


Product Name: Digital photo frame	Report No: FCC022022-05123RF1(a)
Product Model: PS11SZW	Security Classification: Open
Version: V1.0	Total Page: 84

TIRT Testing Report

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RF TEST REPORT

FCC ID: 2AXAQ-IMGCAP-101

According to

47 CFR FCC Part 15, Subpart C(Section 15.247)

ANSI C63.10:2013

Equipment : Digital photo frame
Model No. : PS11SZW, PS11SZY, PS11SZB, PS11SZ,
PS11XXX, HS11XXX
Trademark : GreBear
Product No. : 20220927017252
Applicant : Anhui grizzly Vision Technology Co.,LTD
7 Building High-tech industrial park, high-tech zone, Huainan
City, AnHui

- The test result referred exclusively to the presented test model /sample.
- Without written approval of TIRT Inc. the test report shall not reproduced except in full.
- Test Date: 2022.9.27-2022.10.11
- Receipt date: 2022.10.13

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1. General Information

1.1 Applicant

Anhui grizzly Vision Technology Co.,LTD

7 Building High-tech industrial park, high-tech zone, Huainan City, AnHui

1.2 Manufacturer

Anhui grizzly Vision Technology Co.,LTD

7 Building High-tech industrial park, high-tech zone, Huainan City, AnHui

Basic Description of Equipment Under Test

Items	Description	
Equipment Name	Digital photo frame	
Trademark	GreBear	
Model Number	PS11SZW	
Serial Model	PS11SZY, PS11SZB, PS11SZ, PS11XXX, HS11XXX (X is variable, representing A... ~Z, or X for 0... ~ 99)	
Difference description	All the series models are the same as the test model except for the model names and color.	
Power Supply	Adapter Model: KA12H-0502000US Input: AC100-240V~50/60Hz 0.4A Max; Output: 5V 2000mA	
Operating Temperature	-10~55°C	
EUT Stage	<input type="radio"/> Product Unit	<input checked="" type="radio"/> Final-Sample
Operating Band	2400~2483.5MHz	<input checked="" type="radio"/> IEEE 802.11b
		<input checked="" type="radio"/> IEEE 802.11g
		<input checked="" type="radio"/> IEEE 802.11n(20MHz)
Product Type	IEEE 802.11b: WLAN (1TX, 1RX) IEEE 802.11g: WLAN (1TX, 1RX) IEEE 802.11n: WLAN (1TX, 1RX)	
Nominal Bandwidth	20MHz	
Modulation	IEEE 802.11b: DSSS (DBPSK, DQPSK, CCK) IEEE 802.11g: OFDM (BPSK / QPSK / 16QAM / 64QAM) IEEE 802.11n: OFDM (BPSK / QPSK / 16QAM / 64QAM)	
Data Rate (Mbps)	IEEE 802.11b mode : DSSS (1/2/5.5/11) IEEE 802.11g mode : OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n (20MHz) mode(MCS0~MCS7)	
Hardware Version	V1.1	
Software Version	V1.1	

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400MHz ~ 2483.5 MHz	01	2412MHz	07	2442MHz
	02	2417MHz	08	2447MHz
	03	2422MHz	09	2452MHz
	04	2427MHz	10	2457MHz
	05	2432MHz	11	2462MHz
	06	2437MHz	/	/

1.3 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	2.67

1.4 Transmit Operating Mode

Transmit Operating Mode				Transmit Multiple Antennas					
<input checked="" type="radio"/>	Operating mode 1 (single antenna)			<input checked="" type="radio"/>	1TX				
<input type="radio"/>	Operating mode 2 (multiple antenna, no beam forming)			<input type="radio"/>	2TX	<input type="radio"/>	3TX	<input type="radio"/>	4TX
<input type="radio"/>	Operating mode 3 (multiple antenna, with beam forming)			<input type="radio"/>	2TX	<input type="radio"/>	3TX	<input type="radio"/>	4TX
<input checked="" type="radio"/>	802.11b	Operating mode	<input checked="" type="radio"/>	1TX	<input type="radio"/>	2TX	<input type="radio"/>	3TX	
<input checked="" type="radio"/>	802.11g	Operating mode	<input checked="" type="radio"/>	1TX	<input type="radio"/>	2TX	<input type="radio"/>	3TX	
<input checked="" type="radio"/>	802.11n(20MHz)	Operating mode	<input checked="" type="radio"/>	1TX	<input type="radio"/>	2TX	<input type="radio"/>	3TX	

Note:
 802.11b, 1Mbps~11Mbps: 1TX1RX.
 802.11g, 6Mbps~54Mbps: 1TX1RX.
 802.11n20MHz, MCS0~ MCS7: 1TX1RX.

2. Summary of Test Results

2.1 Summary of Test Items

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Test item	FCC Clause	Results	Remarks
AC Power Conducted Emission	15.207	Pass	Meet the requirement of the limit
Radiated Emission and Band Edge Measurement	15.205/15.209 /15.247(d)	Pass	Meet the requirement of the limit
Spurious Emission at Antenna Port	15.247(d)	Pass	Meet the requirement of the limit
6dB Bandwidth	15.247(a)(2)	Pass	Meet the requirement of the limit
Conducted Power	15.247(b)	Pass	Meet the requirement of the limit
Power Spectral Density	15.247(e)	Pass	Meet the requirement of the limit
Antenna Requirements	15.203	Compliance	The EUT has one internal antenna arrangement for WiFi which was permanently attached and the antenna gain is 2.67dBi, Impedance is 50Ω fulfill the requirement of this section. Please refer to the product photos.
Note: NA denotes Not Applicable in this part			

2.2 Application of Standard

47 CFR FCC Part 15, Subpart C (Section 15.247)

KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10:2013

2.3 Test Instruments

No.	Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	Calibrating Cycle
1	EMI Receiver	Rohde&Schwarz	ESCI	1166.5950.03	2022/11/16	one year
2	AMN	Rohde&Schwarz	ENV216	3560.6550.05	2022/11/09	one year
3	AMN	Schwarzbeck	NSLK8127	#829	2022/11/09	one year
4	ECSI RF IN RF Cable	Rohde&Schwarz	RP-X1	\	2022/11/18	one year
5	ECSI RF IN RF Cable	Rohde&Schwarz	Sapre sm	\	2022/11/09	one year
6	EMI Receiver	Rohde&Schwarz	ESR7	102013	2022/11/09	one year
7	Spectrum analyzer	Rohde&Schwarz	FSV30	103741	2022/11/09	one year
8	EMI receiver	Rohde&Schwarz	ESU	100184	2023/07/20	one year
9	Spectrum analyzer	KEYSIGHT	N9010A-44	MY51440158	2022/11/09	one year
10	Loop Antenna*	Schwarzbeck	FMZB1519B	00029	2025/07/03	one year
11	Log periodic antenna	Schwarzbeck	VULB 9163	VULB 9163-361	2022/11/09	one year
12	Horn antenna	Schwarzbeck	BBHA 9120D	BBHA 9120D 1201	2022/11/09	one year
13	Horn antenna	Schwarzbeck	BBHA 9170	9170#685	2022/11/09	one year
14	Preamplifier	CD Systems Inc	PAP-03036-30	85060000	2022/11/09	one year
15	Preamplifier	Schwarzbeck	BBV9721	9721-019	2022/11/09	one year
16	Preamplifier	emci	EMC012645 SE	980417	2022/11/09	one year
17	ECSI RF IN RF Cable	Rohde&Schwarz	AP-X1	\	2022/11/09	one year
18	Spectrum Analyzer	Agilent	N9010A	MY52221119	2022/11/09	one year
19	Power Collection Unit	Tonscend	JS0806-2	188060134	2022/11/09	one year
20	Tonscend Test System	Tonscend	2.6.77.0518	NA	NA	NA
21	10dB Attenuator	Tonscend	10dB	NA	NA	NA
22	Temp&Humidity Recorder	Anymetre	JR900	NA	2022/11/03	one year
23	Temp&Humidity Chamber	ETOMA	NTH1100-30 A	16080628	2022/11/03	one year
24	Filter	STI	STI15-9845	N/A	N/A	NA
25	Filter	STI	5.1G	N/A	N/A	NA
26	Filter	STI	STI15-9845	N/A	N/A	NA
27	Testing Software	EZ-EMC	TW-03A2	N/A	N/A	NA

Remark: "N/A" denotes no model name, serial no. or calibration specified.

"*" calibration period of equipment list is three year.

Except * item, all calibration period of equipment list is one year.

2.4 Test Mode

Frequency Range : 2400~2483.5 MHz				
Test Items	Mode	Data Rate	Channel	Antenna
AC Power Conducted Emission	802.11n(20MHz)	MCS0	01/06/11	1
Radiated Emission and Band Edge Measurement	802.11b	1 Mbps	01/06/11	1
	802.11g	6Mbps	01/06/11	1
	802.11n(20MHz)	MCS0	01/06/11	1
Spurious Emission at Antenna Port	802.11b	1 Mbps	01/06/11	1
	802.11g	6Mbps	01/06/11	1
	802.11n(20MHz)	MCS0	01/06/11	1
6dB Bandwidth	802.11b	1 Mbps	01/06/11	1
	802.11g	6Mbps	01/06/11	1
	802.11n(20MHz)	MCS0	01/06/11	1
Conducted Power	802.11b	1 Mbps	01/06/11	1
	802.11g	6Mbps	01/06/11	1
	802.11n(20MHz)	MCS0	01/06/11	1
Power Spectral Density	802.11b	1 Mbps	01/06/11	1
	802.11g	6Mbps	01/06/11	1
	802.11n(20MHz)	MCS0	01/06/11	1

2.5 Test Condition

Applicable to	Environmental conditions	Input Power	Tested by
AC Power Conducted Emission	24.6°C, 56 % RH	120Vac, 60Hz	Stone Tang
Radiated Emission and Band Edge Measurement	24.2°C, 55 % RH	120Vac, 60Hz	Stone Tang
Spurious Emission at Antenna Port	24.6°C, 56 % RH	120Vac, 60Hz	Stone Tang
6dB Bandwidth	24.6°C, 56 % RH	120Vac, 60Hz	Stone Tang
Conducted Power	24.6°C, 56 % RH	120Vac, 60Hz	Stone Tang
Power Spectral Density	24.6°C, 56 % RH	120Vac, 60Hz	Stone Tang

The applicant declare the operating environment of EUT as below:

Normal conditions: 5V 2A DC ,15~35°C

Extreme conditions: 5V 2A DC, -10°C ~55°C

2.6 Duty Cycle of Test Signal

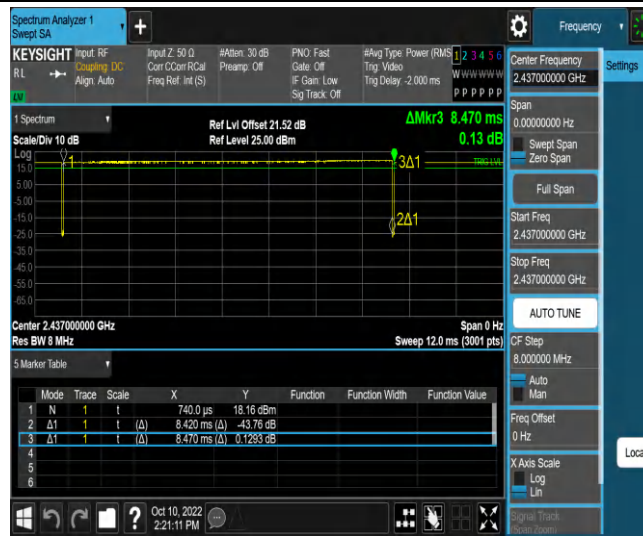
If duty cycle is $\geq 98\%$, duty factor is not required.

If duty cycle is $< 98\%$, duty factor shall be considered.

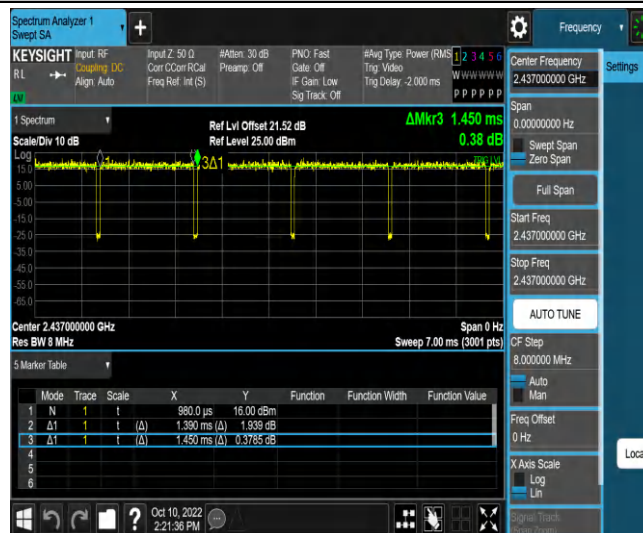
So all the duty factor of other test mode shall be considered.

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty Factor
11B	Ant1	2437	8.42	8.47	99.41	--
11G	Ant1	2437	1.39	1.45	95.86	0.38
11N20SISO	Ant1	2437	1.31	1.37	95.62	0.39

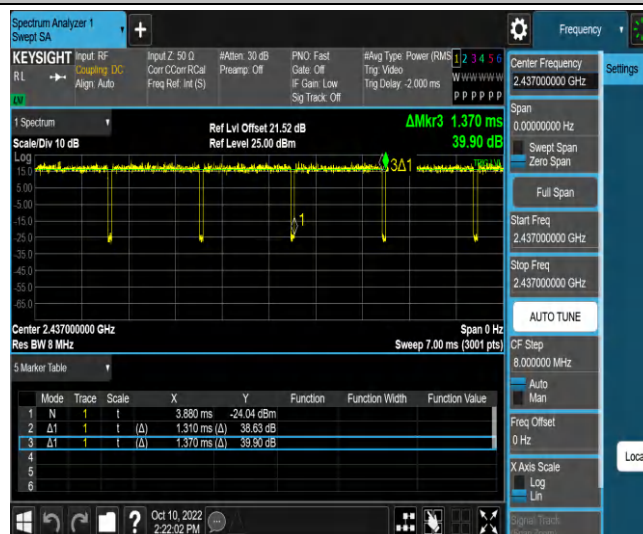
11B_Ant1_2437



11G_Ant1_2437



11N20SISO_Ant1_2437



2.7 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 142.12\text{kHz}$
Power Spectral Density	$\pm 0.86\text{dB}$
RF power conducted	$\pm 0.74\text{dB}$
RF power radiated	$\pm 3.25\text{dB}$
Spurious emissions, conducted	$\pm 1.78\text{dB}$
Spurious emissions, radiated (9KHz~30MHz)	$\pm 2.36\text{dB}$
Spurious emissions, radiated (30MHz~1GHz)	$\pm 4.6\text{dB}$
Spurious emissions, radiated (1GHz ~ 18GHz)	$\pm 4.9\text{dB}$
Conduction Emissions(150kHz~30MHz)	$\pm 3.1\text{dB}$
Humidity	$\pm 4.6\%$
Temperature	$\pm 0.7^\circ\text{C}$
Time	$\pm 1.25\%$

2.8 Test Location

Company:	Beijing TIRT Technology Service Co.,Ltd Shenzhen
Address:	101, 3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China
CNAS Registration Number:	CNAS L14158
A2LA Registration Number	6049.01
Telephone:	+86-0755-27087573

2.9 Deviation from Standards

None

2.10 Abnormalities from Standard Conditions

None

3. Test Procedure And Results

3.1 AC Power Line Conducted Emission

3.1.1 Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μ V)	Average Level dB(μ V)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.1.2 Test Peripherals

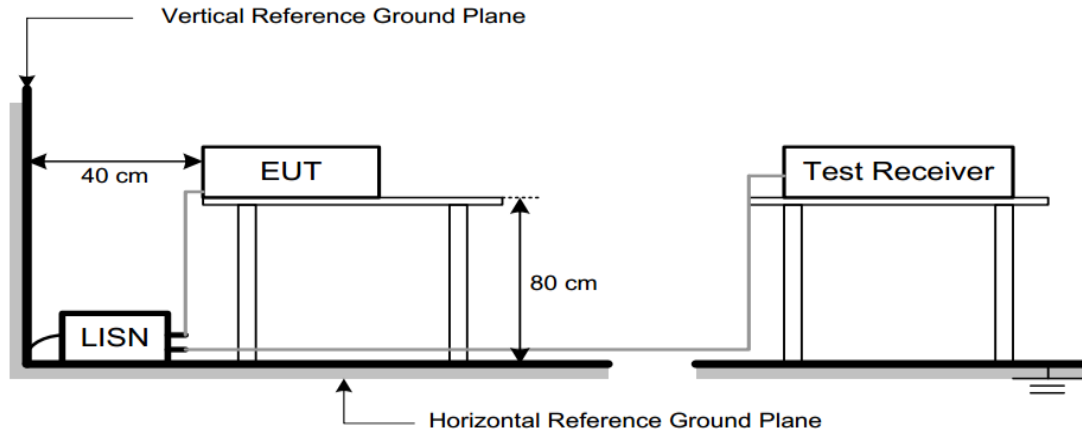
Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	Type-C Cable	AWM	E101344	0.9m, No Shielding
2	Adaptor	FUSHIGANG	AS1201A-0502000 USU	NA
3	Record PC	Lenovo	M4500T	NA
4	Control PC	Lenovo	M4500T	NA

3.1.3 Test Procedure

Test Method	
<input checked="" type="radio"/> Conducted Measurement	<input type="radio"/> Radiated Measurement
Test Channels	
<input type="radio"/> Lowest, Middle and Highest Channel	<input type="radio"/> Lowest and Highest Channel
Environmental conditions	
<input checked="" type="radio"/> Normal	<input type="radio"/> Normal and Extreme
Note: ● : Test ○ : No Test	

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

3.1.4 Test Setup

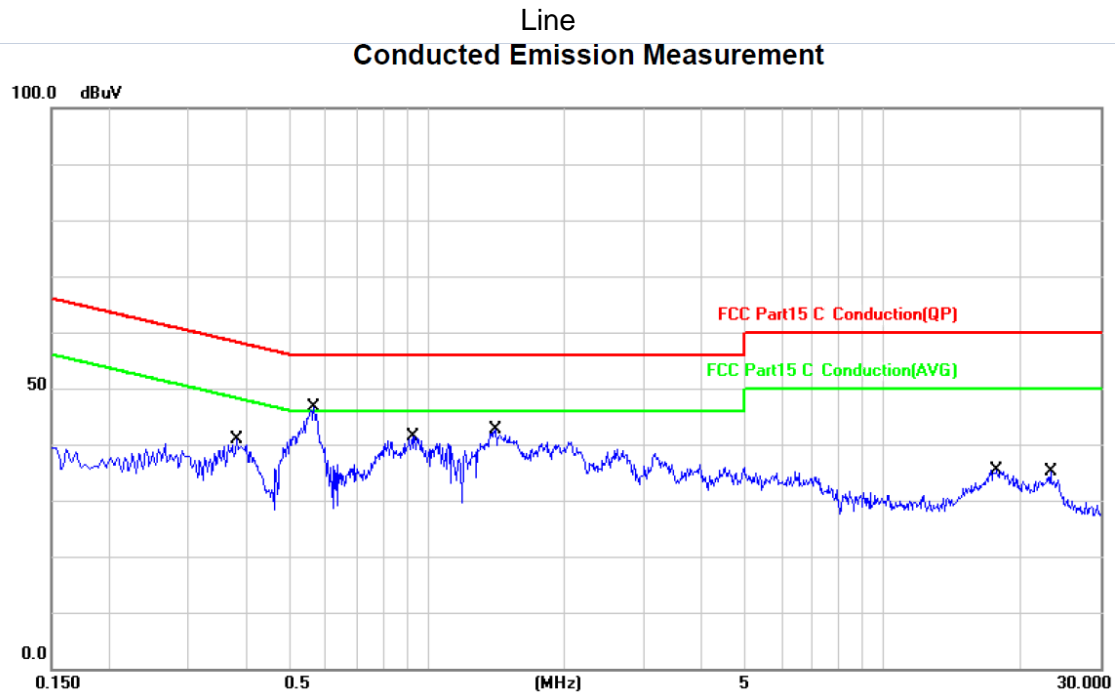


3.1.5 Test Result

Note:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Measurement = Reading + Correct Factor.
3. Over = Measurement - Limit

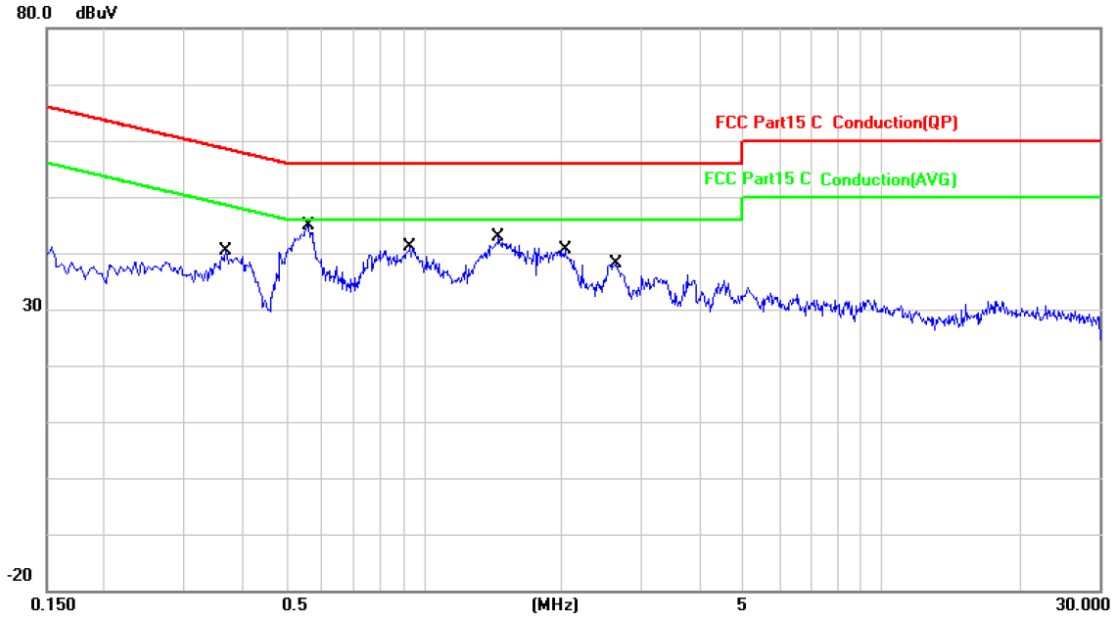
150kHz~30MHz	Worst Case Operating Mode: 802.11b-2412MHz TX
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1	*	0.5660	22.76	19.53	42.29	56.00	-13.71	QP
2		0.5660	11.39	19.53	30.92	46.00	-15.08	AVG
3		0.3820	17.67	19.52	37.19	58.24	-21.05	QP
4		0.3820	8.44	19.52	27.96	48.24	-20.28	AVG
5		1.4180	17.79	19.78	37.57	56.00	-18.43	QP
6		1.4180	8.43	19.78	28.21	46.00	-17.79	AVG
7		0.9340	18.17	19.64	37.81	56.00	-18.19	QP
8		0.9340	8.51	19.64	28.15	46.00	-17.85	AVG
9		17.7980	8.00	21.80	29.80	60.00	-30.20	QP
10		17.7980	-0.79	21.80	21.01	50.00	-28.99	AVG
11		23.3140	6.36	21.86	28.22	60.00	-31.78	QP
12		23.3140	-1.28	21.86	20.58	50.00	-29.42	AVG

150kHz~30MHz	Worst Case Operating Mode: 802.11b-2412MHz TX
--------------	---

Neutral
Conducted Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1		0.5620	21.39	19.75	41.14	56.00	-14.86	QP
2	*	0.5620	15.37	19.75	35.12	46.00	-10.88	AVG
3		1.4620	18.50	20.04	38.54	56.00	-17.46	QP
4		1.4620	12.55	20.04	32.59	46.00	-13.41	AVG
5		0.3700	15.77	19.70	35.47	58.50	-23.03	QP
6		0.3700	10.84	19.70	30.54	48.50	-17.96	AVG
7		0.9380	17.68	19.86	37.54	56.00	-18.46	QP
8		0.9380	12.84	19.86	32.70	46.00	-13.30	AVG
9		2.0420	16.39	20.32	36.71	56.00	-19.29	QP
10		2.0420	11.01	20.32	31.33	46.00	-14.67	AVG
11		2.6420	13.54	20.50	34.04	56.00	-21.96	QP
12		2.6420	8.03	20.50	28.53	46.00	-17.47	AVG

3.2 Radiated Emission and Band Edge

3.2.1 Limit

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency (MHz)	Distance Meters(m)	Field Strength Limit	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 – 0.49	300	2400/F(kHz)	-
0.490 – 1.705	30	24000/F(kHz)	-
1.705 – 30	30	30	-
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

Note: (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.2.2 Test Peripherals

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	Type-C Cable	AWM	E101344	0.9m, No Shielding
2	Adaptor	FUSHIGANG	AS1201A-0502000 USU	NA
3	Record PC	Lenovo	M4500T	NA
4	Control PC	Lenovo	M4500T	NA

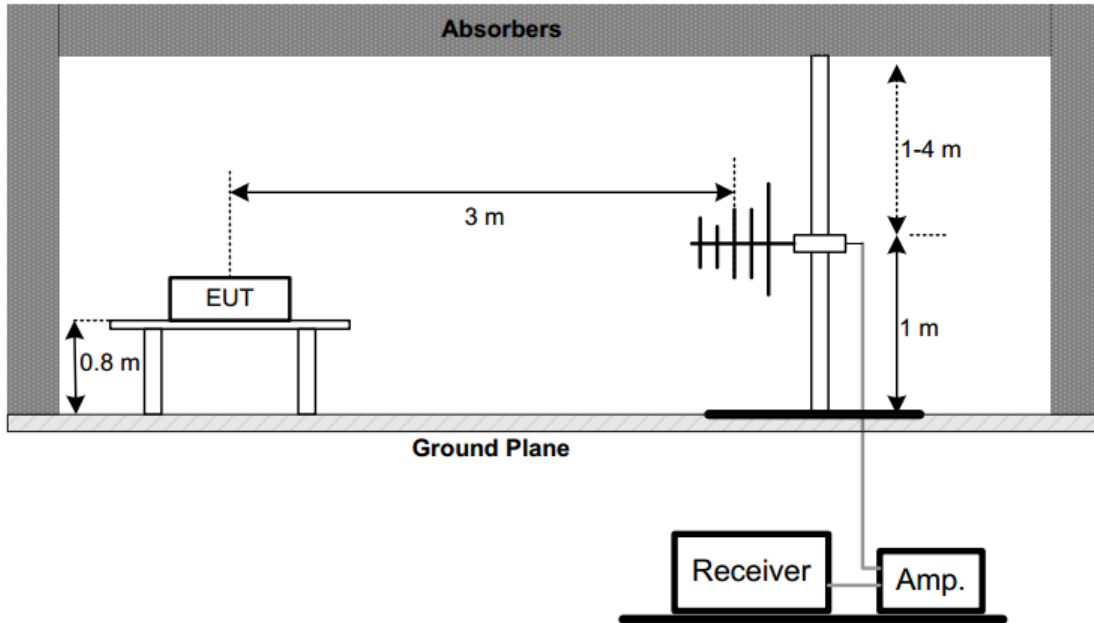
3.2.3 Test Procedure

Test Method	
<input type="radio"/> Conducted Measurement	<input checked="" type="radio"/> Radiated Measurement
Test Channels	
<input checked="" type="radio"/> Lowest, Middle and Highest Channel	<input type="radio"/> Lowest and Highest Channel
Environmental conditions	
<input checked="" type="radio"/> Normal	<input type="radio"/> Normal and Extreme
Note: ● : Test ○ : No Test	

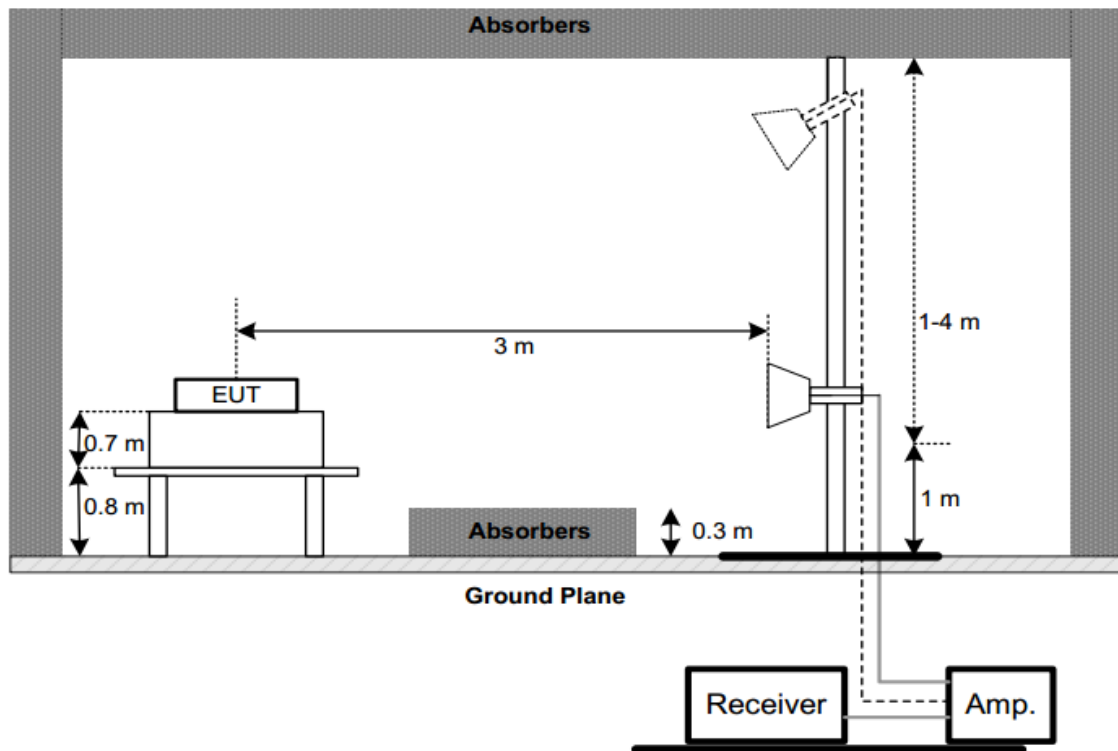
- a) The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b) The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c) The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e) The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f) The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g) All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h) All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i) For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.2.4 Test Setup

(A) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



3.2.5 Test Result

1) Radiated emission: 9kHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

2) Radiated emission: 30MHz-1GHz

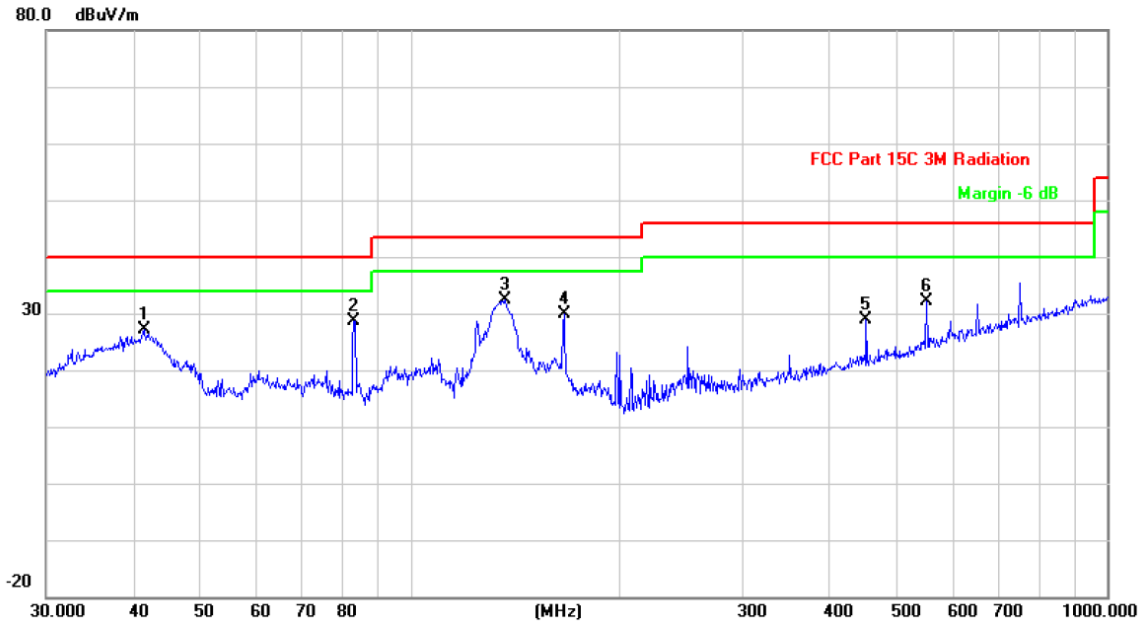
Note:

1. Measurement = Reading + Correct Factor.
2. Over = Measurement – Limit
3. The 802.11b at Low channel (2412MHz) is the worst case and recorded in the report.

Below 1G (30MHz~1GHz)	Test mode: 11b	Test Channel: 1
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VERTICAL

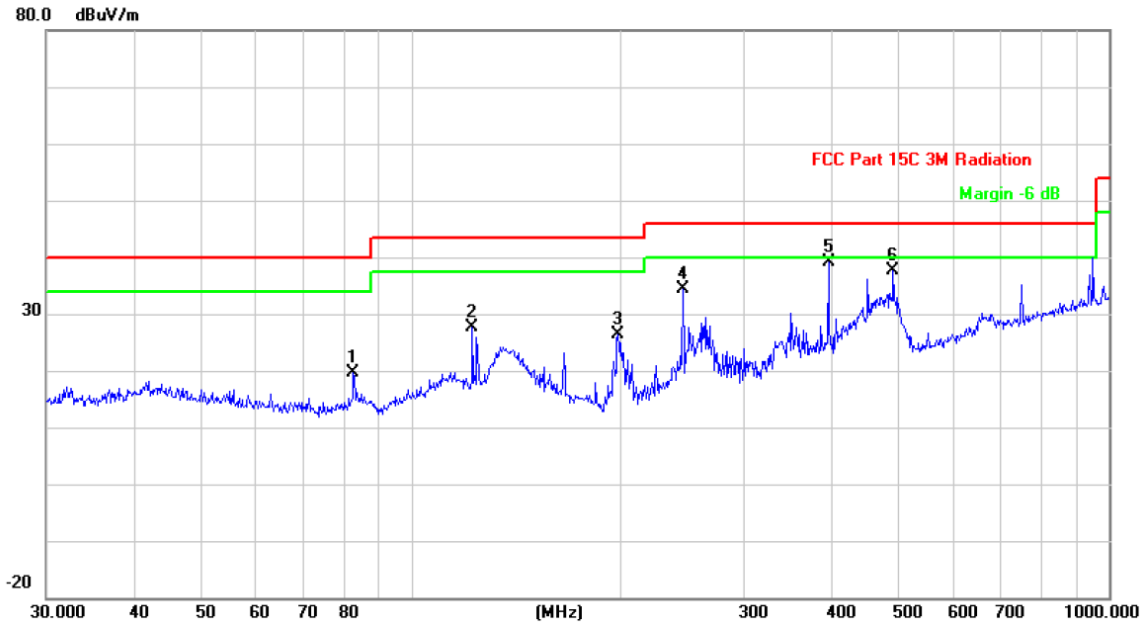
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		41.4215	36.97	-9.93	27.04	40.00	-12.96	QP
2		82.9385	43.37	-14.75	28.62	40.00	-11.38	QP
3	*	136.4598	42.73	-10.32	32.41	43.50	-11.09	QP
4		166.0680	40.22	-10.23	29.99	43.50	-13.51	QP
5		451.1350	33.92	-4.99	28.93	46.00	-17.07	QP
6		550.9480	34.70	-2.55	32.15	46.00	-13.85	QP

HORIZONTAL

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		82.6482	34.28	-14.76	19.52	40.00	-20.48	QP
2		122.4040	39.22	-11.49	27.73	43.50	-15.77	QP
3		197.8928	38.94	-12.64	26.30	43.50	-17.20	QP
4		245.0900	44.90	-10.52	34.38	46.00	-11.62	QP
5	*	396.2415	45.39	-6.27	39.12	46.00	-6.88	QP
6		490.7447	41.66	-4.07	37.59	46.00	-8.41	QP

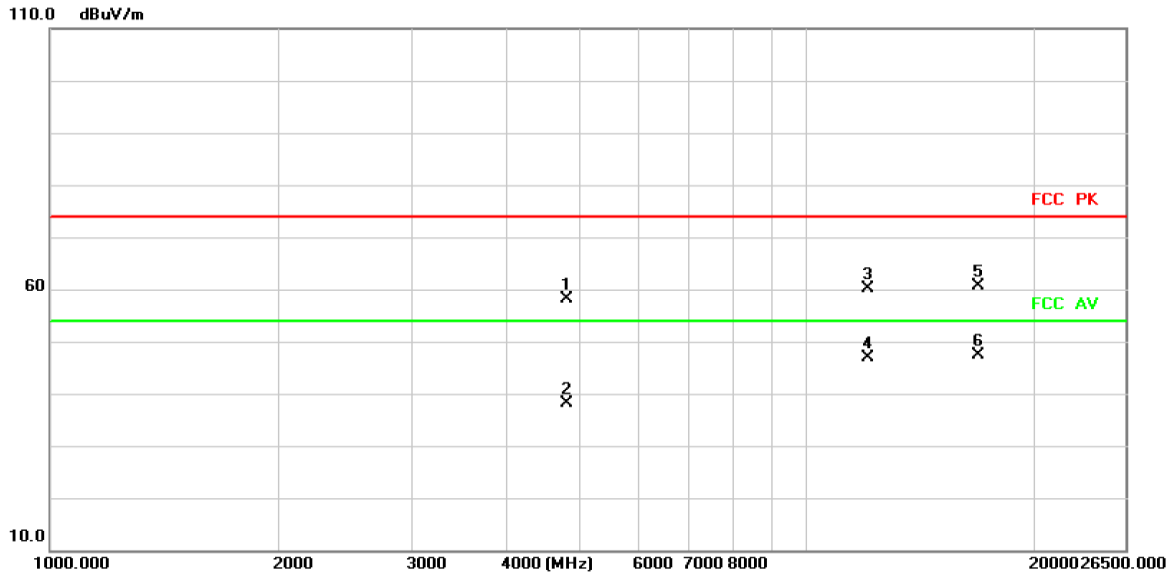
3) Radiated emission: Above 1GHz

Note:

1. Measurement = Reading + Correct Factor.
2. Over = Measurement - Limit

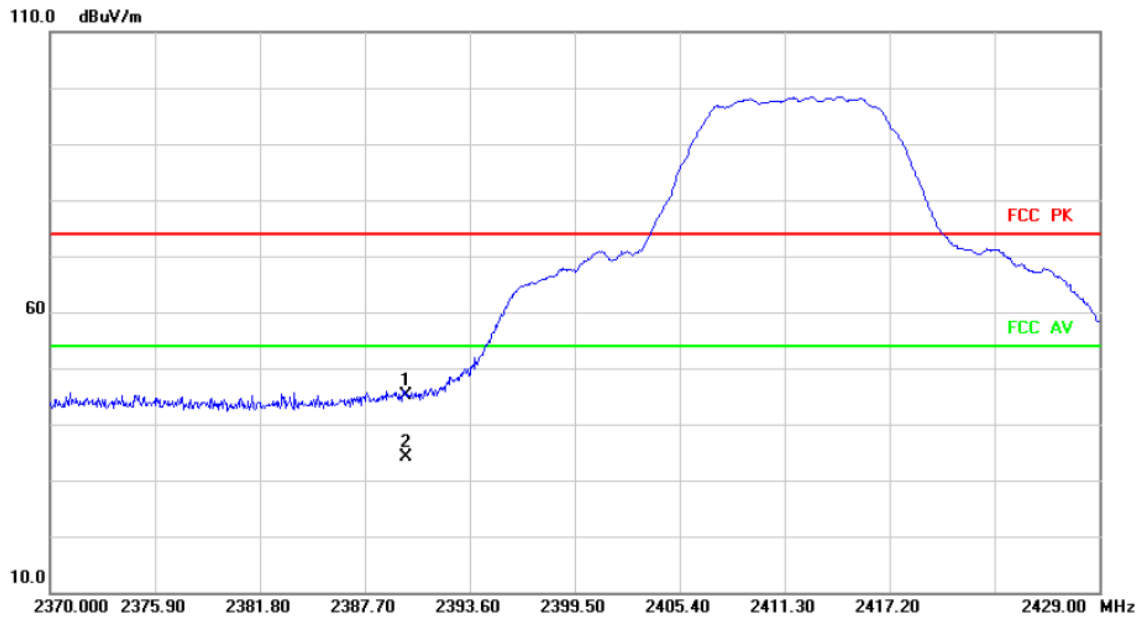
Above 1G (1GHz~26.5GHz)	Test mode:11B	Test Channel:1
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**VERTICAL
Radiated Emission**



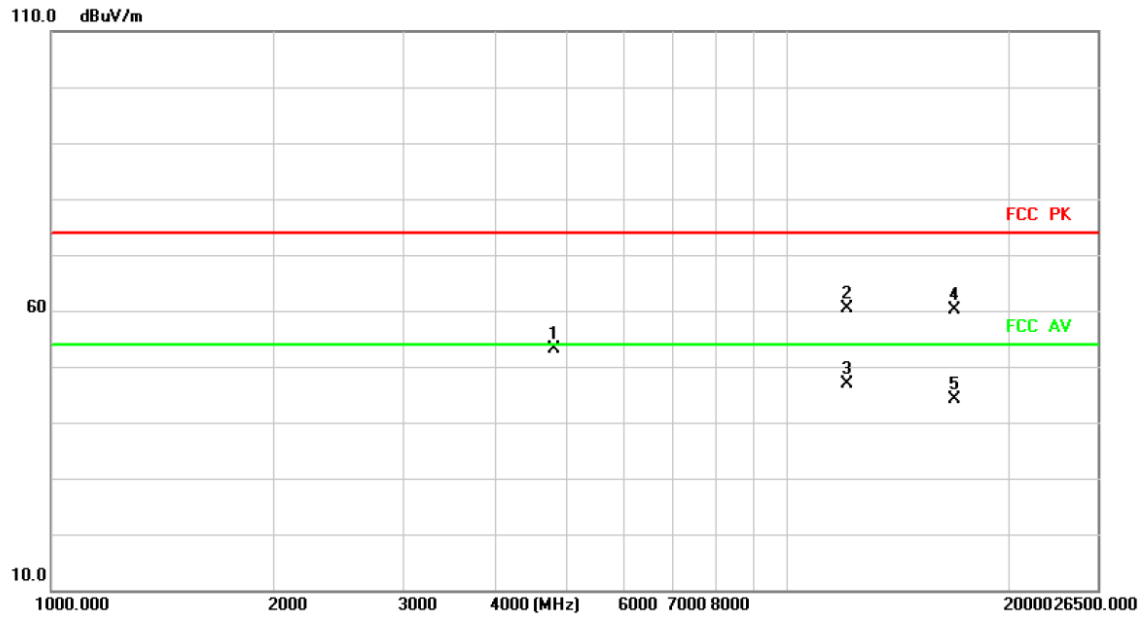
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4824.000	59.92	-1.88	58.04	74.00	-15.96	peak
2		4824.000	40.03	-1.88	38.15	54.00	-15.85	AVG
3		12060.000	48.85	11.34	60.19	74.00	-13.81	peak
4		12060.000	35.51	11.34	46.85	54.00	-7.15	AVG
5		16884.000	50.30	10.38	60.68	74.00	-13.32	peak
6	*	16884.000	37.02	10.38	47.40	54.00	-6.60	AVG

Band Edge
Radiated Emission



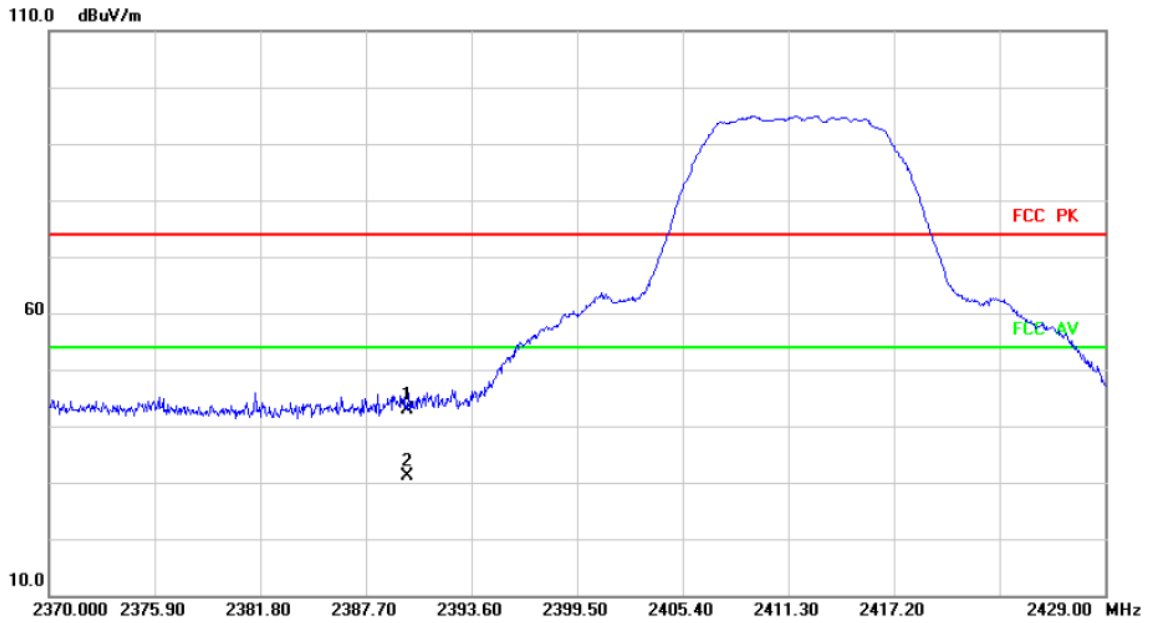
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2390.000	56.87	-11.67	45.20	74.00	-28.80	peak
2	*	2390.000	45.83	-11.67	34.16	54.00	-19.84	AVG

HORIZONTALA
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4824.000	55.03	-1.88	53.15	74.00	-20.85	peak
2		12060.000	49.03	11.34	60.37	74.00	-13.63	peak
3	*	12060.000	35.52	11.34	46.86	54.00	-7.14	AVG
4		16884.000	49.65	10.38	60.03	74.00	-13.97	peak
5		16884.000	33.67	10.38	44.05	54.00	-9.95	AVG

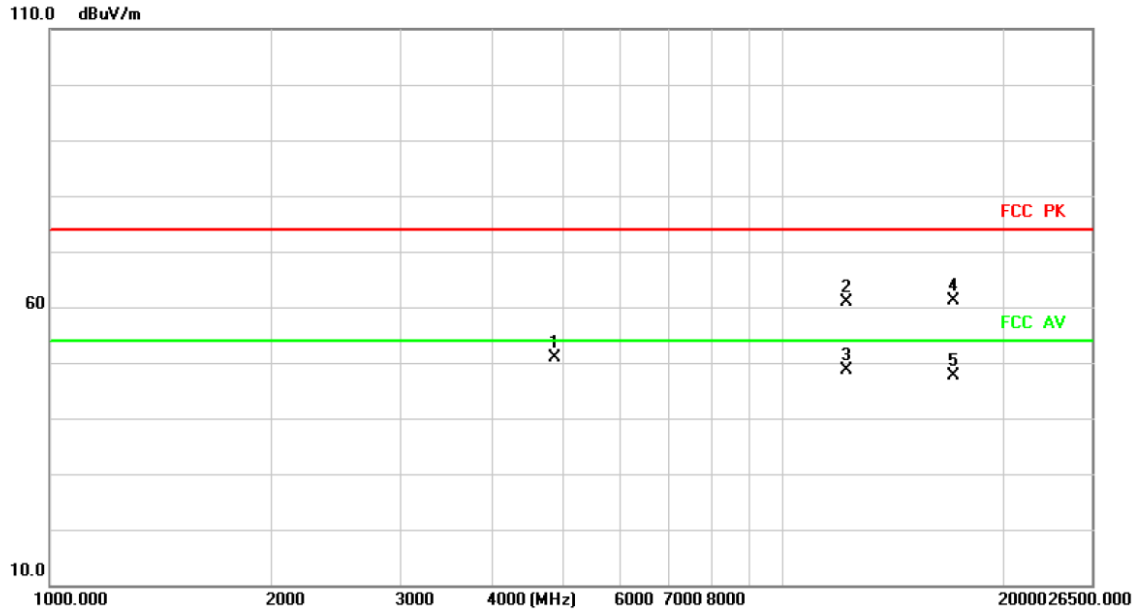
Band Edge
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	54.64	-11.67	42.97	74.00	-31.03	peak
2	*	2390.000	42.89	-11.67	31.22	54.00	-22.78	AVG

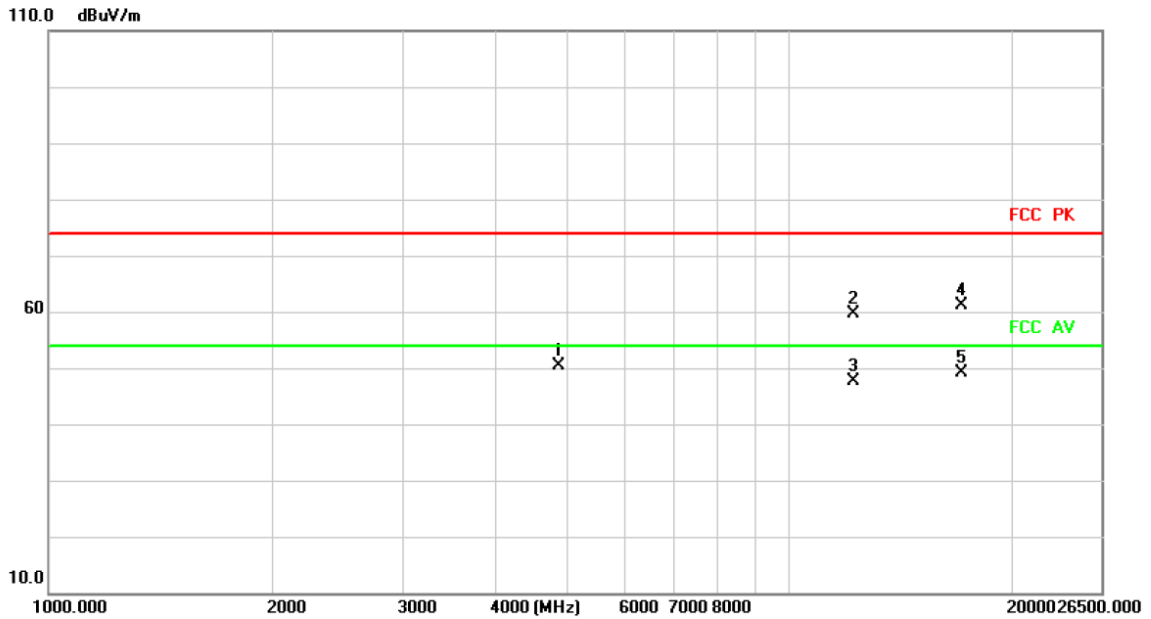
Above 1G (1GHz~26.5GHz)	Test mode: 11B	Test Channel:6
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VERTICAL
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4884.000	52.45	-1.53	50.92	74.00	-23.08	peak
2		12210.000	49.36	11.56	60.92	74.00	-13.08	peak
3	*	12210.000	37.02	11.56	48.58	54.00	-5.42	AVG
4		17094.000	50.03	11.03	61.06	74.00	-12.94	peak
5		17094.000	36.66	11.03	47.69	54.00	-6.31	AVG

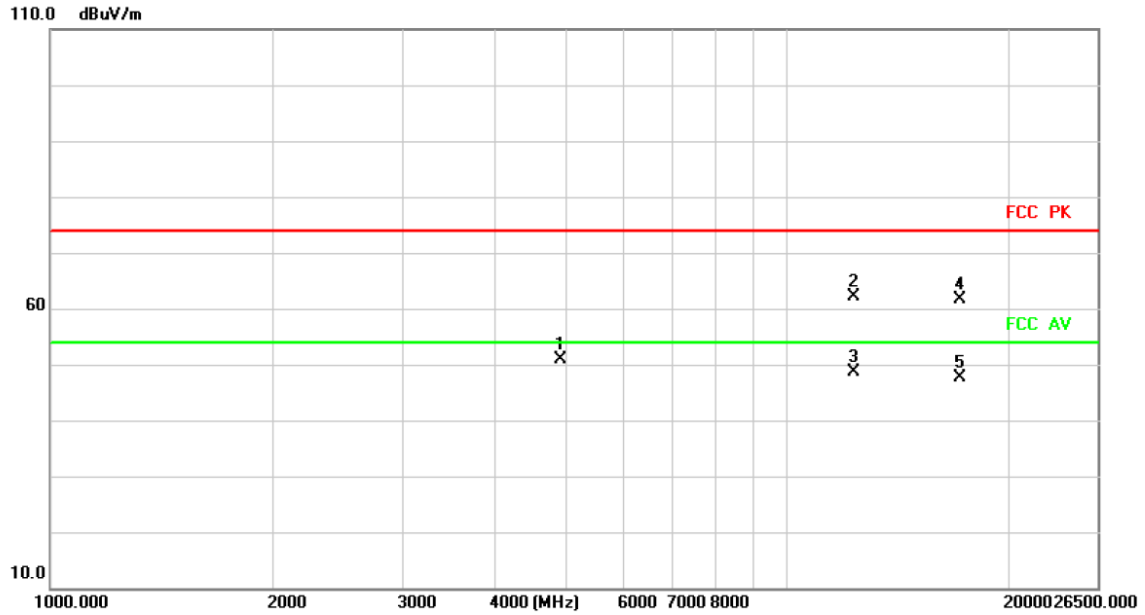
HORIZONTALA
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4884.000	52.02	-1.53	50.49	74.00	-23.51	peak
2		12210.000	48.09	11.56	59.65	74.00	-14.35	peak
3		12210.000	36.17	11.56	47.73	54.00	-6.27	AVG
4		17094.000	50.22	11.03	61.25	74.00	-12.75	peak
5	*	17094.000	38.09	11.03	49.12	54.00	-4.88	AVG

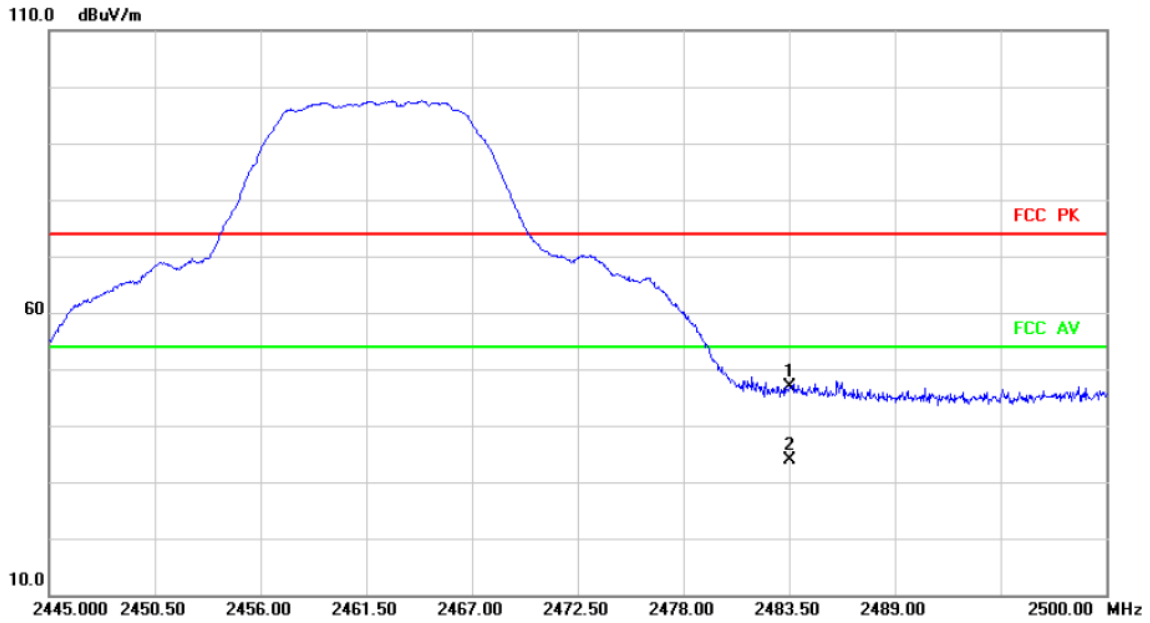
Above 1G (1GHz~26.5GHz)	Test mode: 11B	Test Channel:11
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VERTICAL
Radiated Emission



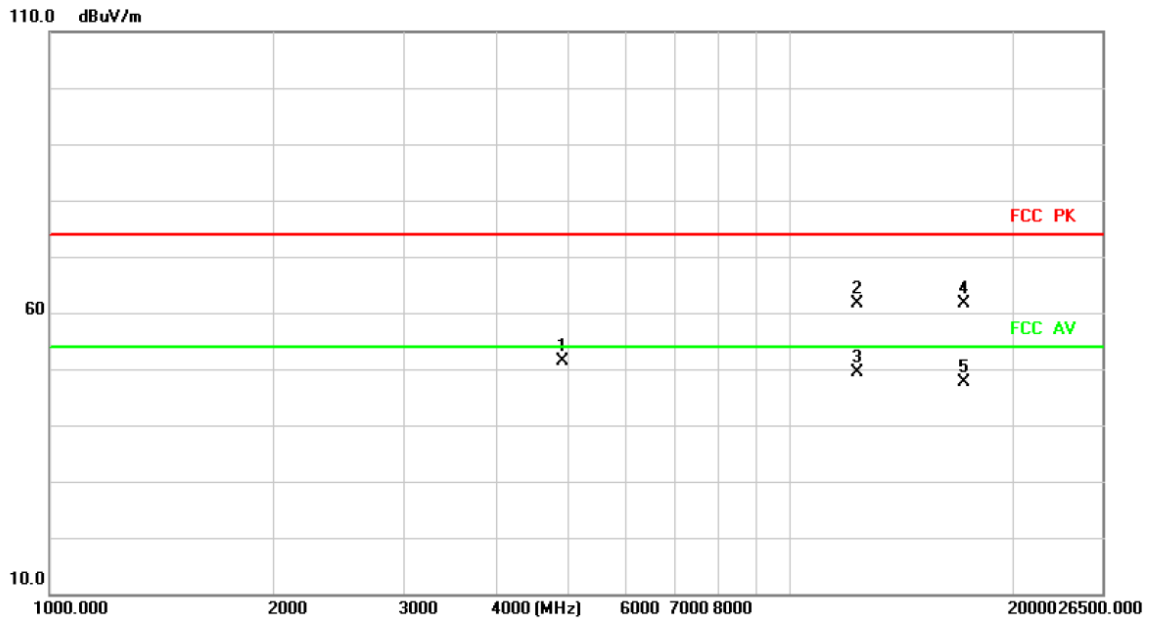
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4924.000	52.28	-1.30	50.98	74.00	-23.02	peak
2		12310.000	50.47	11.71	62.18	74.00	-11.82	peak
3	*	12310.000	36.91	11.71	48.62	54.00	-5.38	AVG
4		17234.000	50.03	11.71	61.74	74.00	-12.26	peak
5		17234.000	35.97	11.71	47.68	54.00	-6.32	AVG

Band Edge Radiated Emission



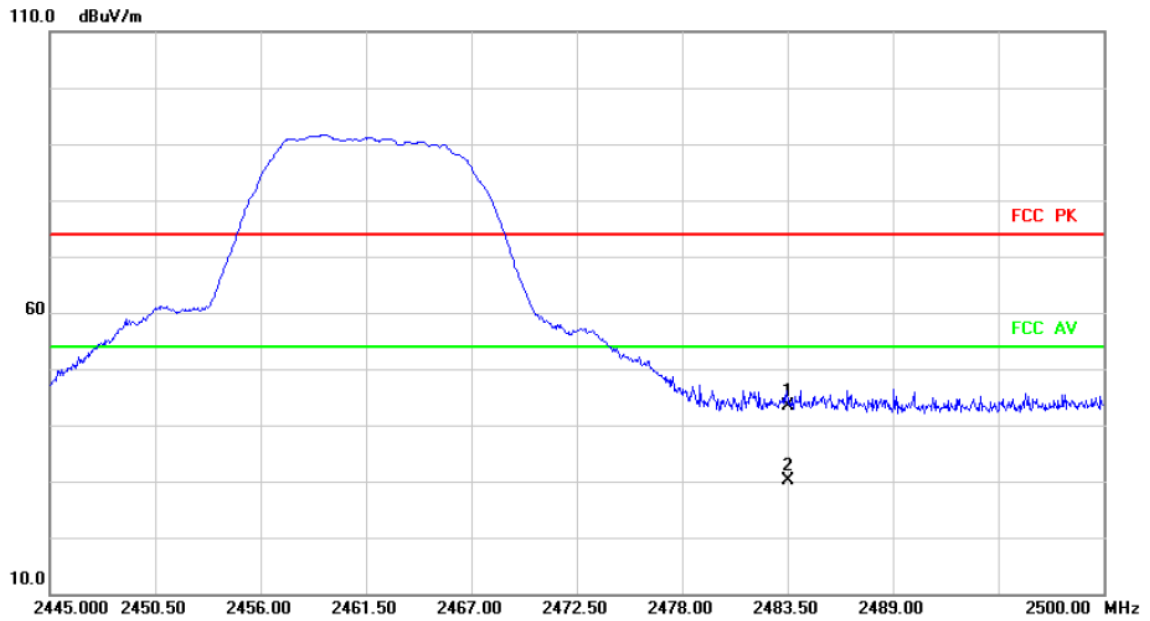
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2483.500	58.04	-11.28	46.76	74.00	-27.24	peak
2	*	2483.500	45.17	-11.28	33.89	54.00	-20.11	AVG

**HORIZONTALA
Radiated Emission**



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4924.000	52.64	-1.30	51.34	74.00	-22.66	peak
2		12310.000	49.96	11.71	61.67	74.00	-12.33	peak
3	*	12310.000	37.78	11.71	49.49	54.00	-4.51	AVG
4		17234.000	49.91	11.71	61.62	74.00	-12.38	peak
5		17234.000	35.98	11.71	47.69	54.00	-6.31	AVG

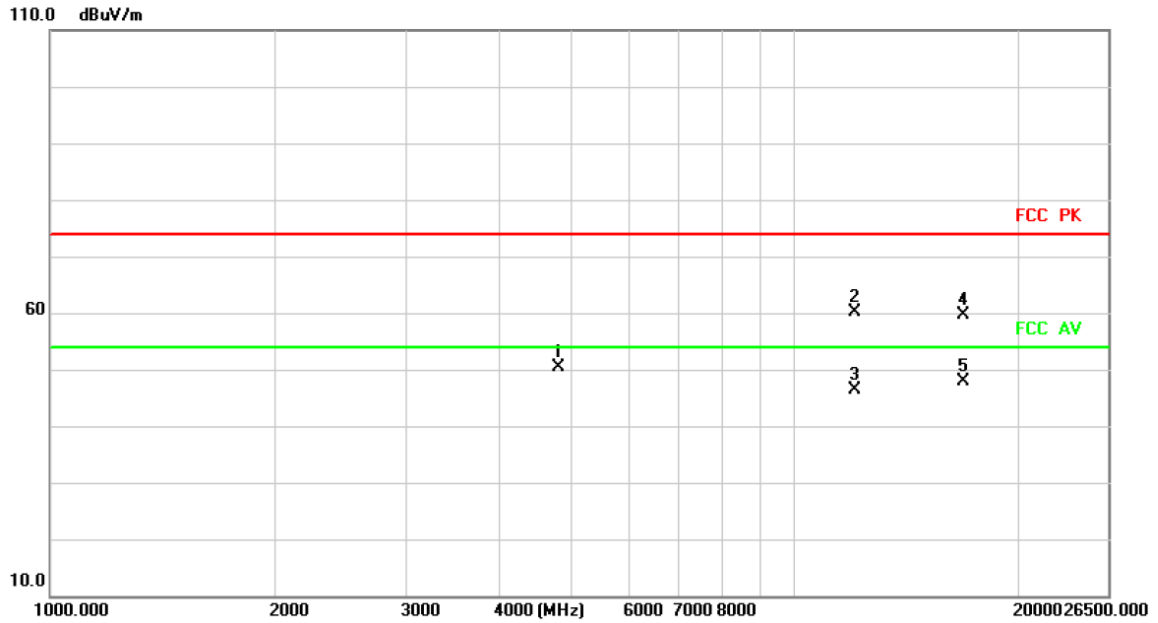
**Band Edge
Radiated Emission**



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2483.500	54.56	-11.28	43.28	74.00	-30.72	peak
2	*	2483.500	41.39	-11.28	30.11	54.00	-23.89	AVG

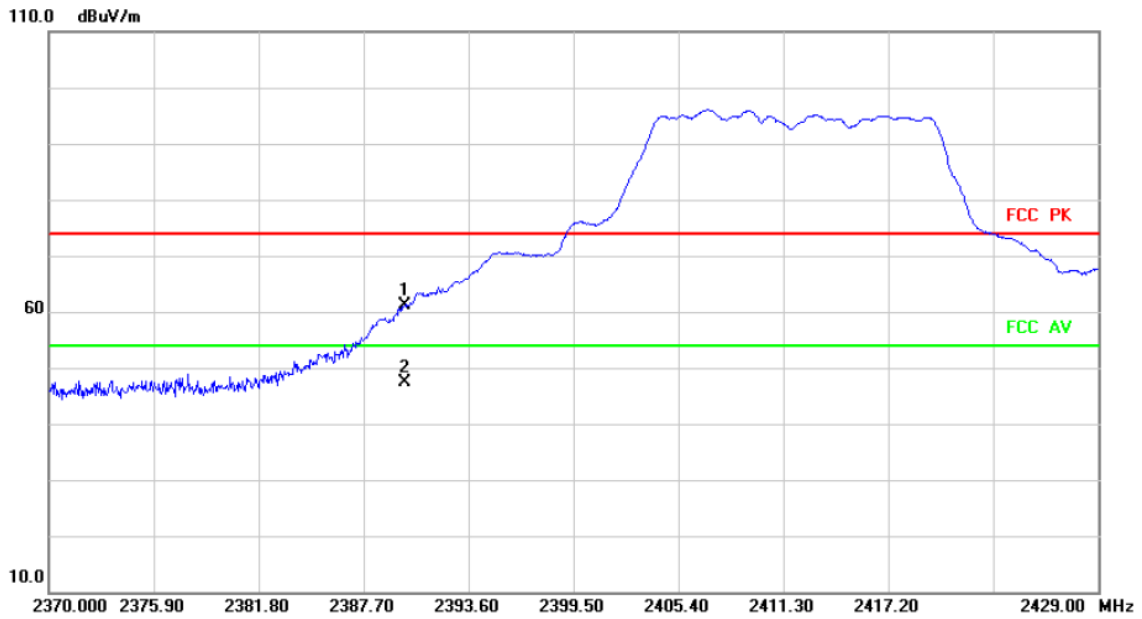
Above 1G (1GHz~26.5GHz)	Test mode: 11G	Test Channel:1
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**VERTICAL
Radiated Emission**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4824.000	52.35	-1.88	50.47	74.00	-23.53	peak
2		12060.000	48.88	11.34	60.22	74.00	-13.78	peak
3		12060.000	35.03	11.34	46.37	54.00	-7.63	AVG
4		16884.000	49.13	10.38	59.51	74.00	-14.49	peak
5	*	16884.000	37.58	10.38	47.96	54.00	-6.04	AVG

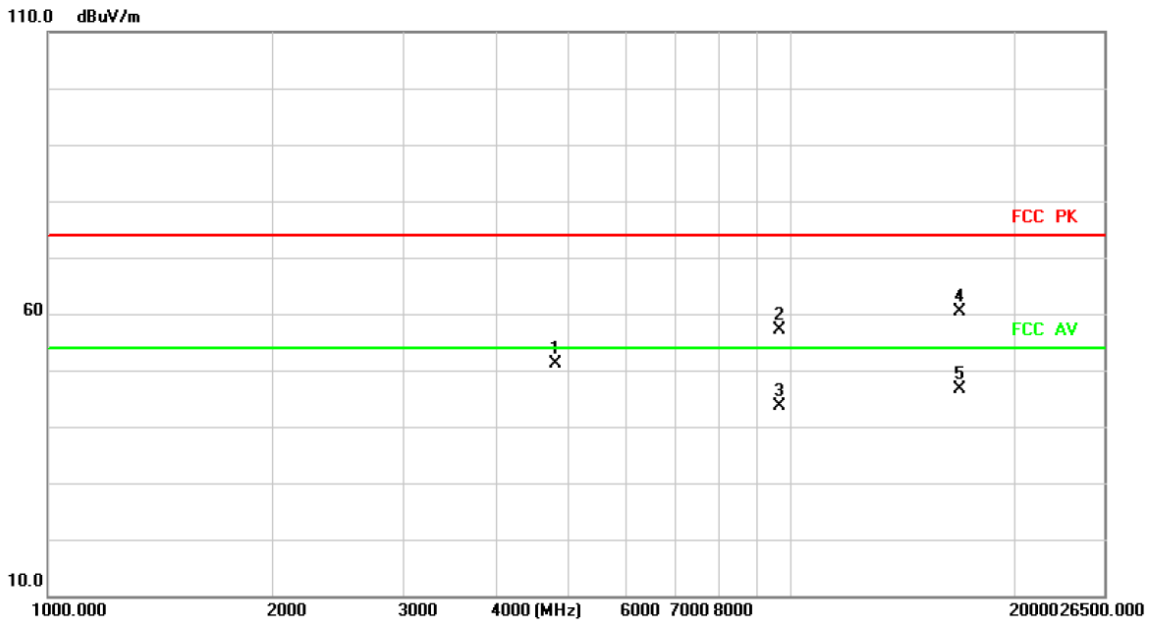
Band Edge Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2390.000	72.91	-11.67	61.24	74.00	-12.76	peak
2	*	2390.000	58.93	-11.67	47.26	54.00	-6.74	AVG

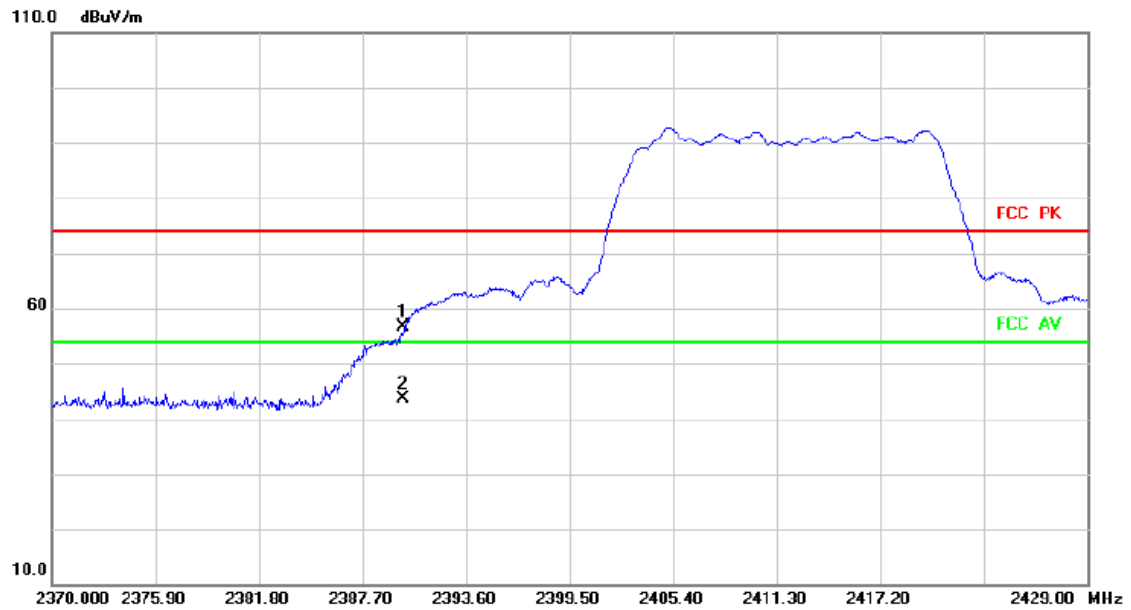
HORIZONTALA

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4824.000	52.93	-1.88	51.05	74.00	-22.95	peak
2		9648.000	48.90	8.19	57.09	74.00	-16.91	peak
3		9648.000	35.51	8.19	43.70	54.00	-10.30	AVG
4		16884.000	50.06	10.38	60.44	74.00	-13.56	peak
5 *		16884.000	36.17	10.38	46.55	54.00	-7.45	AVG

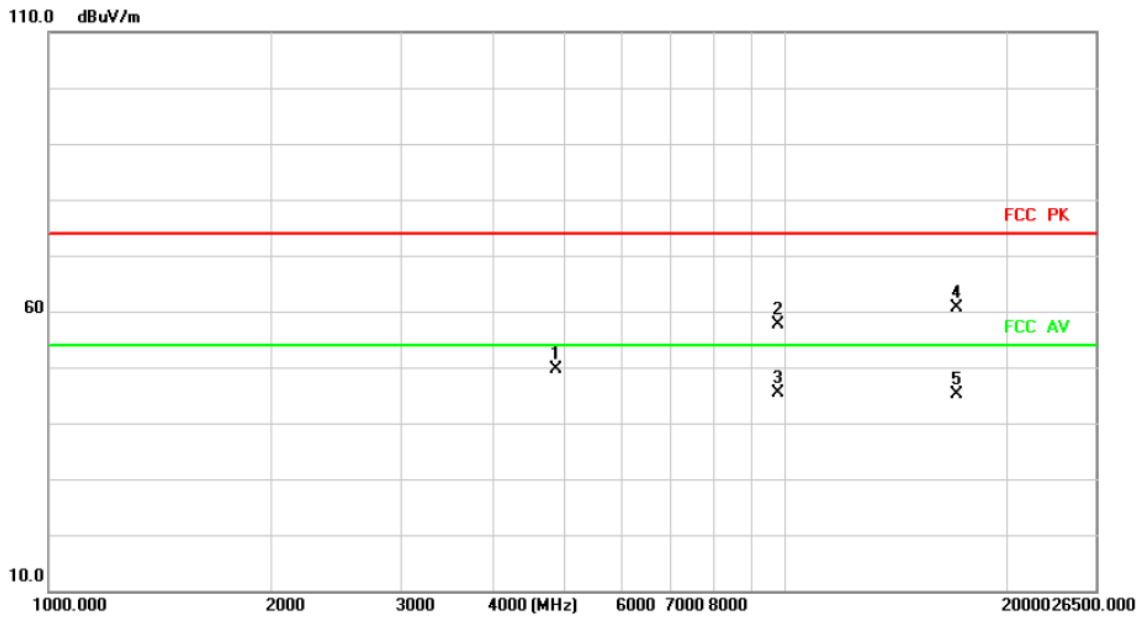
Band Edge
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2390.000	68.34	-11.67	56.67	74.00	-17.33	peak
2	*	2390.000	55.29	-11.67	43.62	54.00	-10.38	AVG

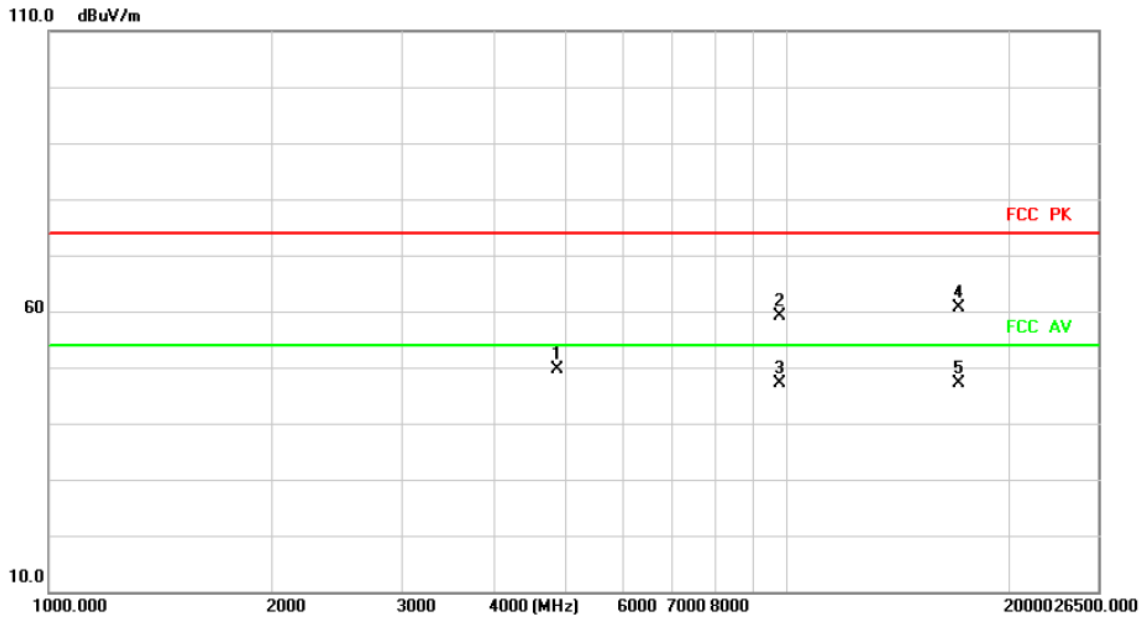
Above 1G (1GHz~26.5GHz)	Test mode: 11G	Test Channel:6
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VERTICAL
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4884.000	51.12	-1.53	49.59	74.00	-24.41	peak
2		9768.000	50.04	7.52	57.56	74.00	-16.44	peak
3	*	9768.000	37.81	7.52	45.33	54.00	-8.67	AVG
4		17094.000	49.50	11.03	60.53	74.00	-13.47	peak
5		17094.000	34.03	11.03	45.06	54.00	-8.94	AVG

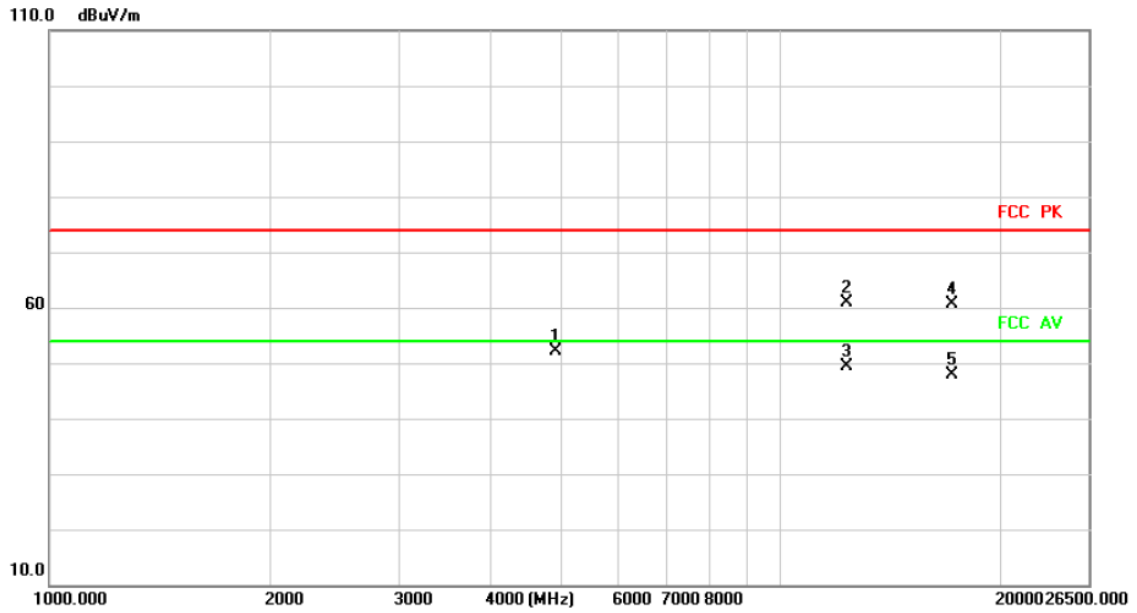
HORIZONTALA
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4884.000	51.14	-1.53	49.61	74.00	-24.39	peak
2		9768.000	51.64	7.52	59.16	74.00	-14.84	peak
3	*	9768.000	39.66	7.52	47.18	54.00	-6.82	AVG
4		17094.000	49.69	11.03	60.72	74.00	-13.28	peak
5		17094.000	36.02	11.03	47.05	54.00	-6.95	AVG

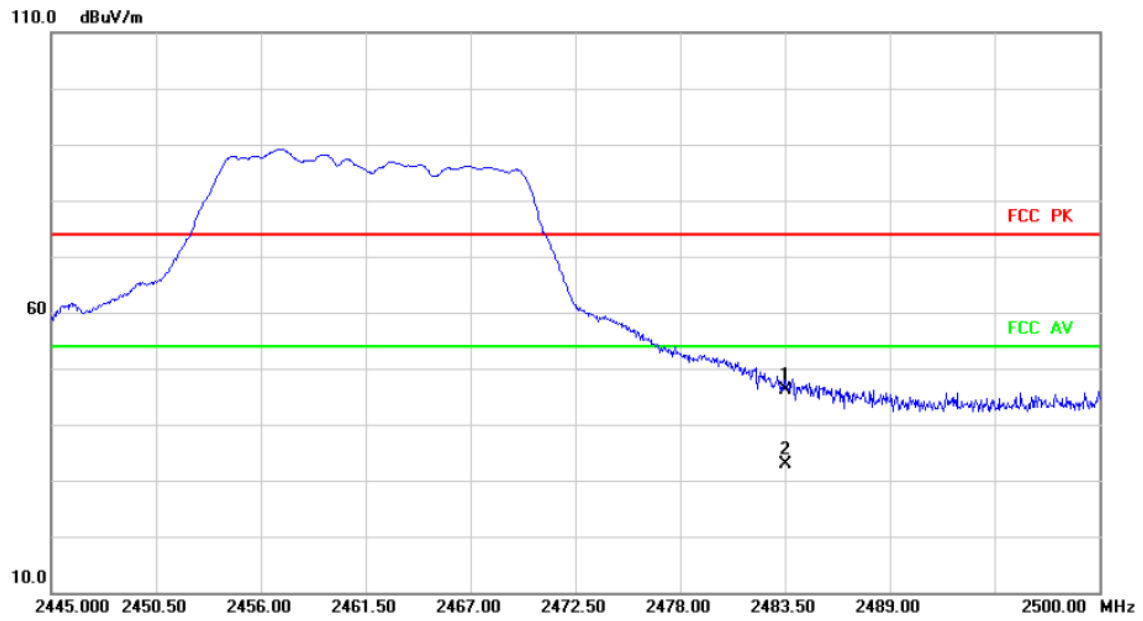
Above 1G (1GHz~26.5GHz)	Test mode: 11G	Test Channel:11
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VERTICAL
Radiated Emission



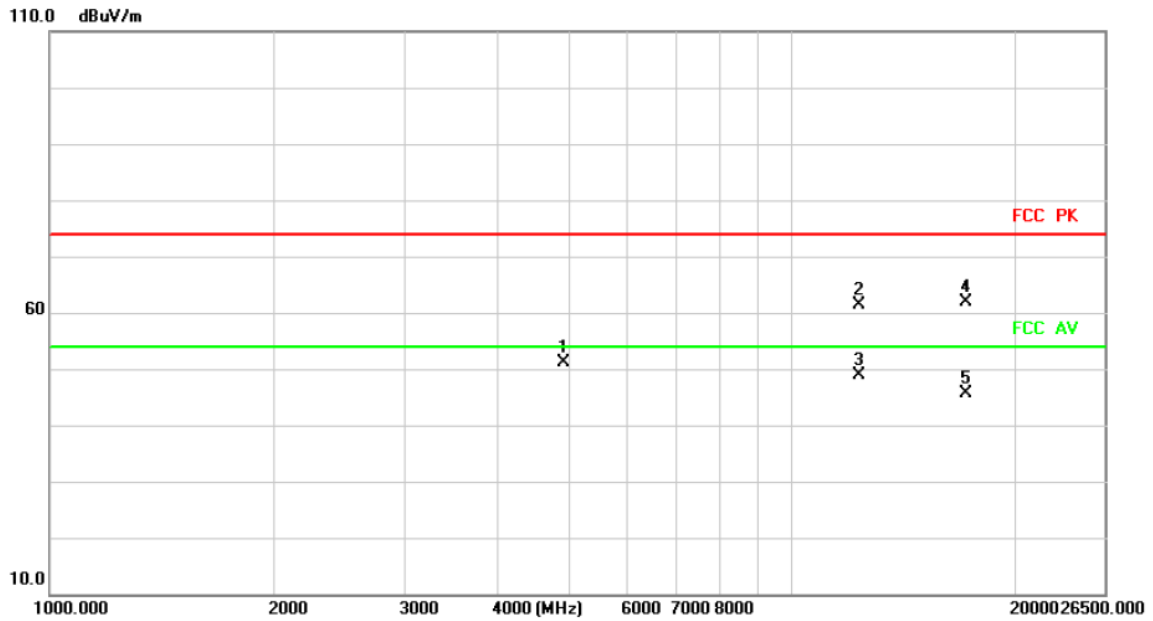
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4924.000	53.45	-1.30	52.15	74.00	-21.85	peak
2		12310.000	49.20	11.71	60.91	74.00	-13.09	peak
3	*	12310.000	37.71	11.71	49.42	54.00	-4.58	AVG
4		17234.000	48.99	11.71	60.70	74.00	-13.30	peak
5		17234.000	36.08	11.71	47.79	54.00	-6.21	AVG

Band Edge Radiated Emission



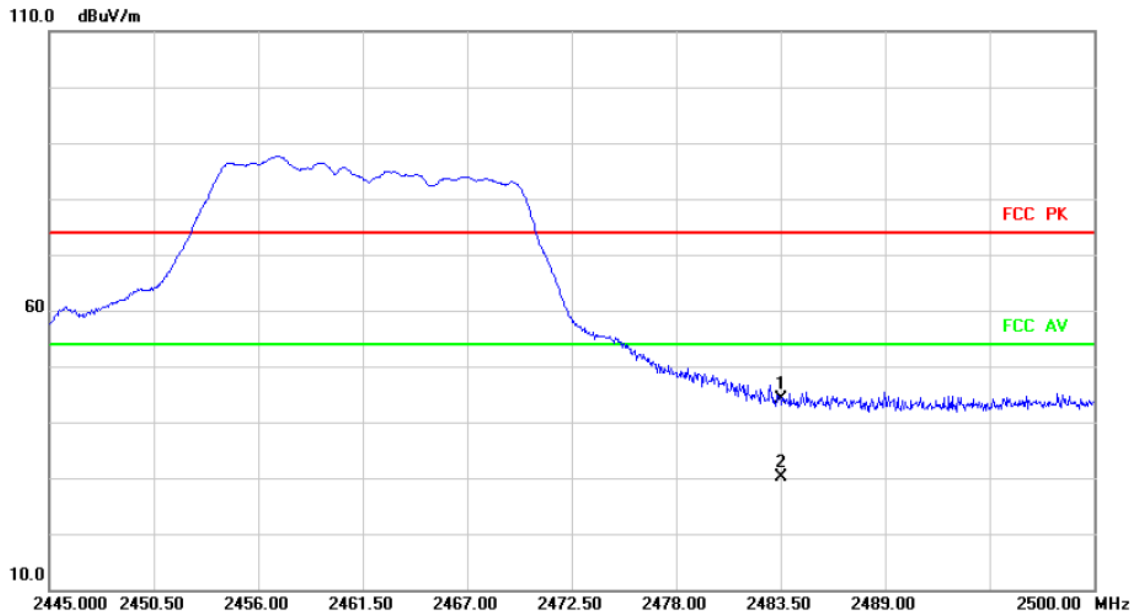
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2483.500	57.40	-11.28	46.12	74.00	-27.88	peak
2	*	2483.500	44.08	-11.28	32.80	54.00	-21.20	AVG

HORIZONTALA
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4924.000	52.33	-1.30	51.03	74.00	-22.97	peak
2		12310.000	49.62	11.71	61.33	74.00	-12.67	peak
3	*	12310.000	37.06	11.71	48.77	54.00	-5.23	AVG
4		17234.000	50.17	11.71	61.88	74.00	-12.12	peak
5		17234.000	33.95	11.71	45.66	54.00	-8.34	AVG

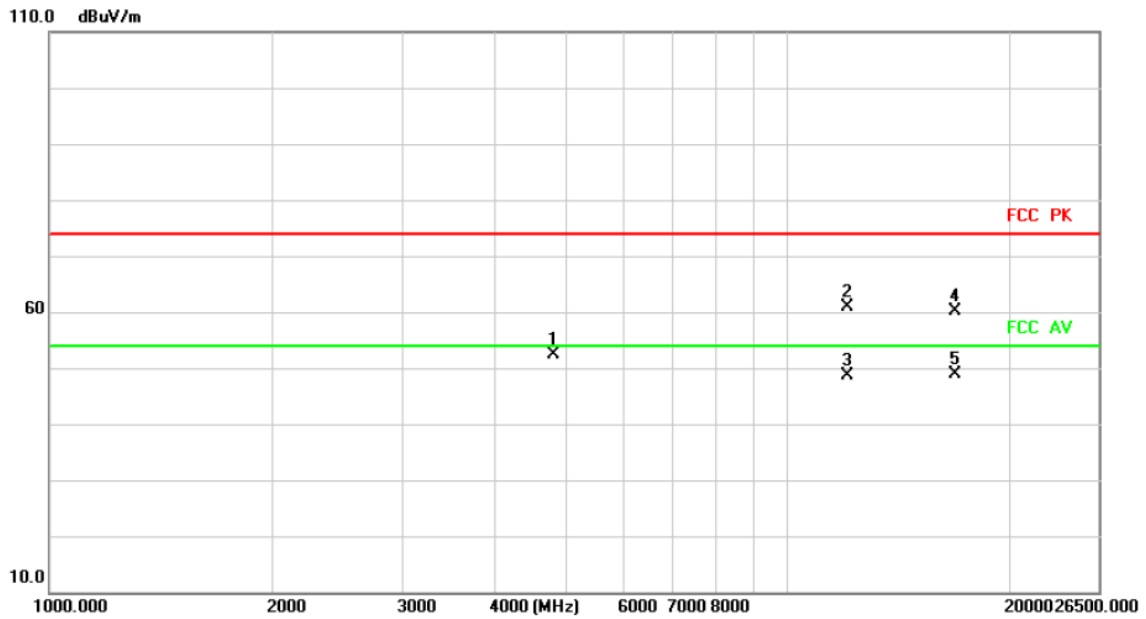
Band Edge
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2483.500	55.39	-11.28	44.11	74.00	-29.89	peak
2	*	2483.500	41.36	-11.28	30.08	54.00	-23.92	AVG

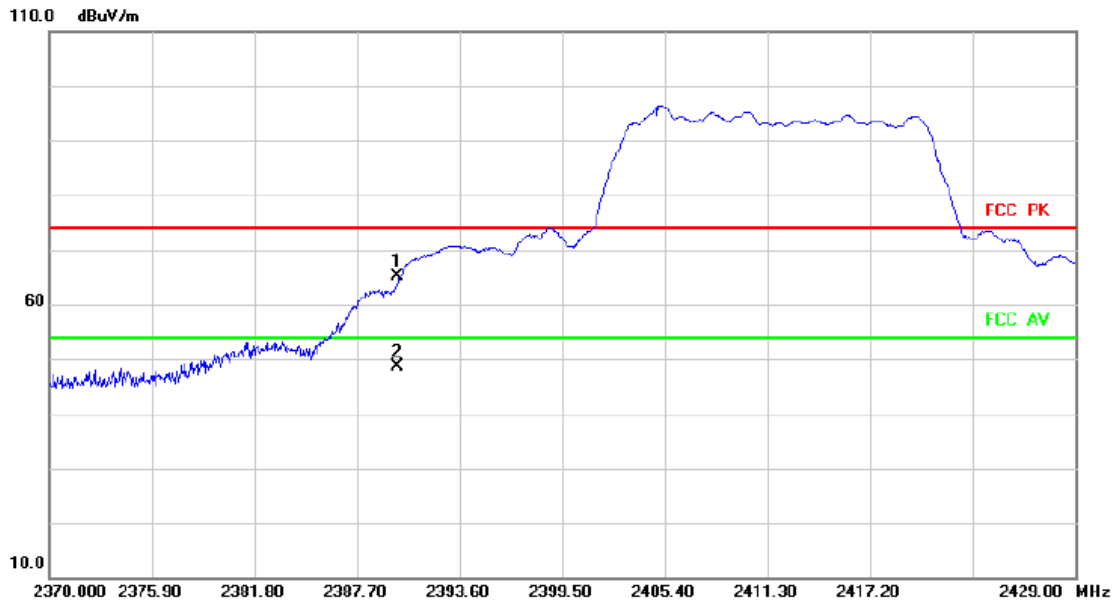
Above 1G (1GHz~26.5GHz)	Test mode: 11N20SISO	Test Channel:1
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VERTICAL
Radiated Emission



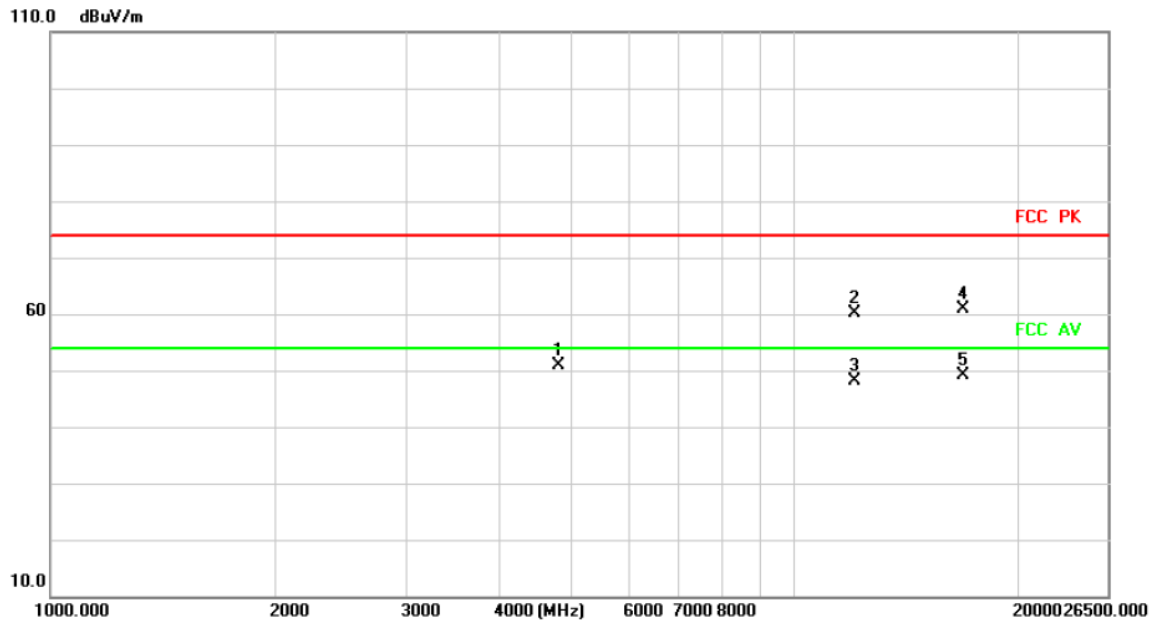
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4824.000	54.31	-1.88	52.43	74.00	-21.57	peak
2		12060.000	49.58	11.34	60.92	74.00	-13.08	peak
3		12060.000	37.25	11.34	48.59	54.00	-5.41	AVG
4		16884.000	49.79	10.38	60.17	74.00	-13.83	peak
5	*	16884.000	38.52	10.38	48.90	54.00	-5.10	AVG

Band Edge
Radiated Emission



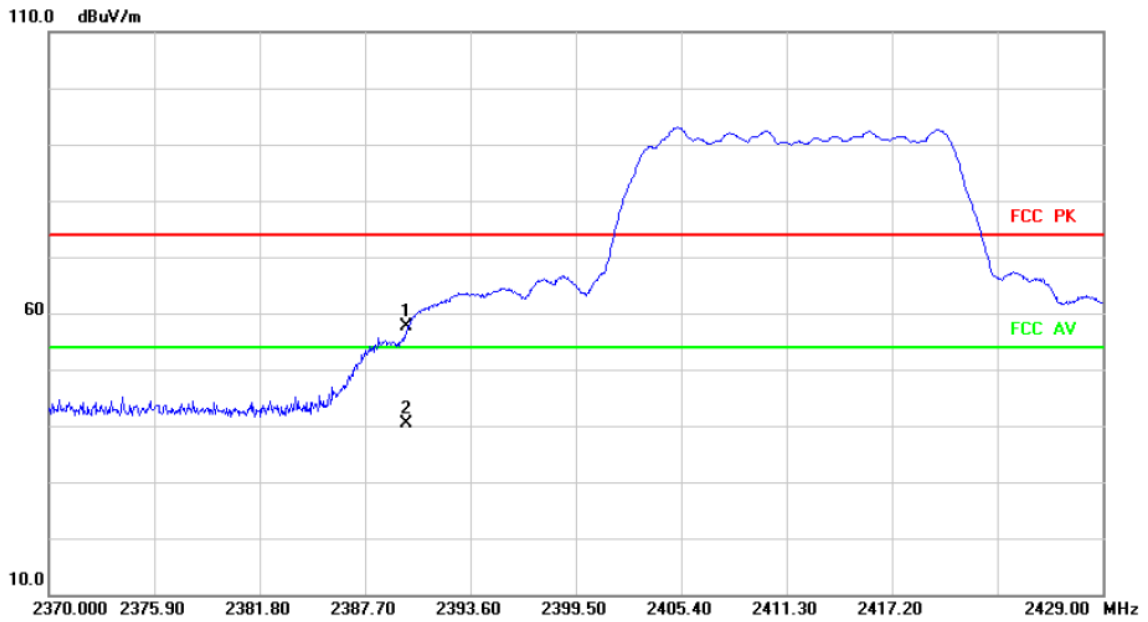
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2390.000	76.74	-11.67	65.07	74.00	-8.93	peak
2	*	2390.000	60.32	-11.67	48.65	54.00	-5.35	AVG

HORIZONTALA Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.000	52.64	-1.88	50.76	74.00	-23.24	peak
2		12060.000	48.90	11.34	60.24	74.00	-13.76	peak
3		12060.000	36.79	11.34	48.13	54.00	-5.87	AVG
4		16884.000	50.40	10.38	60.78	74.00	-13.22	peak
5 *		16884.000	38.81	10.38	49.19	54.00	-4.81	AVG

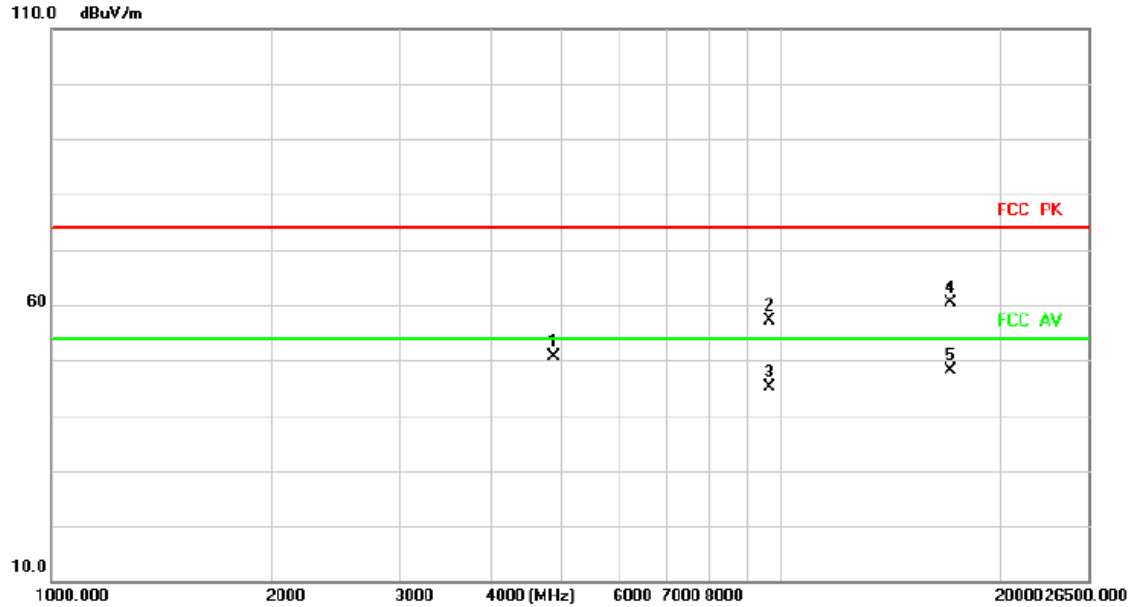
Band Edge Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	69.30	-11.67	57.63	74.00	-16.37	peak
2	*	2390.000	52.15	-11.67	40.48	54.00	-13.52	AVG

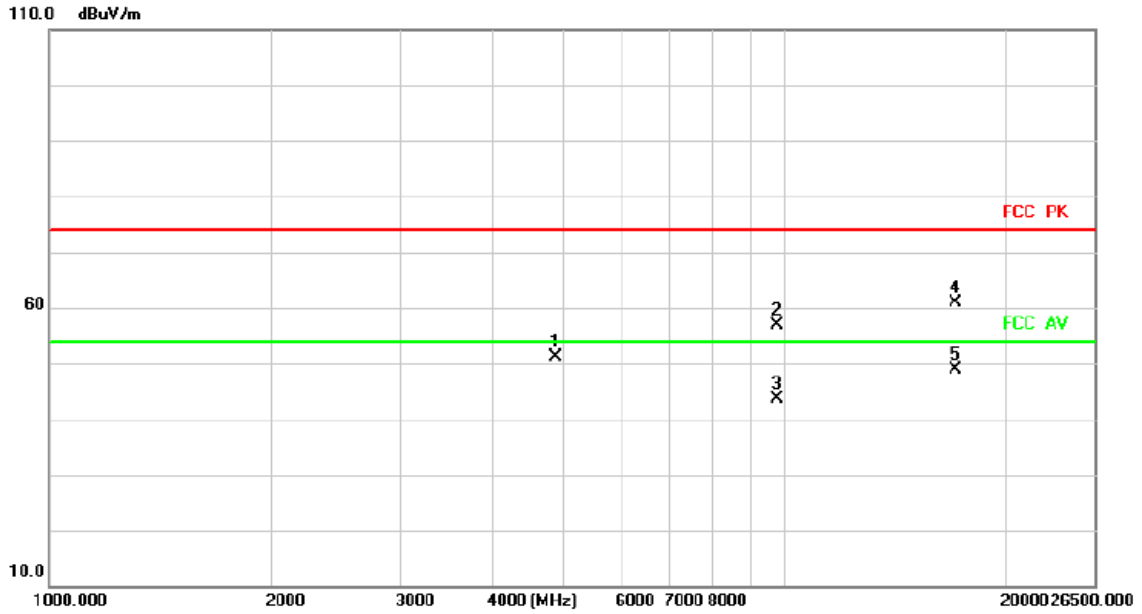
Above 1G (1GHz~26.5GHz)	Test mode: 11N20SISO	Test Channel:6
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VERTICAL
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4884.000	52.04	-1.53	50.51	74.00	-23.49	peak
2		9648.000	48.85	8.19	57.04	74.00	-16.96	peak
3		9648.000	36.90	8.19	45.09	54.00	-8.91	AVG
4		17094.000	49.44	11.03	60.47	74.00	-13.53	peak
5	*	17094.000	37.03	11.03	48.06	54.00	-5.94	AVG

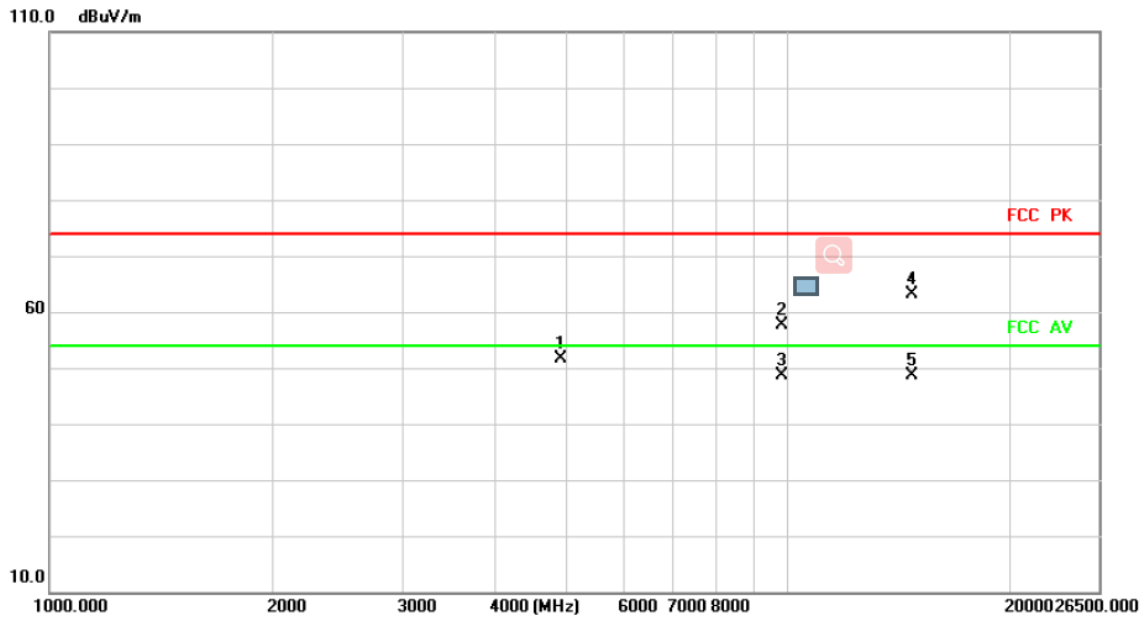
HORIZONTALA
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4884.000	52.76	-1.53	51.23	74.00	-22.77	peak
2		9768.000	49.47	7.52	56.99	74.00	-17.01	peak
3		9768.000	36.11	7.52	43.63	54.00	-10.37	AVG
4		17094.000	49.96	11.03	60.99	74.00	-13.01	peak
5 *		17094.000	37.75	11.03	48.78	54.00	-5.22	AVG

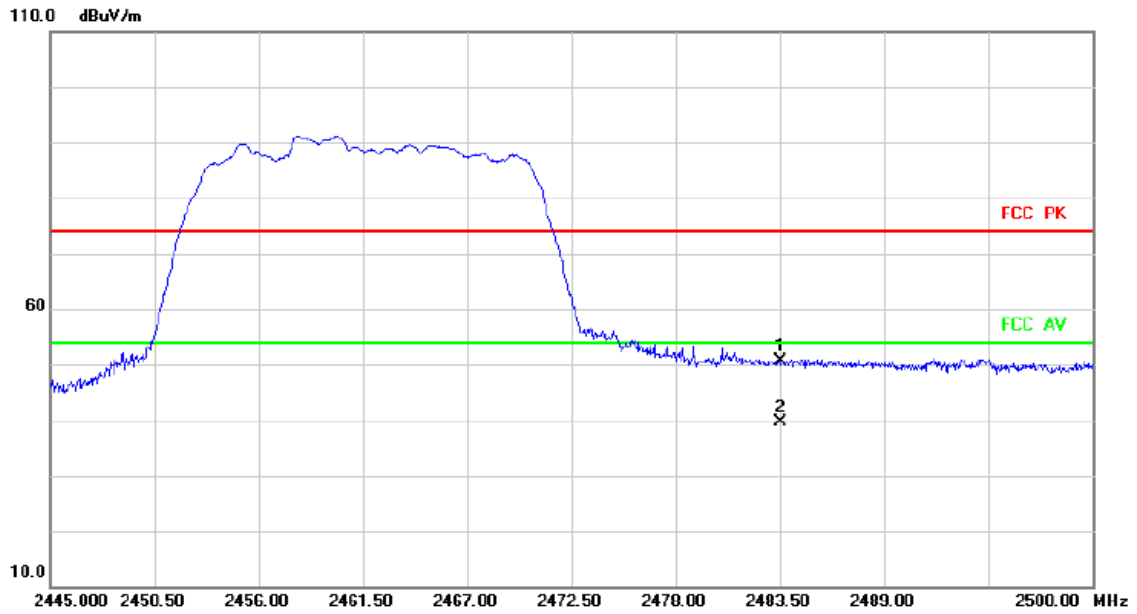
Above 1G (1GHz~26.5GHz)	Test mode: 11N20SISO	Test Channel:11
-------------------------	----------------------	-----------------

**VERTICAL
Radiated Emission**



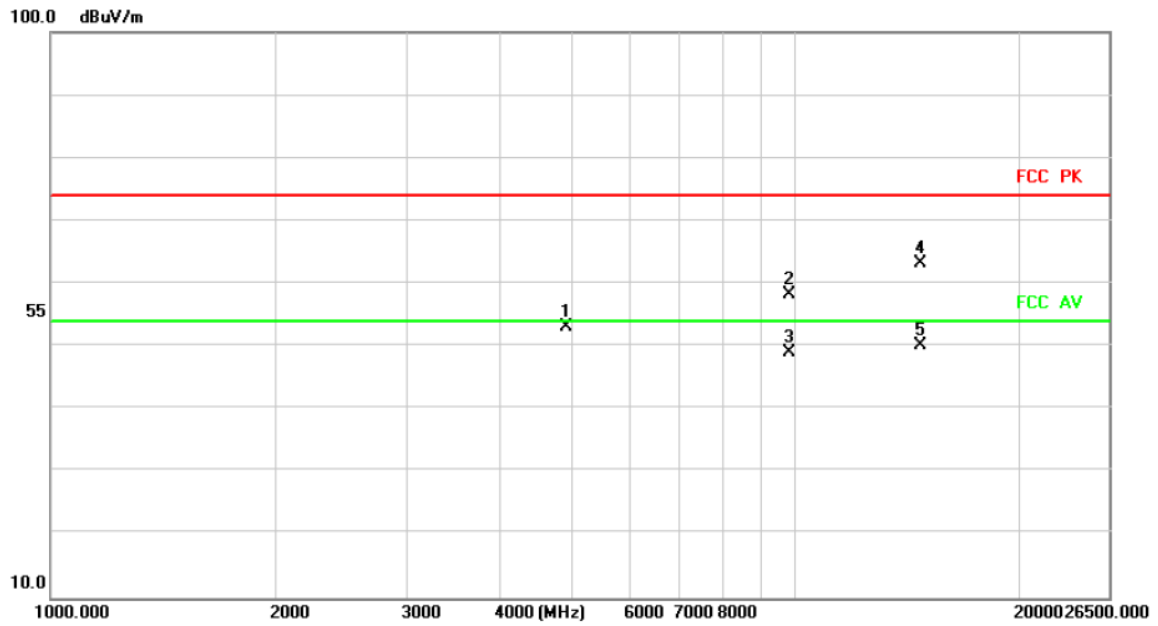
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4924.000	52.91	-1.30	51.61	74.00	-22.39	peak
2		9848.000	50.02	7.60	57.62	74.00	-16.38	peak
3		9848.000	41.03	7.60	48.63	54.00	-5.37	AVG
4		14772.000	52.64	10.52	63.16	74.00	-10.84	peak
5 *		14772.000	38.21	10.52	48.73	54.00	-5.27	AVG

**Band Edge
Radiated Emission**



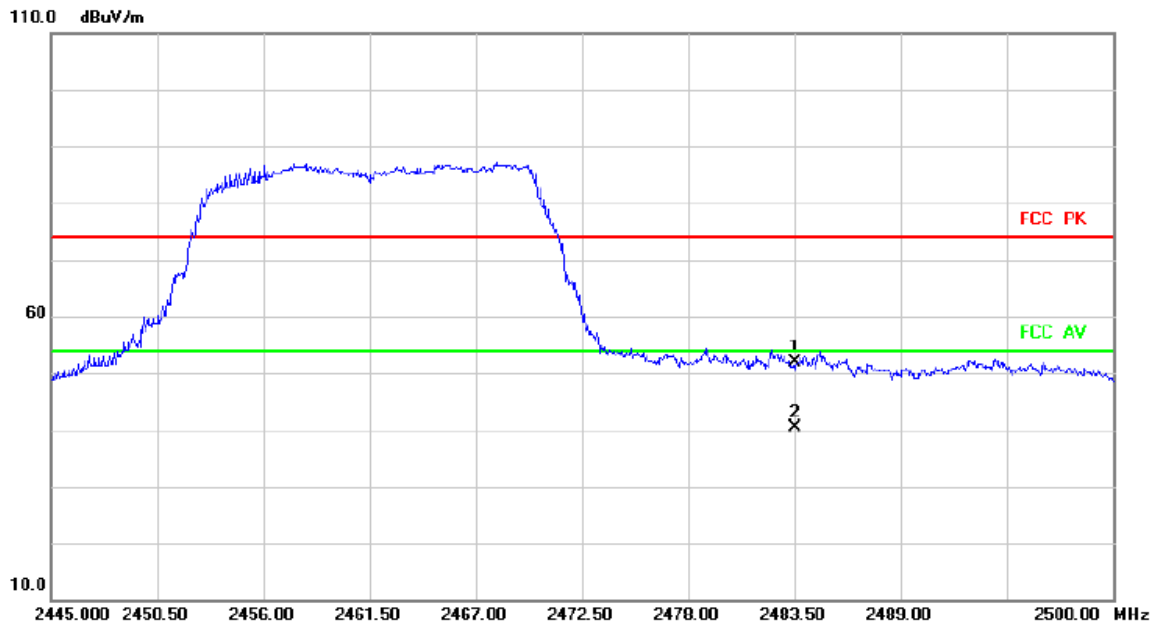
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2483.500	61.81	-11.28	50.53	74.00	-23.47	peak
2		2483.500	50.91	-11.28	39.63	74.00	-34.37	peak

HORIZONTALA
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4924.000	54.44	-1.30	53.14	74.00	-20.86	peak
2		9848.000	50.73	7.60	58.33	74.00	-15.67	peak
3		9848.000	41.36	7.60	48.96	54.00	-5.04	AVG
4		14772.000	52.64	10.52	63.16	74.00	-10.84	peak
5	*	14772.000	39.66	10.52	50.18	54.00	-3.82	AVG

Band Edge
Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2483.500	63.14	-11.28	51.86	74.00	-22.14	peak
2	*	2483.500	51.62	-11.28	40.34	54.00	-13.66	AVG

3.3 Spurious Emission at Antenna Port

3.3.1 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 Output Power limits. If the transmitter complies with the Output 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 Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

3.3.2 Test Peripherals

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	Type-C Cable	AWM	E101344	0.9m, No Shielding
2	Adaptor	FUSHIGANG	AS1201A-0502000 USU	NA
3	Record PC	Lenovo	M4500T	NA
4	Control PC	Lenovo	M4500T	NA

3.3.3 Test Procedure

Test Method	
<input checked="" type="radio"/> Conducted Measurement	<input type="radio"/> Radiated Measurement
Test Channels	
<input checked="" type="radio"/> Lowest, Middle and Highest Channel	<input type="radio"/> Lowest and Highest Channel
Environmental conditions	
<input checked="" type="radio"/> Normal	<input type="radio"/> Normal and Extreme
Note: ● : Test ○ : No Test	

a) The EUT was directly connected to the test system and test setup as show in the block diagram below.

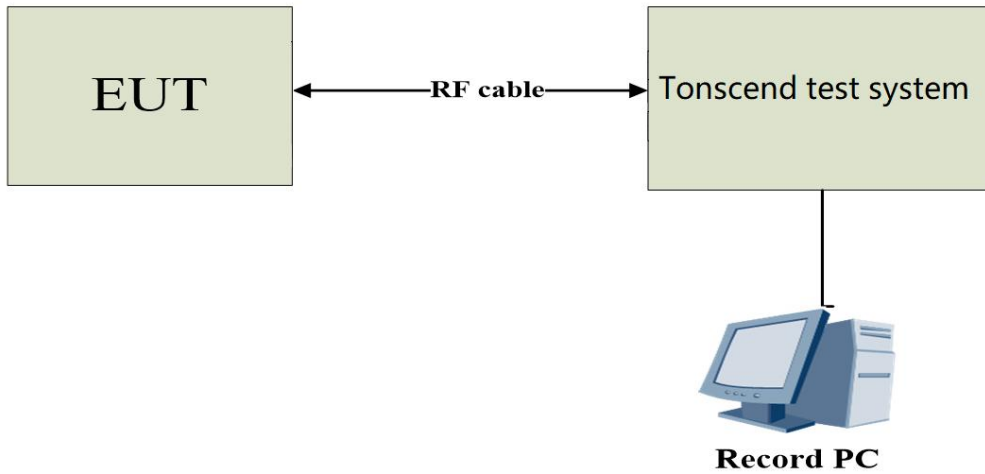
b) Spectrum Setting as below:

Centre Frequency	The center frequency of the channel under test
RBW	100 kHz
VBW	300 kHz
Frequency span	2 x Nominal Channel Bandwidth
Detector Mode	Peak
Trace Mode	Max Hold
Sweep Time	Auto Couple

c) Allow trace to full stabilize.

d) Use the peak marker function to determine the maximum power level in any 100kHz band segment within the fundamental EBW.

3.3.4 Test Setup



3.3.5 The Result

3.3.5.1 Conducted Spurious Emission

Test Mode	Antenna	Channel	Freq Range [Mhz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	2.09	2.09	---	PASS
			30~1000	2.09	-50.88	≤-17.91	PASS
			1000~26500	2.09	-39.09	≤-17.91	PASS
		2437	Reference	2.01	2.01	---	PASS
			30~1000	2.01	-51.74	≤-17.99	PASS
			1000~26500	2.01	-31.15	≤-17.99	PASS
		2462	Reference	1.32	1.32	---	PASS
			30~1000	1.32	-51.11	≤-18.68	PASS
			1000~26500	1.32	-39.6	≤-18.68	PASS
11G	Ant1	2412	Reference	-2.49	-2.49	---	PASS
			30~1000	-2.49	-51.13	≤-22.49	PASS
			1000~26500	-2.49	-39.38	≤-22.49	PASS
		2437	Reference	-0.47	-0.47	---	PASS
			30~1000	-0.47	-51.34	≤-20.47	PASS
			1000~26500	-0.47	-39.48	≤-20.47	PASS
		2462	Reference	-0.40	-0.40	---	PASS
			30~1000	-0.40	-41.69	≤-20.4	PASS
			1000~26500	-0.40	-39.03	≤-20.4	PASS
11N20	Ant1	2412	Reference	0.28	0.28	---	PASS
			30~1000	0.28	-50.85	≤-19.72	PASS
			1000~26500	0.28	-39.51	≤-19.72	PASS
		2437	Reference	0.02	0.02	---	PASS
			30~1000	0.02	-47.51	≤-19.98	PASS
			1000~26500	0.02	-39.46	≤-19.98	PASS
		2462	Reference	-0.13	-0.13	---	PASS
			30~1000	-0.13	-50.8	≤-20.13	PASS
			1000~26500	-0.13	-39.21	≤-20.13	PASS

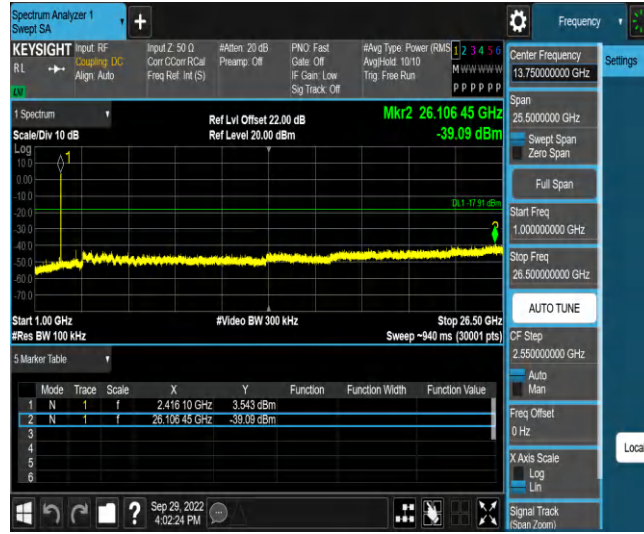
11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~1000



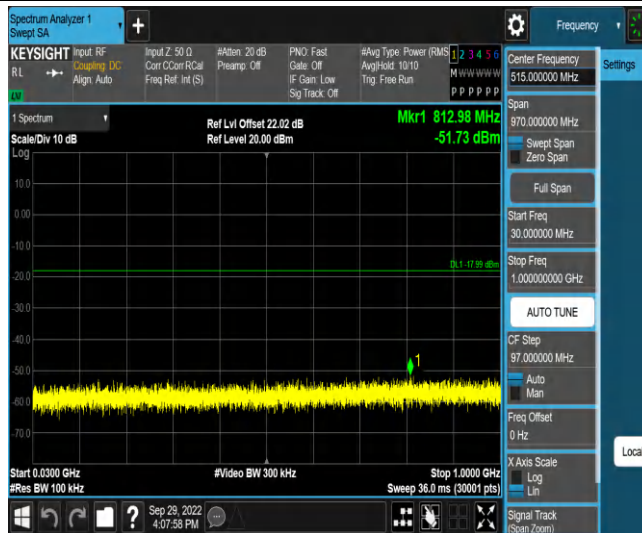
11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~1000



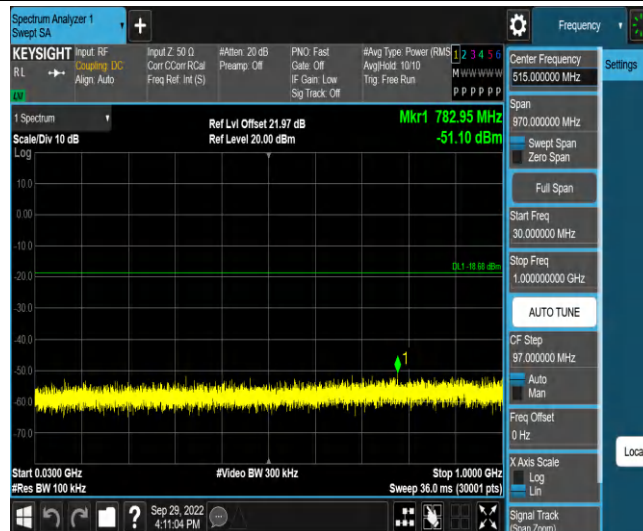
11B_Ant1_2437_1000~26500



11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~1000



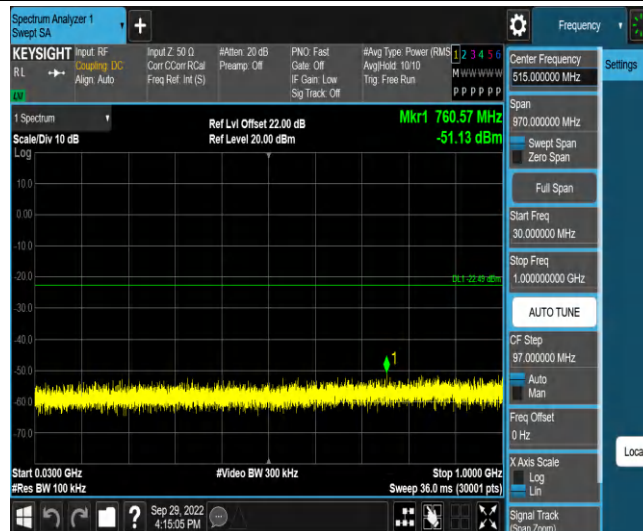
11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



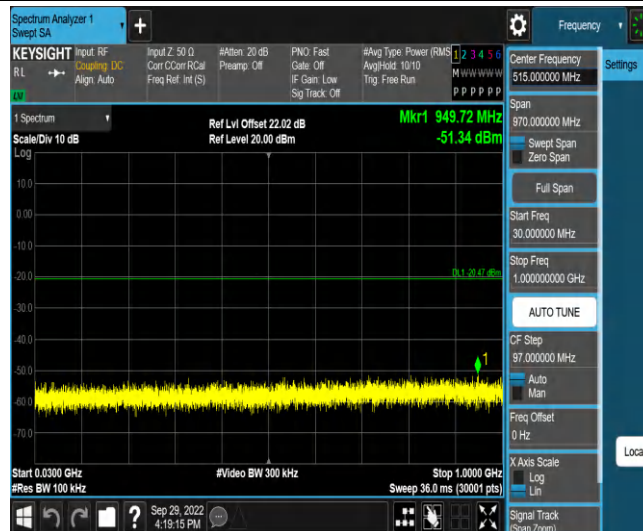
11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000



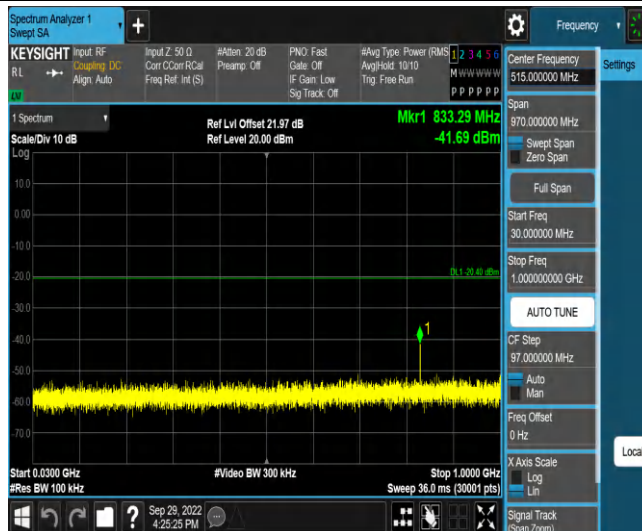
11G_Ant1_2437_1000~26500



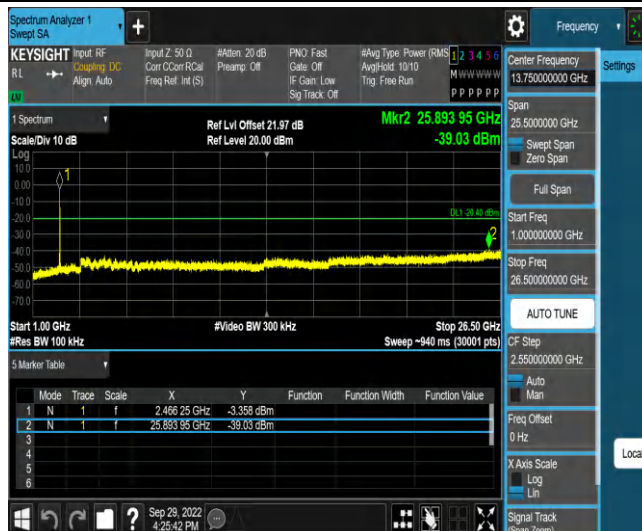
11G_Ant1_2462_0~Reference



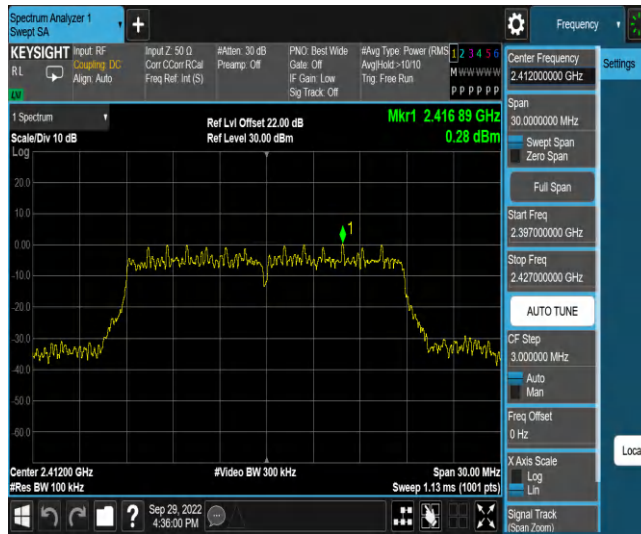
11G_Ant1_2462_30~1000



11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0~Reference



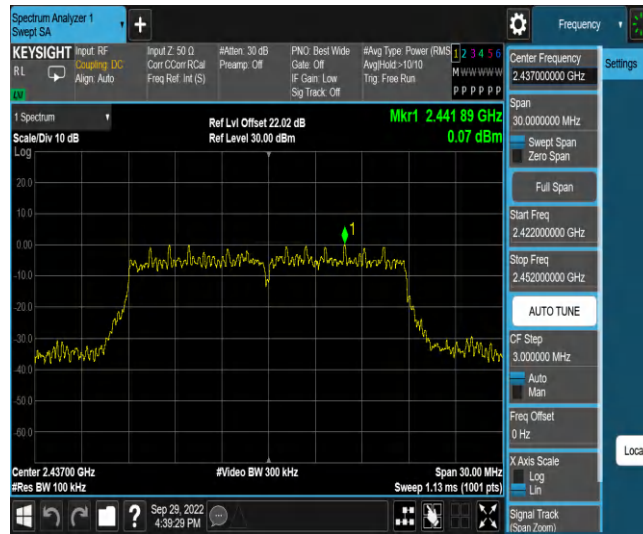
11N20SISO_Ant1_2412_30~1000



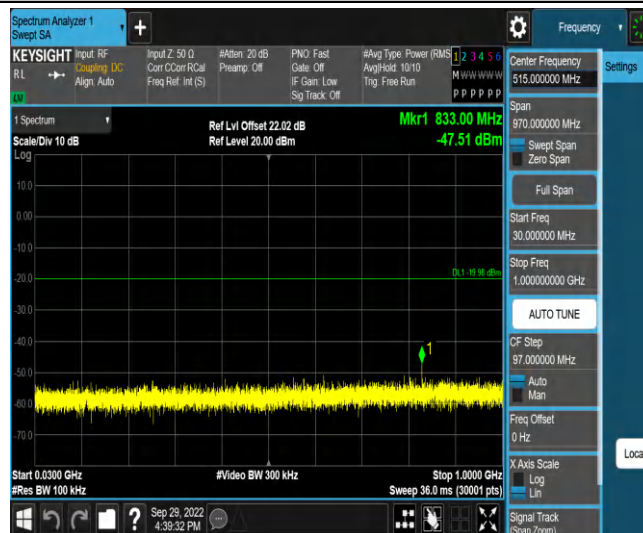
11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_0~Reference



11N20SISO_Ant1_2437_30~1000



11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000

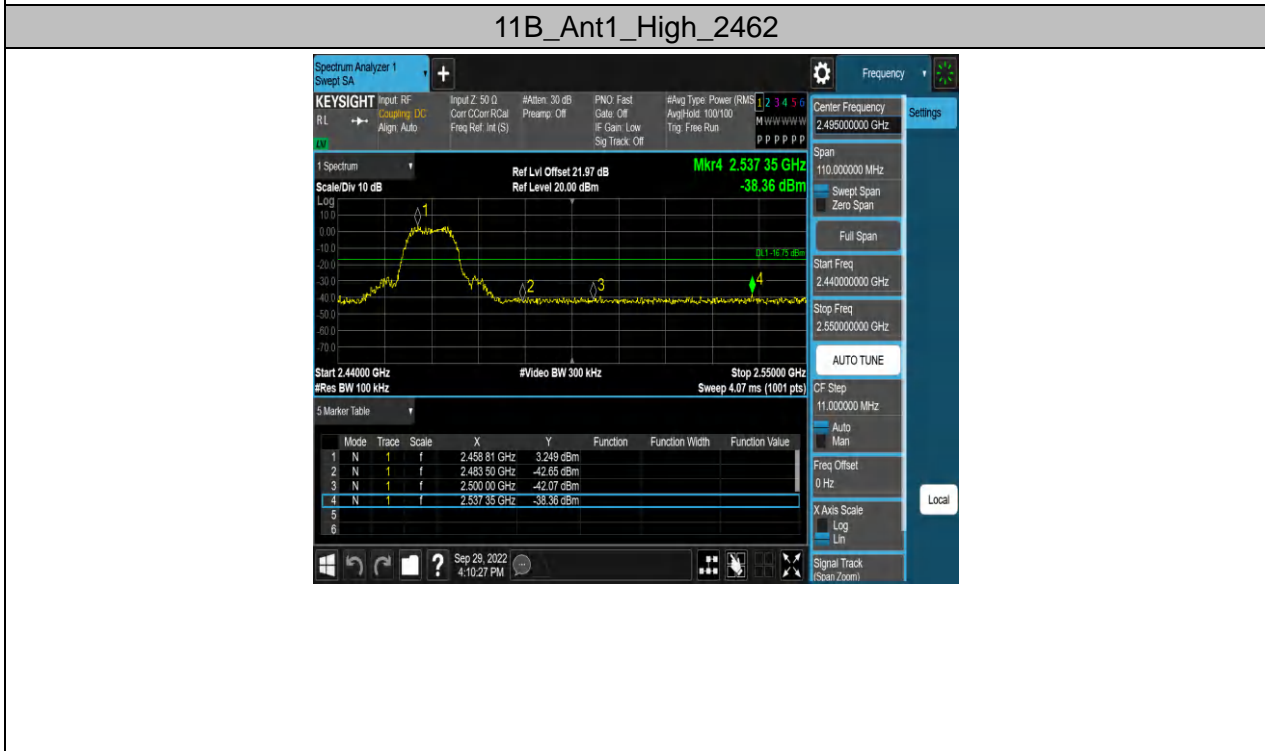
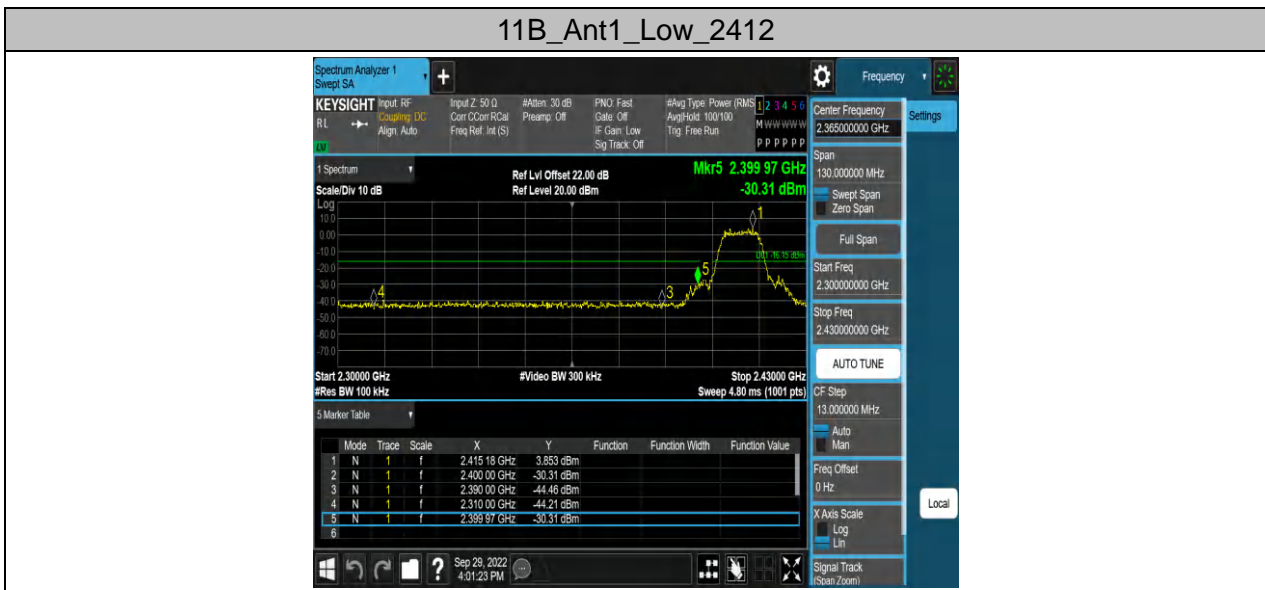


11N20SISO_Ant1_2462_1000~26500

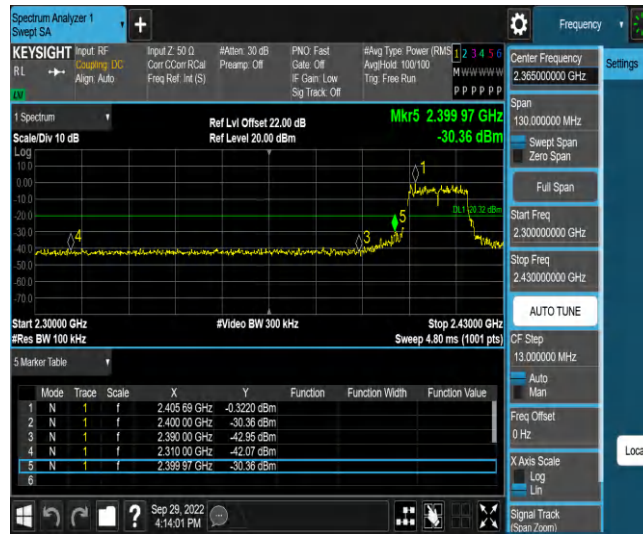


3.3.5.2 Band edge measurements

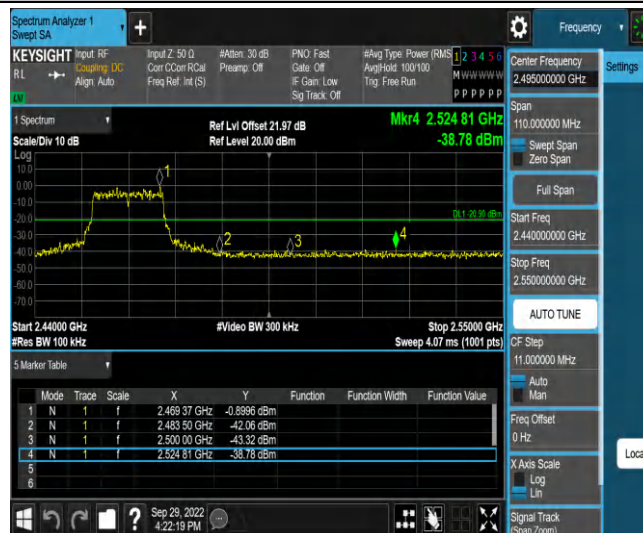
Test Mode	Antenna	Channel	Channel frequency	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.85	-30.31	≤-16.15	PASS
		High	2462	3.25	-38.36	≤-16.75	PASS
11G	Ant1	Low	2412	-0.32	-30.36	≤-20.32	PASS
		High	2462	-0.90	-38.78	≤-20.9	PASS
11N20	Ant1	Low	2412	-0.41	-31.52	≤-20.41	PASS
		High	2462	-0.69	-39.47	≤-20.69	PASS



11G_Ant1_Low_2412



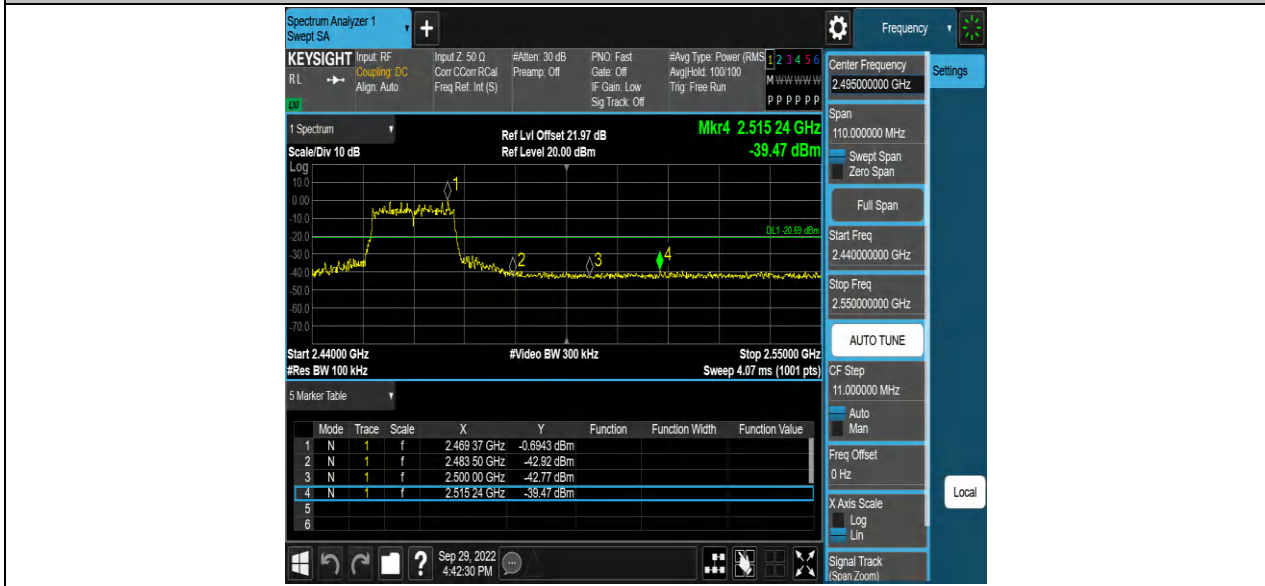
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



3.4 6dB Bandwidth

3.4.1 Limit

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

3.4.2 Test Peripherals

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	Type-C Cable	AWM	E101344	0.9m, No Shielding
2	Adaptor	FUSHIGANG	AS1201A-0502000 USU	NA
3	Record PC	Lenovo	M4500T	NA

3.4.3 Test Procedure

Test Method	
<input checked="" type="radio"/> Conducted Measurement	<input type="radio"/> Radiated Measurement
Test Channels	
<input checked="" type="radio"/> Lowest, Middle and Highest Channel	<input type="radio"/> Lowest and Highest Channel
Environmental conditions	
<input checked="" type="radio"/> Normal	<input type="radio"/> Normal and Extreme
Note: ● : Test ○ : No Test	

a) The EUT shall be connected to the test system, and the spectrum analyser is set as follow:

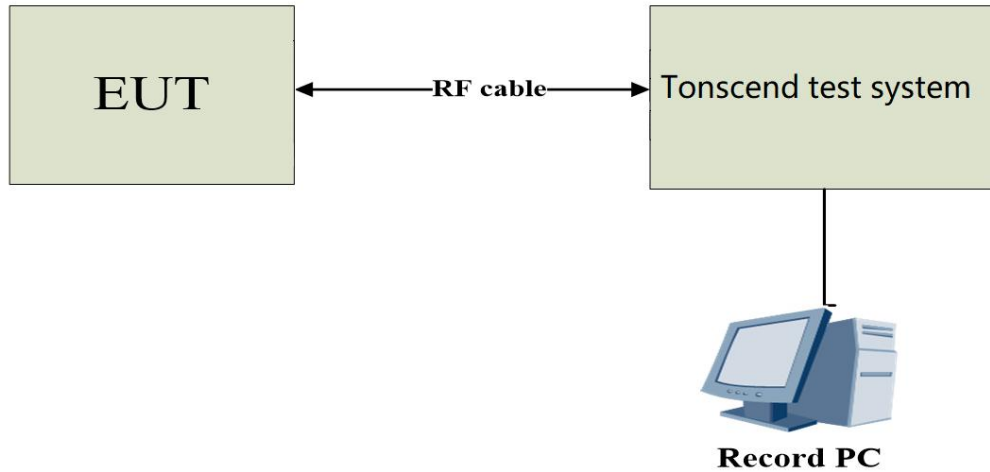
Centre Frequency	The centre frequency of the channel under test
RBW	100kHz
VBW	300kHz
Frequency span	2x Nominal Channel Bandwidth
Detector Mode	Peak
Trace Mode	Max Hold
Sweep Time	Auto Couple

b) Wait for the trace to stabilize then find the peak value of the trace and place the analyser marker on this peak.

c) Use the -6dB bandwidth function of the spectrum analyser to measure the 6dB Bandwidth of the EUT. This value shall be recorded.

d) Make sure that the power envelope is sufficiently above the noise floor of the analyser to avoid the noise signals left and right from the power envelope being taken into account by this measurement.

3.4.4 Test Setup



3.4.5 Test Result

6dB Bandwidth

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	10.200	2406.680	2416.880	0.5	PASS
		2437	10.520	2431.720	2442.240	0.5	PASS
		2462	10.360	2456.720	2467.080	0.5	PASS
11G	Ant1	2412	16.360	2403.680	2420.040	0.5	PASS
		2437	15.720	2428.800	2444.520	0.5	PASS
		2462	15.960	2453.840	2469.800	0.5	PASS
11N20SISO	Ant1	2412	16.760	2403.800	2420.560	0.5	PASS
		2437	16.000	2429.320	2445.320	0.5	PASS
		2462	17.480	2453.160	2470.640	0.5	PASS

11B_Ant1_2412



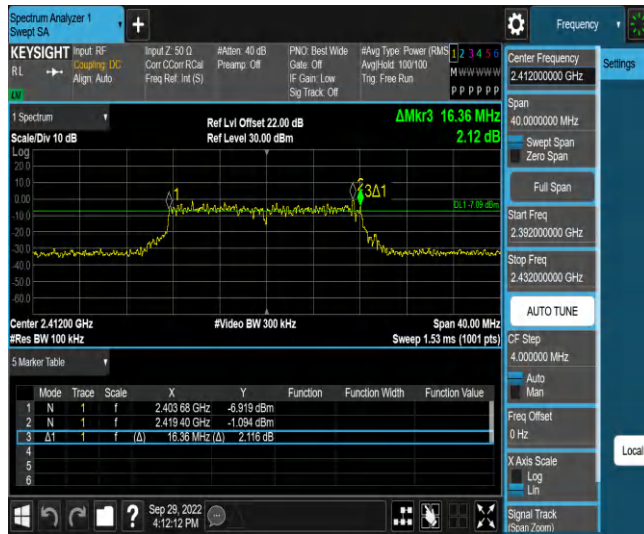
11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437

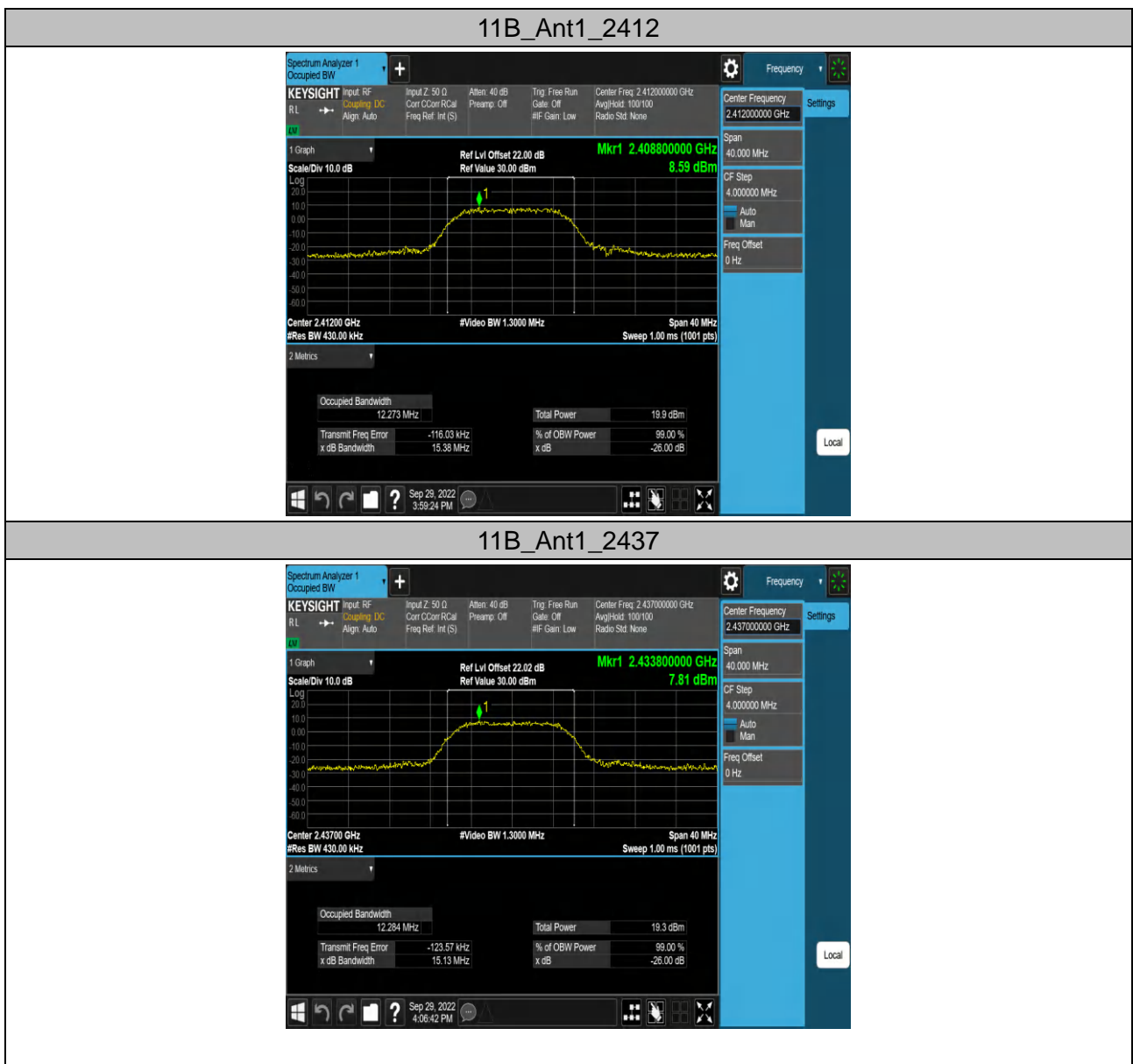


11N20SISO_Ant1_2462

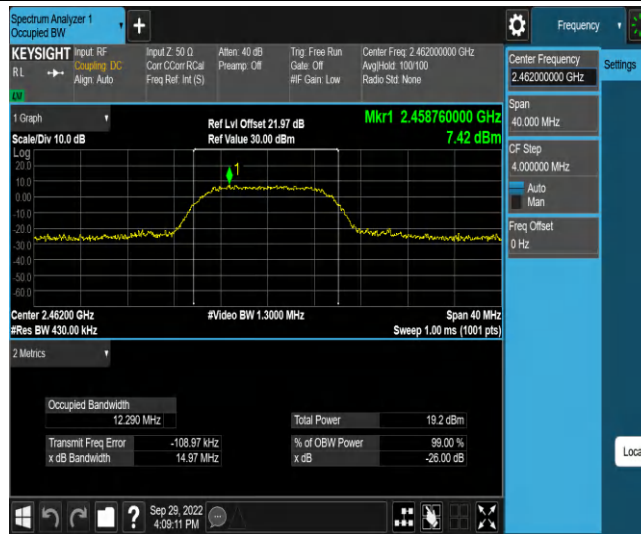


Occupied Channel Bandwidth

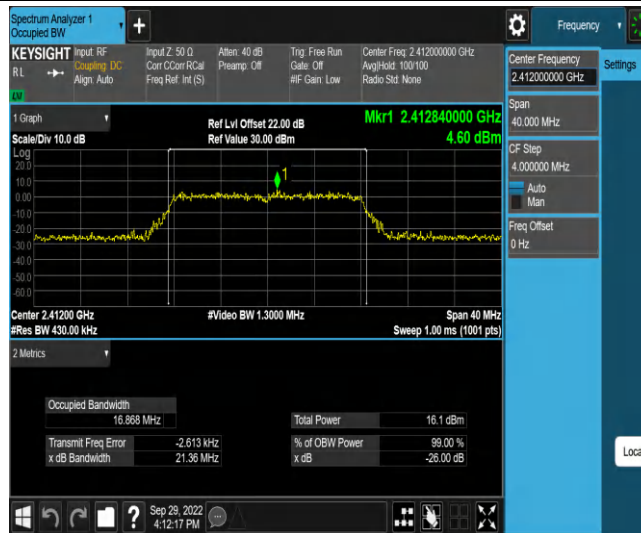
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.273	2405.7475	2418.0205	---	---
		2437	12.284	2430.7344	2443.0184	---	---
		2462	12.290	2455.7460	2468.0360	---	---
11G	Ant1	2412	16.868	2403.5634	2420.4314	---	---
		2437	17.021	2428.4715	2445.4925	---	---
		2462	16.955	2453.4191	2470.3741	---	---
11N20SISO	Ant1	2412	17.944	2402.9341	2420.8781	---	---
		2437	18.031	2427.9599	2445.9909	---	---
		2462	18.033	2452.9164	2470.9494	---	---



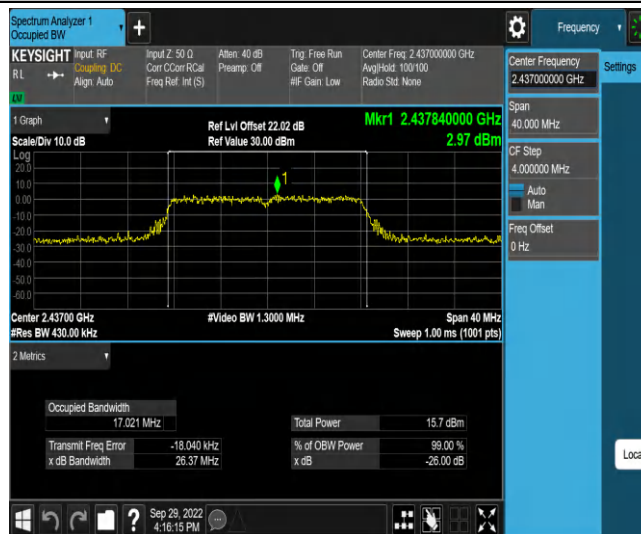
11B_Ant1_2462



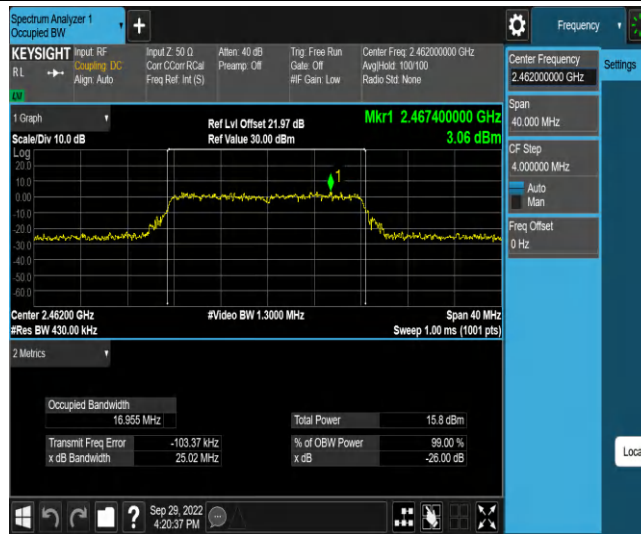
11G_Ant1_2412



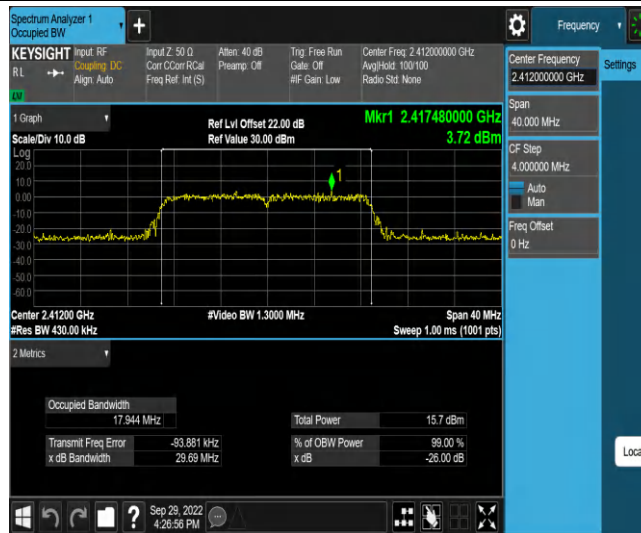
11G_Ant1_2437



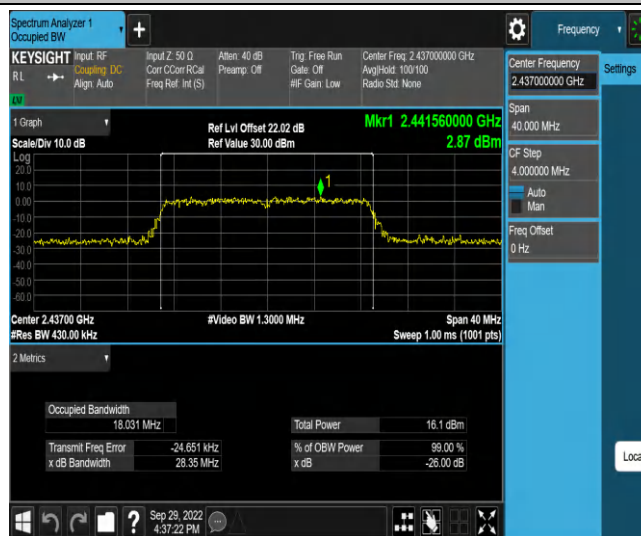
11G_Ant1_2462



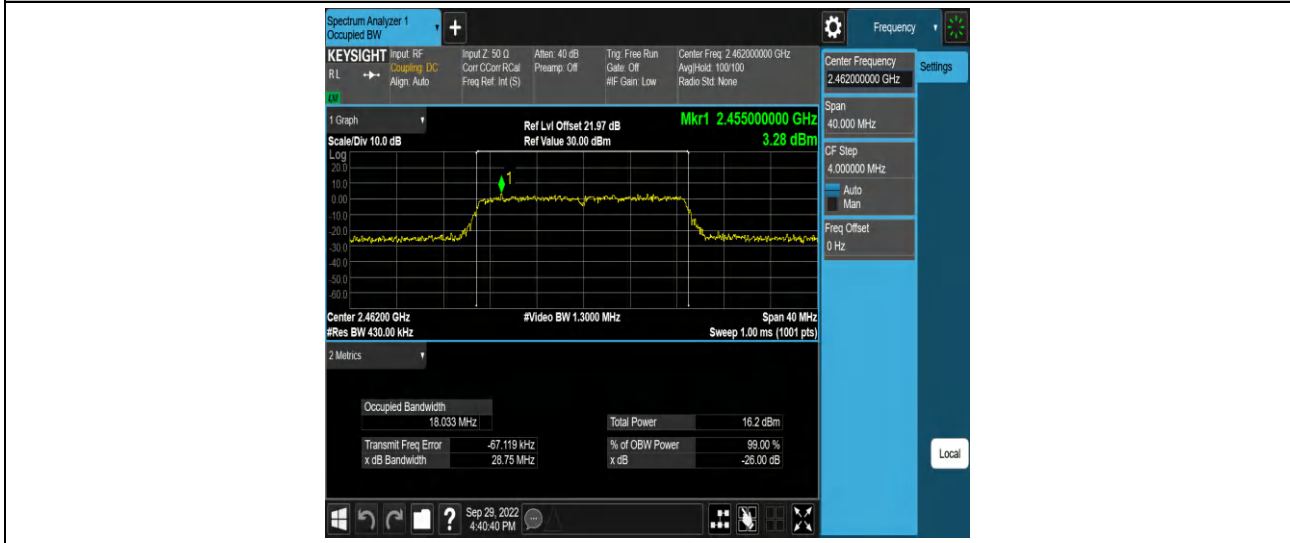
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



3.5 Conducted Output Power

3.5.1 Limit

For systems using digital modulation in the 2400~2483.5MHz, The Maximum output Power shall not exceed 1W(30dBm)

3.5.2 Test Peripherals

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	Type-C Cable	AWM	E101344	0.9m, No Shielding
2	Adaptor	FUSHIGANG	AS1201A-0502000 USU	NA
3	Record PC	Lenovo	M4500T	NA
4	Control PC	Lenovo	M4500T	NA

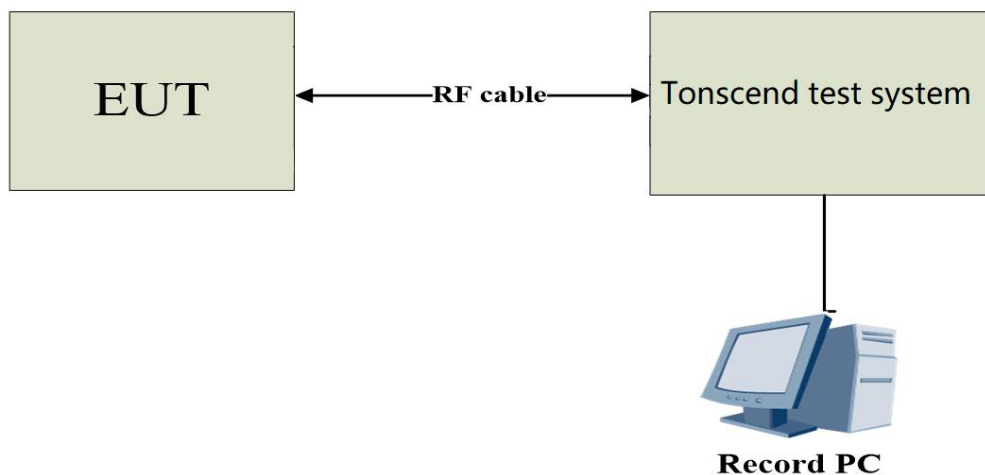
3.5.3 Test Procedure

Test Method	
<input checked="" type="radio"/> Conducted Measurement	<input type="radio"/> Radiated Measurement
Test Channels	
<input checked="" type="radio"/> Lowest, Middle and Highest Channel	<input type="radio"/> Lowest and Highest Channel
Environmental conditions	
<input checked="" type="radio"/> Normal	<input type="radio"/> Normal and Extreme
Note: ● : Test ○ : No Test	

a) The EUT was directly connected to the test system and antenna output port as show in the block diagram below

b) The maximum output power was performed in accordance with method 11.9.2.3 of ANSI C63.10.

3.5.4 Test Setup



3.5.5 Table of Parameters of Text Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

For Power Setting value

Test Software Version	Command		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	15	15	15
IEEE 802.11g	15	15	15
IEEE 802.11n (20MHz)	15	15	15

3.5.6 The Result

Test Mode	Antenna	Channel	Conducted output Power [dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	19.45	≤30.00	PASS
		2437	18.97	≤30.00	PASS
		2462	18.57	≤30.00	PASS
11G	Ant1	2412	16.99	≤30.00	PASS
		2437	16.76	≤30.00	PASS
		2462	16.50	≤30.00	PASS
11N20SISO	Ant1	2412	16.65	≤30.00	PASS
		2437	16.42	≤30.00	PASS
		2462	16.84	≤30.00	PASS

3.6 Power Spectral Density

3.6.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

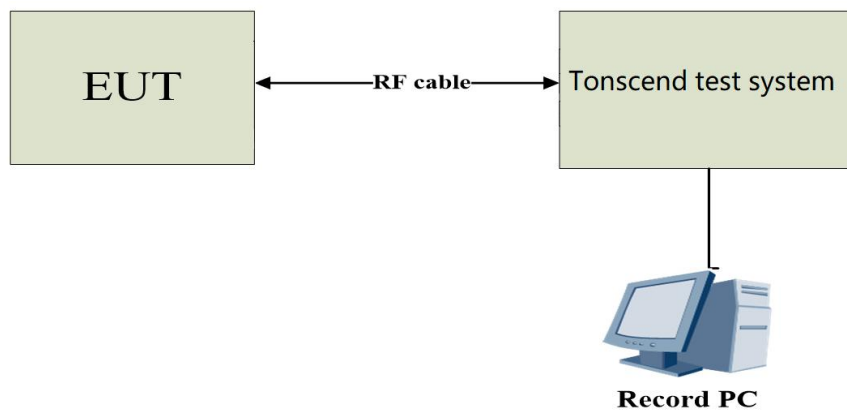
3.6.2 Test Peripherals

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	Type-C Cable	AWM	E101344	0.9m, No Shielding
2	Adaptor	FUSHIGANG	AS1201A-0502000 USU	NA
3	Record PC	Lenovo	M4500T	NA

3.6.3 Test Procedure

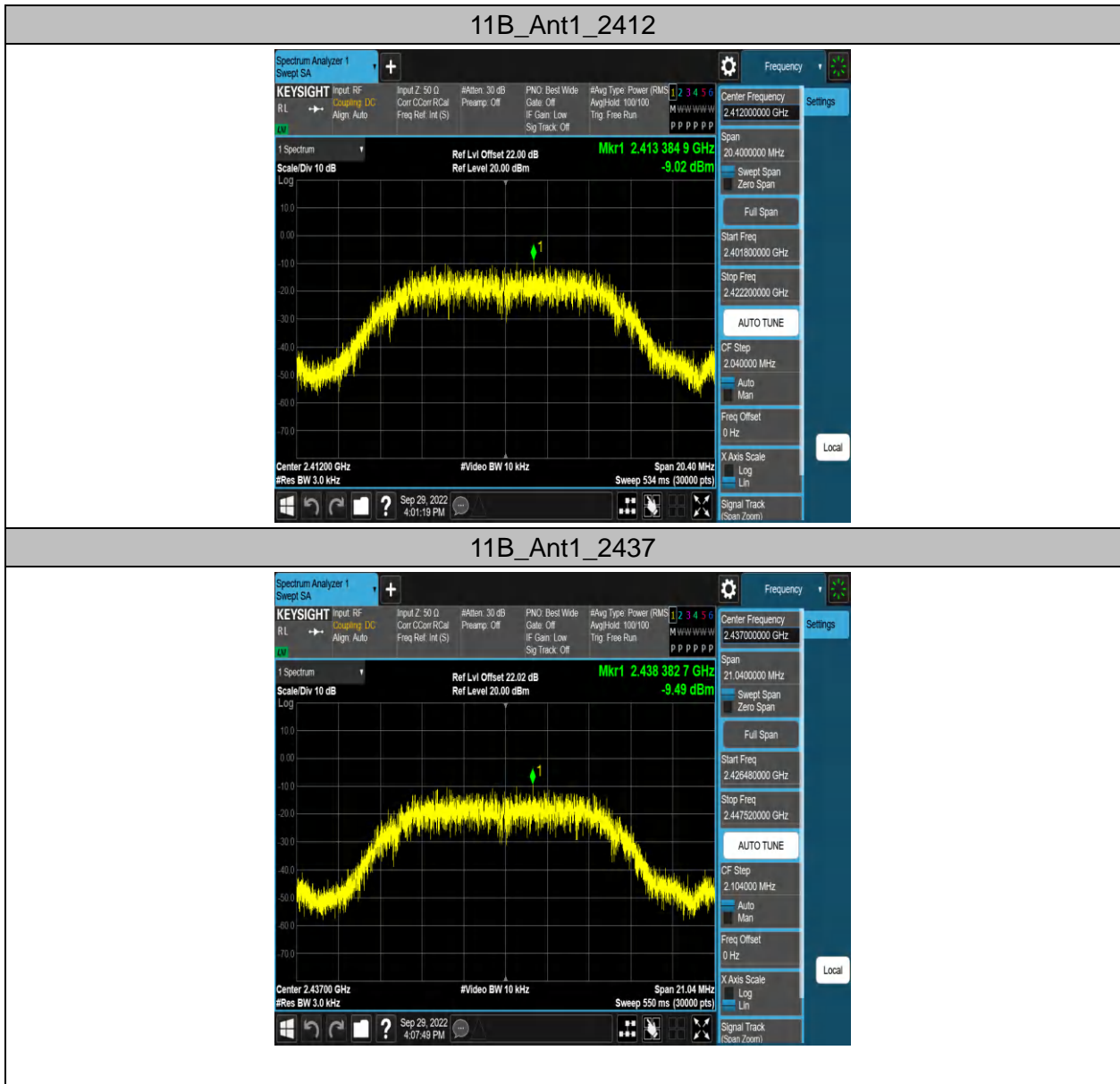
Test Method	
<input checked="" type="radio"/> Conducted Measurement	<input type="radio"/> Radiated Measurement
Test Channels	
<input checked="" type="radio"/> Lowest, Middle and Highest Channel	<input type="radio"/> Lowest and Highest Channel
Environmental conditions	
<input checked="" type="radio"/> Normal	<input type="radio"/> Normal and Extreme
Note: ● : Test ○ : No Test	

a) The EUT was directly connected to the test system and antenna output port as show in the block diagram below.

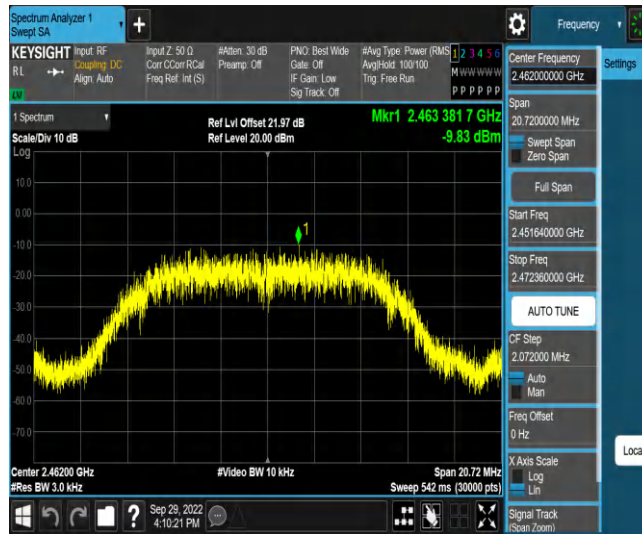


3.6.4 The Result

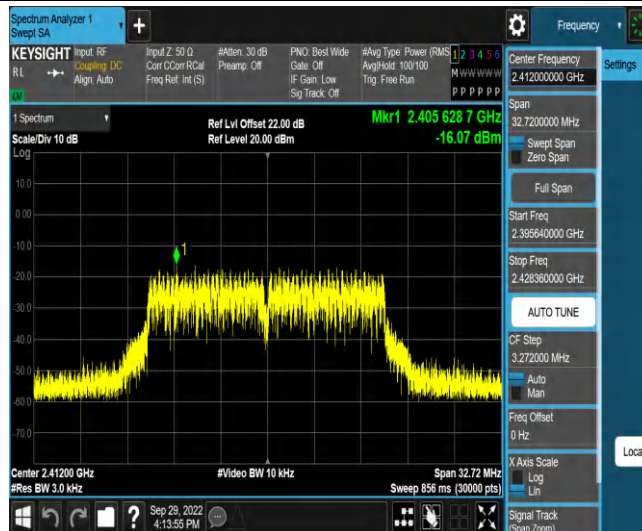
Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-9.02	≤8.00	PASS
		2437	-9.49	≤8.00	PASS
		2462	-9.83	≤8.00	PASS
11G	Ant1	2412	-16.07	≤8.00	PASS
		2437	-15.91	≤8.00	PASS
		2462	-15.99	≤8.00	PASS
11N20SISO	Ant1	2412	-17.03	≤8.00	PASS
		2437	-17.24	≤8.00	PASS
		2462	-17.46	≤8.00	PASS



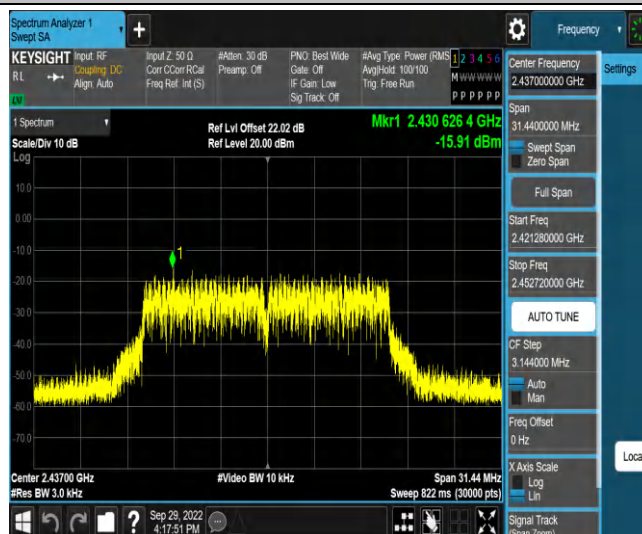
11B_Ant1_2462



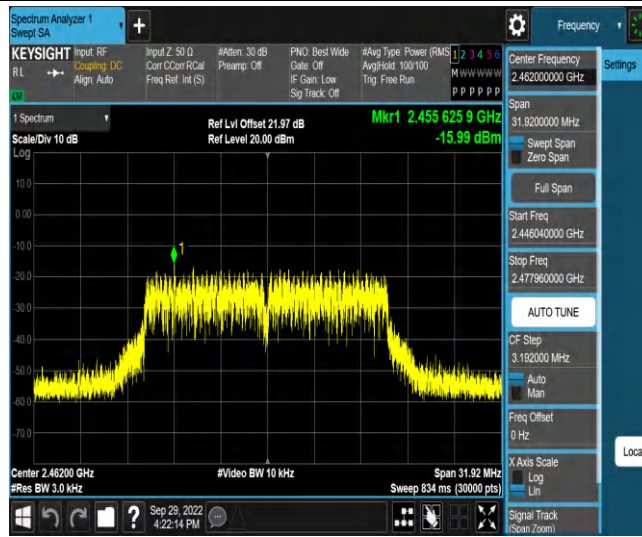
11G_Ant1_2412



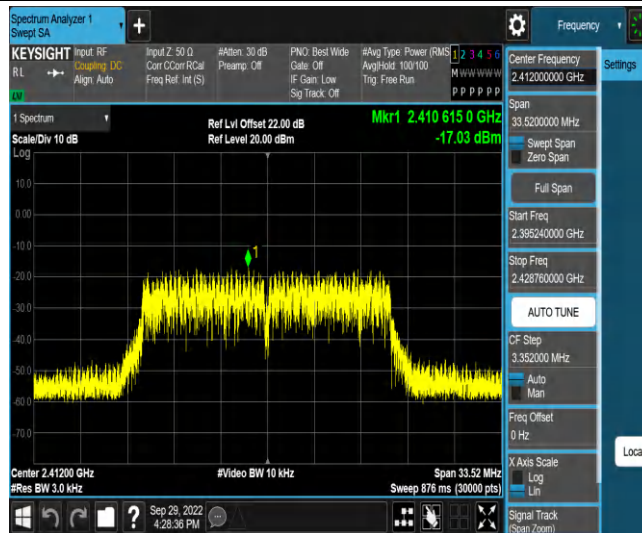
11G_Ant1_2437



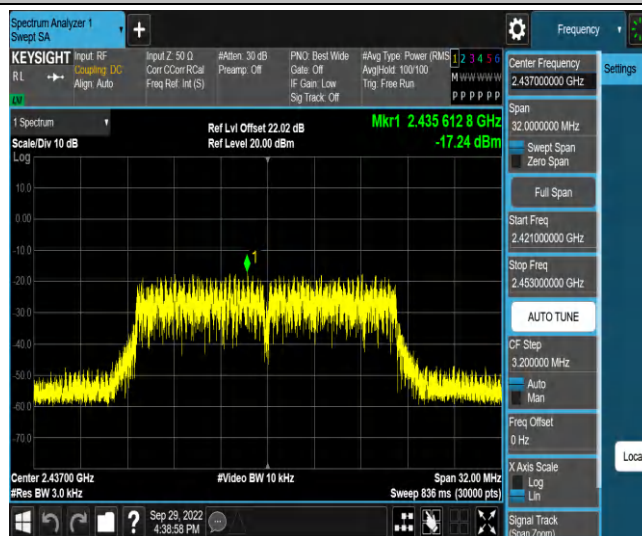
11G_Ant1_2462



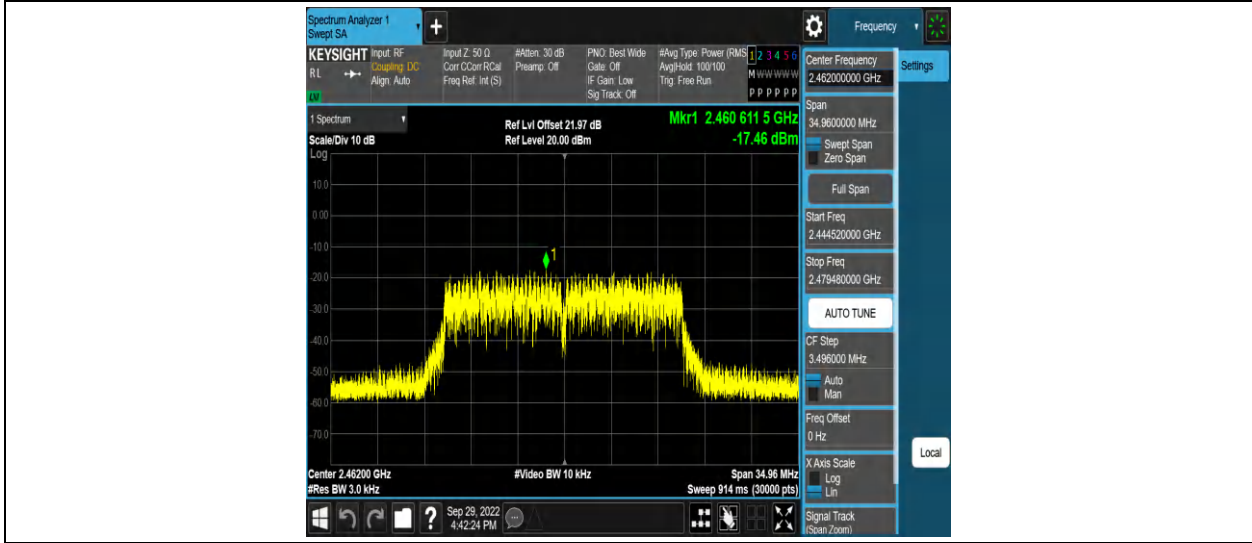
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



END OF REPORT