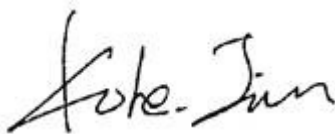


TEST REPORT

Application No.: GZEM2101000198CR
Applicant: Zhong Shan City Richsound Electronic Industrial Ltd.
Address of Applicant: No.16, East Shagang Road, Gangkou, Zhongshan, Guangdong, China.
Manufacturer: The same as applicant
Address of Manufacturer: The same as applicant
Factory: The same as applicant
Address of Factory: The same as applicant
Equipment Under Test (EUT):
FCC ID: Z8M-SB170
EUT Name: 2.1CH Soundbar with Wireless Subwoofer
Model No.: CINEMA SB160, CINEMA SB260, MOVIEBAR 100, CINEMA SB261, CINEMA SB265, CINEMA SB268, CINEMA SB360, CINEMA SB361, CINEMA SB365, CINEMA SB368, CINEMA SB170 □
 □ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: JBL
Standard(s): 47 CFR Part 15, Subpart C 15.249
Date of Receipt: 2021-01-11
Date of Test: 2021-01-22 to 2021-02-05
Date of Issue: 2021-03-01

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		2021-03-01		Original

Authorized for issue by:			
Tested By			
	Curry_Wu /Project Engineer		
Reviewed By			
	Ricky_Liu /Reviewer		



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2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.249	N/A	47 CFR Part 15, Subpart C 15.203	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 15.249	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
20dB Bandwidth	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass
Field Strength of the Fundamental Signal (15.249(a))	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.5&6.6	47 CFR Part 15, Subpart C 15.249(a)	Pass
Restricted Band Around Fundamental Frequency	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209	Pass
Radiated Emissions	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)	Pass

Declaration of EUT Family Grouping:

Model No.:

CINEMA SB160, CINEMA SB260, MOVIEBAR 100, CINEMA SB261, CINEMA SB265, CINEMA SB268, CINEMA SB360, CINEMA SB361, CINEMA SB365, CINEMA SB368, CINEMA SB170

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.

Therefore only one model CINEMA SB170 was tested in this report.



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4 General Information

4.1 Details of E.U.T.

Power Supply:	AC 100-240V 50/60Hz for sound bar (BT TRx & 2.4G Tx) AC 100-240V 50/60Hz for subwoofer (2.4G Rx only) DC 3V (1.5V X 2 with size 'AAA' battery) for IR remote controller
Test Voltage:	AC 120V, 60Hz
Cable:	about 1.5m 2 wires unscreened AC mains cable about 2m HDMI cable
Function:	Sound bar with BT function and communication with subwoofer by 2.4GHz self-define*
Antenna Gain:	0dBi
Antenna Type:	Integral antenna
Channel Spacing:	5MHz
Modulation Type:	GFSK
Number of Channels:	16
Operation Frequency:	2404.5MHz to 2479.5MHz
Testing software:	N/A
Hardware version:	V08
Software version:	V038
Sample NO.:	A1
Power Setting	Default can not be changed by user
*Remark:	The BT function was evaluated in test report GZEM210100019802

4.2 Description of Support Units

The EUT has been tested as an independent unit.



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4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 5.5 \times 10^{-8}$
2	Duty cycle	$\pm 0.57\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF Conducted power	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	$\pm 0.4^{\circ}\text{C}$
10	Humidity	$\pm 1.3\%$
11	Supply Voltages	$\pm 1.5\%$
12	Time	$\pm 3\%$

4.4 Test Location

All tests were performed at:

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

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

No tests were sub-contracted.



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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	2021-01-08	2022-01-07
LISN	Rohde & Schwarz	ENV216	EMC2135	2020-09-25	2021-09-24
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	2020-11-13	2021-11-12
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

20 dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

Restricted Band Around Fundamental Frequency					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2021-01-08	2022-01-07
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2021-01-03	2022-01-02
Chamber cable	HangTianXing	N/A	EMC0542	2019-06-28	2021-06-27
Trilog Broadband Antenna 25MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	EMC2174	2018-09-06	2021-09-05
Bi-log Type Antenna	Schaffner Chase	CBL6143	EMC0519	2020-06-08	2023-06-07
Horn Antenna	SCHWARZBECKME SS-ELEKTRONIK	BBHA 9120D	EMC2016	2019-09-25	2022-09-24
Horn Antenna 1GHz-18GHz	Rohde & Schwarz	HF906	EMC0518	2018-09-02	2021-09-01
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-01-08	2022-01-07
Amplifier	HP	8447F	EMC2065	2020-05-26	2021-05-25
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2020-11-13	2021-11-12
Active Loop Antenna	EMCO	6502	EMC0523	2018-03-05	2021-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2021-01-08	2022-01-07
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-01-08	2022-01-07



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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	2020-12-19	2023-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2020-11-13	2021-11-12
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

Radiated Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2021-01-08	2022-01-07
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2021-01-03	2022-01-02
Chamber cable	HangTianXing	N/A	EMC0542	2019-06-28	2021-06-27
Trilog Broadband Antenna 25MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	EMC2174	2018-09-06	2021-09-05
Bi-log Type Antenna	Schaffner Chase	CBL6143	EMC0519	2020-06-08	2023-06-07
Horn Antenna	SCHWARZBECKME SS-ELEKTRONIK	BBHA 9120D	EMC2016	2019-09-25	2022-09-24
Horn Antenna 1GHz-18GHz	Rohde & Schwarz	HF906	EMC0518	2018-09-02	2021-09-01
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-01-08	2022-01-07
Amplifier	HP	8447F	EMC2065	2020-05-26	2021-05-25
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2020-11-13	2021-11-12
Active Loop Antenna	EMCO	6502	EMC0523	2018-03-05	2021-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2021-01-08	2022-01-07
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-01-08	2022-01-07
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	2020-12-19	2023-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2020-11-13	2021-11-12
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	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

Limit:

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.

6.1.2 Conclusion

EUT Antenna:

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

Antenna photo please refer to internal photo.



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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 range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

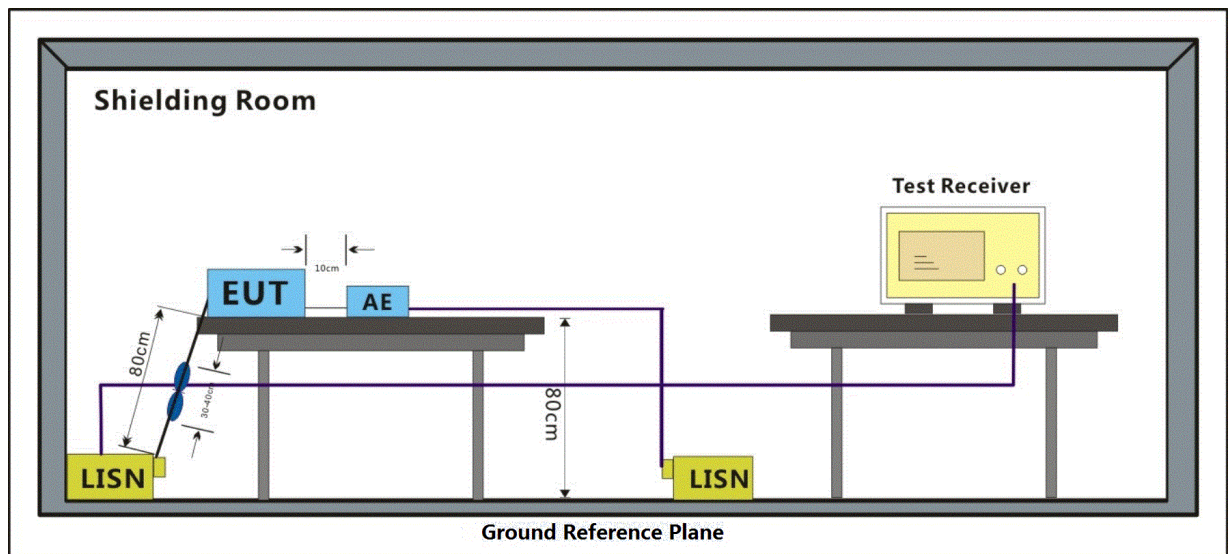
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.2 °C Humidity: 58.6 % RH Atmospheric Pressure: 1020 mbar

Test Mode: f :TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

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

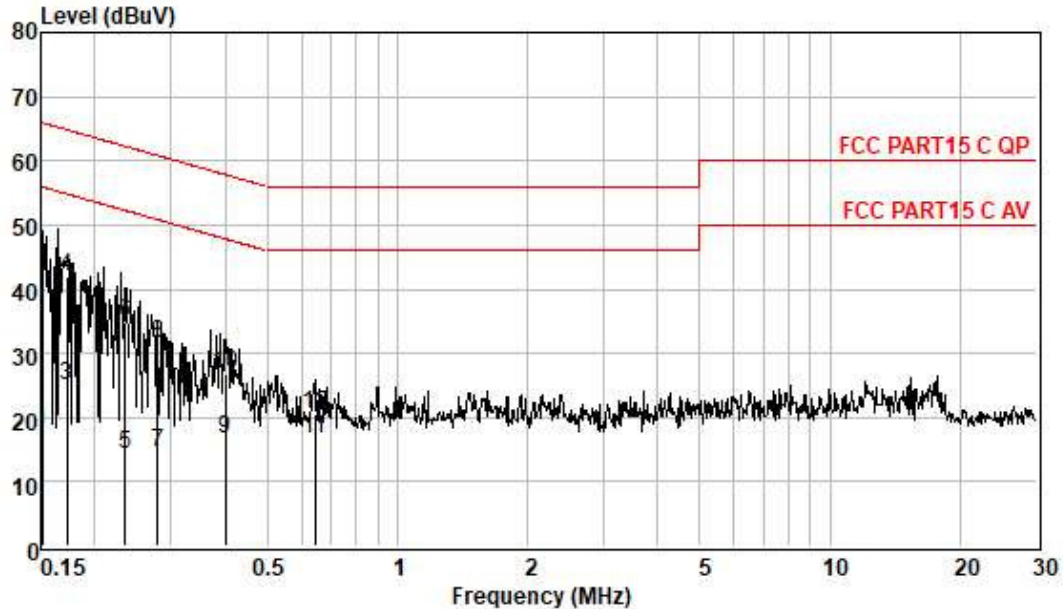
Measurement data please refer to GZEM 210100019802 clause 7.1



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Pol :LINE
Mode :BT(SUBWOOFER)
Model :

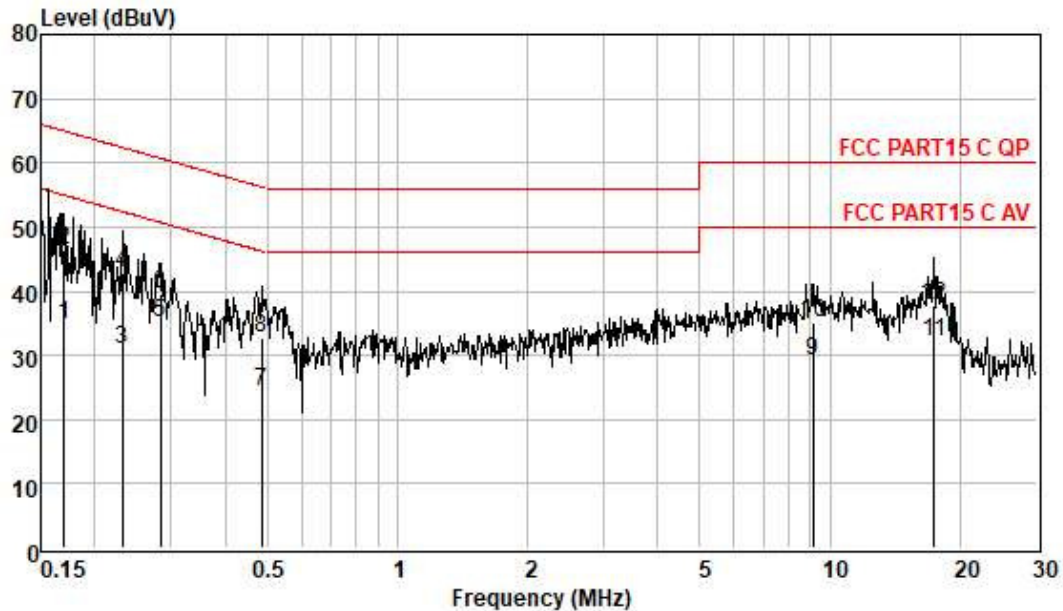
Freque	Read	Cable	LISN	Measured	Limit	Over	Remark
nc	Level	Loss	Factor	Level	Line	Limit	
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0.15	8.10	0.06	9.62	17.78	55.96	-38.18	Average
0.15	32.80	0.06	9.62	42.48	65.96	-23.48	QP
0.17	15.45	0.06	9.62	25.13	54.86	-29.73	Average
0.17	32.14	0.06	9.62	41.82	64.86	-23.04	QP
0.24	4.52	0.06	9.62	14.20	52.26	-38.06	Average
0.24	25.08	0.06	9.62	34.76	62.26	-27.50	QP
0.28	5.01	0.06	9.62	14.69	50.85	-36.16	Average
0.28	21.80	0.06	9.62	31.48	60.85	-29.37	QP
0.40	6.98	0.06	9.62	16.66	47.86	-31.20	Average
0.40	16.94	0.06	9.62	26.62	57.86	-31.24	QP
0.64	7.10	0.07	9.63	16.80	46.00	-29.20	Average
0.64	10.70	0.07	9.63	20.40	56.00	-35.60	QP



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Mode:f; Line:Live Line



Pol :LINE
Mode :BT(SOUNDBER)
Model :

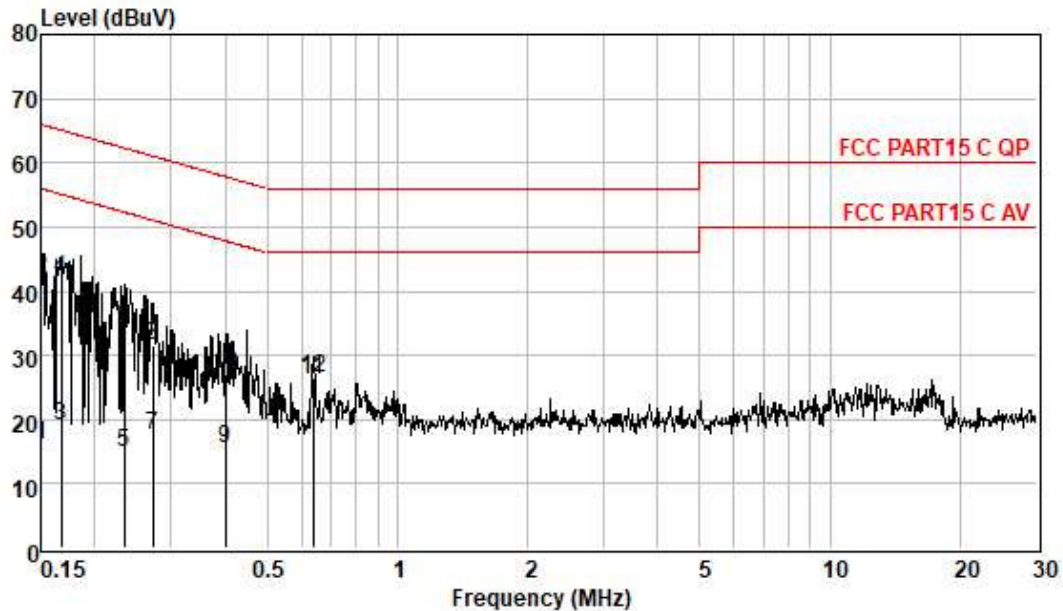
Frequeunc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.17	25.04	0.06	9.62	34.72	54.99	-20.27	Average
0.17	36.58	0.06	9.62	46.26	64.99	-18.73	QP
0.23	21.18	0.06	9.62	30.86	52.39	-21.53	Average
0.23	33.26	0.06	9.62	42.94	62.39	-19.45	QP
0.28	25.53	0.06	9.62	35.21	50.72	-15.51	Average
0.28	29.90	0.06	9.62	39.58	60.72	-21.14	QP
0.49	14.54	0.07	9.63	24.24	46.23	-21.99	Average
0.49	23.09	0.07	9.63	32.79	56.23	-23.44	QP
9.11	19.15	0.22	9.68	29.05	50.00	-20.95	Average
9.11	25.15	0.22	9.68	35.05	60.00	-24.95	QP
17.38	22.11	0.34	9.75	32.20	50.00	-17.80	Average
17.38	27.74	0.34	9.75	37.83	60.00	-22.17	QP



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Mode:f; Line:Neutral Line



Pol : NEUTRAL
Mode : BT(SUBWOOFER)
Model :

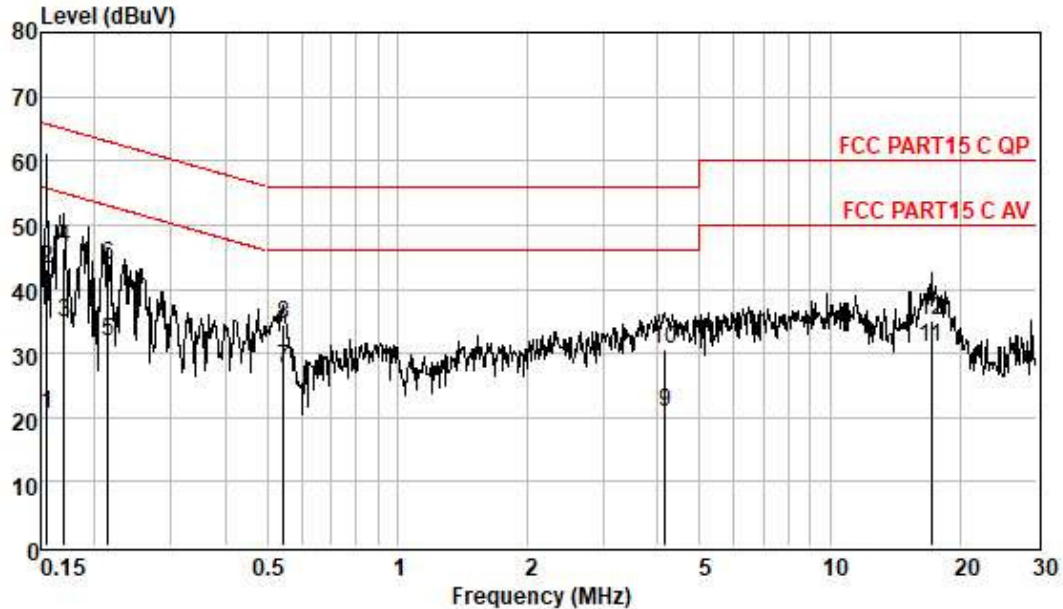
Frequency MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.15	6.32	0.06	9.55	15.93	56.00	-40.07	Average
0.15	32.44	0.06	9.55	42.05	66.00	-23.95	QP
0.17	9.38	0.06	9.55	18.99	55.08	-36.09	Average
0.17	32.30	0.06	9.55	41.91	65.08	-23.17	QP
0.23	5.39	0.06	9.55	15.00	52.30	-37.30	Average
0.23	25.00	0.06	9.55	34.61	62.30	-27.69	QP
0.27	7.82	0.06	9.55	17.43	51.03	-33.60	Average
0.27	21.78	0.06	9.55	31.39	61.03	-29.64	QP
0.40	5.98	0.06	9.56	15.60	47.86	-32.26	Average
0.40	17.58	0.06	9.56	27.20	57.86	-30.66	QP
0.64	16.48	0.07	9.54	26.09	46.00	-19.91	Average
0.64	16.98	0.07	9.54	26.59	56.00	-29.41	QP



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Mode:f; Line:Neutral Line



Pol : NEUTRAL
Mode : BT(SOUNDBER)
Model :

Frequeunc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.15	10.95	0.06	9.55	20.56	55.74	-35.18	Average
0.15	33.54	0.06	9.55	43.15	65.74	-22.59	QP
0.17	25.16	0.06	9.55	34.77	54.99	-20.22	Average
0.17	36.74	0.06	9.55	46.35	64.99	-18.64	QP
0.22	22.33	0.06	9.54	31.93	53.01	-21.08	Average
0.22	33.98	0.06	9.54	43.58	63.01	-19.43	QP
0.55	18.15	0.07	9.55	27.77	46.00	-18.23	Average
0.55	24.97	0.07	9.55	34.59	56.00	-21.41	QP
4.16	10.95	0.17	9.56	20.68	46.00	-25.32	Average
4.16	20.96	0.17	9.56	30.69	56.00	-25.31	QP
17.11	20.84	0.33	9.65	30.82	50.00	-19.18	Average
17.11	25.11	0.33	9.65	35.09	60.00	-24.91	QP



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7.2 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215

Test Method: ANSI C63.10 (2013) Section 6.9

Limit: N/A

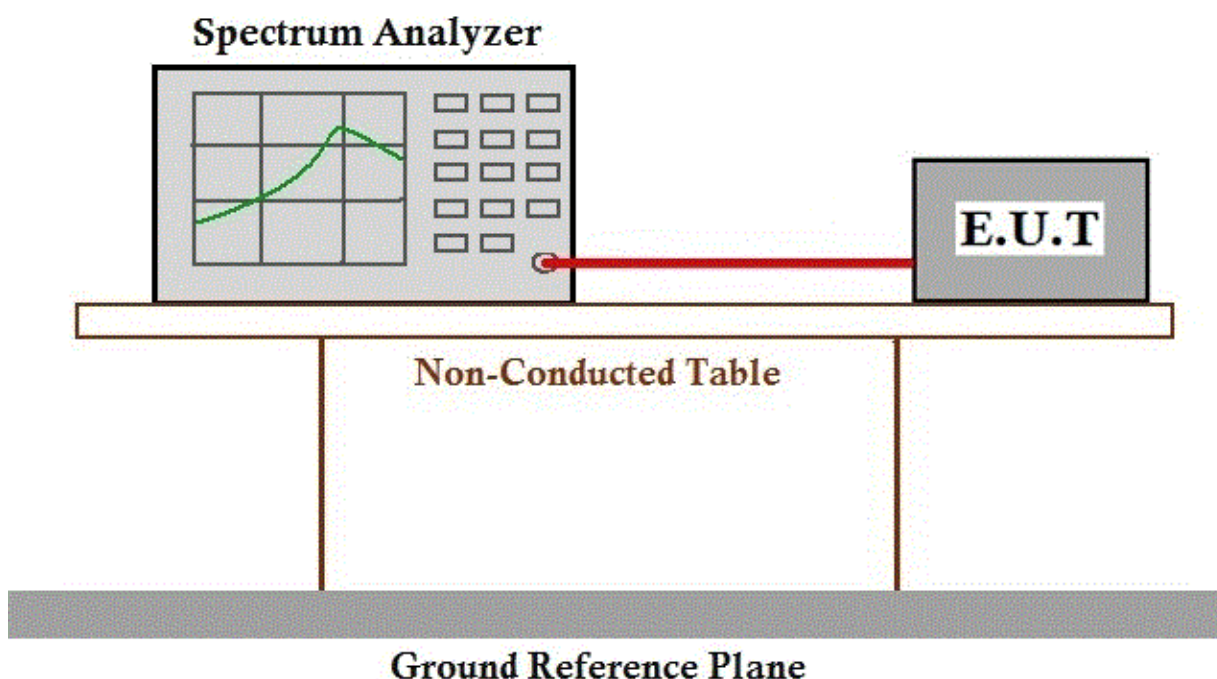
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

Test Mode: f: TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

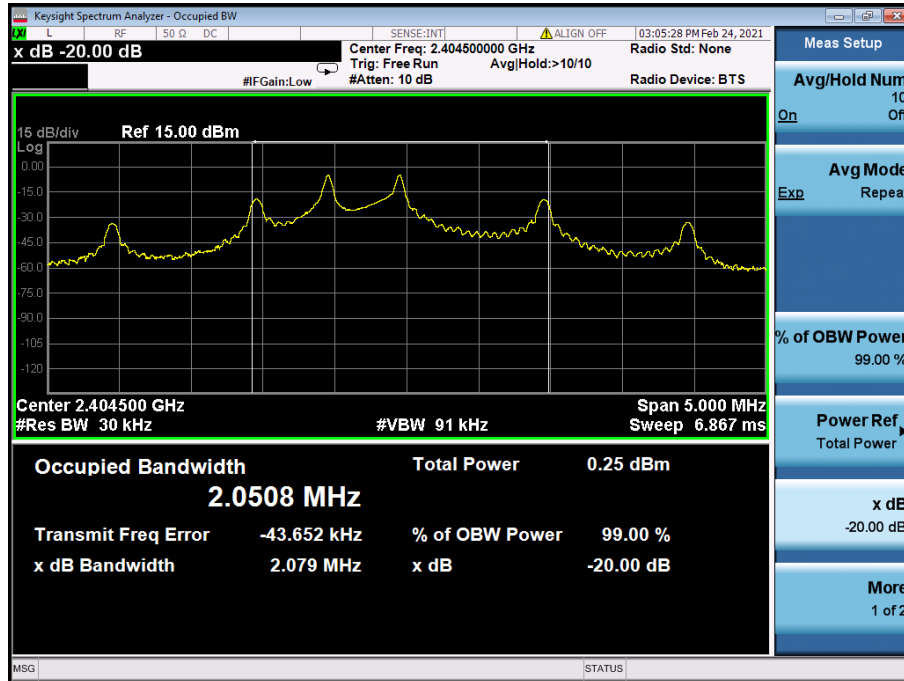
Channel:	20dB bandwidth
2404.5MHz	2.079MHz
2444.5MHz	2.077MHz
2479.5MHz	2.078MHz



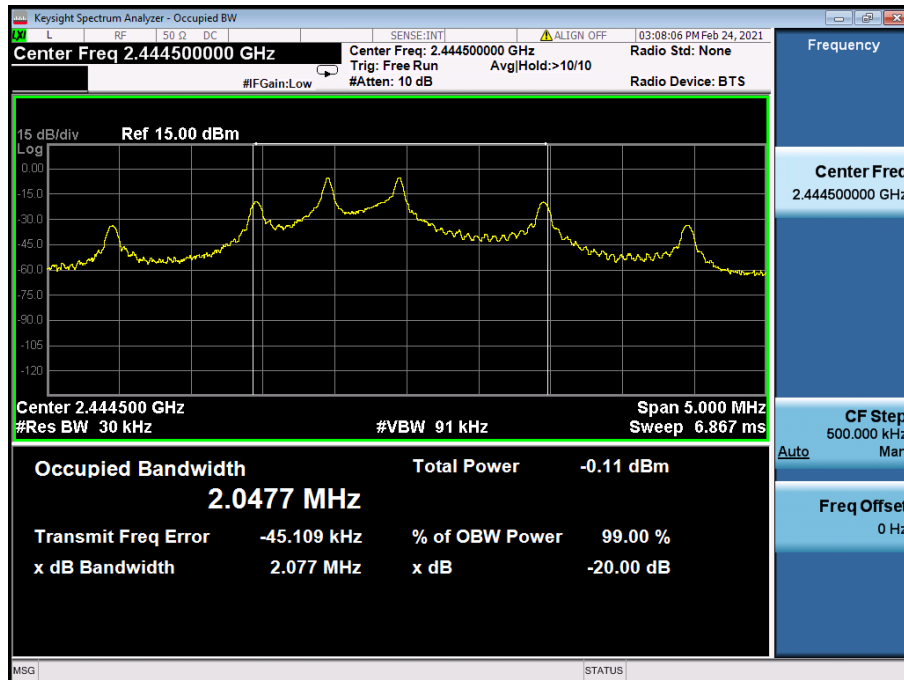
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Low channel



Middle channel

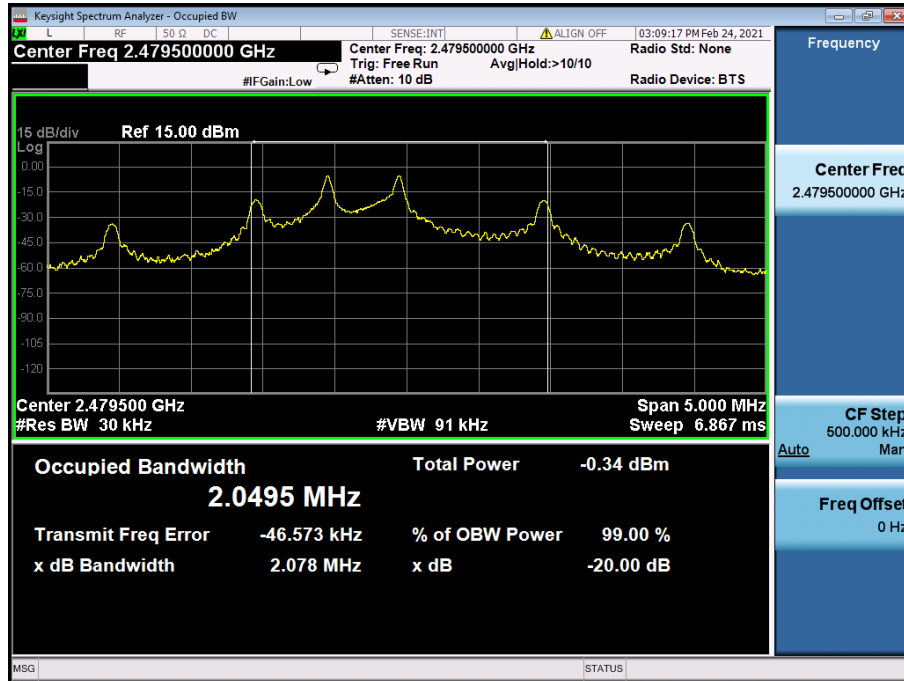


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High channel



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7.3 Field Strength of the Fundamental Signal (15.249(a))

Test Requirement 47 CFR Part 15, Subpart C 15.249(a)

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

Measurement Distance: 3m

Limit:

Fundamental frequency(MHz)	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

Remark: The frequencies above 1000MHz 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.

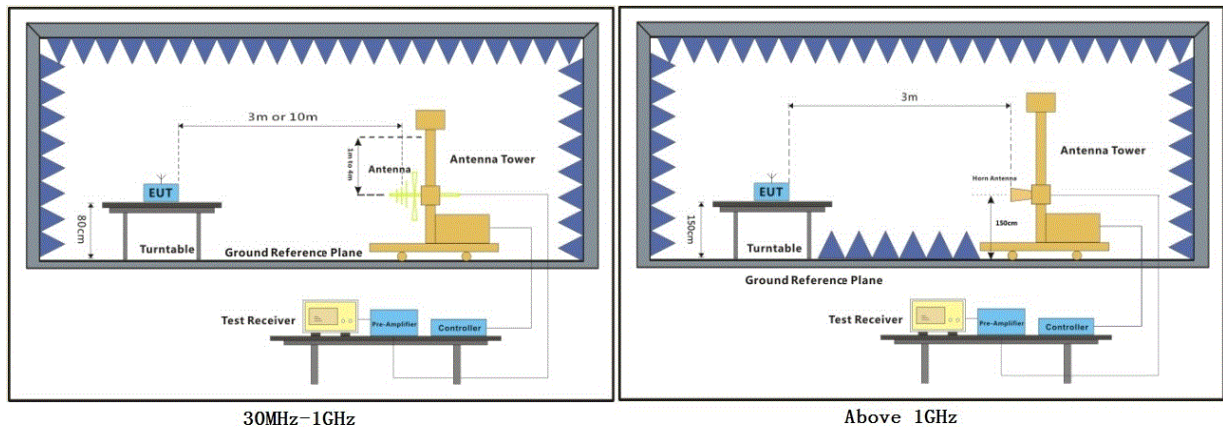
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

Test Mode: f: TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.3.2 Test Setup Diagram



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

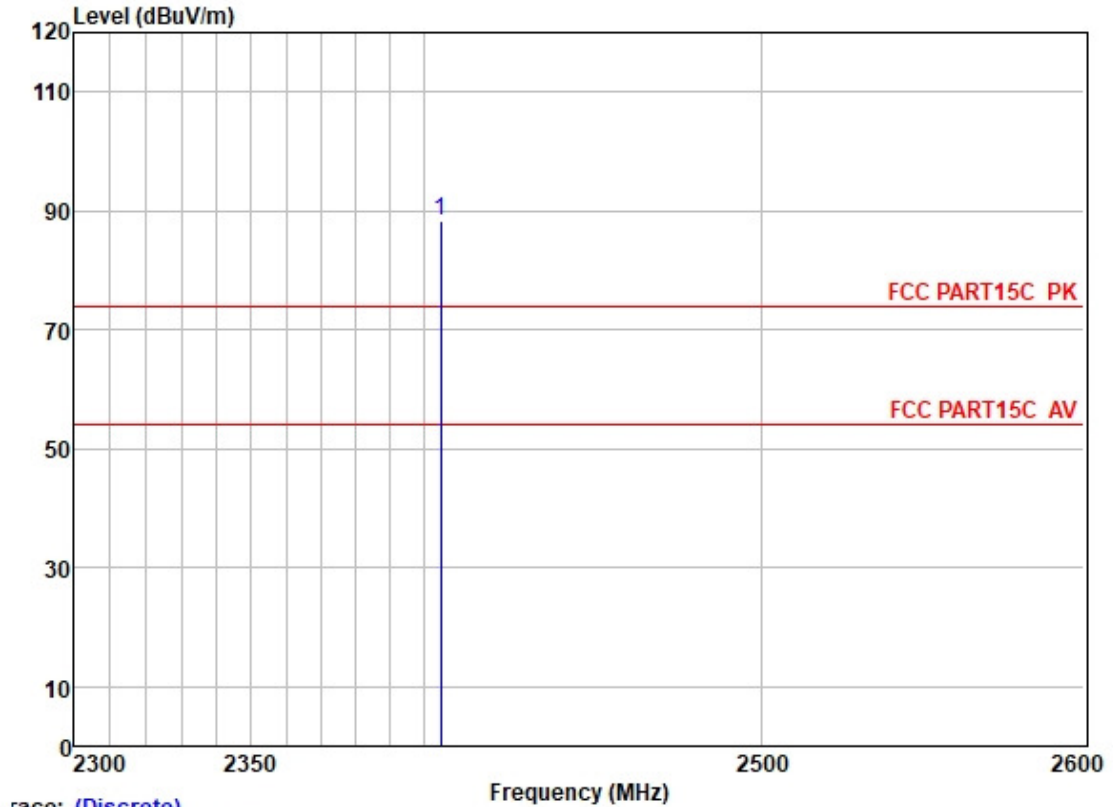
Channel	Level (dBuV/m)	Limit(dBuV/m)	Over limit (dB)	Remark	Result
2404.5	88.20	114	-25.80	Peak	Pass
2444.5	88.03	114	-25.97	Peak	Pass
2479.5	87.17	114	-26.83	Peak	Pass



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Low channel



Trace: (Discrete)

	Read	Antenna	Cable	Preamp		Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 * 2404.494	94.78	27.36	3.48	37.42	88.20	74.00	14.20	HORIZONTAL	Peak



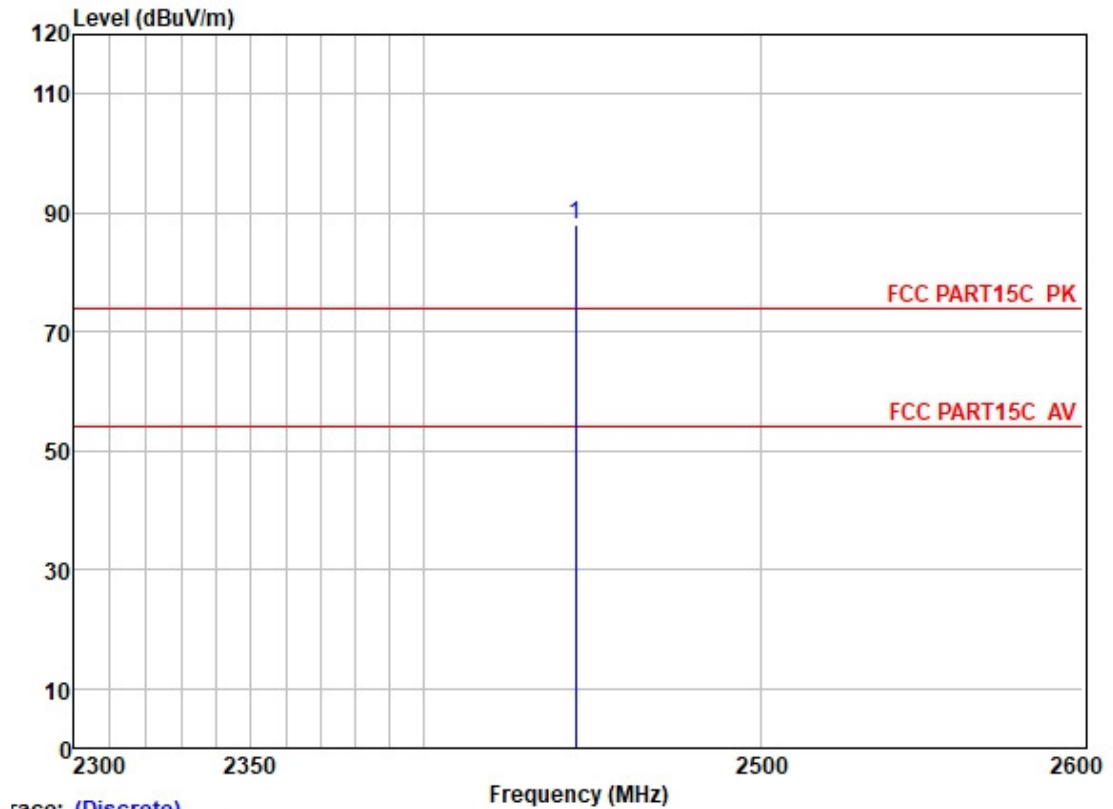
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Middle channel



Trace: (Discrete)

	ReadAntenna	Cable	Preamp		Limit	Over			
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 * 2444.505	94.62	27.42	3.40	37.41	88.03	74.00	14.03	HORIZONTAL	Peak



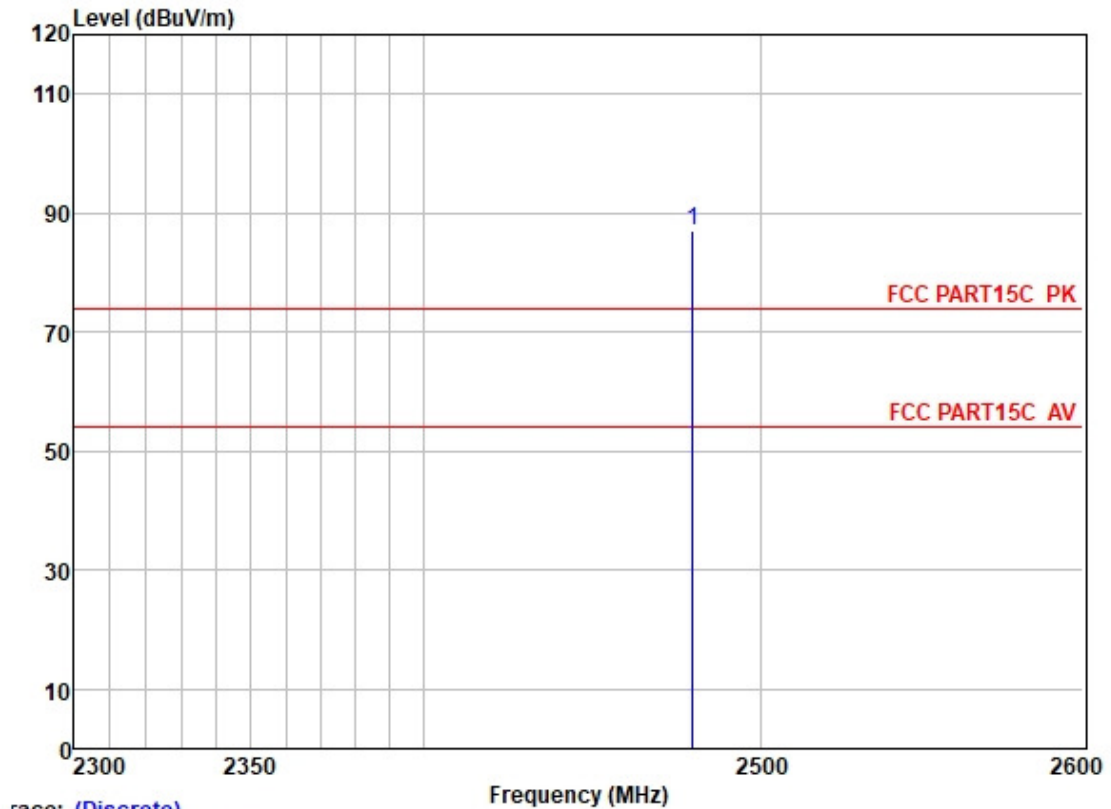
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High channel



Trace: (Discrete)

	ReadAntenna	Cable	Preamp		Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 * 2479.514	93.50	27.47	3.60	37.40	87.17	74.00	13.17	HORIZONTAL Peak



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7.4 Restricted Band Around Fundamental Frequency

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209

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

Measurement Distance: 3m

Limit:

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
Above 1GHz	74.0	Peak Value

Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

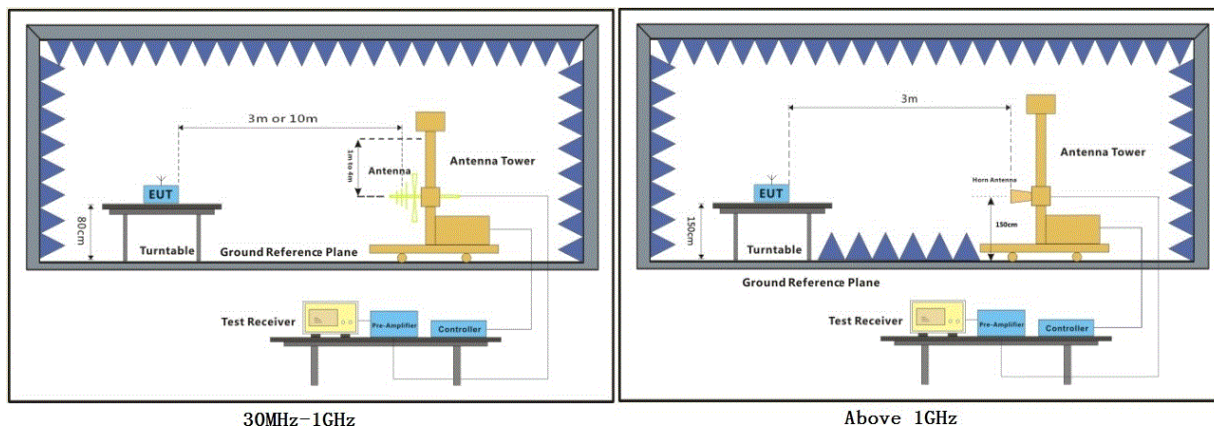
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

Test Mode: f: TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.4.2 Test Setup Diagram



7.4.3 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.

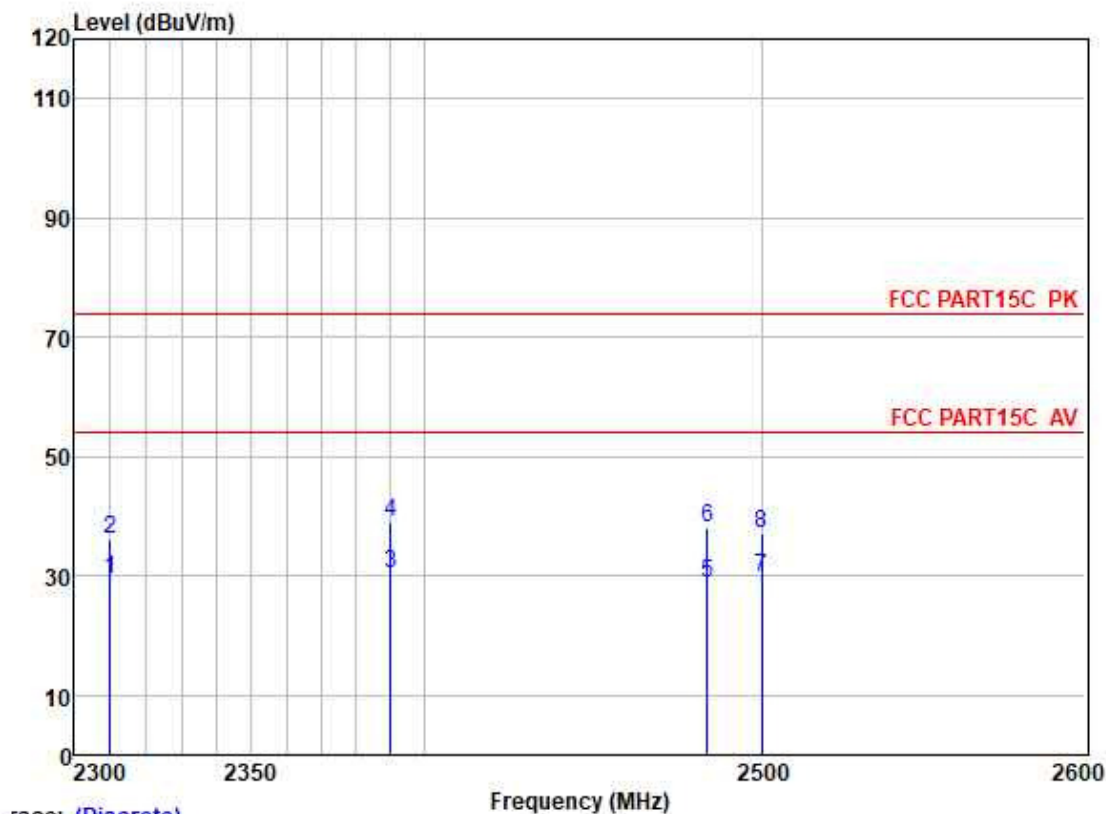
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



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Mode:f; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low



Trace: (Discrete)

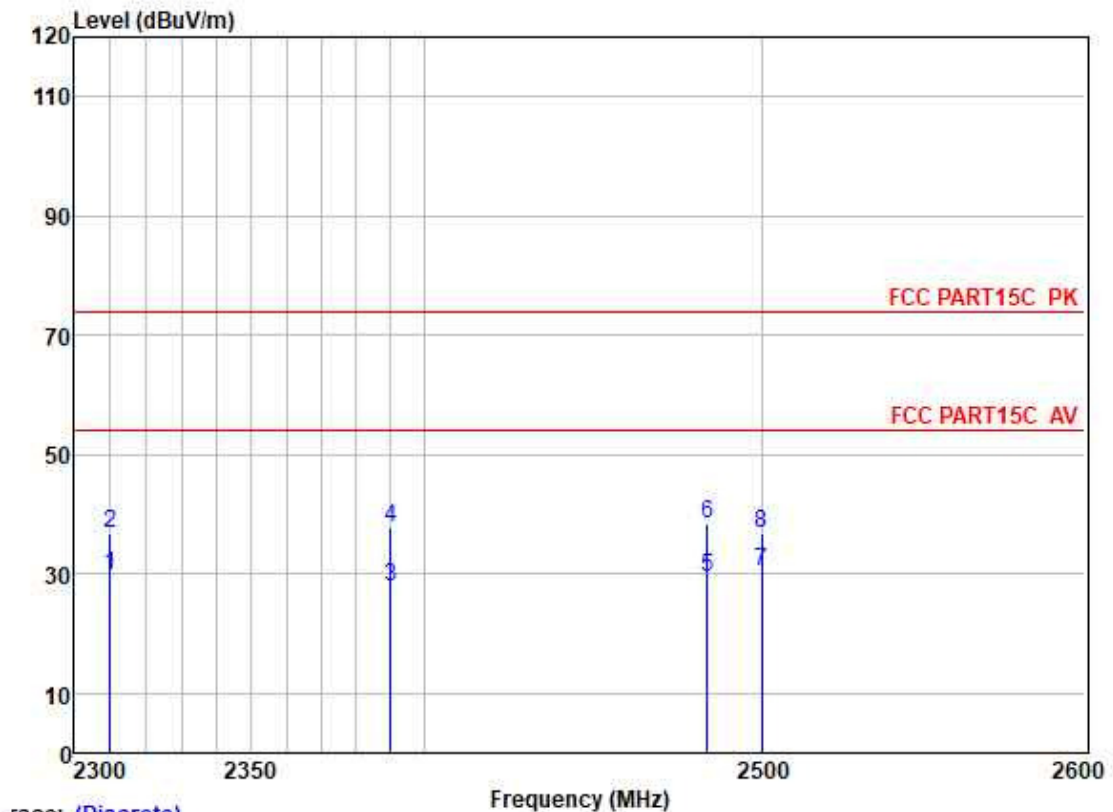
	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2310.000	36.37	27.15	3.32	37.44	29.40	54.00	-24.60	HORIZONTAL Average
2	2310.000	43.18	27.15	3.32	37.44	36.21	74.00	-37.79	HORIZONTAL Peak
3	2390.000	37.02	27.33	3.48	37.42	30.41	54.00	-23.59	HORIZONTAL Average
4	2390.000	45.78	27.33	3.48	37.42	39.17	74.00	-34.83	HORIZONTAL Peak
5	2483.500	35.14	27.48	3.53	37.40	28.75	54.00	-25.25	HORIZONTAL Average
6	2483.500	44.43	27.48	3.53	37.40	38.04	74.00	-35.96	HORIZONTAL Peak
7	2500.000	36.30	27.50	3.40	37.39	29.81	54.00	-24.19	HORIZONTAL Average
8	2500.000	43.51	27.50	3.40	37.39	37.02	74.00	-36.98	HORIZONTAL Peak



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Mode:f; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



Trace: (Discrete)

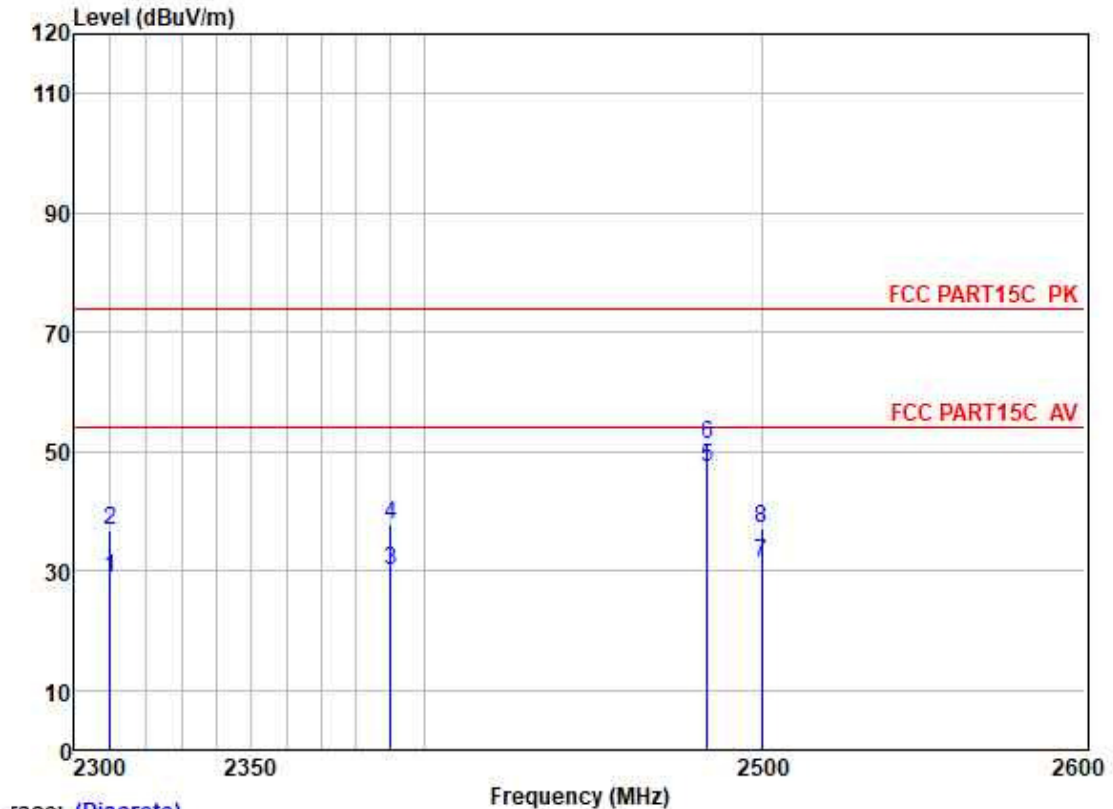
	Freq	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	36.76	27.15	3.32	37.44	29.79	54.00	-24.21	VERTICAL	Average
2	2310.000	43.74	27.15	3.32	37.44	36.77	74.00	-37.23	VERTICAL	Peak
3	2390.000	34.46	27.33	3.48	37.42	27.85	54.00	-26.15	VERTICAL	Average
4	2390.000	44.29	27.33	3.48	37.42	37.68	74.00	-36.32	VERTICAL	Peak
5	2483.500	35.93	27.48	3.53	37.40	29.54	54.00	-24.46	VERTICAL	Average
6	2483.500	44.64	27.48	3.53	37.40	38.25	74.00	-35.75	VERTICAL	Peak
7	2500.000	36.93	27.50	3.40	37.39	30.44	54.00	-23.56	VERTICAL	Average
8	2500.000	43.18	27.50	3.40	37.39	36.69	74.00	-37.31	VERTICAL	Peak



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Mode:f; Polarization:Horizontal; Modulation:GFSK; ; Channel:High



Trace: (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	35.67	27.15	3.32	37.44	28.70	54.00	-25.30	HORIZONTAL	Average
2	2310.000	43.82	27.15	3.32	37.44	36.85	74.00	-37.15	HORIZONTAL	Peak
3	2390.000	36.80	27.33	3.48	37.42	30.19	54.00	-23.81	HORIZONTAL	Average
4	2390.000	44.40	27.33	3.48	37.42	37.79	74.00	-36.21	HORIZONTAL	Peak
5	2483.500	53.63	27.48	3.53	37.40	47.24	54.00	-6.76	HORIZONTAL	Average
6	2483.500	57.63	27.48	3.53	37.40	51.24	74.00	-22.76	HORIZONTAL	Peak
7	2500.000	37.88	27.50	3.40	37.39	31.39	54.00	-22.61	HORIZONTAL	Average
8	2500.000	43.77	27.50	3.40	37.39	37.28	74.00	-36.72	HORIZONTAL	Peak



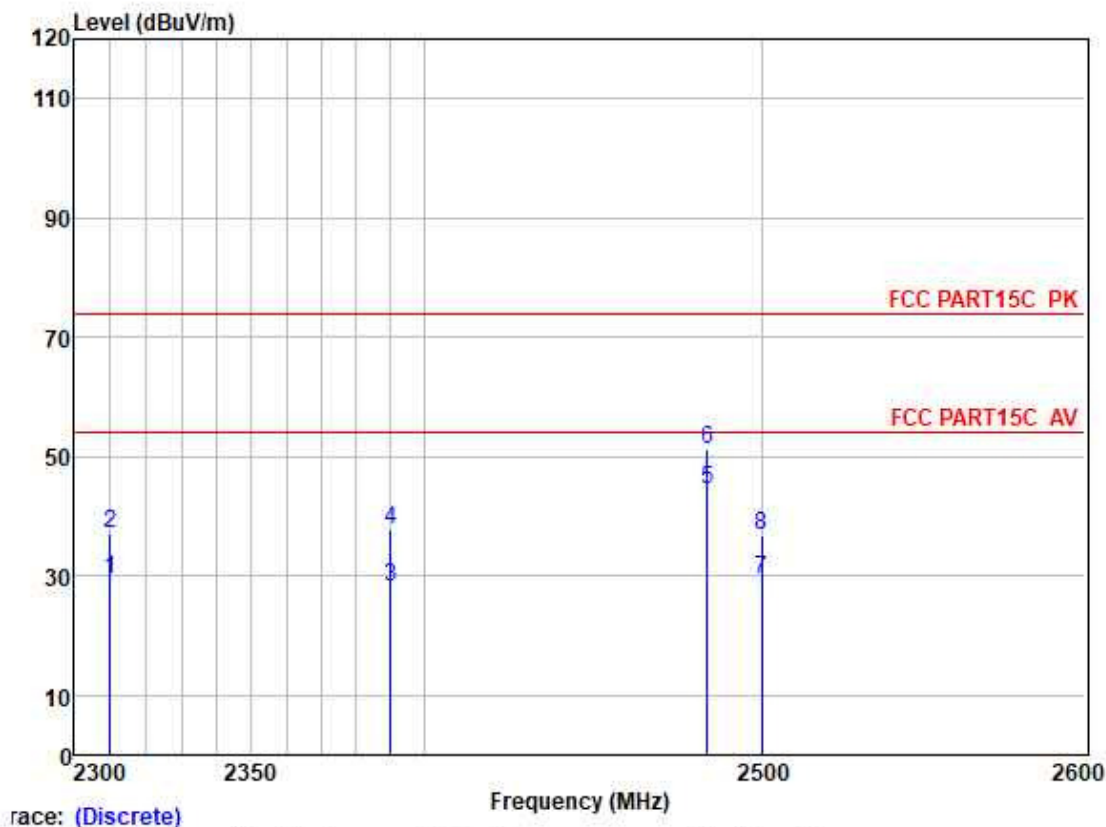
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Mode:f; Polarization:Vertical; Modulation:GFSK; ; Channel:High



	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	36.51	27.15	3.32	37.44	29.54	54.00	-24.46	VERTICAL	Average
2	2310.000	44.02	27.15	3.32	37.44	37.05	74.00	-36.95	VERTICAL	Peak
3	2390.000	34.87	27.33	3.48	37.42	28.26	54.00	-25.74	VERTICAL	Average
4	2390.000	44.24	27.33	3.48	37.42	37.63	74.00	-36.37	VERTICAL	Peak
5	2483.500	50.84	27.48	3.53	37.40	44.45	54.00	-9.55	VERTICAL	Average
6	2483.500	57.44	27.48	3.53	37.40	51.05	74.00	-22.95	VERTICAL	Peak
7	2500.000	35.92	27.50	3.40	37.39	29.43	54.00	-24.57	VERTICAL	Average
8	2500.000	43.29	27.50	3.40	37.39	36.80	74.00	-37.20	VERTICAL	Peak



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7.5 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Limit (dBuV/m)	Detector	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	-	300
0.490-1.705	24000/F(kHz)	-	-	30
1.705-30	30	-	-	30
30-88	100	40.0	QP	3
88-216	150	43.5	QP	3
216-960	200	46.0	QP	3
960-1000	500	54.0	QP	3
Above 1000	500	54.0	AV	3

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

Test Mode: f: TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.



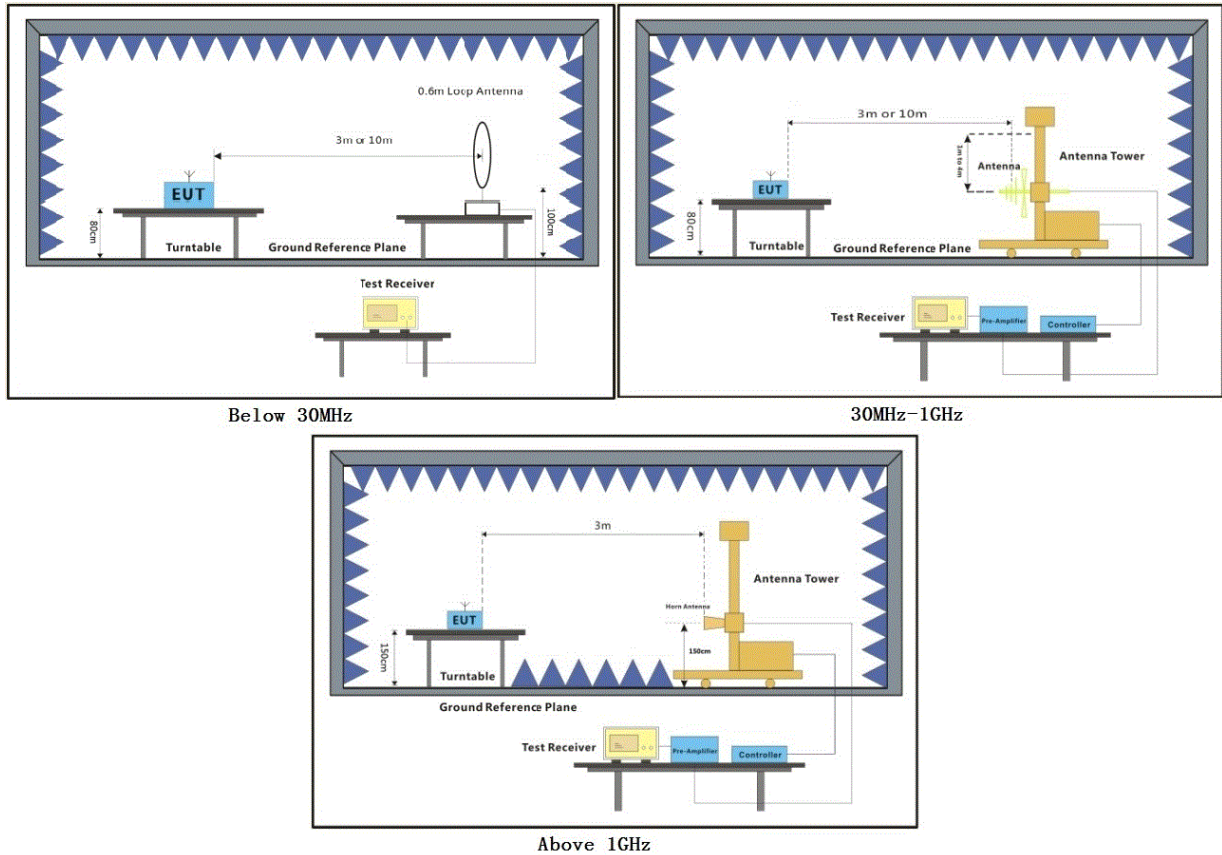
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Guangzhou Branch, Testing Center, EEC Laboratory.

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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

7.5.2 Test Setup Diagram



7.5.3 Measurement Procedure and Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

Measured Level $L = \text{Read Level} + \text{Antenna Factor} + \text{Cable Loss} - \text{Preamp Factor}$



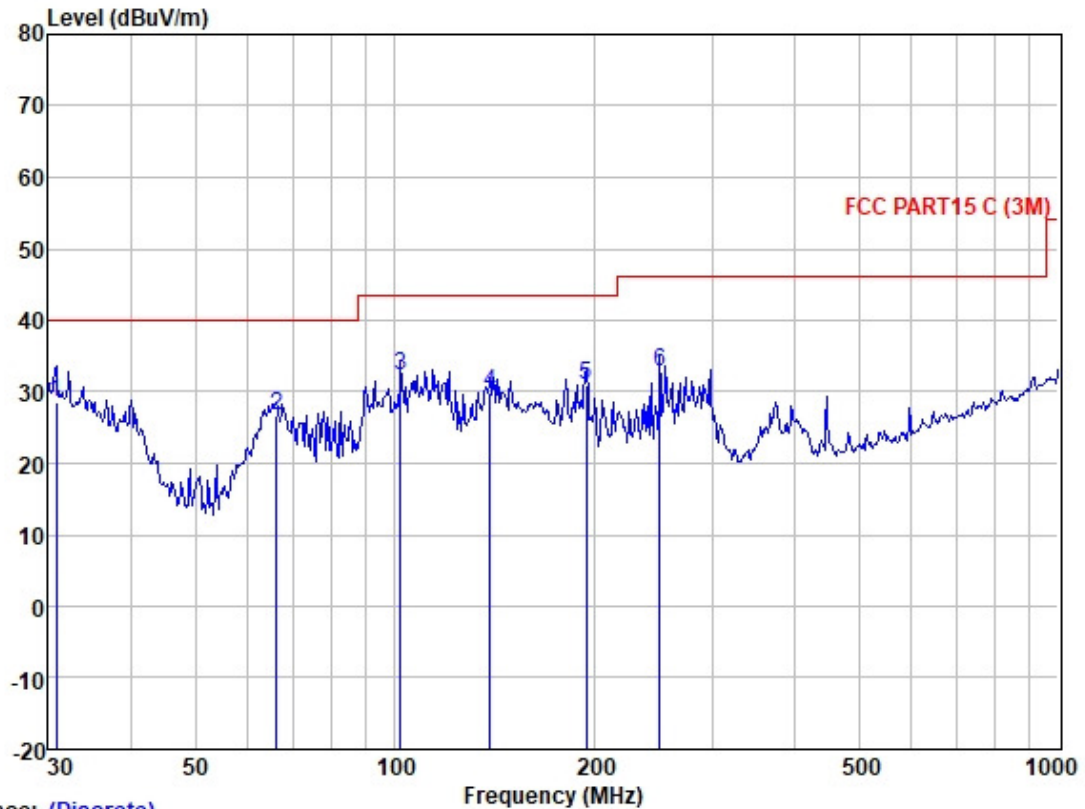
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 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Mode:f; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low



Trace: (Discrete)

Site : SGS

Condition: FCC PART15 C (3M) 3m HORIZONTAL

Job :

Model :

Power :

Test Mode: BT

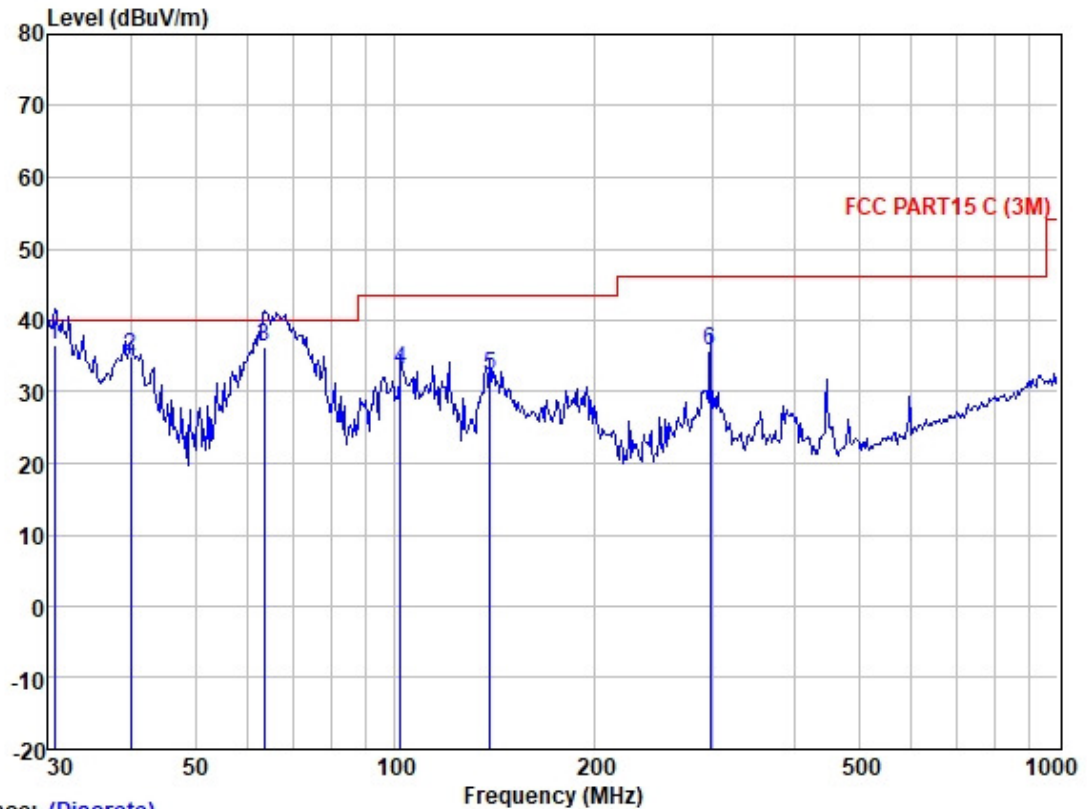
	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
		Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	30.853	42.15	12.53	1.03	27.20	28.51	40.00	-11.49	HORIZONTAL QP
2	66.266	39.85	12.56	1.36	27.14	26.63	40.00	-13.37	HORIZONTAL QP
3	102.001	48.16	9.40	1.74	27.08	32.22	43.50	-11.28	HORIZONTAL QP
4	138.874	41.70	13.15	2.07	26.94	29.98	43.50	-13.52	HORIZONTAL QP
5	194.453	44.47	10.73	2.50	26.74	30.96	43.50	-12.54	HORIZONTAL QP
6	250.301	44.45	12.10	2.92	26.62	32.85	46.00	-13.15	HORIZONTAL QP



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Mode:f; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



Trace: (Discrete)

Site : SGS

Condition: FCC PART15 C (3M) 3m VERTICAL

Job : F

Model :

Power :

Test Mode: BT

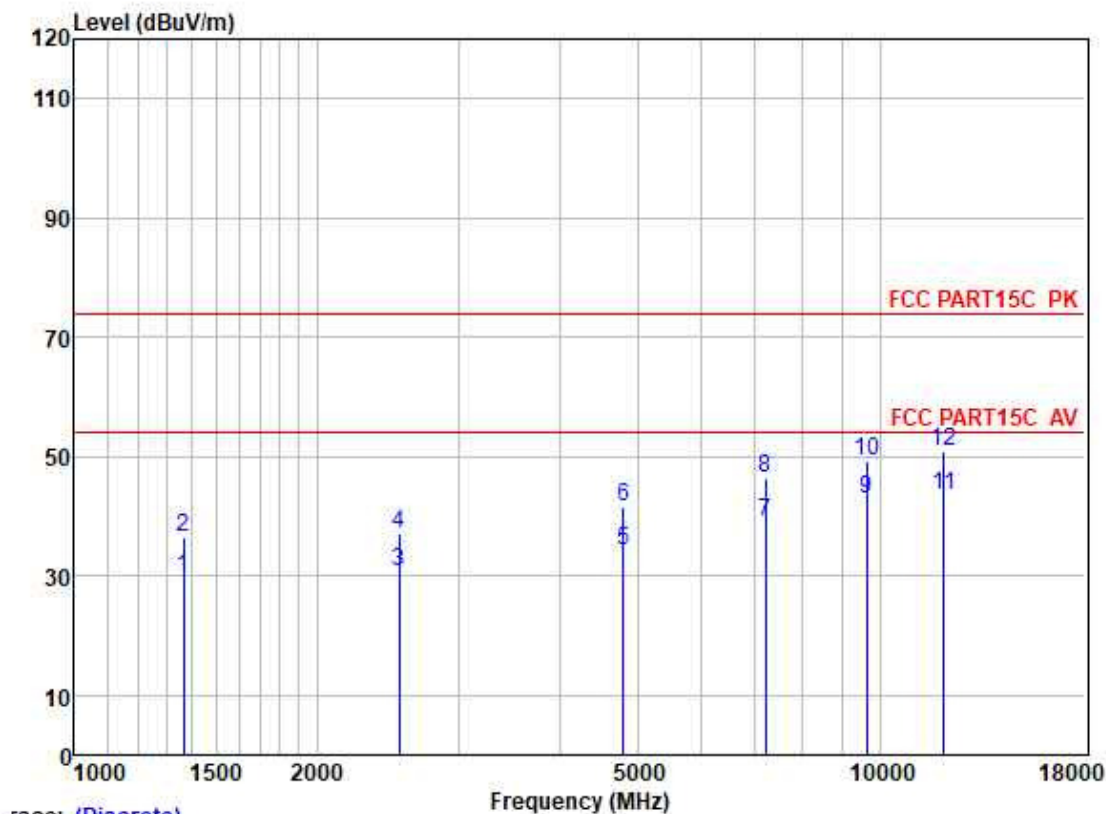
		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	30.638	50.30	12.49	1.03	27.20	36.62	40.00	-3.38	VERTICAL	QP
2	39.994	47.65	13.50	1.10	27.18	35.07	40.00	-4.93	VERTICAL	QP
3	63.536	49.18	12.95	1.32	27.15	36.30	40.00	-3.70	VERTICAL	QP
4	102.001	49.07	9.40	1.74	27.08	33.13	43.50	-10.37	VERTICAL	QP
5	138.874	43.99	13.15	2.07	26.94	32.27	43.50	-11.23	VERTICAL	QP
6	298.268	45.58	13.57	3.16	26.55	35.76	46.00	-10.24	VERTICAL	QP



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Mode:f; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low



Trace: (Discrete)

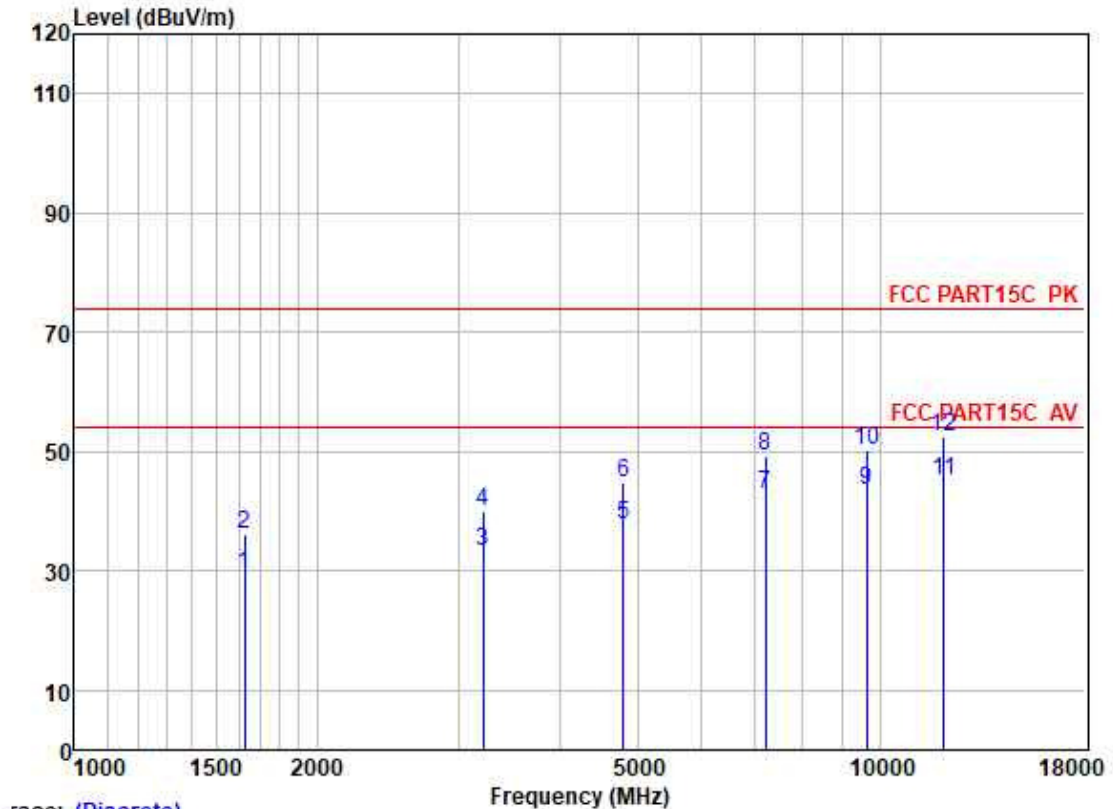
	Freq	ReadAntenna	Cable	Preamp		Limit	Over			
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1366.374	39.85	25.34	2.60	38.01	29.78	54.00	-24.22	HORIZONTAL	Average
2	1366.374	46.63	25.34	2.60	38.01	36.56	74.00	-37.44	HORIZONTAL	Peak
3	2528.963	37.07	27.53	3.43	37.38	30.65	54.00	-23.35	HORIZONTAL	Average
4	2528.963	43.46	27.53	3.43	37.38	37.04	74.00	-36.96	HORIZONTAL	Peak
5	4809.641	34.46	31.42	5.40	36.94	34.34	54.00	-19.66	HORIZONTAL	Average
6	4809.641	41.69	31.42	5.40	36.94	41.57	74.00	-32.43	HORIZONTAL	Peak
7	7213.033	34.46	35.62	6.01	36.93	39.16	54.00	-14.84	HORIZONTAL	Average
8	7213.033	41.74	35.62	6.01	36.93	46.44	74.00	-27.56	HORIZONTAL	Peak
9	9618.020	34.39	38.37	7.07	37.08	42.75	54.00	-11.25	HORIZONTAL	Average
10	9618.020	41.01	38.37	7.07	37.08	49.37	74.00	-24.63	HORIZONTAL	Peak
11	12022.510	33.74	38.90	8.19	37.20	43.63	54.00	-10.37	HORIZONTAL	Average
12	12022.510	41.05	38.90	8.19	37.20	50.94	74.00	-23.06	HORIZONTAL	Peak



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Mode:f; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



Trace: (Discrete)

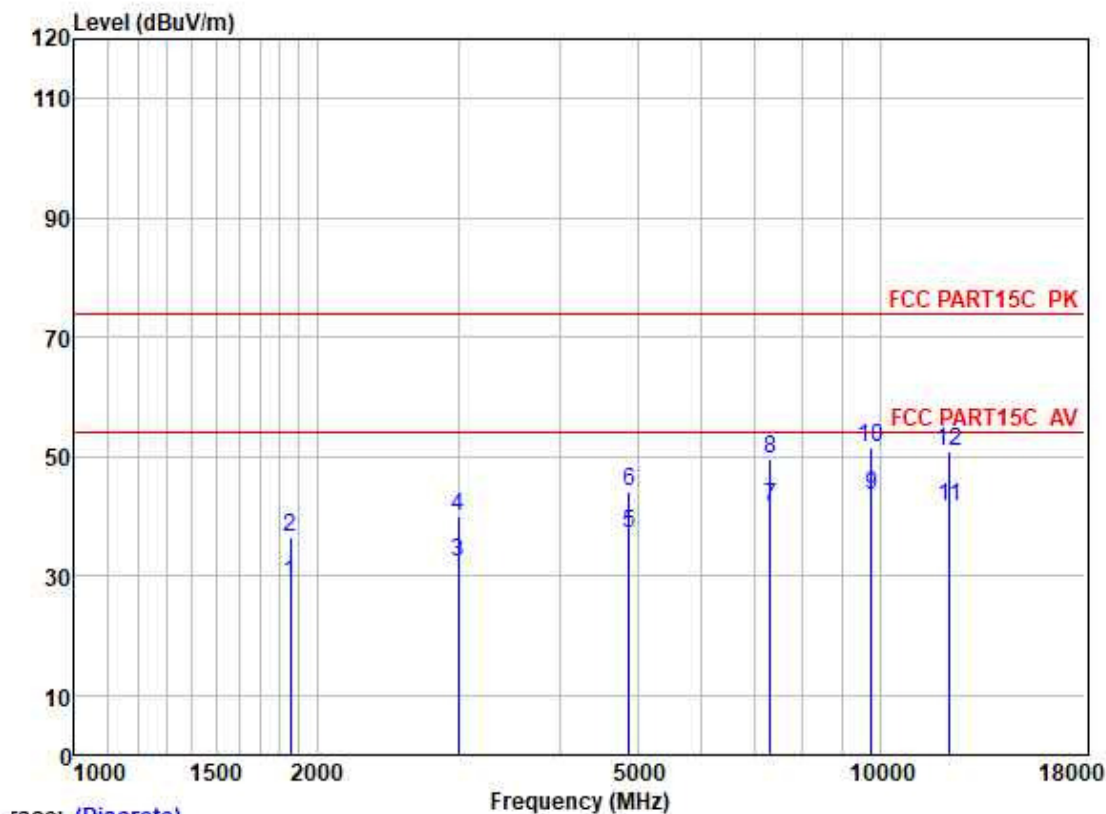
	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	Pol/Phase	Remark
	MHz	Level	Factor	Loss	Factor	Line	Limit		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1625.121	38.72	25.61	2.80	37.63	29.50	54.00	-24.50	VERTICAL Average
2	1625.121	45.35	25.61	2.80	37.63	36.13	74.00	-37.87	VERTICAL Peak
3	3214.623	37.65	28.61	4.01	37.01	33.26	54.00	-20.74	VERTICAL Average
4	3214.623	44.41	28.61	4.01	37.01	40.02	74.00	-33.98	VERTICAL Peak
5	4809.153	37.81	31.42	5.40	36.94	37.69	54.00	-16.31	VERTICAL Average
6	4809.153	44.78	31.42	5.40	36.94	44.66	74.00	-29.34	VERTICAL Peak
7	7213.838	38.18	35.62	6.01	36.93	42.88	54.00	-11.12	VERTICAL Average
8	7213.838	44.46	35.62	6.01	36.93	49.16	74.00	-24.84	VERTICAL Peak
9	9618.480	35.06	38.37	7.07	37.08	43.42	54.00	-10.58	VERTICAL Average
10	9618.480	41.84	38.37	7.07	37.08	50.20	74.00	-23.80	VERTICAL Peak
11	12022.130	35.14	38.90	8.19	37.20	45.03	54.00	-8.97	VERTICAL Average
12	12022.130	42.56	38.90	8.19	37.20	52.45	74.00	-21.55	VERTICAL Peak



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Mode:f; Polarization:Horizontal; Modulation:GFSK; ; Channel:middle



Trace: (Discrete)

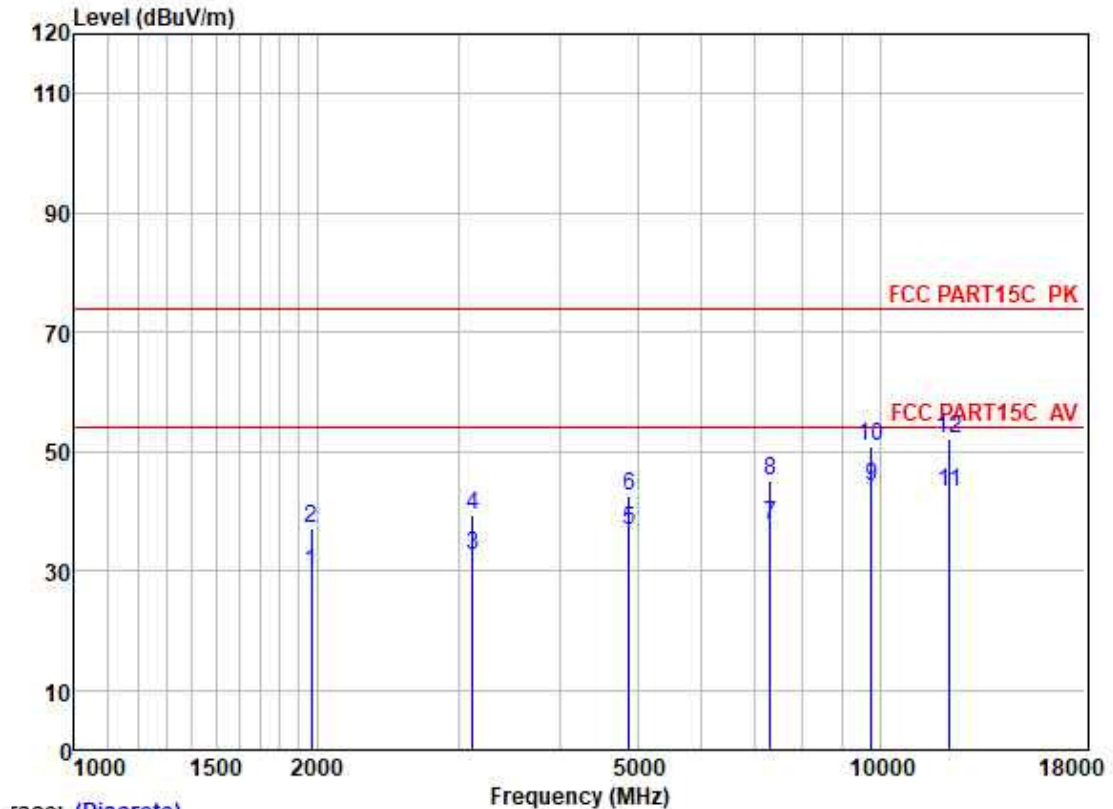
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	MHz	Level	Factor	Loss	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1856.215	37.52	26.00	2.94	37.54	28.92	54.00	-25.08	HORIZONTAL Average
2	1856.215	45.15	26.00	2.94	37.54	36.55	74.00	-37.45	HORIZONTAL Peak
3	2999.187	37.31	28.40	3.80	37.07	32.44	54.00	-21.56	HORIZONTAL Average
4	2999.187	44.85	28.40	3.80	37.07	39.98	74.00	-34.02	HORIZONTAL Peak
5	4879.047	36.96	31.54	5.50	36.95	37.05	54.00	-16.95	HORIZONTAL Average
6	4879.047	43.96	31.54	5.50	36.95	44.05	74.00	-29.95	HORIZONTAL Peak
7	7318.911	36.54	36.00	6.13	36.92	41.75	54.00	-12.25	HORIZONTAL Average
8	7318.911	44.31	36.00	6.13	36.92	49.52	74.00	-24.48	HORIZONTAL Peak
9	9758.140	35.15	38.50	7.02	37.09	43.58	54.00	-10.42	HORIZONTAL Average
10	9758.140	42.97	38.50	7.02	37.09	51.40	74.00	-22.60	HORIZONTAL Peak
11	12197.220	31.93	38.77	8.10	37.06	41.74	54.00	-12.26	HORIZONTAL Average
12	12197.220	40.99	38.77	8.10	37.06	50.80	74.00	-23.20	HORIZONTAL Peak



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Mode:f; Polarization:Vertical; Modulation:GFSK; ; Channel:middle



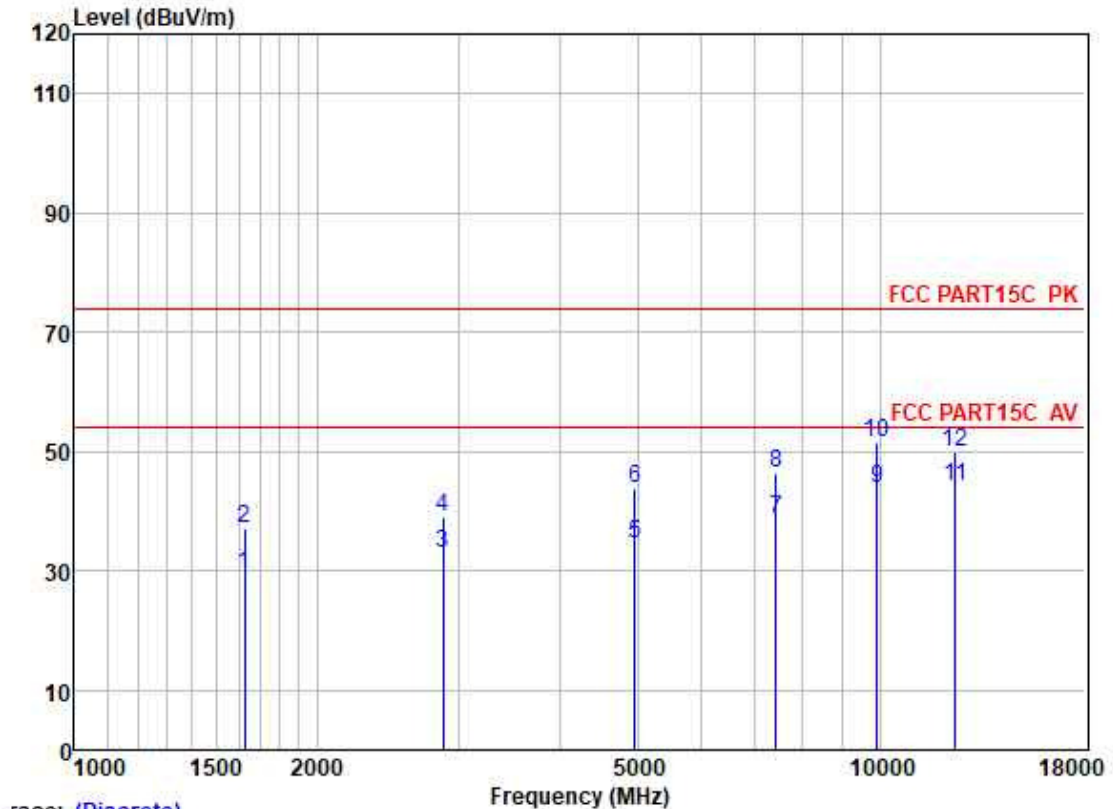
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1966.680	38.08	26.08	3.04	37.51	29.69	54.00	-24.31	VERTICAL	Average
2	1966.680	45.43	26.08	3.04	37.51	37.04	74.00	-36.96	VERTICAL	Peak
3	3123.039	37.18	28.50	3.94	37.03	32.59	54.00	-21.41	VERTICAL	Average
4	3123.039	43.90	28.50	3.94	37.03	39.31	74.00	-34.69	VERTICAL	Peak
5	4879.136	36.64	31.54	5.50	36.95	36.73	54.00	-17.27	VERTICAL	Average
6	4879.136	42.61	31.54	5.50	36.95	42.70	74.00	-31.30	VERTICAL	Peak
7	7318.797	32.58	36.00	6.13	36.92	37.79	54.00	-16.21	VERTICAL	Average
8	7318.797	39.75	36.00	6.13	36.92	44.96	74.00	-29.04	VERTICAL	Peak
9	9758.244	35.69	38.50	7.02	37.09	44.12	54.00	-9.88	VERTICAL	Average
10	9758.244	42.43	38.50	7.02	37.09	50.86	74.00	-23.14	VERTICAL	Peak
11	12197.180	33.25	38.77	8.10	37.06	43.06	54.00	-10.94	VERTICAL	Average
12	12197.180	42.32	38.77	8.10	37.06	52.13	74.00	-21.87	VERTICAL	Peak



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Mode:f; Polarization:Horizontal; Modulation:GFSK; ; Channel:High



Trace: (Discrete)

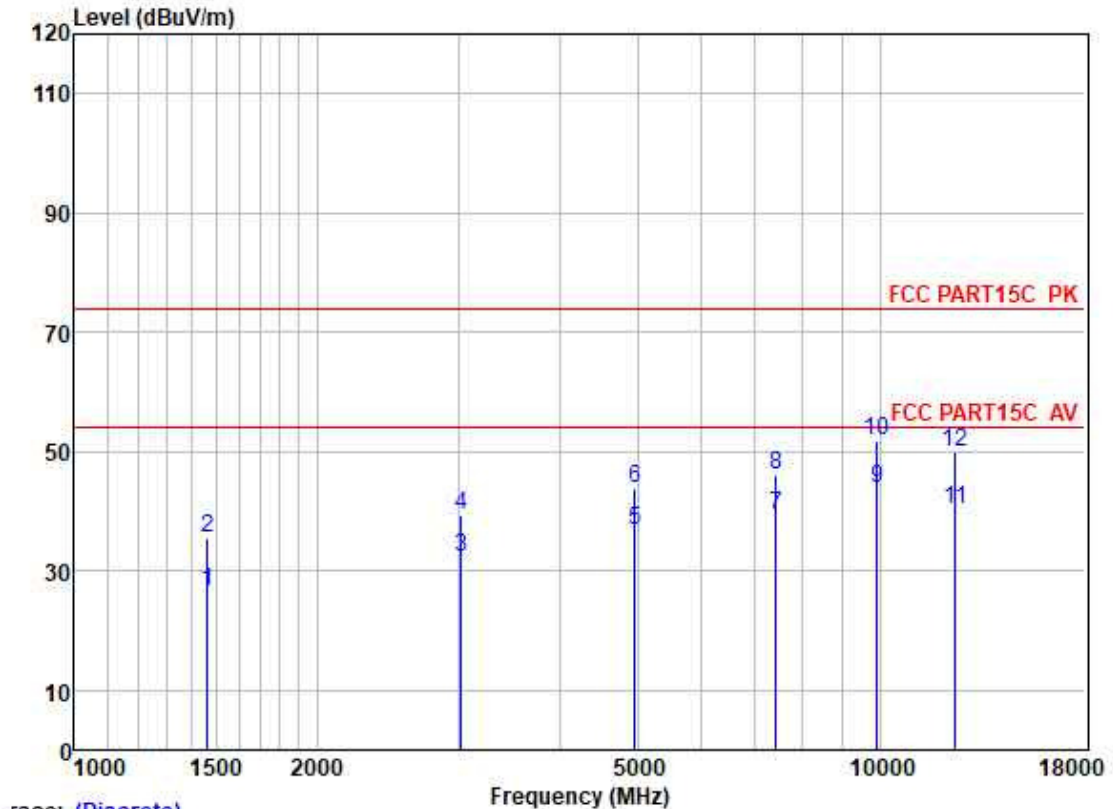
	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1625.121	38.72	25.61	2.80	37.63	29.50	54.00	-24.50	HORIZONTAL Average
2	1625.121	46.30	25.61	2.80	37.63	37.08	74.00	-36.92	HORIZONTAL Peak
3	2871.934	38.20	28.26	3.70	37.15	33.01	54.00	-20.99	HORIZONTAL Average
4	2871.934	44.21	28.26	3.70	37.15	39.02	74.00	-34.98	HORIZONTAL Peak
5	4959.975	34.28	31.65	5.65	36.96	34.62	54.00	-19.38	HORIZONTAL Average
6	4959.975	43.41	31.65	5.65	36.96	43.75	74.00	-30.25	HORIZONTAL Peak
7	7438.265	33.22	36.27	6.22	36.92	38.79	54.00	-15.21	HORIZONTAL Average
8	7438.265	40.85	36.27	6.22	36.92	46.42	74.00	-27.58	HORIZONTAL Peak
9	9918.164	35.27	38.65	6.96	37.10	43.78	54.00	-10.22	HORIZONTAL Average
10	9918.164	42.98	38.65	6.96	37.10	51.49	74.00	-22.51	HORIZONTAL Peak
11	12397.220	34.57	38.57	7.97	36.90	44.21	54.00	-9.79	HORIZONTAL Average
12	12397.220	40.29	38.57	7.97	36.90	49.93	74.00	-24.07	HORIZONTAL Peak



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Mode:f; Polarization:Vertical; Modulation:GFSK; ; Channel:High



		ReadAntenna		Cable	Preamp		Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1464.522	36.29	25.47	2.74	37.78	26.72	54.00	-27.28	VERTICAL	Average
2	1464.522	44.97	25.47	2.74	37.78	35.40	74.00	-38.60	VERTICAL	Peak
3	3025.306	37.00	28.42	3.82	37.06	32.18	54.00	-21.82	VERTICAL	Average
4	3025.306	44.18	28.42	3.82	37.06	39.36	74.00	-34.64	VERTICAL	Peak
5	4959.307	36.37	31.65	5.65	36.96	36.71	54.00	-17.29	VERTICAL	Average
6	4959.307	43.45	31.65	5.65	36.96	43.79	74.00	-30.21	VERTICAL	Peak
7	7438.708	33.88	36.27	6.22	36.92	39.45	54.00	-14.55	VERTICAL	Average
8	7438.708	40.45	36.27	6.22	36.92	46.02	74.00	-27.98	VERTICAL	Peak
9	9918.588	35.28	38.65	6.96	37.10	43.79	54.00	-10.21	VERTICAL	Average
10	9918.588	43.42	38.65	6.96	37.10	51.93	74.00	-22.07	VERTICAL	Peak
11	12397.220	30.81	38.57	7.97	36.90	40.45	54.00	-13.55	VERTICAL	Average
12	12397.220	40.31	38.57	7.97	36.90	49.95	74.00	-24.05	VERTICAL	Peak

--End of Report--



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