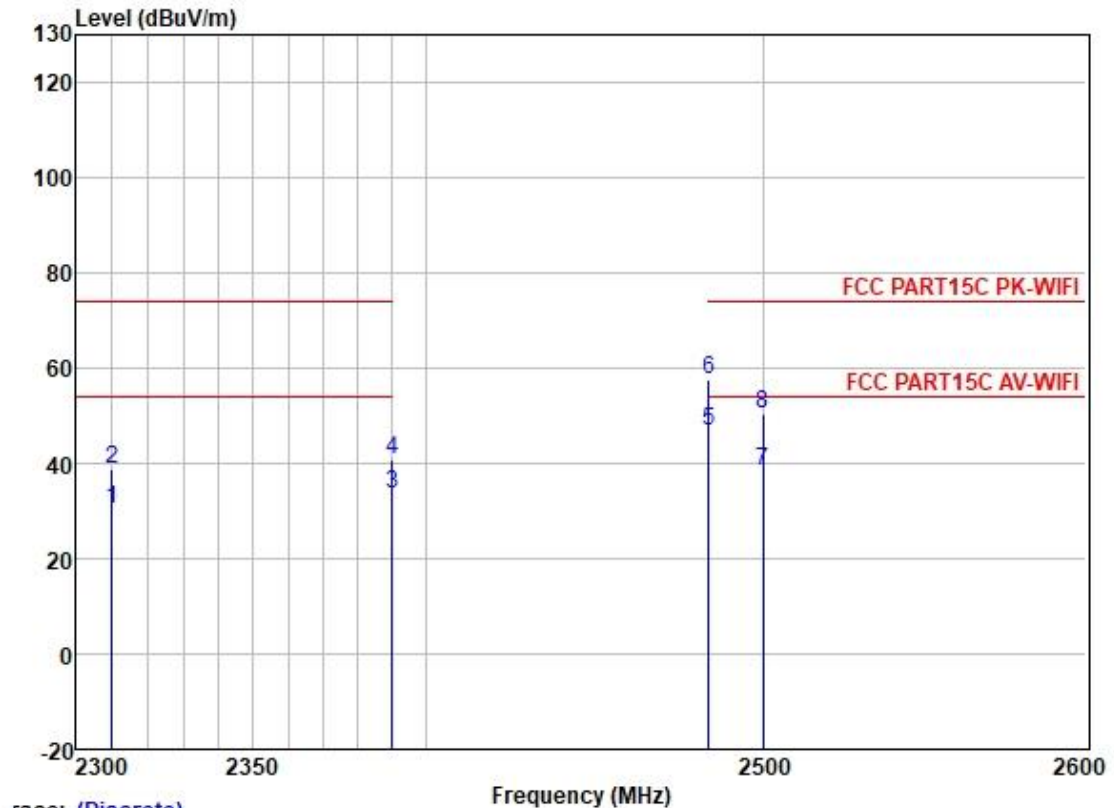
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	36.83	27.15	3.32	36.94	30.36	54.00	-23.64	HORIZONTAL	Average
2	2310.000	45.31	27.15	3.32	36.94	38.84	74.00	-35.16	HORIZONTAL	Peak
3	2390.000	39.67	27.33	3.48	36.92	33.56	54.00	-20.44	HORIZONTAL	Average
4	2390.000	46.86	27.33	3.48	36.92	40.75	74.00	-33.25	HORIZONTAL	Peak
5	2483.500	52.50	27.48	3.53	36.90	46.61	54.00	-7.39	HORIZONTAL	Average
6	2483.500	63.69	27.48	3.53	36.90	57.80	74.00	-16.20	HORIZONTAL	Peak
7	2500.000	44.36	27.50	3.40	36.89	38.37	54.00	-15.63	HORIZONTAL	Average
8	2500.000	56.41	27.50	3.40	36.89	50.42	74.00	-23.58	HORIZONTAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:High



race: (Discrete)

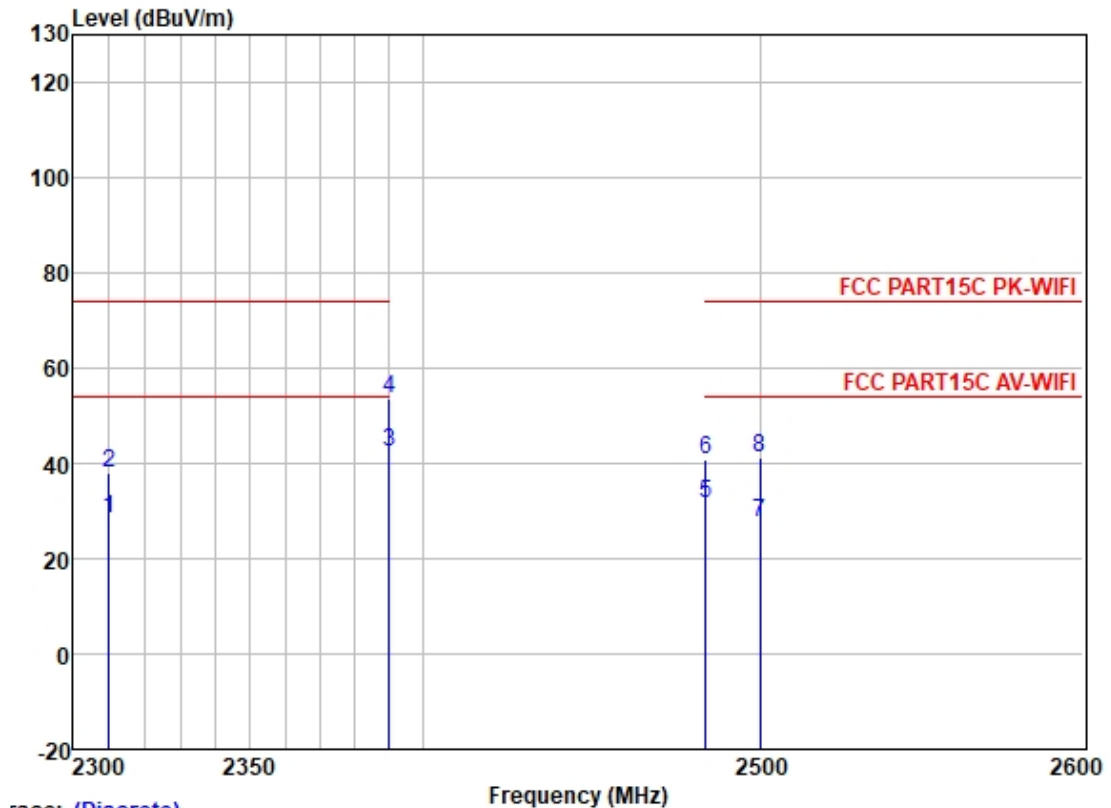
	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	Pol/Phase	Remark
	MHz	Level	Factor	Loss	Factor	Line	Limit		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2310.000	36.83	27.15	3.32	36.94	30.36	54.00	-23.64	HORIZONTAL Average
2	2310.000	45.31	27.15	3.32	36.94	38.84	74.00	-35.16	HORIZONTAL Peak
3	2390.000	39.67	27.33	3.48	36.92	33.56	54.00	-20.44	HORIZONTAL Average
4	2390.000	46.86	27.33	3.48	36.92	40.75	74.00	-33.25	HORIZONTAL Peak
5	2483.500	52.50	27.48	3.53	36.90	46.61	54.00	-7.39	HORIZONTAL Average
6	2483.500	63.69	27.48	3.53	36.90	57.80	74.00	-16.20	HORIZONTAL Peak
7	2500.000	44.36	27.50	3.40	36.89	38.37	54.00	-15.63	HORIZONTAL Average
8	2500.000	56.41	27.50	3.40	36.89	50.42	74.00	-23.58	HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:High



race: (Discrete)

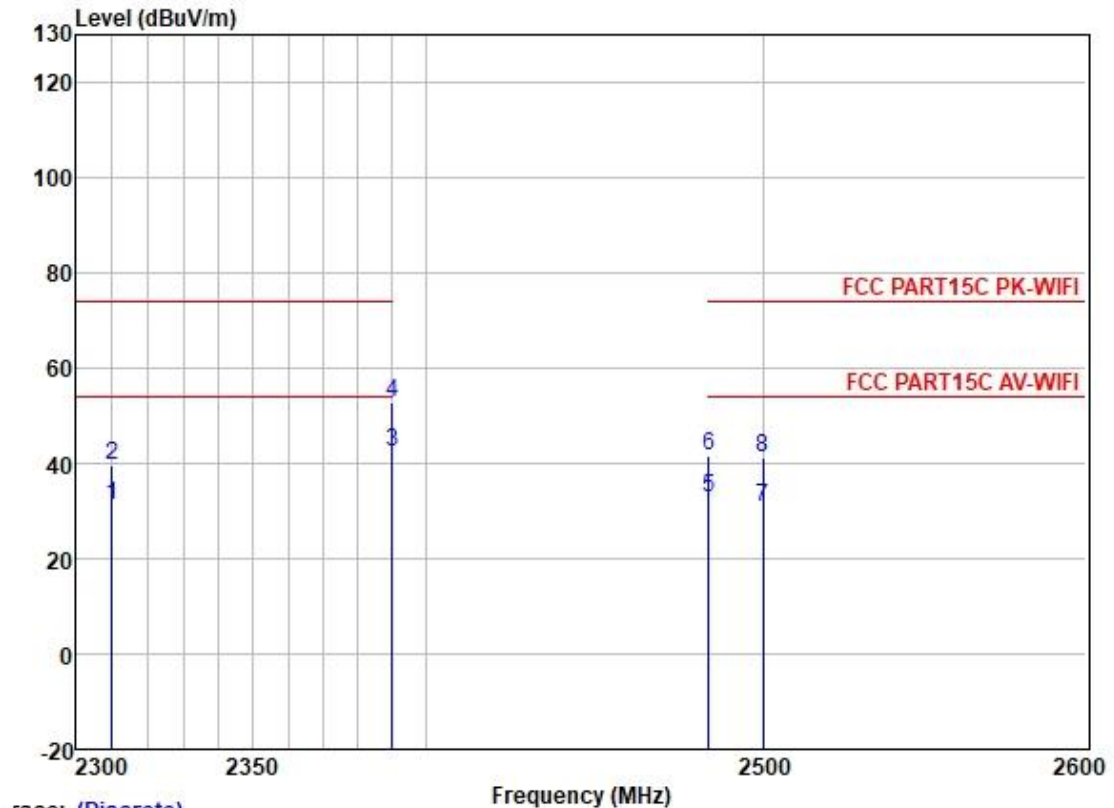
	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 2310.000	34.69	27.15	3.32	36.94	28.22	54.00	-25.78	VERTICAL	Average
2 2310.000	44.50	27.15	3.32	36.94	38.03	74.00	-35.97	VERTICAL	Peak
3 2390.000	48.34	27.33	3.48	36.92	42.23	54.00	-11.77	VERTICAL	Average
4 2390.000	59.64	27.33	3.48	36.92	53.53	74.00	-20.47	VERTICAL	Peak
5 2483.500	37.55	27.48	3.53	36.90	31.66	54.00	-22.34	VERTICAL	Average
6 2483.500	46.59	27.48	3.53	36.90	40.70	74.00	-33.30	VERTICAL	Peak
7 2500.000	33.64	27.50	3.40	36.89	27.65	54.00	-26.35	VERTICAL	Average
8 2500.000	47.29	27.50	3.40	36.89	41.30	74.00	-32.70	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadAntenna	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	2310.000	37.52	27.15	3.32	36.94	31.05	54.00	-22.95	HORIZONTAL Average
2	2310.000	46.20	27.15	3.32	36.94	39.73	74.00	-34.27	HORIZONTAL Peak
3	2390.000	48.38	27.33	3.48	36.92	42.27	54.00	-11.73	HORIZONTAL Average
4	2390.000	58.82	27.33	3.48	36.92	52.71	74.00	-21.29	HORIZONTAL Peak
5	2483.500	38.66	27.48	3.53	36.90	32.77	54.00	-21.23	HORIZONTAL Average
6	2483.500	47.48	27.48	3.53	36.90	41.59	74.00	-32.41	HORIZONTAL Peak
7	2500.000	36.96	27.50	3.40	36.89	30.97	54.00	-23.03	HORIZONTAL Average
8	2500.000	47.02	27.50	3.40	36.89	41.03	74.00	-32.97	HORIZONTAL Peak



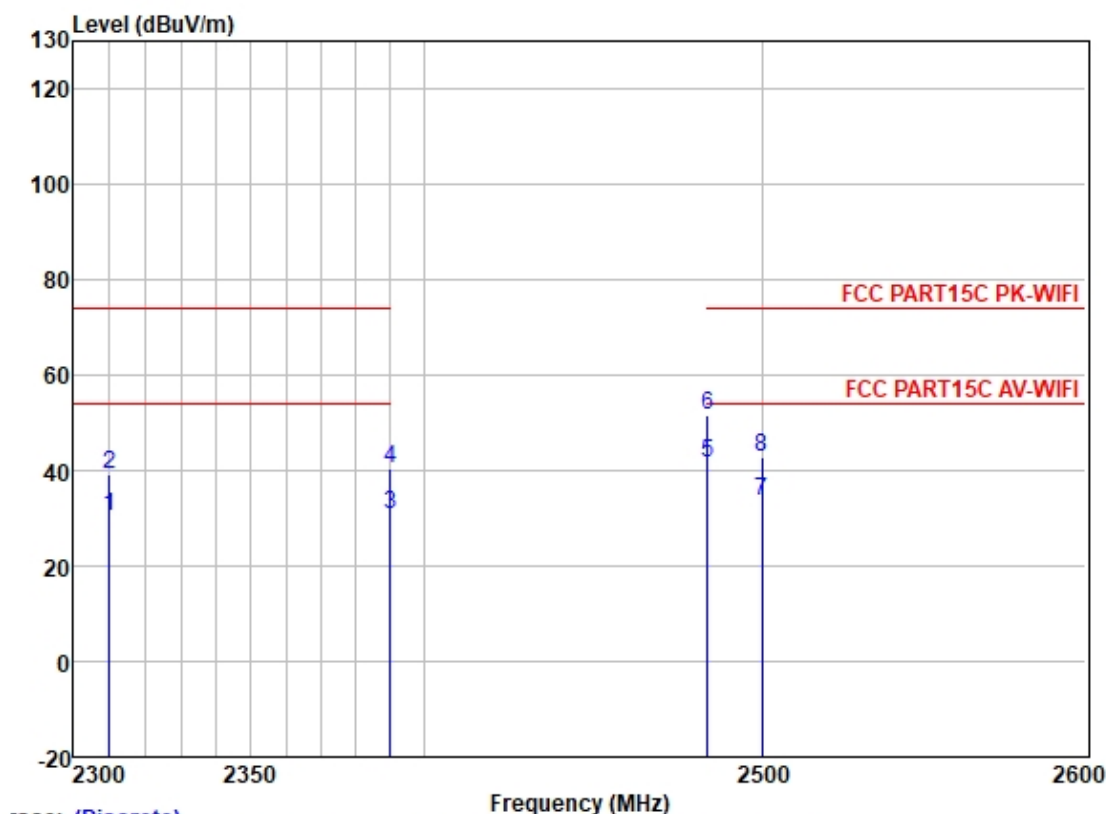
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Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low



Trace: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
		Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	36.85	27.15	3.32	36.94	30.38	54.00	-23.62	VERTICAL	Average
2	2310.000	45.75	27.15	3.32	36.94	39.28	74.00	-34.72	VERTICAL	Peak
3	2390.000	36.97	27.33	3.48	36.92	30.86	54.00	-23.14	VERTICAL	Average
4	2390.000	46.32	27.33	3.48	36.92	40.21	74.00	-33.79	VERTICAL	Peak
5	2483.500	47.38	27.48	3.53	36.90	41.49	54.00	-12.51	VERTICAL	Average
6	2483.500	57.48	27.48	3.53	36.90	51.59	74.00	-22.41	VERTICAL	Peak
7	2500.000	39.68	27.50	3.40	36.89	33.69	54.00	-20.31	VERTICAL	Average
8	2500.000	48.70	27.50	3.40	36.89	42.71	74.00	-31.29	VERTICAL	Peak



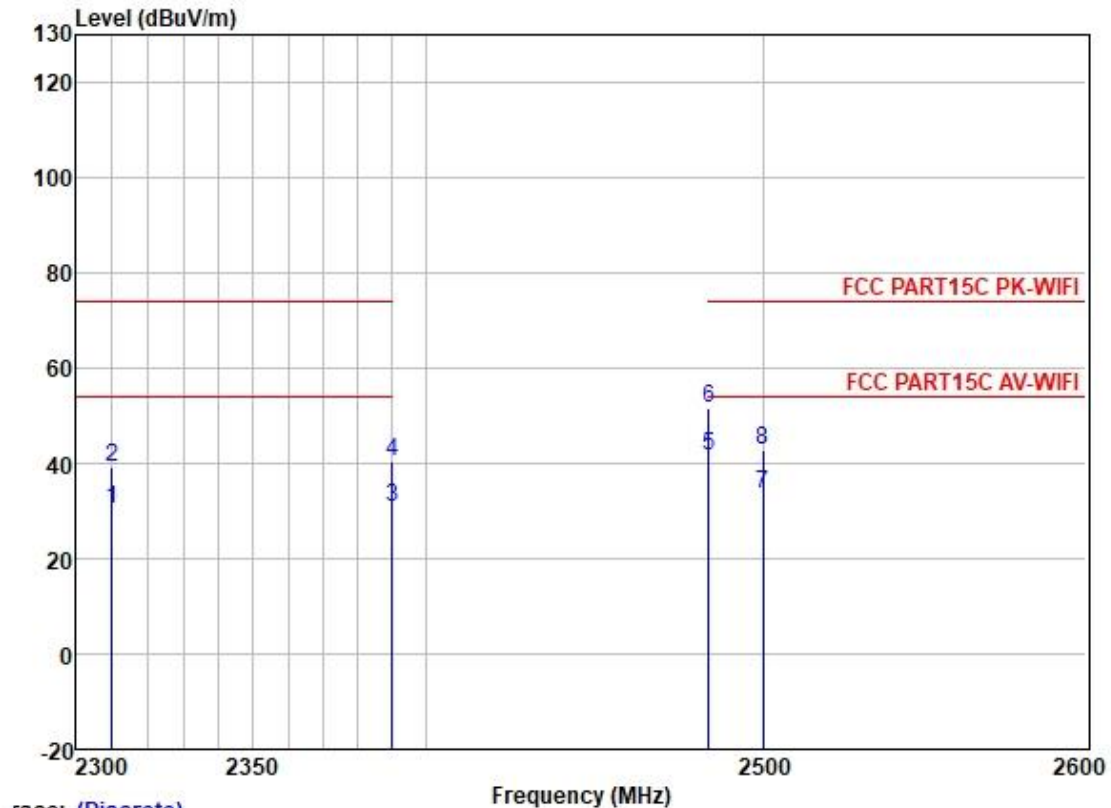
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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:High



race: (Discrete)

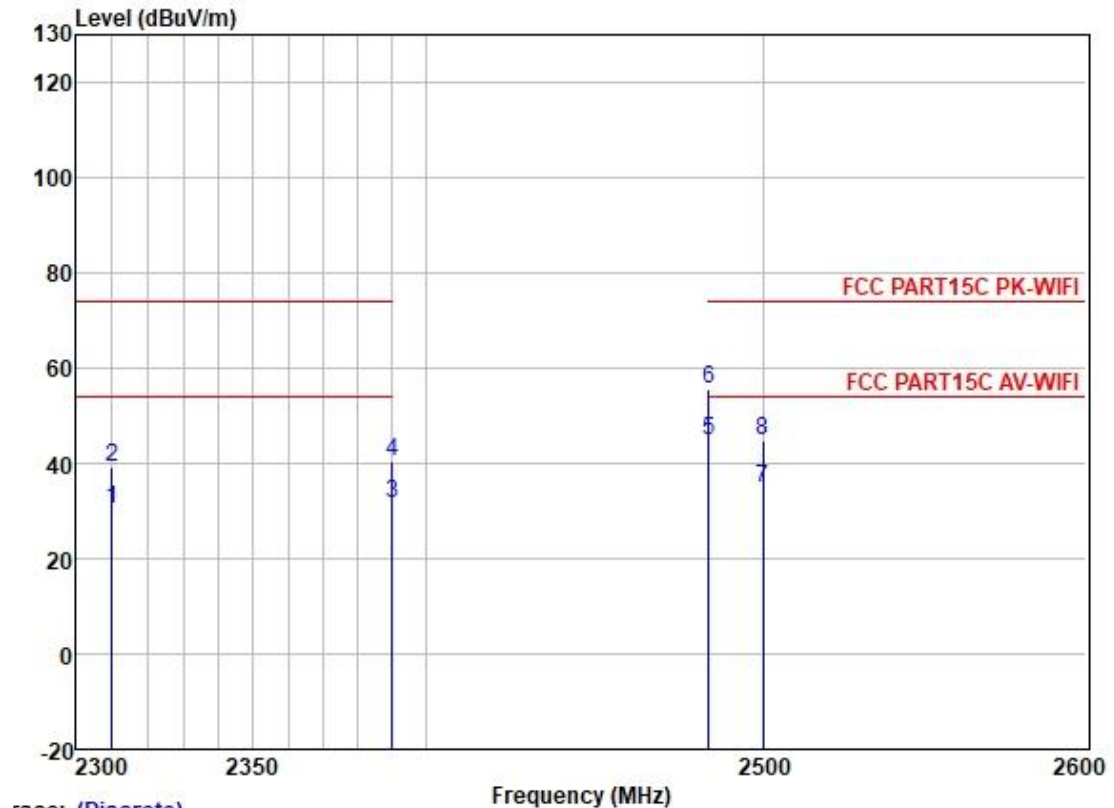
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	36.85	27.15	3.32	36.94	30.38	54.00	-23.62	HORIZONTAL	Average
2	2310.000	45.75	27.15	3.32	36.94	39.28	74.00	-34.72	HORIZONTAL	Peak
3	2390.000	36.97	27.33	3.48	36.92	30.86	54.00	-23.14	HORIZONTAL	Average
4	2390.000	46.32	27.33	3.48	36.92	40.21	74.00	-33.79	HORIZONTAL	Peak
5	2483.500	47.38	27.48	3.53	36.90	41.49	54.00	-12.51	HORIZONTAL	Average
6	2483.500	57.48	27.48	3.53	36.90	51.59	74.00	-22.41	HORIZONTAL	Peak
7	2500.000	39.68	27.50	3.40	36.89	33.69	54.00	-20.31	HORIZONTAL	Average
8	2500.000	48.70	27.50	3.40	36.89	42.71	74.00	-31.29	HORIZONTAL	Peak



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Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	36.98	27.15	3.32	36.94	30.51	54.00	-23.49	VERTICAL	Average
2	2310.000	45.62	27.15	3.32	36.94	39.15	74.00	-34.85	VERTICAL	Peak
3	2390.000	37.88	27.33	3.48	36.92	31.77	54.00	-22.23	VERTICAL	Average
4	2390.000	46.55	27.33	3.48	36.92	40.44	74.00	-33.56	VERTICAL	Peak
5	2483.500	50.66	27.48	3.53	36.90	44.77	54.00	-9.23	VERTICAL	Average
6	2483.500	61.48	27.48	3.53	36.90	55.59	74.00	-18.41	VERTICAL	Peak
7	2500.000	40.64	27.50	3.40	36.89	34.65	54.00	-19.35	VERTICAL	Average
8	2500.000	50.88	27.50	3.40	36.89	44.89	74.00	-29.11	VERTICAL	Peak



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7.7 Radiated Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.247(d)

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

Measurement Distance: 3m

Limit:

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

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.



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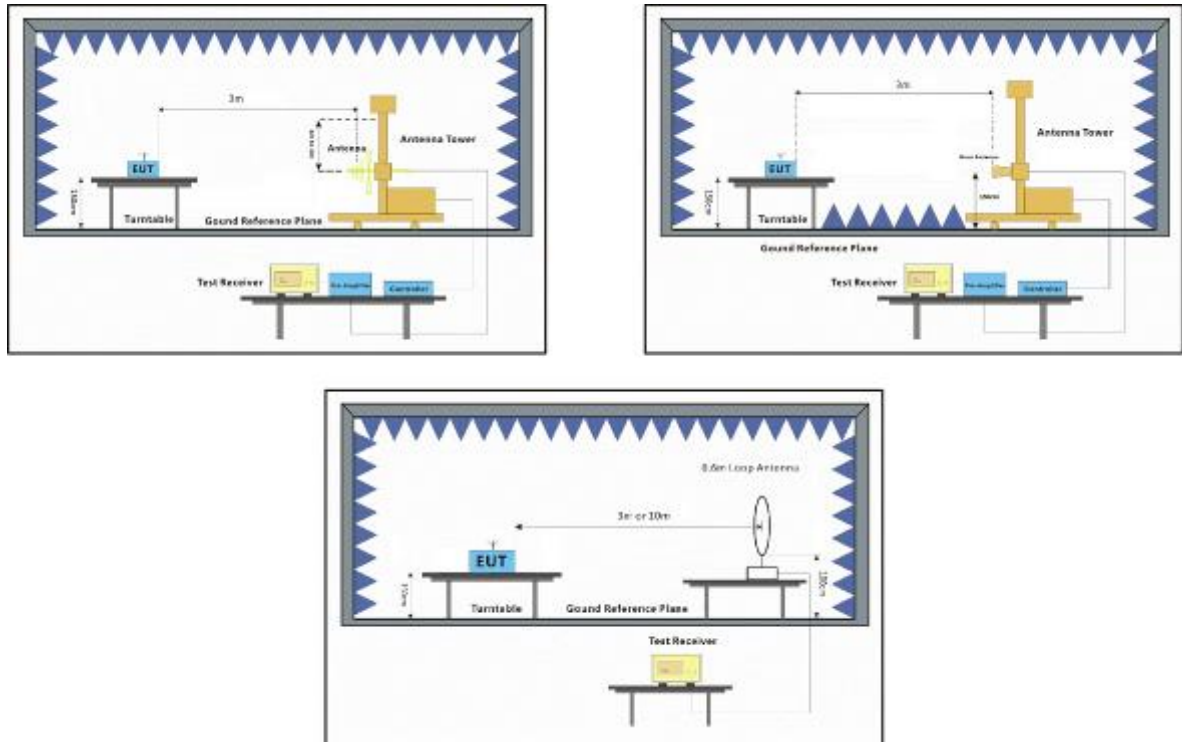
7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 23.7 °C Humidity: 63.7 % RH Atmospheric Pressure: 1020 mbar

Test mode b: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). Only the data of worst case is recorded in the report.

7.7.2 Test Setup Diagram



7.7.3 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



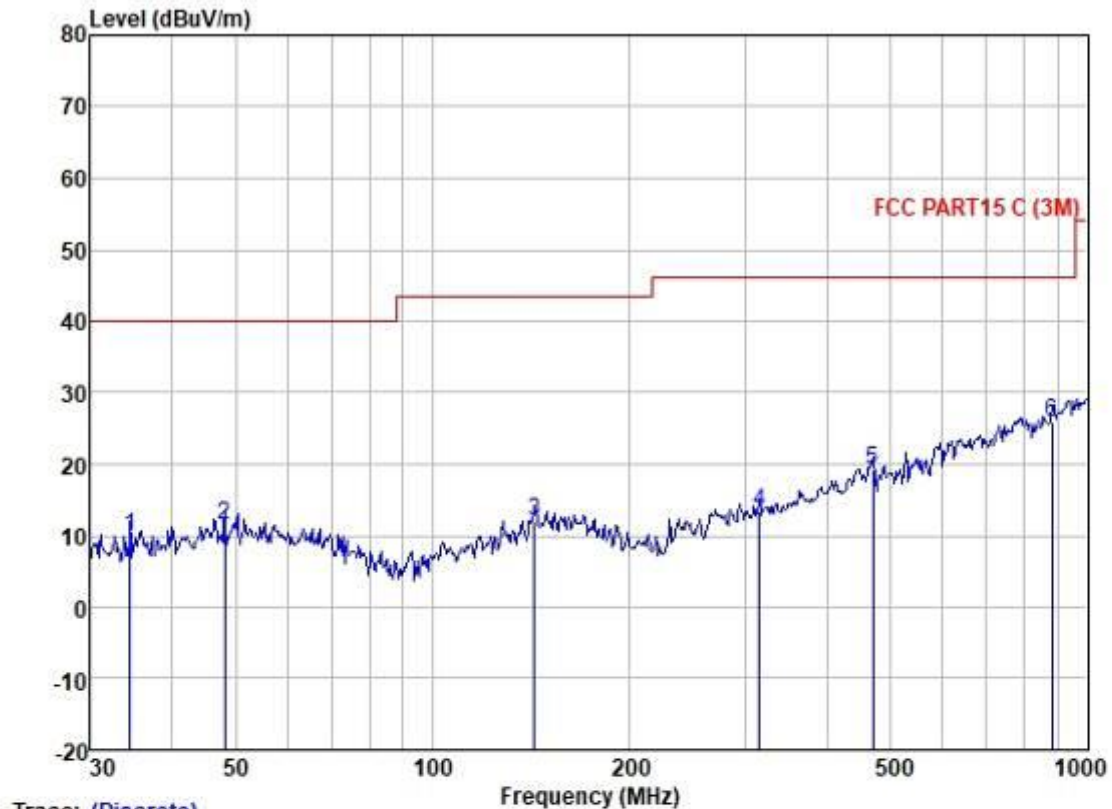
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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low



Trace: (Discrete)

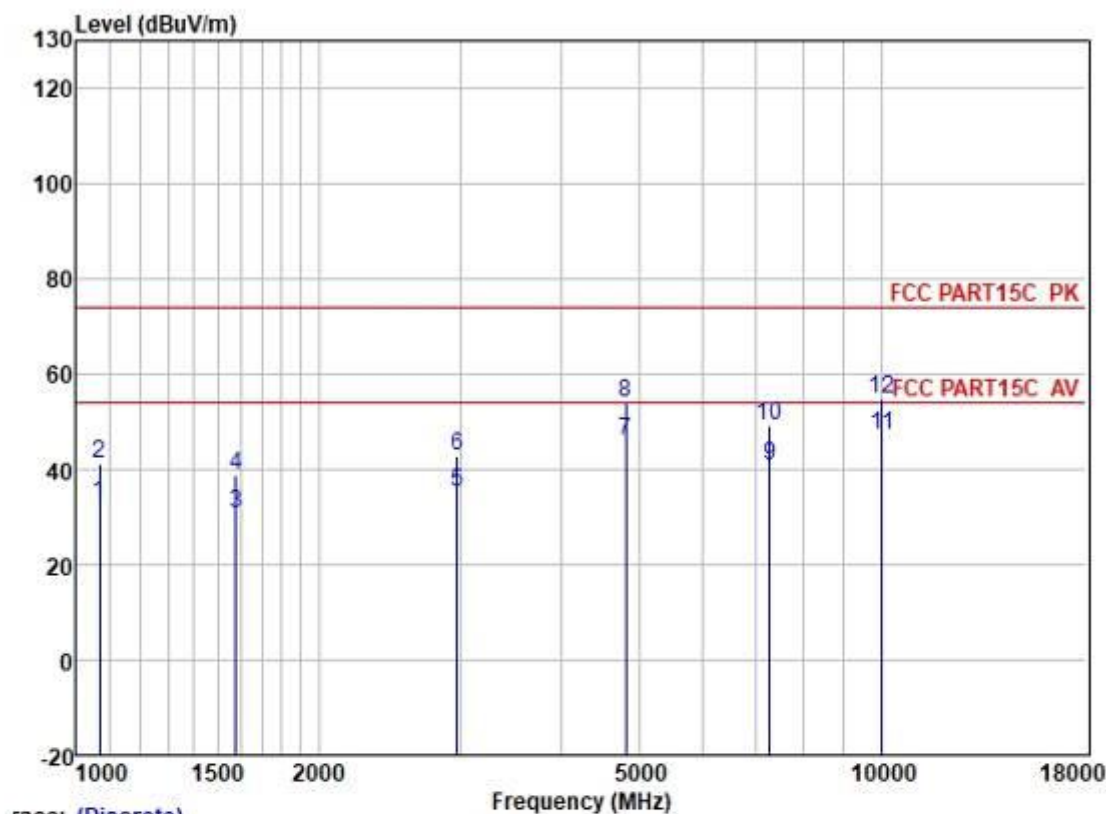
	Freq	ReadAntenna		Cable	Preamp	Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	34.517	23.27	12.84	1.07	27.18	10.00	40.00	-30.00	HORIZONTAL	QP
2	47.994	23.56	14.00	1.19	27.17	11.58	40.00	-28.42	HORIZONTAL	QP
3	142.824	23.32	13.55	1.99	26.93	11.93	43.50	-31.57	HORIZONTAL	QP
4	315.481	23.58	14.10	3.00	27.40	13.28	46.00	-32.72	HORIZONTAL	QP
5	468.876	25.48	17.47	4.13	28.01	19.07	46.00	-26.93	HORIZONTAL	QP
6	881.407	24.85	23.00	5.95	28.00	25.80	46.00	-20.20	HORIZONTAL	QP



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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low



Trace: (Discrete)

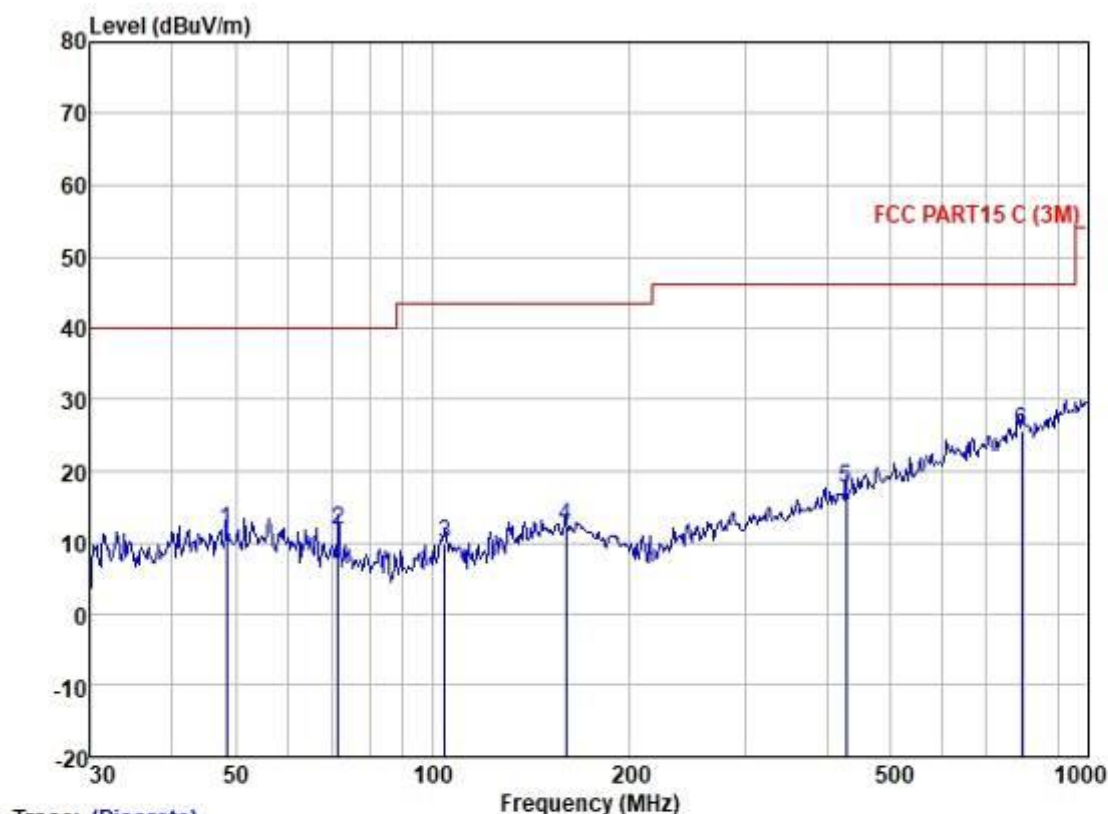
	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1068.738	43.55	24.31	2.37	37.38	32.85	54.00	-21.15	HORIZONTAL	Average
2	1068.738	52.03	24.31	2.37	37.38	41.33	74.00	-32.67	HORIZONTAL	Peak
3	1578.822	39.56	25.56	2.80	37.08	30.84	54.00	-23.16	HORIZONTAL	Average
4	1578.822	47.37	25.56	2.80	37.08	38.65	74.00	-35.35	HORIZONTAL	Peak
5	2973.293	39.65	28.38	3.78	36.59	35.22	54.00	-18.78	HORIZONTAL	Average
6	2973.293	47.12	28.38	3.78	36.59	42.69	74.00	-31.31	HORIZONTAL	Peak
7	4818.016	45.69	31.45	5.42	36.48	46.08	54.00	-7.92	HORIZONTAL	Average
8	4818.016	53.66	31.45	5.42	36.48	54.05	74.00	-19.95	HORIZONTAL	Peak
9	7263.015	35.64	35.78	6.06	36.75	40.73	54.00	-13.27	HORIZONTAL	Average
10	7263.015	44.20	35.78	6.06	36.75	49.29	74.00	-24.71	HORIZONTAL	Peak
11	10039.390	37.70	38.73	6.96	36.30	47.09	54.00	-6.91	HORIZONTAL	Average
12	10039.390	45.44	38.73	6.96	36.30	54.83	74.00	-19.17	HORIZONTAL	Peak



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Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low



Trace: (Discrete)

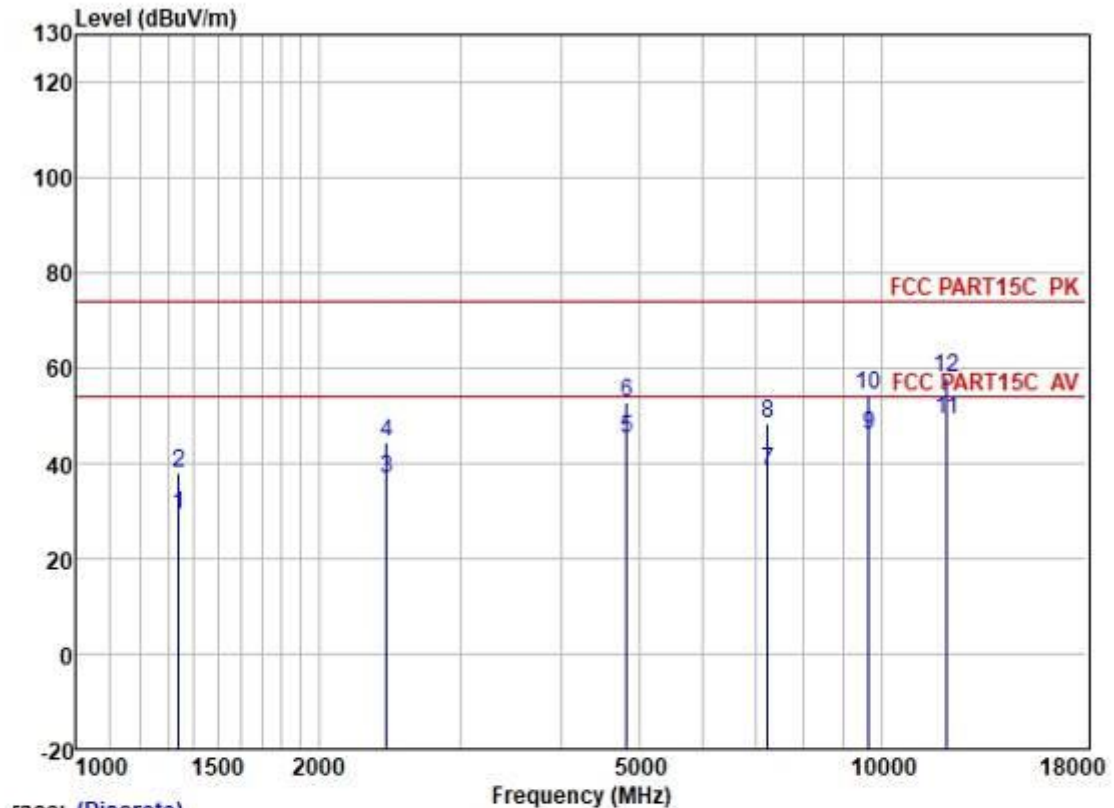
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	48.332	23.75	13.99	1.19	27.17	11.76	40.00	-28.24	VERTICAL	QP
2	71.581	25.96	11.59	1.41	27.13	11.83	40.00	-28.17	VERTICAL	QP
3	104.170	25.59	9.80	1.67	27.09	9.97	43.50	-33.53	VERTICAL	QP
4	159.784	23.38	13.60	2.13	26.85	12.26	43.50	-31.24	VERTICAL	QP
5	428.019	25.17	16.63	3.73	27.96	17.57	46.00	-28.43	VERTICAL	QP
6	793.396	25.53	22.53	5.78	28.12	25.72	46.00	-20.28	VERTICAL	QP



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Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1339.006	38.57	25.29	2.60	37.28	29.18	54.00	-24.82	VERTICAL	Average
2	1339.006	47.56	25.29	2.60	37.28	38.17	74.00	-35.83	VERTICAL	Peak
3	2428.671	42.86	27.40	3.43	36.91	36.78	54.00	-17.22	VERTICAL	Average
4	2428.671	50.67	27.40	3.43	36.91	44.59	74.00	-29.41	VERTICAL	Peak
5	4824.360	44.65	31.45	5.42	36.48	45.04	54.00	-8.96	VERTICAL	Average
6	4824.360	52.22	31.45	5.42	36.48	52.61	74.00	-21.39	VERTICAL	Peak
7	7236.231	33.59	35.70	6.03	36.75	38.57	54.00	-15.43	VERTICAL	Average
8	7236.231	43.45	35.70	6.03	36.75	48.43	74.00	-25.57	VERTICAL	Peak
9	9648.568	36.86	38.40	7.06	36.35	45.97	54.00	-8.03	VERTICAL	Average
10	9648.568	45.12	38.40	7.06	36.35	54.23	74.00	-19.77	VERTICAL	Peak
11	12060.860	38.57	38.88	8.17	36.38	49.24	54.00	-4.76	VERTICAL	Average
12	12060.860	47.21	38.88	8.17	36.38	57.88	74.00	-16.12	VERTICAL	Peak



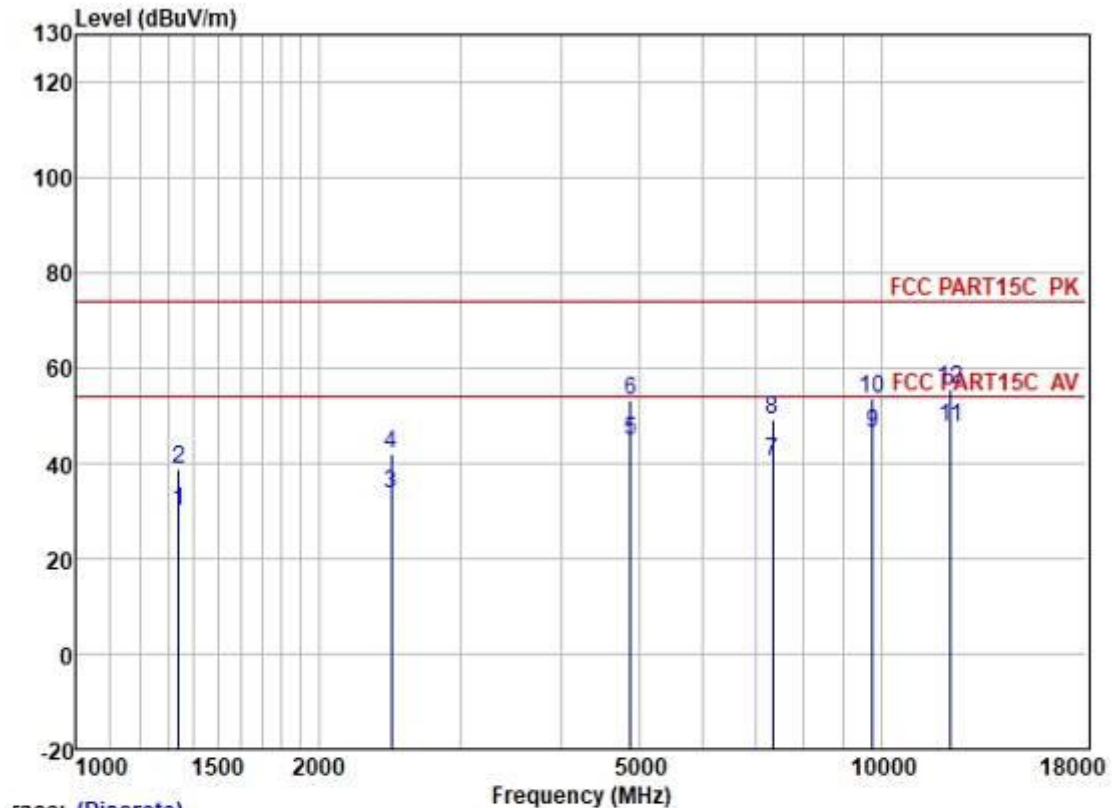
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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:middle



race: (Discrete)

	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1339.006	39.26	25.29	2.60	37.28	29.87	54.00	-24.13	HORIZONTAL Average
2	1339.006	48.14	25.29	2.60	37.28	38.75	74.00	-35.25	HORIZONTAL Peak
3	2464.024	39.66	27.45	3.50	36.90	33.71	54.00	-20.29	HORIZONTAL Average
4	2464.024	47.96	27.45	3.50	36.90	42.01	74.00	-31.99	HORIZONTAL Peak
5	4883.855	44.03	31.56	5.52	36.50	44.61	54.00	-9.39	HORIZONTAL Average
6	4883.855	52.54	31.56	5.52	36.50	53.12	74.00	-20.88	HORIZONTAL Peak
7	7326.052	34.97	36.00	6.13	36.76	40.34	54.00	-13.66	HORIZONTAL Average
8	7326.052	43.83	36.00	6.13	36.76	49.20	74.00	-24.80	HORIZONTAL Peak
9	9768.187	37.01	38.53	7.01	36.33	46.22	54.00	-7.78	HORIZONTAL Average
10	9768.187	44.27	38.53	7.01	36.33	53.48	74.00	-20.52	HORIZONTAL Peak
11	12210.870	36.98	38.74	8.08	36.30	47.50	54.00	-6.50	HORIZONTAL Average
12	12210.870	45.08	38.74	8.08	36.30	55.60	74.00	-18.40	HORIZONTAL Peak



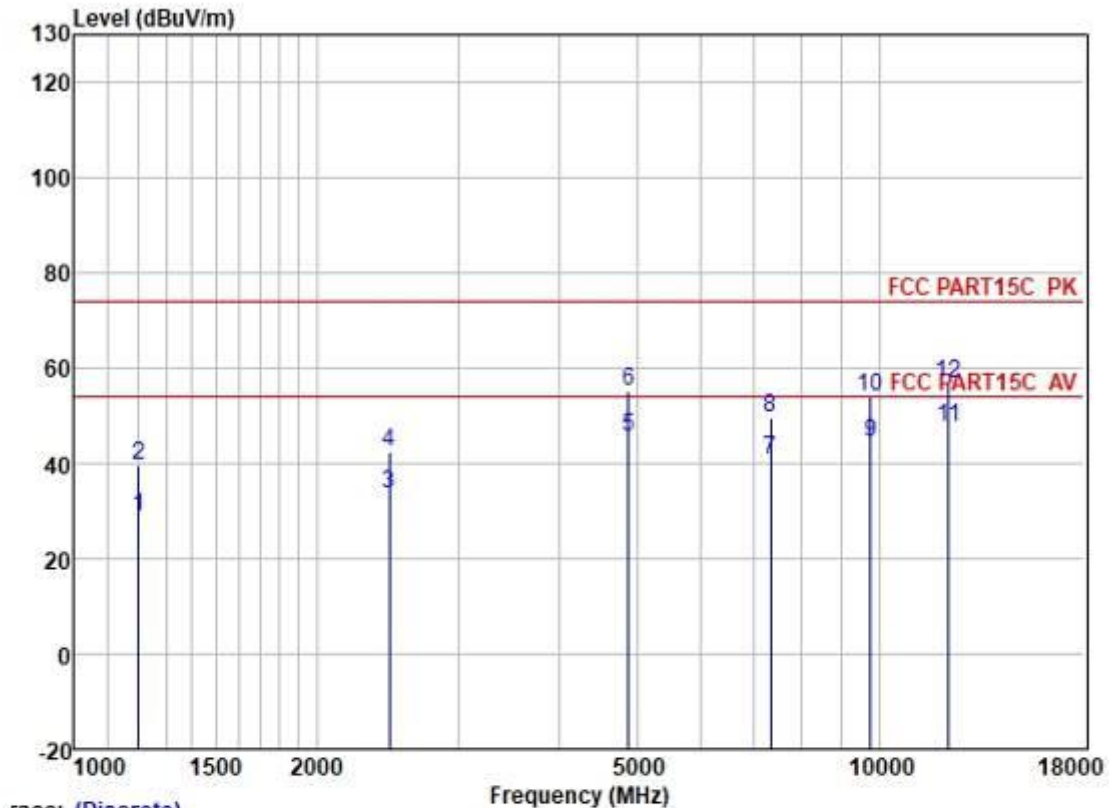
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Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:middle



		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	1203.199	39.23	24.70	2.34	37.34	28.93	54.00	-25.07	VERTICAL	Average
2	1203.199	49.73	24.70	2.34	37.34	39.43	74.00	-34.57	VERTICAL	Peak
3	2464.024	39.57	27.45	3.50	36.90	33.62	54.00	-20.38	VERTICAL	Average
4	2464.024	48.29	27.45	3.50	36.90	42.34	74.00	-31.66	VERTICAL	Peak
5	4883.842	44.88	31.56	5.52	36.50	45.46	54.00	-8.54	VERTICAL	Average
6	4883.842	54.49	31.56	5.52	36.50	55.07	74.00	-18.93	VERTICAL	Peak
7	7326.015	35.48	36.00	6.13	36.76	40.85	54.00	-13.15	VERTICAL	Average
8	7326.015	44.40	36.00	6.13	36.76	49.77	74.00	-24.23	VERTICAL	Peak
9	9768.525	35.03	38.53	7.01	36.33	44.24	54.00	-9.76	VERTICAL	Average
10	9768.525	44.77	38.53	7.01	36.33	53.98	74.00	-20.02	VERTICAL	Peak
11	12210.970	37.27	38.74	8.08	36.30	47.79	54.00	-6.21	VERTICAL	Average
12	12210.970	46.43	38.74	8.08	36.30	56.95	74.00	-17.05	VERTICAL	Peak



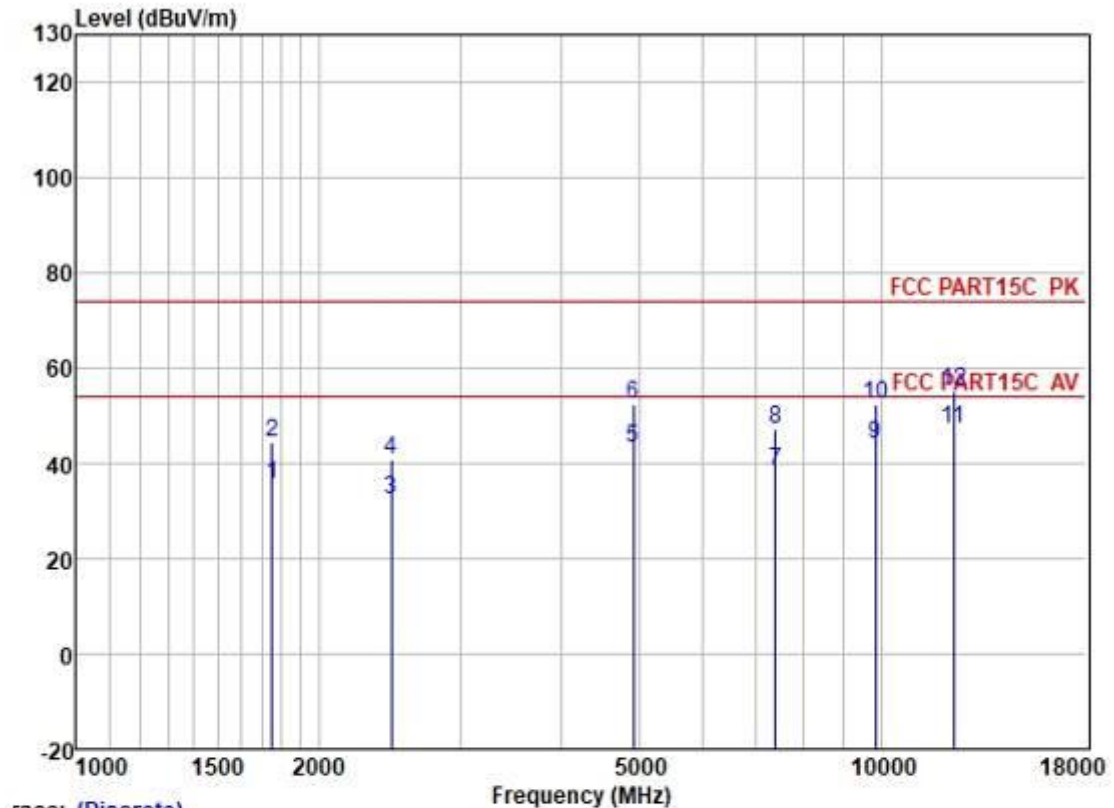
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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High



race: (Discrete)

		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1751.955	43.69	25.86	2.90	37.04	35.41	54.00	-18.59	HORIZONTAL	Average
2	1751.955	52.84	25.86	2.90	37.04	44.56	74.00	-29.44	HORIZONTAL	Peak
3	2464.024	38.25	27.45	3.50	36.90	32.30	54.00	-21.70	HORIZONTAL	Average
4	2464.024	46.84	27.45	3.50	36.90	40.89	74.00	-33.11	HORIZONTAL	Peak
5	4923.723	42.54	31.62	5.60	36.50	43.26	54.00	-10.74	HORIZONTAL	Average
6	4923.723	51.80	31.62	5.60	36.50	52.52	74.00	-21.48	HORIZONTAL	Peak
7	7386.568	32.87	36.17	6.19	36.77	38.46	54.00	-15.54	HORIZONTAL	Average
8	7386.568	41.63	36.17	6.19	36.77	47.22	74.00	-26.78	HORIZONTAL	Peak
9	9848.146	34.87	38.58	6.99	36.32	44.12	54.00	-9.88	HORIZONTAL	Average
10	9848.146	43.03	38.58	6.99	36.32	52.28	74.00	-21.72	HORIZONTAL	Peak
11	12310.580	36.87	38.63	8.01	36.23	47.28	54.00	-6.72	HORIZONTAL	Average
12	12310.580	44.65	38.63	8.01	36.23	55.06	74.00	-18.94	HORIZONTAL	Peak



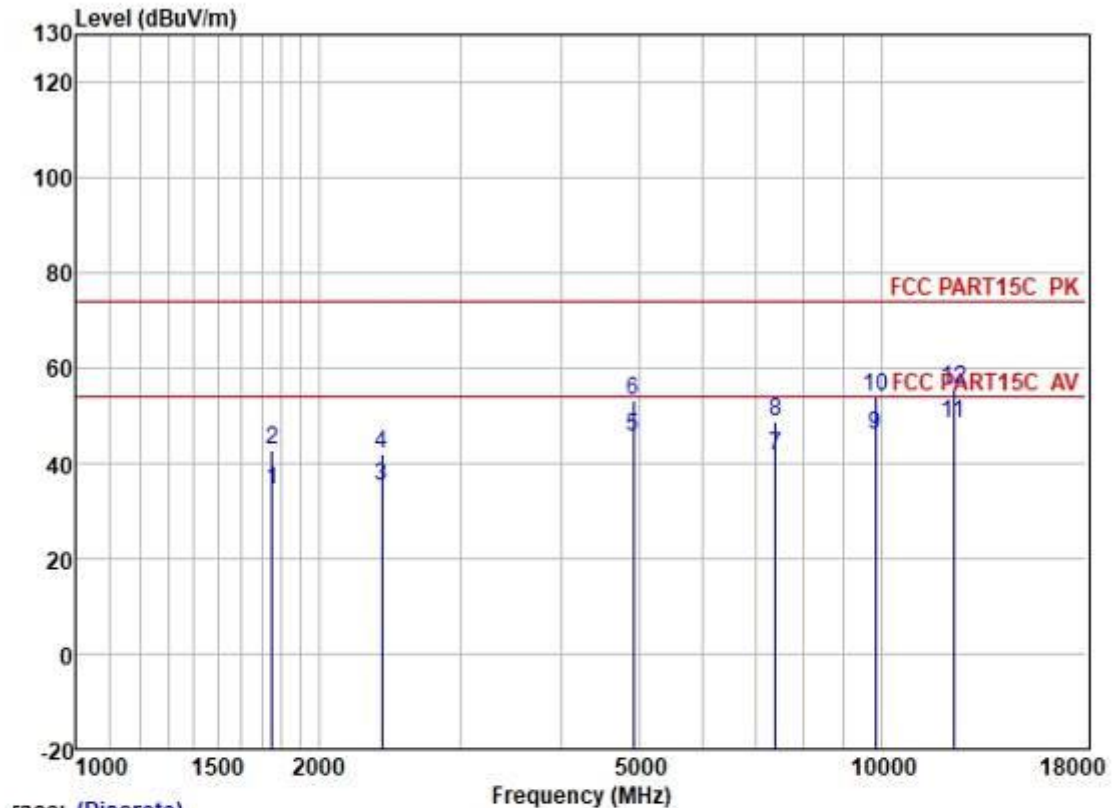
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Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:High



Trace: (Discrete)

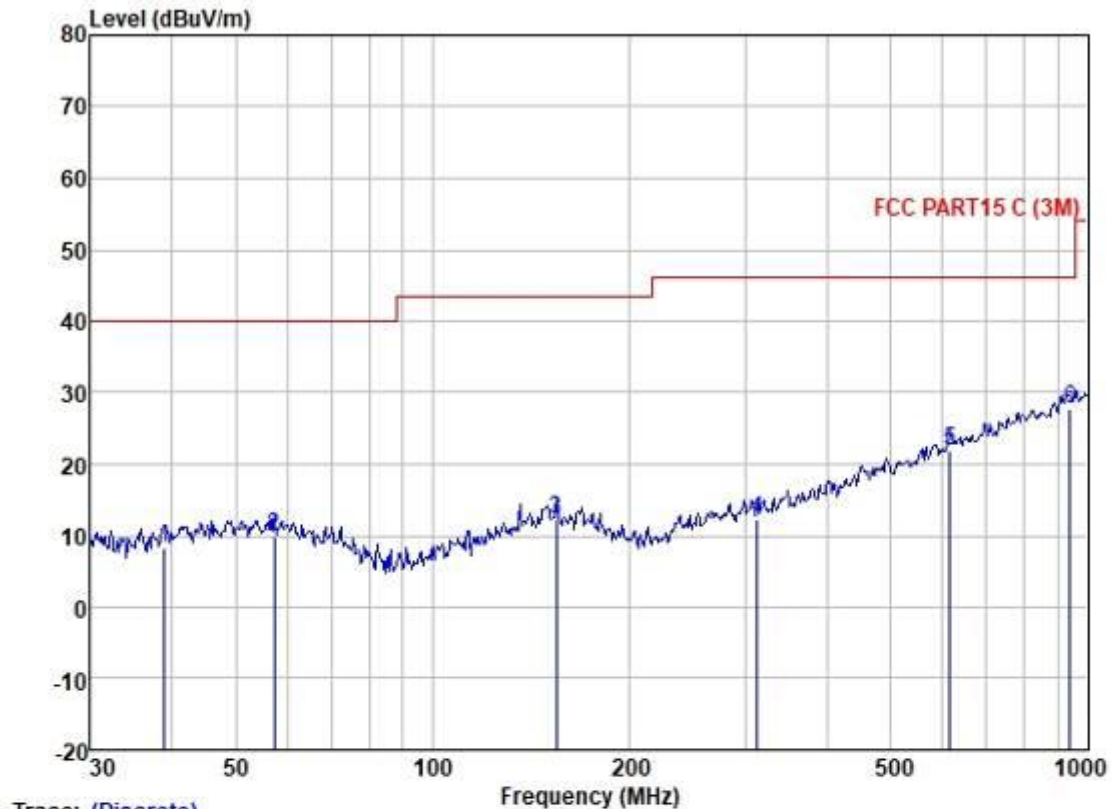
		Read	Antenna	Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1751.955	42.57	25.86	2.90	37.04	34.29	54.00	-19.71	VERTICAL	Average
2	1751.955	50.99	25.86	2.90	37.04	42.71	74.00	-31.29	VERTICAL	Peak
3	2393.824	41.23	27.34	3.49	36.92	35.14	54.00	-18.86	VERTICAL	Average
4	2393.824	48.07	27.34	3.49	36.92	41.98	74.00	-32.02	VERTICAL	Peak
5	4924.865	44.87	31.62	5.60	36.50	45.59	54.00	-8.41	VERTICAL	Average
6	4924.865	52.58	31.62	5.60	36.50	53.30	74.00	-20.70	VERTICAL	Peak
7	7386.015	35.86	36.17	6.19	36.77	41.45	54.00	-12.55	VERTICAL	Average
8	7386.015	43.17	36.17	6.19	36.77	48.76	74.00	-25.24	VERTICAL	Peak
9	9848.221	36.86	38.58	6.99	36.32	46.11	54.00	-7.89	VERTICAL	Average
10	9848.221	44.82	38.58	6.99	36.32	54.07	74.00	-19.93	VERTICAL	Peak
11	12310.930	37.87	38.63	8.01	36.23	48.28	54.00	-5.72	VERTICAL	Average
12	12310.930	45.17	38.63	8.01	36.23	55.58	74.00	-18.42	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:g; 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	38.888	21.10	13.40	1.06	27.18	8.38	40.00	-31.62	HORIZONTAL QP
2	57.191	22.00	13.64	1.30	27.16	9.78	40.00	-30.22	HORIZONTAL QP
3	154.279	23.28	13.78	2.09	26.87	12.28	43.50	-31.22	HORIZONTAL QP
4	313.276	22.49	14.04	2.99	27.35	12.17	46.00	-33.83	HORIZONTAL QP
5	616.372	24.65	20.35	4.88	28.08	21.80	46.00	-24.20	HORIZONTAL QP
6	938.833	25.08	23.80	6.67	27.87	27.68	46.00	-18.32	HORIZONTAL QP



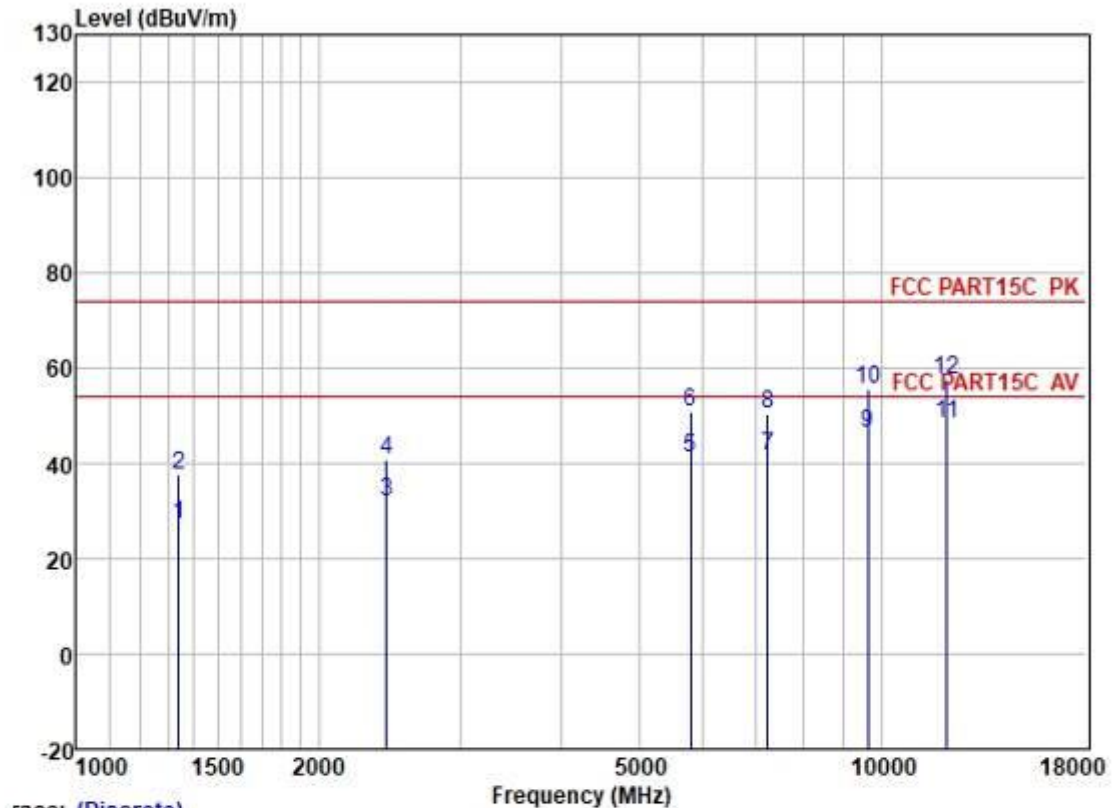
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Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low



Trace: (Discrete)

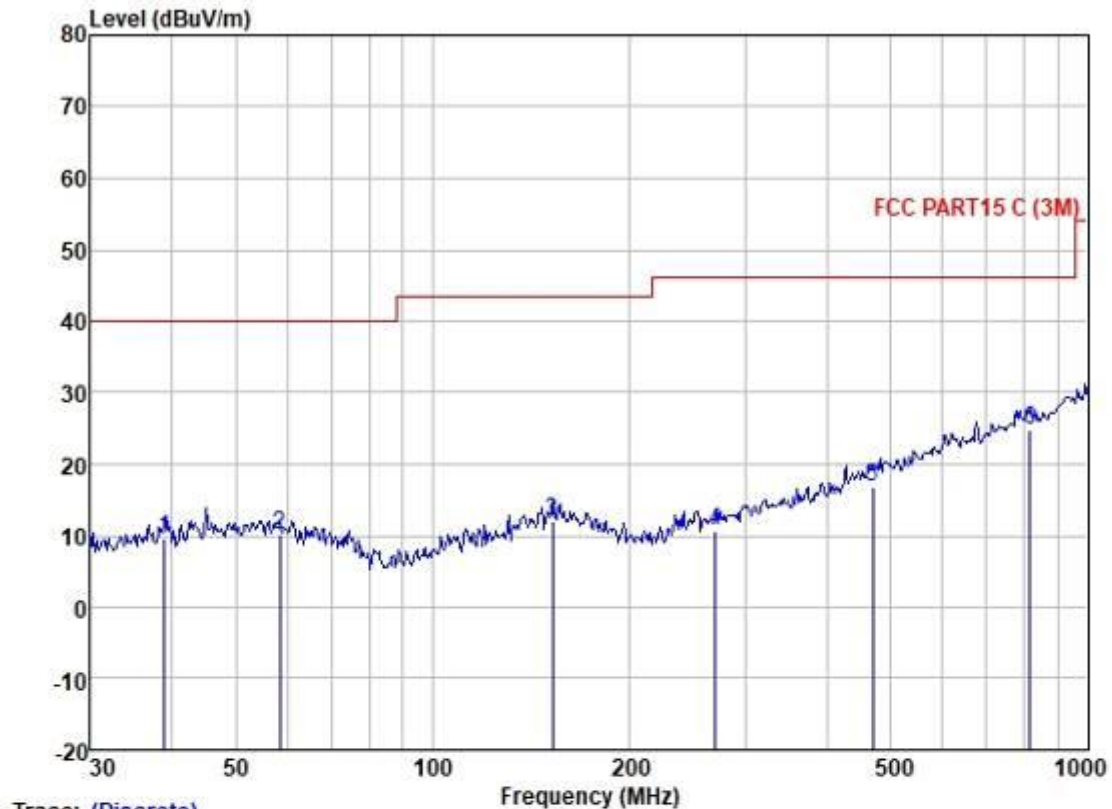
	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1339.006	36.57	25.29	2.60	37.28	27.18	54.00	-26.82	HORIZONTAL	Average
2	1339.006	46.83	25.29	2.60	37.28	37.44	74.00	-36.56	HORIZONTAL	Peak
3	2428.671	37.99	27.40	3.43	36.91	31.91	54.00	-22.09	HORIZONTAL	Average
4	2428.671	47.01	27.40	3.43	36.91	40.93	74.00	-33.07	HORIZONTAL	Peak
5	5797.032	39.65	32.19	6.10	36.59	41.35	54.00	-12.65	HORIZONTAL	Average
6	5797.032	49.00	32.19	6.10	36.59	50.70	74.00	-23.30	HORIZONTAL	Peak
7	7236.254	36.70	35.70	6.03	36.75	41.68	54.00	-12.32	HORIZONTAL	Average
8	7236.254	45.25	35.70	6.03	36.75	50.23	74.00	-23.77	HORIZONTAL	Peak
9	9638.602	37.32	38.40	7.06	36.35	46.43	54.00	-7.57	HORIZONTAL	Average
10	9638.602	46.46	38.40	7.06	36.35	55.57	74.00	-18.43	HORIZONTAL	Peak
11	12060.800	37.66	38.88	8.17	36.38	48.33	54.00	-5.67	HORIZONTAL	Average
12	12060.800	46.94	38.88	8.17	36.38	57.61	74.00	-16.39	HORIZONTAL	Peak



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Mode:b; Polarization:Vertical; Modulation:g; 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	38.888	22.28	13.40	1.06	27.18	9.56	40.00	-30.44	VERTICAL QP
2	58.407	22.47	13.56	1.32	27.16	10.19	40.00	-29.81	VERTICAL QP
3	152.130	23.08	13.80	2.07	26.87	12.08	43.50	-31.42	VERTICAL QP
4	270.375	22.14	12.70	2.72	27.02	10.54	46.00	-35.46	VERTICAL QP
5	468.876	23.30	17.47	4.13	28.01	16.89	46.00	-29.11	VERTICAL QP
6	815.968	24.18	22.77	5.90	28.10	24.75	46.00	-21.25	VERTICAL QP



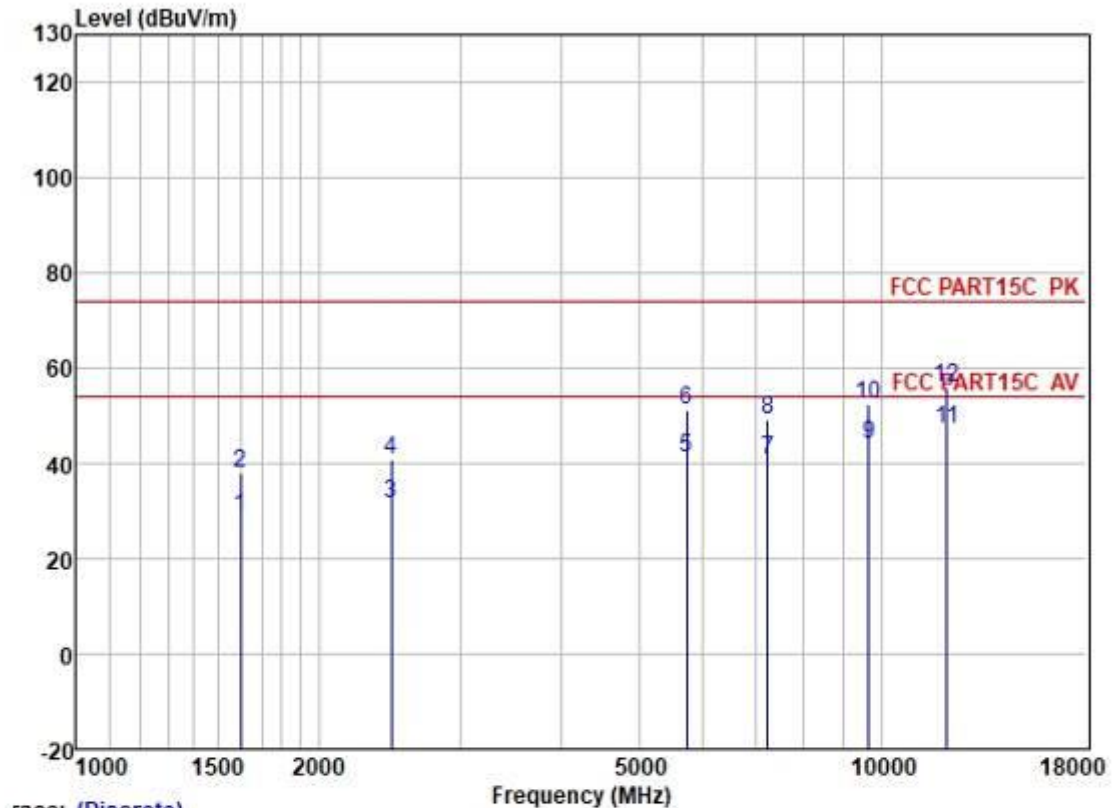
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Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low



		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	1601.804	37.65	25.58	2.80	37.07	28.96	54.00	-25.04	VERTICAL	Average
2	1601.804	46.74	25.58	2.80	37.07	38.05	74.00	-35.95	VERTICAL	Peak
3	2464.024	37.54	27.45	3.50	36.90	31.59	54.00	-22.41	VERTICAL	Average
4	2464.024	46.95	27.45	3.50	36.90	41.00	74.00	-33.00	VERTICAL	Peak
5	5730.396	39.41	32.07	6.25	36.59	41.14	54.00	-12.86	VERTICAL	Average
6	5730.396	49.57	32.07	6.25	36.59	51.30	74.00	-22.70	VERTICAL	Peak
7	7236.052	35.65	35.70	6.03	36.75	40.63	54.00	-13.37	VERTICAL	Average
8	7236.052	44.36	35.70	6.03	36.75	49.34	74.00	-24.66	VERTICAL	Peak
9	9648.062	34.97	38.40	7.06	36.35	44.08	54.00	-9.92	VERTICAL	Average
10	9648.062	43.19	38.40	7.06	36.35	52.30	74.00	-21.70	VERTICAL	Peak
11	12060.910	36.41	38.88	8.17	36.38	47.08	54.00	-6.92	VERTICAL	Average
12	12060.910	45.14	38.88	8.17	36.38	55.81	74.00	-18.19	VERTICAL	Peak



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