TEST REPORT

Application No.:	SZEM2001000644CR
Applicant:	Sichuan AI-Link Technology Co., Ltd.
Address of Applicant:	Anzhou, Industrial park, Mianyang, Sichuan, china
Manufacturer:	Sichuan AI-Link Technology Co., Ltd.
Address of Manufacturer:	Anzhou, Industrial park, Mianyang, Sichuan, china
Factory:	Sichuan AI-Link Technology Co., Ltd.
Address of Factory:	Anzhou, Industrial park, Mianyang, Sichuan, china
Equipment Under Test (EUT):	
EUT Name:	WIFI module
Model No.:	WF-R12B-UWD1, WF-R12B-UWD2, WF-R12B-UWD3 ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID:	2AOKI-WFR12BUWD1
Standard(s) :	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2020-01-19
Date of Test:	2020-02-26 to 2020-03-17
Date of Issue:	2020-03-23
Test Result:	**Pass***

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

Keny Xu
EMC Laboratory Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2020-03-23		Original

Authorized for issue by:				
				
		Edison Li /Project Engineer		
				
		Eric Fu /Reviewer		

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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(b)(4)	Pass

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
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 11.9.1	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 11.13.3.2	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 6.10.5	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 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass

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Remark:

Model No.: WF-R12B-UWD1, WF-R12B-UWD2, WF-R12B-UWD3

Only the model WF-R12B-UWD1 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only the model WF-R12B-UWD1 and WF-R12B-UWD2 difference on the connector part and model No., WF-R12B-UWD2 and WF-R12B-UWD3 difference on overall dimension and model No. and for all the above models difference on the cable length of antennas, other details as below:

Antenna Type Code	Antenna Project Code	Max Antenna Gain(dBi)	Cable Length (Unit: cm)	Part No.	Antenna
Walsin RF Device	Metal Antenna	2.4G WiFi Ant1: 4.51dBi Ant2: 4.93dBi 5G WiFi: Ant1: 4.78dBi Ant2: 4.94dBi	10cm	RFMTA370610IMLB701	Antenna1
			15cm	RFMTA370615IMLB701	Antenna2
			20cm	RFMTA370620IMLB702	Antenna3
			25cm	RFMTA370625IMLB701	Antenna4
			27cm	RFMTA370627IMLB701	Antenna5
			30cm	RFMTA370630IMLB702	Antenna6
			35cm	RFMTA370635IMLB702	Antenna7
			40cm	RFMTA370640IMLB701	Antenna8
			45cm	RFMTA370645IMLB701	Antenna9
			50cm	RFMTA370650IMLB701	Antenna10
			55cm	RFMTA370655IMLB702	Antenna11
			60cm	RFMTA370660IMLB702	Antenna12

Note: Pretest the EUT at antenna1, antenna2, antenna3, antenna4, antenna5, antenna6, antenna7, antenna8, antenna9, antenna10, antenna11 and antenna12, found the antenna 1 which is worst case for 802.11b/g/n mode; So, Only the worst test data is recorded in the report.

3 Contents

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4 General Information

4.1 Details of E.U.T.

	Power Supply:	DC3.3V
	Internal source:	More than 108MHz
	Type of Modulation:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11n (HT20/HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)
	Operating Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
	Channel Number:	802.11b/g/11n(HT20): 11 Channels 802.11n(HT40): 7 Channels
	Channels Step:	Channels with 5MHz step
	Sample Type:	Fixed production
	Antenna Type:	Please refer to section 2 of this report.
	Antenna Gain:	Please refer to section 2 of this report. Note: The two antennas can simultaneous transmission(MIMO for 802.11n).

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Laptop	Lenovo	T430u	REF. No.SEA1800

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	RF Radiated power	± 4.5dB (Below 1GHz)
		± 4.8dB (Above 1GHz)
9	Radiated Spurious emission test	± 4.5dB (Below 1GHz)
		± 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.

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

No tests were sub-contracted.

4.5 Test Facility

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

• **A2LA (Certificate No. 3816.01)**

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

• **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

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2019-06-13	2022-06-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2019-07-11	2020-07-10
LISN	Rohde & Schwarz	ENV216	SEM007-01	2019-09-24	2020-09-23
LISN	ETS-LINDGREN	3816/2	SEM007-02	2019-04-01	2020-03-31
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2019-04-01	2020-03-31

RF Conducted Test					
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	ZhaoXin	RXN-305D	SEM011-02	2019-09-24	2020-09-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2019-04-01	2020-03-31
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	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 Sensor	KEYSIGHT	U2021XA	SEM009-13	2019-04-12	2020-04-11
Electric and Magnetic Field Analyzer	Narda	EHP-50F	SEM022-05	2019-11-28	2020-11-27
Electric Field Probe	WANDEL & GOLTERMANN	EMR-20	EMC0907	2019-05-21	2020-05-20
EMF Tester	Narda	ELT-400	SZE039-4	2019-07-08	2020-07-07

Radiated Emissions (30MHz-1GHz)					
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
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
EMI Test Receiver	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

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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	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2019-04-01	2020-03-31
Pre-amplifier	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

Radiated Spurious Emissions					
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	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-09-24	2020-09-23
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2019-04-01	2020-03-31
Pre-amplifier	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

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General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2019-09-26	2020-09-25
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2019-09-26	2020-09-25
Humidity/ Temperature Indicator	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

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

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

6.1.2 Conclusion

Standard Requirement:

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

15.247(b) (4) requirement:

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

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2dBi.

Antenna location: Refer to internal photo.

7 Radio Spectrum Matter Test Results

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

Test Requirement 47 CFR Part 15, Subpart C 15.207
Test Method: ANSI C63.10 (2013) Section 6.2
Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

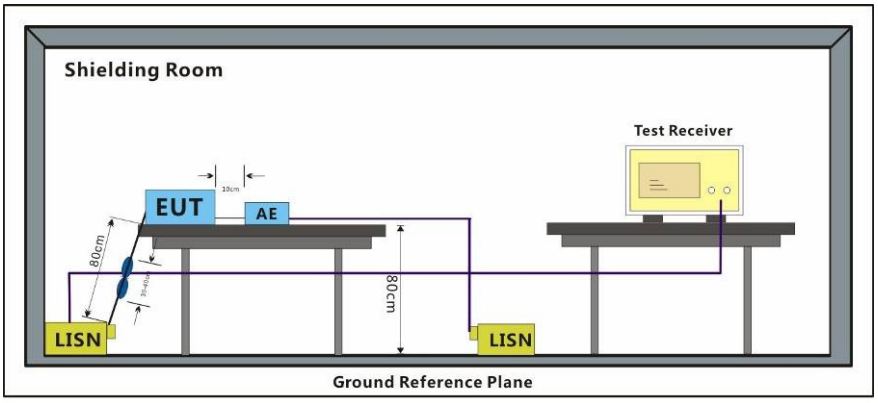
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C Humidity: 49.6 % 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



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/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

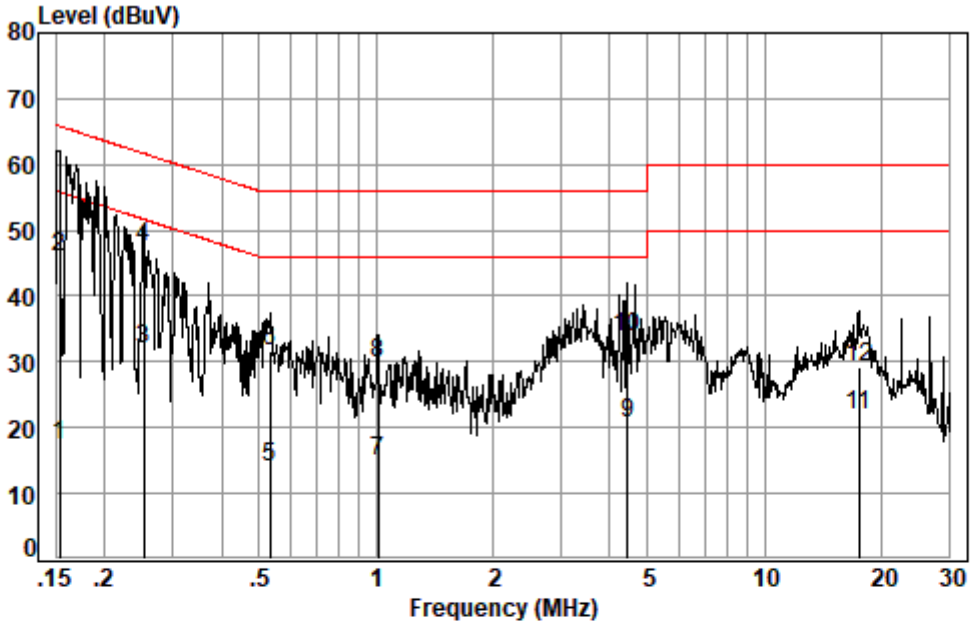
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

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

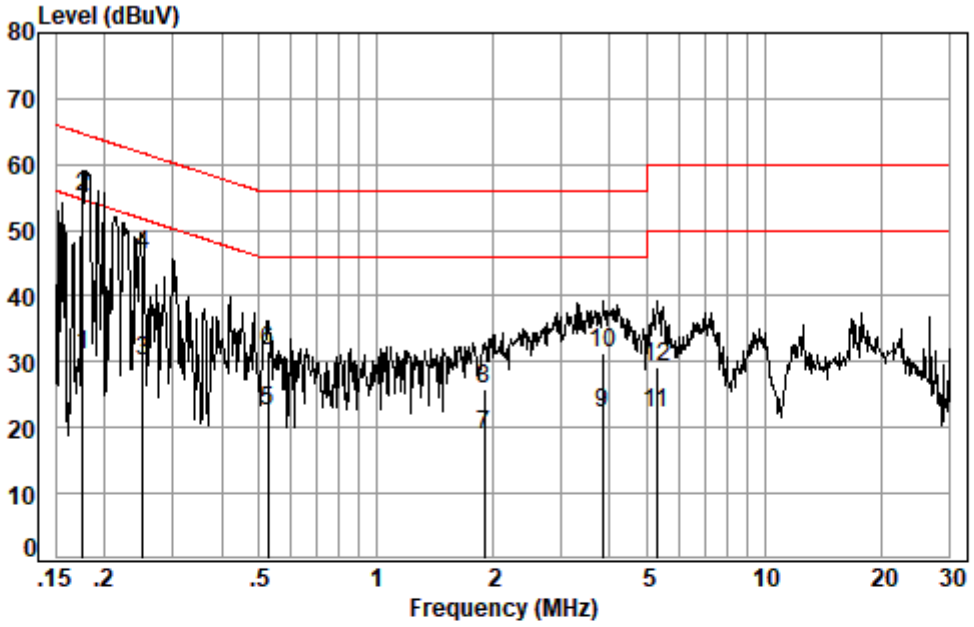
Mode:b; Line:Live Line



Site : Shielding Room
Condition: Line
Job No. : 00644CR
Test mode: b

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1532	0.01	9.59	7.67	17.27	55.82	-38.55	Average
2	0.1532	0.01	9.59	36.32	45.92	65.82	-19.90	QP
3	0.2521	0.03	9.59	22.23	31.85	51.69	-19.84	Average
4	0.2521	0.03	9.59	37.88	47.50	61.69	-14.19	QP
5	0.5350	0.06	9.59	4.39	14.04	46.00	-31.96	Average
6	0.5350	0.06	9.59	21.89	31.54	56.00	-24.46	QP
7	1.0103	0.09	9.60	5.33	15.02	46.00	-30.98	Average
8	1.0103	0.09	9.60	20.05	29.74	56.00	-26.26	QP
9	4.4305	0.16	9.66	10.83	20.65	46.00	-25.35	Average
10	4.4305	0.16	9.66	23.80	33.62	56.00	-22.38	QP
11	17.4750	0.23	10.39	11.25	21.87	50.00	-28.13	Average
12	17.4750	0.23	10.39	18.68	29.30	60.00	-30.70	QP

Mode:b; Line:Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 00644CR
Test mode: b

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1758	0.02	9.55	21.37	30.94	54.68	-23.74	Average
2	0.1758	0.02	9.55	45.64	55.21	64.68	-9.47	QP
3	0.2508	0.03	9.54	20.68	30.25	51.73	-21.48	Average
4	0.2508	0.03	9.54	36.67	46.24	61.73	-15.49	QP
5	0.5265	0.06	9.54	12.91	22.51	46.00	-23.49	Average
6	0.5265	0.06	9.54	22.14	31.74	56.00	-24.26	QP
7	1.8979	0.15	9.56	9.03	18.74	46.00	-27.26	Average
8	1.8979	0.15	9.56	16.23	25.94	56.00	-30.06	QP
9	3.8399	0.16	9.60	12.34	22.10	46.00	-23.90	Average
10	3.8399	0.16	9.60	21.57	31.33	56.00	-24.67	QP
11	5.2770	0.17	9.64	12.45	22.26	50.00	-27.74	Average
12	5.2770	0.17	9.64	19.37	29.18	60.00	-30.82	QP

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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

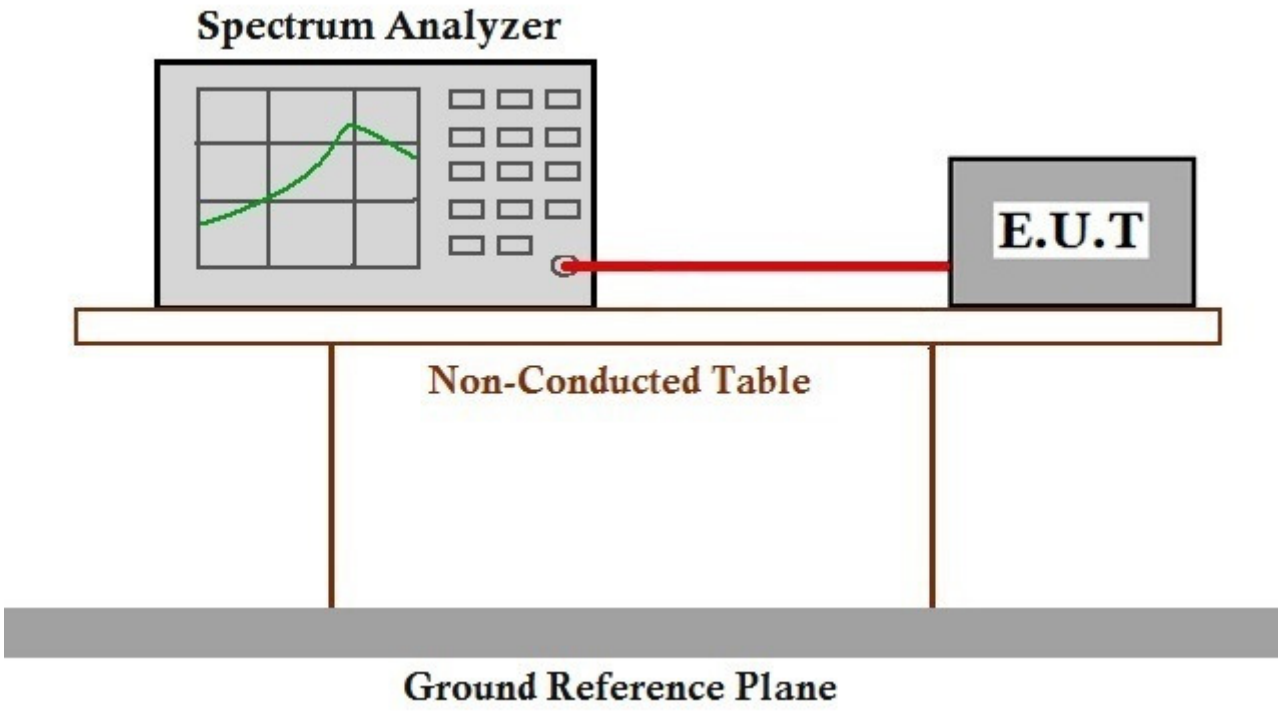
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C Humidity: 49.6 % 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 11.9.1

Limit:

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

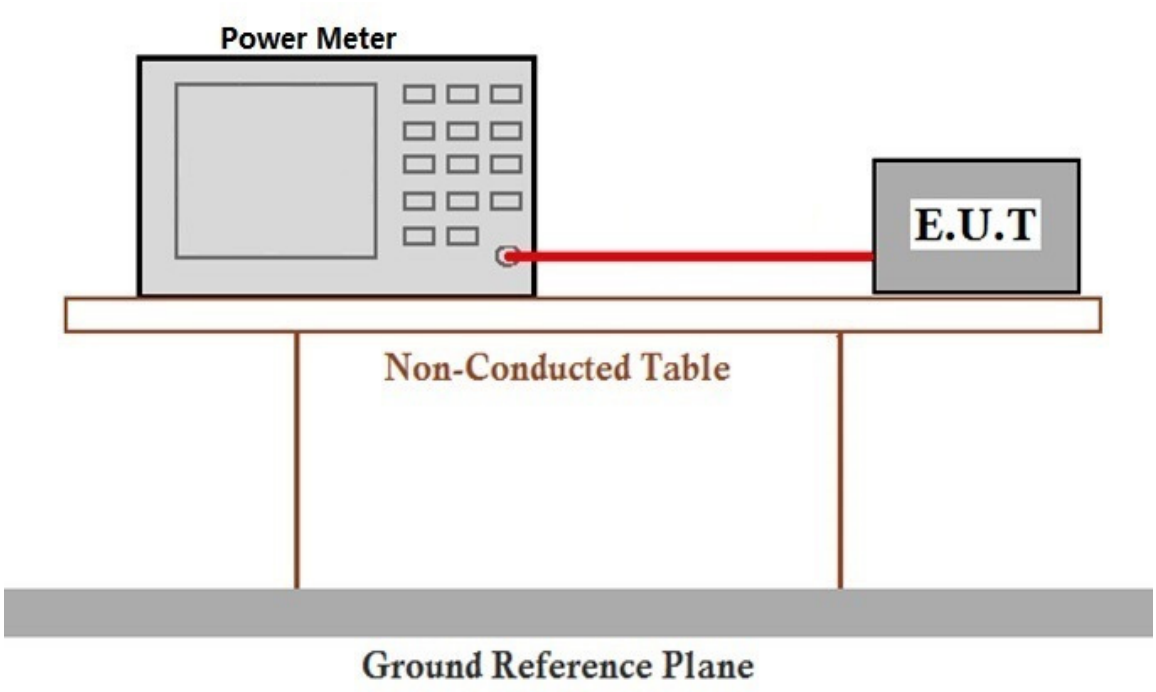
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C Humidity: 49.7 % 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

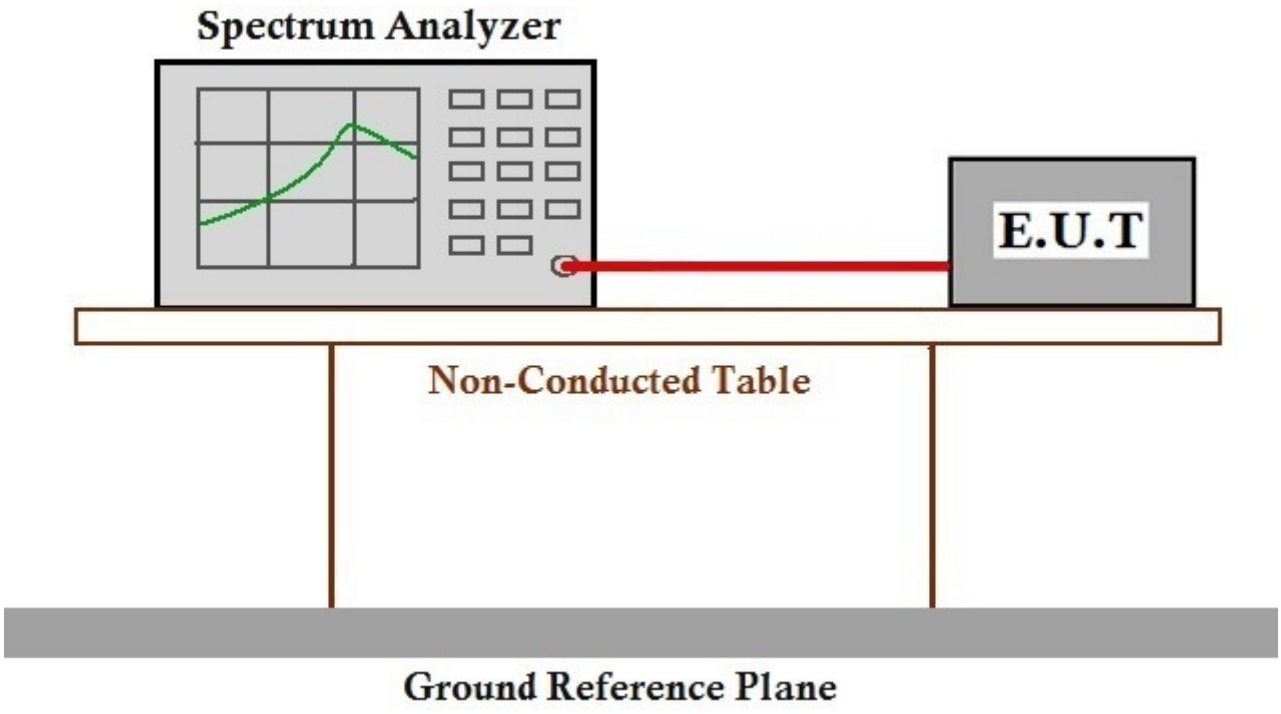
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C Humidity: 49.6 % 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 11.13.3.2

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)

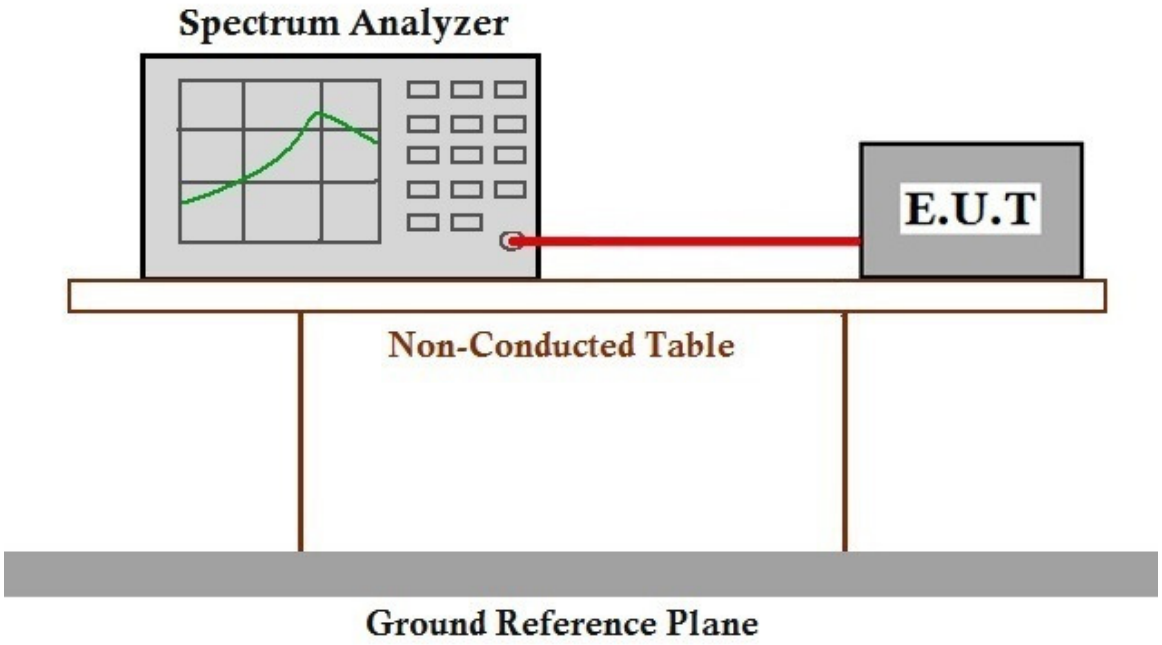
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C Humidity: 49.6 % 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) 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)

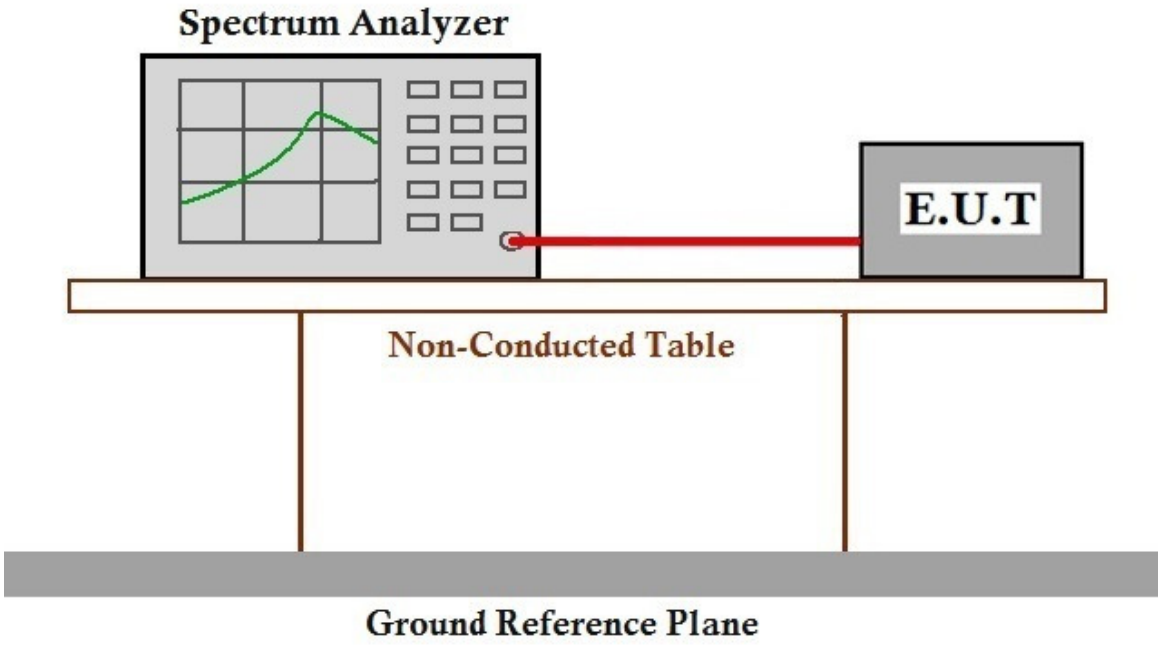
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C Humidity: 49.6 % 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 6.10.5

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.		

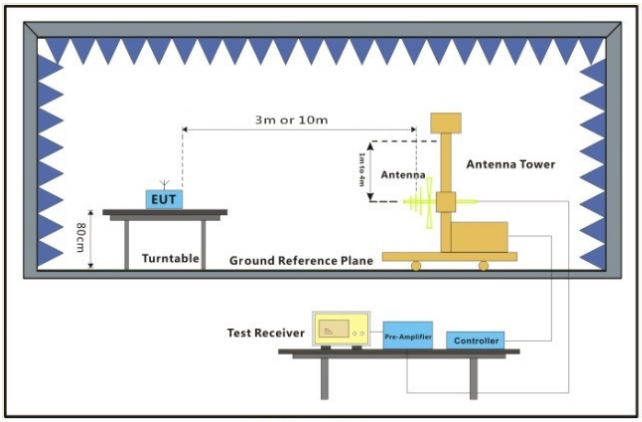
7.7.1 E.U.T. Operation

Operating Environment:

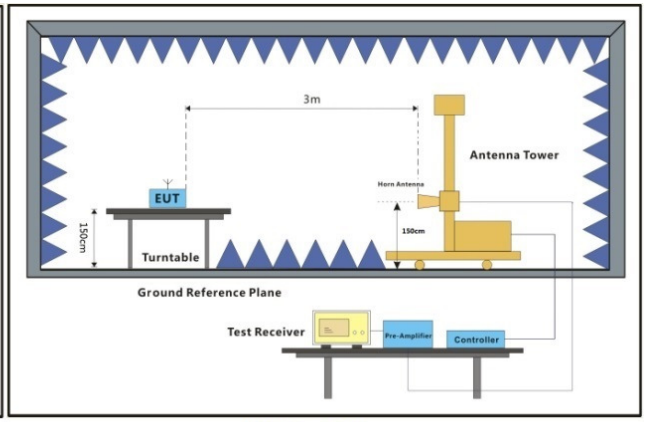
Temperature: 23.5 °C Humidity: 56.3 % RH Atmospheric Pressure: 1020 mbar

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



30MHz-1GHz



Above 1GHz

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

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.

Remark 3: Pretest the EUT at antenna 1 and antenna 2, found the antenna 1 which is worst case for 802.11b/g mode; Pretest the EUT at antenna 1, antenna 2 and MIMO mode, found the MIMO mode which is worst case for 802.11n HT20 and 802.11n HT40 mode; So, Only the worst test data is recorded in the report.

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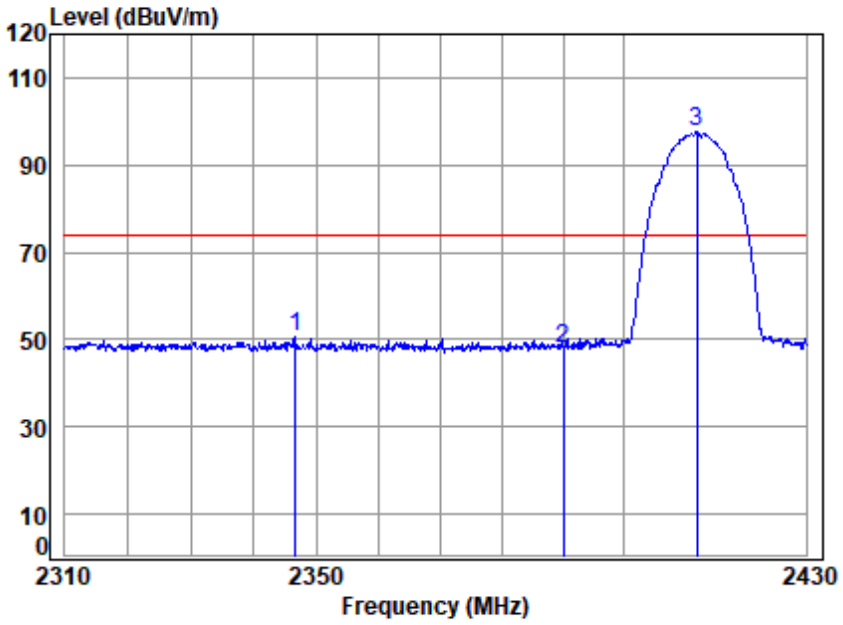
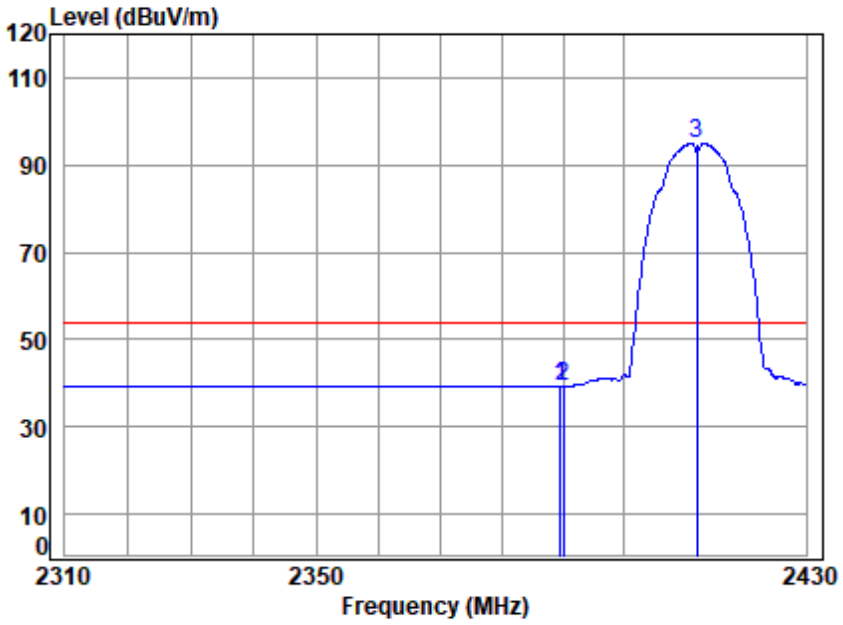
Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2346.671	3.97	28.44	40.95	59.25	50.71	74.00	-23.29	peak
2	2390.000	3.69	28.52	40.97	56.47	47.71	74.00	-26.29	peak
3 *	2412.000	3.68	28.56	40.98	106.33	97.59	74.00	23.59	peak

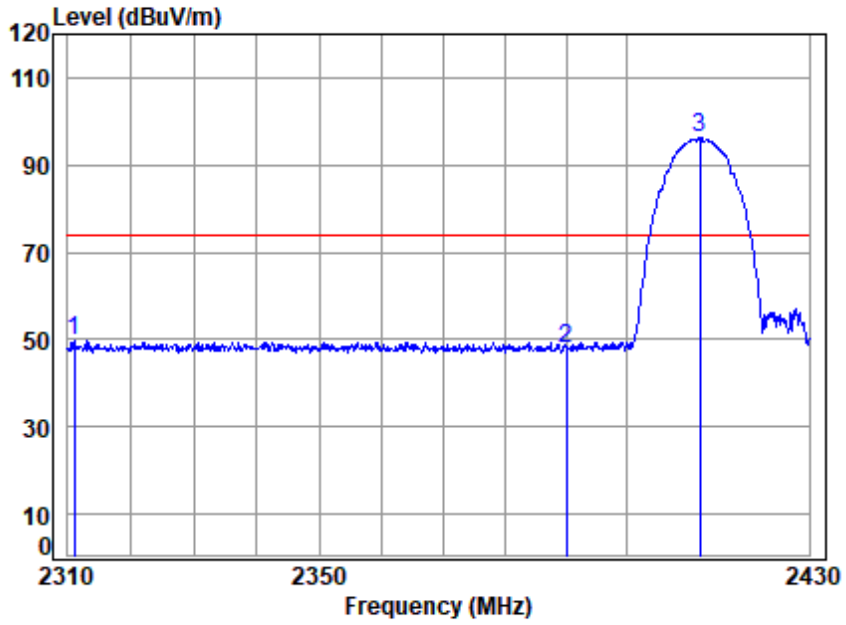
Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2389.605	3.69	28.52	40.97	48.20	39.44	54.00	-14.56	Average
2	2390.000	3.69	28.52	40.97	48.16	39.40	54.00	-14.60	Average
3 *	2412.000	3.68	28.56	40.98	103.57	94.83	54.00	40.83	Average

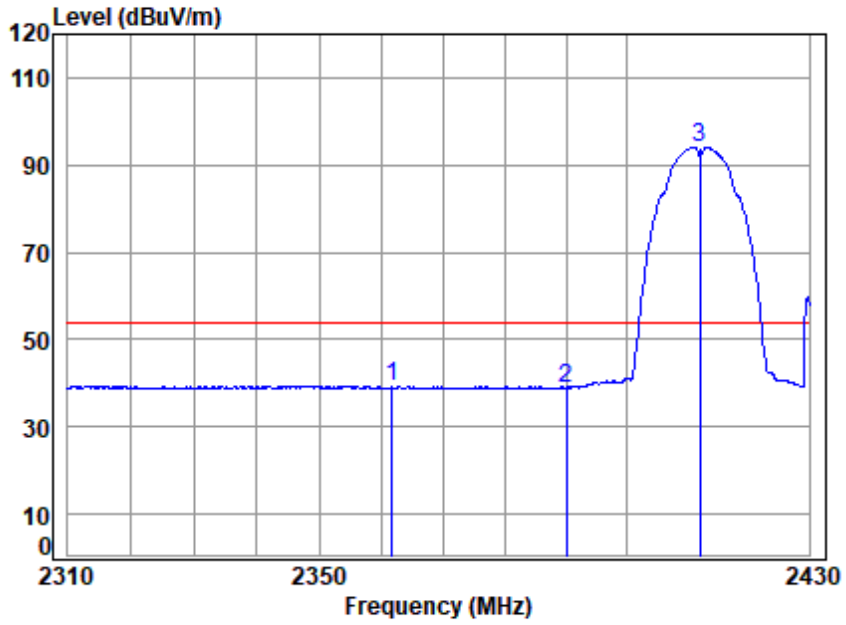
Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2311.053	4.21	28.38	40.94	58.10	49.75	74.00	-24.25	Peak
2	2390.000	3.69	28.52	40.97	56.81	48.05	74.00	-25.95	Peak
3 *	2412.000	3.68	28.56	40.98	105.07	96.33	74.00	22.33	Peak

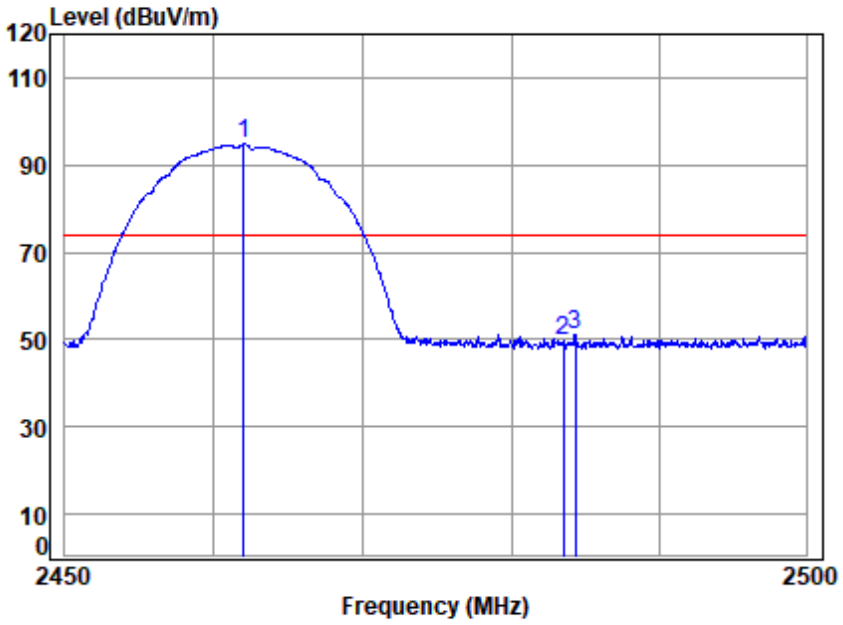
Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2361.693	3.87	28.47	40.96	47.84	39.22	54.00	-14.78	Average
2	2390.000	3.69	28.52	40.97	47.65	38.89	54.00	-15.11	Average
3 *	2412.000	3.68	28.56	40.98	102.81	94.07	54.00	40.07	Average

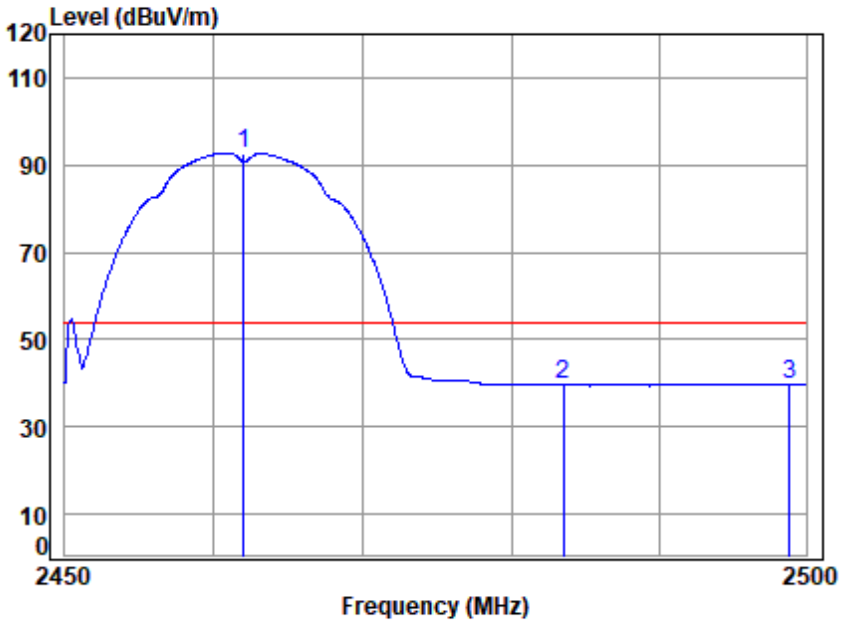
Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	103.30	94.85	74.00	20.85	peak
2	2483.500	4.01	28.67	41.01	57.91	49.58	74.00	-24.42	peak
3	2484.342	4.01	28.67	41.01	59.22	50.89	74.00	-23.11	peak

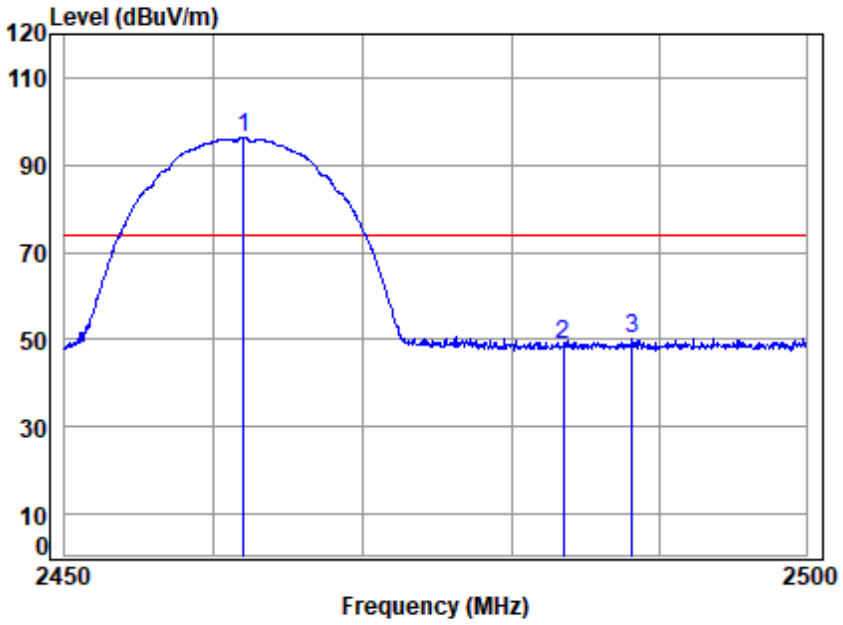
Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	101.29	92.84	54.00	38.84	Average
2	2483.500	4.01	28.67	41.01	47.90	39.57	54.00	-14.43	Average
3	2498.889	4.07	28.70	41.02	48.00	39.75	54.00	-14.25	Average

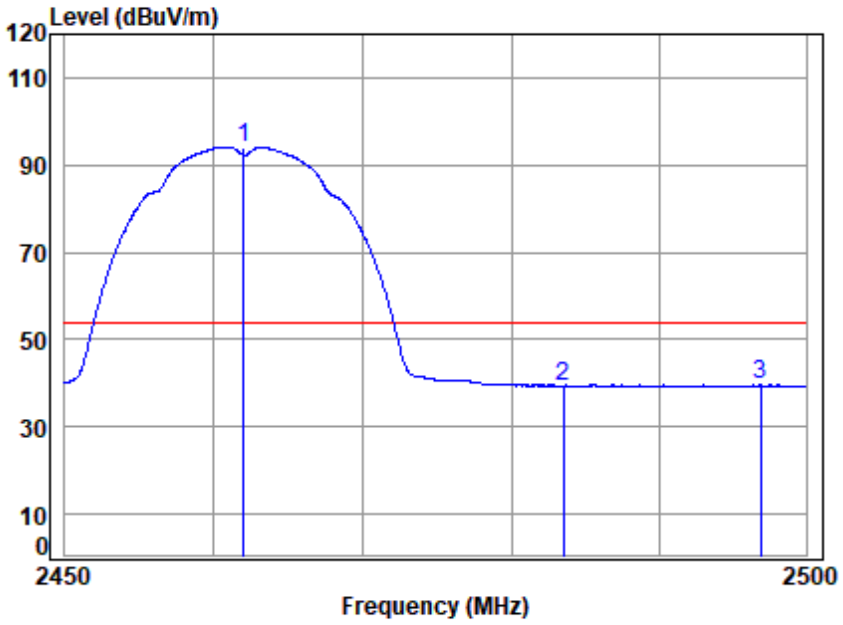
Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	104.86	96.41	74.00	22.41	Peak
2	2483.500	4.01	28.67	41.01	57.04	48.71	74.00	-25.29	Peak
3	2488.209	4.03	28.68	41.01	58.70	50.40	74.00	-23.60	Peak

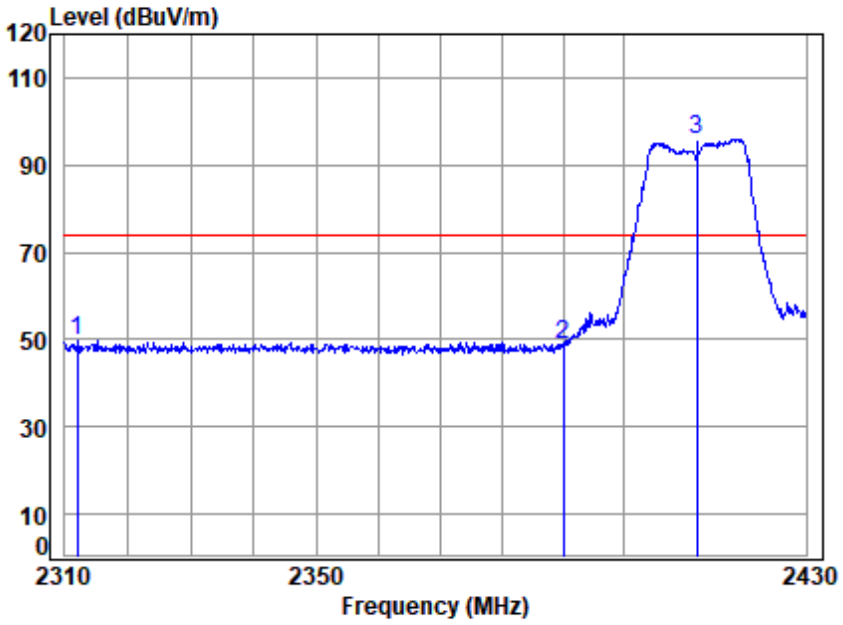
Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	102.66	94.21	54.00	40.21	Average
2	2483.500	4.01	28.67	41.01	47.73	39.40	54.00	-14.60	Average
3	2496.921	4.07	28.70	41.02	47.82	39.57	54.00	-14.43	Average

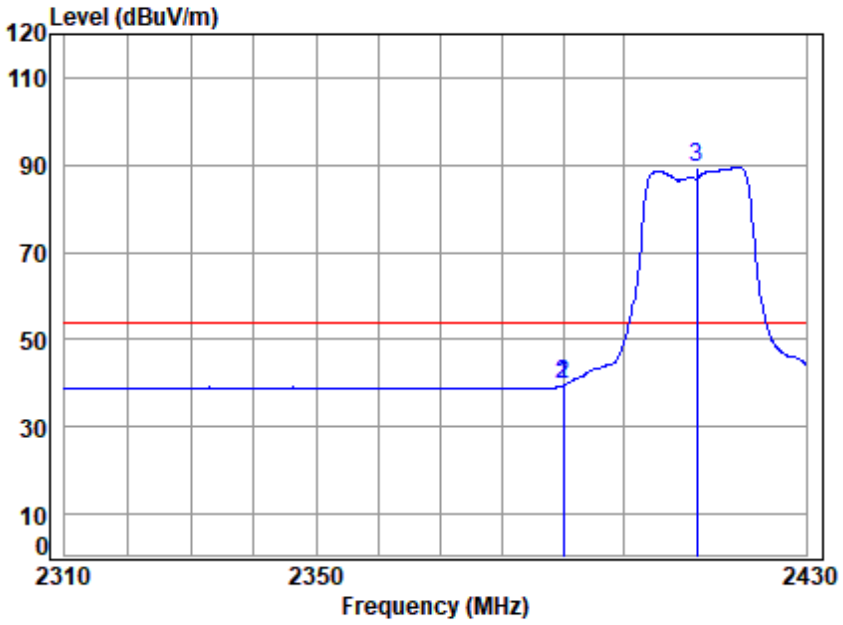
Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2311.990	4.21	28.38	40.94	58.23	49.88	74.00	-24.12	peak
2	2390.000	3.69	28.52	40.97	57.57	48.81	74.00	-25.19	peak
3 *	2412.000	3.68	28.56	40.98	104.77	96.03	74.00	22.03	peak

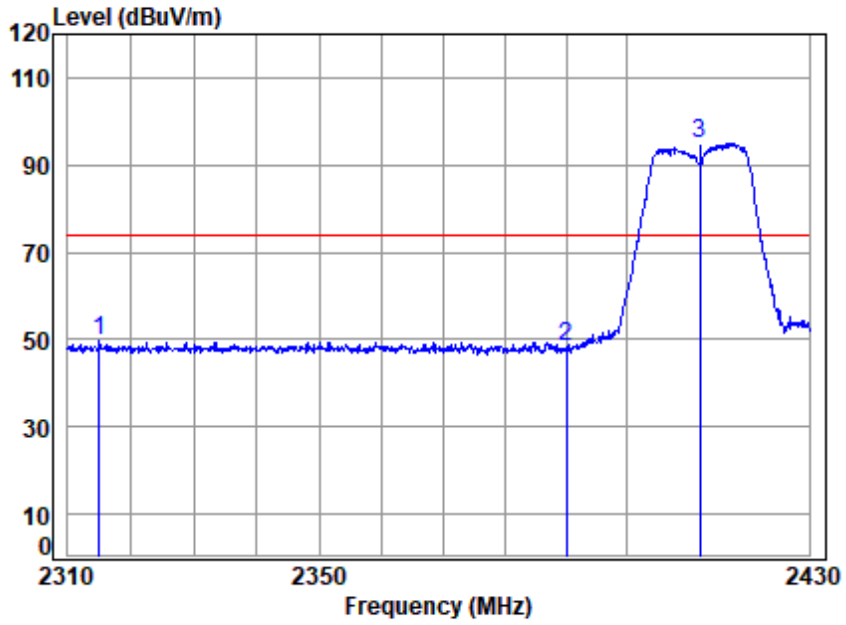
Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2389.968	3.69	28.52	40.97	48.29	39.53	54.00	-14.47	Average
2	2390.000	3.69	28.52	40.97	48.29	39.53	54.00	-14.47	Average
3 *	2412.000	3.68	28.56	40.98	98.28	89.54	54.00	35.54	Average

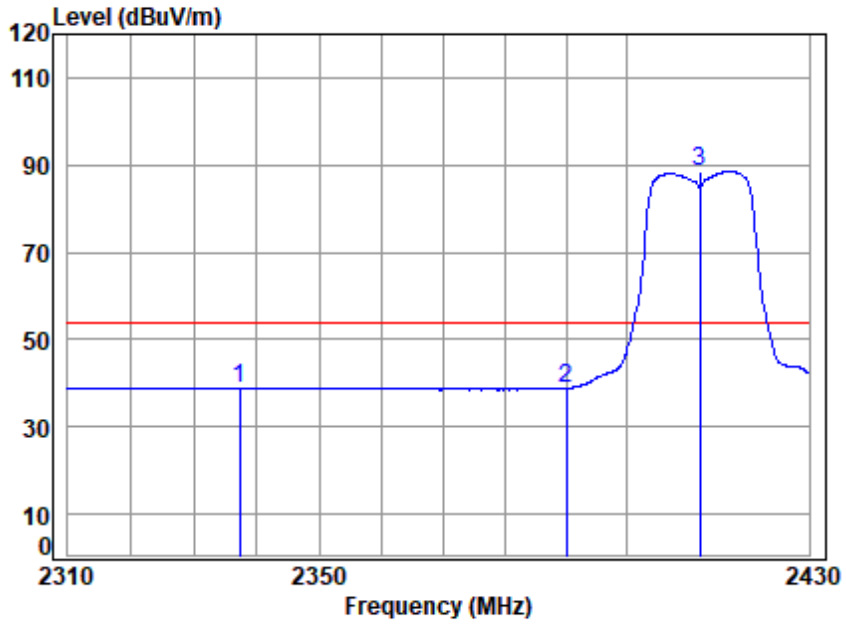
Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2314.919	4.19	28.39	40.94	57.93	49.57	74.00	-24.43	Peak
2	2390.000	3.69	28.52	40.97	56.98	48.22	74.00	-25.78	Peak
3 *	2412.000	3.68	28.56	40.98	103.70	94.96	74.00	20.96	Peak

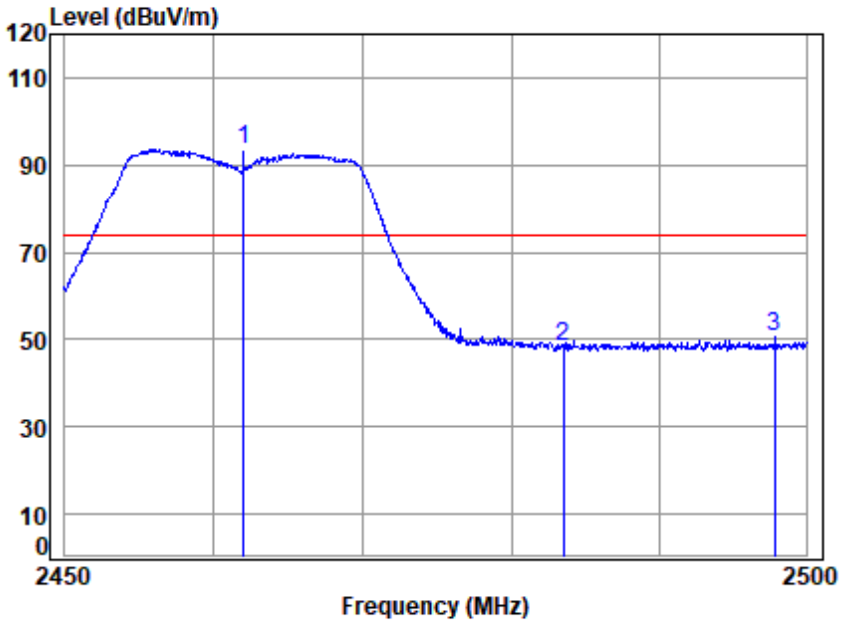
Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2337.301	4.04	28.43	40.95	47.39	38.91	54.00	-15.09	Average
2	2390.000	3.69	28.52	40.97	47.50	38.74	54.00	-15.26	Average
3 *	2412.000	3.68	28.56	40.98	97.21	88.47	54.00	34.47	Average

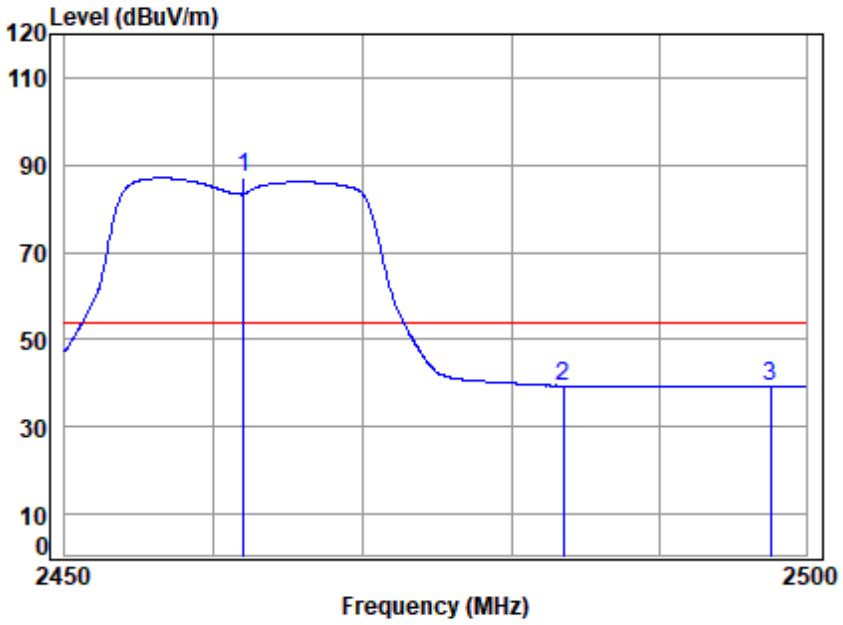
Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	101.94	93.49	74.00	19.49	peak
2	2483.500	4.01	28.67	41.01	56.62	48.29	74.00	-25.71	peak
3	2497.880	4.07	28.70	41.02	58.85	50.60	74.00	-23.40	peak

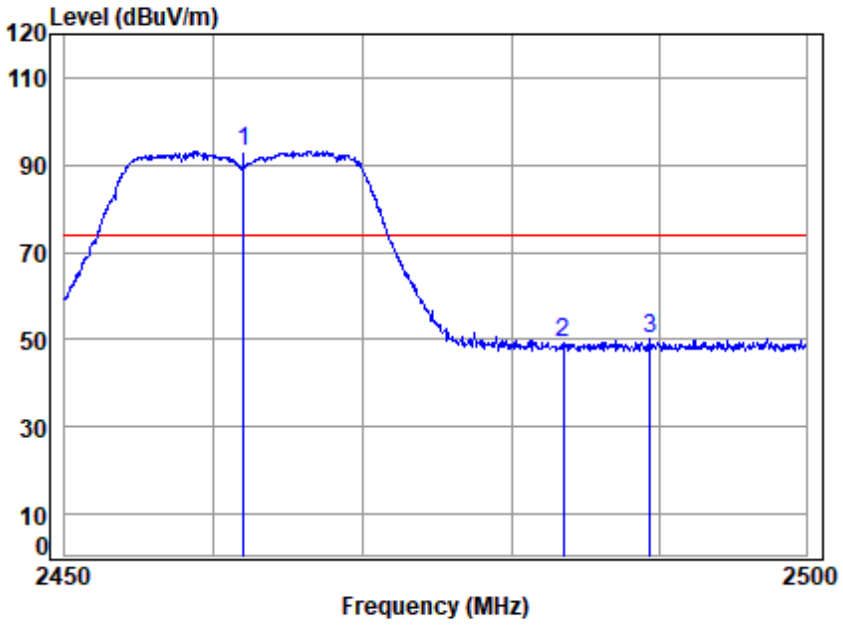
Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	95.45	87.00	54.00	33.00	Average
2	2483.500	4.01	28.67	41.01	47.60	39.27	54.00	-14.73	Average
3	2497.577	4.07	28.70	41.02	47.68	39.43	54.00	-14.57	Average

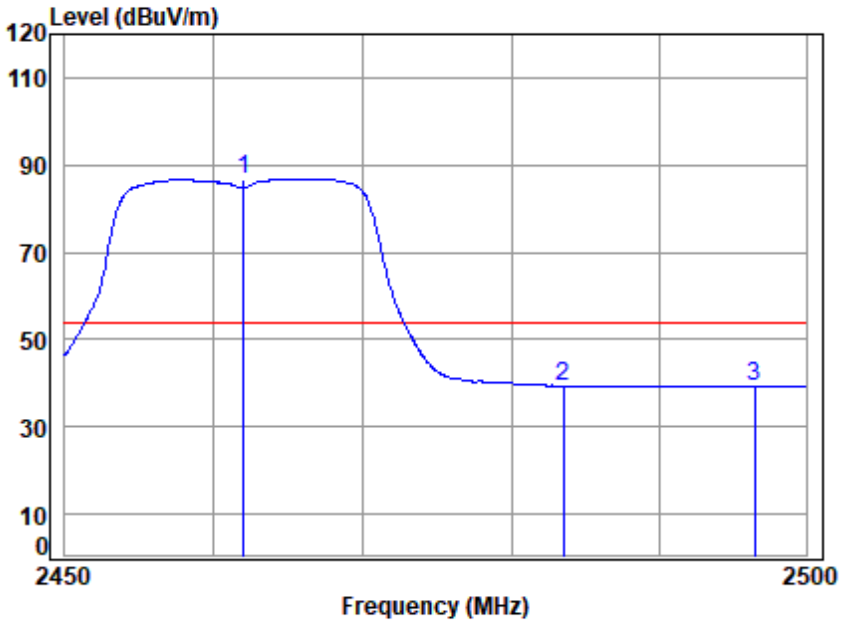
Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	101.66	93.21	74.00	19.21	Peak
2	2483.500	4.01	28.67	41.01	57.78	49.45	74.00	-24.55	Peak
3	2489.416	4.03	28.68	41.01	58.31	50.01	74.00	-23.99	Peak

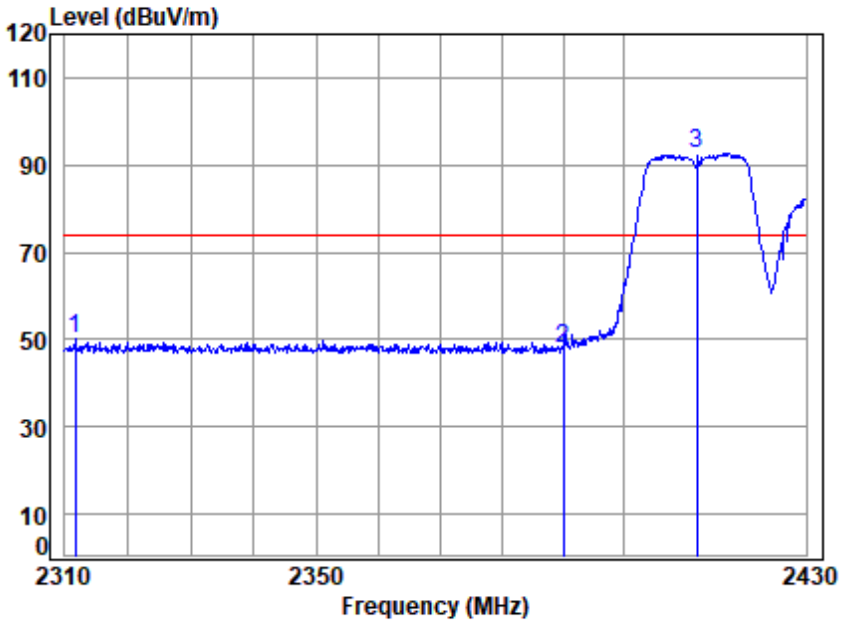
Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	95.22	86.77	54.00	32.77	Average
2	2483.500	4.01	28.67	41.01	47.64	39.31	54.00	-14.69	Average
3	2496.518	4.06	28.69	41.02	47.67	39.40	54.00	-14.60	Average

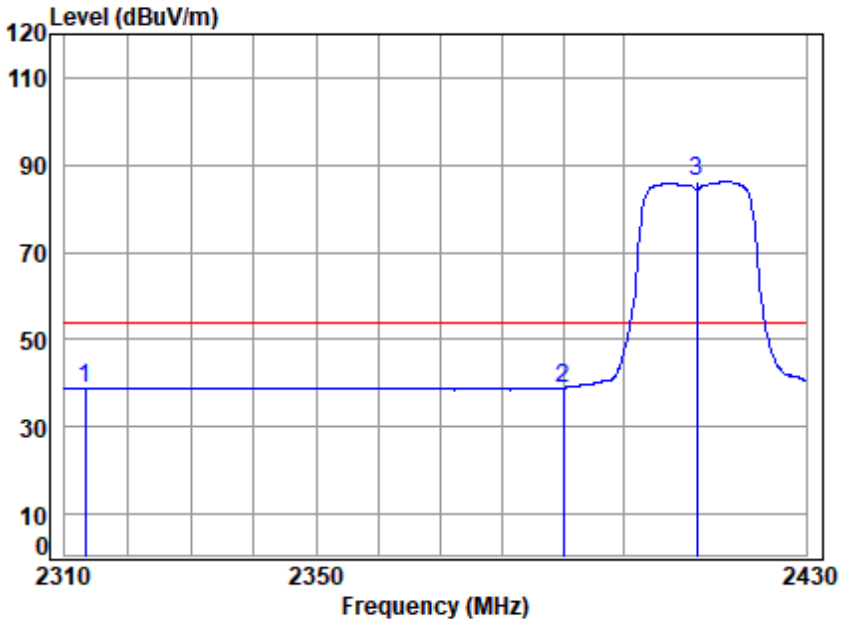
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2311.638	4.21	28.38	40.94	58.58	50.23	74.00	-23.77	peak
2	2390.000	3.69	28.52	40.97	56.50	47.74	74.00	-26.26	peak
3 *	2412.000	3.68	28.56	40.98	101.25	92.51	74.00	18.51	peak

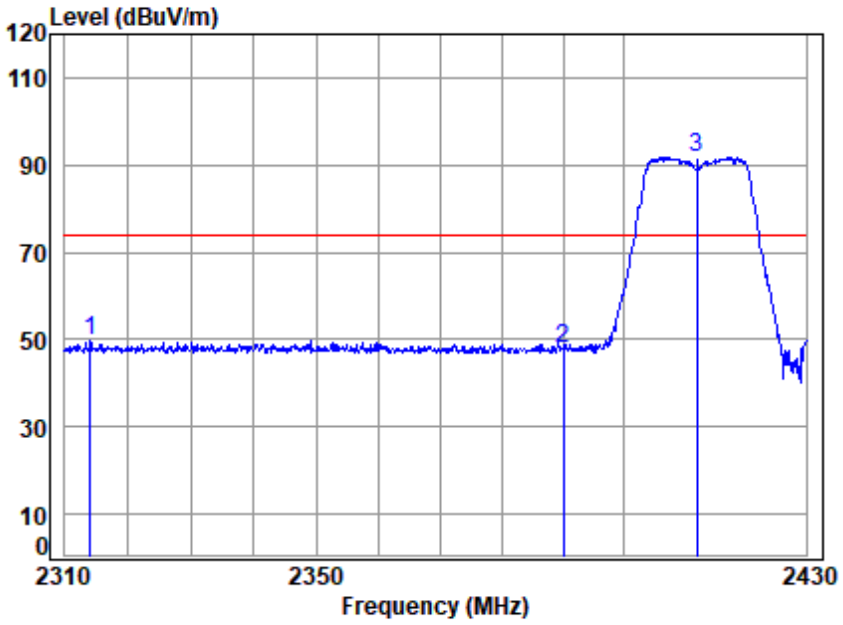
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2313.278	4.20	28.39	40.94	47.34	38.99	54.00	-15.01	Average
2	2390.000	3.69	28.52	40.97	47.64	38.88	54.00	-15.12	Average
3 *	2412.000	3.68	28.56	40.98	94.88	86.14	54.00	32.14	Average

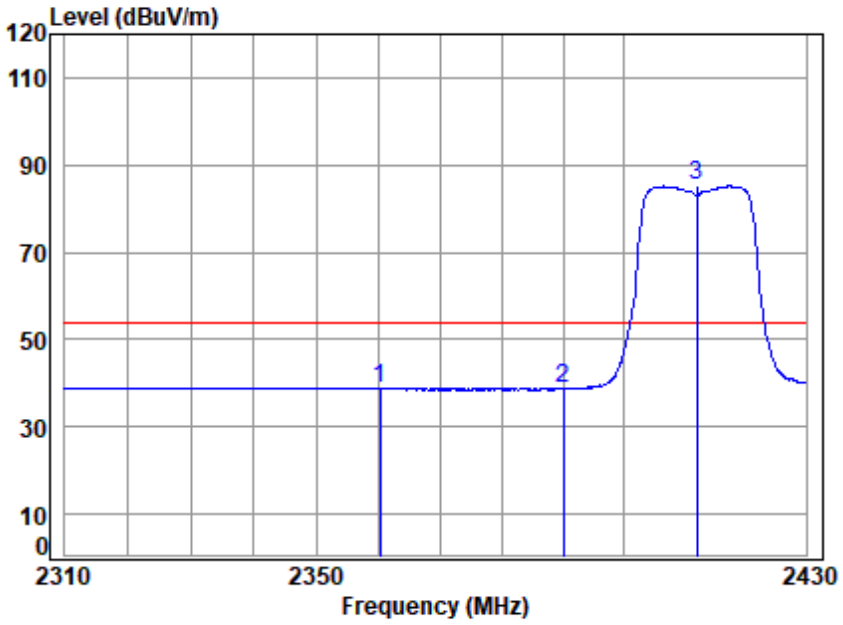
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2314.098	4.19	28.39	40.94	58.00	49.64	74.00	-24.36	Peak
2	2390.000	3.69	28.52	40.97	56.57	47.81	74.00	-26.19	Peak
3 *	2412.000	3.68	28.56	40.98	100.43	91.69	74.00	17.69	Peak

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



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2360.378	3.88	28.47	40.96	47.50	38.89	54.00	-15.11	Average
2	2390.000	3.69	28.52	40.97	47.50	38.74	54.00	-15.26	Average
3 *	2412.000	3.68	28.56	40.98	93.89	85.15	54.00	31.15	Average

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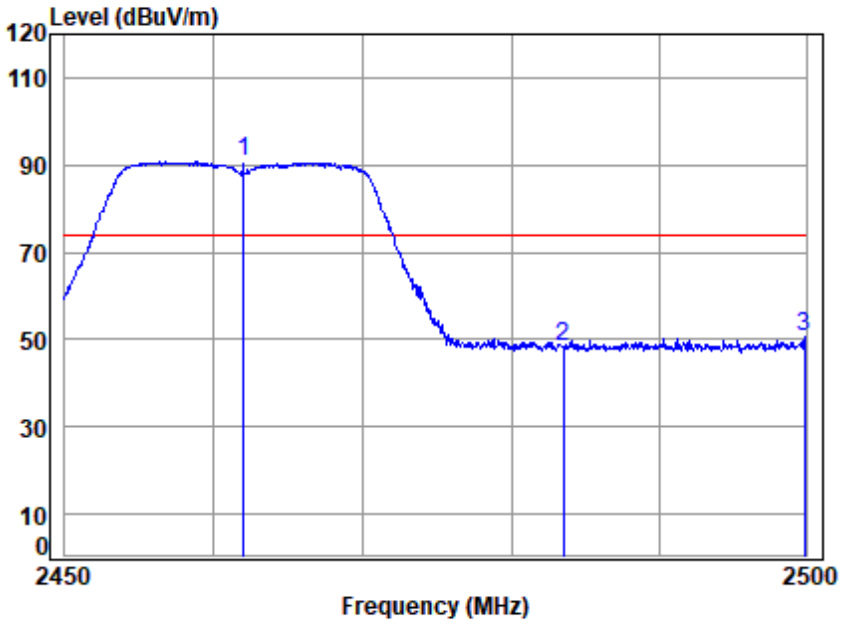
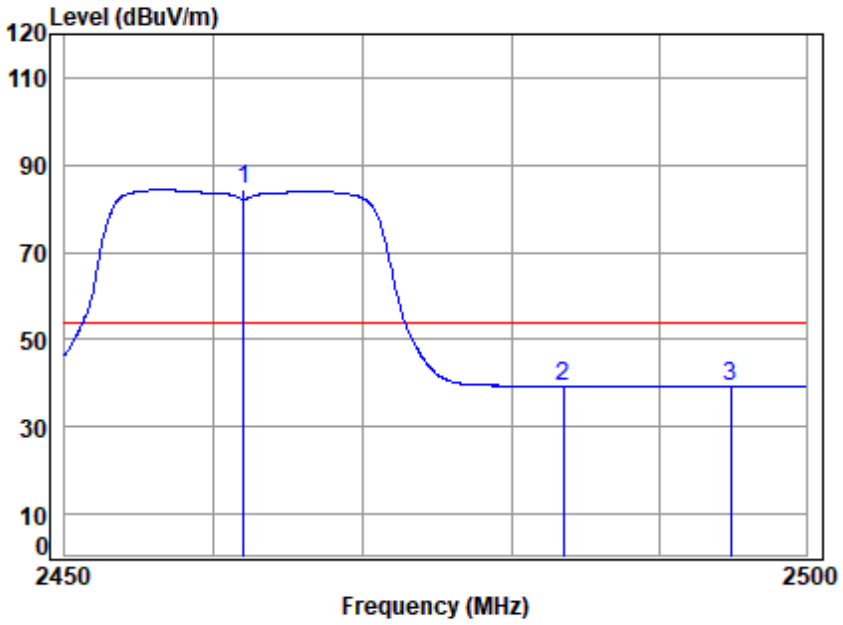
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	99.23	90.78	74.00	16.78	peak
2	2483.500	4.01	28.67	41.01	56.86	48.53	74.00	-25.47	peak
3	2499.899	4.08	28.70	41.02	58.97	50.73	74.00	-23.27	peak

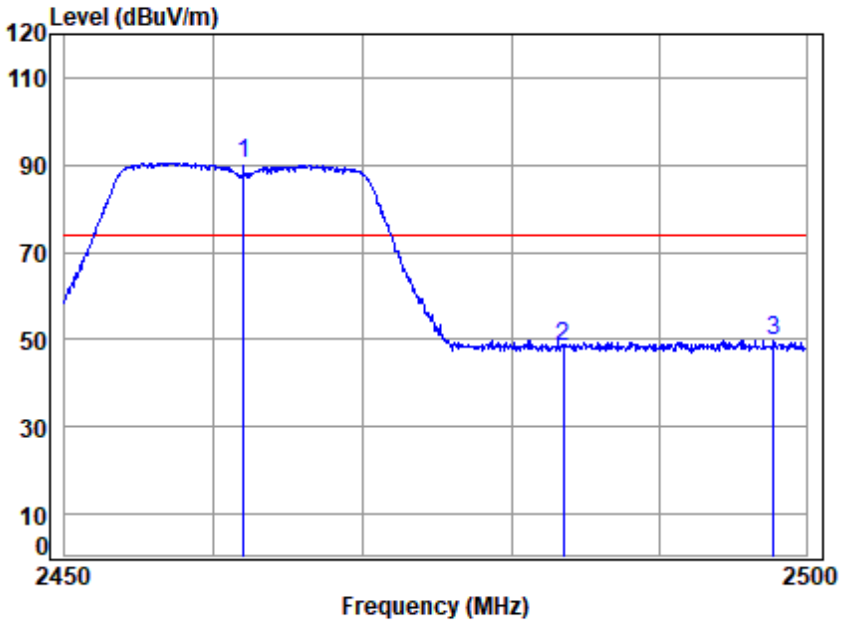
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	92.77	84.32	54.00	30.32	Average
2	2483.500	4.01	28.67	41.01	47.50	39.17	54.00	-14.83	Average
3	2494.904	4.06	28.69	41.02	47.58	39.31	54.00	-14.69	Average

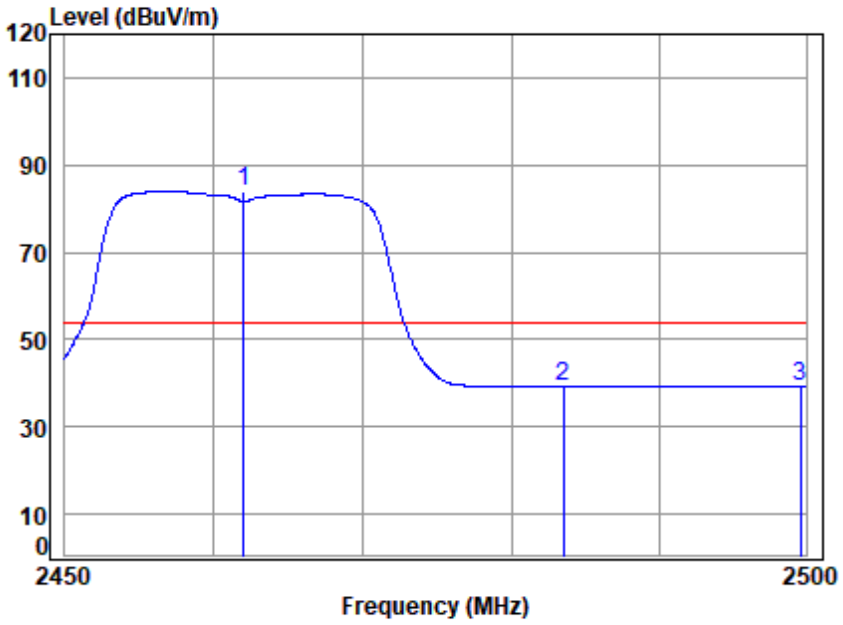
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	98.93	90.48	74.00	16.48	Peak
2	2483.500	4.01	28.67	41.01	56.57	48.24	74.00	-25.76	Peak
3	2497.779	4.07	28.70	41.02	58.04	49.79	74.00	-24.21	Peak

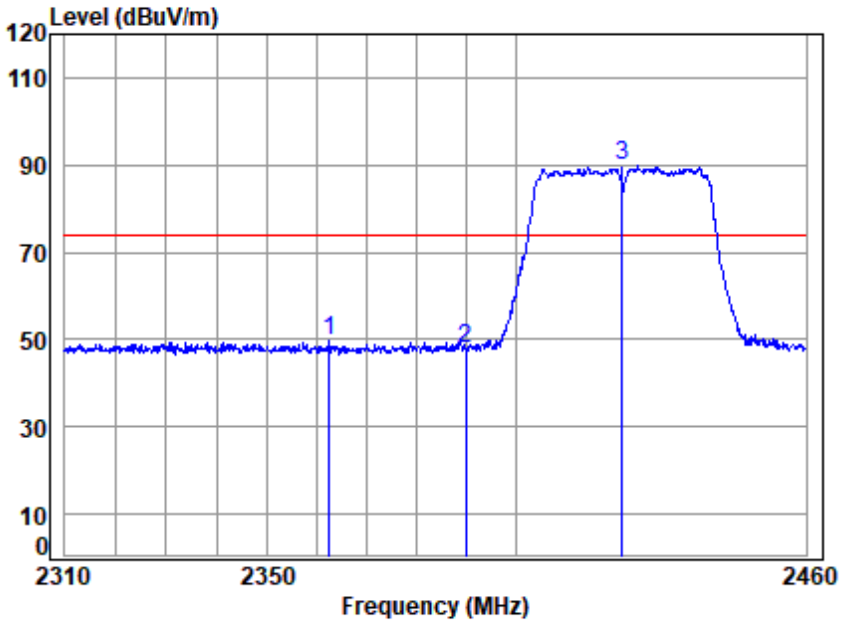
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 Band edge
Note : 2.4G WIFI 11N

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2462.000	3.91	28.64	41.00	92.43	83.98	54.00	29.98	Average
2	2483.500	4.01	28.67	41.01	47.49	39.16	54.00	-14.84	Average
3	2499.596	4.08	28.70	41.02	47.59	39.35	54.00	-14.65	Average

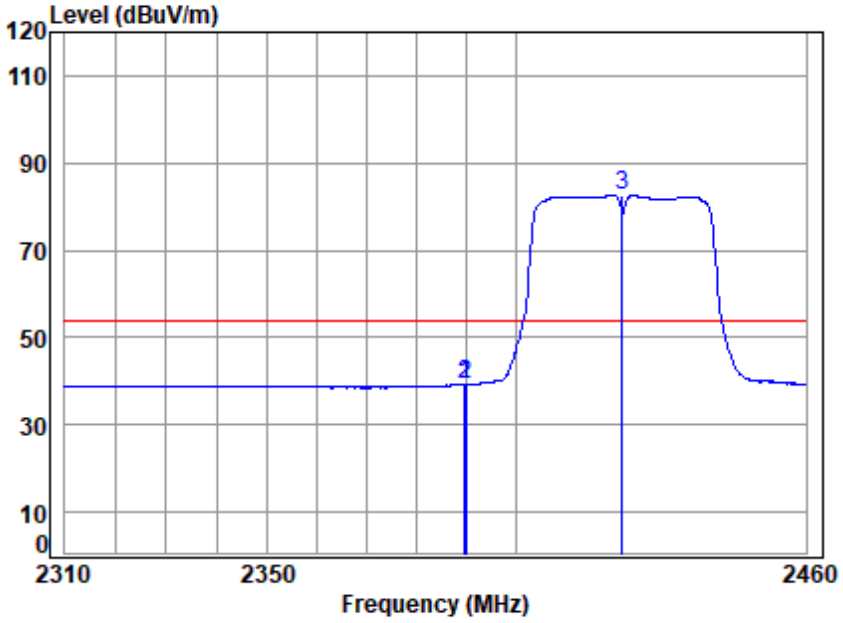
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2422 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2362.470	3.87	28.47	40.96	58.26	49.64	74.00	-24.36	peak
2	2390.000	3.69	28.52	40.97	56.86	48.10	74.00	-25.90	peak
3 *	2422.000	3.72	28.57	40.99	98.64	89.94	74.00	15.94	peak

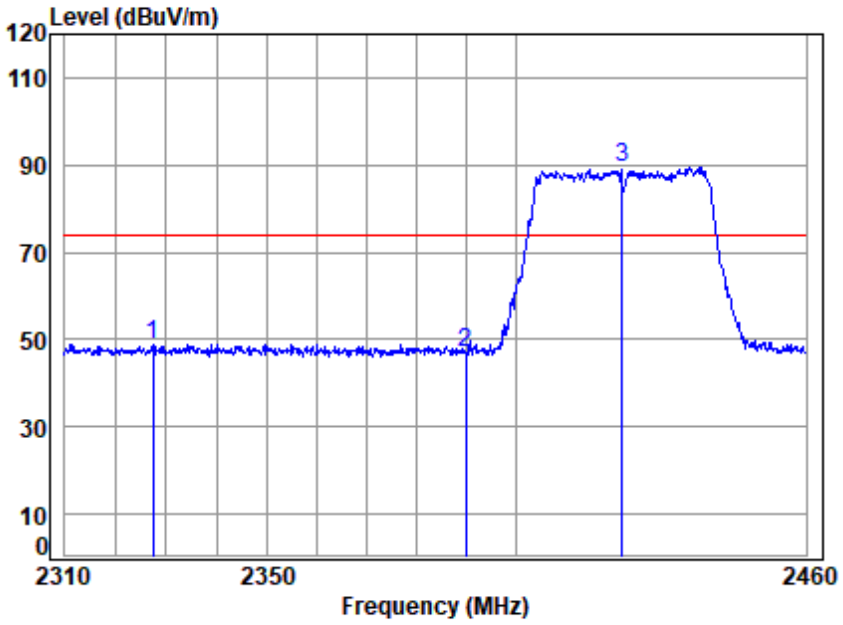
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2422 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2389.827	3.69	28.52	40.97	48.03	39.27	54.00	-14.73	Average
2	2390.000	3.69	28.52	40.97	47.95	39.19	54.00	-14.81	Average
3 *	2422.000	3.72	28.57	40.99	91.16	82.46	54.00	28.46	Average

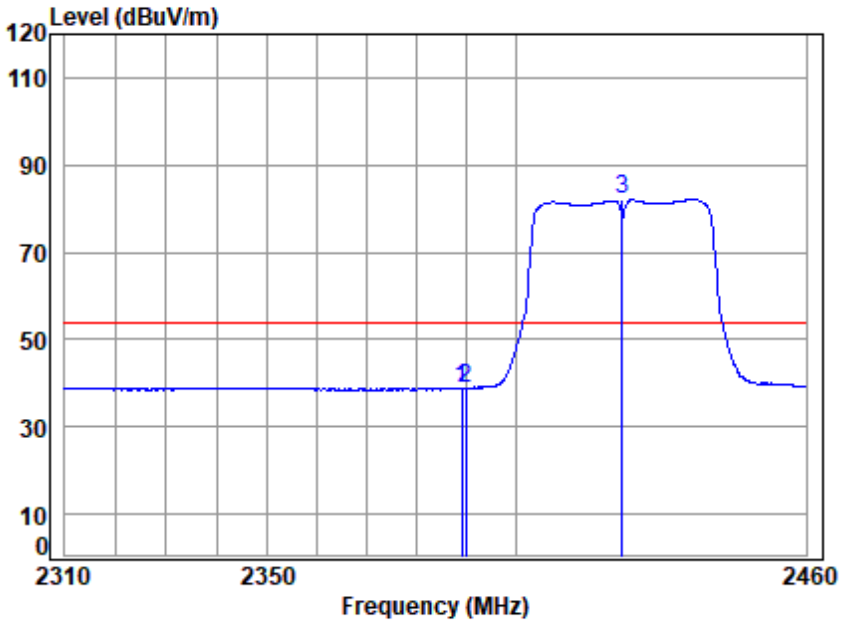
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2422 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2327.359	4.10	28.41	40.95	57.33	48.89	74.00	-25.11	Peak
2	2390.000	3.69	28.52	40.97	55.65	46.89	74.00	-27.11	Peak
3 *	2422.000	3.72	28.57	40.99	98.13	89.43	74.00	15.43	Peak

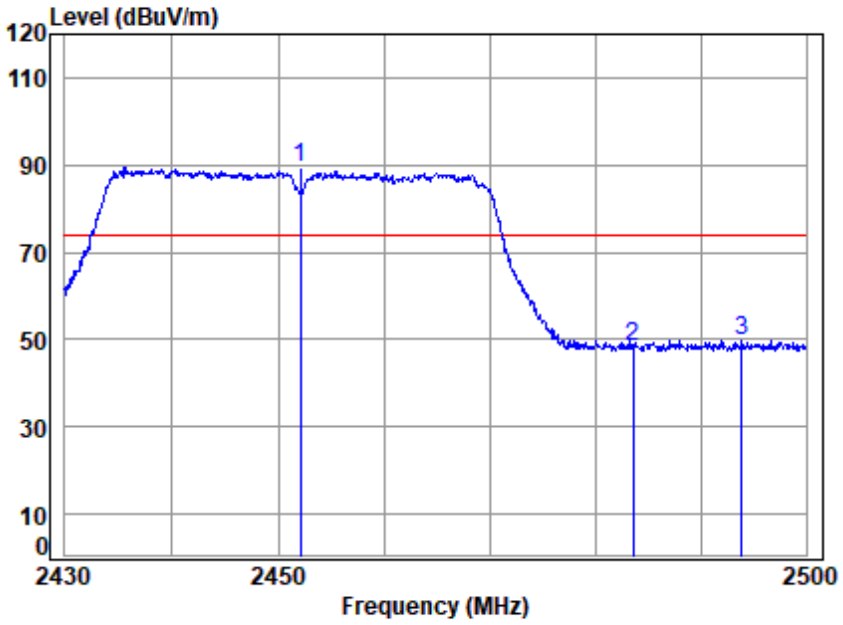
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2422 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2389.226	3.69	28.52	40.97	47.60	38.84	54.00	-15.16	Average
2	2390.000	3.69	28.52	40.97	47.55	38.79	54.00	-15.21	Average
3 *	2422.000	3.72	28.57	40.99	90.86	82.16	54.00	28.16	Average

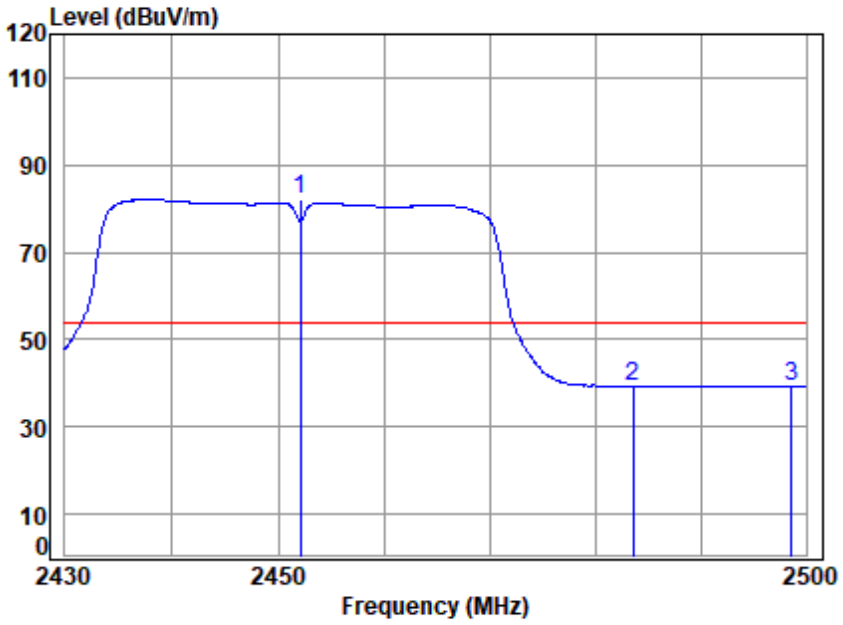
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2452 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2452.000	3.86	28.62	41.00	98.16	89.64	74.00	15.64	peak
2	2483.500	4.01	28.67	41.01	56.62	48.29	74.00	-25.71	peak
3	2493.831	4.05	28.69	41.01	58.11	49.84	74.00	-24.16	peak

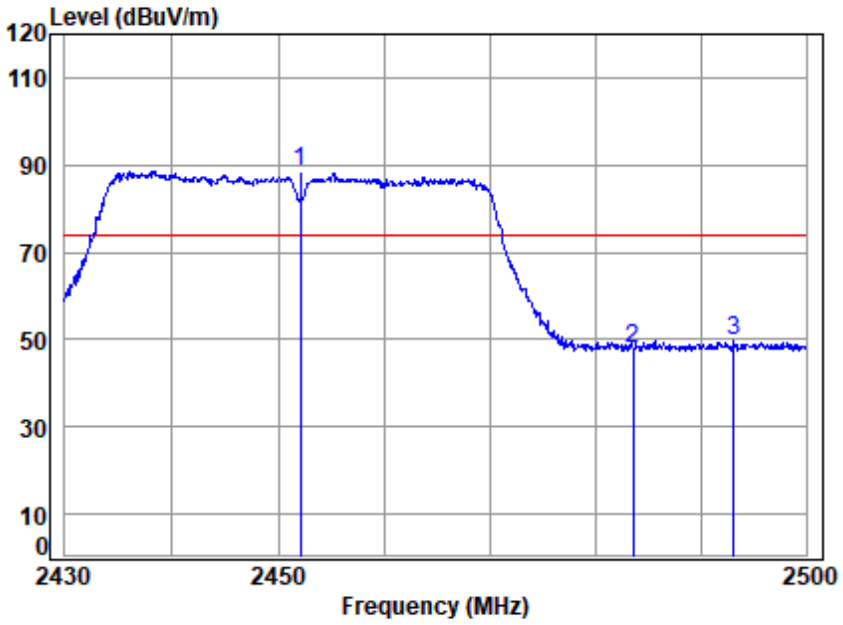
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2452 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2452.000	3.86	28.62	41.00	90.70	82.18	54.00	28.18	Average
2	2483.500	4.01	28.67	41.01	47.65	39.32	54.00	-14.68	Average
3	2498.651	4.07	28.70	41.02	47.64	39.39	54.00	-14.61	Average

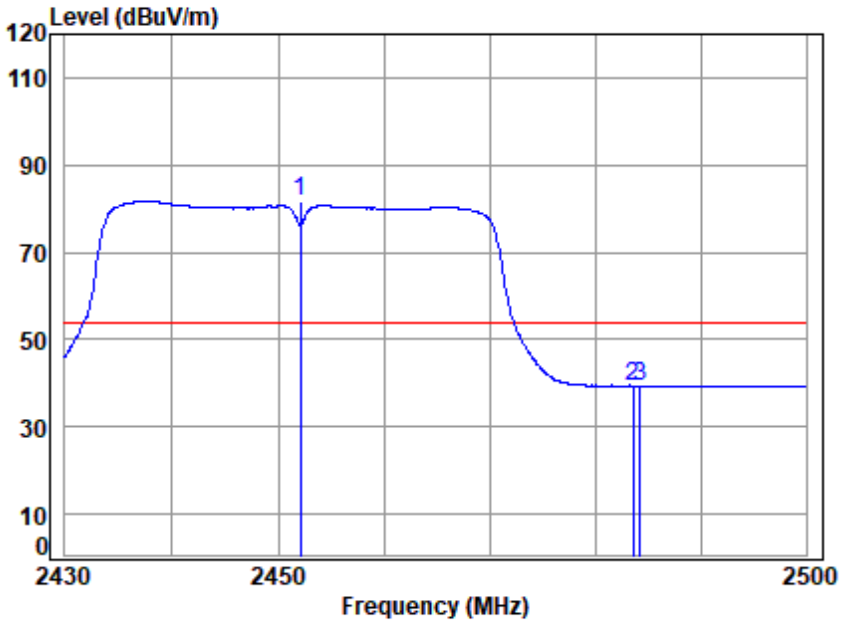
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2452 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2452.000	3.86	28.62	41.00	97.08	88.56	74.00	14.56	Peak
2	2483.500	4.01	28.67	41.01	56.24	47.91	74.00	-26.09	Peak
3	2493.123	4.05	28.69	41.01	57.95	49.68	74.00	-24.32	Peak

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



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2452 Band edge
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 *	2452.000	3.86	28.62	41.00	90.20	81.68	54.00	27.68	Average
2	2483.500	4.01	28.67	41.01	47.67	39.34	54.00	-14.66	Average
3	2484.147	4.01	28.67	41.01	47.69	39.36	54.00	-14.64	Average

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 6.4,6.5,6.6
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.		

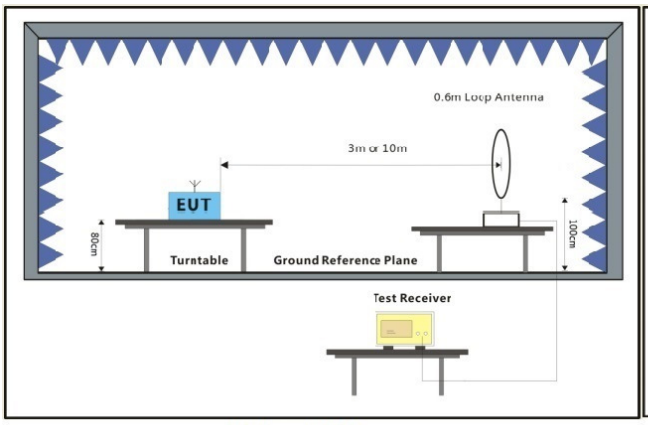
7.8.1 E.U.T. Operation

Operating Environment:

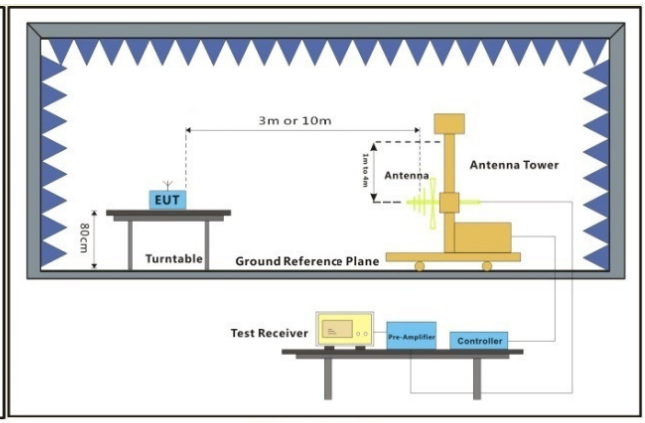
Temperature: 23.5 °C Humidity: 56.3 % RH Atmospheric Pressure: 1020 mbar

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.

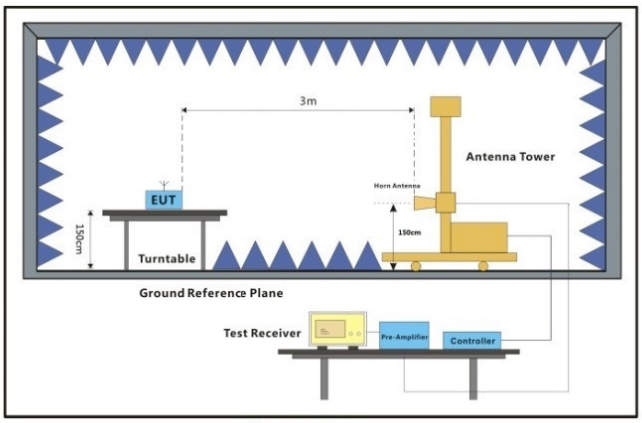
7.8.2 Test Setup Diagram



Below 30MHz



30MHz-1GHz



Above 1GHz

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:

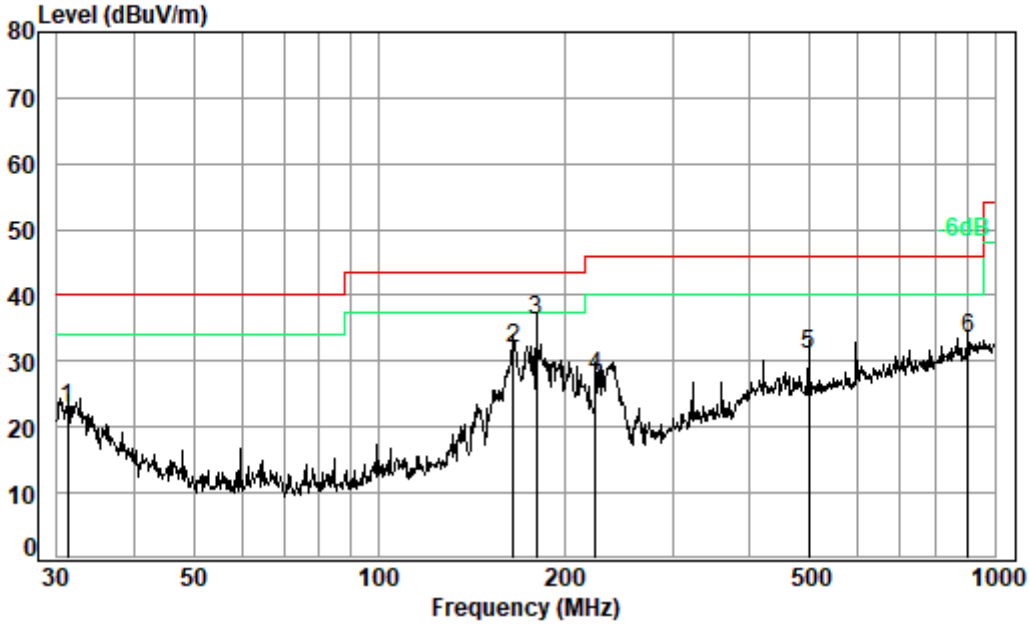
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

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.

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.

5) Pretest the EUT at antenna 1 and antenna 2, found the antenna 1 which is worst case for 802.11b/g mode; Pretest the EUT at antenna 1, antenna 2 and MIMO mode, found the MIMO mode which is worst case for 802.11n HT20 and 802.11n HT40 mode; So, Only the worst test data is recorded in the report.

Mode:b; Polarization:Horizontal;



Condition: 3m HORIZONTAL
Job No. : 00644CR
Test mode: b

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	31.29	0.60	21.77	27.73	28.17	22.81	40.00	-17.19	QP
2	165.49	1.35	15.61	27.30	42.38	32.04	43.50	-11.46	QP
3 pp	180.02	1.37	15.90	27.24	46.13	36.16	43.50	-7.34	QP
4	224.52	1.54	17.57	27.09	35.78	27.80	46.00	-18.20	QP
5	499.42	2.60	24.59	27.83	31.75	31.11	46.00	-14.89	QP
6	903.31	3.60	29.82	27.28	27.20	33.34	46.00	-12.66	QP

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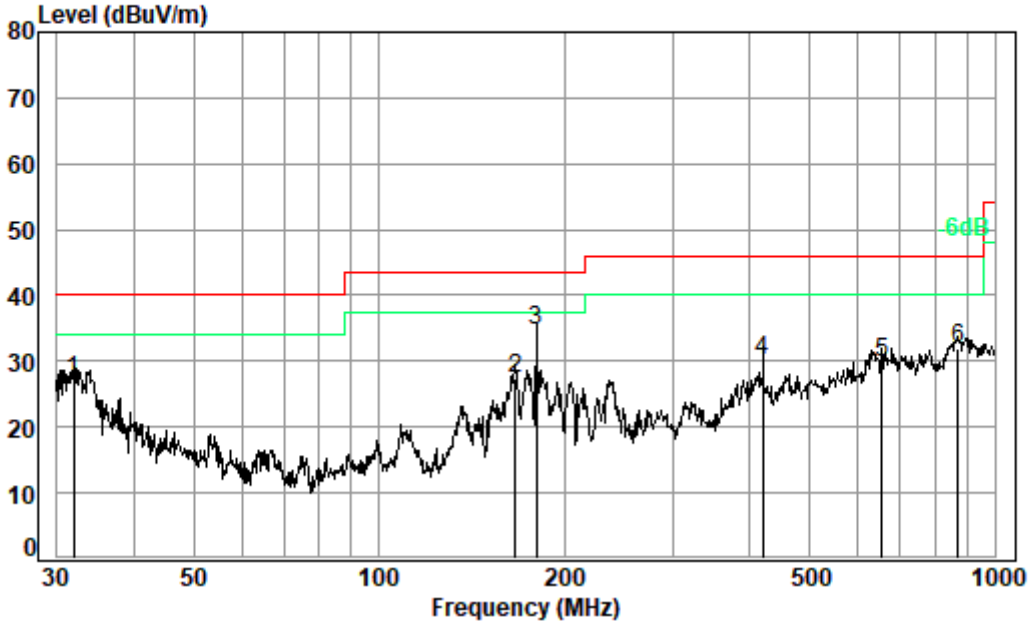
Mode:b; Polarization:Vertical;



Condition: 3m VERTICAL
Job No. : 00644CR
Test mode: b

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	31.95	0.60	21.40	27.72	32.80	27.08	40.00	-12.92	QP
2	166.65	1.35	15.64	27.29	37.72	27.42	43.50	-16.08	QP
3 pp	180.02	1.37	15.90	27.24	44.61	34.64	43.50	-8.86	QP
4	420.58	2.29	22.89	27.51	32.56	30.23	46.00	-15.77	QP
5	656.53	2.82	27.36	28.03	27.65	29.80	46.00	-16.20	QP
6	872.18	3.49	29.45	27.41	26.29	31.82	46.00	-14.18	QP

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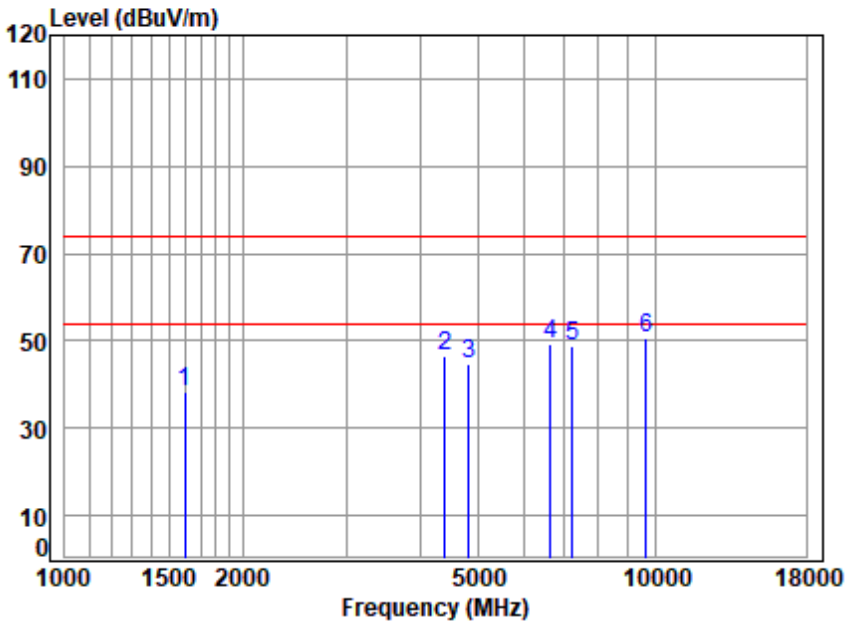
Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 TX RSE
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	49.71	38.33	74.00	-35.67	peak
2	4405.090	6.67	33.44	42.48	48.88	46.51	74.00	-27.49	peak
3	4824.000	6.86	34.00	42.78	46.43	44.51	74.00	-29.49	peak
4	6640.542	8.14	35.69	41.87	47.13	49.09	74.00	-24.91	peak
5	7236.000	8.43	36.09	41.56	45.80	48.76	74.00	-25.24	peak
6	9648.000	9.41	37.69	38.51	41.87	50.46	74.00	-23.54	peak

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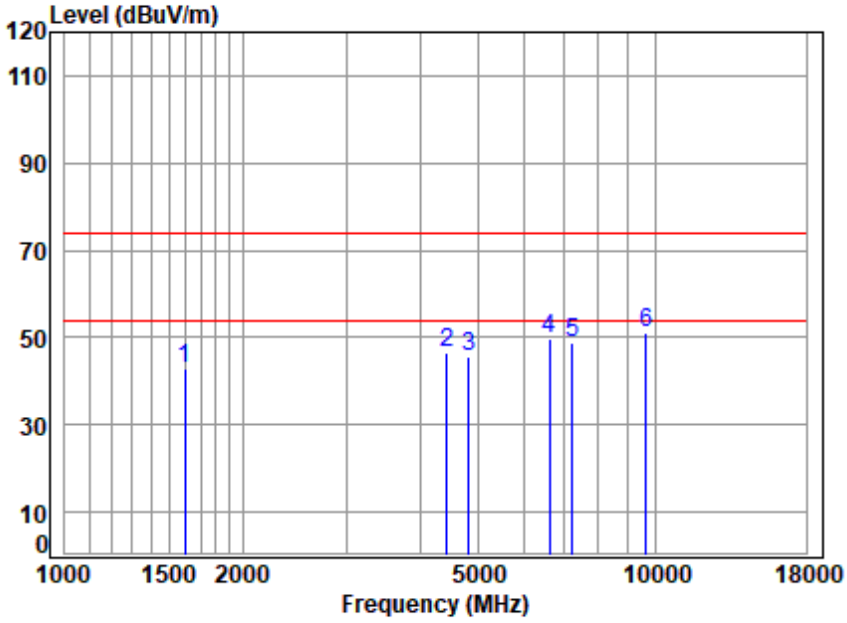
Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 TX RSE
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	54.07	42.69	74.00	-31.31	peak
2	4430.628	6.59	33.48	42.50	48.90	46.47	74.00	-27.53	peak
3	4824.000	6.86	34.00	42.78	47.36	45.44	74.00	-28.56	peak
4	6621.375	8.07	35.67	41.88	48.00	49.86	74.00	-24.14	peak
5	7236.000	8.43	36.09	41.56	45.86	48.82	74.00	-25.18	peak
6	9648.000	9.41	37.69	38.51	42.44	51.03	74.00	-22.97	peak

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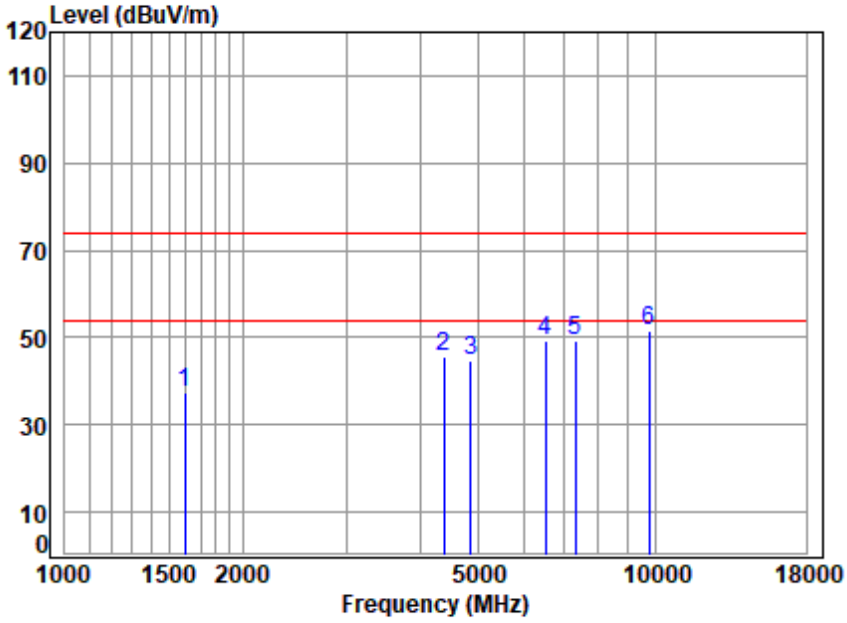
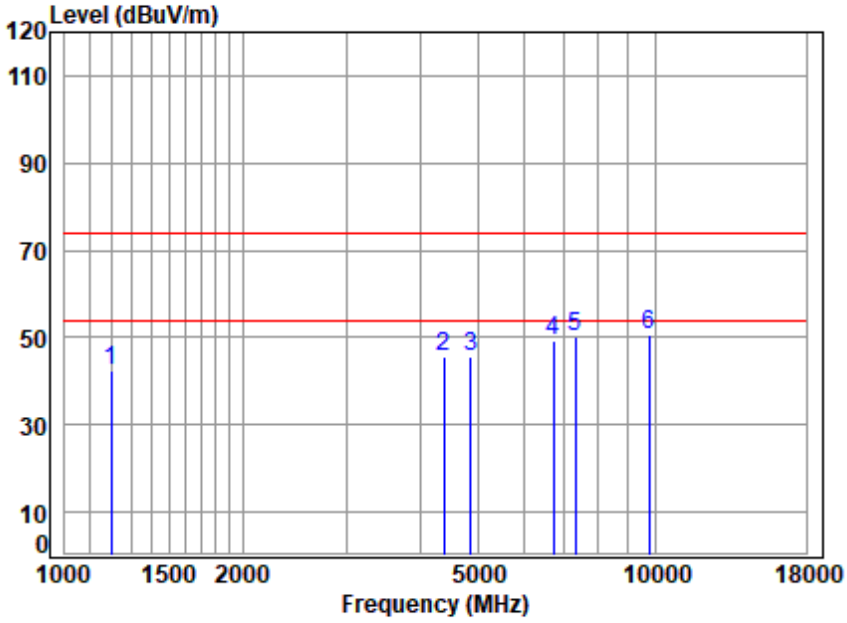
Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	48.90	37.52	74.00	-36.48	peak
2	4379.699	6.61	33.39	42.46	48.06	45.60	74.00	-28.40	peak
3	4874.000	7.01	34.05	42.82	46.46	44.70	74.00	-29.30	peak
4	6507.536	7.47	35.60	41.95	48.00	49.12	74.00	-24.88	peak
5	7311.000	8.38	36.15	41.53	46.17	49.17	74.00	-24.83	peak
6	9748.000	9.41	37.75	38.37	42.95	51.74	74.00	-22.26	peak

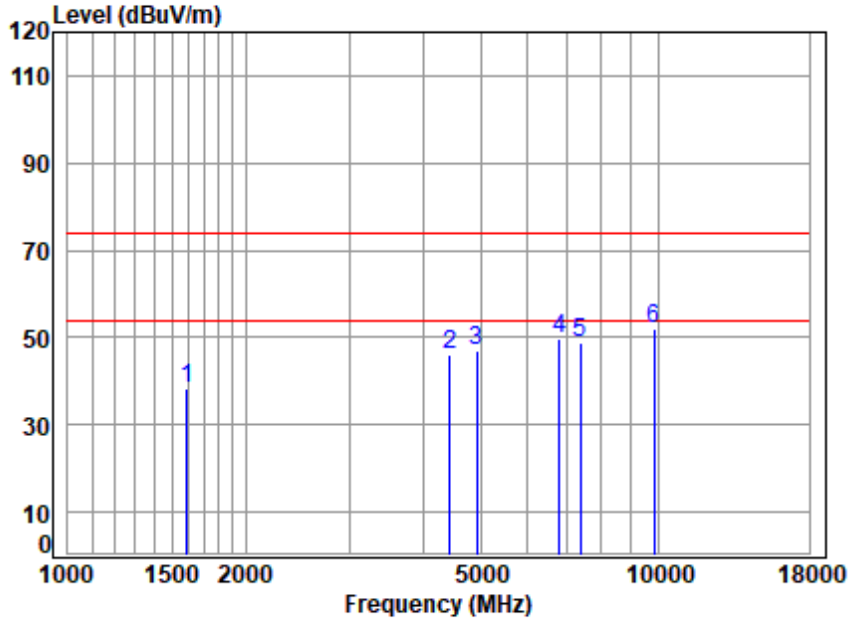
Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1196.264	2.61	24.57	40.28	55.72	42.62	74.00	-31.38	peak
2	4379.699	6.61	33.39	42.46	48.13	45.67	74.00	-28.33	peak
3	4874.000	7.01	34.05	42.82	47.56	45.80	74.00	-28.20	peak
4	6717.762	8.28	35.73	41.83	47.24	49.42	74.00	-24.58	peak
5	7311.000	8.38	36.15	41.53	47.30	50.30	74.00	-23.70	peak
6	9748.000	9.41	37.75	38.37	42.05	50.84	74.00	-23.16	peak

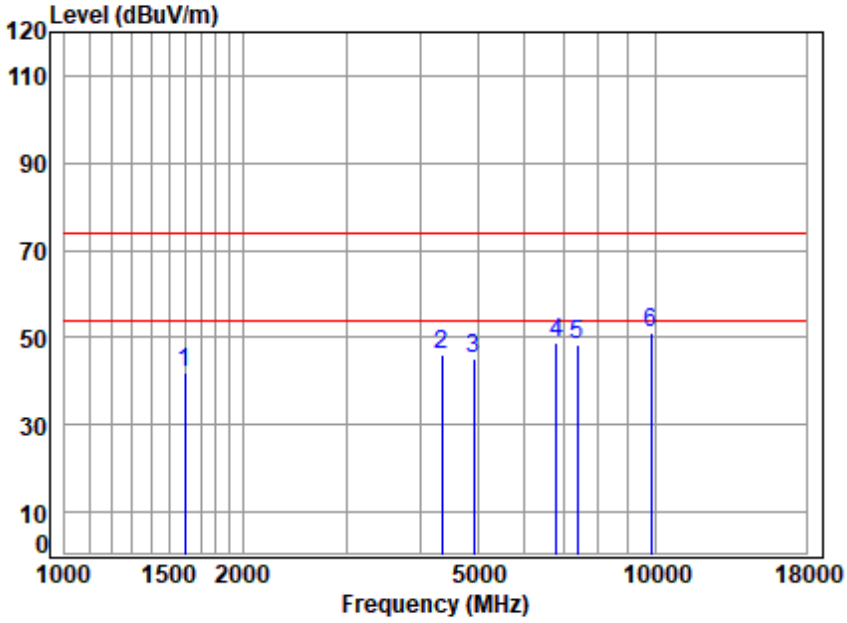
Mode:b; Polarization:Horizontal; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 TX RSE
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1592.571	2.95	26.22	40.57	49.54	38.14	74.00	-35.86	peak
2	4430.628	6.59	33.48	42.50	48.29	45.86	74.00	-28.14	peak
3	4924.000	7.06	34.11	42.85	48.65	46.97	74.00	-27.03	peak
4	6795.879	8.00	35.78	41.79	47.65	49.64	74.00	-24.36	peak
5	7386.000	8.21	36.21	41.49	45.91	48.84	74.00	-25.16	peak
6	9848.000	9.02	37.81	38.22	43.20	51.81	74.00	-22.19	peak

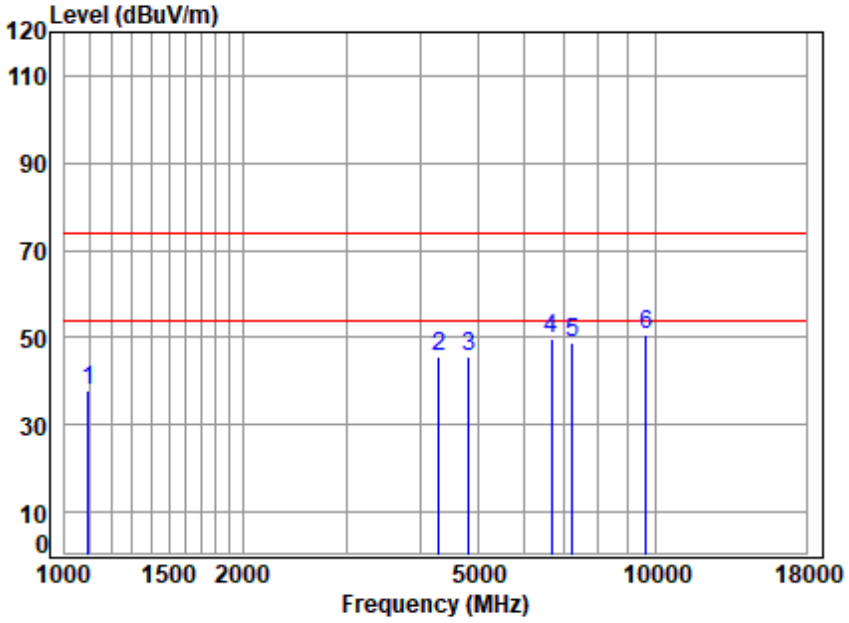
Mode:b; Polarization:Vertical; Modulation:802.11b; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 TX RSE
Note : 2.4G WIFI 11B

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	53.28	41.90	74.00	-32.10	peak
2	4354.454	6.51	33.35	42.44	48.79	46.21	74.00	-27.79	peak
3	4924.000	7.06	34.11	42.85	47.03	45.35	74.00	-28.65	peak
4	6795.879	8.00	35.78	41.79	46.94	48.93	74.00	-25.07	peak
5	7386.000	8.21	36.21	41.49	45.54	48.47	74.00	-25.53	peak
6	9848.000	9.02	37.81	38.22	42.26	50.87	74.00	-23.13	peak

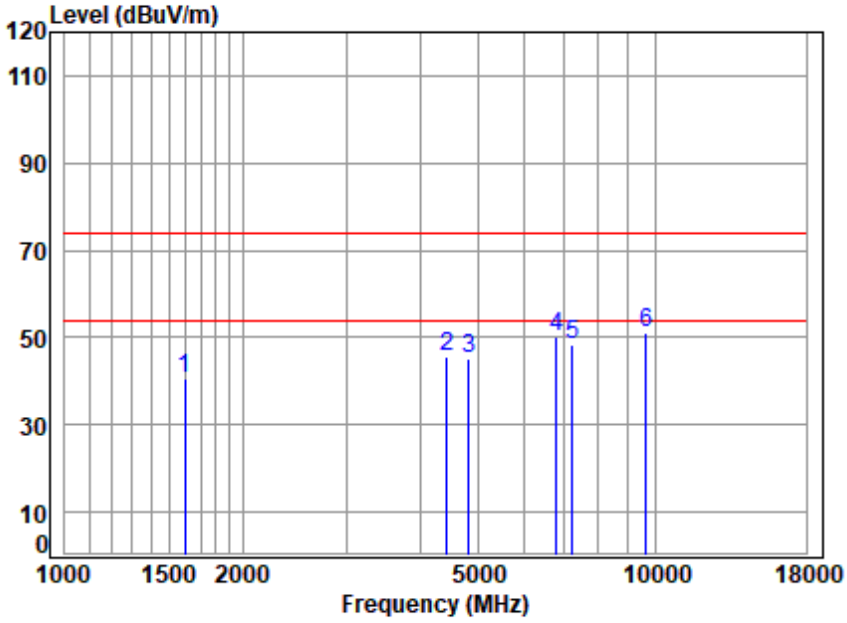
Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 TX RSE
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1096.904	2.19	24.10	40.19	51.65	37.75	74.00	-36.25	peak
2	4304.400	6.32	33.26	42.40	48.54	45.72	74.00	-28.28	peak
3	4824.000	6.86	34.00	42.78	47.57	45.65	74.00	-28.35	peak
4	6659.763	8.21	35.70	41.86	47.87	49.92	74.00	-24.08	peak
5	7236.000	8.43	36.09	41.56	45.94	48.90	74.00	-25.10	peak
6	9648.000	9.41	37.69	38.51	42.06	50.65	74.00	-23.35	peak

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



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 TX RSE
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	51.91	40.53	74.00	-33.47	peak
2	4430.628	6.59	33.48	42.50	48.06	45.63	74.00	-28.37	peak
3	4824.000	6.86	34.00	42.78	47.18	45.26	74.00	-28.74	peak
4	6795.879	8.00	35.78	41.79	48.00	49.99	74.00	-24.01	peak
5	7236.000	8.43	36.09	41.56	45.63	48.59	74.00	-25.41	peak
6	9648.000	9.41	37.69	38.51	42.68	51.27	74.00	-22.73	peak

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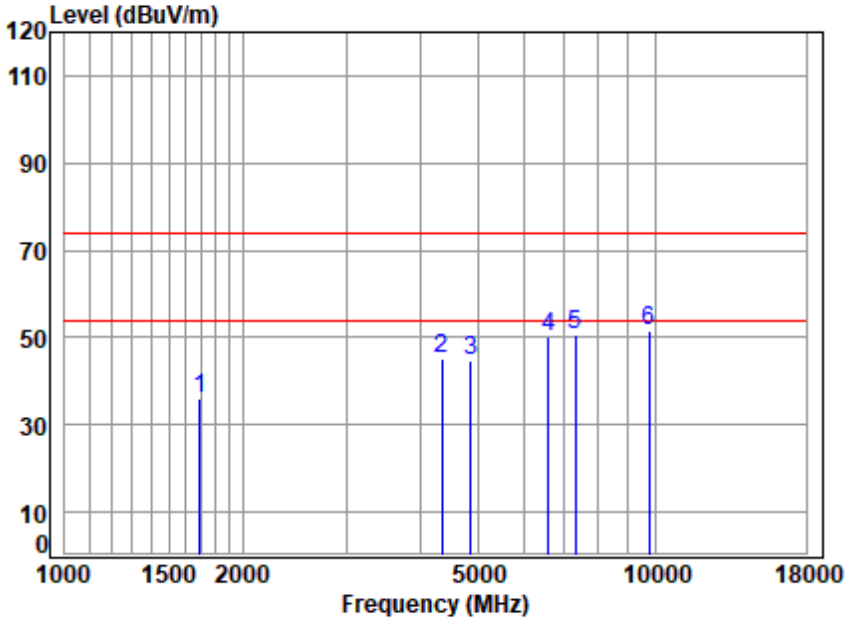
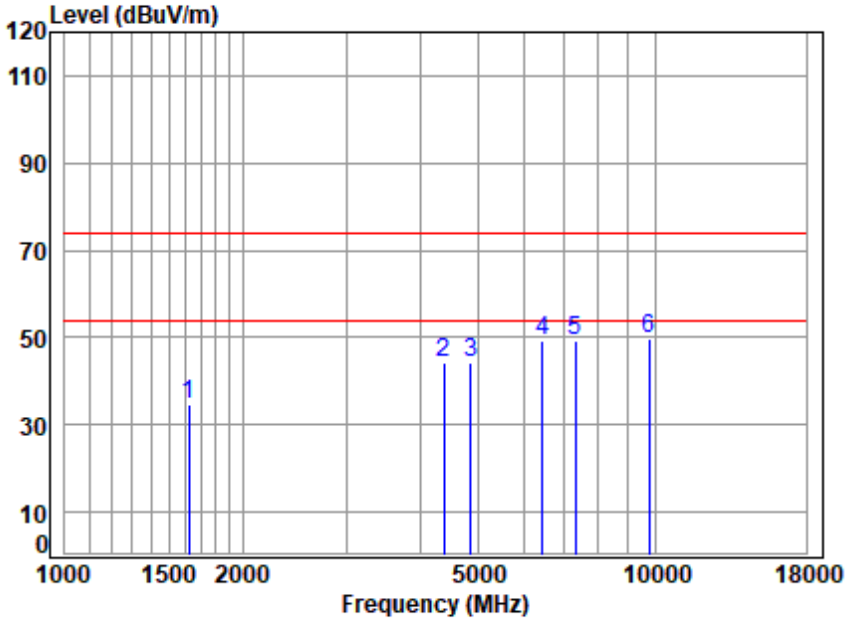
Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1692.231	3.28	26.64	40.63	46.63	35.92	74.00	-38.08	peak
2	4354.454	6.51	33.35	42.44	47.87	45.29	74.00	-28.71	peak
3	4874.000	7.01	34.05	42.82	46.54	44.78	74.00	-29.22	peak
4	6602.265	8.00	35.66	41.89	48.42	50.19	74.00	-23.81	peak
5	7311.000	8.38	36.15	41.53	47.62	50.62	74.00	-23.38	peak
6	9748.000	9.41	37.75	38.37	42.97	51.76	74.00	-22.24	peak

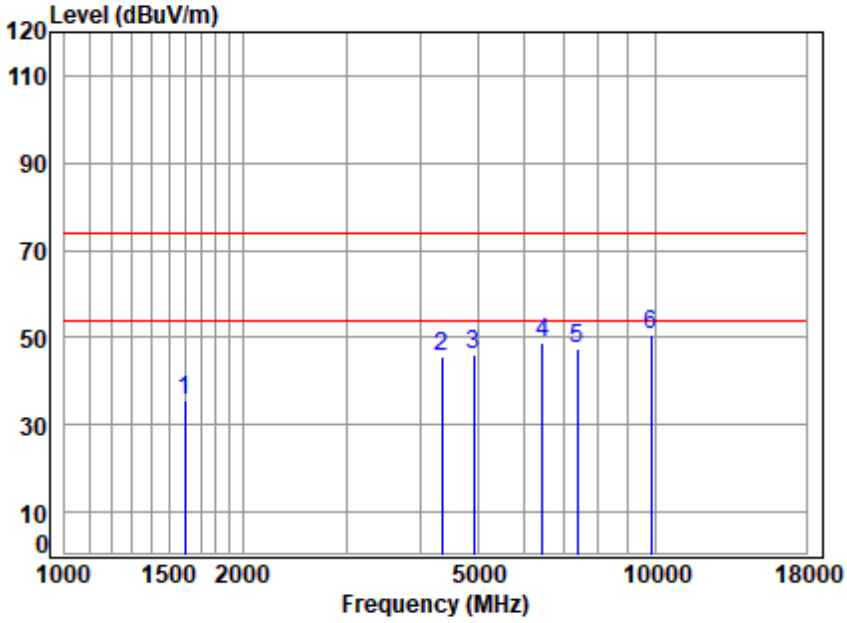
Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1620.431	3.03	26.34	40.58	46.00	34.79	74.00	-39.21	peak
2	4392.376	6.66	33.42	42.47	46.66	44.27	74.00	-29.73	peak
3	4874.000	7.01	34.05	42.82	46.07	44.31	74.00	-29.69	peak
4	6451.353	7.54	35.55	41.98	48.07	49.18	74.00	-24.82	peak
5	7311.000	8.38	36.15	41.53	46.23	49.23	74.00	-24.77	peak
6	9748.000	9.41	37.75	38.37	41.00	49.79	74.00	-24.21	peak

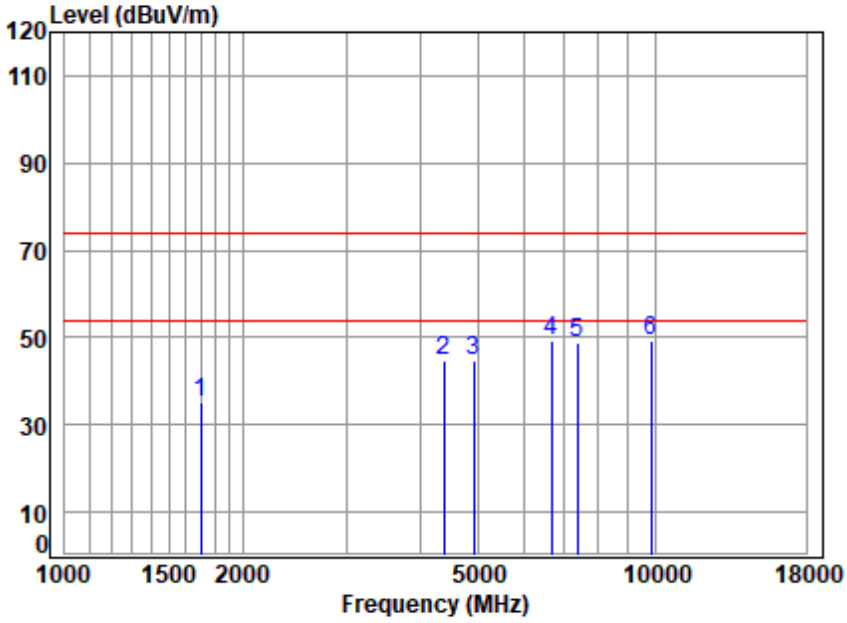
Mode:b; Polarization:Horizontal; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 TX RSE
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	46.77	35.39	74.00	-38.61	peak
2	4354.454	6.51	33.35	42.44	48.38	45.80	74.00	-28.20	peak
3	4924.000	7.06	34.11	42.85	47.84	46.16	74.00	-27.84	peak
4	6451.353	7.54	35.55	41.98	47.71	48.82	74.00	-25.18	peak
5	7386.000	8.21	36.21	41.49	44.59	47.52	74.00	-26.48	peak
6	9848.000	9.02	37.81	38.22	42.04	50.65	74.00	-23.35	peak

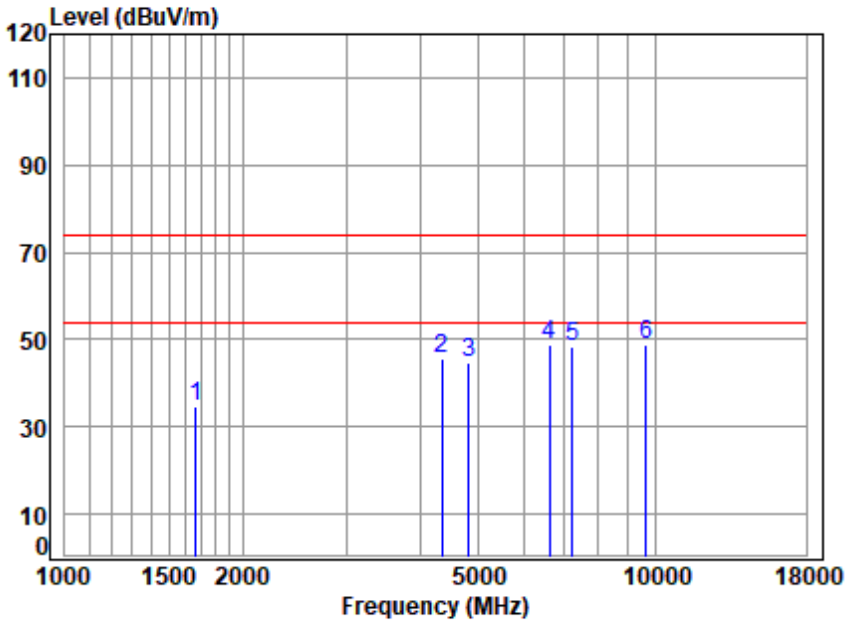
Mode:b; Polarization:Vertical; Modulation:802.11g; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 TX RSE
Note : 2.4G WIFI 11G

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1697.129	3.30	26.66	40.63	45.89	35.22	74.00	-38.78	peak
2	4392.376	6.66	33.42	42.47	47.12	44.73	74.00	-29.27	peak
3	4924.000	7.06	34.11	42.85	46.62	44.94	74.00	-29.06	peak
4	6659.763	8.21	35.70	41.86	47.02	49.07	74.00	-24.93	peak
5	7386.000	8.21	36.21	41.49	46.04	48.97	74.00	-25.03	peak
6	9848.000	9.02	37.81	38.22	40.56	49.17	74.00	-24.83	peak

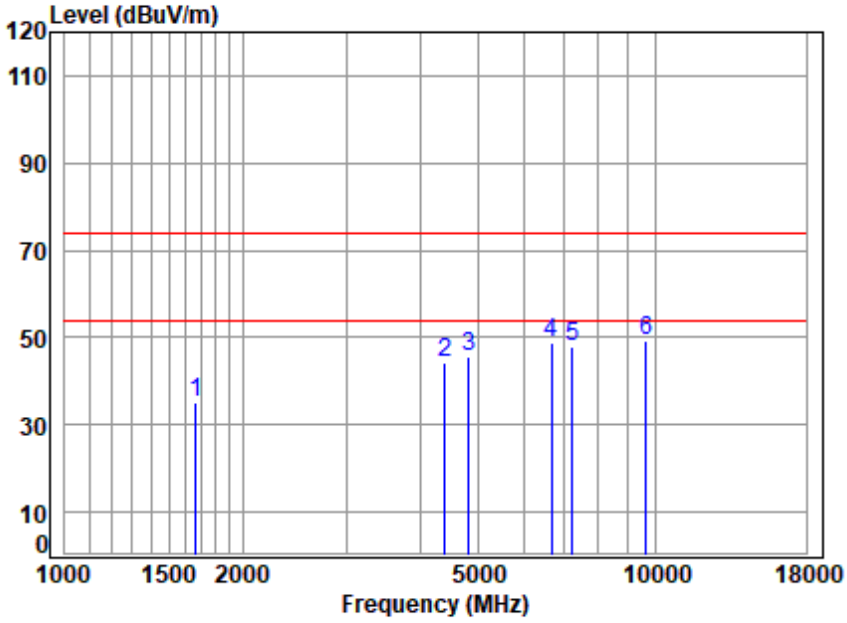
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2412 TX RSE
Note : 2.4G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1667.951	3.20	26.54	40.61	45.74	34.87	74.00	-39.13	peak
2	4354.454	6.51	33.35	42.44	48.18	45.60	74.00	-28.40	peak
3	4824.000	6.86	34.00	42.78	46.43	44.51	74.00	-29.49	peak
4	6621.375	8.07	35.67	41.88	47.02	48.88	74.00	-25.12	peak
5	7236.000	8.43	36.09	41.56	45.59	48.55	74.00	-25.45	peak
6	9648.000	9.41	37.69	38.51	40.42	49.01	74.00	-24.99	peak

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



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2412 TX RSE
Note : 2.4G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1667.951	3.20	26.54	40.61	46.02	35.15	74.00	-38.85	peak
2	4405.090	6.67	33.44	42.48	46.63	44.26	74.00	-29.74	peak
3	4824.000	6.86	34.00	42.78	47.32	45.40	74.00	-28.60	peak
4	6659.763	8.21	35.70	41.86	46.84	48.89	74.00	-25.11	peak
5	7236.000	8.43	36.09	41.56	44.95	47.91	74.00	-26.09	peak
6	9648.000	9.41	37.69	38.51	40.73	49.32	74.00	-24.68	peak

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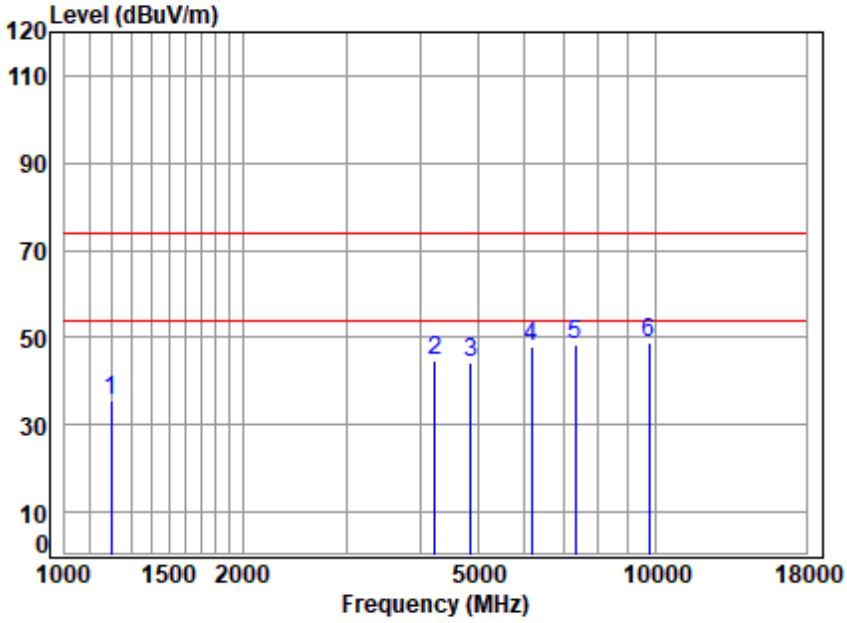
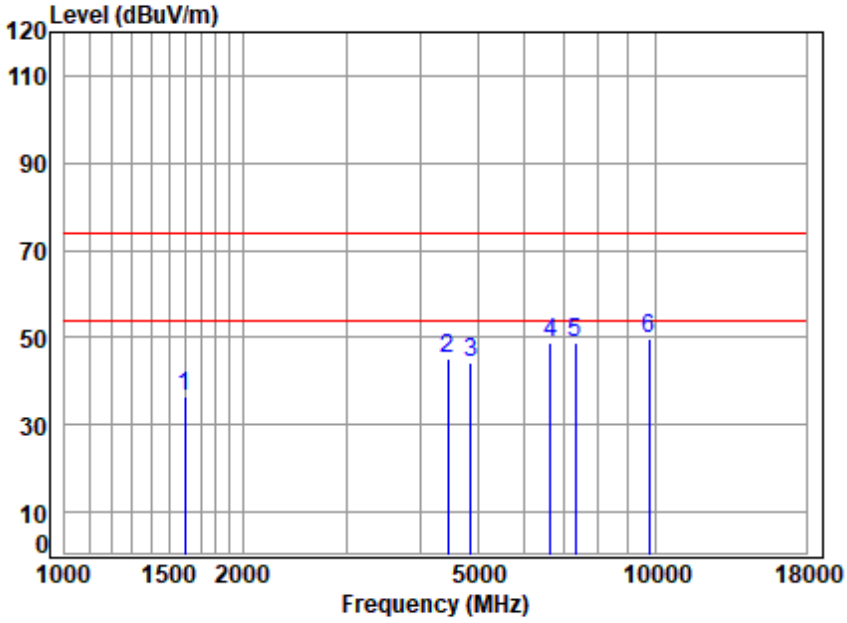
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1196.264	2.61	24.57	40.28	48.50	35.40	74.00	-38.60	peak
2	4230.396	6.18	33.13	42.34	47.89	44.86	74.00	-29.14	peak
3	4874.000	7.01	34.05	42.82	46.08	44.32	74.00	-29.68	peak
4	6159.797	7.57	35.26	42.15	47.44	48.12	74.00	-25.88	peak
5	7311.000	8.38	36.15	41.53	45.44	48.44	74.00	-25.56	peak
6	9748.000	9.41	37.75	38.37	40.25	49.04	74.00	-24.96	peak

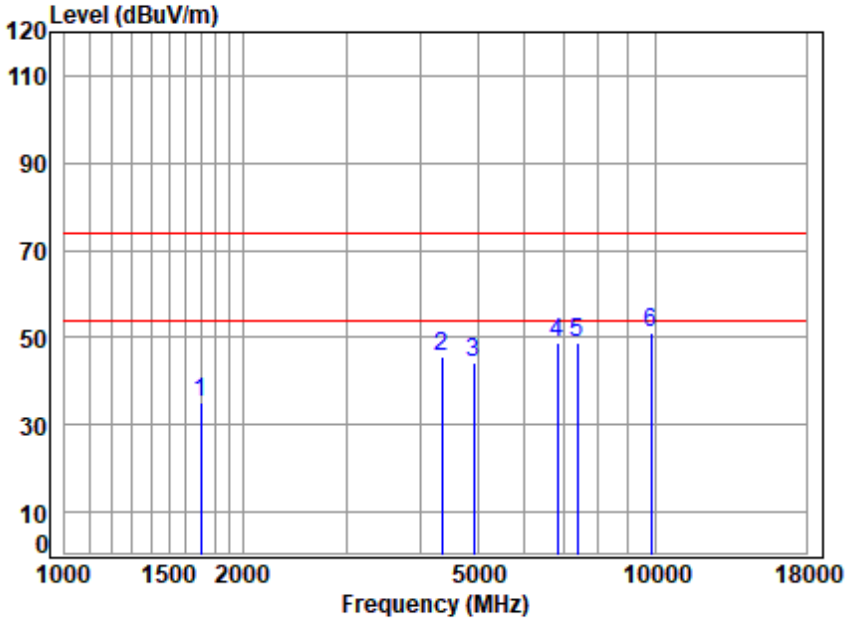
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	47.73	36.35	74.00	-37.65	peak
2	4456.315	6.51	33.53	42.52	47.60	45.12	74.00	-28.88	peak
3	4874.000	7.01	34.05	42.82	45.87	44.11	74.00	-29.89	peak
4	6640.542	8.14	35.69	41.87	46.88	48.84	74.00	-25.16	peak
5	7311.000	8.38	36.15	41.53	45.66	48.66	74.00	-25.34	peak
6	9748.000	9.41	37.75	38.37	40.76	49.55	74.00	-24.45	peak

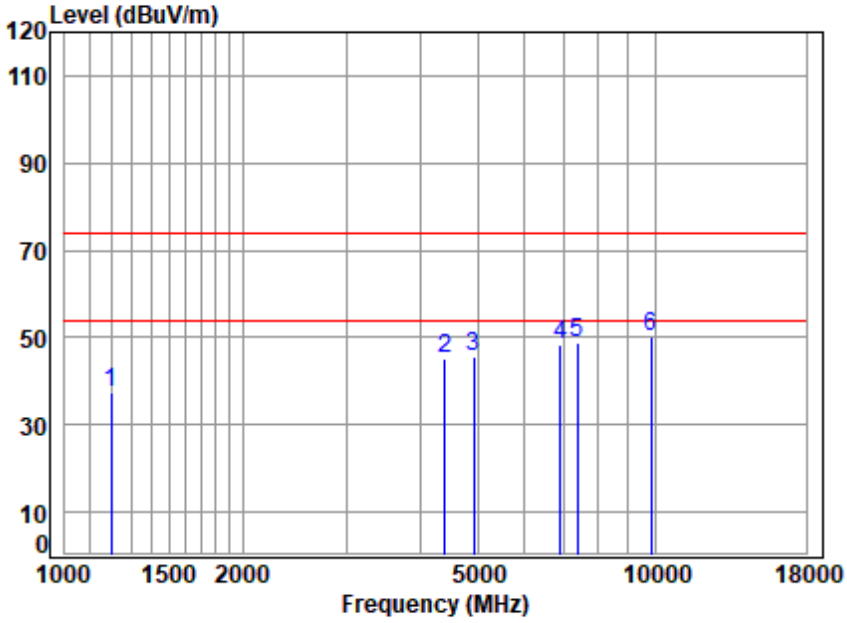
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2462 TX RSE
Note : 2.4G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1697.129	3.30	26.66	40.63	45.71	35.04	74.00	-38.96	peak
2	4354.454	6.51	33.35	42.44	48.14	45.56	74.00	-28.44	peak
3	4924.000	7.06	34.11	42.85	45.88	44.20	74.00	-29.80	peak
4	6835.278	7.93	35.80	41.77	46.98	48.94	74.00	-25.06	peak
5	7386.000	8.21	36.21	41.49	45.69	48.62	74.00	-25.38	peak
6	9848.000	9.02	37.81	38.22	42.27	50.88	74.00	-23.12	peak

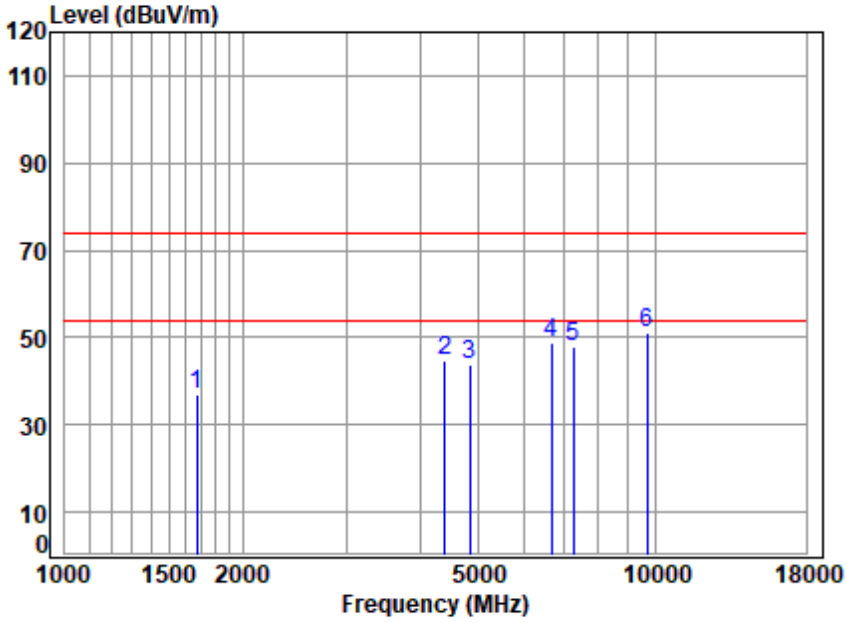
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2462 TX RSE
Note : 2.4G WIFI 11N20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1196.264	2.61	24.57	40.28	50.62	37.52	74.00	-36.48	peak
2	4405.090	6.67	33.44	42.48	47.38	45.01	74.00	-28.99	peak
3	4924.000	7.06	34.11	42.85	47.20	45.52	74.00	-28.48	peak
4	6894.806	7.84	35.84	41.74	46.64	48.58	74.00	-25.42	peak
5	7386.000	8.21	36.21	41.49	45.83	48.76	74.00	-25.24	peak
6	9848.000	9.02	37.81	38.22	41.38	49.99	74.00	-24.01	peak

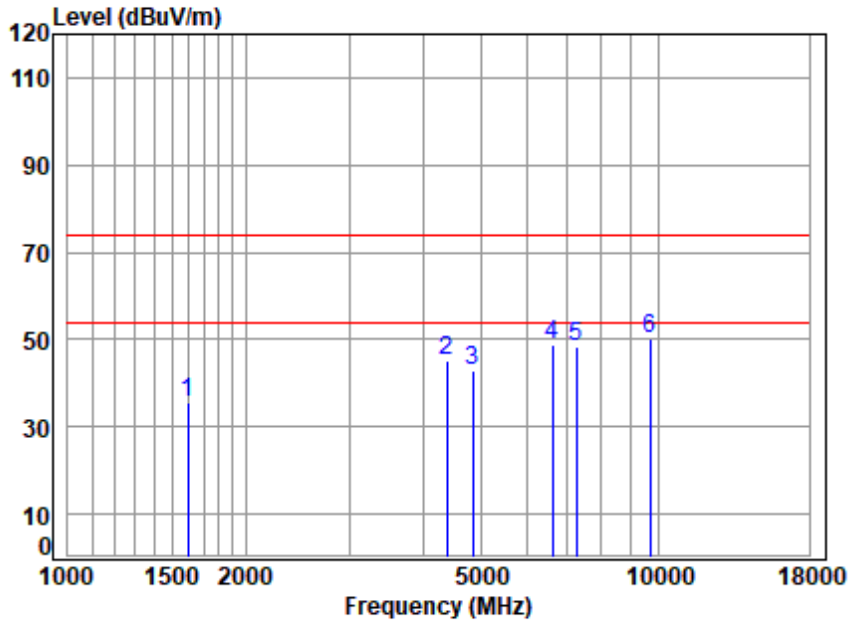
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2422 TX RSE
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1672.779	3.21	26.56	40.62	47.63	36.78	74.00	-37.22	peak
2	4405.090	6.67	33.44	42.48	47.12	44.75	74.00	-29.25	peak
3	4844.000	6.92	34.02	42.79	45.46	43.61	74.00	-30.39	peak
4	6679.040	8.27	35.71	41.85	46.48	48.61	74.00	-25.39	peak
5	7266.000	8.42	36.12	41.55	45.06	48.05	74.00	-25.95	peak
6	9688.000	9.66	37.71	38.45	42.14	51.06	74.00	-22.94	peak

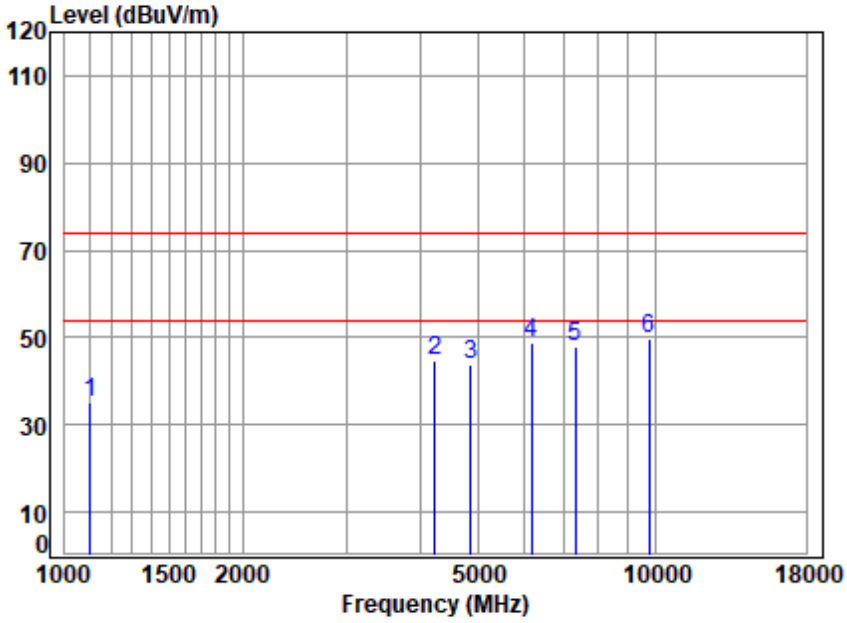
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2422 TX RSE
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	46.98	35.60	74.00	-38.40	peak
2	4392.376	6.66	33.42	42.47	47.35	44.96	74.00	-29.04	peak
3	4844.000	6.92	34.02	42.79	44.71	42.86	74.00	-31.14	peak
4	6621.375	8.07	35.67	41.88	46.86	48.72	74.00	-25.28	peak
5	7266.000	8.42	36.12	41.55	45.42	48.41	74.00	-25.59	peak
6	9688.000	9.66	37.71	38.45	41.20	50.12	74.00	-23.88	peak

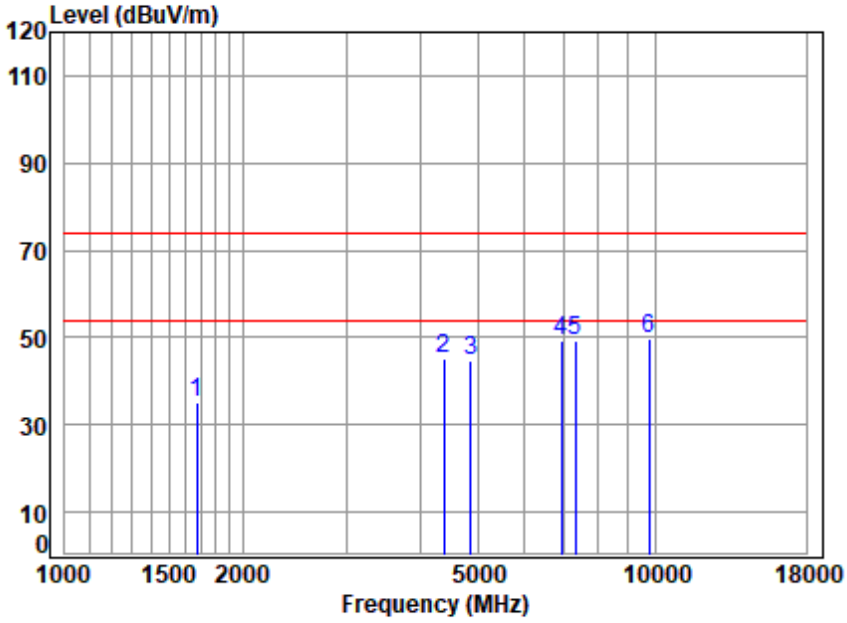
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1103.264	2.20	24.13	40.20	48.95	35.08	74.00	-38.92	peak
2	4230.396	6.18	33.13	42.34	47.86	44.83	74.00	-29.17	peak
3	4874.000	7.01	34.05	42.82	45.65	43.89	74.00	-30.11	peak
4	6177.627	7.59	35.28	42.14	48.14	48.87	74.00	-25.13	peak
5	7311.000	8.38	36.15	41.53	45.02	48.02	74.00	-25.98	peak
6	9748.000	9.41	37.75	38.37	41.11	49.90	74.00	-24.10	peak

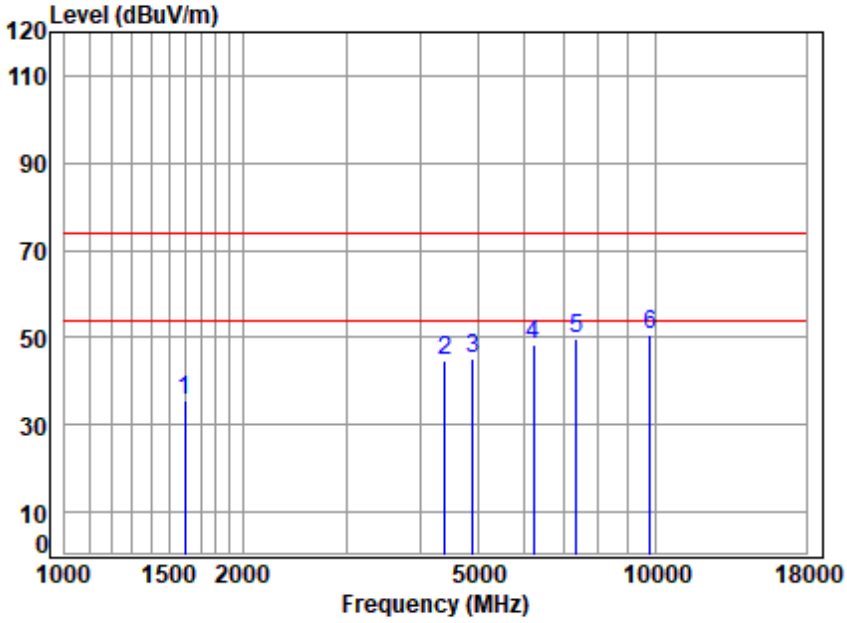
Mode:b; Polarization:Vertical; Modulation:802.11n; bandwidth:40MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2437 TX RSE
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1672.779	3.21	26.56	40.62	45.85	35.00	74.00	-39.00	peak
2	4379.699	6.61	33.39	42.46	47.48	45.02	74.00	-28.98	peak
3	4874.000	7.01	34.05	42.82	46.54	44.78	74.00	-29.22	peak
4	6934.778	7.82	35.86	41.72	47.33	49.29	74.00	-24.71	peak
5	7311.000	8.38	36.15	41.53	46.28	49.28	74.00	-24.72	peak
6	9748.000	9.41	37.75	38.37	41.06	49.85	74.00	-24.15	peak

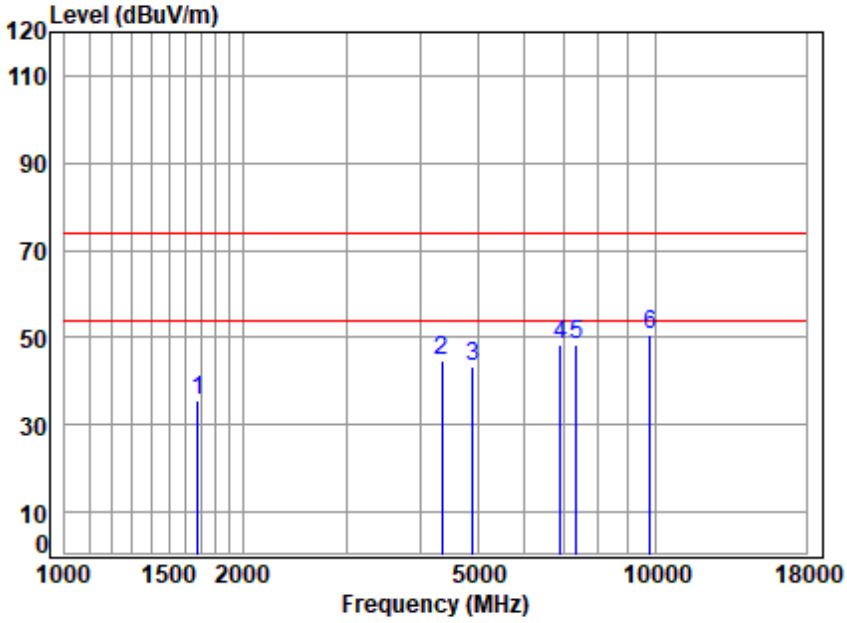
Mode:b; Polarization:Horizontal; Modulation:802.11n; bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00644CR
Mode : 2452 TX RSE
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	2.95	26.24	40.57	46.91	35.53	74.00	-38.47	peak
2	4405.090	6.67	33.44	42.48	47.06	44.69	74.00	-29.31	peak
3	4904.000	7.08	34.09	42.84	46.70	45.03	74.00	-28.97	peak
4	6213.441	7.57	35.32	42.11	47.67	48.45	74.00	-25.55	peak
5	7356.000	8.28	36.19	41.50	46.99	49.96	74.00	-24.04	peak
6	9808.000	9.05	37.79	38.28	42.22	50.78	74.00	-23.22	peak

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



Site : chamber
Condition: 3m VERTICAL
Job No : 00644CR
Mode : 2452 TX RSE
Note : 2.4G WIFI 11N40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1677.621	3.23	26.58	40.62	46.37	35.56	74.00	-38.44	peak
2	4354.454	6.51	33.35	42.44	47.44	44.86	74.00	-29.14	peak
3	4904.000	7.08	34.09	42.84	45.11	43.44	74.00	-30.56	peak
4	6914.763	7.83	35.85	41.73	46.25	48.20	74.00	-25.80	peak
5	7356.000	8.28	36.19	41.50	45.41	48.38	74.00	-25.62	peak
6	9808.000	9.05	37.79	38.28	42.10	50.66	74.00	-23.34	peak

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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.

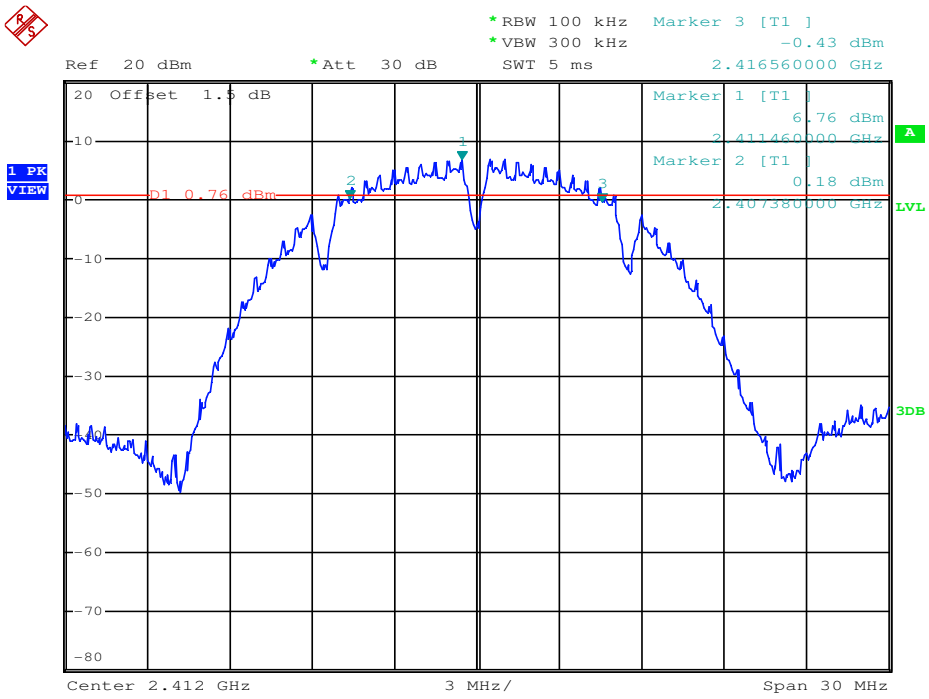
9 Appendix

9.1 Appendix 15.247

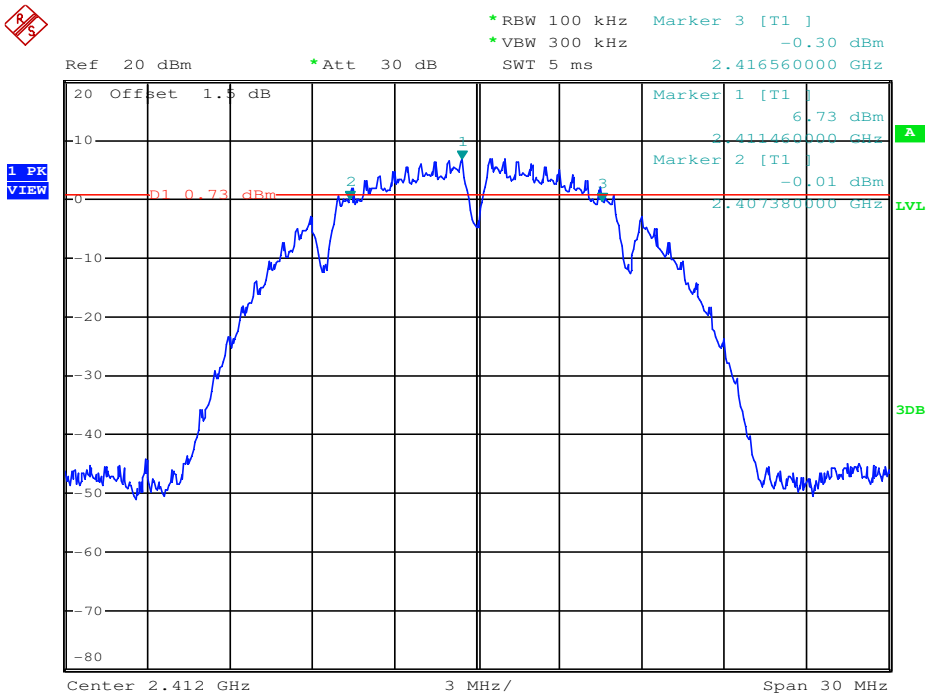
1.6dB Bandwidth

Test mode:	Test Channel	Ant	EBW[MHz]	Limit[MHz]	Verdict
11B	2412	Ant1	9.180	>=0.5	PASS
11B	2412	Ant2	9.180	>=0.5	PASS
11B	2437	Ant1	10.080	>=0.5	PASS
11B	2437	Ant2	9.150	>=0.5	PASS
11B	2462	Ant1	9.630	>=0.5	PASS
11B	2462	Ant2	9.150	>=0.5	PASS
11G	2412	Ant1	16.560	>=0.5	PASS
11G	2412	Ant2	16.620	>=0.5	PASS
11G	2437	Ant1	16.560	>=0.5	PASS
11G	2437	Ant2	16.590	>=0.5	PASS
11G	2462	Ant1	16.500	>=0.5	PASS
11G	2462	Ant2	16.515	>=0.5	PASS
11N20SISO	2412	Ant1	17.670	>=0.5	PASS
11N20SISO	2412	Ant2	17.670	>=0.5	PASS
11N20SISO	2437	Ant1	17.700	>=0.5	PASS
11N20SISO	2437	Ant2	17.670	>=0.5	PASS
11N20SISO	2462	Ant1	17.700	>=0.5	PASS
11N20SISO	2462	Ant2	17.670	>=0.5	PASS
11N40SISO	2422	Ant1	36.540	>=0.5	PASS
11N40SISO	2422	Ant2	36.540	>=0.5	PASS
11N40SISO	2437	Ant1	36.540	>=0.5	PASS
11N40SISO	2437	Ant2	36.540	>=0.5	PASS
11N40SISO	2452	Ant1	36.540	>=0.5	PASS
11N40SISO	2452	Ant2	36.540	>=0.5	PASS

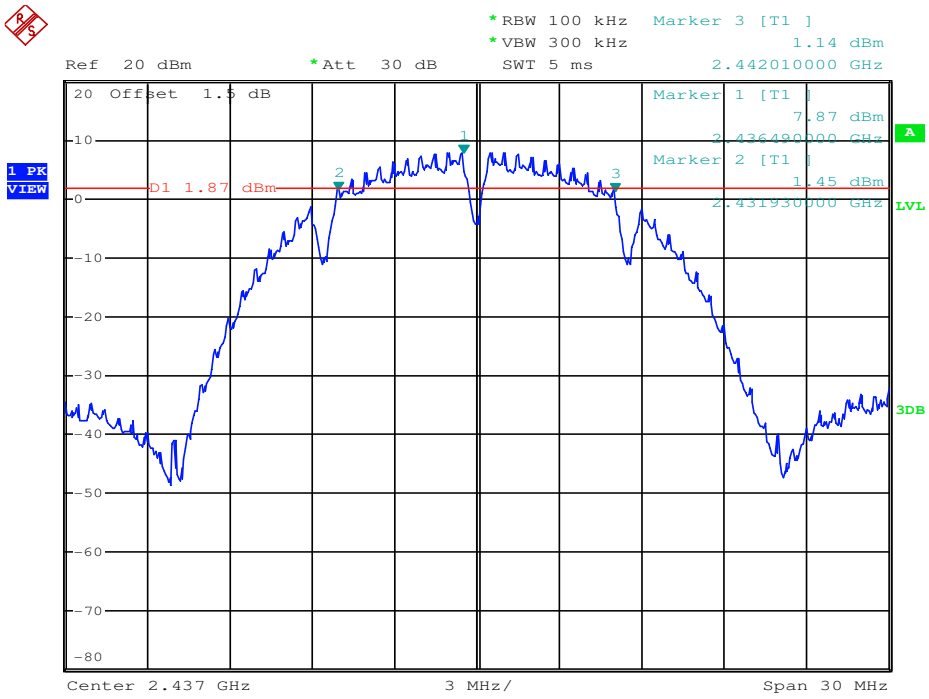
6dB Bandwidth_11B_2412_Ant1



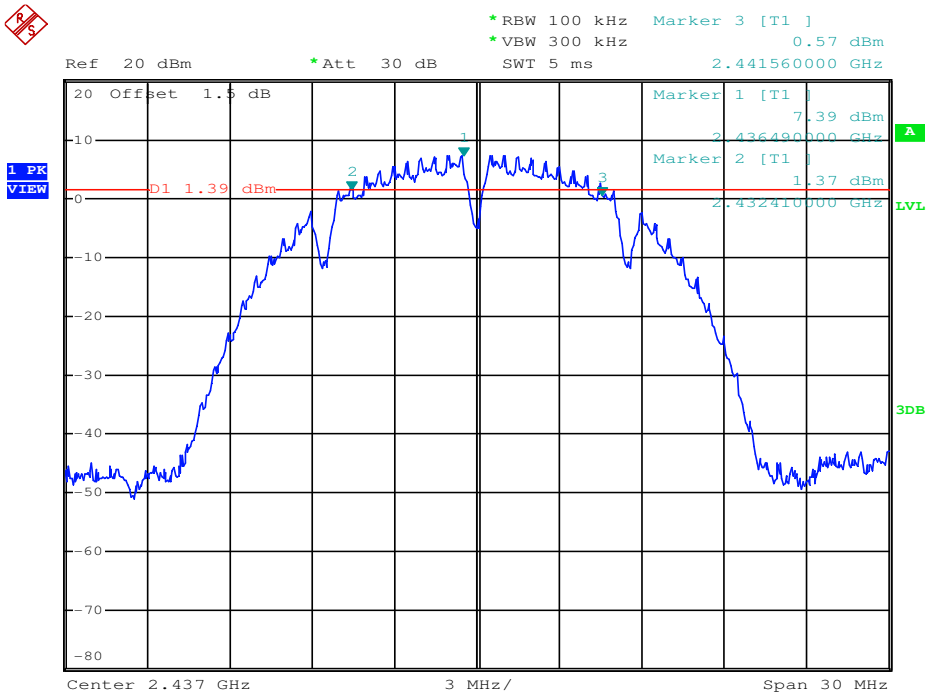
6dB Bandwidth_11B_2412_Ant2



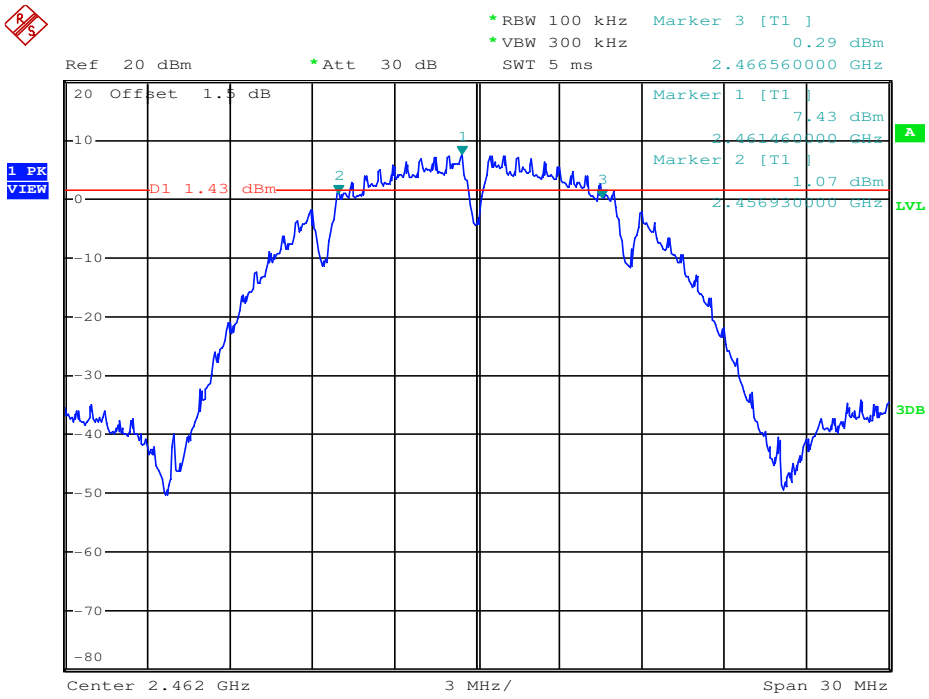
6dB Bandwidth_11B_2437_Ant1



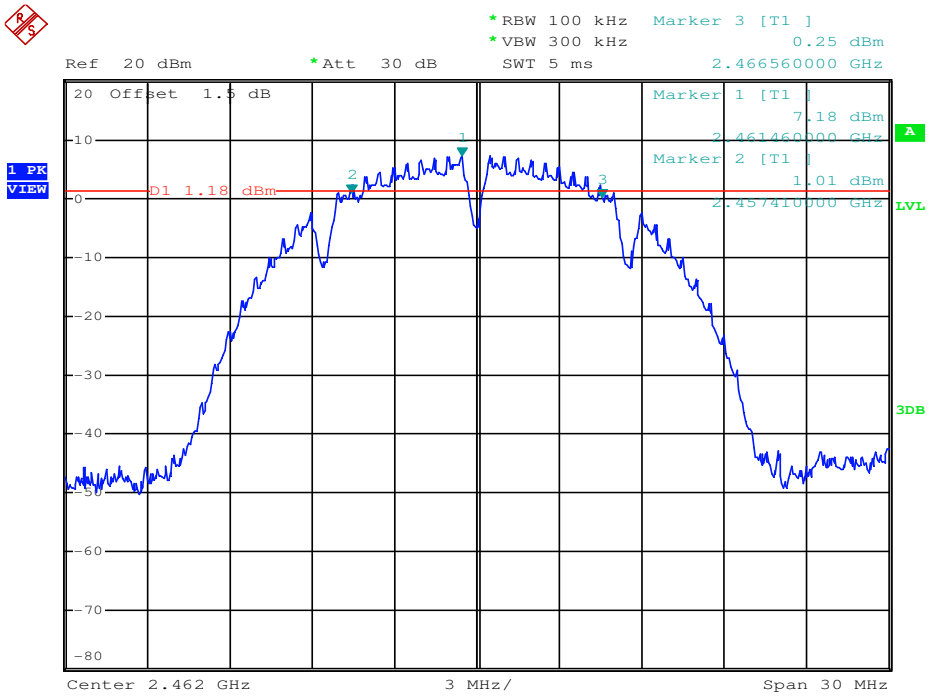
6dB Bandwidth_11B_2437_Ant2



6dB Bandwidth_11B_2462_Ant1



6dB Bandwidth_11B_2462_Ant2



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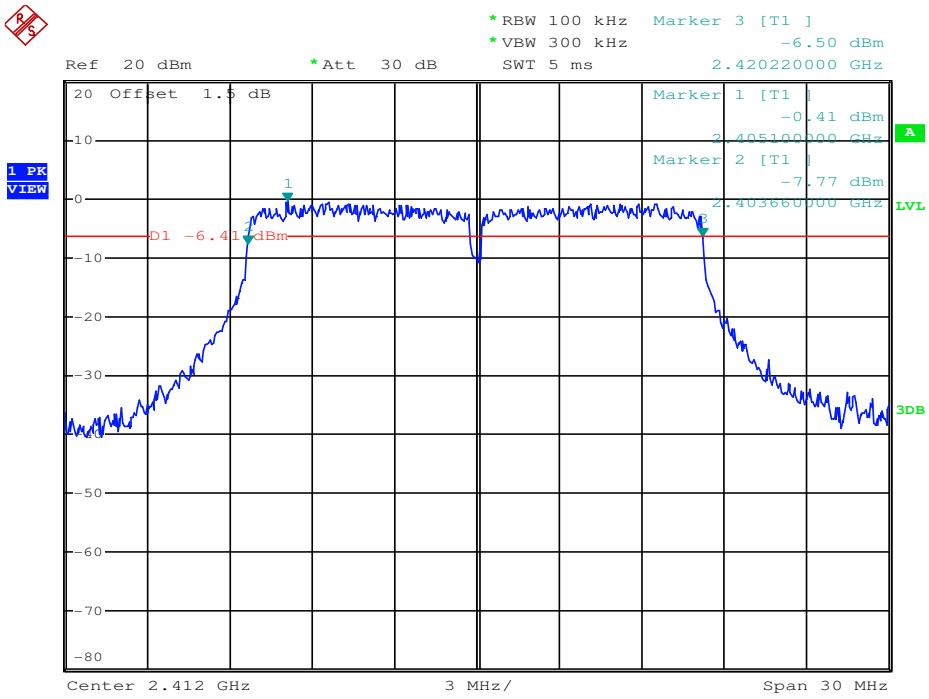
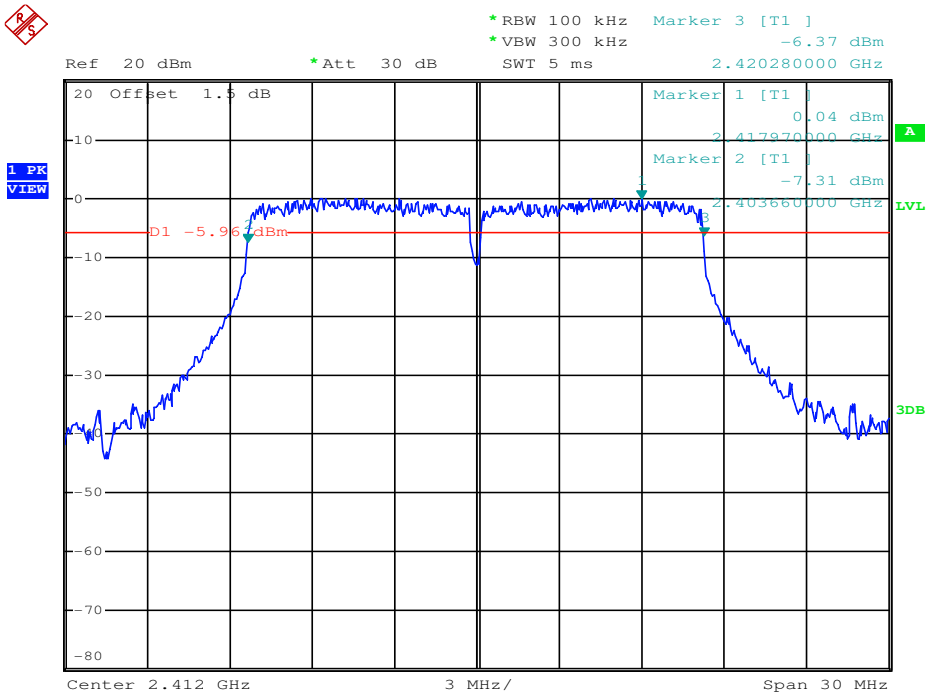
6dB Bandwidth_11G_2412_Ant1



6dB Bandwidth_11G_2412_Ant2



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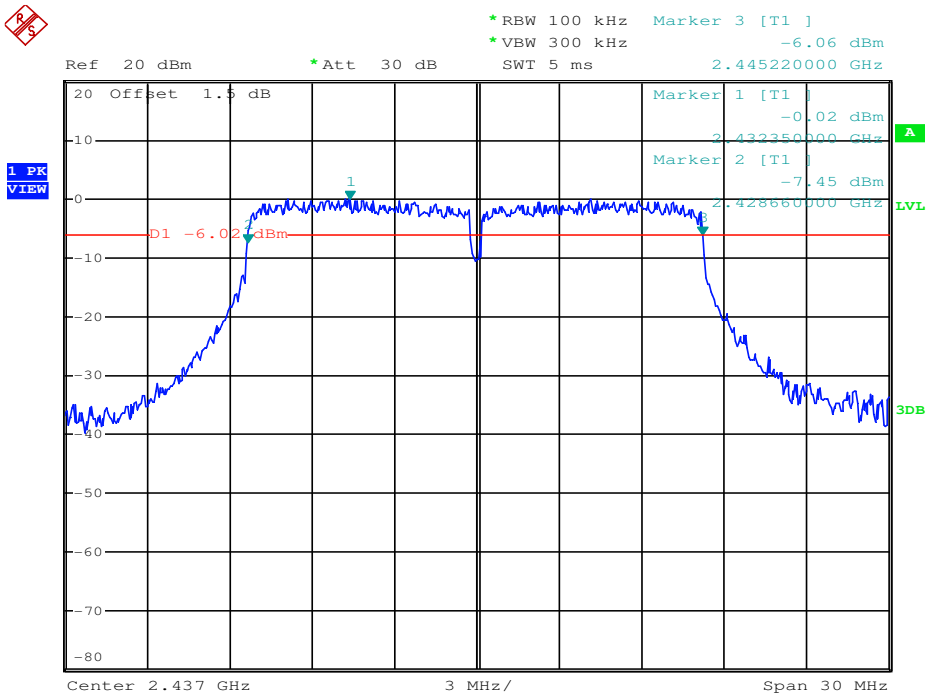
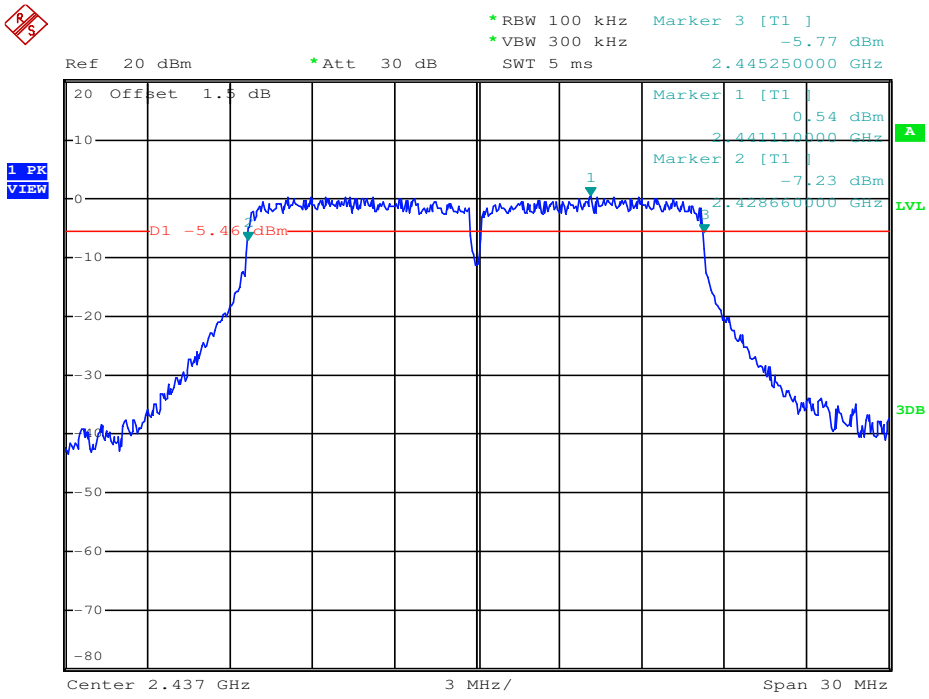
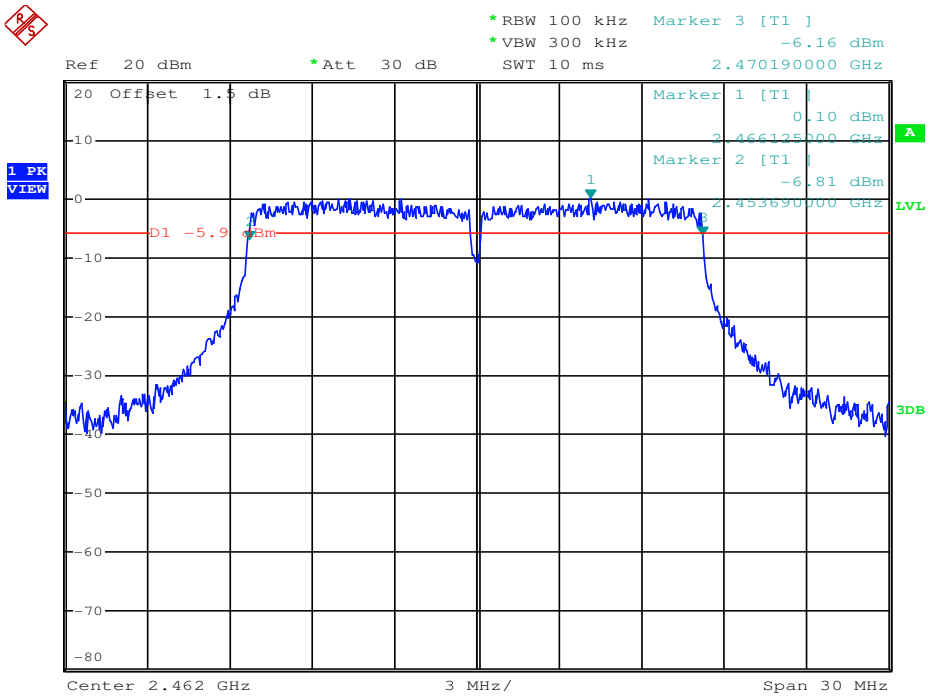
6dB Bandwidth_11G_2437_Ant1



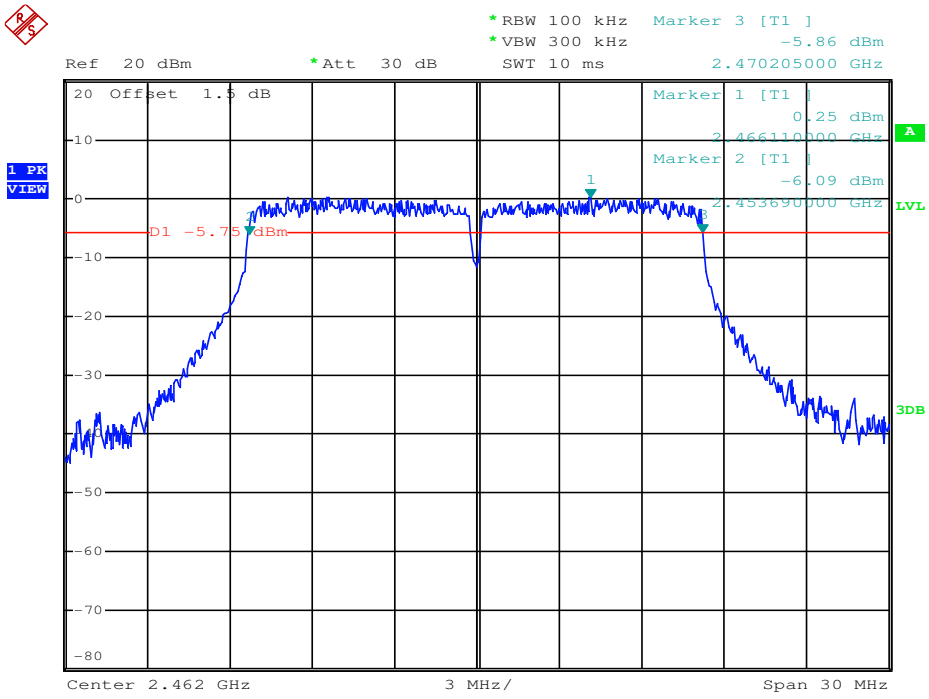
6dB Bandwidth_11G_2437_Ant2



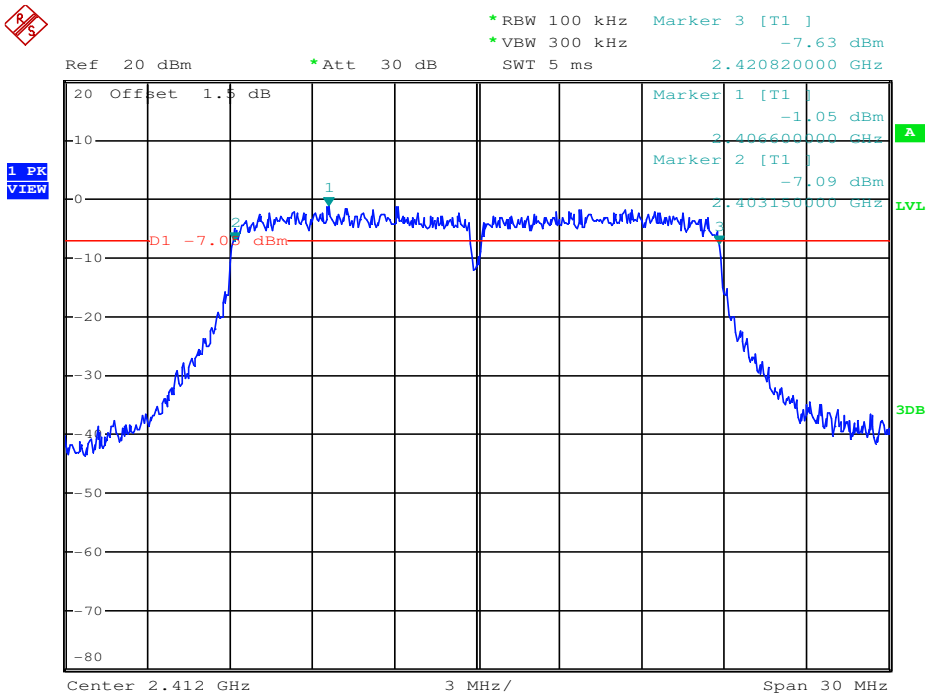
6dB Bandwidth_11G_2462_Ant1



6dB Bandwidth_11G_2462_Ant2



6dB Bandwidth_11N20SISO_2412_Ant1



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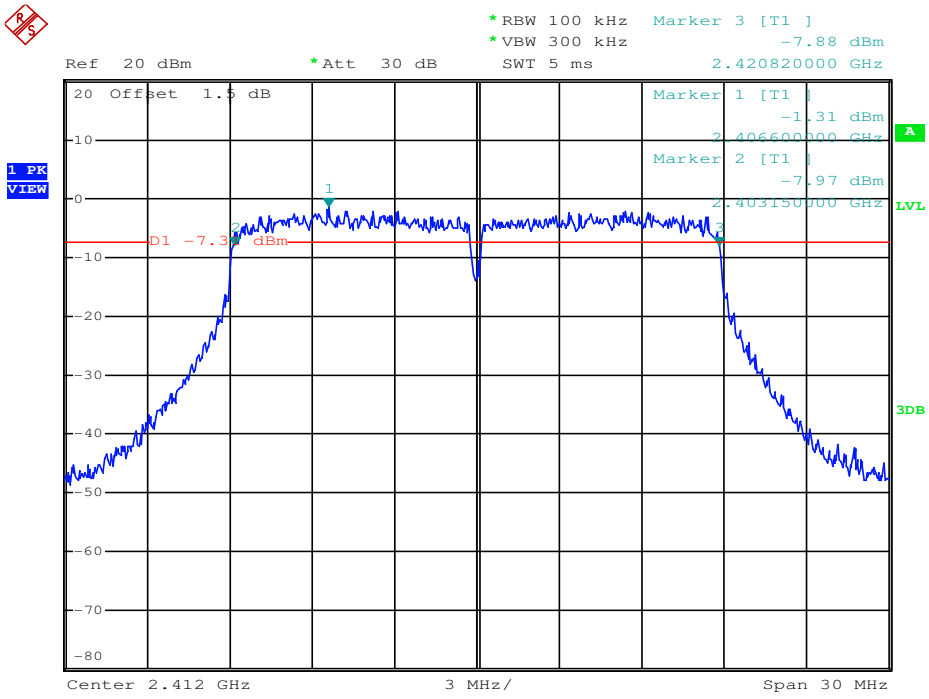
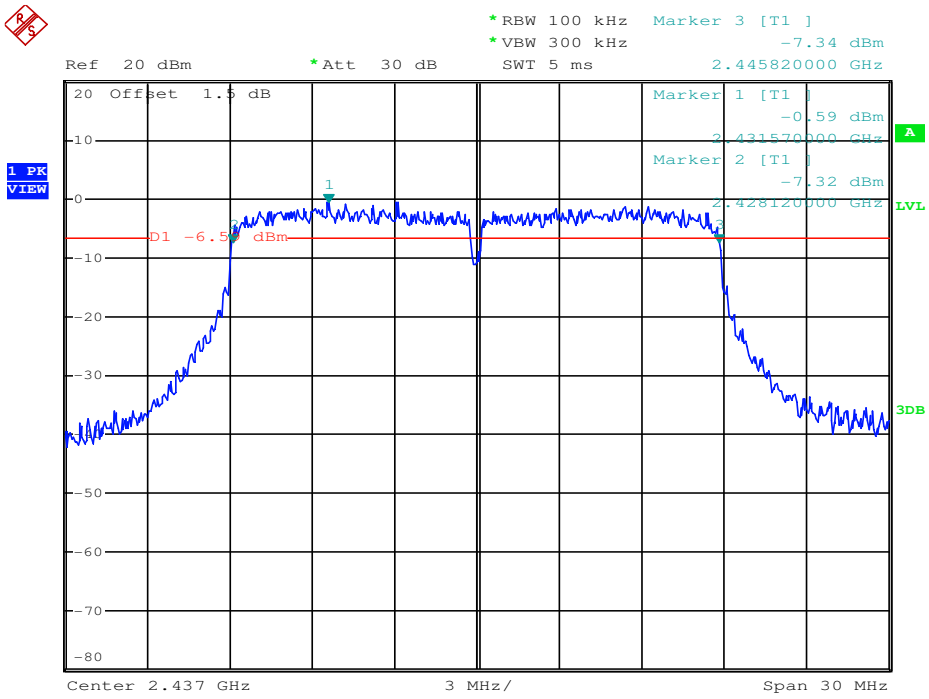
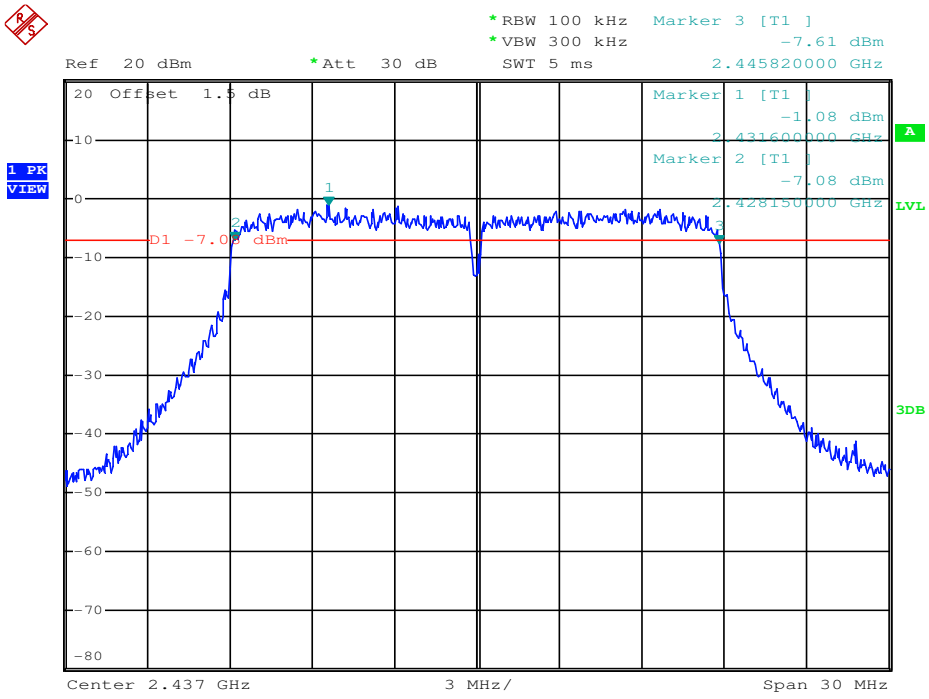


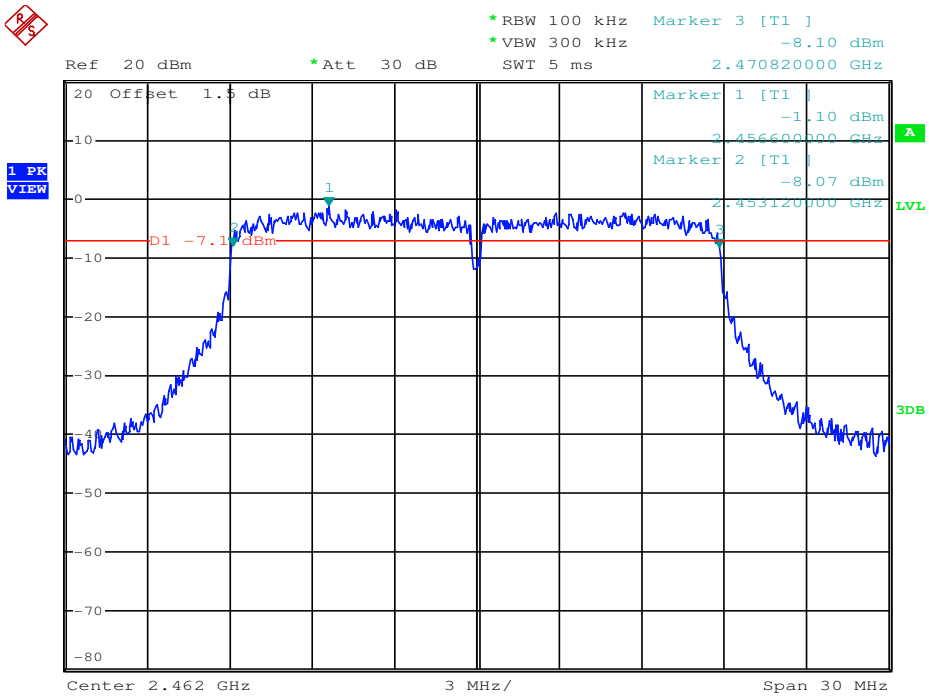
6dB Bandwidth_11N20SISO_2437_Ant1



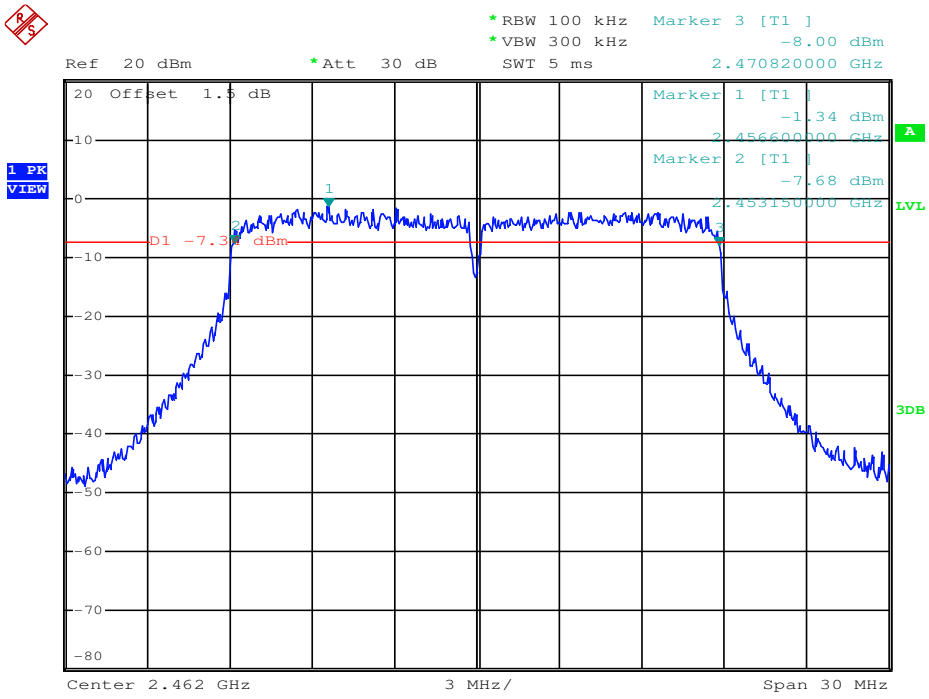
6dB Bandwidth_11N20SISO_2437_Ant2



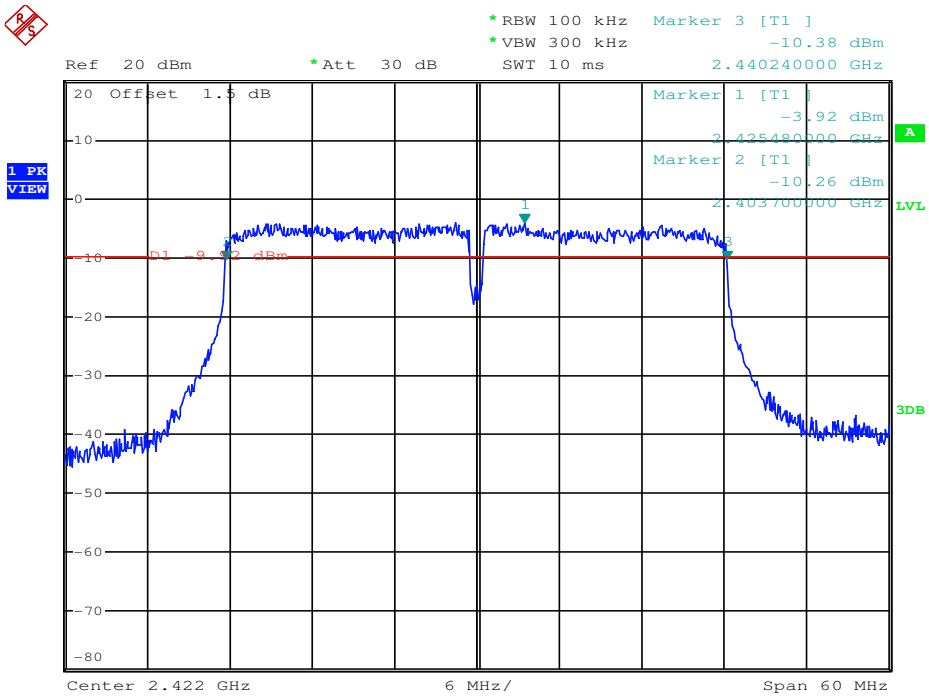
6dB Bandwidth_11N20SISO_2462_Ant1



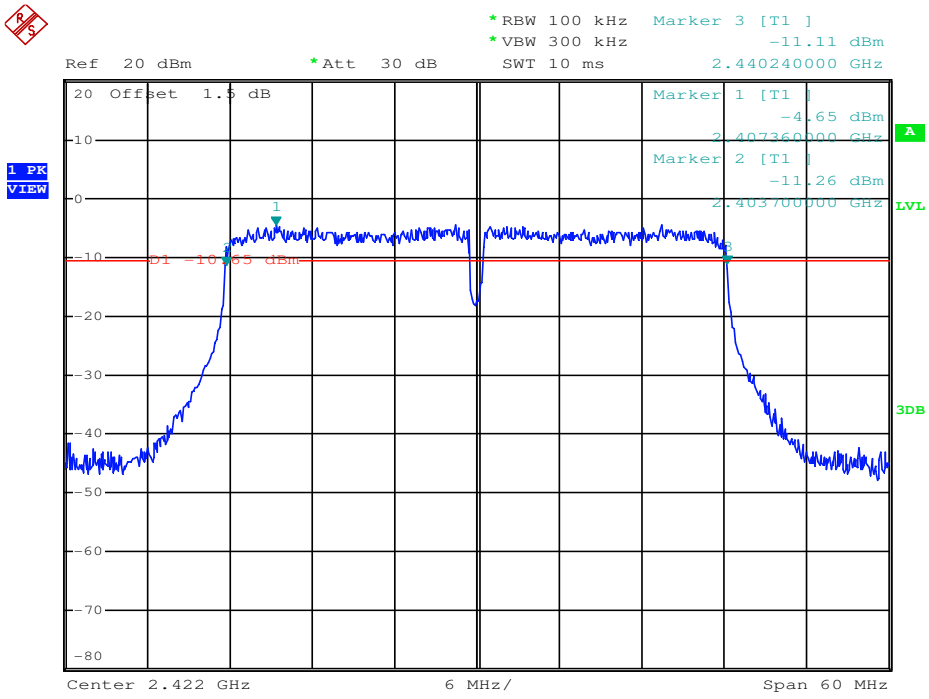
6dB Bandwidth_11N20SISO_2462_Ant2



6dB Bandwidth_11N40SISO_2422_Ant1



6dB Bandwidth_11N40SISO_2422_Ant2



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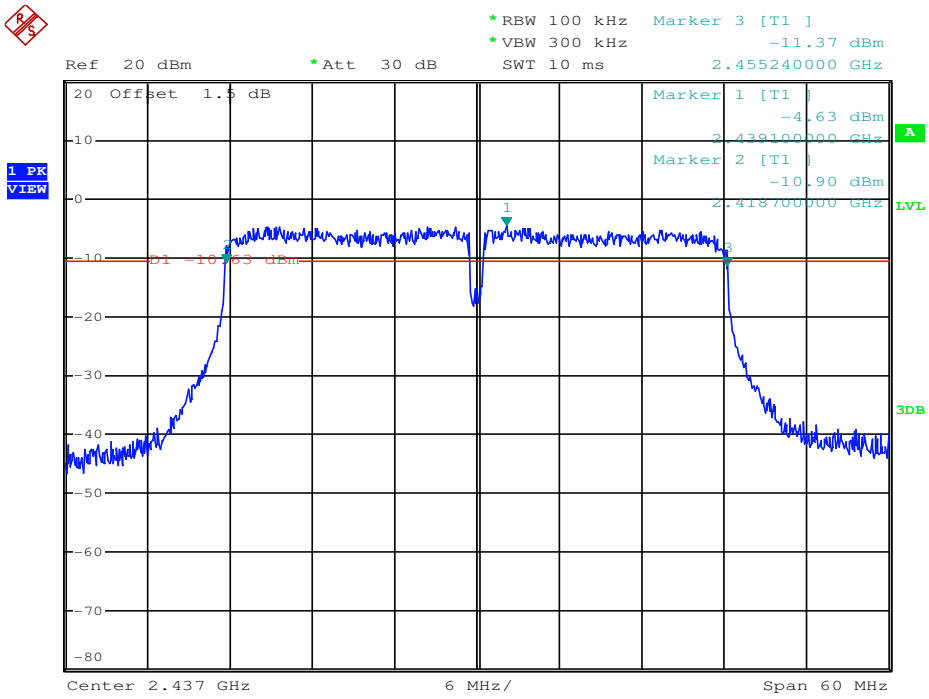
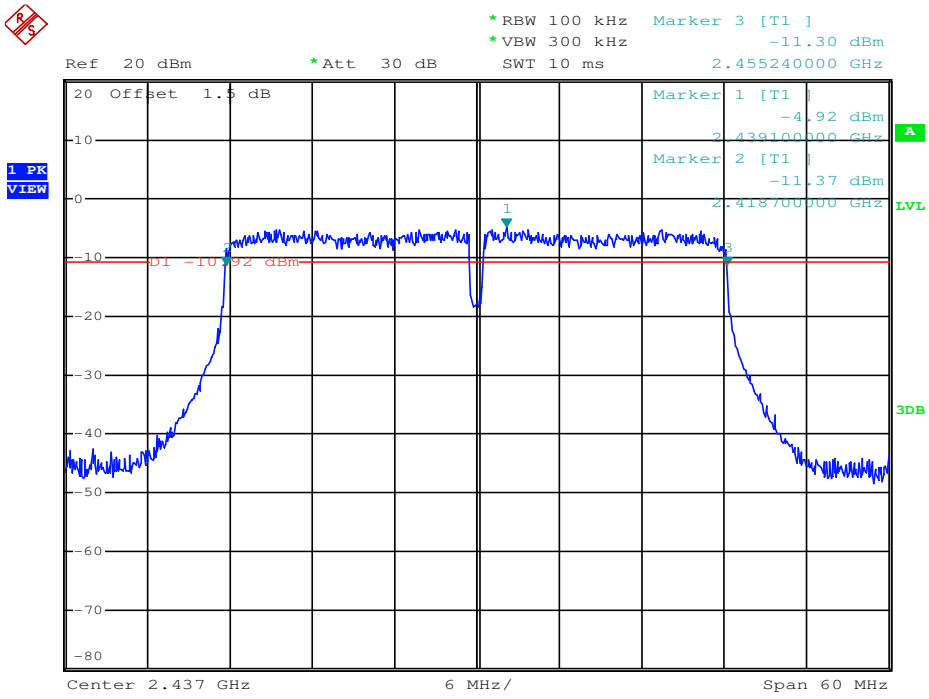
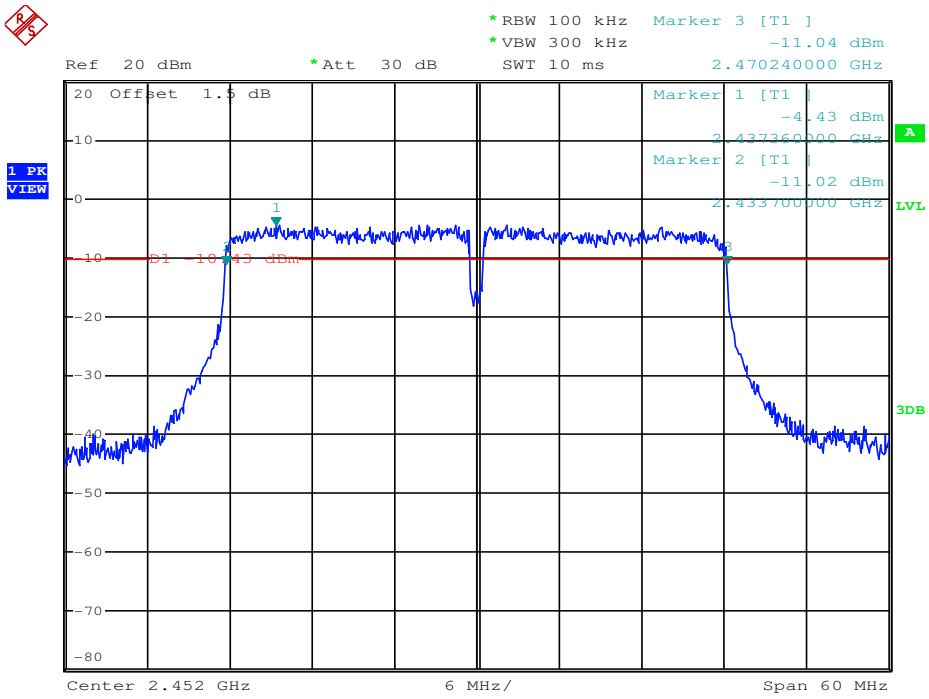
6dB Bandwidth_11N40SISO_2437_Ant1



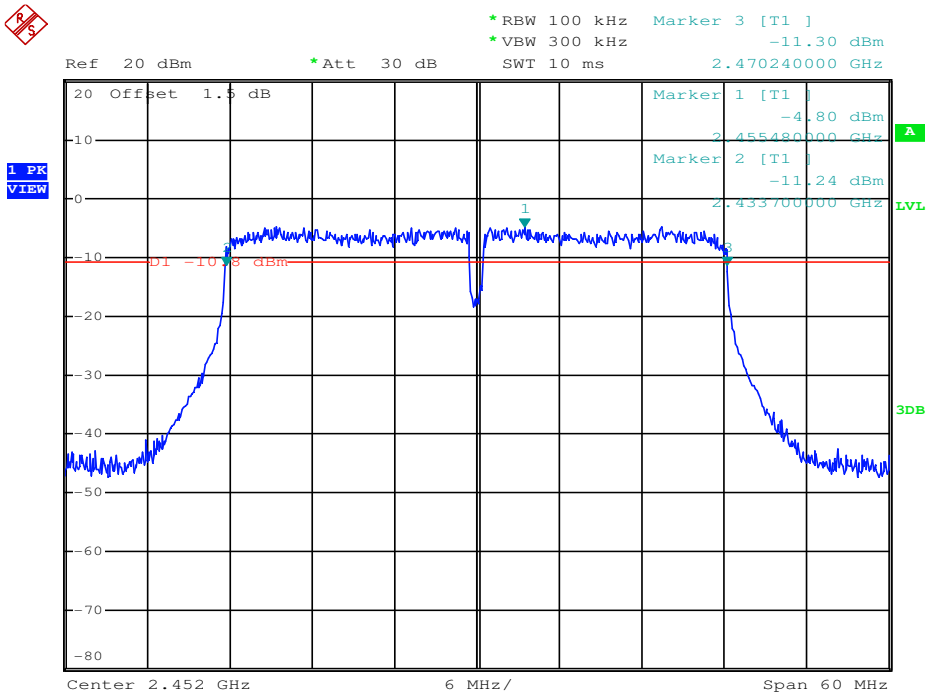
6dB Bandwidth_11N40SISO_2437_Ant2



6dB Bandwidth_11N40SISO_2452_Ant1



6dB Bandwidth_11N40SISO_2452_Ant2



2.Maximum peak conducted output power

Test mode:	Test Channel	Ant	Power[dBm]	Limit[dBm]	Verdict
11B	2412	Ant1	13.62	<30	PASS
11B	2412	Ant2	13.69	<30	PASS
11B	2437	Ant1	13.88	<30	PASS
11B	2437	Ant2	13.18	<30	PASS
11B	2462	Ant1	13.36	<30	PASS
11B	2462	Ant2	14.01	<30	PASS
11G	2412	Ant1	14.05	<30	PASS
11G	2412	Ant2	13.95	<30	PASS
11G	2437	Ant1	13.67	<30	PASS
11G	2437	Ant2	13.72	<30	PASS
11G	2462	Ant1	13.51	<30	PASS
11G	2462	Ant2	14.03	<30	PASS
11N20SISO	2412	Ant1	12.03	<30	PASS
11N20SISO	2412	Ant2	11.62	<30	PASS
11N20SISO	2437	Ant1	11.85	<30	PASS
11N20SISO	2437	Ant2	11.41	<30	PASS
11N20SISO	2462	Ant1	11.52	<30	PASS
11N20SISO	2462	Ant2	11.71	<30	PASS
11N40SISO	2422	Ant1	12.02	<30	PASS
11N40SISO	2422	Ant2	11.51	<30	PASS
11N40SISO	2437	Ant1	11.37	<30	PASS
11N40SISO	2437	Ant2	11.95	<30	PASS
11N40SISO	2452	Ant1	11.52	<30	PASS
11N40SISO	2452	Ant2	11.37	<30	PASS

MIMO:

Test mode	Test Channel	Ant	Power[dBm]	Limit[dBm]	Verdict
11N20MIMO	2412	Ant1+2	**14.84**	<28.06	PASS
11N20MIMO	2437	Ant1+2	14.64	<28.06	PASS
11N20MIMO	2462	Ant1+2	14.63	<28.06	PASS
11N40MIMO	2422	Ant1+2	14.78	<28.06	PASS
11N40MIMO	2437	Ant1+2	14.68	<28.06	PASS
11N40MIMO	2452	Ant1+2	14.46	<28.06	PASS

Note: Directional gain $=G_{ANT}+10*\log(N_{ANT}/N_{SS})= 4.93+10*\log(2/1)=7.94$dBi.

3.Maximum Peak power spectral density

Test mode:	Test Channel	Ant	PSD[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	2412	Ant1	-13.47	<8.00	PASS
11B	2412	Ant2	-13.4	<8.00	PASS
11B	2437	Ant1	-12.26	<8.00	PASS
11B	2437	Ant2	-12.77	<8.00	PASS
11B	2462	Ant1	-12.74	<8.00	PASS
11B	2462	Ant2	-12.91	<8.00	PASS
11G	2412	Ant1	-15.15	<8.00	PASS
11G	2412	Ant2	-14.25	<8.00	PASS
11G	2437	Ant1	-14.31	<8.00	PASS
11G	2437	Ant2	-13.78	<8.00	PASS
11G	2462	Ant1	-14.27	<8.00	PASS
11G	2462	Ant2	-14.19	<8.00	PASS
11N20SISO	2412	Ant1	-15.53	<8.00	PASS
11N20SISO	2412	Ant2	-14.47	<8.00	PASS
11N20SISO	2437	Ant1	-14.61	<8.00	PASS
11N20SISO	2437	Ant2	-15.8	<8.00	PASS
11N20SISO	2462	Ant1	-15.86	<8.00	PASS
11N20SISO	2462	Ant2	-14.98	<8.00	PASS
11N40SISO	2422	Ant1	-16.63	<8.00	PASS
11N40SISO	2422	Ant2	-17.97	<8.00	PASS
11N40SISO	2437	Ant1	-18.56	<8.00	PASS
11N40SISO	2437	Ant2	-17.13	<8.00	PASS
11N40SISO	2452	Ant1	-17.56	<8.00	PASS
11N40SISO	2452	Ant2	-16.93	<8.00	PASS

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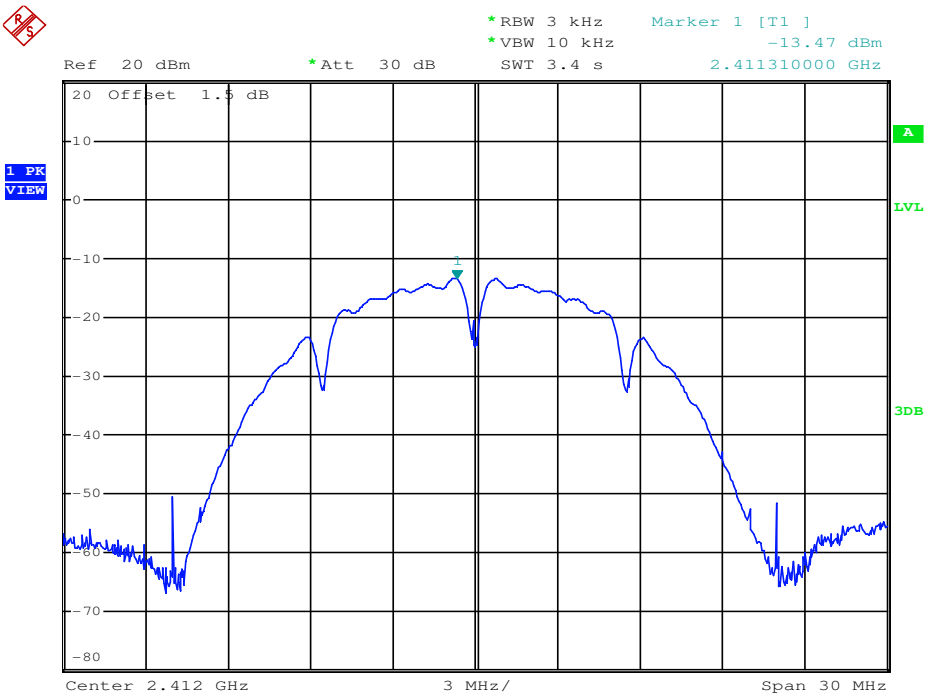
MIMO:

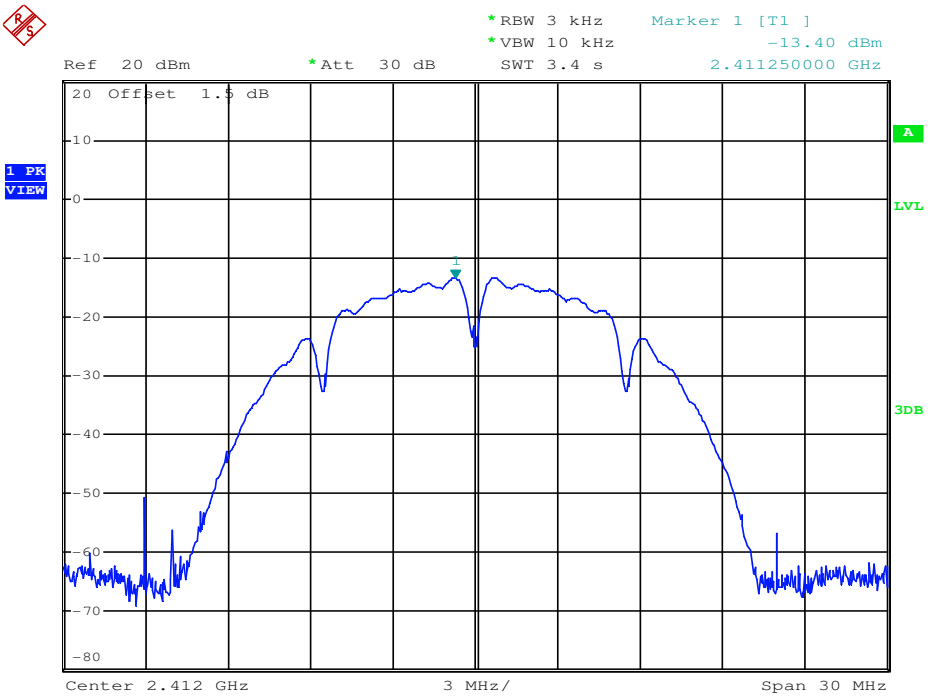
Test mode	Test Channel	Ant	PSD[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11N20MIMO	2412	Ant1+2	-11.97	<6.06	PASS
11N20MIMO	2437	Ant1+2	-12.17	<6.06	PASS
11N20MIMO	2462	Ant1+2	-12.40	<6.06	PASS
11N40MIMO	2422	Ant1+2	-14.26	<6.06	PASS
11N40MIMO	2437	Ant1+2	-14.81	<6.06	PASS
11N40MIMO	2452	Ant1+2	-14.23	<6.06	PASS

Note: Directional gain $=G_{ANT}+10*\log(N_{ANT}/N_{SS})= 4.93+10*\log(2/1)=7.94$dBi.

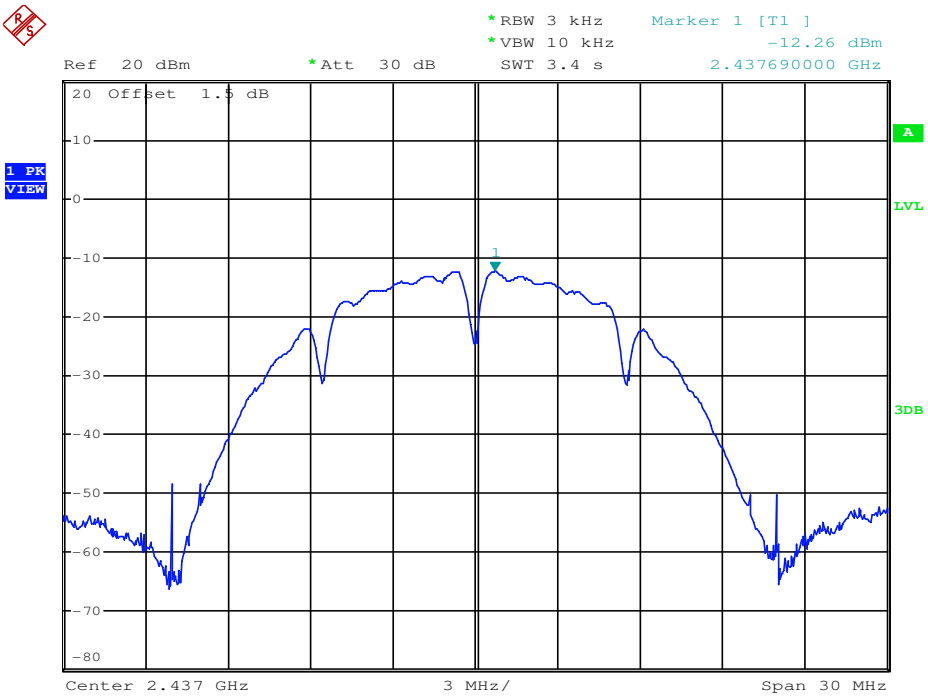
Maximum Peak power spectral density_11B_2412_Ant1



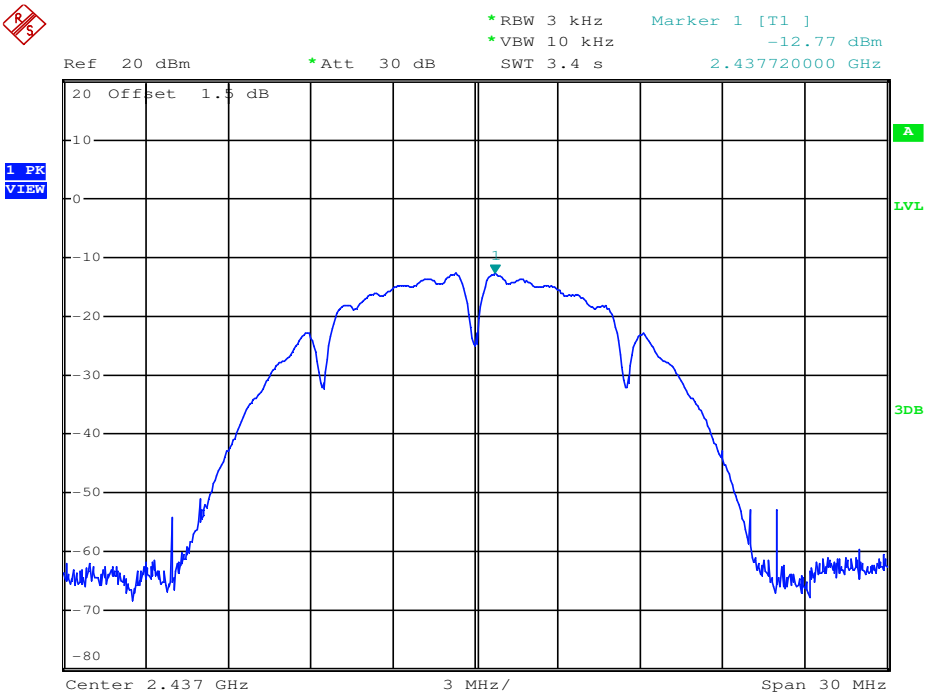
Maximum Peak power spectral density_11B_2412_Ant2



Maximum Peak power spectral density_11B_2437_Ant1



Maximum Peak power spectral density_11B_2437_Ant2



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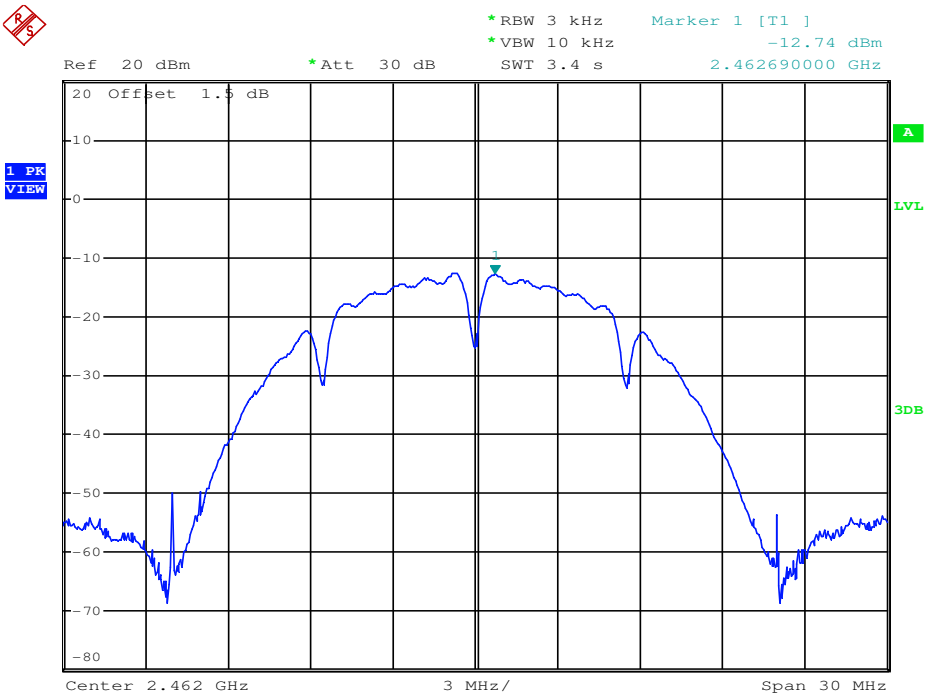
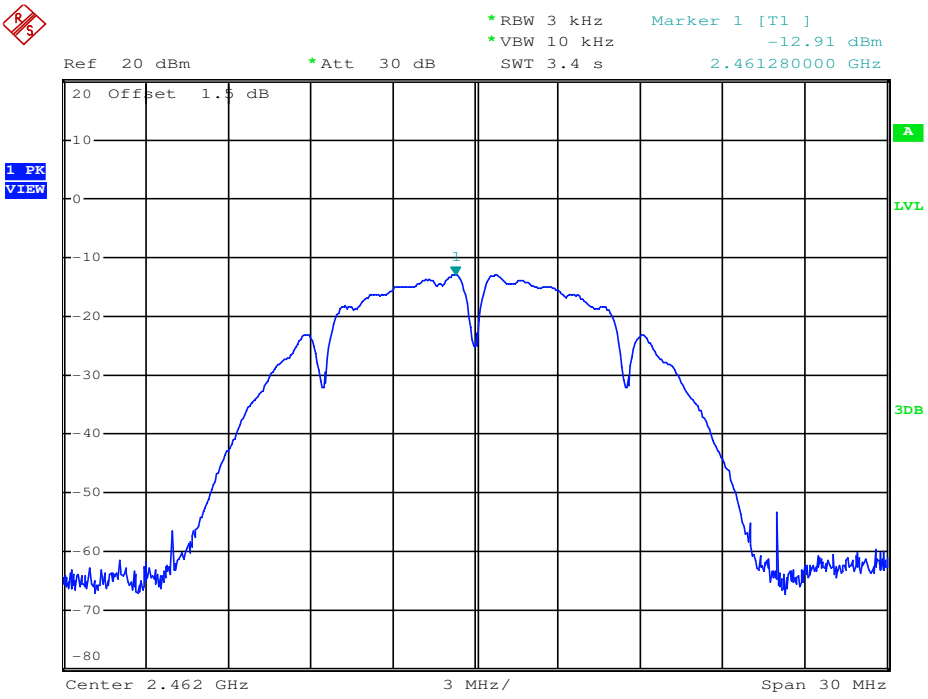
Maximum Peak power spectral density_11B_2462_Ant1



Maximum Peak power spectral density_11B_2462_Ant2



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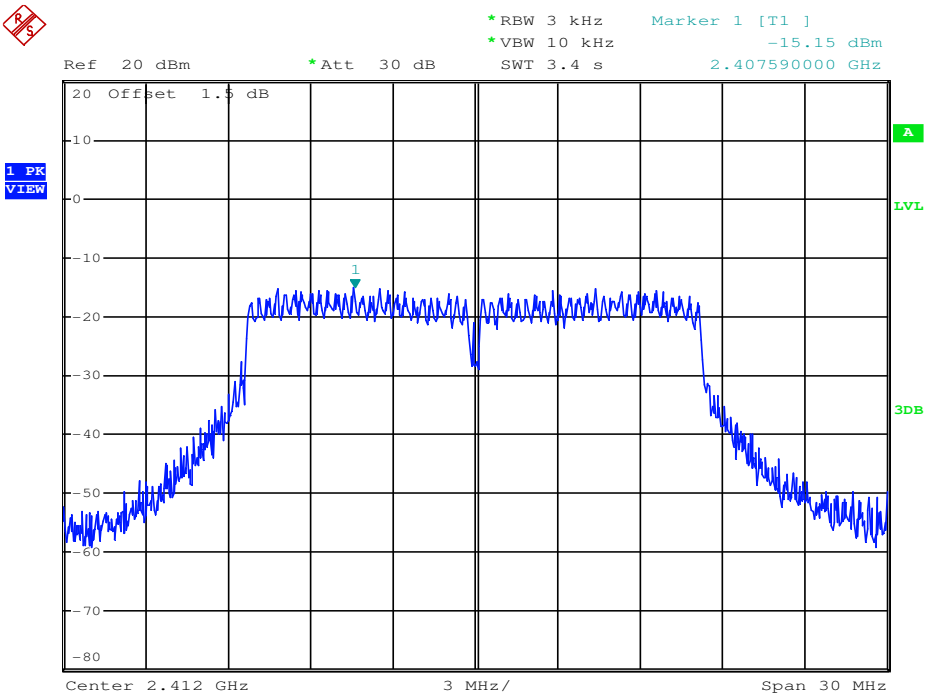
Maximum Peak power spectral density_11G_2412_Ant1



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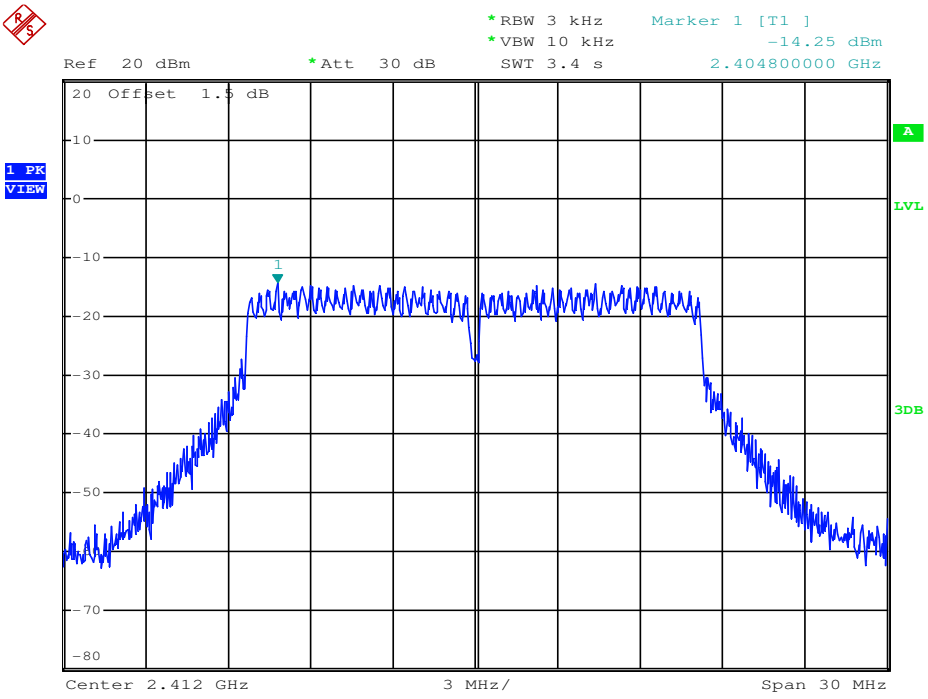

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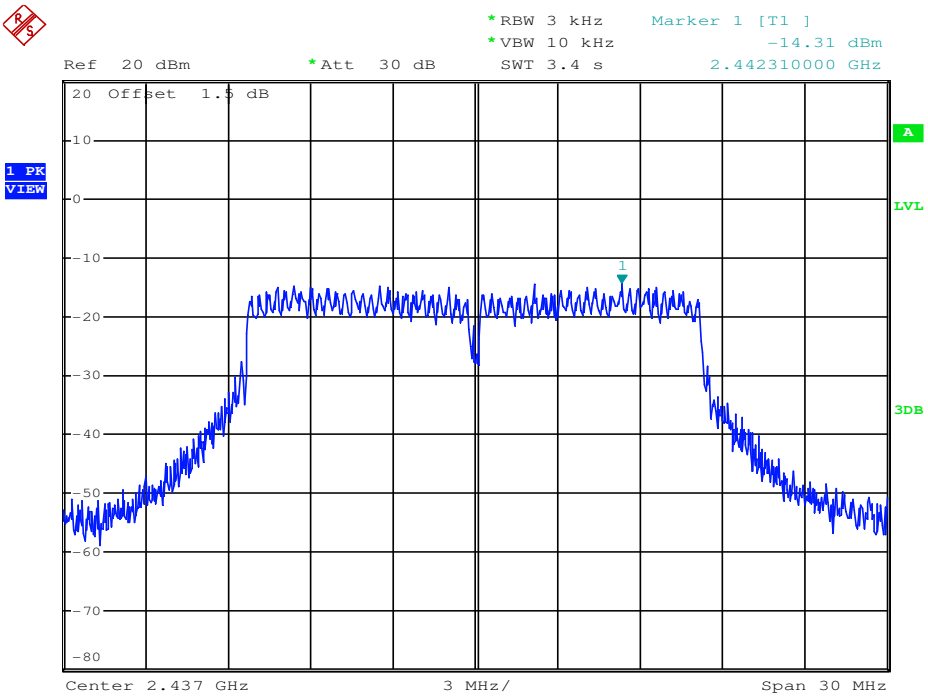
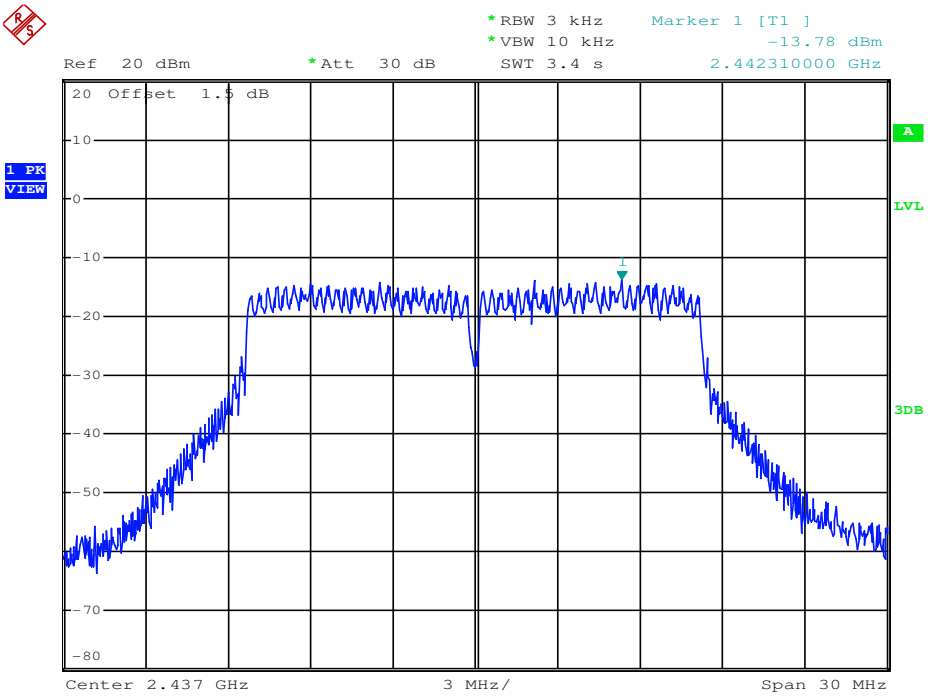
Maximum Peak power spectral density_11G_2437_Ant1



Maximum Peak power spectral density_11G_2437_Ant2



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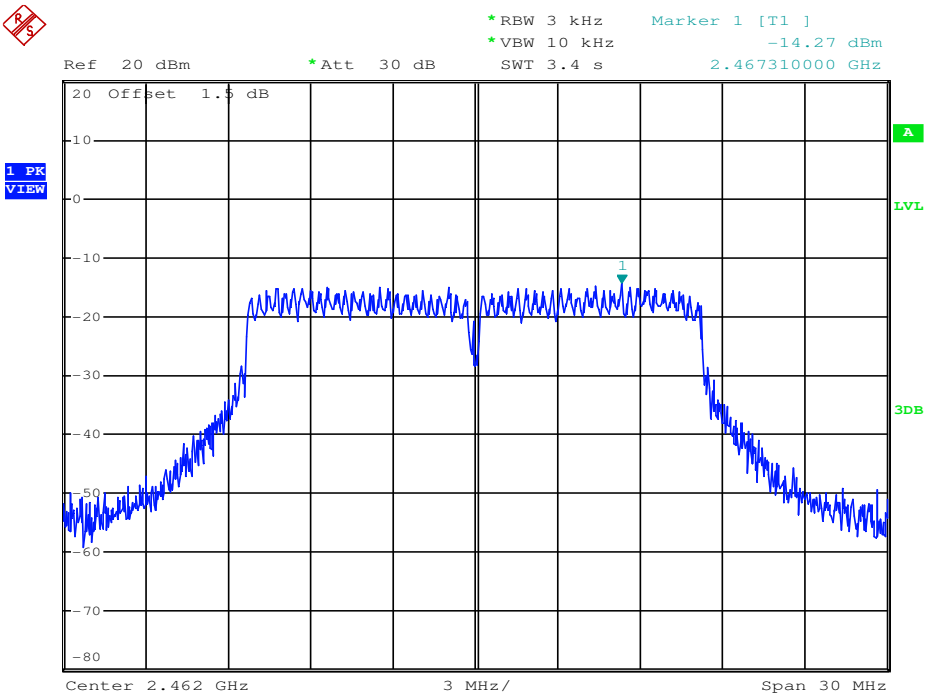
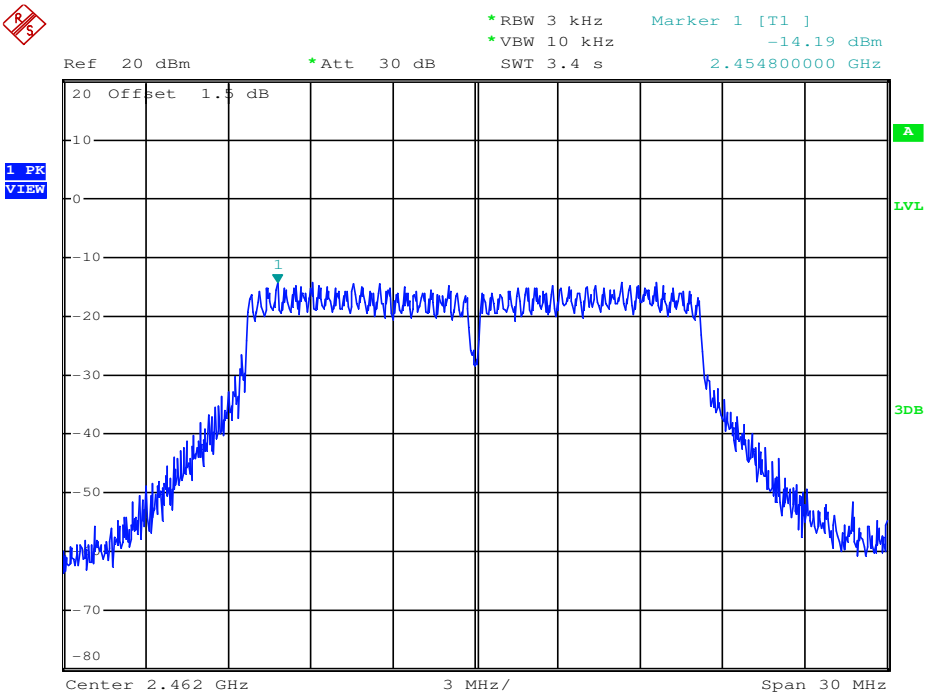
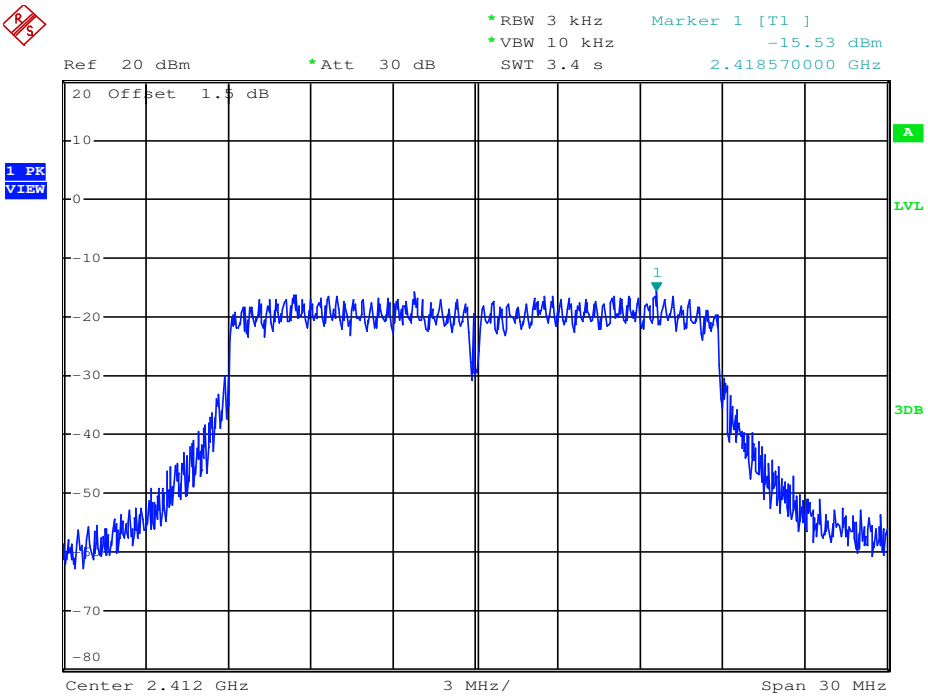
Maximum Peak power spectral density_11G_2462_Ant1



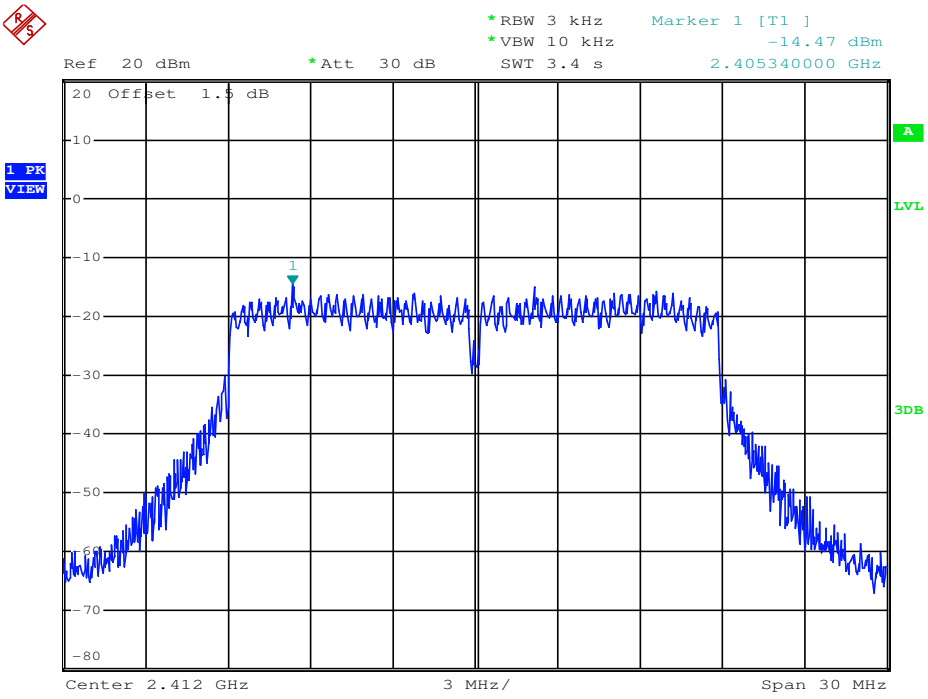
Maximum Peak power spectral density_11G_2462_Ant2



Maximum Peak power spectral density_11N20SISO_2412_Ant1



Maximum Peak power spectral density_11N20SISO_2412_Ant2



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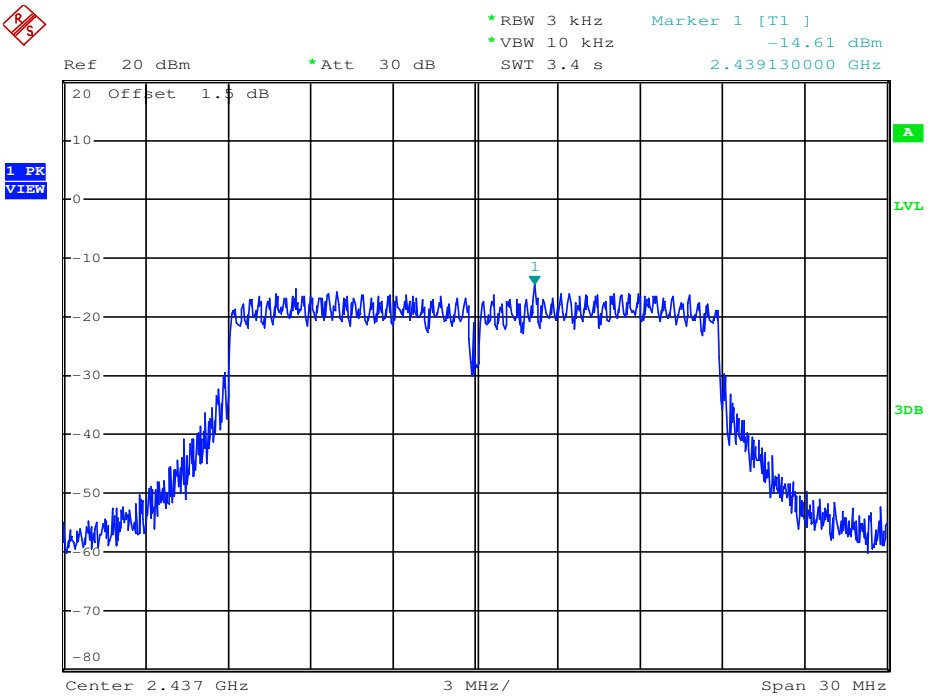
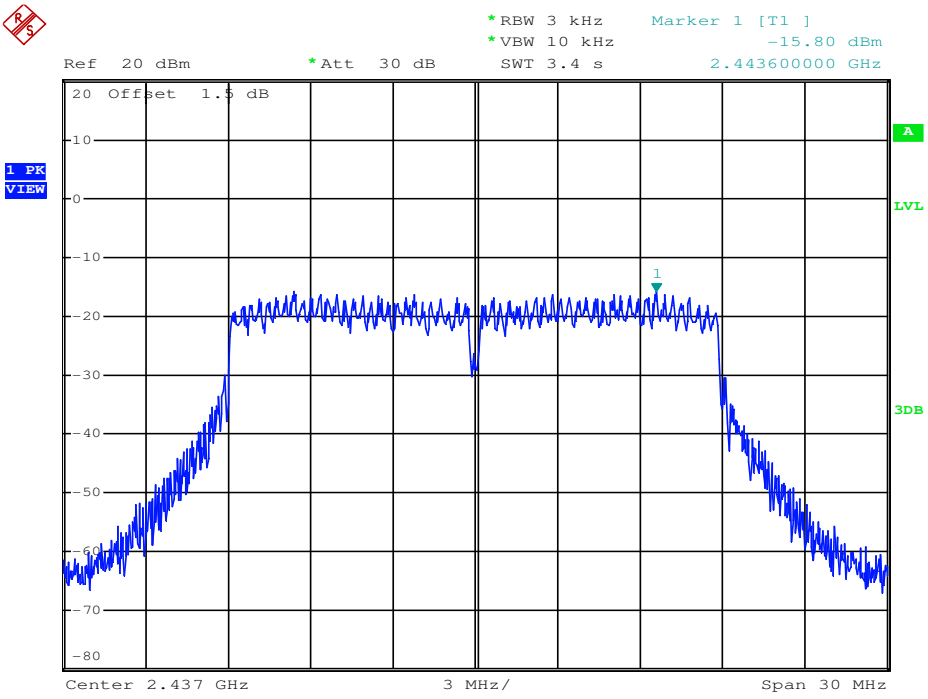
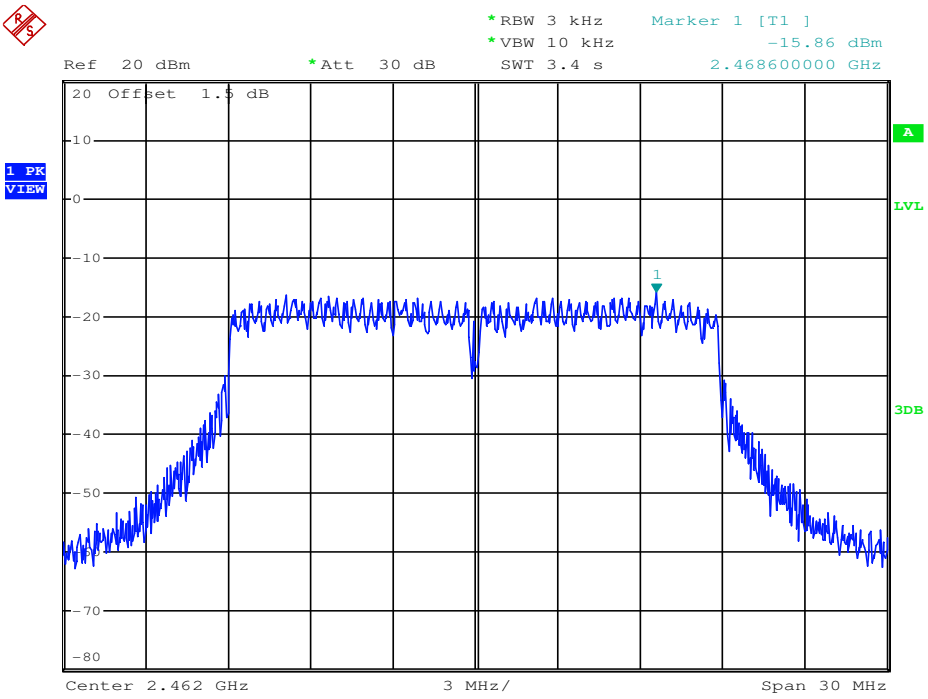
Maximum Peak power spectral density_11N20SISO_2437_Ant1



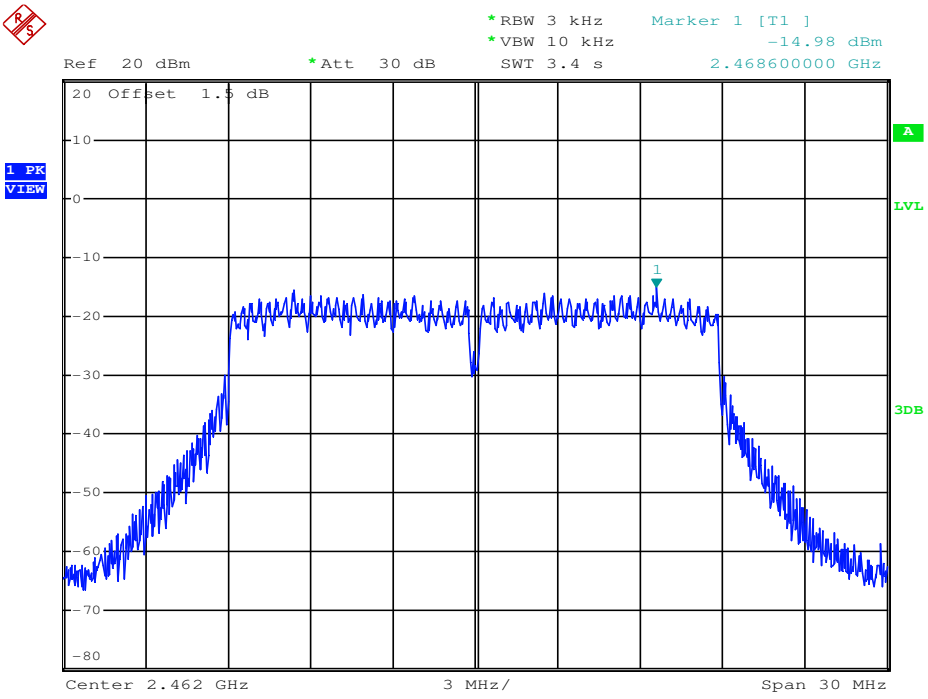
Maximum Peak power spectral density_11N20SISO_2437_Ant2



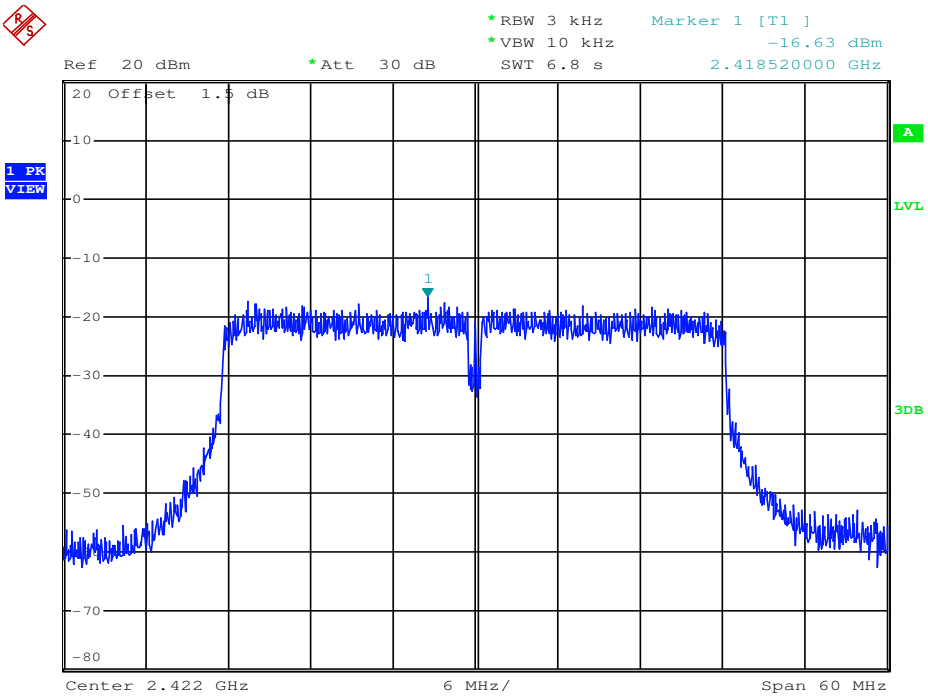
Maximum Peak power spectral density_11N20SISO_2462_Ant1



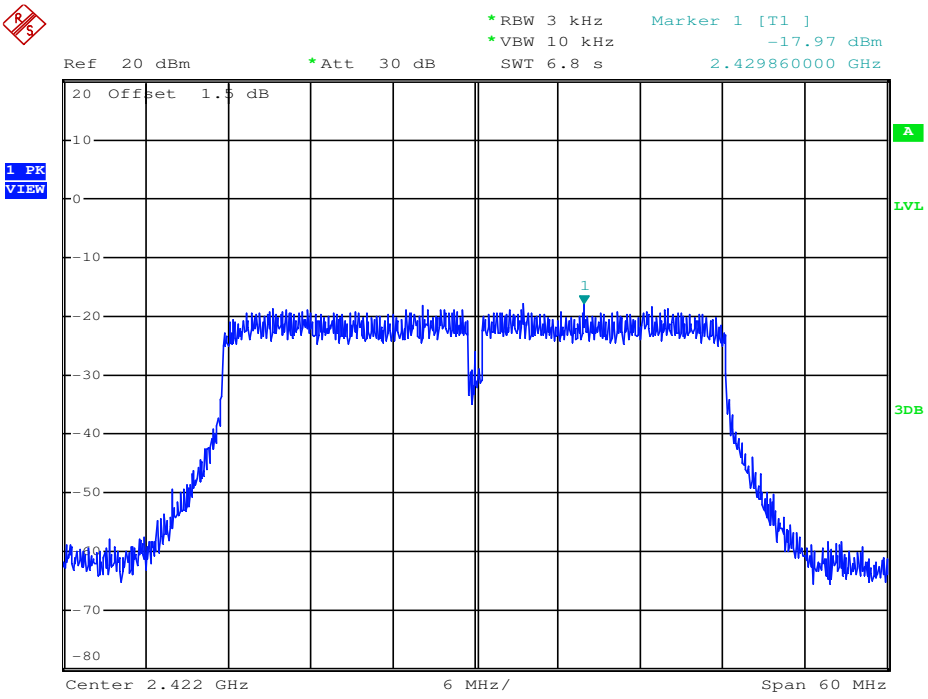
Maximum Peak power spectral density_11N20SISO_2462_Ant2



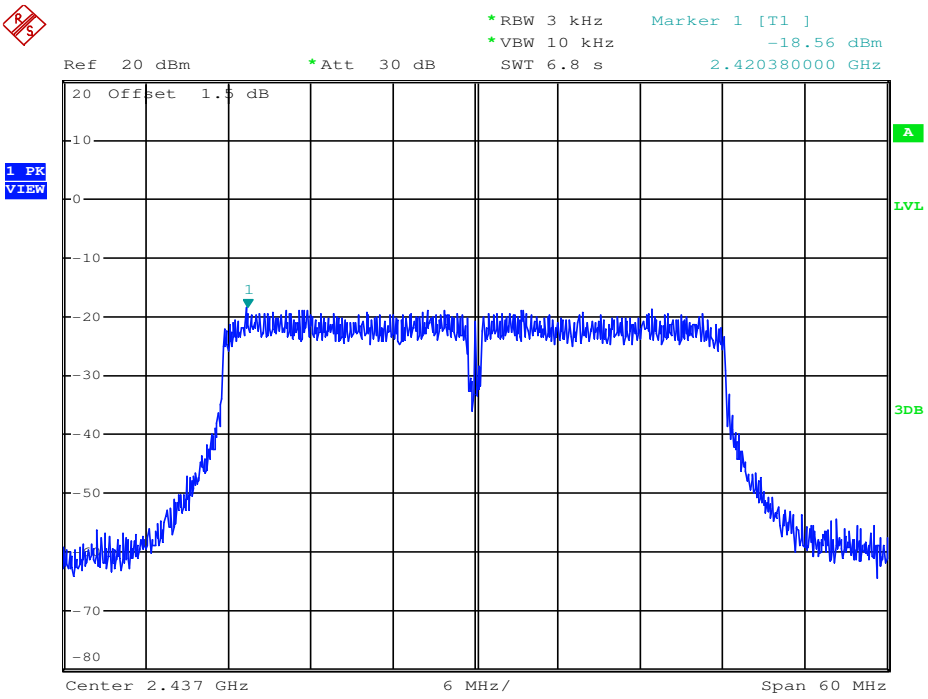
Maximum Peak power spectral density_11N40SISO_2422_Ant1



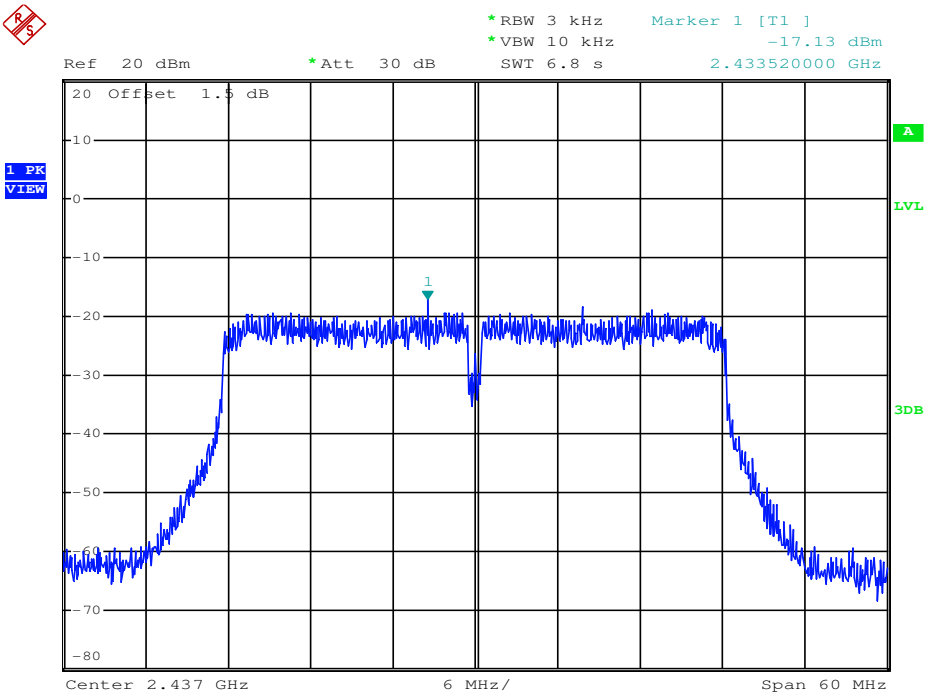
Maximum Peak power spectral density_11N40SISO_2422_Ant2



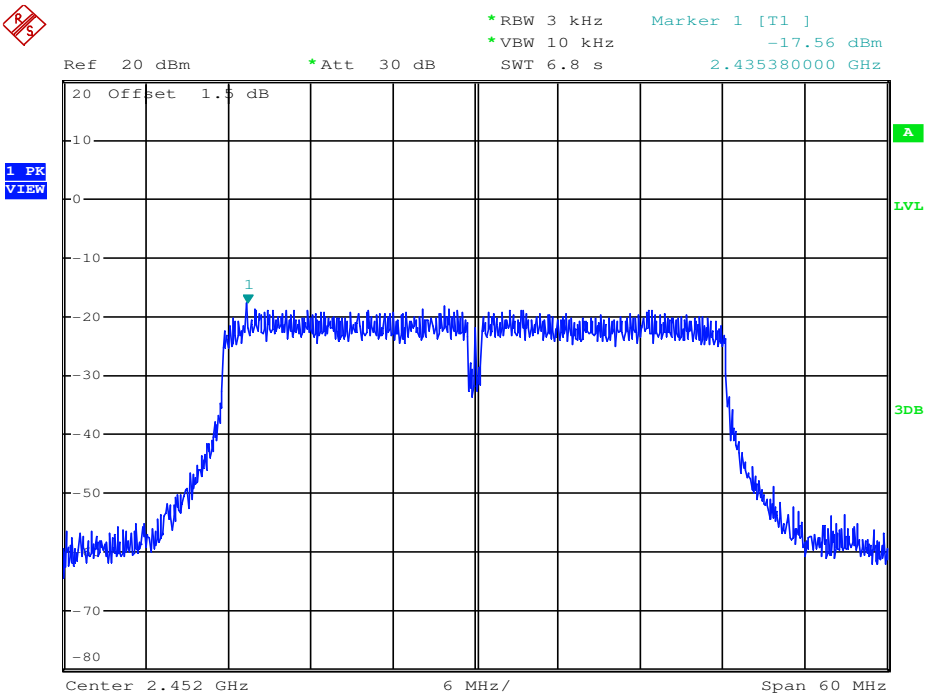
Maximum Peak power spectral density_11N40SISO_2437_Ant1



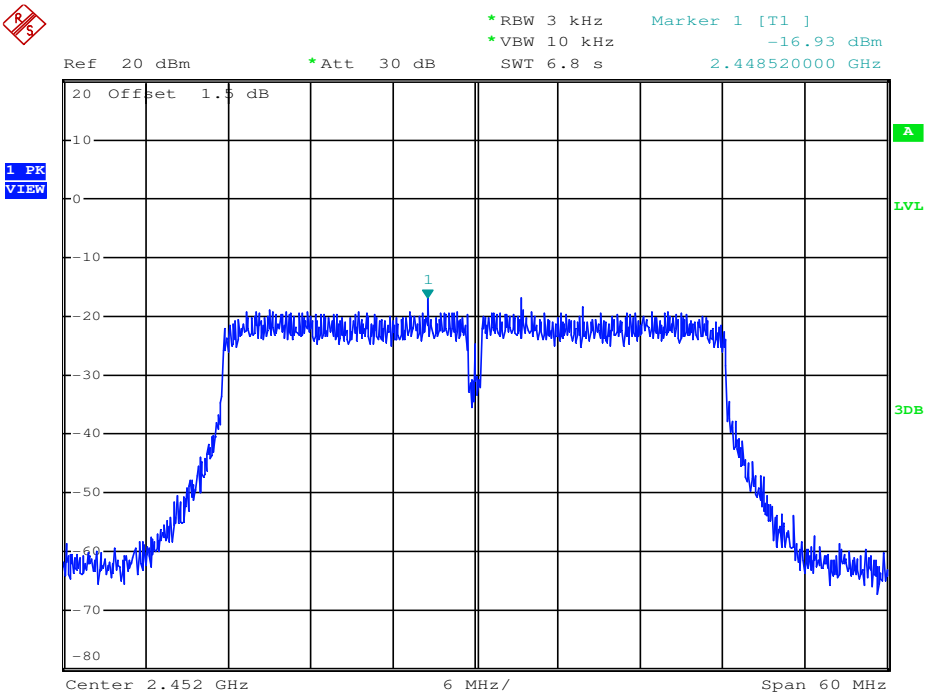
Maximum Peak power spectral density_11N40SISO_2437_Ant2



Maximum Peak power spectral density_11N40SISO_2452_Ant1



Maximum Peak power spectral density_11N40SISO_2452_Ant2



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	6.610	-47.199	<-13.39	PASS
11B	2412	Ant2	6.630	-47.492	<-13.37	PASS
11B	2462	Ant1	7.380	-48.488	<-12.62	PASS
11B	2462	Ant2	7.180	-47.804	<-12.82	PASS
11G	2412	Ant1	-0.410	-47.301	<-20.41	PASS
11G	2412	Ant2	0.010	-44.089	<-19.99	PASS
11G	2462	Ant1	-0.100	-43.867	<-20.1	PASS
11G	2462	Ant2	0.330	-45.028	<-19.67	PASS
11N20SISO	2412	Ant1	-1.220	-46.754	<-21.22	PASS
11N20SISO	2412	Ant2	-1.180	-47.306	<-21.18	PASS
11N20SISO	2462	Ant1	-1.260	-45.265	<-21.26	PASS
11N20SISO	2462	Ant2	-1.250	-47.331	<-21.25	PASS
11N40SISO	2422	Ant1	-3.810	-43.687	<-23.81	PASS
11N40SISO	2422	Ant2	-4.240	-41.997	<-24.24	PASS
11N40SISO	2452	Ant1	-4.550	-40.988	<-24.55	PASS
11N40SISO	2452	Ant2	-4.450	-44.139	<-24.45	PASS

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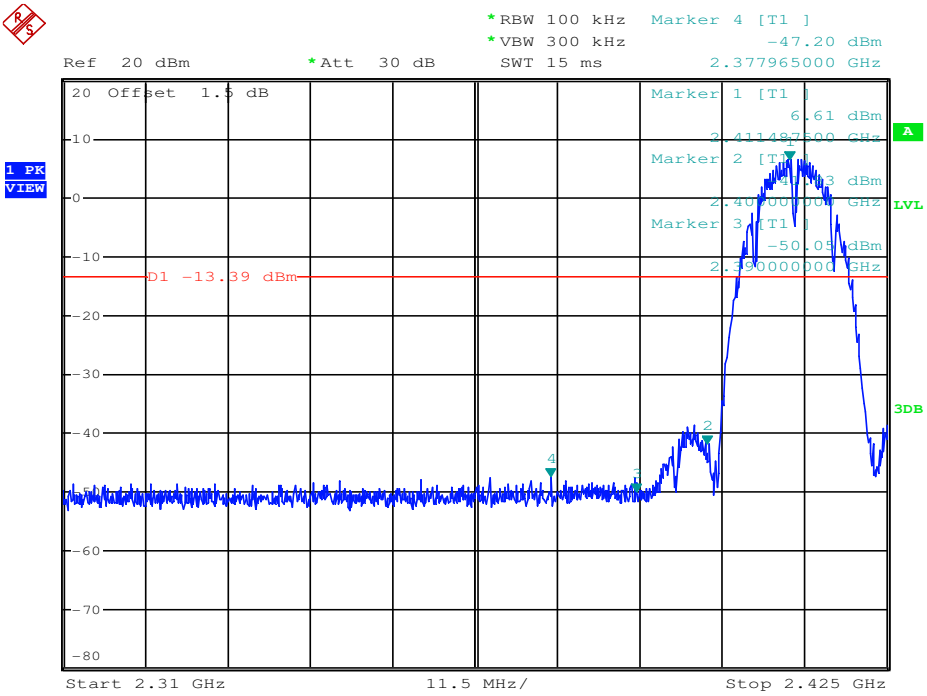
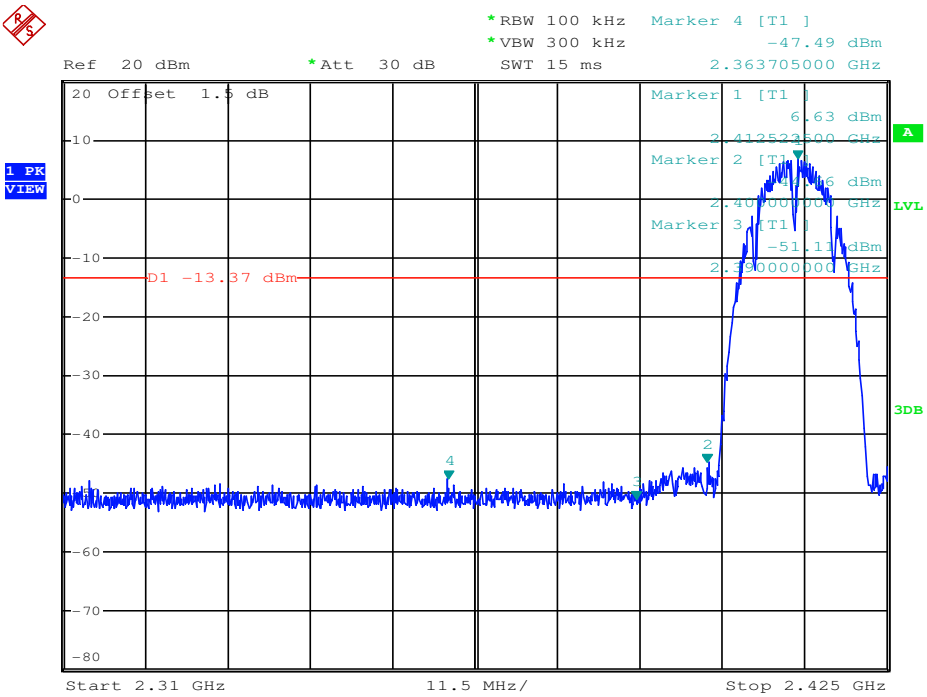
Band-edge for RF Conducted Emissions_11B_2412_Ant1



Band-edge for RF Conducted Emissions_11B_2412_Ant2



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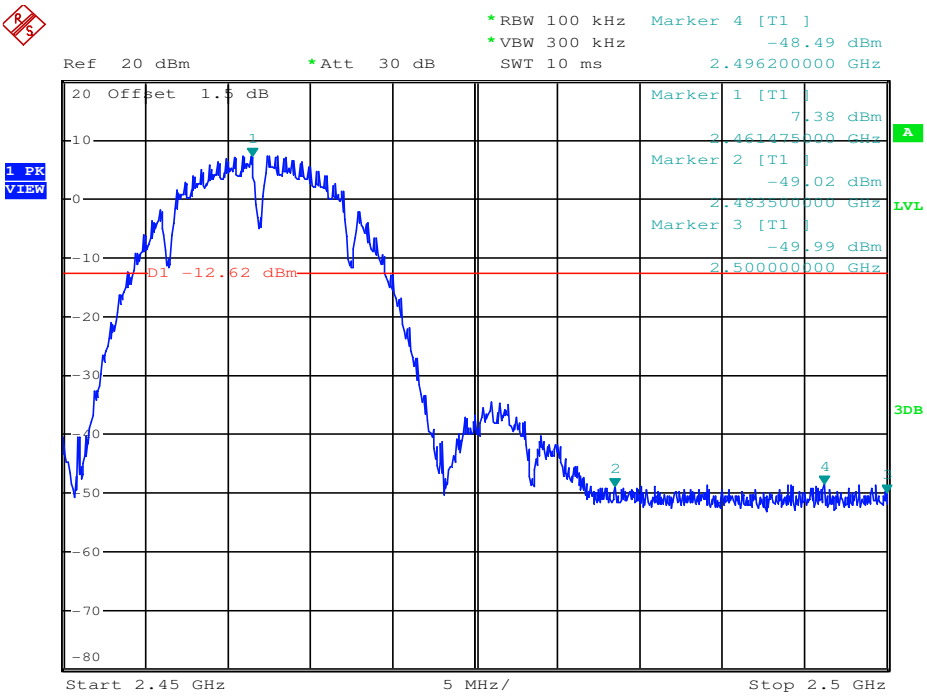
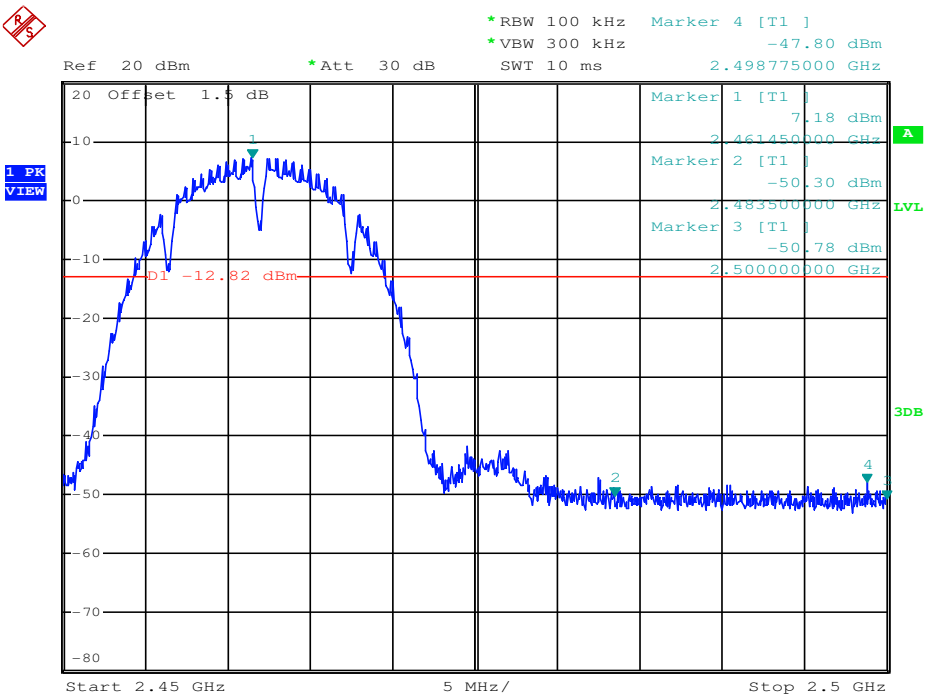
Band-edge for RF Conducted Emissions_11B_2462_Ant1



Band-edge for RF Conducted Emissions_11B_2462_Ant2



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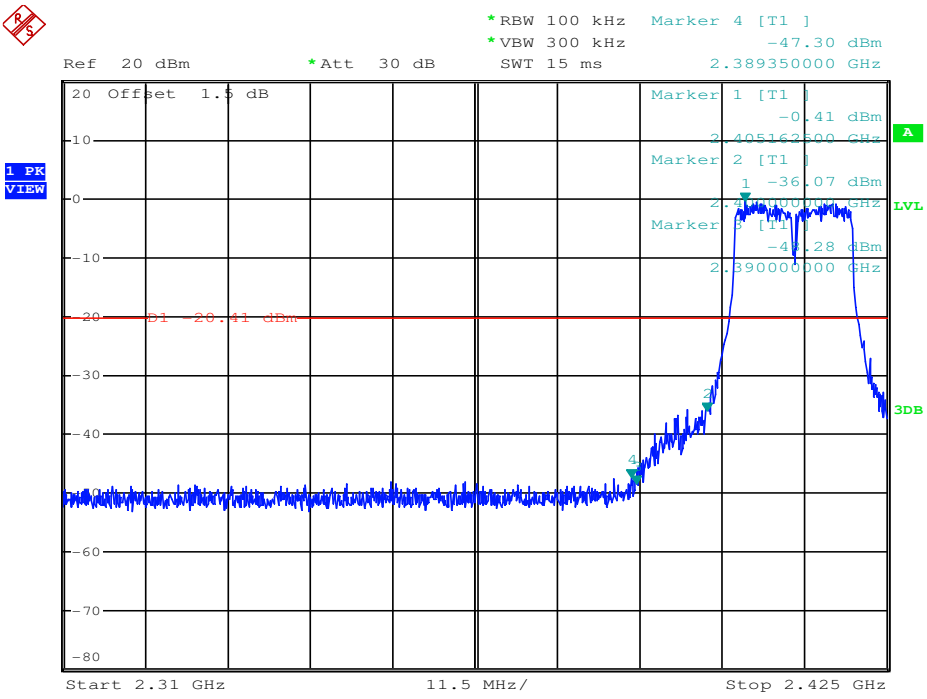
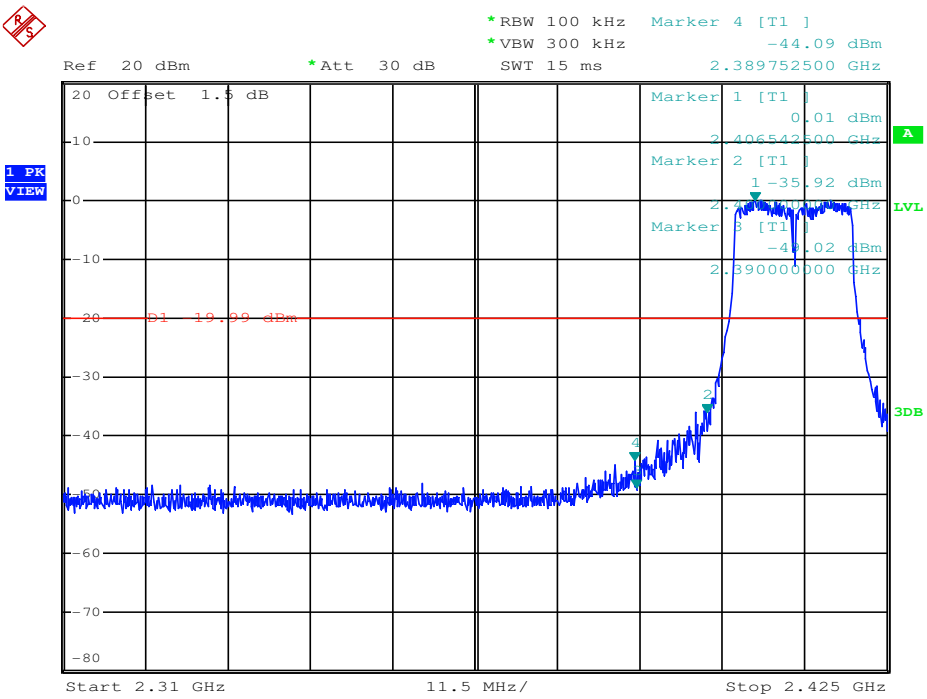
Band-edge for RF Conducted Emissions_11G_2412_Ant1



Band-edge for RF Conducted Emissions_11G_2412_Ant2



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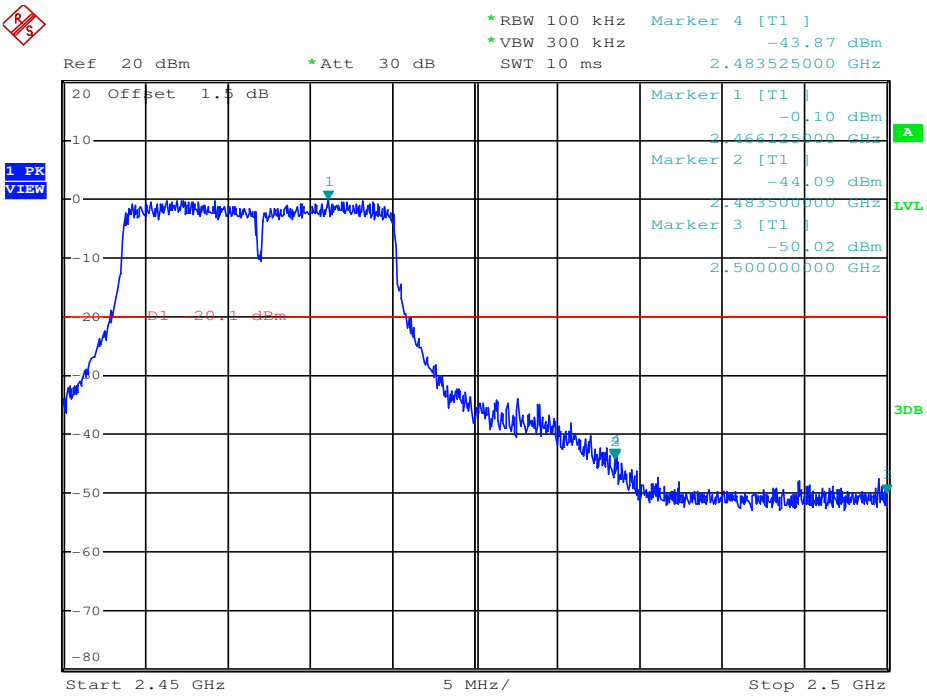
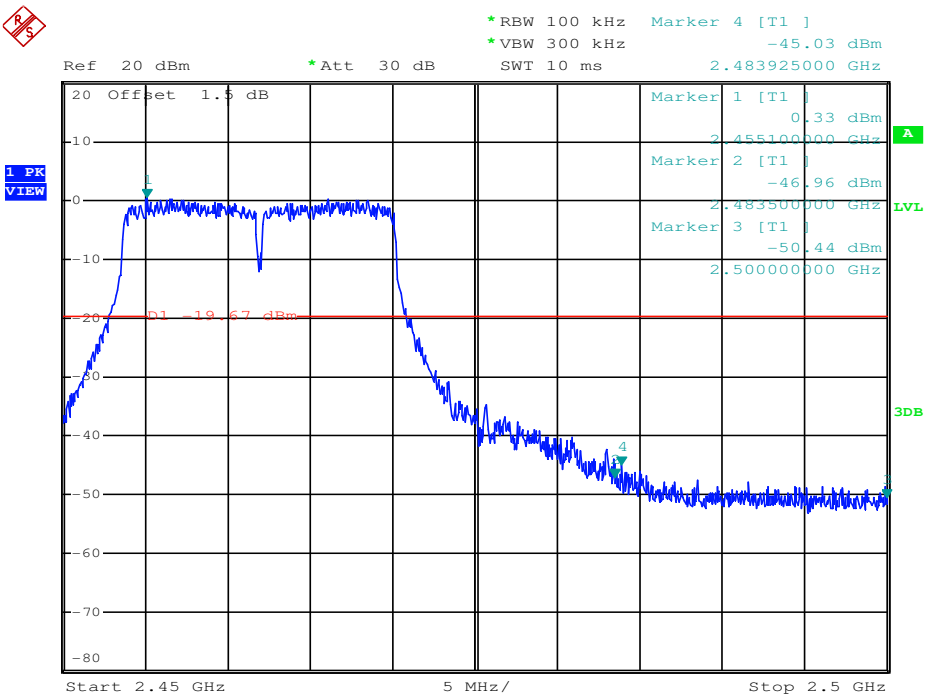
Band-edge for RF Conducted Emissions_11G_2462_Ant1



Band-edge for RF Conducted Emissions_11G_2462_Ant2



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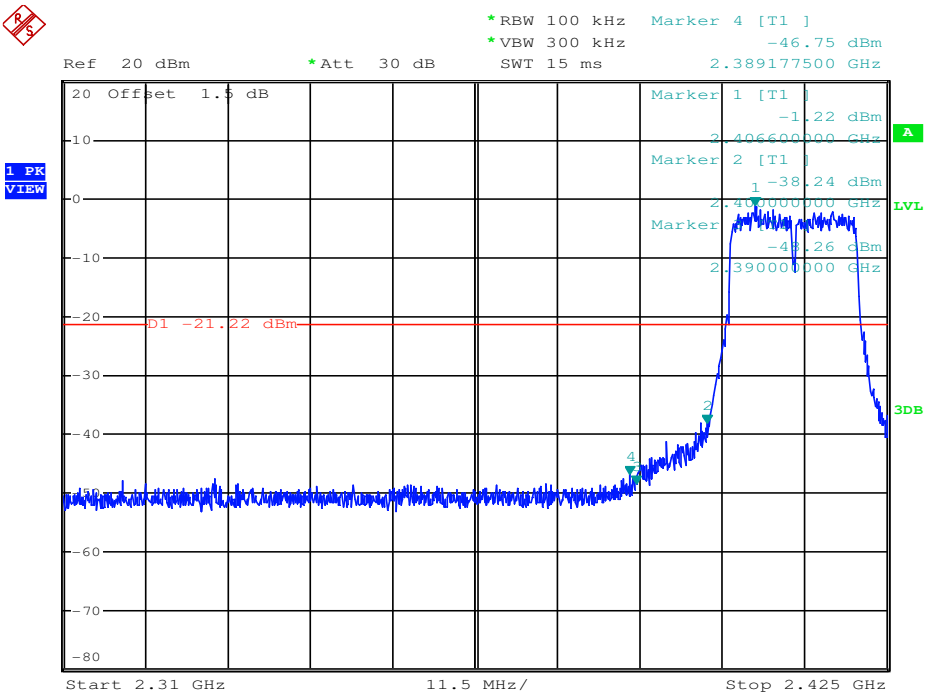
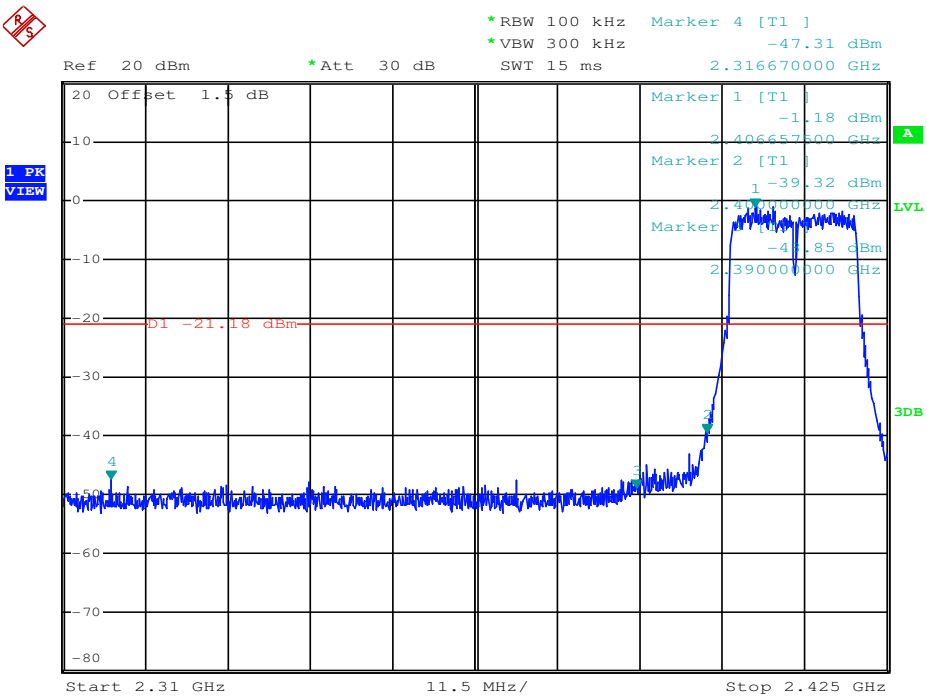
Band-edge for RF Conducted Emissions_11N20SISO_2412_Ant1



Band-edge for RF Conducted Emissions_11N20SISO_2412_Ant2



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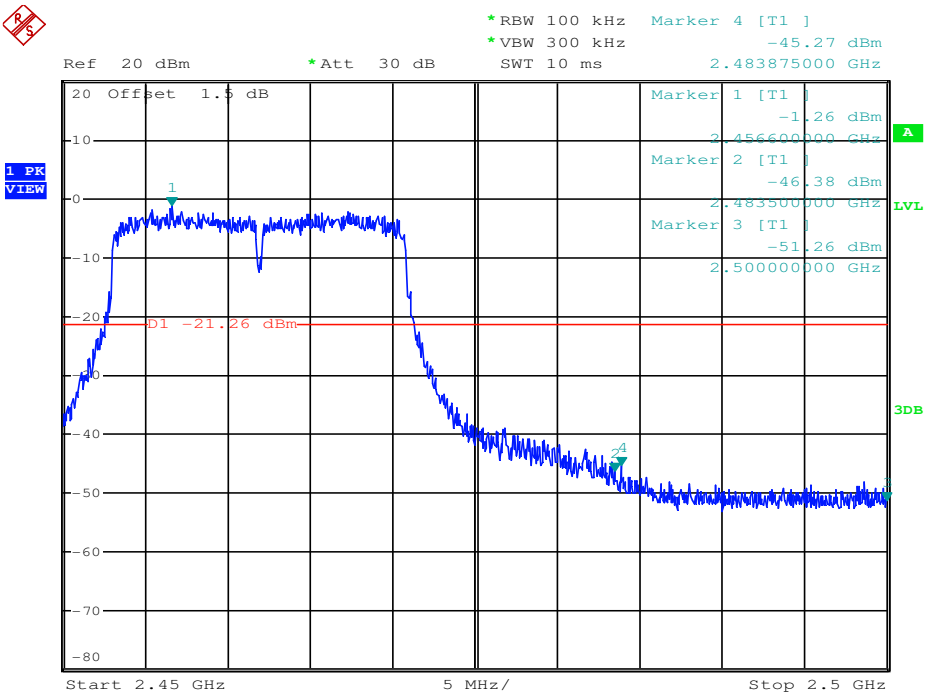
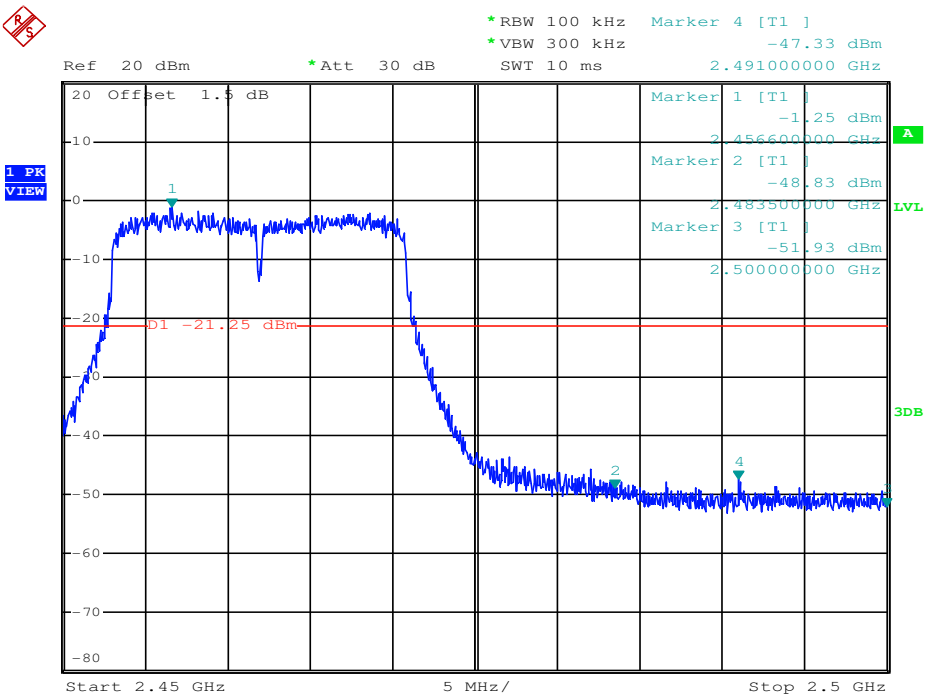
Band-edge for RF Conducted Emissions_11N20SISO_2462_Ant1



Band-edge for RF Conducted Emissions_11N20SISO_2462_Ant2



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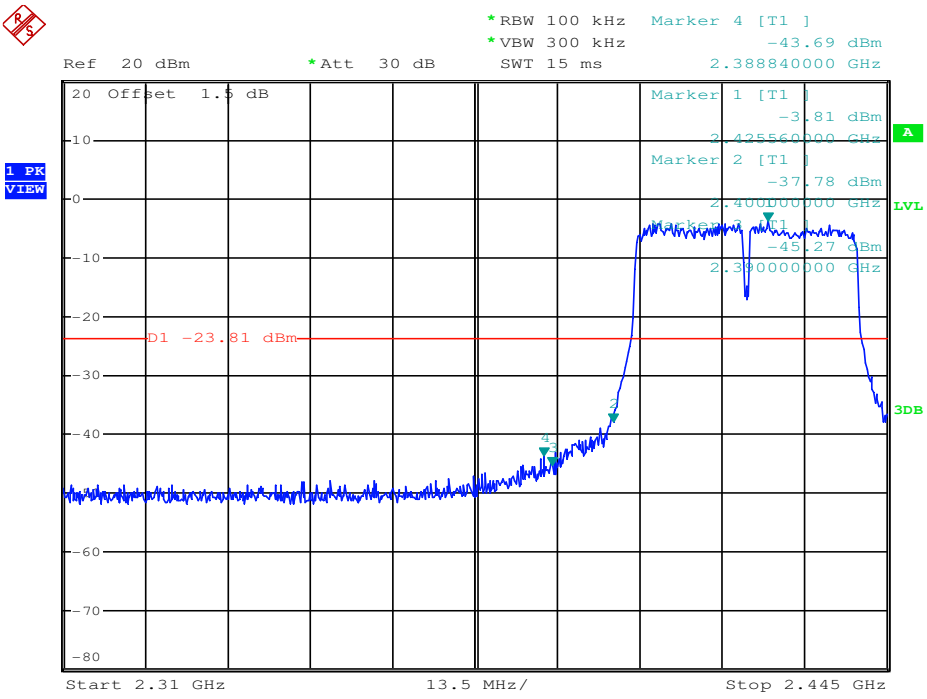
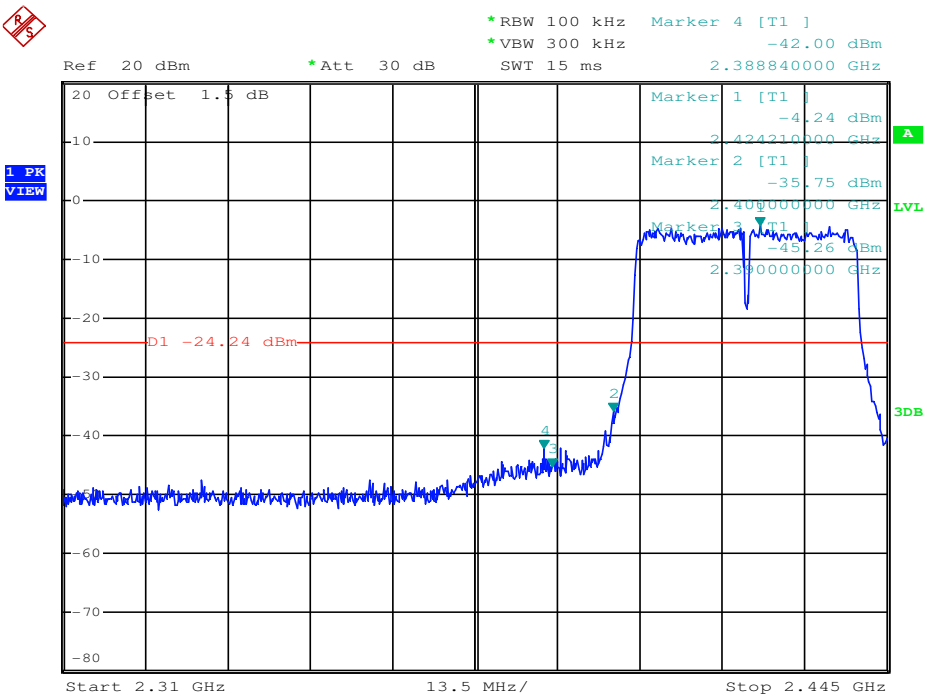
Band-edge for RF Conducted Emissions_11N40SISO_2422_Ant1



Band-edge for RF Conducted Emissions_11N40SISO_2422_Ant2



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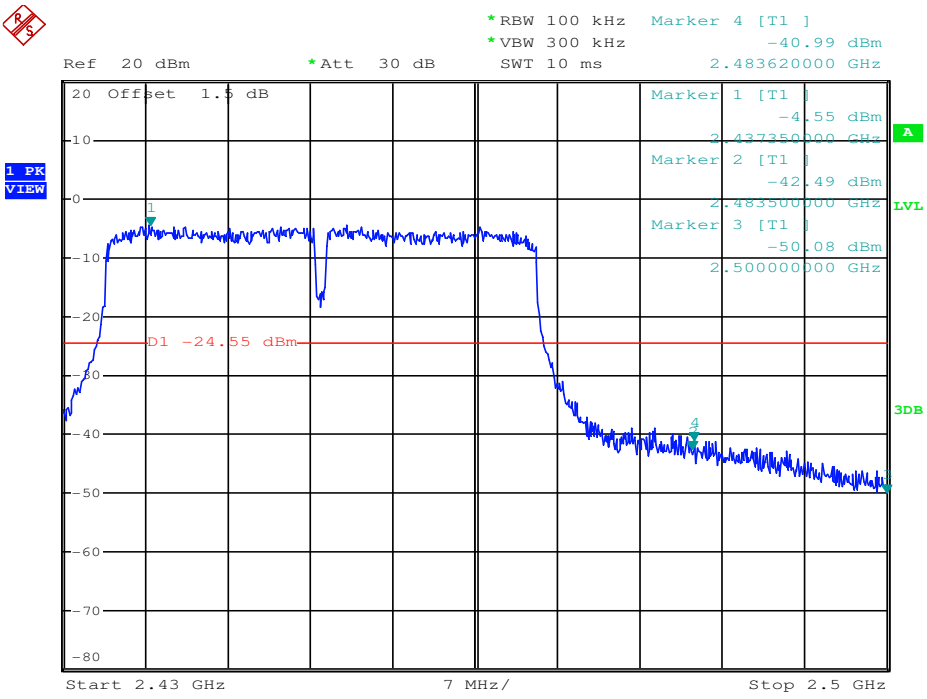
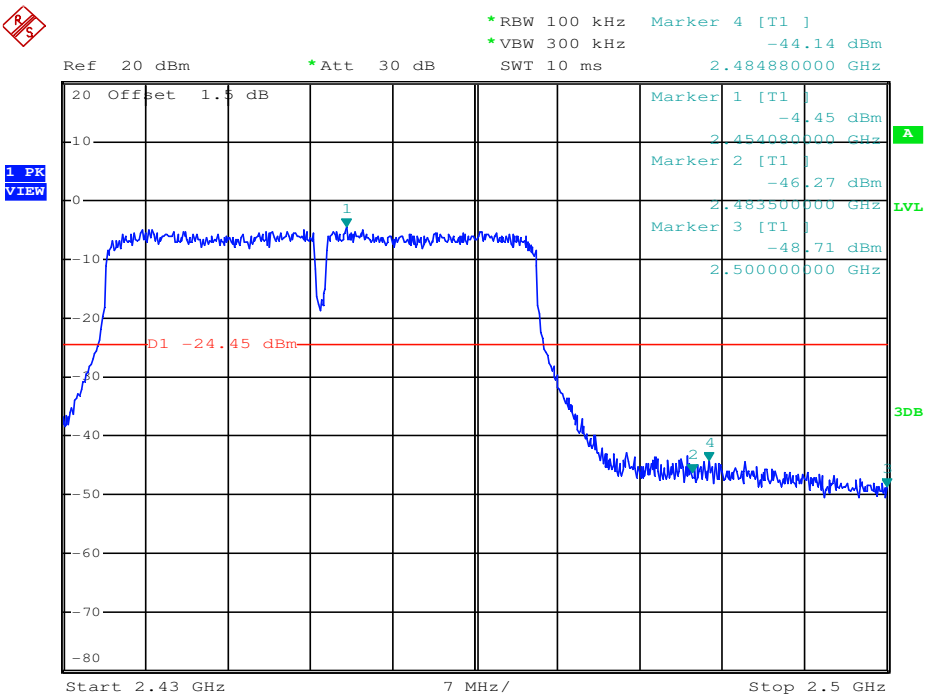
Band-edge for RF Conducted Emissions_11N40SISO_2452_Ant1



Band-edge for RF Conducted Emissions_11N40SISO_2452_Ant2



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5.RF Conducted Spurious Emissions

Test mode:	Test Channel	StartFre [MHz]	StopFre [MHz]	RBW [kHz]	VBW [kHz]	Pref[dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	2412	30	10000	1000	3000	6.51	-41.510	<-13.49	PASS
11B	2412	10000	25000	1000	3000	6.51	-40.000	<-13.49	PASS
11B	2412	30	10000	1000	3000	6.58	-41.930	<-13.42	PASS
11B	2412	10000	25000	1000	3000	6.58	-40.800	<-13.42	PASS
11B	2437	30	10000	1000	3000	7.72	-40.730	<-12.28	PASS
11B	2437	10000	25000	1000	3000	7.72	-40.250	<-12.28	PASS
11B	2437	30	10000	1000	3000	7.23	-41.610	<-12.77	PASS
11B	2437	10000	25000	1000	3000	7.23	-40.890	<-12.77	PASS
11B	2462	30	10000	1000	3000	7.3	-41.410	<-12.7	PASS
11B	2462	10000	25000	1000	3000	7.3	-40.010	<-12.7	PASS
11B	2462	30	10000	1000	3000	7.07	-41.650	<-12.93	PASS
11B	2462	10000	25000	1000	3000	7.07	-39.960	<-12.93	PASS
11G	2412	30	10000	1000	3000	-0.61	-42.090	<-20.61	PASS
11G	2412	10000	25000	1000	3000	-0.61	-40.180	<-20.61	PASS
11G	2412	30	10000	1000	3000	0.09	-41.600	<-19.91	PASS
11G	2412	10000	25000	1000	3000	0.09	-40.350	<-19.91	PASS
11G	2437	30	10000	1000	3000	-0.27	-41.670	<-20.27	PASS
11G	2437	10000	25000	1000	3000	-0.27	-40.110	<-20.27	PASS
11G	2437	30	10000	1000	3000	0.33	-41.700	<-19.67	PASS
11G	2437	10000	25000	1000	3000	0.33	-40.070	<-19.67	PASS
11G	2462	30	10000	1000	3000	-0.25	-41.980	<-20.25	PASS
11G	2462	10000	25000	1000	3000	-0.25	-40.810	<-20.25	PASS
11G	2462	30	10000	1000	3000	0.22	-41.740	<-19.78	PASS
11G	2462	10000	25000	1000	3000	0.22	-40.210	<-19.78	PASS
11N20SISO	2412	30	10000	1000	3000	-1.53	-40.310	<-21.53	PASS
11N20SISO	2412	10000	25000	1000	3000	-1.53	-39.950	<-21.53	PASS
11N20SISO	2412	30	10000	1000	3000	-1.05	-41.660	<-21.05	PASS
11N20SISO	2412	10000	25000	1000	3000	-1.05	-40.350	<-21.05	PASS

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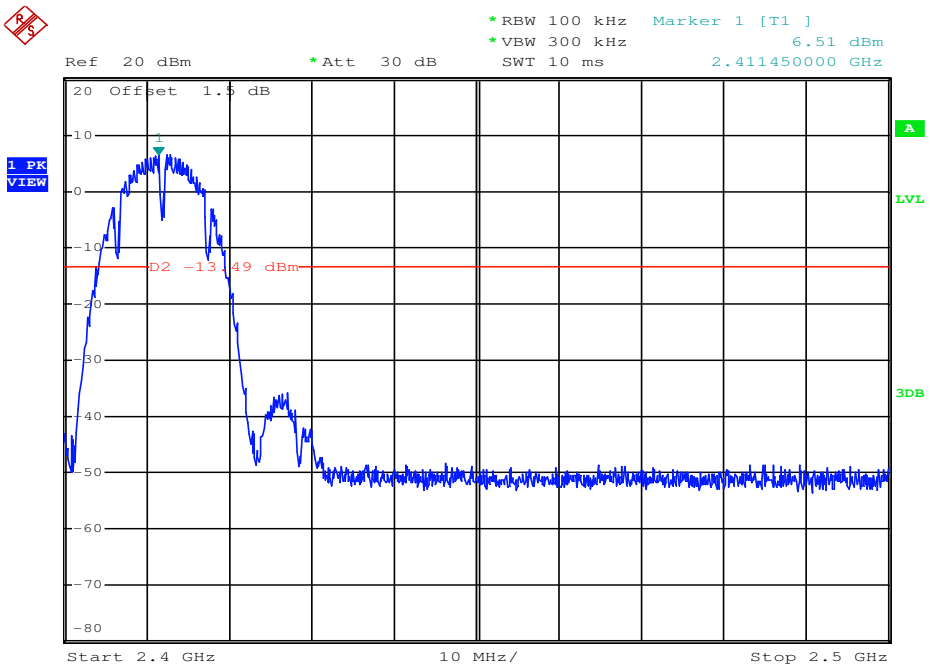
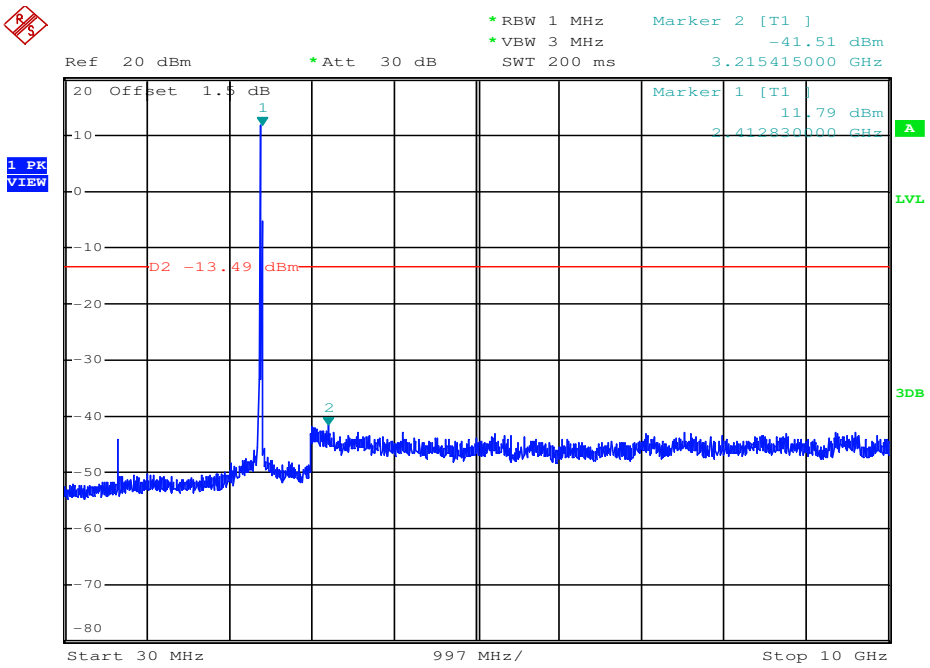
11N20SISO	2437	30	10000	1000	3000	-0.47	-42.540	<-20.47	PASS
11N20SISO	2437	10000	25000	1000	3000	-0.47	-40.030	<-20.47	PASS
11N20SISO	2437	30	10000	1000	3000	-1.23	-41.140	<-21.23	PASS
11N20SISO	2437	10000	25000	1000	3000	-1.23	-39.940	<-21.23	PASS
11N20SISO	2462	30	10000	1000	3000	-1.73	-42.130	<-21.73	PASS
11N20SISO	2462	10000	25000	1000	3000	-1.73	-39.350	<-21.73	PASS
11N20SISO	2462	30	10000	1000	3000	-1.45	-41.920	<-21.45	PASS
11N20SISO	2462	10000	25000	1000	3000	-1.45	-38.530	<-21.45	PASS
11N40SISO	2422	30	10000	1000	3000	-3.79	-37.000	<-23.79	PASS
11N40SISO	2422	10000	25000	1000	3000	-3.79	-40.860	<-23.79	PASS
11N40SISO	2422	30	10000	1000	3000	-4.42	-42.160	<-24.42	PASS
11N40SISO	2422	10000	25000	1000	3000	-4.42	-40.020	<-24.42	PASS
11N40SISO	2437	30	10000	1000	3000	-4.77	-41.570	<-24.77	PASS
11N40SISO	2437	10000	25000	1000	3000	-4.77	-39.370	<-24.77	PASS
11N40SISO	2437	30	10000	1000	3000	-5.3	-40.910	<-25.3	PASS
11N40SISO	2437	10000	25000	1000	3000	-5.3	-40.310	<-25.3	PASS
11N40SISO	2452	30	10000	1000	3000	-4.58	-42.800	<-24.58	PASS
11N40SISO	2452	10000	25000	1000	3000	-4.58	-40.060	<-24.58	PASS
11N40SISO	2452	30	10000	1000	3000	-4.51	-41.690	<-24.51	PASS
11N40SISO	2452	10000	25000	1000	3000	-4.51	-40.500	<-24.51	PASS

RF Conducted Spurious Emissions_11B_2412_Ant1	
Pref	
CSE_1	

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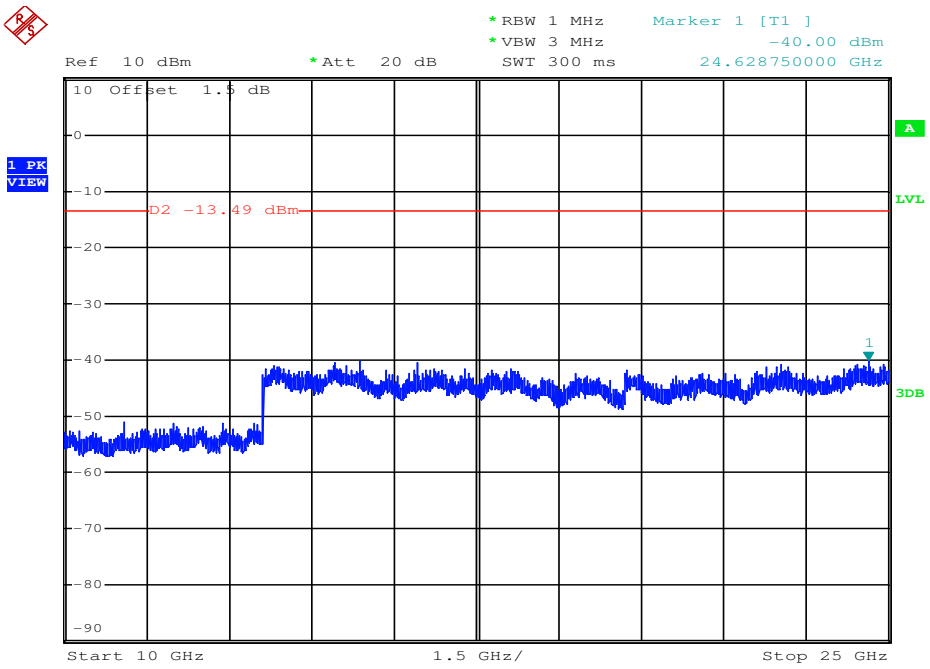
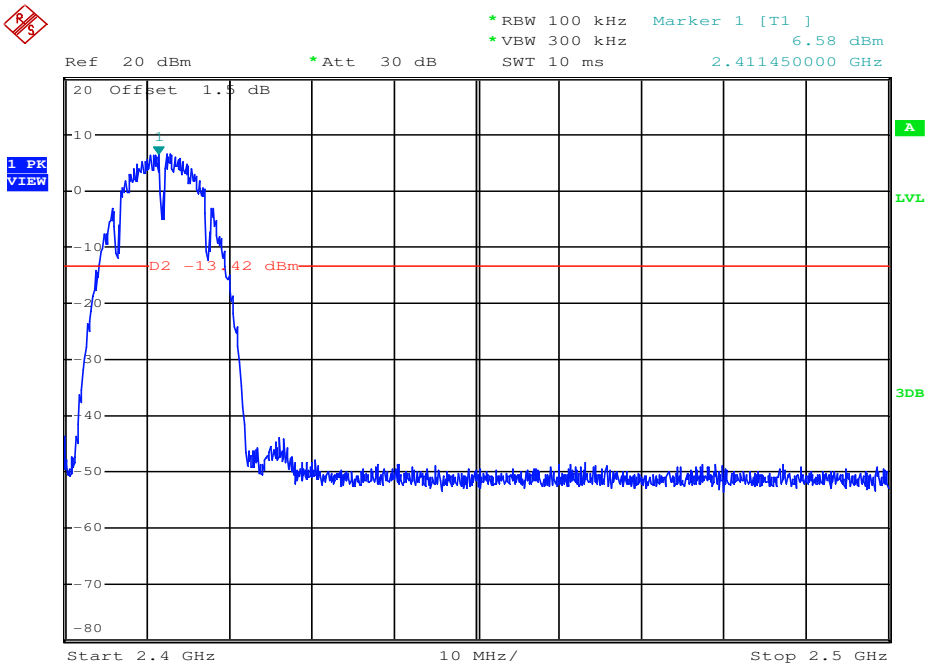
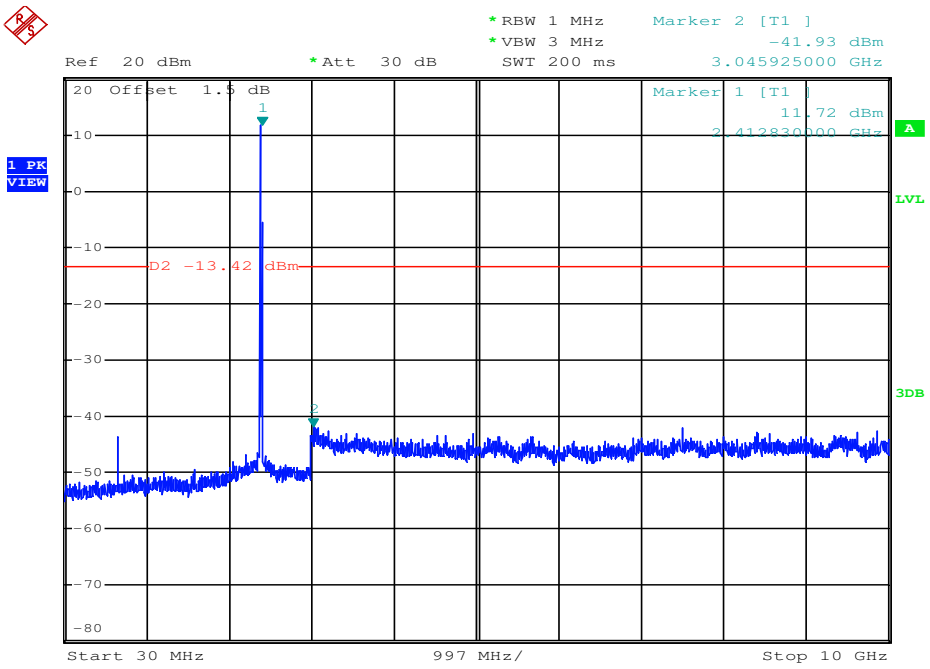
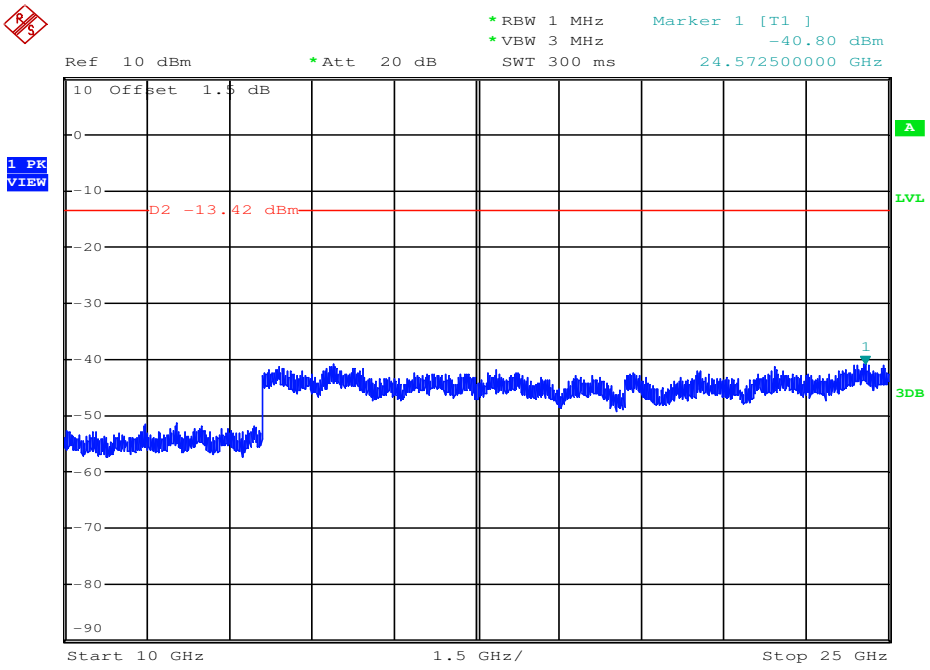
CSE_2



RF Conducted Spurious Emissions_11B_2412_Ant2

Pref



CSE_1	
CSE_2	

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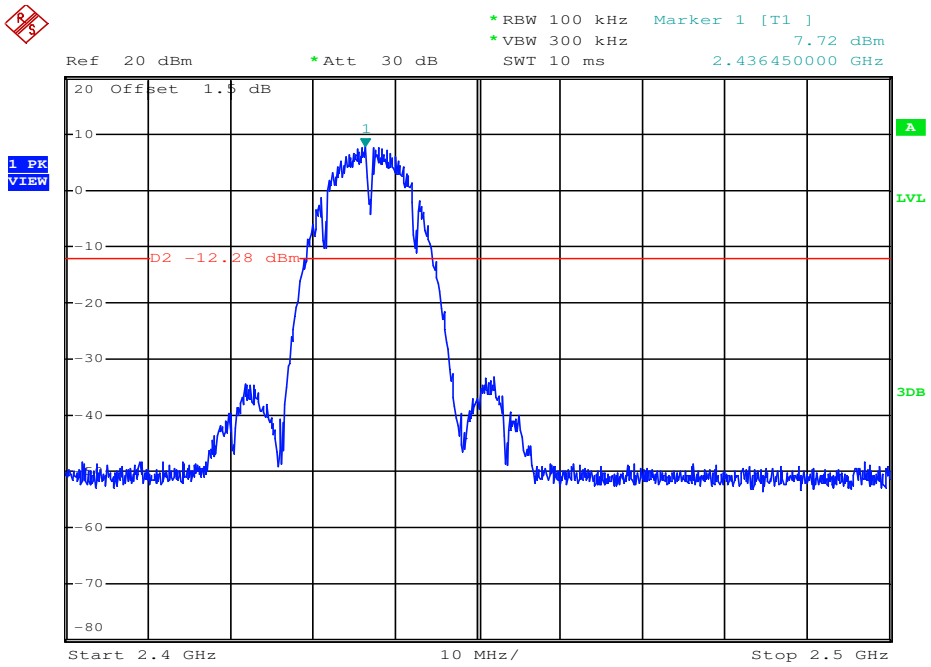
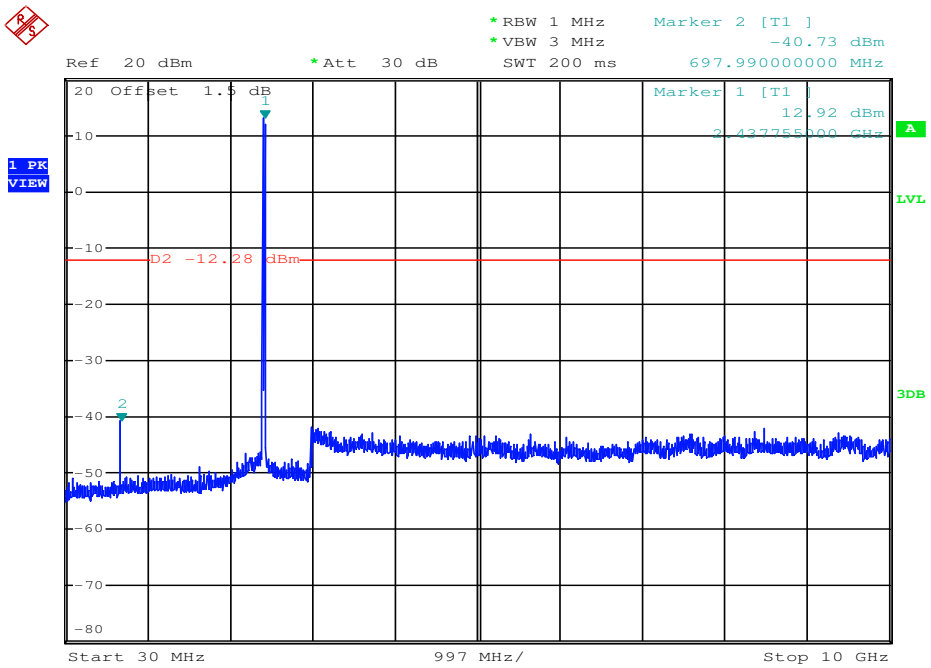
RF Conducted Spurious Emissions_11B_2437_Ant1	
Pref	
CSE_1	

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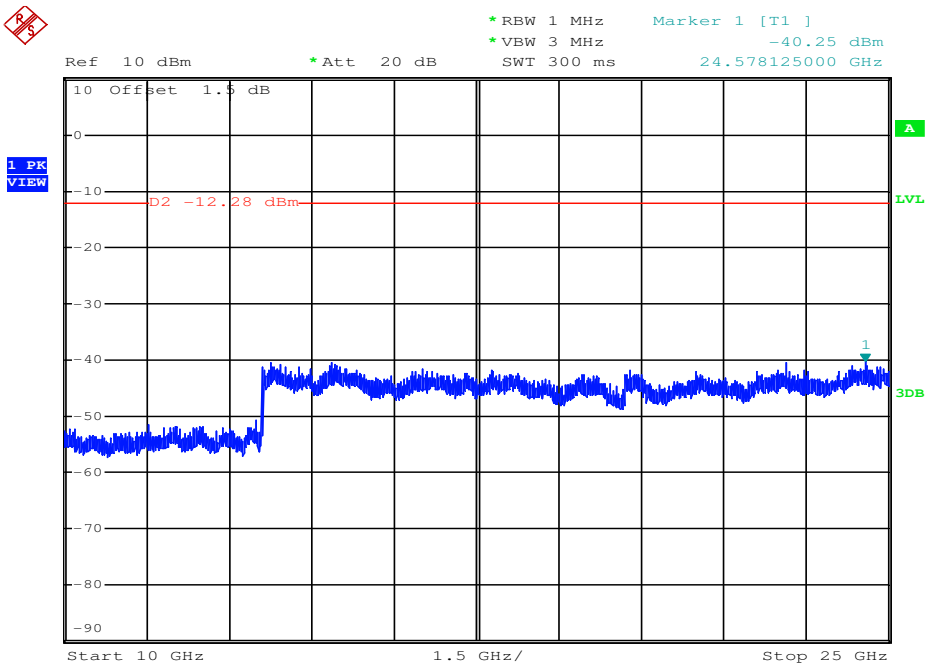

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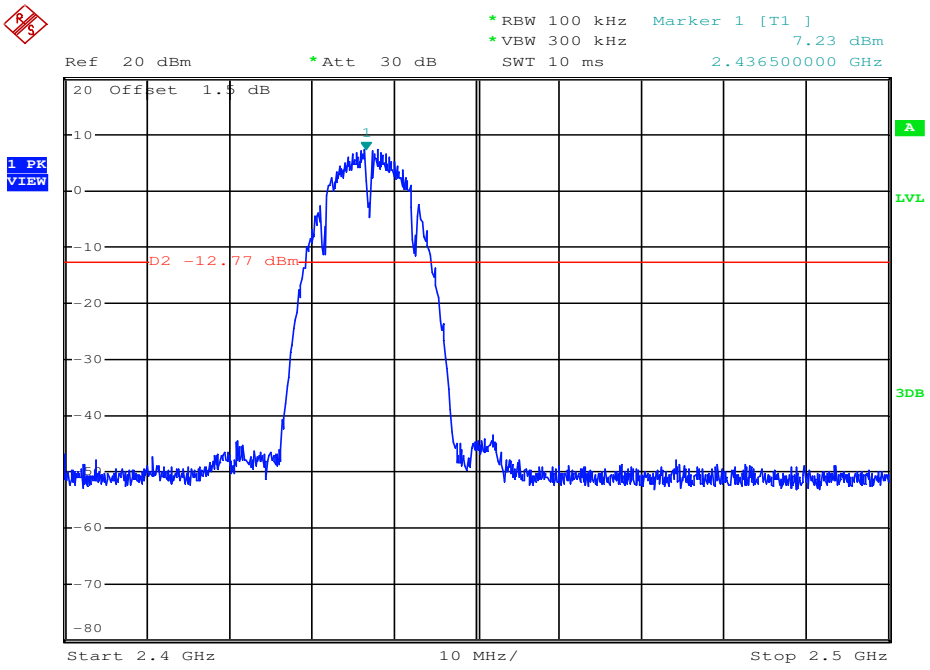
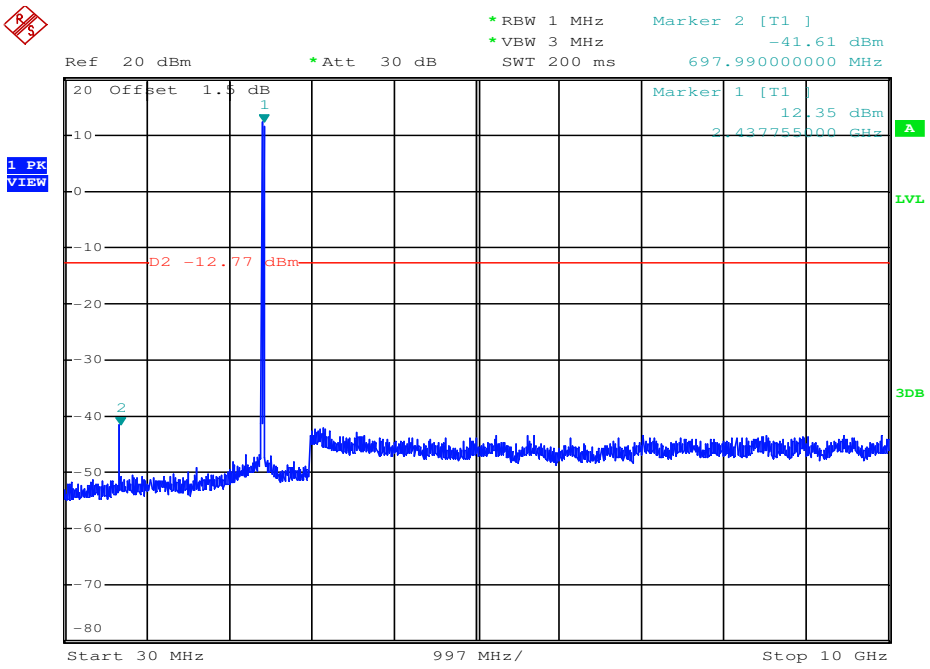
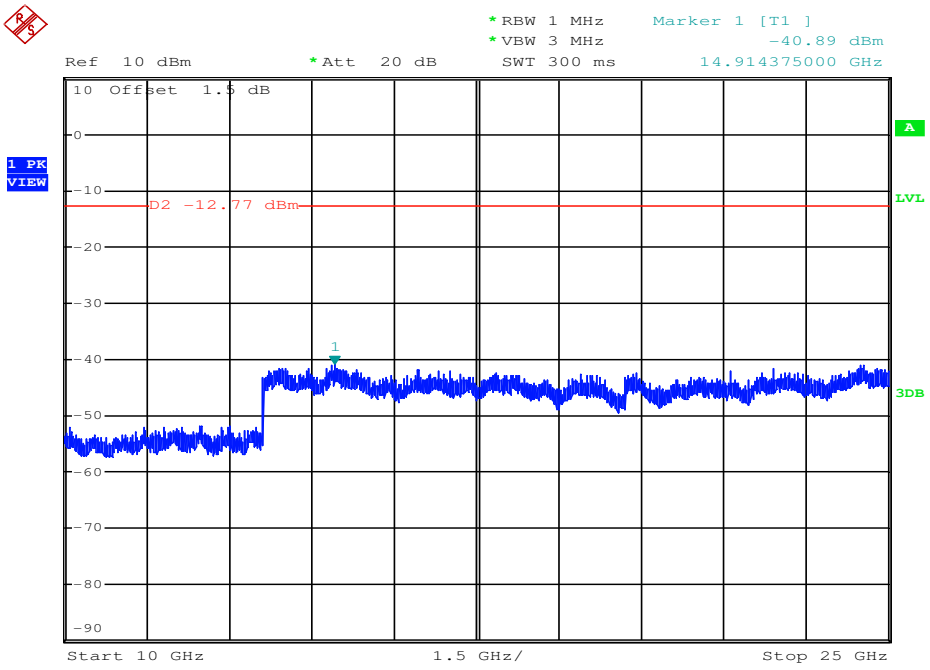


CSE_1	
CSE_2	

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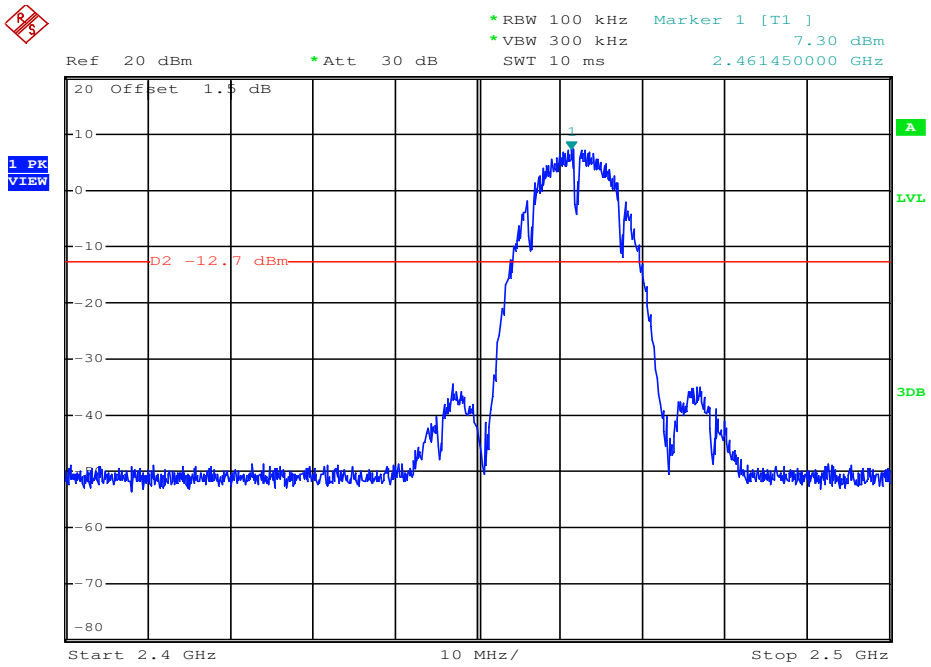
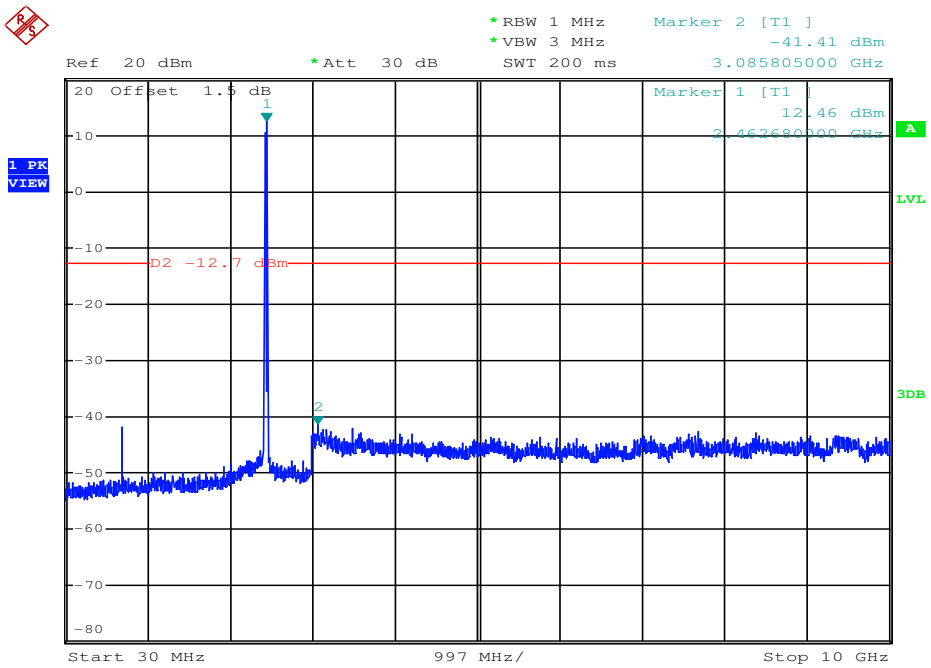
RF Conducted Spurious Emissions_11B_2462_Ant1	
Pref	
CSE_1	

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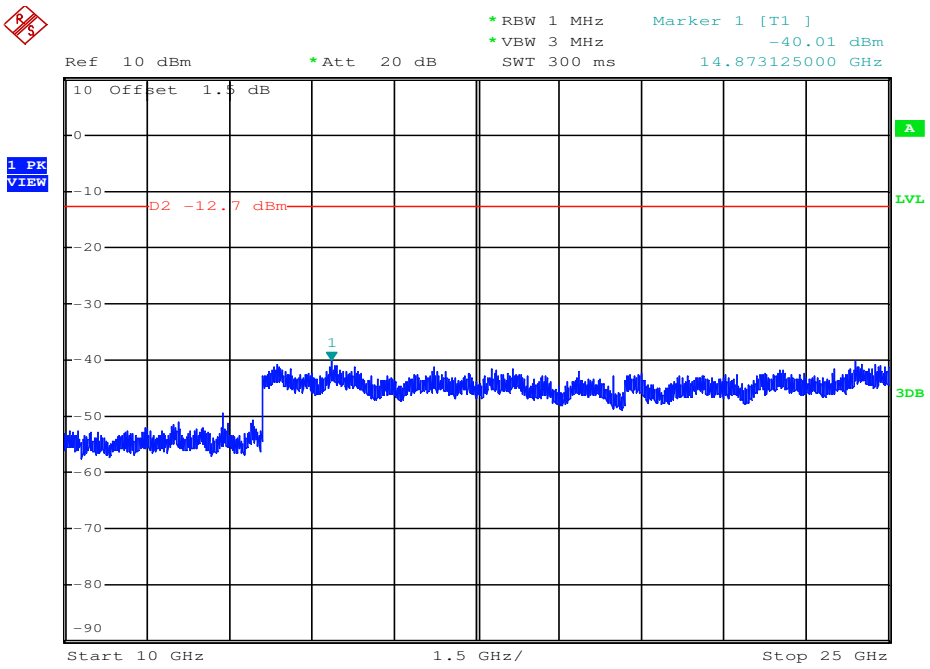

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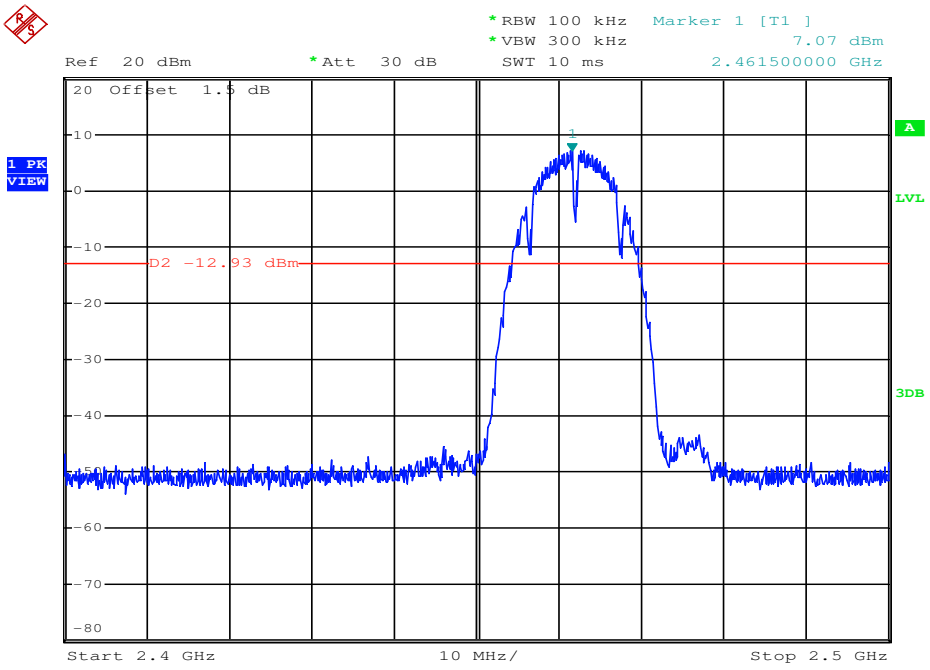
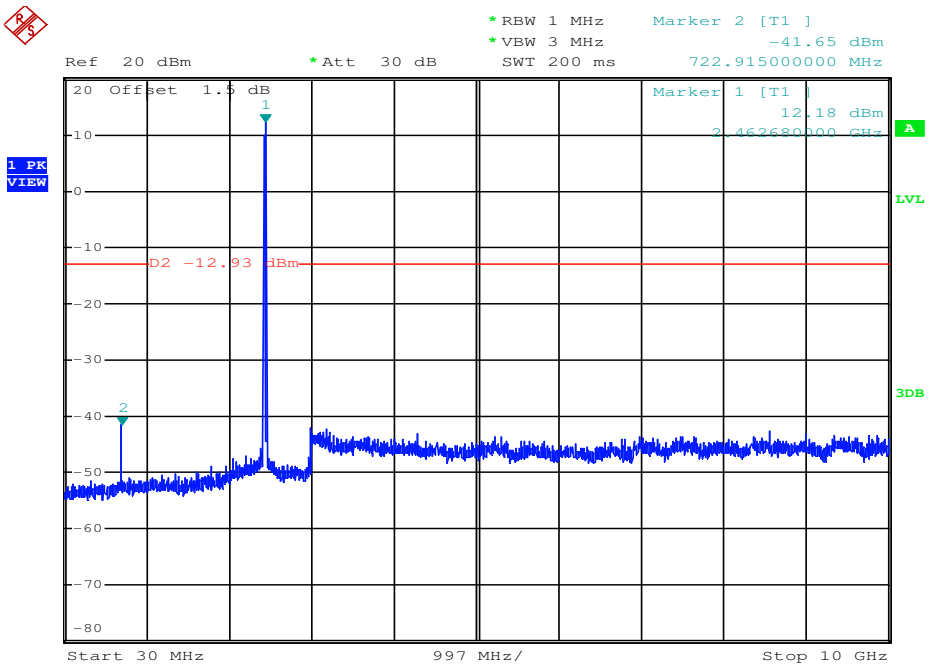
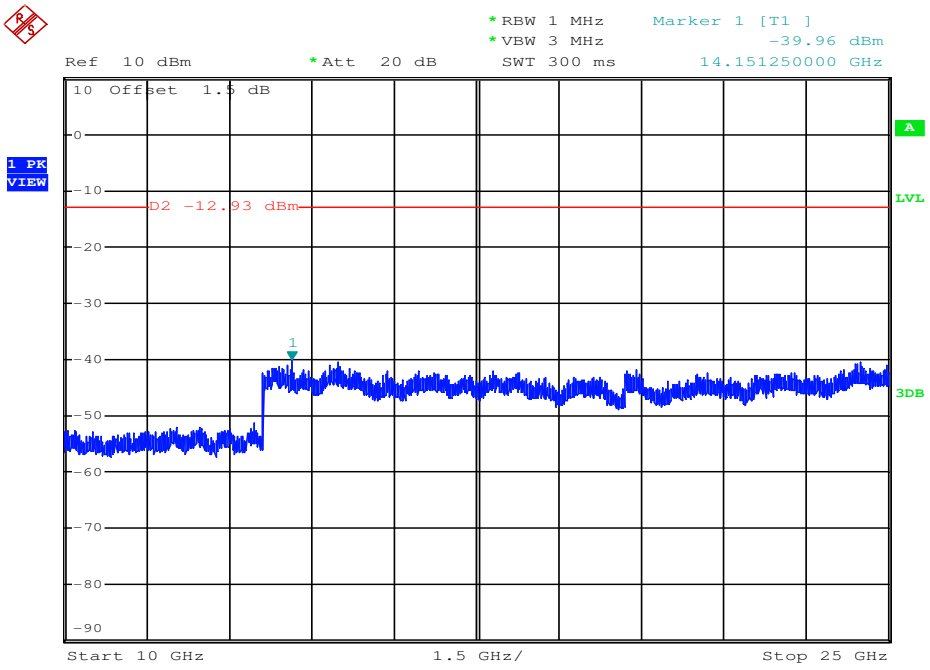


CSE_1	
CSE_2	

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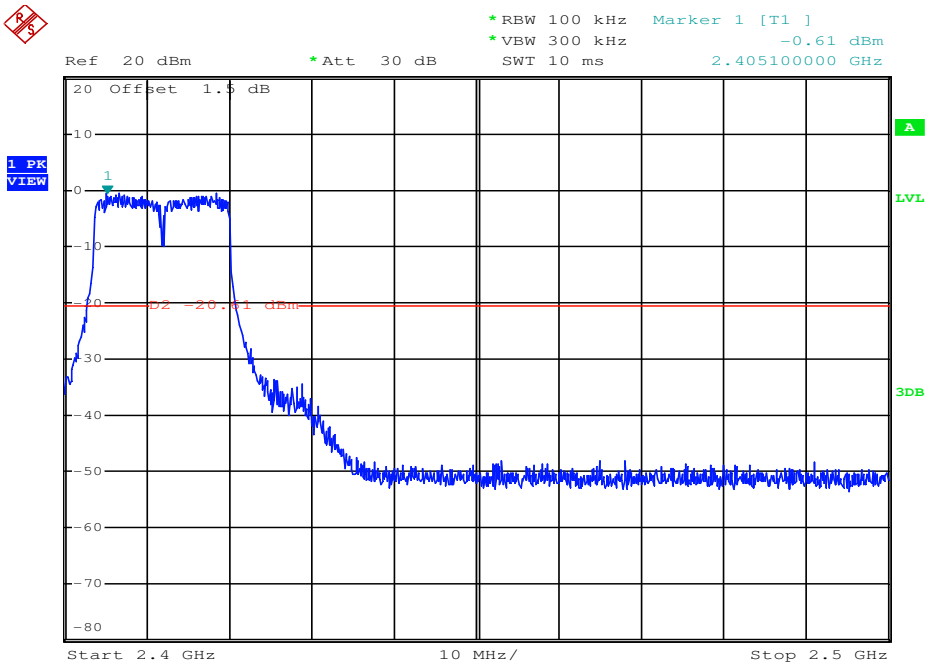
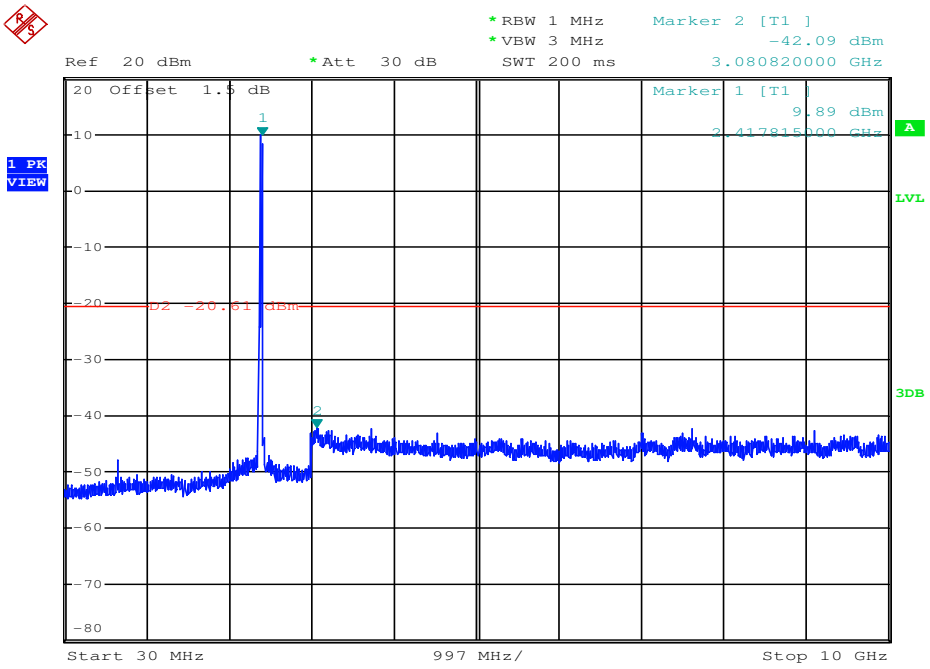
RF Conducted Spurious Emissions_11G_2412_Ant1	
Pref	
CSE_1	

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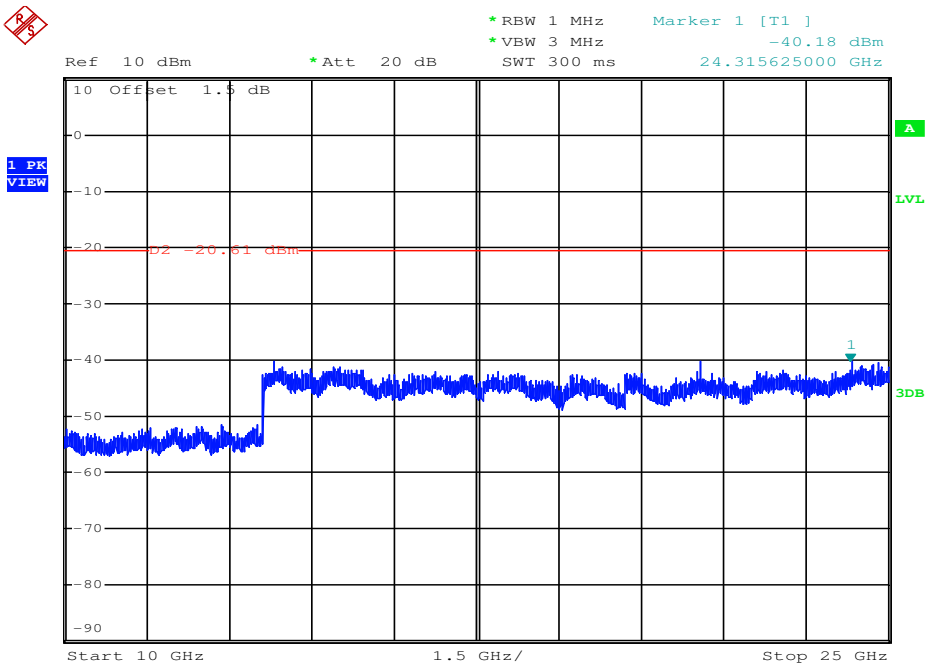
CSE_2



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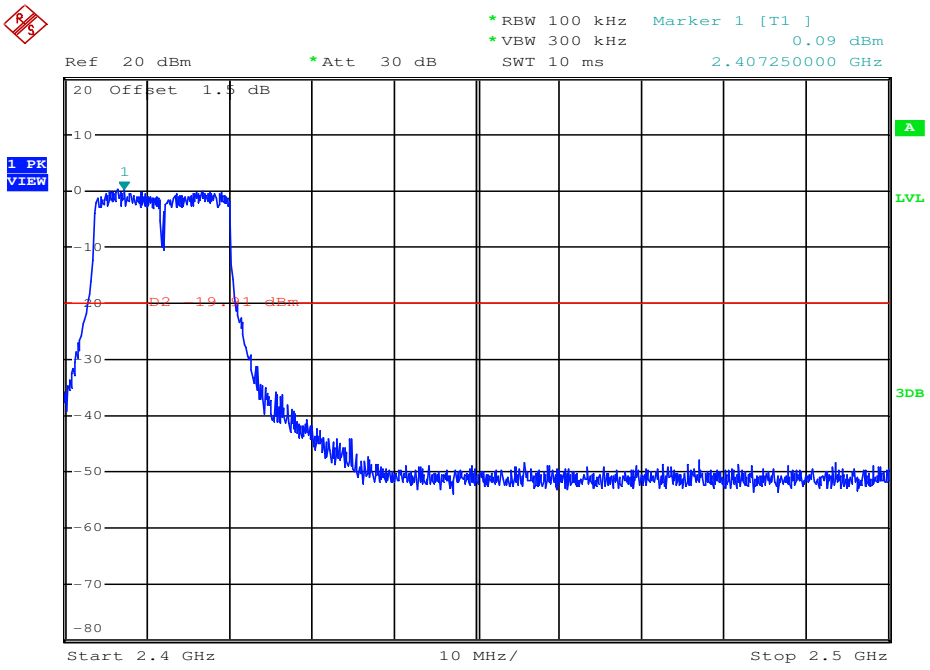
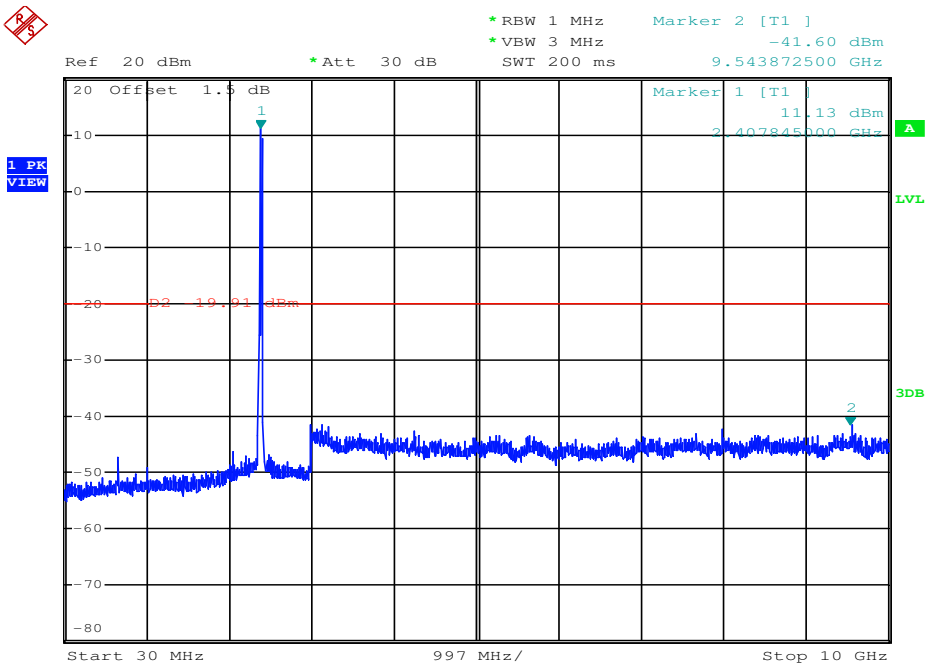
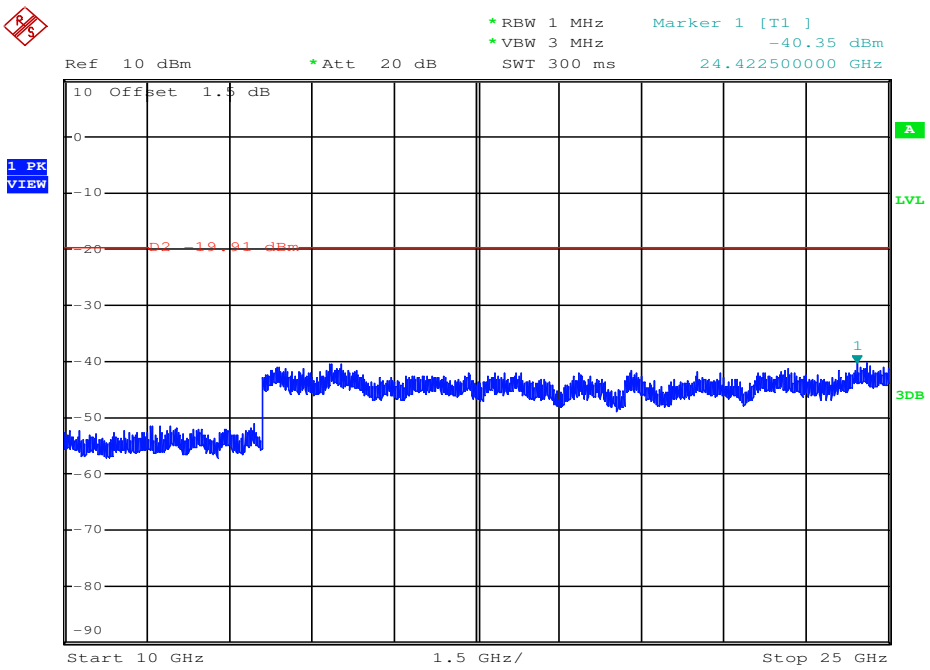


CSE_1	
CSE_2	

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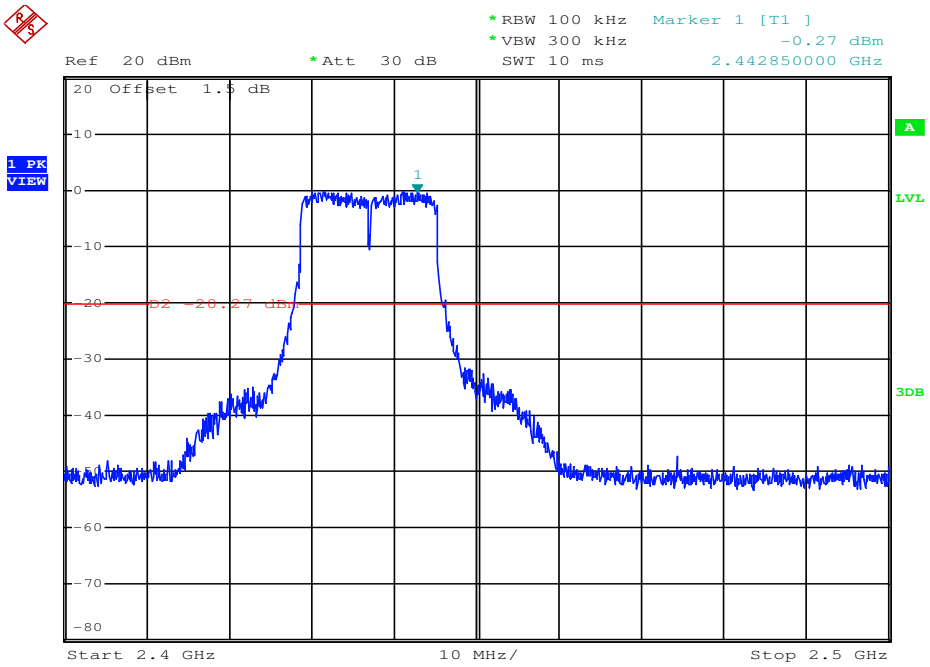
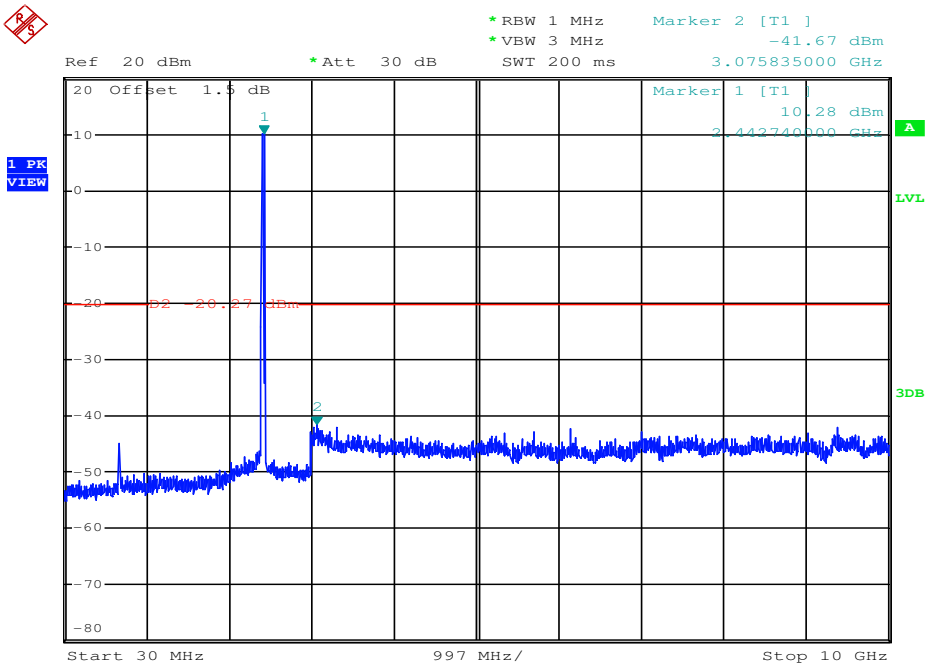
RF Conducted Spurious Emissions_11G_2437_Ant1	
Pref	
CSE_1	

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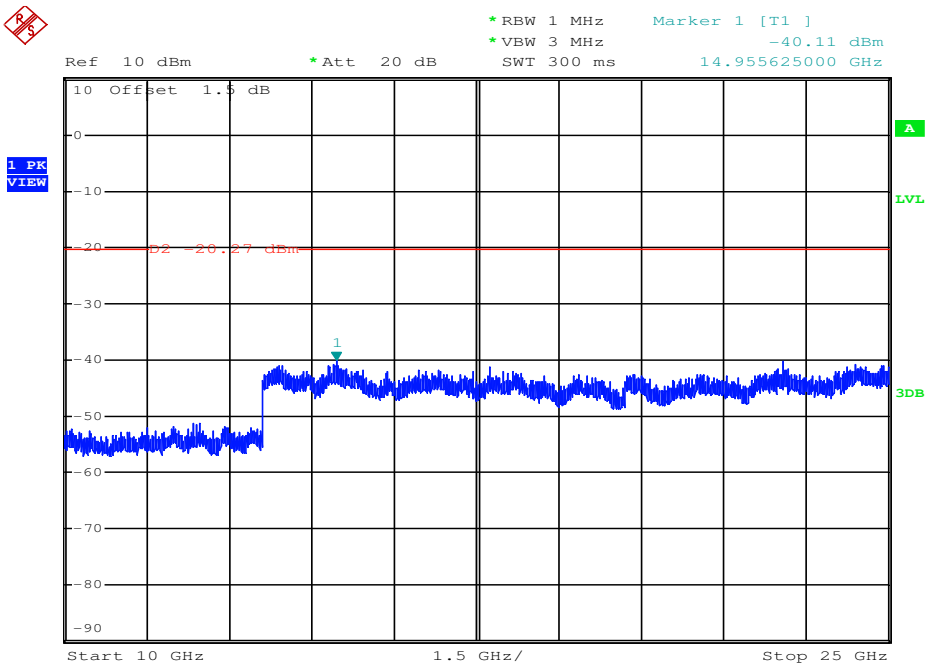

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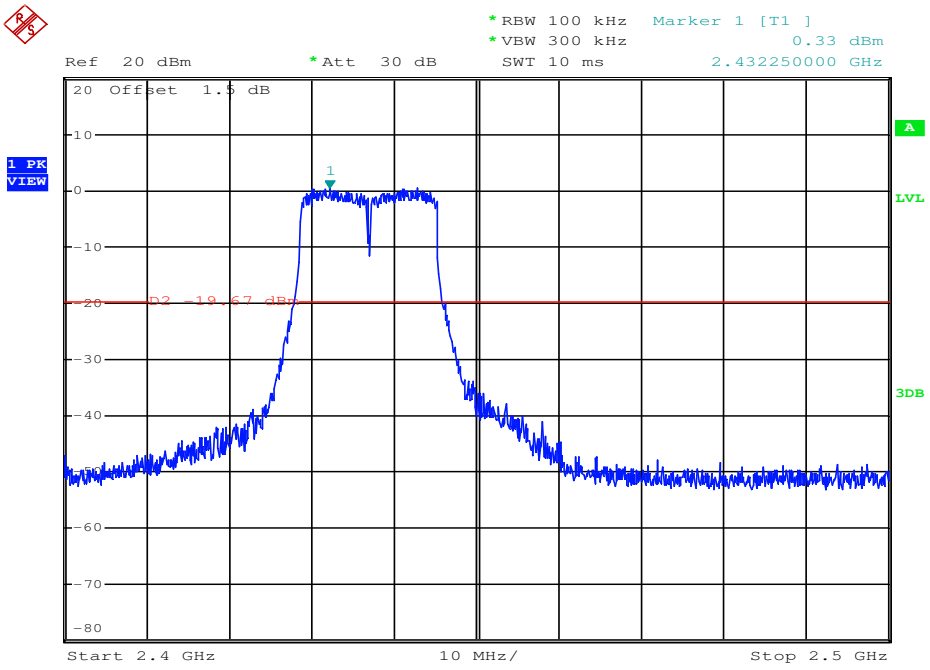
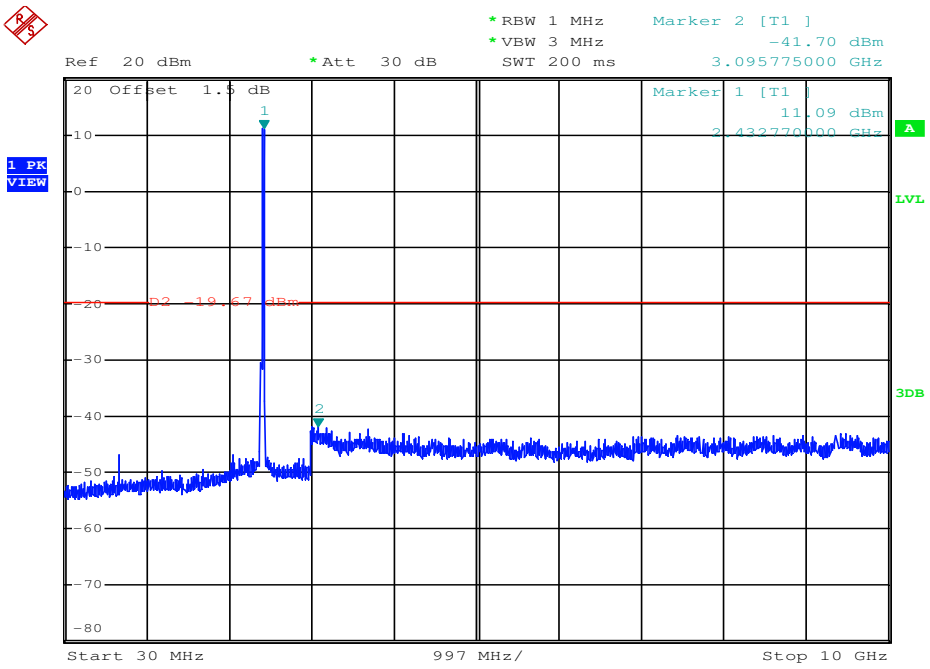
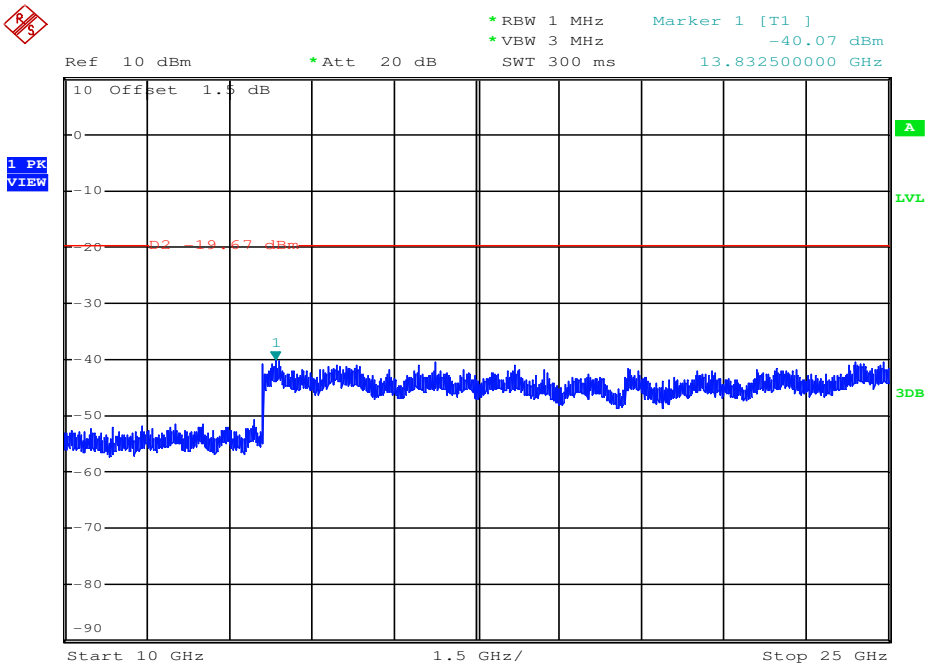


CSE_1	
CSE_2	

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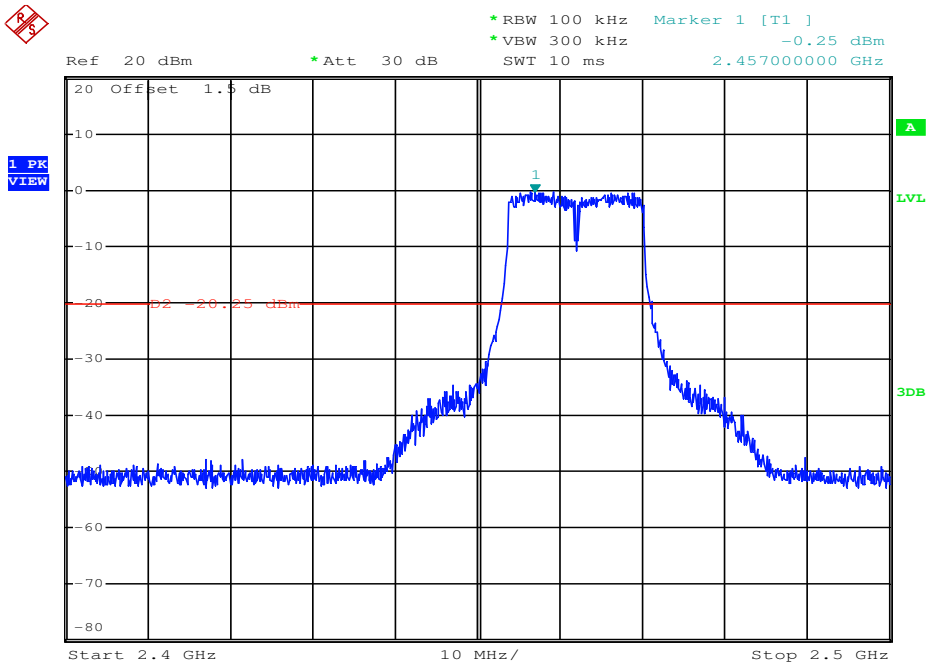
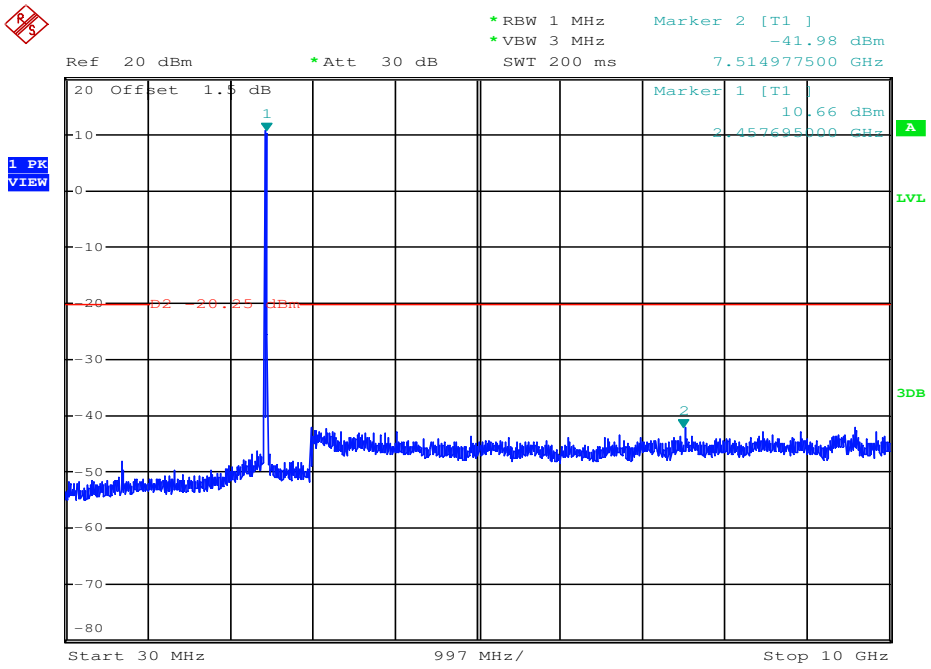
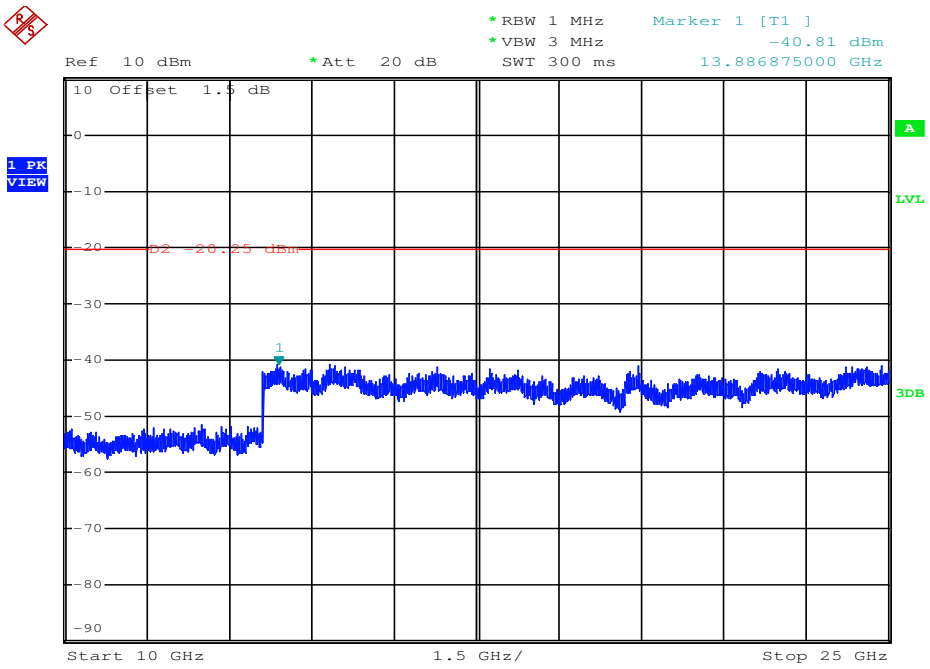
RF Conducted Spurious Emissions_11G_2462_Ant1	
Pref	
CSE_1	

CSE_2	

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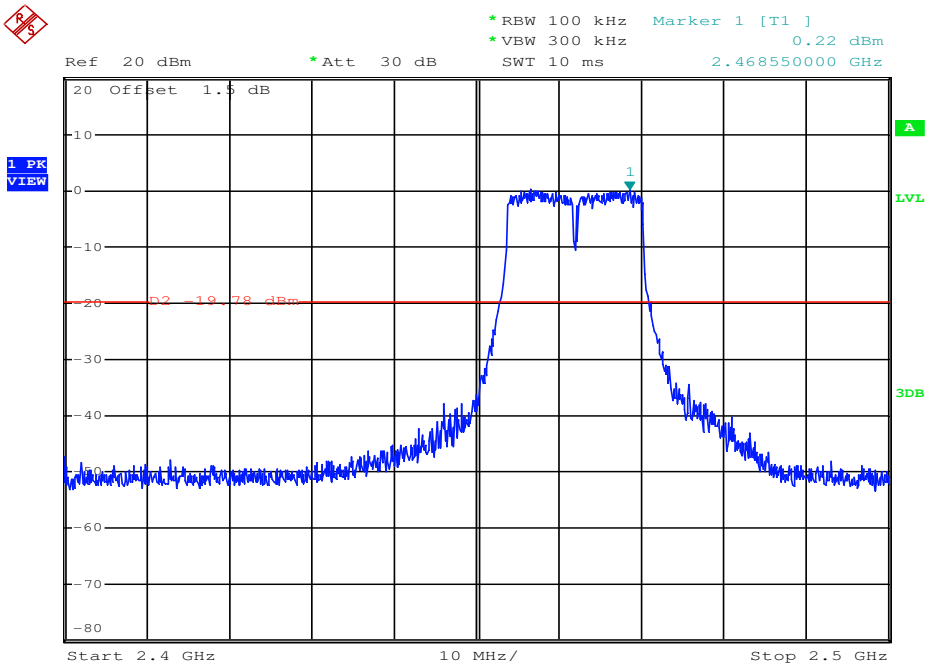
Pref	

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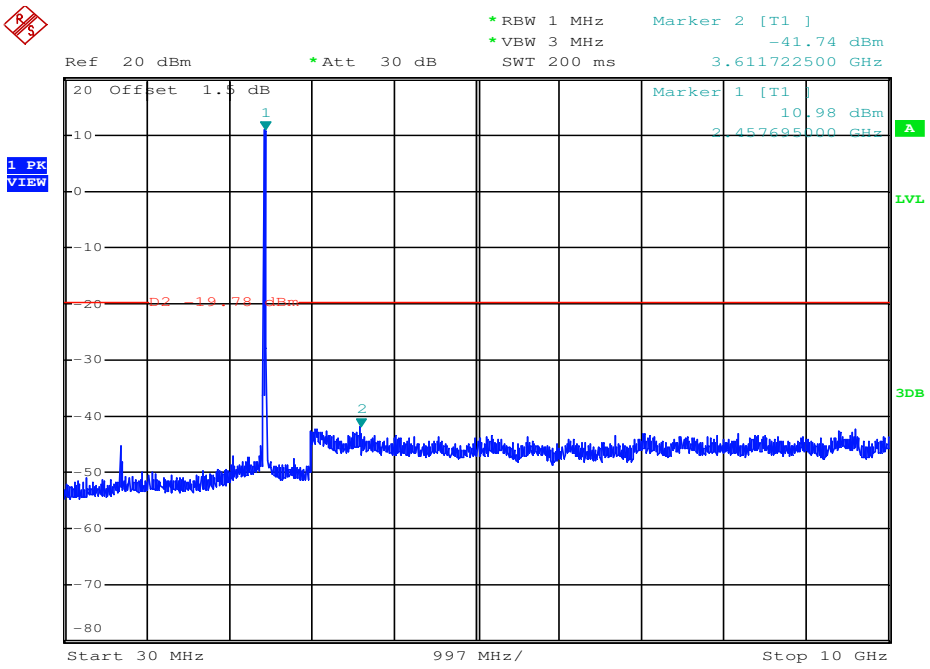
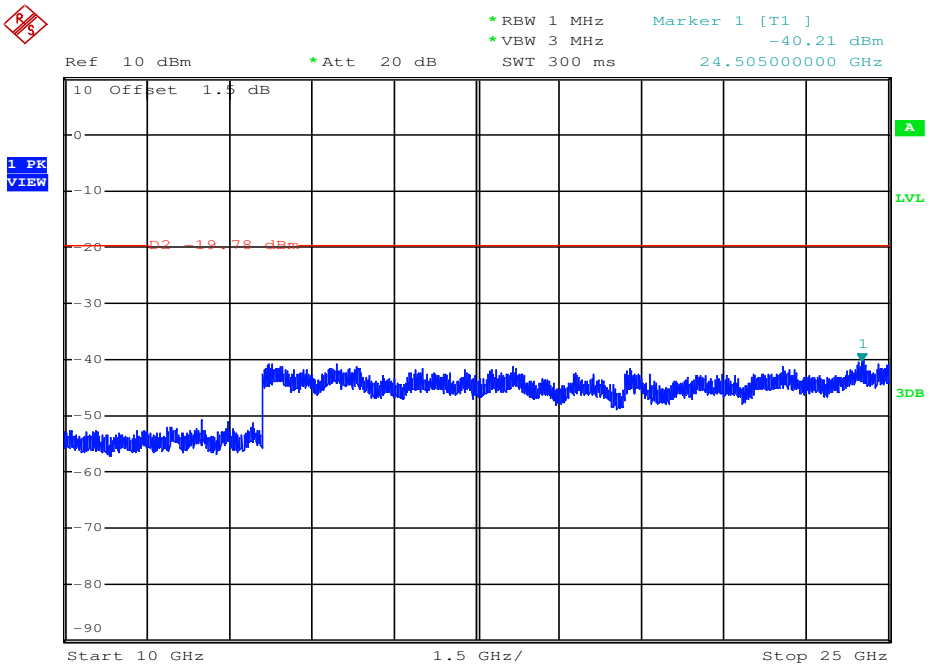
CSE_1	
CSE_2	

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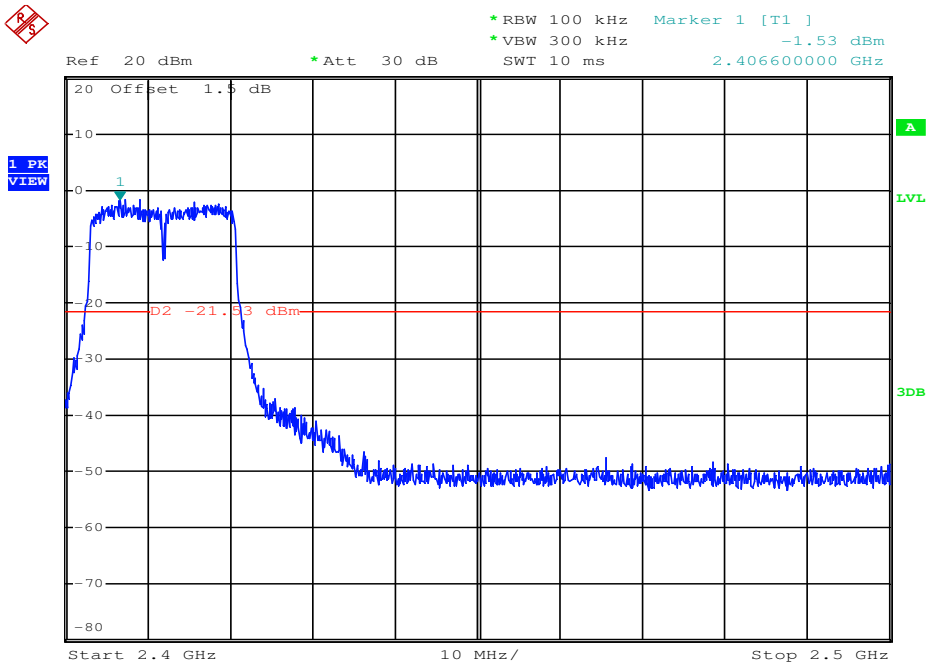
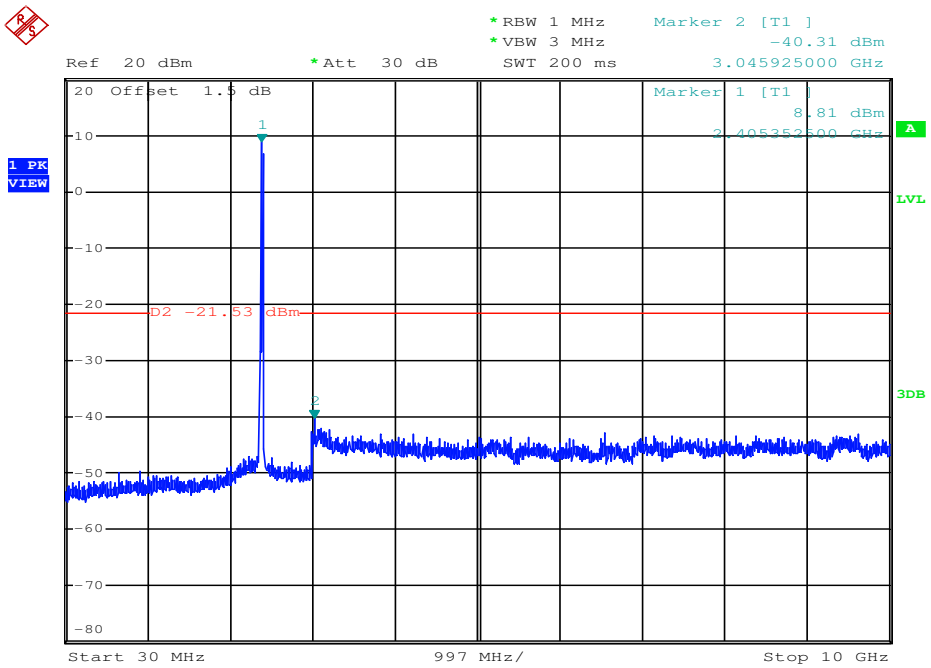
RF Conducted Spurious Emissions_11N20SISO_2412_Ant1	
Pref	
CSE_1	

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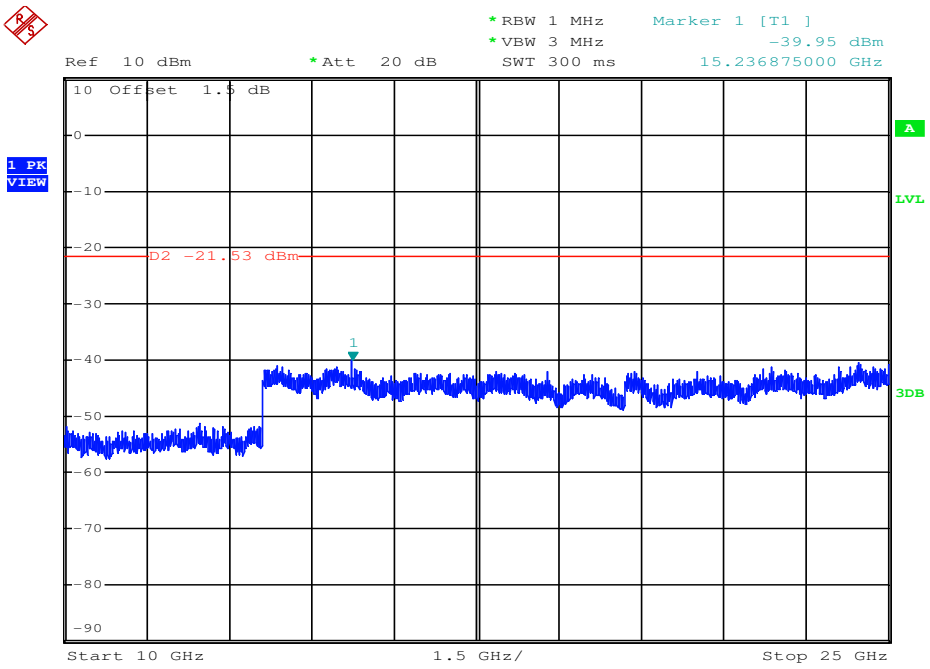
CSE_2



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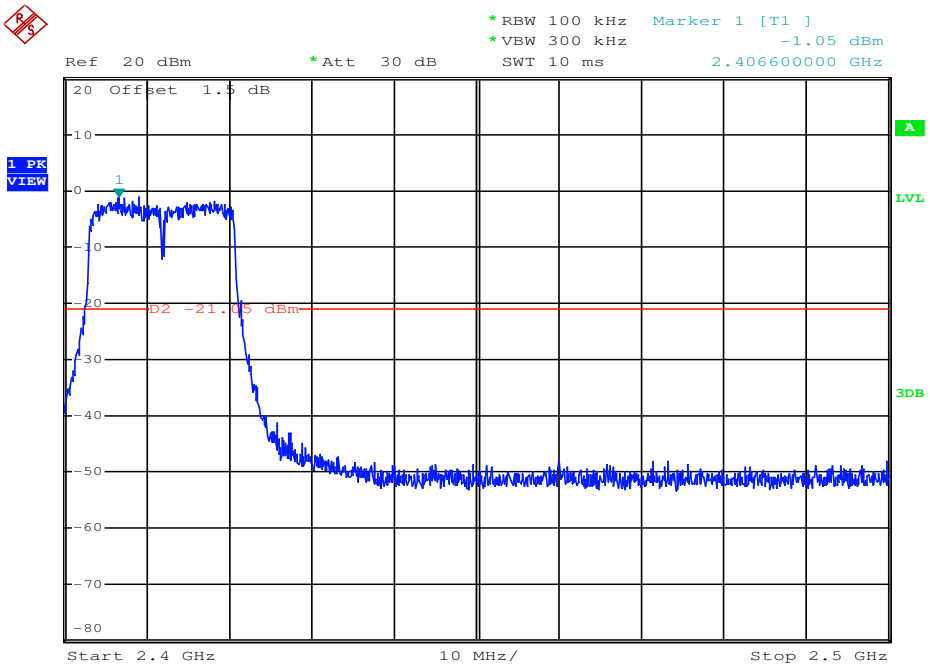
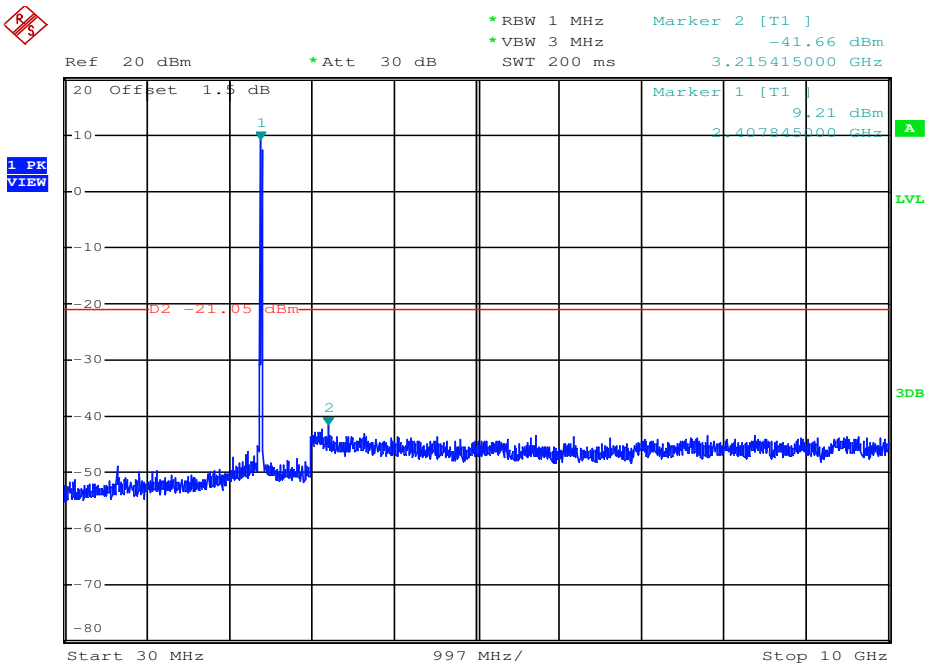
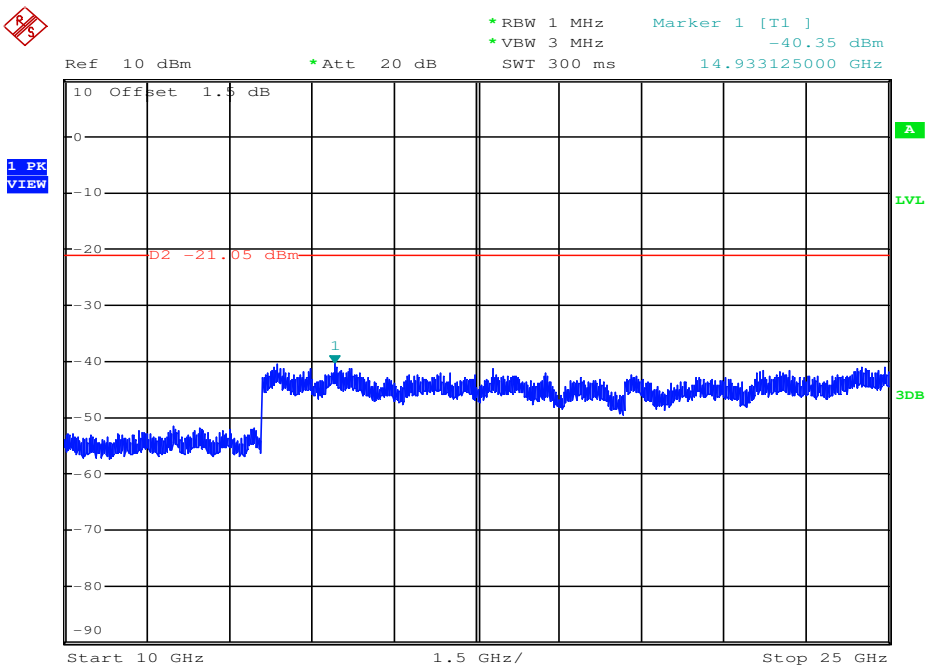


CSE_1	
CSE_2	

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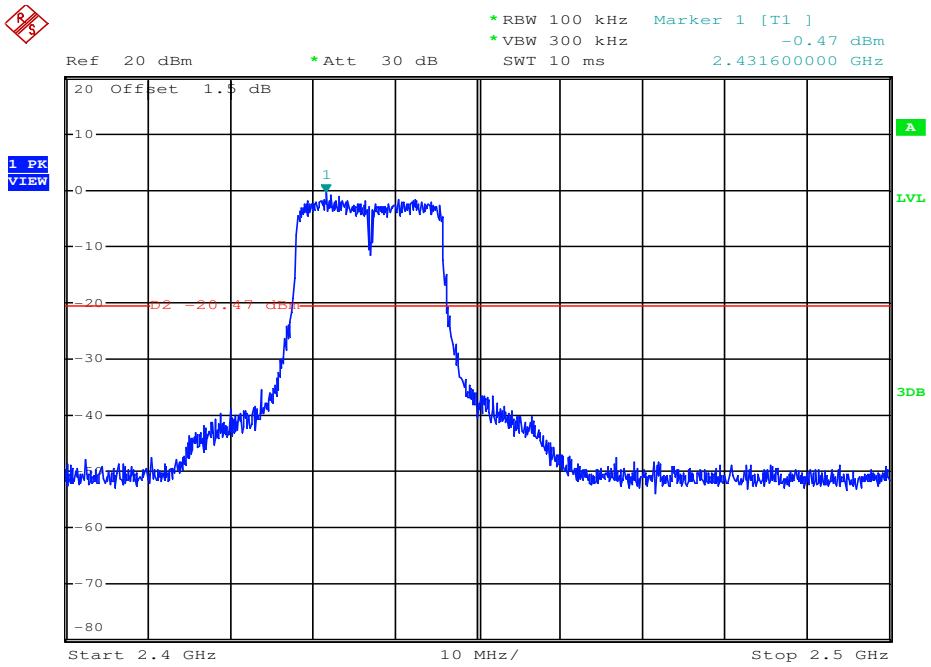
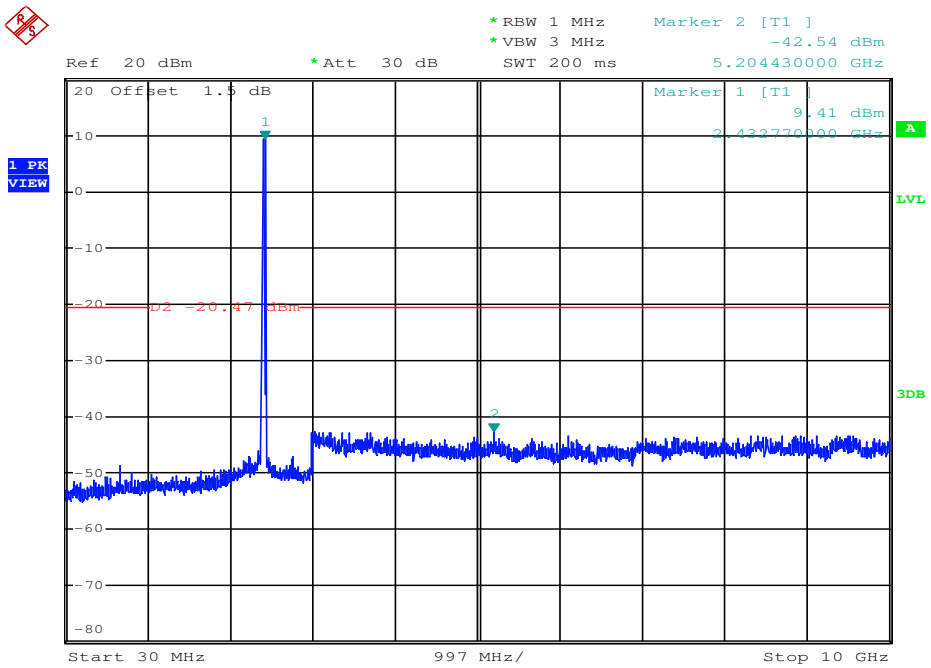
Pref	
CSE_1	

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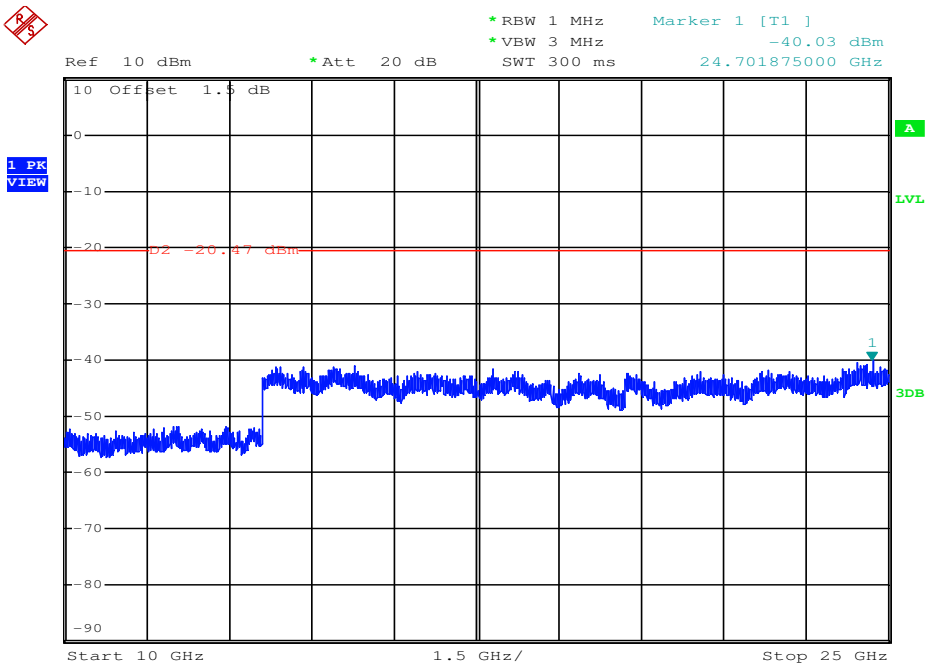
CSE_2



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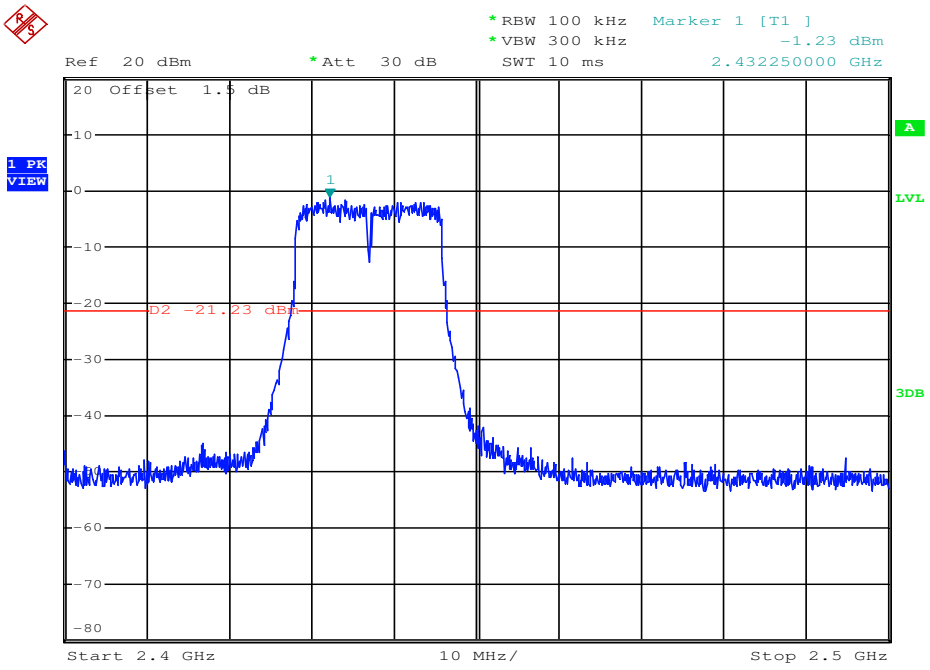
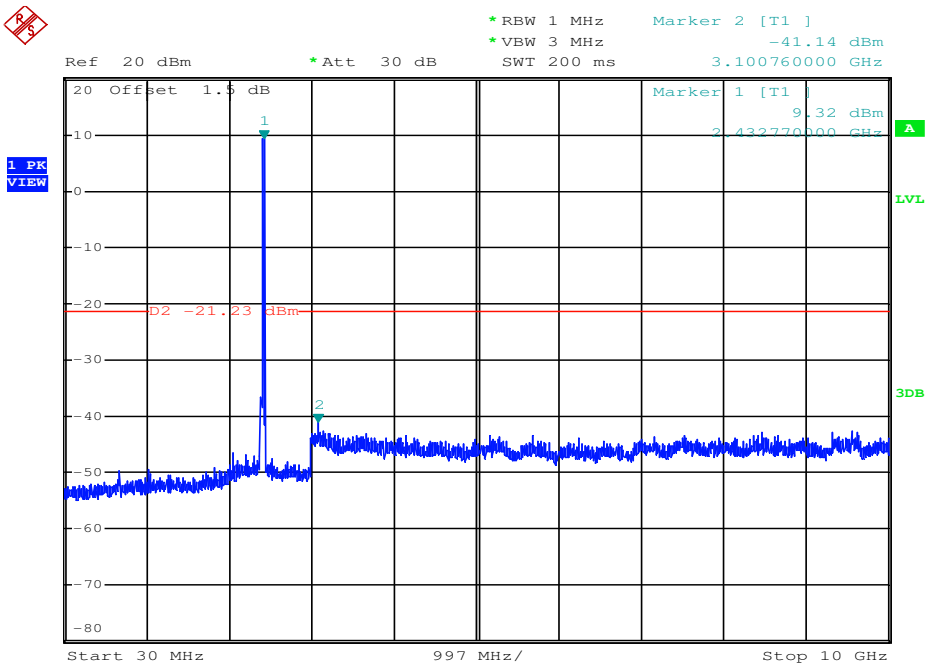
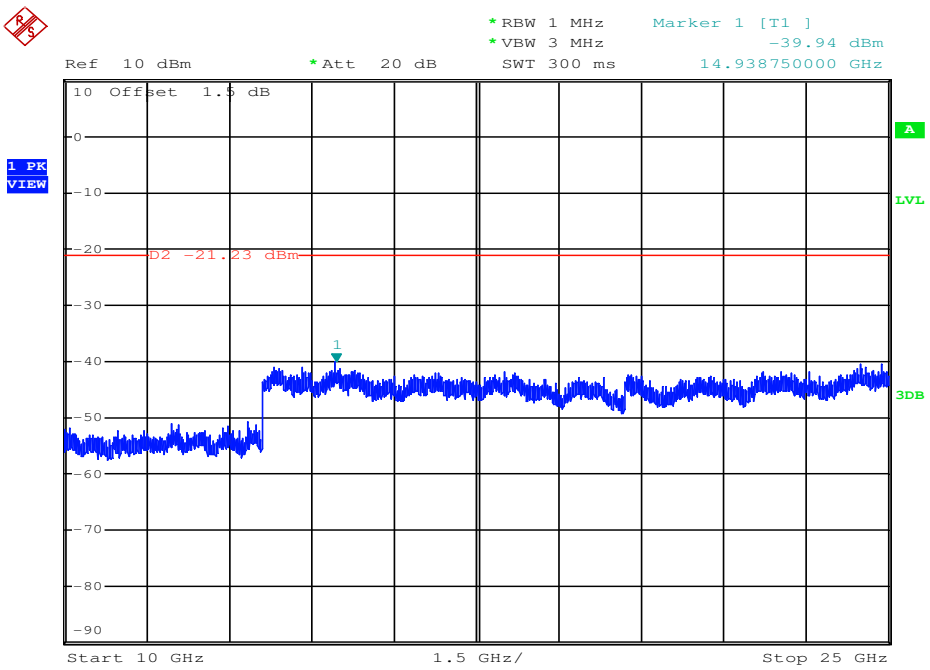


CSE_1	
CSE_2	

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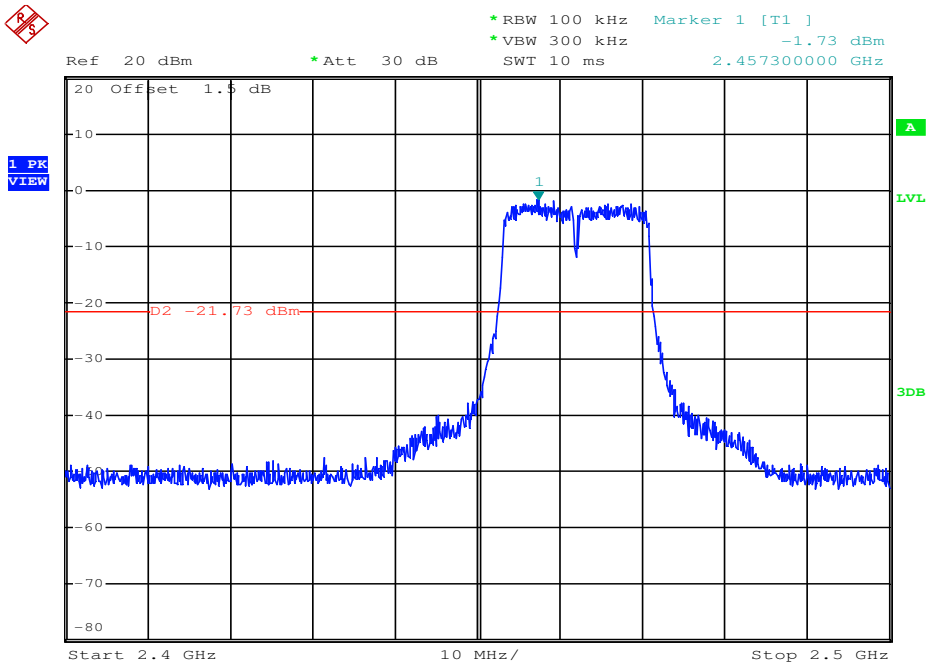
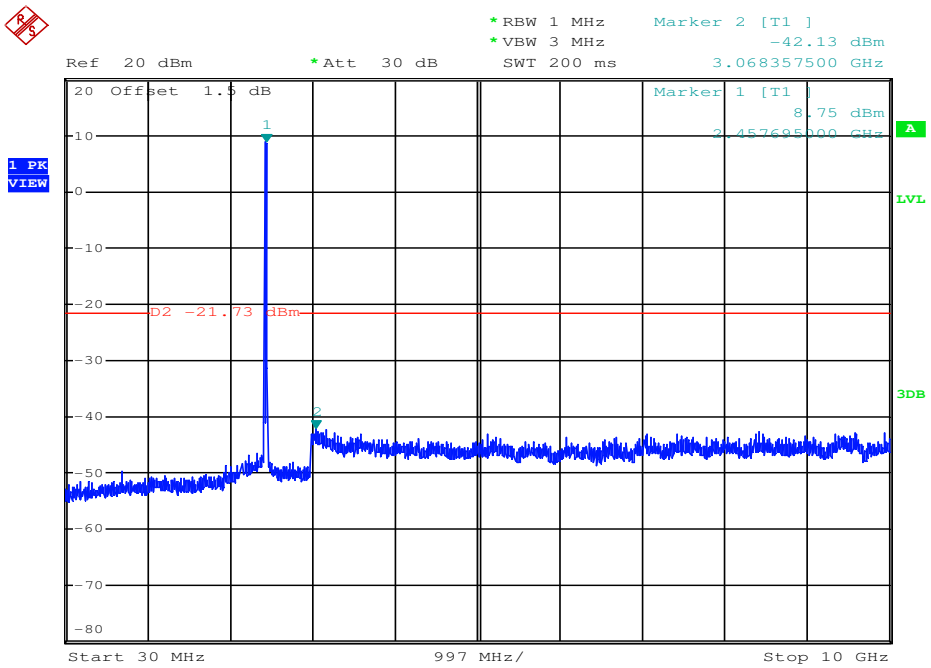
Pref	
CSE_1	

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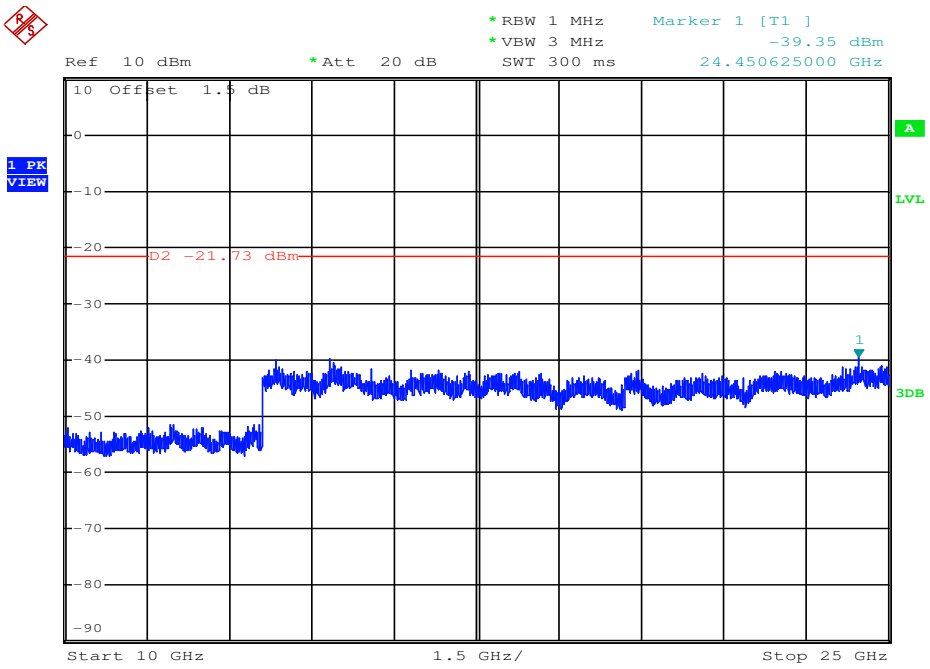
CSE_2



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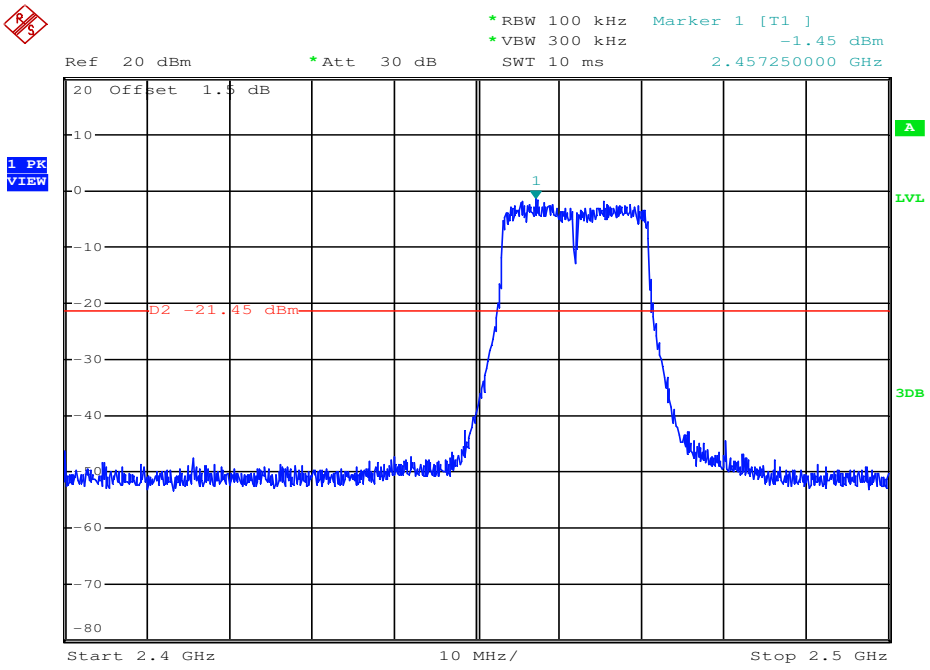
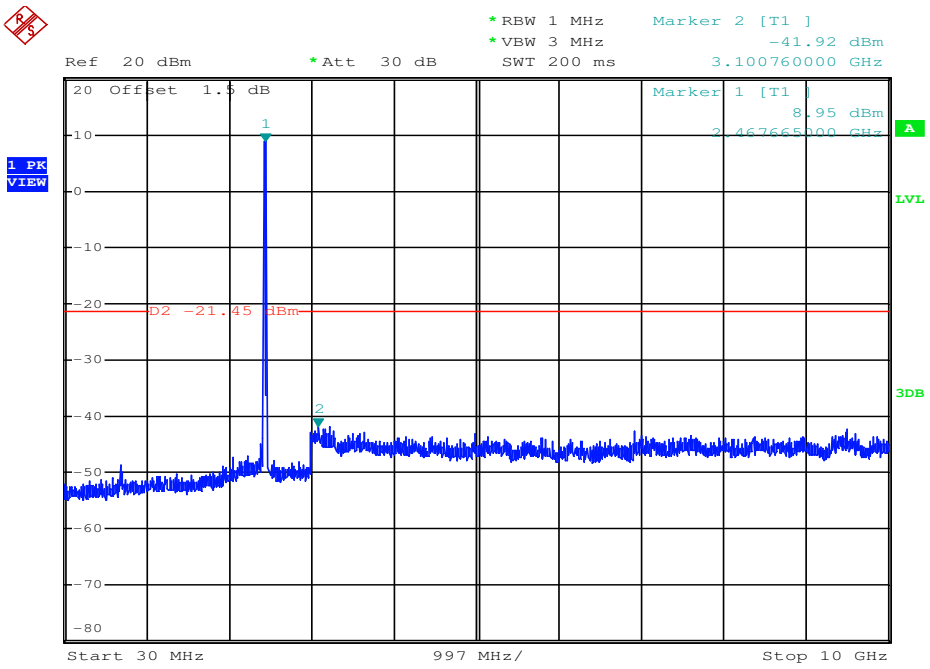
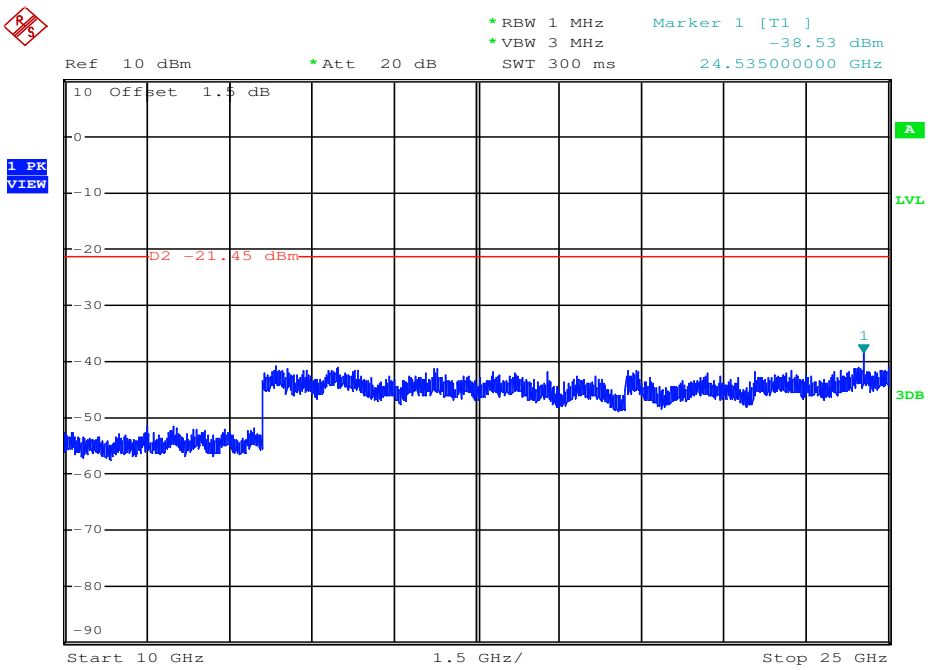


CSE_1	
CSE_2	

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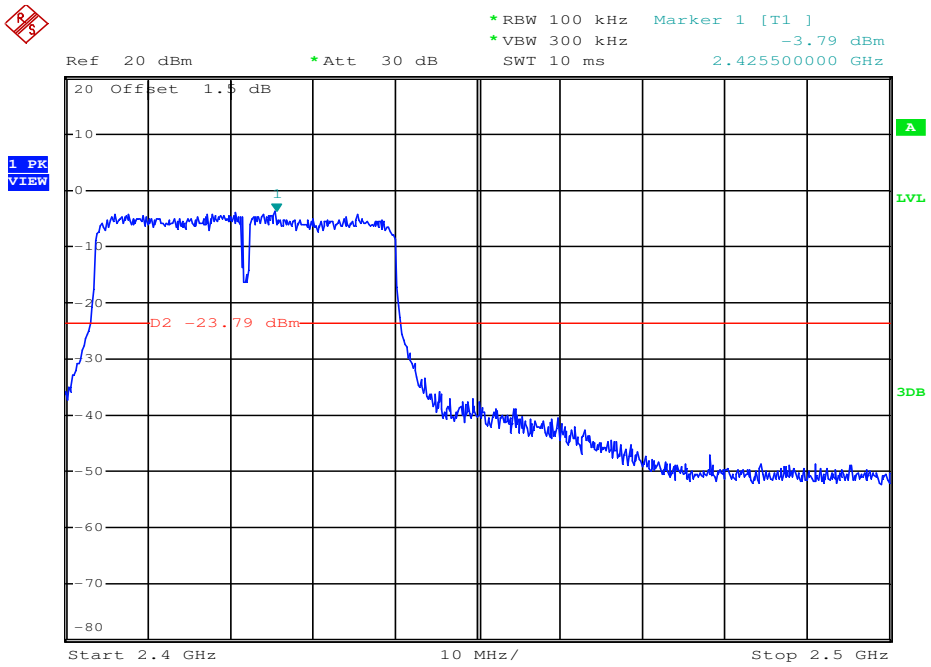
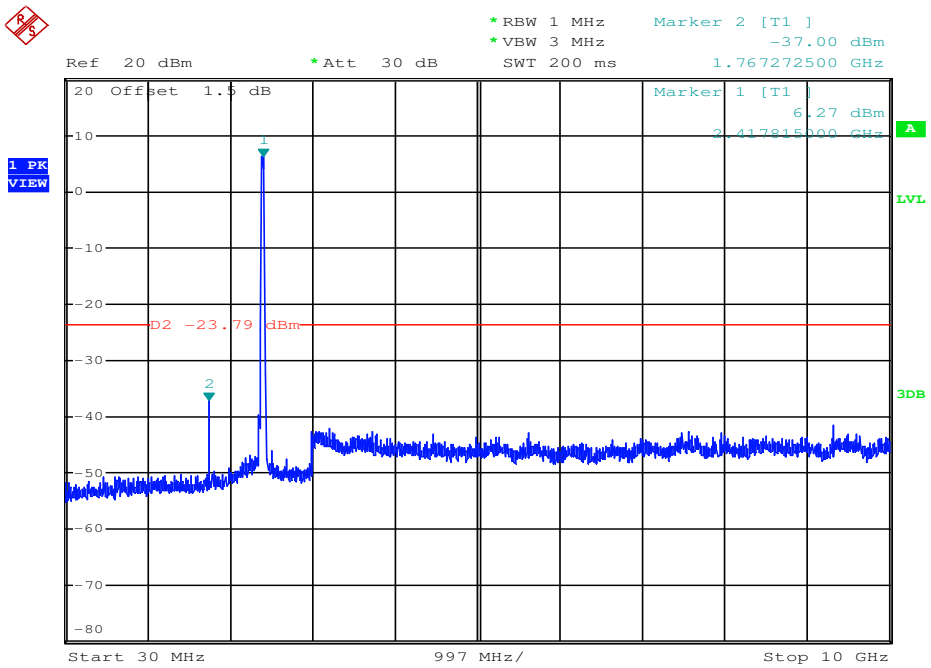
Pref	
CSE_1	

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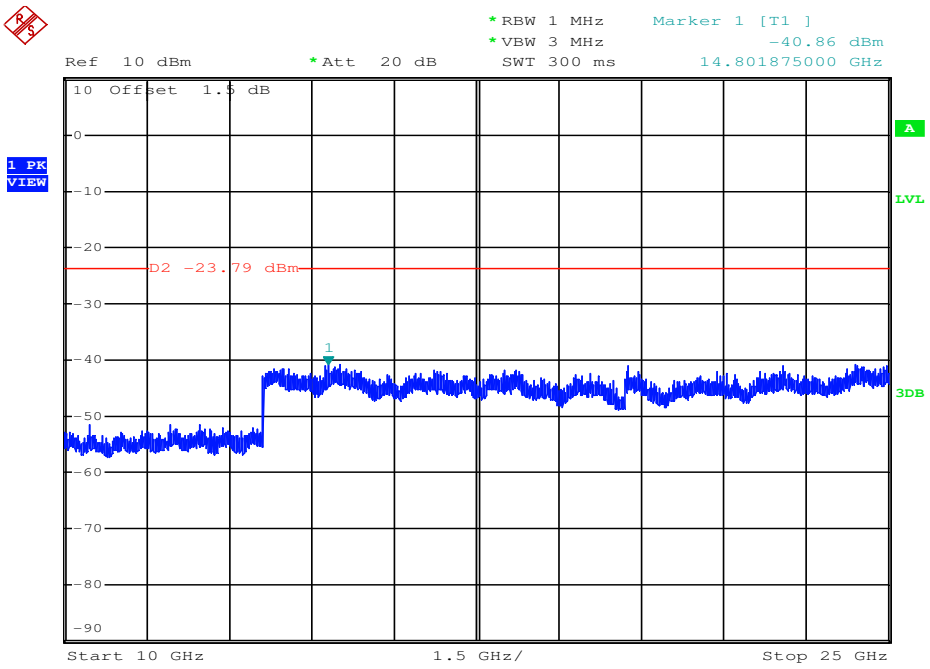
CSE_2	
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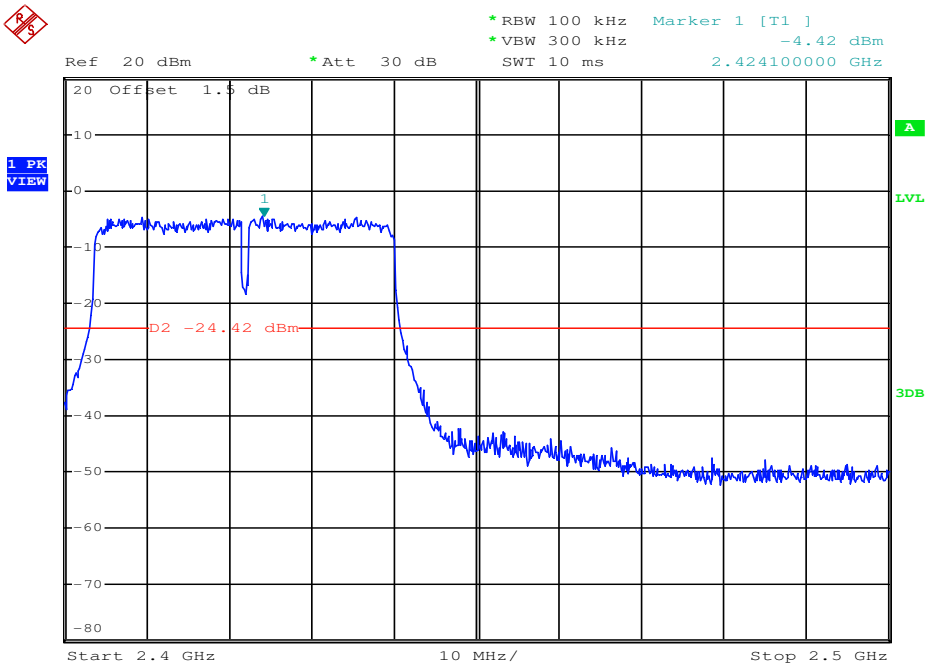
Pref	

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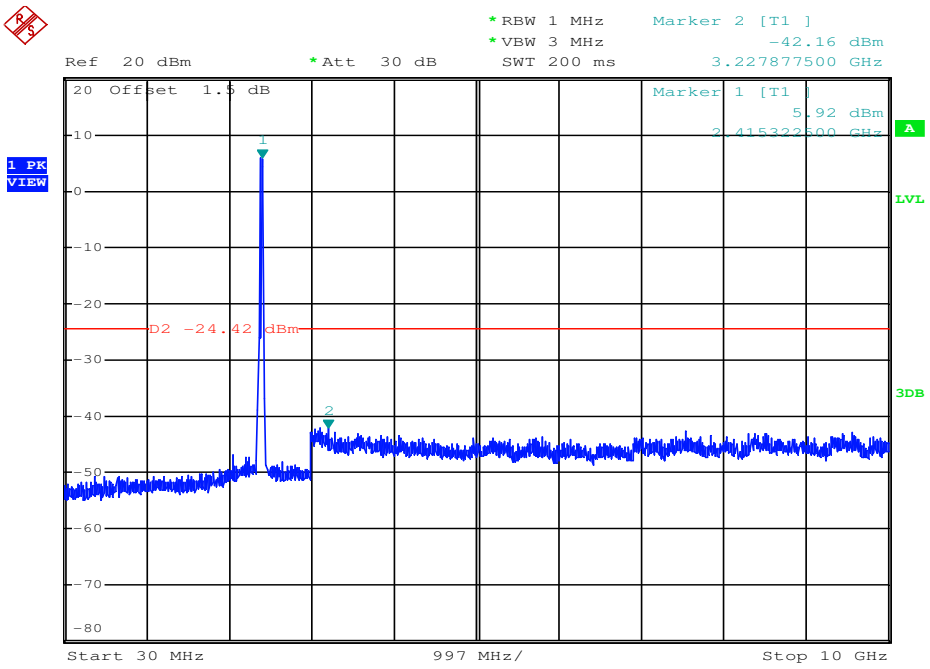
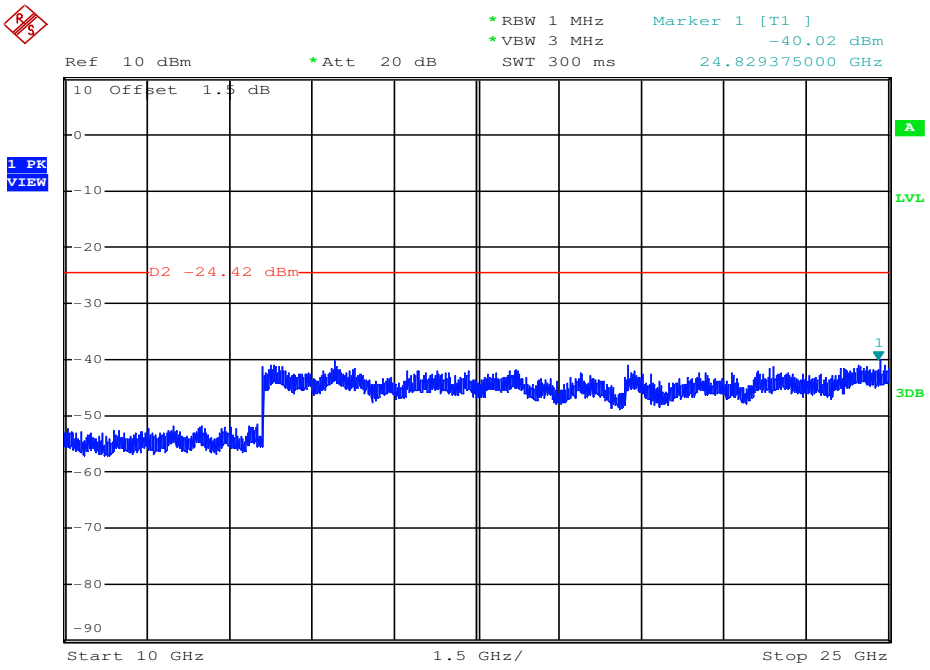
CSE_1	
CSE_2	

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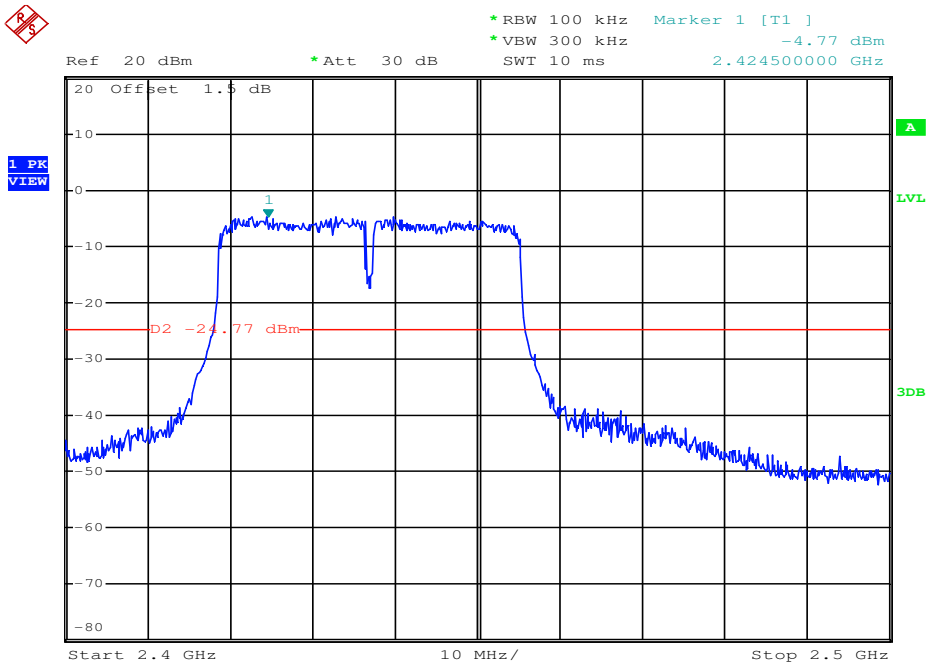
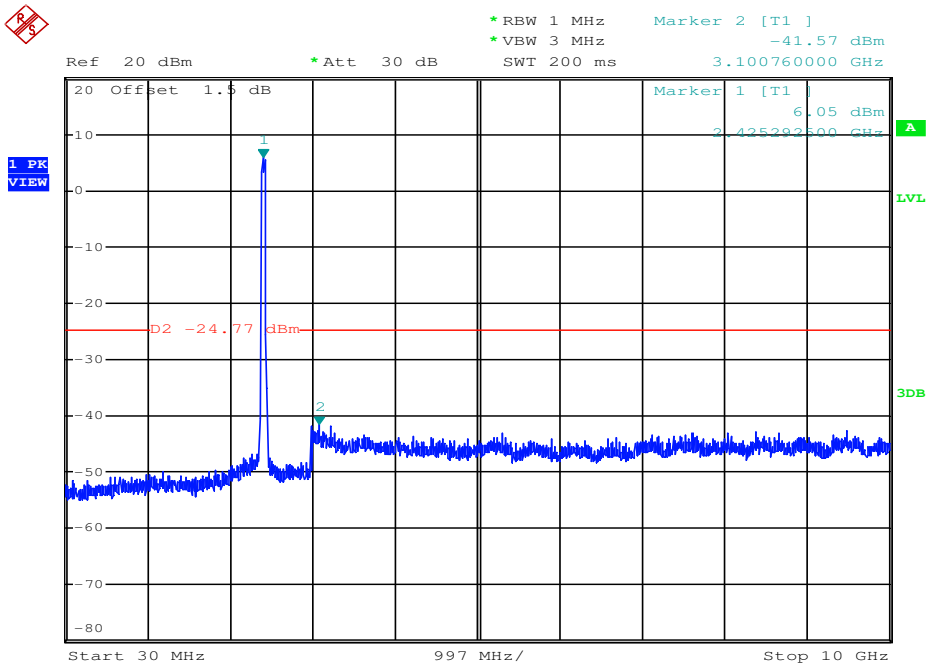
Pref	
CSE_1	

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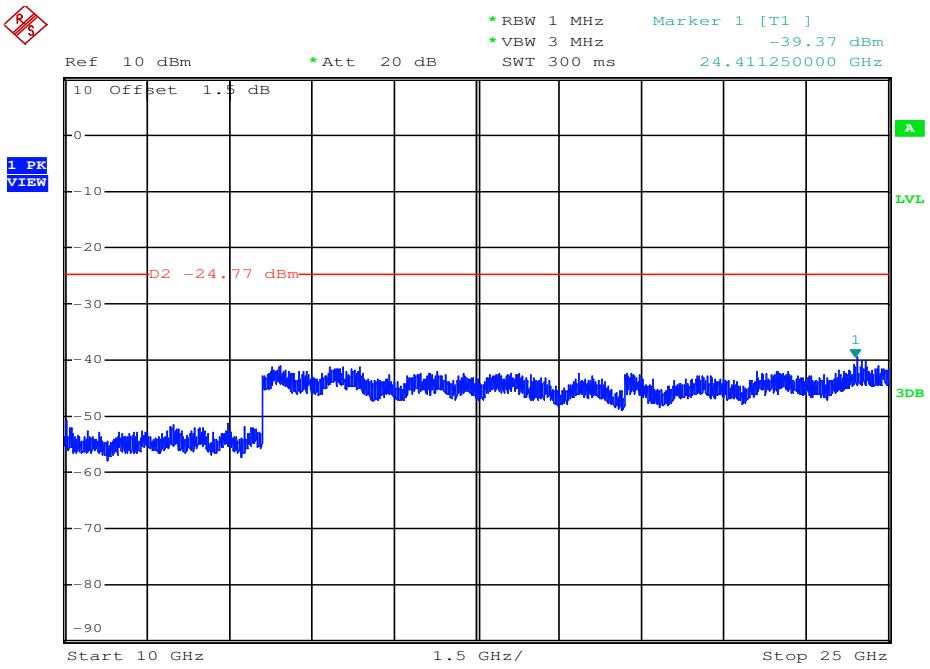
CSE_2



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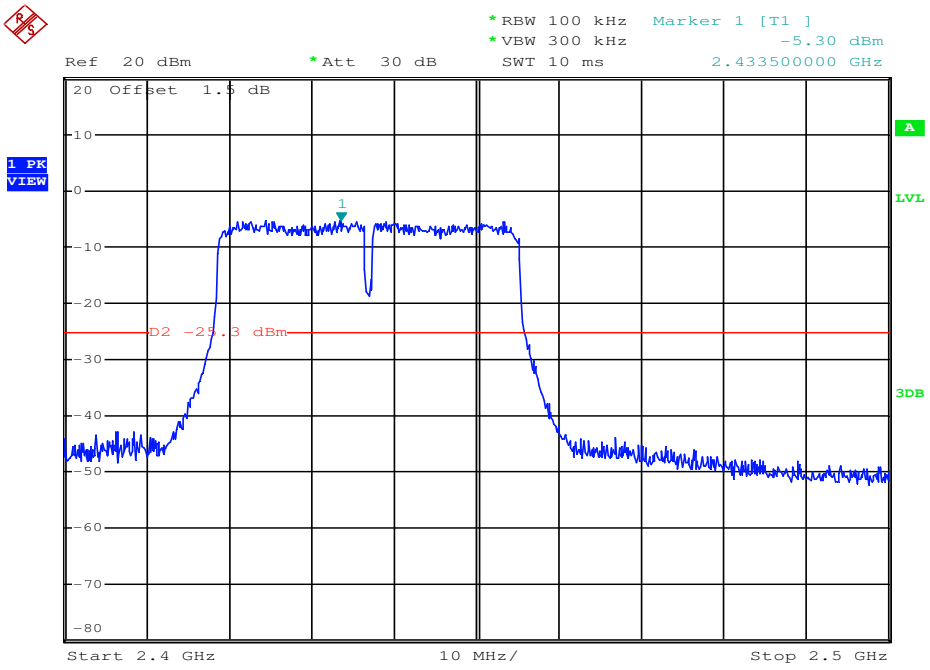
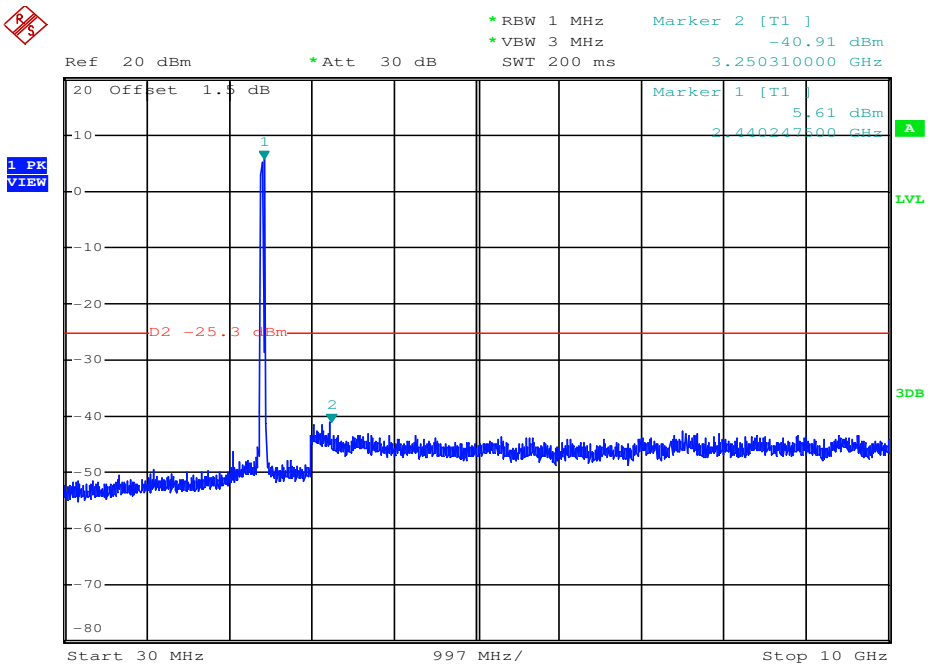
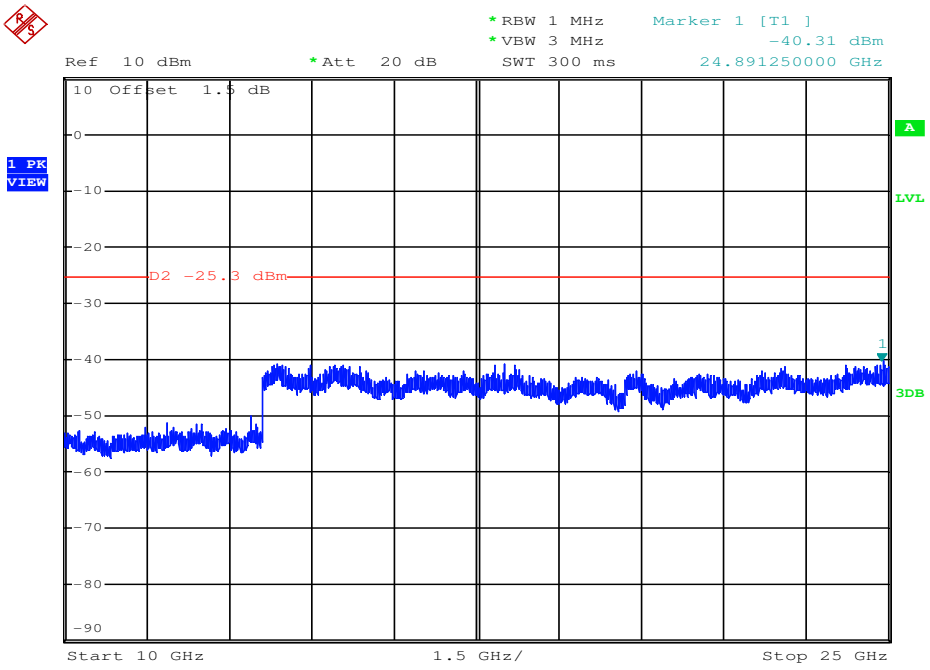


CSE_1	
CSE_2	

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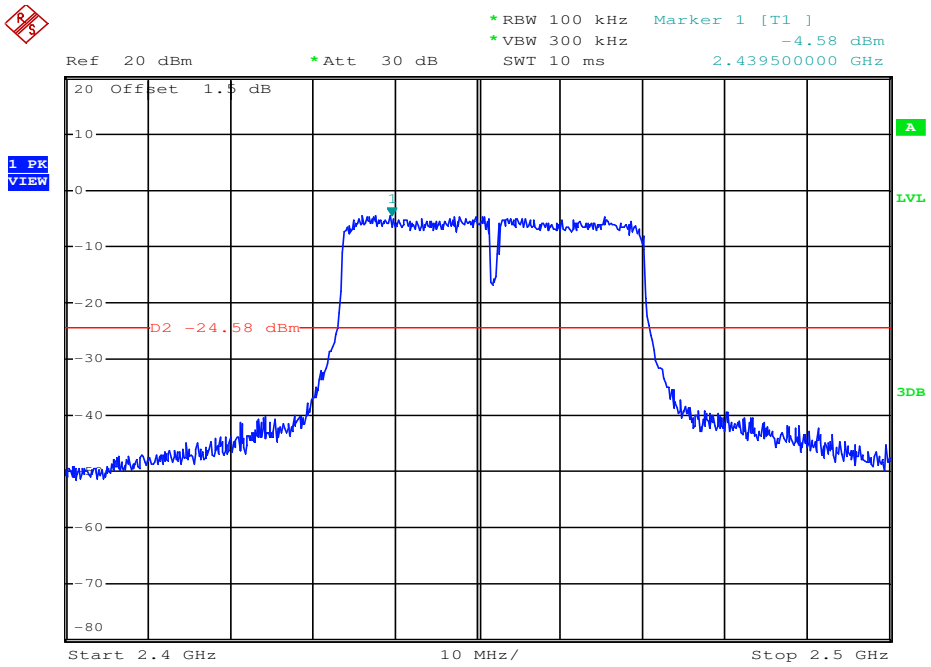
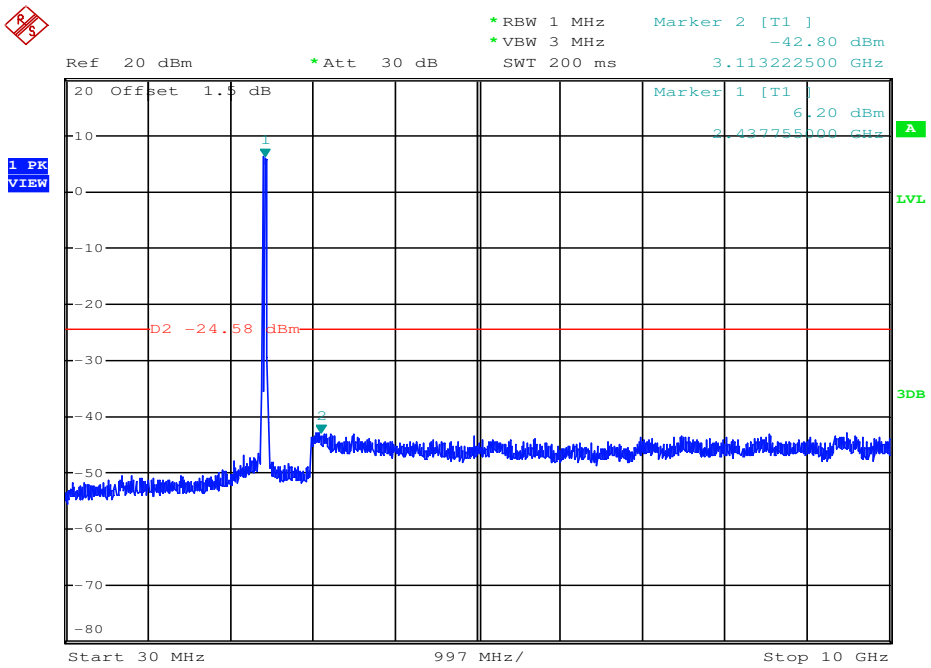
Pref	
CSE_1	

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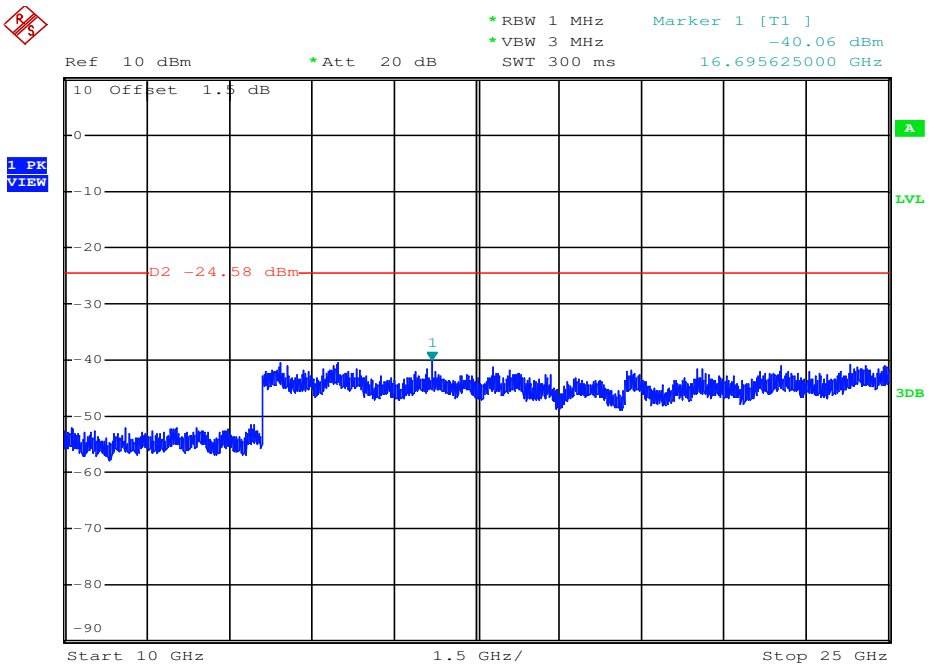
CSE_2



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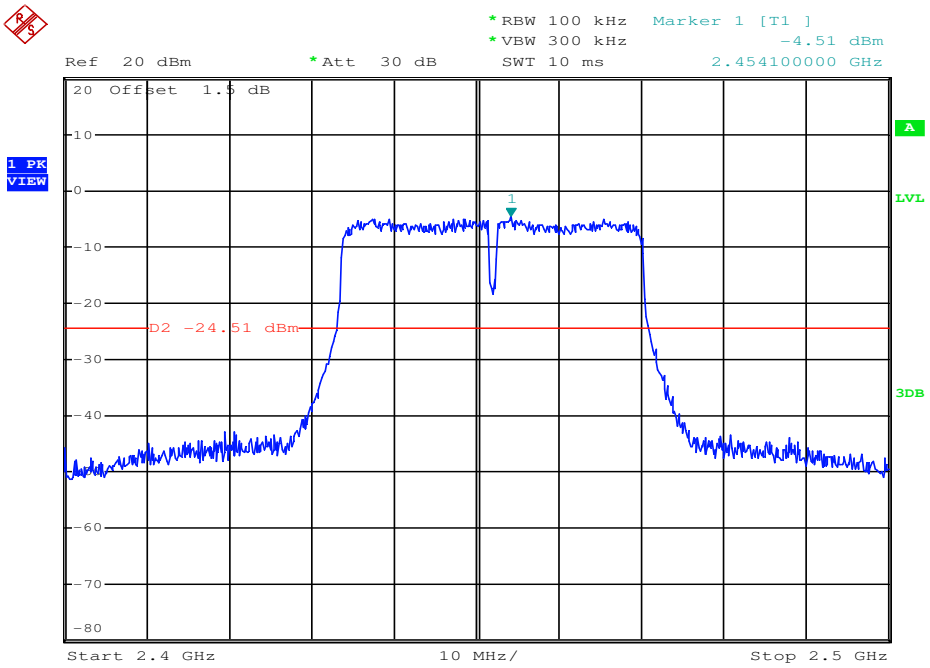
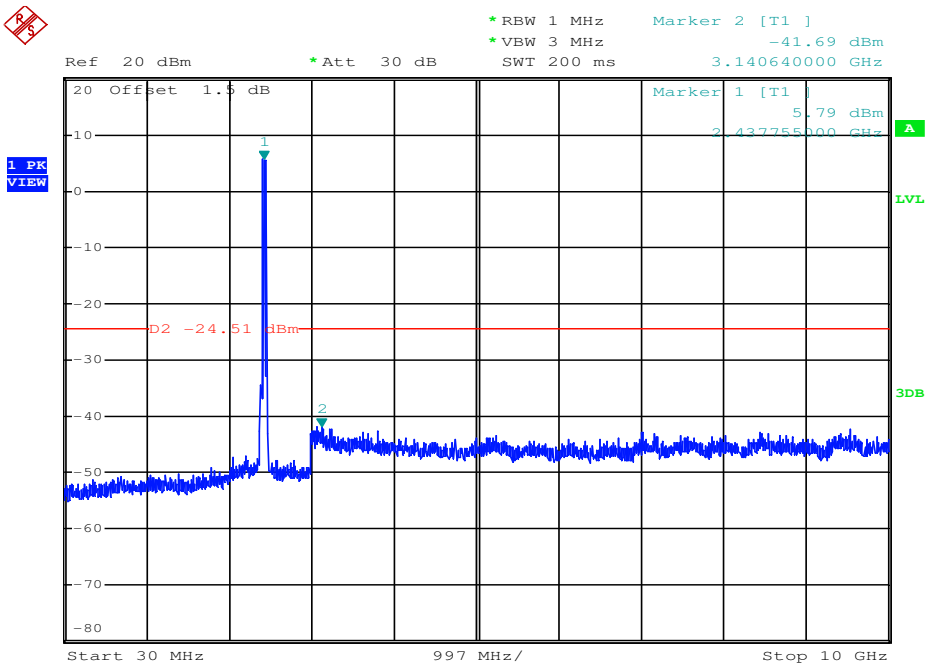
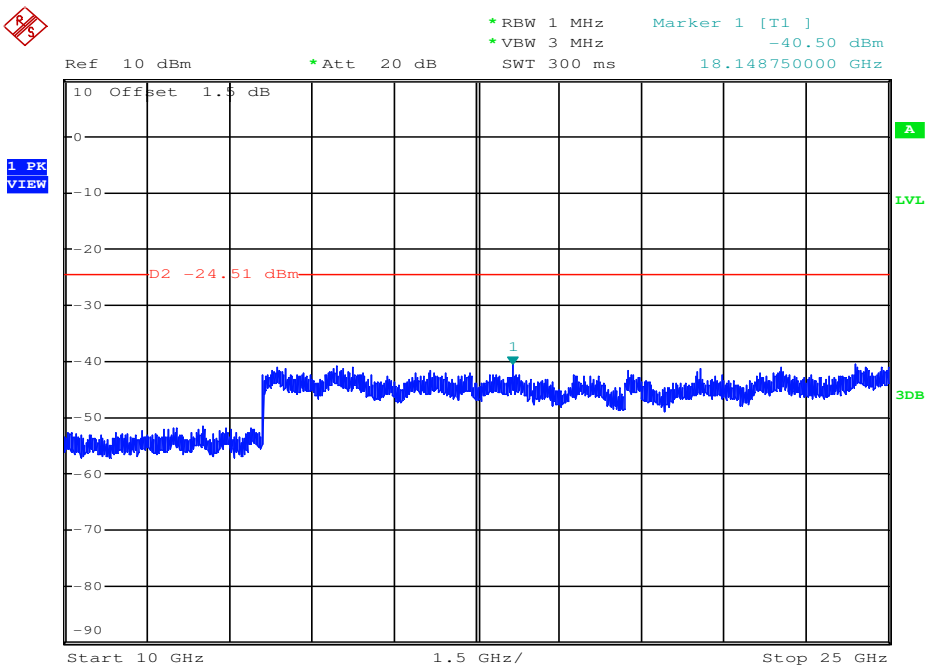


CSE_1	
CSE_2	

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