



**CFR 47 FCC PART 15 SUBPART E
ISED RSS-247 ISSUE 3**

CERTIFICATION TEST REPORT

ISEFY

MODEL NUMBER: SC663WD

PROJECT NUMBER: 4791532994.13

REPORT NUMBER: 4791532994.13-2

FCC ID: 2BF8I-SC663WD

IC: 32415-SC663WD

ISSUE DATE: Nov. 22, 2024

Prepared for

ISEFY TECHNOLOGY

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	11/22/2024	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: ISEFY TECHNOLOGY
Address: 26 Pine Street. Toronto, ON, Canada M9N 2Y8

Manufacturer Information

Company Name: ISEFY TECHNOLOGY
Address: 26 Pine Street. Toronto, ON, Canada M9N 2Y8

EUT Description

Product Name: ISEFY
Model Number: SC663WD
Series Model Number: /
Model Difference: /
Sample Number: 7773810-S001
Data of Receipt Sample: Nov. 01, 2024
Test Date: Nov. 01, 2024~ Nov. 20, 2024

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART E	PASS
ISED RSS-247 Issue 3	
ISED RSS-GEN Issue 5	

Summary of Test Results			
Clause	Test Items	FCC Rules	Test Results
1	6dB/26dB Bandwidth	FCC 15.407 (a)&(e) RSS-247 Clause 6.2	PASS
	99% Occupied Bandwidth	RSS-Gen Clause 6.7	PASS
2	Conducted Output Power	FCC 15.407 (a) RSS-247 Clause 6.2	PASS
3	Power Spectral Density	FCC 15.407 (a) RSS-247 Clause 6.2	PASS
4	Radiated Bandedge and Spurious Emission	FCC 15.407 (b) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	PASS
5	Conducted Emission Test for AC Power Port	FCC 15.207 RSS-GEN Clause 8.8	PASS
6	Frequency Stability	FCC 15.407 (g) RSS-Gen Clause 6.11	PASS
7	Dynamic Frequency Selection	FCC 15.407 (h) RSS-247 Clause 6.3	PASS
8	Antenna Requirement	FCC 15.203 RSS-GEN Clause 6.8	PASS
Note: 1. The measurement result for the sample received is < Pass > according to < ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15 E, RSS-GEN, RSS-247 > when < Simple Acceptance > decision rule is applied. 2. It is a slave device without radar detection.			

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, CFR 47 FCC Part 2, CFR 47 FCC Part 15, KDB 789033 D02 v02r01, RSS-GEN Issue 5, RSS-247 Issue 3, KDB414788 D01 Radiated Test Site v01r01, KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02, KDB 905462 D03 UNII clients without radar detection New Rules v01r02, KDB 905462 D04 Operational Modes for DFS Testing New Rules v01 and KDB 905462 D06 802 11 Channel Plans New Rules v02.

3. FACILITIES AND ACCREDITATIO

Accreditation Certificate	A2LA (Certificate No.: 4829.01) UL-CCIC COMPANY LIMITED has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1247) UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. IC (IC Designation No.: 25056; CAB No.: CN0073) UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.
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Remark 1: All tests measurement facilities use to collect the measurement data are located at No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, People's Republic of China

Remark 2: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OFS based on KDB 414788.

Remark 3: The test anechoic chamber in UL-CCIC COMPANY LIMITED had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.1dB
Radiation Emission test (include Fundamental emission) (9kHz-30MHz)	3.3dB
Radiation Emission test (include Fundamental emission) (30MHz-1GHz)	3.3dB
Radiation Emission test (1GHz to 26GHz) (include Fundamental emission)	3.9dB (1GHz-18GHz)
	4.2dB (18GHz-26.5GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Product Name:	ISEFY
Model No.:	SC663WD
Operating Frequency:	IEEE 802.11a/n/ac/ax 20MHz: 5180MHz to 5240MHz, 5260MHz to 5320MHz, 5500MHz to 5720MHz (ISED not include 5600MHz to 5640MHz), 5745MHz to 5825MHz IEEE 802.11n/ac/ax 40MHz: 5190MHz to 5230MHz, 5270MHz to 5310MHz, 5510MHz to 5710MHz (ISED not include 5590MHz to 5630MHz), 5755MHz-5795MHz This report just including 5G WIFI part.
Type of Modulation:	IEEE for 802.11a: BPSK, QPSK, 16QAM, 64QAM IEEE for 802.11n HT20/HT40: BPSK, QPSK, 16QAM, 64QAM IEEE for 802.11ac VHT20/VHT40: BPSK, QPSK, 16QAM, 64QAM, 256QAM IEEE for 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Channels Step:	Channels with 5MHz step
Test Software of EUT:	SecureCRT (manufacturer declare)
Antenna Type:	Patch Antenna
Antenna Gain:	2.66 dBi Note: This data is provided by customer and our lab isn't responsible for this data.

5.2. MAXIMUM OUTPUT POWER

UNII-1 BAND

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power
		[dBm]
a	5150 ~ 5250	13.35
n HT20		13.60
n HT40		13.01
ac VHT20		13.60
ac VHT40		13.01
ax HE20		13.17
ax HE40		12.90

UNII-2A BAND

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power
		[dBm]
a	5250 ~ 5350	13.54
n HT20		13.72
n HT40		13.11
ac VHT20		13.72
ac VHT40		13.11
ax HE20		13.43
ax HE40		13.98

UNII-2C BAND

IEEE Std. 802.11	Frequency (MHz)	Max Power
		[dBm]
a	5470 ~ 5725	13.66
n HT20		13.69
n HT40		13.59
ac VHT20		13.69
ac VHT40		13.59
ax HE20		13.57
ax HE40		13.59

UNII-3 BAND

IEEE Std. 802.11	Frequency (MHz)	Max Power
		[dBm]
a	5725 ~ 5850	13.91
n HT20		14.02
n HT40		13.96
ac VHT20		14.02
ac VHT40		13.96
ax HE20		13.84
ax HE40		13.92

5.3. CHANNEL LIST

UNII-1 (For Bandwidth = 20 MHz)		UNII-1 (For Bandwidth = 40 MHz)		UNII-1 (For Bandwidth = 80 MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	/	/
40	5200	46	5230		
44	5220				
48	5240				

UNII-2A (For Bandwidth = 20 MHz)		UNII-2A (For Bandwidth = 40 MHz)		UNII-2A (For Bandwidth = 80 MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270	/	/
56	5280	62	5310		
60	5300				
64	5320				

UNII-2C (For Bandwidth = 20 MHz)		UNII-2C (For Bandwidth = 40 MHz)		UNII-2C (For Bandwidth = 80 MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	102	5510	/	/
104	5520	110	5550	/	/
108	5540	118	5590	/	/
112	5560	126	5630		
116	5580	134	5670		
120	5600	142	5710		
124	5620				
128	5640				
132	5660				
136	5680				
140	5700				
144	5720				

Note: The frequency band 5600MHz-5650MHz is not allow use in ISFD.

UNII-3 (For Bandwidth = 20 MHz)		UNII-3 (For Bandwidth = 40 MHz)		UNII-3 (For Bandwidth = 80 MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	/	/
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

5.4. TEST CHANNEL CONFIGURATION

UNII-1 Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 36, CH 40, CH 48	5180 MHz, 5200 MHz, 5240 MHz
802.11n HT20	CH 36, CH 40, CH 48	5180 MHz, 5200 MHz, 5240 MHz
802.11n HT40	CH 38, CH 46	5190 MHz, 5230 MHz
802.11ac VHT20	CH 36, CH 40, CH 48	5180 MHz, 5200 MHz, 5240 MHz
802.11ac VHT40	CH 38, CH 46	5190 MHz, 5230 MHz
802.11ax HE20	CH 36, CH 40, CH 48	5180 MHz, 5200 MHz, 5240 MHz
802.11ax HE40	CH 38, CH 46	5190 MHz, 5230 MHz

UNII-2A Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 52, CH 56, CH 64	5260 MHz, 5280 MHz, 5320 MHz
802.11n HT20	CH 52, CH 56, CH 64	5260 MHz, 5280 MHz, 5320 MHz
802.11n HT40	CH 54, CH 62	5270 MHz, 5310 MHz
802.11ac VHT20	CH 52, CH 56, CH 64	5260 MHz, 5280 MHz, 5320 MHz
802.11ac VHT40	CH 54, CH 62	5270 MHz, 5310 MHz
802.11ax HE20	CH 52, CH 56, CH 64	5260 MHz, 5280 MHz, 5320 MHz
802.11ax HE40	CH 54, CH 62	5270 MHz, 5310 MHz

UNII-2C Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 100, CH120, CH 140, CH 144	5500 MHz, 5580 MHz, 5700 MHz, 5720 MHz
802.11n HT20	CH 100, CH120, CH 140, CH 144	5500 MHz, 5580 MHz, 5700 MHz, 5720 MHz
802.11n HT40	CH 102, CH 118, CH 134, CH 142	5510 MHz, 5550 MHz, 5670 MHz, 5710 MHz
802.11ac VHT20	CH 100, CH120, CH 140, CH 144	5500 MHz, 5580 MHz, 5700 MHz, 5720 MHz
802.11ac VHT40	CH 102, CH 118, CH 134, CH 142	5510 MHz, 5550 MHz, 5670 MHz, 5710 MHz
802.11ax HE20	CH 100, CH120, CH 140, CH 144	5500 MHz, 5580 MHz, 5700 MHz, 5720 MHz
802.11ax HE40	CH 102, CH 118, CH 134, CH 142	5510 MHz, 5550 MHz, 5670 MHz, 5710 MHz

UNII-3 Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 149, CH 157, CH165	5745 MHz, 5785 MHz, 5825 MHz
802.11n HT20	CH 149, CH 157, CH165	5745 MHz, 5785 MHz, 5825 MHz
802.11n HT40	CH 151, CH 159	5755 MHz, 5795 MHz
802.11ac VHT20	CH 149, CH 157, CH165	5745 MHz, 5785 MHz, 5825 MHz
802.11ac VHT40	CH 151, CH 159	5755 MHz, 5795 MHz
802.11ac HE20	CH 149, CH 157, CH165	5745 MHz, 5785 MHz, 5825 MHz
802.11ac HE40	CH 151, CH 159	5755 MHz, 5795 MHz

5.5. POWER GRADE

UNII-1

IEEE Std. 802.11	Channel	Power Grade
a	36	default
	40	default
	44	default
	48	default
n HT20	36	default
	40	default
	44	default
	48	default
n HT40	38	default
	46	default
ac VHT20	36	default
	40	default
	44	default
	48	default
ac VHT40	38	default
	46	default
ax HE20	36	default
	40	default
	44	default
	48	default
ax HE40	38	default
	46	default

UNII-2A

IEEE Std. 802.11	Channel	Power Grade
a	52	default
	56	default
	60	default
	64	default
n HT20	52	default
	56	default
	60	default
	64	default
n HT40	54	default
	62	default
ac VHT20	52	default
	56	default
	60	default
	64	default
ac VHT40	54	default
	62	default
ax HE20	52	default
	56	default
	60	default
	64	default
ax HE40	54	default
	62	default

UNII-2C

IEEE Std. 802.11	Channel	Power Grade
a	100	default
	104	default
	108	default
	112	default
	116	default
	120	default
	124	default
	128	default
	132	default
	136	default
	140	default
	144	default
n HT20	100	default
	104	default
	108	default
	112	default
	116	default
	120	default
	124	default
	128	default
	132	default
	136	default
	140	default
	144	default
n HT40	102	default
	110	default
	118	default
	126	default
	134	default
	142	default

ac VHT20	100	default
	104	default
	108	default
	112	default
	116	default
	120	default
	124	default
	128	default
	132	default
	136	default
	140	default
	144	default
ac VHT40	102	default
	110	default
	118	default
	126	default
	134	default
	142	default
ax HE20	100	default
	104	default
	108	default
	112	default
	116	default
	120	default
	124	default
	128	default
	132	default
	136	default
	140	default
	144	default
ax HE40	102	default
	110	default
	118	default
	126	default
	134	default
	142	default

UNII-3

IEEE Std. 802.11	Channel	Power Grade
a	149	default
	153	default
	157	default
	161	default
	165	default
n HT20	149	default
	153	default
	157	default
	161	default
	165	default
n HT40	151	default
	159	default
ac VHT20	149	default
	153	default
	157	default
	161	default
	165	default
ac VHT40	151	default
	159	default
ax HE20	149	default
	153	default
	157	default
	161	default
	165	default
ax HE40	151	default
	159	default

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency Band	Maximum Antenna Gain [dBi]
1	UNII-1	2.66
1	UNII-2A	2.66
1	UNII-2C	2.66
1	UNII-3	2.66

IEEE Std. 802.11	Transmit and Receive Mode	Description
a	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
n HT20	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
n HT40	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
ac VHT20	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
ac VHT40	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
ax HE20	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
Axhe40	☒ 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
Note: BLE & WLAN 2.4G & WLAN 5G can't transmit simultaneously. (Declared by client)		

5.7. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter	
Test Software	SecureCRT

UNII-1

IEEE Std. 802.11	Rate	Channel	Test Software Setting Value
a	6M	36	default
		40	default
		48	default
ac VHT20	MCS0	36	default
		40	default
		48	default
ac VHT40	MCS0	38	default
		46	default
ax HE20	MCS0	36	default
		40	default
		48	default
ax HE40	MCS0	38	default
		46	default

UNII-2A

IEEE Std. 802.11	Rate	Channel	Test Software Setting Value
a	6M	52	default
		56	default
		64	default
ac VHT20	MCS0	52	default
		56	default
		64	default
ac VHT40	MCS0	54	default
		62	default
ax HE20	MCS0	52	default
		56	default
		64	default
ax HE40	MCS0	54	default
		62	default

UNII-2C

IEEE Std. 802.11	Rate	Channel	Test Software Setting Value
a	6M	100	default
		120	default
		136	default
		140	default
		144	default
ac VHT20	MCS0	100	default
		104	default
		120	default
		136	default
		140	default
ac VHT40	MCS0	144	default
		102	default
		110	default
		118	default
		126	default
		134	default
ax HE20	MCS0	142	default
		100	default
		104	default
		120	default
		136	default
		140	default
ax HE40	MCS0	144	default
		102	default
		110	default
		118	default
		126	default
		134	default
		142	default

UNII-3

IEEE Std. 802.11	Rate	Channel	Test Software Setting Value
a	6M	149	default
		157	default
		165	default
ac VHT20	MCS0	149	default
		157	default
		165	default
ac VHT40	MCS0	151	default
		159	default
ax HE20	MCS0	149	default
		157	default
		165	default
ax HE40	MCS0	151	default
		159	default

Note: Since 802.11ac VHT20/VHT40 modes are different from 802.11n HT20/HT40 only in control messages, so all the tests are performed on the worst case (802.11ac VHT20/802.11ac VHT40) mode between these 4 modes and only the worst data was recorded in this report.

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Description
1	Laptop	ThinkPad	E590	/
2	Router	I-O DATA	WN-DAX1800GR	/

I/O PORT

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB-TTL	USB	100cm Length	/

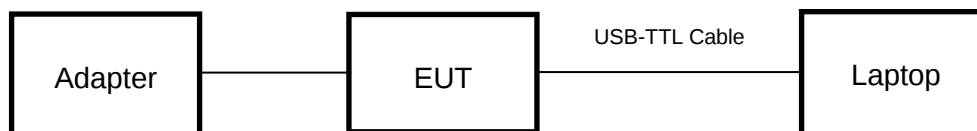
ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	AC ADAPTOR	MNC	MAUS-1201001202	Input: 100-240V~ 50/60Hz 0.35A Output: 12V=1.0A

TEST SETUP

The EUT can work in an engineer mode with a software through a laptop.

SETUP DIAGRAM FOR TESTS



5.9. MEASURING INSTRUMENT AND SOFTWARE USED

Conducted Emissions Test (Instrument)							
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
☒	EMI Test Receiver	R&S	ESR3	126700	2023-11-25	2024-11-02	2025-11-01
☒	Two-Line V-Network	R&S	ENV216	126701	2023-11-25	2024-11-02	2025-11-01
Conducted Emissions Test (Software)							
Used	Description		Manufacturer		Name	Version	
☒	Software for Conducted Emissions Test		R&S		EMC32	9.25.00	
Radiated Emissions Test (Instrument)							
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
☒	EMI test receiver	R&S	ESR7	222993	2023-04-08	2024-03-23	2025-03-22
☒	EMI test receiver	R&S	ESR26	126703	2023-11-25	2024-11-02	2025-11-01
☒	Spectrum Analyzer	R&S	FSV3044	222992	2023-04-08	2024-03-23	2025-03-22
☒	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZB 1513	155456	2021-06-03	2024-05-27	2027-05-26
☒	Receiver Antenna (30MHz-1GHz)	Schwarzbeck	VULB 9168	171952	2021-07-05	2024-07-04	2027-07-03
☒	Receiver Antenna (1GHz-18GHz)	R&S	HF907	126705	2019-01-27	2022-02-28	2025-02-27
☒	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBHA9170	126706	2019-02-29	2022-02-28	2025-02-27
☒	Pre-amplification (To 18GHz)	Tonscnd	TAP01018050	224539	2023-10-10	2024-10-10	2025-10-09
☒	Pre-amplification (To 18GHz)	R&S	SCU-18D	134667	2023-11-25	2024-11-02	2025-11-01
☒	Pre-amplification (To 26.5GHz)	R&S	SCU-26D	135391	2023-11-25	2024-11-02	2025-11-01
☒	Band Reject Filter	Wainwright	WRCGV12-2375-2400-2485-2510-40SS	1	2023-12-18	2024-11-02	2025-11-01
☒	High Pass Filter	COM-MW	ZBF13-3-18G-01	2	2023-12-18	2024-11-02	2025-11-01
Radiated Emissions Test (Software)							
Used	Description		Manufacturer		Name	Version	
☒	Software for Radiated Emissions Test		Tonscnd		JS32-RE	5.0.0.2	
Antenna Port Test (Instrument)							
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
☒	Spectrum Analyzer	Keysight	N9010B	155368	2023-04-08	2024-03-23	2025-03-22
☒	Power Meter	MWT	MW100-RFCB	221694	2023-04-08	2024-03-23	2025-03-22
☒	Power Meter	Anritsu	MA24406A	12896	2023-04-08	2024-03-23	2025-03-22
☒	Attenuator	PASTERNAK	PE7087-6	1624	/	2024-11-04	2025-11-03
	Adjustable Attenuator	SHX	SHX	371	2023-03-24	2024-03-23	2025-03-22
Antenna Port Test (Software)							
Used	Description		Manufacturer		Name	Version	
☒	Software for Antenna Port Test		Tonscnd		JS1120-3 Test System	V3.2.22	

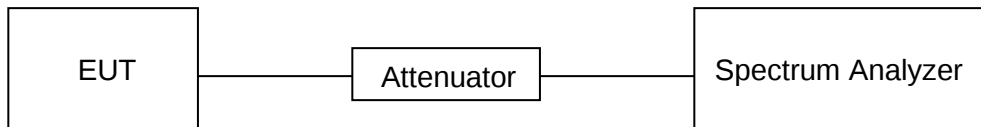
6. ANTENNA PORT TEST RESULTS

6.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

TEST SETUP



TEST ENVIRONMENT

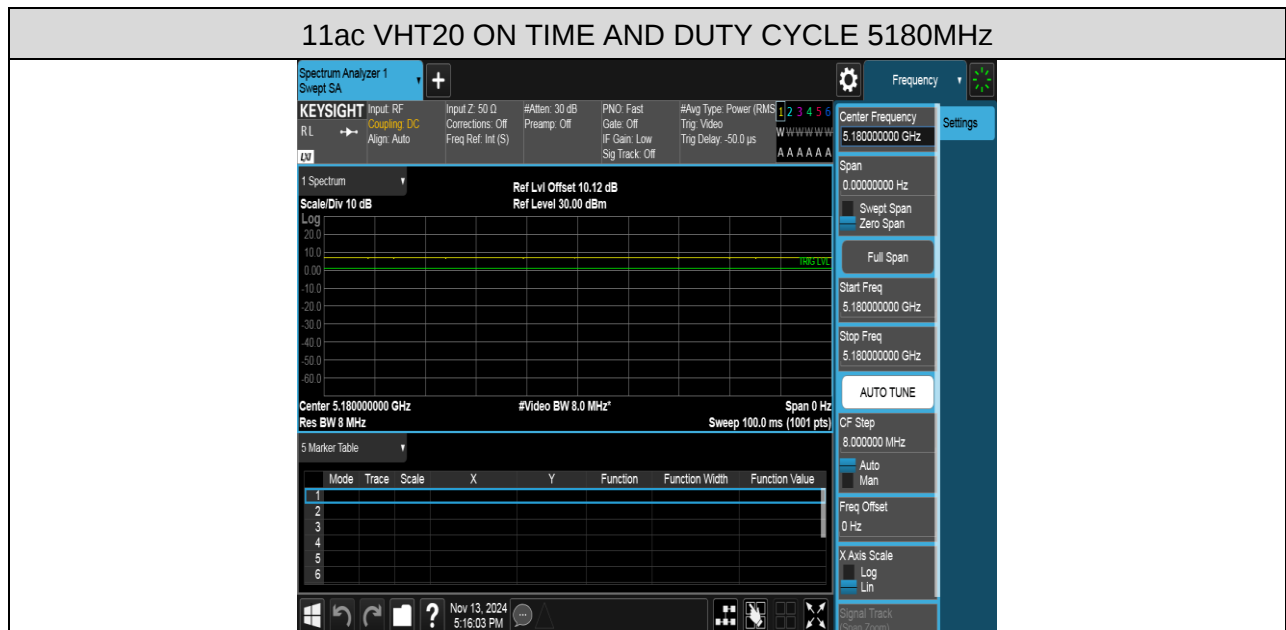
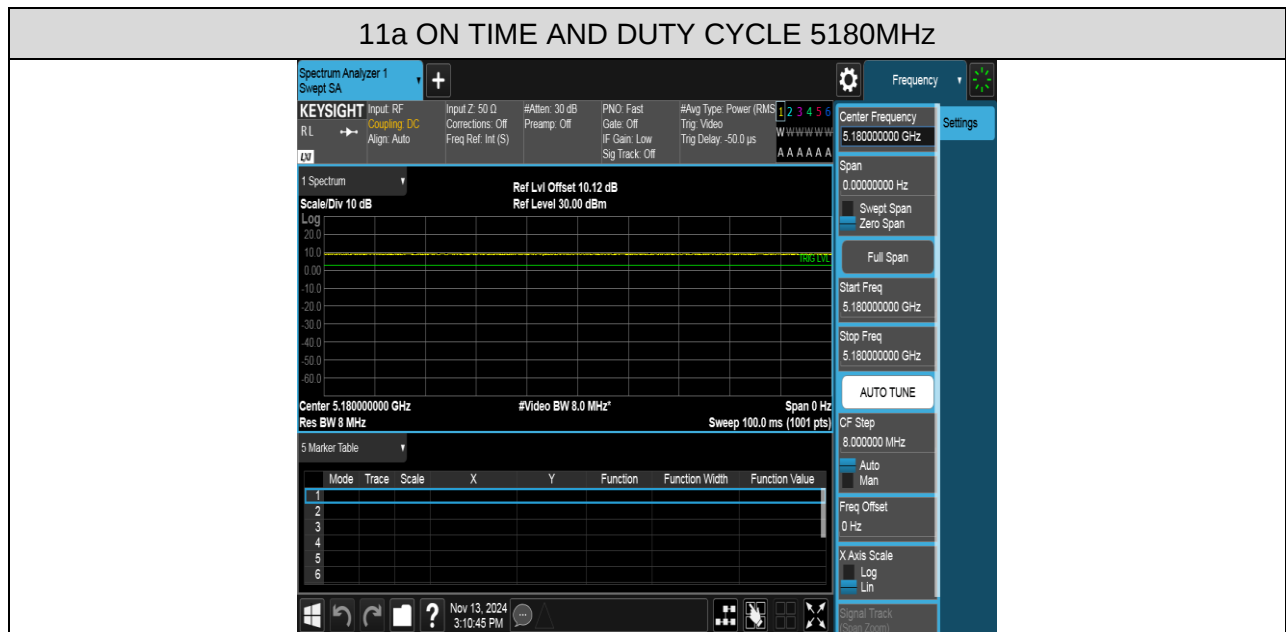
Environment Parameter	Selected Values During Tests
Relative Humidity	60%
Atmospheric Pressure:	101kPa
Temperature	22.2°C
Test Voltage	AC 120V
Test Date	11/13/2024

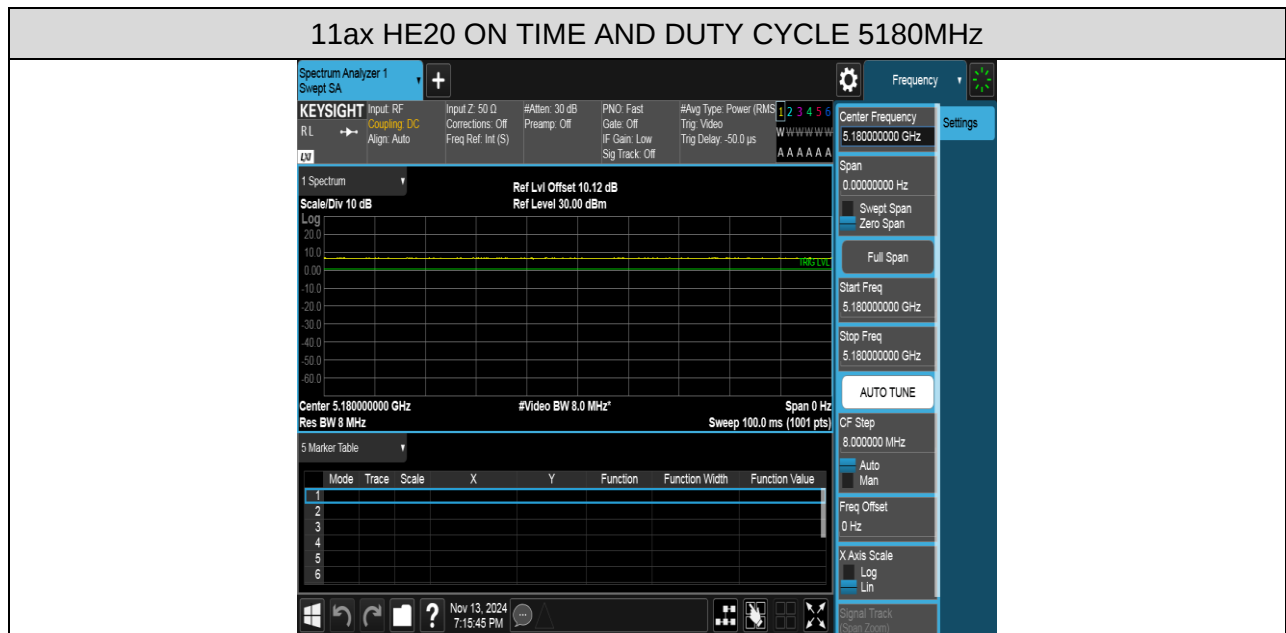
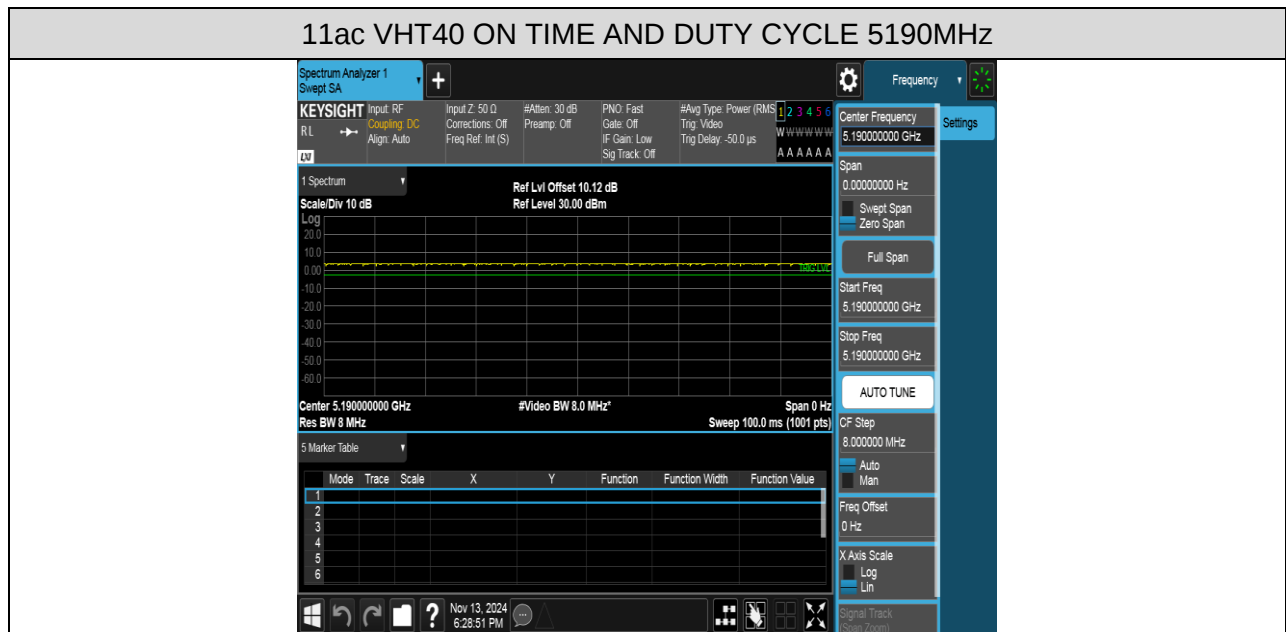
RESULTS

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11a	100	1000	1	100	0	0.01	0.01
11ac VHT20	100	1000	1	100	0	0.01	0.01
11ac VHT40	100	1000	1	100	0	0.01	0.01
11ax HE20	100	1000	1	100	0	0.01	0.01
11ax HE40	100	1000	1	100	0	0.01	0.01

Remark:

1. Duty Cycle Correction Factor=10log (1/x).
2. Where: x is Duty Cycle (Linear)
3. Where: T is On Time
4. If that calculated VBW is not available on the analyzer then the next higher value should be used.
5. If the duty cycle is above 98%, the Final VBW is 10Hz.





11ax HE40 ON TIME AND DUTY CYCLE 5190MHz (WORSE CASE)



6.2. 6/26 dB EMISSION BANDWIDTH AND 99% OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15, Subpart E RSS-247 Clause 6.2 RSS-Gen Clause 6.7		
Test Item	Limit	Frequency Range (MHz)
26 dB Emission Bandwidth	For reporting purposes only.	5150 ~ 5250
26 dB Emission Bandwidth	For reporting purposes only.	5250 ~ 5350
26 dB Emission Bandwidth	For reporting purposes only.	5470 ~ 5725
6 dB Emission Bandwidth	The minimum 6 dB emission bandwidth shall be 500 kHz.	5725 ~ 5850
99 % Occupied Bandwidth	For reporting purposes only.	5150 ~ 5825

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.C1. for 26 dB Emission Bandwidth; section II.C2. for 6 dB Emission Bandwidth; section II.D. for 99 % Occupied Bandwidth.

Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6 dB Emission Bandwidth: RBW=100 kHz For 26 dB Emission bandwidth: approximately 1 % of the EBW. For 99 % Occupied Bandwidth: approximately 1 % ~ 5 % of the OBW.
VBW	For 6 dB Bandwidth: $\geq 3 \times \text{RBW}$ For 26 dB Bandwidth: $> \text{RBW}$ For 99 % Bandwidth: $> 3 \times \text{RBW}$
Trace	Max hold
Sweep	Auto couple

a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.

b) Allow the trace to stabilize and 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 6/26 dB relative to the maximum level measured in the fundamental emission.

Calculation for 26 dB Bandwidth of UNII-2C and UNII-3 Straddle Channel:

For Example: Fundamental Frequency: 5720 MHz

FL: 5710.60 MHz

FH: 5728.33 MHz

Turning Frequency: 5725 MHz

UNII-2C Band Portion = $5725 - 5710.60 = 14.40$ MHzUNII-3 Band Portion = $5728.33 - 5725 = 3.30$ MHz**Calculation for 6dB Bandwidth of UNII-3 Straddle Channel:**

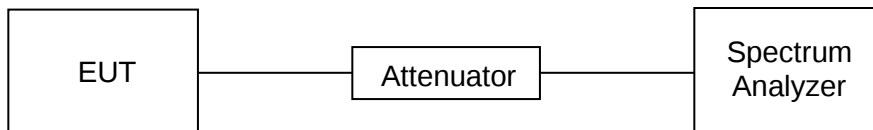
For Example: Fundamental frequency: 5720 MHz

6 dB BW: 16.44 MHz

FL: 5711.76 MHz

FH: 5728.2 MHz

Turning Frequency: 5725 MHz

6 dB Bandwidth of UNII-3 band Portion = $5728.2 - 5725 = 3.2$ MHz**TEST SETUP****TEST ENVIRONMENT**

Environment Parameter	Selected Values During Tests
Relative Humidity	60%
Atmospheric Pressure:	101kPa
Temperature	22.2°C
Test Voltage	AC 120V
Test Date	11/10/2024-11/16/2024

RESULTS TABLE

1) 26 dB Emission Bandwidth Part:

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11a	5180	23.432	5168.772	5192.204	PASS
	5200	22.915	5189.623	5212.537	PASS
	5240	20.341	5229.564	5249.905	PASS
	5260	20.475	5249.759	5270.233	PASS
	5280	20.109	5269.953	5290.063	PASS
	5320	19.775	5309.979	5329.753	PASS
	5500	19.772	5490.112	5509.884	PASS
	5580	19.833	5569.943	5589.776	PASS
	5700	21.259	5688.972	5710.231	PASS
	5720	20.256	5709.721	5729.977	PASS
	5720 UNII-2C	15.279	5709.721	5725	PASS
	5720 UNII-3	4.977	5725	5729.977	PASS
	5745	24.055	5732.785	5756.840	PASS
	5785	26.472	5770.223	5796.695	PASS
	5825	25.068	5812.115	5837.183	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT20	5180	21.584	5169.593	5191.177	PASS
	5200	24.963	5188.025	5212.988	PASS
	5240	21.711	5229.528	5251.239	PASS
	5260	21.460	5249.208	5270.668	PASS
	5280	20.265	5269.881	5290.147	PASS
	5320	20.359	5309.751	5330.109	PASS
	5500	20.599	5489.687	5510.285	PASS
	5580	20.709	5569.320	5590.029	PASS
	5700	20.144	5689.944	5710.088	PASS
	5720	20.555	5709.589	5730.144	PASS
	5720 UNII-2C	15.411	5709.589	5725	PASS
	5720 UNII-3	5.144	5725	5730.144	PASS
	5745	24.063	5733.381	5757.444	PASS
	5785	24.705	5772.380	5797.085	PASS
	5825	28.124	5811.121	5839.245	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT40	5190	40.285	5169.667	5209.952	PASS
	5230	40.683	5209.256	5249.939	PASS
	5270	40.976	5249.704	5290.680	PASS
	5310	40.237	5289.725	5329.963	PASS
	5510	41.037	5489.387	5530.424	PASS
	5550	41.232	5529.069	5570.301	PASS
	5670	40.651	5649.355	5690.005	PASS
	5710	40.848	5688.861	5729.709	PASS
	5710_UNII-2C	36.139	5688.861	5725	PASS
	5710_UNII-3	4.709	5725	5729.709	PASS
	5755	54.421	5722.157	5776.579	PASS
	5795	59.360	5760.693	5820.053	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE20	5180	20.575	5169.721	5190.296	PASS
	5200	21.529	5189.119	5210.648	PASS
	5240	20.533	5229.692	5250.225	PASS
	5260	21.648	5249.223	5270.871	PASS
	5280	20.953	5269.344	5290.297	PASS
	5320	20.795	5309.571	5330.365	PASS
	5500	20.520	5489.715	5510.235	PASS
	5580	20.588	5569.684	5590.272	PASS
	5700	21.089	5689.249	5710.339	PASS
	5720	20.817	5709.352	5730.169	PASS
	5720_UNII-2C	15.648	5709.352	5725	PASS
	5720_UNII-3	5.169	5725	5730.169	PASS
	5745	21.691	5734.645	5756.336	PASS
	5785	23.629	5773.301	5796.931	PASS
	5825	28.639	5809.039	5837.677	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE40	5190	40.701	5169.491	5210.192	PASS
	5230	40.733	5209.640	5250.373	PASS
	5270	40.112	5249.933	5290.045	PASS
	5310	40.099	5289.923	5330.021	PASS
	5510	40.029	5489.845	5529.875	PASS
	5550	40.008	5529.944	5569.952	PASS
	5670	40.477	5649.491	5689.968	PASS
	5710	40.091	5689.717	5729.808	PASS
	5710_UNII-2C	35.283	5689.717	5725	PASS
	5710_UNII-3	4.808	5725	5729.808	PASS
	5755	50.344	5727.061	5777.405	PASS
	5795	41.112	5774.264	5815.376	PASS

2) 99% Occupied Channel Bandwidth Part:

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11a	5180	17.045	5171.4379	5188.4829	PASS
	5200	17.097	5191.4268	5208.5238	PASS
	5240	17.002	5231.4396	5248.4416	PASS
	5260	17.032	5251.4626	5268.4946	PASS
	5280	17.043	5271.4637	5288.5067	PASS
	5320	16.997	5311.4738	5328.4708	PASS
	5500	17.036	5491.4155	5508.4515	PASS
	5580	17.047	5571.4139	5588.4609	PASS
	5700	17.019	5691.4563	5708.4753	PASS
	5720	17.024	5711.4207	5728.4447	PASS
	5720_UNII-2C	13.579	5711.4207	5725	PASS
	5720_UNII-3	3.445	5725	5728.4447	PASS
	5745	17.131	5736.3747	5753.5057	PASS
	5785	17.104	5776.4148	5793.5188	PASS
	5825	17.152	5816.3838	5833.5358	PASS

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT20	5180	17.937	5170.9946	5188.9316	PASS
	5200	18.047	5190.9518	5208.9988	PASS
	5240	17.919	5230.9990	5248.9180	PASS
	5260	17.943	5251.0050	5268.9480	PASS
	5280	17.923	5271.0041	5288.9271	PASS
	5320	17.953	5310.9826	5328.9356	PASS
	5500	17.933	5490.9805	5508.9135	PASS
	5580	17.931	5570.9758	5588.9068	PASS
	5700	17.939	5690.9759	5708.9149	PASS
	5720	17.946	5710.9708	5728.9168	PASS
	5720_UNII-2C	14.029	5710.9708	5725	PASS
	5720_UNII-3	3.917	5725	5728.9168	PASS
	5745	18.010	5735.9409	5753.9509	PASS
	5785	17.989	5775.9751	5793.9641	PASS
	5825	18.053	5815.9252	5833.9782	PASS

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT40	5190	36.223	5171.8347	5208.0577	PASS
	5230	36.220	5211.8344	5248.0544	PASS
	5270	36.197	5251.8523	5288.0493	PASS
	5310	36.168	5291.8446	5328.0126	PASS
	5510	36.230	5491.8271	5528.0571	PASS
	5550	36.282	5531.7621	5568.0441	PASS
	5670	36.236	5651.8078	5688.0438	PASS
	5710	36.234	5691.8057	5728.0397	PASS
	5710_UNII-2C	33.194	5691.8057	5725	PASS
	5710_UNII-3	3.04	5725	5728.0397	PASS
	5755	36.391	5736.6695	5773.0605	PASS
	5795	36.325	5776.7820	5813.1070	PASS

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE20	5180	18.880	5170.5235	5189.4035	PASS
	5200	18.892	5190.5278	5209.4198	PASS
	5240	18.907	5230.5116	5249.4186	PASS
	5260	18.875	5250.5161	5269.3911	PASS
	5280	18.899	5270.5046	5289.4036	PASS
	5320	18.854	5310.5196	5329.3736	PASS
	5500	18.881	5490.5155	5509.3965	PASS
	5580	18.894	5570.4947	5589.3887	PASS
	5700	18.874	5690.5250	5709.3990	PASS
	5720	18.866	5710.5039	5729.3699	PASS
	5720_UNII-2C	14.496	5710.5039	5725	PASS
	5720_UNII-3	4.37	5725	5729.3699	PASS
	5745	18.929	5735.4880	5754.4170	PASS
	5785	18.880	5775.5163	5794.3963	PASS
	5825	18.930	5815.4768	5834.4068	PASS

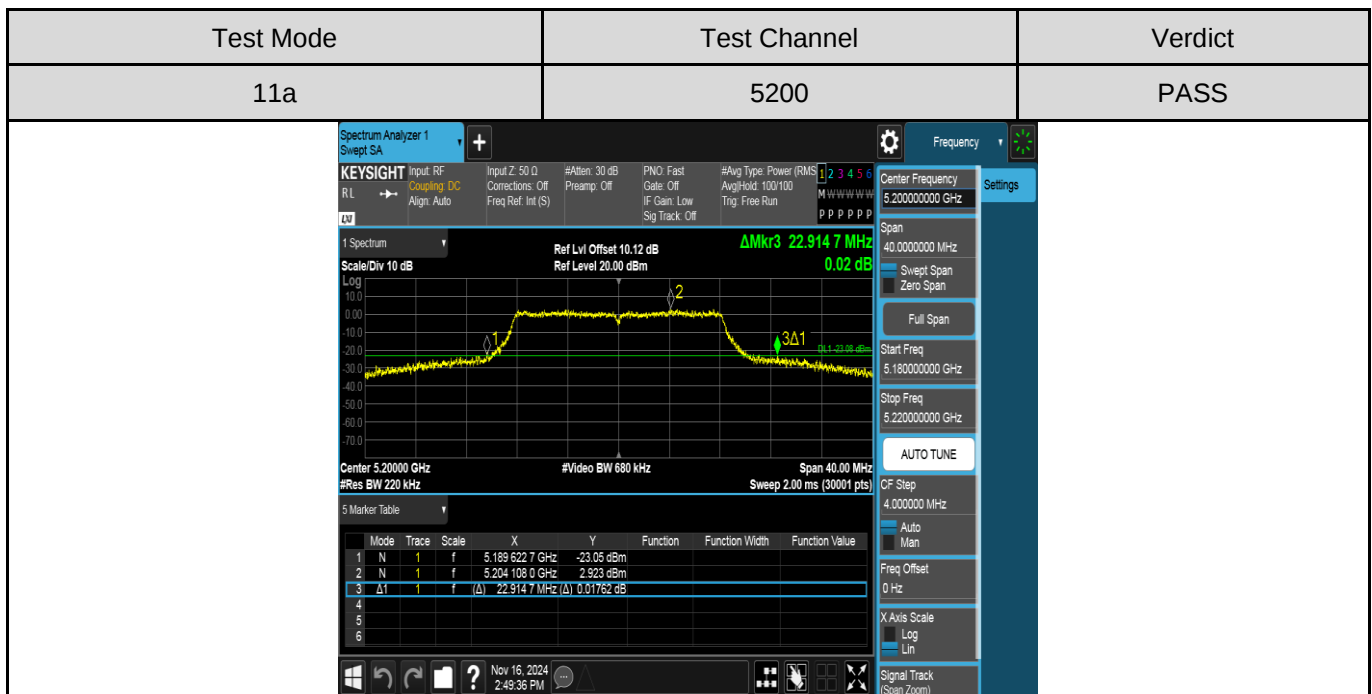
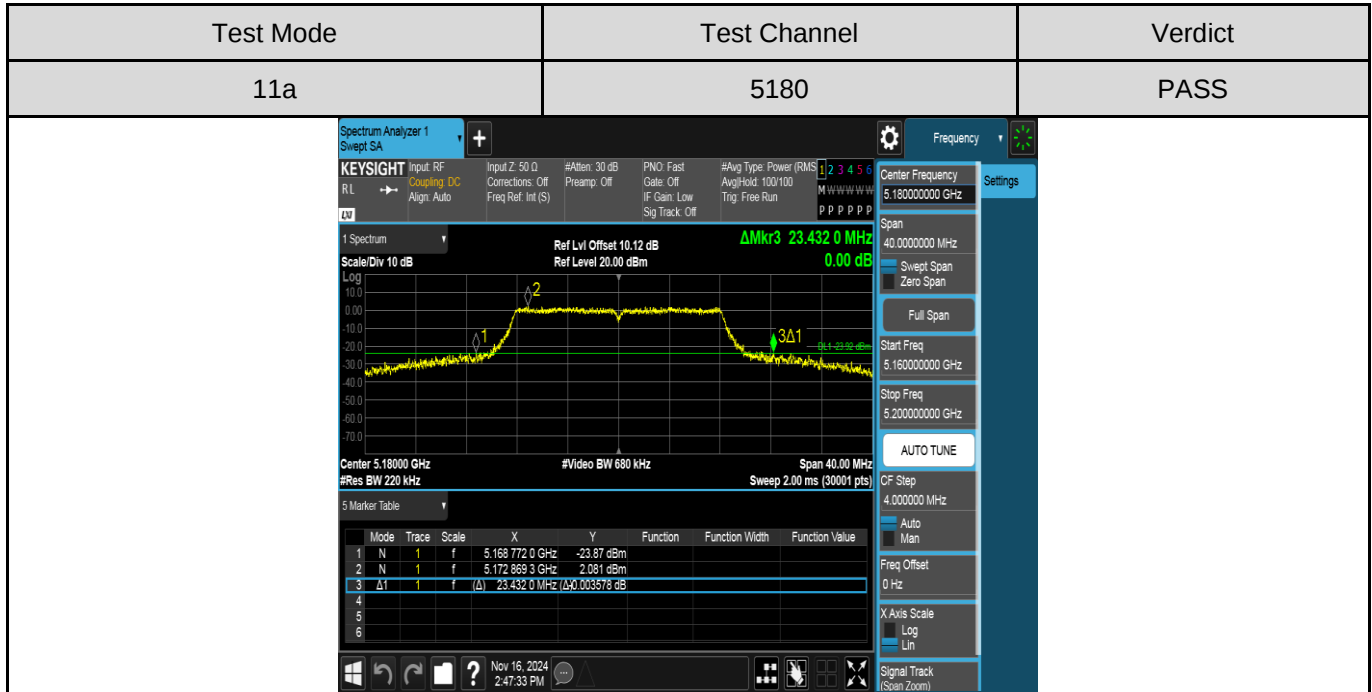
Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE40	5190	37.544	5171.2018	5208.7458	PASS
	5230	37.530	5211.1767	5248.7067	PASS
	5270	37.557	5251.2086	5288.7656	PASS
	5310	37.469	5291.1851	5328.6541	PASS
	5510	37.472	5491.2017	5528.6737	PASS
	5550	37.492	5531.1558	5568.6478	PASS
	5670	37.504	5651.1725	5688.6765	PASS
	5710	37.463	5691.1864	5728.6494	PASS
	5710_UNII-2C	33.814	5691.1864	5725	PASS
	5710_UNII-3	3.649	5725	5728.6494	PASS
	5755	37.593	5736.0922	5773.6852	PASS
	5795	37.579	5776.1536	5813.7326	PASS

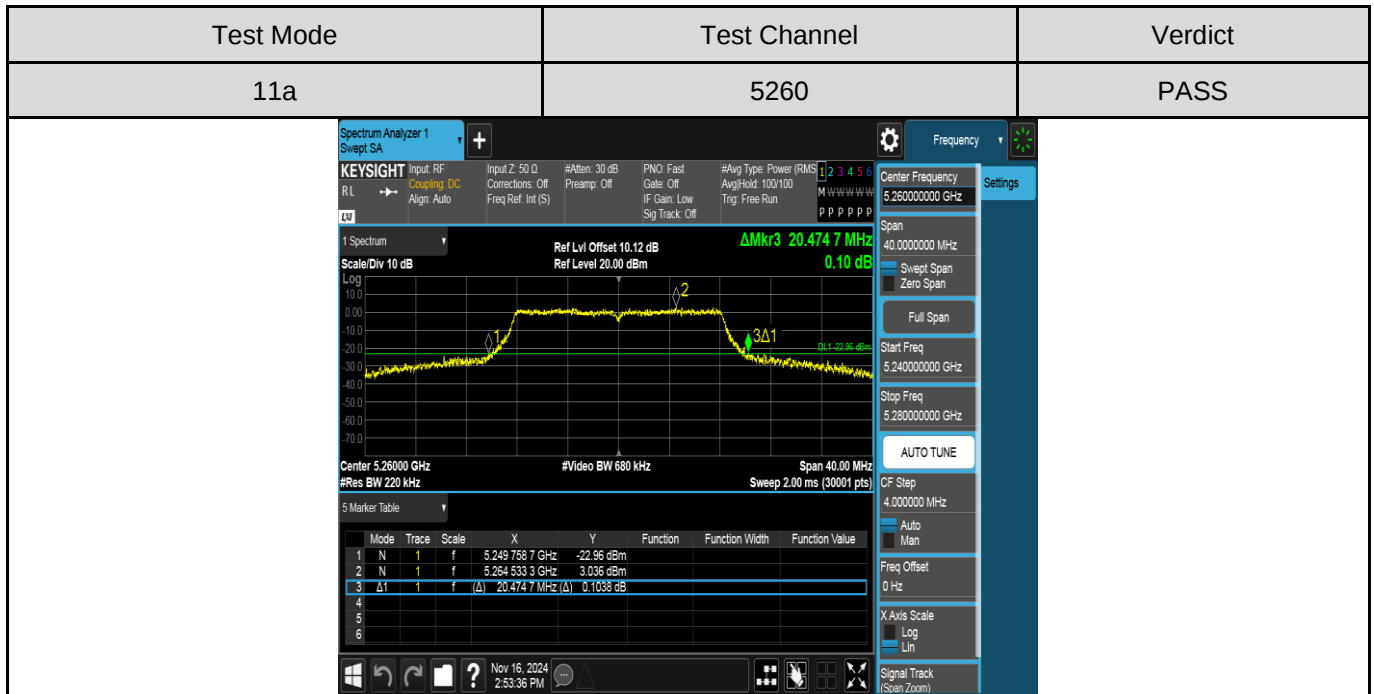
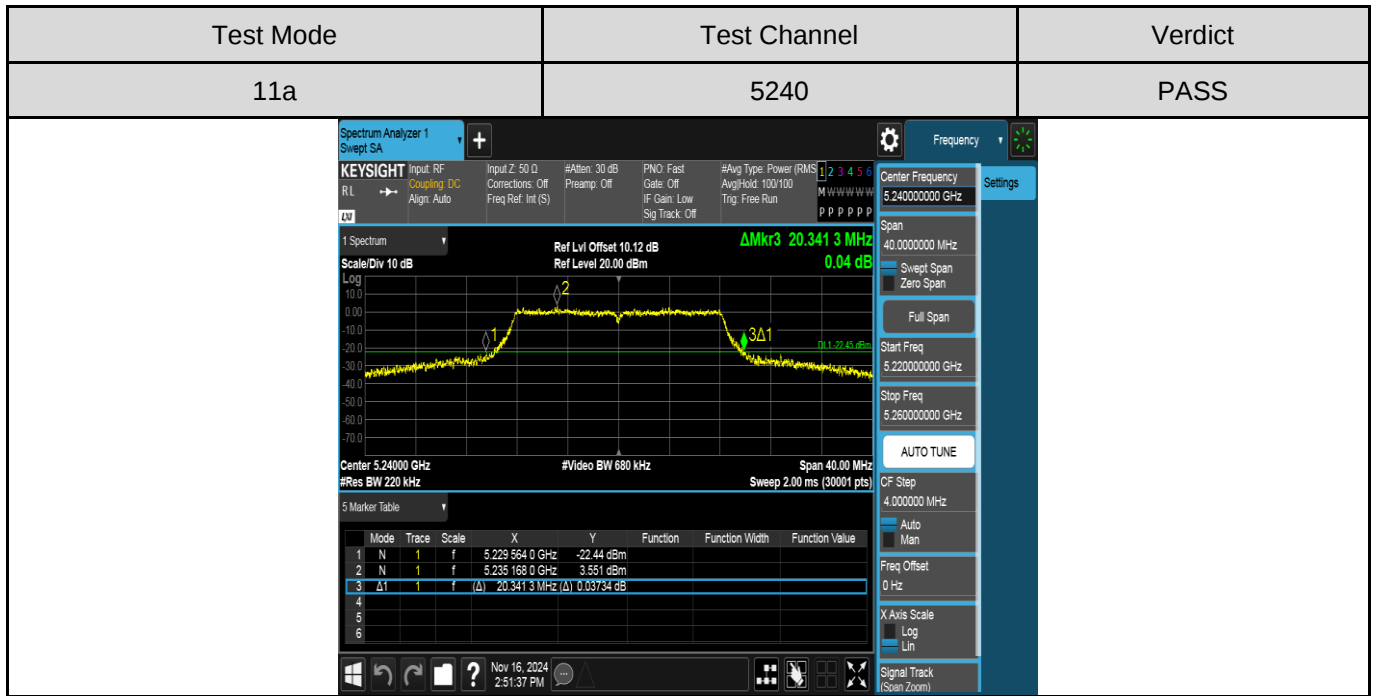
3) 6dB Minimum Emission Bandwidth

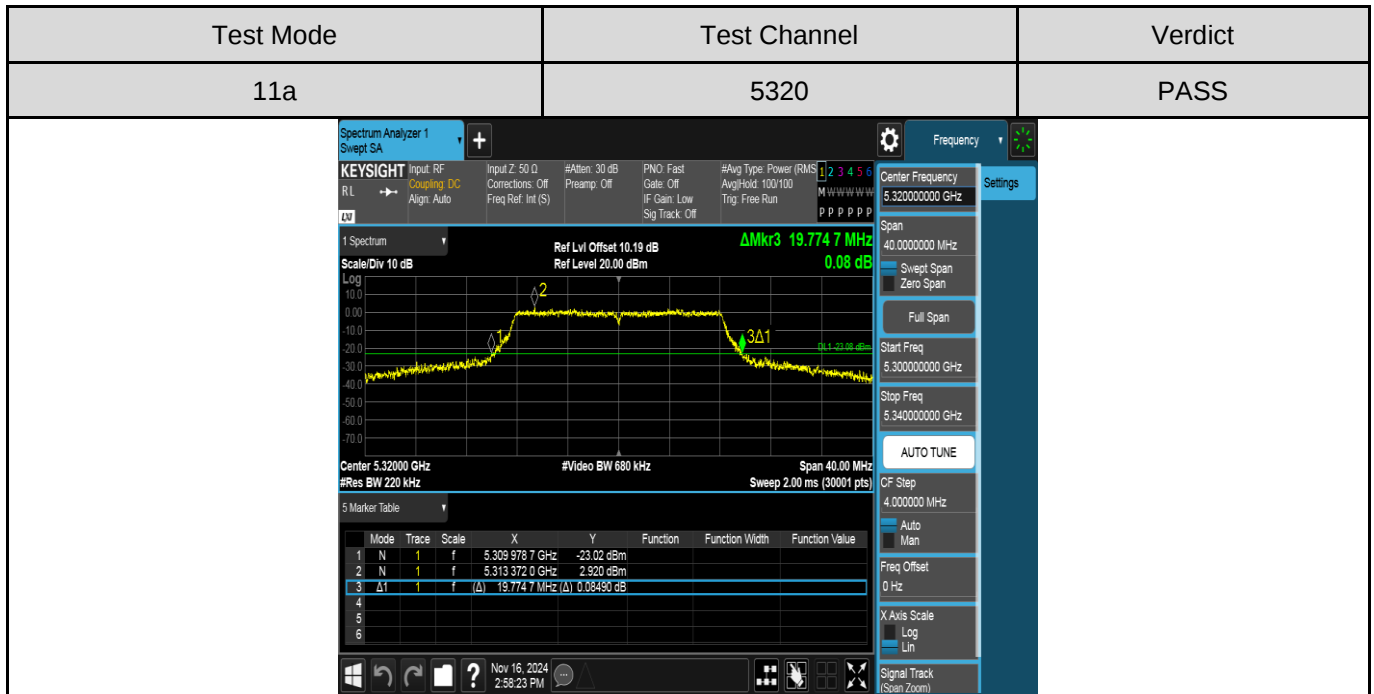
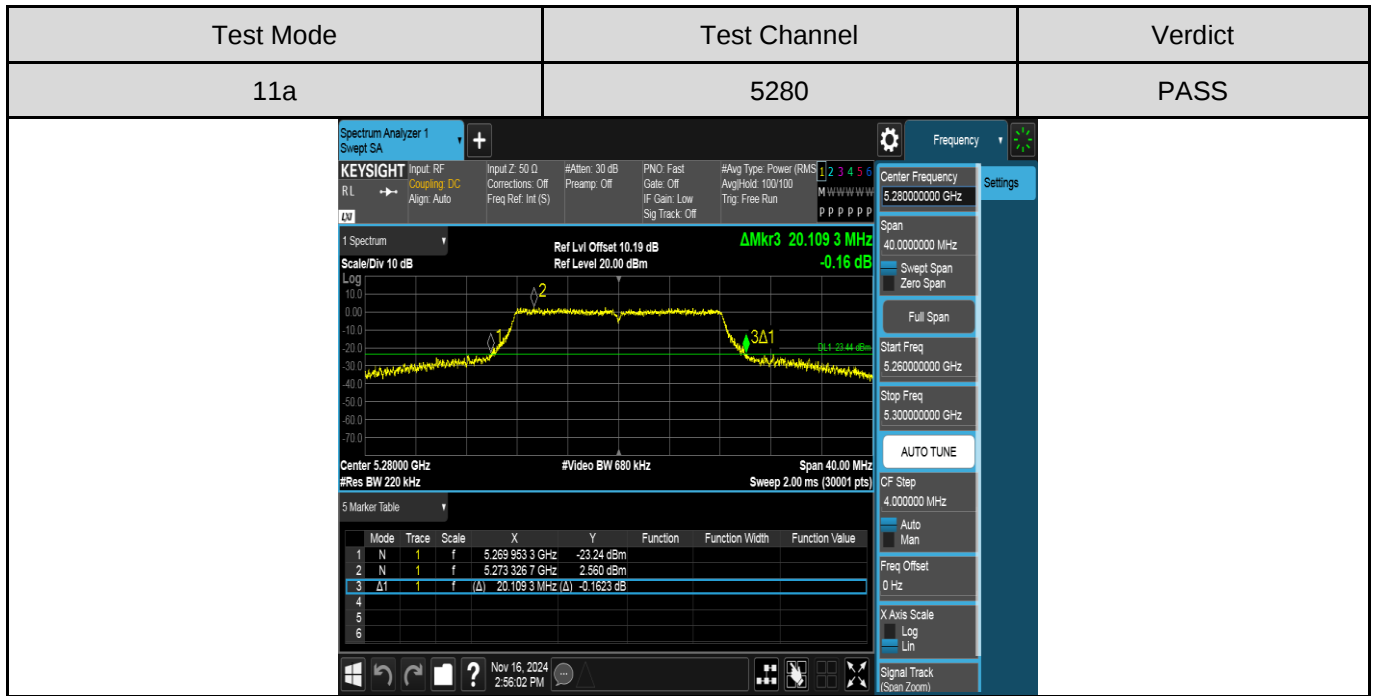
Test Mode	Channel	6db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11a	5745	16.543	5736.688	5753.231	0.5	PASS
	5785	16.525	5776.707	5793.232	0.5	PASS
	5825	16.552	5816.691	5833.243	0.5	PASS
11ac VHT20	5745	17.629	5736.152	5753.781	0.5	PASS
	5785	17.736	5776.095	5793.831	0.5	PASS
	5825	17.689	5816.108	5833.797	0.5	PASS
11ac VHT40	5755	36.371	5736.757	5773.128	0.5	PASS
	5795	36.307	5776.808	5813.115	0.5	PASS
11ax HE20	5745	18.623	5735.584	5754.207	0.5	PASS
	5785	18.732	5775.548	5794.280	0.5	PASS
	5825	18.845	5815.517	5834.363	0.5	PASS
11ax HE40	5755	37.597	5736.083	5773.680	0.5	PASS
	5795	37.437	5776.229	5813.667	0.5	PASS

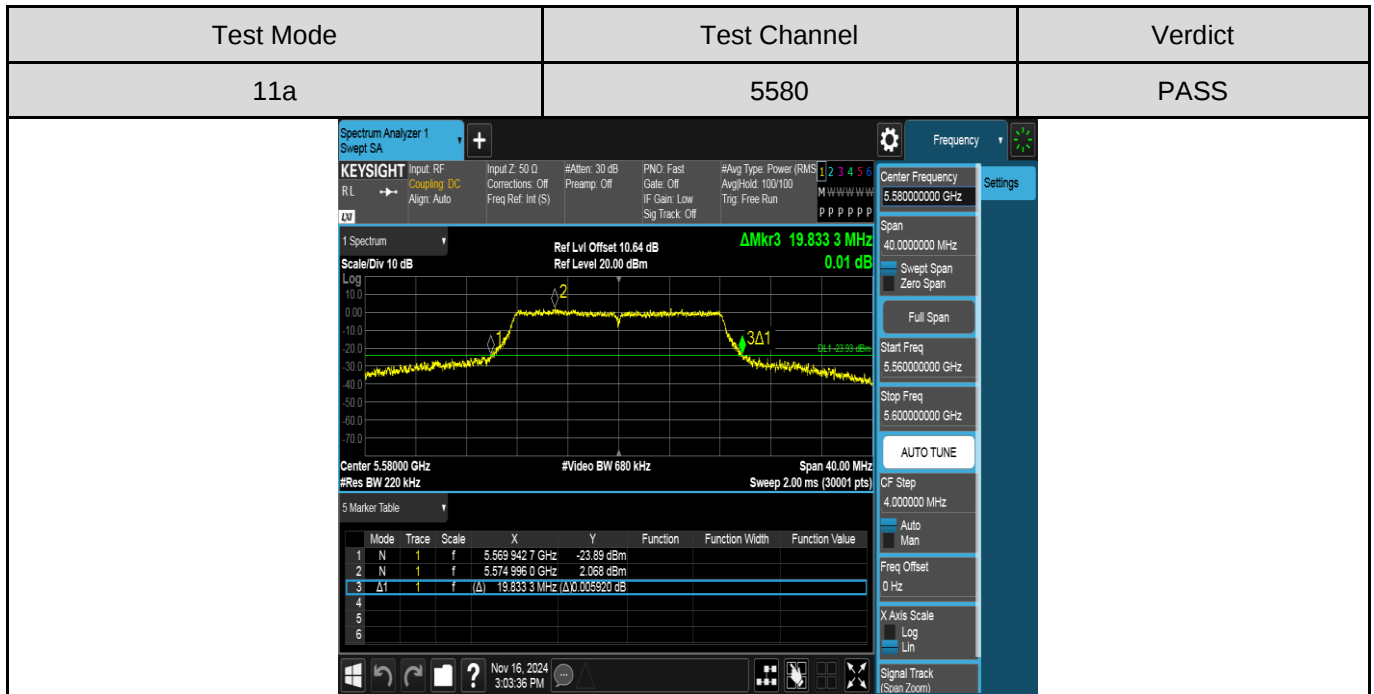
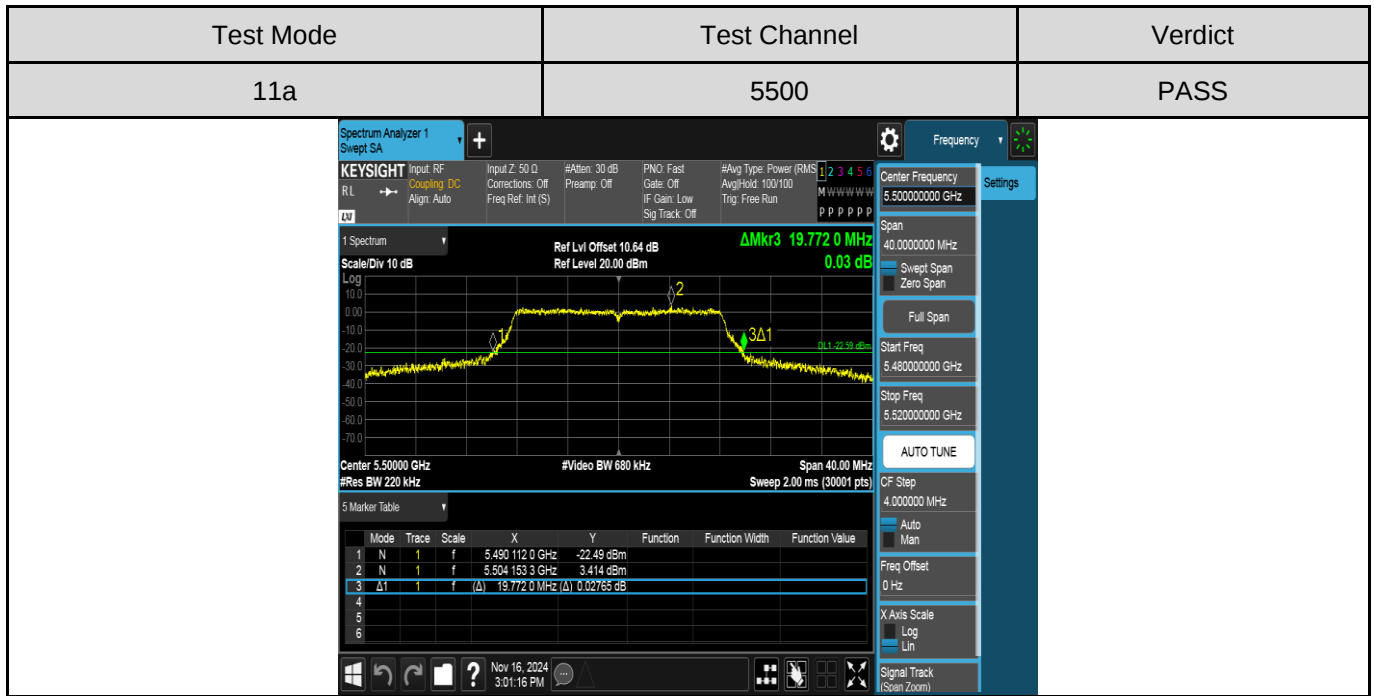
TEST GRAPHS

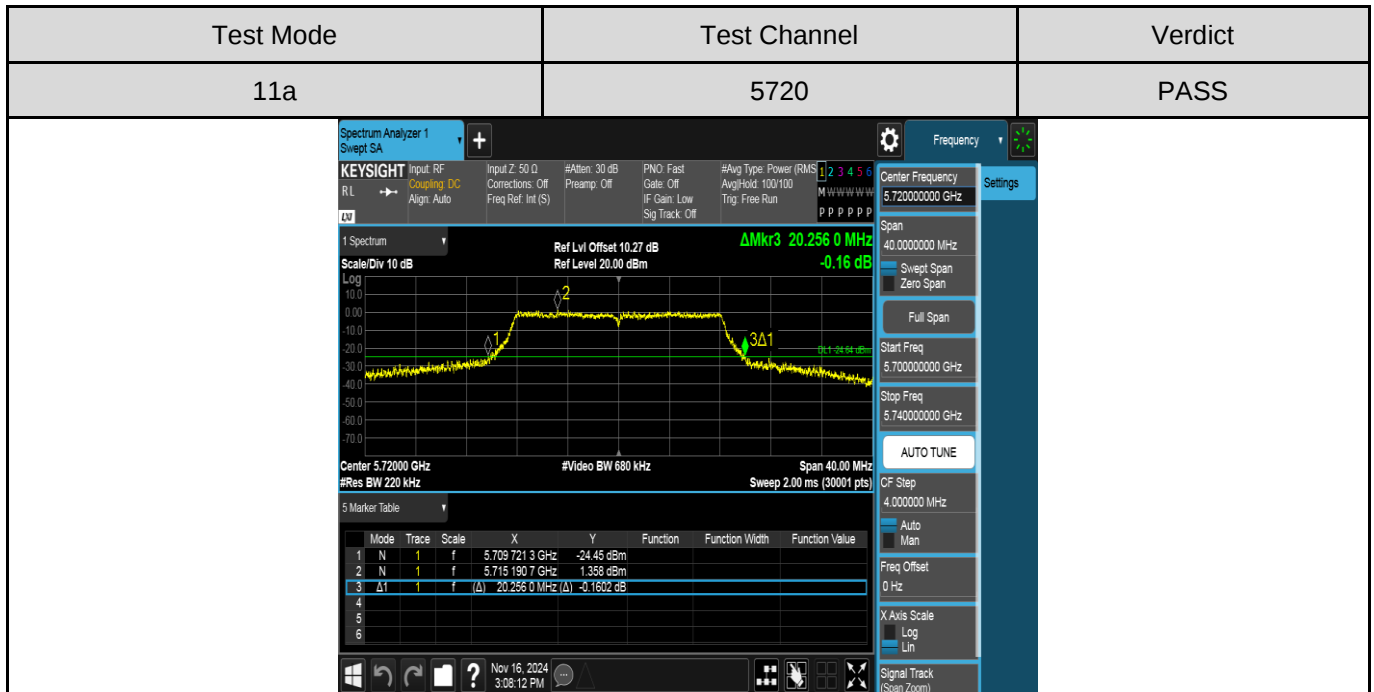
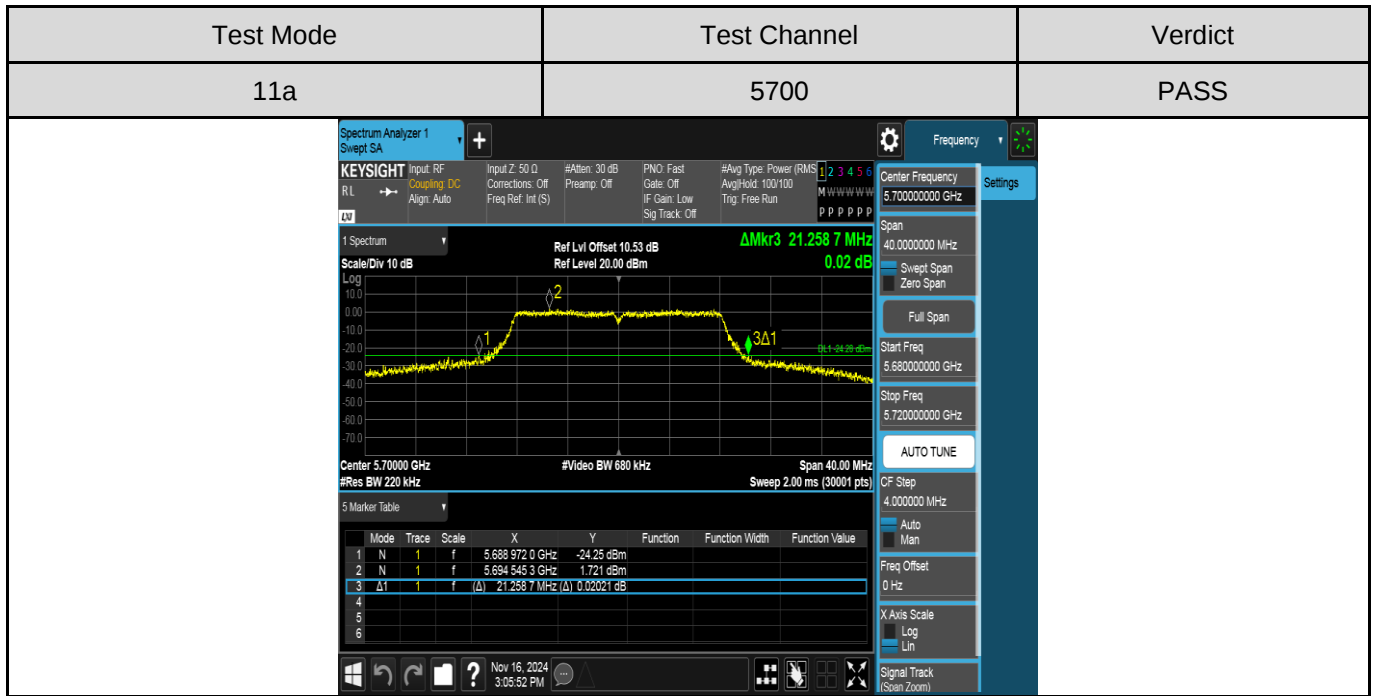
For 26 dB Emission Bandwidth Part:

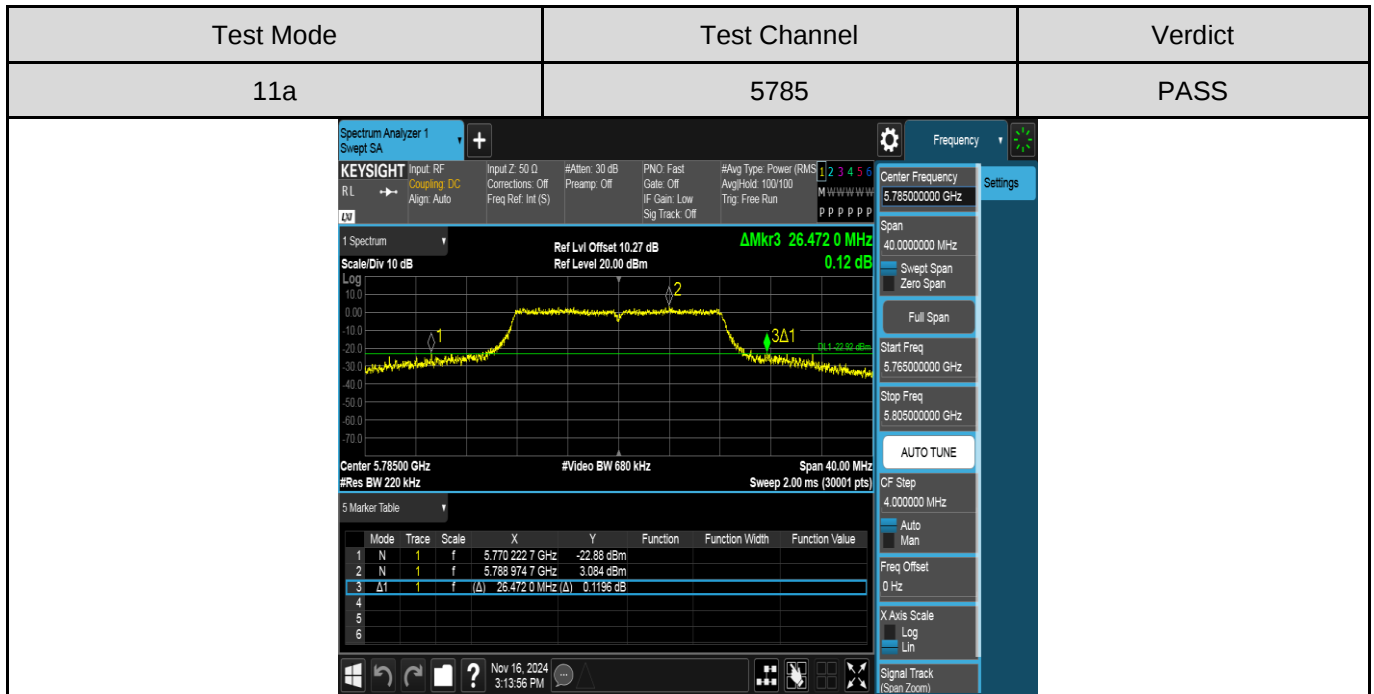
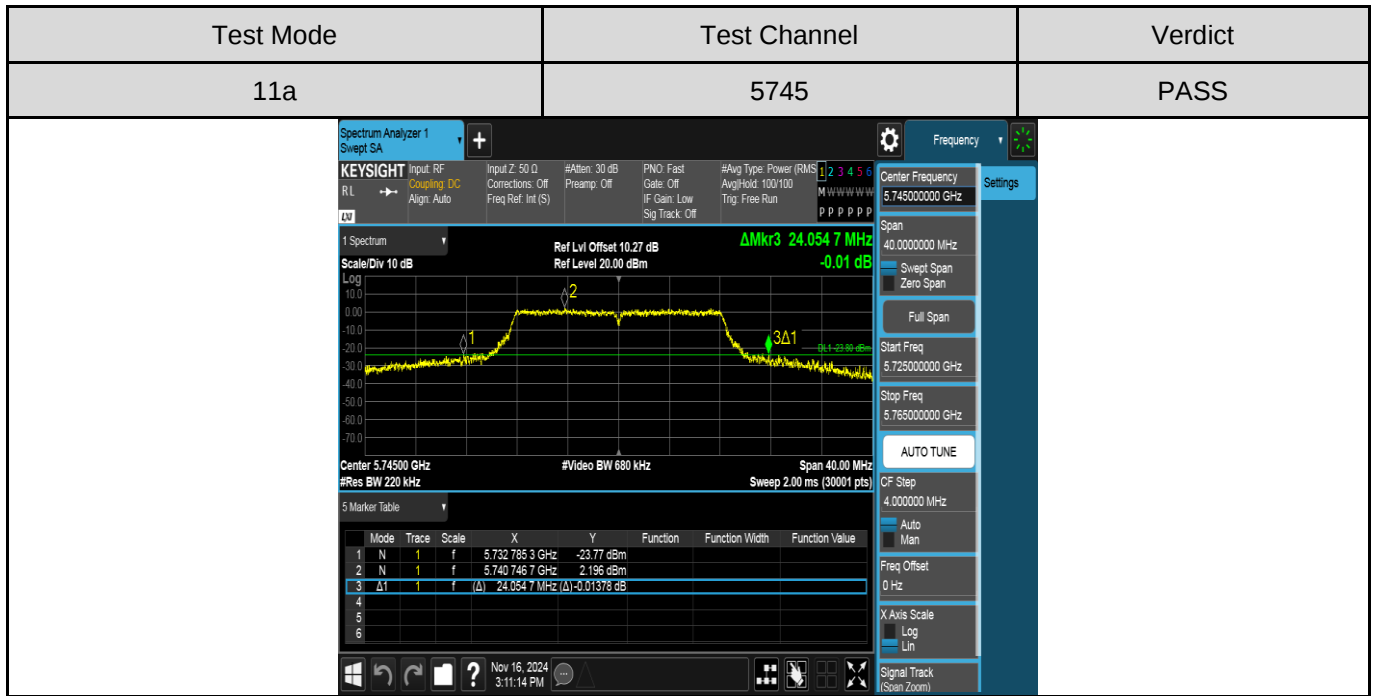












Test Mode	Test Channel	Verdict
11a	5825	PASS



Test Mode	Test Channel	Verdict
11ac VHT20	5180	PASS



