

Report No.: SZEM200400314902

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TEST REPORT

Application No.: SZEM2004003149CR

Applicant: ShenZhen HIPPO Digital CO., Ltd

Address of Applicant: Room3B01, Building3, BlockA, Internet Industrial Base, Bao Yuan Road,

BaoAn District, ShenZhen, China

Manufacturer: ShenZhen HIPPO Digital CO., Ltd

Address of Manufacturer: Room3B01, Building3, BlockA, Internet Industrial Base, Bao Yuan Road,

BaoAn District, ShenZhen, China

Equipment Under Test (EUT):

EUT Name: ACTION CAMERA

Model No.: 88-83006

FCC ID: 2ASJU88-83006

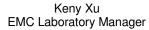
Standard(s): 47 CFR Part 15, Subpart C 15.247

Date of Receipt: 2020-04-27

Date of Test: 2020-04-29 to 2020-05-24

Date of Issue: 2020-05-26

Test Result: Pass*



Ceny. Ku



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



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	Revision Record						
Version	Chapter	Modifier	Remark				
01		2020-05-26		Original			

Authorized for issue by:		
	leo. 61	
	Leo Li /Project Engineer	
	EvicFu	
	Eric Fu /Reviewer	



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Test Summary

Radio Spectrum Technical Requirement						
Item Standard Method Requirement Resu						
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			
Minimum 6dB	47 CFR Part 15,	ANSI C63.10 (2013)	47 CFR Part 15, Subpart	Pass			
Bandwidth	Subpart C 15.247	Section 11.8.1	C 15.247a(2)				
Conducted Peak	47 CFR Part 15,	ANSI C63.10 (2013)	47 CFR Part 15, Subpart	Pass			
Output Power	Subpart C 15.247	Section 11.9.1	C 15.247(b)(3)				
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass			
Conducted Band	47 CFR Part 15,	ANSI C63.10 (2013)	47 CFR Part 15, Subpart	Pass			
Edges Measurement	Subpart C 15.247	Section 11.13.3.2	C 15.247(d)				
Conducted Spurious	47 CFR Part 15,	ANSI C63.10 (2013)	47 CFR Part 15, Subpart	Pass			
Emissions	Subpart C 15.247	Section 11.11	C 15.247(d)				
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass			
Radiated Spurious	47 CFR Part 15,	ANSI C63.10 (2013)	47 CFR Part 15, Subpart	Pass			
Emissions	Subpart C 15.247	Section 6.4,6.5,6.6	C 15.209 & 15.247(d)				



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General Information

4.1 Details of E.U.T.

Power Supply:	DC 5V		
	Lithium Ion Battery: 3.7V 750mAh rechargeable battery which charged by USB port		
Cable:	USB cable: 80cm unshielded		
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz		
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK)		
	802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)		
Number of Channels:	802.11b/g/n(HT20):11		
Channel Spacing:	5MHz		
Antenna Type:	PCB Antenna		
Antenna Gain:	1dBi		

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 7.25 x 10 ⁻⁸
2	Occupied Bandwidth	± 3%
3	RF conducted power	± 0.75dB
4	RF power density	± 2.84dB
5	Conducted Spurious emissions	± 0.75dB
•	Dadieted Commisses assission to at	± 4.5dB (Below 1GHz)
6	Radiated Spurious emission test	± 4.8dB (Above 1GHz)
7	Temperature test	± 1 ℃
8	Humidity test	± 3%
9	Supply voltages	± 1.5%
10	Time	± 3%



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4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

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

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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Equipment List 5

Minimum 6dB Bandwidth						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12	
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23	
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23	
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A	
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10	
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	N/A	N/A	
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23	
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23	
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27	
Electric Field Probe	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20	
EMF Tester	Narda	ELT-400	SZE039-4	2019-07-08	2020-07-07	

Conducted Peak Output Power						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12	
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23	
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23	
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A	
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10	
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	N/A	N/A	
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23	
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23	
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27	
Electric Field Probe	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20	
EMF Tester	Narda	ELT-400	SZE039-4	2019-07-08	2020-07-07	

Power Spectrum Density						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12	
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23	



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Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27
Electric Field Probe	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20
EMF Tester	Narda	ELT-400	SZE039-4	2019-07-08	2020-07-07

Conducted Band Edges Measurement											
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date						
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12						
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23						
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23						
Measurement Software	leasurement Software JS Tonscend BT/V		N/A	N/A	N/A						
Coaxial Cable SGS		N/A	SEM031-02	2019-07-11	2020-07-10						
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	N/A	N/A						
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019-09-24	2020-09-23						
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23						
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27						
Electric Field Probe	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20						
EMF Tester	Narda	ELT-400	SZE039-4	2019-07-08	2020-07-07						

Conducted Spurious Emissions										
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date					
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12					
DC Power Supply	OC Power Supply Rohde & Schwarz		SEM011-04	2020-03-24	2021-03-23					
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23					
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A					
Coaxial Cable	SGS	N/A	SEM031-02	2019-07-11	2020-07-10					
Attenuator	Huber+Suhner	6620_SMA-50- 1 SEM021-09		N/A	N/A					
Signal Generator KEYSIGHT		N5173B	SEM006-05	2019-09-24	2020-09-23					



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Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019-09-24	2020-09-23
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27
Electric Field Probe	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20
EMF Tester	EMF Tester Narda		SZE039-4	2019-07-08	2020-07-07

Radiated Emissions which fall in the restricted bands									
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date				
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12				
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A				
Coaxial Cable	SGS	N/A	SEM026-01	2019-07-11	2020-07-10				
EXA Spectrum Analyzer	AgilentTechnologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08				
Horn Antenna	Horn Antenna Rohde & Schwarz		SEM003-07	2018-04-13	2021-04-12				
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16				
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23				
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2020-04-01	2021-03-31				
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-04-01	2021-03-31				
DC Power Supply	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23				
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21				

Radiated Spurious Emissions (Above 1GHz)										
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date					
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12					
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A					
Coaxial Cable	SGS	N/A	SEM026-01	2019-07-11	2020-07-10					
EXA Spectrum Analyzer	AgilentTechnologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08					
Horn Antenna	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12					
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16					
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23					
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2020-04-01	2021-03-31					



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Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-04-01	2021-03-31
DC Power Supply	Power Supply Zhao Xin		SEM011-08	2019-09-24	2020-09-23
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21

Radiated Spurious Emissions (Below 1GHz)											
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date	Cal. Due date						
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-08-05	2020-08-04						
MXE EMI receiver	KEYSIGHT	N9038A	SEM004-15	2019-12-16	2020-12-15						
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26						
Pre-amplifier	Agilent Technologies	8447D	SEM005-01	2020-04-01	2021-03-31						
Measurement Software AUDIX e3 V		e3 V8.2014-6-27	N/A	N/A	N/A						
Coaxial Cable	SGS	N/A	SEM025-01	2019-07-11	2020-07-10						

General used equipment									
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date				
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B SEM002-03		2019-09-26	2020-09-25				
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2019-09-26	2020-09-25				
Humidity/ Temperature Indicator			SEM002-08	2019-09-26	2020-09-25				
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-04-07	2021-04-06				



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Radio Spectrum Technical Requirement 6

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 1dBi.

Antenna location: Refer to internal photo.





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Radio Spectrum Matter Test Results

Minimum 6dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.247a(2) Test Method: ANSI C63.10 (2013) Section 11.8.1

Limit: ≥500 kHz

7.1.1 E.U.T. Operation

Operating Environment:

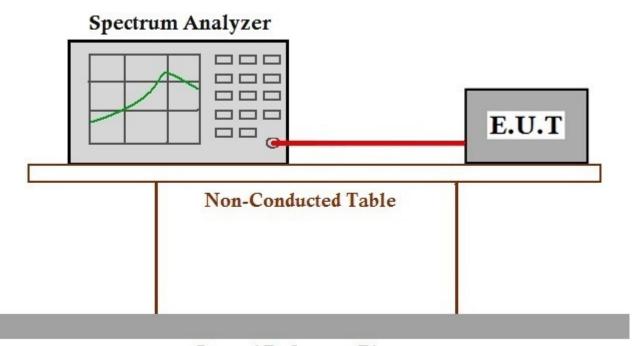
Temperature: Humidity: 29.1 % RH Atmospheric Pressure: 1005 mbar

Test mode b: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). Only the data of worst case is recorded in the report.

7.1.2 Test Setup Diagram



Ground Reference Plane

7.1.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.2 Conducted Peak Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3) Test Method: ANSI C63.10 (2013) Section 11.9.1

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
	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



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7.2.1 E.U.T. Operation

Operating Environment:

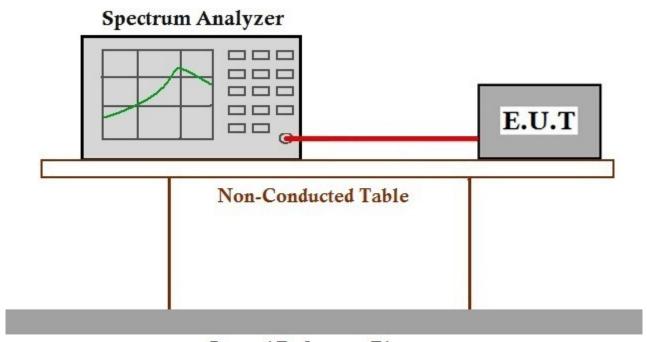
23.5 °C Atmospheric Pressure: 1005 mbar Temperature: Humidity: 29.1 % RH

Test mode b: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). Only the data of worst case is recorded in the report.

7.2.2 Test Setup Diagram



Ground Reference Plane

7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.3 Power Spectrum Density

Test Requirement 47 CFR Part 15, Subpart C 15.247(e)
Test Method: ANSI C63.10 (2013) Section 11.10.2

Limit: ≤8dBm in any 3 kHz band during any time interval of continuous

transmission

7.3.1 E.U.T. Operation

Operating Environment:

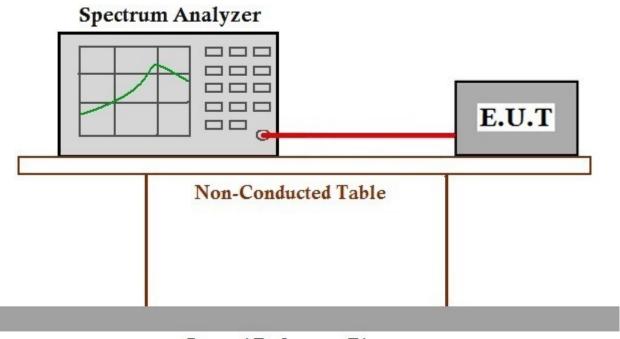
Temperature: 23.5 °C Humidity: 29.1 % RH Atmospheric Pressure: 1005 mbar

Test mode b: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). Only the data of worst case is recorded in the report.

7.3.2 Test Setup Diagram



Ground Reference Plane

7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.4 Conducted Band Edges Measurement

Test Requirement 47 CFR Part 15, Subpart C 15.247(d) Test Method: ANSI C63.10 (2013) Section 11.13.3.2

Limit:

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



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7.4.1 E.U.T. Operation

Operating Environment:

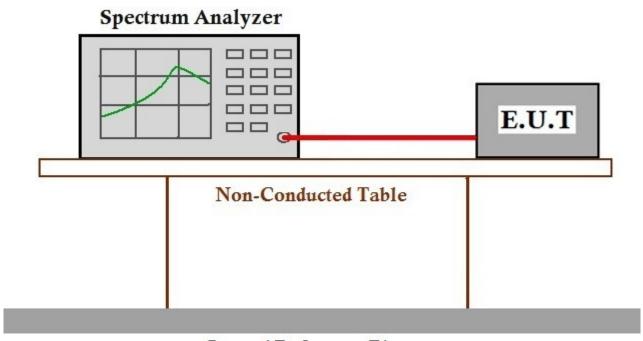
23.5 °C Atmospheric Pressure: 1005 mbar Temperature: Humidity: 29.1 % RH

Test mode b: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). Only the data of worst case is recorded in the report.

7.4.2 Test Setup Diagram



Ground Reference Plane

7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.5 Conducted Spurious Emissions

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

Limit:

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

§15.209(a) (see §15.205(c)



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7.5.1 E.U.T. Operation

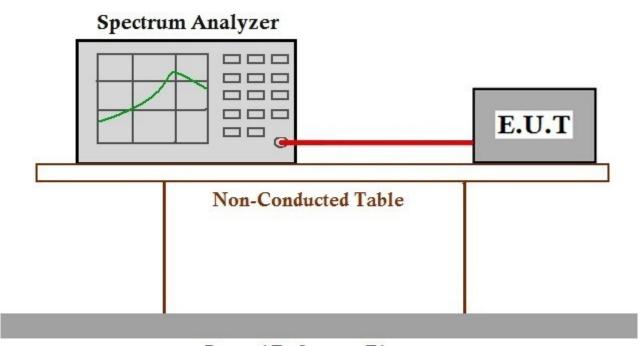
Operating Environment:

23.5 °C Atmospheric Pressure: 1005 mbar Temperature: Humidity: 29.1 % RH

Test mode b: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). Only the data of worst case is recorded in the report.

7.5.2 Test Setup Diagram



Ground Reference Plane

7.5.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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7.6 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.247(d)

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.6.1 E.U.T. Operation

Operating Environment:

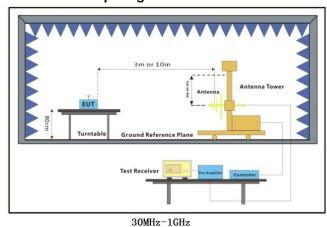
Humidity: 52.7 % RH Atmospheric Pressure: 1010 mbar Temperature: 22.9 °C

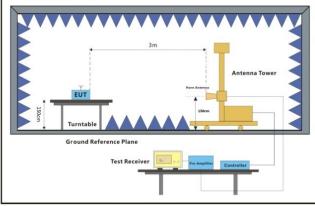
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation

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). Only the data of worst case is recorded in the report.

7.6.2 Test Setup Diagram





Above 1GHz



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7.6.3 Measurement Procedure and Data

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

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

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

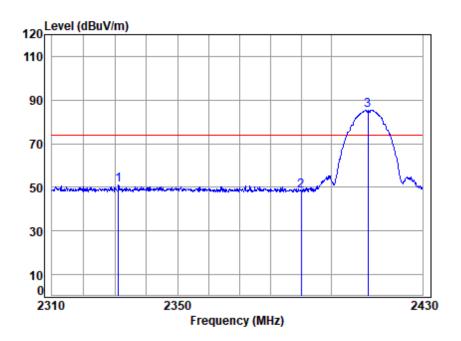




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Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11B Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2331.154 2390.000 2412.000	3.69	28.52	40.97	57.08	48.32	74.00	-25.68	peak



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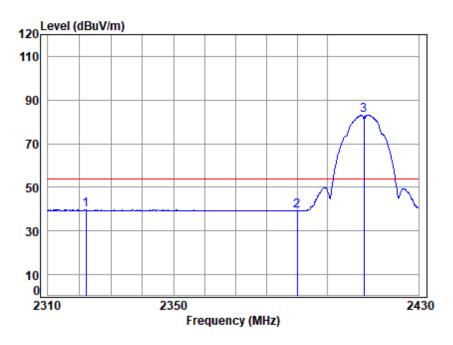
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Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11B Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2322.081 2390.000 2412.000	3.69	28.52	40.97	48.04	39.28	54.00	-14.72	Average



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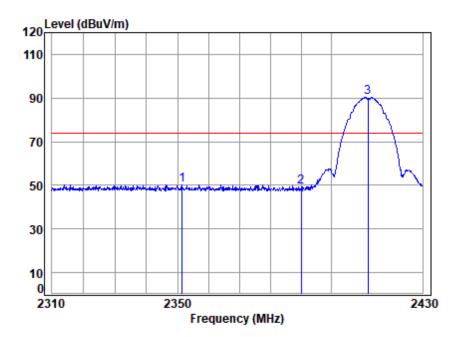
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Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11B Note

		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	2351.549	3.94	28.45	40.96	58.98	50.41	74.00	-23.59	Peak
2	2390.000	3.69	28.52	40.97	57.81	49.05	74.00	-24.95	Peak
3 *	2412.000	3.68	28.56	40.98	99.02	90.28	74.00	16.28	Peak



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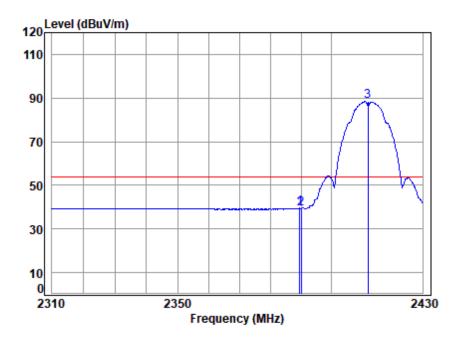
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Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11B Note

		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	2389.605	3.69	28.52	40.97	48.30	39.54	54.00	-14.46	Average	
2	2390.000	3.69	28.52	40.97	48.06	39.30	54.00	-14.70	Average	
3 *	2412.000	3.68	28.56	40.98	97.08	88.34	54.00	34.34	Average	



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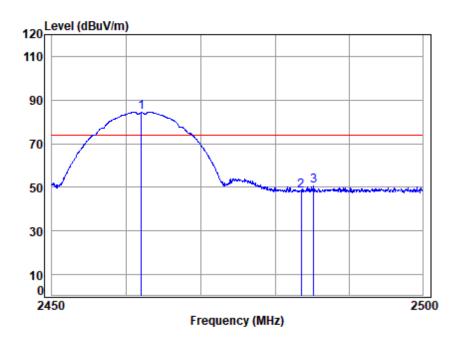
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Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR : 2462 Band edge Mode : 2.4G WIFI 11B Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2485.195	4.01	28.67	41.01	56.89	48.56	74.00	-25.44	peak



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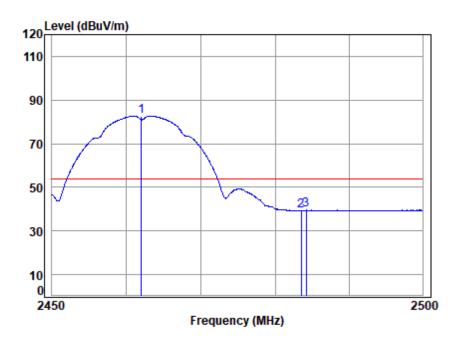
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Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR : 2462 Band edge Mode : 2.4G WIFI 11B Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2484.191	4.01	28.67	41.01	47.72	39.39	54.00	-14.61	Average



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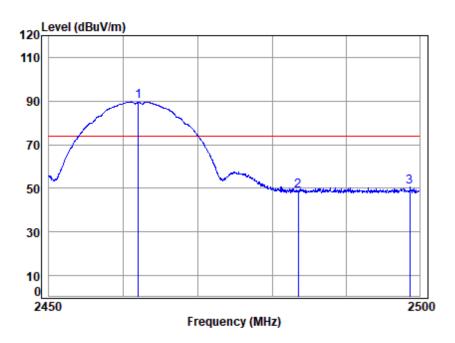
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Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2462 Band edge : 2.4G WIFI 11B Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2498.687	4.01	28.67	41.01	57.02	48.69	74.00	-25.31	Peak



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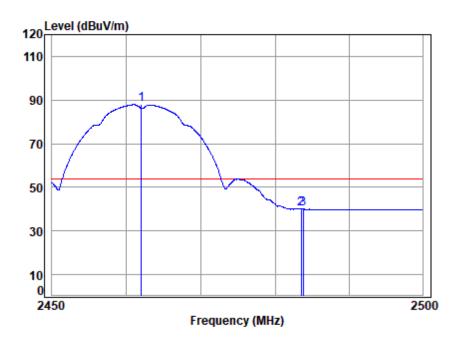
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Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

: 03149CR/03150CR Mode : 2462 Band edge · 2 4G WTFT 11B Note

oce	. 2	+C MII	1 110						
		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 *	2462.000	3.91	28.64	41.00	96.32	87.87	54.00	33.87	Average
2	2483.500	4.01	28.67	41.01	48.39	40.06	54.00	-13.94	Average
3	2483.790	4.01	28.67	41.01	48.40	40.07	54.00	-13.93	Average



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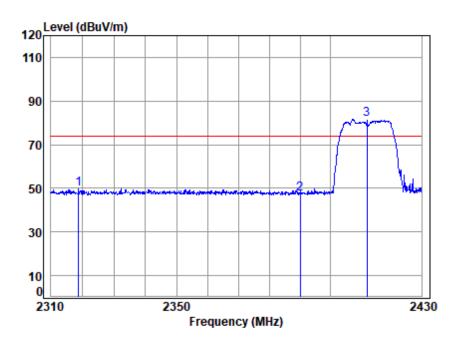
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Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11G Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2318.791 2390.000 2412.000	3.69	28.52	40.97	56.43	47.67	74.00	-26.33	peak



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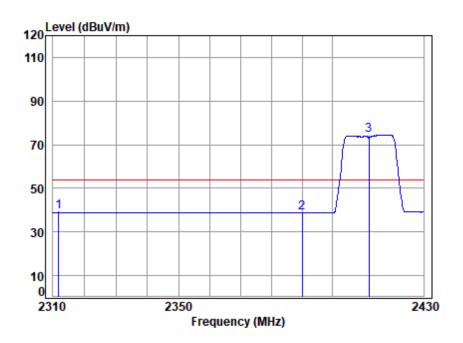
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Report No.: SZEM200400314902

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Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11G Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2311.755 2390.000 2412.000	3.69	28.52	40.97	47.37	38.61	54.00	-15.39	Average



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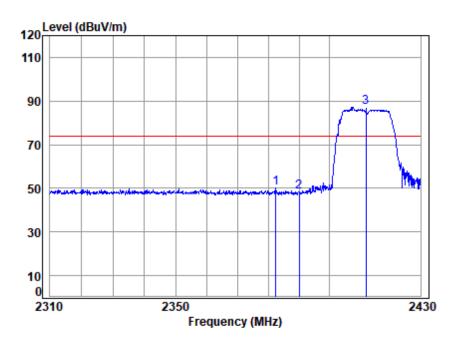
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Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11G Note

		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	2382.476	3.74	28.51	40.97	58.72	50.00	74.00	-24.00	Peak
2	2390.000	3.69	28.52	40.97	57.14	48.38	74.00	-25.62	Peak
3 *	2412.000	3.68	28.56	40.98	96.11	87.37	74.00	13.37	Peak



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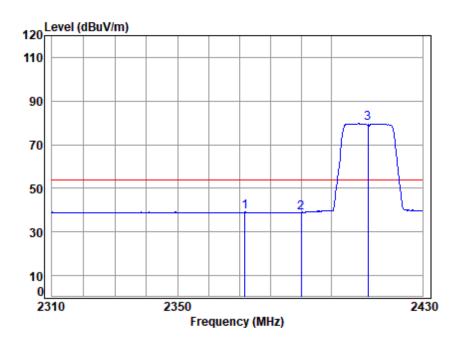
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Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11G Note

OCC	. 2	TO WILL	1 110							
		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	2371.761	3.81	28.49	40.96	47.73	39.07	54.00	-14.93	Average	
2	2390.000	3.69	28.52	40.97	47.59	38.83	54.00	-15.17	Average	
3 *	2412.000	3.68	28.56	40.98	88.37	79.63	54.00	25.63	Average	



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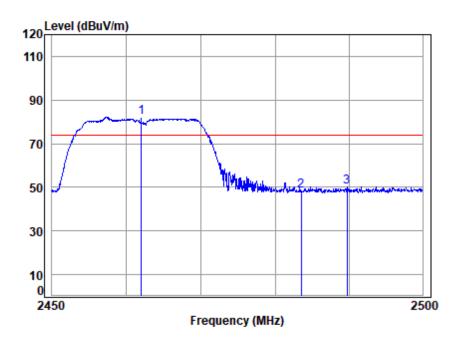
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Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR : 2462 Band edge Mode : 2.4G WIFI 11G Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2489.718	4.01	28.67	41.01	56.58	48.25	74.00	-25.75	peak



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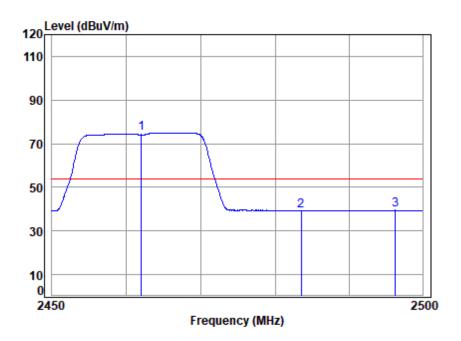
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Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR : 2462 Band edge Mode : 2.4G WIFI 11G Note

Freq			Preamp Factor					Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 * 2462.000 2 2483.500 3 2496.265	4.01	28.67	41.01	47.57	39.24	54.00	-14.76	Average



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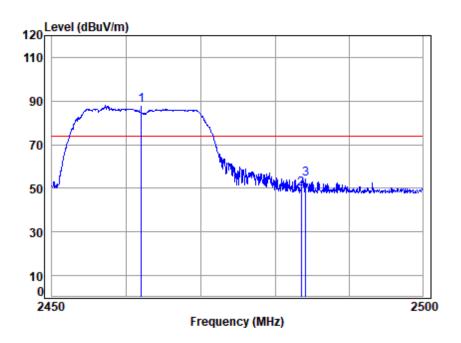
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Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2462 Band edge : 2.4G WIFI 11G Note

		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 *	2462.000	3.91	28.64	41.00	96.35	87.90	74.00	13.90	Peak	
2	2483.500	4.01	28.67	41.01	58.00	49.67	74.00	-24.33	Peak	
3	2484.141	4.01	28.67	41.01	62.67	54.34	74.00	-19.66	Peak	



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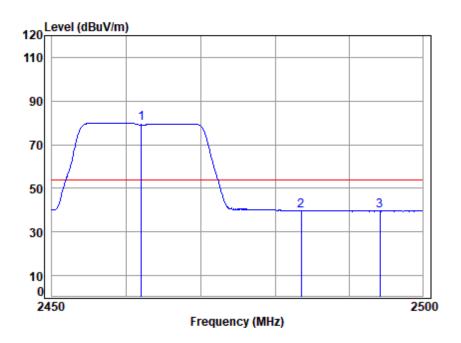
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Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2462 Band edge : 2.4G WIFI 11G Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2494.198	4.01	28.67	41.01	48.05	39.72	54.00	-14.28	Average



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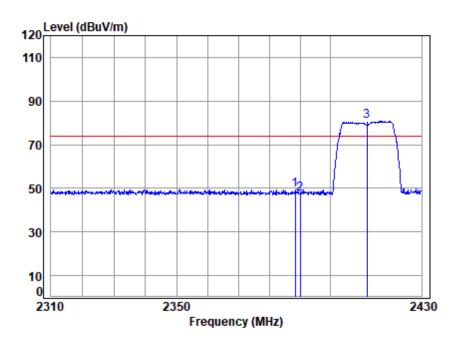
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Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11N20 Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2388.395 2390.000 2412.000	3.69	28.52	40.97	56.22	47.46	74.00	-26.54	peak



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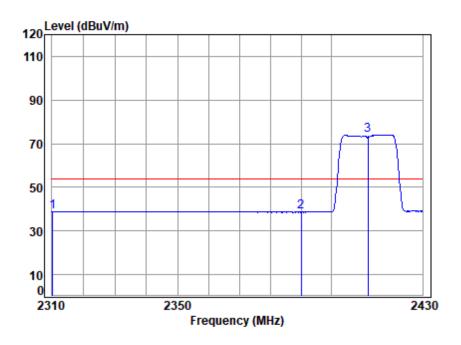
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Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11N20 Note

0.0	. 2	TO WIT	1 11112	_						
		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	2310.234	4.22	28.38	40.94	47.30	38.96	54.00	-15.04	Average	
2	2390.000	3.69	28.52	40.97	47.33	38.57	54.00	-15.43	Average	
3 *	2412.000	3.68	28.56	40.98	82.79	74.05	54.00	20.05	Average	



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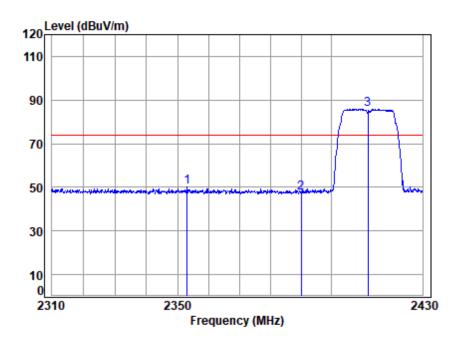
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Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11N20 Note

		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	2353.097	3.93	28.46	40.96	58.71	50.14	74.00	-23.86	Peak
2	2390.000	3.69	28.52	40.97	56.22	47.46	74.00	-26.54	Peak
3 *	2412.000	3.68	28.56	40.98	94.46	85.72	74.00	11.72	Peak



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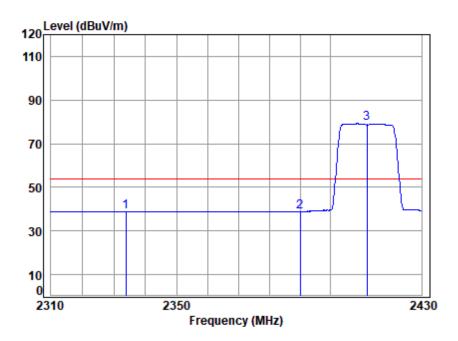
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Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2412 Band edge : 2.4G WIFI 11N20 Note

OCC	. 2	TO WILL	1 11112	,						
		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	2333.753	4.06	28.42	40.95	47.46	38.99	54.00	-15.01	Average	
2	2390.000	3.69	28.52	40.97	47.60	38.84	54.00	-15.16	Average	
3 *	2412.000	3.68	28.56	40.98	87.92	79.18	54.00	25.18	Average	



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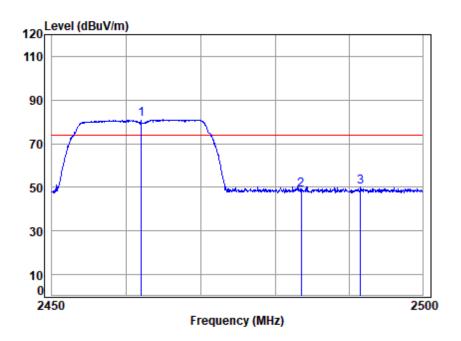
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Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR : 2462 Band edge Mode : 2.4G WIFI 11N20 Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2491.580	4.01	28.67	41.01	57.35	49.02	74.00	-24.98	peak



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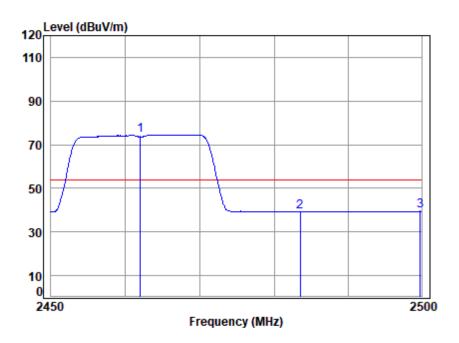
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Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR : 2462 Band edge Mode : 2.4G WIFI 11N20 Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2499.798	4.01	28.67	41.01	47.63	39.30	54.00	-14.70	Average



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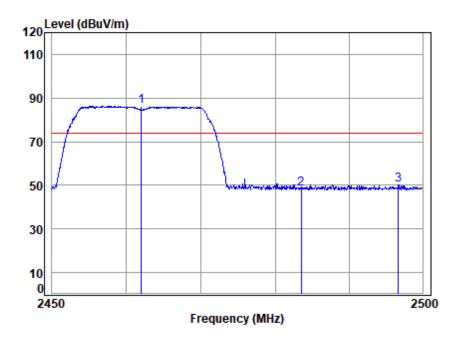
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Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2462 Band edge : 2.4G WIFI 11N20 Note

		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 *	2462.000	3.91	28.64	41.00	94.62	86.17	74.00	12.17	Peak
2	2483.500	4.01	28.67	41.01	56.74	48.41	74.00	-25.59	Peak
3	2496.719	4.07	28.69	41.02	58.58	50.32	74.00	-23.68	Peak



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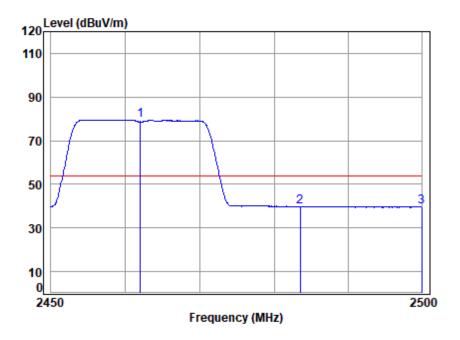
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Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2462 Band edge : 2.4G WIFI 11N20 Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2462.000 2483.500 2500.000	4.01	28.67	41.01	47.98	39.65	54.00	-14.35	Average



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7.7 Radiated Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.247(d)

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)			
0.009-0.490	2400/F(kHz)	300			
0.490-1.705	24000/F(kHz)	30			
1.705-30.0	30	30			
30-88	100	3			
88-216	150	3			
216-960	200	3			
Above 960	500	3			

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



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7.7.1 E.U.T. Operation

Operating Environment:

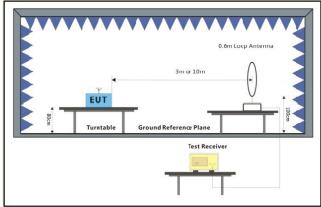
Temperature: 23.2 °C Humidity: Atmospheric Pressure: 1015 mbar 56.3 % RH

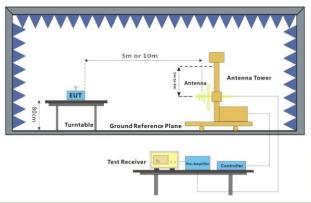
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation

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). Only the data of worst case is recorded in the report.

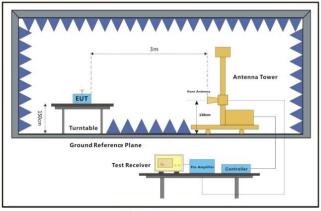
7.7.2 Test Setup Diagram





Below 30MHz

30MHz-1GHz



Above 1GHz



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7.7.3 Measurement Procedure and Data

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

Remark:

- 1) For emission below 1GHz, 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 25GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



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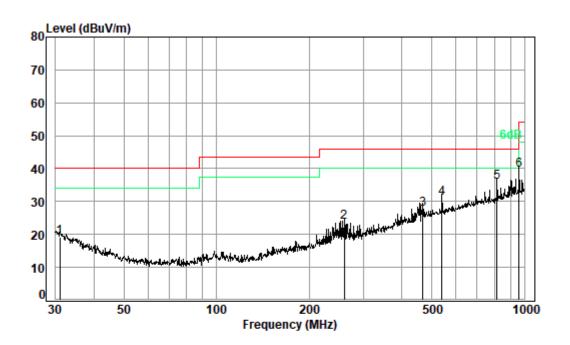


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Radiated emission below 1GHz

Mode:b: Polarization:Horizontal



Condition: 3m HORIZONTAL

Job No. : 03149CR

Test Mode: b

		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	30.96	0.60	21.95	27.73	24.38	19.20	40.00	-20.80	QP
2	260.14	1.72	19.10	26.97	29.79	23.64	46.00	-22.36	QP
3	468.88	2.49	23.97	27.68	28.84	27.62	46.00	-18.38	QP
4	539.48	2.64	25.43	27.94	30.96	31.09	46.00	-14.91	QP
5	815.97	3.27	28.72	27.64	31.43	35.78	46.00	-10.22	QP
6 pp	958.79	3.66	30.10	26.86	32.73	39.63	46.00	-6.37	OP



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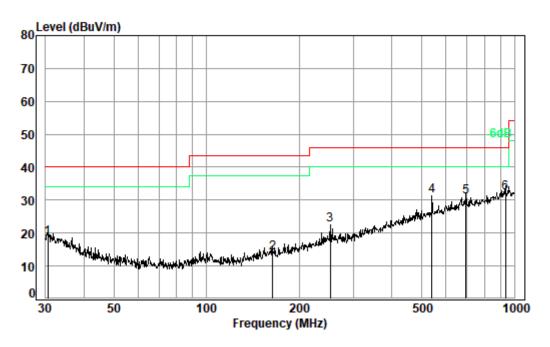
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Mode:b; Polarization:Horizontal



Condition: 3m VERTICAL Job No. : 03149CR

Test Mode: b

	Freq			Preamp Factor					Remark
_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.53	0.60	22.20	27.73	23.45	18.52	40.00	-21.48	QP
2	163.76	1.34	15.58	27.28	24.21	13.85	43.50	-29.65	QР
3	252.06	1.68	18.98	26.99	28.74	22.41	46.00	-23.59	QP
4	539.48	2.64	25.43	27.94	31.08	31.21	46.00	-14.79	QΡ
5	696.86	2.90	27.86	27.92	28.17	31.01	46.00	-14.99	QΡ
6 pp	935.55	3.64	29.98	26.98	25.75	32.39	46.00	-13.61	OP



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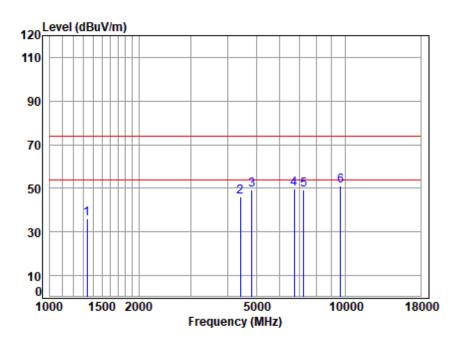


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Above 1GHz

Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 TX RSE

: 2.4G WIFI 11B

Cable Ant Preamp Limit Read 0ver Freq Loss Factor Factor Level Level Line Limit Remark MHz dB dB/m dB dBuV dBuV/m dBuV/m 1 1335.141 2.71 25.17 40.39 48.73 36.22 74.00 -37.78 peak 2 4417.841 6.63 33.46 48.48 46.08 74.00 -27.92 peak 42.49 4824.000 51.40 49.48 74.00 -24.52 peak 3 6.86 34.00 42.78 4 6717.762 8.28 35.73 41.83 47.74 49.92 74.00 -24.08 peak 5 8.43 36.09 41.56 46.32 49.28 74.00 -24.72 peak 7236.000 9648.000 9.41 37.69 38.51 42.63 51.22 74.00 -22.78 peak



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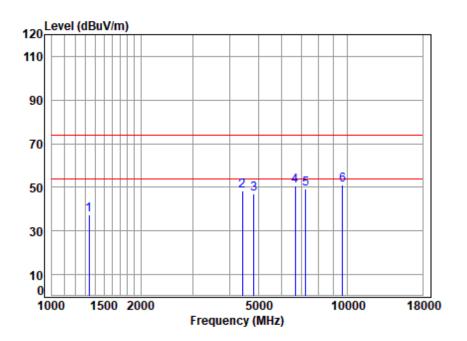
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Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2412 TX RSE : 2.4G WIFI 11B Note

		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	1335.141	2.71	25.17	40.39	50.03	37.52	74.00	-36.48	peak
2	4417.841	6.63	33.46	42.49	50.70	48.30	74.00	-25.70	peak
3	4824.000	6.86	34.00	42.78	48.99	47.07	74.00	-26.93	peak
4	6679.040	8.27	35.71	41.85	48.63	50.76	74.00	-23.24	peak
5	7236.000	8.43	36.09	41.56	46.14	49.10	74.00	-24.90	peak
6	9648.000	9.41	37.69	38.51	42.35	50.94	74.00	-23.06	peak



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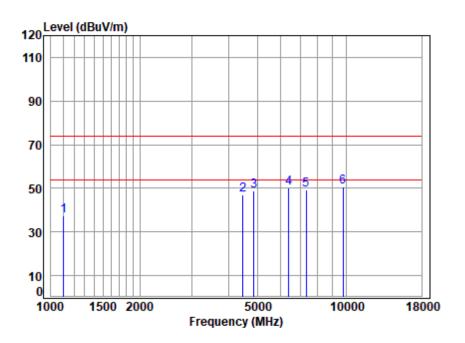
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Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2437 TX RSE

: 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	1103.264	2.20	24.13	40.20	51.44	37.57	74.00	-36.43	peak
2	4469.214	6.47	33.55	42.53	49.36	46.85	74.00	-27.15	peak
3	4874.000	7.01	34.05	42.82	50.66	48.90	74.00	-25.10	peak
4	6395.654	7.64	35.50	42.01	49.06	50.19	74.00	-23.81	peak
5	7311.000	8.38	36.15	41.53	46.28	49.28	74.00	-24.72	peak
6	9748.000	9.41	37.75	38.37	42.07	50.86	74.00	-23.14	peak



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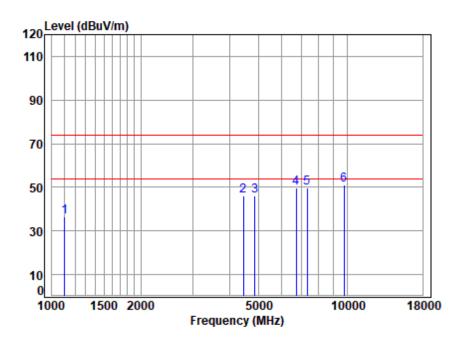
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Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:middle



Site : chamber

Condition: 3m VERTICAL

Job No : 03149CR/03150CR Mode : 2437 TX RSE

: 2.4G WIFI 11B Note

		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	1103.264	2.20	24.13	40.20	50.49	36.62	74.00	-37.38	peak
2	4456.315	6.51	33.53	42.52	48.38	45.90	74.00	-28.10	peak
3	4874.000	7.01	34.05	42.82	47.93	46.17	74.00	-27.83	peak
4	6717.762	8.28	35.73	41.83	47.76	49.94	74.00	-24.06	peak
5	7311.000	8.38	36.15	41.53	46.96	49.96	74.00	-24.04	peak
6	9748.000	9.41	37.75	38.37	42.20	50.99	74.00	-23.01	peak



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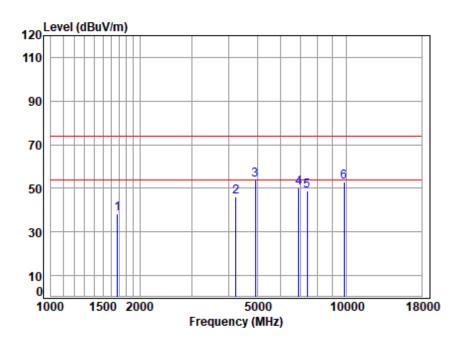
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Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2462 TX RSE

: 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	3.23	26.58	40.62	49.35	38.54	74.00	-35.46	peak
2	4230.396	6.18	33.13	42.34	49.04	46.01	74.00	-27.99	peak
3	4924.000	7.06	34.11	42.85	55.46	53.78	74.00	-20.22	peak
4	6914.763	7.83	35.85	41.73	48.22	50.17	74.00	-23.83	peak
5	7386.000	8.21	36.21	41.49	45.77	48.70	74.00	-25.30	peak
6	9848.000	9.02	37.81	38.22	44.17	52.78	74.00	-21.22	peak



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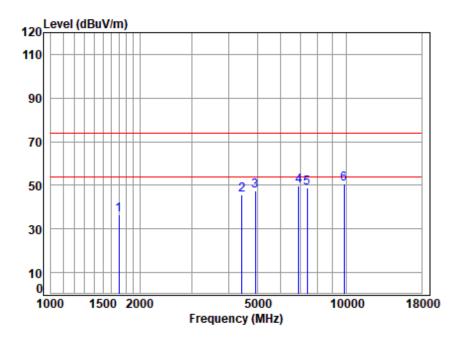
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Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2462 TX RSE : 2.4G WIFI 11B Note

		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	3.30	26.66	40.63	47.32	36.65	74.00	-37.35	peak
2	4443.453	6.55	33.50	42.51	48.11	45.65	74.00	-28.35	peak
3	4924.000	7.06	34.11	42.85	48.94	47.26	74.00	-26.74	peak
4	6914.763	7.83	35.85	41.73	47.57	49.52	74.00	-24.48	peak
5	7386.000	8.21	36.21	41.49	45.77	48.70	74.00	-25.30	peak
6	9848.000	9.02	37.81	38.22	42.15	50.76	74.00	-23.24	peak



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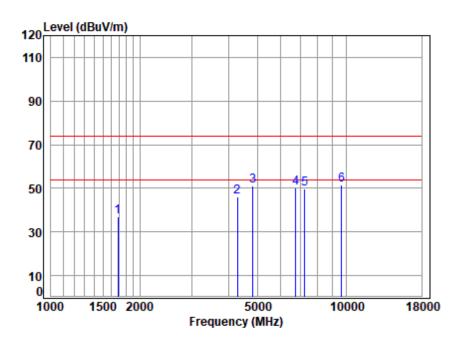
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Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 TX RSE

: 2.4G WIFI 11G

	Cable	Ant	Preamp	Read		Limit	0ver		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	dB				dRuV/m	dRuV/m			
14112	ub	ub/iii	ub.	abav	ubuv/III	ubuv/III	ub		
1687.347	3.27	26.62	40.62	47.47	36.74	74.00	-37.26	peak	
4291.977	6.29	33.24	42.39	49.09	46.23	74.00	-27.77	peak	
4824.000	6.86	34.00	42.78	53.03	51.11	74.00	-22.89	peak	
6737.207	8.21	35.75	41.82	47.91	50.05	74.00	-23.95	peak	
7236.000	8.43	36.09	41.56	46.59	49.55	74.00	-24.45	peak	
9648.000	9.41	37.69	38.51	43.15	51.74	74.00	-22.26	peak	
	MHz 1687.347 4291.977 4824.000 6737.207 7236.000	Freq Loss MHz dB 1687.347 3.27 4291.977 6.29 4824.000 6.86 6737.207 8.21 7236.000 8.43	Freq Loss Factor MHz dB dB/m 1687.347 3.27 26.62 4291.977 6.29 33.24 4824.000 6.86 34.00 6737.207 8.21 35.75 7236.000 8.43 36.09	Freq Loss Factor Factor MHz dB dB/m dB 1687.347 3.27 26.62 40.62 4291.977 6.29 33.24 42.39 4824.000 6.86 34.00 42.78 6737.207 8.21 35.75 41.82 7236.000 8.43 36.09 41.56	Freq Loss Factor Factor Level MHz dB dB/m dB dBuV 1687.347 3.27 26.62 40.62 47.47 4291.977 6.29 33.24 42.39 49.09 4824.000 6.86 34.00 42.78 53.03 6737.207 8.21 35.75 41.82 47.91 7236.000 8.43 36.09 41.56 46.59	MHz dB dB/m dB dBuV dBuV/m 1687.347 3.27 26.62 40.62 47.47 36.74 4291.977 6.29 33.24 42.39 49.09 46.23 4824.000 6.86 34.00 42.78 53.03 51.11 6737.207 8.21 35.75 41.82 47.91 50.05 7236.000 8.43 36.09 41.56 46.59 49.55	Freq Loss Factor Factor Level Level Line MHz dB dB/m dB dBuV dBuV/m dBuV/m 1687.347 3.27 26.62 40.62 47.47 36.74 74.00 4291.977 6.29 33.24 42.39 49.09 46.23 74.00 4824.000 6.86 34.00 42.78 53.03 51.11 74.00 6737.207 8.21 35.75 41.82 47.91 50.05 74.00 7236.000 8.43 36.09 41.56 46.59 49.55 74.00	MHz dB dB/m dB dBuV dBuV/m dBuV/m dB 1687.347 3.27 26.62 40.62 47.47 36.74 74.00 -37.26 4291.977 6.29 33.24 42.39 49.09 46.23 74.00 -27.77 4824.000 6.86 34.00 42.78 53.03 51.11 74.00 -22.89 6737.207 8.21 35.75 41.82 47.91 50.05 74.00 -23.95 7236.000 8.43 36.09 41.56 46.59 49.55 74.00 -24.45	Freq Loss Factor Factor Level Level Line Limit Remark MHz dB dB/m dB dBuV/m dBuV/m dBuV/m dB 1687.347 3.27 26.62 40.62 47.47 36.74 74.00 -37.26 peak 4291.977 6.29 33.24 42.39 49.09 46.23 74.00 -27.77 peak 4824.000 6.86 34.00 42.78 53.03 51.11 74.00 -22.89 peak 6737.207 8.21 35.75 41.82 47.91 50.05 74.00 -23.95 peak



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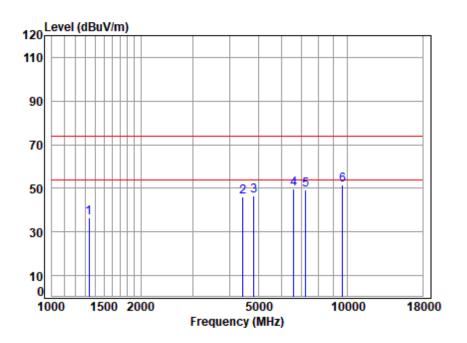
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Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:Low



: chamber Site Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2412 TX RSE : 2.4G WIFI 11G Note

oce	. 2	+G MII	1 110						
		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	1335.141	2.71	25.17	40.39	49.17	36.66	74.00	-37.34	peak
2	4443.453	6.55	33.50	42.51	48.51	46.05	74.00	-27.95	peak
3	4824.000	6.86	34.00	42.78	48.27	46.35	74.00	-27.65	peak
4	6602.265	8.00	35.66	41.89	48.03	49.80	74.00	-24.20	peak
5	7236.000	8.43	36.09	41.56	46.36	49.32	74.00	-24.68	peak
6	9648.000	9.41	37.69	38.51	42.88	51.47	74.00	-22.53	peak



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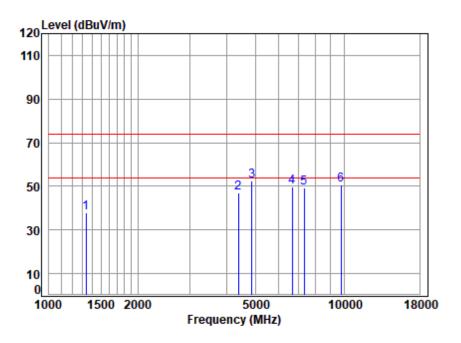
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Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2437 TX RSE : 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	1335.141	2.71	25.17	40.39	50.17	37.66	74.00	-36.34	peak
2	4379.699	6.61	33.39	42.46	49.56	47.10	74.00	-26.90	peak
3	4874.000	7.01	34.05	42.82	54.37	52.61	74.00	-21.39	peak
4	6659.763	8.21	35.70	41.86	47.59	49.64	74.00	-24.36	peak
5	7311.000	8.38	36.15	41.53	46.44	49.44	74.00	-24.56	peak
6	9748.000	9.41	37.75	38.37	41.97	50.76	74.00	-23.24	peak



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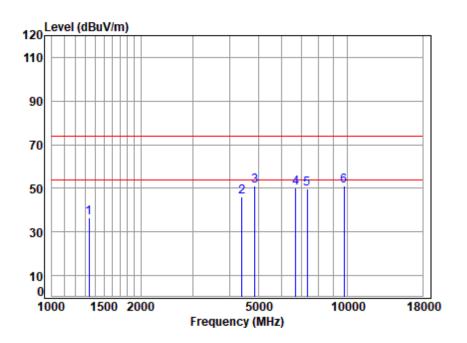
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Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:middle



: chamber Site Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2437 TX RSE : 2.4G WIFI 11G Note

		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	1335.141	2.71	25.17	40.39	49.13	36.62	74.00	-37.38	peak
2	4405.090	6.67	33.44	42.48	48.67	46.30	74.00	-27.70	peak
3	4874.000	7.01	34.05	42.82	53.04	51.28	74.00	-22.72	peak
4	6698.373	8.34	35.72	41.84	47.79	50.01	74.00	-23.99	peak
5	7311.000	8.38	36.15	41.53	46.78	49.78	74.00	-24.22	peak
6	9748.000	9.41	37.75	38.37	42.20	50.99	74.00	-23.01	peak



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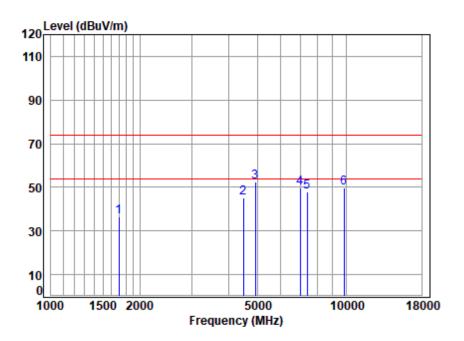
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Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2462 TX RSE : 2.4G WIFI 11G Note

		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	3.30	26.66	40.63	46.98	36.31	74.00	-37.69	peak
2	4495.125	6.39	33.59	42.55	47.57	45.00	74.00	-29.00	peak
3	4924.000	7.06	34.11	42.85	54.12	52.44	74.00	-21.56	peak
4	6974.982	7.81	35.89	41.70	47.73	49.73	74.00	-24.27	peak
5	7386.000	8.21	36.21	41.49	45.10	48.03	74.00	-25.97	peak
6	9848.000	9.02	37.81	38.22	40.92	49.53	74.00	-24.47	peak



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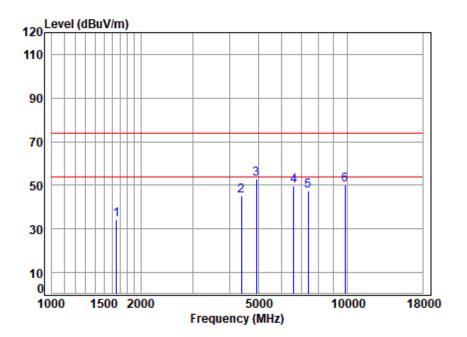
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Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2462 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	1653.550	3.15	26.48	40.60	45.38	34.41	74.00	-39.59	peak
2	4379.699	6.61	33.39	42.46	47.51	45.05	74.00	-28.95	peak
3	4924.000	7.06	34.11	42.85	54.52	52.84	74.00	-21.16	peak
4	6583.209	7.90	35.65	41.91	48.24	49.88	74.00	-24.12	peak
5	7386.000	8.21	36.21	41.49	44.31	47.24	74.00	-26.76	peak
6	9848.000	9.02	37.81	38.22	41.61	50.22	74.00	-23.78	peak



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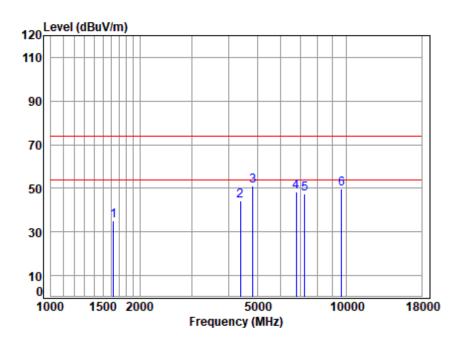
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Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2412 TX RSE

: 2.4G WIFI 11N20 Note

				-					
		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 06	26 39	10 EQ	16 10	3/1 05	74 00	30 05	nook
_									•
2	4392.376	6.66	33.42	42.47	46.77	44.38	74.00	-29.62	peak
3	4824.000	6.86	34.00	42.78	53.20	51.28	74.00	-22.72	peak
4	6776.265	8.07	35.77	41.80	46.45	48.49	74.00	-25.51	peak
5	7236.000	8.43	36.09	41.56	44.30	47.26	74.00	-26.74	peak
6	9648.000	9.41	37.69	38.51	41.15	49.74	74.00	-24.26	peak



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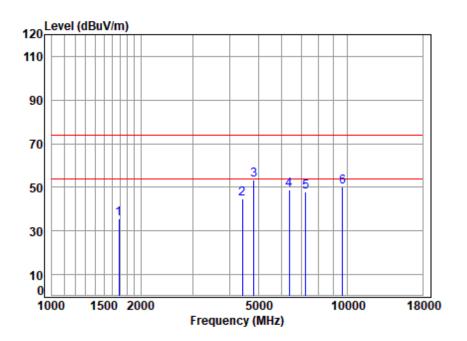
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Report No.: SZEM200400314902

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Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



: chamber Site Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2412 TX RSE

: 2.4G WIFI 11N20 Note

		10 111	1 11112	_					
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
-	MU-			dB		dD: M/m	dD: M/m	dB	
	MHz	dB	ub/m	ub	abuv	ubuv/m	ubuv/m	ub	
1	1687.347	3.27	26.62	40.62	46.39	35.66	74.00	-38.34	peak
2	4417.841	6.63	33.46	42.49	47.26	44.86	74.00	-29.14	peak
3	4824.000	6.86	34.00	42.78	55.19	53.27	74.00	-20.73	peak
4	6358.789	7.48	35.46	42.03	48.13	49.04	74.00	-24.96	peak
5	7236.000	8.43	36.09	41.56	44.81	47.77	74.00	-26.23	peak
6	9648.000	9.41	37.69	38.51	41.37	49.96	74.00	-24.04	peak



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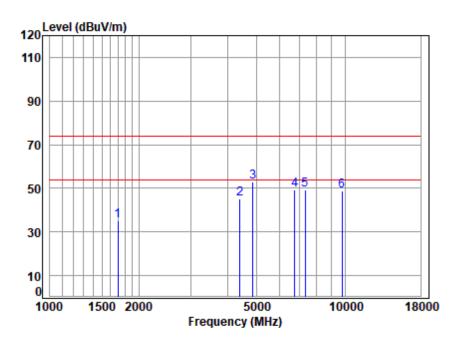
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Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2437 TX RSE

: 2.4G WIFI 11N20 Note

				_					
		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	3.30	26.66	40.63	46.03	35.36	74.00	-38.64	peak
2	4405.090	6.67	33.44	42.48	47.41	45.04	74.00	-28.96	peak
3	4874.000	7.01	34.05	42.82	54.53	52.77	74.00	-21.23	peak
4	6737.207	8.21	35.75	41.82	47.25	49.39	74.00	-24.61	peak
5	7311.000	8.38	36.15	41.53	46.49	49.49	74.00	-24.51	peak
6	9748.000	9.41	37.75	38.37	40.16	48.95	74.00	-25.05	peak



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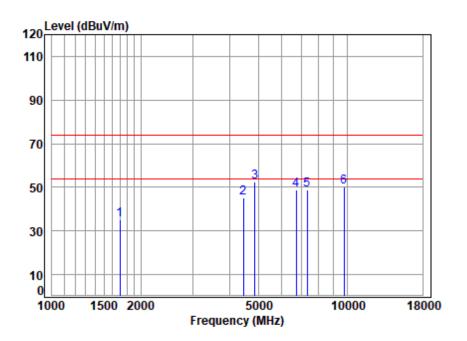
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Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber

Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2437 TX RSE

: 2.4G WIFI 11N20 Note

,,,,	CC . 2.44 WI I IIW20									
		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	3.30	26.66	40.63	45.75	35.08	74.00	-38.92	peak	
2	4456.315	6.51	33.53	42.52	47.84	45.36	74.00	-28.64	peak	
3	4874.000	7.01	34.05	42.82	54.06	52.30	74.00	-21.70	peak	
4	6717.762	8.28	35.73	41.83	46.63	48.81	74.00	-25.19	peak	
5	7311.000	8.38	36.15	41.53	45.85	48.85	74.00	-25.15	peak	
6	9748.000	9.41	37.75	38.37	41.18	49.97	74.00	-24.03	peak	



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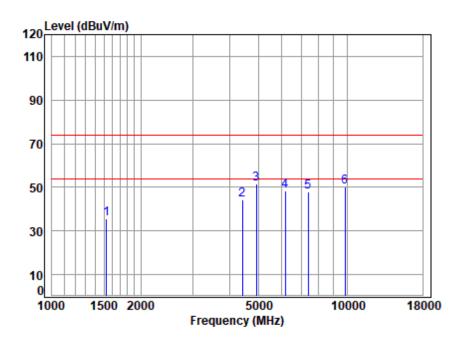
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Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 03149CR/03150CR Mode : 2462 TX RSE

: 2.4G WIFI 11N20 Note

oce	. 2	+G MII	1 1111/2	0					
		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	1529.414	2.98	25.94	40.53	47.14	35.53	74.00	-38.47	peak
2	4417.841	6.63	33.46	42.49	46.80	44.40	74.00	-29.60	peak
3	4924.000	7.06	34.11	42.85	53.42	51.74	74.00	-22.26	peak
4	6177.627	7.59	35.28	42.14	47.82	48.55	74.00	-25.45	peak
5	7386.000	8.21	36.21	41.49	44.97	47.90	74.00	-26.10	peak
6	9848.000	9.02	37.81	38.22	41.51	50.12	74.00	-23.88	peak



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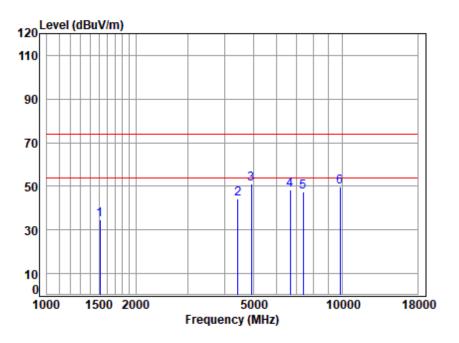
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Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 03149CR/03150CR

Mode : 2462 TX RSE

: 2.4G WIFI 11N20 Note

10tc . 2.4d W1/1 11/120									
		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	1511.833	2.99	25.85	40.51	46.42	34.75	74.00	-39.25	peak
2	4443.453	6.55	33.50	42.51	46.54	44.08	74.00	-29.92	peak
3	4924.000	7.06	34.11	42.85	52.57	50.89	74.00	-23.11	peak
4	6659.763	8.21	35.70	41.86	46.17	48.22	74.00	-25.78	peak
5	7386.000	8.21	36.21	41.49	44.62	47.55	74.00	-26.45	peak
6	9848.000	9.02	37.81	38.22	40.95	49.56	74.00	-24.44	peak



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8 **Photographs**

Test Setup

Please refer to setup photos.

8.2 EUT Constructional Details (EUT Photos)

Please Refer to external and internal photos for details.



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Appendix

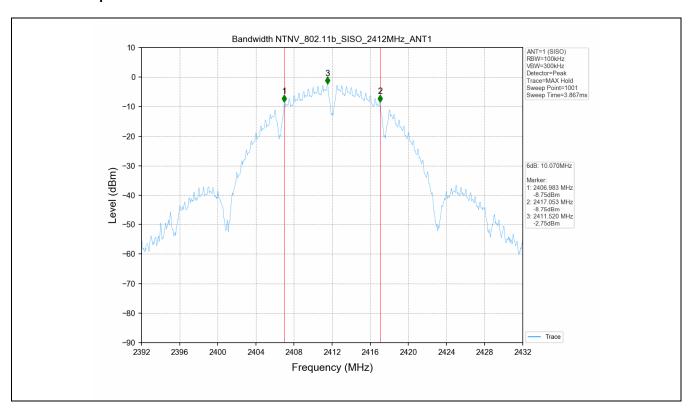
Appendix 15.247

1. Bandwidth

1.1 Test Result

Took Mode	Frequency	TV T	ANIT NI	6dB Bai	Vaudiat		
Test Mode	(MHz)	TX Type	ANT No.	Test Result (MHz)	Limits (MHz)	Verdict	
	2412	SISO	1	10.070	≥0.5	PASS	
802.11b	2437	SISO	1	10.071	≥0.5	PASS	
	2462	SISO	1	10.063	≥0.5	PASS	
	2412	SISO	1	16.418	≥0.5	PASS	
802.11g	2437	SISO	1	16.412	≥0.5	PASS	
	2462	SISO	1	16.404	≥0.5	PASS	
	2412	SISO	1	17.778	≥0.5	PASS	
802.11n(HT20)	2437	SISO	1	17.848	≥0.5	PASS	
	2462	SISO	1	17.849	≥0.5	PASS	

1.2 Test Graph - 6dB Bandwidth





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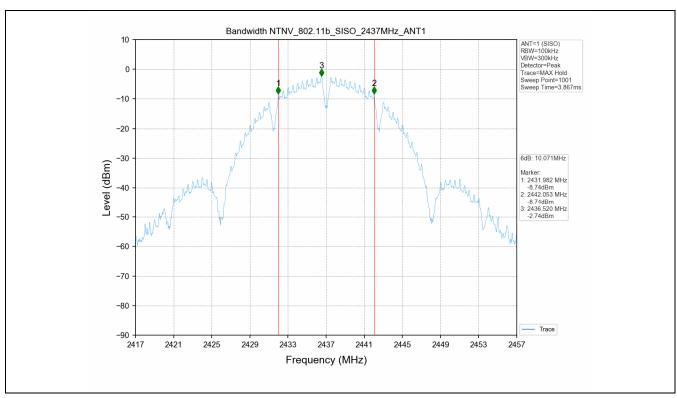
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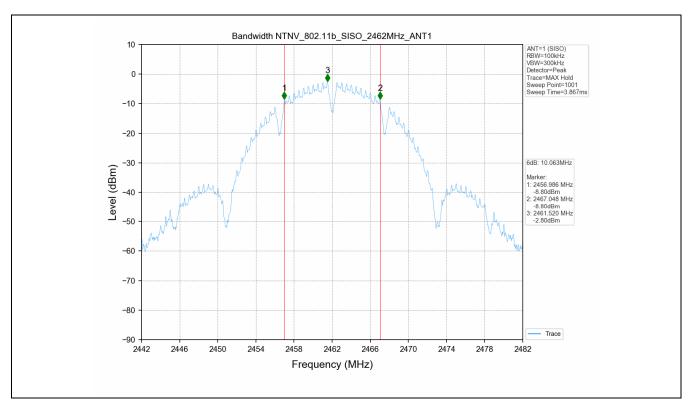
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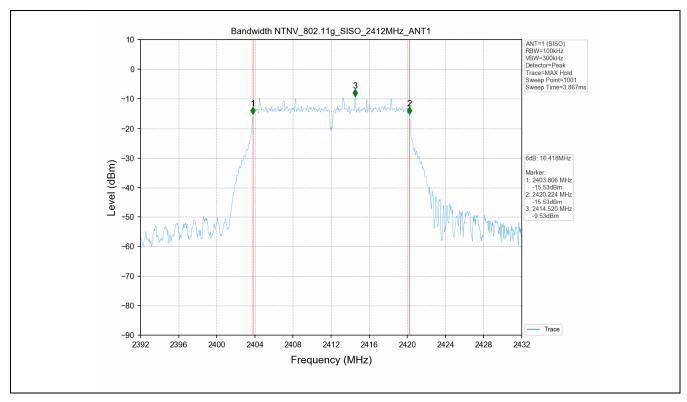
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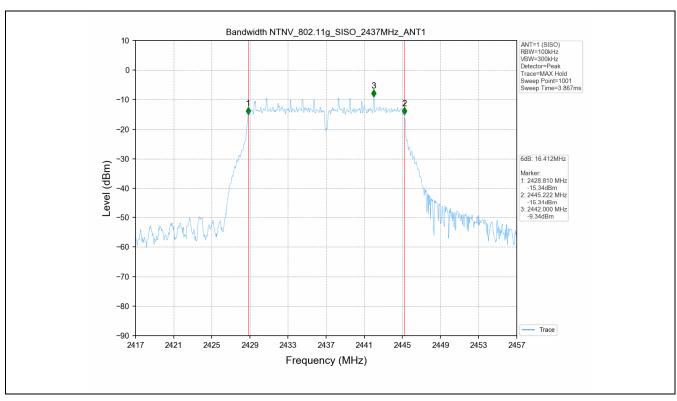
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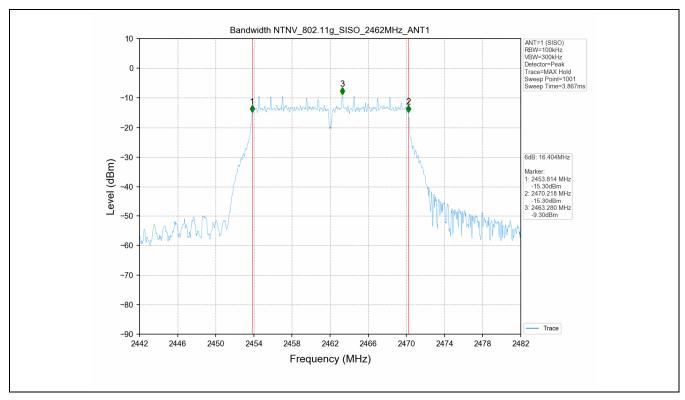
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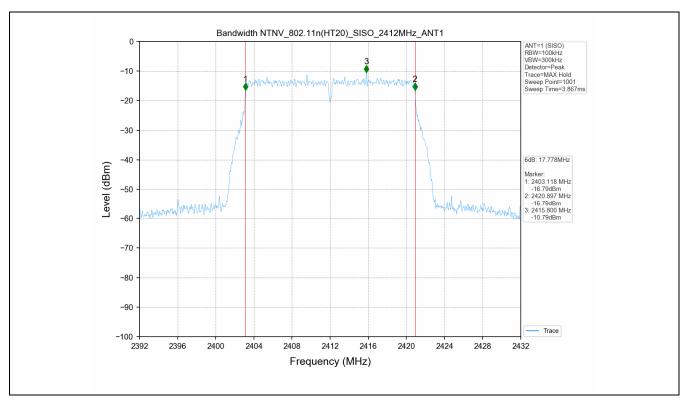
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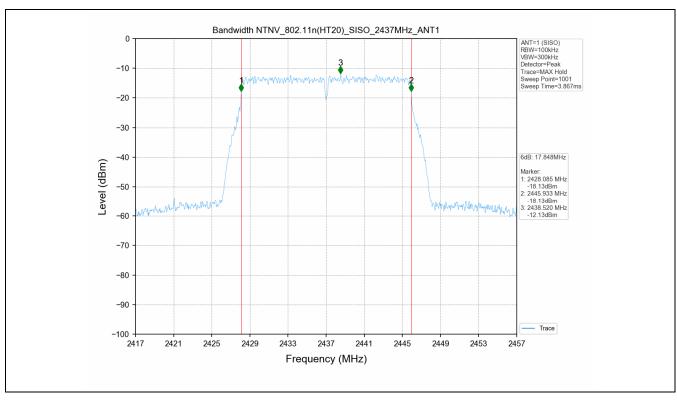
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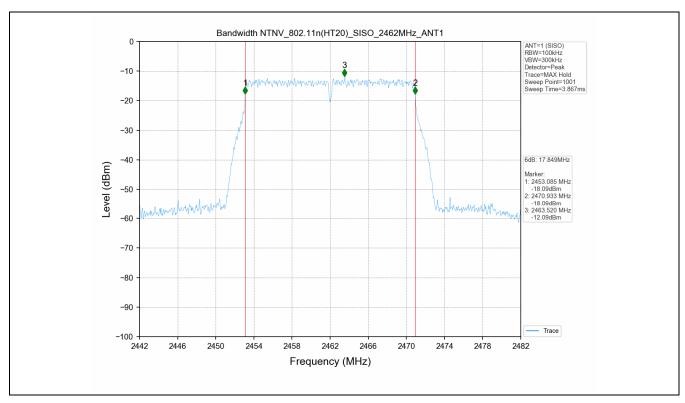
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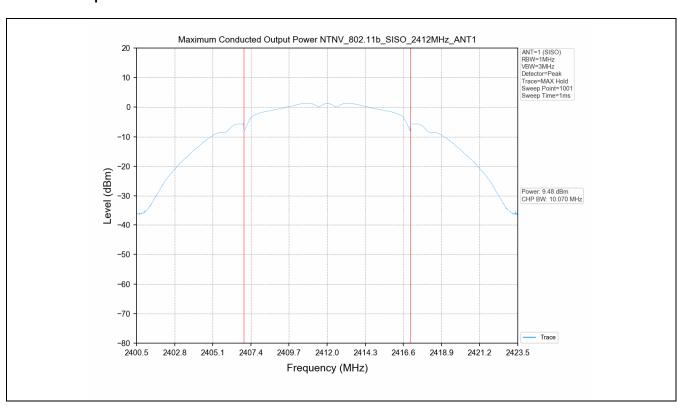
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2.Maximum Conducted Output Power

2.1 Test Result

Test Mode	Frequency (MHz)	Тх Туре	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict	
	, ,		Ant 1			
802.11b	2412	SISO	9.48	30	PASS	
	2437	SISO	9.47	30	PASS	
	2462	SISO	9.40	30	PASS	
802.11g	2412	SISO	9.68	30	PASS	
	2437	SISO	9.69	30	PASS	
	2462	SISO	9.63	30	PASS	
802.11n(HT20)	2412	SISO	9.74	30	PASS	
	2437	SISO	9.76	30	PASS	
	2462	SISO	9.71	30	PASS	

2.2 Test Graph





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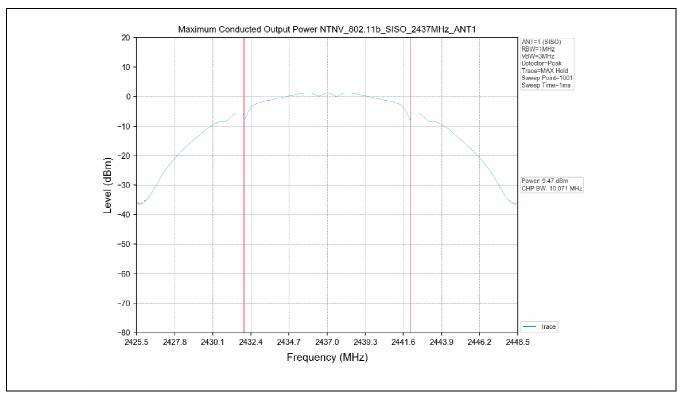
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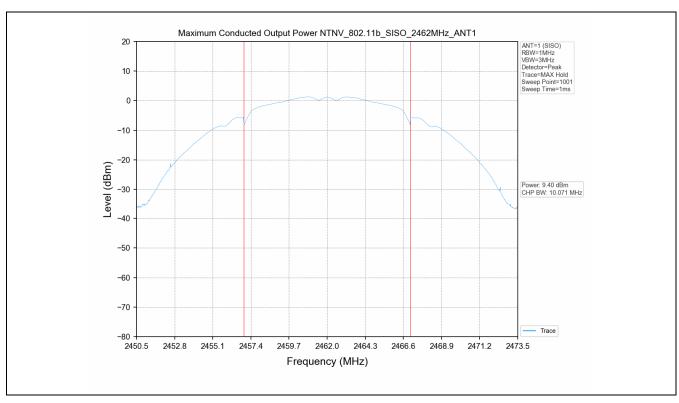
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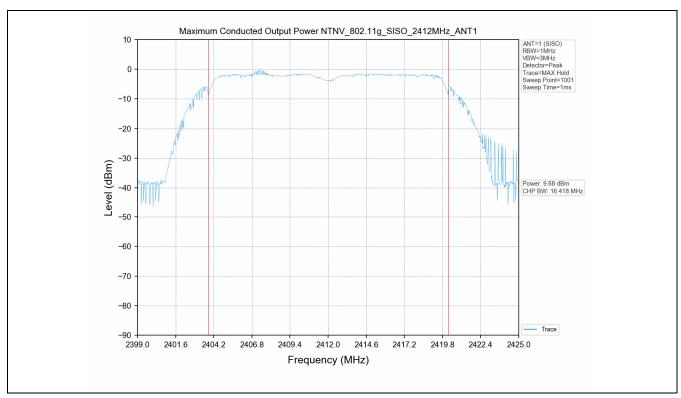
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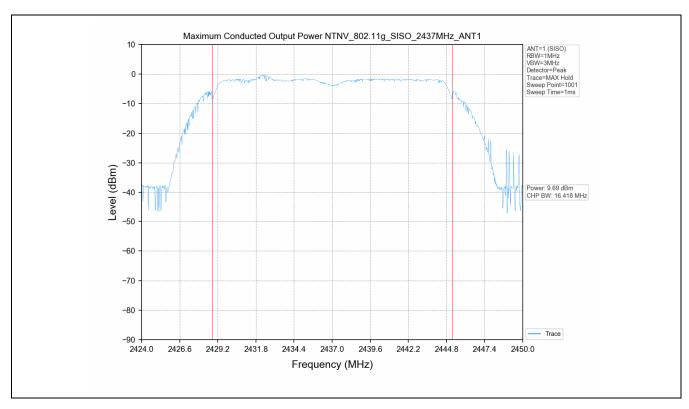
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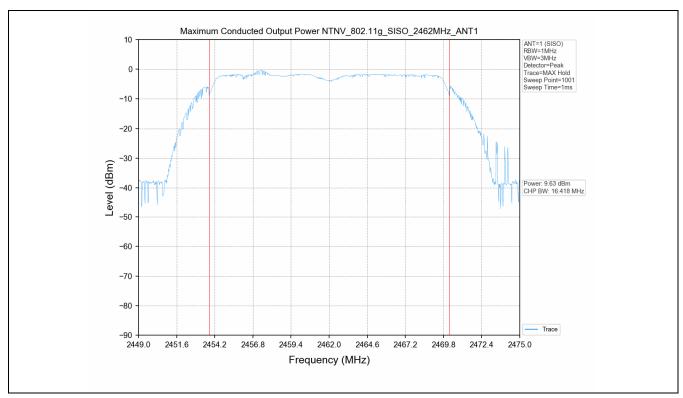
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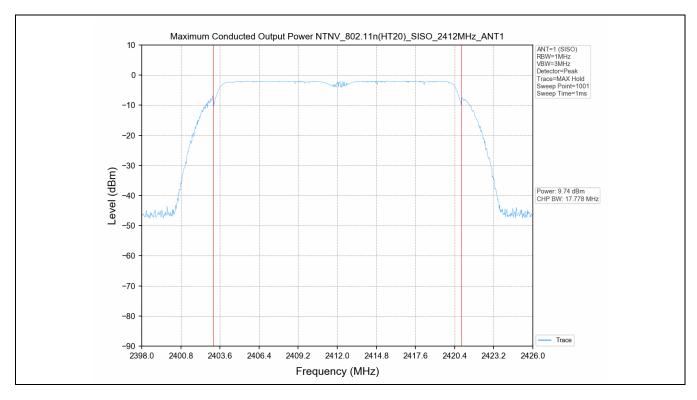
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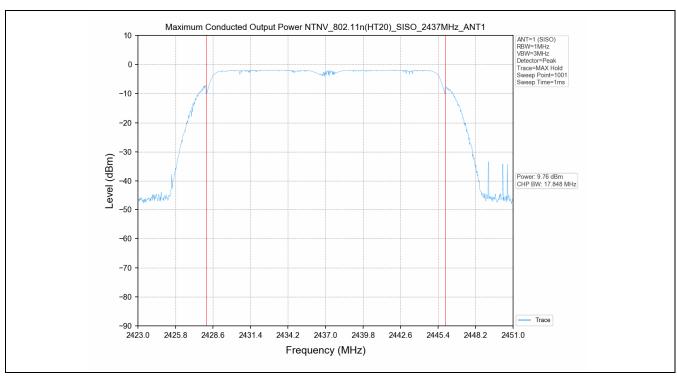
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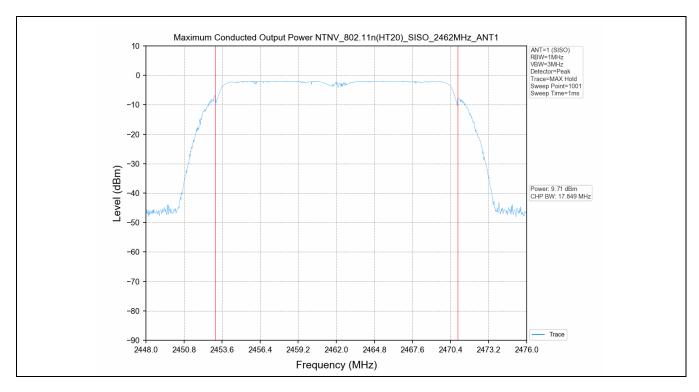
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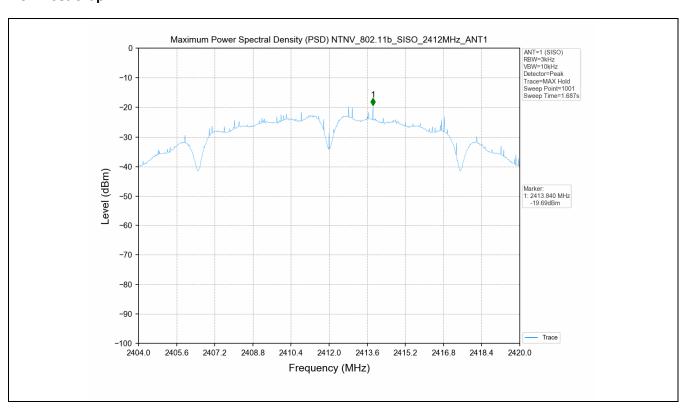
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3. Maximum Power Spectral Density (PSD)

3.1 Test Result

Test Mode	Frequency (MHz)	Тх Туре	Maximum Power Spectral Density (dBm/3KHz) Ant 1	Limits (dBm/3kHz)	Verdict	
802.11b	2412	SISO	-19.69 ≤8		PASS	
	2437	SISO	-20.60	≤8	PASS	
	2462	SISO	-20.28	≤8	PASS	
802.11g	2412	SISO	-25.73	≤8	PASS	
	2437	SISO	-25.78	≤8	PASS	
	2462	SISO	-26.01	≤8	PASS	
802.11n(HT20)	2412	SISO	-26.21	≤8	PASS	
	2437	SISO	-26.33	≤8	PASS	
	2462	SISO	-25.88	≤8	PASS	

3.2 Test Graph





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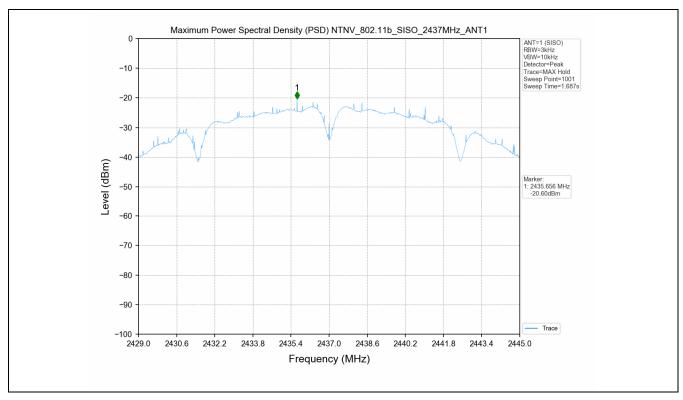
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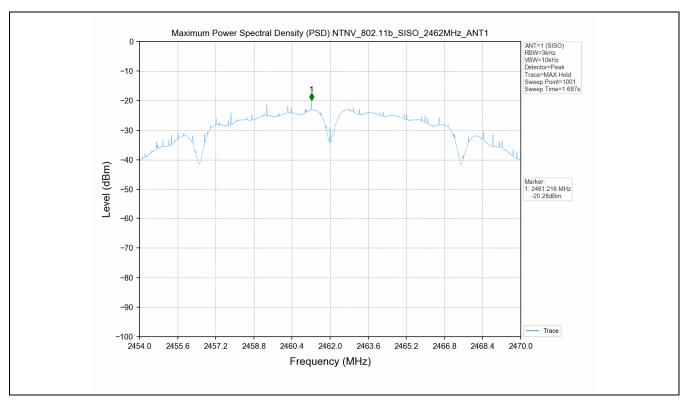
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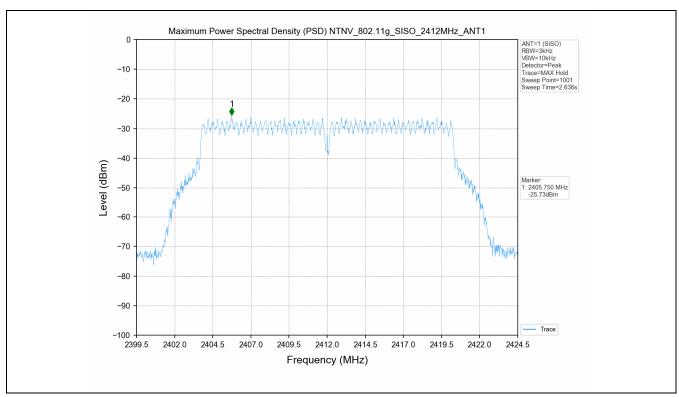
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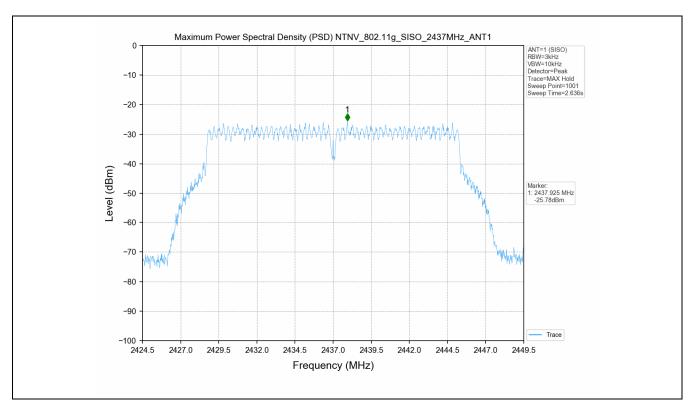
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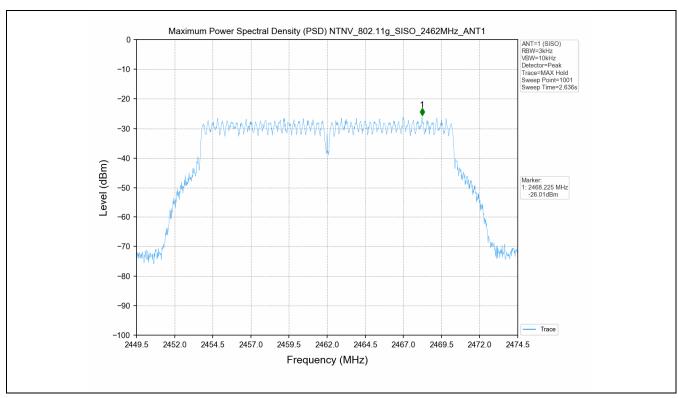
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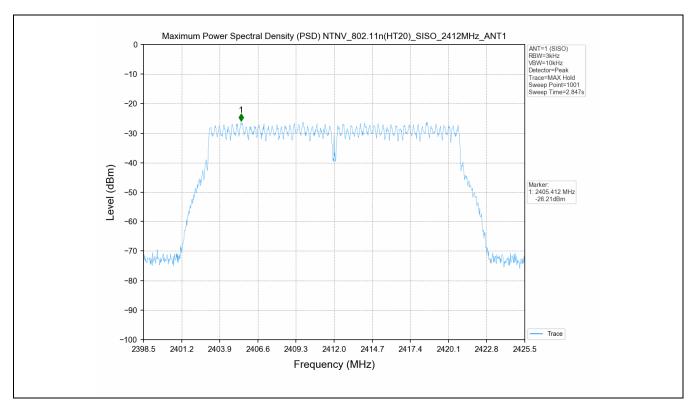
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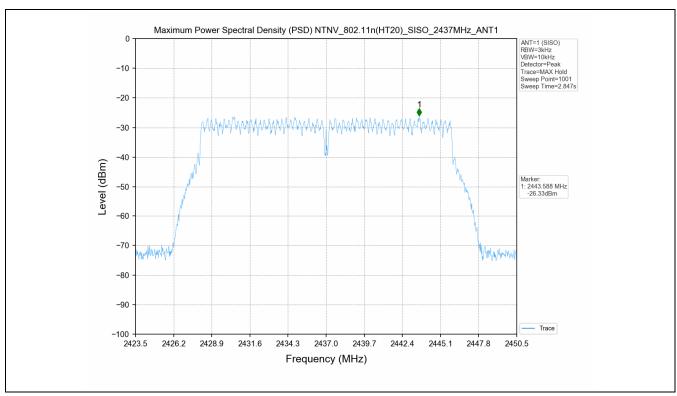
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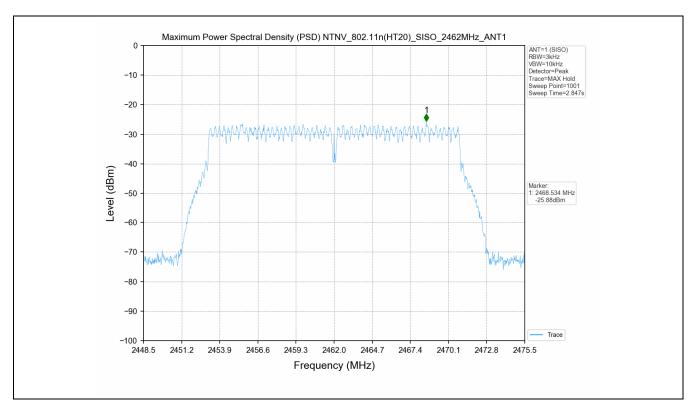
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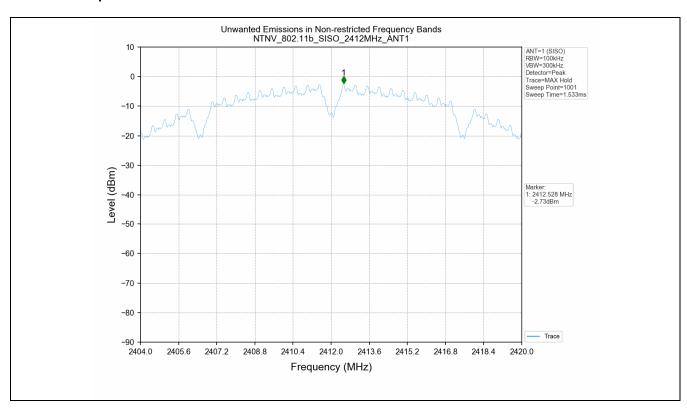
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4. Unwanted Emissions in Non-restricted Frequency Bands

4.1 Test Result

Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
802.11b	2412	SISO	1	Refer to test graph	-22.73	PASS
	2437	SISO	1	Refer to test graph	-22.73	PASS
	2462	SISO	1	Refer to test graph	-22.73	PASS
802.11g	2412	SISO	1	Refer to test graph	-29.27	PASS
	2437	SISO	1	Refer to test graph	-29.27	PASS
	2462	SISO	1	Refer to test graph	-29.27	PASS
802.11n(HT20)	2412	SISO	1	Refer to test graph	-29.50	PASS
	2437	SISO	1	Refer to test graph	-29.50	PASS
	2462	SISO	1	Refer to test graph	-29.50	PASS

4.2 Test Graph





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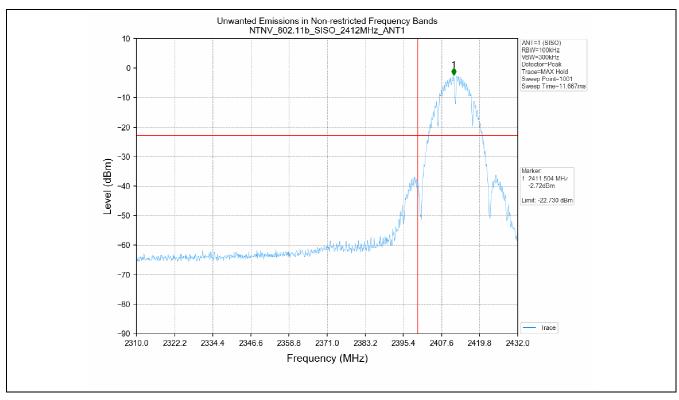
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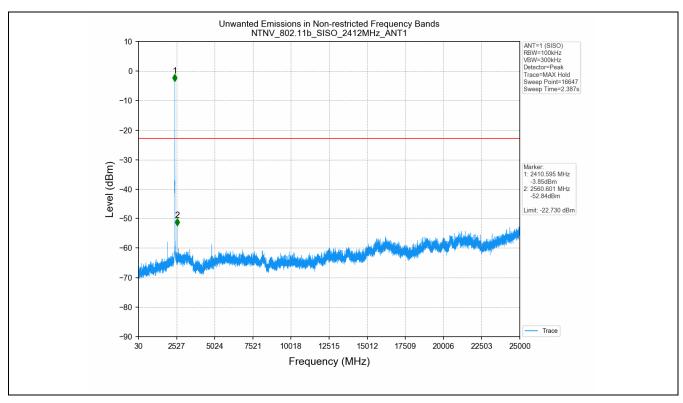
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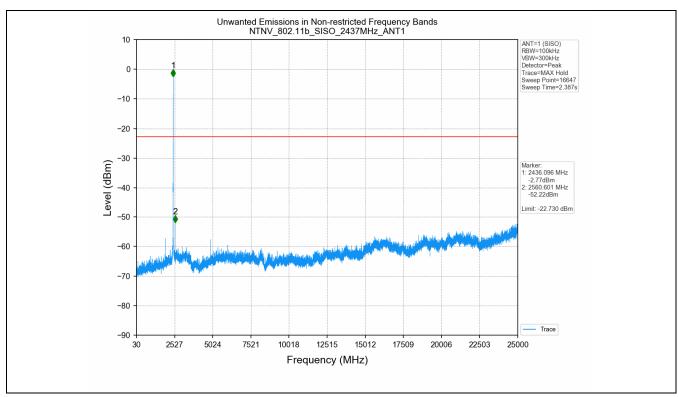
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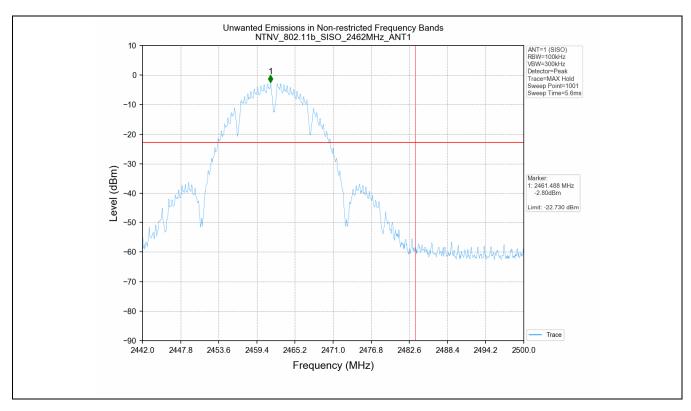
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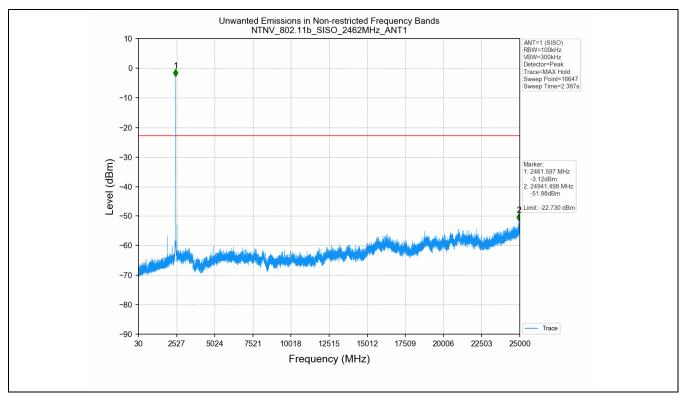
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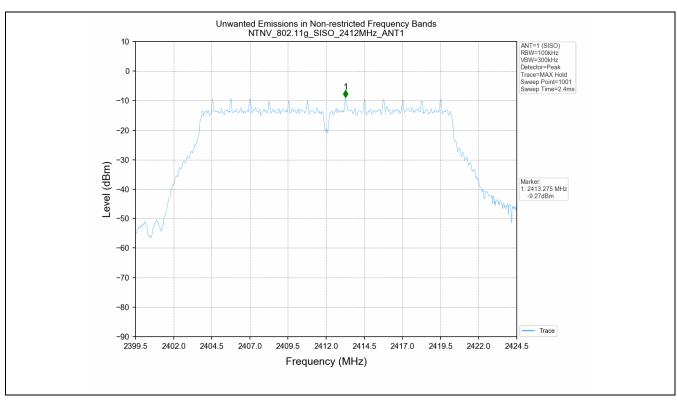
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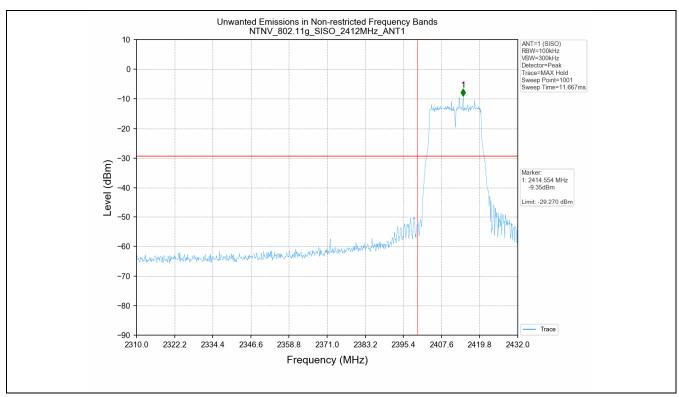
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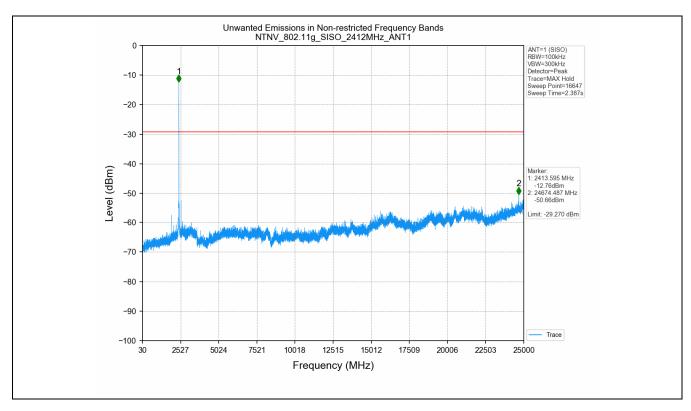
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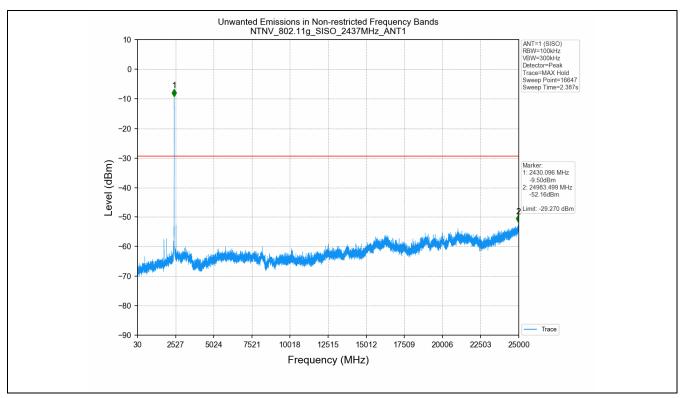
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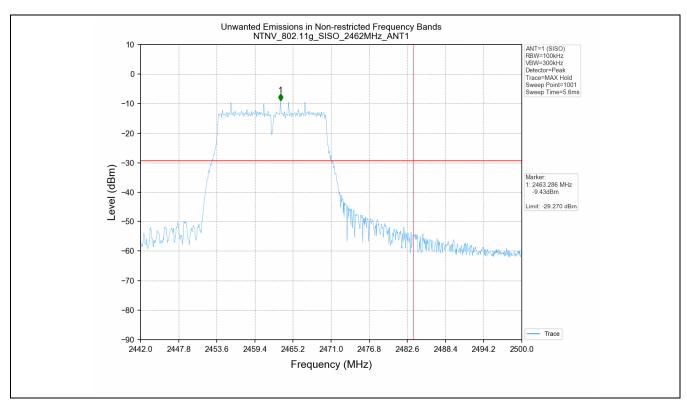
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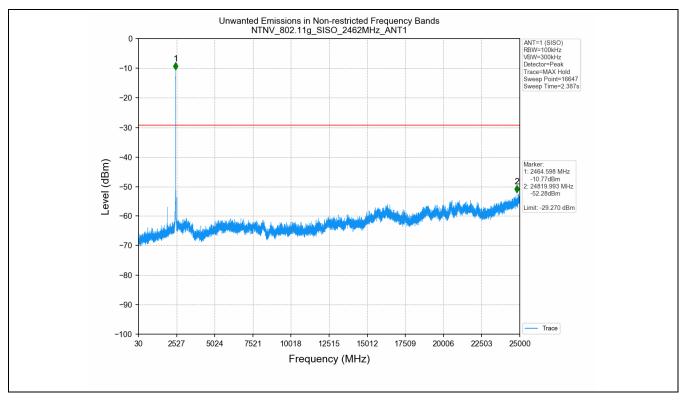
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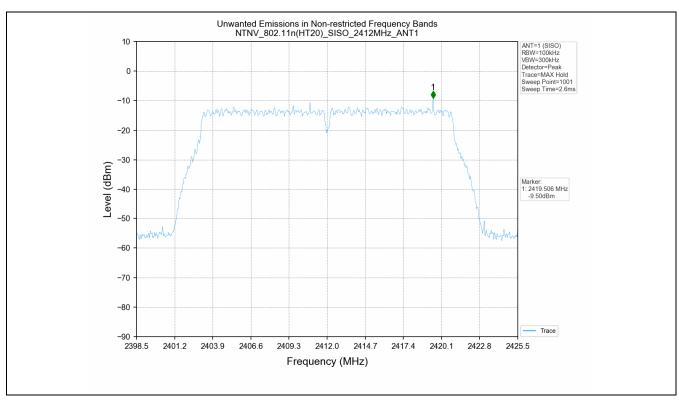
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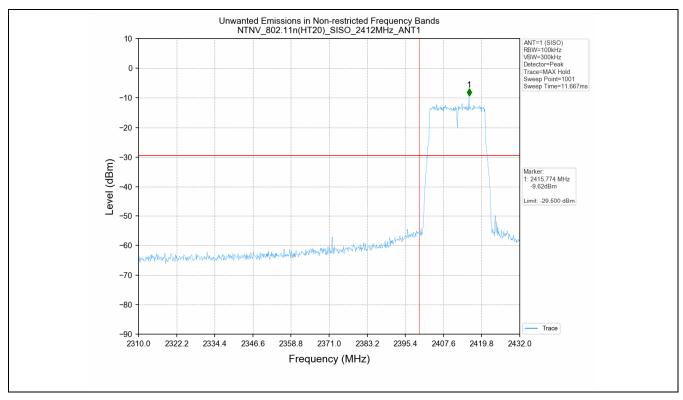
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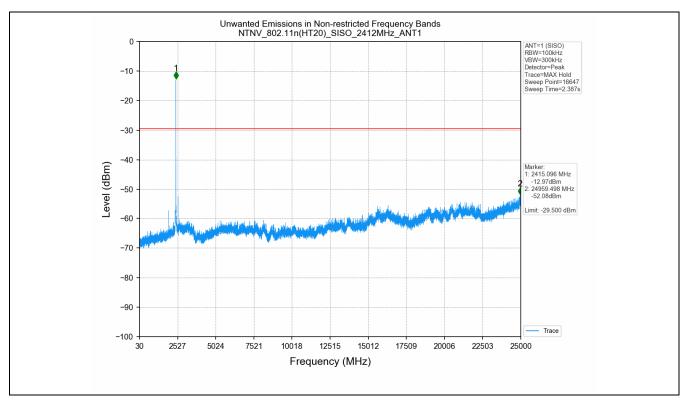
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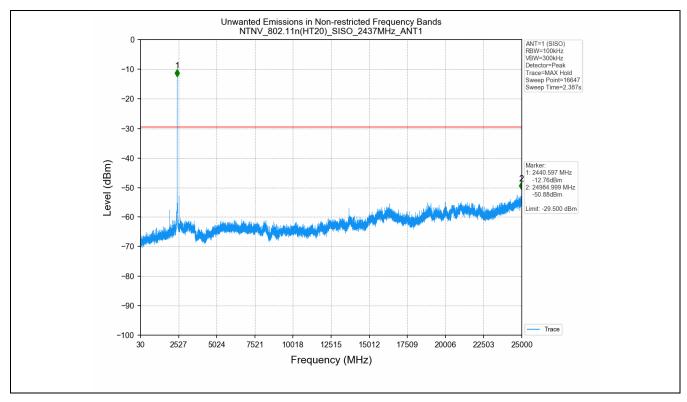
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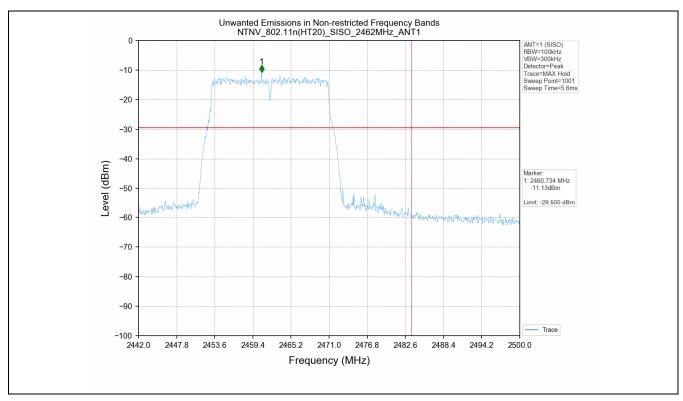
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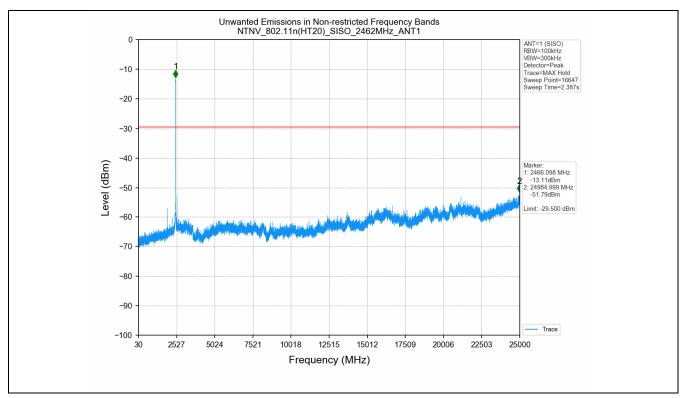
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