



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

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Report No.: GZEM180300099901  
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FCC ID: 2AEZA-DI2014

## TEST REPORT

<b>Application No.:</b>	GZEM1803000999CR
<b>Applicant:</b>	GUANGZHOU BOSMA TECHNOLOGY CO., LTD
<b>Address of Applicant:</b>	Floor 2nd, Building A5, No.11, Kaiyuan Avenue, Guangzhou Hi-tech Industrial Development Zone, Guangzhou, China
<b>Manufacturer:</b>	The same as Applicant
<b>Address of Manufacturer:</b>	The same as Applicant
<b>Factory:</b>	The same as Applicant
<b>Address of Factory:</b>	The same as Applicant
<b>Equipment Under Test (EUT):</b>	
<b>EUT Name:</b>	1080P Wi-Fi IP Camera
<b>FCC ID:</b>	2AEZA-DI2014
<b>Model No.:</b>	CapsuleCam S
<b>Trade Mark:</b>	BOSMA
<b>Standard(s) :</b>	47 CFR Part 15, Subpart C 15.247
<b>Date of Receipt:</b>	2018-03-05
<b>Date of Test:</b>	2018-03-07 to 2018-04-12
<b>Date of Issue:</b>	2018-04-18

<b>Test Result:</b>	<b>Pass*</b>
---------------------	--------------

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



Kobe Jian

EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

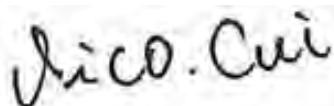
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2018-04-18		Original

Authorized for issue by:			
Tested By	 Vico_Cui /Project Engineer		2018-03-07 to 2018-04-12
Checked By	 Ricky_Liu /Reviewer		2018-04-17



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## 2 Test Summary

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

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.9	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.13	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.5&6.6&11.12	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.5&6.6&11.11	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass



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## 4 General Information

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

Power Supply:	DC 5.0V 1000mA from adapter
	Detail about adapter:
	Model: SAW06B-050-1000U
	Input: AC 100-240V 50/60Hz 0.3A
	Output: DC 5V 1000mA
Test Voltage:	120V 60Hz
Cable:	1.9m x 2 wires unscreened DC output mains cable
Antenna Gain:	3dBi
Antenna Type:	Integrated antenna
Channel Spacing:	5MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11n (HT20 and HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n (HT20): 11 802.11n (HT40): 7
Operation Frequency:	802.11b/g/n (HT20): 2412MHz to 2462MHz 802.11n (HT40): 2422MHz to 2452MHz

### 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	RF Conducted power	0.75dB
5	RF Power Density	2.84dB
6	Conducted Spurious Emissions	0.75dB
7	RF Radiated Power	4.5dB (below 1GHz) 4.8dB (above 1GHz)
8	Radiated Spurious Emission Test	4.5dB (30MHz-1GHz) 4.8dB (1GHz-18GHz)
9	Temperature	0.4°C
10	Humidity	1.3%
11	Supply Voltages	1.5%
12	Time	3%



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### 4.4 Test Location

All tests were performed at:

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

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

No tests were sub-contracted.



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## 4.5 Test Facility

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

### ● NVLAP (Lab Code: 200611-0)

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

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

### ● ACMA

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

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

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

### ● CNAS (Lab Code: L0167)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

### ● FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

### ● FCC Recognized Accredited Test Firm(Registration No.: 486818)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

### ● Industry Canada (Registration No.: 4620B-1)

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

### ● VCCI (Registration No.: R-2460, C-2584, G-449 and T-1179)

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460, C-2584, G-449 and T-1179 respectively.

### ● CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IEC60068-0-2 and Rules of procedure IEC60068-0-13, and the relevant IEC60068-0-27 Operational documents.



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## 4.6 Deviation from Standards

None

## 4.7 Abnormalities from Standard Conditions

None



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## 5 Equipment List

RF Conducted Test					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer	AgilentTechnologies	N9020A	SEM004-10	2018-03-10	2019-03-09
ESG Vector Signal Generator	Keysight	E4438C	SEM006-03	2017-04-14	2018-04-13
EXG Analog Signal Generator	AgilentTechnologies	N5171B	SEM006-04	2017-07-26	2020-07-25
Power Meter	AgilentTechnologies	U2021XA_Ch2	SEM009-02	2017-09-19	2018-09-18
Power Meter	AgilentTechnologies	U2021XA_Ch3	SEM009-03	2017-09-19	2018-09-18
EXA Signal Analzer	AgilentTechnologies	N9010A	EMC2138	2017-11-15	2018-11-14
ATTENUATOR	HP	8941A	EMC2062	2016-04-05	2018-04-04



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Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2018-01-19	2019-01-18
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2018-01-19	2019-01-18
RI High Frequency Cable	SGS	20 m	EMC0528	2016-04-19	2018-04-18
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9160	EMC2025	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6112B	EMC0524	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna 1GHz-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2016-09-09	2019-09-08
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2018-01-08	2019-01-07
Amplifier	HP	8447F	EMC2065	2017-06-19	2018-06-18
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2017-11-20	2018-11-19
Active Loop Antenna	EMCO	6502	EMC0523	2018-02-24	2019-02-23
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2018-01-19	2019-01-18
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2018-01-08	2019-01-07
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2016-04-30	2018-04-29
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-11-29	2018-11-28
MXE EMI Receiver	Keysight	N9038A	EMC2139	2017-11-15	2018-11-14
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2017-11-15	2018-11-14



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Radiated Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2018-01-19	2019-01-18
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2018-01-19	2019-01-18
RI High Frequency Cable	SGS	20 m	EMC0528	2016-04-19	2018-04-18
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9160	EMC2025	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6112B	EMC0524	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna 1GHz-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2016-09-09	2019-09-08
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2018-01-08	2019-01-07
Amplifier	HP	8447F	EMC2065	2017-06-19	2018-06-18
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2017-11-20	2018-11-19
Active Loop Antenna	EMCO	6502	EMC0523	2018-02-24	2019-02-23
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2018-01-19	2019-01-18
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2018-01-08	2019-01-07
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2016-04-30	2018-04-29
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-11-29	2018-11-28
MXE EMI Receiver	Keysight	N9038A	EMC2139	2017-11-15	2018-11-14
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2017-11-15	2018-11-14

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2017-07-26	2018-07-25
DMM	Fluke	73	EMC0007	2017-07-26	2018-07-25

## **6 Radio Spectrum Technical Requirement**

### **6.1 Antenna Requirement**

#### **6.1.1 Test Requirement:**

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

#### **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 dedicated antenna pasted on the housing and no consideration of replacement. The best-case gain of the antenna is 3dBi.



## 7 Radio Spectrum Matter Test Results

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

Test Requirement 47 CFR Part 15, Subpart C 15.207

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

Limit:

Frequency of emission(MHz)	Conducted limit(dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

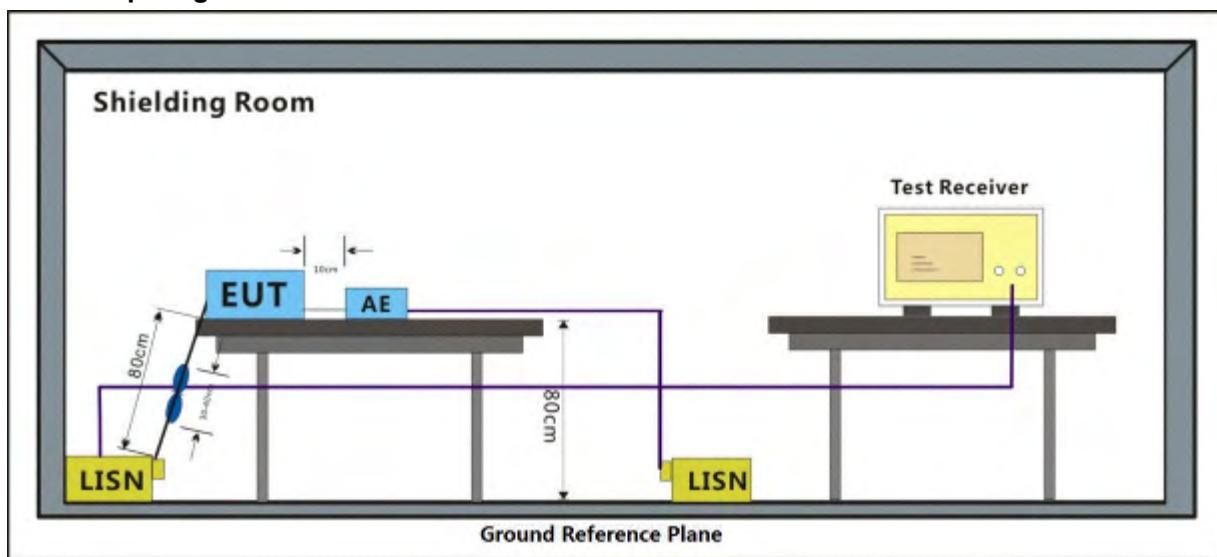
#### 7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C Humidity: 45.1 % RH Atmospheric Pressure: 1020 mbar

Test Mode: b: TX mode\_keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); 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





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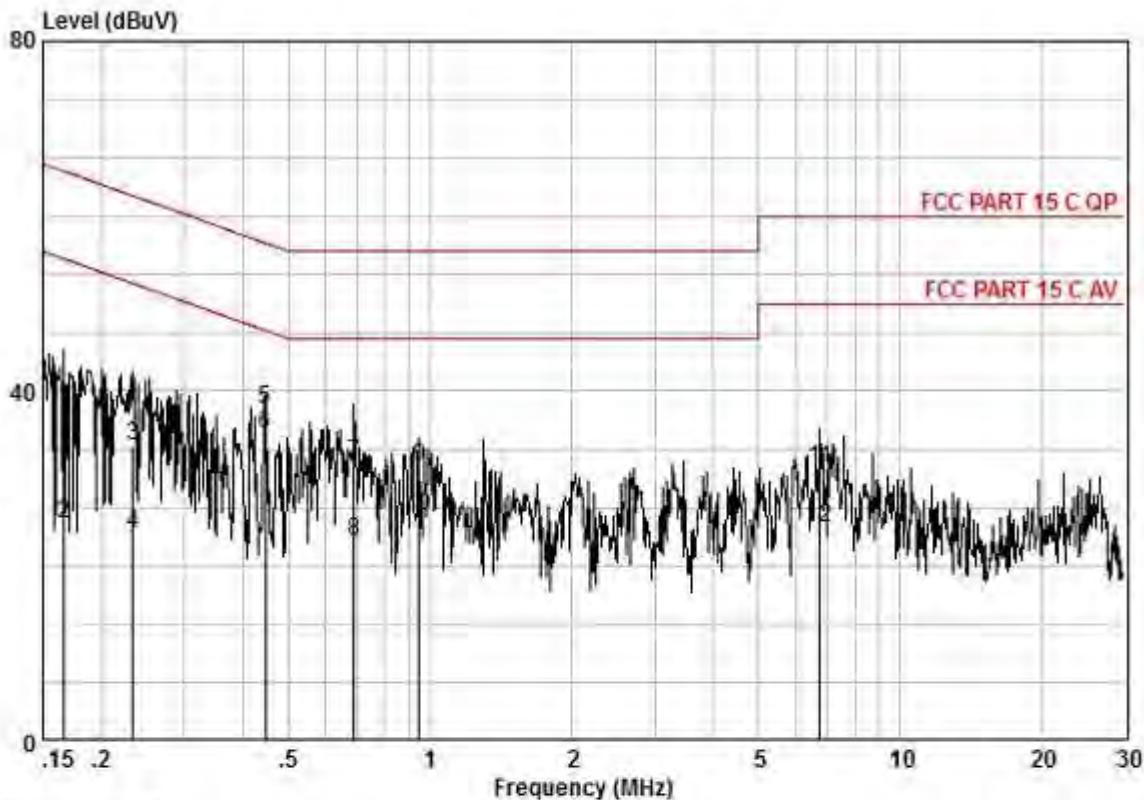
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## 7.1.3 Measurement Procedure and Data

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

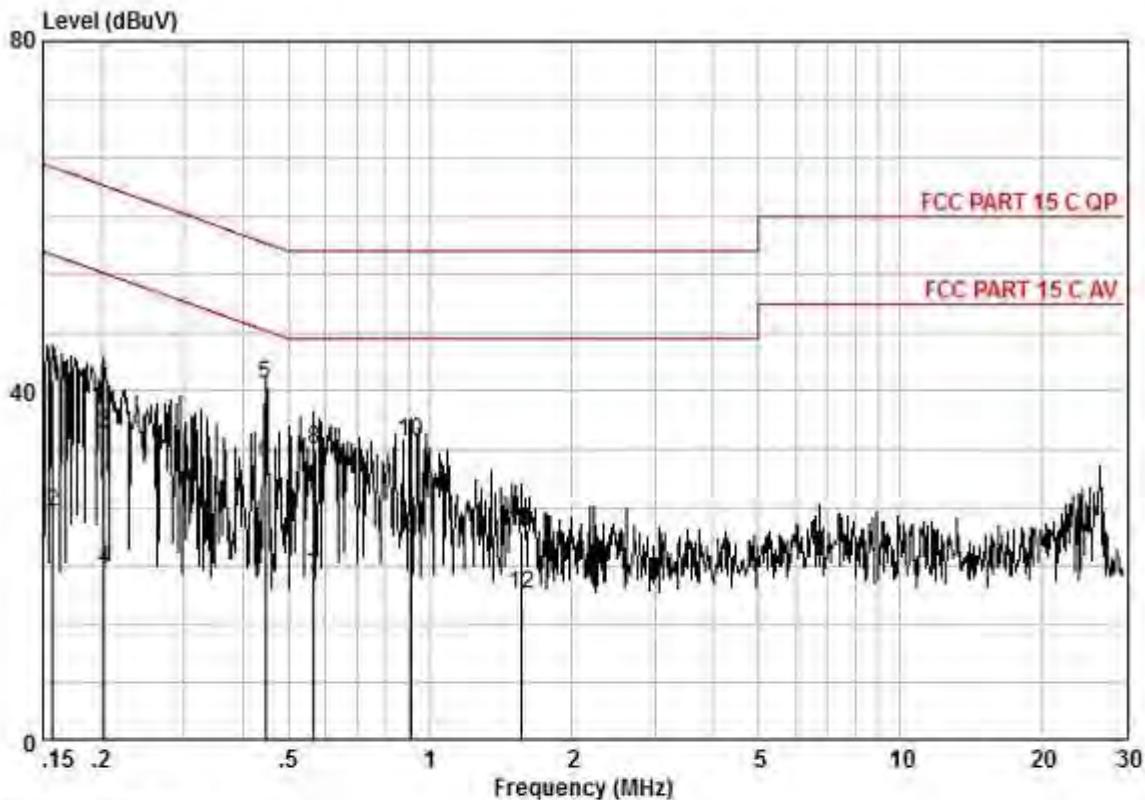
Remark: LISN=Read Level+ Cable Loss+ LISN Factor

Mode:b; Line:Live Line



Pol No	Model	LIVE						
		read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over Limit dB	Remark
		28.61	0.10	9.46	38.17	65.12	-26.95	QP
0.17		15.25	0.10	9.46	24.81	55.12	-30.31	AVERAGE
0.23		24.19	0.12	9.58	33.89	62.35	-28.46	QP
0.23		14.13	0.12	9.58	23.83	52.35	-28.52	AVERAGE
0.45		28.09	0.19	9.55	37.83	56.93	-19.10	QP
0.45		25.27	0.19	9.55	35.01	46.93	-11.92	AVERAGE
0.69		22.07	0.25	9.59	31.90	56.00	-24.10	QP
0.69		13.13	0.25	9.59	22.96	46.00	-23.04	AVERAGE
0.95		21.46	0.29	9.59	31.34	56.00	-24.66	QP
0.95		15.77	0.29	9.59	25.65	46.00	-20.35	AVERAGE
6.73		20.98	0.66	9.59	31.23	60.00	-28.77	QP
6.73		14.16	0.66	9.59	24.41	50.00	-25.59	AVERAGE

Mode:b; Line:Neutral Line



Pol No	Model	NEUTRAL							
		read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over Limit dB	Remark	
Frequency MHz		Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.16		0.16	32.00	0.10	9.42	41.52	65.60	-24.09	QP
		0.16	16.56	0.10	9.42	26.08	55.60	-29.53	AVERAGE
		0.20	25.47	0.10	9.59	35.16	63.49	-28.33	QP
		0.20	9.88	0.10	9.59	19.57	53.49	-33.92	AVERAGE
		0.45	30.93	0.19	9.55	40.67	56.94	-16.26	QP
		0.45	21.98	0.19	9.55	31.72	46.94	-15.21	AVERAGE
		0.57	8.89	0.22	9.57	18.67	46.00	-27.33	AVERAGE
		0.57	23.67	0.22	9.57	33.45	56.00	-22.55	QP
		0.91	13.41	0.29	9.59	23.29	46.00	-22.71	AVERAGE
		0.91	24.37	0.29	9.59	34.25	56.00	-21.75	QP
		1.56	14.08	0.31	9.54	23.94	56.00	-32.06	QP
		1.56	6.86	0.31	9.54	16.72	46.00	-29.28	AVERAGE

## 7.2 Minimum 6dB Bandwidth

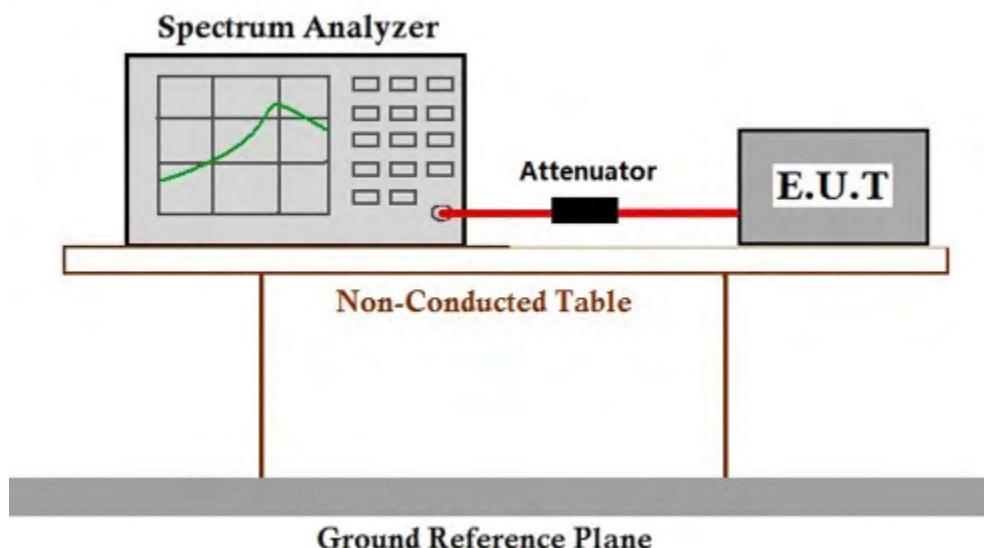
Test Requirement 47 CFR Part 15, Subpart C 15.247a(2)  
Test Method: ANSI C63.10 (2013) Section 11.8.1  
Limit: ≥500 kHz

### 7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C      Humidity: 51.2 % RH      Atmospheric Pressure: 1020 mbar  
Test Mode: b: TX mode\_keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); 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



### 7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

### 7.3 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

Limit:

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

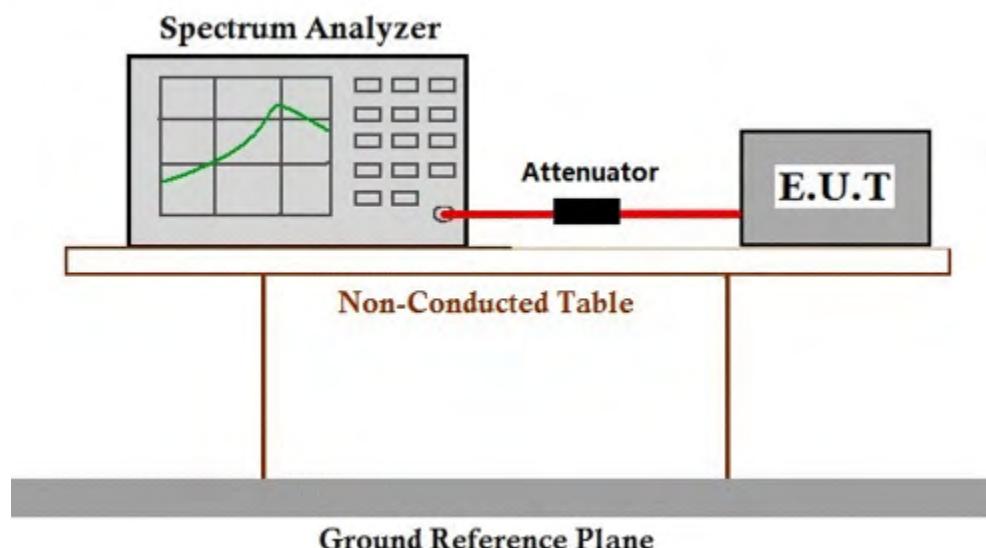
#### 7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C Humidity: 51.2 % RH Atmospheric Pressure: 1020 mbar

Test Mode: b: TX mode \_keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); 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



#### 7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

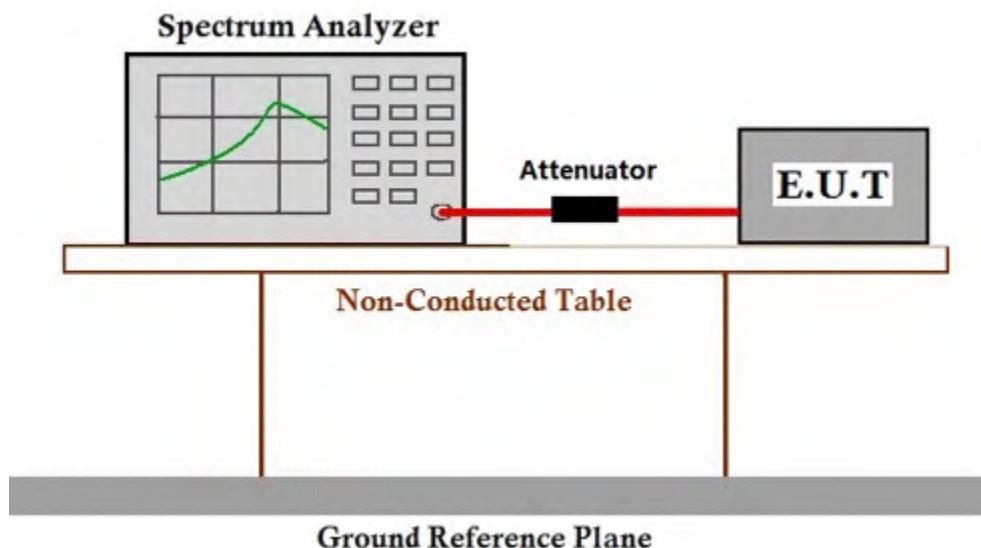
## 7.4 Power Spectrum Density

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

### 7.4.1 E.U.T. Operation

Operating Environment:  
Temperature: 24.6 °C      Humidity: 51.2 % RH      Atmospheric Pressure: 1020 mbar  
Test Mode: b: TX mode \_ keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); 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



### 7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

## 7.5 Conducted Band Edges Measurement

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.13
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))

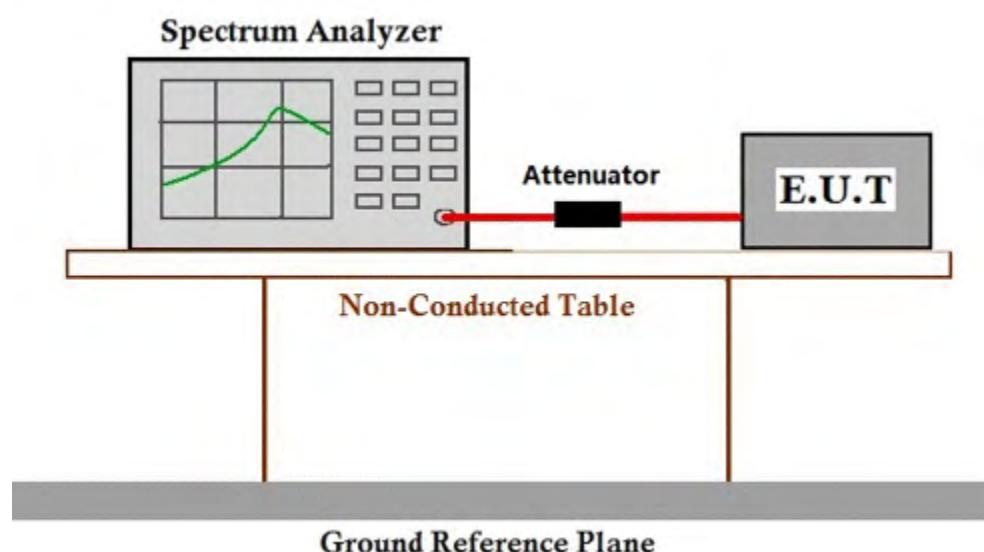
### 7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C      Humidity: 51.2 % RH      Atmospheric Pressure: 1020 mbar

Test Mode: b: TX mode \_ keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); 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



### 7.5.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

## 7.6 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section11.11
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))

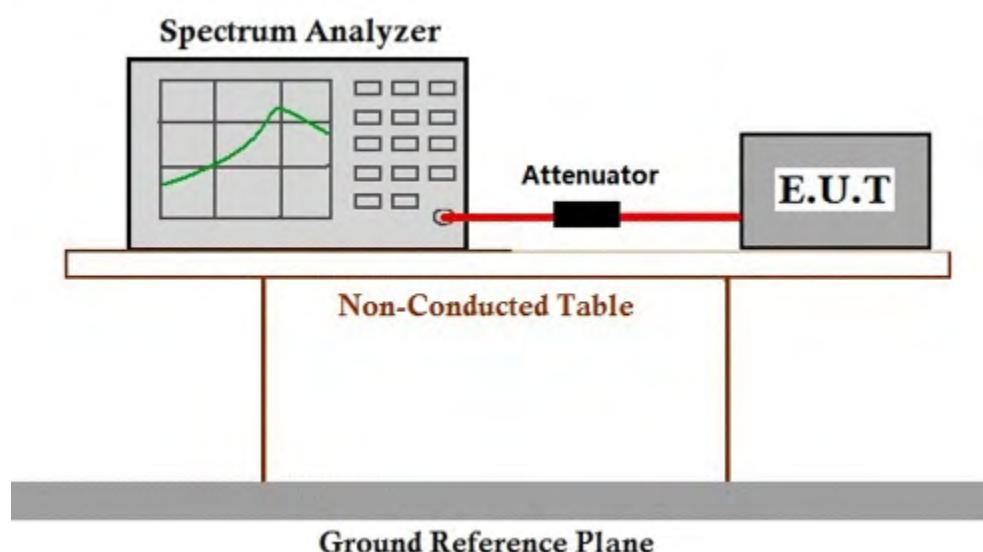
### 7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C      Humidity: 51.2 % RH      Atmospheric Pressure: 1020 mbar

Test Mode: b: TX mode\_keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); 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



### 7.6.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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## 7.7 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 6.5&6.6&11.12

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.

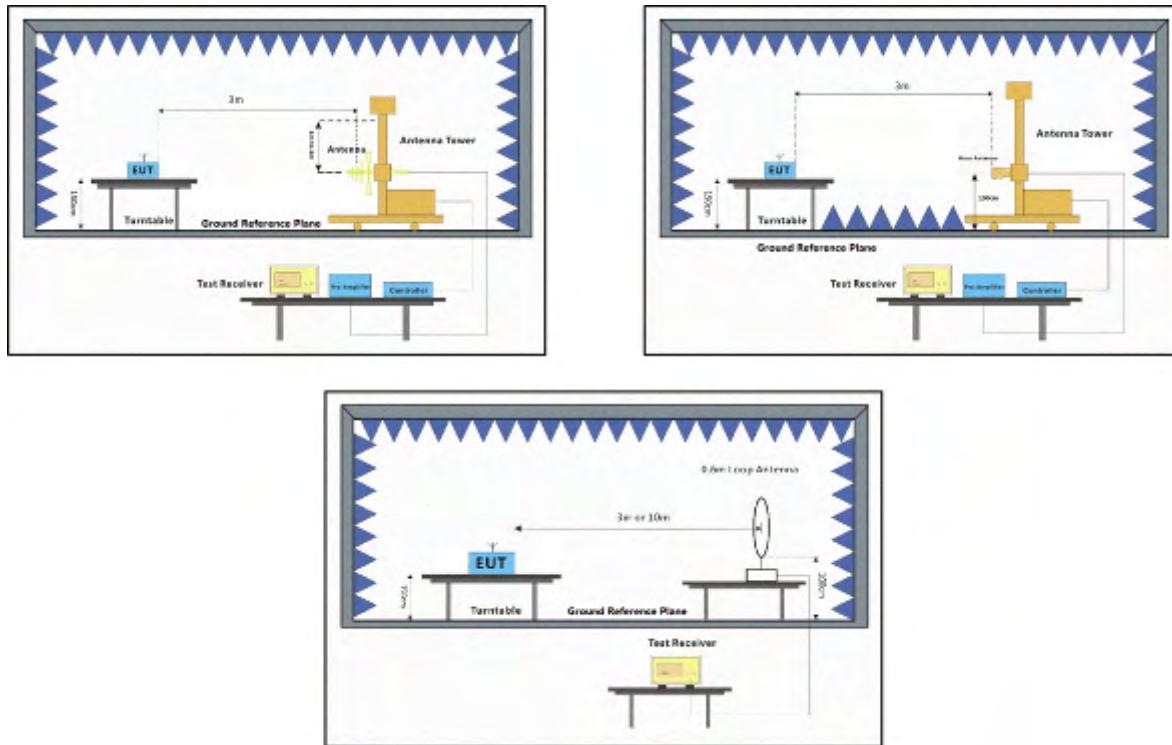
### 7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 23 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode\_keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); 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





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### 7.7.3 Measurement Procedure and Data

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

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



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Mode:802.11b; Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	36.36	26.25	5.03	37.44	30.20	54.00	-23.80 HORIZONTAL
2	2310.000	46.23	26.25	5.03	37.44	40.07	74.00	-33.93 HORIZONTAL
3	2390.000	47.35	26.43	4.88	37.42	41.24	54.00	-12.76 HORIZONTAL
4	2390.000	54.03	26.43	4.88	37.42	47.92	74.00	-26.08 HORIZONTAL
5	2483.500	42.91	26.58	5.23	37.40	37.32	54.00	-16.68 HORIZONTAL
6	2483.500	54.38	26.58	5.23	37.40	48.79	74.00	-25.21 HORIZONTAL
7	2500.000	41.09	26.60	4.95	37.39	35.25	54.00	-18.75 HORIZONTAL
8	2500.000	49.63	26.60	4.95	37.39	43.79	74.00	-30.21 HORIZONTAL

Mode:802.11b; Polarization: Vertical; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	41.01	26.25	5.03	37.44	34.85	54.00	-19.15 VERTICAL
2	2310.000	47.15	26.25	5.03	37.44	40.99	74.00	-33.01 VERTICAL
3	2390.000	45.24	26.43	4.88	37.42	39.13	54.00	-14.87 VERTICAL
4	2390.000	52.67	26.43	4.88	37.42	46.56	74.00	-27.44 VERTICAL
5	2483.500	39.79	26.58	5.23	37.40	34.20	54.00	-19.80 VERTICAL
6	2483.500	49.43	26.58	5.23	37.40	43.84	74.00	-30.16 VERTICAL
7	2500.000	40.43	26.60	4.95	37.39	34.59	54.00	-19.41 VERTICAL
8	2500.000	48.45	26.60	4.95	37.39	42.61	74.00	-31.39 VERTICAL



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Mode:802.11b; Polarization: Horizontal; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	48.47	26.25	5.03	37.44	34.31	54.00	-19.69 HORIZONTAL
2	2310.000	47.57	26.25	5.03	37.44	41.41	74.00	-32.59 HORIZONTAL
3	2390.000	43.23	26.43	4.88	37.42	37.12	54.00	-16.88 HORIZONTAL
4	2390.000	51.06	26.43	4.88	37.42	44.95	74.00	-29.05 HORIZONTAL
5	2483.500	49.61	26.58	5.23	37.40	44.02	54.00	-9.98 HORIZONTAL
6	2483.500	61.00	26.58	5.23	37.40	55.41	74.00	-18.59 HORIZONTAL
7	2500.000	42.17	26.60	4.95	37.39	36.33	54.00	-17.67 HORIZONTAL
8	2500.000	53.93	26.60	4.95	37.39	48.09	74.00	-25.91 HORIZONTAL

Mode:802.11b; Polarization: Vertical; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	48.69	26.25	5.03	37.44	34.53	54.00	-19.47 VERTICAL
2	2310.000	48.04	26.25	5.03	37.44	41.88	74.00	-32.12 VERTICAL
3	2390.000	42.30	26.43	4.88	37.42	36.19	54.00	-17.81 VERTICAL
4	2390.000	48.39	26.43	4.88	37.42	42.28	74.00	-31.72 VERTICAL
5	2483.500	41.26	26.58	5.23	37.40	35.67	54.00	-18.33 VERTICAL
6	2483.500	50.49	26.58	5.23	37.40	44.90	74.00	-29.10 VERTICAL
7	2500.000	36.96	26.60	4.95	37.39	31.12	54.00	-22.88 VERTICAL
8	2500.000	48.00	26.60	4.95	37.39	42.16	74.00	-31.84 VERTICAL



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Mode:802.11g; Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	41.68	26.25	5.03	37.44	35.52	54.00	-18.48 HORIZONTAL
2	2310.000	49.09	26.25	5.03	37.44	42.93	74.00	-31.07 HORIZONTAL
3	2390.000	53.79	26.43	4.88	37.42	47.68	54.00	-6.32 HORIZONTAL
4	2390.000	68.89	26.43	4.88	37.42	62.78	74.00	-11.22 HORIZONTAL
5	2483.500	48.17	26.58	5.23	37.40	42.58	54.00	-11.42 HORIZONTAL
6	2483.500	59.29	26.58	5.23	37.40	53.70	74.00	-20.30 HORIZONTAL
7	2500.000	41.46	26.60	4.95	37.39	35.62	54.00	-18.38 HORIZONTAL
8	2500.000	50.67	26.60	4.95	37.39	44.83	74.00	-29.17 HORIZONTAL

Mode:802.11g; Polarization: Vertical; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	42.83	26.25	5.03	37.44	36.67	54.00	-17.33 VERTICAL
2	2310.000	48.55	26.25	5.03	37.44	42.39	74.00	-31.61 VERTICAL
3	2390.000	52.11	26.43	4.88	37.42	46.00	54.00	-8.00 VERTICAL
4	2390.000	61.87	26.43	4.88	37.42	55.76	74.00	-18.24 VERTICAL
5	2483.500	44.29	26.58	5.23	37.40	38.70	54.00	-15.30 VERTICAL
6	2483.500	51.64	26.58	5.23	37.40	46.05	74.00	-27.95 VERTICAL
7	2500.000	42.86	26.60	4.95	37.39	37.02	54.00	-16.98 VERTICAL
8	2500.000	49.03	26.60	4.95	37.39	43.19	74.00	-30.81 VERTICAL



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Mode:802.11g; Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	39.26	26.25	5.03	37.44	33.10	54.00	-20.90 HORIZONTAL
2	2310.000	48.54	26.25	5.03	37.44	42.38	74.00	-31.62 HORIZONTAL
3	2390.000	46.94	26.43	4.88	37.42	40.83	54.00	-13.17 HORIZONTAL
4	2390.000	56.23	26.43	4.88	37.42	50.12	74.00	-23.88 HORIZONTAL
5	2483.500	54.41	26.58	5.23	37.40	48.82	54.00	-5.18 HORIZONTAL
6	2483.500	67.48	26.58	5.23	37.40	61.89	74.00	-12.11 HORIZONTAL
7	2500.000	49.48	26.60	4.95	37.39	43.64	54.00	-10.36 HORIZONTAL
8	2500.000	57.37	26.60	4.95	37.39	51.53	74.00	-22.47 HORIZONTAL

Mode:802.11g; Polarization: Vertical; bandwidth:20MHz; Channel Low: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	37.61	26.25	5.03	37.44	31.45	54.00	-22.55 VERTICAL
2	2310.000	46.18	26.25	5.03	37.44	40.02	74.00	-33.98 VERTICAL
3	2390.000	41.30	26.43	4.88	37.42	35.19	54.00	-18.81 VERTICAL
4	2390.000	47.05	26.43	4.88	37.42	40.94	74.00	-33.06 VERTICAL
5	2483.500	46.78	26.58	5.23	37.40	41.19	54.00	-12.81 VERTICAL
6	2483.500	55.41	26.58	5.23	37.40	49.82	74.00	-24.18 VERTICAL
7	2500.000	40.33	26.60	4.95	37.39	34.49	54.00	-19.51 VERTICAL
8	2500.000	48.39	26.60	4.95	37.39	42.55	74.00	-31.45 VERTICAL



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Mode:802.11n(HT20); Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	42.07	26.25	5.03	37.44	35.91	54.00	-18.09 HORIZONTAL
2	2310.000	48.24	26.25	5.03	37.44	42.08	74.00	-31.92 HORIZONTAL
3	2390.000	52.73	26.43	4.88	37.42	46.62	54.00	-7.38 HORIZONTAL
4	2390.000	60.35	26.43	4.88	37.42	54.24	74.00	-19.76 HORIZONTAL
5	2483.500	47.72	26.58	5.23	37.40	42.13	54.00	-11.87 HORIZONTAL
6	2483.500	56.08	26.58	5.23	37.40	50.49	74.00	-23.51 HORIZONTAL
7	2500.000	43.87	26.60	4.95	37.39	38.03	54.00	-15.97 HORIZONTAL
8	2500.000	50.19	26.60	4.95	37.39	44.35	74.00	-29.65 HORIZONTAL

Mode:802.11n(HT20); Polarization: Vertical; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	41.67	26.25	5.03	37.44	35.51	54.00	-18.49 VERTICAL
2	2310.000	46.81	26.25	5.03	37.44	40.65	74.00	-33.35 VERTICAL
3	2390.000	53.26	26.43	4.88	37.42	47.15	54.00	-6.85 VERTICAL
4	2390.000	61.20	26.43	4.88	37.42	55.09	74.00	-18.91 VERTICAL
5	2483.500	46.82	26.58	5.23	37.40	41.23	54.00	-12.77 VERTICAL
6	2483.500	57.09	26.58	5.23	37.40	51.50	74.00	-22.50 VERTICAL
7	2500.000	43.18	26.60	4.95	37.39	37.34	54.00	-16.66 VERTICAL
8	2500.000	49.81	26.60	4.95	37.39	43.97	74.00	-30.03 VERTICAL



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Mode:802.11n(HT20); Polarization: Horizontal; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	44.35	26.25	5.03	37.44	38.19	54.00	-15.81 HORIZONTAL
2	2310.000	49.77	26.25	5.03	37.44	43.61	74.00	-30.39 HORIZONTAL
3	2390.000	48.83	26.43	4.88	37.42	42.72	54.00	-11.28 HORIZONTAL
4	2390.000	54.36	26.43	4.88	37.42	48.25	74.00	-25.75 HORIZONTAL
5	2483.500	55.63	26.58	5.23	37.40	50.04	54.00	-3.96 HORIZONTAL
6	2483.500	68.73	26.58	5.23	37.40	63.14	74.00	-10.86 HORIZONTAL
7	2500.000	45.95	26.60	4.95	37.39	48.11	54.00	-13.89 HORIZONTAL
8	2500.000	54.95	26.60	4.95	37.39	49.11	74.00	-24.89 HORIZONTAL

Mode:802.11n(HT20); Polarization: Vertical; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	38.07	26.25	5.03	37.44	31.91	54.00	-22.09 VERTICAL
2	2310.000	47.59	26.25	5.03	37.44	41.43	74.00	-32.57 VERTICAL
3	2390.000	46.90	26.43	4.88	37.42	40.79	54.00	-13.21 VERTICAL
4	2390.000	53.49	26.43	4.88	37.42	47.38	74.00	-26.62 VERTICAL
5	2483.500	52.99	26.58	5.23	37.40	47.40	54.00	-6.60 VERTICAL
6	2483.500	66.54	26.58	5.23	37.40	60.95	74.00	-13.05 VERTICAL
7	2500.000	50.35	26.60	4.95	37.39	44.51	54.00	-9.49 VERTICAL
8	2500.000	55.11	26.60	4.95	37.39	49.27	74.00	-24.73 VERTICAL



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Mode:802.11n(HT40); Polarization: Horizontal; bandwidth:40MHz; Channel Low: 2422Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	48.81	26.25	5.03	37.44	42.65	54.00	-11.35 HORIZONTAL
2	2310.000	48.25	26.25	5.03	37.44	42.09	74.00	-31.91 HORIZONTAL
3	2390.000	51.59	26.43	4.88	37.42	45.48	54.00	-8.52 HORIZONTAL
4	2390.000	63.58	26.43	4.88	37.42	57.47	74.00	-16.53 HORIZONTAL
5	2483.500	49.80	26.58	5.23	37.40	44.21	54.00	-9.79 HORIZONTAL
6	2483.500	56.10	26.58	5.23	37.40	50.51	74.00	-23.49 HORIZONTAL
7	2500.000	43.46	26.60	4.95	37.39	37.62	54.00	-16.38 HORIZONTAL
8	2500.000	49.43	26.60	4.95	37.39	43.59	74.00	-30.41 HORIZONTAL

Mode:802.11n(HT40); Polarization: Vertical; bandwidth:40MHz; Channel Low: 2422Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	48.55	26.25	5.03	37.44	34.39	54.00	-19.61 VERTICAL
2	2310.000	48.03	26.25	5.03	37.44	41.87	74.00	-32.13 VERTICAL
3	2390.000	52.51	26.43	4.88	37.42	46.40	54.00	-7.60 VERTICAL
4	2390.000	61.14	26.43	4.88	37.42	55.03	74.00	-18.97 VERTICAL
5	2483.500	49.71	26.58	5.23	37.40	44.12	54.00	-9.88 VERTICAL
6	2483.500	55.14	26.58	5.23	37.40	49.55	74.00	-24.45 VERTICAL
7	2500.000	43.77	26.60	4.95	37.39	37.93	54.00	-16.07 VERTICAL
8	2500.000	50.45	26.60	4.95	37.39	44.61	74.00	-29.39 VERTICAL



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Mode:802.11n(HT40); Polarization: Horizontal; bandwidth:40MHz; Channel Low: 2452Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	42.86	26.25	5.03	37.44	36.70	54.00	-17.30 HORIZONTAL
2	2310.000	47.84	26.25	5.03	37.44	41.68	74.00	-32.32 HORIZONTAL
3	2390.000	47.72	26.43	4.88	37.42	41.61	54.00	-12.39 HORIZONTAL
4	2390.000	56.63	26.43	4.88	37.42	50.52	74.00	-23.48 HORIZONTAL
5	2483.500	55.59	26.58	5.23	37.40	50.00	54.00	-4.00 HORIZONTAL
6	2483.500	69.73	26.58	5.23	37.40	64.14	74.00	-9.86 HORIZONTAL
7	2500.000	48.30	26.60	4.95	37.39	42.46	54.00	-11.54 HORIZONTAL
8	2500.000	58.39	26.60	4.95	37.39	52.55	74.00	-21.45 HORIZONTAL

Mode:802.11n(HT40); Polarization: Vertical; bandwidth:40MHz; Channel Low: 2452Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2310.000	41.05	26.25	5.03	37.44	34.89	54.00	-19.11 VERTICAL
2	2310.000	46.91	26.25	5.03	37.44	40.75	74.00	-33.25 VERTICAL
3	2390.000	45.62	26.43	4.88	37.42	39.51	54.00	-14.49 VERTICAL
4	2390.000	52.91	26.43	4.88	37.42	46.80	74.00	-27.20 VERTICAL
5	2483.500	51.99	26.58	5.23	37.40	46.40	54.00	-7.60 VERTICAL
6	2483.500	66.54	26.58	5.23	37.40	60.95	74.00	-13.05 VERTICAL
7	2500.000	50.02	26.60	4.95	37.39	44.18	54.00	-9.82 VERTICAL
8	2500.000	59.10	26.60	4.95	37.39	53.26	74.00	-20.74 VERTICAL



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## 7.8 Radiated Spurious Emissions

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

Test Method: ANSI C63.10 (2013) Section 6.5&6.6&11.11

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.

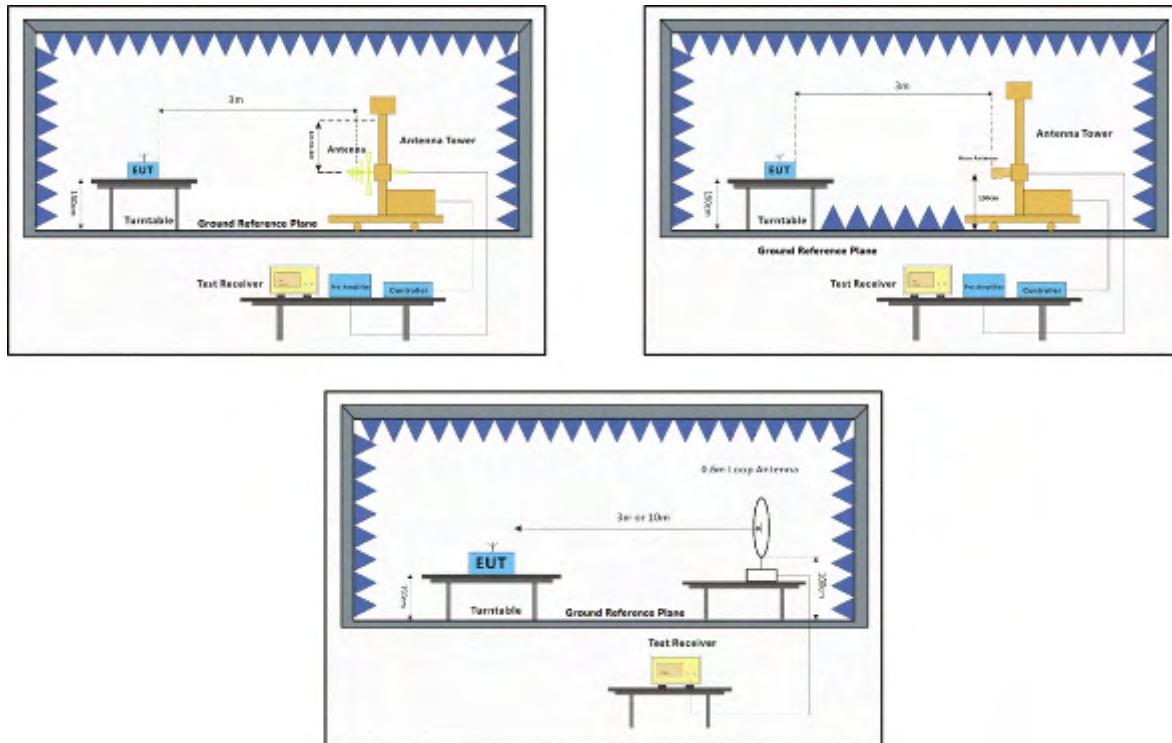
### 7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 23 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode\_keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

### **7.8.2 Test Setup Diagram**





### **7.8.3 Measurement Procedure and Data**

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

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

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

- 3) Scan from 9kHz to 25GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

For the emission below 1G, through pre-scan all modes found the worst case is the 802.11b lowest channel. Only the worst case is recorded in the report.



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Mode:802.11b; Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	76.512	38.29	9.14	0.80	25.87	22.36	40.00	-17.64 HORIZONTAL
2	120.277	55.39	11.52	0.92	28.19	39.64	43.50	-3.86 HORIZONTAL
3	195.137	42.08	11.47	1.23	28.29	26.49	43.50	-17.01 HORIZONTAL
4	241.676	53.26	12.42	1.57	29.20	38.85	46.00	-7.95 HORIZONTAL
5	303.544	49.85	14.04	1.78	29.25	36.42	46.00	-9.58 HORIZONTAL
6	379.914	47.30	16.14	2.15	29.72	35.87	46.00	-10.13 HORIZONTAL

Mode:802.11b; Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2694.998	48.70	27.06	4.86	37.31	35.31	54.00	-18.69 HORIZONTAL
2	2694.998	45.82	27.06	4.86	37.31	40.43	74.00	-33.57 HORIZONTAL
3	3141.145	40.40	27.90	5.65	37.02	36.93	54.00	-17.07 HORIZONTAL
4	3141.145	46.46	27.90	5.65	37.02	42.99	74.00	-31.01 HORIZONTAL
5	4824.237	39.44	30.82	6.01	36.94	39.33	54.00	-14.67 HORIZONTAL
6	4824.237	44.54	30.82	6.01	36.94	44.43	74.00	-29.57 HORIZONTAL
7	7236.427	36.49	35.55	7.35	36.93	42.46	54.00	-11.54 HORIZONTAL
8	7236.427	41.77	35.55	7.35	36.93	47.74	74.00	-26.26 HORIZONTAL
9	9648.187	36.91	37.54	8.18	37.08	45.55	54.00	-8.45 HORIZONTAL
10	9648.187	43.73	37.54	8.18	37.08	52.37	74.00	-21.63 HORIZONTAL
11	12060.280	33.96	39.46	10.71	37.17	46.96	54.00	-7.04 HORIZONTAL
12	12060.280	44.23	39.46	10.71	37.17	57.23	74.00	-16.77 HORIZONTAL



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Mode:802.11b; Polarization: Vertical; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	91.175	39.16	7.79	0.84	26.73	21.06	43.50	-22.44 VERTICAL
2	120.277	45.42	11.52	0.92	28.19	29.67	43.50	-13.83 VERTICAL
3	227.691	38.67	11.85	1.23	28.90	22.85	46.00	-23.15 VERTICAL
4	379.914	42.11	16.14	2.15	29.72	30.68	46.00	-15.32 VERTICAL
5	459.114	49.90	17.67	1.98	29.47	40.08	46.00	-5.92 VERTICAL
6	760.704	45.38	22.30	2.84	28.97	41.55	46.00	-4.45 VERTICAL

Mode:802.11b; Polarization: Vertical; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2603.126	42.36	26.79	5.11	37.35	36.91	54.00	-17.09 VERTICAL
2	2603.126	47.29	26.79	5.11	37.35	41.84	74.00	-32.16 VERTICAL
3	3177.672	38.62	27.90	5.86	37.01	35.37	54.00	-18.63 VERTICAL
4	3177.672	45.26	27.90	5.86	37.01	42.01	74.00	-31.99 VERTICAL
5	4824.000	37.13	30.82	6.01	36.94	37.02	54.00	-16.98 VERTICAL
6	4824.000	44.53	30.82	6.01	36.94	44.42	74.00	-29.58 VERTICAL
7	7236.443	34.84	35.55	7.35	36.93	40.81	54.00	-13.19 VERTICAL
8	7236.443	40.83	35.55	7.35	36.93	46.80	74.00	-27.20 VERTICAL
9	9648.475	36.91	37.54	8.18	37.08	45.55	54.00	-8.45 VERTICAL
10	9648.475	44.09	37.54	8.18	37.08	52.73	74.00	-21.27 VERTICAL
11	12060.200	36.15	39.46	10.71	37.17	49.15	54.00	-4.85 VERTICAL
12	12060.200	43.10	39.46	10.71	37.17	56.10	74.00	-17.90 VERTICAL



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Mode:802.11b; Polarization: Vertical; bandwidth:20MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2855.380	39.48	27.67	4.80	37.17	34.70	54.00	-19.30 VERTICAL
2	2855.380	45.54	27.67	4.80	37.17	40.84	74.00	-33.16 VERTICAL
3	3608.619	38.05	28.17	6.45	36.94	35.73	54.00	-18.27 VERTICAL
4	3608.619	44.89	28.17	6.45	36.94	42.57	74.00	-31.43 VERTICAL
5	4884.151	37.99	30.95	6.86	36.95	38.85	54.00	-15.15 VERTICAL
6	4884.151	43.60	30.95	6.86	36.95	44.46	74.00	-29.54 VERTICAL
7	7326.207	35.04	35.74	7.39	36.92	41.25	54.00	-12.75 VERTICAL
8	7326.207	42.45	35.74	7.39	36.92	48.66	74.00	-25.34 VERTICAL
9	9768.200	36.80	37.74	8.37	37.09	45.82	54.00	-8.18 VERTICAL
10	9768.200	42.08	37.74	8.37	37.09	51.10	74.00	-22.90 VERTICAL
11	12210.740	34.99	39.21	10.98	37.06	48.12	54.00	-5.88 VERTICAL
12	12210.740	44.70	39.21	10.98	37.06	57.83	74.00	-16.17 VERTICAL

Mode:802.11b; Polarization: Horizontal; bandwidth:20MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2702.799	39.58	27.09	4.84	37.31	34.20	54.00	-19.80 HORIZONTAL
2	2702.799	45.54	27.09	4.84	37.31	40.16	74.00	-33.84 HORIZONTAL
3	3682.374	37.99	28.43	7.03	36.93	36.52	54.00	-17.48 HORIZONTAL
4	3682.374	43.91	28.43	7.03	36.93	42.44	74.00	-31.56 HORIZONTAL
5	4884.143	39.18	30.95	6.86	36.95	40.04	54.00	-13.96 HORIZONTAL
6	4884.143	44.03	30.95	6.86	36.95	44.89	74.00	-29.11 HORIZONTAL
7	7326.146	36.67	35.74	7.39	36.92	42.88	54.00	-11.12 HORIZONTAL
8	7326.146	43.52	35.74	7.39	36.92	49.73	74.00	-24.27 HORIZONTAL
9	9768.480	36.20	37.74	8.37	37.09	45.22	54.00	-8.78 HORIZONTAL
10	9768.480	46.25	37.74	8.37	37.09	55.27	74.00	-18.73 HORIZONTAL
11	12210.970	32.75	39.21	10.98	37.06	45.88	54.00	-8.12 HORIZONTAL
12	12210.970	42.26	39.21	10.98	37.06	55.39	74.00	-18.61 HORIZONTAL



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Mode:802.11b; Polarization: Vertical; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2814.411	38.27	27.56	4.72	37.21	33.34	54.00	-20.66 VERTICAL
2	2814.411	45.83	27.56	4.72	37.21	40.90	74.00	-33.10 VERTICAL
3	3992.781	41.79	29.48	7.26	36.90	41.63	54.00	-12.37 VERTICAL
4	3992.781	46.32	29.48	7.26	36.90	46.16	74.00	-27.84 VERTICAL
5	4924.668	40.88	31.01	7.49	36.95	42.43	54.00	-11.57 VERTICAL
6	4924.668	45.81	31.01	7.49	36.95	47.36	74.00	-26.64 VERTICAL
7	7386.150	39.60	35.85	7.42	36.92	45.95	54.00	-8.05 VERTICAL
8	7386.150	44.17	35.85	7.42	36.92	50.52	74.00	-23.48 VERTICAL
9	9848.390	38.89	37.82	8.46	37.09	48.08	54.00	-5.92 VERTICAL
10	9848.390	44.88	37.82	8.46	37.09	54.07	74.00	-19.93 VERTICAL
11	12310.930	36.97	39.03	11.10	36.97	50.13	54.00	-3.87 VERTICAL
12	12310.930	46.17	39.03	11.10	36.97	59.33	74.00	-14.67 VERTICAL

Mode:802.11b; Polarization: Horizontal; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2664.019	39.23	26.95	4.95	37.33	33.80	54.00	-20.20 HORIZONTAL
2	2664.019	45.21	26.95	4.95	37.33	39.78	74.00	-34.22 HORIZONTAL
3	3567.138	38.02	28.06	6.28	36.94	35.42	54.00	-18.58 HORIZONTAL
4	3567.138	44.50	28.06	6.28	36.94	41.90	74.00	-32.10 HORIZONTAL
5	4924.662	40.19	31.01	7.49	36.95	41.74	54.00	-12.26 HORIZONTAL
6	4924.662	44.92	31.01	7.49	36.95	46.47	74.00	-27.53 HORIZONTAL
7	7386.207	35.11	35.85	7.42	36.92	41.46	54.00	-12.54 HORIZONTAL
8	7386.207	41.48	35.85	7.42	36.92	47.83	74.00	-26.17 HORIZONTAL
9	9848.880	33.42	37.82	8.46	37.09	42.61	54.00	-11.39 HORIZONTAL
10	9848.880	43.04	37.82	8.46	37.09	52.23	74.00	-21.77 HORIZONTAL
11	12310.390	32.26	39.03	11.10	36.97	45.36	54.00	-8.64 HORIZONTAL
12	12310.390	44.27	39.03	11.10	36.97	57.43	74.00	-16.57 HORIZONTAL



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Mode:802.11g; Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	42.34	27.89	4.63	37.08	37.78	54.00	-16.22 HORIZONTAL
2	2990.531	49.32	27.89	4.63	37.08	44.76	74.00	-29.24 HORIZONTAL
3	3834.438	37.44	29.12	7.80	36.91	37.45	54.00	-16.55 HORIZONTAL
4	3834.438	45.35	29.12	7.80	36.91	45.36	74.00	-28.64 HORIZONTAL
5	4824.962	41.40	30.82	6.01	36.94	41.29	54.00	-12.71 HORIZONTAL
6	4824.962	50.48	30.82	6.01	36.94	50.37	74.00	-23.63 HORIZONTAL
7	7236.945	37.67	35.55	7.35	36.93	43.64	54.00	-10.36 HORIZONTAL
8	7236.945	45.43	35.55	7.35	36.93	51.40	74.00	-22.60 HORIZONTAL
9	9648.373	30.60	37.54	8.18	37.08	39.24	54.00	-14.76 HORIZONTAL
10	9648.373	39.69	37.54	8.18	37.08	48.33	74.00	-25.67 HORIZONTAL
11	12060.860	35.50	39.46	10.71	37.17	48.50	54.00	-5.50 HORIZONTAL
12	12060.860	43.71	39.46	10.71	37.17	56.71	74.00	-17.29 HORIZONTAL

Mode:802.11g; Polarization: Vertical; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2664.019	39.15	26.95	4.95	37.33	33.72	54.00	-20.28 VERTICAL
2	2664.019	46.11	26.95	4.95	37.33	40.68	74.00	-33.32 VERTICAL
3	3495.691	42.15	27.90	5.93	36.95	39.03	54.00	-14.97 VERTICAL
4	3495.691	47.33	27.90	5.93	36.95	44.21	74.00	-29.79 VERTICAL
5	4824.751	44.67	30.82	6.01	36.94	44.56	54.00	-9.44 VERTICAL
6	4824.751	52.27	30.82	6.01	36.94	52.16	74.00	-21.84 VERTICAL
7	7236.209	36.25	35.55	7.35	36.93	42.22	54.00	-11.78 VERTICAL
8	7236.209	41.83	35.55	7.35	36.93	47.80	74.00	-26.20 VERTICAL
9	9648.818	37.70	37.54	8.18	37.08	46.34	54.00	-7.66 VERTICAL
10	9648.818	43.36	37.54	8.18	37.08	52.00	74.00	-22.00 VERTICAL
11	12060.200	35.54	39.46	10.71	37.17	48.54	54.00	-5.46 VERTICAL
12	12060.200	42.78	39.46	10.71	37.17	55.78	74.00	-18.22 VERTICAL



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Mode:802.11g; Polarization: Horizontal; bandwidth:20MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	41.17	27.89	4.63	37.08	36.61	54.00	-17.39 HORIZONTAL
2	2990.531	48.15	27.89	4.63	37.08	43.59	74.00	-30.41 HORIZONTAL
3	3834.438	40.75	29.12	7.80	36.91	40.76	54.00	-13.24 HORIZONTAL
4	3834.438	45.73	29.12	7.80	36.91	45.74	74.00	-28.26 HORIZONTAL
5	4884.058	39.48	30.95	6.86	36.95	40.34	54.00	-13.66 HORIZONTAL
6	4884.058	47.35	30.95	6.86	36.95	48.21	74.00	-25.79 HORIZONTAL
7	7326.999	38.07	35.74	7.39	36.92	44.28	54.00	-9.72 HORIZONTAL
8	7326.999	43.33	35.74	7.39	36.92	49.54	74.00	-24.46 HORIZONTAL
9	9768.945	38.89	37.74	8.37	37.09	47.91	54.00	-6.09 HORIZONTAL
10	9768.945	43.09	37.74	8.37	37.09	52.11	74.00	-21.89 HORIZONTAL
11	12060.210	36.49	39.46	10.71	37.17	49.49	54.00	-4.51 HORIZONTAL
12	12060.210	44.35	39.46	10.71	37.17	57.35	74.00	-16.65 HORIZONTAL

Mode:802.11g; Polarization: Vertical; bandwidth:20MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2880.247	48.06	27.72	4.84	37.14	35.48	54.00	-18.52 VERTICAL
2	2880.247	44.40	27.72	4.84	37.14	39.82	74.00	-34.18 VERTICAL
3	3746.792	39.08	28.76	7.58	36.92	38.50	54.00	-15.50 VERTICAL
4	3746.792	45.31	28.76	7.58	36.92	44.73	74.00	-29.27 VERTICAL
5	4884.620	38.25	30.95	6.86	36.95	39.11	54.00	-14.89 VERTICAL
6	4884.620	45.22	30.95	6.86	36.95	46.08	74.00	-27.92 VERTICAL
7	7236.049	39.41	35.55	7.35	36.93	45.38	54.00	-8.62 VERTICAL
8	7236.049	45.37	35.55	7.35	36.93	51.34	74.00	-22.66 VERTICAL
9	9648.349	39.67	37.54	8.18	37.08	48.31	54.00	-5.69 VERTICAL
10	9648.349	45.28	37.54	8.18	37.08	53.92	74.00	-20.08 VERTICAL
11	12060.850	35.77	39.46	10.71	37.17	48.77	54.00	-5.23 VERTICAL
12	12060.850	43.68	39.46	10.71	37.17	56.68	74.00	-17.32 VERTICAL



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Mode:802.11g; Polarization: Horizontal; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	39.76	27.89	4.63	37.08	35.20	54.00	-18.80 HORIZONTAL
2	2990.531	48.15	27.89	4.63	37.08	43.59	74.00	-30.41 HORIZONTAL
3	3834.438	38.85	29.12	7.80	36.91	38.86	54.00	-15.14 HORIZONTAL
4	3834.438	45.73	29.12	7.80	36.91	45.74	74.00	-28.26 HORIZONTAL
5	4924.918	38.89	31.01	7.49	36.95	40.44	54.00	-13.56 HORIZONTAL
6	4924.918	45.92	31.01	7.49	36.95	47.47	74.00	-26.53 HORIZONTAL
7	7386.646	36.63	35.85	7.42	36.92	42.98	54.00	-11.02 HORIZONTAL
8	7386.646	45.39	35.85	7.42	36.92	51.74	74.00	-22.26 HORIZONTAL
9	9848.020	37.13	37.82	8.46	37.09	46.32	54.00	-7.68 HORIZONTAL
10	9848.020	45.77	37.82	8.46	37.09	54.96	74.00	-19.04 HORIZONTAL
11	12310.760	35.17	39.03	11.10	36.97	48.33	54.00	-5.67 HORIZONTAL
12	12310.760	44.96	39.03	11.10	36.97	58.12	74.00	-15.88 HORIZONTAL

Mode:802.11g; Polarization: Vertical; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	47.04	27.89	4.63	37.08	42.48	54.00	-11.52 VERTICAL
2	2990.531	55.24	27.89	4.63	37.08	50.68	74.00	-23.32 VERTICAL
3	3703.723	37.94	28.52	7.24	36.93	36.77	54.00	-17.23 VERTICAL
4	3703.723	44.80	28.52	7.24	36.93	43.63	74.00	-30.37 VERTICAL
5	4924.977	39.13	31.01	7.49	36.95	40.68	54.00	-13.32 VERTICAL
6	4924.977	45.76	31.01	7.49	36.95	47.31	74.00	-26.69 VERTICAL
7	7386.172	37.29	35.85	7.42	36.92	43.64	54.00	-10.36 VERTICAL
8	7386.172	43.39	35.85	7.42	36.92	49.74	74.00	-24.26 VERTICAL
9	9848.371	37.89	37.82	8.46	37.09	47.08	54.00	-6.92 VERTICAL
10	9848.371	45.83	37.82	8.46	37.09	55.02	74.00	-18.98 VERTICAL
11	12310.490	33.78	39.03	11.10	36.97	46.94	54.00	-7.06 VERTICAL
12	12310.490	43.73	39.03	11.10	36.97	56.89	74.00	-17.11 VERTICAL



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Mode:802.11n(HT20); Polarization: Horizontal; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable		Preamp Level	Limit Line	Over Limit	Pol/Phase
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	3196.094	42.27	27.90	5.95	37.01	39.11	54.00	-14.89 HORIZONTAL
2	3196.094	47.66	27.90	5.95	37.01	44.50	74.00	-29.50 HORIZONTAL
3	3823.371	39.93	29.08	7.83	36.91	39.93	54.00	-14.07 HORIZONTAL
4	3823.371	46.16	29.08	7.83	36.91	46.16	74.00	-27.84 HORIZONTAL
5	4824.962	44.66	30.82	6.01	36.94	44.55	54.00	-9.45 HORIZONTAL
6	4824.962	54.16	30.82	6.01	36.94	54.05	74.00	-19.95 HORIZONTAL
7	7236.353	37.12	35.55	7.35	36.93	43.09	54.00	-10.91 HORIZONTAL
8	7236.353	43.22	35.55	7.35	36.93	49.19	74.00	-24.81 HORIZONTAL
9	9648.260	36.90	37.54	8.18	37.08	45.54	54.00	-8.46 HORIZONTAL
10	9648.260	44.21	37.54	8.18	37.08	52.85	74.00	-21.15 HORIZONTAL
11	12060.250	35.07	39.46	10.71	37.17	48.07	54.00	-5.93 HORIZONTAL
12	12060.250	44.57	39.46	10.71	37.17	57.57	74.00	-16.43 HORIZONTAL

Mode:802.11n(HT20); Polarization: Vertical; bandwidth:20MHz; Channel Low: 2412Mhz

Freq	ReadAntenna		Cable		Preamp Level	Limit Line	Over Limit	Pol/Phase
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	42.15	27.89	4.63	37.08	37.59	54.00	-16.41 VERTICAL
2	2990.531	50.29	27.89	4.63	37.08	45.73	74.00	-28.27 VERTICAL
3	3856.668	38.42	29.19	7.73	36.91	38.43	54.00	-15.57 VERTICAL
4	3856.668	46.30	29.19	7.73	36.91	46.31	74.00	-27.69 VERTICAL
5	4824.962	44.94	30.82	6.01	36.94	44.83	54.00	-9.17 VERTICAL
6	4824.962	53.97	30.82	6.01	36.94	53.86	74.00	-20.14 VERTICAL
7	7236.436	37.70	35.55	7.35	36.93	43.67	54.00	-10.33 VERTICAL
8	7236.436	42.37	35.55	7.35	36.93	48.34	74.00	-25.66 VERTICAL
9	9648.480	38.99	37.54	8.18	37.08	47.63	54.00	-6.37 VERTICAL
10	9648.480	44.78	37.54	8.18	37.08	53.42	74.00	-20.58 VERTICAL
11	12060.100	37.10	39.46	10.71	37.17	50.10	54.00	-3.90 VERTICAL
12	12060.100	44.31	39.46	10.71	37.17	57.31	74.00	-16.69 VERTICAL



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Mode:802.11n(HT20); Polarization: Horizontal; bandwidth:20MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2913.748	39.19	27.78	4.83	37.12	34.68	54.00	-19.32 HORIZONTAL
2	2913.740	44.82	27.78	4.83	37.12	40.31	74.00	-33.69 HORIZONTAL
3	3845.537	36.44	29.15	7.77	36.91	36.45	54.00	-17.55 HORIZONTAL
4	3845.537	43.99	29.15	7.77	36.91	44.00	74.00	-30.00 HORIZONTAL
5	4844.721	40.43	30.88	6.31	36.94	40.68	54.00	-13.32 HORIZONTAL
6	4844.721	46.83	30.88	6.31	36.94	47.08	74.00	-26.92 HORIZONTAL
7	7266.852	37.32	35.60	7.36	36.92	43.36	54.00	-10.64 HORIZONTAL
8	7266.852	43.35	35.60	7.36	36.92	49.39	74.00	-24.61 HORIZONTAL
9	9768.164	39.34	37.74	8.37	37.09	48.36	54.00	-5.64 HORIZONTAL
10	9768.164	45.45	37.74	8.37	37.09	54.47	74.00	-19.53 HORIZONTAL
11	12210.900	34.00	39.21	10.98	37.06	47.13	54.00	-6.87 HORIZONTAL
12	12210.900	44.67	39.21	10.98	37.06	57.80	74.00	-16.20 HORIZONTAL

Mode:802.11n(HT20); Polarization: Vertical; bandwidth:20MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2625.796	42.01	26.85	5.06	37.35	36.57	54.00	-17.43 VERTICAL
2	2625.796	47.36	26.85	5.06	37.35	41.92	74.00	-32.08 VERTICAL
3	3901.516	39.83	29.30	7.56	36.91	39.78	54.00	-14.22 VERTICAL
4	3901.516	46.45	29.30	7.56	36.91	46.40	74.00	-27.60 VERTICAL
5	4884.999	39.23	30.95	6.86	36.95	40.09	54.00	-13.91 VERTICAL
6	4884.999	44.53	30.95	6.86	36.95	45.39	74.00	-28.61 VERTICAL
7	7326.026	37.13	35.74	7.39	36.92	43.34	54.00	-10.66 VERTICAL
8	7326.026	41.41	35.74	7.39	36.92	47.62	74.00	-26.38 VERTICAL
9	9768.151	39.97	37.74	8.37	37.09	48.99	54.00	-5.01 VERTICAL
10	9768.151	45.20	37.74	8.37	37.09	54.22	74.00	-19.78 VERTICAL
11	12210.930	35.49	39.21	10.98	37.06	48.62	54.00	-5.38 VERTICAL
12	12210.930	46.20	39.21	10.98	37.06	59.33	74.00	-14.67 VERTICAL



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Mode:802.11n(HT20); Polarization: Horizontal; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable		Preamp Level	Limit Line	Over Limit	Pol/Phase
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2939.115	40.05	27.82	4.77	37.10	35.54	54.00	-18.46 HORIZONTAL
2	2939.115	44.16	27.82	4.77	37.10	39.65	74.00	-34.35 HORIZONTAL
3	4074.388	37.80	29.56	7.02	36.90	37.48	54.00	-16.52 HORIZONTAL
4	4074.388	42.99	29.56	7.02	36.90	42.67	74.00	-31.33 HORIZONTAL
5	4924.875	37.96	31.01	7.49	36.95	39.51	54.00	-14.49 HORIZONTAL
6	4924.875	44.49	31.01	7.49	36.95	46.04	74.00	-27.96 HORIZONTAL
7	7386.806	38.38	35.85	7.42	36.92	44.73	54.00	-9.27 HORIZONTAL
8	7386.806	43.16	35.85	7.42	36.92	49.51	74.00	-24.49 HORIZONTAL
9	9848.588	37.73	37.82	8.46	37.09	46.92	54.00	-7.08 HORIZONTAL
10	9848.588	42.04	37.82	8.46	37.09	51.23	74.00	-22.77 HORIZONTAL
11	12310.390	37.26	39.03	11.10	36.97	50.36	54.00	-3.64 HORIZONTAL
12	12310.390	44.27	39.03	11.10	36.97	57.43	74.00	-16.57 HORIZONTAL

Mode:802.11n(HT20); Polarization: Vertical; bandwidth:20MHz; Channel High: 2462Mhz

Freq	ReadAntenna		Cable		Preamp Level	Limit Line	Over Limit	Pol/Phase
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2922.174	42.64	27.79	4.81	37.12	38.12	54.00	-15.88 VERTICAL
2	2922.174	46.02	27.79	4.81	37.12	41.50	74.00	-32.50 VERTICAL
3	3901.516	42.83	29.30	7.56	36.91	42.78	54.00	-11.22 VERTICAL
4	3901.516	46.45	29.30	7.56	36.91	46.40	74.00	-27.60 VERTICAL
5	4924.975	39.11	31.01	7.49	36.95	40.66	54.00	-13.34 VERTICAL
6	4924.975	43.71	31.01	7.49	36.95	45.26	74.00	-28.74 VERTICAL
7	7386.436	36.30	35.85	7.42	36.92	42.65	54.00	-11.35 VERTICAL
8	7386.436	41.63	35.85	7.42	36.92	47.98	74.00	-26.02 VERTICAL
9	9848.957	38.15	37.82	8.46	37.09	47.34	54.00	-6.66 VERTICAL
10	9848.957	42.23	37.82	8.46	37.09	51.42	74.00	-22.58 VERTICAL
11	12310.600	30.84	39.03	11.10	36.97	44.00	54.00	-10.00 VERTICAL
12	12310.600	43.20	39.03	11.10	36.97	56.36	74.00	-17.64 VERTICAL



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Mode:802.11n(HT40); Polarization: Horizontal; bandwidth:40MHz; Channel Low: 2422Mhz

Freq	ReadAntenna		Cable		Preamp Level	Limit Line	Over Limit	Pol/Phase
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	41.42	27.89	4.63	37.08	36.86	54.00	-17.14 HORIZONTAL
2	2990.531	49.32	27.89	4.63	37.08	44.76	74.00	-29.24 HORIZONTAL
3	3619.064	38.05	28.20	6.52	36.94	35.83	54.00	-18.17 HORIZONTAL
4	3619.064	45.46	28.20	6.52	36.94	43.24	74.00	-30.76 HORIZONTAL
5	4824.982	38.81	30.82	6.01	36.94	38.70	54.00	-15.30 HORIZONTAL
6	4824.982	46.92	30.82	6.01	36.94	46.81	74.00	-27.19 HORIZONTAL
7	7236.214	34.99	35.55	7.35	36.93	40.96	54.00	-13.04 HORIZONTAL
8	7236.214	39.32	35.55	7.35	36.93	45.29	74.00	-28.71 HORIZONTAL
9	9648.804	37.20	37.54	8.18	37.08	45.84	54.00	-8.16 HORIZONTAL
10	9648.804	43.82	37.54	8.18	37.08	52.46	74.00	-21.54 HORIZONTAL
11	12060.530	34.24	39.46	10.71	37.17	47.24	54.00	-6.76 HORIZONTAL
12	12060.530	42.81	39.46	10.71	37.17	55.81	74.00	-18.19 HORIZONTAL

Mode:802.11n(HT40); Vertical: Horizontal; bandwidth:40MHz; Channel Low: 2422Mhz

Freq	ReadAntenna		Cable		Preamp Level	Limit Line	Over Limit	Pol/Phase
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	50.41	27.89	4.63	37.08	45.85	54.00	-8.15 VERTICAL
2	2990.531	56.97	27.89	4.63	37.08	52.41	74.00	-21.59 VERTICAL
3	3495.691	41.15	27.90	5.93	36.95	38.03	54.00	-15.97 VERTICAL
4	3495.691	47.33	27.90	5.93	36.95	44.21	74.00	-29.79 VERTICAL
5	4824.241	38.29	30.82	6.01	36.94	38.18	54.00	-15.82 VERTICAL
6	4824.241	44.83	30.82	6.01	36.94	44.72	74.00	-29.28 VERTICAL
7	7236.695	36.72	35.55	7.35	36.93	42.69	54.00	-11.31 VERTICAL
8	7236.695	42.94	35.55	7.35	36.93	48.91	74.00	-25.09 VERTICAL
9	9648.272	36.53	37.54	8.18	37.08	45.17	54.00	-8.83 VERTICAL
10	9648.272	44.19	37.54	8.18	37.08	52.83	74.00	-21.17 VERTICAL
11	12060.420	33.24	39.46	10.71	37.17	46.24	54.00	-7.76 VERTICAL
12	12060.420	45.24	39.46	10.71	37.17	58.24	74.00	-15.76 VERTICAL



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Mode:802.11n(HT40); Polarization: Horizontal; bandwidth:40MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	41.76	27.89	4.63	37.08	37.20	54.00	-16.80 HORIZONTAL
2	2990.531	48.15	27.89	4.63	37.08	43.59	74.00	-30.41 HORIZONTAL
3	3834.438	37.75	29.12	7.80	36.91	37.76	54.00	-16.24 HORIZONTAL
4	3834.438	45.73	29.12	7.80	36.91	45.74	74.00	-28.26 HORIZONTAL
5	4884.365	40.52	30.95	6.86	36.95	41.38	54.00	-12.62 HORIZONTAL
6	4884.365	46.50	30.95	6.86	36.95	47.36	74.00	-26.64 HORIZONTAL
7	7326.524	37.65	35.74	7.39	36.92	43.86	54.00	-10.14 HORIZONTAL
8	7326.524	46.64	35.74	7.39	36.92	52.85	74.00	-21.15 HORIZONTAL
9	9768.221	36.94	37.74	8.37	37.09	45.96	54.00	-8.04 HORIZONTAL
10	9768.221	45.13	37.74	8.37	37.09	54.15	74.00	-19.85 HORIZONTAL
11	12210.610	36.08	39.21	10.98	37.06	49.21	54.00	-4.79 HORIZONTAL
12	12210.610	44.74	39.21	10.98	37.06	57.87	74.00	-16.13 HORIZONTAL

Mode:802.11n(HT40); Polarization: Vertical; bandwidth:40MHz; Channel middle: 2442Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2798.189	48.87	27.52	4.69	37.23	35.85	54.00	-18.15 VERTICAL
2	2798.189	46.82	27.52	4.69	37.23	41.80	74.00	-32.20 VERTICAL
3	3495.691	39.06	27.90	5.93	36.95	35.94	54.00	-18.06 VERTICAL
4	3495.691	45.08	27.90	5.93	36.95	41.96	74.00	-32.04 VERTICAL
5	4884.150	37.52	30.95	6.86	36.95	38.38	54.00	-15.62 VERTICAL
6	4884.150	43.95	30.95	6.86	36.95	44.81	74.00	-29.19 VERTICAL
7	7326.443	35.02	35.74	7.39	36.92	41.23	54.00	-12.77 VERTICAL
8	7326.443	40.02	35.74	7.39	36.92	46.23	74.00	-27.77 VERTICAL
9	9768.788	35.99	37.74	8.37	37.09	45.01	54.00	-8.99 VERTICAL
10	9768.788	42.24	37.74	8.37	37.09	51.26	74.00	-22.74 VERTICAL
11	12210.990	34.27	39.21	10.98	37.06	47.40	54.00	-6.60 VERTICAL
12	12210.990	41.54	39.21	10.98	37.06	54.67	74.00	-19.33 VERTICAL



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Mode:802.11n(HT40); Polarization: Horizontal; bandwidth:40MHz; Channel high: 2452Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2990.531	41.76	27.89	4.63	37.08	37.20	54.00	-16.80 HORIZONTAL
2	2990.531	48.15	27.89	4.63	37.08	43.59	74.00	-30.41 HORIZONTAL
3	3834.438	38.85	29.12	7.80	36.91	38.86	54.00	-15.14 HORIZONTAL
4	3834.438	45.73	29.12	7.80	36.91	45.74	74.00	-28.26 HORIZONTAL
5	4904.058	40.21	30.97	7.07	36.95	41.30	54.00	-12.70 HORIZONTAL
6	4904.058	47.12	30.97	7.07	36.95	48.21	74.00	-25.79 HORIZONTAL
7	7356.999	38.80	35.78	7.40	36.92	45.06	54.00	-8.94 HORIZONTAL
8	7356.999	43.26	35.78	7.40	36.92	49.54	74.00	-24.46 HORIZONTAL
9	9806.600	37.72	37.79	8.41	37.09	46.83	54.00	-7.17 HORIZONTAL
10	9806.600	45.81	37.79	8.41	37.09	54.92	74.00	-19.08 HORIZONTAL
11	12260.490	36.81	39.15	11.02	37.03	49.95	54.00	-4.05 HORIZONTAL
12	12260.490	43.77	39.15	11.02	37.03	56.91	74.00	-17.09 HORIZONTAL

Mode:802.11n(HT40); Polarization: Vertical; bandwidth:40MHz; Channel high: 2452Mhz

Freq	ReadAntenna		Cable Preamp		Limit Line	Over Limit	Pol/Phase	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2956.155	41.63	27.84	4.71	37.09	37.09	54.00	-16.91 VERTICAL
2	2956.155	46.66	27.84	4.71	37.09	42.12	74.00	-31.88 VERTICAL
3	3823.371	38.66	29.08	7.83	36.91	38.66	54.00	-15.34 VERTICAL
4	3823.371	45.74	29.08	7.83	36.91	45.74	74.00	-28.26 VERTICAL
5	4904.307	39.45	30.97	7.07	36.95	40.54	54.00	-13.46 VERTICAL
6	4904.307	46.49	30.97	7.07	36.95	47.58	74.00	-26.42 VERTICAL
7	7356.172	38.32	35.78	7.40	36.92	44.58	54.00	-9.42 VERTICAL
8	7356.172	43.48	35.78	7.40	36.92	49.74	74.00	-24.26 VERTICAL
9	9806.432	37.62	37.79	8.41	37.09	46.73	54.00	-7.27 VERTICAL
10	9806.432	44.56	37.79	8.41	37.09	53.67	74.00	-20.33 VERTICAL
11	12260.700	32.64	39.15	11.02	37.03	45.78	54.00	-8.22 VERTICAL
12	12260.700	45.01	39.15	11.02	37.03	58.15	74.00	-15.85 VERTICAL

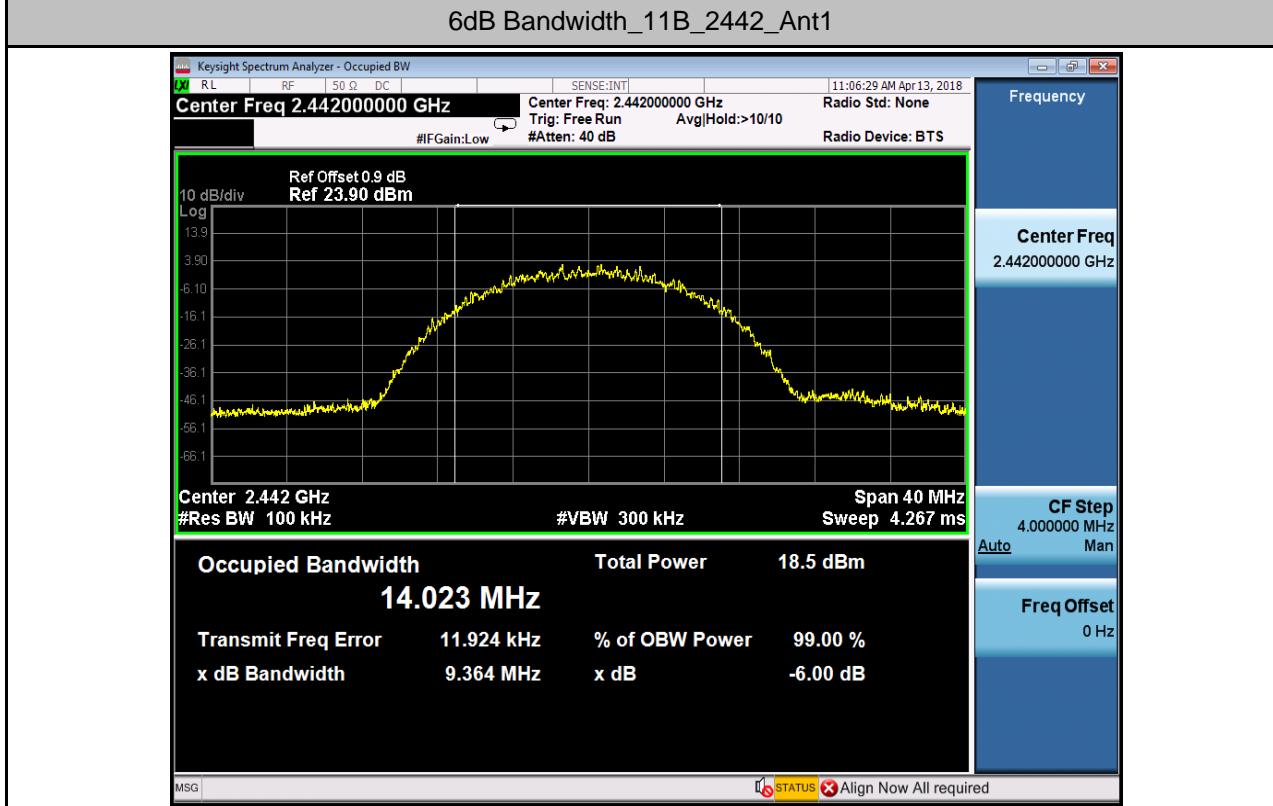
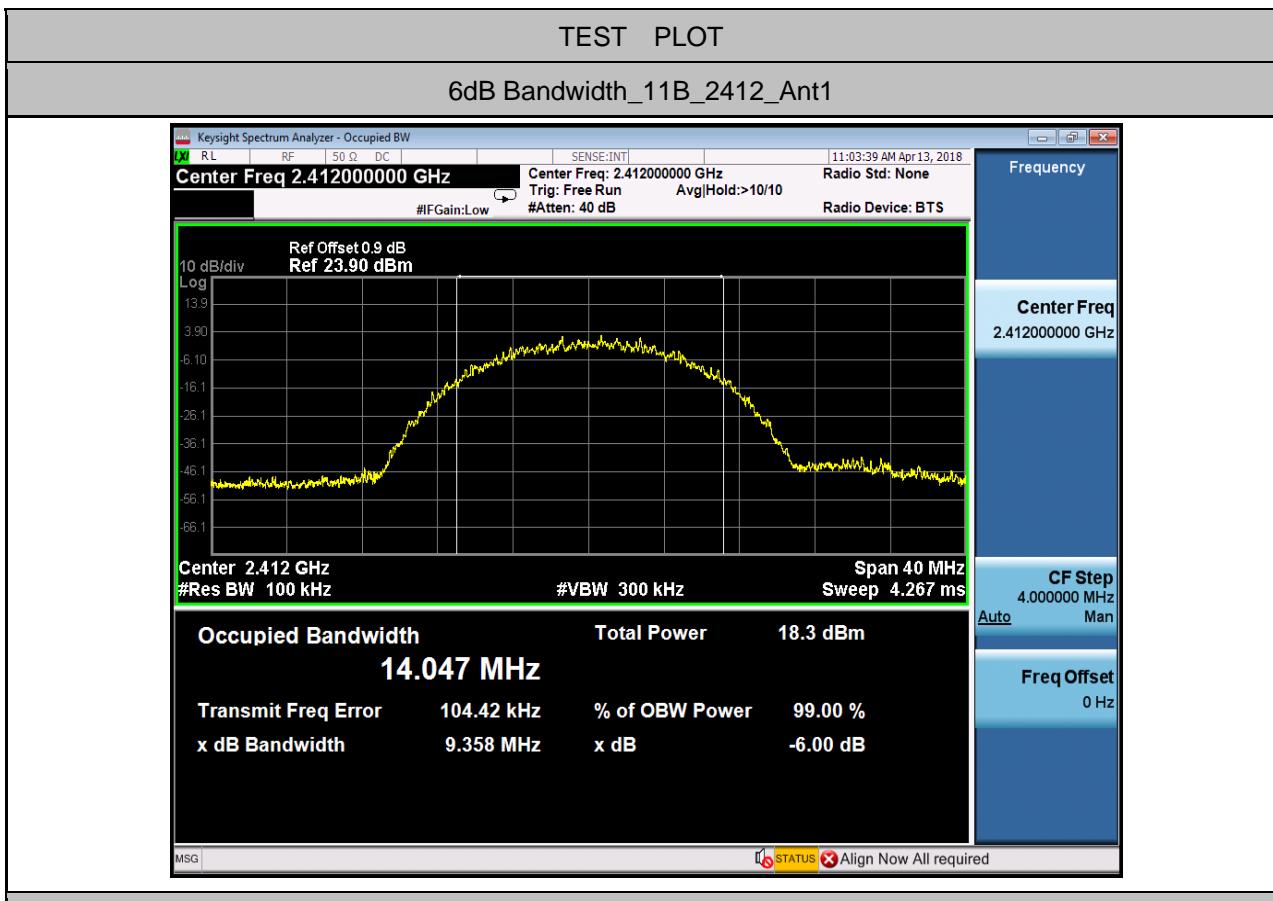


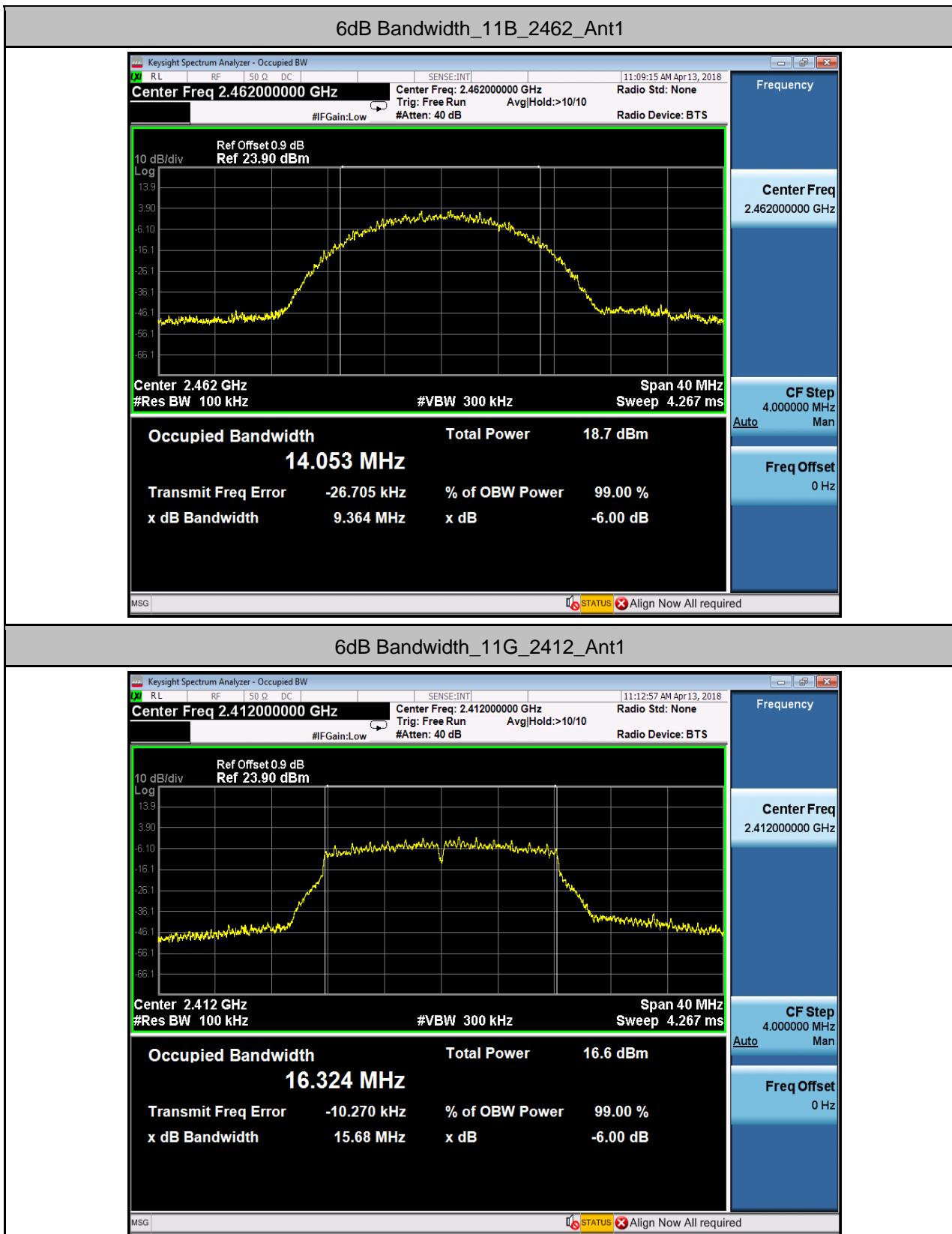
## **8 Appendix**

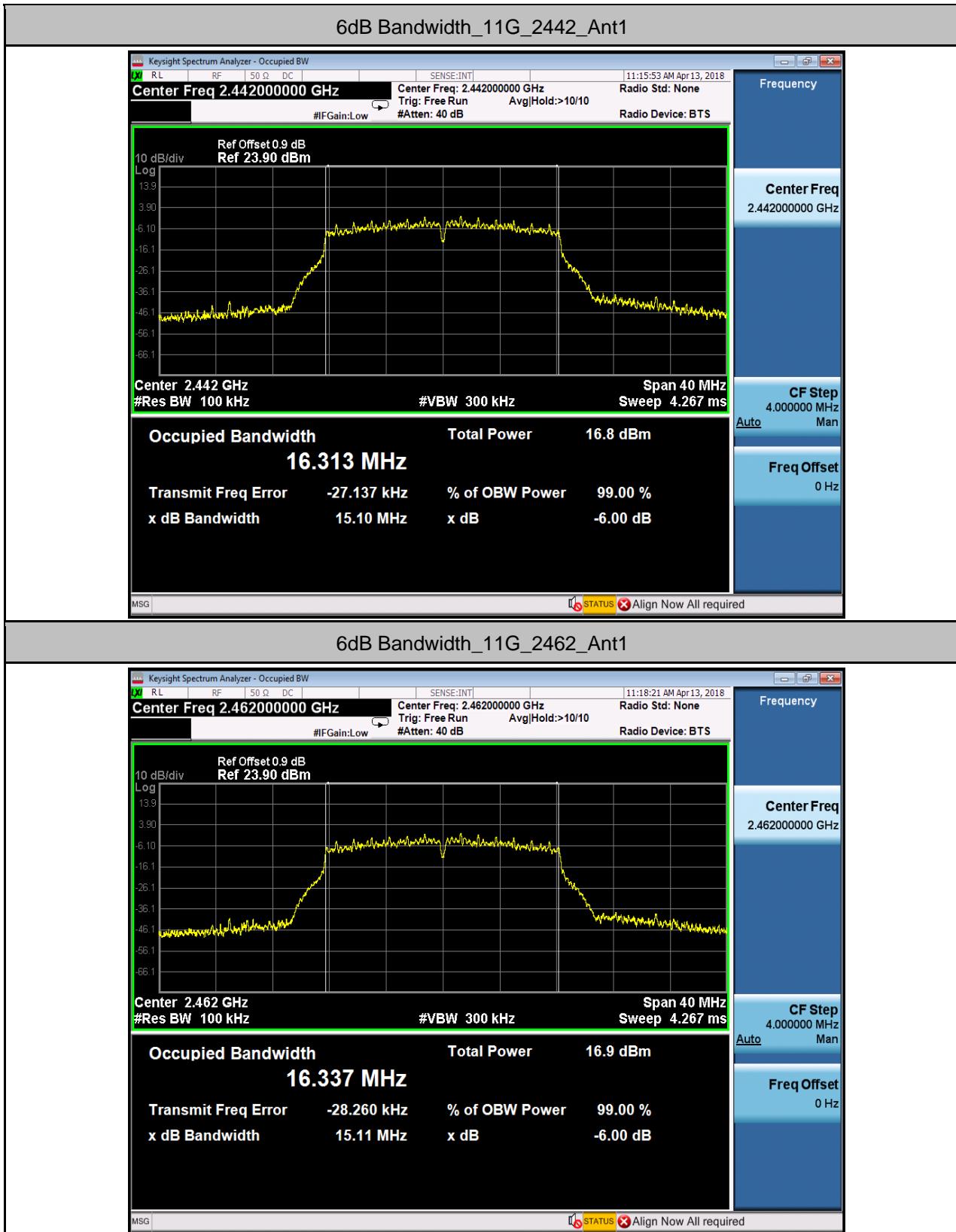
### **8.1 Appendix 15.247**

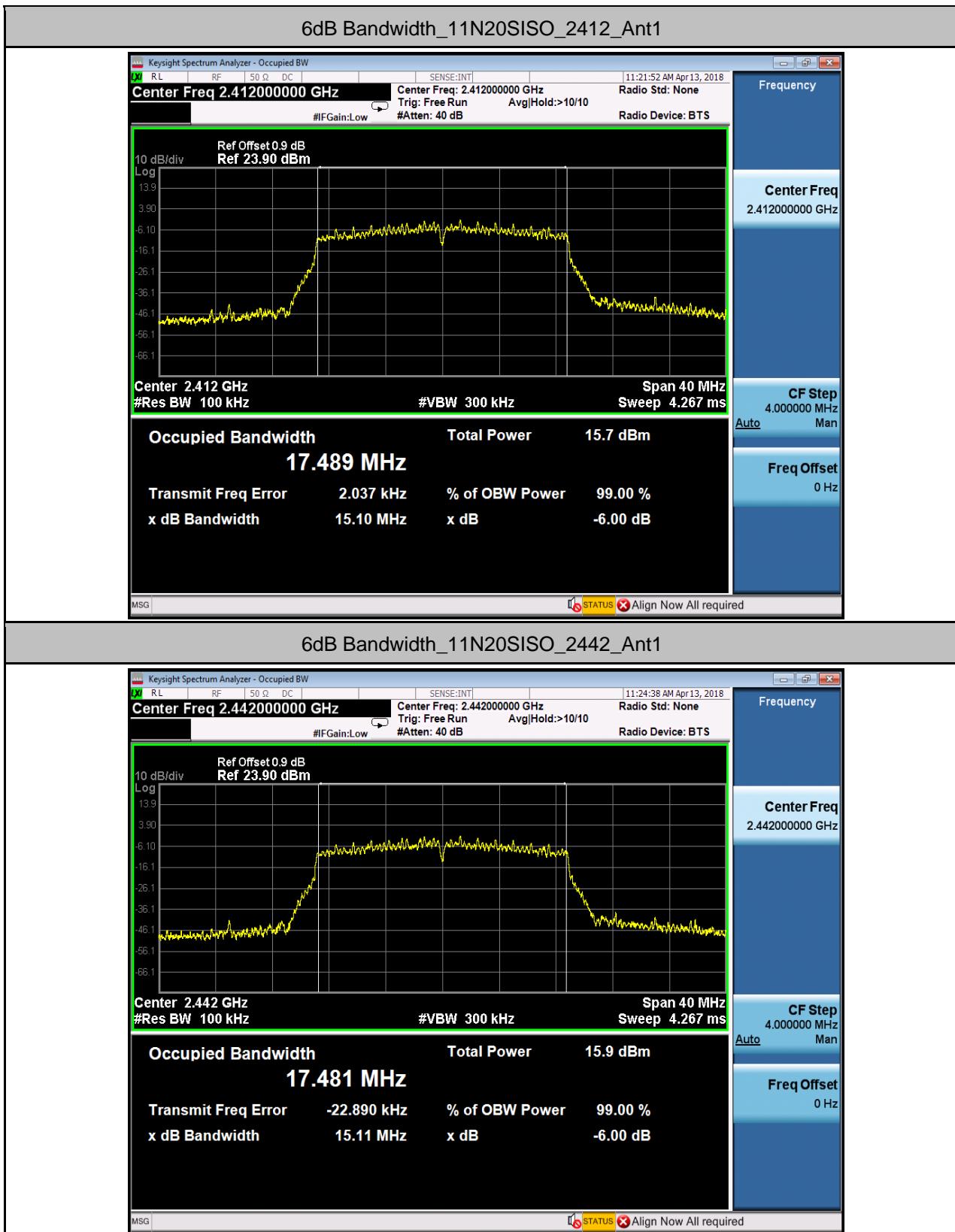
#### **1. 6dB Bandwidth**

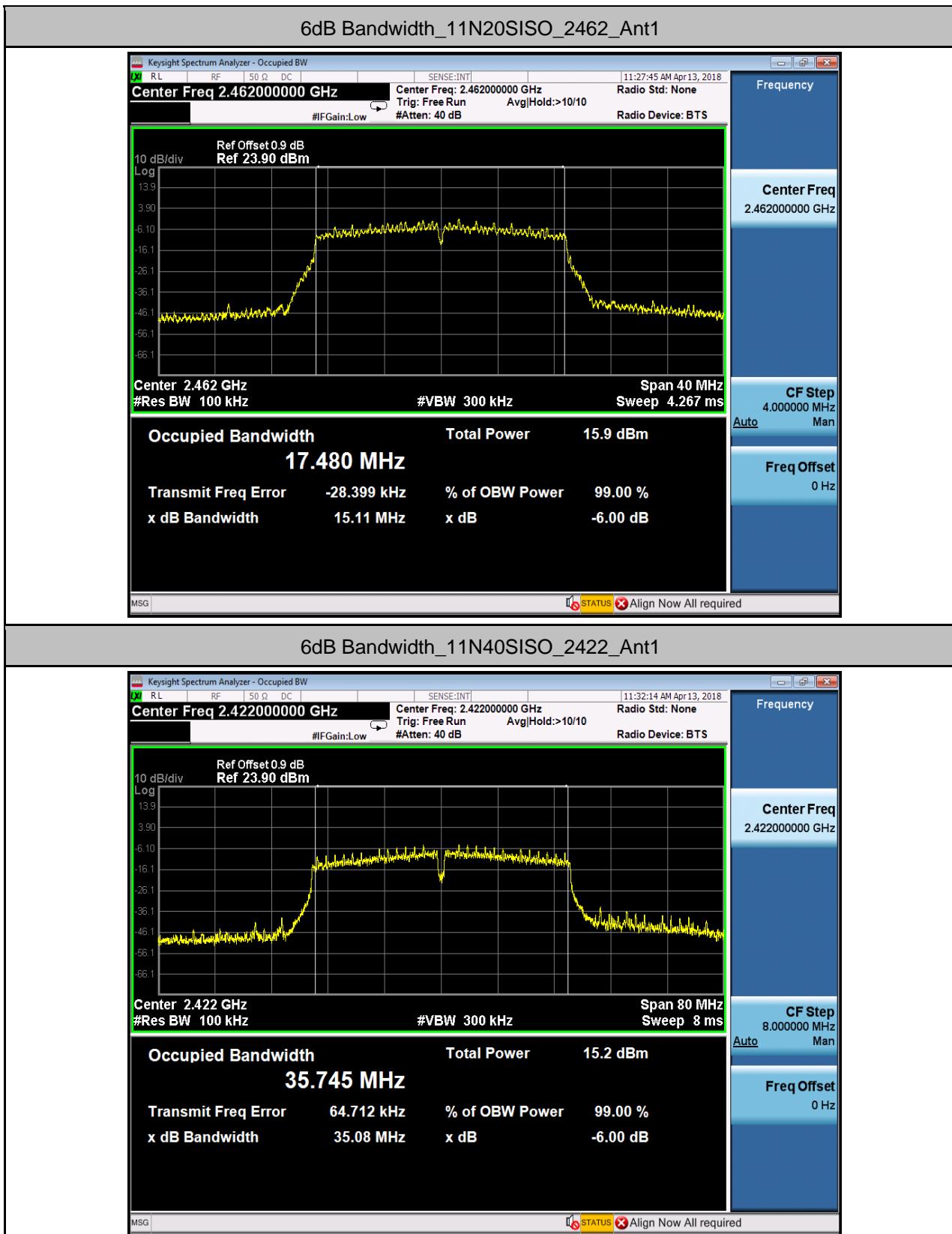
Test Mode	Test Channel	Ant	OBW[MHz]	EBW[MHz]	Limit	Verdict
11B	2412	Ant1	14.047	9.358	0.5	PASS
11B	2442	Ant1	14.023	9.364	0.5	PASS
11B	2462	Ant1	14.053	9.364	0.5	PASS
11G	2412	Ant1	16.324	15.68	0.5	PASS
11G	2442	Ant1	16.313	15.10	0.5	PASS
11G	2462	Ant1	16.337	15.11	0.5	PASS
11N20SISO	2412	Ant1	17.489	15.10	0.5	PASS
11N20SISO	2442	Ant1	17.481	15.11	0.5	PASS
11N20SISO	2462	Ant1	17.480	15.11	0.5	PASS
11N40SISO	2422	Ant1	35.744	35.08	0.5	PASS
11N40SISO	2442	Ant1	35.767	35.09	0.5	PASS
11N40SISO	2452	Ant1	35.748	35.09	0.5	PASS

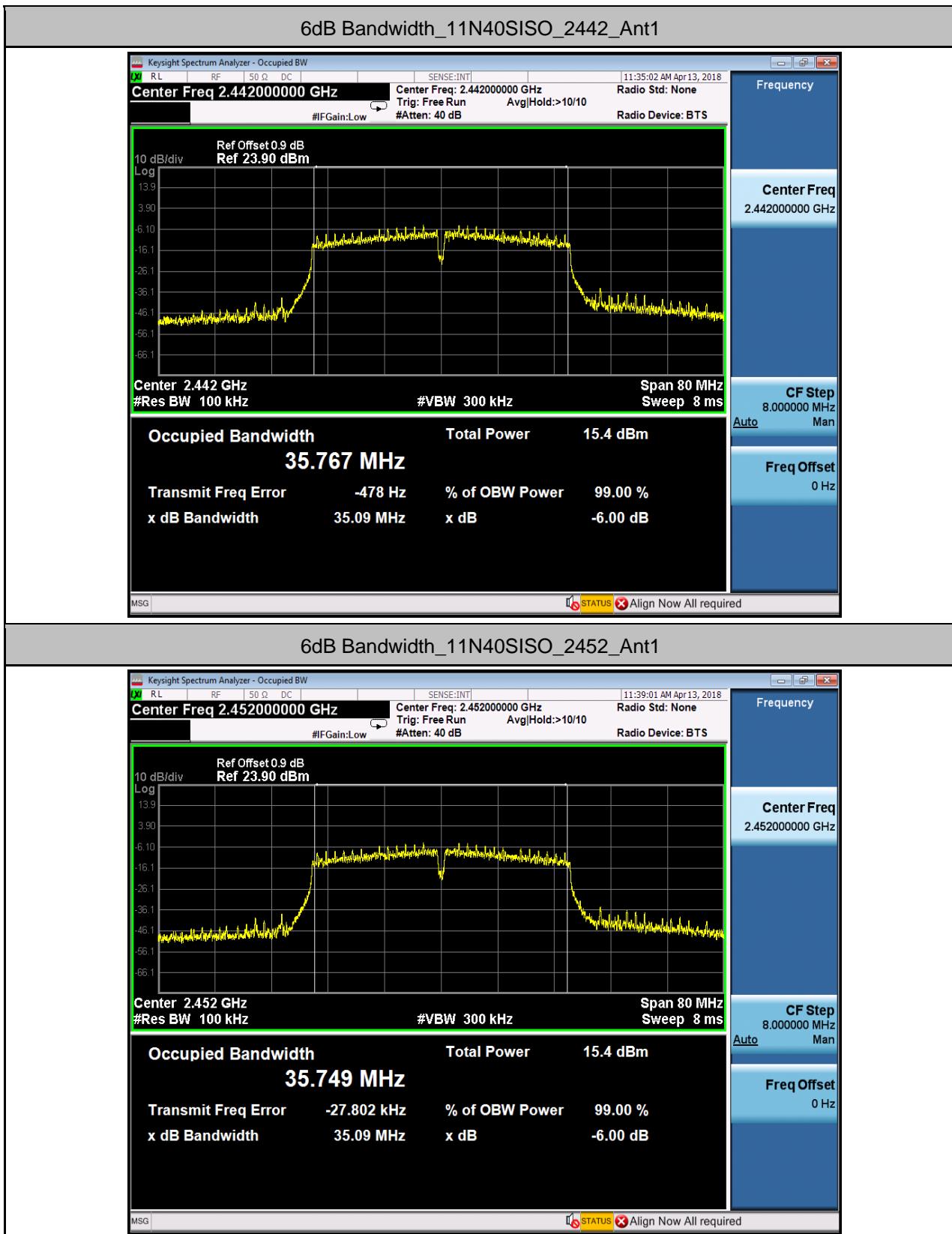












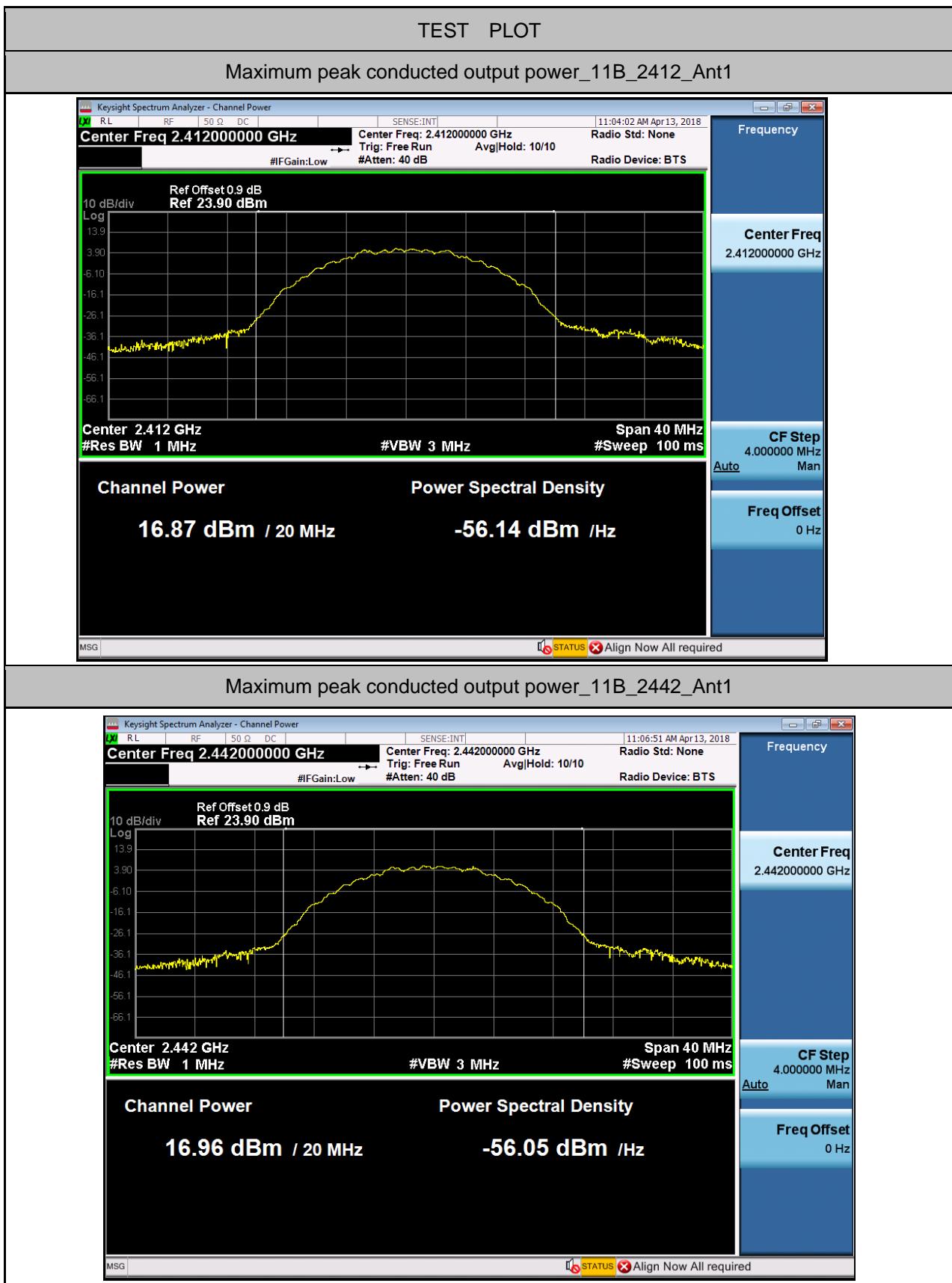


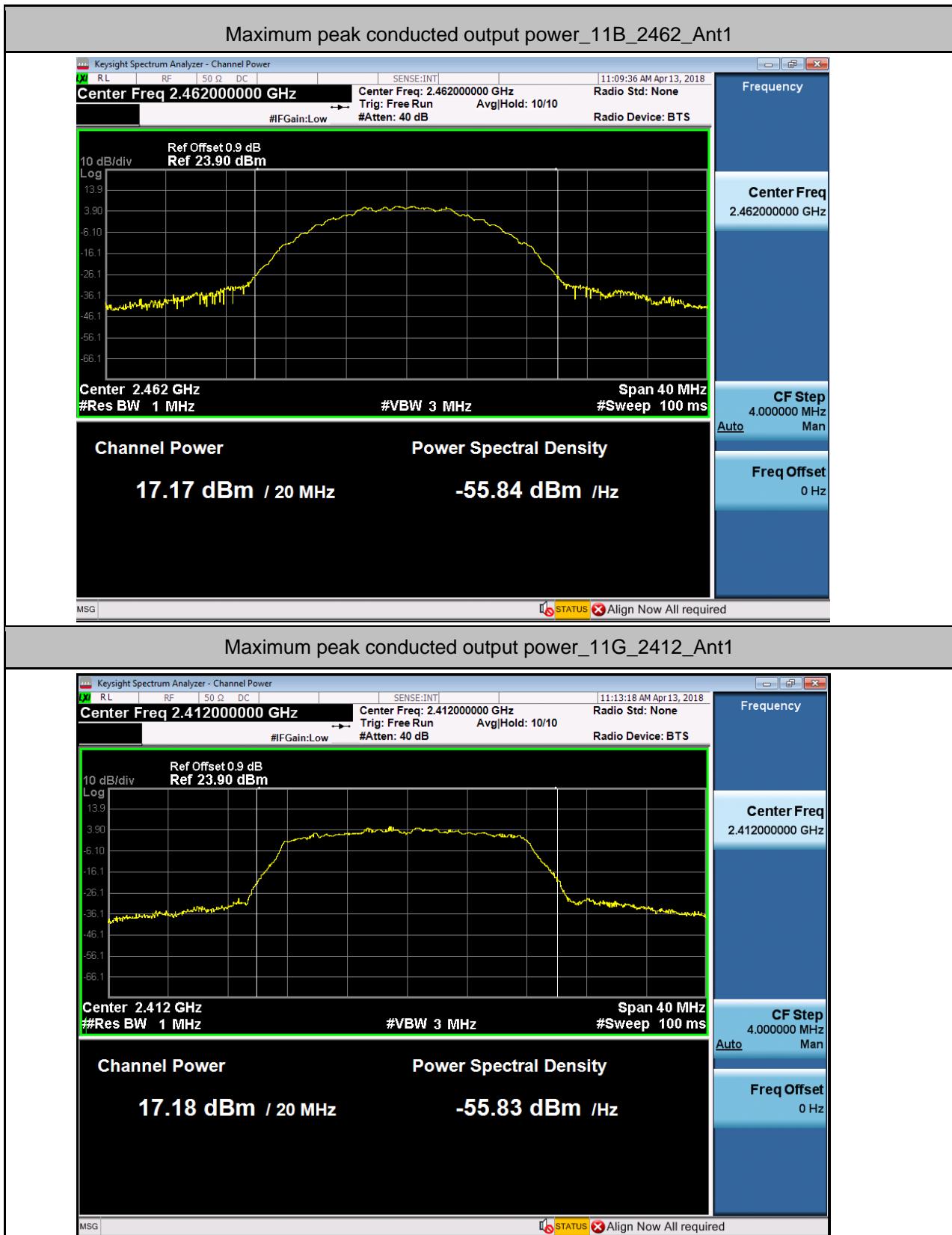
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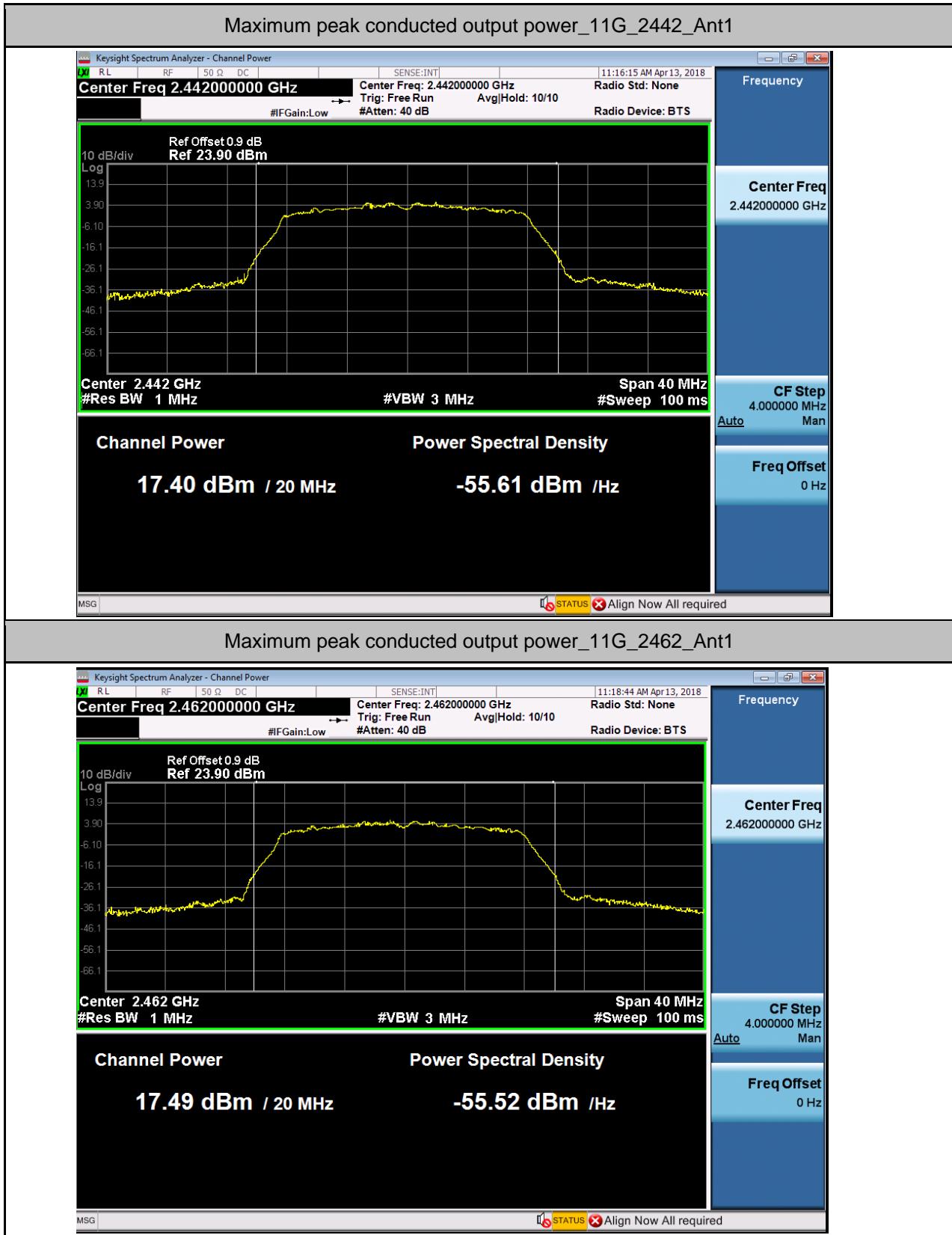
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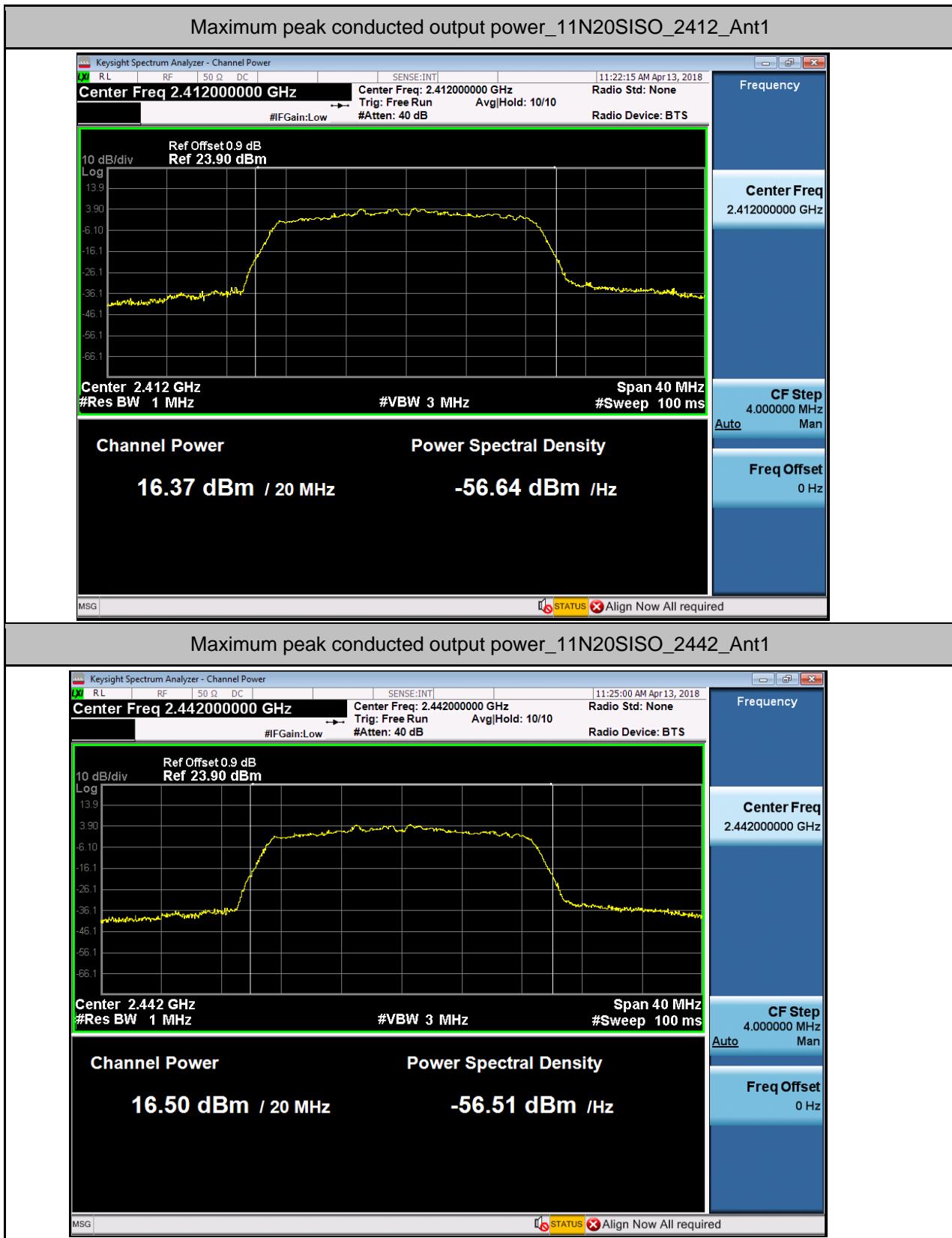
## 2. Maximum peak conducted output power

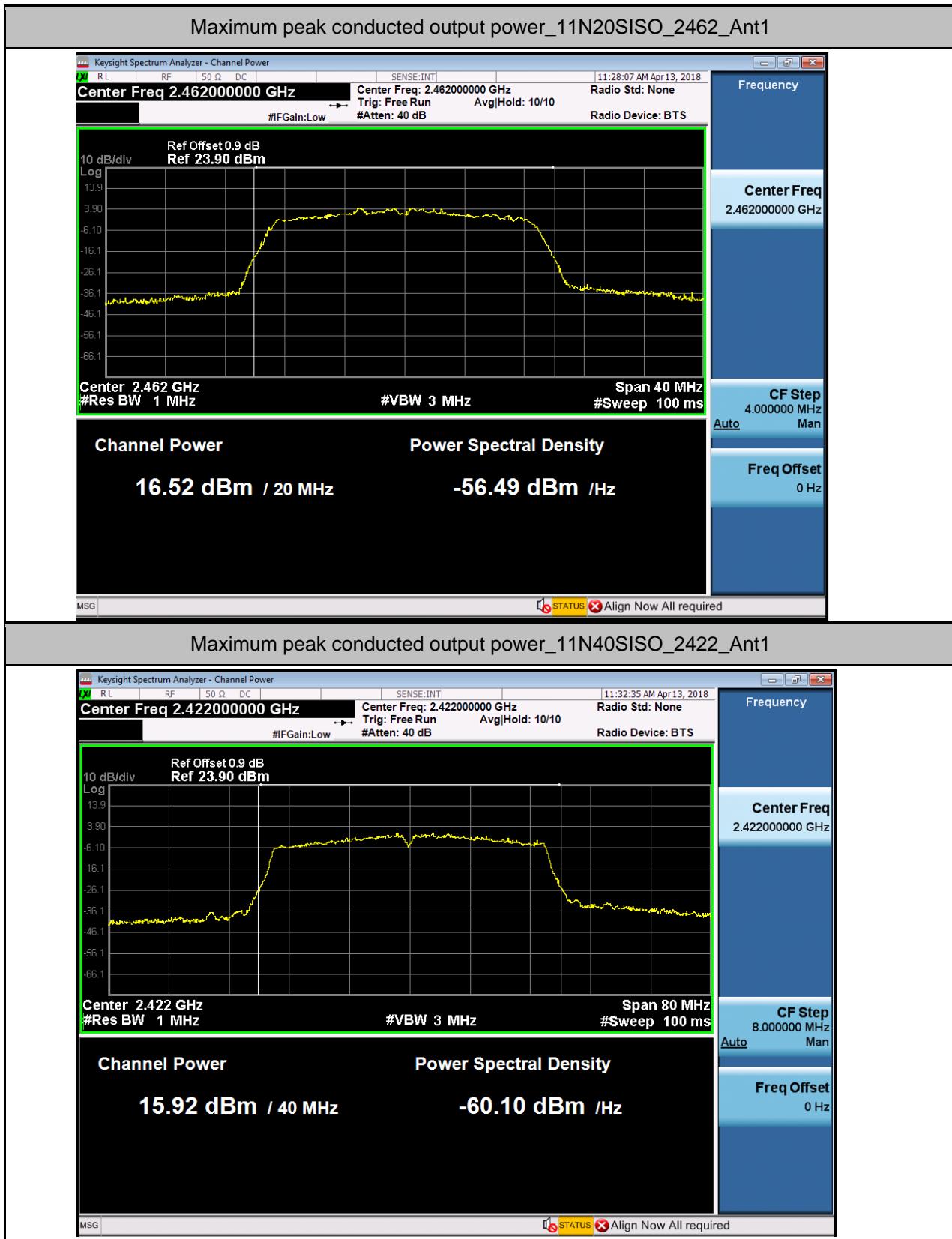
Test Mode	Test Channel	Ant	Power[dBm]	Limit[dBm]	Verdict
11B	2412	Ant1	16.87	30	PASS
11B	2442	Ant1	16.96	30	PASS
11B	2462	Ant1	17.17	30	PASS
11G	2412	Ant1	17.18	30	PASS
11G	2442	Ant1	17.40	30	PASS
11G	2462	Ant1	17.49	30	PASS
11N20SISO	2412	Ant1	16.37	30	PASS
11N20SISO	2442	Ant1	16.50	30	PASS
11N20SISO	2462	Ant1	16.52	30	PASS
11N40SISO	2422	Ant1	15.92	30	PASS
11N40SISO	2442	Ant1	16.00	30	PASS
11N40SISO	2452	Ant1	16.02	30	PASS

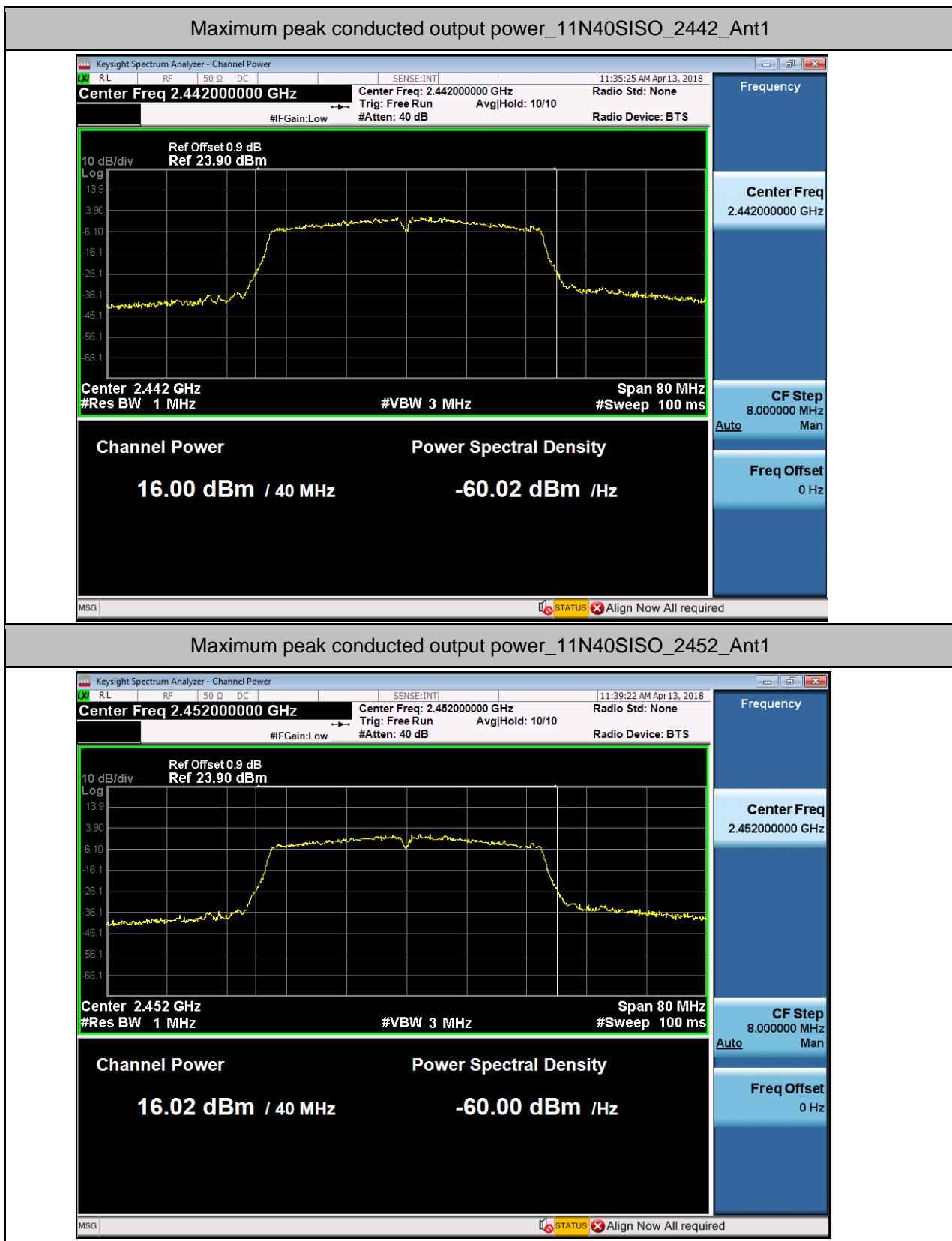












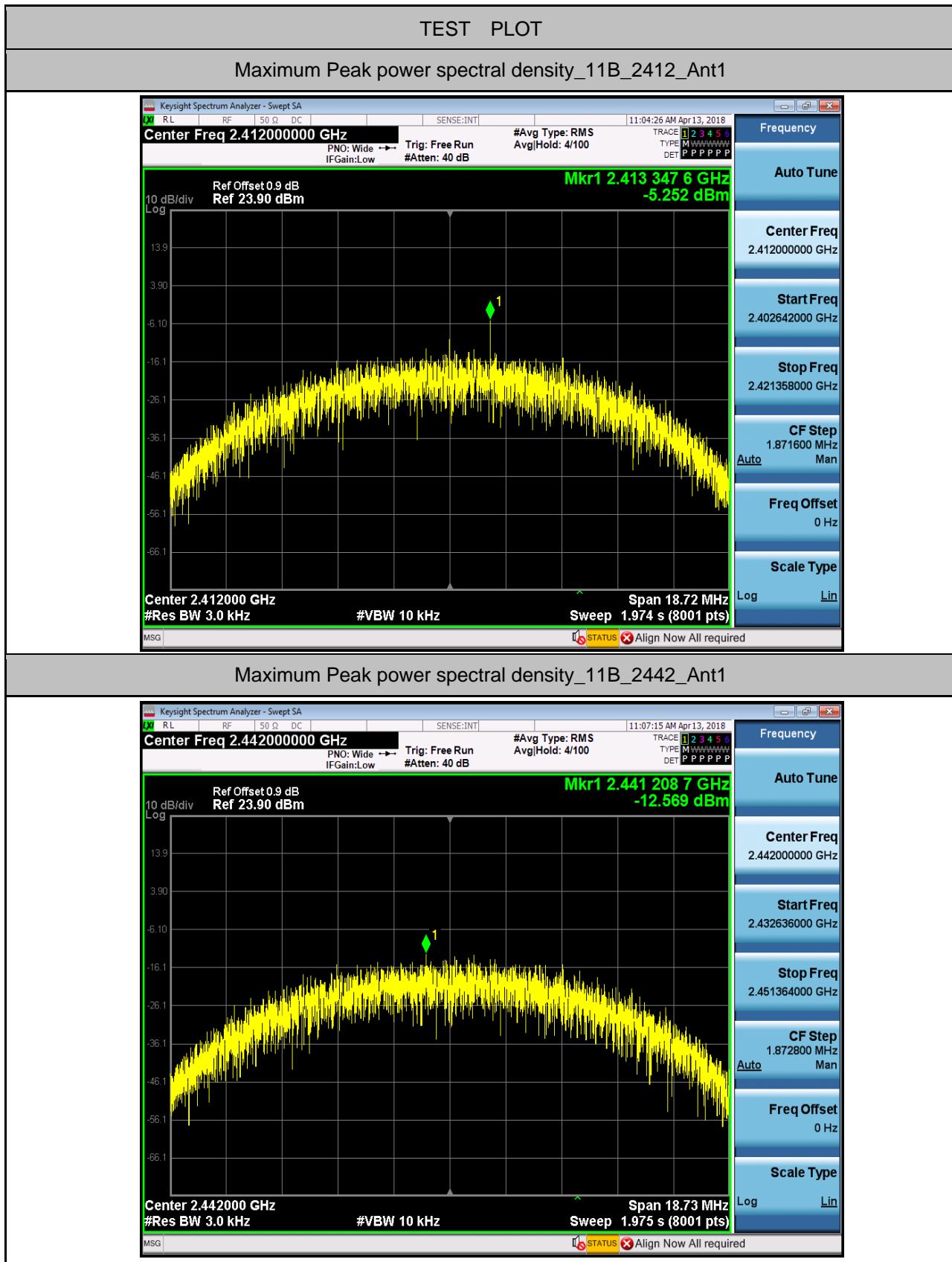


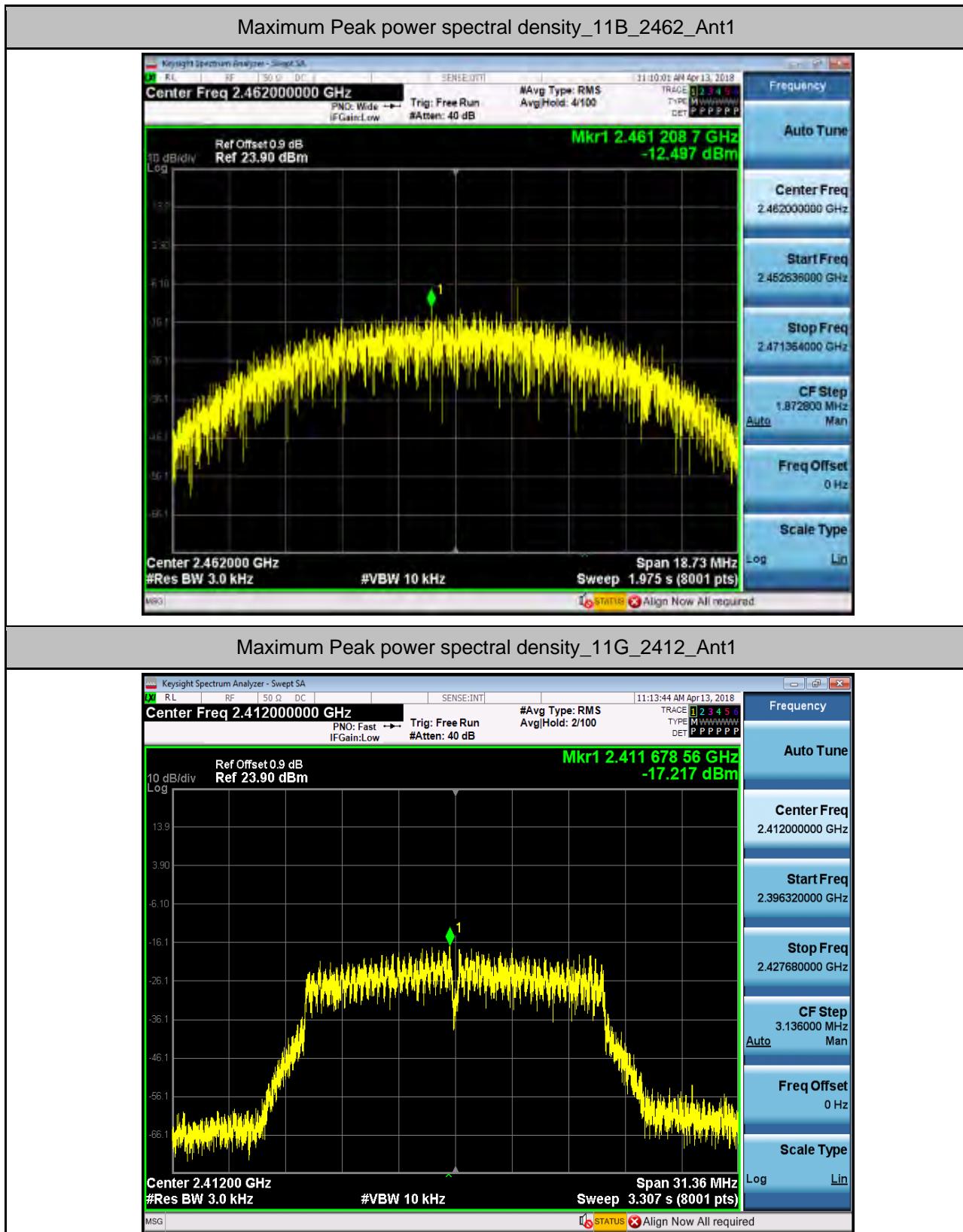
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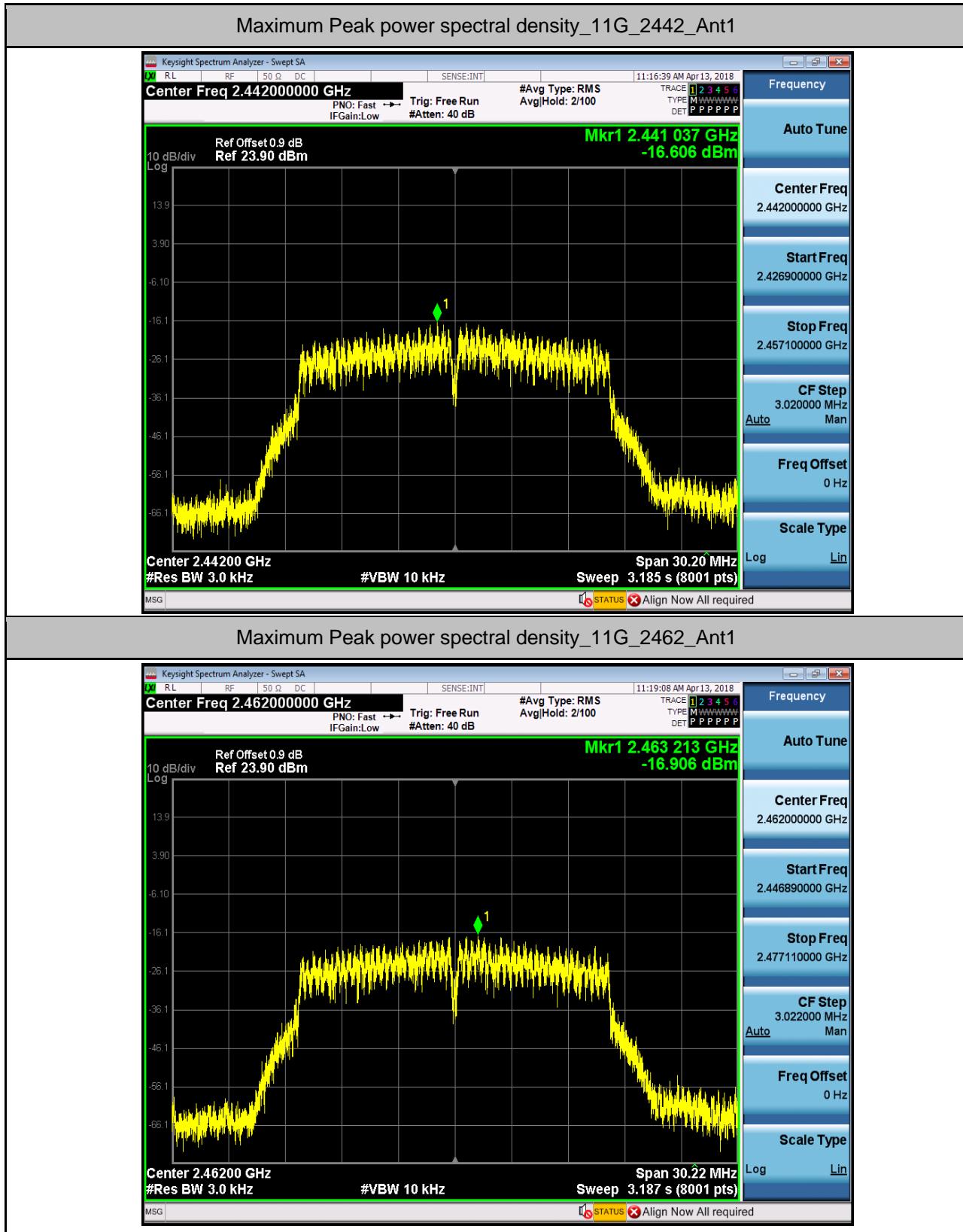
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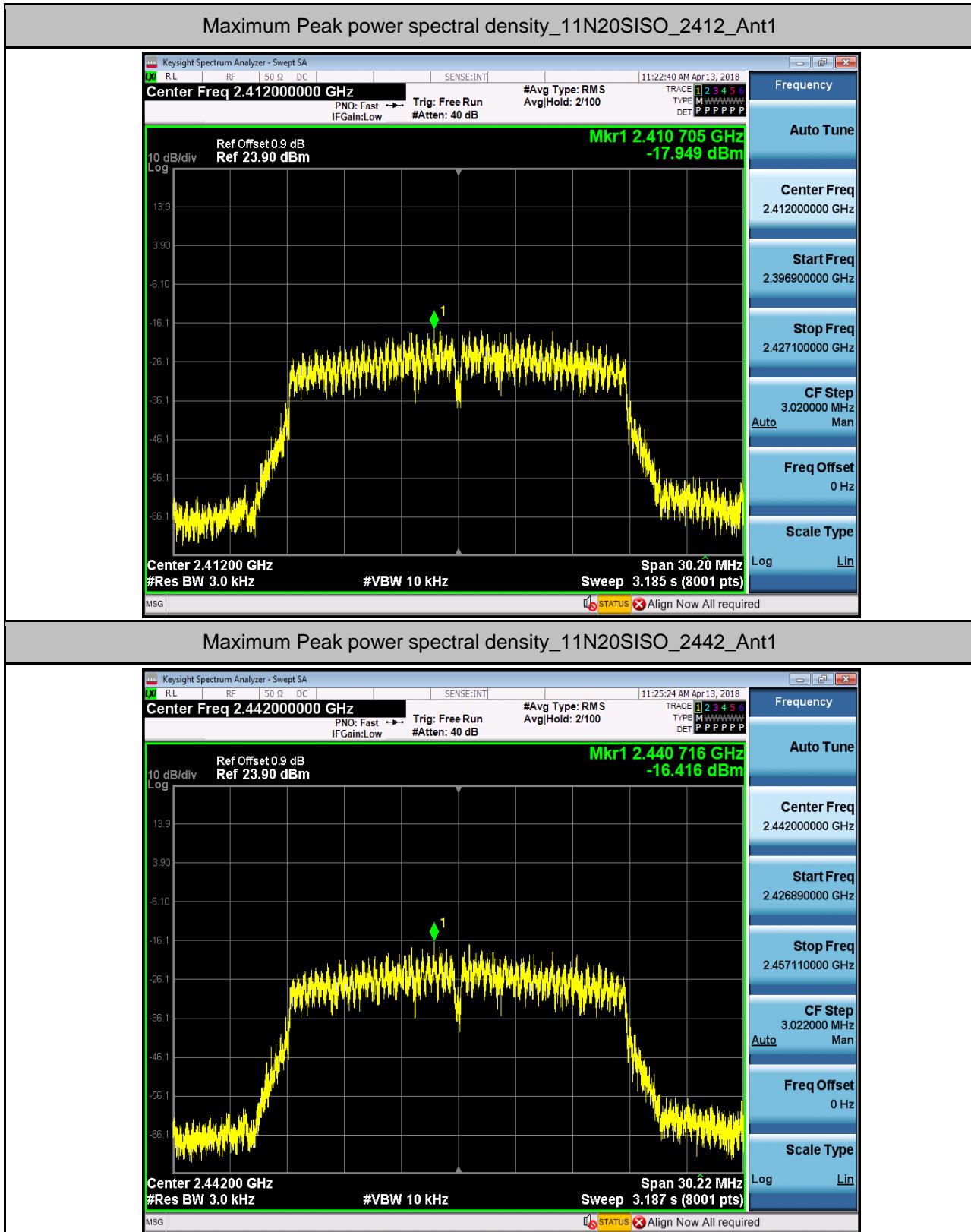
### 3. Maximum Peak power spectral density

Test Mode	Test Channel	Ant	Result	Limit[dBm/3kHz]	Verdict
11B	2412	Ant1	-5.252	8.00	PASS
11B	2442	Ant1	-12.569	8.00	PASS
11B	2462	Ant1	-12.497	8.00	PASS
11G	2412	Ant1	-17.217	8.00	PASS
11G	2442	Ant1	-16.606	8.00	PASS
11G	2462	Ant1	-16.906	8.00	PASS
11N20SISO	2412	Ant1	-17.949	8.00	PASS
11N20SISO	2442	Ant1	-16.416	8.00	PASS
11N20SISO	2462	Ant1	-17.942	8.00	PASS
11N40SISO	2422	Ant1	-20.253	8.00	PASS
11N40SISO	2442	Ant1	-19.894	8.00	PASS
11N40SISO	2452	Ant1	-19.975	8.00	PASS

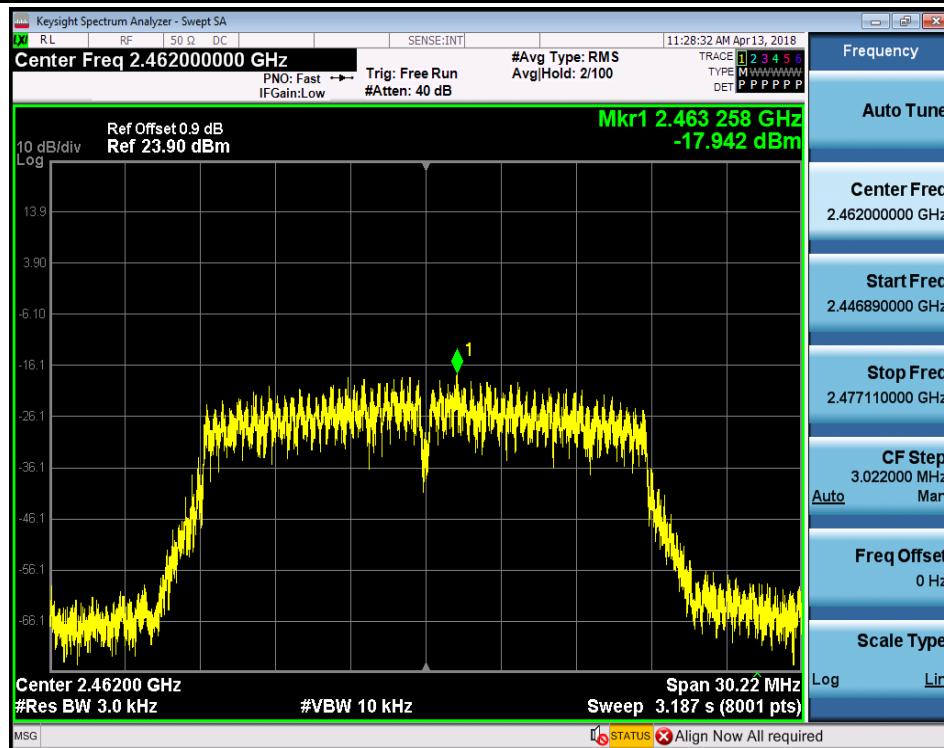




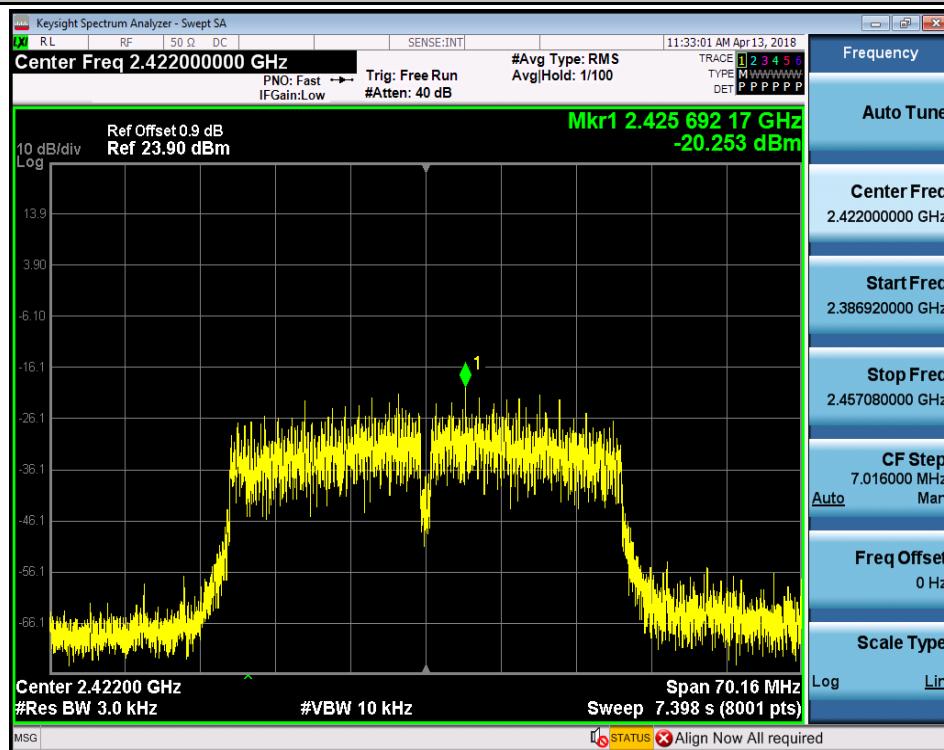


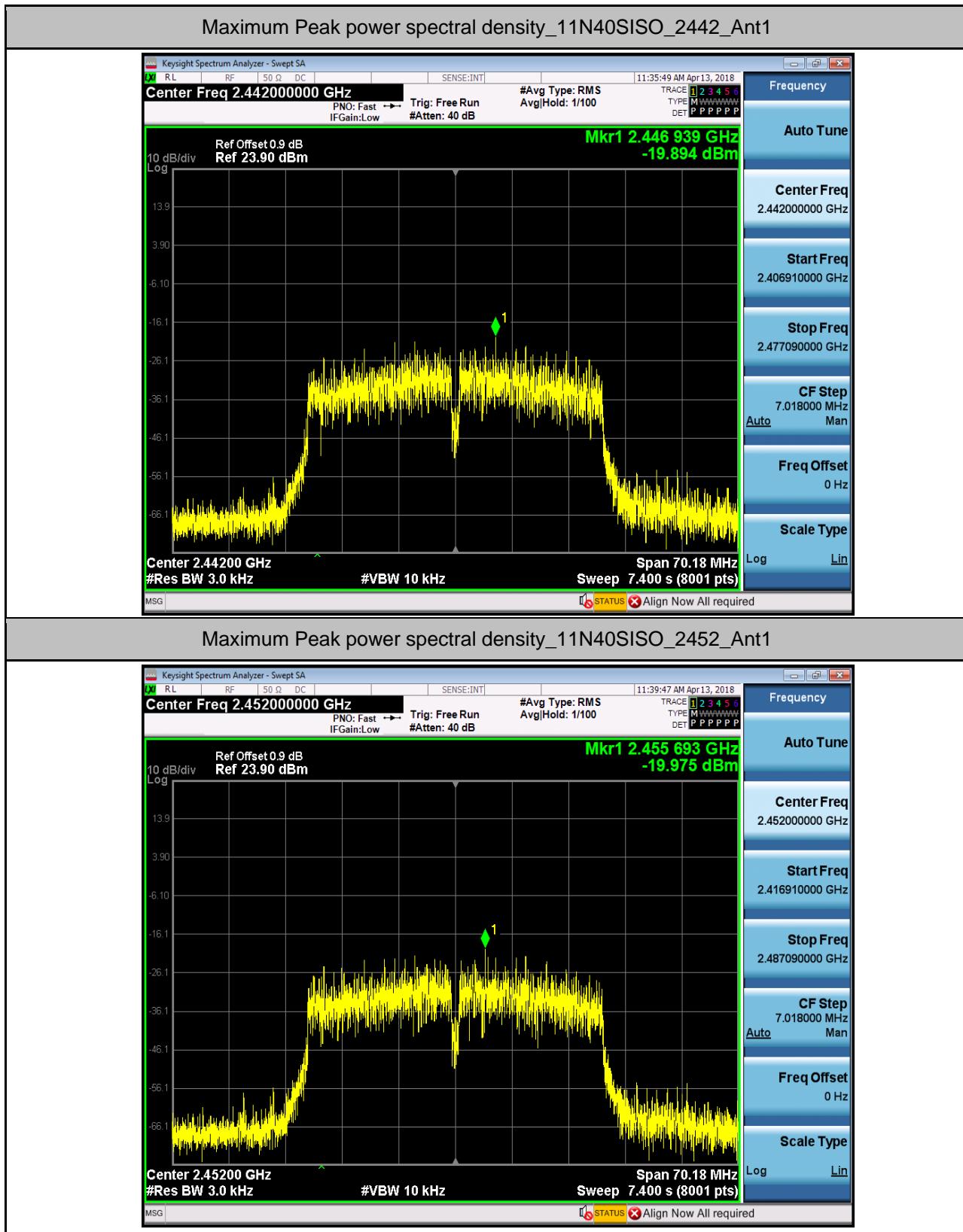


### Maximum Peak power spectral density\_11N20SISO\_2462\_Ant1



### Maximum Peak power spectral density\_11N40SISO\_2422\_Ant1





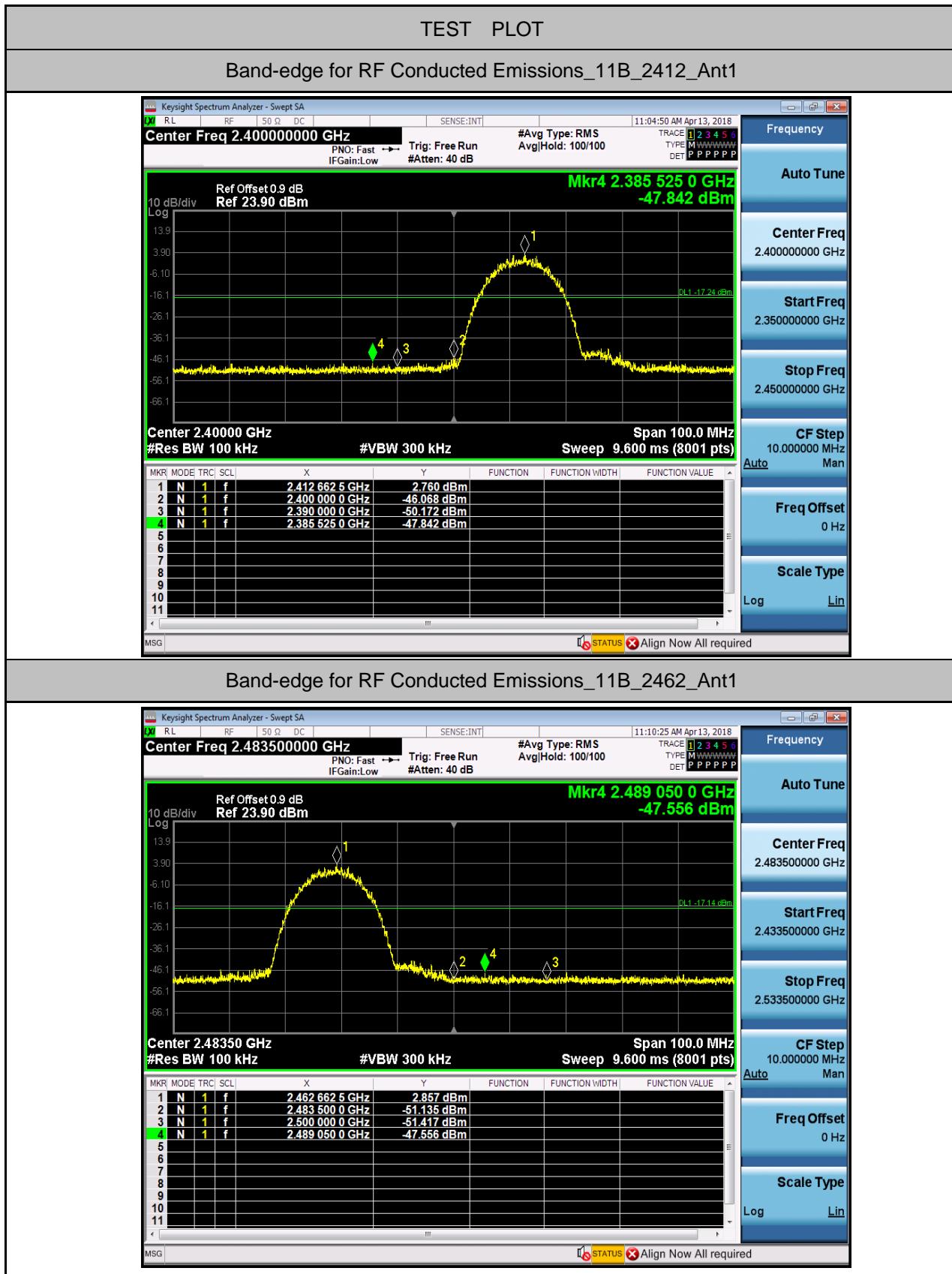


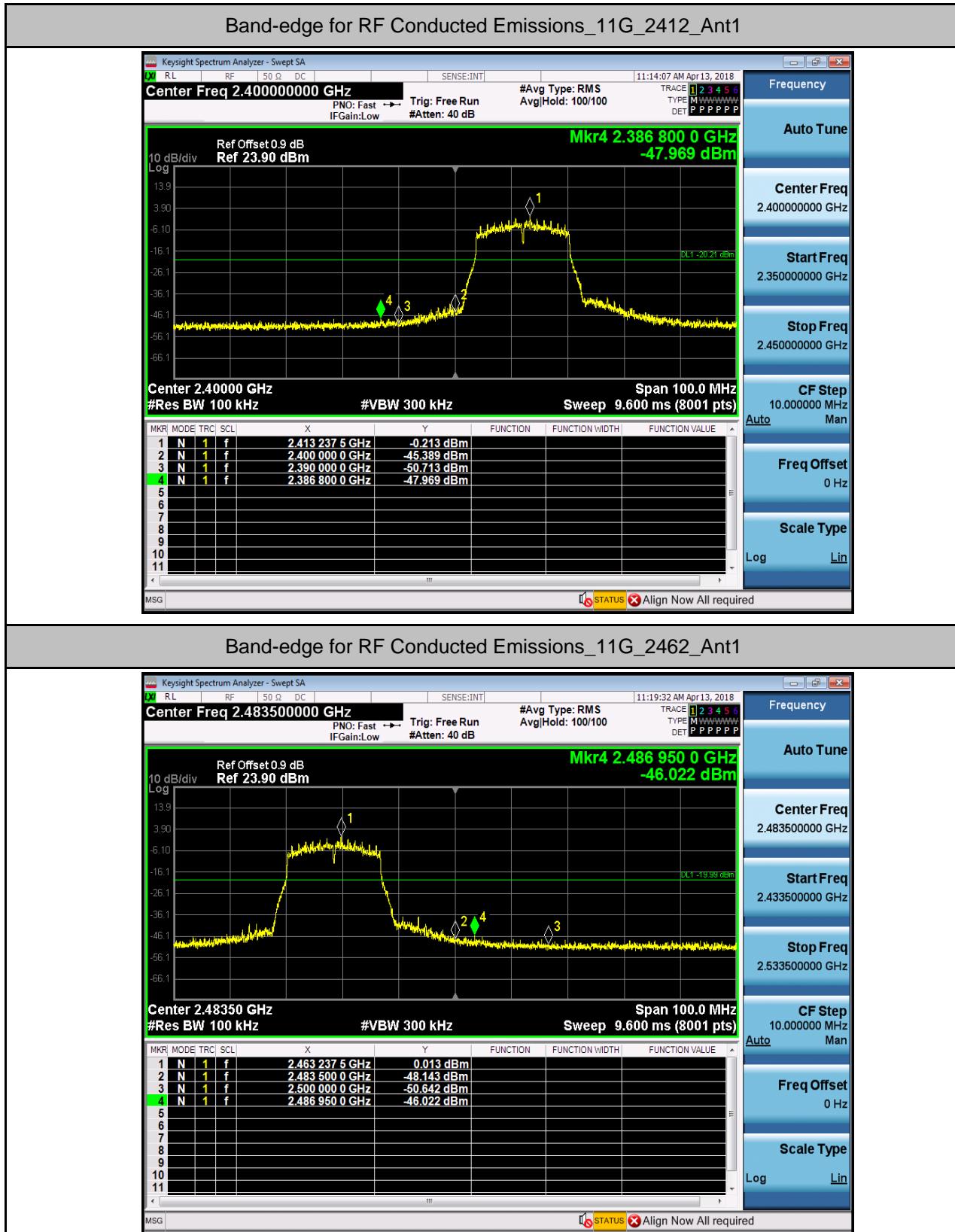
# SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

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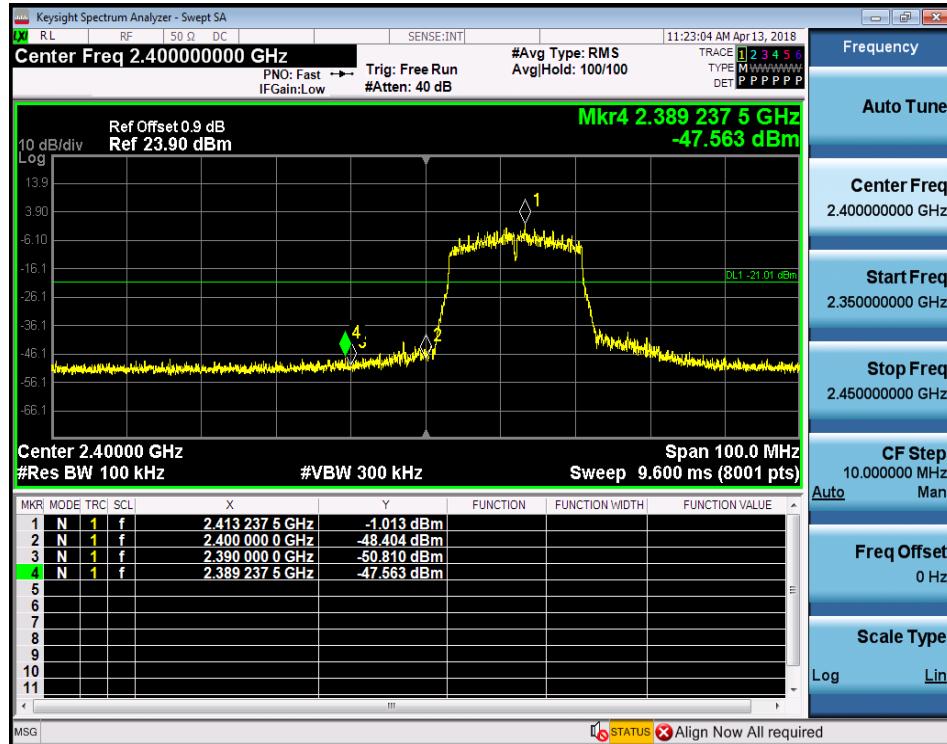
## 4. Band-edge for RF Conducted Emissions

Test Mode	Test Channel	Ant	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
11B	2412	Ant1	2.760	-47.842	-17.24	PASS
11B	2462	Ant1	2.857	-47.556	-17.14	PASS
11G	2412	Ant1	-0.213	-47.969	-20.21	PASS
11G	2462	Ant1	0.013	-46.022	-19.99	PASS
11N20SISO	2412	Ant1	-1.013	-47.563	-21.01	PASS
11N20SISO	2462	Ant1	-1.166	-46.184	-21.17	PASS
11N40SISO	2422	Ant1	-3.946	-45.047	-23.95	PASS
11N40SISO	2452	Ant1	-4.043	-39.225	-24.04	PASS

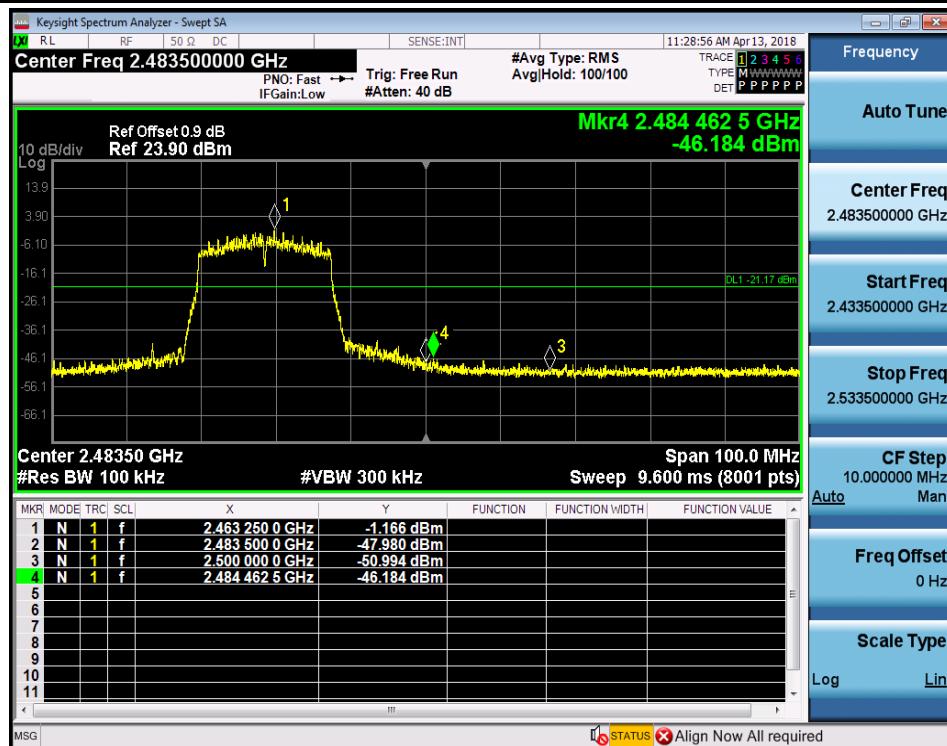




### Band-edge for RF Conducted Emissions\_11N20SISO\_2412\_Ant1



### Band-edge for RF Conducted Emissions\_11N20SISO\_2462\_Ant1





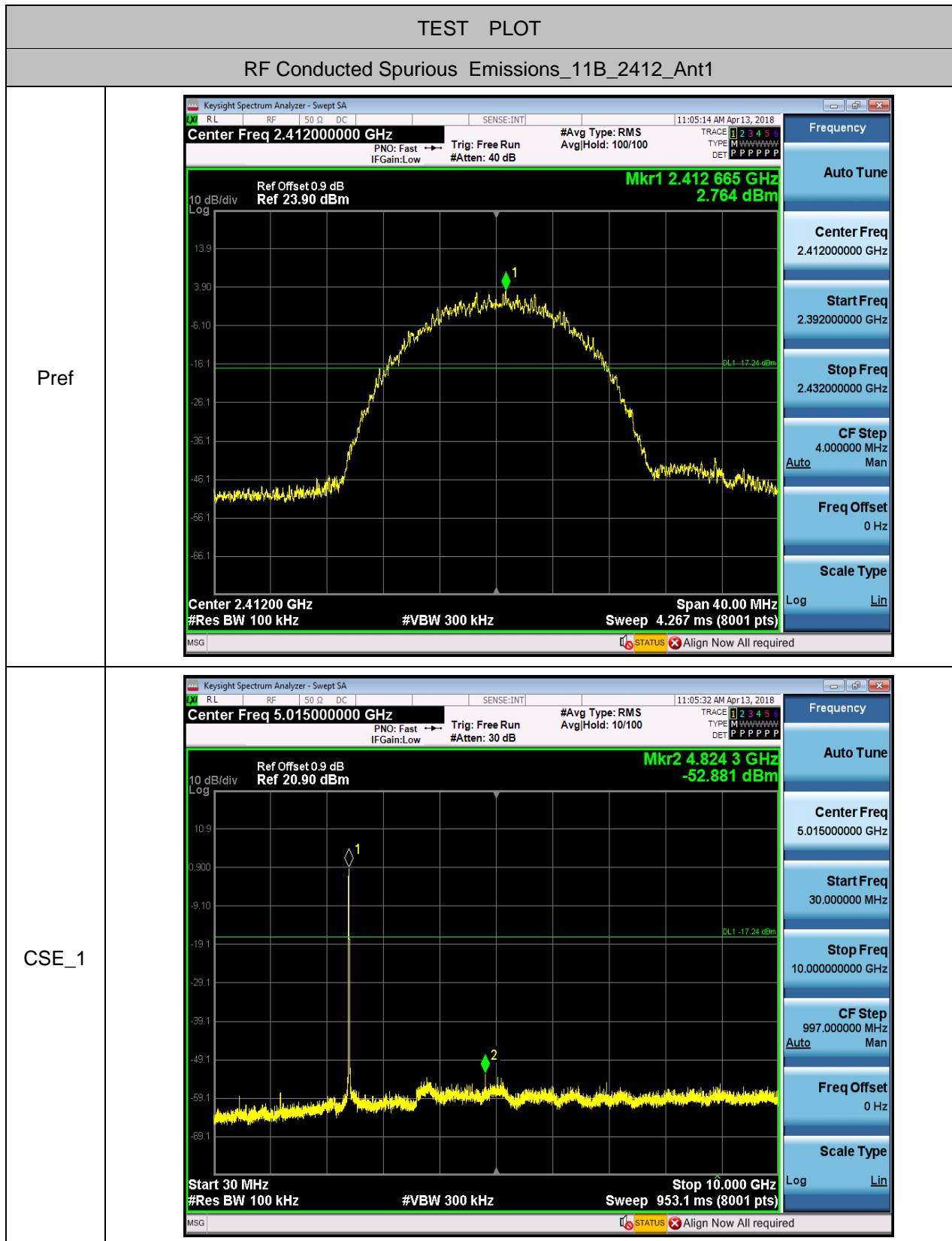


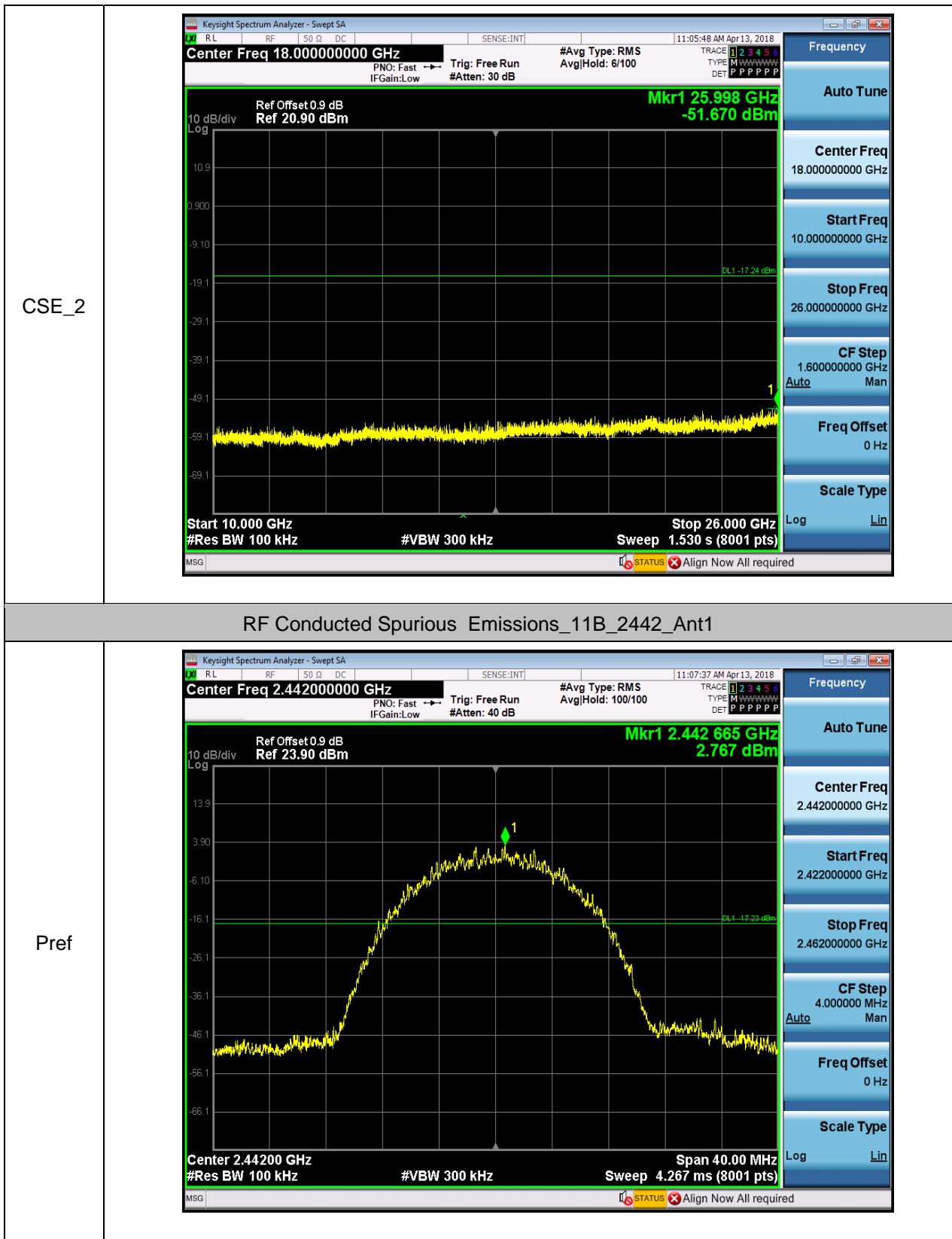
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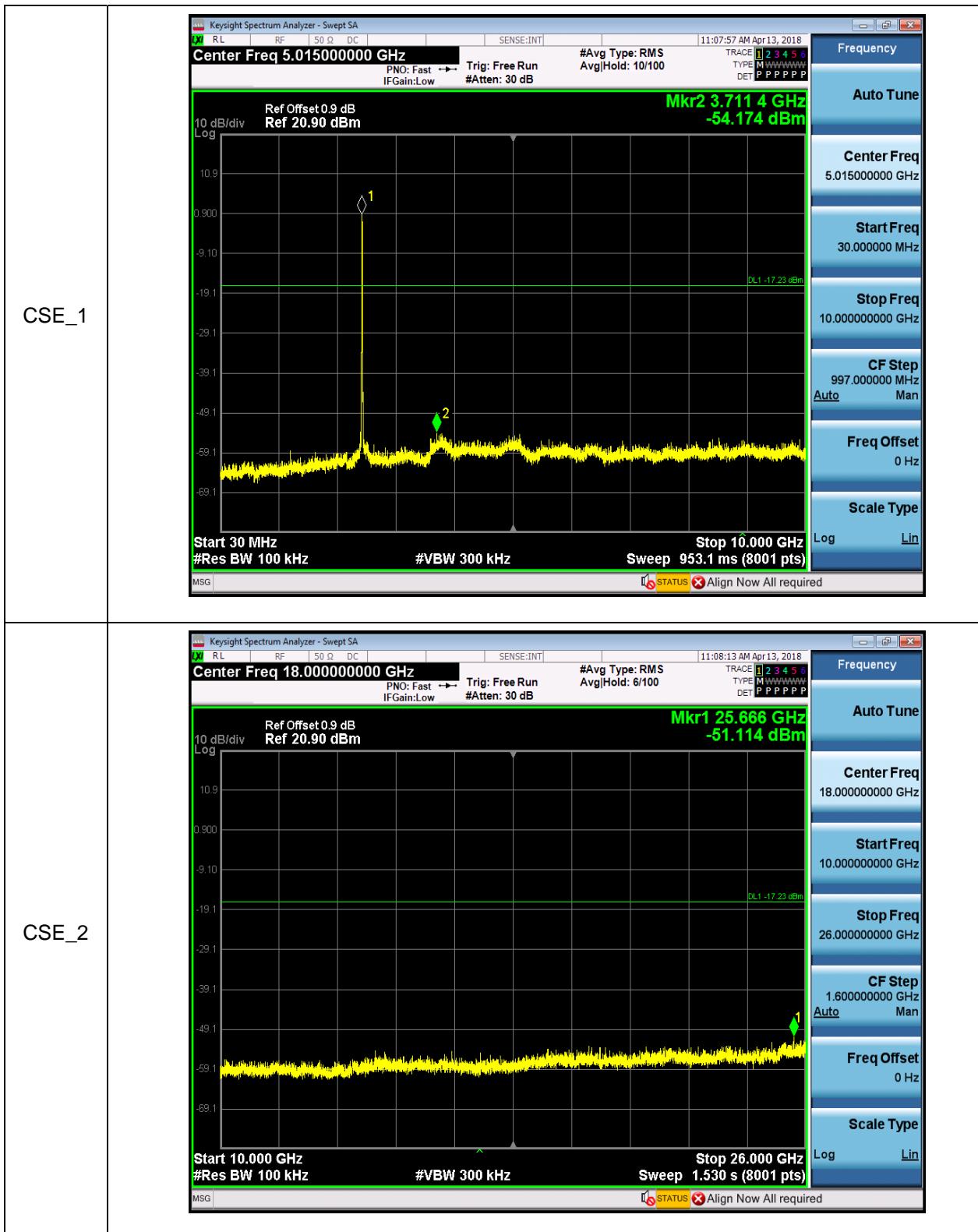
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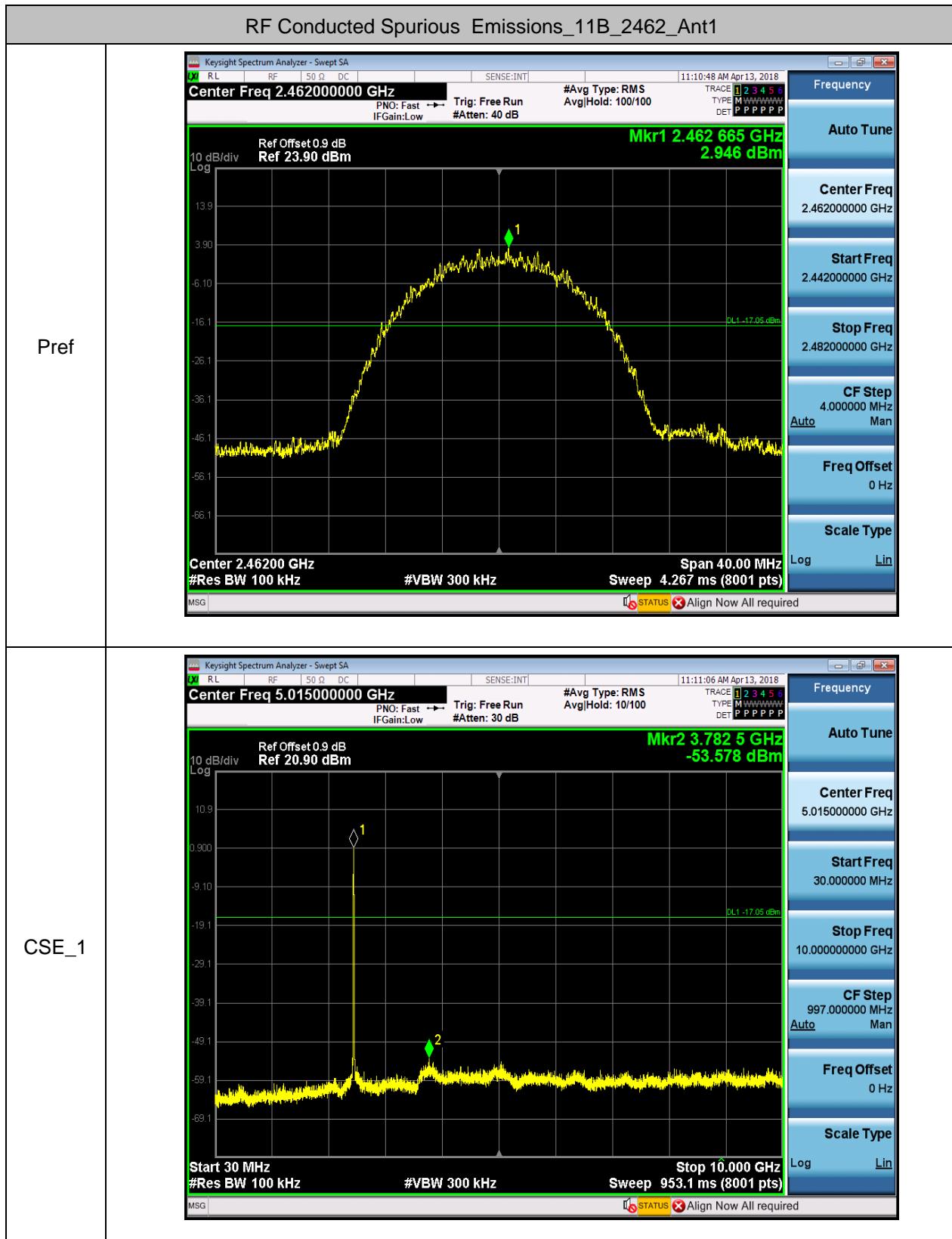
## 5. RF Conducted Spurious Emissions

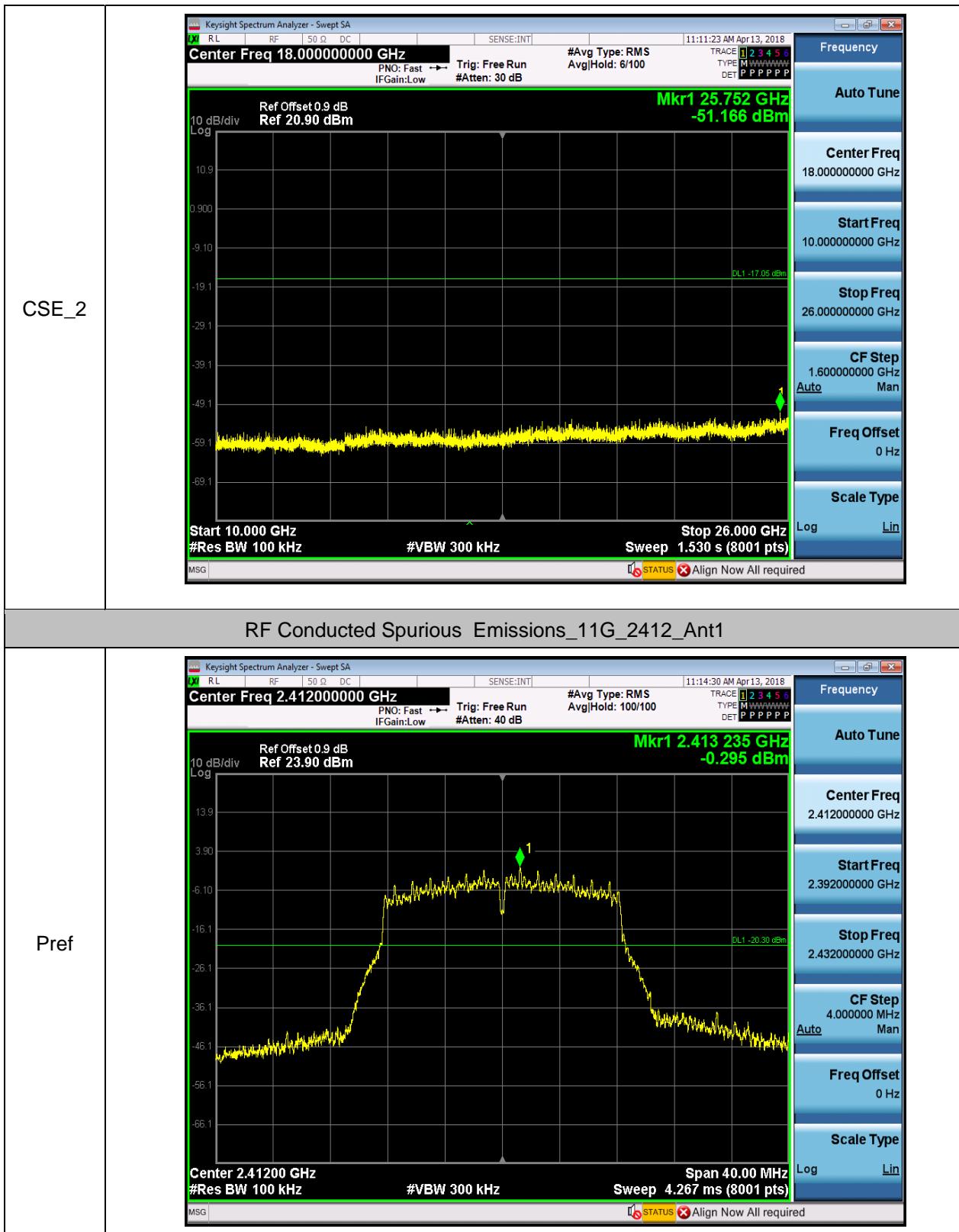
Test Mode	Test Channel	Ant	StartFre [MHz]	StopFre [MHz]	RBW [kHz]	VBW [kHz]	Pref[dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	2412	Ant1	30	10000	100	300	2.764	-52.881	<-17.236	PASS
11B	2412	Ant1	10000	26000	100	300	2.764	-51.670	<-17.236	PASS
11B	2442	Ant1	30	10000	100	300	2.767	-54.174	<-17.233	PASS
11B	2442	Ant1	10000	26000	100	300	2.767	-51.114	<-17.233	PASS
11B	2462	Ant1	30	10000	100	300	2.946	-53.578	<-17.054	PASS
11B	2462	Ant1	10000	26000	100	300	2.946	-51.166	<-17.054	PASS
11G	2412	Ant1	30	10000	100	300	-0.295	-54.302	<-20.295	PASS
11G	2412	Ant1	10000	26000	100	300	-0.295	-51.363	<-20.295	PASS
11G	2442	Ant1	30	10000	100	300	0.003	-53.548	<-19.997	PASS
11G	2442	Ant1	10000	26000	100	300	0.003	-50.754	<-19.997	PASS
11G	2462	Ant1	30	10000	100	300	-0.026	-54.395	<-20.026	PASS
11G	2462	Ant1	10000	26000	100	300	-0.026	-51.044	<-20.026	PASS
11N20SISO	2412	Ant1	30	10000	100	300	-1.123	-54.612	<-21.123	PASS
11N20SISO	2412	Ant1	10000	26000	100	300	-1.123	-50.955	<-21.123	PASS
11N20SISO	2442	Ant1	30	10000	100	300	-1.088	-54.192	<-21.088	PASS
11N20SISO	2442	Ant1	10000	26000	100	300	-1.088	-51.453	<-21.088	PASS
11N20SISO	2462	Ant1	30	10000	100	300	-1.162	-54.110	<-21.162	PASS
11N20SISO	2462	Ant1	10000	26000	100	300	-1.162	-50.975	<-21.162	PASS
11N40SISO	2422	Ant1	30	10000	100	300	-4.036	-53.619	<-24.036	PASS
11N40SISO	2422	Ant1	10000	26000	100	300	-4.036	-52.428	<-24.036	PASS
11N40SISO	2442	Ant1	30	10000	100	300	-4.04	-53.909	<-24.04	PASS
11N40SISO	2442	Ant1	10000	26000	100	300	-4.04	-52.140	<-24.04	PASS
11N40SISO	2452	Ant1	30	10000	100	300	-3.828	-54.239	<-23.828	PASS
11N40SISO	2452	Ant1	10000	26000	100	300	-3.828	-51.824	<-23.828	PASS

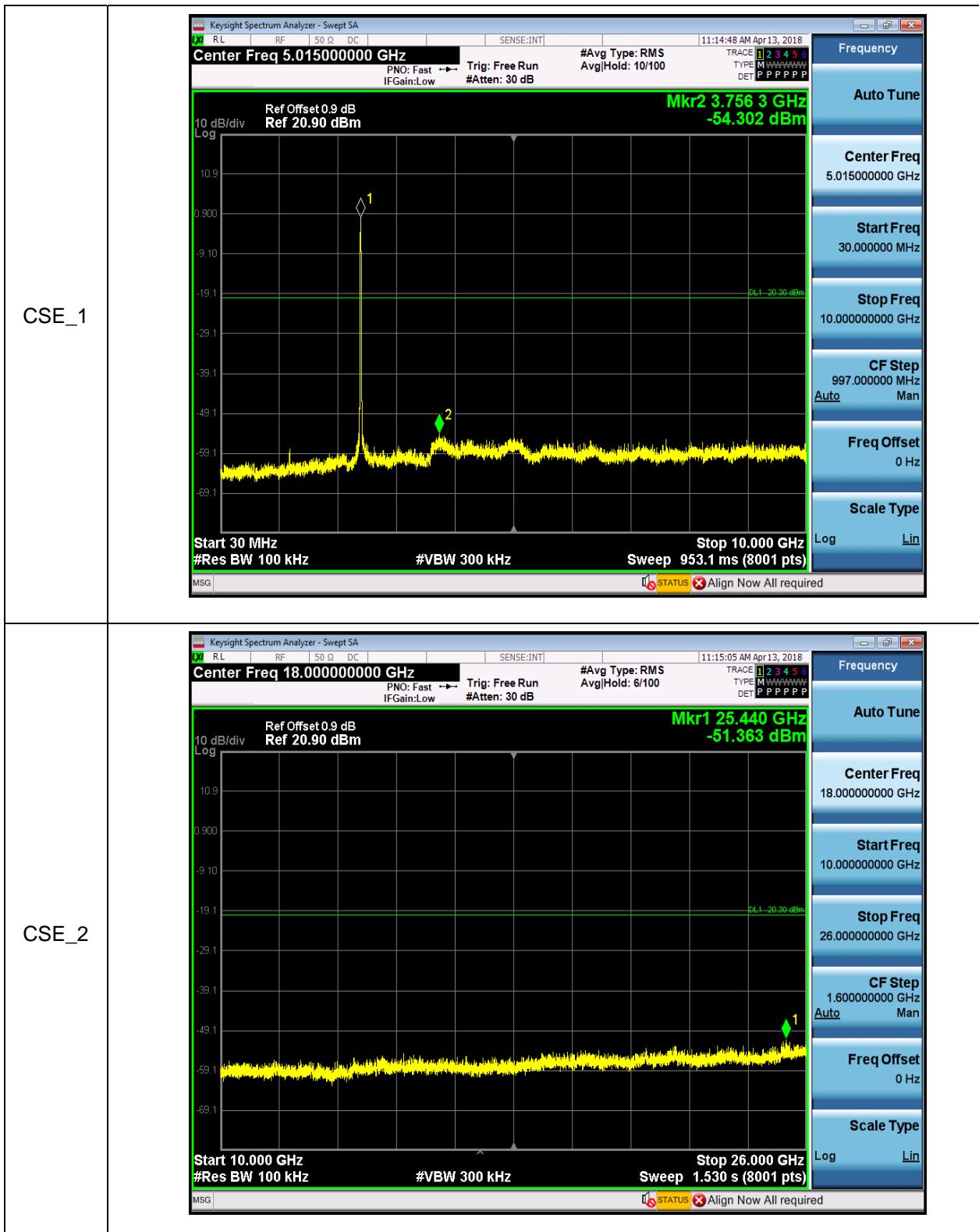


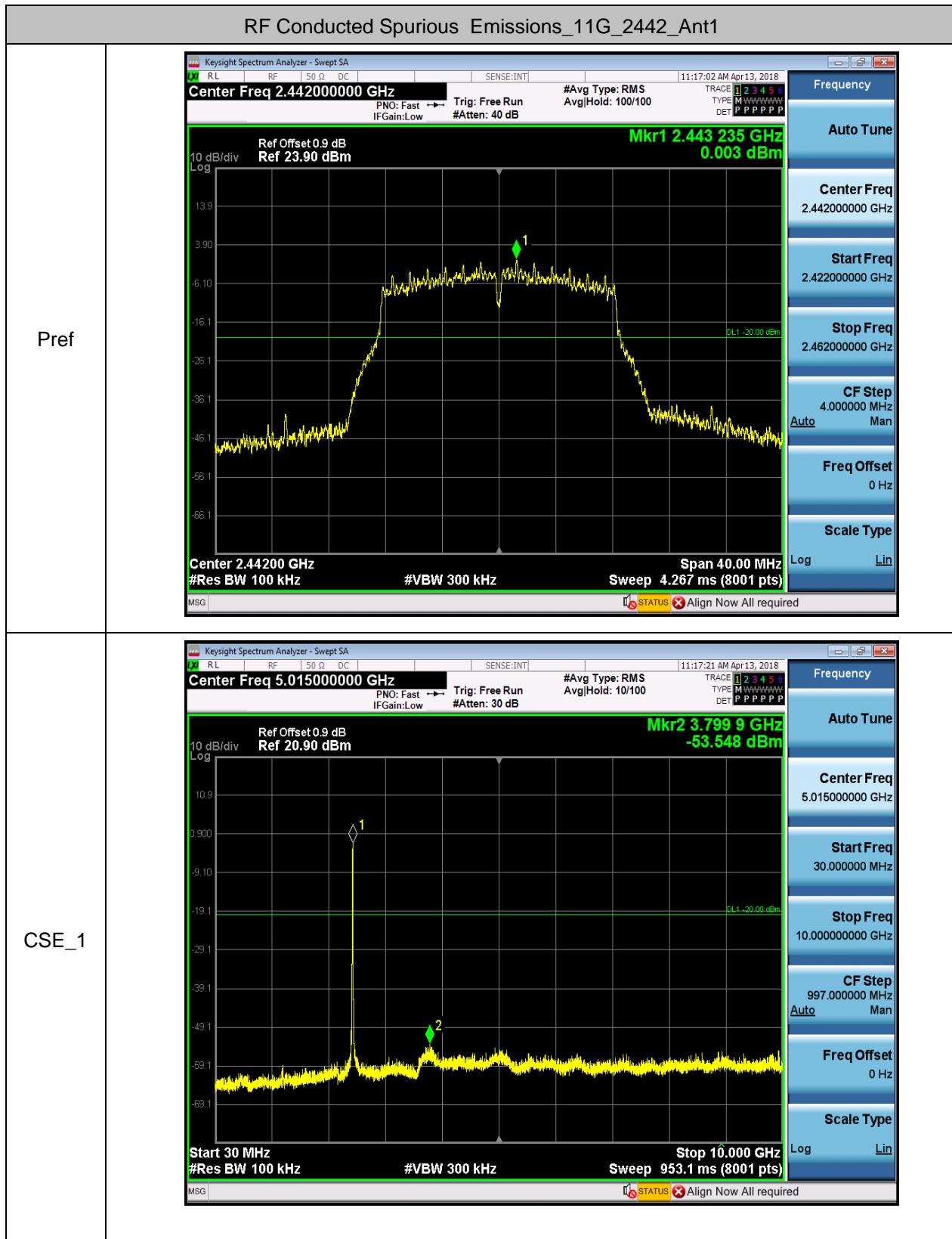


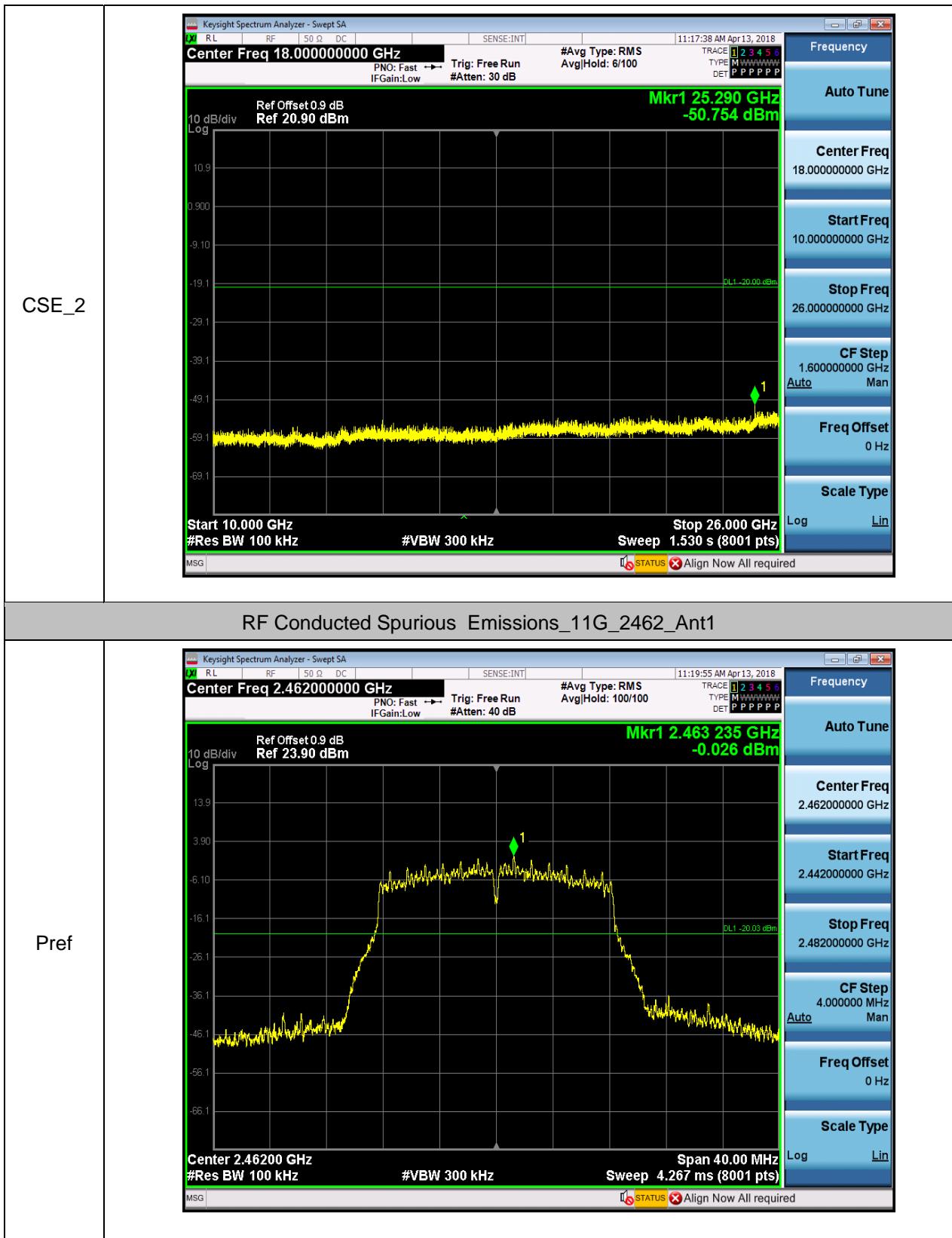


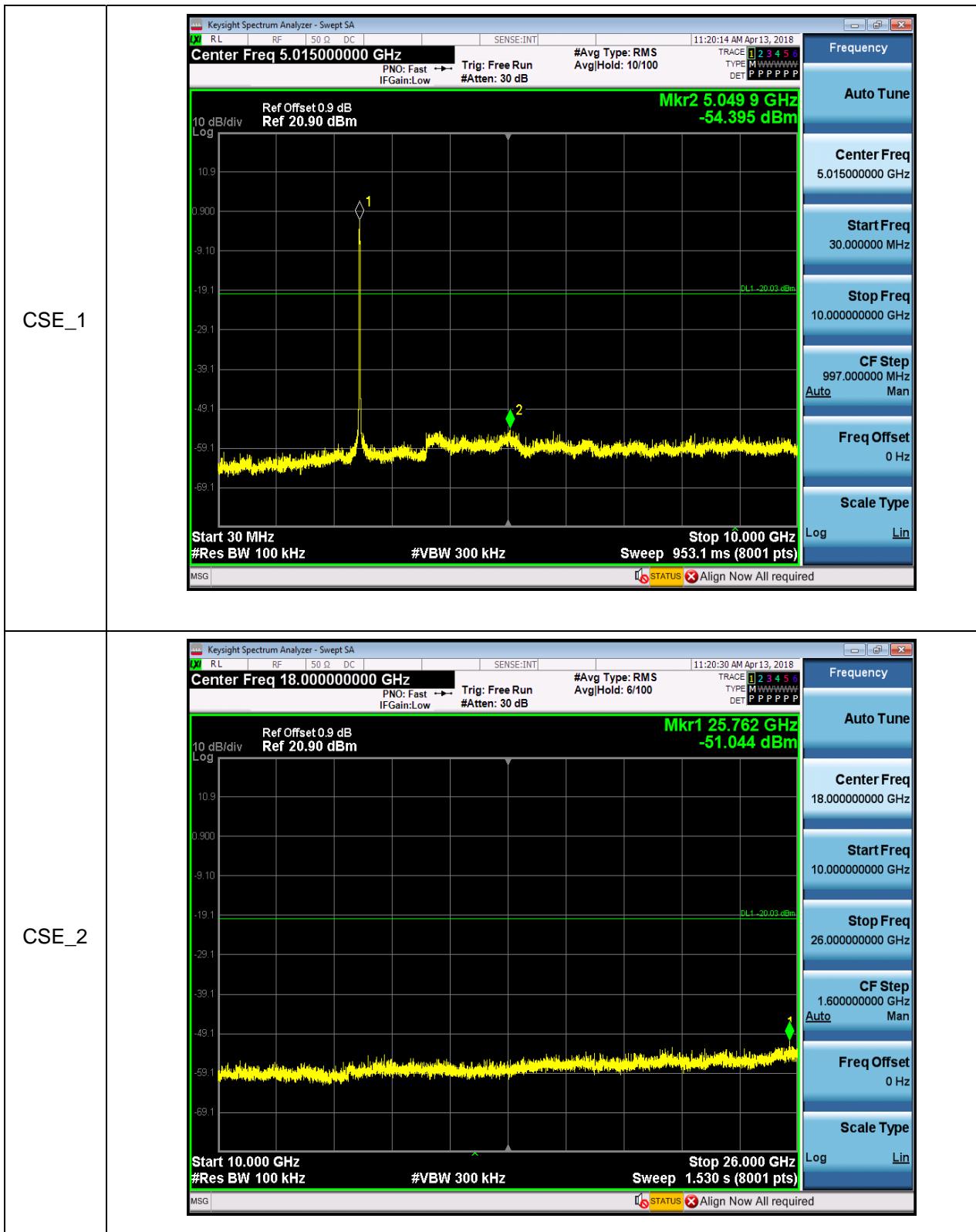


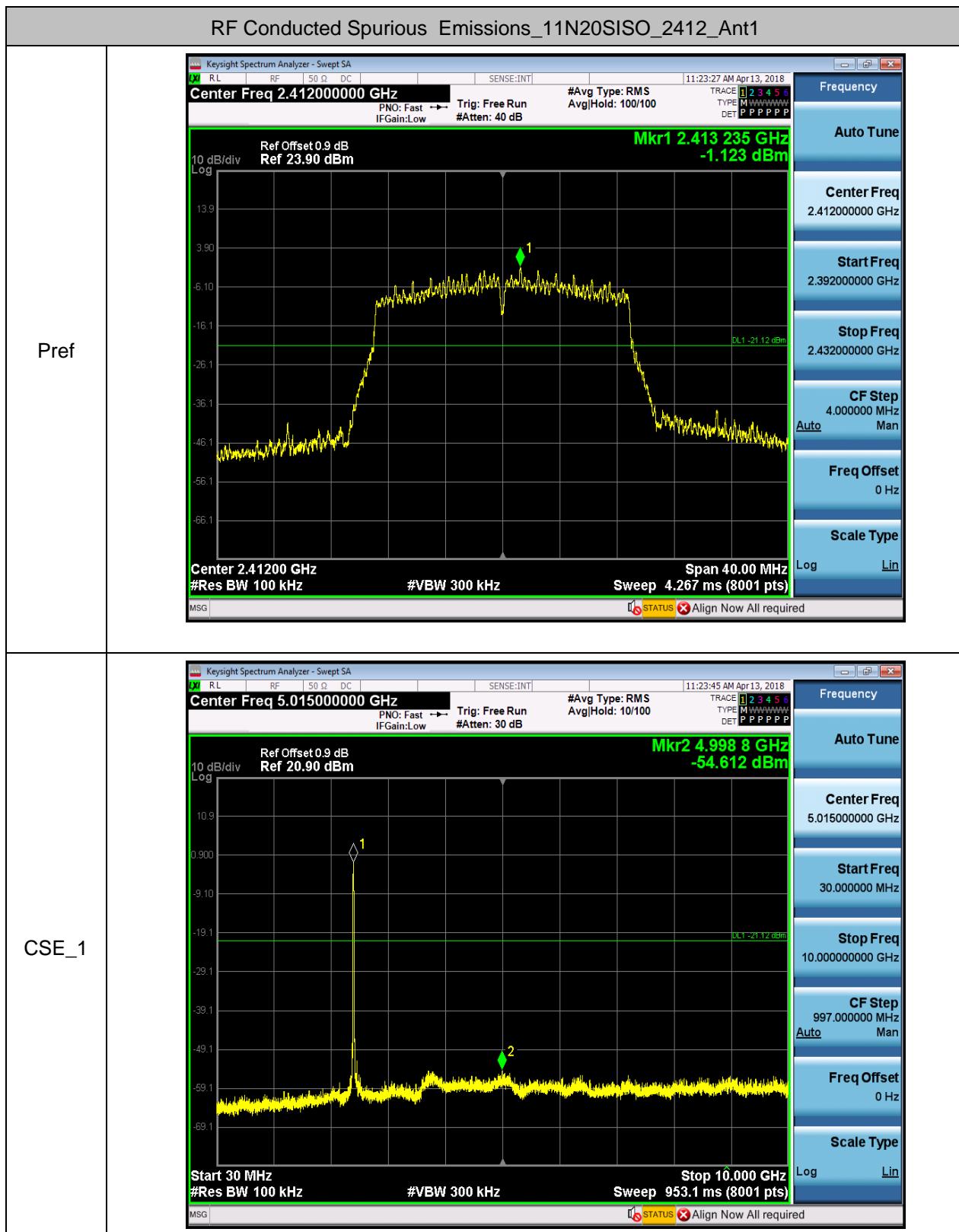


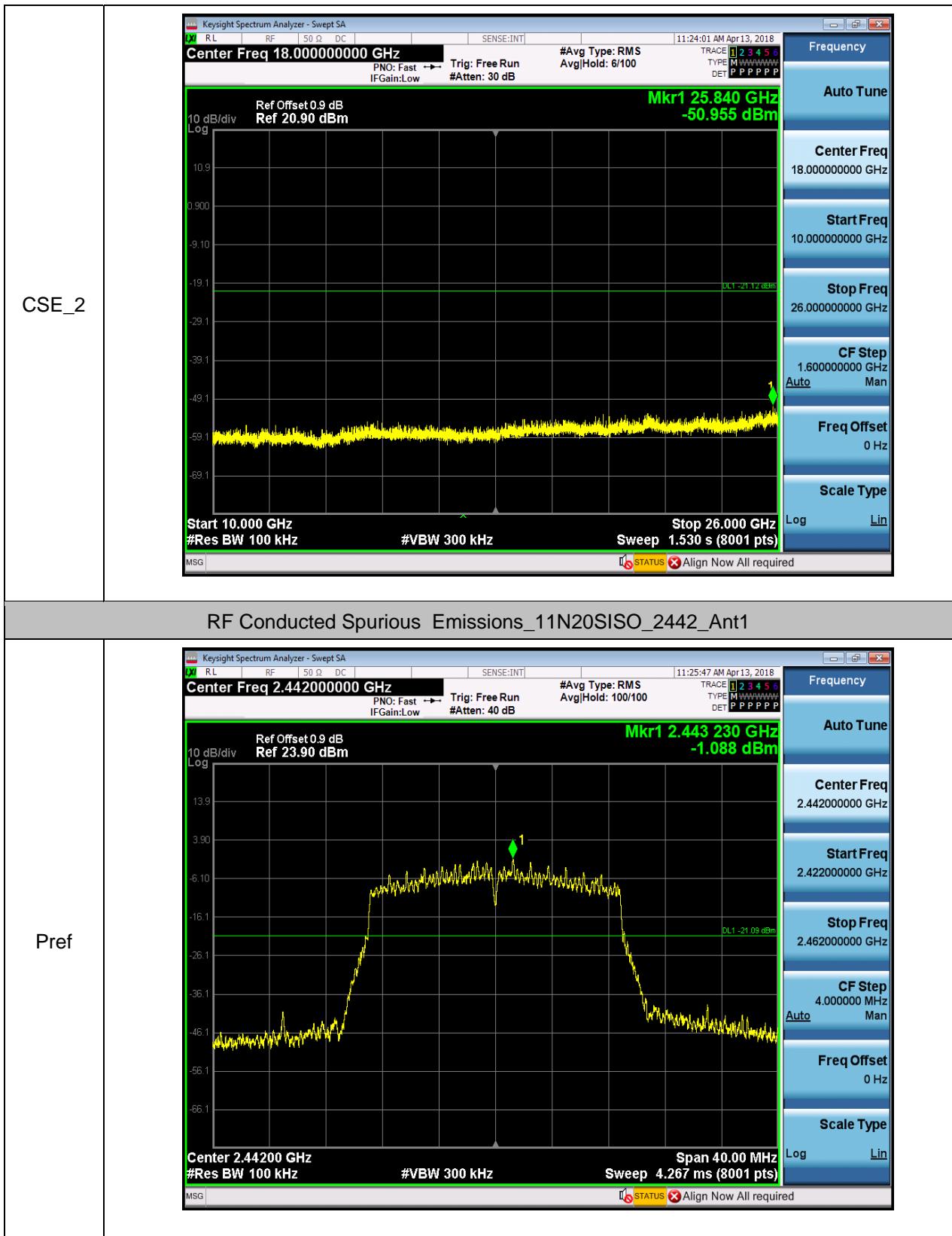


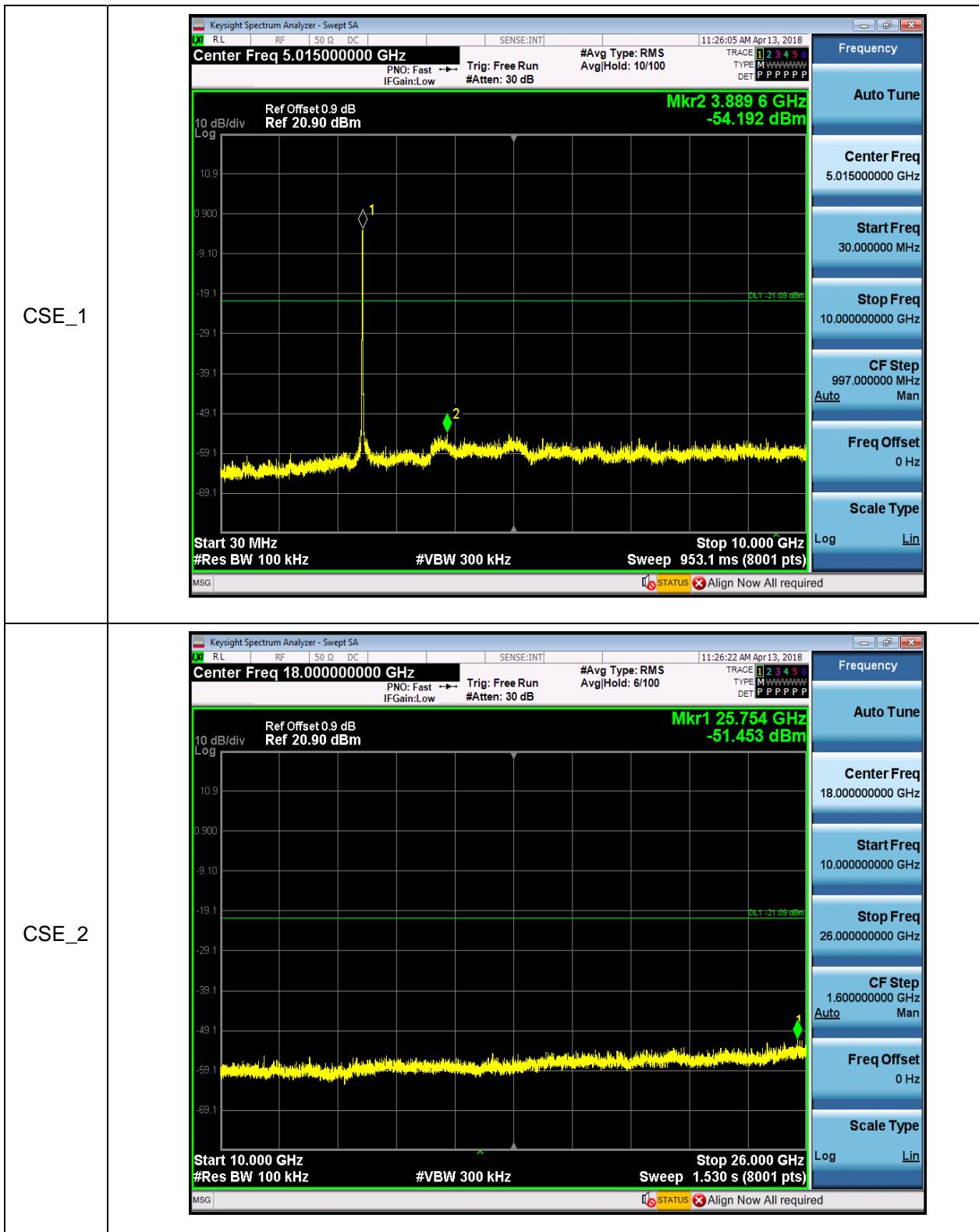


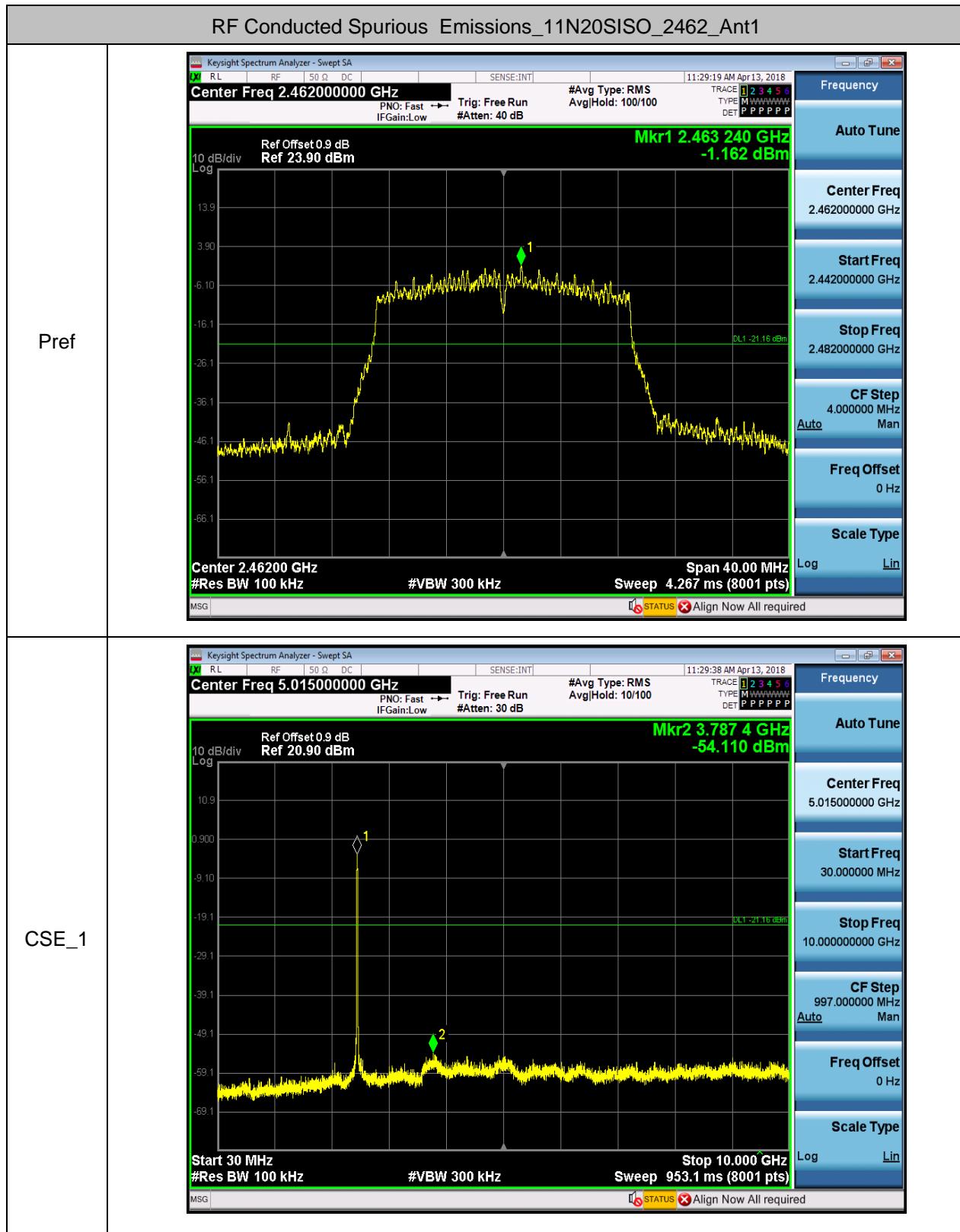


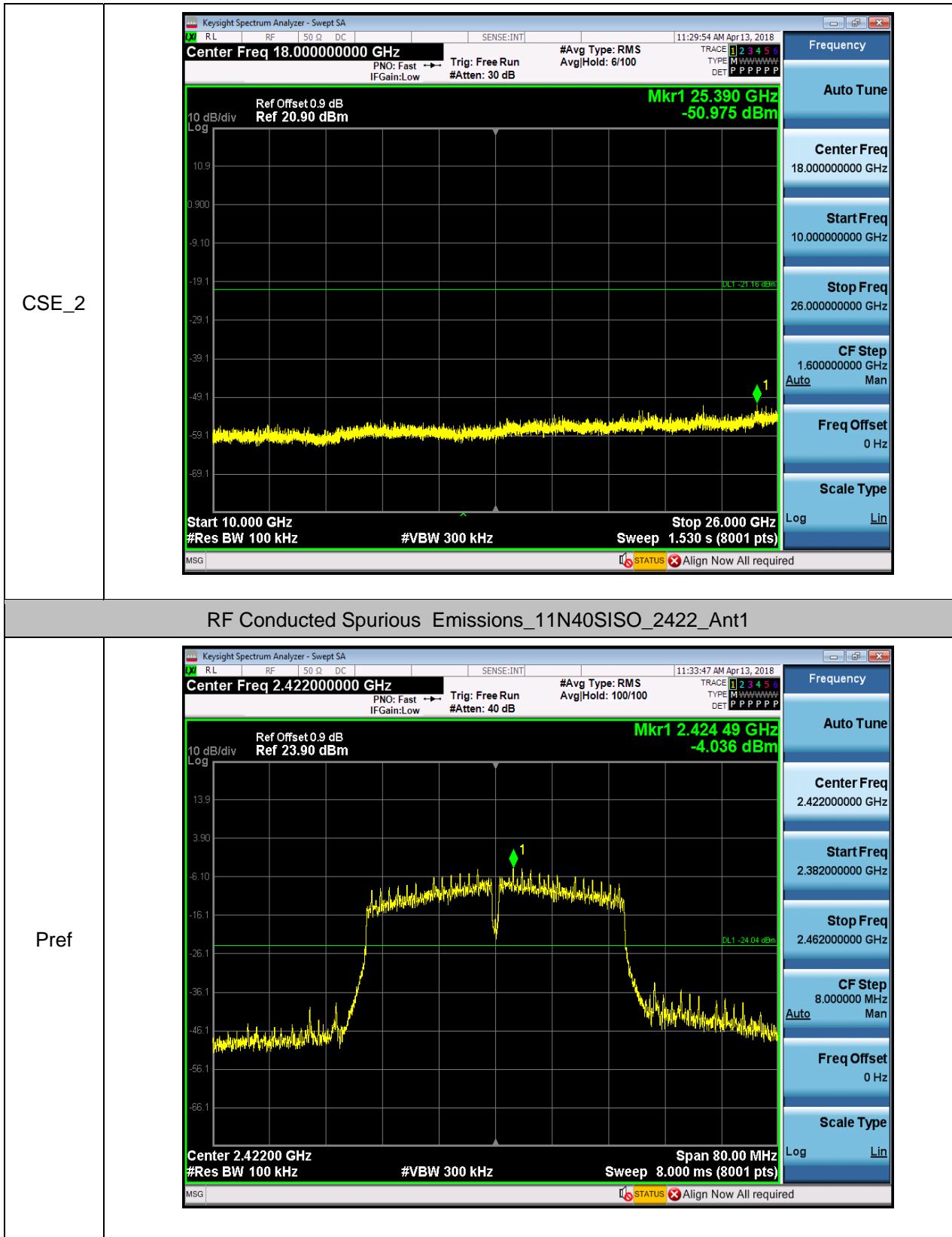


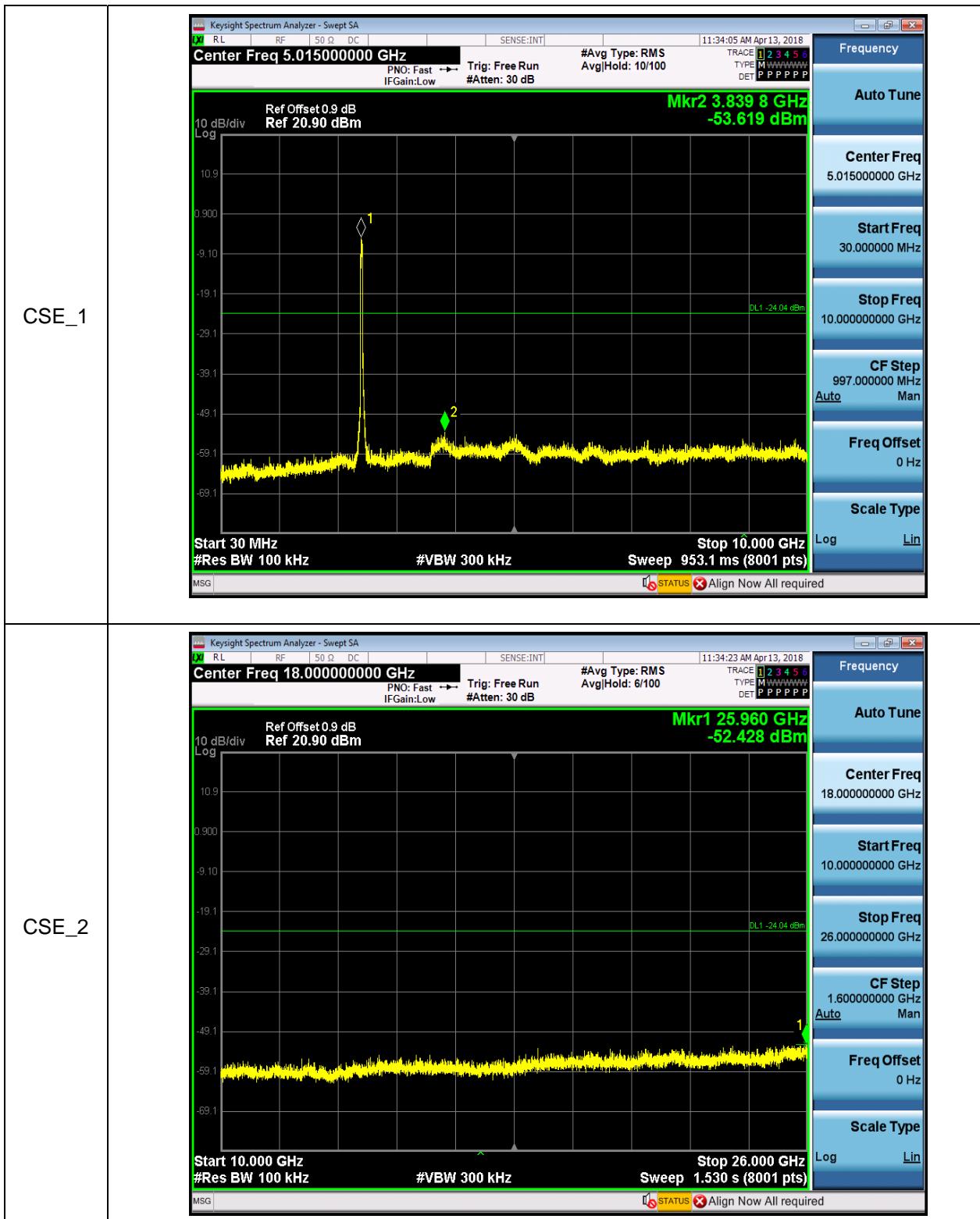


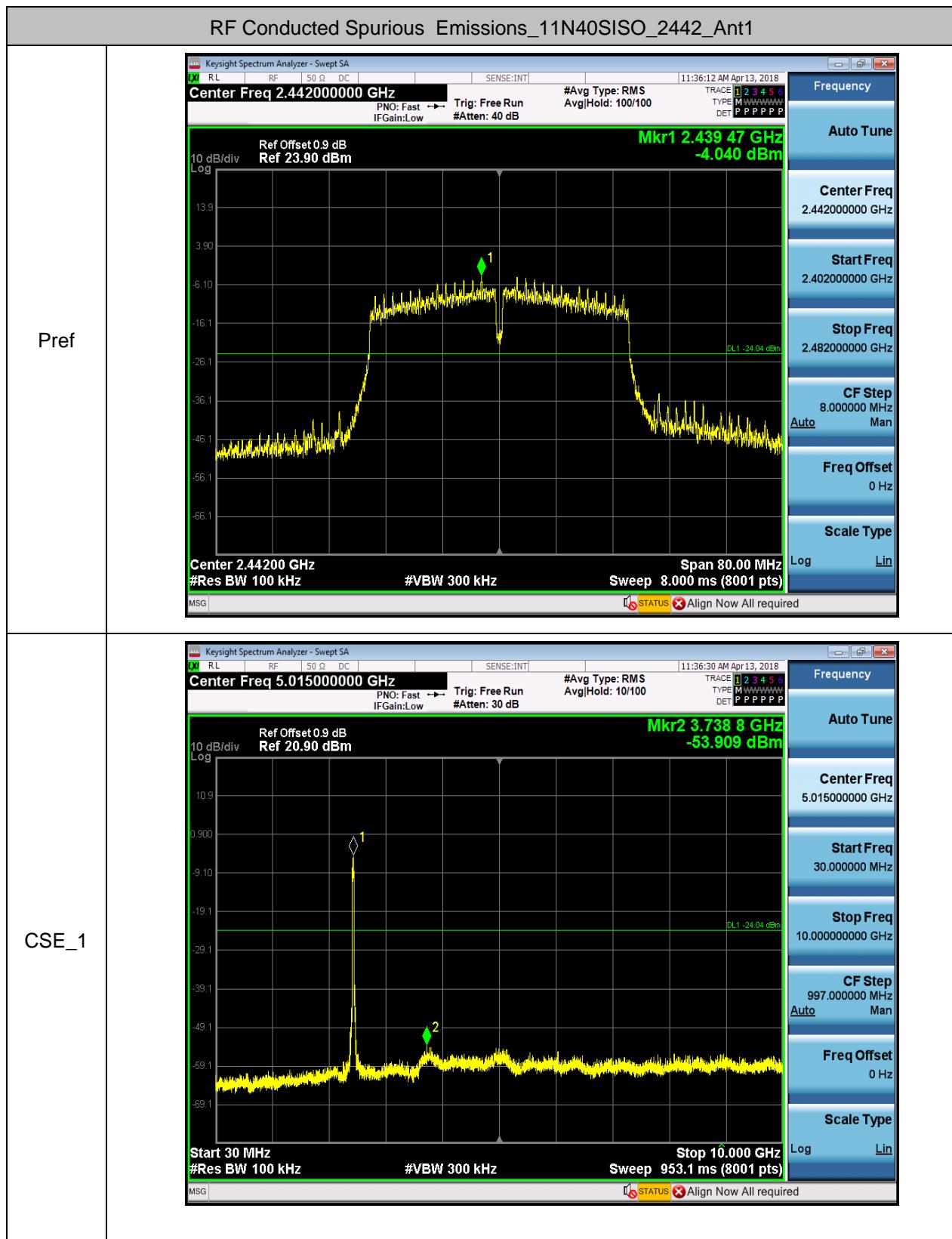


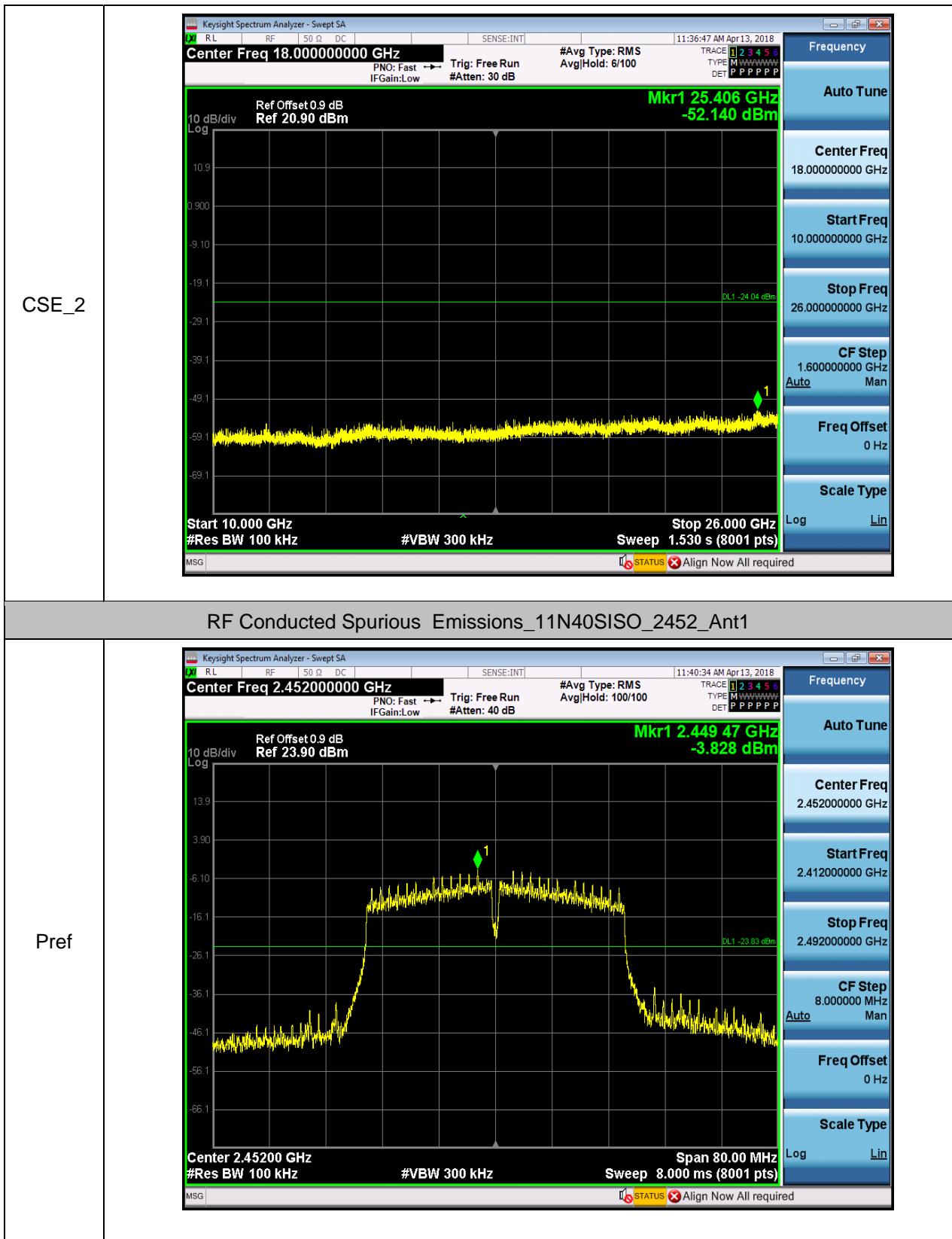


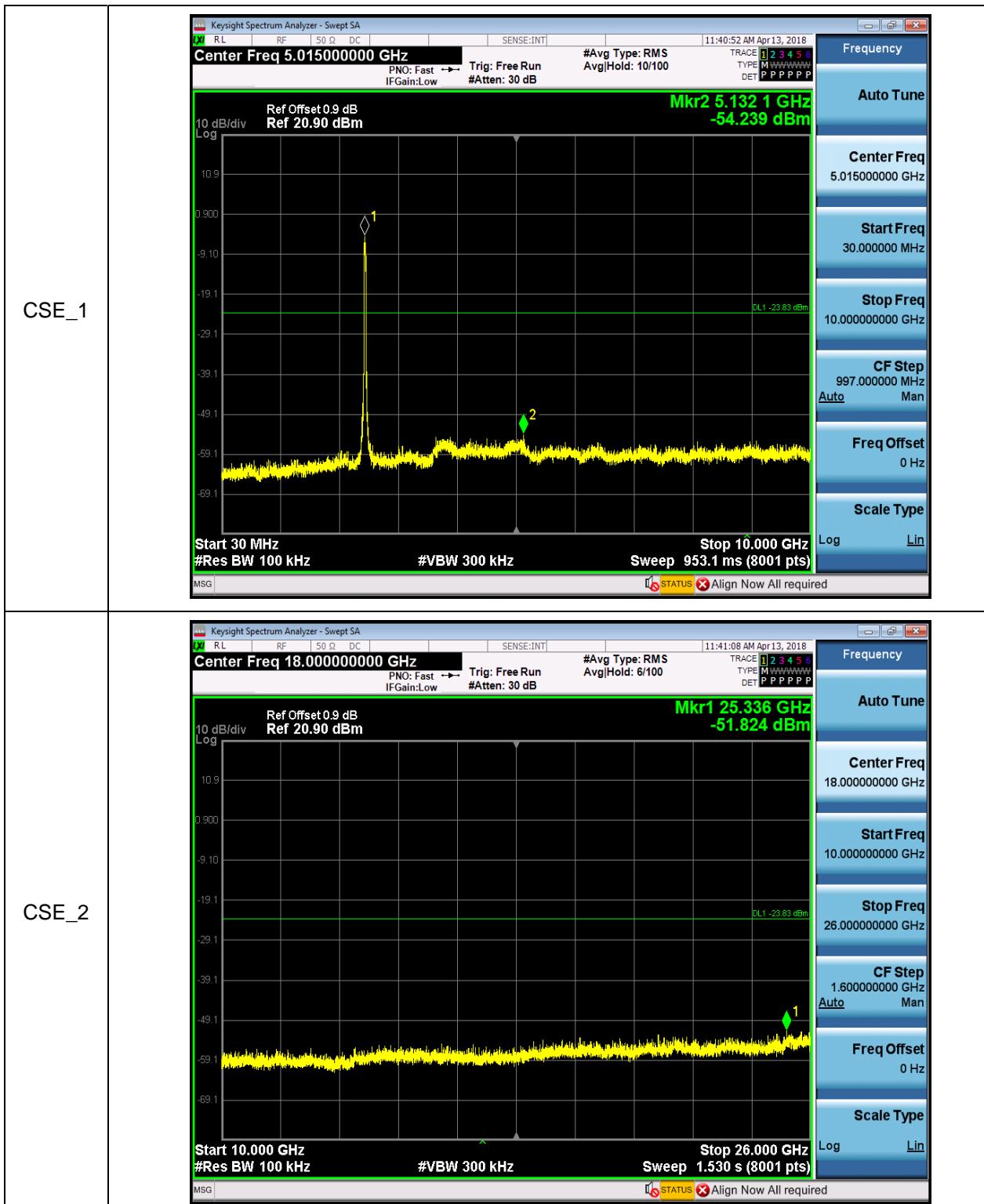












**--End of Report--**