TEST REPORT

Application No.:	GZCR2410001161AT
Applicant:	Comba Telecom Network Systems Limited
Address of Applicant:	Flat/Rm 10, 3/F, Bio-Informatics Ctr, 2 Science Park West Avenue, HK Science Park, Pak Shek Kok, N.T. Hong Kong
Manufacturer:	Comba Network Systems Company Limited
Address of Manufacturer:	No. 10 Shenzhou Road, Guangzhou Science City, Guangzhou 510663, Guangdong, P.R.China
Factory:	Comba Telecom Technology (Guangzhou) Ltd.
Address of Factory:	No. 6 Jinbi Road, Economics and Technology Development District, Guangzhou, Guangdong, China
Product Name:	SailaLite
Model No.:	SW-L
Trade Mark:	SailaWave
Standard(s) :	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2024-10-08
Date of Test:	2024-11-07 to 2024-11-20
Date of Issue:	2024-11-20
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Ricky Liu
Manager

Revision Record			
Version	**Report No.**	**Date**	**Remark**
01	GZCR241000116101	2024-11-20	Original

Authorized for issue by:				
		Jim Li **Jim Li/Project Engineer**		
		Vico Cui **Vico Cui /Reviewer**		

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 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
Conducted Peak Output Power		ANSI C63.10 (2013) Section 11.9.2	47 CFR Part 15, Subpart C 15.247(b)(3)	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 based on original modular report XEWM2304000191RG03(FCC ID: XMR2023FC06E) C2PC for add host: SailaLite. Model number: SW-L to the modular and C2PC change the modular antenna.

With following changes:

1.Replacing new PCB antenna with higher gain than the antenna previously authorized under the certification FCC ID: XMR2023FC06E.

2.Adding a host device.

3.Disabled Bluetooth classic, LE, U-NII-1, U-NII-2A and U-NII-2C through software methods.

For verify the changes with host device, only the Antenna Requirement, Conducted Emissions at AC Power Line (150kHz-30MHz), Radiated Spurious Emissions Below 1GHz, Radiated Spurious Emissions Above 1GHz and Conducted Peak Output Power were performed with new antenna.

Therefore, the new test data was kept in this report GZCR241000116101. For original data please refer to report XEWM2304000191RG03(FCC ID: XMR2023FC06E) for more details.

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4 General Information

4.1 Details of E.U.T.

Power supply:	Power Input: 48VDC (From PoE Port)
Cable(s):	PoE Port (RJ45 Type)
Test Voltage:	AC 120 V, 60 Hz
RF character(s):	Refer to report XEWM2304000191RG03 (FCC ID: XMR2023FC06E) for 2.4G Wi-Fi details.
Antenna Type:	PCB Antenna
Antenna Gain:	4 dBi for Ant 1 & Ant 2
Remark:	Two antennas can simultaneous transmission
Antenna Number:	2

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Switching Gigabit Power Supply	Ubiquiti Inc.	ADG-L-160-50 (Input: AC187-264V, 43-63Hz; Output: DC Max. 160V, 50A)	EMC2167

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	±3.22dB
Radiated Spurious Emissions Below 1GHz	±3.08dB (9kHz to 150kHz);±3.19dB(150kHz to 30MHz);±5.14dB (30MHz-1GHz) (3m); ±4.90dB (30MHz-1GHz) (10m)
Radiated Spurious Emissions Above 1GHz	±4.88dB (1GHz-6GHz);±5.06dB (6GHz-18GHz); ±5.30dB (18GHz-40GHz)

Remark:

The U_{lab} (lab Uncertainty) is less than U_{cispr} (CISPR Uncertainty) or U_{ETSI}(ETSI Uncertainty).

Emission decision rule:

– Compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit, marked as Pass in the report.

– Non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit, marked as Fail in the report.

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4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663

Tel: +86 20 82155555

No tests were sub-contracted.

4.5 Test Facility

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

- **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.

- **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, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Coaxial Cable	HangTianXing	2m	EMC0107	2023-08-24	2025-08-23
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	2022-10-16	2025-10-15
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2024-09-02	2025-09-01
EMI Test Receiver (9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2024-05-13	2025-05-12
Test Software E3r	Audix	Ver.6.191211	GZE100-77	N/A	N/A

Radiated Spurious Emissions Below 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
966 Anechoic Chamber	Shenzhen C.R.T	CRTSGSSAC966	EMC2230	2022-04-12	2025-04-11
EMI Test Receiver(1Hz-8GHz)	Rohde & Schwarz	ESW8	EMC2229	2024-02-19	2025-02-18
Amplifier(9k-1000MHz)	SONOMA	310	EMC2237	2024-03-22	2025-03-21
Trilog Broadband Antenna (25MHz-2GHz)	Schwarzbeck Mess-Elektronik	VULB 9168	EMC2238	2022-04-20	2025-04-19
Coaxial Cable	Mirco-COAX UTIFLEX ve	LA2-C125-8000	EMC2239	2023-06-14	2025-06-13
Test Software E3	Audix	Ver.6.191211	GZE100-81	N/A	N/A
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2024-04-08	2026-04-07

Radiated Spurious Emissions Above 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2024-10-14	2025-10-13
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2024-09-02	2025-09-01
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2024-08-19	2026-08-18
Horn Antenna (1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2022-09-23	2025-09-22
Horn Antenna (14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2023-06-18	2026-06-17
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2024-10-14	2025-10-13
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2024-08-19	2025-08-18
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2024-10-14	2025-10-13
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2023-12-20	2026-12-19
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	2024-06-13	2025-06-12

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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

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

6.1.2 Conclusion

Standard Requirement:

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

15.247(b) (4) requirement:

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

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is Ant1: 4 dBi; Ant2: 4 dBi. The directional gain is: 7.01 dBi.

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

Directional gain= 4+10log (2) dBi=**7.01 dBi**

Antenna location: Refer to internal photo.

7 Radio Spectrum Matter Test Results

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

Test Requirement 47 CFR Part 15, Subpart C 15.207

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

Limit:

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		
Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz		

7.1.1 E.U.T. Operation

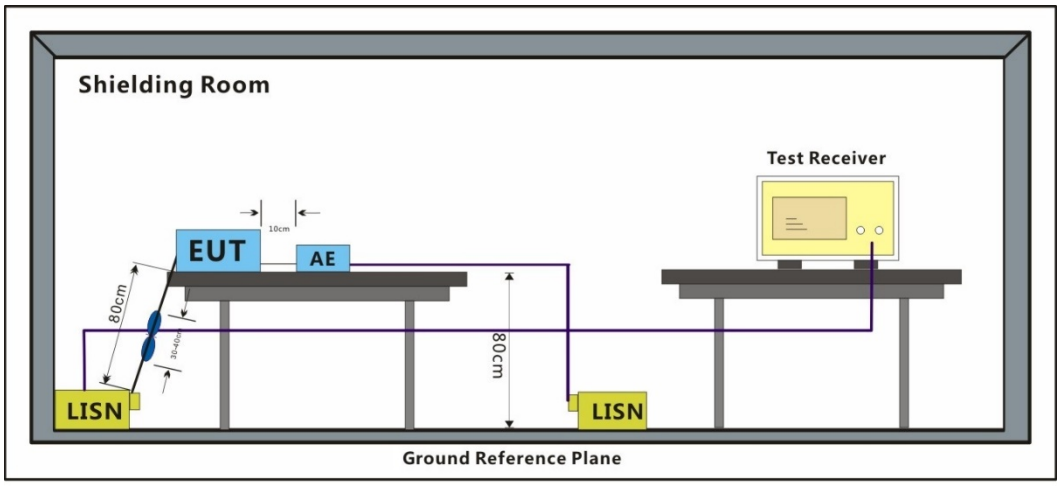
Operating Environment:

Temperature: 24.2 °C Humidity: 52.7 % RH Atmospheric Pressure: 1013 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	Operation(2.4G Wi-Fi):Keep the EUT communication with the companion device via 2.4G Wi-Fi.

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

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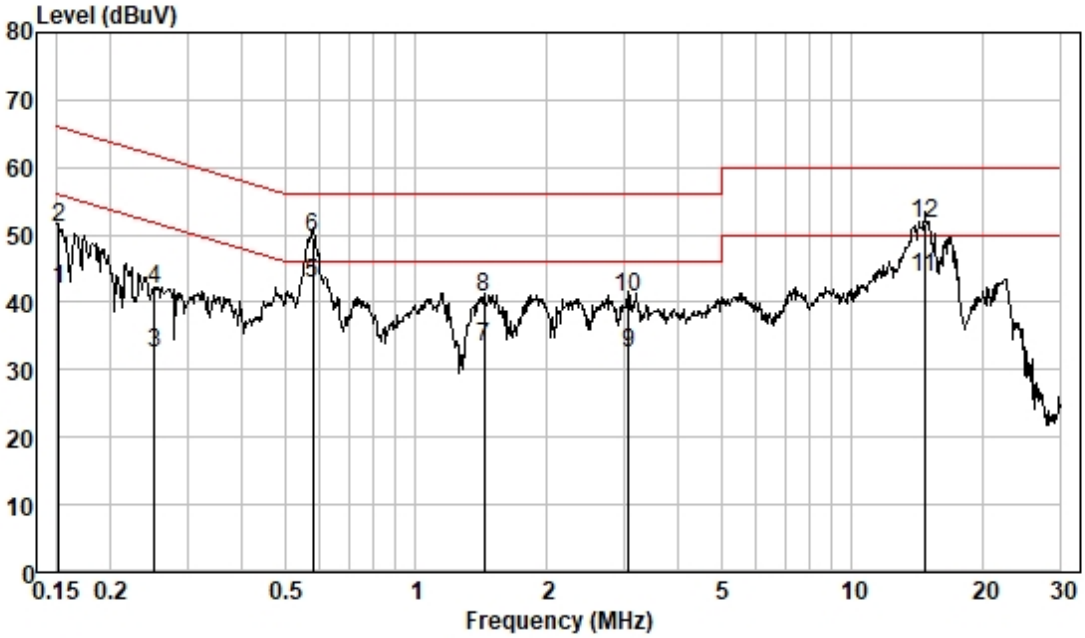
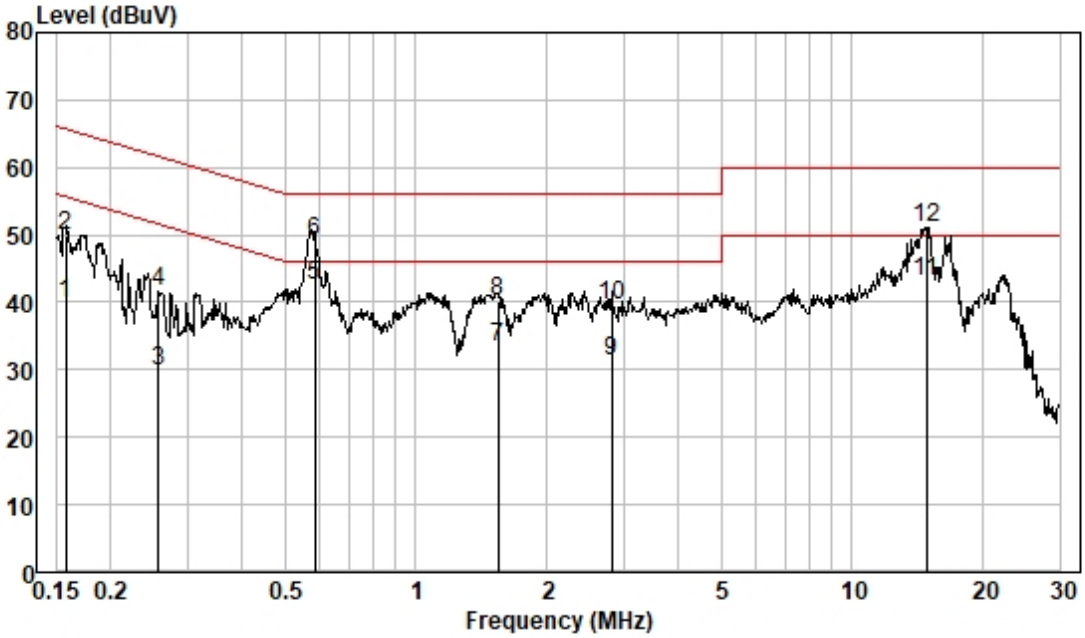
Test Mode: 02; Line: Live line



Pol :LINE
Mode :
Model :
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.152	32.36	0.04	9.57	41.97	55.91	-13.94	Average
2	0.152	41.33	0.04	9.57	50.94	65.91	-14.97	QP
3	0.252	22.83	0.04	9.60	32.47	51.69	-19.22	Average
4	0.252	32.33	0.04	9.60	41.97	61.69	-19.72	QP
5	0.579	33.30	0.05	9.55	42.90	46.00	-3.10	Average
6	0.579	39.88	0.05	9.55	49.48	56.00	-6.52	QP
7	1.433	23.52	0.10	9.59	33.21	46.00	-12.79	Average
8	1.433	31.13	0.10	9.59	40.82	56.00	-15.18	QP
9	3.074	22.62	0.16	9.56	32.34	46.00	-13.66	Average
10	3.074	31.10	0.16	9.56	40.82	56.00	-15.18	QP
11	14.672	33.46	0.32	9.84	43.62	50.00	-6.38	Average
12	14.672	41.59	0.32	9.84	51.75	60.00	-8.25	QP

Test Mode: 02; Line: Neutral Line



Pol :NEUTRAL
Mode :
Model :
Power :

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.157	30.40	0.04	9.52	39.96	55.60	-15.64	Average
2	0.157	40.37	0.04	9.52	49.93	65.60	-15.67	QP
3	0.258	20.39	0.04	9.53	29.96	51.51	-21.55	Average
4	0.258	32.07	0.04	9.53	41.64	61.51	-19.87	QP
5	0.585	32.81	0.05	9.57	42.43	46.00	-3.57	Average
6	0.585	39.38	0.05	9.57	49.00	56.00	-7.00	QP
7	1.544	23.68	0.10	9.53	33.31	46.00	-12.69	Average
8	1.544	30.60	0.10	9.53	40.23	56.00	-15.77	QP
9	2.809	21.69	0.15	9.57	31.41	46.00	-14.59	Average
10	2.809	29.76	0.15	9.57	39.48	56.00	-16.52	QP
11	14.828	32.92	0.33	9.90	43.15	50.00	-6.85	Average
12	14.828	40.80	0.33	9.90	51.03	60.00	-8.97	QP

7.2 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

Limit:

Test Distance: 3 m

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
960-1000	500	3

7.2.1 E.U.T. Operation

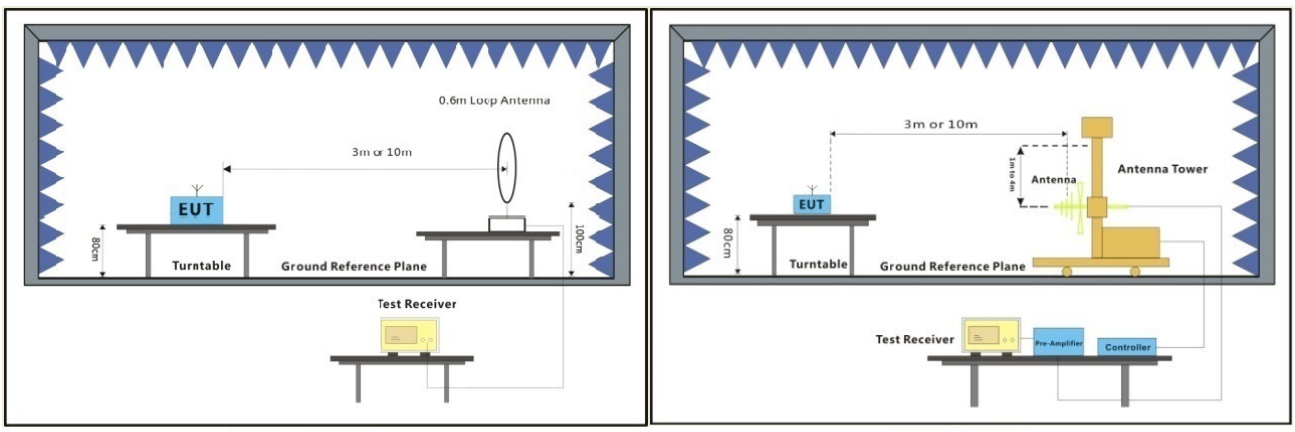
Operating Environment:

Temperature: 22.9 °C Humidity: 57.5 % RH Atmospheric Pressure: 1013 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	Operation(2.4G Wi-Fi):Keep the EUT communication with the companion device via 2.4G Wi-Fi.

7.2.3 Test Setup Diagram



Below 30MHz 30MHz-1GHz

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. 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 quasi-peak 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.

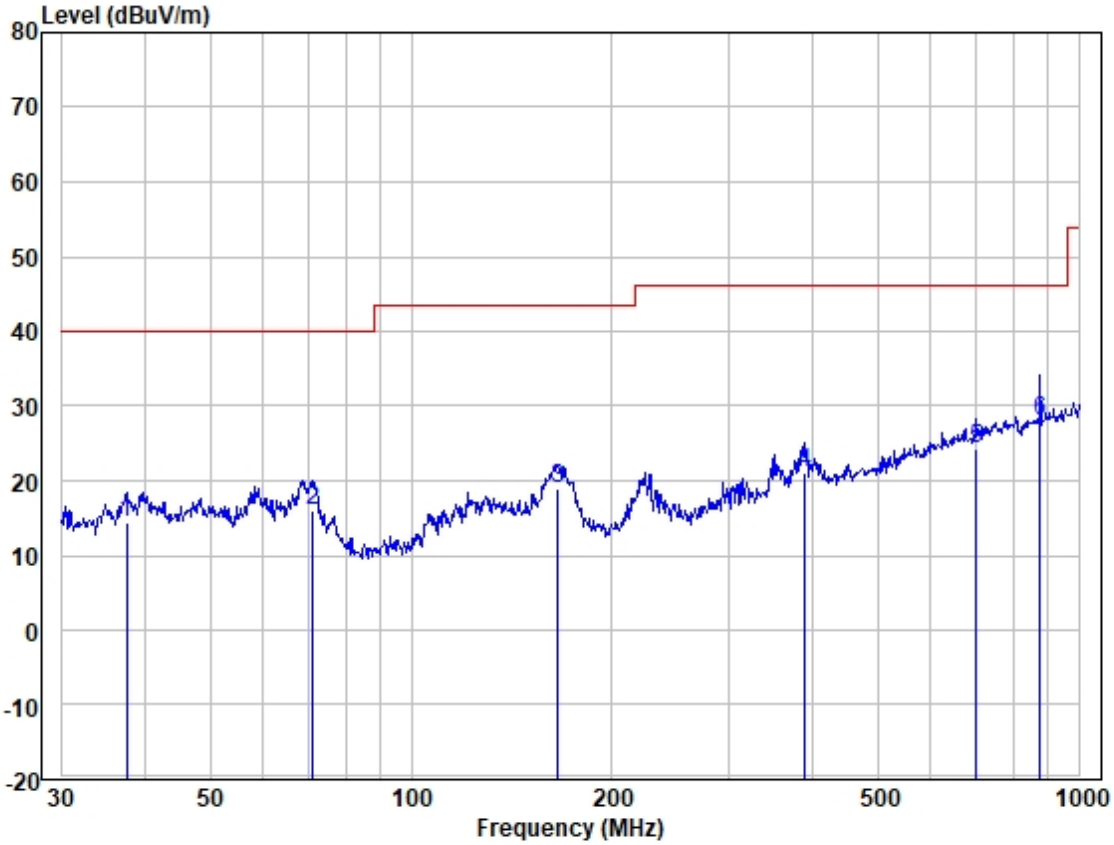
i. Repeat above procedures until all frequencies measured was complete.

Remark:

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

2. Scan from 9kHz to 30MHz, 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.

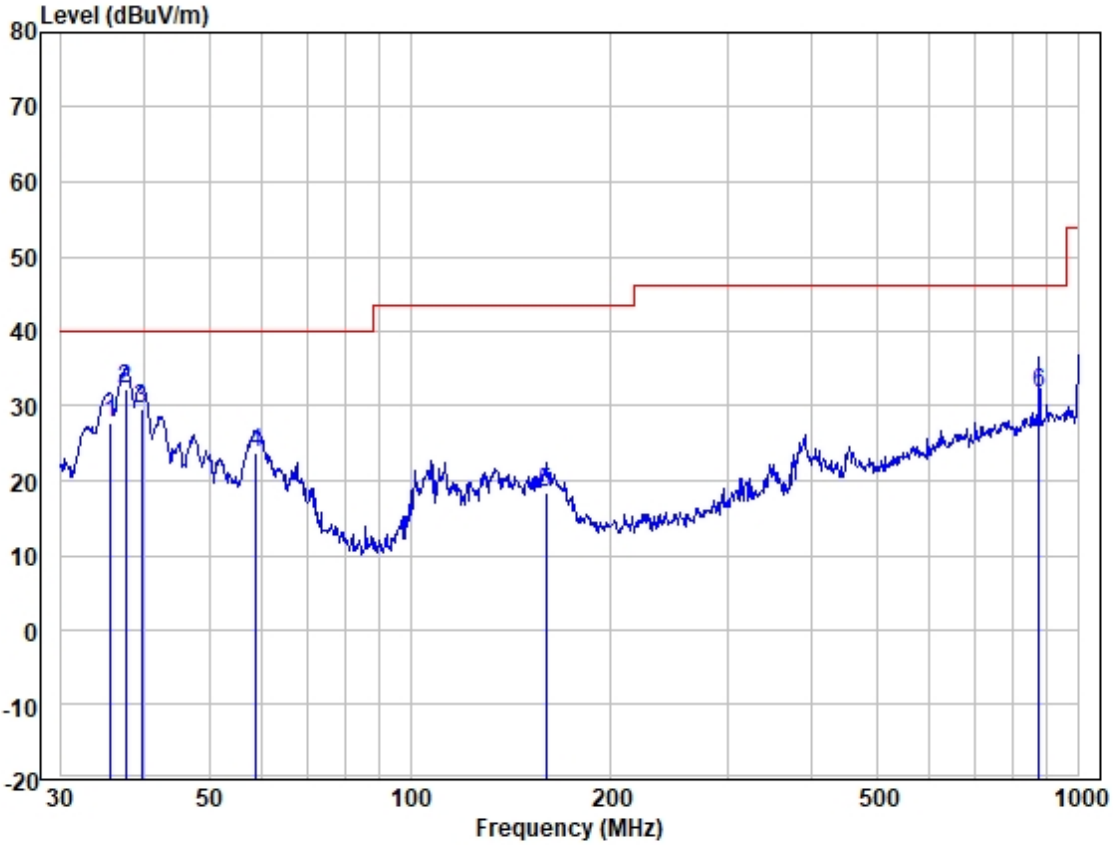
Test Mode: 02; Polarity: Horizontal



Site : 966 Chamber
Job :
Model :
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	37.548	28.13	18.73	0.34	32.86	14.34	40.00	-25.66	HORIZONTAL	QP
2	71.330	31.69	16.83	0.46	32.85	16.13	40.00	-23.87	HORIZONTAL	QP
3	166.068	32.20	18.99	0.71	32.83	19.07	43.52	-24.45	HORIZONTAL	QP
4	389.355	31.51	21.30	1.15	32.92	21.04	46.02	-24.98	HORIZONTAL	QP
5	701.761	28.39	26.90	1.54	32.53	24.30	46.02	-21.72	HORIZONTAL	QP
6	875.247	29.45	29.08	1.74	32.24	28.03	46.02	-17.99	HORIZONTAL	QP

Test Mode: 02; Polarity: Vertical



Site : 966 Chamber
Job :
Model :
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	35.624	41.83	18.39	0.33	32.86	27.69	40.00	-12.31	VERTICAL	QP
2	37.548	46.09	18.73	0.34	32.86	32.30	40.00	-7.70	VERTICAL	QP
3	39.576	42.97	19.09	0.35	32.87	29.54	40.00	-10.46	VERTICAL	QP
4	58.819	37.30	18.89	0.41	32.87	23.73	40.00	-16.27	VERTICAL	QP
5	159.784	31.23	19.21	0.70	32.83	18.31	43.52	-25.21	VERTICAL	QP
6	875.247	33.05	29.08	1.74	32.24	31.63	46.02	-14.39	VERTICAL	QP

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7.3 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

Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

7.3.1 E.U.T. Operation

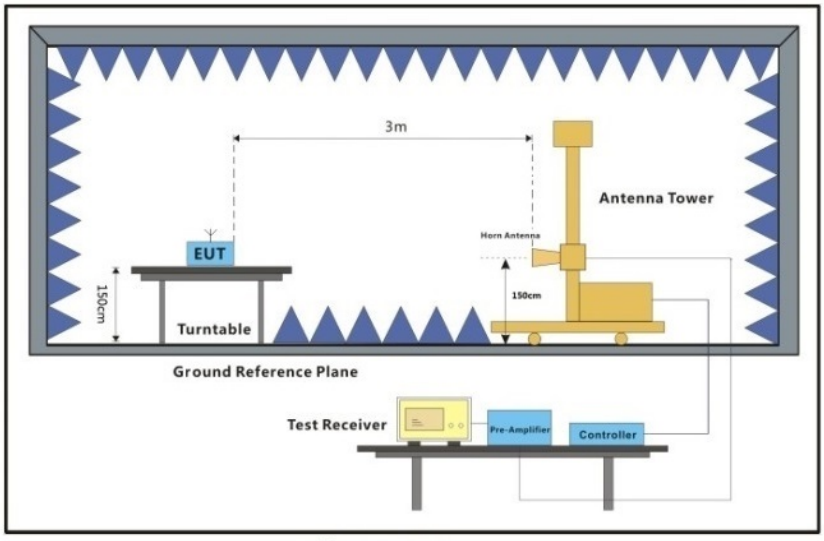
Operating Environment:

Temperature: 23.8 °C Humidity: 50.7 % RH Atmospheric Pressure: 1013 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HEW40). Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



Above 1GHz

7.3.4 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 (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 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.

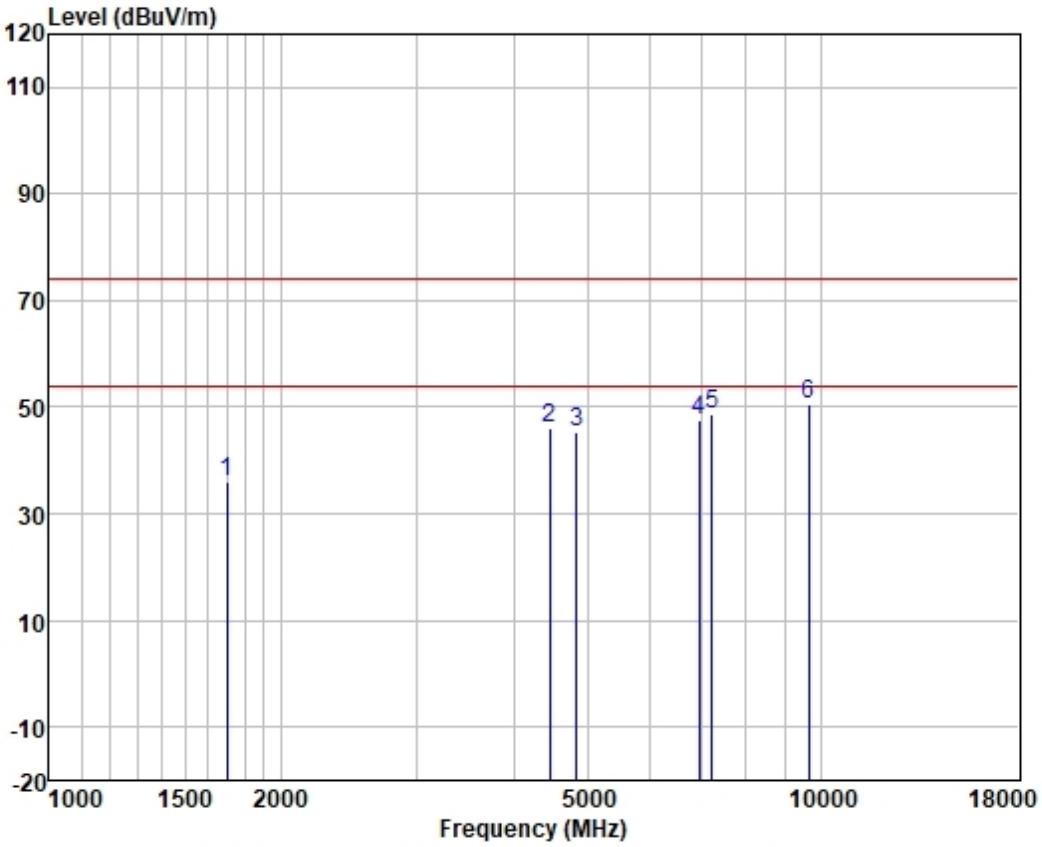
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp 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. As shown in this section, 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.

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1702.042	46.20	25.15	2.85	38.03	36.17	74.00	-37.83	VERTICAL	peak
2	4456.315	44.79	34.00	4.61	37.45	45.95	74.00	-28.05	VERTICAL	peak
3	4824.000	43.68	34.16	4.82	37.37	45.29	74.00	-28.71	VERTICAL	peak
4	6954.852	43.78	35.04	5.86	37.14	47.54	74.00	-26.46	VERTICAL	peak
5	7236.000	44.09	35.78	5.95	37.17	48.65	74.00	-25.35	VERTICAL	peak
6	9648.000	41.75	38.70	7.05	37.11	50.39	74.00	-23.61	VERTICAL	peak

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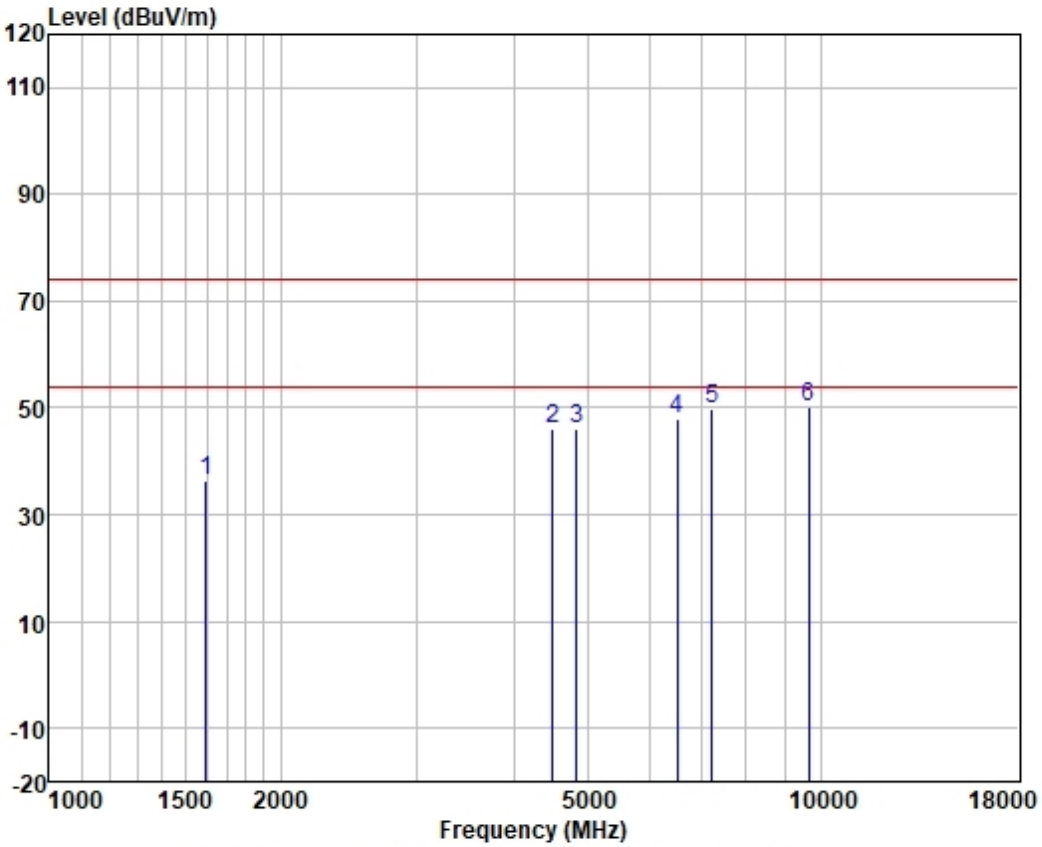
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1597.181	46.95	24.68	2.75	38.15	36.23	74.00	-37.77	HORIZONTAL	peak
2	4495.125	44.60	34.17	4.62	37.44	45.95	74.00	-28.05	HORIZONTAL	peak
3	4824.000	44.31	34.16	4.82	37.37	45.92	74.00	-28.08	HORIZONTAL	peak
4	6526.373	45.36	33.91	5.66	37.12	47.81	74.00	-26.19	HORIZONTAL	peak
5	7236.000	45.25	35.78	5.95	37.17	49.81	74.00	-24.19	HORIZONTAL	peak
6	9648.000	41.40	38.70	7.05	37.11	50.04	74.00	-23.96	HORIZONTAL	peak

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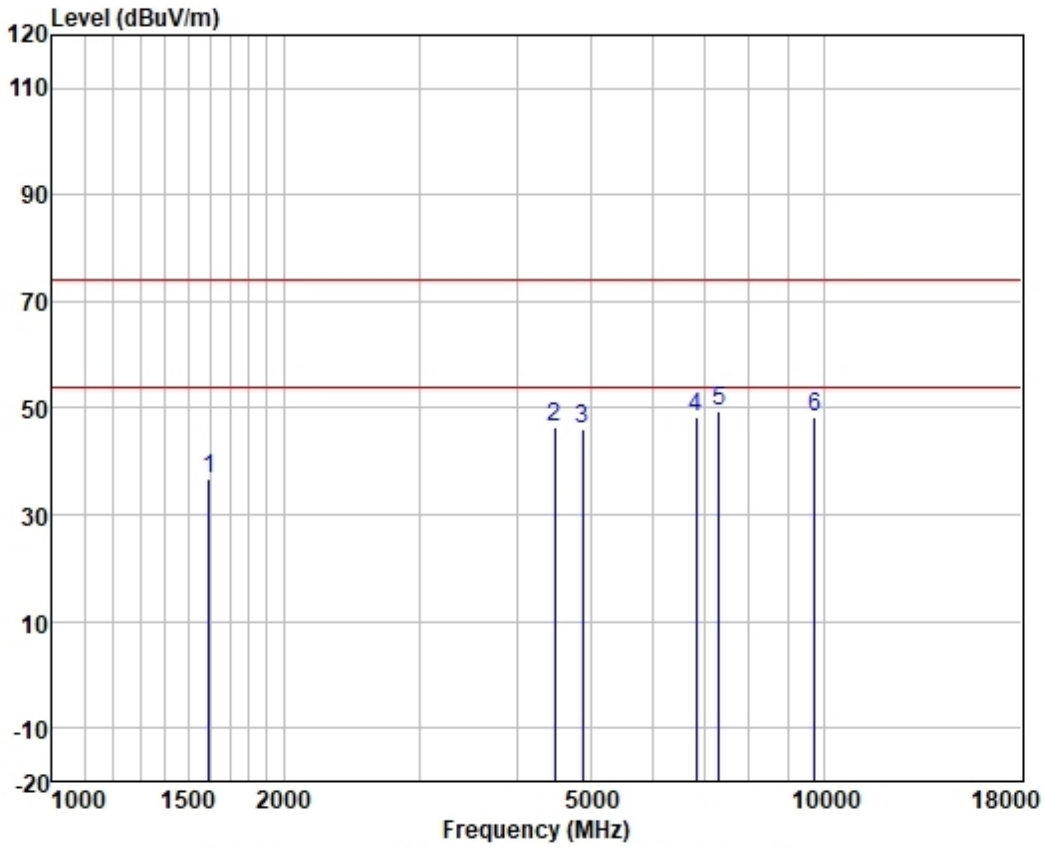
Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



	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	1597.181	47.39	24.68	2.75	38.15	36.67	74.00	-37.33	VERTICAL	peak
2	4482.150	45.29	34.12	4.62	37.44	46.59	74.00	-27.41	VERTICAL	peak
3	4874.000	44.43	34.15	4.85	37.35	46.08	74.00	-27.92	VERTICAL	peak
4	6835.278	44.98	34.79	5.81	37.13	48.45	74.00	-25.55	VERTICAL	peak
5	7311.000	44.66	36.00	5.98	37.18	49.46	74.00	-24.54	VERTICAL	peak
6	9748.000	39.69	38.81	7.11	37.11	48.50	74.00	-25.50	VERTICAL	peak

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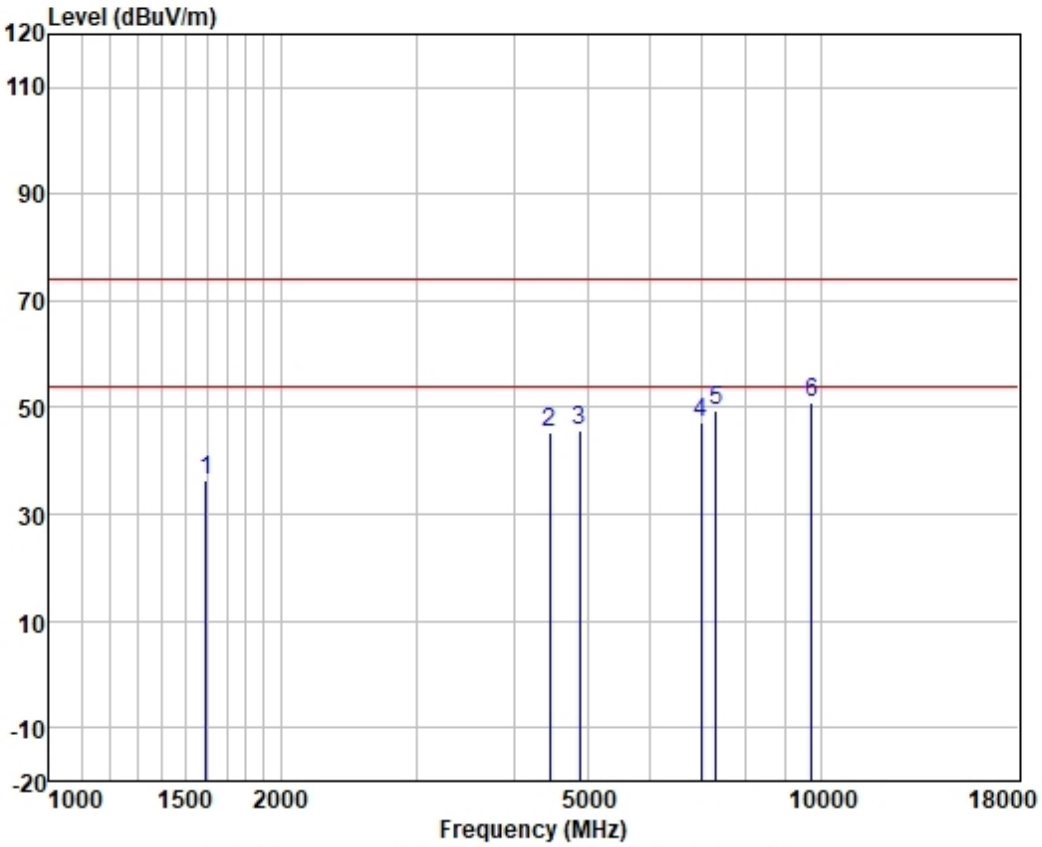
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



	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	1597.181	46.94	24.68	2.75	38.15	36.22	74.00	-37.78	HORIZONTAL	peak
2	4456.315	44.29	34.00	4.61	37.45	45.45	74.00	-28.55	HORIZONTAL	peak
3	4874.000	43.95	34.15	4.85	37.35	45.60	74.00	-28.40	HORIZONTAL	peak
4	6995.172	43.47	35.11	5.87	37.15	47.30	74.00	-26.70	HORIZONTAL	peak
5	7311.000	44.55	36.00	5.98	37.18	49.35	74.00	-24.65	HORIZONTAL	peak
6	9748.000	42.00	38.81	7.11	37.11	50.81	74.00	-23.19	HORIZONTAL	peak

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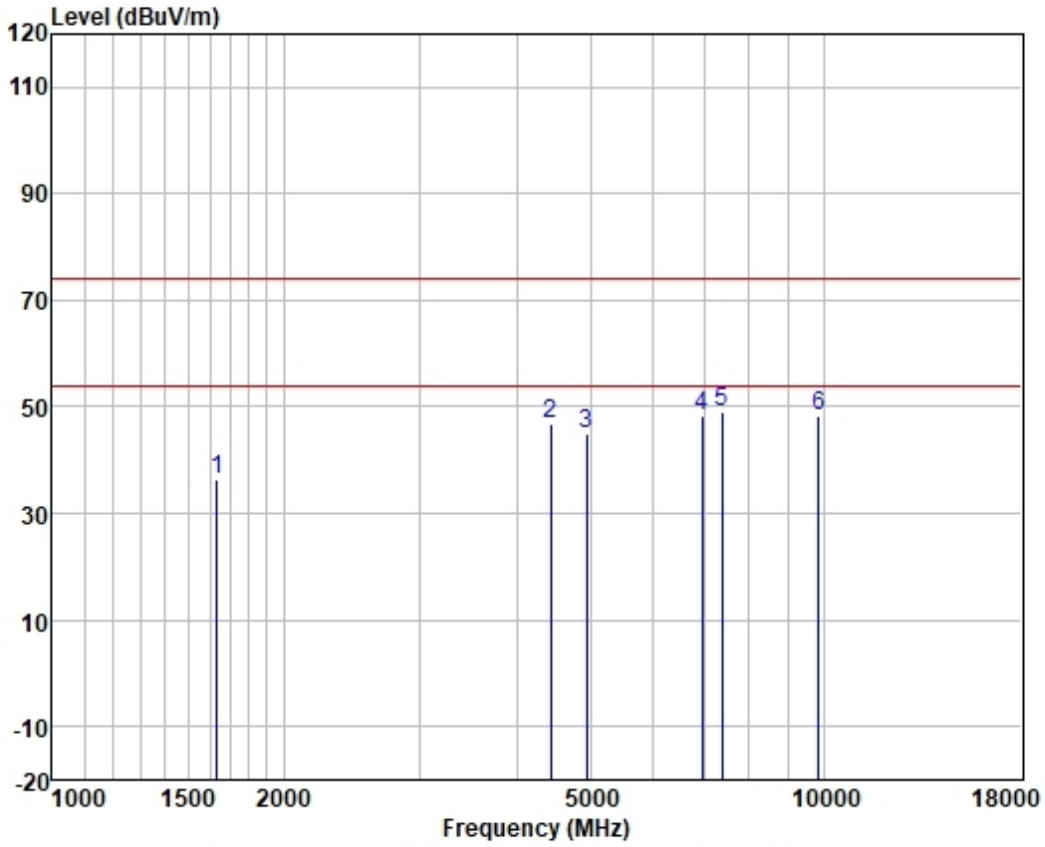
Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



	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	1634.543	46.80	24.81	2.78	38.11	36.28	74.00	-37.72	VERTICAL	peak
2	4430.628	45.63	33.87	4.61	37.45	46.66	74.00	-27.34	VERTICAL	peak
3	4924.000	43.22	34.15	4.88	37.33	44.92	74.00	-29.08	VERTICAL	peak
4	6954.852	44.66	35.04	5.86	37.14	48.42	74.00	-25.58	VERTICAL	peak
5	7386.000	43.85	36.23	6.00	37.18	48.90	74.00	-25.10	VERTICAL	peak
6	9848.000	39.28	38.88	7.15	37.10	48.21	74.00	-25.79	VERTICAL	peak

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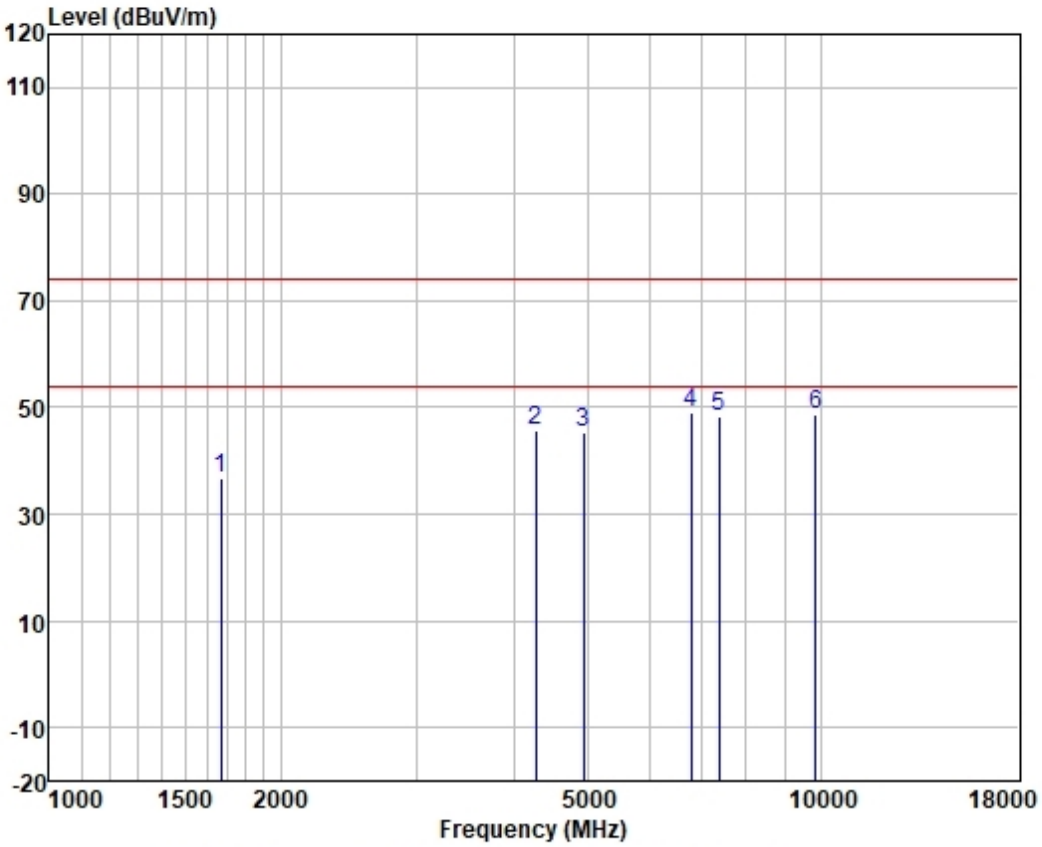
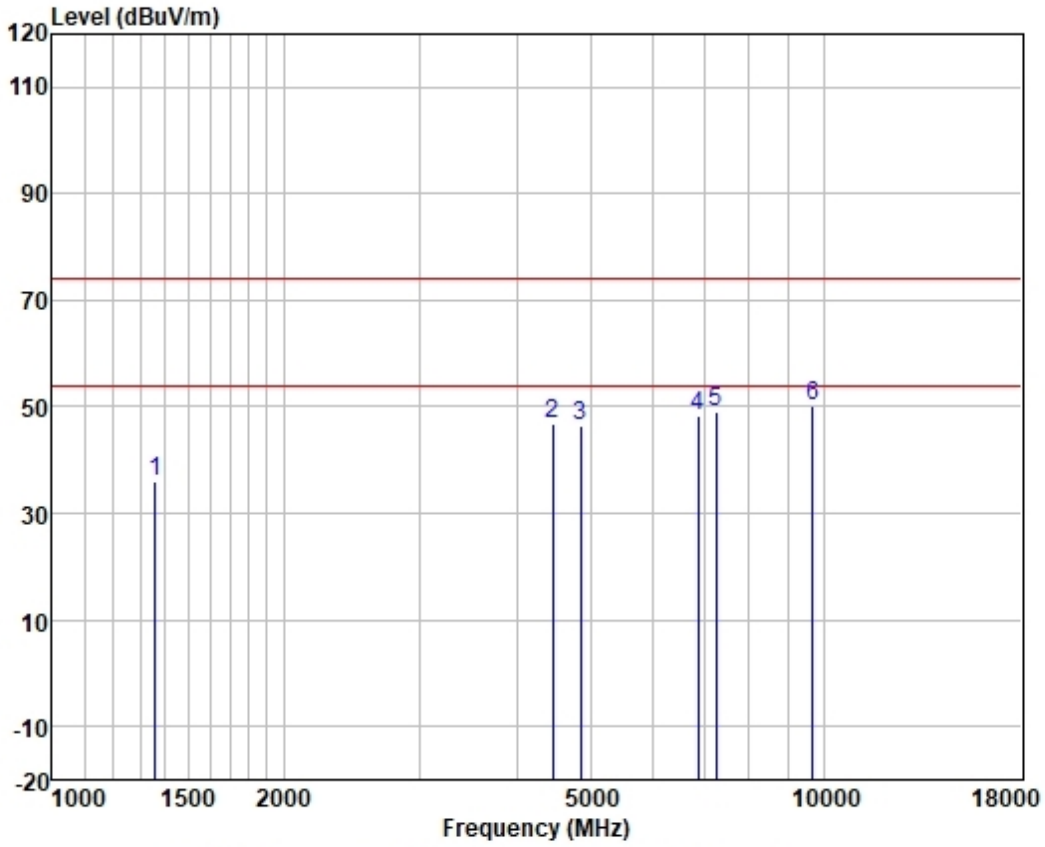
Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



	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	1672.779	46.84	24.98	2.82	38.05	36.59	74.00	-37.41	HORIZONTAL	peak
2	4279.589	45.72	32.82	4.57	37.47	45.64	74.00	-28.36	HORIZONTAL	peak
3	4924.000	43.77	34.15	4.88	37.33	45.47	74.00	-28.53	HORIZONTAL	peak
4	6795.879	45.56	34.69	5.79	37.13	48.91	74.00	-25.09	HORIZONTAL	peak
5	7386.000	43.26	36.23	6.00	37.18	48.31	74.00	-25.69	HORIZONTAL	peak
6	9848.000	39.71	38.88	7.15	37.10	48.64	74.00	-25.36	HORIZONTAL	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1358.498	47.65	24.16	2.63	38.53	35.91	74.00	-38.09	VERTICAL	peak
2	4456.315	45.62	34.00	4.61	37.45	46.78	74.00	-27.22	VERTICAL	peak
3	4844.000	44.76	34.15	4.84	37.37	46.38	74.00	-27.62	VERTICAL	peak
4	6874.906	44.64	34.88	5.83	37.14	48.21	74.00	-25.79	VERTICAL	peak
5	7266.000	44.47	35.86	5.96	37.17	49.12	74.00	-24.88	VERTICAL	peak
6	9688.000	41.44	38.75	7.08	37.11	50.16	74.00	-23.84	VERTICAL	peak

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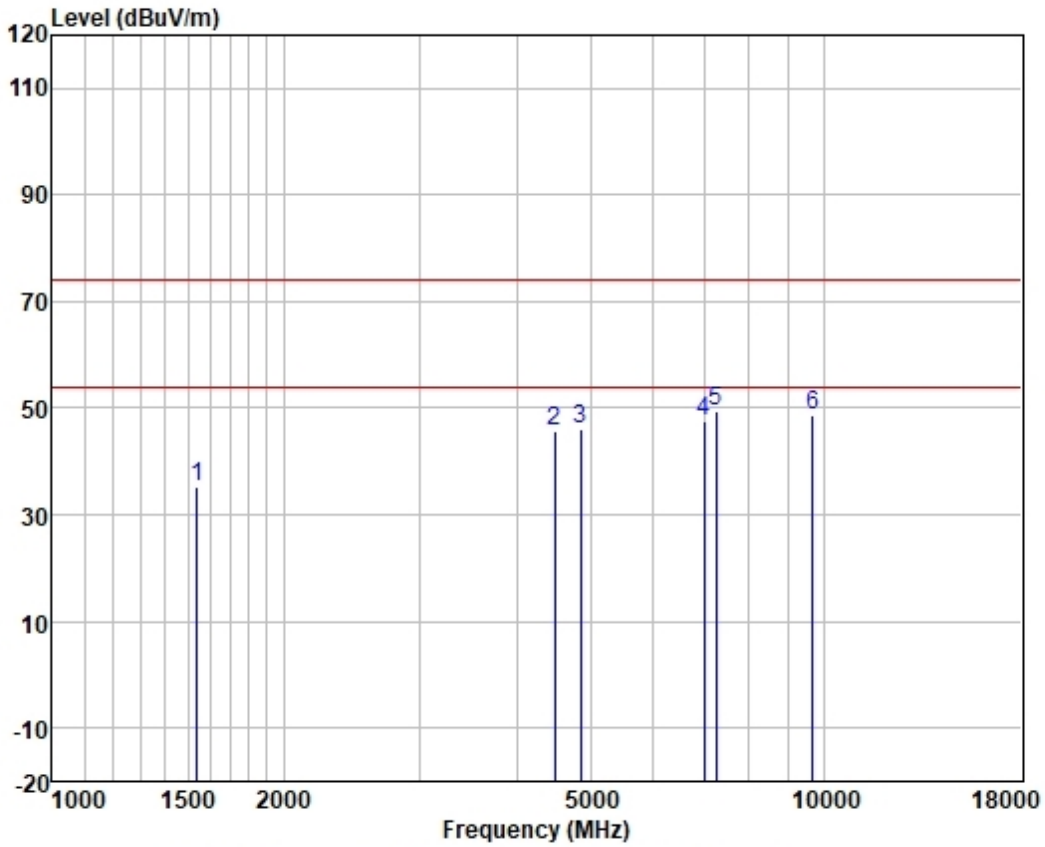
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1542.733	46.37	24.53	2.72	38.23	35.39	74.00	-38.61	HORIZONTAL	peak
2	4482.150	44.43	34.12	4.62	37.44	45.73	74.00	-28.27	HORIZONTAL	peak
3	4844.000	44.44	34.15	4.84	37.37	46.06	74.00	-27.94	HORIZONTAL	peak
4	6995.172	43.59	35.11	5.87	37.15	47.42	74.00	-26.58	HORIZONTAL	peak
5	7266.000	44.77	35.86	5.96	37.17	49.42	74.00	-24.58	HORIZONTAL	peak
6	9688.000	40.11	38.75	7.08	37.11	48.83	74.00	-25.17	HORIZONTAL	peak

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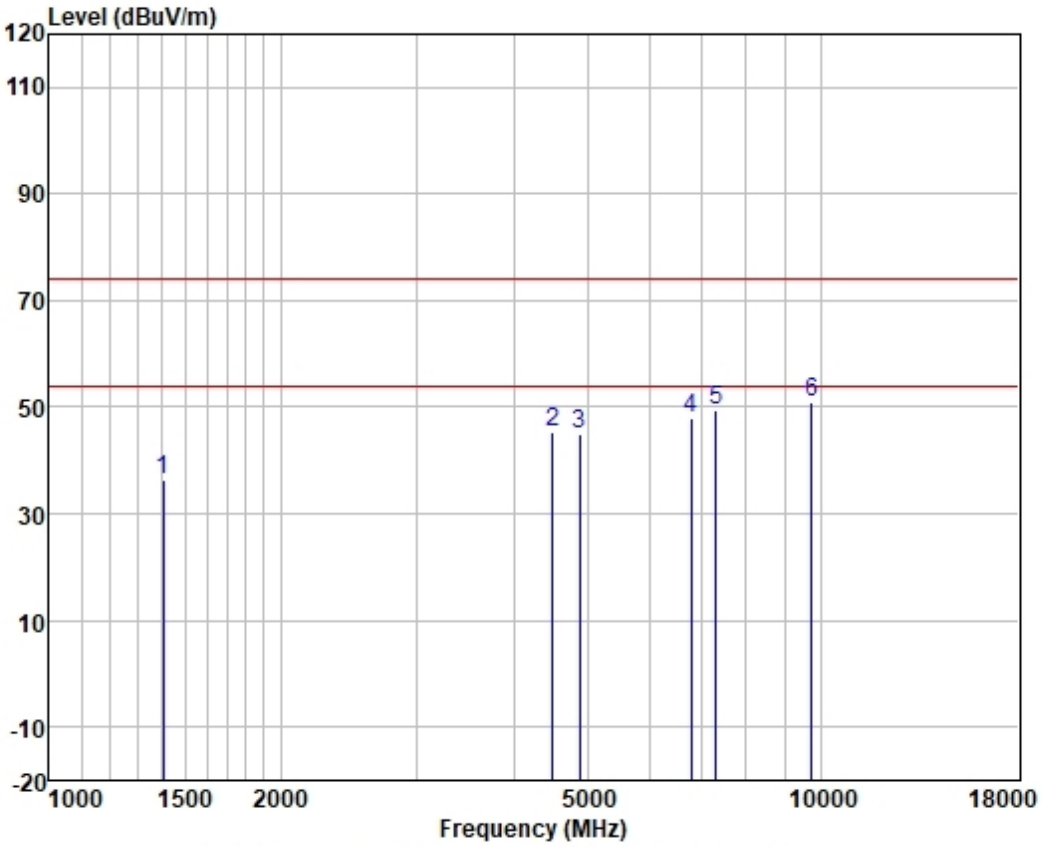
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



	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	1406.443	47.79	24.27	2.66	38.47	36.25	74.00	-37.75	VERTICAL	peak
2	4495.125	44.02	34.17	4.62	37.44	45.37	74.00	-28.63	VERTICAL	peak
3	4874.000	43.47	34.15	4.85	37.35	45.12	74.00	-28.88	VERTICAL	peak
4	6795.879	44.76	34.69	5.79	37.13	48.11	74.00	-25.89	VERTICAL	peak
5	7311.000	44.52	36.00	5.98	37.18	49.32	74.00	-24.68	VERTICAL	peak
6	9748.000	42.29	38.81	7.11	37.11	51.10	74.00	-22.90	VERTICAL	peak

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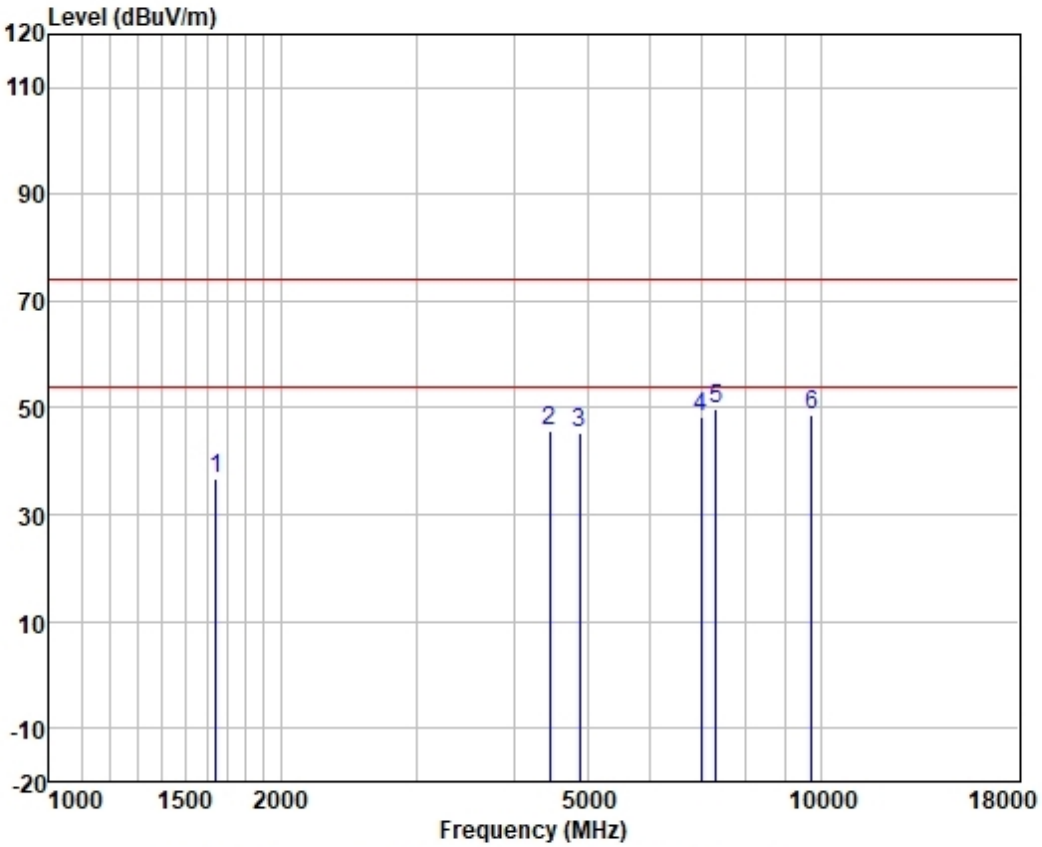
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



	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	1644.019	47.20	24.84	2.79	38.08	36.75	74.00	-37.25	HORIZONTAL	peak
2	4456.315	44.57	34.00	4.61	37.45	45.73	74.00	-28.27	HORIZONTAL	peak
3	4874.000	43.69	34.15	4.85	37.35	45.34	74.00	-28.66	HORIZONTAL	peak
4	6995.172	44.43	35.11	5.87	37.15	48.26	74.00	-25.74	HORIZONTAL	peak
5	7311.000	45.19	36.00	5.98	37.18	49.99	74.00	-24.01	HORIZONTAL	peak
6	9748.000	40.00	38.81	7.11	37.11	48.81	74.00	-25.19	HORIZONTAL	peak

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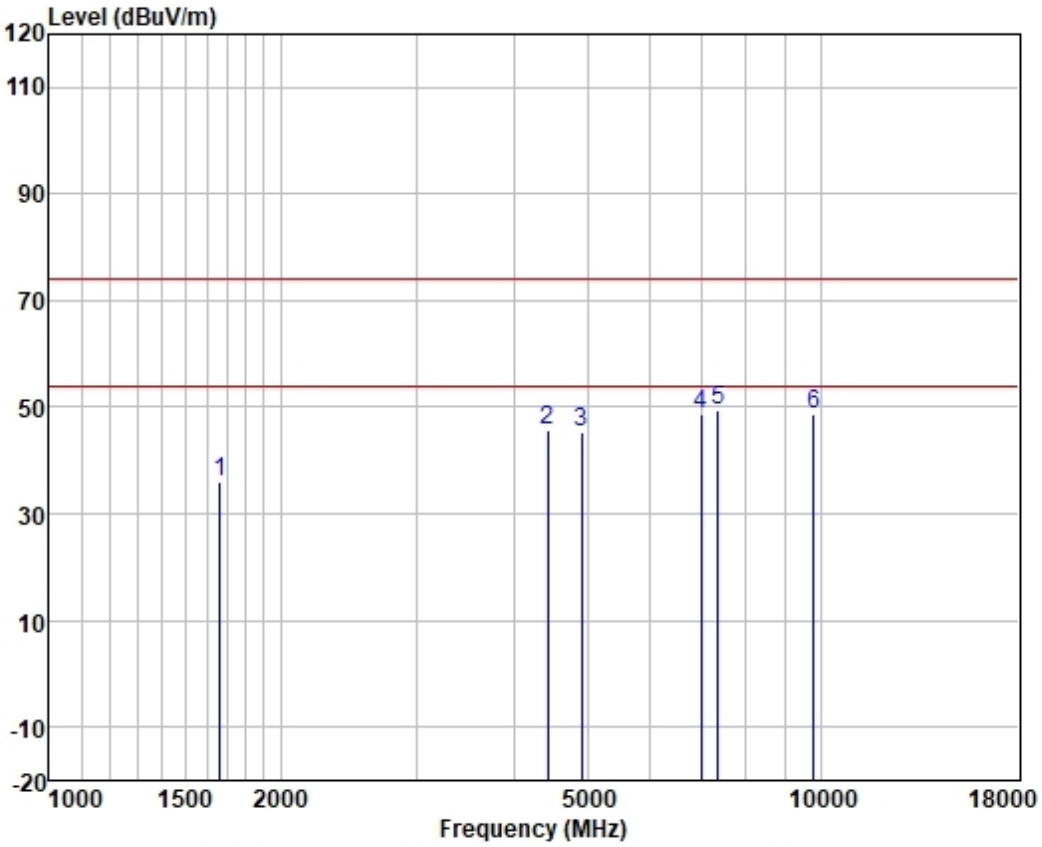
Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



	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	1663.137	46.17	24.93	2.81	38.06	35.85	74.00	-38.15	VERTICAL	peak
2	4430.628	44.80	33.87	4.61	37.45	45.83	74.00	-28.17	VERTICAL	peak
3	4904.000	43.68	34.15	4.86	37.34	45.35	74.00	-28.65	VERTICAL	peak
4	6995.172	44.74	35.11	5.87	37.15	48.57	74.00	-25.43	VERTICAL	peak
5	7356.000	44.53	36.12	5.99	37.18	49.46	74.00	-24.54	VERTICAL	peak
6	9808.000	39.86	38.86	7.14	37.10	48.76	74.00	-25.24	VERTICAL	peak

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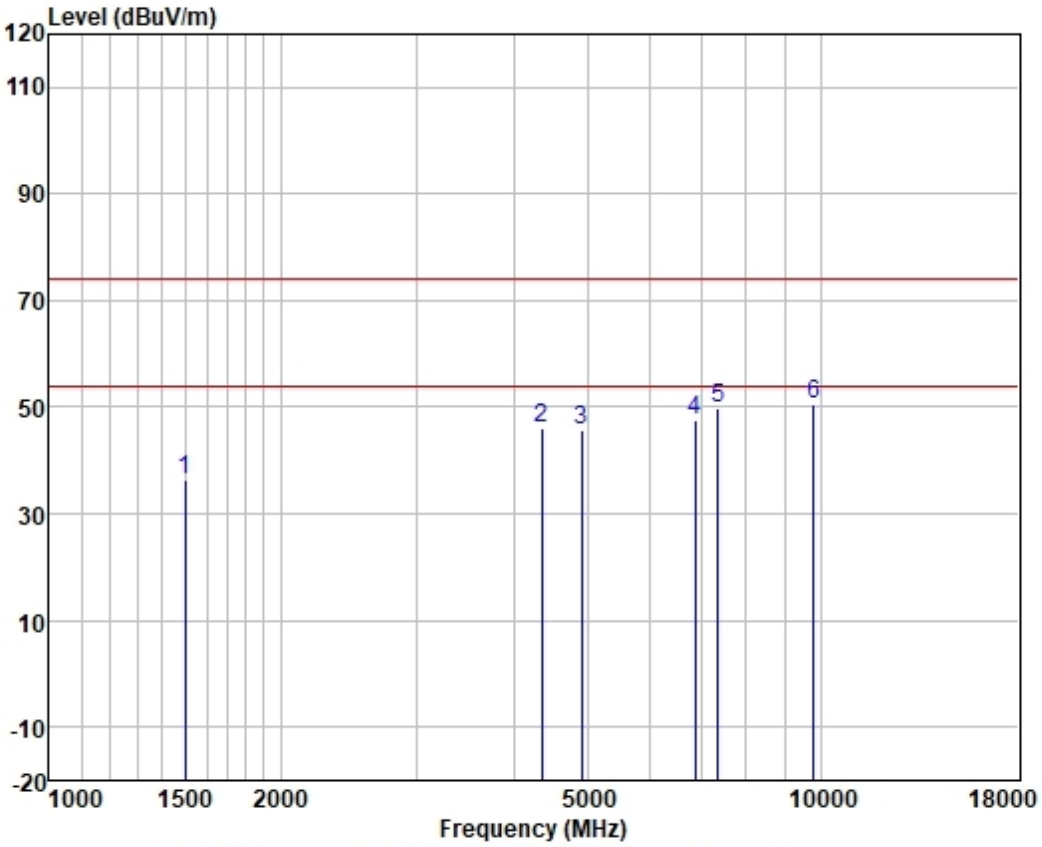
Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1498.781	47.59	24.43	2.70	38.33	36.39	74.00	-37.61	HORIZONTAL	peak
2	4354.454	45.42	33.43	4.60	37.46	45.99	74.00	-28.01	HORIZONTAL	peak
3	4904.000	44.14	34.15	4.86	37.34	45.81	74.00	-28.19	HORIZONTAL	peak
4	6874.906	44.07	34.88	5.83	37.14	47.64	74.00	-26.36	HORIZONTAL	peak
5	7356.000	44.99	36.12	5.99	37.18	49.92	74.00	-24.08	HORIZONTAL	peak
6	9808.000	41.56	38.86	7.14	37.10	50.46	74.00	-23.54	HORIZONTAL	peak

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7.4 Conducted Peak Output Power

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

Test Method: ANSI C63.10 (2013) Section 11.9.2

Limit:

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

7.4.1 Conclusion

The test data were copied from the original modular report XEWM2304000191RG03(FCC ID: XMR2023FC06E) and evaluated by new limit because of the new direction gain.

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)				Verdict
			ANT1	ANT2	MIMO	Limit	
802.11b	SISO	2412	23.89	23.33	/	<=30	Pass
		2437	26.63	23.93	/	<=30	Pass
		2462	23.45	24.73	/	<=30	Pass
802.11g	SISO	2412	25.16	25.18	/	<=30	Pass
		2437	25.17	25.16	/	<=30	Pass
		2462	25.15	25.18	/	<=30	Pass
802.11n (HT20)	MIMO	2412	25.13	25.16	28.16	<=28.99	Pass
		2437	25.13	25.14	28.14	<=28.99	Pass
		2462	25.16	25.19	28.19	<=28.99	Pass
802.11n (HT40)	MIMO	2422	24.92	24.93	27.93	<=28.99	Pass
		2437	24.91	25.04	27.99	<=28.99	Pass
		2452	24.93	24.91	27.93	<=28.99	Pass
802.11ax (HEW20)	MIMO	2412	25.12	25.12	28.12	<=28.99	Pass
		2437	25.16	25.23	28.21	<=28.99	Pass
		2462	25.12	25.13	28.13	<=28.99	Pass
802.11ax (HEW40)	MIMO	2422	24.72	24.81	27.78	<=28.99	Pass
		2437	24.85	24.89	27.88	<=28.99	Pass
		2452	24.82	24.79	27.82	<=28.99	Pass

Note1: Antenna Gain: Ant1: 4.00dBi; Ant2: 4.00dBi;
Note2: Directional Gain: 7.01dBi

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for GZCR241000116101

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9 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for GZCR2410001161AT

- End of the Report -

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