TEST REPORT

Application No.:	GZEM2010015625CR
Applicant:	TCL Household Appliances (Zhongshan) Co., Ltd.
Address of Applicant:	1st-3rd Building, No.38 Fengshuo Road, Nantou Town, Zhongshan City, Guangdong, China
Manufacturer:	TCL Household Appliances (Zhongshan) Co., Ltd.
Address of Manufacturer:	1st-3rd Building, No.38 Fengshuo Road, Nantou Town, Zhongshan City, Guangdong, China
Factory:	Foshan Coolture Electrical Industrial Co., Ltd, Zhongshan City Branch
Address of Factory:	B, 1st floor, No.30 Guangxing Road, Dayan Industrial Base, Huangpu Town, Zhongshan, Guangdong
Equipment Under Test (EUT):	
FCC ID: 2AWVAKJ200F-A4	
EUT Name:	air purifier
Model No.:	KJ200F-A4, HME020398N
Trade Mark:	TCL, hOme Labs
Standard(s):	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2020-10-13
Date of Test:	2020-10-17 to 2020-11-23
Date of Issue:	2020-11-24
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		2020-11-24		Original

Authorized for issue by:				
Tested By		Lily Kuang **Lily_Kuang /Project Engineer**		2020-10-17 to 2020-11-23 **Date**
Checked By		Ricky Liu **Ricky_Liu/Reviewer**		2020-11-24 **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

N/A: Not applicable

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
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.: KJ200F-A4, HME020398N

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 model name and brand.

Therefore only one model KJ200F-A4 was tested in this report.

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4 General Information

4.1 Details of E.U.T.

Power Supply:	AC 120V, 60Hz
Rated Power:	50W
Cable:	AC mains (unshielded, 1.6 m)
Antenna Gain:	0 dBi declared by applicant
Antenna Type:	Integrated 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
	802.11n(HT40):7
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz
	802.11n(HT40): 2422MHz to 2452MHz
Hardware Version:	KQ-KJ200F-D
Firmware Version:	V1.3
S/N:	SP-20200902
Test Software Version:	UL_MPTOOL_1V16
Power setting level	18 dBm can not be changed by user

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	IBM	T30	S/N78-3VMLX 06/01

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4.3 Measurement Uncertainty

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

4.4 Test Location

All tests were performed at:

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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

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	2020-01-10	2021-01-09
LISN	Rohde & Schwarz	ENV216	EMC2135	2020-09-25	2021-09-24
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	2019-11-18	2020-11-17
Coaxial Cable	HangTianXing	2m	EMC0107	2020-09-09	2022-09-08
Voltage Probe	SGS-EMC	N/A	EMC0106	2019-05-10	2021-05-09
Conical Metal Housing	SGS-EMC	N/A	EMC0167	2020-04-19	2022-04-18
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A

Minimum 6dB Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EXA Signal Analzer	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 Analzer	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 Analzer	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 Band Edges Measurement					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EXA Signal Analzer	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 Spurious Emissions					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EXA Signal Analzer	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	SCHWARZBECKMESS-ELEKTRONIK	VULB 9168	EMC2174	2018-09-06	2021-09-05
Bi-log Type Antenna	Schaffner Chase	CBL6143	EMC0519	2020-06-08	2023-06-07
Horn Antenna	SCHWARZBECKMESS-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	2020-05-26	2021-05-25
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

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Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKMESS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

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	SCHWARZBECKMESS-ELEKTRONIK	VULB 9168	EMC2174	2018-09-06	2021-09-05
Bi-log Type Antenna	Schaffner Chase	CBL6143	EMC0519	2020-06-08	2023-06-07
Horn Antenna	SCHWARZBECKMESS-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	2020-05-26	2021-05-25
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	SCHWARZBECKMESS-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	2020-07-09	2021-07-08
DMM	Fluke	73	EMC0007	2020-07-09	2021-07-08

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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.

Please refer to appendix A for details.

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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(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

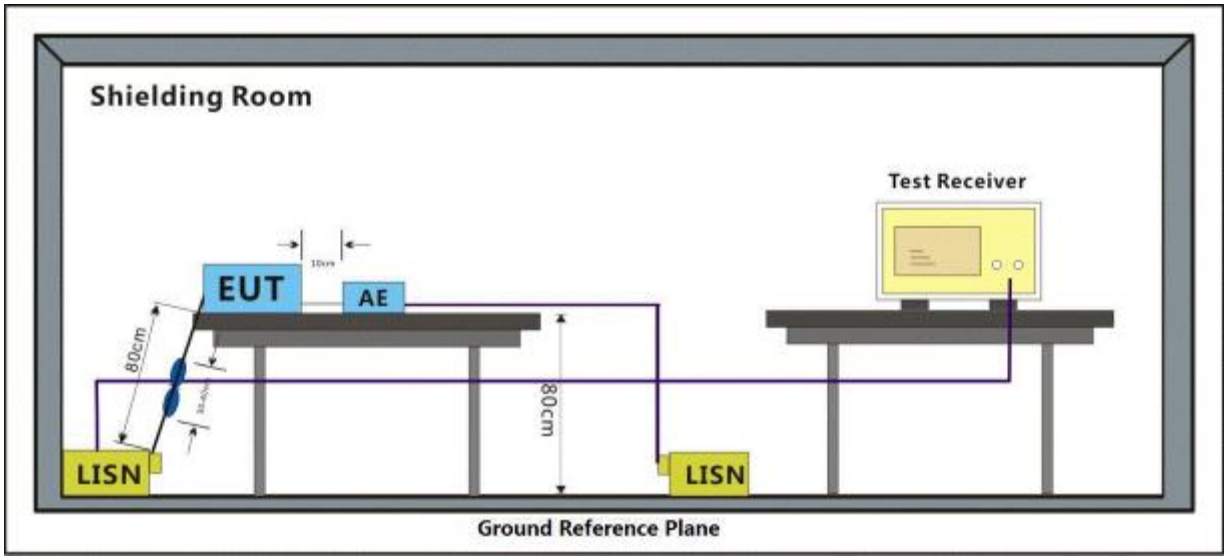
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.7 °C Humidity: 51.9 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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.

7.1.2 Test Setup Diagram



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7.1.3 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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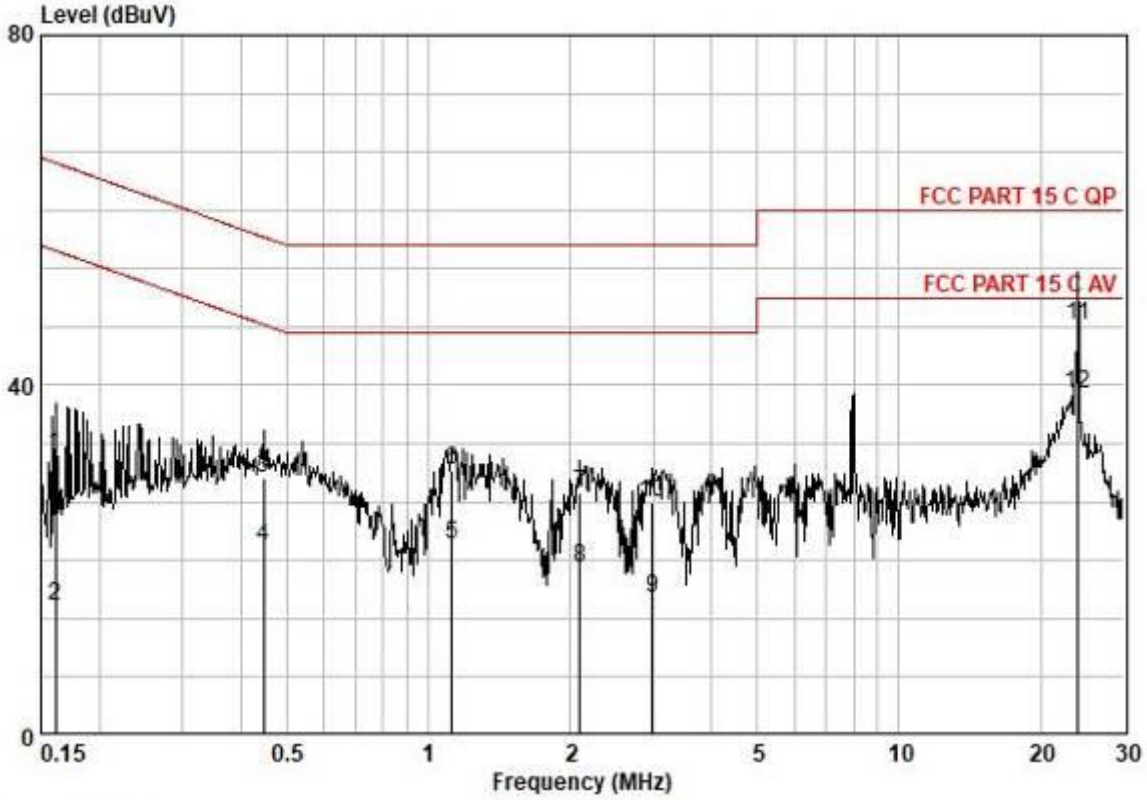
Mode:a; Line:Live Line



Pol :LIVE
Mode :
Model :

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.16	22.37	0.10	9.61	32.08	65.38	-33.30	QP
0.16	5.10	0.10	9.61	14.81	55.38	-40.57	AVERAGE
0.45	19.63	0.10	9.61	29.34	56.93	-27.59	QP
0.45	11.90	0.10	9.61	21.61	46.93	-25.32	AVERAGE
1.12	12.13	0.10	9.61	21.84	46.00	-24.16	AVERAGE
1.12	20.56	0.10	9.61	30.27	56.00	-25.73	QP
2.10	17.93	0.11	9.62	27.66	56.00	-28.34	QP
2.10	9.55	0.11	9.62	19.28	46.00	-26.72	AVERAGE
2.99	5.84	0.20	9.63	15.67	46.00	-30.33	AVERAGE
2.99	16.78	0.20	9.63	26.61	56.00	-29.39	QP
24.01	36.79	0.40	9.78	46.97	60.00	-13.03	QP
24.01	28.83	0.40	9.78	39.01	50.00	-10.99	AVERAGE

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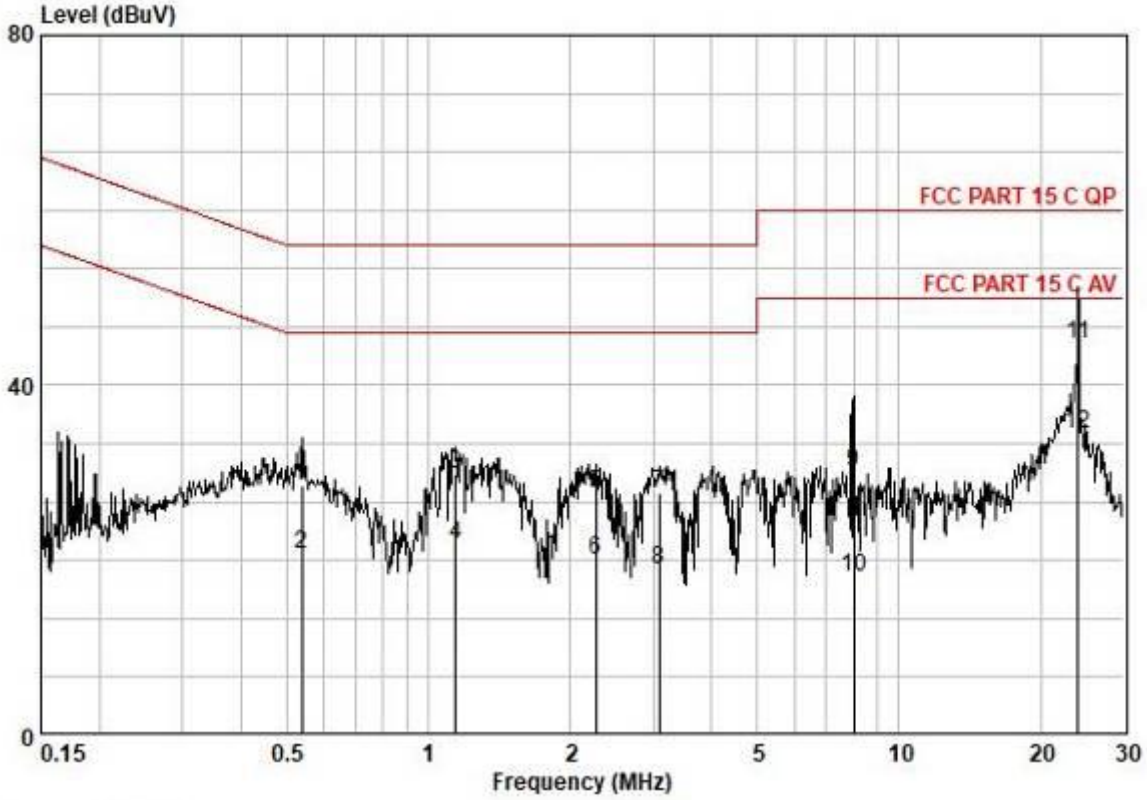
Mode:a; Line:Neutral Line



Pol :NEUTRAL
Mode :
Model :

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.54	18.82	0.10	9.64	28.56	56.00	-27.44	QP
0.54	10.89	0.10	9.64	20.63	46.00	-25.37	AVERAGE
1.14	20.01	0.10	9.69	29.80	56.00	-26.20	QP
1.14	12.06	0.10	9.69	21.85	46.00	-24.15	AVERAGE
2.27	17.76	0.13	9.74	27.63	56.00	-28.37	QP
2.27	10.27	0.13	9.74	20.14	46.00	-25.86	AVERAGE
3.09	17.74	0.20	9.76	27.70	56.00	-28.30	QP
3.09	9.10	0.20	9.76	19.06	46.00	-26.94	AVERAGE
8.02	19.95	0.30	9.91	30.16	60.00	-29.84	QP
8.02	7.84	0.30	9.91	18.05	50.00	-31.95	AVERAGE
24.01	34.19	0.40	10.15	44.74	60.00	-15.26	QP
24.01	23.84	0.40	10.15	34.39	50.00	-15.61	AVERAGE

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7.2 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

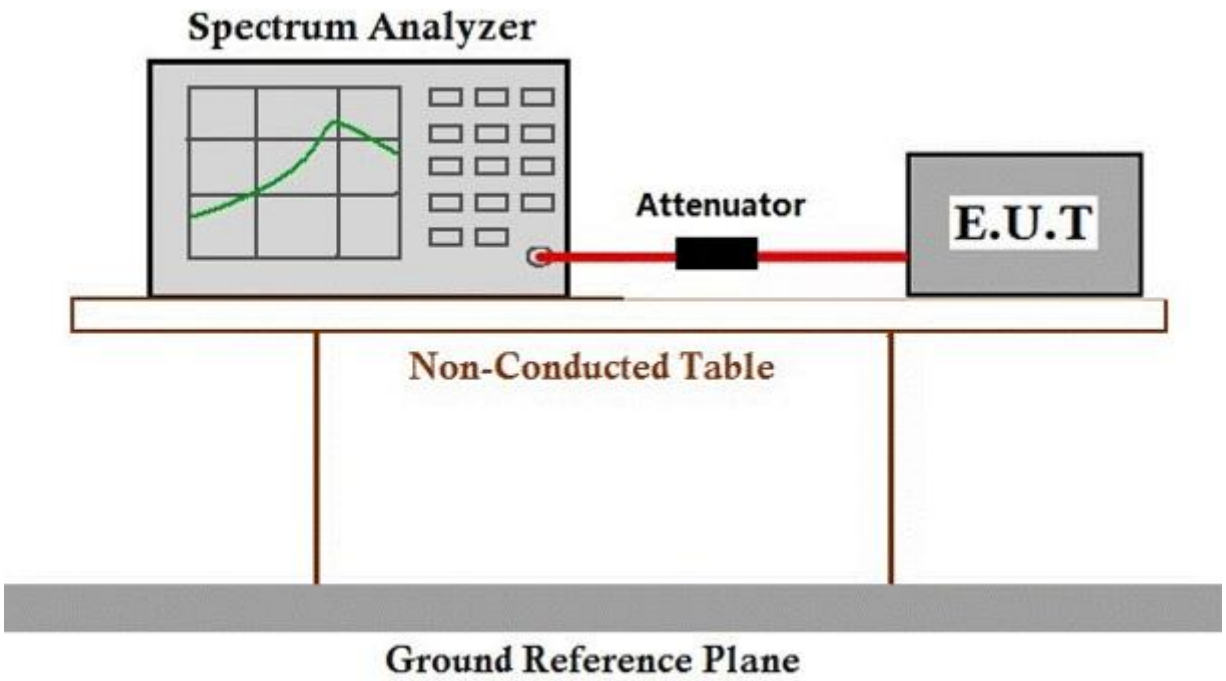
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 26.4 °C Humidity: 60.2 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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.

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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7.3 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≤ 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

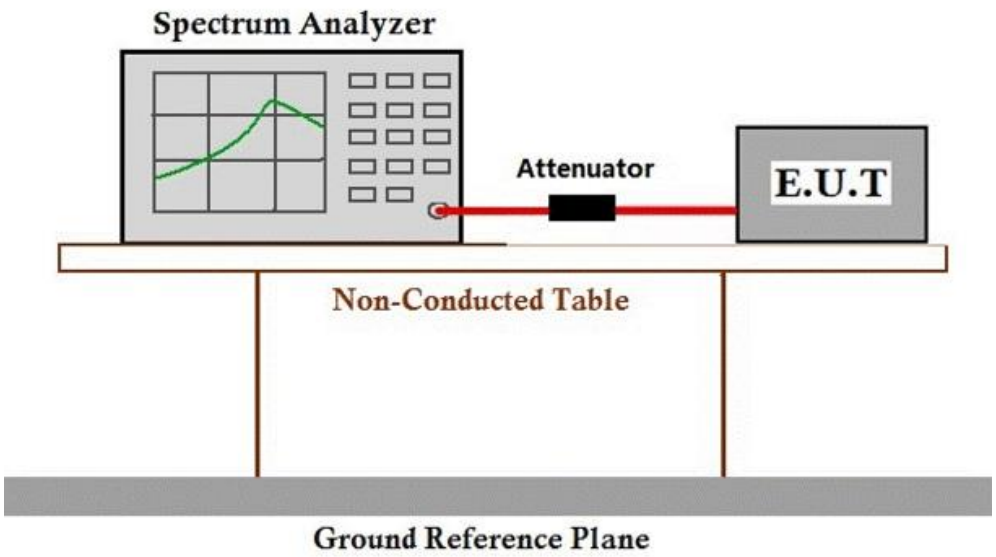
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 26.4 °C Humidity: 60.2 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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.

7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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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

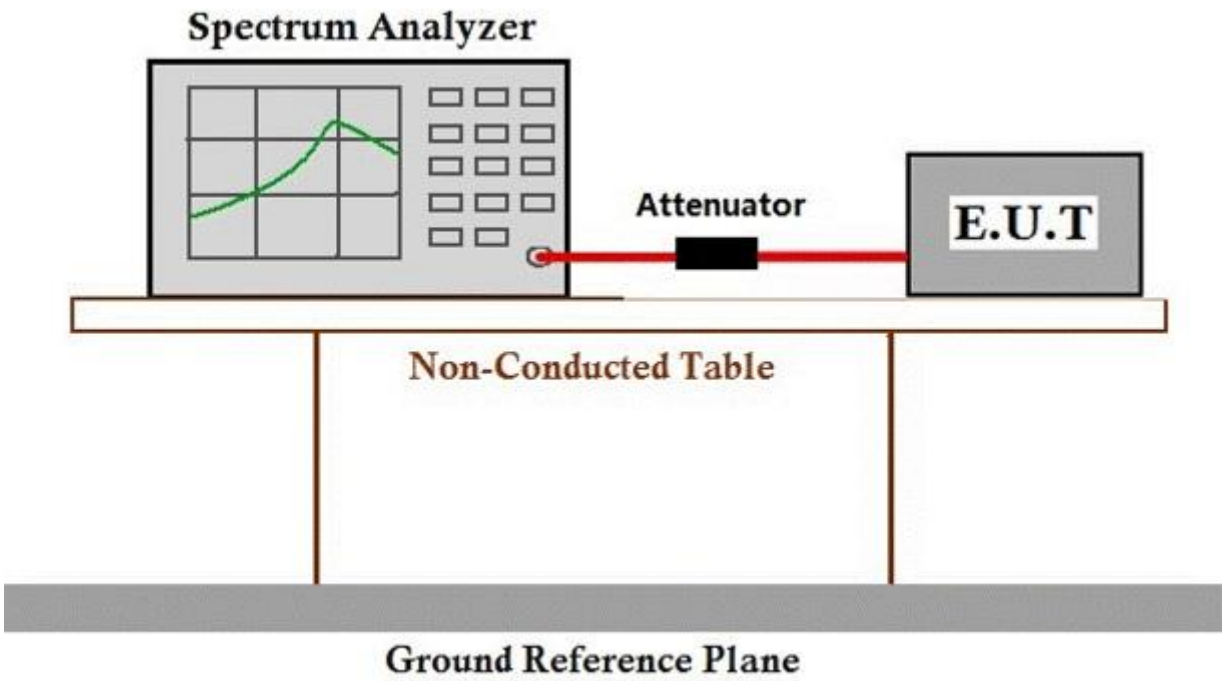
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 26.4 °C Humidity: 60.2 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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.

7.4.2 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 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)

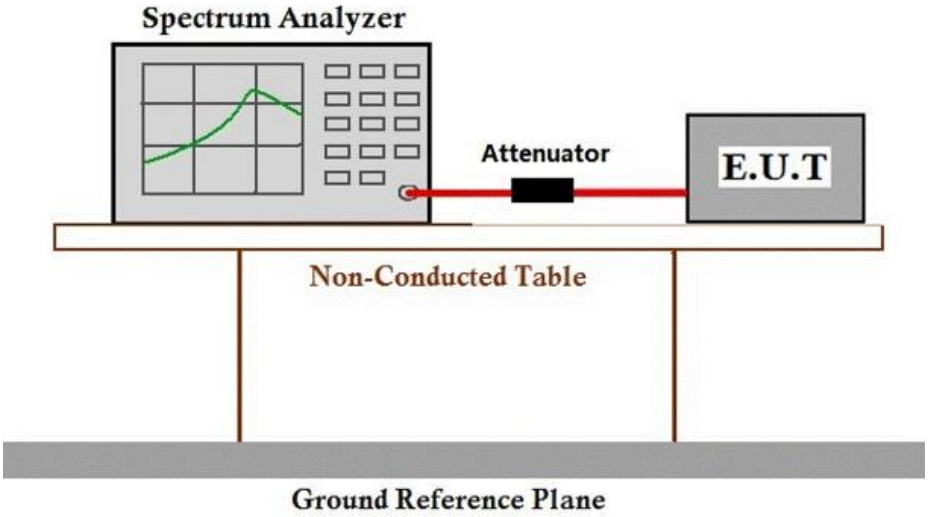
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 26.4 °C Humidity: 60.2 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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.

7.5.2 Test Setup Diagram



7.5.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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7.6 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)

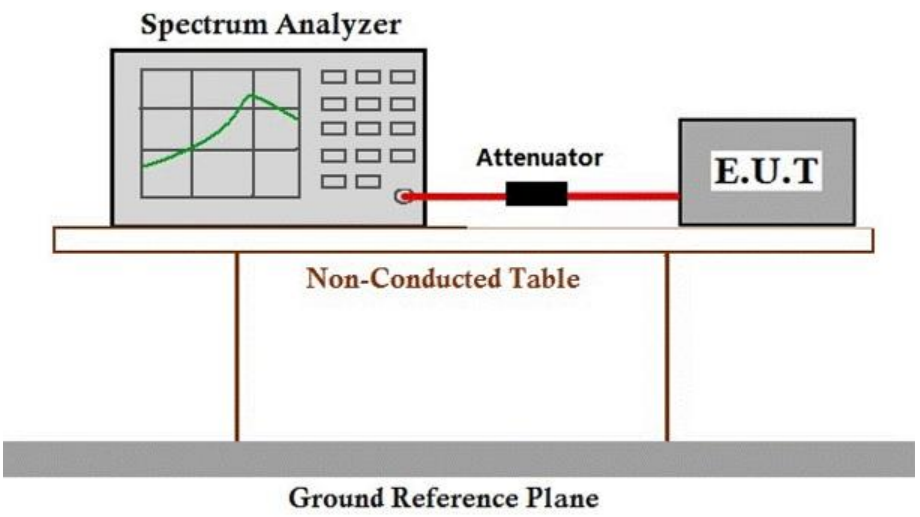
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 26.4 °C Humidity: 60.2 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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.

7.6.2 Test Setup Diagram



7.6.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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7.7 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.		

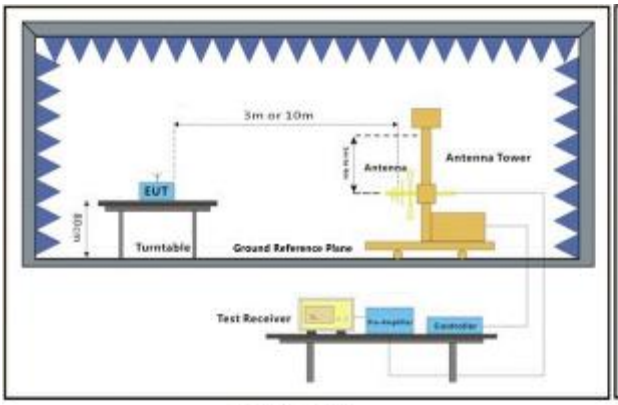
7.7.1 E.U.T. Operation

Operating Environment:

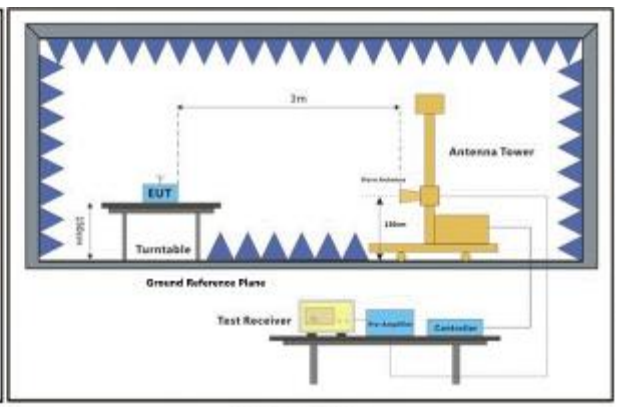
Temperature: 25.3 °C Humidity: 67.1 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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.

7.7.2 Test Setup Diagram



30MHz-1GHz



Above 1GHz

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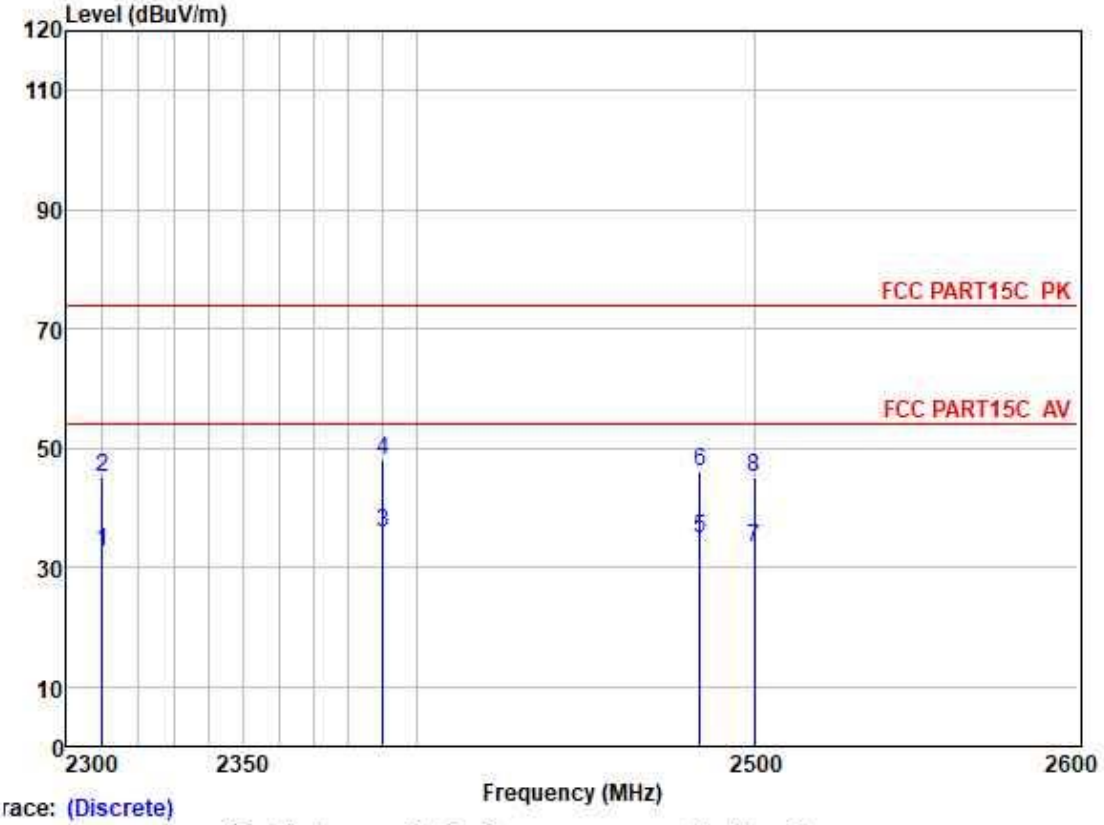
Mode:a; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	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	2310.000	39.54	27.15	3.32	37.44	32.57	54.00	-21.43	HORIZONTAL	Average
2	2310.000	52.05	27.15	3.32	37.44	45.08	74.00	-28.92	HORIZONTAL	Peak
3	2390.000	42.49	27.33	3.48	37.42	35.88	54.00	-18.12	HORIZONTAL	Average
4	2390.000	54.55	27.33	3.48	37.42	47.94	74.00	-26.06	HORIZONTAL	Peak
5	2483.500	41.37	27.48	3.53	37.40	34.98	54.00	-19.02	HORIZONTAL	Average
6	2483.500	52.56	27.48	3.53	37.40	46.17	74.00	-27.83	HORIZONTAL	Peak
7	2500.000	39.76	27.50	3.40	37.39	33.27	54.00	-20.73	HORIZONTAL	Average
8	2500.000	51.67	27.50	3.40	37.39	45.18	74.00	-28.82	HORIZONTAL	Peak

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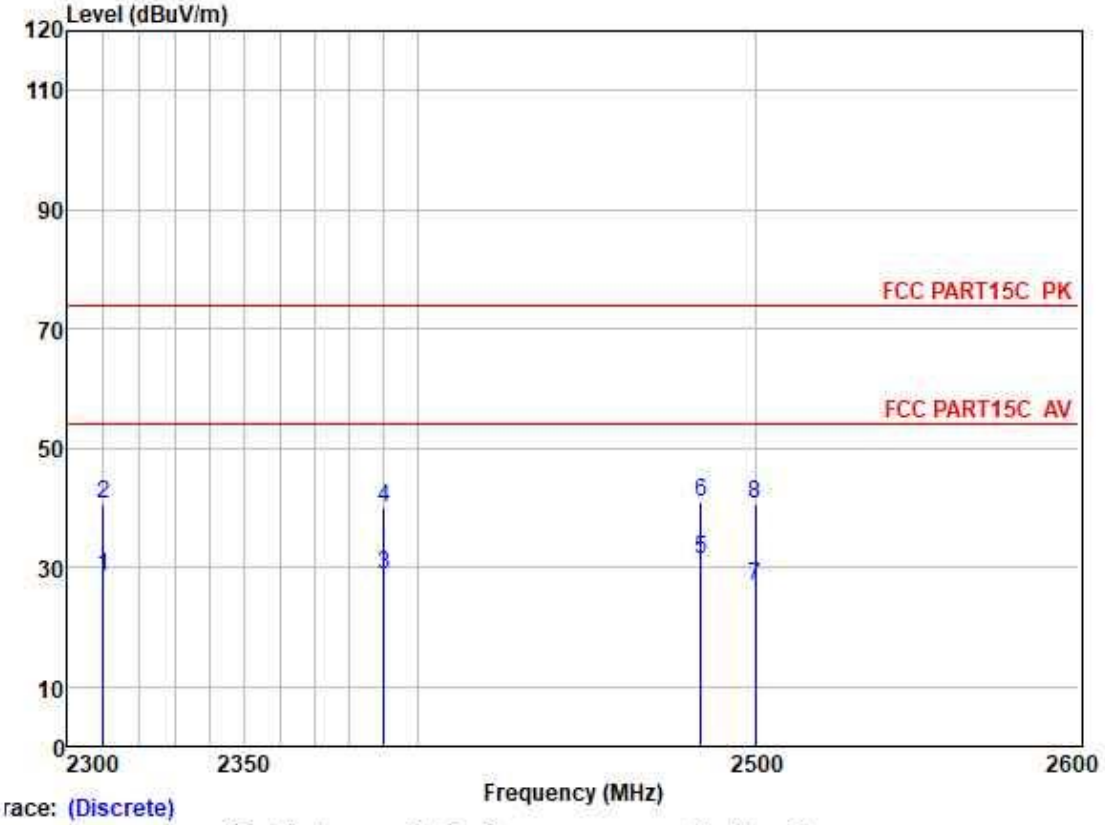
Mode:a; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low



race: (Discrete)

	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	2310.000	35.46	27.15	3.32	37.44	28.49	54.00	-25.51	VERTICAL	Average
2	2310.000	47.59	27.15	3.32	37.44	40.62	74.00	-33.38	VERTICAL	Peak
3	2390.000	35.48	27.33	3.48	37.42	28.87	54.00	-25.13	VERTICAL	Average
4	2390.000	46.66	27.33	3.48	37.42	40.05	74.00	-33.95	VERTICAL	Peak
5	2483.500	37.71	27.48	3.53	37.40	31.32	54.00	-22.68	VERTICAL	Average
6	2483.500	47.47	27.48	3.53	37.40	41.08	74.00	-32.92	VERTICAL	Peak
7	2500.000	33.48	27.50	3.40	37.39	26.99	54.00	-27.01	VERTICAL	Average
8	2500.000	47.26	27.50	3.40	37.39	40.77	74.00	-33.23	VERTICAL	Peak

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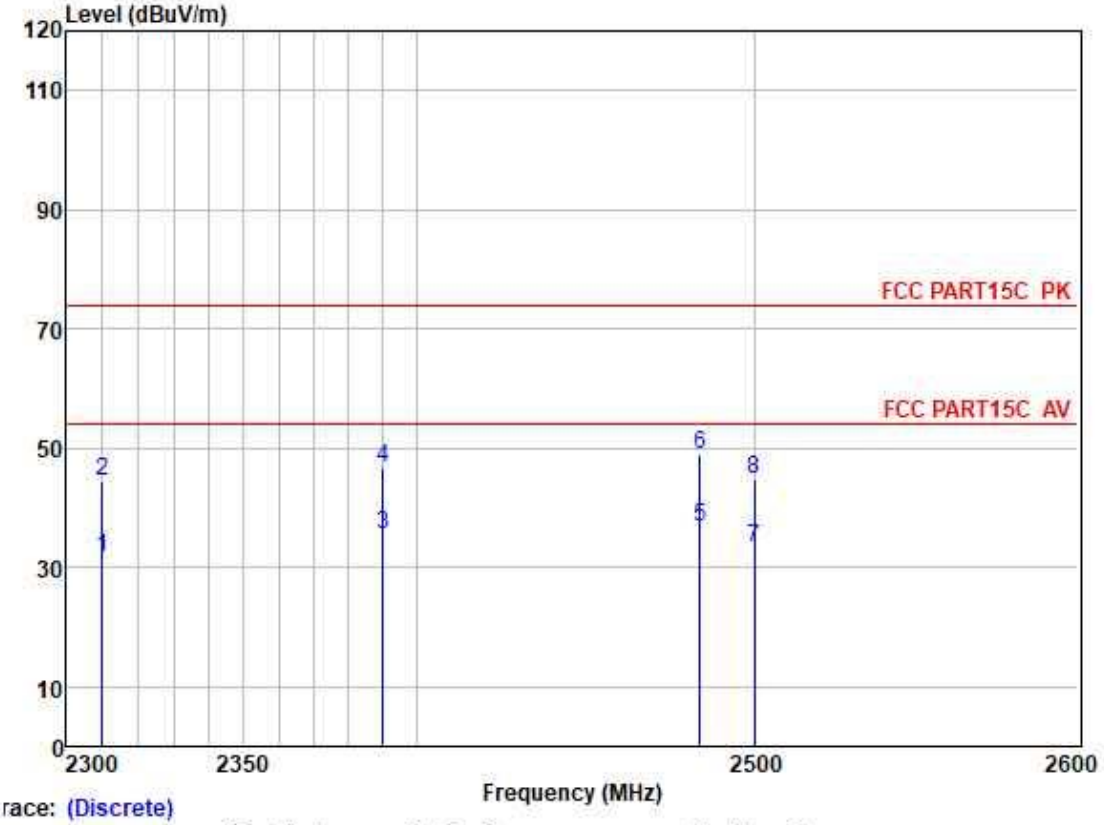
Mode:a; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	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	2310.000	38.54	27.15	3.32	37.44	31.57	54.00	-22.43	HORIZONTAL	Average
2	2310.000	51.40	27.15	3.32	37.44	44.43	74.00	-29.57	HORIZONTAL	Peak
3	2390.000	42.23	27.33	3.48	37.42	35.62	54.00	-18.38	HORIZONTAL	Average
4	2390.000	53.31	27.33	3.48	37.42	46.70	74.00	-27.30	HORIZONTAL	Peak
5	2483.500	43.13	27.48	3.53	37.40	36.74	54.00	-17.26	HORIZONTAL	Average
6	2483.500	55.32	27.48	3.53	37.40	48.93	74.00	-25.07	HORIZONTAL	Peak
7	2500.000	39.66	27.50	3.40	37.39	33.17	54.00	-20.83	HORIZONTAL	Average
8	2500.000	51.18	27.50	3.40	37.39	44.69	74.00	-29.31	HORIZONTAL	Peak

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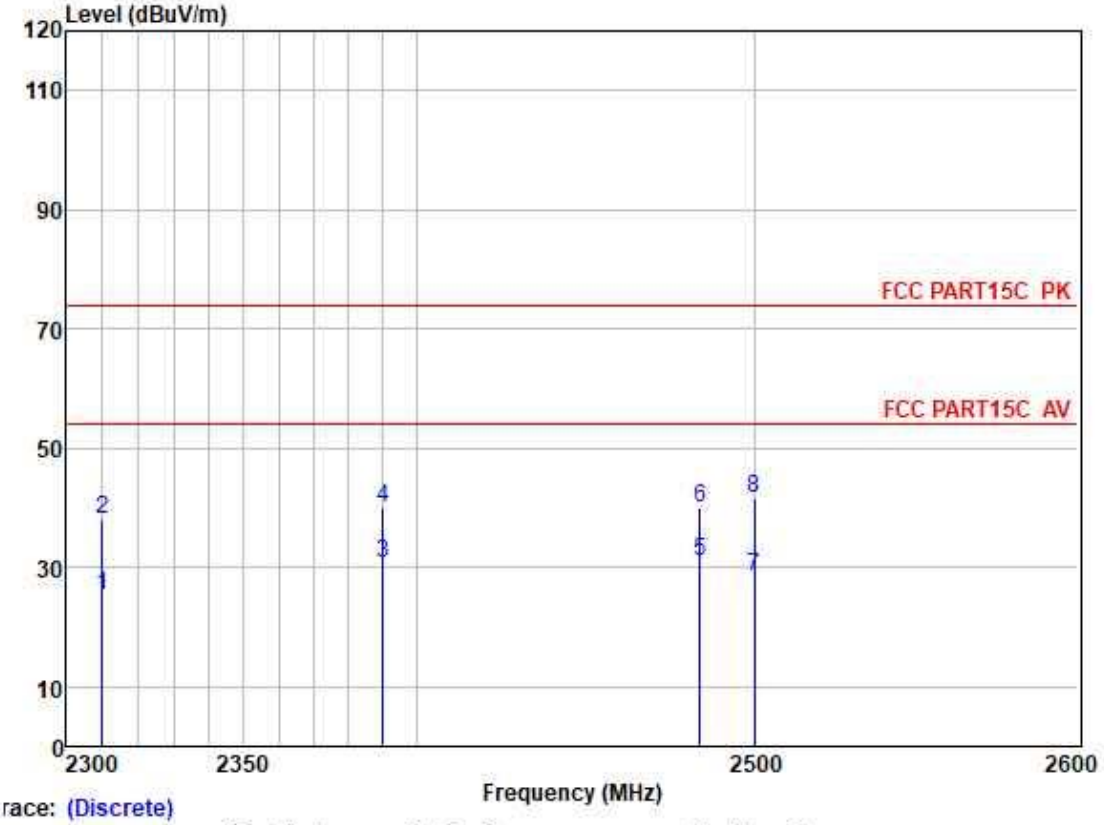
Member of the SGS Group (SGS SA)

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



race: (Discrete)

	Freq	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	2310.000	32.28	27.15	3.32	37.44	25.31	54.00	-28.69	VERTICAL	Average
2	2310.000	44.95	27.15	3.32	37.44	37.98	74.00	-36.02	VERTICAL	Peak
3	2390.000	37.22	27.33	3.48	37.42	30.61	54.00	-23.39	VERTICAL	Average
4	2390.000	46.59	27.33	3.48	37.42	39.98	74.00	-34.02	VERTICAL	Peak
5	2483.500	37.45	27.48	3.53	37.40	31.06	54.00	-22.94	VERTICAL	Average
6	2483.500	46.45	27.48	3.53	37.40	40.06	74.00	-33.94	VERTICAL	Peak
7	2500.000	34.94	27.50	3.40	37.39	28.45	54.00	-25.55	VERTICAL	Average
8	2500.000	48.09	27.50	3.40	37.39	41.60	74.00	-32.40	VERTICAL	Peak

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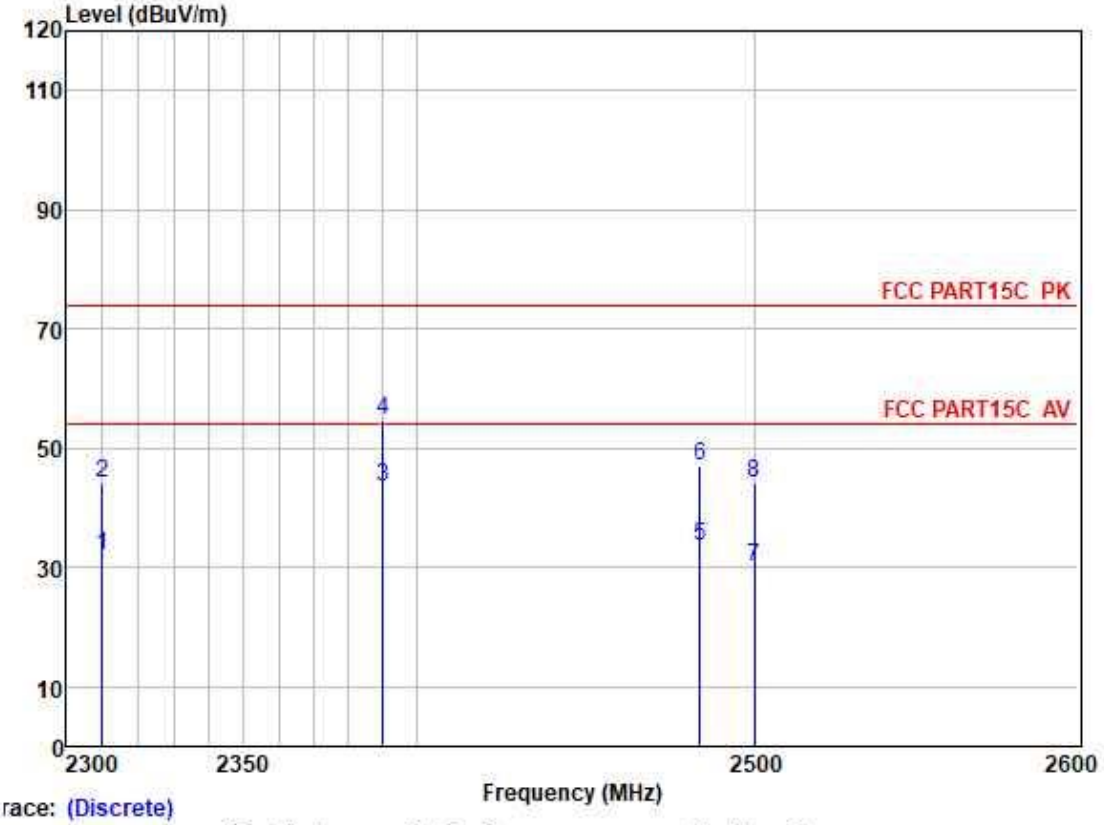
Mode:a; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	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	2310.000	38.93	27.15	3.32	37.44	31.96	54.00	-22.04	HORIZONTAL	Average
2	2310.000	51.03	27.15	3.32	37.44	44.06	74.00	-29.94	HORIZONTAL	Peak
3	2390.000	50.04	27.33	3.48	37.42	43.43	54.00	-10.57	HORIZONTAL	Average
4	2390.000	61.43	27.33	3.48	37.42	54.82	74.00	-19.18	HORIZONTAL	Peak
5	2483.500	40.15	27.48	3.53	37.40	33.76	54.00	-20.24	HORIZONTAL	Average
6	2483.500	53.31	27.48	3.53	37.40	46.92	74.00	-27.08	HORIZONTAL	Peak
7	2500.000	36.48	27.50	3.40	37.39	29.99	54.00	-24.01	HORIZONTAL	Average
8	2500.000	50.73	27.50	3.40	37.39	44.24	74.00	-29.76	HORIZONTAL	Peak

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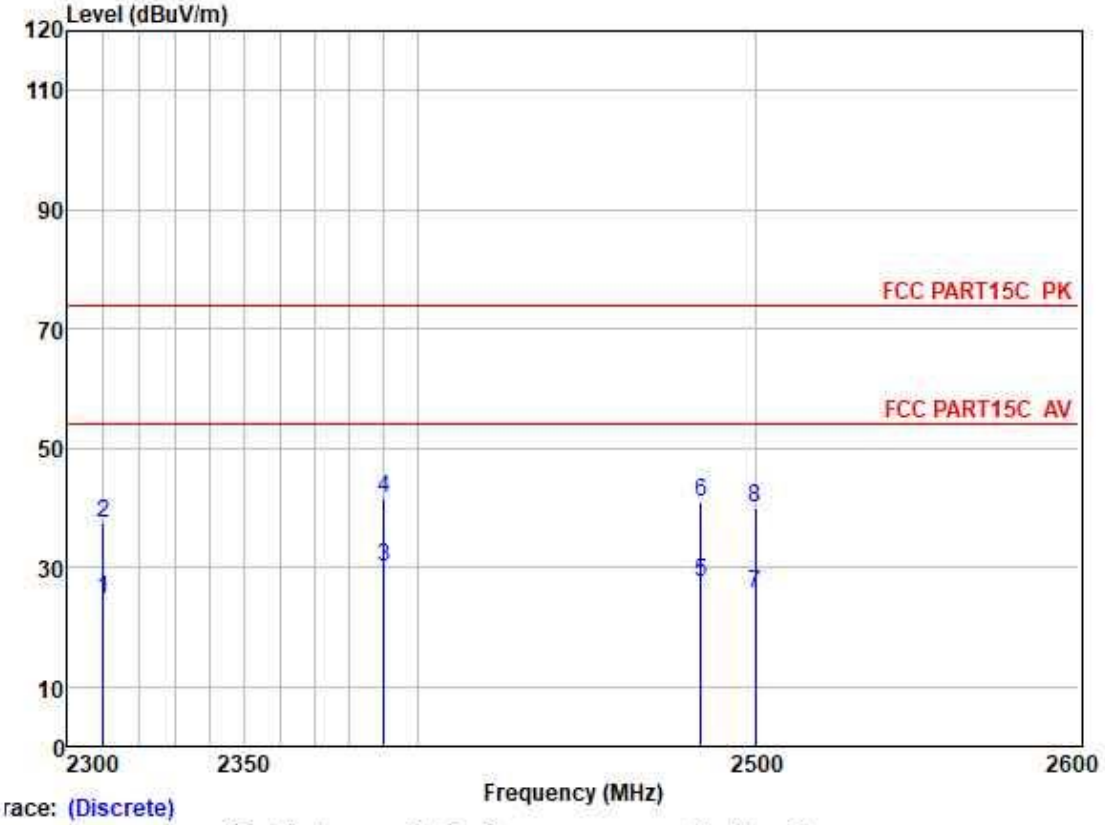
Mode:a; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	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	2310.000	31.54	27.15	3.32	37.44	24.57	54.00	-29.43	VERTICAL	Average
2	2310.000	44.37	27.15	3.32	37.44	37.40	74.00	-36.60	VERTICAL	Peak
3	2390.000	36.64	27.33	3.48	37.42	30.03	54.00	-23.97	VERTICAL	Average
4	2390.000	48.34	27.33	3.48	37.42	41.73	74.00	-32.27	VERTICAL	Peak
5	2483.500	34.02	27.48	3.53	37.40	27.63	54.00	-26.37	VERTICAL	Average
6	2483.500	47.34	27.48	3.53	37.40	40.95	74.00	-33.05	VERTICAL	Peak
7	2500.000	32.13	27.50	3.40	37.39	25.64	54.00	-28.36	VERTICAL	Average
8	2500.000	46.63	27.50	3.40	37.39	40.14	74.00	-33.86	VERTICAL	Peak

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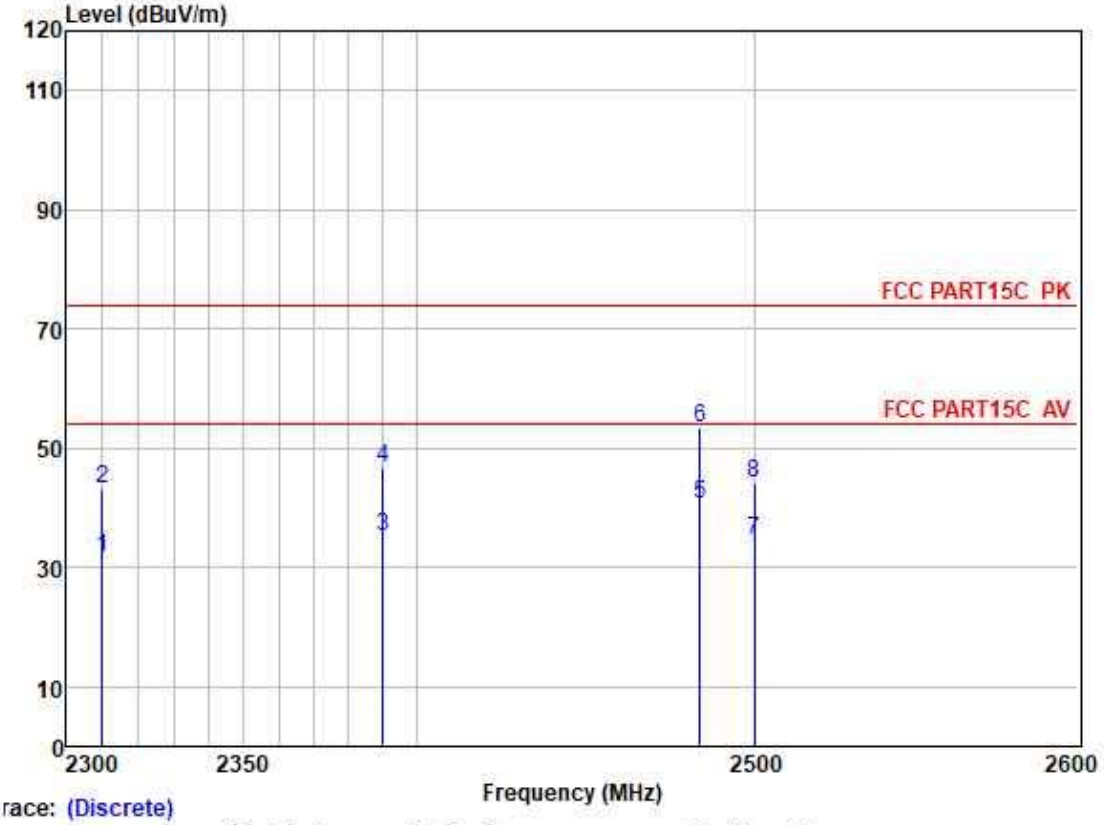
Mode:a; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	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	2310.000	38.53	27.15	3.32	37.44	31.56	54.00	-22.44	HORIZONTAL	Average
2	2310.000	50.24	27.15	3.32	37.44	43.27	74.00	-30.73	HORIZONTAL	Peak
3	2390.000	41.68	27.33	3.48	37.42	35.07	54.00	-18.93	HORIZONTAL	Average
4	2390.000	53.43	27.33	3.48	37.42	46.82	74.00	-27.18	HORIZONTAL	Peak
5	2483.500	47.14	27.48	3.53	37.40	40.75	54.00	-13.25	HORIZONTAL	Average
6	2483.500	59.92	27.48	3.53	37.40	53.53	74.00	-20.47	HORIZONTAL	Peak
7	2500.000	41.15	27.50	3.40	37.39	34.66	54.00	-19.34	HORIZONTAL	Average
8	2500.000	50.77	27.50	3.40	37.39	44.28	74.00	-29.72	HORIZONTAL	Peak

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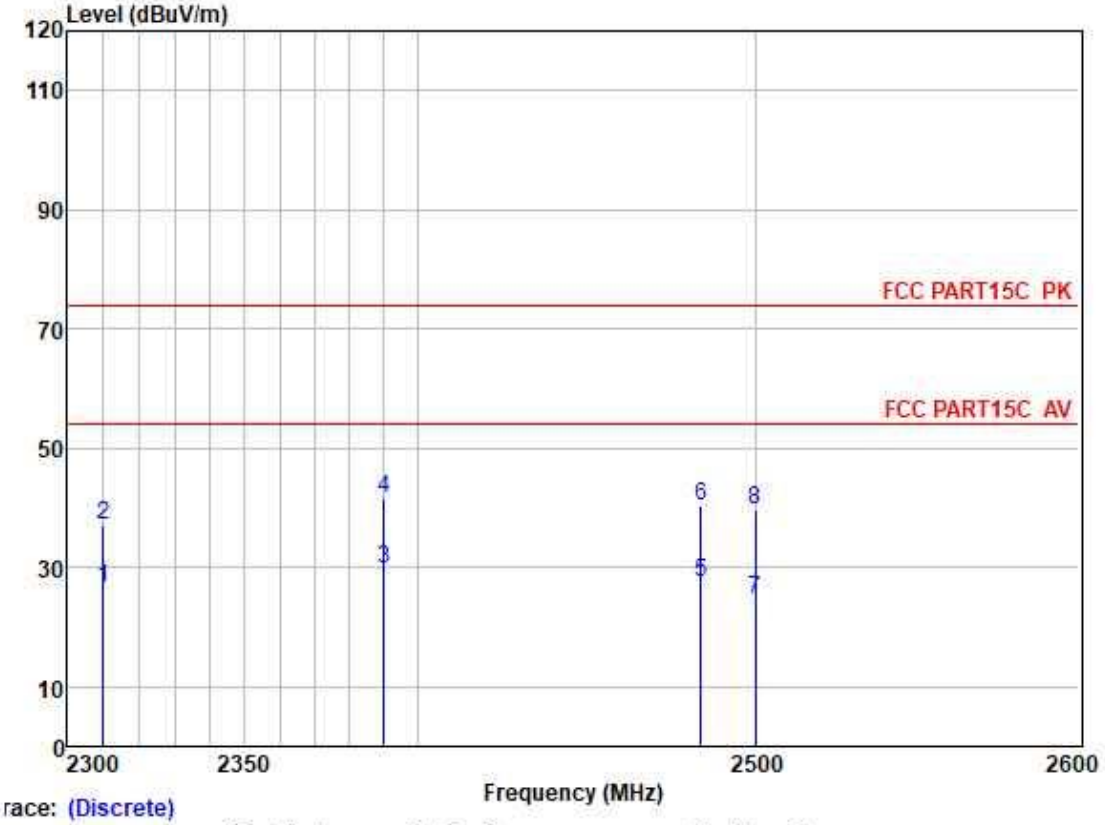
Mode:a; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:High



race: (Discrete)

	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	2310.000	33.54	27.15	3.32	37.44	26.57	54.00	-27.43	VERTICAL	Average
2	2310.000	44.15	27.15	3.32	37.44	37.18	74.00	-36.82	VERTICAL	Peak
3	2390.000	36.30	27.33	3.48	37.42	29.69	54.00	-24.31	VERTICAL	Average
4	2390.000	48.21	27.33	3.48	37.42	41.60	74.00	-32.40	VERTICAL	Peak
5	2483.500	33.77	27.48	3.53	37.40	27.38	54.00	-26.62	VERTICAL	Average
6	2483.500	46.60	27.48	3.53	37.40	40.21	74.00	-33.79	VERTICAL	Peak
7	2500.000	31.21	27.50	3.40	37.39	24.72	54.00	-29.28	VERTICAL	Average
8	2500.000	46.02	27.50	3.40	37.39	39.53	74.00	-34.47	VERTICAL	Peak

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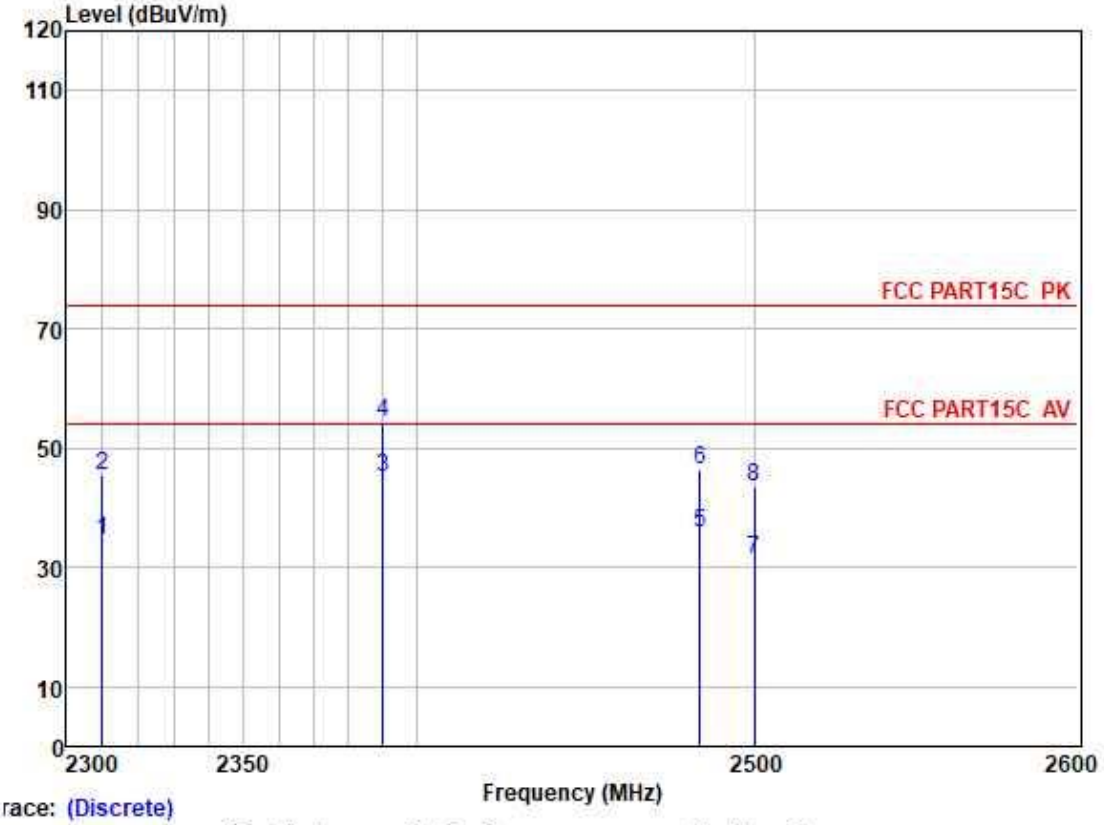
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low



race: (Discrete)

	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	2310.000	41.63	27.15	3.32	37.44	34.66	54.00	-19.34	HORIZONTAL	Average
2	2310.000	52.35	27.15	3.32	37.44	45.38	74.00	-28.62	HORIZONTAL	Peak
3	2390.000	51.75	27.33	3.48	37.42	45.14	54.00	-8.86	HORIZONTAL	Average
4	2390.000	60.99	27.33	3.48	37.42	54.38	74.00	-19.62	HORIZONTAL	Peak
5	2483.500	42.33	27.48	3.53	37.40	35.94	54.00	-18.06	HORIZONTAL	Average
6	2483.500	52.64	27.48	3.53	37.40	46.25	74.00	-27.75	HORIZONTAL	Peak
7	2500.000	37.95	27.50	3.40	37.39	31.46	54.00	-22.54	HORIZONTAL	Average
8	2500.000	49.86	27.50	3.40	37.39	43.37	74.00	-30.63	HORIZONTAL	Peak

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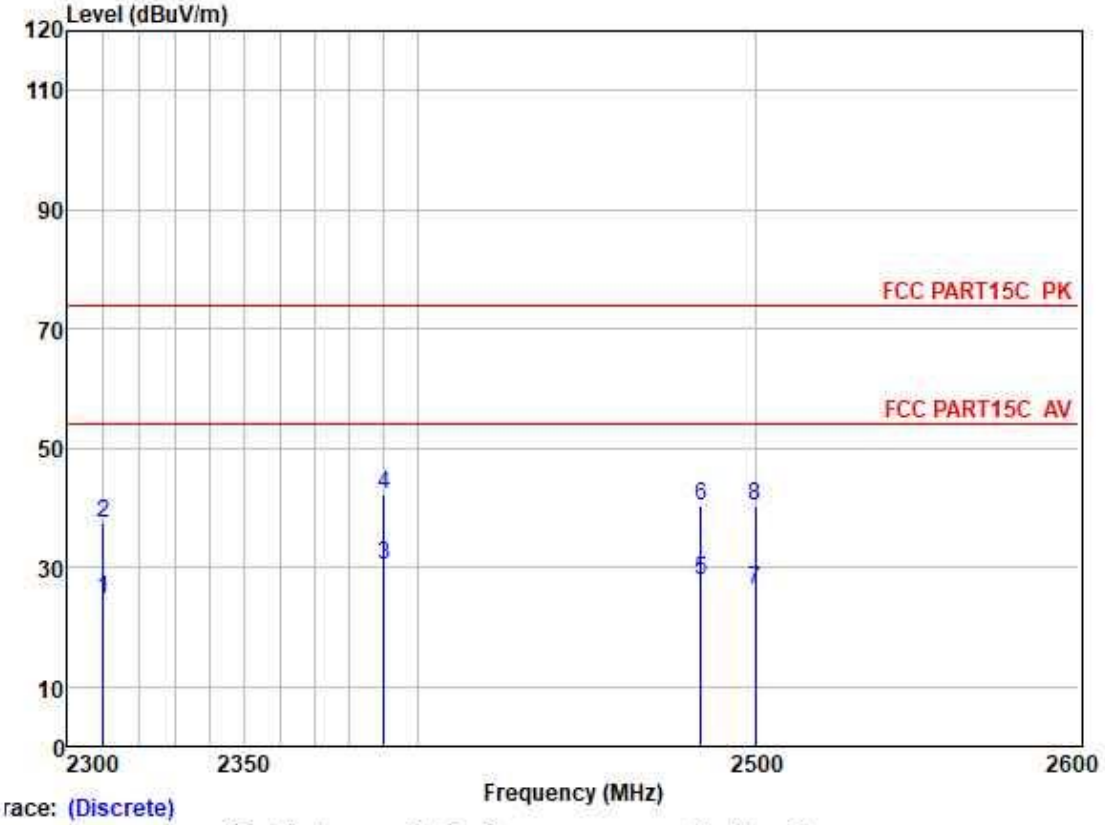
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

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



race: (Discrete)

	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	2310.000	31.59	27.15	3.32	37.44	24.62	54.00	-29.38	VERTICAL	Average
2	2310.000	44.31	27.15	3.32	37.44	37.34	74.00	-36.66	VERTICAL	Peak
3	2390.000	36.87	27.33	3.48	37.42	30.26	54.00	-23.74	VERTICAL	Average
4	2390.000	48.75	27.33	3.48	37.42	42.14	74.00	-31.86	VERTICAL	Peak
5	2483.500	34.25	27.48	3.53	37.40	27.86	54.00	-26.14	VERTICAL	Average
6	2483.500	46.75	27.48	3.53	37.40	40.36	74.00	-33.64	VERTICAL	Peak
7	2500.000	32.59	27.50	3.40	37.39	26.10	54.00	-27.90	VERTICAL	Average
8	2500.000	46.81	27.50	3.40	37.39	40.32	74.00	-33.68	VERTICAL	Peak

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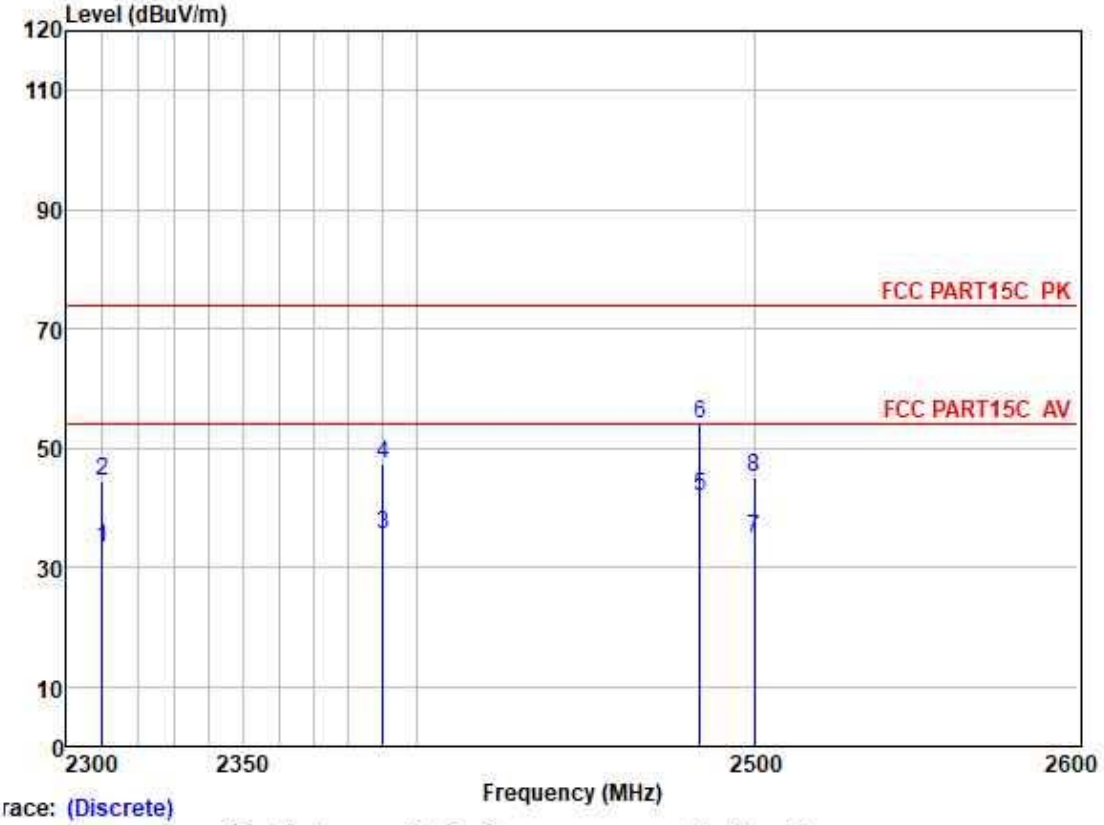
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:High



race: (Discrete)

	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	2310.000	40.30	27.15	3.32	37.44	33.33	54.00	-20.67	HORIZONTAL	Average
2	2310.000	51.44	27.15	3.32	37.44	44.47	74.00	-29.53	HORIZONTAL	Peak
3	2390.000	42.07	27.33	3.48	37.42	35.46	54.00	-18.54	HORIZONTAL	Average
4	2390.000	54.01	27.33	3.48	37.42	47.40	74.00	-26.60	HORIZONTAL	Peak
5	2483.500	48.19	27.48	3.53	37.40	41.80	54.00	-12.20	HORIZONTAL	Average
6	2483.500	60.32	27.48	3.53	37.40	53.93	74.00	-20.07	HORIZONTAL	Peak
7	2500.000	41.48	27.50	3.40	37.39	34.99	54.00	-19.01	HORIZONTAL	Average
8	2500.000	51.63	27.50	3.40	37.39	45.14	74.00	-28.86	HORIZONTAL	Peak

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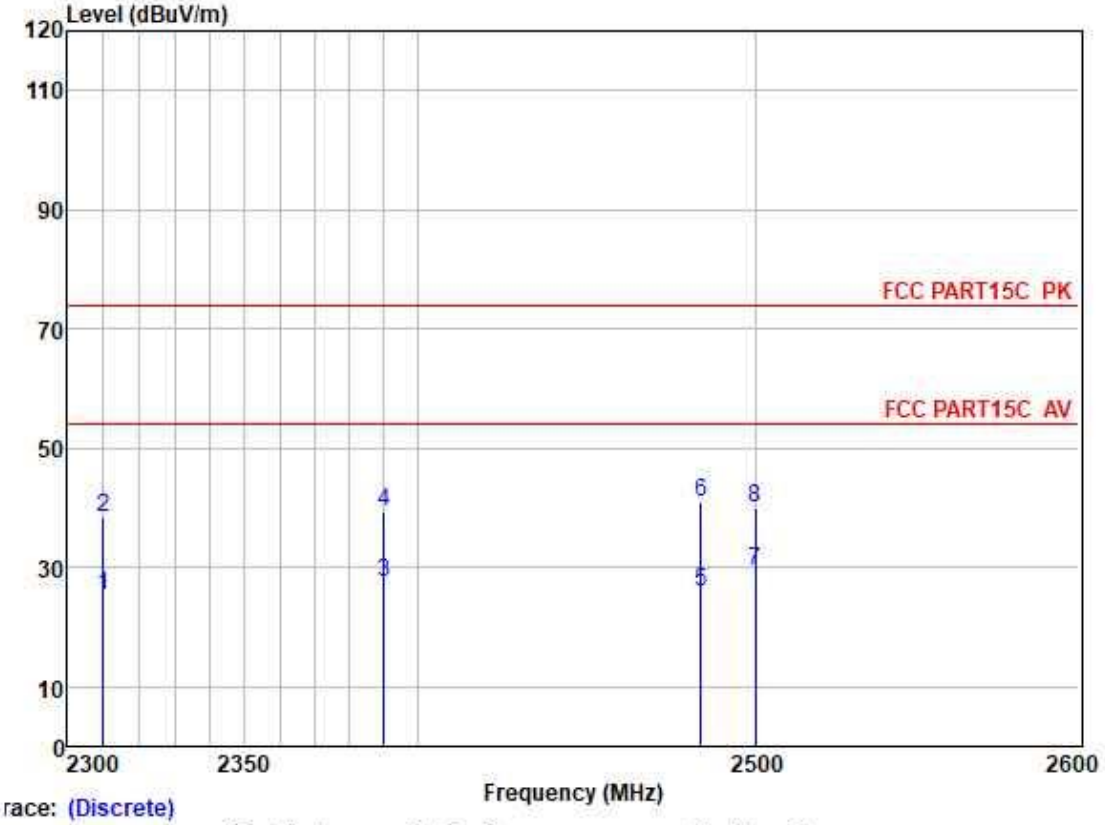
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	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	2310.000	32.19	27.15	3.32	37.44	25.22	54.00	-28.78	VERTICAL	Average
2	2310.000	45.28	27.15	3.32	37.44	38.31	74.00	-35.69	VERTICAL	Peak
3	2390.000	34.10	27.33	3.48	37.42	27.49	54.00	-26.51	VERTICAL	Average
4	2390.000	46.09	27.33	3.48	37.42	39.48	74.00	-34.52	VERTICAL	Peak
5	2483.500	32.38	27.48	3.53	37.40	25.99	54.00	-28.01	VERTICAL	Average
6	2483.500	47.33	27.48	3.53	37.40	40.94	74.00	-33.06	VERTICAL	Peak
7	2500.000	35.84	27.50	3.40	37.39	29.35	54.00	-24.65	VERTICAL	Average
8	2500.000	46.61	27.50	3.40	37.39	40.12	74.00	-33.88	VERTICAL	Peak

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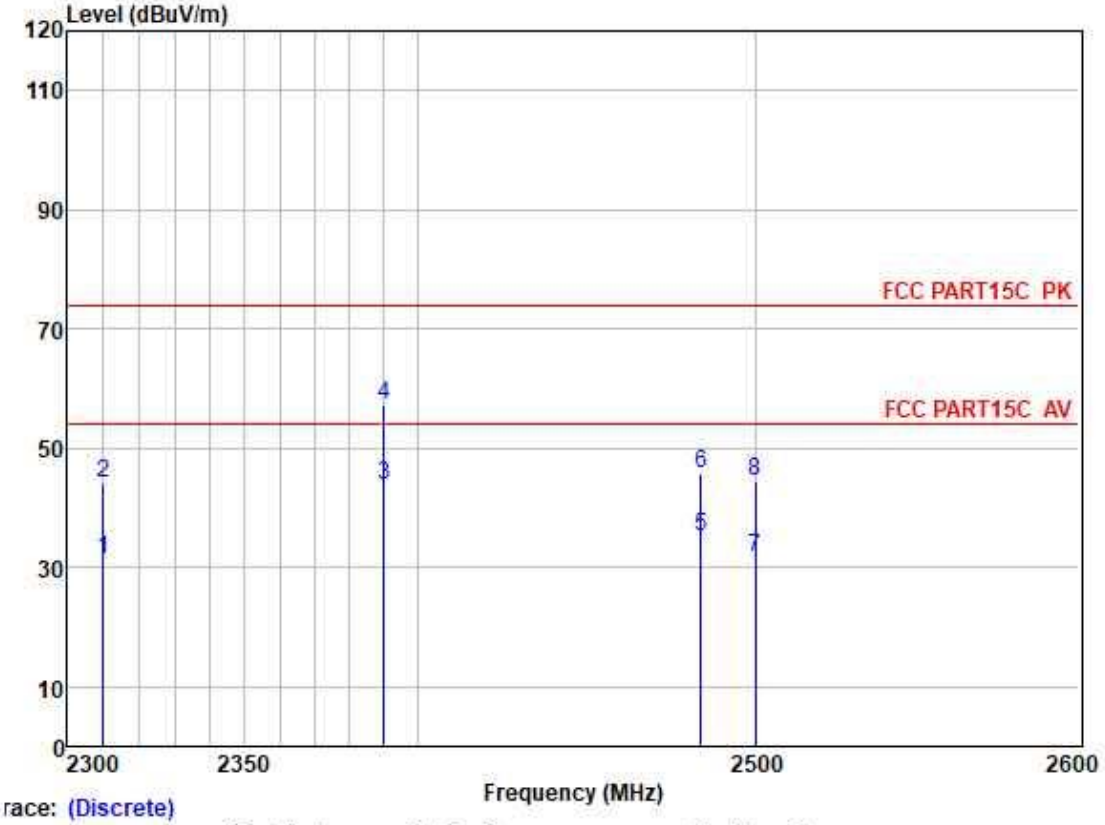
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	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	2310.000	38.33	27.15	3.32	37.44	31.36	54.00	-22.64	HORIZONTAL	Average
2	2310.000	51.14	27.15	3.32	37.44	44.17	74.00	-29.83	HORIZONTAL	Peak
3	2390.000	50.55	27.33	3.48	37.42	43.94	54.00	-10.06	HORIZONTAL	Average
4	2390.000	63.81	27.33	3.48	37.42	57.20	74.00	-16.80	HORIZONTAL	Peak
5	2483.500	41.48	27.48	3.53	37.40	35.09	54.00	-18.91	HORIZONTAL	Average
6	2483.500	52.20	27.48	3.53	37.40	45.81	74.00	-28.19	HORIZONTAL	Peak
7	2500.000	38.17	27.50	3.40	37.39	31.68	54.00	-22.32	HORIZONTAL	Average
8	2500.000	50.89	27.50	3.40	37.39	44.40	74.00	-29.60	HORIZONTAL	Peak

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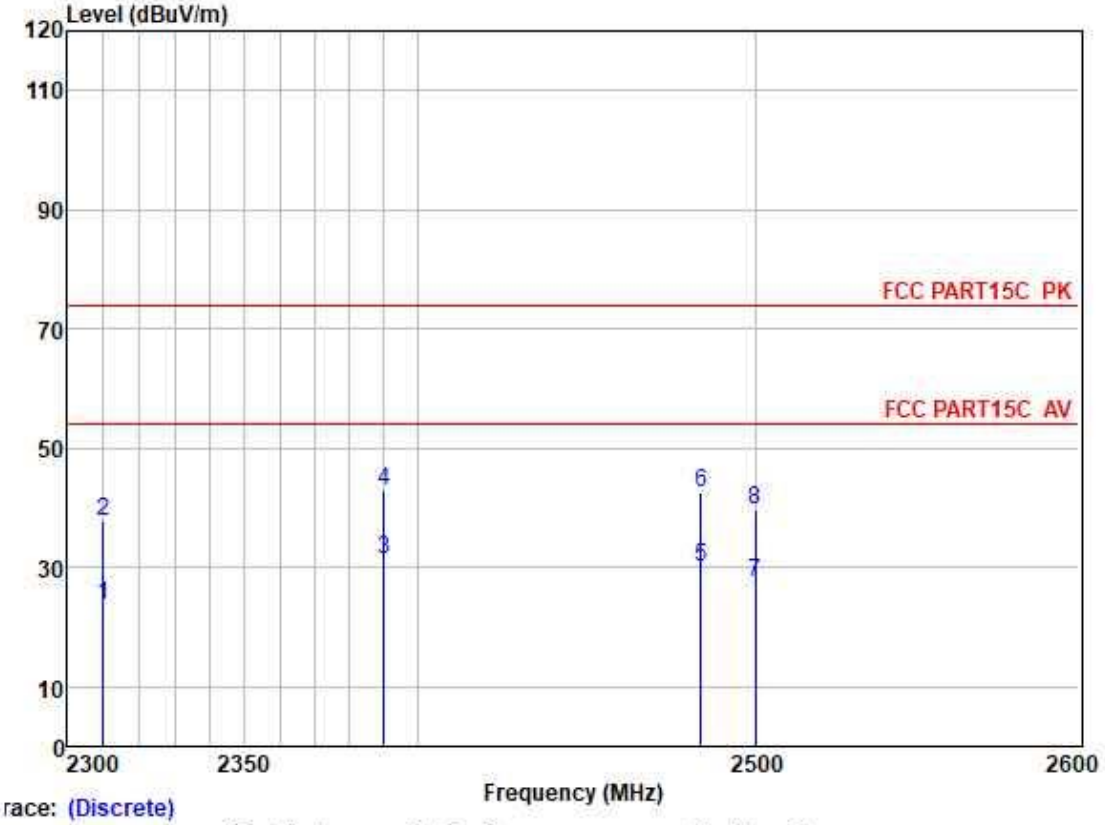
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:Low



race: (Discrete)

	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	2310.000	30.79	27.15	3.32	37.44	23.82	54.00	-30.18	VERTICAL	Average
2	2310.000	44.63	27.15	3.32	37.44	37.66	74.00	-36.34	VERTICAL	Peak
3	2390.000	38.03	27.33	3.48	37.42	31.42	54.00	-22.58	VERTICAL	Average
4	2390.000	49.56	27.33	3.48	37.42	42.95	74.00	-31.05	VERTICAL	Peak
5	2483.500	36.35	27.48	3.53	37.40	29.96	54.00	-24.04	VERTICAL	Average
6	2483.500	48.81	27.48	3.53	37.40	42.42	74.00	-31.58	VERTICAL	Peak
7	2500.000	34.13	27.50	3.40	37.39	27.64	54.00	-26.36	VERTICAL	Average
8	2500.000	46.22	27.50	3.40	37.39	39.73	74.00	-34.27	VERTICAL	Peak

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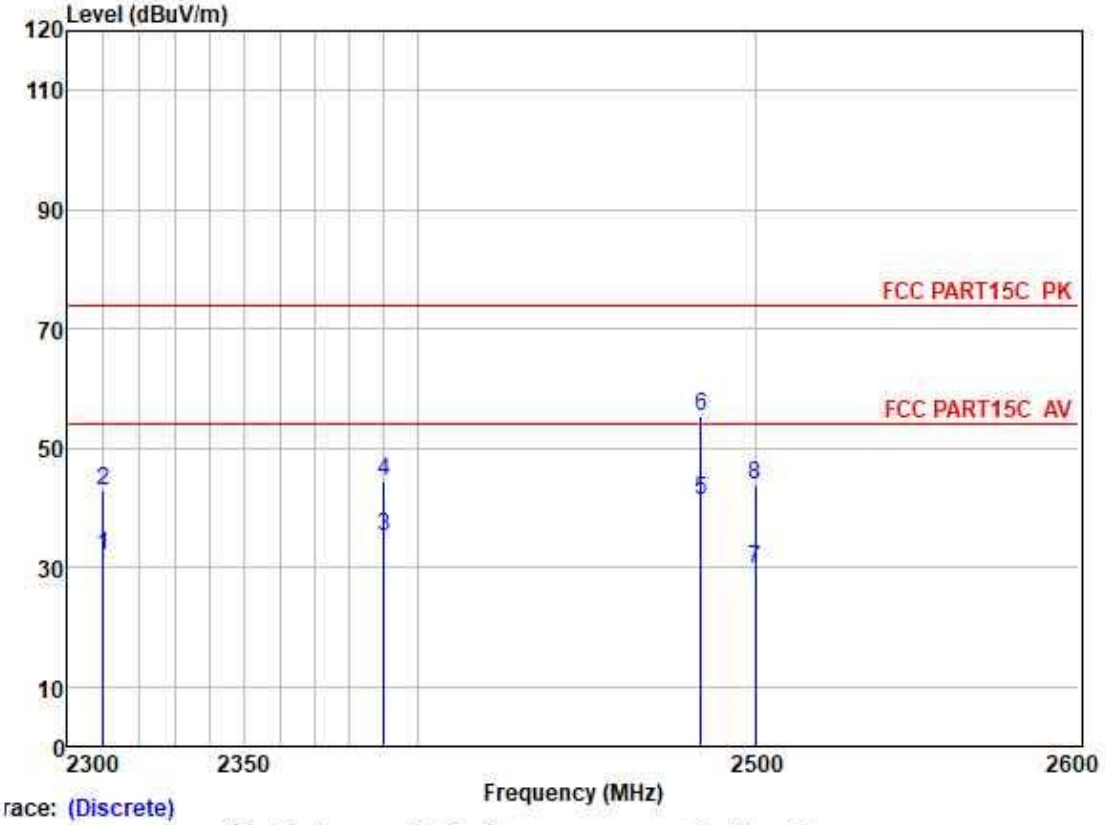
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:High



race: (Discrete)

	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	2310.000	39.09	27.15	3.32	37.44	32.12	54.00	-21.88	HORIZONTAL	Average
2	2310.000	49.99	27.15	3.32	37.44	43.02	74.00	-30.98	HORIZONTAL	Peak
3	2390.000	41.80	27.33	3.48	37.42	35.19	54.00	-18.81	HORIZONTAL	Average
4	2390.000	51.02	27.33	3.48	37.42	44.41	74.00	-29.59	HORIZONTAL	Peak
5	2483.500	47.68	27.48	3.53	37.40	41.29	54.00	-12.71	HORIZONTAL	Average
6	2483.500	61.67	27.48	3.53	37.40	55.28	74.00	-18.72	HORIZONTAL	Peak
7	2500.000	36.39	27.50	3.40	37.39	29.90	54.00	-24.10	HORIZONTAL	Average
8	2500.000	50.34	27.50	3.40	37.39	43.85	74.00	-30.15	HORIZONTAL	Peak

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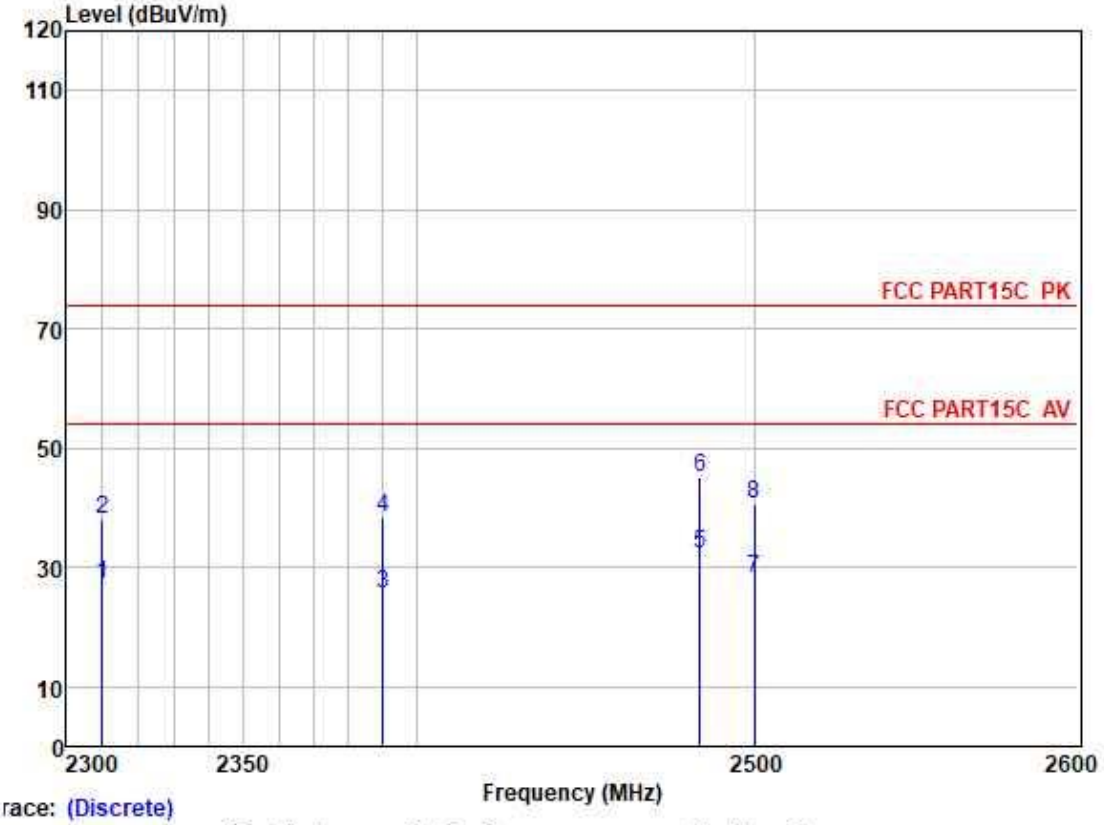
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:High



race: (Discrete)

	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	2310.000	34.21	27.15	3.32	37.44	27.24	54.00	-26.76	VERTICAL	Average
2	2310.000	45.03	27.15	3.32	37.44	38.06	74.00	-35.94	VERTICAL	Peak
3	2390.000	32.12	27.33	3.48	37.42	25.51	54.00	-28.49	VERTICAL	Average
4	2390.000	45.07	27.33	3.48	37.42	38.46	74.00	-35.54	VERTICAL	Peak
5	2483.500	38.58	27.48	3.53	37.40	32.19	54.00	-21.81	VERTICAL	Average
6	2483.500	51.53	27.48	3.53	37.40	45.14	74.00	-28.86	VERTICAL	Peak
7	2500.000	34.53	27.50	3.40	37.39	28.04	54.00	-25.96	VERTICAL	Average
8	2500.000	47.23	27.50	3.40	37.39	40.74	74.00	-33.26	VERTICAL	Peak

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7.8 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.		

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C Humidity: 67.1 % RH Atmospheric Pressure: 1020 mbar

Test Mode: a: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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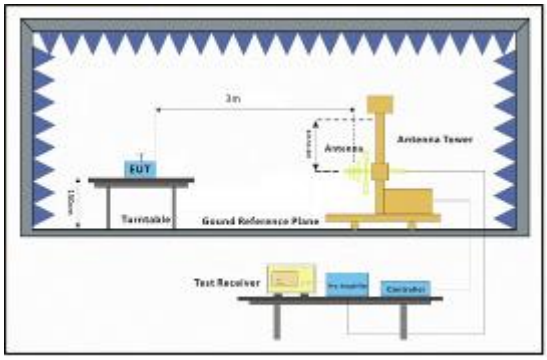
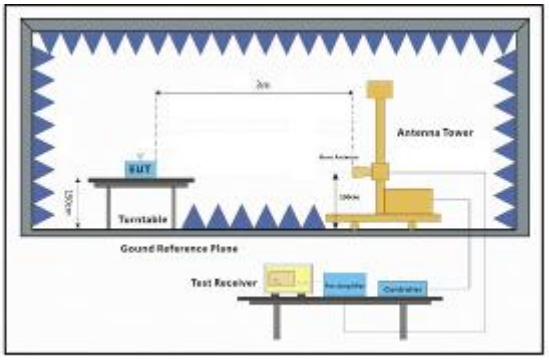
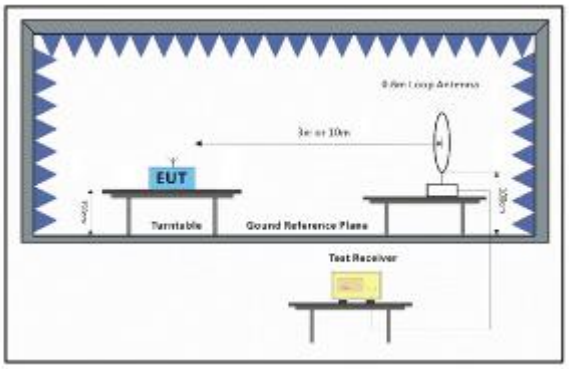
7.8.2 Test Setup Diagram







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7.8.3 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 of Modulation b. 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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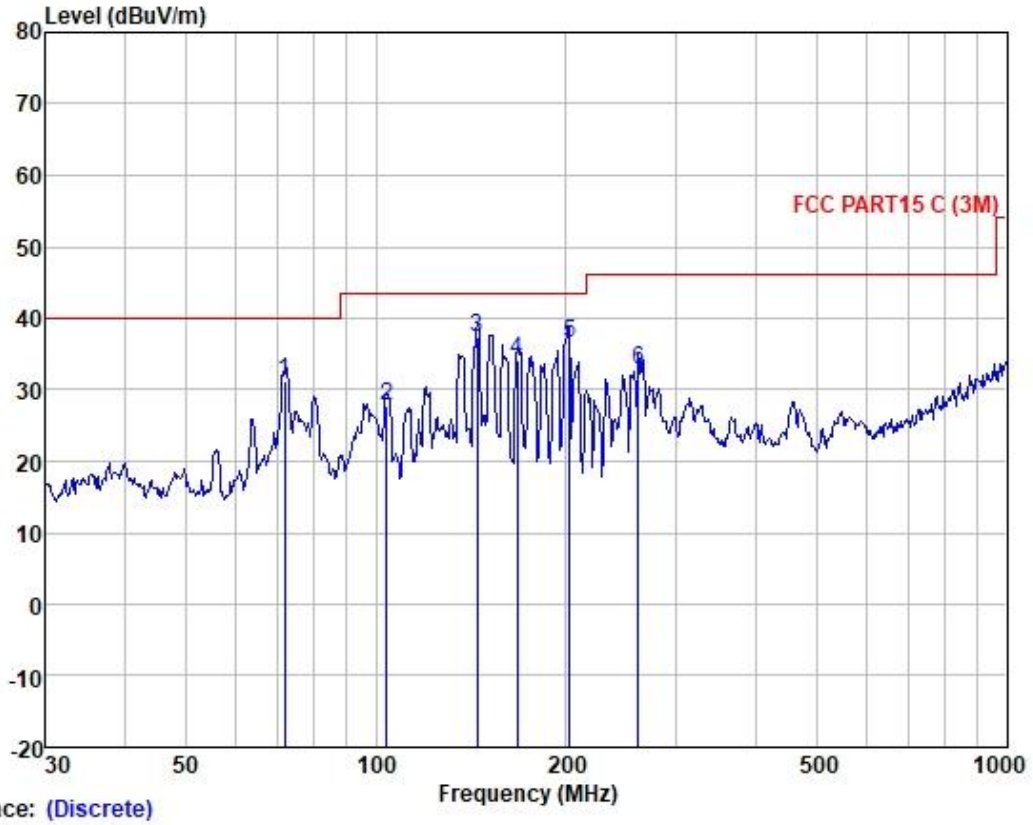
Mode:a; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low



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

	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	71.832	45.25	11.54	1.41	27.12	31.08	40.00	-8.92	HORIZONTAL	QP
2	104.170	43.32	9.80	1.67	27.07	27.72	43.50	-15.78	HORIZONTAL	QP
3	144.842	48.62	13.65	2.02	26.87	37.42	43.50	-6.08	HORIZONTAL	QP
4	167.824	45.36	13.30	2.21	26.78	34.09	43.50	-9.41	HORIZONTAL	QP
5	202.810	50.93	9.94	2.52	26.73	36.66	43.50	-6.84	HORIZONTAL	QP
6	261.058	44.55	12.25	2.71	26.59	32.92	46.00	-13.08	HORIZONTAL	QP

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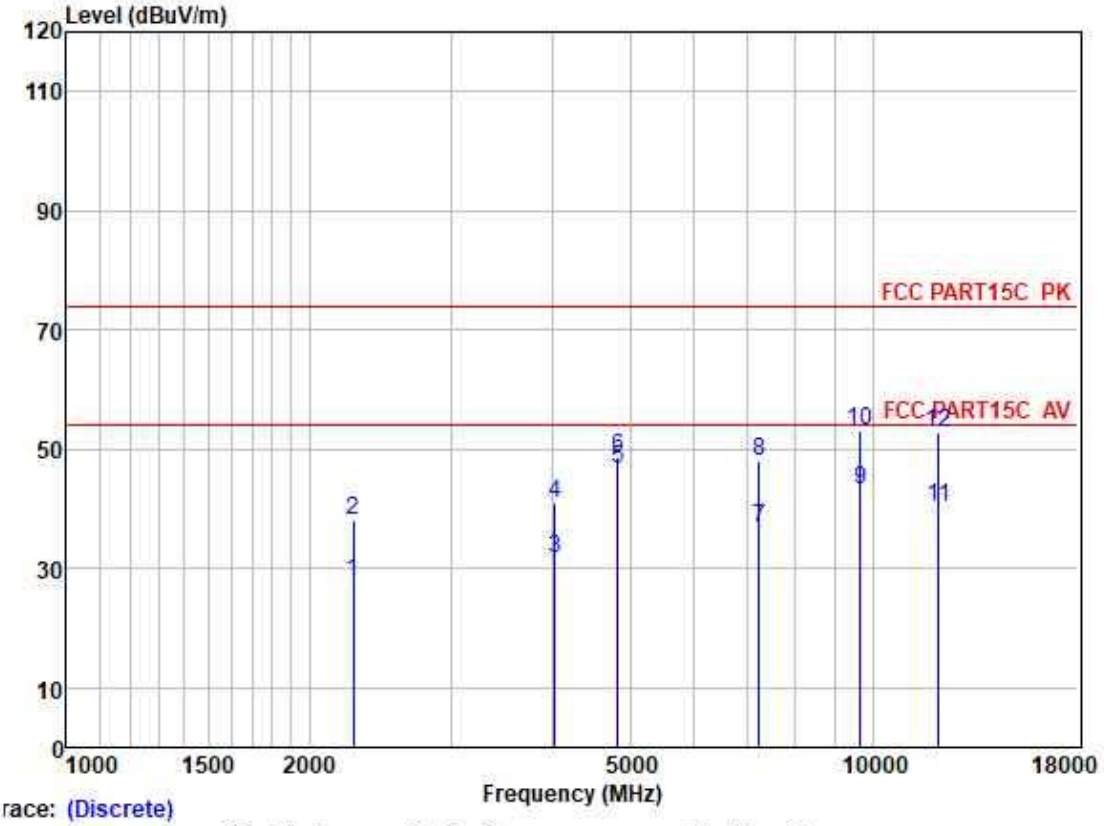
Mode:a; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	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	2265.907	34.92	26.98	3.27	37.45	27.72	54.00	-26.28	HORIZONTAL	Average
2	2265.907	45.25	26.98	3.27	37.45	38.05	74.00	-35.95	HORIZONTAL	Peak
3	4039.212	34.09	29.85	4.60	36.90	31.64	54.00	-22.36	HORIZONTAL	Average
4	4039.212	43.31	29.85	4.60	36.90	40.86	74.00	-33.14	HORIZONTAL	Peak
5	4824.497	46.71	31.45	5.42	36.94	46.64	54.00	-7.36	HORIZONTAL	Average
6	4824.497	48.57	31.45	5.42	36.94	48.50	74.00	-25.50	HORIZONTAL	Peak
7	7236.646	32.13	35.70	6.03	36.93	36.93	54.00	-17.07	HORIZONTAL	Average
8	7236.646	43.11	35.70	6.03	36.93	47.91	74.00	-26.09	HORIZONTAL	Peak
9	9648.160	34.85	38.40	7.06	37.08	43.23	54.00	-10.77	HORIZONTAL	Average
10	9648.160	44.58	38.40	7.06	37.08	52.96	74.00	-21.04	HORIZONTAL	Peak
11	12060.080	30.32	38.88	8.17	37.17	40.20	54.00	-13.80	HORIZONTAL	Average
12	12060.080	42.99	38.88	8.17	37.17	52.87	74.00	-21.13	HORIZONTAL	Peak

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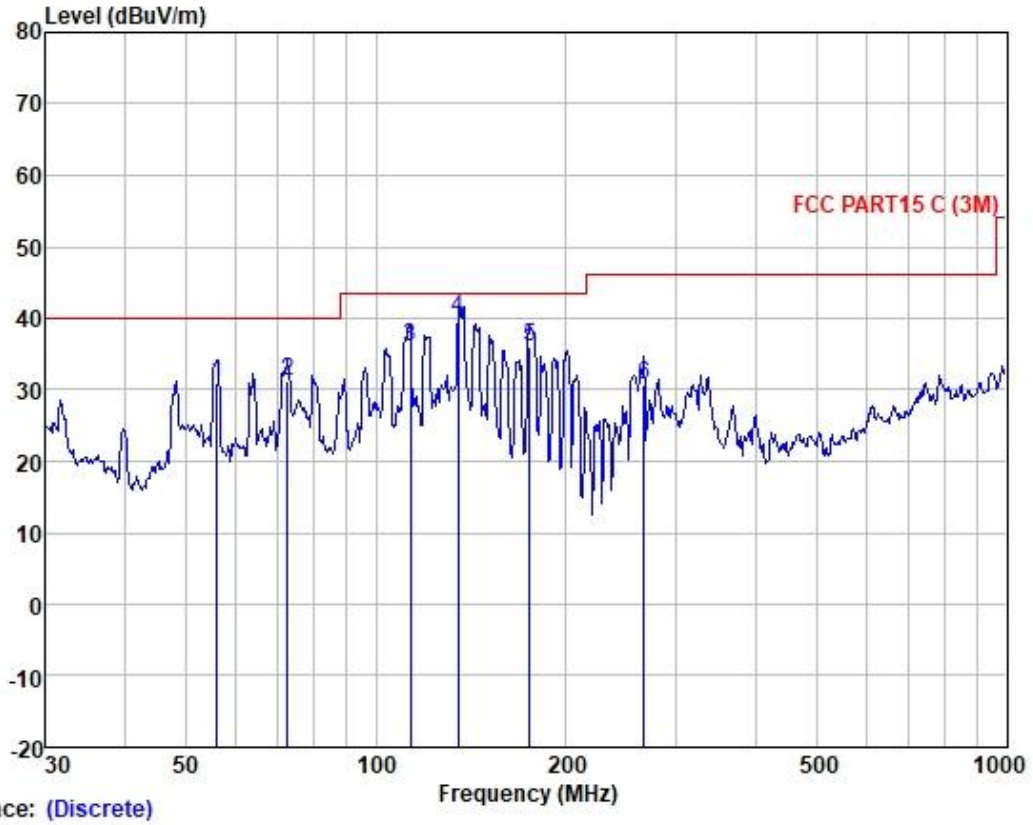
Mode:a; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low



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

	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	56.001	43.19	13.70	1.28	27.16	31.01	40.00	-8.99	VERTICAL	QP
2	72.338	45.43	11.43	1.42	27.11	31.17	40.00	-8.83	VERTICAL	QP
3	113.316	50.75	10.57	1.74	27.05	36.01	43.50	-7.49	VERTICAL	QP
4	135.032	52.34	12.65	1.91	26.97	39.93	43.50	-3.57	VERTICAL	QP
5	175.037	47.83	12.60	2.31	26.76	35.98	43.50	-7.52	VERTICAL	QP
6	266.609	41.92	12.50	2.72	26.58	30.56	46.00	-15.44	VERTICAL	QP

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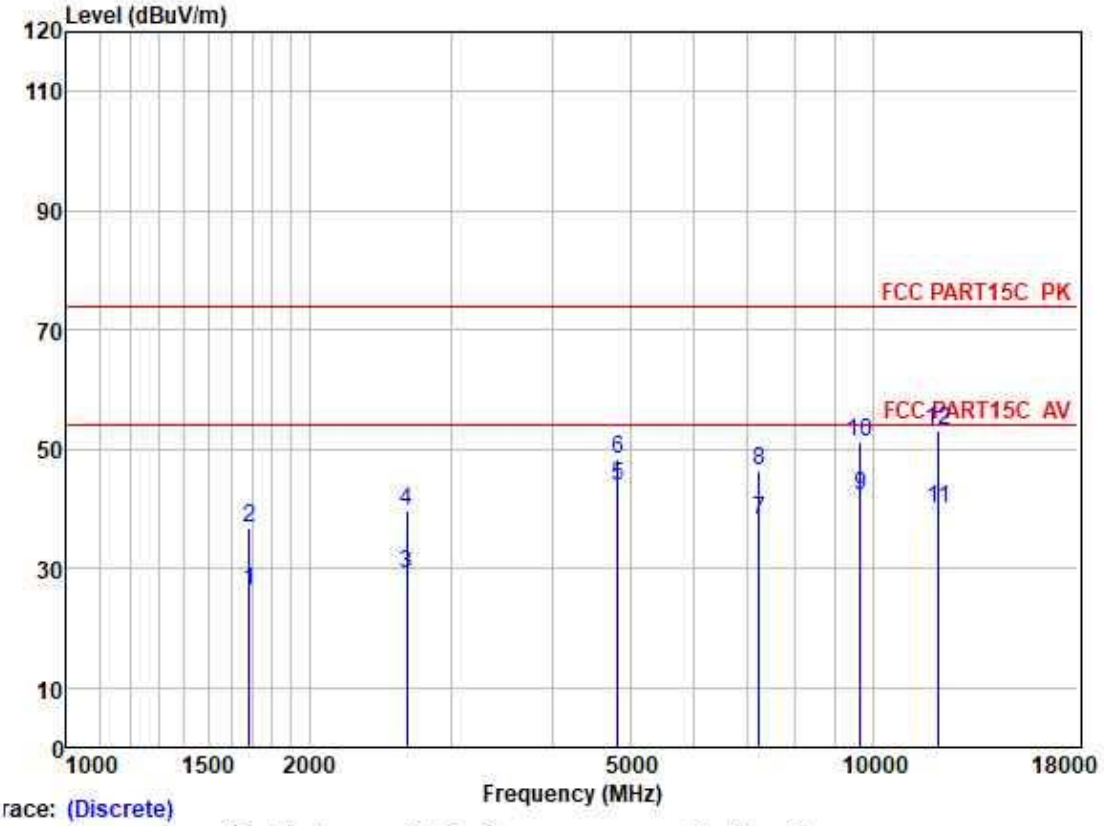
Mode:a; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadAntenna Level	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	1687.347	35.42	25.69	2.80	37.60	26.31	54.00	-27.69	VERTICAL	Average
2	1687.347	45.93	25.69	2.80	37.60	36.82	74.00	-37.18	VERTICAL	Peak
3	2641.019	35.20	27.70	3.53	37.34	29.09	54.00	-24.91	VERTICAL	Average
4	2641.019	45.82	27.70	3.53	37.34	39.71	74.00	-34.29	VERTICAL	Peak
5	4824.515	43.95	31.45	5.42	36.94	43.88	54.00	-10.12	VERTICAL	Average
6	4824.515	48.48	31.45	5.42	36.94	48.41	74.00	-25.59	VERTICAL	Peak
7	7236.778	33.42	35.70	6.03	36.93	38.22	54.00	-15.78	VERTICAL	Average
8	7236.778	41.65	35.70	6.03	36.93	46.45	74.00	-27.55	VERTICAL	Peak
9	9648.516	33.89	38.40	7.06	37.08	42.27	54.00	-11.73	VERTICAL	Average
10	9648.516	42.88	38.40	7.06	37.08	51.26	74.00	-22.74	VERTICAL	Peak
11	12060.200	30.20	38.88	8.17	37.17	40.08	54.00	-13.92	VERTICAL	Average
12	12060.200	43.28	38.88	8.17	37.17	53.16	74.00	-20.84	VERTICAL	Peak

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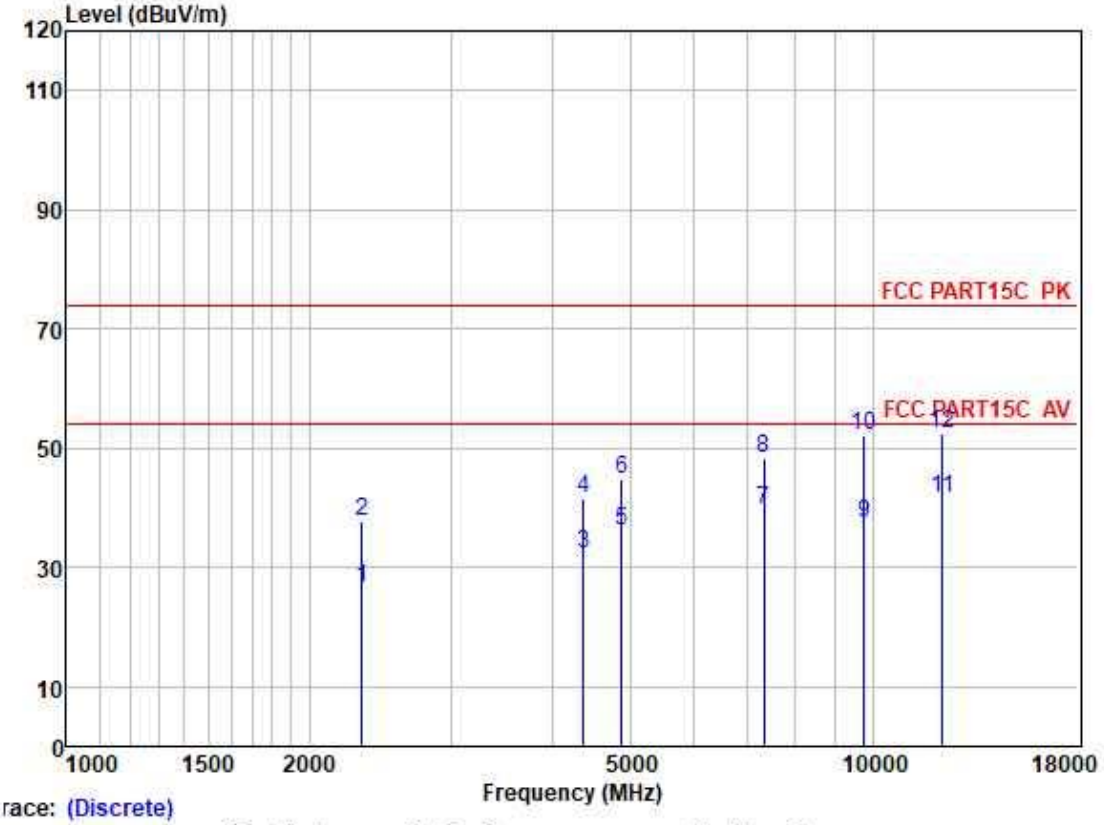
Mode:a; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:middle



race: (Discrete)

	Freq	ReadAntenna Level	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	2325.624	33.59	27.19	3.34	37.44	26.68	54.00	-27.32	HORIZONTAL	Average
2	2325.624	44.57	27.19	3.34	37.44	37.66	74.00	-36.34	HORIZONTAL	Peak
3	4379.699	34.00	30.64	4.69	36.91	32.42	54.00	-21.58	HORIZONTAL	Average
4	4379.699	43.25	30.64	4.69	36.91	41.67	74.00	-32.33	HORIZONTAL	Peak
5	4884.516	35.92	31.56	5.52	36.95	36.05	54.00	-17.95	HORIZONTAL	Average
6	4884.516	44.63	31.56	5.52	36.95	44.76	74.00	-29.24	HORIZONTAL	Peak
7	7326.804	34.54	36.00	6.13	36.92	39.75	54.00	-14.25	HORIZONTAL	Average
8	7326.804	43.21	36.00	6.13	36.92	48.42	74.00	-25.58	HORIZONTAL	Peak
9	9768.010	29.07	38.53	7.01	37.09	37.52	54.00	-16.48	HORIZONTAL	Average
10	9768.010	43.61	38.53	7.01	37.09	52.06	74.00	-21.94	HORIZONTAL	Peak
11	12210.440	31.84	38.74	8.08	37.06	41.60	54.00	-12.40	HORIZONTAL	Average
12	12210.440	42.79	38.74	8.08	37.06	52.55	74.00	-21.45	HORIZONTAL	Peak

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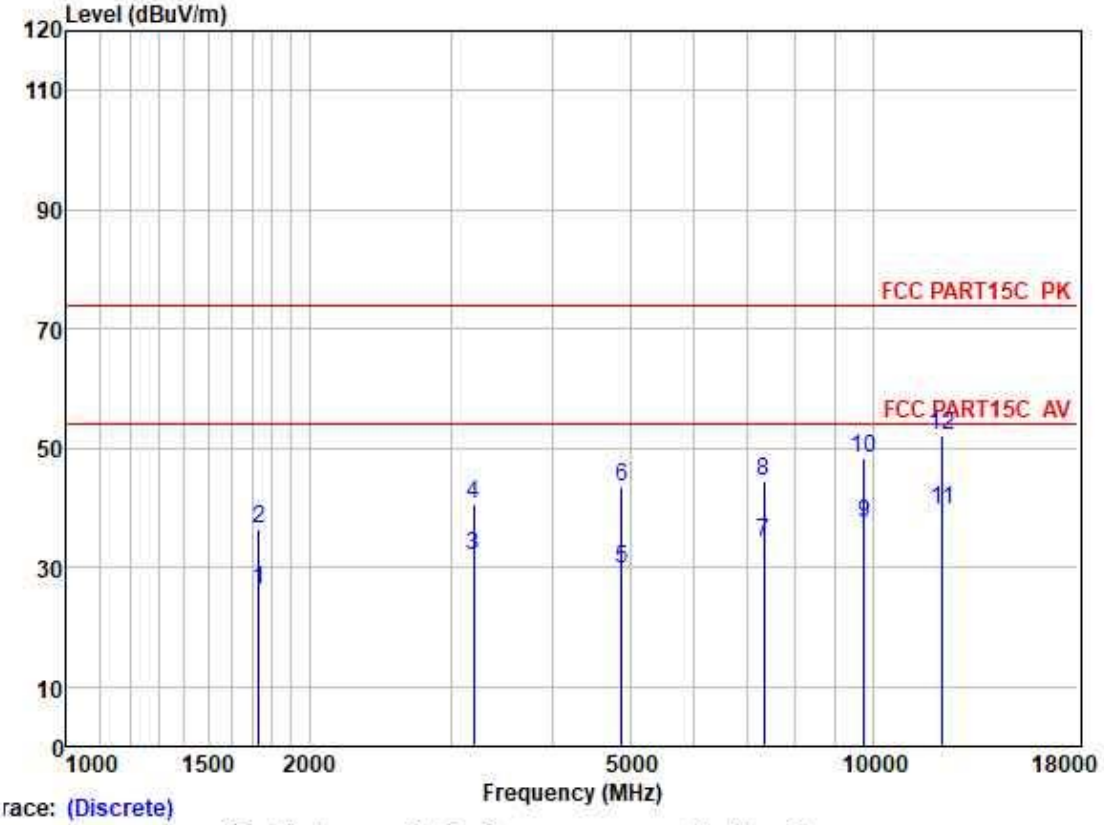
Mode:a; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:middle



race: (Discrete)

	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	1731.816	35.27	25.80	2.85	37.58	26.34	54.00	-27.66	VERTICAL	Average
2	1731.816	45.48	25.80	2.85	37.58	36.55	74.00	-37.45	VERTICAL	Peak
3	3196.094	36.44	28.58	4.00	37.01	32.01	54.00	-21.99	VERTICAL	Average
4	3196.094	45.02	28.58	4.00	37.01	40.59	74.00	-33.41	VERTICAL	Peak
5	4884.339	29.77	31.56	5.52	36.95	29.90	54.00	-24.10	VERTICAL	Average
6	4884.339	43.31	31.56	5.52	36.95	43.44	74.00	-30.56	VERTICAL	Peak
7	7326.418	29.08	36.00	6.13	36.92	34.29	54.00	-19.71	VERTICAL	Average
8	7326.418	39.19	36.00	6.13	36.92	44.40	74.00	-29.60	VERTICAL	Peak
9	9768.461	28.90	38.53	7.01	37.09	37.35	54.00	-16.65	VERTICAL	Average
10	9768.461	39.94	38.53	7.01	37.09	48.39	74.00	-25.61	VERTICAL	Peak
11	12210.580	30.06	38.74	8.08	37.06	39.82	54.00	-14.18	VERTICAL	Average
12	12210.580	42.45	38.74	8.08	37.06	52.21	74.00	-21.79	VERTICAL	Peak

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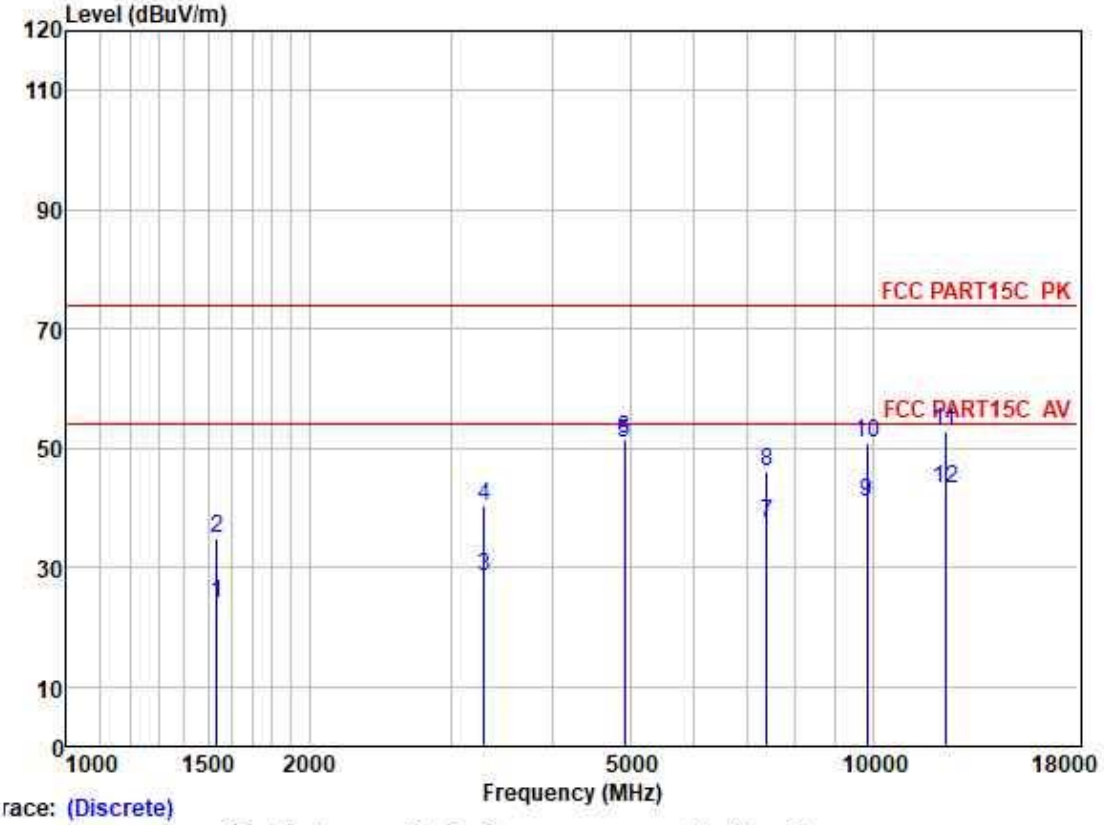
Mode:a; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High



race: (Discrete)

	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	1538.281	33.35	25.53	2.80	37.69	23.99	54.00	-30.01	HORIZONTAL	Average
2	1538.281	44.15	25.53	2.80	37.69	34.79	74.00	-39.21	HORIZONTAL	Peak
3	3299.344	32.59	28.75	4.06	36.99	28.41	54.00	-25.59	HORIZONTAL	Average
4	3299.344	44.51	28.75	4.06	36.99	40.33	74.00	-33.67	HORIZONTAL	Peak
5	4924.096	50.66	31.62	5.60	36.95	50.93	54.00	-3.07	HORIZONTAL	Average
6	4924.096	51.40	31.62	5.60	36.95	51.67	74.00	-22.33	HORIZONTAL	Peak
7	7386.278	31.93	36.17	6.19	36.92	37.37	54.00	-16.63	HORIZONTAL	Average
8	7386.278	40.70	36.17	6.19	36.92	46.14	74.00	-27.86	HORIZONTAL	Peak
9	9848.543	32.54	38.58	6.99	37.09	41.02	54.00	-12.98	HORIZONTAL	Average
10	9848.543	42.53	38.58	6.99	37.09	51.01	74.00	-22.99	HORIZONTAL	Peak
11	12310.330	43.22	38.63	8.01	36.97	52.89	74.00	-21.11	HORIZONTAL	Peak
12	12310.330	33.48	38.63	8.01	36.97	43.15	54.00	-10.85	HORIZONTAL	Average

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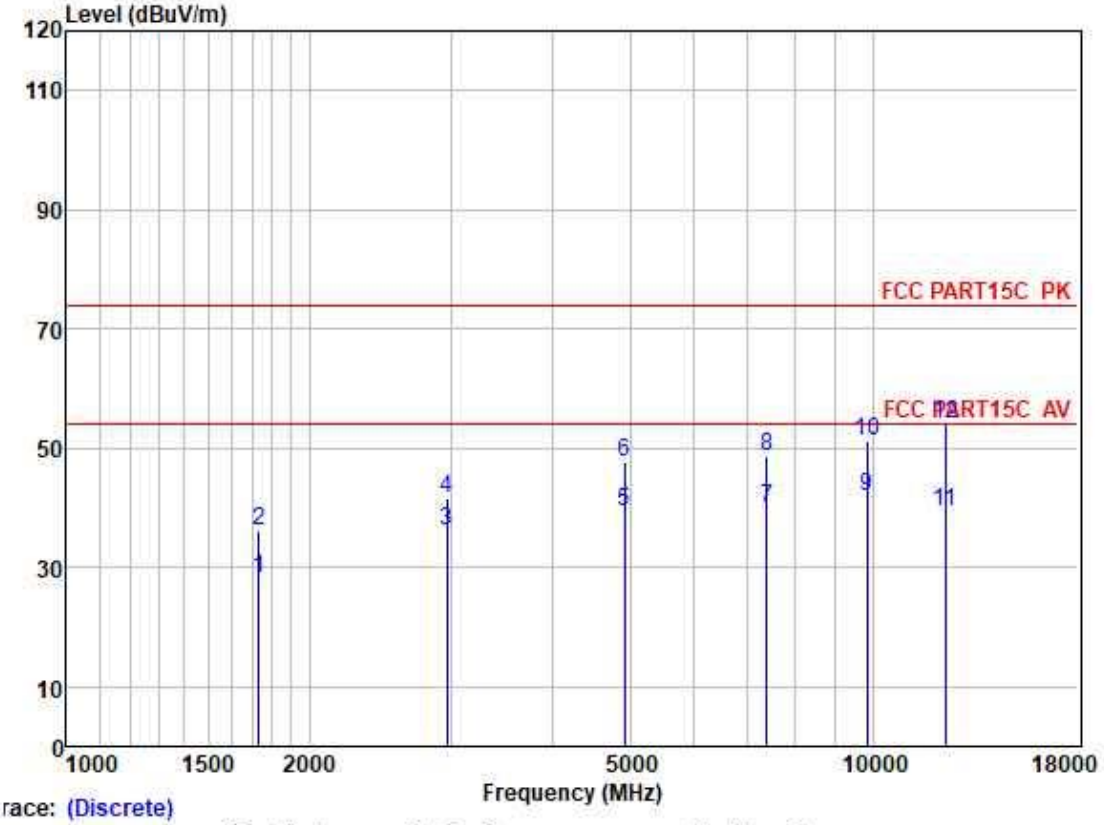
Mode:a; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	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	1731.816	36.94	25.80	2.85	37.58	28.01	54.00	-25.99	VERTICAL	Average
2	1731.816	44.98	25.80	2.85	37.58	36.05	74.00	-37.95	VERTICAL	Peak
3	2964.712	41.23	28.37	3.77	37.09	36.28	54.00	-17.72	VERTICAL	Average
4	2964.712	46.67	28.37	3.77	37.09	41.72	74.00	-32.28	VERTICAL	Peak
5	4924.751	39.11	31.62	5.60	36.95	39.38	54.00	-14.62	VERTICAL	Average
6	4924.751	47.47	31.62	5.60	36.95	47.74	74.00	-26.26	VERTICAL	Peak
7	7386.617	34.60	36.17	6.19	36.92	40.04	54.00	-13.96	VERTICAL	Average
8	7386.617	43.16	36.17	6.19	36.92	48.60	74.00	-25.40	VERTICAL	Peak
9	9848.957	33.32	38.58	6.99	37.09	41.80	54.00	-12.20	VERTICAL	Average
10	9848.957	42.79	38.58	6.99	37.09	51.27	74.00	-22.73	VERTICAL	Peak
11	12310.610	29.82	38.63	8.01	36.97	39.49	54.00	-14.51	VERTICAL	Average
12	12310.610	44.28	38.63	8.01	36.97	53.95	74.00	-20.05	VERTICAL	Peak

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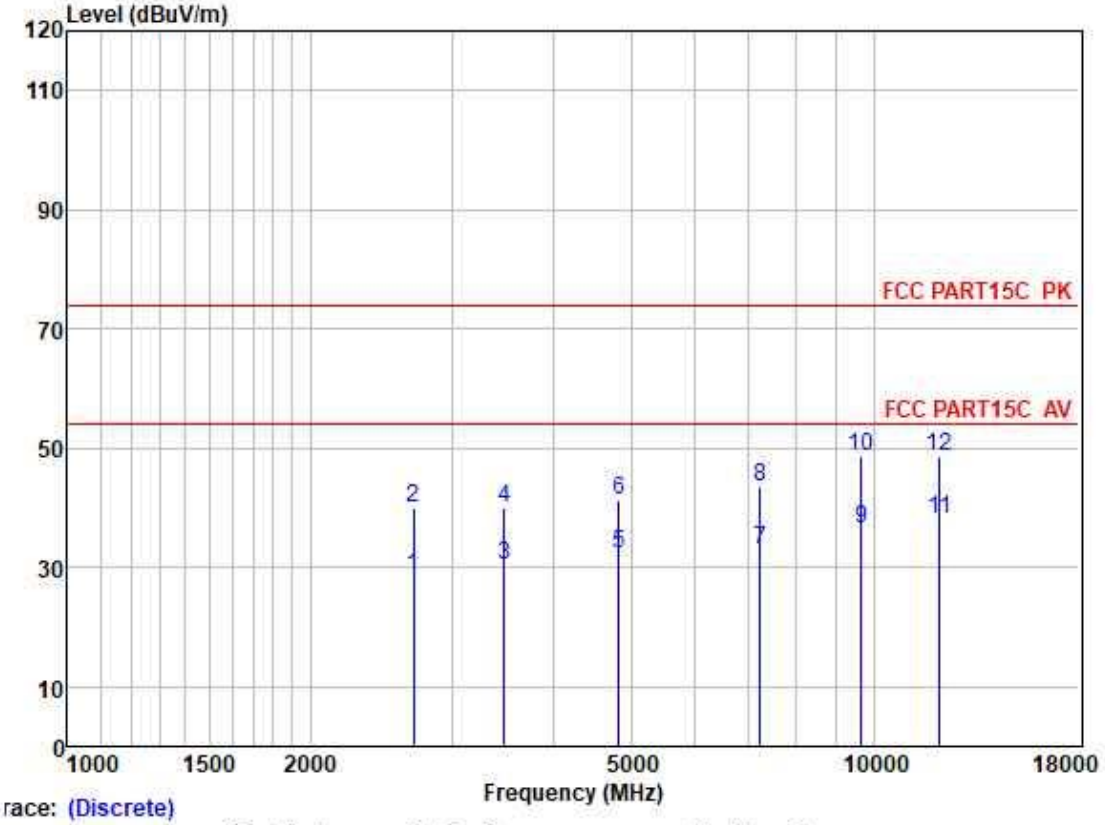
Mode:a; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	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	2687.220	34.39	27.80	3.59	37.32	28.46	54.00	-25.54	HORIZONTAL	Average
2	2687.220	46.05	27.80	3.59	37.32	40.12	74.00	-33.88	HORIZONTAL	Peak
3	3485.601	34.25	28.89	4.27	36.96	30.45	54.00	-23.55	HORIZONTAL	Average
4	3485.601	43.76	28.89	4.27	36.96	39.96	74.00	-34.04	HORIZONTAL	Peak
5	4824.388	32.54	31.45	5.42	36.94	32.47	54.00	-21.53	HORIZONTAL	Average
6	4824.388	41.28	31.45	5.42	36.94	41.21	74.00	-32.79	HORIZONTAL	Peak
7	7236.902	28.10	35.70	6.03	36.93	32.90	54.00	-21.10	HORIZONTAL	Average
8	7236.902	38.62	35.70	6.03	36.93	43.42	74.00	-30.58	HORIZONTAL	Peak
9	9648.429	28.13	38.40	7.06	37.08	36.51	54.00	-17.49	HORIZONTAL	Average
10	9648.429	40.23	38.40	7.06	37.08	48.61	74.00	-25.39	HORIZONTAL	Peak
11	12060.820	28.29	38.88	8.17	37.17	38.17	54.00	-15.83	HORIZONTAL	Average
12	12060.820	38.90	38.88	8.17	37.17	48.78	74.00	-25.22	HORIZONTAL	Peak

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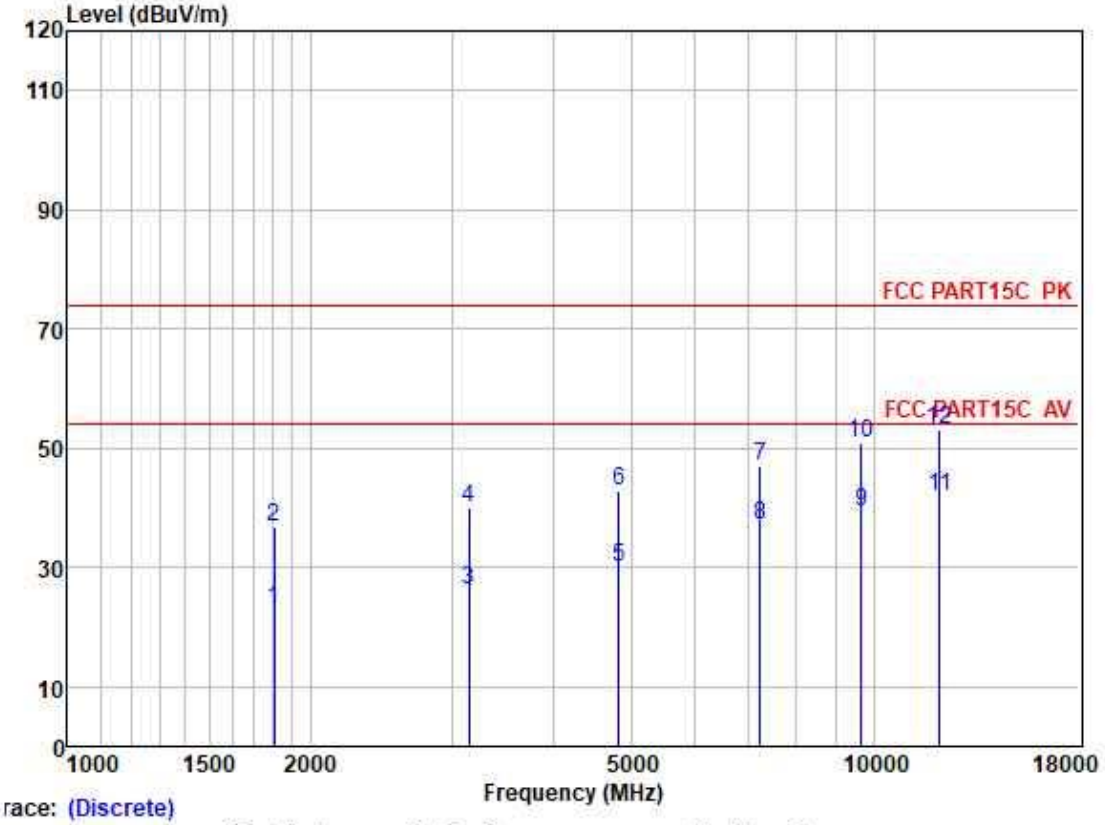
Mode:a; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low



race: (Discrete)

	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	1803.332	31.79	25.95	3.00	37.55	23.19	54.00	-30.81	VERTICAL	Average
2	1803.332	45.27	25.95	3.00	37.55	36.67	74.00	-37.33	VERTICAL	Peak
3	3150.237	30.82	28.52	3.96	37.02	26.28	54.00	-27.72	VERTICAL	Average
4	3150.237	44.51	28.52	3.96	37.02	39.97	74.00	-34.03	VERTICAL	Peak
5	4824.741	30.21	31.45	5.42	36.94	30.14	54.00	-23.86	VERTICAL	Average
6	4824.741	42.81	31.45	5.42	36.94	42.74	74.00	-31.26	VERTICAL	Peak
7	7236.763	42.18	35.70	6.03	36.93	46.98	54.00	-7.02	VERTICAL	Average
8	7236.763	32.18	35.70	6.03	36.93	36.98	54.00	-17.02	VERTICAL	Average
9	9648.607	31.09	38.40	7.06	37.08	39.47	54.00	-14.53	VERTICAL	Average
10	9648.607	42.50	38.40	7.06	37.08	50.88	74.00	-23.12	VERTICAL	Peak
11	12060.980	31.94	38.88	8.17	37.17	41.82	54.00	-12.18	VERTICAL	Average
12	12060.980	43.29	38.88	8.17	37.17	53.17	74.00	-20.83	VERTICAL	Peak

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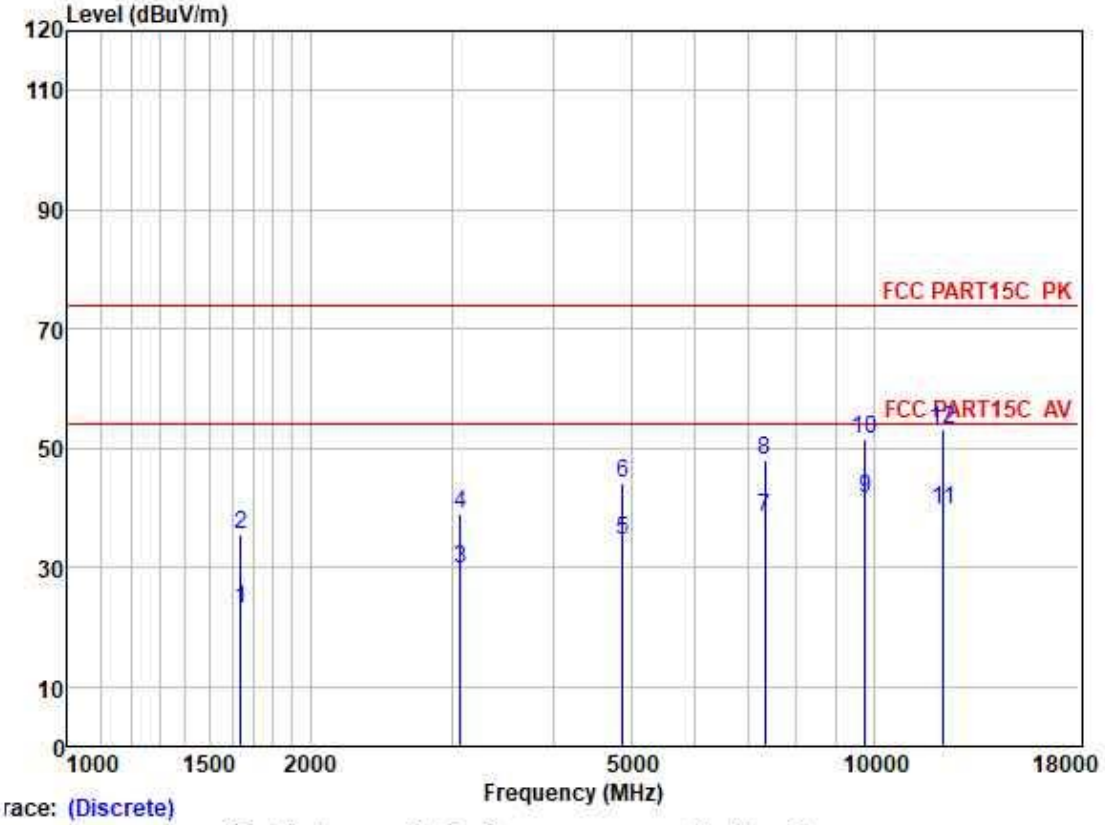
Mode:a; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:middle



race: (Discrete)

	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	1639.274	32.32	25.62	2.80	37.62	23.12	54.00	-30.88	HORIZONTAL	Average
2	1639.274	44.83	25.62	2.80	37.62	35.63	74.00	-38.37	HORIZONTAL	Peak
3	3069.345	34.37	28.45	3.86	37.05	29.63	54.00	-24.37	HORIZONTAL	Average
4	3069.345	43.86	28.45	3.86	37.05	39.12	74.00	-34.88	HORIZONTAL	Peak
5	4884.072	34.30	31.56	5.52	36.95	34.43	54.00	-19.57	HORIZONTAL	Average
6	4884.072	43.87	31.56	5.52	36.95	44.00	74.00	-30.00	HORIZONTAL	Peak
7	7326.267	33.28	36.00	6.13	36.92	38.49	54.00	-15.51	HORIZONTAL	Average
8	7326.267	42.81	36.00	6.13	36.92	48.02	74.00	-25.98	HORIZONTAL	Peak
9	9768.164	33.01	38.53	7.01	37.09	41.46	54.00	-12.54	HORIZONTAL	Average
10	9768.164	43.22	38.53	7.01	37.09	51.67	74.00	-22.33	HORIZONTAL	Peak
11	12210.200	29.84	38.74	8.08	37.06	39.60	54.00	-14.40	HORIZONTAL	Average
12	12210.200	43.38	38.74	8.08	37.06	53.14	74.00	-20.86	HORIZONTAL	Peak

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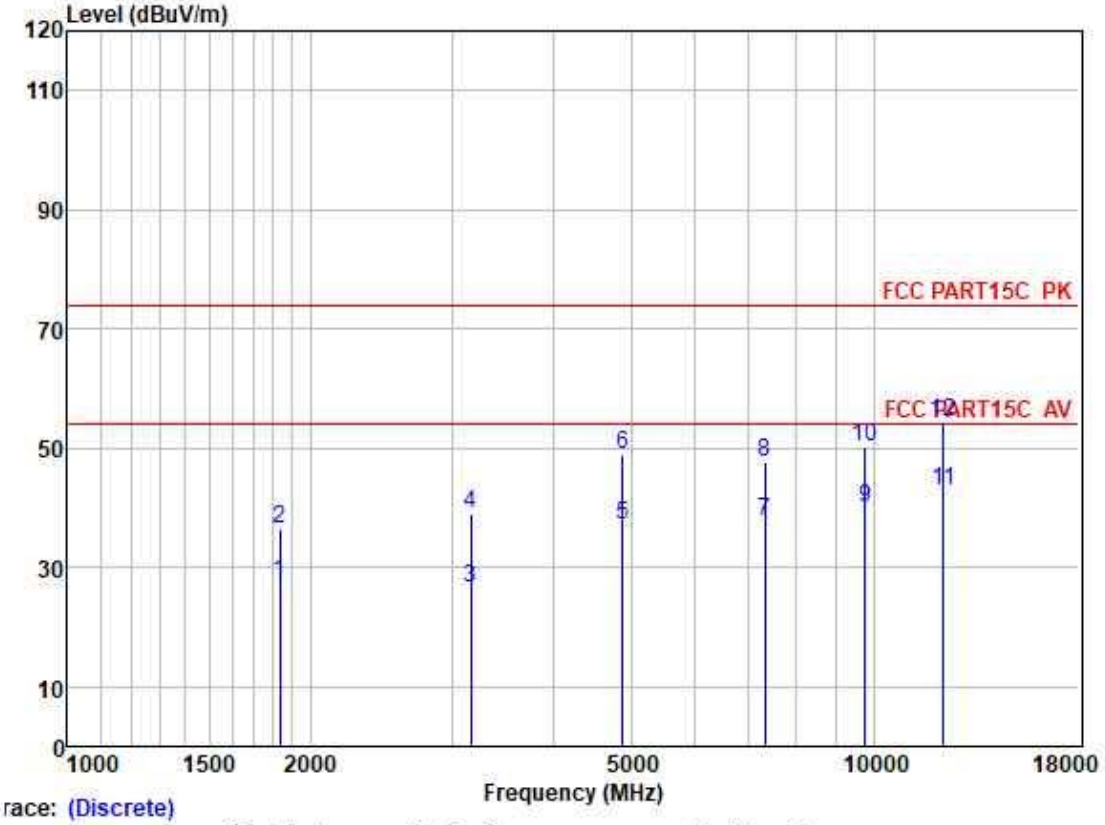
Mode:a; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:middle



race: (Discrete)

	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	1834.878	36.00	25.98	2.96	37.54	27.40	54.00	-26.60	VERTICAL	Average
2	1834.878	45.24	25.98	2.96	37.54	36.64	74.00	-37.36	VERTICAL	Peak
3	3168.500	31.10	28.55	3.98	37.02	26.61	54.00	-27.39	VERTICAL	Average
4	3168.500	43.51	28.55	3.98	37.02	39.02	74.00	-34.98	VERTICAL	Peak
5	4884.058	37.06	31.56	5.52	36.95	37.19	54.00	-16.81	VERTICAL	Average
6	4884.058	48.71	31.56	5.52	36.95	48.84	74.00	-25.16	VERTICAL	Peak
7	7326.309	32.53	36.00	6.13	36.92	37.74	54.00	-16.26	VERTICAL	Average
8	7326.309	42.51	36.00	6.13	36.92	47.72	74.00	-26.28	VERTICAL	Peak
9	9768.460	31.57	38.53	7.01	37.09	40.02	54.00	-13.98	VERTICAL	Average
10	9768.460	41.94	38.53	7.01	37.09	50.39	74.00	-23.61	VERTICAL	Peak
11	12210.670	33.13	38.74	8.08	37.06	42.89	54.00	-11.11	VERTICAL	Average
12	12210.670	44.54	38.74	8.08	37.06	54.30	74.00	-19.70	VERTICAL	Peak

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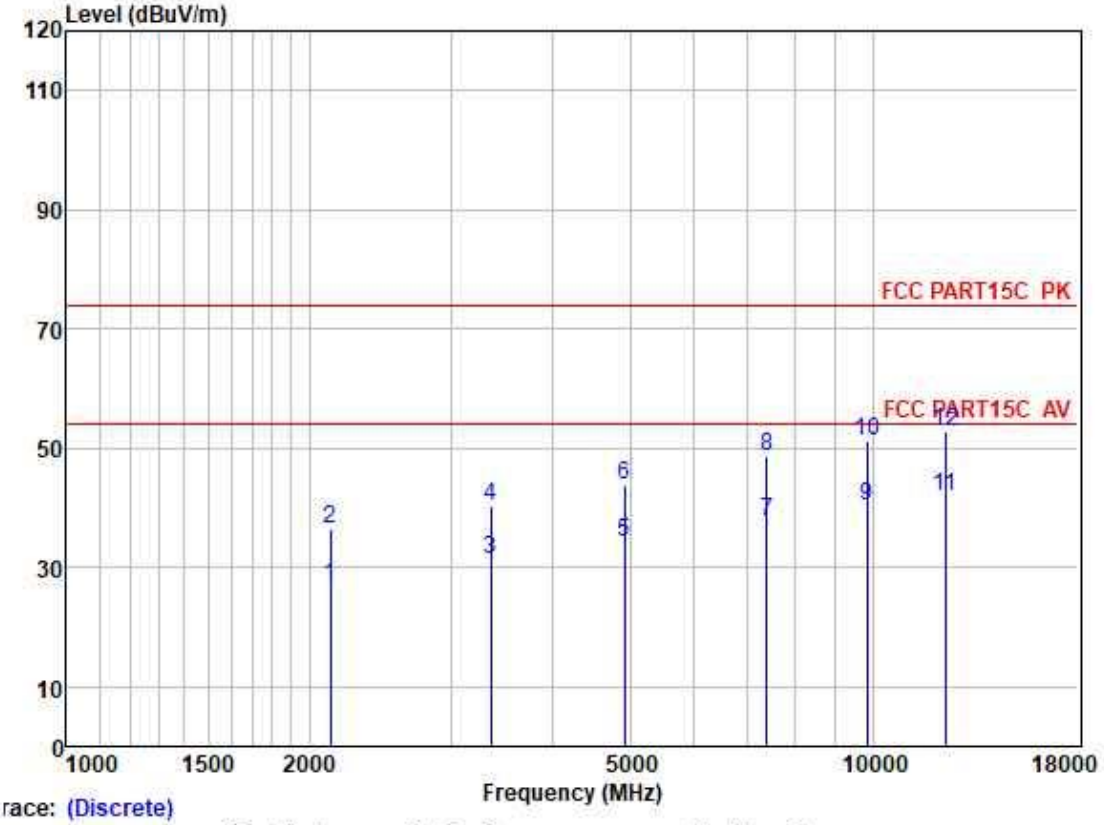
Mode:a; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:High



race: (Discrete)

	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	2126.308	34.91	26.36	3.17	37.48	26.96	54.00	-27.04	HORIZONTAL	Average
2	2126.308	44.28	26.36	3.17	37.48	36.33	74.00	-37.67	HORIZONTAL	Peak
3	3357.061	35.41	28.81	4.09	36.97	31.34	54.00	-22.66	HORIZONTAL	Average
4	3357.061	44.48	28.81	4.09	36.97	40.41	74.00	-33.59	HORIZONTAL	Peak
5	4924.418	33.90	31.62	5.60	36.95	34.17	54.00	-19.83	HORIZONTAL	Average
6	4924.418	43.54	31.62	5.60	36.95	43.81	74.00	-30.19	HORIZONTAL	Peak
7	7386.267	32.20	36.17	6.19	36.92	37.64	54.00	-16.36	HORIZONTAL	Average
8	7386.267	43.31	36.17	6.19	36.92	48.75	74.00	-25.25	HORIZONTAL	Peak
9	9848.630	31.86	38.58	6.99	37.09	40.34	54.00	-13.66	HORIZONTAL	Average
10	9848.630	42.59	38.58	6.99	37.09	51.07	74.00	-22.93	HORIZONTAL	Peak
11	12310.480	32.35	38.63	8.01	36.97	42.02	54.00	-11.98	HORIZONTAL	Average
12	12310.480	43.27	38.63	8.01	36.97	52.94	74.00	-21.06	HORIZONTAL	Peak

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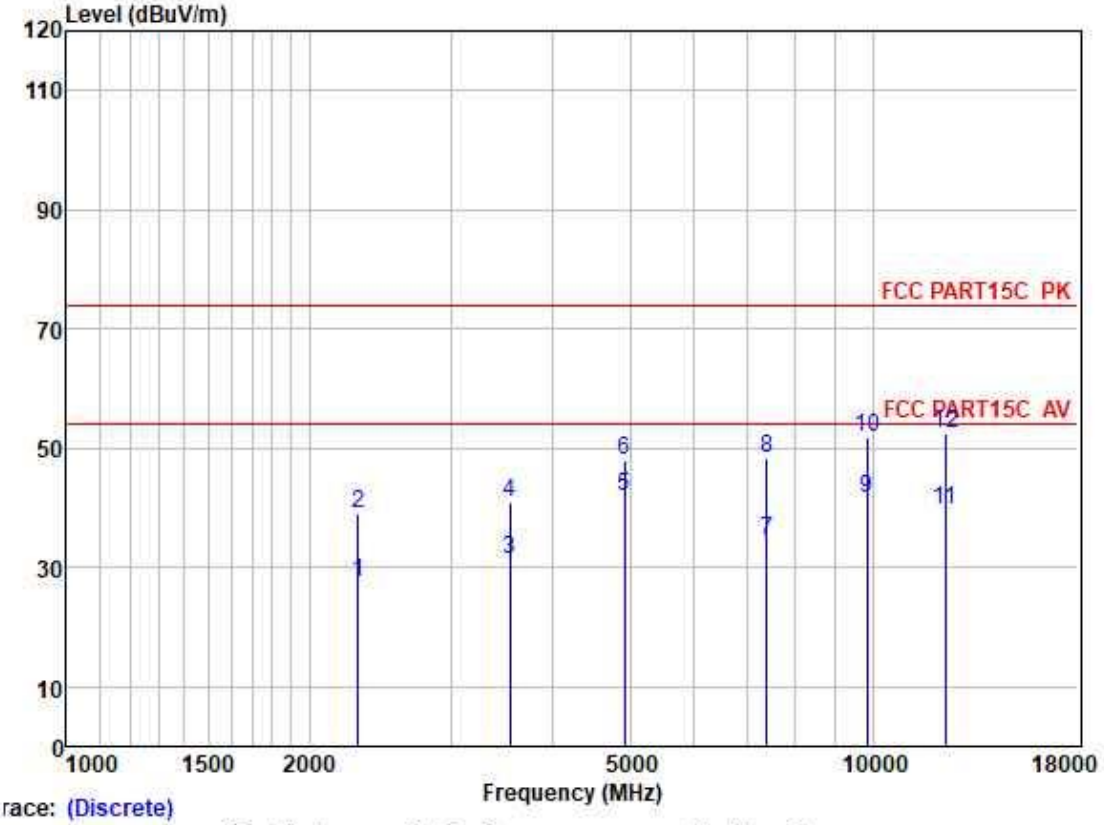
Mode:a; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	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	2298.892	34.68	27.11	3.30	37.44	27.65	54.00	-26.35	VERTICAL	Average
2	2298.892	46.09	27.11	3.30	37.44	39.06	74.00	-34.94	VERTICAL	Peak
3	3546.577	35.05	28.96	4.42	36.95	31.48	54.00	-22.52	VERTICAL	Average
4	3546.577	44.44	28.96	4.42	36.95	40.87	74.00	-33.13	VERTICAL	Peak
5	4924.856	41.54	31.62	5.60	36.95	41.81	54.00	-12.19	VERTICAL	Average
6	4924.856	47.80	31.62	5.60	36.95	48.07	74.00	-25.93	VERTICAL	Peak
7	7386.518	29.10	36.17	6.19	36.92	34.54	54.00	-19.46	VERTICAL	Average
8	7386.518	42.76	36.17	6.19	36.92	48.20	74.00	-25.80	VERTICAL	Peak
9	9848.820	33.10	38.58	6.99	37.09	41.58	54.00	-12.42	VERTICAL	Average
10	9848.820	43.32	38.58	6.99	37.09	51.80	74.00	-22.20	VERTICAL	Peak
11	12310.210	29.98	38.63	8.01	36.97	39.65	54.00	-14.35	VERTICAL	Average
12	12310.210	42.74	38.63	8.01	36.97	52.41	74.00	-21.59	VERTICAL	Peak

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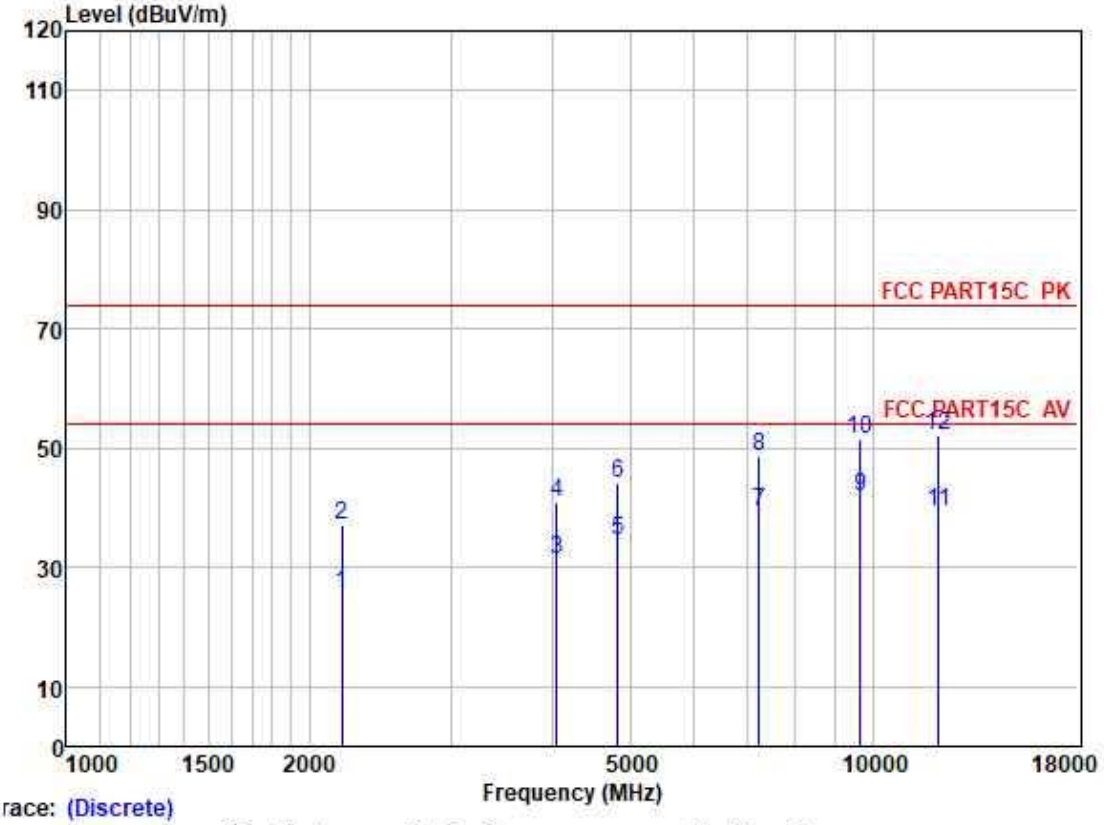
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	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	2194.998	33.20	26.59	3.20	37.47	25.52	54.00	-28.48	HORIZONTAL	Average
2	2194.998	44.69	26.59	3.20	37.47	37.01	74.00	-36.99	HORIZONTAL	Peak
3	4050.904	33.95	29.87	4.60	36.90	31.52	54.00	-22.48	HORIZONTAL	Average
4	4050.904	43.25	29.87	4.60	36.90	40.82	74.00	-33.18	HORIZONTAL	Peak
5	4824.047	34.68	31.45	5.42	36.94	34.61	54.00	-19.39	HORIZONTAL	Average
6	4824.047	44.07	31.45	5.42	36.94	44.00	74.00	-30.00	HORIZONTAL	Peak
7	7236.070	34.44	35.70	6.03	36.93	39.24	54.00	-14.76	HORIZONTAL	Average
8	7236.070	43.94	35.70	6.03	36.93	48.74	74.00	-25.26	HORIZONTAL	Peak
9	9648.670	33.59	38.40	7.06	37.08	41.97	54.00	-12.03	HORIZONTAL	Average
10	9648.670	43.05	38.40	7.06	37.08	51.43	74.00	-22.57	HORIZONTAL	Peak
11	12060.620	29.63	38.88	8.17	37.17	39.51	54.00	-14.49	HORIZONTAL	Average
12	12060.620	42.35	38.88	8.17	37.17	52.23	74.00	-21.77	HORIZONTAL	Peak

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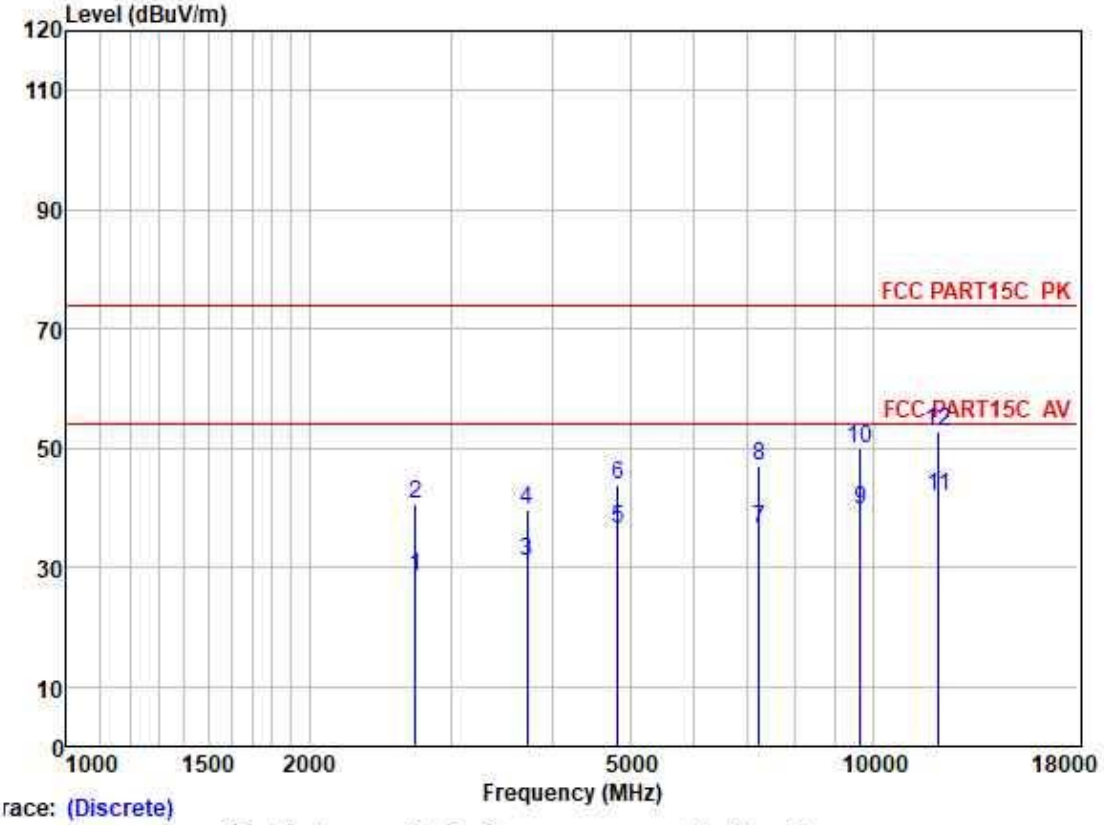
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low



race: (Discrete)

	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	2710.622	34.18	27.87	3.61	37.30	28.36	54.00	-25.64	VERTICAL	Average
2	2710.622	46.57	27.87	3.61	37.30	40.75	74.00	-33.25	VERTICAL	Peak
3	3725.195	33.97	29.31	4.57	36.92	30.93	54.00	-23.07	VERTICAL	Average
4	3725.195	42.75	29.31	4.57	36.92	39.71	74.00	-34.29	VERTICAL	Peak
5	4824.058	36.43	31.45	5.42	36.94	36.36	54.00	-17.64	VERTICAL	Average
6	4824.058	44.04	31.45	5.42	36.94	43.97	74.00	-30.03	VERTICAL	Peak
7	7236.278	31.58	35.70	6.03	36.93	36.38	54.00	-17.62	VERTICAL	Average
8	7236.278	42.31	35.70	6.03	36.93	47.11	74.00	-26.89	VERTICAL	Peak
9	9648.795	31.29	38.40	7.06	37.08	39.67	54.00	-14.33	VERTICAL	Average
10	9648.795	41.41	38.40	7.06	37.08	49.79	74.00	-24.21	VERTICAL	Peak
11	12060.710	32.18	38.88	8.17	37.17	42.06	54.00	-11.94	VERTICAL	Average
12	12060.710	42.97	38.88	8.17	37.17	52.85	74.00	-21.15	VERTICAL	Peak

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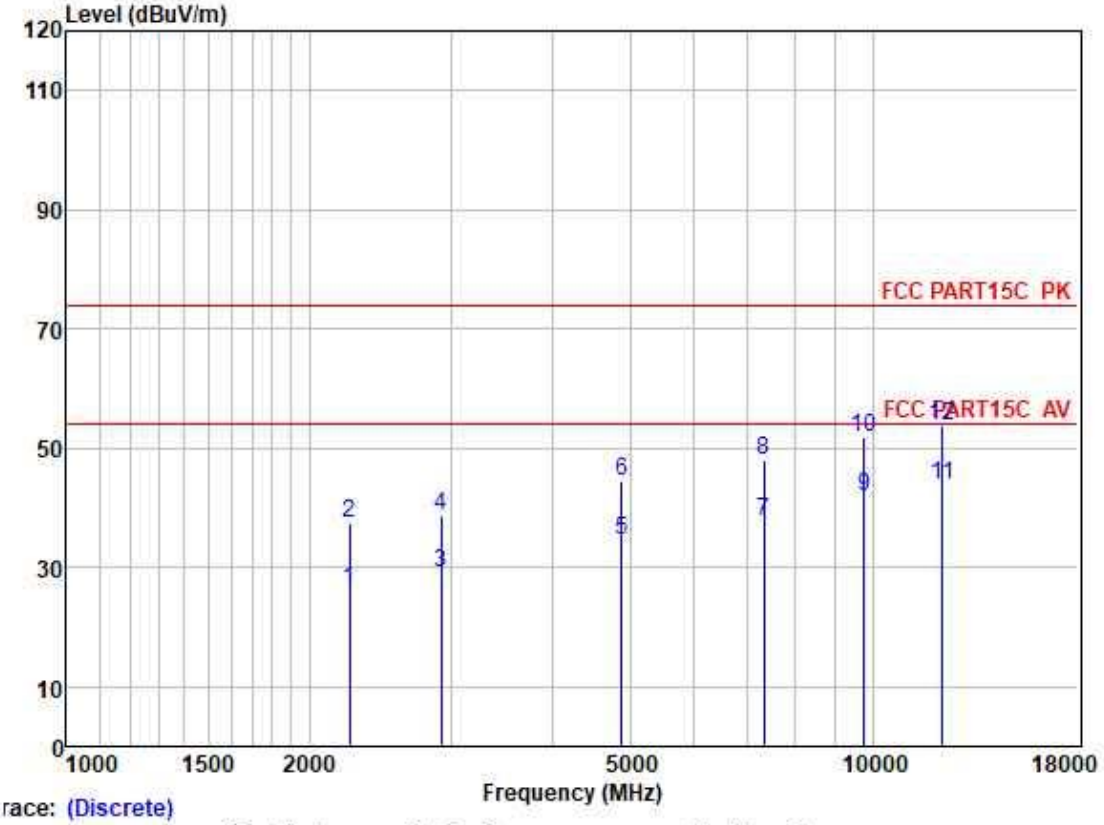
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:middle



race: (Discrete)

	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	2246.344	33.73	26.88	3.25	37.46	26.40	54.00	-27.60	HORIZONTAL	Average
2	2246.344	44.87	26.88	3.25	37.46	37.54	74.00	-36.46	HORIZONTAL	Peak
3	2913.740	34.20	28.31	3.71	37.12	29.10	54.00	-24.90	HORIZONTAL	Average
4	2913.740	43.67	28.31	3.71	37.12	38.57	74.00	-35.43	HORIZONTAL	Peak
5	4884.358	34.44	31.56	5.52	36.95	34.57	54.00	-19.43	HORIZONTAL	Average
6	4884.358	44.44	31.56	5.52	36.95	44.57	74.00	-29.43	HORIZONTAL	Peak
7	7326.267	32.67	36.00	6.13	36.92	37.88	54.00	-16.12	HORIZONTAL	Average
8	7326.267	42.69	36.00	6.13	36.92	47.90	74.00	-26.10	HORIZONTAL	Peak
9	9768.577	33.39	38.53	7.01	37.09	41.84	54.00	-12.16	HORIZONTAL	Average
10	9768.577	43.24	38.53	7.01	37.09	51.69	74.00	-22.31	HORIZONTAL	Peak
11	12210.210	34.06	38.74	8.08	37.06	43.82	54.00	-10.18	HORIZONTAL	Average
12	12210.210	44.13	38.74	8.08	37.06	53.89	74.00	-20.11	HORIZONTAL	Peak

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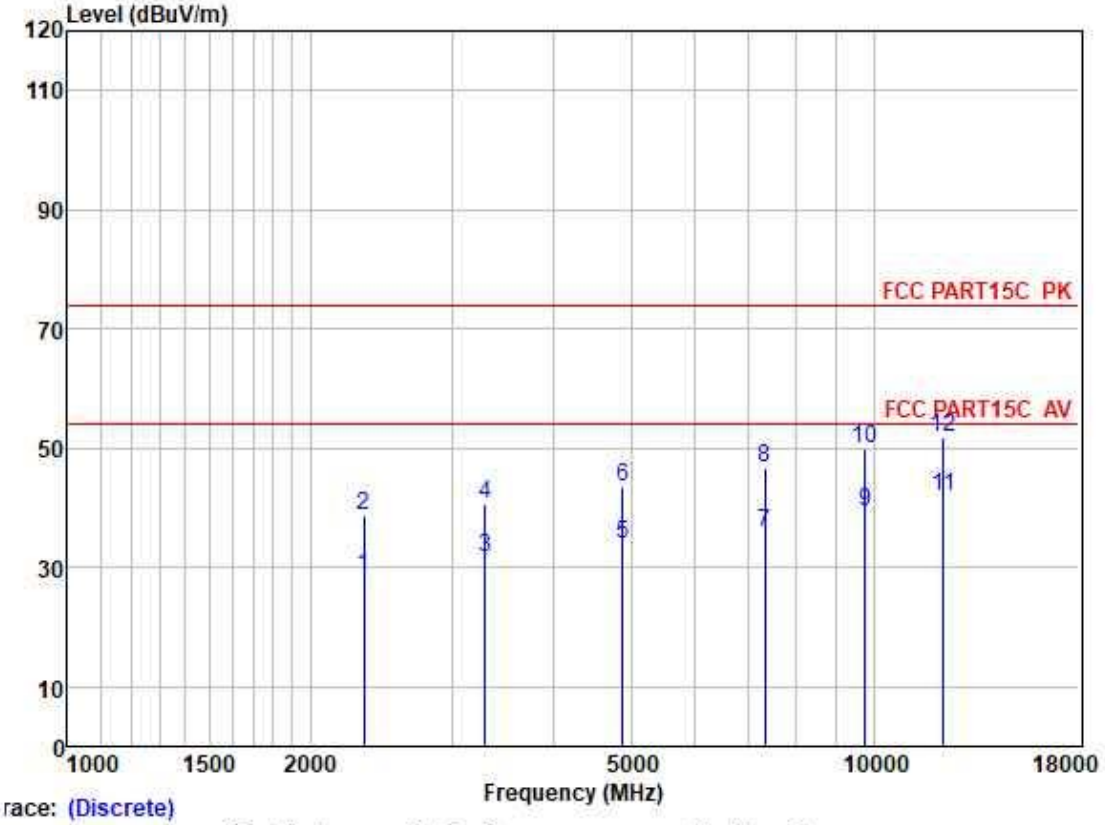
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:middle



race: (Discrete)

	Freq	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	2332.356	35.38	27.20	3.36	37.44	28.50	54.00	-25.50	VERTICAL	Average
2	2332.356	45.53	27.20	3.36	37.44	38.65	74.00	-35.35	VERTICAL	Peak
3	3299.344	35.71	28.75	4.06	36.99	31.53	54.00	-22.47	VERTICAL	Average
4	3299.344	44.76	28.75	4.06	36.99	40.58	74.00	-33.42	VERTICAL	Peak
5	4884.317	33.88	31.56	5.52	36.95	34.01	54.00	-19.99	VERTICAL	Average
6	4884.317	43.29	31.56	5.52	36.95	43.42	74.00	-30.58	VERTICAL	Peak
7	7326.708	30.56	36.00	6.13	36.92	35.77	54.00	-18.23	VERTICAL	Average
8	7326.708	41.50	36.00	6.13	36.92	46.71	74.00	-27.29	VERTICAL	Peak
9	9768.607	30.92	38.53	7.01	37.09	39.37	54.00	-14.63	VERTICAL	Average
10	9768.607	41.32	38.53	7.01	37.09	49.77	74.00	-24.23	VERTICAL	Peak
11	12210.140	32.02	38.74	8.08	37.06	41.78	54.00	-12.22	VERTICAL	Average
12	12210.140	42.16	38.74	8.08	37.06	51.92	74.00	-22.08	VERTICAL	Peak

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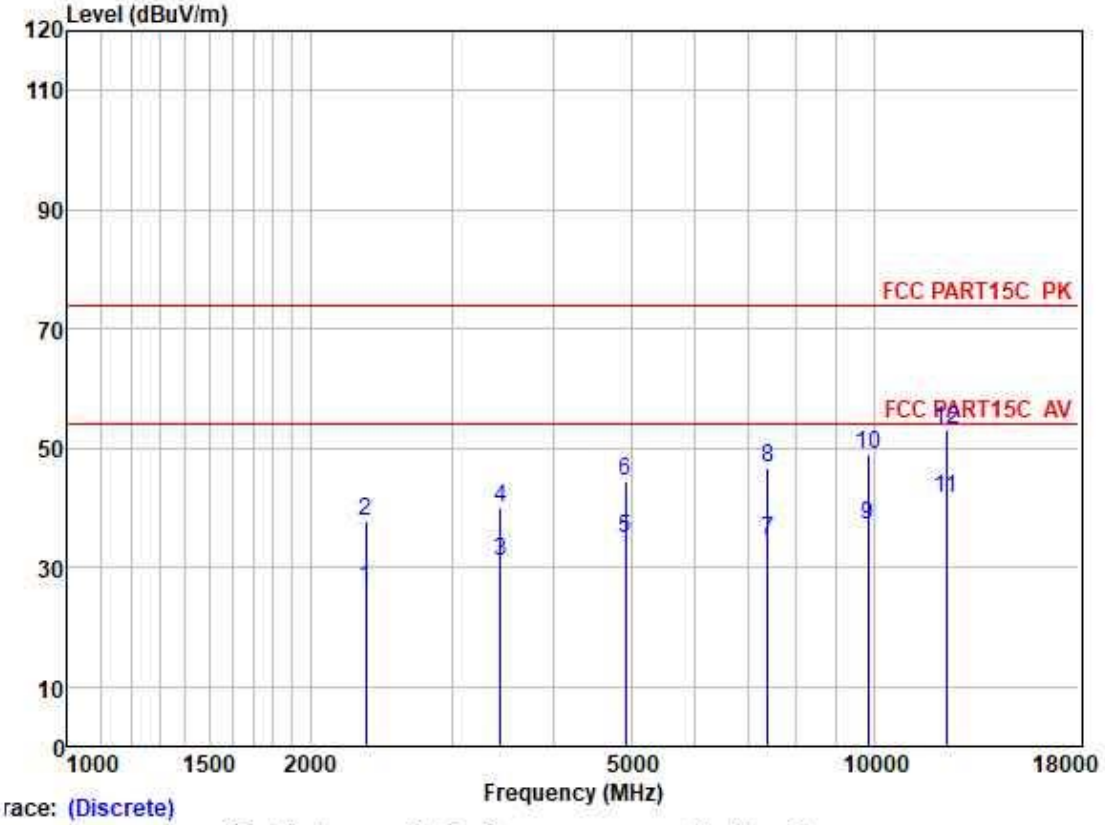

race: (Discrete)

	Freq	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	2345.878	33.43	27.24	3.38	37.43	26.62	54.00	-27.38	HORIZONTAL	Average
2	2345.878	44.61	27.24	3.38	37.43	37.80	74.00	-36.20	HORIZONTAL	Peak
3	3445.535	35.11	28.87	4.18	36.96	31.20	54.00	-22.80	HORIZONTAL	Average
4	3445.535	43.80	28.87	4.18	36.96	39.89	74.00	-34.11	HORIZONTAL	Peak
5	4924.885	34.61	31.62	5.60	36.95	34.88	54.00	-19.12	HORIZONTAL	Average
6	4924.885	44.25	31.62	5.60	36.95	44.52	74.00	-29.48	HORIZONTAL	Peak
7	7386.278	29.14	36.17	6.19	36.92	34.58	54.00	-19.42	HORIZONTAL	Average
8	7386.278	41.43	36.17	6.19	36.92	46.87	74.00	-27.13	HORIZONTAL	Peak
9	9848.918	28.56	38.58	6.99	37.09	37.04	54.00	-16.96	HORIZONTAL	Average
10	9848.918	40.45	38.58	6.99	37.09	48.93	74.00	-25.07	HORIZONTAL	Peak
11	12310.250	31.89	38.63	8.01	36.97	41.56	54.00	-12.44	HORIZONTAL	Average
12	12310.250	43.32	38.63	8.01	36.97	52.99	74.00	-21.01	HORIZONTAL	Peak

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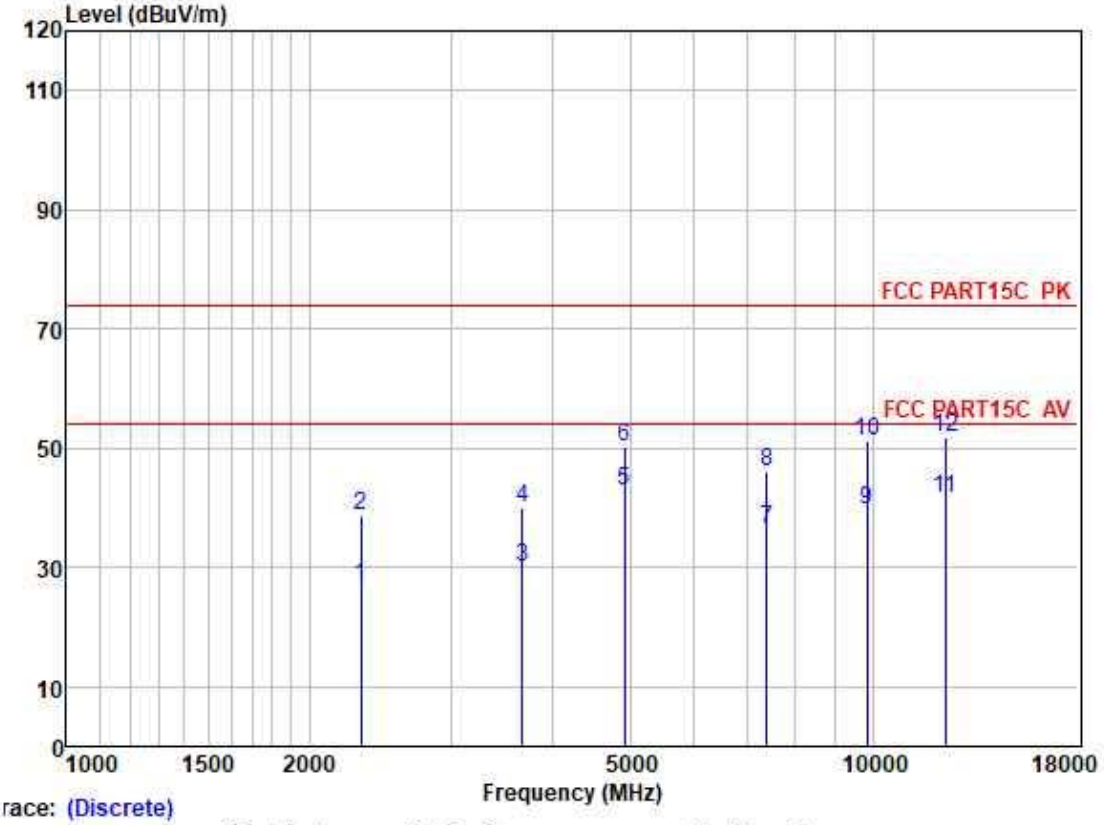
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:High



race: (Discrete)

	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	2318.912	33.83	27.17	3.33	37.44	26.89	54.00	-27.11	VERTICAL	Average
2	2318.912	45.70	27.17	3.33	37.44	38.76	74.00	-35.24	VERTICAL	Peak
3	3671.746	33.27	29.17	4.54	36.93	30.05	54.00	-23.95	VERTICAL	Average
4	3671.746	43.21	29.17	4.54	36.93	39.99	74.00	-34.01	VERTICAL	Peak
5	4924.950	42.57	31.62	5.60	36.95	42.84	54.00	-11.16	VERTICAL	Average
6	4924.950	49.93	31.62	5.60	36.95	50.20	74.00	-23.80	VERTICAL	Peak
7	7386.375	31.04	36.17	6.19	36.92	36.48	54.00	-17.52	VERTICAL	Average
8	7386.375	40.78	36.17	6.19	36.92	46.22	74.00	-27.78	VERTICAL	Peak
9	9848.480	31.11	38.58	6.99	37.09	39.59	54.00	-14.41	VERTICAL	Average
10	9848.480	42.69	38.58	6.99	37.09	51.17	74.00	-22.83	VERTICAL	Peak
11	12310.280	32.06	38.63	8.01	36.97	41.73	54.00	-12.27	VERTICAL	Average
12	12310.280	42.27	38.63	8.01	36.97	51.94	74.00	-22.06	VERTICAL	Peak

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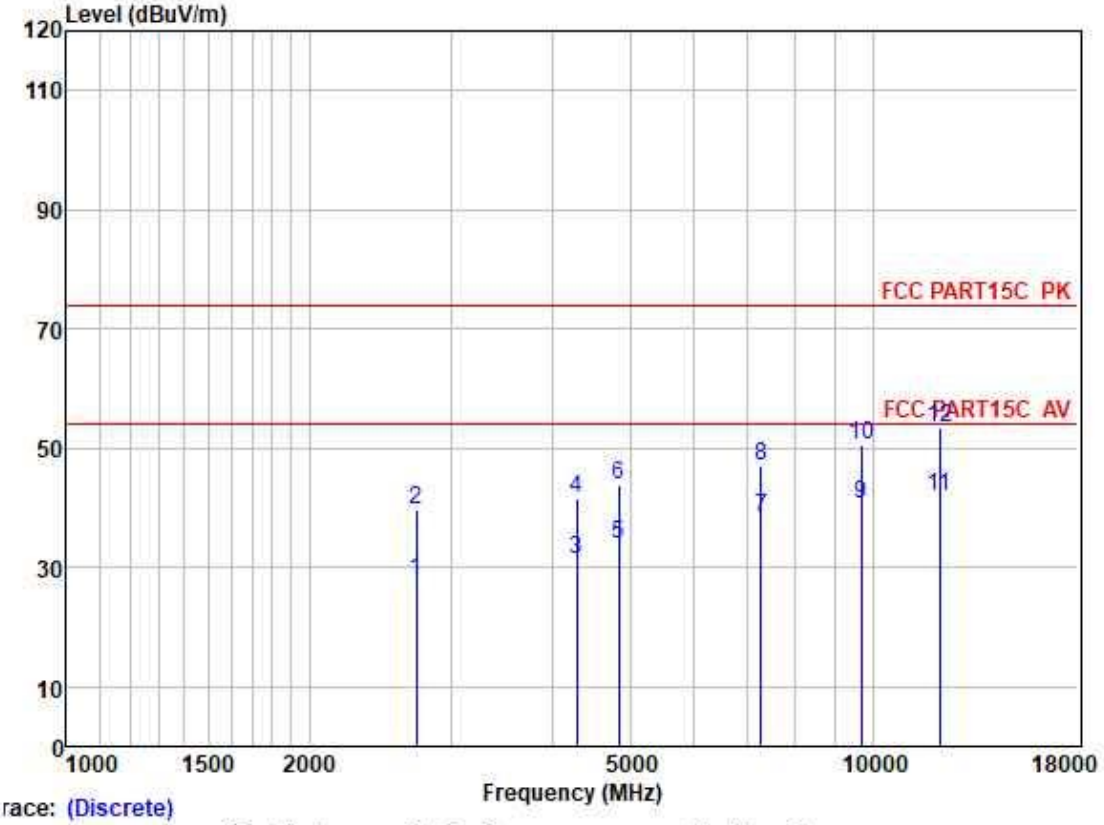
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadAntenna Level	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	2718.469	33.73	27.89	3.61	37.30	27.93	54.00	-26.07	HORIZONTAL	Average
2	2718.469	45.56	27.89	3.61	37.30	39.76	74.00	-34.24	HORIZONTAL	Peak
3	4291.977	33.17	30.45	4.64	36.91	31.35	54.00	-22.65	HORIZONTAL	Average
4	4291.977	43.27	30.45	4.64	36.91	41.45	74.00	-32.55	HORIZONTAL	Peak
5	4844.885	33.98	31.50	5.45	36.94	33.99	54.00	-20.01	HORIZONTAL	Average
6	4844.885	43.98	31.50	5.45	36.94	43.99	74.00	-30.01	HORIZONTAL	Peak
7	7266.982	33.39	35.78	6.06	36.92	38.31	54.00	-15.69	HORIZONTAL	Average
8	7266.982	42.01	35.78	6.06	36.92	46.93	74.00	-27.07	HORIZONTAL	Peak
9	9688.123	32.25	38.44	7.04	37.08	40.65	54.00	-13.35	HORIZONTAL	Average
10	9688.123	42.27	38.44	7.04	37.08	50.67	74.00	-23.33	HORIZONTAL	Peak
11	12110.070	32.02	38.83	8.14	37.15	41.84	54.00	-12.16	HORIZONTAL	Average
12	12110.070	43.49	38.83	8.14	37.15	53.31	74.00	-20.69	HORIZONTAL	Peak

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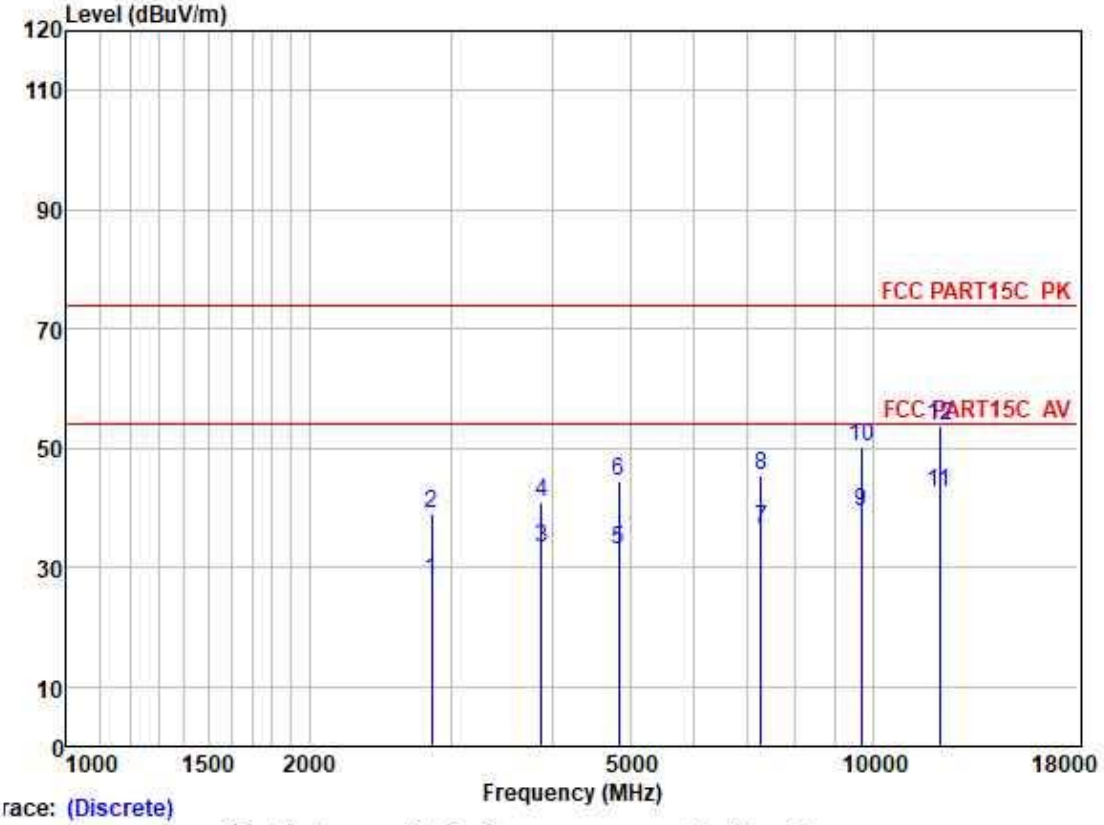
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	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	2838.921	33.15	28.21	3.70	37.19	27.87	54.00	-26.13	VERTICAL	Average
2	2838.921	44.18	28.21	3.70	37.19	38.90	74.00	-35.10	VERTICAL	Peak
3	3879.027	35.81	29.66	4.60	36.91	33.16	54.00	-20.84	VERTICAL	Average
4	3879.027	43.45	29.66	4.60	36.91	40.80	74.00	-33.20	VERTICAL	Peak
5	4844.993	32.88	31.50	5.45	36.94	32.89	54.00	-21.11	VERTICAL	Average
6	4844.993	44.59	31.50	5.45	36.94	44.60	74.00	-29.40	VERTICAL	Peak
7	7266.417	31.58	35.78	6.06	36.92	36.50	54.00	-17.50	VERTICAL	Average
8	7266.417	40.43	35.78	6.06	36.92	45.35	74.00	-28.65	VERTICAL	Peak
9	9688.460	30.88	38.44	7.04	37.08	39.28	54.00	-14.72	VERTICAL	Average
10	9688.460	41.79	38.44	7.04	37.08	50.19	74.00	-23.81	VERTICAL	Peak
11	12110.070	32.69	38.83	8.14	37.15	42.51	54.00	-11.49	VERTICAL	Average
12	12110.070	44.02	38.83	8.14	37.15	53.84	74.00	-20.16	VERTICAL	Peak

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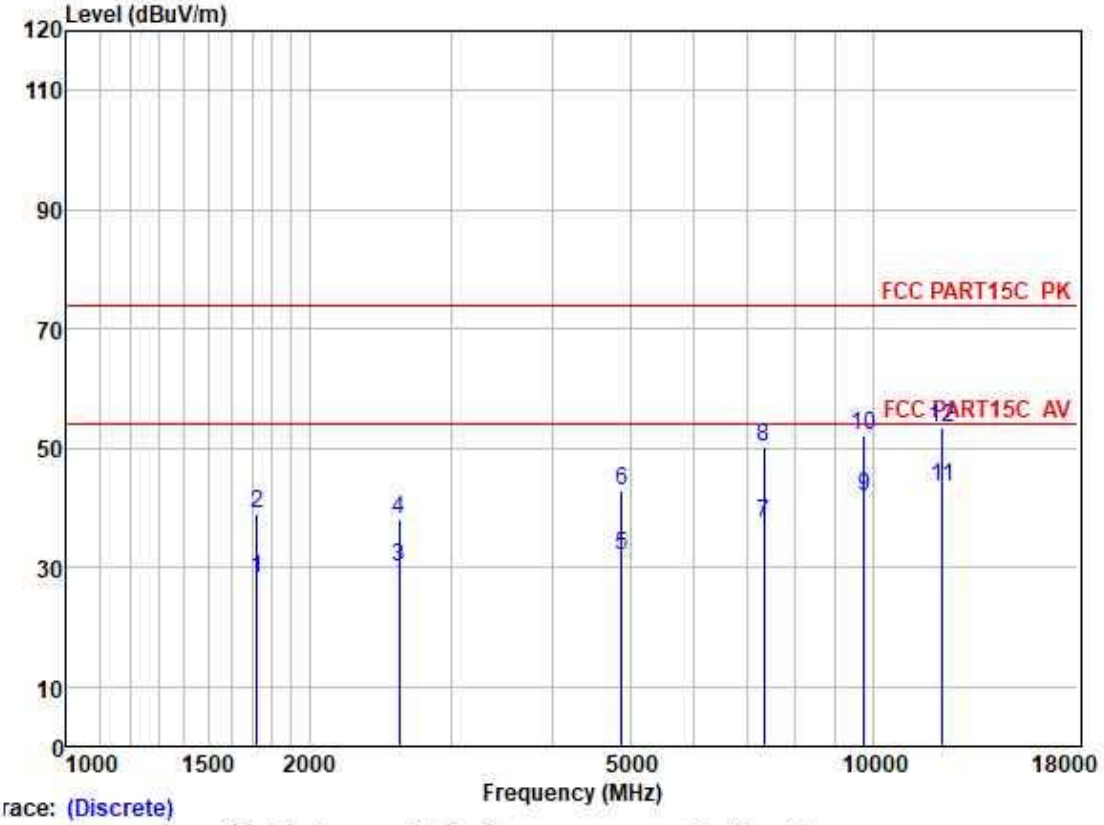
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:middle



race: (Discrete)

	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	1721.834	37.12	25.77	2.83	37.58	28.14	54.00	-25.86	HORIZONTAL	Average
2	1721.834	47.88	25.77	2.83	37.58	38.90	74.00	-35.10	HORIZONTAL	Peak
3	2588.122	36.39	27.61	3.49	37.36	30.13	54.00	-23.87	HORIZONTAL	Average
4	2588.122	44.25	27.61	3.49	37.36	37.99	74.00	-36.01	HORIZONTAL	Peak
5	4884.110	31.81	31.56	5.52	36.95	31.94	54.00	-22.06	HORIZONTAL	Average
6	4884.110	42.83	31.56	5.52	36.95	42.96	74.00	-31.04	HORIZONTAL	Peak
7	7326.020	32.15	36.00	6.13	36.92	37.36	54.00	-16.64	HORIZONTAL	Average
8	7326.020	45.11	36.00	6.13	36.92	50.32	74.00	-23.68	HORIZONTAL	Peak
9	9768.151	33.32	38.53	7.01	37.09	41.77	54.00	-12.23	HORIZONTAL	Average
10	9768.151	43.78	38.53	7.01	37.09	52.23	74.00	-21.77	HORIZONTAL	Peak
11	12210.560	33.72	38.74	8.08	37.06	43.48	54.00	-10.52	HORIZONTAL	Average
12	12210.560	43.74	38.74	8.08	37.06	53.50	74.00	-20.50	HORIZONTAL	Peak

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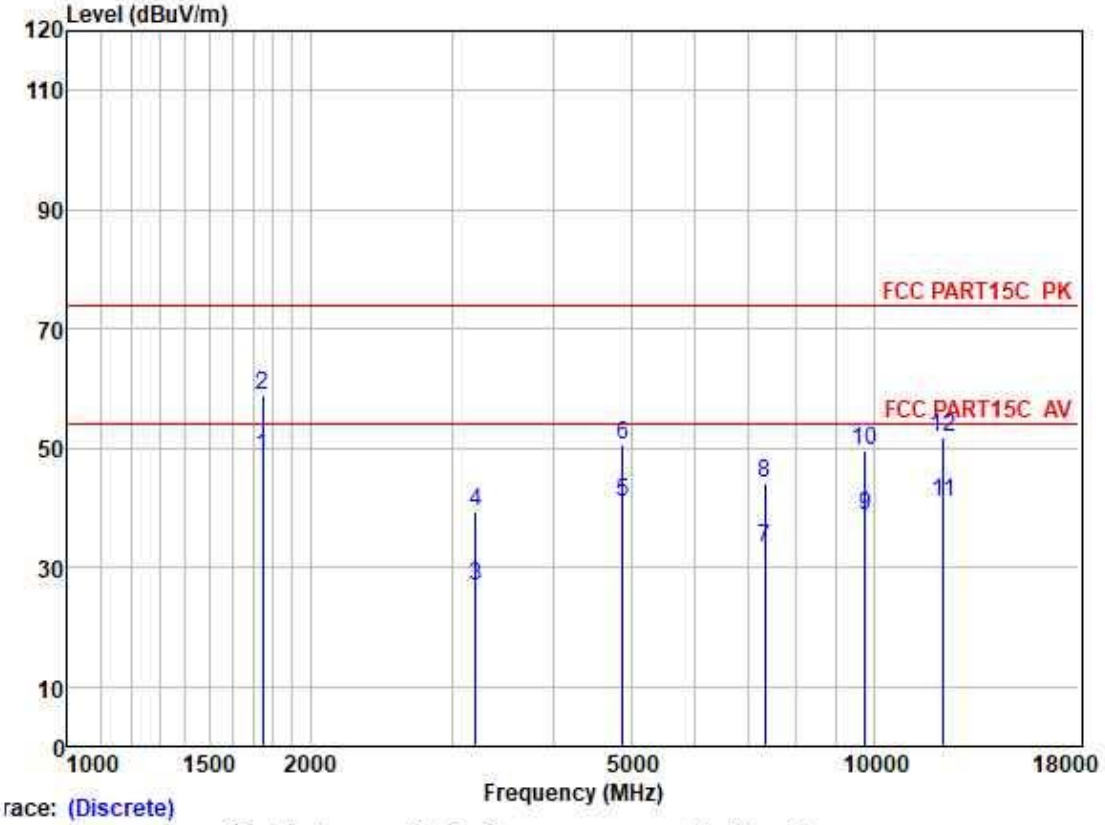
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:middle



race: (Discrete)

	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	1747.864	57.45	25.84	2.89	37.57	48.61	54.00	-5.39	VERTICAL	Average
2	1747.864	67.60	25.84	2.89	37.57	58.76	74.00	-15.24	VERTICAL	Peak
3	3205.345	31.25	28.60	4.00	37.01	26.84	54.00	-27.16	VERTICAL	Average
4	3205.345	43.79	28.60	4.00	37.01	39.38	74.00	-34.62	VERTICAL	Peak
5	4884.993	40.91	31.56	5.52	36.95	41.04	54.00	-12.96	VERTICAL	Average
6	4884.993	50.50	31.56	5.52	36.95	50.63	74.00	-23.37	VERTICAL	Peak
7	7326.991	28.01	36.00	6.13	36.92	33.22	54.00	-20.78	VERTICAL	Average
8	7326.991	38.96	36.00	6.13	36.92	44.17	74.00	-29.83	VERTICAL	Peak
9	9768.804	30.16	38.53	7.01	37.09	38.61	54.00	-15.39	VERTICAL	Average
10	9768.804	41.01	38.53	7.01	37.09	49.46	74.00	-24.54	VERTICAL	Peak
11	12210.920	31.34	38.74	8.08	37.06	41.10	54.00	-12.90	VERTICAL	Average
12	12210.920	42.08	38.74	8.08	37.06	51.84	74.00	-22.16	VERTICAL	Peak

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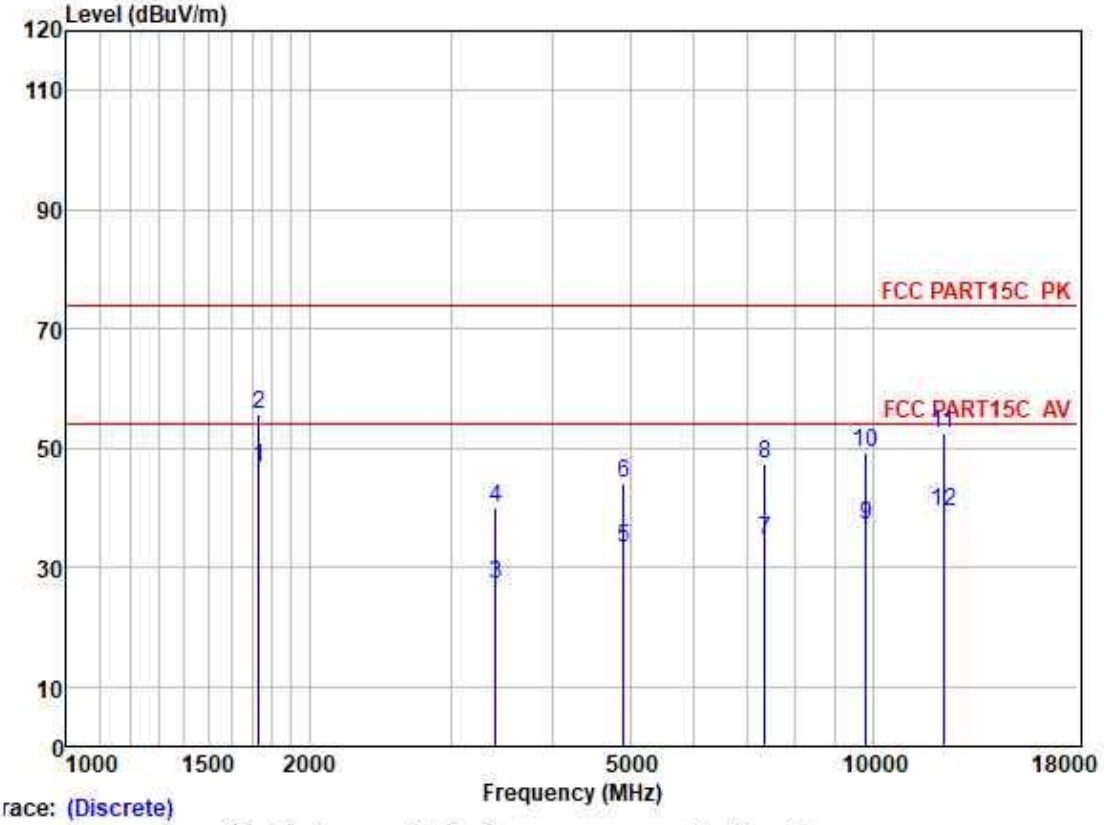
Mode:a; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	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	1731.816	55.50	25.80	2.85	37.58	46.57	54.00	-7.43	HORIZONTAL	Average
2	1731.816	64.49	25.80	2.85	37.58	55.56	74.00	-18.44	HORIZONTAL	Peak
3	3405.929	31.33	28.85	4.11	36.97	27.32	54.00	-26.68	HORIZONTAL	Average
4	3405.929	43.93	28.85	4.11	36.97	39.92	74.00	-34.08	HORIZONTAL	Peak
5	4904.418	33.07	31.58	5.55	36.95	33.25	54.00	-20.75	HORIZONTAL	Average
6	4904.418	44.03	31.58	5.55	36.95	44.21	74.00	-29.79	HORIZONTAL	Peak
7	7356.420	29.37	36.06	6.15	36.92	34.66	54.00	-19.34	HORIZONTAL	Average
8	7356.420	42.14	36.06	6.15	36.92	47.43	74.00	-26.57	HORIZONTAL	Peak
9	9808.584	28.64	38.56	7.00	37.09	37.11	54.00	-16.89	HORIZONTAL	Average
10	9808.584	40.91	38.56	7.00	37.09	49.38	74.00	-24.62	HORIZONTAL	Peak
11	12230.260	42.63	38.74	8.08	37.03	52.42	74.00	-21.58	HORIZONTAL	Peak
12	12230.260	29.56	38.74	8.08	37.03	39.35	54.00	-14.65	HORIZONTAL	Average

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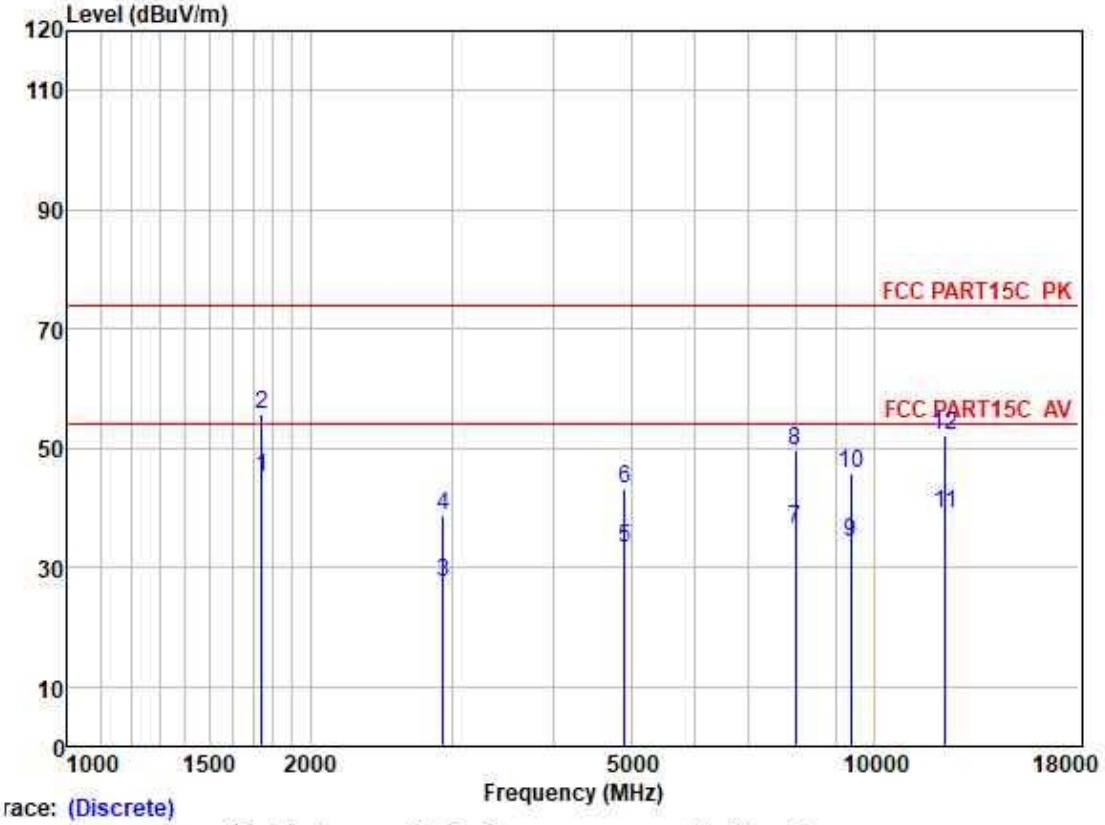
Mode:a; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadAntenna Level	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	1741.856	54.00	25.83	2.87	37.57	45.13	54.00	-8.87	VERTICAL	Average
2	1741.856	64.51	25.83	2.87	37.57	55.64	74.00	-18.36	VERTICAL	Peak
3	2922.174	32.52	28.32	3.72	37.12	27.44	54.00	-26.56	VERTICAL	Average
4	2922.174	43.81	28.32	3.72	37.12	38.73	74.00	-35.27	VERTICAL	Peak
5	4904.517	32.98	31.58	5.55	36.95	33.16	54.00	-20.84	VERTICAL	Average
6	4904.517	43.00	31.58	5.55	36.95	43.18	74.00	-30.82	VERTICAL	Peak
7	7989.893	30.34	36.90	6.15	36.90	36.49	54.00	-17.51	VERTICAL	Average
8	7989.893	43.33	36.90	6.15	36.90	49.48	74.00	-24.52	VERTICAL	Peak
9	9356.890	25.96	38.09	7.21	37.06	34.20	54.00	-19.80	VERTICAL	Average
10	9356.890	37.44	38.09	7.21	37.06	45.68	74.00	-28.32	VERTICAL	Peak
11	12260.150	29.18	38.70	8.06	37.03	38.91	54.00	-15.09	VERTICAL	Average
12	12260.150	42.42	38.70	8.06	37.03	52.15	74.00	-21.85	VERTICAL	Peak

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8 Appendix

8.1 Appendix 15.247

Cable Loss = 0.9 dB

8.2 Appendix A: DTS Bandwidth

8.2.1 Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.360	2407.840	2417.200	0.5	PASS
		2442	10.040	2437.120	2447.160	0.5	PASS
		2462	10.280	2456.960	2467.240	0.5	PASS
11G	Ant1	2412	16.480	2403.760	2420.240	0.5	PASS
		2442	16.480	2433.760	2450.240	0.5	PASS
		2462	16.440	2453.760	2470.200	0.5	PASS
11N20SISO	Ant1	2412	17.560	2403.240	2420.800	0.5	PASS
		2442	17.560	2433.240	2450.800	0.5	PASS
		2462	17.360	2453.240	2470.600	0.5	PASS
11N40SISO	Ant1	2422	35.280	2404.320	2439.600	0.5	PASS
		2442	35.280	2424.320	2459.600	0.5	PASS
		2452	35.200	2434.400	2469.600	0.5	PASS

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