Product Name: Smart Phone	**Report No: FCC2022-06453RF3**
Product Model: V Max	**Security Classification: Open**
Version: V1.0	**Total Page: 97**

TIRT Testing Report

Prepared By:	**Checked By:**	**Approved By:**	
Stone Tang	Randy Lv	Daniel Chen	
			

RF TEST REPORT

FCC ID: 2AX4YVMAX

According to

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

Equipment	:	Smart Phone
Model No.	:	V Max, S100Pro All models are with same schematic, The only diffrences are model no. V Max is main test model, S100Pro is the adding model. No other differences.
Trademark	:	DOOGEE
Product No.	:	20221220021903
Applicant	:	Shenzhen DOOGEE Hengtong Technology CO.,LTD

- 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: 2022.12.13-2023.1.8

Lab: Beijing TIRT Technology Service Co.,Ltd Shenzhen

Add: 101, 3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China

TEL: +86-0755-27087573

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History of this test report

Original Report Issue Date: 2023.01.09

● No additional attachment

○ Additional attachments were issued following record

Attachment No.	Issue Date	Description

1. General Information

1.1 Applicant

Shenzhen DOOGEE Hengtong Technology CO.,LTD

B, 2/F, Building A4, Silicon Valley Power Digital Industrial Park, No. 22, Longhua New District, Shenzhen, China

1.2 Manufacturer

Shenzhen DOOGEE Hengtong Technology CO.,LTD

B, 2/F, Building A4, Silicon Valley Power Digital Industrial Park, No. 22, Longhua New District, Shenzhen, China

1.3 Basic Description of Equipment Under Test

Items	Description	
Equipment Name	Smart Phone	
Model Number	V Max, S100Pro All models are with same schematic, The only diffrences are model no. V Max is main test model, S100Pro is the adding model. No other differences.	
Trademark	DOOGEE	
Power Supply	Input: 100~240V, 50/60Hz	
Operating Temperature	0℃-40℃	
EUT Stage	○ Product Unit	●Final-Sample
Operating Band	2400~2483.5MHz	●IEEE 802.11b
		●IEEE 802.11g
		●IEEE 802.11n(20MHz)
Product Type	IEEE 802.11b: WLAN (1TX, 1RX) IEEE 802.11g: WLAN (1TX, 1RX) IEEE 802.11n: WLAN (2TX, 2RX)	
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)	

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	/	/

Note：
All model:

Only the model V Max was tested, All the EUTs have the same wifi module and antenna,the only difference between them is the software function for seminal vesical measurement and testis measurement, so select V Max as the test model to cover the other EUTs.

1.5 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain
1	N/A	N/A	PIFA	N/A	0.39

1.6 Transmit Operating Mode

Transmit Operating Mode							Transmit Multiple Antennas					
●	Operating mode 1 (single antenna)						●	1TX				
●	Operating mode 2 (multiple antenna, no beam forming)						●	2TX	○	3TX	○	4TX
○	Operating mode 3 (multiple antenna, with beam forming)						○	2TX	○	3TX	○	4TX
●	802.11b	Operating mode	●	1TX	○	2TX	○	3TX				
●	802.11g	Operating mode	●	1TX	○	2TX	○	3TX				
●	802.11n(20MHz)	Operating mode	○	1TX	●	2TX	○	3TX				

Note:
802.11b, 1Mbps~11Mbps: 1TX1RX.
802.11g, 6Mbps~54Mbps: 1TX1RX.
802.11n20MHz, MCS0~ MCS7: 2TX2RX.

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 2 internal PCB antennas arrangement which was permanently attached
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

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10:2013

2.3 Test Instruments

No.	Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
RF Output Power Test					
1	Power Collection Unit	Tonscend	JS0806-2	188060134	2023/11/08
2	Tonscend Test System	Tonscend	EN300328 V2.2.2	NA	NA
3	Temp&Humidity Chamber	ETOMA	NTH1100-30A	16080628	2023/11/08
4	Temp&Humidity Recorder	Anymetre	JR900	NA	2023/11/08
Power Spectral Density Test					
1	Spectrum Analyzer	Agilent	N9010A	MY52221119	2023/11/08
2	Power Collection Unit	Tonscend	JS0806-2	188060134	2023/11/08
3	Tonscend Test System	Tonscend	EN300328 V2.2.2	NA	NA
4	Temp&Humidity Recorder	Anymetre	JR900	NA	2023/11/08
6dB Bandwidth Test					
1	Spectrum Analyzer	Agilent	N9010A	MY52221119	2023/11/08
2	Power Collection Unit	Tonscend	JS0806-2	188060134	2023/11/08
3	Tonscend Test System	Tonscend	EN300328 V2.2.2	NA	NA
4	Temp&Humidity Recorder	Anymetre	JR900	NA	2023/11/08
Conducted Spurious Emission					
1	Spectrum Analyzer	Agilent	N9010A	MY52221119	2023/11/08
2	Power Collection Unit	Tonscend	JS0806-2	188060134	2023/11/08
3	Tonscend Test System	Tonscend	EN300328 V2.2.2	NA	NA
4	Temp&Humidity Recorder	Anymetre	JR900	NA	2023/11/08
Band Edge					
1	Spectrum Analyzer	Agilent	N9010A	MY52221119	2023/11/08
2	Power Collection Unit	Tonscend	JS0806-2	188060134	2023/11/08
3	Tonscend Test System	Tonscend	EN300328 V2.2.2	NA	NA

4	Temp&Humidity Recorder	Anymetre	JR900	NA	2023/11/08
Transmitter Emissions In Spurious Domain					
1	Spectrum Analyzer	Rohde & Schwarz	FSV30	103741	2023/11/08
2	Integral antenna	SCHWARZBECK	VULB9163	9163-868	2023/11/08
3	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-123	2023/11/08
4	Broadband amplifier	SCHWARZBECK	BBV9745	9745#46	2023/11/08
5	Broadband amplifier	SCHWARZBECK	BBV9718	9718-284	2023/11/08
6	Temp&Humidity Recorder	Anymetre	JR900	NA	2023/11/08

2.4 Test Mode

Frequency Range : 2400~2483.5 MHz				
Test Items	Mode	Data Rate	Channel	Antenna
AC Power Conducted Emission	Simultaneous transmission	-	-	-
Radiated Emission and Band Edge Measurement	802.11b	1 Mbps	01/06/11	1/2
	802.11g	6Mbps	01/06/11	1/2
	802.11n(20MHz)	MCS0	01/06/11	1&2
Spurious Emission at Antenna Port	802.11b	1 Mbps	01/06/11	1/2
	802.11g	6Mbps	01/06/11	1/2
	802.11n(20MHz)	MCS0	01/06/11	1&2
6dB Bandwidth	802.11b	1 Mbps	01/06/11	1/2
	802.11g	6Mbps	01/06/11	1/2
	802.11n(20MHz)	MCS0	01/06/11	1&2
Conducted Power	802.11b	1 Mbps	01/06/11	1/2
	802.11g	6Mbps	01/06/11	1/2
	802.11n(20MHz)	MCS0	01/06/11	1&2
Power Spectral Density	802.11b	1 Mbps	01/06/11	1/2
	802.11g	6Mbps	01/06/11	1/2
	802.11n(20MHz)	MCS0	01/06/11	1&2

2.5 Test Condition

Applicable to	Environmental conditions	Input Power	Tested by
AC Power Conducted Emission	24.6°C, 56 % RH	120V AC	Stone Tang
Radiated Emission and Band Edge Measurement	24.2°C, 55 % RH	120V AC	Stone Tang
Spurious Emission at Antenna Port	24.6°C, 56 % RH	120V AC	Stone Tang
6dB Bandwidth	24.6°C, 56 % RH	120V AC	Stone Tang
Conducted Power	24.5°C, 56 % RH	120V AC	Stone Tang
Power Spectral Density	24.4°C, 56 % RH	120V AC	Stone Tang

The applicant declare the operating environment of EUT as below:

Normal conditions: 120V AC ,15~35°C

2.6 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	±142.12 KHz
RF power conducted	±0.74 dB
RF power radiated	±3.25dB
Spurious emissions, conducted	±1.78dB
Spurious emissions, radiated (9KHz~30MHz)	±2.56dB
Spurious emissions, radiated (30MHz～1GHz)	±4.6dB
Spurious emissions, radiated (Above 1GHz)	±4.9dB
Conduction Emissions(150kHz~30MHz)	±3.1 dB
Humidity	±4.6%
Temperature	±0.7°C
Time	±1.25%

2.7 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
FCC Designation Number:	CN1309
Test Firm Registration Number:	825524
Telephone:	+86-0755-27087573

2.8 Deviation from Standards

None

2.9 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(μV)	Average Level dB(μV)
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 Procedure

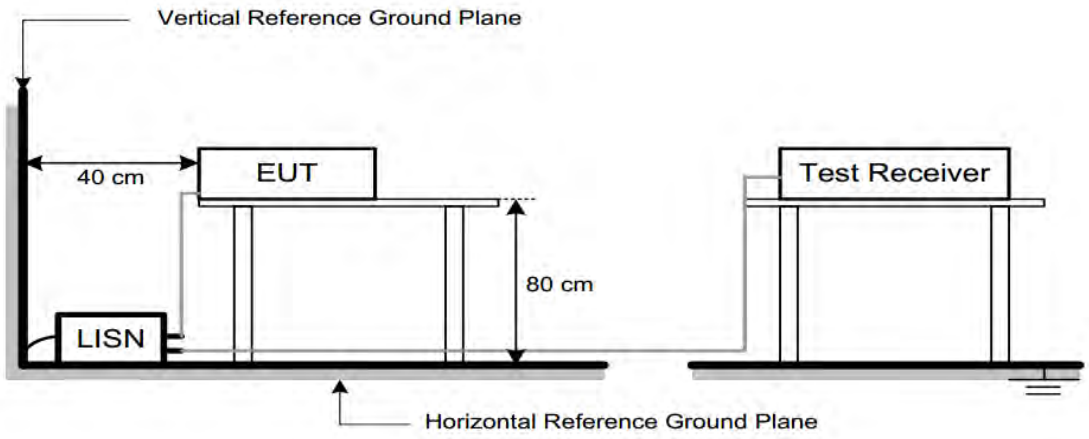
Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
○Lowest, Middle and Highest Channel	○Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) 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.

b) Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c) The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

3.1.3 Test Setup



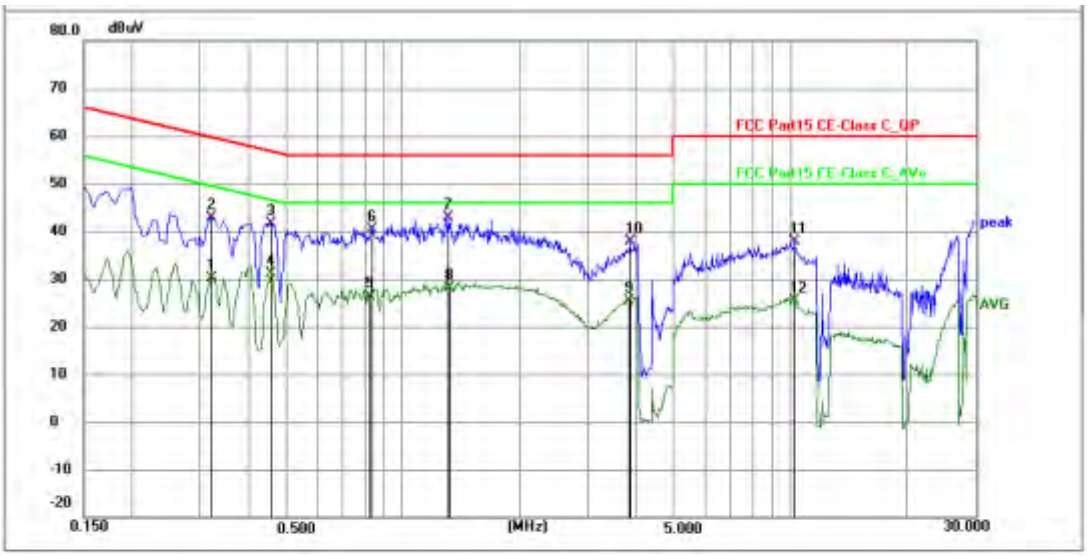
3.1.4 Test Result

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: Simultaneous transmission

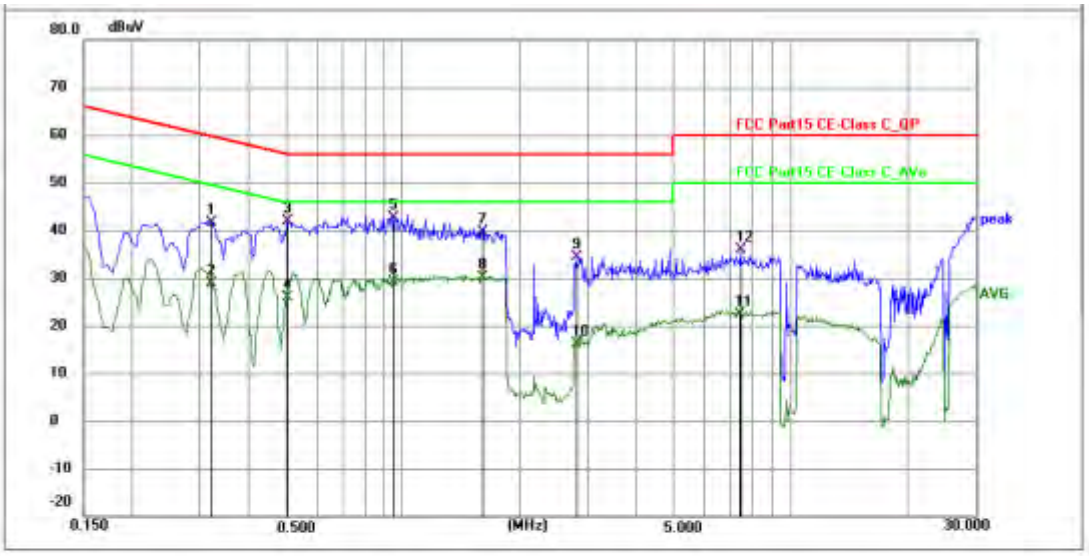
Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.3200	19.96	10.19	30.15	49.71	-19.56	AVG	P	
2	0.3209	32.71	10.19	42.90	59.68	-16.78	QP	P	
3	0.4560	31.37	10.26	41.63	56.77	-15.14	QP	P	
4	0.4560	20.84	10.26	31.10	46.77	-15.67	AVG	P	
5	0.8250	16.08	10.24	26.32	46.00	-19.68	AVG	P	
6	0.8340	30.26	10.24	40.50	56.00	-15.50	QP	P	
7 *	1.3154	32.57	10.25	42.82	56.00	-13.18	QP	P	
8	1.3200	17.80	10.25	28.05	46.00	-17.95	AVG	P	
9	3.8310	15.20	10.26	25.46	46.00	-20.54	AVG	P	
10	3.8580	27.55	10.26	37.81	56.00	-18.19	QP	P	
11	10.2390	27.43	10.37	37.80	60.00	-22.20	QP	P	
12	10.2390	15.05	10.37	25.42	50.00	-24.58	AVG	P	

150kHz~30MHz	Worst Case Operating Mode: Simultaneous transmission

Neutral



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.3200	31.60	10.15	41.75	59.71	-17.96	QP	P	
2	0.3200	18.73	10.15	28.88	49.71	-20.83	AVG	P	
3	0.5010	31.69	10.26	41.95	56.00	-14.05	QP	P	
4	0.5010	15.55	10.26	25.81	46.00	-20.19	AVG	P	
5 *	0.9465	32.49	10.26	42.75	56.00	-13.25	QP	P	
6	0.9465	18.98	10.26	29.24	46.00	-16.76	AVG	P	
7	1.6080	29.29	10.28	39.57	56.00	-16.43	QP	P	
8	1.6080	19.84	10.28	30.12	46.00	-15.88	AVG	P	
9	2.8005	24.06	10.24	34.30	56.00	-21.70	QP	P	
10	2.8095	5.82	10.24	16.06	46.00	-29.94	AVG	P	
11	7.3905	11.99	10.32	22.31	50.00	-27.69	AVG	P	
12	7.4445	25.45	10.33	35.78	60.00	-24.22	QP	P	

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	
		μV/m	dB(μV)/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 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Note: (1) Emission level dBμV = 20 log Emission level μV/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 Procedure

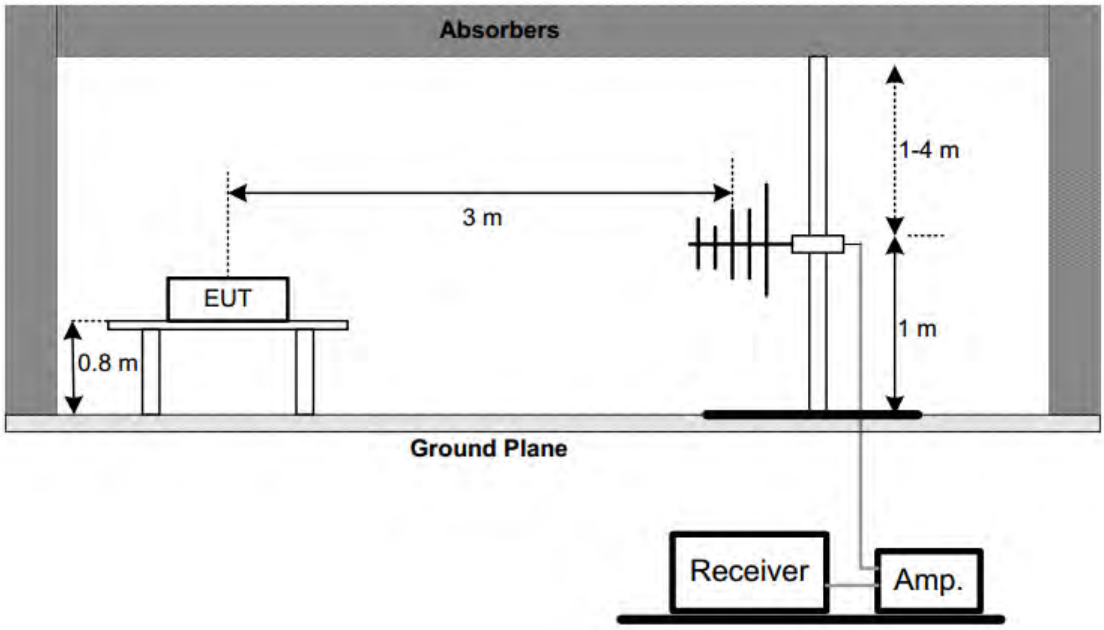
Test Method	
○Conducted Measurement	●Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The measuring distance of 3 m shall be used for measurements. The EUT was placed on the
b) top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The
c) table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
d) The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed
e) on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber.
f) The table was rotated 360 degrees to determine the position of the highest radiation.(above
g) 1GHz)
h) The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of

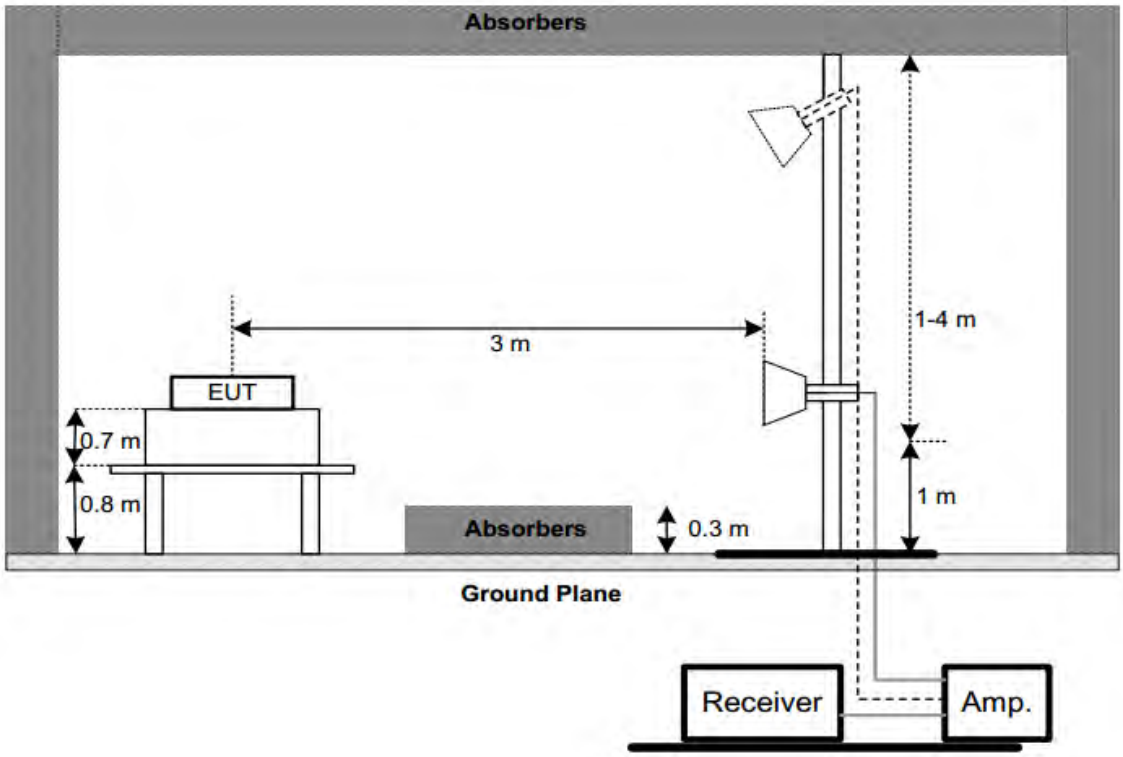
i) the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of
j) the antenna are set to make the measurement.
k) For each suspected emission, the EUT was arranged to its worst case and then the antenna
l) was tuned to heights find the maximum reading (used Bore sight function).
m) The receiver system was set to peak and average detect function and specified bandwidth
n) with maximum hold mode when the test frequency is above 1 GHz.
o) The initial step in collecting radiated emission data is a receiver peak detector mode
p) pre-scanning the measurement frequency range. Significant peaks are then marked and then
q) Quasi Peak detector mode re-measured.
r) All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the
s) Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform.
t) (below 1 GHz)
u) All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak
v) Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT
w) shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured,
x) but AVG Mode didn‘t perform. (above 1 GHz)
y) For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.2.3 Test Setup

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



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



3.2.4 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-1G

Note:

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

Below 1G (30MHz~1GHz)	Test mode: 802.11b	Test Channel:1

HORIZONTAL

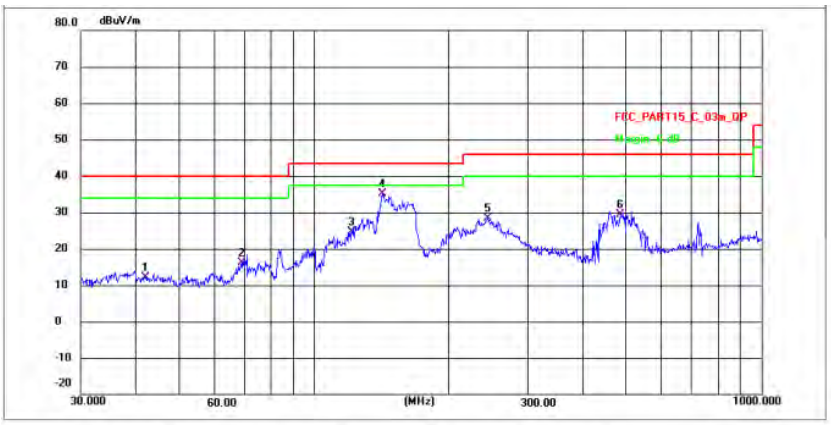
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	43.8120	41.30	-28.11	13.19	40.00	-26.81	QP	P
2	67.4381	41.02	-27.92	13.10	40.00	-26.90	QP	P
3	142.0750	52.45	-27.29	25.16	43.50	-18.34	QP	P
4	215.6454	50.51	-26.91	23.60	43.50	-19.90	QP	P
5	460.7271	53.96	-25.57	28.39	46.00	-17.61	QP	P
6 *	503.8220	54.60	-25.45	29.15	46.00	-16.85	QP	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	43.8120	45.80	-28.11	17.69	40.00	-22.31	QP	P
2	58.1010	45.09	-27.95	17.14	40.00	-22.86	QP	P
3	141.8262	53.79	-27.29	26.50	43.50	-17.00	QP	P
4	210.4165	52.12	-26.94	25.18	43.50	-18.32	QP	P
5	452.7196	54.02	-25.59	28.43	46.00	-17.57	QP	P
6 *	707.9400	58.86	-24.81	34.05	46.00	-11.95	QP	P

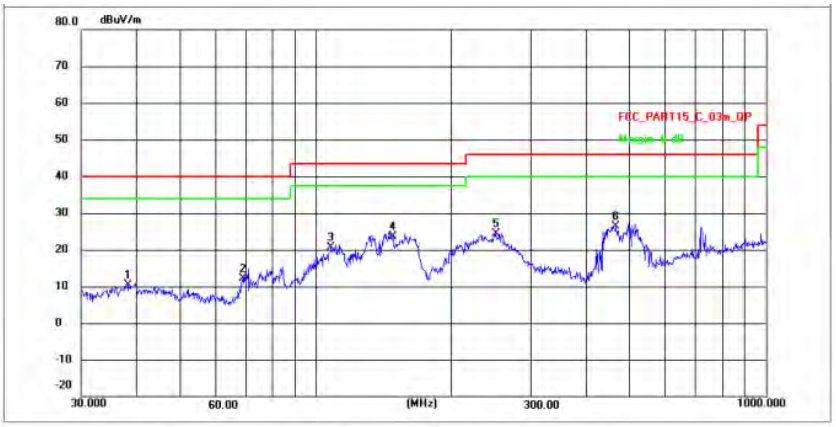
Below 1G (30MHz~1GHz)	Test mode: 802.11b	Test Channel:6

HORIZONTAL



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	41.9330	40.35	-28.12	12.23	40.00	-27.77	QP	P
2	68.7514	43.98	-27.92	16.06	40.00	-23.94	QP	P
3	121.3354	52.19	-27.49	24.70	43.50	-18.80	QP	P
4 *	142.0750	62.45	-27.29	35.16	43.50	-8.34	QP	P
5	244.2321	55.07	-26.74	28.33	46.00	-17.67	QP	P
6	485.6091	54.99	-25.50	29.49	46.00	-16.51	QP	P

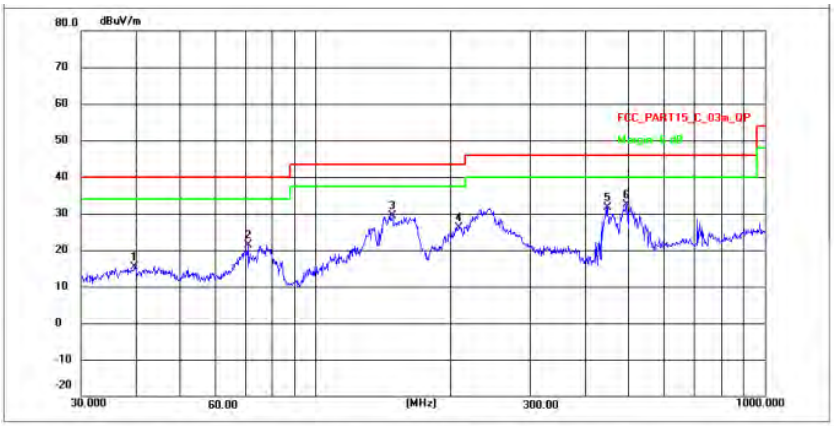
VERTICAL



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	38.3462	38.45	-28.19	10.26	40.00	-29.74	QP	P
2	68.7514	39.98	-27.92	12.06	40.00	-27.94	QP	P
3	108.0770	48.17	-27.64	20.53	43.50	-22.97	QP	P
4	147.9214	51.00	-27.26	23.74	43.50	-19.76	QP	P
5	252.0627	50.97	-26.69	24.28	46.00	-21.72	QP	P
6 *	463.9696	51.88	-25.56	26.32	46.00	-19.68	QP	P

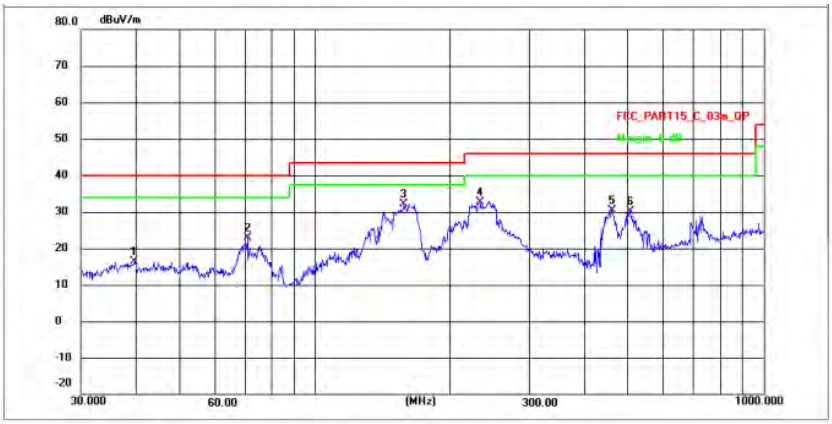
Below 1G (30MHz~1GHz)	Test mode: 802.11b	Test Channel:11

HORIZONTAL



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	39.7146	29.04	-13.78	15.26	40.00	-24.74	QP	P
2	70.5835	49.21	-27.92	21.29	40.00	-18.71	QP	P
3	147.9214	56.59	-27.26	29.33	43.50	-14.17	QP	P
4	208.9462	53.10	-26.95	26.15	43.50	-17.35	QP	P
5	447.1974	57.33	-25.61	31.72	46.00	-14.28	QP	P
6 *	493.3326	57.86	-25.48	32.38	46.00	-13.62	QP	P

VERTICAL



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	39.7146	44.41	-28.15	16.26	40.00	-23.74	QP	P
2	70.5835	50.71	-27.92	22.79	40.00	-17.21	QP	P
3 *	157.8351	59.24	-27.21	32.03	43.50	-11.47	QP	P
4	232.5318	59.36	-26.81	32.55	46.00	-13.45	QP	P
5	460.7271	55.96	-25.57	30.39	46.00	-15.61	QP	P
6	503.8220	55.60	-25.45	30.15	46.00	-15.85	QP	P

3) Radiated emission: Above 1G

Note:

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

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

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1230.989	65.71	-30.68	35.03	74.00	-38.97	peak	P
2	2024.354	67.51	-31.52	35.99	74.00	-38.01	peak	P
3	2927.246	69.55	-30.06	39.49	74.00	-34.51	peak	P
4	3753.295	70.28	-30.23	40.05	74.00	-33.95	peak	P
5	5578.412	69.26	-27.48	41.78	74.00	-32.22	peak	P
6 *	8566.294	74.89	-25.73	49.16	74.00	-24.84	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1128.419	67.20	-30.10	37.10	74.00	-36.90	peak	P
2	1940.705	63.96	-31.62	32.34	74.00	-41.66	peak	P
3	2920.485	65.05	-30.08	34.97	74.00	-39.03	peak	P
4	3739.218	64.77	-30.21	34.56	74.00	-39.44	peak	P
5	4822.196	69.97	-29.05	40.92	74.00	-33.08	peak	P
6 *	7231.594	68.88	-25.95	42.93	74.00	-31.07	peak	P

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

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1146.169	64.91	-30.20	34.71	74.00	-39.29	peak	P
2	2066.924	64.10	-31.47	32.63	74.00	-41.37	peak	P
3	2951.033	61.56	-30.01	31.55	74.00	-42.45	peak	P
4	5236.247	63.49	-28.04	35.45	74.00	-38.55	peak	P
5 *	7242.052	71.25	-25.96	45.29	74.00	-28.71	peak	P
6	10885.668	68.61	-24.63	43.98	74.00	-30.02	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1128.419	66.70	-30.10	36.60	74.00	-37.40	peak	P
2	2125.079	67.09	-31.42	35.67	74.00	-38.33	peak	P
3	2920.485	66.05	-30.08	35.97	74.00	-38.03	peak	P
4	4822.196	66.47	-29.05	37.42	74.00	-36.58	peak	P
5	7237.867	72.78	-25.95	46.83	74.00	-27.17	peak	P
6 *	11982.023	72.44	-23.10	49.34	74.00	-24.66	peak	P

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

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1062.885	68.07	-29.72	38.35	74.00	-35.65	peak	P
2	2094.588	67.16	-31.45	35.71	74.00	-38.29	peak	P
3	3147.506	66.75	-29.89	36.86	74.00	-37.14	peak	P
4	4824.984	67.63	-29.04	38.59	74.00	-35.41	peak	P
5 *	7239.959	71.18	-25.96	45.22	74.00	-28.78	peak	P
6	10417.774	70.01	-25.30	44.71	74.00	-29.29	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1149.487	67.47	-30.22	37.25	74.00	-36.75	peak	P
2	1973.513	66.49	-31.58	34.91	74.00	-39.09	peak	P
3	2908.691	66.83	-30.10	36.73	74.00	-37.27	peak	P
4	3741.381	67.02	-30.21	36.81	74.00	-37.19	peak	P
5	4824.984	65.63	-29.04	36.59	74.00	-37.41	peak	P
6 *	8132.014	69.81	-26.04	43.77	74.00	-30.23	peak	P

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

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1167.907	64.74	-30.32	34.42	74.00	-39.58	peak	P
2	1931.751	64.47	-31.63	32.84	74.00	-41.16	peak	P
3	2924.709	65.31	-30.07	35.24	74.00	-38.76	peak	P
4	3794.746	64.11	-30.29	33.82	74.00	-40.18	peak	P
5	6488.754	68.41	-26.10	42.31	74.00	-31.69	peak	P
6 *	9569.074	71.29	-24.50	46.79	74.00	-27.21	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1167.907	64.74	-30.32	34.42	74.00	-39.58	peak	P
2	2054.416	66.76	-31.49	35.27	74.00	-38.73	peak	P
3	2924.709	66.81	-30.07	36.74	74.00	-37.26	peak	P
4	4438.319	64.71	-30.24	34.47	74.00	-39.53	peak	P
5	6126.062	65.80	-26.53	39.27	74.00	-34.73	peak	P
6 *	7631.011	69.14	-26.25	42.89	74.00	-31.11	peak	P

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

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1103.582	67.23	-29.96	37.27	74.00	-36.73	peak	P
2	1881.603	63.70	-31.70	32.00	74.00	-42.00	peak	P
3	3152.969	65.53	-29.89	35.64	74.00	-38.36	peak	P
4	4156.462	65.56	-30.44	35.12	74.00	-38.88	peak	P
5	6085.472	67.01	-26.57	40.44	74.00	-33.56	peak	P
6 *	8920.040	69.81	-25.43	44.38	74.00	-29.62	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1093.738	64.75	-29.90	34.85	74.00	-39.15	peak	P
2	1872.922	60.39	-31.71	28.68	74.00	-45.32	peak	P
3	2847.139	62.34	-30.25	32.09	74.00	-41.91	peak	P
4	3866.713	62.41	-30.38	32.03	74.00	-41.97	peak	P
5	5312.470	60.44	-27.92	32.52	74.00	-41.48	peak	P
6 *	7798.241	64.43	-26.20	38.23	74.00	-35.77	peak	P

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

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1132.340	64.59	-30.12	34.47	74.00	-39.53	peak	P
2	1888.687	63.05	-31.69	31.36	74.00	-42.64	peak	P
3	3817.849	62.72	-30.32	32.40	74.00	-41.60	peak	P
4	5541.450	63.98	-27.54	36.44	74.00	-37.56	peak	P
5 *	6864.978	66.52	-25.77	40.75	74.00	-33.25	peak	P
6	9844.000	64.94	-24.56	40.38	74.00	-33.62	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1185.936	67.68	-30.43	37.25	74.00	-36.75	peak	P
2	1957.040	67.47	-31.60	35.87	74.00	-38.13	peak	P
3	2999.187	67.50	-29.89	37.61	74.00	-36.39	peak	P
4	3989.321	68.46	-30.54	37.92	74.00	-36.08	peak	P
5	5612.374	66.83	-27.41	39.42	74.00	-34.58	peak	P
6 *	8271.879	74.49	-25.95	48.54	74.00	-25.46	peak	P

Above 1G (1GHz~26.5GHz)	Test mode:11N20	Test Channel:1

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1185.936	64.18	-30.43	33.75	74.00	-40.25	peak	P
2	1973.513	65.37	-31.58	33.79	74.00	-40.21	peak	P
3	2876.919	67.98	-30.18	37.80	74.00	-36.20	peak	P
4	3794.746	66.11	-30.29	35.82	74.00	-38.18	peak	P
5	5263.560	65.62	-28.00	37.62	74.00	-36.38	peak	P
6 *	7343.227	68.20	-26.09	42.11	74.00	-31.89	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1263.066	64.32	-30.86	33.46	74.00	-40.54	peak	P
2	1899.636	64.95	-31.67	33.28	74.00	-40.72	peak	P
3	2924.709	71.31	-30.07	41.24	74.00	-32.76	peak	P
4	4111.060	66.03	-30.48	35.55	74.00	-38.45	peak	P
5	4879.681	66.51	-28.84	37.67	74.00	-36.33	peak	P
6 *	6864.978	68.52	-25.77	42.75	74.00	-31.25	peak	P

Above 1G (1GHz~26.5GHz)	Test mode:11N20	Test Channel:6

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1242.068	66.23	-30.75	35.48	74.00	-38.52	peak	P
2	2317.572	66.85	-31.24	35.61	74.00	-38.39	peak	P
3	3321.350	61.54	-29.90	31.64	74.00	-42.36	peak	P
4	4353.195	66.21	-30.30	35.91	74.00	-38.09	peak	P
5	6936.783	65.22	-25.71	39.51	74.00	-34.49	peak	P
6 *	10167.886	67.69	-24.88	42.81	74.00	-31.19	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1134.305	67.08	-30.13	36.95	74.00	-37.05	peak	P
2	1923.949	65.08	-31.65	33.43	74.00	-40.57	peak	P
3	2848.785	66.50	-30.25	36.25	74.00	-37.75	peak	P
4	3715.517	63.45	-30.19	33.26	74.00	-40.74	peak	P
5	5541.450	63.77	-27.54	36.23	74.00	-37.77	peak	P
6 *	8982.133	69.93	-25.38	44.55	74.00	-29.45	peak	P

Above 1G (1GHz~26.5GHz)	Test mode:11N20	Test Channel:11

HORIZONTAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1176.716	64.89	-30.37	34.52	74.00	-39.48	peak	P
2	2022.600	63.99	-31.52	32.47	74.00	-41.53	peak	P
3	2906.170	64.80	-30.11	34.69	74.00	-39.31	peak	P
4	3813.438	64.74	-30.32	34.42	74.00	-39.58	peak	P
5	6351.441	65.30	-26.26	39.04	74.00	-34.96	peak	P
6 *	10241.624	70.84	-25.00	45.84	74.00	-28.16	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1328.981	61.28	-31.24	30.04	74.00	-43.96	peak	P
2	1819.036	61.79	-31.78	30.01	74.00	-43.99	peak	P
3	3052.535	63.91	-29.89	34.02	74.00	-39.98	peak	P
4	4455.027	61.21	-30.22	30.99	74.00	-43.01	peak	P
5	6488.754	67.41	-26.10	41.31	74.00	-32.69	peak	P
6 *	10393.713	69.30	-25.26	44.04	74.00	-29.96	peak	P

4) Band Edge

Test mode:	802.11b	Test Channel:	1

HORIZONTA L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	39.47	-5.05	34.42	74.00	-39.58	peak	P
2	2390.000	39.58	-4.97	34.61	74.00	-39.39	peak	P
3 *	2400.000	53.89	-4.96	48.93	74.00	-25.07	peak	P

VERTICALL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	40.97	-5.05	35.92	74.00	-38.08	peak	P
2	2390.000	45.58	-4.97	40.61	74.00	-33.39	peak	P
3 *	2400.000	54.89	-4.96	49.93	74.00	-24.07	peak	P

Test mode:	802.11b	Test Channel:	11

HORIZONTA

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	54.78	-4.89	49.89	74.00	-24.11	peak	P
2	2500.000	39.76	-4.87	34.89	74.00	-39.11	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	57.18	-6.29	50.89	74.00	-23.11	peak	P
2	2500.000	43.16	-6.27	36.89	74.00	-37.11	peak	P

Test mode:	802.11g	Test Channel:	1

HORIZONTA L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	40.72	-5.05	35.67	74.00	-38.33	peak	P
2	2390.000	47.08	-4.97	42.11	74.00	-31.89	peak	P
3 *	2400.000	54.06	-4.96	49.10	74.00	-24.90	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	37.22	-5.05	32.17	74.00	-41.83	peak	P
2	2390.000	42.58	-4.97	37.61	74.00	-36.39	peak	P
3 *	2400.000	54.56	-4.96	49.60	74.00	-24.40	peak	P

Test mode:	802.11g	Test Channel:	11

HORIZONTA L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	53.01	-4.89	48.12	74.00	-25.88	peak	P
2	2500.000	38.61	-4.87	33.74	74.00	-40.26	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	53.01	-4.89	48.12	74.00	-25.88	peak	P
2	2500.000	40.11	-4.87	35.24	74.00	-38.76	peak	P

Test mode:	802.11n	Test Channel:	1

HORIZONTA L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	37.99	-5.05	32.94	74.00	-41.06	peak	P
2	2390.000	42.80	-4.97	37.83	74.00	-36.17	peak	P
3 *	2400.000	55.29	-4.96	50.33	74.00	-23.67	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	31.99	-5.05	26.94	74.00	-47.06	peak	P
2	2390.000	38.30	-4.97	33.33	74.00	-40.67	peak	P
3 *	2400.000	54.29	-4.96	49.33	74.00	-24.67	peak	P

Test mode:	802.11n	Test Channel:	11

HORIZONTA L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	51.20	-4.89	46.31	74.00	-27.69	peak	P
2	2500.000	37.58	-4.87	32.71	74.00	-41.29	peak	P

VERTICAL

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	52.20	-4.89	47.31	74.00	-26.69	peak	P
2	2500.000	34.58	-4.87	29.71	74.00	-44.29	peak	P

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 Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
● Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was directly connected to the spectrum analyzer and antenna output port as show in

b) the block diagram below.

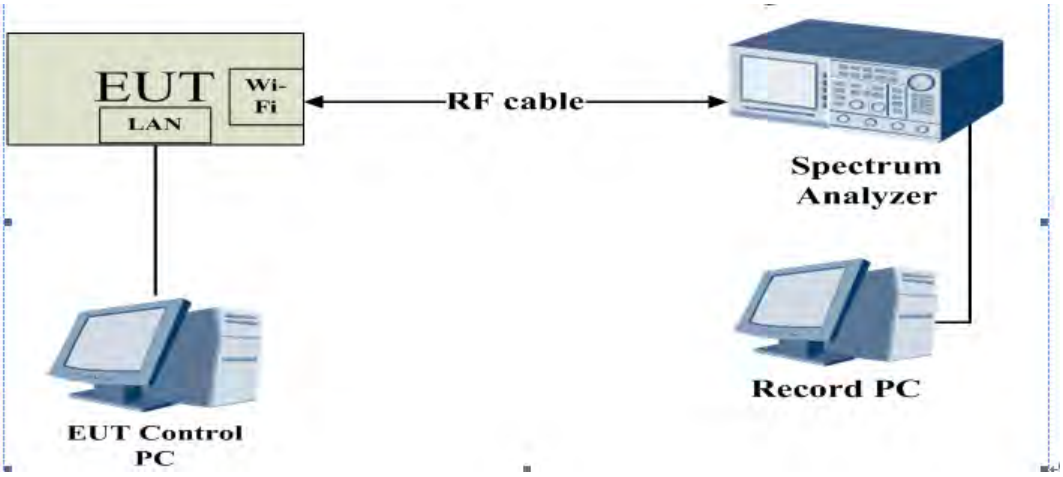
c) Spectrum Setting as below:

Centre Frequency	The centre 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

d) Allow trace to full stabilize.

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

3.3.3 Test Setup



3.3.4 The Result

3.3.5.1. Conducted Spurious Emission

Please Refer to Appendix for Details.

3.3.5.2. Band edge measurements

Please Refer to Appendix for Details.

3.4 6dB Bandwidth

3.4.1 Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

3.4.2 Test Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

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

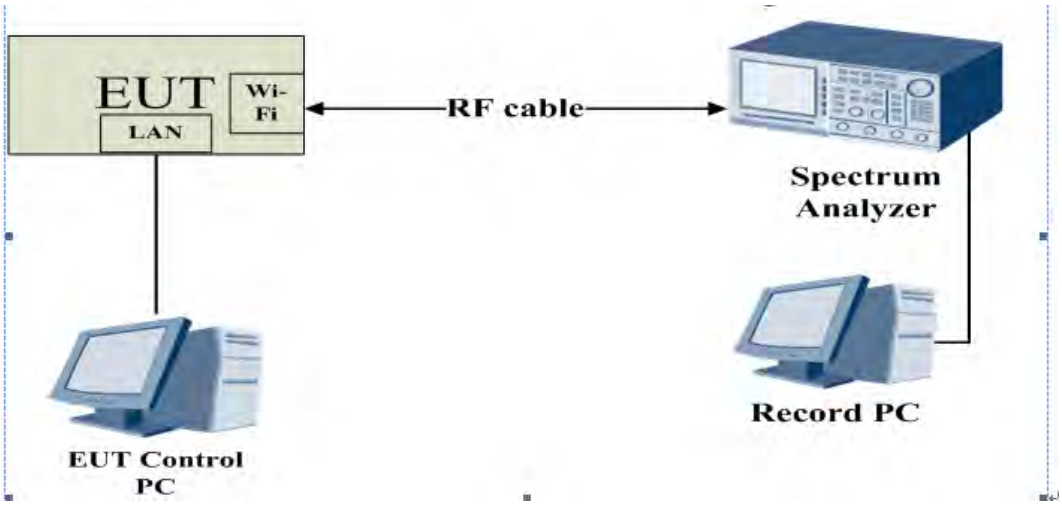
Centre Frequency	The centre frequency of the channel under test
RBW	100kHz
VBW	300kHz
Frequency span	2x Nominal Channel Bandwidth
Detector Mode	Peak
Trace Mode	Max Hold
Sweep Time	Auto Couple

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.

3.4.3 Test Setup



3.4.4 Test Result

6dB Bandwidth

Please Refer to Appendix for Details.

Occupied Channel Bandwidth

Please Refer to Appendix for Details.

3.5 Maximum conducted (average) 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)

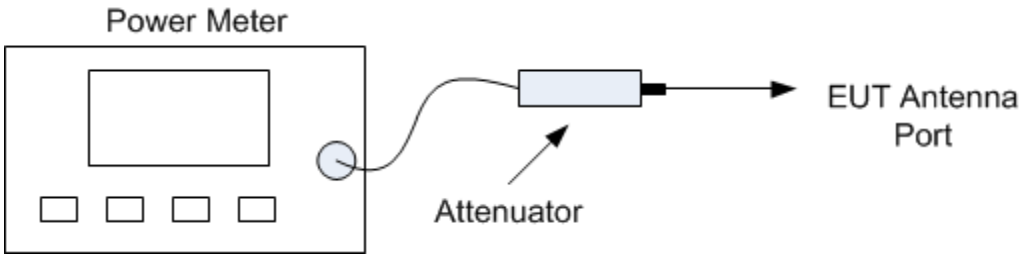
3.5.2 Test Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was directly connected to the power meter 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.

3.5.3 Test Setup



3.5.4 The Result

Please Refer to Appendix for Details.

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 Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was directly connected to the spectrum analyzer and antenna output port as show in

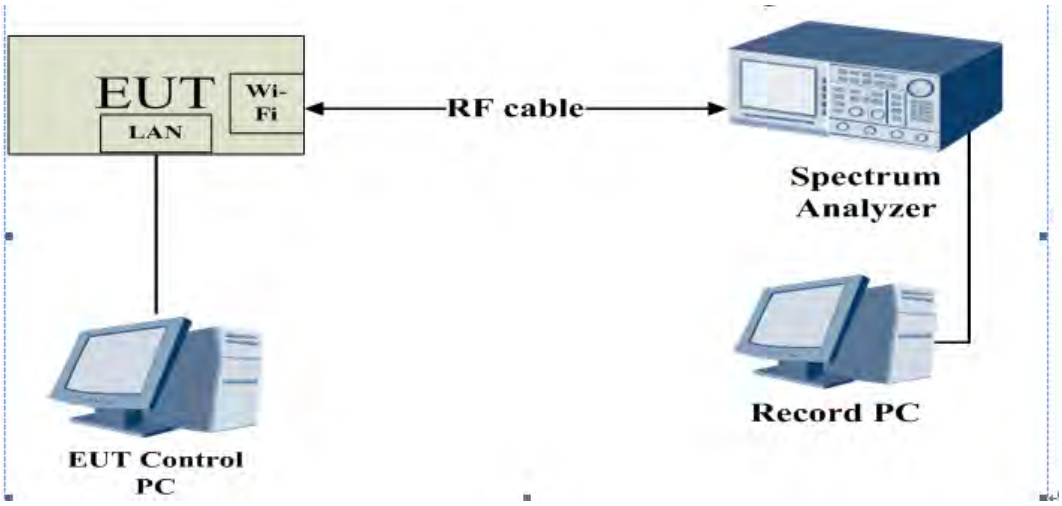
b) the block diagram below. Spectrum analyser settings as following:

RBW	3 kHz
VBW	10 kHz
Detector Mode	RMS
Trace Mode	Max Hold
Sweep Time	Auto

c) Wait for the trace to stabilize. Use the peak marker function to determine the maximum amplitude level within the RBW.

d) The value defined in step b shall be compared to the limits and be recorded .

3.6.3 Test Setup



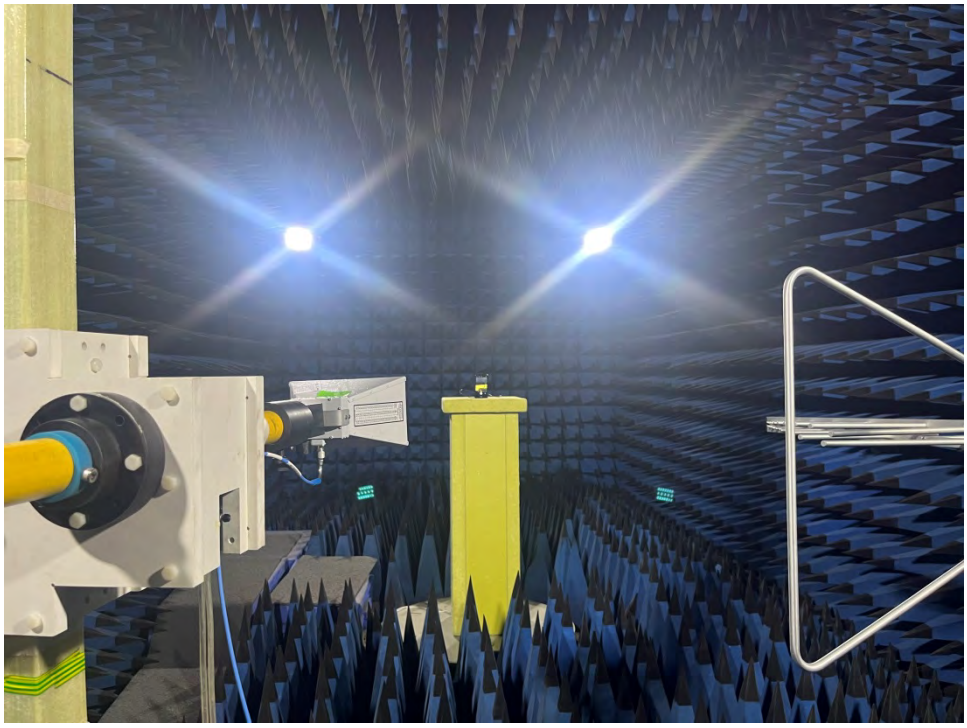
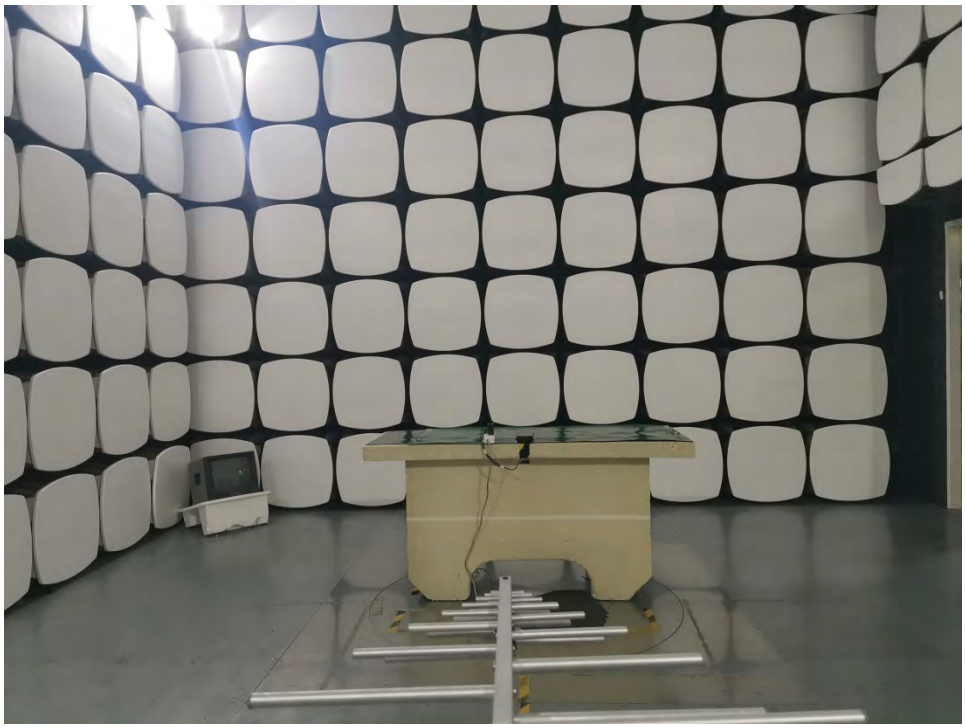
3.6.4 The Result

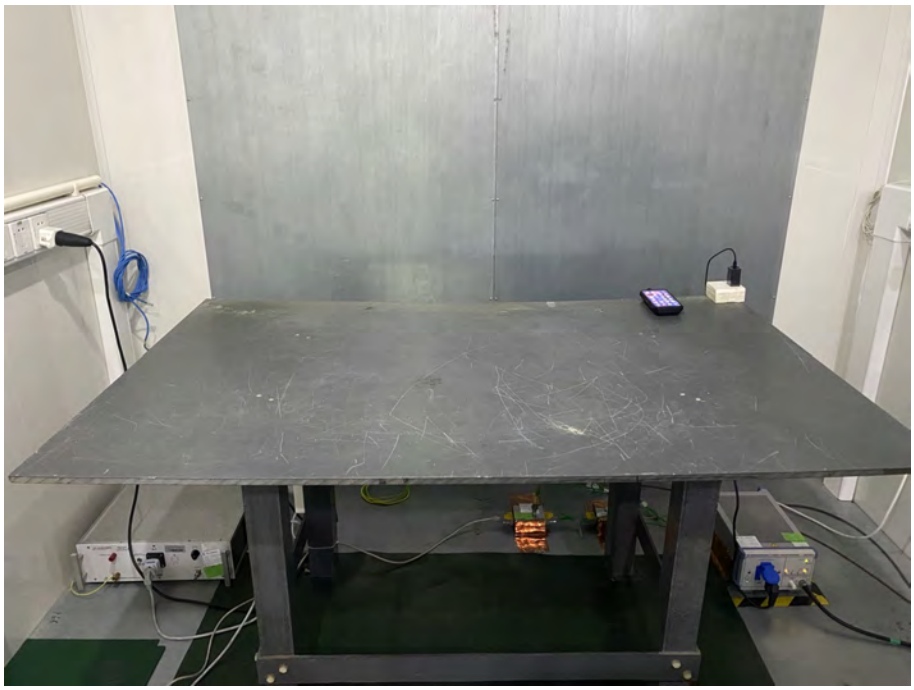
Please Refer to Appendix for Details.

4. Photographs of EUT

Refer to Report No: FCC2022-06453RF1 for EUT external and internal photos.

5. Photographs of Test Set-up

ERP/EIRP Test setup



CE


Appendix

1. Duty Cycle

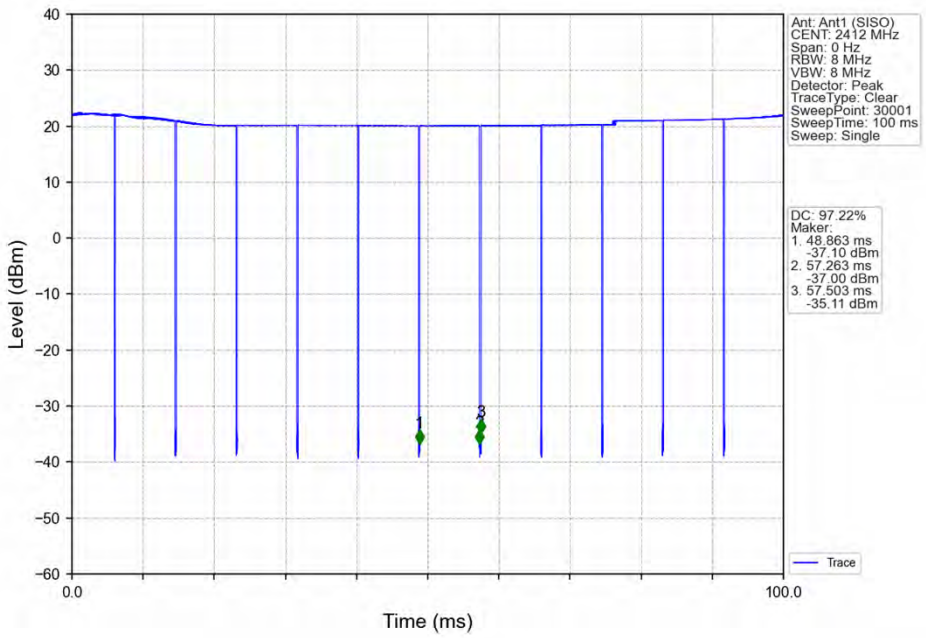
1.1 Ant1

1.1.1 Test Result

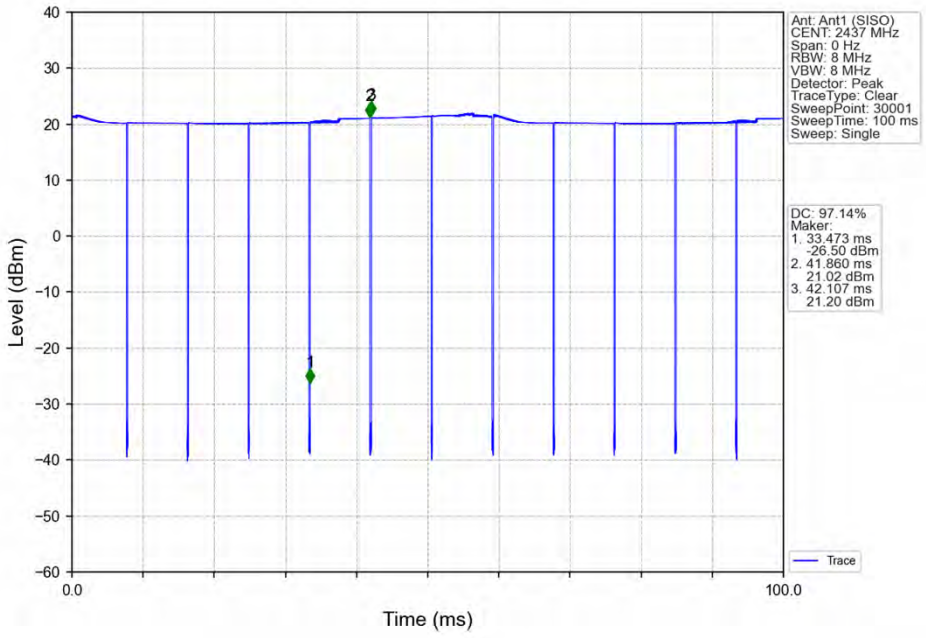
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	8.400	8.640	97.22	0.12	1.14
		2437	8.387	8.634	97.14	0.13	1.06
		2462	8.383	8.620	97.25	0.12	0.84
802.11g	SISO	2412	1.392	1.571	88.61	0.53	1.00
		2437	1.392	1.554	89.58	0.48	0.53
		2462	1.392	1.625	85.66	0.67	4.47
802.11n (HT20)	MIMO	2412	1.302	1.336	97.46	0.11	0.03
		2437	1.302	1.336	97.46	0.11	0.07
		2462	1.301	1.335	97.45	0.11	0.07

1.1.2 Test Graph

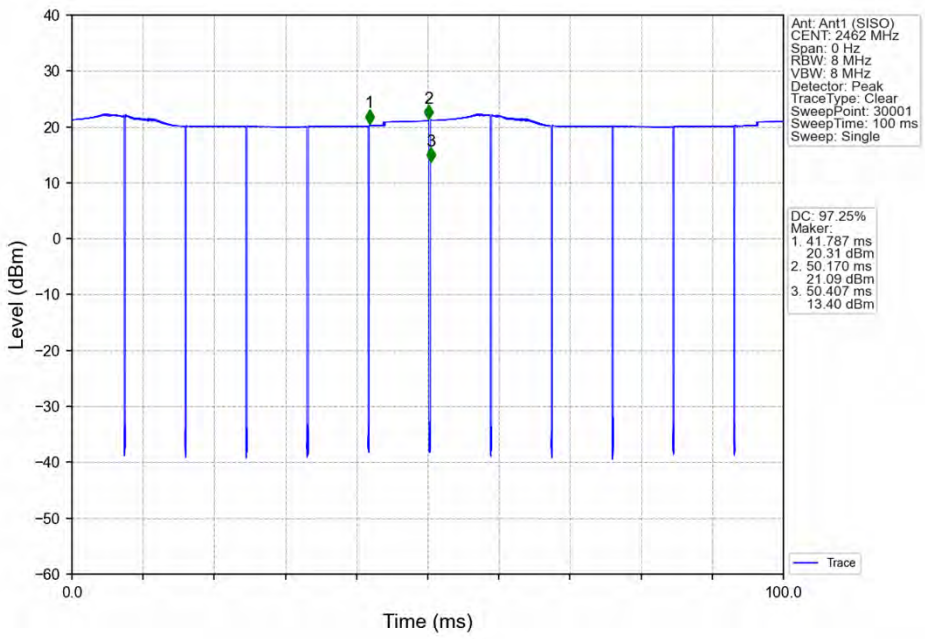
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



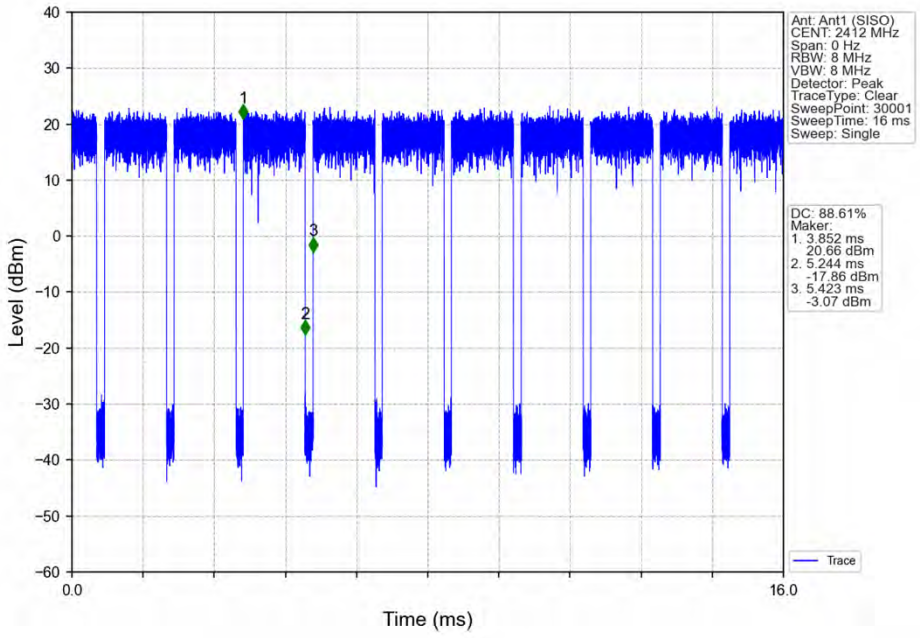
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



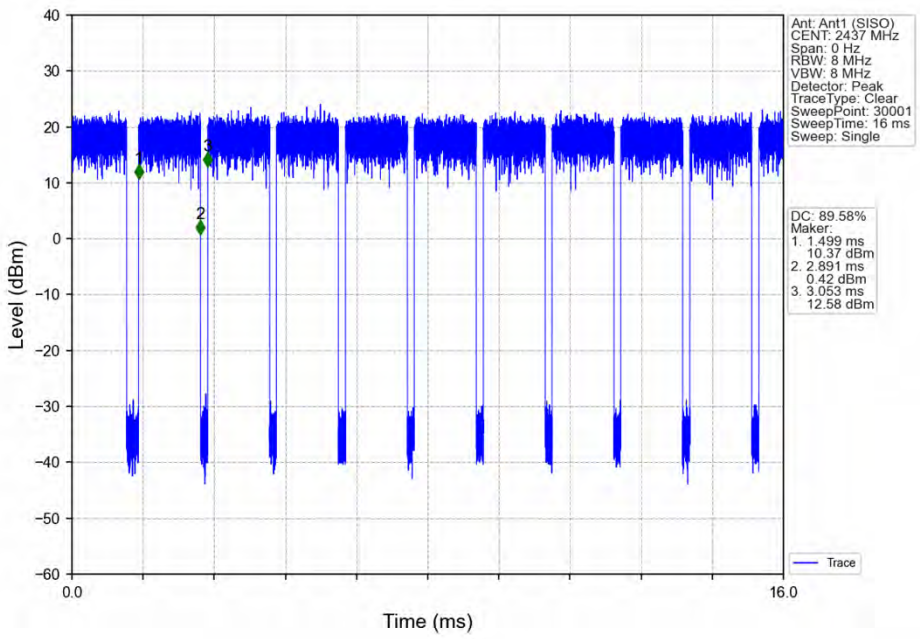
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



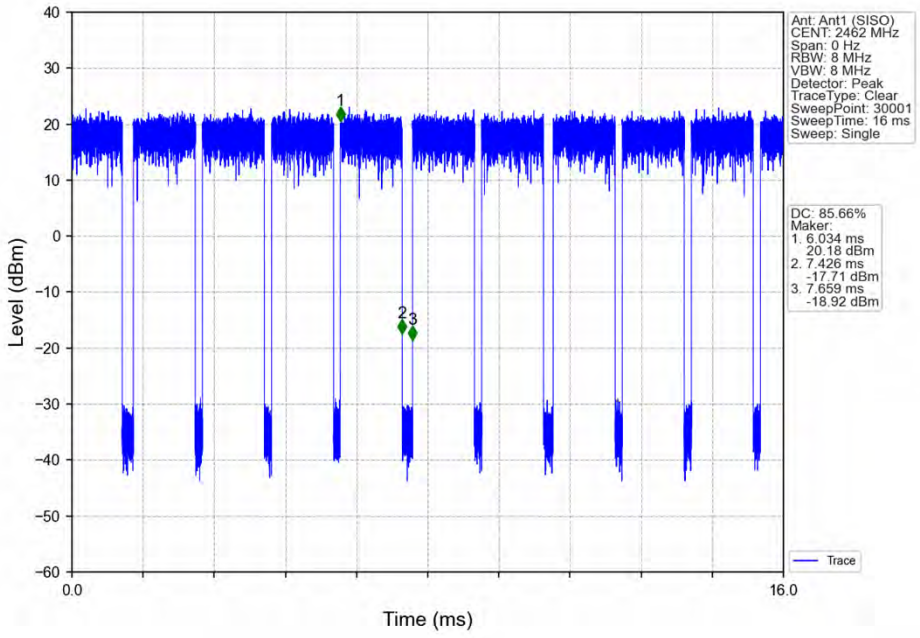
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



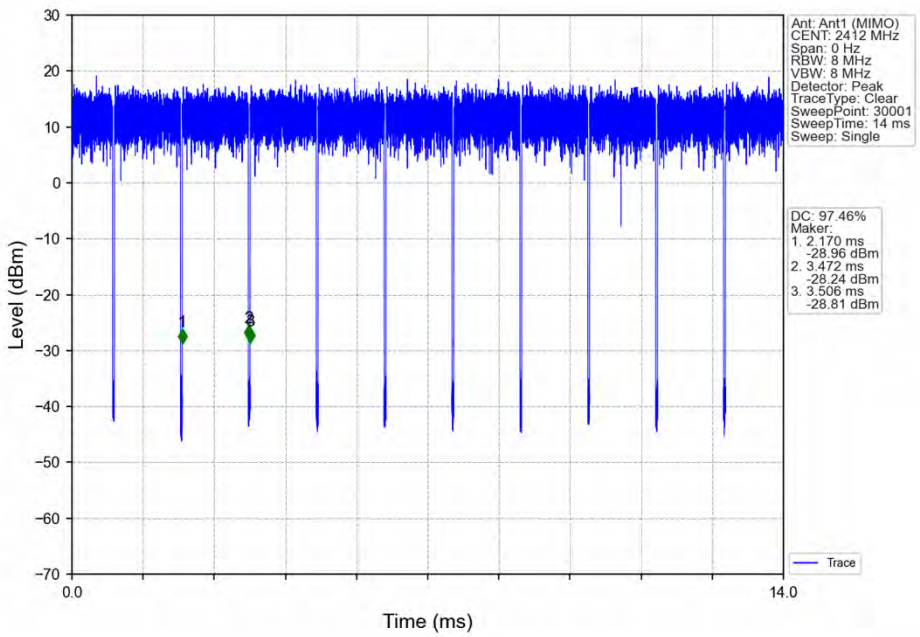
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



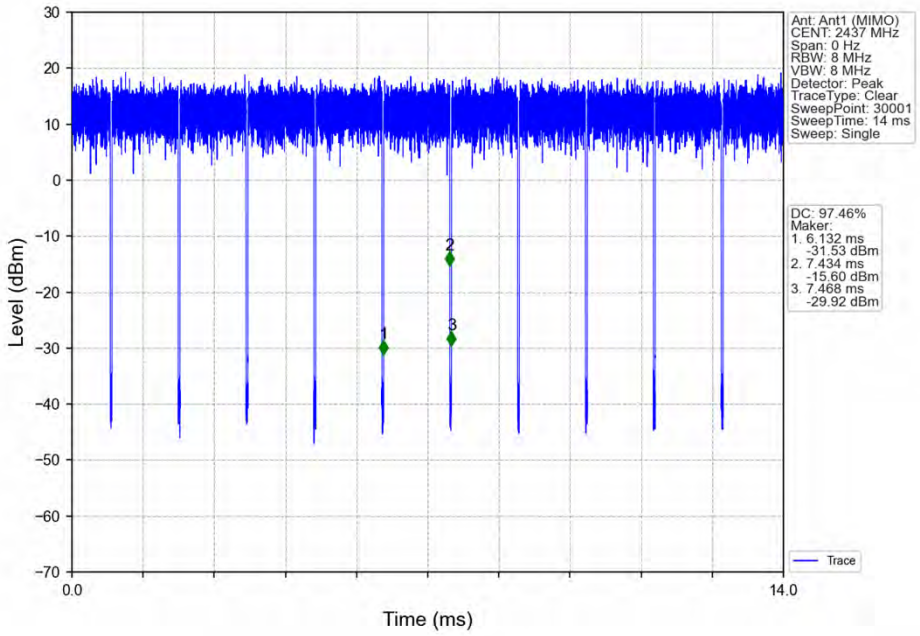
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



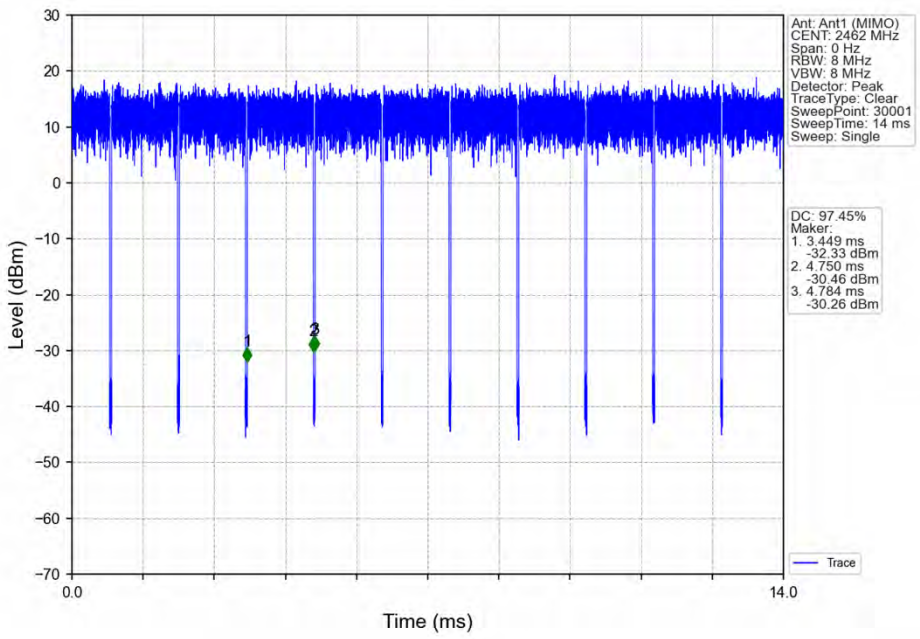
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



2. Bandwidth

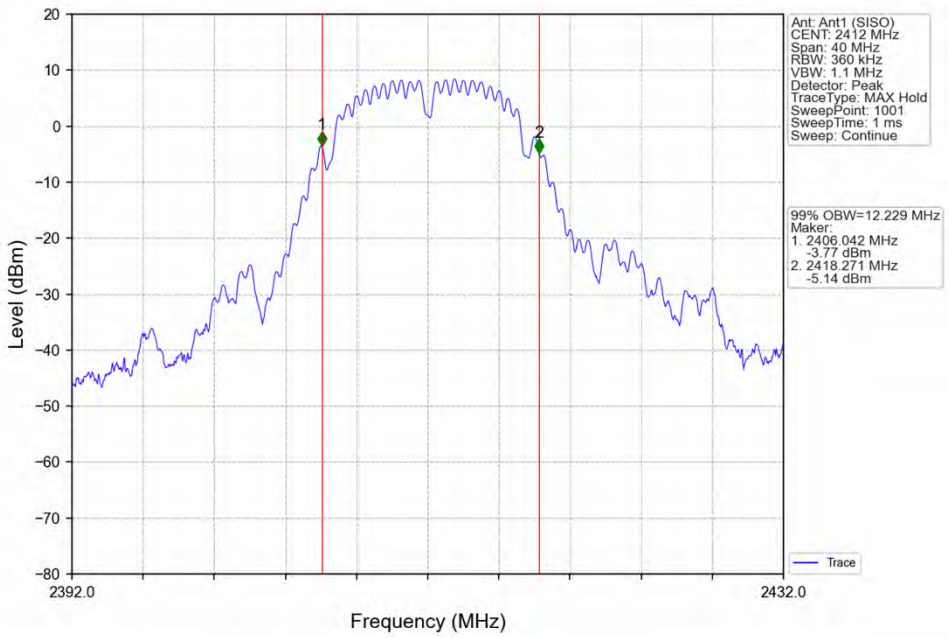
2.1 OBW

2.1.1 Test Result

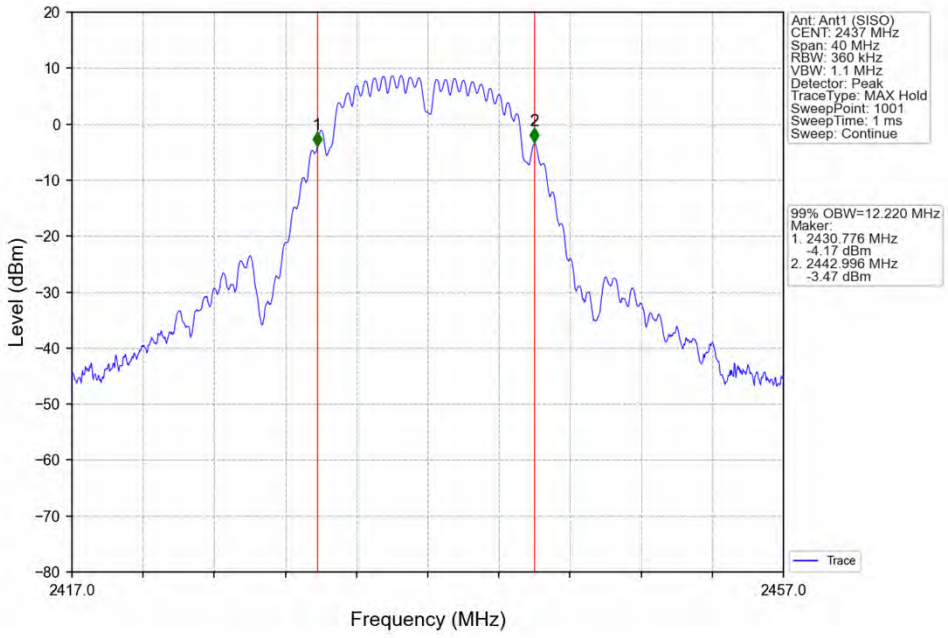
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz) Result	Verdict
802.11b	SISO	2412	1	12.229	Pass
		2437	1	12.220	Pass
		2462	1	12.338	Pass
802.11g	SISO	2412	1	22.852	Pass
		2437	1	20.936	Pass
		2462	1	25.712	Pass
802.11n (HT20)	MIMO	2412	1	18.364	Pass
		2437	1	18.408	Pass
		2462	1	18.540	Pass

2.1.2 Test Graph

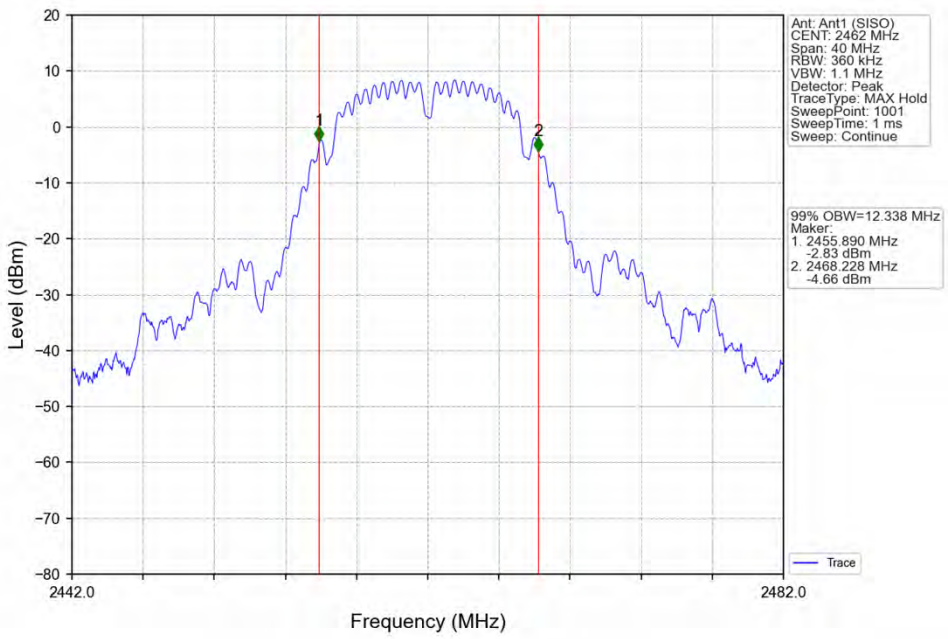
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



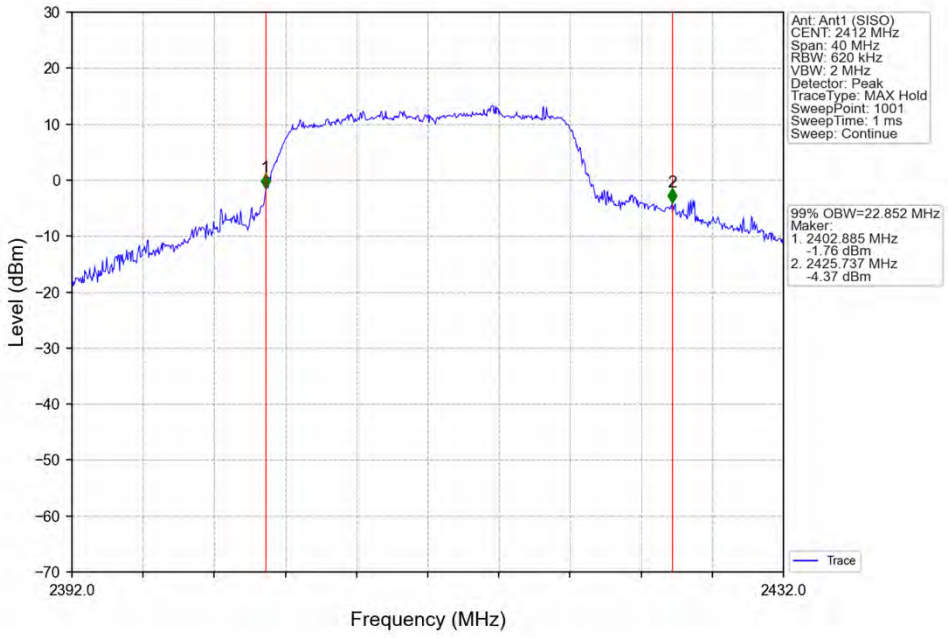
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



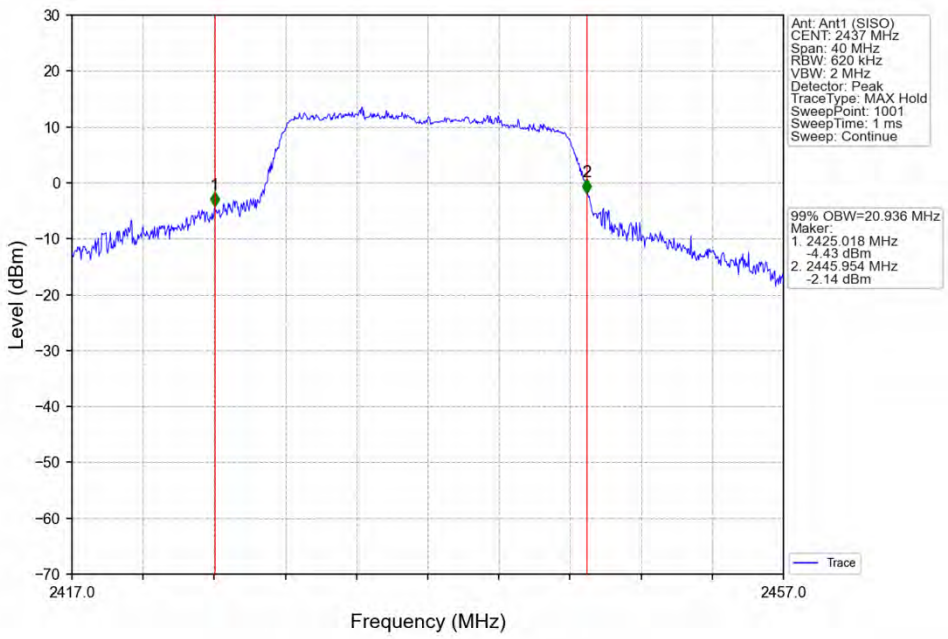
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



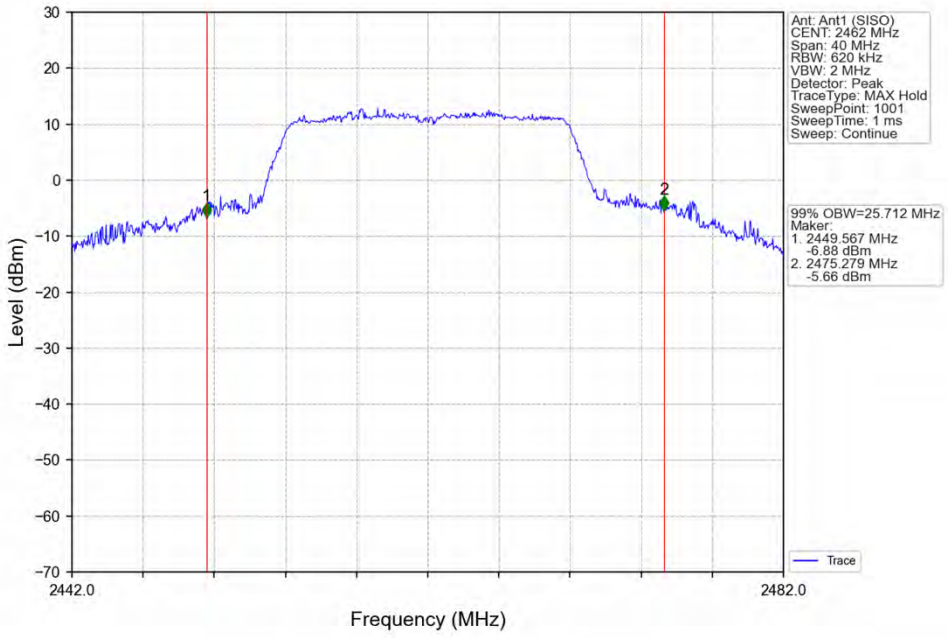
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



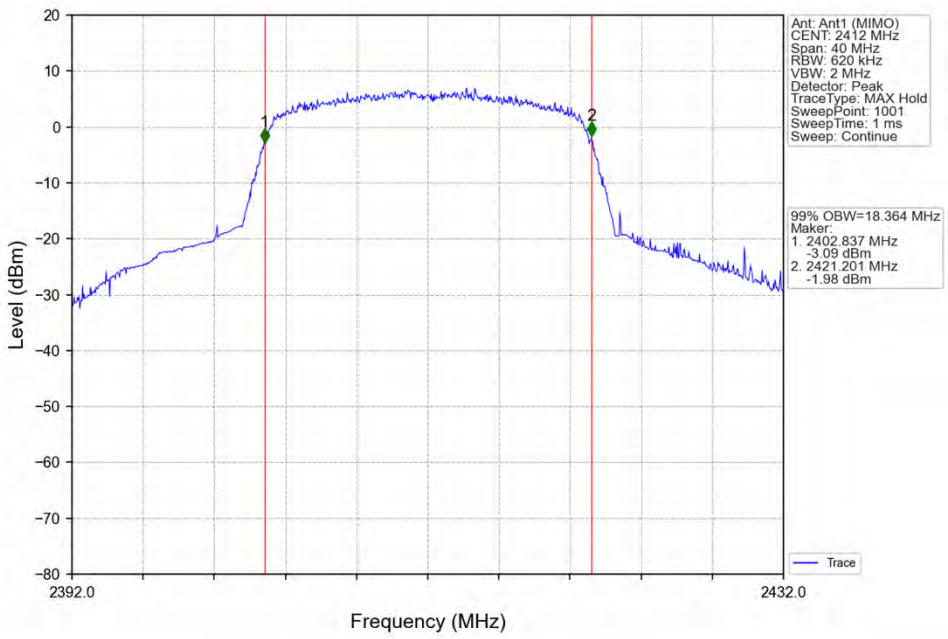
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



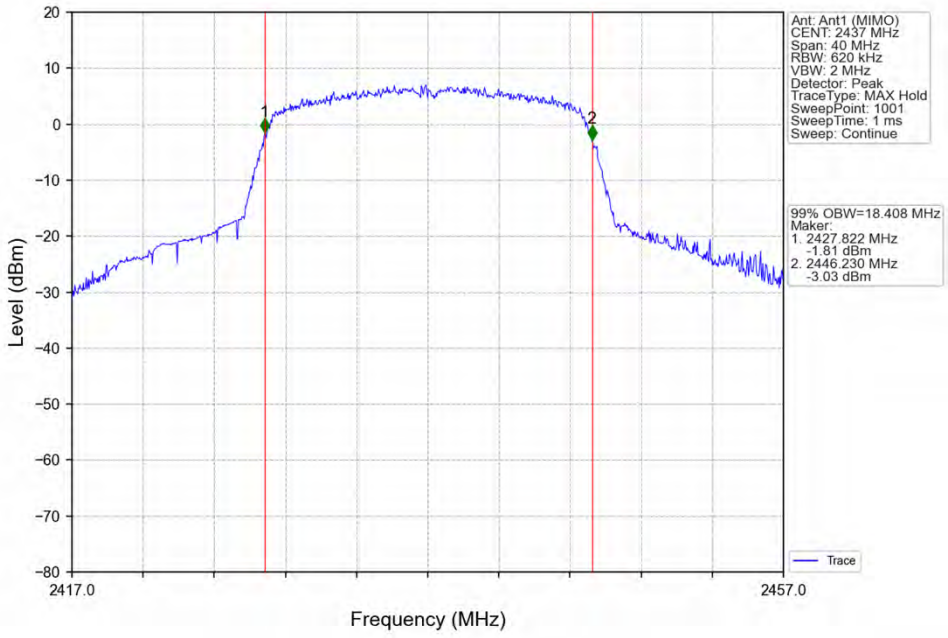
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



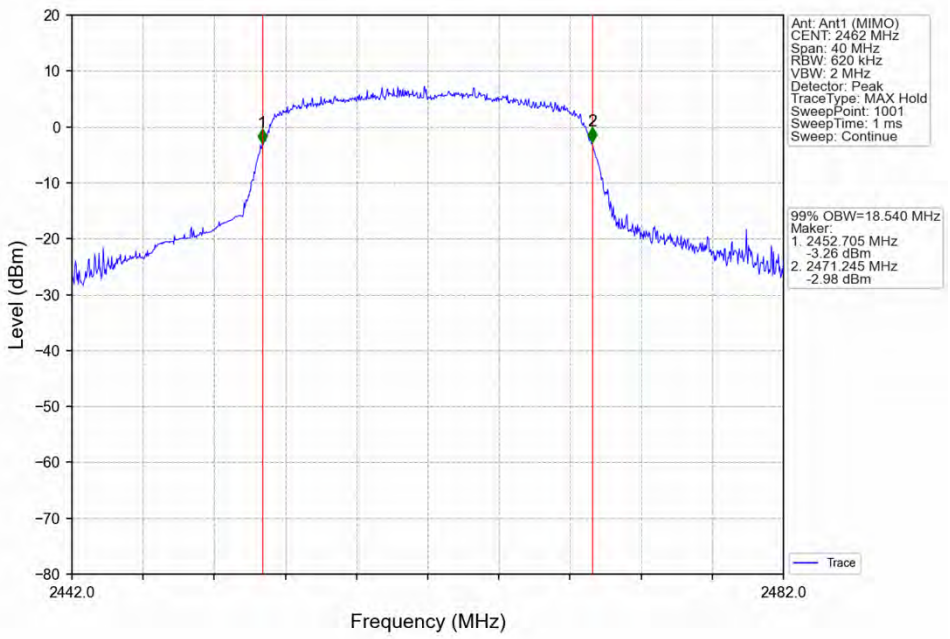
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



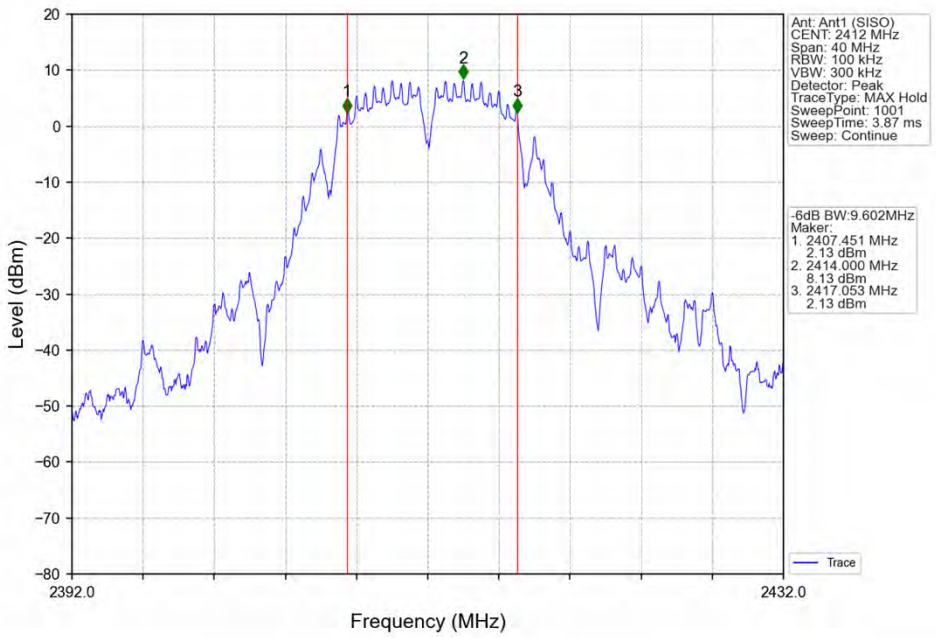
2.2 6dB BW

2.2.1 Test Result

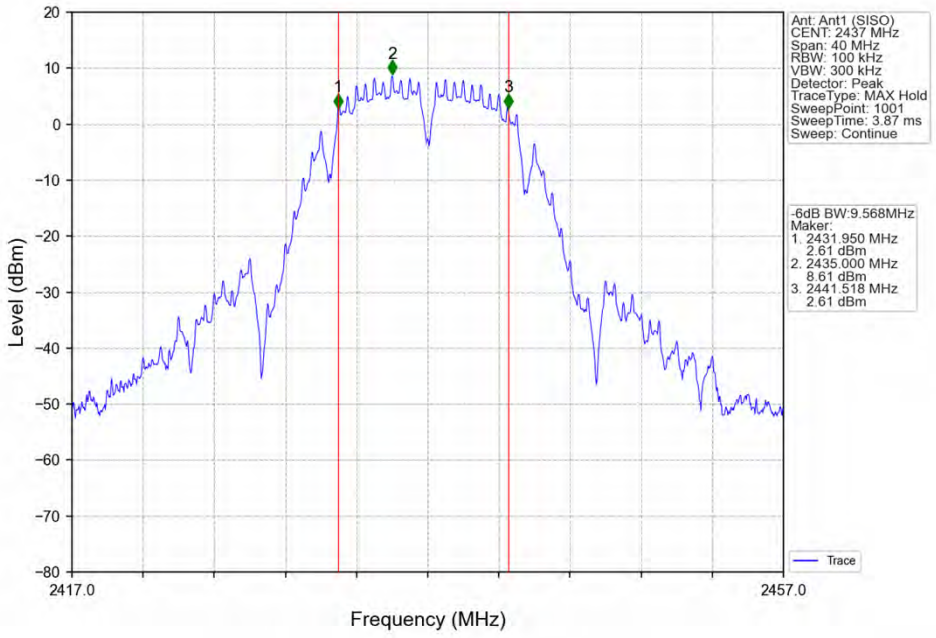
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.602	>=0.5	Pass
		2437	1	9.568	>=0.5	Pass
		2462	1	10.090	>=0.5	Pass
802.11g	SISO	2412	1	15.776	>=0.5	Pass
		2437	1	15.775	>=0.5	Pass
		2462	1	16.323	>=0.5	Pass
802.11n (HT20)	MIMO	2412	1	15.173	>=0.5	Pass
		2437	1	15.177	>=0.5	Pass
		2462	1	15.162	>=0.5	Pass

2.2.2 Test Graph

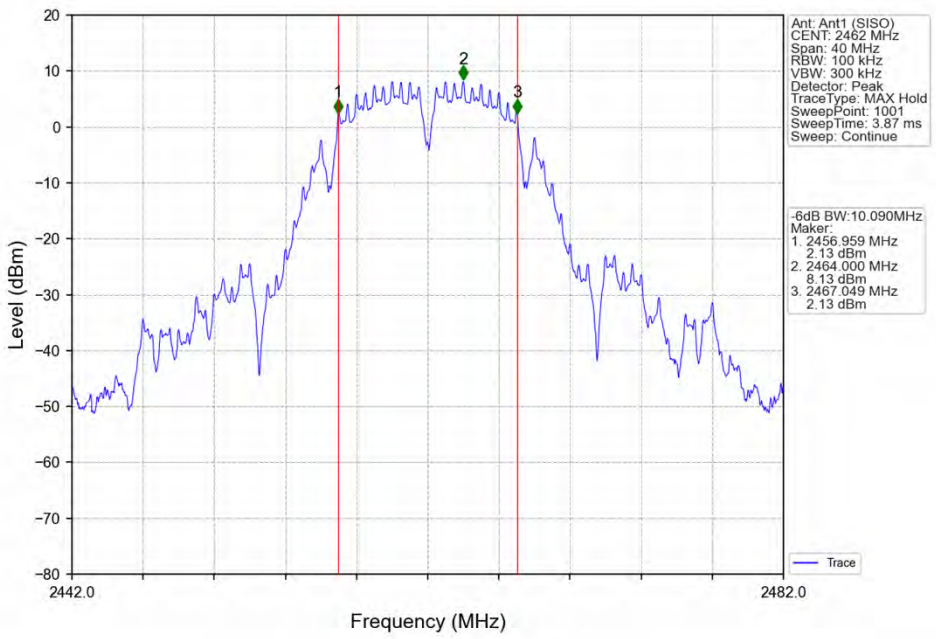
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



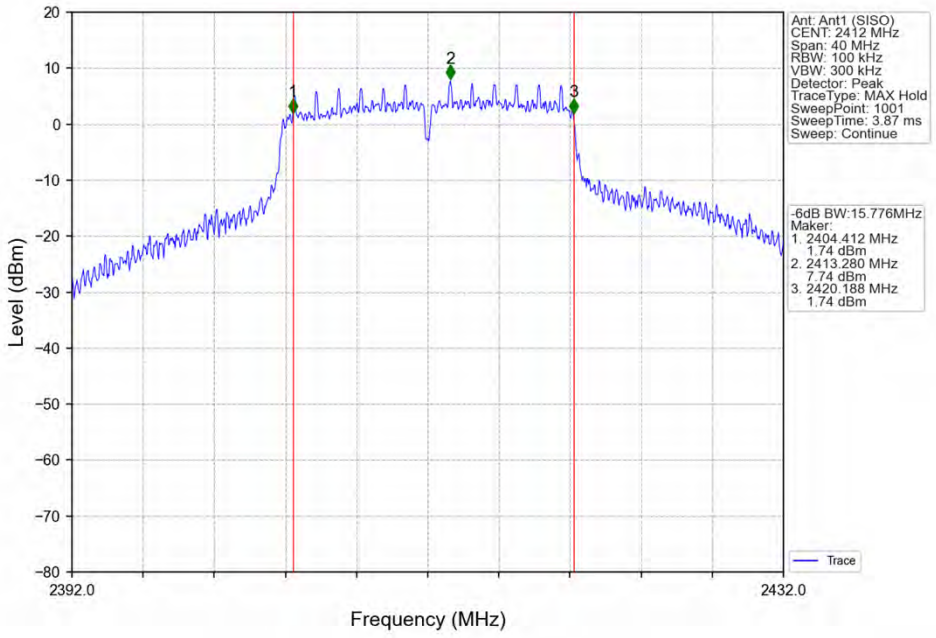
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



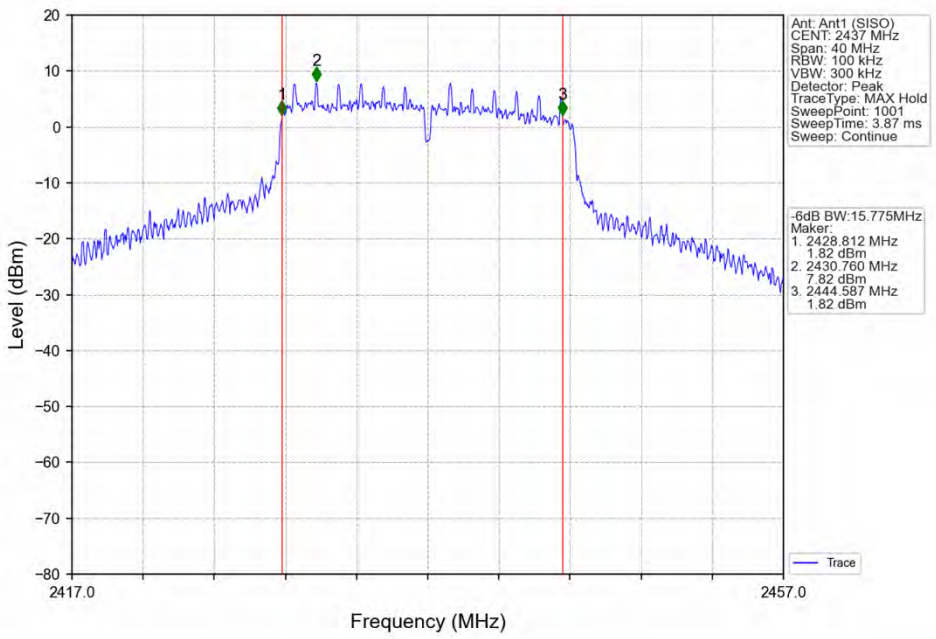
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



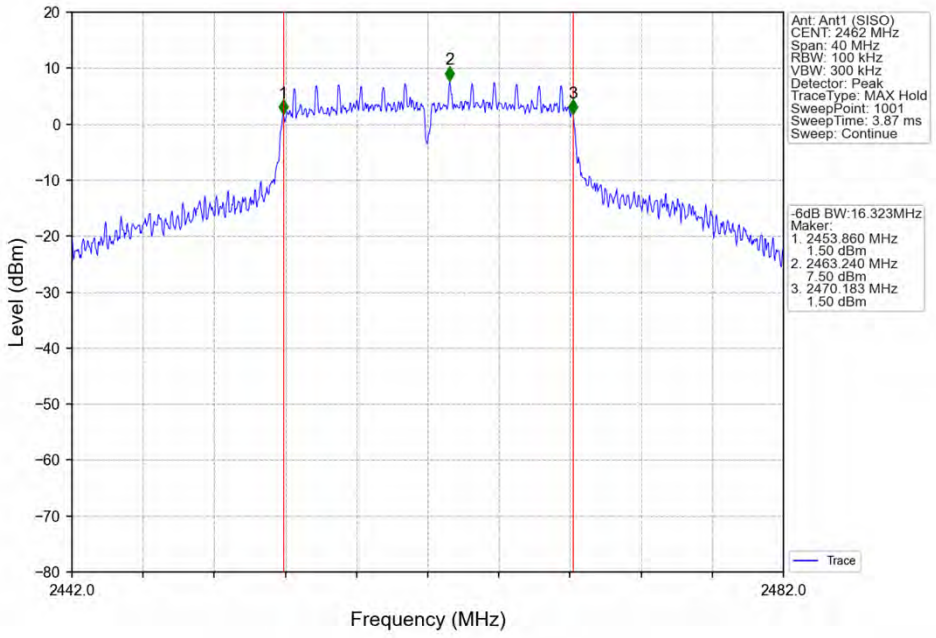
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



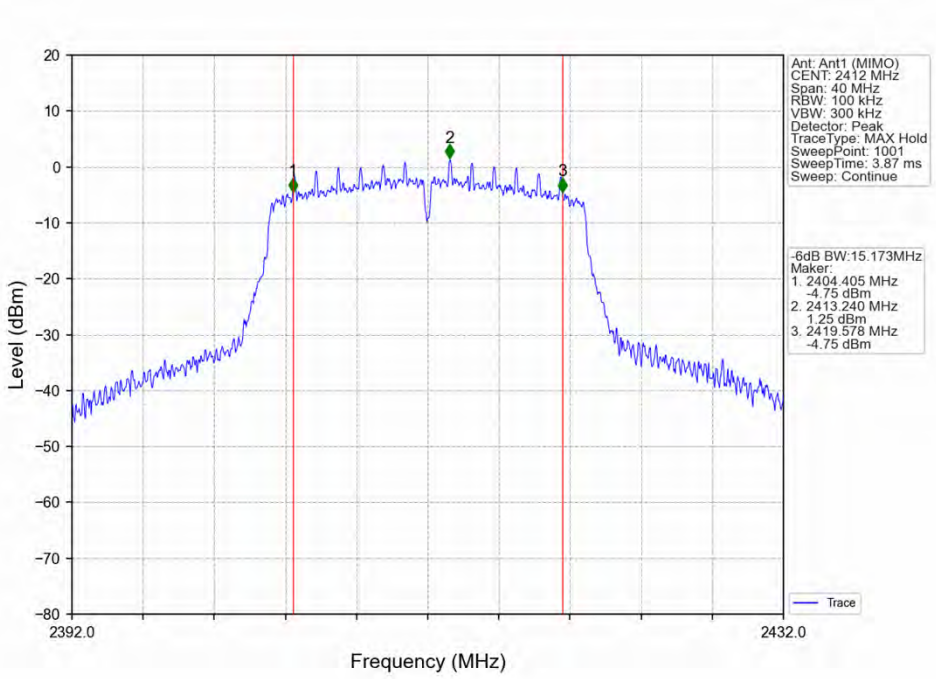
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



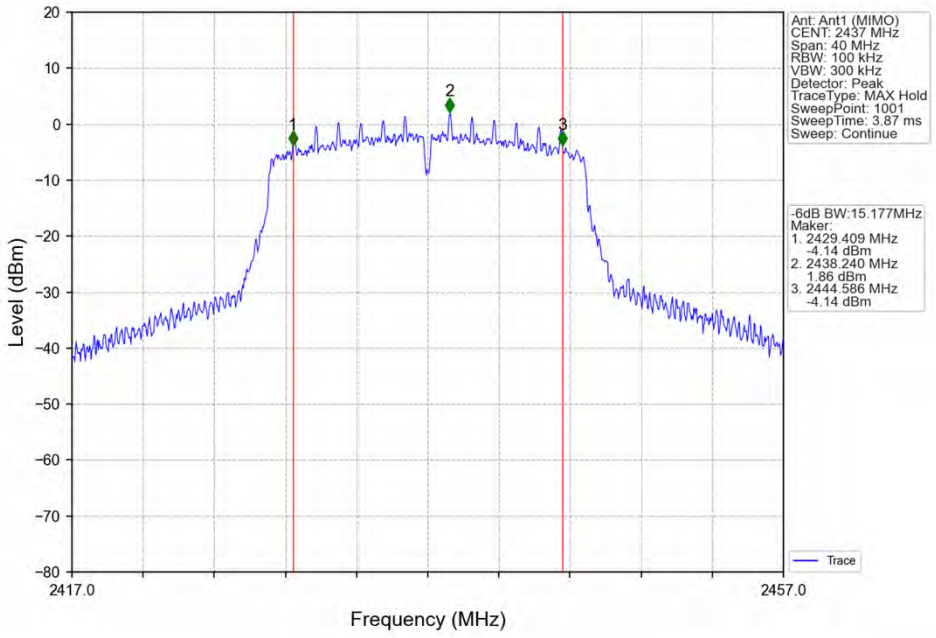
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



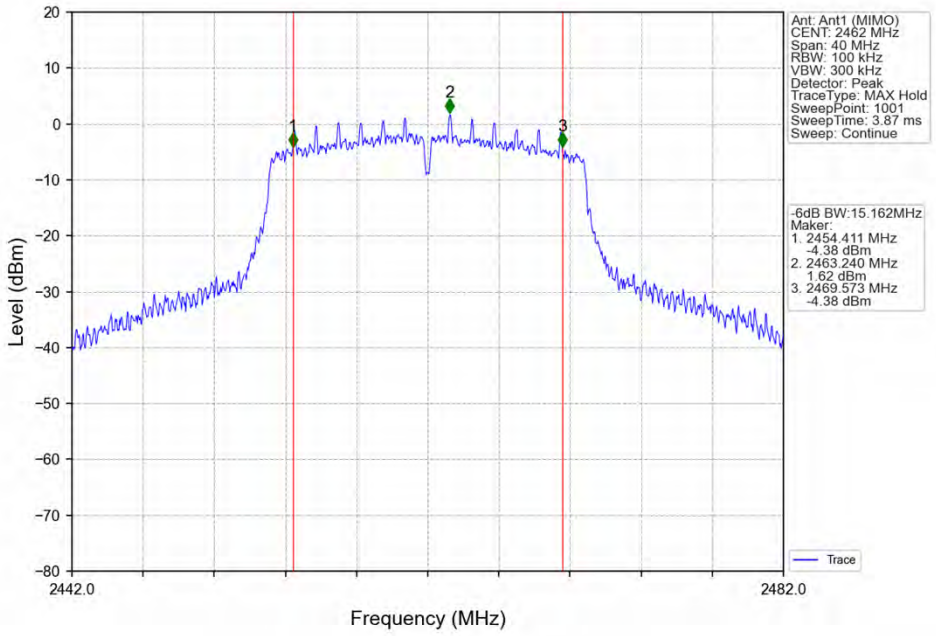
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)				Verdict
			ANT1	ANT2	MIMO	Limit	
802.11b	SISO	2412	15.98	16.25	/	<=30	Pass
		2437	16.42	16.52	/	<=30	Pass
		2462	16.10	16.57	/	<=30	Pass
802.11g	SISO	2412	19.17	19.36	/	<=30	Pass
		2437	19.41	19.42	/	<=30	Pass
		2462	19.19	19.55	/	<=30	Pass
802.11n (HT20)	MIMO	2412	19.21	19.28	22.26	<=30	Pass
		2437	19.39	19.21	22.31	<=30	Pass
		2462	19.06	19.50	22.30	<=30	Pass
Note1: Antenna Gain: Ant1: 0.39dBi; Ant2: 0.39dBi; Note2: Directional Gain: Uncorrelated(Directional Gain = Ant Gain)							

4. Maximum Power Spectral Density

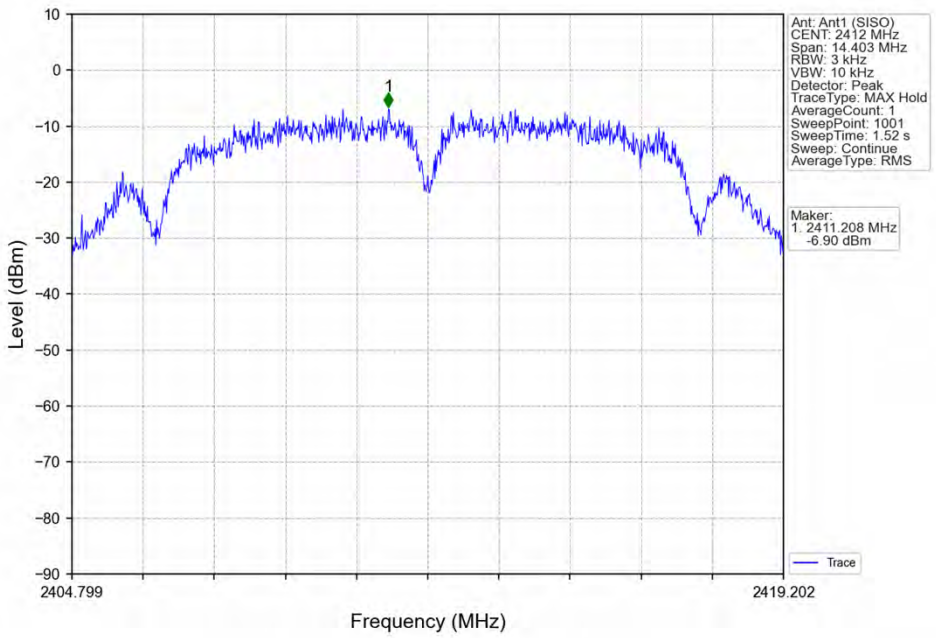
4.1 PSD

4.1.1 Test Result

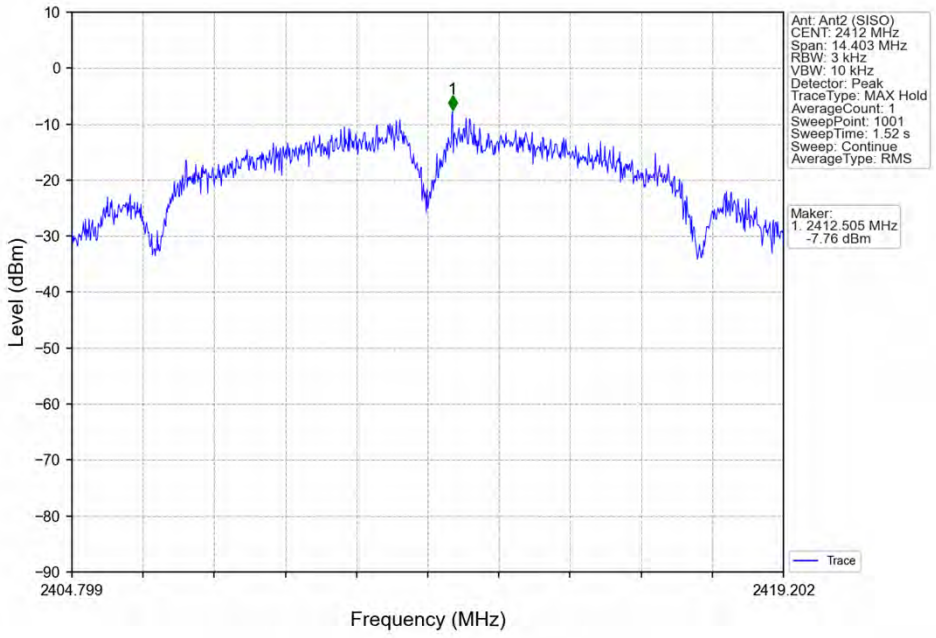
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)				Verdict
			ANT1	ANT2	MIMO	Limit	
802.11b	SISO	2412	-6.90	-7.76	/	<=8	Pass
		2437	-5.42	-8.33	/	<=8	Pass
		2462	-6.62	-8.45	/	<=8	Pass
802.11g	SISO	2412	-8.63	-13.99	/	<=8	Pass
		2437	-8.20	-12.46	/	<=8	Pass
		2462	-8.53	-13.13	/	<=8	Pass
802.11n (HT20)	MIMO	2412	-14.19	-13.42	-10.98	<=8	Pass
		2437	-13.18	-12.62	-10.80	<=8	Pass
		2462	-12.90	-12.56	-11.05	<=8	Pass
Note1: Antenna Gain: Ant1: 0.39dBi; Ant2: 0.39dBi; Note2: Directional Gain: Uncorrelated(Directional Gain = Ant Gain)							

4.1.2 Test Graph

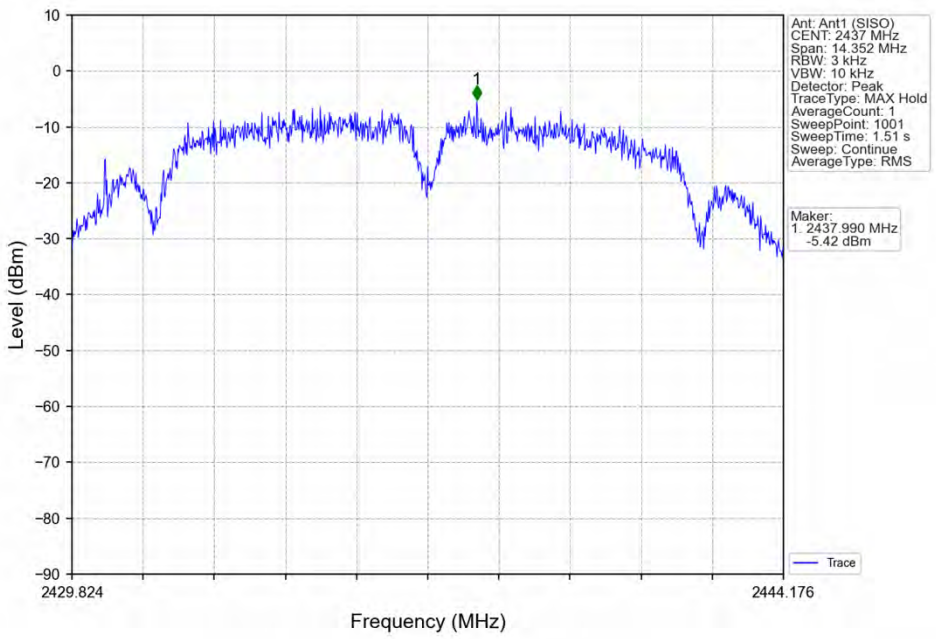
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



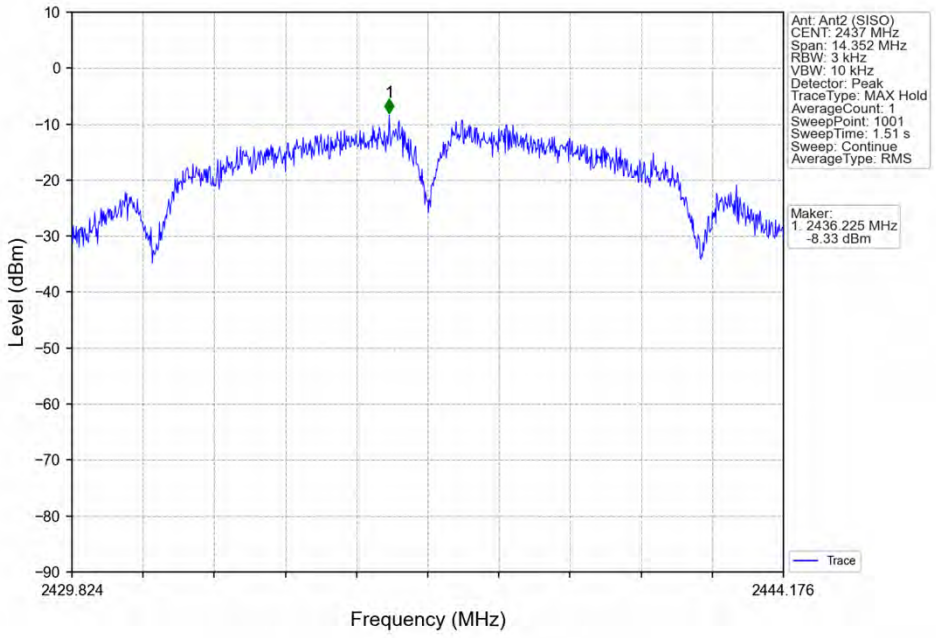
802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



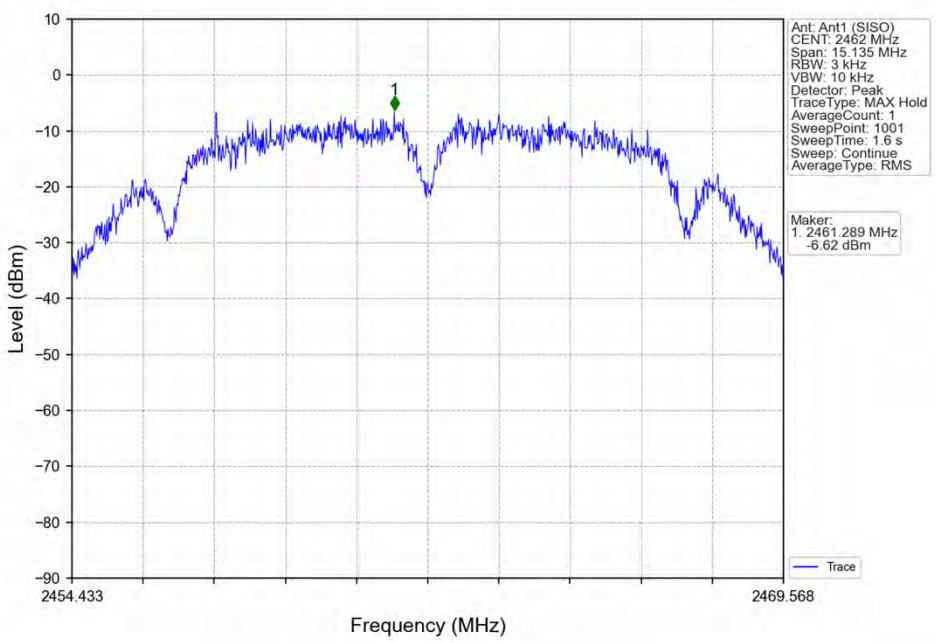
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



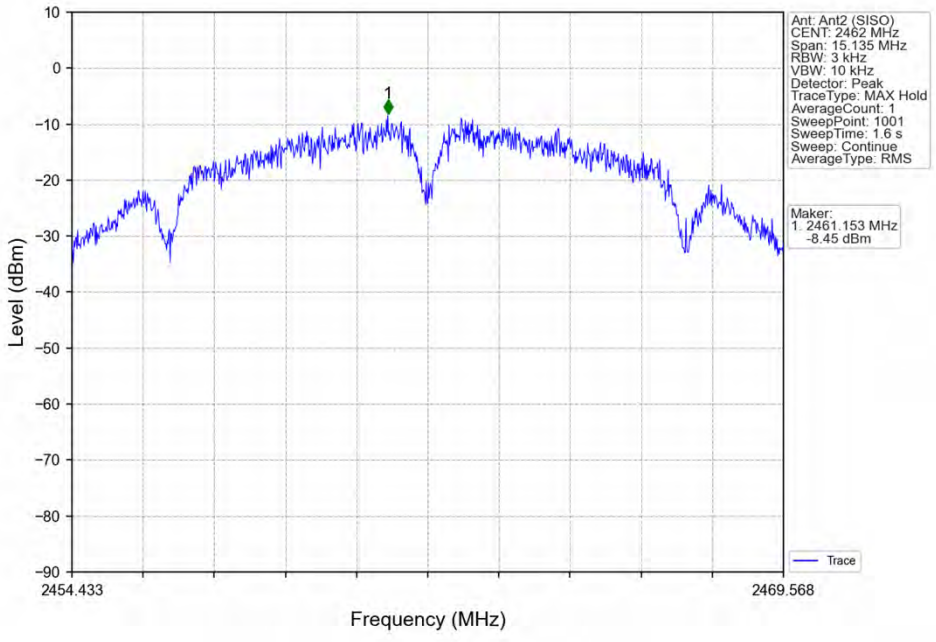
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



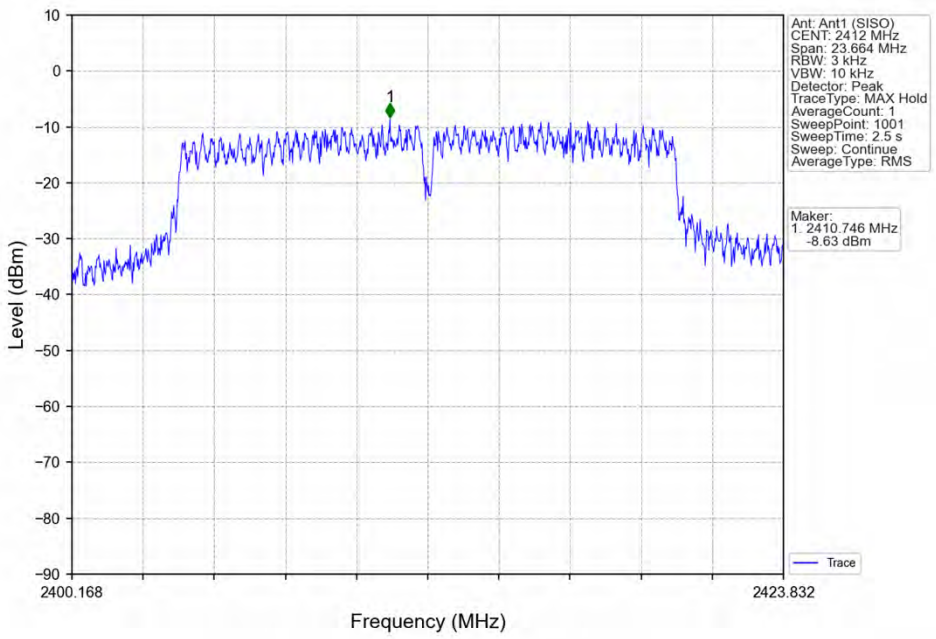
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



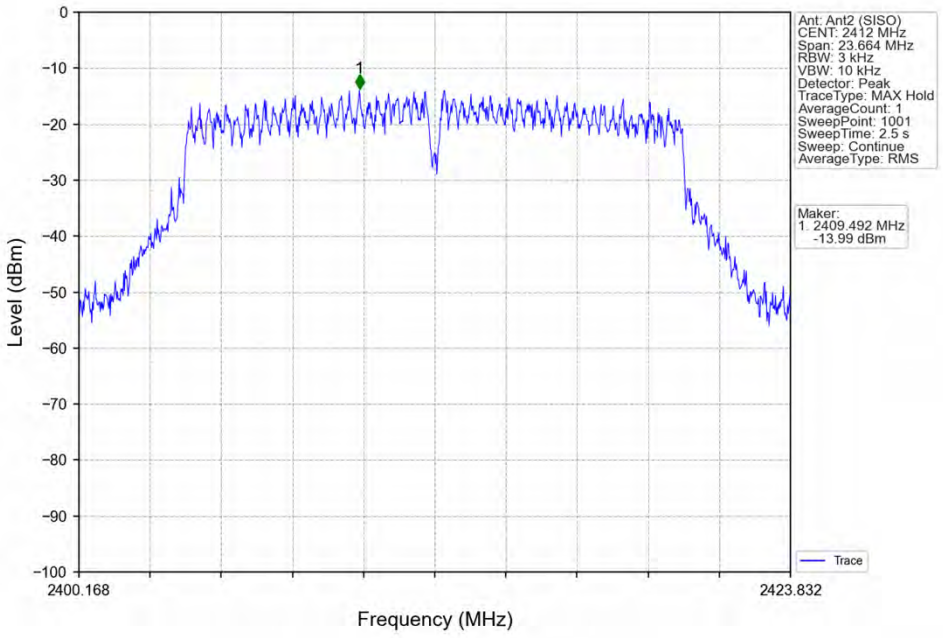
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



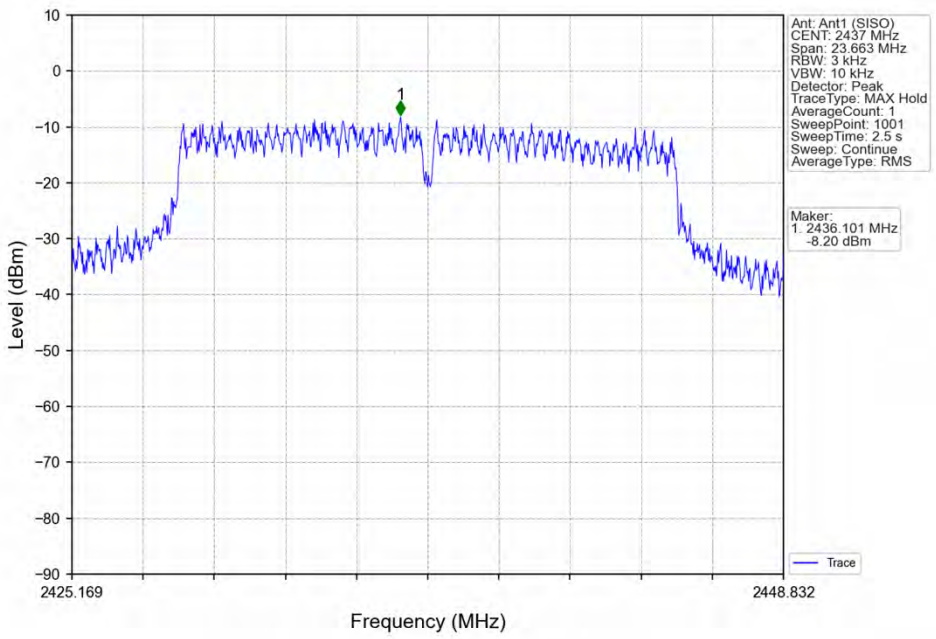
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



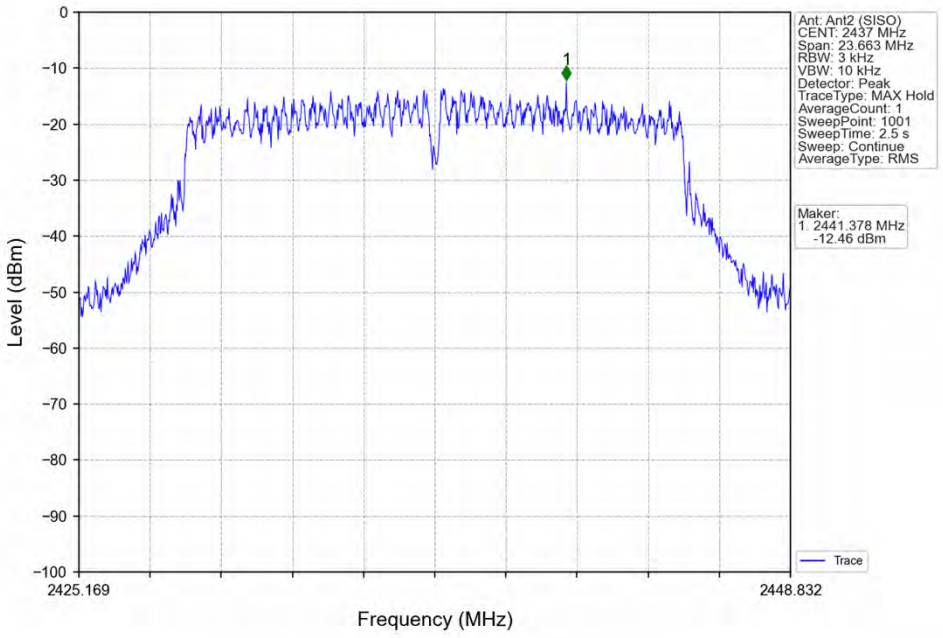
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



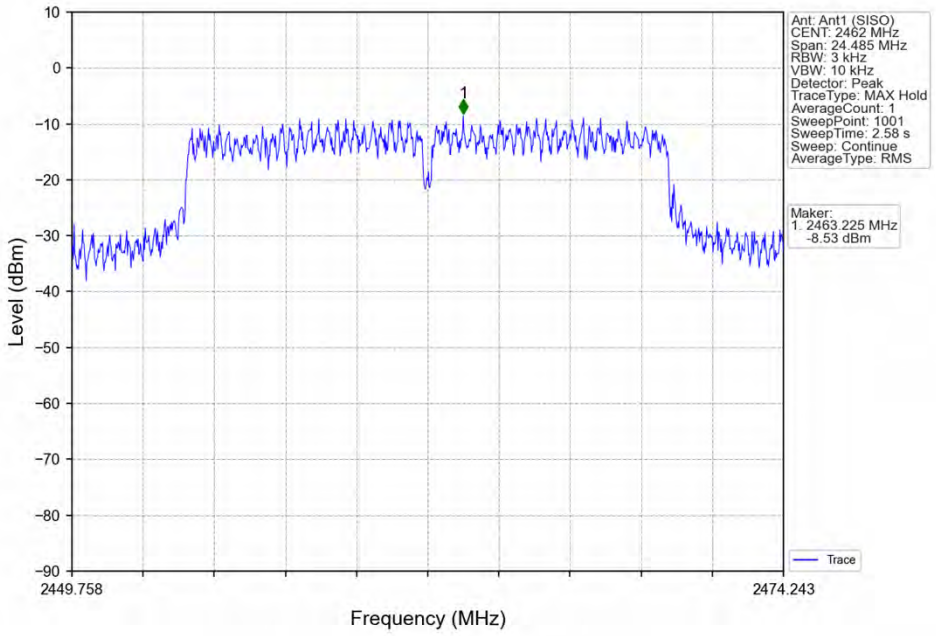
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



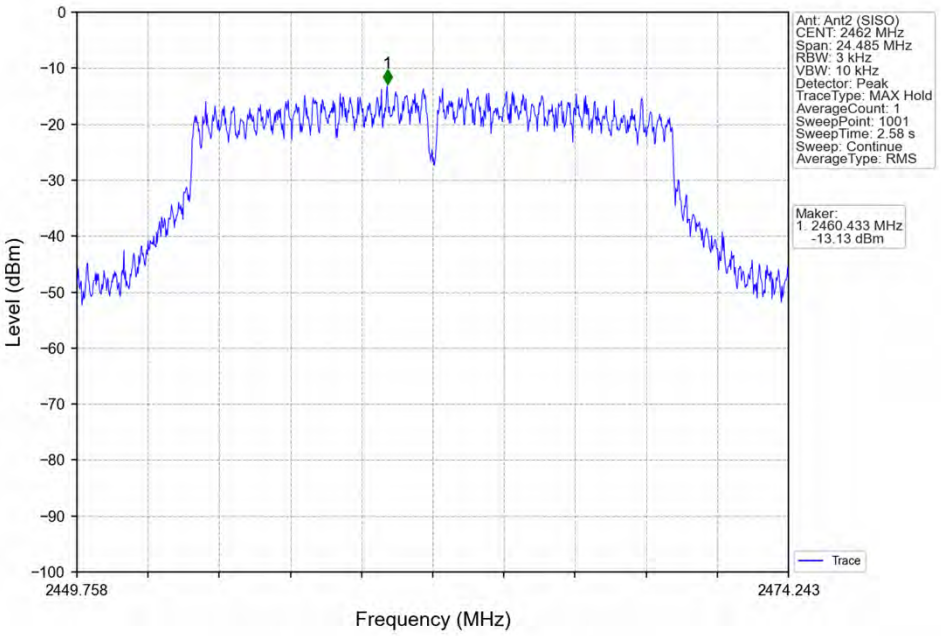
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



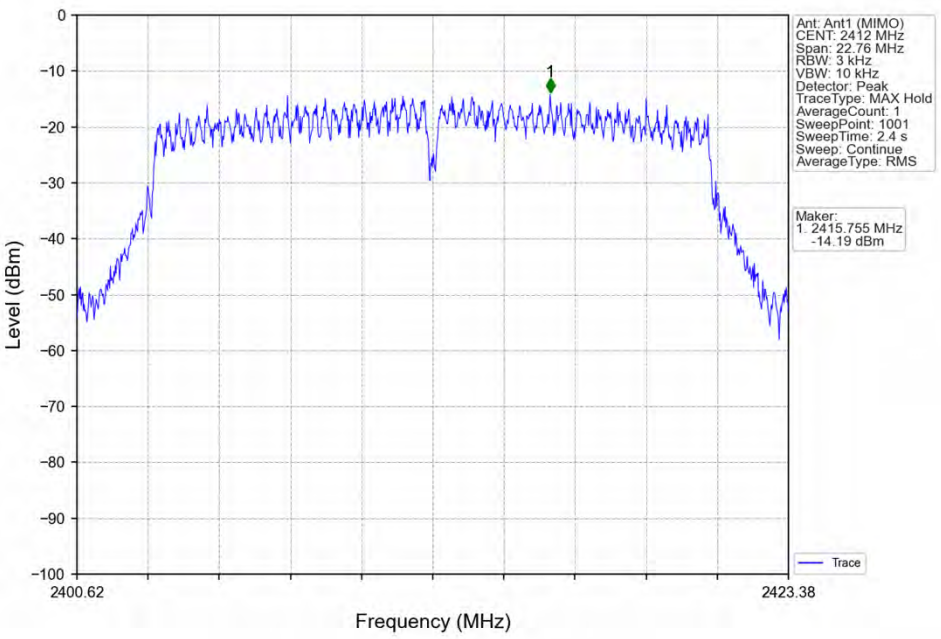
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



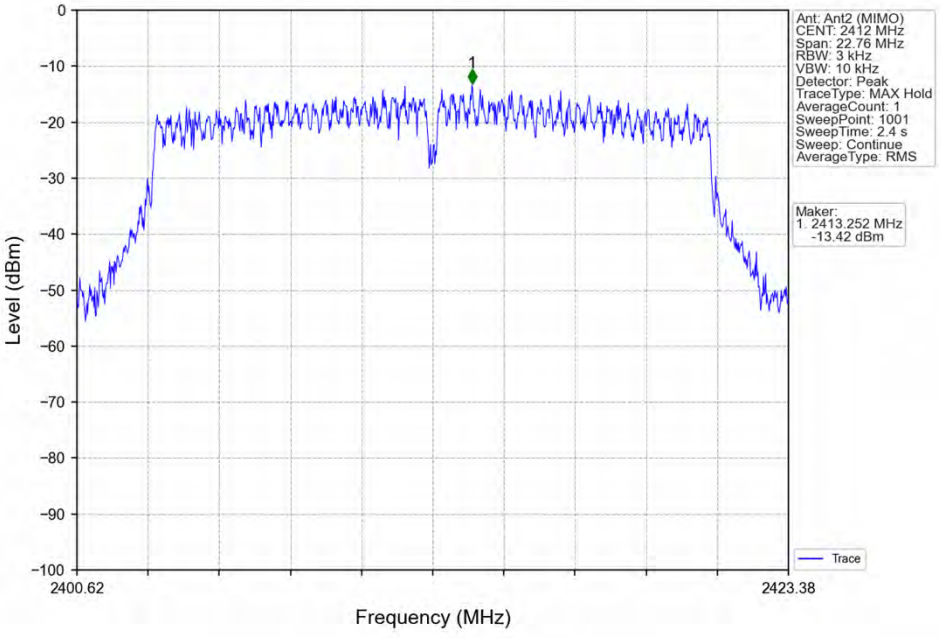
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



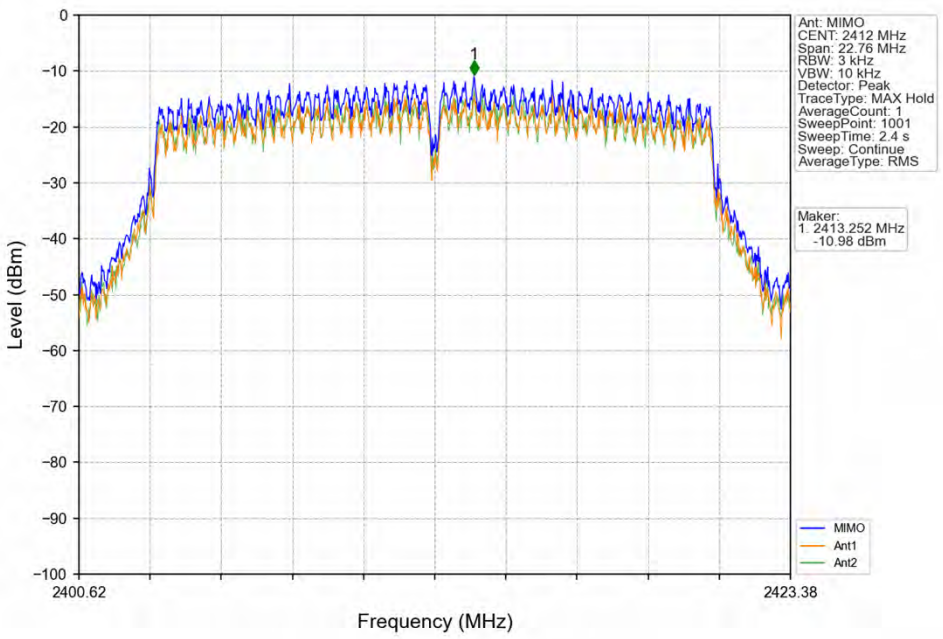
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



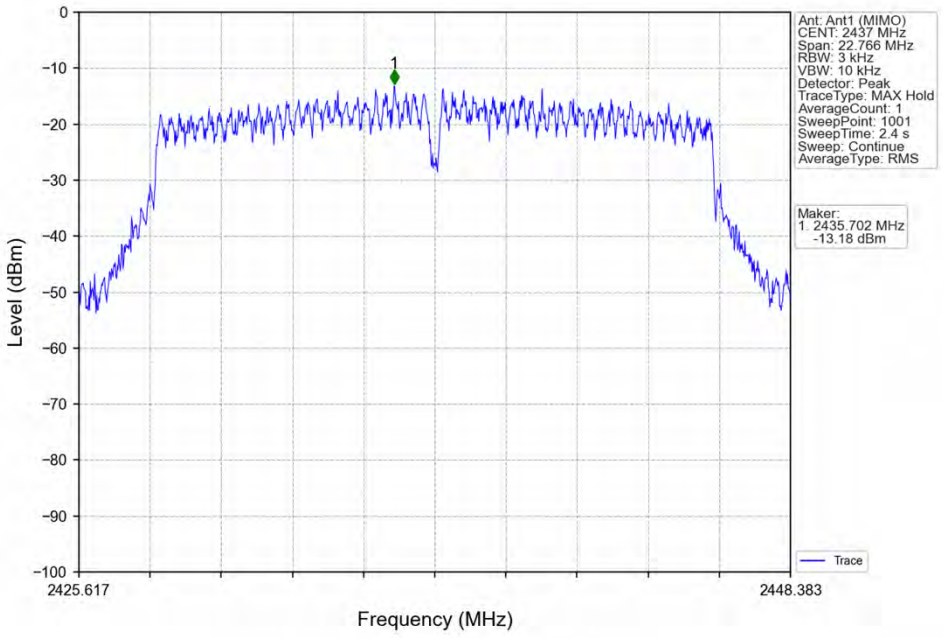
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



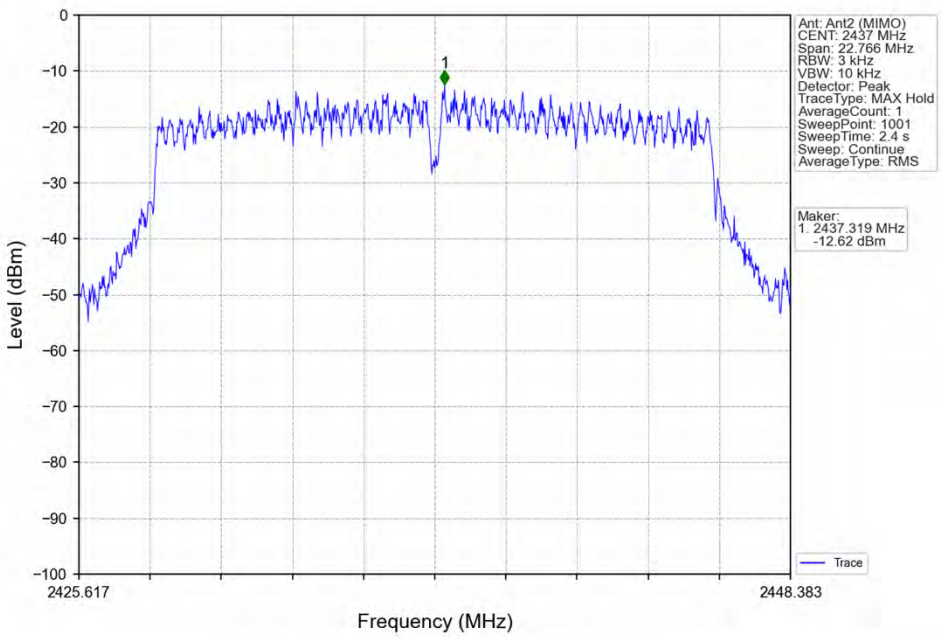
802.11n(HT20)_LCH_2412MHz_MIMO_NTNV



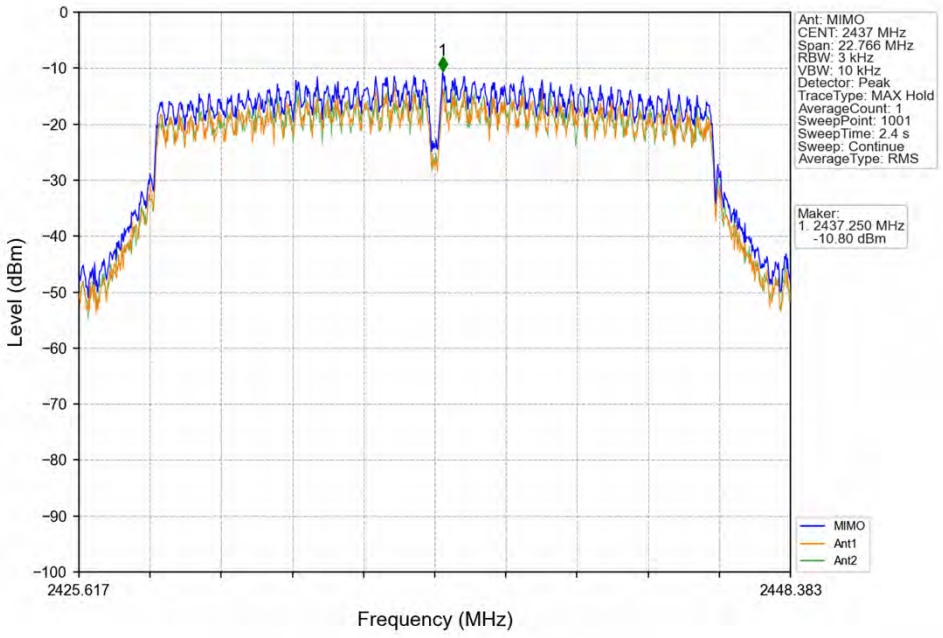
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



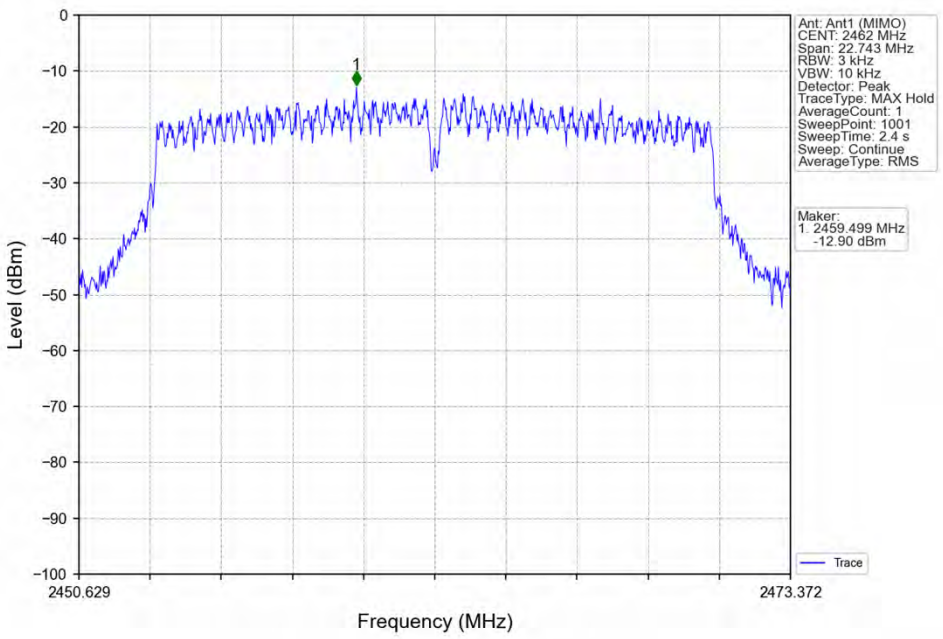
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



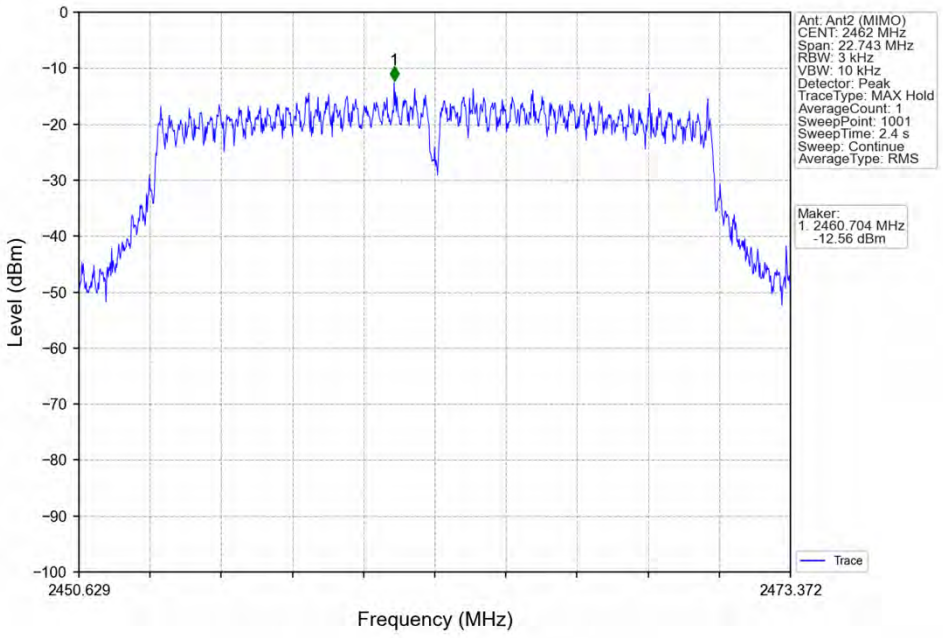
802.11n(HT20)_MCH_2437MHz_MIMO_NTNV



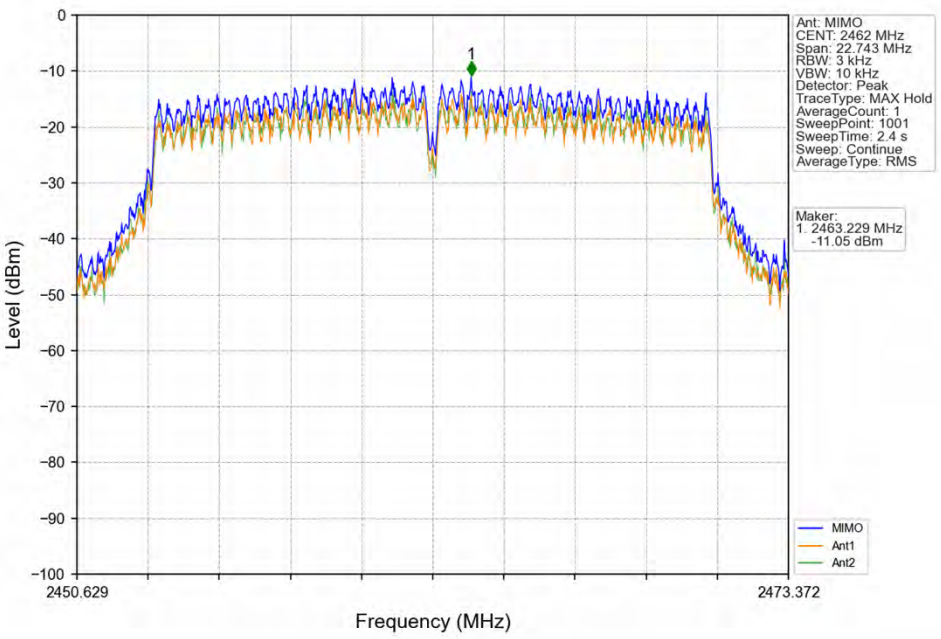
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_MIMO_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

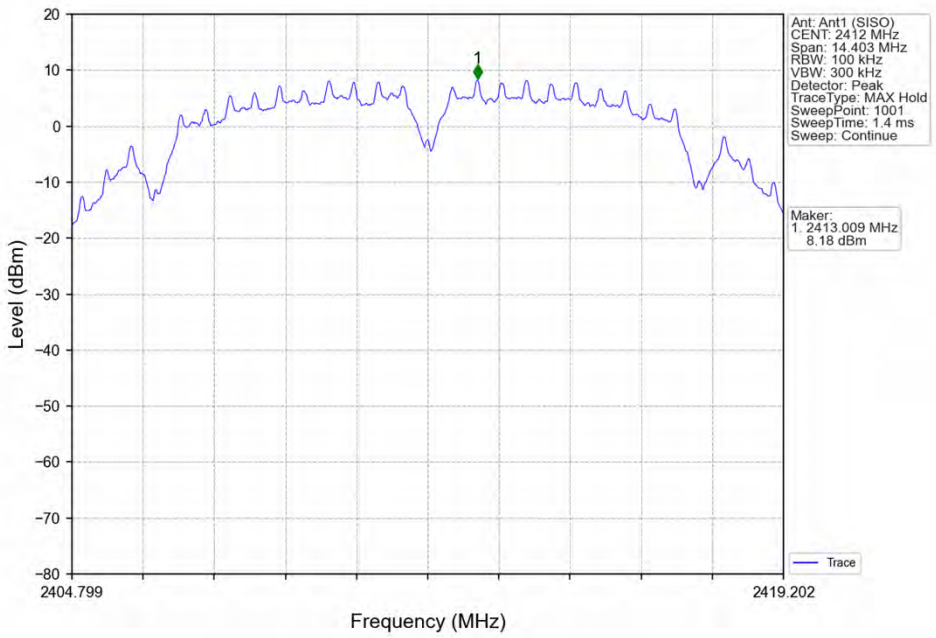
5.1 Ref

5.1.1 Test Result

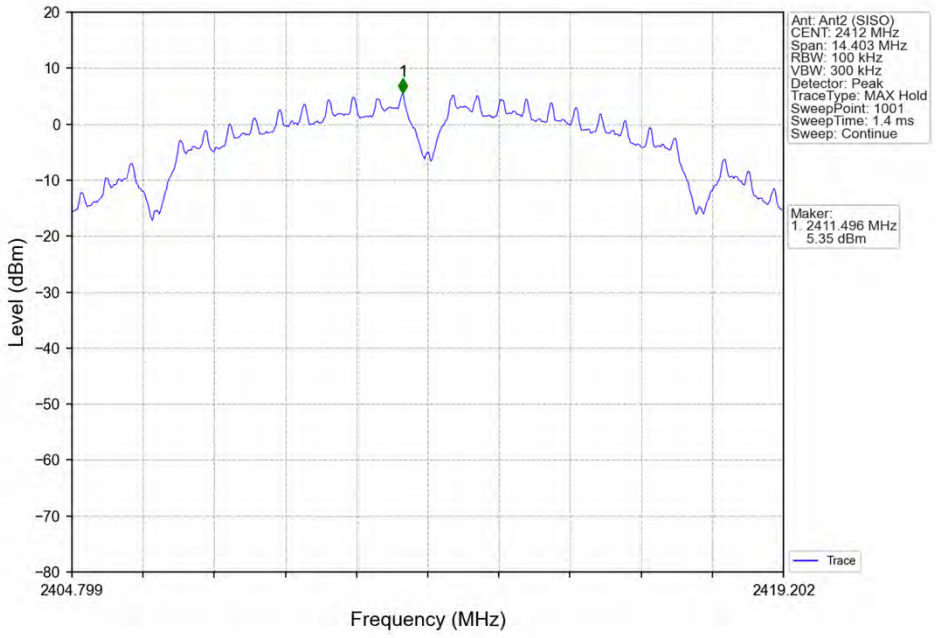
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	8.18
			2	5.35
		2437	1	8.57
			2	5.79
		2462	1	8.12
			2	6.02
802.11g	SISO	2412	1	7.57
			2	1.52
		2437	1	7.79
			2	1.83
		2462	1	7.74
			2	1.68
802.11n (HT20)	MIMO	2412	1	1.55
			2	1.50
		2437	1	1.78
			2	1.77
		2462	1	1.10
			2	1.21
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.				

5.1.2 Test Graph

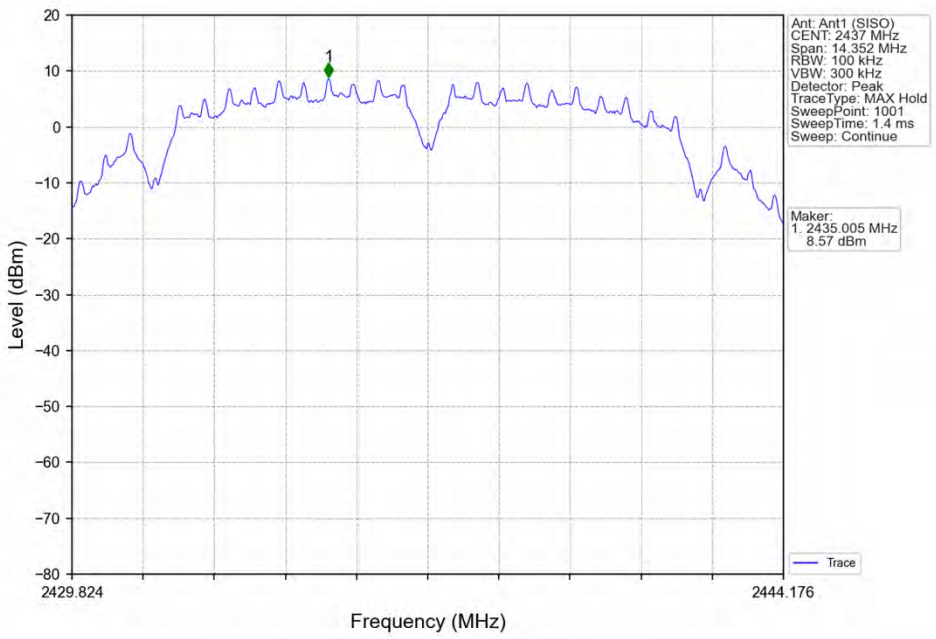
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



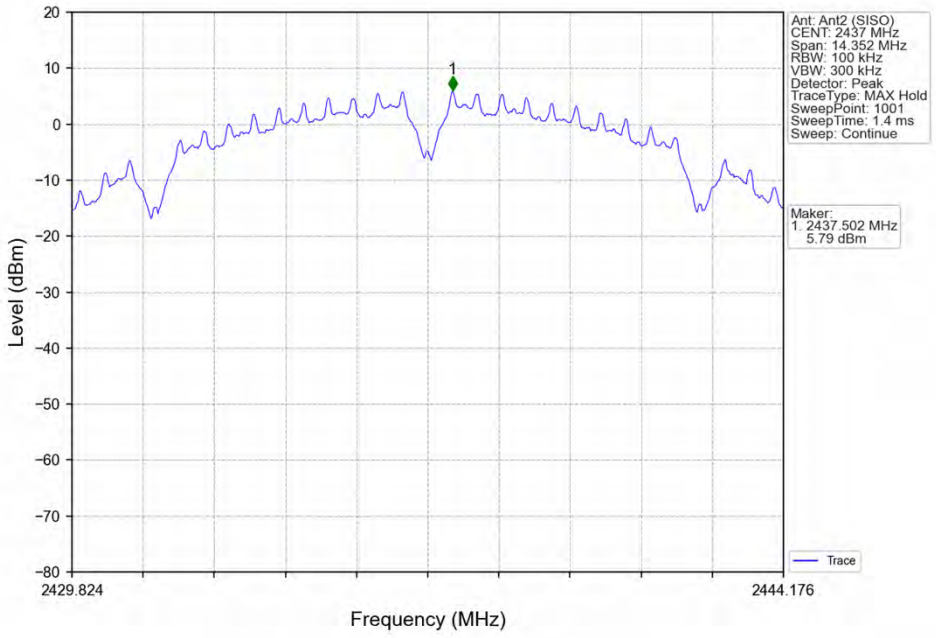
802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



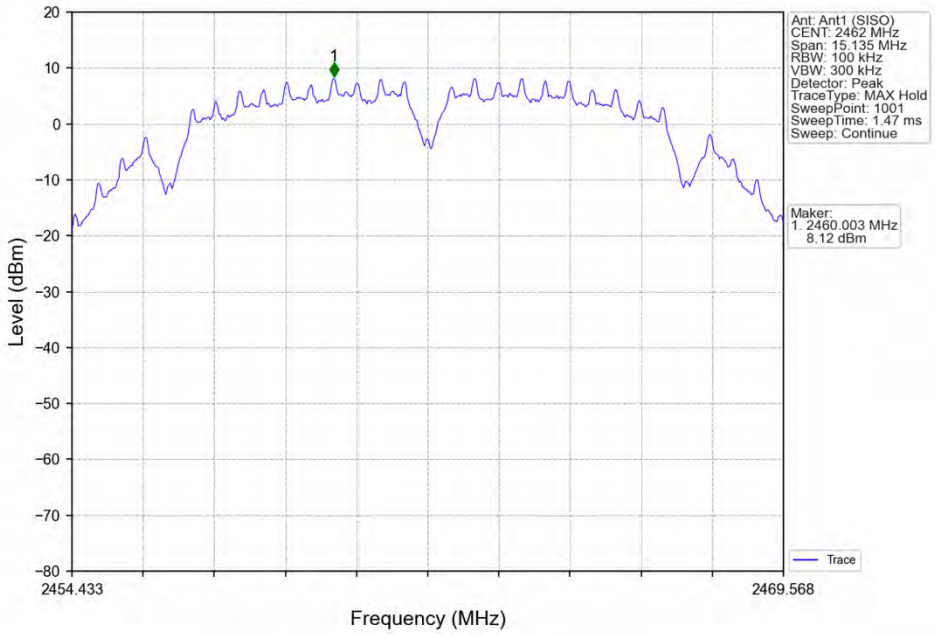
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



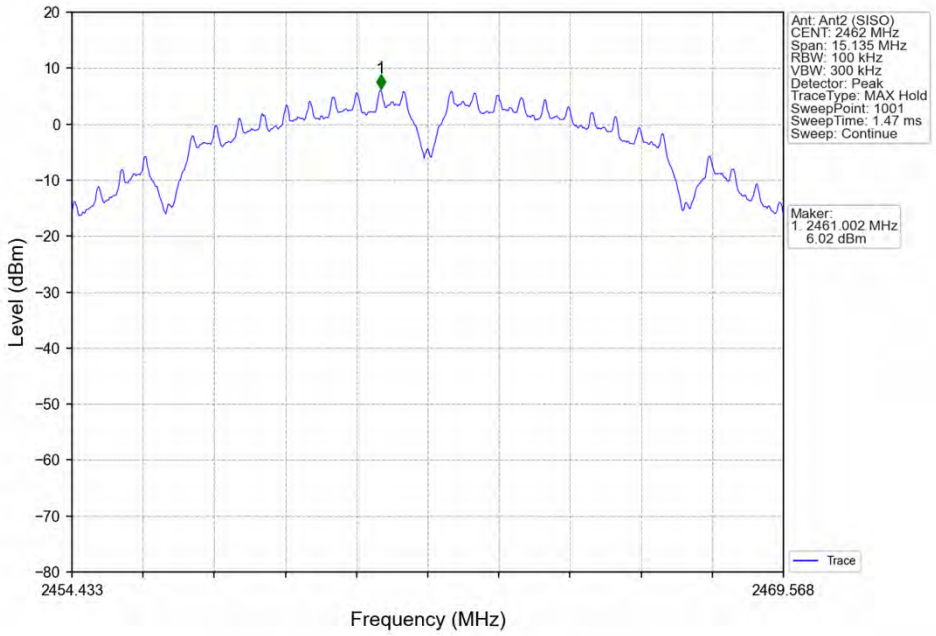
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



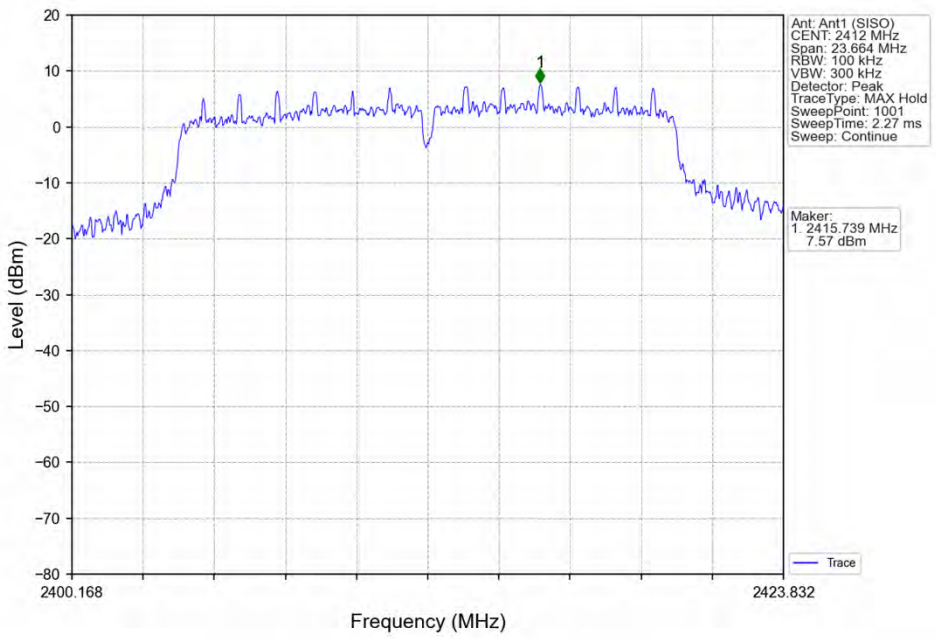
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



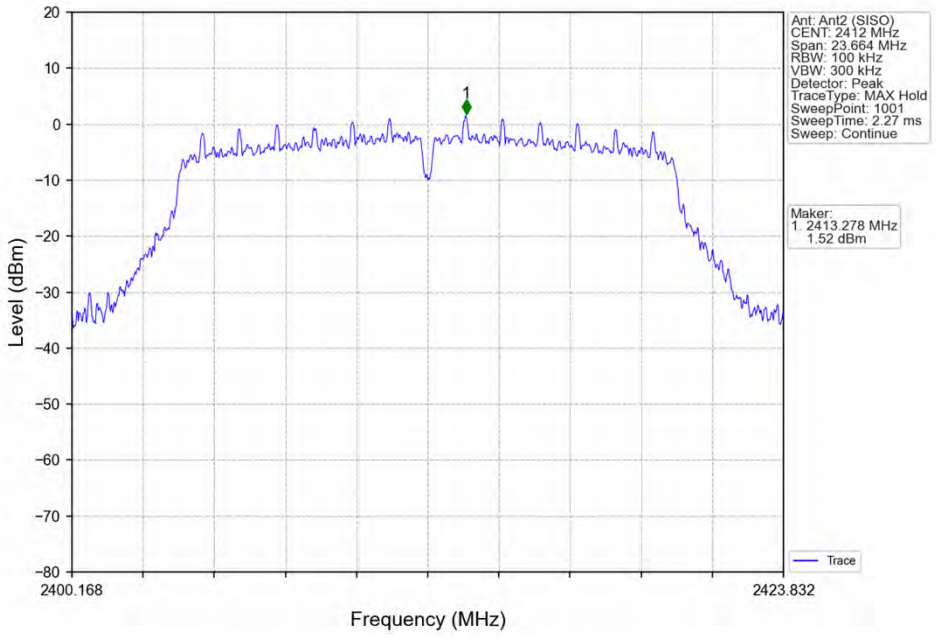
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



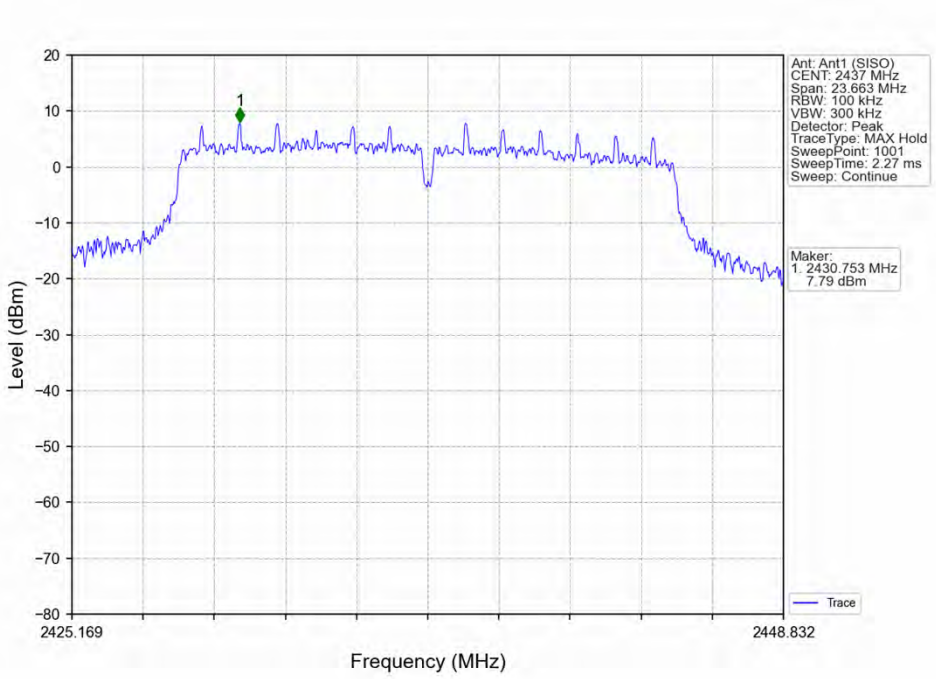
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



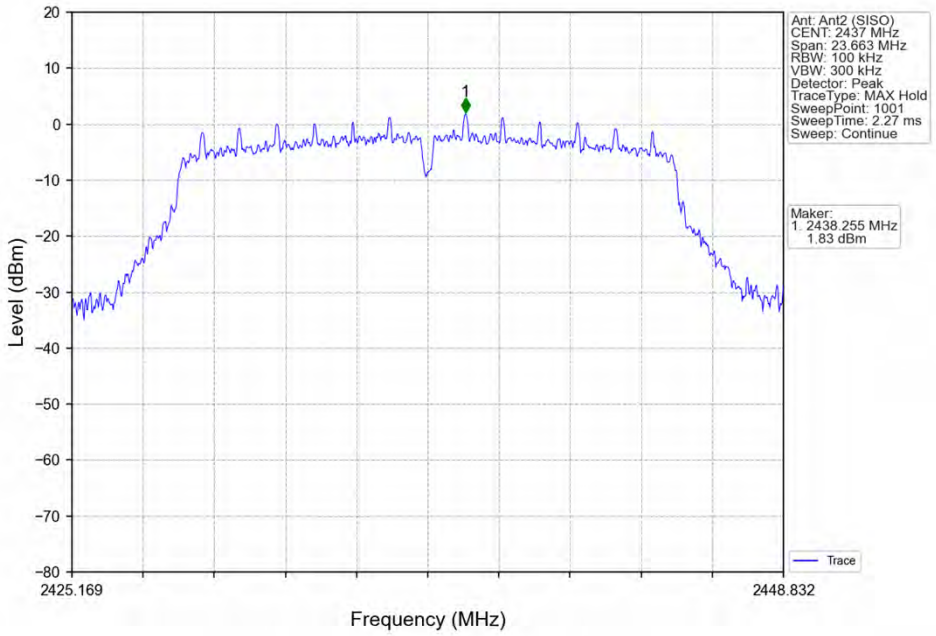
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



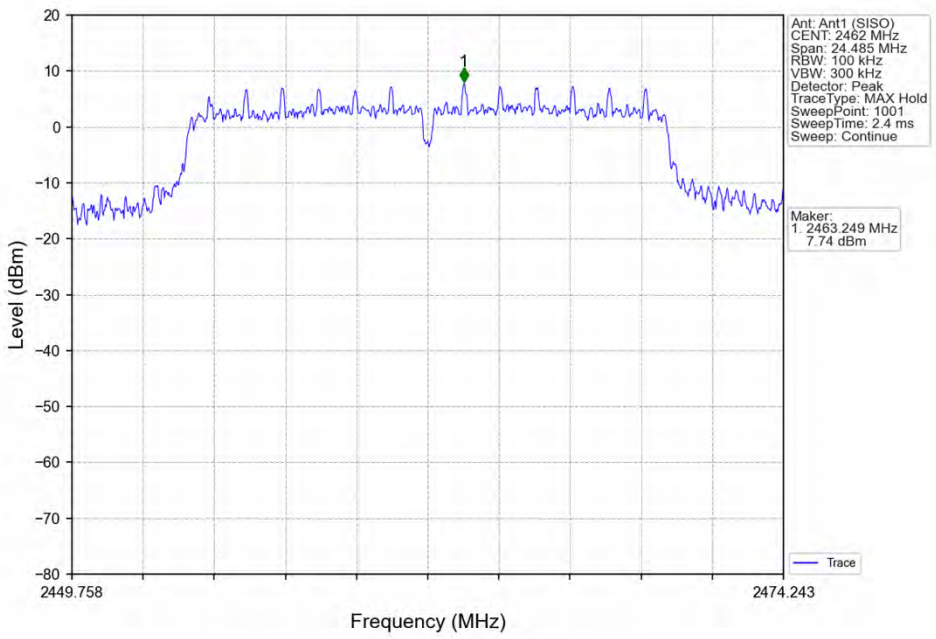
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



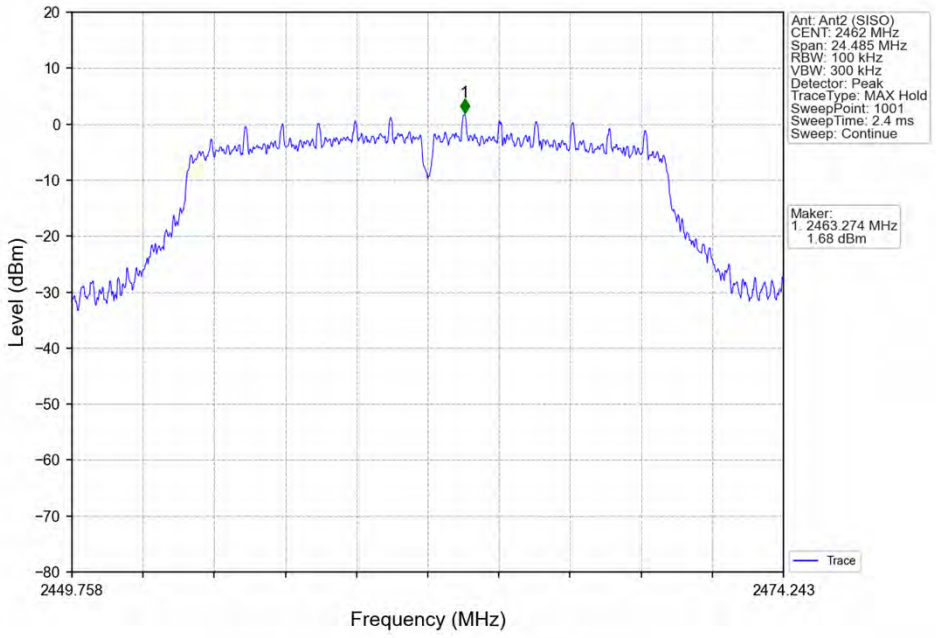
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



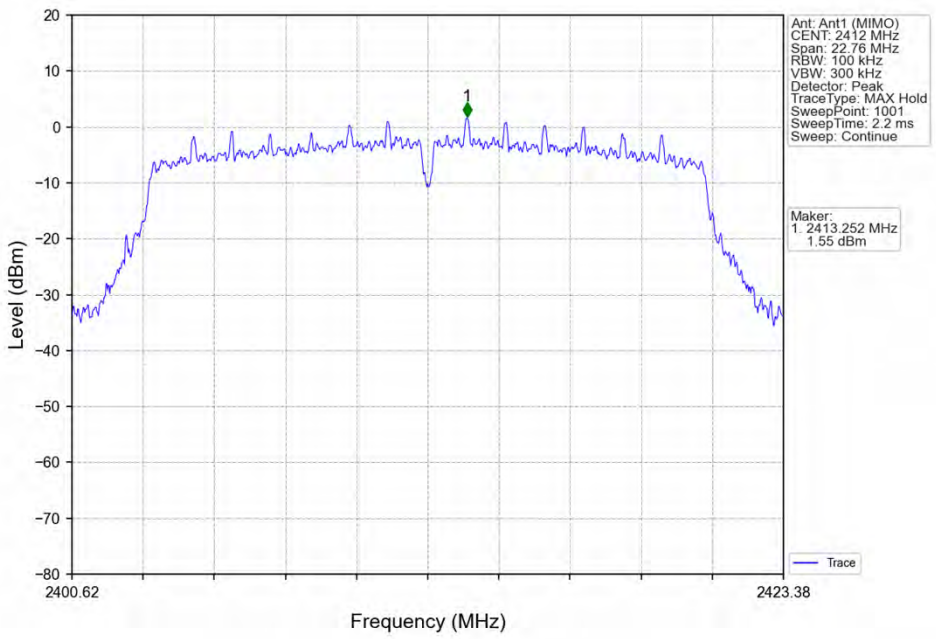
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



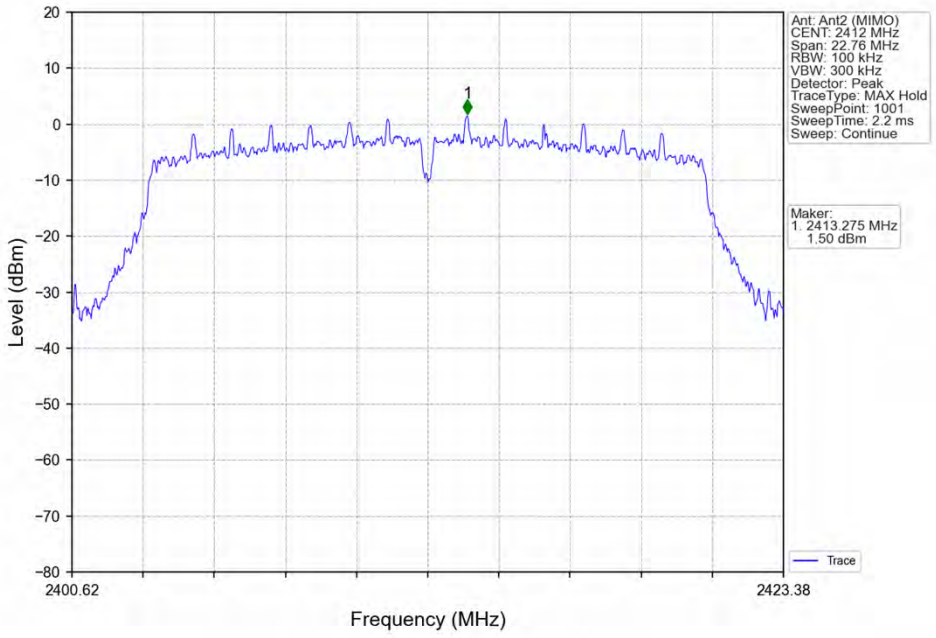
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



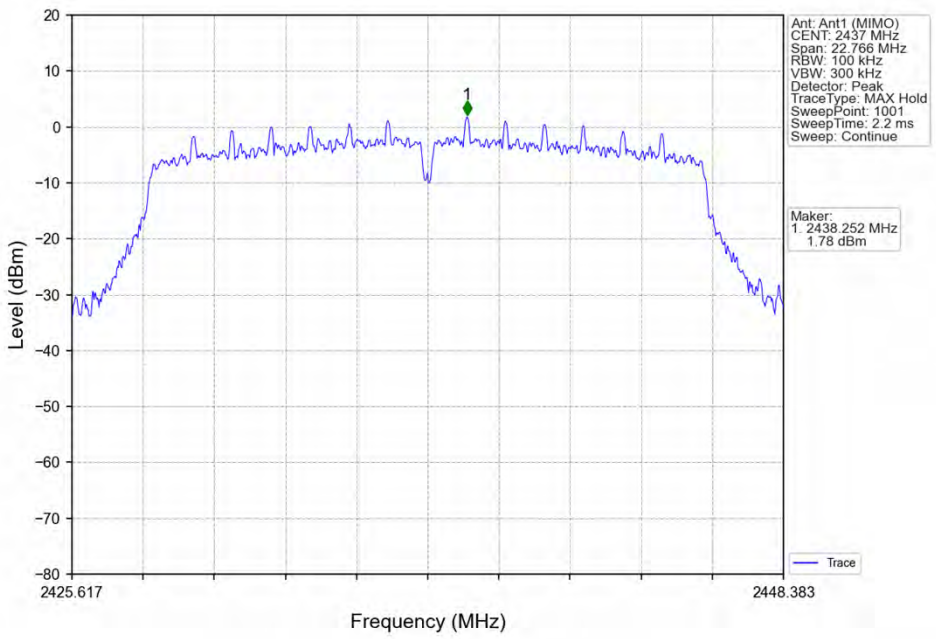
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



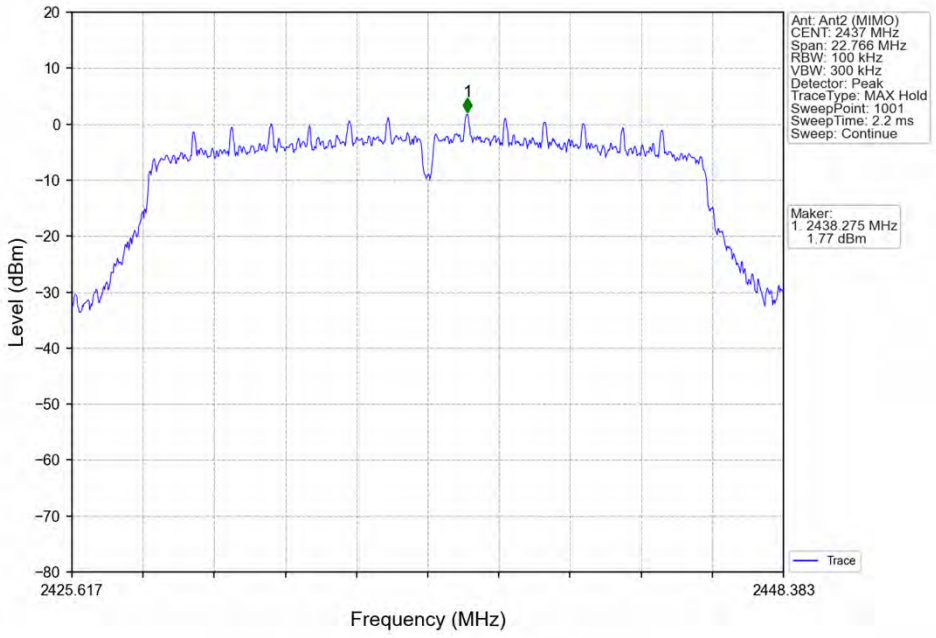
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



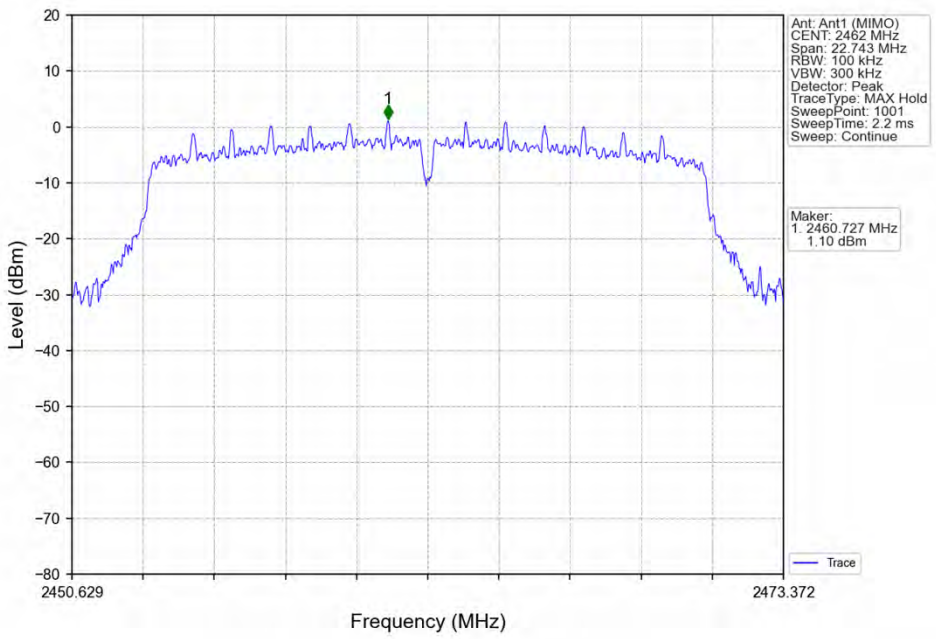
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



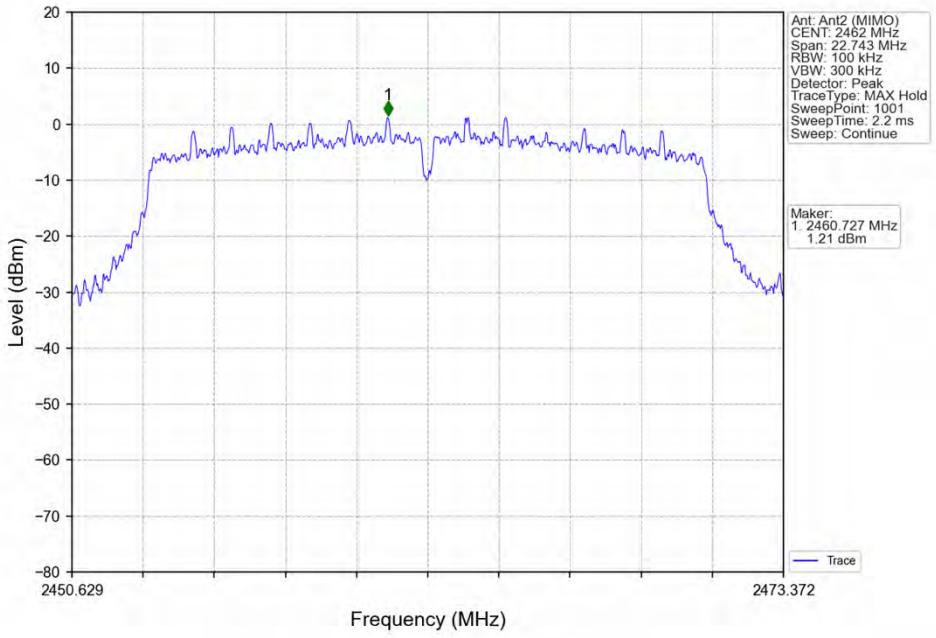
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



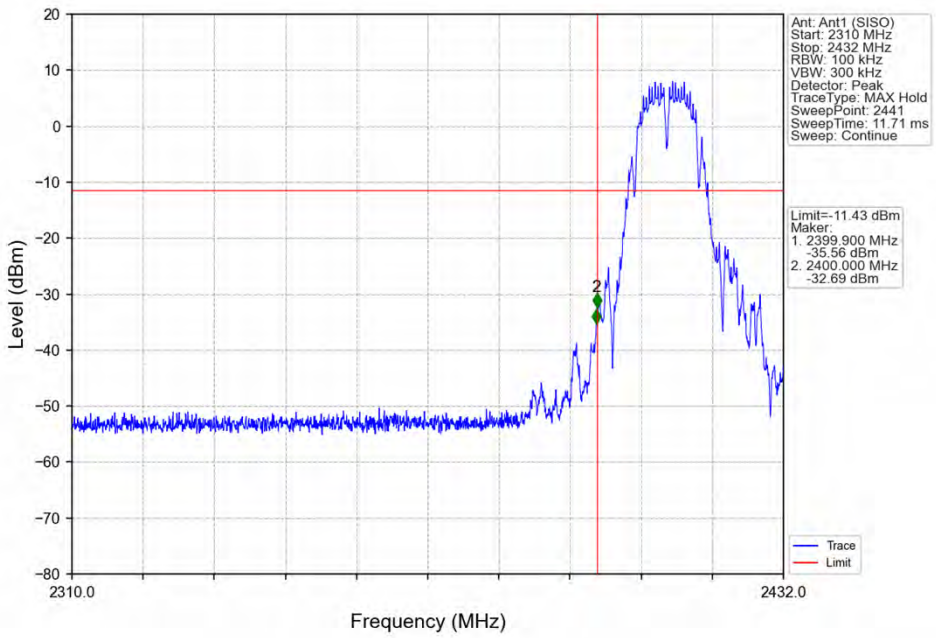
5.2 CSE

5.2.1 Test Result

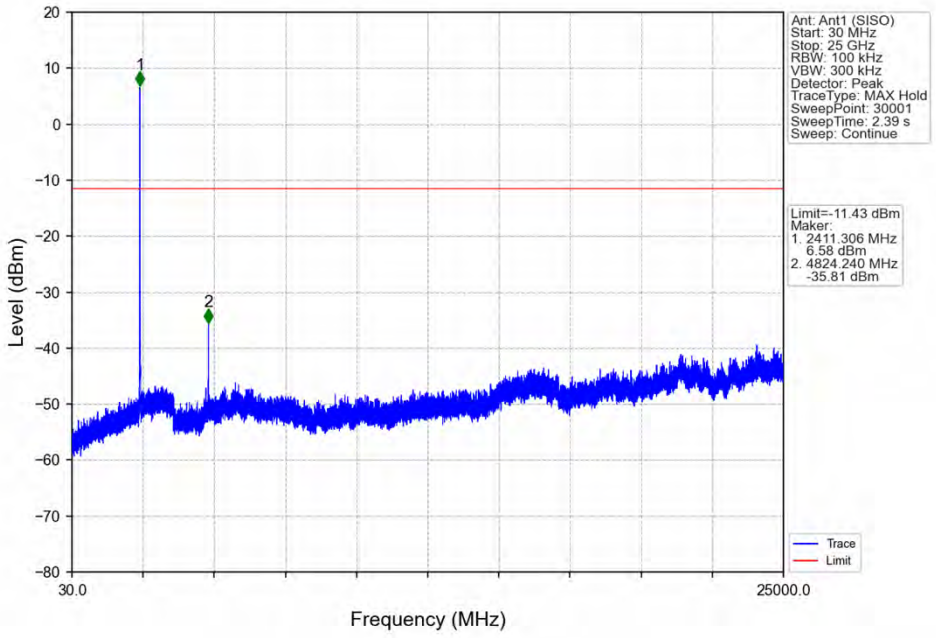
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	8.57	-11.43	Pass
			2	6.02	-13.98	Pass
		2437	1	8.57	-11.43	Pass
			2	6.02	-13.98	Pass
		2462	1	8.57	-11.43	Pass
			2	6.02	-13.98	Pass
802.11g	SISO	2412	1	7.79	-12.21	Pass
			2	1.83	-18.17	Pass
		2437	1	7.79	-12.21	Pass
			2	1.83	-18.17	Pass
		2462	1	7.79	-12.21	Pass
			2	1.83	-18.17	Pass
802.11n (HT20)	MIMO	2412	1	1.78	-18.22	Pass
			2	1.77	-18.23	Pass
		2437	1	1.78	-18.22	Pass
			2	1.77	-18.23	Pass
		2462	1	1.78	-18.22	Pass
			2	1.77	-18.23	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.						

5.2.2 Test Graph

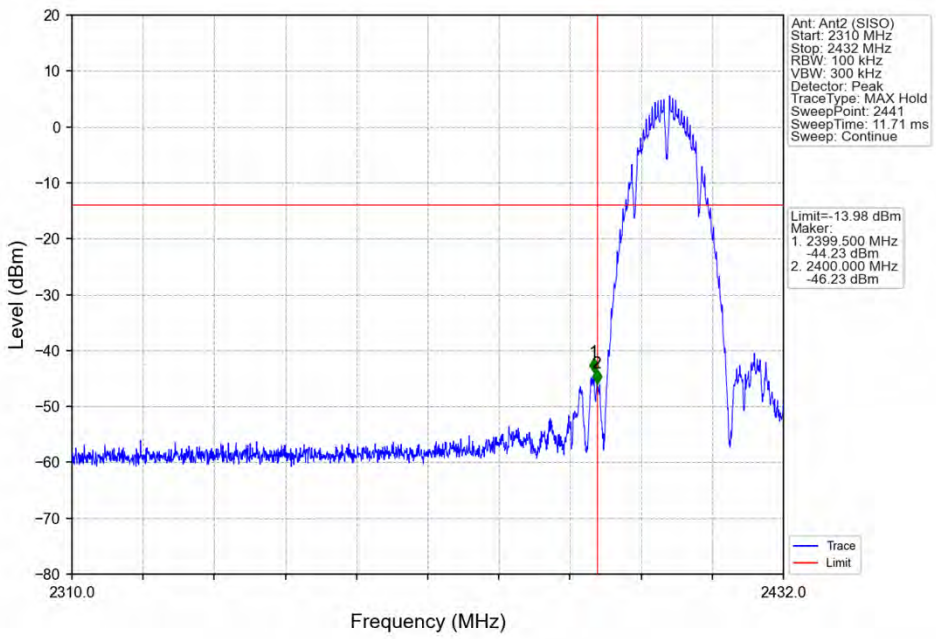
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



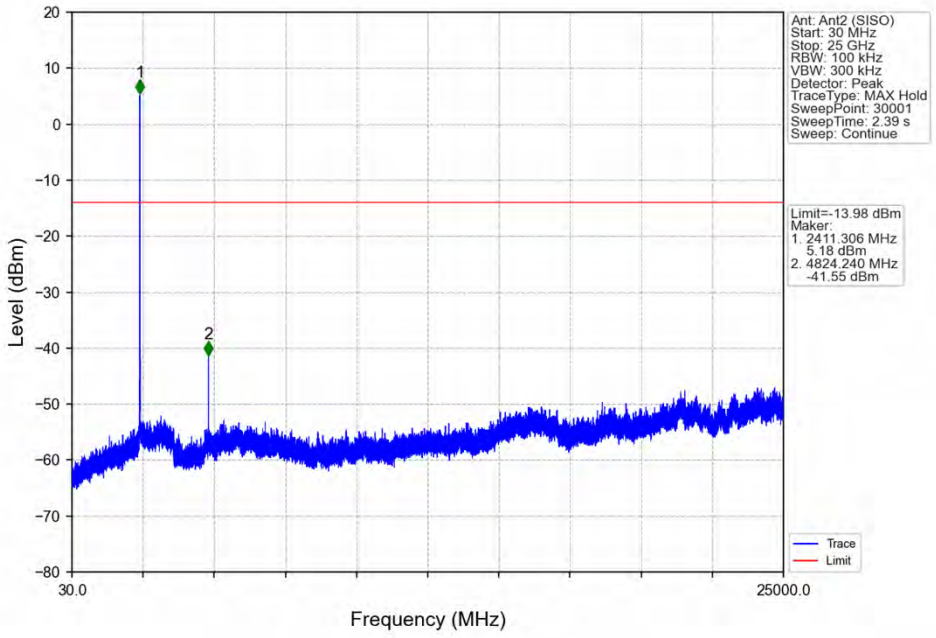
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



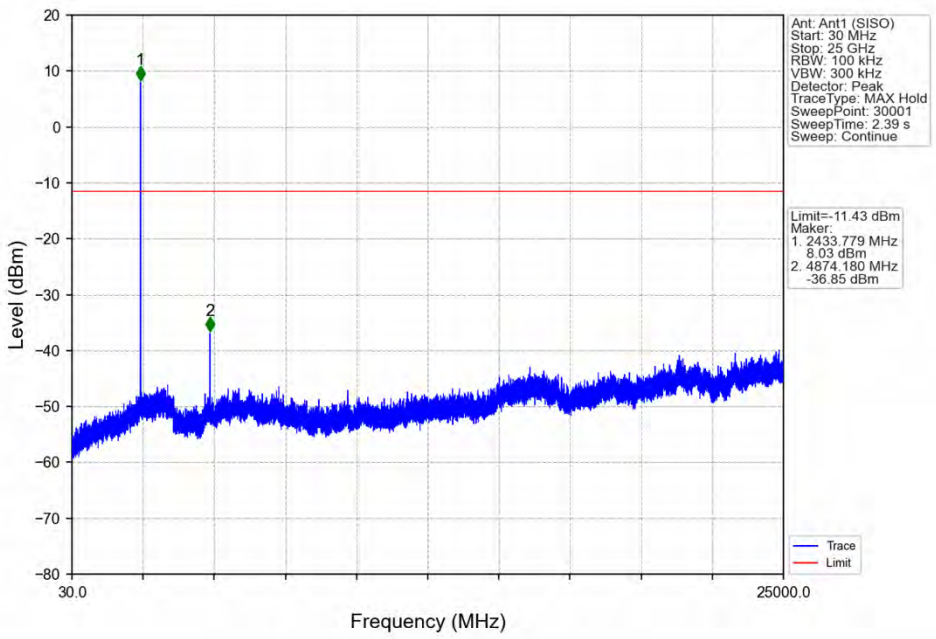
802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



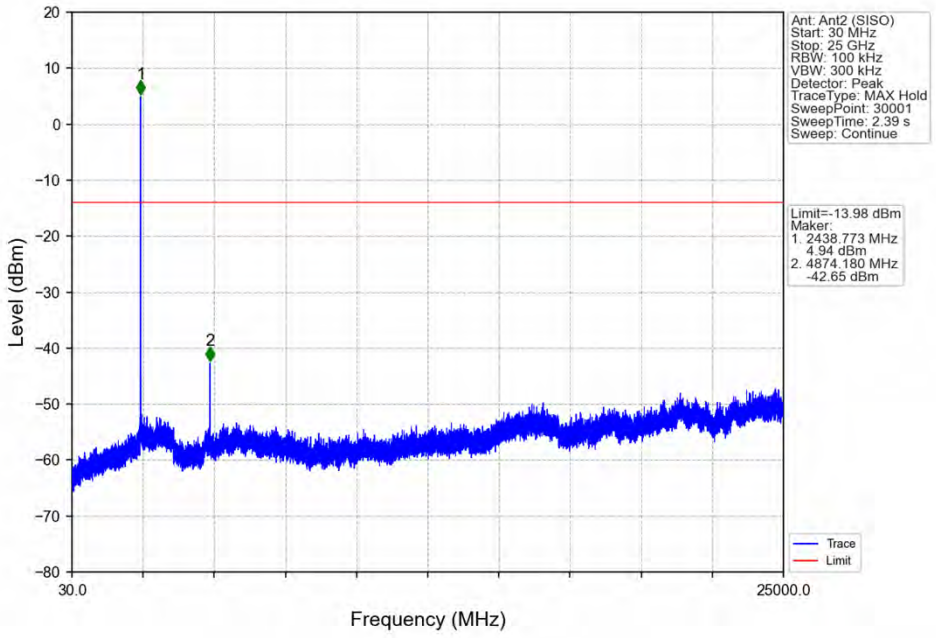
802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



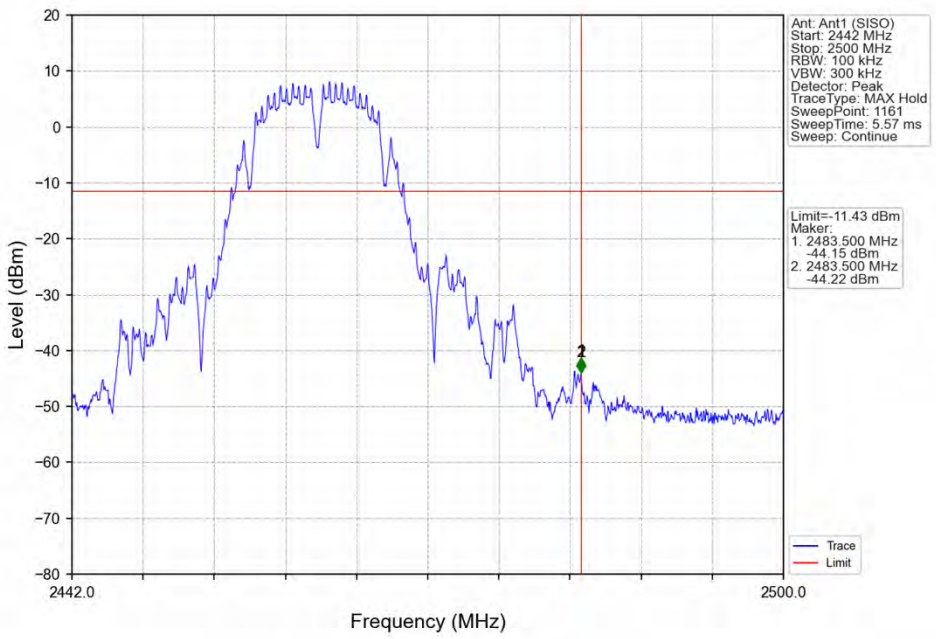
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



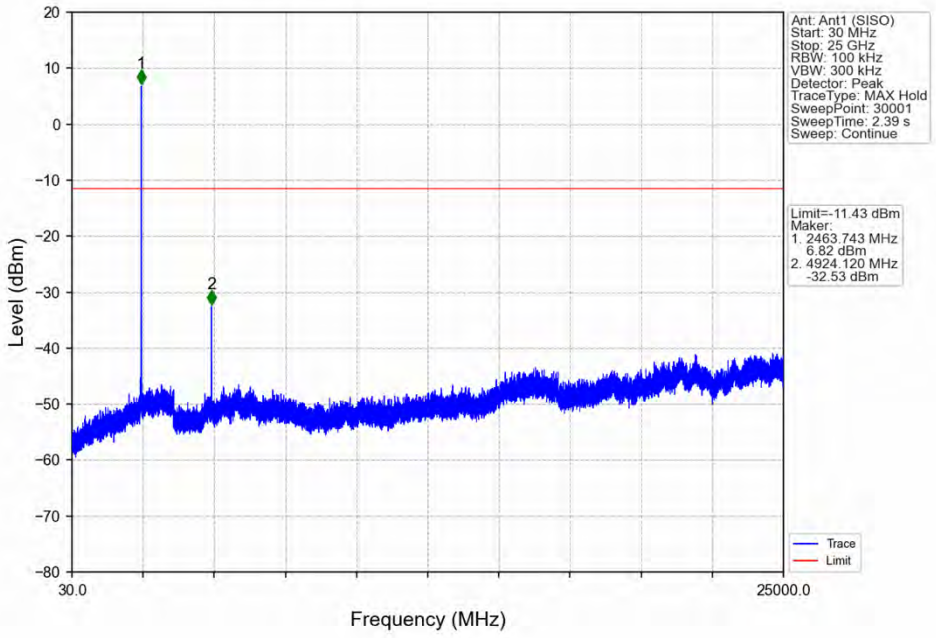
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



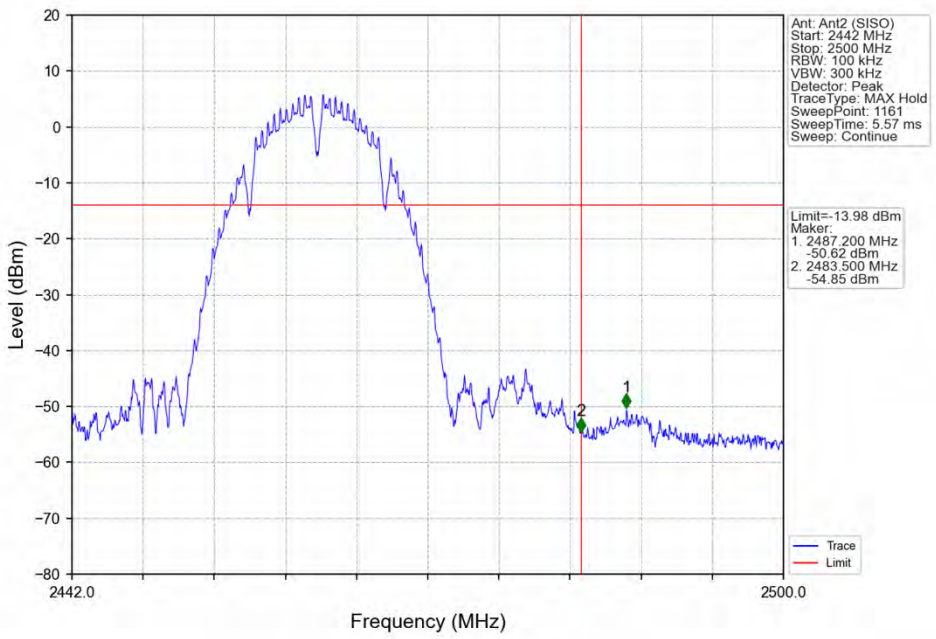
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



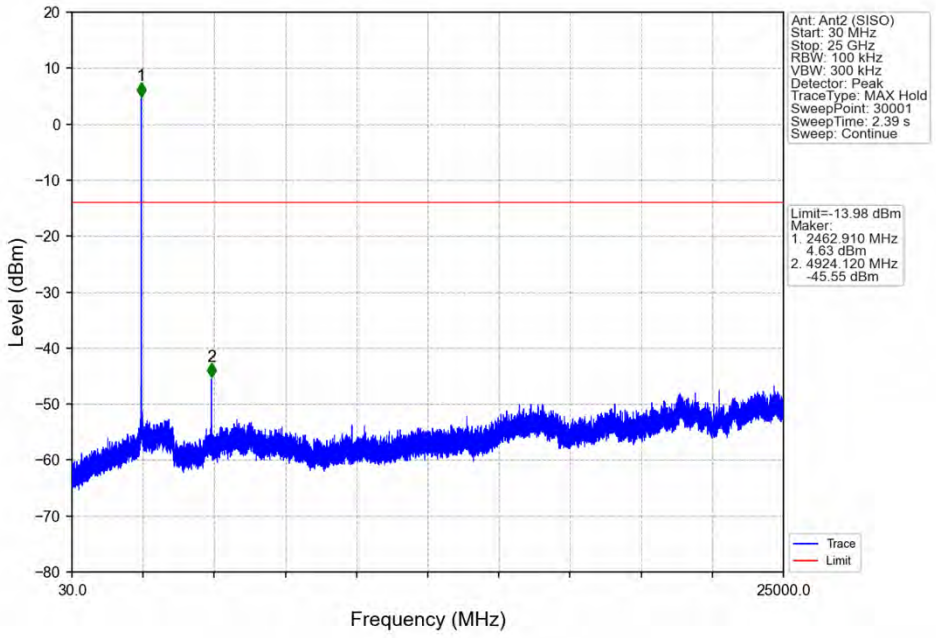
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



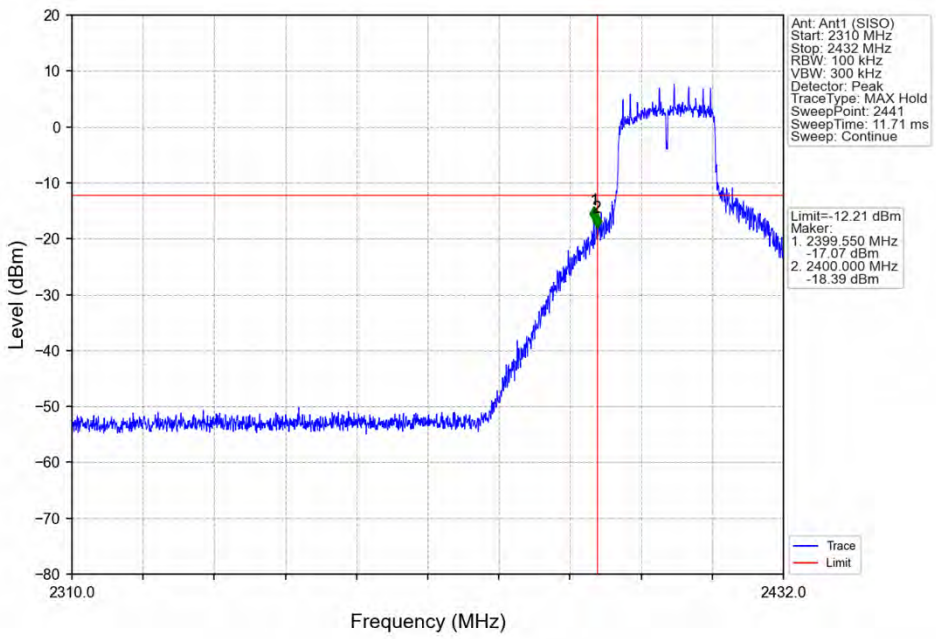
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



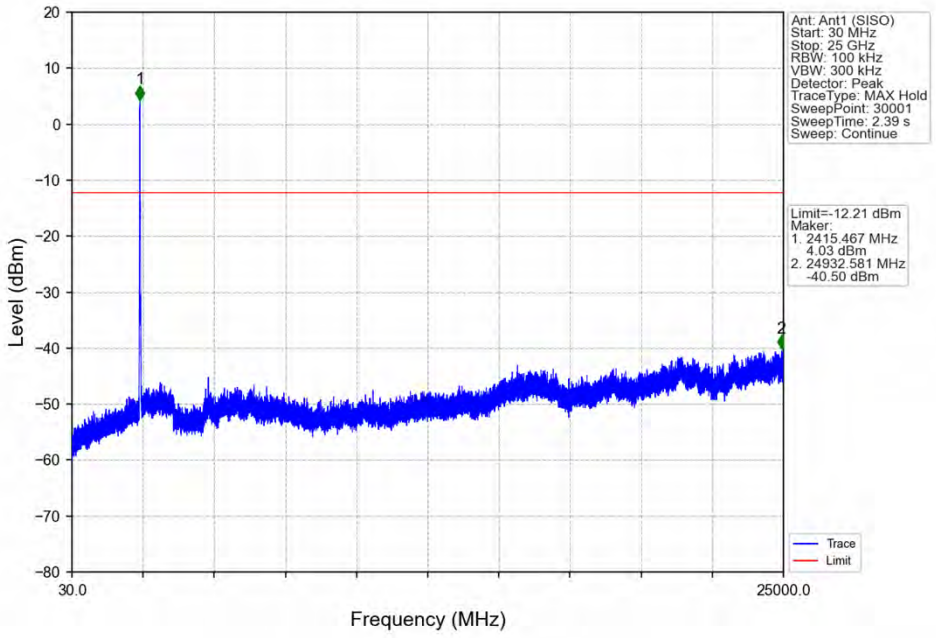
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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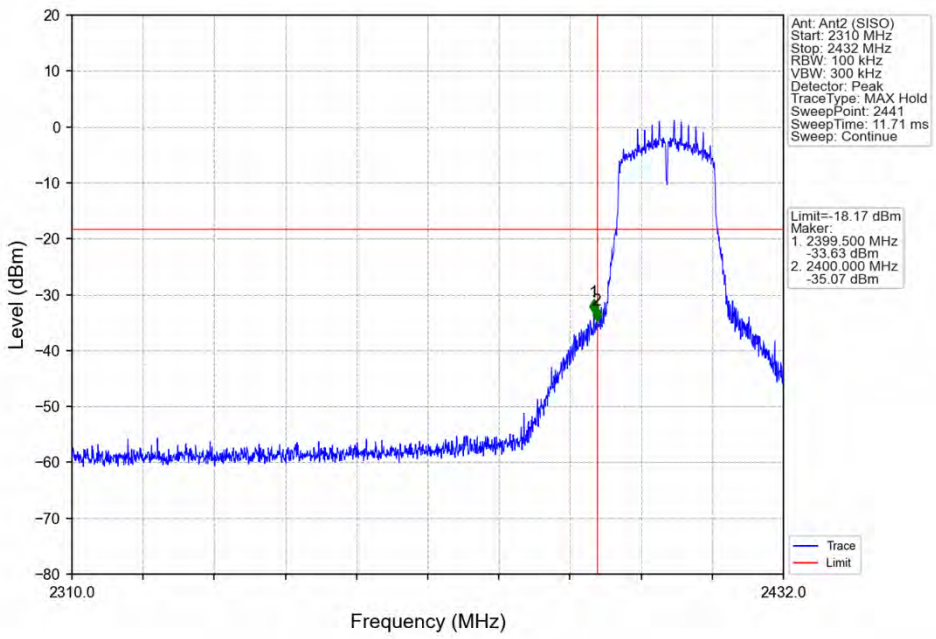

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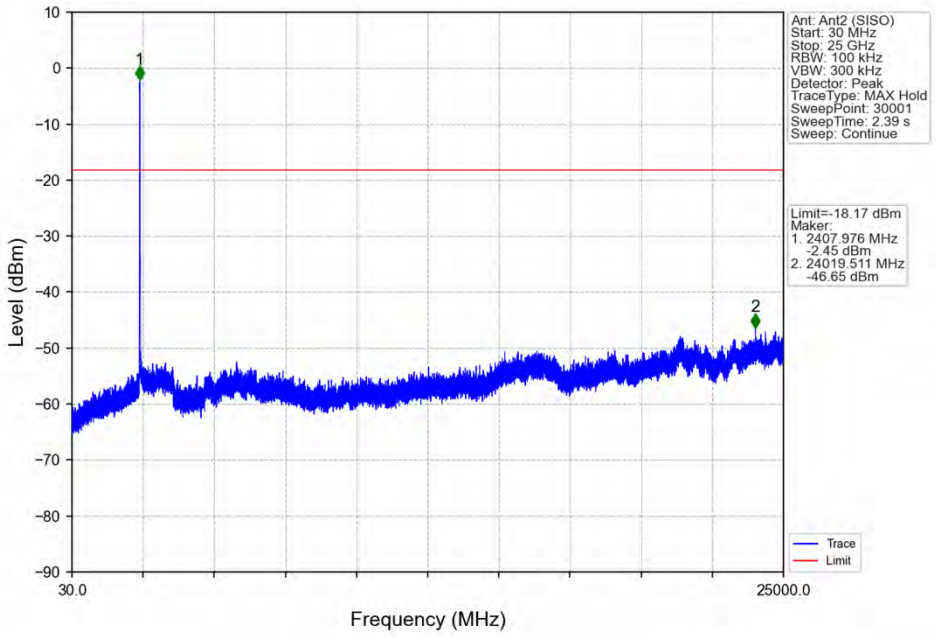
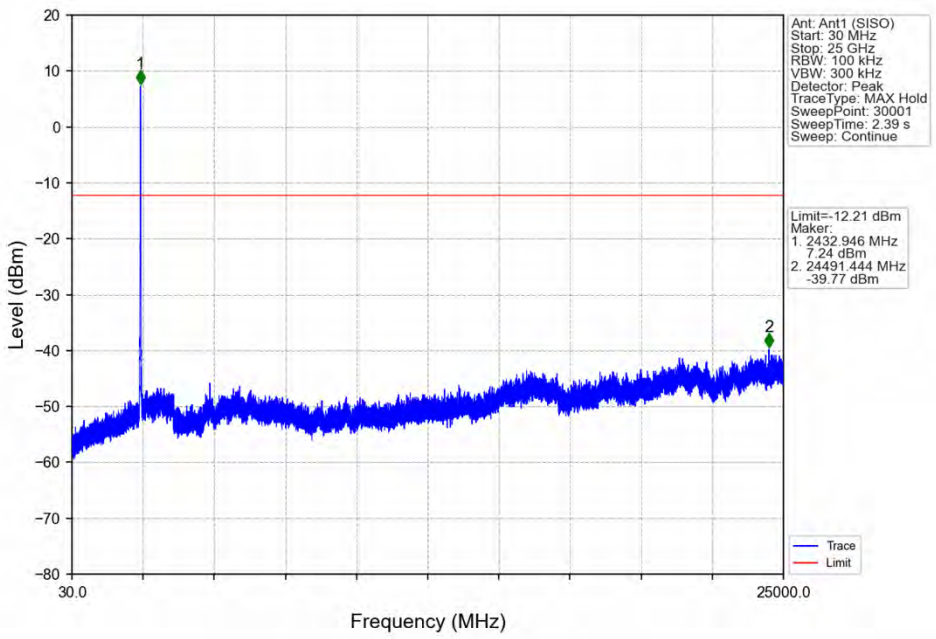


802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



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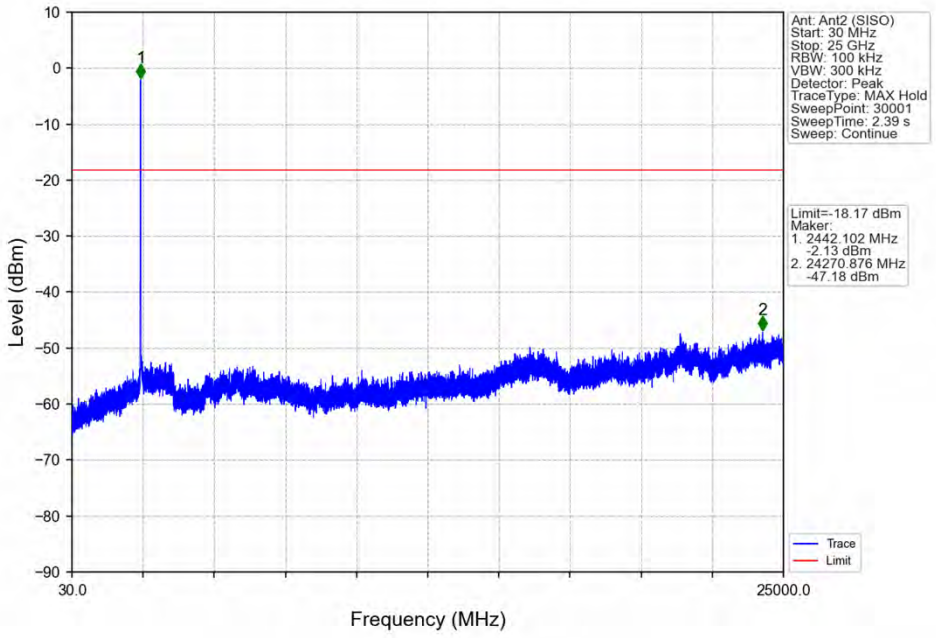
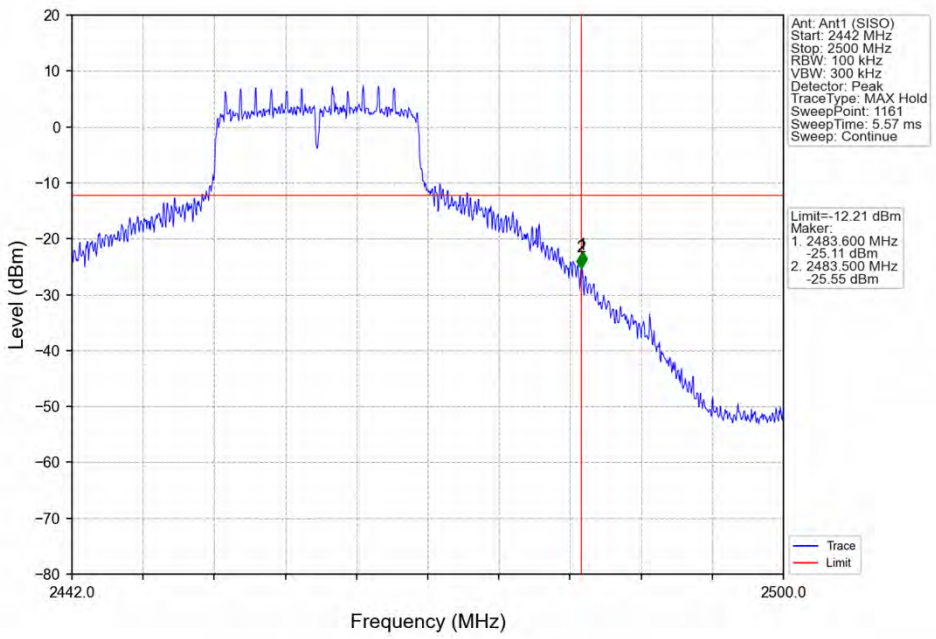


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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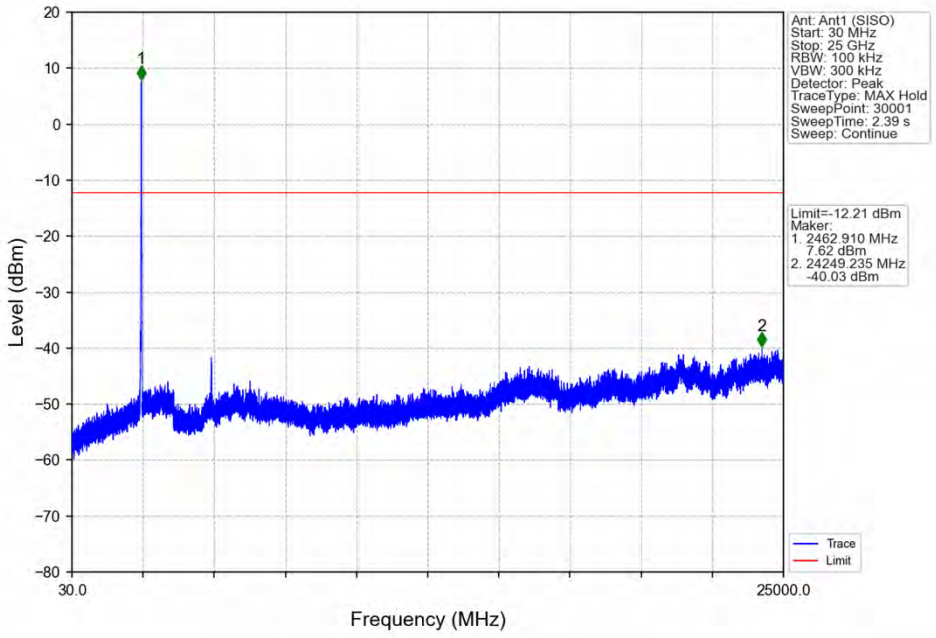

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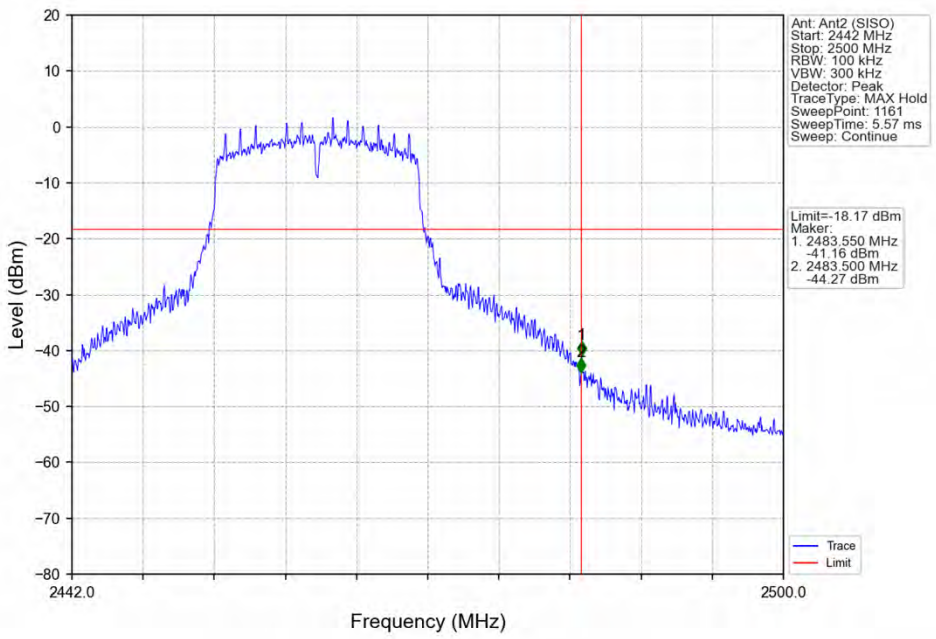
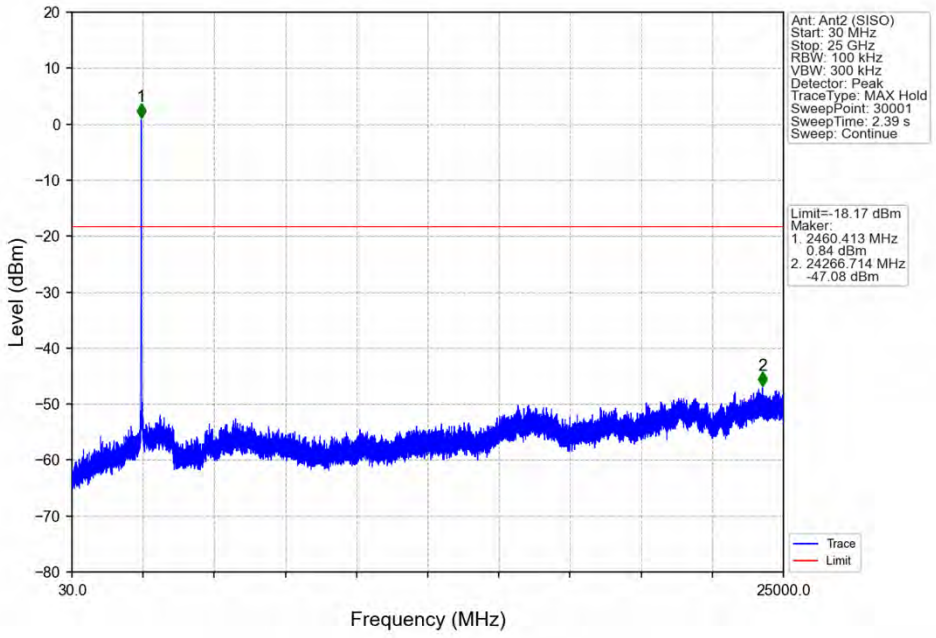
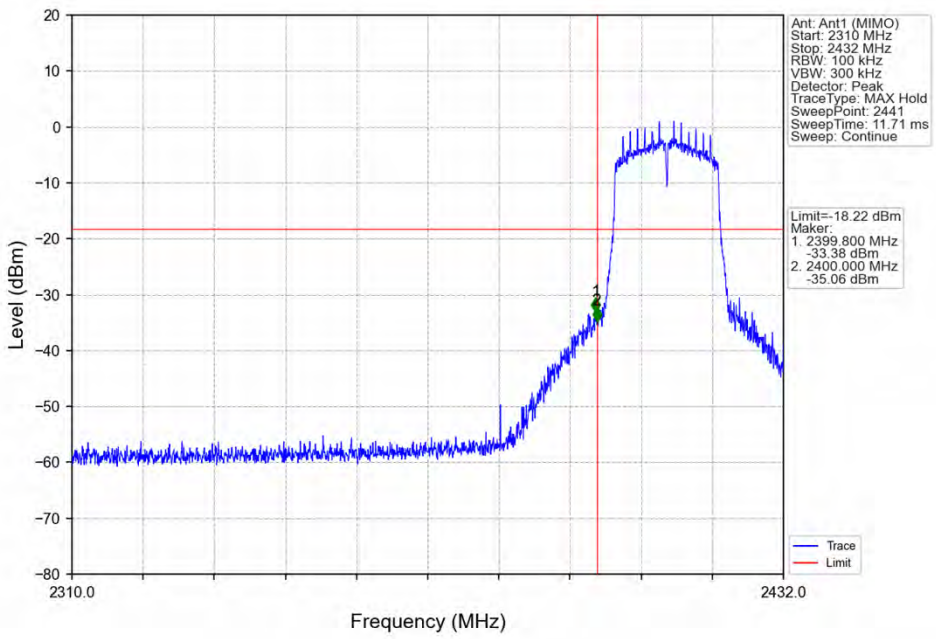


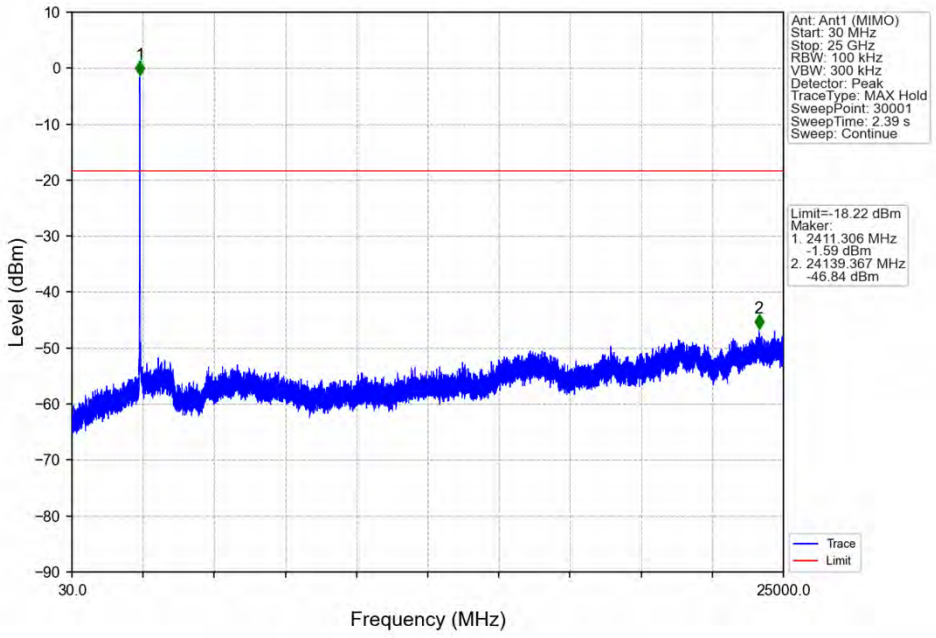
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



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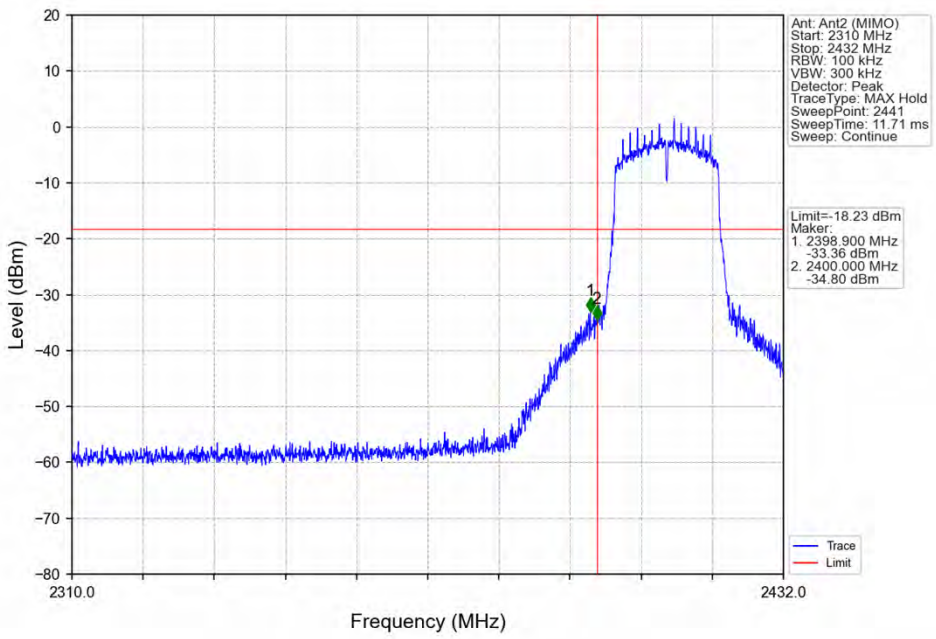

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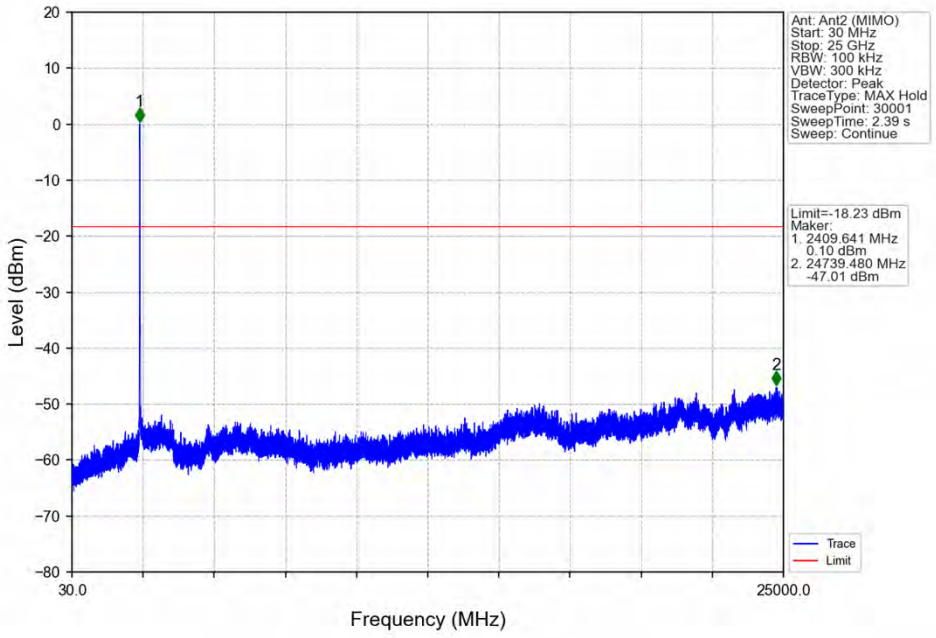
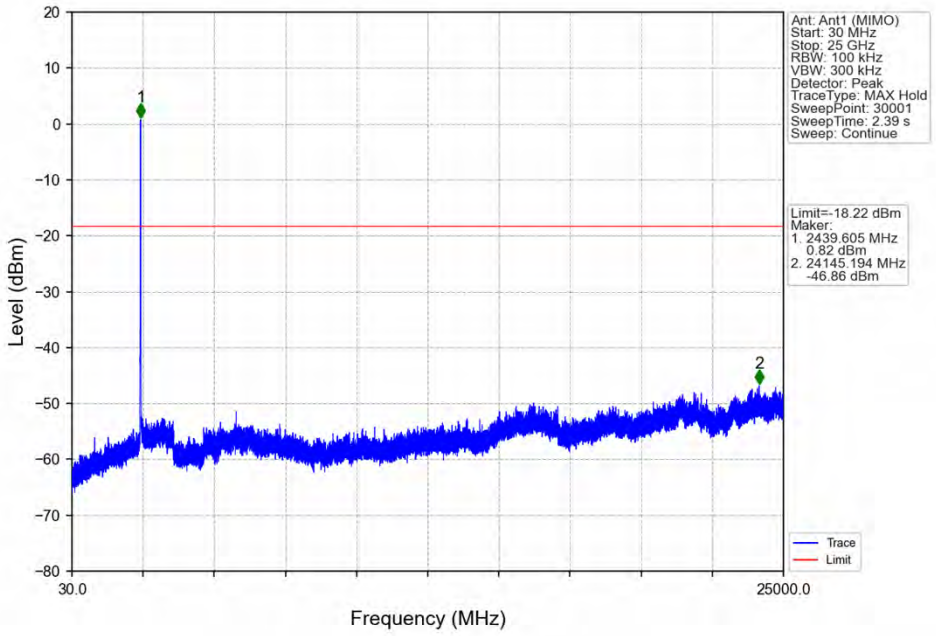


802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



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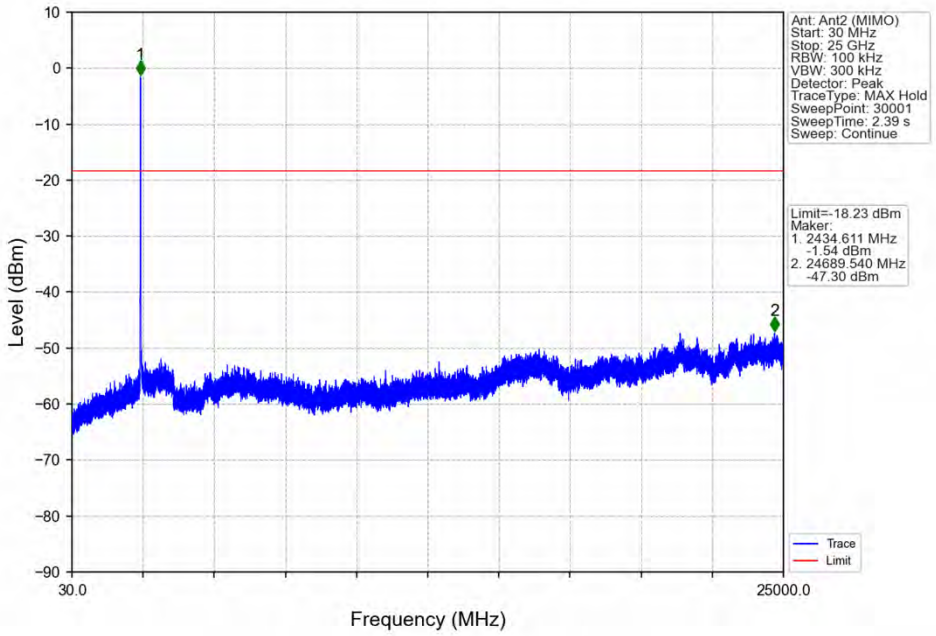
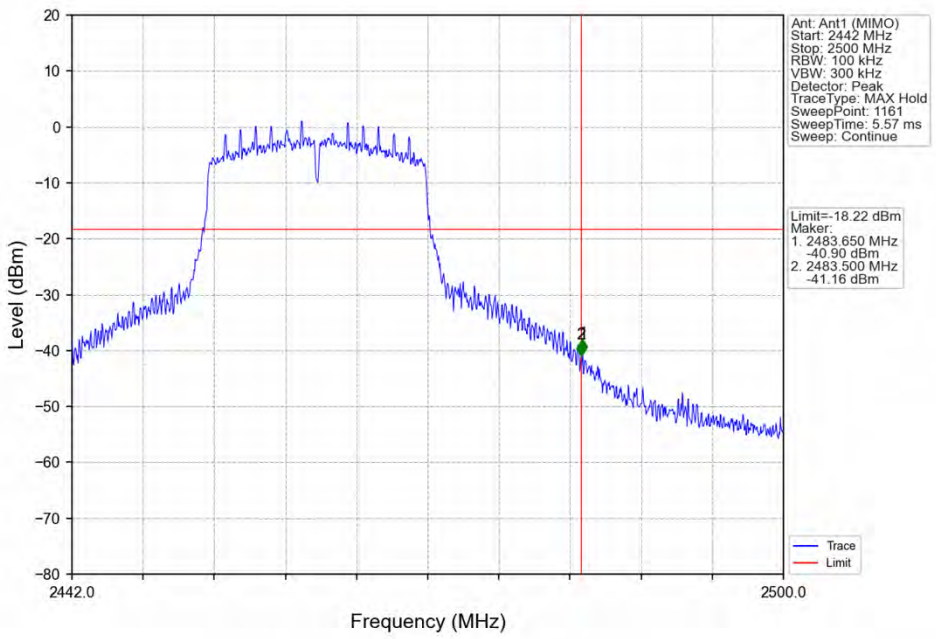
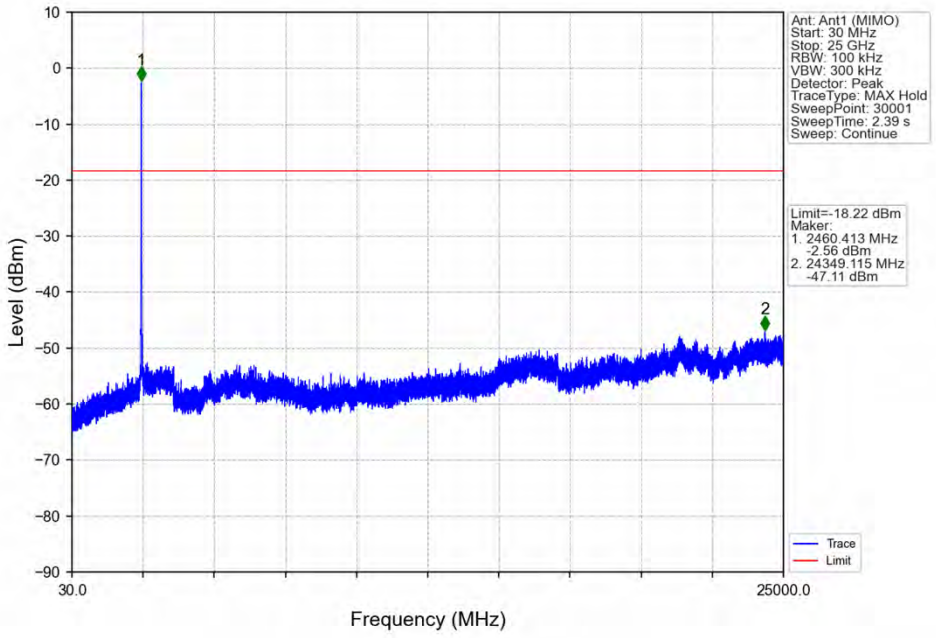


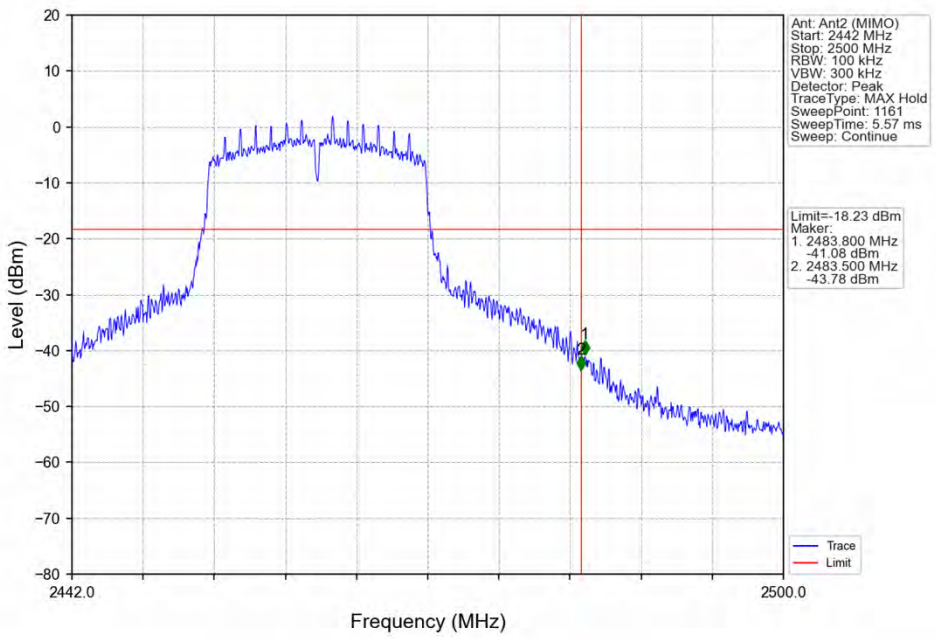
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



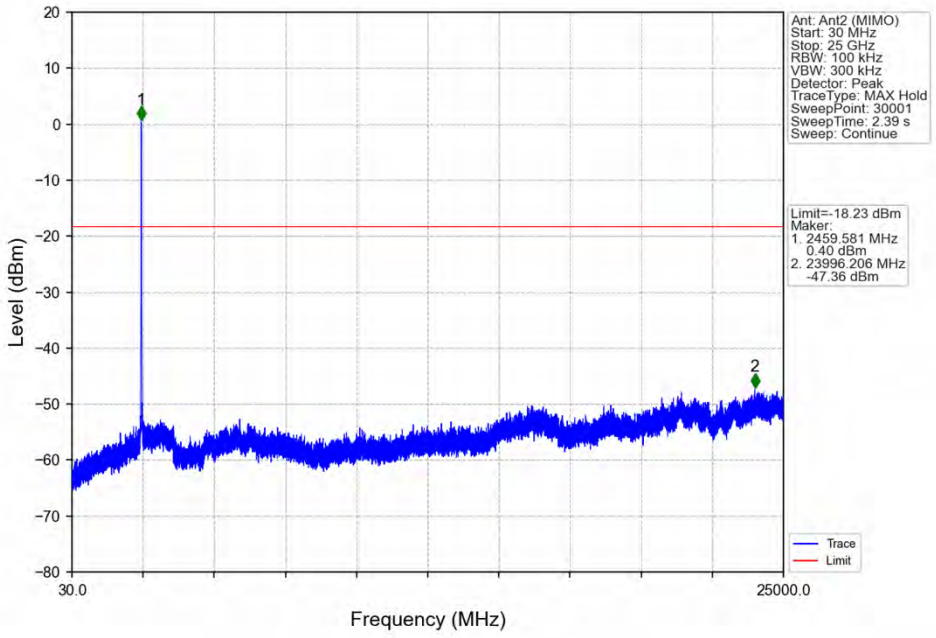
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



6. Form731

6.1 Form731

6.1.1 Test Result

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
2412	2462	0.1702	22.31

（END OF REPORT）