中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **SHENZHEN TENDA TECHNOLOGY CO.,LTD.**

Address: 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

FCC ID: **V7TI27**

Product Name: **AX3000 Wi-Fi 6 Ceiling Access Point**

Standard(s): **47 CFR Part 15, Subpart E(15.407)**
ANSI C63.10-2013
KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

The above equipment has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **CR230311800-00B**

Date Of Issue: **2023/4/23**

Reviewed By: **Sun Zhong**

Sun Zhong

Title: Manager

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**
No. 113, Pingkang Road, Dalang Town, Dongguan,
Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

This report cannot be reproduced except in full, without prior written approval of the Company.

This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk "★".

CONTENTS

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230311800-00B	Original Report	2023/4/23

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

1.1.1 General:

EUT Name:	AX3000 Wi-Fi 6 Ceiling Access Point
EUT Model:	i27
Operation Frequency:	5180-5240 MHz (802.11a/n ht20/ac vht20/ax hew20) 5190-5230 MHz(802.11n ht40/ac vht40/ax hew40) 5210 MHz(802.11ac vht80/ax hew80) 5260-5320 MHz (802.11a/n ht20/ac vht20/ax hew20) 5270-5310 MHz(802.11n ht40/ac vht40/ax hew40) 5290 MHz(802.11ac vht80/ax hew80) **5250 MHz(802.11ac vht160/ax hew160)** 5745-5825 MHz (802.11a/n ht20/ac vht20/ax hew20) 5755-5795 MHz(802.11n ht40/ac vht40/ax hew40) 5775 MHz(802.11ac vht80/ax hew80)
Maximum Average Output Power (Conducted):	24.38 dBm (5150-5250 MHz) 19.95 dBm (5250-5350 MHz) 23.91 dBm (5725-5850 MHz)
Modulation Type:	802.11a/n/ac/ax:OFDM-BPSK, QPSK, 16QAM, 64QAM,256QAM, 1024QAM
Rated Input Voltage:	DC48V from PoE
Serial Number:	232M
EUT Received Date:	2023/3/16
EUT Received Status:	Good

1.1.2 Operation Frequency Detail:

For 802.11a/n ht20/ac vht20/ax hew20:

5150-5250MHz Band		5250-5350 MHz Band		5725-5850MHz Band	
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
36	**5180**	**52**	**5260**	**149**	**5745**
40	**5200**	**56**	**5280**	153	5765
44	5220	60	5300	**157**	**5785**
48	**5240**	**64**	**5320**	161	5805
/	/	/	/	**165**	**5825**
Per section 15.31(m), the above in bold frequencies were performed the test.					

For 802.11n ht40/ac vht40/ax hew40:

5150-5250MHz Band		5250-5350 MHz Band		5725-5850MHz Band	
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
38	**5190**	**54**	**5270**	**151**	**5755**
46	**5230**	**62**	**5310**	**159**	**5795**
Per section 15.31(m), the above in bold frequencies were performed the test.					

For 802.11ac vht80/ax hew80:

5150-5250MHz Band		5250-5350 MHz Band		5725-5850MHz Band	
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
42	**5210**	**58**	**5290**	**155**	**5775**
Per section 15.31(m), the above in bold frequencies were performed the test.					

For 802.11ac vht160/ax hew160:

5150-5250MHz Band~5250-5350 MHz Band		5725-5850MHz Band	
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
50	**5250**	/	/
Per section 15.31(m), the above in bold frequencies were performed the test.			

1.1.3 Antenna Information Detail▲:

Antenna Chain	Manufacturer	Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain
Chain 0 (ANT 3)	SHENZHEN TENDA TECHNOLOGY CO.,LTD.	PIFA	50	2400-2500MHz	4.34dBi
				5150-5250MHz	4.89dBi
				5250-5350MHz	4.89dBi
				5725-5850MHz	4.58dBi
Chain 1 (ANT 1)		PIFA	50	2400-2500MHz	5.35dBi
				5150-5250MHz	4.76dBi
				5250-5350MHz	4.76dBi
				5725-5850MHz	4.49dBi

The Method of §15.203 Compliance:

☒Antenna must be permanently attached to the unit.

☐Antenna must use a unique type of connector to attach to the EUT.

☐Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

1.1.4 Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
AC/DC Adapter	SHENZHEN HEWEISHUN NETWORK TECHNOLOGY CO.,LTD	BN017-A38048U	Input: 100-240Vac, 50/60Hz, 1.0A Output: DC48V, 0.8A
POE Adapter	IP-COM	Unknown	Output: DC48V

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.
Equipment Modifications:	No
EUT Exercise Software:	accessMtool_3.1.0.6

The software was provided by manufacturer. The maximum power was configured as below, that was provided by the manufacturer▲:

5150-5250 MHz Band:

Test Modes	Test Channels	Test Frequency (MHz)	Data rate	Power Level Setting	
				Chain 0	Chain 1
802.11a	Lowest	5180	6Mbps	96	92
	Middle	5200	6Mbps	105	100
	Highest	5240	6Mbps	105	100
802.11n ht20	Lowest	5180	MCS0	90	87
	Middle	5200	MCS0	98	95
	Highest	5240	MCS0	95	90
802.11n ht40	Lowest	5190	MCS0	81	81
	Highest	5230	MCS0	95	88
802.11ac vht20	Lowest	5180	MCS0	94	90
	Middle	5200	MCS0	92	86
	Highest	5240	MCS0	90	84
802.11ac vht40	Lowest	5190	MCS0	79	79
	Highest	5230	MCS0	90	83
802.11ac vht80	Middle	5210	MCS0	77	77
802.11ax hew20	Lowest	5180	MCS0	82	82
	Middle	5200	MCS0	82	76
	Highest	5240	MCS0	82	76
802.11ax hew40	Lowest	5190	MCS0	79	75
	Highest	5230	MCS0	87	80
802.11ax hew80	Middle	5210	MCS0	71	71

5250-5350 MHz Band:					
Test Modes	**Test Channels**	**Test Frequency (MHz)**	**Data rate**	**Power Level Setting**	
				Chain 0	**Chain 1**
802.11a	Lowest	5260	6Mbps	83	73
	Middle	5280	6Mbps	83	73
	Highest	5320	6Mbps	81	71
802.11n ht20	Lowest	5260	MCS0	70	62
	Middle	5280	MCS0	70	62
	Highest	5320	MCS0	69	60
802.11n ht40	Lowest	5270	MCS0	83	75
	Highest	5310	MCS0	80	72
802.11ac vht20	Lowest	5260	MCS0	70	60
	Middle	5280	MCS0	70	58
	Highest	5320	MCS0	70	55
802.11ac vht40	Lowest	5270	MCS0	80	72
	Highest	5310	MCS0	75	65
802.11ac vht80	Middle	5290	MCS0	76	66
802.11ax hew20	Lowest	5260	MCS0	70	60
	Middle	5280	MCS0	70	57
	Highest	5320	MCS0	70	55
802.11ax hew40	Lowest	5270	MCS0	82	71
	Highest	5310	MCS0	74	68
802.11ax hew80	Middle	5290	MCS0	74	64
Cross Band 5150-5250 MHz&5250-5350 MHz Band:					
802.11ac vht160	Middle	5250	MCS0	74	74
802.11ax hew160	Middle	5250	MCS0	74	74

5725-5850 MHz Band:					
Test Modes	Test Channels	Test Frequency (MHz)	Data rate	Power Level Setting	
				Chain 0	Chain 1
802.11a	Lowest	5745	6Mbps	92	90
	Middle	5785	6Mbps	85	85
	Highest	5825	6Mbps	85	85
802.11n ht20	Lowest	5745	MCS0	84	84
	Middle	5785	MCS0	80	80
	Highest	5825	MCS0	80	80
802.11n ht40	Lowest	5755	MCS0	90	90
	Highest	5795	MCS0	90	90
802.11ac vht20	Lowest	5745	MCS0	80	80
	Middle	5785	MCS0	75	75
	Highest	5825	MCS0	75	75
802.11ac vht40	Lowest	5755	MCS0	78	78
	Highest	5795	MCS0	75	75
802.11ac vht80	Middle	5775	MCS0	90	86
802.11ax hew20	Lowest	5745	MCS0	72	72
	Middle	5785	MCS0	73	73
	Highest	5825	MCS0	71	71
802.11ax hew40	Lowest	5755	MCS0	72	72
	Highest	5795	MCS0	70	70
802.11ax hew80	Middle	5775	MCS0	70	66

The above are the worst-case data rates, which are determined for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations.
The device supports SISO in all modes, and MIMO 2T2R in 802.11n/ac/ax modes, per pretest, 2T2R mode was the worst mode and reported for 802.11n/ac/ax modes.
The system supports Beamforming and Non-beamforming modes at 802.11n/ac/ax modes. The two modes have same output power, and the Beamforming mode has an additional 3dBi gain▲, which are declared by manufacturer. Therefore, the all RF conducted test were performed at Non-beamforming mode only.

1.2.2 Support Equipment List and Details

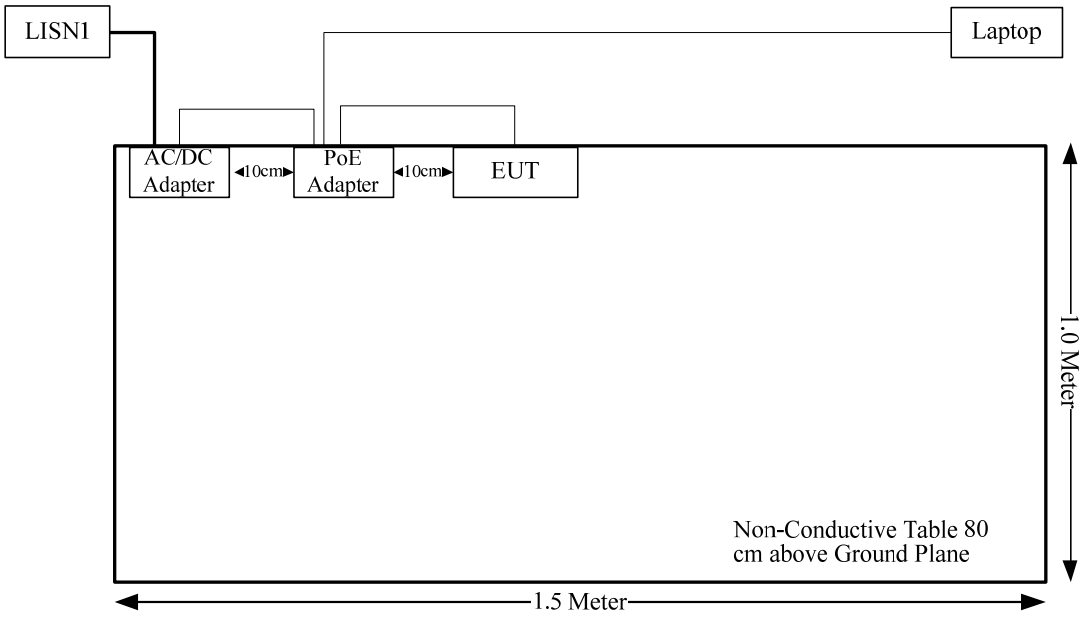
Manufacturer	Description	Model	Serial Number
Lenovo	Laptop	T460S	60PDTEK8

1.2.3 Support Cable List and Details

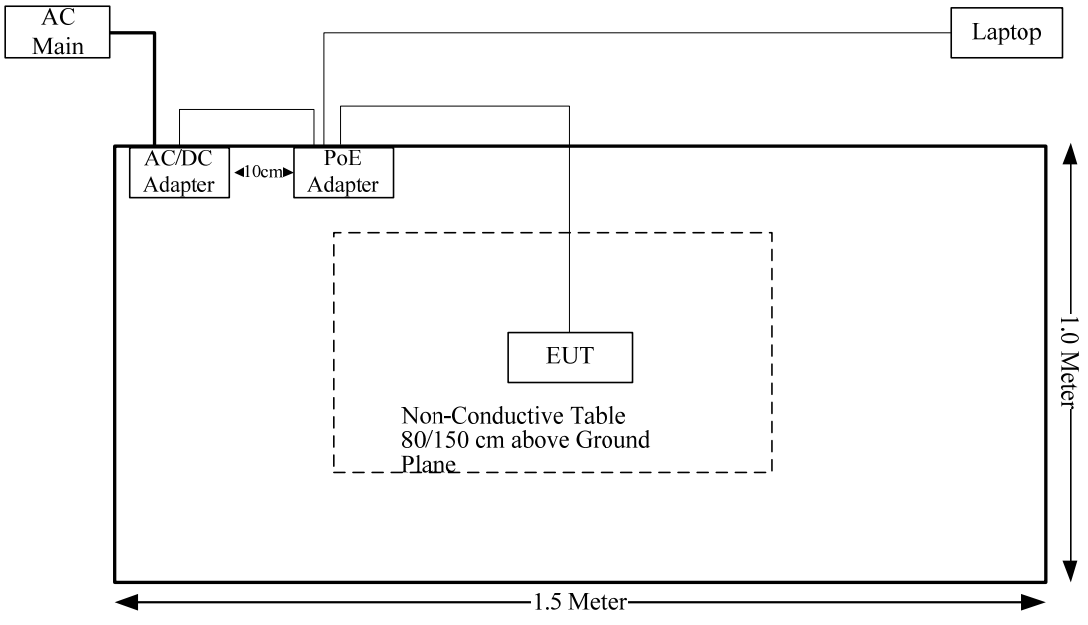
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 Cable	Yes	No	10	PoE Adapter	Laptop
RJ45 Cable	Yes	No	1.2	PoE Adapter	EUT
DC Power Cable	No	No	1.2	AC/DC Adapter	PoE Adapter

1.2.4 Block Diagram of Test Setup

AC line conducted emissions:



Spurious Emissions:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.26 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

Standard(s) Section	Test Items	Result
FCC§15.207(a)	AC line conducted emissions	Compliant
FCC§15.205& §15.209 &§15.407(b)	Radiated Spurious Emissions	Compliant
FCC§15.407(a) (e)	Emission Bandwidth	Compliant
FCC§15.407(a)	Conducted Transmitter Output Power	Compliant
FCC§15.407 (a)	Power Spectral Density	Compliant
FCC§15.203	Antenna Requirement	Compliant
FCC§15.407 (h)	Dynamic Frequency Selection (DFS)	Compliant[Note]
§15.407 (f) & §1.1307 & §2.1091	RF Exposure Evaluation	Compliant
Note: Dynamic Frequency Selection (DFS) test please refer to the DFS report: CR230311800-00D.		

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

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

*Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

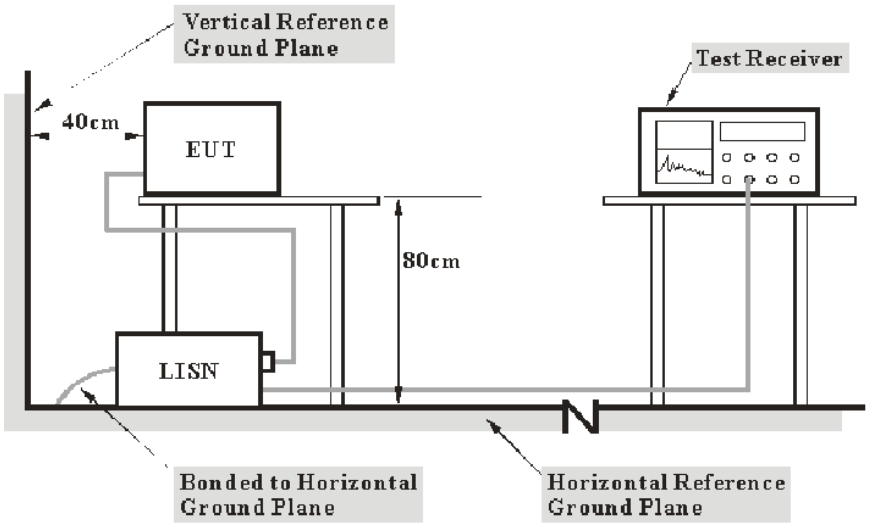
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency band 535-1705 kHz, as measured using a 50 μH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtainig their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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

The spacing between the peripherals was 10 cm.

The adapter or EUT was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

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

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.4 Test Procedure

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase ("hot") line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = attenuation caused by cable loss + voltage division factor of AMN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiation Spurious Emissions

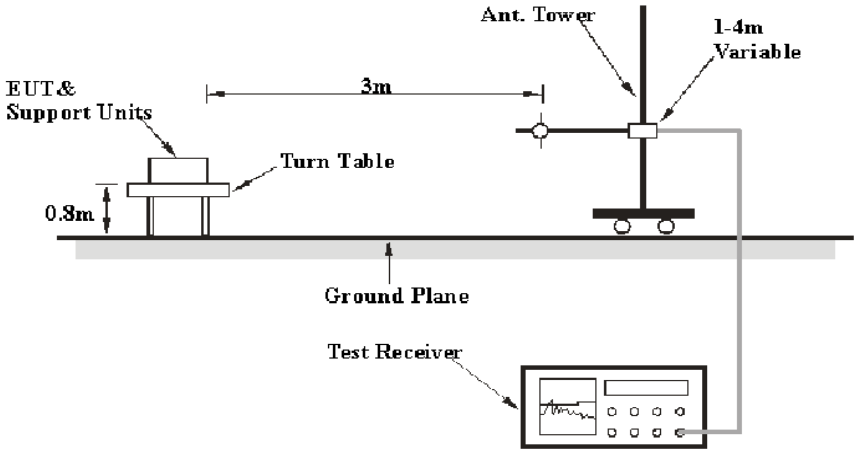
3.2.1 Applicable Standard

FCC §15.407 (b);

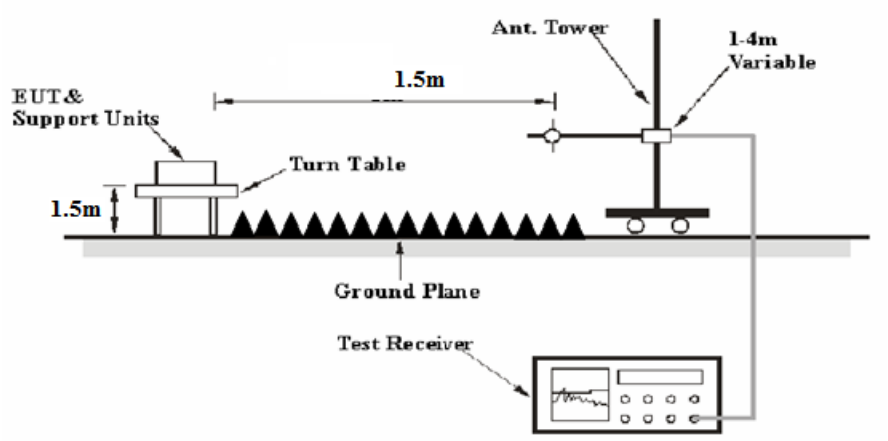
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of – 27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of – 27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of – 27 dBm/MHz.
(4) For transmitters operating solely in the 5.725-5.850 GHz band:
(i) All emissions shall be limited to a level of – 27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
(8) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
(9) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.
(10) The provisions of § 15.205 apply to intentional radiators operating under this section.
(11) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.
(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

3.2.2 EUT Setup

Below 1GHz:



1-40 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was FCC 15.209, FCC 15.407 limits.

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

The spacing between the peripherals was 10 cm.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

30MHz-1000MHz:

Measurement	RBW	Video B/W	IF B/W
QP	120 kHz	300 kHz	120kHz

1GHz- 40GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	1/T

Note: T is minimum transmission duration

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

3.2.4 Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz, peak and Average detection modes for frequencies above 1GHz.

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.5m
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

All emissions under the average limit and under the noise floor have not recorded in the report.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Factor = Antenna Factor + Cable Loss- Amplifier Gain

For 30MHz-1GHz:
Result = Reading + Factor

For 1GHz-40GHz
Result = Reading + Factor-Distance extrapolation Factor

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.3 Emission Bandwidth:

3.3.1 Applicable Standard

FCC §15.407 (a)

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

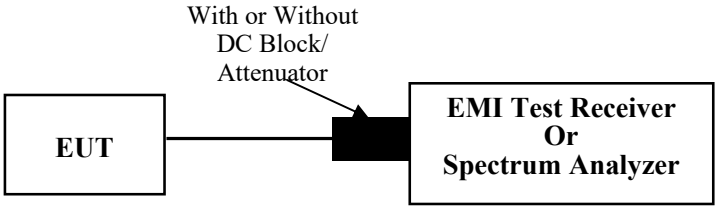
FCC §15.407 (e)

Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

FCC §15.407 (h)

(h)(2) Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

3.3.2 EUT Setup



3.3.3 Test Procedure

26dB Emission Bandwidth:

According to ANSI C63.10-2013 Section 12.4.1

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = peak.
d) Trace mode = max hold
e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6 dB emission bandwidth:

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 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 6 dB relative to the maximum level measured in the fundamental emission.
Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described in this section. For devices that use channel aggregation refer to III.A and III.C for determining emission bandwidth.

99% Occupied Bandwidth:

According to ANSI C63.10-2013 Section 12.4.2&6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
The following procedure shall be used for measuring 99% power bandwidth:
a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
d) Step a) through step c) might require iteration to adjust within the specified range.
e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

3.4 Maximum Conducted Output Power:

3.4.1 Applicable Standard

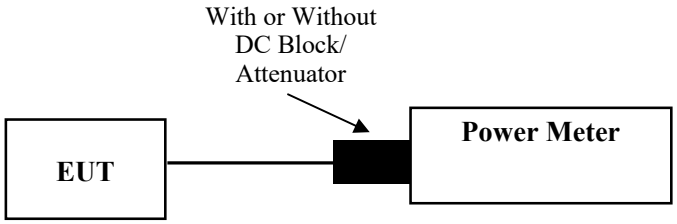
FCC §15.407(a) (1)

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (2)
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (3)(i)
For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.4.2 EUT Setup



3.4.3 Test Procedure

According to ANSI C63.10-2013 Section 12.3.3.2

Method PM-G is measurement using a gated RF average power meter.
Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.5 Maximum Power Spectral Density:

3.5.1 Applicable Standard

FCC §15.407(a) (1)

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

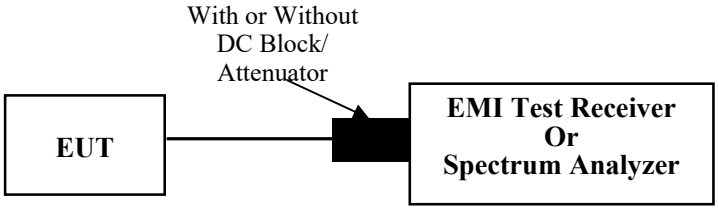
FCC §15.407(a) (2)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (3)(i)

For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.5.2 EUT Setup



3.5.3 Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle ≥98%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 **Alternative** should be applied.

Duty cycle <98%, duty cycle variations are less than ±2%

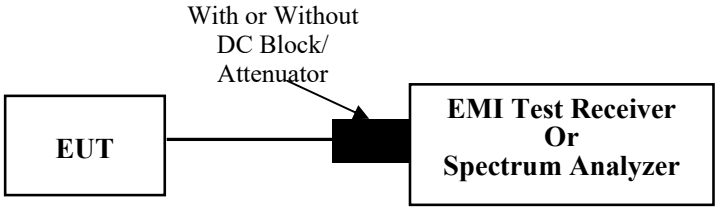
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 **Alternative** should be applied.

Duty cycle <98%, duty cycle variations exceed ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.

3.7 Duty Cycle:

3.7.1 EUT Setup



3.7.2 Test Procedure

According to ANSI C63.10-2013 Section 12.2

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:
1) Set the center frequency of the instrument to the center frequency of the transmission.
2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
3) Set VBW ≥ RBW. Set detector = peak or average.
4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 μs.)

3.8 Antenna Requirement

3.8.1 Applicable Standard

FCC §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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.8.2 Judgment

Result: Compliant. Please refer to the Antenna Information detail in Section 1.

4. Test DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	232M	Test Date:	2023/03/21
Test Site:	CE	Test Mode:	Transmitting (802.11a chain 0 5785MHz was the worst)
Tester:	Vic Du	Test Result:	Pass

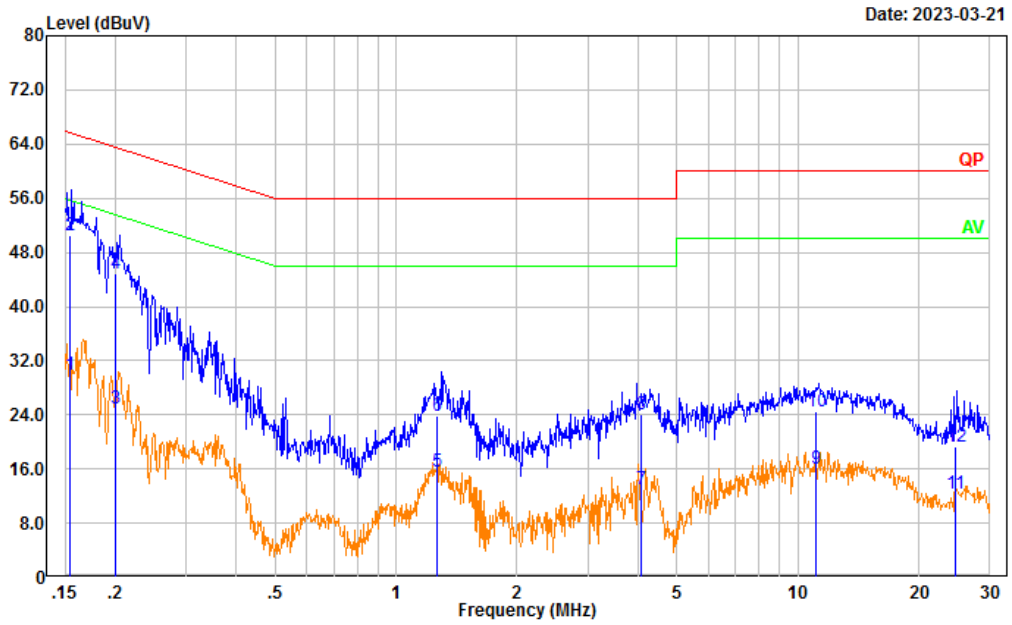
Environmental Conditions:					
Temperature: (℃)	24.6	Relative Humidity: (%)	67	ATM Pressure: (kPa)	100.9

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2022/04/01	2023/03/31
R&S	EMI Test Receiver	ESR3	102726	2022/07/15	2023/07/14
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2022/08/07	2023/08/06
Audix	Test Software	E3	190306 (V9)	N/A	N/A

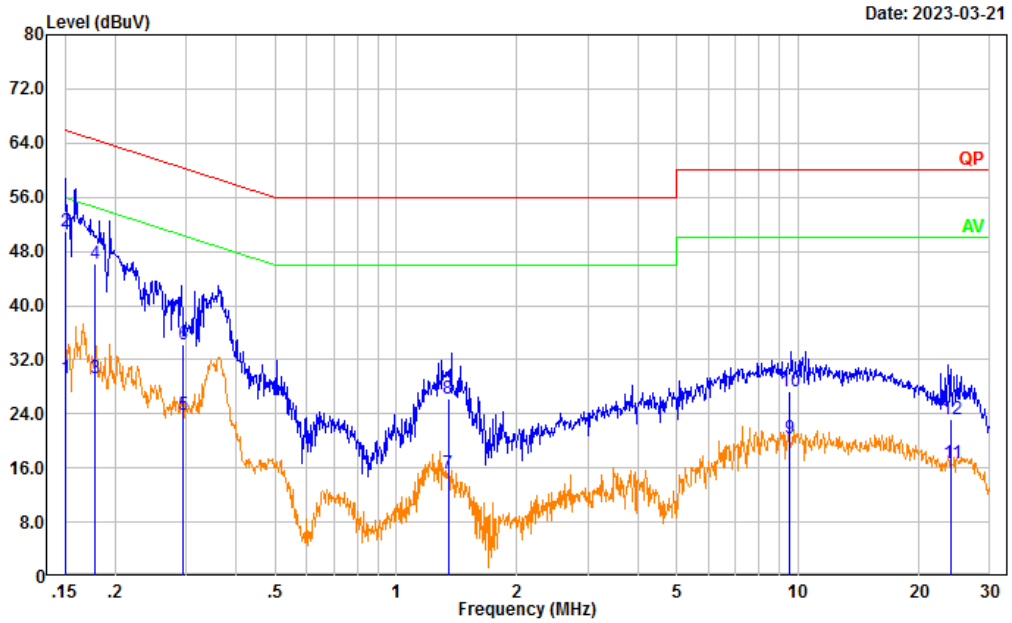
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Mode: Transmitting
Port: Line
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.154	20.36	9.61	29.97	55.78	25.81	Average
2	0.154	40.97	9.61	50.58	65.78	15.20	QP
3	0.200	15.27	9.61	24.88	53.62	28.74	Average
4	0.200	35.34	9.61	44.95	63.62	18.67	QP
5	1.267	5.90	9.62	15.52	46.00	30.48	Average
6	1.267	14.16	9.62	23.78	56.00	32.22	QP
7	4.066	3.30	9.65	12.95	46.00	33.05	Average
8	4.066	14.41	9.65	24.06	56.00	31.94	QP
9	11.117	6.32	9.67	15.99	50.00	34.01	Average
10	11.117	14.82	9.67	24.49	60.00	35.51	QP
11	24.613	2.45	9.81	12.26	50.00	37.74	Average
12	24.613	9.51	9.81	19.32	60.00	40.68	QP

Test Mode: Transmitting
Port: Neutral
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.151	529.25	-499.99	29.26	55.96	26.70	Average
2	0.151	550.97	-499.99	50.98	65.96	14.98	QP
3	0.179	529.18	-499.99	29.19	54.54	25.35	Average
4	0.179	546.17	-499.99	46.18	64.54	18.36	QP
5	0.296	523.82	-499.99	23.83	50.36	26.53	Average
6	0.296	534.31	-499.99	34.32	60.36	26.04	QP
7	1.347	515.06	-499.98	15.08	46.00	30.92	Average
8	1.347	526.19	-499.98	26.21	56.00	29.79	QP
9	9.518	520.41	-499.93	20.48	50.00	29.52	Average
10	9.518	527.16	-499.93	27.23	60.00	32.77	QP
11	24.106	516.64	-499.89	16.75	50.00	33.25	Average
12	24.106	523.15	-499.89	23.26	60.00	36.74	QP

4.2 Radiation Spurious Emissions

Serial Number:	232M	Test Date:	2023/04/03 ~2023/04/19
Test Site:	966-1, 966-2	Test Mode:	Transmitting
Tester:	Mack Huang, Carl Xue	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	23.9~24	Relative Humidity: (%)	57~62	ATM Pressure: (kPa)	99.9~100.5

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020/10/19	2023/10/18
R&S	EMI Test Receiver	ESR3	102724	2022/07/15	2023/07/14
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2022/07/17	2023/07/16
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2022/07/17	2023/07/16
Sonoma	Amplifier	310N	186165	2022/07/17	2023/07/16
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
R&S	Spectrum Analyzer	FSV40	101591	2022/07/15	2023/07/14
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2022/08/07	2023/08/06
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2022/08/07	2023/08/06
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/09	2023/11/08
Audix	Test Software	E3	201021 (V9)	N/A	N/A
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2021/02/05	2024/02/04
AH	Preamplifier	PAM-1840VH	190	2022/11/09	2023/11/08
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2022/08/07	2023/08/06
E-Microwave	Band Rejection Filter	5150-5850MHz	OE01902423	2022/08/07	2023/08/06
Mini Circuits	High Pass Filter	VHF-6010+	31119	2022/08/07	2023/08/06
PASTERNACK	Horn Antenna	PE9850/2F-20	072001	2021/02/05	2024/02/04

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

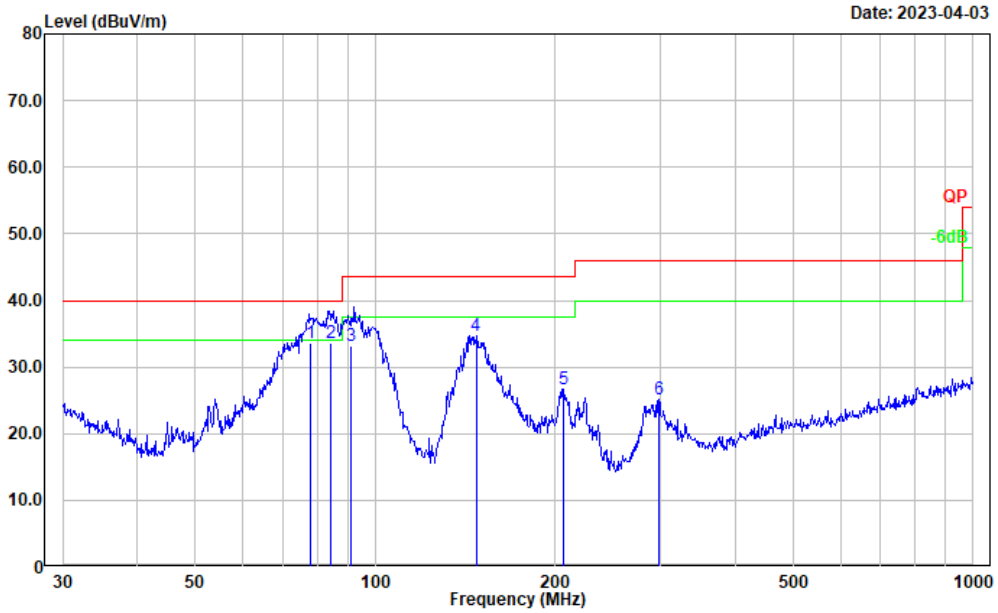
Test Data:

Please refer to the below table and plots.

Note: The device can be mounted in multiple orientations, test was performed with X,Y, Z Axis according to C63.10 figure 8, the worst orientation was photographed and it`s data was recorded.

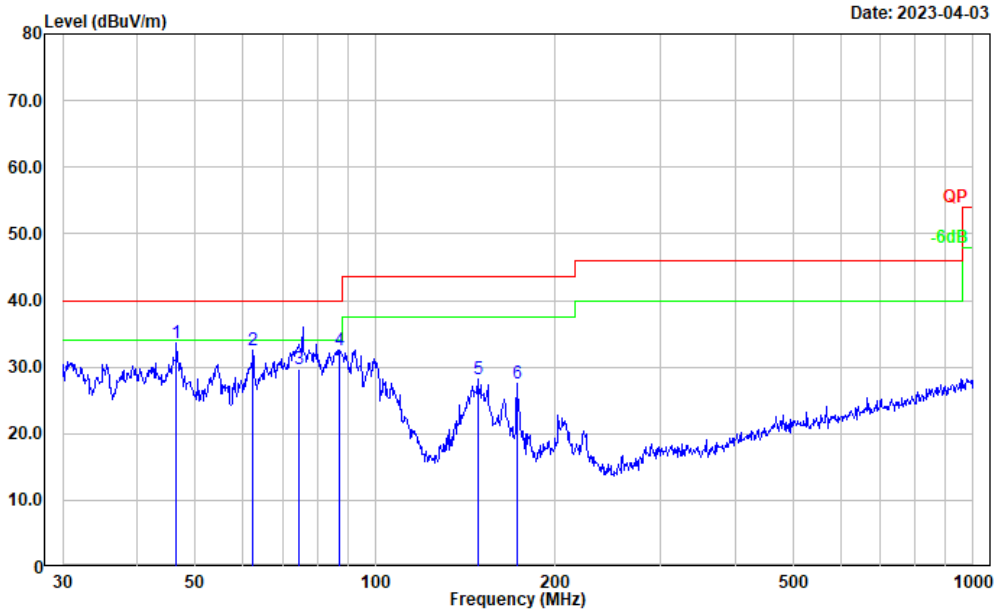
1) 30MHz-1GHz(802.11a chain 0 5785MHz was the worst)

Test Mode: Transmitting
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	77.999	50.81	-17.26	33.55	40.00	6.45	QP
2	84.198	50.82	-17.23	33.59	40.00	6.41	QP
3	90.939	49.93	-16.70	33.23	43.50	10.27	QP
4	147.404	46.74	-11.99	34.75	43.50	8.75	Peak
5	206.398	39.10	-12.39	26.71	43.50	16.79	Peak
6	298.268	35.80	-10.68	25.12	46.00	20.88	Peak

Test Mode: Transmitting
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	46.503	48.68	-15.14	33.54	40.00	6.46	Peak
2	62.431	49.69	-17.19	32.50	40.00	7.50	Peak
3	74.701	46.70	-16.92	29.78	40.00	10.22	QP
4	87.112	49.61	-17.08	32.53	40.00	7.47	Peak
5	148.441	40.08	-12.00	28.08	43.50	15.42	Peak
6	172.599	40.70	-13.08	27.62	43.50	15.88	Peak

2) 1GHz-40GHz:
5150-5250MHz
802.11a Chain 0:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5180MHz							
5180.000	75.94	PK	H	38.68	108.60	N/A	N/A
5180.000	65.94	AV	H	38.68	98.60	N/A	N/A
5180.000	79.72	PK	V	38.68	112.38	N/A	N/A
5180.000	71.72	AV	V	38.68	104.38	N/A	N/A
5150.000	34.39	PK	V	38.64	67.01	74.00	6.99
5150.000	20.60	AV	V	38.64	53.22	54.00	0.78
10360.000	35.28	PK	V	19.18	48.44	68.20	19.76
15540.000	43.56	PK	V	22.44	59.98	74.00	14.02
15540.000	25.03	AV	V	22.44	41.45	54.00	12.55
Middle Channel: 5200 MHz							
5200.000	78.04	PK	H	38.70	110.72	N/A	N/A
5200.000	67.84	AV	H	38.70	100.52	N/A	N/A
5200.000	81.84	PK	V	38.70	114.52	N/A	N/A
5200.000	72.68	AV	V	38.70	105.36	N/A	N/A
10400.000	45.30	PK	V	19.16	58.44	68.20	9.76
15600.000	51.45	PK	V	22.41	67.84	74.00	6.16
15600.000	37.12	AV	V	22.41	53.51	54.00	0.49
High Channel: 5240 MHz							
5240.000	76.92	PK	H	38.85	109.75	N/A	N/A
5240.000	68.01	AV	H	38.85	100.84	N/A	N/A
5240.000	80.70	PK	V	38.85	113.53	N/A	N/A
5240.000	72.16	AV	V	38.85	104.99	N/A	N/A
5350.000	25.54	PK	V	39.03	58.55	74.00	15.45
5350.000	13.35	AV	V	39.03	46.36	54.00	7.64
10480.000	45.52	PK	V	18.86	58.36	68.20	9.84
15720.000	51.45	PK	V	22.28	67.71	74.00	6.29
15720.000	37.14	AV	V	22.28	53.40	54.00	0.60

802.11a Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180MHz							
5180.000	75.80	PK	H	38.68	108.46	N/A	N/A
5180.000	65.84	AV	H	38.68	98.50	N/A	N/A
5180.000	79.58	PK	V	38.68	112.24	N/A	N/A
5180.000	70.60	AV	V	38.68	103.26	N/A	N/A
5150.000	34.25	PK	V	38.64	66.87	74.00	7.13
5150.000	20.46	AV	V	38.64	53.08	54.00	0.92
10360.000	35.14	PK	V	19.18	48.30	68.20	19.90
15540.000	43.42	PK	V	22.44	59.84	74.00	14.16
15540.000	31.43	AV	V	22.44	47.85	54.00	6.15
Middle Channel: 5200 MHz							
5200.000	77.93	PK	H	38.70	110.61	N/A	N/A
5200.000	67.76	AV	H	38.70	100.44	N/A	N/A
5200.000	81.85	PK	V	38.70	114.53	N/A	N/A
5200.000	72.60	AV	V	38.70	105.28	N/A	N/A
10400.000	45.22	PK	V	19.16	58.36	68.20	9.84
15600.000	50.37	PK	V	22.41	66.76	74.00	7.24
15600.000	37.04	AV	V	22.41	53.43	54.00	0.57
High Channel: 5240 MHz							
5240.000	76.86	PK	H	38.85	109.69	N/A	N/A
5240.000	67.96	AV	H	38.85	100.79	N/A	N/A
5240.000	80.64	PK	V	38.85	113.47	N/A	N/A
5240.000	72.10	AV	V	38.85	104.93	N/A	N/A
5350.000	25.48	PK	V	39.03	58.49	74.00	15.51
5350.000	13.29	AV	V	39.03	46.30	54.00	7.70
10480.000	45.49	PK	V	18.86	58.33	68.20	9.87
15720.000	50.39	PK	V	22.28	66.65	74.00	7.35
15720.000	37.04	AV	V	22.28	53.30	54.00	0.70

802.11n ht20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180MHz							
5180.000	77.44	PK	H	38.68	110.10	N/A	N/A
5180.000	67.72	AV	H	38.68	100.38	N/A	N/A
5180.000	80.70	PK	V	38.68	113.36	N/A	N/A
5180.000	71.71	AV	V	38.68	104.37	N/A	N/A
5150.000	36.00	PK	V	38.64	68.62	74.00	5.38
5150.000	20.45	AV	V	38.64	53.07	54.00	0.93
10360.000	35.05	PK	V	19.18	48.21	68.20	19.99
15540.000	43.33	PK	V	22.44	59.75	74.00	14.25
15540.000	31.12	AV	V	22.44	47.54	54.00	6.46
Middle Channel: 5200 MHz							
5200.000	79.41	PK	H	38.70	112.09	N/A	N/A
5200.000	69.46	AV	H	38.70	102.14	N/A	N/A
5200.000	85.32	PK	V	38.70	118.00	N/A	N/A
5200.000	75.04	AV	V	38.70	107.72	N/A	N/A
10400.000	45.11	PK	V	19.16	58.25	68.20	9.95
15600.000	49.84	PK	V	22.41	66.23	74.00	7.77
15600.000	36.50	AV	V	22.41	52.89	54.00	1.11
High Channel: 5240 MHz							
5240.000	76.47	PK	H	38.85	109.30	N/A	N/A
5240.000	66.36	AV	H	38.85	99.19	N/A	N/A
5240.000	82.27	PK	V	38.85	115.10	N/A	N/A
5240.000	72.17	AV	V	38.85	105.00	N/A	N/A
5350.000	25.20	PK	V	39.03	58.21	74.00	15.79
5350.000	14.05	AV	V	39.03	47.06	54.00	6.94
10480.000	42.29	PK	V	18.86	55.13	68.20	13.07
15720.000	50.82	PK	V	22.28	67.08	74.00	6.92
15720.000	37.16	AV	V	22.28	53.42	54.00	0.58

802.11ac vht20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180MHz							
5180.000	74.90	PK	H	38.68	107.56	N/A	N/A
5180.000	65.74	AV	H	38.68	98.40	N/A	N/A
5180.000	78.81	PK	V	38.68	111.47	N/A	N/A
5180.000	70.40	AV	V	38.68	103.06	N/A	N/A
5150.000	37.54	PK	V	38.64	70.16	74.00	3.84
5150.000	20.89	AV	V	38.64	53.51	54.00	0.49
10360.000	41.57	PK	V	19.18	54.73	68.20	13.47
15540.000	48.58	PK	V	22.44	65.00	74.00	9.00
15540.000	36.90	AV	V	22.44	53.32	54.00	0.68
Middle Channel: 5200 MHz							
5200.000	77.17	PK	H	38.70	109.85	N/A	N/A
5200.000	67.16	AV	H	38.70	99.84	N/A	N/A
5200.000	82.08	PK	V	38.70	114.76	N/A	N/A
5200.000	73.74	AV	V	38.70	106.42	N/A	N/A
10400.000	41.83	PK	V	19.16	54.97	68.20	13.23
15600.000	48.77	PK	V	22.41	65.16	74.00	8.84
15600.000	35.42	AV	V	22.41	51.81	54.00	2.19
High Channel: 5240 MHz							
5240.000	76.30	PK	H	38.85	109.13	N/A	N/A
5240.000	66.59	AV	H	38.85	99.42	N/A	N/A
5240.000	81.45	PK	V	38.85	114.28	N/A	N/A
5240.000	72.70	AV	V	38.85	105.53	N/A	N/A
5350.000	25.28	PK	V	39.03	58.29	74.00	15.71
5350.000	15.23	AV	V	39.03	48.24	54.00	5.76
10480.000	42.18	PK	V	18.86	55.02	68.20	13.18
15720.000	45.94	PK	V	22.28	62.20	74.00	11.80
15720.000	35.23	AV	V	22.28	51.49	54.00	2.51

802.11ax hew20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5180MHz							
5180.000	73.38	PK	H	38.68	106.04	N/A	N/A
5180.000	66.81	AV	H	38.68	99.47	N/A	N/A
5180.000	78.86	PK	V	38.68	111.52	N/A	N/A
5180.000	71.25	AV	V	38.68	103.91	N/A	N/A
5150.000	39.51	PK	V	38.64	72.13	74.00	1.87
5150.000	20.31	AV	V	38.64	52.93	54.00	1.07
10360.000	44.71	PK	V	19.18	57.87	68.20	10.33
15540.000	49.04	PK	V	22.44	65.46	74.00	8.54
15540.000	36.82	AV	V	22.44	53.24	54.00	0.76
Middle Channel: 5200 MHz							
5200.000	73.54	PK	H	38.70	106.22	N/A	N/A
5200.000	66.97	AV	H	38.70	99.65	N/A	N/A
5200.000	79.05	PK	V	38.70	111.73	N/A	N/A
5200.000	71.41	AV	V	38.70	104.09	N/A	N/A
10400.000	44.89	PK	V	19.16	58.03	68.20	10.17
15600.000	50.21	PK	V	22.41	66.60	74.00	7.40
15600.000	37.12	AV	V	22.41	53.51	54.00	0.49
High Channel: 5240 MHz							
5240.000	73.63	PK	H	38.85	106.46	N/A	N/A
5240.000	66.94	AV	H	38.85	99.77	N/A	N/A
5240.000	79.02	PK	V	38.85	111.85	N/A	N/A
5240.000	71.67	AV	V	38.85	104.50	N/A	N/A
5350.000	27.00	PK	V	39.03	60.01	74.00	13.99
5350.000	16.04	AV	V	39.03	49.05	54.00	4.95
10480.000	45.37	PK	V	18.86	58.21	68.20	9.99
15720.000	50.49	PK	V	22.28	66.75	74.00	7.25
15720.000	37.33	AV	V	22.28	53.59	54.00	0.41

802.11n ht40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5190 MHz							
5190.000	72.63	PK	H	38.69	105.30	N/A	N/A
5190.000	60.78	AV	H	38.69	93.45	N/A	N/A
5190.000	77.25	PK	V	38.69	109.92	N/A	N/A
5190.000	66.44	AV	V	38.69	99.11	N/A	N/A
5150.000	37.82	PK	V	38.64	70.44	74.00	3.56
5150.000	19.87	AV	V	38.64	52.49	54.00	1.51
10380.000	37.12	PK	V	19.17	50.27	68.20	17.93
15570.000	40.87	PK	V	22.43	57.28	74.00	16.72
15570.000	28.74	AV	V	22.43	45.15	54.00	8.85
High Channel: 5230 MHz							
5230.000	73.98	PK	H	38.81	106.77	N/A	N/A
5230.000	62.95	AV	H	38.81	95.74	N/A	N/A
5230.000	79.59	PK	V	38.81	112.38	N/A	N/A
5230.000	69.86	AV	V	38.81	102.65	N/A	N/A
5350.000	25.33	PK	V	39.03	58.34	74.00	15.66
5350.000	14.93	AV	V	39.03	47.94	54.00	6.06
10460.000	40.83	PK	V	18.94	53.75	68.20	14.45
15690.000	48.67	PK	V	22.29	64.94	74.00	9.06
15690.000	36.64	AV	V	22.29	52.91	54.00	1.09

802.11ac vht40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5190 MHz							
5190.000	73.06	PK	H	38.69	105.73	N/A	N/A
5190.000	63.89	AV	H	38.69	96.56	N/A	N/A
5190.000	77.68	PK	V	38.69	110.35	N/A	N/A
5190.000	68.62	AV	V	38.69	101.29	N/A	N/A
5150.000	40.58	PK	V	38.64	73.20	74.00	0.80
5150.000	18.85	AV	V	38.64	51.47	54.00	2.53
10380.000	37.37	PK	V	19.17	50.52	68.20	17.68
15570.000	40.94	PK	V	22.43	57.35	74.00	16.65
15570.000	28.85	AV	V	22.43	45.26	54.00	8.74
High Channel: 5230 MHz							
5230.000	72.39	PK	H	38.81	105.18	N/A	N/A
5230.000	64.38	AV	H	38.81	97.17	N/A	N/A
5230.000	79.87	PK	V	38.81	112.66	N/A	N/A
5230.000	71.29	AV	V	38.81	104.08	N/A	N/A
5350.000	25.26	PK	V	39.03	58.27	74.00	15.73
5350.000	16.27	AV	V	39.03	49.28	54.00	4.72
10460.000	40.75	PK	V	18.94	53.67	68.20	14.53
15690.000	46.55	PK	V	22.29	62.82	74.00	11.18
15690.000	36.02	AV	V	22.29	52.29	54.00	1.71

802.11ax hew40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5190 MHz							
5190.000	73.12	PK	H	38.69	105.79	N/A	N/A
5190.000	63.95	AV	H	38.69	96.62	N/A	N/A
5190.000	77.74	PK	V	38.69	110.41	N/A	N/A
5190.000	68.68	AV	V	38.69	101.35	N/A	N/A
5150.000	40.50	PK	V	38.64	73.12	74.00	0.88
5150.000	18.91	AV	V	38.64	51.53	54.00	2.47
10380.000	45.12	PK	V	19.17	58.27	68.20	9.93
15570.000	50.43	PK	V	22.43	66.84	74.00	7.16
15570.000	37.32	AV	V	22.43	53.73	54.00	0.27
High Channel: 5230 MHz							
5230.000	72.52	PK	H	38.81	105.31	N/A	N/A
5230.000	63.29	AV	H	38.81	96.08	N/A	N/A
5230.000	78.70	PK	V	38.81	111.49	N/A	N/A
5230.000	68.53	AV	V	38.81	101.32	N/A	N/A
5350.000	24.88	PK	V	39.03	57.89	74.00	16.11
5350.000	15.80	AV	V	39.03	48.81	54.00	5.19
10460.000	41.60	PK	V	18.94	54.52	68.20	13.68
15690.000	43.79	PK	V	22.29	60.06	74.00	13.94
15690.000	34.40	AV	V	22.29	50.67	54.00	3.33

802.11ac vht80(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Middle Channel: 5210 MHz							
5210.000	68.13	PK	H	38.74	100.85	N/A	N/A
5210.000	58.65	AV	H	38.74	91.37	N/A	N/A
5210.000	72.83	PK	V	38.74	105.55	N/A	N/A
5210.000	62.11	AV	V	38.74	94.83	N/A	N/A
5150.000	31.72	PK	V	38.64	64.34	74.00	9.66
5150.000	20.41	AV	V	38.64	53.03	54.00	0.97
5350.000	27.04	PK	V	39.03	60.05	74.00	13.95
5350.000	14.09	AV	V	39.03	47.10	54.00	6.90
10420.000	37.09	PK	V	19.09	50.16	68.20	18.04
15630.000	37.09	PK	V	22.37	53.44	74.00	20.56
15630.000	27.85	AV	V	22.37	44.20	54.00	9.80

802.11ax hew80(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Middle Channel: 5210 MHz							
5210.000	68.30	PK	H	38.74	101.02	N/A	N/A
5210.000	58.82	AV	H	38.74	91.54	N/A	N/A
5210.000	73.00	PK	V	38.74	105.72	N/A	N/A
5210.000	64.28	AV	V	38.74	97.00	N/A	N/A
5150.000	33.73	PK	V	38.64	66.35	74.00	7.65
5150.000	20.59	AV	V	38.64	53.21	54.00	0.79
5350.000	27.21	PK	V	39.03	60.22	74.00	13.78
5350.000	14.26	AV	V	39.03	47.27	54.00	6.73
10420.000	36.77	PK	V	19.09	49.84	68.20	18.36
15630.000	36.69	PK	V	22.37	53.04	74.00	20.96
15630.000	26.94	AV	V	22.37	43.29	54.00	10.71

Note:
Result = Reading + Factor- Distance extrapolation Factor
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

5250-5350MHz
802.11a Chain 0:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260MHz							
5260.000	75.11	PK	H	38.90	107.99	N/A	N/A
5260.000	65.87	AV	H	38.90	98.75	N/A	N/A
5260.000	81.02	PK	V	38.90	113.90	N/A	N/A
5260.000	72.11	AV	V	38.90	104.99	N/A	N/A
5150.000	25.48	PK	V	38.64	58.10	74.00	15.90
5150.000	14.11	AV	V	38.64	46.73	54.00	7.27
10520.000	45.64	PK	V	18.93	58.55	68.20	9.65
15780.000	50.61	PK	V	22.26	66.85	74.00	7.15
15780.000	37.17	AV	V	22.26	53.41	54.00	0.59
Middle Channel: 5280 MHz							
5280.000	75.46	PK	H	38.91	108.35	N/A	N/A
5280.000	66.53	AV	H	38.91	99.42	N/A	N/A
5280.000	80.81	PK	V	38.91	113.70	N/A	N/A
5280.000	72.04	AV	V	38.91	104.93	N/A	N/A
10560.000	45.22	PK	V	19.20	58.40	68.20	9.80
15840.000	49.08	PK	V	22.34	65.40	74.00	8.60
15840.000	36.68	AV	V	22.34	53.00	54.00	1.00
High Channel: 5320 MHz							
5320.000	74.21	PK	H	38.97	107.16	N/A	N/A
5320.000	65.52	AV	H	38.97	98.47	N/A	N/A
5320.000	78.54	PK	V	38.97	111.49	N/A	N/A
5320.000	69.83	AV	V	38.97	102.78	N/A	N/A
5350.000	37.34	PK	V	39.03	70.35	74.00	3.65
5350.000	20.38	AV	V	39.03	53.39	54.00	0.61
10640.000	43.74	PK	V	19.50	57.22	74.00	16.78
10640.000	32.03	AV	V	19.50	45.51	54.00	8.49
15960.000	46.34	PK	V	22.22	62.54	74.00	11.46
15960.000	33.17	AV	V	22.22	49.37	54.00	4.63

802.11a Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260MHz							
5260.000	77.94	PK	H	38.90	110.82	N/A	N/A
5260.000	68.69	AV	H	38.90	101.57	N/A	N/A
5260.000	81.73	PK	V	38.90	114.61	N/A	N/A
5260.000	72.61	AV	V	38.90	105.49	N/A	N/A
5150.000	26.18	PK	V	38.64	58.80	74.00	15.20
5150.000	13.88	AV	V	38.64	46.50	54.00	7.50
10520.000	44.10	PK	V	18.93	57.01	68.20	11.19
15780.000	50.10	PK	V	22.26	66.34	74.00	7.66
15780.000	37.07	AV	V	22.26	53.31	54.00	0.69
Middle Channel: 5280 MHz							
5280.000	78.17	PK	H	38.91	111.06	N/A	N/A
5280.000	68.54	AV	H	38.91	101.43	N/A	N/A
5280.000	83.37	PK	V	38.91	116.26	N/A	N/A
5280.000	74.92	AV	V	38.91	107.81	N/A	N/A
10560.000	44.51	PK	V	19.20	57.69	68.20	10.51
15840.000	50.30	PK	V	22.34	66.62	74.00	7.38
15840.000	37.29	AV	V	22.34	53.61	54.00	0.39
High Channel: 5320 MHz							
5320.000	74.25	PK	H	38.97	107.20	N/A	N/A
5320.000	65.37	AV	H	38.97	98.32	N/A	N/A
5320.000	79.70	PK	V	38.97	112.65	N/A	N/A
5320.000	70.85	AV	V	38.97	103.80	N/A	N/A
5350.000	35.34	PK	V	39.03	68.35	74.00	5.65
5350.000	19.31	AV	V	39.03	52.32	54.00	1.68
10640.000	36.95	PK	V	19.50	50.43	74.00	23.57
10640.000	26.57	AV	V	19.50	40.05	54.00	13.95
15960.000	49.18	PK	V	22.22	65.38	74.00	8.62
15960.000	36.44	AV	V	22.22	52.64	54.00	1.36

802.11n ht20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260MHz							
5260.000	79.09	PK	H	38.90	111.97	N/A	N/A
5260.000	69.31	AV	H	38.90	102.19	N/A	N/A
5260.000	85.35	PK	V	38.90	118.23	N/A	N/A
5260.000	74.64	AV	V	38.90	107.52	N/A	N/A
5150.000	26.19	PK	V	38.64	58.81	74.00	15.19
5150.000	14.49	AV	V	38.64	47.11	54.00	6.89
10520.000	45.84	PK	V	18.93	58.75	68.20	9.45
15780.000	50.20	PK	V	22.26	66.44	74.00	7.56
15780.000	37.00	AV	V	22.26	53.24	54.00	0.76
Middle Channel: 5280 MHz							
5280.000	79.07	PK	H	38.91	111.96	N/A	N/A
5280.000	69.12	AV	H	38.91	102.01	N/A	N/A
5280.000	84.98	PK	V	38.91	117.87	N/A	N/A
5280.000	74.77	AV	V	38.91	107.66	N/A	N/A
10560.000	45.20	PK	V	19.20	58.38	68.20	9.82
15840.000	49.81	PK	V	22.34	66.13	74.00	7.87
15840.000	36.45	AV	V	22.34	52.77	54.00	1.23
High Channel: 5320 MHz							
5320.000	74.79	PK	H	38.97	107.74	N/A	N/A
5320.000	64.33	AV	H	38.97	97.28	N/A	N/A
5320.000	81.20	PK	V	38.97	114.15	N/A	N/A
5320.000	71.20	AV	V	38.97	104.15	N/A	N/A
5350.000	33.61	PK	V	39.03	66.62	74.00	7.38
5350.000	19.44	AV	V	39.03	52.45	54.00	1.55
10640.000	38.05	PK	V	19.50	51.53	74.00	22.47
10640.000	27.38	AV	V	19.50	40.86	54.00	13.14
15960.000	45.13	PK	V	22.22	61.33	74.00	12.67
15960.000	32.07	AV	V	22.22	48.27	54.00	5.73

802.11ac vht20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5260MHz							
5260.000	77.08	PK	H	38.90	109.96	N/A	N/A
5260.000	66.32	AV	H	38.90	99.20	N/A	N/A
5260.000	81.78	PK	V	38.90	114.66	N/A	N/A
5260.000	73.42	AV	V	38.90	106.30	N/A	N/A
5150.000	25.67	PK	V	38.64	58.29	74.00	15.71
5150.000	15.70	AV	V	38.64	48.32	54.00	5.68
10520.000	43.41	PK	V	18.93	56.32	68.20	11.88
15780.000	48.71	PK	V	22.26	64.95	74.00	9.05
15780.000	35.33	AV	V	22.26	51.57	54.00	2.43
Middle Channel: 5280 MHz							
5280.000	77.47	PK	H	38.91	110.36	N/A	N/A
5280.000	66.51	AV	H	38.91	99.40	N/A	N/A
5280.000	82.52	PK	V	38.91	115.41	N/A	N/A
5280.000	73.19	AV	V	38.91	106.08	N/A	N/A
10560.000	44.02	PK	V	19.20	57.20	68.20	11.00
15840.000	50.08	PK	V	22.34	66.40	74.00	7.60
15840.000	37.56	AV	V	22.34	53.88	54.00	**0.12**
High Channel: 5320 MHz							
5320.000	74.75	PK	H	38.97	107.70	N/A	N/A
5320.000	66.01	AV	H	38.97	98.96	N/A	N/A
5320.000	80.22	PK	V	38.97	113.17	N/A	N/A
5320.000	71.24	AV	V	38.97	104.19	N/A	N/A
5350.000	35.14	PK	V	39.03	68.15	74.00	5.85
5350.000	20.02	AV	V	39.03	53.03	54.00	0.97
10640.000	42.82	PK	V	19.50	56.30	74.00	17.70
10640.000	34.64	AV	V	19.50	48.12	54.00	5.88
15960.000	45.08	PK	V	22.22	61.28	74.00	12.72
15960.000	32.65	AV	V	22.22	48.85	54.00	5.15

802.11ax hew20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5260MHz							
5260.000	77.34	PK	H	38.90	110.22	N/A	N/A
5260.000	66.81	AV	H	38.90	99.69	N/A	N/A
5260.000	81.89	PK	V	38.90	114.77	N/A	N/A
5260.000	72.70	AV	V	38.90	105.58	N/A	N/A
5150.000	25.77	PK	V	38.64	58.39	74.00	15.61
5150.000	16.48	AV	V	38.64	49.10	54.00	4.90
10520.000	38.76	PK	V	18.93	51.67	68.20	16.53
15780.000	35.72	PK	V	22.26	51.96	74.00	22.04
15780.000	24.15	AV	V	22.26	40.39	54.00	13.61
Middle Channel: 5280 MHz							
5280.000	77.28	PK	H	38.91	110.17	N/A	N/A
5280.000	67.52	AV	H	38.91	100.41	N/A	N/A
5280.000	81.93	PK	V	38.91	114.82	N/A	N/A
5280.000	72.41	AV	V	38.91	105.30	N/A	N/A
10560.000	38.75	PK	V	19.20	51.93	68.20	16.27
15840.000	35.83	PK	V	22.34	52.15	74.00	21.85
15840.000	24.20	AV	V	22.34	40.52	54.00	13.48
High Channel: 5320 MHz							
5320.000	75.81	PK	H	38.97	108.76	N/A	N/A
5320.000	67.03	AV	H	38.97	99.98	N/A	N/A
5320.000	80.88	PK	V	38.97	113.83	N/A	N/A
5320.000	71.95	AV	V	38.97	104.90	N/A	N/A
5350.000	31.54	PK	V	39.03	64.55	74.00	9.45
5350.000	19.80	AV	V	39.03	52.81	54.00	1.19
10640.000	35.28	PK	V	19.50	48.76	74.00	25.24
10640.000	23.96	AV	V	19.50	37.44	54.00	16.56
15960.000	35.32	PK	V	22.22	51.52	74.00	22.48
15960.000	24.40	AV	V	22.22	40.60	54.00	13.40

802.11n ht40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5270 MHz							
5270.000	73.96	PK	H	38.91	106.85	N/A	N/A
5270.000	64.78	AV	H	38.91	97.67	N/A	N/A
5270.000	79.83	PK	V	38.91	112.72	N/A	N/A
5270.000	70.02	AV	V	38.91	102.91	N/A	N/A
5150.000	25.31	PK	V	38.64	57.93	74.00	16.07
5150.000	15.32	AV	V	38.64	47.94	54.00	6.06
10540.000	41.75	PK	V	19.07	54.80	68.20	13.40
15810.000	49.33	PK	V	22.28	65.59	74.00	8.41
15810.000	36.81	AV	V	22.28	53.07	54.00	0.93
High Channel: 5310 MHz							
5310.000	70.77	PK	H	38.95	103.70	N/A	N/A
5310.000	60.13	AV	H	38.95	93.06	N/A	N/A
5310.000	76.63	PK	V	38.95	109.56	N/A	N/A
5310.000	66.03	AV	V	38.95	98.96	N/A	N/A
5350.000	37.18	PK	V	39.03	70.19	74.00	3.81
5350.000	19.45	AV	V	39.03	52.46	54.00	1.54
10620.000	39.62	PK	V	19.49	53.09	74.00	20.91
10620.000	28.11	AV	V	19.49	41.58	54.00	12.42
15930.000	39.18	PK	V	22.33	55.49	74.00	18.51
15930.000	26.50	AV	V	22.33	42.81	54.00	11.19

802.11ac vht40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5270 MHz							
5270.000	72.82	PK	H	38.91	105.71	N/A	N/A
5270.000	64.90	AV	H	38.91	97.79	N/A	N/A
5270.000	78.89	PK	V	38.91	111.78	N/A	N/A
5270.000	71.04	AV	V	38.91	103.93	N/A	N/A
5150.000	25.26	PK	V	38.64	57.88	74.00	16.12
5150.000	16.93	AV	V	38.64	49.55	54.00	4.45
10540.000	42.42	PK	V	19.07	55.47	68.20	12.73
15810.000	47.07	PK	V	22.28	63.33	74.00	10.67
15810.000	34.99	AV	V	22.28	51.25	54.00	2.75
High Channel: 5310 MHz							
5310.000	69.15	PK	H	38.95	102.08	N/A	N/A
5310.000	61.08	AV	H	38.95	94.01	N/A	N/A
5310.000	74.42	PK	V	38.95	107.35	N/A	N/A
5310.000	67.68	AV	V	38.95	100.61	N/A	N/A
5350.000	33.70	PK	V	39.03	66.71	74.00	7.29
5350.000	20.34	AV	V	39.03	53.35	54.00	0.65
10620.000	36.89	PK	V	19.49	50.36	74.00	23.64
10620.000	24.75	AV	V	19.49	38.22	54.00	15.78
15930.000	37.76	PK	V	22.33	54.07	74.00	19.93
15930.000	25.52	AV	V	22.33	41.83	54.00	12.17

802.11ax hew40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5270 MHz							
5270.000	73.61	PK	H	38.91	106.50	N/A	N/A
5270.000	64.80	AV	H	38.91	97.69	N/A	N/A
5270.000	79.13	PK	V	38.91	112.02	N/A	N/A
5270.000	69.31	AV	V	38.91	102.20	N/A	N/A
5150.000	24.10	PK	V	38.64	56.72	74.00	17.28
5150.000	17.07	AV	V	38.64	49.69	54.00	4.31
10540.000	39.79	PK	V	19.07	52.84	68.20	15.36
15810.000	41.29	PK	V	22.28	57.55	74.00	16.45
15810.000	29.41	AV	V	22.28	45.67	54.00	8.33
High Channel: 5310 MHz							
5310.000	69.69	PK	H	38.95	102.62	N/A	N/A
5310.000	62.31	AV	H	38.95	95.24	N/A	N/A
5310.000	75.12	PK	V	38.95	108.05	N/A	N/A
5310.000	67.81	AV	V	38.95	100.74	N/A	N/A
5350.000	36.82	PK	V	39.03	69.83	74.00	4.17
5350.000	19.99	AV	V	39.03	53.00	54.00	1.00
10620.000	36.69	PK	V	19.49	50.16	74.00	23.84
10620.000	24.70	AV	V	19.49	38.17	54.00	15.83
15930.000	35.49	PK	V	22.33	51.80	74.00	22.20
15930.000	23.18	AV	V	22.33	39.49	54.00	14.51

802.11ac vht80(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Middle Channel: 5290 MHz							
5290.000	66.50	PK	H	38.92	99.40	N/A	N/A
5290.000	57.68	AV	H	38.92	90.58	N/A	N/A
5290.000	72.85	PK	V	38.92	105.75	N/A	N/A
5290.000	62.45	AV	V	38.92	95.35	N/A	N/A
5150.000	27.22	PK	V	38.64	59.84	74.00	14.16
5150.000	17.98	AV	V	38.64	50.60	54.00	3.40
5350.000	33.45	PK	V	39.03	66.46	74.00	7.54
5350.000	16.80	AV	V	39.03	49.81	54.00	4.19
10580.000	37.67	PK	V	19.34	50.99	68.20	17.21
15870.000	36.16	PK	V	22.39	52.53	74.00	21.47
15870.000	24.61	AV	V	22.39	40.98	54.00	13.02

802.11ax hew80(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5290 MHz							
5290.000	67.85	PK	H	38.92	100.75	N/A	N/A
5290.000	58.55	AV	H	38.92	91.45	N/A	N/A
5290.000	73.50	PK	V	38.92	106.40	N/A	N/A
5290.000	64.67	AV	V	38.92	97.57	N/A	N/A
5150.000	27.50	PK	V	38.64	60.12	74.00	13.88
5150.000	18.64	AV	V	38.64	51.26	54.00	2.74
5350.000	36.76	PK	V	39.03	69.77	74.00	4.23
5350.000	20.30	AV	V	39.03	53.31	54.00	0.69
10580.000	36.58	PK	V	19.34	49.90	68.20	18.30
15870.000	35.25	PK	V	22.39	51.62	74.00	22.38
15870.000	23.28	AV	V	22.39	39.65	54.00	14.35

Note:
Result = Reading + Factor- Distance extrapolation Factor
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

Cross Band 5150-5250 MHz&5250-5350 MHz Band:
802.11ac vht160(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5250 MHz							
5250.000	64.01	PK	H	38.89	96.88	N/A	N/A
5250.000	52.33	AV	H	38.89	85.20	N/A	N/A
5250.000	70.75	PK	V	38.89	103.62	N/A	N/A
5250.000	58.92	AV	V	38.89	91.79	N/A	N/A
5150.000	36.82	PK	V	38.64	69.44	74.00	4.56
5150.000	19.77	AV	V	38.64	52.39	54.00	1.61
5350.000	32.63	PK	V	39.03	65.64	74.00	8.36
5350.000	17.79	AV	V	39.03	50.80	54.00	3.20
10500.000	32.61	PK	V	18.79	45.38	68.20	22.82
15750.000	38.71	PK	V	22.27	54.96	74.00	19.04
15750.000	26.36	AV	V	22.27	42.61	54.00	11.39

802.11ax hew160(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5250 MHz							
5250.000	63.03	PK	H	38.89	95.90	N/A	N/A
5250.000	51.47	AV	H	38.89	84.34	N/A	N/A
5250.000	71.62	PK	V	38.89	104.49	N/A	N/A
5250.000	59.34	AV	V	38.89	92.21	N/A	N/A
5150.000	37.09	PK	V	38.64	69.71	74.00	4.29
5150.000	20.42	AV	V	38.64	53.04	54.00	0.96
5350.000	31.82	PK	V	39.03	64.83	74.00	9.17
5350.000	18.05	AV	V	39.03	51.06	54.00	2.94
10500.000	33.11	PK	V	18.79	45.88	68.20	22.32
15750.000	37.93	PK	V	22.27	54.18	74.00	19.82
15750.000	25.47	AV	V	22.27	41.72	54.00	12.28

Note:
Result = Reading + Factor- Distance extrapolation Factor
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

5725-5850MHz:
802.11a Chain 0:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745MHz							
5745.000	74.10	PK	H	39.46	107.54	N/A	N/A
5745.000	65.06	AV	H	39.46	98.50	N/A	N/A
5745.000	77.43	PK	V	39.46	110.87	N/A	N/A
5745.000	68.47	AV	V	39.46	101.91	N/A	N/A
5725.000	51.23	PK	V	39.48	84.69	122.20	37.51
5720.000	40.10	PK	V	39.49	73.57	110.80	37.23
5700.000	31.97	PK	V	39.51	65.46	105.20	39.74
5650.000	25.44	PK	V	39.49	58.91	68.20	9.29
11490.000	50.31	PK	V	20.67	64.96	74.00	9.04
11490.000	38.50	AV	V	20.67	53.15	54.00	0.85
17235.000	46.89	PK	V	26.76	67.63	68.20	0.57
Middle Channel: 5785 MHz							
5785.000	72.49	PK	H	39.44	105.91	N/A	N/A
5785.000	63.07	AV	H	39.44	96.49	N/A	N/A
5785.000	75.78	PK	V	39.44	109.20	N/A	N/A
5785.000	66.69	AV	V	39.44	100.11	N/A	N/A
11570.000	49.39	PK	V	20.83	64.20	74.00	9.80
11570.000	37.78	AV	V	20.83	52.59	54.00	1.41
17355.000	46.22	PK	V	27.74	67.94	68.20	0.26
High Channel: 5825 MHz							
5825.000	72.12	PK	H	39.46	105.56	N/A	N/A
5825.000	63.35	AV	H	39.46	96.79	N/A	N/A
5825.000	76.11	PK	V	39.46	109.55	N/A	N/A
5825.000	66.90	AV	V	39.46	100.34	N/A	N/A
5850.000	37.16	PK	V	39.49	70.63	122.20	51.57
5855.000	35.85	PK	V	39.51	69.34	110.80	41.46
5875.000	25.40	PK	V	39.60	58.98	105.20	46.22
5925.000	25.87	PK	V	39.68	59.53	68.20	8.67
11650.000	49.69	PK	V	21.07	64.74	74.00	9.26
11650.000	37.98	AV	V	21.07	53.03	54.00	0.97
17475.000	45.36	PK	V	28.61	67.95	68.20	0.25

802.11a Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745MHz							
5745.000	72.56	PK	H	39.46	106.00	N/A	N/A
5745.000	63.72	AV	H	39.46	97.16	N/A	N/A
5745.000	77.53	PK	V	39.46	110.97	N/A	N/A
5745.000	68.71	AV	V	39.46	102.15	N/A	N/A
5725.000	51.09	PK	V	39.48	84.55	122.20	37.65
5720.000	41.75	PK	V	39.49	75.22	110.80	35.58
5700.000	29.45	PK	V	39.51	62.94	105.20	42.26
5650.000	26.78	PK	V	39.49	60.25	68.20	7.95
11490.000	49.25	PK	V	20.67	63.90	74.00	10.10
11490.000	36.96	AV	V	20.67	51.61	54.00	2.39
17235.000	45.08	PK	V	26.76	65.82	68.20	2.38
Middle Channel: 5785 MHz							
5785.000	71.97	PK	H	39.44	105.39	N/A	N/A
5785.000	62.98	AV	H	39.44	96.40	N/A	N/A
5785.000	76.44	PK	V	39.44	109.86	N/A	N/A
5785.000	67.40	AV	V	39.44	100.82	N/A	N/A
11570.000	49.98	PK	V	20.83	64.79	74.00	9.21
11570.000	38.11	AV	V	20.83	52.92	54.00	1.08
17355.000	44.94	PK	V	27.74	66.66	68.20	1.54
High Channel: 5825 MHz							
5825.000	71.35	PK	H	39.46	104.79	N/A	N/A
5825.000	62.44	AV	H	39.46	95.88	N/A	N/A
5825.000	75.64	PK	V	39.46	109.08	N/A	N/A
5825.000	67.24	AV	V	39.46	100.68	N/A	N/A
5850.000	37.40	PK	V	39.49	70.87	122.20	51.33
5855.000	33.09	PK	V	39.51	66.58	110.80	44.22
5875.000	25.45	PK	V	39.60	59.03	105.20	46.17
5925.000	25.90	PK	V	39.68	59.56	68.20	8.64
11650.000	48.96	PK	V	21.07	64.01	74.00	9.99
11650.000	36.76	AV	V	21.07	51.81	54.00	2.19
17475.000	45.07	PK	V	28.61	67.66	68.20	0.54

802.11n ht20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745MHz							
5745.000	74.30	PK	H	39.46	107.74	N/A	N/A
5745.000	64.12	AV	H	39.46	97.56	N/A	N/A
5745.000	79.04	PK	V	39.46	112.48	N/A	N/A
5745.000	68.00	AV	V	39.46	101.44	N/A	N/A
5725.000	44.59	PK	V	39.48	78.05	122.20	44.15
5720.000	36.61	PK	V	39.49	70.08	110.80	40.72
5700.000	26.56	PK	V	39.51	60.05	105.20	45.15
5650.000	25.18	PK	V	39.49	58.65	68.20	9.55
11490.000	51.78	PK	V	20.67	66.43	74.00	7.57
11490.000	39.14	AV	V	20.67	53.79	54.00	0.21
17235.000	42.66	PK	V	26.76	63.40	68.20	4.80
Middle Channel: 5785 MHz							
5785.000	73.40	PK	H	39.44	106.82	N/A	N/A
5785.000	62.60	AV	H	39.44	96.02	N/A	N/A
5785.000	78.14	PK	V	39.44	111.56	N/A	N/A
5785.000	67.89	AV	V	39.44	101.31	N/A	N/A
11570.000	51.36	PK	V	20.83	66.17	74.00	7.83
11570.000	38.36	AV	V	20.83	53.17	54.00	0.83
17355.000	38.16	PK	V	27.74	59.88	68.20	8.32
High Channel: 5825 MHz							
5825.000	72.45	PK	H	39.46	105.89	N/A	N/A
5825.000	62.25	AV	H	39.46	95.69	N/A	N/A
5825.000	78.15	PK	V	39.46	111.59	N/A	N/A
5825.000	68.54	AV	V	39.46	101.98	N/A	N/A
5850.000	34.28	PK	V	39.49	67.75	122.20	54.45
5855.000	31.32	PK	V	39.51	64.81	110.80	45.99
5875.000	25.87	PK	V	39.60	59.45	105.20	45.75
5925.000	25.50	PK	V	39.68	59.16	68.20	9.04
11650.000	50.31	PK	V	21.07	65.36	74.00	8.64
11650.000	38.07	AV	V	21.07	53.12	54.00	0.88
17475.000	42.67	PK	V	28.61	65.26	68.20	2.94

802.11ac vht20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector					
Low Channel: 5745MHz							
5745.000	72.54	PK	H	39.46	105.98	N/A	N/A
5745.000	62.53	AV	H	39.46	95.97	N/A	N/A
5745.000	77.66	PK	V	39.46	111.10	N/A	N/A
5745.000	68.09	AV	V	39.46	101.53	N/A	N/A
5725.000	38.63	PK	V	39.48	72.09	122.20	50.11
5720.000	34.04	PK	V	39.49	67.51	110.80	43.29
5700.000	30.01	PK	V	39.51	63.50	105.20	41.70
5650.000	28.44	PK	V	39.49	61.91	68.20	6.29
11490.000	47.10	PK	V	20.67	61.75	74.00	12.25
11490.000	38.38	AV	V	20.67	53.03	54.00	0.97
17235.000	39.55	PK	V	26.76	60.29	68.20	7.91
Middle Channel: 5785 MHz							
5785.000	71.13	PK	H	39.44	104.55	N/A	N/A
5785.000	61.84	AV	H	39.44	95.26	N/A	N/A
5785.000	75.86	PK	V	39.44	109.28	N/A	N/A
5785.000	66.58	AV	V	39.44	100.00	N/A	N/A
11570.000	46.73	PK	V	20.83	61.54	74.00	12.46
11570.000	38.12	AV	V	20.83	52.93	54.00	1.07
17355.000	40.62	PK	V	27.74	62.34	68.20	5.86
High Channel: 5825 MHz							
5825.000	71.52	PK	H	39.46	104.96	N/A	N/A
5825.000	61.70	AV	H	39.46	95.14	N/A	N/A
5825.000	75.57	PK	V	39.46	109.01	N/A	N/A
5825.000	66.69	AV	V	39.46	100.13	N/A	N/A
5850.000	38.35	PK	V	39.49	71.82	122.20	50.38
5855.000	36.89	PK	V	39.51	70.38	110.80	40.42
5875.000	32.37	PK	V	39.60	65.95	105.20	39.25
5925.000	28.45	PK	V	39.68	62.11	68.20	6.09
11650.000	46.37	PK	V	21.07	61.42	74.00	12.58
11650.000	37.85	AV	V	21.07	52.90	54.00	1.10
17475.000	41.06	PK	V	28.61	63.65	68.20	4.55

802.11ax hew20(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745MHz							
5745.000	70.60	PK	H	39.46	104.04	N/A	N/A
5745.000	61.64	AV	H	39.46	95.08	N/A	N/A
5745.000	75.53	PK	V	39.46	108.97	N/A	N/A
5745.000	66.89	AV	V	39.46	100.33	N/A	N/A
5725.000	38.37	PK	V	39.48	71.83	122.20	50.37
5720.000	37.52	PK	V	39.49	70.99	110.80	39.81
5700.000	34.30	PK	V	39.51	67.79	105.20	37.41
5650.000	28.88	PK	V	39.49	62.35	68.20	5.85
11490.000	47.44	PK	V	20.67	62.09	74.00	11.91
11490.000	39.10	AV	V	20.67	53.75	54.00	0.25
17235.000	39.38	PK	V	26.76	60.12	68.20	8.08
Middle Channel: 5785 MHz							
5785.000	71.26	PK	H	39.44	104.68	N/A	N/A
5785.000	62.09	AV	H	39.44	95.51	N/A	N/A
5785.000	76.03	PK	V	39.44	109.45	N/A	N/A
5785.000	66.82	AV	V	39.44	100.24	N/A	N/A
11570.000	47.92	PK	V	20.83	62.73	74.00	11.27
11570.000	38.67	AV	V	20.83	53.48	54.00	0.52
17355.000	38.91	PK	V	27.74	60.63	68.20	7.57
High Channel: 5825 MHz							
5825.000	69.68	PK	H	39.46	103.12	N/A	N/A
5825.000	60.91	AV	H	39.46	94.35	N/A	N/A
5825.000	75.44	PK	V	39.46	108.88	N/A	N/A
5825.000	67.08	AV	V	39.46	100.52	N/A	N/A
5850.000	37.82	PK	V	39.49	71.29	122.20	50.91
5855.000	35.62	PK	V	39.51	69.11	110.80	41.69
5875.000	33.13	PK	V	39.60	66.71	105.20	38.49
5925.000	26.07	PK	V	39.68	59.73	68.20	8.47
11650.000	48.59	PK	V	21.07	63.64	74.00	10.36
11650.000	38.34	AV	V	21.07	53.39	54.00	0.61
17475.000	41.77	PK	V	28.61	64.36	68.20	3.84

802.11n ht40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5755 MHz							
5755.000	71.78	PK	H	39.45	105.21	N/A	N/A
5755.000	61.86	AV	H	39.45	95.29	N/A	N/A
5755.000	77.28	PK	V	39.45	110.71	N/A	N/A
5755.000	66.66	AV	V	39.45	100.09	N/A	N/A
5725.000	49.44	PK	V	39.48	82.90	122.20	39.30
5720.000	47.60	PK	V	39.49	81.07	110.80	29.73
5700.000	32.63	PK	V	39.51	66.12	105.20	39.08
5650.000	29.58	PK	V	39.49	63.05	68.20	5.15
11510.000	49.33	PK	V	20.67	63.98	74.00	10.02
11510.000	37.52	AV	V	20.67	52.17	54.00	1.83
17265.000	41.60	PK	V	26.94	62.52	68.20	5.68
High Channel: 5795 MHz							
5795.000	72.06	PK	H	39.43	105.47	N/A	N/A
5795.000	62.03	AV	H	39.43	95.44	N/A	N/A
5795.000	77.45	PK	V	39.43	110.86	N/A	N/A
5795.000	66.80	AV	V	39.43	100.21	N/A	N/A
5850.000	39.46	PK	V	39.49	72.93	122.20	49.27
5855.000	37.47	PK	V	39.51	70.96	110.80	39.84
5875.000	33.32	PK	V	39.60	66.90	105.20	38.30
5925.000	29.44	PK	V	39.68	63.10	68.20	5.10
11590.000	51.56	PK	V	20.88	66.42	74.00	7.58
11590.000	38.81	AV	V	20.88	53.67	54.00	0.33
17385.000	43.60	PK	V	28.07	65.65	68.20	2.55

802.11ac vht40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5755 MHz							
5755.000	70.48	PK	H	39.45	103.91	N/A	N/A
5755.000	61.86	AV	H	39.45	95.29	N/A	N/A
5755.000	74.34	PK	V	39.45	107.77	N/A	N/A
5755.000	64.48	AV	V	39.45	97.91	N/A	N/A
5725.000	34.44	PK	V	39.48	67.90	122.20	54.30
5720.000	33.59	PK	V	39.49	67.06	110.80	43.74
5700.000	33.11	PK	V	39.51	66.60	105.20	38.60
5650.000	29.45	PK	V	39.49	62.92	68.20	5.28
11510.000	46.51	PK	V	20.67	61.16	74.00	12.84
11510.000	38.51	AV	V	20.67	53.16	54.00	0.84
17265.000	40.71	PK	V	26.94	61.63	68.20	6.57
High Channel: 5795 MHz							
5795.000	70.19	PK	H	39.43	103.60	N/A	N/A
5795.000	62.24	AV	H	39.43	95.65	N/A	N/A
5795.000	74.02	PK	V	39.43	107.43	N/A	N/A
5795.000	64.16	AV	V	39.43	97.57	N/A	N/A
5850.000	37.11	PK	V	39.49	70.58	122.20	51.62
5855.000	35.41	PK	V	39.51	68.90	110.80	41.90
5875.000	34.05	PK	V	39.60	67.63	105.20	37.57
5925.000	30.32	PK	V	39.68	63.98	68.20	4.22
11590.000	46.28	PK	V	20.88	61.14	74.00	12.86
11590.000	38.84	AV	V	20.88	53.70	54.00	0.30
17385.000	40.01	PK	V	28.07	62.06	68.20	6.14

802.11ax hew40(2TX Non-beamforming mode was the worst):

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5755 MHz							
5755.000	67.38	PK	H	39.45	100.81	N/A	N/A
5755.000	58.60	AV	H	39.45	92.03	N/A	N/A
5755.000	73.31	PK	V	39.45	106.74	N/A	N/A
5755.000	64.94	AV	V	39.45	98.37	N/A	N/A
5725.000	39.36	PK	V	39.48	72.82	122.20	49.38
5720.000	38.46	PK	V	39.49	71.93	110.80	38.87
5700.000	35.65	PK	V	39.51	69.14	105.20	36.06
5650.000	31.11	PK	V	39.49	64.58	68.20	3.62
11510.000	44.94	PK	V	20.67	59.59	74.00	14.41
11510.000	38.25	AV	V	20.67	52.90	54.00	1.10
17265.000	39.55	PK	V	26.94	60.47	68.20	7.73
High Channel: 5795 MHz							
5795.000	67.34	PK	H	39.43	100.75	N/A	N/A
5795.000	57.92	AV	H	39.43	91.33	N/A	N/A
5795.000	73.32	PK	V	39.43	106.73	N/A	N/A
5795.000	62.87	AV	V	39.43	96.28	N/A	N/A
5850.000	39.45	PK	V	39.49	72.92	122.20	49.28
5855.000	38.33	PK	V	39.51	71.82	110.80	38.98
5875.000	35.12	PK	V	39.60	68.70	105.20	36.50
5925.000	30.03	PK	V	39.68	63.69	68.20	4.51
11590.000	46.04	PK	V	20.88	60.90	74.00	13.10
11590.000	38.91	AV	V	20.88	53.77	54.00	0.23
17385.000	40.51	PK	V	28.07	62.56	68.20	5.64

802.11ac vht80(2TX Non-beamforming mode was the worst):

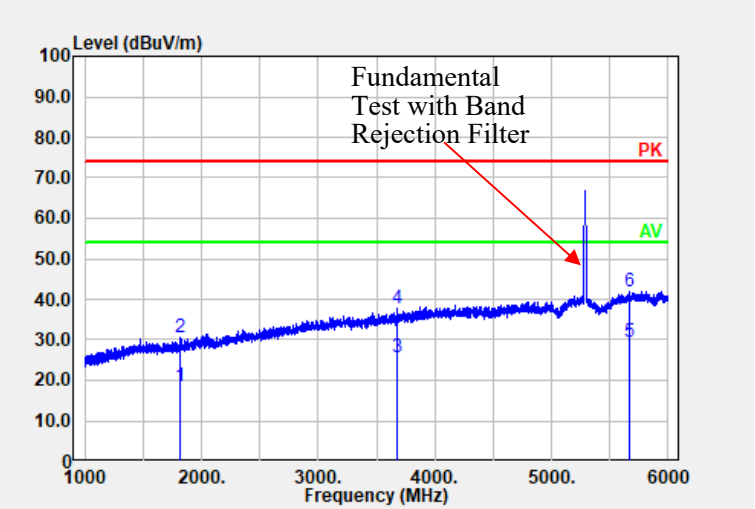
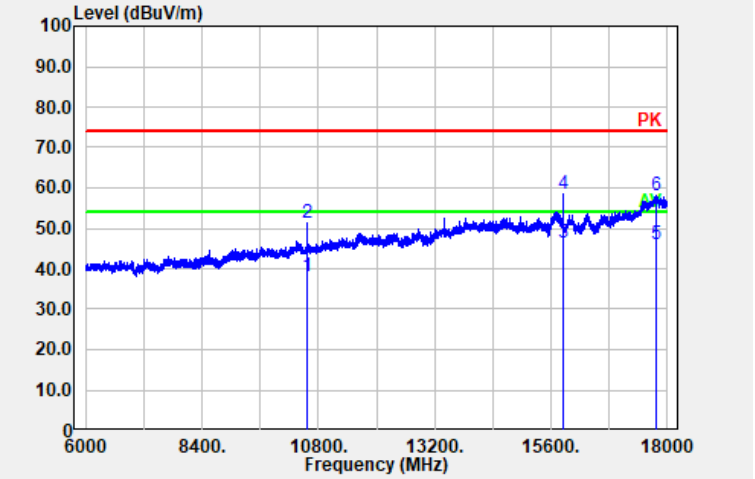
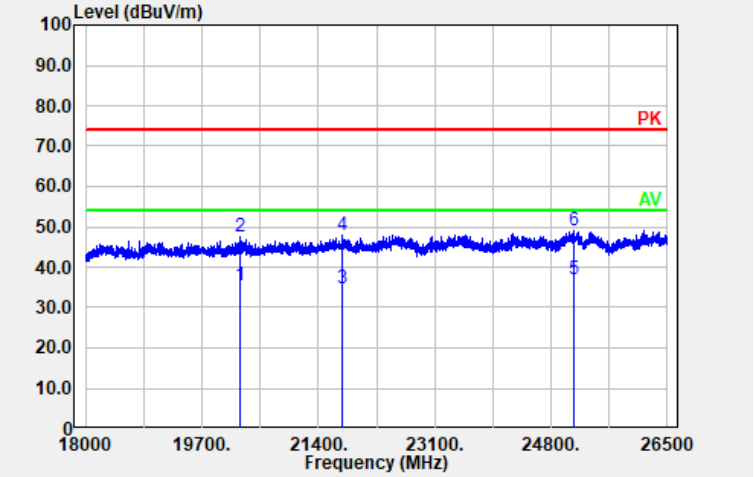
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5775 MHz							
5775.000	70.65	PK	H	39.44	104.07	N/A	N/A
5775.000	61.79	AV	H	39.44	95.21	N/A	N/A
5775.000	74.77	PK	V	39.44	108.19	N/A	N/A
5775.000	65.65	AV	V	39.44	99.07	N/A	N/A
5725.000	44.27	PK	V	39.48	77.73	122.20	44.47
5720.000	44.64	PK	V	39.49	78.11	110.80	32.69
5700.000	40.72	PK	V	39.51	74.21	105.20	30.99
5650.000	29.24	PK	V	39.49	62.71	68.20	5.49
5850.000	41.44	PK	V	39.49	74.91	122.20	47.29
5855.000	37.96	PK	V	39.51	71.45	110.80	39.35
5875.000	34.13	PK	V	39.60	67.71	105.20	37.49
5925.000	26.42	PK	V	39.68	60.08	68.20	8.12
11550.000	45.85	PK	V	20.78	60.61	74.00	13.39
11550.000	38.12	AV	V	20.78	52.88	54.00	1.12
17325.000	41.56	PK	V	27.41	62.95	68.20	5.25

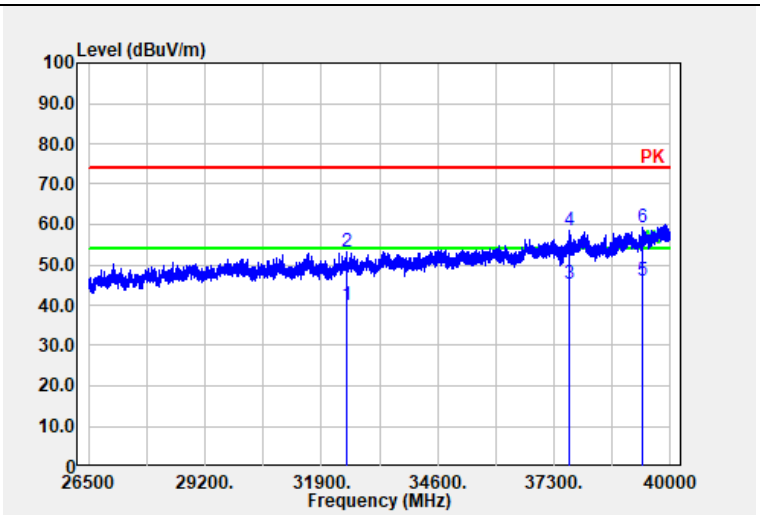
802.11ax hew80(2TX Non-beamforming mode was the worst):

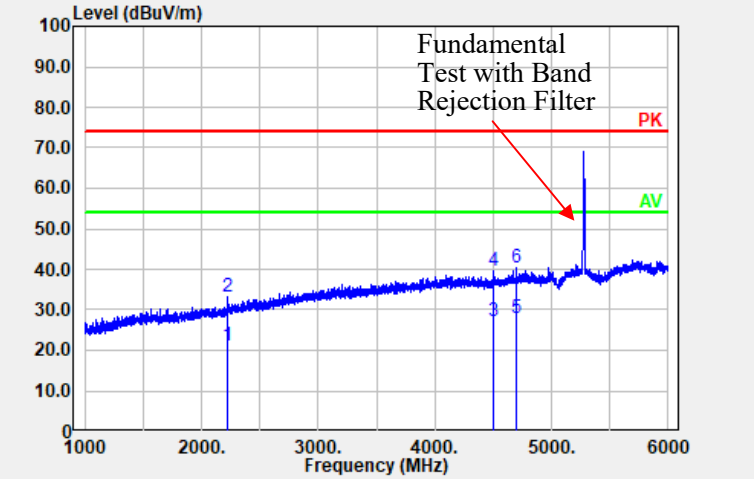
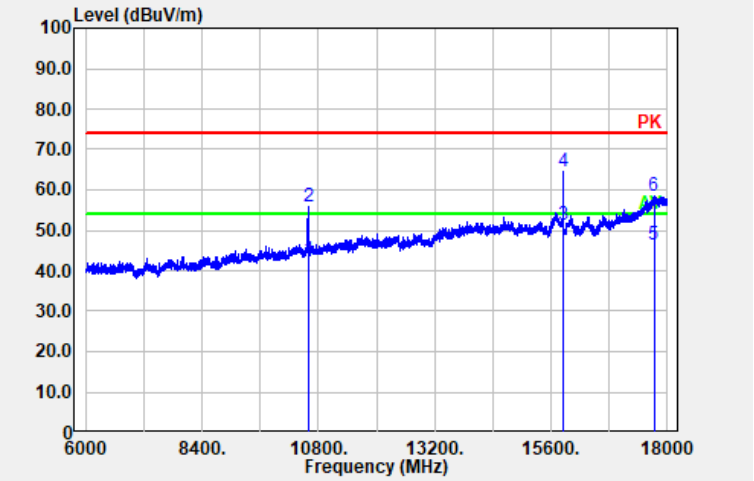
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel: 5775 MHz							
5775.000	64.98	PK	H	39.44	98.40	N/A	N/A
5775.000	56.32	AV	H	39.44	89.74	N/A	N/A
5775.000	69.56	PK	V	39.44	102.98	N/A	N/A
5775.000	61.42	AV	V	39.44	94.84	N/A	N/A
5725.000	41.44	PK	V	39.48	74.90	122.20	47.30
5720.000	40.32	PK	V	39.49	73.79	110.80	37.01
5700.000	38.12	PK	V	39.51	71.61	105.20	33.59
5650.000	29.77	PK	V	39.49	63.24	68.20	4.96
5850.000	42.08	PK	V	39.49	75.55	122.20	46.65
5855.000	39.45	PK	V	39.51	72.94	110.80	37.86
5875.000	36.12	PK	V	39.60	69.70	105.20	35.50
5925.000	30.05	PK	V	39.68	63.71	68.20	4.49
11550.000	44.38	PK	V	20.78	59.14	74.00	14.86
11550.000	37.33	AV	V	20.78	52.09	54.00	1.91
17325.000	41.61	PK	V	27.41	63.00	68.20	5.20

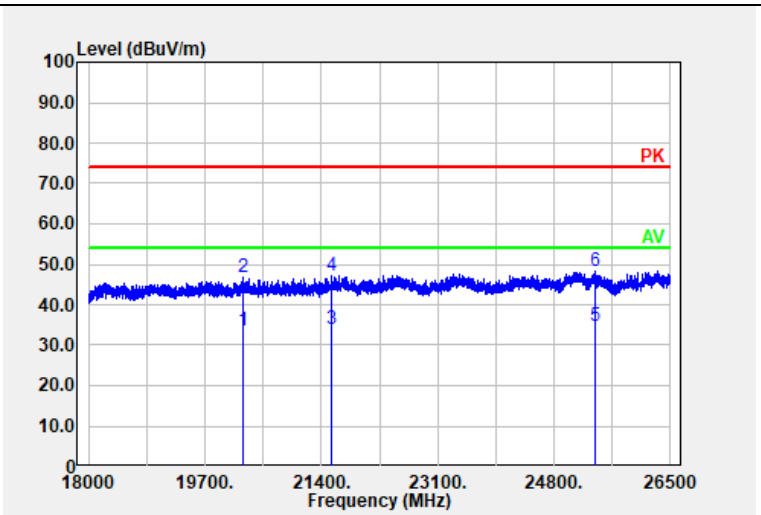
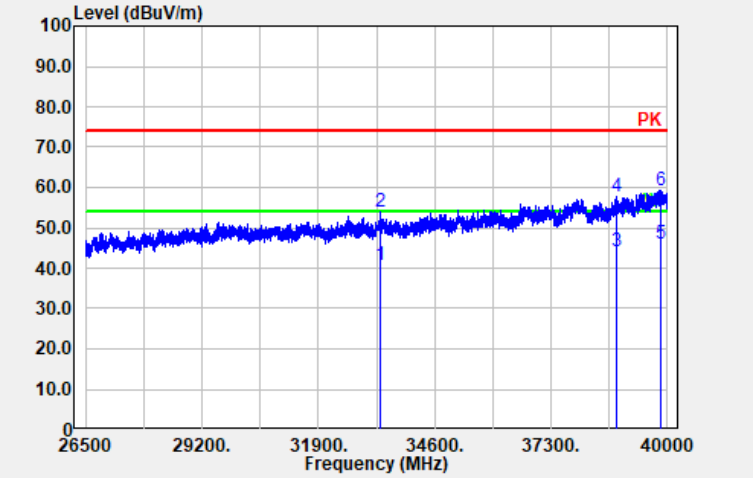
Note:
Result = Reading + Factor- Distance extrapolation Factor
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

Worst Test plots(802.11ac vht20 2TX Non-beamforming mode was the worst)

Horizontal	
1-6GHz	
6-18GHz	
18-26.5GHz	

26.5-40GHz	

Vertical	
1-6GHz	
6-18GHz	

18-26.5GHz	
26.5-40GHz	

4.3 Emission Bandwidth:

Serial Number:	232M	Test Date:	2023/4/17~2023/4/26
Test Site:	RF	Test Mode:	Transmitting
Tester:	Julie Tan	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	22.8~30.3	Relative Humidity: (%)	41~52	ATM Pressure: (kPa)	99.8~100.9

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200445	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180	22.379	17.308
	5200	38.016	18.205
	5240	38.122	18.718
802.11n ht20	5180	22.116	18.333
	5200	27.038	18.205
	5240	22.548	18..205
802.11n ht40	5190	41.766	36.923
	5230	48.567	37.051
802.11ac vht20	5180	22.201	18.077
	5200	21.554	18.077
	5240	21.715	18.077
802.11ac vht40	5190	41.935	37.051
	5230	41.83	37.051
802.11ac vht80	5210	82.263	75.897
802.11ax hew20	5180	21.314	19.038
	5200	21.286	19.038
	5240	21.394	19.038
802.11ax hew40	5190	41.481	37.821
	5230	55.808	38.077
802.11ax hew80	5210	83.474	76.923
Note: Test only was performed at Chain 0.			

5250-5350 MHz:

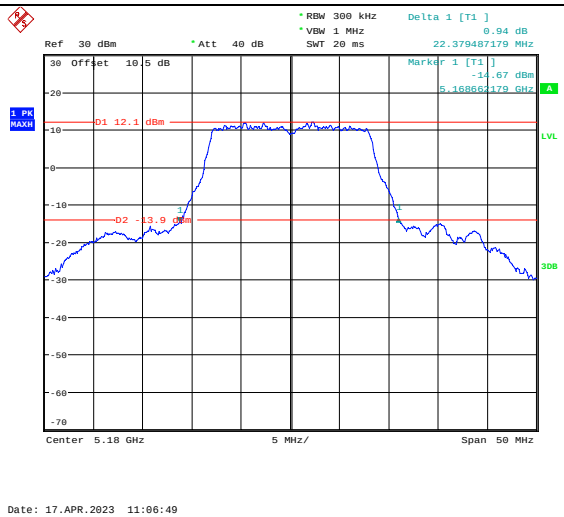
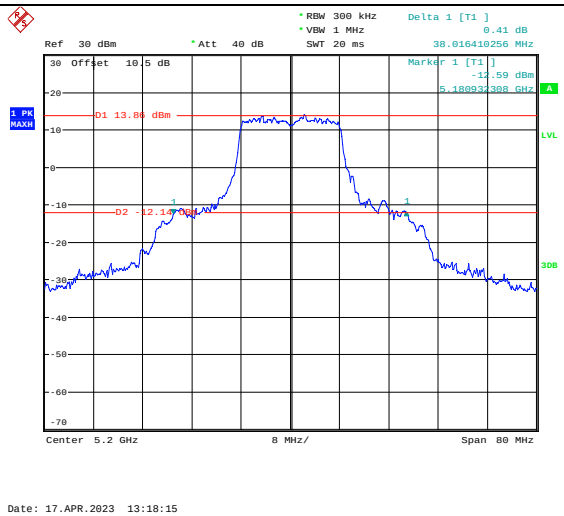
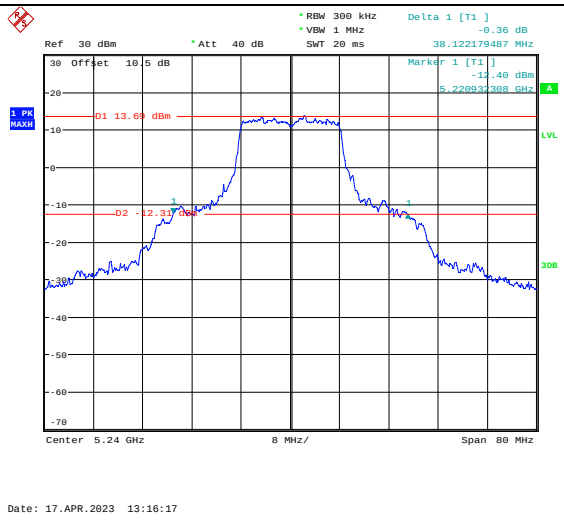
Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5260	21.786	17.179
	5280	21.786	17.244
	5320	21.786	17.179
802.11n ht20	5260	22.071	18.077
	5280	21.929	18.077
	5320	21.929	18.077
802.11n ht40	5270	41.657	36.923
	5310	41.643	36.795
802.11ac vht20	5260	21.857	18.077
	5280	21.786	18.077
	5320	21.929	18.077
802.11ac vht40	5270	41.787	37.051
	5310	41.901	37.051
802.11ac vht80	5290	81.987	75.897
802.11ax hew20	5260	21.357	19.038
	5280	21.429	19.038
	5320	21.357	19.038
802.11ax hew40	5270	41.481	37.945
	5310	41.663	37.821
802.11ax hew80	5290	82.829	76.923
802.11ac vht160	5250	168	155.2
802.11ax hew160	5250	168.872	157.6
Note: Test only was performed at Chain 0.			

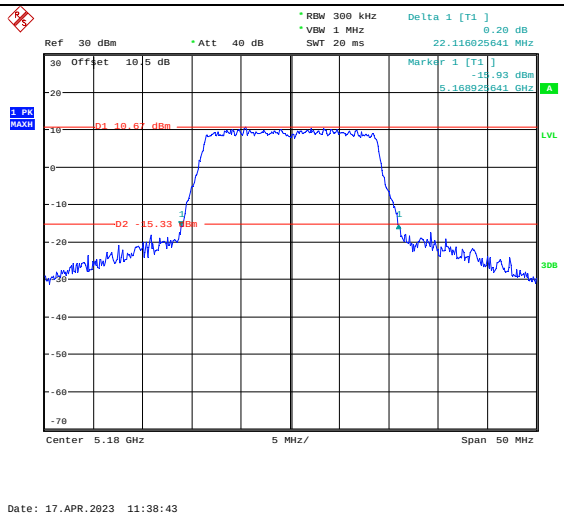
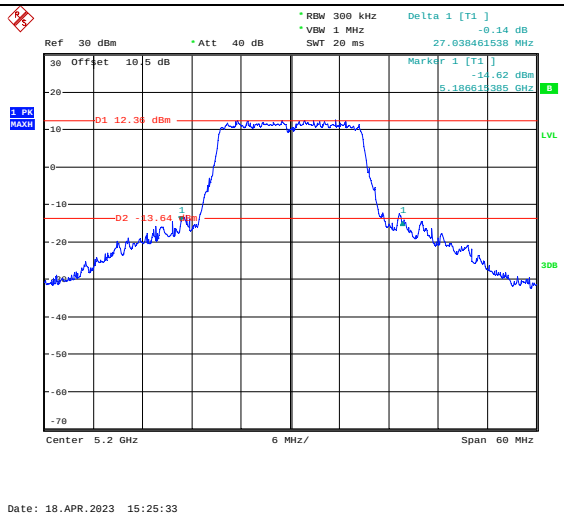
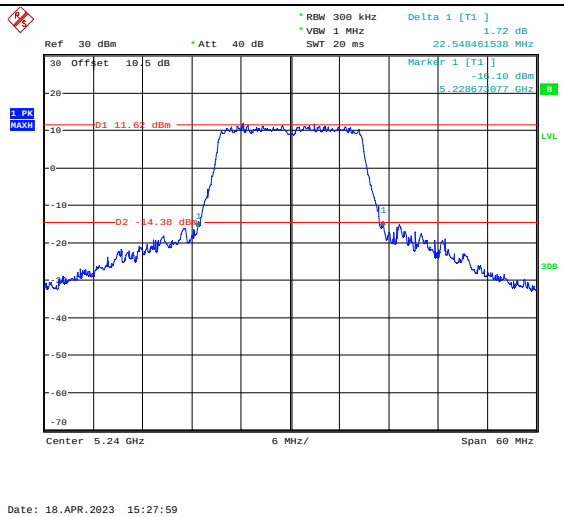
5725-5850 MHz:

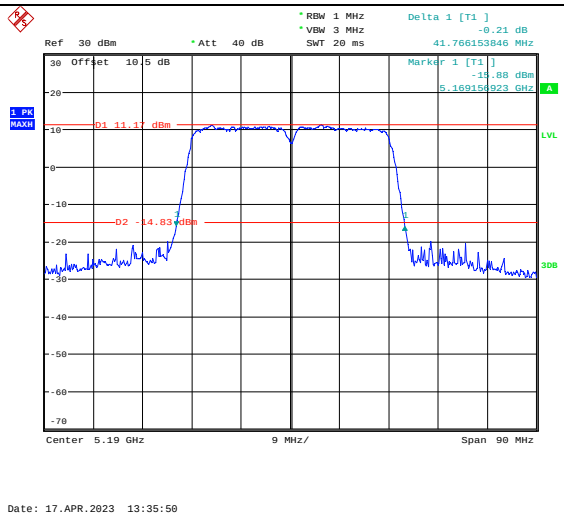
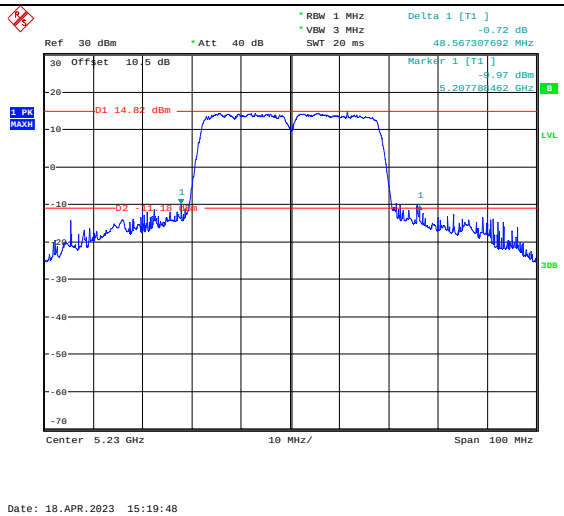
Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5745	16.474	17.543
	5785	16.577	17.257
	5825	16.474	17.257
802.11n ht20	5745	17.692	18.171
	5785	17.692	18.114
	5825	17.692	18.114
802.11n ht40	5755	36.604	37.143
	5795	36.604	37.029
802.11ac vht20	5745	17.718	18.057
	5785	17.756	18.057
	5825	17.756	18.057
802.11ac vht40	5755	36.667	37.029
	5795	36.732	36.914
802.11ac vht80	5775	76.103	75.886
802.11ax hew20	5745	19.192	18.971
	5785	19.202	18.971
	5825	19.103	18.971
802.11ax hew40	5755	37.949	37.943
	5795	38	37.943
802.11ax hew80	5775	76.615	76.8

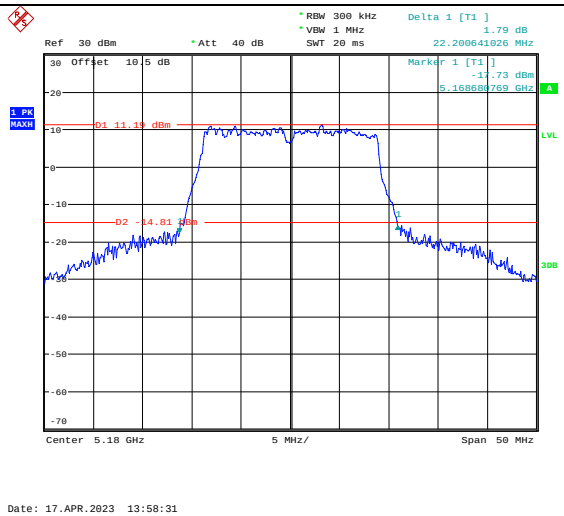
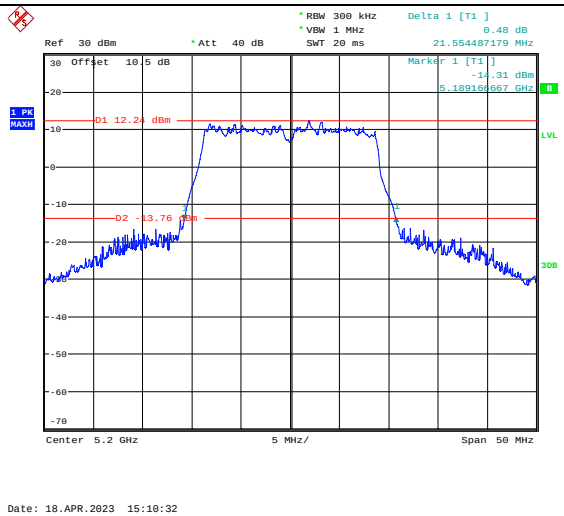
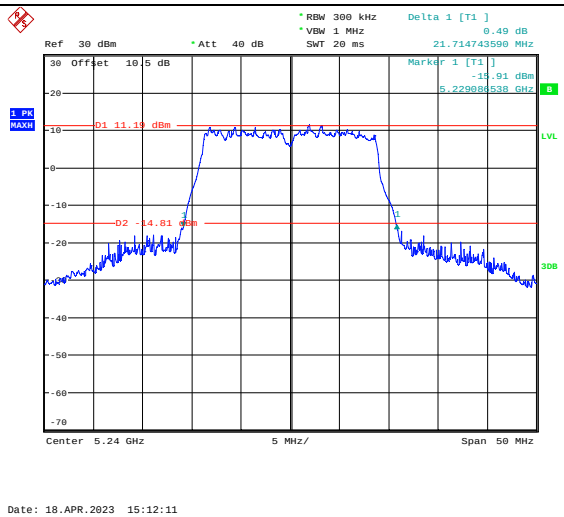
Note:
6dB Emission Bandwidth Limit: ⩾0.5 MHz
Test only was performed at Chain 0.

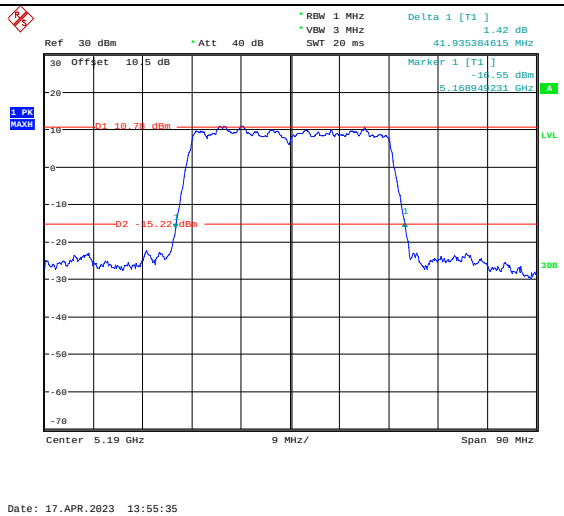
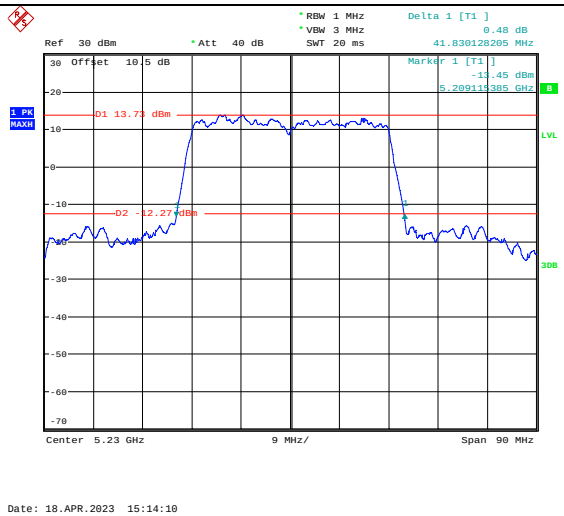
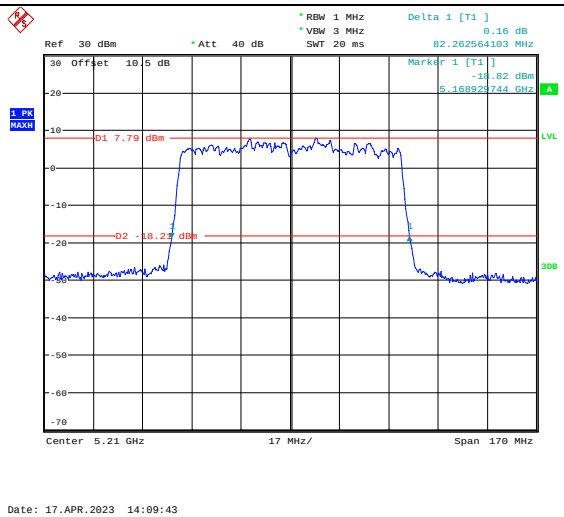
5150-5250MHz:

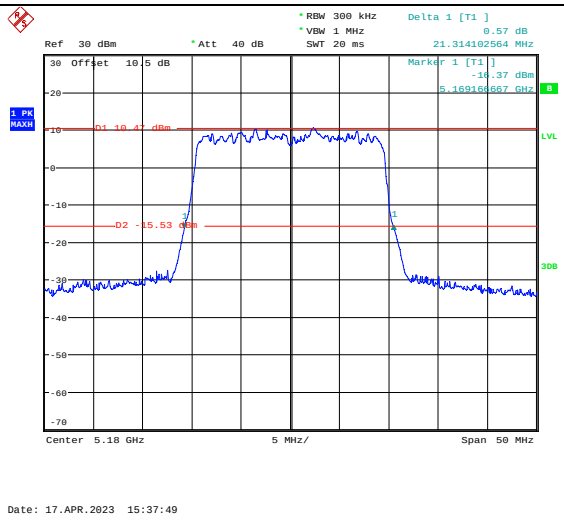
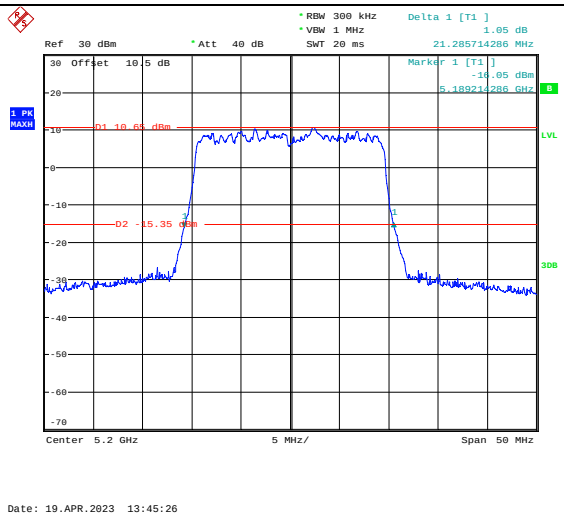
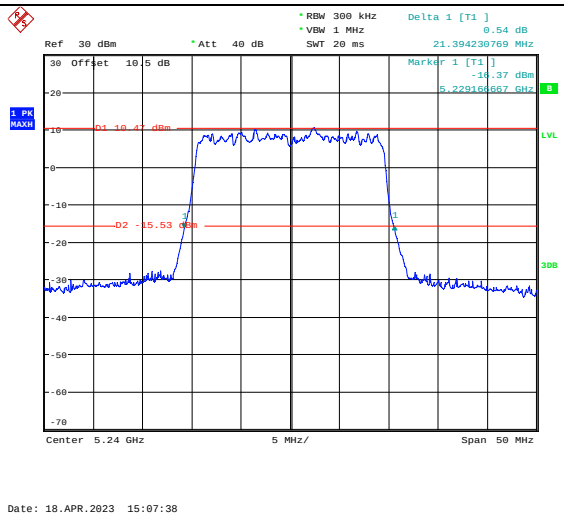
26dB Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

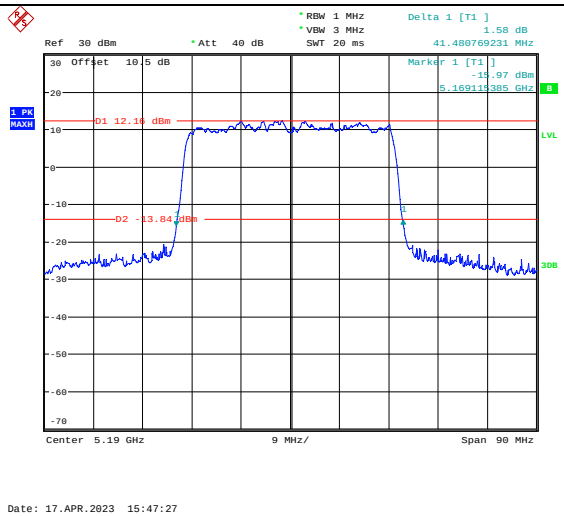
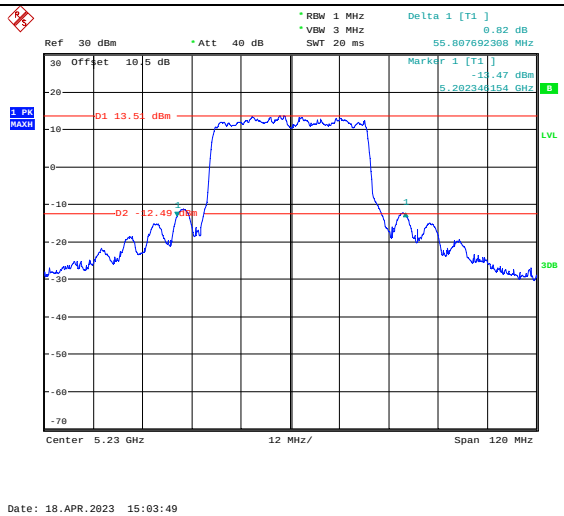
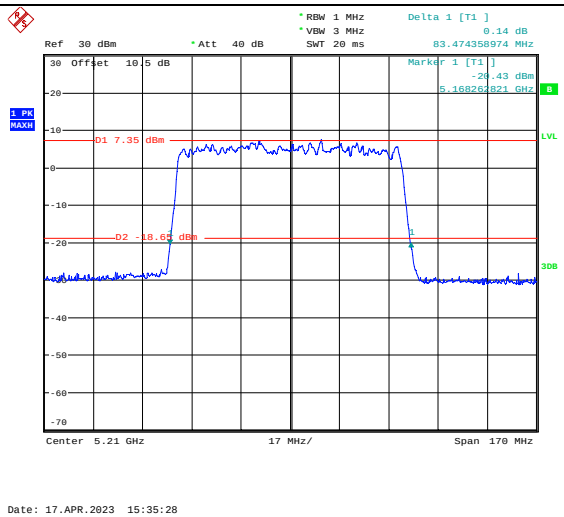
26dB Emission Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

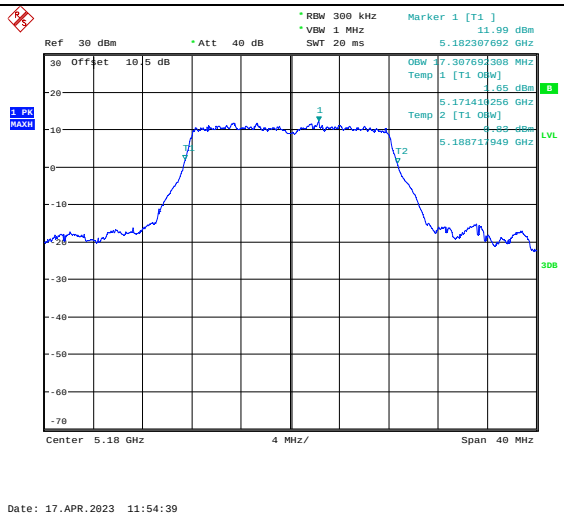
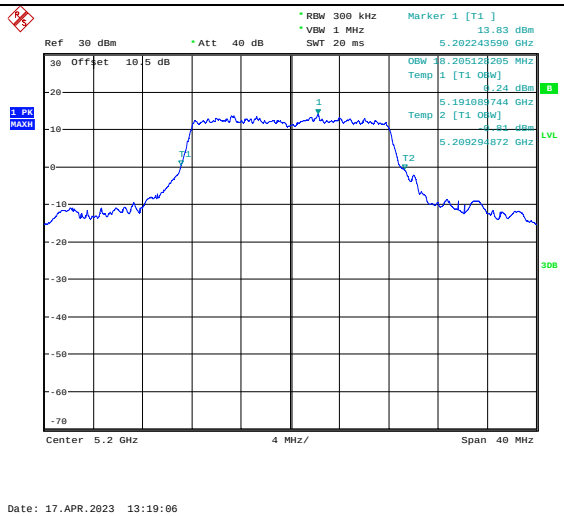
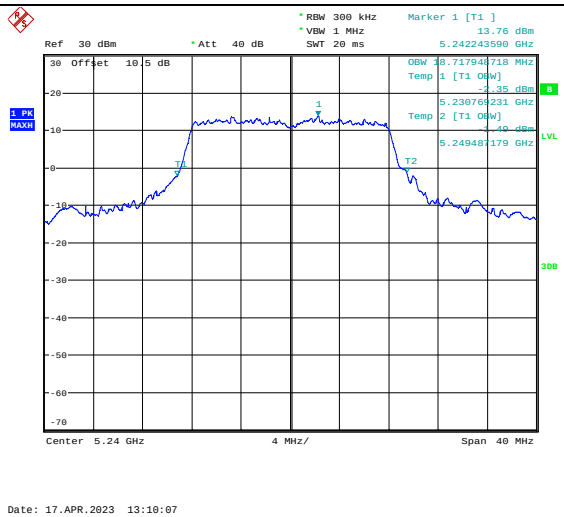
26dB Emission Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

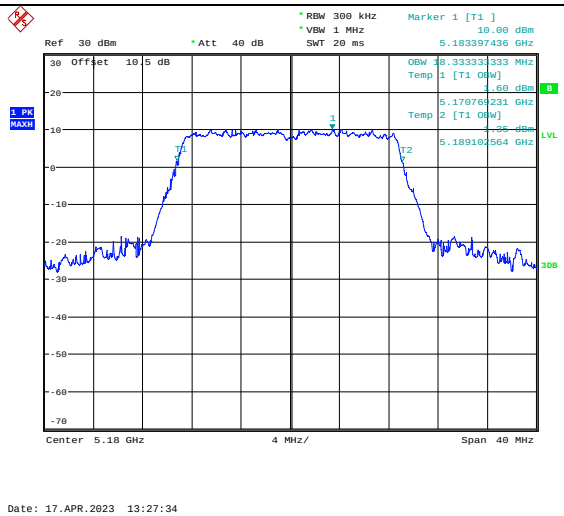
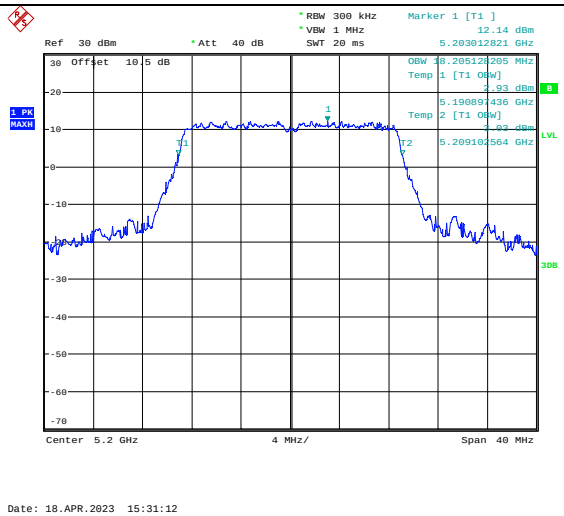
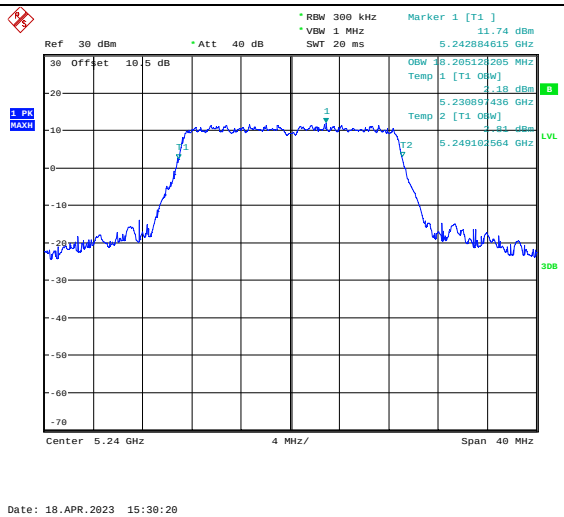
26dB Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

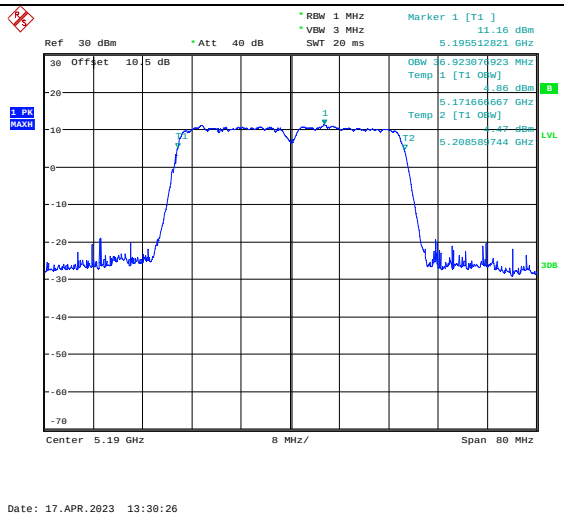
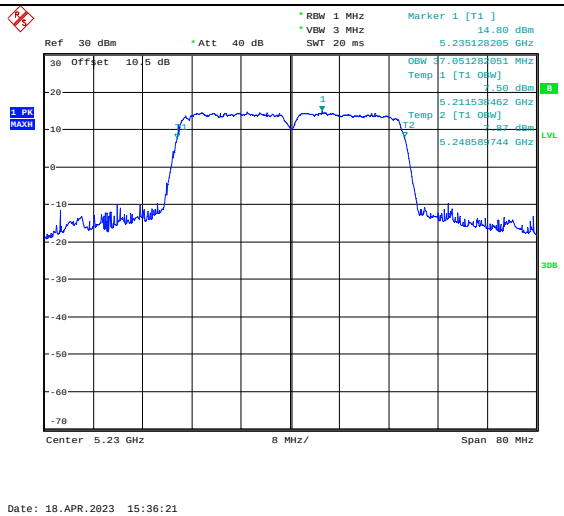
26dB Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

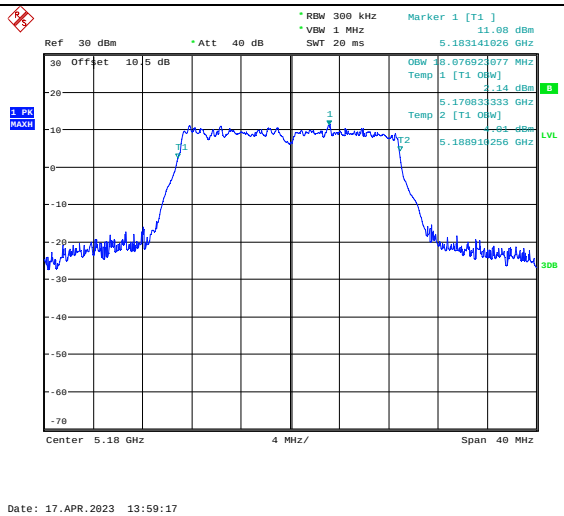
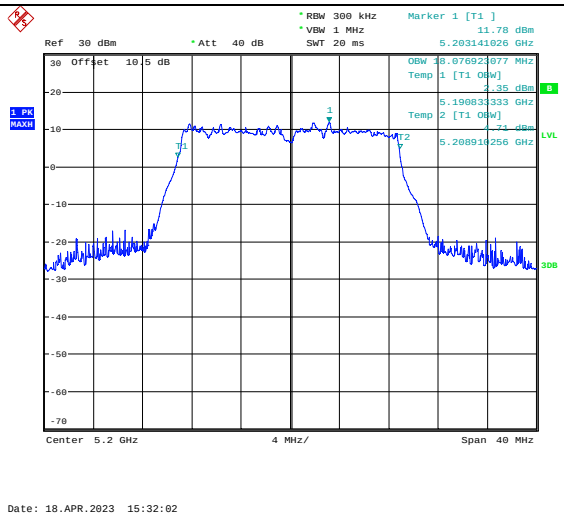
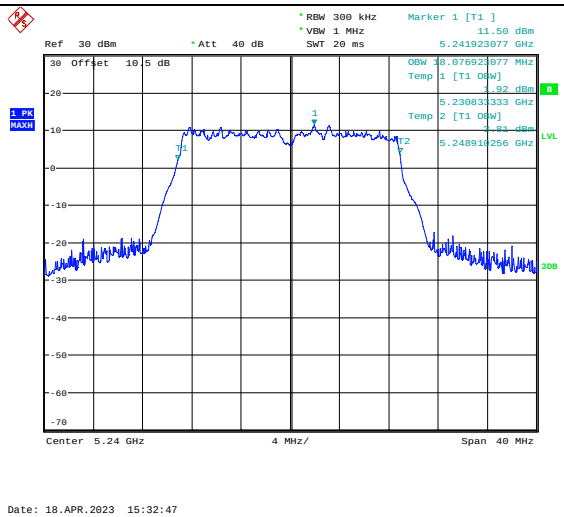
26dB Emission Bandwidth	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

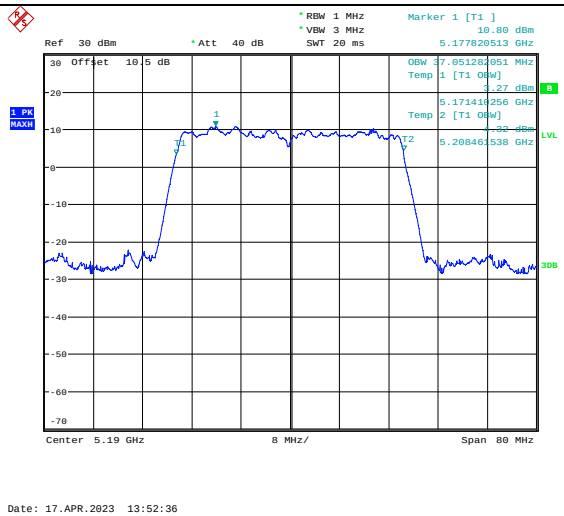
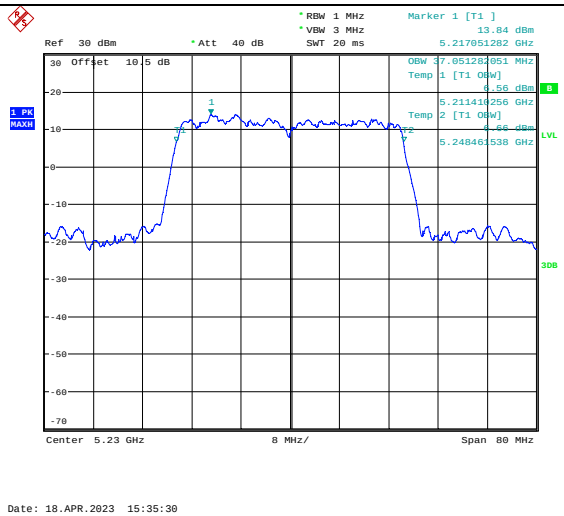
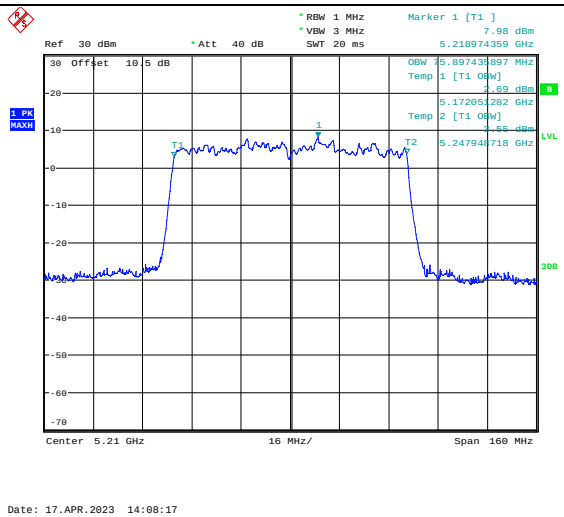
26dB Emission Bandwidth	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

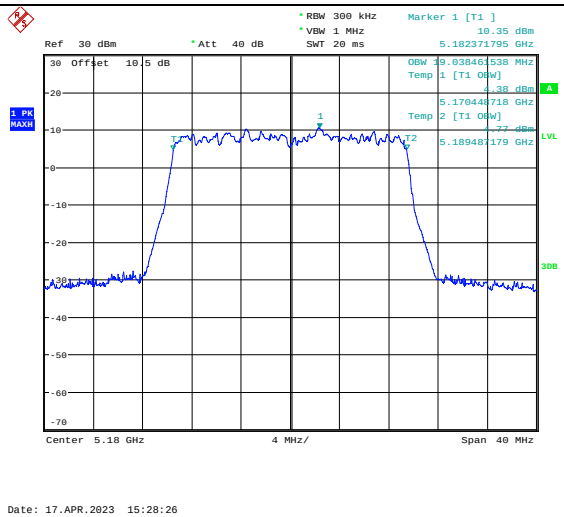
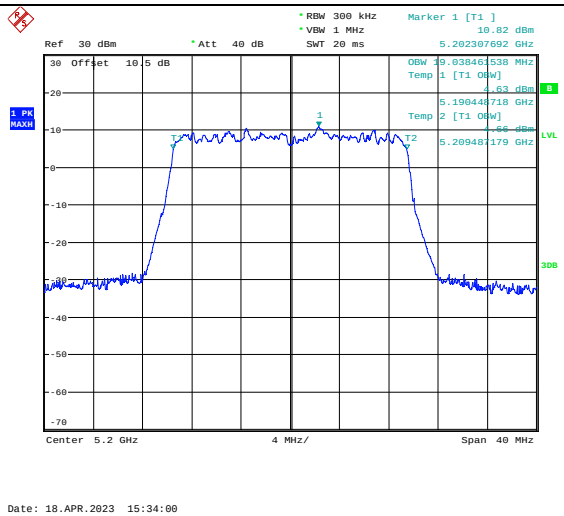
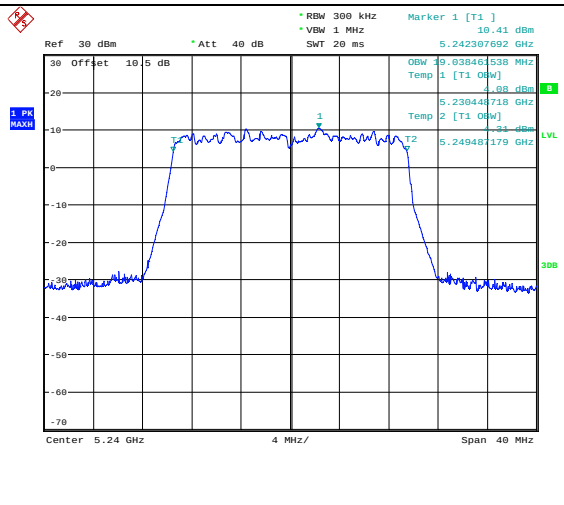
99% Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

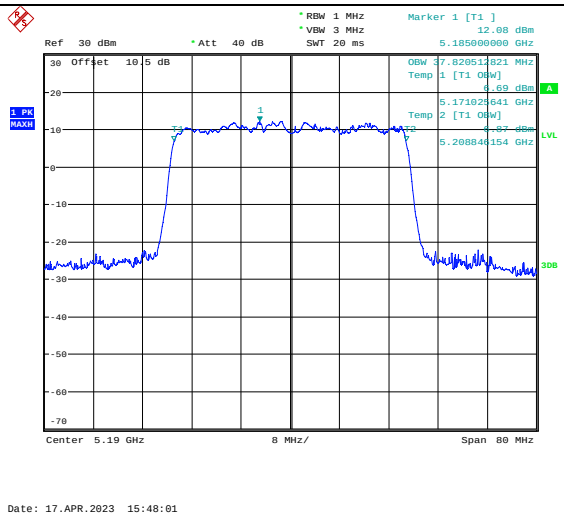
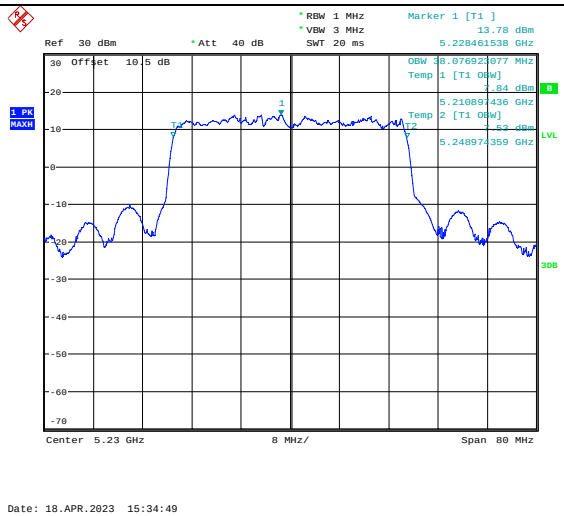
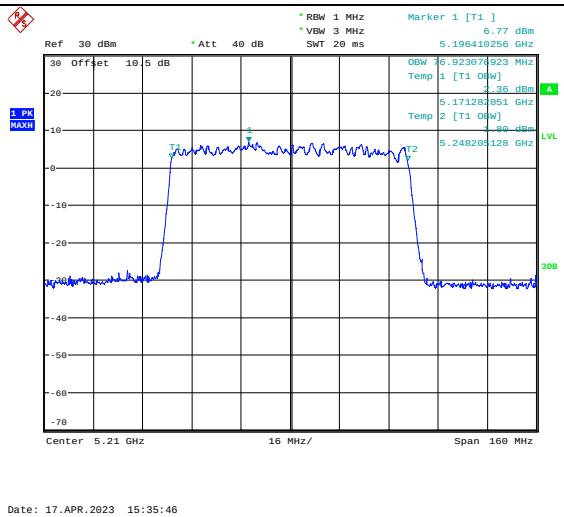
99% Emission Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

99% Emission Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

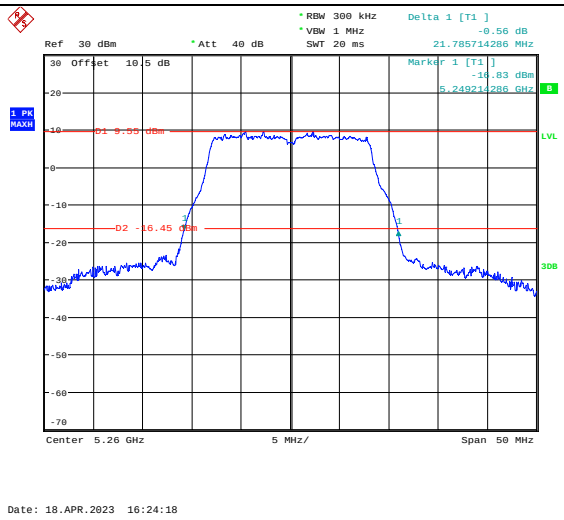
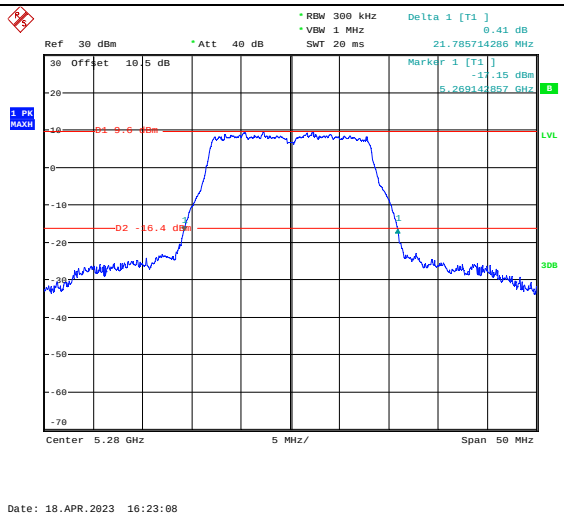
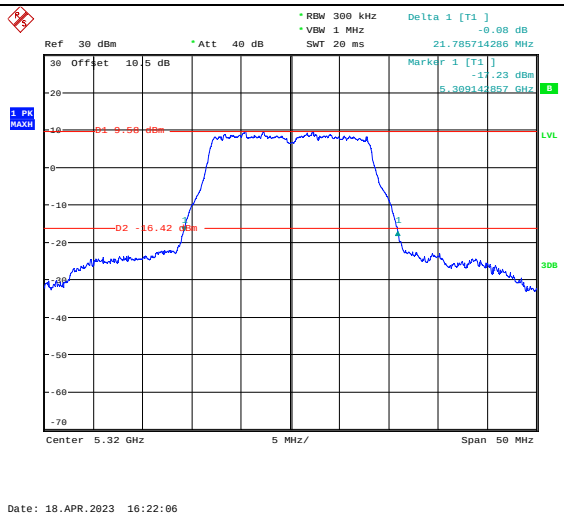
99% Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

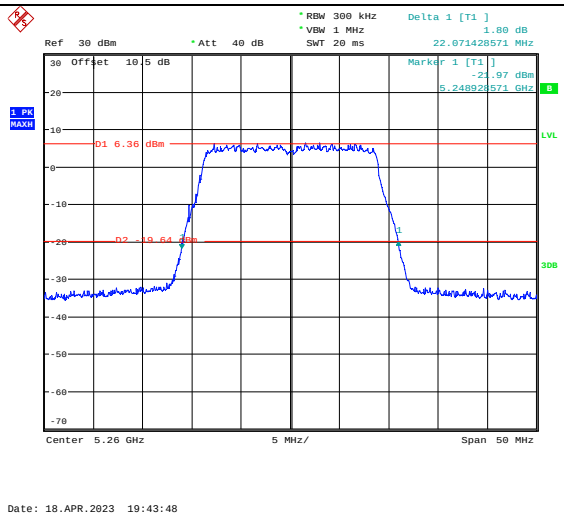
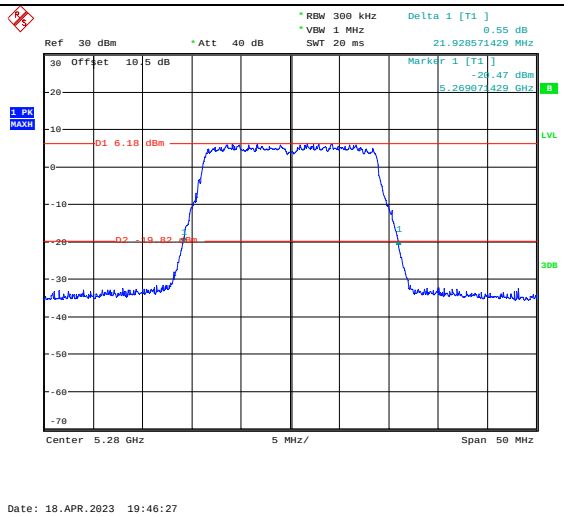
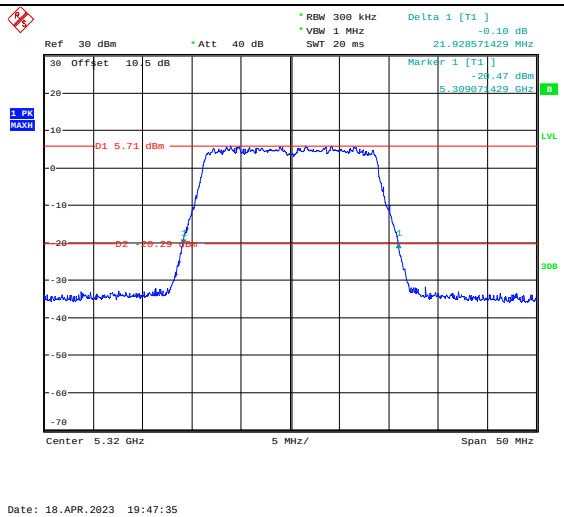
99% Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

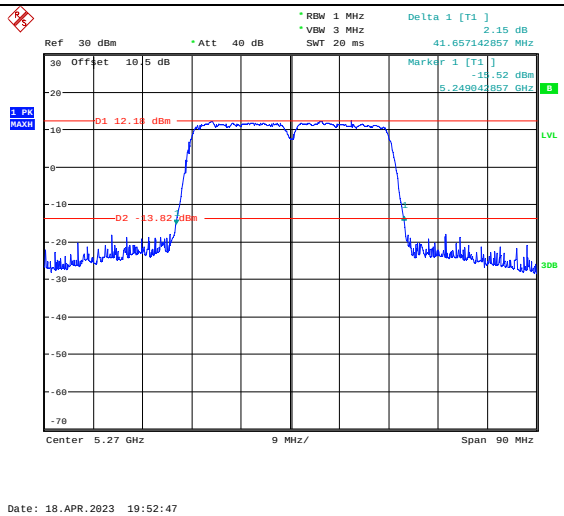
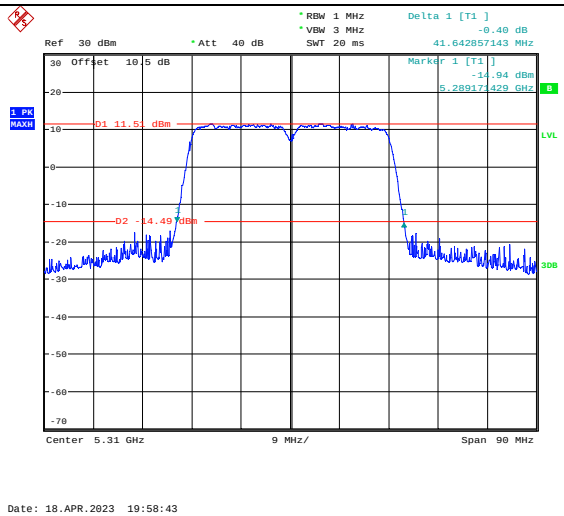
99% Emission Bandwidth	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

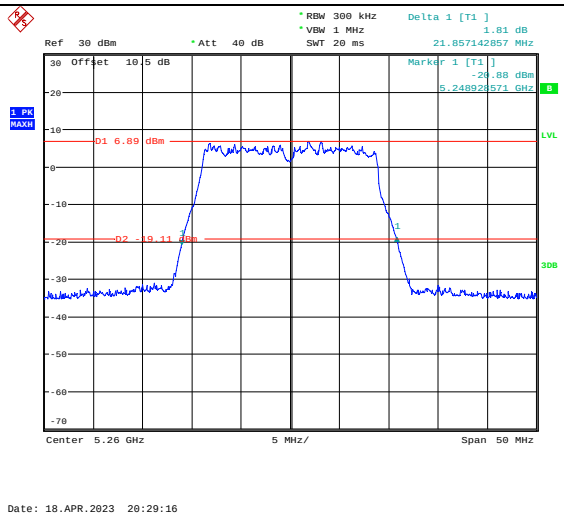
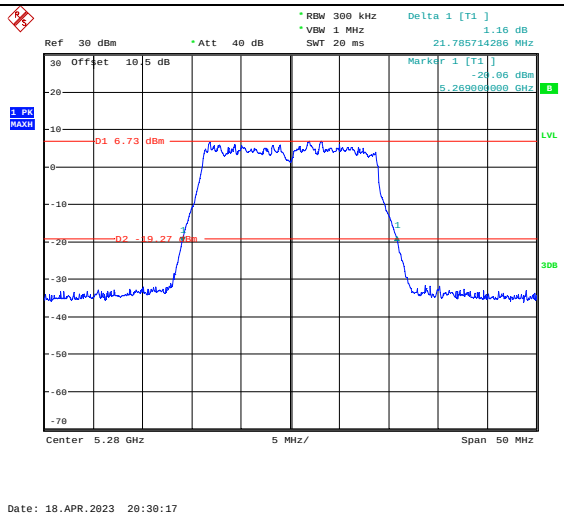
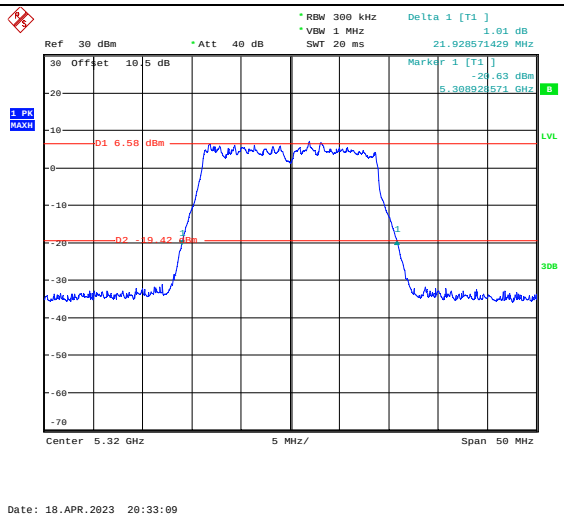
99% Emission Bandwidth	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

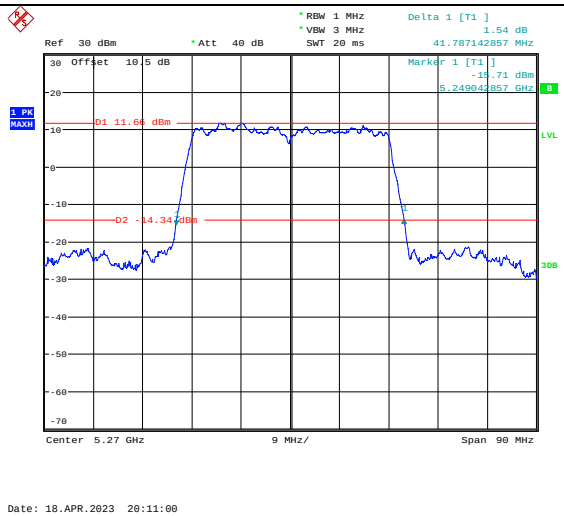
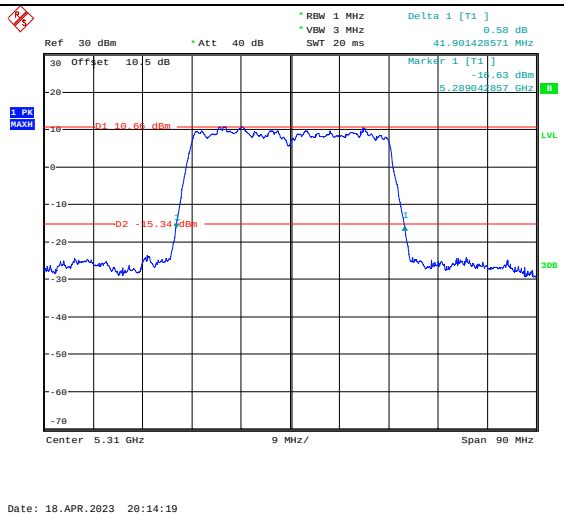
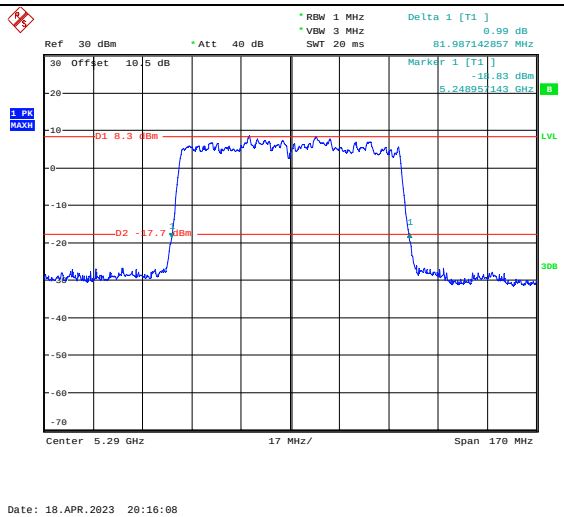
5250-5350MHz:

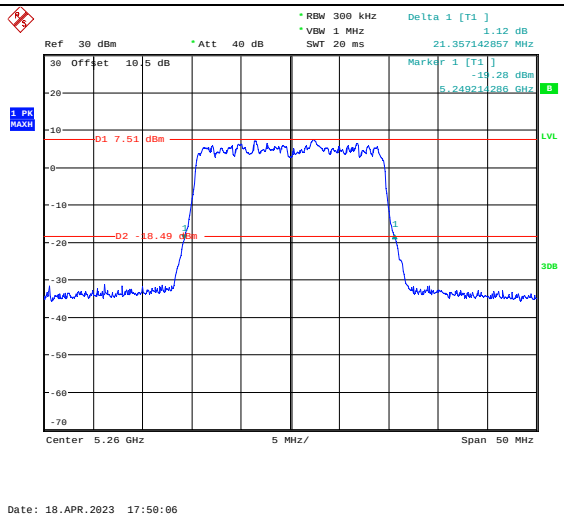
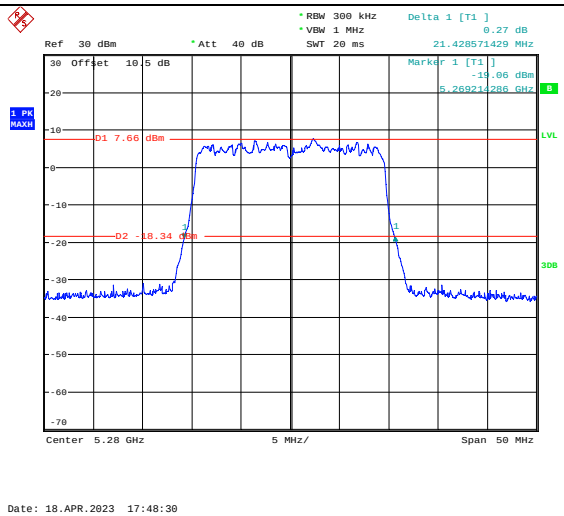
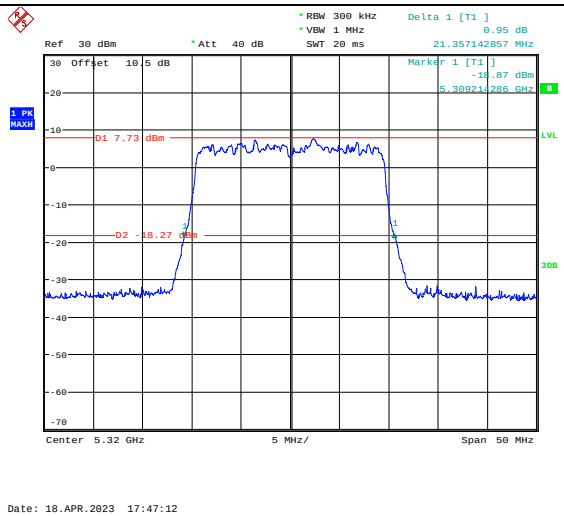
26dB Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

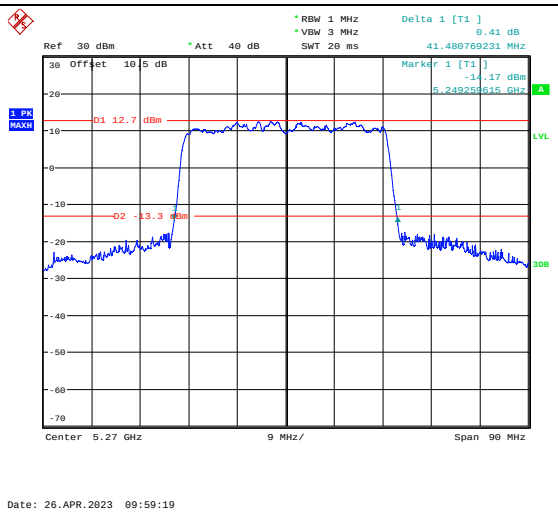
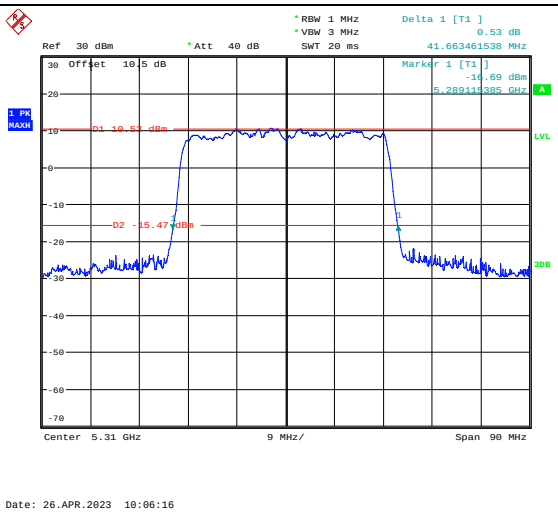
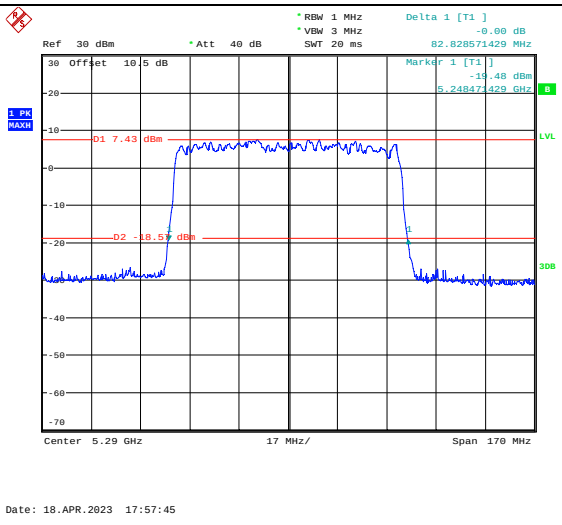
26dB Emission Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

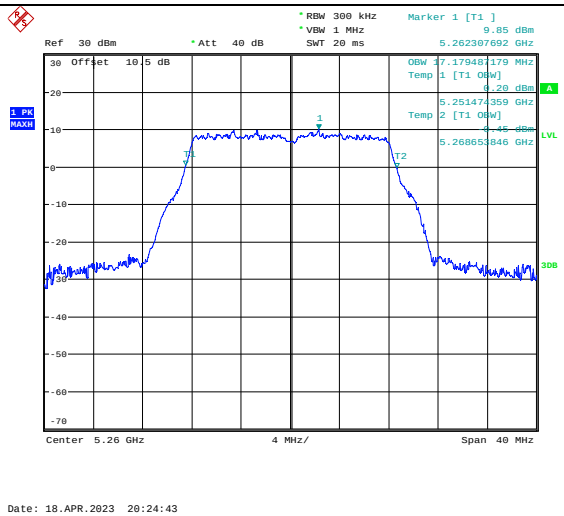
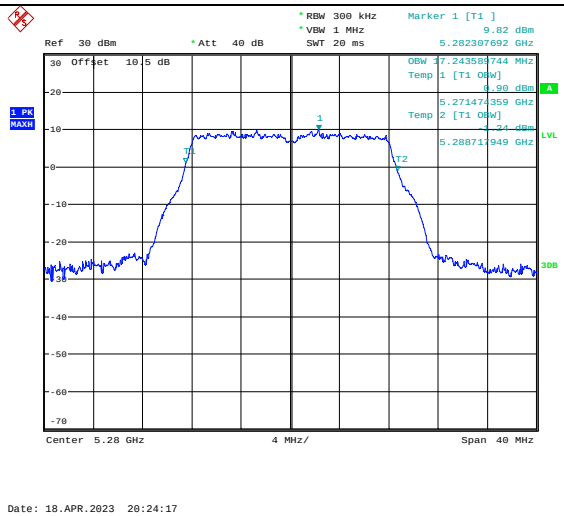
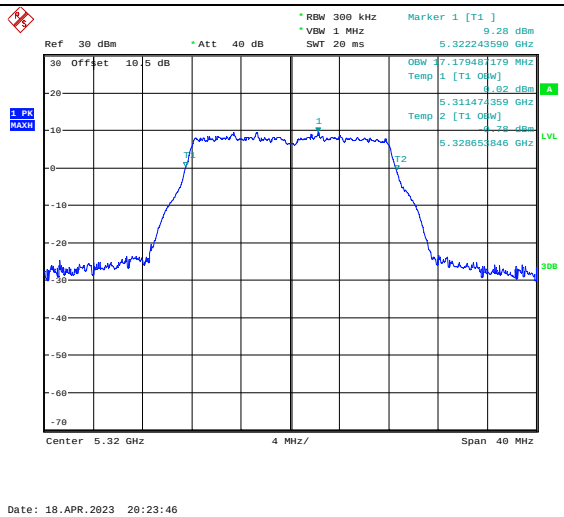
26dB Emission Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

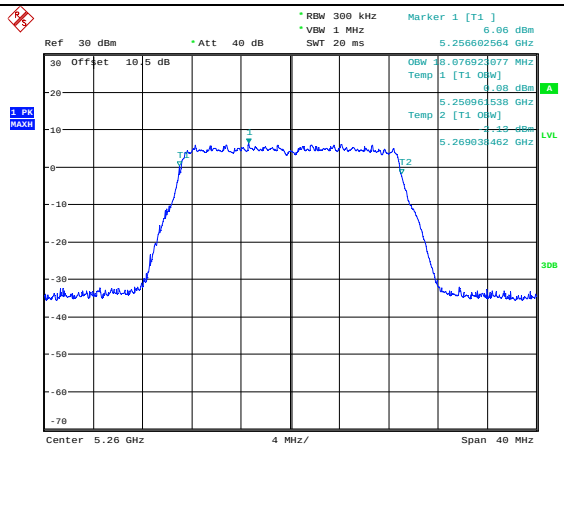
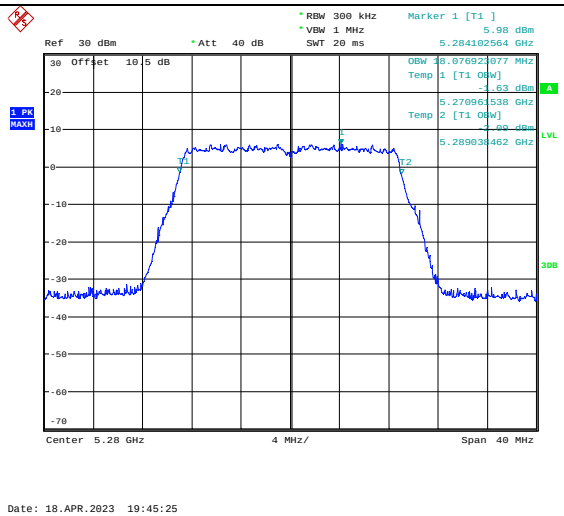
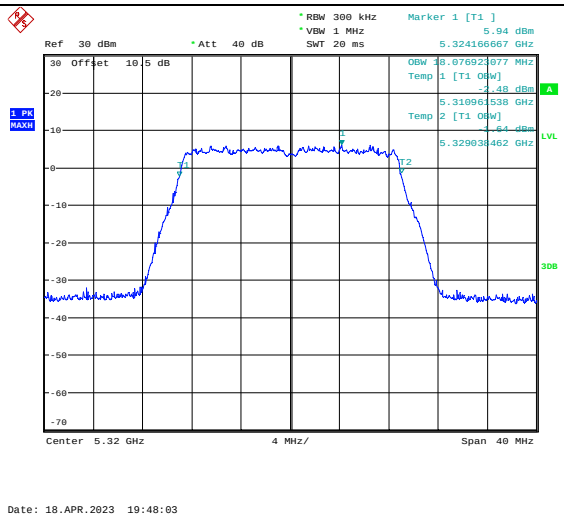
26dB Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

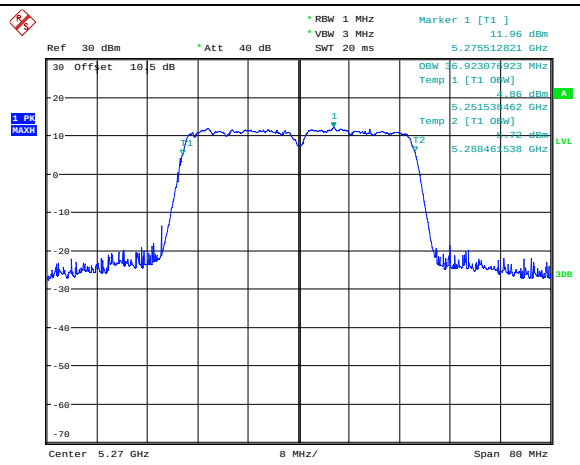
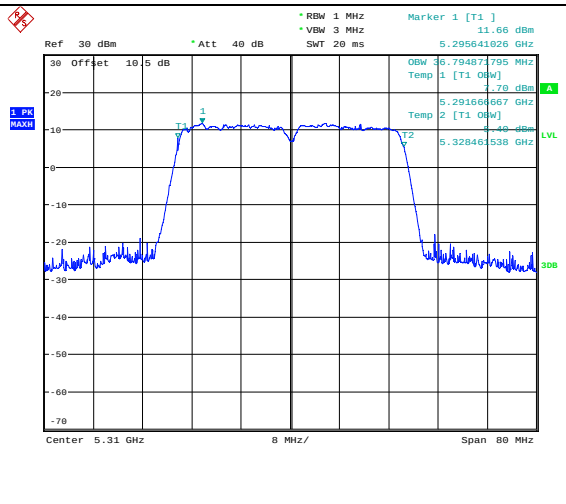
26dB Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

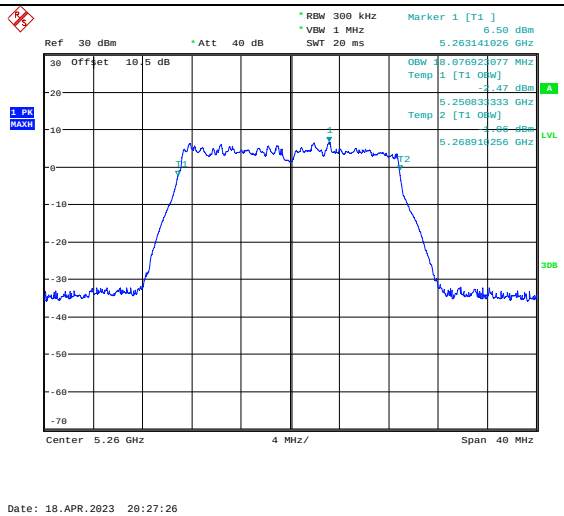
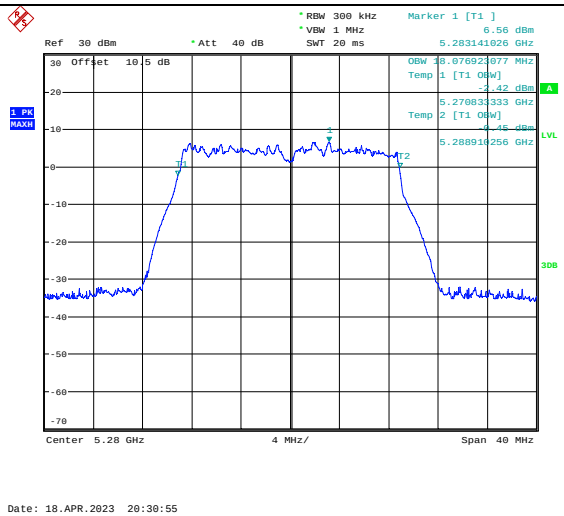
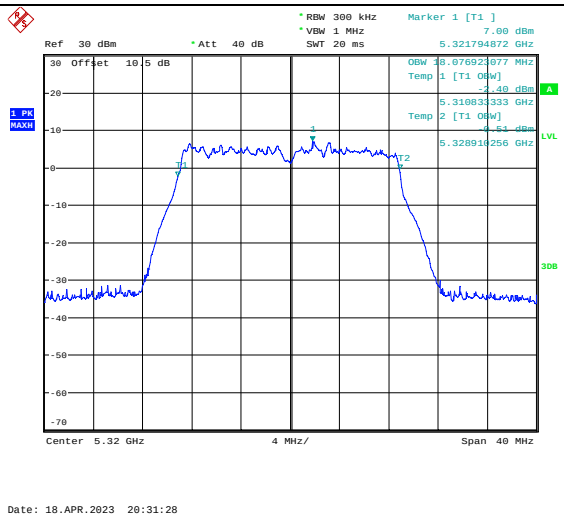
26dB Emission Bandwidth	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

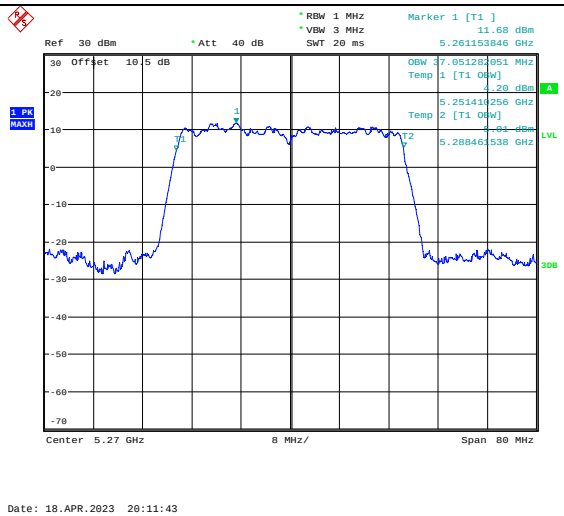
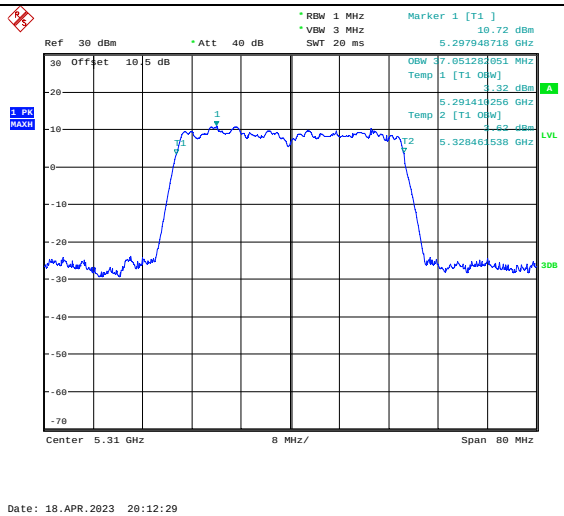
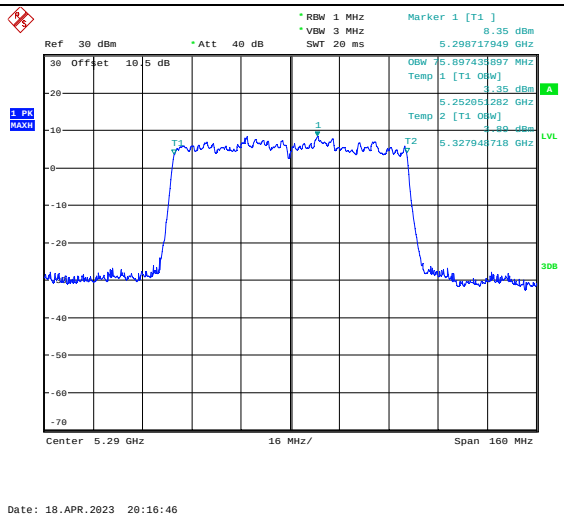
26dB Emission Bandwidth	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

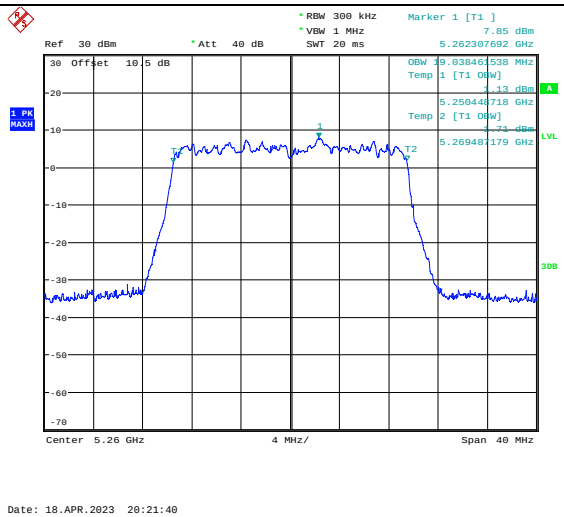
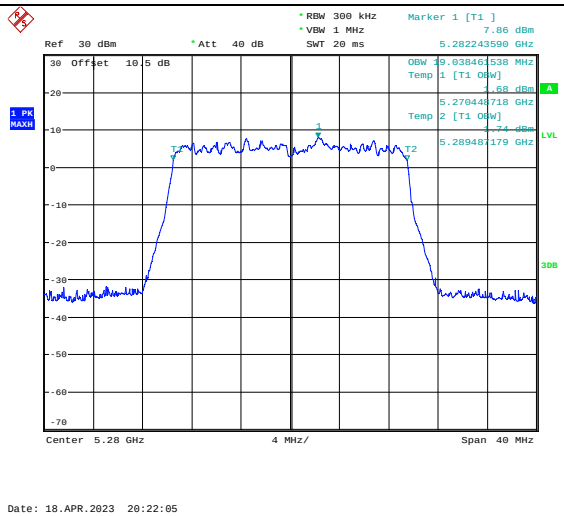
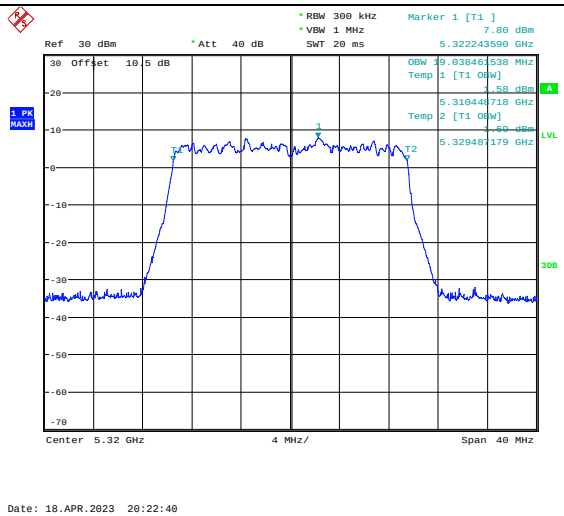
99% Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

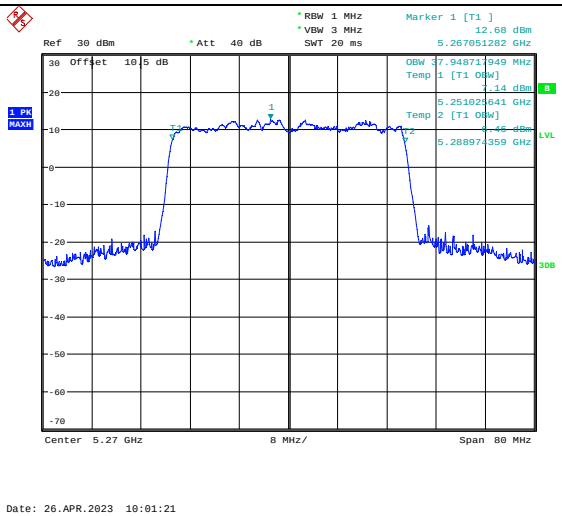
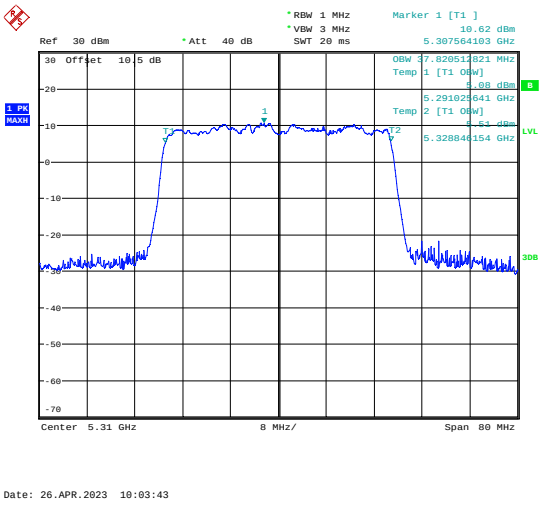
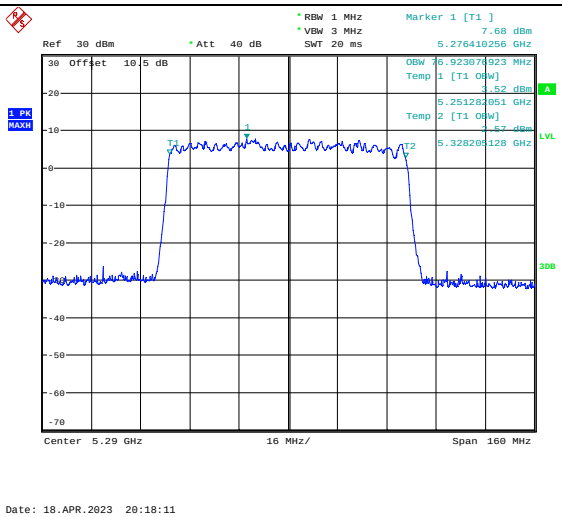
99% Emission Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

99% Emission Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

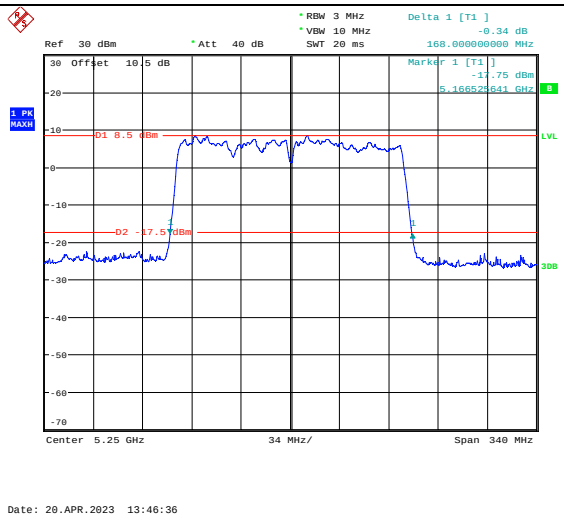
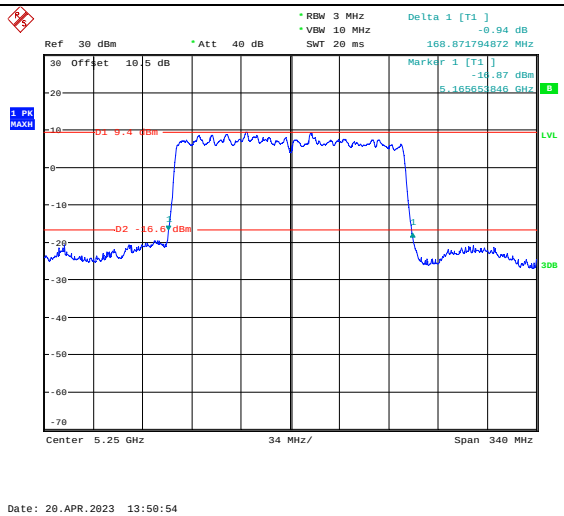
99% Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

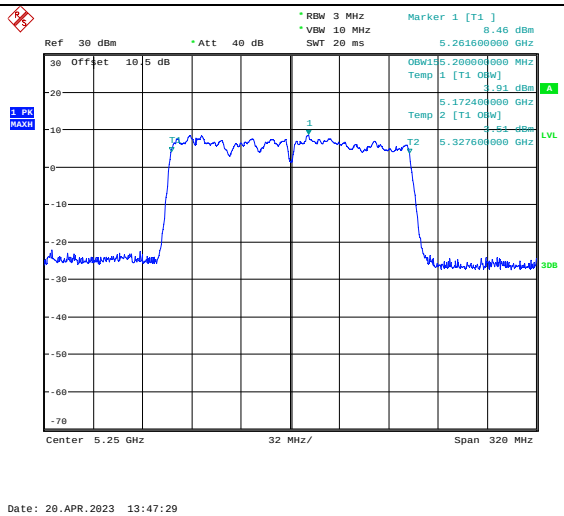
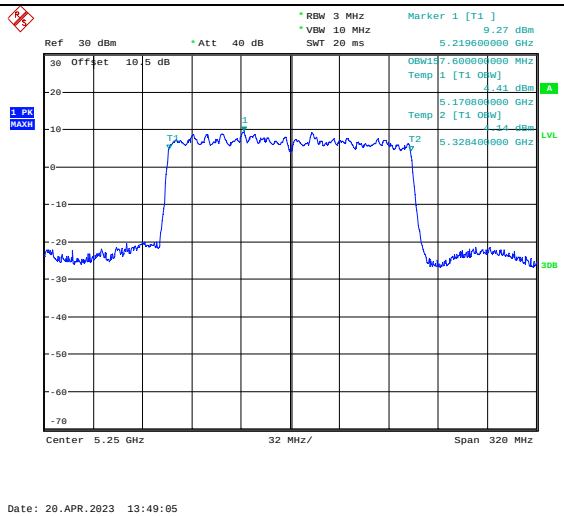
99% Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

99% Emission Bandwidth	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

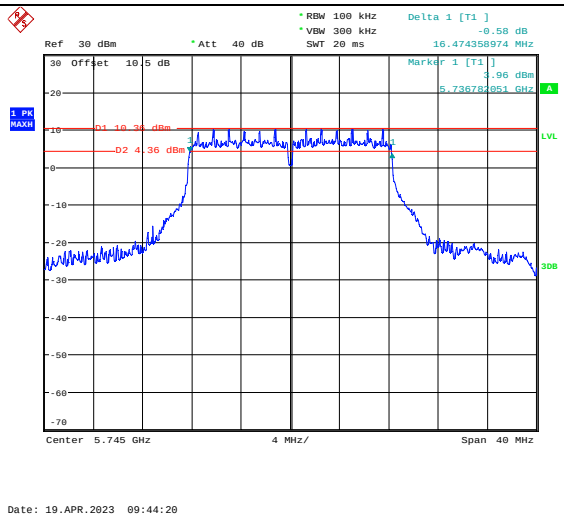
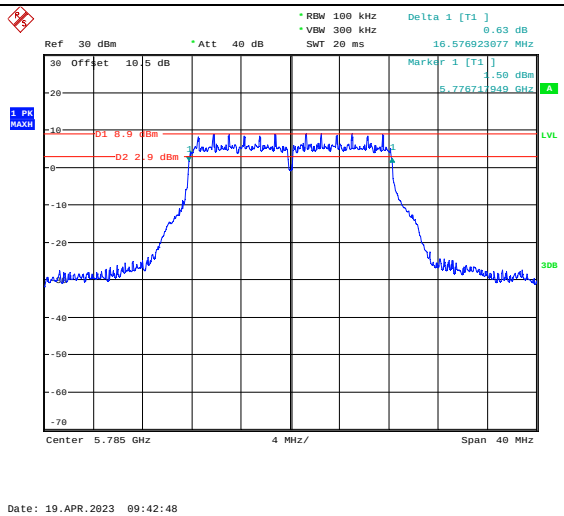
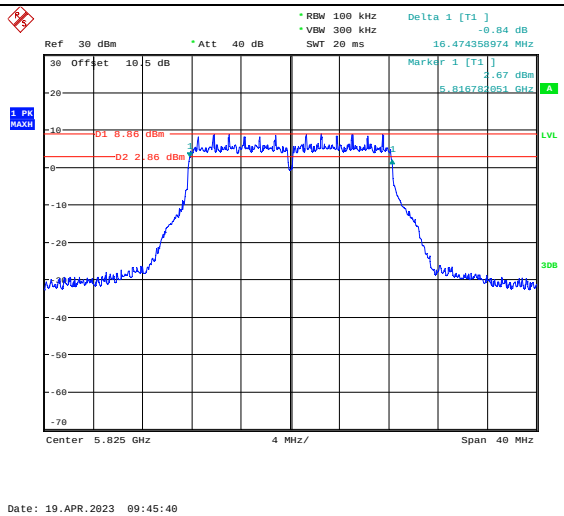
99% Emission Bandwidth	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

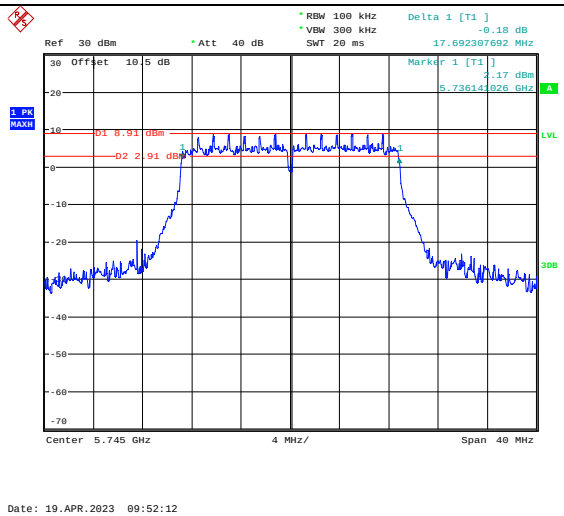
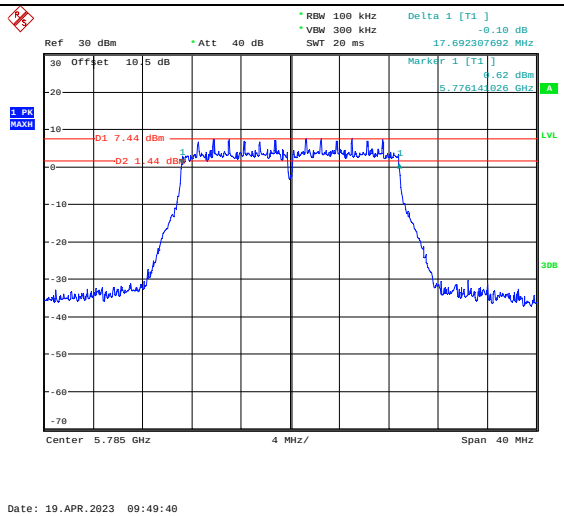
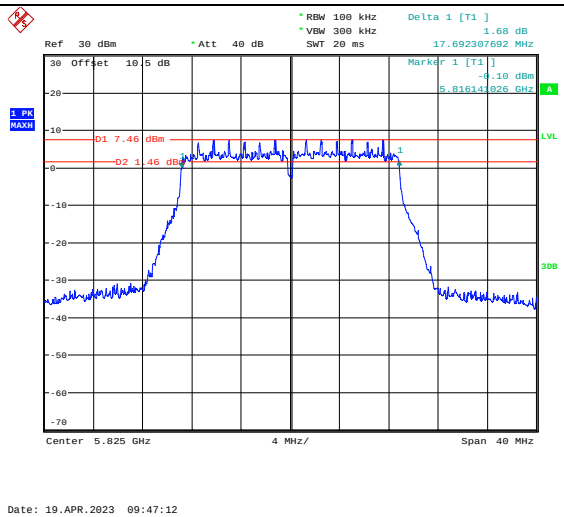
5150-5250 MHz &5250-5350 MHz:

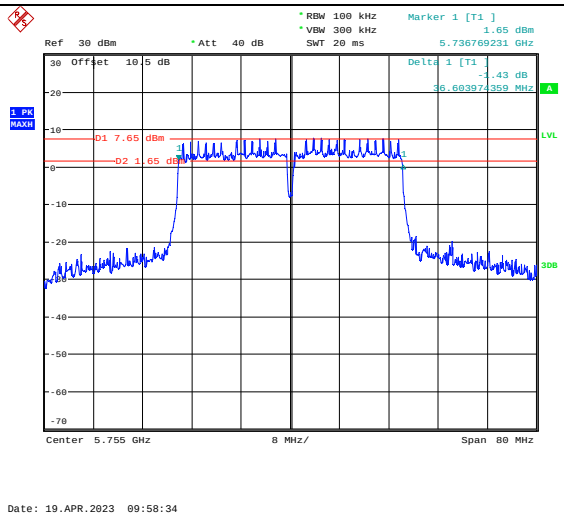
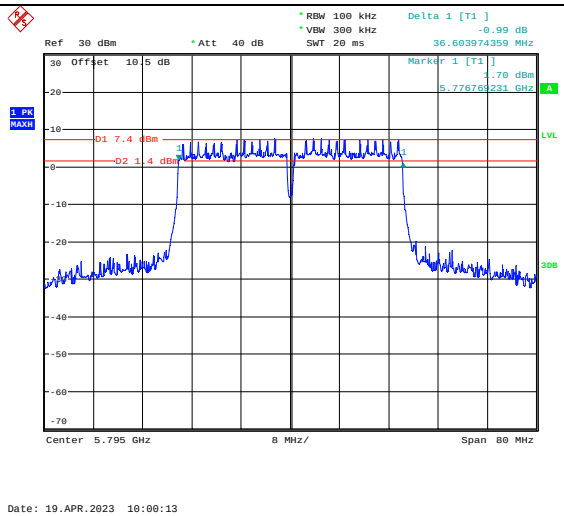
26dB Emission Bandwidth	
802.11ac vht160 Middle Channel	
802.11ax he160 Middle Channel	

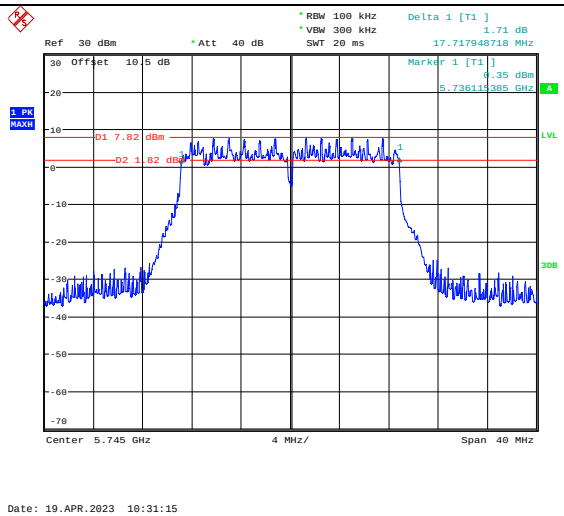
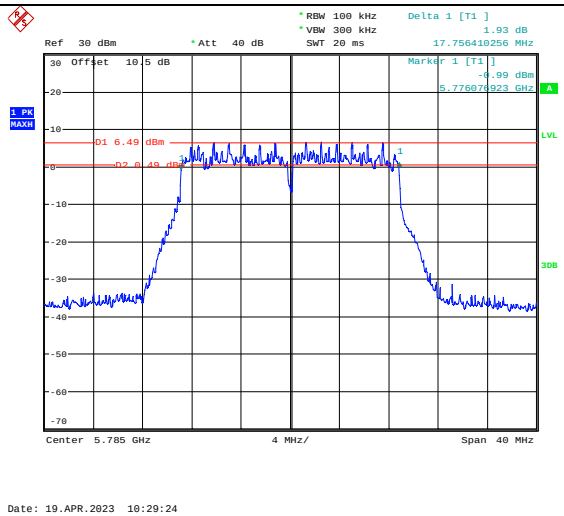
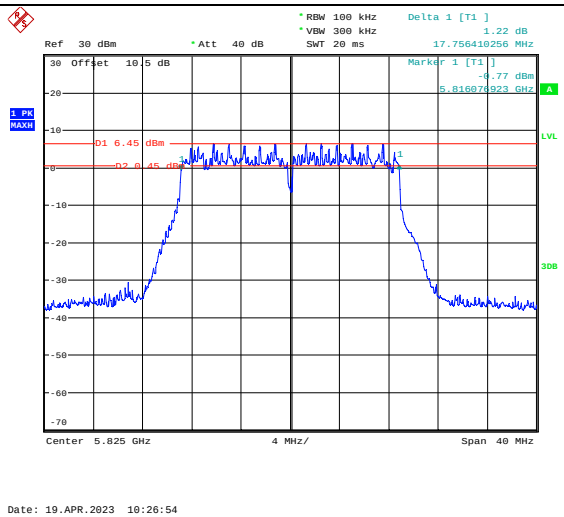
99% Emission Bandwidth	
802.11ac vht160 Middle Channel	
802.11ax he160 Middle Channel	

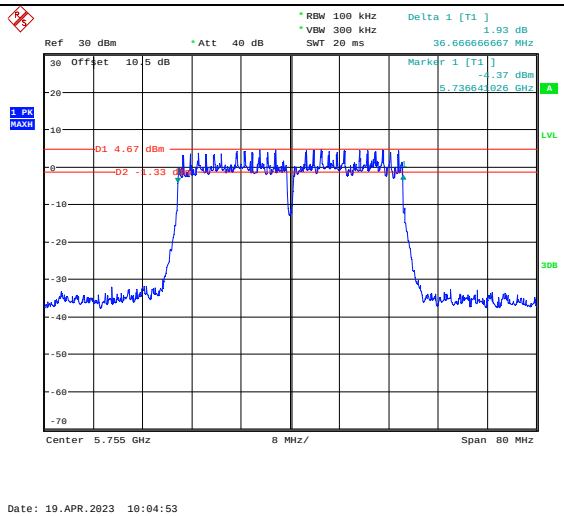
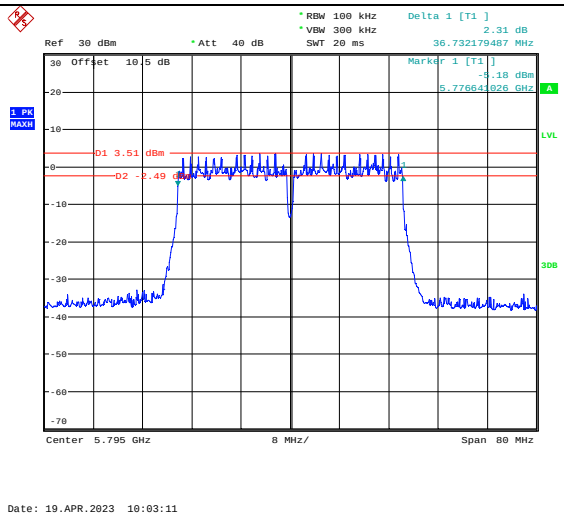
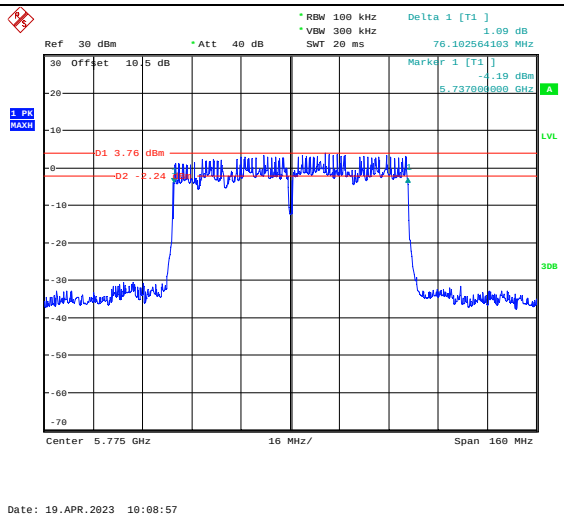
5725-5850MHz:

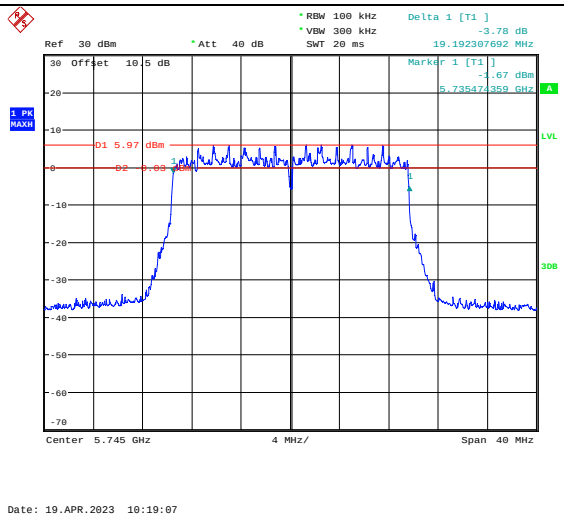
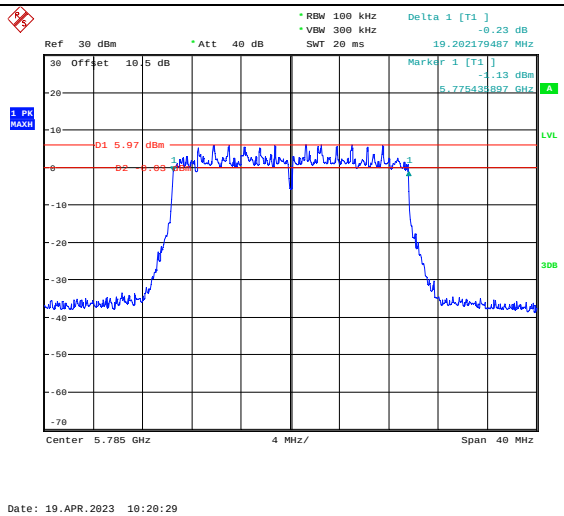
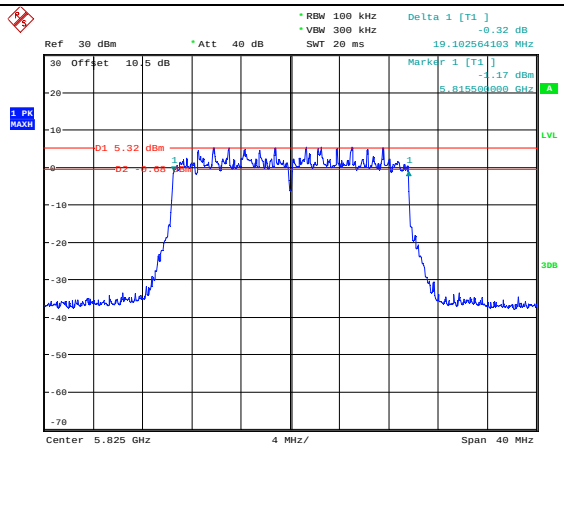
6dB Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

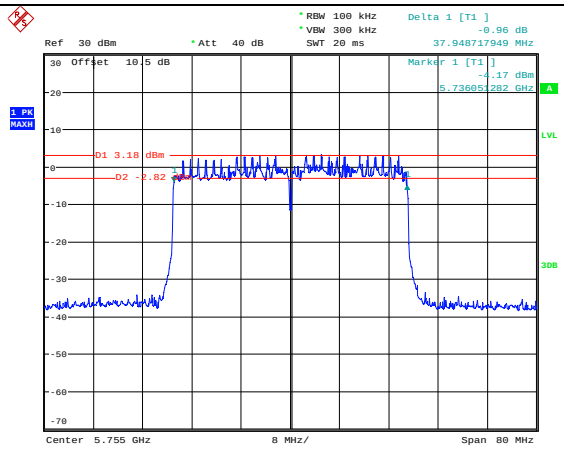
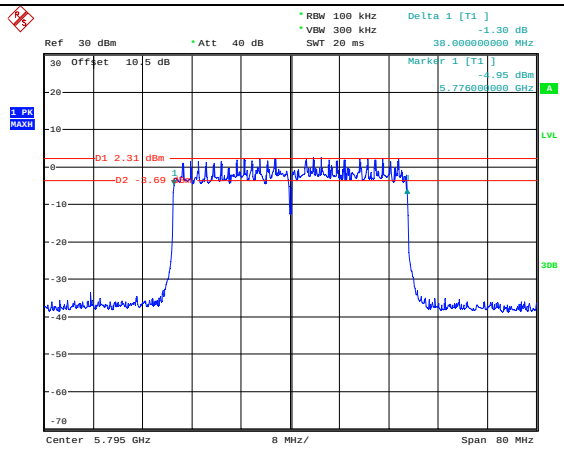
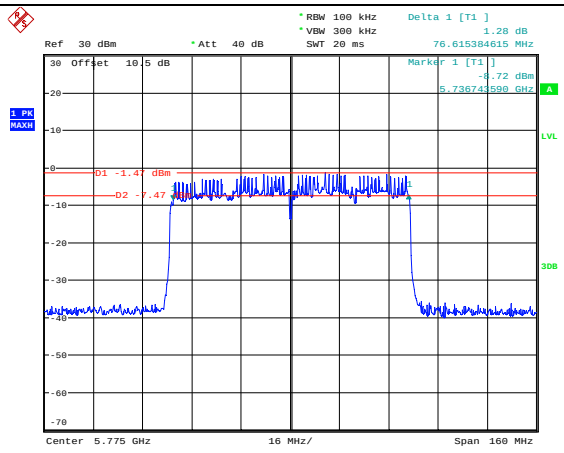
6dB Emission Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

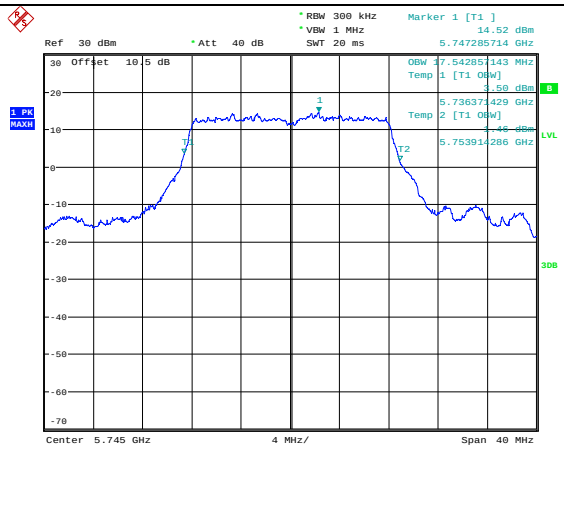
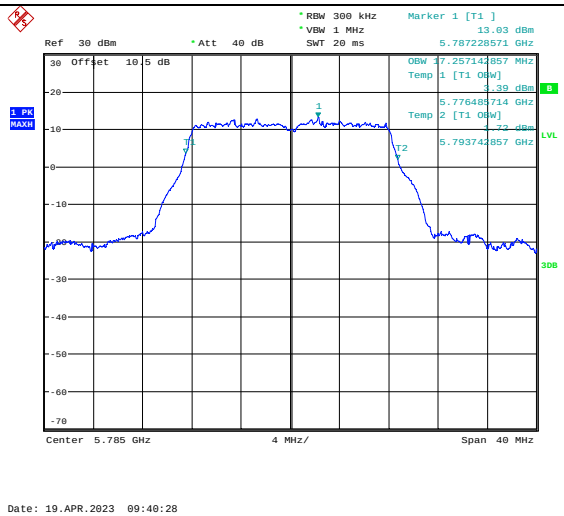
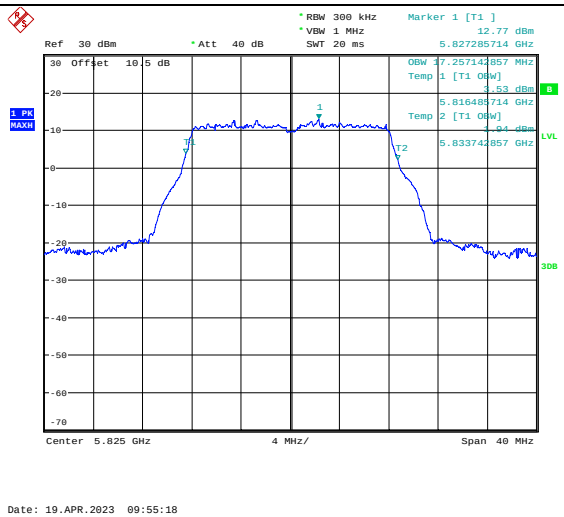
6dB Emission Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

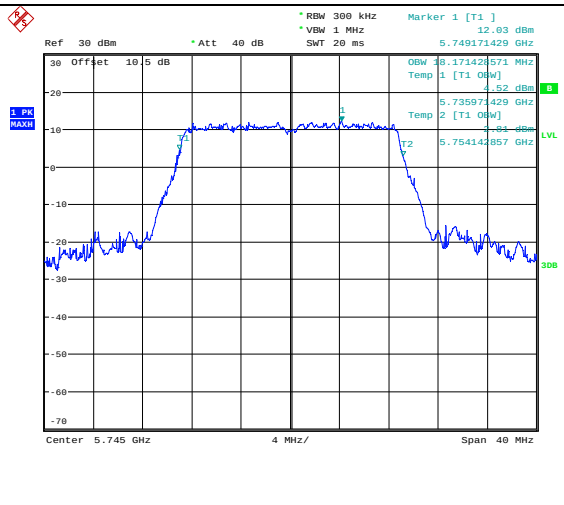
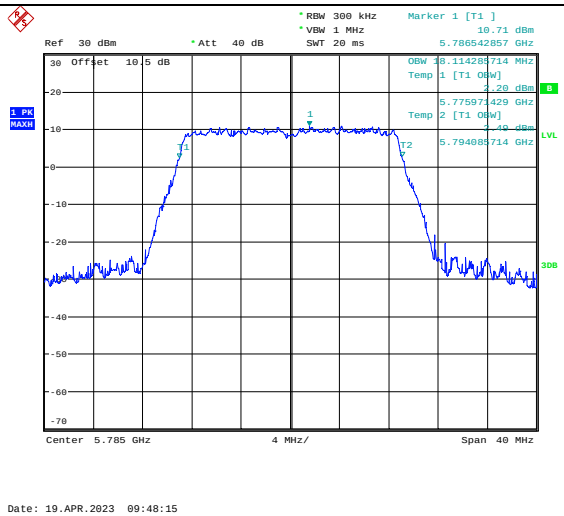
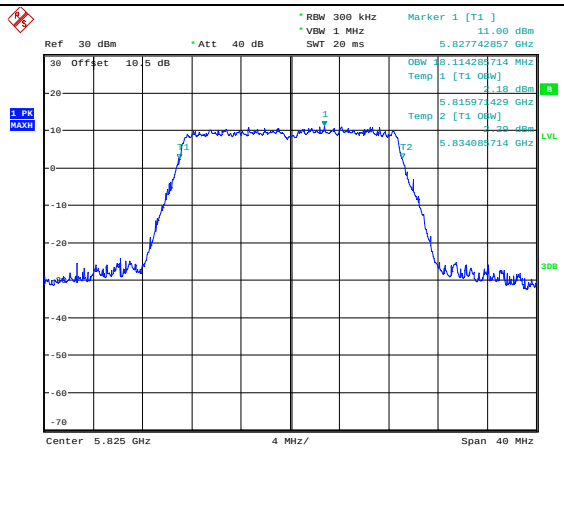
6dB Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

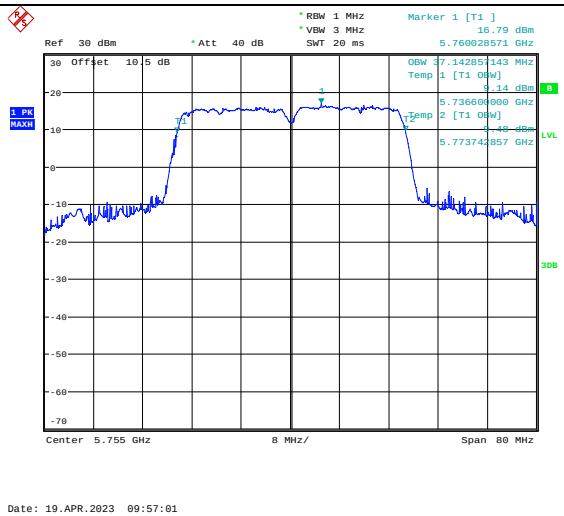
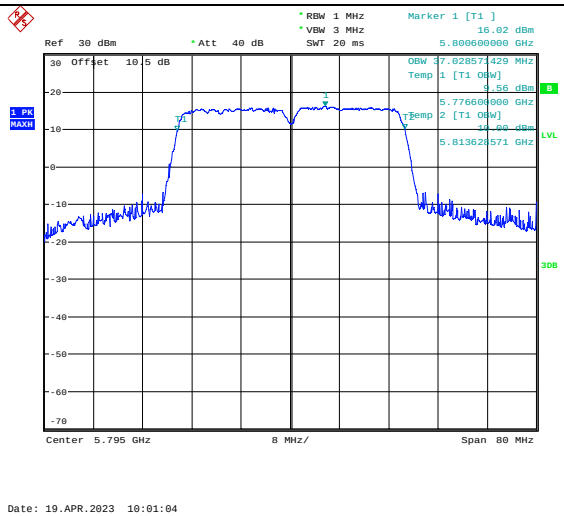
6dB Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

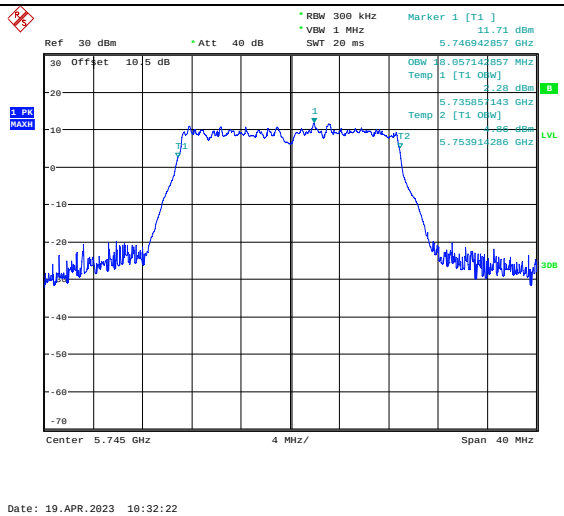
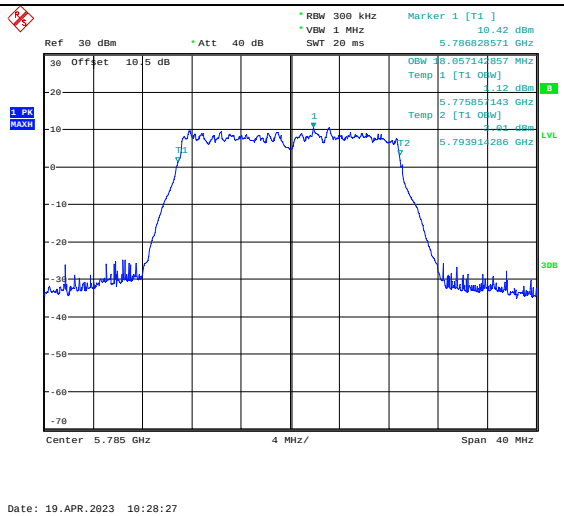
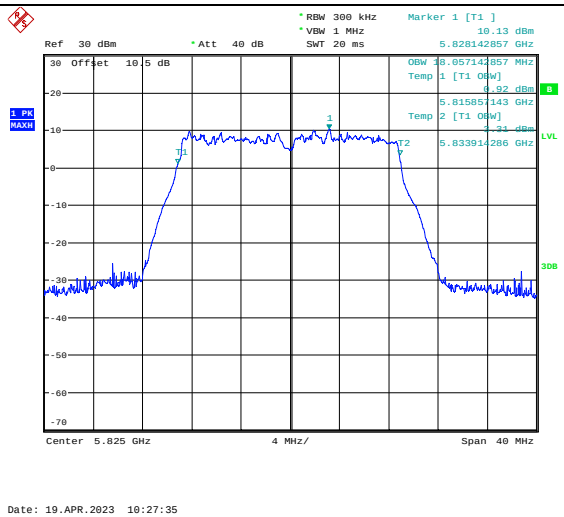
6dB Emission Bandwidth	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

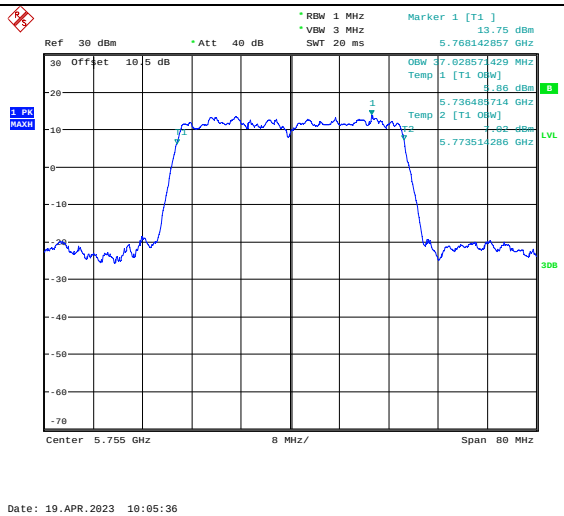
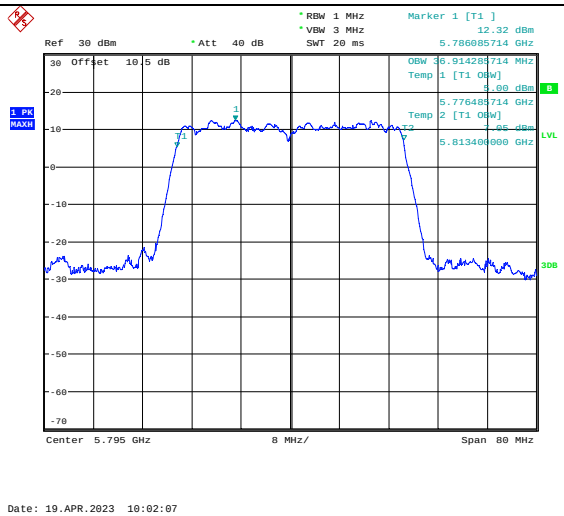
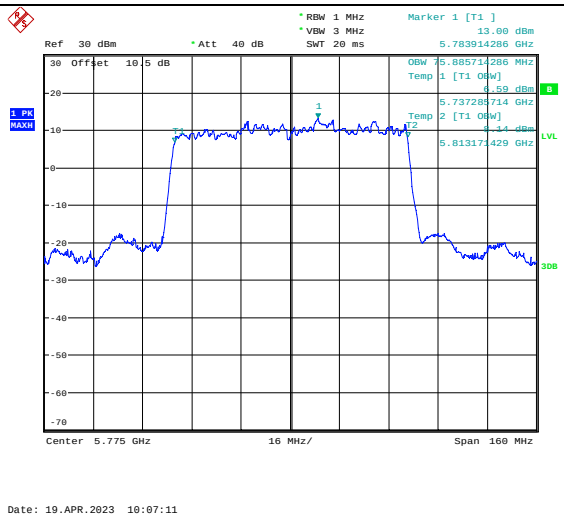
6dB Emission Bandwidth	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

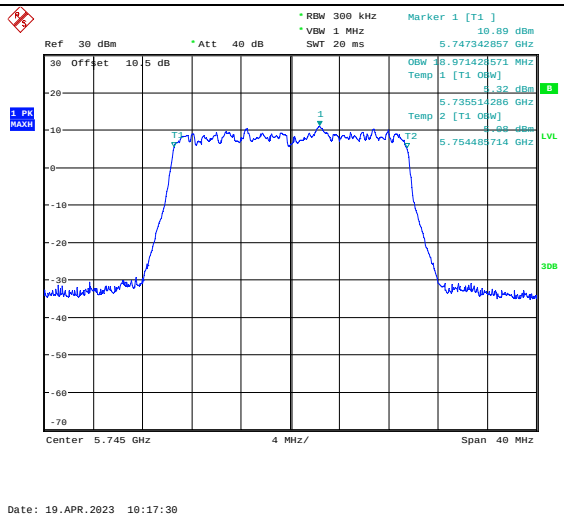
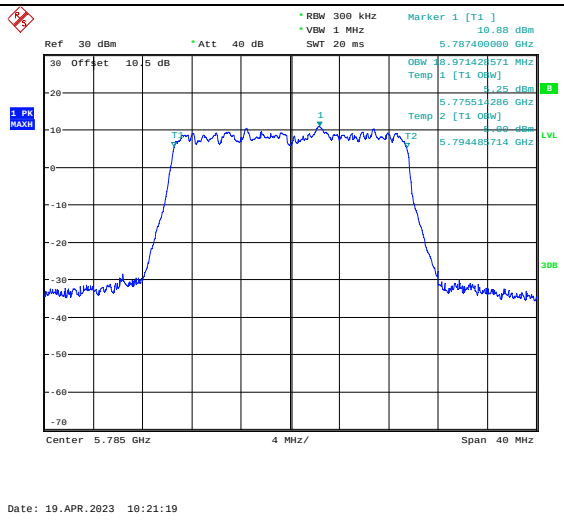
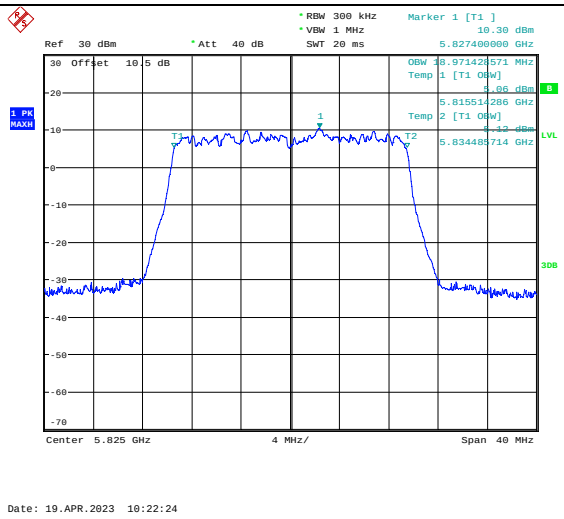
99% Emission Bandwidth	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

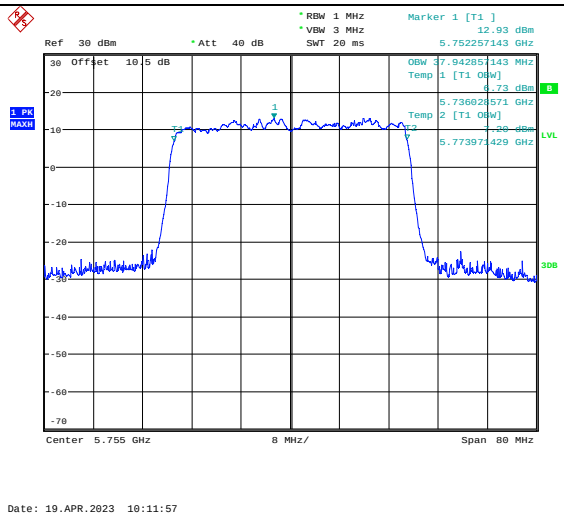
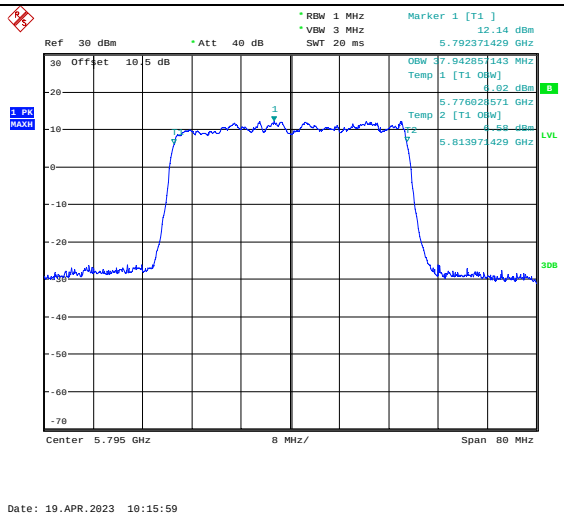
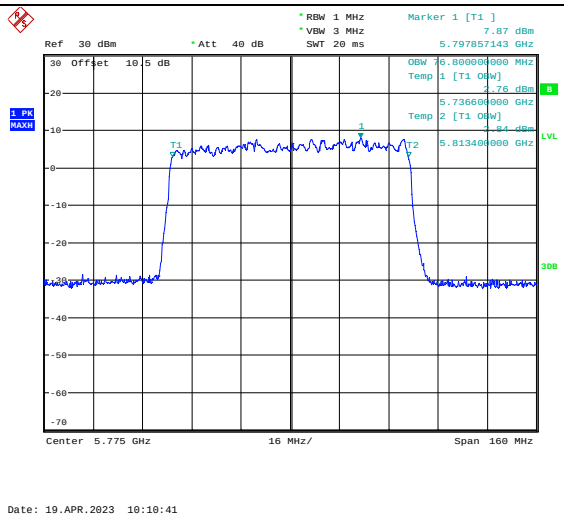
99% Emission Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

99% Emission Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

99% Emission Bandwidth	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

99% Emission Bandwidth	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

99% Emission Bandwidth	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

99% Emission Bandwidth	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

4.4 Maximum Conducted Output Power:

Serial Number:	232M	Test Date:	2023/4/17~2023/4/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Julie Tan	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	22.8~30.3	Relative Humidity: (%)	41~52	ATM Pressure: (kPa)	99.8~100.5

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	USB Wideband Power Sensor	U2021XA	MY54080015	2022/7/15	2023/7/14
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5180	20.89	20.78	/	30
	5200	22.6	22.46	/	30
	5240	22.52	22.78	/	30
802.11n ht20	5180	19.99	19.76	22.89	28.11
	5200	21.14	21.59	**24.38**	28.11
	5240	20.26	20.96	23.63	28.11
802.11n ht40	5190	17.75	18.32	21.05	28.11
	5230	20.45	20.24	23.36	28.11
802.11ac vht20	5180	20.63	20.59	23.62	28.11
	5200	20.17	19.77	22.98	28.11
	5240	19.36	19.62	22.50	28.11
802.11ac vht40	5190	16.25	16.21	19.24	28.11
	5230	18.66	18.48	21.58	28.11
802.11ac vht80	5210	15.1	14.47	17.81	28.11
802.11ax hew20	5180	18.32	18.59	21.47	28.11
	5200	18.15	17.7	20.94	28.11
	5240	17.76	18.03	20.91	28.11
802.11ax hew40	5190	16.99	17.08	20.05	28.11
	5230	18.07	18.27	21.18	28.11
802.11ax hew80	5210	14.13	14.44	17.30	28.11

Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

So:

For Non-beamforming mode:

Directional gain =4.89dBi

For Beamforming mode:

Directional gain = 4.89+3 =7.89dBi

The worst limit Beamforming mode was used in the table.

5250-5350 MHz and Cross Band 5150-5250 MHz&5250-5350 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5260	17.56	16.88	/	24
	5280	17.42	17.09	/	24
	5320	16.99	16.92	/	24
802.11n ht20	5260	14.33	14.27	17.31	22.11
	5280	14.31	14.48	17.41	22.11
	5320	14.09	14.4	17.26	22.11
802.11n ht40	5270	16.98	16.89	**19.95**	22.11
	5310	16.22	16.54	19.39	22.11
802.11ac vht20	5260	13.8	13.42	16.62	22.11
	5280	13.71	13.12	16.44	22.11
	5320	13.73	12.8	16.30	22.11
802.11ac vht40	5270	15.75	15.74	18.76	22.11
	5310	14.53	14.47	17.51	22.11
802.11ac vht80	5290	14.38	14.03	17.22	22.11
802.11ax hew20	5260	14.06	13.59	16.84	22.11
	5280	14.04	13.13	16.62	22.11
	5320	14.08	13.04	16.60	22.11
802.11ax hew40	5270	16.63	15.82	19.25	22.11
	5310	14.76	15.5	18.16	22.11
802.11ax hew80	5290	14.33	14.11	17.23	22.11
802.11ac vht160	5250	13.38	13.14	16.27	22.11
802.11ax hew160	5250	13.73	13.42	16.59	22.11

Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

So:

For Non-beamforming mode:

Directional gain =4.89dBi

For Beamforming mode:

Directional gain = 4.89+3 =7.89 dBi

The worst limit Beamforming mode was used in the table.

5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5745	21.88	21.26	/	30
	5785	20.59	19.89	/	30
	5825	20.39	19.86	/	30
802.11n ht20	5745	20.11	19.78	22.96	28.42
	5785	18.85	18.89	21.88	28.42
	5825	18.88	18.74	21.82	28.42
802.11n ht40	5755	21.1	20.69	**23.91**	28.42
	5795	20.96	20.49	23.74	28.42
802.11ac vht20	5745	18.31	18.38	21.36	28.42
	5785	17.12	17.01	20.08	28.42
	5825	17	16.82	19.92	28.42
802.11ac vht40	5755	17.33	17.26	20.31	28.42
	5795	16.69	16.43	19.57	28.42
802.11ac vht80	5775	18.5	18.58	21.55	28.42
802.11ax hew20	5745	16.84	16.68	19.77	28.42
	5785	17.02	16.82	19.93	28.42
	5825	16.45	16.3	19.39	28.42
802.11ax hew40	5755	16.36	16.16	19.27	28.42
	5795	15.89	15.62	18.77	28.42
802.11ax hew80	5775	14.2	14.5	17.36	28.42

Note:
The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

So:
For Non-beamforming mode:
Directional gain =4.58dBi

For Beamforming mode:
Directional gain = 4.58+3 =7.58 dBi

The worst limit Beamforming mode was used in the table.

4.5 Maximum power spectral density:

Serial Number:	232M	Test Date:	2023/4/18~2023/4/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Julie Tan	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	27~30.3	Relative Humidity: (%)	41~51	ATM Pressure: (kPa)	99.8~100.5

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200445	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Reading (dBm/MHz)		Maximum Power Spectral Density (dBm/MHz)	
		Chain 0	Chain 1	Result	Limit
802.11a	5180	8.92	8.8	9.10	17
	5200	10.55	10.6	10.78	17
	5240	10.21	10.77	10.95	17
802.11n ht20	5180	7.22	7.31	10.67	12.11
	5200	8.52	8.05	11.70	12.11
	5240	8.26	8.15	11.61	12.11
802.11n ht40	5190	2.25	2.29	6.01	12.11
	5230	5.11	5.15	8.87	12.11
802.11ac vht20	5180	7.69	7.75	11.60	12.11
	5200	7.67	7.54	11.49	12.11
	5240	7.05	7.14	10.98	12.11
802.11ac vht40	5190	1.4	1.61	5.65	12.11
	5230	3.86	3.9	8.03	12.11
802.11ac vht80	5210	-2.33	-2.65	2.11	12.11
802.11ax hew20	5180	5.34	5.75	9.38	12.11
	5200	5.35	4.9	8.96	12.11
	5240	5.22	5.39	9.14	12.11
802.11ax hew40	5190	1.55	1.41	5.51	12.11
	5230	3.58	3.2	7.42	12.11
802.11ax hew80	5210	-3.5	-3.7	0.60	12.11

Note:
The device is a indoor AP.
Duty cycle ≥98%, method ANSI C63.10-2013 Section 12.3.2.2 was used.
Duty cycle <98%, and duty cycle variations are less than ±2%,method ANSI C63.10-2013 Section 12.3.2.4 was used.
Duty cycle <98%, and duty cycle variations exceed ±2%, method ANSI C63.10-2013 Section 12.3.2.6.
For Duty cycle<98%, and Duty cycle be considered to be constant(variations areless than ±2%), the duty cycle factor was added into the result.
The maximum Power Spectral Density was calculated the result of the maximum chain for SISO mode, and Total chains for MIMO mode.
The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

So:

Directional gain = G_{ANT} + Array Gain = 4.89+10*log(2/1)=7.89 dBi for Non-beamforming mode

Directional gain = G_{ANT} + Array Gain =4.89+3+10*log(2/1)=10.89dBi for Beamforming mode

The worst limit Beamforming mode was used in the table.

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		Chain 0	Chain 1	Total	Limit
802.11a	5260	5.75	5.43	5.93	11
	5280	5.82	5.67	6.00	11
	5320	5.58	5.72	5.90	11
802.11n ht20	5260	2.45	2.51	5.89	6.11
	5280	2.44	2.72	5.99	6.11
	5320	2.11	2.58	5.76	6.11
802.11n ht40	5270	2.38	2.3	6.08	6.11
	5310	1.99	2.16	5.82	6.11
802.11ac vht20	5260	2.18	1.93	5.94	6.11
	5280	2.39	1.84	6.01	6.11
	5320	2.44	1.5	5.88	6.11
802.11ac vht40	5270	1.71	1.69	5.85	6.11
	5310	0.61	0.55	4.73	6.11
802.11ac vht80	5290	-2.56	-2.51	2.06	6.11
802.11ax hew20	5260	2.33	1.91	5.96	6.11
	5280	2.4	1.63	5.87	6.11
	5320	2.36	1.51	5.79	6.11
802.11ax hew40	5270	2.3	1.51	5.95	6.11
	5310	0.45	1.61	5.10	6.11
802.11ax hew80	5290	-2.66	-2.57	1.59	6.11
802.11ac vht160	5250	-6.91	-7.02	-2.17	6.11
802.11ax hew160	5250	-6.39	-6.71	-2.17	6.11

Note:
Duty cycle ≥98%, method ANSI C63.10-2013 Section 12.3.2.2 was used.
Duty cycle <98%, and duty cycle variations are less than ±2%,method ANSI C63.10-2013 Section 12.3.2.4 was used.
Duty cycle <98%, and duty cycle variations exceed ±2%, method ANSI C63.10-2013 Section 12.3.2.6.
For Duty cycle<98%, and Duty cycle be considered to be constant(variations areless than ±2%), the duty cycle factor was added into the result.
The maximum Power Spectral Density was calculated the result of the maximum chain for SISO mode, and Total chains for MIMO mode.
The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

So:
Directional gain = G_{ANT} + Array Gain = 4.89+10*log(2/1)=7.89 dBi for Non-beamforming mode
Directional gain = G_{ANT} + Array Gain =4.89+3+10*log(2/1)=10.89dBi for Beamforming mode
The worst limit Beamforming mode was used in the table.

5725-5850 MHz:

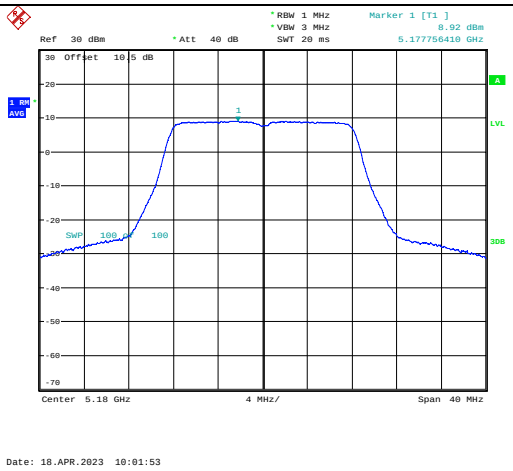
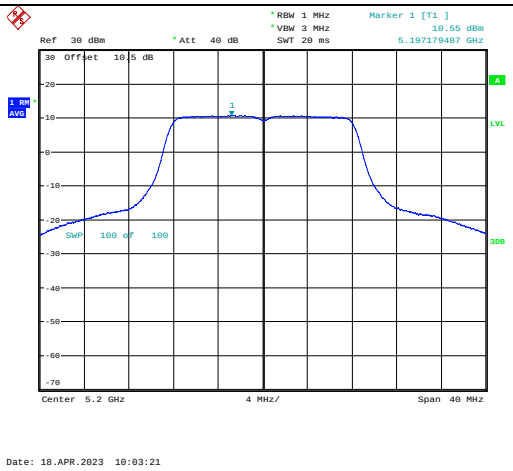
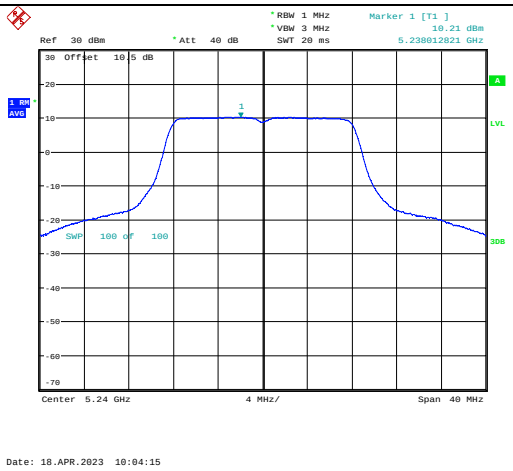
Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/500kHz)			
		Chain 0	Chain 1	Total	Limit
802.11a	5745	7.82	6.87	8.00	30
	5785	6.25	5.51	6.43	30
	5825	6.15	5.4	6.33	30
802.11n ht20	5745	5.68	5.27	8.89	25.42
	5785	4.33	4.3	7.72	25.42
	5825	4.33	3.97	7.56	25.42
802.11n ht40	5755	4.03	3.38	7.46	25.42
	5795	3.86	3.44	7.40	25.42
802.11ac vht20	5745	4.48	4.86	8.56	25.42
	5785	3.05	3.47	7.15	25.42
	5825	3.24	3.11	7.06	25.42
802.11ac vht40	5755	1.37	1.21	5.44	25.42
	5795	0.42	0.2	4.46	25.42
802.11ac vht80	5775	-0.17	-0.27	4.37	25.42
802.11ax hew20	5745	3.06	2.18	6.48	25.42
	5785	3.01	2.52	6.61	25.42
	5825	2.59	2.07	6.17	25.42
802.11ax hew40	5755	-0.19	-0.4	3.73	25.42
	5795	-0.84	-1.35	2.94	25.42
802.11ax hew80	5775	-5.07	-4.85	-0.76	25.42

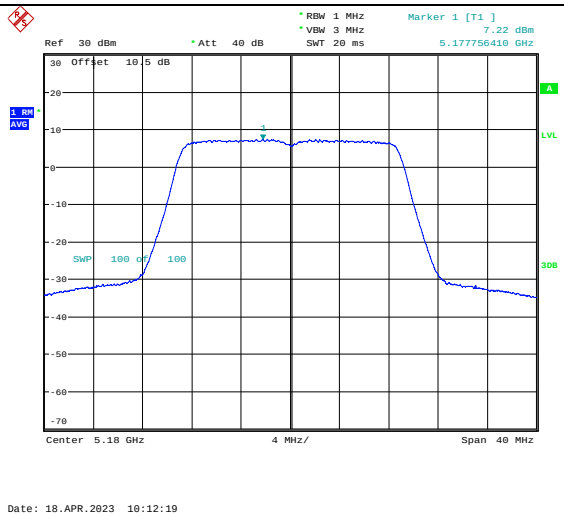
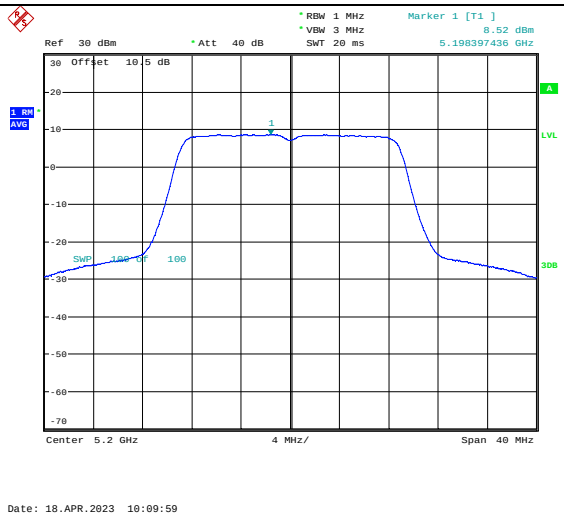
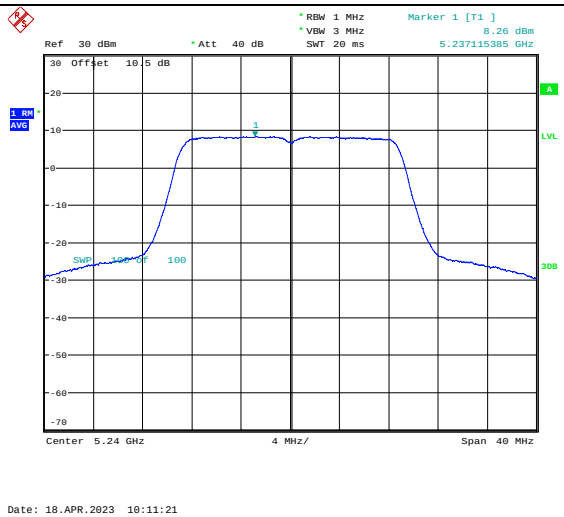
Note:
Duty cycle ≥98%, method ANSI C63.10-2013 Section 12.3.2.2 was used.
Duty cycle <98%, and duty cycle variations are less than ±2%,method ANSI C63.10-2013 Section 12.3.2.4 was used.
Duty cycle <98%, and duty cycle variations exceed ±2%, method ANSI C63.10-2013 Section 12.3.2.6.
For Duty cycle<98%, and Duty cycle be considered to be constant(variations areless than ±2%), the duty cycle factor was added into the result.
The maximum Power Spectral Density was calculated the result of the maximum chain for SISO mode, and Total chains for MIMO mode.
The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

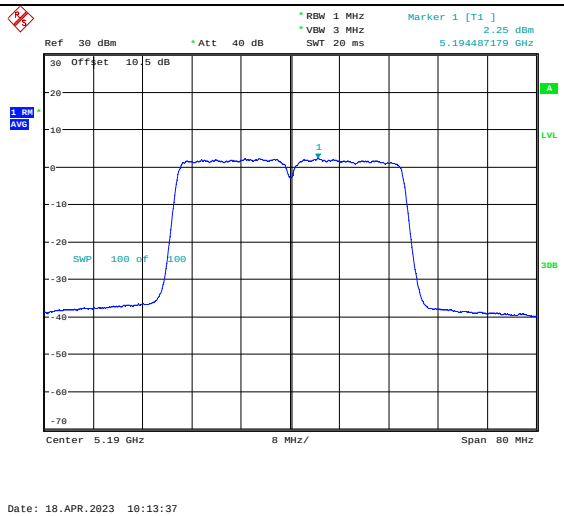
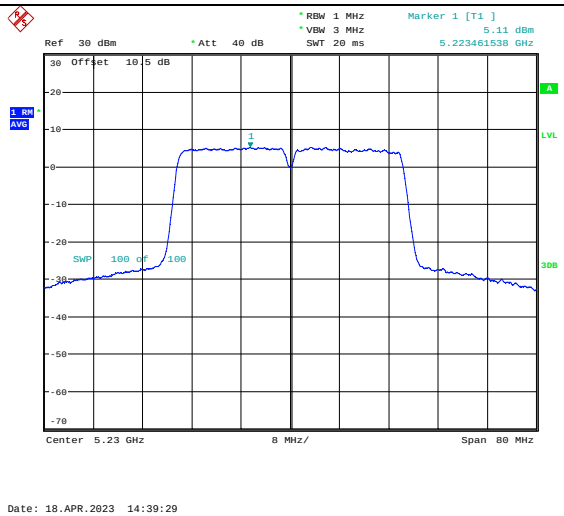
Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

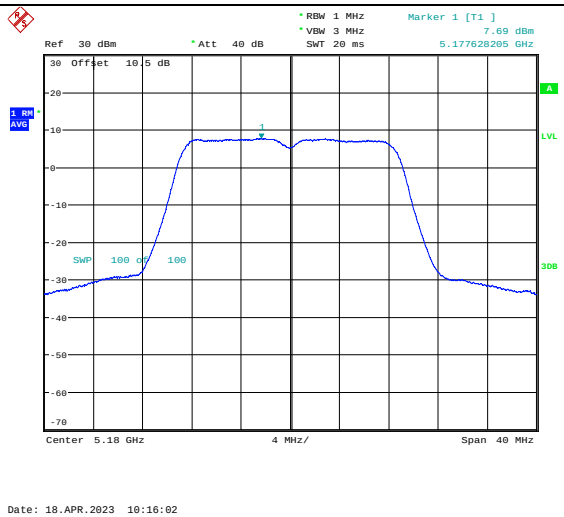
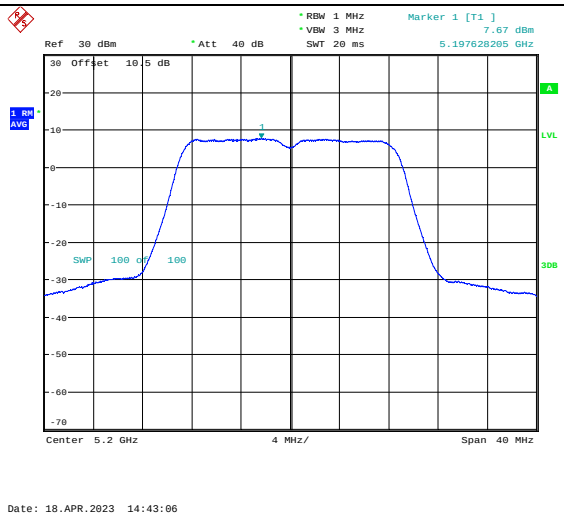
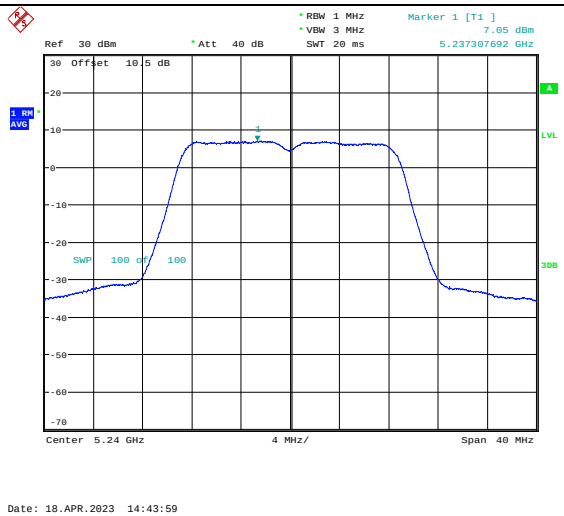
So:
Directional gain = G_{ANT} + Array Gain = 4.58+10*log(2/1)=7.58 dBi for Non-beamforming mode
Directional gain = G_{ANT} + Array Gain =4.58+3+10*log(2/1)=10.58dBi for Beamforming mode
The worst limit Beamforming mode was used in the table.

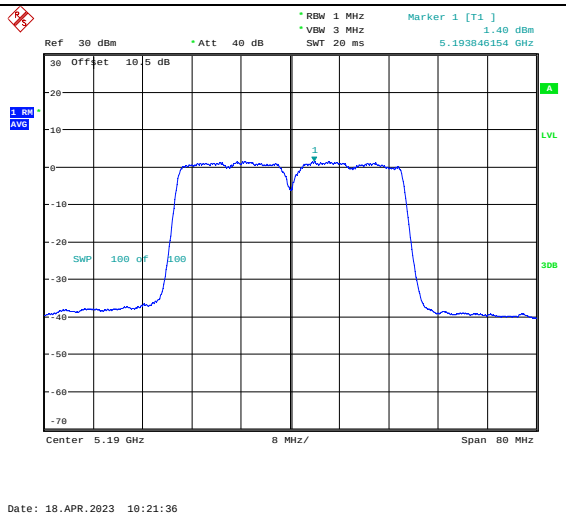
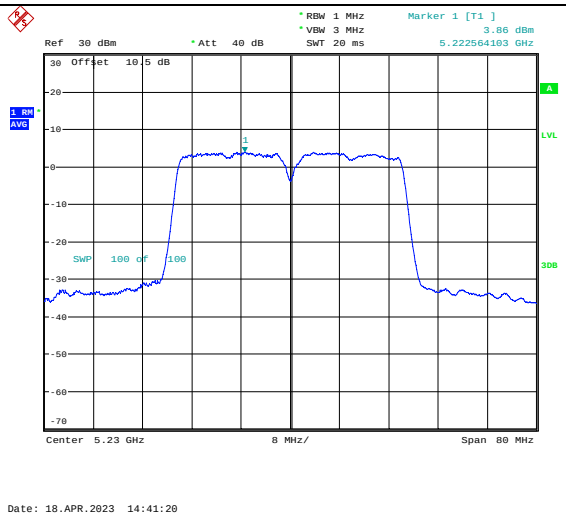
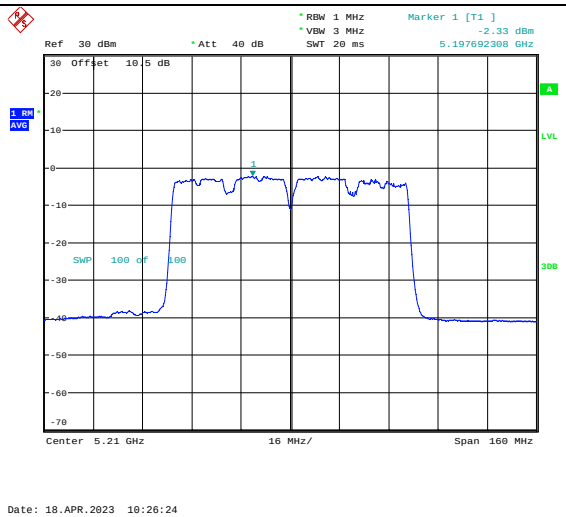
Chain 0:
5150-5250MHz:

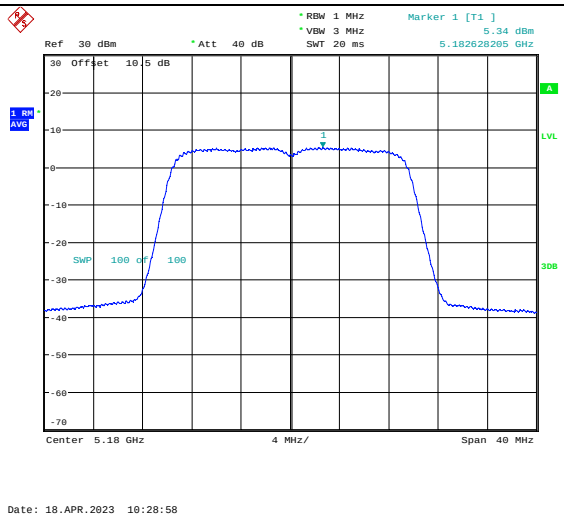
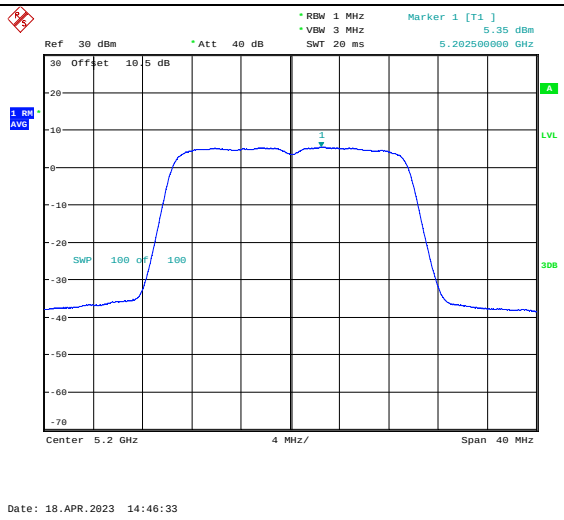
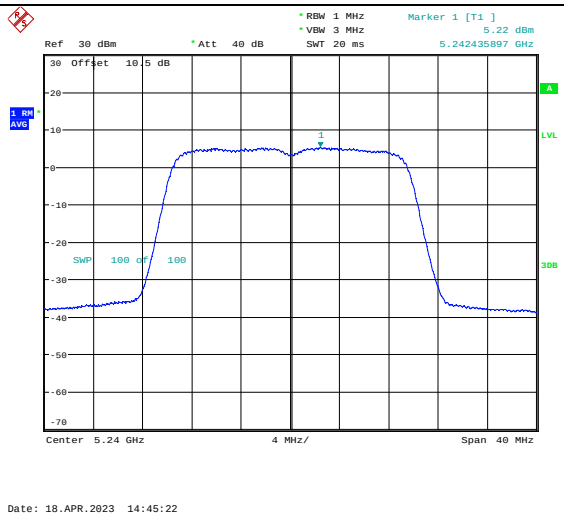
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

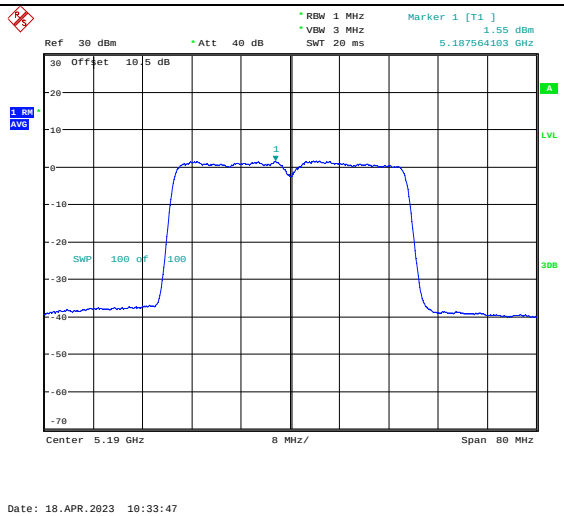
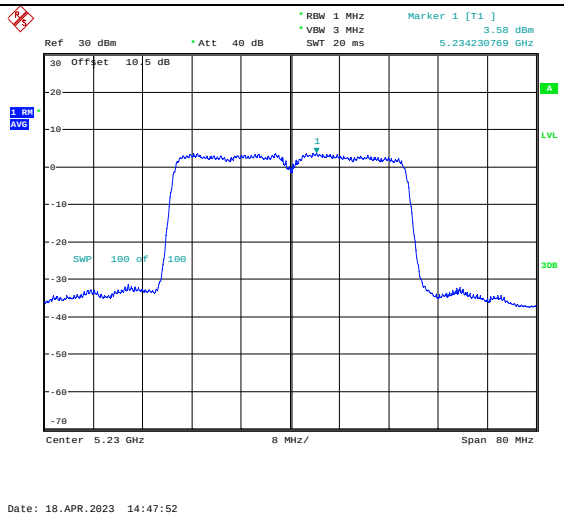
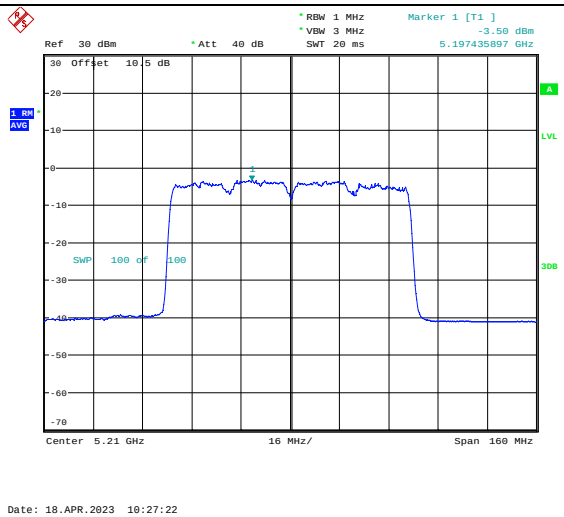
Maximum power spectral density	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Maximum power spectral density	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

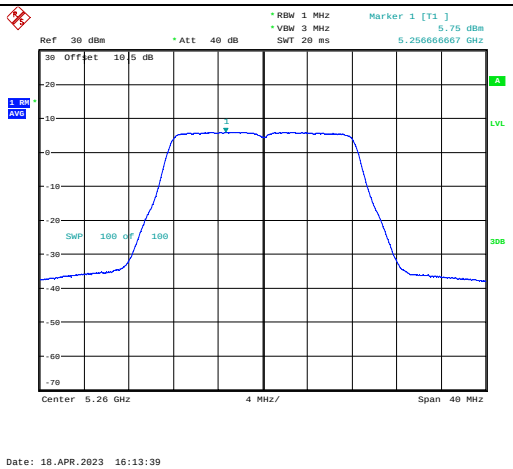
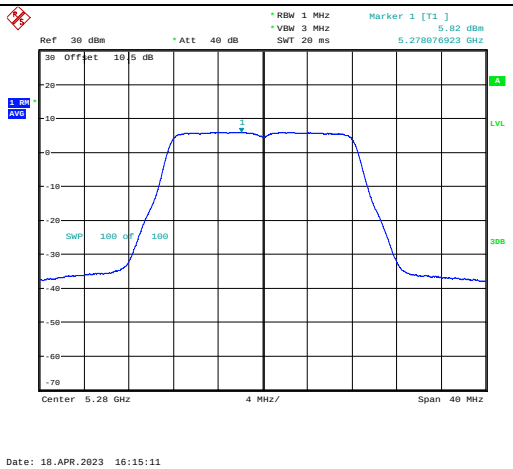
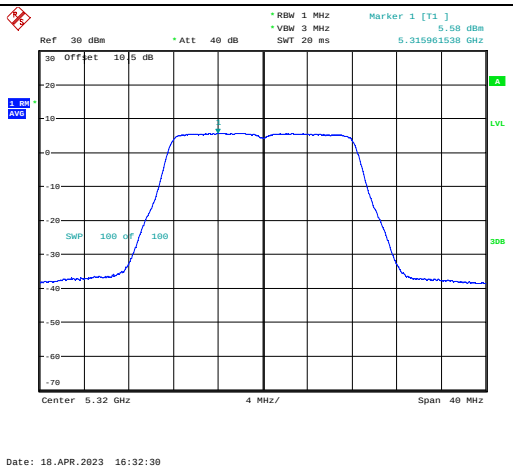
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

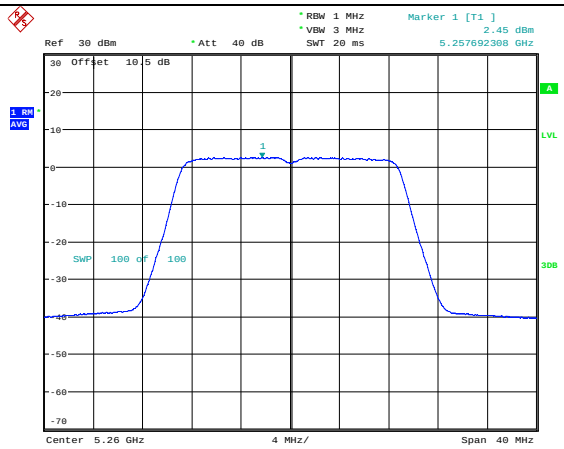
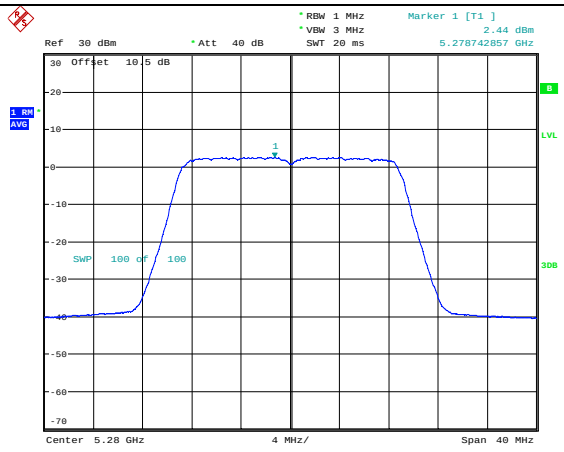
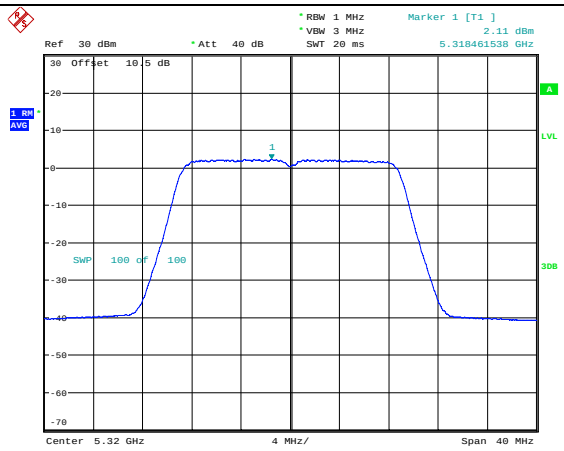
Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

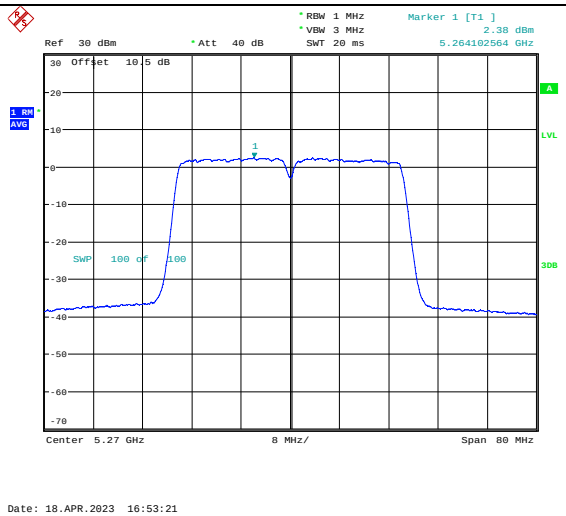
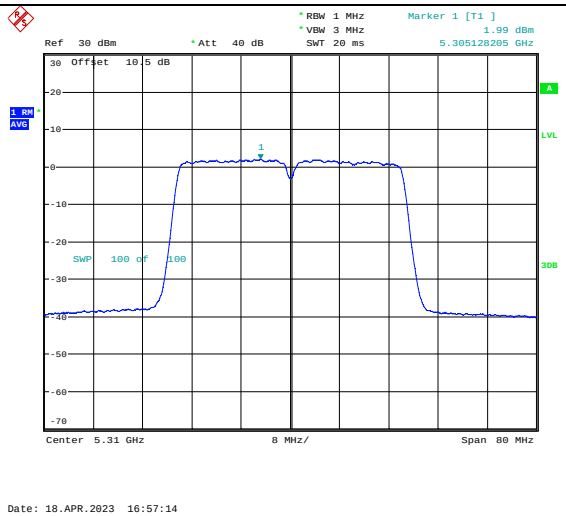
Maximum power spectral density	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

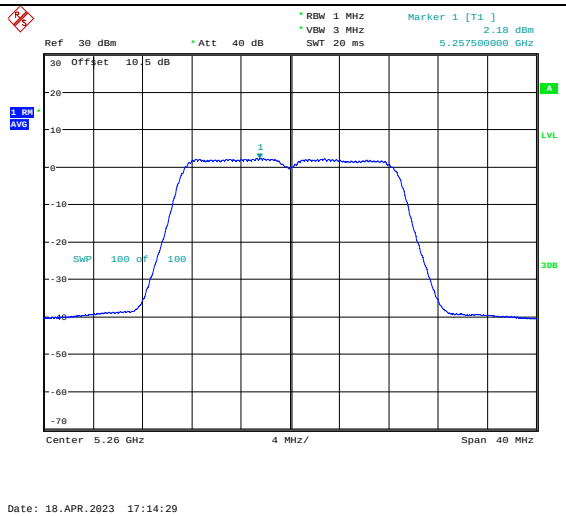
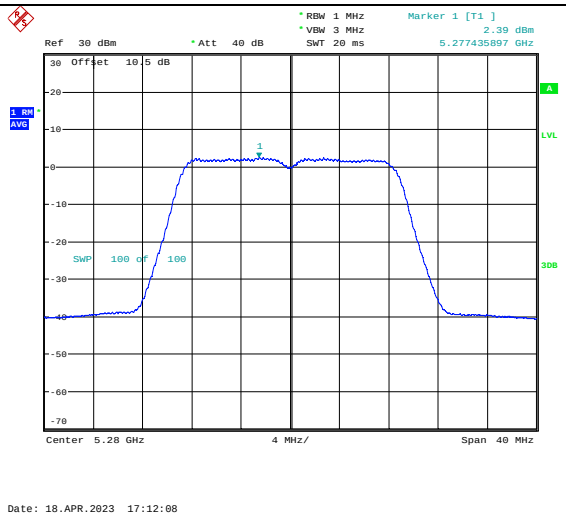
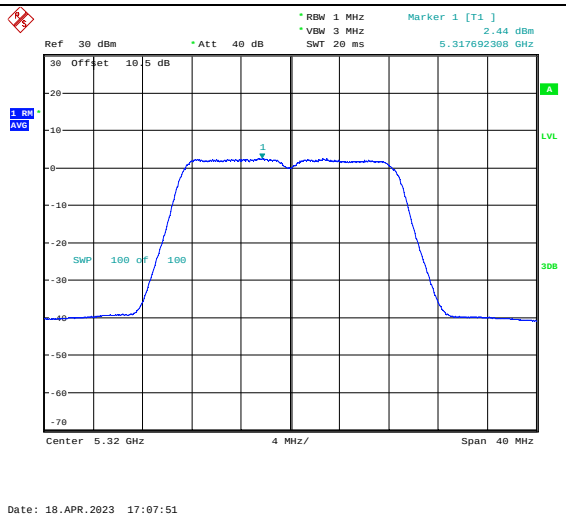
Maximum power spectral density	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

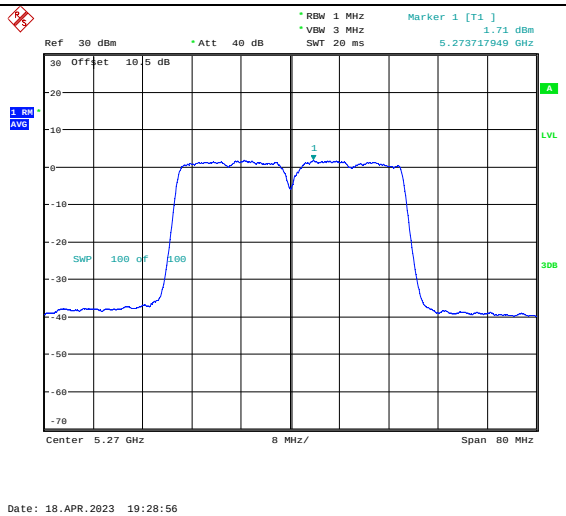
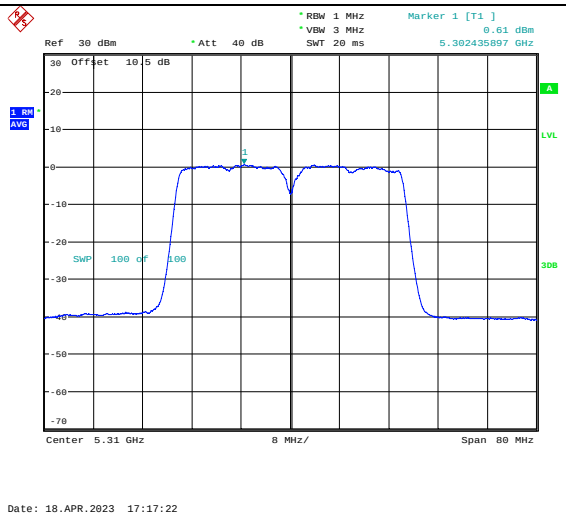
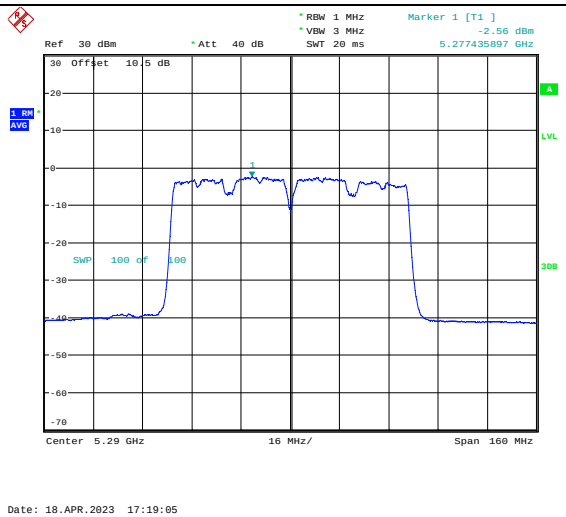
5250-5350MHz:

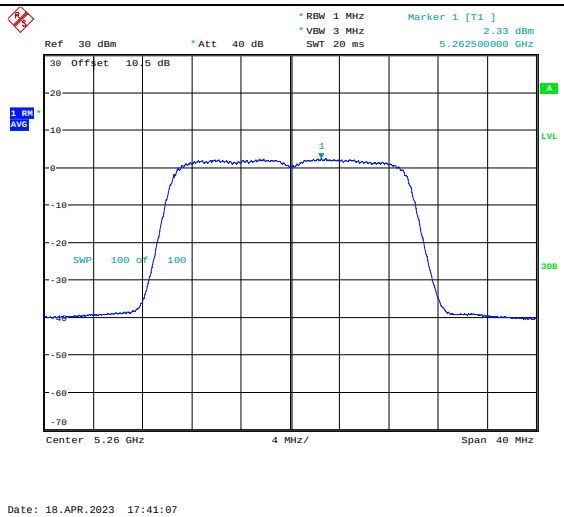
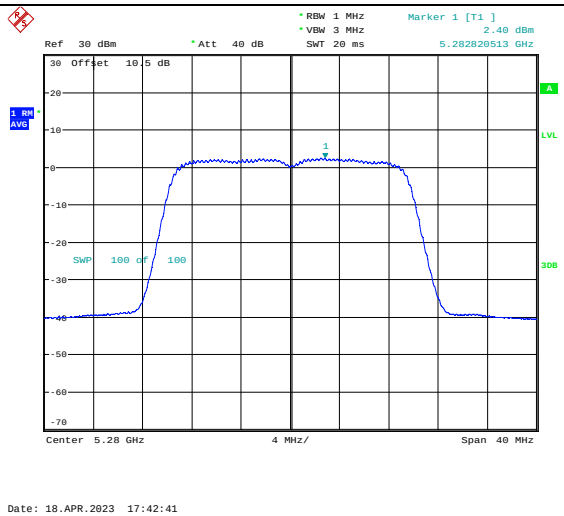
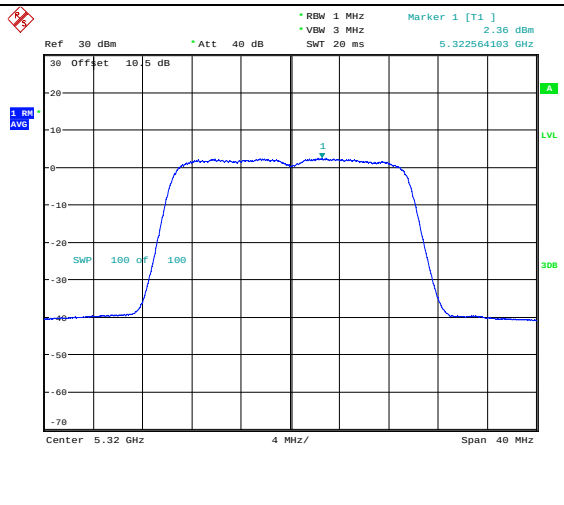
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

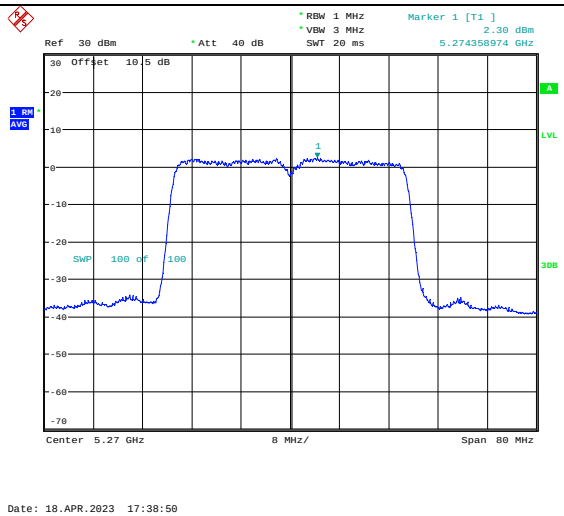
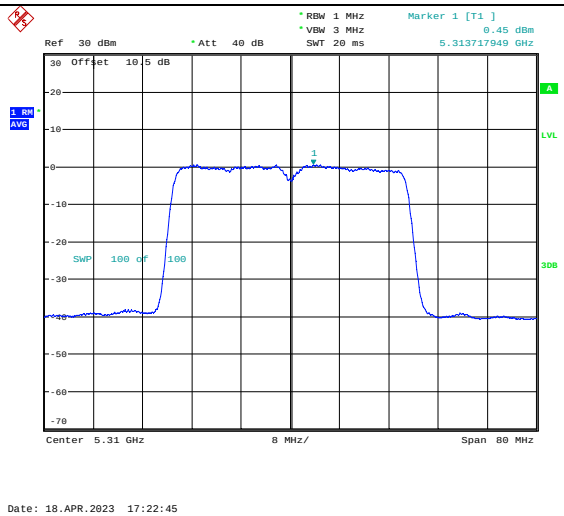
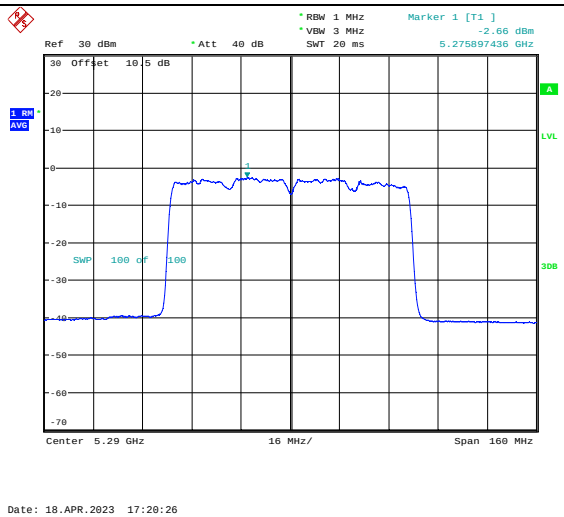
Maximum power spectral density	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Maximum power spectral density	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

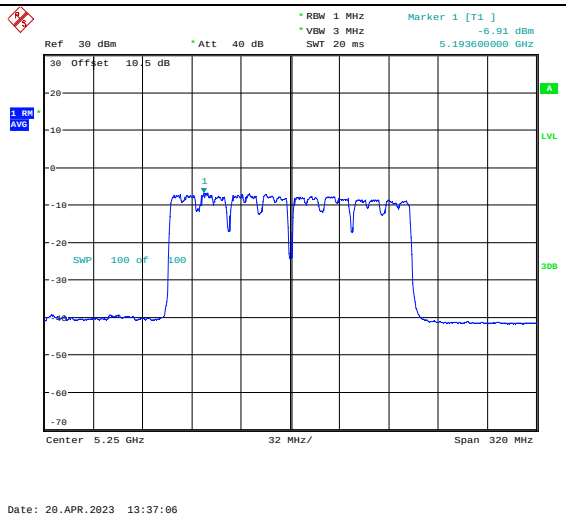
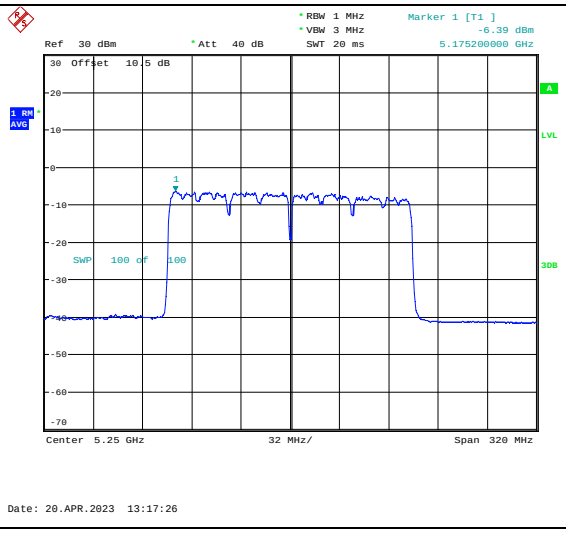
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

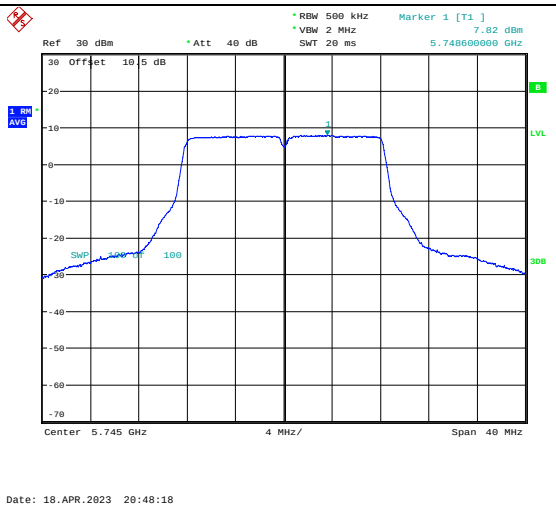
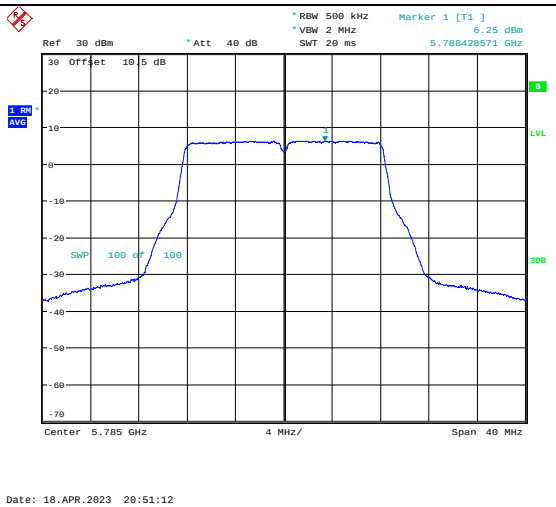
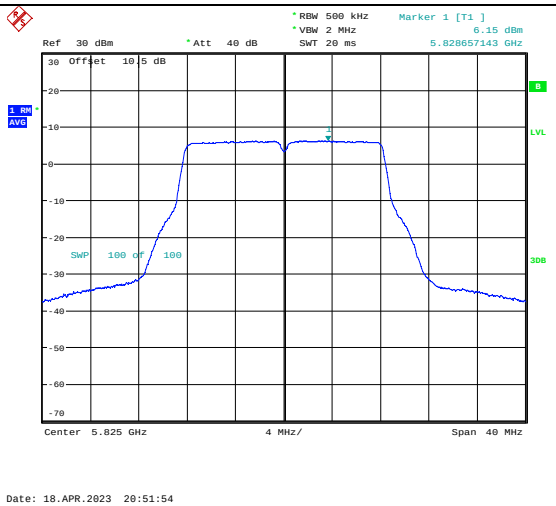
Maximum power spectral density	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

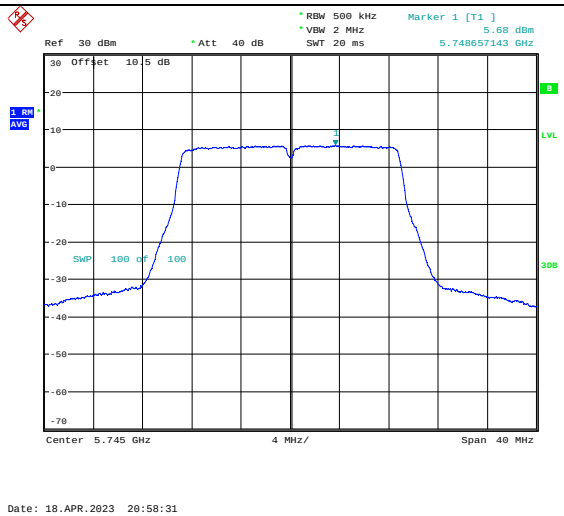
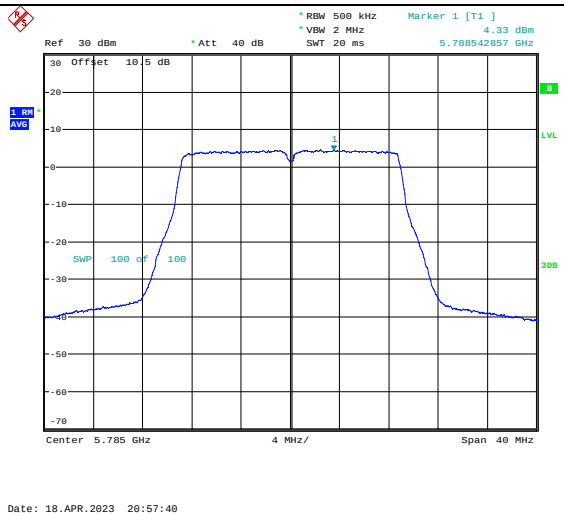
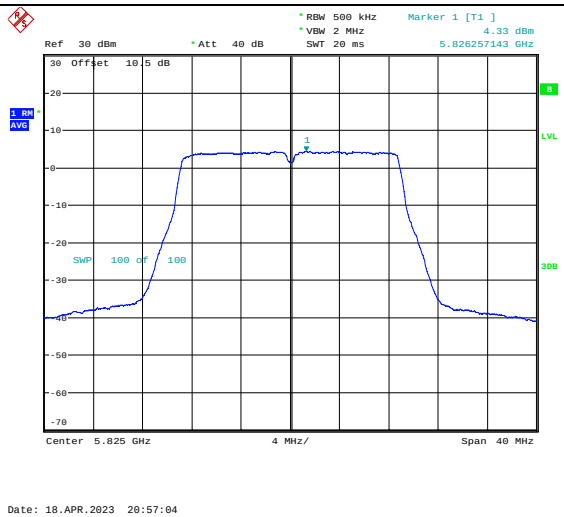
Maximum power spectral density	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

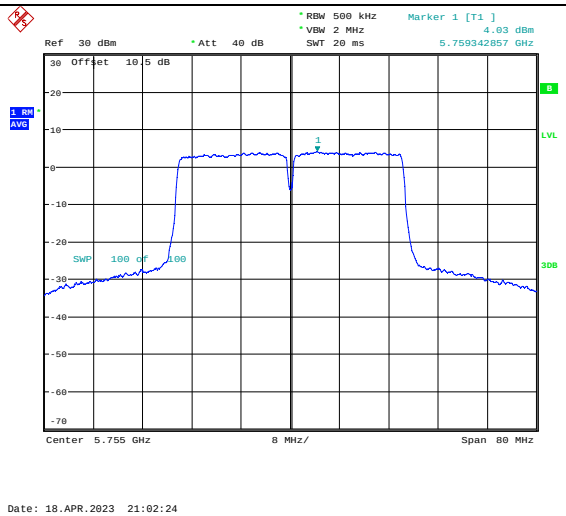
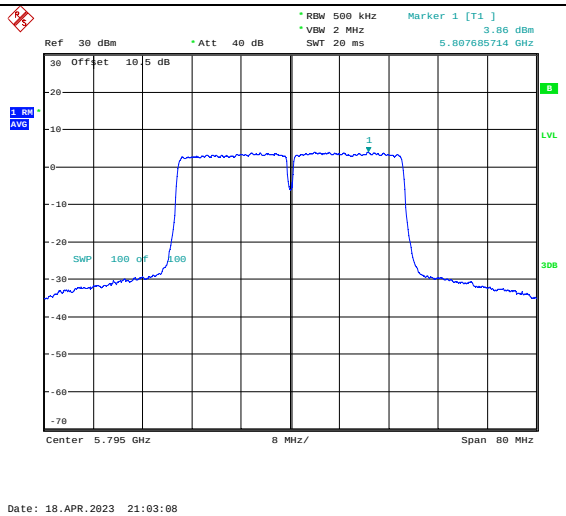
5150-5250 MHz &5250-5350 MHz:

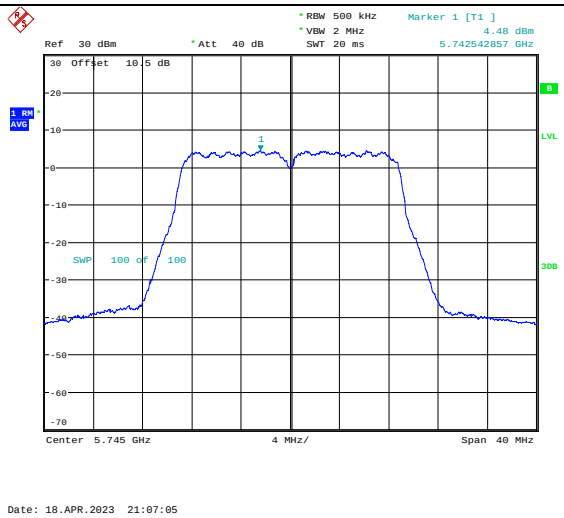
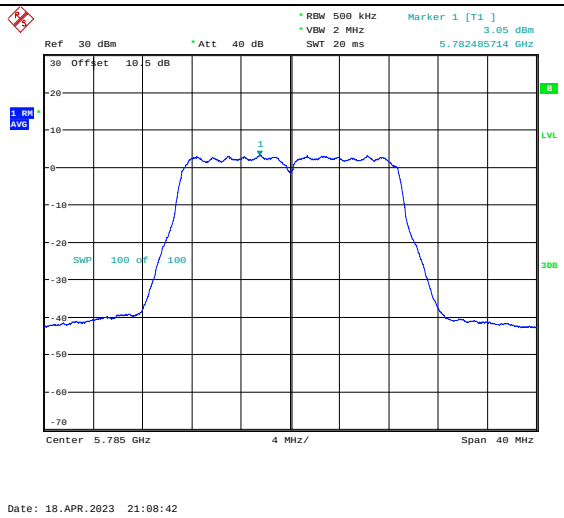
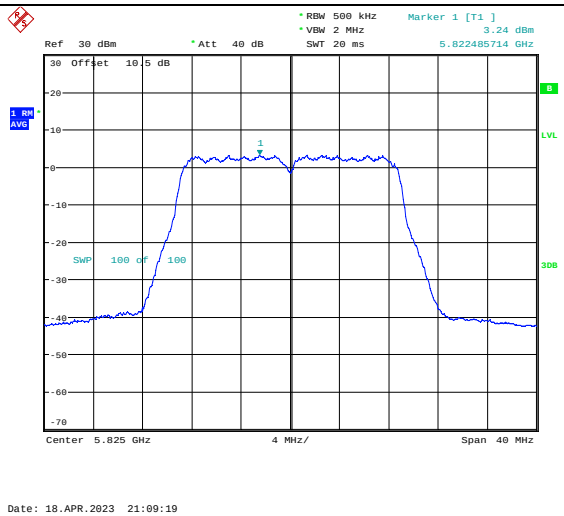
Maximum power spectral density	
802.11ac vht160 Middle Channel	
802.11ax he160 Middle Channel	

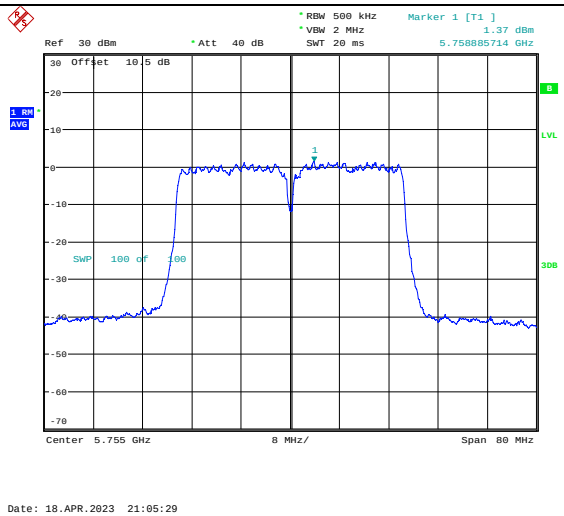
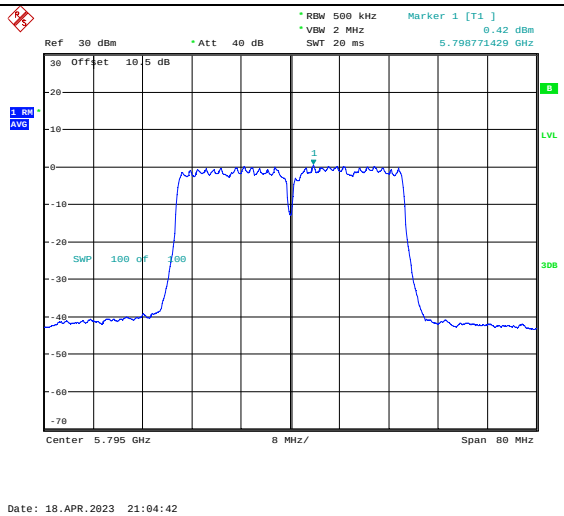
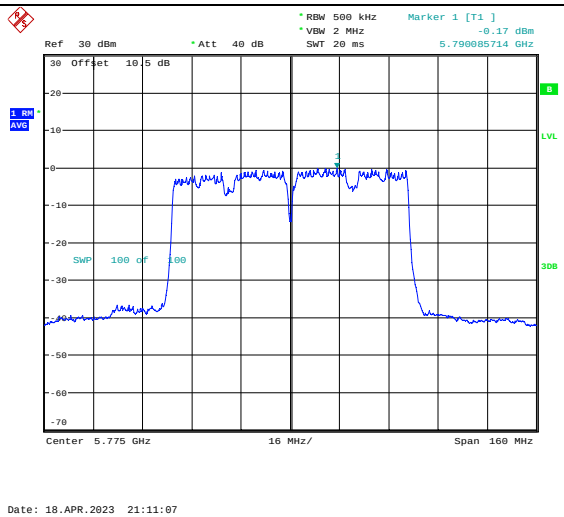
5725-5850MHz

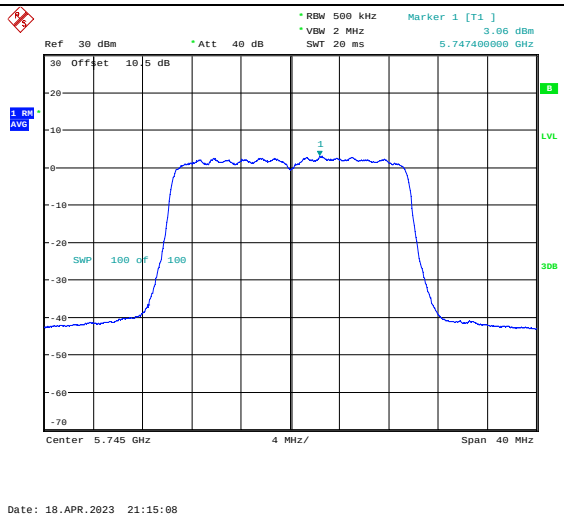
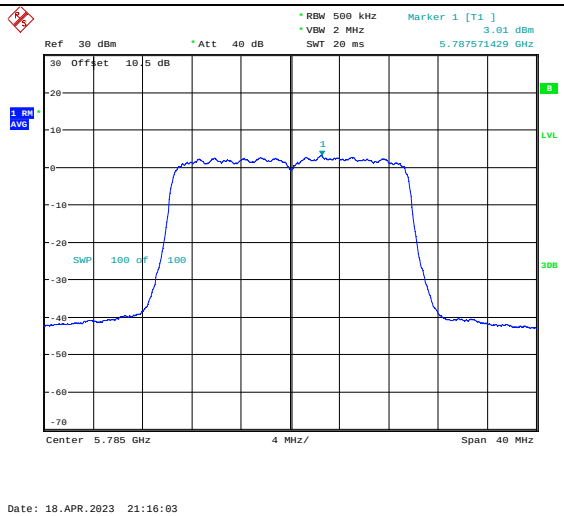
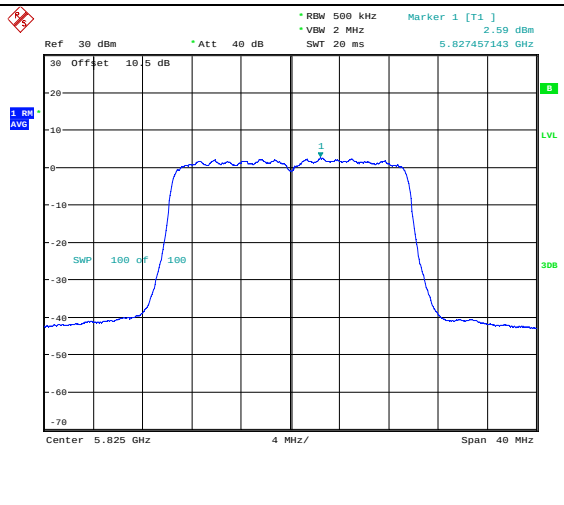
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

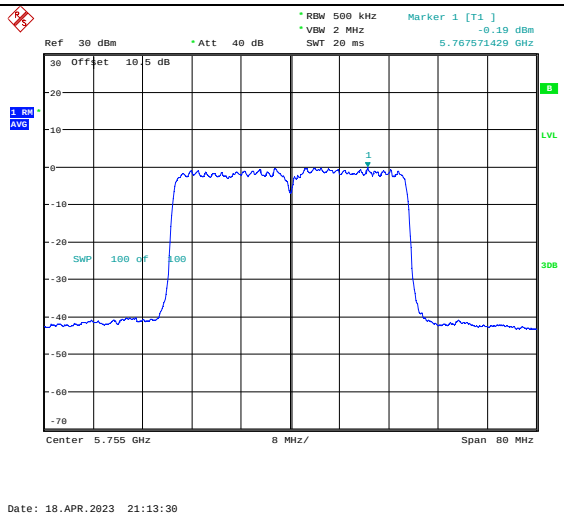
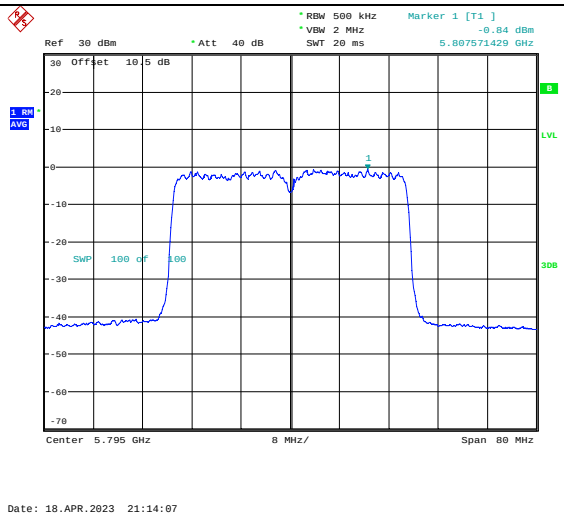
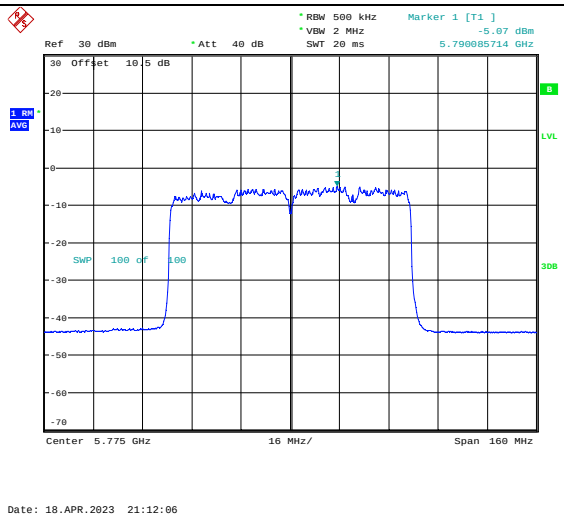
Maximum power spectral density	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Maximum power spectral density	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

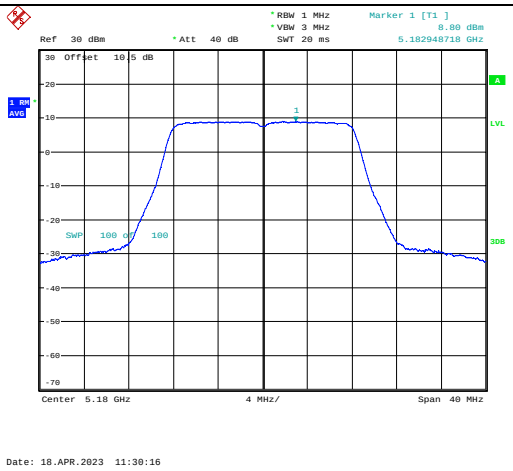
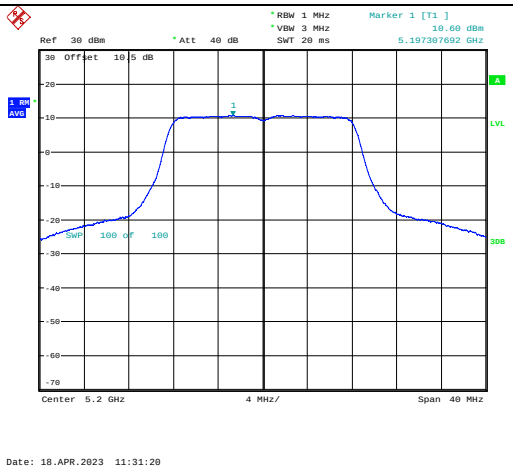
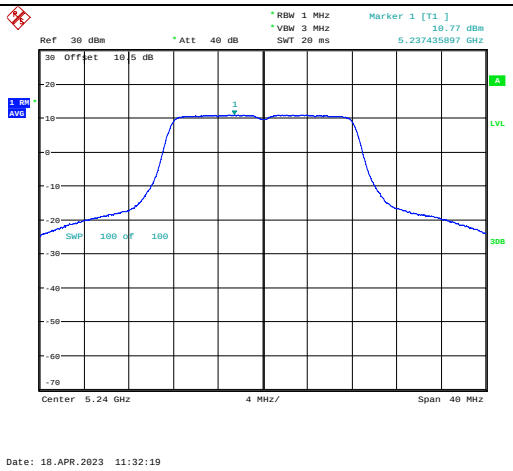
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

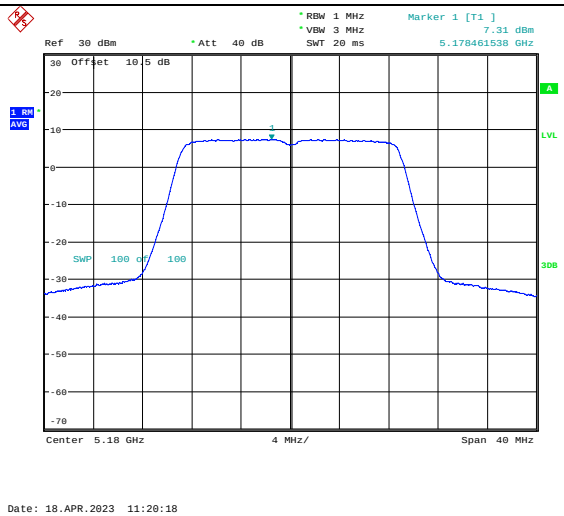
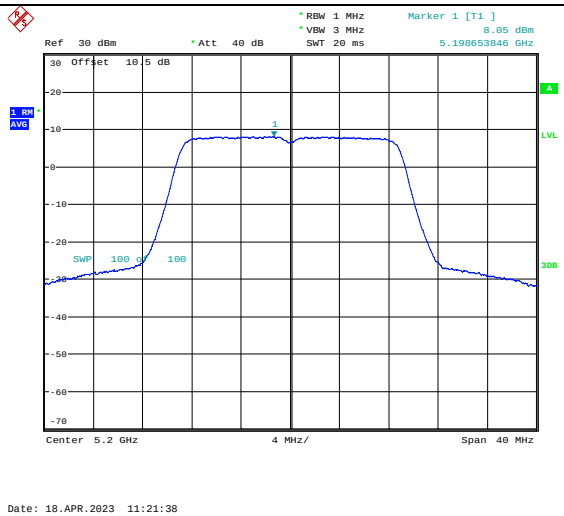
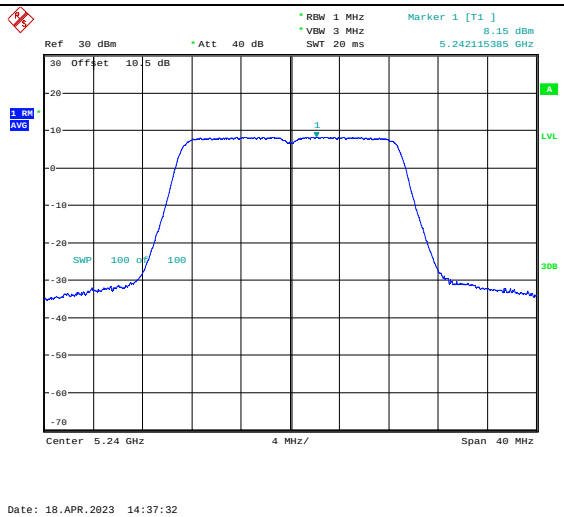
Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

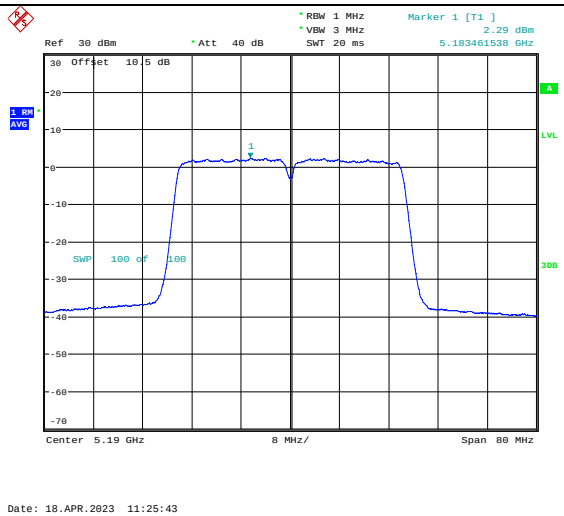
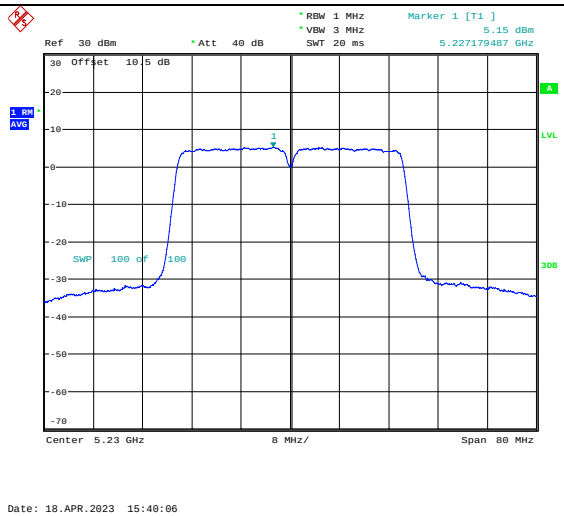
Maximum power spectral density	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

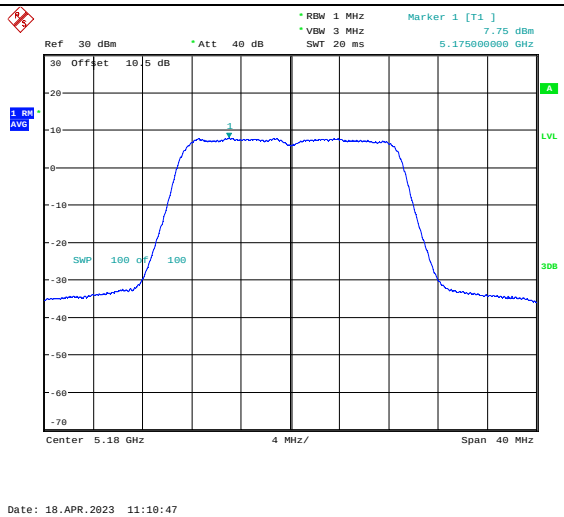
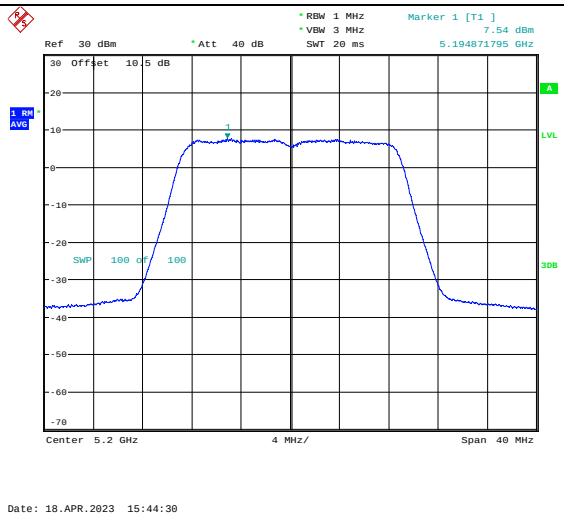
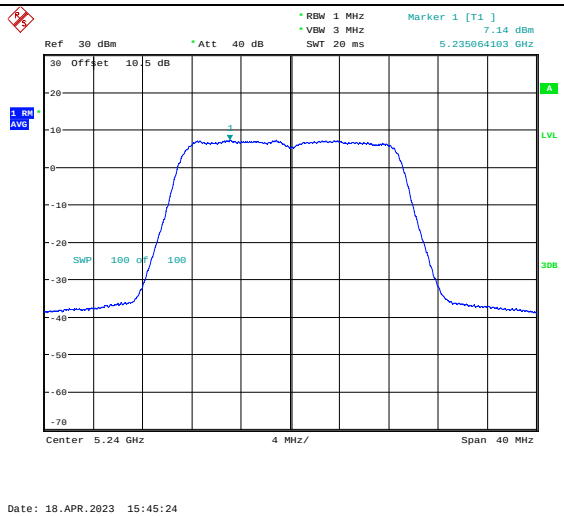
Maximum power spectral density	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

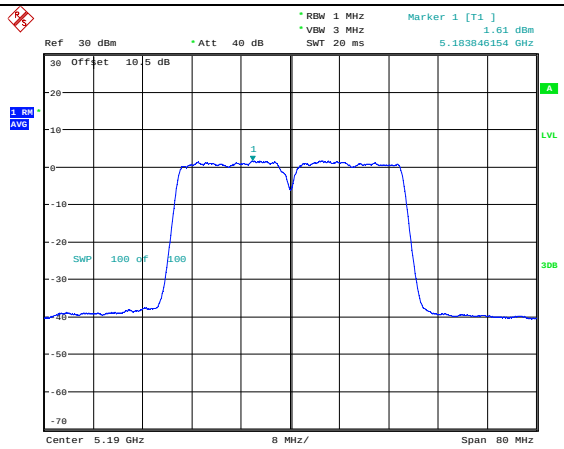
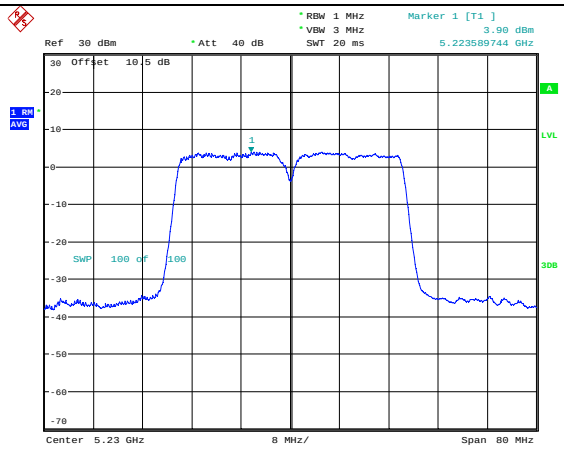
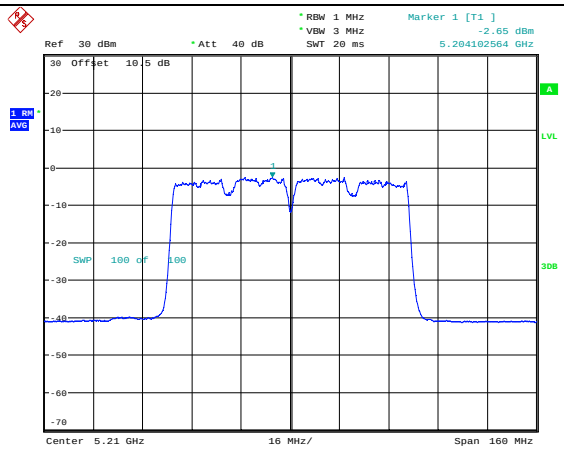
Chain 1:
5150-5250MHz:

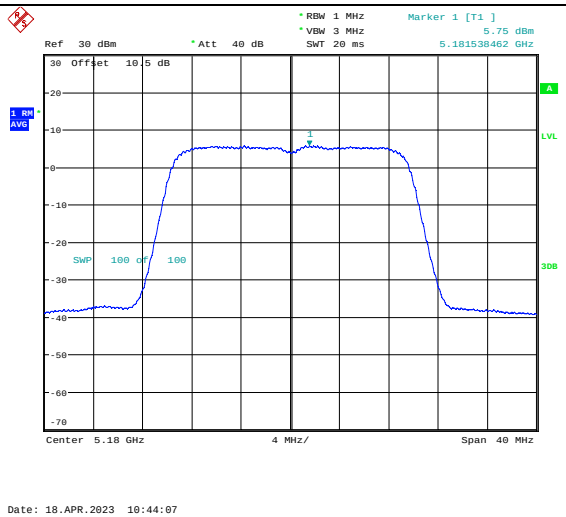
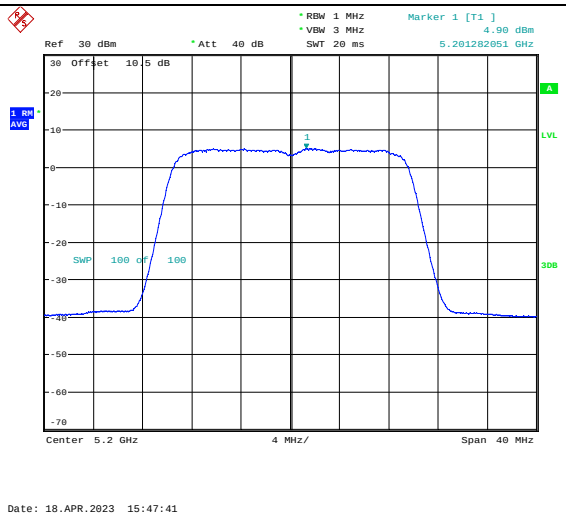
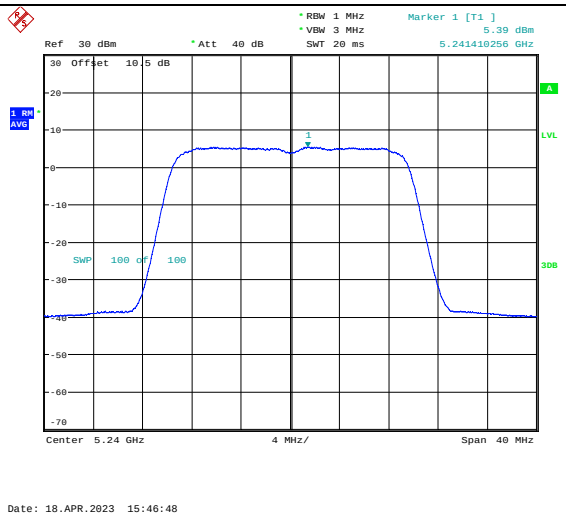
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

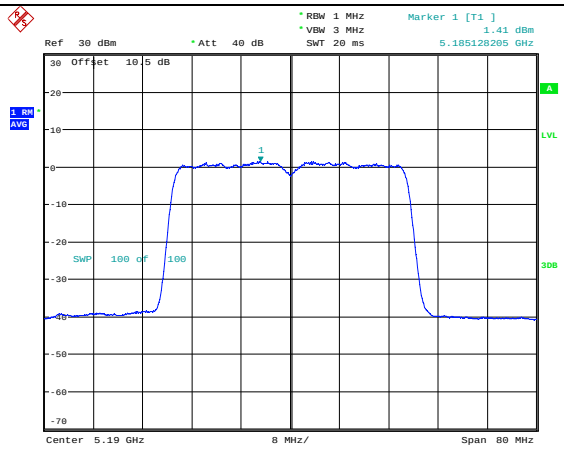
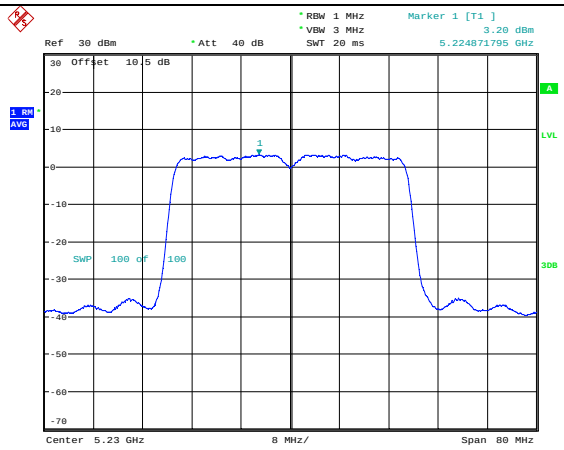
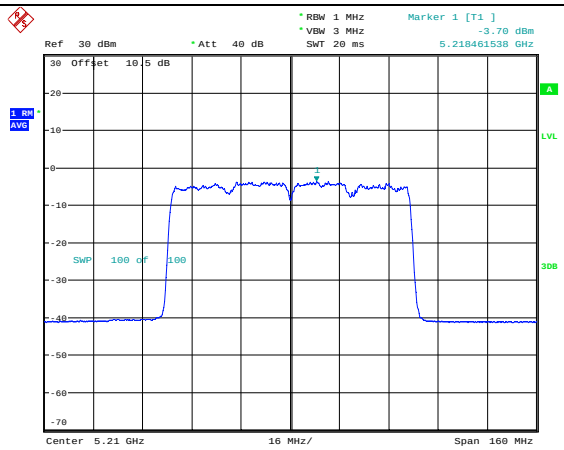
Maximum power spectral density	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Maximum power spectral density	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

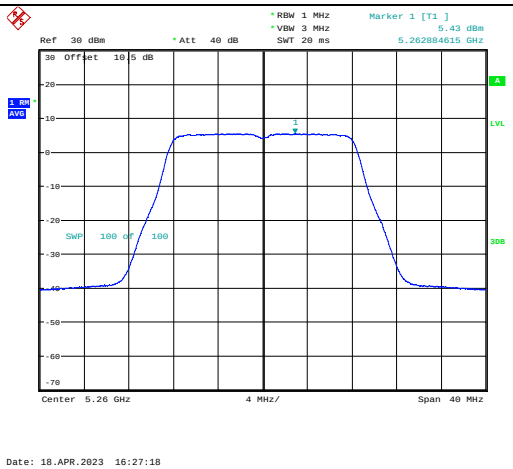
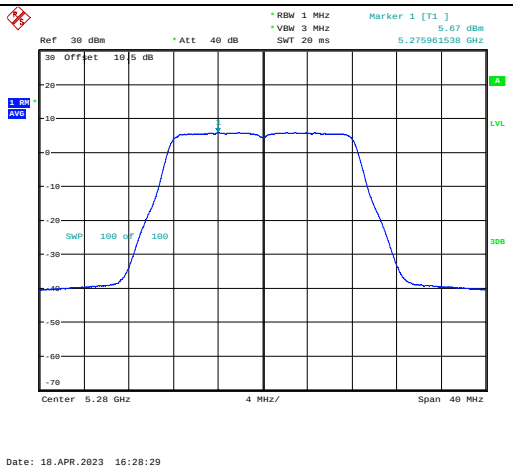
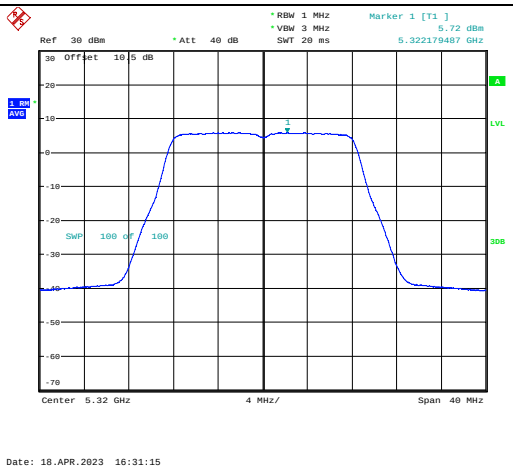
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

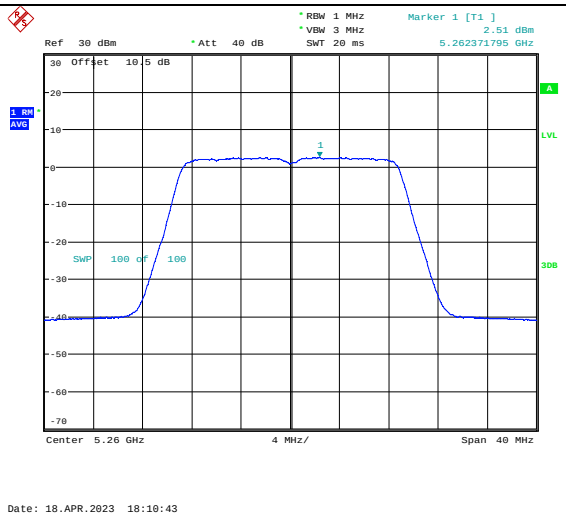
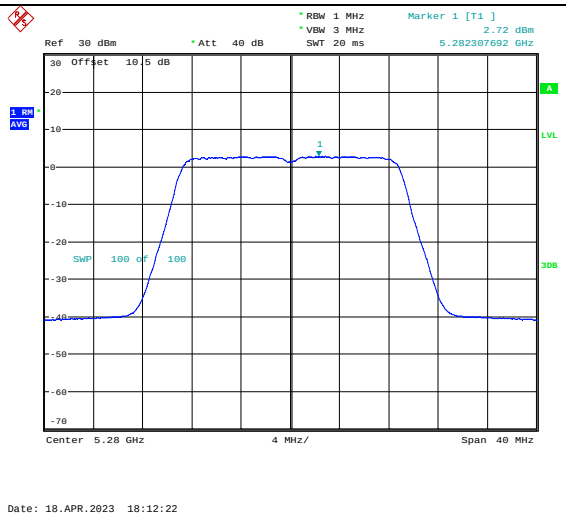
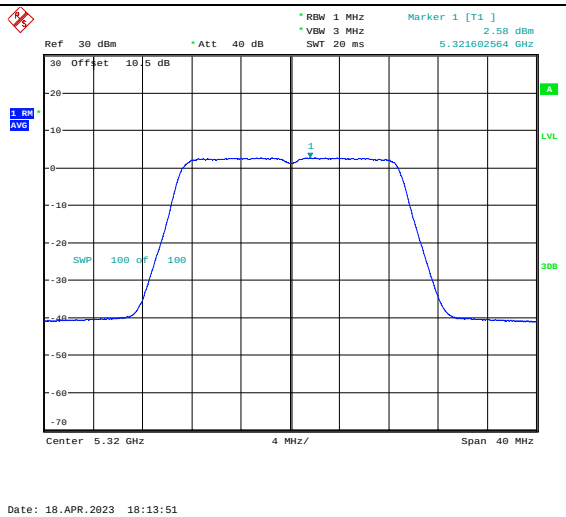
Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

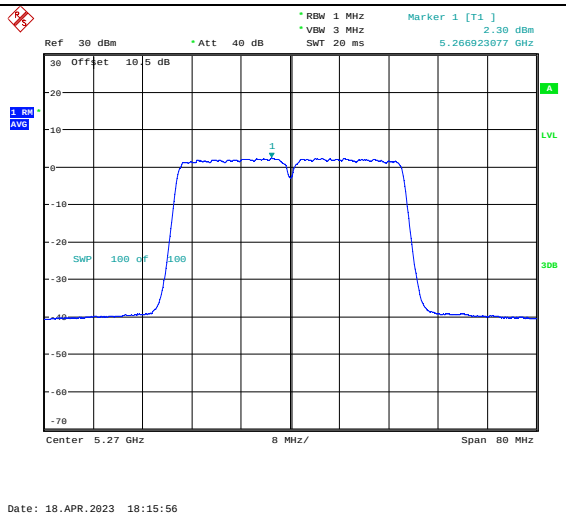
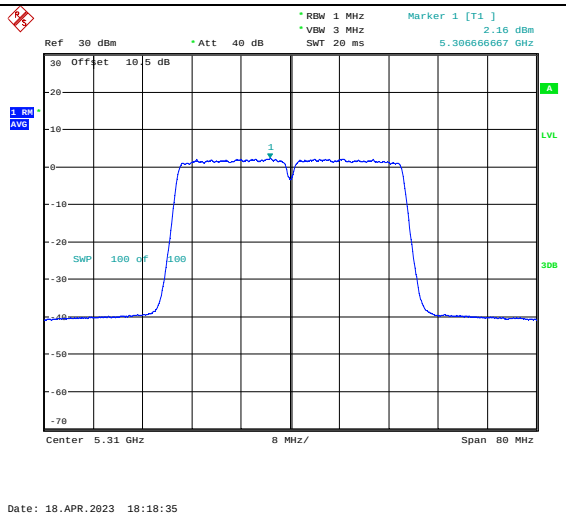
Maximum power spectral density	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

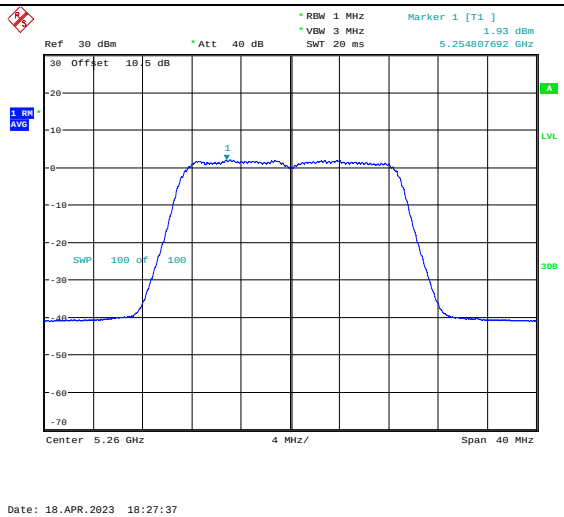
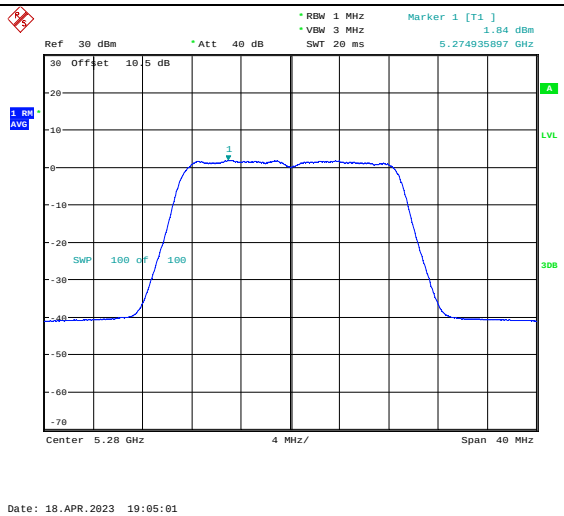
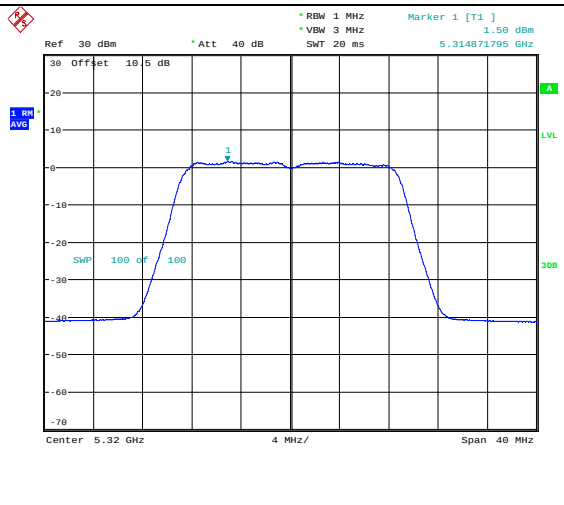
Maximum power spectral density	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

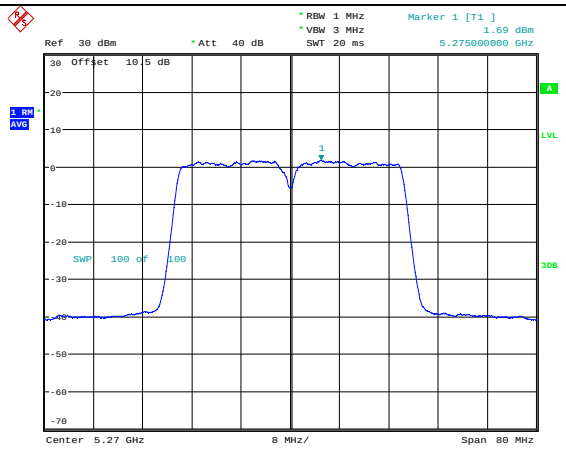
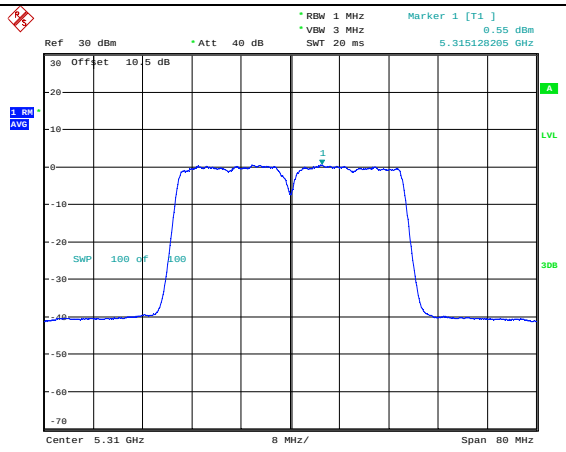
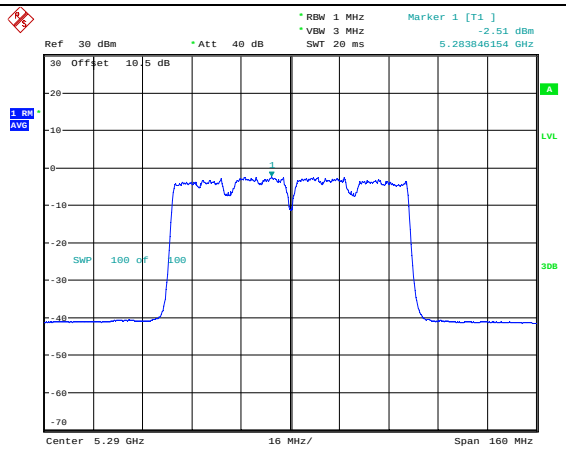
5250-5350MHz:

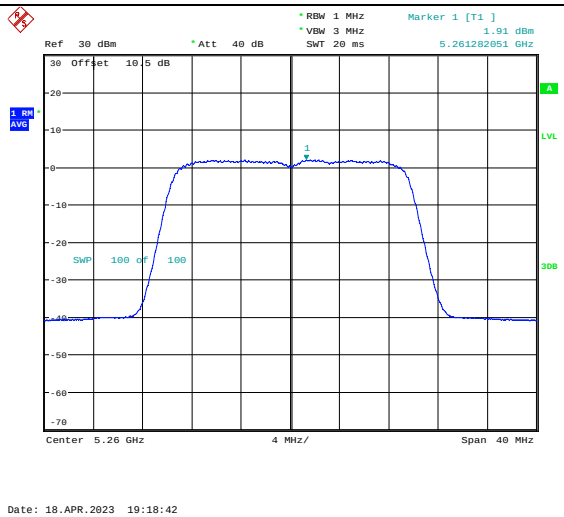
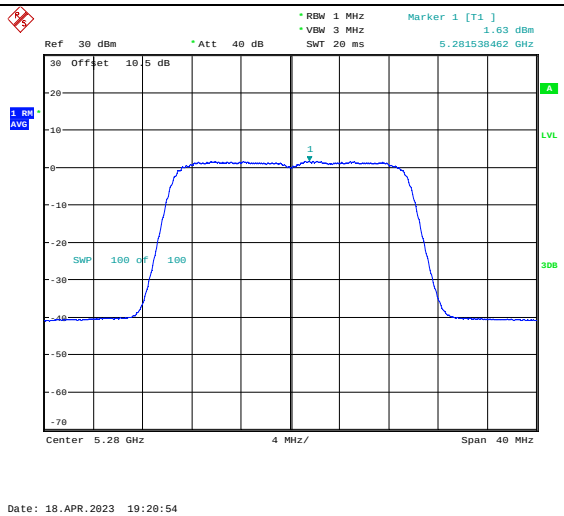
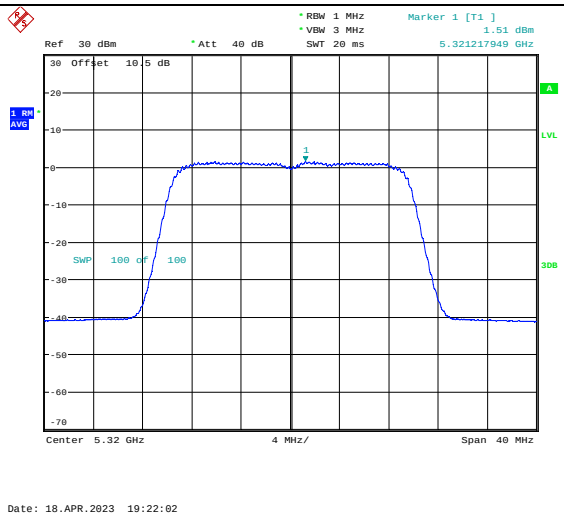
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

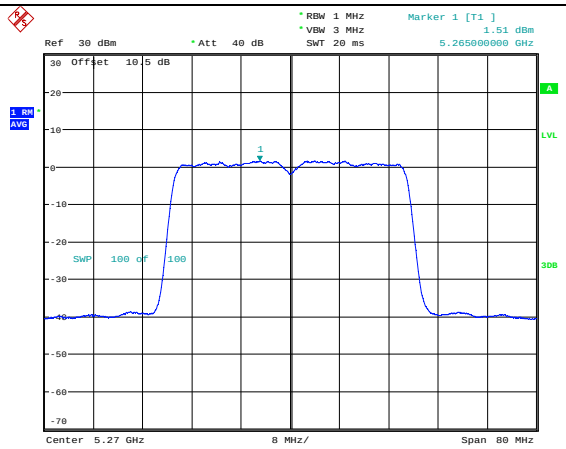
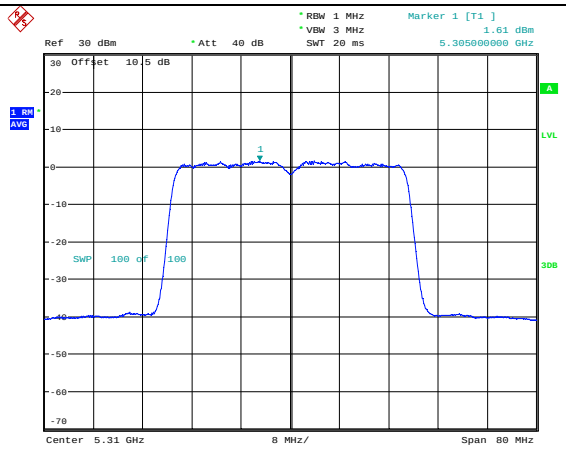
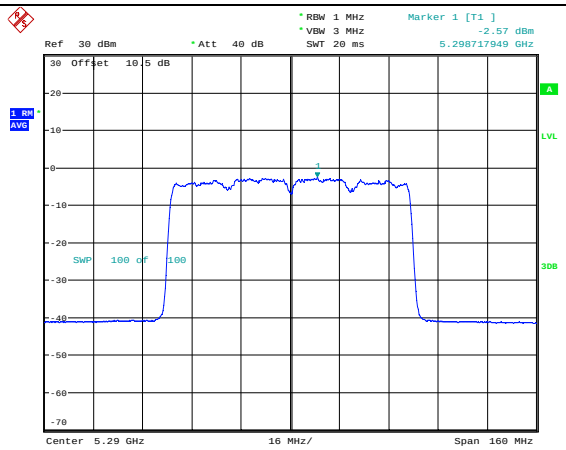
Maximum power spectral density	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Maximum power spectral density	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

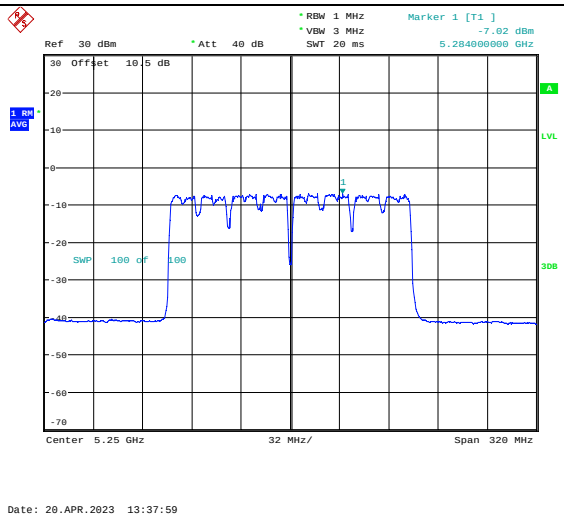
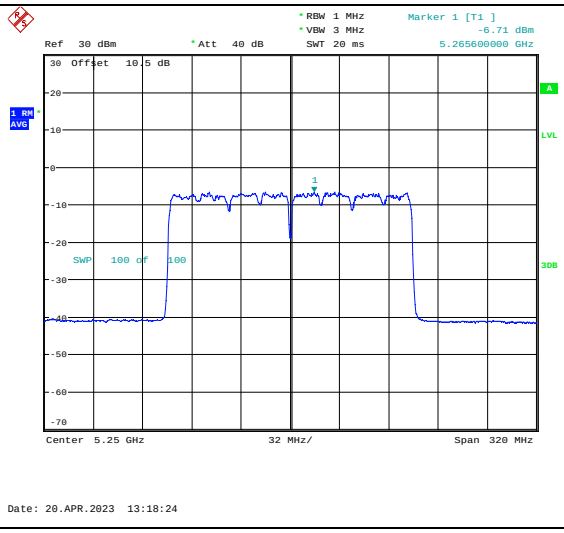
Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

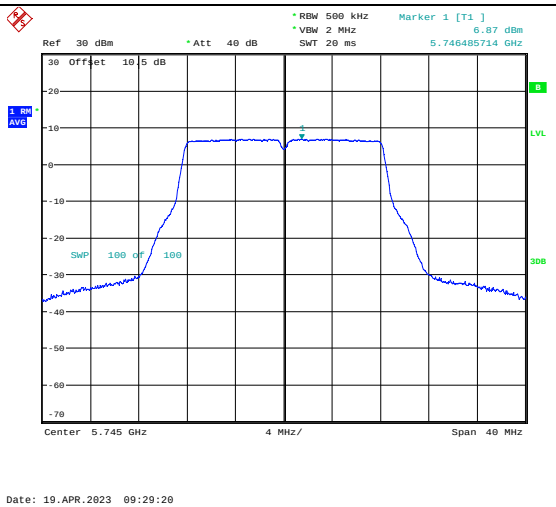
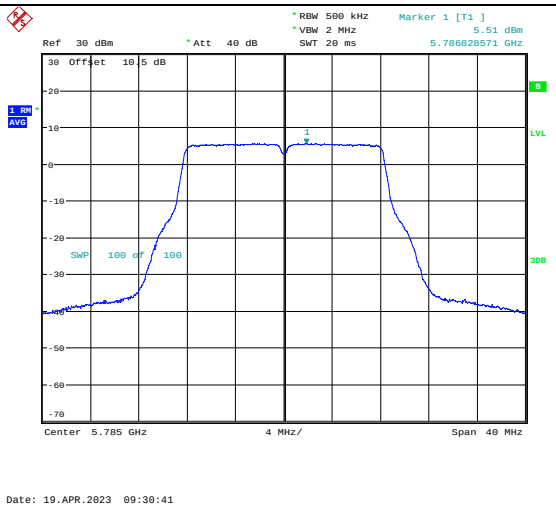
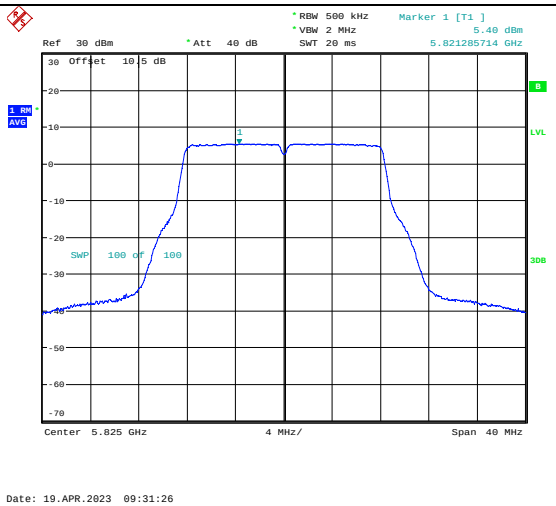
Maximum power spectral density	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

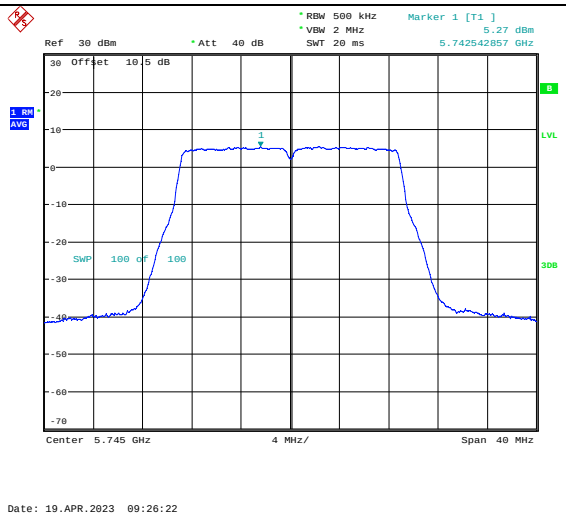
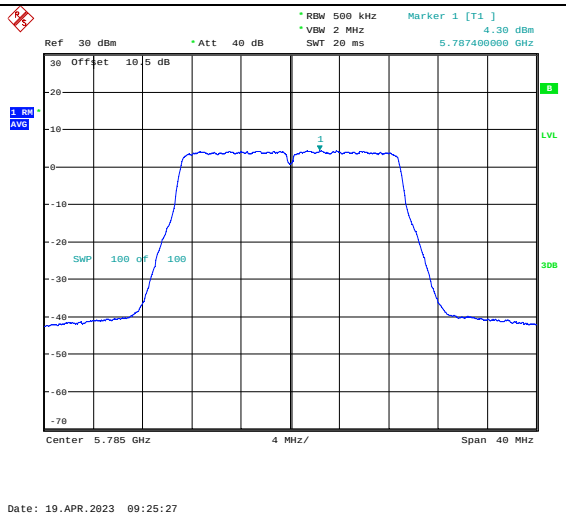
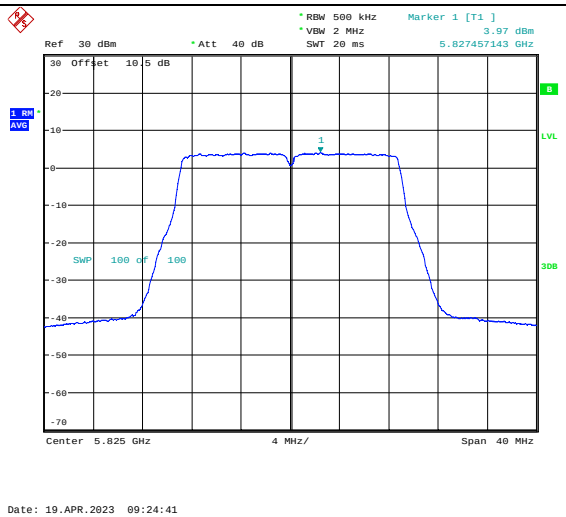
Maximum power spectral density	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

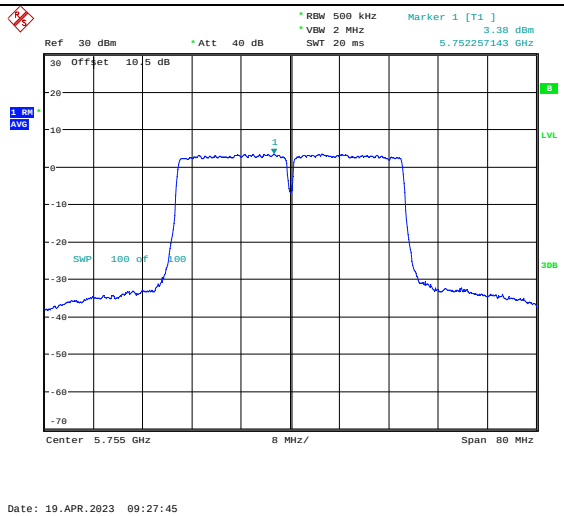
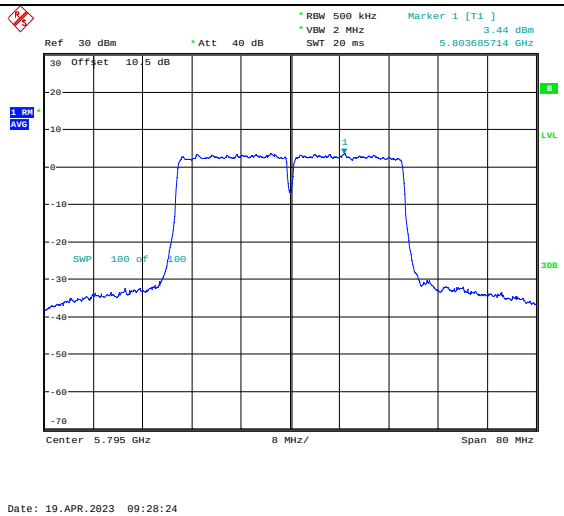
5150-5250 MHz &5250-5350 MHz:

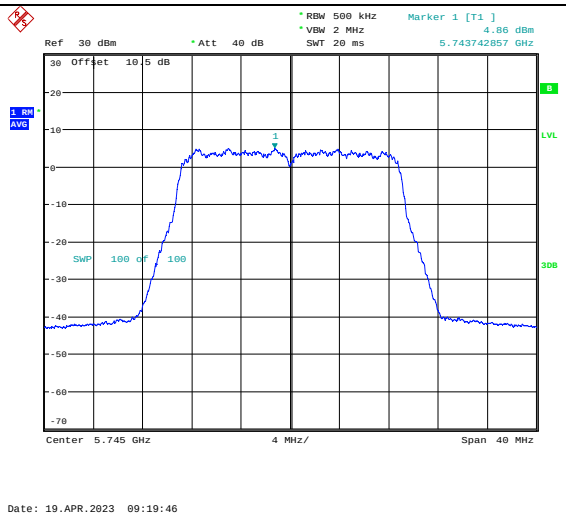
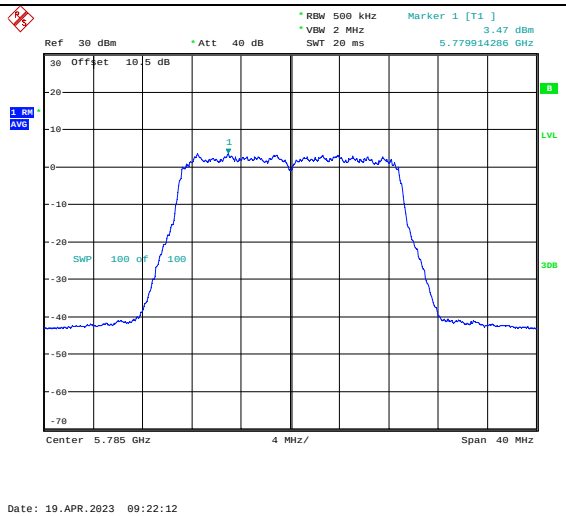
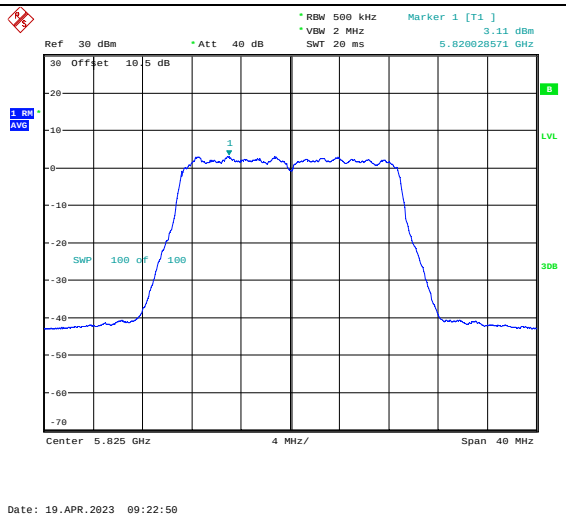
Maximum power spectral density	
802.11ac vht160 Middle Channel	
802.11ax he160 Middle Channel	

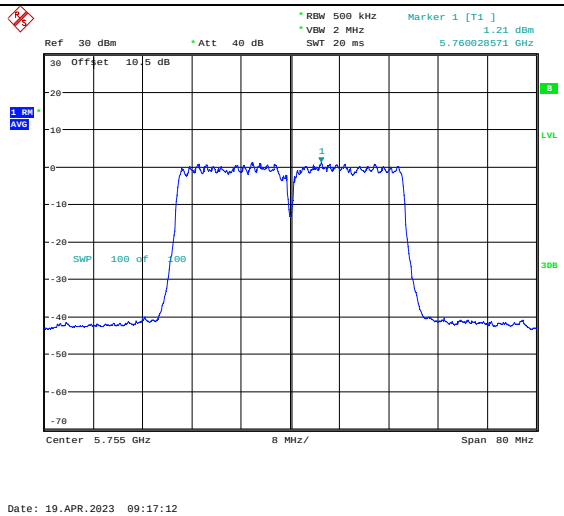
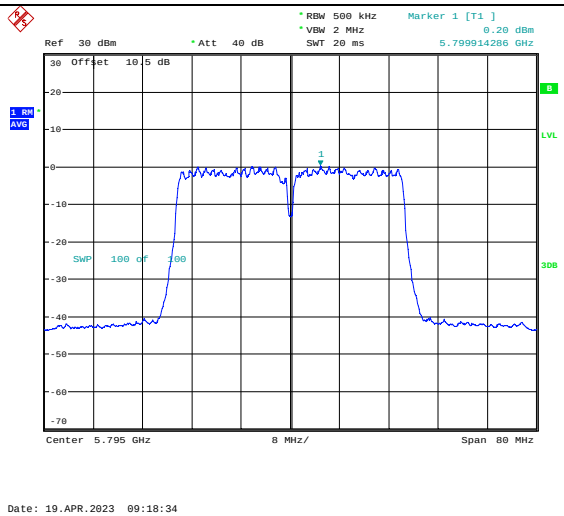
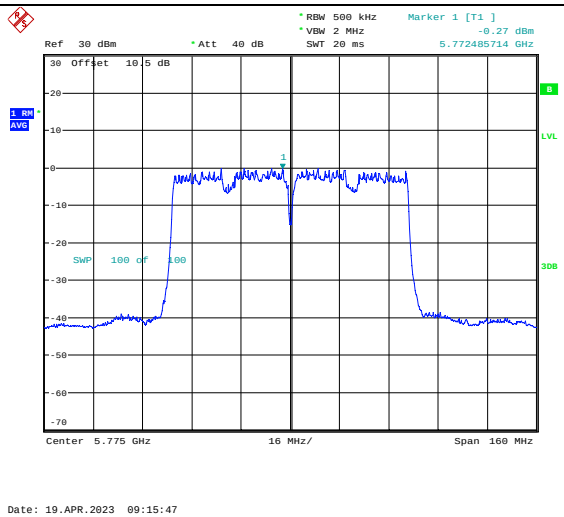
5725-5850MHz

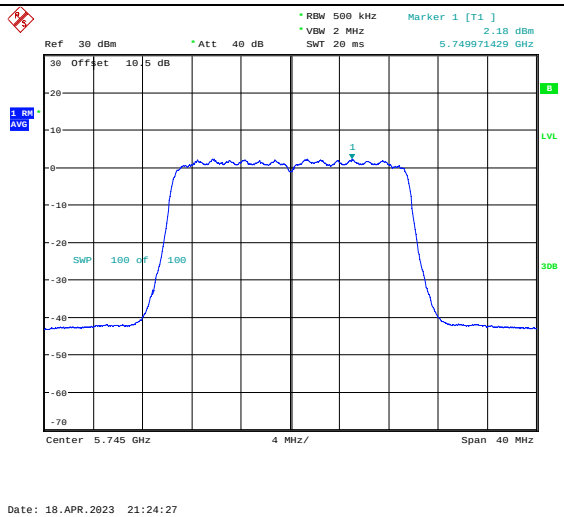
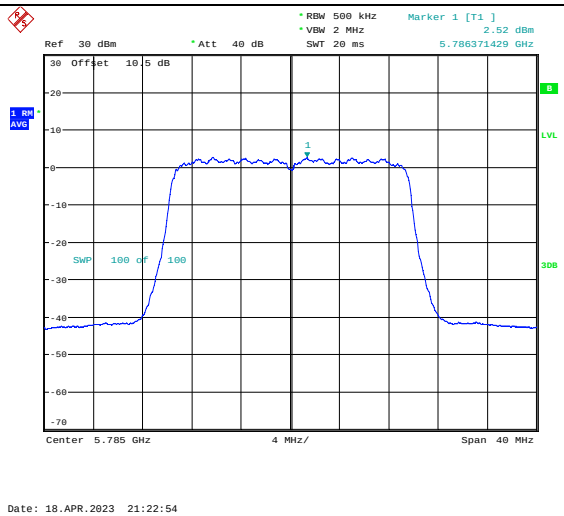
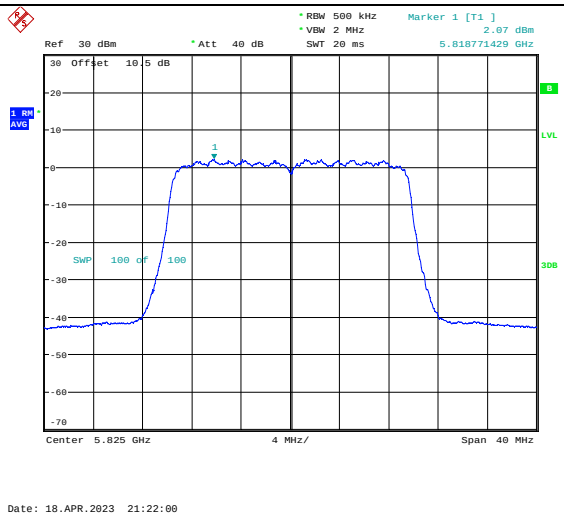
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

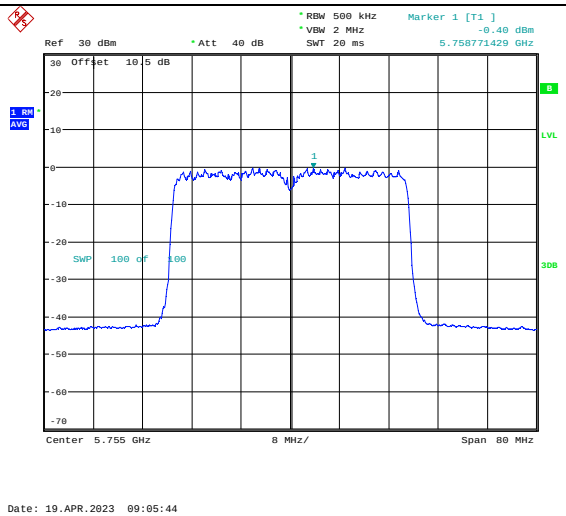
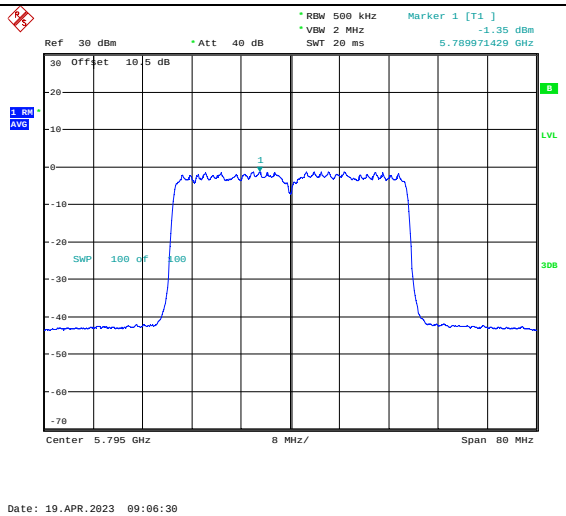
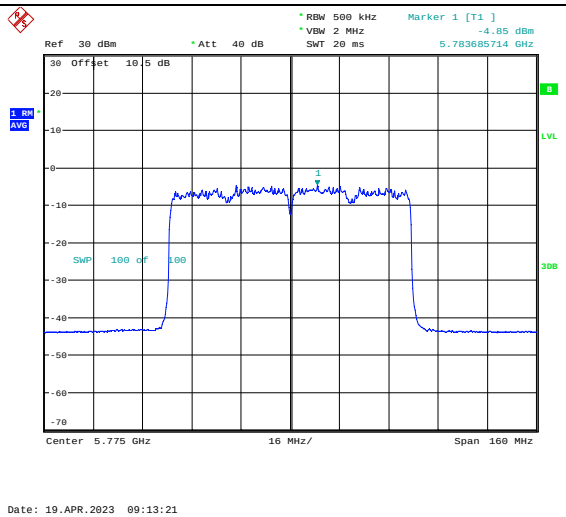
Maximum power spectral density	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Maximum power spectral density	
802.11n ht40 Lowest Channel	
802.11n ht40 Highest Channel	

Maximum power spectral density	
802.11ac vht20 Lowest Channel	
802.11ac vht20 Middle Channel	
802.11ac vht20 Highest Channel	

Maximum power spectral density	
802.11ac vht40 Lowest Channel	
802.11ac vht40 Highest Channel	
802.11ac vht80 Middle Channel	

Maximum power spectral density	
802.11ax he20 Lowest Channel	
802.11ax he20 Middle Channel	
802.11ax he20 Highest Channel	

Maximum power spectral density	
802.11ax he40 Lowest Channel	
802.11ax he40 Highest Channel	
802.11ax he80 Middle Channel	

4.6 Duty Cycle:

Serial Number:	232M	Test Date:	2023/4/17~2023/4/26
Test Site:	RF	Test Mode:	Transmitting
Tester:	Julie Tan	Test Result:	N/A

Environmental Conditions:					
Temperature: (℃)	22.8~27.2	Relative Humidity: (%)	47~52	ATM Pressure: (kPa)	99.8~100.9

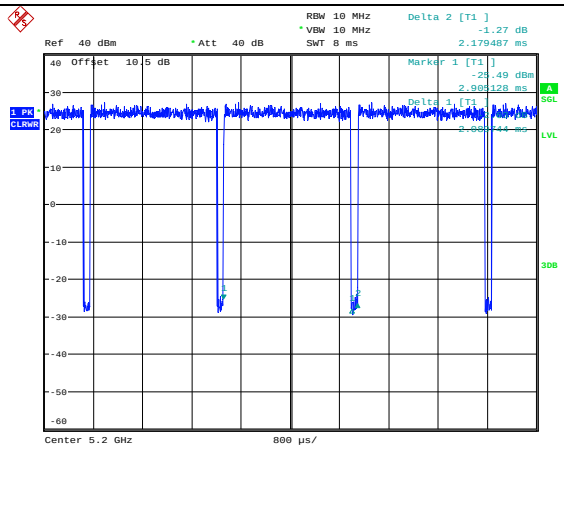
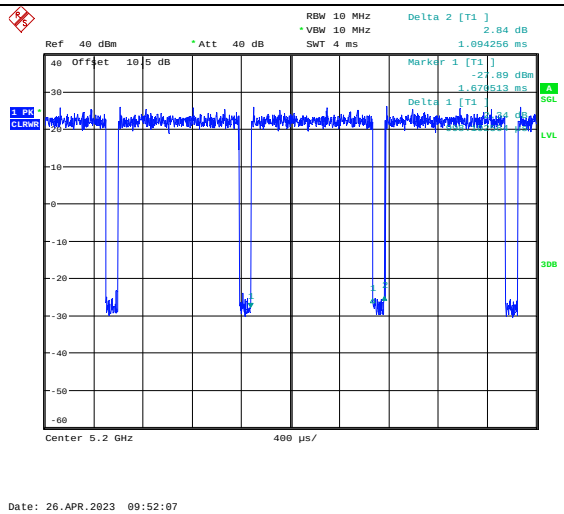
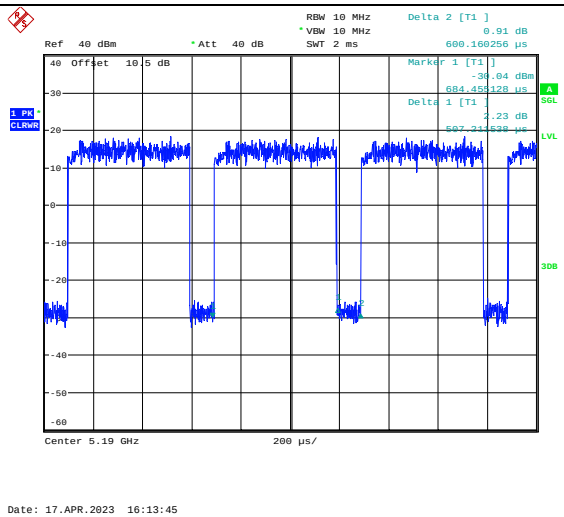
Test Equipment List and Details:

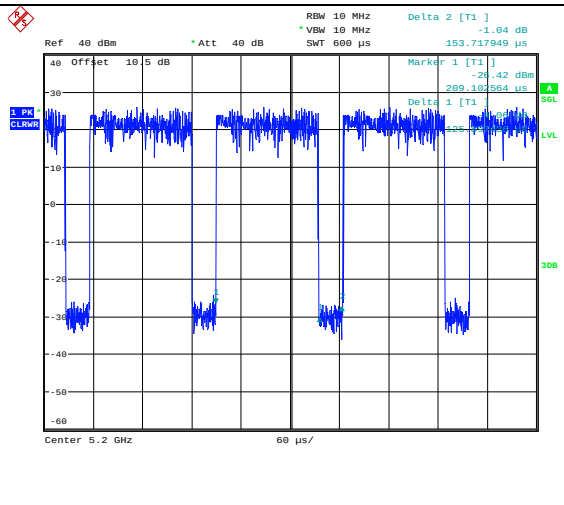
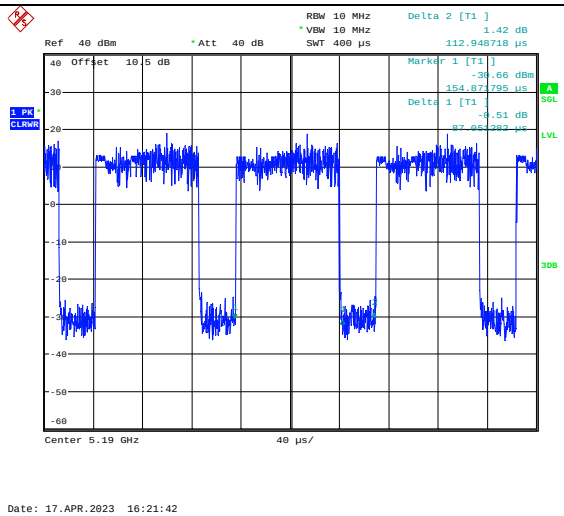
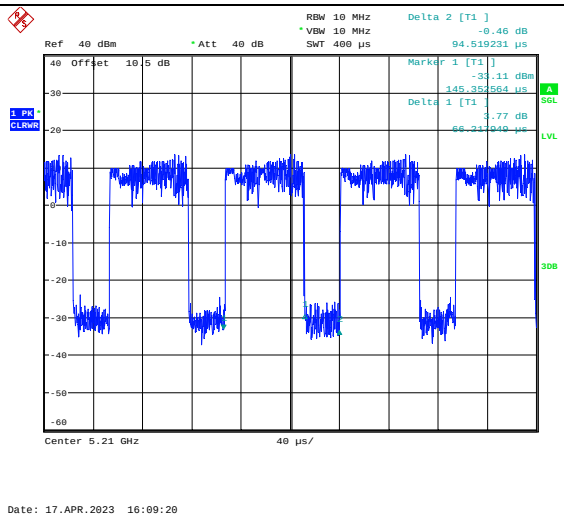
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200445	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A

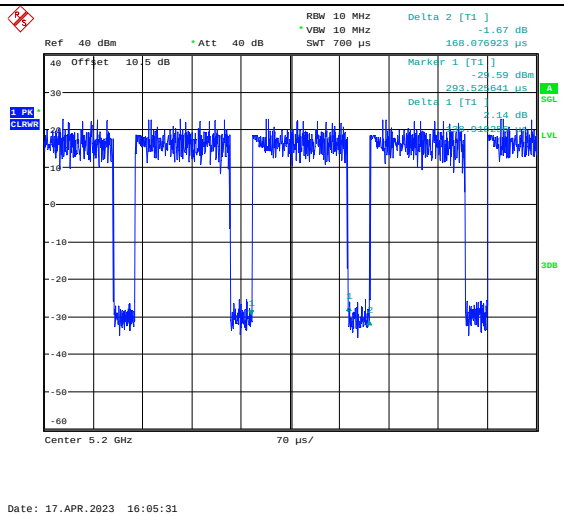
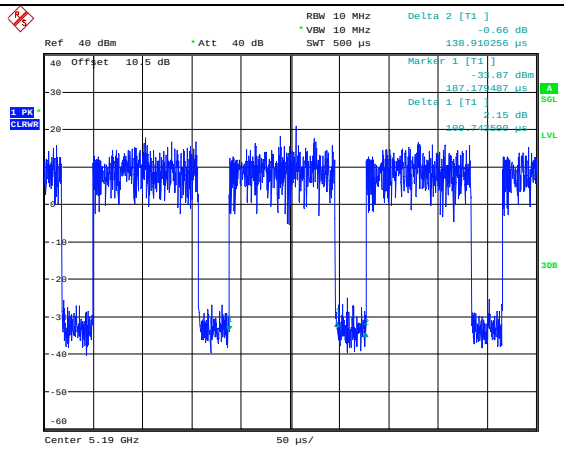
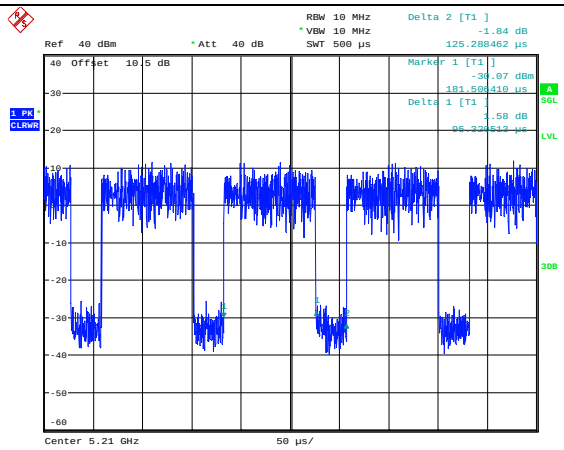
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

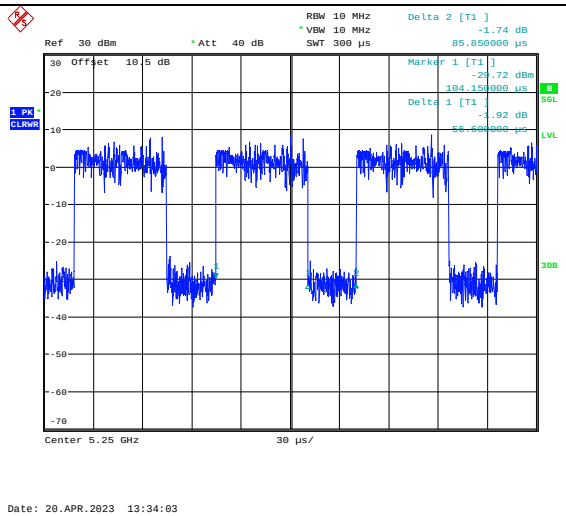
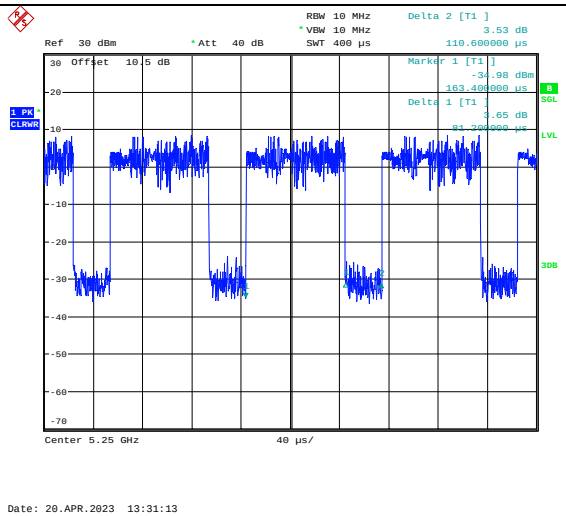
Test Data:

Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	Duty cycle Factor (dB)
802.11a	2.09	2.179	95.92	478	0.18
802.11n ht20	0.998	1.094	91.22	1002	0.40
802.11n ht40	0.507	0.6	84.50	1972	0.73
802.11ac vht20	0.126	0.154	81.82	7937	0.87
802.11ac vht40	0.087	0.113	76.99	11494	1.14
802.11ac vht80	0.066	0.095	69.47	15152	1.58
802.11ax hew20	0.139	0.168	82.74	7194	0.82
802.11ax hew40	0.11	0.139	79.14	9091	1.02
802.11ax hew80	0.095	0.125	76.00	10526	1.19
802.11ac vht160	0.057	0.086	66.28	17544	1.79
802.11ax hew160	0.081	0.111	72.97	12346	1.37

Duty Cycle	
802.11a	
802.11n ht20	
802.11n ht40	

Duty Cycle	
802.11ac vht20	
802.11ac vht40	
802.11ac vht80	

Duty Cycle	
802.11ax he20	
802.11ax he40	
802.11 ax he80	

Duty Cycle	
802.11ac vht160	
802.11ax he160	

5. RF EXPOSURE EVALUATION

5.1 Applicable Standard

According to §1.1307(b)(3)(i)

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th}\ (\text{mW}) = \begin{cases} ERP_{20\,cm}(d/20\,\text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\,cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\,cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\,cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

5.2 Measurement Result

Operation Modes	Frequency (MHz)	Distance (mm)	P_{th}		Maximum Conducted Power including Tune-up Tolerance (dBm)	Antenna Gain (dBi)	ERP (P) (dBm)	ERP (P) (mW)	Exemption
			(mW)	(dBm)					
WLAN 2.4G	2412-2462	200	3060	**34.86**	26.8	8.35	33.0	1995	Compliant
WLAN 5G	5150-5250	200	3060	**34.86**	24.4	7.89	30.14	1033	Compliant
	5250-5350	200	3060	**34.86**	20	7.89	25.74	375	Compliant
	5725-5850	200	3060	**34.86**	24	7.58	29.43	877	Compliant

Note:
Antenna gain includes bearmforming gain. The Maximum Conducted Power including Tune-up Tolerance was declared by manufacturer.
WLAN 2.4G and 5G can`t transmit simultaneously.

Result: The device compliant the Exemption at 20cm distances.

===== END OF REPORT =====