

 Report No.: GZCR210802092301

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 FCC ID: IOMDRVA601W

# TEST REPORT

Application No.:	GZCR2108020923AT
Applicant:	JVCKENWOOD Corporation
Address of Applicant:	2967-3, Ishikawa-machi, Hachioji-shi, Tokyo 192-8525, Japan
Manufacturer:	JVCKENWOOD Corporation
Address of Manufacturer:	2967-3, Ishikawa-machi, Hachioji-shi, Tokyo 192-8525, Japan
Factory:	Cansonic Company Limited
Address of Factory:	3/F, Building 1, Guanlan Industrial Park, Grain Group,299 Guanping Road, Dafu Community, Guanlan South, Longhua New District, Shenzhen, China
Equipment Under Test (EUT	):
EUT Name:	Dashboard Camera
Model No.:	DRV-A601W
Trade Mark:	KENWOOD
Standard(s) :	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2021-09-09
Date of Test:	2021-09-09 to 2021-09-11
Date of Issue:	2021-10-11
Test Result:	Pass*

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

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Kobe Jian EMC Laboratory Manager



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	Revision Record							
Version	Version Chapter Date Modifier Remark							
01		2021-10-11		Original				

Authorized for issue by		
Tested By	CLT VU/Project Engineer	
Reviewed By	Ridey Lin	
	Ricky Liu/Reviewer	



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#### **Test Summary** 2

Radio Spectrum Matter Part								
Item	Standard	Method	Requirement	Result				
Conducted Peak Output Power		ANSI C63.10 (2013) Section 11.9.1.3	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass				
Conducted Spurious Emissions		ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass				
Radiated Spurious Emissions (Below 1GHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass				
Radiated Spurious Emissions (Above 1GHz)		ANSI C63.10 (2013) Section 6.4,6.5,6.6	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:**

Model No.: DRV-A601W

This test report (Ref. No.: GZCR210802092301) is only valid with the original test report (Ref. No.: SZEM190801797502).

According to the declaration from the applicant, the model in this report and model in original report were identical, only difference on that the model in this report updated the crystal oscillator of main board.

EPSON, Aker version crystal oscillator have the same basic function as the original crystal oscillator The difference between EPSON, Aker version crystal oscillator and original version is that the supplier different only, all the specification are the same.

Considering to the difference, pre-scan were performed on the sample in this report to find the items which can be influential to the result in the original test report for fully retest.

Therefore in this report Conducted Peak Output Power, Conducted Spurious Emissions, Radiated Spurious Emissions were fully retested on model DRV-A601W and shown the data in this report, other tests please refer to original report SZEM190801797502.



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#### **General Information** 4

#### Details of E.U.T. 4.1

Power supply:	Camera input: DC5V/2A Car charger input: DC12V/24V, 2A Car charger output: DC5V/2A
Cable(s):	Car charger cable: 4m unshielded cable with a ferrite core USB cable: 1.2m shielded cable with two ferrite cores
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Channel Spacing: Antenna Type: Antenna Gain:	5MHz Integral Antenna 2dBi

## 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.					
The EUT has been tested	The EUT has been tested as an independent unit.							



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## 4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Peak Output Power	± 0.75dB
Conducted Spurious Emissions	± 0.75dB
Radiated Spurious Emissions (Below 1GHz)	±5.06dB (3m); ±4.46dB (10m)
Radiated Spurious Emissions (Above 1GHz)	±5.08dB (1GHz-6GHz);±5.14dB(above 6GHz)
Remark:	

The Ulab (lab Uncertainty) is less than Ucispr (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;

- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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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, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 Tel: +86 20 8215555 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, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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- 4.6 Deviation from Standards None
- 4.7 Abnormalities from Standard Conditions None



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#### **Equipment List** 5

Conducted Peak Output Power							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18		
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14		
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A		
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01		

Conducted Spurious Emissions						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
EXA Signal	Agilent	N9010A	A EMC2138	2020-09-17	2021-09-16	
Analzer(10Hz-44GHz)	Technologies	N90TUA		2021-09-16	2022-09-15	
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14	
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A	
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01	

Radiated Spurious 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	2019-02-22	2022-02-22	
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18	
Active Loop Antenna- RED	ETS-Lindgren	6502	EMC2190	2019-12-27	2021-12-26	
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(1Hz- 8GHz)	Rohde & Schwarz	ESW8	EMC2220	2021-05-26	2022-05-25	

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	2021-01-08	2022-01-07	
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	2021-01-08	2022-01-07	



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2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-01-08	2022-01-07
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	2020-11-13	2021-11-12
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16
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				2020-09-09	2021-09-08
Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2021-09-08	2022-09-07

General used equipmen	t				
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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#### **Radio Spectrum Matter Test Results** 6

## 6.1 Conducted Peak Output Power

Test Requirement	47 CFR Part 15, Subpart C 15.247(b)(3)
Test Method:	ANSI C63.10 (2013) Section 11.9.1.3
Limit:	

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

### 6.1.1 E.U.T. Operation

Operating Enviror	nment:					
Temperature:	23.3 °C	Humidity:	50.1 % RH	Atmospheric Pressure:	1010	mbar

### 6.1.2 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). Only the data of worst case is recorded in the report. (for Aker Krystal oscillator)
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report. (for EPSON Krystal oscillator)



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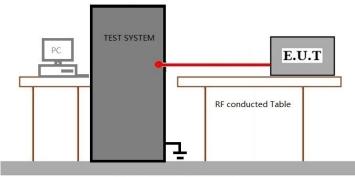
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#### 6.1.3 Test Setup Diagram



**Ground Reference Plane** 

### 6.1.4 Measurement Procedure and Data

cable loss=0.9dB

Please Refer to Appendix for Details



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247(d)

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## 6.2 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247
Test Method:	ANSI C63.10 (2013) Section 11.11
Limit:	

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

#### 6.2.1 E.U.T. Operation

Operating Enviro	onment:					
Temperature:	23.3 °C	Humidity:	50.1 % RH	Atmospheric Pressure: 1	1010	mbar

#### 6.2.2 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). Only the data of worst case is recorded in the report. (for Aker Krystal oscillator)
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report. (for EPSON Krystal oscillator)



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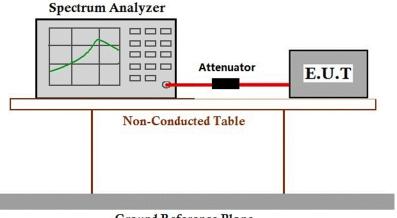
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## 6.2.3 Test Setup Diagram



**Ground Reference Plane** 

#### 6.2.4 Measurement Procedure and Data

cable loss=0.9dB

Please Refer to Appendix for Details



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## 6.3 Radiated Spurious Emissions (Below 1GHz)

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.4,6.5,6.6
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.

#### 6.3.1 E.U.T. Operation

Operating Enviro	onment:				
Temperature:	24.1 °C	Humidity:	50.2 % RH	Atmospheric Pressure: 1010 m	nbar

#### 6.3.2 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). Only the data of worst case is recorded in the report. (for Aker Krystal oscillator)
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report. (for EPSON Krystal oscillator)

#### 6.3.3 Test Setup Diagram



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#### 6.3.4 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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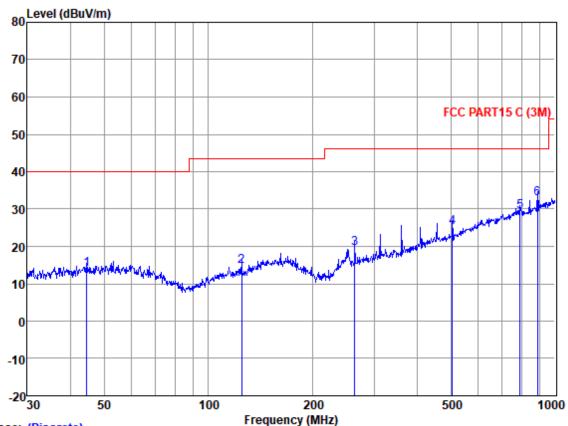
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Test Mode: 00



Trace: (Discrete)

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

		Read	Anterna	Cable	Preamp	Measured	Limit	0ver	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	44.59	25.96	13.83	1.12	27.17	13.74	40.00	-26.26	HORIZONTAL	QP
2	124.57	28.20	11.45	1.91	27.01	14.55	43.50	-28.95	HORIZONTAL	QP
3	263.82	30.64	12.37	3.00	26.59	19.42	46.00	-26.58	HORIZONTAL	QP
4	504.71	30.64	18.00	4.43	27.99	25.08	46.00	-20.92	HORIZONTAL	QP
5	793.40	28.60	22.53	6.14	28.04	29.23	46.00	-16.77	HORIZONTAL	QP
6	890.73	30.63	23.10	6.86	27.86	32.73	46.00	-13.27	HORIZONTAL	QP



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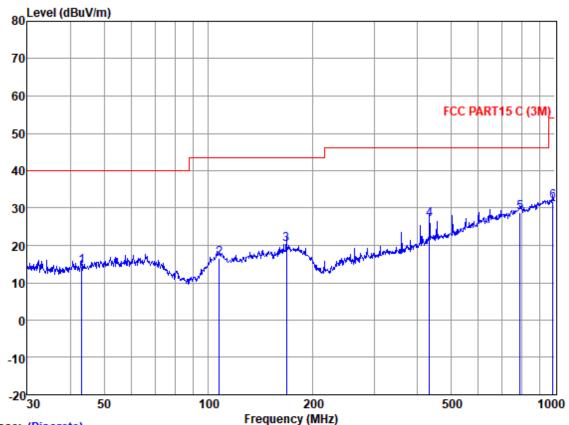
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Test Mode: 00



Trace: (Discrete)

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

		Read	Anterna	Cable	Preamp	Measured	Limit	0ver	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	43.05	26.57	13.76	1.11	27.17	14.27	40.00	-25.73	VERTICAL	QP
2	107.51	31.55	10.25	1.78	27.06	16.52	43.50	-26.98	VERTICAL	QP
3	167.82	31.30	13.30	2.38	26.78	20.20	43.50	-23.30	VERTICAL	QP
4	434.07	33.40	16.85	4.09	27.53	26.81	46.00	-19.19	VERTICAL	QP
5	793.40	28.07	22.53	6.14	28.04	28.70	46.00	-17.30	VERTICAL	QP
6	986.07	27.81	24.17	7.37	27.68	31.67	54.00	-22.33	VERTICAL	QP



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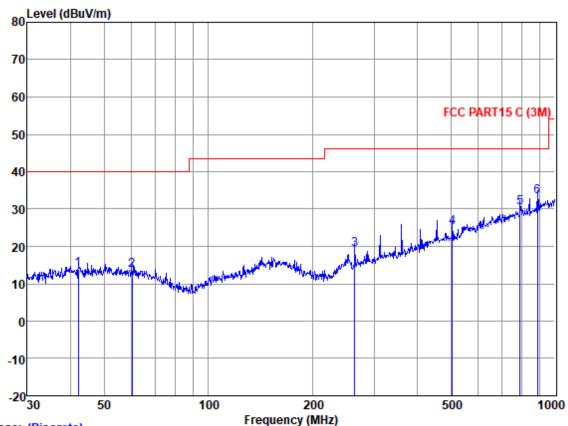
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Test Mode: 04



Trace: (Discrete)

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

		Read	Anterna	Cable	Preamp	Measured	Limit	0ver	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	42.15	26.11	13.71	1.11	27.17	13.76	40.00	-26.24	HORIZONTAL	QP
2	60.28	26.25	13.37	1.26	27.16	13.72	40.00	-26.28	HORIZONTAL	QP
3	263.82	30.29	12.37	3.00	26.59	19.07	46.00	-26.93	HORIZONTAL	QP
4	504.71	30.74	18.00	4.43	27.99	25.18	46.00	-20.82	HORIZONTAL	QP
5	793.40	29.73	22.53	6.14	28.04	30.36	46.00	-15.64	HORIZONTAL	QP
6	890.73	31.11	23.10	6.86	27.86	33.21	46.00	-12.79	HORIZONTAL	QP



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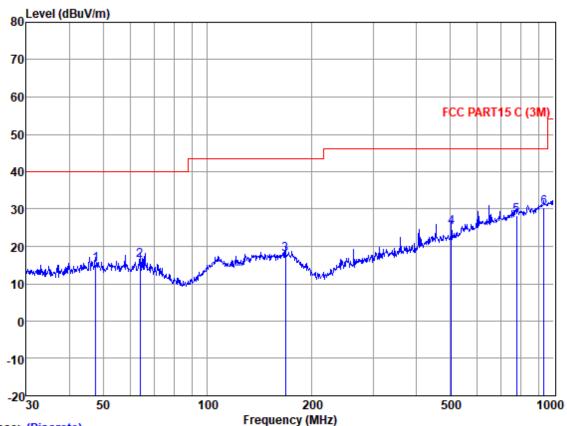
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Report No.: GZCR210802092301 Page: 20 of 105

Test Mode: 04



Trace: (Discrete)

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

		Read	Anterna	Cable	Preamp	Measured	Limit	0ver	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	47.66	27.34	13.99	1.13	27.17	15.29	40.00	-24.71	VERTICAL	QP
2	63.98	29.21	12.90	1.32	27.15	16.28	40.00	-23.72	VERTICAL	QP
3	167.82	29.09	13.30	2.38	26.78	17.99	43.50	-25.51	VERTICAL	QP
4	504.71	30.68	18.00	4.43	27.99	25.12	46.00	-20.88	VERTICAL	QP
5	779.61	27.92	22.30	6.11	28.05	28.28	46.00	-17.72	VERTICAL	QP
6	935.55	27.25	23.80	7.06	27.78	30.33	46.00	-15.67	VERTICAL	QP



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## 6.4 Radiated Spurious Emissions (Above 1GHz)

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.4,6.5,6.6
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.

#### 6.4.1 E.U.T. Operation

Operating Enviro	onment:				
Temperature:	24.2 °C	Humidity:	50.3 % RH	Atmospheric Pressure: 1010	mbar

#### 6.4.2 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). Only the data of worst case is recorded in the report. (for Aker Krystal oscillator)
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report. (for EPSON Krystal oscillator)



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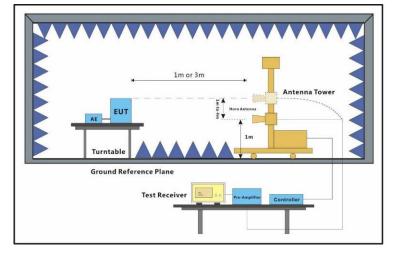
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6.4.3 Test Setup Diagram





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#### 6.4.4 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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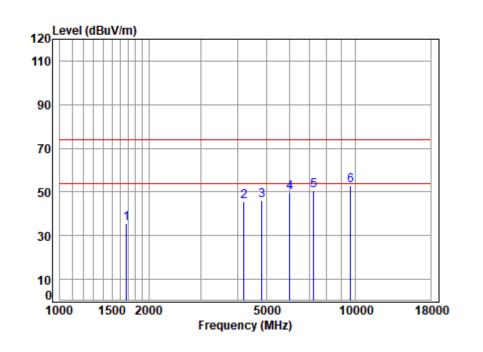
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Report No.: GZCR210802092301 Page: 24 of 105

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



Site	: cha	amber										
Cond:	ition: 3m	HORIZ	ONTAL									
Job I	No : 212	208AT/	21209A	Г								
Mode	Mode : 2412 TX RSE											
Note : 2.4G WIFI 11B												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1682.477	3.42	26.62	40.05	45.42	35.41	74.00	-38.59	peak			
2	4193.872	6.47	32.76	41.59	47.92	45.56	74.00	-28.44	peak			
3	4824.000	7.12	33.66	42.16	47.52	46.14	74.00	-27.86	peak			
4	6001.626	8.26	34.60	42.40	49.05	49.51	74.00	-24.49	peak			
5	7236.000	8.77	35.69	41.48	47.66	50.64	74.00	-23.36	peak			
6	9648.000	10.79	37.36	37.69	42.35	52.81	74.00	-21.19	peak			



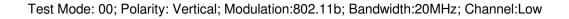
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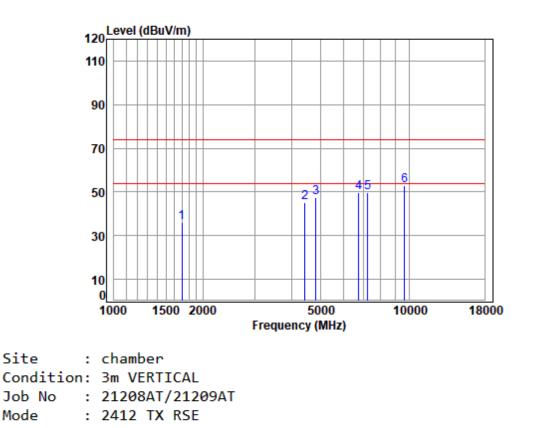
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Note	: 2.4								
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1702.042	3.43	26.71	40.06	46.15	36.23	74.00	-37.77	peak
2	4443.453	6.71	32.96	41.82	47.38	45.23	74.00	-28.77	peak
3	4824.000	7.12	33.66	42.16	48.90	47.52	74.00	-26.48	peak
4	6737.207	8.41	35.04	41.87	47.95	49.53	74.00	-24.47	peak
5	7236.000	8.77	35.69	41.48	46.85	49.83	74.00	-24.17	peak
6	9648.000	10.79	37.36	37.69	42.66	53.12	74.00	-20.88	peak



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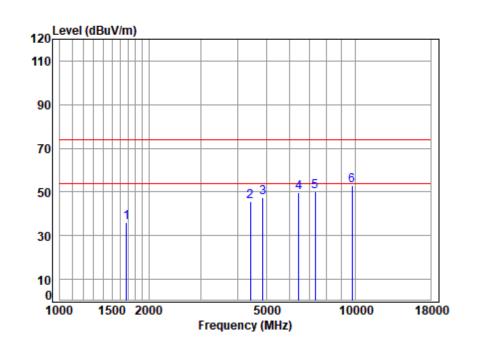
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Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



	Condition: 3m HORIZONTAL Job No : 21208AT/21209AT Mode : 2437 TX RSE Note : 2.4G WIFI 11B											
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1677.621	3.41	26.59	40.05	46.14	36.09	74.00	-37.91	peak			
2	4417.841	6.68	32.94	41.80	47.59	45.41	74.00	-28.59	peak			
3	4874.000	7.17	33.76	42.20	48.53	47.26	74.00	-26.74	peak			
4	6451.353	8.28	34.60	42.07	48.87	49.68	74.00	-24.32	peak			
5	7311.000	8.84	35.75	41.41	46.95	50.13	74.00	-23.87	peak			
6	9748.000	10.76	37.40	37.52	42.33	52.97	74.00	-21.03	peak			



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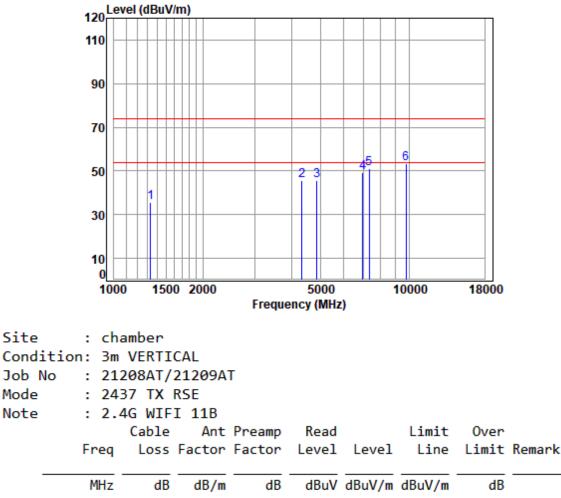
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Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



	1012	ab.	GD/ III		abav	ubuv/m	ubuv/m	u.	
1	1331.288	3.00	25.38	39.85	46.94	35.47	74.00	-38.53 p	beak
2	4329.354	6.60	32.87	41.72	47.74	45.49	74.00	-28.51 p	beak
3	4874.000	7.17	33.76	42.20	46.85	45.58	74.00	-28.42 p	beak
4	6954.852	8.52	35.42	41.73	47.12	49.33	74.00	-24.67 p	beak
5	7311.000	8.84	35.75	41.41	47.99	51.17	74.00	-22.83 p	beak
6	9748.000	10.76	37.40	37.52	42.62	53.26	74.00	-20.74 p	beak



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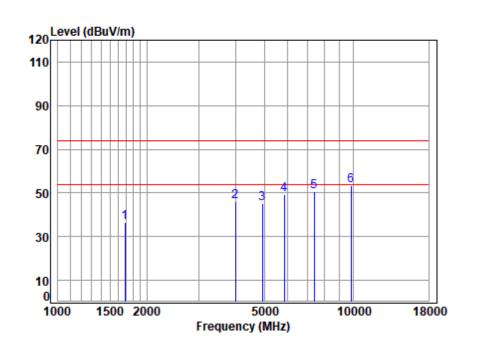
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Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Site	: cha	amber										
Cond:	ition: 3m	HORIZ	ONTAL									
Job I	No : 212	208AT/	21209A1	Г								
Mode	Mode : 2462 TX RSE											
Note : 2.4G WIFI 11B												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1687.347	3.42	26.64	40.05	46.43	36.44	74.00	-37.56	peak			
2	3992.781	6.27	32.59	41.40	48.56	46.02	74.00	-27.98	peak			
3	4924.000	7.22	33.85	42.24	46.40	45.23	74.00	-28.77	peak			
4	5847.517	8.24	34.48	42.39	48.74	49.07	74.00	-24.93	peak			
5	7386.000	8.91	35.81	41.34	47.16	50.54	74.00	-23.46	peak			
6	9848.000	10.73	37.44	37.35	42.60	53.42	74.00	-20.58	peak			
									-			



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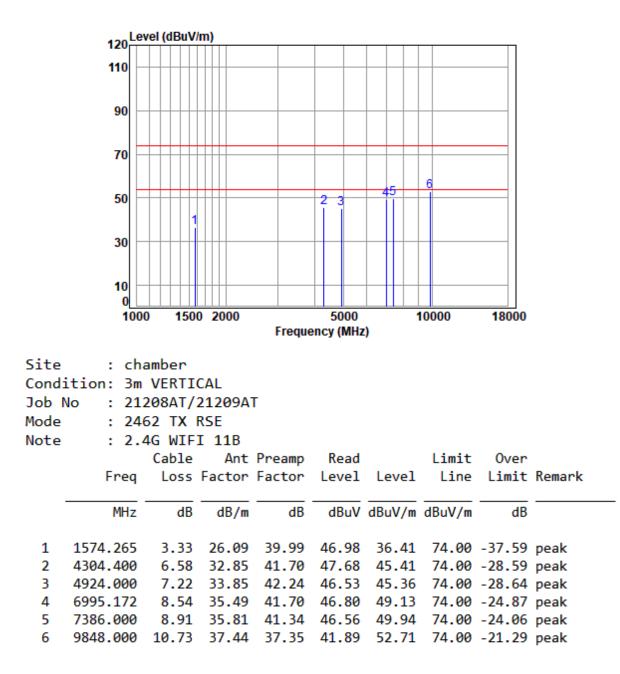
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Report No.: GZCR210802092301 Page: 29 of 105

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





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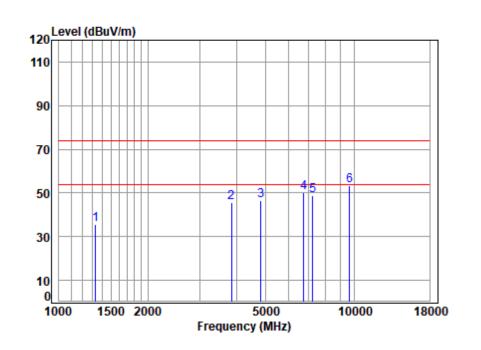
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Report No.: GZCR210802092301 Page: 30 of 105

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



Site												
Cond	ition: 3m	HORIZ	ONTAL									
Job I	No : 212	208AT/	21209A	Г								
Mode	Mode : 2412 TX RSE											
Note : 2.4G WIFI 11G												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
	4334 888			20.05			74.00					
1	1331.288	3.00	25.38	39.85	46.90	35.43	74.00	-38.57	peak			
2	3845.537	6.06	32.33	41.30	48.56	45.65	74.00	-28.35	peak			
3	4824.000	7.12	33.66	42.16	47.86	46.48	74.00	-27.52	peak			
4	6737.207	8.41	35.04	41.87	48.46	50.04	74.00	-23.96	peak			
5	7236.000	8.77	35.69	41.48	45.78	48.76	74.00	-25.24	peak			
6	9648.000	10.79	37.36	37.69	42.85	53.31	74.00	-20.69	peak			
									•			



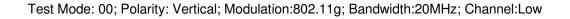
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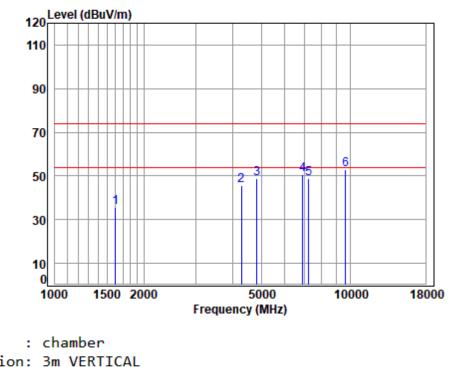
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Cond: Job I Mode	Site : chamber Condition: 3m VERTICAL Job No : 21208AT/21209AT Mode : 2412 TX RSE Note : 2.4G WIFI 11G											
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1606.441	3.35	26.25	40.01	46.08	35.67	74.00	-38.33	peak			
2	4291.977	6.57	32.84	41.68	47.82	45.55	74.00	-28.45	peak			
3	4824.000	7.12	33.66	42.16	50.15	48.77	74.00	-25.23	peak			
4	6914.763	8.50	35.35	41.76	48.36	50.45	74.00	-23.55	peak			
5	7236.000	8.77	35.69	41.48	45.83	48.81	74.00	-25.19	peak			
6	9648.000	10.79	37.36	37.69	42.39	52.85	74.00	-21.15	peak			



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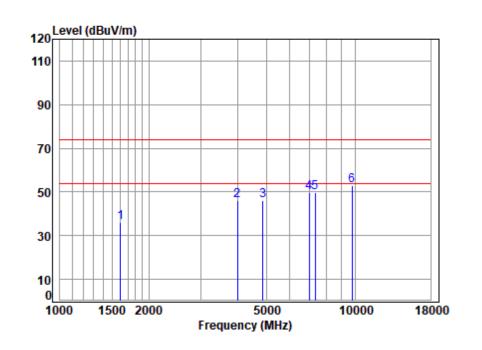
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Report No.: GZCR210802092301 Page: 32 of 105

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



Site	: cha	amber										
Cond:	ition: 3m	HORIZ	ONTAL									
Job I	No : 212	208AT/2	21209A1	Г								
Mode	Mode : 2437 TX RSE											
Note : 2.4G WIFI 11G												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1606.441	3.35	26.25	40.01	46.45	36.04	74.00	-37.96	peak			
2	3992.781	6.27	32.59	41.40	48.50	45.96	74.00	-28.04	peak			
3	4874.000	7.17	33.76	42.20	47.28	46.01	74.00	-27.99	peak			
4	6974.982	8.53	35.46	41.72	47.32	49.59	74.00	-24.41	peak			
5	7311.000	8.84	35.75	41.41	46.65	49.83	74.00	-24.17	peak			
6	9748.000	10.76	37.40	37.52	42.40	53.04	74.00	-20.96	peak			



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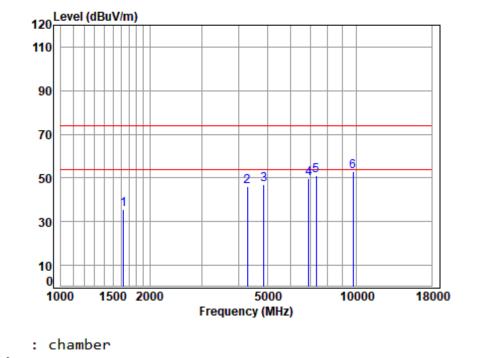
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Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



Job I Mode	Condition: 3m VERTICAL Job No : 21208AT/21209AT Mode : 2437 TX RSE Note : 2.4G WIFI 11G											
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1629.825	3.37	26.36	40.02	46.01	35.72	74.00	-38.28	peak			
2	4291.977	6.57	32.84	41.68	48.38	46.11	74.00	-27.89	peak			
3	4874.000	7.17	33.76	42.20	48.09	46.82	74.00	-27.18	peak			
4	6894.806	8.49	35.32	41.77	47.87	49.91	74.00	-24.09	peak			
5	7311.000	8.84	35.75	41.41	47.77	50.95	74.00	-23.05	peak			
6	9748.000	10.76	37.40	37.52	42.28	52.92	74.00	-21.08	peak			



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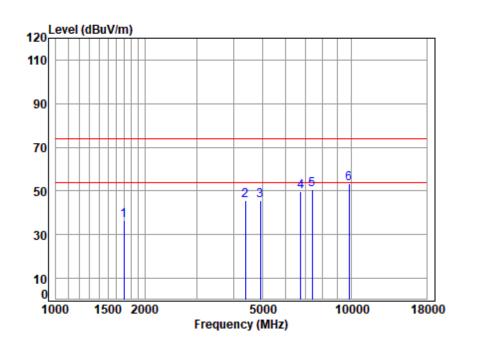
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Test Mode: 00; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



	Site : chamber Condition: 3m HORIZONTAL Job No : 21208AT/21209AT											
	Mode : 2462 TX RSE											
Note : 2.4G WIFI 11G												
Note	: 2.4	Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1697.129	3.43	26.69	40.06	46.30	36.36	74.00	-37.64	peak			
2	4392.376	6.66	32.92	41.78	48.02	45.82	74.00	-28.18	peak			
3	4924.000	7.22	33.85	42.24	46.99	45.82	74.00	-28.18	peak			
4	6737.207	8.41	35.04	41.87	48.22	49.80	74.00	-24.20	peak			
5	7386.000	8.91	35.81	41.34	47.31	50.69	74.00	-23.31	peak			
6	9848.000	10.73	37.44	37.35	42.56	53.38	74.00	-20.62	peak			



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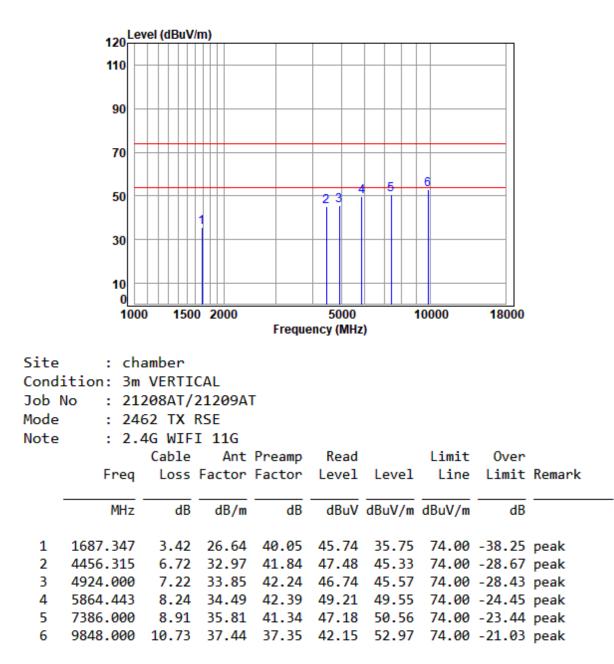
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Test Mode: 00; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:High





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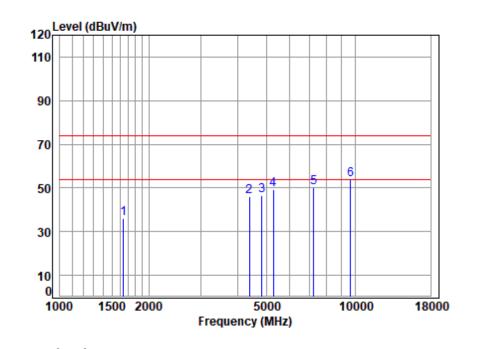
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Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Site	: cha	amber										
Cond	ition: 3m	HORIZ	ONTAL									
Job I	Vo : 212	208AT/	21209A1	Г								
Mode	Mode : 2412 TX RSE											
Note : 2.4G WIFI 11N20												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss		Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1644.019	3.38	26.43	40.03	46.04	35.82	74.00	-38.18	peak			
2	4379.699	6.65	32.91	41.77	48.36	46.15	74.00	-27.85	peak			
3	4824.000	7.12	33.66	42.16	47.97	46.59	74.00	-27.41	peak			
4	5284.902	7.81	34.12	42.33	49.64	49.24	74.00	-24.76	peak			
5	7236.000	8.77	35.69	41.48	47.12	50.10	74.00	-23.90	peak			
6	9648.000	10.79	37.36	37.69	43.16	53.62	74.00	-20.38	peak			



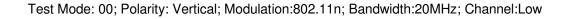
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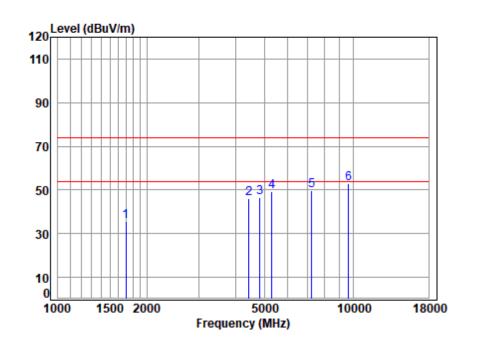
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Site	te : chamber										
Cond	ition: 3m	VERTI	CAL								
Job I	No : 212	208AT/2	21209A1	Г							
Mode : 2412 TX RSE											
Note : 2.4G WIFI 11N20											
		Cable	Ant	Preamp	Read		Limit	0ver			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB			
1	1697.129	3.43	26.69	40.06	45.64	35.70	74.00	-38.30	peak		
2	4443.453	6.71	32.96	41.82	48.15	46.00	74.00	-28.00	peak		
3	4824.000	7.12	33.66	42.16	47.91	46.53	74.00	-27.47	peak		
4	5300.200	7.84	34.12	42.33	49.86	49.49	74.00	-24.51	peak		
5	7236.000	8.77	35.69	41.48	46.88	49.86	74.00	-24.14	peak		
6	9648.000	10.79	37.36	37.69	42.61	53.07	74.00	-20.93	peak		



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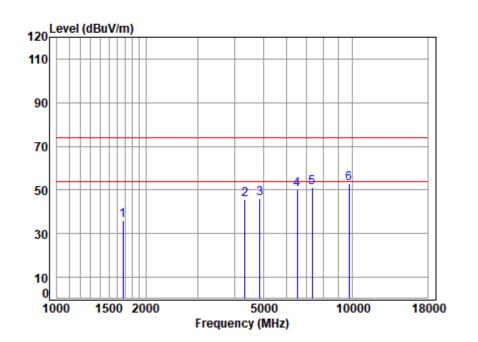
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Report No.: GZCR210802092301 Page: 38 of 105

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



	Site : chamber Condition: 3m HORIZONTAL Job No : 21208AT/21209AT											
Mode : 2437 TX RSE												
Note : 2.4G WIFI 11N20												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1672.779	3.41	26.57	40.05	45.98	35.91	74.00	-38.09	peak			
2	4329.354	6.60	32.87	41.72	47.78	45.53	74.00	-28.47	peak			
3	4874.000	7.17	33.76	42.20	47.24	45.97	74.00	-28.03	peak			
4	6507.536	8.28	34.61	42.03	49.50	50.36	74.00	-23.64	peak			
5	7311.000	8.84	35.75	41.41	48.10	51.28	74.00	-22.72	peak			
6	9748.000	10.76	37.40	37.52	42.37	53.01	74.00	-20.99	peak			



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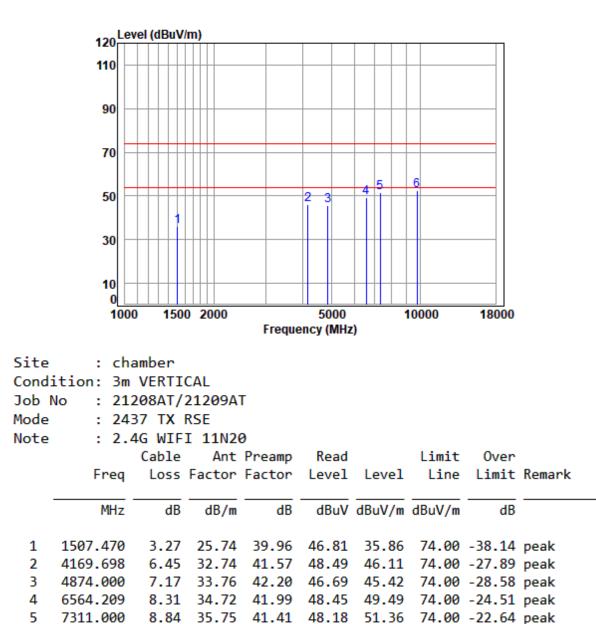
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Report No.: GZCR210802092301 Page: 39 of 105

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





6

9748.000

10.76 37.40

37.52

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42.04 52.68 74.00 -21.32 peak

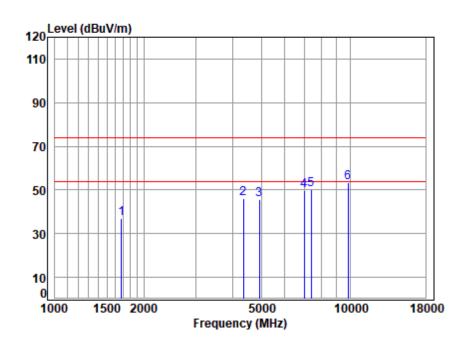
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Report No.: GZCR210802092301 Page: 40 of 105

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



	Site : chamber Condition: 3m HORIZONTAL Job No : 21208AT/21209AT											
	Mode : 2462 TX RSE											
Note	: 2.4			-				-				
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1682.477	3.42	26.62	40.05	46.92	36.91	74.00	-37.09	peak			
2	4354.454	6.63	32.89	41.74	48.26	46.04	74.00	-27.96	peak			
3	4924.000	7.22	33.85	42.24	46.63	45.46	74.00	-28.54	peak			
4	6974.982	8.53	35.46	41.72	47.39	49.66	74.00	-24.34	peak			
5	7386.000	8.91	35.81	41.34	46.60	49.98	74.00	-24.02	peak			
6	9848.000	10.73	37.44	37.35	42.66	53.48	74.00	-20.52	peak			



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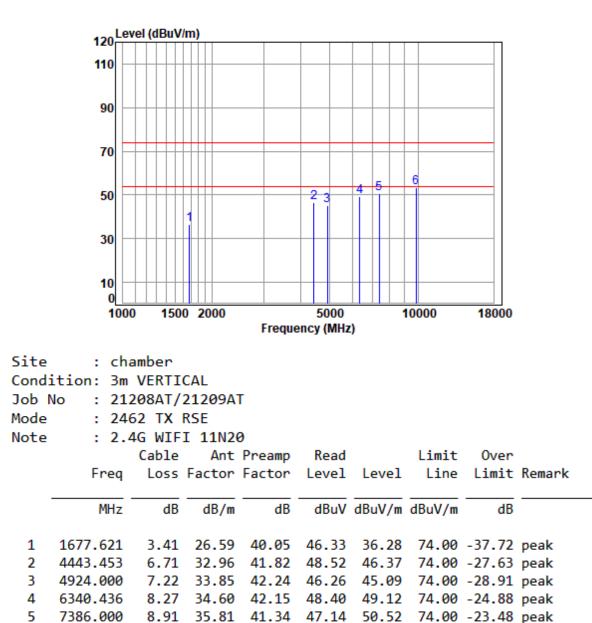
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Report No.: GZCR210802092301 Page: 41 of 105

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





6

9848.000

10.73 37.44

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37.35 42.67 53.49 74.00 -20.51 peak

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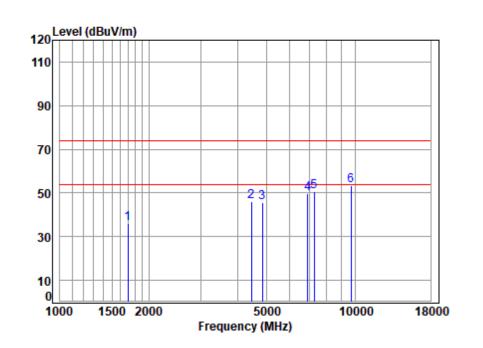
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Report No.: GZCR210802092301 Page: 42 of 105

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



Site	Site : chamber										
Cond:	ition: 3m	HORIZ	ONTAL								
Job I	No : 212	208AT/2	21209A1	Г							
Mode : 2422 TX RSE											
Note : 2.4G WIFI 11N40											
		Cable	Ant	Preamp	Read		Limit	0ver			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB			
1	1697.129	3.43	26.69	40.06	46.11	36.17	74.00	-37.83	peak		
2	4456.315	6.72	32.97	41.84	48.18	46.03	74.00	-27.97	peak		
3	4844.000	7.14	33.70	42.17	46.78	45.45	74.00	-28.55	peak		
4	6894.806	8.49	35.32	41.77	47.73	49.77	74.00	-24.23	peak		
5	7266.000	8.79	35.72	41.45	47.36	50.42	74.00	-23.58	peak		
6	9688.000	10.78	37.38	37.63	43.06	53.59	74.00	-20.41	peak		



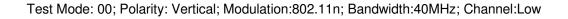
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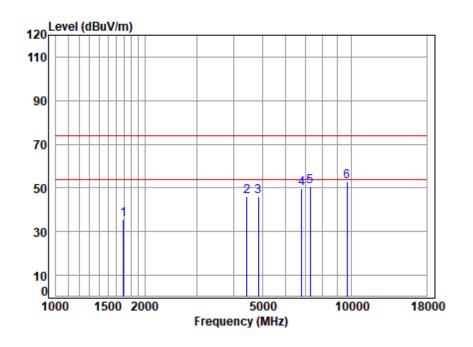
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Report No.: GZCR210802092301 Page: 43 of 105





Site	: cha	amber								
Cond:	ition: 3m	VERTIC	CAL							
Job I	No : 212	208AT/2	21209A1	Г						
Mode	: 242	22 TX F	RSE							
Note : 2.4G WIFI 11N40										
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1692.231	3.42	26.66	40.06	45.76	35.78	74.00	-38.22	peak	
2	4430.628	6.70	32.95	41.81	48.45	46.29	74.00	-27.71	peak	
3	4844.000	7.14	33.70	42.17	47.51	46.18	74.00	-27.82	peak	
4	6795.879	8.44	35.14	41.83	47.88	49.63	74.00	-24.37	peak	
5	7266.000	8.79	35.72	41.45	47.49	50.55	74.00	-23.45	peak	
6	9688.000	10.78	37.38	37.63	42.50	53.03	74.00	-20.97	peak	



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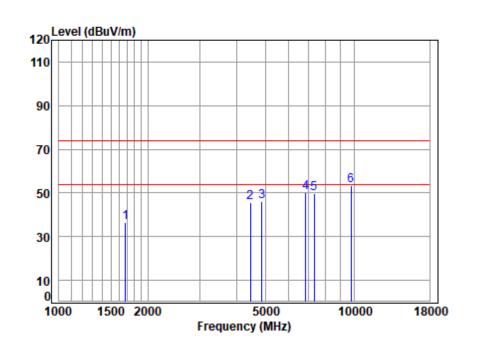
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Report No.: GZCR210802092301 Page: 44 of 105

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



Site : chamber Condition: 3m HORIZONTAL Job No : 21208AT/21209AT Mode : 2437 TX RSE Note : 2.4G WIFI 11N40											
		Cable	Ant	Preamp	Read		Limit	0ver			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB			
1	1682.477	3.42	26.62	40.05	46.57	36.56	74.00	-37.44	peak		
2	4456.315	6.72	32.97	41.84	47.89	45.74	74.00	-28.26	peak		
3	4874.000	7.17	33.76	42.20	47.31	46.04	74.00	-27.96	peak		
4	6855.063	8.47	35.25	41.80	48.43	50.35	74.00	-23.65	peak		
5	7311.000	8.84	35.75	41.41	46.72	49.90	74.00	-24.10	peak		
6	9748.000	10.76	37.40	37.52	42.64	53.28	74.00	-20.72	peak		



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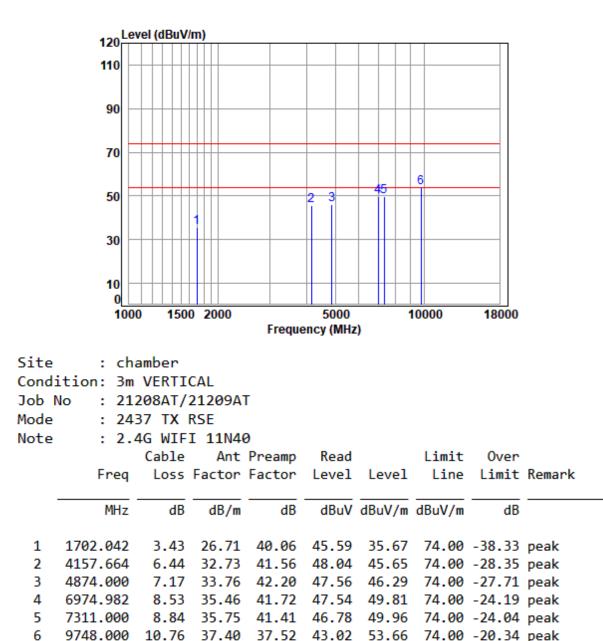
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Report No.: GZCR210802092301 Page: 45 of 105

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





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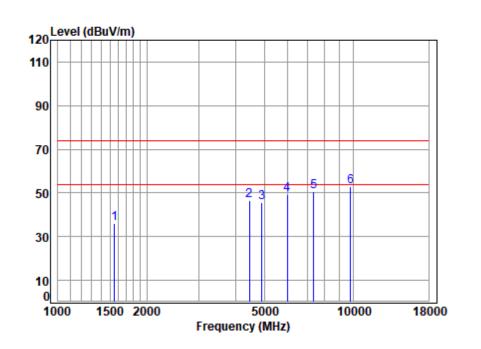
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Report No.: GZCR210802092301 Page: 46 of 105

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



Job I	Site : chamber Condition: 3m HORIZONTAL Job No : 21208AT/21209AT Mode : 2452 TX RSE											
Note	: 2.4							_				
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1551.677	3.31	25.97	39.98	46.65	35.95	74.00	-38.05	peak			
2	4456.315	6.72	32.97	41.84	48.49	46.34	74.00	-27.66	peak			
3	4904.000	7.20	33.82	42.22	46.73	45.53	74.00	-28.47	peak			
4	5984.305	8.26	34.59	42.40	48.94	49.39	74.00	-24.61	peak			
5	7356.000	8.88	35.79	41.37	47.55	50.85	74.00	-23.15	peak			
6	9808.000	10.75	37.42	37.42	42.34	53.09	74.00	-20.91	peak			



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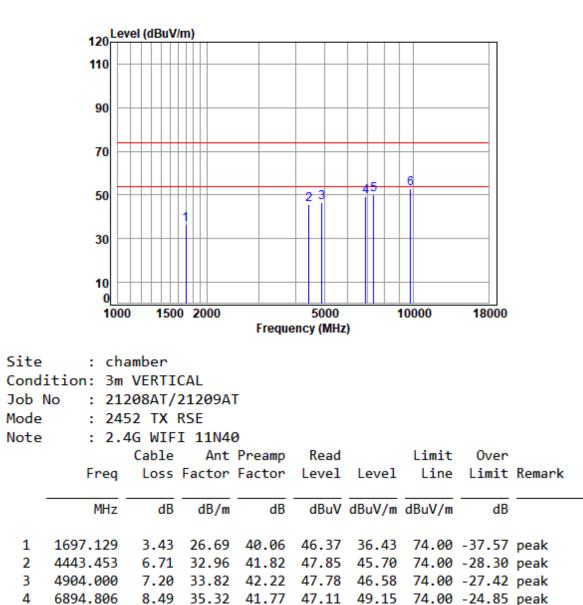
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Report No.: GZCR210802092301 Page: 47 of 105

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





5

6

7356.000

9808.000

8.88

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47.06

10.75 37.42 37.42 42.14 52.89 74.00 -21.11 peak

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35.79 41.37

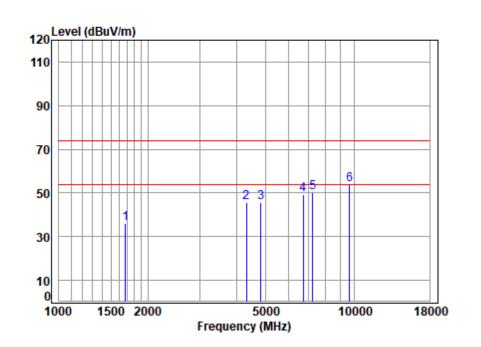
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50.36 74.00 -23.64 peak



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Test Mode: 04; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



	Condition: 3m HORIZONTAL Job No : 21208AT/21209AT Mode : 2412 TX RSE Note : 2.4G WIFI 11B											
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1677.621	3.41	26.59	40.05	46.07	36.02	74.00	-37.98	peak			
2	4316.859	6.59	32.86	41.71	47.81	45.55	74.00	-28.45	peak			
3	4824.000	7.12	33.66	42.16	47.17	45.79	74.00	-28.21	peak			
4	6717.762	8.40	35.00	41.89	47.58	49.09	74.00	-24.91	peak			
5	7236.000	8.77	35.69	41.48	47.29	50.27	74.00	-23.73	peak			
6	9648.000	10.79	37.36	37.69	43.21	53.67	74.00	-20.33	peak			



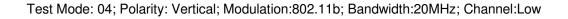
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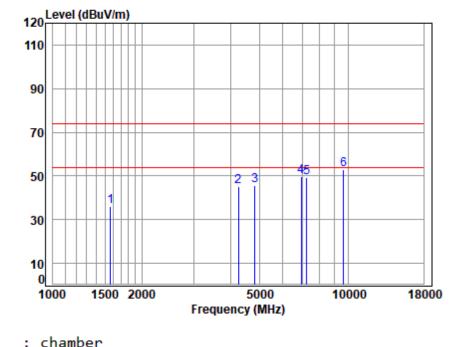
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Site	: cha	amber							
Condi	ition: 3m	VERTI	CAL						
Job I	Vo : 212	208AT/2	21209A	Г					
Mode	: 241	12 TX I	RSE						
Note	: 2.4	4G WIF:	I 11B						
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1569.721	3.32	26.06	39.99	46.48	35.87	74.00	-38.13	peak
2	4242.641	6.52	32.80	41.64	47.68	45.36	74.00	-28.64	peak
3	4824.000	7.12	33.66	42.16	46.84	45.46	74.00	-28.54	peak
4	6934.778	8.51	35.39	41.74	47.48	49.64	74.00	-24.36	peak
5	7236.000	8.77	35.69	41.48	46.27	49.25	74.00	-24.75	peak
6	9648.000	10.79	37.36	37.69	42.64	53.10	74.00	-20.90	peak



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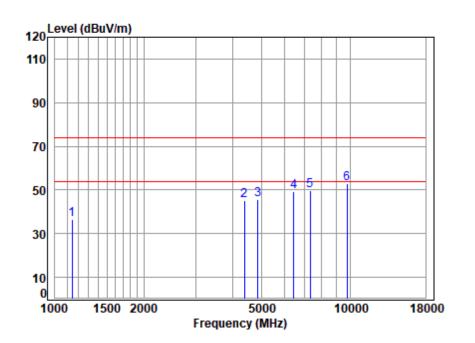
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



	Condition: 3m HORIZONTAL Job No : 21208AT/21209AT Mode : 2437 TX RSE Note : 2.4G WIFI 11B											
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1142.201	2.66	24.96	39.72	48.50	36.40	74.00	-37.60	peak			
2	4392.376	6.66	32.92	41.78	47.48	45.28	74.00	-28.72	peak			
3	4874.000	7.17	33.76	42.20	47.00	45.73	74.00	-28.27	peak			
4	6432.732	8.28	34.60	42.08	48.48	49.28	74.00	-24.72	peak			
5	7311.000	8.84	35.75	41.41	46.77	49.95	74.00	-24.05	peak			
6	9748.000	10.76	37.40	37.52	42.33	52.97	74.00	-21.03	peak			



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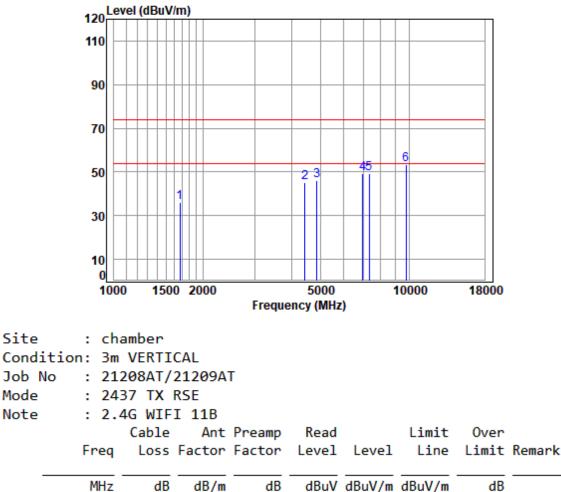
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Test Mode: 04; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1672.779	3.41	26.57	40.05	46.33	36.26	74.00	-37.74	peak
2	4443.453	6.71	32.96	41.82	47.43	45.28	74.00	-28.72	peak
3	4874.000	7.17	33.76	42.20	47.42	46.15	74.00	-27.85	peak
4	6954.852	8.52	35.42	41.73	46.89	49.10	74.00	-24.90	peak
5	7311.000	8.84	35.75	41.41	46.30	49.48	74.00	-24.52	peak
6	9748.000	10.76	37.40	37.52	42.89	53.53	74.00	-20.47	peak



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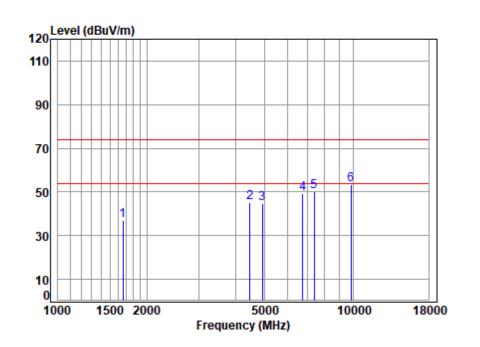
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



Site	Site : chamber										
Cond	ition: 3m	HORIZ	ONTAL								
Job I	No : 212	208AT/	21209A	Г							
Mode : 2462 TX RSE											
Note : 2.4G WIFI 11B											
		Cable	Ant	Preamp	Read		Limit	0ver			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB			
1	1658.337	3.40	26.50	40.04	47.17	37.03	74.00	-36.97	peak		
2	4469.214	6.73	32.98	41.85	47.31	45.17	74.00	-28.83	peak		
3	4924.000	7.22	33.85	42.24	45.75	44.58	74.00	-29.42	peak		
4	6737.207	8.41	35.04	41.87	47.74	49.32	74.00	-24.68	peak		
5	7386.000	8.91	35.81	41.34	46.62	50.00	74.00	-24.00	peak		
6	9848.000	10.73	37.44	37.35	42.73	53.55	74.00	-20.45	peak		



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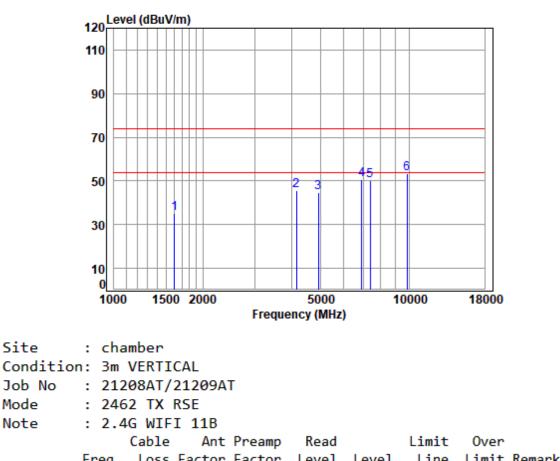
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	Freq	LOSS	Factor	Factor	rever	Level	Line	Limit	Kemark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1606.441	3.35	26.25	40.01	45.60	35.19	74.00	-38.81	peak
2	4157.664	6.44	32.73	41.56	47.89	45.50	74.00	-28.50	peak
3	4924.000	7.22	33.85	42.24	45.97	44.80	74.00	-29.20	peak
4	6894.806	8.49	35.32	41.77	48.58	50.62	74.00	-23.38	peak
5	7386.000	8.91	35.81	41.34	46.91	50.29	74.00	-23.71	peak
6	9848.000	10.73	37.44	37.35	42.57	53.39	74.00	-20.61	peak



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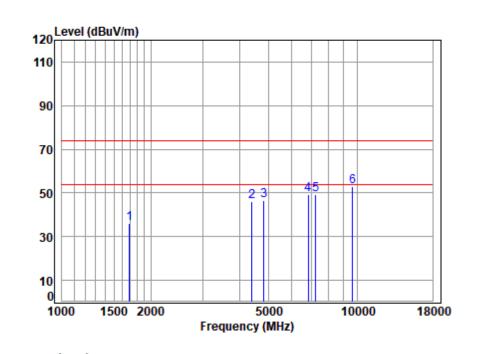
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:Low



Site	: cha	amber								
Cond:	ition: 3m	HORIZ	ONTAL							
Job I	No : 212	208AT/	21209A	Г						
Mode	: 242	12 TX	RSE							
Note : 2.4G WIFI 11G										
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1692.231	3.42	26.66	40.06	46.00	36.02	74.00	-37.98	peak	
2	4405.090	6.67	32.93	41.79	48.12	45.93	74.00	-28.07	peak	
3	4824.000	7.12	33.66	42.16	48.03	46.65	74.00	-27.35	peak	
4	6835.278	8.46	35.21	41.81	47.36	49.22	74.00	-24.78	peak	
5	7236.000	8.77	35.69	41.48	46.14	49.12	74.00	-24.88	peak	
6	9648.000	10.79	37.36	37.69	42.60	53.06	74.00	-20.94	peak	



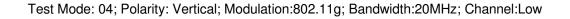
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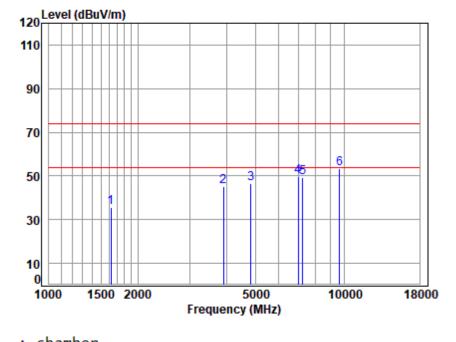
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	Condition: 3m VERTICAL Job No : 21208AT/21209AT Mode : 2412 TX RSE Note : 2.4G WIFI 11G											
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1620,431	3,36	26.32	40.02	45.93	35.59	74.00	-38.41	peak			
2	3901.516	6.14	32.43	41.34			74.00		•			
3	4824.000	7.12	33.66	42.16			74.00		•			
4	6995.172	8.54	35.49	41.70	47.28	49.61		-24.39	•			
5	7236.000	8.77	35.69	41.48	46.33	49.31	74.00	-24.69	peak			
6	9648.000	10.79	37.36	37.69	42.73	53.19	74.00	-20.81	peak			



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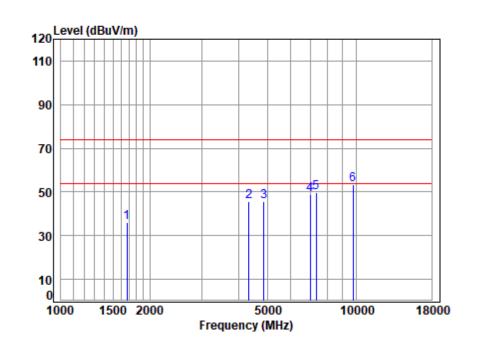
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



	Condition: 3m HORIZONTAL Job No : 21208AT/21209AT Mode : 2437 TX RSE											
Note : 2.4G WIFI 11G												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1672.779	3,41	26.57	40.05	16 26	36 10	74.00	27 91	naak			
-									•			
2	4329.354	6.60	32.87	41.72	48.06	45.81	74.00	-28.19	peak			
3	4874.000	7.17	33.76	42.20	47.12	45.85	74.00	-28.15	peak			
4	6974.982	8.53	35.46	41.72	46.70	48.97	74.00	-25.03	peak			
5	7311.000	8.84	35.75	41.41	46.66	49.84	74.00	-24.16	peak			
6	9748.000	10.76	37.40	37.52	42.55	53.19	74.00	-20.81	peak			



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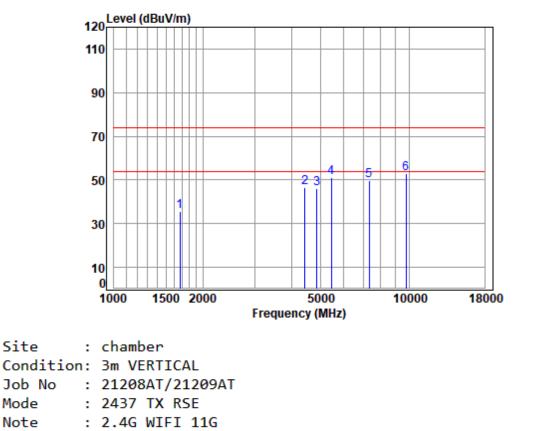
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Report No.: GZCR210802092301 Page: 57 of 105

Test Mode: 04; Polarity: Vertical; Modulation:802.11g; Bandwidth:20MHz; Channel:middle



		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1672.779	3.41	26.57	40.05	45.65	35.58	74.00	-38.42	peak
2	4430.628	6.70	32.95	41.81	48.51	46.35	74.00	-27.65	peak
3	4874.000	7.17	33.76	42.20	47.51	46.24	74.00	-27.76	peak
4	5439.885	8.08	34.18	42.35	51.13	51.04	74.00	-22.96	peak
5	7311.000	8.84	35.75	41.41	46.57	49.75	74.00	-24.25	peak
6	9748.000	10.76	37.40	37.52	42.50	53.14	74.00	-20.86	peak



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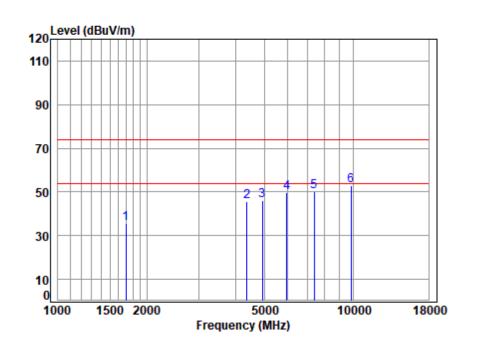
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Report No.: GZCR210802092301 Page: 58 of 105

Test Mode: 04; Polarity: Horizontal; Modulation:802.11g; Bandwidth:20MHz; Channel:High



Job I Mode	Condition: 3m HORIZONTAL Job No : 21208AT/21209AT											
Note	: 2.4	Cable		Preamp	Read		Limit	0ver				
	Freq			Factor		Level			Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1697.129	3.43	26.69	40.06	45.65	35.71	74.00	-38.29	peak			
2	4367.058	6.64	32.90	41.75	47.68	45.47	74.00	-28.53	peak			
3	4924.000	7.22	33.85	42.24	47.30	46.13	74.00	-27.87	peak			
4	5949.811	8.25	34.56	42.40	49.49	49.90	74.00	-24.10	peak			
5	7386.000	8.91	35.81	41.34	46.90	50.28	74.00	-23.72	peak			
6	9848.000	10.73	37.44	37.35	42.06	52.88	74.00	-21.12	peak			



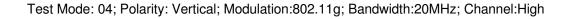
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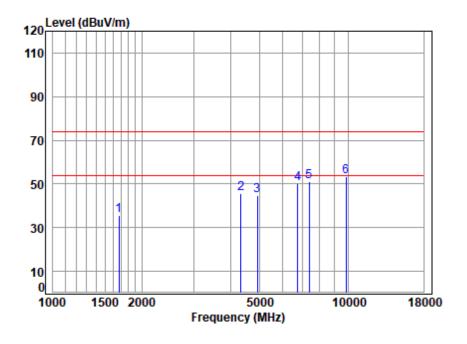
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Report No.: GZCR210802092301 Page: 59 of 105





Site	: cha	amber								
Cond:	ition: 3m	VERTI	CAL							
Job I	No : 212	208AT/	21209A1	Г						
Mode	: 240	52 TX	RSE							
Note : 2.4G WIFI 11G										
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1672.779	3.41	26.57	40.05	45.62	35.55	74.00	-38.45	peak	
2	4341.886	6.61	32.88	41.73	47.67	45.43	74.00	-28.57	peak	
3	4924.000	7.22	33.85	42.24	45.95	44.78	74.00	-29.22	peak	
4	6756.708	8.42	35.07	41.86	48.34	49.97	74.00	-24.03	peak	
5	7386.000	8.91	35.81	41.34	47.75	51.13	74.00	-22.87	peak	
6	9848.000	10.73	37.44	37.35	42.55	53.37	74.00	-20.63	peak	



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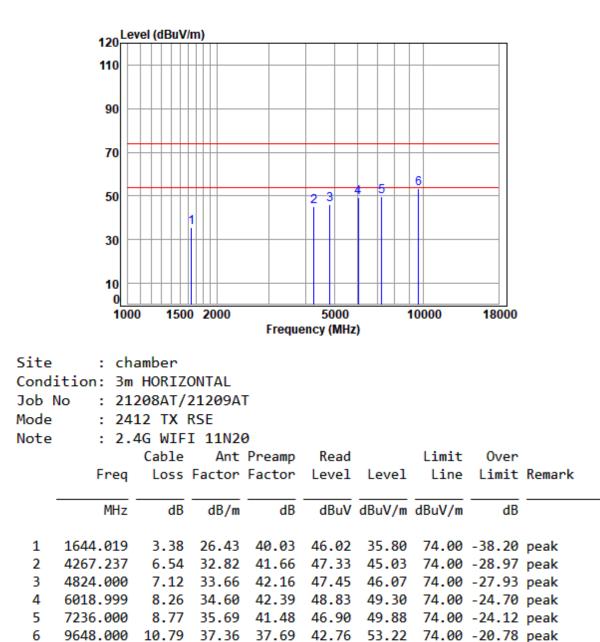
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Report No.: GZCR210802092301 Page: 60 of 105

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low





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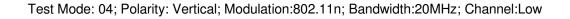
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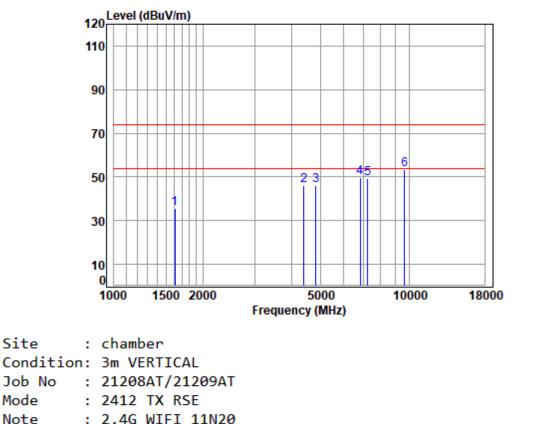
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Report No.: GZCR210802092301 Page: 61 of 105





		10 1121	T TTUE						
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1611.091	3.36	26.27	40.01	45.97	35.59	74.00	-38.41	peak
2	4405.090	6.67	32.93	41.79	48.07	45.88	74.00	-28.12	peak
3	4824.000	7.12	33.66	42.16	47.33	45.95	74.00	-28.05	peak
4	6815.551	8.45	35.18	41.82	47.80	49.61	74.00	-24.39	peak
5	7236.000	8.77	35.69	41.48	46.41	49.39	74.00	-24.61	peak
6	9648.000	10.79	37.36	37.69	42.81	53.27	74.00	-20.73	peak



Site

Mode

Note

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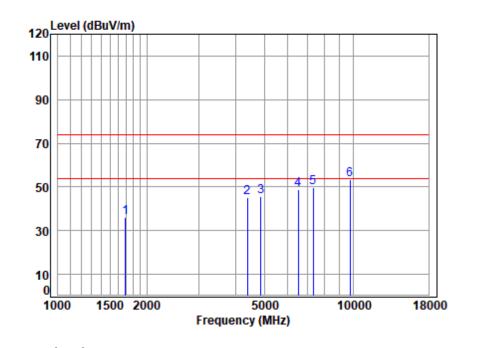
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Report No.: GZCR210802092301 Page: 62 of 105

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Site	: cha	amber								
Cond	ition: 3m	HORIZ	ONTAL							
Job I	No : 212	208AT/	21209A1	Г						
Mode	: 243	37 TX	RSE							
Note : 2.4G WIFI 11N20										
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss		Factor	Level	Level	Line	Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1692.231	3.42	26.66	40.06	45.85	35.87	74.00	-38.13	peak	
2	4392.376	6.66	32.92	41.78	47.17	44.97	74.00	-29.03	peak	
3	4874.000	7.17	33.76	42.20	47.03	45.76	74.00	-28.24	peak	
4	6507.536	8.28	34.61	42.03	48.09	48.95	74.00	-25.05	peak	
5	7311.000	8.84	35.75	41.41	46.68	49.86	74.00	-24.14	peak	
6	9748.000	10.76	37.40	37.52	42.69	53.33	74.00	-20.67	peak	



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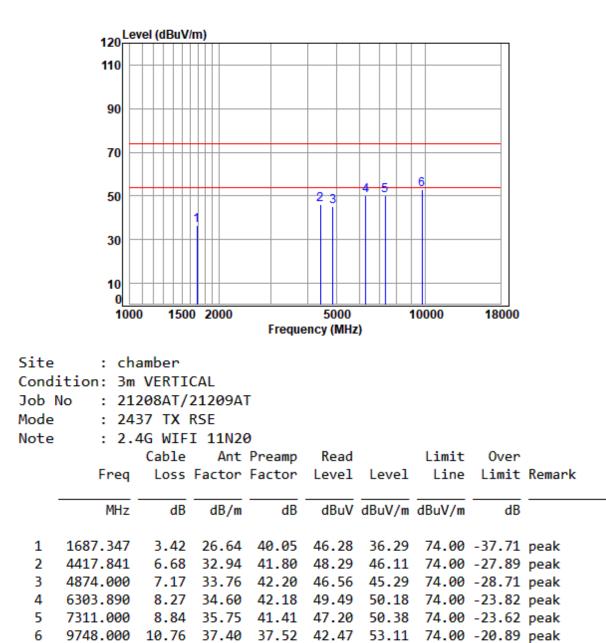
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Report No.: GZCR210802092301 Page: 63 of 105

Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle





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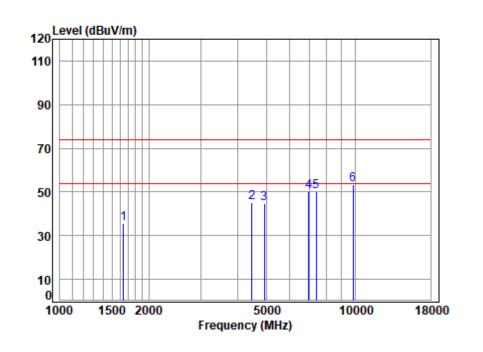
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Report No.: GZCR210802092301 Page: 64 of 105

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site	: ch	amber								
Cond:	ition: 3m	HORIZ	ONTAL							
Job I	No : 212	208AT/2	21209A1	Г						
Mode	: 24	62 TX I	RSE							
Note : 2.4G WIFI 11N20										
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1639.274	3.38	26.41	40.03	45.80	35.56	74.00	-38.44	peak	
2	4469.214	6.73	32.98	41.85	47.38	45.24	74.00	-28.76	peak	
3	4924.000	7.22	33.85	42.24	45.91	44.74	74.00	-29.26	peak	
4	6954.852	8.52	35.42	41.73	47.83	50.04	74.00	-23.96	peak	
5	7386.000	8.91	35.81	41.34	47.01	50.39	74.00	-23.61	peak	
6	9848.000	10.73	37.44	37.35	42.49	53.31	74.00	-20.69	peak	



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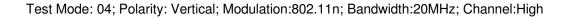
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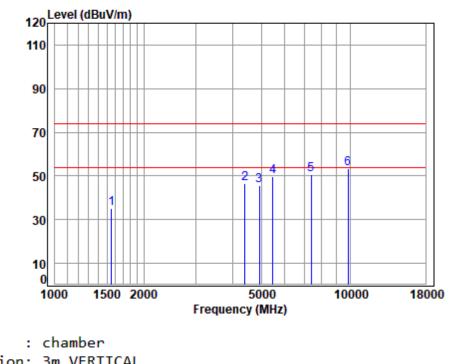
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Site	Site : chamber Condition: 3m VERTICAL										
Job I	No : 212	208AT/2	21209A	Г							
Mode	: 240	52 TX I	RSE								
Note : 2.4G WIFI 11N20											
		Cable	Ant	Preamp	Read		Limit	0ver			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB			
1	1556.169	3.31	25.99	39.98	45.95	35.27	74.00	-38.73	peak		
2	4405.090	6.67	32.93	41.79	48.69	46.50	74.00	-27.50	peak		
3	4924.000	7.22	33.85	42.24	46.74	45.57	74.00	-28.43	peak		
4	5471.422	8.13	34.19	42.35	49.76	49.73	74.00	-24.27	peak		
5	7386.000	8.91	35.81	41.34	47.22	50.60	74.00	-23.40	peak		
6	9848.000	10.73	37.44	37.35	42.45	53.27	74.00	-20.73	peak		



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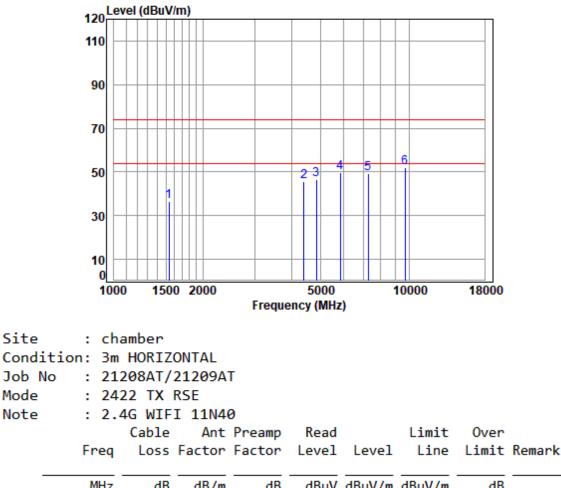
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Report No.: GZCR210802092301 Page: 66 of 105

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1538.281	3.29	25.90	39.97	47.37	36.59	74.00	-37.41	peak
2	4405.090	6.67	32.93	41.79	47.99	45.80	74.00	-28.20	peak
3	4844.000	7.14	33.70	42.17	47.98	46.65	74.00	-27.35	peak
4	5847.517	8.24	34.48	42.39	49.62	49.95	74.00	-24.05	peak
5	7266.000	8.79	35.72	41.45	46.39	49.45	74.00	-24.55	peak
6	9688.000	10.78	37.38	37.63	41.32	51.85	74.00	-22.15	peak



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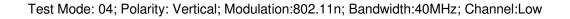
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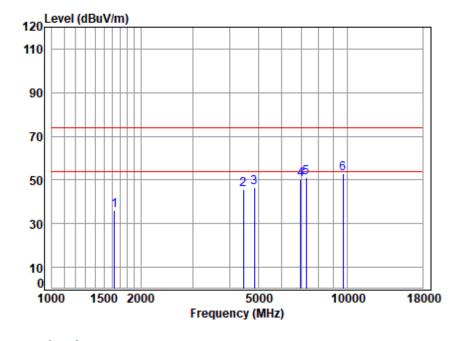
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Site	: cha	amber										
Condition: 3m VERTICAL												
Job No : 21208AT/21209AT												
Mode : 2422 TX RSE												
Note : 2.4G WIFI 11N40												
Cable Ant Preamp Read Limit Over												
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1629.825	3.37	26.36	40.02	46.20	35.91	74.00	-38.09	peak			
2	4456.315	6.72	32.97	41.84	47.97	45.82	74.00	-28.18	peak			
3	4844.000	7.14	33.70	42.17	48.00	46.67	74.00	-27.33	peak			
4	6954.852	8.52	35.42	41.73	47.80	50.01	74.00	-23.99	peak			
5	7266.000	8.79	35.72	41.45	47.94	51.00	74.00	-23.00	peak			
6	9688.000	10.78	37.38	37.63	42.19	52.72	74.00	-21.28	peak			



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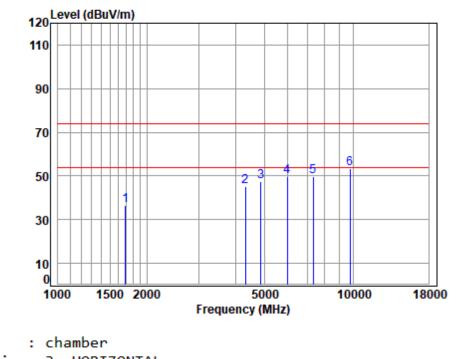
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Report No.: GZCR210802092301 Page: 68 of 105

Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



Site	: cha	amber										
Condition: 3m HORIZONTAL												
Job No : 21208AT/21209AT												
Mode : 2437 TX RSE												
Note : 2.4G WIFI 11N40												
		Cable	Ant	Preamp	Read		Limit	0ver				
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1692.231	3.42	26.66	40.06	46.45	36.47	74.00	-37.53	peak			
2	4316.859	6.59	32.86	41.71	47.47	45.21	74.00	-28.79	peak			
3	4874.000	7.17	33.76	42.20	48.59	47.32	74.00	-26.68	peak			
4	5984.305	8.26	34.59	42.40	49.39	49.84	74.00	-24.16	peak			
5	7311.000	8.84	35.75	41.41	46.55	49.73	74.00	-24.27	peak			
6	9748.000	10.76	37.40	37.52	42.63	53.27	74.00	-20.73	peak			



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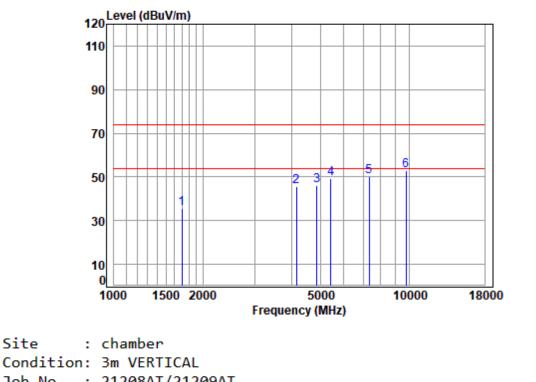
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Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:middle



Job No : 21208AT/21209AT											
Mode : 2437 TX RSE											
Note : 2.4G WIFI 11N40											
		Cable	Ant	Preamp	Read		Limit	0ver			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB			
1	1697.129	3.43	26.69	40.06	45.75	35.81	74.00	-38.19	peak		
2	4157.664	6.44	32.73	41.56	47.91	45.52	74.00	-28.48	peak		
3	4874.000	7.17	33.76	42.20	47.33	46.06	74.00	-27.94	peak		
4	5424.184	8.05	34.17	42.34	49.36	49.24	74.00	-24.76	peak		
5	7311.000	8.84	35.75	41.41	47.00	50.18	74.00	-23.82	peak		
6	9748.000	10.76	37.40	37.52	42.45	53.09	74.00	-20.91	peak		



Site

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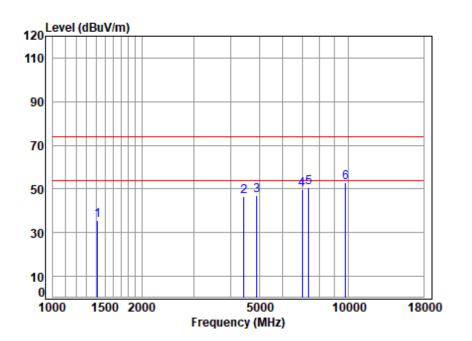
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Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Site : chamber												
Condition: 3m HORIZONTAL												
Job No : 21208AT/21209AT												
Mode : 2452 TX RSE												
Note : 2.4G WIFI 11N40												
Cable Ant Preamp Read Limit Over												
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB				
1	1414.597	3.13	25.54	39.90	47.01	35.78	74.00	-38.22	peak			
2	4443.453	6.71	32.96	41.82	48.86	46.71	74.00	-27.29	peak			
3	4904.000	7.20	33.82	42.22	48.17	46.97	74.00	-27.03	peak			
4	6995.172	8.54	35.49	41.70	47.48	49.81	74.00	-24.19	peak			
5	7356.000	8.88	35.79	41.37	47.41	50.71	74.00	-23.29	peak			
6	9808.000	10.75	37.42	37.42	42.40	53.15	74.00	-20.85	peak			



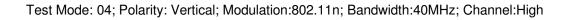
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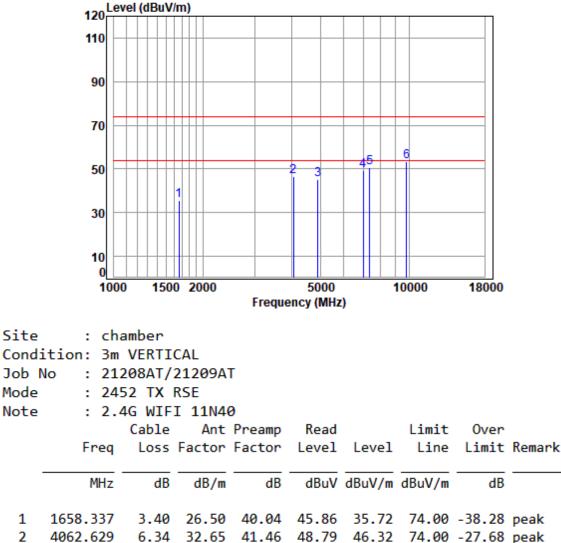
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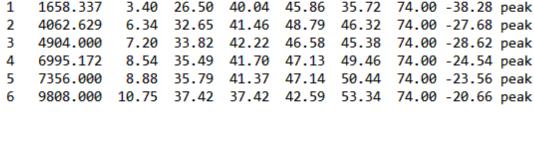
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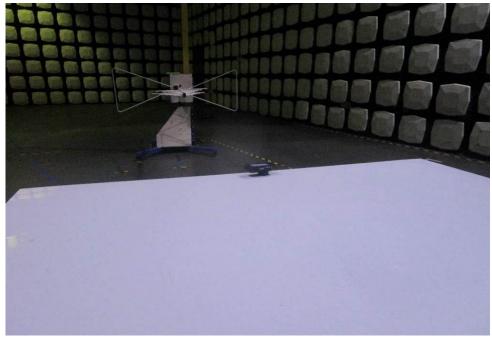
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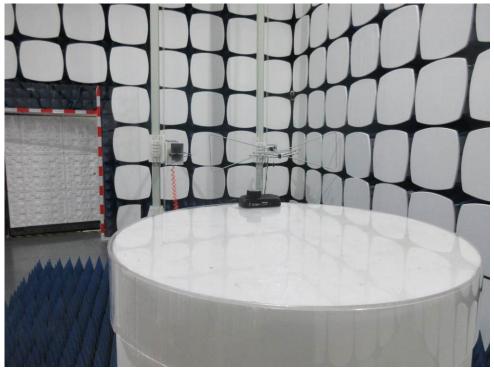
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#### **Test Setup Photo** 7

**Radiated Spurious Emissions (Below 1GHz)** 



**Radiated Spurious Emissions (Above 1GHz)** 





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#### **EUT Constructional Details (EUT Photos)** 8

Refer to Appendix - Photographs of EUT Constructional Details for GZCR2108020923AT



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#### **Appendix** 9

#### Appendix for 15.247 -- EPSON crystal oscillator

#### 1. Maximum Conducted Output Power

- 1.1 Power
- 1.1.1 Test Result

Mode	ТХ Туре	Frequency	Measured Peak O	Vardict	
		(MHz)	Ant1	Limit	Verdict
802.11b		2412	8.07	<=30	Pass
	SISO	2437	8.91	<=30	Pass
		2462	8.80	<=30	Pass
802.11g	SISO	2412	8.77	<=30	Pass
		2437	9.16	<=30	Pass
		2462	8.85	<=30	Pass
802.11n (HT20)	SISO	2412	9.30	<=30	Pass
		2437	9.25	<=30	Pass
		2462	8.81	<=30	Pass
802.11n (HT40)	SISO	2422	7.78	<=30	Pass
		2437	8.14	<=30	Pass
		2452	7.90	<=30	Pass



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#### 2. Unwanted Emissions In Non-restricted Frequency Bands

2.1 Ref

2.1.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Ant	Level of Reference (dBm)	
		2412	1	5.18	
802.11b	SISO	2437	1	5.16	
		2462	1	5.11	
		2412	1	-2.44	
802.11g	SISO	2437	1	-2.16	
		2462	1	-2.46	
		2412	1	-2.13	
802.11n (HT20)	SISO	2437	1	-2.12	
		2462	1	-2.59	
		2422	1	-6.21	
802.11n (HT40)	SISO	2437	1	-5.91	
		2452	1	-6.18	
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.					



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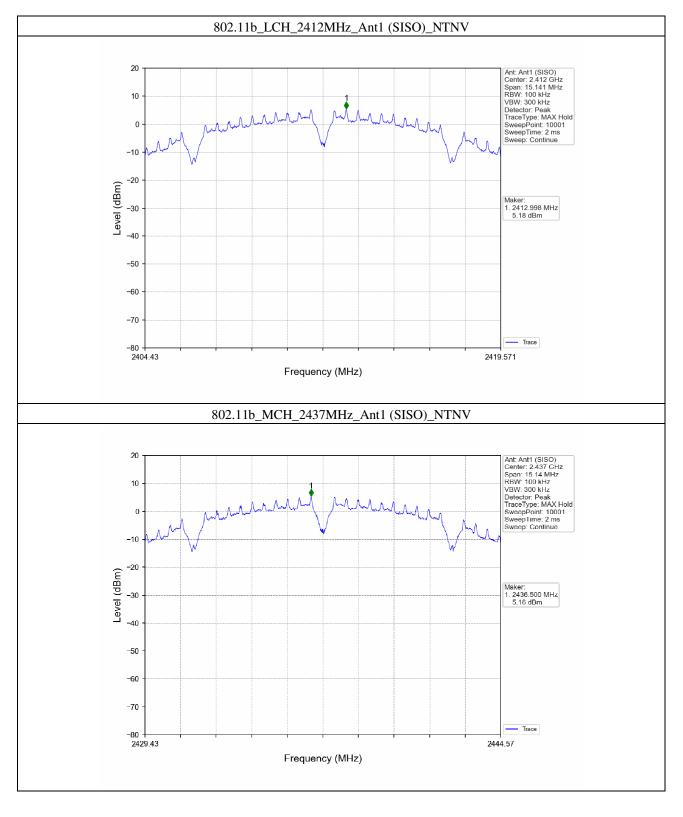
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#### 2.1.2 Test Graph





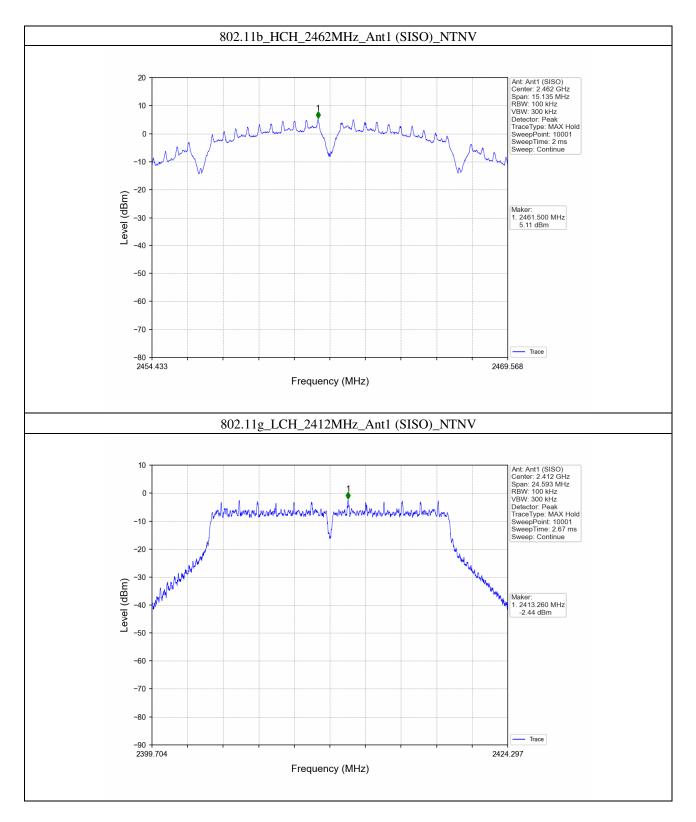
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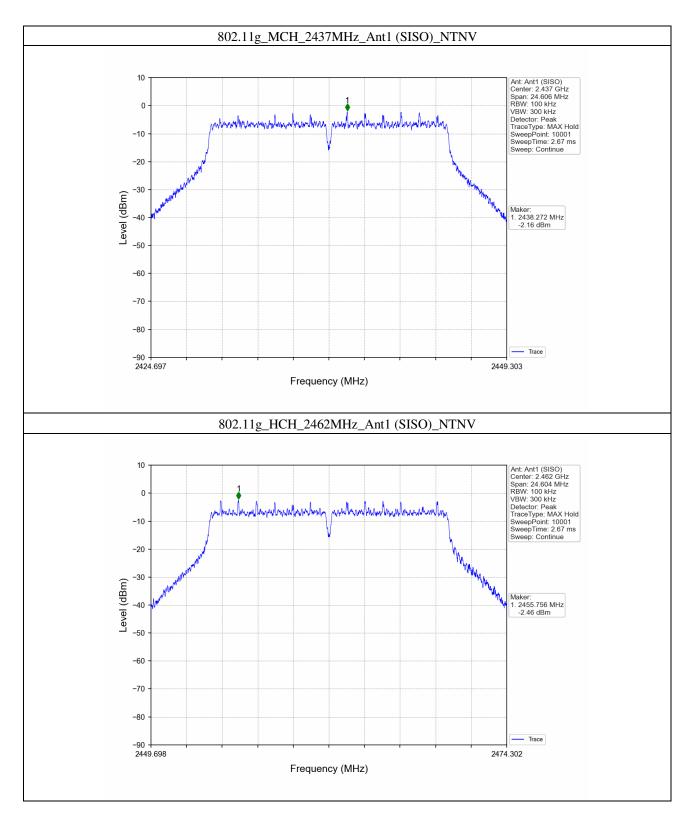
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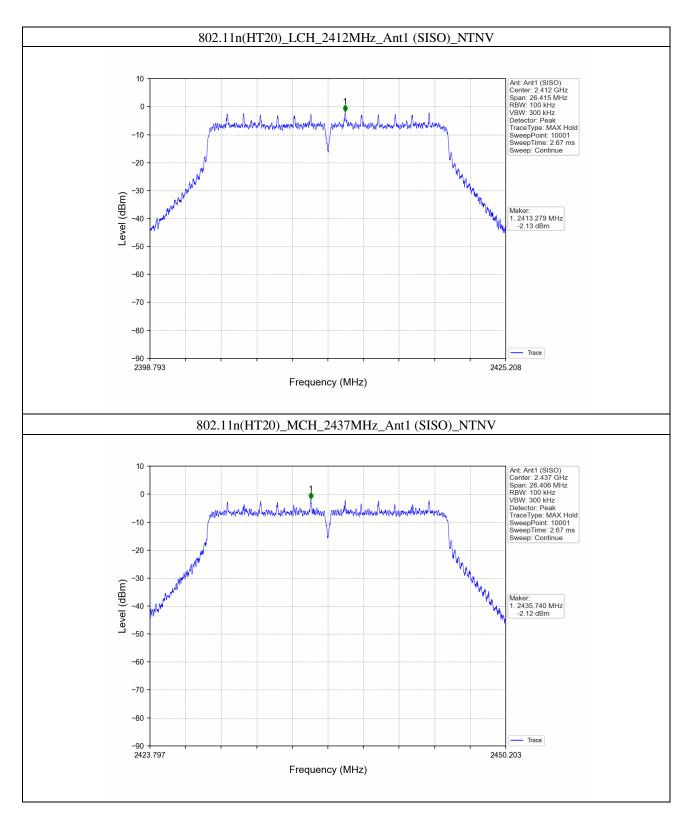
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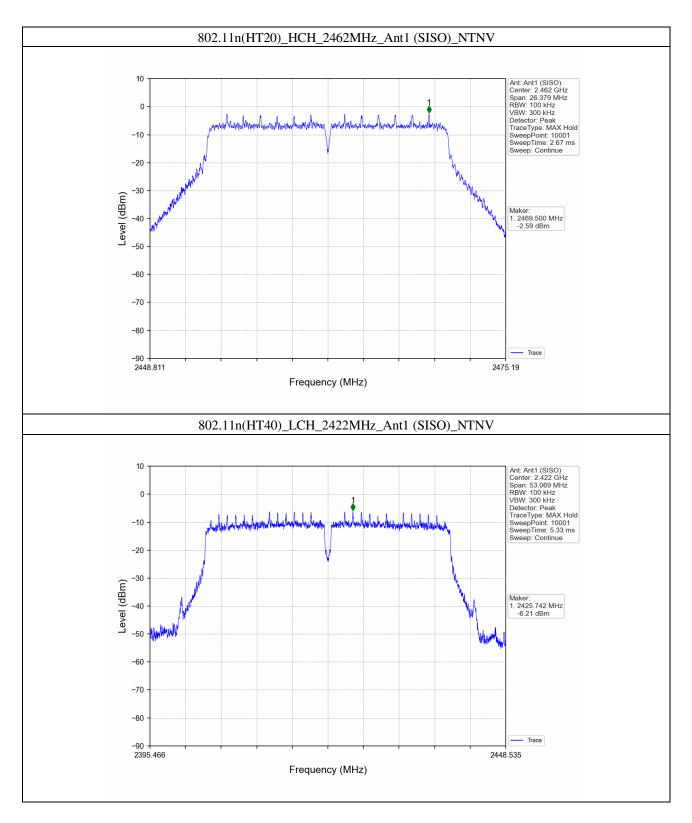
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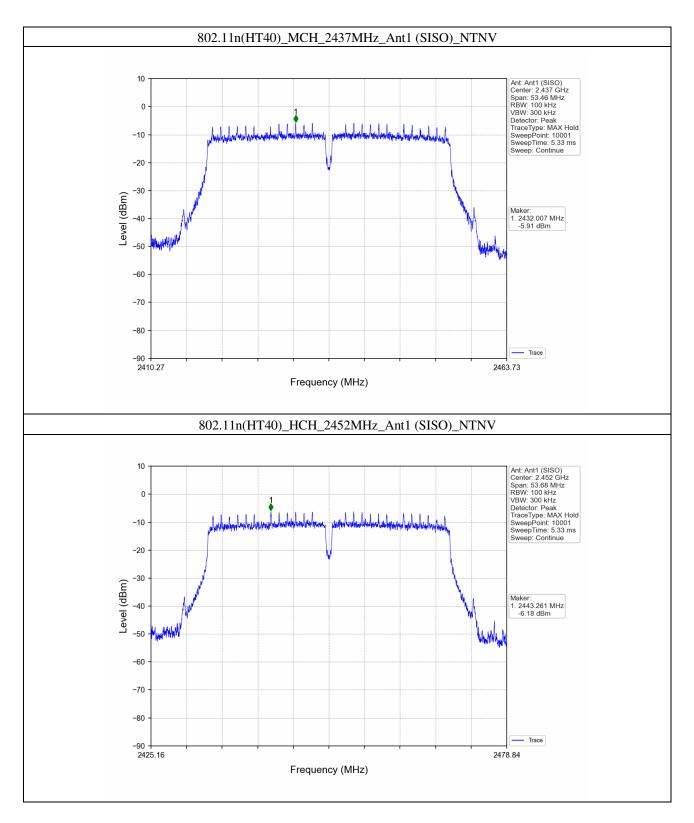
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#### 2.2 CSE

#### 2.2.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b		2412	1	5.18	-24.82	Pass
	SISO	2437	1	5.18	-24.82	Pass
		2462	1	5.18	-24.82	Pass
802.11g		2412	1	-2.16	-32.16	Pass
	SISO	2437	1	-2.16	-32.16	Pass
		2462	1	-2.16	-32.16	Pass
	SISO	2412	1	-2.12	-32.12	Pass
802.11n (HT20)		2437	1	-2.12	-32.12	Pass
		2462	1	-2.12	-32.12	Pass
802.11n (HT40)	SISO	2422	1	-5.91	-35.91	Pass
		2437	1	-5.91	-35.91	Pass
		2452	1	-5.91	-35.91	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.						



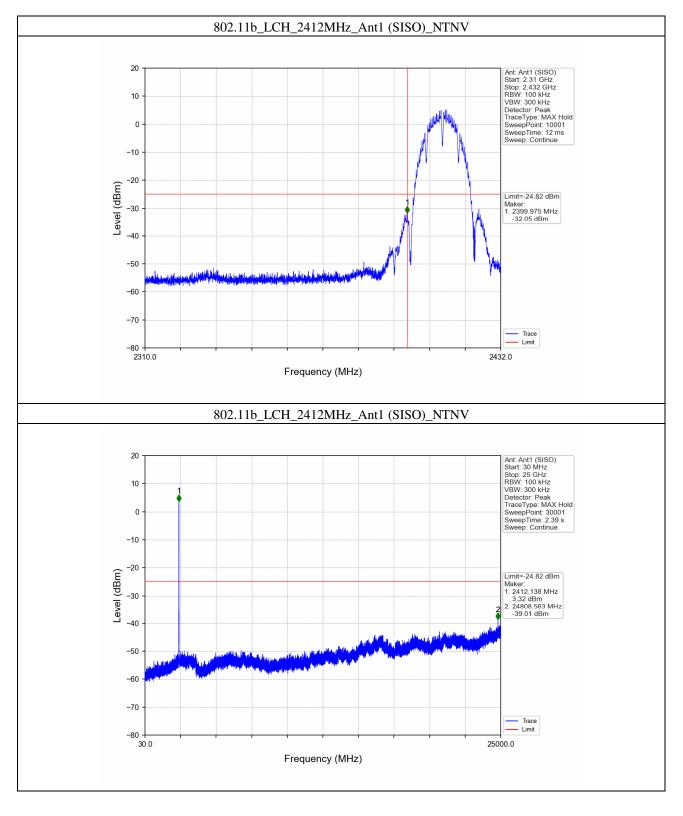
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#### 5.2.2 Test Graph



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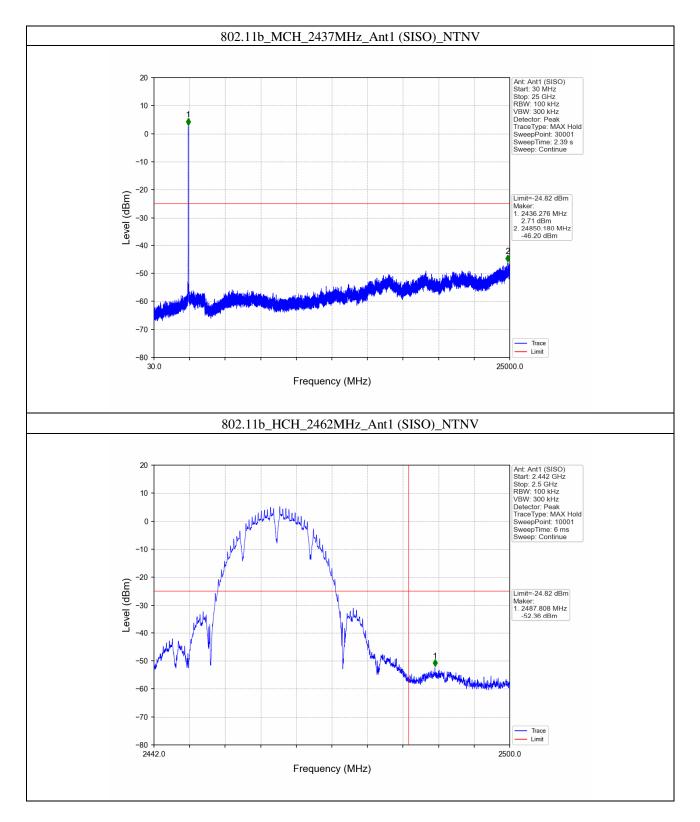
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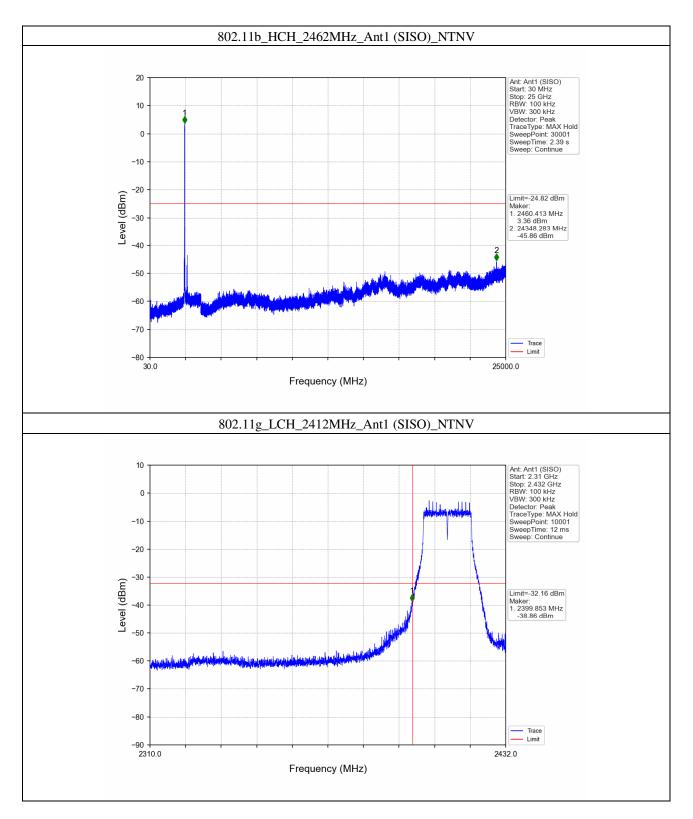
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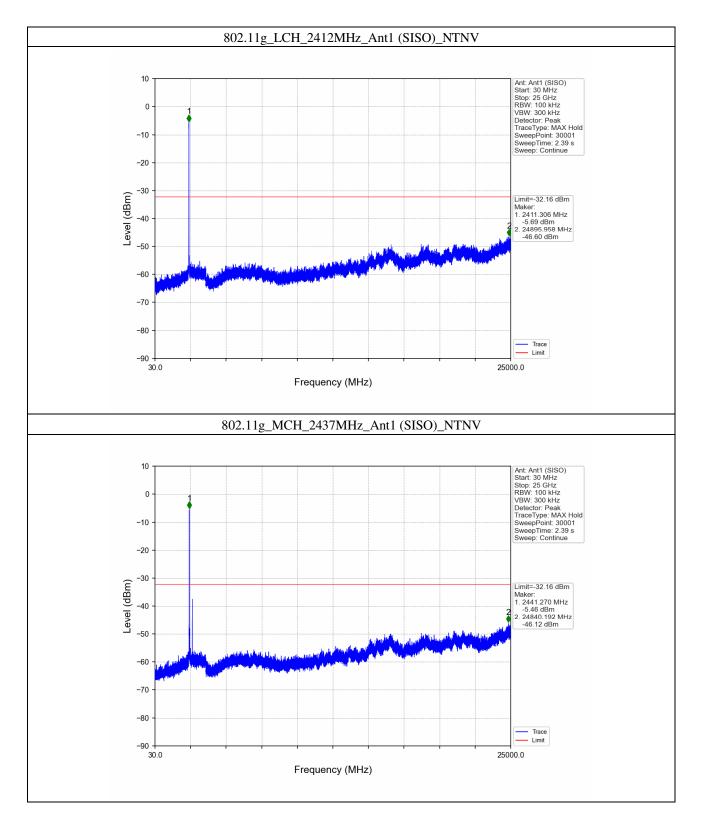
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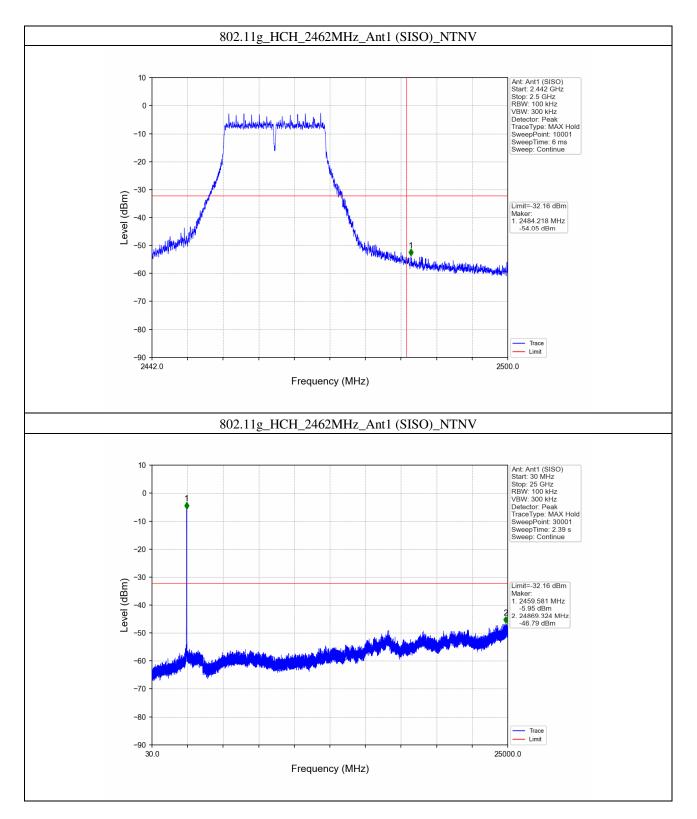
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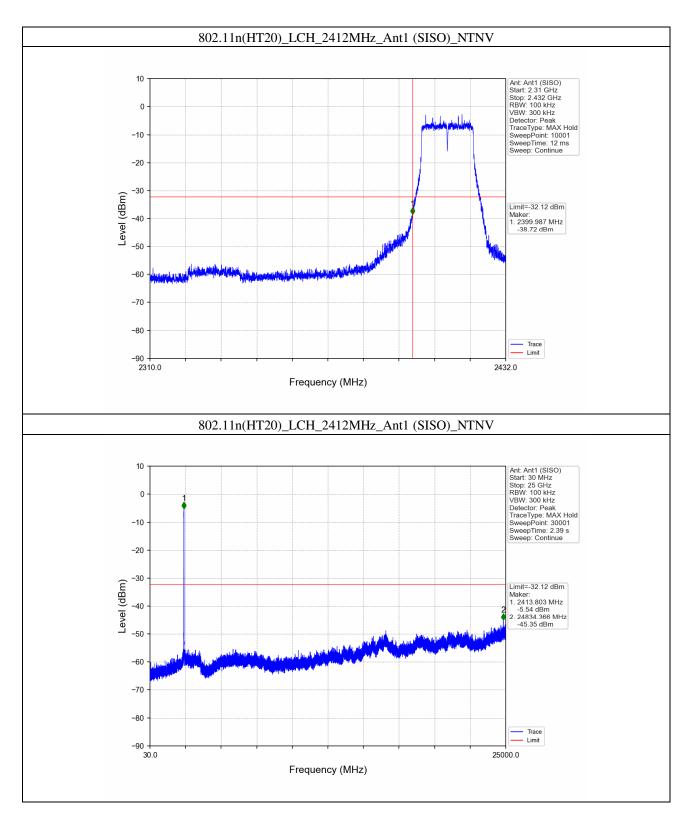
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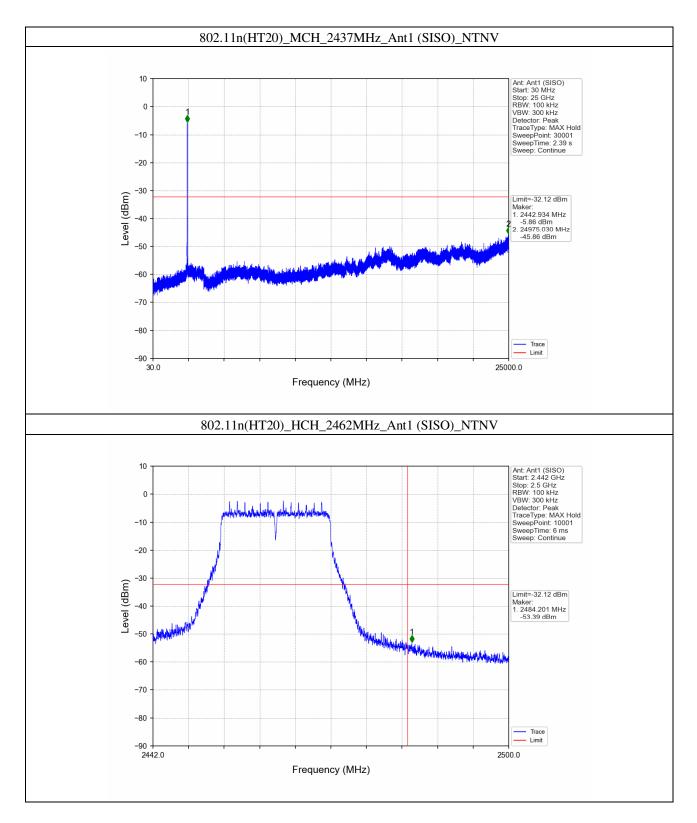
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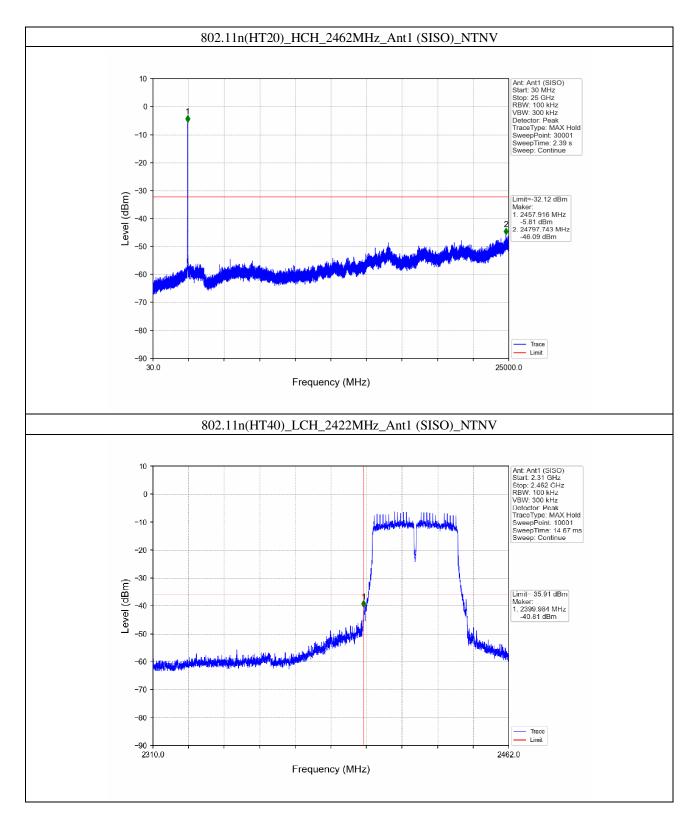
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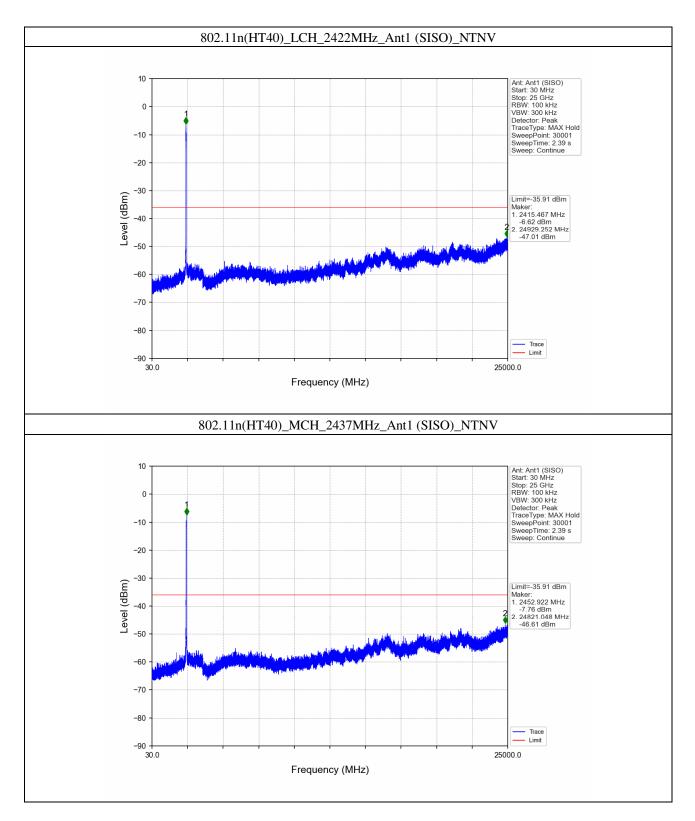
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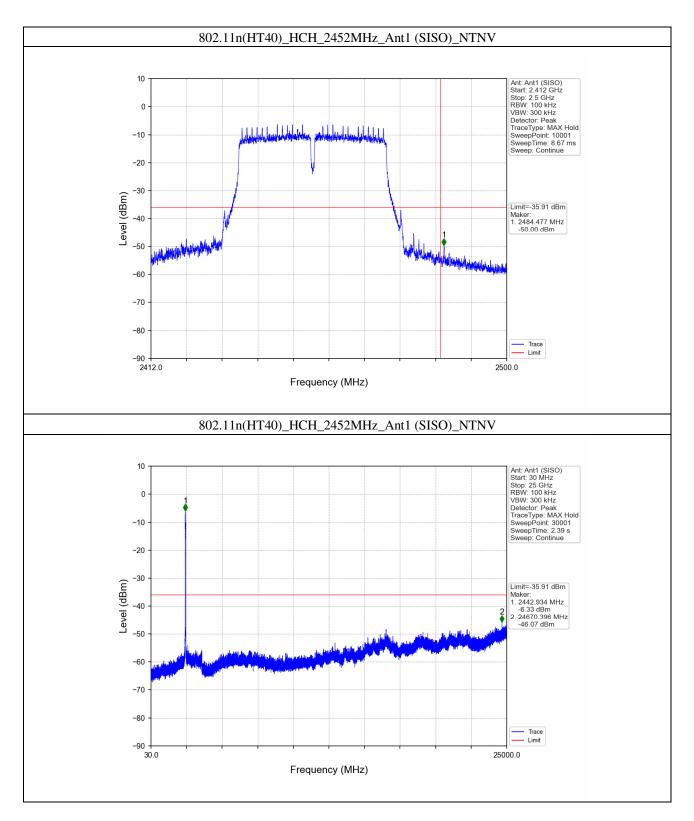
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#### Appendix for 15.247- Aker crystal oscillator

#### 1. Maximum Conducted Output Power

#### 1.1 Test Result

Test Mode	Frequency (MHz)	Тх Туре	Measured Average Output Power (dBm) Ant 1	Limits (dBm)	Verdict	
802.11b	2412	SISO	8.38	30	PASS	
	2437	SISO	8.52	30	PASS	
	2462	SISO	8.51	30	PASS	
	2412	SISO	8.72	30	PASS	
802.11g	2437	SISO	8.65	30	PASS	
	2462	SISO	8.84	30	PASS	
	2412	SISO	8.94	30	PASS	
802.11n(HT20)	2437	SISO	8.53	30	PASS	
	2462	SISO	8.81	30	PASS	
802.11n(HT40)	2422	SISO	7.88	30	PASS	
	2437	SISO	7.66	30	PASS	
	2452	SISO	7.38	30	PASS	

#### 2. Unwanted Emissions in Non-restricted Frequency Bands

#### 2.1 Test Result

Test Mode	Frequency (MHz)	ТХ Туре	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
	2412	SISO	1	Refer to test graph	-24.95	PASS
802.11b	2437	SISO	1	Refer to test graph	-24.95	PASS
	2462	SISO	1	Refer to test graph	-24.95	PASS
802.11g	2412	SISO	1	Refer to test graph	-31.99	PASS
	2437	SISO	1	Refer to test graph	-31.99	PASS
	2462	SISO	1	Refer to test graph	-31.99	PASS
802.11n(HT20)	2412	SISO	1	Refer to test graph	-32.06	PASS
	2437	SISO	1	Refer to test graph	-32.06	PASS
	2462	SISO	1	Refer to test graph	-32.06	PASS
802.11n(HT40)	2422	SISO	1	Refer to test graph	-35.89	PASS
	2437	SISO	1	Refer to test graph	-35.89	PASS
	2452	SISO	1	Refer to test graph	-35.89	PASS

#### 5.2 Test Graph

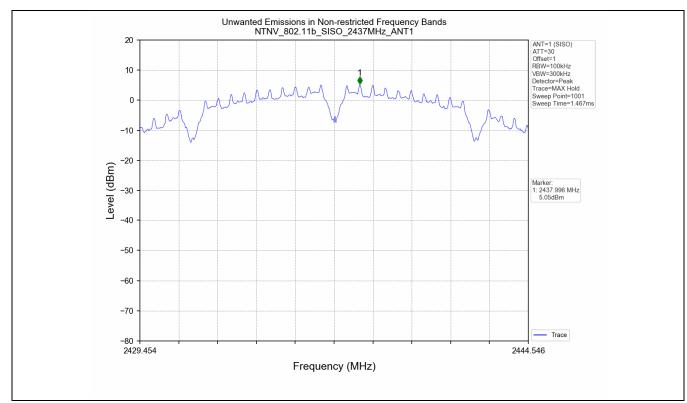


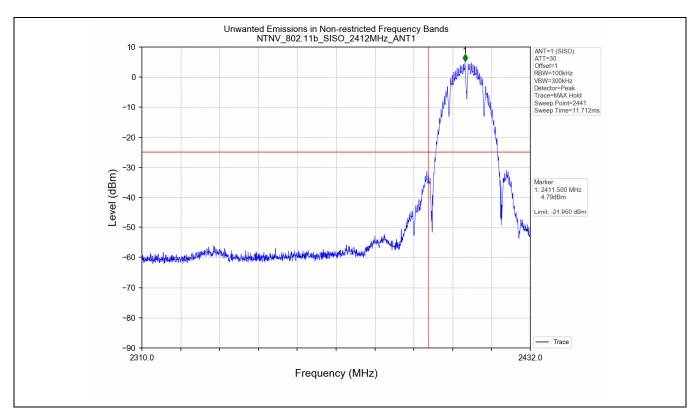
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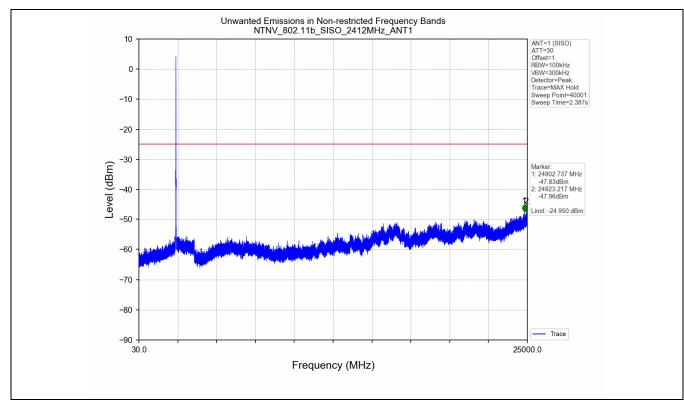
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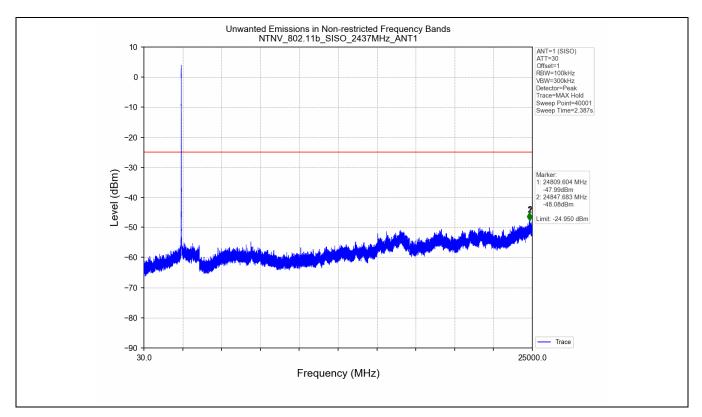
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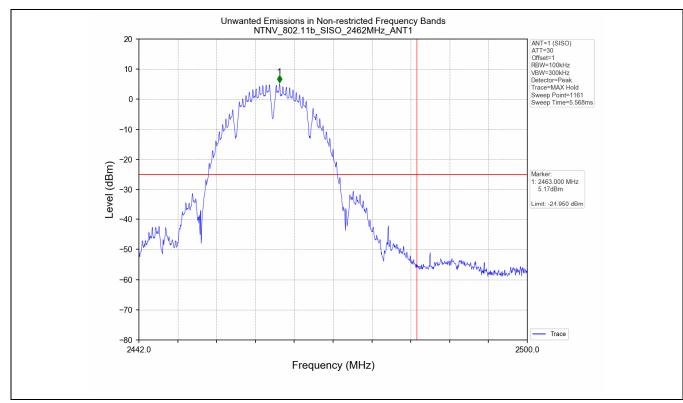
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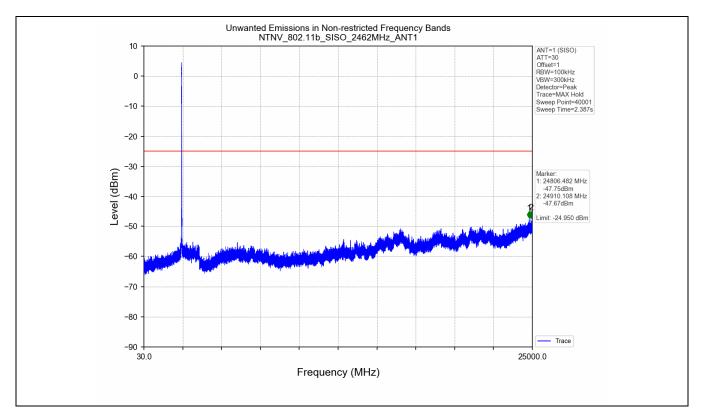
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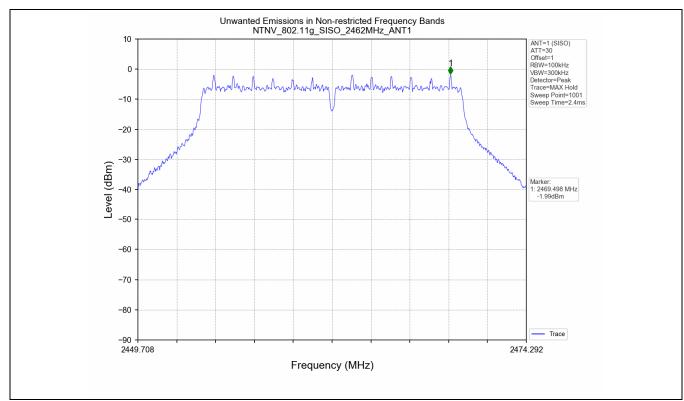


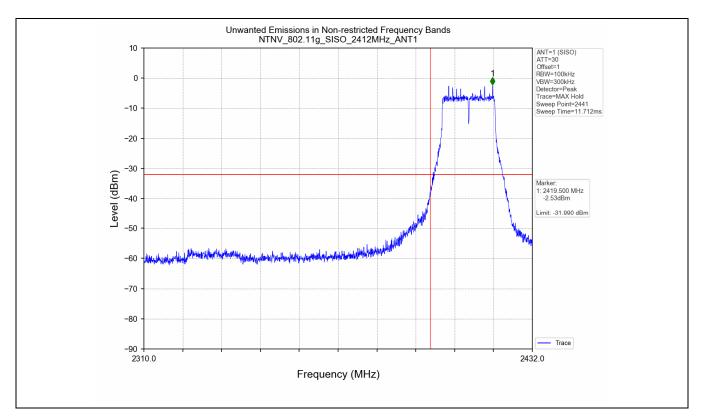
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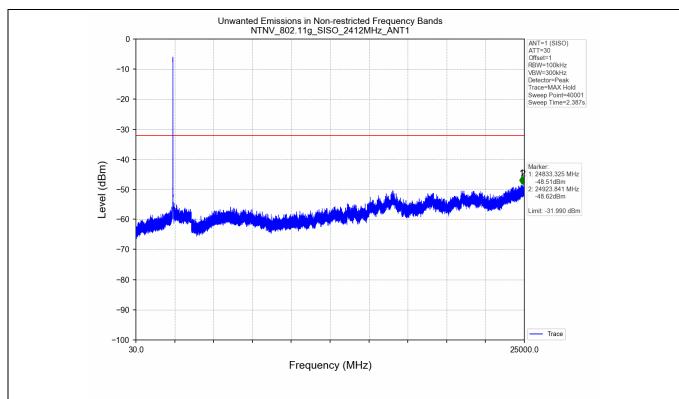
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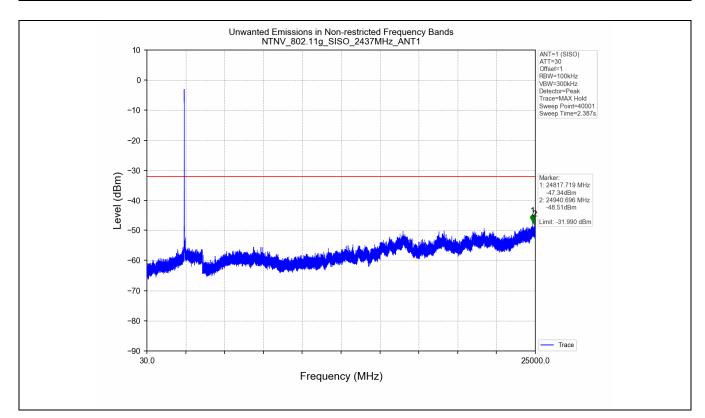
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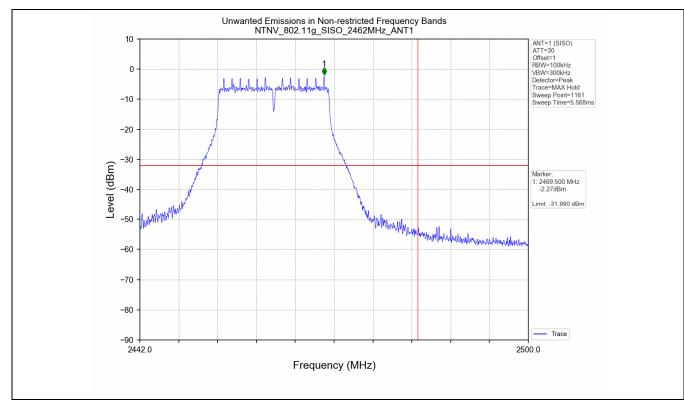
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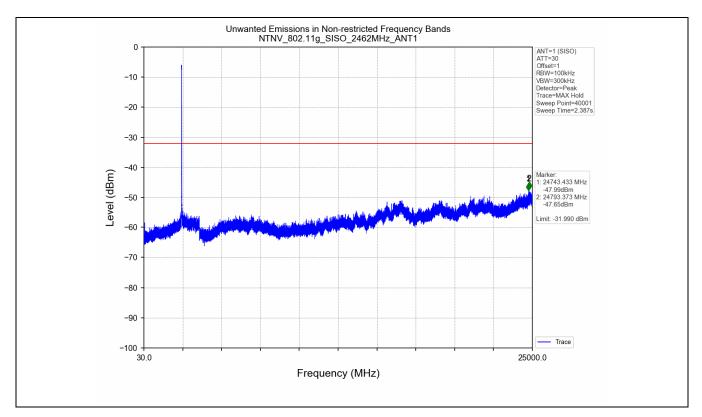
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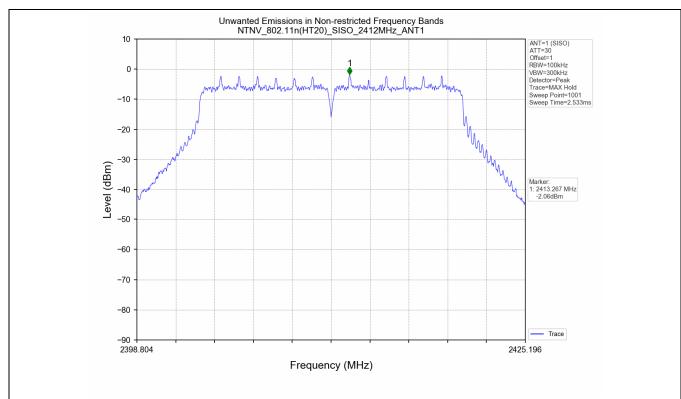


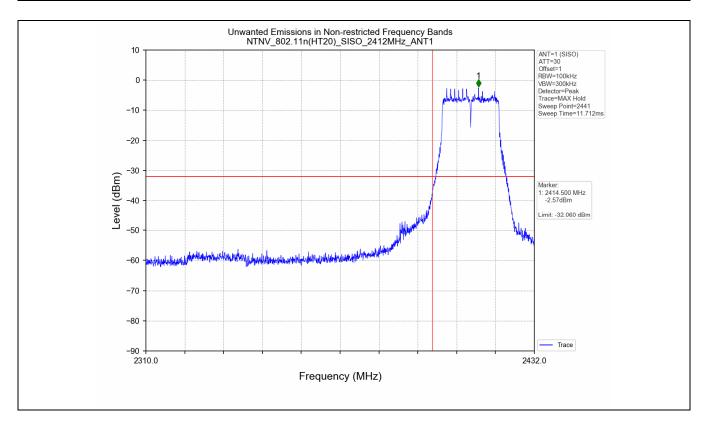
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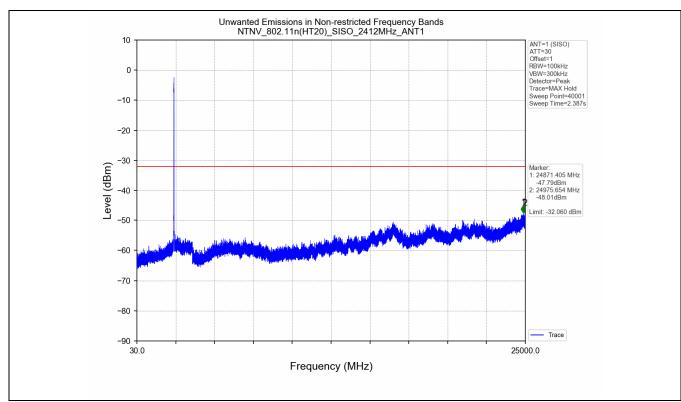


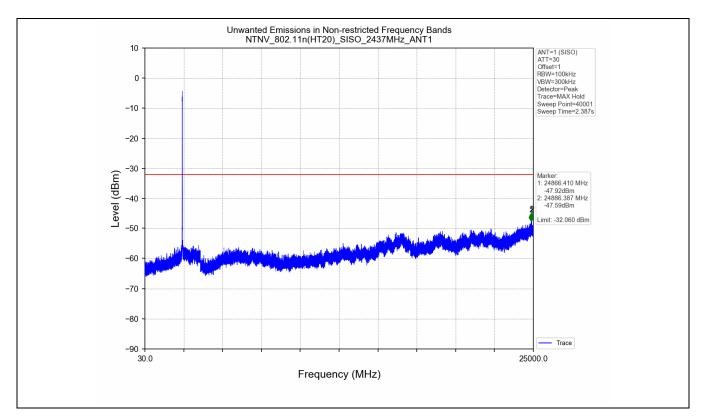
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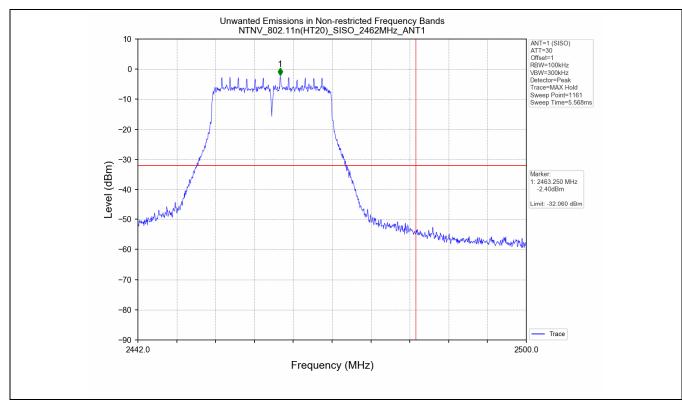
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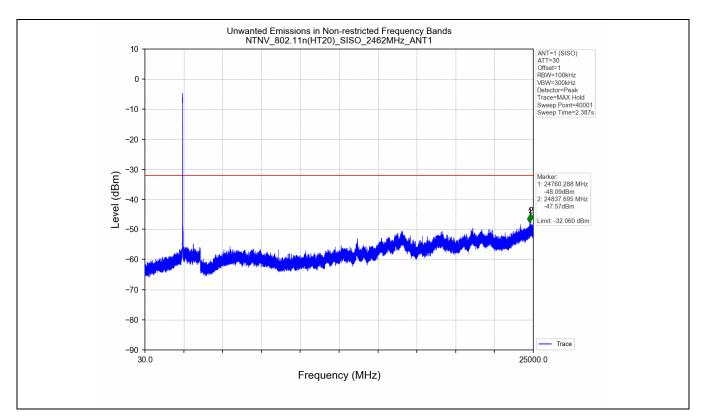
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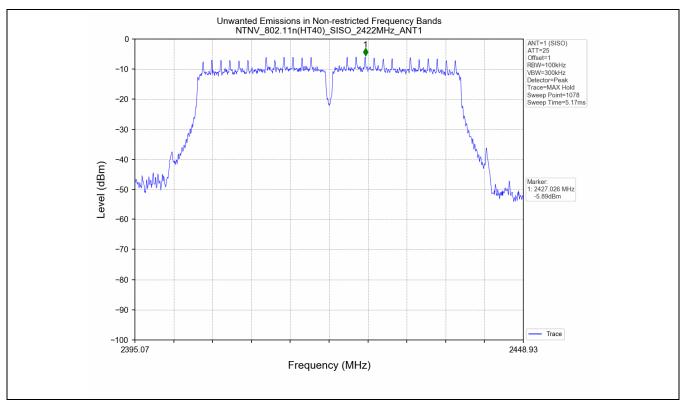
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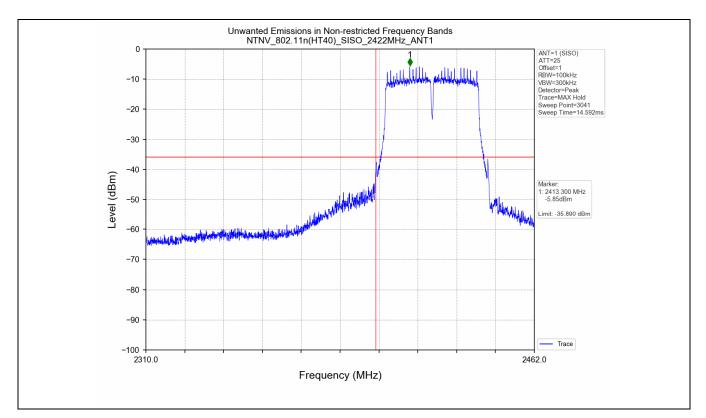
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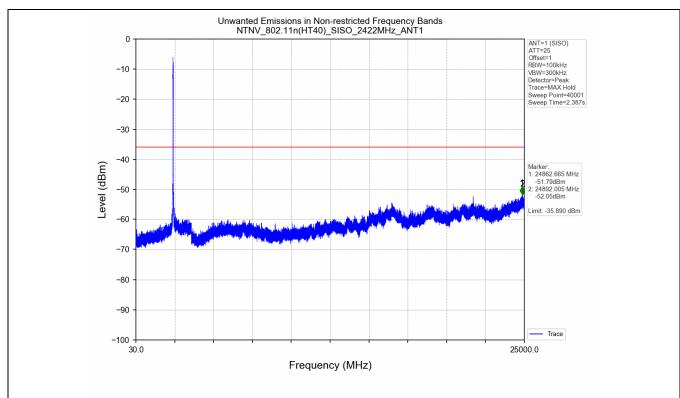
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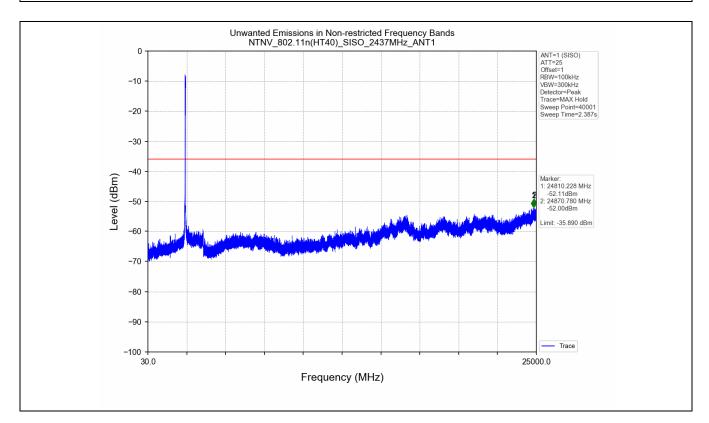
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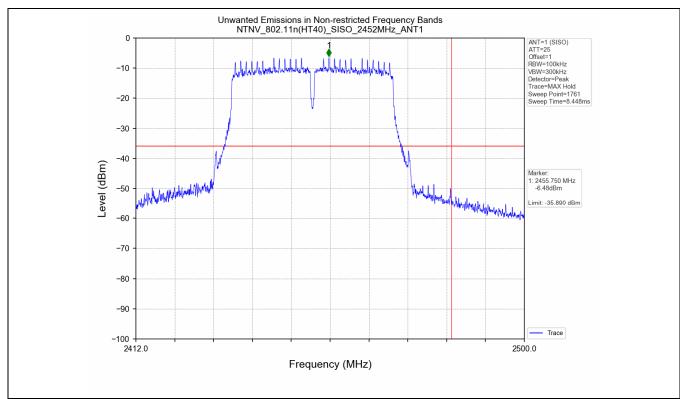
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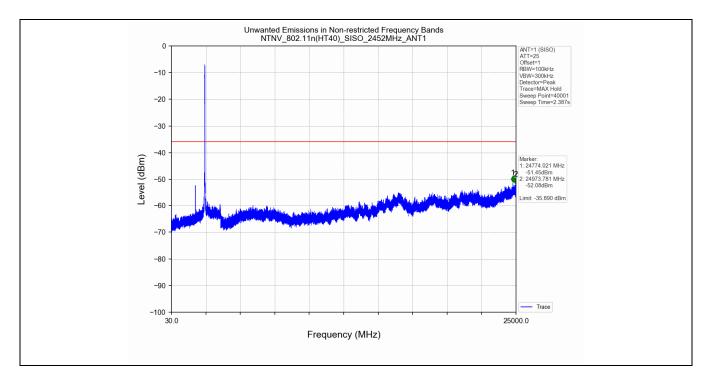
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