

# TEST REPORT

Reference No..... : WTH23X04087275W003  
FCC ID ..... : 2AT5W-O2066PM  
Applicant ..... : SHENZHEN OFEIXIN TECHNOLOGY LIMITED  
Address ..... : Room 503, Building A3, Area B, Songbai Industrial Park, Guangming District, Shenzhen  
Manufacturer ..... : The same as Applicant  
Address ..... : The same as Applicant  
Product Name ..... : Wi-Fi Tri-band 2x2 MIMO DBS 802.11ax + Bluetooth 5.2 Module  
Model No..... : O2066PM  
Standards ..... : FCC Part 15.247  
Date of Receipt sample .... : 2023-04-23  
Date of Test..... : 2023-04-23 to 2023-08-03  
Date of Issue ..... : 2023-08-03  
Test Report Form No. .... : WTX\_Part 15\_247W  
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

**Prepared By:**

**Waltek Testing Group (Shenzhen) Co., Ltd.**

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road,  
Block 70 Bao'an District, Shenzhen, Guangdong, China

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Email: sem@waltek.com.cn

Tested by:



Dashan Chen

Approved by:



Silin Chen

**TABLE OF CONTENTS**

**1. GENERAL INFORMATION.....4**  
 1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) .....4  
 1.2 TEST STANDARDS.....5  
 1.3 TEST METHODOLOGY .....5  
 1.4 TEST FACILITY .....5  
 1.5 EUT SETUP AND TEST MODE .....6  
 1.6 MEASUREMENT UNCERTAINTY .....7  
 1.7 TEST EQUIPMENT LIST AND DETAILS .....8

**2. SUMMARY OF TEST RESULTS.....10**

**3. ANTENNA REQUIREMENT.....11**  
 3.1 STANDARD APPLICABLE .....11  
 3.2 EVALUATION INFORMATION .....11

**4. POWER SPECTRAL DENSITY.....12**  
 4.1 STANDARD APPLICABLE .....12  
 4.2 TEST SETUP BLOCK DIAGRAM .....12  
 4.3 TEST PROCEDURE .....12  
 4.4 SUMMARY OF TEST RESULTS/PLOTS.....12

**5. DTS BANDWIDTH .....13**  
 5.1 STANDARD APPLICABLE .....13  
 5.2 TEST SETUP BLOCK DIAGRAM .....13  
 5.3 TEST PROCEDURE .....13  
 5.4 SUMMARY OF TEST RESULTS/PLOTS.....13

**6. RF OUTPUT POWER.....14**  
 6.1 STANDARD APPLICABLE .....14  
 6.2 TEST SETUP BLOCK DIAGRAM .....14  
 6.3 TEST PROCEDURE .....14  
 6.4 SUMMARY OF TEST RESULTS/PLOTS.....14

**7. FIELD STRENGTH OF SPURIOUS EMISSIONS.....15**  
 7.1 STANDARD APPLICABLE .....15  
 7.2 TEST PROCEDURE .....15  
 7.3 CORRECTED AMPLITUDE & MARGIN CALCULATION.....17  
 7.4 SUMMARY OF TEST RESULTS/PLOTS.....17

**8. OUT OF BAND EMISSIONS.....24**  
 8.1 STANDARD APPLICABLE .....24  
 8.2 TEST PROCEDURE .....24  
 8.3 SUMMARY OF TEST RESULTS/PLOTS.....25

**9. CONDUCTED EMISSIONS .....50**  
 9.1 TEST PROCEDURE .....50  
 9.2 BASIC TEST SETUP BLOCK DIAGRAM .....50  
 9.3 TEST RECEIVER SETUP .....50  
 9.4 SUMMARY OF TEST RESULTS/PLOTS.....50

**APPENDIX SUMMARY .....51**

**APPENDIX A.....52**

**APPENDIX B.....65**

**APPENDIX C.....78**

**APPENDIX D.....91**

**APPENDIX PHOTOGRAPHS.....116**

**Report version**

Version No.	Date of issue	Description
Rev.00	2023-08-03	Original
/	/	/

# 1. GENERAL INFORMATION

---

## 1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Wi-Fi Tri-band 2x2 MIMO DBS 802.11ax + Bluetooth 5.2 Module
Trade Name:	OFLYCOMM
Model No.:	O2066PM
Adding Model:	/
Rated Voltage:	DC3.3V
Battery Capacity:	/
Power Adapter:	/
<i>Note: The test data is gathered from a production sample provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n, 802.11ax
Frequency Range:	2412-2462MHz for 802.11b/g/n/ax(HT20/HE20) 2422-2452MHz for 802.11n/ax(HT40/HE40)
RF Output Power:	Antenna 1:15.41dBm (Conducted) Antenna 2:15.36dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM, 1024QAM
Quantity of Channels:	11 for 802.11b/g/n/ax(HT20/HE20); 7 for 802.11n/ax(HT40/HE40)
Channel Separation:	5MHz
Type of Antenna:	FPC Antenna
Antenna Gain:	3.0dBi

## 1.2 Test Standards

The tests were performed according to following standards:

**FCC Rules Part 15.247:** Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.

**558074 D01 15.247 Meas Guidance v05r02:** Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under section 15.247 of the Fcc rules.

**662911 D01 Multiple Transmitter Output v02r01:** Emissions Testing of Transmitters with Multiple Outputs in the Same Band.

**ANSI C63.10-2013:** American National Standard for Testing Unlicensed Wireless Devices.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

## 1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 662911 D01 Multiple Transmitter Output v02r01.

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

## 1.4 Test Facility

### Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

### FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

### Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A and the CAB identifier is CN0057.

## 1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, with a duty cycle equal to 100%, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11b	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM2	802.11g	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM3	802.11n-HT20	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM4	802.11n-HT40	Low:2422MHz, Middle:2437MHz,High:2452MHz
TM5	802.11ax-HT20	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM6	802.11ax-HT40	Low:2422MHz, Middle:2437MHz,High:2452MHz

Note: 1. This device support Partial and Full Resource Units (RU), only the worst case of Full RU test data was recorded in this report.

2. The 2.4GHz WIFI has two antennas and support Multiple Outputs for 802.11n/ax mode for this report; Antenna 1 Gain is 3.0dBi; Antenna 2 Gain is 3.0dBi; For this function is belong to Correlated Categorization equipment, According to KDB 662911, for same directional gain.

Directional gain =  $G_{ANT} + 10 \log(N_{ANT})$  dBi =  $3.0 + 10 \log(2)$  dBi = 6.0dBi

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	45~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

## 1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.42\text{dB}$
Occupied Bandwidth	Conducted	$\pm 1.5\%$
Power Spectral Density	Conducted	$\pm 1.8\text{dB}$
Conducted Spurious Emission	Conducted	$\pm 2.17\text{dB}$
Conducted Emissions	Conducted	9-150kHz $\pm 3.74\text{dB}$
		0.15-30MHz $\pm 3.34\text{dB}$
Transmitter Spurious Emissions	Radiated	30-200MHz $\pm 4.52\text{dB}$
		0.2-1GHz $\pm 5.56\text{dB}$
		1-6GHz $\pm 3.84\text{dB}$
		6-26GHz $\pm 3.92\text{dB}$

**1.7 Test Equipment List and Details**

Fixed asset Number	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
WTXE1041A 1001	Communication Tester	Rohde & Schwarz	CMW500	148650	2023-02-25	2024-02-24
WTXE1005A 1005	Spectrum Analyzer	Agilent	N9020A	US471401 02	2023-02-25	2024-02-24
WTXE1084A 1001	Spectrum Analyzer	Agilent	N9020A	MY543205 48	2023-02-25	2024-02-24
WTXE1004A 1-001	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber A: Below 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2023-02-25	2024-02-24
WTXE1007A 1001	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/00 5	2023-02-25	2024-02-24
WTXE1007A 1001	Amplifier	HP	8447F	2805A034 75	2023-02-25	2024-02-24
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
WTXE1010A 1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2023-03-20	2026-03-19
<input type="checkbox"/> Chamber A: Above 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2023-02-25	2024-02-24
WTXE1007A 1001	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/00 5	2023-02-25	2024-02-24
WTXE1065A 1001	Amplifier	C&D	PAP-1G18	14918	2023-02-25	2024-02-24
WTXE1010A 1005	Horn Antenna	ETS	3117	00086197	2021-03-19	2024-03-18
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2021-03-19	2024-03-18
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber B:Below 1GHz						
WTXE1010A 1006	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2024-04-08
WTXE1038A 1001	Amplifier	Agilent	8447D	2944A101 79	2023-02-25	2024-02-24



WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Chamber C:Below 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
WTXE1010A 1013-1	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2024-05-27
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
WTXE1007A 1002	Amplifier	HP	8447F	2944A038 69	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Chamber C: Above 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
WTXE1103A 1005	Horn Antenna	POAM	RTF-11A	LP228060 221	2023-03-10	2026-03-09
WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Conducted Room 1#						
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2023-02-25	2024-02-24
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2023-02-25	2024-02-24
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-224	2023-02-25	2024-02-24
<input type="checkbox"/> Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2023-02-25	2024-02-24
WTXE1003A 1003	LISN	Rohde & Schwarz	ENV 216	100097	2023-02-25	2024-02-24

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

\*Remark: indicates software version used in the compliance certification testing.

## 2. SUMMARY OF TEST RESULTS

---

<b>FCC Rules</b>	<b>Description of Test Item</b>	<b>Result</b>
§15.203; §15.247(b)(4)(i)	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	Compliant
§15.207(a)	Conducted Emission	N/A
§15.247(e)	Power Spectral Density	Compliant
§15.247(a)(2)	DTS Bandwidth	Compliant
§15.247(b)(3)	RF Output Power	Compliant
§15.209(a)	Radiated Emission	Compliant
§15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: Not applicable.

### **3. Antenna Requirement**

---

#### **3.1 Standard Applicable**

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

#### **3.2 Evaluation Information**

This product has two FPC Antennas, fulfill the requirement of this section.

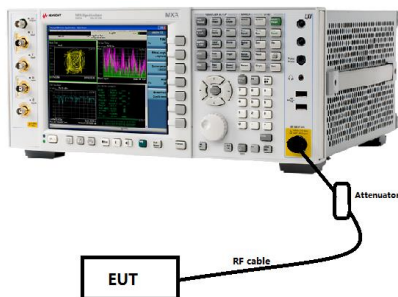
## 4. Power Spectral Density

---

### 4.1 Standard Applicable

According to 15.247(a)(1)(iii), 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.

### 4.2 Test Setup Block Diagram



### 4.3 Test Procedure

According to the KDB 558074 D01 v05r02 Subclause 8.4 and ANSI C63.10-2013 Subclause 11.10.3, such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. The test method of power spectral density as below:

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set span to at least 1.5 times the OBW.
- c) Set RBW to:  $3\text{kHz} \leq \text{RBW} \leq 100\text{kHz}$ .
- d) Set VBW  $\geq 3 \times \text{RBW}$ .
- e) Detector = power averaging (RMS) or sample detector (when RMS not available).
- f) Ensure that the number of measurement points in the sweep  $\geq 2 \times \text{span}/\text{RBW}$ .
- g) Sweep time = auto couple.
- h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
- i) Use the peak marker function to determine the maximum amplitude level.
- j) If measured value exceeds limit, reduce RBW (no less than 3kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span in order to meet the minimum measurement point requirement as the RBW is reduced).

### 4.4 Summary of Test Results/Plots

Please refer to Appendix A

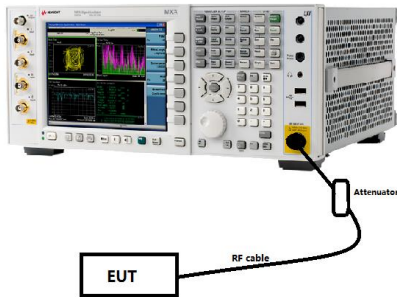
## 5. DTS Bandwidth

---

### 5.1 Standard Applicable

According to 15.247(a)(2), systems using digital modulation techniques may operate in the 902–928MHz, 2400–2483.5MHz, and 5725–5850MHz bands. The minimum 6dB bandwidth shall be at least 500kHz.

### 5.2 Test Setup Block Diagram



### 5.3 Test Procedure

According to the KDB 558074 D01 v05r02 Subclause 8.2 and ANSI C63.10-2013 Subclause 11.8.1, the test method of DTS Bandwidth as below:

- a) Set RBW = 100kHz.
- b) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.

### 5.4 Summary of Test Results/Plots

Please refer to Appendix B

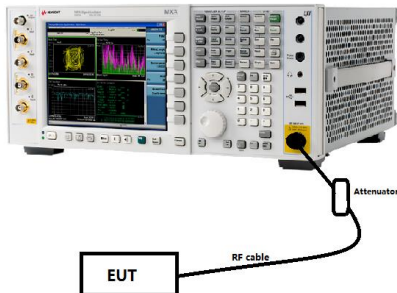
## 6. RF Output Power

---

### 6.1 Standard Applicable

According to 15.247(b)(3), for systems using digital modulation in the 902–928MHz, 2400–2483.5MHz, and 5725–5850MHz bands: 1 Watt.

### 6.2 Test Setup Block Diagram



### 6.3 Test Procedure

According to the KDB-558074 D01 v05r02 Subclause 8.3.2.2 and ANSI C63.10-2013 Subclause 11.9.2.2, when this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth

- a) Set span to at least 1.5 times the OBW.
- b) Set RBW = 1-5% of the OBW, not to exceed 1MHz.
- c) Set VBW  $\geq 3 \times$  RBW.
- d) Number of points in sweep  $\geq 2 \times$  span / RBW. (This gives bin-to-bin spacing  $\leq$  RBW/2, so that narrowband signals are not lost between frequency bins.)
- e) Sweep time = auto.
- f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- g) If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle  $\geq 98$  %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
- h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- i) Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

### 6.4 Summary of Test Results/Plots

Please refer to Appendix C

## 7. Field Strength of Spurious Emissions

### 7.1 Standard Applicable

According to §15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

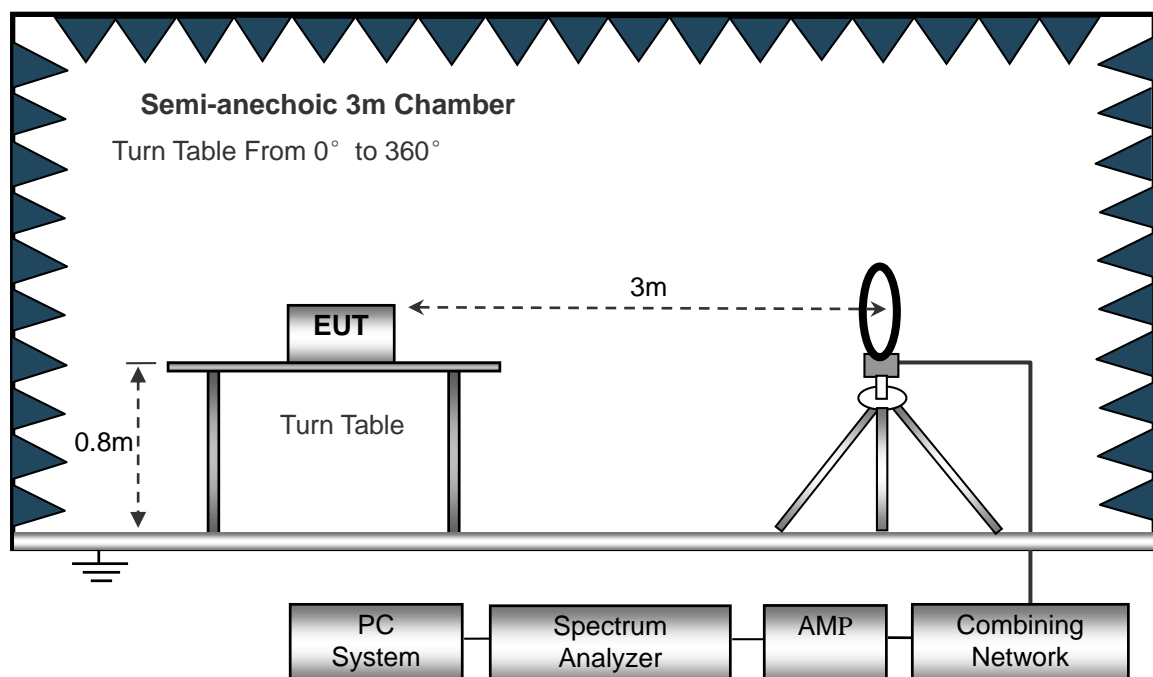
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

### 7.2 Test Procedure

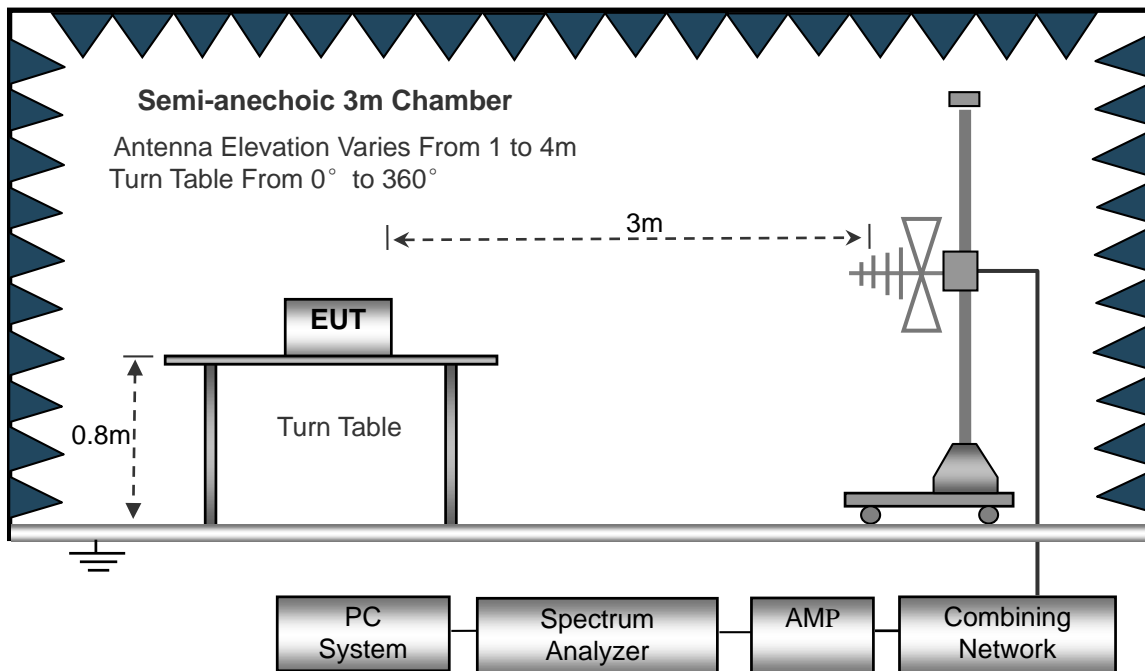
The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

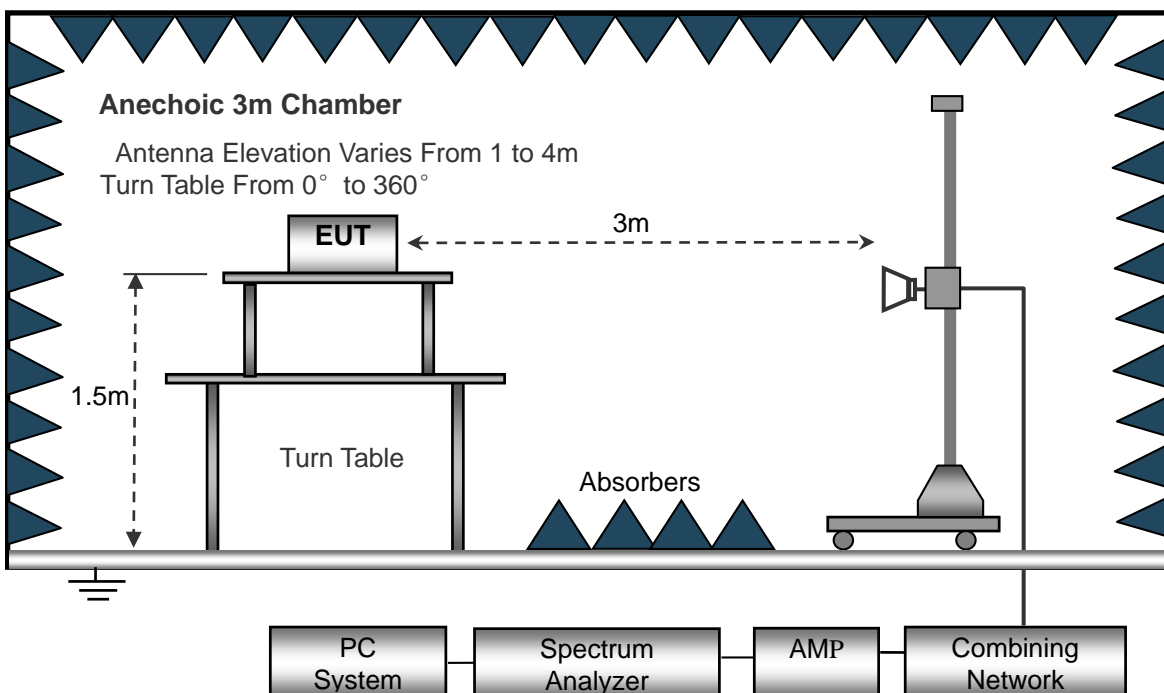
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30MHz to 1GHz.



The test setup for emission measurement above 1GHz.





Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

### 7.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB $\mu$ V means the emission is 6dB $\mu$ V below the maximum limit. The equation for margin calculation is as follows:

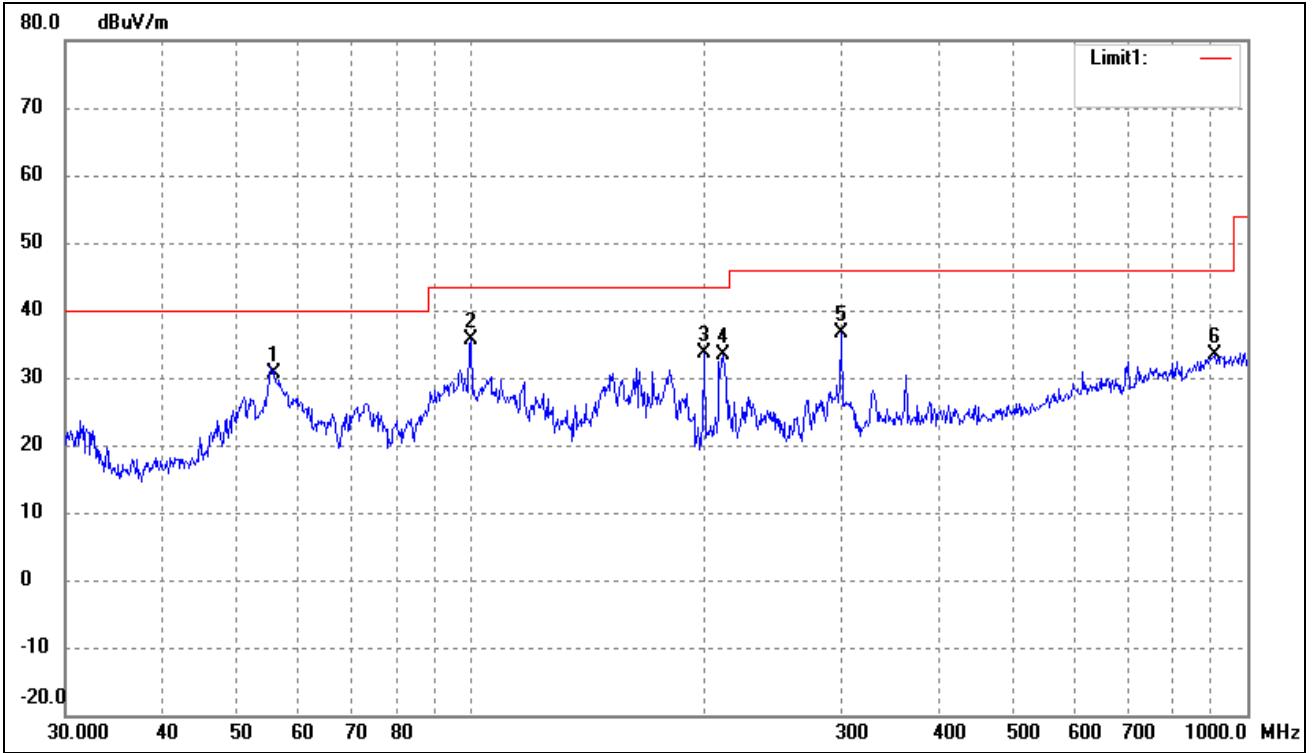
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

### 7.4 Summary of Test Results/Plots

*Note: 1. This EUT was tested in 3 orthogonal positions and the worst case position data was reported. All test modes (different data rate and different modulation) are performed, but only the worst case (802.11b\_11Mbps) is recorded in this report.*

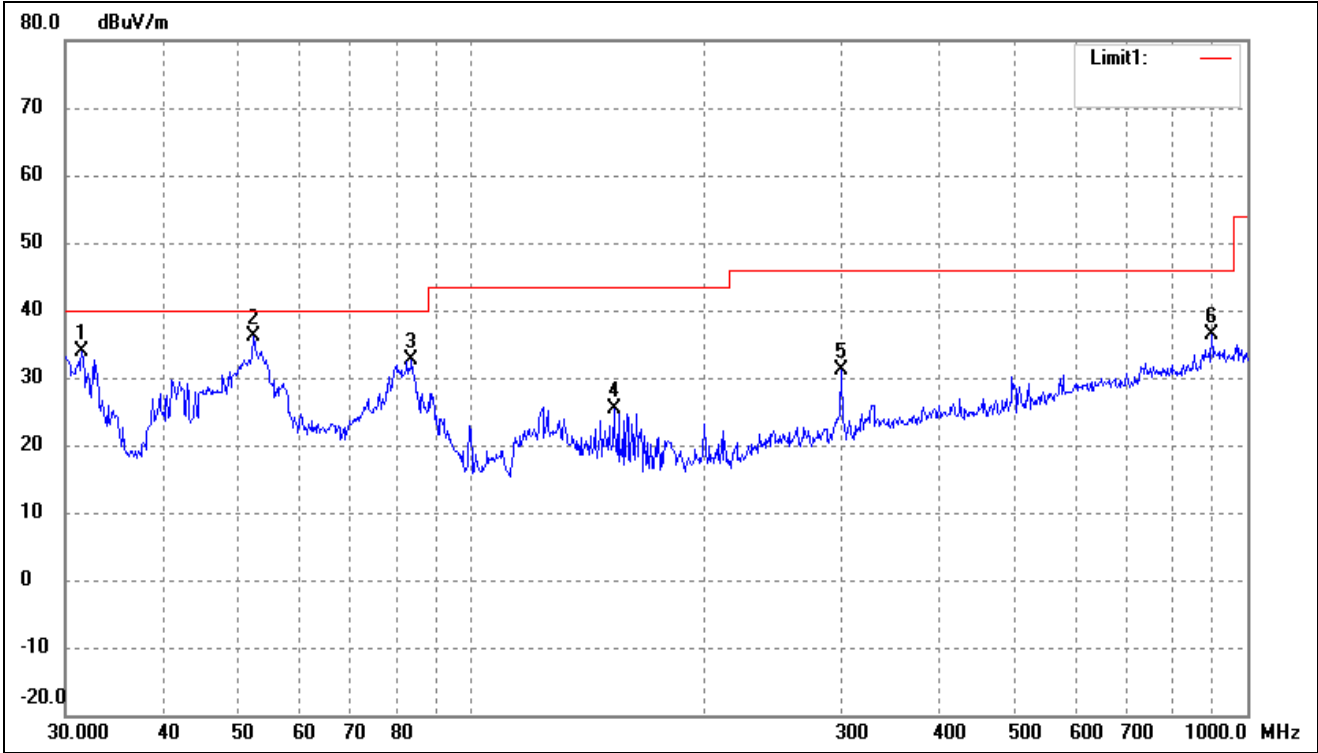
- Spurious Emissions Below 1GHz
- Antenna 1

802.11b_11Mbps			
Test Channel	Low(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (-)	Height (cm)	Remark
1	55.8047	38.31	-7.72	30.59	40.00	-9.41	-	-	peak
2	99.8777	44.33	-8.63	35.70	43.50	-7.80	-	-	peak
3	199.9856	41.55	-8.01	33.54	43.50	-9.96	-	-	peak
4	210.7860	41.39	-8.11	33.28	43.50	-10.22	-	-	peak
5	299.3158	41.29	-4.72	36.57	46.00	-9.43	-	-	peak
6	909.6667	27.16	6.18	33.34	46.00	-12.66	-	-	peak

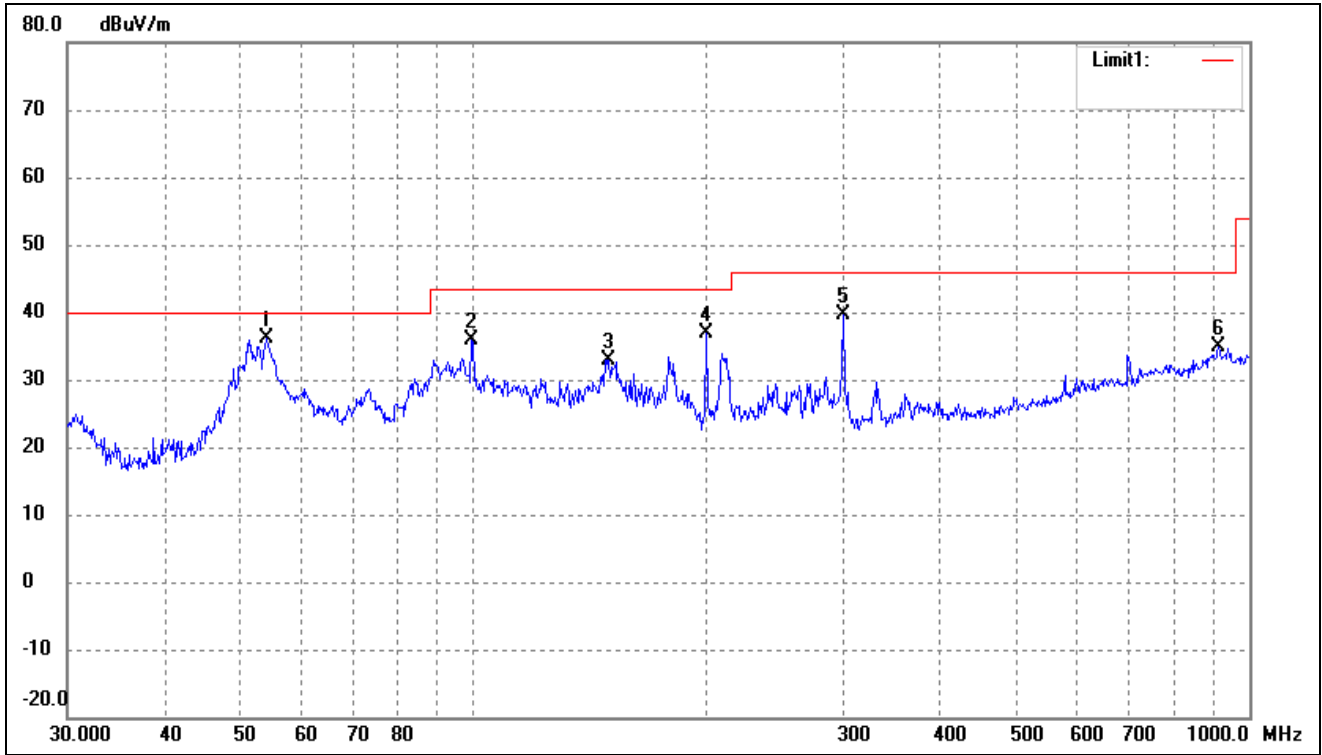
802.11b_11Mbps			
Test Channel	Low(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	31.5095	44.47	-10.60	33.87	40.00	-6.13			peak
2	52.3913	43.60	-7.41	36.19	40.00	-3.81			peak
3	83.8156	44.96	-12.33	32.63	40.00	-7.37			peak
4	152.6641	37.08	-11.63	25.45	43.50	-18.05			peak
5	299.3158	35.96	-4.72	31.24	46.00	-14.76			peak
6	900.1474	30.23	6.07	36.30	46.00	-9.70			peak

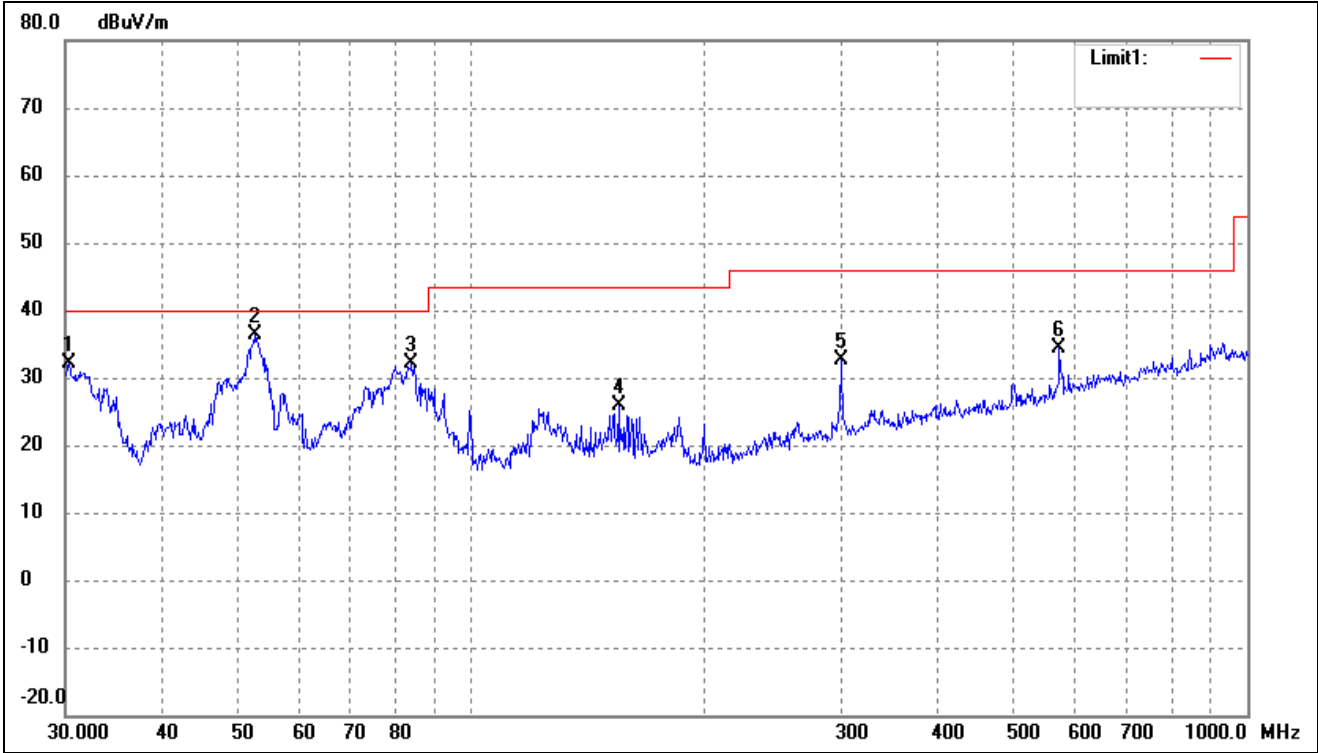
➤ Antenna 2

802.11b_11Mbps			
Test Channel	Low(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	54.0711	43.54	-7.52	36.02	40.00	-3.98			peak
2	99.5281	44.53	-8.66	35.87	43.50	-7.63			peak
3	149.4857	44.69	-11.74	32.95	43.50	-10.55			peak
4	199.9856	44.85	-8.01	36.84	43.50	-6.66			peak
5	299.3158	44.45	-4.72	39.73	46.00	-6.27			peak
6	912.8620	28.68	6.22	34.90	46.00	-11.10			peak

802.11b_11Mbps			
Test Channel	Low(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	30.3173	42.93	-10.76	32.17	40.00	-7.83			peak
2	52.5753	43.71	-7.42	36.29	40.00	-3.71			peak
3	83.8156	44.53	-12.33	32.20	40.00	-7.80			peak
4	154.8205	37.53	-11.53	26.00	43.50	-17.50			peak
5	299.3158	37.45	-4.72	32.73	46.00	-13.27			peak
6	572.6144	34.22	0.24	34.46	46.00	-11.54			peak

Remark: '-'Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

- Spurious Emissions Above 1GHz
- Test Mode: 802.11b\_11Mbps
- Antenna 1

Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2412MHz							
4824.000	51.36	-2.83	48.53	74.00	-25.47	H	PK
7236.000	50.86	2.83	53.69	74.00	-20.31	H	PK
4824.000	51.28	-2.83	48.45	74.00	-25.55	V	PK
7236.000	52.33	2.83	55.16	74.00	-18.84	V	PK
Middle Channel-2437MHz							
4780.854	54.16	-2.91	51.25	74.00	-22.75	H	PK
7311.000	51.97	3.09	55.06	74.00	-18.94	H	PK
4793.132	53.93	-2.89	51.04	74.00	-22.96	V	PK
7311.000	50.81	3.09	53.90	74.00	-20.10	V	PK
High Channel-2462MHz							
4924.000	50.36	-2.64	47.72	74.00	-26.28	H	PK
7386.000	49.33	3.36	52.69	74.00	-21.31	H	PK
4924.000	50.36	-2.64	47.72	74.00	-26.28	V	PK
7386.000	50.31	3.36	53.67	74.00	-20.33	V	PK

## ➤ Antenna 2

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824.000	51.42	-2.83	48.59	74.00	-25.41	H	PK
7236.000	51.06	2.83	53.89	74.00	-20.11	H	PK
4793.132	53.59	-2.89	50.70	74.00	-23.30	V	PK
7236.000	52.33	2.83	55.16	74.00	-18.84	V	PK
Middle Channel-2437MHz							
4874.000	50.97	-2.73	48.24	74.00	-25.76	H	PK
7311.000	50.03	3.09	53.12	74.00	-20.88	H	PK
4874.000	50.90	-2.73	48.17	74.00	-25.83	V	PK
7311.000	49.90	3.09	52.99	74.00	-21.01	V	PK
High Channel-2462MHz							
4805.442	54.84	-2.85	51.99	74.00	-22.01	H	PK
7386.000	49.62	3.36	52.98	74.00	-21.02	H	PK
4924.000	49.97	-2.64	47.33	74.00	-26.67	V	PK
7386.000	49.62	3.36	52.98	74.00	-21.02	V	PK

*Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*

## 8. Out of Band Emissions

---

### 8.1 Standard Applicable

According to §15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

### 8.2 Test Procedure

According to the KDB 558074D01 v05r02 Subclause 8.4 and ANSI C63.10-2013 Subclause 11.11, the Emissions in nonrestricted frequency bands test method as follows:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100kHz.
- c) Set the VBW  $\geq [3 \times \text{RBW}]$ .
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

According to the KDB 558074 D01 v05r02 Subclause 8.5 and ANSI C63.10-2013 Subclause 11.12, the Emissions in restricted frequency bands test method as follows:

#### A. Radiated emission measurements:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)

RBW = 1MHz, VBW = 1MHz for peak value measured

RBW = 1MHz, VBW = 10Hz for average value measured

Sweep = auto; Detector function = peak/average; Trace = max hold

All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission



must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement KDB publication number: 913591 may be used for the radiated bandedge measurements.

**B. Antenna-port conducted measurements**

Peak emission levels are measured by setting the instrument as follows:

- a) RBW = as specified in Table 9.
- b) VBW  $\geq [3 \times \text{RBW}]$ .
- c) Detector = peak.
- d) Sweep time = auto.
- e) Trace mode = max hold.
- f) Allow sweeps to continue until the trace stabilizes. (Note that the required measurement time may be lengthened for low-duty-cycle applications.)

**Table 9—RBW as a function of frequency**

Frequency	RBW
9 kHz to 150 kHz	200 Hz to 300 Hz
0.15 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1000 MHz	100 kHz to 120 kHz
>1000 MHz	1 MHz

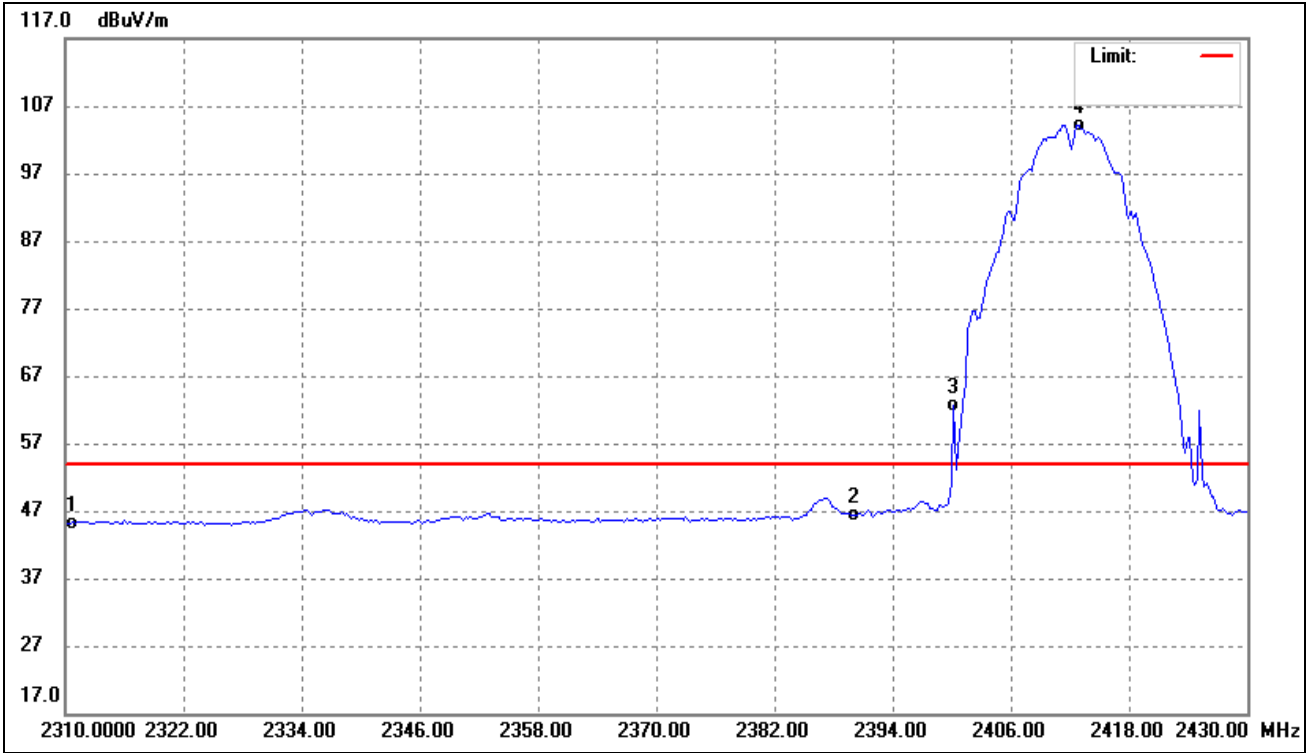
If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in section 8.1. Report the three highest emissions relative to the limit.

**8.3 Summary of Test Results/Plots**

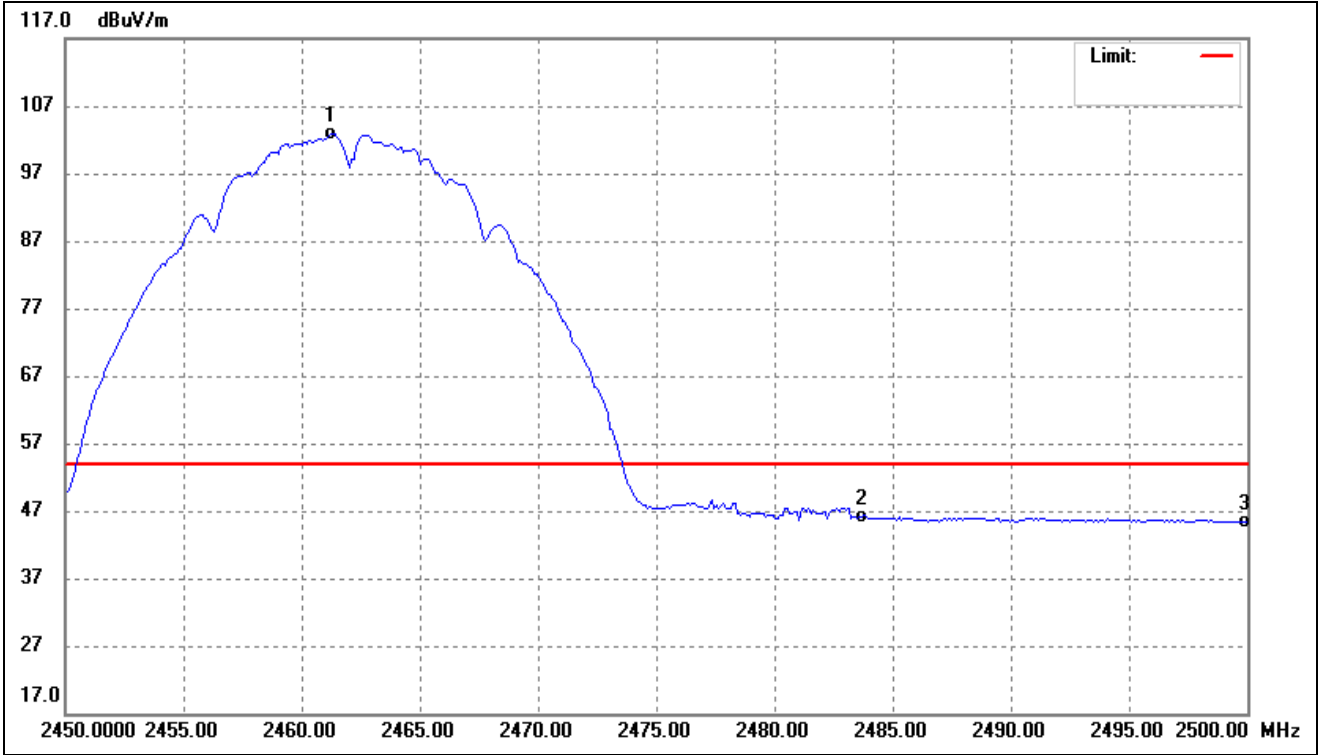
- Radiated test
- Antenna 1

802.11b_11Mbps			
Test Channel	Low	Polarity:	Horizontal(worst case)



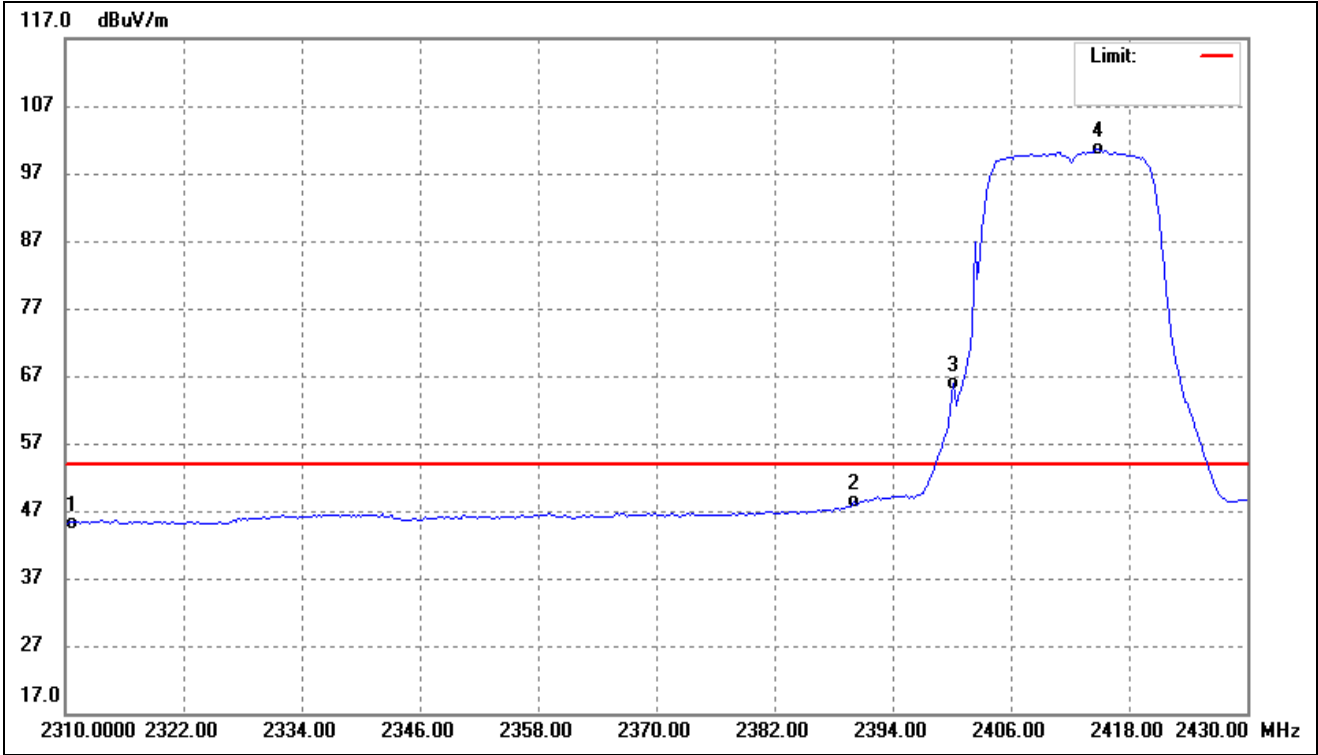
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	44.20	0.98	45.18	54.00	-8.82	Average Detector
	2310.000	57.59	0.98	58.57	74.00	-15.43	Peak Detector
2	2390.000	45.32	1.13	46.45	54.00	-7.55	Average Detector
	2390.000	56.43	1.13	57.56	74.00	-16.44	Peak Detector
3	2400.000	61.44	1.15	62.59	Delta=41.57dBc		Average Detector
4	2412.926	102.98	1.18	104.16		Average Detector	

802.11b_11Mbps			
Test Channel	High	Polarity:	Horizontal(worst case)



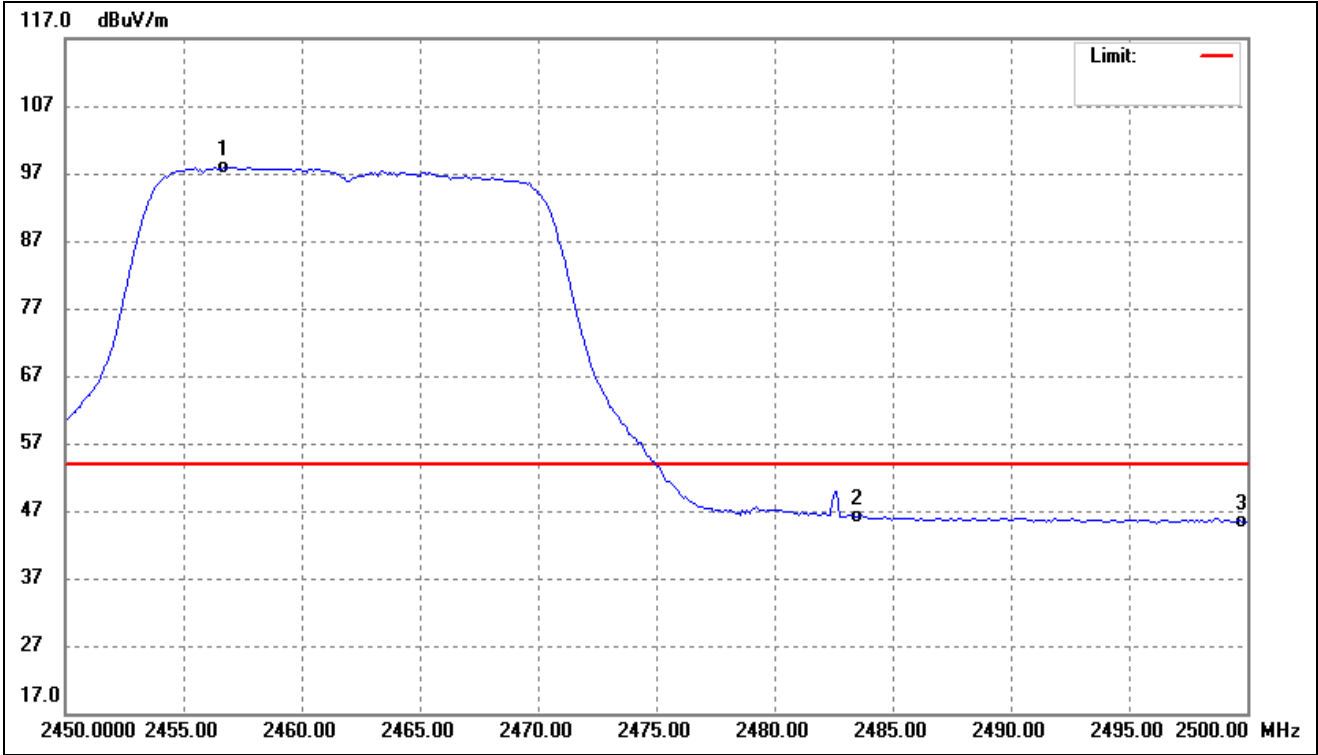
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.222	101.67	1.27	102.94	/	/	Average Detector
	2460.421	106.91	1.27	108.18	/	/	Peak Detector
2	2483.500	44.71	1.32	46.03	54.00	-7.97	Average Detector
	2483.500	56.44	1.32	57.76	74.00	-16.24	Peak Detector
3	2500.000	44.05	1.35	45.40	54.00	-8.60	Average Detector
	2500.000	56.51	1.35	57.86	74.00	-16.14	Peak Detector

802.11g_54Mbps			
Test Channel	Low	Polarity:	Horizontal(worst case)



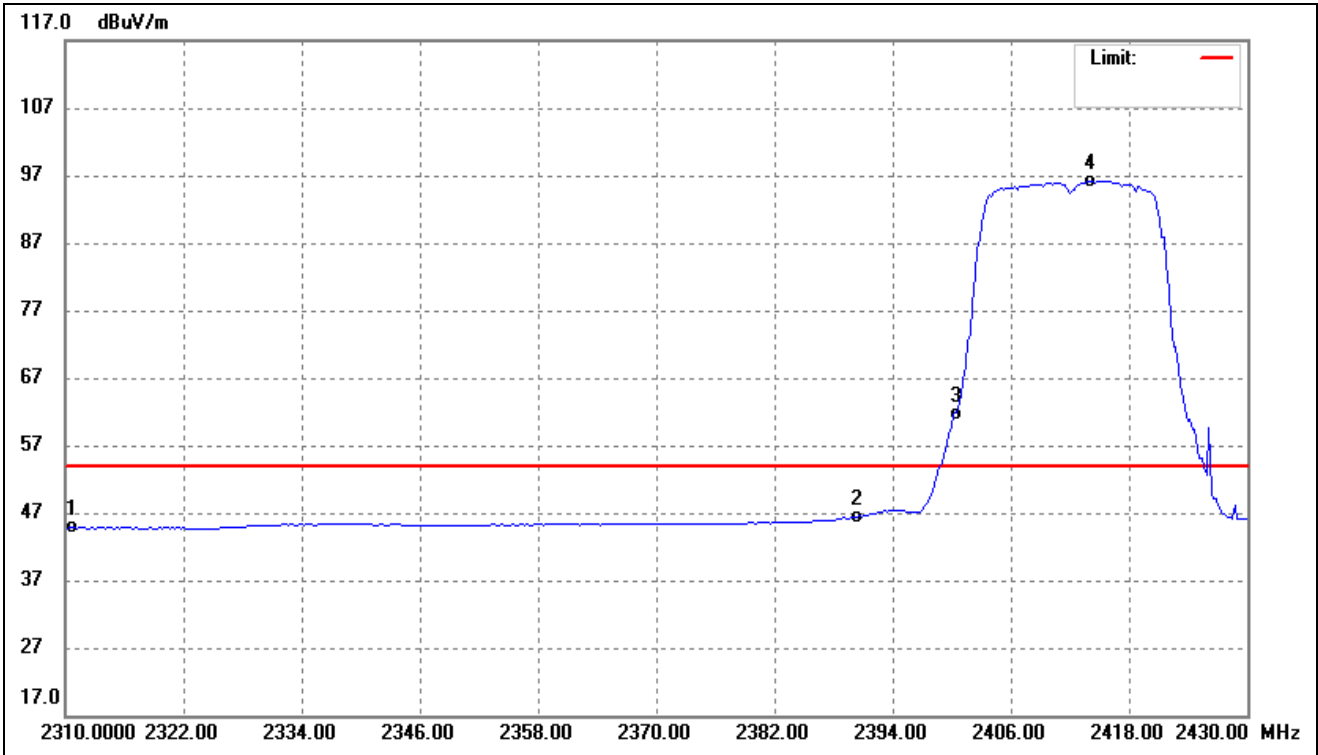
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	44.11	0.98	45.09	54.00	-8.91	Average Detector
		56.57	0.98	57.55			74.00
2	2390.000	47.14	1.13	48.27	54.00	-5.73	Average Detector
		59.27	1.13	60.40			74.00
3	2400.000	64.69	1.15	65.84	Delta=34.73dBc		Average Detector
4	2414.850	99.39	1.18	100.57			Average Detector

802.11g_54Mbps			
Test Channel	High	Polarity:	Horizontal(worst case)



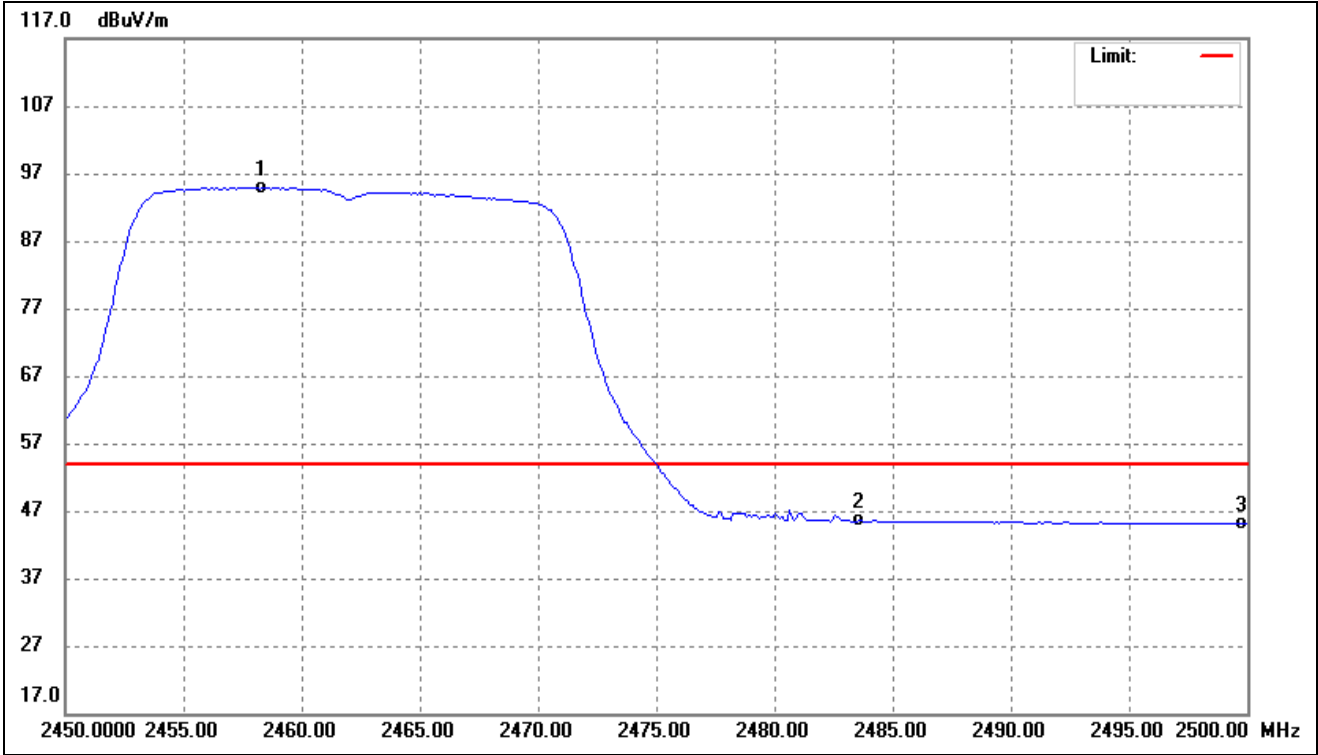
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2456.713	96.61	1.26	97.87	/	/	Average Detector
	2457.114	108.49	1.27	109.76	/	/	Peak Detector
2	2483.500	44.72	1.32	46.04	54.00	-7.96	Average Detector
	2483.500	56.18	1.32	57.50	74.00	-16.50	Peak Detector
3	2500.000	43.92	1.35	45.27	54.00	-8.73	Average Detector
	2500.000	56.90	1.35	58.25	74.00	-15.75	Peak Detector

802.11n-HT20_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



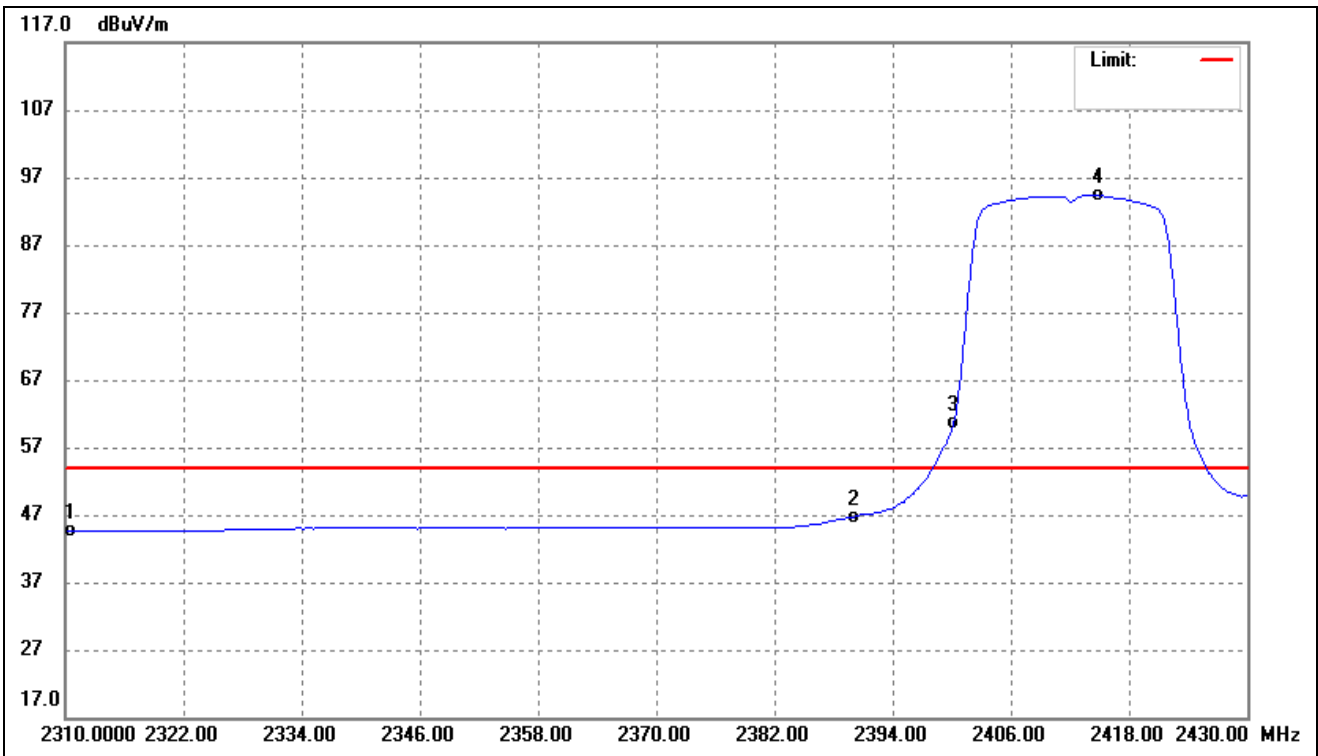
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	43.78	0.98	44.76	54.00	-9.24	Average Detector
		56.71	0.98	57.69			74.00
2	2390.000	45.26	1.13	46.39	54.00	-7.61	Average Detector
		59.09	1.13	60.22			74.00
3	2400.000	60.49	1.15	61.64	Delta=34.49dBc		Average Detector
4	2414.128	94.95	1.18	96.13			Average Detector

802.11n-HT20_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2458.317	93.63	1.27	94.90	/	/	Average Detector
	2459.820	106.88	1.27	108.15	/	/	Peak Detector
2	2483.500	44.29	1.32	45.61	54.00	-8.39	Average Detector
	2483.500	55.99	1.32	57.31	74.00	-16.69	Peak Detector
3	2500.000	43.75	1.35	45.10	54.00	-8.90	Average Detector
	2500.000	56.36	1.35	57.71	74.00	-16.29	Peak Detector

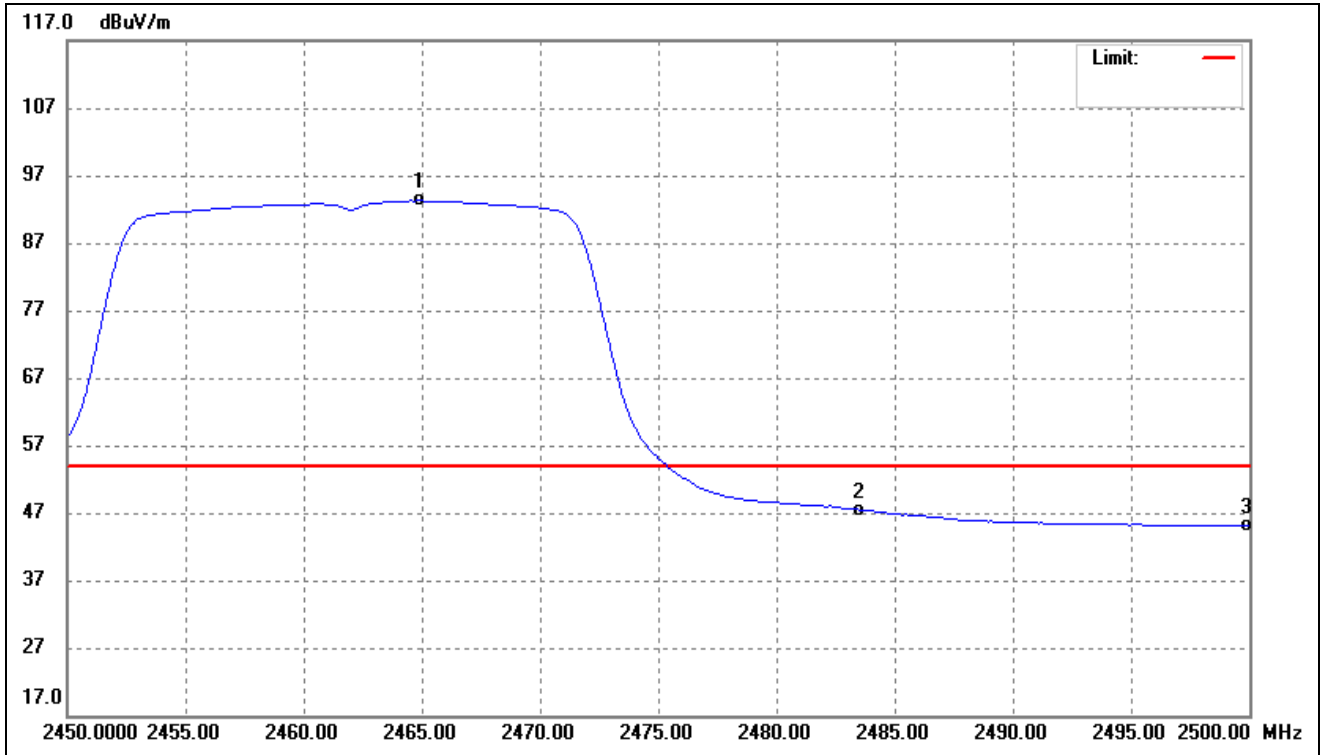
802.11ax-HT20_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	43.66	0.98	44.64	54.00	-9.36	Average Detector
	2310.000	56.55	0.98	57.53	74.00	-16.47	Peak Detector
2	2390.000	45.59	1.13	46.72	54.00	-7.28	Average Detector
	2390.000	57.59	1.13	58.72	74.00	-15.28	Peak Detector
3	2400.000	59.47	1.15	60.62	Delta=33.73dBc		Average Detector
4	2414.850	93.17	1.18	94.35			Average Detector

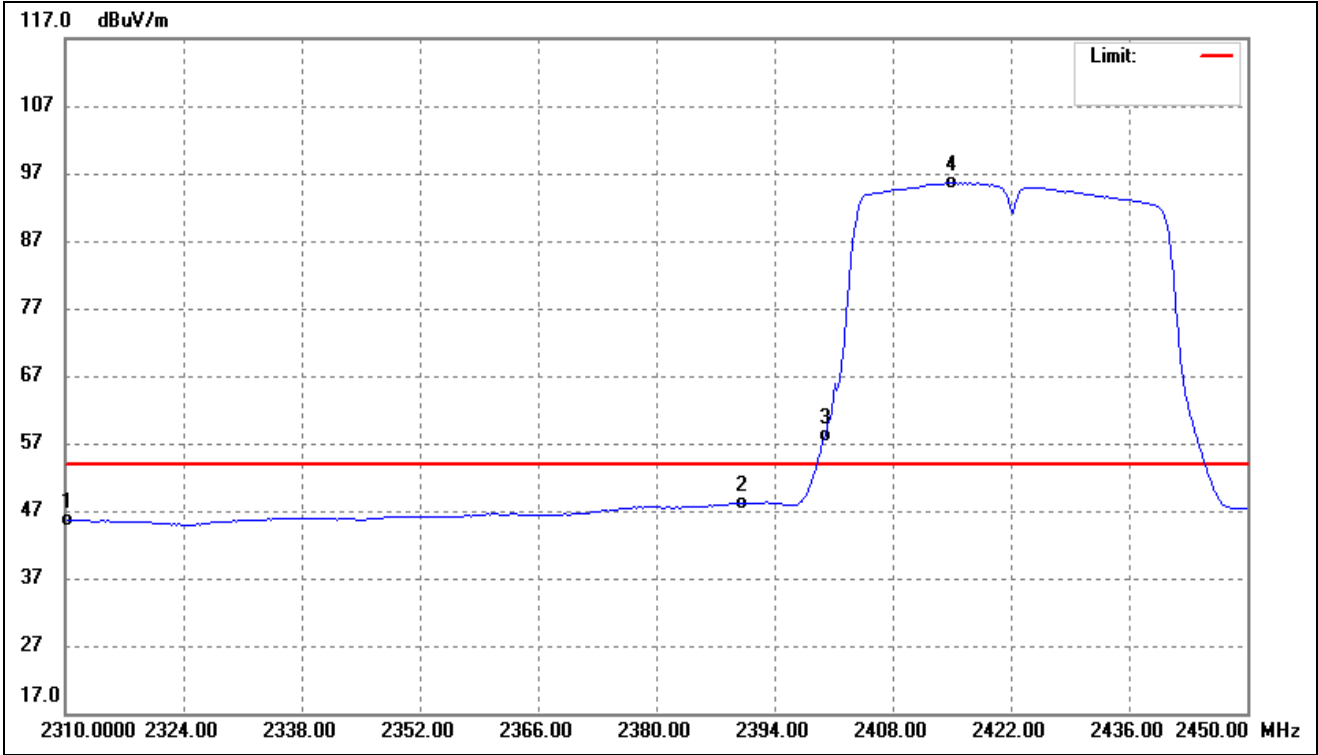


802.11ax-HT20_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



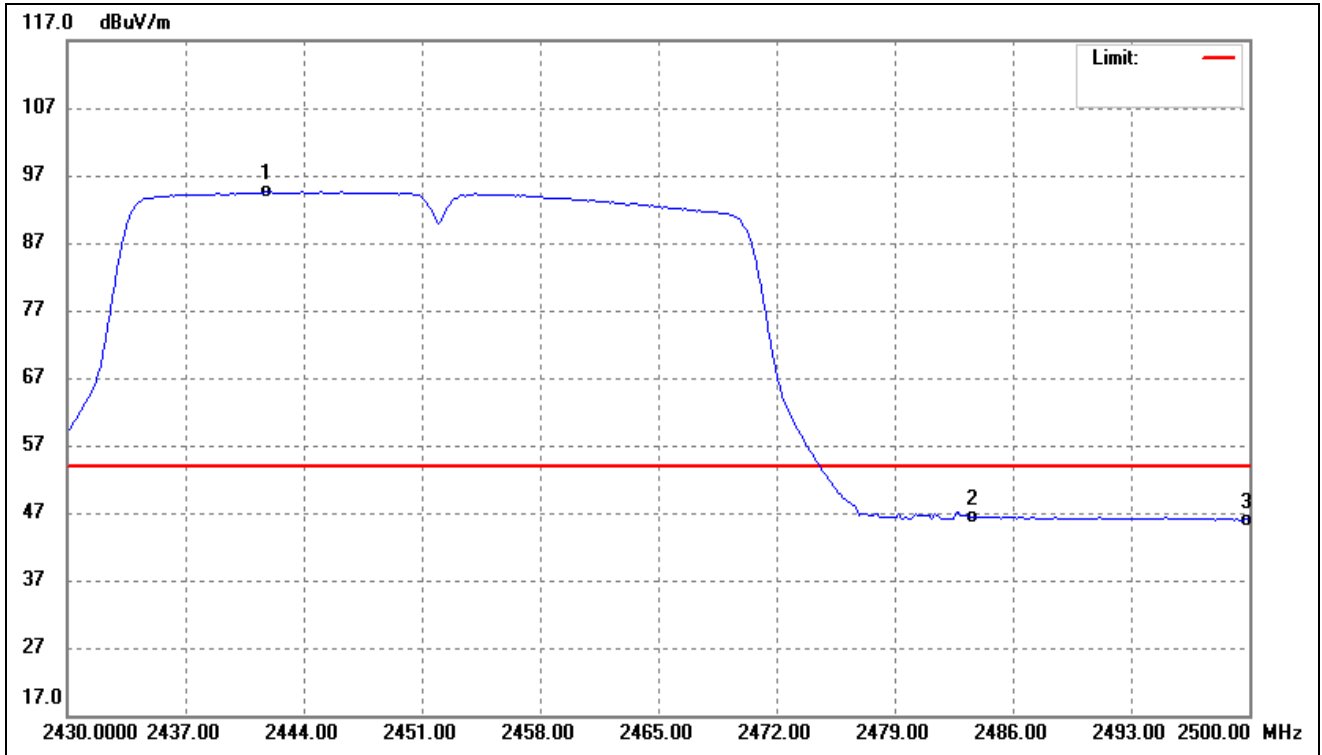
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2464.930	92.01	1.27	93.28	/	/	Average Detector
	2464.729	106.10	1.27	107.37	/	/	Peak Detector
2	2483.500	46.11	1.32	47.43	54.00	-6.57	Average Detector
	2483.500	57.13	1.32	58.45	74.00	-15.55	Peak Detector
3	2500.000	43.80	1.35	45.15	54.00	-8.85	Average Detector
	2500.000	56.68	1.35	58.03	74.00	-15.97	Peak Detector

802.11n-HT40_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



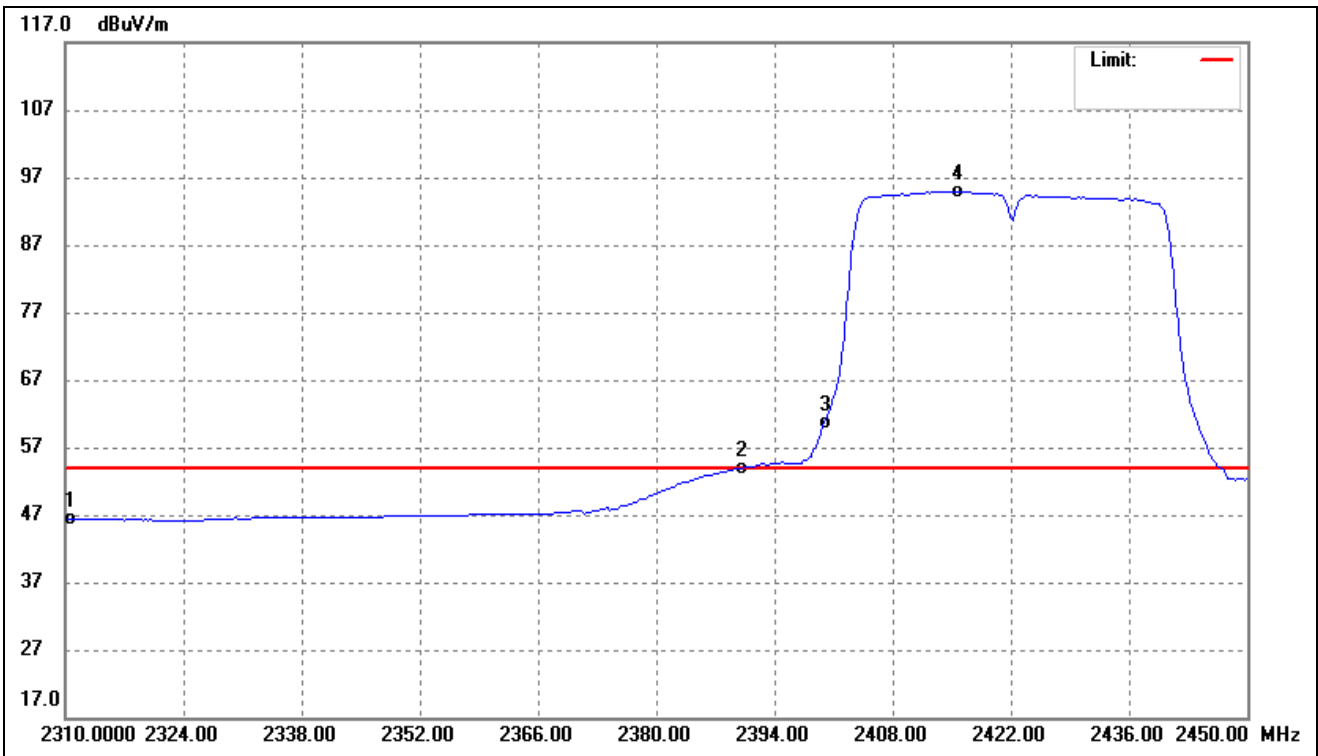
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	44.69	0.98	45.67	54.00	-8.33	Average Detector
		57.34	0.98	58.32			74.00
2	2390.000	46.99	1.13	48.12	54.00	-5.88	Average Detector
		59.64	1.13	60.77			74.00
3	2400.000	57.03	1.15	58.18	Delta=37.45dBc		Average Detector
4	2414.930	94.45	1.18	95.63			Average Detector

802.11n-HT40_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



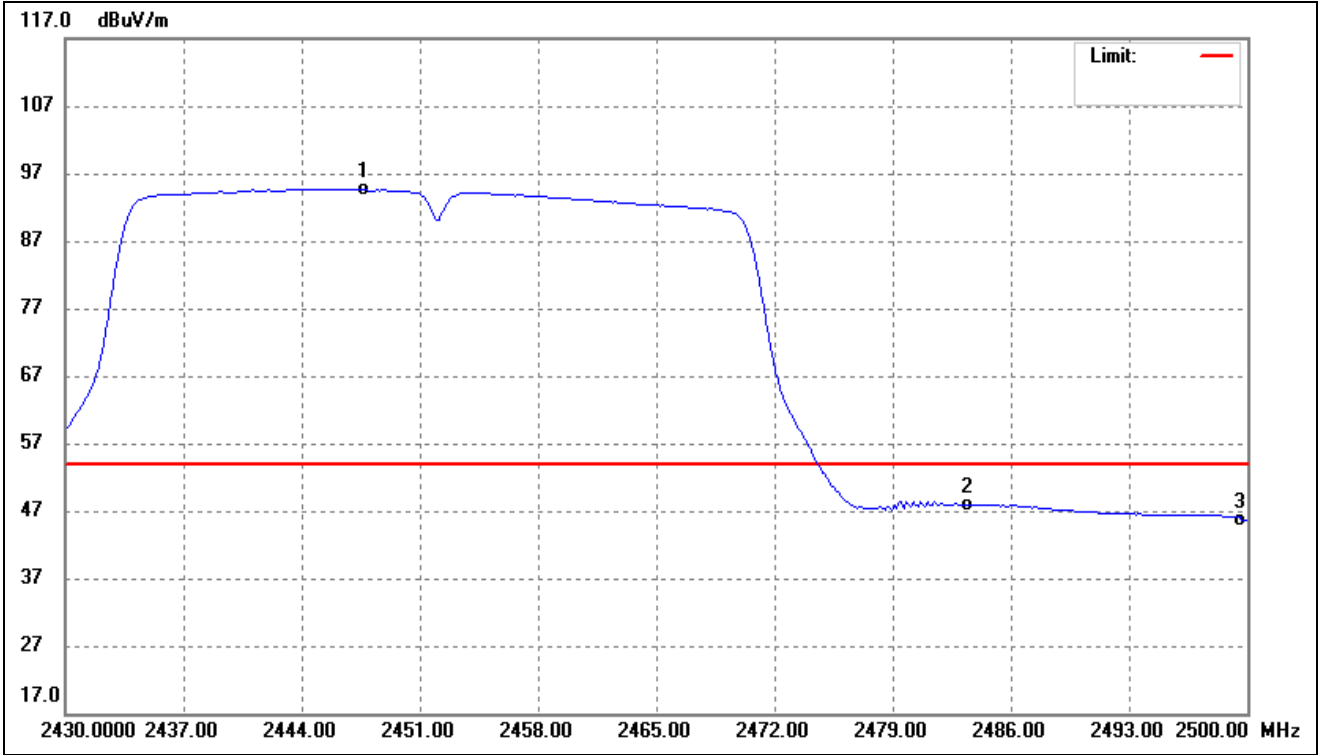
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2441.784	93.31	1.23	94.54	/	/	Average Detector
	2445.992	106.16	1.24	107.40	/	/	Peak Detector
2	2483.500	45.16	1.32	46.48	54.00	-7.52	Average Detector
	2483.500	56.52	1.32	57.84	74.00	-16.16	Peak Detector
3	2500.000	44.60	1.35	45.95	54.00	-8.05	Average Detector
	2500.000	56.32	1.35	57.67	74.00	-16.33	Peak Detector

802.11ax-HT40_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	45.30	0.98	46.28	54.00	-7.72	Average Detector
		55.50	0.98	56.48	74.00	-17.52	Peak Detector
2	2390.000	52.84	1.13	53.97	54.00	-0.03	Average Detector
		64.93	1.13	66.06	74.00	-7.94	Peak Detector
3	2400.000	59.56	1.15	60.71	Delta=34.20dBc		Average Detector
4	2415.771	93.73	1.18	94.91			Average Detector

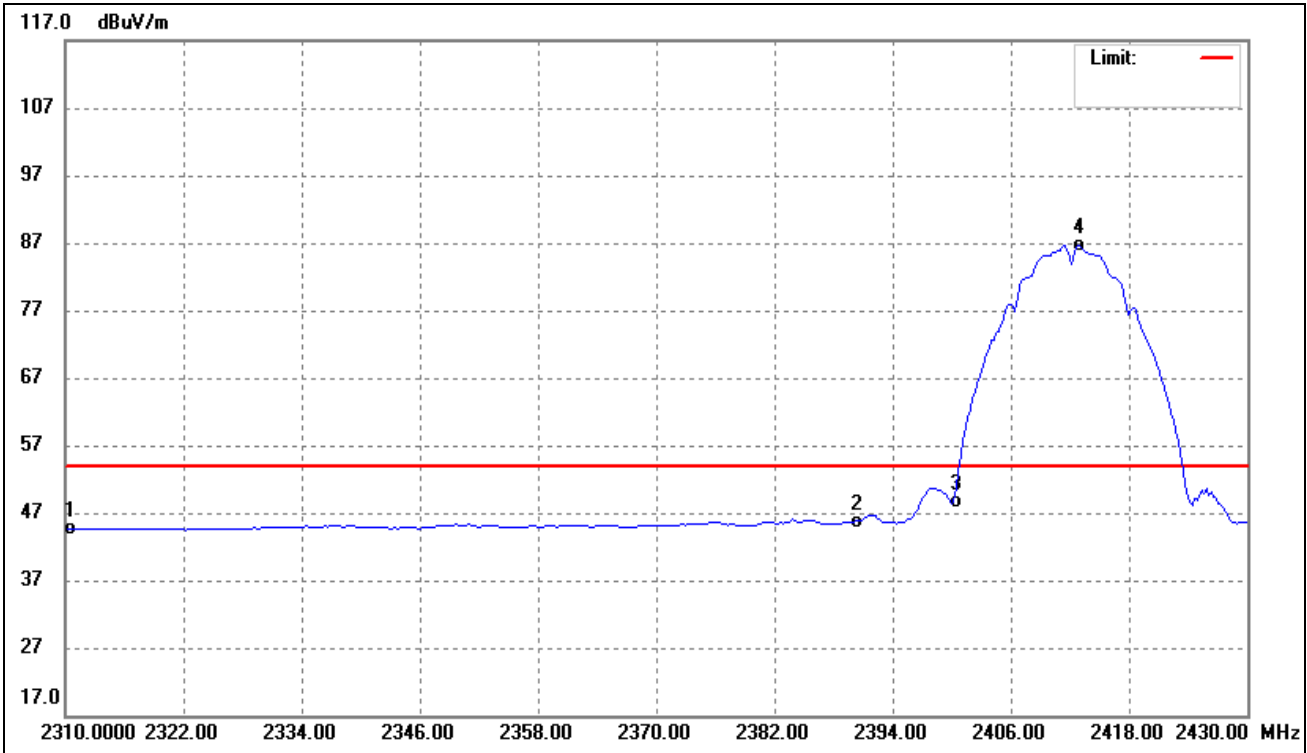
802.11ax-HT40_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2447.675	93.43	1.24	94.67	/	/	Average Detector
	2443.747	105.93	1.24	107.17	/	/	Peak Detector
2	2483.500	46.49	1.32	47.81	54.00	-6.19	Average Detector
	2483.500	58.35	1.32	59.67	74.00	-14.33	Peak Detector
3	2500.000	44.29	1.35	45.64	54.00	-8.36	Average Detector
	2500.000	56.56	1.35	57.91	74.00	-16.09	Peak Detector

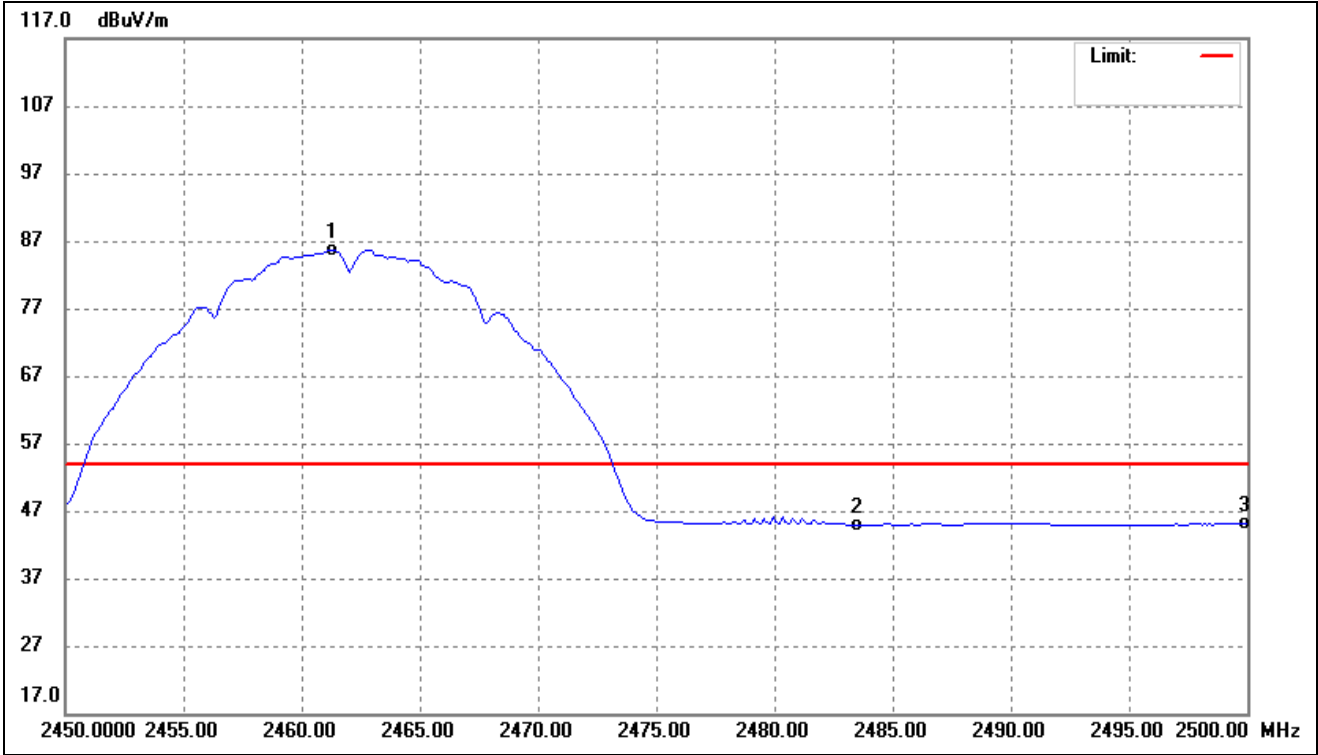
➤ Antenna 2

802.11b_11Mbps			
Test Channel	Low	Polarity:	Horizontal(worst case)



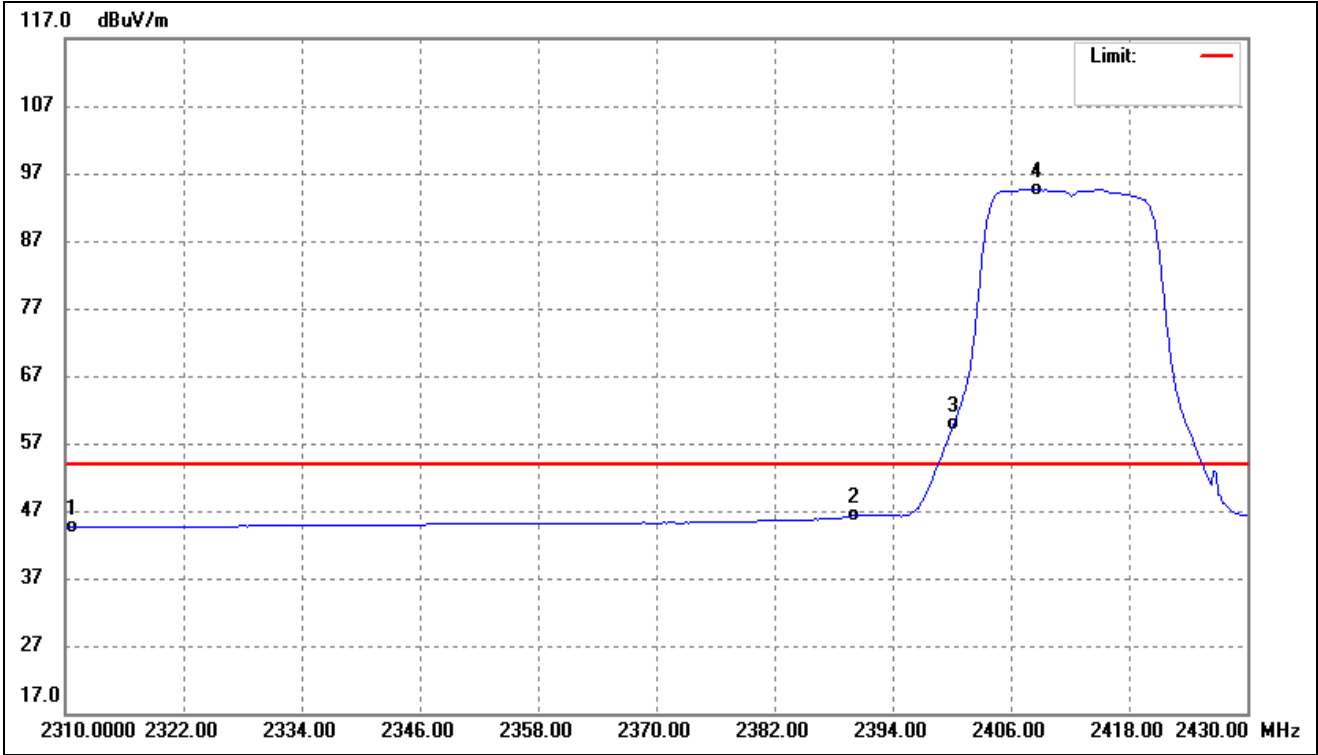
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	43.56	0.98	44.54	54.00	-9.46	Average Detector
		55.84	0.98	56.82	74.00	-17.18	Peak Detector
2	2390.000	44.54	1.13	45.67	54.00	-8.33	Average Detector
		56.94	1.13	58.07	74.00	-15.93	Peak Detector
3	2400.000	47.58	1.15	48.73	54.00	-5.27	Average Detector
		72.17	1.15	73.32	74.00	-0.68	Peak Detector
4	2412.926	85.34	1.18	86.52	/	/	Average Detector
		106.92	1.18	108.10	/	/	Peak Detector

802.11b_11Mbps			
Test Channel	High	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.323	84.47	1.27	85.74	/	/	Average Detector
	2460.922	105.73	1.27	107.00	/	/	Peak Detector
2	2483.500	43.62	1.32	44.94	54.00	-9.06	Average Detector
	2483.500	56.40	1.32	57.72	74.00	-16.28	Peak Detector
3	2500.000	43.73	1.35	45.08	54.00	-8.92	Average Detector
	2500.000	56.80	1.35	58.15	74.00	-15.85	Peak Detector

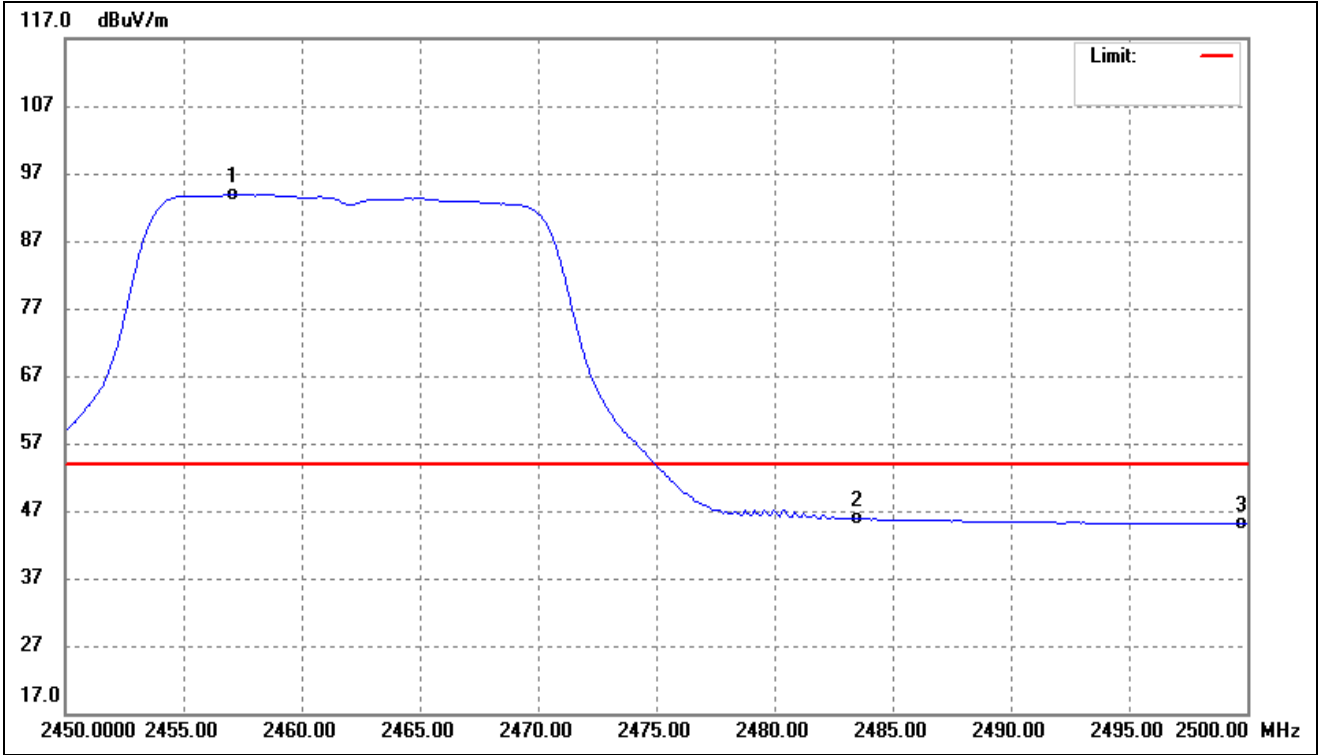
802.11g_54Mbps			
Test Channel	Low	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	43.61	0.98	44.59	54.00	-9.41	Average Detector
	2310.000	55.46	0.98	56.44	74.00	-17.56	Peak Detector
2	2390.000	45.14	1.13	46.27	54.00	-7.73	Average Detector
	2390.000	57.87	1.13	59.00	74.00	-15.00	Peak Detector
3	2400.000	58.66	1.15	59.81	Delta=34.78dBc		Average Detector
4	2408.597	93.41	1.18	94.59			Average Detector

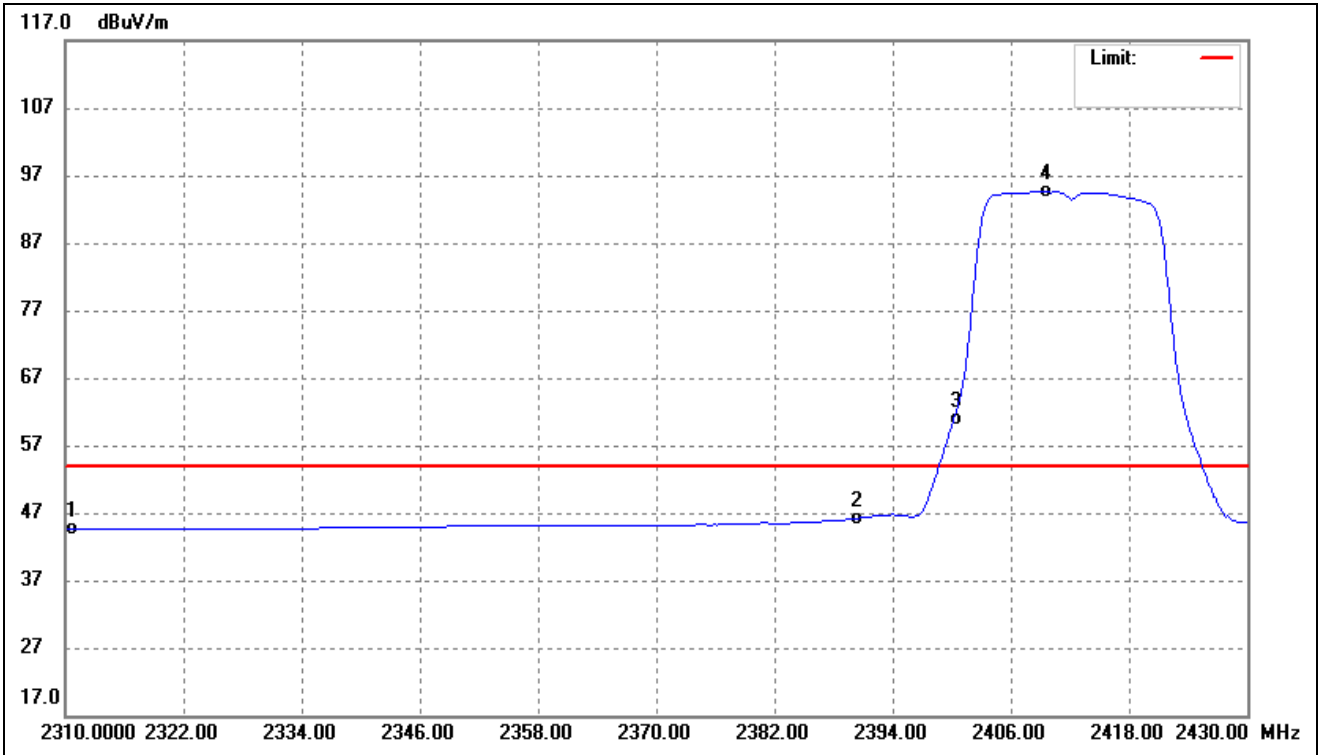


802.11g_54Mbps			
Test Channel	High	Polarity:	Horizontal(worst case)



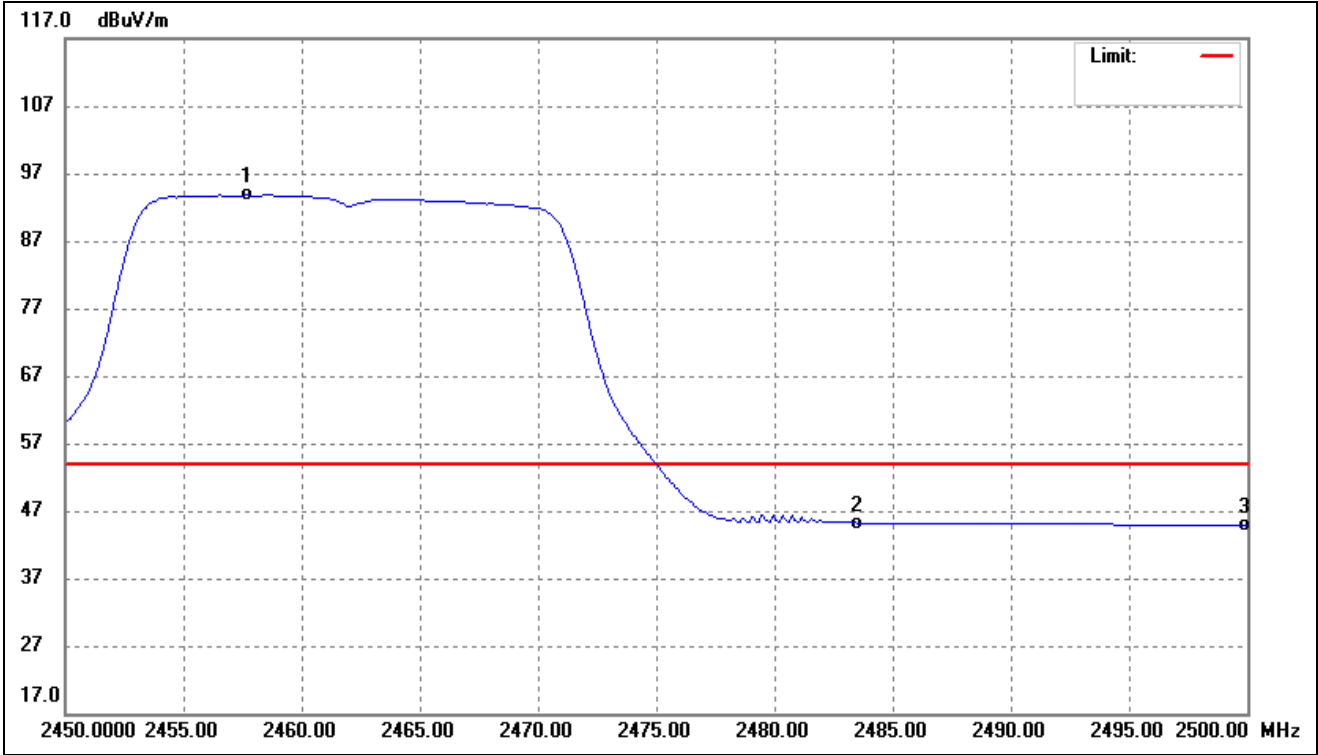
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2457.114	92.63	1.27	93.90	/	/	Average Detector
	2457.214	107.23	1.27	108.50	/	/	Peak Detector
2	2483.500	44.48	1.32	45.80	54.00	-8.20	Average Detector
	2483.500	57.18	1.32	58.50	74.00	-15.50	Peak Detector
3	2500.000	43.74	1.35	45.09	54.00	-8.91	Average Detector
	2500.000	56.50	1.35	57.85	74.00	-16.15	Peak Detector

802.11n-HT20_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



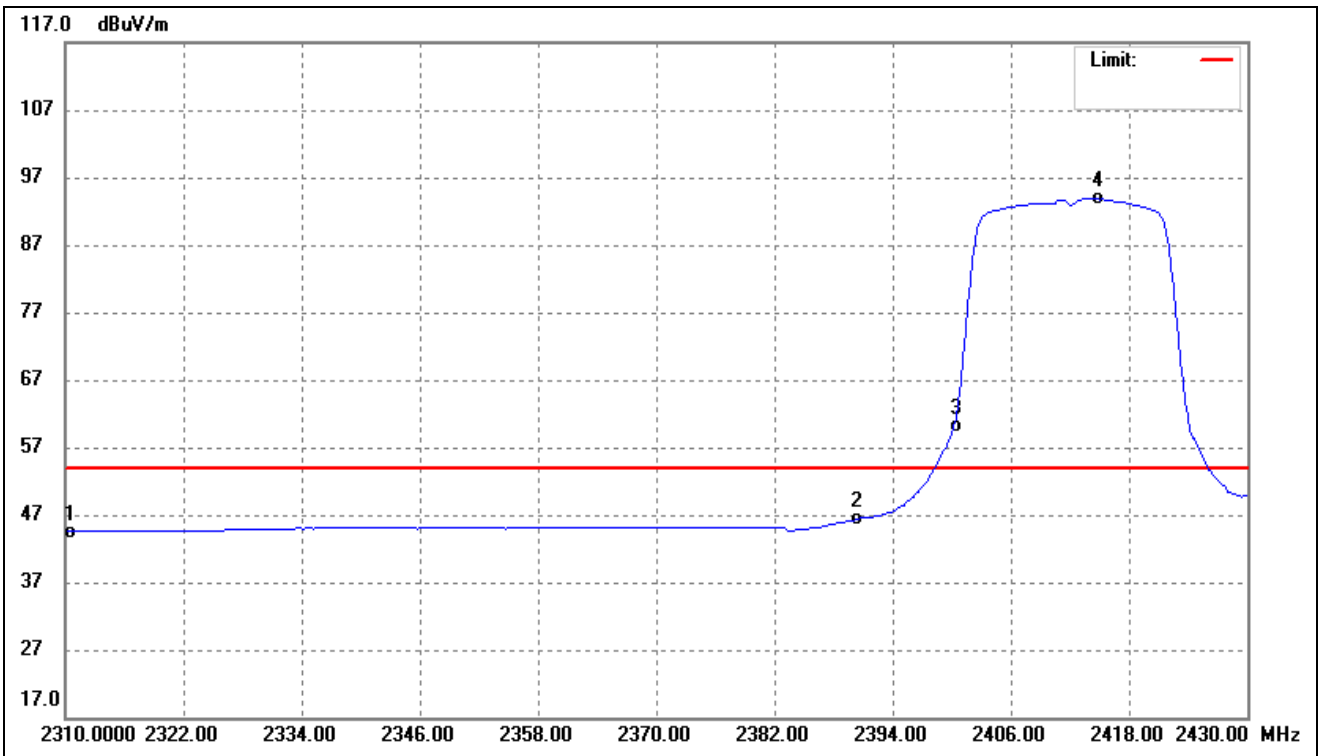
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	43.59	0.98	44.57	54.00	-9.43	Average Detector
		57.88	0.98	58.86			74.00
2	2390.000	45.05	1.13	46.18	54.00	-7.82	Average Detector
		57.91	1.13	59.04			74.00
3	2400.000	59.68	1.15	60.83	Delta=33.77dBc		Average Detector
4	2409.559	93.42	1.18	94.60			Average Detector

802.11n-HT20_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



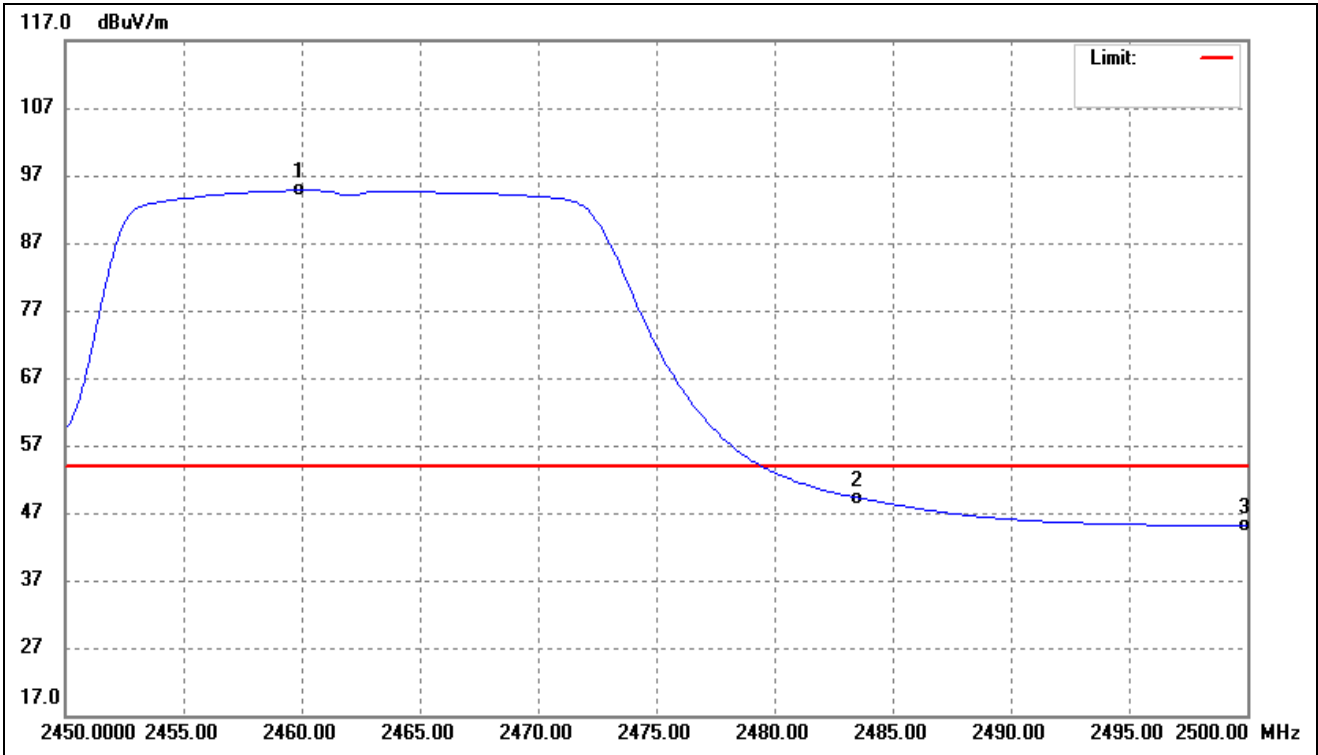
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2457.715	92.52	1.27	93.79	/	/	Average Detector
	2459.519	105.86	1.27	107.13	/	/	Peak Detector
2	2483.500	43.89	1.32	45.21	54.00	-8.79	Average Detector
	2483.500	56.42	1.32	57.74	74.00	-16.26	Peak Detector
3	2500.000	43.57	1.35	44.92	54.00	-9.08	Average Detector
	2500.000	56.57	1.35	57.92	74.00	-16.08	Peak Detector

802.11ax-HT20_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



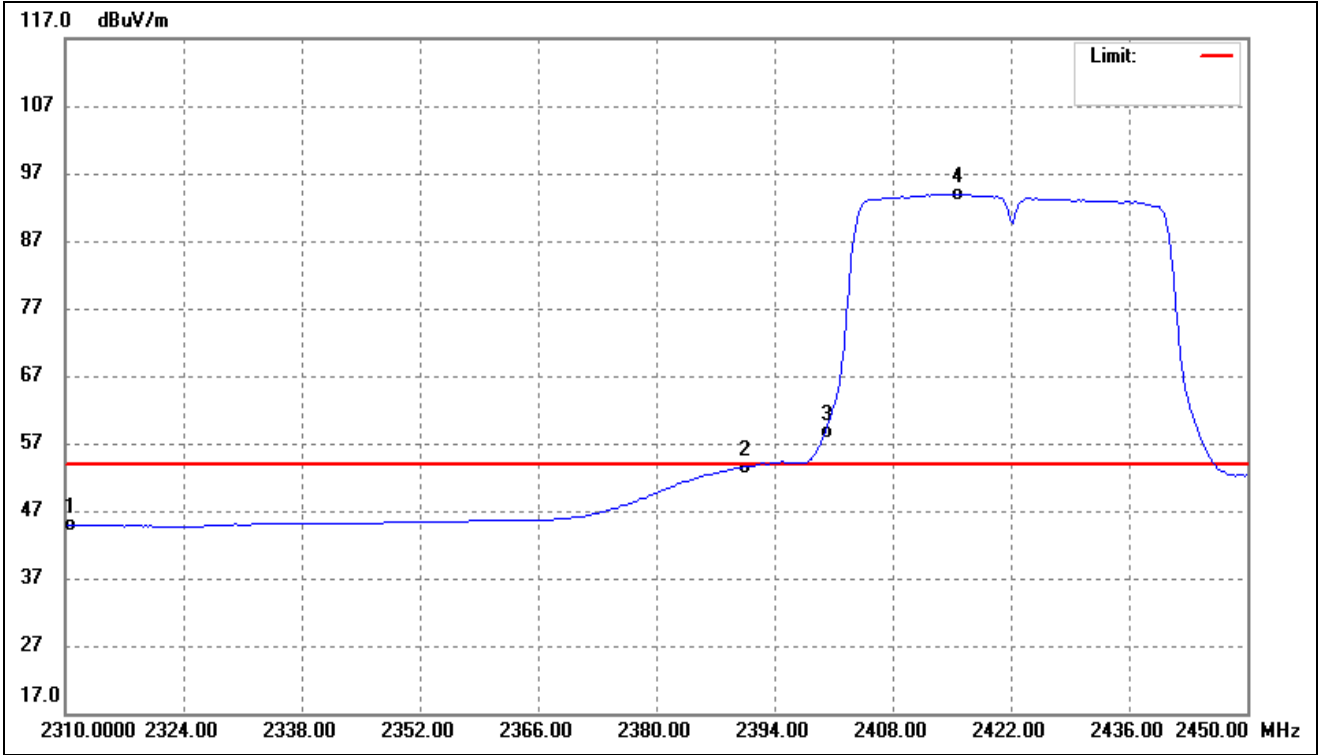
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	43.29	0.98	44.27	54.00	-9.73	Average Detector
	2310.000	56.13	0.98	57.11	74.00	-16.89	Peak Detector
2	2390.000	45.34	1.13	46.47	54.00	-7.53	Average Detector
	2390.000	58.26	1.13	59.39	74.00	-14.61	Peak Detector
3	2400.000	58.97	1.15	60.12	Delta=33.73dBc		Average Detector
4	2414.850	92.67	1.18	93.85			Average Detector

802.11ax-HT20_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



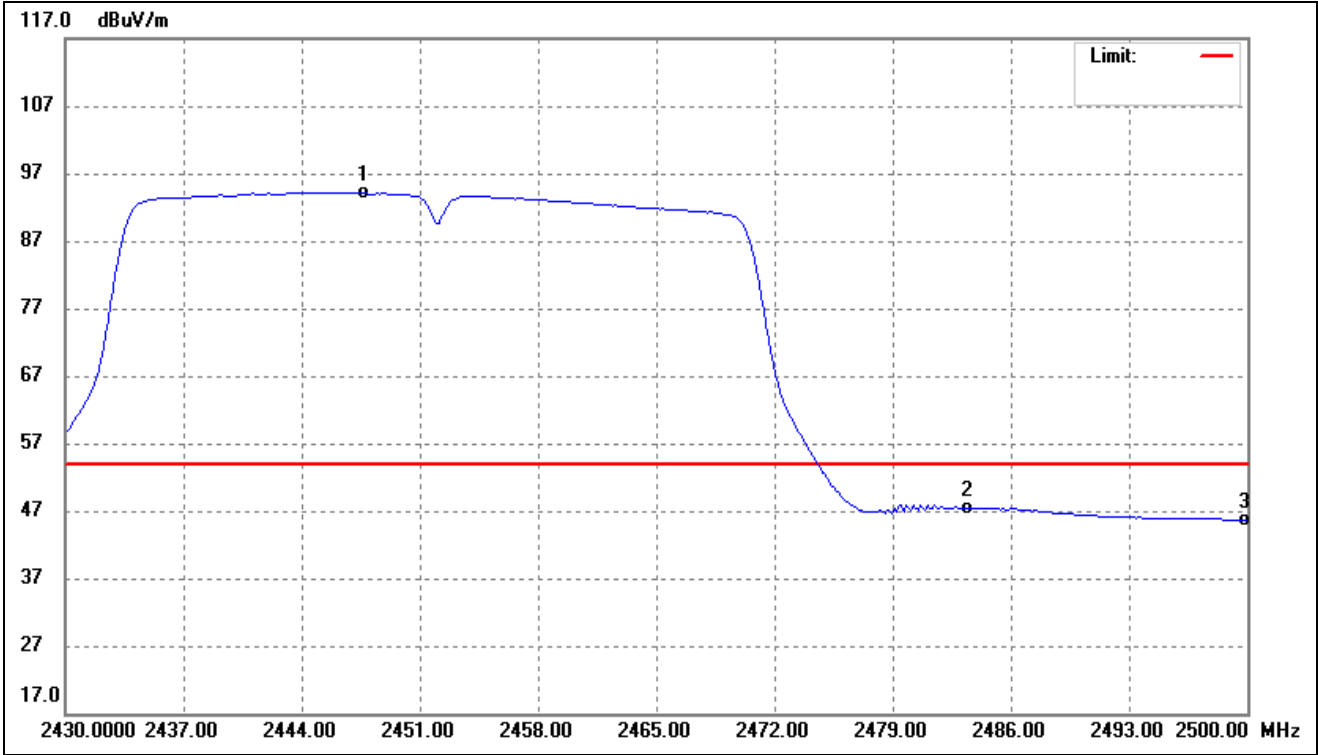
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2459.920	93.54	1.27	94.81	/	/	Average Detector
	2463.828	107.54	1.27	108.81	/	/	Peak Detector
2	2483.500	47.93	1.32	49.25	54.00	-4.75	Average Detector
	2483.500	58.76	1.32	60.08	74.00	-13.92	Peak Detector
3	2500.000	43.75	1.35	45.10	54.00	-8.90	Average Detector
	2500.000	56.79	1.35	58.14	74.00	-15.86	Peak Detector

802.11n-HT40_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



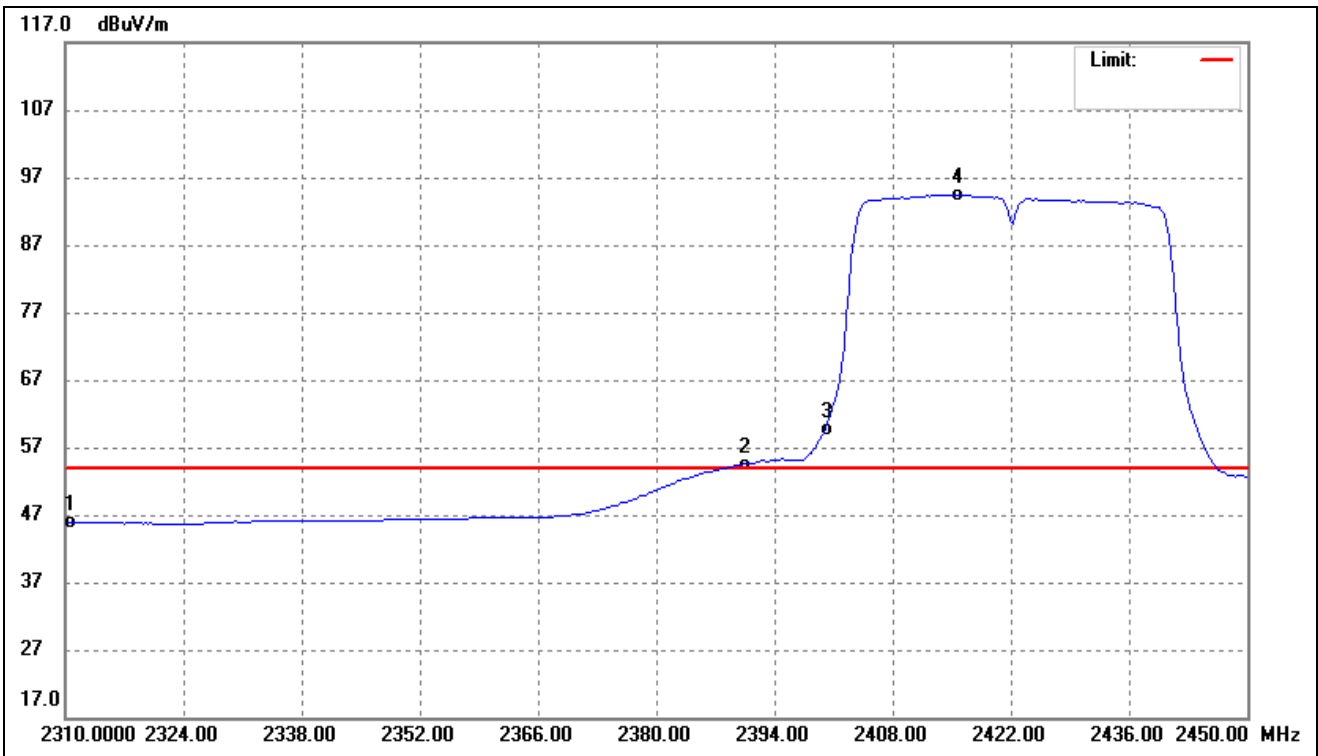
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	43.80	0.98	44.78	54.00	-9.22	Average Detector
	2310.000	56.50	0.98	57.48	74.00	-16.52	Peak Detector
2	2390.000	52.34	1.13	53.47	54.00	-0.53	Average Detector
	2390.000	66.43	1.13	67.56	74.00	-6.44	Peak Detector
3	2400.000	57.56	1.15	58.71	Delta=35.20dBc		Average Detector
4	2415.772	92.73	1.18	93.91		Average Detector	

802.11n-HT40_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2447.675	92.93	1.24	94.17	/	/	Average Detector
	2442.906	105.76	1.23	106.99	/	/	Peak Detector
2	2483.500	45.99	1.32	47.31	54.00	-6.69	Average Detector
	2483.500	58.00	1.32	59.32	74.00	-14.68	Peak Detector
3	2500.000	44.29	1.35	45.64	54.00	-8.36	Average Detector
	2500.000	56.08	1.35	57.43	74.00	-16.57	Peak Detector

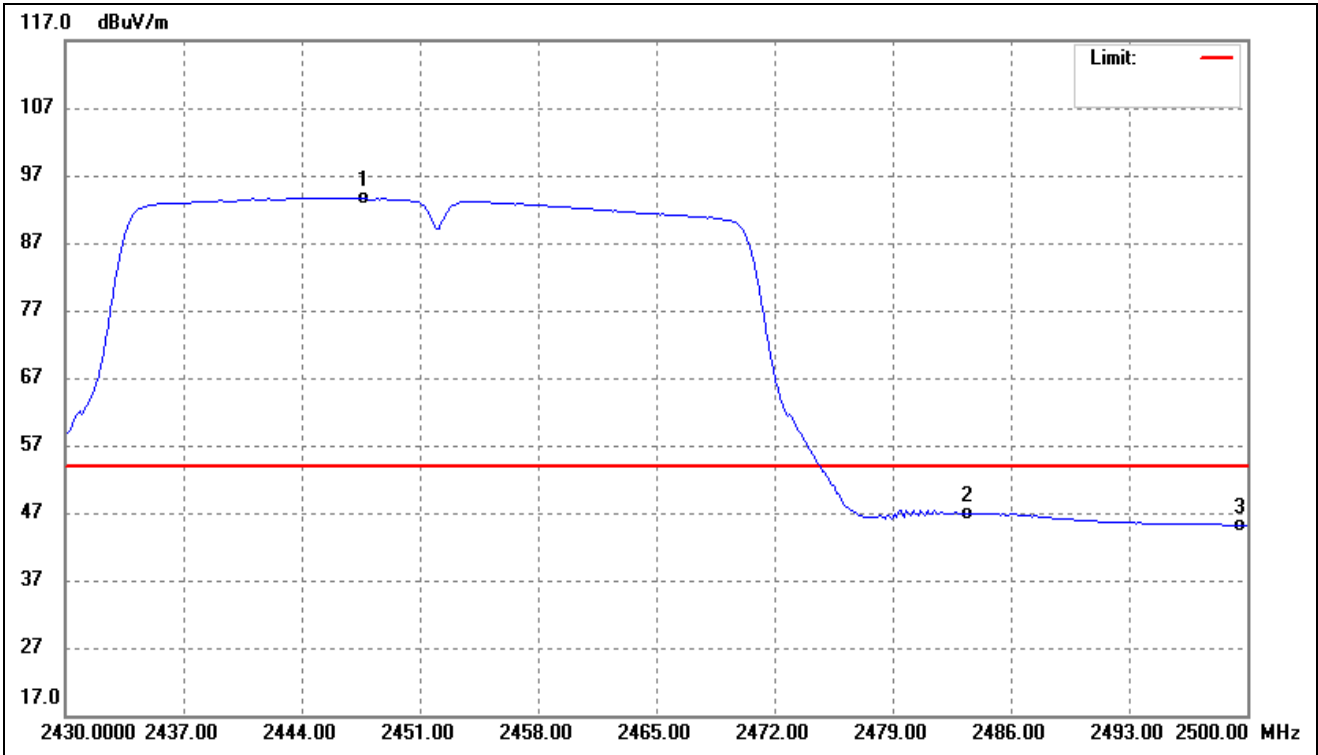
802.11ax-HT40_MCS7			
Test Channel	Low	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	44.80	0.98	45.78	54.00	-8.22	Average Detector
		56.50	0.98	57.48	74.00	-16.52	Peak Detector
2	2390.000	53.34	1.13	54.47	54.00	0.47	Average Detector
		65.43	1.13	66.56	74.00	-7.44	Peak Detector
3	2400.000	58.56	1.15	59.71	Delta=34.70dBc		Average Detector
4	2415.771	93.23	1.18	94.41		Average Detector	



802.11ax-HT40_MCS7			
Test Channel	High	Polarity:	Horizontal(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2447.675	92.43	1.24	93.67	/	/	Average Detector
	2443.747	105.93	1.24	107.17	/	/	Peak Detector
2	2483.500	45.49	1.32	46.81	54.00	-7.19	Average Detector
	2483.500	57.35	1.32	58.67	74.00	-15.33	Peak Detector
3	2500.000	43.79	1.35	45.14	54.00	-8.86	Average Detector
	2500.000	55.56	1.35	56.91	74.00	-17.09	Peak Detector

➤ Conducted test

**Please refer to Appendix D**

## 9. Conducted Emissions

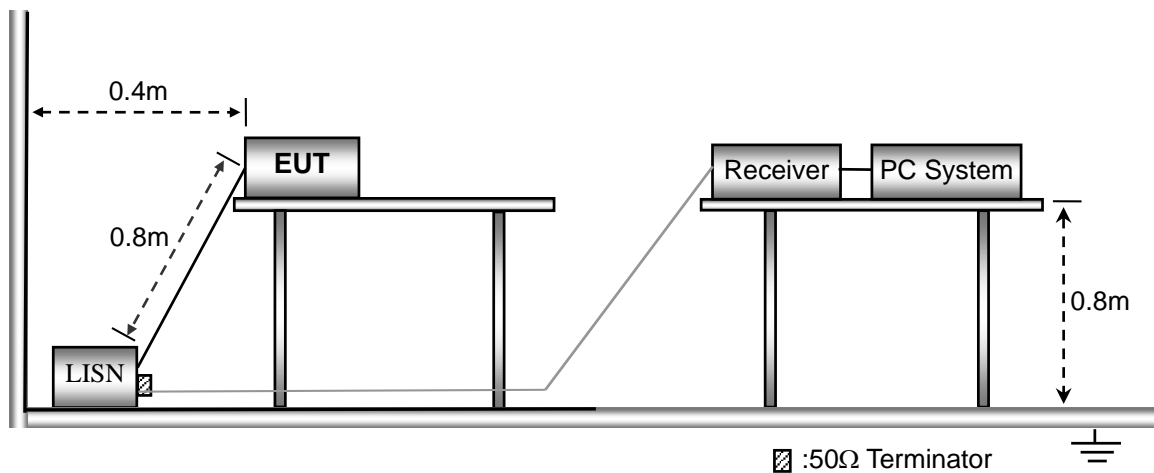
---

### 9.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

### 9.2 Basic Test Setup Block Diagram



### 9.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency .....	150kHz
Stop Frequency .....	30MHz
Sweep Speed .....	Auto
IF Bandwidth.....	10kHz
Quasi-Peak Adapter Bandwidth .....	9kHz
Quasi-Peak Adapter Mode .....	Normal

### 9.4 Summary of Test Results/Plots

Not applicable

## APPENDIX SUMMARY

---

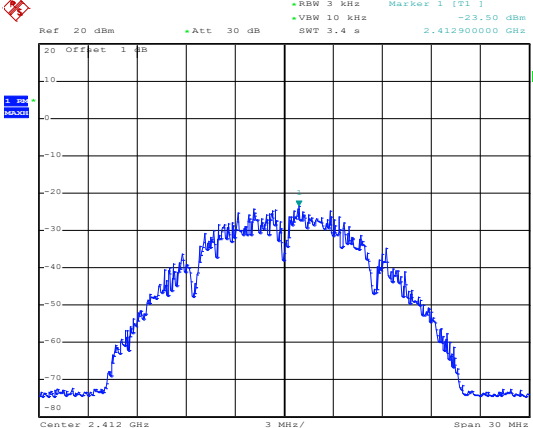
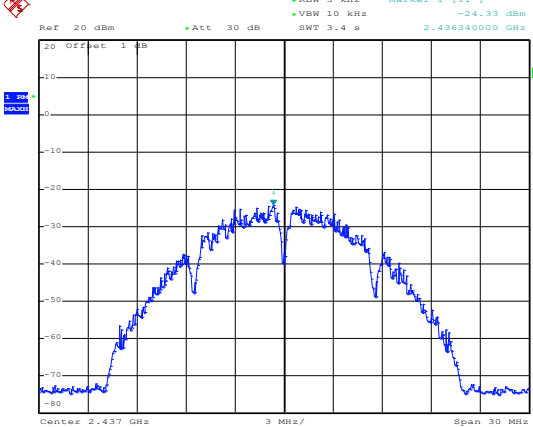
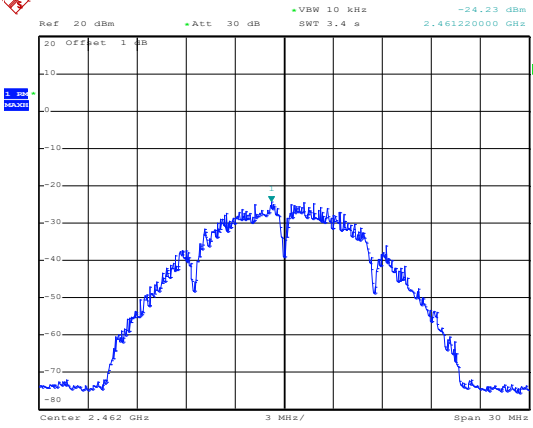
Project No.	WTH23X04087275W	Test Engineer	Timi Huang
Start date	2023/5/15	Finish date	2023/8/3
Temperature	22°C	Humidity	51%
RF specifications	WIFI-2.4G		

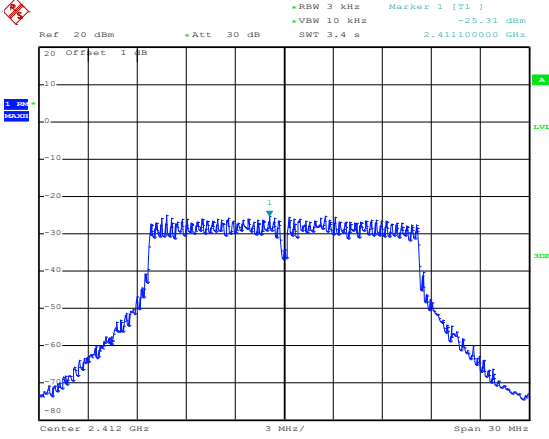
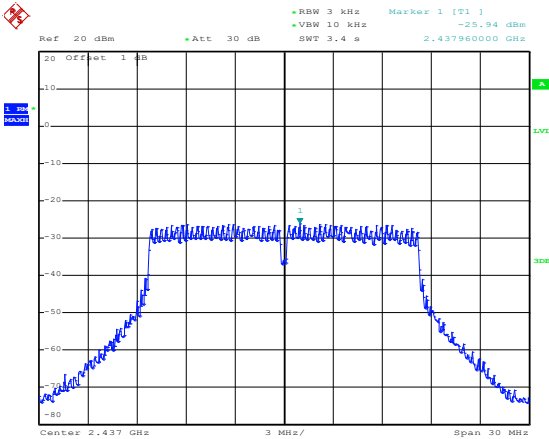
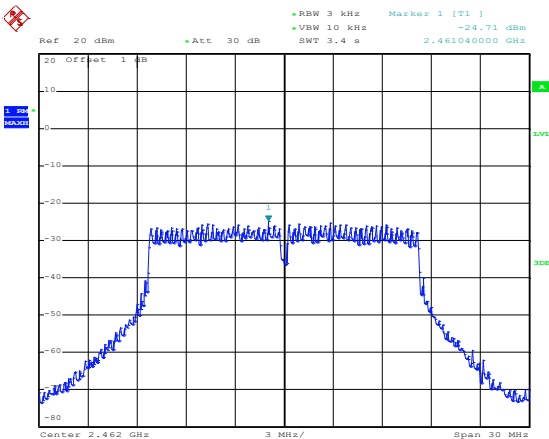
APPENDIX	Description of Test Item	Result
A	Power Spectral Density	Compliant
B	DTS Bandwidth	Compliant
C	RF Output Power	Compliant
D	Conducted Out of Band Emissions	Compliant

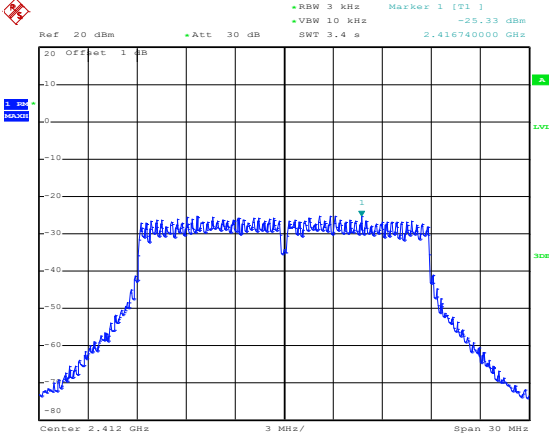
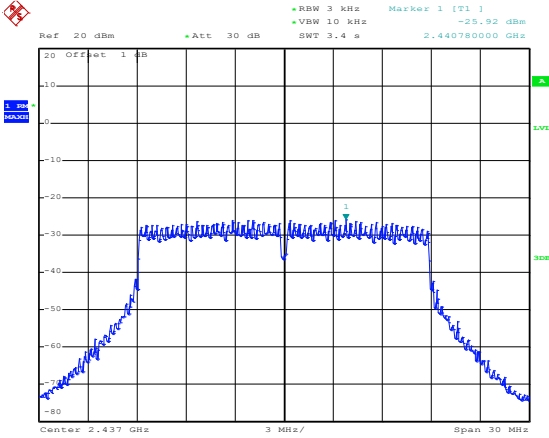
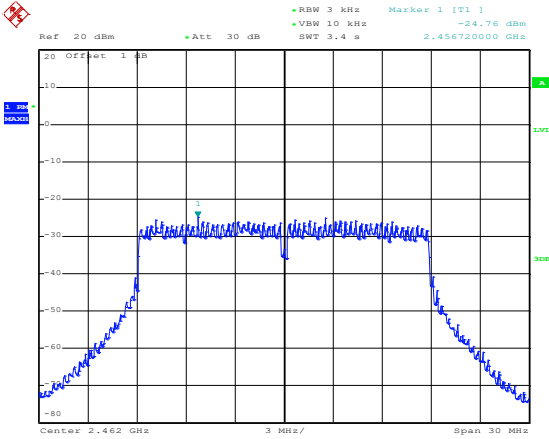
**APPENDIX A**

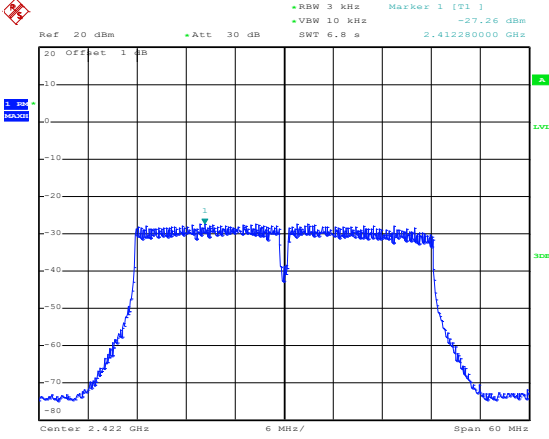
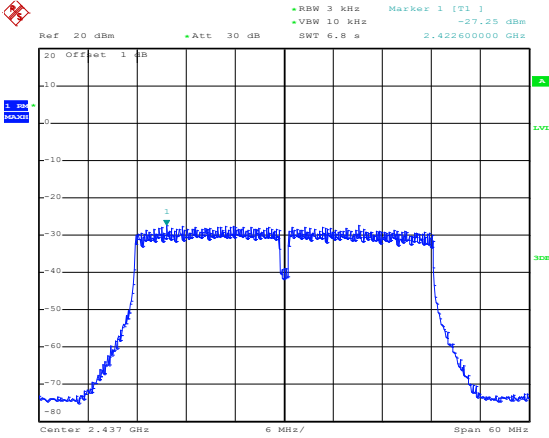
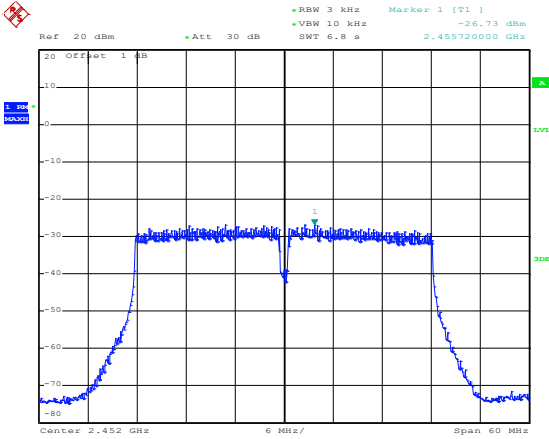
Power Spectral Density					
Test Mode	Test Channel MHz	Test Result(dBm/3kHz)		Total dBm	Limit dBm/3kHz
		Antenna 1	Antenna 2		
802.11b_1Mbps	2412	-23.50	-23.23	/	8
	2437	-24.33	-23.87	/	8
	2462	-24.23	-24.02	/	8
802.11g_6Mbps	2412	-25.31	-25.54	/	8
	2437	-25.94	-25.18	/	8
	2462	-24.71	-26.63	/	8
802.11n-HT20_MCS0	2412	-25.33	-25.04	-22.17	8
	2437	-25.92	-25.35	-22.62	8
	2462	-24.76	-25.95	-22.30	8
802.11n-HT40_MCS0	2422	-27.26	-27.91	-24.56	8
	2437	-27.25	-26.79	-24.00	8
	2452	-26.73	-27.61	-24.14	8
802.11ax-HT20_MCS0	2412	-26.85	-27.02	-23.92	8
	2437	-26.93	-27.36	-24.13	8
	2462	-26.75	-26.81	-23.77	8
802.11ax-HT40_MCS0	2422	-29.15	-29.19	-26.16	8
	2437	-29.18	-29.29	-26.22	8
	2452	-28.94	-28.48	-25.69	8

Antenna 1

<p>802.11b-Low</p>	 <p>Ref: 20 dBm, Att: 30 dB, RBW: 3 kHz, VBW: 10 kHz, SWT: 3.4 s, Marker 1 [T1]: -23.50 dBm, 2.41290000 GHz</p> <p>Center: 2.412 GHz, Span: 30 MHz</p> <p>Date: 13.MAY.2023 15:49:20</p>
<p>802.11b-Middle</p>	 <p>Ref: 20 dBm, Att: 30 dB, RBW: 3 kHz, VBW: 10 kHz, SWT: 3.4 s, Marker 1 [T1]: -24.33 dBm, 2.43634000 GHz</p> <p>Center: 2.437 GHz, Span: 30 MHz</p> <p>Date: 13.MAY.2023 15:50:18</p>
<p>802.11b-High</p>	 <p>Ref: 20 dBm, Att: 30 dB, RBW: 3 kHz, VBW: 10 kHz, SWT: 3.4 s, Marker 1 [T1]: -24.23 dBm, 2.46122000 GHz</p> <p>Center: 2.462 GHz, Span: 30 MHz</p> <p>Date: 13.MAY.2023 15:51:05</p>

<p>802.11g-Low</p>	 <p>Date: 13.MAY.2023 15:51:48</p>
<p>802.11g-Middle</p>	 <p>Date: 13.MAY.2023 15:52:21</p>
<p>802.11g-High</p>	 <p>Date: 13.MAY.2023 15:52:50</p>

<p>802.11n-HT20-Low</p>	 <p>Date: 13.MAY.2023 15:53:34</p>
<p>802.11n-HT20-Middle</p>	 <p>Date: 13.MAY.2023 15:54:03</p>
<p>802.11n-HT20-High</p>	 <p>Date: 13.MAY.2023 15:54:31</p>

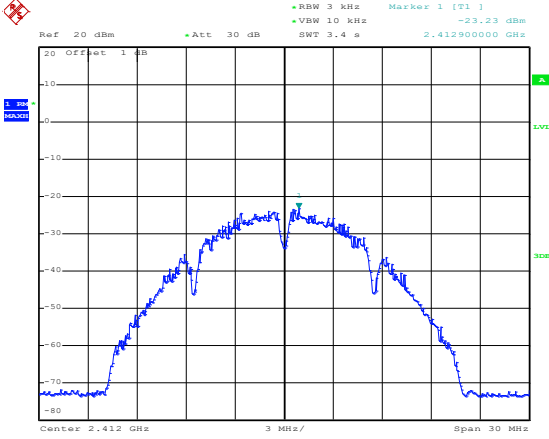
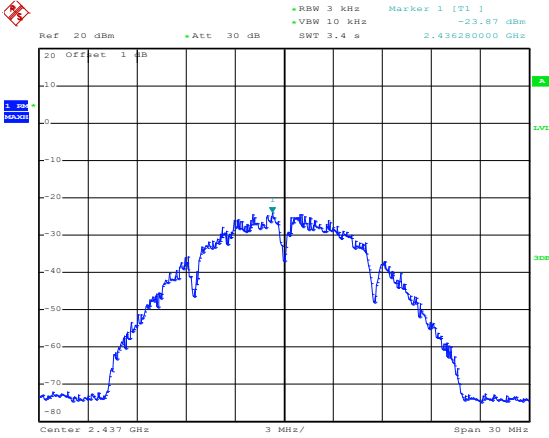
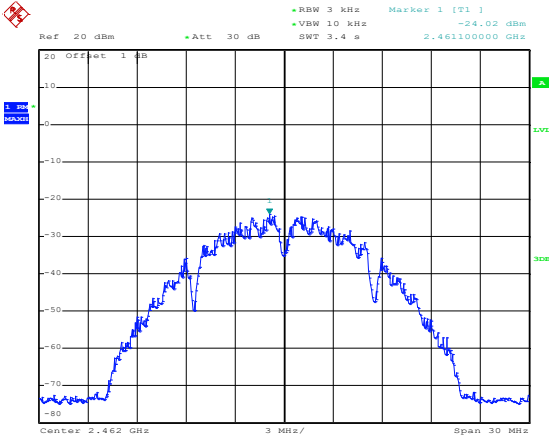
<p>802.11n-HT40-Low</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -27.26 dBm      +VBW 10 kHz    SWT 6.8 s    2.42280000 GHz</p> <p>20 Offset 1 dB      -10      -20      -30      -40      -50      -60      -70      -80</p> <p>Center 2.422 GHz    6 MHz/    Span 60 MHz</p> <p>Date: 13.MAY.2023 15:55:15</p>
<p>802.11n-HT40-Middle</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -27.25 dBm      +VBW 10 kHz    SWT 6.8 s    2.42260000 GHz</p> <p>20 Offset 1 dB      -10      -20      -30      -40      -50      -60      -70      -80</p> <p>Center 2.437 GHz    6 MHz/    Span 60 MHz</p> <p>Date: 13.MAY.2023 15:55:49</p>
<p>802.11n-HT40-High</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -26.73 dBm      +VBW 10 kHz    SWT 6.8 s    2.455720000 GHz</p> <p>20 Offset 1 dB      -10      -20      -30      -40      -50      -60      -70      -80</p> <p>Center 2.452 GHz    6 MHz/    Span 60 MHz</p> <p>Date: 13.MAY.2023 15:56:25</p>

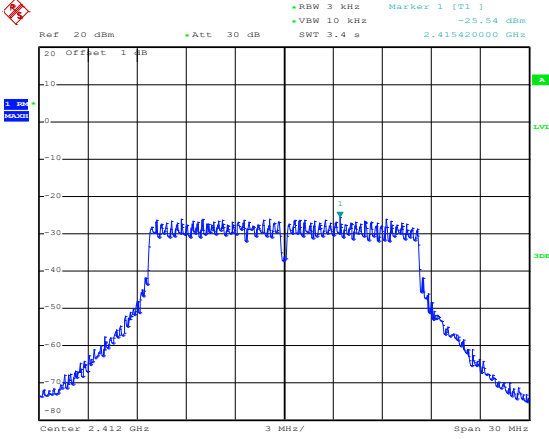
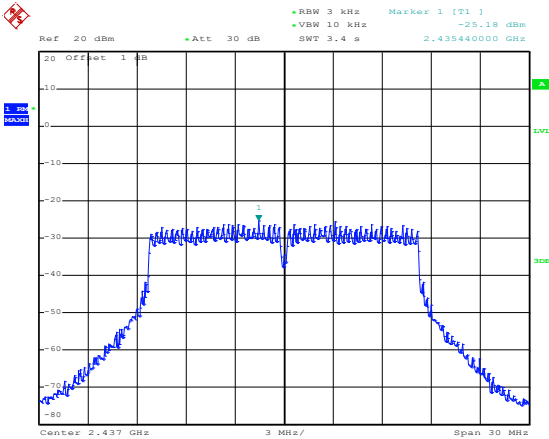
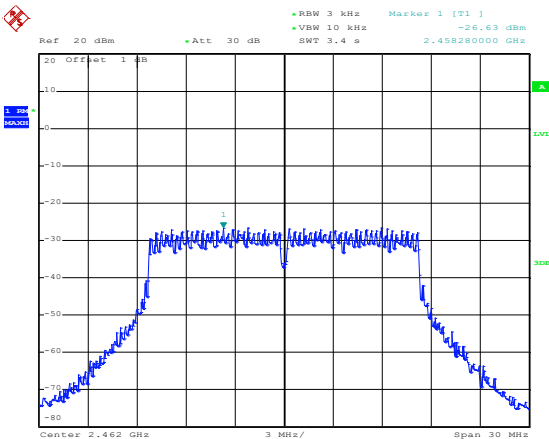


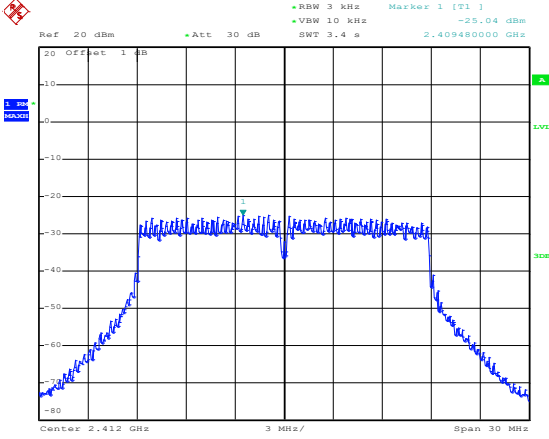
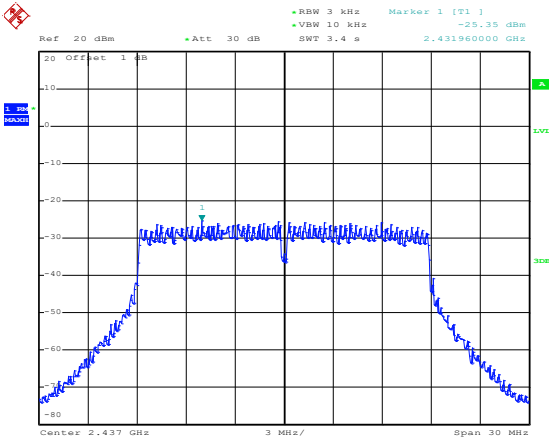
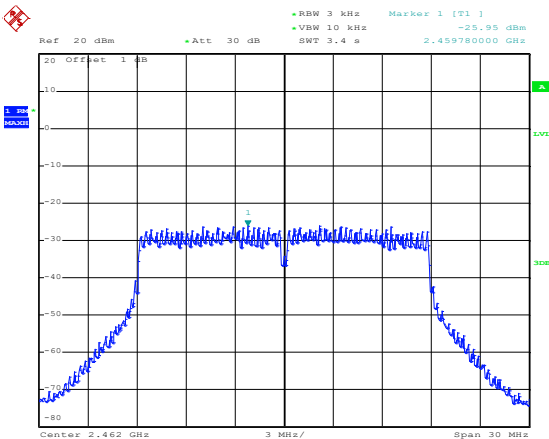
<p>802.11ax-HT20-Low</p>	<p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -26.85 dBm          +VBW 10 kHz    SWT 3.4 s    2.417400000 GHz</p> <p>20 Offset 1 dB          10          0          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.412 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 3.AUG.2023 19:11:05</p>
<p>802.11ax-HT20-Middle</p>	<p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -26.93 dBm          +VBW 10 kHz    SWT 3.4 s    2.437960000 GHz</p> <p>20 Offset 1 dB          10          0          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.437 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 3.AUG.2023 19:11:32</p>
<p>802.11ax-HT20-High</p>	<p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -26.75 dBm          +VBW 10 kHz    SWT 3.4 s    2.462540000 GHz</p> <p>20 Offset 1 dB          10          0          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.462 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 3.AUG.2023 19:12:10</p>

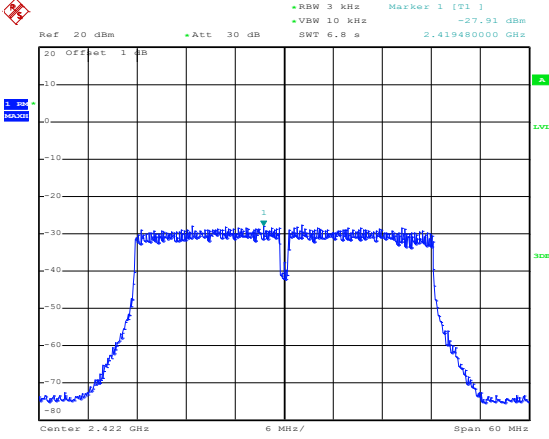
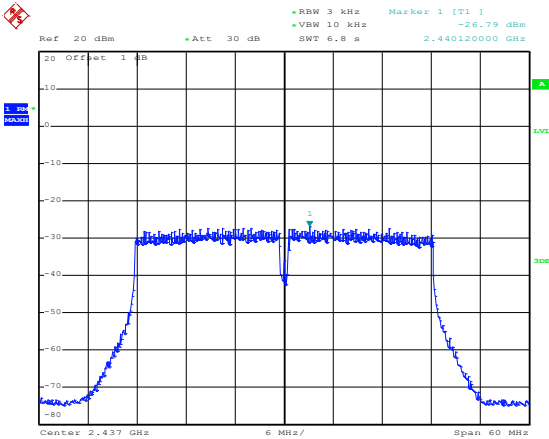
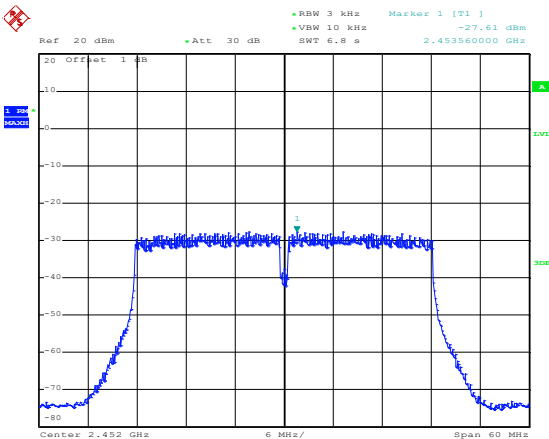
<p>802.11ax-HT40-Low</p>	<p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -29.15 dBm          +VBW 10 kHz    SWT 6.8 s    2.418520000 GHz</p> <p>20 Offset 1 dB          10          0          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.422 GHz    6 MHz/    Span 60 MHz</p> <p>Date: 3.AUG.2023 19:13:06</p>
<p>802.11n-AX40-Middle</p>	<p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -29.18 dBm          +VBW 10 kHz    SWT 6.8 s    2.443600000 GHz</p> <p>20 Offset 1 dB          10          0          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.437 GHz    6 MHz/    Span 60 MHz</p> <p>Date: 3.AUG.2023 19:13:35</p>
<p>802.11ax-HT40-High</p>	<p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -28.94 dBm          +VBW 10 kHz    SWT 6.8 s    2.447680000 GHz</p> <p>20 Offset 1 dB          10          0          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.452 GHz    6 MHz/    Span 60 MHz</p> <p>Date: 3.AUG.2023 19:14:07</p>

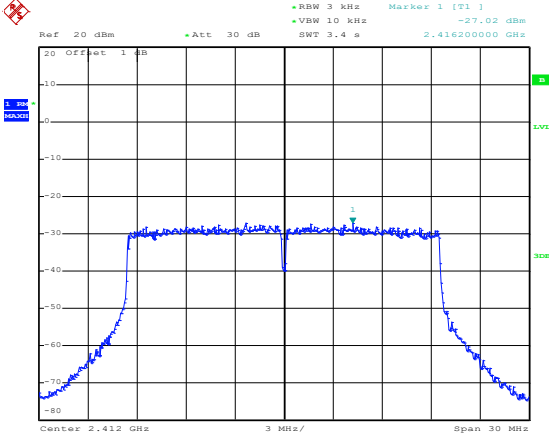
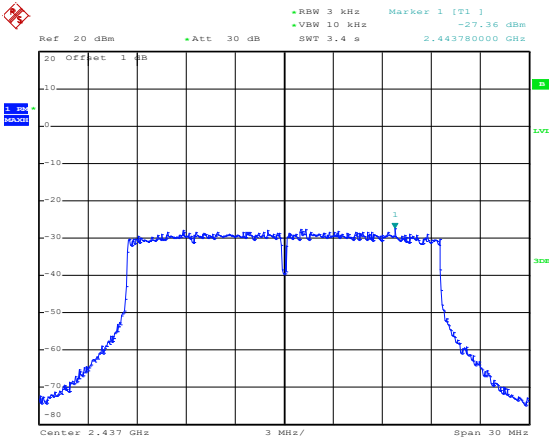
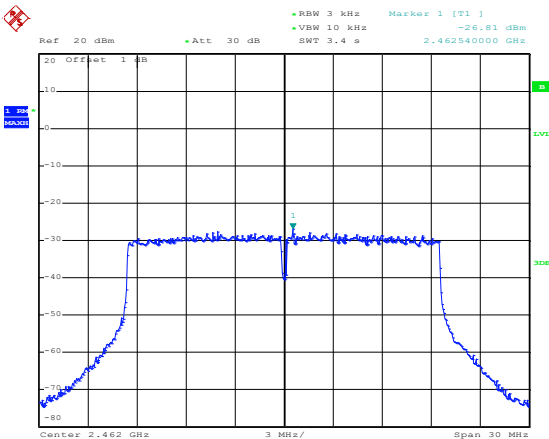
Antenna 2

<p>802.11b-Low</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -23.23 dBm +VSW 10 kHz    SWT 3.4 s    2.412900000 GHz</p> <p>20 Offset 1 dB</p> <p>Center 2.412 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:12:38</p>
<p>802.11b-Middle</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -23.87 dBm +VSW 10 kHz    SWT 3.4 s    2.436280000 GHz</p> <p>20 Offset 1 dB</p> <p>Center 2.437 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:14:02</p>
<p>802.11b-High</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -24.02 dBm +VSW 10 kHz    SWT 3.4 s    2.461100000 GHz</p> <p>20 Offset 1 dB</p> <p>Center 2.462 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:15:27</p>

<p>802.11g-Low</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -25.54 dBm          +VBW 10 kHz    SWT 3.4 s    2.415420000 GHz</p> <p>20 Offset 1 dB</p> <p>Center 2.412 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:16:22</p>
<p>802.11g-Middle</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -25.18 dBm          +VBW 10 kHz    SWT 3.4 s    2.435440000 GHz</p> <p>20 Offset 1 dB</p> <p>Center 2.437 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:17:01</p>
<p>802.11g-High</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -26.63 dBm          +VBW 10 kHz    SWT 3.4 s    2.458280000 GHz</p> <p>20 Offset 1 dB</p> <p>Center 2.462 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:17:28</p>

<p>802.11n-HT20-Low</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -25.04 dBm      +VBW 10 kHz    SWT 3.4 s    2.409480000 GHz</p> <p>20 Offset 1 dB      10      0      -10      -20      -30      -40      -50      -60      -70      -80</p> <p>Center 2.412 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:18:03</p>
<p>802.11n-HT20-Middle</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -25.35 dBm      +VBW 10 kHz    SWT 3.4 s    2.431960000 GHz</p> <p>20 Offset 1 dB      10      0      -10      -20      -30      -40      -50      -60      -70      -80</p> <p>Center 2.437 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:18:32</p>
<p>802.11n-HT20-High</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -25.95 dBm      +VBW 10 kHz    SWT 3.4 s    2.459780000 GHz</p> <p>20 Offset 1 dB      10      0      -10      -20      -30      -40      -50      -60      -70      -80</p> <p>Center 2.462 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 13.MAY.2023 17:18:57</p>

<p>802.11n-HT40-Low</p>	 <p>Date: 13.MAY.2023 17:19:28</p>
<p>802.11n-HT40-Middle</p>	 <p>Date: 13.MAY.2023 17:20:17</p>
<p>802.11n-HT40-High</p>	 <p>Date: 13.MAY.2023 17:20:49</p>

<p>802.11ax-HT20-Low</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -27.02 dBm          +VBW 10 kHz    SWT 3.4 s    2.416200000 GHz</p> <p>20 Offset 1 dB          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.412 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 3.AUG.2023 19:57:01</p>
<p>802.11ax-HT20-Middle</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -27.36 dBm          +VBW 10 kHz    SWT 3.4 s    2.443780000 GHz</p> <p>20 Offset 1 dB          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.437 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 3.AUG.2023 19:57:36</p>
<p>802.11ax-HT20-High</p>	 <p>Ref 20 dBm    +Att 30 dB    +RBW 3 kHz    Marker 1 [T1]    -26.81 dBm          +VBW 10 kHz    SWT 3.4 s    2.462540000 GHz</p> <p>20 Offset 1 dB          -10          -20          -30          -40          -50          -60          -70          -80</p> <p>Center 2.462 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 3.AUG.2023 19:58:19</p>

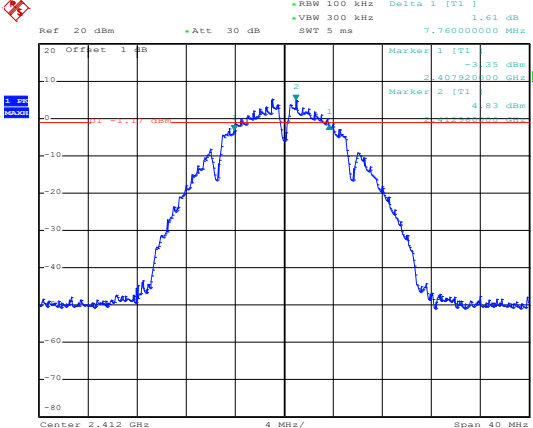
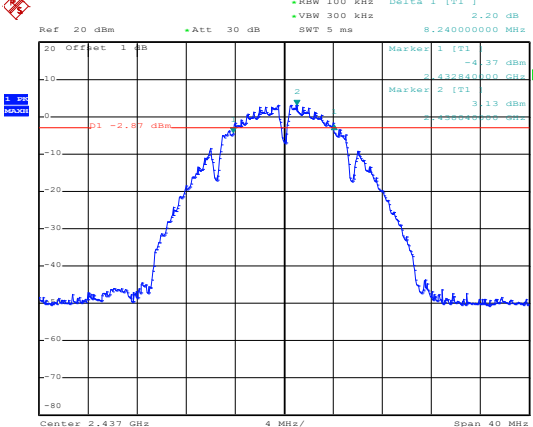
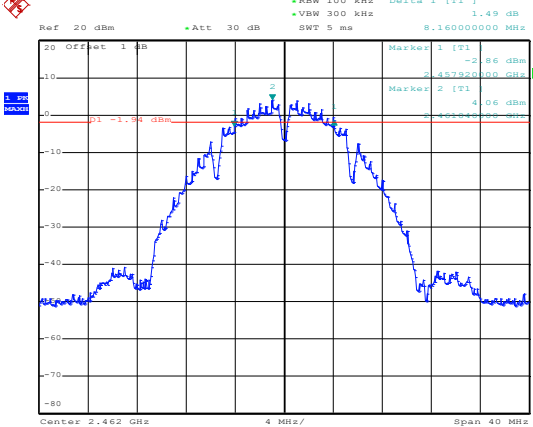
<p>802.11ax-HT40-Low</p>	<p>Date: 3.AUG.2023 19:59:06</p>
<p>802.11ax-HT40-Middle</p>	<p>Date: 3.AUG.2023 19:59:40</p>
<p>802.11ax-HT40-High</p>	<p>Date: 3.AUG.2023 20:01:10</p>

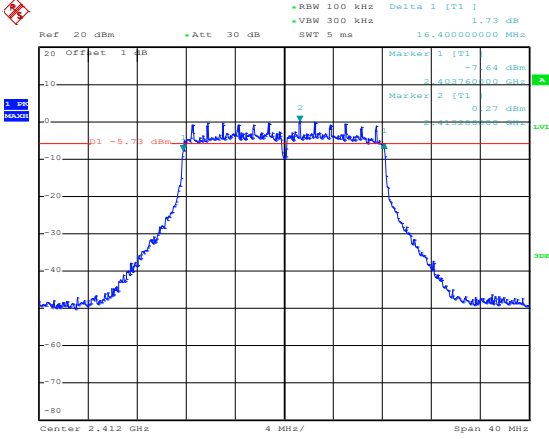
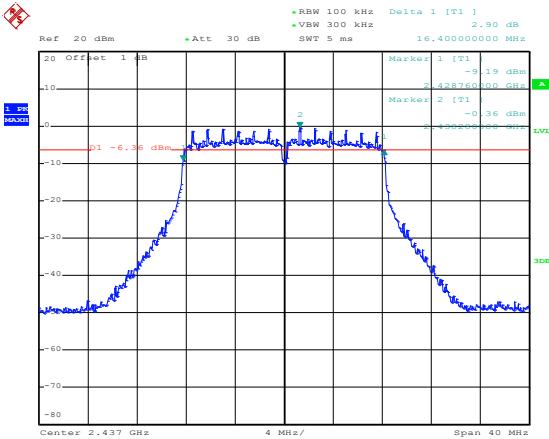
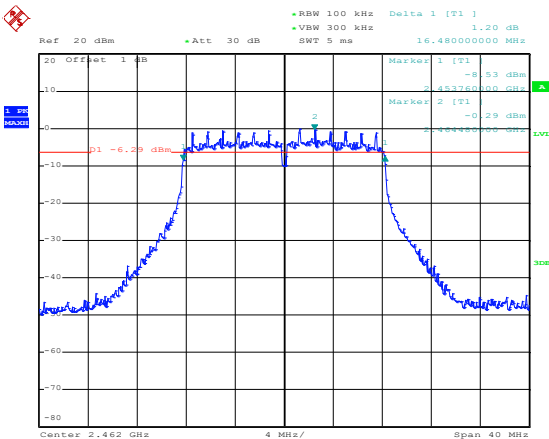


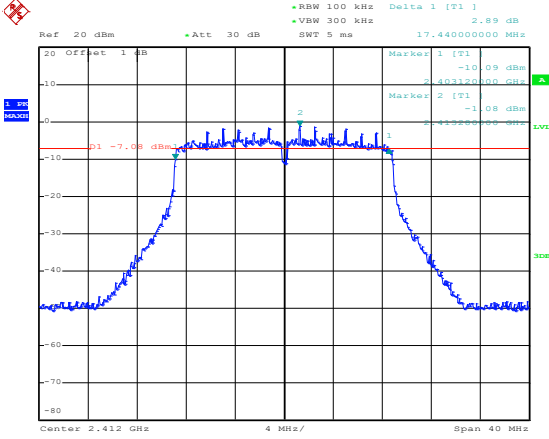
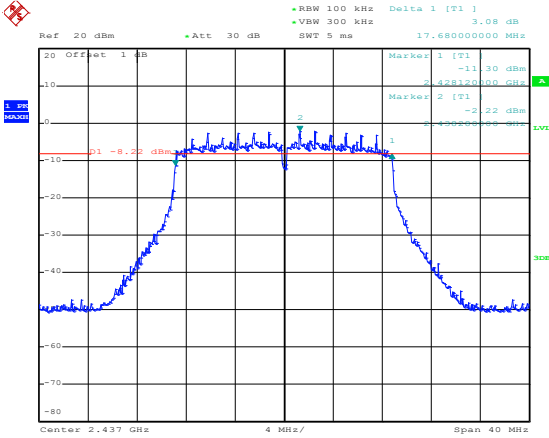
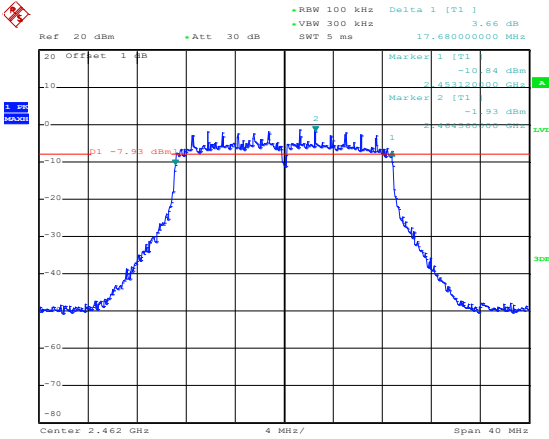
**APPENDIX B**

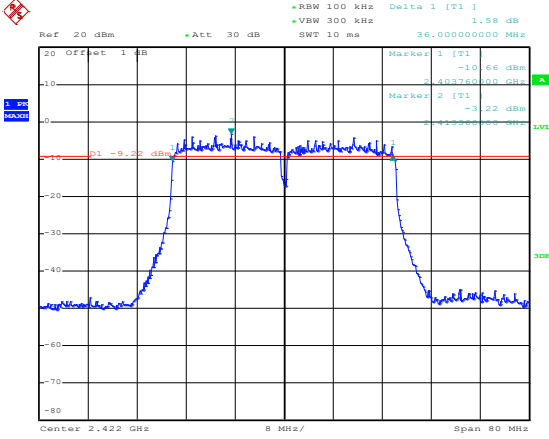
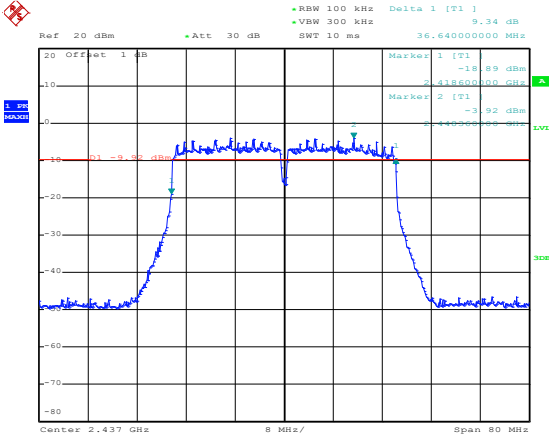
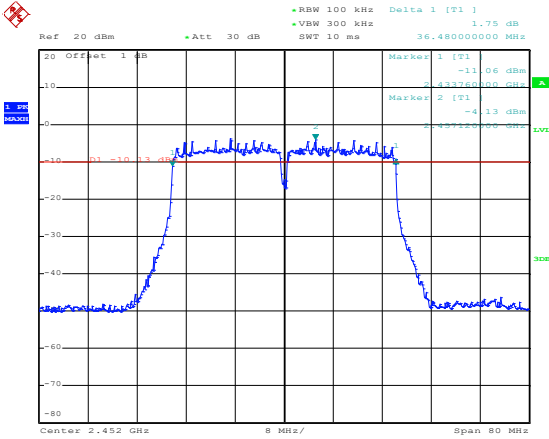
DTS Bandwidth				
Test Mode	Test Channel MHz	Test Result(MHz)		Limit kHz
		Antenna 1	Antenna 2	
802.11b_1Mbps	2412	7.76	8.16	≥500
	2437	8.24	9.20	≥500
	2462	8.16	8.96	≥500
802.11g_6Mbps	2412	16.40	16.40	≥500
	2437	16.40	16.40	≥500
	2462	16.48	16.40	≥500
802.11n-HT20_MCS0	2412	17.44	17.68	≥500
	2437	17.68	17.28	≥500
	2462	17.68	17.44	≥500
802.11n-HT40_MCS0	2422	36.00	36.32	≥500
	2437	36.64	36.80	≥500
	2452	36.48	36.16	≥500
802.11ax-HT20_MCS0	2412	19.04	19.04	≥500
	2437	18.96	18.96	≥500
	2462	19.04	19.04	≥500
802.11ax-HT40_MCS0	2422	38.08	38.08	≥500
	2437	38.08	38.08	≥500
	2452	38.08	38.40	≥500

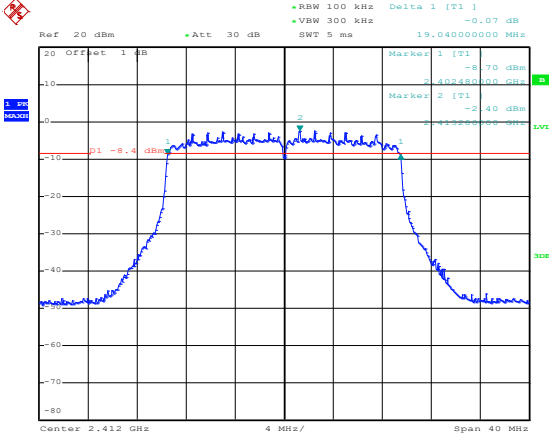
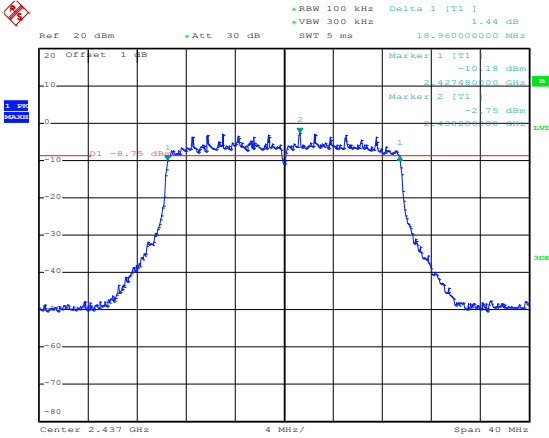
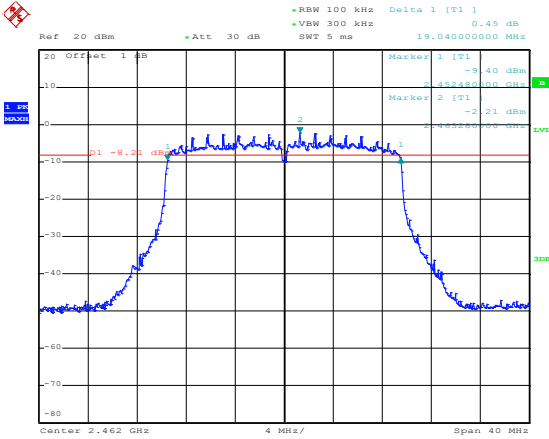
Antenna 1

<p>802.11b-Low</p>	 <p>Date: 13.MAY.2023 16:08:14</p>
<p>802.11b-Middle</p>	 <p>Date: 13.MAY.2023 16:10:18</p>
<p>802.11b-High</p>	 <p>Date: 13.MAY.2023 16:11:33</p>

<p>802.11g-Low</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 1.73 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 16.40000000 MHz              Marker 1 [T1] -7.64 dBm              Marker 2 [T1] 0.27 dBm              D1 -5.79 dBm              Center 2.412 GHz 4 MHz/ Span 40 MHz         </p> <p>Date: 13.MAY.2023 16:13:19</p>
<p>802.11g-Middle</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 2.90 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 16.40000000 MHz              Marker 1 [T1] -9.19 dBm              Marker 2 [T1] -0.36 dBm              D1 -6.36 dBm              Center 2.437 GHz 4 MHz/ Span 40 MHz         </p> <p>Date: 13.MAY.2023 16:15:02</p>
<p>802.11g-High</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 1.20 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 16.48000000 MHz              Marker 1 [T1] -8.53 dBm              Marker 2 [T1] -0.29 dBm              D1 -6.29 dBm              Center 2.462 GHz 4 MHz/ Span 40 MHz         </p> <p>Date: 13.MAY.2023 16:16:03</p>

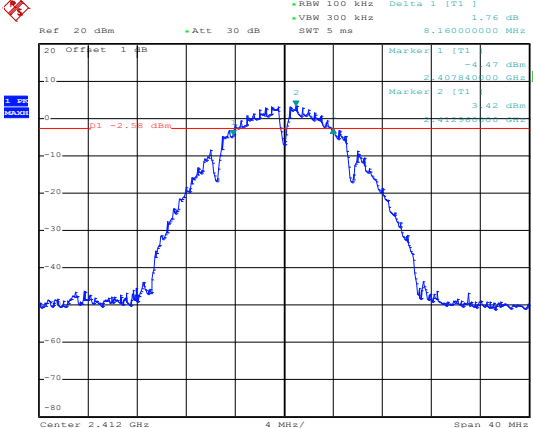
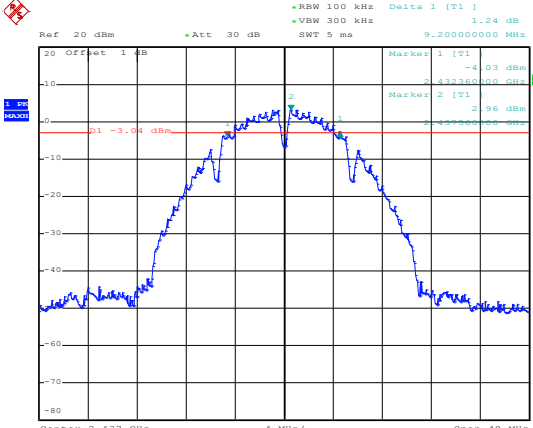
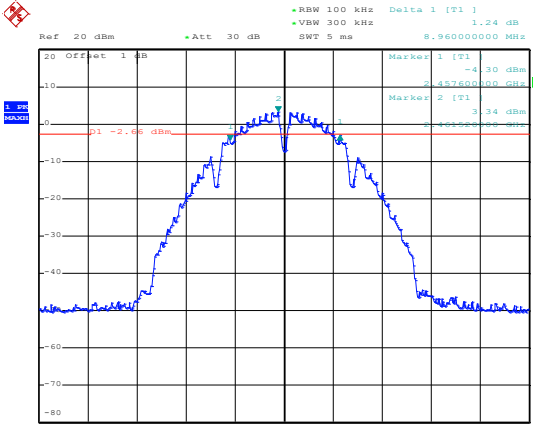
<p>802.11n-HT20-Low</p>	 <p>                     +RBW 100 kHz Delta 1 [T1] 2.89 dB                      +VBW 300 kHz                      Ref 20 dBm +Att 30 dB SWT 5 ms 17.440000000 MHz                      20 Offset 1 dB                      Marker 1 [T1] -10.09 dBm                      Marker 2 [T1] -11.08 dBm                      D1 -7.08 dBm                      LVL                      3dB                      Center 2.412 GHz 4 MHz/ Span 40 MHz                 </p> <p>Date: 13.MAY.2023 16:17:17</p>
<p>802.11n-HT20-Middle</p>	 <p>                     +RBW 100 kHz Delta 1 [T1] 3.08 dB                      +VBW 300 kHz                      Ref 20 dBm +Att 30 dB SWT 5 ms 17.680000000 MHz                      20 Offset 1 dB                      Marker 1 [T1] -11.30 dBm                      Marker 2 [T1] -12.22 dBm                      D1 -8.22 dBm                      LVL                      3dB                      Center 2.437 GHz 4 MHz/ Span 40 MHz                 </p> <p>Date: 13.MAY.2023 16:18:20</p>
<p>802.11n-HT20-High</p>	 <p>                     +RBW 100 kHz Delta 1 [T1] 3.66 dB                      +VBW 300 kHz                      Ref 20 dBm +Att 30 dB SWT 5 ms 17.680000000 MHz                      20 Offset 1 dB                      Marker 1 [T1] -10.84 dBm                      Marker 2 [T1] -11.93 dBm                      D1 -7.93 dBm                      LVL                      3dB                      Center 2.462 GHz 4 MHz/ Span 40 MHz                 </p> <p>Date: 13.MAY.2023 16:19:29</p>

<p>802.11n-HT40-Low</p>	 <p>Date: 13.MAY.2023 16:20:42</p>
<p>802.11n-HT40-Middle</p>	 <p>Date: 13.MAY.2023 16:25:57</p>
<p>802.11n-HT40-High</p>	 <p>Date: 13.MAY.2023 16:27:26</p>

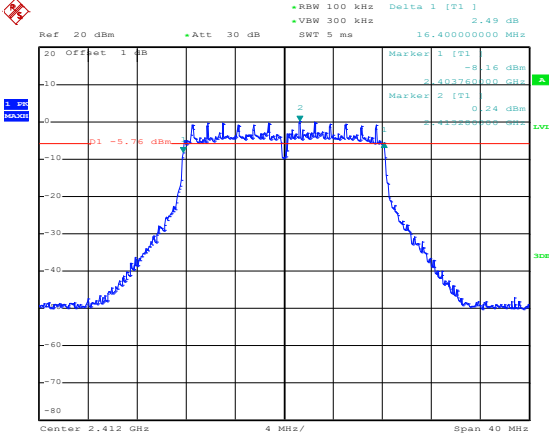
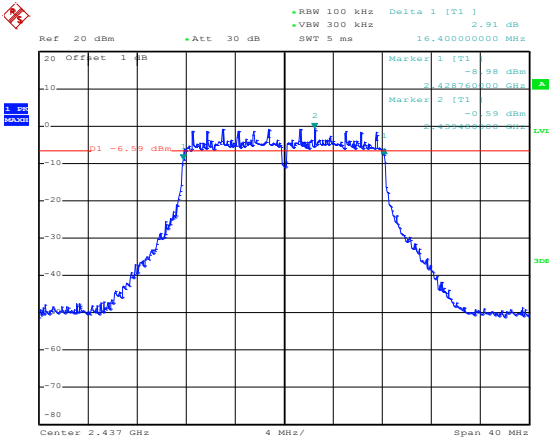
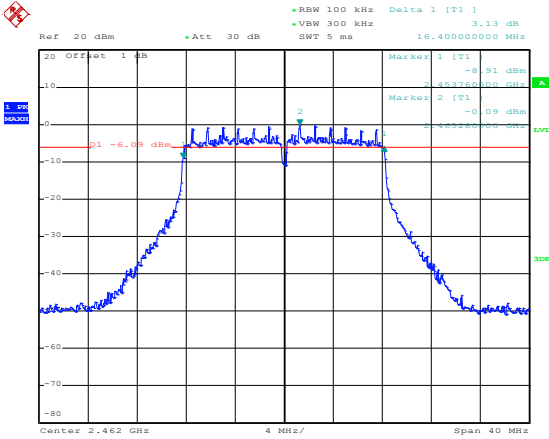
<p>802.11ax-HT20-Low</p>	 <p>             *RBW 100 kHz Delta 1 [T1] -0.07 dB              *VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 19.04000000 MHz              20 Offset 1 dB              Marker 1 [T1] -8.70 dBm              Marker 2 [T1] -2.40 dBm              -10 -8.4 dBm              -20              -30              -40              -50              -60              -70              -80              Center 2.412 GHz 4 MHz/ Span 40 MHz              Date: 3.AUG.2023 19:28:49         </p>
<p>802.11ax-HT20-Middle</p>	 <p>             *RBW 100 kHz Delta 1 [T1] 1.44 dB              *VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 18.96000000 MHz              20 Offset 1 dB              Marker 1 [T1] -10.18 dBm              Marker 2 [T1] -2.75 dBm              -10 -8.75 dBm              -20              -30              -40              -50              -60              -70              -80              Center 2.437 GHz 4 MHz/ Span 40 MHz              Date: 3.AUG.2023 19:30:02         </p>
<p>802.11ax-HT20-High</p>	 <p>             *RBW 100 kHz Delta 1 [T1] 0.45 dB              *VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 19.04000000 MHz              20 Offset 1 dB              Marker 1 [T1] -9.40 dBm              Marker 2 [T1] -2.23 dBm              -10 -8.23 dBm              -20              -30              -40              -50              -60              -70              -80              Center 2.462 GHz 4 MHz/ Span 40 MHz              Date: 3.AUG.2023 19:31:20         </p>

<p>802.11ax-HT40-Low</p>	<p>Date: 3.AUG.2023 19:32:37</p>
<p>802.11ax-HT40-Middle</p>	<p>Date: 3.AUG.2023 19:33:27</p>
<p>802.11ax-HT40-High</p>	<p>Date: 3.AUG.2023 19:34:15</p>

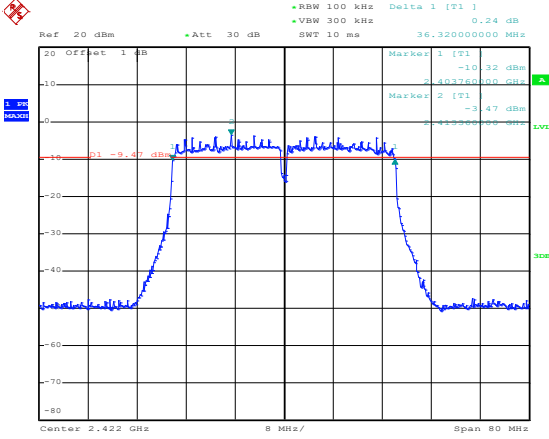
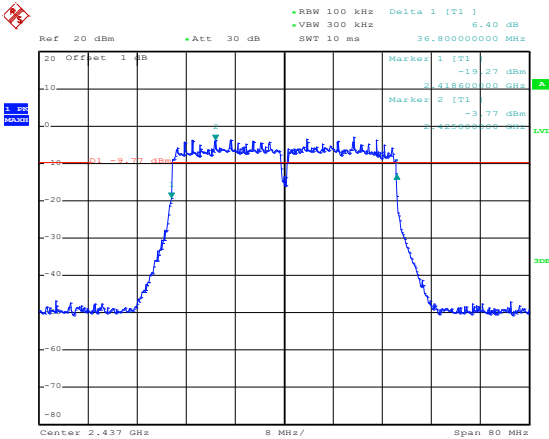
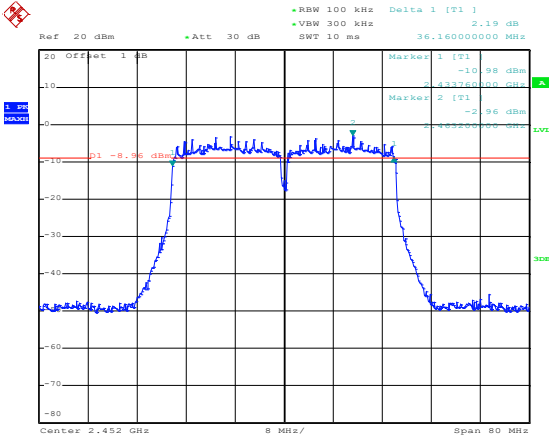
Antenna 2

<p>802.11b-Low</p>	 <p>Ref: 20 dBm, Att: 30 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 5 ms, Delta: 1 [T1], 1.76 dB, 8.16000000 MHz</p> <p>Marker 1 [T1]: -4.47 dBm, 2.40780000 GHz</p> <p>Marker 2 [T1]: 3.42 dBm, 2.41200000 GHz</p> <p>Offset: 1 dB</p> <p>Center: 2.412 GHz, Span: 40 MHz</p> <p>Date: 13.MAY.2023 17:23:41</p>
<p>802.11b-Middle</p>	 <p>Ref: 20 dBm, Att: 30 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 5 ms, Delta: 1 [T1], 1.24 dB, 9.20000000 MHz</p> <p>Marker 1 [T1]: -4.03 dBm, 2.43200000 GHz</p> <p>Marker 2 [T1]: 2.96 dBm, 2.43700000 GHz</p> <p>Offset: 1 dB</p> <p>Center: 2.437 GHz, Span: 40 MHz</p> <p>Date: 13.MAY.2023 17:24:50</p>
<p>802.11b-High</p>	 <p>Ref: 20 dBm, Att: 30 dB, RBW: 100 kHz, VBW: 300 kHz, SWT: 5 ms, Delta: 1 [T1], 1.24 dB, 8.96000000 MHz</p> <p>Marker 1 [T1]: -4.30 dBm, 2.45760000 GHz</p> <p>Marker 2 [T1]: 3.34 dBm, 2.46200000 GHz</p> <p>Offset: 1 dB</p> <p>Center: 2.462 GHz, Span: 40 MHz</p> <p>Date: 13.MAY.2023 17:27:03</p>

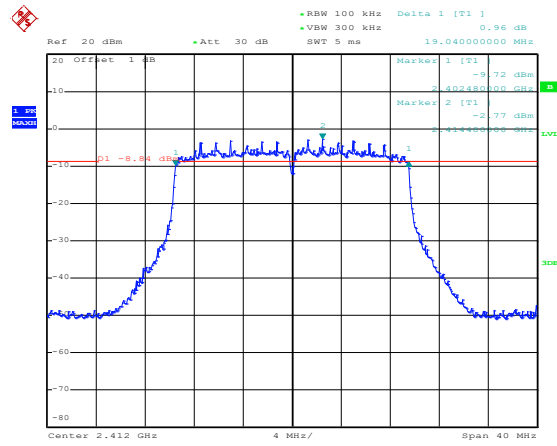


<p>802.11g-Low</p>	 <p>Date: 13.MAY.2023 17:28:40</p>
<p>802.11g-Middle</p>	 <p>Date: 13.MAY.2023 17:29:22</p>
<p>802.11g-High</p>	 <p>Date: 13.MAY.2023 17:30:57</p>

<p>802.11n-HT20-Low</p>	<p>Date: 13.MAY.2023 17:31:59</p>
<p>802.11n-HT20-Middle</p>	<p>Date: 13.MAY.2023 17:32:44</p>
<p>802.11n-HT20-High</p>	<p>Date: 13.MAY.2023 17:33:33</p>

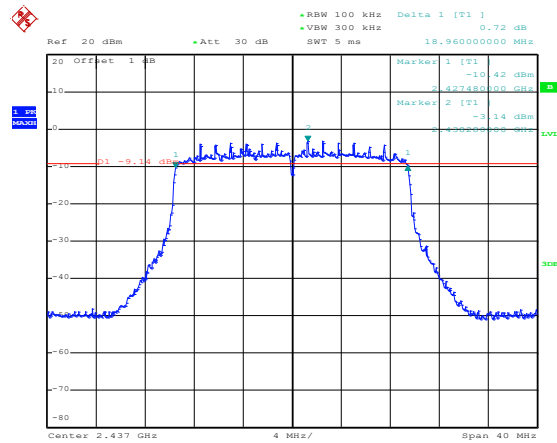
<p>802.11n-HT40-Low</p>	 <p>Date: 13.MAY.2023 17:34:42</p>
<p>802.11n-HT40-Middle</p>	 <p>Date: 13.MAY.2023 17:35:46</p>
<p>802.11n-HT40-High</p>	 <p>Date: 13.MAY.2023 17:36:47</p>

802.11ax-HT20-Low



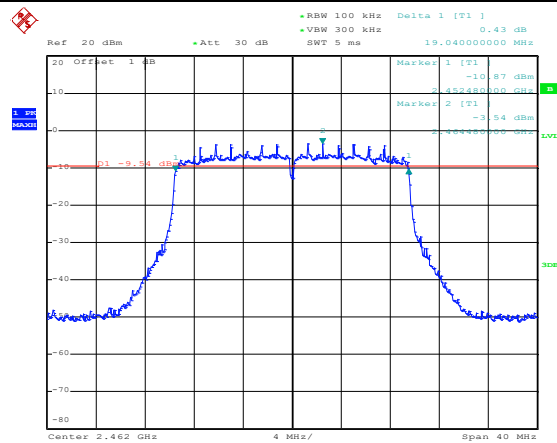
Date: 3.AUG.2023 20:03:48

802.11ax-HT20-Middle

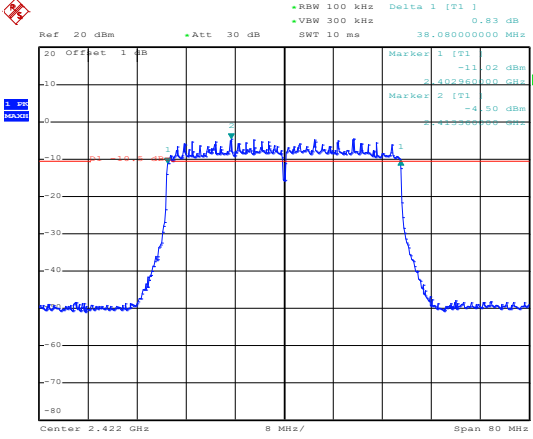
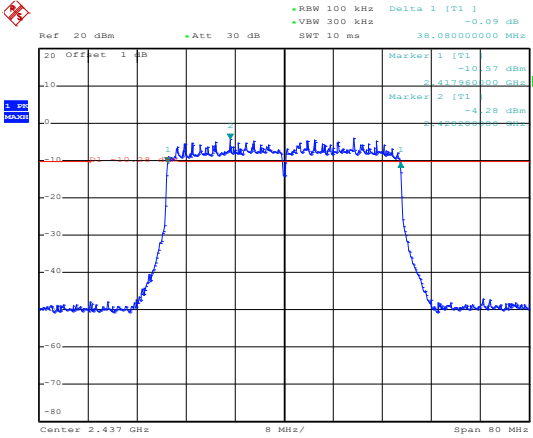
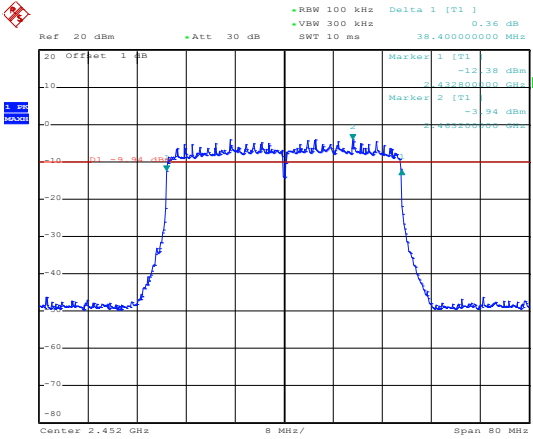


Date: 3.AUG.2023 20:04:44

802.11ax-HT20-High



Date: 3.AUG.2023 20:05:29

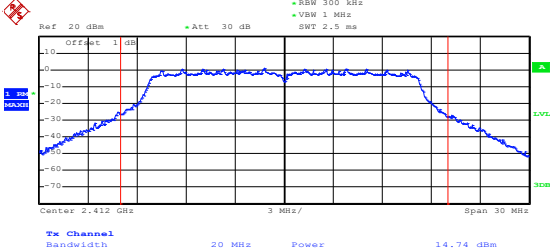
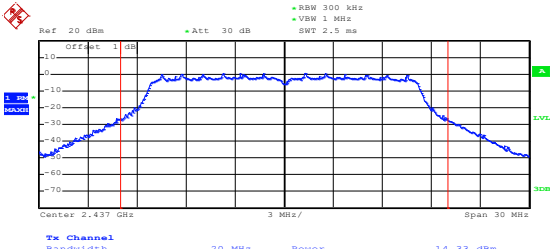
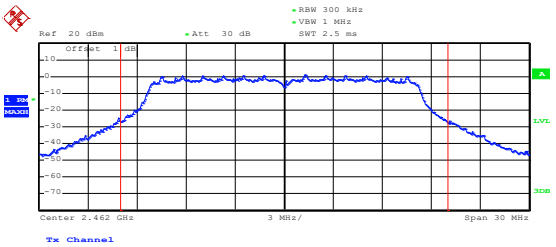
<p>802.11ax-HT40-Low</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 0.83 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 10 ms 38.08000000 MHz              20 Offset 1 dB              Marker 1 [T1] -11.02 dBm              Marker 2 [T1] -4.50 dBm              Center 2.422 GHz 8 MHz/ Span 80 MHz         </p> <p>Date: 3.AUG.2023 20:06:24</p>
<p>802.11ax-HT40-Middle</p>	 <p>             +RBW 100 kHz Delta 1 [T1] -0.09 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 10 ms 38.08000000 MHz              20 Offset 1 dB              Marker 1 [T1] -10.57 dBm              Marker 2 [T1] -4.28 dBm              Center 2.437 GHz 8 MHz/ Span 80 MHz         </p> <p>Date: 3.AUG.2023 20:07:18</p>
<p>802.11ax-HT40-High</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 0.36 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 10 ms 38.40000000 MHz              20 Offset 1 dB              Marker 1 [T1] -12.38 dBm              Marker 2 [T1] -3.94 dBm              Center 2.452 GHz 8 MHz/ Span 80 MHz         </p> <p>Date: 3.AUG.2023 20:08:49</p>

**APPENDIX C**

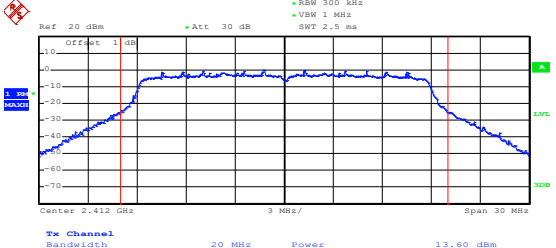
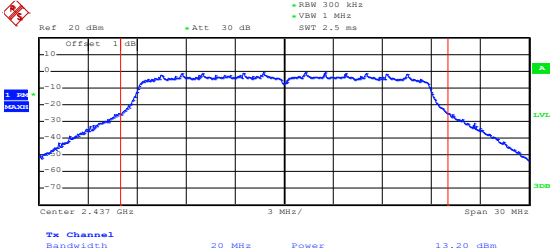
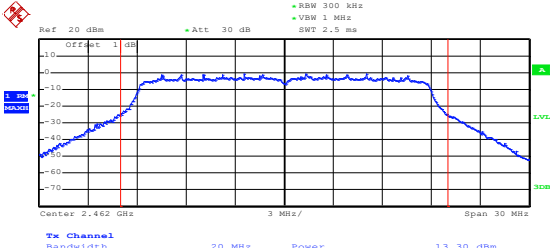
RF Output Power					
Test Mode	Frequency MHz	Antenna 1 dBm	Antenna 2 dBm	Total Power dBm	Limit dBm
802.11b _1Mbps	2412	15.41	15.15	/	30.00
	2437	15.22	15.36	/	30.00
	2462	15.09	15.07	/	30.00
802.11g_6Mbps	2412	14.74	14.43	/	30.00
	2437	14.33	14.09	/	30.00
	2462	14.79	14.14	/	30.00
802.11n HT20_MCS0	2412	13.60	13.32	16.47	30.00
	2437	13.20	13.25	16.24	30.00
	2462	13.30	13.15	16.24	30.00
802.11n HT40_MCS0	2422	12.64	12.11	15.39	30.00
	2437	12.19	12.43	15.32	30.00
	2452	12.43	12.21	15.33	30.00
802.11n AX20_MCS0	2412	13.10	12.30	15.73	30.00
	2437	13.05	12.41	15.75	30.00
	2462	13.41	12.44	15.96	30.00
802.11n AX40_MCS0	2422	12.03	12.16	15.11	30.00
	2437	12.22	12.31	15.28	30.00
	2452	12.49	12.42	15.47	30.00

Antenna 1

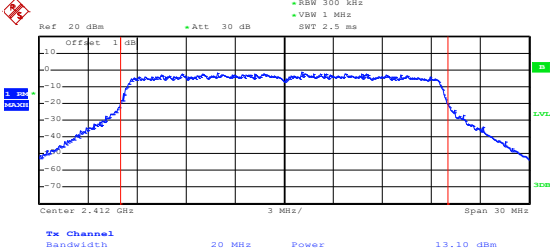
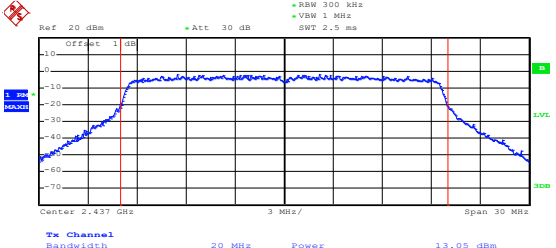
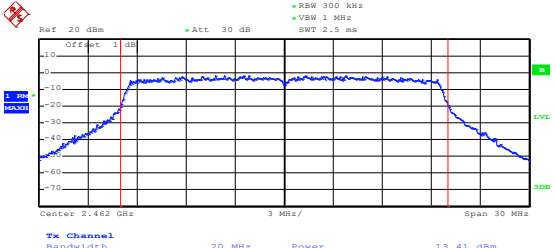
<p>802.11b-Low</p>	<p>Date: 13.MAY.2023 15:33:49</p>
<p>802.11b-Middle</p>	<p>Date: 13.MAY.2023 15:34:43</p>
<p>802.11b-High</p>	<p>Date: 13.MAY.2023 15:36:54</p>

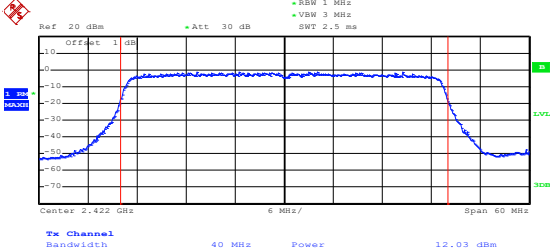
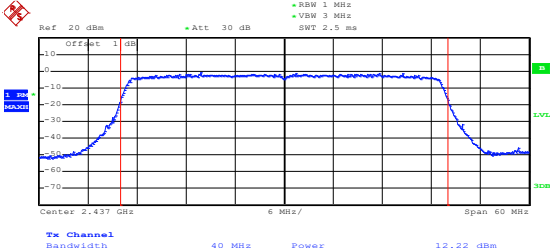
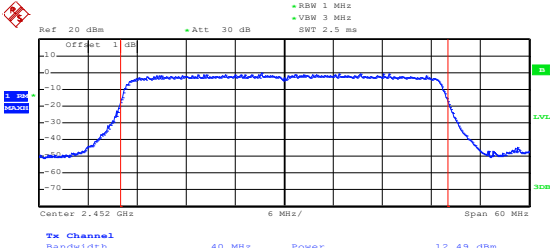
<p>802.11g-Low</p>	 <p>Date: 13.MAY.2023 15:38:21</p>
<p>802.11g-Middle</p>	 <p>Date: 13.MAY.2023 15:39:18</p>
<p>802.11g-High</p>	 <p>Date: 13.MAY.2023 15:39:59</p>



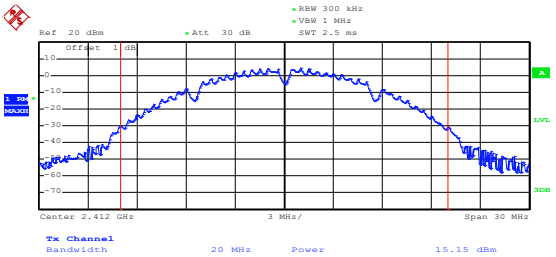
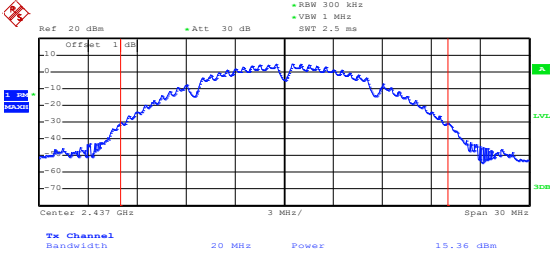
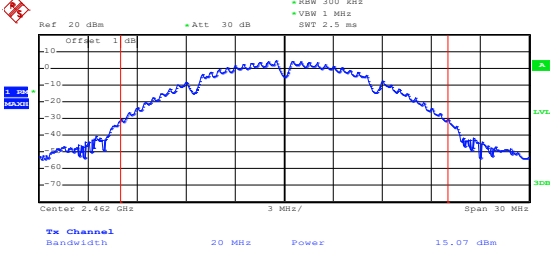
<p>802.11n-HT20-Low</p>	 <p>Date: 13.MAY.2023 15:41:13</p>
<p>802.11n-HT20-Middle</p>	 <p>Date: 13.MAY.2023 15:42:20</p>
<p>802.11n-HT20-High</p>	 <p>Date: 13.MAY.2023 15:42:53</p>

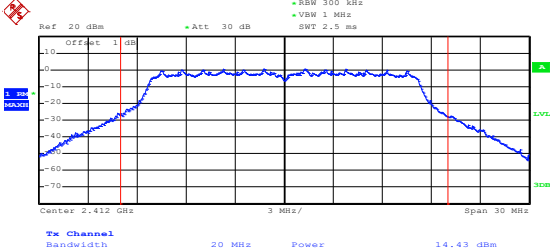
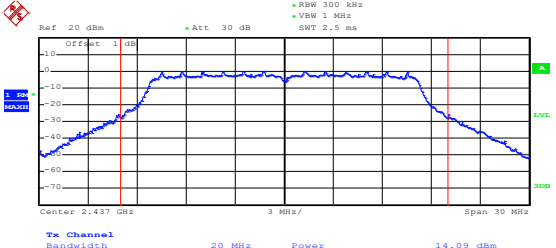
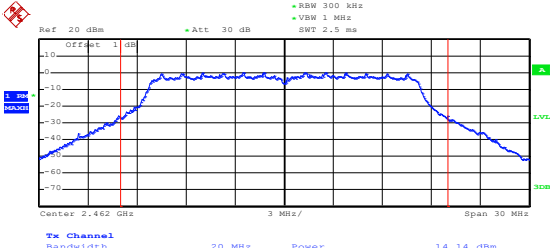
<p>802.11n-HT40-Low</p>	<p>Date: 13.MAY.2023 15:44:16</p>
<p>802.11n-HT40-Middle</p>	<p>Date: 13.MAY.2023 15:44:56</p>
<p>802.11n-HT40-High</p>	<p>Date: 13.MAY.2023 15:45:33</p>

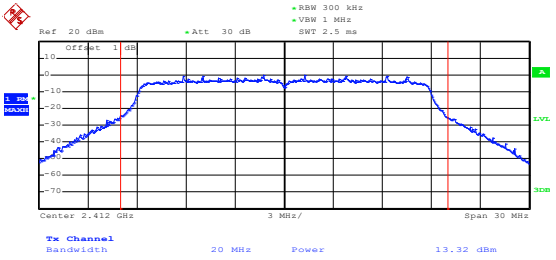
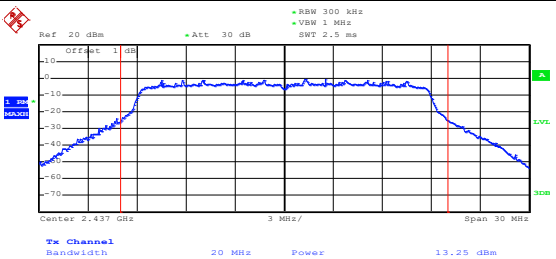
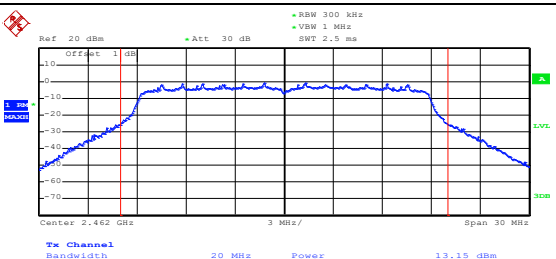
<p>802.11ax-HT20-Low</p>	 <p>Date: 3.AUG.2023 19:04:31</p>
<p>802.11ax-HT20-Middle</p>	 <p>Date: 3.AUG.2023 19:05:56</p>
<p>802.11ax-HT20-High</p>	 <p>Date: 3.AUG.2023 19:06:55</p>

<p>802.11ax-HT40-Low</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ms</p> <p>Center 2.422 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.03 dBm</p> <p>Date: 3.AUG.2023 19:08:10</p>
<p>802.11ax-HT40-Middle</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ms</p> <p>Center 2.437 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.22 dBm</p> <p>Date: 3.AUG.2023 19:09:04</p>
<p>802.11ax-HT40-High</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ms</p> <p>Center 2.452 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.49 dBm</p> <p>Date: 3.AUG.2023 19:09:46</p>

### Antenna 2

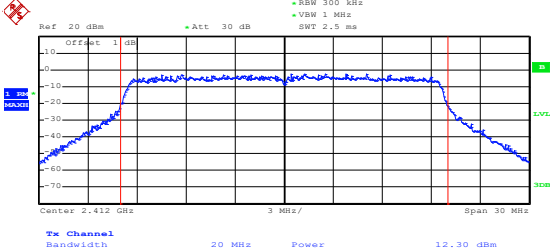
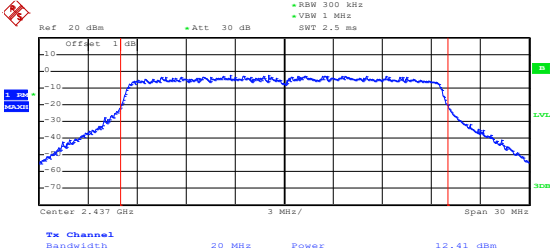
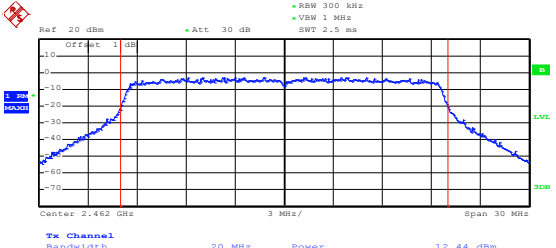
<p>802.11b-Low</p>	 <p>Ref: 20 dBm    Offset: 1 dB    Att: 30 dB    RBW: 300 kHz    VBW: 1 MHz    SWT: 2.5 ms</p> <p>Center: 2.412 GHz    Span: 30 MHz</p> <p>Tx Channel Bandwidth: 20 MHz    Power: 15.15 dBm</p> <p>Date: 13.MAY.2023 16:51:42</p>
<p>802.11b-Middle</p>	 <p>Ref: 20 dBm    Offset: 1 dB    Att: 30 dB    RBW: 300 kHz    VBW: 1 MHz    SWT: 2.5 ms</p> <p>Center: 2.437 GHz    Span: 30 MHz</p> <p>Tx Channel Bandwidth: 20 MHz    Power: 15.36 dBm</p> <p>Date: 13.MAY.2023 16:52:52</p>
<p>802.11b-High</p>	 <p>Ref: 20 dBm    Offset: 1 dB    Att: 30 dB    RBW: 300 kHz    VBW: 1 MHz    SWT: 2.5 ms</p> <p>Center: 2.462 GHz    Span: 30 MHz</p> <p>Tx Channel Bandwidth: 20 MHz    Power: 15.07 dBm</p> <p>Date: 13.MAY.2023 16:54:10</p>

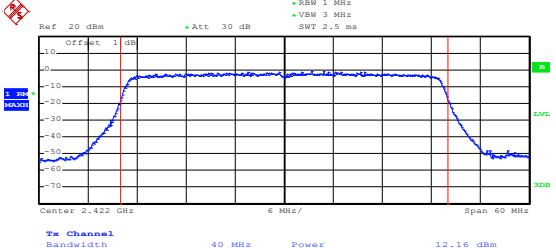
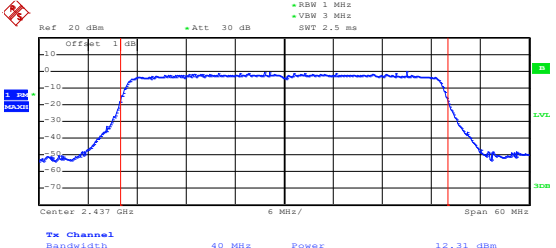
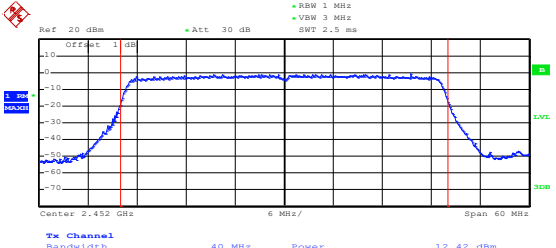
<p>802.11g-Low</p>	 <p>Date: 13.MAY.2023 16:56:57</p>
<p>802.11g-Middle</p>	 <p>Date: 13.MAY.2023 16:58:19</p>
<p>802.11g-High</p>	 <p>Date: 13.MAY.2023 16:59:45</p>

<p>802.11n-HT20-Low</p>	 <p>Ref: 20 dBm    +Att: 30 dB    +RBW: 300 kHz          +VBW: 1 MHz    +SWT: 2.5 ms</p> <p>Offset: 1 dB</p> <p>Center: 2.412 GHz    3 MHz/    Span: 30 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 20 MHz    Power: 13.32 dBm</p> <p>Date: 13.MAY.2023 17:01:01</p>
<p>802.11n-HT20-Middle</p>	 <p>Ref: 20 dBm    +Att: 30 dB    +RBW: 300 kHz          +VBW: 1 MHz    +SWT: 2.5 ms</p> <p>Offset: 1 dB</p> <p>Center: 2.437 GHz    3 MHz/    Span: 30 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 20 MHz    Power: 13.25 dBm</p> <p>Date: 13.MAY.2023 17:01:48</p>
<p>802.11n-HT20-High</p>	 <p>Ref: 20 dBm    +Att: 30 dB    +RBW: 300 kHz          +VBW: 1 MHz    +SWT: 2.5 ms</p> <p>Offset: 1 dB</p> <p>Center: 2.462 GHz    3 MHz/    Span: 30 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 20 MHz    Power: 13.15 dBm</p> <p>Date: 13.MAY.2023 17:03:10</p>

<p>802.11n-HT40-Low</p>	<p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ms</p> <p>Center 2.422 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.11 dBm</p> <p>Date: 13.MAY.2023 17:04:33</p>
<p>802.11n-HT40-Middle</p>	<p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ms</p> <p>Center 2.437 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.43 dBm</p> <p>Date: 13.MAY.2023 17:05:37</p>
<p>802.11n-HT40-High</p>	<p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ms</p> <p>Center 2.452 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.21 dBm</p> <p>Date: 13.MAY.2023 17:06:21</p>



<p>802.11ax-HT20-Low</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 300 kHz          Offset: 1 dB    VBW: 1 MHz    SWT: 2.5 ms</p> <p>Center: 2.412 GHz    Span: 30 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 20 MHz    Power: 12.30 dBm</p> <p>Date: 3.AUG.2023 19:43:35</p>
<p>802.11ax-HT20-Middle</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 300 kHz          Offset: 1 dB    VBW: 1 MHz    SWT: 2.5 ms</p> <p>Center: 2.437 GHz    Span: 30 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 20 MHz    Power: 12.41 dBm</p> <p>Date: 3.AUG.2023 19:44:28</p>
<p>802.11ax-HT20-High</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 300 kHz          Offset: 1 dB    VBW: 1 MHz    SWT: 2.5 ms</p> <p>Center: 2.462 GHz    Span: 30 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 20 MHz    Power: 12.44 dBm</p> <p>Date: 3.AUG.2023 19:45:25</p>

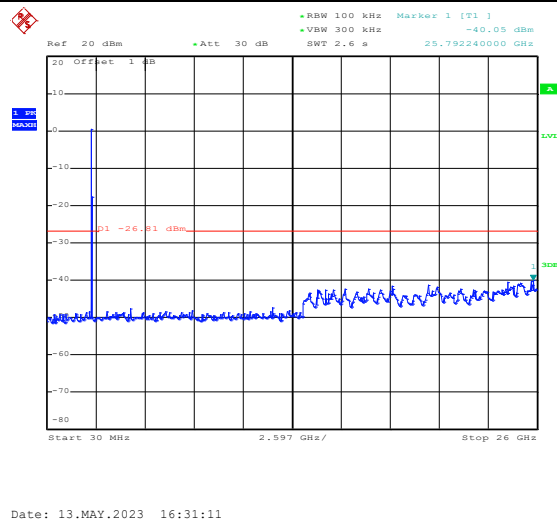
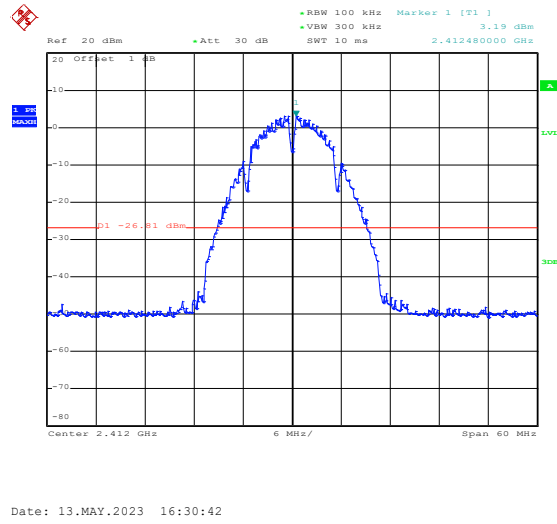
<p>802.11ax-HT40-Low</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ns</p> <p>Center 2.422 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.16 dBm</p> <p>Date: 3.AUG.2023 19:53:25</p>
<p>802.11ax-HT40-Middle</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ns</p> <p>Center 2.437 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.31 dBm</p> <p>Date: 3.AUG.2023 19:54:22</p>
<p>802.11ax-HT40-High</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 1 MHz          Offset 1 dB    VBW 3 MHz    SWT 2.5 ns</p> <p>Center 2.452 GHz    6 MHz/    Span 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth 40 MHz    Power 12.42 dBm</p> <p>Date: 3.AUG.2023 19:55:10</p>

# APPENDIX D

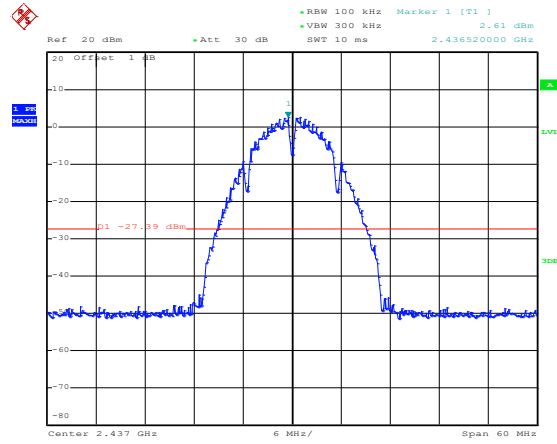
## Conducted Out of Band Emissions

### Antenna 1

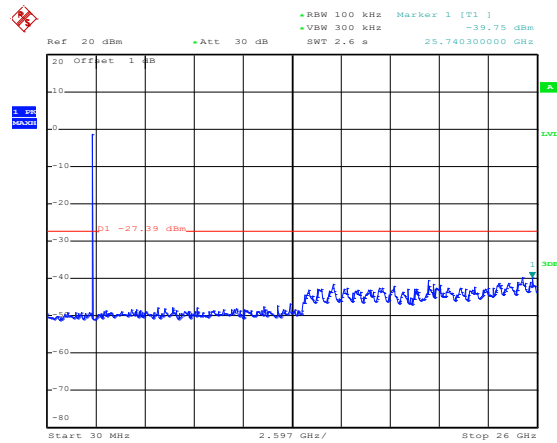
802.11b-Low



802.11b-Middle

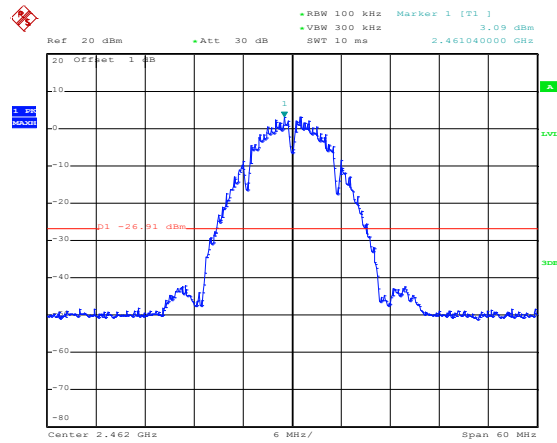


Date: 13.MAY.2023 16:31:54

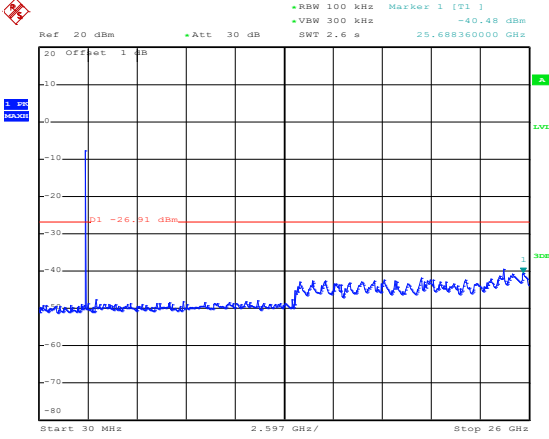
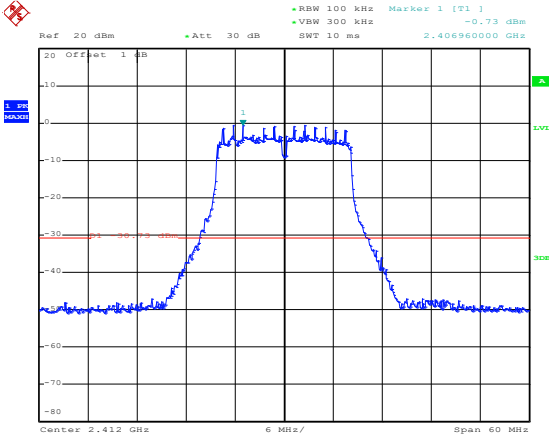
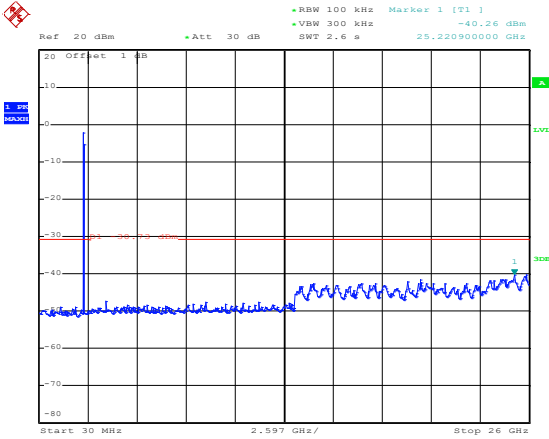


Date: 13.MAY.2023 16:32:16

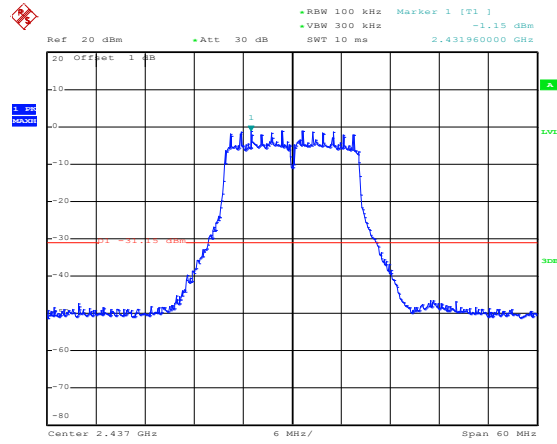
802.11b-High



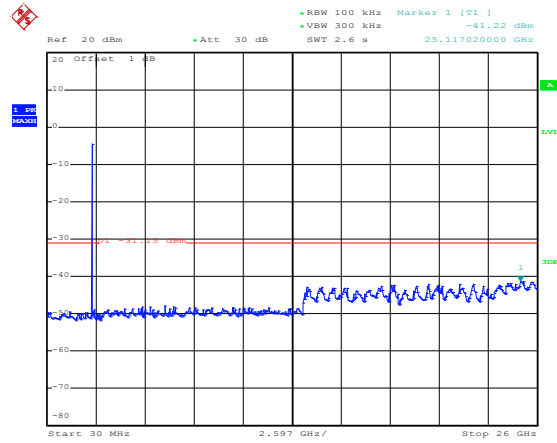
Date: 13.MAY.2023 16:33:26

	 <p>Date: 13.MAY.2023 16:33:49</p>
<p>802.11g-Low</p>	 <p>Date: 13.MAY.2023 16:34:38</p>
	 <p>Date: 13.MAY.2023 16:35:44</p>

802.11g-Middle

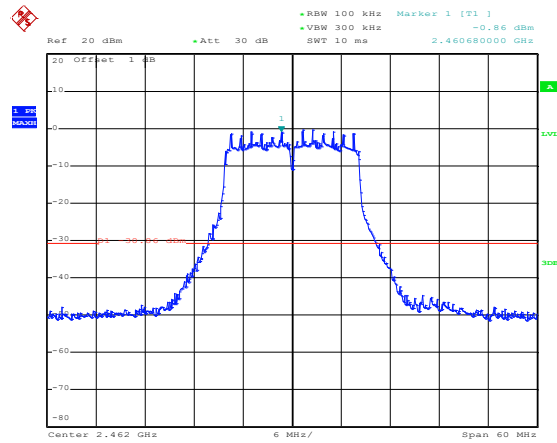


Date: 13.MAY.2023 16:36:27

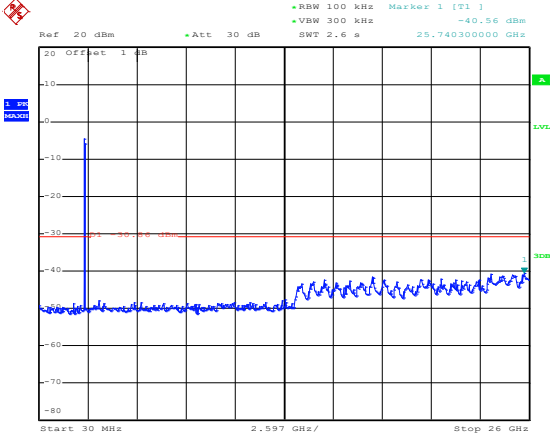
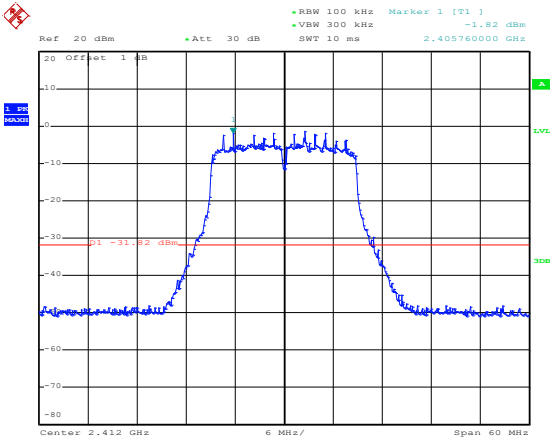
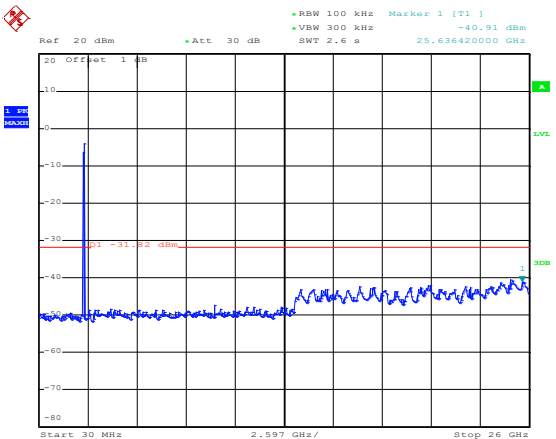


Date: 13.MAY.2023 16:36:42

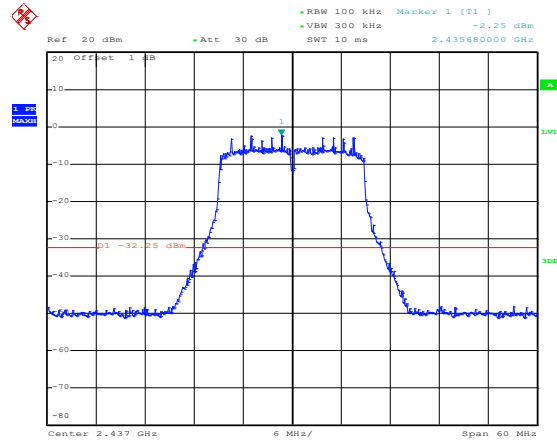
802.11g-High



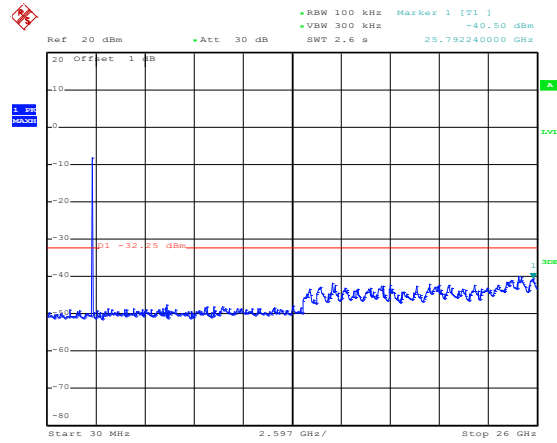
Date: 13.MAY.2023 16:37:11

	 <p>Date: 13.MAY.2023 16:37:27</p>
802.11n-HT20-Low	 <p>Date: 13.MAY.2023 16:38:19</p>
	 <p>Date: 13.MAY.2023 16:38:35</p>

802.11n-HT20-Middle

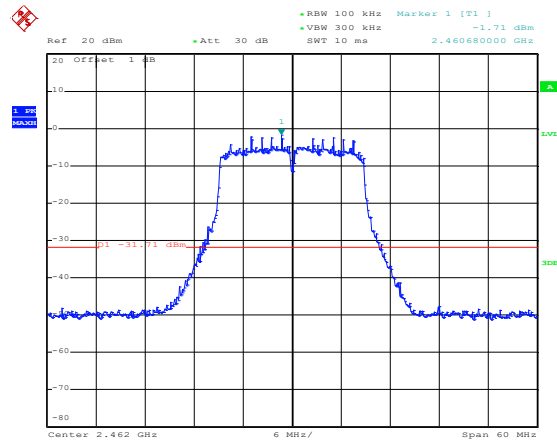


Date: 13.MAY.2023 16:39:15



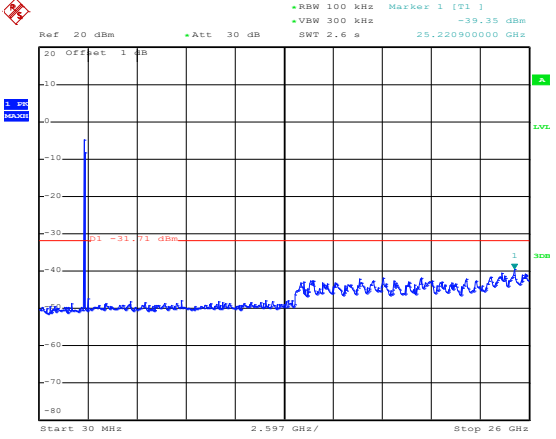
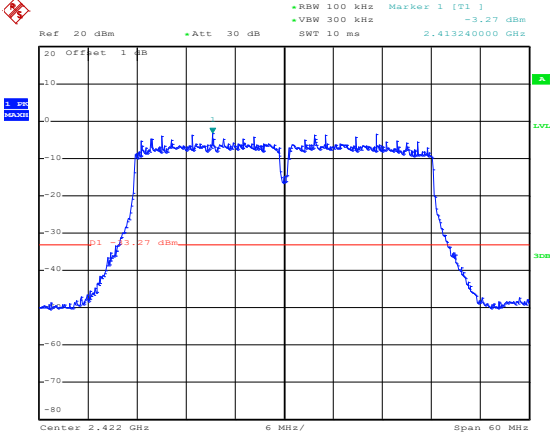
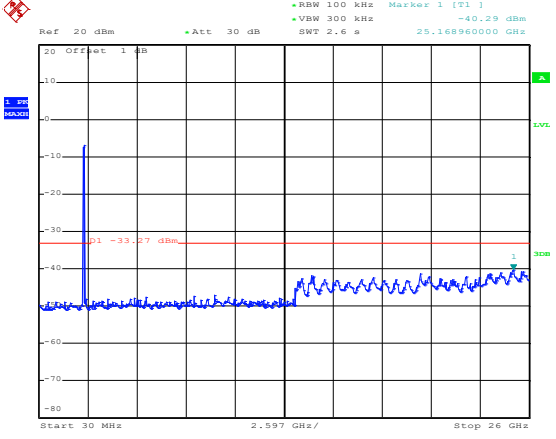
Date: 13.MAY.2023 16:39:31

802.11n-HT20-High

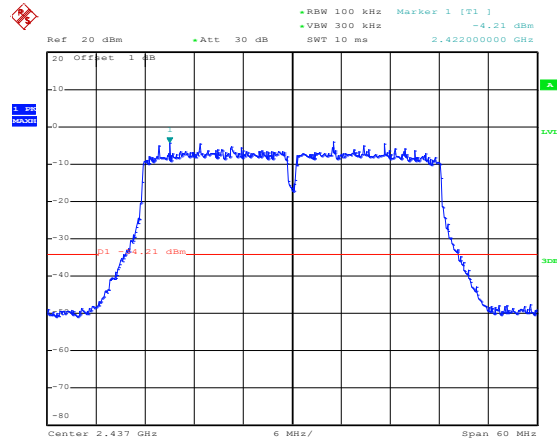


Date: 13.MAY.2023 16:40:08

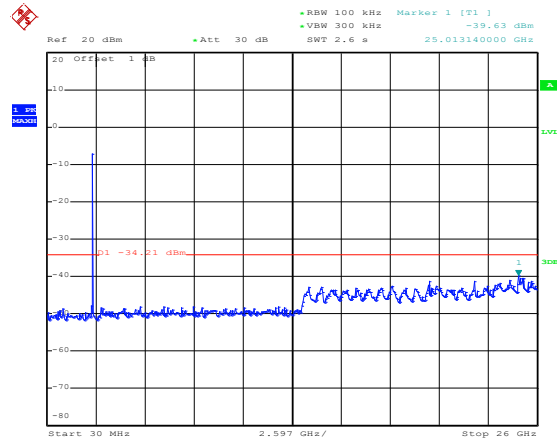


	 <p>Date: 13.MAY.2023 16:40:27</p>
<p>802.11n-HT40-Low</p>	 <p>Date: 13.MAY.2023 16:41:26</p>
	 <p>Date: 13.MAY.2023 16:41:48</p>

802.11n-HT40-Middle

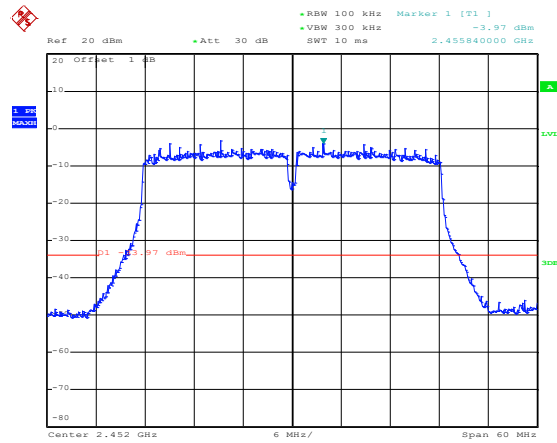


Date: 13.MAY.2023 16:42:17

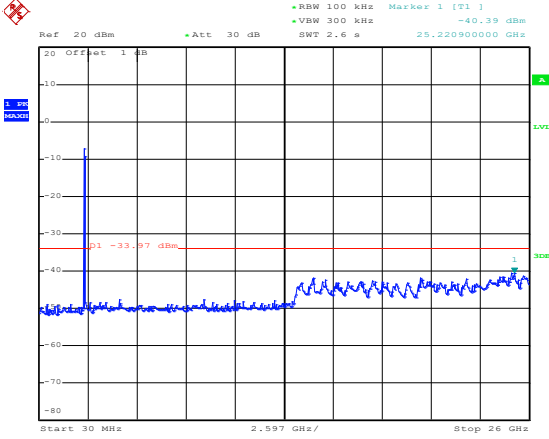
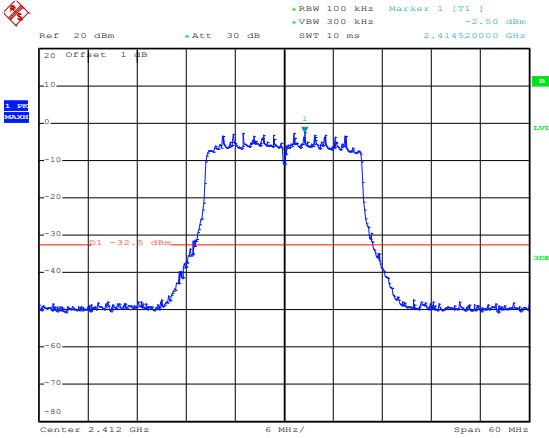
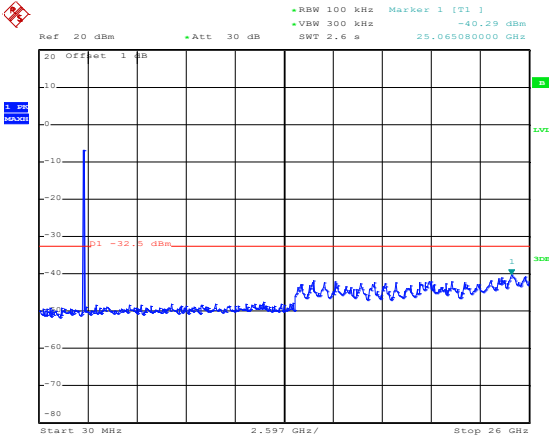


Date: 13.MAY.2023 16:42:31

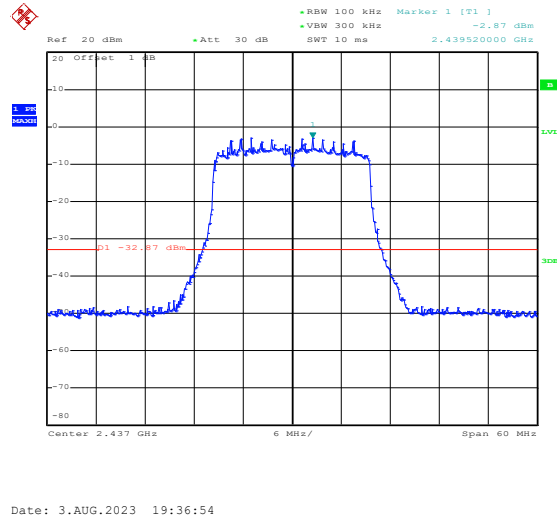
802.11n-HT40-High



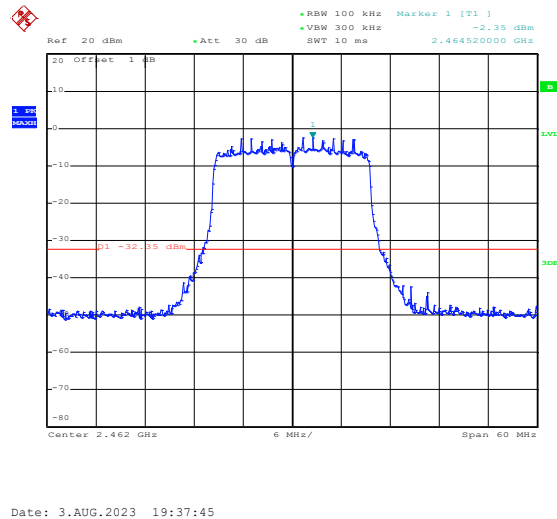
Date: 13.MAY.2023 16:43:06

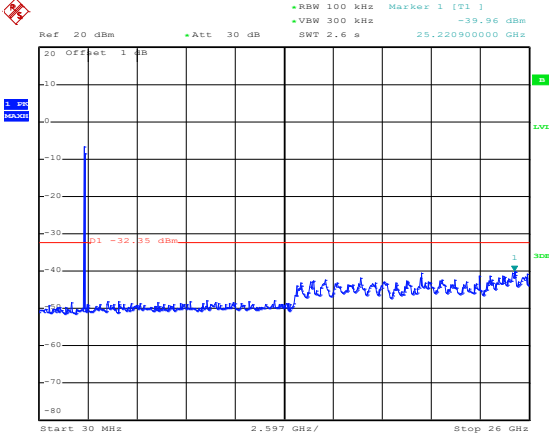
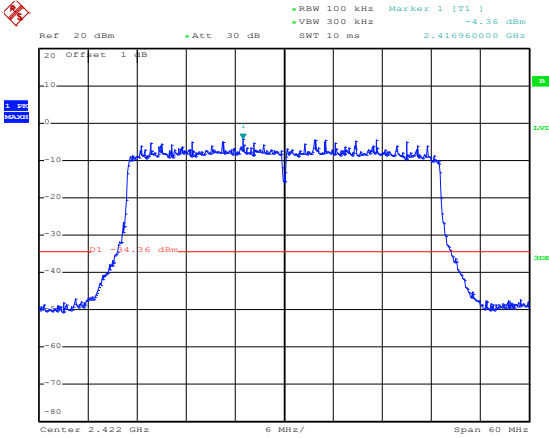
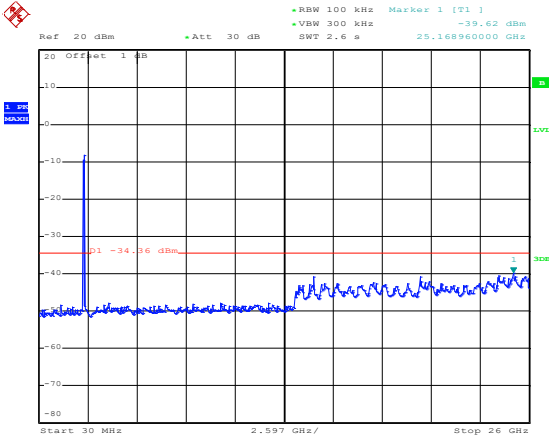
	 <p>Date: 13.MAY.2023 16:43:20</p>
<p>802.11ax-HT20-Low</p>	 <p>Date: 3.AUG.2023 19:35:56</p>
	 <p>Date: 3.AUG.2023 19:36:13</p>

802.11ax-HT20-Middle

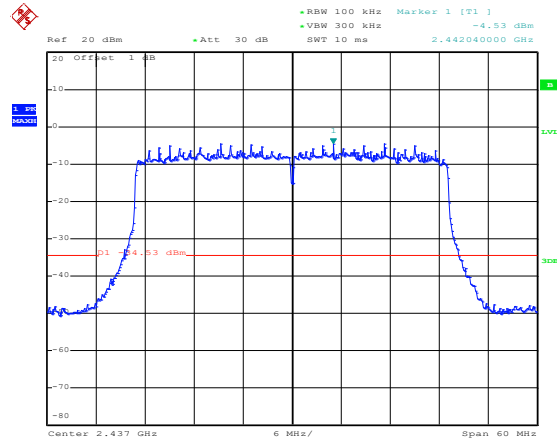


802.11ax-HT20-High

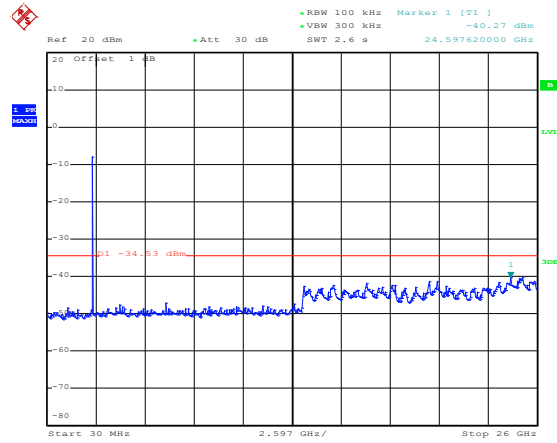


	 <p>Date: 3.AUG.2023 19:37:56</p>
<p>802.11ax-HT40-Low</p>	 <p>Date: 3.AUG.2023 19:38:39</p>
	 <p>Date: 3.AUG.2023 19:38:55</p>

802.11ax-HT40-Middle

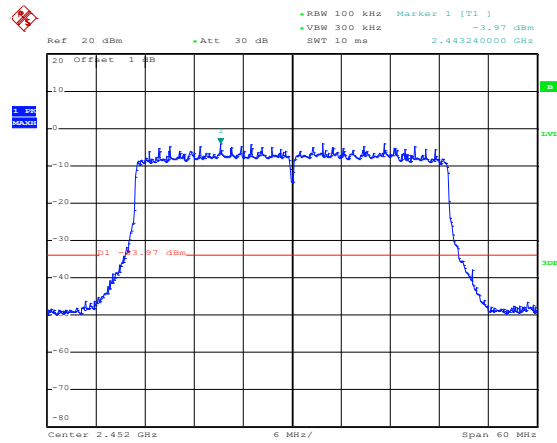


Date: 3.AUG.2023 19:39:32

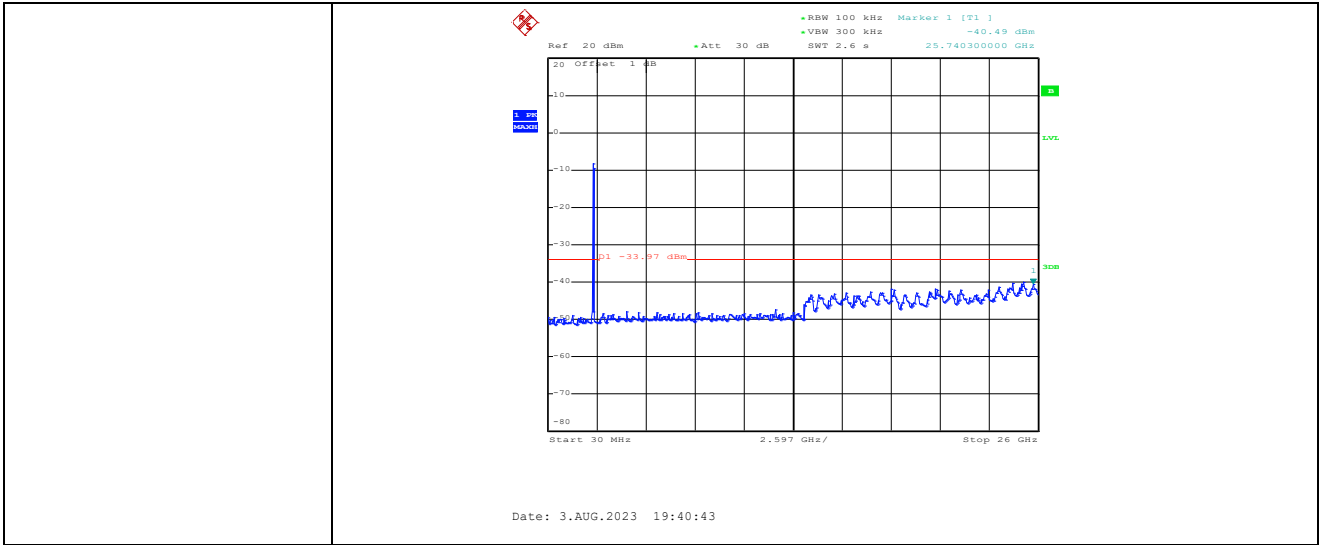


Date: 3.AUG.2023 19:39:47

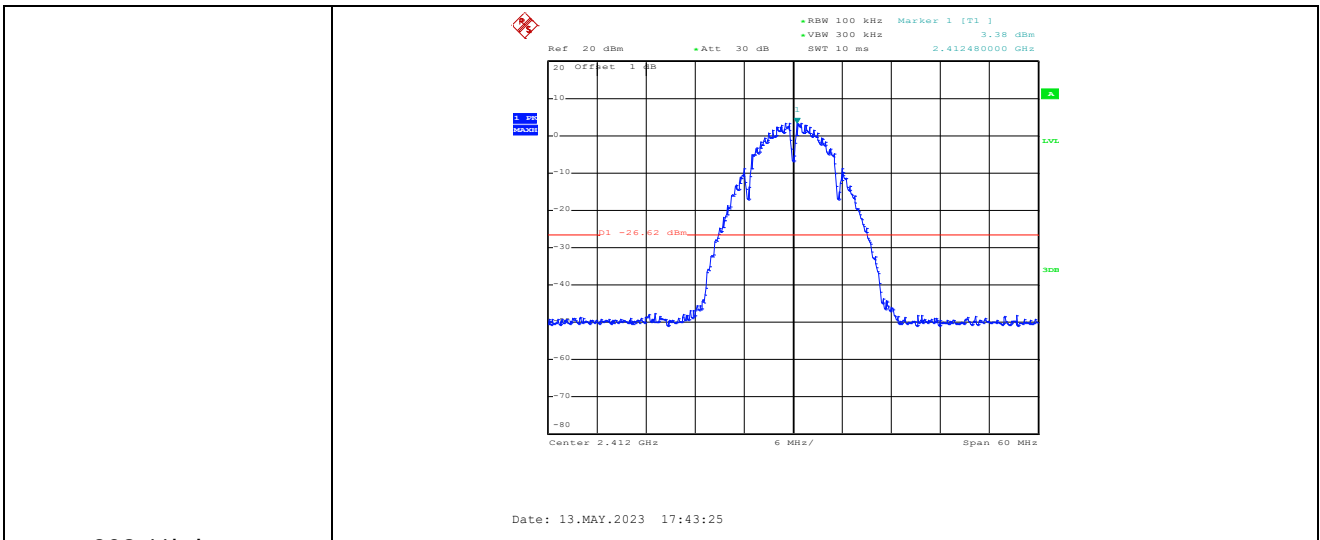
802.11ax-HT40-High



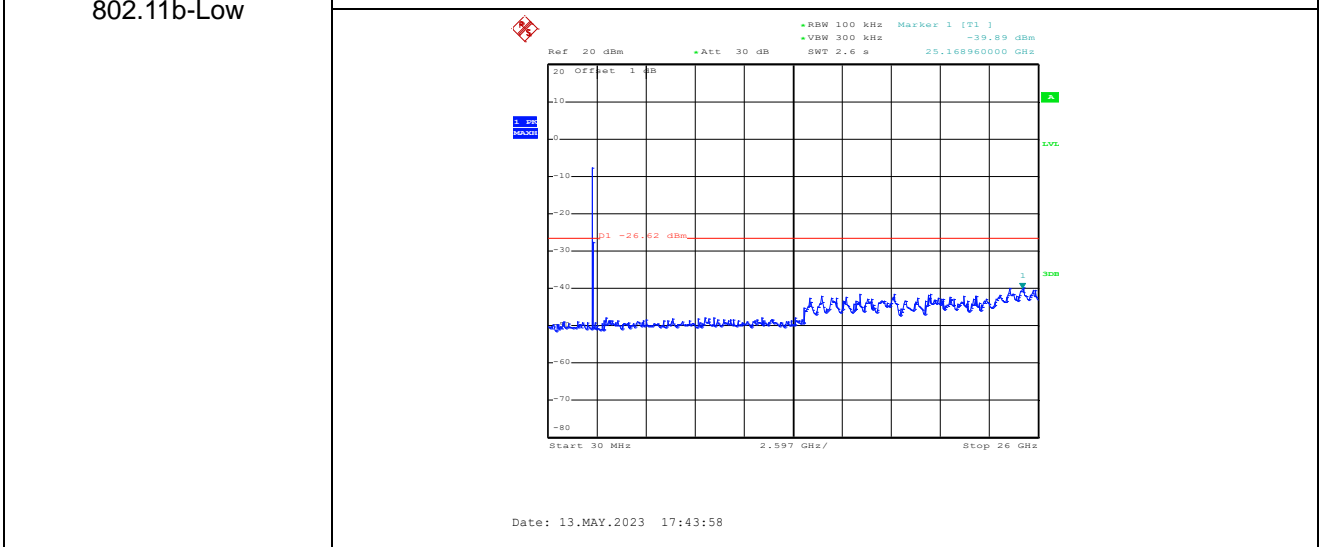
Date: 3.AUG.2023 19:40:29



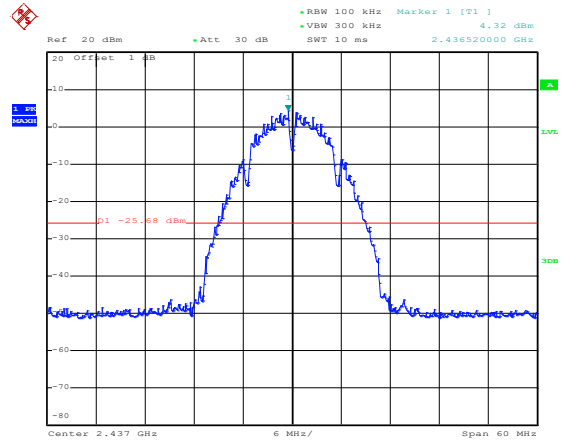
Antenna 2



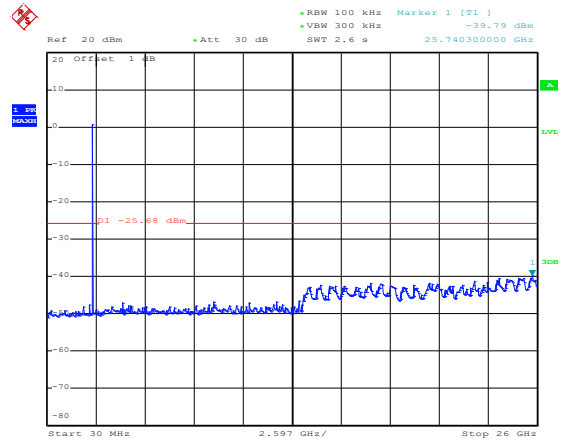
802.11b-Low



802.11b-Middle

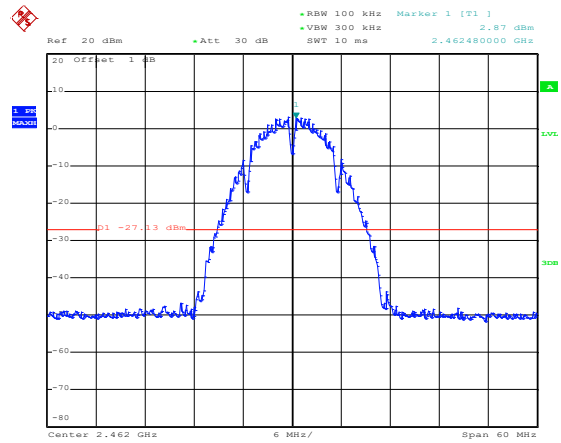


Date: 13.MAY.2023 17:44:42



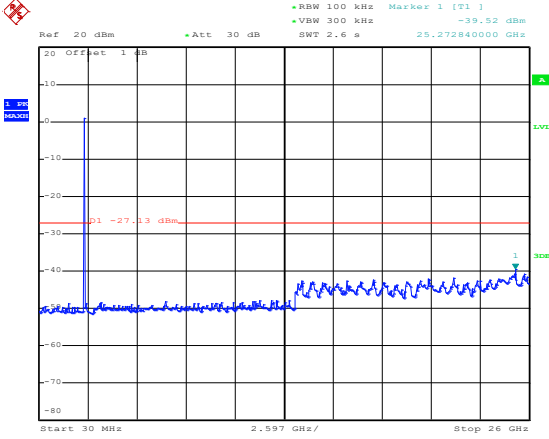
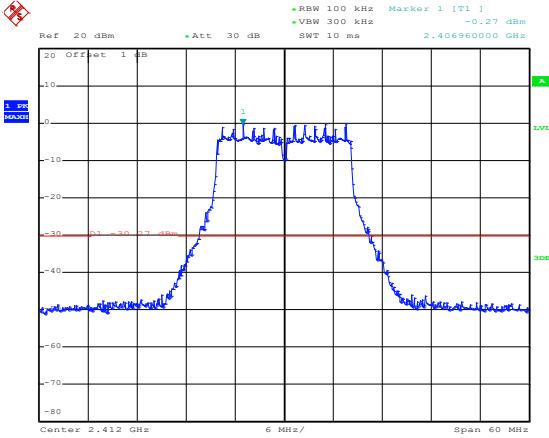
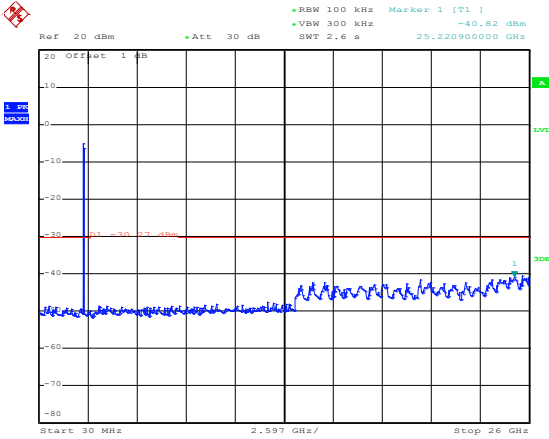
Date: 13.MAY.2023 17:45:15

802.11b-High

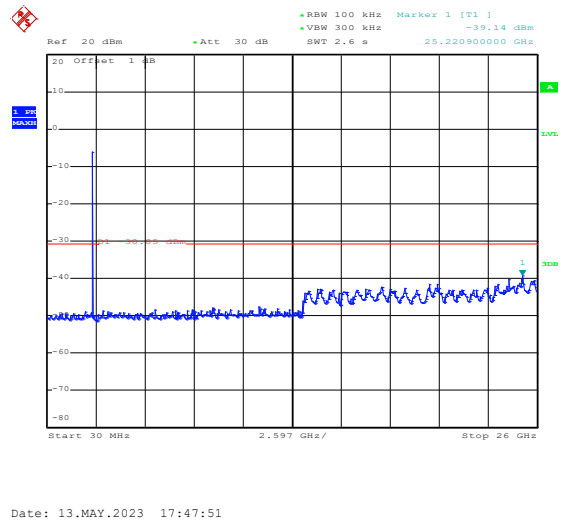
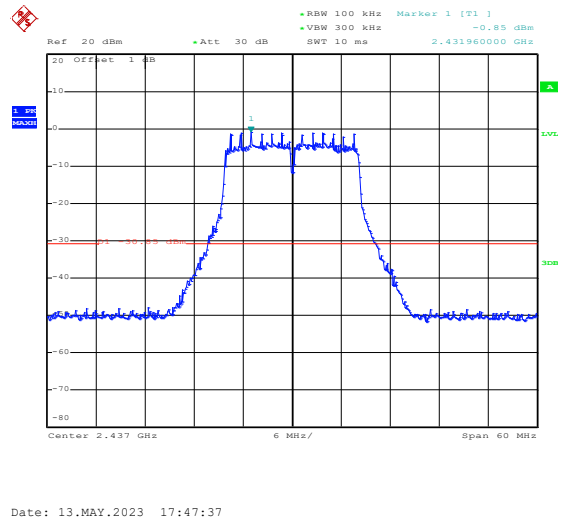


Date: 13.MAY.2023 17:45:56

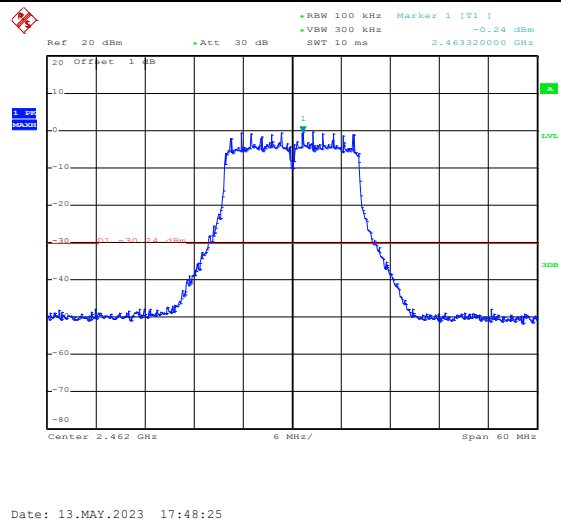


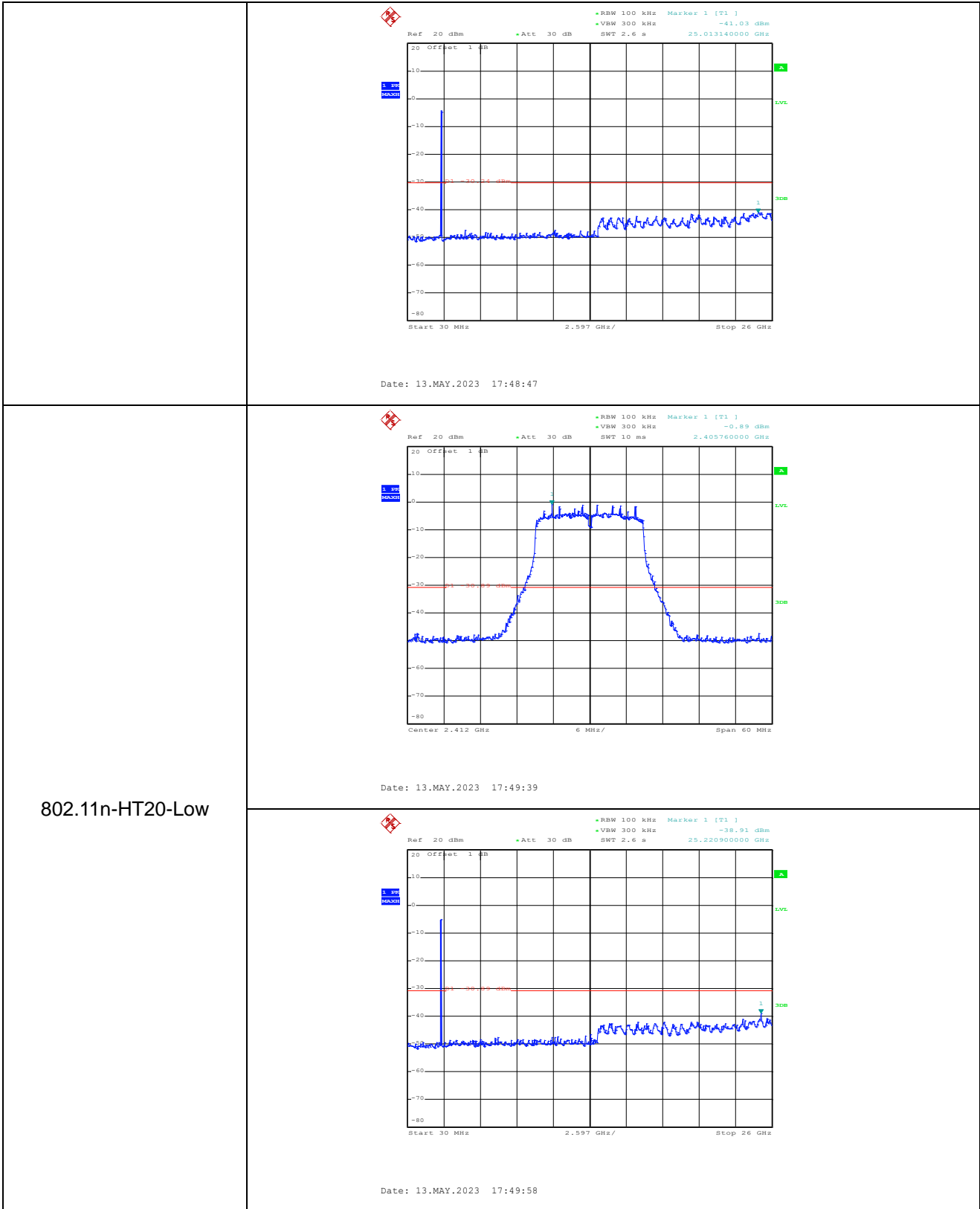
	 <p>Date: 13.MAY.2023 17:46:12</p>
<p>802.11g-Low</p>	 <p>Date: 13.MAY.2023 17:46:52</p>
	 <p>Date: 13.MAY.2023 17:47:06</p>

802.11g-Middle

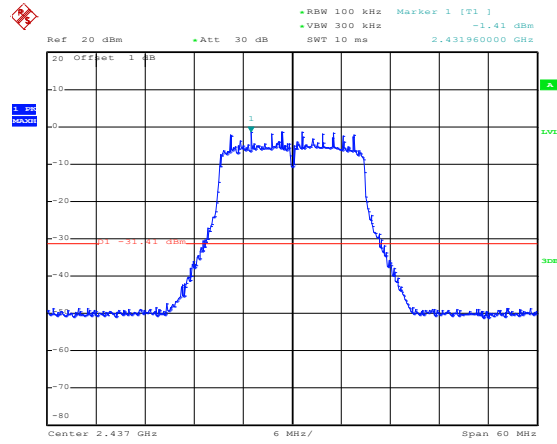


802.11g-High

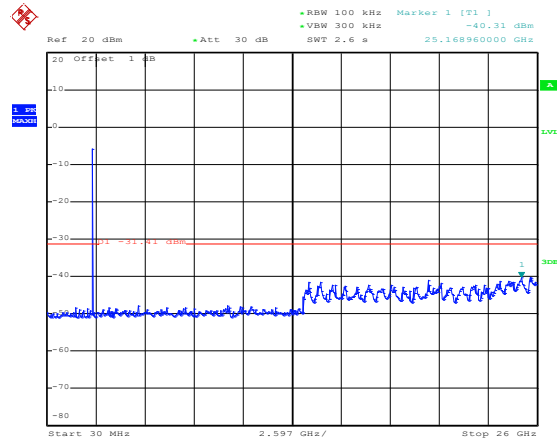




802.11n-HT20-Middle

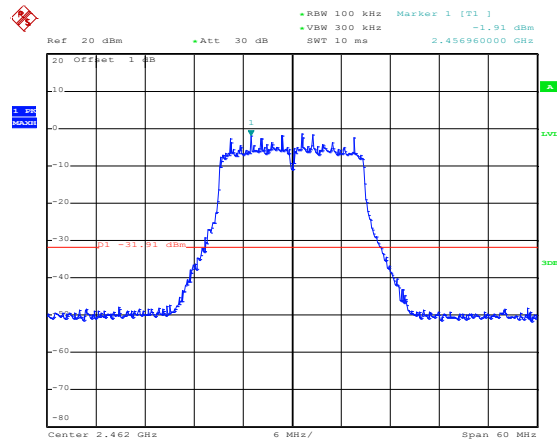


Date: 13.MAY.2023 17:50:39

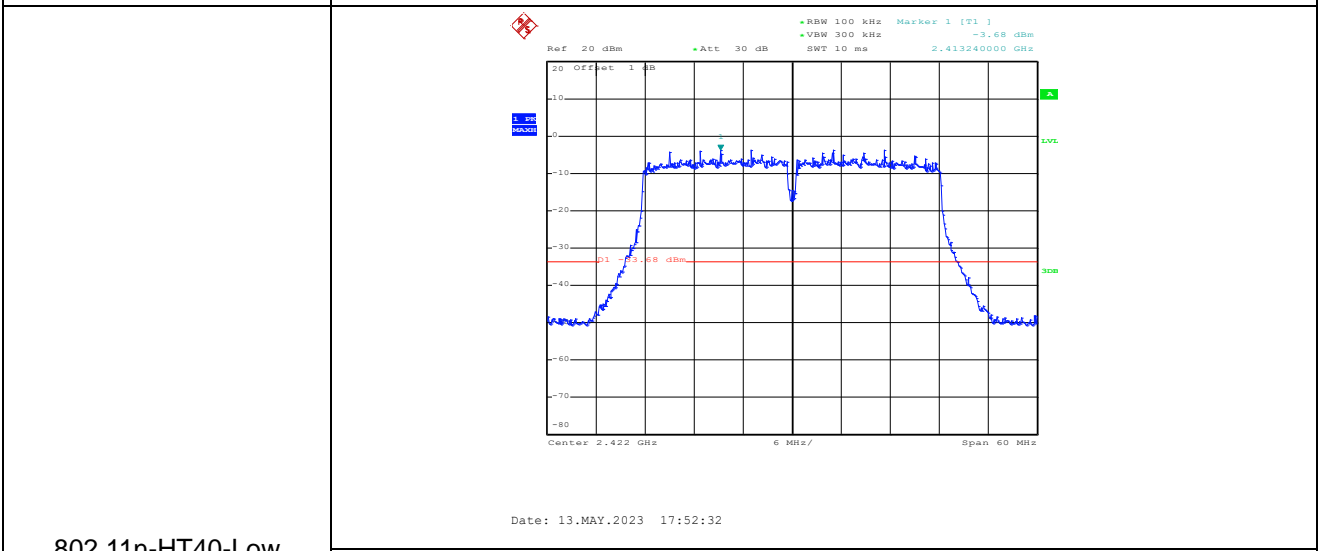
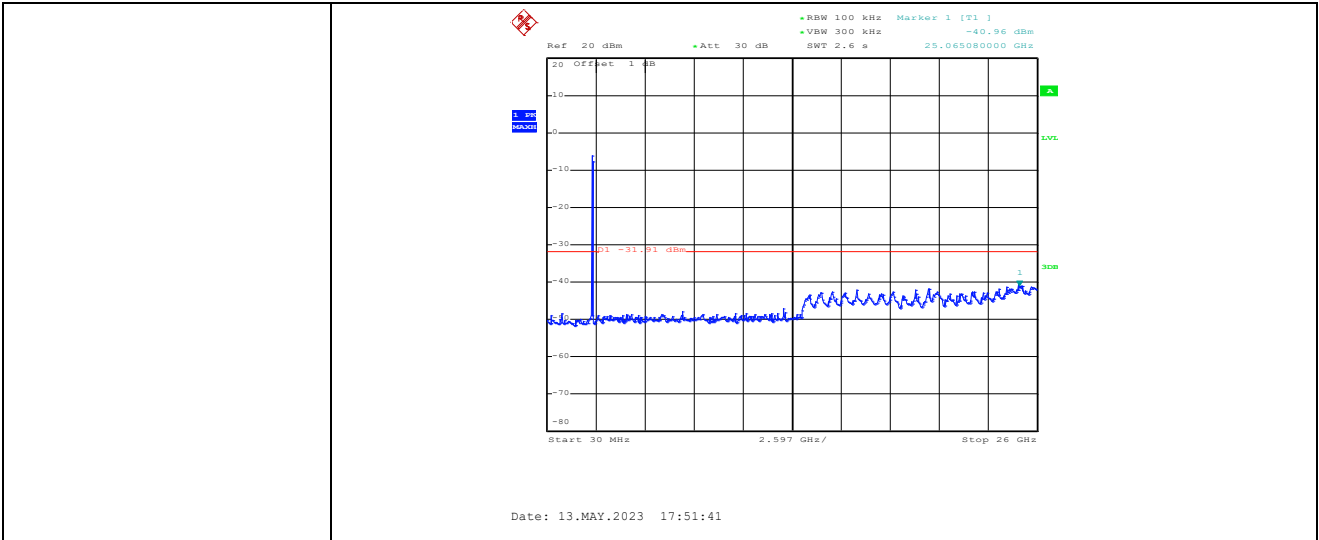


Date: 13.MAY.2023 17:50:53

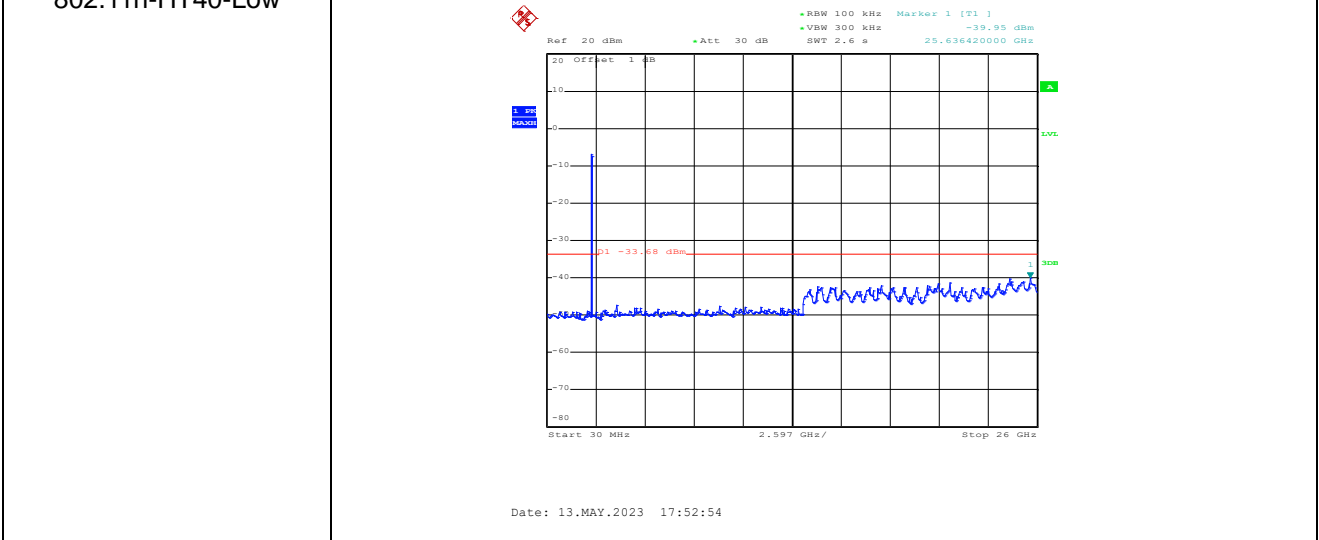
802.11n-HT20-High



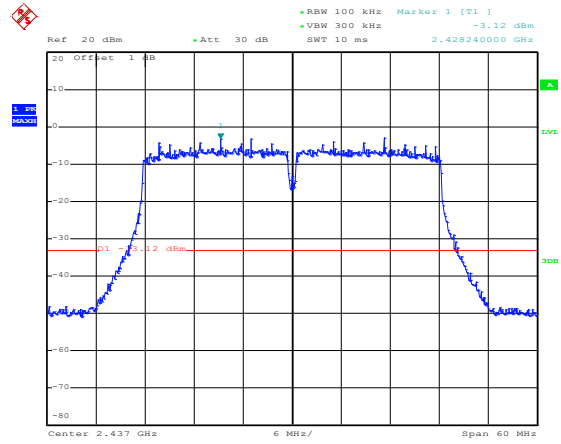
Date: 13.MAY.2023 17:51:27



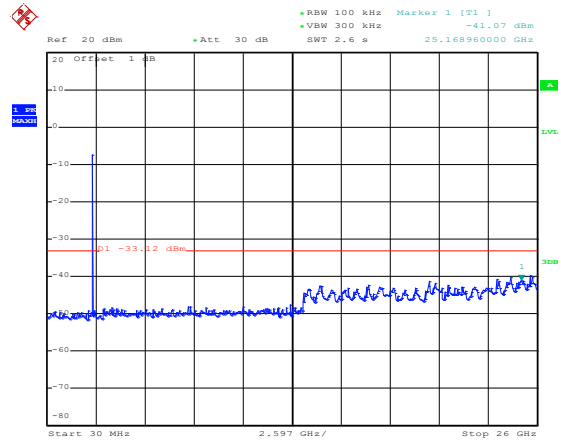
802.11n-HT40-Low



802.11n-HT40-Middle

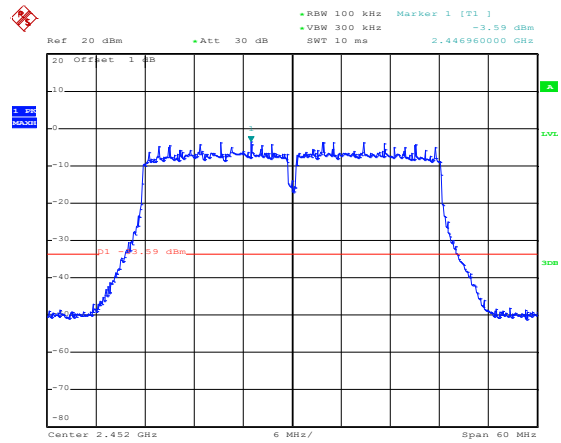


Date: 13.MAY.2023 17:53:29

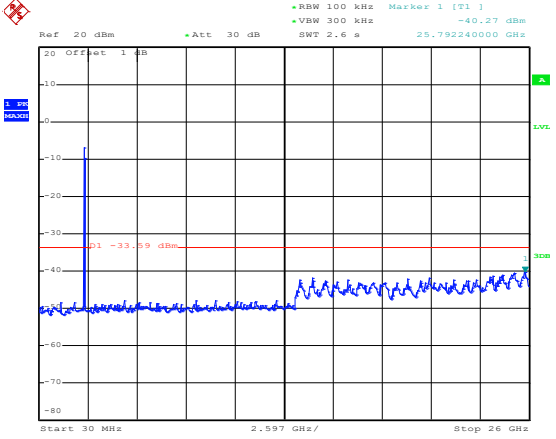
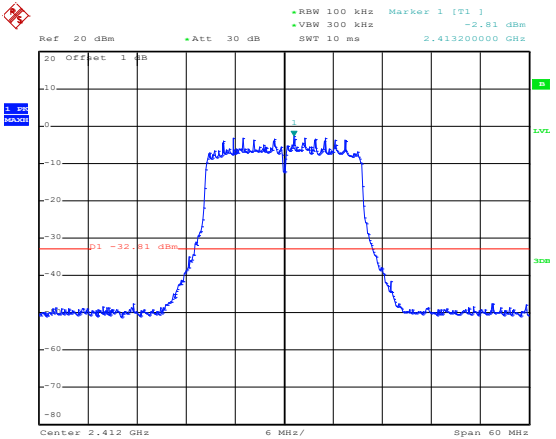
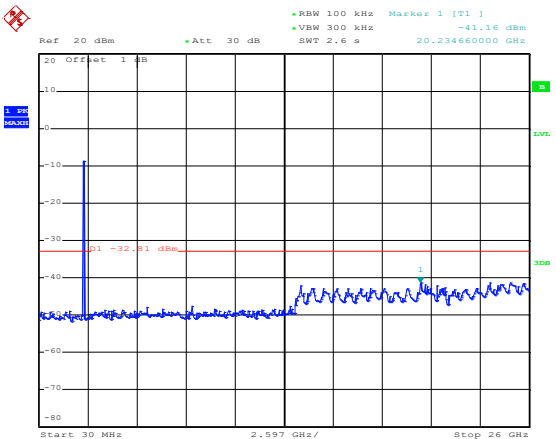


Date: 13.MAY.2023 17:53:43

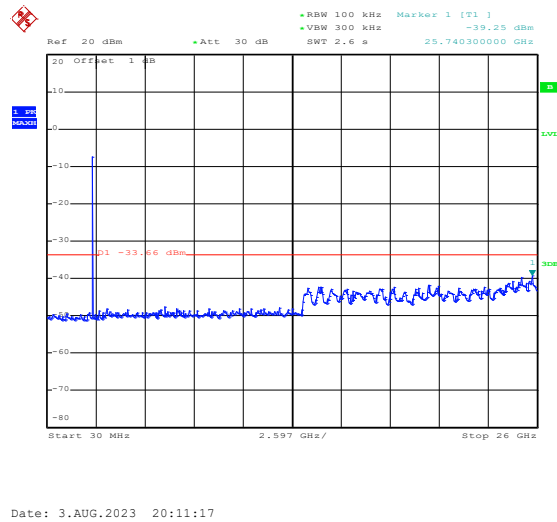
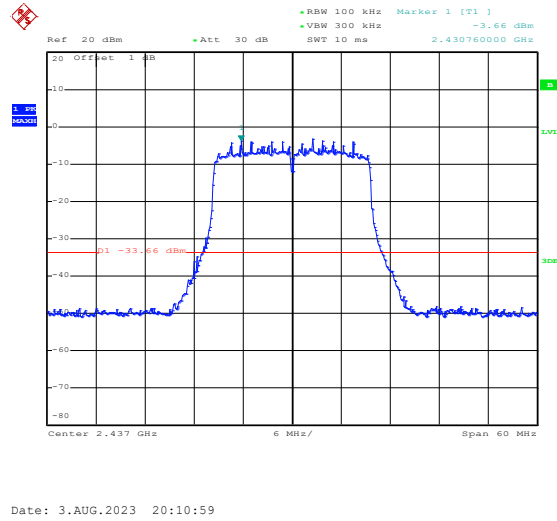
802.11n-HT40-High



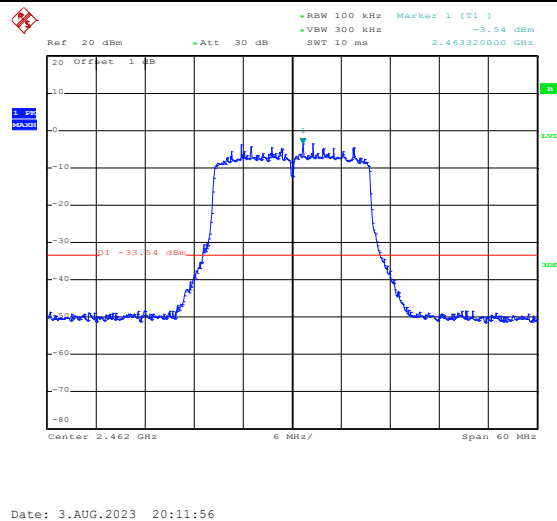
Date: 13.MAY.2023 17:54:13

	 <p>Date: 13.MAY.2023 17:54:29</p>
802.11ax-HT20-Low	 <p>Date: 3.AUG.2023 20:10:04</p>
	 <p>Date: 3.AUG.2023 20:10:16</p>

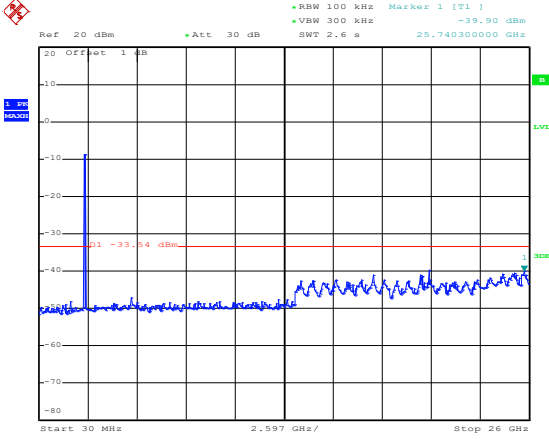
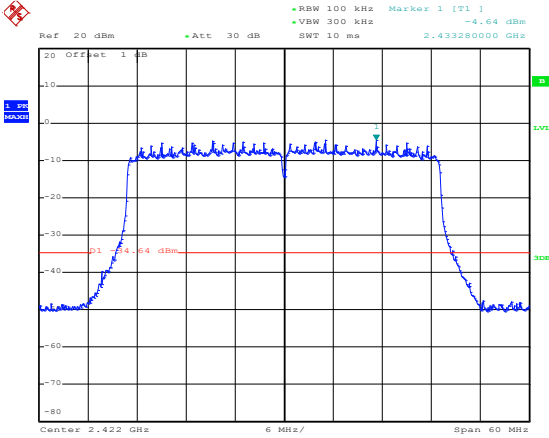
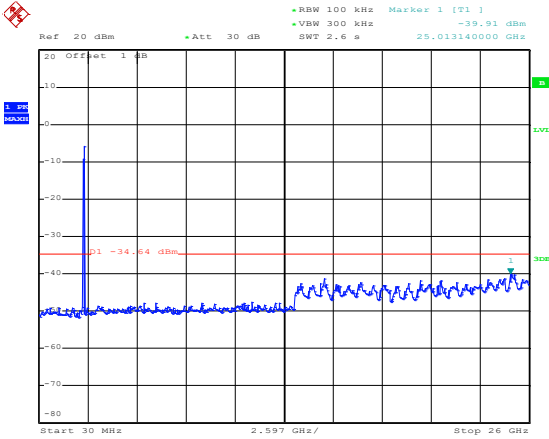
802.11ax-HT20-Middle



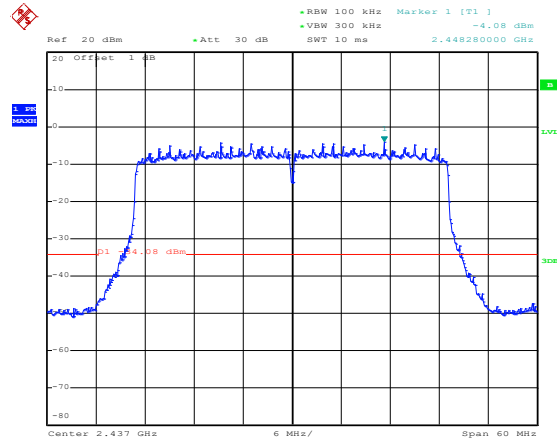
802.11ax-HT20-High



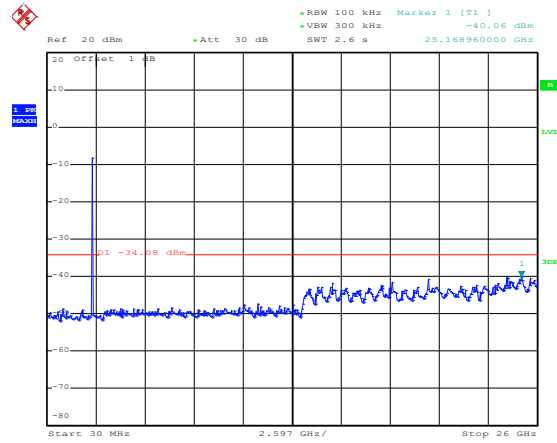


	 <p>Date: 3.AUG.2023 20:12:11</p>
<p>802.11ax-HT40-Low</p>	 <p>Date: 3.AUG.2023 20:13:06</p>
	 <p>Date: 3.AUG.2023 20:13:20</p>

802.11ax-HT40-Middle

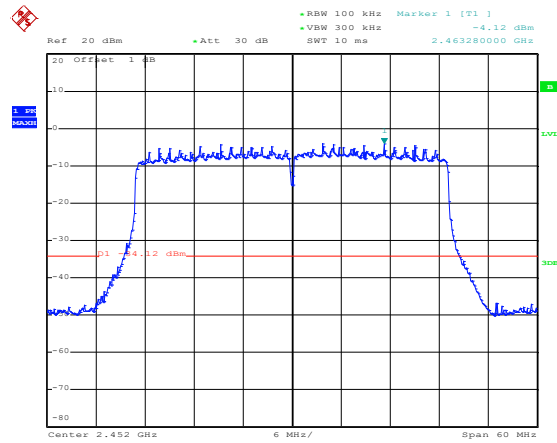


Date: 3.AUG.2023 20:14:20

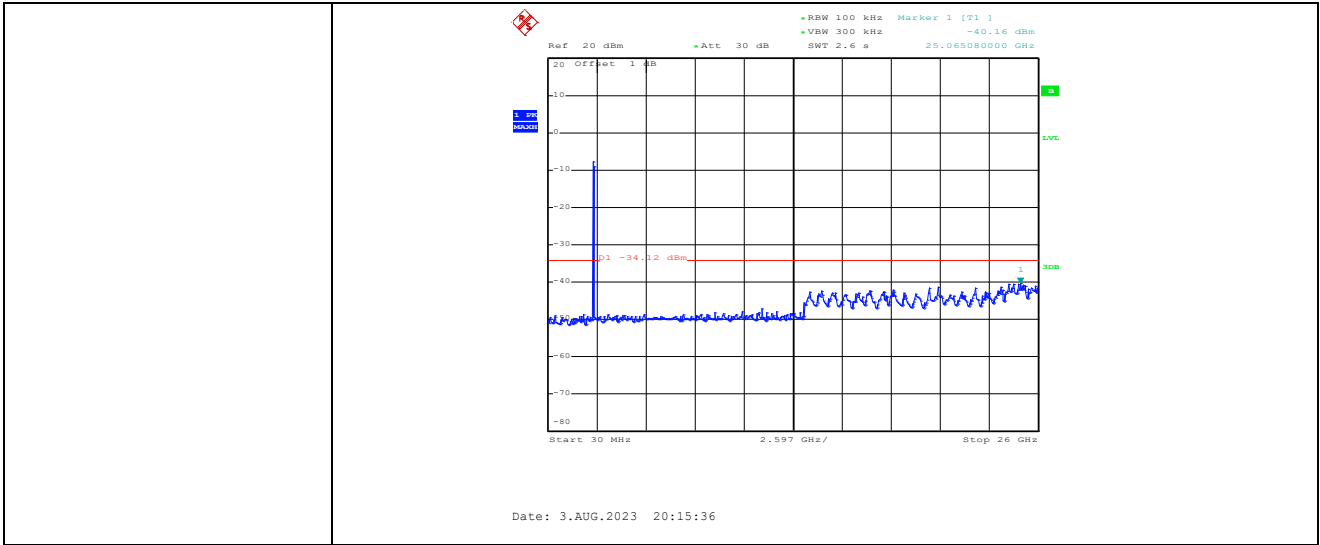


Date: 3.AUG.2023 20:14:32

802.11ax-HT40-High



Date: 3.AUG.2023 20:15:21



## APPENDIX PHOTOGRAPHS

---

Please refer to "ANNEX"

\*\*\*\* END OF REPORT \*\*\*\*