

TEST REPORT

EUT Description	WLAN and BT, 2x2 PCIe M.2 2230 adapter card
Brand Name	Intel® Wi-Fi 6 AX204
Model Name	AX204NGW
FCC/IC ID	FCC ID: PD9AX204NG ; IC ID 1000M-AX204NG
Date of Test Start/End	2022-03-04 / 2022-03-15
Features	802.11ax R2, Dual Band, 2x2 Wi-Fi 6 + Bluetooth® 5.2 (see section 5)

Applicant	Intel Mobile Communications
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Reference Standards	FCC CFR Title 47 Part 15 E RSS-247 issue 2, RSS-Gen issue 5 A1 (see section 1)
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Test Report identification	220225-01.TR02
Revision Control	Rev. 00 This test report revision replaces any previous test report revision (see section 8)

The test results relate only to the samples tested.
Reference to accreditation shall be used only by full reproduction of test reports.

Issued by

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1. Standards, reference documents and applicable test methods

FCC	1. FCC Title 47 CFR part 15 – Subpart E – Unlicensed National Information Infrastructure Devices. 2019-10-01 Edition 2. FCC Title 47 CFR part 15 - Subpart C – §15.209 Radiated emission limits; general requirements. 2019-10-01 Edition 3. FCC OET KDB 789033 D02 v02r01 - General U-NII Test Procedures New Rules – Guidelines for compliance testing of Unlicensed National Information Infrastructure (U-NII) Devices (Part 15, Subpart E) 4. FCC OET KDB 662911 D01 v02r01 - Emissions Testing of Transmitters with Multiple Outputs in the Same Band. 5. ANSI C63.10-2013 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.
ISED	1. RSS-Gen Issue 5 Amendment 1 - General Requirements for Compliance of Radio Apparatus. 2. RSS-247 Issue 2 - Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices. 3. FCC OET KDB 789033 D02 v02r01 - General U-NII Test Procedures New Rules – Guidelines for compliance testing of Unlicensed National Information Infrastructure (U-NII) Devices (Part 15, Subpart E) 4. FCC OET KDB 662911 D01 v02r01 - Emissions Testing of Transmitters with Multiple Outputs in the Same Band. 5. ANSI C63.10-2013 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

2. General conditions, competences and guarantees

- ✓ Tests performed under FCC standards identified in section 1 are covered by A2LA accreditation.
- ✓ Tests performed under ISED standards identified in section 1 are covered by Cofrac accreditation.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2017 laboratory accredited by the American Association for Laboratory Accreditation (A2LA) with the certificate number 3478.01.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm recognized by the FCC, with Designation Number FR0011.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2017 testing laboratory accredited by the French Committee for Accreditation (Cofrac) with the certificate number 1-6736.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is a Registered Test Site listed by ISED, with ISED #1000Y.
- ✓ Intel WRF Lab declines any responsibility with respect to the identified information provided by the customer and that may affect the validity of results.
- ✓ Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
- ✓ Intel WRF Lab is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.
- ✓ Intel WRF Lab has developed calibration and proficiency programs for its measurement equipment to ensure correlated and reliable results to its customers.
- ✓ This report is only referred to the item that has undergone the test.
- ✓ This report does not imply an approval of the product by the Certification Bodies or competent Authorities.

3. Environmental Conditions

- ✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

Temperature	22.0°C ± 2.1°C
Humidity	44.0% ± 16.0%

4. Test samples

Sample	Control #	Description	Model	Serial #	Date of receipt	Note
#01	220225-01.S01	WiFi Module	AX204NGW	C8CB9E88AA68	2022-03-04	Used for 30 MHz-1 GHz and for 18 GHz-40 GHz Radiated Spurious Emissions tests
	200611-01.S09	Adapter	PowerBy SNJ A4	-	2020-11-30	
	200602-03.S06	Absorber	-	-	2020-07-03	
	200611-03.S31	Extender	ADEXELEC	-	2020-08-19	
	200615-05.S09	Laptop	Latitude 5401	GVGLK13	2020-06-12	
	210611-02.S13	Main Antenna	SkyCross	-	2021-07-02	
	210611-02.S14	Aux Antenna	SkyCross	-	2021-07-02	
#02	220225-01.S02	WiFi Module	AX204NGW	C8CB9E8A9BE	2022-03-04	Used for 1 GHz-18 GHz Radiated Spurious Emissions tests
	210611-02.S17	Adapter	PowerBy SNJ A4	-	2021-07-02	
	200602-03.S06	Absorber	-	-	2020-07-03	
	200611-03.S26	Extender	ADEXELEC	-	2020-07-01	
	170000-01.S01	Laptop	Latitude E5470	DBPLMC2	2017-03-28	
	210611-02.S11	Main Antenna	SkyCross	-	2021-07-02	
	210611-02.S12	Aux Antenna	SkyCross	-	2021-07-02	
#03	220225-01.S05	WiFi Module	AX204NGW	C8CB9E88A93C	2022-03-04	RF Conducted
	170000-01.S02	Laptop	Latitude E5470	21HTPF2	2017-03-28	
	200611-01.S12	Extender	XVT EXTENDER SNJ A4	-	2020-11-30	

5. EUT Features

The herein information is provided by the customer

Brand Name	Intel® Wi-Fi 6 AX204		
Model Name	AX204NGW		
Software Version	DRTU_01188_99.0.69C		
Driver Version	99.0.70.4		
Prototype / Production	Production		
Supported Radios	802.11b/g/n/ax 2.4GHz (2400.0 – 2483.5 MHz) 802.11a/n/ac/ax 5.2GHz (5150.0 – 5350.0 MHz) 5.6GHz (5470.0 – 5725.0 MHz) 5.8GHz (5725.0 – 5895.0 MHz) Bluetooth 5.2 2.4GHz (2400.0 – 2483.5 MHz)		
Antenna Information	Transmitter	Chain 1 (A) / Aux	Chain 2 (B) / Main
	Manufacturer	SkyCross	Skycross
	Antenna type	PIFA antenna	PIFA antenna
	Part number	N/A	N/A
	Declared antenna gain (dBi)	+5 dBi	+5 dBi

6. Remarks and comments

1. No deviations were made from the test methods listed in section 1 of this report
2. Only the worst-case plot per 802.11 mode and test case measurements have been reported excepted for band edge measurements where all plots are reported

7. Test Verdicts summary

The statement of conformity to applicable standards in the table below are based on the measured values, without taking into account the measurement uncertainties.

7.1. 802.11 a/n/ac/ax – U-NII-2C

FCC part	RSS clause	Test name	Verdict
15.407 (a) (2)	RSS-247 Clause 6.2.3.1	Power Limits. Maximum output power	P
15.407 (a) (2)	RSS-247 Clause 6.2.3.1	Power spectral density	P
15.407 (b) (3) 15.209 (a)	RSS-247 Clause 6.2.3.2 RSS-GEN A1 Clause 8.9	Undesirable emissions limits: out of band (conducted)	P
15.407 (b) (3) 15.209 (a)	RSS-247 Clause 6.2.3.2 RSS-GEN A1 Clause 8.9	Undesirable emissions limits: Spurious emissions (radiated)	P

P: Pass

F: Fail

NM: Not Measured

NA: Not Applicable

8. Document Revision History

Revision #	Modified by	Revision Details
Rev. 00	K.Khatib, V.Kaculini	First Issue

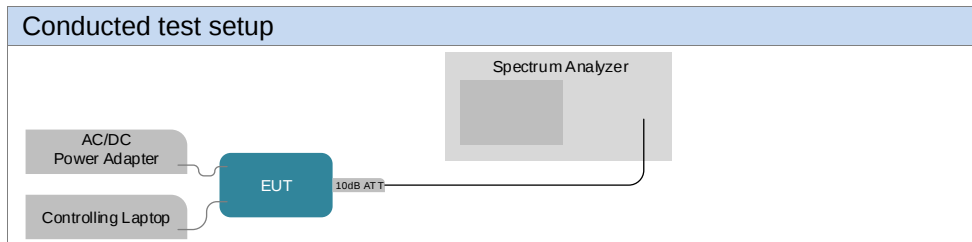
Annex A. Test & System Description

A.1 Measurement System

Measurements were performed using the following setups, made in accordance to the general provisions of FCC OET KDB 789033 D02 General UNII Test Procedures.

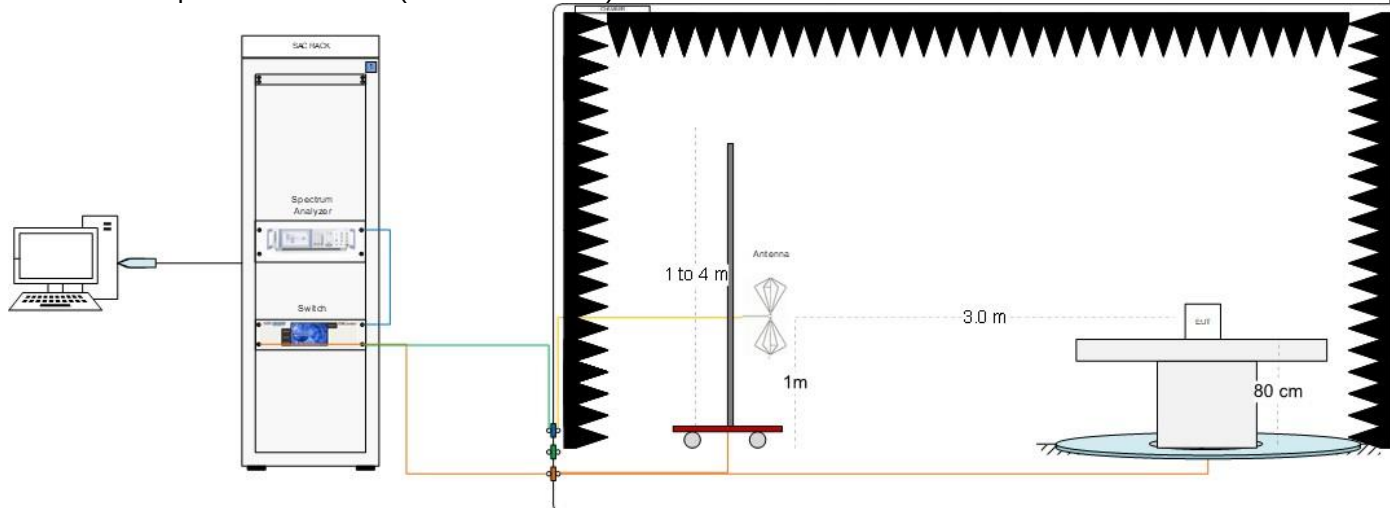
The DUT was installed in a test fixture and this test fixture is connected to a laptop computer and AC/DC power adapter. The laptop computer was used to configure the EUT to continuously transmit at a specified output power using all different modes and modulation schemes, using the Intel proprietary tool DRTU.

Conducted test setup

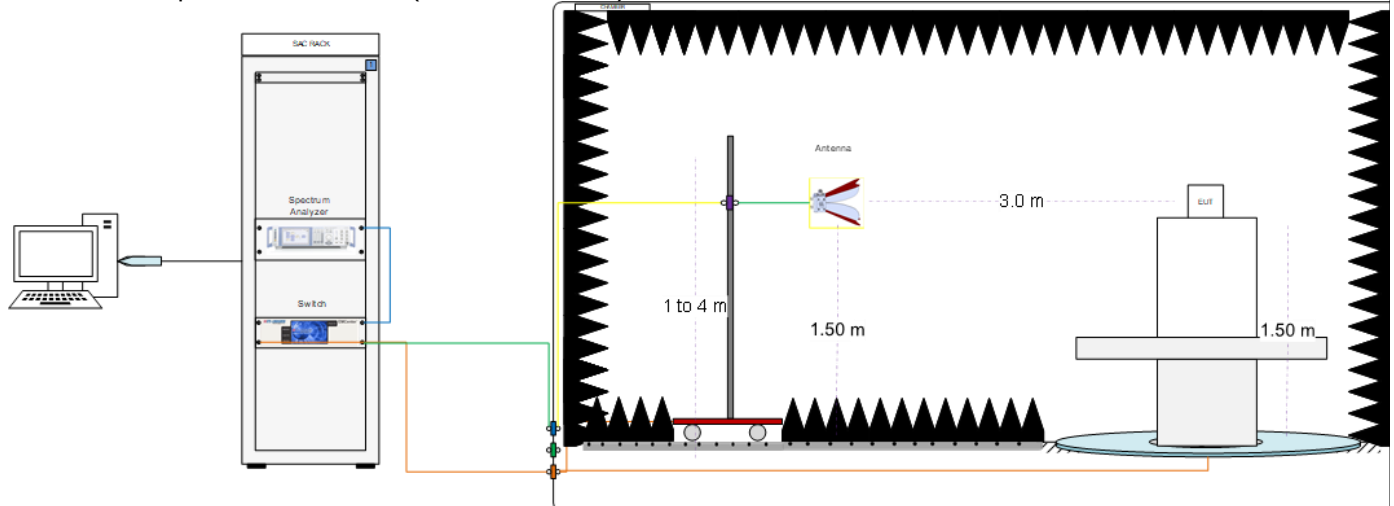


Radiated test setup

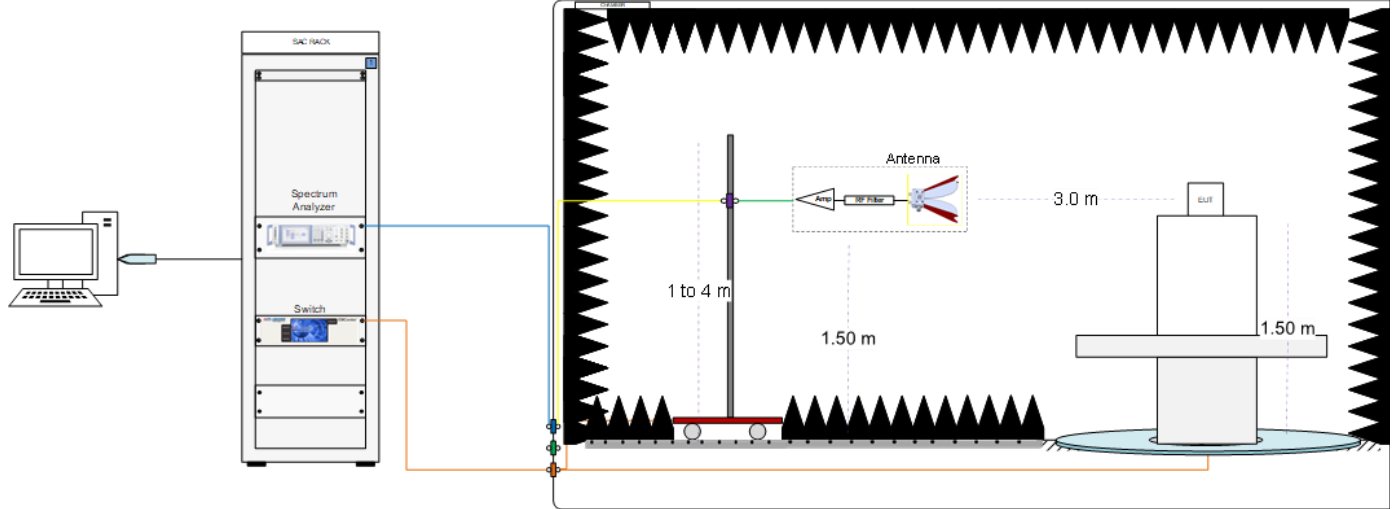
Radiated Setup 30 MHz - 1 GHz (Transmitter tests)



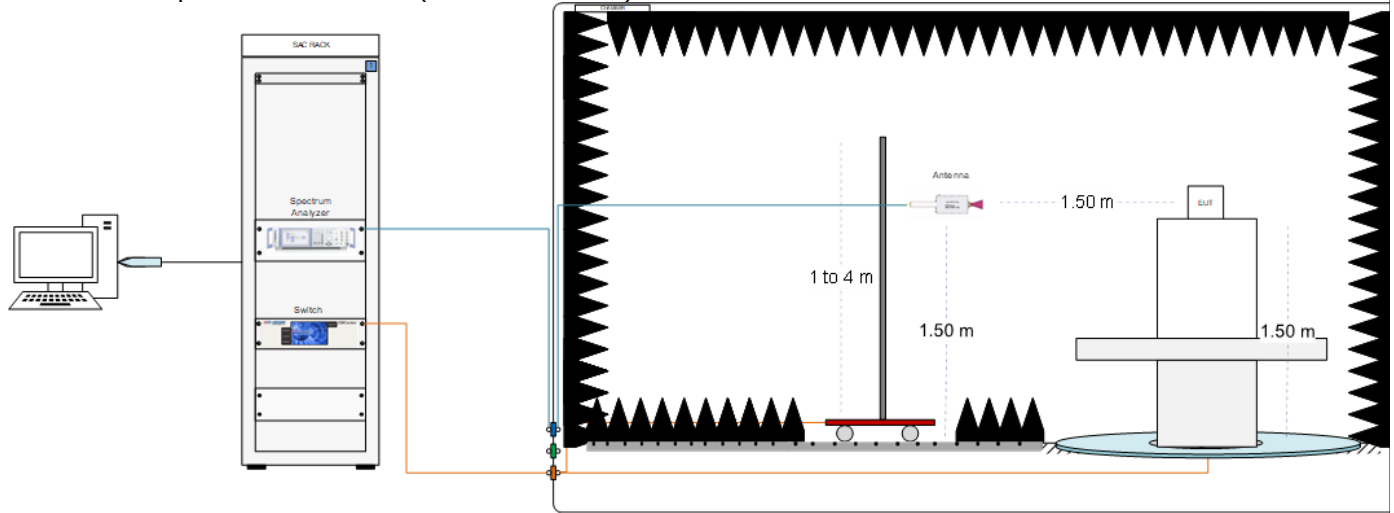
Radiated Setup 1 GHz – 9.5 GHz (Transmitter tests)



Radiated Setup 9.5 GHz - 18 GHz (Transmitter tests)



Radiated Setup 18 GHz – 40 GHz (Transmitter tests)

Sample Calculation

The spurious received voltage $V(\text{dB}\mu\text{V})$ in the spectrum Analyzer is converted to Electric field strength using the transducer factor F corresponding to the Rx path Loss:

$$F (\text{dB/m}) = \text{Rx Antenna Factor (dB/m)} + \text{Cable losses (dB)} - \text{Amplifiers Gain (dBi)}$$

$$E (\text{dB}\mu\text{V/m}) = V(\text{dB}\mu\text{V}) + F (\text{dB/m})$$

For field strength measurements made at other than the distance at which the applicable limit is specified, the field strength of the emission at the distance specified by the limit is deduced as follows:

$$E_{\text{SpecLimit}} = E_{\text{Meas}} + 20 \cdot \log(D_{\text{Meas}}/D_{\text{SpecLimit}})$$

where

$E_{\text{SpecLimit}}$ is the field strength of the emission at the distance specified by the limit, in $\text{dB}\mu\text{V/m}$

E_{Meas} is the field strength of the emission at the measurement distance, in $\text{dB}\mu\text{V/m}$

D_{Meas} is the measurement distance, in m

$D_{\text{SpecLimit}}$ is the distance specified by the limit, in m

A.2 Test Equipment List

Conducted setup

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
265-000	Spectrum Analyzer	FSV30	101318	Rohde & Schwarz	2020-05-28	2022-05-28
019-000	RF cable 100cm	PE360-100CM	N/A	PASTERNAK	2022-02-04	2022-08-04
019-002	10dB Attenuator + MH4	N/A	N/A	N/A	2022-02-04	2022-08-04
322-000	Temp & Humidity Logger	RA12E-TH1-RAS	RA12-B89702	AVTECH	2021-09-02	2023-09-02
413-000	Measurement SW v1.5.4.2	Octopi	N/A	Step AT	N/A	N/A

Radiated Setup #1

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
006-000	Anechoic chamber	FACT 3	5720	ETS Lindgren	2022-01-21	2024-01-21
006-001	Turntable	-	-	ETS Lindgren	N/A	N/A
006-008	Measurement Software v11.30.00	EMC32	100623	Rohde & Schwarz	N/A	N/A
147-000	Spectrum analyzer	FSW43	101847	Rohde & Schwarz	2020-11-02	2022-11-02
006-002	Switch & Positioning	EMC center	00159757	ETS Lindgren	N/A	N/A
006-011	Boresight antenna mast	BAM4.0-P	P/278/2890.01	Maturo	N/A	N/A
006-019	Biconical antenna 30 MHz – 1 GHz	UBAA9115 + BBVU9135 + DGA9552N	0286 + CH 9044	Schwarzbeck	2022-02-01	2024-02-01
006-020	Double Ridged Horn Antenna 1 GHz – 18 GHz	3117	00157734	ETS Lindgren	2021-08-05	2023-08-05
057-000	Horn Antenna 3117 + Amplifier + HPF9.5	3117	00167062+00169546	ETS-Lindgren	2020-06-15	2022-06-15
007-008	Double Horn Ridged antenna+Amplifier	3116C-PA	00169308bis + 00196308	ETS-Lindgren	2021-08-05	2023-08-05
006-059	RF Cable 7.0m	R286304174	20.46.369	Radiall	2022-03-04	2022-09-04
006-051	RF Cable 1.0m	CBL-1.5M-SMSM+	202879	Mini-Circuits	2022-02-02	2022-08-02
006-030	RF Cable 1.2m	UFA147A-0-0480-200200	MFR 64639223720-003	Micro-coax	2022-02-02	2022-08-02
006-034	RF Cable 1.0m	UFA147A	-	Utilflex	2022-02-02	2022-08-02
006-036	RF Cable 1.0m	UFB311A-0-0590-50U50U	MFR 64639 223230-001	Micro-coax	2022-02-02	2022-08-02
006-038	RF Cable 7.0m	R286304009	-	Radiall	2022-02-02	2022-08-02
006-039	RF Cable 2.5m	0500990992500KE	19.23.395	Radiall	2022-02-02	2022-08-02
365-000	Temperature & Humidity logger	RA12E-TH1-RAS	00-80-A3-E1-6E-55	Avtech	2021-03-08	2023-03-08

N/A: Not Applicable

Radiated Setup #2

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
007-000	Anechoic chamber	RFD-FA-100	5996	ETS Lindgren	2021-09-14	2023-09-14
007-002	Turntable	-	-	ETS Lindgren	N/A	N/A
007-003	Antenna Tower	2171B-3.0M	00150123	ETS Lindgren	N/A	N/A
007-006	Switch & Positioner	EMCenter	00151232	ETS Lindgren	N/A	N/A
007-005	Measurement SW, V11.20.00	EMC32	100401	Rohde & Schwarz	N/A	N/A
127-000	Spectrum Analyzer	FSV40	101358	Rohde & Schwarz	2021-01-15	2023-01-15
007-007	Double Ridge Horn (1-18GHz)	3117	00152266	ETS Lindgren	2020-03-18	2022-03-18
057-000	Horn Antenna 3117 + Amplifier + HPF9.5	3117	00167062+00169546	ETS-Lindgren	2020-06-15	2022-06-15
007-008	Double Horn Ridged antenna+Amplifier	3116C-PA	00169308bis 00196308	ETS-Lindgren	2021-08-05	2023-08-05
007-022	RF Cable 1-18GHz, 1.5m	0501050991200GX	19.23.493	Radiall	2022-02-03	2022-08-03
007-020	RF Cable 1-18GHz, 1.2 m	2301761761200PJ	12.22.1104	Radiall	2022-02-03	2022-08-03
007-011	RF Cable 1-18GHz – 6.5m	140-8500-11-51	001	Spectrum	2022-02-03	2022-08-03
007-015	RF Cable 1GHz-18GHz 1.5m	-	-	Spirent	2022-02-03	2022-08-03
007-014	RF Cable 18-40 GHz 6m	R286304009	1747364	Radiall	2022-02-03	2022-08-03
007-023	RF Cable 1m DC-40GHz	PE360-100CM	-	Pasternack	2022-02-03	2022-08-03
007-018	RF Cable 1-9.5GHz 1.2m	0500990991200KE	-	Radiall	2022-02-03	2022-08-03
325-000	Temp & Humidity Logger	RA12E-TH1-RAS	RA12-B9B7C6	Avtech	2022-01-17	2024-01-17

N/A: Not Applicable

Shared Radiated Equipment

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
412-000	DRTU Power finder V2.0	-	-	Intel	NA	NA
139-000	Power Sensor	NRP-Z81	104383	Rohde & Schwarz	2021-04-07	2023-04-07
140-000	Power Sensor	NRP-Z81	104382	Rohde & Schwarz	2020-04-08	2022-04-08

A.3 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in table below with a coverage factor of $k = 2$ to indicate a 95% level of confidence:

Measurement type	Uncertainty	Unit
Timing	± 0.12	%
Power Spectral density	± 1.47	dB
Occupied bandwidth	± 2.07	%
Conducted Power	± 1.03	dB
Conducted Spurious Emission <40 GHz	± 3.45	dB
Radiated tests <1GHz	± 6.07	dB
Radiated tests 1GHz – 40 GHz	± 6.04	dB

Annex B. Test Results U-NII-2C

The herein test results were performed by:

Test case measurement	Test Peronnel
Power Limits. Maximum output power	C. Requin, V.Kaculini
Power spectral density	C. Requin, V.Kaculini
Undesirable emissions limits: out of band (conducted)	C. Requin, V.Kaculini
Undesirable emissions limits (radiated)	K.Khatib, R.Simonini

B.1 Test Conditions

For 802.11a mode the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, but not simultaneously.

For 802.11n20 & 802.11ax20 (20 MHz channel bandwidth), 802.11n40 & 802.11ax40 (40MHz channel bandwidth), 802.11ac80 & 802.11ax80 (80MHz channel bandwidth) and 802.11ac160 & 802.11ax160 (160MHz channel bandwidth) modes the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, and also simultaneously.

The conducted RF output power for each chain was adjusted according to the client's supplied target values (see following table) using the Intel DRTU tool and measuring the power by using a spectrum analyser with the channel integration method according to section II) E) 2) e) (Method SA-2 Alternative) of Guidance FCC OET KDB 789033 D02. Measured values for adjustment were within +/- 0.25 dB from the declared target values.

The following data rates were selected based on preliminary testing that identified those rates as the worst cases for output power and spurious levels at the band edges:

Transmission	Mode	Bandwidth (MHz)	Worst Case Data Rate
SISO	802.11a	20	6Mbps
	802.11n	20	HT0
		40	HT0
	802.11ac	80	VHT0
		160	VHT0
	802.11ax	20	HE0
		40	HE0
		80	HE0
		160	HE0
MIMO	802.11n	20/40	HT8
	802.11ac	80/160	VHT0
	802.11ax	20/40/80/160	HE0

Alternative channels to the lowest and highest channels per band have been also tested for band edge compliance.

B.2 Test Results Tables

B.2.1 26dB & 99% Bandwidth

Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the 26dB & 99% bandwidth. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

For the overlapped channels between U-NII-2C and U-NII-3 bands, and according to FCC OET KDB 789033 D02, the boundary frequency between the bands is used as one edge for defining the portion of the 26dB bandwidth that falls within a particular U-NII band. This rule is only applicable for the 26dB bandwidth and for those channels marked as overlapped.

Results tables

U-NII-2C channels

Mode	Rate	Antenna	Channel	Freq [MHz]	26dB BW [MHz]	99% BW [MHz]
802.11a	6Mbps	SISO A	100	5500	24.25	16.79
			120	5600	24.30	16.69
			140	5700	24.45	16.57
		SISO B	100	5500	24.05	16.61
			120	5600	23.80	16.67
			140	5700	24.35	16.78
802.11n20	HT0	SISO A	100	5500	24.75	17.79
			120	5600	25.30	17.79
			140	5700	24.65	17.76
		SISO B	100	5500	24.65	17.79
			120	5600	25.15	17.75
			140	5700	24.35	17.77
	HT8	MIMO A	100	5500	24.60	17.87
			120	5600	24.85	17.85
			140	5700	24.45	17.81
		MIMO B	100	5500	24.60	17.80
			120	5600	24.85	17.77
			140	5700	24.05	17.77
802.11n40	HT0	SISO A	102	5510	43.65	36.08
			118	5590	43.01	36.08
			134	5670	43.34	36.08
		SISO B	102	5510	43.92	36.08
			118	5590	43.78	36.08
			134	5670	43.67	36.08
	HT8	MIMO A	102	5510	43.47	36.08
			118	5590	43.56	36.16
			134	5670	44.44	36.08
		MIMO B	102	5510	42.66	36.16
			118	5590	42.57	36.08
			134	5670	42.35	36.00
802.11ac80	VHT0	SISO A	106	5530	87.59	75.05
			122	5610	86.26	75.05
		SISO B	106	5530	86.64	75.05
			122	5610	87.02	75.05
		MIMO A	106	5530	87.97	75.24
			122	5610	87.40	75.24
		MIMO B	106	5530	87.02	75.05
			122	5610	86.07	75.05
802.11ac160	VHT0	SISO A	114	5570	166.32	153.78
		SISO B			165.66	153.45
		MIMO A			165.99	153.78
		MIMO B			165.99	153.45

Max Value

Mode	Rate	Antenna	Channel	Freq [MHz]	RU config.	26dB BW [MHz]	99% BW [MHz]
802.11ax20	HE0	SISO A	100	5500	Full	23.85	18.90
					26/0	20.60	18.53
					52/37	21.30	18.37
					106/53	22.90	18.18
			120	5600	Full	24.20	18.98
					Full	23.95	18.90
					26/0	21.10	18.56
					52/37	22.30	18.37
		SISO B	100	5500	106/53	23.70	18.05
					Full	23.75	18.88
					26/0	20.80	18.55
					52/37	21.80	18.34
			120	5600	106/53	22.65	18.05
					Full	24.30	18.95
					Full	24.35	18.93
					26/0	21.25	18.61
		MIMO A	100	5500	52/37	22.40	18.47
					106/53	23.90	18.44
			120	5600	Full	23.75	18.87
					26/0	20.75	18.57
					52/37	21.55	18.59
					106/53	23.15	18.23
		MIMO B	100	5500	Full	24.05	18.92
					Full	23.95	19.00
			140	5700	26/0	21.45	18.55
					52/37	22.30	18.48
					106/53	23.60	17.22
			100	5500	Full	24.05	18.94
					26/0	21.20	18.61
					52/37	22.00	18.35
					106/53	22.80	18.16
802.11ax40	HE0	SISO A	102	5510	Full	43.11	37.68
					242/61	24.48	18.80
			118	5590	Full	43.47	37.36
					Full	43.56	37.60
		SISO B	134	5670	242/62	24.21	18.96
					Full	43.47	37.44
			102	5510	242/61	23.85	18.88
					Full	43.83	37.68
		MIMO A	118	5590	Full	42.75	37.84
					242/62	23.40	18.80
			134	5670	Full	43.47	37.52
					242/61	24.48	18.88
		MIMO B	102	5510	Full	43.02	37.52
					Full	42.30	37.60
			118	5590	242/62	23.76	18.80
					Full	43.11	37.68
802.11ax80	HE0	SISO A	106	5530	242/61	24.84	18.88
					Full	42.84	37.60
		SISO B	106	5530	Full	43.29	37.60
					242/62	24.57	18.88
		MIMO A	106	5530	Full	83.60	76.57
					484/65	44.08	37.43
		MIMO B	122	5610	Full	83.98	76.95
					484/65	84.17	76.95

		MIMO B	106	5530	Full	84.36	76.76
					484/65	43.51	37.43
			122	5610	Full	83.60	76.76

Max Value

Mode	Rate	Antenna	Channel	Freq [MHz]	RU config.	26dB BW [MHz]	99% BW [MHz]
802.11ax160	HE0	SISO A	114	5570	Full	165.66	155.43
					996/67	87.12	77.22
					996/67s	86.13	76.89
		SISO B			Full	165.66	155.10
					996/67	85.80	76.89
					996/67s	85.80	76.89
		MIMO A			Full	166.98	155.43
					996/67	85.80	77.22
					996/67s	85.80	77.22
		MIMO B			Full	165.33	155.43
					996/67	86.79	77.22
					996/67s	84.81	76.89

Max Value

Overlapped channels between U-NII-2C and U-NII-3

Mode	Rate	Channel	Frequency (MHz)	Antenna	Chain	26dB BW [MHz] UNII2C
802.11n20	HT0	144	5720	SISO	A	16.72
					B	16.92
	HT8			MIMO	A	17.25
					B	16.47
802.11n40	HT0	142	5710	SISO	A	35.92
					B	36.11
	HT8			MIMO	A	36.37
					B	35.65
802.11ac80	VHT0	138	5690	SISO	A	76.51
					B	76.51
				MIMO	A	76.70
					B	76.13
802.11ax20	HE0	144	5720	SISO	A	16.42
					B	16.52
				MIMO	A	16.47
					B	16.22
802.11ax40	HE0	142	5710	SISO	A	35.92
					B	35.74
				MIMO	A	35.74
					B	35.65
802.11ax80	HE0	138	5690	SISO	A	76.51
					B	76.32
				MIMO	A	76.51
					B	76.13

Max Value

See Section B.3.1 and Section B.3.2 for the screenshot results.

B.2.2 Power Limits. Maximum Output power & Maximum power spectral Density

Test limits

Part	Limits
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 $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band.
RSS-247 Clause 6.2.3 (1)	The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Test procedure

The Maximum Conducted Output Power was measured using the channel integration method according to section E) 2) e) (Method SA-2) of FCC OET KDB 789033 D02.

The maximum power spectral density (PSD) was measured using the method according to section F) (Method SA-2) of FCC OET KDB 789033 D02.

In the measure-and-sum approach for MIMO mode, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically in linear power units to determine the total emission level from the device.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

The conducted setup shown in section *Test & System Description* was used to measure the maximum conducted output power and power spectral density. The antenna terminal of the EUT is connected to the spectrum analyser through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

For the overlapped channels between U-NII-2C and U-NII-3, and according to FCC OET KDB 789033 D02 the power is computed based on the portion of the emission bandwidth contained within that band. This rule is only applicable for those channels marked as overlapped

Results tables

Duty cycle

Mode	Rate	Antenna	Duty Cycle [%]
802.11a	6Mbps	SISO A	97.9
		SISO B	97.9
802.11n20	HT0	SISO A	98.9
		SISO B	98.9
	HT8	MIMO A	98.9
		MIMO B	98.9
802.11ax20	HE0	SISO A	98.8
		SISO B	98.8
		MIMO A	99.3
		MIMO B	99.3
802.11n40	HT0	SISO A	98.9
		SISO B	98.9
	HT8	MIMO A	98.9
		MIMO B	98.9
802.11ax40	HE0	SISO A	98.8
		SISO B	98.8
		MIMO A	99.3
		MIMO B	99.3
802.11ac80	VHT0	SISO A	98.9
		SISO B	98.9
		MIMO A	99.4
		MIMO B	99.4
802.11ax80	HE0	SISO A	98.7
		SISO B	98.7
		MIMO A	99.2
		MIMO B	99.2
802.11ac160	VTH0	SISO A	98.9
		SISO B	98.9
		MIMO A	99.2
		MIMO B	99.2
802.11ax160	HE0	SISO A	98.7
		SISO B	98.7
		MIMO A	99.1
		MIMO B	99.1

Maximum output power – U-NII-2C Channels

Mode	Rate	#Ch	Freq [MHz]	Antenna	Average Conducted Output Power [dBm]	Avg Max* Conducted Output Power [dBm]	Avg Max*. EIRP [dBm]	Avg Max* Conducted Power [mW]
802.11a	6Mbps	100	5500	SISO A	20.02	20.11	25.11	102.62
				SISO B	20.40	20.49	25.49	112.00
		120	5600	SISO A	20.77	20.86	25.86	121.96
				SISO B	20.74	20.83	25.83	121.12
		140	5700	SISO A	20.41	20.50	25.50	112.26
				SISO B	19.92	20.01	25.01	100.28
802.11n20	HT0	100	5500	SISO A	20.46	20.46	25.46	111.17
				SISO B	19.78	19.78	24.78	95.06
		120	5600	SISO A	20.82	20.82	25.82	120.78
				SISO B	20.95	20.95	25.95	124.45
		140	5700	SISO A	20.06	20.06	25.06	101.39
				SISO B	20.12	20.12	25.12	102.80
	HT8	100	5500	MIMO A	18.14	18.14	23.14	65.16
				MIMO B	18.29	18.29	23.29	67.45
				Combined A+B	21.23	21.23	26.23	132.62
		120	5600	MIMO A	18.33	18.33	23.33	68.08
				MIMO B	18.29	18.29	23.29	67.45
				Combined A+B	21.32	21.32	26.32	135.53
		140	5700	MIMO A	18.21	18.21	23.21	66.22
				MIMO B	18.45	18.45	23.45	69.98
				Combined A+B	21.34	21.34	26.34	136.21
802.11n40	HT0	102	5510	SISO A	19.38	19.38	24.38	86.70
				SISO B	18.48	18.48	23.48	70.47
		118	5590	SISO A	20.88	20.88	25.88	122.46
				SISO B	20.84	20.84	25.84	121.34
		134	5670	SISO A	20.41	20.41	25.41	109.90
				SISO B	20.65	20.65	25.65	116.14
	HT8	102	5510	MIMO A	17.53	17.53	22.53	56.62
				MIMO B	17.77	17.77	22.77	59.84
				Combined A+B	20.66	20.66	25.66	116.47
		118	5590	MIMO A	20.52	20.52	25.52	112.72
				MIMO B	20.81	20.81	25.81	120.50
				Combined A+B	23.68	23.68	28.68	233.22
		134	5670	MIMO A	20.78	20.78	25.78	119.67
				MIMO B	20.76	20.76	25.76	119.12
				Combined A+B	23.78	23.78	28.78	238.80
802.11ac80	VHT0	106	5530	SISO A	19.28	19.28	24.28	84.72
				SISO B	18.08	18.08	23.08	64.27
				MIMO A	16.80	16.80	21.80	47.86
				MIMO B	17.59	17.59	22.59	57.41
				Combined A+B	20.22	20.22	25.22	105.27
		122	5610	SISO A	20.97	20.97	25.97	125.03
				SISO B	20.70	20.70	25.70	117.49
				MIMO A	20.59	20.59	25.59	114.55
				MIMO B	20.43	20.43	25.43	110.41
				Combined A+B	23.52	23.52	28.52	224.96
802.11ac160	VHT0	114	5570	SISO A	15.99	15.99	20.99	39.72
				SISO B	15.92	15.92	20.92	39.08
				MIMO A	14.12	14.12	19.12	25.82
				MIMO B	14.18	14.18	19.18	26.18
				Combined A+B	17.16	17.16	22.16	52.00

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max/Min Value

Mode	Rate	#Ch	Freq [MHz]	Antenna	RU config.	Average Conducted Output Power [dBm]	Avg Max* Conducted Output Power [dBm]	Avg Max* EIRP [dBm]	Avg Max* Conducted Power [mW]
802.11ax20	HE0	100	5500	SISO A	Full	20.13	20.13	25.13	103.04
					26/0	13.39	13.39	18.39	21.83
					52/37	16.10	16.10	21.10	40.74
					106/53	18.81	18.81	23.81	76.03
				SISO B	Full	19.97	19.97	24.97	99.31
					26/0	13.09	13.09	18.09	20.37
					52/37	15.65	15.65	20.65	36.73
					106/53	18.96	18.96	23.96	78.70
				MIMO A	Full	18.42	18.42	23.42	69.50
					26/0	10.24	10.24	15.24	10.57
					52/37	12.99	12.99	17.99	19.91
					106/53	16.03	16.03	21.03	40.09
				MIMO B	Full	18.42	18.42	23.42	69.50
					26/0	10.28	10.28	15.28	10.67
					52/37	12.65	12.65	17.65	18.41
					106/53	16.01	16.01	21.01	39.90
				Combined A+B	Full	21.43	21.43	26.43	139.00
					26/0	13.27	13.27	18.27	21.23
					52/37	15.83	15.83	20.83	38.31
					106/53	19.03	19.03	24.03	79.99
		120	5600	SISO A	Full	20.95	20.95	25.95	124.45
				SISO B	Full	20.79	20.79	25.79	119.95
				MIMO A	Full	18.55	18.55	23.55	71.61
				MIMO B	Full	18.36	18.36	23.36	68.55
				Combined A+B	Full	21.47	21.47	26.47	140.16
		140	5700	SISO A	Full	20.49	20.49	25.49	111.94
					26/8	13.41	13.41	18.41	21.93
					52/40	16.20	16.20	21.20	41.69
					106/54	18.98	18.98	23.98	79.07
				SISO B	Full	20.04	20.04	25.04	100.93
					26/8	13.29	13.29	18.29	21.33
					52/40	16.12	16.12	21.12	40.93
					106/54	19.07	19.07	24.07	80.72
				MIMO A	Full	18.37	18.37	23.37	68.71
					26/8	9.96	9.96	14.96	9.91
					52/40	12.96	12.96	17.96	19.77
					106/54	15.84	15.84	20.84	38.37
				MIMO B	Full	18.46	18.46	23.46	70.15
					26/8	9.98	9.98	14.98	9.95
					52/40	12.92	12.92	17.92	19.59
					106/54	16.01	16.01	21.01	39.90
				Combined A+B	Full	21.43	21.43	26.43	138.85
					26/8	12.98	12.98	17.98	19.86
					52/40	15.95	15.95	20.95	39.36
					106/54	18.94	18.94	23.94	78.27
802.11ax40	HE0	102	5510	SISO A	Full	19.30	19.30	24.30	85.11
					242/62	20.43	20.43	25.43	110.41
				SISO B	Full	18.38	18.38	23.38	68.87
					242/62	19.56	19.56	24.56	90.36
				MIMO A	Full	17.43	17.43	22.43	55.34
					242/62	18.48	18.48	23.48	70.47
				MIMO B	Full	17.39	17.39	22.39	54.83
					242/62	18.50	18.50	23.50	70.79
				Combined A+B	Full	20.42	20.42	25.42	110.16
					242/62	21.50	21.50	26.50	141.26
		118	5590	SISO A	Full	20.77	20.77	25.77	119.40
				SISO B	Full	20.90	20.90	25.90	123.03
				MIMO A	Full	20.42	20.42	25.42	110.15
				MIMO B	Full	20.99	20.99	25.99	125.60
		134	5670	SISO A	Full	20.34	20.34	25.34	108.14
					242/62	20.85	20.85	25.85	121.62
				SISO B	Full	20.93	20.93	25.93	123.88
					242/62	20.96	20.96	25.96	124.74

				MIMO A	Full	20.41	20.41	25.41	109.90
					242/62	18.22	18.22	23.22	66.37
				MIMO B	Full	20.49	20.49	25.49	111.94
					242/62	18.65	18.65	23.65	73.28
				Combined A+B	Full	23.46	23.46	28.46	221.84
					242/62	21.45	21.45	26.45	139.66

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max/Min Value

Mode	Rate	#Ch	Freq [MHz]	Antenna	RU config.	Average Conducted Output Power [dBm]	Avg Max* Conducted Output Power [dBm]	Avg Max*. EIRP [dBm]	Avg Max* Conducted Power [mW]
802.11ax80	HE0	106	5530	SISO A	Full	19.20	19.20	24.20	83.18
					484/65	19.31	19.31	24.31	85.31
				SISO B	Full	18.29	18.29	23.29	67.45
					484/65	18.08	18.08	23.08	64.27
				MIMO A	Full	16.73	16.73	21.73	47.10
					484/65	17.24	17.24	22.24	52.97
				MIMO B	Full	17.48	17.48	22.48	55.98
					484/65	17.15	17.15	22.15	51.88
				Combined A+B	Full	20.13	20.13	25.13	103.07
					484/65	20.21	20.21	25.21	104.85
		122	5610	SISO A	Full	20.90	20.90	25.90	123.03
				SISO B	Full	20.89	20.89	25.89	122.74
				MIMO A	Full	20.29	20.29	25.29	106.91
				MIMO B	Full	20.31	20.31	25.31	107.40
				Combined A+B	Full	23.31	23.31	28.31	214.30
802.11ax160	HE0	114	5570	SISO A	Full	15.96	15.96	20.96	39.45
					996/67	17.51	17.51	22.51	56.36
					996/67s	19.83	19.83	24.83	96.16
				SISO B	Full	15.89	15.89	20.89	38.82
					996/67	16.87	16.87	21.87	48.64
					996/67s	20.29	20.29	25.29	106.91
				MIMO A	Full	14.87	14.87	19.87	30.69
					996/67	15.44	15.44	20.44	34.99
					996/67s	18.23	18.23	23.23	66.53
				MIMO B	Full	15.40	15.40	20.40	34.67
					996/67	15.20	15.20	20.20	33.11
					996/67s	18.80	18.80	23.80	75.86
				Combined A+B	Full	18.15	18.15	23.15	65.36
					996/67	18.33	18.33	23.33	68.11
					996/67s	21.53	21.53	26.53	142.39

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max/Min Value

Maximum output power – Overlapped channels between U-NII-2C and U-NII-3

Mode	Rate	Antenna	Chain	Channel	Frequency (MHz)	Average Cond. Output Power - UNII-2C [dBm]	Max.* Cond. Output Power - UNII-2C [dBm]	Max.* EIRP UNII2C [dBm]	Max.* Cond. Output Power - UNII-2C [mW]
802.11n20	HT0	SISO	A	144	5720	20.15	20.15	25.15	103.51
			B		5720	20.41	20.41	25.41	109.90
	HT8	MIMO	A		5720	18.02	18.02	23.02	63.39
			B		5720	17.84	17.84	22.84	60.81
		Combined	A+B		5720	20.94	20.94	25.94	124.20
			A+B		5720	20.94	20.94	25.94	124.20
802.11n40	HT0	SISO	A	142	5710	20.63	20.63	25.63	115.61
			B		5710	20.48	20.48	25.48	111.69
	HT8	MIMO	A		5710	20.62	20.62	25.62	115.35
			B		5710	20.38	20.38	25.38	109.14
		Combined	A+B		5710	23.51	23.51	28.51	224.49
			A+B		5710	23.51	23.51	28.51	224.49
802.11ac80	VHT0	SISO	A	138	5690	21.08	21.08	26.08	128.23
			B		5690	20.82	20.82	25.82	120.78
		MIMO	A		5690	20.88	20.88	25.88	122.46
			B		5690	20.77	20.77	25.77	119.40
		Combined	A+B		5690	23.84	23.84	28.84	241.86
			A+B		5690	23.84	23.84	28.84	241.86
802.11ax20	HE0	SISO	A	144	5720	20.00	20.00	25.00	100.00
			B		5720	20.36	20.36	25.36	108.64
		MIMO	A		5720	17.85	17.85	22.85	60.95
			B		5720	17.67	17.67	22.67	58.48
		Combined	A+B		5720	20.77	20.77	25.77	119.43
			A+B		5720	20.77	20.77	25.77	119.43
802.11ax40	HE0	SISO	A	142	5710	20.63	20.63	25.63	115.61
			B		5710	20.50	20.50	25.50	112.20
		MIMO	A		5710	20.50	20.50	25.50	112.20
			B		5710	20.24	20.24	25.24	105.68
		Combined	A+B		5710	23.38	23.38	28.38	217.88
			A+B		5710	23.38	23.38	28.38	217.88
802.11ax80	HE0	SISO	A	138	5690	21.08	21.08	26.08	128.23
			B		5690	20.81	20.81	25.81	120.50
		MIMO	A		5690	20.78	20.78	25.78	119.67
			B		5690	20.78	20.78	25.78	119.67
		Combined	A+B		5690	23.79	23.79	28.79	239.35
			A+B		5690	23.79	23.79	28.79	239.35

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max/Min Value

Maximum Power Spectral Density (PSD) – U-NII-2C channels

Mode	Rate	Channel	Freq [MHz]	Antenna	Average conducted PSD [dBm/MHz]	Maximum* conducted PSD [dBm/MHz]
802.11a	6Mbps	100	5500	SISO A	9.47	9.56
				SISO B	10.08	10.17
		120	5600	SISO A	10.24	10.33
				SISO B	10.27	10.36
		140	5700	SISO A	9.92	10.01
				SISO B	9.42	9.51
802.11n20	HT0	100	5500	SISO A	9.65	9.65
				SISO B	9.03	9.03
		120	5600	SISO A	10.09	10.09
				SISO B	10.24	10.24
		140	5700	SISO A	9.40	9.40
				SISO B	9.55	9.55
	HT8	100	5500	MIMO A	7.65	7.65
				MIMO B	7.58	7.58
				Combined A+B	10.63	10.63
		120	5600	MIMO A	7.59	7.59
				MIMO B	7.61	7.61
				Combined A+B	10.61	10.61
		140	5700	MIMO A	7.61	7.61
				MIMO B	7.68	7.68
				Combined A+B	10.66	10.66
802.11n40	HT0	102	5510	SISO A	5.29	5.29
				SISO B	4.35	4.35
		118	5590	SISO A	6.70	6.70
				SISO B	6.83	6.83
		134	5670	SISO A	6.27	6.27
				SISO B	6.61	6.61
	HT8	102	5510	MIMO A	3.39	3.39
				MIMO B	3.80	3.80
				Combined A+B	6.61	6.61
		118	5590	MIMO A	6.50	6.50
				MIMO B	6.75	6.75
				Combined A+B	9.64	9.64
		134	5670	MIMO A	6.60	6.60
				MIMO B	6.63	6.63
				Combined A+B	9.63	9.63
802.11ac80	VHT0	106	5530	SISO A	2.16	2.16
				SISO B	0.90	0.90
				MIMO A	-0.46	-0.46
				MIMO B	0.37	0.37
				Combined A+B	2.99	2.99
		122	5610	SISO A	4.05	4.05
				SISO B	3.52	3.52
				MIMO A	3.44	3.44
				MIMO B	3.39	3.39
				Combined A+B	6.43	6.43
802.11ac160	VHT0	114	5570	SISO A	-3.88	-3.88
				SISO B	-4.17	-4.17
				MIMO A	-5.93	-5.93
				MIMO B	-5.60	-5.60
				Combined A+B	-2.75	-2.75

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Mode	Rate	Channel	Freq [MHz]	Antenna	RU config.	Average conducted PSD [dBm/MHz]	Maximum* conducted PSD [dBm/MHz]
802.11ax20	HE0	100	5500	SISO A	Full	9.29	9.29
					26/0	10.50	10.50
					52/37	10.64	10.64
					106/53	10.43	10.43
				SISO B	Full	9.30	9.30
					26/0	10.07	10.07
					52/37	10.18	10.18
					106/53	10.59	10.59
				MIMO A	Full	7.68	7.68
					26/0	7.41	7.41
					52/37	7.47	7.47
					106/53	7.63	7.63
				MIMO B	Full	7.68	7.68
					26/0	7.39	7.39
					52/37	7.35	7.35
					106/53	7.51	7.51
				Combined A+B	Full	10.69	10.69
					26/0	10.41	10.41
					52/37	10.42	10.42
					106/53	10.58	10.58
		120	5600	SISO A	Full	10.30	10.30
				SISO B	Full	9.95	9.95
				MIMO A	Full	7.65	7.65
				MIMO B	Full	7.57	7.57
				Combined A+B	Full	10.62	10.62
		140	5700	SISO A	Full	9.65	9.65
					26/8	10.60	10.60
					52/40	10.53	10.53
					106/54	10.56	10.56
				SISO B	Full	9.24	9.24
					26/8	10.47	10.47
					52/40	10.64	10.64
					106/54	10.51	10.51
				MIMO A	Full	7.37	7.37
					26/8	7.16	7.16
					52/40	7.57	7.57
					106/54	7.43	7.43
				MIMO B	Full	7.69	7.69
					26/8	7.25	7.25
					52/40	7.50	7.50
					106/54	7.50	7.50
				Combined A+B	Full	10.54	10.54
					26/8	10.22	10.22
					52/40	10.55	10.55
					106/54	10.48	10.48
802.11ax40	HE0	102	5510	SISO A	Full	5.19	5.19
					242/62	9.47	9.47
				SISO B	Full	4.19	4.19
					242/62	8.62	8.62
				MIMO A	Full	3.31	3.31
					242/62	7.48	7.48
				MIMO B	Full	3.26	3.26
					242/62	7.61	7.61
				Combined A+B	Full	6.30	6.30
					242/62	10.56	10.56
		118	5590	SISO A	Full	6.57	6.57
				SISO B	Full	6.74	6.74
				MIMO A	Full	6.36	6.36
				MIMO B	Full	6.90	6.90
				Combined A+B	Full	9.65	9.65
		134	5670	SISO A	FullBW	6.15	6.15
					242/62	9.95	9.95
				SISO B	FullBW	6.72	6.72
					242/62	10.10	10.10

				MIMO A	FullBW	6.31	6.31
					242/62	7.36	7.36
				MIMO B	FullBW	6.37	6.37
					242/62	7.69	7.69
				Combined A+B	FullBW	9.35	9.35
					242/62	10.54	10.54

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Mode	Rate	Channel	Freq [MHz]	Antenna	RU config.	Average conducted PSD [dBm/MHz]	Maximum* conducted PSD [dBm/MHz]
802.11ax80	HE0	106	5530	SISO A	Full	2.09	2.09
					484/65	5.07	5.07
				SISO B	Full	1.15	1.15
					484/65	3.78	3.78
				MIMO A	Full	-0.55	-0.55
					484/65	2.92	2.92
		122	5610	MIMO B	Full	0.39	0.39
					484/65	2.75	2.75
				Combined A+B	Full	2.96	2.96
					484/65	5.85	5.85
802.11ax160	HE0	114	5570	SISO A	FullBW	-4.00	-4.00
					996/67	0.26	0.26
					996/67s	2.70	2.44
				SISO B	FullBW	-4.04	-4.04
					996/67	-0.33	-0.33
					996/67s	3.40	3.40
				MIMO A	FullBW	-5.16	-5.16
					996/67	-1.71	-1.71
					996/67s	1.17	1.17
				MIMO B	FullBW	-4.56	-4.56
					996/67	-1.92	-1.92
					996/67s	1.84	1.84
				Combined A+B	FullBW	-1.84	-1.84
					996/67	1.20	1.20
					996/67s	4.53	4.53

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

Maximum Power Spectral Density (PSD) – Overlapped channels between U-NII-2C and U-NII-3

Mode	Rate	Channel	Frequency (MHz)	Antenna	Chain	Average conducted PSD UNII-2C [dBm/MHz]	Maximum* conducted PSD UNII-2C [dBm/MHz]
802.11n20	HT0	144	5720	SISO	A	9.76	9.76
					B	10.06	10.06
	HT8			MIMO	A	7.68	7.68
					B	7.50	7.50
	Combined			A+B	10.60	10.60	
802.11n40	HT0	142	5710	SISO	A	6.22	6.22
					B	6.07	6.07
	HT8			MIMO	A	6.35	6.35
					B	6.12	6.12
	Combined			A+B	9.25	9.25	
802.11ac80	VHT0	138	5690	SISO	A	3.60	3.60
					B	3.34	3.34
				MIMO	A	3.39	3.39
					B	3.26	3.26
				Combined	A+B	6.34	6.34
802.11ax20	HE0	144	5720	SISO	A	9.46	9.46
					B	9.89	9.89
				MIMO	A	7.36	7.36
					B	7.18	7.18
				Combined	A+B	10.28	10.28
802.11ax40	HE0	142	5710	SISO	A	6.24	6.24
					B	6.10	6.10
				MIMO	A	6.10	6.10
					B	5.83	5.83
				Combined	A+B	8.98	8.98
802.11ax80	HE0	138	5690	SISO	A	3.62	3.62
					B	3.28	3.28
				MIMO	A	3.30	3.30
					B	3.29	3.29
				Combined	A+B	6.31	6.31

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

See Section B.3.3 for the screenshot results.

B.2.3 Undesirable emission limits : out of band (Conducted)

Test limits

FCC part	RSS clause	Limits																				
15.407 (b) (3)	RSS-247 Clause 6.2.3 (2)	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 EIRP of -27 dBm/MHz.																				
15.209	RSS-GEN A1, Clause 8.9	Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):																				
		<table><tr><th>Freq Range (MHz)</th><th>Field Strength (μV/m)</th><th>Field Strength (dBμV/m)</th><th>Meas. Distance (m)</th></tr><tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr><tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr><tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr></table>	Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)	30-88	100	40	3	88-216	150	43.5	3	216-960	200	46	3	Above 960	500	54	3
Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)																			
30-88	100	40	3																			
88-216	150	43.5	3																			
216-960	200	46	3																			
Above 960	500	54	3																			
		The emission limits shown in the table above are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.																				

Test procedure

The conducted setup shown in section *Test & System Description* was used to measure undesirable emissions on the out of band domain. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss and the declared antenna gain.

Both lower and upper side of the out of band were performed using the integration method as defined in the out of band measurements section (paragraph II.G.3.d) of FCC OET KDB 789033 D02. Tests were performed using both RMS and peak detectors.

For out of band emission measurements in MIMO mode the emission level of individual output is adjusted by $10 \log(N_{ant}) = 3\text{dB}$ for $N_{ant} = 2$ which is equivalent to compare the individual output emission level to the limit minus 3dB. The same approach is applied for peak and RMS detectors

In case of out of band measurements falling in restricted bands, the declared antenna gain is also compensated in the graph.

The following limits in dBm were applied for the average detector after the conversion from the limits detailed above in dBμV/m, according to FCC 47 CFR part 15 - Subpart C – §15.209(a). The limits in dBm for peak detector are 20dB above the indicated values in the table.

§15.209(a)			Converted values	
Freq Range (MHz)	Distance (m)	Field strength (microvolts/meter)	Field strength (dB microvolts/meter)	Power (dBm)
Above 960	3	500	53.98	-41.2

See Section B.3.4 for the screenshot results.

B.2.4 Radiated spurious emission

Standard references

FCC part	RSS clause	Limits																				
15.407 (b) (3)	RSS-247 Clause 6.2.3 (2)	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 EIRP of -27 dBm/MHz.																				
15.209	RSS-GEN A1, Clause 8.9	Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a): <table><tr><th>Freq Range (MHz)</th><th>Field Strength (μV/m)</th><th>Field Strength (dBμV/m)</th><th>Meas. Distance (m)</th></tr><tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr><tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr><tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr></table> The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.	Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)	30-88	100	40	3	88-216	150	43.5	3	216-960	200	46	3	Above 960	500	54	3
Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)																			
30-88	100	40	3																			
88-216	150	43.5	3																			
216-960	200	46	3																			
Above 960	500	54	3																			

Test procedure

The radiated setups shown in section *Test & System Description* were used to measure the radiated spurious emissions. Depending of the frequency range and bands being tested, different antennas and filters were used. The final measurement is done by varying the antenna height from 1 m to 4 m, the EUT azimuth over 360° and for both Vertical and Horizontal polarizations.

The radiated spurious emission was measured on the worst case configuration selected from the chapter B.2.2 and using the low, middle and high channels.

Test Results**Radiated spurious - 30 MHz to 1 GHz****All modes**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
49.9	28.8	Quasi-Peak	40.0	11.2	V
73.1	33.5	Quasi-Peak	40.0	6.5	V
937.5	40.5	Quasi-Peak	46.0	5.5	V

Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.

Radiated spurious - 1 GHz to 40 GHz**802.11a****802.11a, 6Mbps, Chain A****CH100**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.8	33.1	Average	54.0	20.9	H
1598.8	46.6	Peak	74.0	27.4	H
15805.6	50.2	Peak	74.0	23.8	H
15805.6	39.7	Average	54.0	14.3	V
39657.3	57.3	Peak	74.0	16.7	H
39663.2	46.6	Average	54.0	7.4	H

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.6	46.7	Peak	74.0	27.3	H
1592.6	32.3	Average	54.0	21.7	H
17797.4	40.9	Average	54.0	13.1	H
17816.3	52.1	Peak	74.0	21.9	H
39670.5	58.8	Peak	74.0	15.2	V
39682.7	47.8	Average	54.0	6.2	V

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.8	31.2	Average	54.0	22.8	H
1599.2	46.6	Peak	74.0	27.4	H
17798.4	51.9	Peak	74.0	22.1	H
17808.8	40.9	Average	54.0	13.1	H
39677.3	57.5	Peak	74.0	16.5	V
39747.7	47.4	Average	54.0	6.6	V

802.11a, 6Mbps, Chain B**CH100**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.1	32.8	Average	54.0	21.2	H
1593.1	48.0	Peak	74.0	26.0	H
17815.4	40.9	Average	54.0	13.1	V
17828.6	52.2	Peak	74.0	21.8	V
39630.4	47.4	Average	54.0	6.7	V
39637.7	56.8	Peak	74.0	17.2	V

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.1	47.9	Peak	74.0	26.1	H
1594.1	34.5	Average	54.0	19.5	H
17804.0	41.0	Average	54.0	13.0	H
17818.2	51.6	Peak	74.0	22.4	H
39662.7	47.8	Average	54.0	6.2	H
39744.3	57.7	Peak	74.0	16.3	H

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1599.2	32.4	Average	54.0	21.6	H
1599.2	47.4	Peak	74.0	26.6	H
5181.1	52.3	Peak	68.2	15.9	H
17787.5	52.0	Peak	74.0	22.0	V
17818.2	41.1	Average	54.0	12.9	H
39633.8	57.9	Peak	74.0	16.1	H
39639.2	47.5	Average	54.0	6.5	V

802.11n**802.11n20, HT0, Chain A****CH100**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.9	32.8	Average	54.0	21.2	H
1597.8	44.7	Peak	74.0	29.3	H
17802.1	41.0	Average	54.0	13.0	V
17808.3	52.2	Peak	74.0	21.8	H
39613.8	47.2	Average	54.0	6.8	V
39633.3	57.3	Peak	74.0	16.7	V

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.1	32.6	Average	54.0	21.4	H
1597.4	48.6	Peak	74.0	25.4	H
17804.5	52.3	Peak	74.0	21.7	H
17824.8	41.1	Average	54.0	12.8	H
39298.9	45.5	Average	54.0	8.5	V
39301.9	56.8	Peak	74.0	17.2	H

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1599.2	31.8	Average	54.0	22.2	H
1599.2	48.9	Peak	74.0	25.1	H
17797.4	41.0	Average	54.0	13.0	H
17816.3	51.8	Peak	74.0	22.2	H
39473.0	56.8	Peak	74.0	17.2	V
39475.4	46.1	Average	54.0	7.9	V

802.11n20, HT0, Chain B**CH100**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.1	48.4	Peak	74.0	25.6	H
1596.4	31.6	Average	54.0	22.4	H
17803.6	41.0	Average	54.0	13.0	H
17804.0	51.9	Peak	74.0	22.1	V
27506.4	50.5	Peak	68.2	17.7	V

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
2125.8	47.6	Peak	68.2	20.6	H
17788.9	51.4	Peak	74.0	22.6	V
17791.3	40.8	Average	54.0	13.2	H
39664.6	57.0	Peak	74.0	17.0	V
39666.6	47.3	Average	54.0	6.7	H

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.3	46.9	Peak	74.0	27.1	H
1599.2	32.8	Average	54.0	21.2	H
17791.8	41.1	Average	54.0	12.9	V
17803.6	51.3	Peak	74.0	22.7	V
39721.8	47.1	Average	54.0	6.9	H
39734.0	57.9	Peak	74.0	16.1	V

802.11n20, HT8, Chain A+B**CH100**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.6	49.3	Peak	74.0	24.7	H
1597.8	32.6	Average	54.0	21.4	H
17801.2	51.9	Peak	74.0	22.1	V
17801.7	41.0	Average	54.0	13.0	V
39609.4	56.9	Peak	74.0	17.1	H
39611.3	47.4	Average	54.0	6.6	V

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1596.9	47.8	Peak	74.0	26.2	H
1598.8	32.1	Average	54.0	21.9	H
17810.6	40.5	Average	54.0	13.5	H
17811.1	52.1	Peak	74.0	21.9	H
39606.0	57.8	Peak	74.0	16.2	V
39614.3	47.1	Average	54.0	6.9	H

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.2	31.7	Average	54.0	22.3	H
1592.2	46.8	Peak	74.0	27.2	H
17805.9	51.9	Peak	74.0	22.1	V
17834.7	40.3	Average	54.0	13.7	V
39647.0	57.3	Peak	74.0	16.7	H
39653.9	47.4	Average	54.0	6.6	H

802.11n40, HT0, Chain A**CH102**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.1	48.3	Peak	74.0	25.7	H
1597.8	33.4	Average	54.0	20.6	H
17804.0	52.0	Peak	74.0	22.0	H
17811.1	41.0	Average	54.0	13.1	V
39647.5	46.8	Average	54.0	7.2	V
39648.5	57.1	Peak	74.0	16.9	H

CH118

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.0	32.6	Average	54.0	21.4	H
1595.0	47.2	Peak	74.0	26.8	H
17795.1	41.1	Average	54.0	12.9	V
17795.5	52.1	Peak	74.0	21.9	V
39650.4	57.4	Peak	74.0	16.6	V
39650.9	46.8	Average	54.0	7.2	H

CH134

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.9	30.8	Average	54.0	23.2	H
1597.8	46.0	Peak	74.0	28.0	H
17804.5	40.6	Average	54.0	13.4	V
17830.9	51.3	Peak	74.0	22.7	V
39651.9	59.0	Peak	74.0	15.0	H
39659.2	47.9	Average	54.0	6.1	V

802.11n40, HT0, Chain B**CH102**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.1	31.9	Average	54.0	22.1	H
1594.1	47.4	Peak	74.0	26.6	H
17785.1	50.9	Peak	74.0	23.1	V
17825.3	40.6	Average	54.0	13.4	H
39783.9	45.9	Average	54.0	8.2	V
39784.4	58.1	Peak	74.0	15.9	V

CH118

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.2	46.8	Peak	74.0	27.2	H
1596.4	31.6	Average	54.0	22.4	H
17804.5	40.9	Average	54.0	13.1	V
17810.6	51.6	Peak	74.0	22.4	H
39565.9	58.0	Peak	74.0	16.0	H
39568.3	45.8	Average	54.0	8.2	H

CH134

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.1	47.0	Peak	74.0	27.0	H
1598.3	32.2	Average	54.0	21.8	H
17797.9	41.1	Average	54.0	12.9	V
17824.3	51.7	Peak	74.0	22.3	H
39594.2	56.8	Peak	74.0	17.2	V
39666.6	47.8	Average	54.0	6.2	H

802.11n40, HT8, Chain A+B**CH102**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.3	33.8	Average	54.0	20.2	H
1598.3	47.8	Peak	74.0	26.2	H
17792.7	51.6	Peak	74.0	22.4	H
17797.9	40.9	Average	54.0	13.1	H
39631.4	47.2	Average	54.0	6.8	H
39631.4	57.4	Peak	74.0	16.6	H

CH118

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.1	33.8	Average	54.0	20.2	H
1594.1	48.8	Peak	74.0	25.2	H
17791.8	41.0	Average	54.0	13.0	V
17798.8	52.0	Peak	74.0	22.0	V
39674.4	57.9	Peak	74.0	16.1	H
39675.9	46.9	Average	54.0	7.1	V

CH134

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.3	33.4	Average	54.0	20.6	H
1598.3	48.5	Peak	74.0	25.5	H
17803.1	40.9	Average	54.0	13.1	V
17823.4	50.8	Peak	74.0	23.2	V
39509.2	57.0	Peak	74.0	17.0	V
39614.8	47.2	Average	54.0	6.8	V

802.11ac**802.11ac80, VHT0, Chain A****CH106**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1596.9	33.2	Average	54.0	20.8	H
1596.9	49.2	Peak	74.0	24.8	H
17815.8	51.6	Peak	74.0	22.4	H
17818.7	41.0	Average	54.0	13.0	H
39645.6	56.8	Peak	74.0	17.2	H
39650.9	47.8	Average	54.0	6.2	V

CH122

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.3	32.2	Average	54.0	21.8	H
1599.7	48.4	Peak	74.0	25.6	H
17804.0	52.3	Peak	74.0	21.7	V
17814.9	40.9	Average	54.0	13.1	V
39606.0	46.5	Average	54.0	7.5	H
39658.8	57.6	Peak	74.0	16.4	V

CH138

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1599.7	47.7	Peak	74.0	26.3	H
1599.7	31.9	Average	54.0	22.1	H
17811.6	40.9	Average	54.0	13.1	H
17820.6	52.8	Peak	74.0	21.2	V
39619.6	47.5	Average	54.0	6.5	H
39622.6	57.9	Peak	74.0	16.1	V

802.11ac80, VHT0, Chain B**CH106**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.6	31.3	Average	54.0	22.7	H
1593.1	47.8	Peak	74.0	26.2	H
17777.1	52.0	Peak	74.0	22.0	V
17814.4	41.0	Average	54.0	13.0	V
39637.2	57.5	Peak	74.0	16.5	H
39703.7	47.2	Average	54.0	6.8	V

CH122

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.9	32.7	Average	54.0	21.3	H
1596.9	46.5	Peak	74.0	27.5	H
17802.6	52.8	Peak	74.0	21.2	H
17805.0	41.0	Average	54.0	13.0	H
39702.8	57.2	Peak	74.0	16.8	H
39808.4	47.0	Average	54.0	7.0	V

CH138

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.1	32.6	Average	54.0	21.4	H
1598.8	48.9	Peak	74.0	25.1	H
17801.2	40.9	Average	54.0	13.1	V
17813.5	53.7	Peak	74.0	20.3	H
39595.2	57.2	Peak	74.0	16.8	H
39611.3	47.5	Average	54.0	6.5	H

802.11ac80, VHT0, Chain A+B**CH106**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.6	45.6	Peak	74.0	28.4	H
1598.3	32.0	Average	54.0	22.0	H
3099.5	49.5	Peak	68.2	18.7	H
17771.0	52.0	Peak	74.0	22.1	V
17815.8	40.9	Average	54.0	13.1	H
39613.8	58.0	Peak	74.0	16.0	H
39672.0	47.7	Average	54.0	6.3	V

CH122

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.1	47.3	Peak	74.0	26.7	H
1594.1	32.8	Average	54.0	21.2	H
4820.8	51.7	Peak	74.0	22.3	V
4826.9	42.4	Average	54.0	11.6	H
17770.5	51.7	Peak	74.0	22.3	H
17822.0	40.9	Average	54.0	13.1	V
39633.8	47.4	Average	54.0	6.6	V
39659.2	57.7	Peak	74.0	16.3	H

CH138

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.5	33.5	Average	54.0	20.5	H
1595.5	48.9	Peak	74.0	25.1	H
17804.5	40.8	Average	54.0	13.2	V
17805.9	52.3	Peak	74.0	21.7	H
39639.7	56.8	Peak	74.0	17.2	V
39642.6	47.7	Average	54.0	6.3	H

802.11ac160, VHT0, Chain A**CH114**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.5	31.5	Average	54.0	22.5	H
1595.5	49.1	Peak	74.0	24.9	H
2131.0	48.6	Peak	68.2	19.6	H
17801.2	52.1	Peak	74.0	21.9	H
17807.8	41.0	Average	54.0	13.0	H
39654.4	47.8	Average	54.0	6.2	H
39654.8	57.6	Peak	74.0	16.4	H

802.11ac160, VHT0, Chain B**CH114**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.6	33.2	Average	54.0	20.8	H
1593.6	46.4	Peak	74.0	27.6	H
17800.7	41.2	Average	54.0	12.8	V
17818.2	52.0	Peak	74.0	22.0	V
39740.9	47.4	Average	54.0	6.6	V
39809.3	58.3	Peak	74.0	15.7	V

802.11ac160, VHT0, Chain A+B**CH114**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.8	32.9	Average	54.0	21.1	H
1598.8	47.1	Peak	74.0	26.9	H
17796.0	52.3	Peak	74.0	21.7	H
17811.6	41.1	Average	54.0	12.9	V
39643.1	57.4	Peak	74.0	16.6	V
39683.2	46.9	Average	54.0	7.1	H

802.11ax**802.11ax20, HE0, Chain A****CH100**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.6	33.0	Average	54.0	21.0	H
1592.6	48.2	Peak	74.0	25.8	H
5011.5	42.8	Average	54.0	11.2	V
5012.0	52.5	Peak	74.0	21.5	V
5251.4	53.3	Peak	68.2	14.9	H
17808.8	40.4	Average	54.0	13.6	H
17808.8	52.5	Peak	74.0	21.5	H
27458.0	50.8	Peak	68.2	17.4	V

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1596.4	33.1	Average	54.0	20.9	H
1596.4	46.8	Peak	74.0	27.2	H
5111.6	42.4	Average	54.0	11.6	V
5112.1	52.5	Peak	74.0	21.5	H
5351.5	42.5	Average	54.0	11.5	H
5352.0	52.2	Peak	74.0	21.8	H
17807.8	40.6	Average	54.0	13.4	H
17807.8	51.9	Peak	74.0	22.1	V
27958.7	50.0	Peak	68.2	18.2	V

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.5	44.4	Peak	74.0	29.6	H
1596.9	31.6	Average	54.0	22.4	H
5211.8	52.5	Peak	68.2	15.7	H
5450.7	52.7	Peak	74.0	21.3	V
5451.2	42.9	Average	54.0	11.1	V
17800.7	41.0	Average	54.0	13.0	V
17811.1	52.4	Peak	74.0	21.6	V
28459.3	55.9	Peak	68.2	12.3	V

802.11ax20, HE0, Chain B**CH100**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1286.2	43.4	Peak	74.0	30.6	H
1286.6	34.2	Average	54.0	19.8	H
1596.4	31.8	Average	54.0	22.2	H
1596.4	46.5	Peak	74.0	27.4	H
4951.6	43.3	Average	54.0	10.7	H
4951.6	52.3	Peak	74.0	21.7	H
5007.8	51.7	Peak	74.0	22.3	H
5011.1	43.0	Average	54.0	11.0	H
17791.8	51.7	Peak	74.0	22.3	H
17794.1	41.0	Average	54.0	13.0	V
27458.5	52.5	Peak	68.2	15.7	V

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.5	32.5	Average	54.0	21.5	H
1597.8	48.5	Peak	74.0	25.5	H
5111.2	52.1	Peak	74.0	21.9	H
5112.1	41.9	Average	54.0	12.1	H
17805.4	40.8	Average	54.0	13.2	H
17810.6	52.3	Peak	74.0	21.7	H
27960.1	52.9	Peak	68.2	15.3	V

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.0	33.0	Average	54.0	21.0	H
1595.0	48.9	Peak	74.0	25.1	H
5150.4	52.4	Peak	68.2	15.8	V
5210.8	52.1	Peak	68.2	16.1	V
17801.2	51.8	Peak	74.0	22.2	V
17821.5	40.9	Average	54.0	13.1	V
39652.4	47.6	Average	54.0	6.4	H
39655.3	58.3	Peak	74.0	15.7	H

802.11ax20, HE0, Chain A+B

CH100

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1286.6	44.1	Peak	74.0	29.9	H
1286.6	34.7	Average	54.0	19.3	H
1592.6	46.3	Peak	74.0	27.7	H
1597.8	32.0	Average	54.0	22.0	H
5012.0	43.7	Average	54.0	10.3	H
5016.7	52.1	Peak	74.0	21.9	H
5250.9	53.5	Peak	68.2	14.7	H
10982.8	38.5	Average	54.0	15.5	V
10984.7	48.3	Peak	74.0	25.7	V
27456.6	53.7	Peak	68.2	14.5	V

CH120

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.5	48.1	Peak	74.0	25.9	H
1598.8	33.6	Average	54.0	20.4	H
5111.6	52.3	Peak	74.0	21.7	H
5111.6	43.1	Average	54.0	10.9	H
17803.6	51.6	Peak	74.0	22.4	V
17804.5	40.6	Average	54.0	13.4	H
27957.7	53.4	Peak	68.2	14.8	V

CH140

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.8	33.8	Average	54.0	20.2	H
1598.8	48.1	Peak	74.0	25.9	H
5218.4	52.0	Peak	68.2	16.2	H
17818.2	41.2	Average	54.0	12.8	H
17821.5	52.4	Peak	74.0	21.6	H
28457.8	54.2	Peak	68.2	14.0	V

802.11ax40, HE0, Chain A**CH102**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1594.1	31.3	Average	54.0	22.7	H
1598.8	46.5	Peak	74.0	27.5	H
5017.2	52.0	Peak	74.0	22.0	V
5020.5	42.1	Average	54.0	11.9	V
5259.4	53.4	Peak	68.2	14.8	H
17800.7	40.9	Average	54.0	13.1	V
17800.7	52.3	Peak	74.0	21.7	H
27501.6	52.7	Peak	68.2	15.5	V

CH118

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.0	47.0	Peak	74.0	27.0	H
1595.5	32.3	Average	54.0	21.7	H
5100.3	43.2	Average	54.0	10.8	V
5101.7	51.9	Peak	74.0	22.1	H
5344.0	52.6	Peak	68.2	15.6	H
17814.9	41.1	Average	54.0	12.9	V
17835.2	52.6	Peak	74.0	21.4	V
27902.0	51.0	Peak	68.2	17.1	V

CH134

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.6	46.5	Peak	74.0	27.4	H
1596.9	31.9	Average	54.0	22.1	H
5119.7	42.1	Average	54.0	11.9	V
5124.4	51.8	Peak	74.0	22.2	H
5180.1	52.7	Peak	68.2	15.5	V
5420.5	43.1	Average	54.0	10.9	V
5421.4	54.0	Peak	74.0	20.0	H
11320.4	39.0	Average	54.0	15.1	H
11320.9	48.9	Peak	74.0	25.1	H
28303.8	54.6	Peak	68.2	13.6	V

802.11ax40, HE0, Chain B

CH102

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1599.2	32.8	Average	54.0	21.2	H
1599.2	48.0	Peak	74.0	26.0	H
4960.5	42.9	Average	54.0	11.2	V
4960.5	52.6	Peak	74.0	21.4	V
5020.0	43.2	Average	54.0	10.8	H
5023.3	52.1	Peak	74.0	21.9	H
17782.8	40.7	Average	54.0	13.3	H
17815.4	52.2	Peak	74.0	21.8	H
27501.6	53.7	Peak	68.2	14.5	V

CH118

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.5	33.6	Average	54.0	20.4	H
1595.5	48.9	Peak	74.0	25.1	H
5040.3	42.3	Average	54.0	11.7	H
5041.3	51.3	Peak	74.0	22.7	H
5100.3	51.8	Peak	74.0	22.2	H
5100.3	42.2	Average	54.0	11.8	H
17797.9	41.0	Average	54.0	13.1	H
17831.9	52.2	Peak	74.0	21.8	H
27901.0	53.5	Peak	68.2	14.8	V

CH134

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.0	46.6	Peak	74.0	27.4	H
1607.3	30.2	Average	54.0	23.8	H
5180.1	51.8	Peak	68.2	16.4	V
17802.1	52.5	Peak	74.0	21.5	H
17831.4	40.8	Average	54.0	13.2	V
39629.4	47.8	Average	54.0	6.2	V
39629.9	57.4	Peak	74.0	16.6	H

802.11ax40, HE0, Chain A+B**CH102**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.0	33.4	Average	54.0	20.6	H
1599.7	48.0	Peak	74.0	26.0	H
5020.0	52.1	Peak	74.0	21.9	H
5020.0	44.2	Average	54.0	9.8	H
5260.9	52.9	Peak	68.2	15.3	V
10999.3	48.5	Peak	74.0	25.5	V
11001.7	38.9	Average	54.0	15.1	V
27501.1	54.6	Peak	68.2	13.6	V

CH118

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.1	33.3	Average	54.0	20.7	H
1593.1	48.2	Peak	74.0	25.8	H
5100.3	52.8	Peak	74.0	21.2	H
5100.8	42.8	Average	54.0	11.2	H
17796.5	52.2	Peak	74.0	21.8	V
17805.0	40.7	Average	54.0	13.3	V
27904.4	54.4	Peak	68.2	13.8	V

CH134

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1599.2	32.7	Average	54.0	21.3	H
1599.2	49.7	Peak	74.0	24.3	H
5181.1	52.6	Peak	68.2	15.6	H
5420.0	53.3	Peak	74.0	20.7	V
5420.5	43.9	Average	54.0	10.2	H
11318.5	48.5	Peak	74.0	25.5	H
11320.4	38.7	Average	54.0	15.3	V
28299.4	55.1	Peak	68.2	13.1	V

802.11ax80, HE0, Chain A**CH106**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.6	30.8	Average	54.0	23.2	H
1593.1	48.6	Peak	74.0	25.4	H
5027.6	52.3	Peak	74.0	21.7	H
5028.5	42.3	Average	54.0	11.7	V
5267.9	53.5	Peak	68.2	14.7	H
17809.2	52.6	Peak	74.0	21.4	V
17825.3	41.0	Average	54.0	13.0	V
27544.1	51.9	Peak	68.2	16.3	V

CH122

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1596.4	33.7	Average	54.0	20.3	H
1596.4	49.3	Peak	74.0	24.7	H
3083.4	48.1	Peak	68.2	20.1	H
5101.2	52.9	Peak	74.0	21.1	V
5108.3	42.5	Average	54.0	11.5	V
5348.7	53.0	Peak	68.2	15.2	V
17771.0	40.6	Average	54.0	13.4	H
17820.1	52.2	Peak	74.0	21.8	V
27942.0	50.3	Peak	68.2	17.9	V

CH138

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1597.8	31.5	Average	54.0	22.5	H
1597.8	46.5	Peak	74.0	27.5	H
5187.2	52.8	Peak	68.2	15.4	V
11336.9	38.3	Average	54.0	15.7	H
11337.9	48.5	Peak	74.0	25.5	V
28342.4	53.3	Peak	68.2	14.9	V

802.11ax80, HE0, Chain B**CH106**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1596.9	33.2	Average	54.0	20.8	H
1596.9	48.9	Peak	74.0	25.1	H
5025.7	52.2	Peak	74.0	21.8	V
5029.0	43.1	Average	54.0	10.9	H
5188.6	52.6	Peak	68.2	15.6	H
5263.2	52.4	Peak	68.2	15.8	H
17802.1	41.4	Average	54.0	12.6	H
17810.2	51.5	Peak	74.0	22.4	H
27542.6	54.2	Peak	68.2	14.0	V

CH122

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.3	33.7	Average	54.0	20.3	H
1598.3	47.3	Peak	74.0	26.7	H
5100.3	52.3	Peak	74.0	21.7	H
5108.3	43.7	Average	54.0	10.3	H
5267.0	53.0	Peak	68.2	15.2	H
17807.3	52.0	Peak	74.0	22.1	V
17817.7	41.2	Average	54.0	12.8	V
27943.0	52.5	Peak	68.2	15.7	V

CH138

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.9	31.8	Average	54.0	22.2	H
1596.4	49.0	Peak	74.0	25.0	H
5344.0	53.6	Peak	68.2	14.6	H
5428.0	52.4	Peak	74.0	21.6	H
5429.0	42.5	Average	54.0	11.6	H
17777.6	52.4	Peak	74.0	21.6	V
17800.2	41.3	Average	54.0	12.7	V
19743.4	38.9	Average	54.0	15.1	V
19752.7	50.1	Peak	74.0	23.9	V

802.11ax80, HE0, Chain A+B

CH106

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1593.6	32.6	Average	54.0	21.4	H
1593.6	47.4	Peak	74.0	26.6	H
5028.5	43.8	Average	54.0	10.2	V
5029.0	53.0	Peak	74.0	21.0	H
5188.6	54.0	Peak	68.2	14.2	V
11015.4	48.4	Peak	74.0	25.6	H
11017.2	38.9	Average	54.0	15.1	V
27540.2	55.4	Peak	68.2	12.8	V

CH122

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.9	33.9	Average	54.0	20.1	H
1595.9	48.5	Peak	74.0	25.5	H
5096.5	53.1	Peak	74.0	20.9	V
5107.9	42.8	Average	54.0	11.2	H
17799.8	41.2	Average	54.0	12.8	H
17804.0	52.3	Peak	74.0	21.7	H
27944.0	51.3	Peak	68.2	16.9	V

CH138

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1592.6	31.4	Average	54.0	22.6	H
1596.9	46.9	Peak	74.0	27.1	H
5189.1	52.5	Peak	68.2	15.7	H
5347.8	52.4	Peak	68.2	15.8	H
11336.5	47.8	Peak	74.0	26.2	H
11337.4	38.8	Average	54.0	15.2	V
28297.0	49.8	Peak	68.2	18.4	H
28342.0	53.8	Peak	68.2	14.4	V

802.11ax160, HE0, Chain A**CH114**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1595.5	48.2	Peak	74.0	25.8	H
1595.5	33.5	Average	54.0	20.5	H
5277.4	53.3	Peak	68.2	14.9	H
17782.3	51.6	Peak	74.0	22.4	H
17814.9	41.3	Average	54.0	12.7	V
27583.7	52.5	Peak	68.2	15.7	V

802.11ax160, HE0, Chain B**CH114**

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.8	46.3	Peak	74.0	27.7	H
1598.8	33.1	Average	54.0	20.9	H
4876.9	44.3	Average	54.0	9.7	H
4877.4	53.1	Peak	74.0	20.9	H
5036.6	43.8	Average	54.0	10.2	H
5037.0	52.8	Peak	74.0	21.2	V
17804.5	52.4	Peak	74.0	21.6	V
17813.5	40.9	Average	54.0	13.1	H
27589.1	55.5	Peak	68.2	12.7	V

802.11ax160, HE0, Chain A+B**CH114**

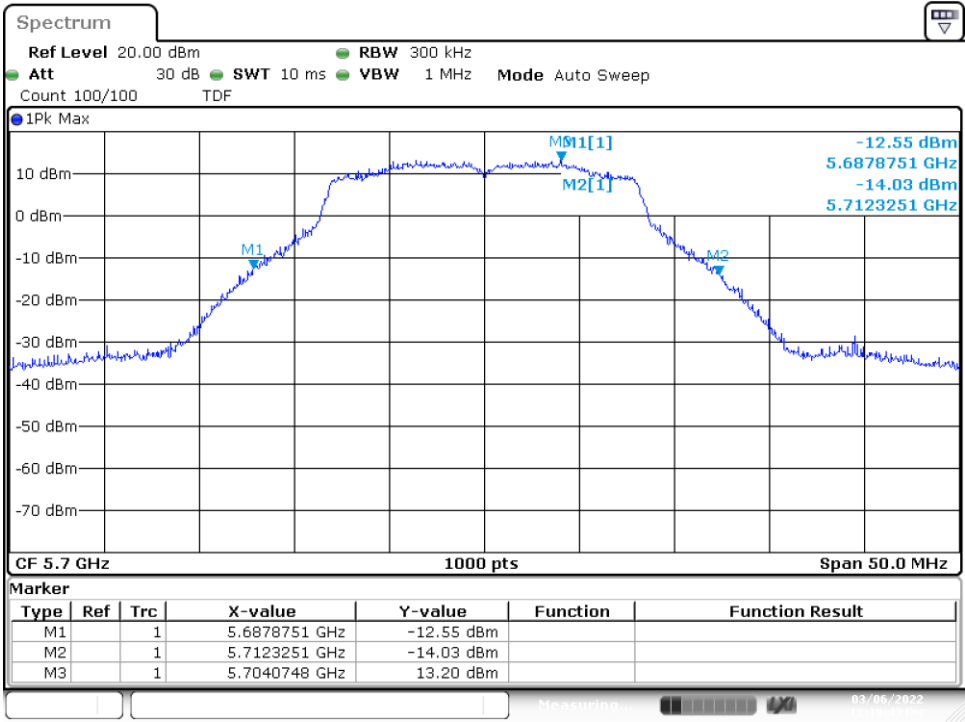
Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBμV/m	---	dBμV/m	dB	---
1598.8	33.6	Average	54.0	20.4	H
1598.8	48.7	Peak	74.0	25.3	H
4876.9	45.1	Average	54.0	8.9	V
4877.4	53.8	Peak	74.0	20.2	H
5036.6	53.1	Peak	74.0	20.9	H
5036.6	44.5	Average	54.0	9.5	H
5277.4	53.1	Peak	68.2	15.1	H
11034.2	47.5	Peak	74.0	26.5	V
11034.2	38.9	Average	54.0	15.2	V
27586.6	55.6	Peak	68.2	12.6	V

B.3 Test Results Screenshots

B.3.1 26dB Bandwidth

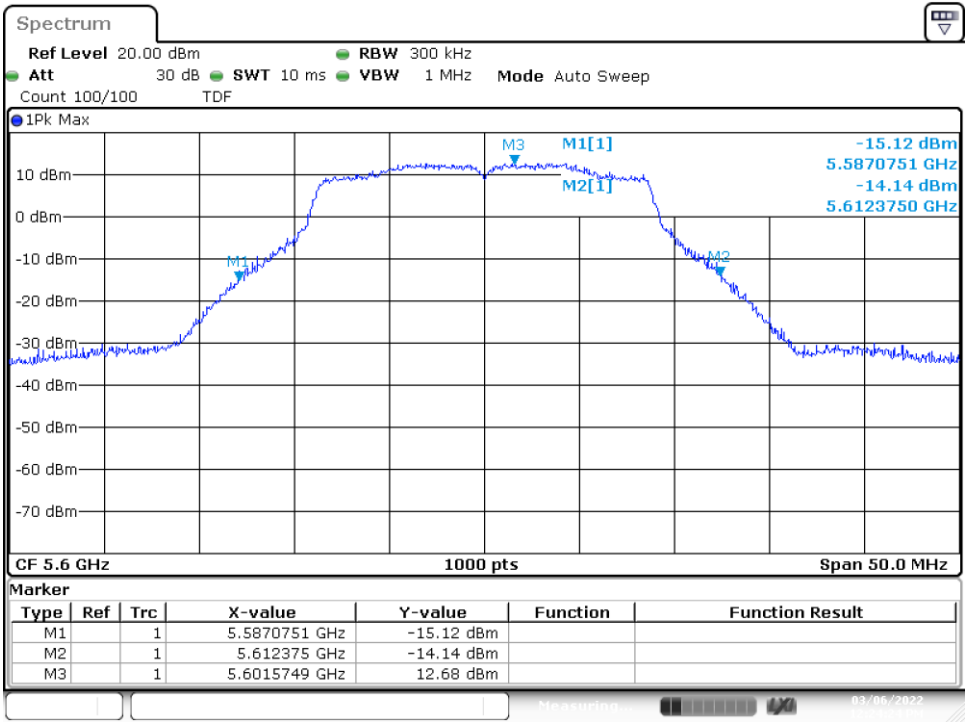
SISO-A, 802.11a, 6Mbps

Channel 140



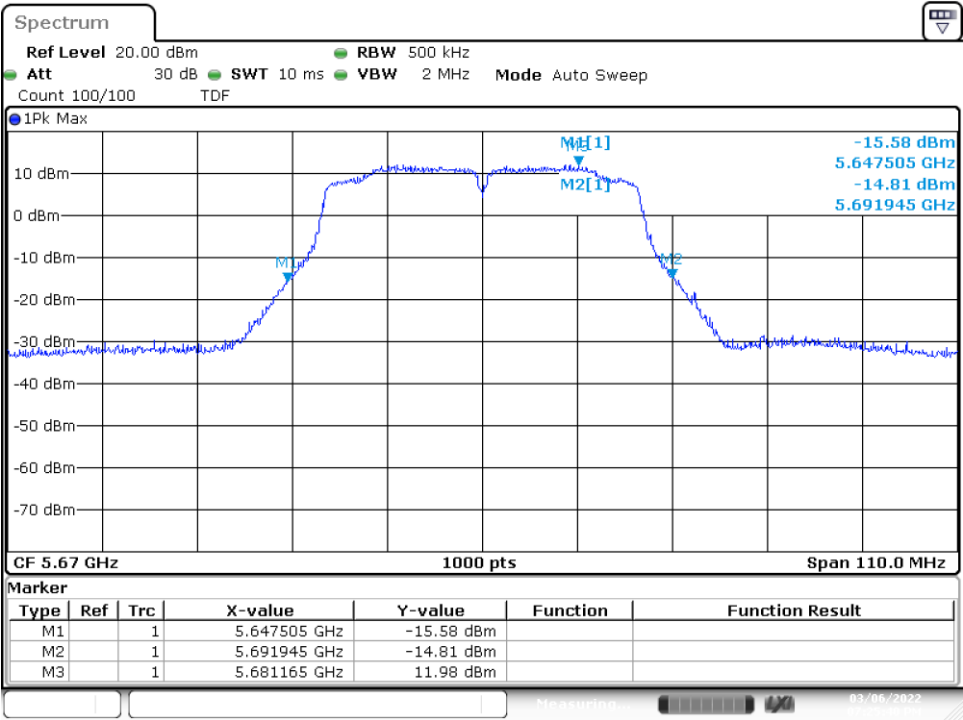
SISO-A, 802.11n20, HT0

Channel 120



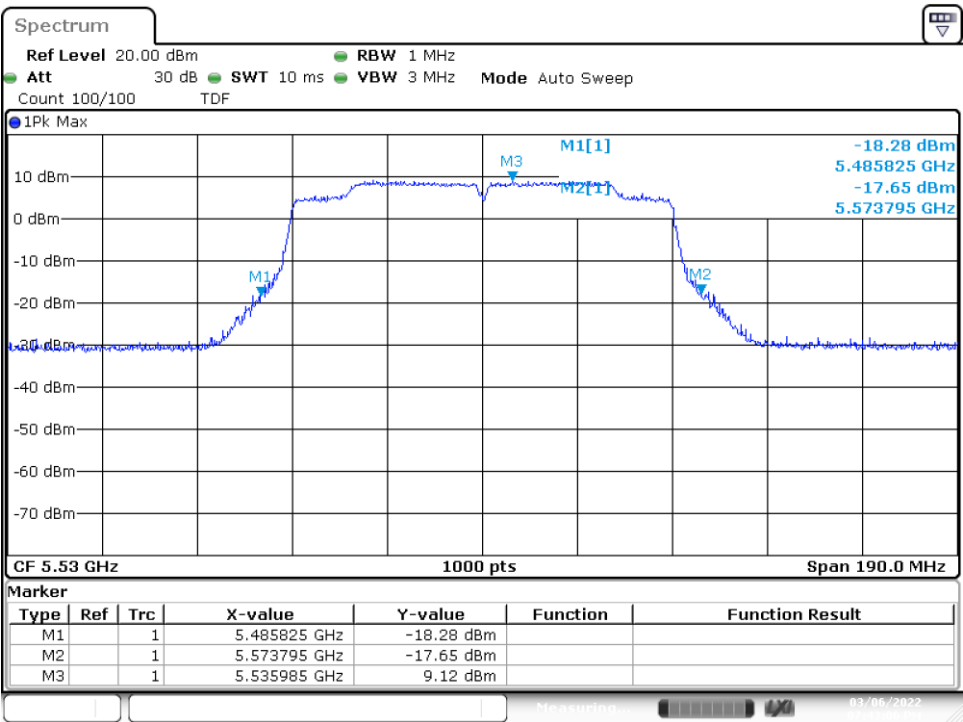
MIMO-A, 802.11n40, HT8

Channel 134



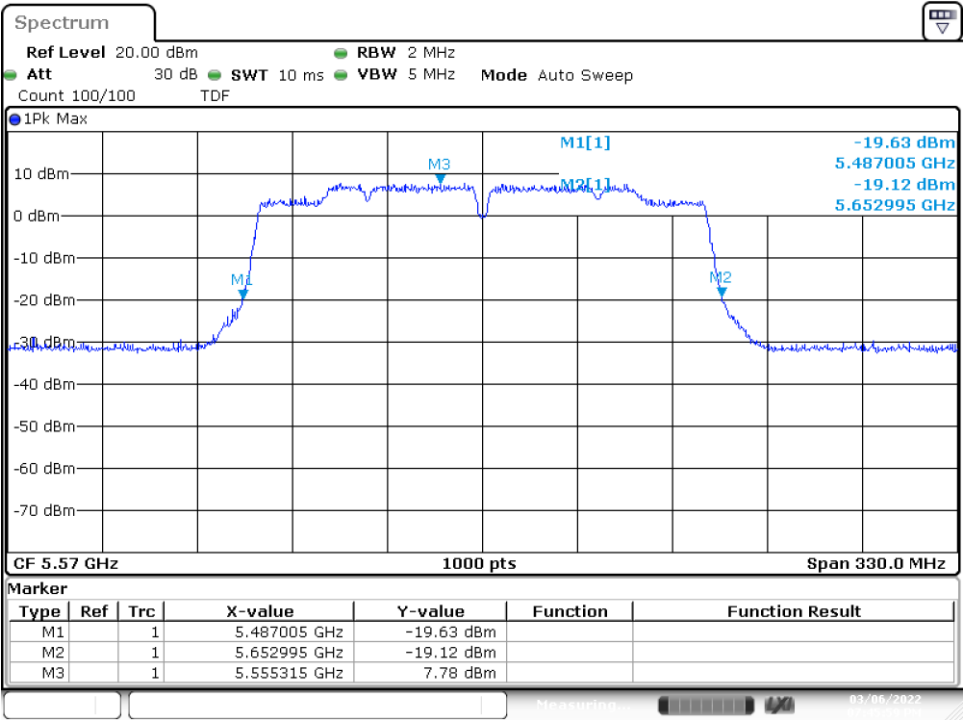
MIMO-A, 802.11ac80, VHT0

Channel 106



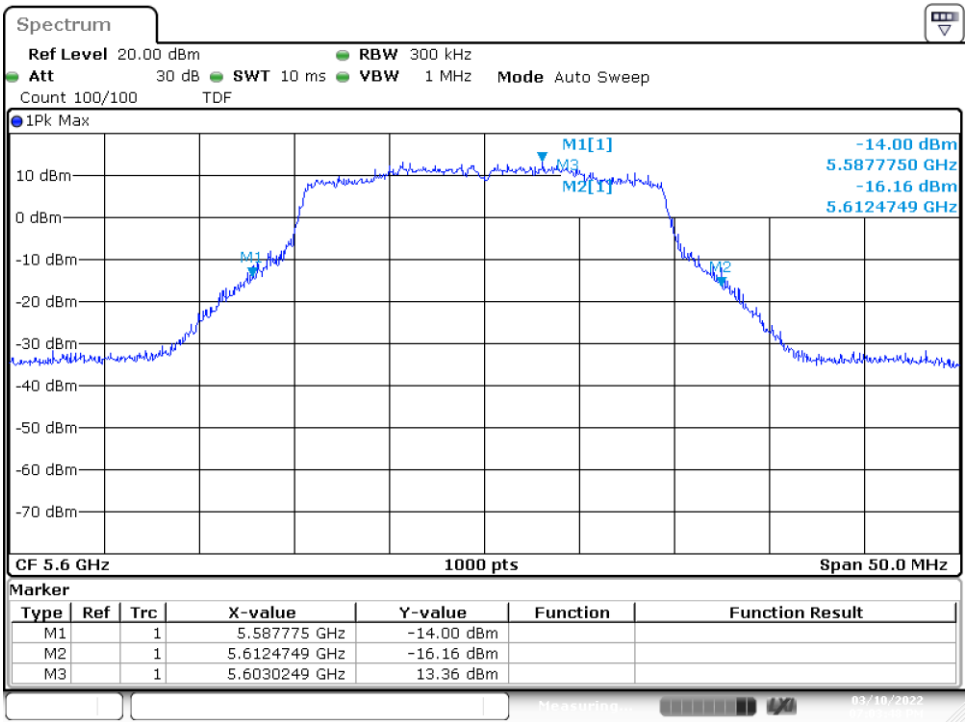
SISO-A, 802.11ac160, VHT0

Channel 114



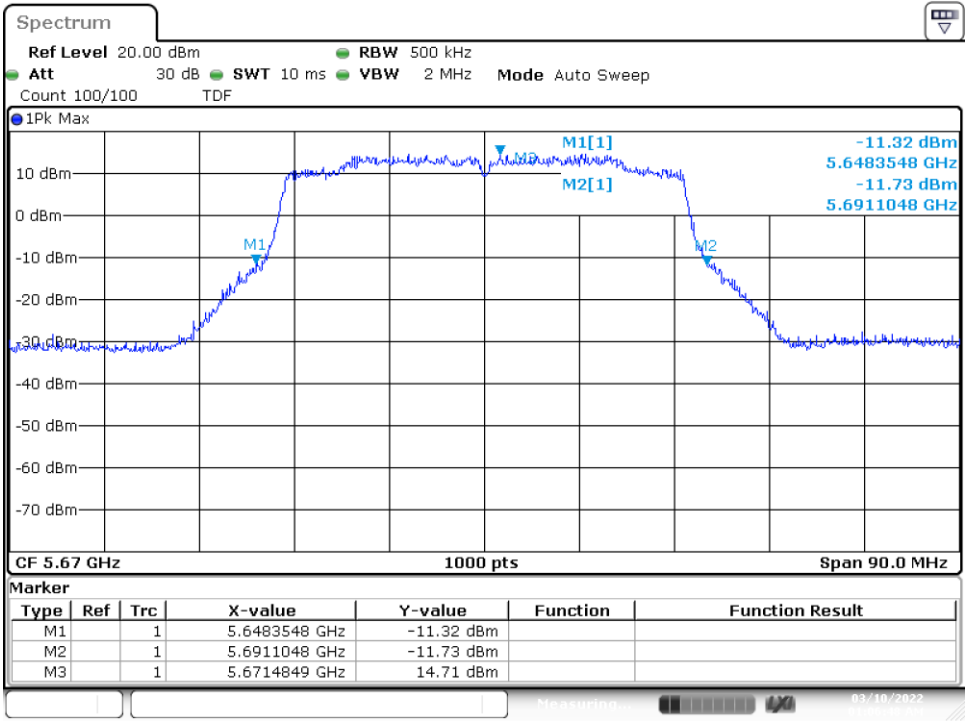
MIMO-B, 802.11ax20, HE0

Channel 120



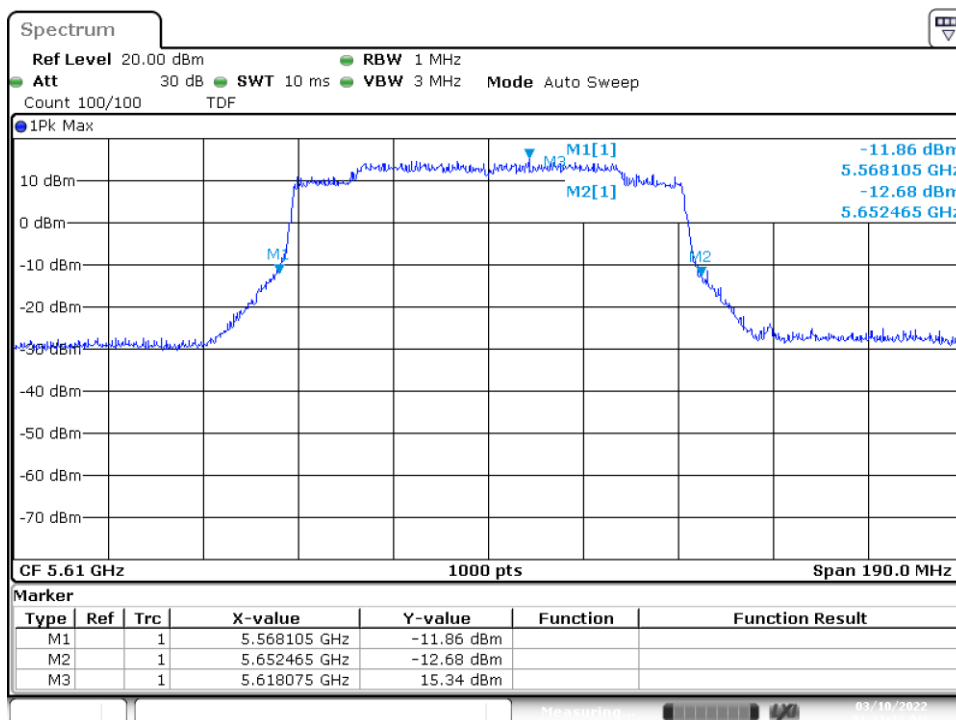
SISO-B, 802.11ax40, HE0

Channel 118



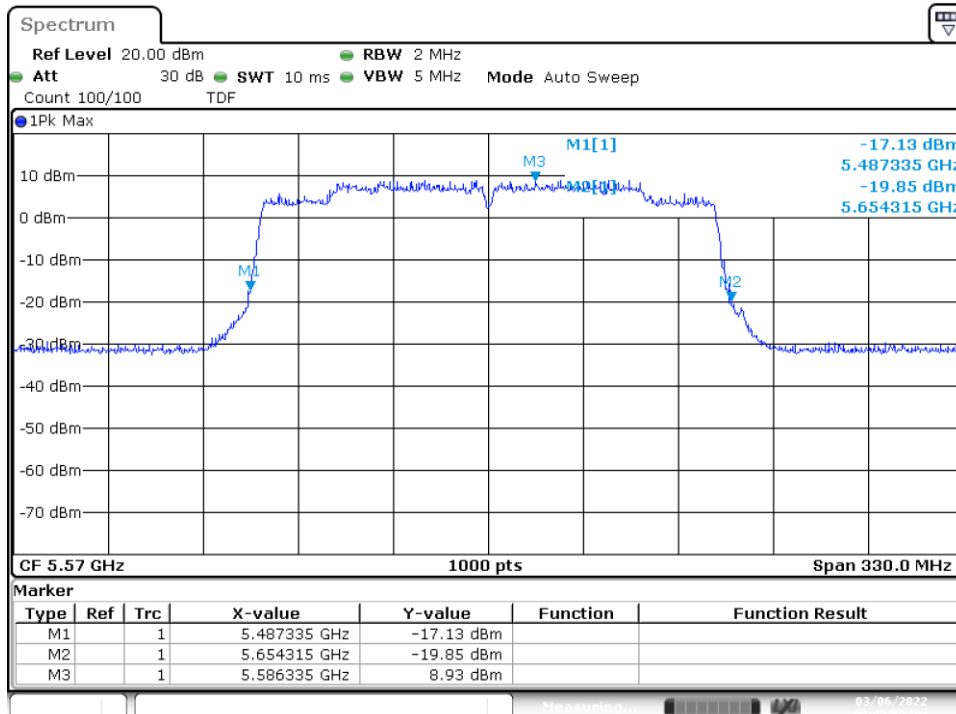
SISO-B, 802.11ax80, HE0

Channel 122



MIMO-A, 802.11ax160, HE0

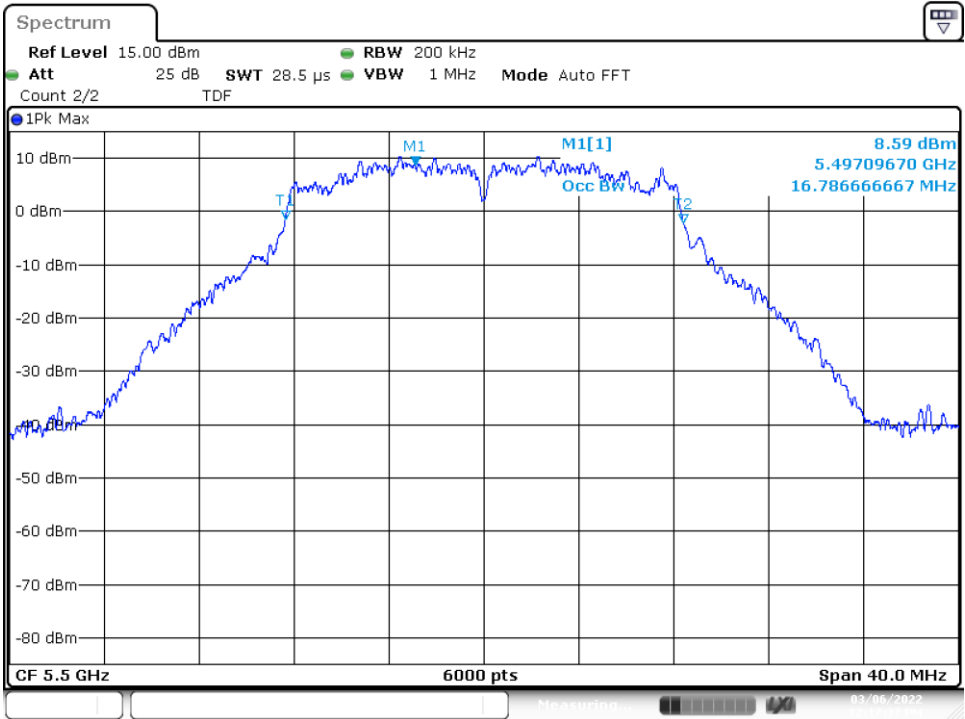
Channel 114



B.3.2 99% Bandwidth

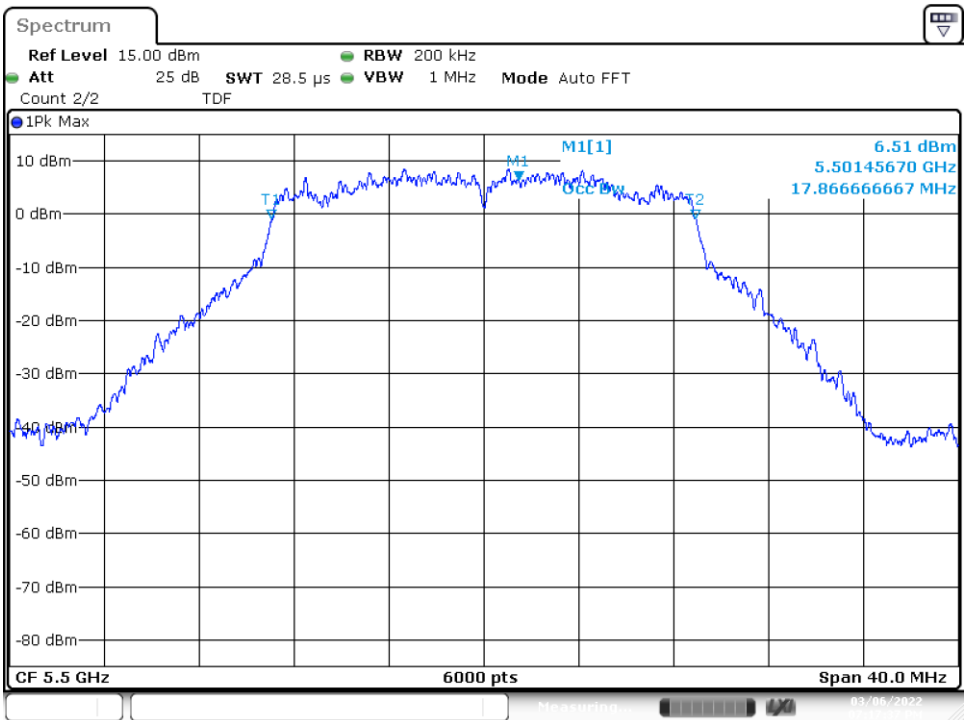
SISO-A, 802.11a, 6Mbps

Channel 100



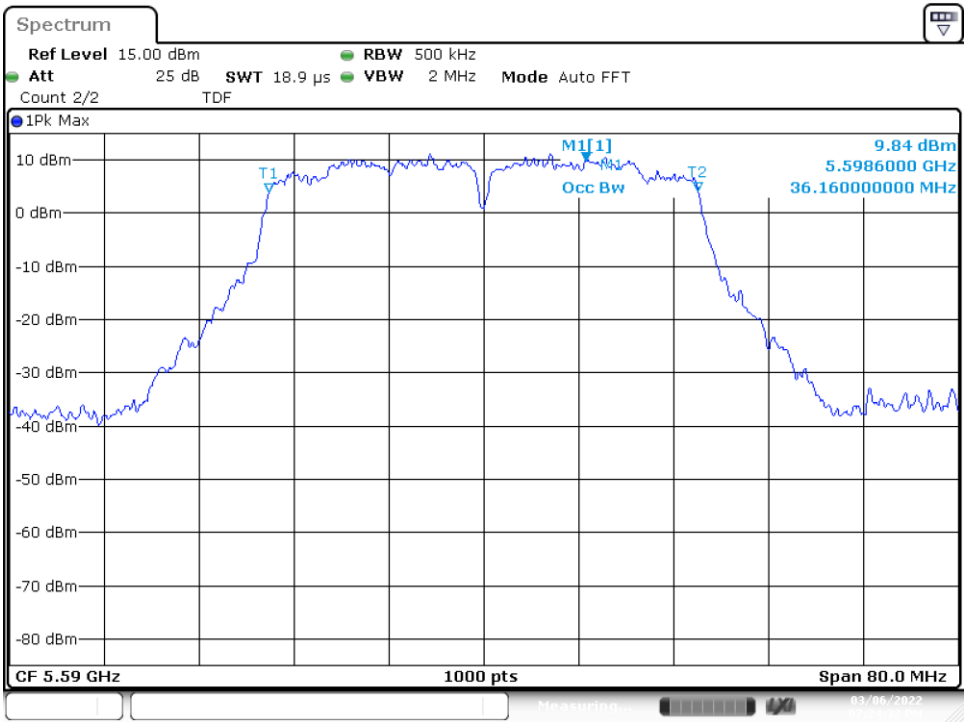
MIMO-A, 802.11n20, HT8

Channel 100



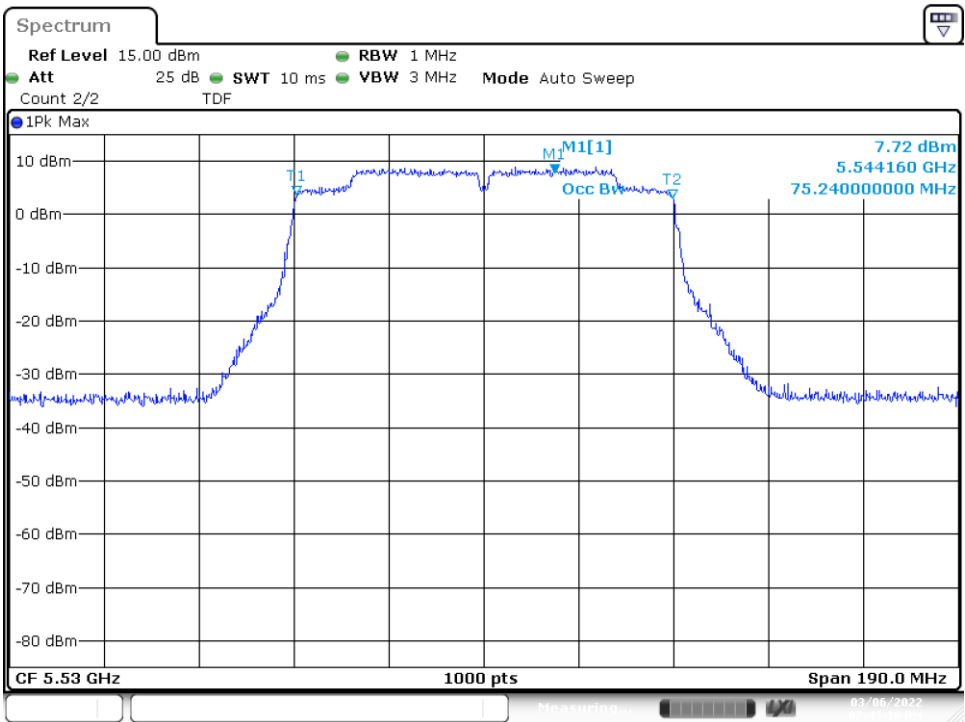
MIMO-A, 802.11n40, HT8

Channel 118



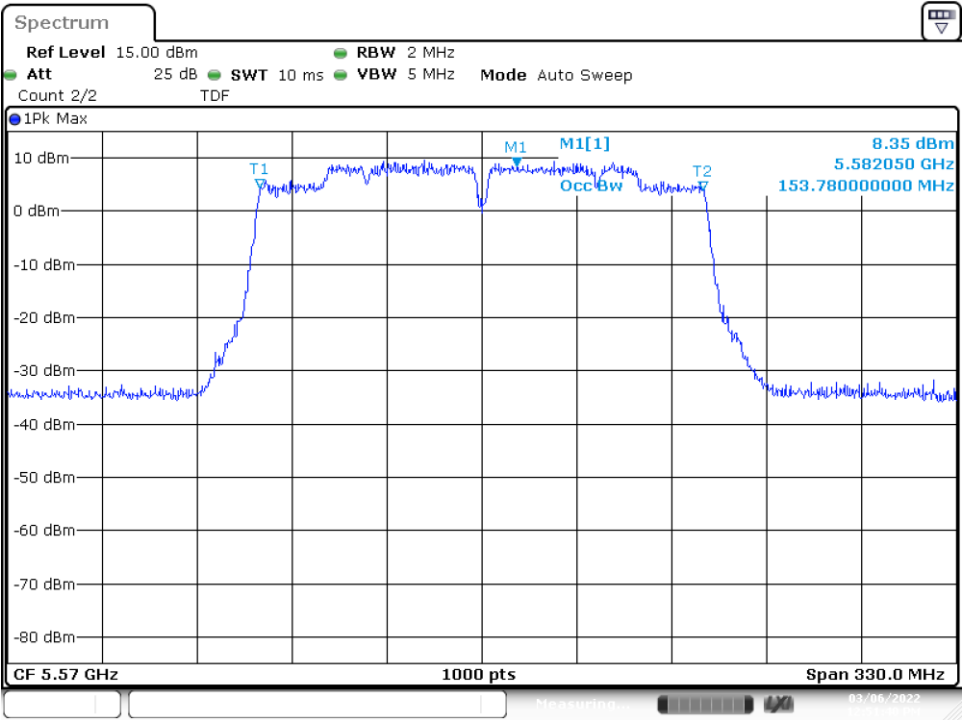
MIMO-A, 802.11ac80, VHT0

Channel 106



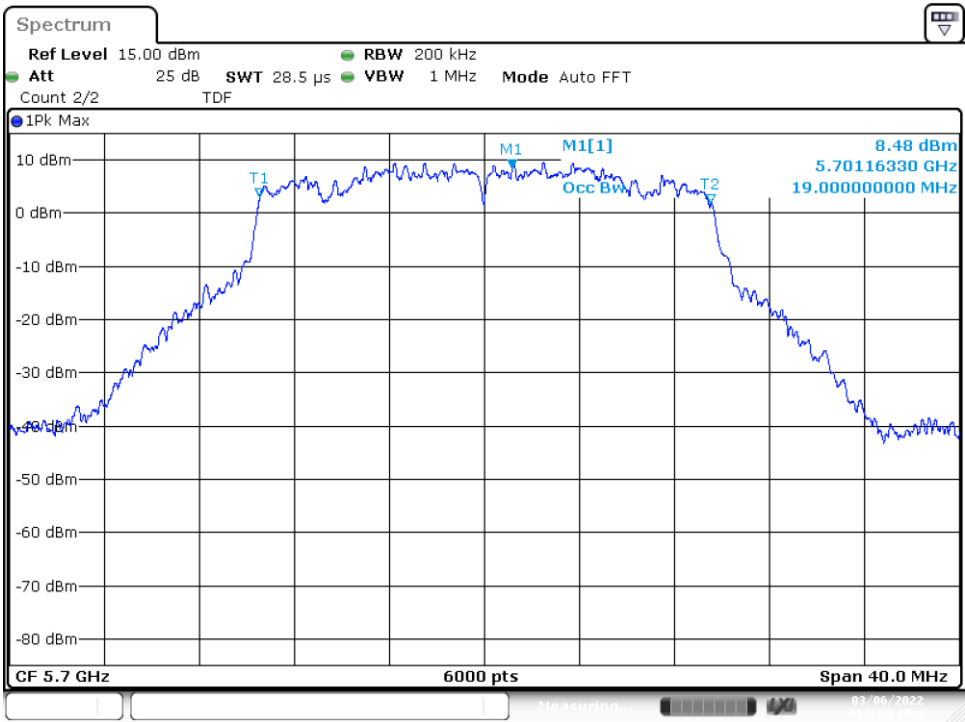
Channel 114

SISO-A, 802.11ac160, VHT0



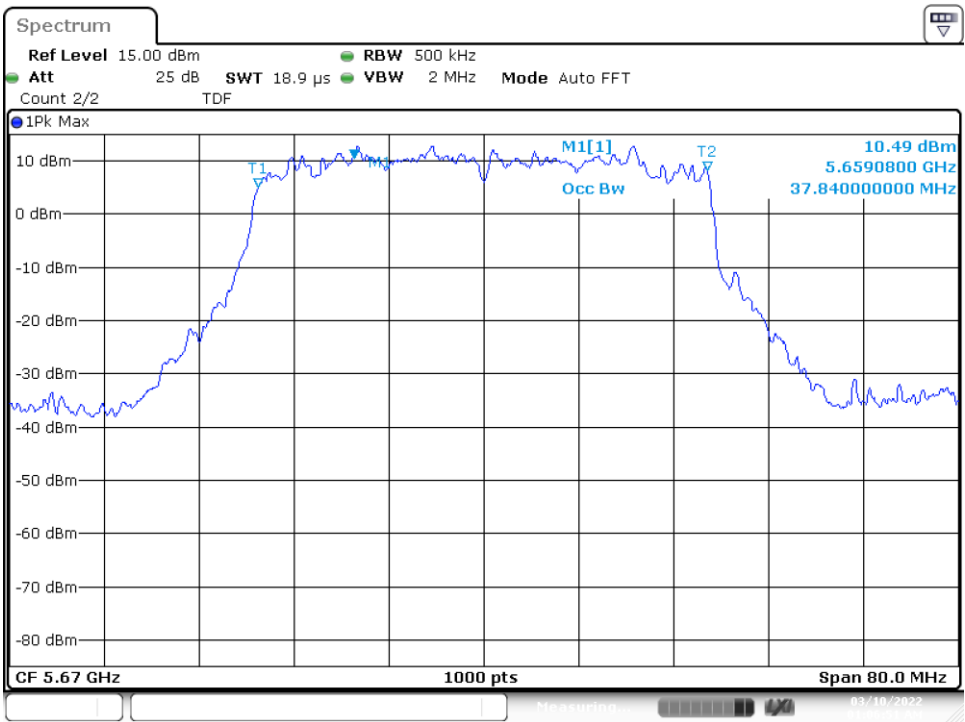
MIMO-A, 802.11ax20, HE0

Channel 140



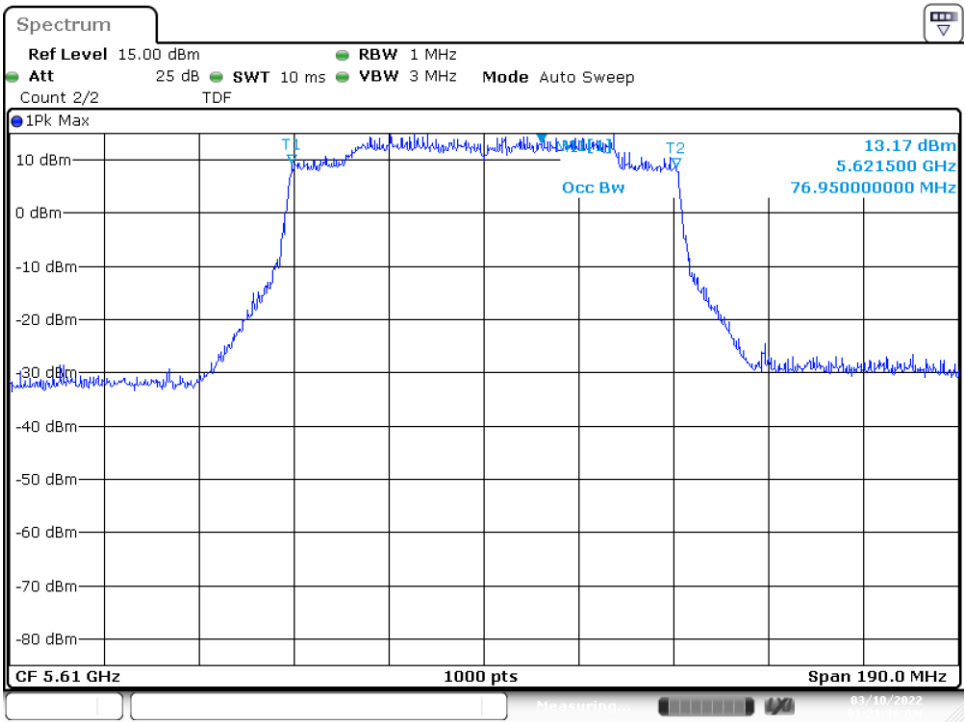
SISO-B, 802.11ax40, HE0

Channel 134



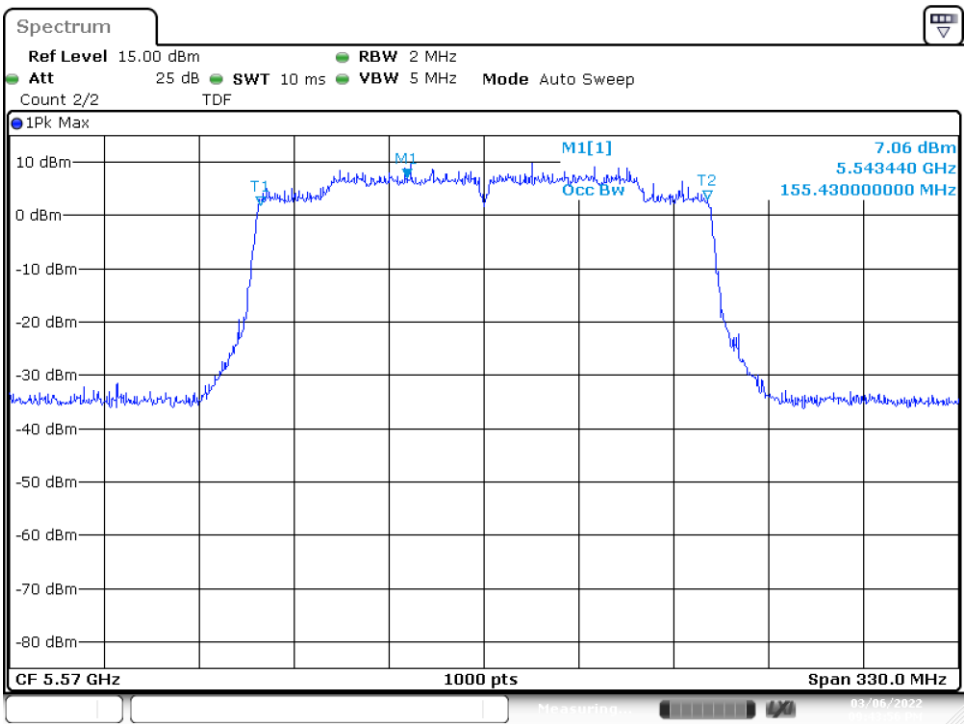
SISO-B, 802.11ax80, HE0

Channel 122



MIMO-A, 802.11ax160, HE0

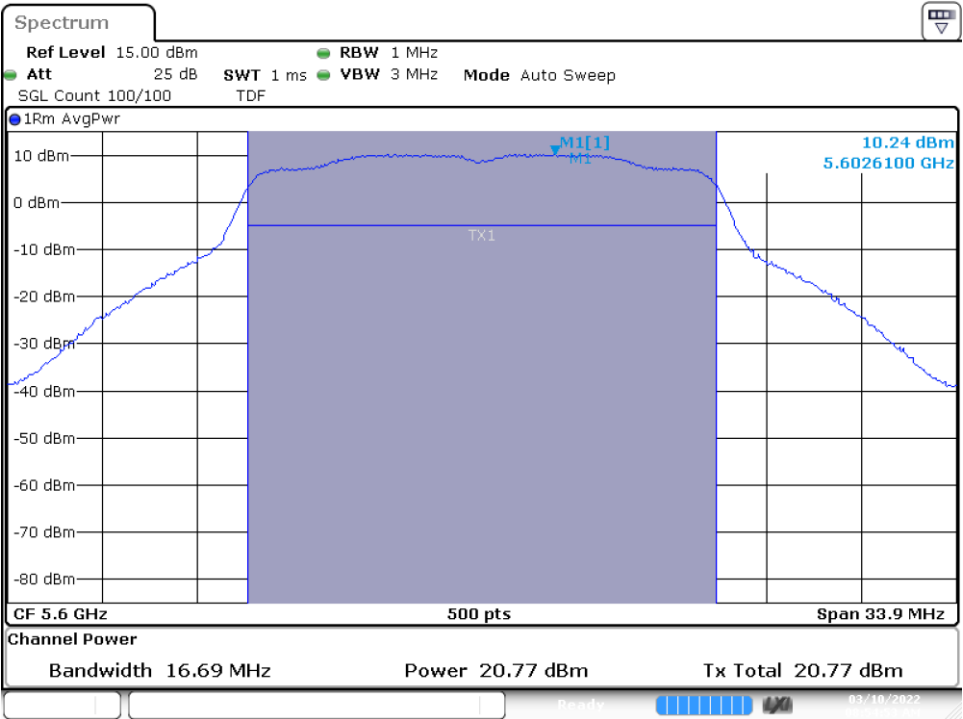
Channel 114



B.3.3 Maximum Output Power & Maximum power spectral Density

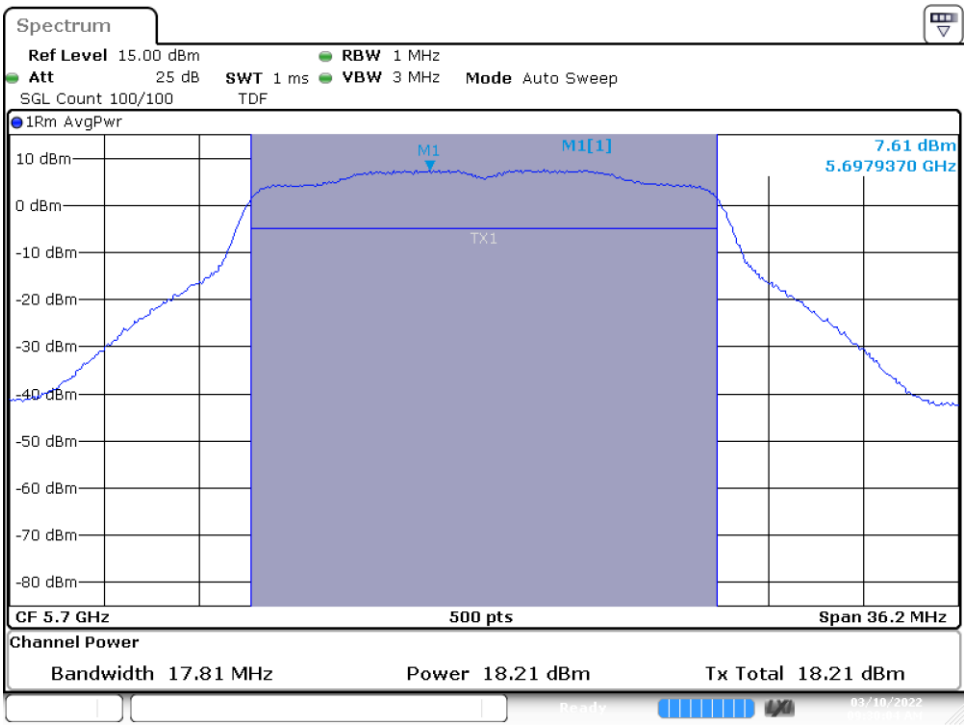
SISO-A, 802.11a, 6Mbps

Channel 120



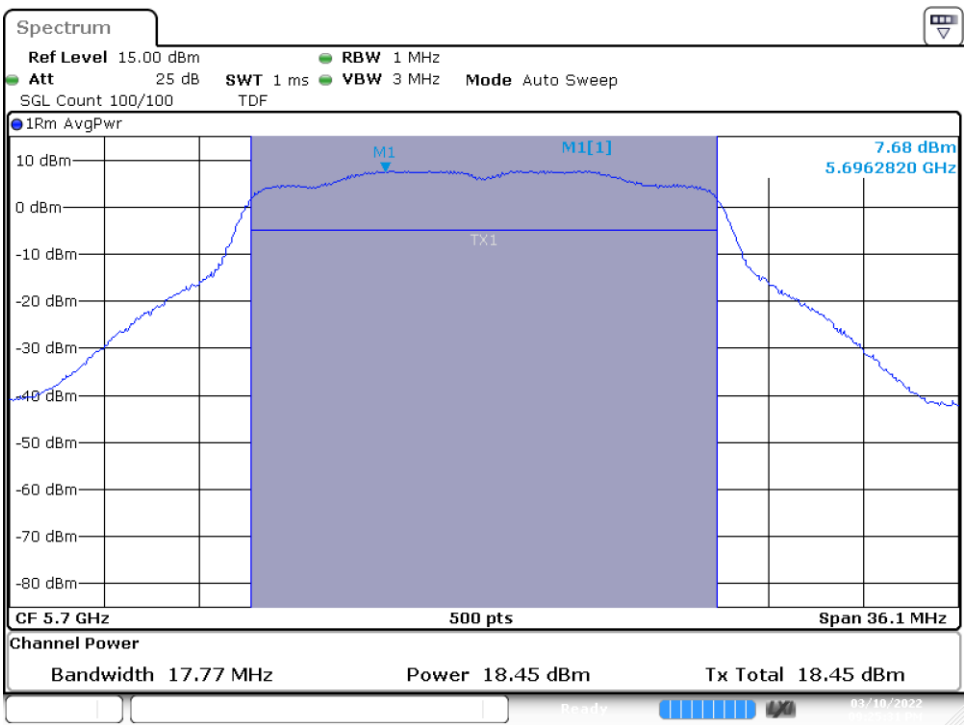
MIMO-A, 802.11n20, HT8

Channel 140



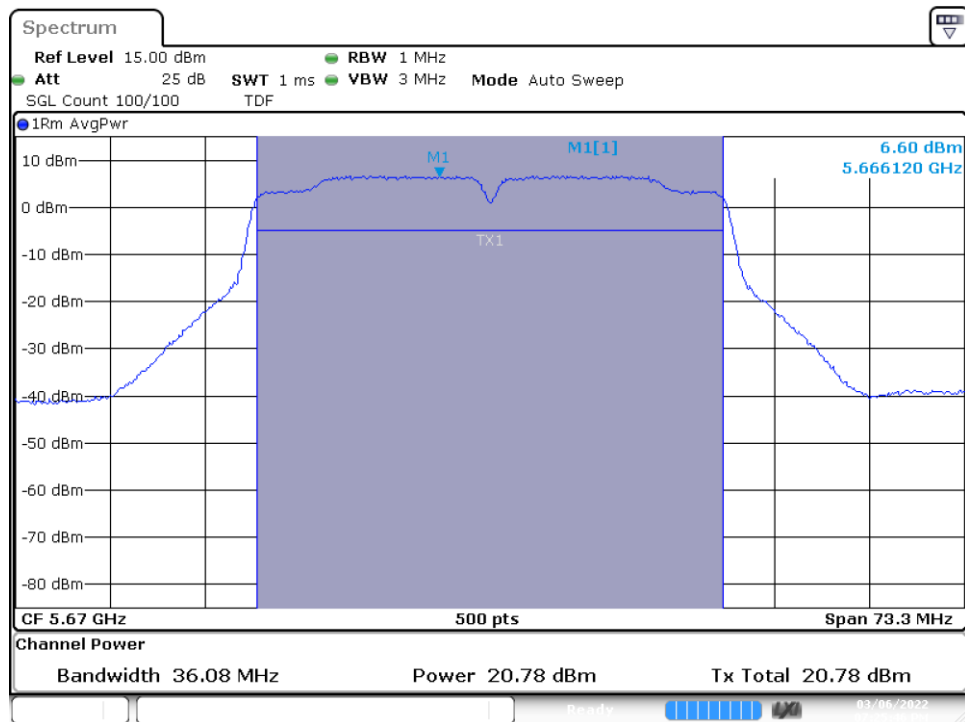
MIMO-B, 802.11n20, HT8

Channel 140

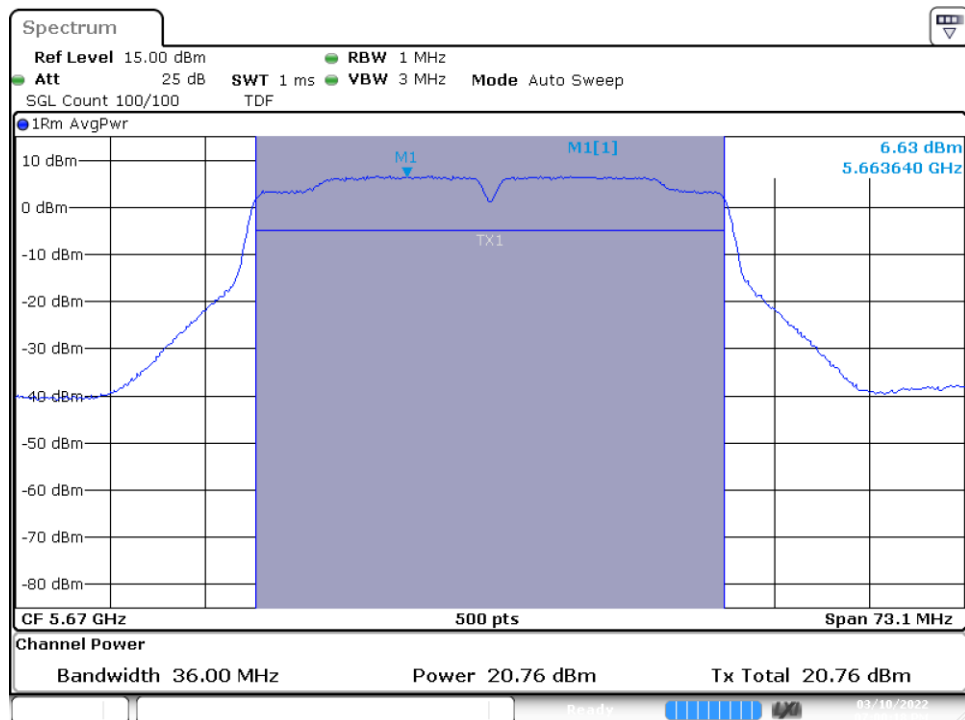


MIMO-A, 802.11n40, HT8

Channel 134

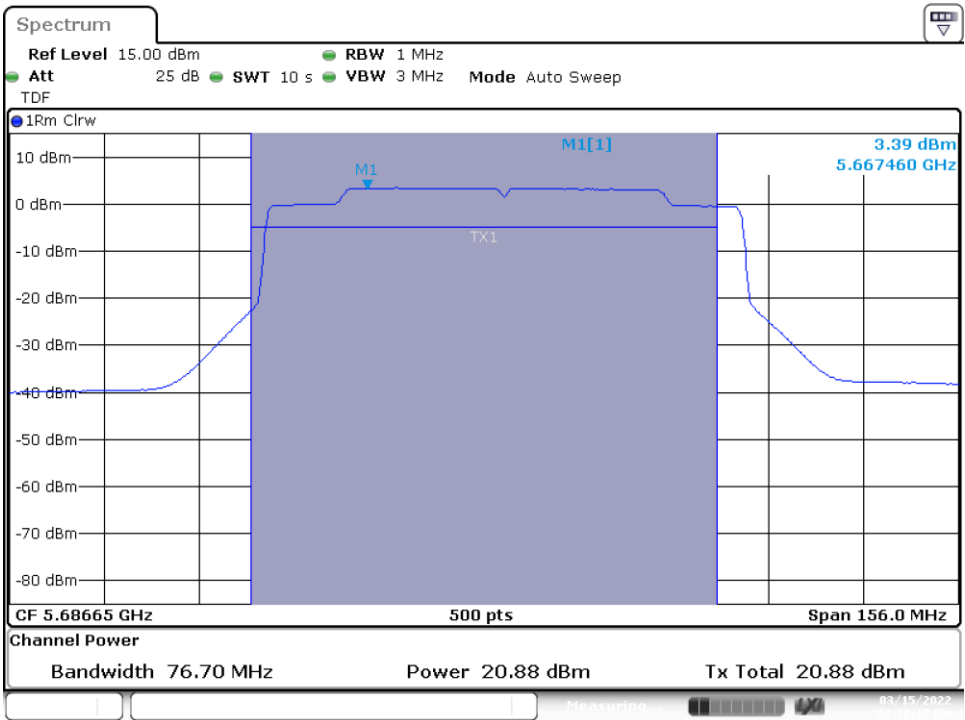
**MIMO-B, 802.11n40, HT8**

Channel 134



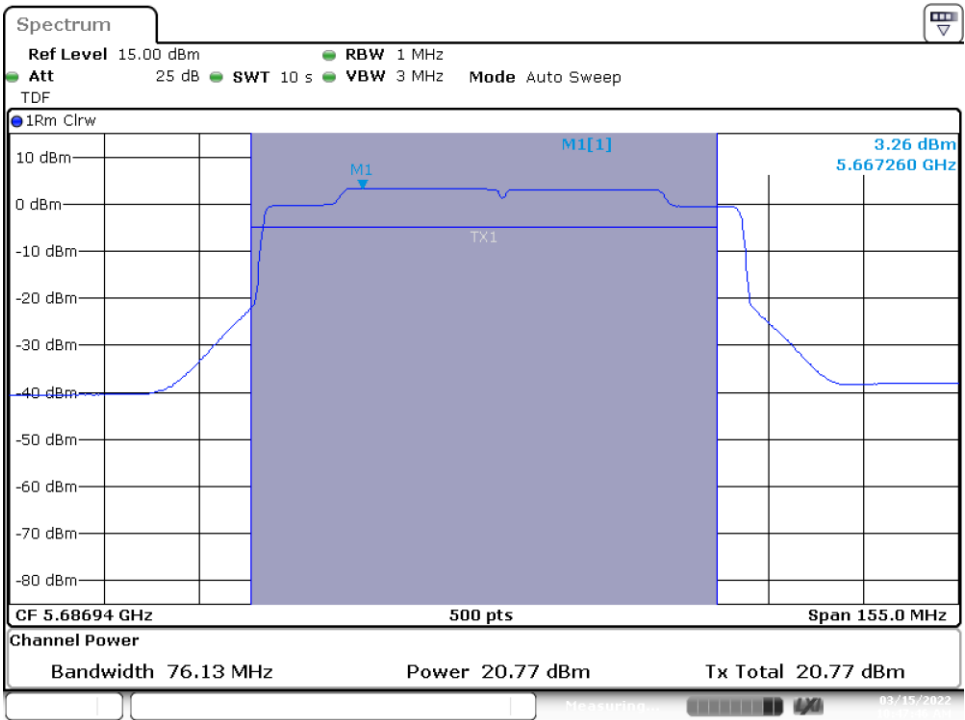
MIMO-A, 802.11ac80, VHT0

Channel 138 (overlapped)



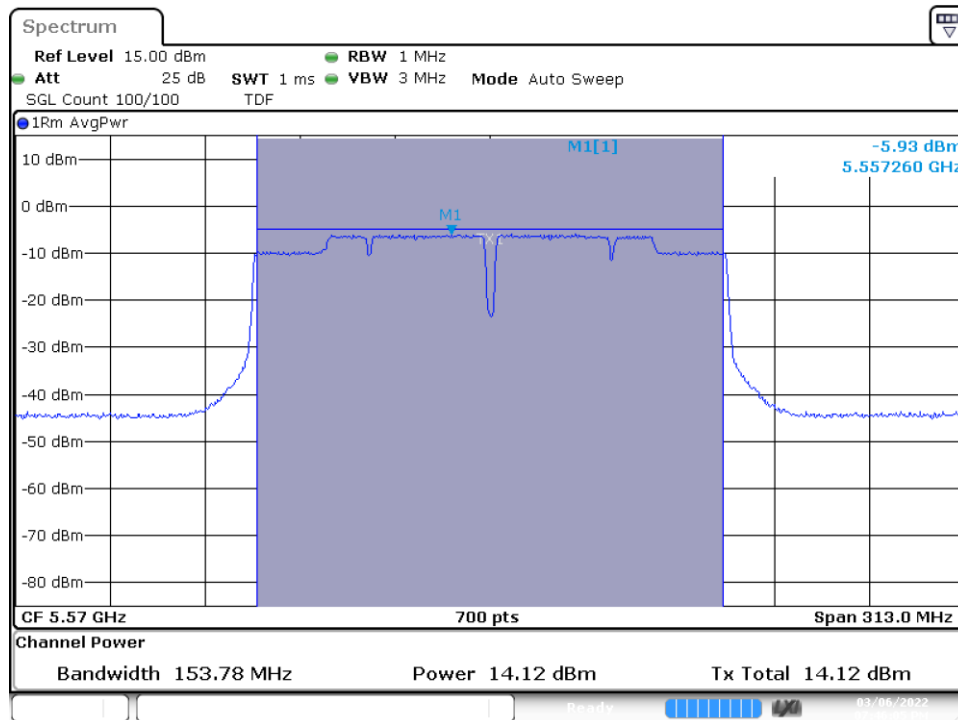
MIMO-B, 802.11ac80, VHT0

Channel 138 (overlapped)

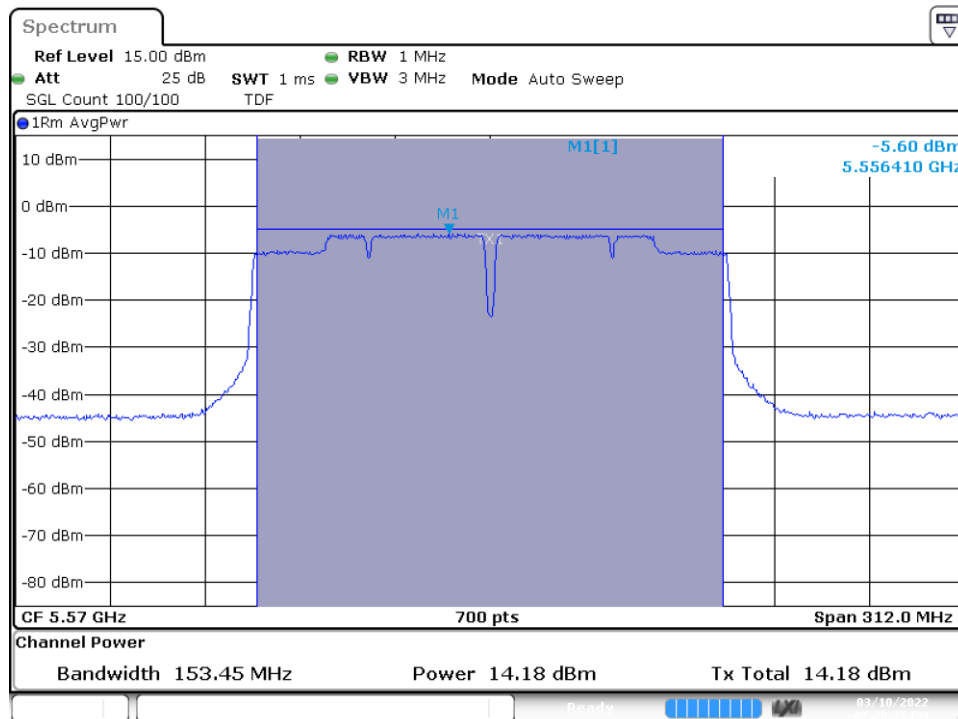


MIMO-A, 802.11ac160, VHT0

Channel 114

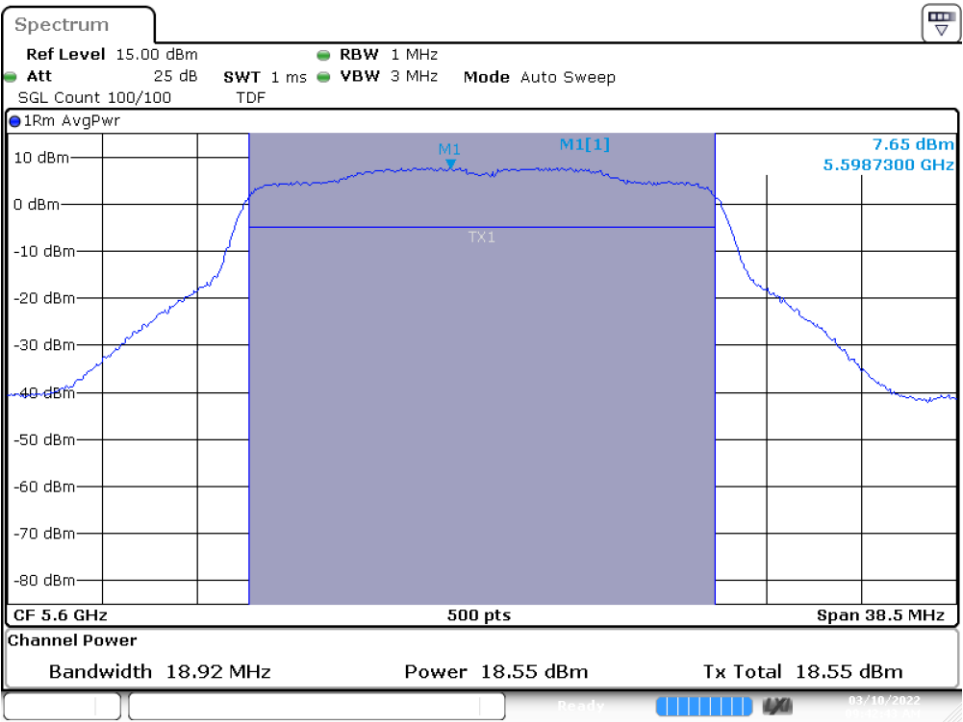
**MIMO-B, 802.11ac160, VHT0**

Channel 114



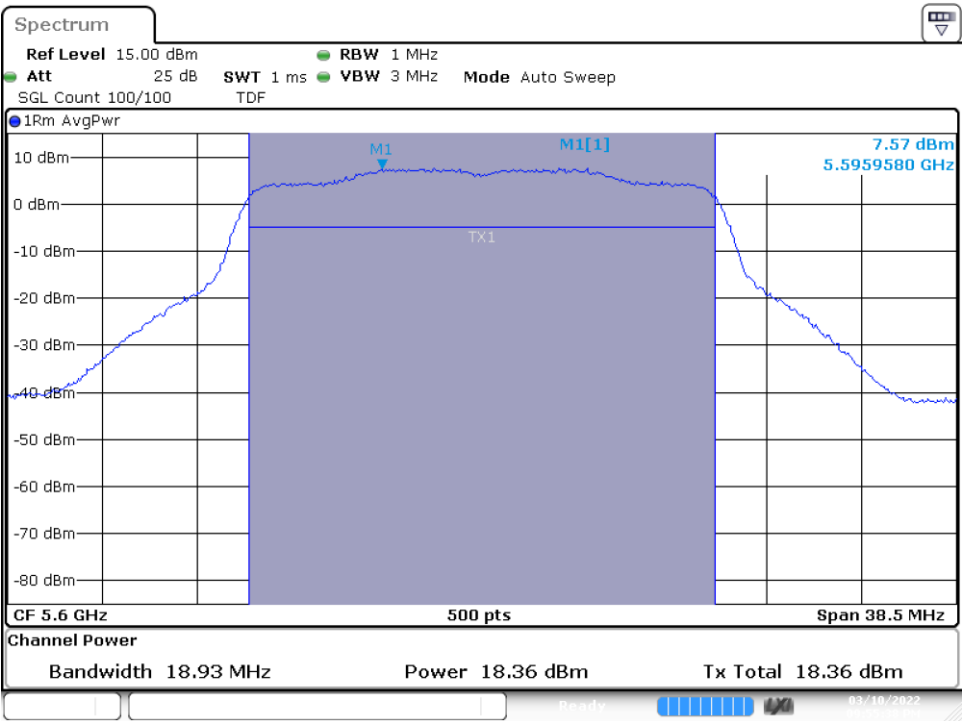
MIMO-A, 802.11ax20, HE0

Channel 120



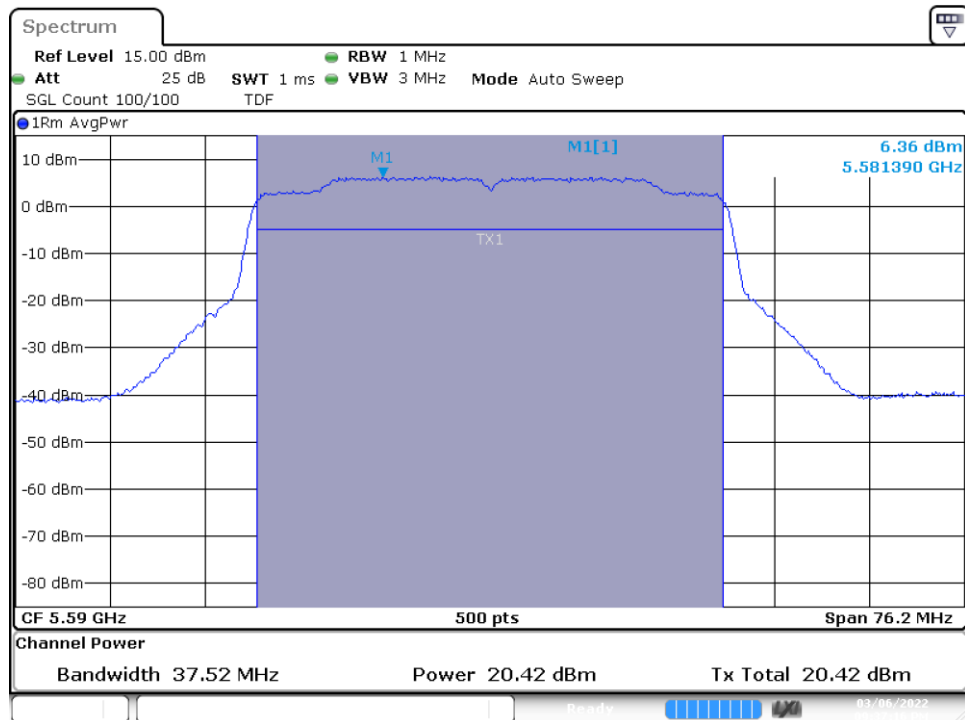
MIMO-A, 802.11ax20, HE0

Channel 120

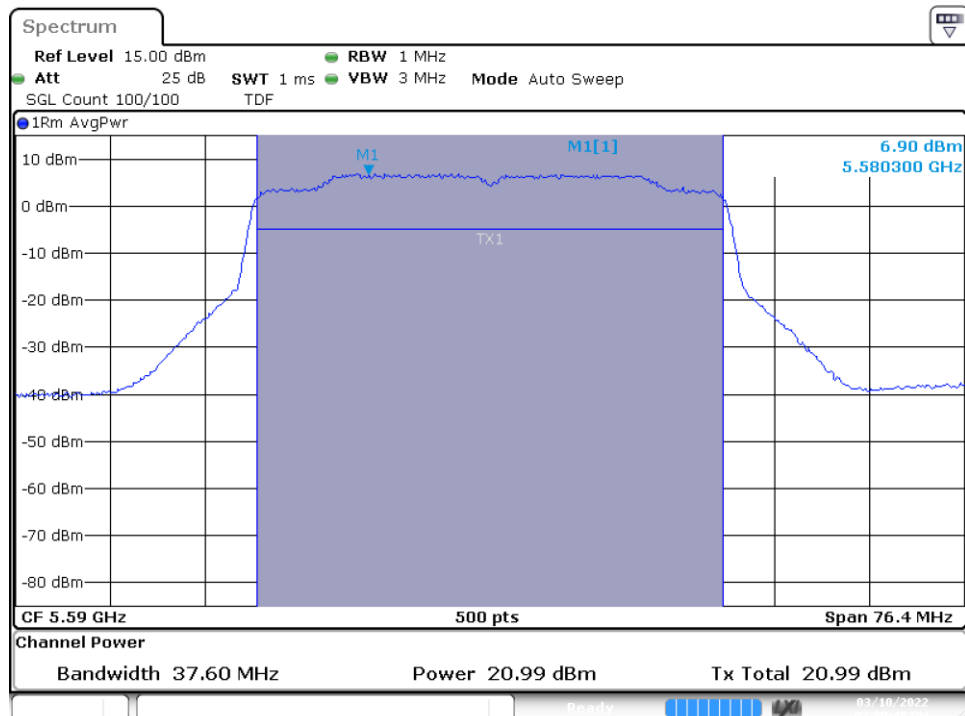


MIMO-A, 802.11ax40, HE0

Channel 118

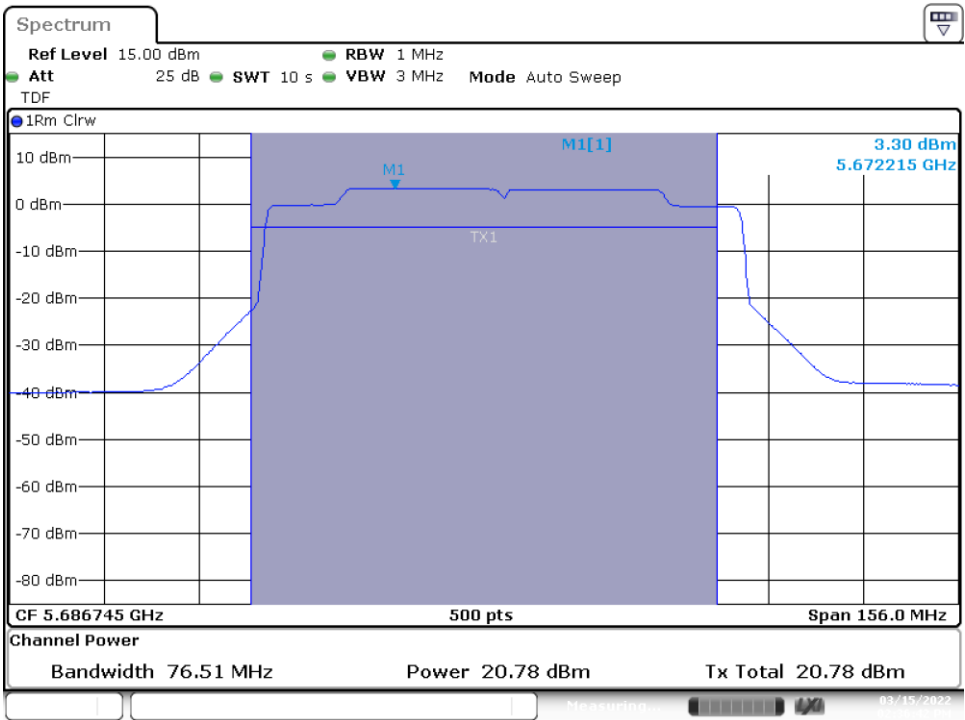
**MIMO-B, 802.11ax40, HE0**

Channel 118



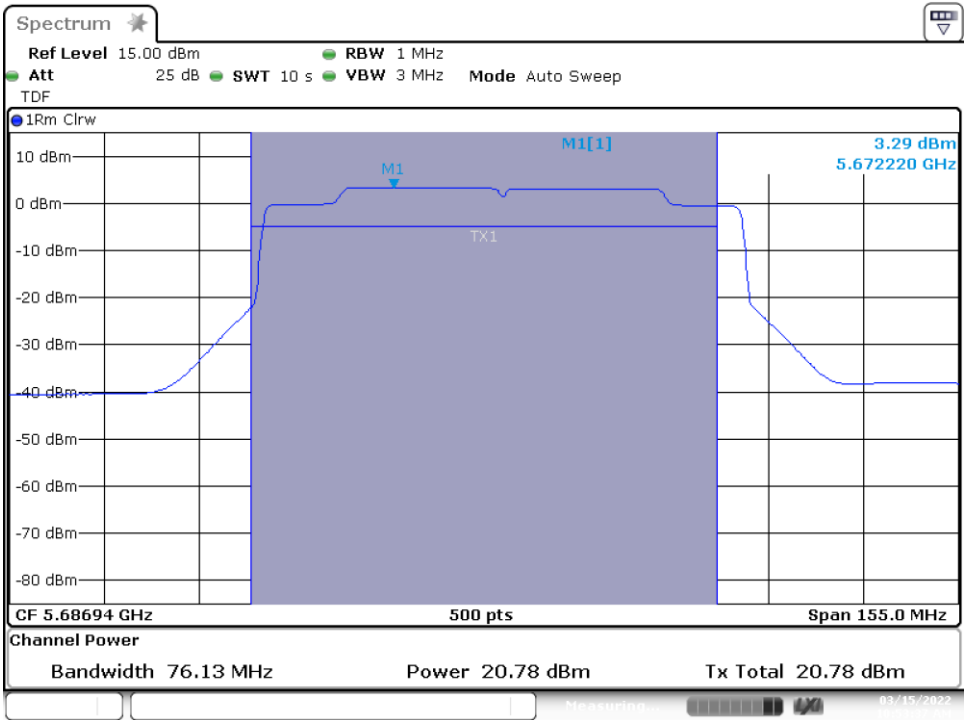
MIMO-A, 802.11ax80, HE0

Channel 138 (overlapped)



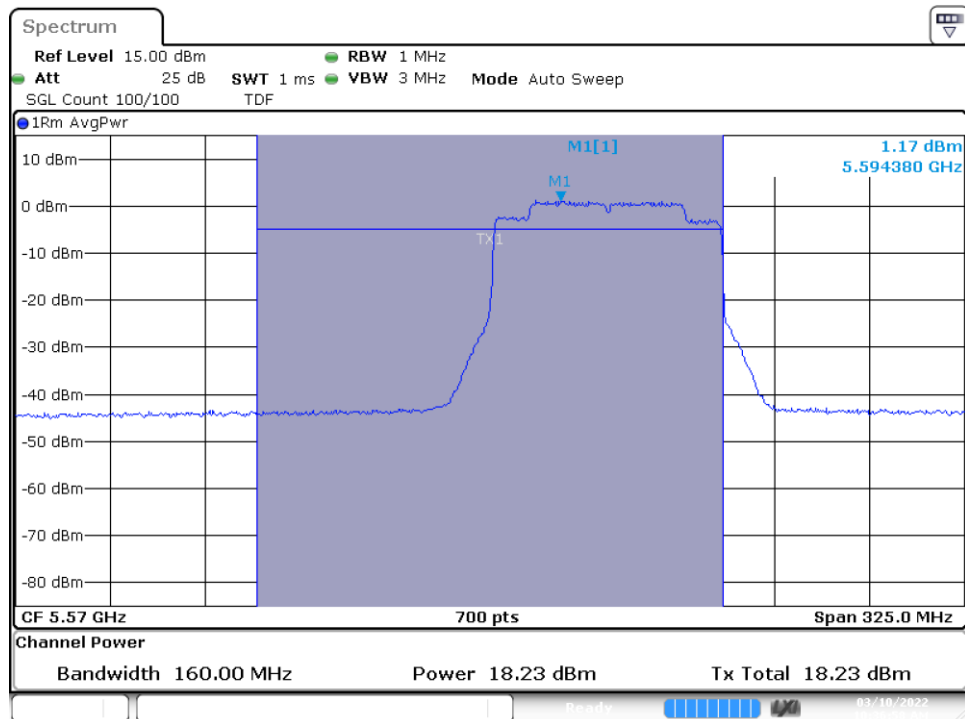
MIMO-B, 802.11ax80, HE0

Channel 138 (overlapped)

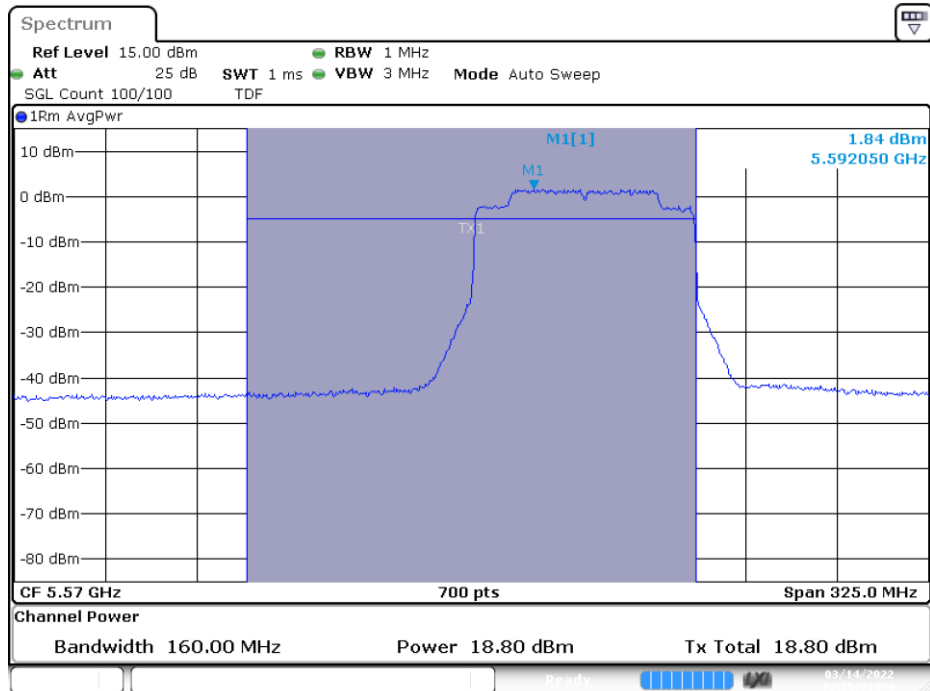


MIMO-A, 802.11ax160, 996/67s, HE0

Channel 114

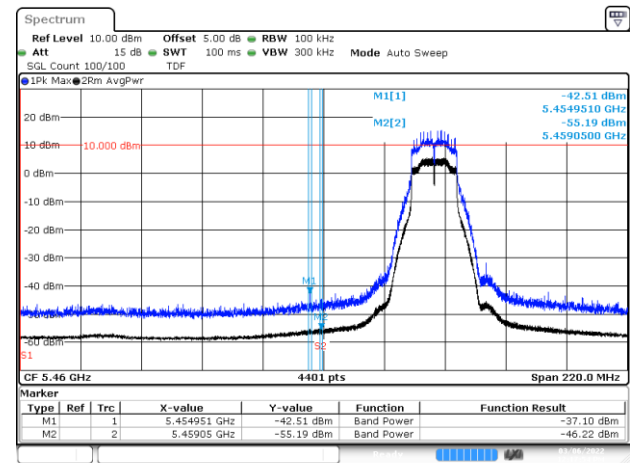
**MIMO-B, 802.11ax160, 996/67s, HE0**

Channel 114

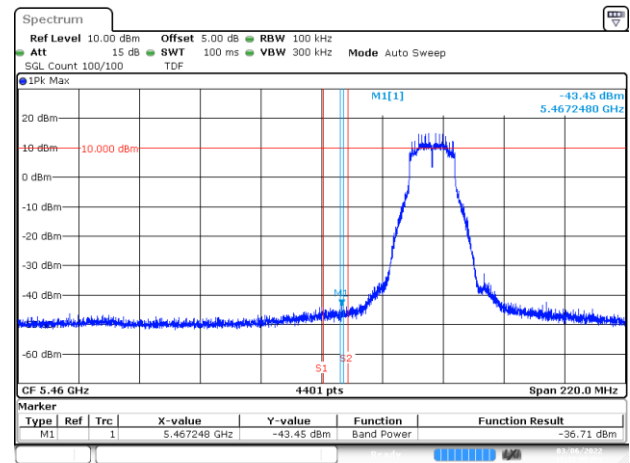


Date 14/MAR/2022 14:25:31

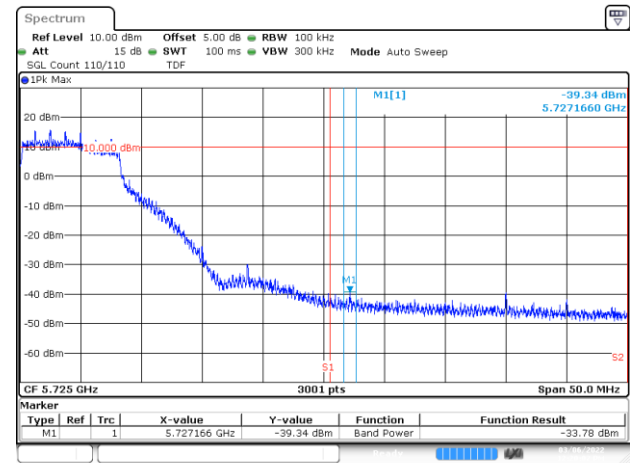
B.3.4 Undesirable emission limits : out of band (Conducted)



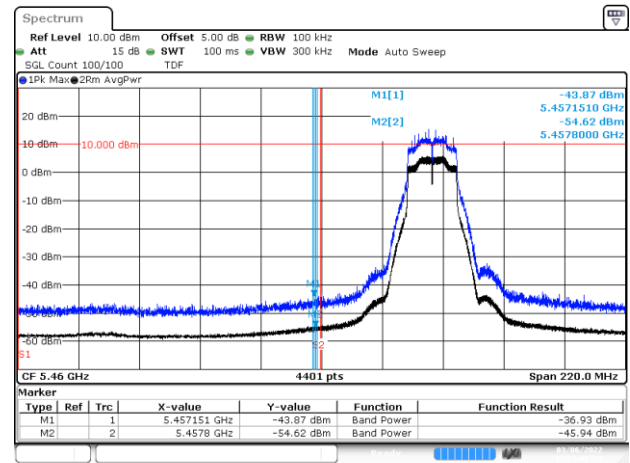
BE-R-LOW, SISO-A, 802.11a20-6Mbps, Ch100



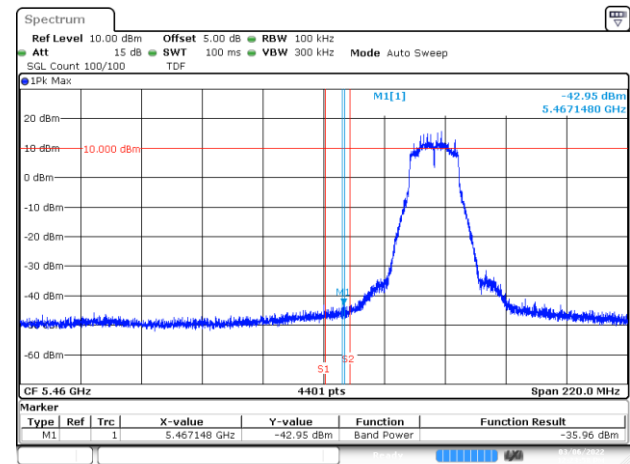
BE-NR-LOW, SISO-A, 802.11a20-6Mbps, Ch100



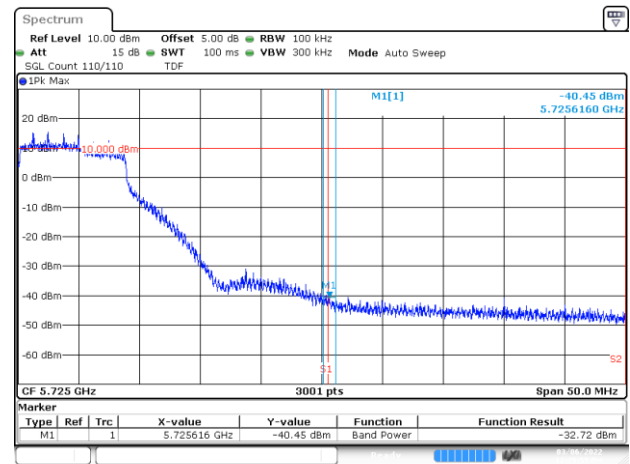
BE-NR-HIGH, SISO-A, 802.11a20-6Mbps, Ch140



BE-R-LOW, SISO-A, 802.11n20-HT0, Ch100



BE-NR-LOW, SISO-A, 802.11n20-HT0, Ch100



BE-NR-HIGH, SISO-A, 802.11n20-HT0, Ch140