

# TEST REPORT

**Reference No.**..... : WTD22X11236852W002  
**FCC ID** ..... : NZ3-WN0004  
**Applicant** ..... : Winstars Technology Limited  
**Address** ..... : Block 4,Taisong Indusyrial Park, Dalang Street,Longhua Town,Bao'an District,Shenzhen,China  
**Manufacturer** ..... : The same as Applicant  
**Address** ..... : The same as Applicant  
**Product Name** ..... : AX1800 Dual-Band Mesh WiFi Router Kit  
**Model No.**..... : WS-WN552X1  
**Standards** ..... : FCC Part 15.247  
**Date of Receipt sample** .... : 2022-08-25  
**Date of Test**..... : 2022-08-25 to 2022-09-29  
**Date of Issue** ..... : 2022-11-25  
**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:**

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## Report version

Version No.	Date of issue	Description
Rev.00	2022-09-29	Original report WTD22X08173451W002
Rev.01	2022-11-25	Refer the old report WTD22X08173451W002, So the test data from the original report.
/	/	/

## 1. GENERAL INFORMATION

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

General Description of EUT	
Product Name:	AX1800 Dual-Band Mesh WiFi Router Kit
Trade Name:	/
Model No.:	WS-WN552X1
Adding Model(s):	WS-WN552X2, WS-WN552X3, WL-WN552X1, WL-WN552X2, WL-WN552X3, WS-WN552K1, WS-WN552K2, WS-WN552K3, WL-WN552K1, WL-WN552K2, WL-WN552K3, AURA Pro, 9170-00-20
Rated Voltage:	DC12V
Power Adapter Model:	MODEL:P018W1201500HU INPUT:AC100-240V~50/60Hz 0.5A MAX OUTPUT:DC12.0V,1.5A 18.0W
<p><i>Note: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model WS-WN552X1, but the circuit and the electronic construction do not change, declared by the manufacturer.</i></p>	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n-HT20/40, 802.11ax-HE20, 802.11ax-HE40
Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20)/AX(HE 20) 2422-2452MHz for 802.11n(HT40)/AX(HE 40)
RF Output Power:	Antenna 0: 15.98dBm (Conducted) Antenna 1: 15.76dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Quantity of Channels:	11 for 802.11b/g/n(HT20)/ax(HE20); 7 for 802.11n(HT40)/ax(HE 40)
Channel Separation:	5MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	2.64dBi

## 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-HE20	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM6	802.11ax-HE40	Low:2422MHz, Middle:2437MHz,High:2452MHz

Note: All test modes (different data rate and different modulation) are performed, but only the worst case is recorded in this report.

The 2.4GHz WIFI has two antennas and support Multiple Outputs for 802.11n/ax mode for this report; Antenna 0&1 Gain is 2.64dBi; 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 =  $2.64 + 10 \log(2)$  dBi = 5.65dBi.

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
DC Cable	1.25	Unshielded	Without Ferrite
WLAN Cable	1.08	Unshielded	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
Notebook	Lenovo	TP00114A	R9-0YPT2W

## 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

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2022-03-22	2023-03-21
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2022-03-22	2023-03-21
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2022-03-25	2023-03-24
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2022-03-22	2023-03-21
SMET-1313	Spectrum Analyzer	Agilent	N9020A	MY54320548	2022-03-22	2023-03-21
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2022-03-22	2023-03-21
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2022-03-22	2023-03-21
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2022-03-22	2023-03-21
SEMT-1082	Power Divider	RF-Lambda	RFLT4W5M18G	14110400027	2022-03-22	2023-03-21
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	/	/
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	/	/
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	/	/
SEMT-C004	Cable	Zheng DI	2M0RFC	/	/	/
SEMT-C005	Cable	Zheng DI	1M0RFC	/	/	/
SEMT-C006	Cable	Zheng DI	1M0RFC	/	/	/
<input checked="" type="checkbox"/> Chamber A: Below 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2022-01-07	2023-01-06
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
<input checked="" type="checkbox"/> Chamber A: Above 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21



SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
SEMT-1042	Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2021-04-27	2023-04-26
SEMT-1216	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2022-03-25	2023-03-24
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2022-03-22	2023-03-21
<input type="checkbox"/> Chamber B:Below 1GHz						
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2022-03-22	2023-03-21
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2022-03-22	2023-03-21
<input type="checkbox"/> Chamber C:Below 1GHz						
SEMT-1319	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2022-01-07	2023-01-06
SEMT-1343	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
SEMT-1333	Amplifier	HP	8447F	2944A03869	2022-03-22	2023-03-21
<input checked="" type="checkbox"/> Conducted Room 1#						
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2022-03-21	2023-03-20
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2022-03-25	2023-03-24
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2022-03-22	2023-03-21
<input type="checkbox"/> Conducted Room 2#						
SEMT-1334	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2022-03-22	2023-03-21
SEMT-1336	LISN	Rohde & Schwarz	ENV 216	100097	2022-03-22	2023-03-21

<b>Software List</b>			
<b>Description</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Version</b>
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

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<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	Compliant
§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**

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#### **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 integral antennas, fulfill the requirement of this section.

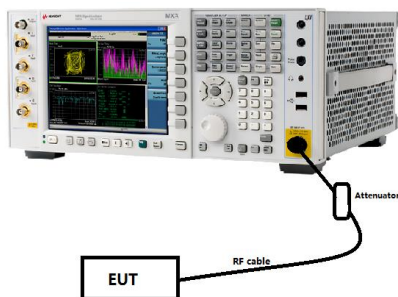
## 4. Power Spectral Density

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### 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

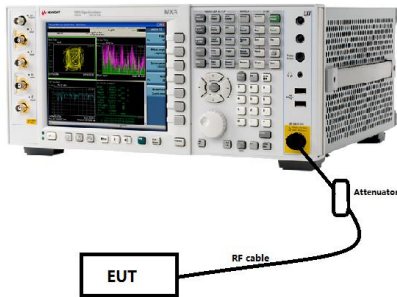
## 5. DTS Bandwidth

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### 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

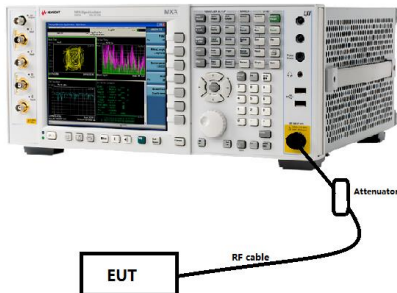
## 6. RF Output Power

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### 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).

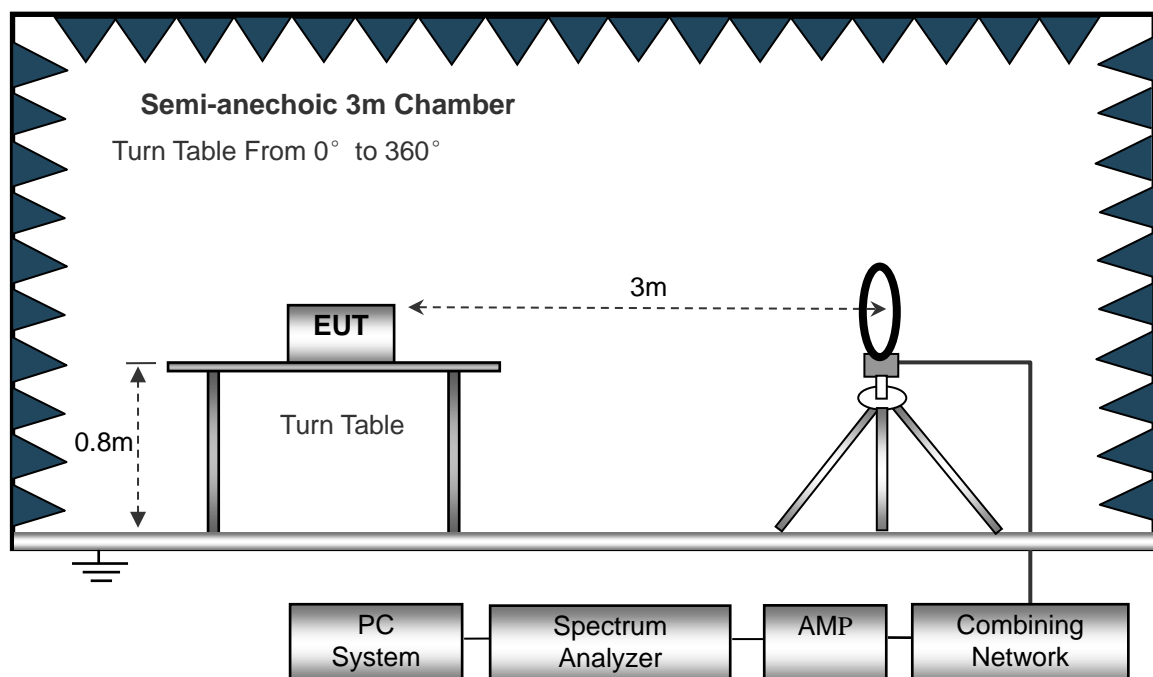
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

### 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.

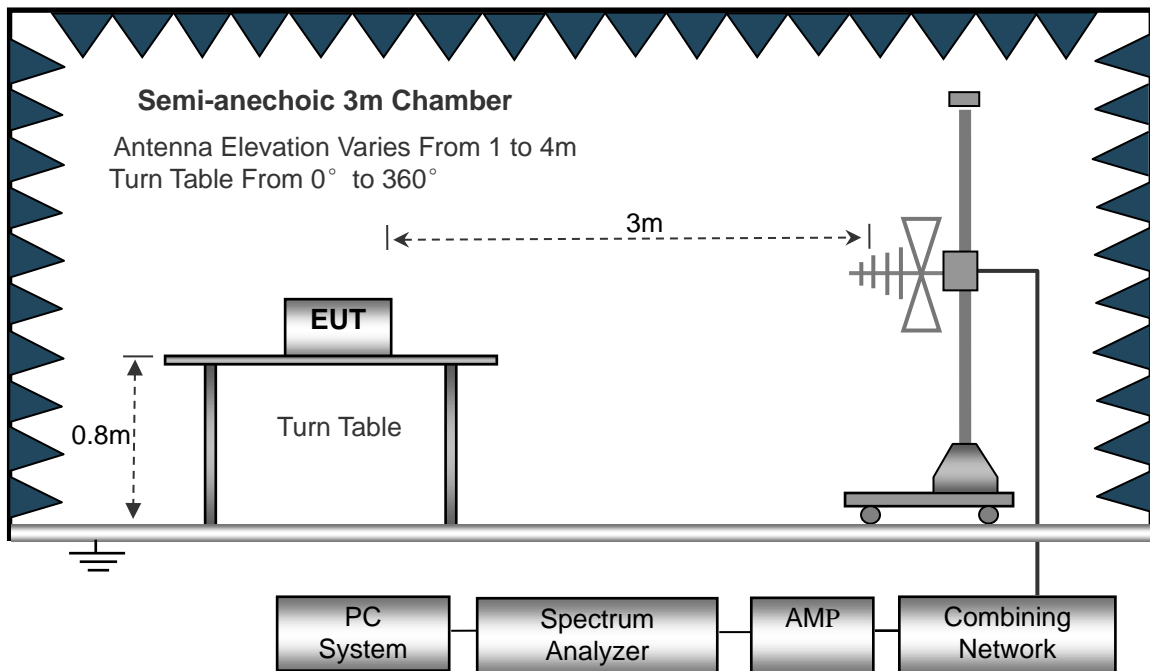
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

The test setup for emission measurement below 30MHz.

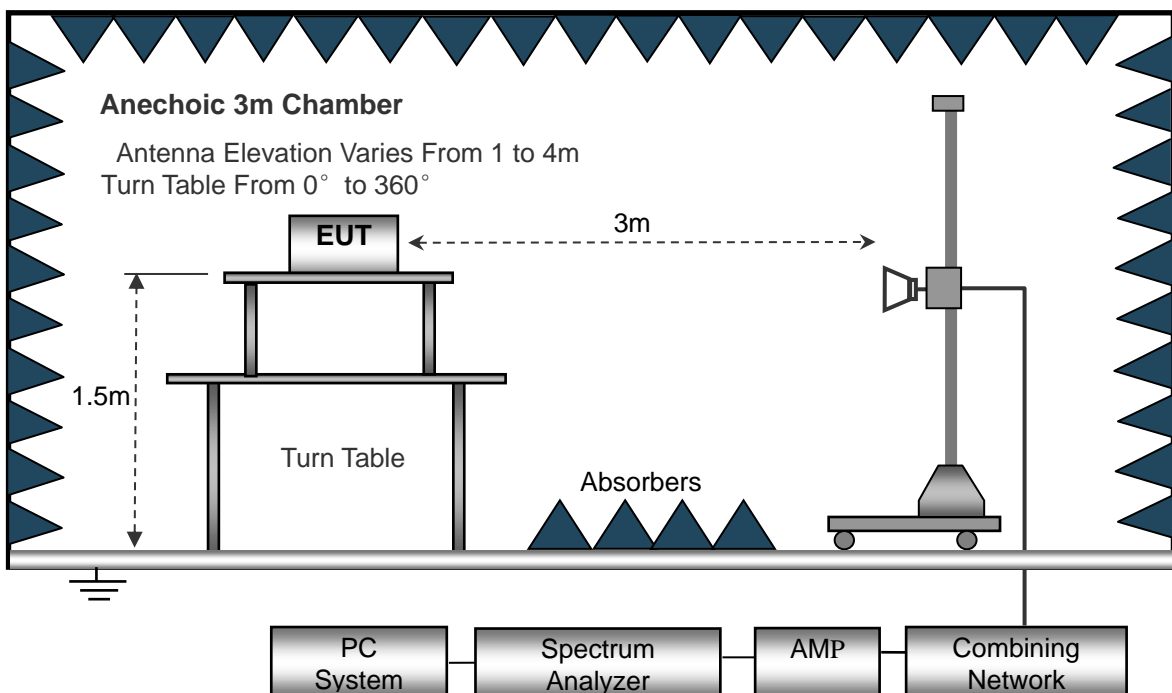




The test setup for emission measurement from 30MHz to 1GHz.



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:

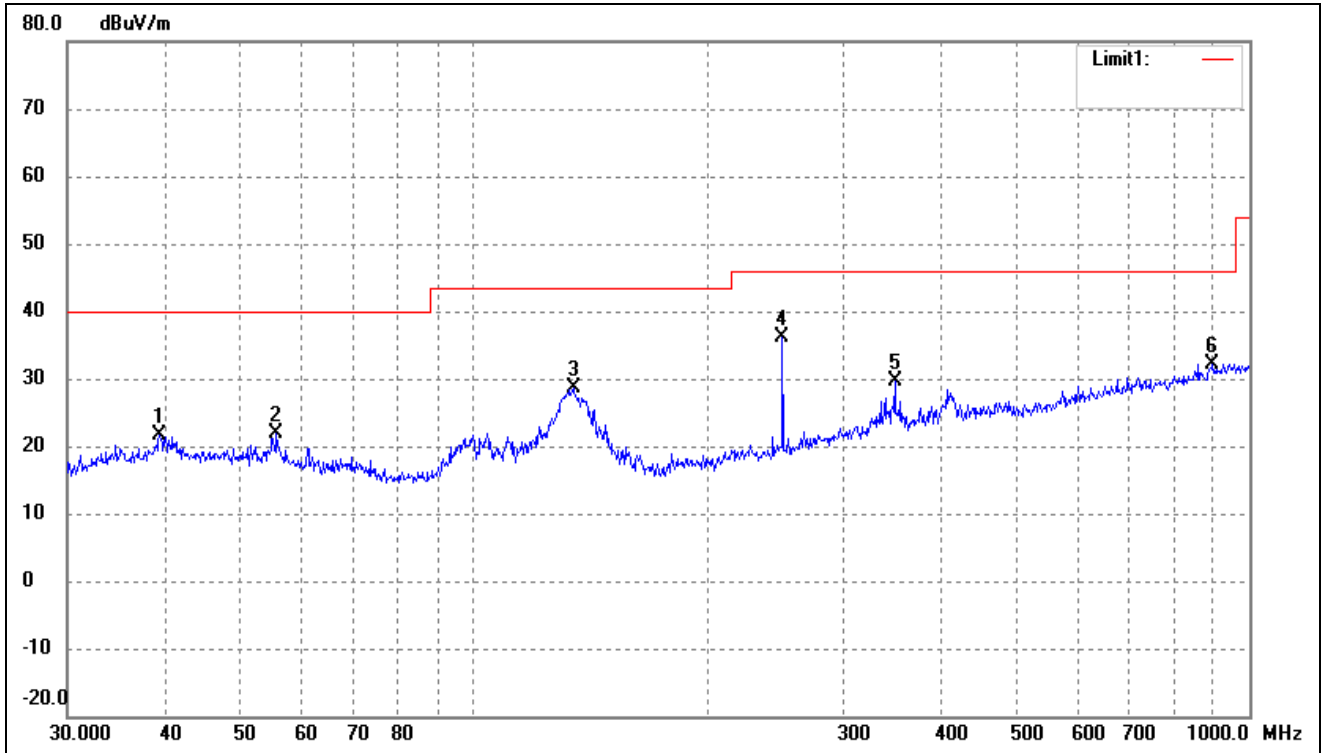
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

### 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.*

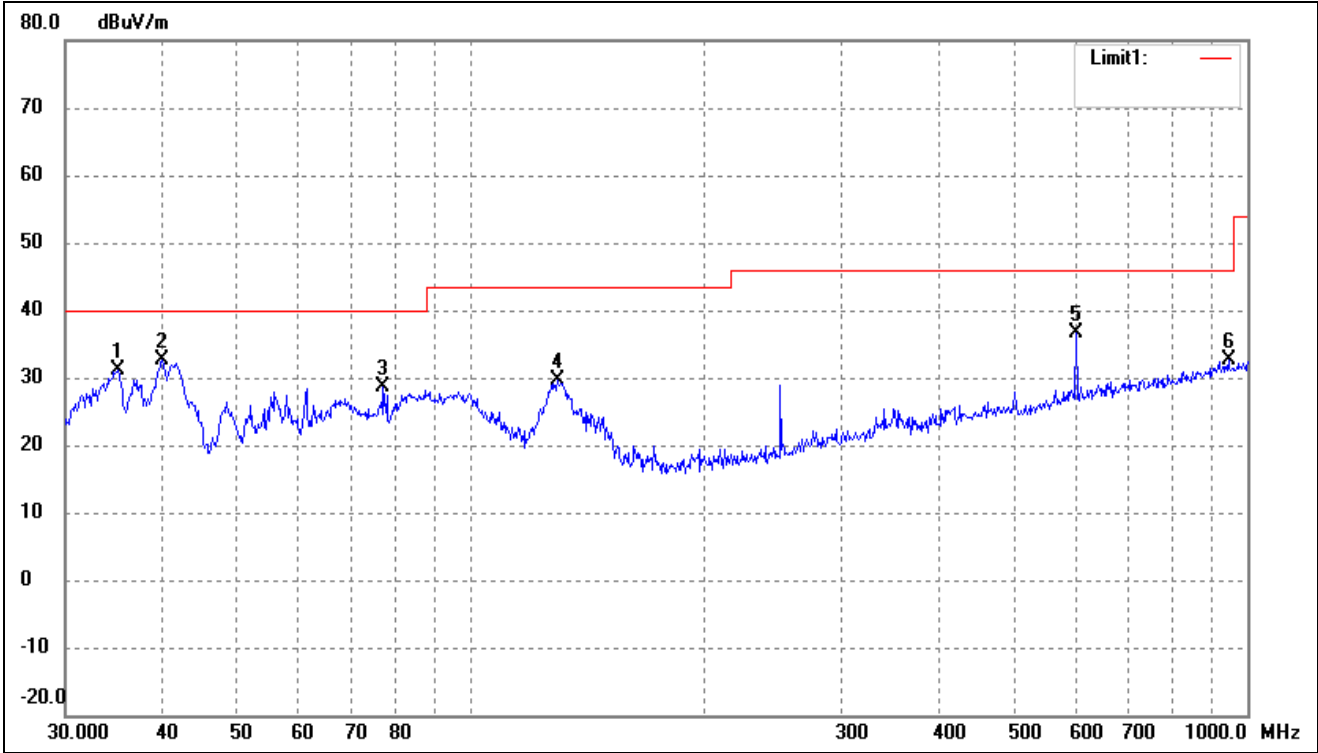
- Spurious Emissions Below 1GHz
- Antenna 0(worst case)

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



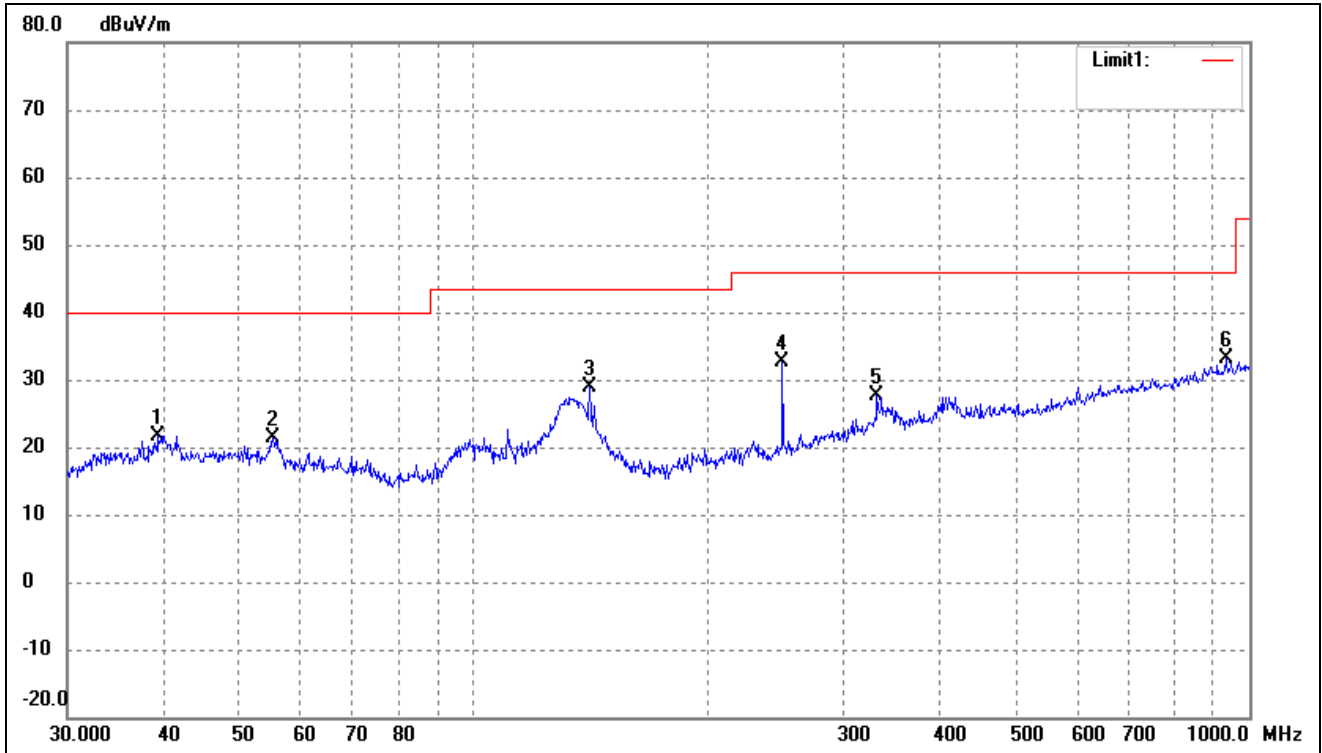
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	39.4372	29.44	-7.90	21.54	40.00	-18.46	-	-	peak
2	55.8047	30.83	-8.96	21.87	40.00	-18.13	-	-	peak
3	134.5592	40.17	-11.46	28.71	43.50	-14.79	-	-	peak
4	250.3012	43.28	-7.08	36.20	46.00	-9.80	-	-	peak
5	349.2500	34.06	-4.49	29.57	46.00	-16.43	-	-	peak
6	896.9965	28.35	3.85	32.20	46.00	-13.80	-	-	peak

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



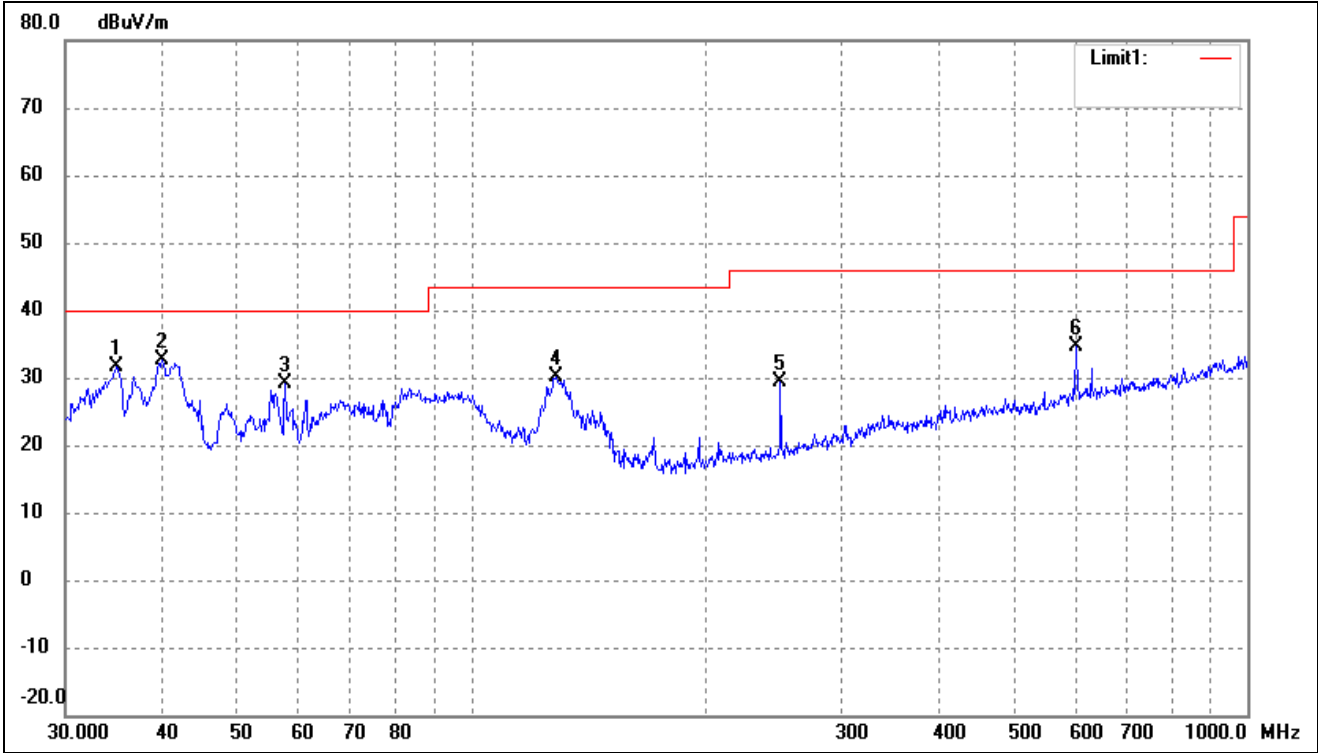
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	35.1278	39.96	-8.85	31.11	40.00	-8.89	-	-	peak
2	39.9942	40.46	-7.77	32.69	40.00	-7.31	-	-	peak
3	77.0505	40.95	-12.28	28.67	40.00	-11.33	-	-	peak
4	129.0146	40.48	-10.93	29.55	43.50	-13.95	-	-	peak
5	601.4265	36.81	-0.30	36.51	46.00	-9.49	-	-	peak
6	945.4399	28.36	4.22	32.58	46.00	-13.42	-	-	peak

802.11b(worst case)			
Test Channel	Middle	Polarity:	Horizontal



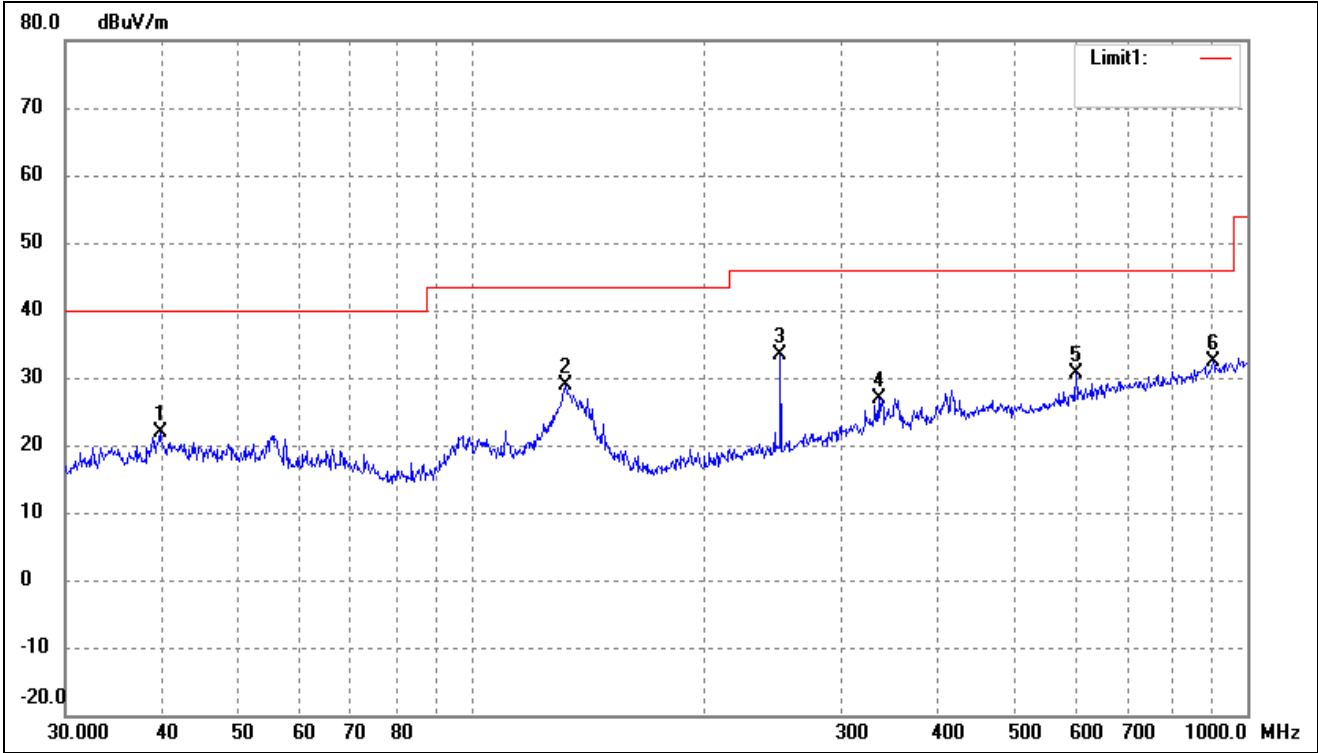
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	39.2991	29.54	-7.93	21.61	40.00	-18.39	-	-	peak
2	55.2207	30.35	-8.87	21.48	40.00	-18.52	-	-	peak
3	141.3298	40.72	-11.90	28.82	43.50	-14.68	-	-	peak
4	250.3012	39.64	-7.08	32.56	46.00	-13.44	-	-	peak
5	331.3547	32.45	-4.81	27.64	46.00	-18.36	-	-	peak
6	932.2715	28.93	4.13	33.06	46.00	-12.94	-	-	peak

802.11b(worst case)			
Test Channel	Middle	Polarity:	Vertical



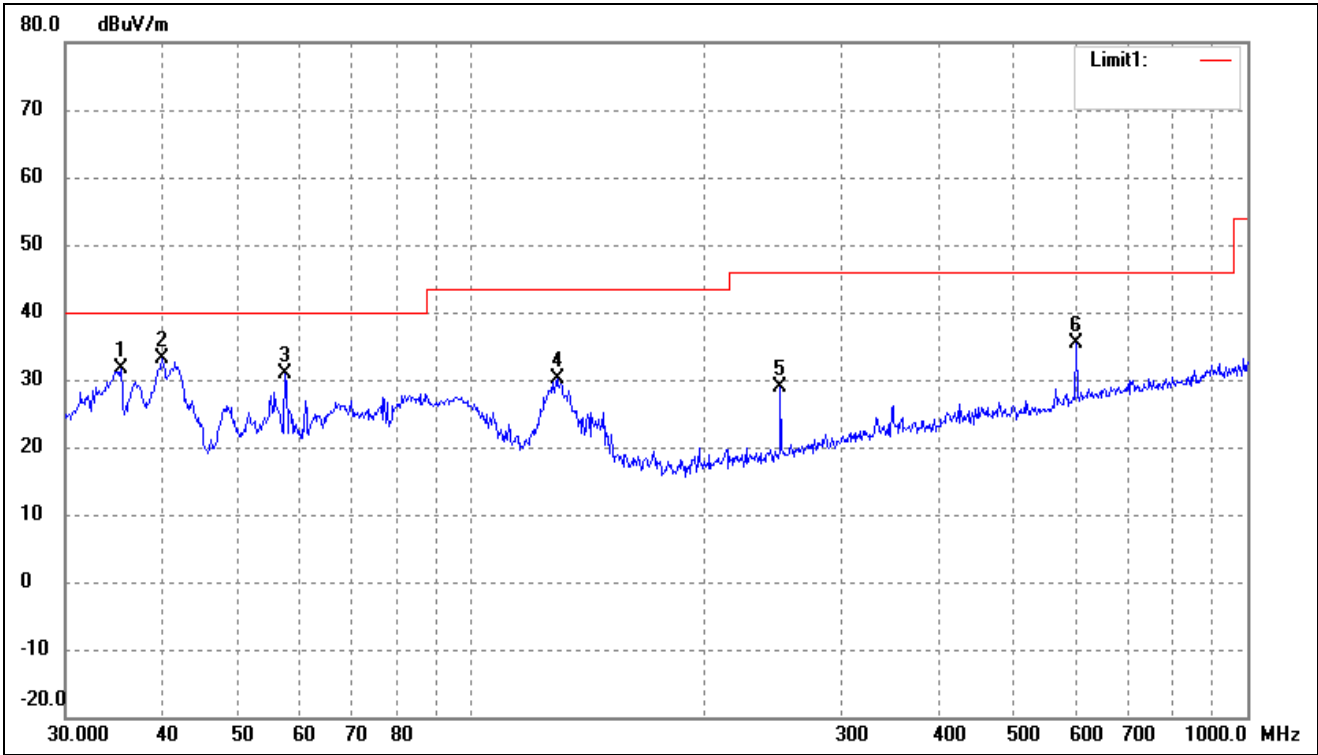
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	34.8823	40.47	-8.91	31.56	40.00	-8.44	-	-	peak
2	39.9942	40.39	-7.77	32.62	40.00	-7.38	-	-	peak
3	57.5939	38.30	-9.28	29.02	40.00	-10.98	-	-	peak
4	128.5630	41.04	-10.86	30.18	43.50	-13.32	-	-	peak
5	250.3012	36.36	-7.08	29.28	46.00	-16.72	-	-	peak
6	601.4265	34.94	-0.30	34.64	46.00	-11.36	-	-	peak

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



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	39.7147	29.80	-7.83	21.97	40.00	-18.03	-	-	peak
2	132.2206	40.18	-11.28	28.90	43.50	-14.60	-	-	peak
3	250.3012	40.55	-7.08	33.47	46.00	-12.53	-	-	peak
4	334.8589	31.63	-4.74	26.89	46.00	-19.11	-	-	peak
5	601.4265	30.82	-0.30	30.52	46.00	-15.48	-	-	peak
6	903.3094	28.40	3.92	32.32	46.00	-13.68	-	-	peak

802.11b(worst case)			
Test Channel	High	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	35.3750	40.47	-8.80	31.67	40.00	-8.33	-	-	peak
2	39.9942	40.80	-7.77	33.03	40.00	-6.97	-	-	peak
3	57.5939	40.19	-9.28	30.91	40.00	-9.09	-	-	peak
4	129.0146	40.97	-10.93	30.04	43.50	-13.46	-	-	peak
5	250.3012	36.06	-7.08	28.98	46.00	-17.02	-	-	peak
6	601.4265	35.66	-0.30	35.36	46.00	-10.64	-	-	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 (worst case)
- Antenna 0

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2412MHz							
4824.00	59.33	-4.50	54.83	74.00	-19.17	H	PK
4824.00	50.15	-4.50	45.65	54.00	-8.35	H	AV
7236.00	52.78	1.14	53.92	74.00	-20.08	H	PK
7236.00	45.07	1.14	46.21	54.00	-7.79	H	AV
4824.00	60.73	-4.50	56.23	74.00	-17.77	V	PK
4824.00	49.37	-4.50	44.87	54.00	-9.13	V	AV
7236.00	49.92	1.14	51.06	74.00	-22.94	V	PK
7236.00	44.52	1.14	45.66	54.00	-8.34	V	AV
Middle Channel-2437MHz							
4874.00	62.20	-4.47	57.73	74.00	-16.27	H	PK
4874.00	47.96	-4.47	43.49	54.00	-10.51	H	AV
7311.00	54.51	1.47	55.98	74.00	-18.02	H	PK
7311.00	44.80	1.47	46.27	54.00	-7.73	H	AV
4874.00	60.23	-4.47	55.76	74.00	-18.24	V	PK
4874.00	49.12	-4.47	44.65	54.00	-9.35	V	AV
7311.00	51.71	1.47	53.18	74.00	-20.82	V	PK
7311.00	42.84	1.47	44.31	54.00	-9.69	V	AV
High Channel-2462MHz							
4924.00	58.80	-4.44	54.36	74.00	-19.64	H	PK
4924.00	52.00	-4.44	47.56	54.00	-6.44	H	AV
7386.00	53.68	1.79	55.47	74.00	-18.53	H	PK
7386.00	42.75	1.79	44.54	54.00	-9.46	H	AV
4924.00	60.34	-4.44	55.90	74.00	-18.10	V	PK
4924.00	50.93	-4.44	46.49	54.00	-7.51	V	AV
7386.00	50.30	1.79	52.09	74.00	-21.91	V	PK
7386.00	40.99	1.79	42.78	54.00	-11.22	V	AV

## ➤ Antenna 1

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824.00	58.23	-4.50	53.73	74.00	-20.27	H	PK
4824.00	49.56	-4.50	45.06	54.00	-8.94	H	AV
7236.00	52.63	1.14	53.77	74.00	-20.23	H	PK
7236.00	48.41	1.14	49.55	54.00	-4.45	H	AV
4824.00	61.06	-4.50	56.56	74.00	-17.44	V	PK
4824.00	51.96	-4.50	47.46	54.00	-6.54	V	AV
7236.00	49.96	1.14	51.10	74.00	-22.90	V	PK
7236.00	44.07	1.14	45.21	54.00	-8.79	V	AV
Middle Channel-2437MHz							
4874.00	61.53	-4.47	57.06	74.00	-16.94	H	PK
4874.00	50.23	-4.47	45.76	54.00	-8.24	H	AV
7311.00	55.65	1.47	57.12	74.00	-16.88	H	PK
7311.00	46.10	1.47	47.57	54.00	-6.43	H	AV
4874.00	58.92	-4.47	54.45	74.00	-19.55	V	PK
4874.00	46.92	-4.47	42.45	54.00	-11.55	V	AV
7311.00	48.71	1.47	50.18	74.00	-23.82	V	PK
7311.00	41.32	1.47	42.79	54.00	-11.21	V	AV
High Channel-2462MHz							
4924.00	57.87	-4.44	53.43	74.00	-20.57	H	PK
4924.00	50.92	-4.44	46.48	54.00	-7.52	H	AV
7386.00	53.31	1.79	55.10	74.00	-18.90	H	PK
7386.00	41.67	1.79	43.46	54.00	-10.54	H	AV
4924.00	62.54	-4.44	58.10	74.00	-15.90	V	PK
4924.00	50.61	-4.44	46.17	54.00	-7.83	V	AV
7386.00	51.61	1.79	53.40	74.00	-20.60	V	PK
7386.00	40.57	1.79	42.36	54.00	-11.64	V	AV

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

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### 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  $\times$  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.

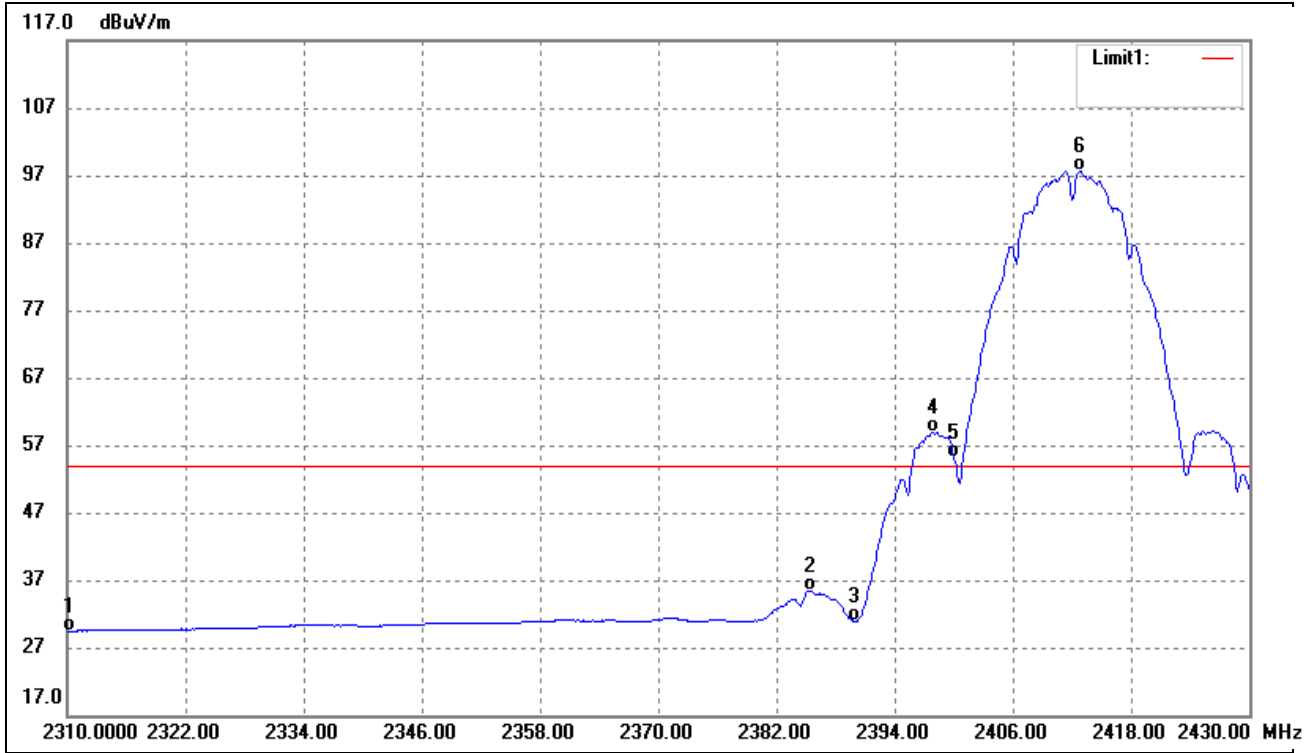
Report

the three highest emissions relative to the limit.

### 8.3 Summary of Test Results/Plots

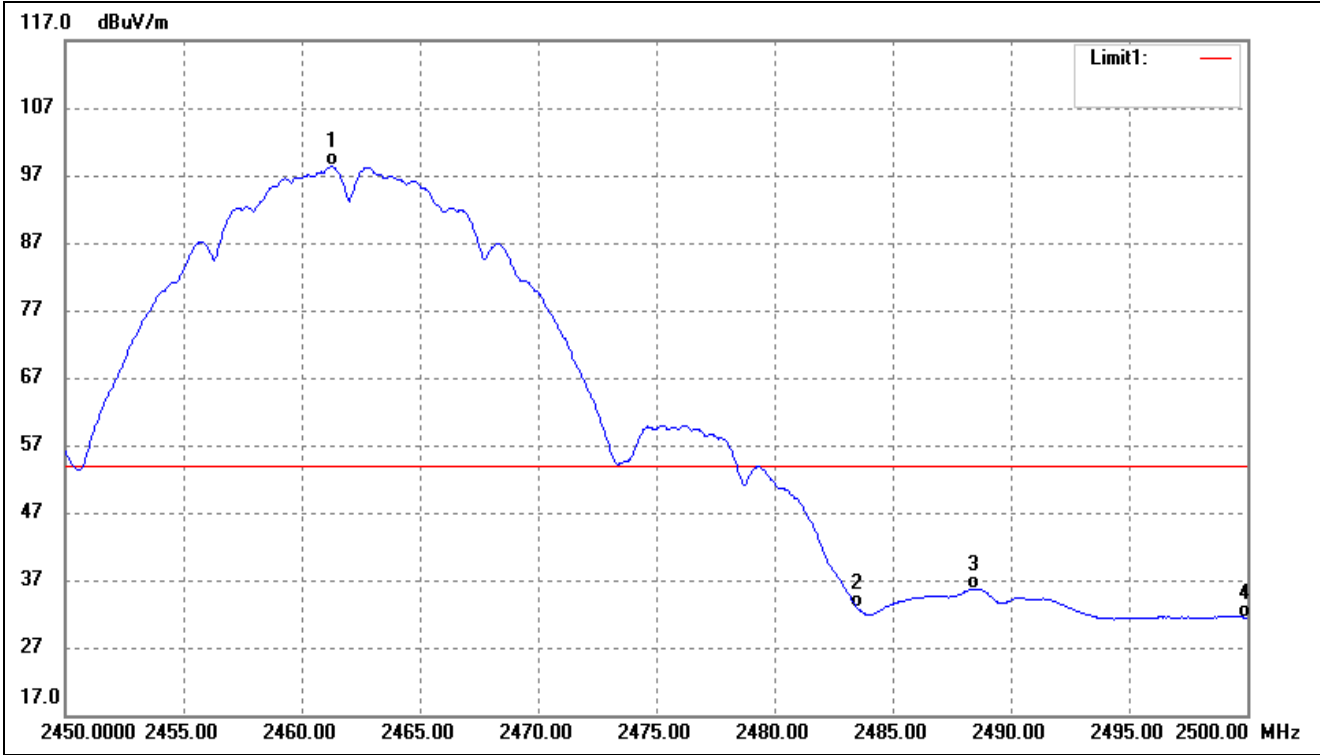
- Radiated test
- Antenna 0(worst case)

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



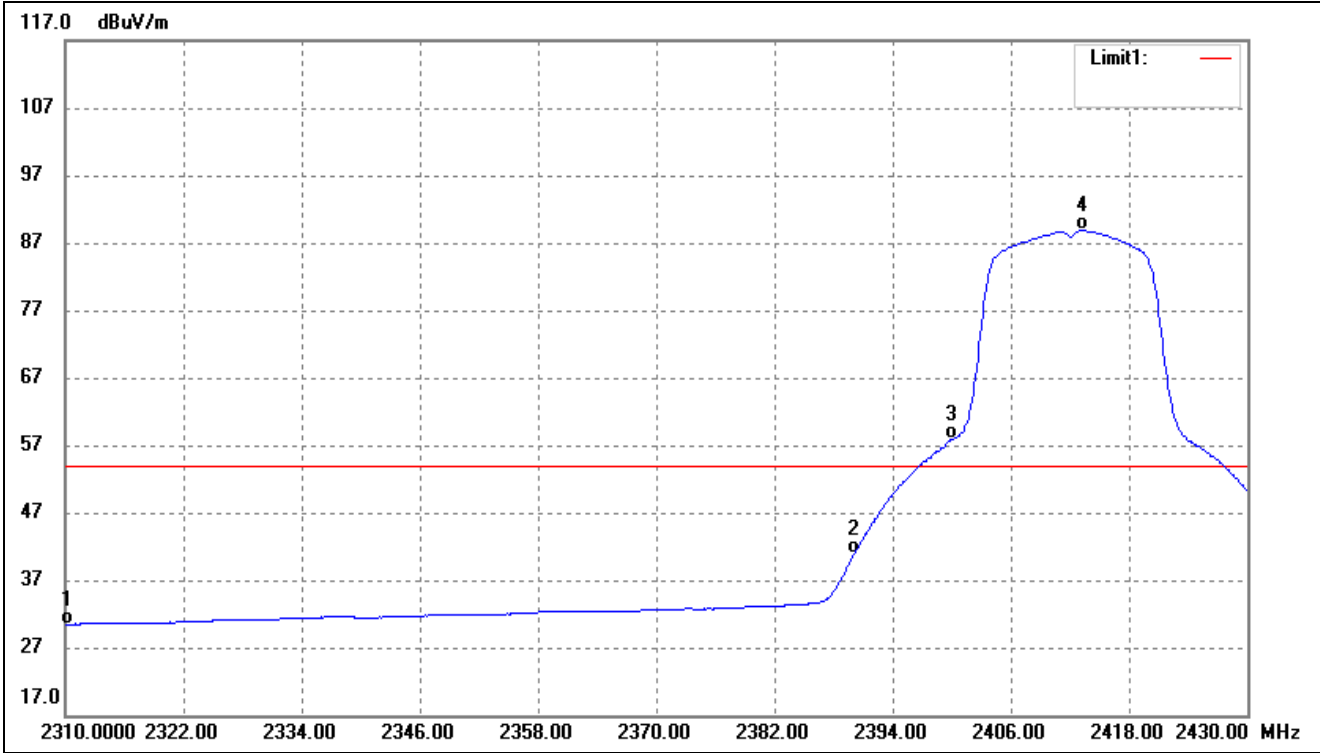
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	40.55	-11.07	29.48	54.00	-24.52	Average Detector
	2310.000	52.75	-11.07	41.68	74.00	-32.32	Peak Detector
2	2385.360	46.32	-10.90	35.42	54.00	-18.58	Average Detector
	2385.960	57.95	-10.90	47.05	74.00	-26.95	Peak Detector
3	2390.000	41.81	-10.89	30.92	54.00	-23.08	Average Detector
	2390.000	54.10	-10.89	43.21	74.00	-30.79	Peak Detector
4	2397.840	69.74	-10.87	58.87	/	/	Average Detector
	2397.120	75.15	-10.87	64.28	/	/	Peak Detector
5	2400.000	66.01	-10.87	55.14	Delta=42.56dBc		Average Detector
6	2412.720	108.54	-10.84	97.70			Average Detector

802.11b			
Test Channel	High	Polarity:	Vertical(worst case)



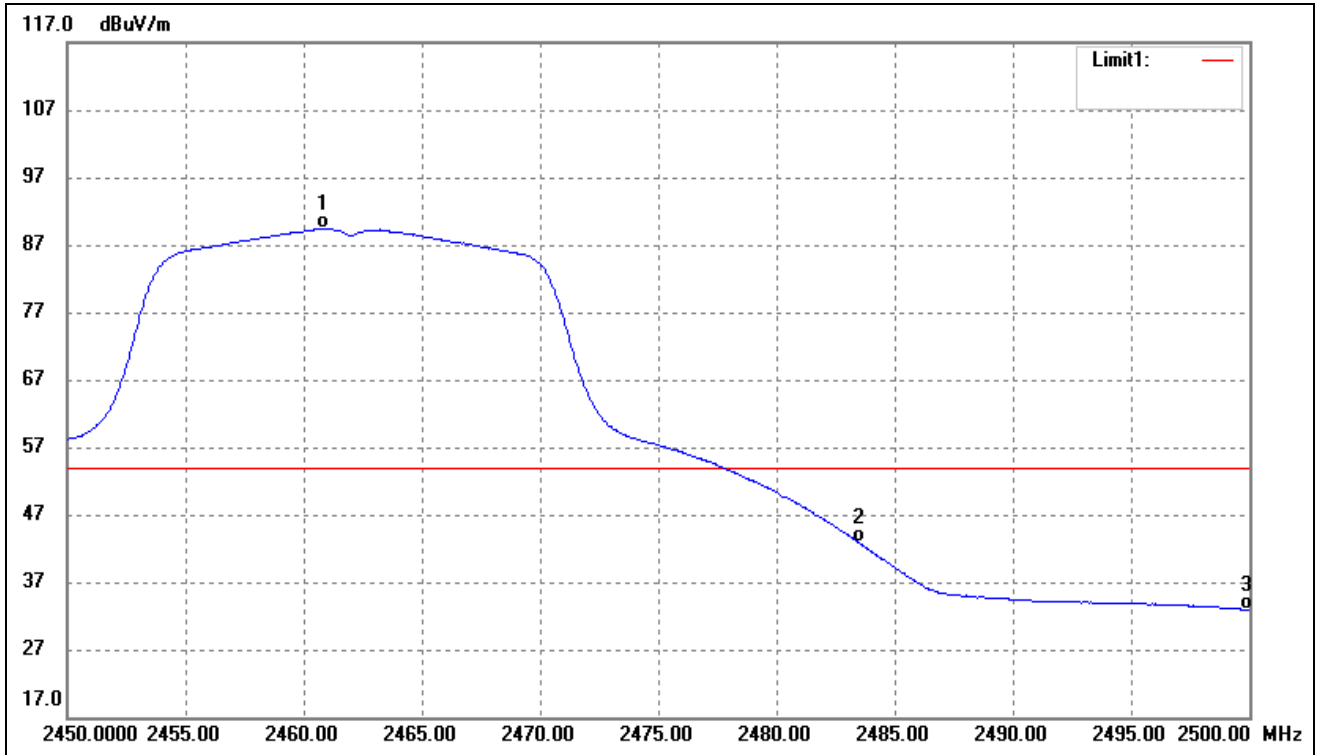
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.300	109.04	-10.74	98.30	/	/	Average Detector
	2460.900	113.77	-10.74	103.03	/	/	Peak Detector
2	2483.500	43.60	-10.69	32.91	54.00	-21.09	Average Detector
	2483.500	55.25	-10.69	44.56	74.00	-29.44	Peak Detector
3	2488.450	46.31	-10.67	35.64	54.00	-18.36	Average Detector
	2488.450	57.56	-10.67	46.89	74.00	-27.11	Peak Detector
4	2500.000	41.97	-10.65	31.32	54.00	-22.68	Average Detector
	2500.000	53.43	-10.65	42.78	74.00	-31.22	Peak Detector

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



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	41.48	-11.07	30.41	54.00	-23.59	Average Detector
		56.22	-11.07	45.15	74.00	-28.85	Peak Detector
2	2390.000	51.74	-10.89	40.85	54.00	-13.15	Average Detector
		76.84	-10.89	65.95	74.00	-8.05	Peak Detector
3	2400.000	68.74	-10.87	57.87	Delta=30.97dBc		Average Detector
4	2413.200	99.68	-10.84	88.84			Average Detector

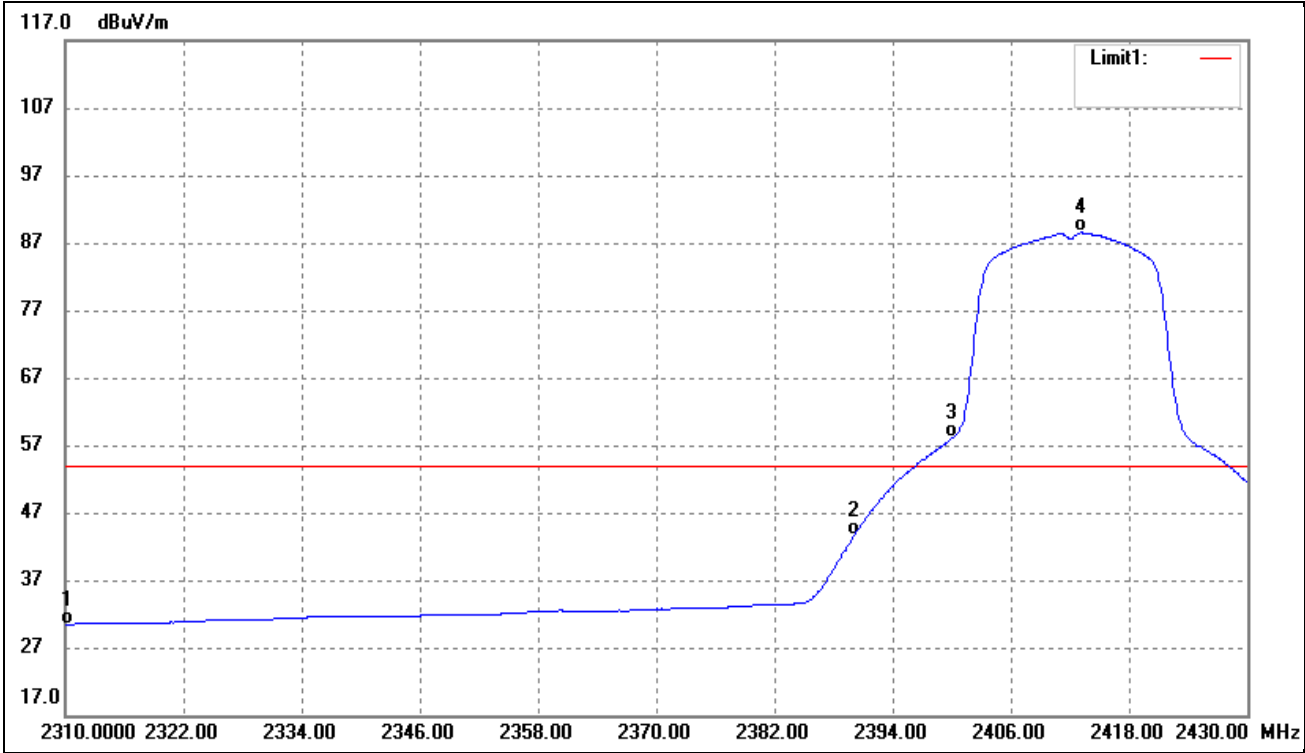
802.11g			
Test Channel	High	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.850	100.14	-10.74	89.40	/	/	Average Detector
	2463.250	113.32	-10.73	102.59	/	/	Peak Detector
2	2483.500	53.50	-10.69	42.81	54.00	-11.19	Average Detector
	2483.500	79.92	-10.69	69.23	74.00	-4.77	Peak Detector
3	2500.000	43.59	-10.65	32.94	54.00	-21.06	Average Detector
	2500.000	56.45	-10.65	45.80	74.00	-28.20	Peak Detector

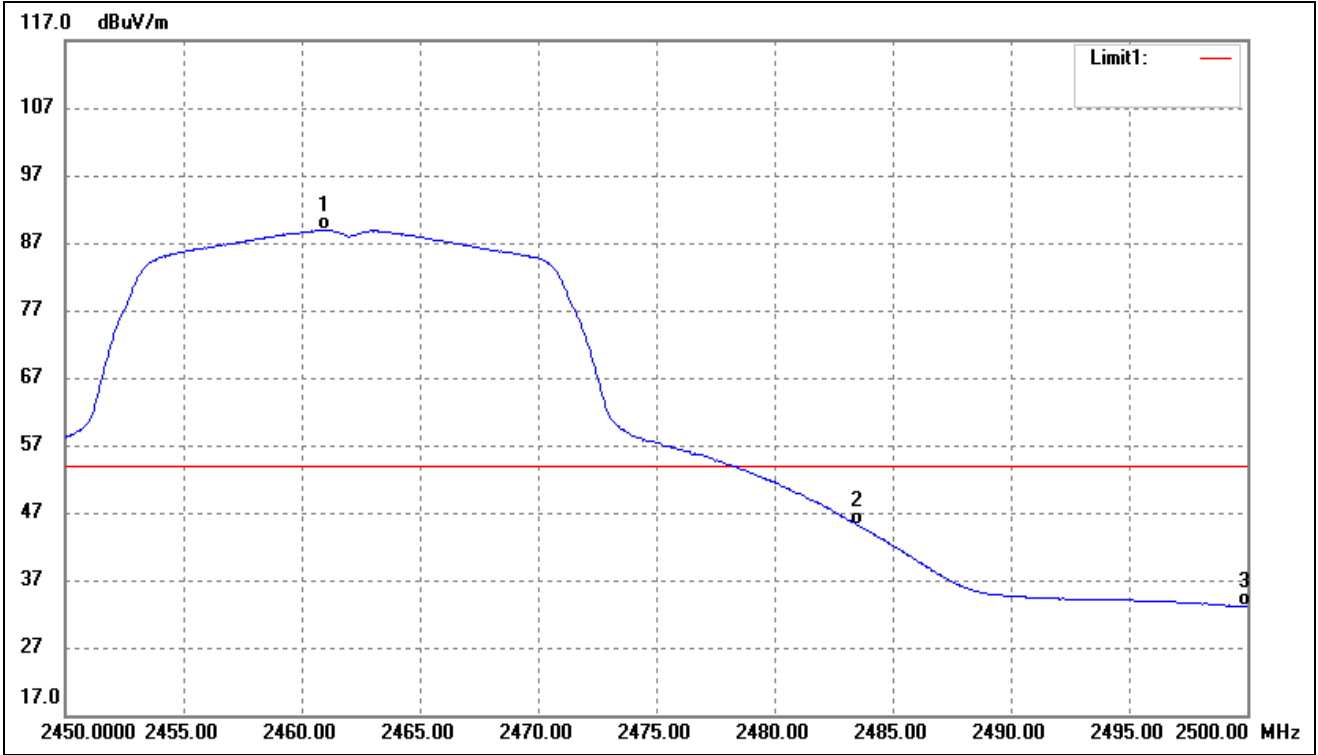


802.11n-HT20			
Test Channel	Low	Polarity:	Vertical(worst case)



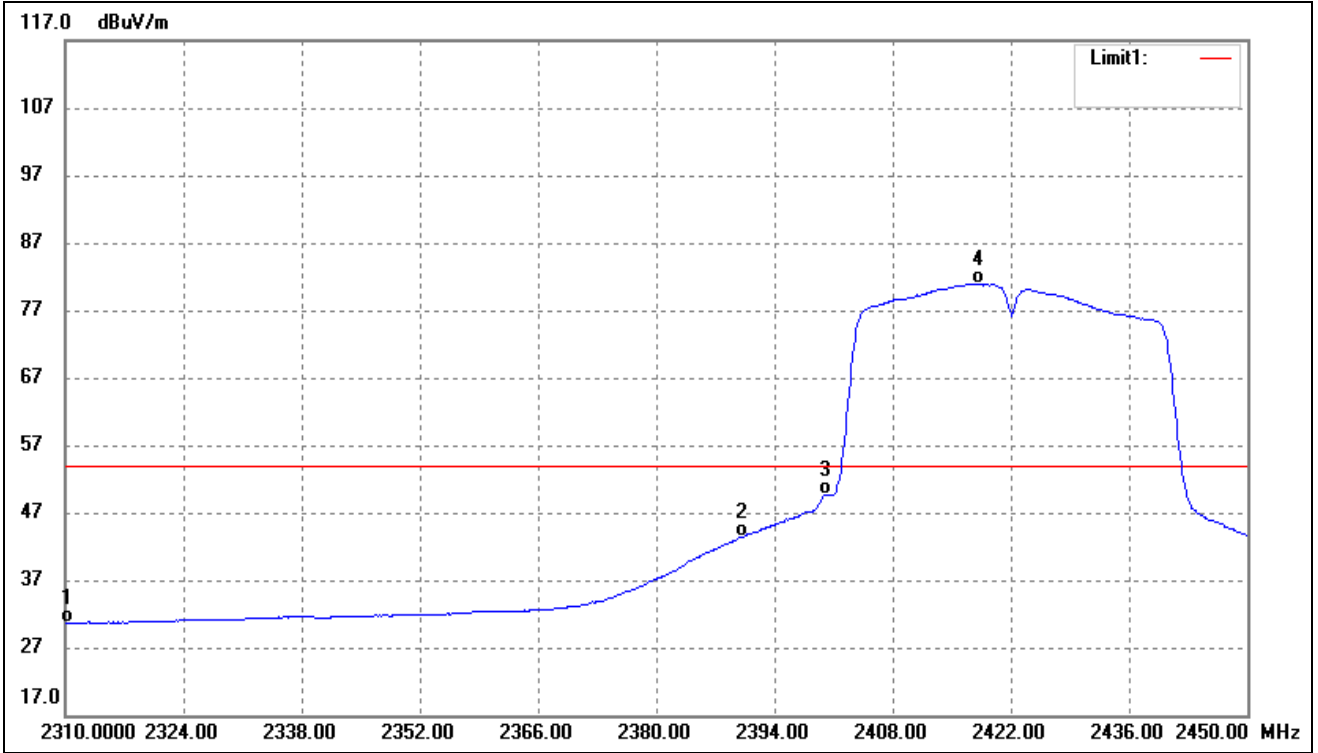
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	41.53	-11.07	30.46	54.00	-23.54	Average Detector
		54.18	-11.07	43.11	74.00	-30.89	Peak Detector
2	2390.000	54.47	-10.89	43.58	54.00	-10.42	Average Detector
		79.18	-10.89	68.29	74.00	-5.71	Peak Detector
3	2400.000	68.94	-10.87	58.07	Delta=30.45dBc	Average Detector	
4	2413.080	99.36	-10.84	88.52		Average Detector	

802.11n-HT20			
Test Channel	High	Polarity:	Vertical(worst case)



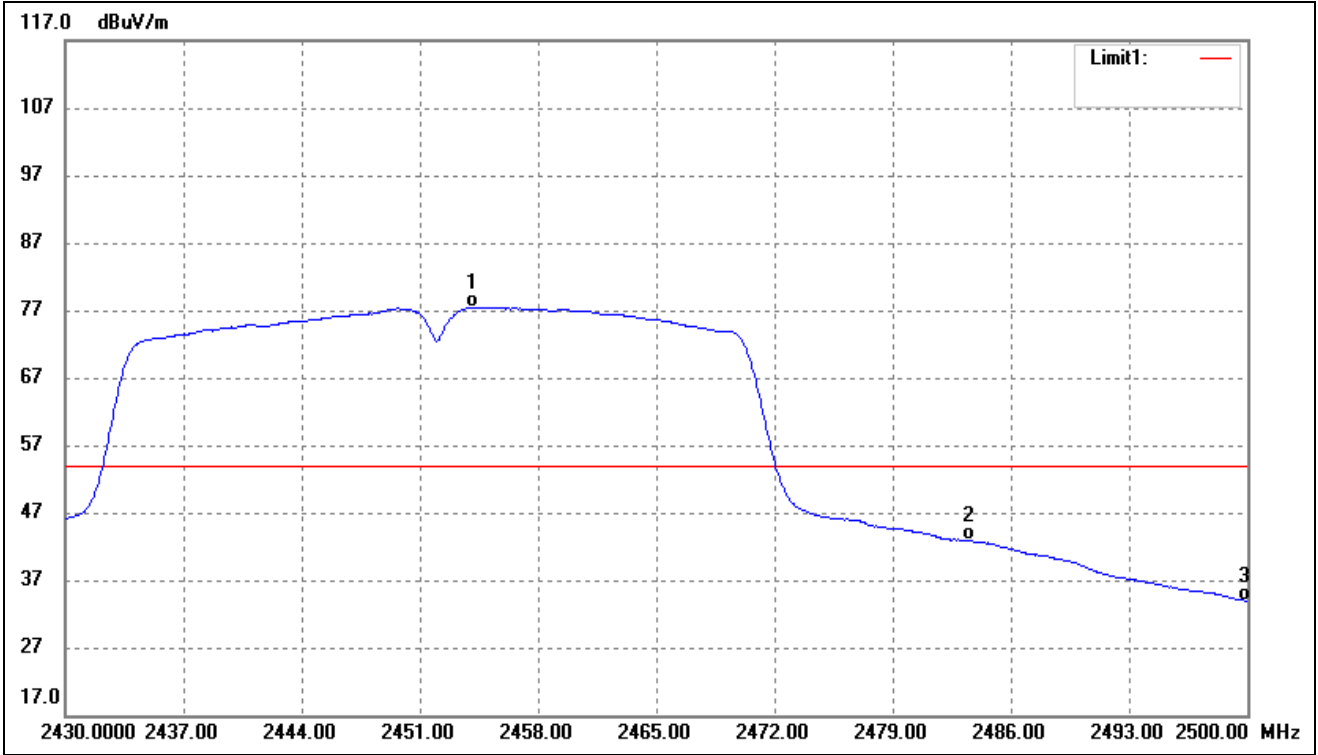
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.950	99.70	-10.74	88.96	/	/	Average Detector
	2462.100	113.69	-10.74	102.95	/	/	Peak Detector
2	2483.500	55.92	-10.69	45.23	54.00	-8.77	Average Detector
	2483.500	79.64	-10.69	68.95	74.00	-5.05	Peak Detector
3	2500.000	43.69	-10.65	33.04	54.00	-20.96	Average Detector
	2500.000	57.92	-10.65	47.27	74.00	-26.73	Peak Detector

802.11n-HT40			
Test Channel	Low	Polarity:	Vertical(worst case)



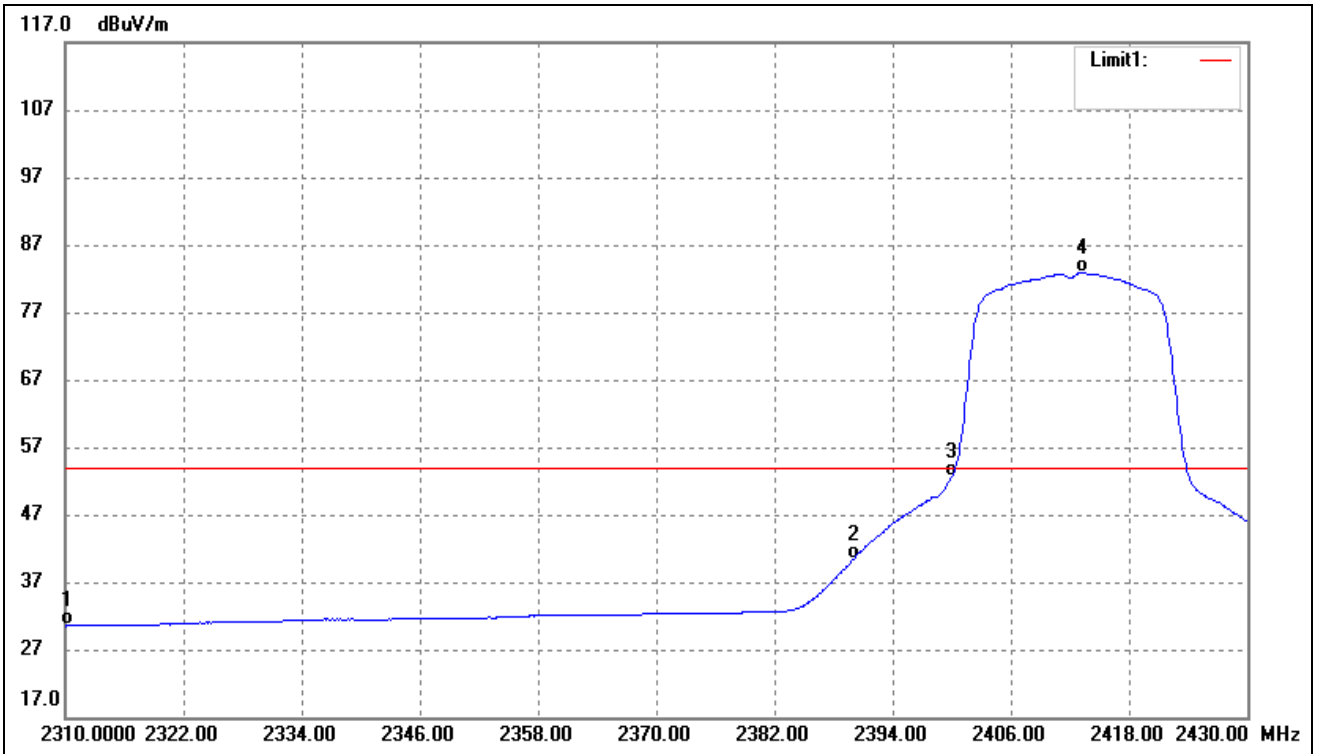
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	41.62	-11.07	30.55	54.00	-23.45	Average Detector
		54.20	-11.07	43.13	74.00	-30.87	Peak Detector
2	2390.000	54.32	-10.89	43.43	54.00	-10.57	Average Detector
		74.05	-10.89	63.16	74.00	-10.84	Peak Detector
3	2400.000	60.46	-10.87	49.59	Delta=31.26dBc		Average Detector
4	2418.080	91.68	-10.83	80.85			Average Detector

802.11n-HT40			
Test Channel	High	Polarity:	Vertical(worst case)



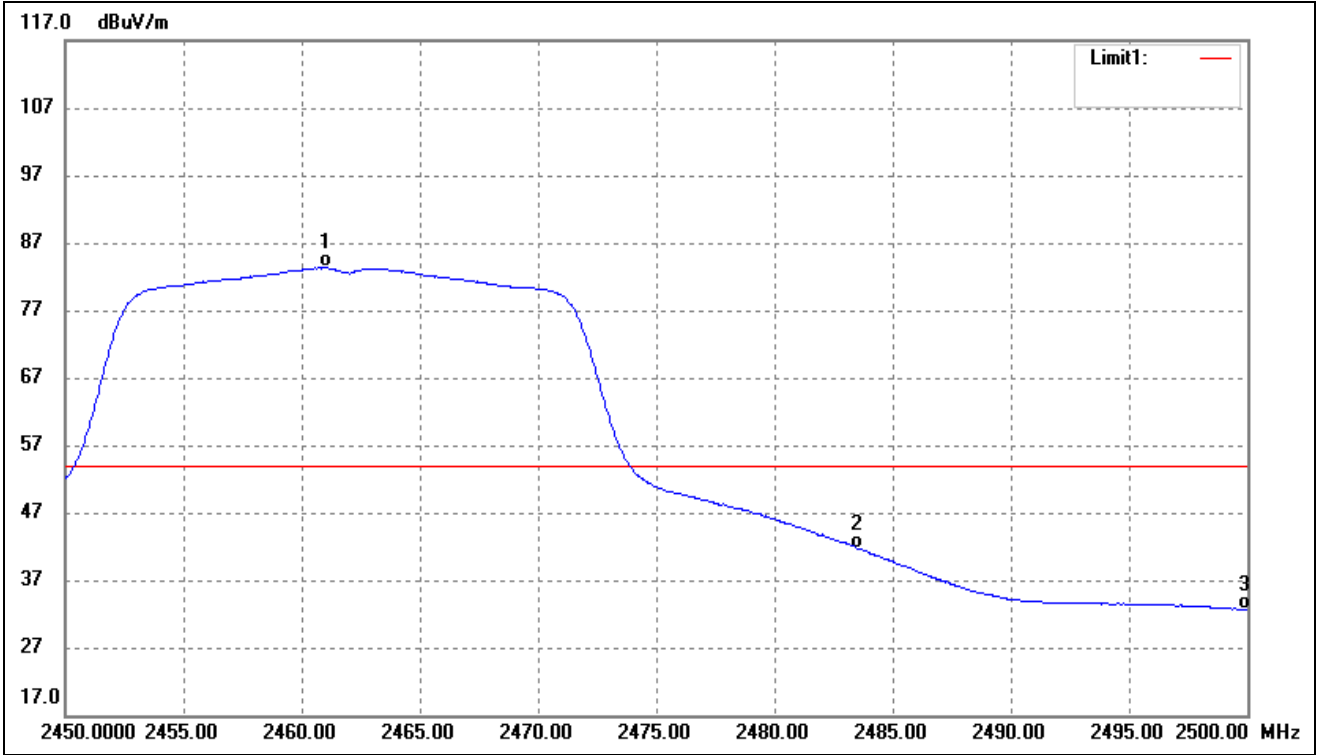
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2454.080	88.24	-10.76	77.48	/	/	Average Detector
	2454.500	107.23	-10.74	96.49	/	/	Peak Detector
2	2483.500	53.60	-10.69	42.91	54.00	-11.09	Average Detector
	2483.500	73.26	-10.69	62.57	74.00	-11.43	Peak Detector
3	2500.000	44.52	-10.65	33.87	54.00	-20.13	Average Detector
	2500.000	59.99	-10.65	49.34	74.00	-24.66	Peak Detector

802.11ax-HE20			
Test Channel	Low	Polarity:	Vertical(worst case)



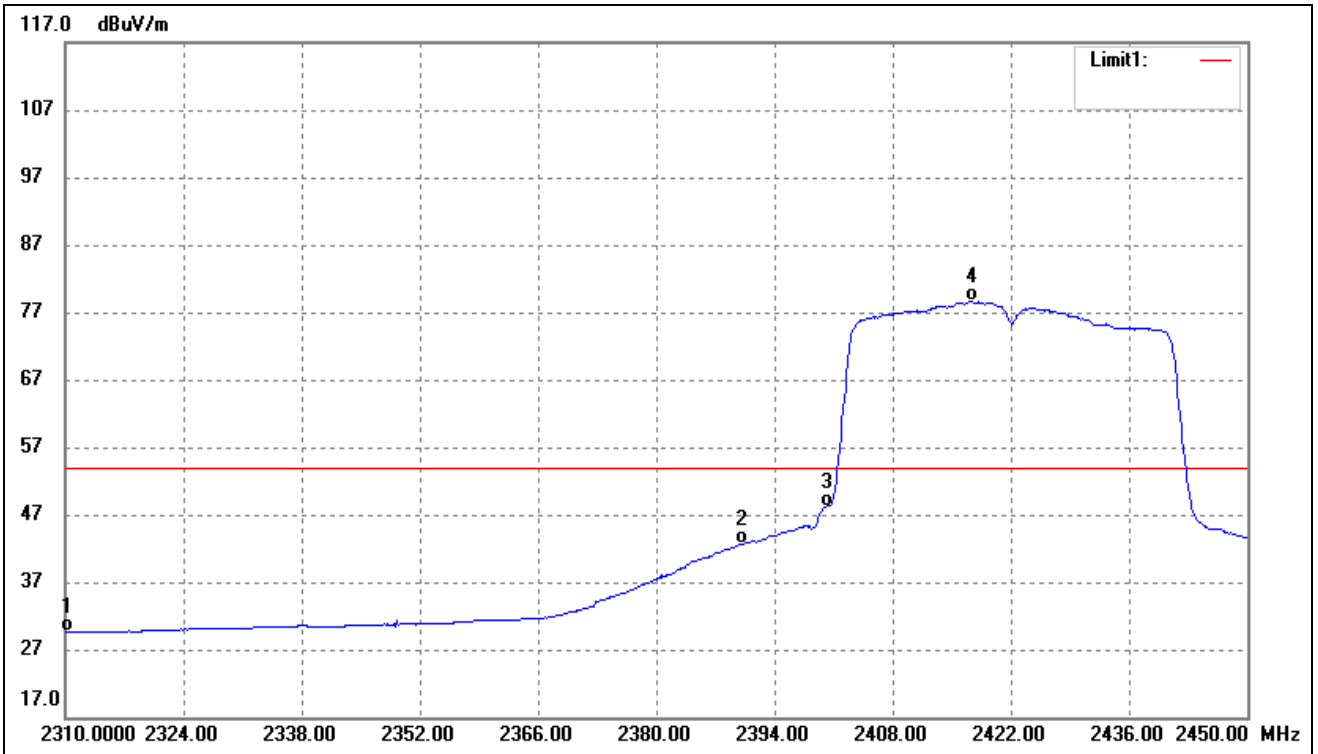
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	41.60	-11.07	30.53	54.00	-23.47	Average Detector
	2310.000	55.09	-11.07	44.02	74.00	-29.98	Peak Detector
2	2390.000	51.32	-10.89	40.43	54.00	-13.57	Average Detector
	2390.000	75.31	-10.89	64.42	74.00	-9.58	Peak Detector
3	2400.000	63.60	-10.87	52.73	Delta=30.12dBc		Average Detector
4	2413.320	93.68	-10.83	82.85			Average Detector

802.11ax-HE20			
Test Channel	High	Polarity:	Vertical(worst case)



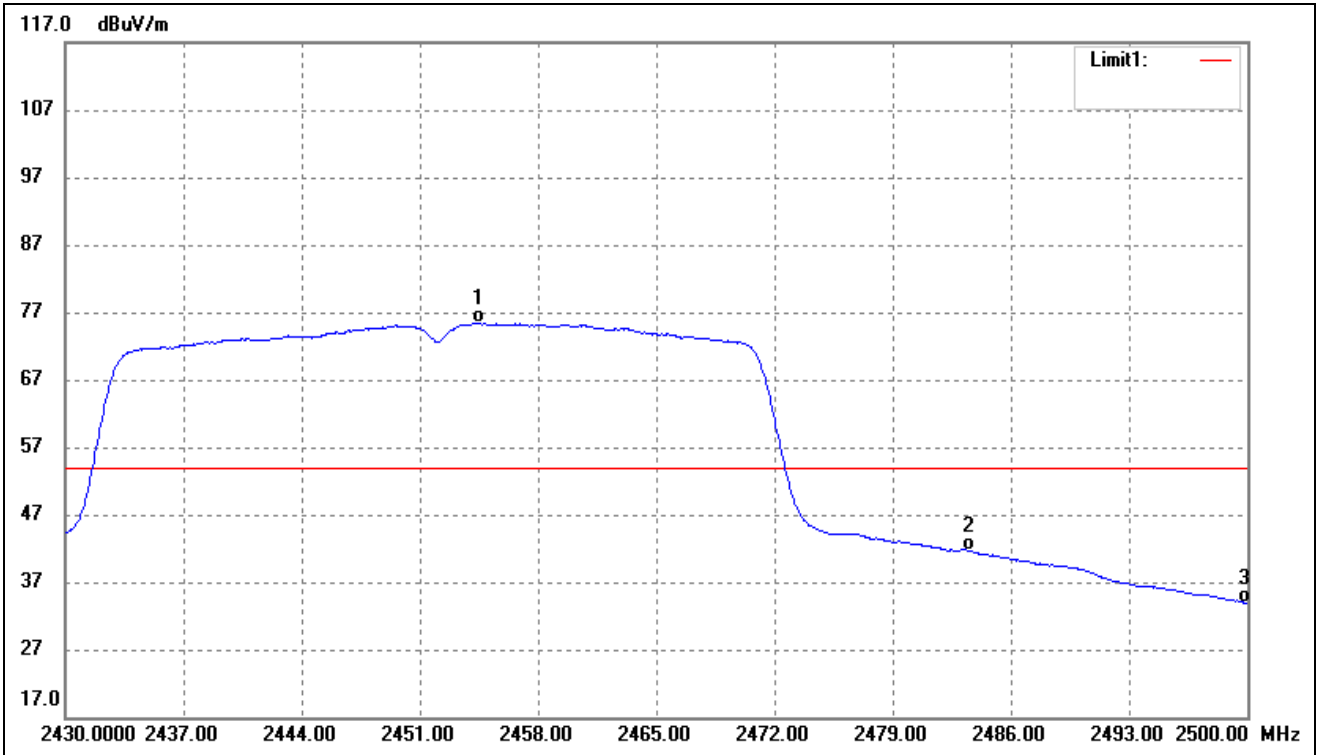
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.050	94.07	-10.74	83.33	/	/	Average Detector
	2462.800	112.86	-10.73	102.13	/	/	Peak Detector
2	2483.500	52.40	-10.69	41.71	54.00	-12.29	Average Detector
	2483.500	70.97	-10.69	60.28	74.00	-13.72	Peak Detector
3	2500.000	43.22	-10.65	32.57	54.00	-21.43	Average Detector
	2500.000	56.74	-10.65	46.09	74.00	-27.91	Peak Detector

802.11ax-HE40			
Test Channel	Low	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	40.59	-11.07	29.52	54.00	-24.48	Average Detector
		54.49	-11.07	43.42	74.00	-30.58	Peak Detector
2	2390.000	53.47	-10.89	42.58	54.00	-11.42	Average Detector
		74.56	-10.89	63.67	74.00	-10.33	Peak Detector
3	2400.000	59.09	-10.87	48.22	Delta=30.34dBc		Average Detector
4	2417.380	89.39	-10.83	78.56			Average Detector

802.11ax-HE40			
Test Channel	High	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2454.500	86.14	-10.74	75.40	/	/	Average Detector
	2454.570	108.97	-10.74	98.23	/	/	Peak Detector
2	2483.500	52.31	-10.69	41.62	54.00	-12.38	Average Detector
	2483.500	70.78	-10.69	60.09	74.00	-13.91	Peak Detector
3	2500.000	44.48	-10.65	33.83	54.00	-20.17	Average Detector
	2500.000	61.31	-10.65	50.66	74.00	-23.34	Peak Detector

➤ Conducted test

**Please refer to Appendix D**



## 9. Conducted Emissions

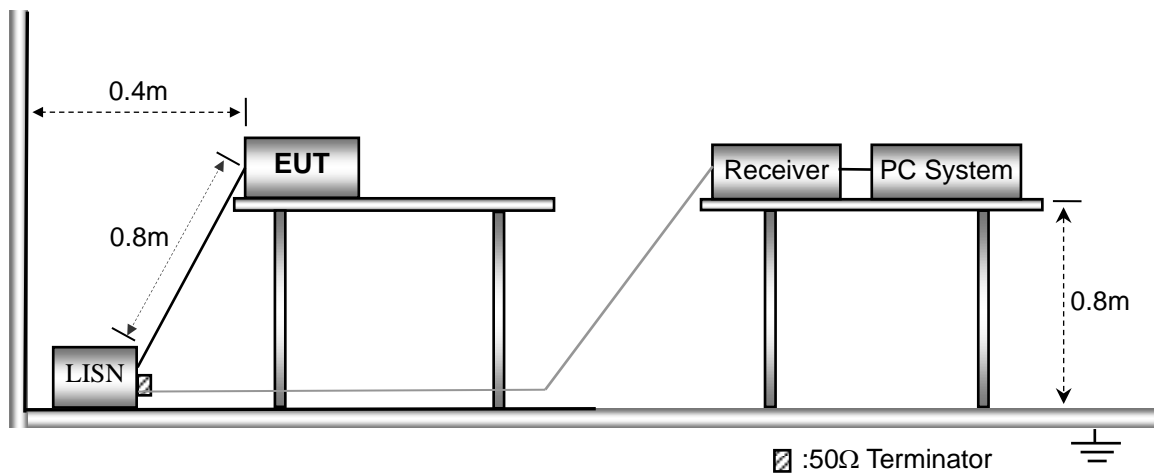
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### 9.1 Test Procedure

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



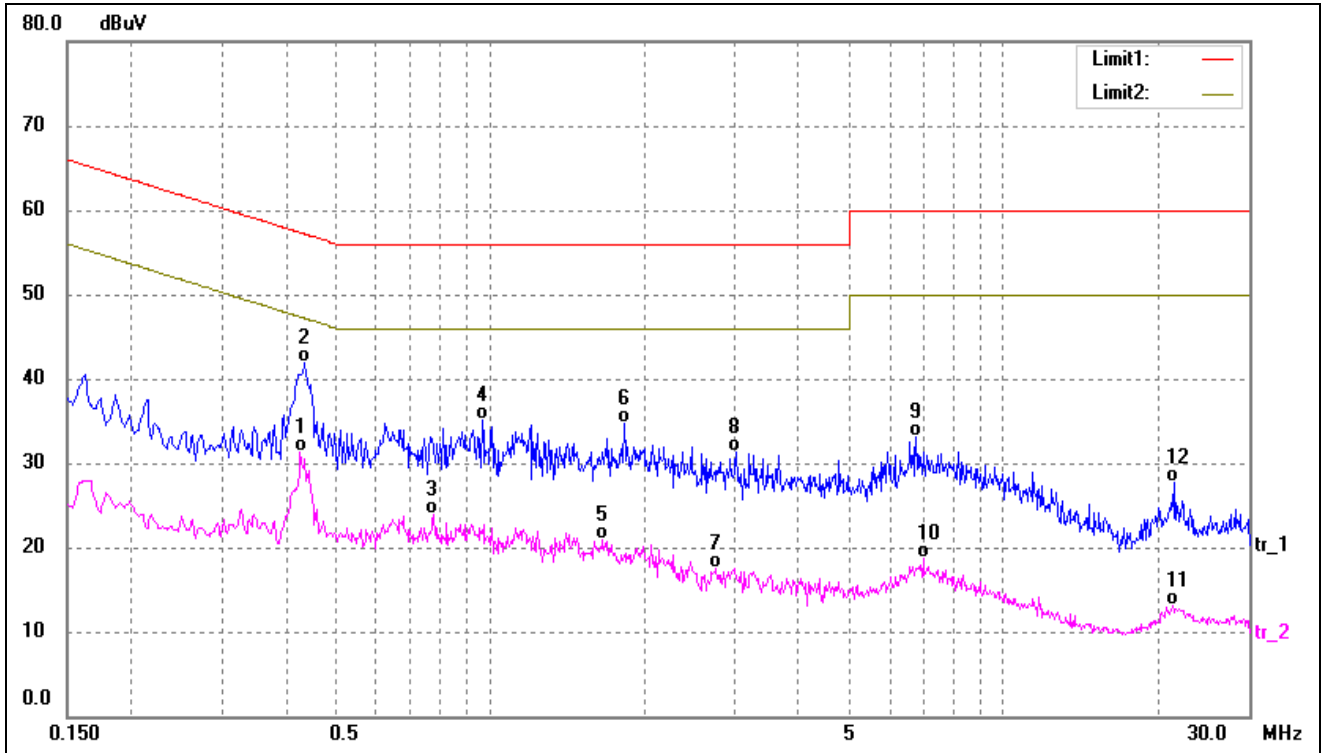
### 9.3 Test Receiver Setup

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

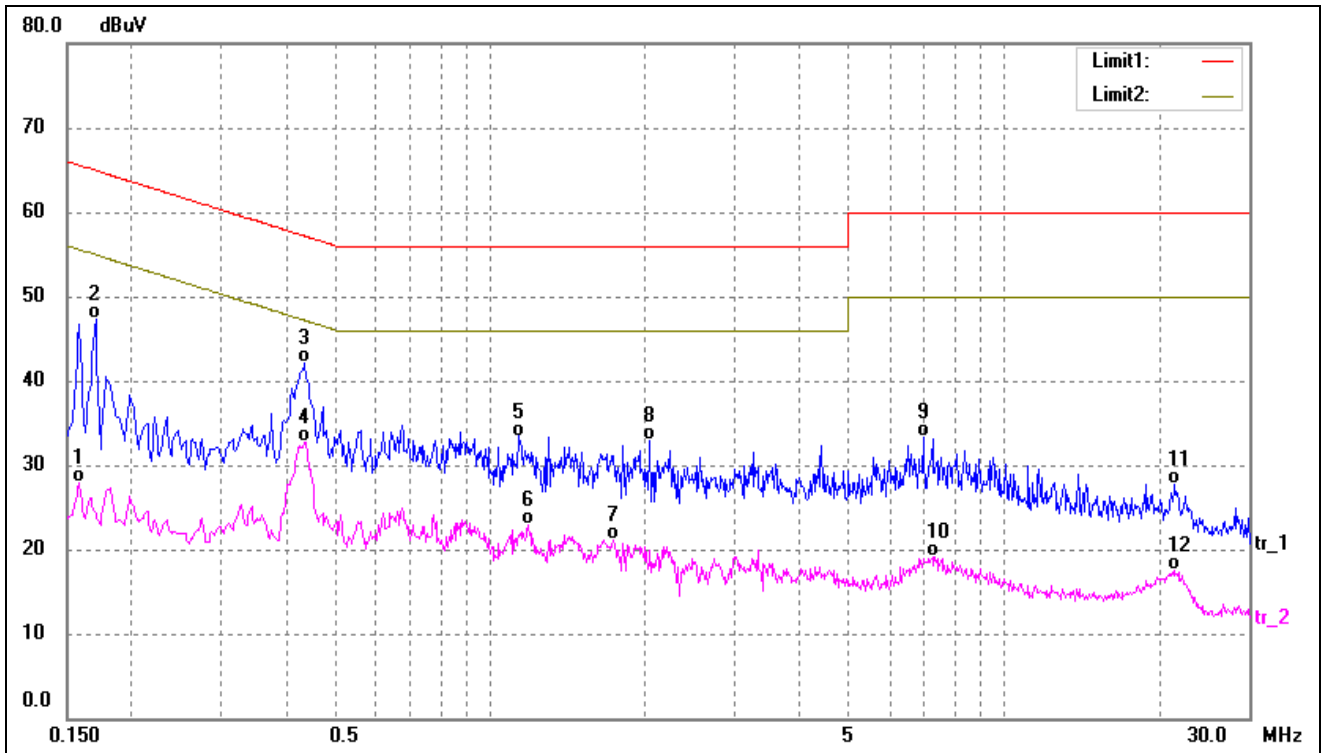
### 9.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
-----------	---------------	-------------	-----------	---------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4260	21.07	10.22	31.29	47.33	-16.04	AVG
2*	0.4340	31.68	10.23	41.91	57.18	-15.27	QP
3	0.7780	13.75	10.17	23.92	46.00	-22.08	AVG
4	0.9660	24.99	10.14	35.13	56.00	-20.87	QP
5	1.6580	10.73	10.22	20.95	46.00	-25.05	AVG
6	1.8220	24.57	10.23	34.80	56.00	-21.20	QP
7	2.7620	7.14	10.27	17.41	46.00	-28.59	AVG
8	3.0220	21.06	10.28	31.34	56.00	-24.66	QP
9	6.7580	22.77	10.34	33.11	60.00	-26.89	QP
10	6.9780	8.27	10.34	18.61	50.00	-31.39	AVG
11	21.3220	2.77	10.37	13.14	50.00	-36.86	AVG
12	21.5220	17.35	10.37	27.72	60.00	-32.28	QP

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	17.52	10.31	27.83	55.56	-27.73	AVG
2	0.1700	36.91	10.31	47.22	64.96	-17.74	QP
3	0.4340	31.78	10.23	42.01	57.18	-15.17	QP
4*	0.4340	22.49	10.23	32.72	47.18	-14.46	AVG
5	1.1380	23.25	10.15	33.40	56.00	-22.60	QP
6	1.1860	12.71	10.16	22.87	46.00	-23.13	AVG
7	1.7420	10.79	10.22	21.01	46.00	-24.99	AVG
8	2.0460	22.70	10.25	32.95	56.00	-23.05	QP
9	6.9620	23.05	10.34	33.39	60.00	-26.61	QP
10	7.2900	8.83	10.34	19.17	50.00	-30.83	AVG
11	21.5340	17.35	10.37	27.72	60.00	-32.28	QP
12	21.5340	7.14	10.37	17.51	50.00	-32.49	AVG

## APPENDIX SUMMARY

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Project No.	WTD22X11236852W	Test Engineer	BAldi Zhong
Start date	2022/9/16	Finish date	2022/9/22
Temperature	23°C	Humidity	55%
RF specifications	WIFI-2.4G		

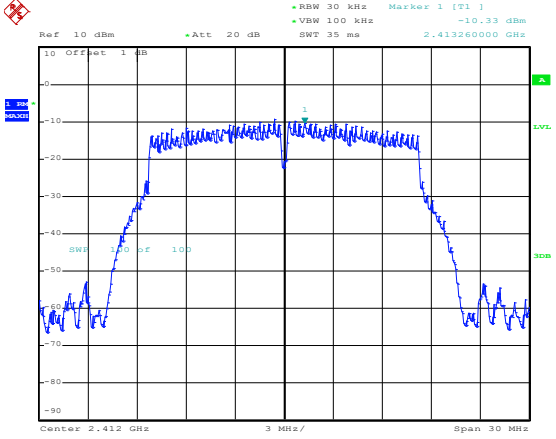
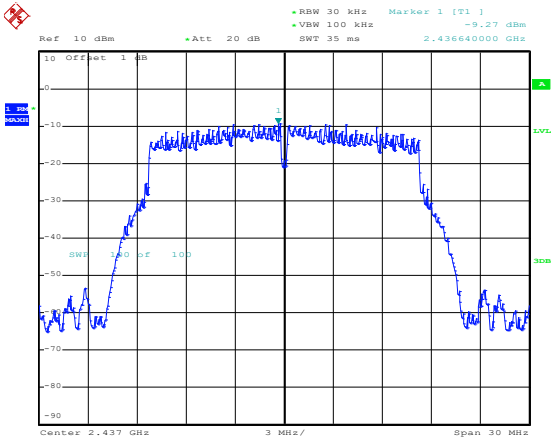
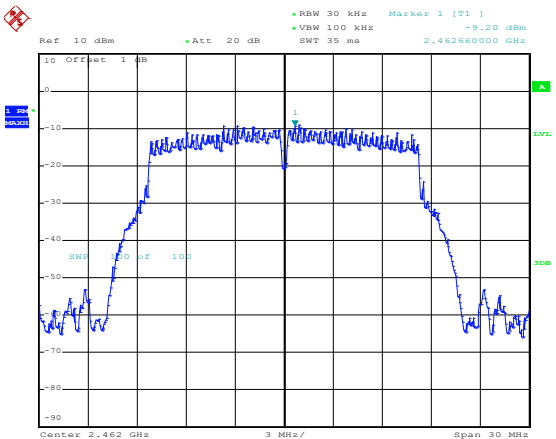
APPENDIX	Description of Test Item	Result
A	Power Spectral Density	Compliant
B	DTS Bandwidth	Compliant
C	RF Output Power	Compliant
D	Conducted Out of Band Emissions	Compliant

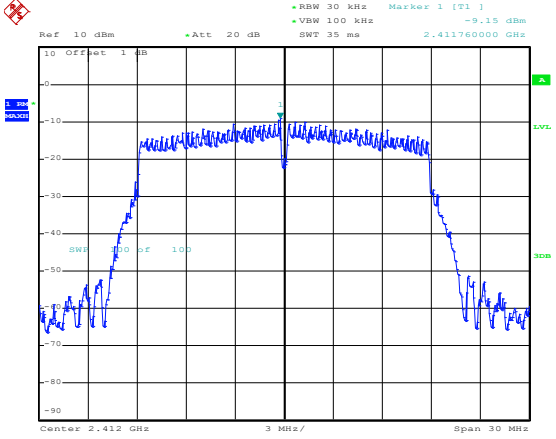
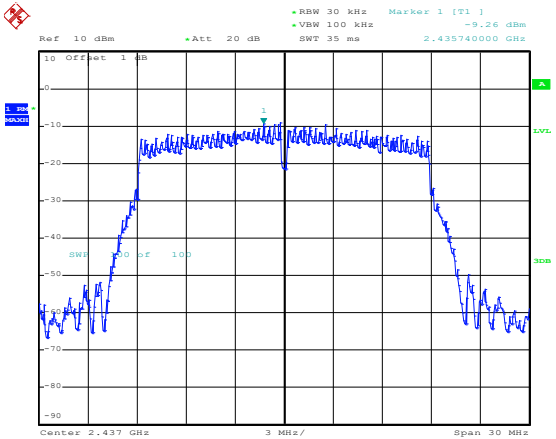
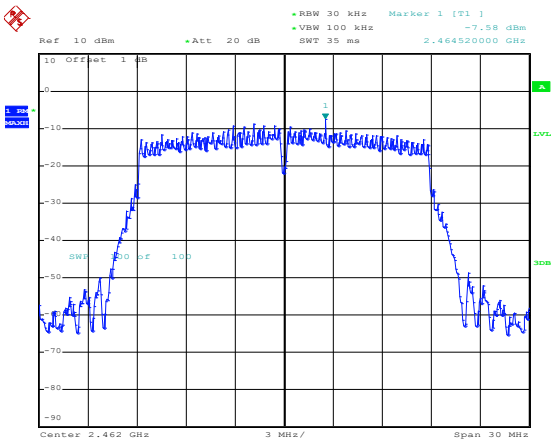
**APPENDIX A**

Power Spectral Density					
Test Mode	Test Channel MHz	Test Result(dBm/30kHz)		Total dBm/30kHz	Limit dBm/3kHz
		Antenna 0	Antenna 1		
802.11b_1Mbps	2412	-3.34	-2.39	/	8
	2437	-2.19	-3.30	/	8
	2462	-2.42	-2.73	/	8
802.11g_6Mbps	2412	-10.33	-9.31	/	8
	2437	-9.27	-8.64	/	8
	2462	-9.20	-8.16	/	8
802.11n-HT20_MCS0	2412	-9.15	-8.78	-5.95	8
	2437	-9.26	-9.29	-6.26	8
	2462	-7.58	-8.96	-5.21	8
802.11n-HT40_MCS0	2422	-18.27	-17.36	-14.78	8
	2437	-17.27	-15.71	-13.41	8
	2452	-17.23	-16.42	-13.80	8
802.11ax-HE20_MCS0	2412	-13.05	-13.91	-10.45	8
	2437	-11.77	-11.89	-8.82	8
	2462	-11.81	-11.72	-8.75	8
802.11ax-HE40_MCS0	2422	-17.92	-17.39	-14.64	8
	2437	-17.08	-16.91	-13.98	8
	2452	-17.62	-16.80	-14.18	8

Antenna 0

<p>802.11b-Low</p>	<p>Date: 21.SEP.2022 19:45:37</p>
<p>802.11b-Middle</p>	<p>Date: 21.SEP.2022 19:46:52</p>
<p>802.11b-High</p>	<p>Date: 21.SEP.2022 19:47:40</p>

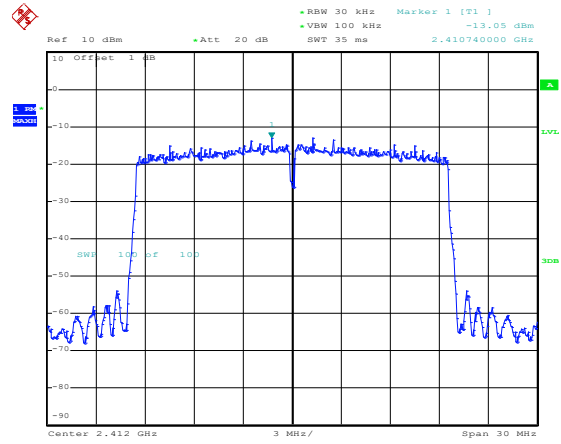
<p>802.11g-Low</p>	 <p>Ref 10 dBm    +Att 20 dB    +RBW 30 kHz    Marker 1 [T1]    -10.33 dBm      +VBW 100 kHz    SWT 35 ms    2.413260000 GHz</p> <p>10 Offset 1 dB</p> <p>SWR 1.00 Ref 100</p> <p>Center 2.412 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 21.SEP.2022 19:48:31</p>
<p>802.11g-Middle</p>	 <p>Ref 10 dBm    +Att 20 dB    +RBW 30 kHz    Marker 1 [T1]    -9.27 dBm      +VBW 100 kHz    SWT 35 ms    2.436640000 GHz</p> <p>10 Offset 1 dB</p> <p>SWR 1.00 Ref 100</p> <p>Center 2.437 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 21.SEP.2022 19:49:01</p>
<p>802.11g-High</p>	 <p>Ref 10 dBm    +Att 20 dB    +RBW 30 kHz    Marker 1 [T1]    -9.20 dBm      +VBW 100 kHz    SWT 35 ms    2.462660000 GHz</p> <p>10 Offset 1 dB</p> <p>SWR 1.00 Ref 100</p> <p>Center 2.462 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 21.SEP.2022 19:49:25</p>

<p>802.11n-HT20-Low</p>	 <p>Ref 10 dBm +Att 20 dB RBW 30 kHz Marker 1 [T1] -9.15 dBm VBW 100 kHz SWT 35 ms 2.411760000 GHz</p> <p>10 Offset 1 dB SWT 100 Hz Ref 100</p> <p>Center 2.412 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 21.SEP.2022 19:49:52</p>
<p>802.11n-HT20-Middle</p>	 <p>Ref 10 dBm +Att 20 dB RBW 30 kHz Marker 1 [T1] -9.26 dBm VBW 100 kHz SWT 35 ms 2.435740000 GHz</p> <p>10 Offset 1 dB SWT 100 Hz Ref 100</p> <p>Center 2.437 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 21.SEP.2022 19:50:17</p>
<p>802.11n-HT20-High</p>	 <p>Ref 10 dBm +Att 20 dB RBW 30 kHz Marker 1 [T1] -7.58 dBm VBW 100 kHz SWT 35 ms 2.464520000 GHz</p> <p>10 Offset 1 dB SWT 100 Hz Ref 100</p> <p>Center 2.462 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 21.SEP.2022 19:50:42</p>



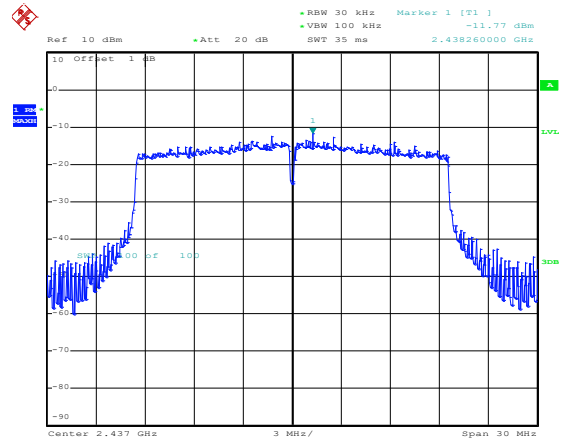
<p>802.11n-HT40-Low</p>	<p>Ref 10 dBm    +Att 20 dB    +RBW 30 kHz    Marker 1 [T1]    -18.27 dBm          +VBW 100 kHz    SWT 90 ms    2.41800000 GHz</p> <p>10 Offset 1 dB</p> <p>Center 2.422 GHz    8 MHz/    Span 80 MHz</p> <p>Date: 21.SEP.2022 19:51:21</p>
<p>802.11n-HT40-Middle</p>	<p>Ref 10 dBm    +Att 20 dB    +RBW 30 kHz    Marker 1 [T1]    -17.27 dBm          +VBW 100 kHz    SWT 90 ms    2.43796000 GHz</p> <p>10 Offset 1 dB</p> <p>Center 2.437 GHz    8 MHz/    Span 80 MHz</p> <p>Date: 21.SEP.2022 19:51:55</p>
<p>802.11n-HT40-High</p>	<p>Ref 10 dBm    +Att 20 dB    +RBW 30 kHz    Marker 1 [T1]    -17.23 dBm          +VBW 100 kHz    SWT 90 ms    2.45328000 GHz</p> <p>10 Offset 1 dB</p> <p>Center 2.452 GHz    8 MHz/    Span 80 MHz</p> <p>Date: 21.SEP.2022 19:52:26</p>

802.11ax-HE20-Low



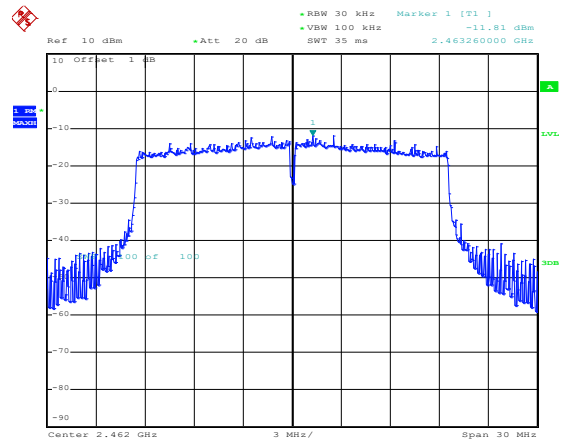
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802.11ax-HE20-Middle



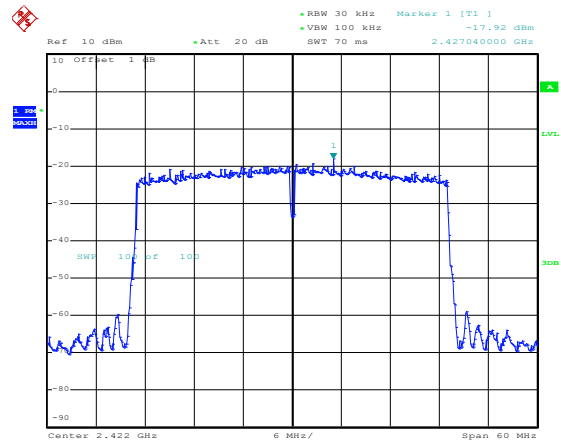
Date: 21.SEP.2022 19:44:11

802.11ax-HE20-High



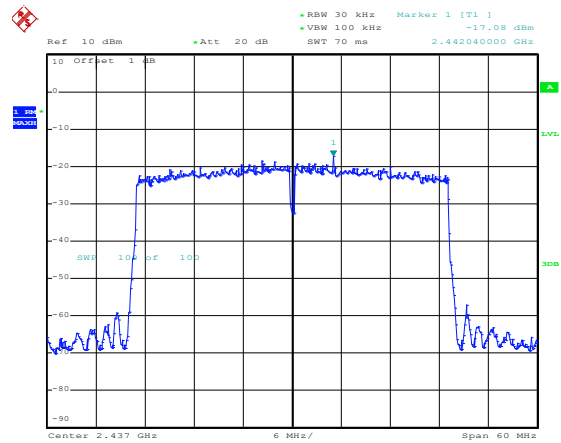
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802.11ax-HE40-Low



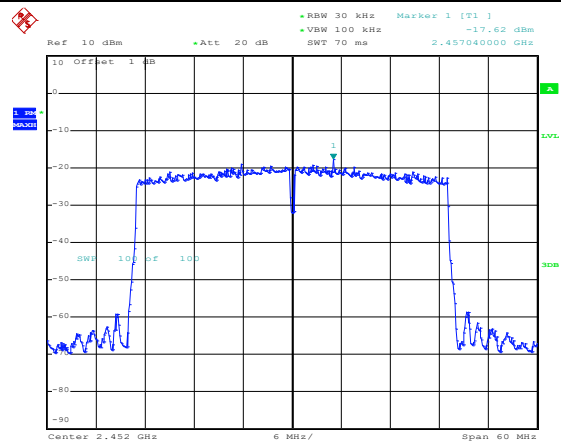
Date: 21.SEP.2022 19:42:21

802.11ax-HE40-Middle



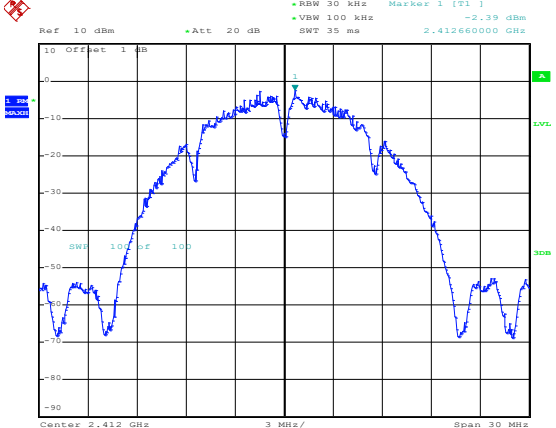
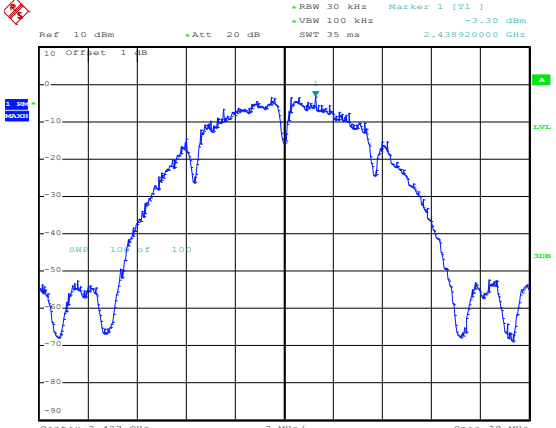
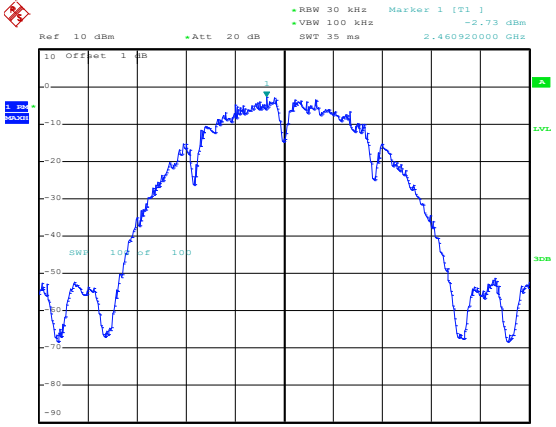
Date: 21.SEP.2022 19:41:47

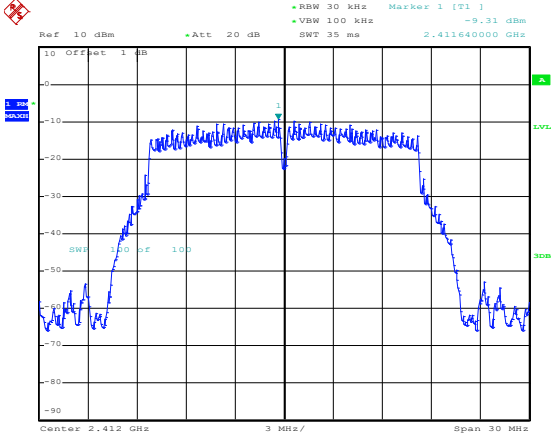
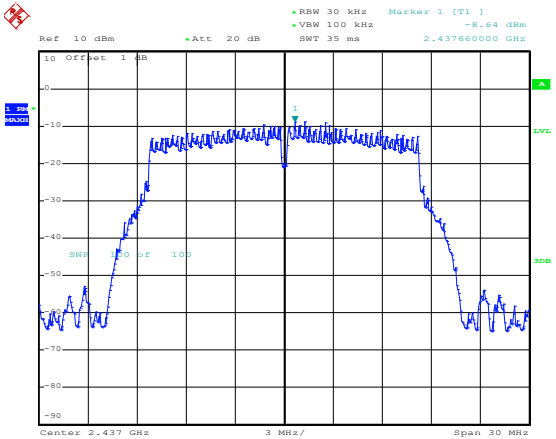
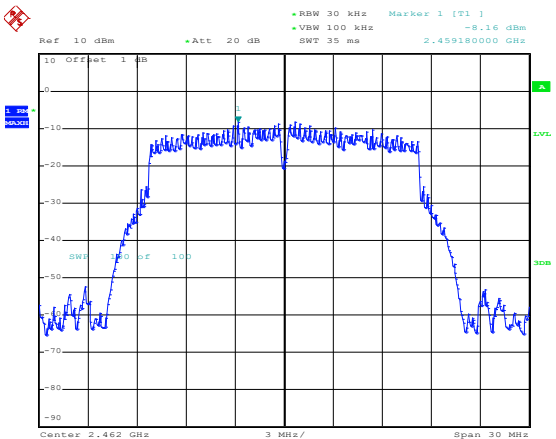
802.11ax-HE40-High



Date: 21.SEP.2022 19:41:14

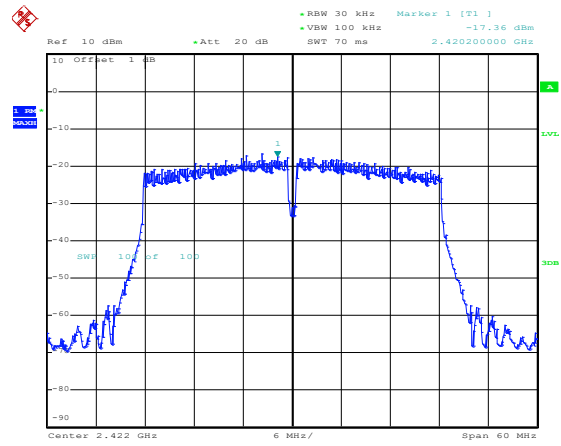
Antenna 1

<p>802.11b-Low</p>	 <p>Date: 21.SEP.2022 19:25:42</p>
<p>802.11b-Middle</p>	 <p>Date: 21.SEP.2022 19:26:10</p>
<p>802.11b-High</p>	 <p>Date: 21.SEP.2022 19:26:35</p>

<p>802.11g-Low</p>	 <p>Ref 10 dBm +Att 20 dB RBW 30 kHz VBW 100 kHz SWT 35 ms Marker 1 [T1] -9.31 dBm 2.411640000 GHz</p> <p>10 Offset 1 dB</p> <p>Center 2.412 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 21.SEP.2022 19:27:06</p>
<p>802.11g-Middle</p>	 <p>Ref 10 dBm +Att 20 dB RBW 30 kHz VBW 100 kHz SWT 35 ms Marker 1 [T1] -8.64 dBm 2.437660000 GHz</p> <p>10 Offset 1 dB</p> <p>Center 2.437 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 21.SEP.2022 19:27:35</p>
<p>802.11g-High</p>	 <p>Ref 10 dBm +Att 20 dB RBW 30 kHz VBW 100 kHz SWT 35 ms Marker 1 [T1] -8.16 dBm 2.459180000 GHz</p> <p>10 Offset 1 dB</p> <p>Center 2.462 GHz 3 MHz/ Span 30 MHz</p> <p>Date: 21.SEP.2022 19:27:59</p>

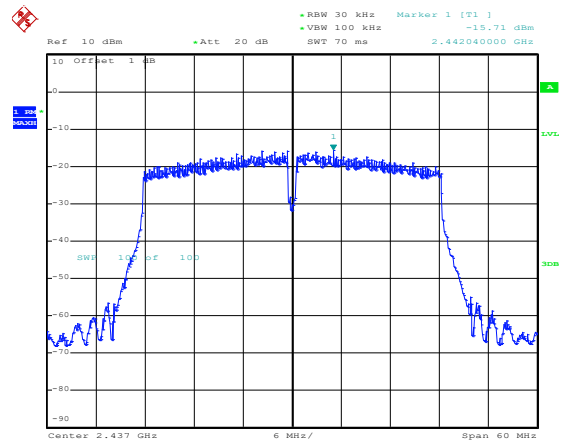
<p>802.11n-HT20-Low</p>	<p>Date: 21.SEP.2022 19:28:35</p>
<p>802.11n-HT20-Middle</p>	<p>Date: 21.SEP.2022 19:29:00</p>
<p>802.11n-HT20-High</p>	<p>Date: 21.SEP.2022 19:29:35</p>

802.11n-HT40-Low



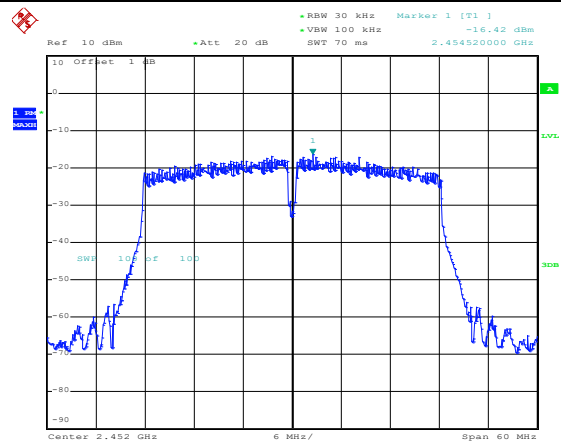
Date: 21.SEP.2022 19:30:44

802.11n-HT40-Middle



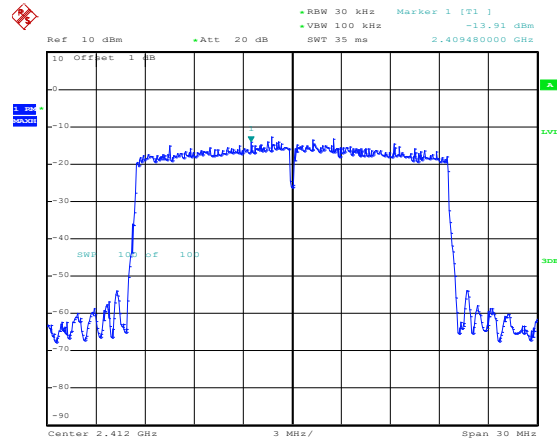
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802.11n-HT40-High



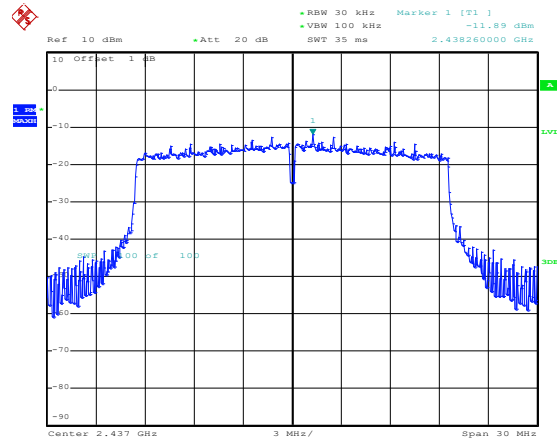
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802.11ax-HE20-Low



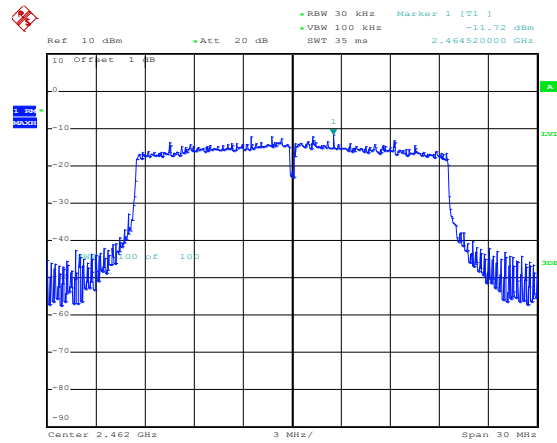
Date: 21.SEP.2022 19:35:46

802.11ax-HE20-Middle



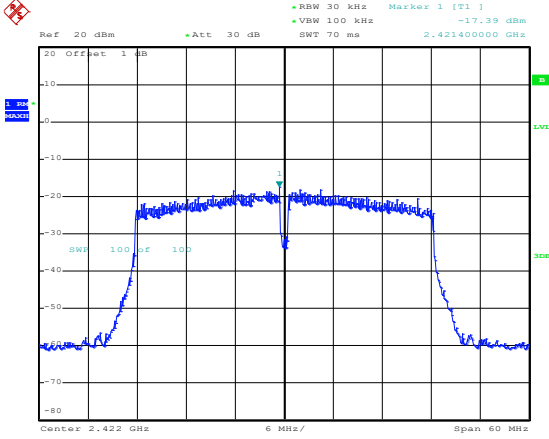
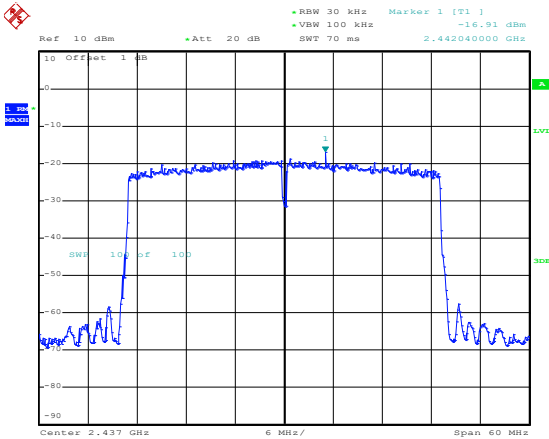
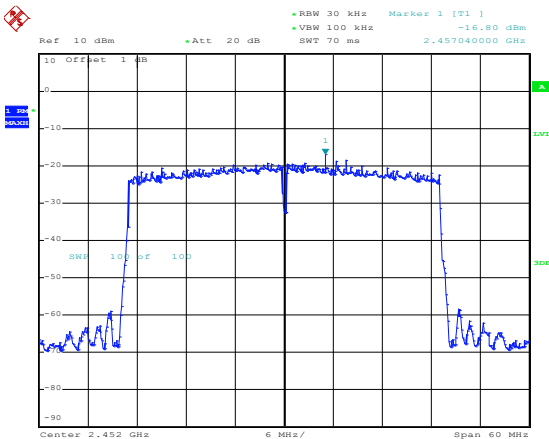
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802.11ax-HE20-High



Date: 21.SEP.2022 19:36:58

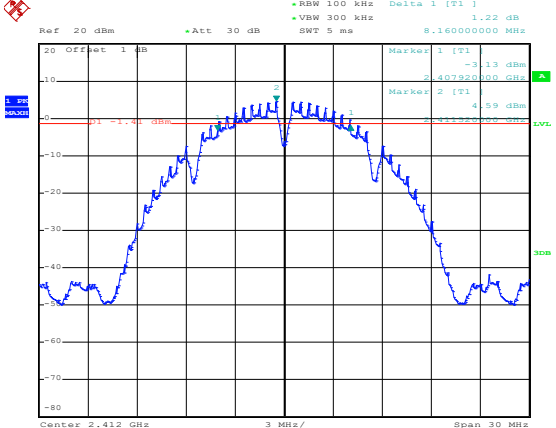
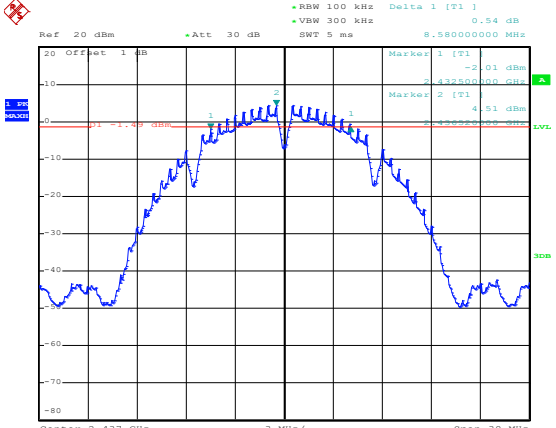
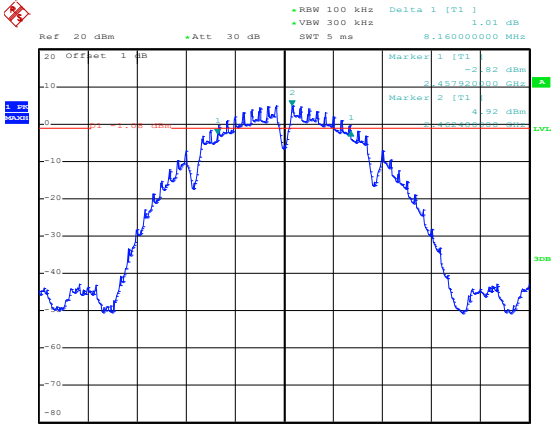


<p>802.11ax-HE40-Low</p>	 <p>Date: 27.SEP.2022 08:55:16</p>
<p>802.11ax-HE40-Middle</p>	 <p>Date: 21.SEP.2022 19:39:00</p>
<p>802.11ax-HE40-High</p>	 <p>Date: 21.SEP.2022 19:39:31</p>

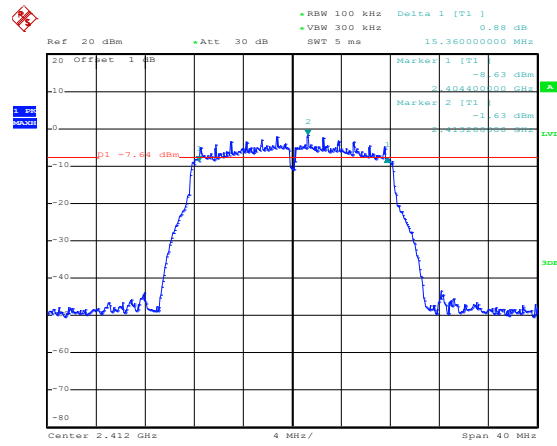
**APPENDIX B**

DTS Bandwidth				
Test Mode	Test Channel MHz	Test Result(MHz)		Limit kHz
		Antenna 0	Antenna 1	
802.11b_1Mbps	2412	8.16	8.16	≥500
	2437	8.58	8.16	≥500
	2462	8.16	8.58	≥500
802.11g_6Mbps	2412	15.36	15.68	≥500
	2437	15.52	15.84	≥500
	2462	15.44	15.76	≥500
802.11n-HT20_MCS0	2412	15.68	16.32	≥500
	2437	15.60	15.28	≥500
	2462	15.52	15.68	≥500
802.11n-HT40_MCS0	2422	35.52	35.52	≥500
	2437	35.52	35.52	≥500
	2452	35.52	35.52	≥500
802.11ax-HE20_MCS0	2412	18.56	18.72	≥500
	2437	18.72	18.56	≥500
	2462	18.56	18.88	≥500
802.11ax-HE40_MCS0	2422	37.76	37.60	≥500
	2437	37.76	37.76	≥500
	2452	37.76	38.08	≥500

Antenna 0

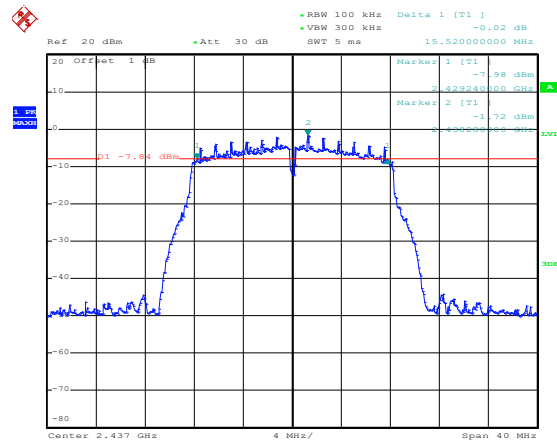
<p>802.11b-Low</p>	 <p>Date: 13.SEP.2022 15:31:11</p>
<p>802.11b-Middle</p>	 <p>Date: 13.SEP.2022 15:35:21</p>
<p>802.11b-High</p>	 <p>Date: 13.SEP.2022 15:36:32</p>

802.11g-Low



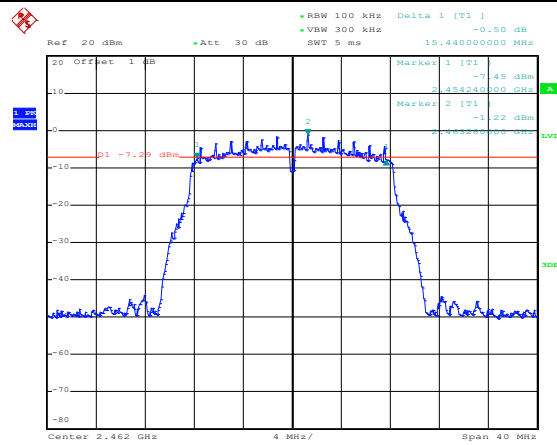
Date: 13.SEP.2022 15:39:39

802.11g-Middle



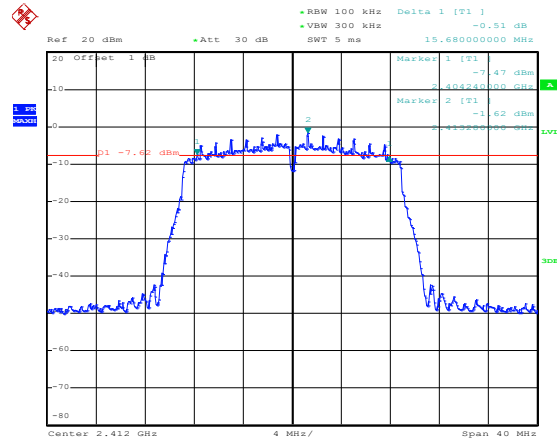
Date: 13.SEP.2022 15:40:59

802.11g-High



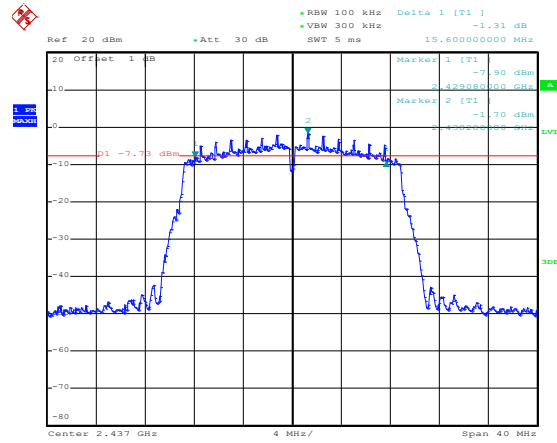
Date: 13.SEP.2022 15:42:04

802.11n-HT20-Low



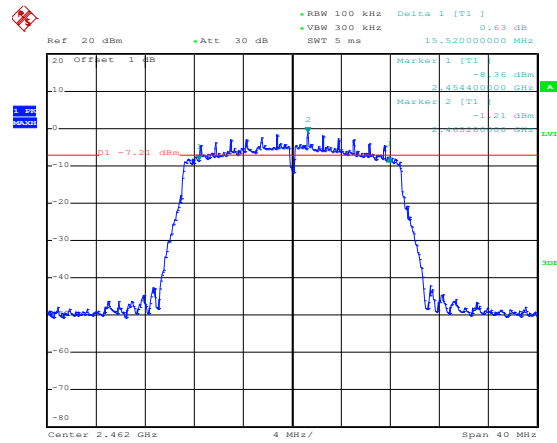
Date: 13.SEP.2022 15:44:02

802.11n-HT20-Middle



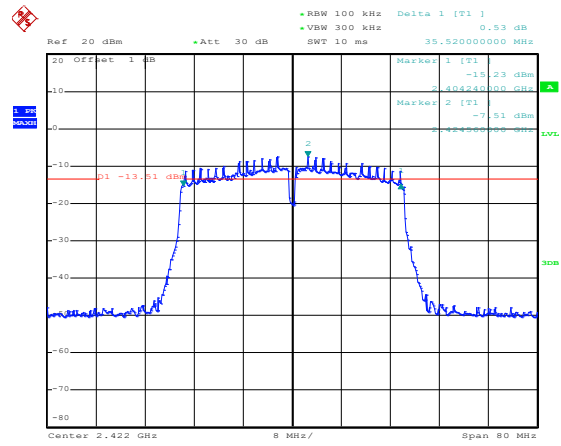
Date: 13.SEP.2022 15:45:06

802.11n-HT20-High



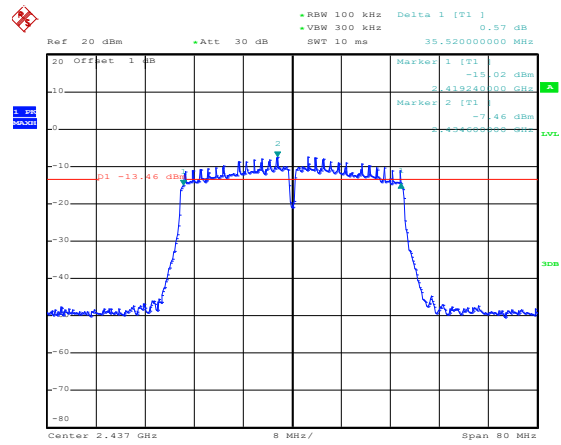
Date: 13.SEP.2022 15:46:06

802.11n-HT40-Low



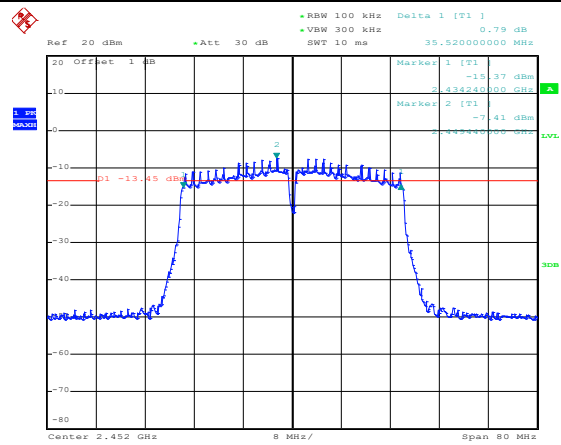
Date: 13.SEP.2022 15:47:44

802.11n-HT40-Middle



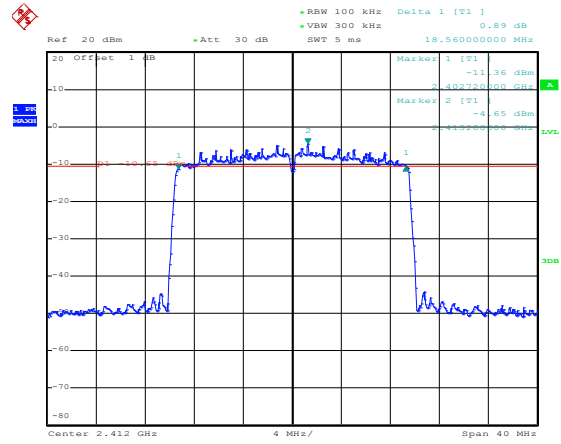
Date: 13.SEP.2022 15:50:53

802.11n-HT40-High



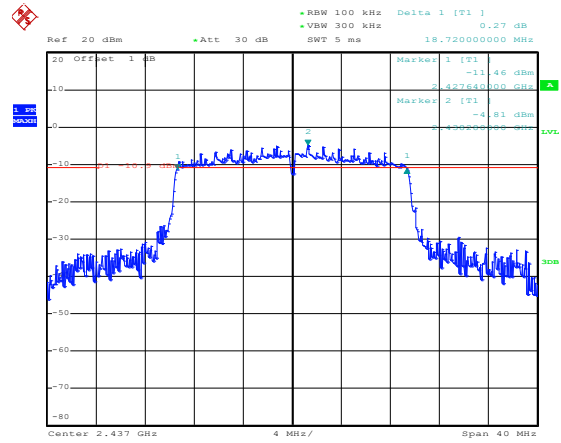
Date: 13.SEP.2022 15:51:51

802.11ax-HE20-Low



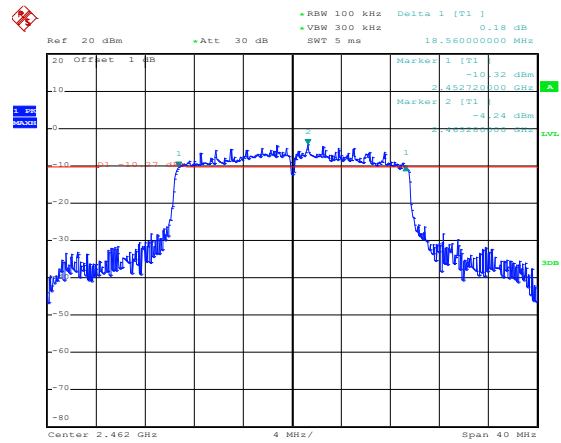
Date: 13.SEP.2022 15:54:21

802.11ax-HE20-Middle

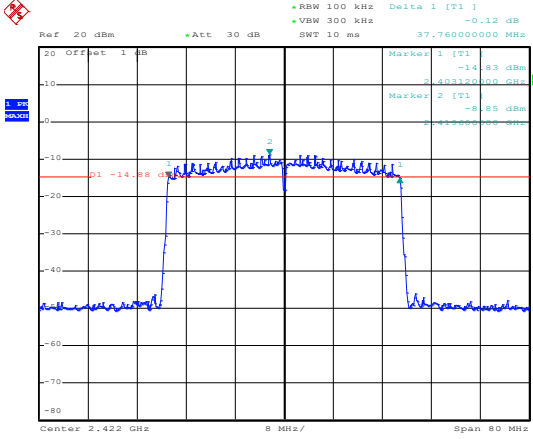
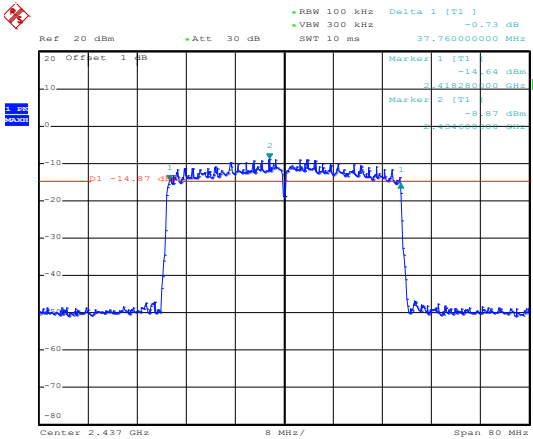
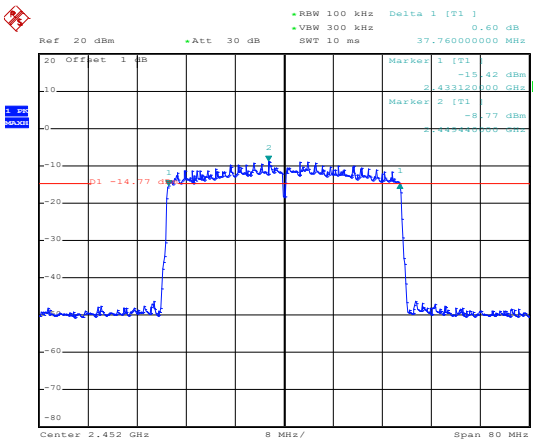


Date: 13.SEP.2022 15:55:32

802.11ax-HE20-High



Date: 13.SEP.2022 15:56:47

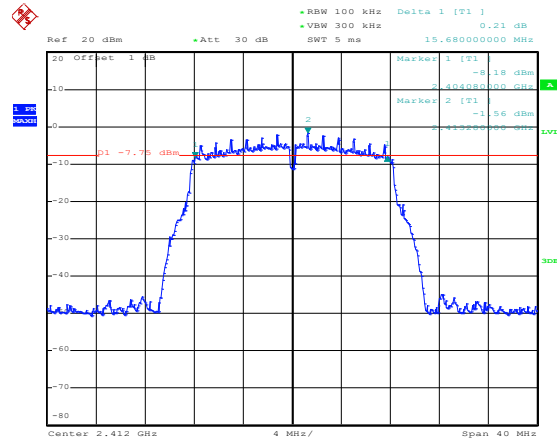
<p>802.11ax-HE40-Low</p>	 <p>             +RBW 100 kHz Delta 1 [T1] -0.12 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 10 ms 37.760000000 MHz              20 Offset 1 dB              Marker 1 [T1] -14.83 dBm              Marker 2 [T1] -8.85 dBm              -14.88 dBm              -8.85 dBm              Center 2.422 GHz 8 MHz/ Span 80 MHz              Date: 13.SEP.2022 15:58:09         </p>
<p>802.11ax-HE40-Middle</p>	 <p>             +RBW 100 kHz Delta 1 [T1] -0.73 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 10 ms 37.760000000 MHz              20 Offset 1 dB              Marker 1 [T1] -14.64 dBm              Marker 2 [T1] -8.87 dBm              -14.87 dBm              -8.87 dBm              Center 2.437 GHz 8 MHz/ Span 80 MHz              Date: 13.SEP.2022 15:59:10         </p>
<p>802.11ax-HE40-High</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 0.60 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 10 ms 37.760000000 MHz              20 Offset 1 dB              Marker 1 [T1] -15.42 dBm              Marker 2 [T1] -8.77 dBm              -14.77 dBm              -8.77 dBm              Center 2.452 GHz 8 MHz/ Span 80 MHz              Date: 13.SEP.2022 16:00:32         </p>



Antenna 1

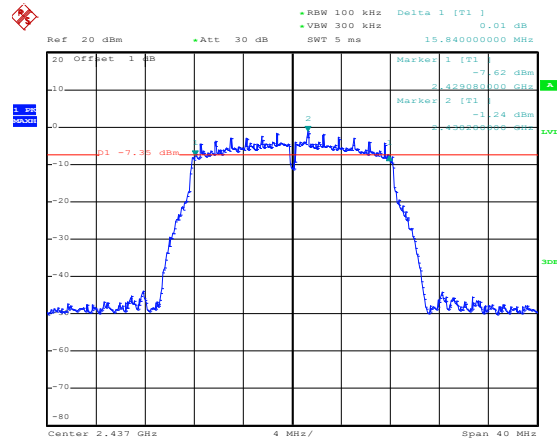
<p>802.11b-Low</p>	<p>Ref: 20 dBm    +Att: 30 dB    Delta: 1 [T1]    1.38 dB          RBW: 100 kHz    VBW: 300 kHz    SWT: 5 ms    8.16000000 MHz</p> <p>Marker: 1 [T1]    -3.44 dBm          Marker: 2 [T1]    4.30 dBm</p> <p>Center: 2.412 GHz    3 MHz/    Span: 30 MHz</p> <p>Date: 21.SEP.2022 17:30:03</p>
<p>802.11b-Middle</p>	<p>Ref: 20 dBm    +Att: 30 dB    Delta: 1 [T1]    1.43 dB          RBW: 100 kHz    VBW: 300 kHz    SWT: 5 ms    8.16000000 MHz</p> <p>Marker: 1 [T1]    -3.04 dBm          Marker: 2 [T1]    4.51 dBm</p> <p>Center: 2.437 GHz    3 MHz/    Span: 30 MHz</p> <p>Date: 21.SEP.2022 17:30:53</p>
<p>802.11b-High</p>	<p>Ref: 20 dBm    +Att: 30 dB    Delta: 1 [T1]    1.19 dB          RBW: 100 kHz    VBW: 300 kHz    SWT: 5 ms    8.58000000 MHz</p> <p>Marker: 1 [T1]    -2.85 dBm          Marker: 2 [T1]    4.72 dBm</p> <p>Center: 2.462 GHz    3 MHz/    Span: 30 MHz</p> <p>Date: 21.SEP.2022 17:32:29</p>

802.11g-Low



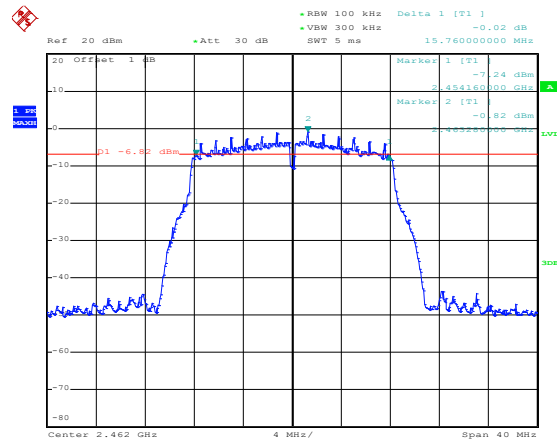
Date: 21.SEP.2022 17:33:53

802.11g-Middle

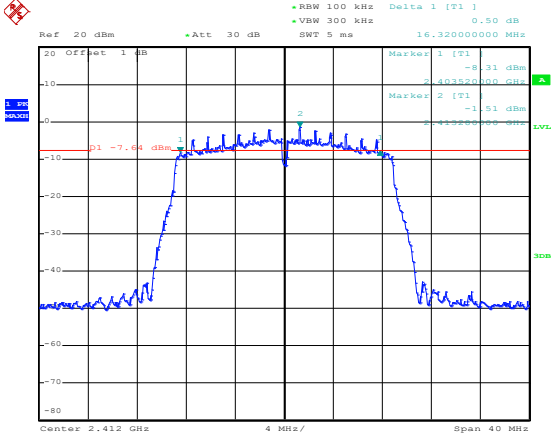
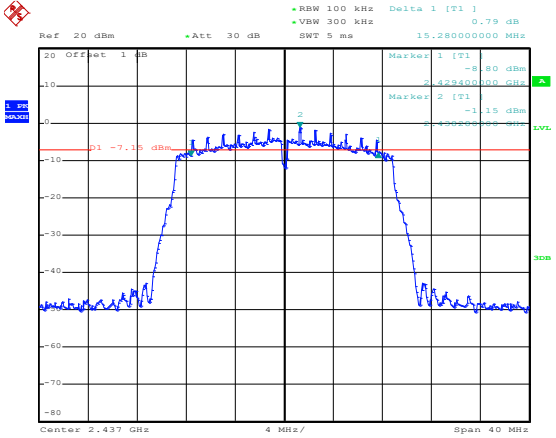
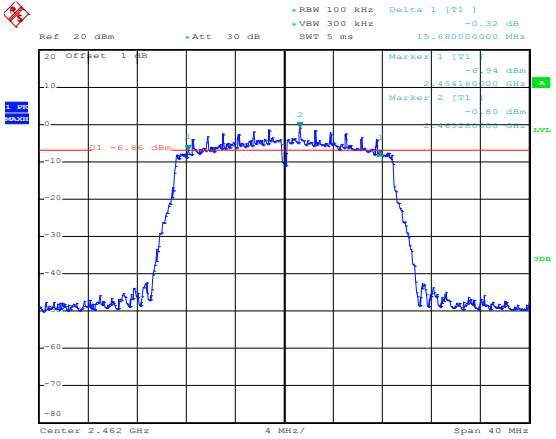


Date: 21.SEP.2022 17:35:22

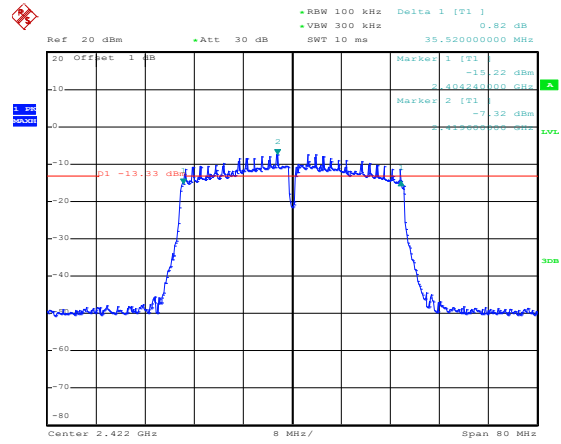
802.11g-High



Date: 21.SEP.2022 17:36:19

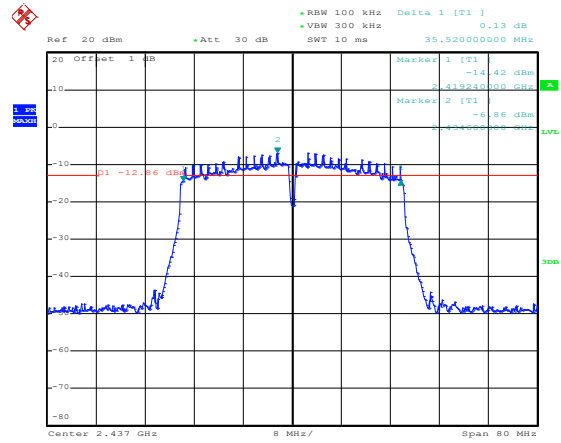
<p>802.11n-HT20-Low</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 0.50 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 16.32000000 MHz              20 Offset 1 dB              Marker 1 [T1] -8.31 dBm              Marker 2 [T1] -11.51 dBm              D1 -7.64 dBm              Center 2.412 GHz 4 MHz/ Span 40 MHz              Date: 21.SEP.2022 17:37:49         </p>
<p>802.11n-HT20-Middle</p>	 <p>             +RBW 100 kHz Delta 1 [T1] 0.79 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 15.28000000 MHz              20 Offset 1 dB              Marker 1 [T1] -8.80 dBm              Marker 2 [T1] -11.15 dBm              D1 -7.19 dBm              Center 2.437 GHz 4 MHz/ Span 40 MHz              Date: 21.SEP.2022 17:38:55         </p>
<p>802.11n-HT20-High</p>	 <p>             +RBW 100 kHz Delta 1 [T1] -0.32 dB              +VBW 300 kHz              Ref 20 dBm +Att 30 dB SWT 5 ms 15.68000000 MHz              20 Offset 1 dB              Marker 1 [T1] -6.94 dBm              Marker 2 [T1] -10.80 dBm              D1 -6.88 dBm              Center 2.462 GHz 4 MHz/ Span 40 MHz              Date: 21.SEP.2022 17:40:11         </p>

802.11n-HT40-Low



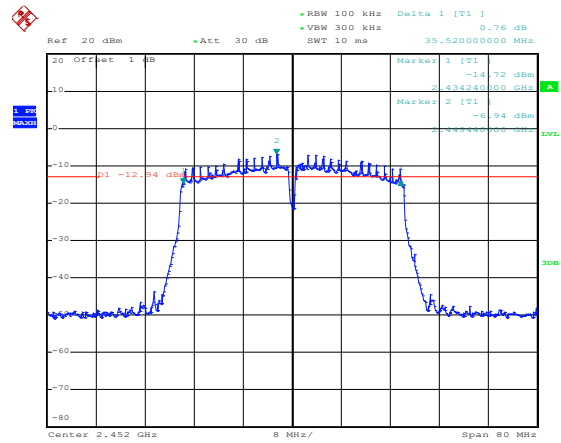
Date: 21.SEP.2022 17:41:43

802.11n-HT40-Middle



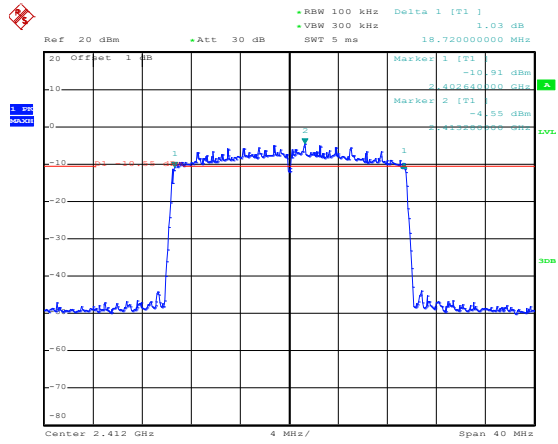
Date: 21.SEP.2022 17:45:32

802.11n-HT40-High



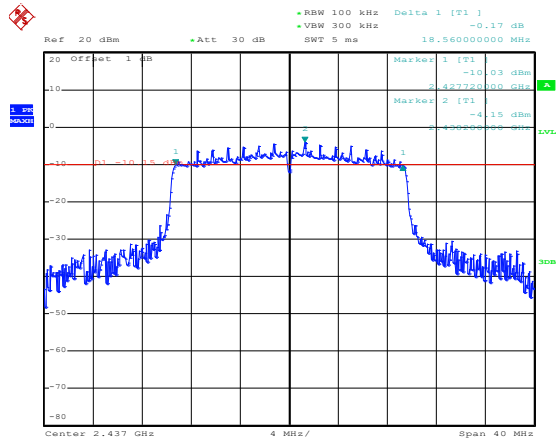
Date: 21.SEP.2022 17:51:59

802.11ax-HE20-Low



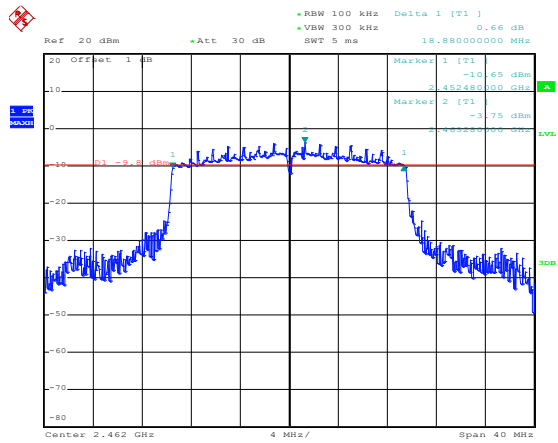
Date: 21.SEP.2022 17:55:58

802.11ax-HE20-Middle



Date: 21.SEP.2022 17:56:42

802.11ax-HE20-High



Date: 21.SEP.2022 17:57:33

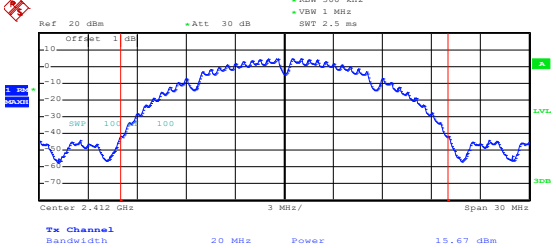
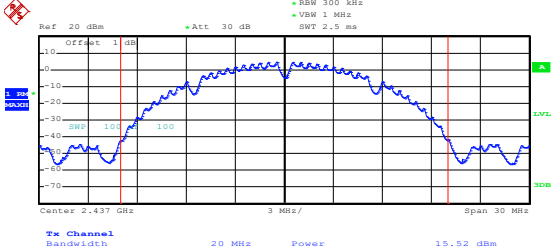
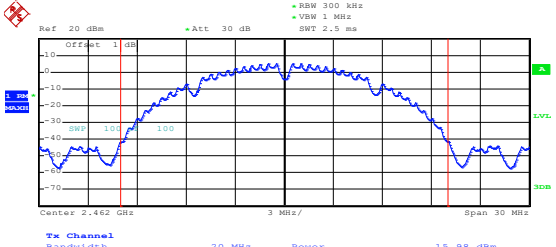
<p>802.11ax-HE40-Low</p>	<p>Date: 21.SEP.2022 17:58:37</p>
<p>802.11ax-HE40-Middle</p>	<p>Date: 21.SEP.2022 18:00:16</p>
<p>802.11ax-HE40-High</p>	<p>Date: 21.SEP.2022 18:01:56</p>

## APPENDIX C

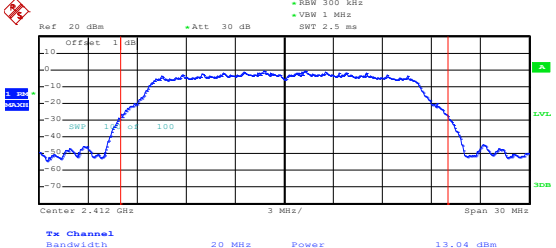
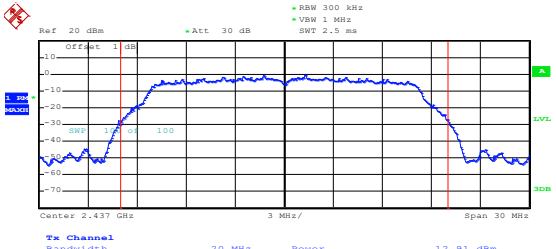
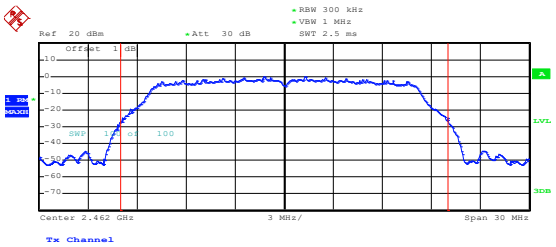
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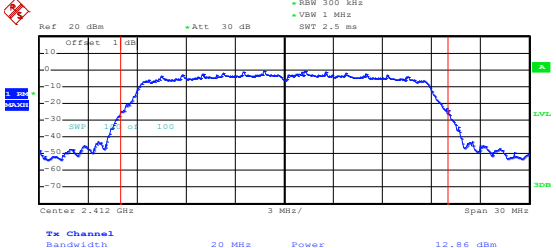
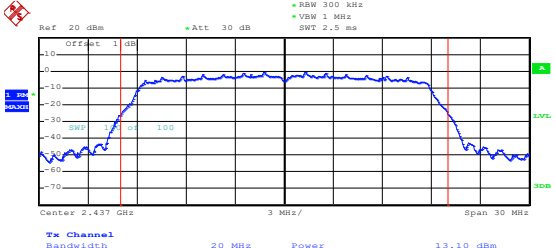
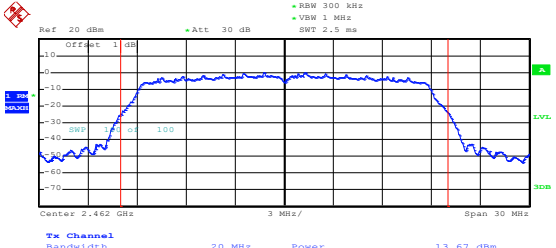
RF Output Power					
Test Mode	Frequency MHz	Antenna 0 dBm	Antenna 1 dBm	Total Power dBm	Limit dBm
802.11b_1Mbps	2412	15.67	15.53	/	30.00
	2437	15.52	15.76	/	30.00
	2462	15.98	15.69	/	30.00
802.11g_6Mbps	2412	13.04	12.94	/	30.00
	2437	12.91	13.23	/	30.00
	2462	13.63	13.65	/	30.00
802.11n HT20_MCS0	2412	12.86	13.07	15.98	30.00
	2437	13.10	12.98	16.05	30.00
	2462	13.67	13.60	16.65	30.00
802.11n HT40_MCS0	2422	7.81	7.67	10.75	30.00
	2437	7.78	7.99	10.90	30.00
	2452	7.96	8.07	11.03	30.00
802.11ax-HE20_MCS0	2412	12.09	10.75	14.48	30.00
	2437	11.14	11.39	14.28	30.00
	2462	11.68	12.18	14.95	30.00
802.11ax-HE40_MCS0	2422	8.26	8.32	11.30	30.00
	2437	8.36	8.72	11.55	30.00
	2452	8.41	8.58	11.51	30.00

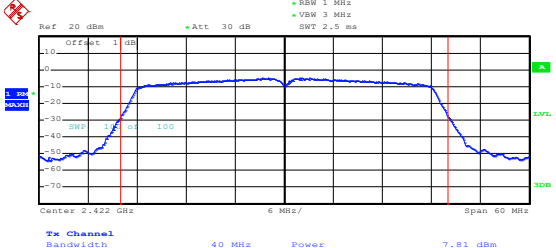
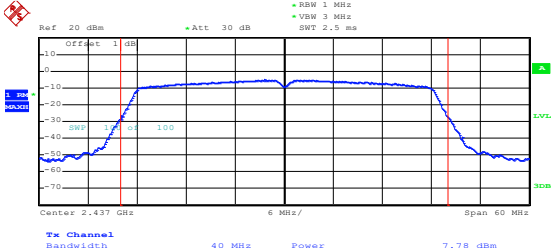
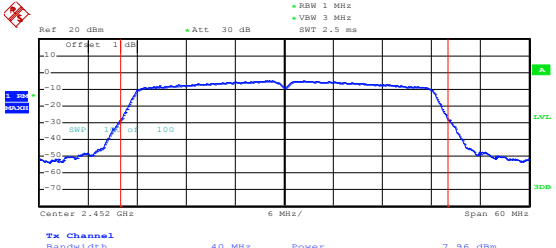
Antenna 0

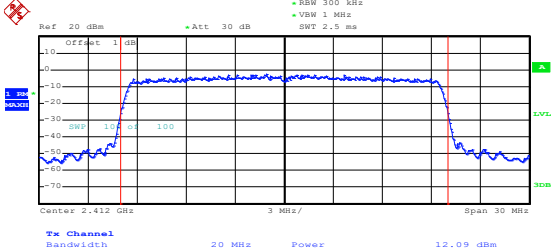
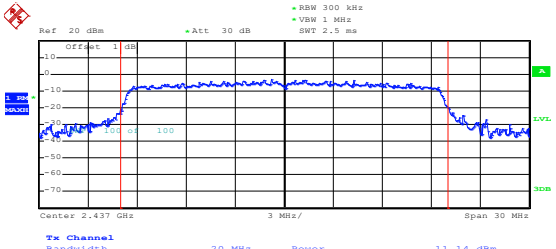
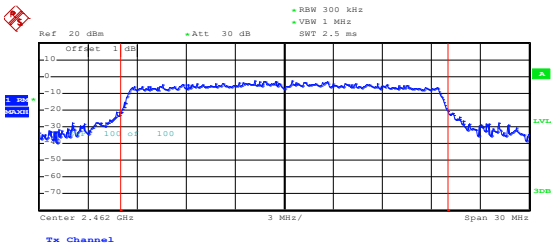
<p>802.11b-Low</p>	 <p>Date: 13.SEP.2022 15:20:07</p>
<p>802.11b-Middle</p>	 <p>Date: 13.SEP.2022 15:20:46</p>
<p>802.11b-High</p>	 <p>Date: 13.SEP.2022 15:21:16</p>

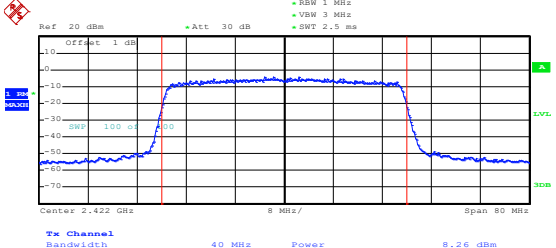
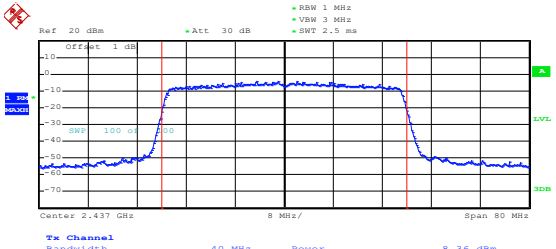
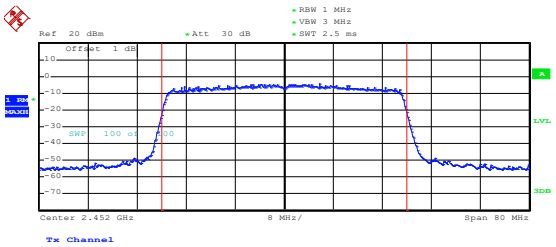


<p>802.11g-Low</p>	 <p>Date: 13.SEP.2022 15:22:09</p>
<p>802.11g-Middle</p>	 <p>Date: 13.SEP.2022 15:22:48</p>
<p>802.11g-High</p>	 <p>Date: 13.SEP.2022 15:23:43</p>

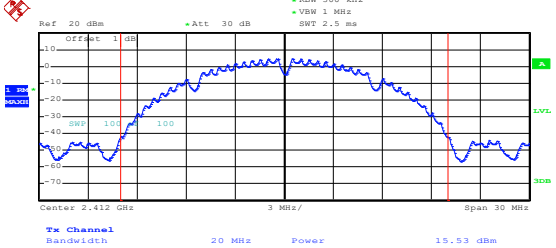
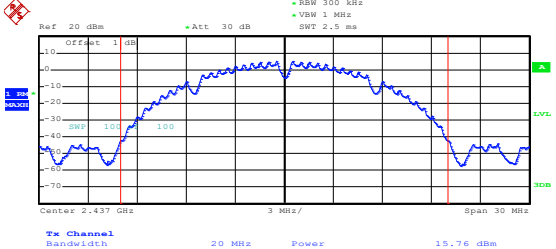
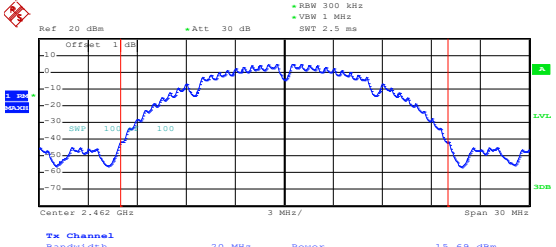
<p>802.11n-HT20-Low</p>	 <p>Date: 13.SEP.2022 15:24:24</p>
<p>802.11n-HT20-Middle</p>	 <p>Date: 13.SEP.2022 15:25:25</p>
<p>802.11n-HT20-High</p>	 <p>Date: 13.SEP.2022 15:26:46</p>

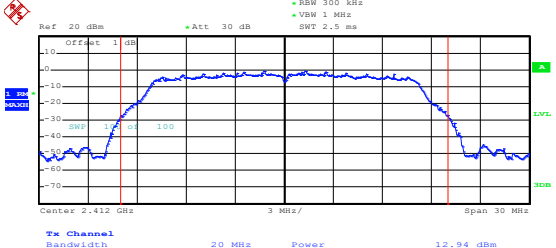
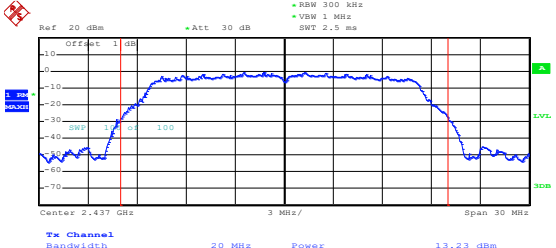
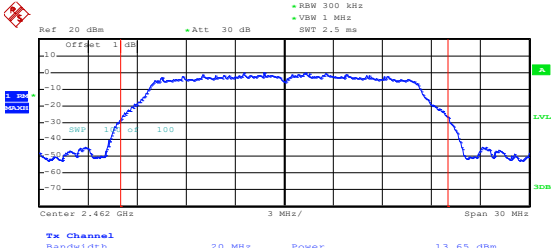
<p>802.11n-HT40-Low</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 1 MHz          Offset: 1 dB    VSW: 3 MHz    SWT: 2.5 ms</p> <p>Center: 2.422 GHz    6 MHz/    Span: 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 40 MHz    Power: 7.81 dBm</p> <p>Date: 13.SEP.2022 15:16:17</p>
<p>802.11n-HT40-Middle</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 1 MHz          Offset: 1 dB    VSW: 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: 7.78 dBm</p> <p>Date: 13.SEP.2022 15:16:54</p>
<p>802.11n-HT40-High</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 1 MHz          Offset: 1 dB    VSW: 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: 7.96 dBm</p> <p>Date: 13.SEP.2022 15:17:54</p>

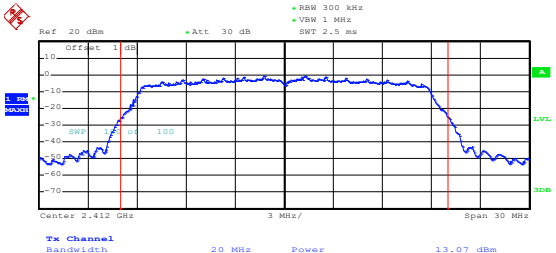
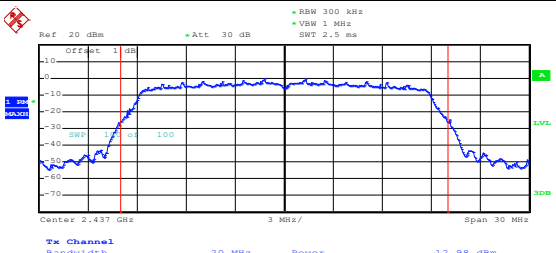
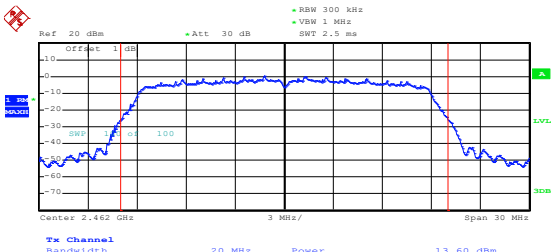
<p>802.11ax-HE20-Low</p>	 <p>Date: 13.SEP.2022 16:05:07</p>
<p>802.11ax-HE20-Middle</p>	 <p>Date: 13.SEP.2022 16:05:59</p>
<p>802.11ax-HE20-High</p>	 <p>Date: 13.SEP.2022 16:06:30</p>

<p>802.11ax-HE40-Low</p>	 <p>Date: 13.SEP.2022 16:07:54</p>
<p>802.11ax-HE40-Middle</p>	 <p>Date: 13.SEP.2022 16:08:35</p>
<p>802.11ax-HE40-High</p>	 <p>Date: 13.SEP.2022 16:09:19</p>

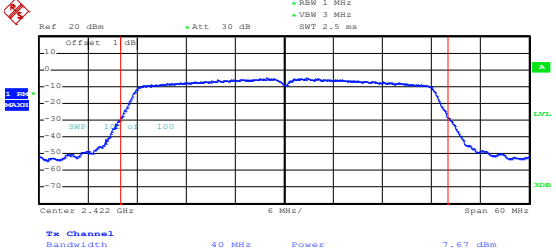
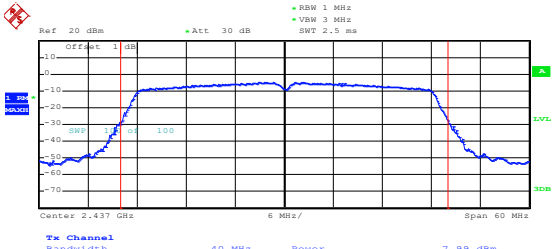
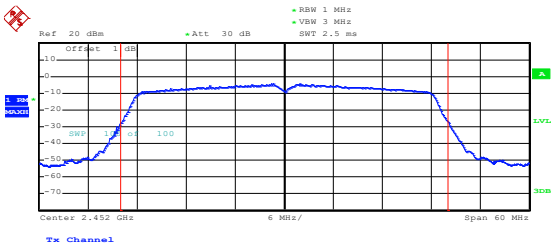
Antenna 1

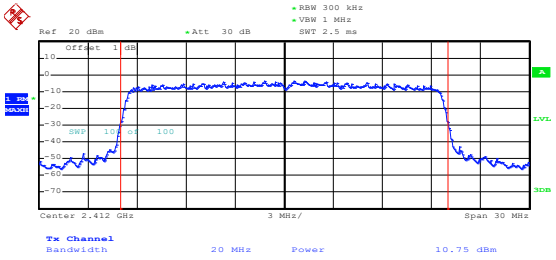
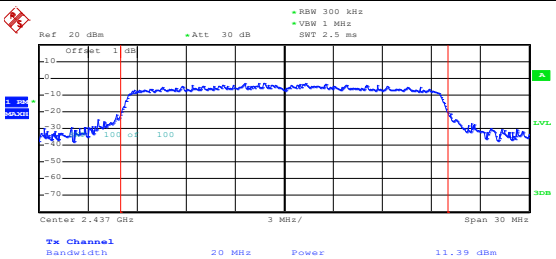
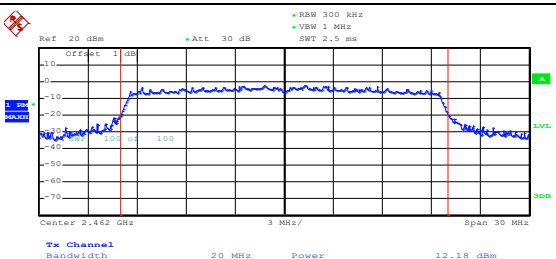
<p>802.11b-Low</p>	 <p>Date: 21.SEP.2022 17:14:47</p>
<p>802.11b-Middle</p>	 <p>Date: 21.SEP.2022 17:15:10</p>
<p>802.11b-High</p>	 <p>Date: 21.SEP.2022 17:15:53</p>

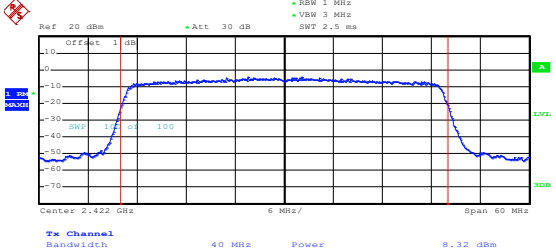
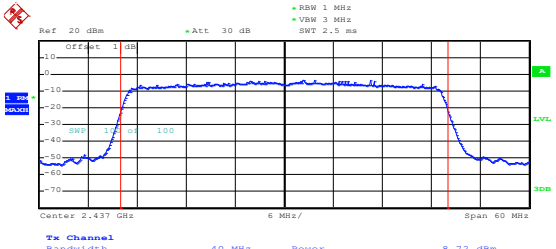
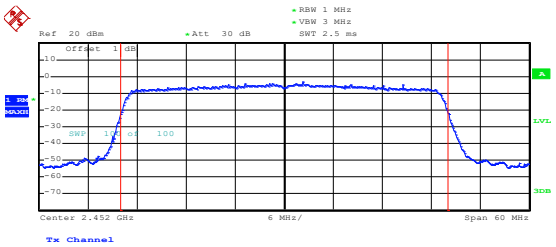
<p>802.11g-Low</p>	 <p>Date: 21.SEP.2022 17:16:38</p>
<p>802.11g-Middle</p>	 <p>Date: 21.SEP.2022 17:17:05</p>
<p>802.11g-High</p>	 <p>Date: 21.SEP.2022 17:17:33</p>

<p>802.11n-HT20-Low</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 300 kHz          Offset: 1 dB    VSW 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: 13.07 dBm</p> <p>Date: 21.SEP.2022 17:18:57</p>
<p>802.11n-HT20-Middle</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 300 kHz          Offset: 1 dB    VSW 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: 12.98 dBm</p> <p>Date: 21.SEP.2022 17:19:19</p>
<p>802.11n-HT20-High</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW 300 kHz          Offset: 1 dB    VSW 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: 13.60 dBm</p> <p>Date: 21.SEP.2022 17:19:44</p>



<p>802.11n-HT40-Low</p>	 <p>Date: 21.SEP.2022 17:21:43</p>
<p>802.11n-HT40-Middle</p>	 <p>Date: 21.SEP.2022 17:22:04</p>
<p>802.11n-HT40-High</p>	 <p>Date: 21.SEP.2022 17:22:30</p>

<p>802.11ax-HE20-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: 10.75 dBm</p> <p>Date: 21.SEP.2022 17:23:33</p>
<p>802.11ax-HE20-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: 11.39 dBm</p> <p>Date: 21.SEP.2022 17:24:04</p>
<p>802.11ax-HE20-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: 12.18 dBm</p> <p>Date: 21.SEP.2022 17:24:38</p>

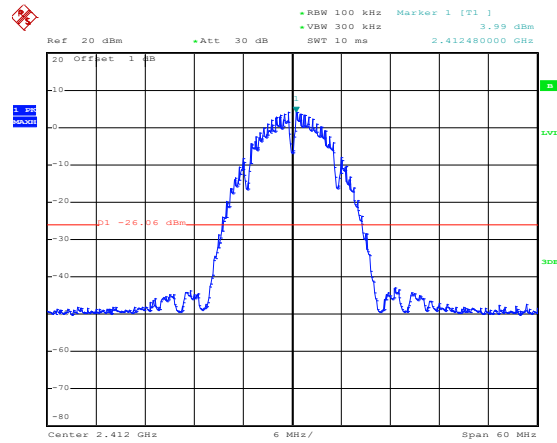
<p>802.11ax-HE40-Low</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 1 MHz          VSW: 3 MHz    SWT: 2.5 ms</p> <p>Offset: 1 dB</p> <p>Center: 2.422 GHz    6 MHz/    Span: 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 40 MHz    Power: 8.32 dBm</p> <p>Date: 21.SEP.2022 17:26:12</p>
<p>802.11ax-HE40-Middle</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 1 MHz          VSW: 3 MHz    SWT: 2.5 ms</p> <p>Offset: 1 dB</p> <p>Center: 2.437 GHz    6 MHz/    Span: 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 40 MHz    Power: 8.72 dBm</p> <p>Date: 21.SEP.2022 17:26:42</p>
<p>802.11ax-HE40-High</p>	 <p>Ref: 20 dBm    +Att: 30 dB    RBW: 1 MHz          VSW: 3 MHz    SWT: 2.5 ms</p> <p>Offset: 1 dB</p> <p>Center: 2.452 GHz    6 MHz/    Span: 60 MHz</p> <p><b>Tx Channel</b>          Bandwidth: 40 MHz    Power: 8.58 dBm</p> <p>Date: 21.SEP.2022 17:27:10</p>

# APPENDIX D

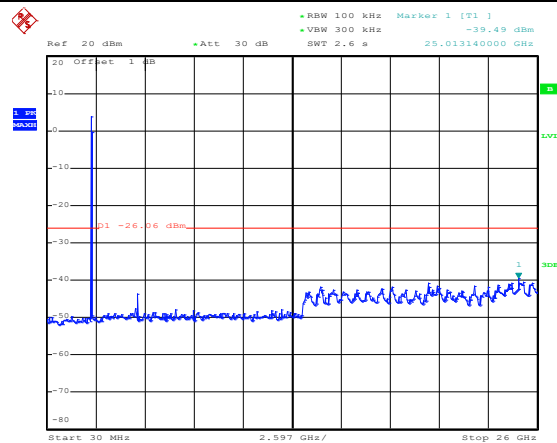
## Conducted Out of Band Emissions

### Antenna 0

802.11b-Low

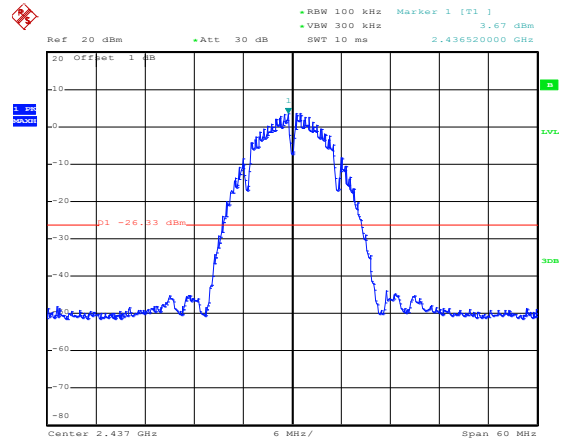


Date: 16.SEP.2022 11:31:50

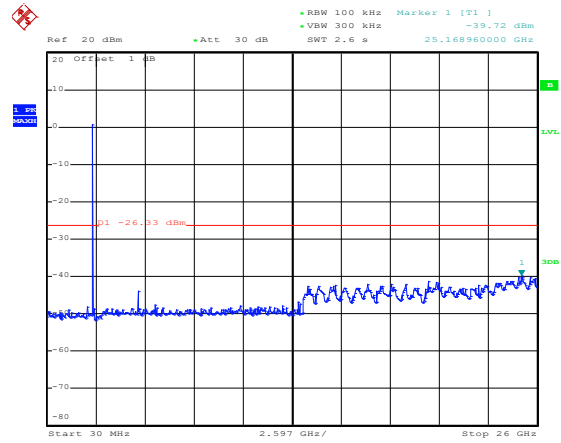


Date: 16.SEP.2022 11:32:26

802.11b-Middle

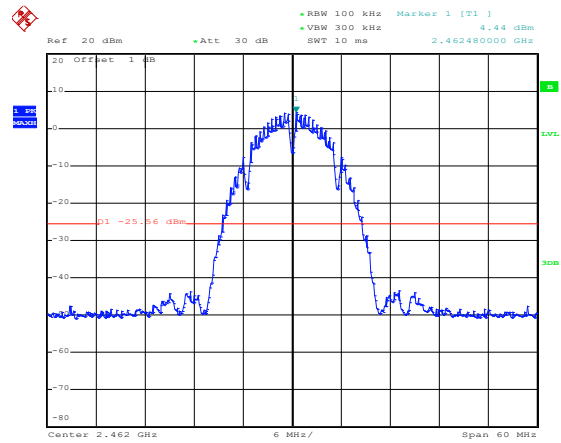


Date: 16.SEP.2022 11:33:05

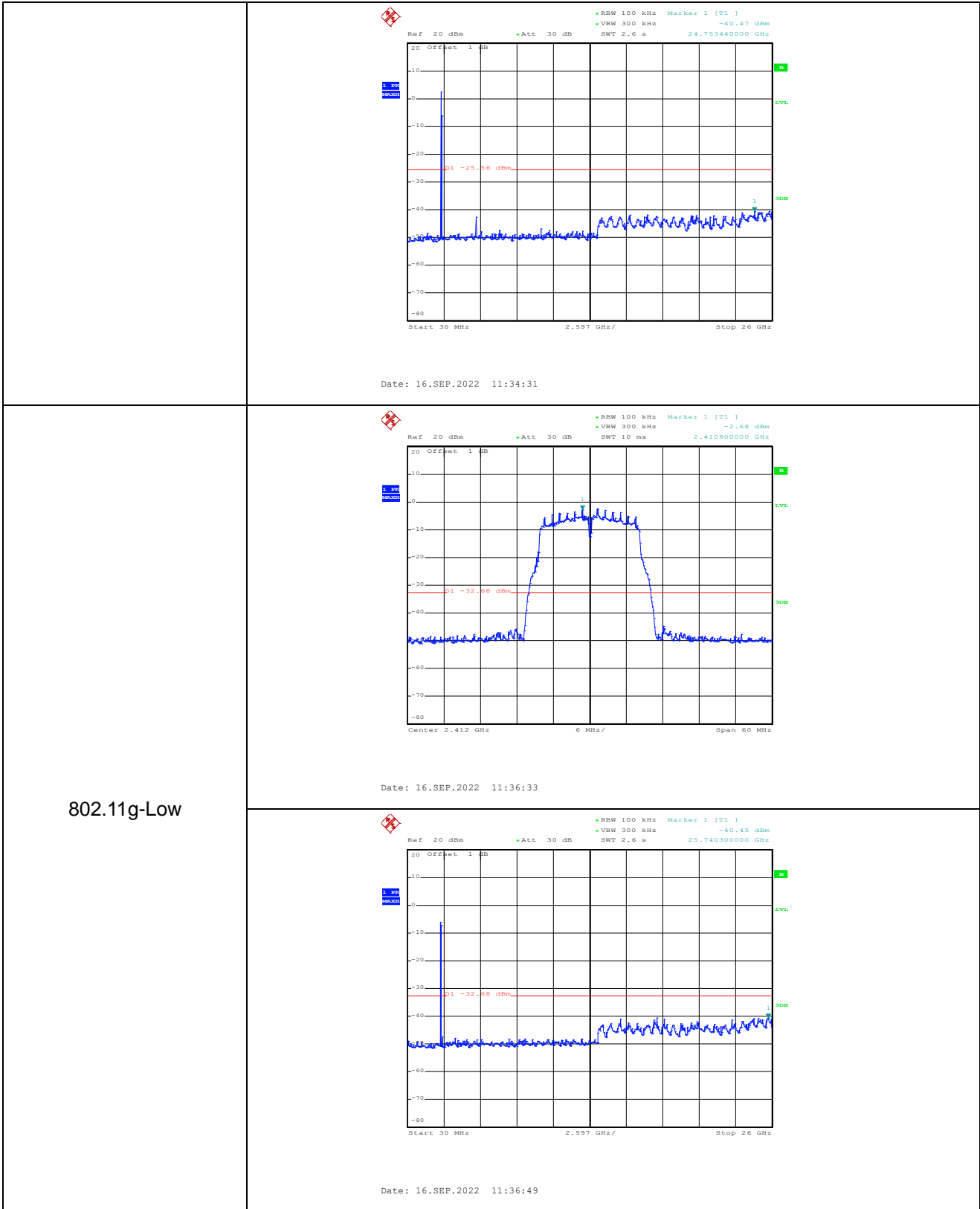


Date: 16.SEP.2022 11:33:23

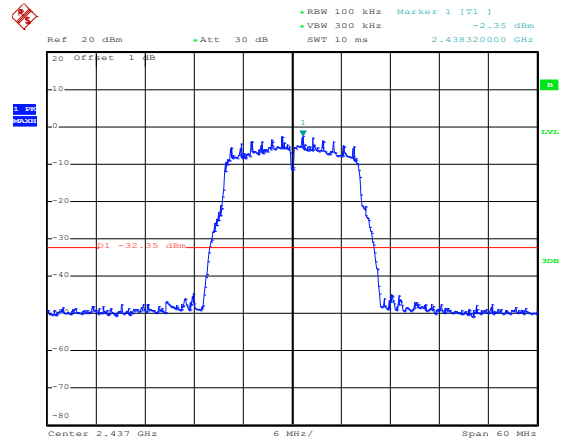
802.11b-High



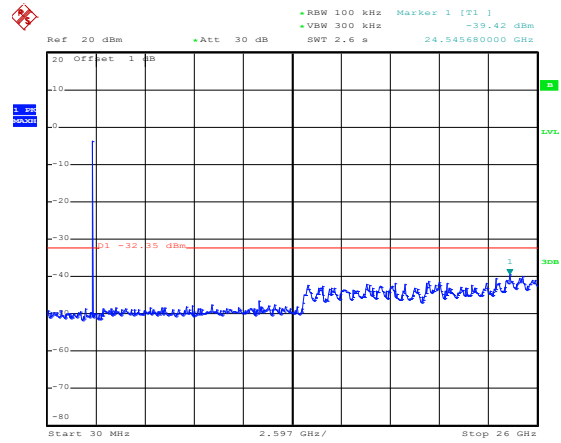
Date: 16.SEP.2022 11:34:15



802.11g-Middle

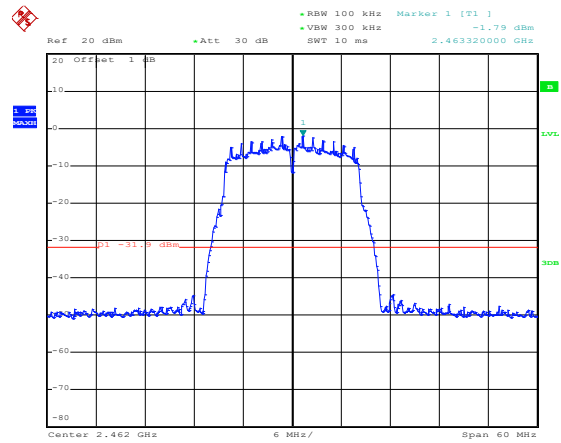


Date: 16.SEP.2022 11:37:58

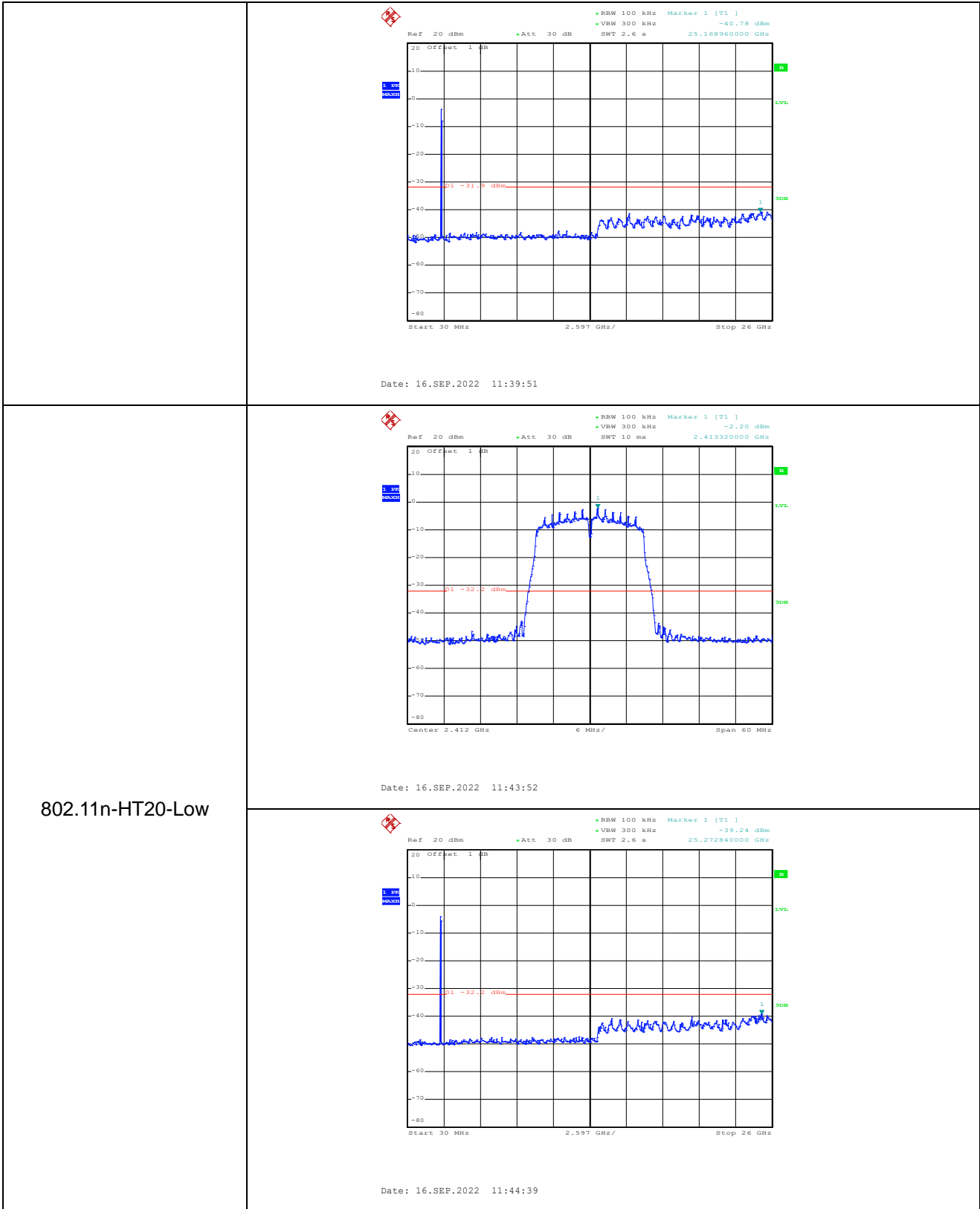


Date: 16.SEP.2022 11:38:45

802.11g-High

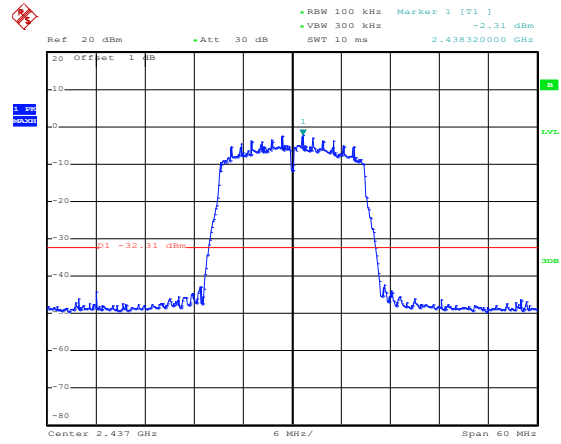


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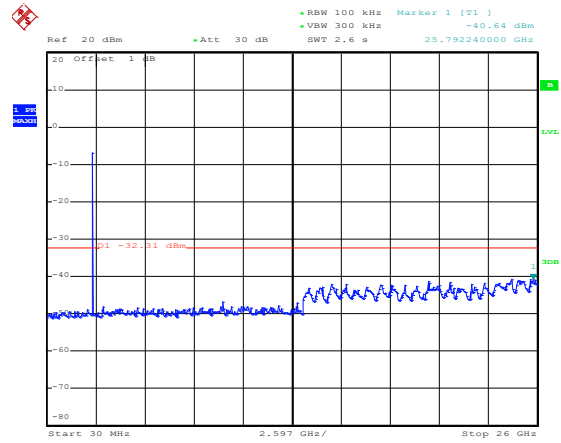




802.11n-HT20-Middle

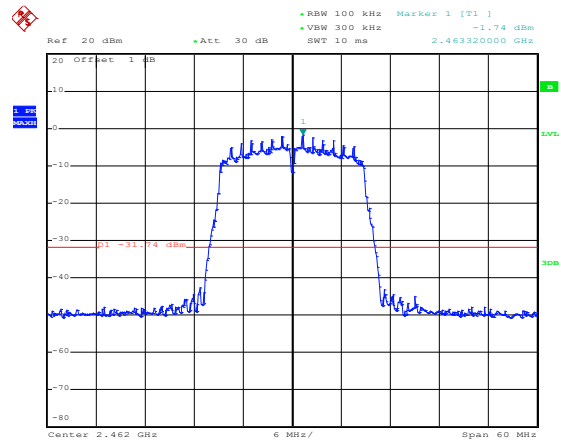


Date: 16.SEP.2022 11:49:47

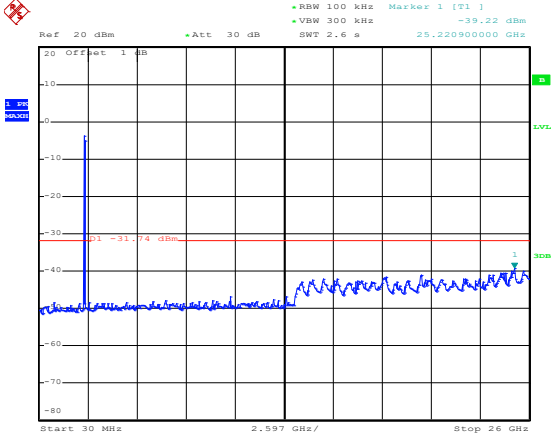
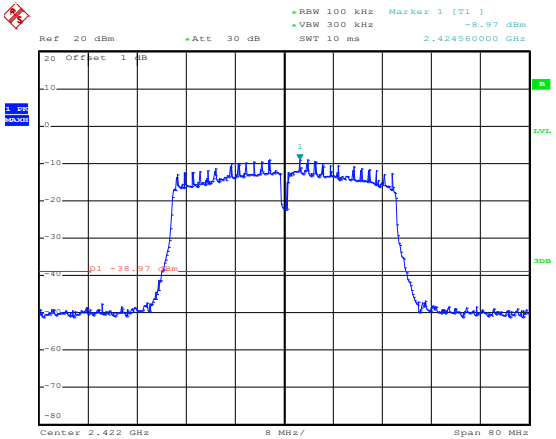
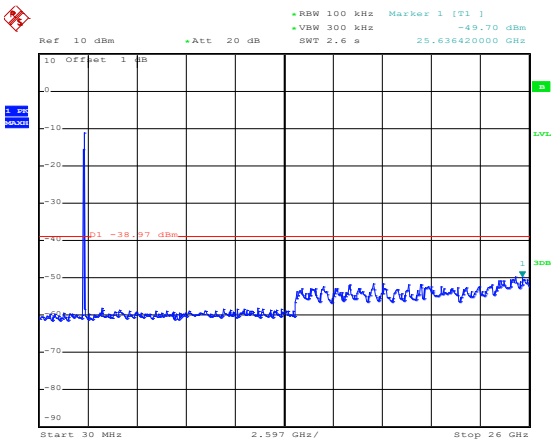


Date: 16.SEP.2022 11:50:06

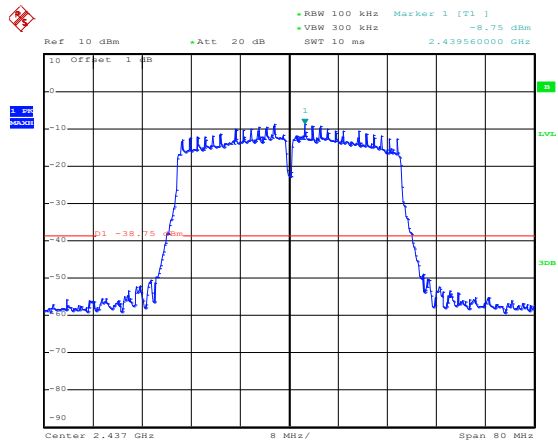
802.11n-HT20-High



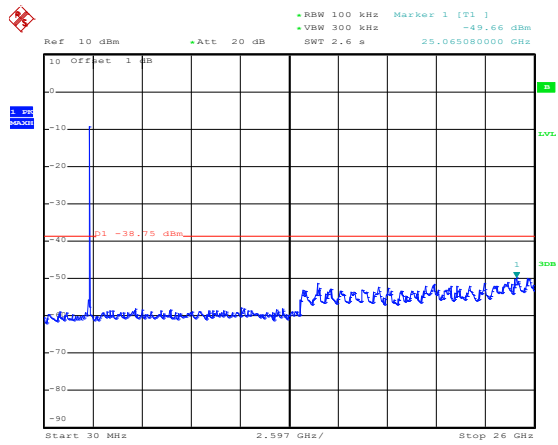
Date: 16.SEP.2022 11:51:13

	 <p>Date: 16.SEP.2022 11:51:37</p>
802.11n-HT40-Low	 <p>Date: 16.SEP.2022 11:55:56</p>
	 <p>Date: 16.SEP.2022 11:56:21</p>

802.11n-HT40-Middle

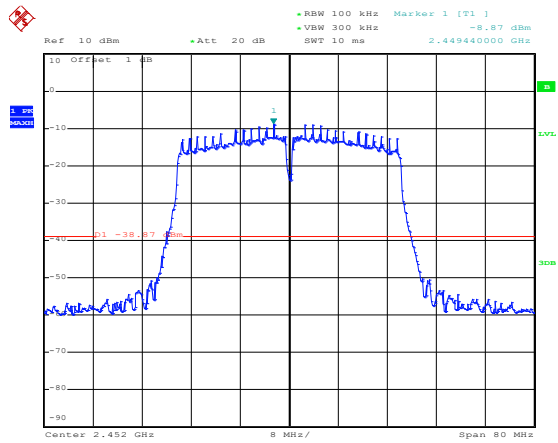


Date: 16.SEP.2022 11:57:30

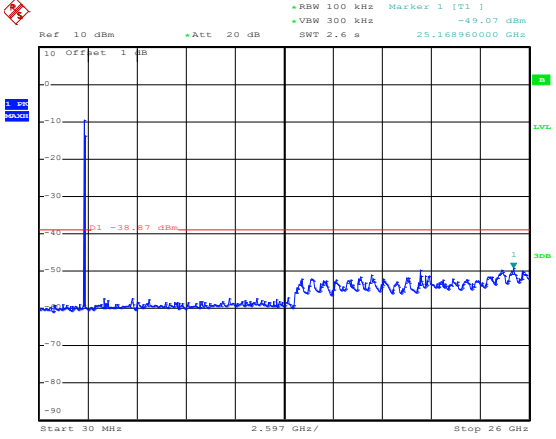
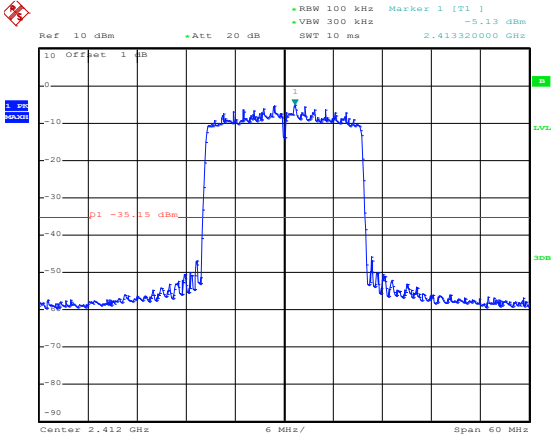
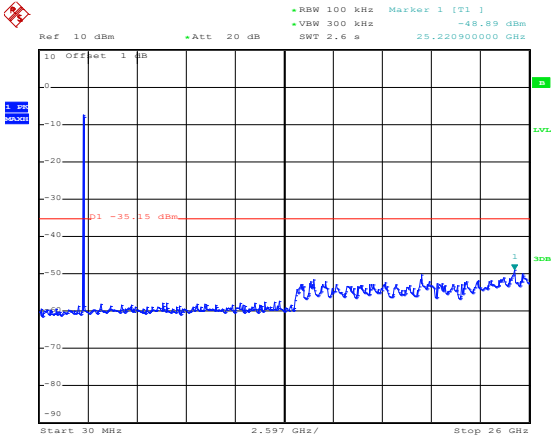


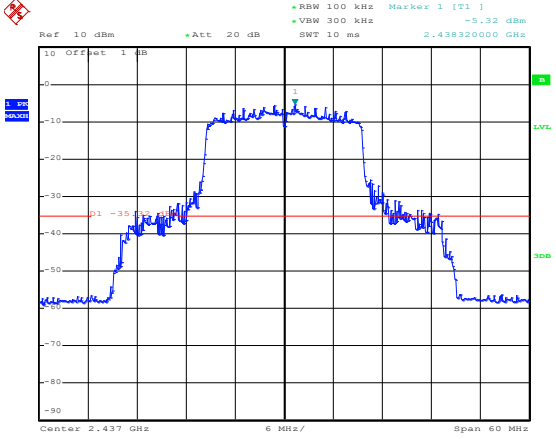
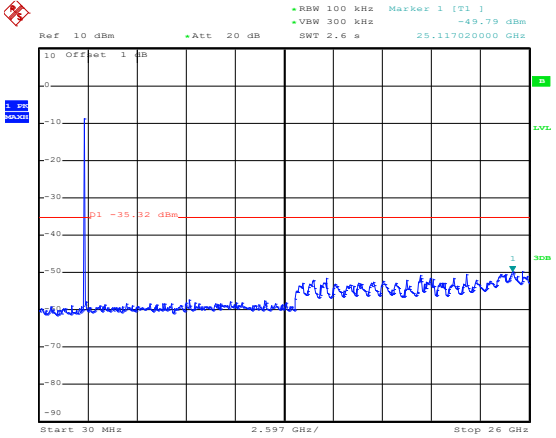
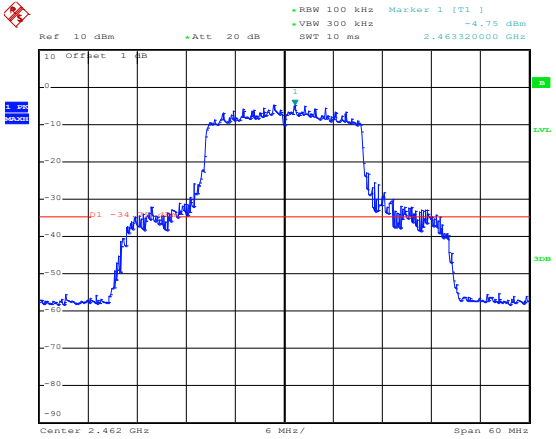
Date: 16.SEP.2022 11:57:44

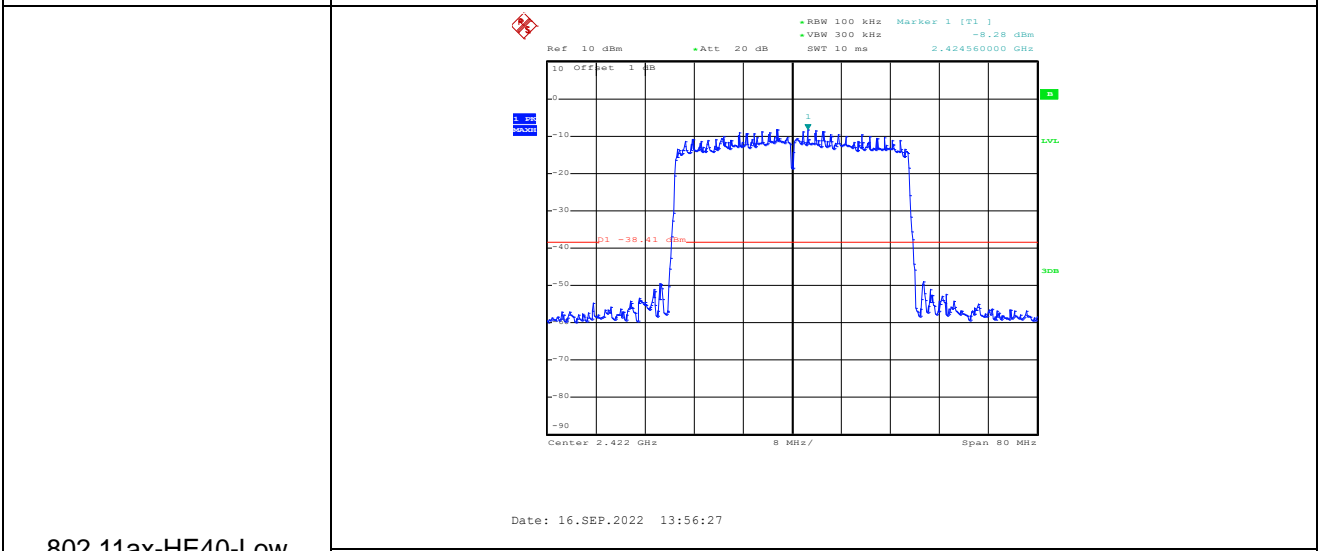
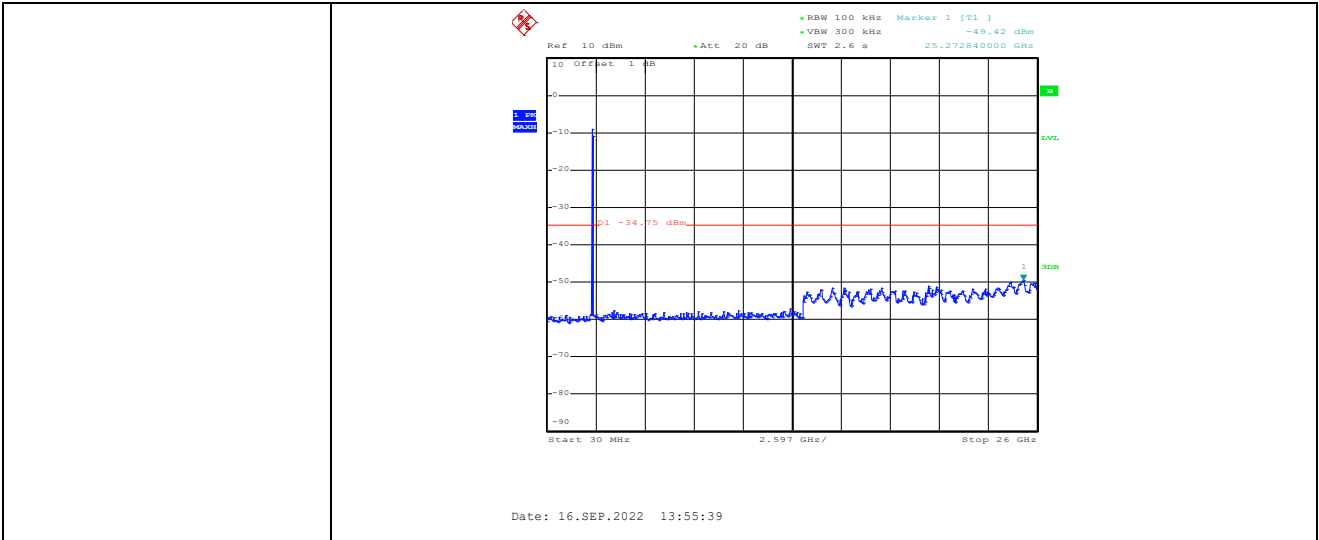
802.11n-HT40-High



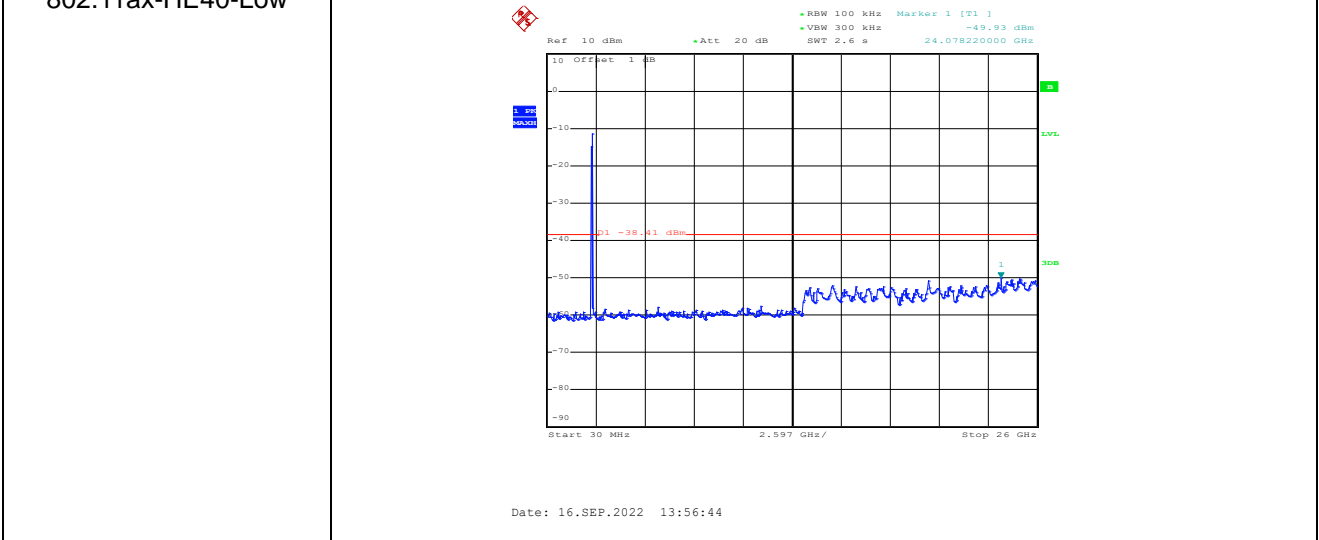
Date: 16.SEP.2022 11:58:21

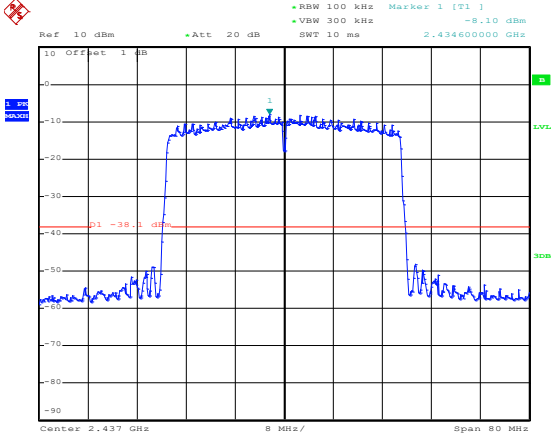
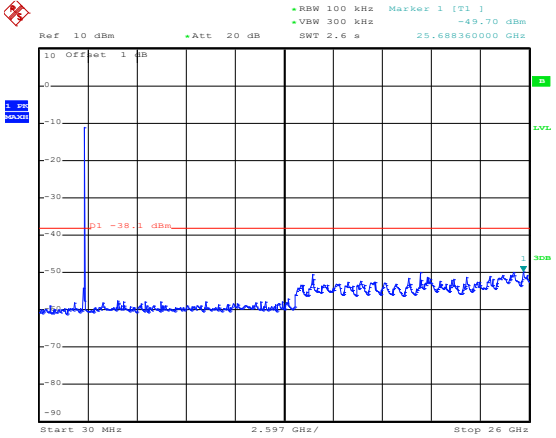
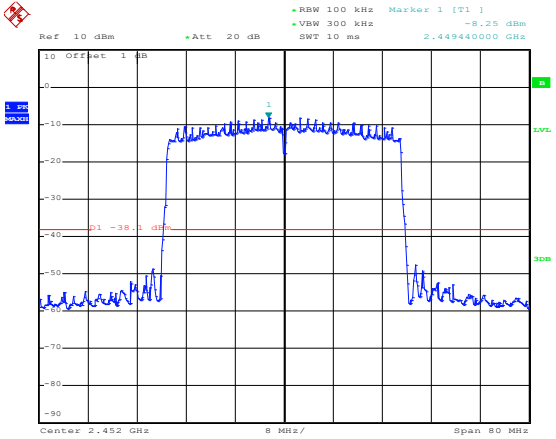
	 <p>Date: 16.SEP.2022 11:58:48</p>
<p>802.11ax-HE20-Low</p>	 <p>Date: 16.SEP.2022 13:51:30</p>
	 <p>Date: 16.SEP.2022 13:51:47</p>

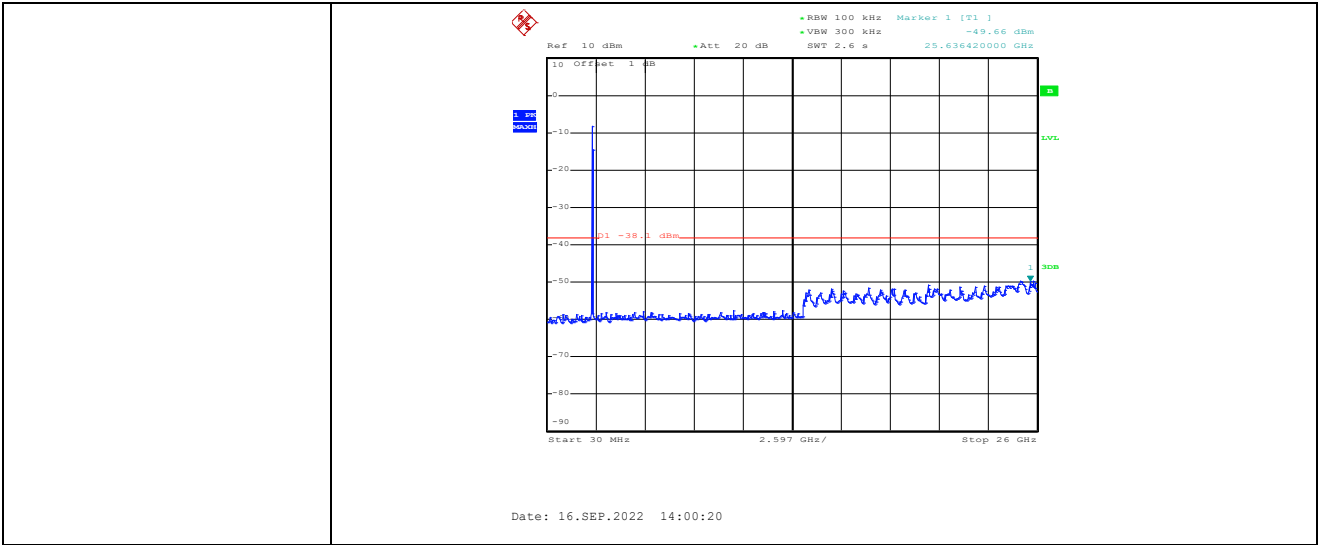
<p>802.11ax-HE20-Middle</p>	 <p>Date: 16.SEP.2022 13:53:00</p>
<p>802.11ax-HE20-Middle</p>	 <p>Date: 16.SEP.2022 13:53:17</p>
<p>802.11ax-HE20-High</p>	 <p>Date: 16.SEP.2022 13:55:07</p>



802.11ax-HE40-Low



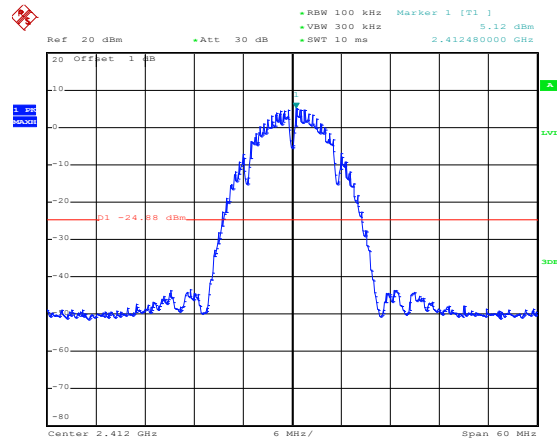
<p>802.11ax-HE40-Middle</p>	 <p>Date: 16.SEP.2022 13:59:03</p>
<p>802.11ax-HE40-High</p>	 <p>Date: 16.SEP.2022 13:59:20</p>
<p>802.11ax-HE40-High</p>	 <p>Date: 16.SEP.2022 13:59:56</p>



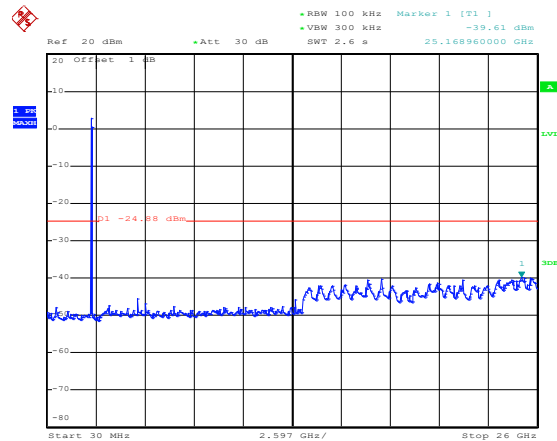


### Antenna 1

802.11b-Low

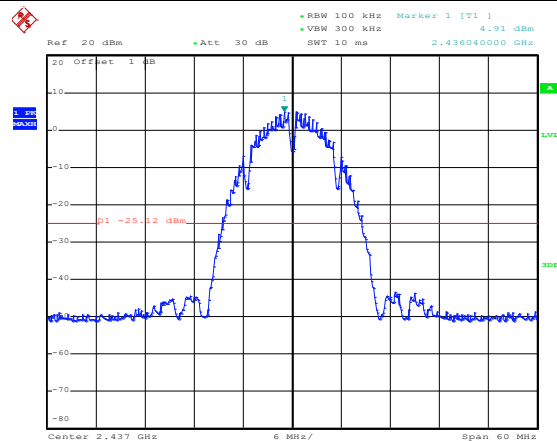


Date: 21.SEP.2022 18:57:39

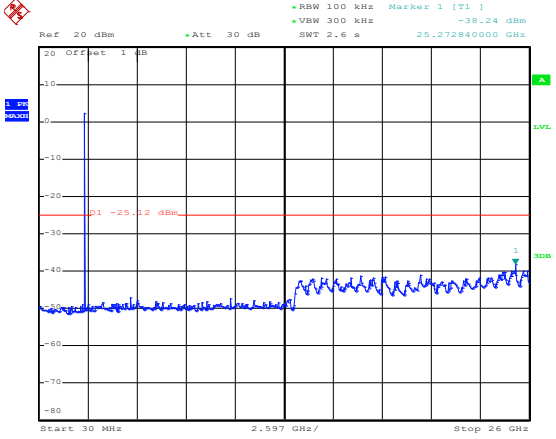
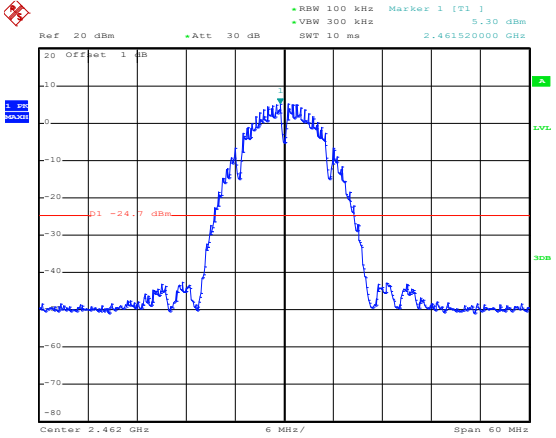
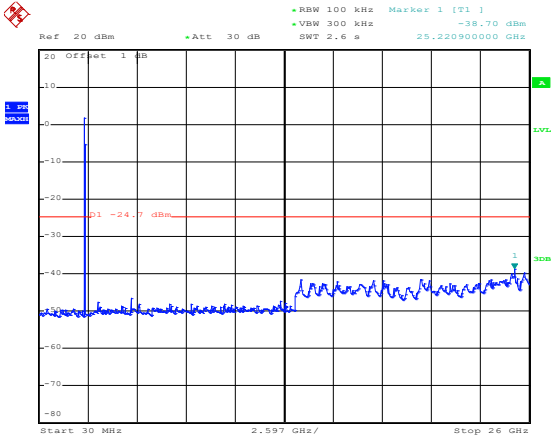


Date: 21.SEP.2022 18:58:02

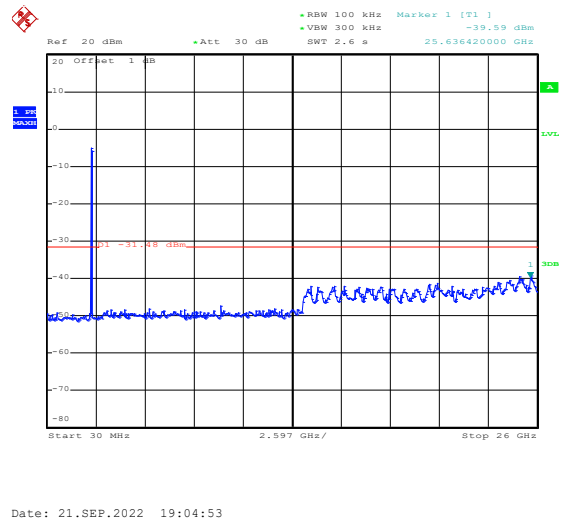
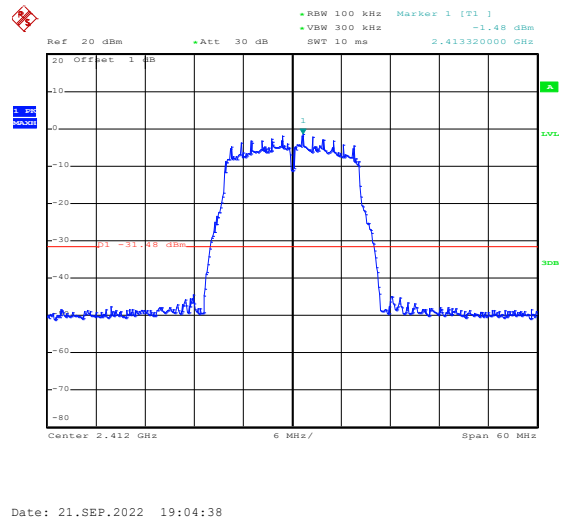
802.11b-Middle



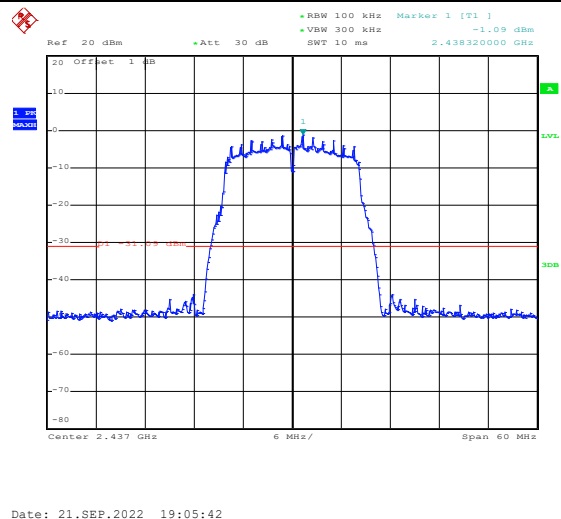
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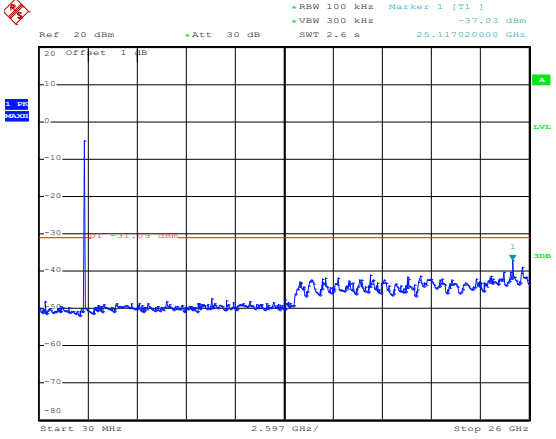
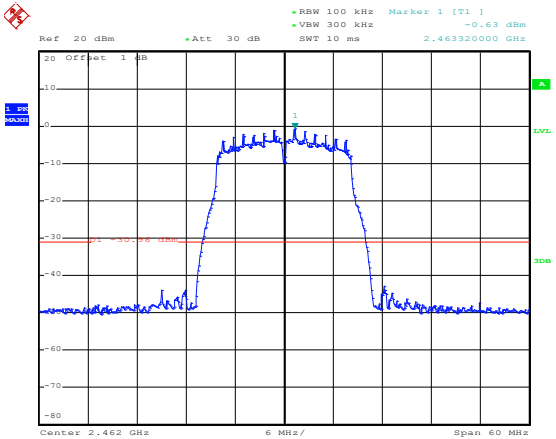
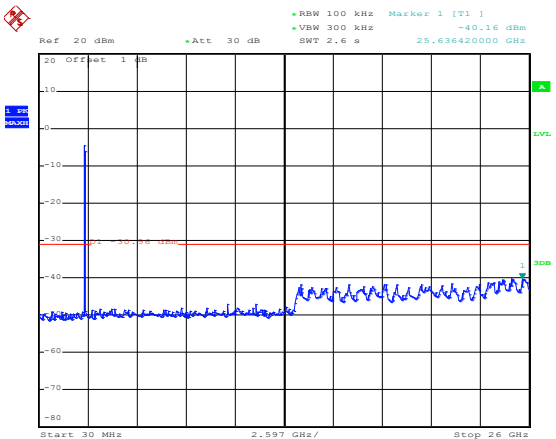
	 <p>Date: 21.SEP.2022 19:01:26</p>
<p>802.11b-High</p>	 <p>Date: 21.SEP.2022 19:02:19</p>
	 <p>Date: 21.SEP.2022 19:02:32</p>

802.11g-Low

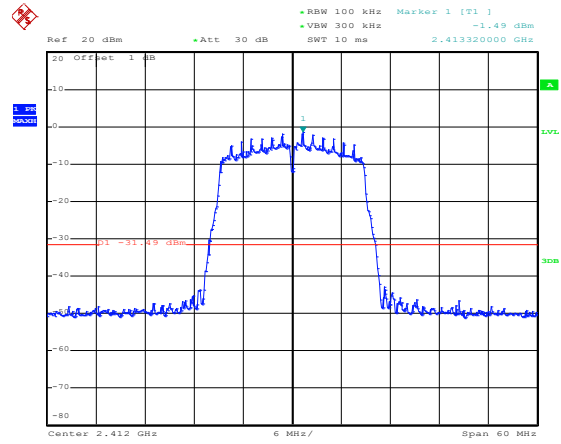


802.11g-Middle

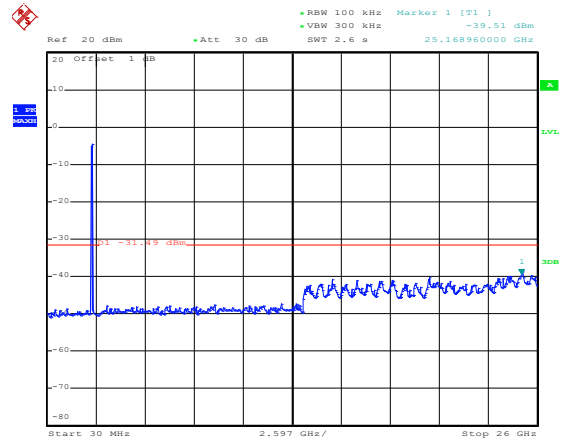


	 <p>Date: 21.SEP.2022 19:05:57</p>
<p>802.11g-High</p>	 <p>Date: 21.SEP.2022 19:06:52</p>
	 <p>Date: 21.SEP.2022 19:07:11</p>

802.11n-HT20-Low

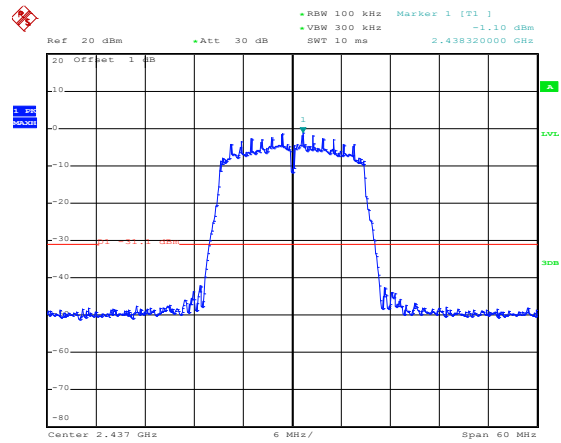


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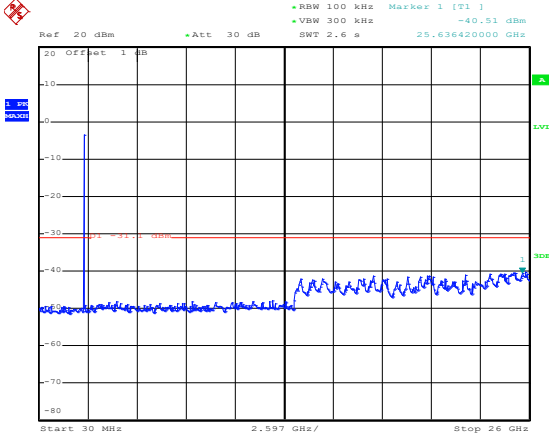
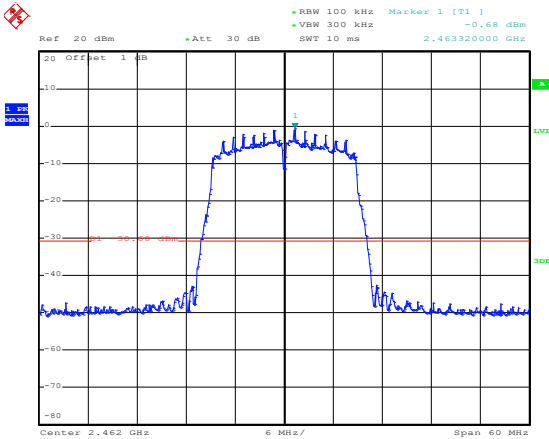
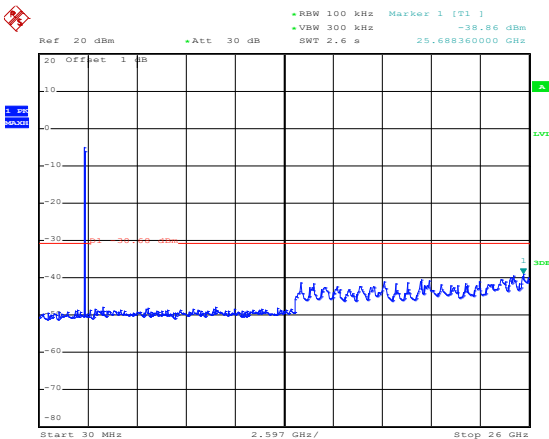


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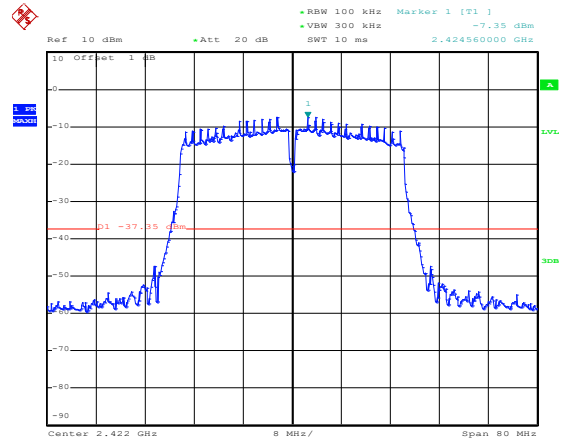
802.11n-HT20-Middle



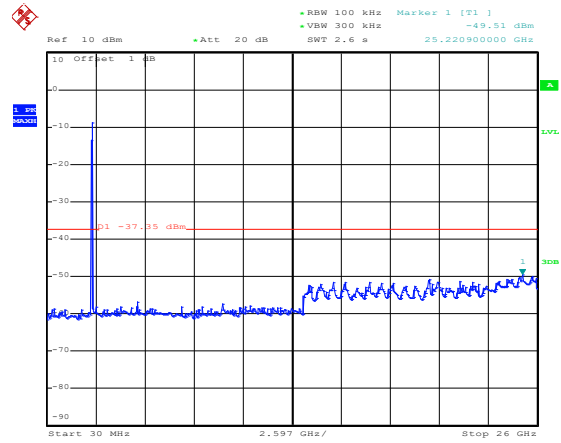
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802.11n-HT40-Low

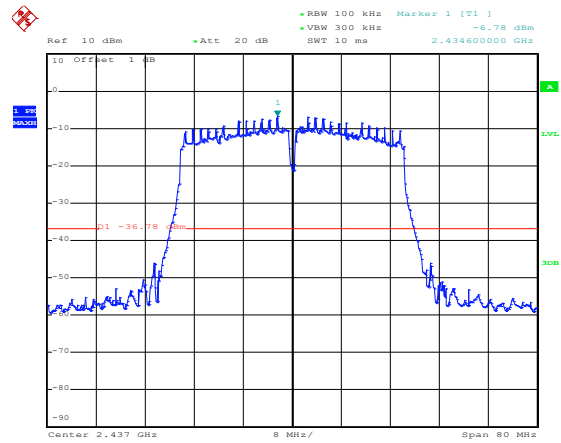


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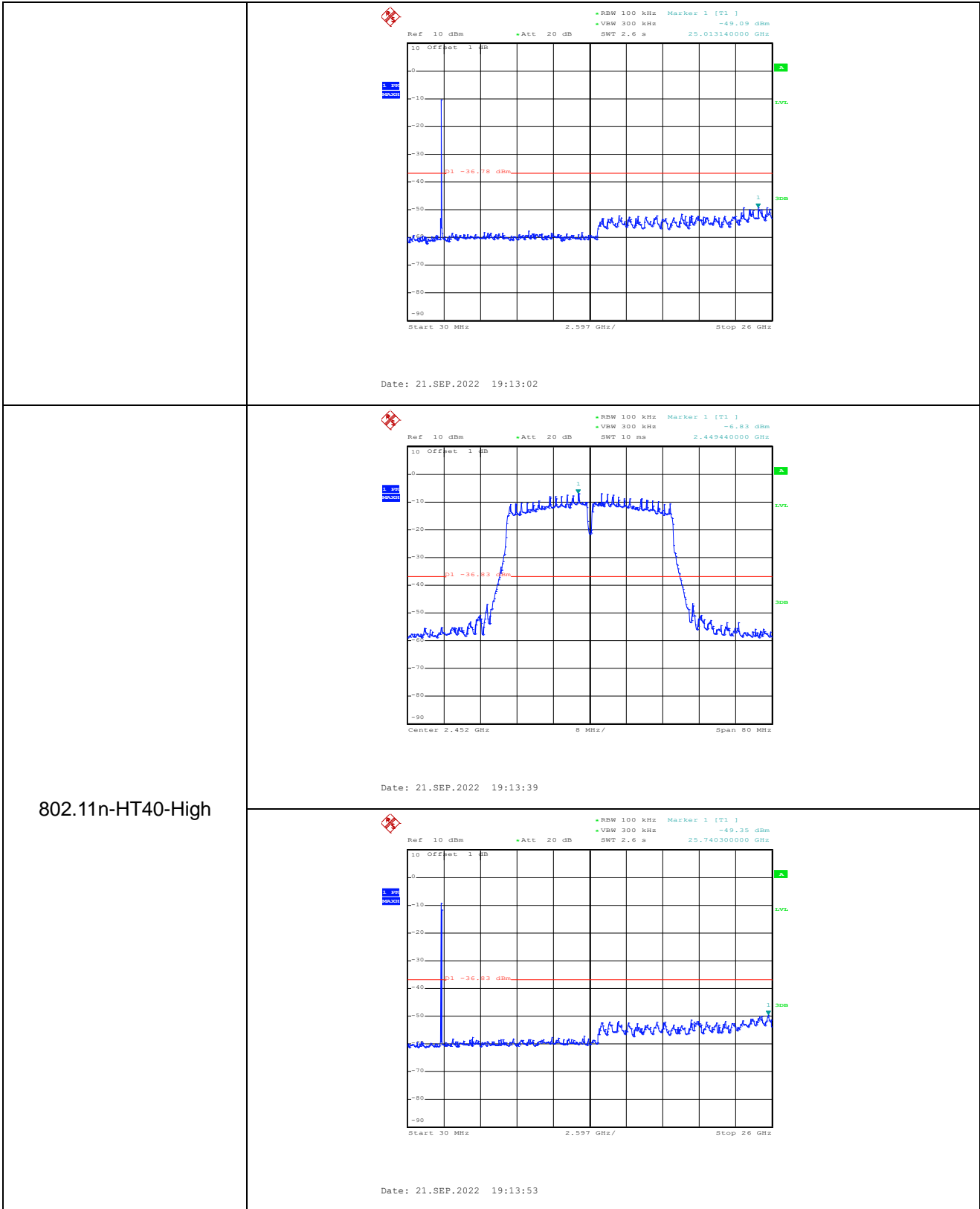


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802.11n-HT40-Middle

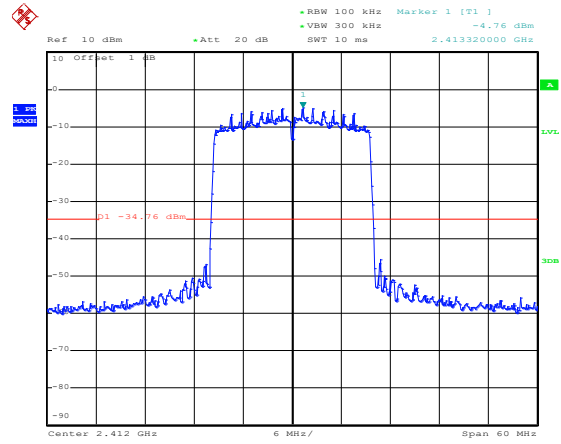


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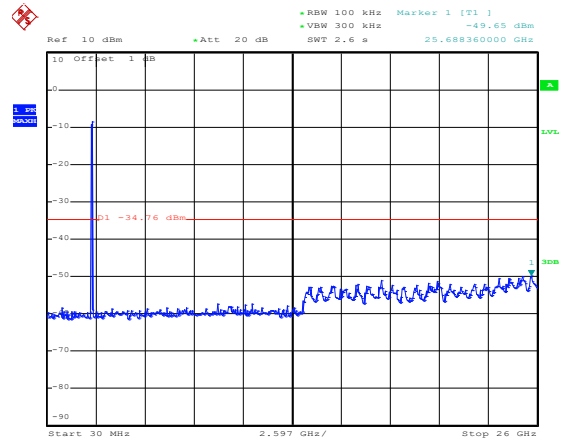




802.11ax-HE20-Low

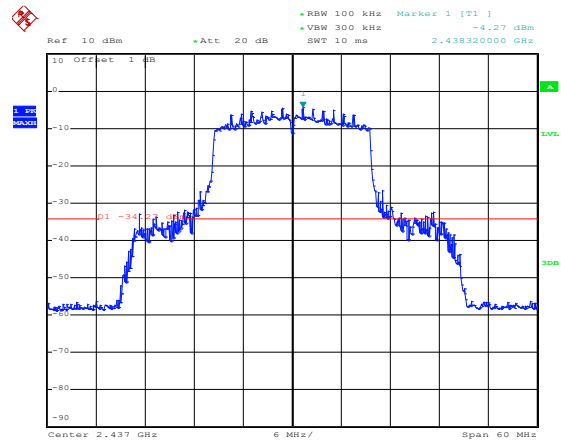


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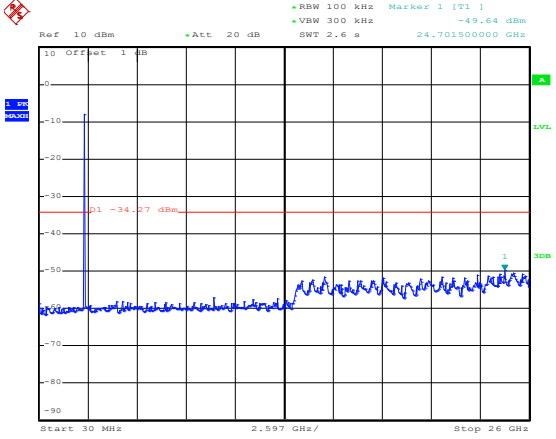
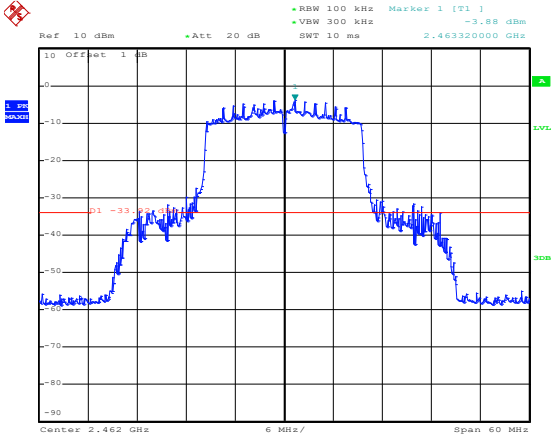
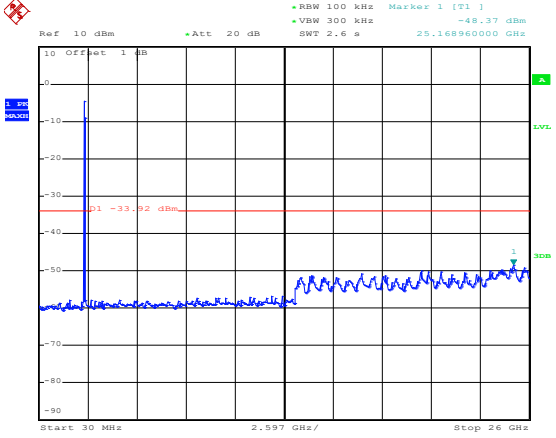


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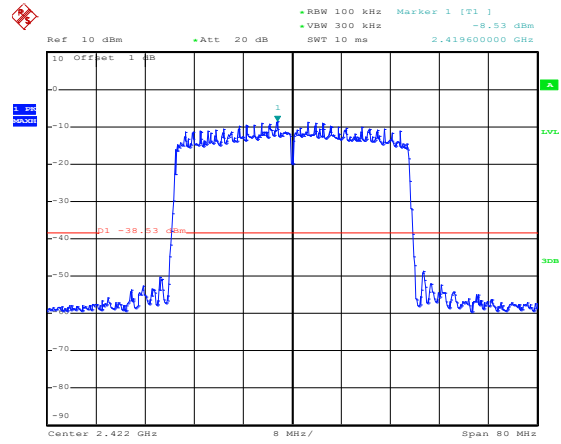
802.11ax-HE20-Middle



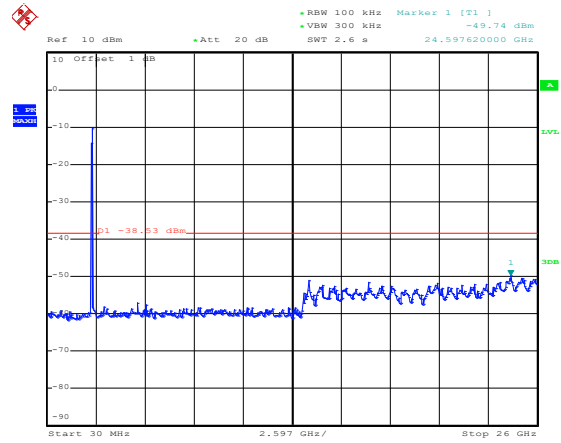
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	 <p>Date: 21.SEP.2022 19:17:24</p>

802.11ax-HE40-Low

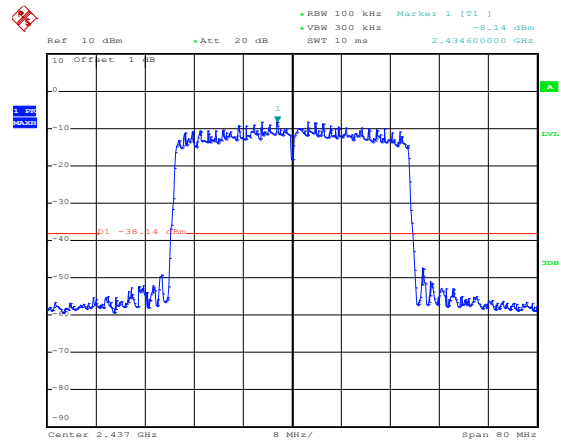


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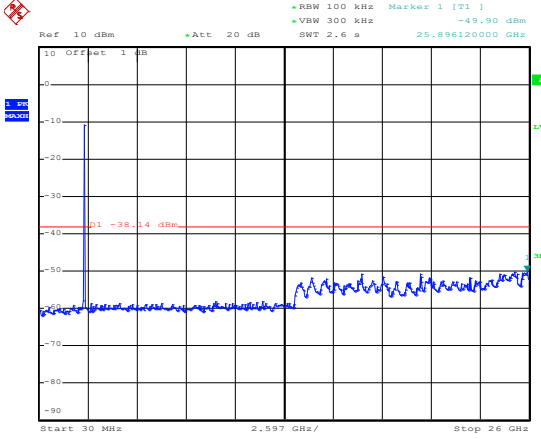
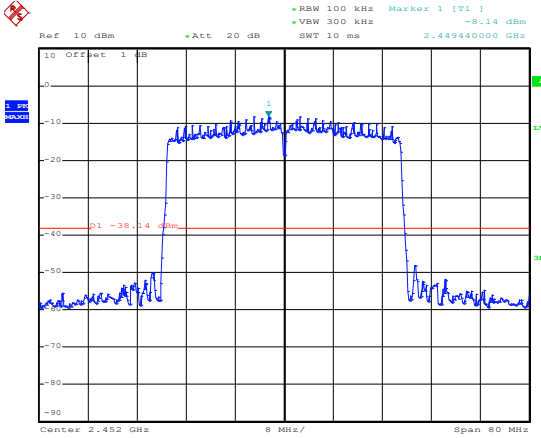
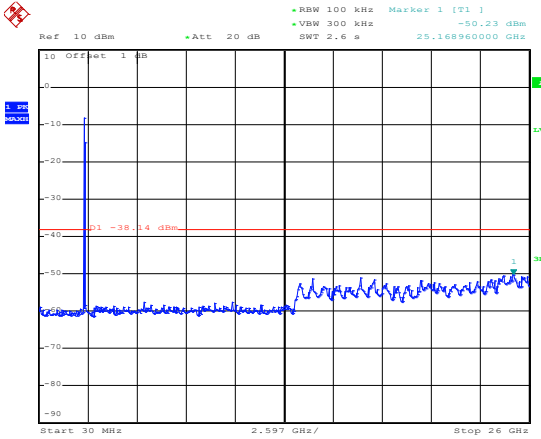


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802.11ax-HE40-Middle



Date: 21.SEP.2022 19:18:56

	 <p>Date: 21.SEP.2022 19:19:09</p>
<p>802.11ax-HE40-High</p>	 <p>Date: 21.SEP.2022 19:19:54</p>
	 <p>Date: 21.SEP.2022 19:20:03</p>

## APPENDIX PHOTOGRAPHS

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Please refer to "ANNEX"

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