

Report No.: SZEM191001957801

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TEST REPORT

Application No.: SZEM1910019578CR

Applicant: Inflight Audio

Address of Applicant: 3rd Floor, Block 7 Belfield Office Park, Clonskeagh, D04T3K6, Ireland

Manufacturer: NIGAT ELECTRONIC (SHENZHEN)CO., LTD

Address of Manufacturer: #343 ShaJing DaDao, ShaJing, ShenZhen, GuangDong, (PRC) China

Factory: NIGAT ELECTRONIC (SHENZHEN)CO., LTD

Address of Factory: #343 ShaJing DaDao, ShaJing, ShenZhen, GuangDong, (PRC) China

Equipment Under Test (EUT):

EUT Name: Inflight Entertainment server

Model No.:EverhubTrade mark:Inflight DublinFCC ID:2AVXPGEN4

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

Date of Receipt: 2019-10-28

Date of Test: 2019-11-01 to 2019-12-27

Date of Issue: 2019-12-31

Test Result: Pass*

Keny Xu EMC Laboratory Manager

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 Date Modifier Remark							
01		2019-12-31		Original			

Authorized for issue by:		
	Damon Su	
	Damon Su /Project Engineer	
	EvicFu	
	Eric Fu /Reviewer	



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Test Summary

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

Radio Spectrum Matter Part							
Item	Standard	Method	Requirement	Result			
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	47 CFR Part 15,	ANSI C63.10 (2013)	47 CFR Part 15, Subpart	Pass			
Density	Subpart C 15.247	Section 11.10.2	C 15.247(e)				
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

Details of E.U.T.

Power Supply:	DC 16.8V by battery.	
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:	5MHz	
Antenna Type:	Integral Antenna	
Antenna Gain:	ANT1: 3.07dBi; ANT2: 2.85dBi	

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	Duty cycle	± 0.37%
3	Occupied Bandwidth	± 3%
4	Conduction emission	± 3.0dB (150kHz to 30MHz)
5	RF conducted power	± 0.75dB
6	RF power density	± 2.84dB
7	Conducted Spurious emissions	± 0.75dB
8	DE Dadiated newer	± 4.5dB (Below 1GHz)
0	RF Radiated power	± 4.8dB (Above 1GHz)
9	Dedicted Courieus emission toet	± 4.5dB (Below 1GHz)
9	Radiated Spurious emission test	± 4.8dB (Above 1GHz)
10	Temperature test	± 1℃
11	Humidity test	± 3%
12	Supply voltages	± 1.5%
13	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.

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

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.

VCCI

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

4.7 **Abnormalities from Standard Conditions**

None



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Equipment List

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	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23	
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	Weinschel Associates	WA41	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	NBM- 550/EHP-50F	EMC2143	2018-02-07	2020-02-06	
Electric Field Probe (100KHz-3GHz)	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	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23	
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	Weinschel Associates	WA41	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	NBM- 550/EHP-50F	EMC2143	2018-02-07	2020-02-06	
Electric Field Probe (100KHz-3GHz)	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	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23	
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2019-09-24	2020-09-23	



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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	Weinschel Associates	WA41	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	NBM- 550/EHP-50F	EMC2143	2018-02-07	2020-02-06
Electric Field Probe (100KHz-3GHz)	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	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	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23					
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	Weinschel Associates	WA41	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	NBM- 550/EHP-50F	EMC2143	2018-02-07	2020-02-06					
Electric Field Probe (100KHz-3GHz)	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	Zhao Xin	KXN-6020D	SEM011-08	2019-09-24	2020-09-23			
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	Weinschel Associates	WA41	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	NBM- 550/EHP-50F	EMC2143	2018-02-07	2020-02-06			



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Electric Field Probe (100KHz-3GHz)	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20
EMF Tester	Narda	ELT-400	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	2019-04-12	2020-04-11			
Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12			
Horn Antenna (15GHz-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16			
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23			
Pre-amplifier(18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2019-04-01	2020-03-31			
Pre-amplifier (26GHz-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2019-04-01	2020-03-31			
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			

RE in Chamber							
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 (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2019-09-24	2020-09-23		
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26		
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2019-04-01	2020-03-31		
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A		
Coaxial Cable	SGS	N/A	SEM025-01	2019-07-11	2020-07-10		



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Radiated Spurious Emis	ssions				
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	Manufacturer AUDIX AUDIX SGS AgilentTechnologies Inc Rohde & Schwarz Schwarzbeck Compliance Directions Systems Inc. Rohde & Schwarz Compliance	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	Manufacturer Model No Inventory No Cal Date Cal II AUDIX N/A SEM001-02 2018-03-13 202 AUDIX e3 V8.2014-6- 27 N/A N/A N/A SGS N/A SEM026-01 2019-07-11 202 AgilentTechnologies Inc N9010A SEM004-12 2019-04-12 202 Rohde & Schwarz HF907 SEM003-07 2018-04-13 202 Schwarzbeck BBHA 9170 SEM003-15 2017-10-17 202 Compliance Directions Systems Inc. PAP-0126 SEM004-11 2019-09-24 202 Compliance Directions Systems Inc. PAP-2640-50 SEM005-08 2019-04-01 202	2020-07-10			
EXA Spectrum Analyzer		N9010A	SEM004-12	2019-04-12	2020-04-11
Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna (15GHz-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16
Pre-Amplifier (0.1-26.5GHz)	Directions Systems	PAP-0126	SEM004-11	2019-09-24	2020-09-23
Pre-amplifier (18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2019-04-01	2020-03-31
Pre-amplifier (26GHz-40GHz)	Directions Systems	PAP-2640-50	SEM005-08	2019-04-01	2020-03-31
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

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	ological ZJ1-2B SEM002-04 2019-09		2019-09-26	2020-09-25			
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2019-09-26	2020-09-25			
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2019-04-04	2020-04-03			



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Radio Spectrum Technical Requirement 6

Antenna Requirement

6.1.1 Test Requirement:

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

6.1.2 Conclusion

Standard Requirement:

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

15.247(b) (4) requirement:

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

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is ANT1: 3.07dBi; ANT2: 2.85dBi

Antenna location: Refer to Internal photos.





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7 Radio Spectrum Matter Test Results

7.1 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:

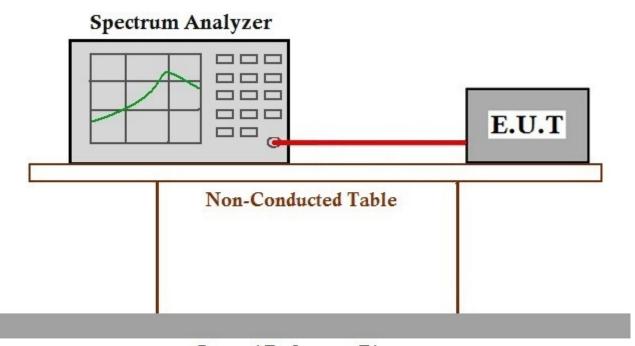
Temperature: 23.6 °C Humidity: 50.4 % RH Atmospheric Pressure: 1015 mbar

Test mode a: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.

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:

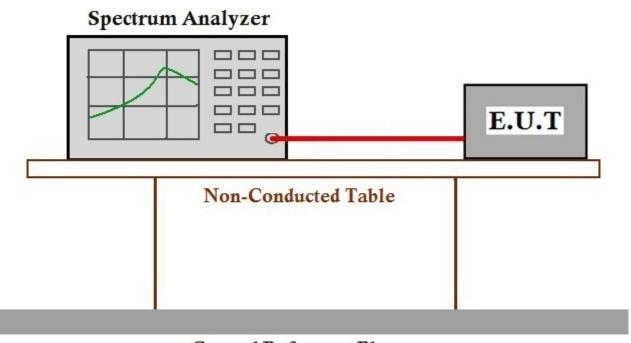
Humidity: 50.4 % RH Temperature: 23.6 °C Atmospheric Pressure: 1015 mbar

Test mode a: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.

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:

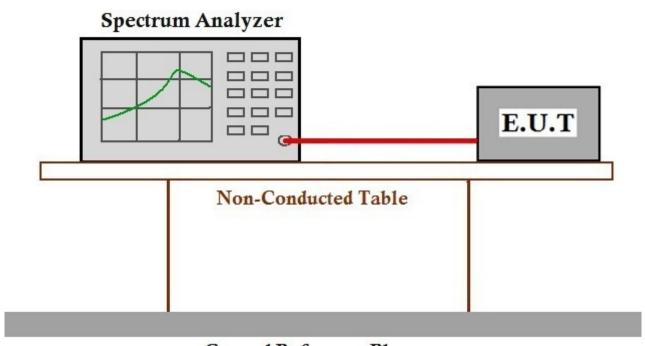
Temperature: 23.6 °C Humidity: 50.4 % RH Atmospheric Pressure: 1015 mbar

Test mode a: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.

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:

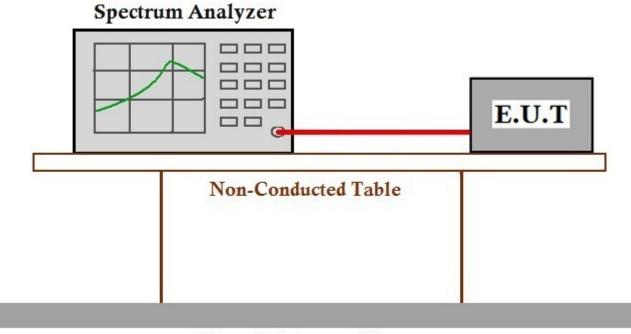
Temperature: 23.6 °C Humidity: 50.4 % RH Atmospheric Pressure: 1015 mbar

Test mode a: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.

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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Report No.: SZEM191001957801

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7.5.1 E.U.T. Operation

Operating Environment:

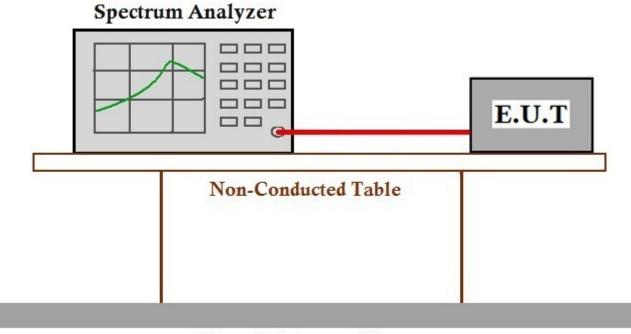
Temperature: 23.6 °C Humidity: 50.4 % RH Atmospheric Pressure: 1015 mbar

Test mode a: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.

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)

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

Measurement Distance: 3m

Limit:

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

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

7.6.1 E.U.T. Operation

Operating Environment:

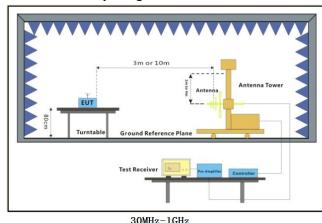
Temperature: 20.2 °C Humidity: 56.4 % RH Atmospheric Pressure: 1015 mbar

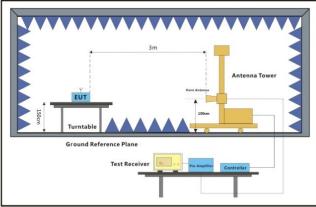
Test mode a:TX mode Keep the EUT in continuously transmitting mode with all modulation

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.

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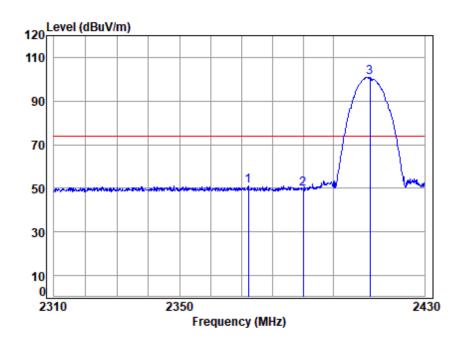
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Mode:a; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2412 Band edge 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	2372.242	5.45	28.49	40.96	58.18	51.16	74.00	-22.84	peak
2	2390.000	5.47	28.52	40.97	56.56	49.58	74.00	-24.42	peak
3 *	* 2412.000	5.50	28.56	40.98	107.93	101.01	74.00	27.01	peak



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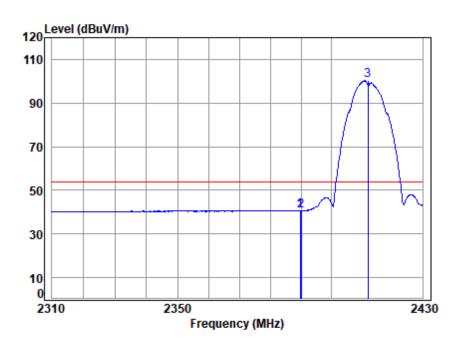
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Mode:a; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	2389.726	5.47	28.52	40.97	47.69	40.71	54.00	-13.29	Average	
2	2390.000	5.47	28.52	40.97	47.56	40.58	54.00	-13.42	Average	
3 *	2412.000	5.50	28.56	40.98	107.08	100.16	54.00	46.16	Average	



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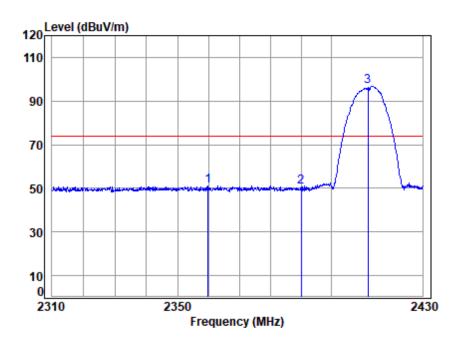
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Mode:a; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2412 Band edge · 2 4G WTFT 11B Note

е	: Z.4	4G WIF.	T TID							
		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		
	2359.900	5.43	28.47	40.96	58.34	51.28	74.00	-22.72	Peak	
	2390.000	5.47	28.52	40.97	57.46	50.48	74.00	-23.52	Peak	
*	2412.000	5.50	28.56	40.98	103.62	96.70	74.00	22.70	Peak	



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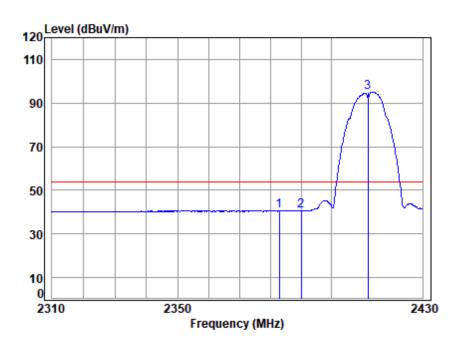
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Mode:a; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2412 Band edge . 2 AC WITET 11R Note

2	: 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	
	2382.838	5.47	28.51	40.97	47.57	40.58	54.00	-13.42	Average
	2390.000	5.47	28.52	40.97	47.44	40.46	54.00	-13.54	Average
*	2412.000	5.50	28.56	40.98	101.90	94.98	54.00	40.98	Average



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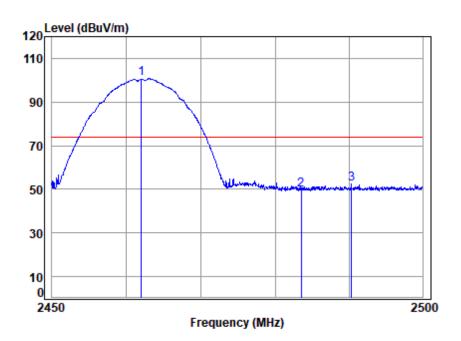
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Mode:a; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2462 Band edge Note : 2.4G WIFI 11B

	Freq					Level			Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	5.57	28.64	41.00	107.51	100.72	74.00	26.72	peak
2	2483.500	5.60	28.67	41.01	56.26	49.52	74.00	-24.48	peak
3	2490.322	5.61	28.68	41.01	59.08	52.36	74.00	-21.64	peak



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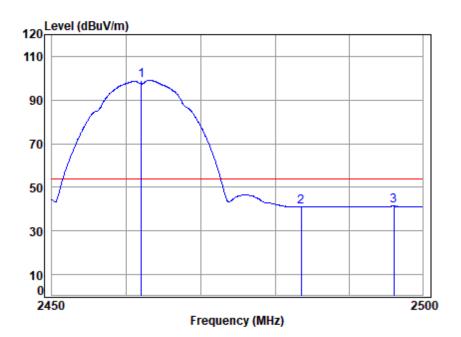
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Mode:a; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2462 Band edge Note : 2.4G WIFI 11B

	Freq					Level			Remark
	MHz	dB	dB/m	——dB	dBuV	dBuV/m	dBuV/m	——dB	
1 *	2462.000	5.57	28.64	41.00	105.84	99.05	54.00	45.05	Average
2	2483.500	5.60	28.67	41.01	47.76	41.02	54.00	-12.98	Average
3	2496.063	5.61	28.69	41.02	48.13	41.41	54.00	-12.59	Average



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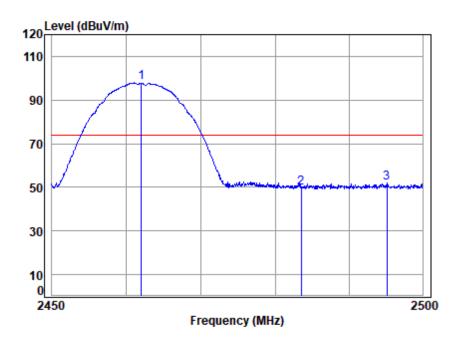
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Report No.: SZEM191001957801

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



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 Band edge : 2.4G WTFT 11B Note

oce	. 2	+O MIL	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	5.57	28.64	41.00	104.67	97.88	74.00	23.88	Peak	
2	2483.500	5.60	28.67	41.01	56.47	49.73	74.00	-24.27	Peak	
3	2495.156	5.61	28.69	41.02	58.58	51.86	74.00	-22.14	Peak	



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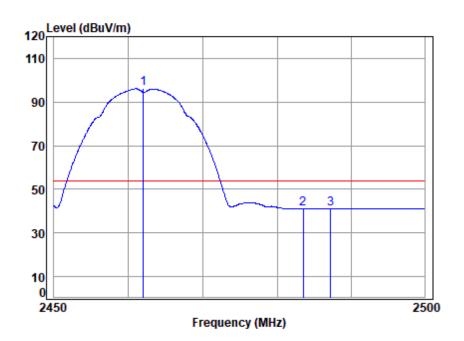
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Report No.: SZEM191001957801

Page: 30 of 172

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



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 Band edge · 2 4G WTFT 11B Note

ote	. Z.	#G MTL	T TID							
		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	5.57	28.64	41.00	102.89	96.10	54.00	42.10	Average	
2	2483.500	5.60	28.67	41.01	47.73	40.99	54.00	-13.01	Average	
3	2487.204	5.60	28.68	41.01	47.88	41.15	54.00	-12.85	Average	



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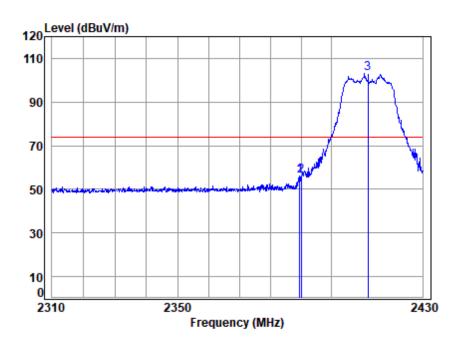
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Report No.: SZEM191001957801

Page: 31 of 172

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2412 Band edge Note : 2.4G WIFI 11G

	Freq		Ant Factor						Remark
	MHz	dB	dB/m	——dB	dBuV	dBuV/m	dBuV/m	——dB	
	2389.484								•
2	2390.000	5.47	28.52	40.97	62.97	55.99	74.00	-18.01	peak
3 *	2412.000	5.50	28.56	40.98	110.22	103.30	74.00	29.30	peak



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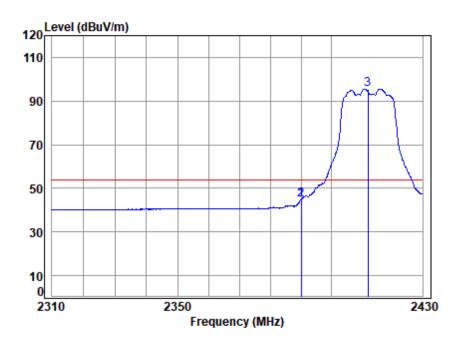
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2412 Band edge 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	
	2389.968	5.47	28.52	40.97	51.90	44.92	54.00	-9.08	Average
	2390.000	5.47	28.52	40.97	51.90	44.92	54.00	-9.08	Average
*	2412.000	5.50	28.56	40.98	102.47	95.55	54.00	41.55	Average



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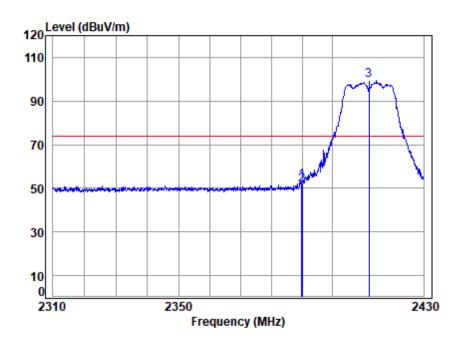
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

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	2389.847	5.47	28.52	40.97	60.29	53.31	74.00	-20.69	Peak	
2	2390.000	5.47	28.52	40.97	58.45	51.47	74.00	-22.53	Peak	
3 *	2412.000	5.50	28.56	40.98	106.49	99.57	74.00	25.57	Peak	



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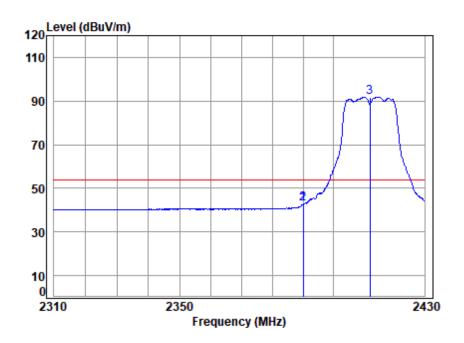
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2412 Band edge 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	2389.968	5.47	28.52	40.97	49.73	42.75	54.00	-11.25	Average	
2	2390.000	5.47	28.52	40.97	49.73	42.75	54.00	-11.25	Average	
3 *	2412.000	5.50	28.56	40.98	98.86	91.94	54.00	37.94	Average	



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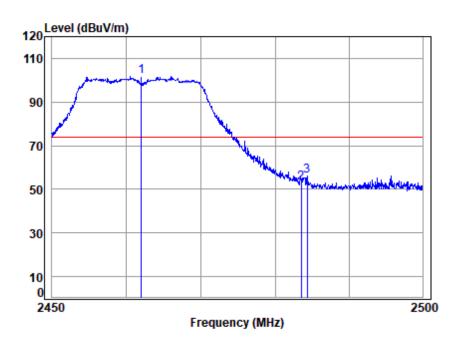
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Mode:a; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2462 Band edge Note

lote	: 2.	4G WIF	1 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 *	2462.000	5.57	28.64	41.00	108.44	101.65	74.00	27.65	peak	
2	2483.500	5.60	28.67	41.01	59.68	52.94	74.00	-21.06	peak	
3	2484.342	5.60	28.67	41.01	62.74	56.00	74.00	-18.00	neak	



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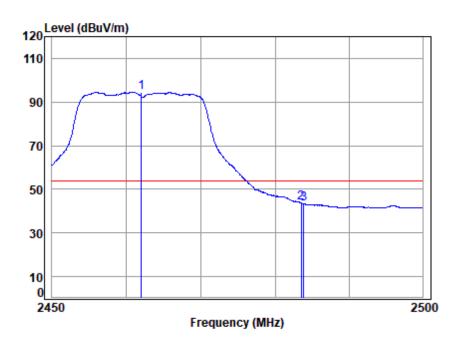
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Mode:a; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	5.57	28.64	41.00	101.45	94.66	54.00	40.66	Average	
2	2483.500	5.60	28.67	41.01	50.46	43.72	54.00	-10.28	Average	
3	2483.840	5.60	28.67	41.01	50.09	43.35	54.00	-10.65	Average	



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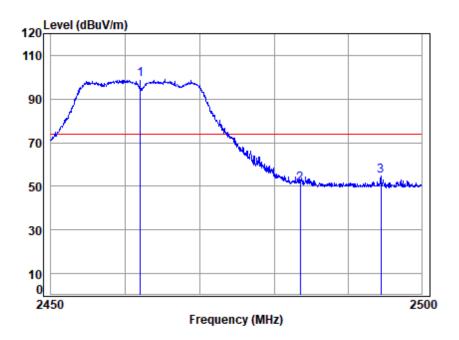
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Mode:a; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 Band edge · 2 4G WTFT 11G Note

ote	. 2.	4G MIL	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	5.57	28.64	41.00	105.66	98.87	74.00	24.87	Peak	
2	2483.500	5.60	28.67	41.01	57.74	51.00	74.00	-23.00	Peak	
3	2494.450	5.61	28.69	41.02	61.30	54.58	74.00	-19.42	Peak	



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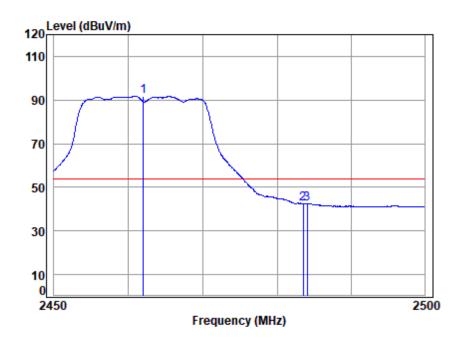
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Mode:a; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 Band edge · 2 4G WTFT 11G Note

ote	. Z.	+G MIL	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	5.57	28.64	41.00	98.48	91.69	54.00	37.69	Average
2	2483.500	5.60	28.67	41.01	49.24	42.50	54.00	-11.50	Average
3	2484.091	5.60	28.67	41.01	49.20	42.46	54.00	-11.54	Average



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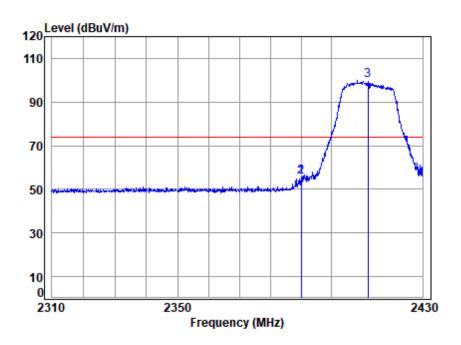
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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2412 Band edge : 2.4G WIFI 11N 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	2389.968	5.47	28.52	40.97	62.87	55.89	74.00	-18.11	peak
2	2390.000	5.47	28.52	40.97	62.87	55.89	74.00	-18.11	peak
3 *	2412.000	5.50	28.56	40.98	106.65	99.73	74.00	25.73	peak



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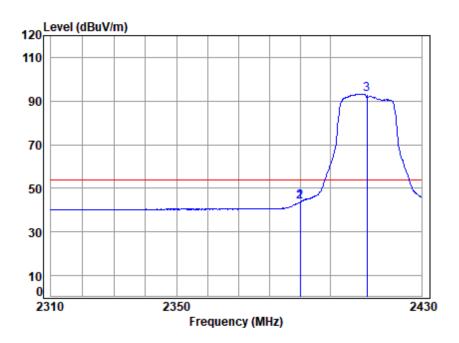
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2412 Band edge Note : 2.4G WIFI 11N

		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	2389.968	5.47	28.52	40.97	50.61	43.63	54.00	-10.37	Average	
2	2390.000	5.47	28.52	40.97	50.61	43.63	54.00	-10.37	Average	
3 *	* 2412.000	5.50	28.56	40.98	100.21	93.29	54.00	39.29	Average	



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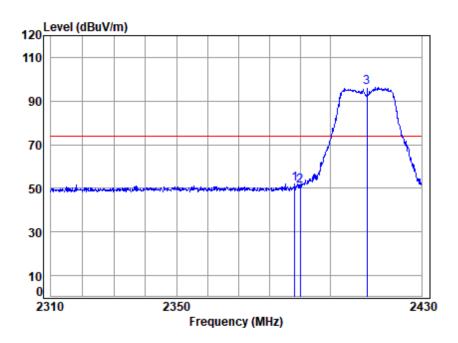
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2412 Band edge Note : 2.4G WIFI 11N

		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	2388.274	5.47	28.52	40.97	59.02	52.04	74.00	-21.96	Peak
2	2390.000	5.47	28.52	40.97	58.00	51.02	74.00	-22.98	Peak
3 3	* 2412.000	5.50	28.56	40.98	103.11	96.19	74.00	22.19	Peak



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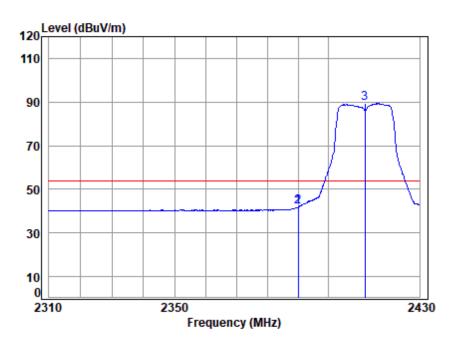
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2412 Band edge : 2.4G WIFI 11N 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	2389.968	5.47	28.52	40.97	48.85	41.87	54.00	-12.13	Average	
2	2390.000	5.47	28.52	40.97	48.85	41.87	54.00	-12.13	Average	
3 *	2412.000	5.50	28.56	40.98	96.16	89.24	54.00	35.24	Average	



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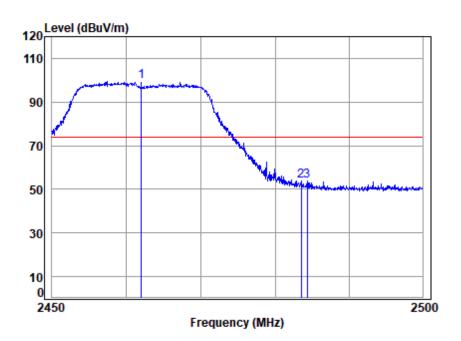
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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2462 Band edge Note : 2.4G WIFI 11N

		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	5.57	28.64	41.00	106.11	99.32	74.00	25.32	peak
2	2483.500	5.60	28.67	41.01	60.56	53.82	74.00	-20.18	peak
3	2484.342	5.60	28.67	41.01	60.65	53.91	74.00	-20.09	peak



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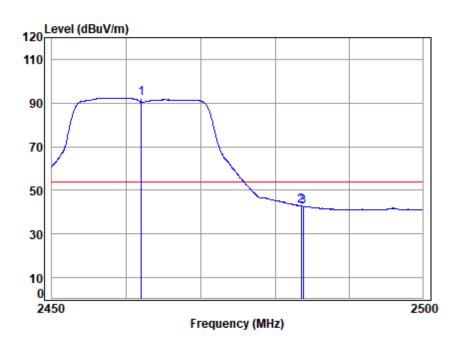
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2462 Band edge : 2.4G WIFI 11N 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	5.57	28.64	41.00	99.10	92.31	54.00	38.31	Average	
2	2483.500	5.60	28.67	41.01	49.52	42.78	54.00	-11.22	Average	
3	2483.790	5.60	28.67	41.01	49.39	42.65	54.00	-11.35	Average	



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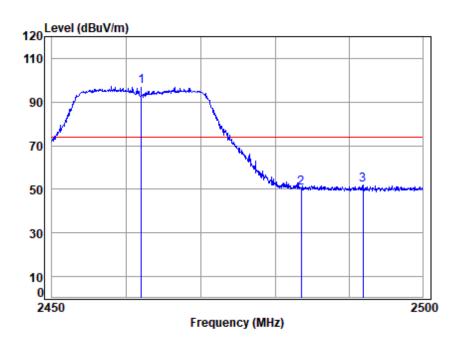
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Report No.: SZEM191001957801

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



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 Band edge Note : 2.4G WIFI 11N

	Freq		Ant Factor						Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	5.57	28.64	41.00	103.96	97.17	74.00	23.17	Peak
2	2483.500	5.60	28.67	41.01	57.47	50.73	74.00	-23.27	Peak
3	2491.882	5.61	28.69	41.01	58.91	52.20	74.00	-21.80	Peak



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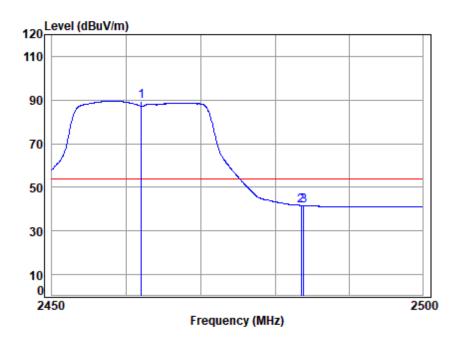
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 Band edge · 2 4G WTFT 11N Note

loce	: 2.4	4G WIF	T TIM							
		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	5.57	28.64	41.00	96.30	89.51	54.00	35.51	Average	
2	2483.500	5.60	28.67	41.01	48.46	41.72	54.00	-12.28	Average	
3	2483.840	5.60	28.67	41.01	48.44	41.70	54.00	-12.30	Average	



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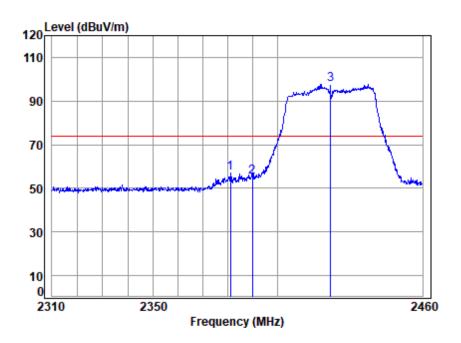
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Report No.: SZEM191001957801

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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2422 Band edge : 2.4G WIFI 11N 40 Note

Freq						Limit Line		
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2381.122 2390.000								•
* 2422.000	5.52	28.57	40.99	104.33	97.43	74.00	23.43	peak



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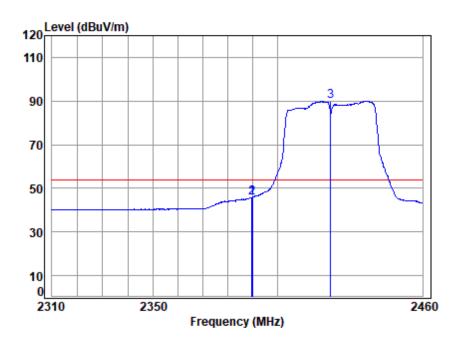
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Report No.: SZEM191001957801

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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2422 Band edge : 2.4G WIFI 11N 40 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	2389.827	5.47	28.52	40.97	52.83	45.85	54.00	-8.15	Average	
2	2390.000	5.47	28.52	40.97	52.83	45.85	54.00	-8.15	Average	
3 *	2422.000	5.52	28.57	40.99	96.74	89.84	54.00	35.84	Average	



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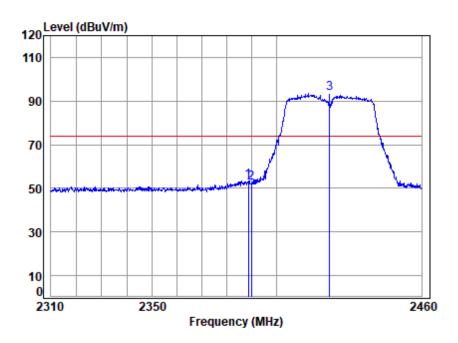
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2422 Band edge : 2.4G WIFI 11N 40 Note

Freq				Read Level				Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2388.775 2390.000 * 2422.000	5.47	28.52	40.97	59.47	52.49	74.00	-21.51	Peak



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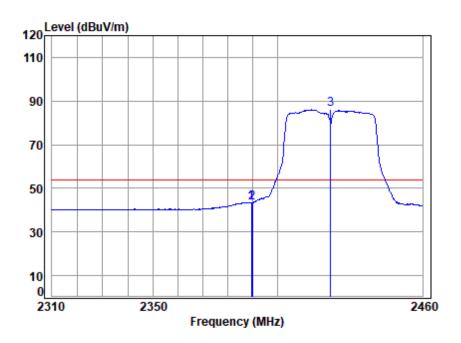
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2422 Band edge : 2.4G WIFI 11N 40 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	2389.526	5.47	28.52	40.97	50.53	43.55	54.00	-10.45	Average	
2	2390.000	5.47	28.52	40.97	50.44	43.46	54.00	-10.54	Average	
3 *	2422.000	5.52	28.57	40.99	92.97	86.07	54.00	32.07	Average	



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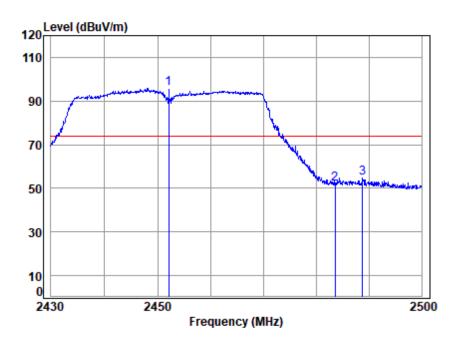
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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2452 Band edge : 2.4G WIFI 11N 40 Note

	Freq					Level			Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2452.000	5.56	28.62	41.00	102.53	95.71	74.00	21.71	peak
2	2483.500	5.60	28.67	41.01	58.75	52.01	74.00	-21.99	peak
3	2488.666	5.61	28.68	41.01	61.43	54.71	74.00	-19.29	peak



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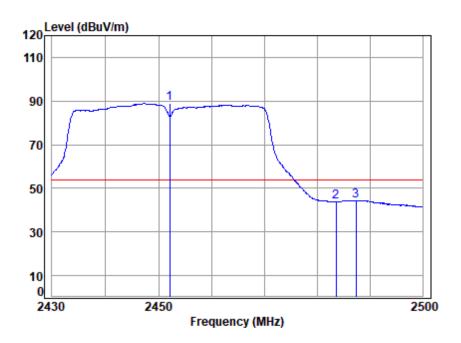
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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2452 Band edge : 2.4G WIFI 11N 40 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 *	× 2452.000	5.56	28.62	41.00	95.67	88.85	54.00	34.85	Average	
2	2483.500	5.60	28.67	41.01	50.39	43.65	54.00	-10.35	Average	
3	2487.323	5.60	28.68	41.01	51.21	44.48	54.00	-9.52	Average	



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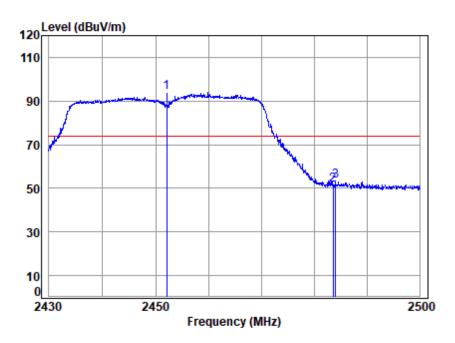
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2452 Band edge : 2.4G WIFI 11N 40 Note

	Freq					Level			Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 ,	* 2452.000	5.56	28.62	41.00	100.60	93.78	74.00	19.78	Peak
2	2483.500	5.60	28.67	41.01	58.50	51.76	74.00	-22.24	Peak
3	2483.935	5.60	28.67	41.01	59.91	53.17	74.00	-20.83	Peak



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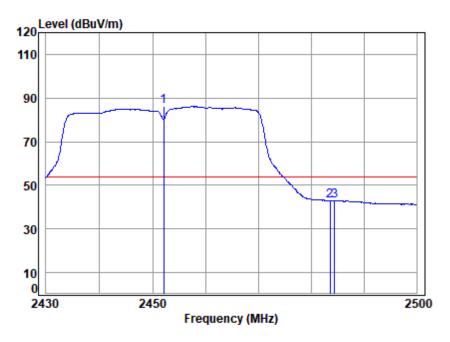
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Mode:a; Polarization: Vertical; Modulation: 802.11n; bandwidth: 40MHz; Channel: High



Site : chamber Condition: 3m VERTICAL : 19578CR Job No

Mode : 2452 Band edge : 2.4G WIFI 11N 40 Note

Freq			Preamp Factor					
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
* 2452.000 2483.500 2484.358	5.60	28.67	41.01	49.76	43.02	54.00	-10.98	Average



1 2 3

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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

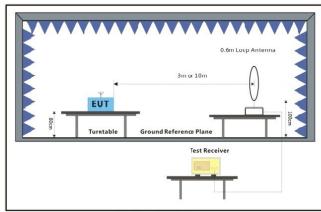
Operating Environment:

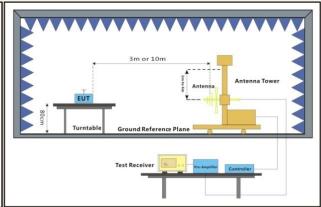
25 Humidity: 51 Temperature: % RH Atmospheric Pressure: 1015 mbar

Test mode a: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.

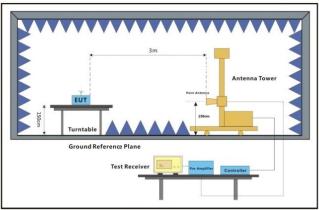
7.7.2 Test Setup Diagram





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.
- a. 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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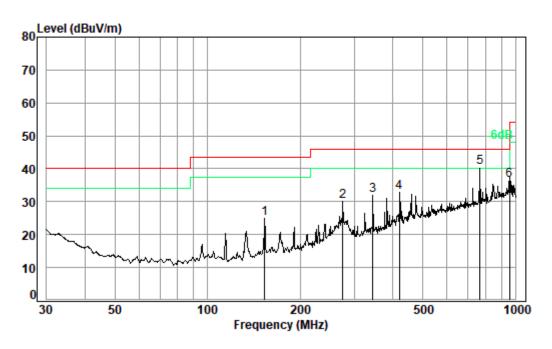


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Radiated emission below 1GHz

Mode:a; Polarization:Horizontal



Condition: 3m HORIZONTAL

Job No. : 19578CR

Test mode: a

		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	153.20	1.32	14.91	27.35	36.13	25.01	43.50	-18.49	QP
2	275.16	1.79	18.87	26.95	36.49	30.20	46.00	-15.80	QP
3	344.39	2.04	20.94	27.14	36.11	31.95	46.00	-14.05	QP
4	420.58	2.29	22.89	27.51	35.32	32.99	46.00	-13.01	QP
5 pp	766.06	3.11	28.31	27.79	36.80	40.43	46.00	-5.57	QP
6	955.44	3.66	30.08	27.08	29.75	36.41	46.00	-9.59	OP



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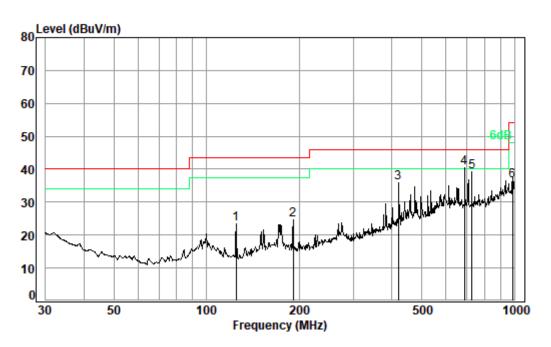
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Mode:a; Polarization:Vertical



Condition: 3m VERTICAL

Job No. : 19578CR

Test mode: a

C3 C	mode. a								
		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	125.01	1 26	13 26	27 /19	36 51	23 54	13 50	10 06	ΩP
									_
2	191.07	1.39	16.24	27.20	34.07	24.50	43.50	-19.00	QP
3	420.58	2.29	22.89	27.51	38.20	35.87	46.00	-10.13	QP
4 p	p 689.56	2.88	27.77	27.95	37.73	40.43	46.00	-5.57	QP
5	726.81	2.99	28.07	27.87	35.90	39.09	46.00	-6.91	QP
6	986.07	3.69	30.23	26.96	29.66	36.62	54.00	-17.38	QP



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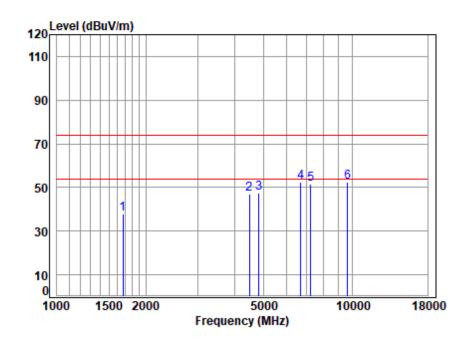


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Transmitter emission above 1GHz

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR 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	1672.779	5.26	26.56	40.62	46.69	37.89	74.00	-36.11	peak
2	4482.150	7.54	33.60	42.54	48.55	47.15	74.00	-26.85	peak
3	4824.000	7.91	34.19	42.78	48.06	47.38	74.00	-26.62	peak
4	6698.373	10.97	35.67	41.84	47.68	52.48	74.00	-21.52	peak
5	7236.000	10.07	36.40	41.56	46.86	51.77	74.00	-22.23	peak
6	9648.000	10.77	37.53	38.51	42.73	52.52	74.00	-21.48	peak



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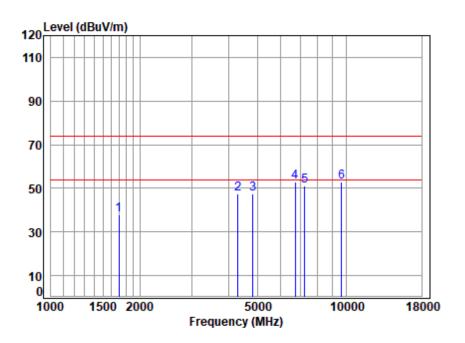
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Report No.: SZEM191001957801

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



: chamber Site

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2412 TX RSE

: 2.4G WIFI 11B Note

0.00		10 111	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	1697.129	5.23	26.66	40.63	46.72	37.98	74.00	-36.02	peak
2	4304.400	7.34	33.60	42.40	48.72	47.26	74.00	-26.74	peak
3	4824.000	7.91	34.19	42.78	48.29	47.61	74.00	-26.39	peak
4	6717.762	10.91	35.72	41.83	48.24	53.04	74.00	-20.96	peak
5	7236.000	10.07	36.40	41.56	46.23	51.14	74.00	-22.86	peak
6	9648.000	10.77	37.53	38.51	43.22	53.01	74.00	-20.99	peak



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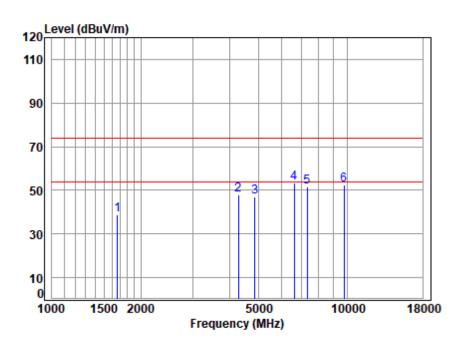
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	1667.951	5.27	26.54	40.61	47.43	38.63	74.00	-35.37	peak
2	4291.977	7.33	33.60	42.39	49.38	47.92	74.00	-26.08	peak
3	4874.000	7.96	34.28	42.82	47.68	47.10	74.00	-26.90	peak
4	6621.375	11.19	35.45	41.88	48.51	53.27	74.00	-20.73	peak
5	7311.000	10.05	36.37	41.53	46.71	51.60	74.00	-22.40	peak
	9748.000								•



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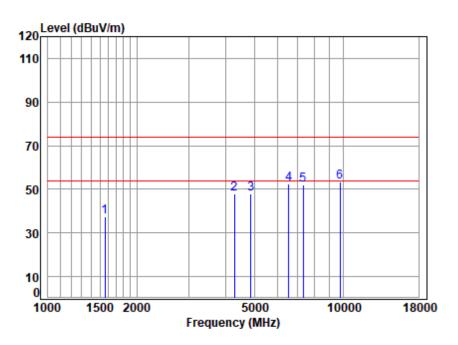
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Mode:a; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:middle



: chamber Site

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2437 TX RSE

Note : 2.4G WIFI 11B

,		10 111	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	
	4560 673	F 40	26.00	40 55	46 74	37.64	74.00	26.26	
1	1560.673	5.40	26.08	40.55	46./1	37.64	74.00	-36.36	реак
2	4291.977	7.33	33.60	42.39	49.18	47.72	74.00	-26.28	peak
3	4874.000	7.96	34.28	42.82	48.57	47.99	74.00	-26.01	peak
4	6545.263	11.41	35.23	41.93	47.70	52.41	74.00	-21.59	peak
5	7311.000	10.05	36.37	41.53	46.98	51.87	74.00	-22.13	peak
6	9748.000	10.82	37.55	38.37	43.20	53.20	74.00	-20.80	peak



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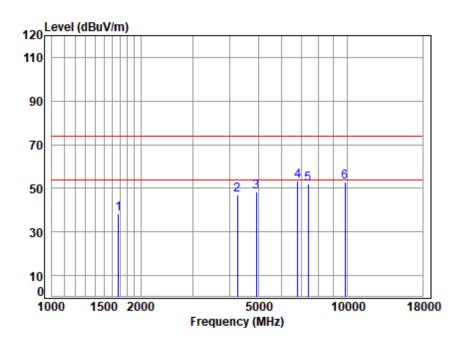
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Report No.: SZEM191001957801

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



: chamber Site

Condition: 3m HORIZONTAL

Job No : 19578CR

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	1677.621	5.25	26.58	40.62	46.92	38.13	74.00	-35.87	peak
2	4254.921	7.28	33.60	42.36	48.56	47.08	74.00	-26.92	peak
3	4924.000	8.01	34.37	42.85	48.86	48.39	74.00	-25.61	peak
4	6795.879	10.69	35.94	41.79	48.65	53.49	74.00	-20.51	peak
5	7386.000	10.03	36.34	41.49	47.01	51.89	74.00	-22.11	peak
6	9848.000	10.87	37.57	38.22	42.60	52.82	74.00	-21.18	peak



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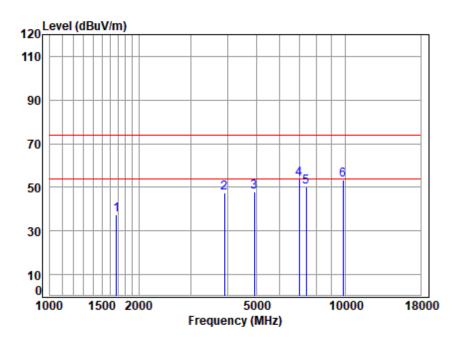
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

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	1677.621	5.25	26.58	40.62	46.41	37.62	74.00	-36.38	peak
2	3901.516	6.88	33.34	42.07	49.22	47.37	74.00	-26.63	peak
3	4924.000	8.01	34.37	42.85	48.44	47.97	74.00	-26.03	peak
4	6995.172	10.14	36.49	41.69	48.80	53.74	74.00	-20.26	peak
5	7386.000	10.03	36.34	41.49	45.51	50.39	74.00	-23.61	peak
	9848.000								•



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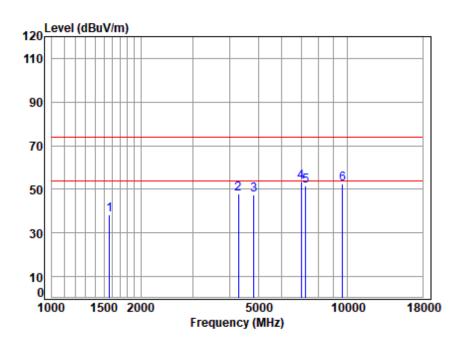
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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

		10 111	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	1565.191	5.39	26.10	40.55	47.45	38.39	74.00	-35.61	peak
2	4291.977	7.33	33.60	42.39	49.57	48.11	74.00	-25.89	peak
3	4824.000	7.91	34.19	42.78	48.20	47.52	74.00	-26.48	peak
4	6974.982	10.20	36.43	41.70	48.49	53.42	74.00	-20.58	peak
5	7236.000	10.07	36.40	41.56	46.59	51.50	74.00	-22.50	peak
6	9648.000	10.77	37.53	38.51	42.86	52.65	74.00	-21.35	peak



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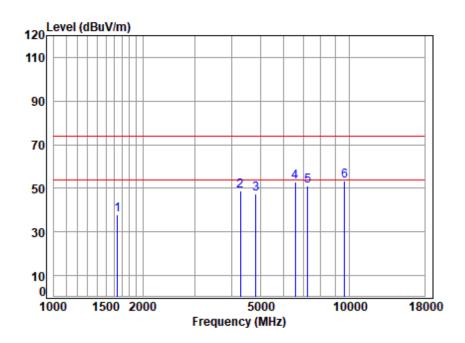
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Mode:a; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

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

Cable Ant Preamp Read Limit Over. Loss Factor Factor Level Line Limit Remark Freq Level MHz dB dΒ dBuV dBuV/m dBuV/m dB/m dB 1644.019 5.30 26.44 40.60 46.85 37.99 74.00 -36.01 peak 4291.977 7.33 33.60 42.39 50.17 48.71 74.00 -25.29 peak 4824.000 7.91 34.19 42.78 48.09 47.41 74.00 -26.59 peak 11.35 35.29 41.92 48.27 52.99 74.00 -21.01 peak 6564.209 7236.000 10.07 36.40 41.56 46.34 51.25 74.00 -22.75 peak 9648.000 10.77 37.53 38.51 43.53 53.32 74.00 -20.68 peak



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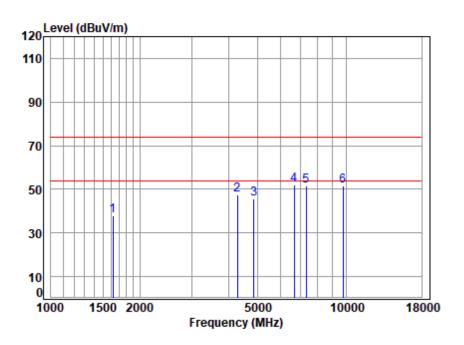
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Mode:a; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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

000	. 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	1625.121	5.32	26.36	40.59	46.73	37.82	74.00	-36.18	peak
2	4291.977	7.33	33.60	42.39	49.08	47.62	74.00	-26.38	peak
3	4874.000	7.96	34.28	42.82	46.19	45.61	74.00	-28.39	peak
4	6679.040	11.02	35.61	41.85	47.34	52.12	74.00	-21.88	peak
5	7311.000	10.05	36.37	41.53	46.45	51.34	74.00	-22.66	peak
6	9748.000	10.82	37.55	38.37	41.53	51.53	74.00	-22.47	peak



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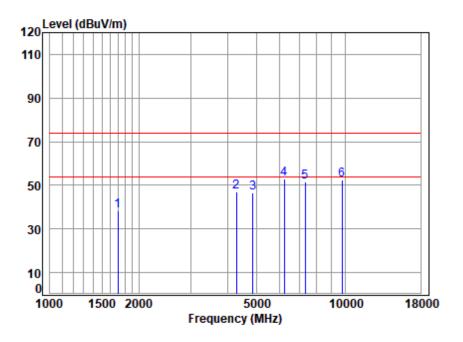
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Mode:a; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:middle



: chamber Site

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2437 TX RSE

Note : 2.4G WIFI 11G

0.0		10 111	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	1702.042	5.23	26.68	40.63	47.27	38.55	74.00	-35.45	peak
2	4291.977	7.33	33.60	42.39	48.44	46.98	74.00	-27.02	peak
3	4874.000	7.96	34.28	42.82	46.92	46.34	74.00	-27.66	peak
4	6231.427	11.03	34.89	42.10	49.32	53.14	74.00	-20.86	peak
5	7311.000	10.05	36.37	41.53	46.46	51.35	74.00	-22.65	peak
6	9748.000	10.82	37.55	38.37	42.32	52.32	74.00	-21.68	peak



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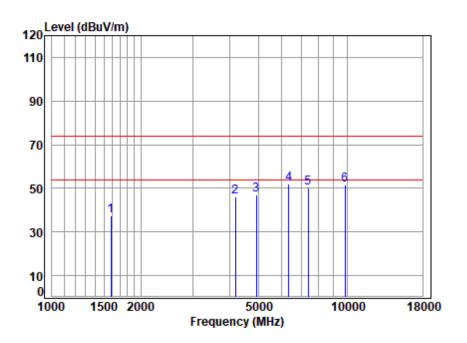
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Report No.: SZEM191001957801

Page: 70 of 172

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	1583.392	5.37	26.18	40.56	46.30	37.29	74.00	-36.71	peak
2	4181.768	7.20	33.60	42.31	47.67	46.16	74.00	-27.84	peak
3	4924.000	8.01	34.37	42.85	47.42	46.95	74.00	-27.05	peak
4	6340.436	11.24	34.98	42.04	47.77	51.95	74.00	-22.05	peak
5	7386.000	10.03	36.34	41.49	45.32	50.20	74.00	-23.80	peak
6	9848.000	10.87	37.57	38.22	41.41	51.63	74.00	-22.37	peak



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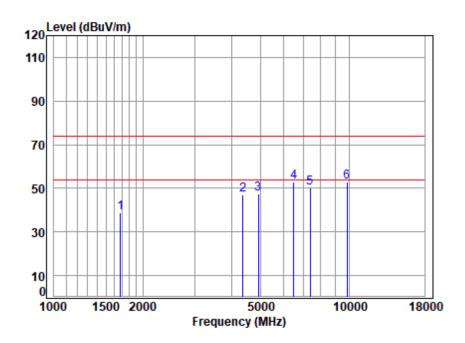
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Mode:a; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



: chamber Site

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 TX RSE

: 2.4G WIFI 11G Note

,,,,	. 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	1677.621	E 25	26 59	10 62	17 63	20 01	74 00	25 16	nook
									•
2	4367.058	7.41	33.60	42.45	48.42	46.98	74.00	-27.02	peak
3	4924.000	8.01	34.37	42.85	47.74	47.27	74.00	-26.73	peak
4	6488.754	11.52	35.09	41.96	48.25	52.90	74.00	-21.10	peak
5	7386.000	10.03	36.34	41.49	45.42	50.30	74.00	-23.70	peak
6	9848.000	10.87	37.57	38.22	42.48	52.70	74.00	-21.30	peak



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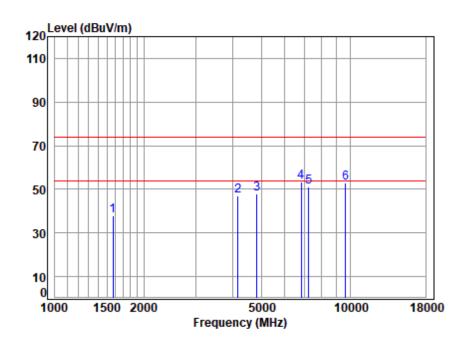
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	1574.265	5.38	26.14	40.55	47.12	38.09	74.00	-35.91	peak		
2	4169.698	7.18	33.60	42.30	48.34	46.82	74.00	-27.18	peak		
3	4824.000	7.91	34.19	42.78	48.40	47.72	74.00	-26.28	peak		
4	6815.551	10.64	36.00	41.78	48.36	53.22	74.00	-20.78	peak		
5	7236.000	10.07	36.40	41.56	46.21	51.12	74.00	-22.88	peak		
6	9648.000	10.77	37.53	38.51	43.21	53.00	74.00	-21.00	peak		



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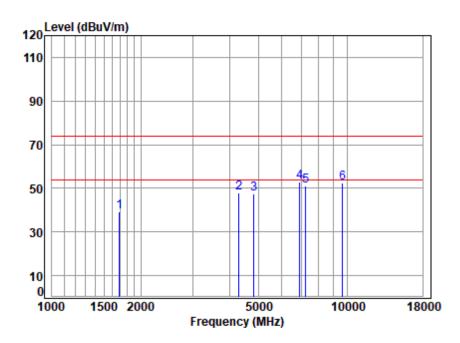
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

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	
	1692.231	5.24	26.64	40.63	48.11	39.36	74.00	-34.64	peak
	4304.400	7.34	33.60	42.40	49.22	47.76	74.00	-26.24	peak
	4824.000	7.91	34.19	42.78	48.20	47.52	74.00	-26.48	peak
	6894.806	10.42	36.21	41.74	48.10	52.99	74.00	-21.01	peak
	7236.000	10.07	36.40	41.56	46.23	51.14	74.00	-22.86	peak
	9648.000	10.77	37.53	38.51	42.55	52.34	74.00	-21.66	peak



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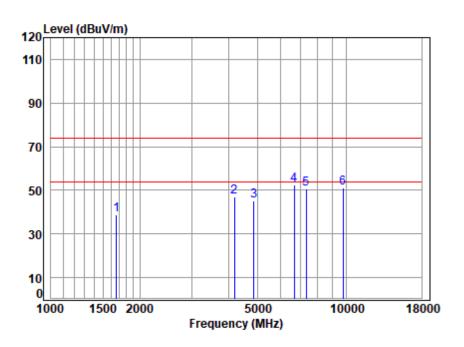
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	1667.951	5.27	26.54	40.61	47.37	38.57	74.00	-35.43	peak
2	4181.768	7.20	33.60	42.31	48.33	46.82	74.00	-27.18	peak
3	4874.000	7.96	34.28	42.82	45.55	44.97	74.00	-29.03	peak
4	6679.040	11.02	35.61	41.85	47.61	52.39	74.00	-21.61	peak
5	7311.000	10.05	36.37	41.53	45.76	50.65	74.00	-23.35	peak
6	9748.000	10.82	37.55	38.37	41.11	51.11	74.00	-22.89	peak



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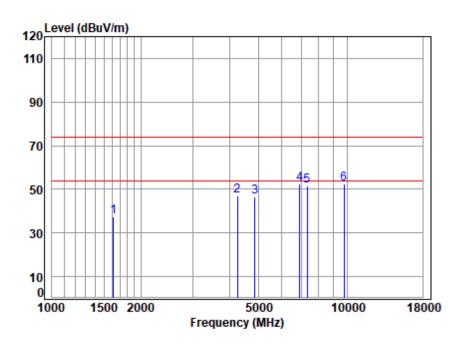
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Report No.: SZEM191001957801

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



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

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	
	1615.754	5.33	26.32	40.58	46.30	37.37	74.00	-36.63	peak
	4242.641	7.27	33.60	42.35	48.30	46.82	74.00	-27.18	peak
	4874.000	7.96	34.28	42.82	47.30	46.72	74.00	-27.28	peak
	6894.806	10.42	36.21	41.74	47.56	52.45	74.00	-21.55	peak
	7311.000	10.05	36.37	41.53	46.53	51.42	74.00	-22.58	peak
	9748.000	10.82	37.55	38.37	42.61	52.61	74.00	-21.39	peak



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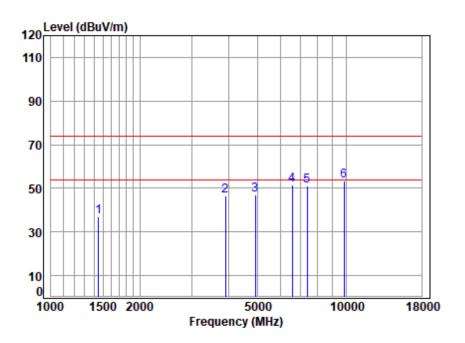
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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2462 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	1447.688	5.31	25.59	40.47	46.72	37.15	74.00	-36.85	peak
2	3901.516	6.88	33.34	42.07	48.43	46.58	74.00	-27.42	peak
3	4924.000	8.01	34.37	42.85	47.52	47.05	74.00	-26.95	peak
4	6564.209	11.35	35.29	41.92	47.06	51.78	74.00	-22.22	peak
5	7386.000	10.03	36.34	41.49	46.37	51.25	74.00	-22.75	peak
6	9848.000	10.87	37.57	38.22	43.10	53.32	74.00	-20.68	peak



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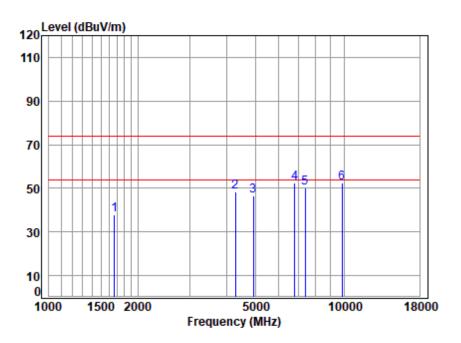
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2462 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	
	1667.951	5.27	26.54	40.61	46.87	38.07	74.00	-35.93	peak
	4291.977	7.33	33.60	42.39	50.02	48.56	74.00	-25.44	peak
	4924.000	8.01	34.37	42.85	47.20	46.73	74.00	-27.27	peak
	6795.879	10.69	35.94	41.79	47.73	52.57	74.00	-21.43	peak
	7386.000	10.03	36.34	41.49	45.24	50.12	74.00	-23.88	peak
	9848.000								•



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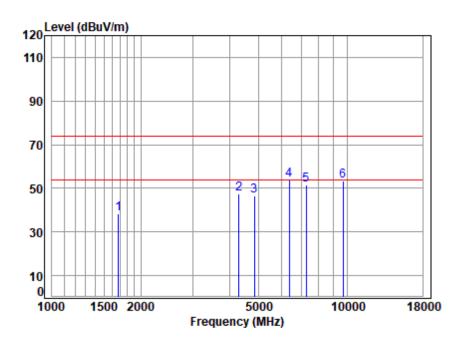
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Report No.: SZEM191001957801

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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	
	1677.621	5.25	26.58	40.62	47.01	38.22	74.00	-35.78	peak
	4304.400	7.34	33.60	42.40	48.74	47.28	74.00	-26.72	peak
	4844.000	7.93	34.23	42.79	47.04	46.41	74.00	-27.59	peak
	6377.195	11.31	35.00	42.02	49.38	53.67	74.00	-20.33	peak
	7266.000	10.06	36.39	41.55	46.54	51.44	74.00	-22.56	peak
	9688.000	10.79	37.54	38.45	43.46	53.34	74.00	-20.66	peak



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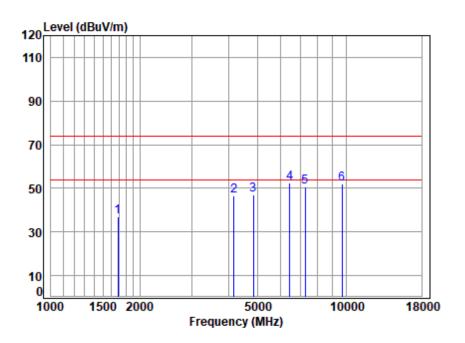
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



: chamber Site

Condition: 3m VERTICAL

Job No : 19578CR

Mode : 2422 TX RSE

: 2.4G WIFI 11N40 Note

OCC	. 2	TO WILL	T TT//-/	,					
		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	5.24	26.62	40.62	45.63	36.87	74.00	-37.13	peak
2	4169.698	7.18	33.60	42.30	48.09	46.57	74.00	-27.43	peak
3	4844.000	7.93	34.23	42.79	47.76	47.13	74.00	-26.87	peak
4	6451.353	11.45	35.06	41.98	48.02	52.55	74.00	-21.45	peak
5	7266.000	10.06	36.39	41.55	45.94	50.84	74.00	-23.16	peak
6	9688.000	10.79	37.54	38.45	42.15	52.03	74.00	-21.97	peak



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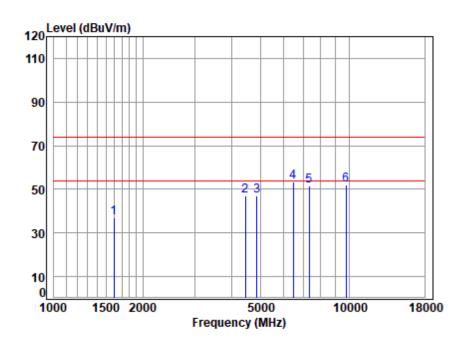
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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

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	1597.181	5.35	26.24	40.57	46.15	37.17	74.00	-36.83	peak
2	4456.315	7.51	33.60	42.52	48.22	46.81	74.00	-27.19	peak
3	4874.000	7.96	34.28	42.82	47.55	46.97	74.00	-27.03	peak
4	6470.026	11.48	35.08	41.97	48.59	53.18	74.00	-20.82	peak
	7311.000								•
	9748.000								•



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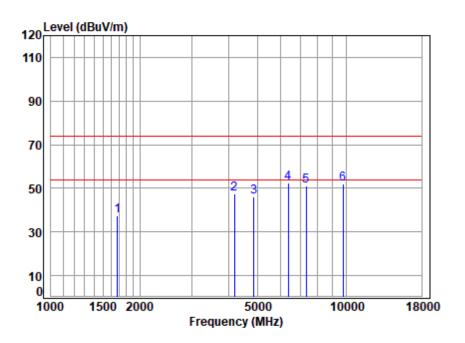
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Mode:a; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:middle



Site : chamber

Condition: 3m VERTICAL

Job No : 19578CR

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	
	1682.477	5.25	26.60	40.62	46.36	37.59	74.00	-36.41	peak
	4181.768	7.20	33.60	42.31	48.92	47.41	74.00	-26.59	peak
	4874.000	7.96	34.28	42.82	46.58	46.00	74.00	-28.00	peak
	6358.789	11.27	34.99	42.03	48.33	52.56	74.00	-21.44	peak
	7311.000	10.05	36.37	41.53	46.19	51.08	74.00	-22.92	peak
	9748.000	10.82	37.55	38.37	42.17	52.17	74.00	-21.83	peak



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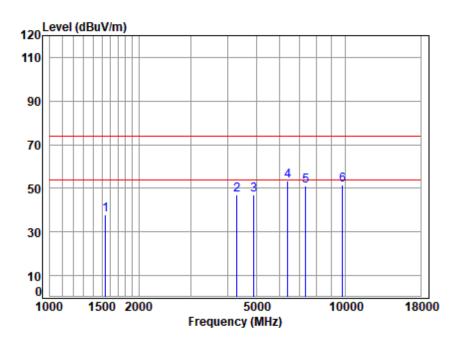
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Mode:a; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 19578CR

Mode : 2452 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	
1542.733	5.42	26.00	40.53	46.87	37.76	74.00	-36.24	peak
4304.400	7.34	33.60	42.40	48.49	47.03	74.00	-26.97	peak
4904.000	7.99	34.33	42.84	47.50	46.98	74.00	-27.02	peak
6395.654	11.34	35.02	42.01	48.84	53.19	74.00	-20.81	peak
7356.000	10.04	36.36	41.50	46.14	51.04	74.00	-22.96	peak
9808,000	10.85	37.56	38.28	41.64	51.77	74.00	-22.23	peak



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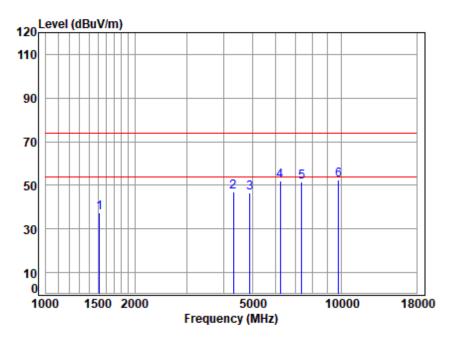
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Mode:a; Polarization: Vertical; Modulation: 802.11n; bandwidth: 40MHz; Channel: High



Site : chamber Condition: 3m VERTICAL : 19578CR Job No

Mode : 2452 TX RSE

: 2.4G WIFI 11N40 Note

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1516.210	5.46	25.87	40.52	46.41	37.22	74.00	-36.78	peak
2	4316.859	7.36	33.60	42.41	48.39	46.94	74.00	-27.06	peak
3	4904.000	7.99	34.33	42.84	46.96	46.44	74.00	-27.56	peak
4	6231.427	11.03	34.89	42.10	48.13	51.95	74.00	-22.05	peak
5	7356.000	10.04	36.36	41.50	46.63	51.53	74.00	-22.47	peak
	9808,000	10.85	37.56	38.28	42.23	52.36	74.00	-21.64	neak



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8 **Photographs**

8.1 **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 9

9.1 Appendix 15.247

1.6dB Bandwidth

T 101	A !	EDW/M III	Lima (AFN ALL I	\/ " .
			Limit[MHZ]	Verdict
2412	Ant1	8.130	>=0.5	PASS
2412	Ant2	7.650	>=0.5	PASS
2437	Ant1	8.160	>=0.5	PASS
2437	Ant2	8.160	>=0.5	PASS
2462	Ant1	8.130	>=0.5	PASS
2462	Ant2	8.130	>=0.5	PASS
2412	Ant1	16.440	>=0.5	PASS
2412	Ant2	16.440	>=0.5	PASS
2437	Ant1	16.440	>=0.5	PASS
2437	Ant2	16.410	>=0.5	PASS
2462	Ant1	16.440	>=0.5	PASS
2462	Ant2	16.380	>=0.5	PASS
2412	Ant1	17.640	>=0.5	PASS
2412	Ant2	17.640	>=0.5	PASS
2437	Ant1	17.640	>=0.5	PASS
2437	Ant2	17.640	>=0.5	PASS
2462	Ant1	17.640	>=0.5	PASS
2462	Ant2	17.640	>=0.5	PASS
2422	Ant1	36.420	>=0.5	PASS
2422	Ant2	36.420	>=0.5	PASS
2437	Ant1	36.420	>=0.5	PASS
2437	Ant2	36.420	>=0.5	PASS
2452	Ant1	36.480	>=0.5	PASS
2452	Ant2	36.420	>=0.5	PASS
	2437 2437 2462 2412 2412 2437 2437 2462 2462 2412 2412 2437 2437 2462 2422 2422 2437 2437	2412 Ant1 2437 Ant1 2437 Ant2 2437 Ant2 2462 Ant1 2462 Ant2 2412 Ant1 2412 Ant2 2437 Ant1 2437 Ant2 2462 Ant1 2412 Ant1 2412 Ant1 2437 Ant1 2437 Ant1 2462 Ant1 2452 Ant1 2437 Ant1 2437 Ant1 2437 Ant1 2452 Ant1	2412 Ant1 8.130 2412 Ant2 7.650 2437 Ant1 8.160 2437 Ant2 8.160 2462 Ant1 8.130 2462 Ant2 8.130 2412 Ant1 16.440 2412 Ant2 16.440 2437 Ant1 16.440 2437 Ant2 16.410 2462 Ant1 16.440 2462 Ant2 16.380 2412 Ant1 17.640 2412 Ant2 17.640 2437 Ant1 17.640 2437 Ant2 17.640 2462 Ant1 17.640 2462 Ant1 17.640 2462 Ant1 36.420 2422 Ant1 36.420 2437 Ant1 36.420 2437 Ant2 36.420 2437 Ant2 36.420 2452 Ant1 36.420 2452 Ant1 36.420 </td <td>2412 Ant1 8.130 >=0.5 2412 Ant2 7.650 >=0.5 2437 Ant1 8.160 >=0.5 2437 Ant2 8.160 >=0.5 2462 Ant1 8.130 >=0.5 2462 Ant2 8.130 >=0.5 2412 Ant1 16.440 >=0.5 2412 Ant2 16.440 >=0.5 2437 Ant1 16.440 >=0.5 2437 Ant2 16.410 >=0.5 2462 Ant1 16.440 >=0.5 2462 Ant2 16.380 >=0.5 2462 Ant2 16.380 >=0.5 2412 Ant1 17.640 >=0.5 2412 Ant2 17.640 >=0.5 2437 Ant1 17.640 >=0.5 2437 Ant2 17.640 >=0.5 2462 Ant1 17.640 >=0.5 2462 Ant1 17.640 >=0.5 2462 Ant1 36.420 >=0.5</td>	2412 Ant1 8.130 >=0.5 2412 Ant2 7.650 >=0.5 2437 Ant1 8.160 >=0.5 2437 Ant2 8.160 >=0.5 2462 Ant1 8.130 >=0.5 2462 Ant2 8.130 >=0.5 2412 Ant1 16.440 >=0.5 2412 Ant2 16.440 >=0.5 2437 Ant1 16.440 >=0.5 2437 Ant2 16.410 >=0.5 2462 Ant1 16.440 >=0.5 2462 Ant2 16.380 >=0.5 2462 Ant2 16.380 >=0.5 2412 Ant1 17.640 >=0.5 2412 Ant2 17.640 >=0.5 2437 Ant1 17.640 >=0.5 2437 Ant2 17.640 >=0.5 2462 Ant1 17.640 >=0.5 2462 Ant1 17.640 >=0.5 2462 Ant1 36.420 >=0.5



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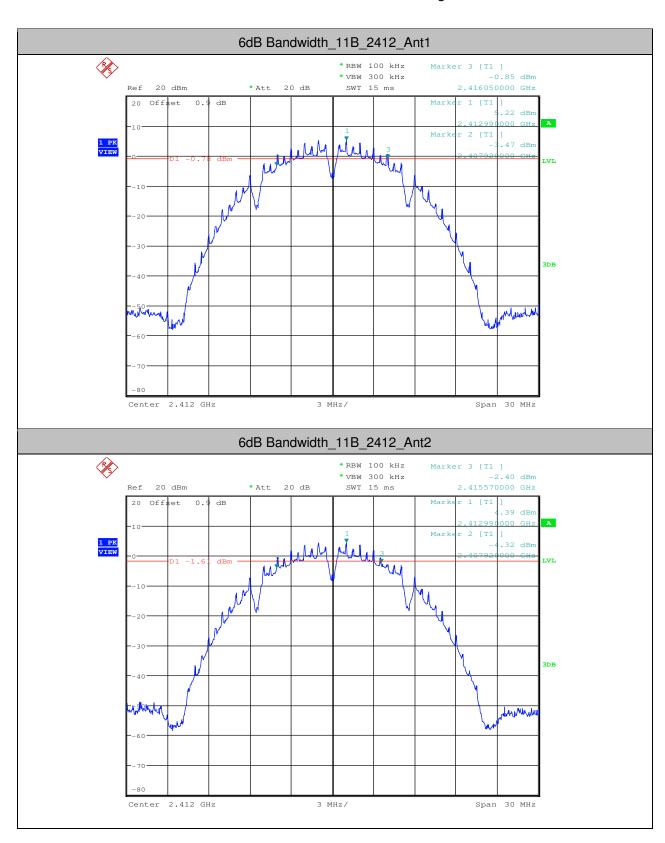
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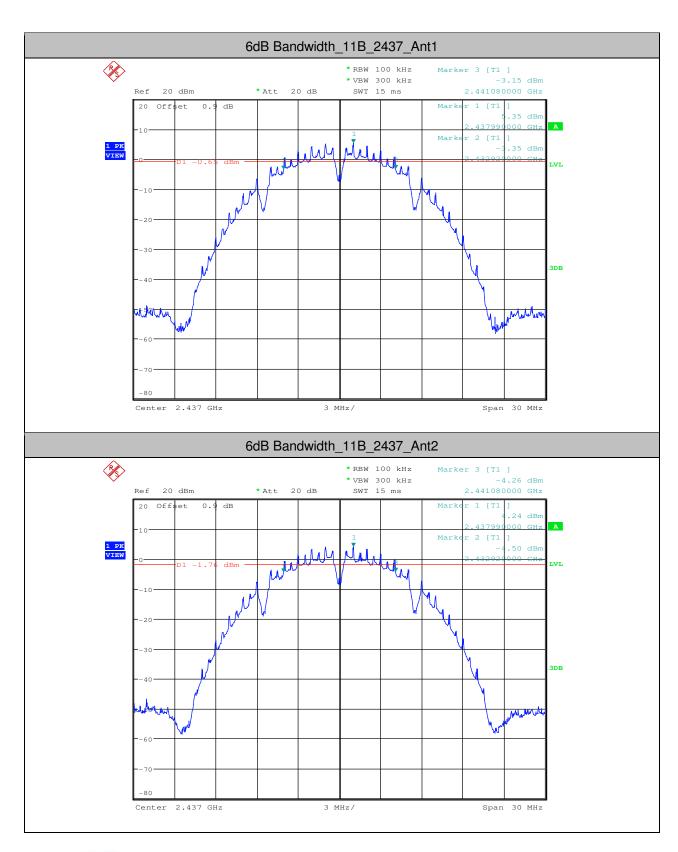
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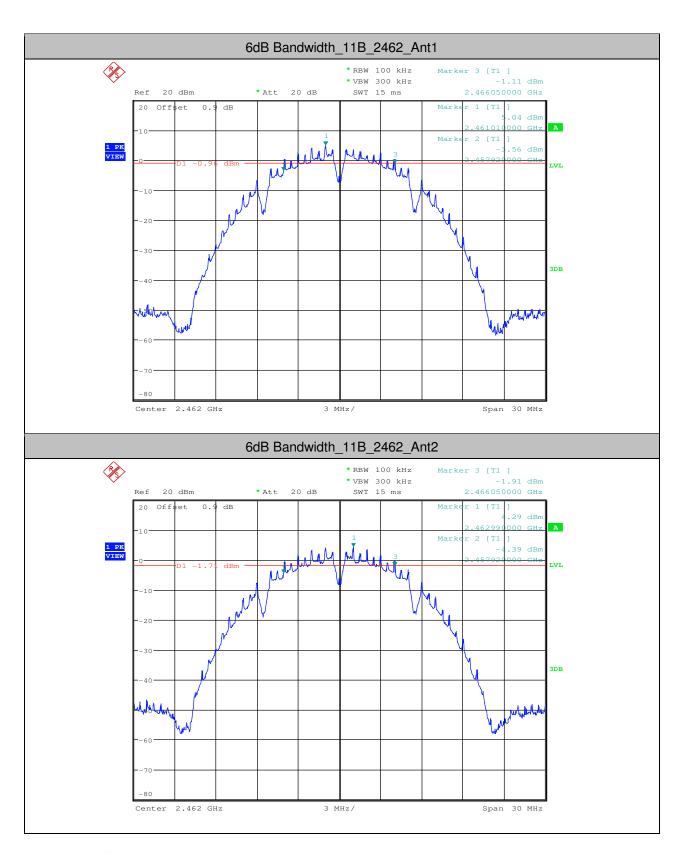
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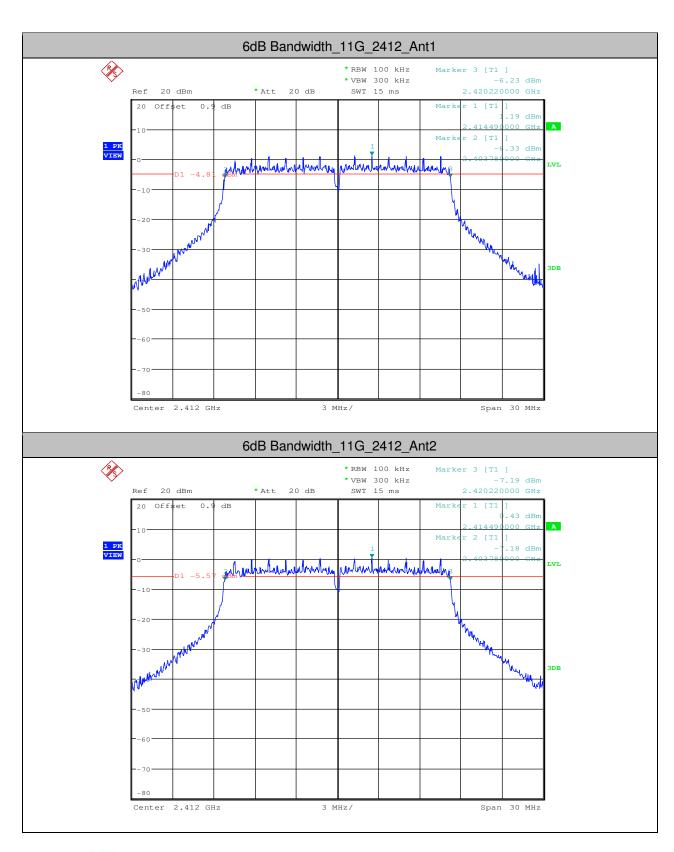
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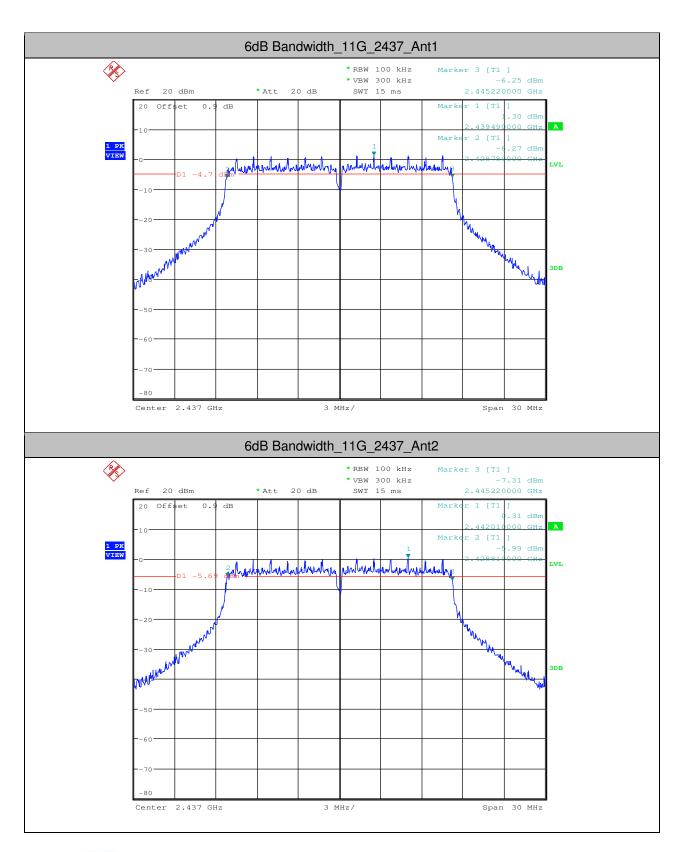
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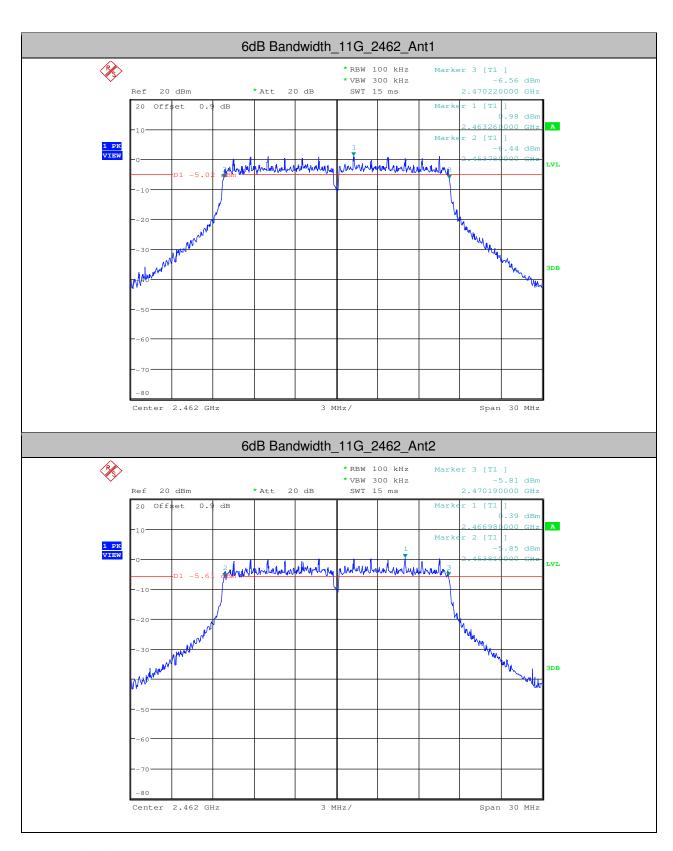
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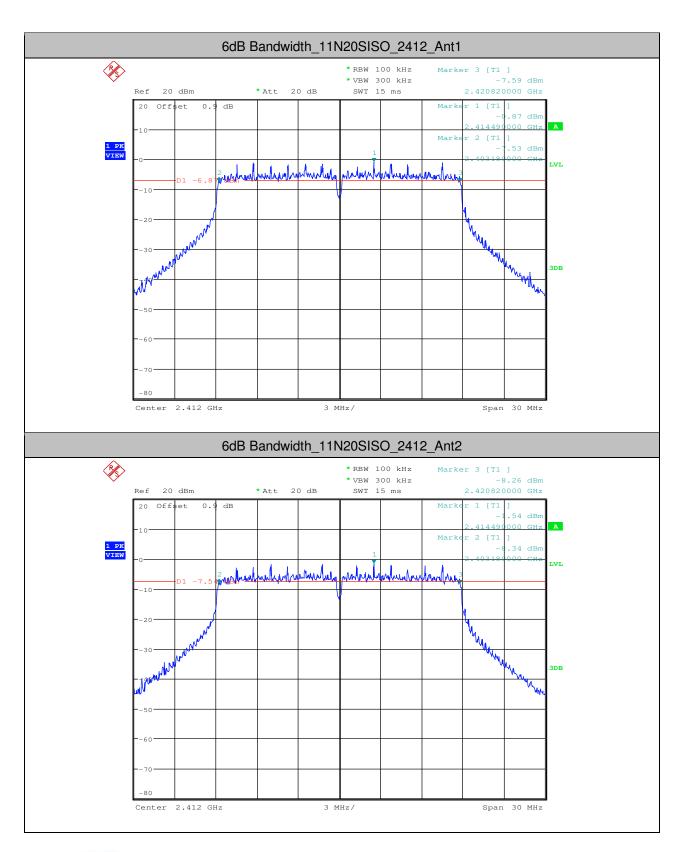
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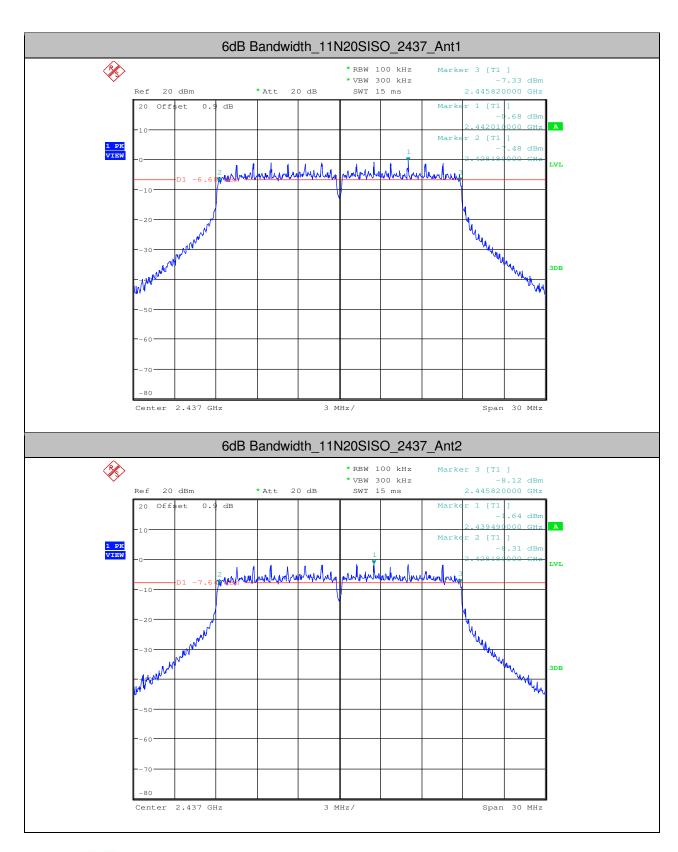
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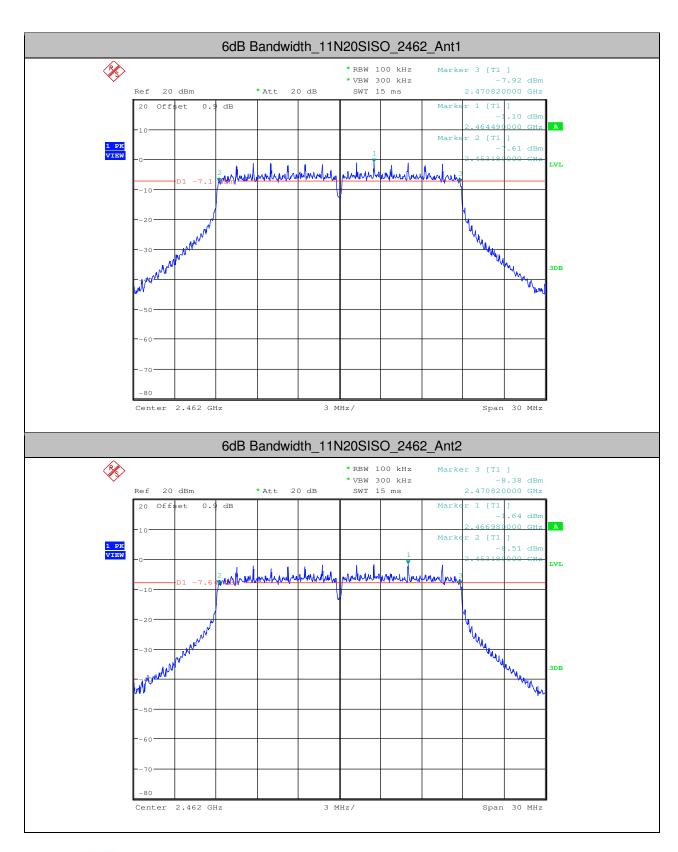
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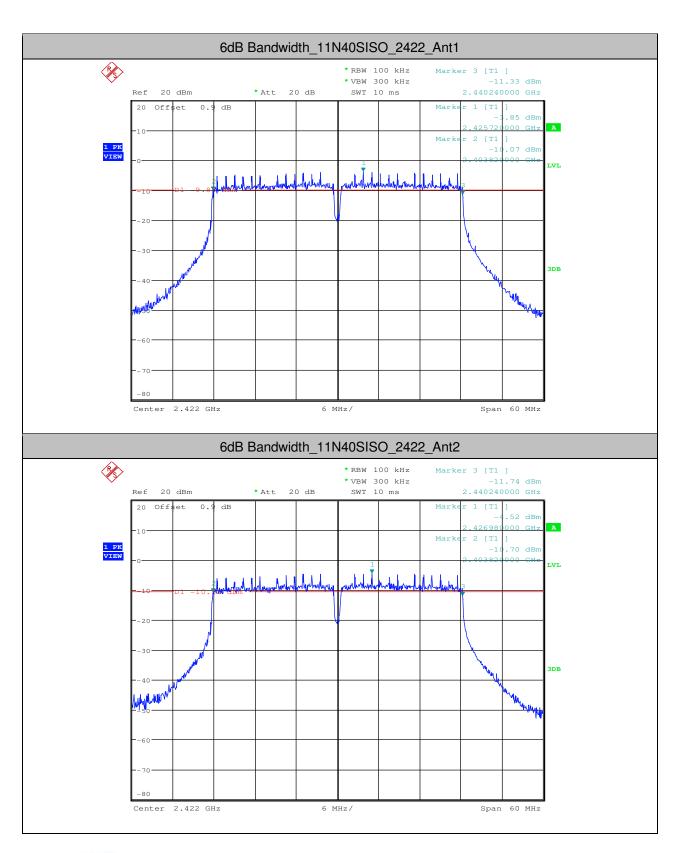
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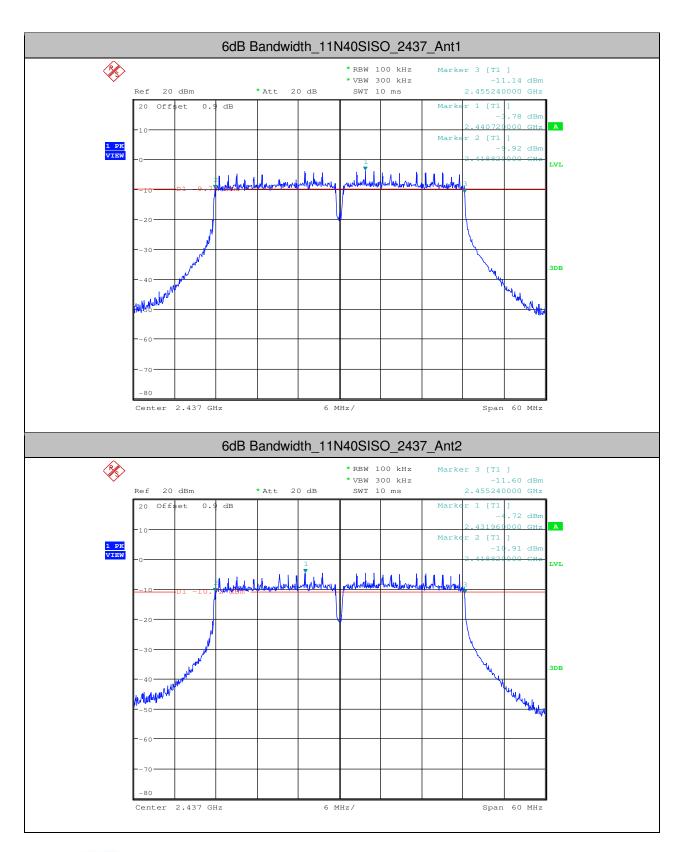
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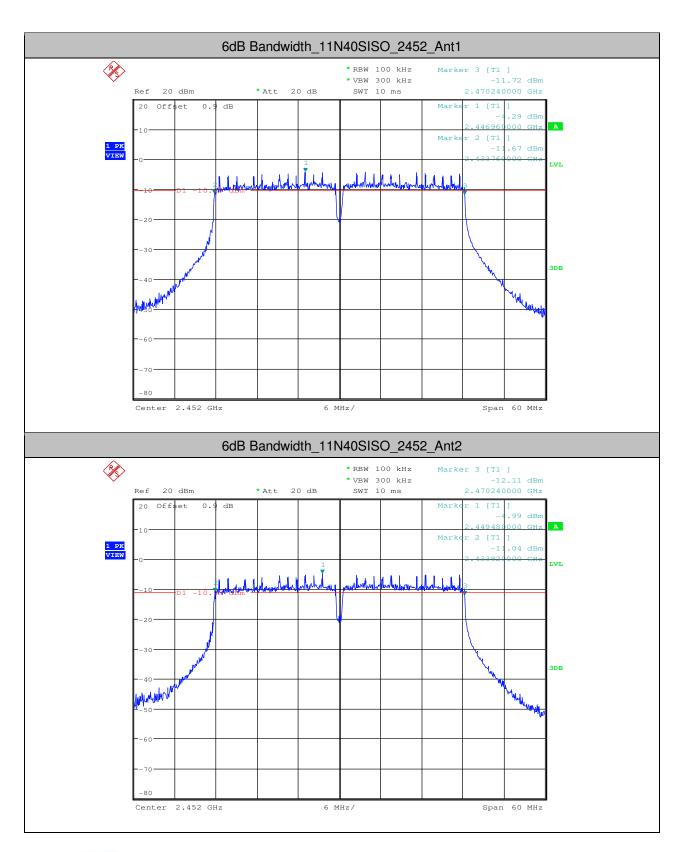
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2.Maximum peak conducted output power

Test Mode	Test Channel	Ant	Power[dBm]	Limit[dBm]	Verdict
11B	2412	Ant1	16.98	<30	PASS
11B	2412	Ant2	16.12	<30	PASS
11B	2437	Ant1	17.13	<30	PASS
11B	2437	Ant2	15.99	<30	PASS
11B	2462	Ant1	17.22	<30	PASS
11B	2462	Ant2	16.17	<30	PASS
11G	2412	Ant1	21.43	<30	PASS
11G	2412	Ant2	20.68	<30	PASS
11G	2437	Ant1	21.54	<30	PASS
11G	2437	Ant2	20.5	<30	PASS
11G	2462	Ant1	21.3	<30	PASS
11G	2462	Ant2	20.53	<30	PASS
11N20SISO	2412	Ant1	19.38	<30	PASS
11N20SISO	2412	Ant2	18.69	<30	PASS
11N20MIMO	2412	Ant1+ Ant2	22.06	<30	PASS
11N20SISO	2437	Ant1	19.47	<30	PASS
11N20SISO	2437	Ant2	18.6	<30	PASS
11N20MIMO	2437	Ant1+ Ant2	22.07	<30	PASS
11N20SISO	2462	Ant1	19.22	<30	PASS
11N20SISO	2462	Ant2	18.47	<30	PASS
11N20MIMO	2462	Ant1+ Ant2	21.87	<30	PASS
11N40SISO	2422	Ant1	19.19	<30	PASS
11N40SISO	2422	Ant2	18.56	<30	PASS
11N40MIMO	2422	Ant1+ Ant2	21.90	<30	PASS
11N40SISO	2437	Ant1	19.18	<30	PASS
11N40SISO	2437	Ant2	18.46	<30	PASS
11N40MIMO	2437	Ant1+ Ant2	21.85	<30	PASS
11N40SISO	2452	Ant1	18.81	<30	PASS
11N40SISO	2452	Ant2	18.17	<30	PASS



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11N40MIMO	2452	Ant1+ Ant2	21.51	<30	PASS
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Note: Nant<=4, so Array gain=0dB, Directional gain=3.07dBi



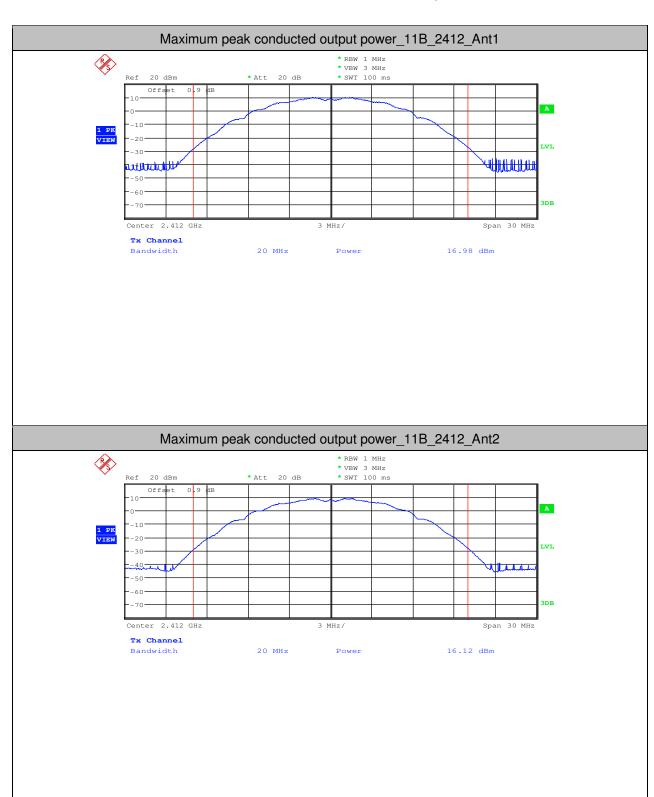
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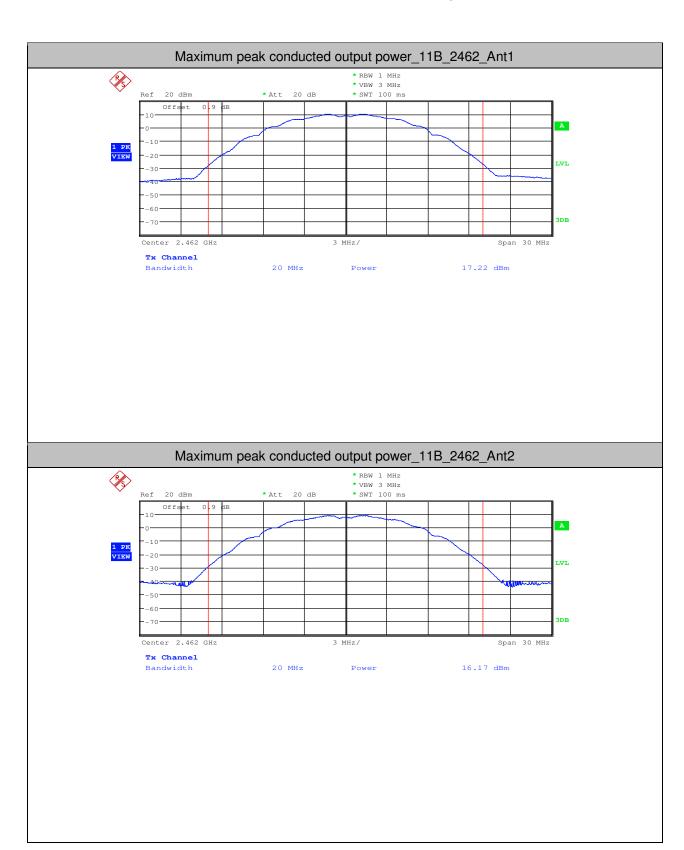
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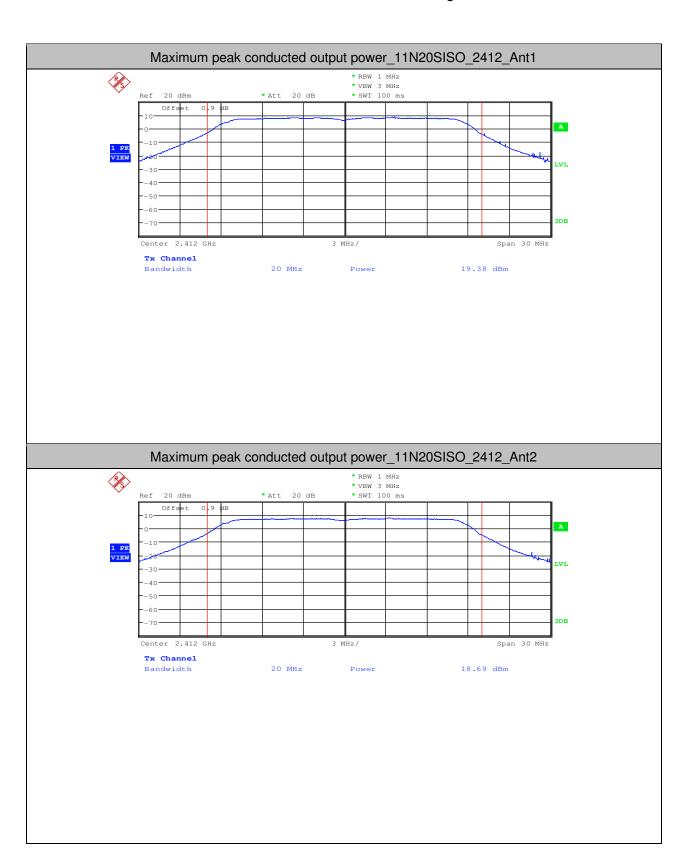
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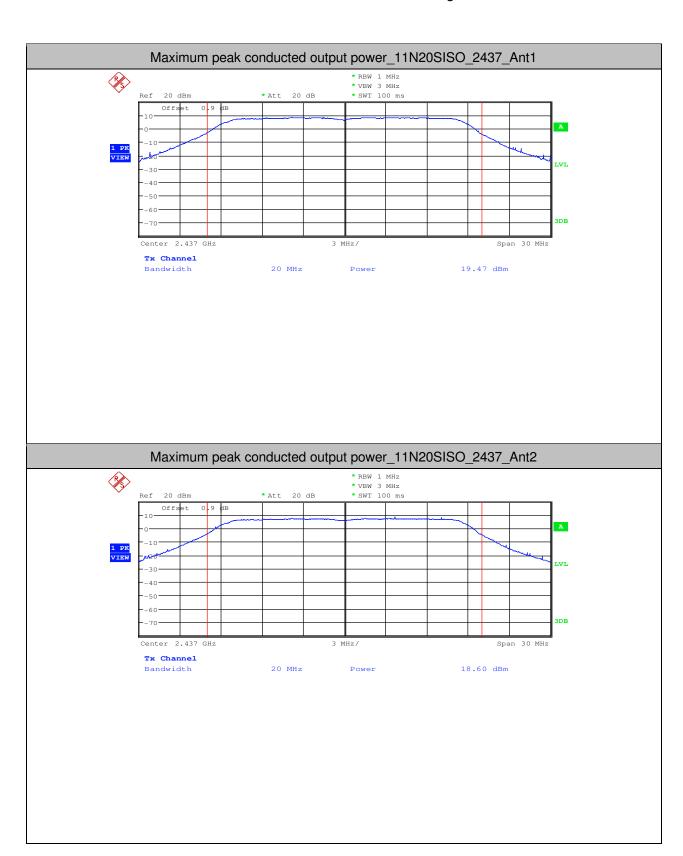
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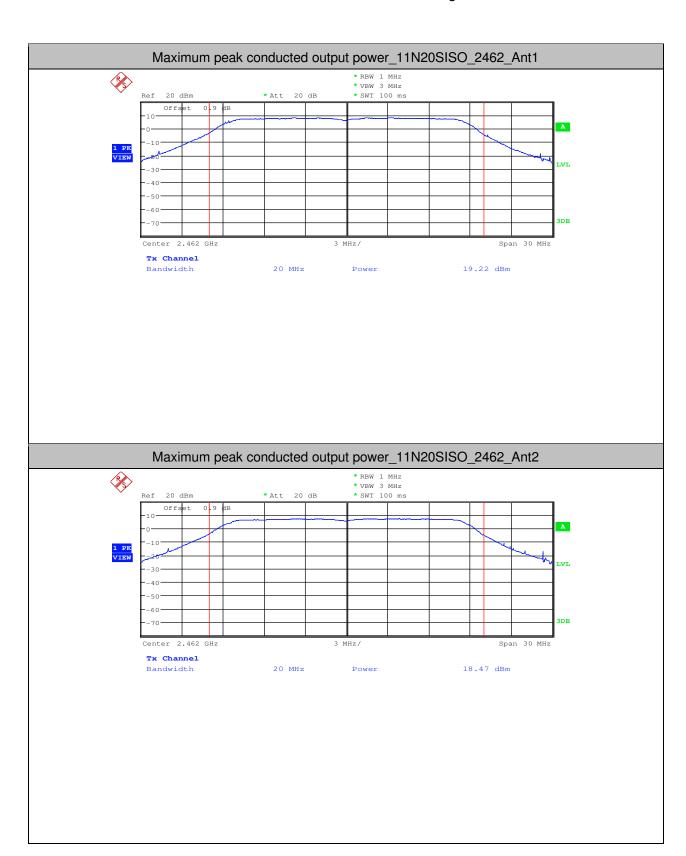
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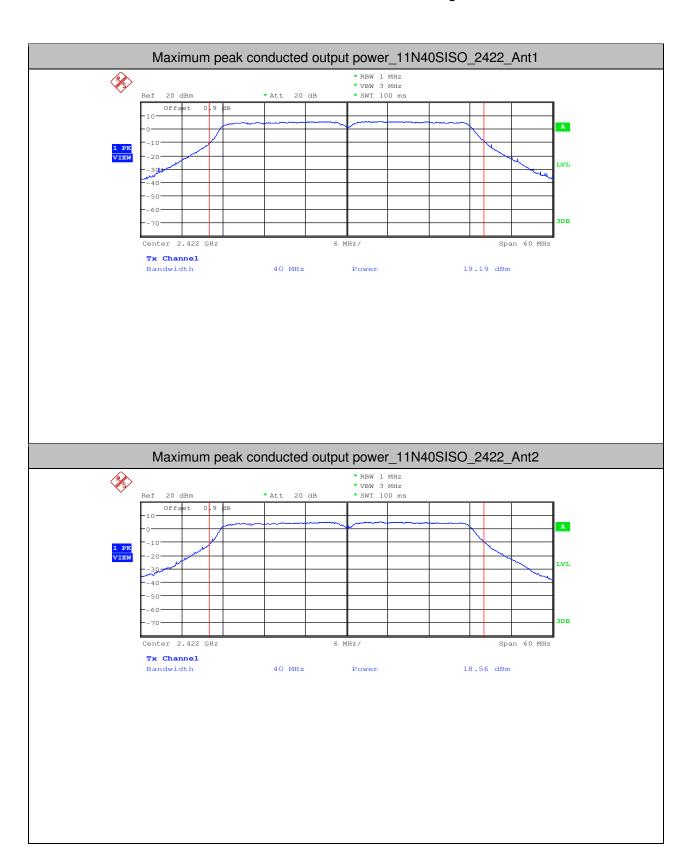
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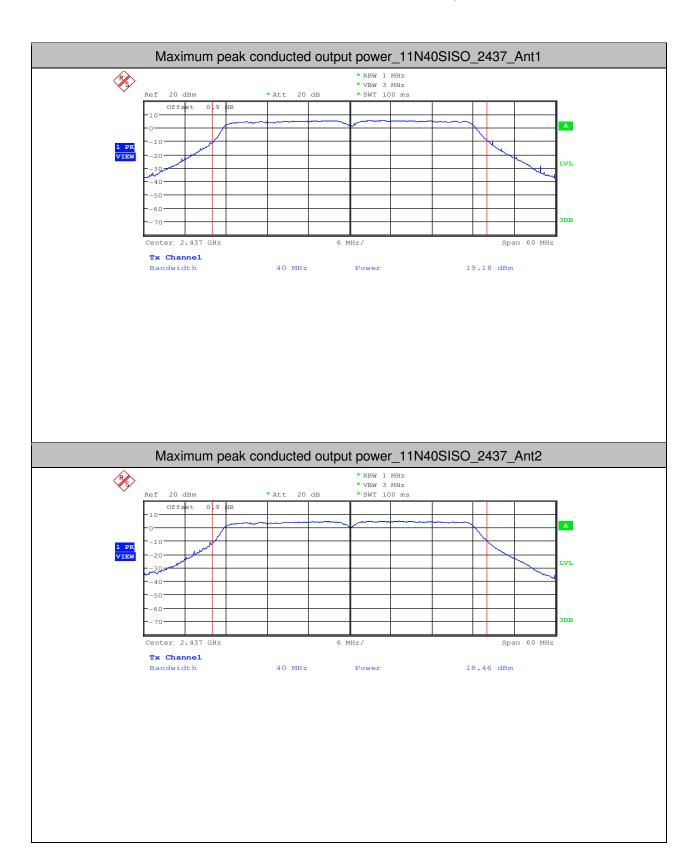
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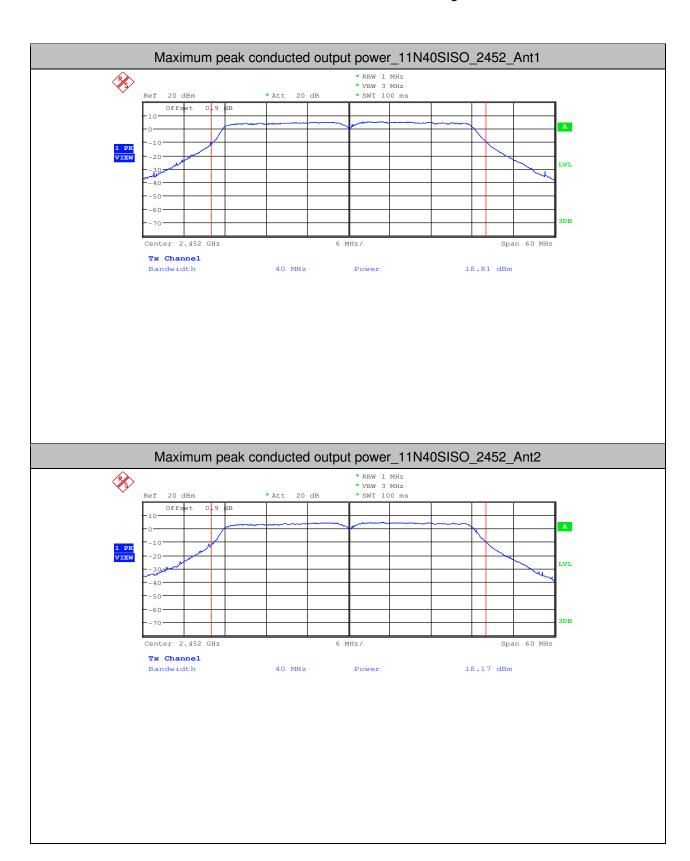
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3. Maximum Peak power spectral density

Test Mode	Test Channel	Ant	PSD[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	2412	Ant1	-10.32	<8.00	PASS
11B	2412	Ant2	-13.97	<8.00	PASS
11B	2437	Ant1	-11.71	<8.00	PASS
11B	2437	Ant2	-12.41	<8.00	PASS
11B	2462	Ant1	-11.14	<8.00	PASS
11B	2462	Ant2	-12.2	<8.00	PASS
11G	2412	Ant1	-14.77	<8.00	PASS
11G	2412	Ant2	-14.98	<8.00	PASS
11G	2437	Ant1	-14.53	<8.00	PASS
11G	2437	Ant2	-15.47	<8.00	PASS
11G	2462	Ant1	-13.65	<8.00	PASS
11G	2462	Ant2	-14.44	<8.00	PASS
11N20SISO	2412	Ant1	-16.27	<8.00	PASS
11N20SISO	2412	Ant2	-16.2	<8.00	PASS
11N20MIMO	2412	Ant1+ Ant2	-13.22	<8.00	PASS
11N20SISO	2437	Ant1	-16.65	<8.00	PASS
11N20SISO	2437	Ant2	-17.18	<8.00	PASS
11N20MIMO	2437	Ant1+ Ant2	-13.90	<8.00	PASS
11N20SISO	2462	Ant1	-16.22	<8.00	PASS
11N20SISO	2462	Ant2	-17.46	<8.00	PASS
11N20MIMO	2462	Ant1+ Ant2	-13.79	<8.00	PASS
11N40SISO	2422	Ant1	-18.3	<8.00	PASS
11N40SISO	2422	Ant2	-19.21	<8.00	PASS
11N40MIMO	2422	Ant1+ Ant2	-15.72	<8.00	PASS
11N40SISO	2437	Ant1	-19.58	<8.00	PASS
11N40SISO	2437	Ant2	-19.01	<8.00	PASS
11N40MIMO	2437	Ant1+ Ant2	-16.28	<8.00	PASS
11N40SISO	2452	Ant1	-18.89	<8.00	PASS
11N40SISO	2452	Ant2	-19.84	<8.00	PASS



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11N40MIMO 2452	Ant1+ Ant2	-16.33	<8.00	PASS
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Note: Nant<=4, so Array gain=0dB, Directional gain=3.07dBi



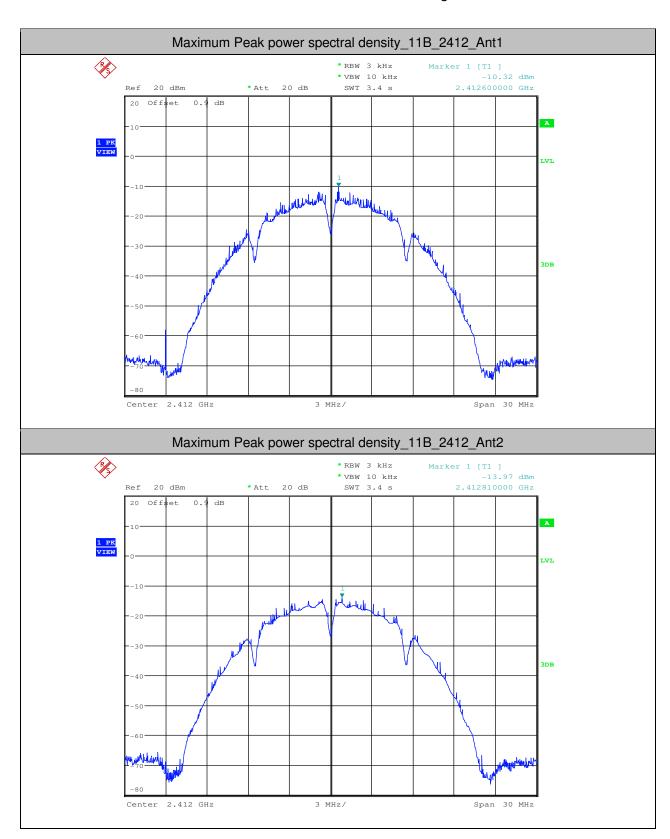
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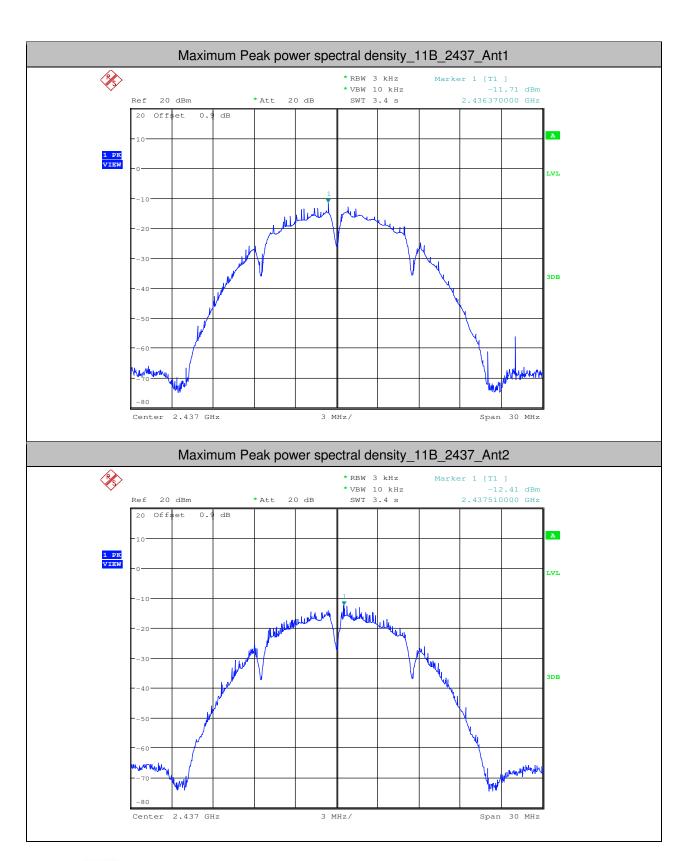
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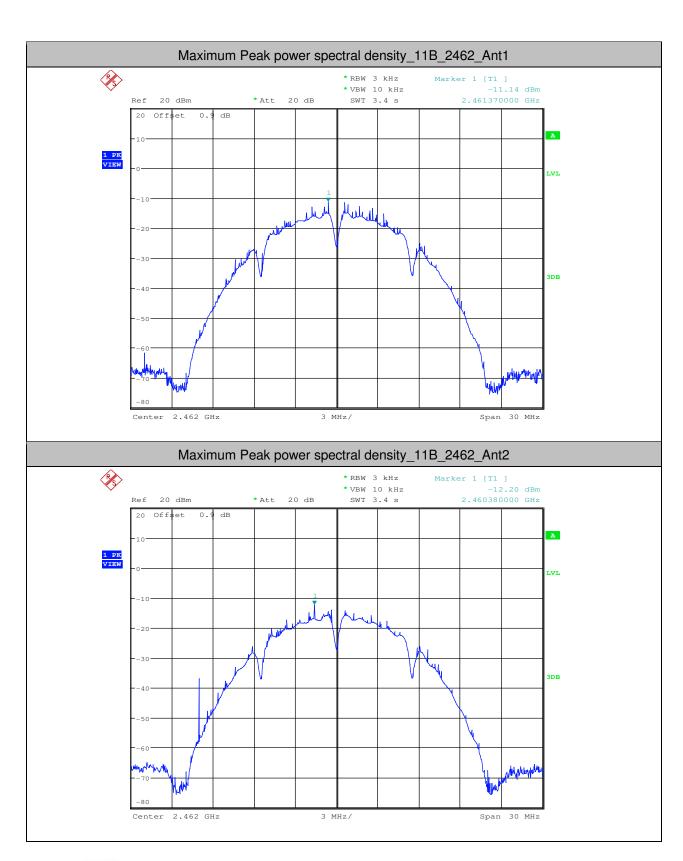
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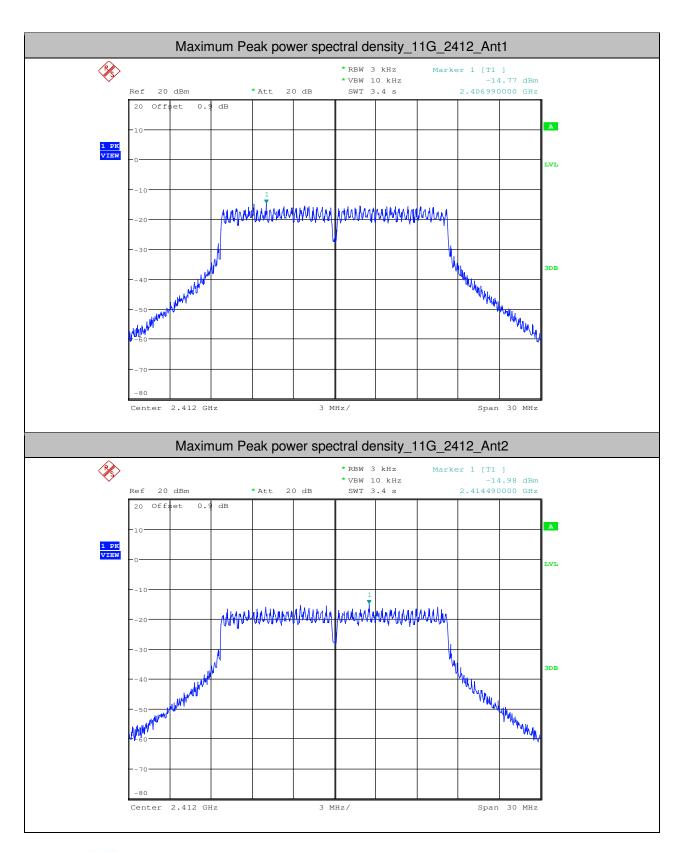
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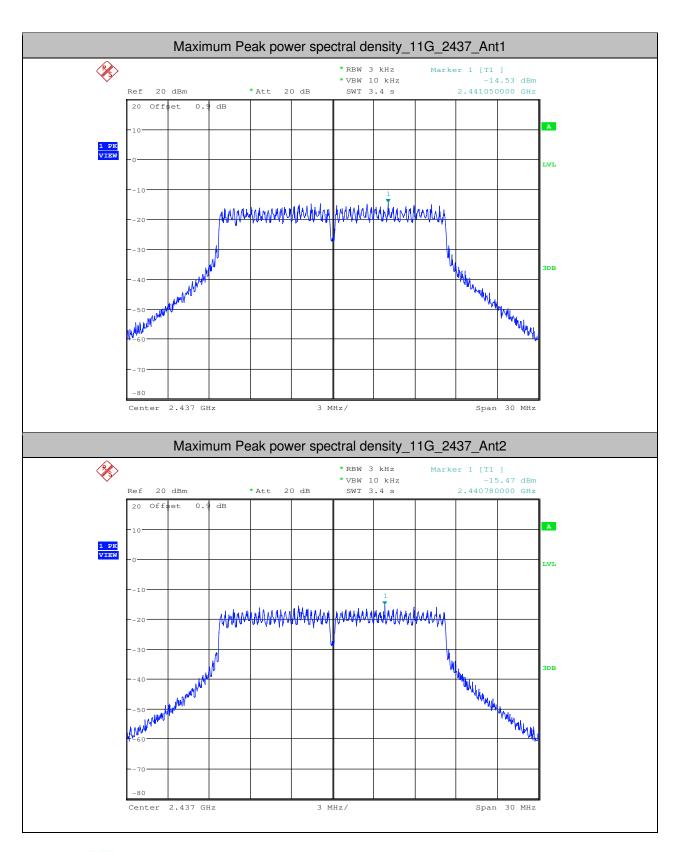
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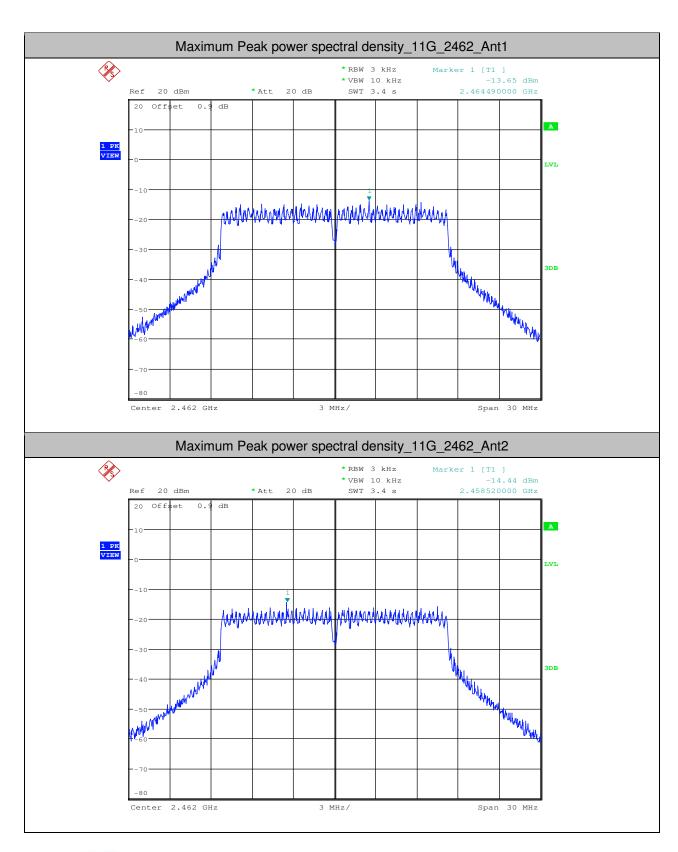
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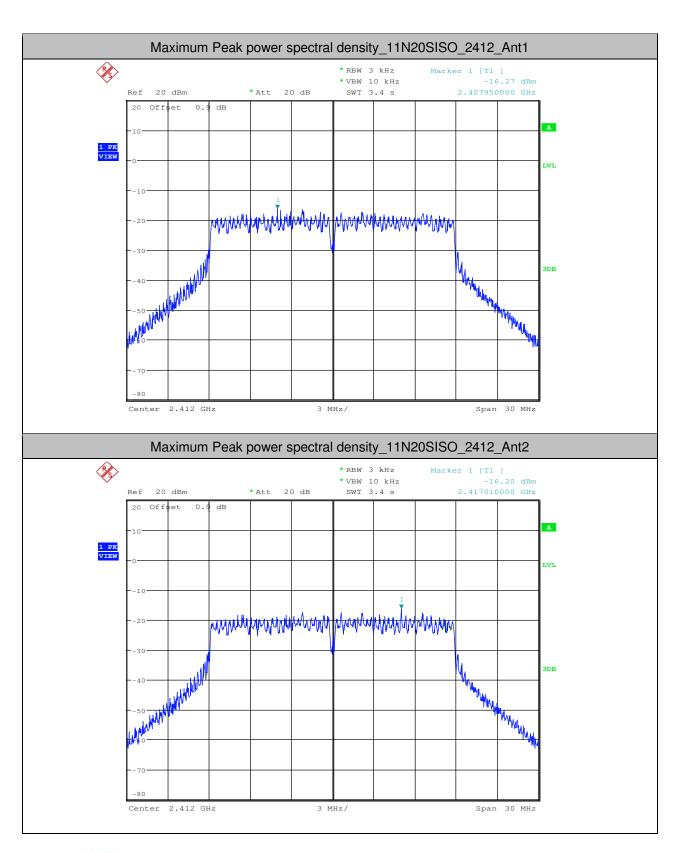
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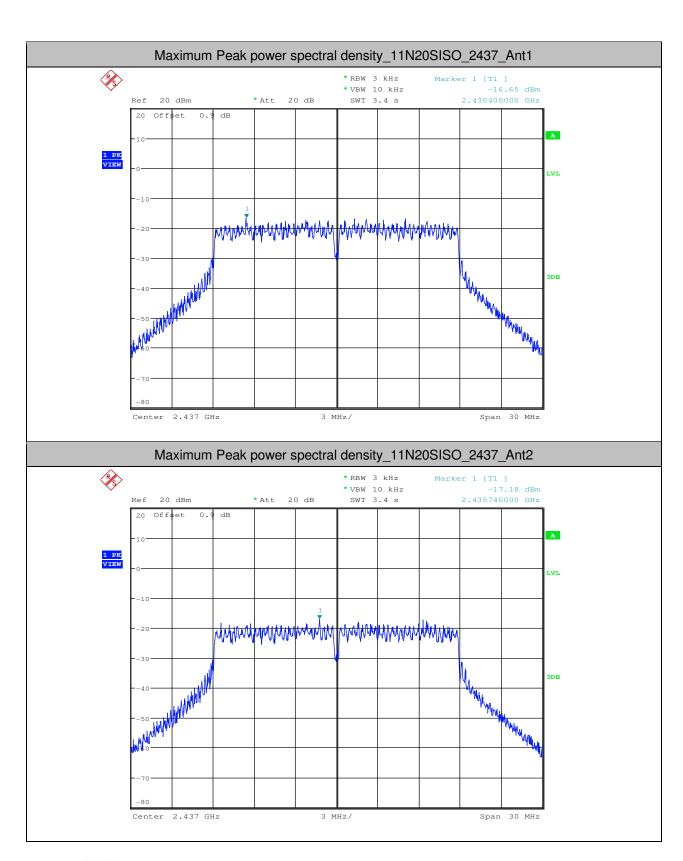
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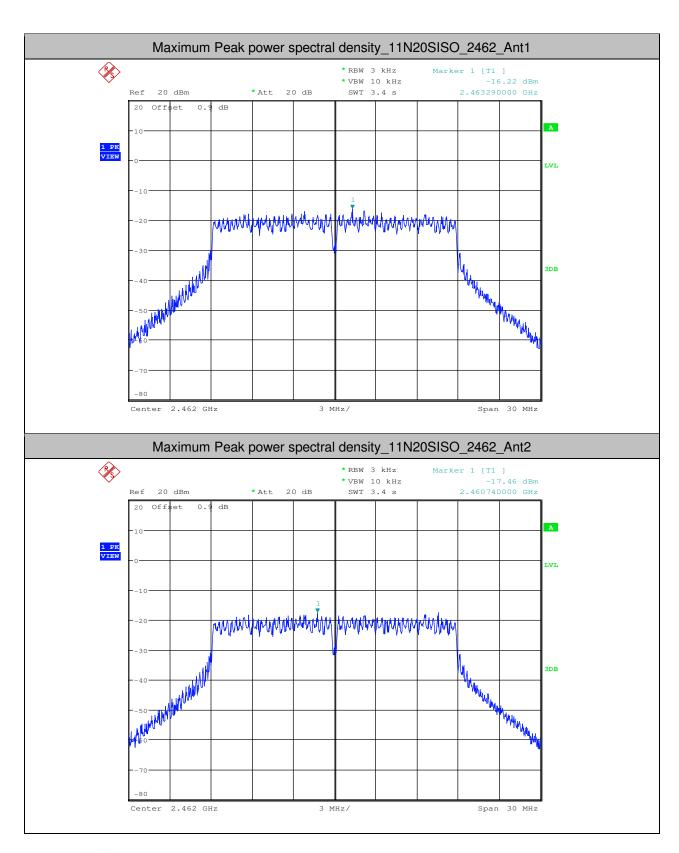
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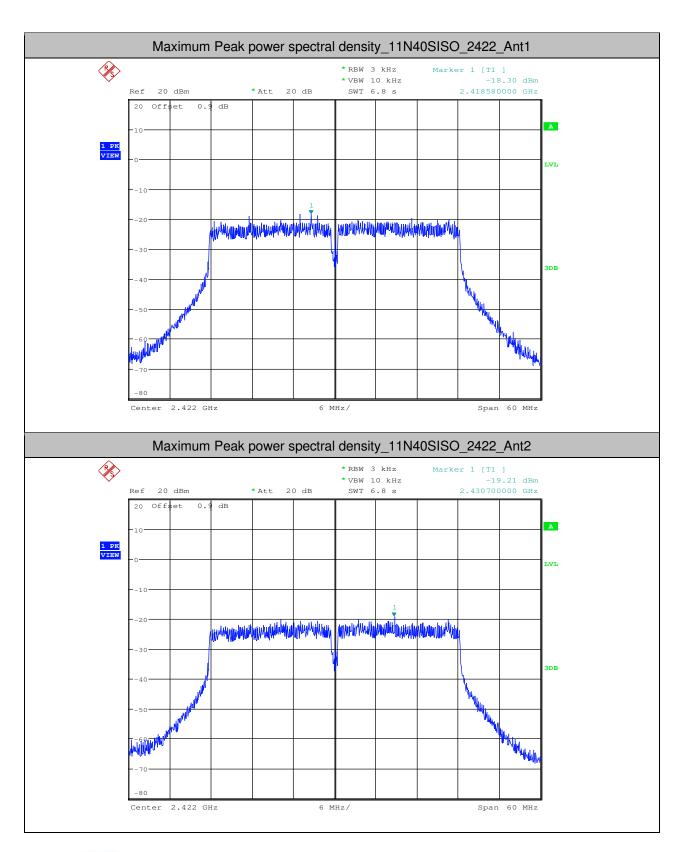
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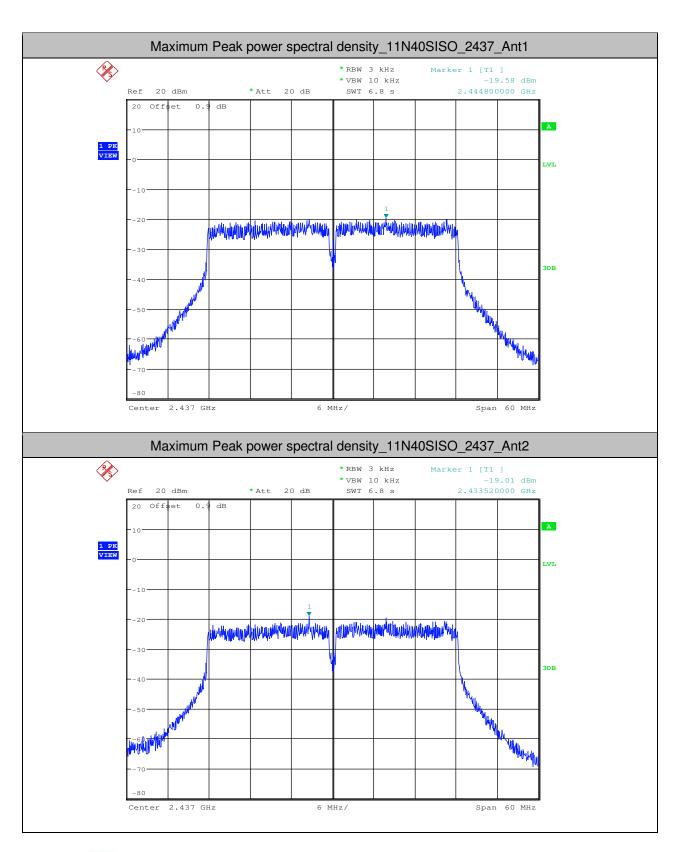
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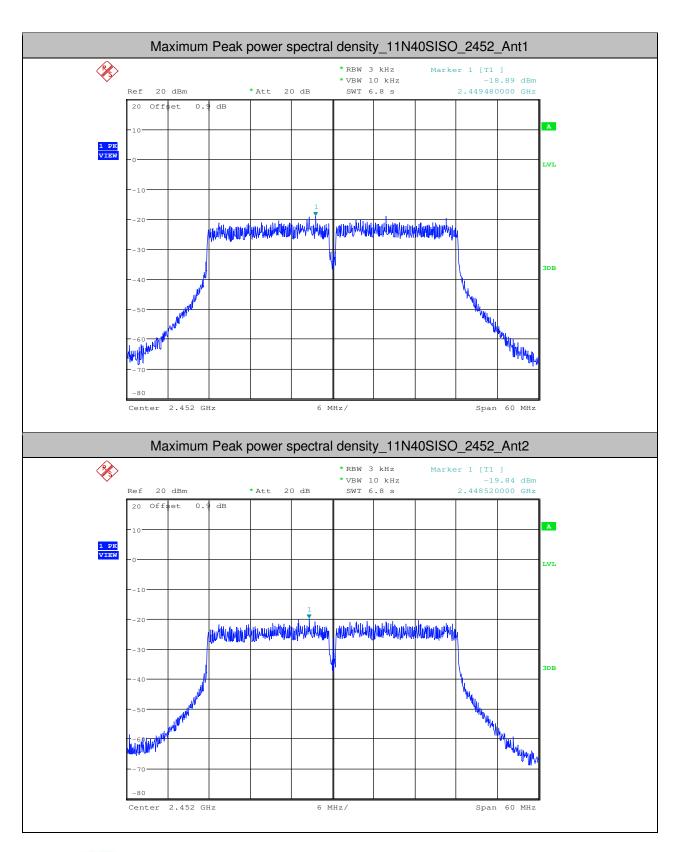
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4.Band-edge for RF Conducted Emissions

Test Mode	Test Channel	Ant	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
11B	2412	Ant1	5.120	-55.344	<-14.88	PASS
11B	2412	Ant2	4.380	-55.798	<-15.62	PASS
11B	2462	Ant1	5.040	-55.301	<-14.96	PASS
11B	2462	Ant2	3.400	-55.205	<-16.6	PASS
11G	2412	Ant1	1.170	-52.048	<-18.83	PASS
11G	2412	Ant2	0.430	-49.487	<-19.57	PASS
11G	2462	Ant1	0.890	-50.142	<-19.11	PASS
11G	2462	Ant2	0.020	-50.661	<-19.98	PASS
11N20SISO	2412	Ant1	-1.070	-52.541	<-21.07	PASS
11N20SISO	2412	Ant2	-2.050	-51.637	<-22.05	PASS
11N20SISO	2462	Ant1	-1.230	-52.386	<-21.23	PASS
11N20SISO	2462	Ant2	-1.690	-52.242	<-21.69	PASS
11N40SISO	2422	Ant1	-3.920	-48.156	<-23.92	PASS
11N40SISO	2422	Ant2	-4.530	-45.805	<-24.53	PASS
11N40SISO	2452	Ant1	-4.540	-49.886	<-24.54	PASS
11N40SISO	2452	Ant2	-4.900	-49.410	<-24.9	PASS



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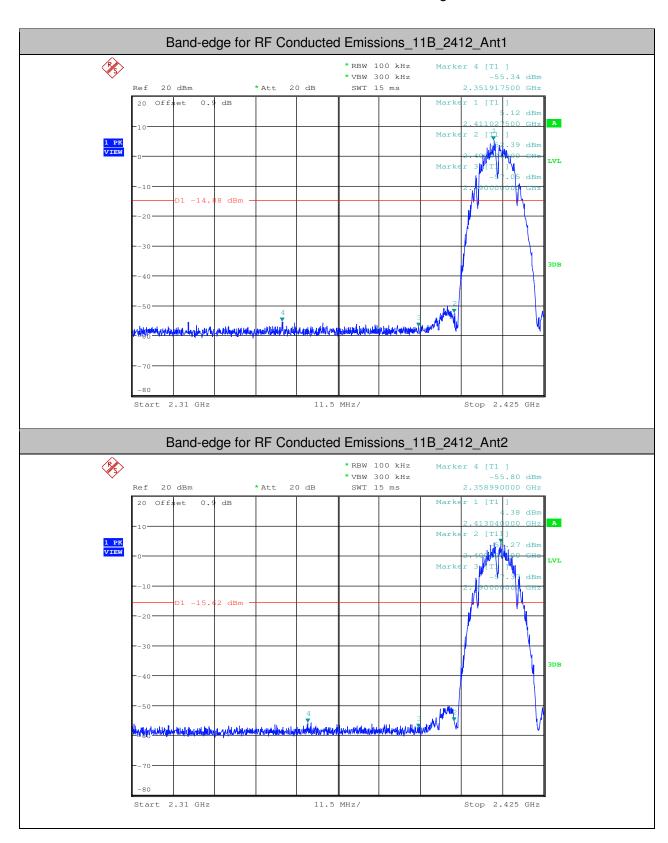
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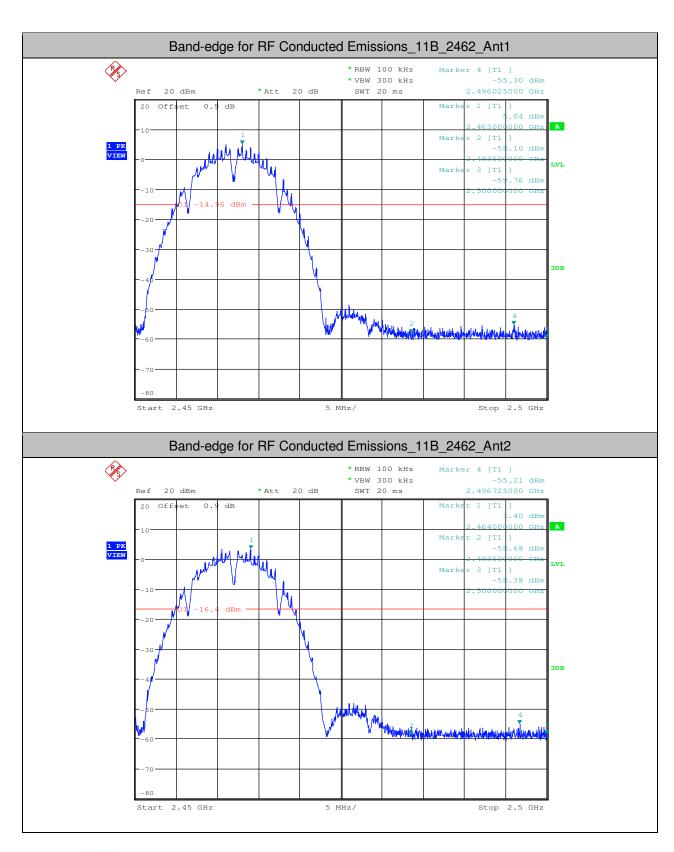
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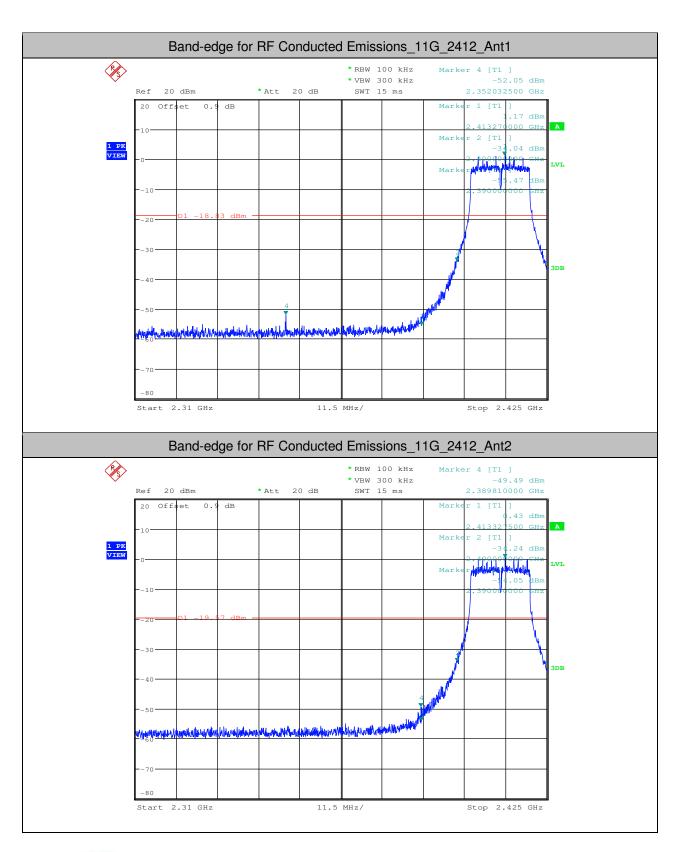
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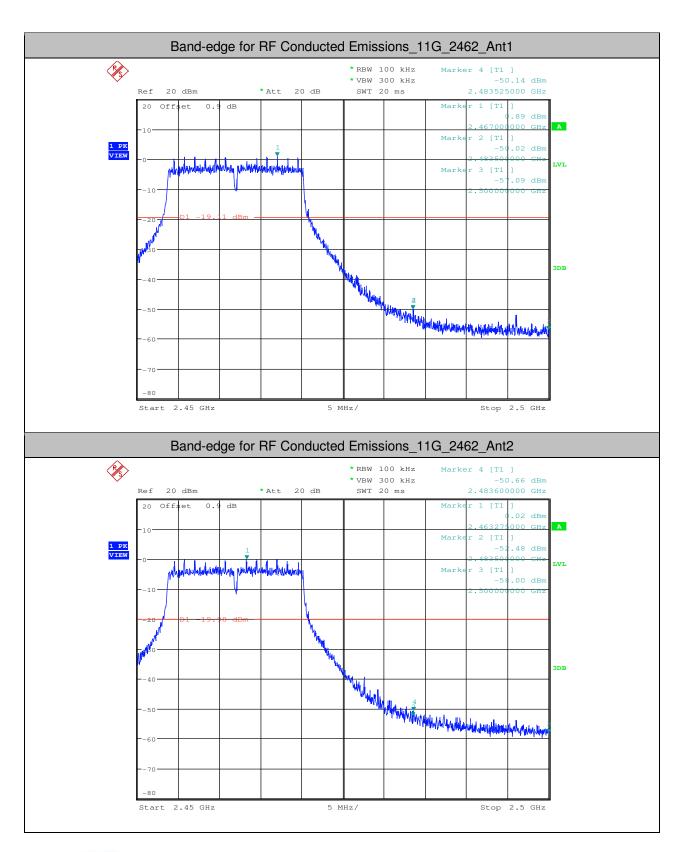
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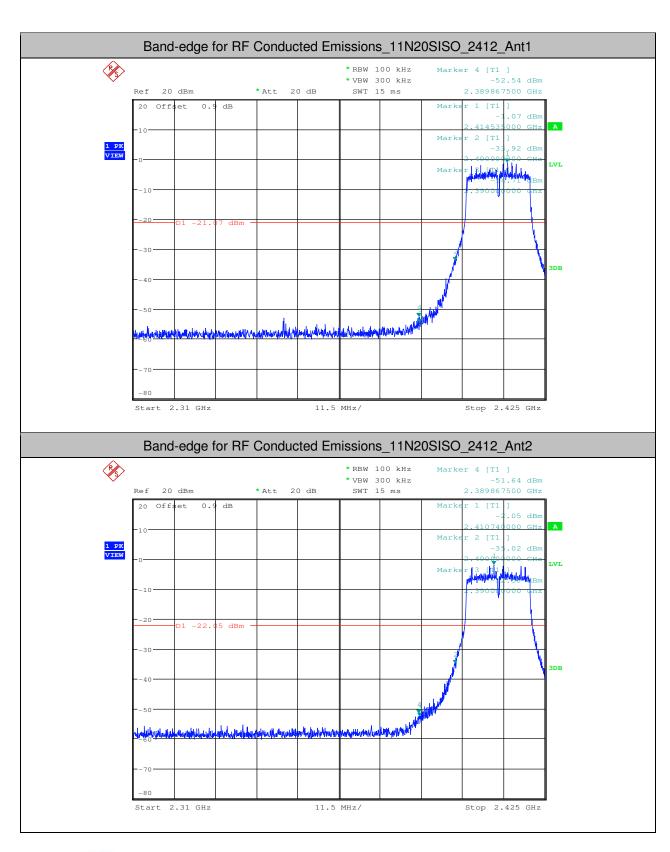
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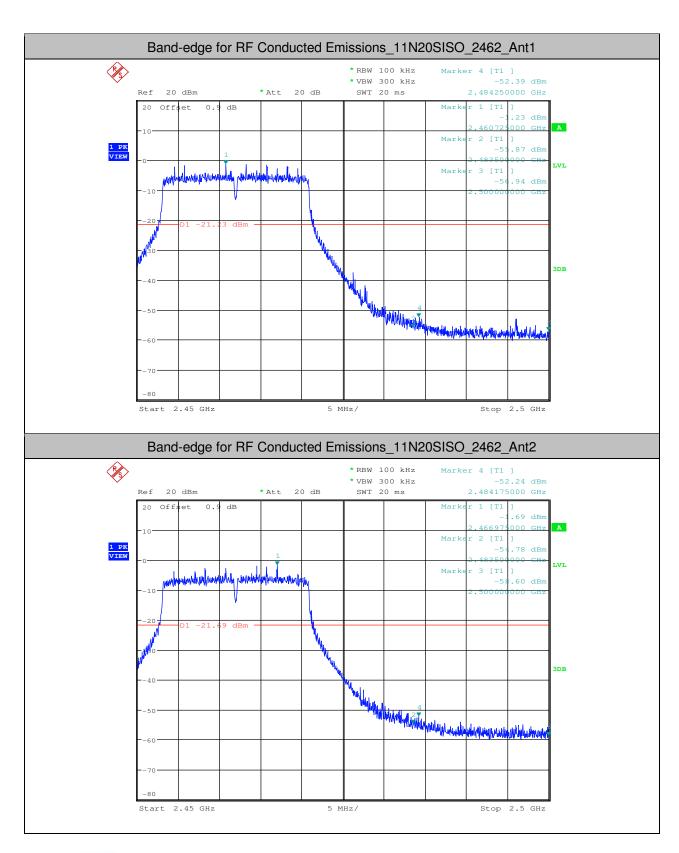
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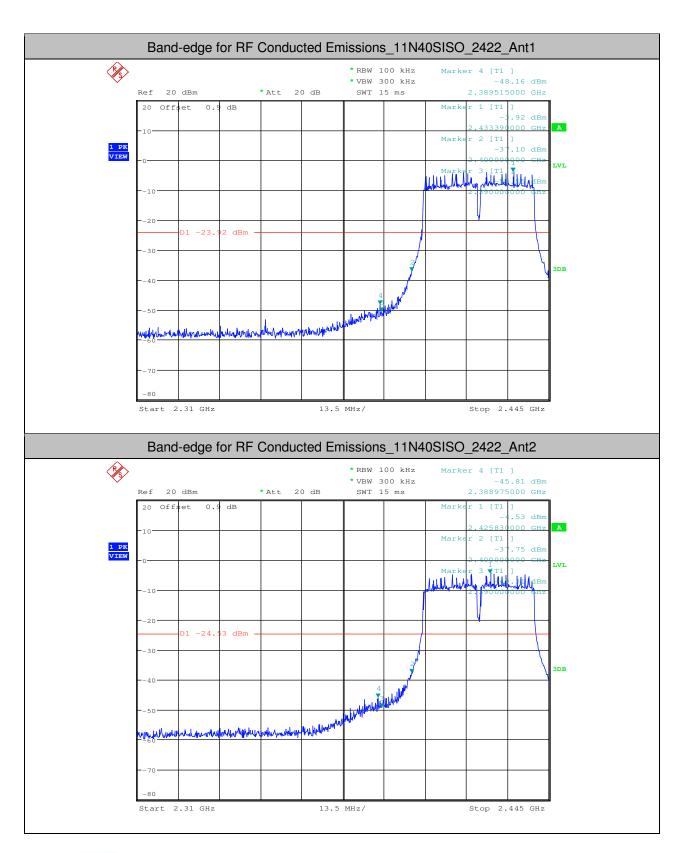
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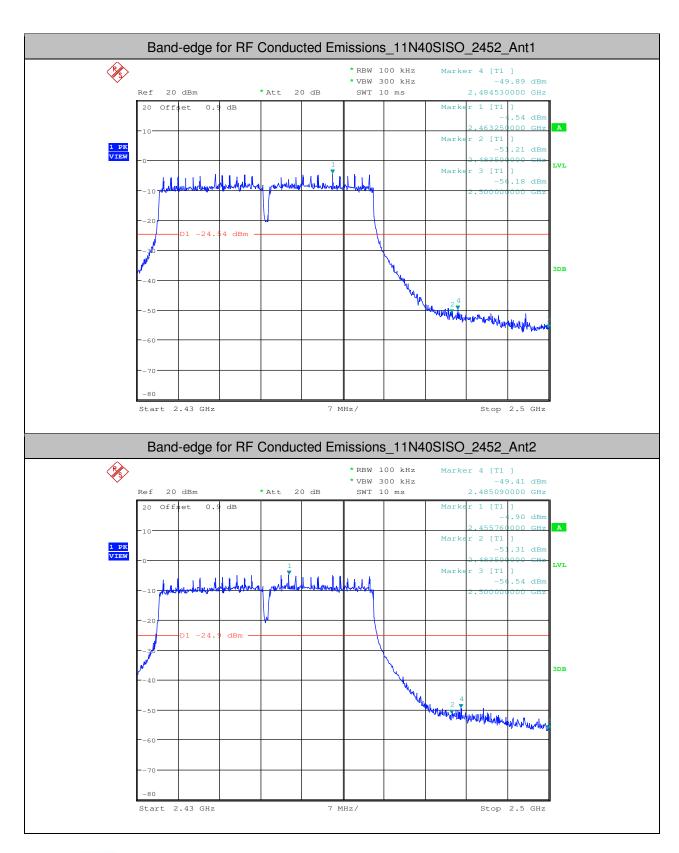
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5.RF Conducted Spurious Emissions

	•						Max.		
Test Mode	Test Channel	StartFre [MHz]	StopFre [MHz]	RBW [kHz]	VBW [kHz]	Pref[dBm]	Level [dBm]	Limit [dBm]	Verdict
11B	2412	30	10000	100	300	5.19	-37.230	<-14.81	PASS
11B	2412	10000	25000	100	300	5.19	-56.190	<-14.81	PASS
11B	2412	30	10000	100	300	4.39	-38.840	<-15.61	PASS
11B	2412	10000	25000	100	300	4.39	-55.790	<-15.61	PASS
11B	2437	30	10000	100	300	3.75	-37.360	<-16.25	PASS
11B	2437	10000	25000	100	300	3.75	-55.430	<-16.25	PASS
11B	2437	30	10000	100	300	4.17	-39.610	<-15.83	PASS
11B	2437	10000	25000	100	300	4.17	-56.180	<-15.83	PASS
11B	2462	30	10000	100	300	5.03	-37.950	<-14.97	PASS
11B	2462	10000	25000	100	300	5.03	-56.190	<-14.97	PASS
11B	2462	30	10000	100	300	4.26	-39.380	<-15.74	PASS
11B	2462	10000	25000	100	300	4.26	-55.630	<-15.74	PASS
11G	2412	30	10000	100	300	0.82	-43.660	<-19.18	PASS
11G	2412	10000	25000	100	300	0.82	-55.640	<-19.18	PASS
11G	2412	30	10000	100	300	0.35	-45.970	<-19.65	PASS
11G	2412	10000	25000	100	300	0.35	-56.190	<-19.65	PASS
11G	2437	30	10000	100	300	1.46	-46.380	<-18.54	PASS
11G	2437	10000	25000	100	300	1.46	-54.710	<-18.54	PASS
11G	2437	30	10000	100	300	0.1	-49.260	<-19.9	PASS
11G	2437	10000	25000	100	300	0.1	-55.720	<-19.9	PASS
11G	2462	30	10000	100	300	0.61	-47.680	<-19.39	PASS
11G	2462	10000	25000	100	300	0.61	-55.230	<-19.39	PASS
11G	2462	30	10000	100	300	0.47	-47.650	<-19.53	PASS
11G	2462	10000	25000	100	300	0.47	-56.020	<-19.53	PASS
11N20SISO	2412	30	10000	100	300	-1.42	-44.550	<-21.42	PASS
11N20SISO	2412	10000	25000	100	300	-1.42	-55.980	<-21.42	PASS
11N20SISO	2412	30	10000	100	300	-1.74	-53.410	<-21.74	PASS
11N20SISO	2412	10000	25000	100	300	-1.74	-55.980	<-21.74	PASS



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11N2OSISO 2437 10000 25000 100 300 -1.31 -56.200 <-21.31 PAS 11N2OSISO 2437 30 10000 100 300 -1.46 -52.940 <-21.46 PAS 11N2OSISO 2437 10000 25000 100 300 -1.46 -55.430 <-21.46 PAS 11N2OSISO 2462 30 10000 100 300 -1.62 -52.390 <-21.62 PAS 11N2OSISO 2462 10000 25000 100 300 -1.62 -55.740 <-21.62 PAS 11N2OSISO 2462 30 10000 100 300 -2.25 -52.950 <-22.25 PAS 11N4OSISO 2462 10000 25000 100 300 -4.52 -47.390 <-24.52 PAS 11N4OSISO 2422 30 10000 100 300 -4.64 -53.380 <-24.64 PAS 11N4OSISO 2422 <th></th>										
11N2OSISO 2437 30 10000 100 300 -1.46 -52.940 <-21.46	11N20SISO	2437	30	10000	100	300	-1.31	-50.780	<-21.31	PASS
11N2OSISO 2437 10000 25000 100 300 -1.46 -55.430 <-21.46	11N20SISO	2437	10000	25000	100	300	-1.31	-56.200	<-21.31	PASS
11N2OSISO 2462 30 10000 100 300 -1.62 -52.390 <-21.62	11N20SISO	2437	30	10000	100	300	-1.46	-52.940	<-21.46	PASS
11N2OSISO 2462 10000 25000 100 300 -1.62 -55.740 <-21.62	11N20SISO	2437	10000	25000	100	300	-1.46	-55.430	<-21.46	PASS
11N20SISO 2462 30 10000 100 300 -2.25 -52.950 <-22.25	11N20SISO	2462	30	10000	100	300	-1.62	-52.390	<-21.62	PASS
11N20SISO 2462 10000 25000 100 300 -2.25 -55.990 <-22.25	11N20SISO	2462	10000	25000	100	300	-1.62	-55.740	<-21.62	PASS
11N40SISO 2422 30 10000 100 300 -4.52 -47.390 <-24.52	11N20SISO	2462	30	10000	100	300	-2.25	-52.950	<-22.25	PASS
11N40SISO 2422 10000 25000 100 300 -4.52 -55.880 <-24.52	11N20SISO	2462	10000	25000	100	300	-2.25	-55.990	<-22.25	PASS
11N40SISO 2422 30 10000 100 300 -4.64 -53.380 <-24.64	11N40SISO	2422	30	10000	100	300	-4.52	-47.390	<-24.52	PASS
11N40SISO 2422 10000 25000 100 300 -4.64 -55.850 <-24.64	11N40SISO	2422	10000	25000	100	300	-4.52	-55.880	<-24.52	PASS
11N40SISO 2437 30 10000 100 300 -4.12 -50.300 <-24.12	11N40SISO	2422	30	10000	100	300	-4.64	-53.380	<-24.64	PASS
11N40SISO 2437 10000 25000 100 300 -4.12 -56.240 <-24.12	11N40SISO	2422	10000	25000	100	300	-4.64	-55.850	<-24.64	PASS
11N40SISO 2437 30 10000 100 300 -4.67 -54.430 <-24.67 PAS 11N40SISO 2437 10000 25000 100 300 -4.67 -55.850 <-24.67	11N40SISO	2437	30	10000	100	300	-4.12	-50.300	<-24.12	PASS
11N40SISO 2437 10000 25000 100 300 -4.67 -55.850 <-24.67 PAS	11N40SISO	2437	10000	25000	100	300	-4.12	-56.240	<-24.12	PASS
	11N40SISO	2437	30	10000	100	300	-4.67	-54.430	<-24.67	PASS
11N40SISO 2452 30 10000 100 300 -4.78 -52.320 <-24.78 PAS	11N40SISO	2437	10000	25000	100	300	-4.67	-55.850	<-24.67	PASS
	11N40SISO	2452	30	10000	100	300	-4.78	-52.320	<-24.78	PASS
11N40SISO 2452 10000 25000 100 300 -4.78 -56.170 <-24.78 PAS	11N40SISO	2452	10000	25000	100	300	-4.78	-56.170	<-24.78	PASS
11N40SISO 2452 30 10000 100 300 -5.05 -55.880 <-25.05 PAS	11N40SISO	2452	30	10000	100	300	-5.05	-55.880	<-25.05	PASS
11N40SISO 2452 10000 25000 100 300 -5.05 -55.740 <-25.05 PAS	11N40SISO	2452	10000	25000	100	300	-5.05	-55.740	<-25.05	PASS



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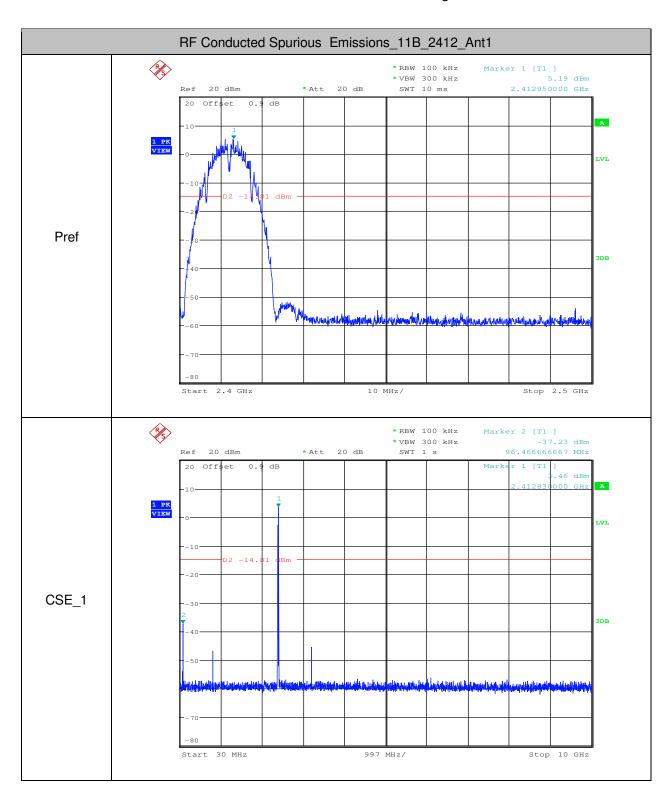
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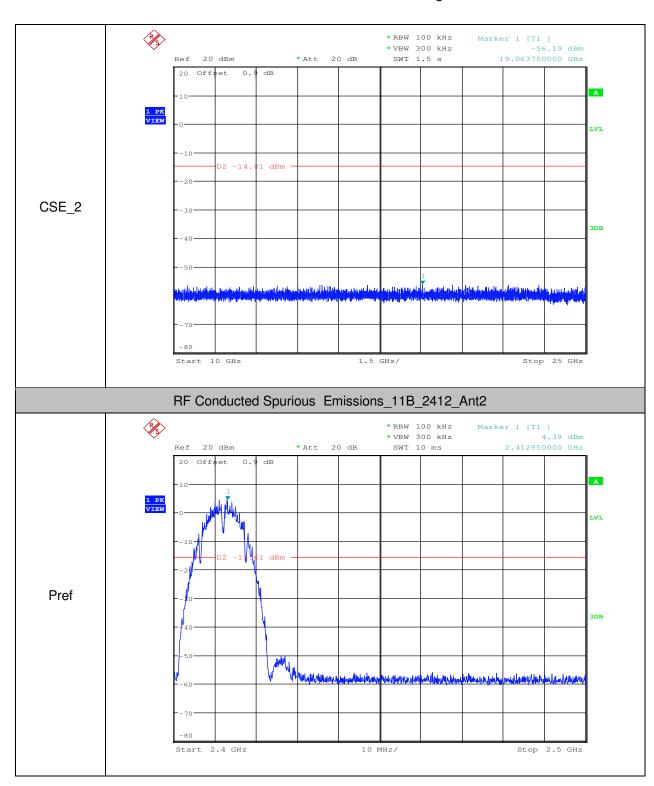
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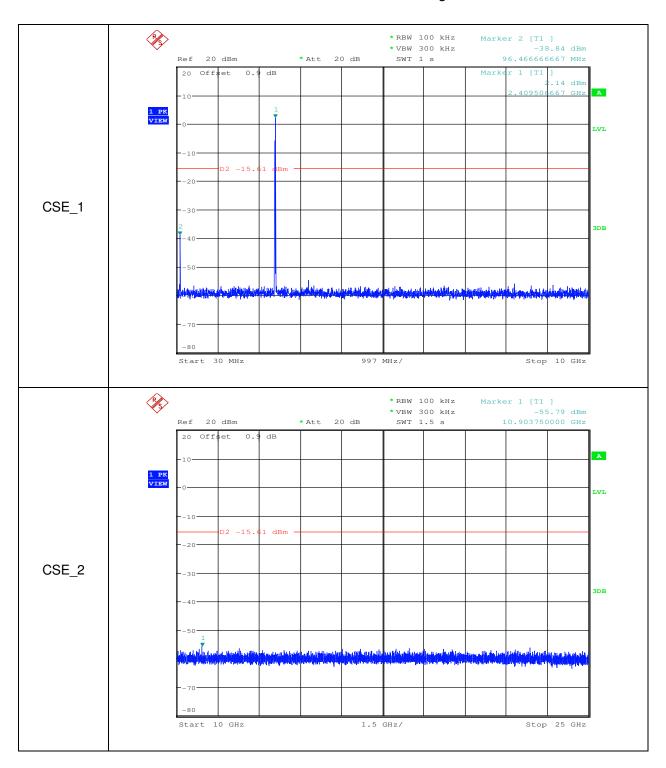
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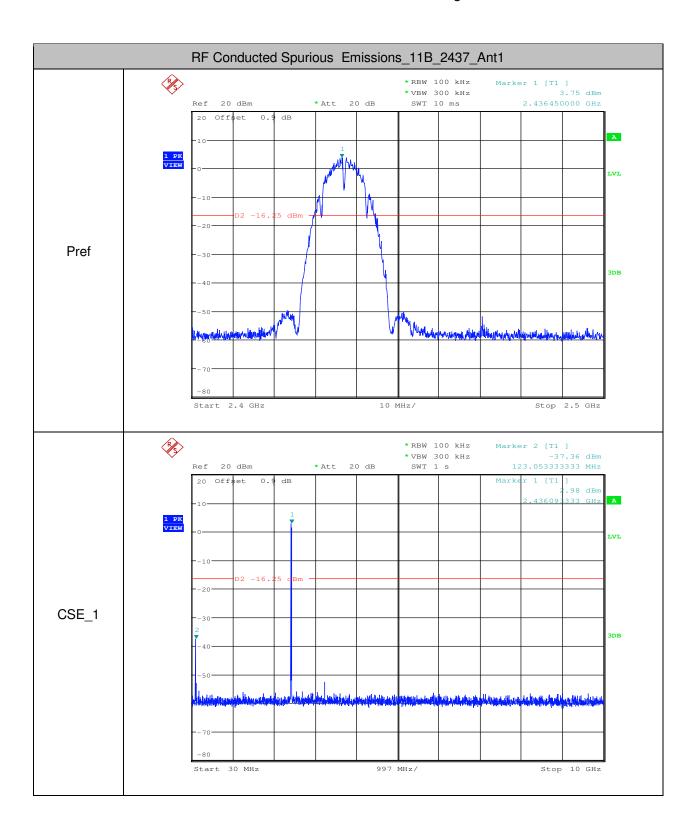
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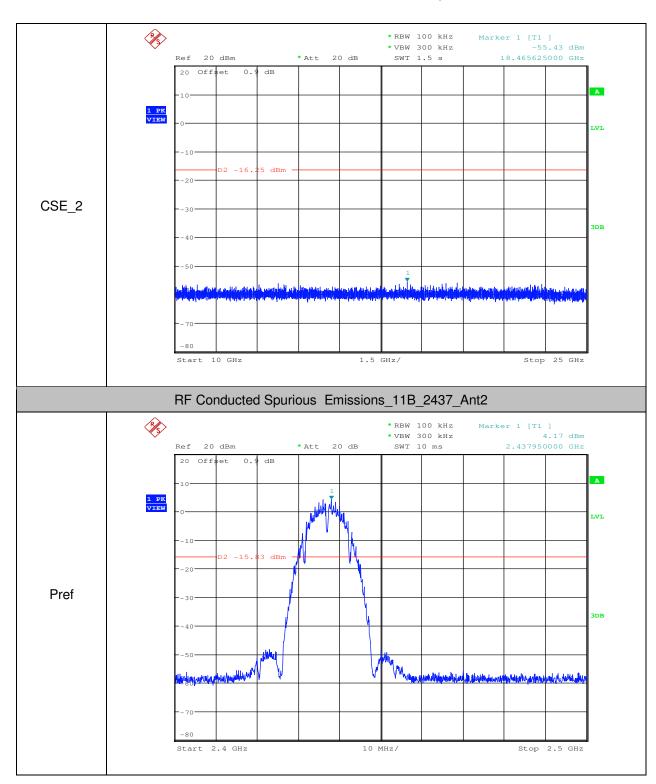
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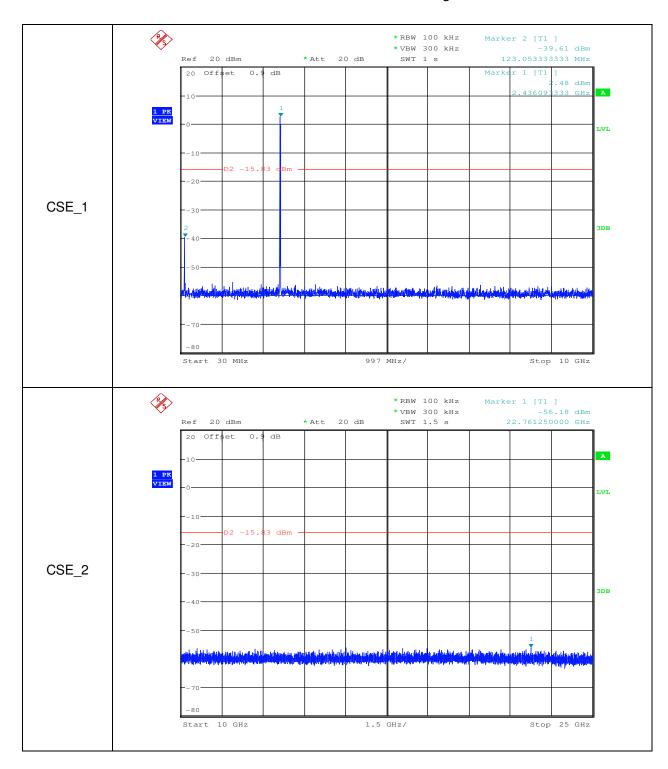
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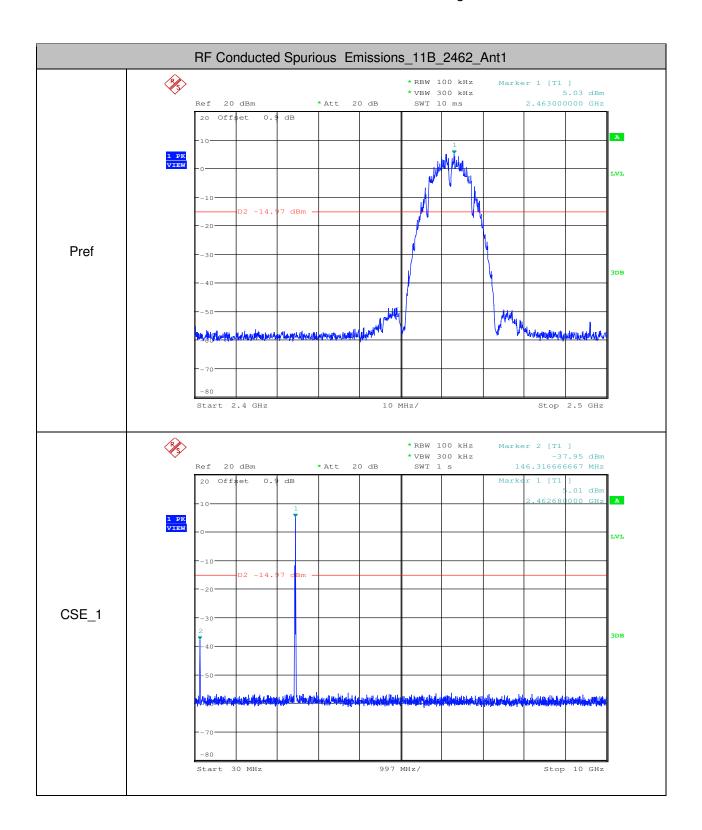
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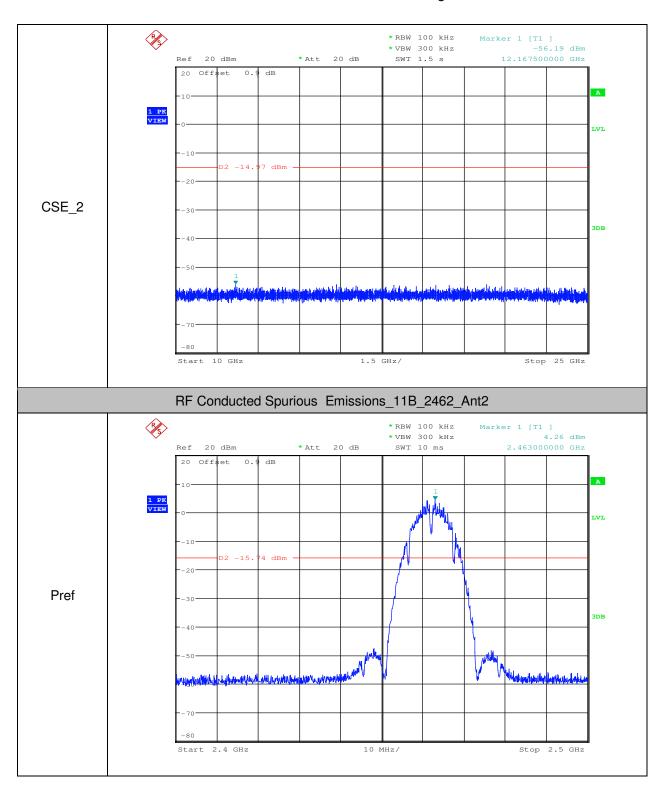
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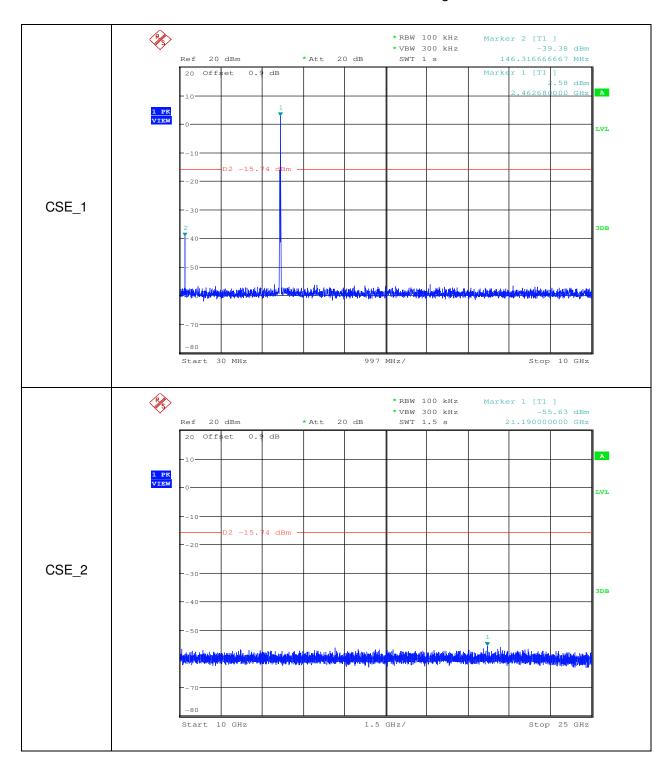
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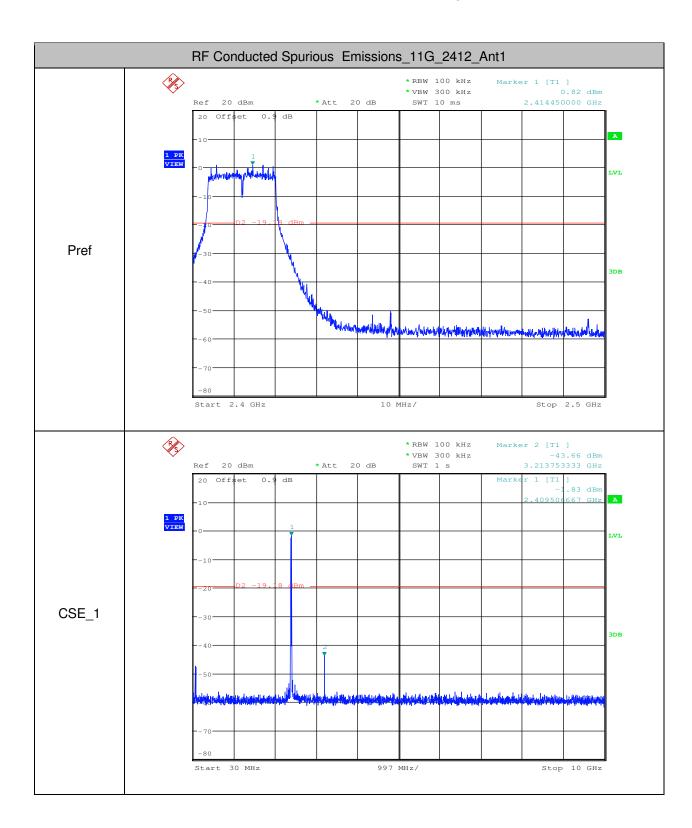
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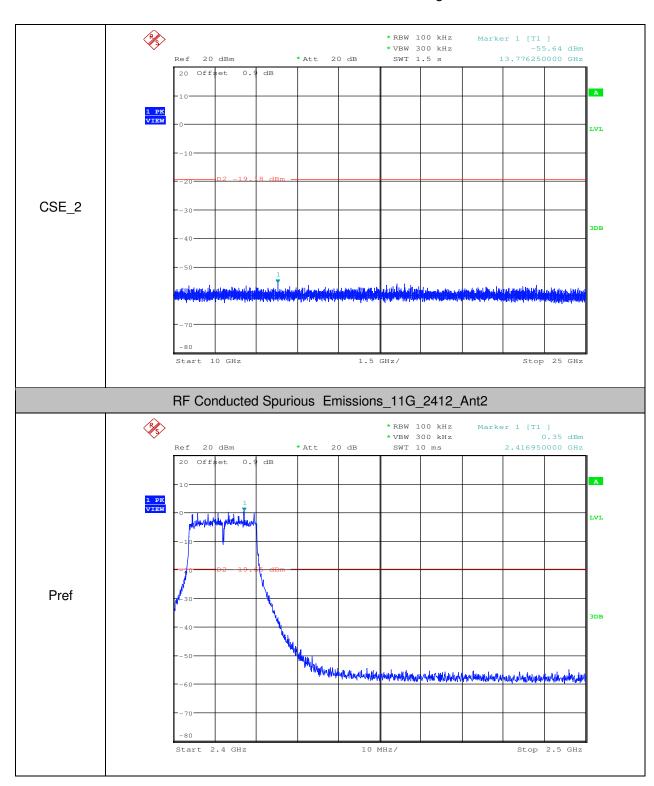
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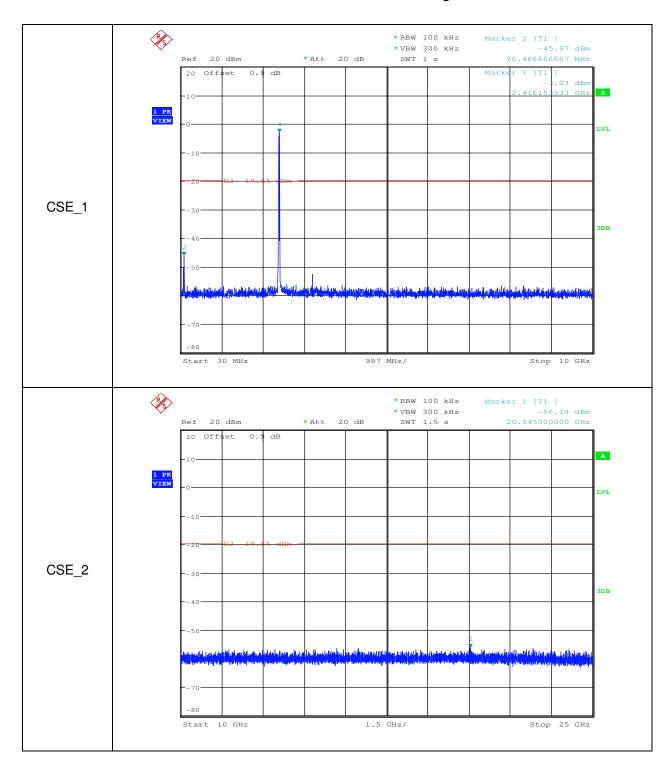
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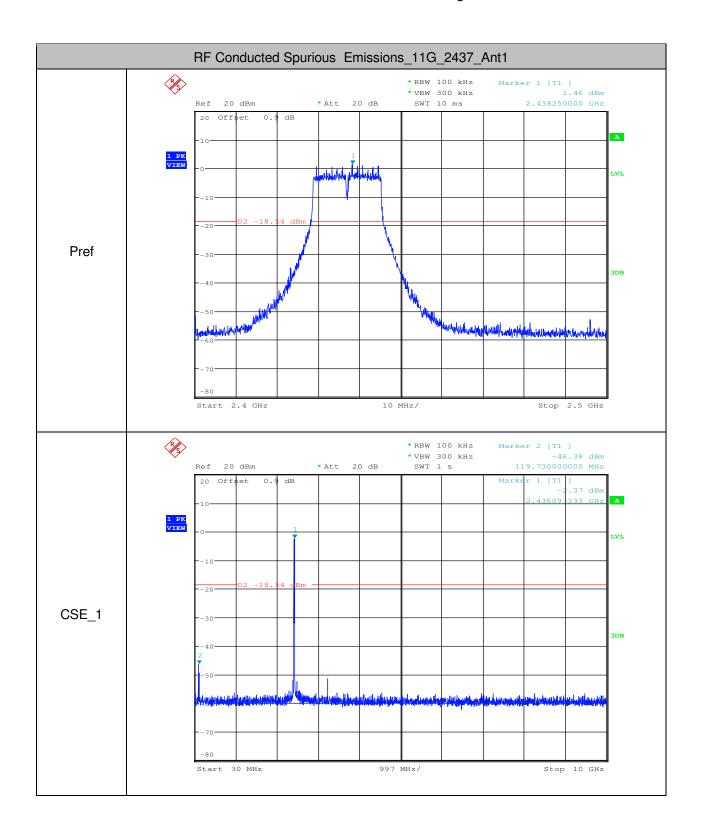
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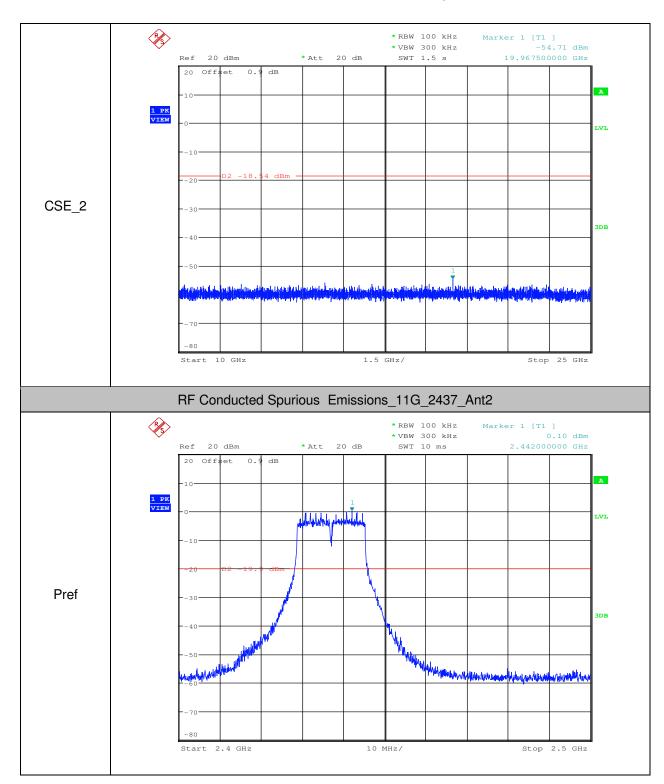
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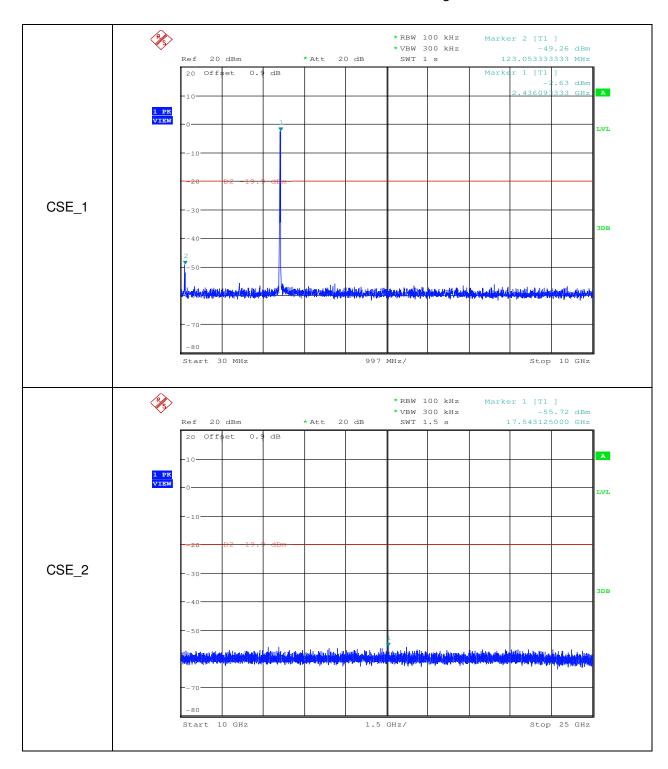
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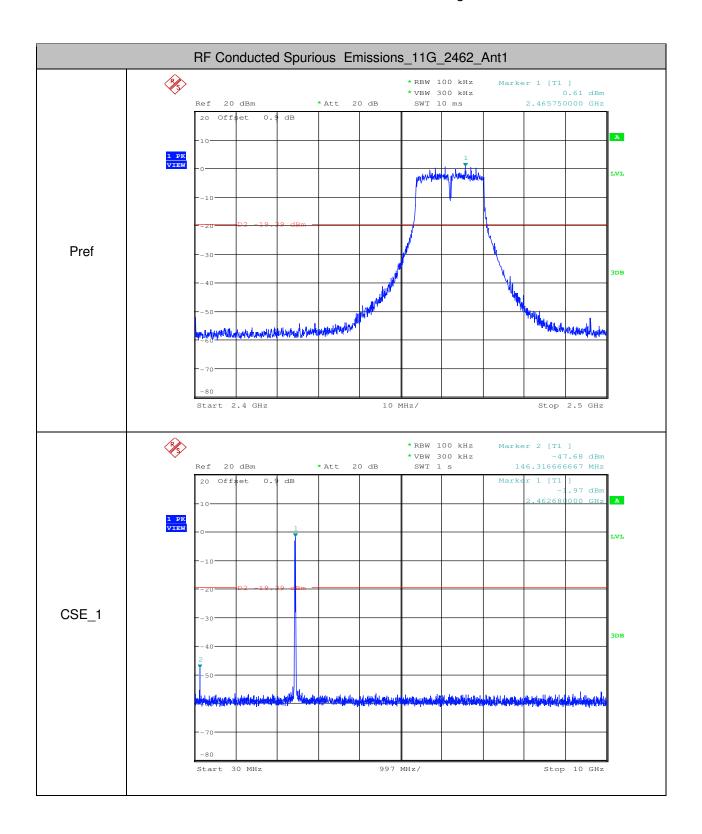
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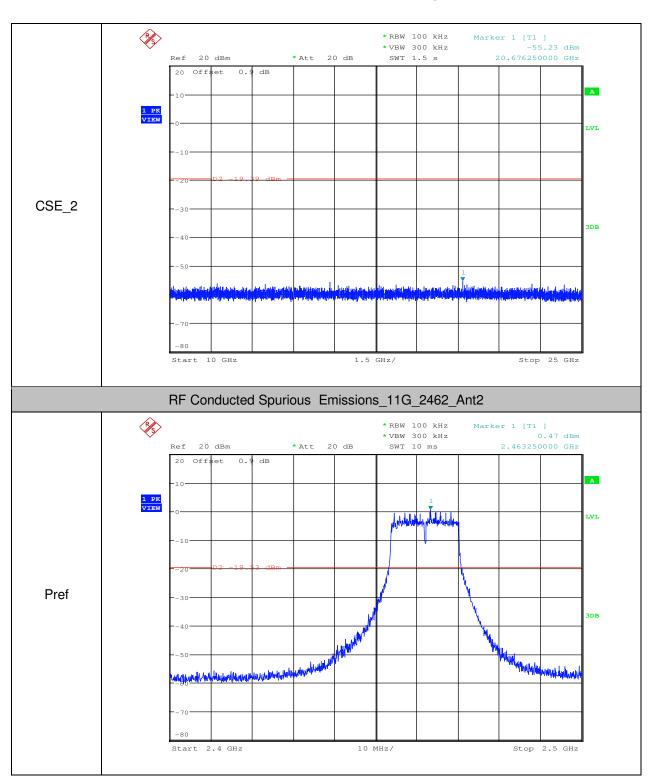
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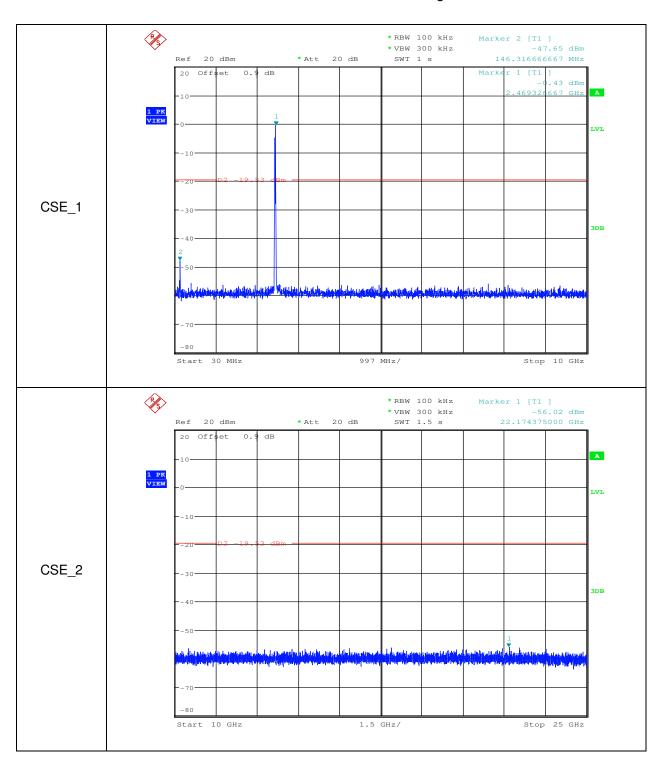
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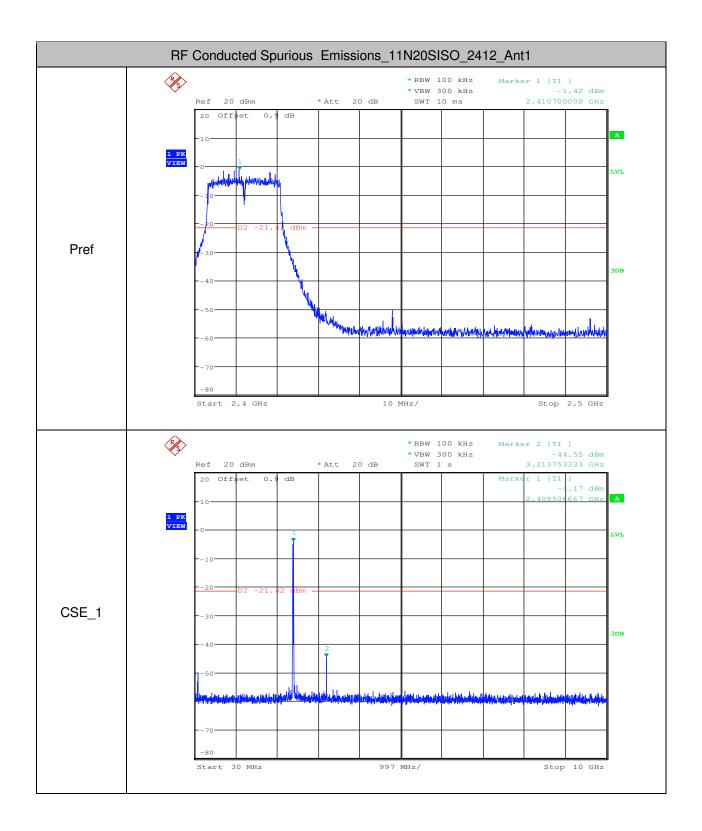
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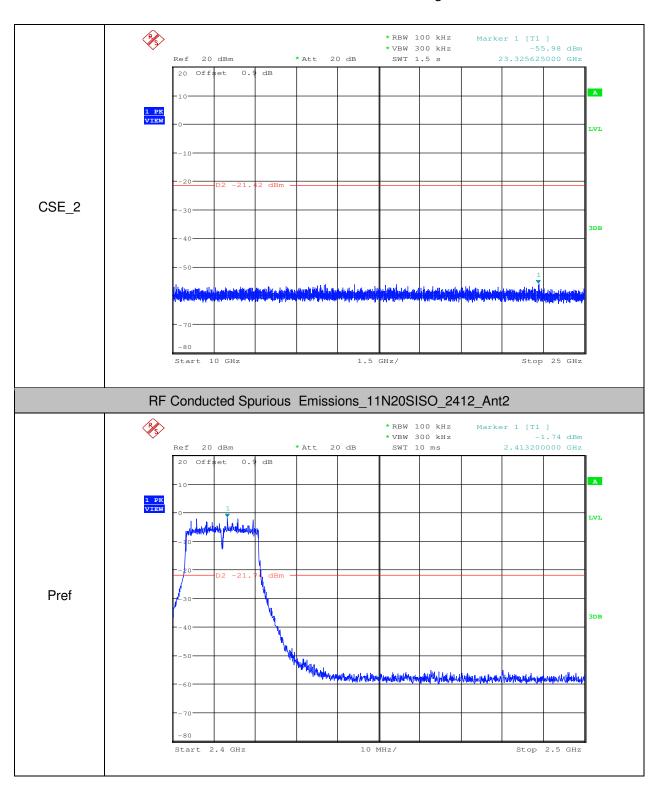
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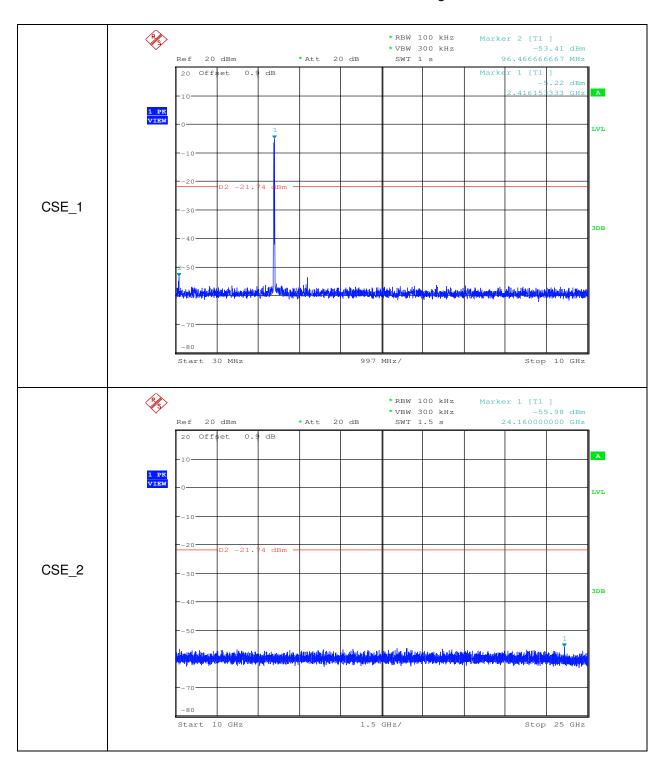
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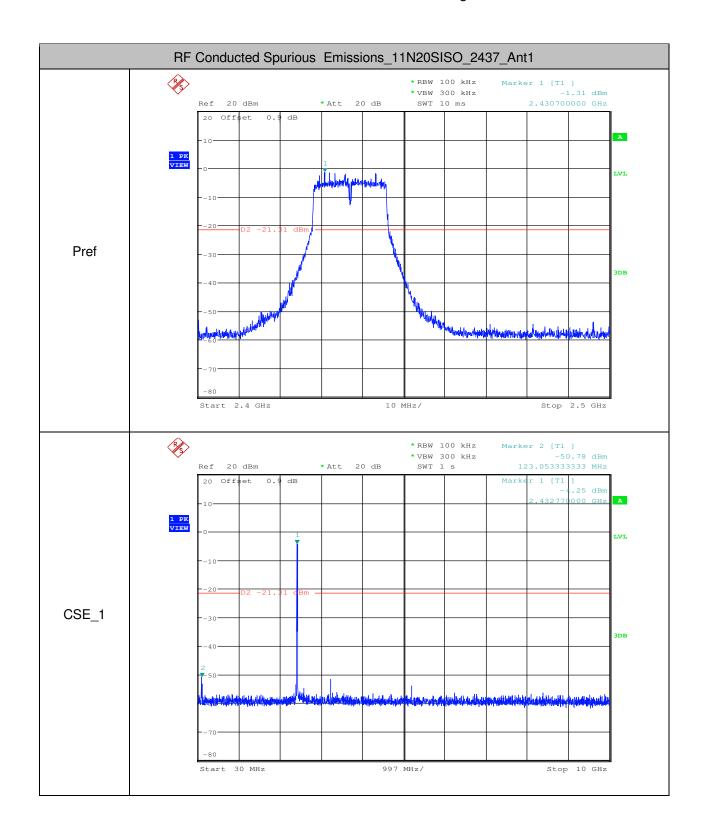
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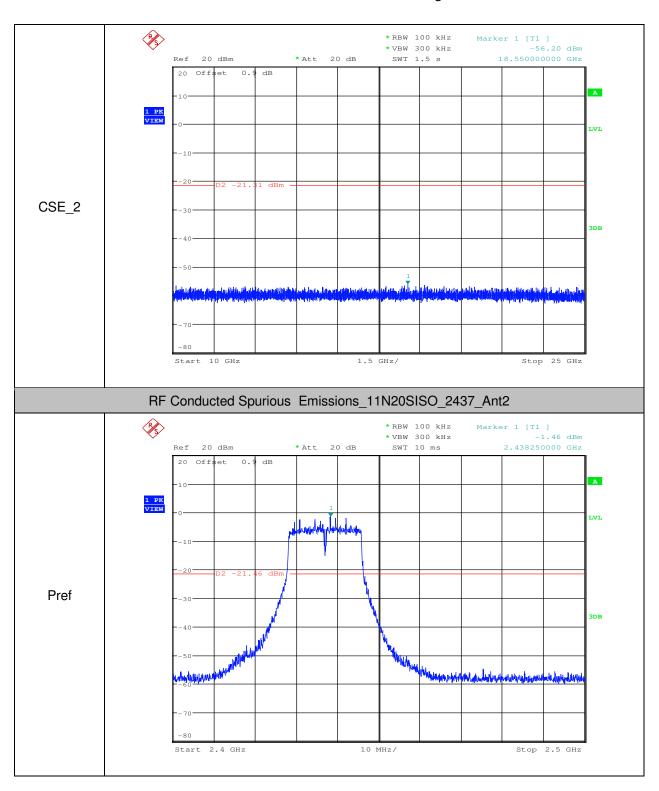
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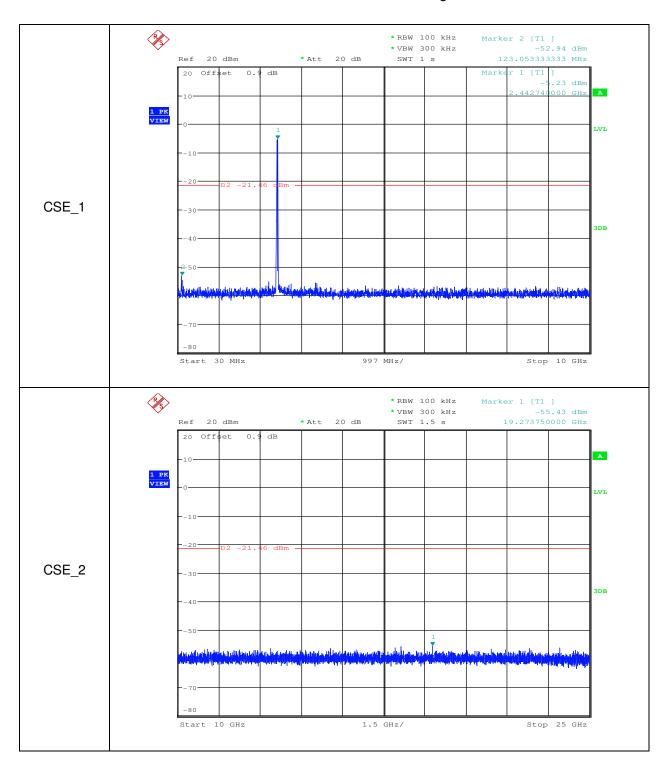
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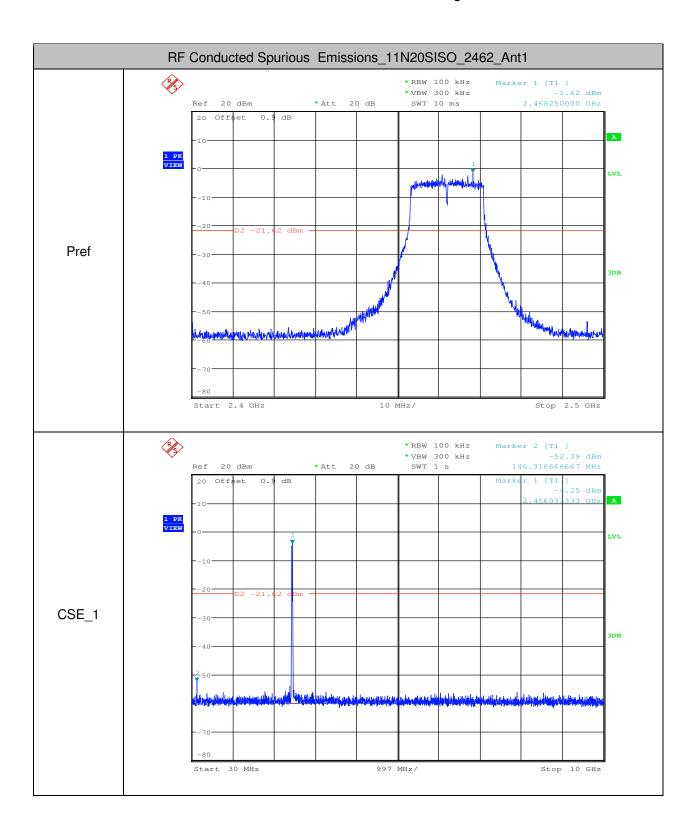
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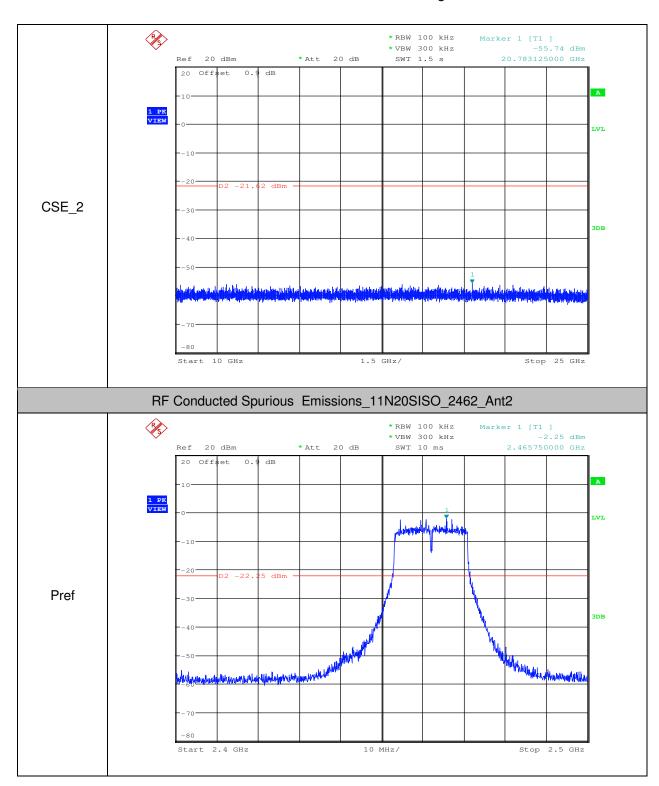
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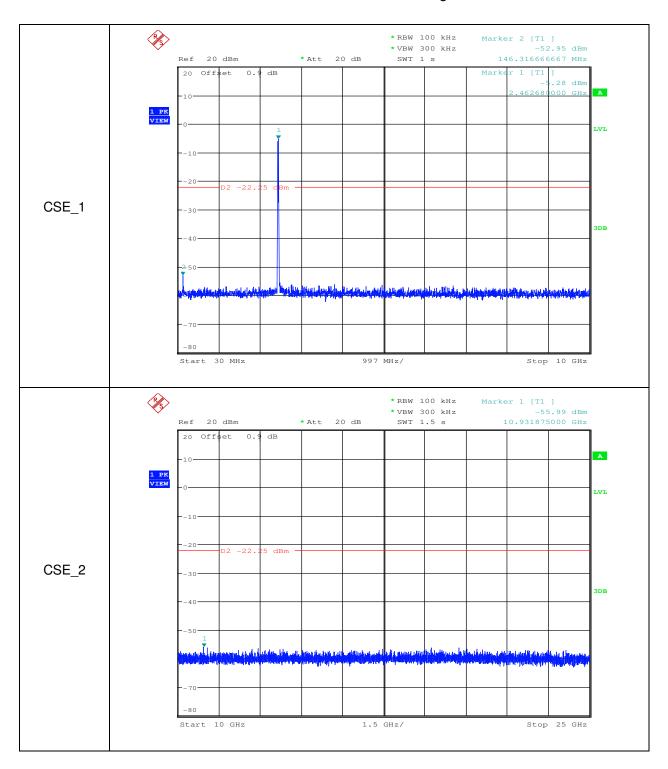
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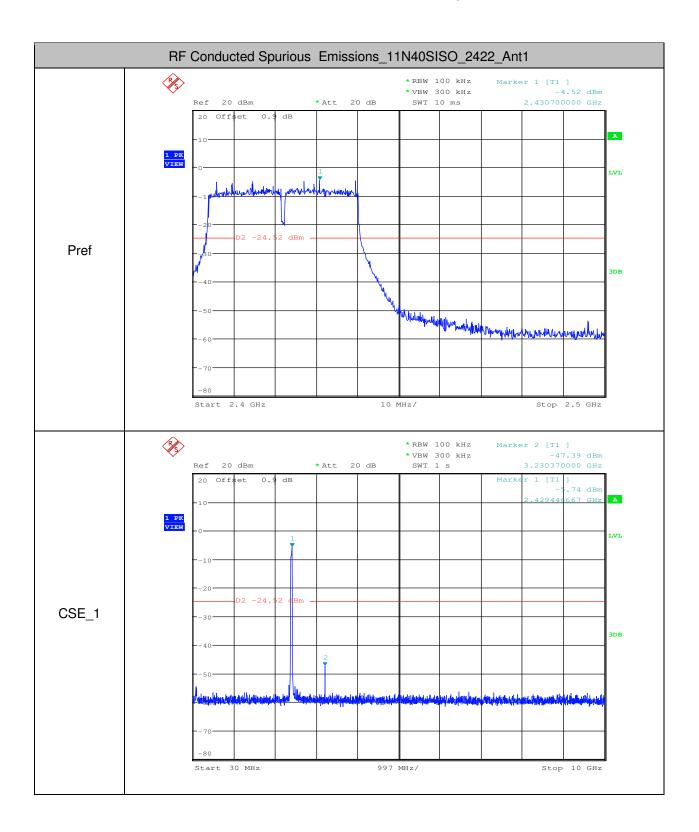
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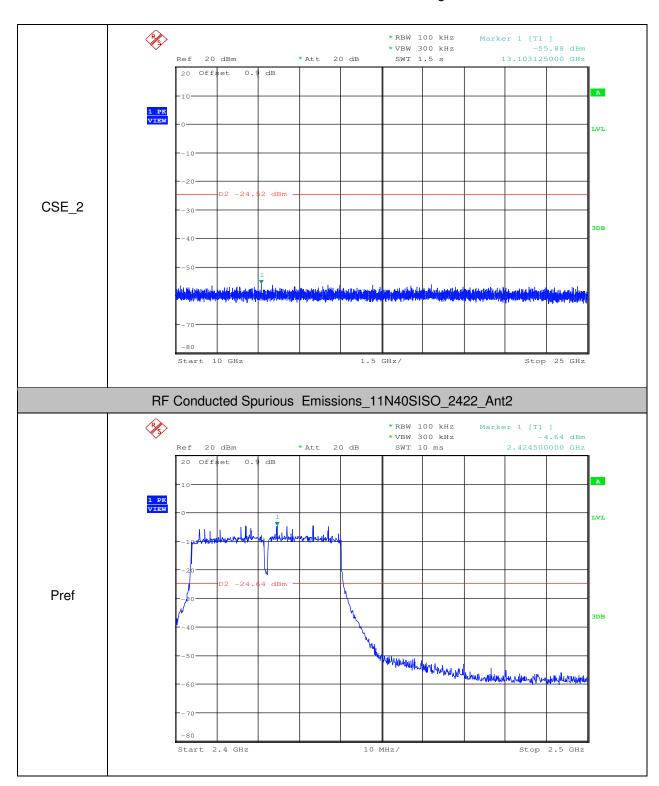
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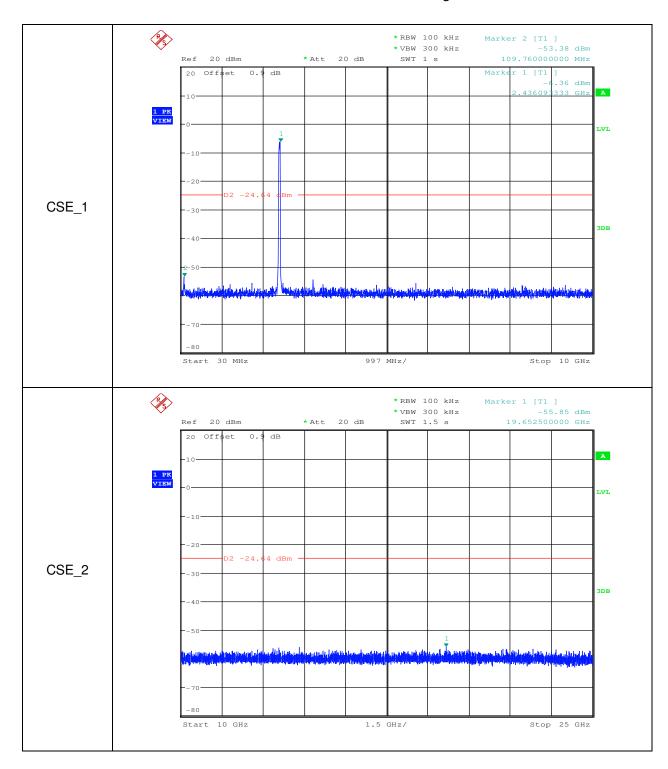
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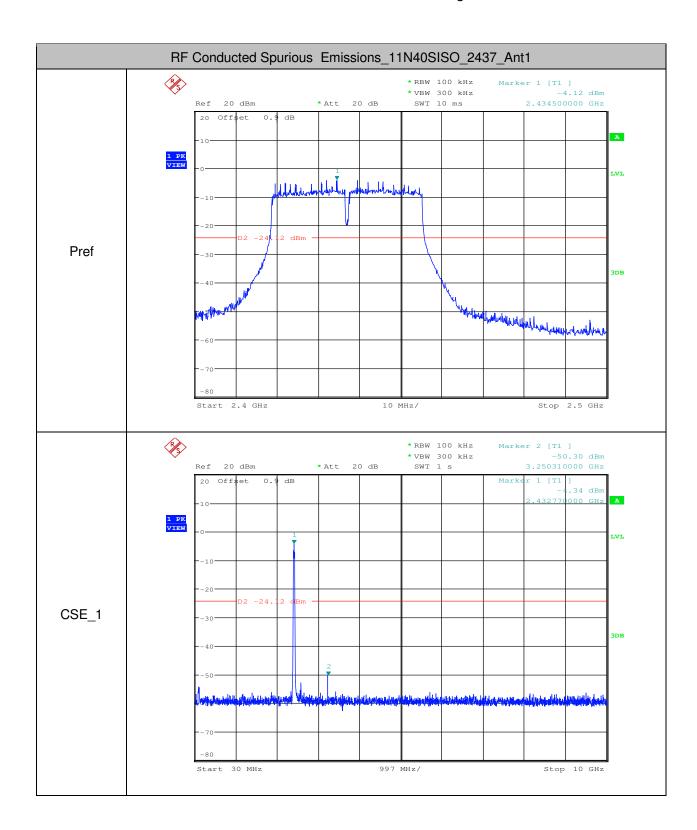
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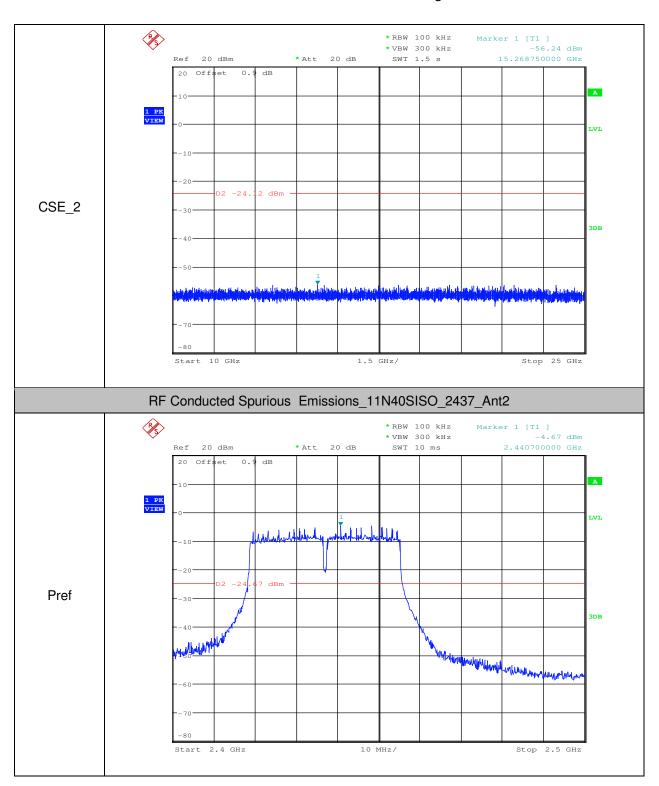
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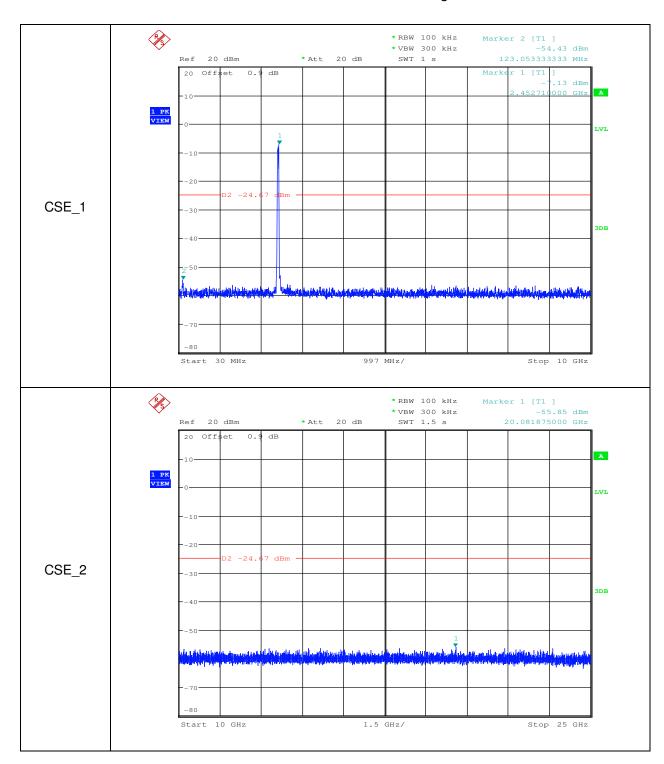
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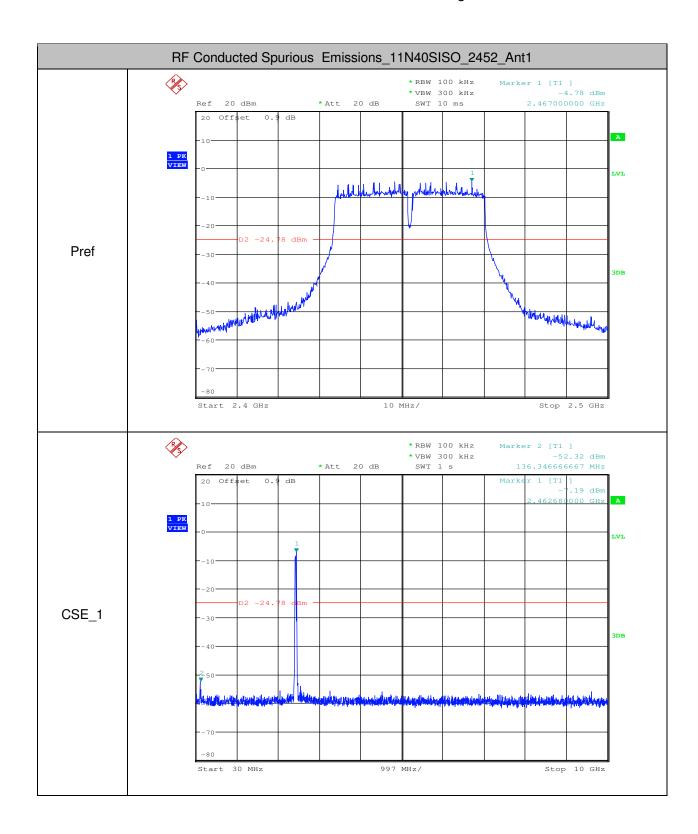
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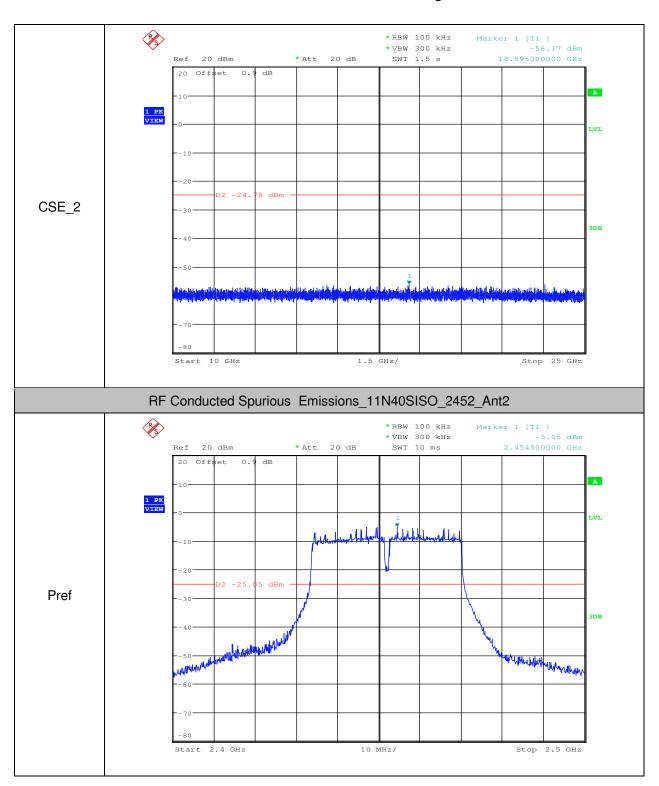
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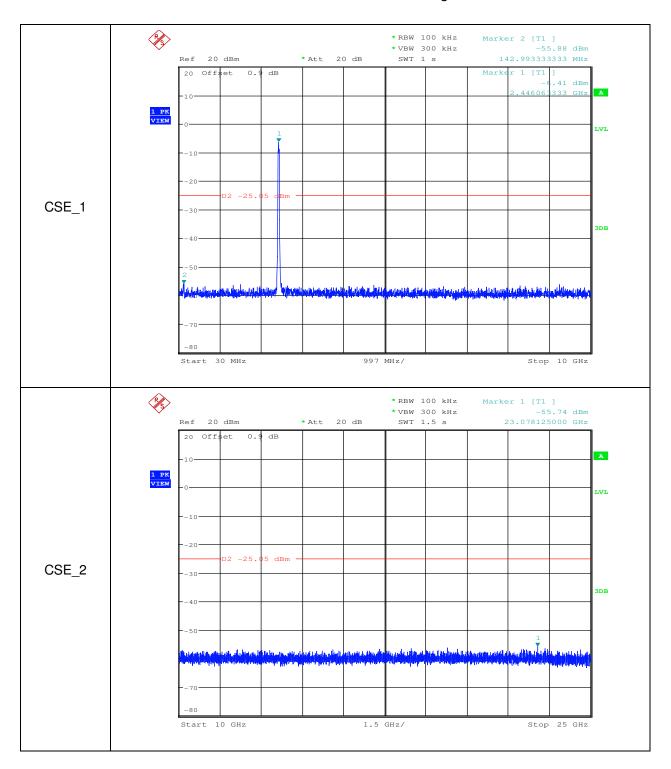
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