

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

TEST REPORT

For

Wired Security Camera

FCC MODEL NUMBER: P320 Pro

**FCC SERIES MODEL NUMBER:
P320 XXX XXX (where X may be 0-9 A-Z a-z or blank)**

IC MODEL NUMBER: P320 Pro

PROJECT NUMBER: 4791739259.1

REPORT NUMBER: 4791739259.1-3

FCC ID: 2BHGF-0235CADY

IC: 32743-0235CADY

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Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	07/04/2025	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: KeyLife International Technology Limited
Address: Workshop 7, 6th Floor Core 45, No. 43 Tsun Yip Street, Kowloon, HONG KONG

Manufacturer Information

Company Name: KeyLife International Technology Limited
Address: Workshop 7, 6th Floor Core 45, No. 43 Tsun Yip Street, Kowloon, HONG KONG

EUT Description

Product Name: Wired Security Camera
FCC Model Number: P320 Pro
FCC Series Model Number: P320 XXX XXX (where X may be 0-9 A-Z a-z or blank)
Model Difference: All the models have the same technical construction, including circuit diagram, PCB layout, components, and component layout. The only difference is the model numbers, which represent different platforms, countries, channels, functions, and configurations, and have no effect on EMC performance.
IC Model Number: P320 Pro
Sample Number: 8487508
Data of Receipt Sample: May. 21, 2025
Test Date: May. 21, 2025~ Jul. 04, 2025

APPLICABLE STANDARDS

STANDARD

TEST RESULTS

47 CFR FCC PART 15 SUBPART E

ISED RSS-247 Issue 3

ISED RSS-GEN Issue 5

PASS

Summary of Test Results			
Clause	Test Items	FCC&ISED 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 47 CFR Part 2, FCC 47 CFR Part 15 E, ISED RSS-GEN, ISED 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, 47 CFR FCC Part 2, 47 CFR 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
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	3.3dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	3.3dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	3.9dB (1GHz-18GHz)
	4.2dB (18GHz-26.5GHz)
	5.4 dB (26 GHz ~ 40 GHz)
Duty Cycle	2.8%
Emission Bandwidth and 99% Occupied Bandwidth	2.8%
Maximum Conducted Output Power	1.3dB
Maximum Power Spectral Density Level	1.8dB
Frequency Stability	2.8%
Dynamic Frequency Selection	±1.2 dB
Conducted Band-edge Compliance	±1.4 dB
Conducted Unwanted Emissions in Non-restricted Frequency Bands	3.9dB (1GHz-18GHz)
	±1.4dB (1 GHz ~ 26 GHz)
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:	Wired Security Camera
Model No.:	P320 Pro
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 includes 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 HE20/HE40: BPSK, BPSK_DCM, QPSK, QPSK_DCM, QAM16, QAM16_DCM, QAM64, QAM256, QAM1024
Channels Step:	Channels with 5MHz step
Test Software of EUT:	SecureCRT (manufacturer declare)
Antenna Type:	FPC Antenna
Antenna Gain:	1.90 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	11.47
ac VHT20		11.46
ac VHT40		9.49
ax HE20		10.99
ax HE40		11.38

UNII-2A BAND

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power
		[dBm]
a	5250 ~ 5350	11.82
ac VHT20		11.89
ac VHT40		9.80
ax HE20		11.19
ax HE40		11.71

UNII-2C BAND

IEEE Std. 802.11	Frequency (MHz)	Max Power
		[dBm]
a	5470 ~ 5725	12.60
ac VHT20		13.42
ac VHT40		12.07
ax HE20		12.15
ax HE40		12.67

UNII-3 BAND

IEEE Std. 802.11	Frequency (MHz)	Max Power
		[dBm]
a	5725 ~ 5850	11.97
ac VHT20		11.63
ac VHT40		12.10
ax HE20		12.22
ax HE40		12.16

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.

5.3. CHANNEL LIST

UNII-1 (For Bandwidth=20MHz)		UNII-1 (For Bandwidth=40MHz)		UNII-1 (For Bandwidth=80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

UNII-2A (For Bandwidth=20MHz)		UNII-2A (For Bandwidth=40MHz)		UNII-2A (For Bandwidth=80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270	58	5290
56	5280	62	5310		
60	5300				
64	5320				

UNII-2C (For Bandwidth=20MHz)		UNII-2C (For Bandwidth=40MHz)		UNII-2C (For Bandwidth=80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	102	5510	106	5530
104	5520	110	5550	122	*5610
108	5540	118	*5590	/	/
112	5560	126	*5630		
116	5580	134	5670		
120	*5600	/	/		
124	*5620				
128	*5640				
132	5660				
136	5680				
140	5700				
/	/				

Note: Not operational in Canada.

UNII-3 (For Bandwidth=20MHz)		UNII-3 (For Bandwidth=40MHz)		UNII-3 (For Bandwidth=80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

Straddle Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 144	5720 MHz
802.11n HT20	CH 144	5720 MHz
802.11ac VHT20	CH 144	5720 MHz
802.11n HT40	CH 142	5710 MHz
802.11ac VHT40	CH 142	5710 MHz

5.4. TEST CHANNEL CONFIGURATION

UNII-1 Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180 MHz, 5200 MHz, 5240 MHz
802.11n HT20	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180 MHz, 5200 MHz, 5240 MHz
802.11n HT40	CH 38(Low Channel), CH 46(High Channel)	5190 MHz, 5230 MHz

UNII-2A Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 52(Low Channel), CH 56(MID Channel), CH 64(High Channel)	5260 MHz, 5280 MHz, 5320 MHz
802.11n HT20	CH 52(Low Channel), CH 56(MID Channel), CH 64(High Channel)	5260 MHz, 5280 MHz, 5320 MHz
802.11n HT40	CH 54(Low Channel), CH 62(High Channel)	5270 MHz, 5310 MHz

UNII-2C Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 100(Low Channel), CH 116(MID Channel), CH 140(High Channel)	5500 MHz, 5580 MHz, 5700 MHz
802.11n HT20	CH 100(Low Channel), CH 116(MID Channel), CH 140(High Channel)	5500 MHz, 5580 MHz, 5700 MHz
802.11n HT40	CH 102(Low Channel), CH 110(MID Channel), CH 134(High Channel)	5510 MHz, 5550 MHz, 5670 MHz

UNII-3 Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz
802.11n HT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz
802.11n HT40	CH 151(Low Channel), CH 159(High Channel)	5755MHz, 5795MHz

Straddle Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 144	5720 MHz
802.11n HT20	CH 144	5720 MHz
802.11n HT40	CH 142	5710 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 (straddle channel)	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 (straddle channel)	default
n HT40	102	default
	110	default
	118	default
	126	default
	134	default
	142 (straddle channel)	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	1.90
1	UNII-2A	1.90
1	UNII-2C	1.90
1	UNII-3	1.90

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
ax HE20	MCS0	134	default
		142	default
		100	default
		104	default
		120	default
ax HE40	MCS0	136	default
		140	default
		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:

1. 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.
2. The product only supports full RU at 802.11AX mode.

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Description
1	Laptop	ThinkPad	E590	/

I/O PORT

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

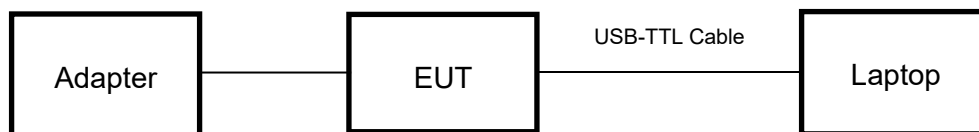
ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	AC/DC ADAPTOR	Dachuan	DCT24W120150US-A3	Input: 100-240V~, 50/60Hz 0.7A max Output: 12.0V=1.5A

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	2024-03-23	2025-03-15	2026-03-14
☒	EMI test receiver	R&S	ESR26	126703	2023-11-25	2024-11-02	2025-11-01
☒	Spectrum Analyzer	R&S	FSV3044	222992	2024-03-23	2025-03-15	2026-03-14
☒	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	2022-02-28	2025-02-17	2028-02-16
☒	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBHA9170	126706	2022-02-28	2025-02-17	2028-02-16
☒	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	2024-03-23	2025-03-15	2026-03-14
☒	Power Meter	MWT	MW100-RFCB	221694	2024-03-23	2025-03-15	2026-03-14
☒	Attenuator	PASTERNAK	PE7087-6	1624	2024-03-23	2025-03-15	2026-03-14
Antenna Port Test (Software)							
Used	Description		Manufacturer		Name	Version	
☒	Software for Antenna Port Test		Tonscnd		JS1120-3 Test System	V3.2.22	

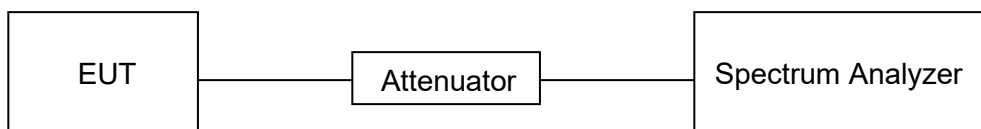
6. ANTENNA PORT TEST RESULTS

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	06/08/2025 - 06/30/2025

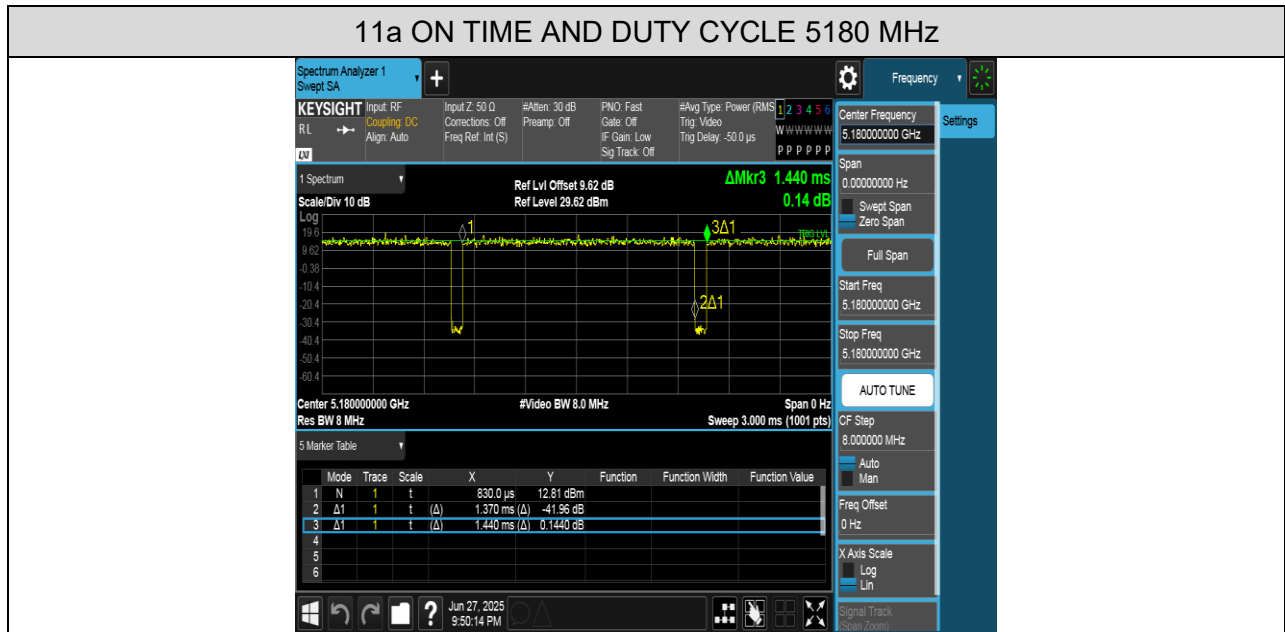
RESULTS

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	1.37	1.44	0.9514	95.14	0.22	0.73	1
11ac VHT20	1.28	1.44	0.8889	88.89	0.51	0.78	1
11ac VHT40	0.64	0.71	0.9014	90.14	0.45	1.56	2
11ax HE20	0.99	1.07	0.9252	92.52	0.34	1.01	2
11ax HE40	0.53	0.60	0.8833	88.33	0.54	1.89	2

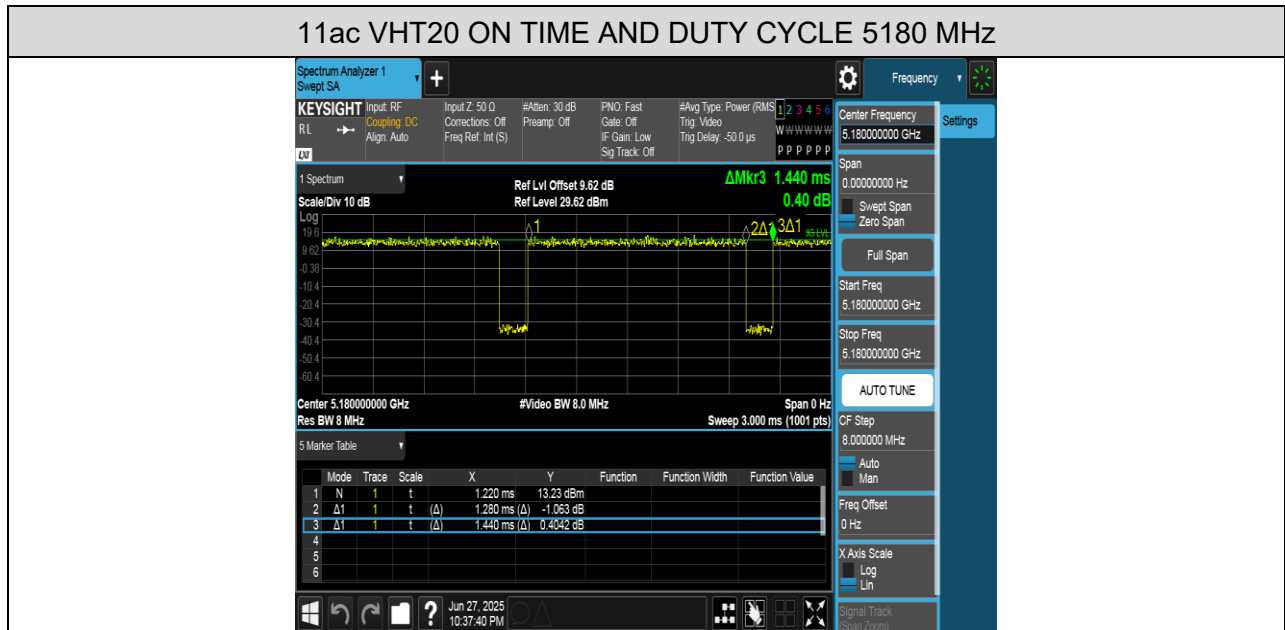
Remark:

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.

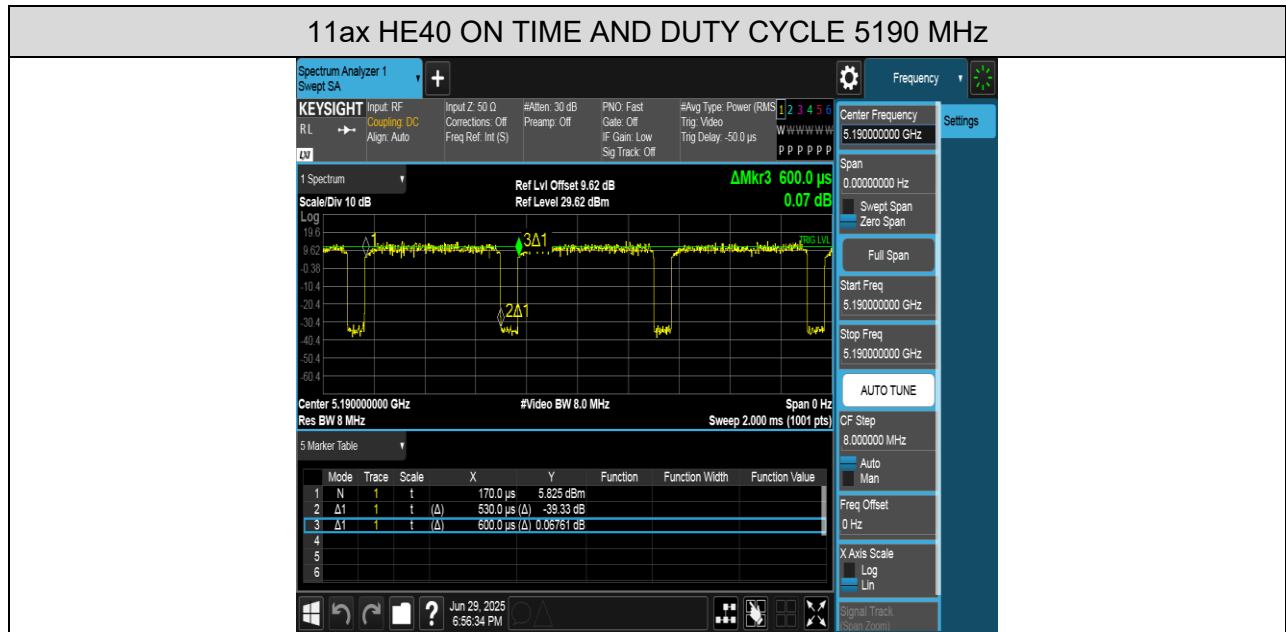
11a ON TIME AND DUTY CYCLE 5180 MHz



11ac VHT20 ON TIME AND DUTY CYCLE 5180 MHz







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

LIMITS

47 CFR 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 = $5725 - 5710.60 = 14.40$ MHz

UNII-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

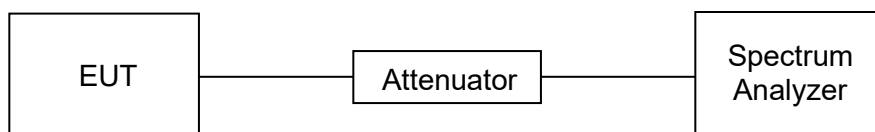
FL: 5711.76 MHz

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	06/08/2025 - 06/30/2025

RESULTS TABLE

1) 26 dB Emission Bandwidth Part:

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11a	5180	24.345	5167.204	5191.549	PASS
	5200	25.093	5187.529	5212.623	PASS
	5240	24.792	5227.321	5252.113	PASS
	5260	24.624	5247.999	5272.623	PASS
	5280	24.757	5267.569	5292.327	PASS
	5320	25.868	5306.767	5332.635	PASS
	5500	25.332	5487.389	5512.721	PASS
	5580	25.259	5567.085	5592.344	PASS
	5700	25.221	5687.469	5712.691	PASS
	5720	25.728	5706.813	5732.541	PASS
	5720 UNII-2C	18.187	5706.813	5725	PASS
	5720 UNII-3	7.541	5725	5732.541	PASS
	5745	25.653	5732.000	5757.653	PASS
	5785	25.425	5771.999	5797.424	PASS
	5825	25.449	5812.144	5837.593	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT20	5180	25.652	5166.988	5192.640	PASS
	5200	25.592	5187.087	5212.679	PASS
	5240	25.577	5227.280	5252.857	PASS
	5260	25.303	5247.821	5273.124	PASS
	5280	26.003	5267.201	5293.204	PASS
	5320	26.715	5306.773	5333.488	PASS
	5500	26.441	5487.008	5513.449	PASS
	5580	25.609	5567.275	5592.884	PASS
	5700	26.867	5686.512	5713.379	PASS
	5720	26.917	5706.700	5733.617	PASS
	5720 UNII-2C	18.3	5706.700	5725	PASS
	5720 UNII-3	8.617	5725	5733.617	PASS
	5745	26.852	5731.873	5758.725	PASS
	5785	26.704	5771.747	5798.451	PASS
	5825	26.921	5811.316	5838.237	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT40	5190	45.144	5167.813	5212.957	PASS
	5230	44.933	5207.523	5252.456	PASS
	5270	44.904	5247.451	5292.355	PASS
	5310	45.936	5286.443	5332.379	PASS
	5510	46.024	5487.315	5533.339	PASS
	5550	46.440	5526.984	5573.424	PASS
	5670	46.661	5646.800	5693.461	PASS
	5710	45.944	5687.251	5733.195	PASS
	5710_UNII-2C	37.749	5687.251	5725	PASS
	5710_UNII-3	8.195	5725	5733.195	PASS
	5755	46.821	5731.269	5778.091	PASS
	5795	45.992	5771.931	5817.923	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE20	5180	26.192	5167.024	5193.216	PASS
	5200	24.185	5188.243	5212.428	PASS
	5240	26.785	5227.577	5254.363	PASS
	5260	25.913	5247.727	5273.640	PASS
	5280	25.056	5267.479	5292.535	PASS
	5320	25.039	5307.672	5332.711	PASS
	5500	26.223	5487.349	5513.572	PASS
	5580	26.195	5567.111	5593.305	PASS
	5700	25.148	5687.516	5712.664	PASS
	5720	25.421	5706.949	5732.371	PASS
	5720_UNII-2C	18.051	5706.949	5725	PASS
	5720_UNII-3	7.371	5725	5732.371	PASS
	5745	26.077	5731.933	5758.011	PASS
	5785	26.297	5772.805	5799.103	PASS
	5825	26.121	5812.029	5838.151	PASS

Test Mode	Channel	26dB EBW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE40	5190	44.051	5168.184	5212.235	PASS
	5230	45.427	5207.224	5252.651	PASS
	5270	44.227	5248.280	5292.507	PASS
	5310	45.056	5287.224	5332.280	PASS
	5510	45.064	5487.795	5532.859	PASS
	5550	44.173	5527.923	5572.096	PASS
	5670	44.243	5647.888	5692.131	PASS
	5710	45.083	5686.992	5732.075	PASS
	5710_UNII-2C	38.008	5686.992	5725	PASS
	5710_UNII-3	7.075	5725	5732.075	PASS
	5755	45.901	5731.685	5777.587	PASS
	5795	45.107	5772.229	5817.336	PASS

2) 99% Occupied Channel Bandwidth Part:

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11a	5180	17.233	5171.3604	5188.5934	PASS
	5200	17.251	5191.3411	5208.5921	PASS
	5240	17.346	5231.2885	5248.6345	PASS
	5260	17.233	5251.3693	5268.6023	PASS
	5280	17.252	5271.3779	5288.6299	PASS
	5320	17.253	5311.3767	5328.6297	PASS
	5500	17.441	5491.2987	5508.7397	PASS
	5580	17.420	5571.2773	5588.6973	PASS
	5700	17.399	5691.2635	5708.6625	PASS
	5720	17.484	5711.1841	5728.6681	PASS
	5720_UNII-2C	13.816	5711.1841	5725	PASS
	5720_UNII-3	3.668	5725	5728.6681	PASS
	5745	17.426	5736.1997	5753.6257	PASS
	5785	17.392	5776.2555	5793.6475	PASS
	5825	17.445	5816.2010	5833.6460	PASS

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT20	5180	18.404	5170.8016	5189.2056	PASS
	5200	18.397	5190.7902	5209.1872	PASS
	5240	18.414	5230.7812	5249.1952	PASS
	5260	18.401	5250.7929	5269.1939	PASS
	5280	18.379	5270.8090	5289.1880	PASS
	5320	18.368	5310.8136	5329.1816	PASS
	5500	18.678	5490.6556	5509.3336	PASS
	5580	18.581	5570.7187	5589.2997	PASS
	5700	18.598	5690.6667	5709.2647	PASS
	5720	18.637	5710.6554	5729.2924	PASS
	5720_UNII-2C	14.345	5710.6554	5725	PASS
	5720_UNII-3	4.292	5725	5729.2924	PASS
	5745	18.566	5735.6667	5754.2327	PASS
	5785	18.586	5775.6718	5794.2578	PASS
	5825	18.585	5815.6692	5834.2542	PASS

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ac HT40	5190	36.701	5171.6625	5208.3635	PASS
	5230	36.625	5211.6571	5248.2821	PASS
	5270	36.586	5251.6768	5288.2628	PASS
	5310	36.699	5291.6928	5328.3918	PASS
	5510	36.909	5491.5814	5528.4904	PASS
	5550	36.931	5531.5915	5568.5225	PASS
	5670	36.878	5651.5499	5688.4279	PASS
	5710	36.866	5691.5376	5728.4036	PASS
	5710_UNII-2C	33.462	5691.5376	5725	PASS
	5710_UNII-3	3.404	5725	5728.4036	PASS
	5755	36.941	5736.4379	5773.3789	PASS
	5795	36.950	5776.4629	5813.4129	PASS

Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE20	5180	19.273	5170.3903	5189.6633	PASS
	5200	19.175	5190.4211	5209.5961	PASS
	5240	19.207	5230.3906	5249.5976	PASS
	5260	19.198	5250.4028	5269.6008	PASS
	5280	19.267	5270.3477	5289.6147	PASS
	5320	19.225	5310.4022	5329.6272	PASS
	5500	19.372	5490.3196	5509.6916	PASS
	5580	19.331	5570.3458	5589.6768	PASS
	5700	19.331	5690.3540	5709.6850	PASS
	5720	19.388	5710.3213	5729.7093	PASS
	5720_UNII-2C	14.679	5710.3213	5725	PASS
	5720_UNII-3	4.709	5725	5729.7093	PASS
	5745	19.355	5735.2990	5754.6540	PASS
	5785	19.328	5775.3127	5794.6407	PASS
	5825	19.295	5815.3140	5834.6090	PASS

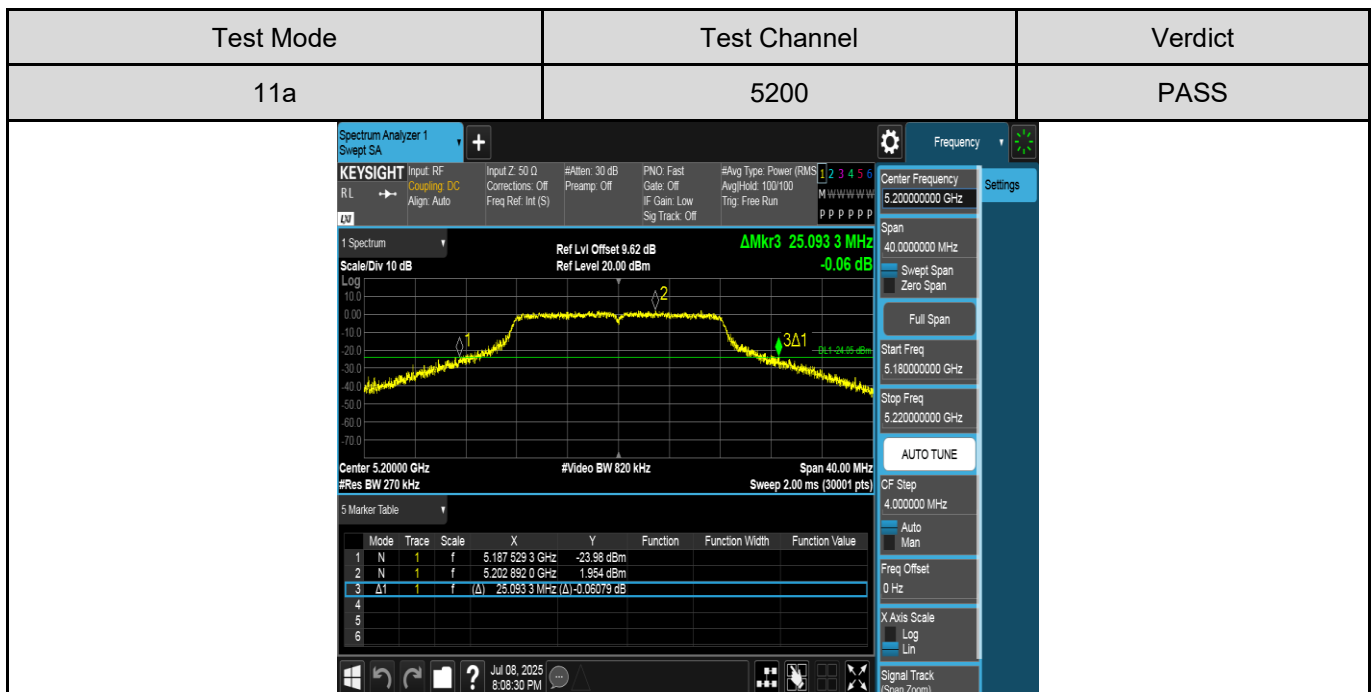
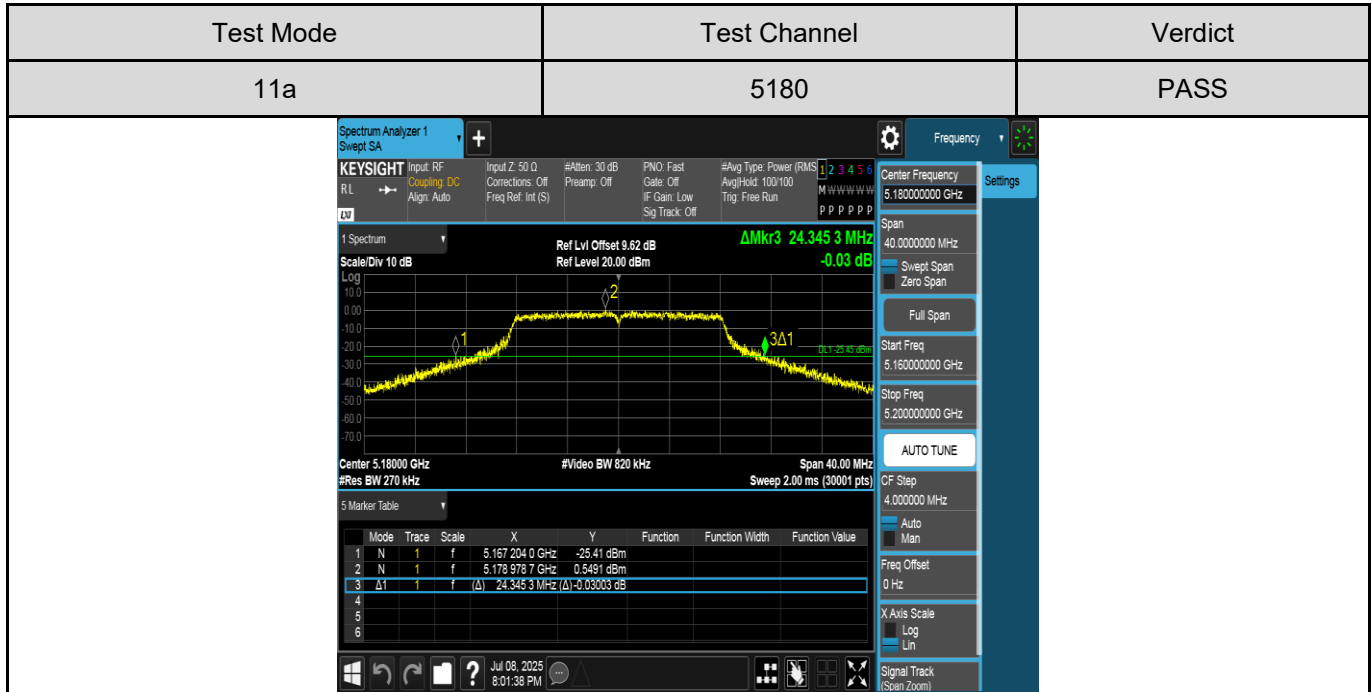
Test Mode	Channel	OCW [MHz]	FL [MHz]	FH [MHz]	Verdict
11ax HE40	5190	37.972	5171.0242	5208.9962	PASS
	5230	38.065	5210.9477	5249.0127	PASS
	5270	38.044	5250.9842	5289.0282	PASS
	5310	38.102	5290.9449	5329.0469	PASS
	5510	38.416	5490.8396	5529.2556	PASS
	5550	38.446	5530.8585	5569.3045	PASS
	5670	38.260	5650.9009	5689.1609	PASS
	5710	38.212	5690.8955	5729.1075	PASS
	5710_UNII-2C	34.105	5690.8955	5725	PASS
	5710_UNII-3	4.108	5725	5729.1075	PASS
	5755	38.224	5735.8593	5774.0833	PASS
	5795	38.181	5775.8702	5814.0512	PASS

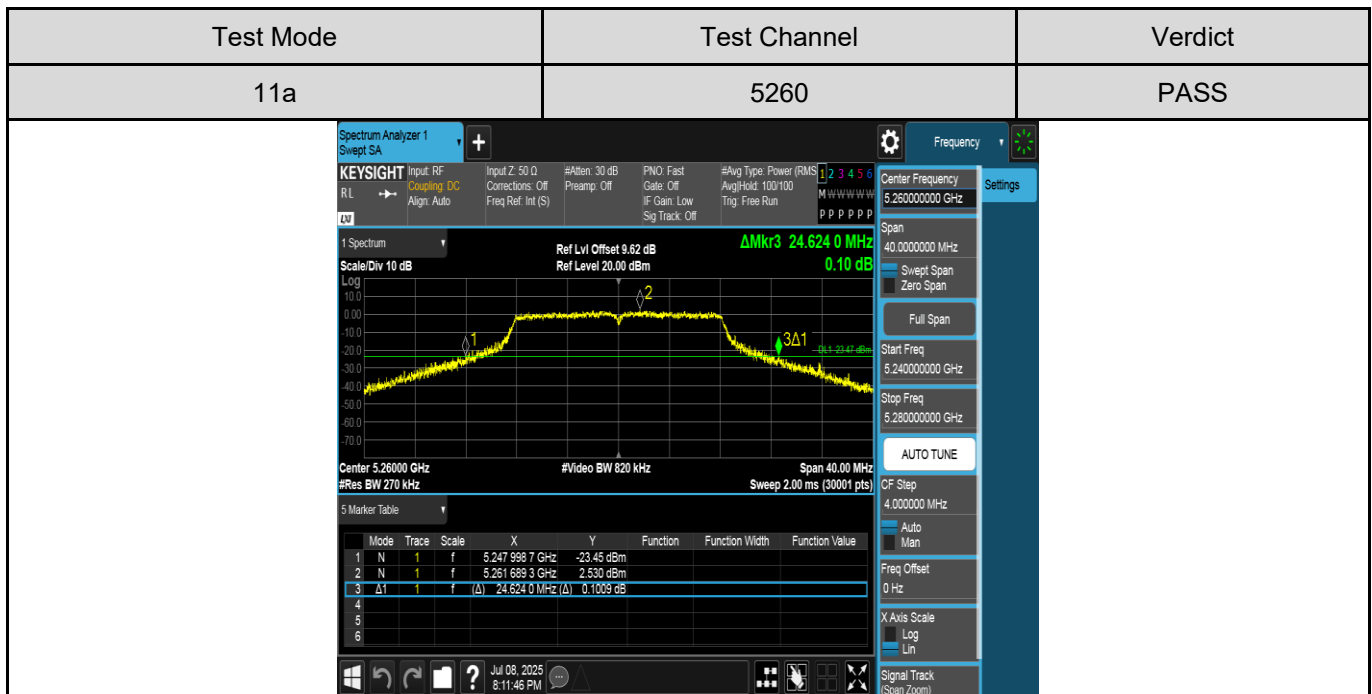
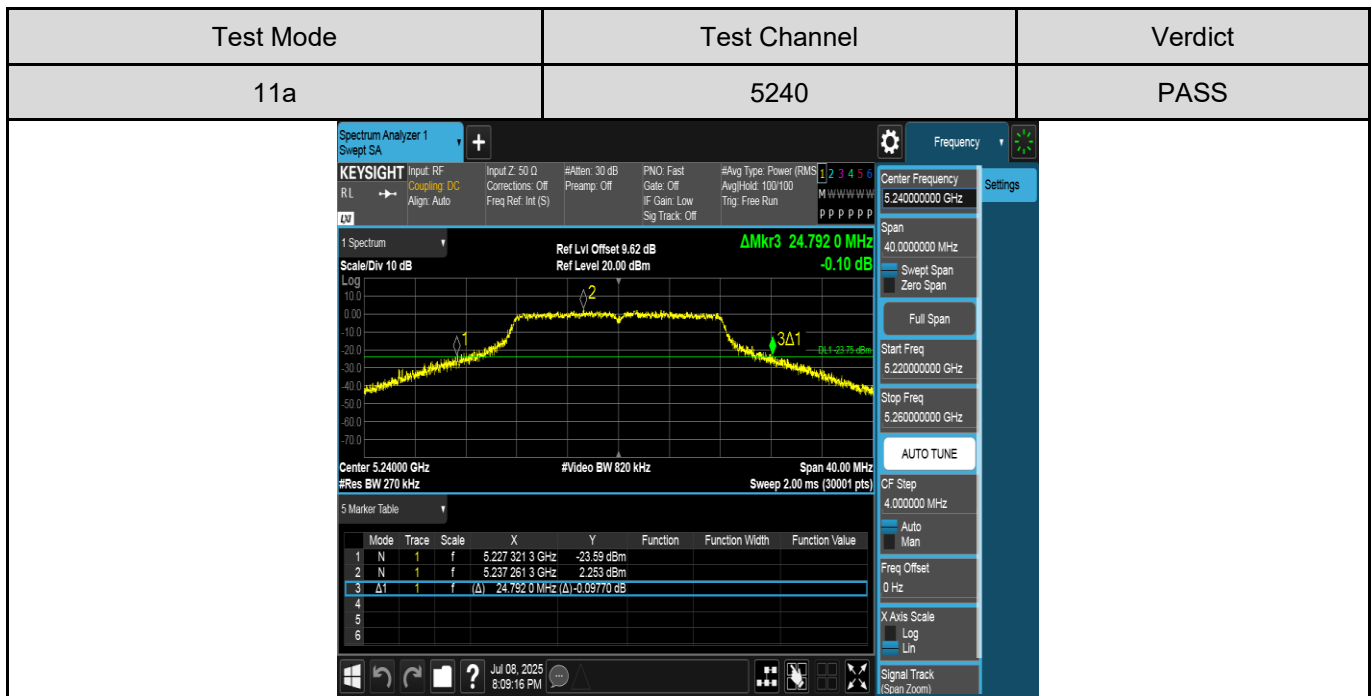
3) 6dB Minimum Emission Bandwidth

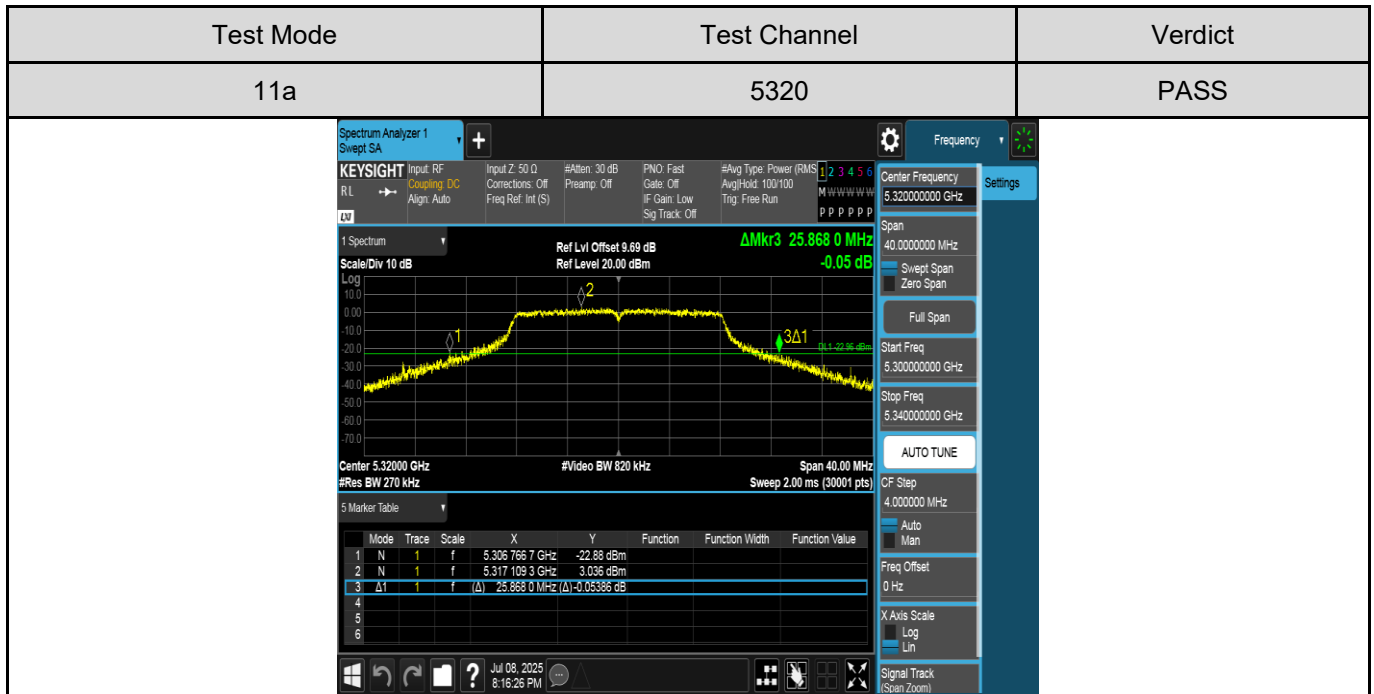
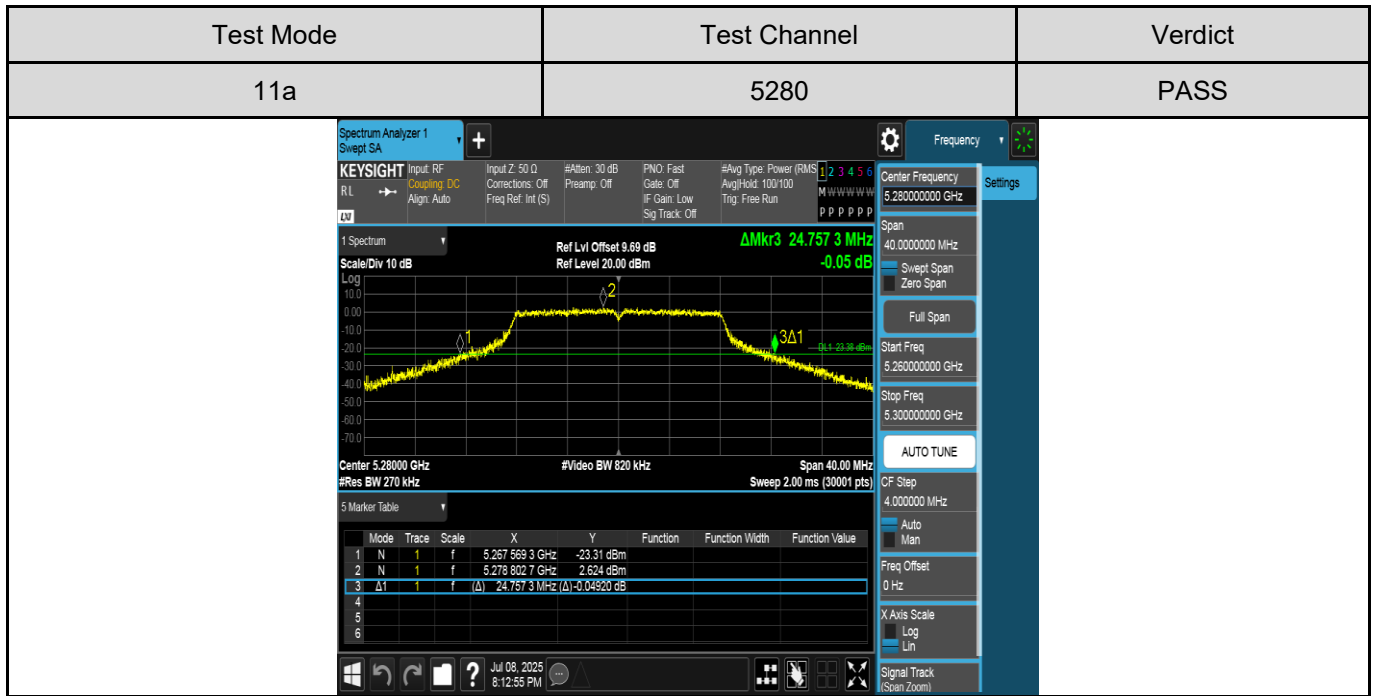
Test Mode	Channel	6db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11a	5745	16.435	5736.719	5753.153	0.5	PASS
	5785	16.375	5776.795	5793.169	0.5	PASS
	5825	16.359	5816.797	5833.156	0.5	PASS
11ac VHT20	5745	17.605	5736.175	5753.780	0.5	PASS
	5785	17.585	5776.185	5793.771	0.5	PASS
	5825	17.613	5816.165	5833.779	0.5	PASS
11ac VHT40	5755	36.328	5736.803	5773.131	0.5	PASS
	5795	36.320	5776.813	5813.133	0.5	PASS
11ax HE20	5745	18.897	5735.533	5754.431	0.5	PASS
	5785	18.979	5775.513	5794.492	0.5	PASS
	5825	18.861	5815.517	5834.379	0.5	PASS
11ax HE40	5755	37.987	5735.965	5773.952	0.5	PASS
	5795	38.011	5775.960	5813.971	0.5	PASS

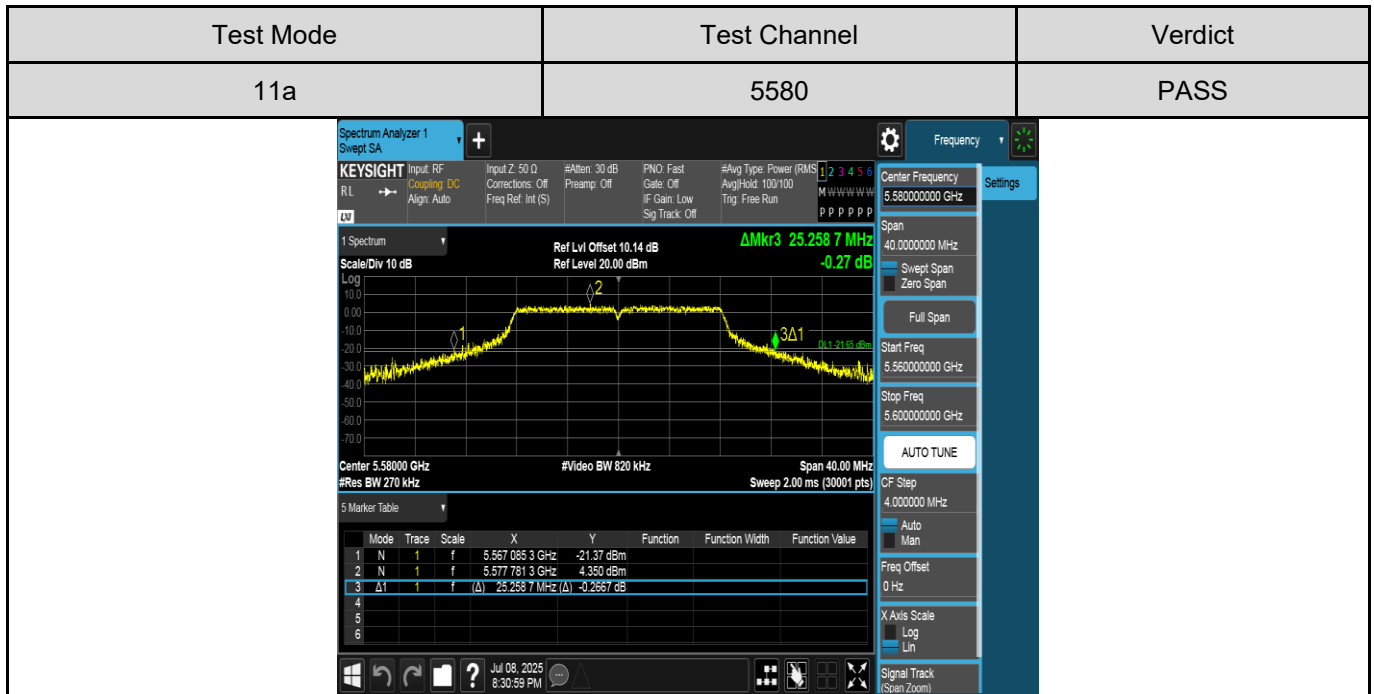
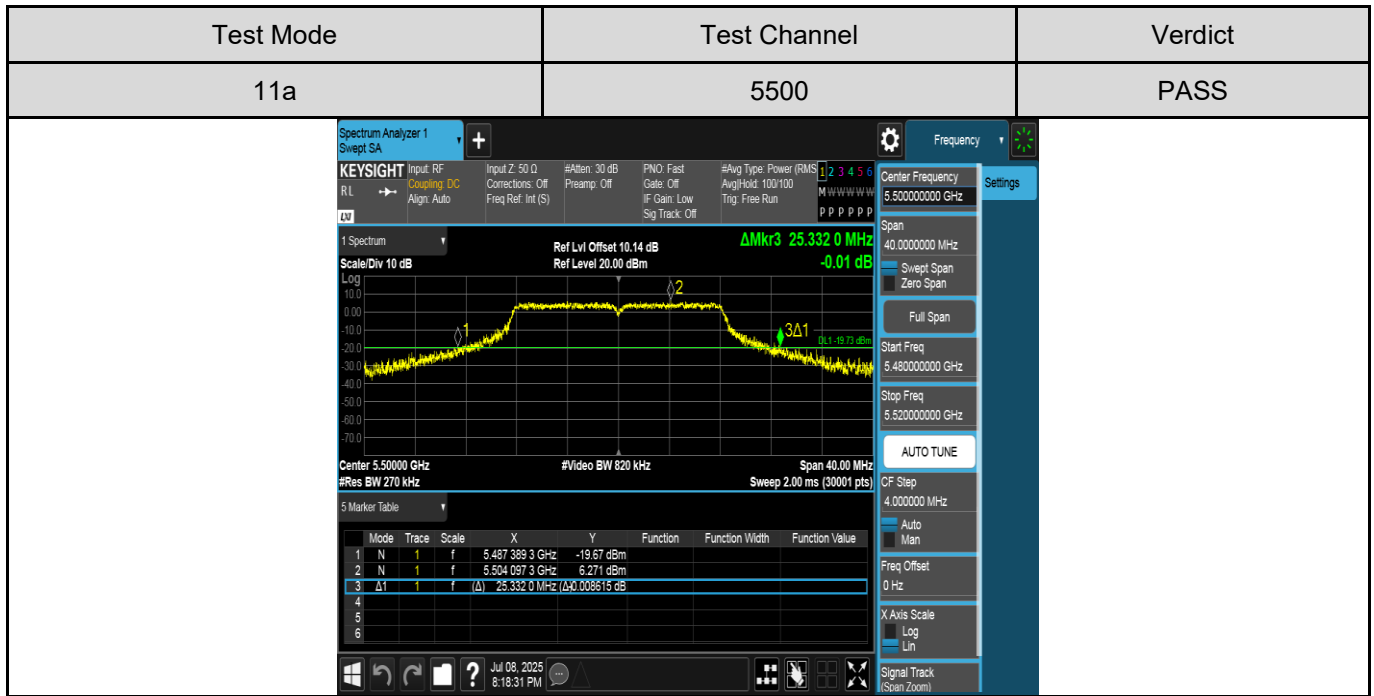
TEST GRAPHS

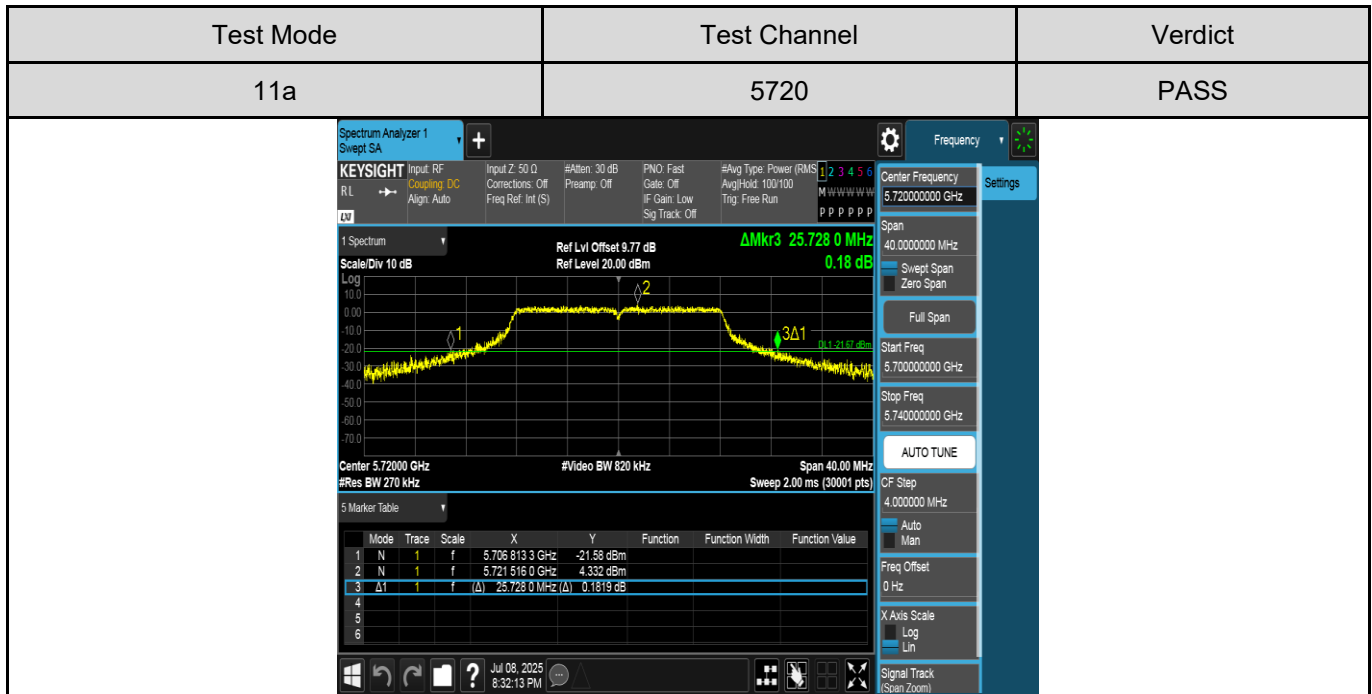
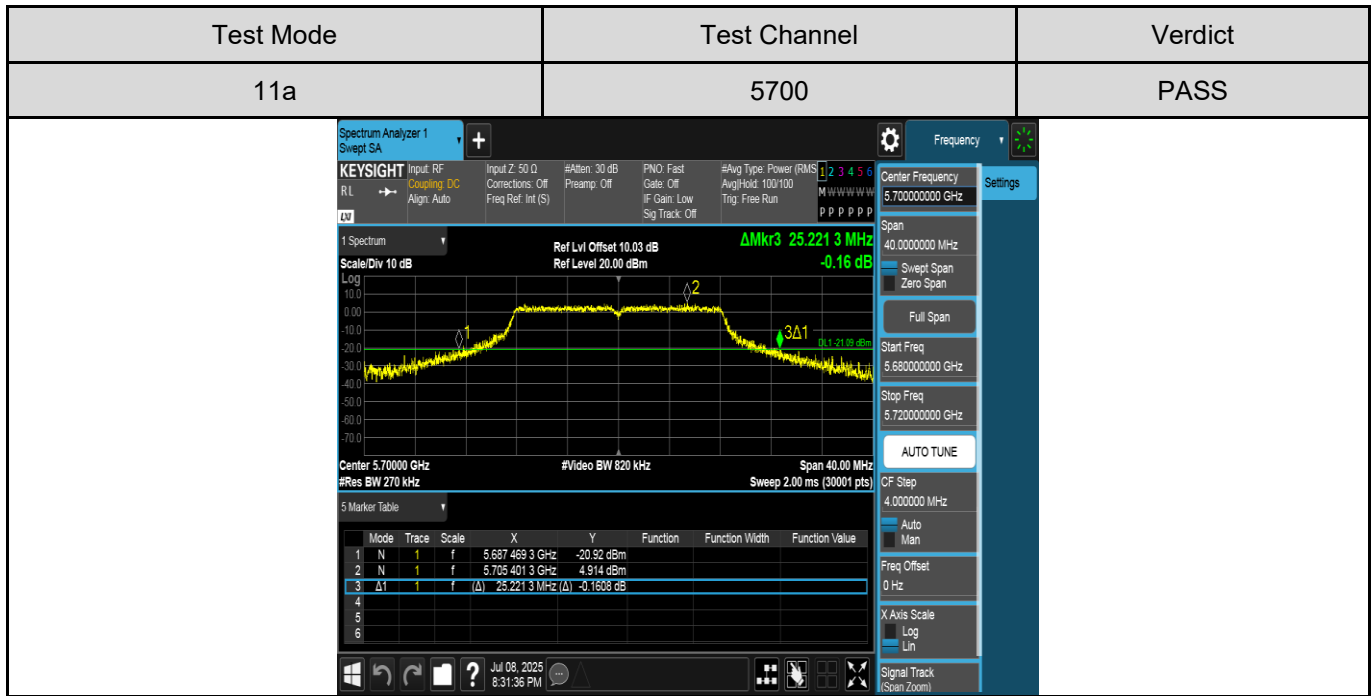
For 26 dB Emission Bandwidth Part:

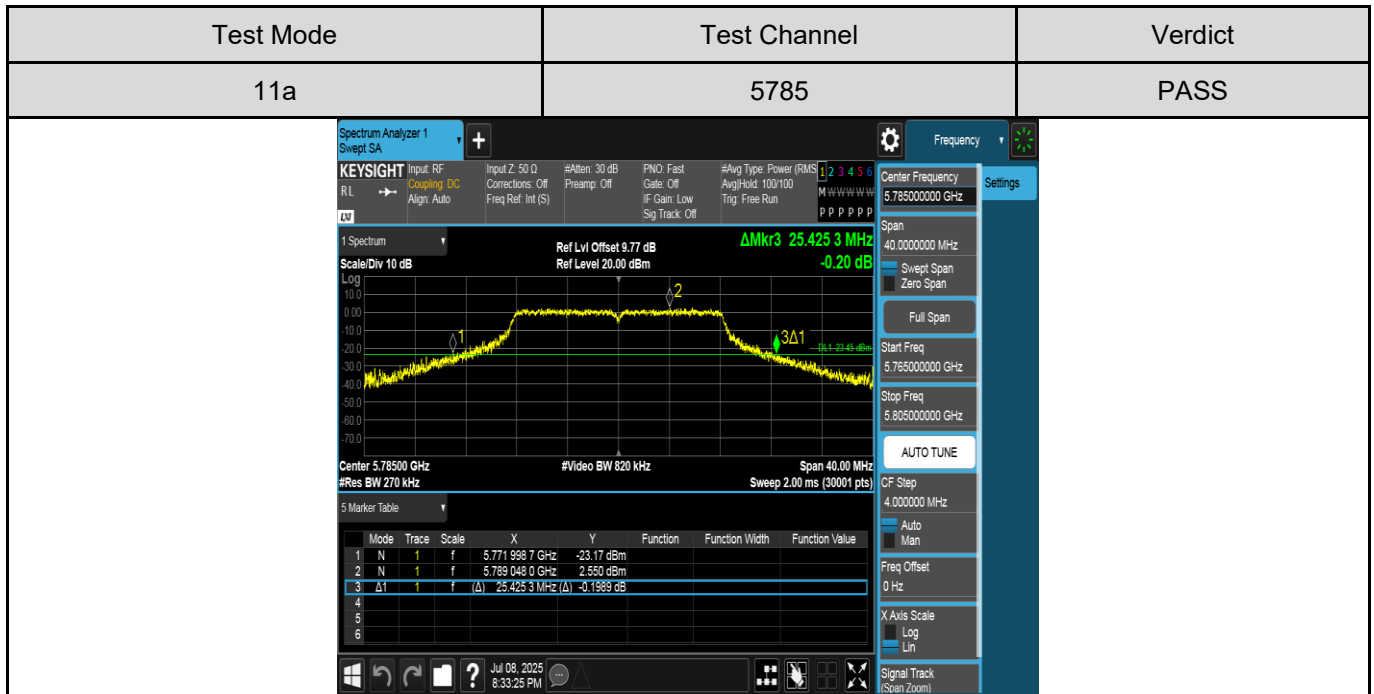
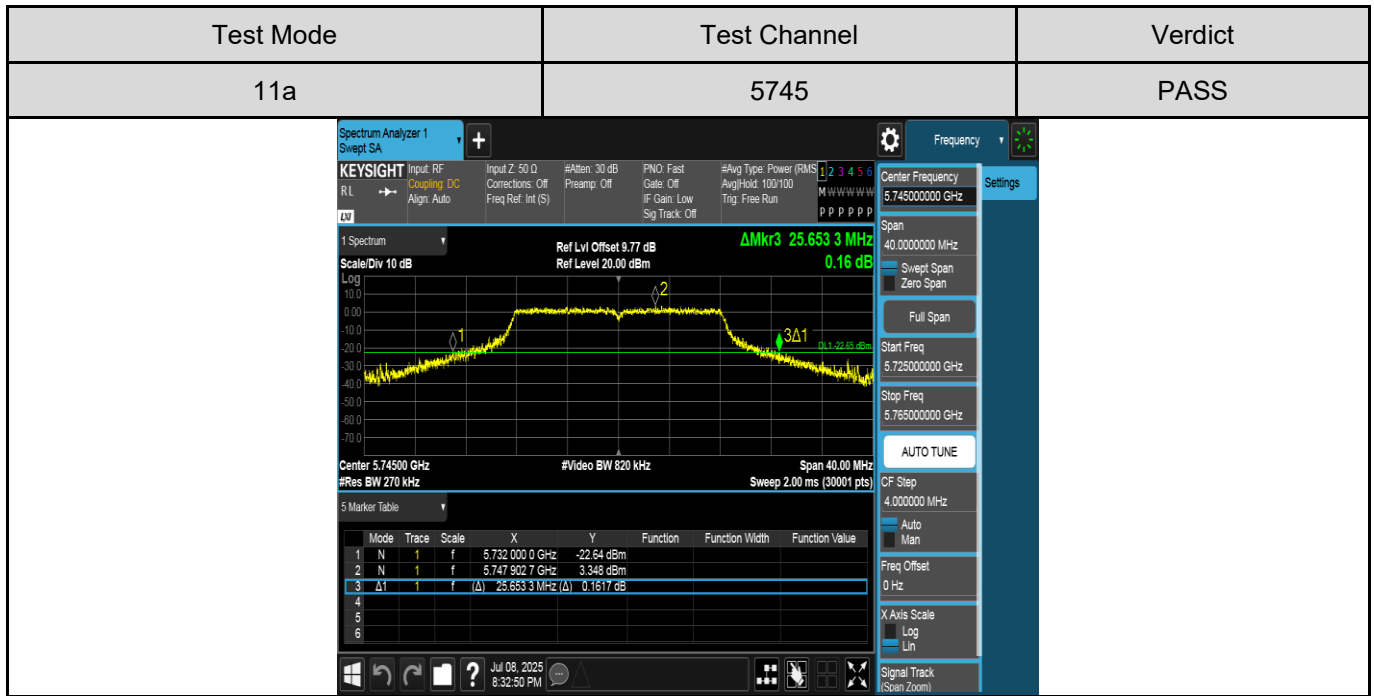












Test Mode	Test Channel	Verdict																																																															
11a	5825	PASS																																																															
Spectrum Analyzer 1 Sweep SA KEYSIGHT Input: RF Corrections: Off Align: Auto Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) #Atten: 30 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Avg/Hold: 100/100 Trig: Free Run 1 2 3 4 5 6 M WWWWW P P P P P P Center Frequency 5.825000000 GHz Span 40.00000000 MHz Sweep Span Zero Span Full Span Start Freq 5.805000000 GHz Stop Freq 5.845000000 GHz AUTO TUNE CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz X Axis Scale Log Lin Signal Track (Span Zoom) 1 Spectrum Ref Lvl Offset 9.86 dB Ref Level 20.00 dBm ΔMkr3 25.4493 MHz 0.05 dB Scale/Div 10 dB Log 10.0 0.00 -10.0 -20.0 -30.0 -40.0 -50.0 -60.0 -70.0 Center 5.82500 GHz #Video BW 820 kHz Span 40.00 MHz #Res BW 270 kHz Sweep 2.00 ms (30001 pts) 5 Marker Table <table><thead><tr><th></th><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>5.812144 GHz</td><td>-23.87 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>5.828913 GHz</td><td>2.117 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>f (Δ)</td><td>25.4493 MHz (Δ)</td><td>0.05322 dB</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> Jul 08, 2025 8:34:01 PM				Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	f	5.812144 GHz	-23.87 dBm				2	N	1	f	5.828913 GHz	2.117 dBm				3	Δ1	1	f (Δ)	25.4493 MHz (Δ)	0.05322 dB				4									5									6								
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Test Mode	Test Channel	Verdict																																																															
11ac VHT20	5180	PASS																																																															
Spectrum Analyzer 1 Sweep SA + KEYSIGHT Input: RF Corrections: Off Align: Auto Input: 2.50 Ω Freq Ref: Int (S) #Atten: 30 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Avg/Hold: 100/100 Trig: Free Run 1 2 3 4 5 6 M W W W W W P P P P P P Center Frequency 5.180000000 GHz Span 40.00000000 MHz Sweep Span Zero Span Full Span Start Freq 5.160000000 GHz Stop Freq 5.200000000 GHz AUTO TUNE CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz X Axis Scale Log Lin Signal Track (Span Zoom) 1 Spectrum Ref Lvl Offset 9.62 dB Ref Level 20.00 dBm ΔMkr3 25.652 0 MHz 0.01 dB Scale/Div 10 dB Log 10.0 0.00 -10.0 -20.0 -30.0 -40.0 -50.0 -60.0 -70.0 Center 5.18000 GHz #Video BW 820 kHz Span 40.00 MHz Sweep 2.00 ms (30001 pts) #Res BW 270 kHz 5 Marker Table <table><thead><tr><th></th><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>5.166988 0 GHz</td><td>-23.44 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>5.182117 3 GHz</td><td>2.560 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>f (Δ)</td><td>25.652 0 MHz (Δ)</td><td>0.007114 dB</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> Jul 06, 2025 8:34:35 PM				Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	f	5.166988 0 GHz	-23.44 dBm				2	N	1	f	5.182117 3 GHz	2.560 dBm				3	Δ1	1	f (Δ)	25.652 0 MHz (Δ)	0.007114 dB				4									5									6								
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