



TEST REPORT

Application No.:

GZCR2112021517AT

Applicant:

YEALINK (XIAMEN) NETWORK TECHNOLOGY CO., LTD.

Address of Applicant:

309, 3rd Floor, No.16, Yun Ding North Road, Huli District, Xiamen City, Fujian, China

Manufacturer:

YEALINK (XIAMEN) NETWORK TECHNOLOGY CO., LTD.

Address of Manufacturer:

309, 3rd Floor, No.16, Yun Ding North Road, Huli District, Xiamen City, Fujian, China

Factory:

YEALINK(XIAMEN) NETWORK TECHNOLOGY CO.,LTD.

Address of Factory:

5th -6th Floor, No.15 building, Golden Industrial Park, No.120 Hong Tang, Tong'an District, Xiamen City, Fujian, P.R. China

Equipment Under Test (EUT):

EUT Name: HD IP Conference Phone

Model No.: CP925

Trade Mark: YEALINK

Standard(s) : 47 CFR Part 15, Subpart C 15.247

Date of Receipt: 2021-12-15

Date of Test: 2022-03-11 to 2022-06-20

Date of Issue: 2022-06-27

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Kobe Jian
EMC Laboratory Manager



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Guangzhou Branch EEC Laboratory
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2022-06-27		Original

Authorized for issue by			
		Curry Wu/Project Engineer	
		Ricky Liu/Reviewer	

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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

2 Test Summary

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

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions (Below 1GHz)		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions (Above 1GHz)		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass

Note:

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

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

Remark:

This report is prepared for FCC class II permissive change.

The modular approval by TCB, FCC ID: T2C-YL430132, Granted on 12/10/2021.

The module installed into host platform mentioned above is electronically and mechanically identical to the original certified module. The Original FCC testing on module under FCC ID: T2C-YL430132 was performed with an antenna which was connected to the module in an open environment. The current host platform under application uses a new antenna of the different type, same gain and is installed inside the host platform enclosure.

Therefore in this report Conducted Emissions at AC Power Line (150kHz-30MHz), Radiated Emissions which fall in the restricted bands and Radiated Spurious Emissions were fully retested on model and shown the data in this report.

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4 General Information

4.1 Details of E.U.T.

Power supply:	Powered by adapter Adapter No.: YLPS121250C1-3C Input: AC100-240V; 50/60Hz; 0.5A Output: DC12.0V 1.25A
Cable(s):	DC cable: 250 cm unshielded Ethernet cable: 750cm unshielded
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz
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
Channel Spacing:	5MHz
Antenna Type:	PCB Antenna
Antenna Gain:	3dBi declared by applicant

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
PoE adapter	supplied by SGS	DC48V	REF. No. SEA32A00

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	±3.12dB
Radiated Emissions which fall in the restricted bands	±5.08dB (1GHz-6GHz); ±5.14dB (above 6GHz)
Radiated Spurious Emissions (Below 1GHz)	±5.06dB (3m); ±4.46dB (10m)
Radiated Spurious Emissions (Above 1GHz)	±5.08dB (1GHz-6GHz); ±5.14dB (above 6GHz)

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4.4 Test Location

All tests were performed at:

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

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

No tests were sub-contracted.

4.5 Test Facility

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

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

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

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

- **ACMA**

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

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

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

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

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

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

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

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

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

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

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

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

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IEC60068-2-27 and Rules of procedure IEC60068-2-27, and the relevant IEC60068-2-27 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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中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Network	Rohde & Schwarz	ENV216	EMC0118	2021-12-23	2022-12-22
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2021-09-24	2022-09-23
Coaxial Cable	HangTianXing	2m	EMC0107	2020-09-09	2022-09-08
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A
EMI Test Receiver(9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2022-05-20	2023-05-19

Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver(20Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-12-17	2022-12-16
Chamber cable(Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna(1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-12-17	2022-12-16
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-12-17	2022-12-16
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
MXE EMI Receiver(10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2021-11-01	2022-10-31
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-16	2022-09-15
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-29	2022-07-28
Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2021-08-30	2022-08-29

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Radiated Emissions (below 1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Chamber cable	HangTianXing	N/A	EMC0542	2020-09-09	2022-09-08
Trilog Broadband Antenna(25MHz-1GHz)-Lab	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	SEM003-18	2019-08-08	2022-08-07
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2022-05-16	2023-05-15
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2022-04-06	2024-04-05
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
EMI Test Receiver(10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-12-17	2022-12-16

Radiated Spurious Emissions (Above 1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver(20Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-12-17	2022-12-16
Chamber cable(Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna(1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-12-17	2022-12-16
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-12-17	2022-12-16
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
MXE EMI Receiver(10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2021-11-01	2022-10-31
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-16	2022-09-15
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-29	2022-07-28
Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2021-08-30	2022-08-29

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General used equipment

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2021-07-05	2022-07-05
DMM	Fluke	73	EMC0007	2021-07-05	2022-07-05

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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

6.1.2 Conclusion

15.203 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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of 15.211, 15.213, 15.217, 15.219, 15.221, or 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

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 3dBi.

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

*Decreases with the logarithm of the frequency.

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

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.8 °C Humidity: 52.1 % RH Atmospheric Pressure: 1010 mbar

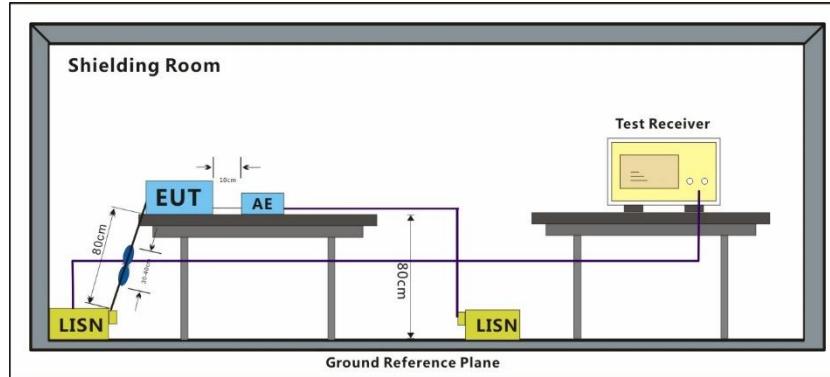
7.1.2 Test Mode Description

Pre-scan / Mode Final test	Mode Code	Description
Final test	08	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by adapter. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.
Pre-scan	09	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by PoE. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.

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7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

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

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

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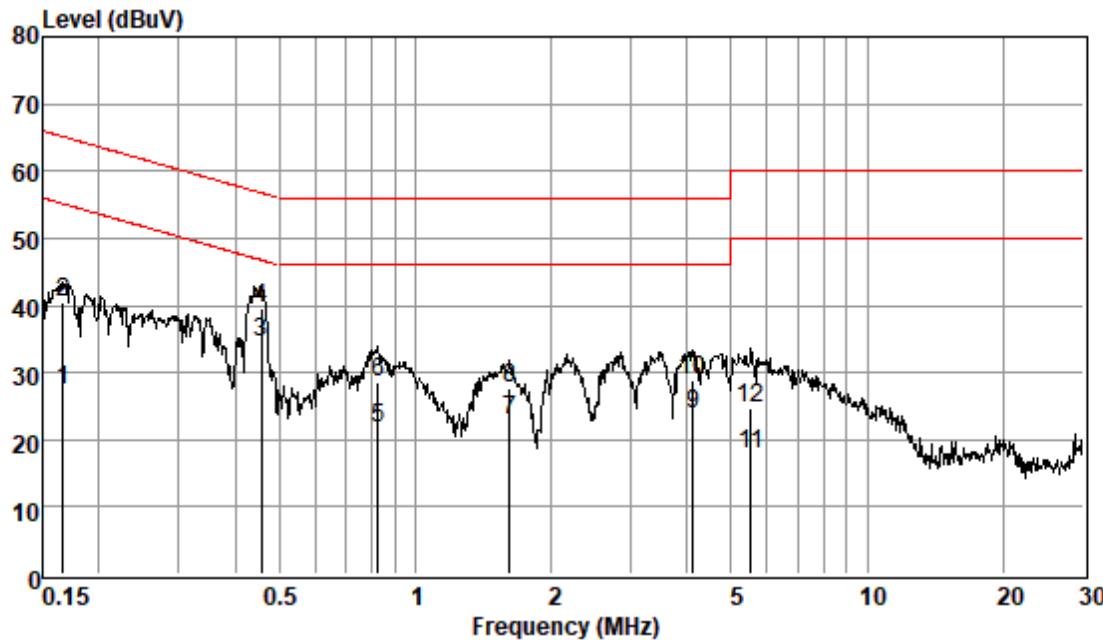
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Test Mode: 08; Line: Live line; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Pol :LINE

Mode :

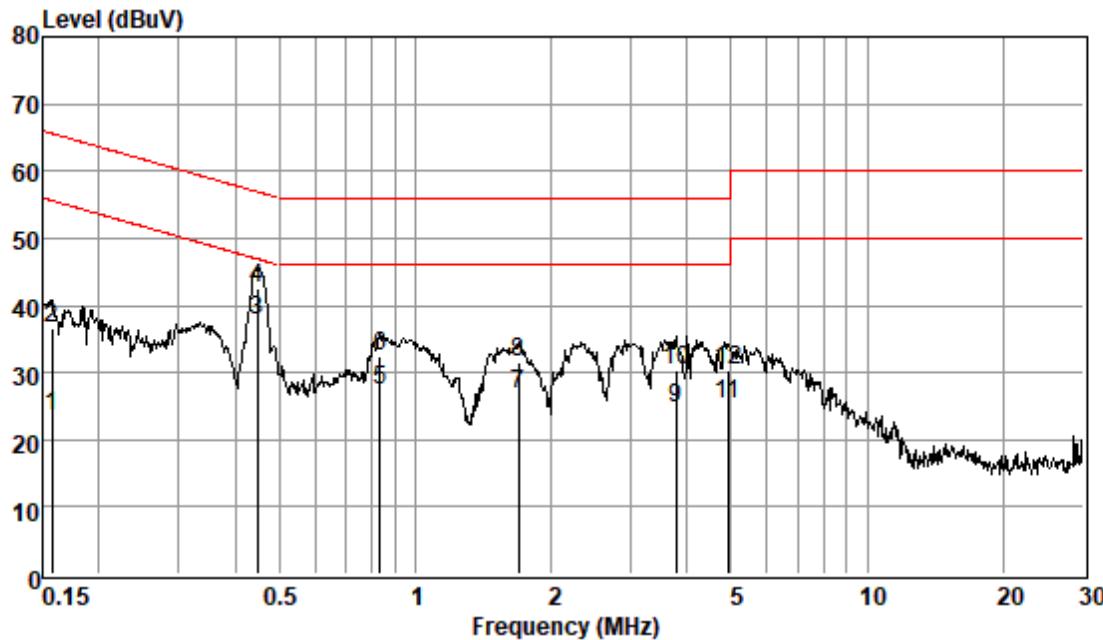
Model :

Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.17	17.58	0.06	9.62	27.26	55.12	-27.86	Average
0.17	30.83	0.06	9.62	40.51	65.12	-24.61	QP
0.46	24.79	0.07	9.63	34.49	46.76	-12.27	Average
0.46	29.92	0.07	9.63	39.62	56.76	-17.14	QP
0.83	12.03	0.07	9.63	21.73	46.00	-24.27	Average
0.83	18.96	0.07	9.63	28.66	56.00	-27.34	QP
1.62	13.32	0.10	9.61	23.03	46.00	-22.97	Average
1.62	17.96	0.10	9.61	27.67	56.00	-28.33	QP
4.11	14.08	0.17	9.62	23.87	46.00	-22.13	Average
4.11	19.17	0.17	9.62	28.96	56.00	-27.04	QP
5.53	7.98	0.19	9.66	17.83	50.00	-32.17	Average
5.53	14.72	0.19	9.66	24.57	60.00	-35.43	QP

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Test Mode: 08; Line: Neutral Line; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Pol :NEUTRAL

Mode :

Model :

Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.16	13.91	0.06	9.55	23.52	55.60	-32.08	Average
0.16	26.89	0.06	9.55	36.50	65.60	-29.10	QP
0.45	28.08	0.06	9.56	37.70	46.93	-9.23	Average
0.45	33.04	0.06	9.56	42.66	56.93	-14.27	QP
0.83	17.83	0.07	9.55	27.45	46.00	-18.55	Average
0.83	22.94	0.07	9.55	32.56	56.00	-23.44	QP
1.69	17.22	0.11	9.55	26.88	46.00	-19.12	Average
1.69	22.00	0.11	9.55	31.66	56.00	-24.34	QP
3.78	14.87	0.16	9.56	24.59	46.00	-21.41	Average
3.78	20.52	0.16	9.56	30.24	56.00	-25.76	QP
4.93	15.51	0.18	9.56	25.25	46.00	-20.75	Average
4.93	20.58	0.18	9.56	30.32	56.00	-25.68	QP

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7.2 Radiated Emissions which fall in the restricted bands

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

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

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.

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.3 °C Humidity: 51.5 % RH Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Mode Final test	Mode Code	Description
Final test	08	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by adapter. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.
Pre-scan	09	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by PoE. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20);Only the data of worst case is recorded in the report.

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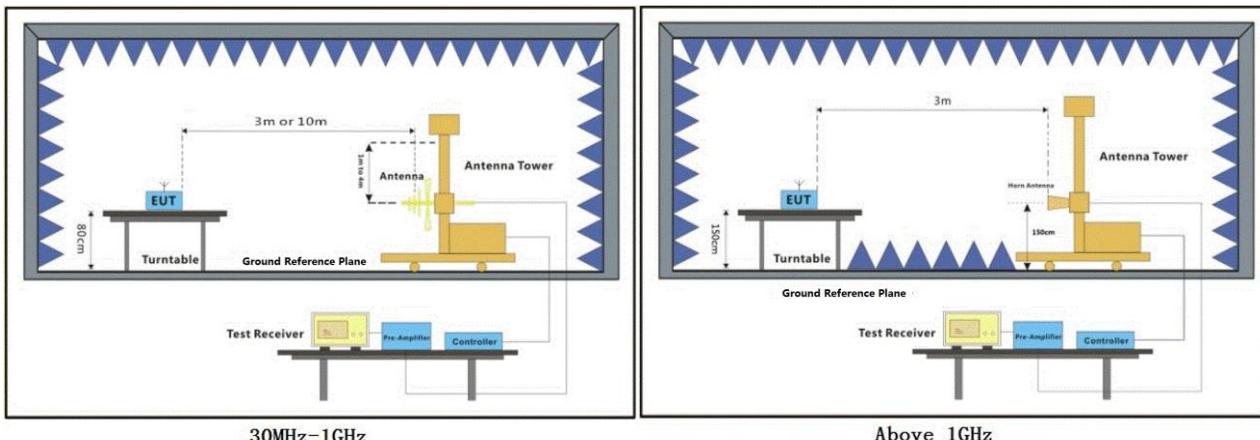
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7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

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

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

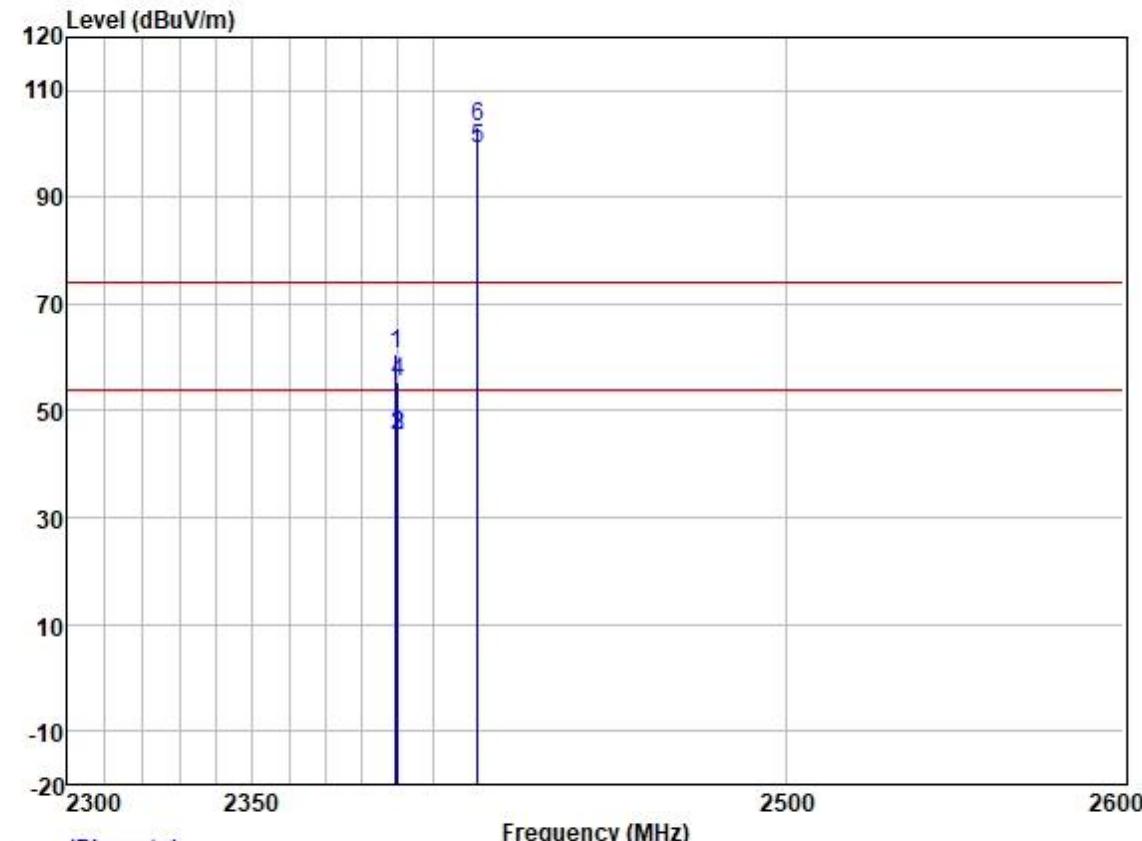
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level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



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Test Mode: 08; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	dB						
1	2389.242	67.51	27.33	3.48	37.59	60.73	74.00	-13.27	HORIZONTAL	Peak
2	2389.968	52.03	27.33	3.48	37.59	45.25	54.00	-8.75	HORIZONTAL	Average
3	2390.000	52.03	27.33	3.48	37.59	45.25	54.00	-8.75	HORIZONTAL	Average
4	2390.000	62.37	27.33	3.48	37.59	55.59	74.00	-18.41	HORIZONTAL	Peak
5 *	2412.000	106.00	27.38	3.47	37.59	99.26	54.00	45.26	HORIZONTAL	Average
6 *	2412.000	109.84	27.38	3.47	37.59	103.10	74.00	29.10	HORIZONTAL	Peak

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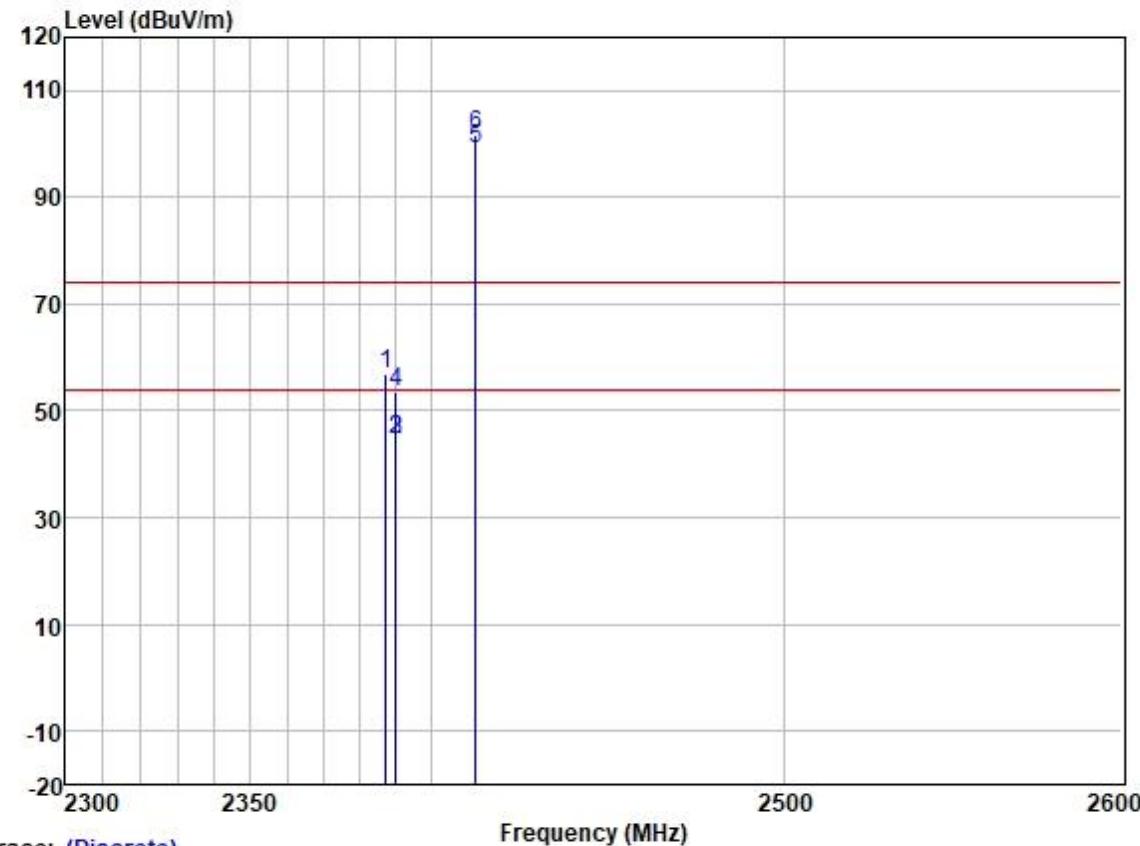
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Test Mode: 08; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low

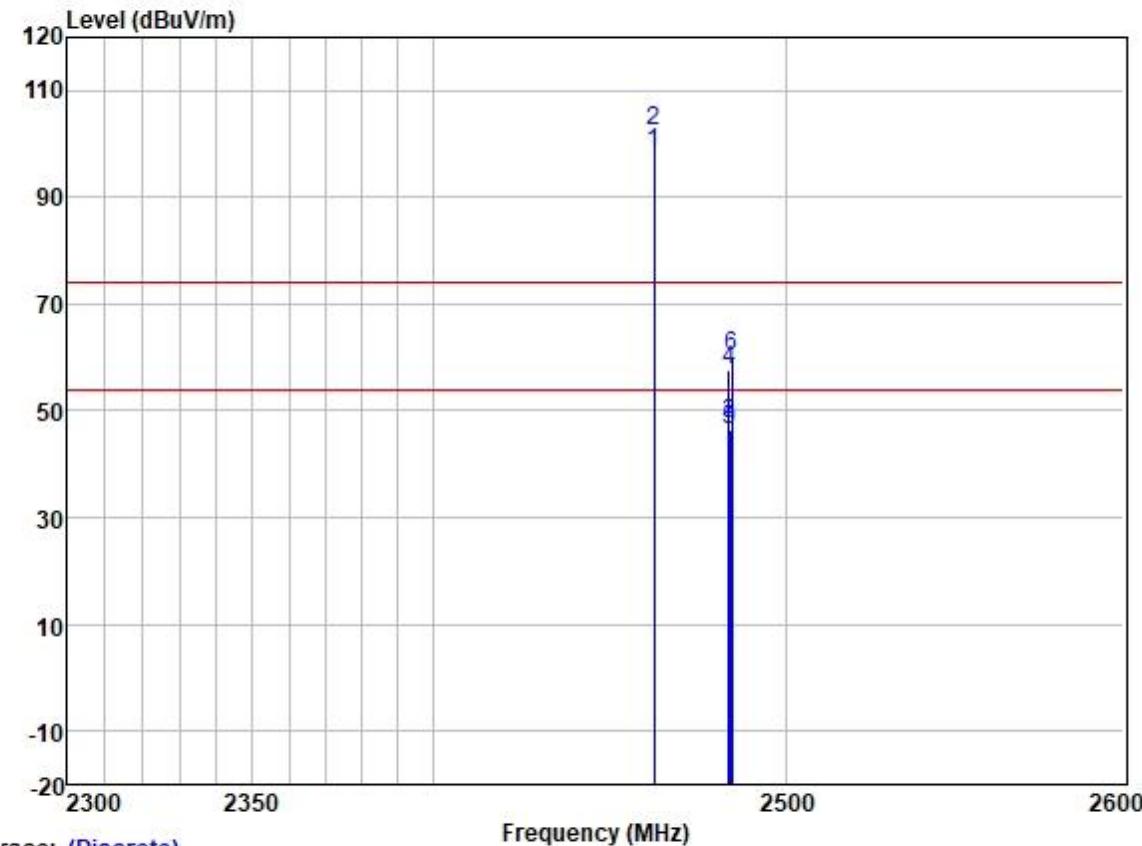


Freq	ReadAntenna		Cable		Preamp		Limit	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor	Level	dBuV/m				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB		
1 2387.065	63.52	27.33	3.48	37.60	56.73	74.00	-17.27	VERTICAL	Peak	
2 2389.968	51.20	27.33	3.48	37.59	44.42	54.00	-9.58	VERTICAL	Average	
3 2390.000	51.20	27.33	3.48	37.59	44.42	54.00	-9.58	VERTICAL	Average	
4 2390.000	60.37	27.33	3.48	37.59	53.59	74.00	-20.41	VERTICAL	Peak	
5 * 2412.000	105.81	27.38	3.47	37.59	99.07	54.00	45.07	VERTICAL	Average	
6 * 2412.000	108.63	27.38	3.47	37.59	101.89	74.00	27.89	VERTICAL	Peak	

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Test Mode: 08; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	dB						
1 * 2462.000	105.12	27.45	3.50	37.58	98.49	54.00	44.49	HORIZONTAL	Average	
2 * 2462.000	109.05	27.45	3.50	37.58	102.42	74.00	28.42	HORIZONTAL	Peak	
3 2483.500	54.06	27.48	3.53	37.57	47.50	54.00	-6.50	HORIZONTAL	Average	
4 2483.500	64.03	27.48	3.53	37.57	57.47	74.00	-16.53	HORIZONTAL	Peak	
5 2483.790	53.00	27.48	3.53	37.57	46.44	54.00	-7.56	HORIZONTAL	Average	
6 2484.241	66.83	27.48	3.53	37.57	60.27	74.00	-13.73	HORIZONTAL	Peak	

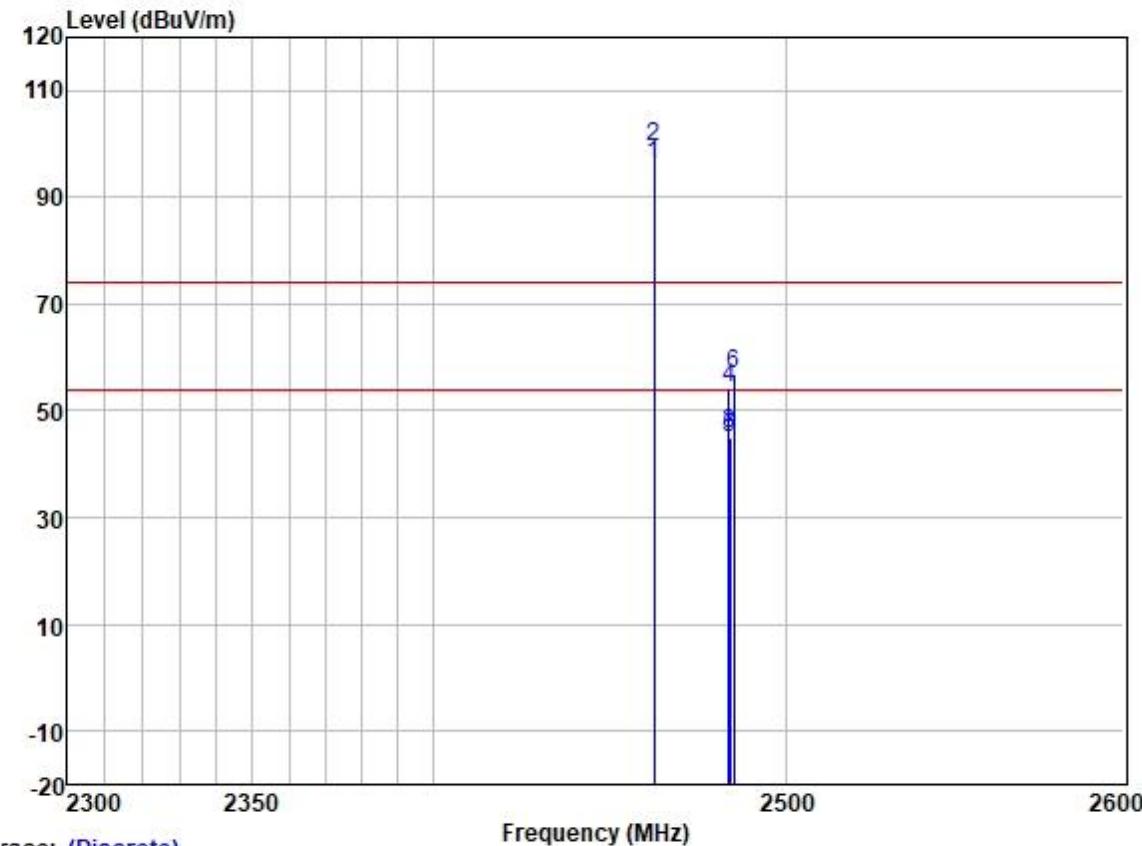
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Guangzhou Branch Testing Center for EEC Laboratory

Test Mode: 08; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Trace: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Line	Pol/Phase	Remark
	MHz	dBuV	Level Factor	Loss Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1 *	2462.000	102.89	27.45	3.50	37.58	96.26	54.00	42.26 VERTICAL Average
2 *	2462.000	106.07	27.45	3.50	37.58	99.44	74.00	25.44 VERTICAL Peak
3	2483.500	52.25	27.48	3.53	37.57	45.69	54.00	-8.31 VERTICAL Average
4	2483.500	60.94	27.48	3.53	37.57	54.38	74.00	-19.62 VERTICAL Peak
5	2483.790	51.38	27.48	3.53	37.57	44.82	54.00	-9.18 VERTICAL Average
6	2484.844	63.42	27.48	3.53	37.57	56.86	74.00	-17.14 VERTICAL Peak

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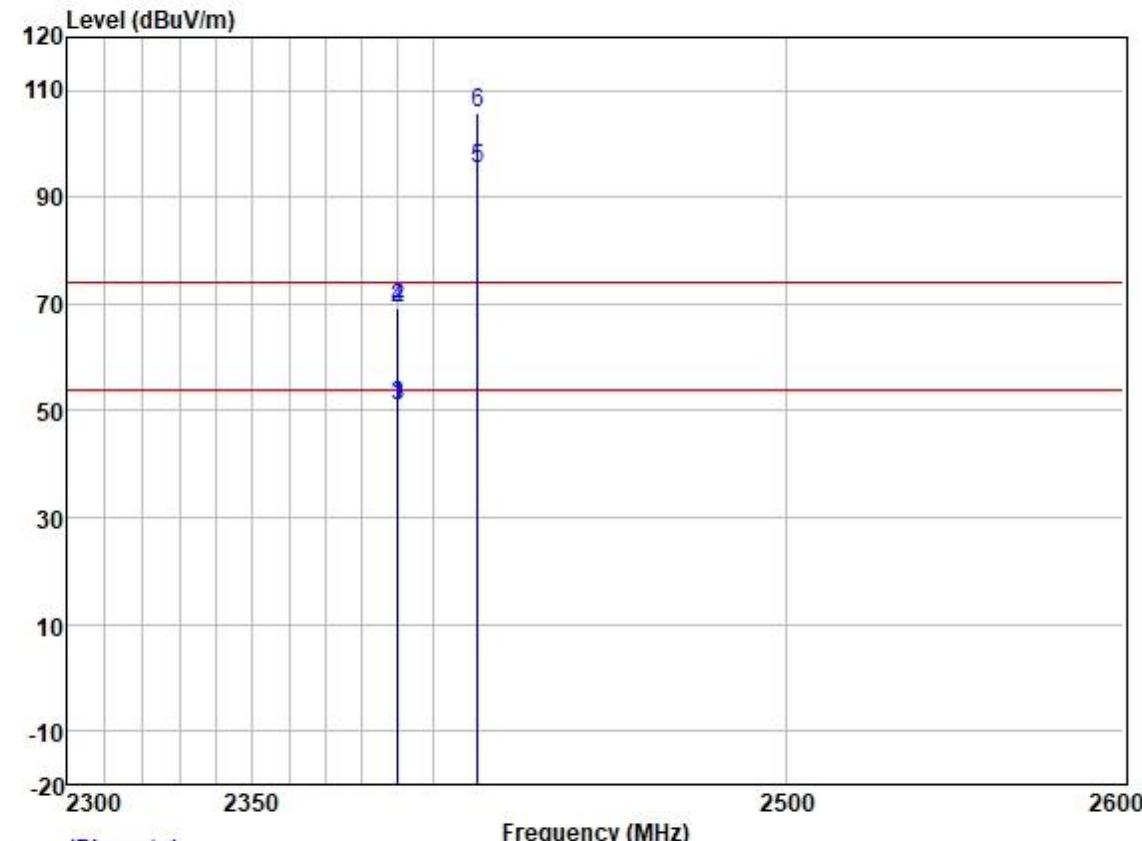
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Test Mode: 08; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



ReadAntenna	Cable	Preamp	Limit	Over	Remark								
					Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB	dB	dB	dB		
1 2389.968	57.58	27.33	3.48	37.59	50.80	54.00	-3.20	HORIZONTAL	Average				
2 2389.968	75.98	27.33	3.48	37.59	69.20	74.00	-4.80	HORIZONTAL	Peak				
3 2390.000	57.58	27.33	3.48	37.59	50.80	54.00	-3.20	HORIZONTAL	Average				
4 2390.000	75.88	27.33	3.48	37.59	69.10	74.00	-4.90	HORIZONTAL	Peak				
5 * 2412.000	102.28	27.38	3.47	37.59	95.54	54.00	41.54	HORIZONTAL	Average				
6 * 2412.000	112.54	27.38	3.47	37.59	105.80	74.00	31.80	HORIZONTAL	Peak				

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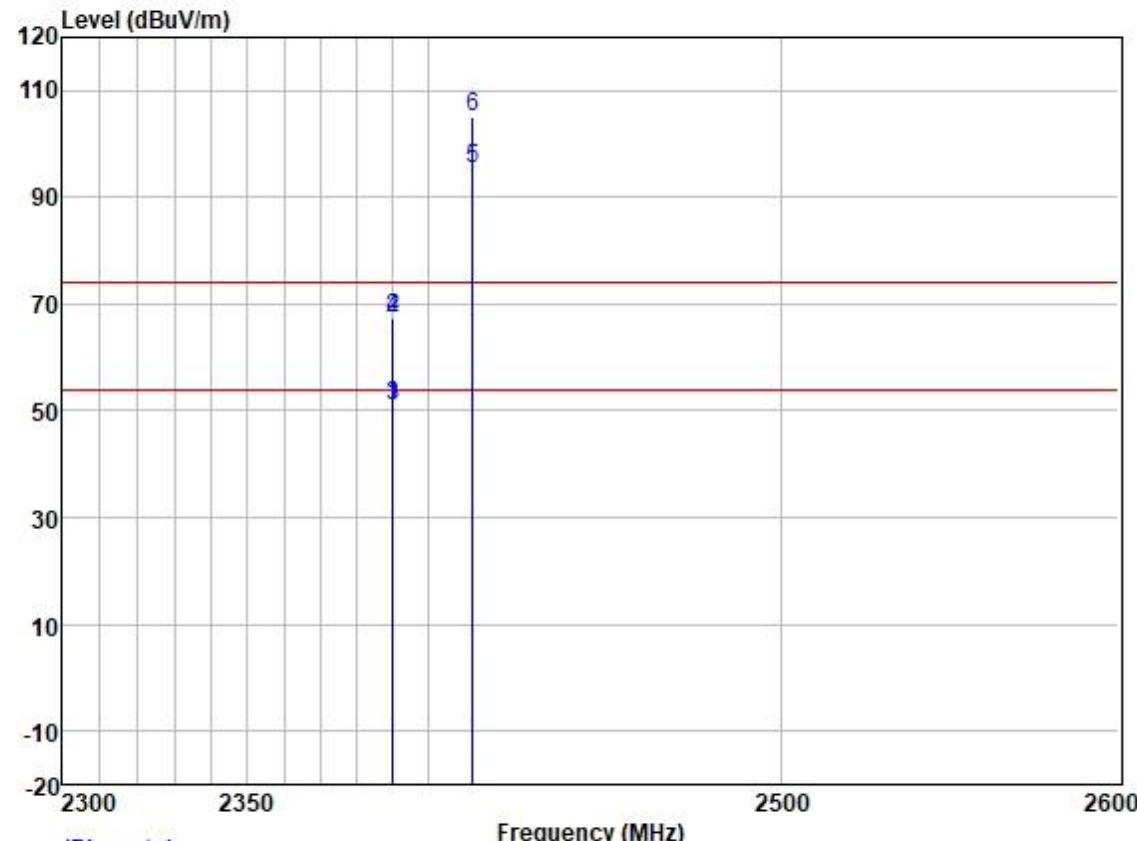
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Test Mode: 08; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



Freq	ReadAntenna		Cable		Preamp		Limit Line	Over Limit	Pol/Phase	Remark
	MHz	Level	Factor	Loss	Factor	Level				
	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	2389.968	57.67	27.33	3.48	37.59	50.89	54.00	-3.11	VERTICAL	Average
2	2389.968	74.11	27.33	3.48	37.59	67.33	74.00	-6.67	VERTICAL	Peak
3	2390.000	57.67	27.33	3.48	37.59	50.89	54.00	-3.11	VERTICAL	Average
4	2390.000	74.11	27.33	3.48	37.59	67.33	74.00	-6.67	VERTICAL	Peak
5 *	2412.000	102.19	27.38	3.47	37.59	95.45	54.00	41.45	VERTICAL	Average
6 *	2412.000	111.80	27.38	3.47	37.59	105.06	74.00	31.06	VERTICAL	Peak

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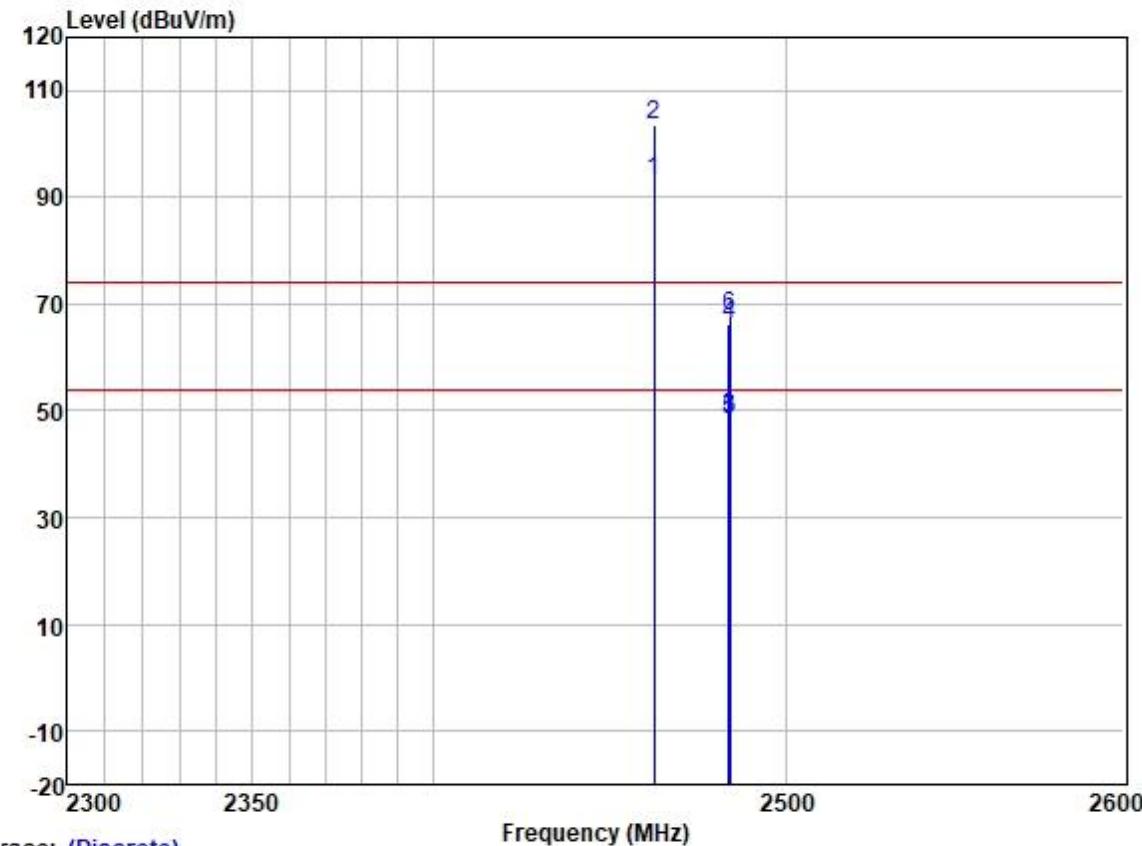
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Test Mode: 08; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High

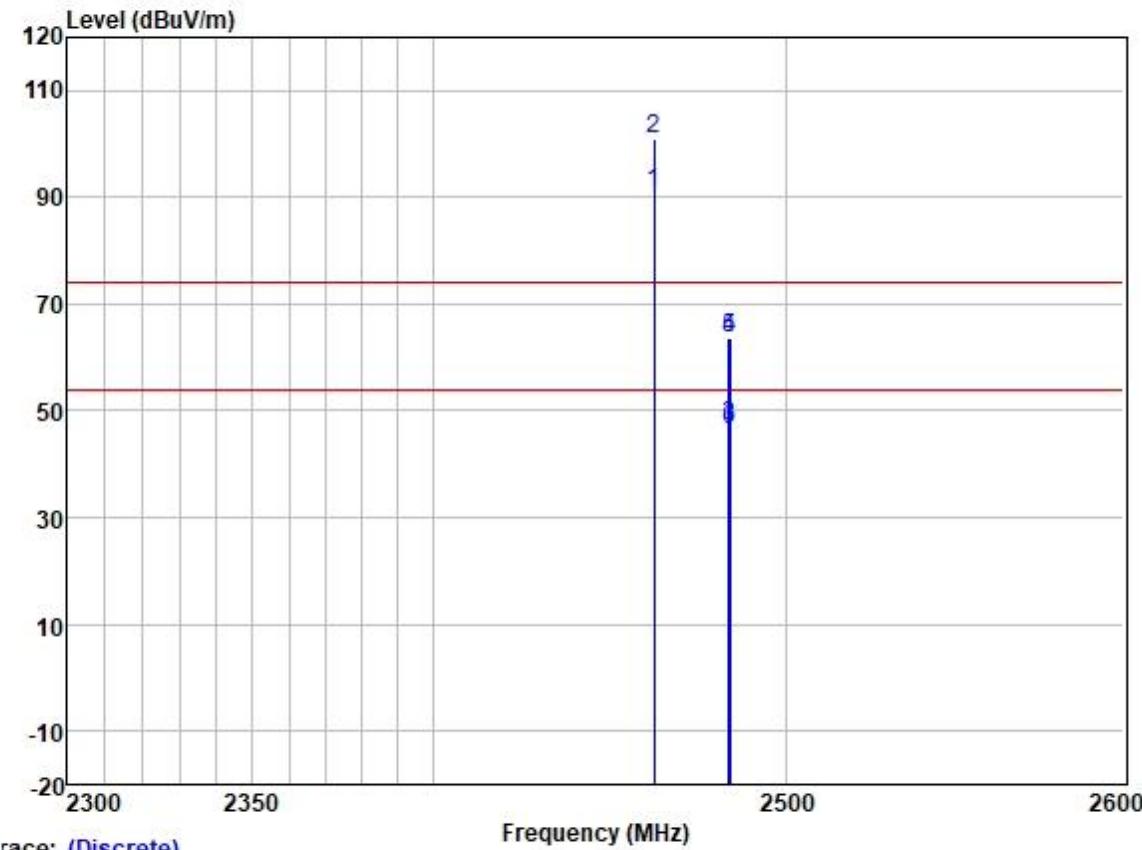


Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	dB						
1 * 2462.000	99.69	27.45	3.50	37.58	93.06	54.00	39.06	HORIZONTAL	Average	
2 * 2462.000	110.19	27.45	3.50	37.58	103.56	74.00	29.56	HORIZONTAL	Peak	
3 2483.500	55.18	27.48	3.53	37.57	48.62	54.00	-5.38	HORIZONTAL	Average	
4 2483.500	72.86	27.48	3.53	37.57	66.30	74.00	-7.70	HORIZONTAL	Peak	
5 2483.790	55.04	27.48	3.53	37.57	48.48	54.00	-5.52	HORIZONTAL	Average	
6 2483.790	74.34	27.48	3.53	37.57	67.78	74.00	-6.22	HORIZONTAL	Peak	

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Test Mode: 08; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	dB						
1 *	2462.000	97.51	27.45	3.50	37.58	90.88	54.00	36.88	VERTICAL	Average
2 *	2462.000	107.42	27.45	3.50	37.58	100.79	74.00	26.79	VERTICAL	Peak
3	2483.500	53.65	27.48	3.53	37.57	47.09	54.00	-6.91	VERTICAL	Average
4	2483.500	70.19	27.48	3.53	37.57	63.63	74.00	-10.37	VERTICAL	Peak
5	2483.790	70.04	27.48	3.53	37.57	63.48	74.00	-10.52	VERTICAL	Peak
6	2483.890	53.10	27.48	3.53	37.57	46.54	54.00	-7.46	VERTICAL	Average

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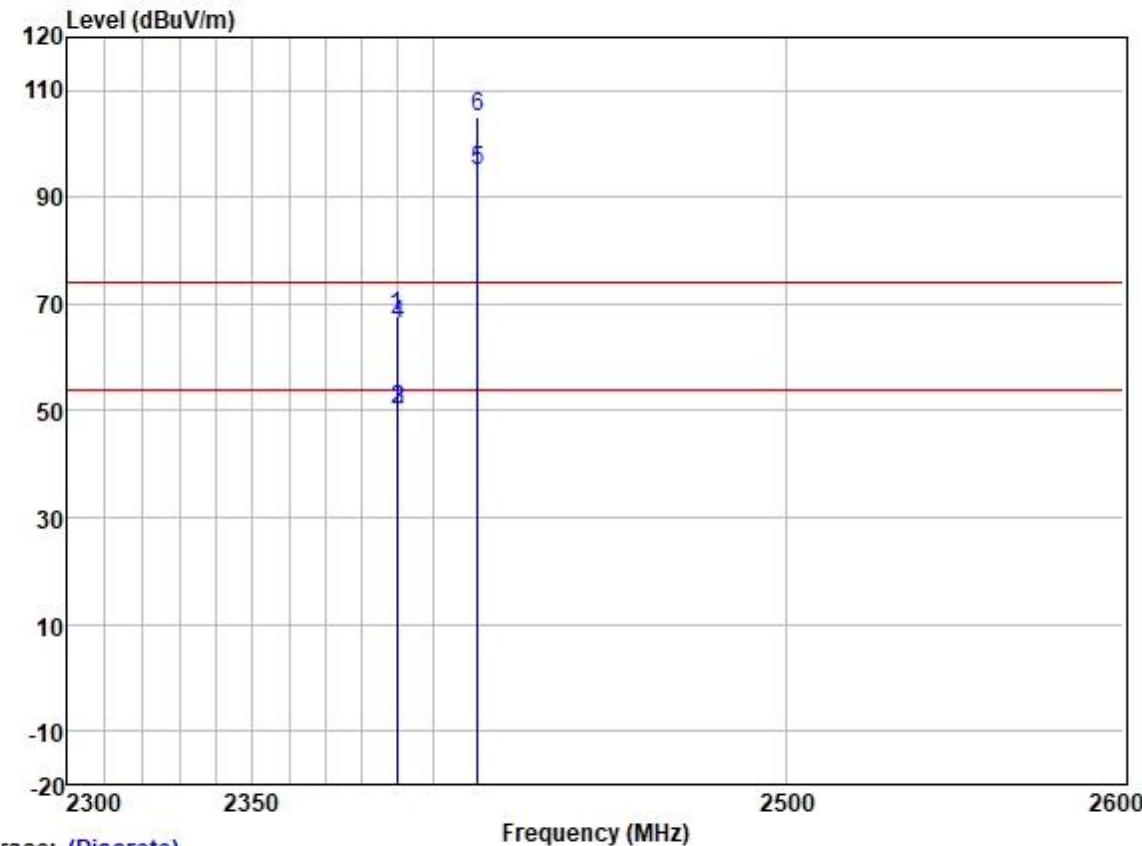
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Test Mode: 08; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Trace: (Discrete)

Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	Level Factor	dB						
1	2389.605	74.52	27.33	3.48	37.59	67.74	74.00	-6.26	HORIZONTAL	Peak
2	2389.968	57.12	27.33	3.48	37.59	50.34	54.00	-3.66	HORIZONTAL	Average
3	2390.000	57.12	27.33	3.48	37.59	50.34	54.00	-3.66	HORIZONTAL	Average
4	2390.000	72.96	27.33	3.48	37.59	66.18	74.00	-7.82	HORIZONTAL	Peak
5 *	2412.000	101.79	27.38	3.47	37.59	95.05	54.00	41.05	HORIZONTAL	Average
6 *	2412.000	111.93	27.38	3.47	37.59	105.19	74.00	31.19	HORIZONTAL	Peak

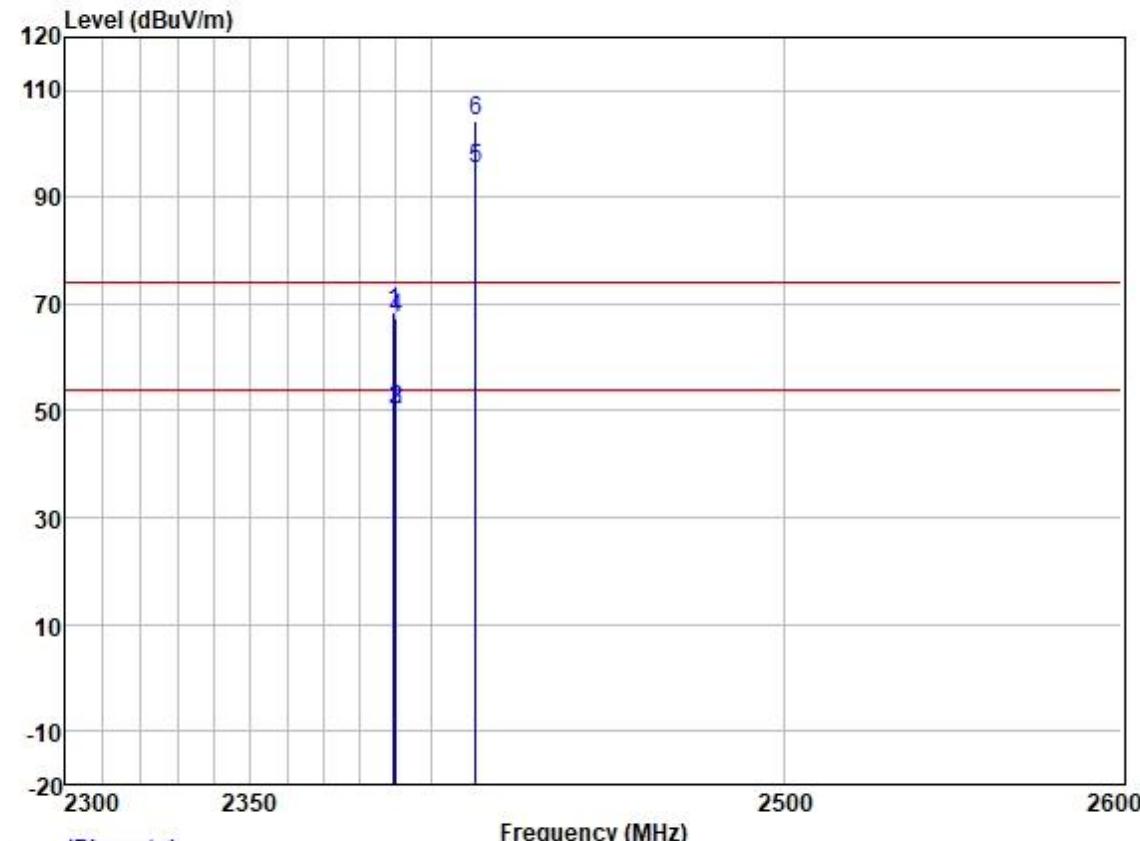
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Test Mode: 08; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



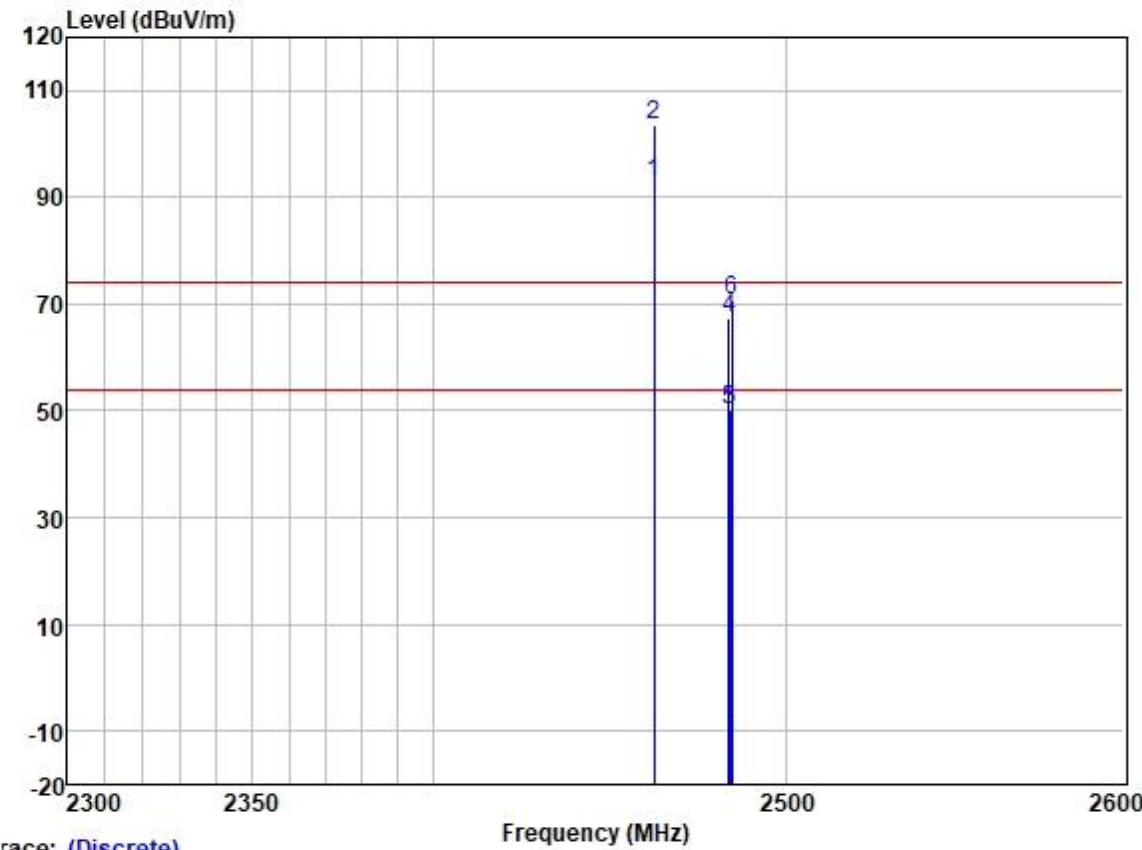
Trace: (Discrete)

Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB						
1	2389.242	75.17	27.33	3.48	37.59	68.39	74.00	-5.61	VERTICAL	Peak
2	2389.968	57.06	27.33	3.48	37.59	50.28	54.00	-3.72	VERTICAL	Average
3	2390.000	57.06	27.33	3.48	37.59	50.28	54.00	-3.72	VERTICAL	Average
4	2390.000	74.11	27.33	3.48	37.59	67.33	74.00	-6.67	VERTICAL	Peak
5 *	2412.000	101.95	27.38	3.47	37.59	95.21	54.00	41.21	VERTICAL	Average
6 *	2412.000	111.09	27.38	3.47	37.59	104.35	74.00	30.35	VERTICAL	Peak

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Test Mode: 08; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

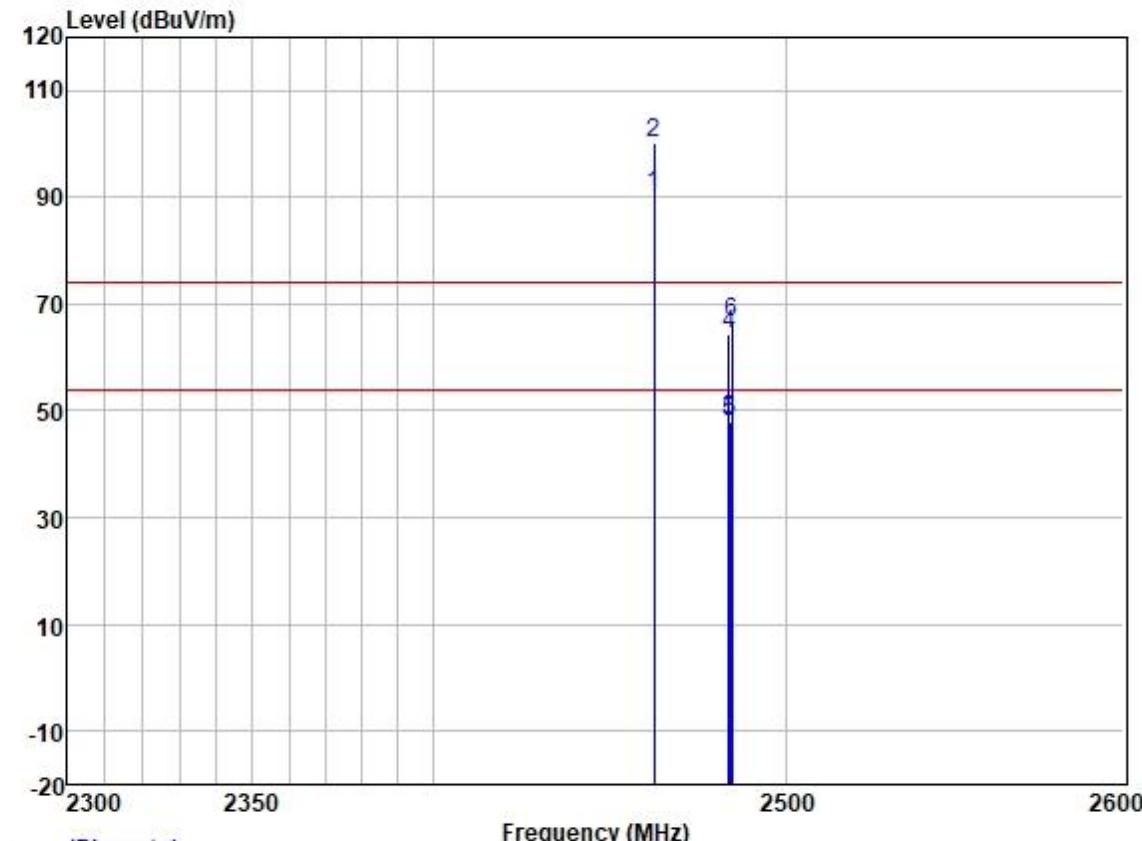


Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB						
1 * 2462.000	99.40	27.45	3.50	37.58	92.77	54.00	38.77	HORIZONTAL	Average	
2 * 2462.000	110.08	27.45	3.50	37.58	103.45	74.00	29.45	HORIZONTAL	Peak	
3 2483.500	56.87	27.48	3.53	37.57	50.31	54.00	-3.69	HORIZONTAL	Average	
4 2483.500	74.10	27.48	3.53	37.57	67.54	74.00	-6.46	HORIZONTAL	Peak	
5 2483.790	56.68	27.48	3.53	37.57	50.12	54.00	-3.88	HORIZONTAL	Average	
6 2484.241	77.17	27.48	3.53	37.57	70.61	74.00	-3.39	HORIZONTAL	Peak	

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Test Mode: 08; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor					
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 * 2462.000	97.30	27.45	3.50	37.58	90.67	54.00	36.67	VERTICAL	Average
2 * 2462.000	106.72	27.45	3.50	37.58	100.09	74.00	26.09	VERTICAL	Peak
3 2483.500	54.91	27.48	3.53	37.57	48.35	54.00	-5.65	VERTICAL	Average
4 2483.500	70.87	27.48	3.53	37.57	64.31	74.00	-9.69	VERTICAL	Peak
5 2483.890	54.66	27.48	3.53	37.57	48.10	54.00	-5.90	VERTICAL	Average
6 2484.342	73.35	27.48	3.53	37.57	66.79	74.00	-7.21	VERTICAL	Peak

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7.3 Radiated Spurious Emissions (Below 1GHz)

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

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

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.

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24.1 °C Humidity: 51.8 % RH Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Mode Final test	Mode Code	Description
Final test	08	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by adapter. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.
Pre-scan	09	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by PoE. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.

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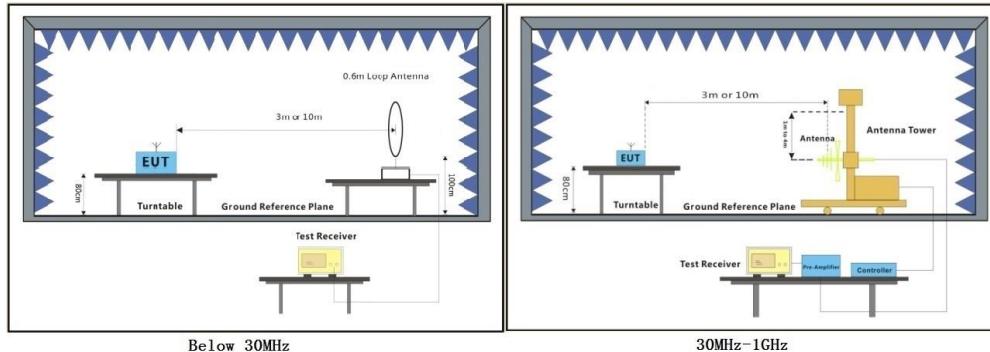
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7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. 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.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. 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.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1) Through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

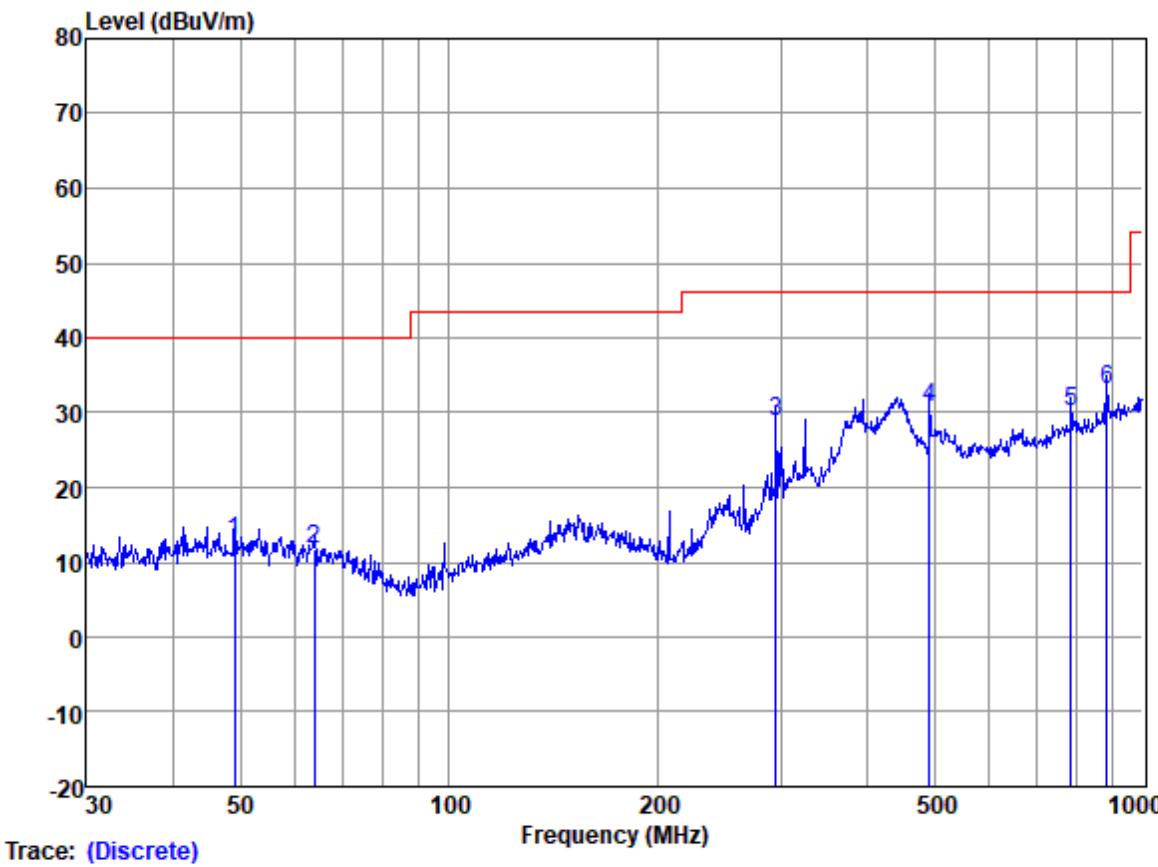
3) Scan from 9kHz to 1 GHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

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Test Mode: 08; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



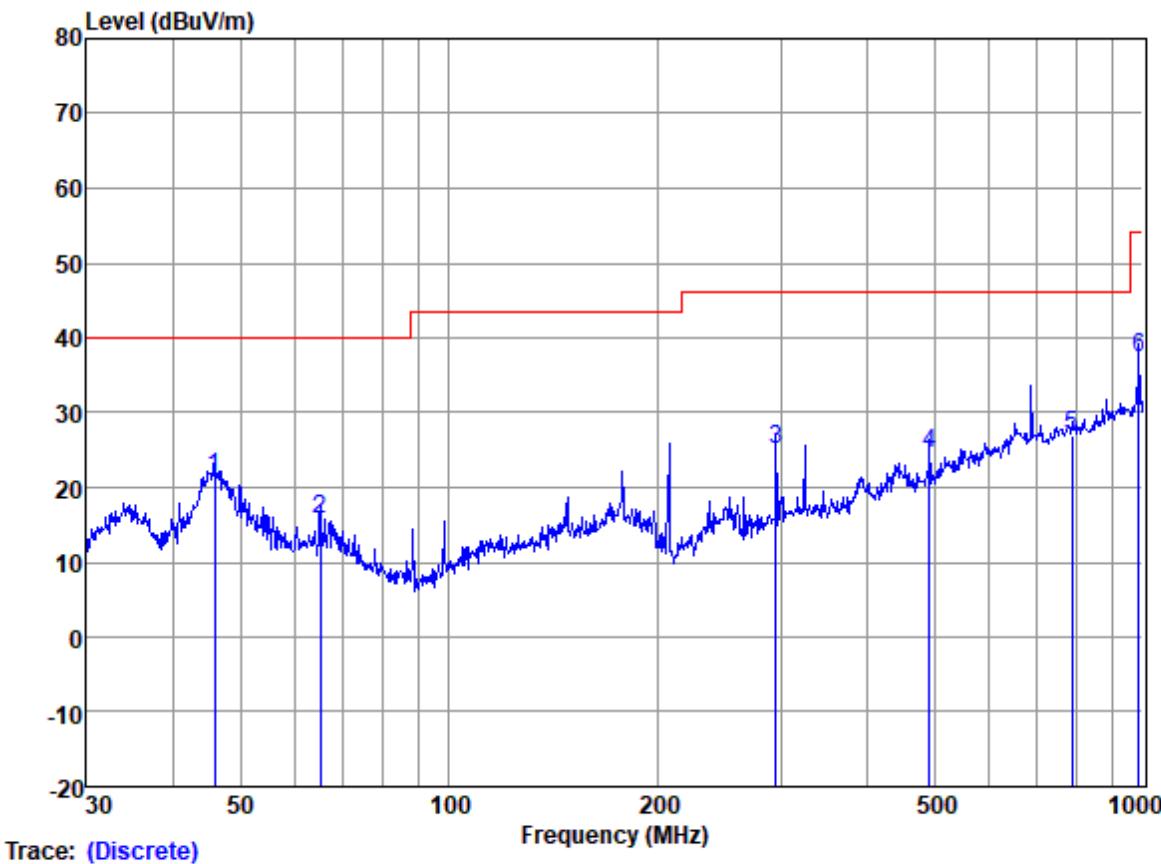
Site : SGS
Job :
Model :
Power :
Test Mode :

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	49.01	24.97	13.95	1.14	27.17	12.89	40.00	-27.11	HORIZONTAL QP
2	63.98	24.70	12.90	1.32	27.15	11.77	40.00	-28.23	HORIZONTAL QP
3	295.15	38.65	13.50	3.15	26.55	28.75	46.00	-17.25	HORIZONTAL QP
4	492.47	36.46	17.85	4.37	27.95	30.73	46.00	-15.27	HORIZONTAL QP
5	787.85	29.58	22.45	6.11	28.04	30.10	46.00	-15.90	HORIZONTAL QP
6	887.61	30.98	23.07	6.86	27.86	33.05	46.00	-12.95	HORIZONTAL QP

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Test Mode: 08; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Site : SGS
Job :
Model :
Power :
Test Mode :

Freq	Read	Antenna	Cable	Preamp	Measured	Limit	Over	Pol/	Remark
	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	
1 45.86	33.56	13.89	1.13	27.17	21.41	40.00	-18.59	VERTICAL	QP
2 65.11	28.78	12.71	1.35	27.15	15.69	40.00	-24.31	VERTICAL	QP
3 295.15	35.07	13.50	3.15	26.55	25.17	46.00	-20.83	VERTICAL	QP
4 492.47	30.32	17.85	4.37	27.95	24.59	46.00	-21.41	VERTICAL	QP
5 790.62	26.28	22.50	6.14	28.04	26.88	46.00	-19.12	VERTICAL	QP
6 986.07	33.57	24.17	7.37	27.68	37.43	54.00	-16.57	VERTICAL	QP

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7.4 Radiated Spurious Emissions (Above 1GHz)

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

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

7.4.1 E.U.T. Operation

Operating Environment:

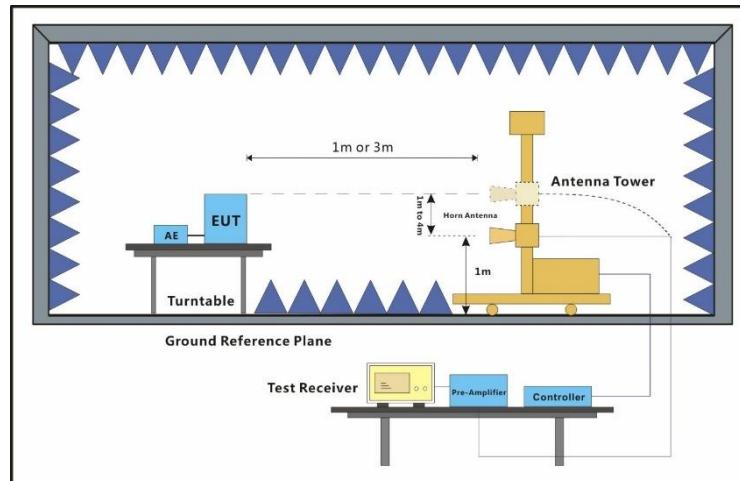
Temperature: 24.3 °C Humidity: 51.5 % RH Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Mode Final test	Mode Code	Description
Final test	08	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by adapter. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.
Pre-scan	09	TX mode_Keep the EUT in continuously transmitting mode with all modulation types while EUT power supplied by PoE. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20);Only the data of worst case is recorded in the report.

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7.4.3 Test Setup Diagram

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7.4.4 Measurement Procedure and Data

- a. 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.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. 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.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1) 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

2) Scan from 1GHz to 25GHz, the disturbance above 18GHz 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.

3) 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.

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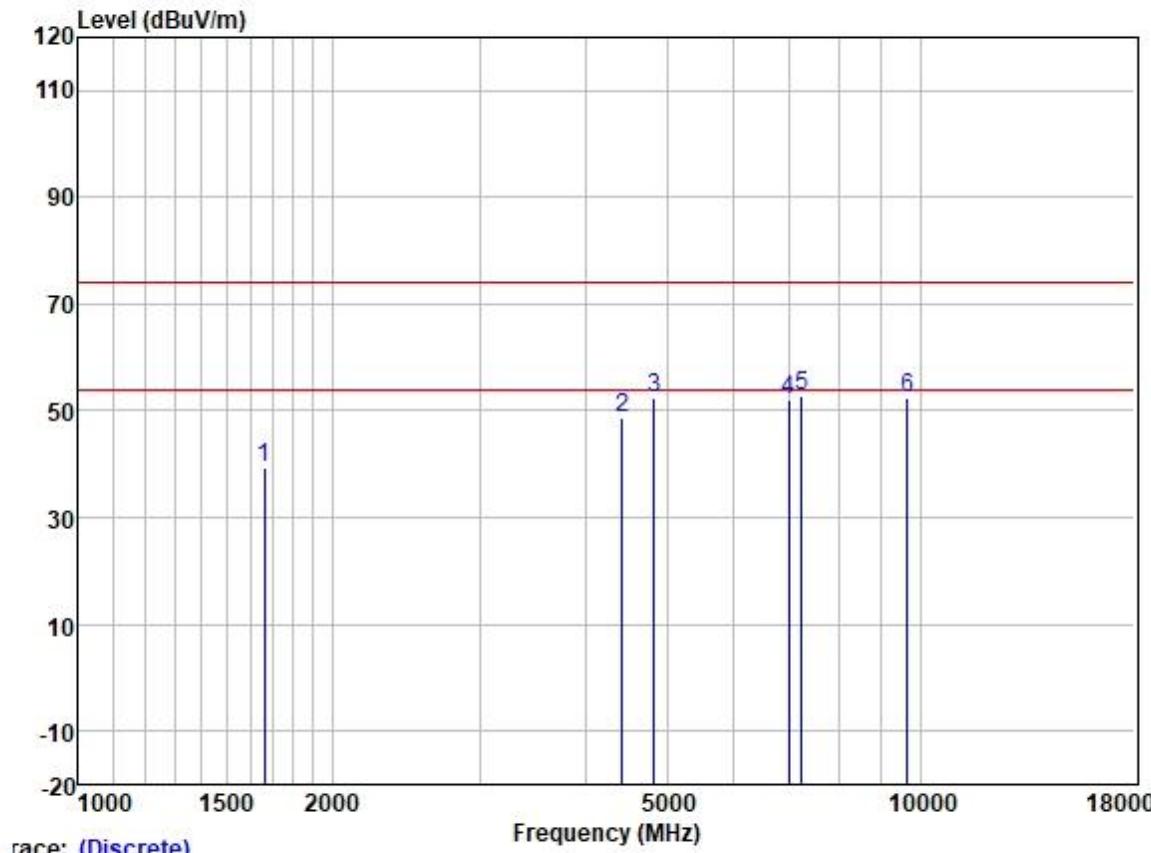
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Test Mode: 08; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low

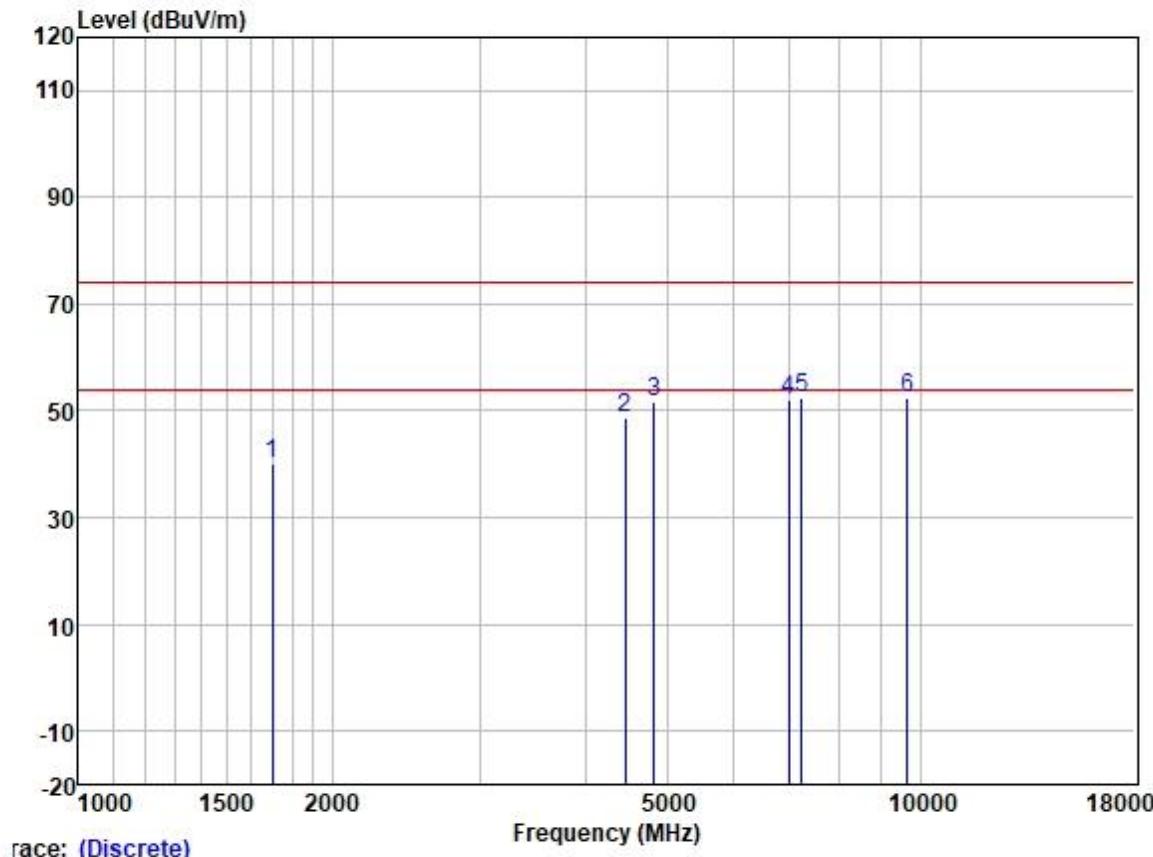


Freq	ReadAntenna		Cable		Preamp		Limit	Over	Pol/Phase	Remark
	MHz	Level	Factor	Loss	Factor	Level				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1663.137	48.78	25.65	2.80	37.91	39.32	74.00	-34.68	HORIZONTAL	Peak
2	4430.628	50.05	30.72	4.78	36.81	48.74	74.00	-25.26	HORIZONTAL	Peak
3	4824.000	52.37	31.45	5.42	36.83	52.41	74.00	-21.59	HORIZONTAL	Peak
4	6974.982	48.53	34.97	5.81	37.23	52.08	74.00	-21.92	HORIZONTAL	Peak
5	7236.000	48.39	35.70	6.03	37.39	52.73	74.00	-21.27	HORIZONTAL	Peak
6	9648.000	44.26	38.40	7.06	37.42	52.30	74.00	-21.70	HORIZONTAL	Peak

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Test Mode: 08; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	Level	Factor	Loss							
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB	dB	
1	1697.129	49.43	25.71	2.80	37.89	40.05	74.00	-33.95	VERTICAL	Peak	
2	4456.315	49.80	30.75	4.88	36.81	48.62	74.00	-25.38	VERTICAL	Peak	
3	4824.000	51.54	31.45	5.42	36.83	51.58	74.00	-22.42	VERTICAL	Peak	
4	6974.982	48.40	34.97	5.81	37.23	51.95	74.00	-22.05	VERTICAL	Peak	
5	7236.000	48.03	35.70	6.03	37.39	52.37	74.00	-21.63	VERTICAL	Peak	
6	9648.000	44.31	38.40	7.06	37.42	52.35	74.00	-21.65	VERTICAL	Peak	

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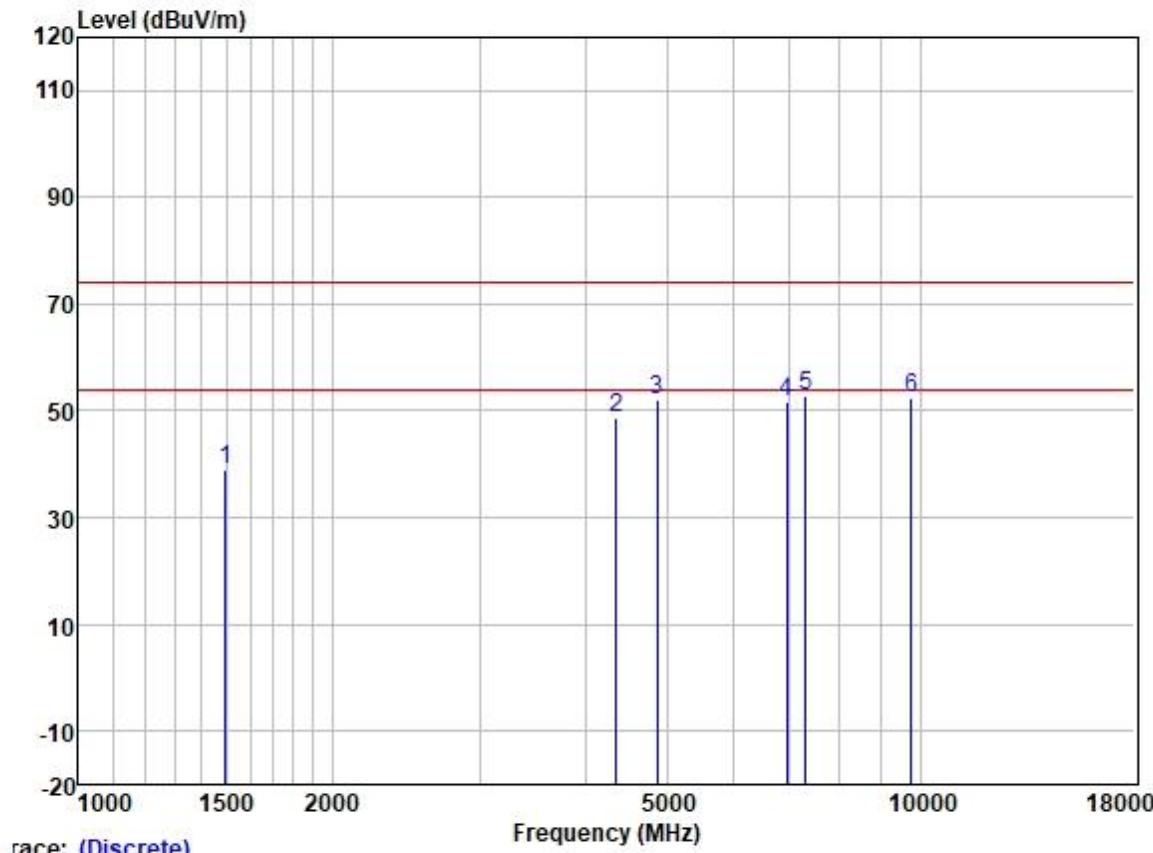
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Test Mode: 08; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



Trace: (Discrete)	ReadAntenna		Cable		Preamp		Limit	Over	Pol/Phase	Remark
	Freq	Level	Factor	Loss	Factor	Level				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1494.455	48.78	25.50	2.79	38.10	38.97	74.00	-35.03	HORIZONTAL	Peak
2	4354.454	50.12	30.59	4.68	36.81	48.58	74.00	-25.42	HORIZONTAL	Peak
3	4874.000	51.74	31.54	5.50	36.84	51.94	74.00	-22.06	HORIZONTAL	Peak
4	6934.778	48.24	34.92	5.81	37.19	51.78	74.00	-22.22	HORIZONTAL	Peak
5	7311.000	48.24	35.93	6.11	37.42	52.86	74.00	-21.14	HORIZONTAL	Peak
6	9748.000	44.49	38.50	7.02	37.41	52.60	74.00	-21.40	HORIZONTAL	Peak

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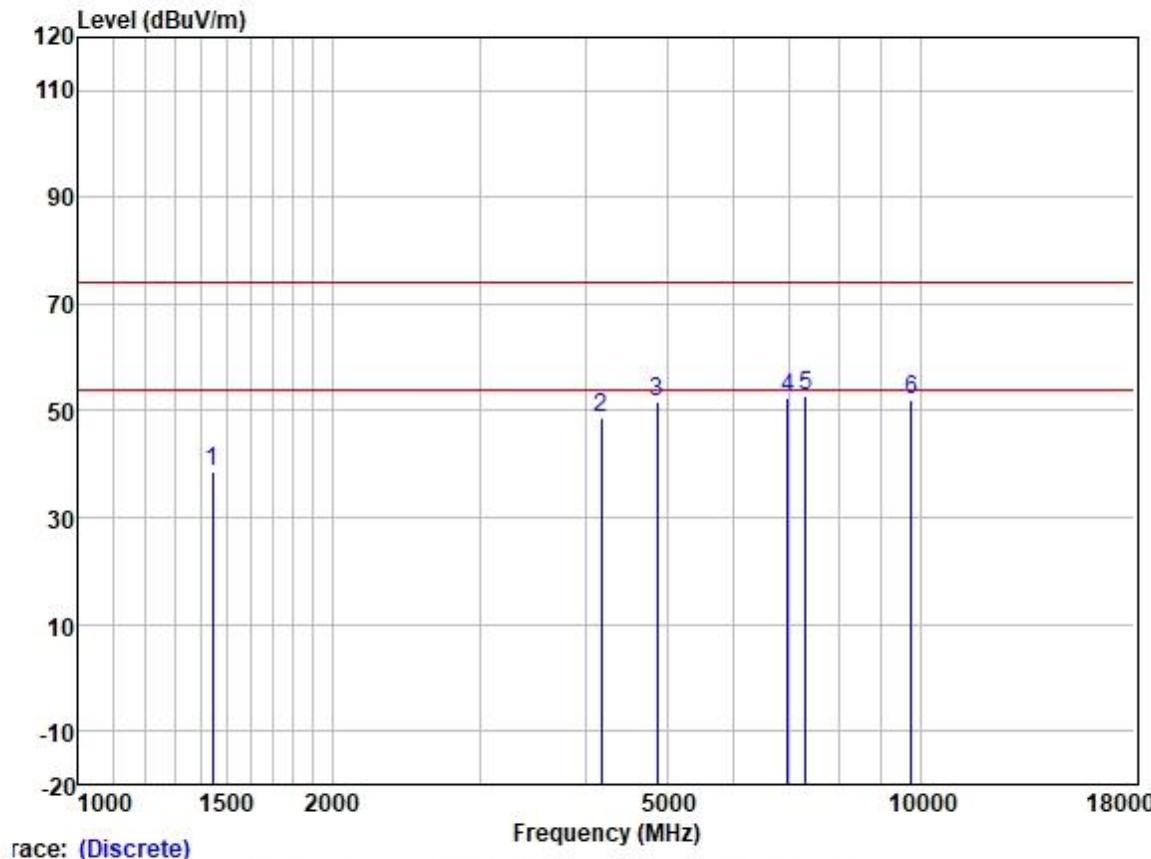
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Test Mode: 08; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle

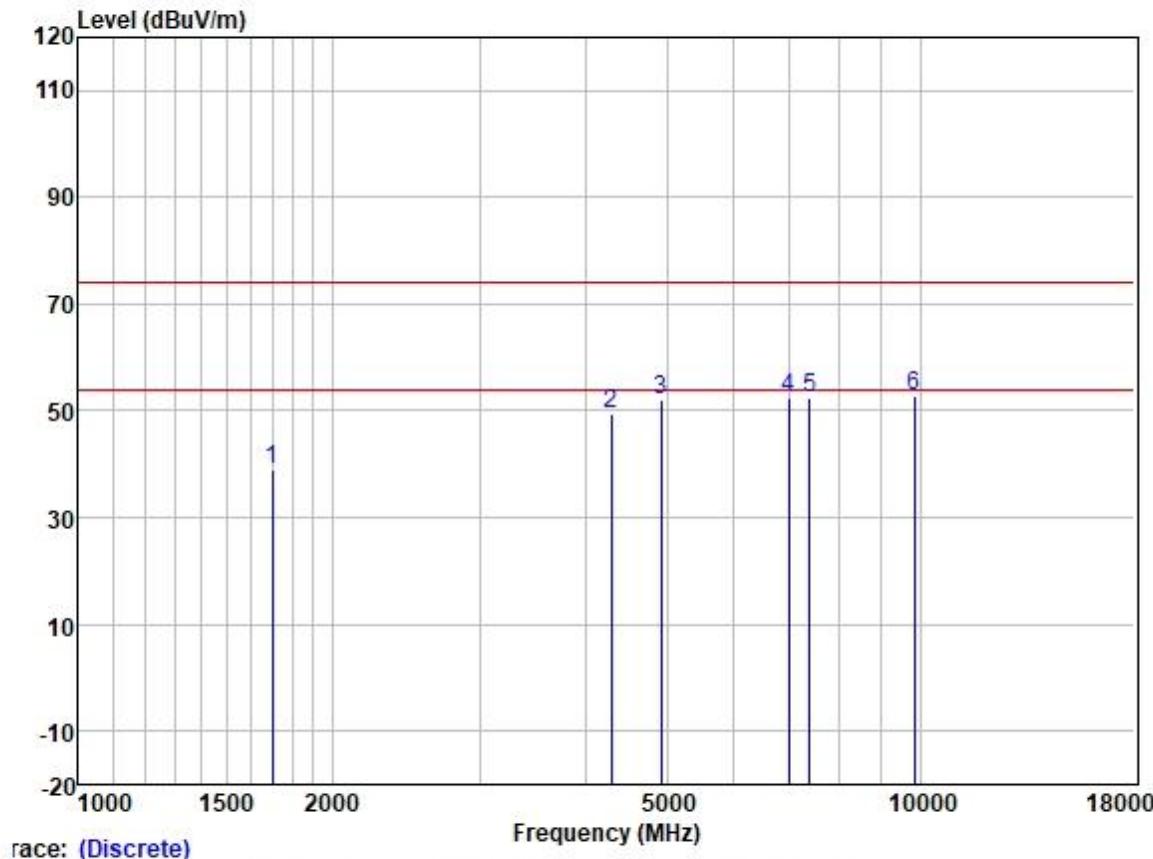


Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
	MHz	Level	Factor	Loss					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1443.509	48.49	25.44	2.69	38.17	38.45	74.00	-35.55	VERTICAL Peak
2	4181.768	50.86	30.12	4.60	36.80	48.78	74.00	-25.22	VERTICAL Peak
3	4874.000	51.47	31.54	5.50	36.84	51.67	74.00	-22.33	VERTICAL Peak
4	6954.852	48.75	34.95	5.81	37.21	52.30	74.00	-21.70	VERTICAL Peak
5	7311.000	48.16	35.93	6.11	37.42	52.78	74.00	-21.22	VERTICAL Peak
6	9748.000	44.02	38.50	7.02	37.41	52.13	74.00	-21.87	VERTICAL Peak

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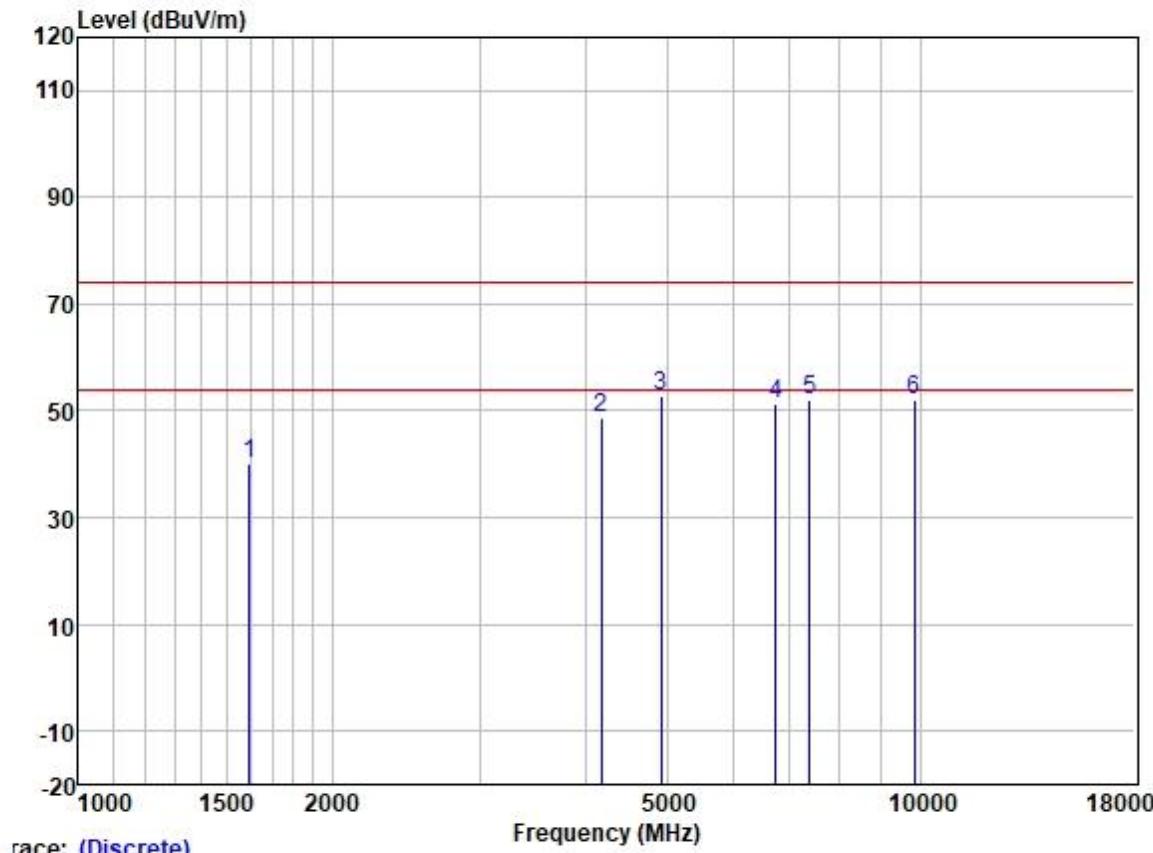
Test Mode: 08; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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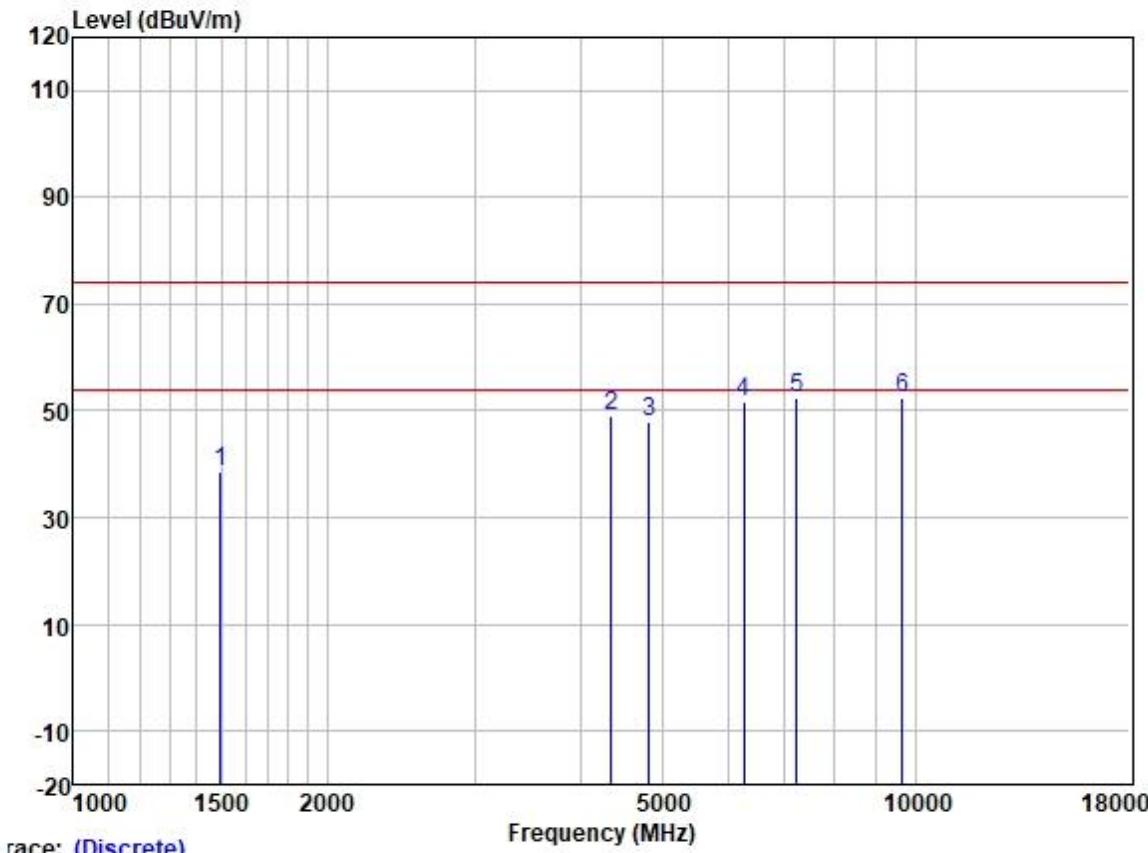
Test Mode: 08; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



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Test Mode: 08; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



Freq	ReadAntenna		Cable		Preamp		Limit	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor	Level	dBuV/m				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1 1494.455	48.43	25.50	2.79	38.10	38.62	74.00	-35.38	HORIZONTAL	Peak	
2 4354.454	50.44	30.59	4.68	36.81	48.90	74.00	-25.10	HORIZONTAL	Peak	
3 4824.000	47.97	31.45	5.42	36.83	48.01	74.00	-25.99	HORIZONTAL	Peak	
4 6249.464	49.46	33.20	6.02	36.95	51.73	74.00	-22.27	HORIZONTAL	Peak	
5 7236.000	48.22	35.70	6.03	37.39	52.56	74.00	-21.44	HORIZONTAL	Peak	
6 9648.000	44.40	38.40	7.06	37.42	52.44	74.00	-21.56	HORIZONTAL	Peak	

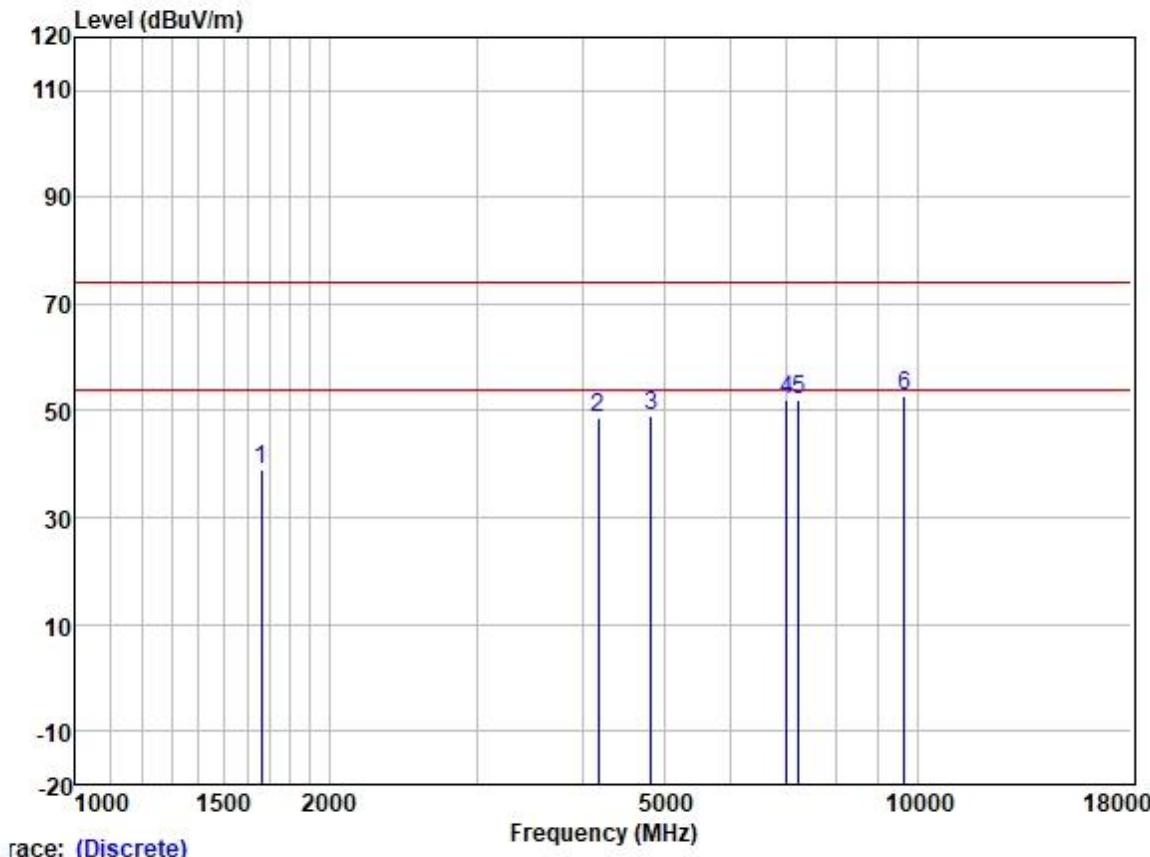
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Test Mode: 08; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
	MHz	Level	Factor	Loss					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1663.137	48.49	25.65	2.80	37.91	39.03	74.00	-34.97	VERTICAL Peak
2	4181.768	50.70	30.12	4.60	36.80	48.62	74.00	-25.38	VERTICAL Peak
3	4824.000	48.99	31.45	5.42	36.83	49.03	74.00	-24.97	VERTICAL Peak
4	6995.172	48.63	35.00	5.81	37.25	52.19	74.00	-21.81	VERTICAL Peak
5	7236.000	47.89	35.70	6.03	37.39	52.23	74.00	-21.77	VERTICAL Peak
6	9648.000	44.90	38.40	7.06	37.42	52.94	74.00	-21.06	VERTICAL Peak

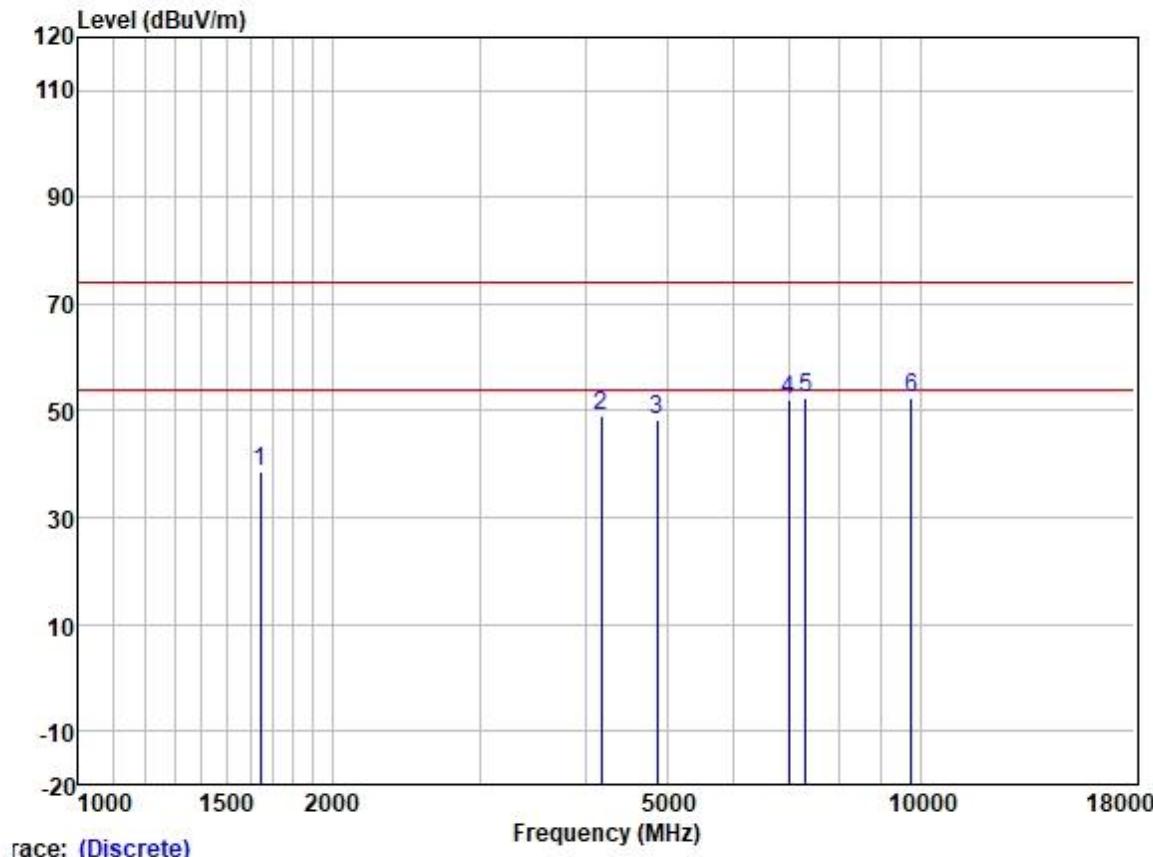
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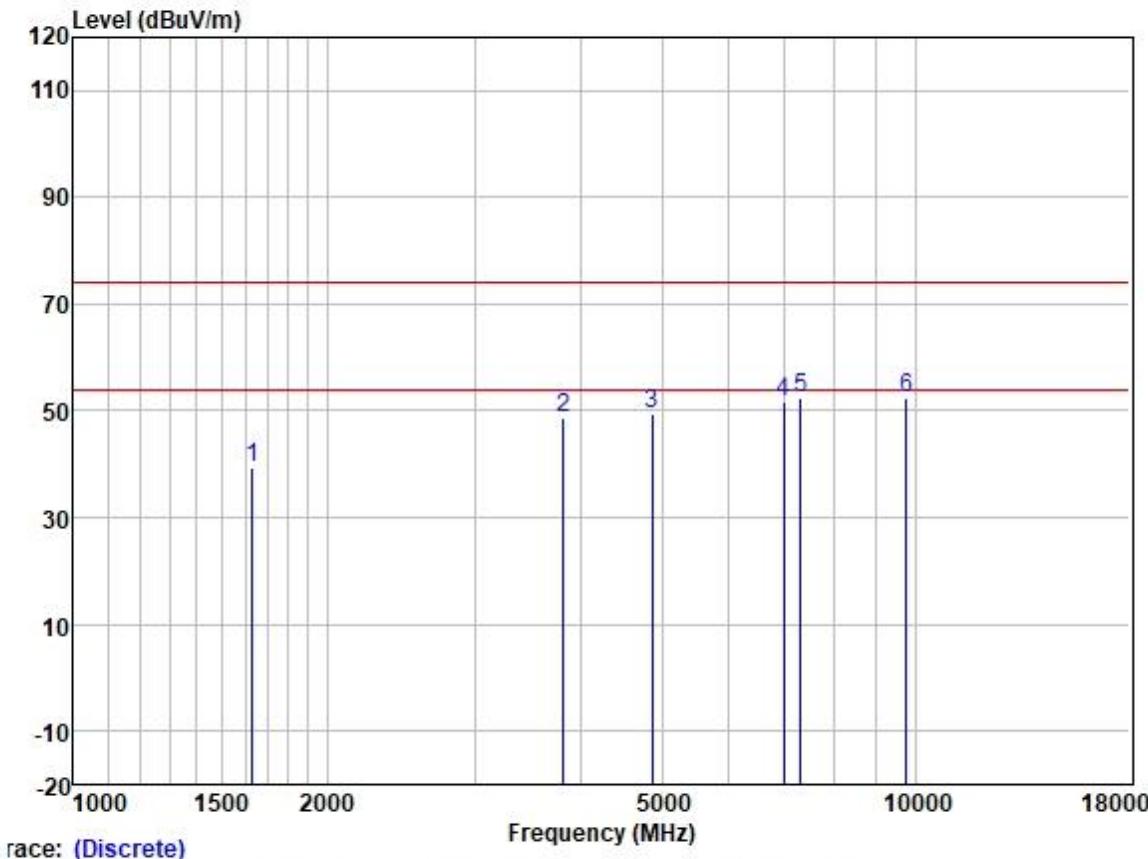
Test Mode: 08; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



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Test Mode: 08; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



Race:	Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
		Level	Factor	Loss	Factor					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1629.825	48.88	25.61	2.80	37.95	39.34	74.00	-34.66	VERTICAL	Peak
2	3823.371	51.23	29.57	4.60	36.84	48.56	74.00	-25.44	VERTICAL	Peak
3	4874.000	49.07	31.54	5.50	36.84	49.27	74.00	-24.73	VERTICAL	Peak
4	6974.982	48.16	34.97	5.81	37.23	51.71	74.00	-22.29	VERTICAL	Peak
5	7311.000	47.95	35.93	6.11	37.42	52.57	74.00	-21.43	VERTICAL	Peak
6	9748.000	44.29	38.50	7.02	37.41	52.40	74.00	-21.60	VERTICAL	Peak

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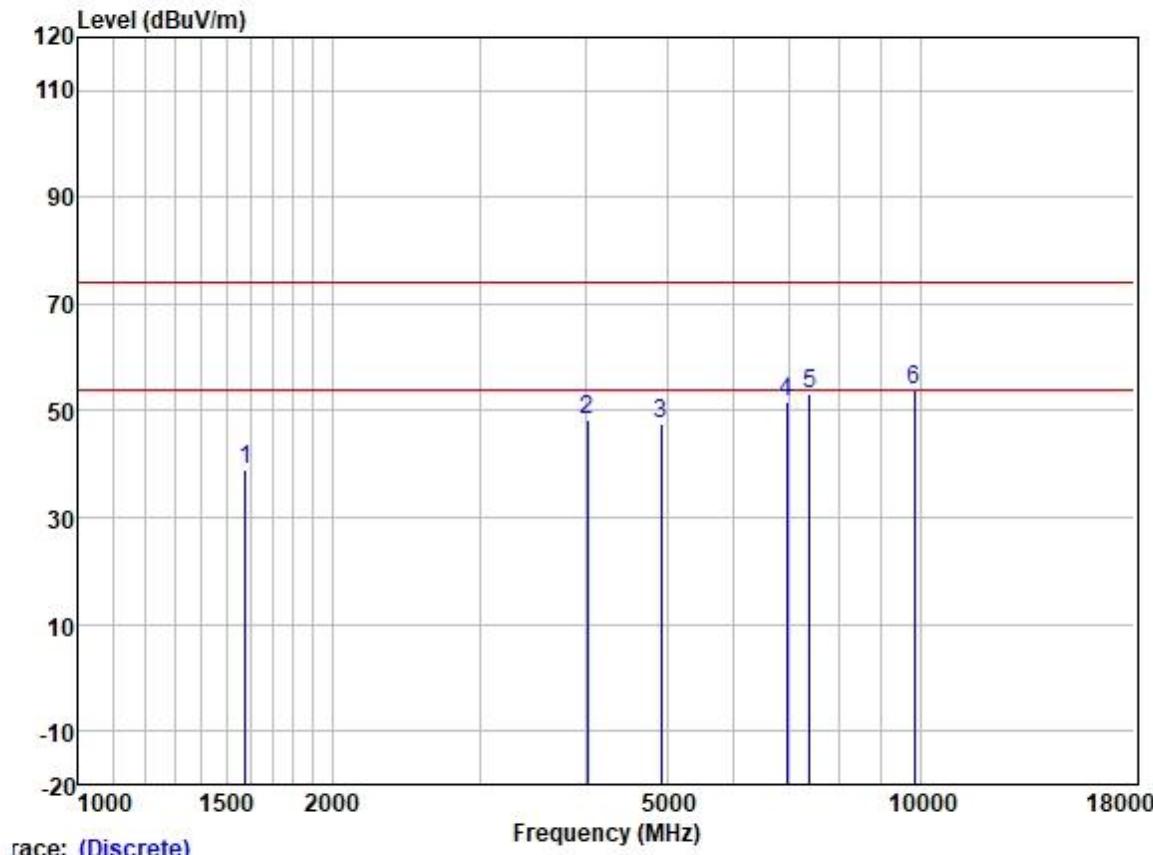
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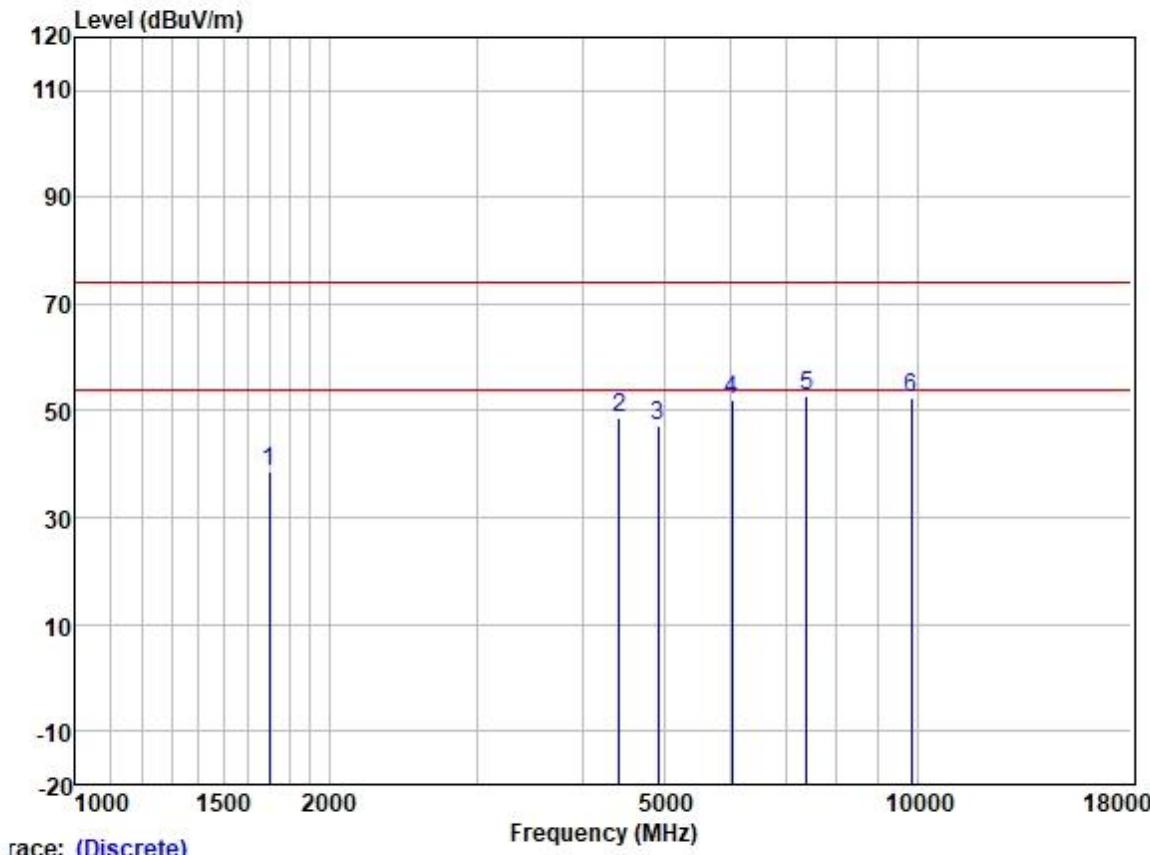
Test Mode: 08; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



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Test Mode: 08; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High



Point	Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
		Freq	Level	Factor	Loss					
	MHz	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1697.129	48.12	25.71	2.80	37.89	38.74	74.00	-35.26	VERTICAL	Peak
2	4430.628	49.97	30.72	4.78	36.81	48.66	74.00	-25.34	VERTICAL	Peak
3	4924.000	46.86	31.62	5.60	36.84	47.24	74.00	-26.76	VERTICAL	Peak
4	6018.999	50.35	32.44	6.19	36.90	52.08	74.00	-21.92	VERTICAL	Peak
5	7386.000	48.06	36.17	6.19	37.45	52.97	74.00	-21.03	VERTICAL	Peak
6	9848.000	44.16	38.58	6.99	37.41	52.32	74.00	-21.68	VERTICAL	Peak

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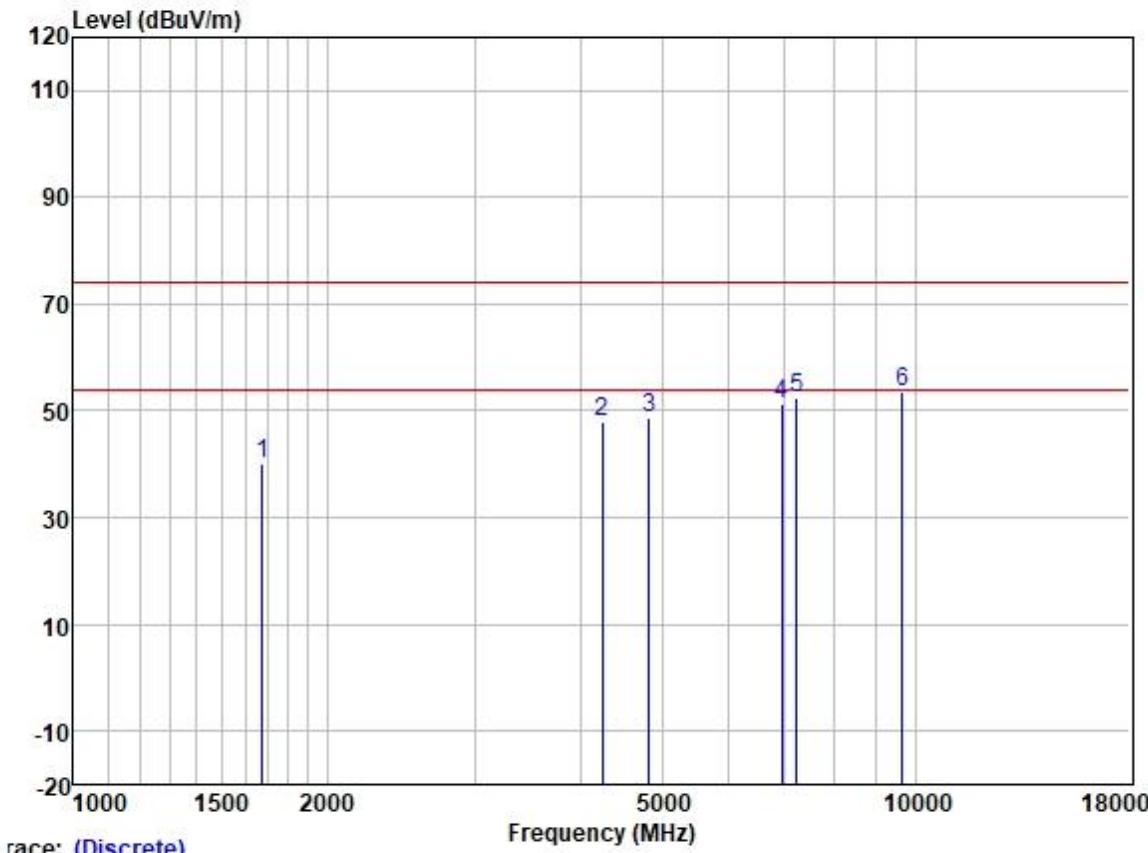
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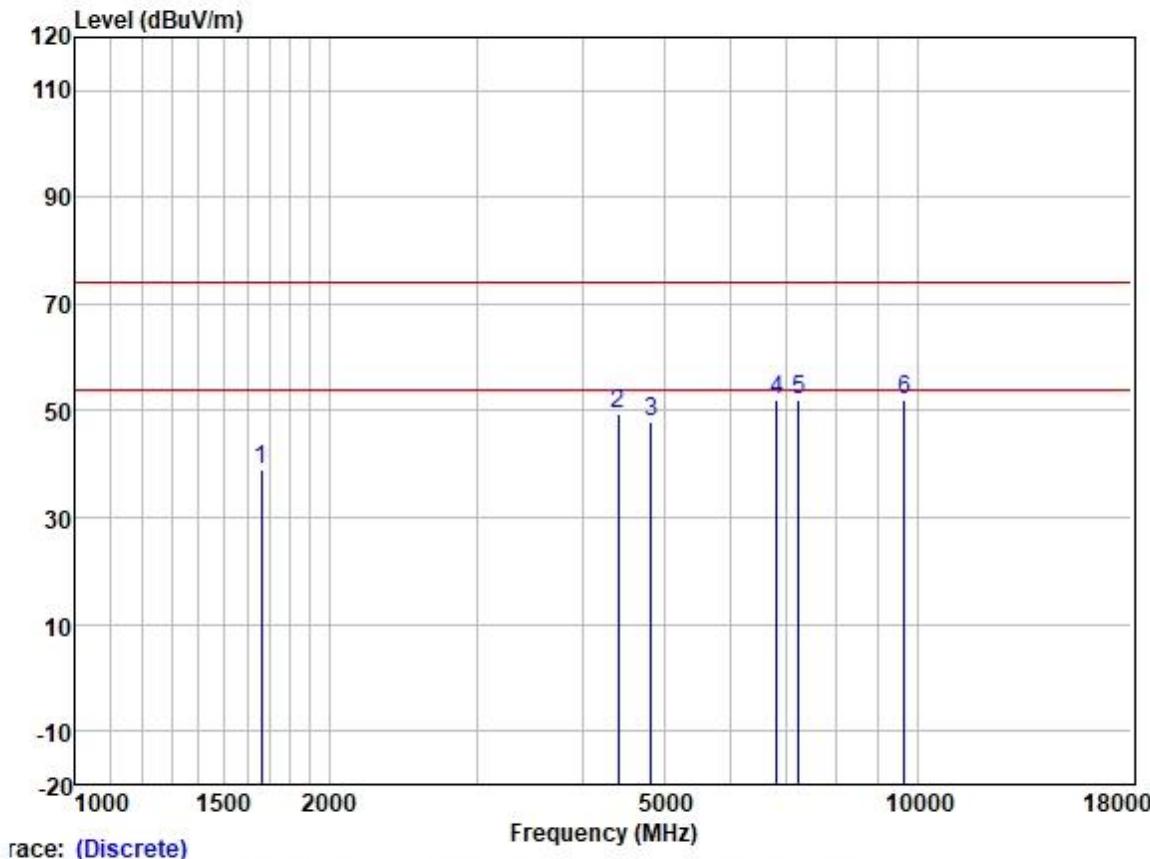
Test Mode: 08; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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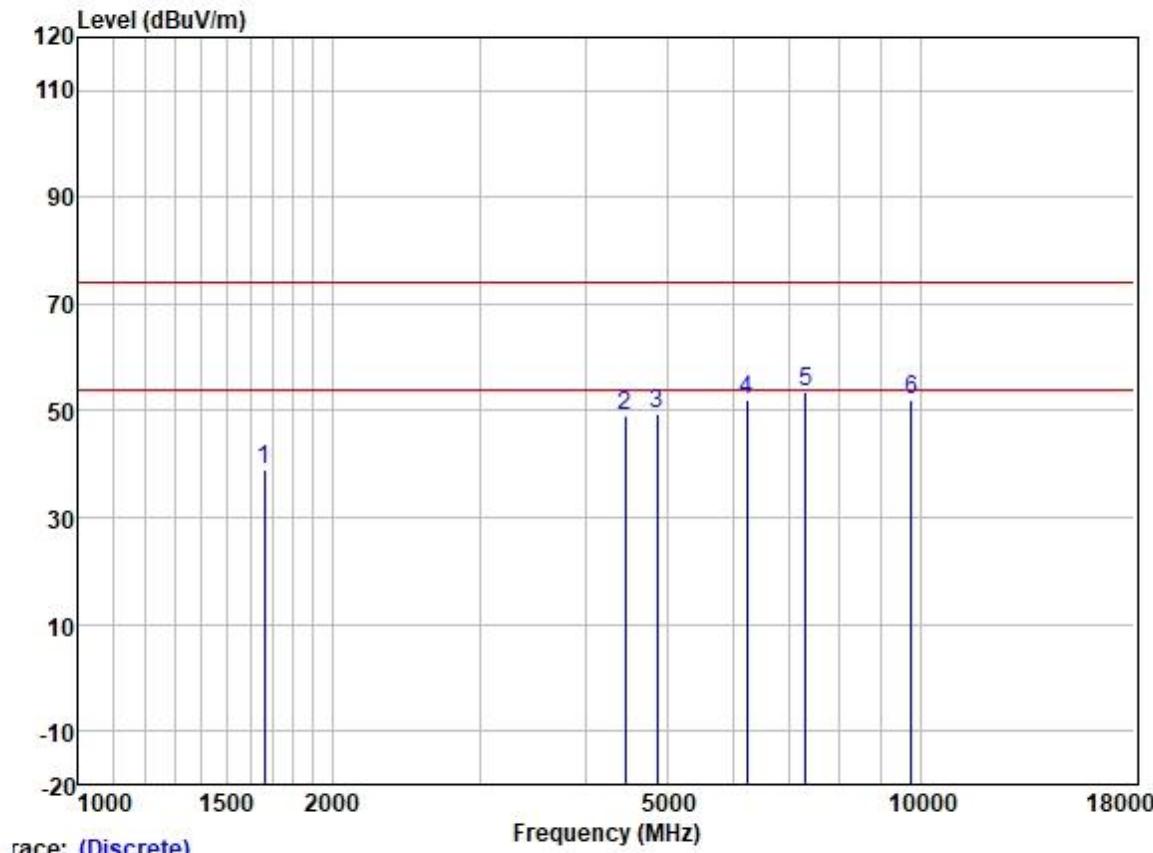
Test Mode: 08; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



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Test Mode: 08; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Point	Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
		Freq	Level	Factor	Loss					
	MHz	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1663.137	~1663	~48.54	~25.65	~2.80	~37.91	~39.08	~74.00	-34.92	HORIZONTAL Peak
2	4456.315	~4456	~50.15	~30.75	~4.88	~36.81	~48.97	~74.00	-25.03	HORIZONTAL Peak
3	4874.000	~4874	~49.34	~31.54	~5.50	~36.84	~49.54	~74.00	-24.46	HORIZONTAL Peak
4	6231.427	~6231	~49.72	~33.11	~6.04	~36.94	~51.93	~74.00	-22.07	HORIZONTAL Peak
5	7311.000	~7311	~48.77	~35.93	~6.11	~37.42	~53.39	~74.00	-20.61	HORIZONTAL Peak
6	9748.000	~9748	~43.93	~38.50	~7.02	~37.41	~52.04	~74.00	-21.96	HORIZONTAL Peak

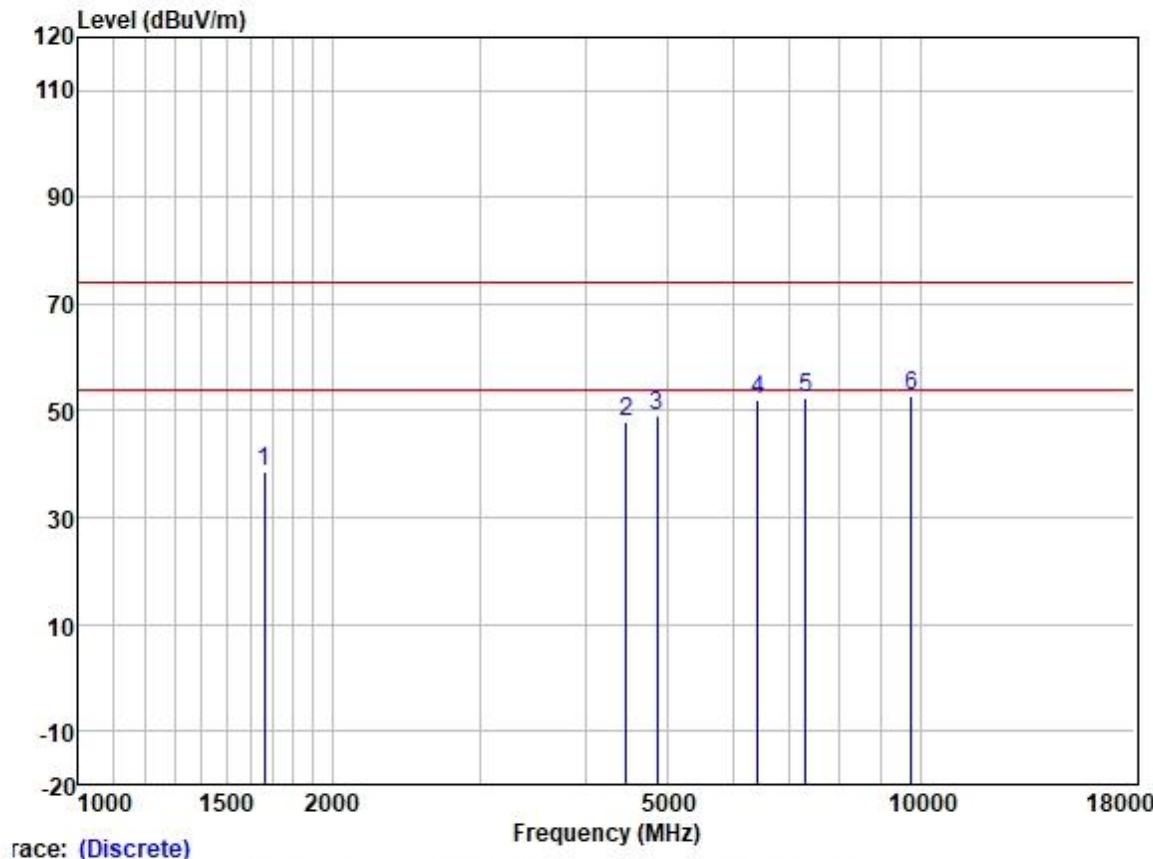
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Test Mode: 08; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

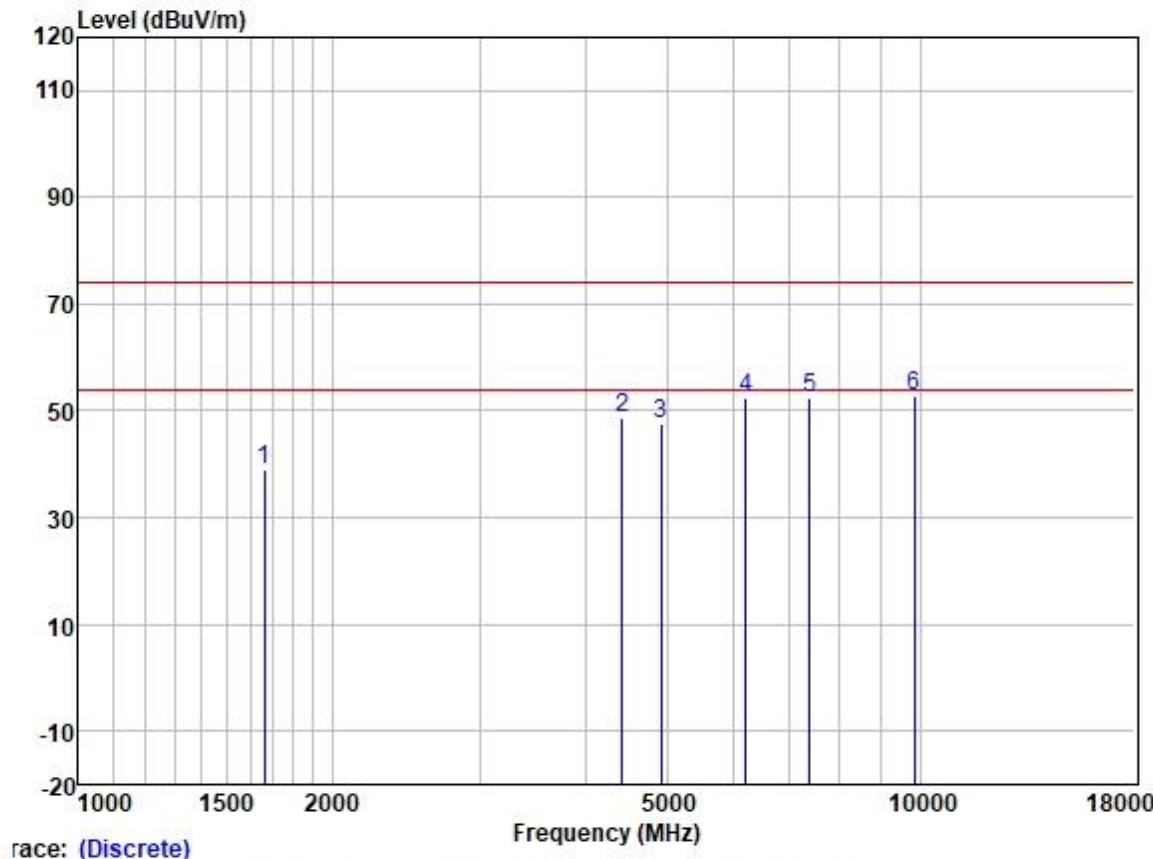


Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB						
1	1663.137	48.18	25.65	2.80	37.91	38.72	74.00	-35.28	VERTICAL	Peak
2	4469.214	49.03	30.77	4.93	36.81	47.92	74.00	-26.08	VERTICAL	Peak
3	4874.000	49.02	31.54	5.50	36.84	49.22	74.00	-24.78	VERTICAL	Peak
4	6414.167	49.51	33.79	5.89	36.99	52.20	74.00	-21.80	VERTICAL	Peak
5	7311.000	47.76	35.93	6.11	37.42	52.38	74.00	-21.62	VERTICAL	Peak
6	9748.000	44.79	38.50	7.02	37.41	52.90	74.00	-21.10	VERTICAL	Peak

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Test Mode: 08; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Freq	ReadAntenna		Cable		Preamp		Limit	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor	Level	dBuV/m				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB		
1 1663.137	48.42	25.65	2.80	37.91	38.96	74.00	-35.04	HORIZONTAL	Peak	
2 4430.628	50.00	30.72	4.78	36.81	48.69	74.00	-25.31	HORIZONTAL	Peak	
3 4924.000	47.30	31.62	5.60	36.84	47.68	74.00	-26.32	HORIZONTAL	Peak	
4 6213.441	50.32	33.03	6.06	36.94	52.47	74.00	-21.53	HORIZONTAL	Peak	
5 7386.000	47.58	36.17	6.19	37.45	52.49	74.00	-21.51	HORIZONTAL	Peak	
6 9848.000	44.65	38.58	6.99	37.41	52.81	74.00	-21.19	HORIZONTAL	Peak	

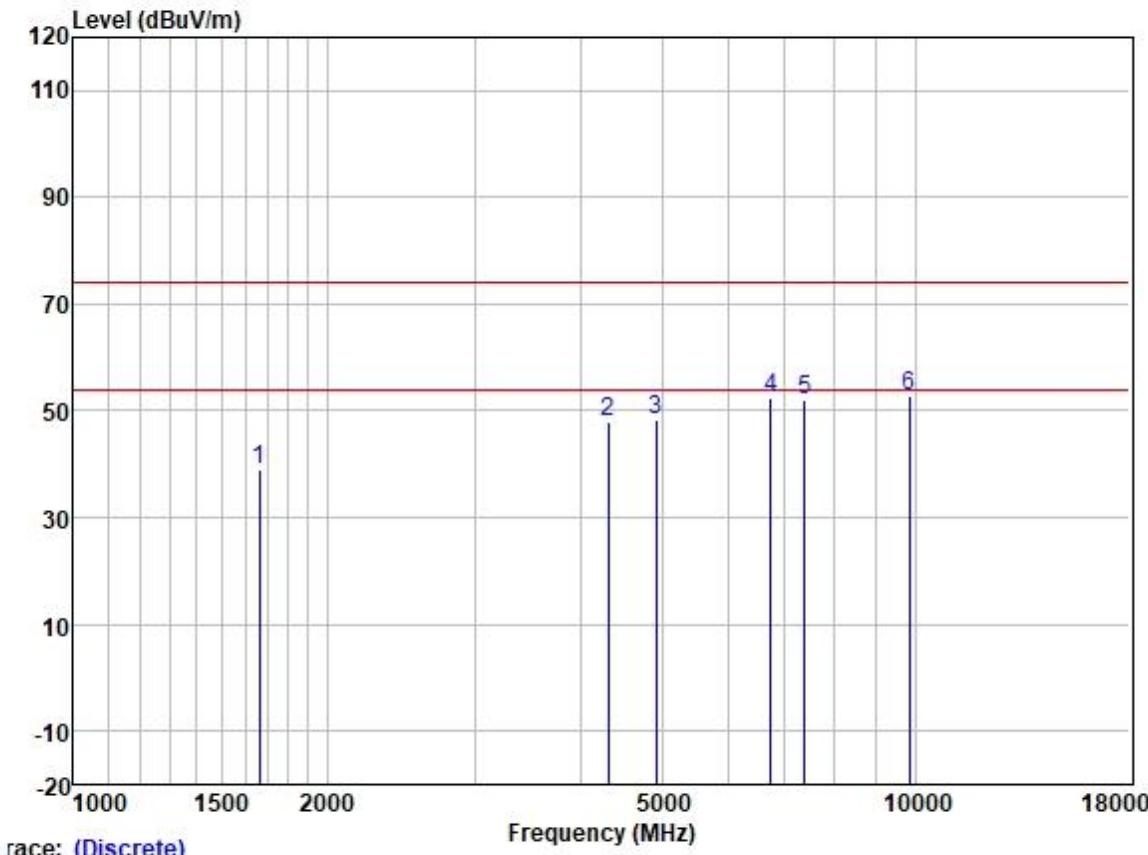
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SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Testing Center for EEC Laboratory
No.198 Kezhu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Test Mode: 08; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



ReadAntenna	Cable	Preamp	Limit	Over	Remark								
					Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB	dB	dB			
1 1663.137	48.37	25.65	2.80	37.91	38.91	74.00	-35.09	74.00	-35.09	74.00	VERTICAL	Peak	
2 4316.859	49.47	30.51	4.66	36.81	47.83	74.00	-26.17	74.00	-26.17	74.00	VERTICAL	Peak	
3 4924.000	48.07	31.62	5.60	36.84	48.45	74.00	-25.55	74.00	-25.55	74.00	VERTICAL	Peak	
4 6737.207	49.02	34.50	5.82	37.09	52.25	74.00	-21.75	74.00	-21.75	74.00	VERTICAL	Peak	
5 7386.000	47.19	36.17	6.19	37.45	52.10	74.00	-21.90	74.00	-21.90	74.00	VERTICAL	Peak	
6 9848.000	44.62	38.58	6.99	37.41	52.78	74.00	-21.22	74.00	-21.22	74.00	VERTICAL	Peak	

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SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Testing Center for EEC Laboratory
No.198 Kezhu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

8 Test Setup Photo

Refer to Appendix - Test Setup Photos for GZCR2112021517AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for GZCR2112021517AT

- End of the Report -



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