

RF TEST REPORT

For

Shenzhen Weituo Xin Electronics Technology Co., Ltd.

Product Name: Dash Cam

Test Model(s): N300

Report Reference No. : DACE260602002RF001

FCC ID : 2BWSH-N300

Applicant's Name : Shenzhen Weituo Xin Electronics Technology Co., Ltd.

Address : 4th Floor, Building B5, No. 189, Zhu'ao Third Industrial Zone, Gushu 1st Road, Bao'an District, Shenzhen, Guangdong Province

Testing Laboratory : Shenzhen DACE Testing Technology Co., Ltd.

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Test Specification Standard : 47 CFR Part 15E

Date of Receipt : June 2, 2026

Date of Test : June 2, 2026 to June 16, 2026

Date of Issue : June 16, 2026

Result : Pass

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Apply for company information

Applicant's Name	:	Shenzhen Weituo Xin Electronics Technology Co., Ltd.
Address	:	4th Floor, Building B5, No. 189, Zhu'ao Third Industrial Zone, Gushu 1st Road, Bao'an District, Shenzhen, Guangdong Province
Product Name	:	Dash Cam
Test Model(s)	:	N300
Series Model(s)	:	N300-4CH, N700-4CH, V60-4CH, N600-4CH, N500-4CH, N300pro-4CH, N700PRO-4CH, J600-4CH, N200-2CH, J30, J60
Test Specification Standard(s)	:	47 CFR Part 15E

NOTE1:

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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June 16, 2026

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June 16, 2026

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Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	DACE260602002RF001	June 16, 2026

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1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15E: Unlicensed National Information Infrastructure Devices

1.2 Summary of Test Result

Item	Standard	Method	Requirement	Result
Duty Cycle	47 CFR Part 15E	ANSI C63.10-2020 section 12.2 (b)	/	Pass
Emission bandwidth and occupied bandwidth	47 CFR Part 15E	ANSI C63.10-2020, section 6.9 & 12.5 KDB 789033 D02, Clause C.2	47 CFR Part 15.407(e)	Pass
Maximum conducted output power	47 CFR Part 15E	ANSI C63.10-2020, section 12.4	47 CFR Part 15.407(a)(3)(i)	Pass
Power spectral density	47 CFR Part 15E	ANSI C63.10-2020, section 12.6	47 CFR Part 15.407(a)(3)(i)	Pass
Frequency stability	47 CFR Part 15E	ANSI C63.10-2020, section 6.8	47 CFR Part 15.407(g)	Pass
Band edge emissions (Conducted)	47 CFR Part 15E	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass
Band edge emissions (Radiated)	47 CFR Part 15E	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass
Undesirable emission limits (below 1GHz)	47 CFR Part 15E	ANSI C63.10-2020, section 12.7.4, 12.7.5	47 CFR Part 15.407(b)(9)	Pass
Undesirable emission limits (above 1GHz)	47 CFR Part 15E	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name : Shenzhen WeituoXin Electronics Technology Co., Ltd.
Address : 4th Floor, Building B5, No. 189, Zhu'ao Third Industrial Zone, Gushu 1st Road, Bao'an District, Shenzhen, Guangdong Province

Manufacturer : Shenzhen WeituoXin Electronics Technology Co., Ltd.
Address : 4th Floor, Building B5, No. 189, Zhu'ao Third Industrial Zone, Gushu 1st Road, Bao'an District, Shenzhen, Guangdong Province

2.2 Description of Device (EUT)

Product Name:	Dash Cam
Model/Type reference:	N300
Series Model:	N300-4CH, N700-4CH, V60-4CH, N600-4CH, N500-4CH, N300pro-4CH, N700PRO-4CH, J600-4CH, N200-2CH, J30, J60
Model Difference:	All the model are the same circuit and RF module, only the model name and appearance color are different. Test sample model: N300
Trade Mark:	N/A
Power Supply:	DC 12V
Operation Frequency:	5725-5850MHz
Number of Channels:	IEEE 802.11a/n/ac/ax(20M): 5725MHz ~5850MHz/ 5 channel IEEE 802.11n/ac/ax(40M): 5725MHz ~5850MHz/ 2 channel
Modulation Type:	OFDM, OFDMA
Antenna Type:	FPC Antenna
Antenna Gain:	1.49dBi
Hardware Version:	V1.0
Software Version:	V1.0

2.3 Description of Test Modes

No	Title	Description
TM1	5.8GWIFI TX	Keep the EUT in TX mode
Test Environment		Normal Voltage(DC): 12V

2.4 Description of Support Units

Title	Manufacturer	Model No.	Serial No.
Battery	Camel	DC12V	/

2.5 Operation Frequency each of channel

CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
149	5745	151	5755	153	5765	155	5775
157	5785	159	5795	161	5805	163	5815
165	5825	/	/	/	/	/	/

Note: In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	802.11a/n/ac/ax20	802.11n/ac/ax40
	Frequency (MHz)	Frequency (MHz)
Lowest channel	5745MHz	5755MHz
Middle channel	5785MHz	/
Highest channel	5825MHz	5795MHz

2.6 Equipments Used During The Test

Power spectral density
Frequency stability
Band edge emissions (Conducted)
Duty Cycle
Emission bandwidth and occupied bandwidth
Maximum conducted output power

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Test Software	Tachoy Information Technology(she nzen) Co.,Ltd.	RTS-01	V1.0.0	/	/
RF Sensor Unit	Tachoy Information Technology(she nzen) Co.,Ltd.	TR1029-2	000001	/	/
Wideband radio communication tester	R&S	CMW500	113410	2026-04-14	2027-04-13
Vector Signal Generator	Keysight	N5181A	MY50143455	2025-12-02	2026-12-01
Signal Generator	Keysight	N5182A	MY48180415	2025-12-02	2026-12-01
Spectrum Analyzer	Keysight	N9020A	MY53420323	2025-12-02	2026-12-01

Undesirable emission limits (below 1GHz)
Undesirable emission limits (above 1GHz)
Band edge emissions (Radiated)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test software	Farad	EZ -EMC	V1.1.42	/	/
Positioning Controller	MF	MF-7802	/	/	/
Amplifier(18-40G)	COM-POWER	AH-1840	10100008-1	2024-04-26	2027-04-25
Horn antenna	COM-POWER	AH-1840 (18-40G)	10100008	2024-04-26	2027-04-25
Loop antenna	ZHINAN	ZN30900C	ZN30900C	2026-04-14	2027-04-13
Cable(LF)#2	Schwarzbeck	/	/	2026-04-13	2027-04-12
Cable(LF)#1	Schwarzbeck	/	/	2026-04-14	2027-04-13
Cable(HF)#2	Schwarzbeck	AK9515E	96250	2026-04-14	2027-04-13
Cable(HF)#1	Schwarzbeck	SYV-50-3-1	/	2026-04-14	2027-04-13
Power amplifier(LF)	Schwarzbeck	BBV9743	9743-151	2026-04-14	2027-04-13
Power amplifier(HF)	Schwarzbeck	BBV9718	9718-282	2026-04-14	2027-04-13
Wideband radio communication tester	R&S	CMW500	113410	2026-04-14	2027-04-13
Spectrum Analyzer	R&S	FSP30	1321.3008K40-101729-jR	2026-04-14	2027-04-13
Test Receiver	R&S	ESCI 3	1166.5950K03-101431-Jq	2026-04-14	2027-04-13
Horn Antenna	Sunol Sciences	DRH-118	A091114	2026-04-14	2027-04-13
Broadband Antenna	Sunol Sciences	JB6 Antenna	A090414	2026-04-29	2028-04-28

2.7 Statement Of The Measurement Uncertainty

Test Item	Measurement Uncertainty
Duty cycle	$\pm 3.1\%$
Occupied Bandwidth	$\pm 3.63\%$
RF conducted power	$\pm 0.733\text{dB}$
RF power density	$\pm 0.234\%$
Conducted Spurious emissions	$\pm 1.98\text{dB}$
Radiated Emission (Above 1GHz)	$\pm 5.46\text{dB}$
Radiated Emission (Below 1GHz)	$\pm 5.79\text{dB}$
Note: (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3 Radio Spectrum Matter Test Results (RF)

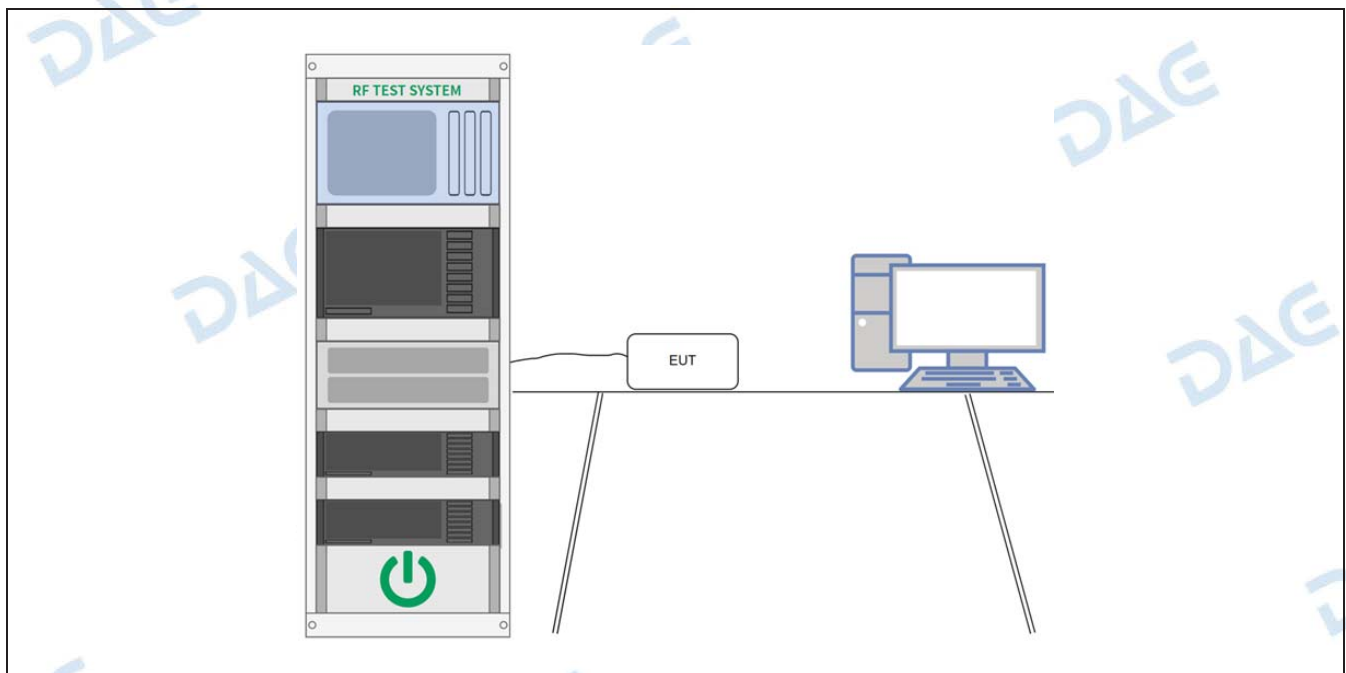
3.1 Duty Cycle

Test Requirement:	All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, T, are required for each tested mode of operation.
Test Limit:	No limits, only for report use.
Test Method:	ANSI C63.10-2020 section 12.2 (b)
Procedure:	i) Set the center frequency of the instrument to the center frequency of the transmission. ii) Set RBW $\geq$ EBW if possible; otherwise, set RBW to the largest available value. iii) Set VBW $\geq$ RBW. iv) Set detector = peak. v) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$, where T is defined in item a1) of 12.2, and the number of sweep points across duration T exceeds 100.

3.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.8 °C	Humidity:	53 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

3.1.2 Test Setup Diagram:



3.1.3 Test Data:

Please Refer to Appendix for Details.

3.2 Emission bandwidth and occupied bandwidth

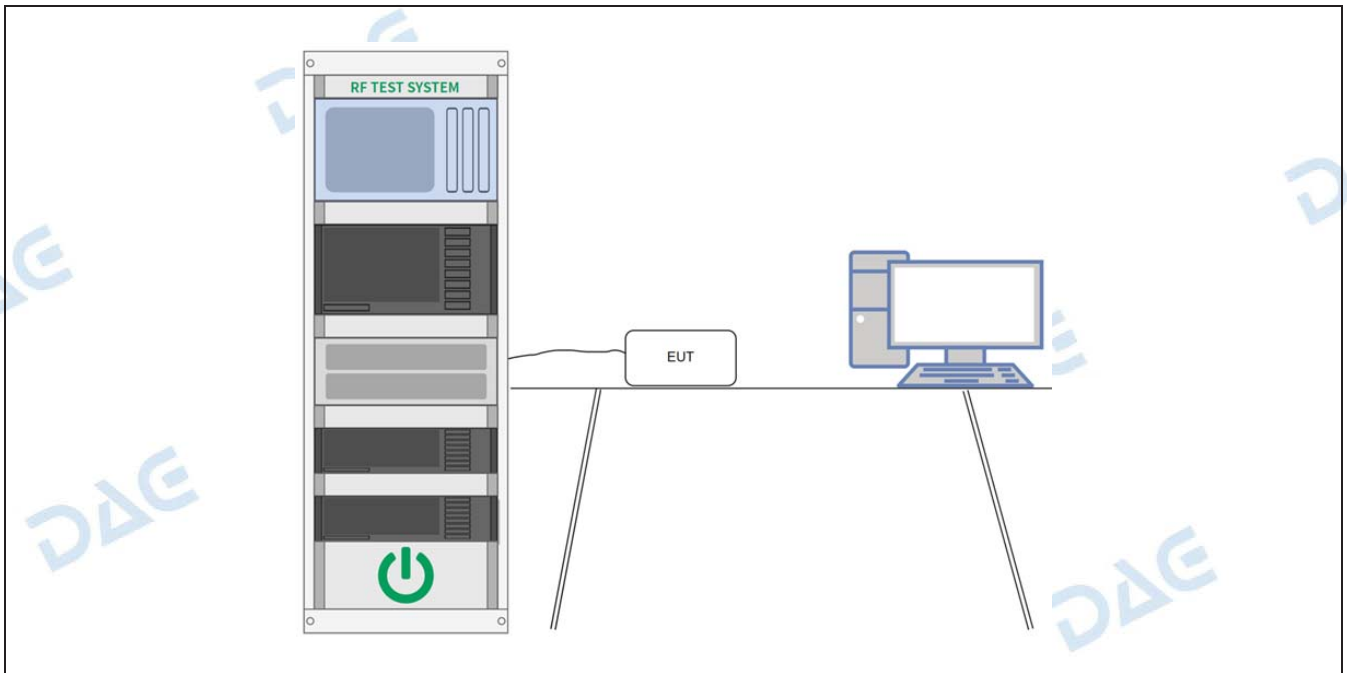
Test Requirement:	U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Limit:	U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method:	ANSI C63.10-2020, section 6.9 & 12.5 KDB 789033 D02, Clause C.2
Procedure:	Occupied bandwidth: a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2. d) Step a) through step c) might require iteration to adjust within the specified range. e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used. f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth. g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies. h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s). 6 dB emission bandwidth: a) Set RBW = 100 kHz. b) Set the video bandwidth (VBW) $\geq 3 \times RBW$. c) Detector = Peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the

frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

3.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.5 °C	Humidity:	52 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

3.2.2 Test Setup Diagram:



3.2.3 Test Data:

Please Refer to Appendix for Details.

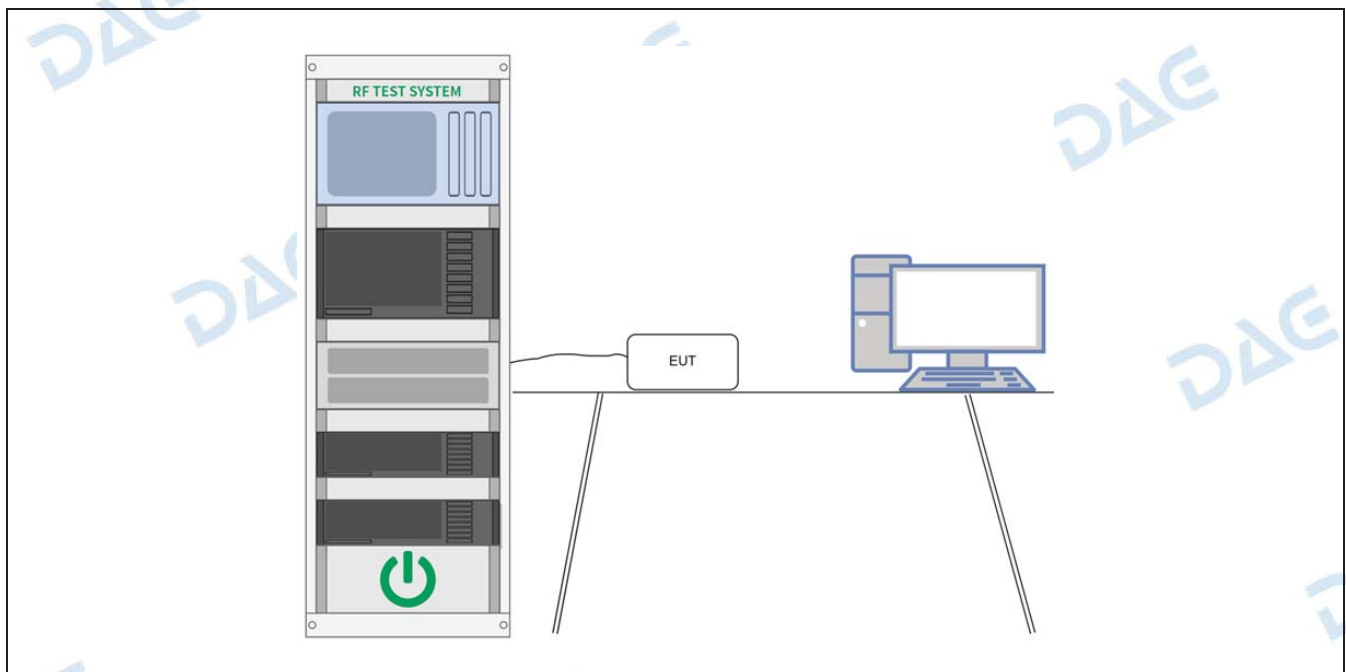
3.3 Maximum conducted output power

Test Requirement:	47 CFR Part 15.407(a)(3)(i)
Test Limit:	For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2020, section 12.4
Procedure:	Refer to ANSI C63.10-2020 section 12.4

3.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	51 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

3.3.2 Test Setup Diagram:



3.3.3 Test Data:

Please Refer to Appendix for Details.

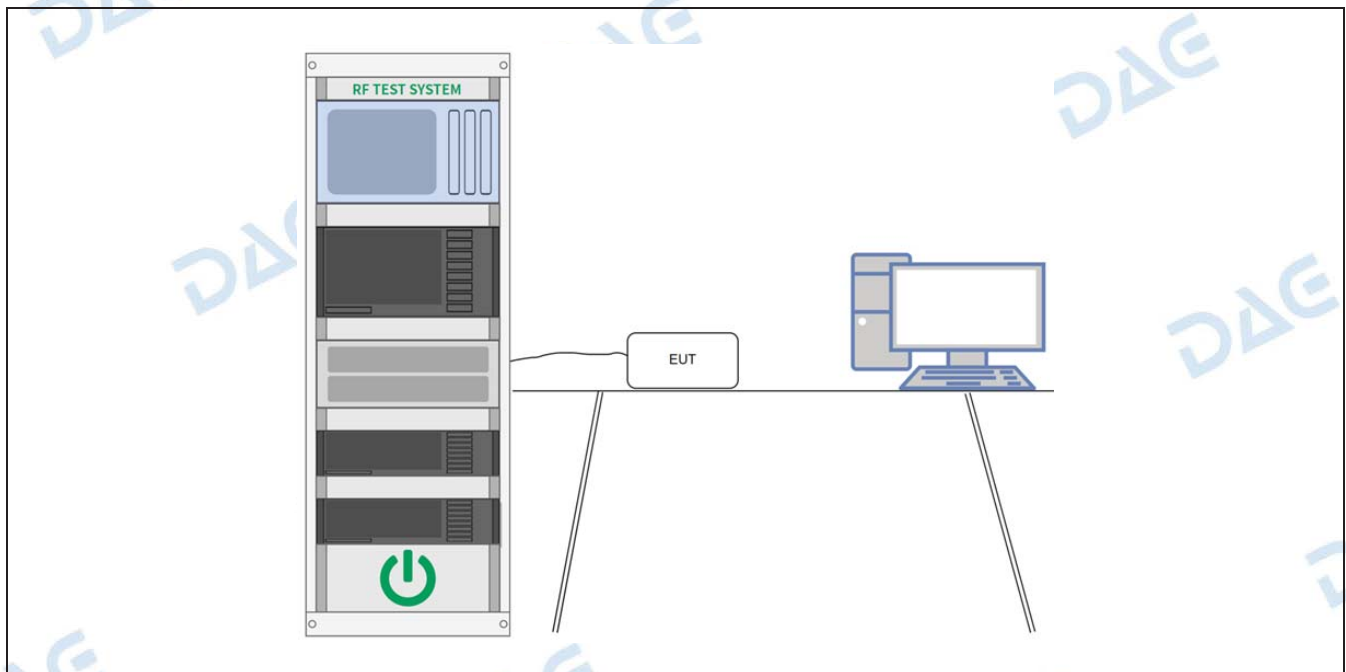
3.4 Power spectral density

Test Requirement:	47 CFR Part 15.407(a)(3)(i)
Test Limit:	For the band 5.725-5.850 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2020, section 12.6
Procedure:	Refer to ANSI C63.10-2020, section 12.6

3.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.2 °C	Humidity:	50 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

3.4.2 Test Setup Diagram:



3.4.3 Test Data:

Please Refer to Appendix for Details.

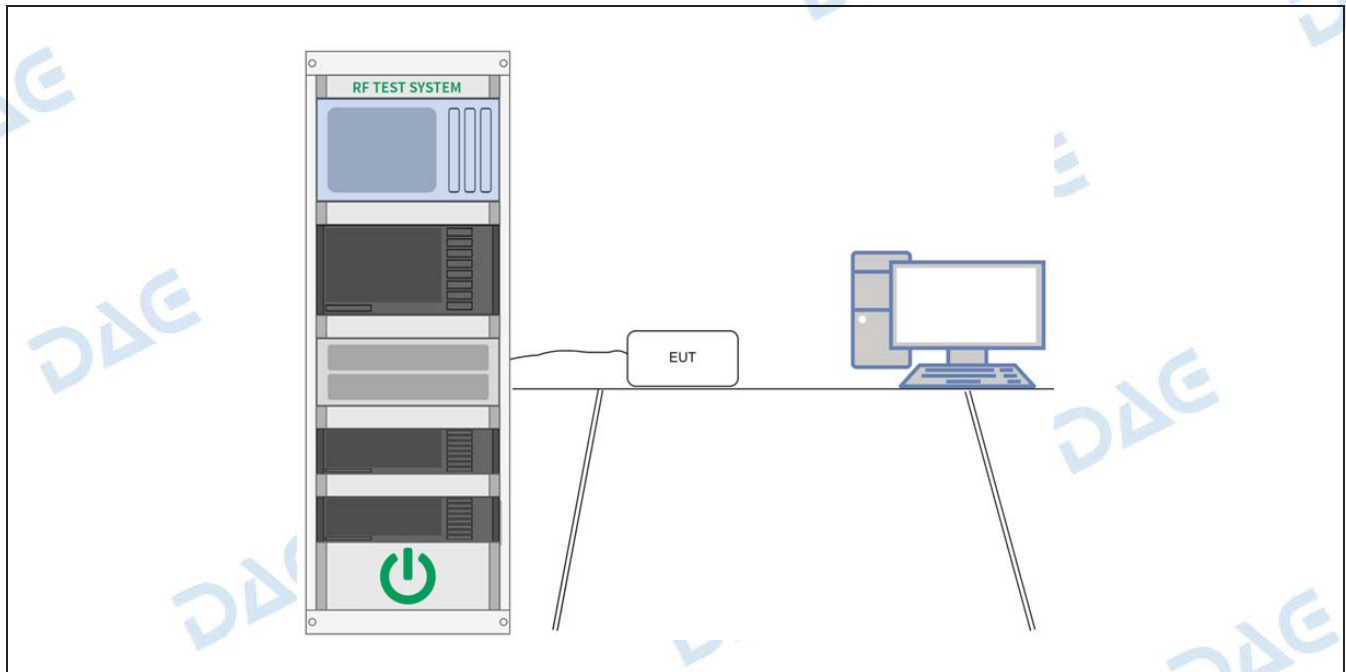
3.5 Frequency stability

Test Requirement:	47 CFR Part 15.407(g)
Test Limit:	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.
Test Method:	ANSI C63.10-2020, section 6.8
Procedure:	Refer to ANSI C63.10-2020 section 6.8

3.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.5 °C	Humidity:	47 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

3.5.2 Test Setup Diagram:



3.5.3 Test Data:

Please Refer to Appendix for Details.

3.6 Band edge emissions (Conducted)

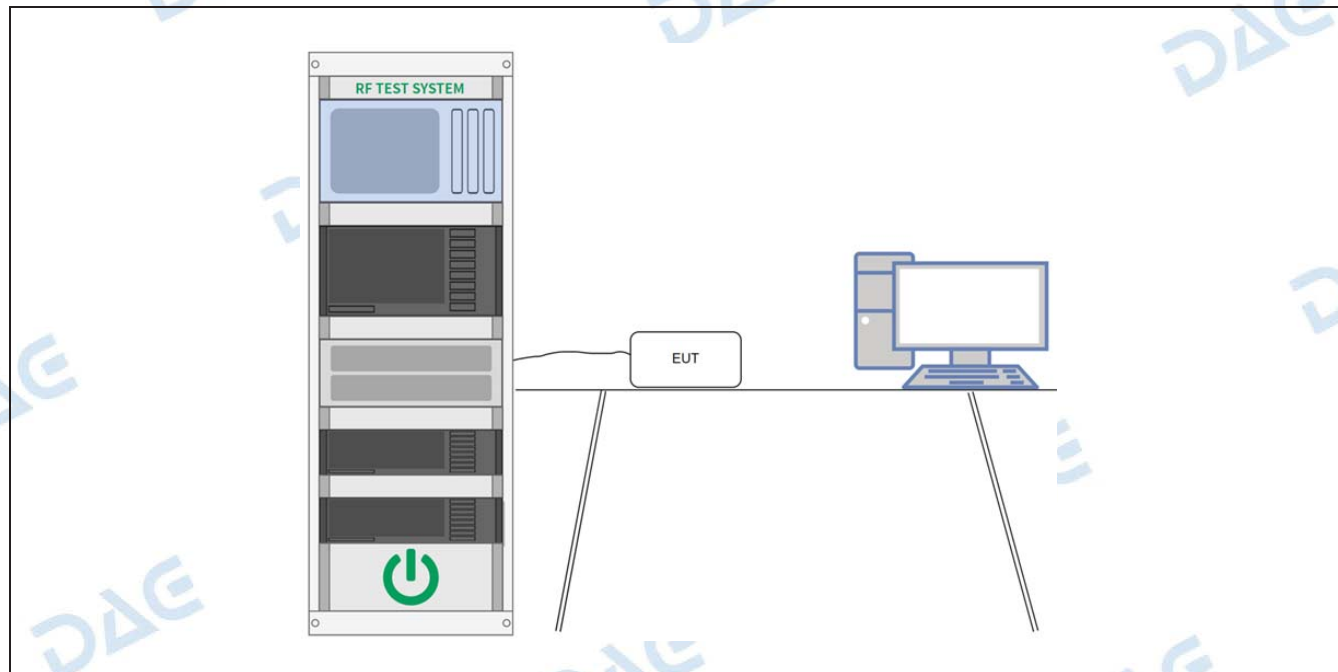
Test Requirement:	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)																																																																																	
Test Limit:	For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. <table><tr><th>MHz</th><th>MHz</th><th>MHz</th><th>GHz</th></tr><tr><td>0.090-0.110</td><td>16.42-16.423</td><td>399.9-410</td><td>4.5-5.15</td></tr><tr><td>¹ 0.495-0.505</td><td>16.69475-16.69525</td><td>608-614</td><td>5.35-5.46</td></tr><tr><td>2.1735-2.1905</td><td>16.80425-16.80475</td><td>960-1240</td><td>7.25-7.75</td></tr><tr><td>4.125-4.128</td><td>25.5-25.67</td><td>1300-1427</td><td>8.025-8.5</td></tr><tr><td>4.17725-4.17775</td><td>37.5-38.25</td><td>1435-1626.5</td><td>9.0-9.2</td></tr><tr><td>4.20725-4.20775</td><td>73-74.6</td><td>1645.5-1646.5</td><td>9.3-9.5</td></tr><tr><td>6.215-6.218</td><td>74.8-75.2</td><td>1660-1710</td><td>10.6-12.7</td></tr><tr><td>6.26775-6.26825</td><td>108-121.94</td><td>1718.8-1722.2</td><td>13.25-13.4</td></tr><tr><td>6.31175-6.31225</td><td>123-138</td><td>2200-2300</td><td>14.47-14.5</td></tr><tr><td>8.291-8.294</td><td>149.9-150.05</td><td>2310-2390</td><td>15.35-16.2</td></tr><tr><td>8.362-8.366</td><td>156.52475-156.52525</td><td>2483.5-2500</td><td>17.7-21.4</td></tr><tr><td>8.37625-8.38675</td><td>156.7-156.9</td><td>2690-2900</td><td>22.01-23.12</td></tr><tr><td>8.41425-8.41475</td><td>162.0125-167.17</td><td>3260-3267</td><td>23.6-24.0</td></tr><tr><td>12.29-12.293</td><td>167.72-173.2</td><td>3332-3339</td><td>31.2-31.8</td></tr><tr><td>12.51975-12.52025</td><td>240-285</td><td>3345.8-3358</td><td>36.43-36.5</td></tr><tr><td>12.57675-12.57725</td><td>322-335.4</td><td>3600-4400</td><td>(²)</td></tr><tr><td>13.36-13.41</td><td></td><td></td><td></td></tr></table> ¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6 The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table: <table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr></table>				MHz	MHz	MHz	GHz	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15	¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2	4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7	6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4	6.31175-6.31225	123-138	2200-2300	14.47-14.5	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2	8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5	12.57675-12.57725	322-335.4	3600-4400	(²)	13.36-13.41				Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300
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	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a 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.			
Test Method:	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7		
Procedure:	Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.		

3.6.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.1 °C	Humidity:	50 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

3.6.2 Test Setup Diagram:



3.6.3 Test Data:

Please Refer to Appendix for Details.

3.7 Band edge emissions (Radiated)

Test Requirement:	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)																																																																																	
Test Limit:	For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. <table><tr><th>MHz</th><th>MHz</th><th>MHz</th><th>GHz</th></tr><tr><td>0.090-0.110</td><td>16.42-16.423</td><td>399.9-410</td><td>4.5-5.15</td></tr><tr><td>¹ 0.495-0.505</td><td>16.69475-16.69525</td><td>608-614</td><td>5.35-5.46</td></tr><tr><td>2.1735-2.1905</td><td>16.80425-16.80475</td><td>960-1240</td><td>7.25-7.75</td></tr><tr><td>4.125-4.128</td><td>25.5-25.67</td><td>1300-1427</td><td>8.025-8.5</td></tr><tr><td>4.17725-4.17775</td><td>37.5-38.25</td><td>1435-1626.5</td><td>9.0-9.2</td></tr><tr><td>4.20725-4.20775</td><td>73-74.6</td><td>1645.5-1646.5</td><td>9.3-9.5</td></tr><tr><td>6.215-6.218</td><td>74.8-75.2</td><td>1660-1710</td><td>10.6-12.7</td></tr><tr><td>6.26775-6.26825</td><td>108-121.94</td><td>1718.8-1722.2</td><td>13.25-13.4</td></tr><tr><td>6.31175-6.31225</td><td>123-138</td><td>2200-2300</td><td>14.47-14.5</td></tr><tr><td>8.291-8.294</td><td>149.9-150.05</td><td>2310-2390</td><td>15.35-16.2</td></tr><tr><td>8.362-8.366</td><td>156.52475-156.52525</td><td>2483.5-2500</td><td>17.7-21.4</td></tr><tr><td>8.37625-8.38675</td><td>156.7-156.9</td><td>2690-2900</td><td>22.01-23.12</td></tr><tr><td>8.41425-8.41475</td><td>162.0125-167.17</td><td>3260-3267</td><td>23.6-24.0</td></tr><tr><td>12.29-12.293</td><td>167.72-173.2</td><td>3332-3339</td><td>31.2-31.8</td></tr><tr><td>12.51975-12.52025</td><td>240-285</td><td>3345.8-3358</td><td>36.43-36.5</td></tr><tr><td>12.57675-12.57725</td><td>322-335.4</td><td>3600-4400</td><td>(²)</td></tr><tr><td>13.36-13.41</td><td></td><td></td><td></td></tr></table> ¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6 The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table: <table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr></table>				MHz	MHz	MHz	GHz	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15	¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2	4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7	6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4	6.31175-6.31225	123-138	2200-2300	14.47-14.5	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2	8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5	12.57675-12.57725	322-335.4	3600-4400	(²)	13.36-13.41				Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300
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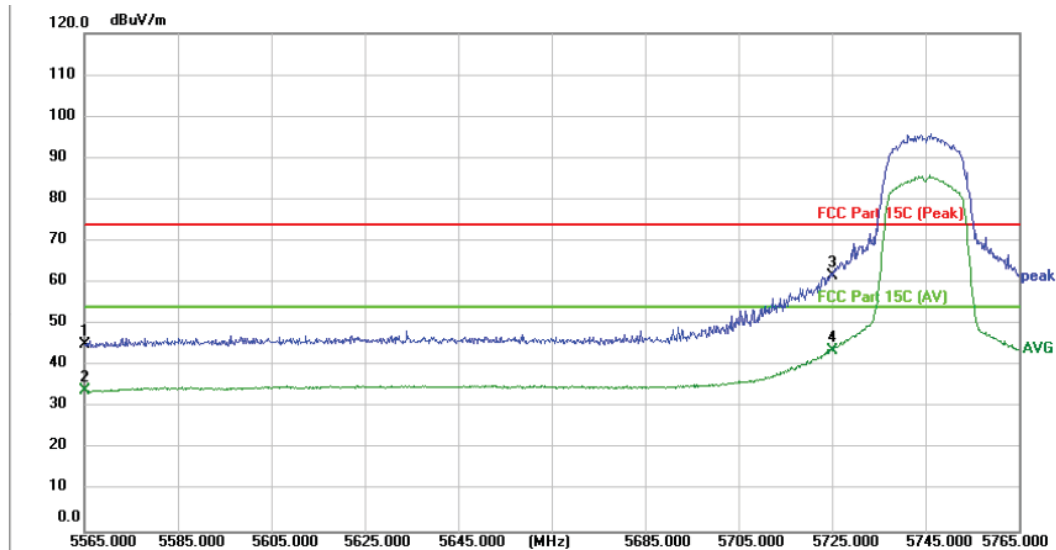
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a 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.			
Test Method:	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7		
Procedure:	Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.		

3.7.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.5 °C	Humidity:	48 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

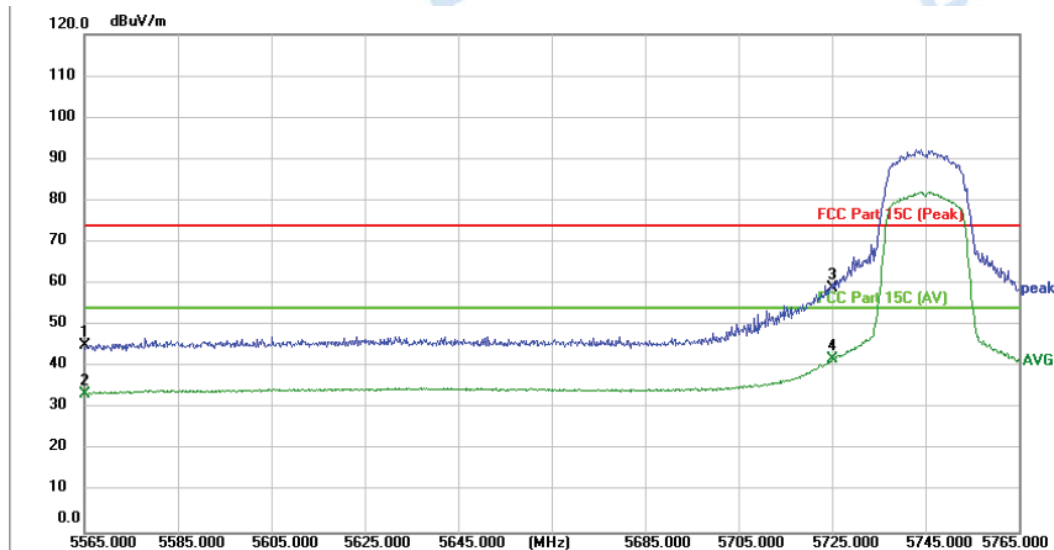
3.7.2 Test Data:

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



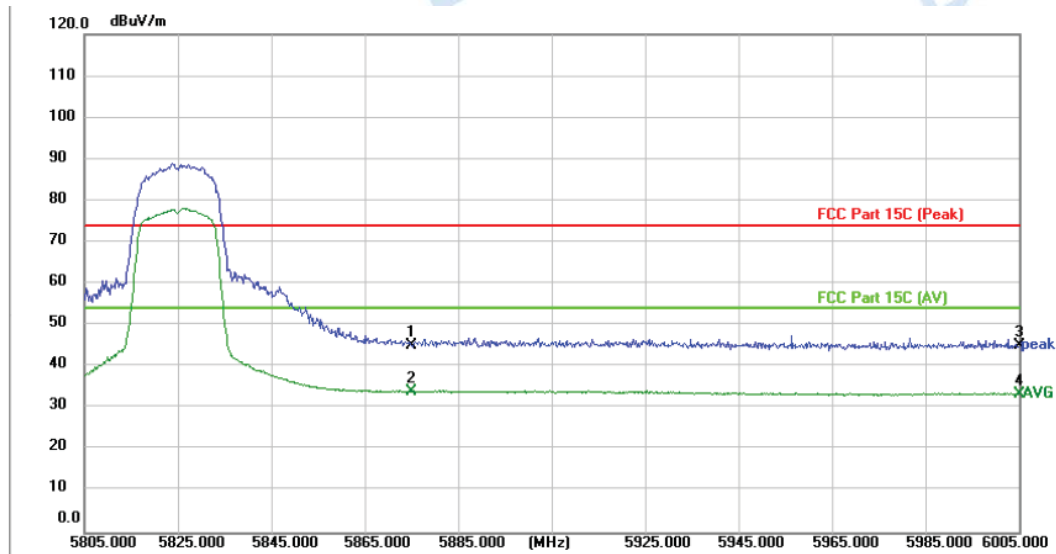
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		P/F	Remark
1	5565.000	44.01	1.00	45.01	74.00	-28.99	peak		P	
2	5565.000	32.97	1.00	33.97	54.00	-20.03	AVG		P	
3	5725.000	60.59	1.17	61.76	74.00	-12.24	peak		P	
4 *	5725.000	42.56	1.17	43.73	54.00	-10.27	AVG		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



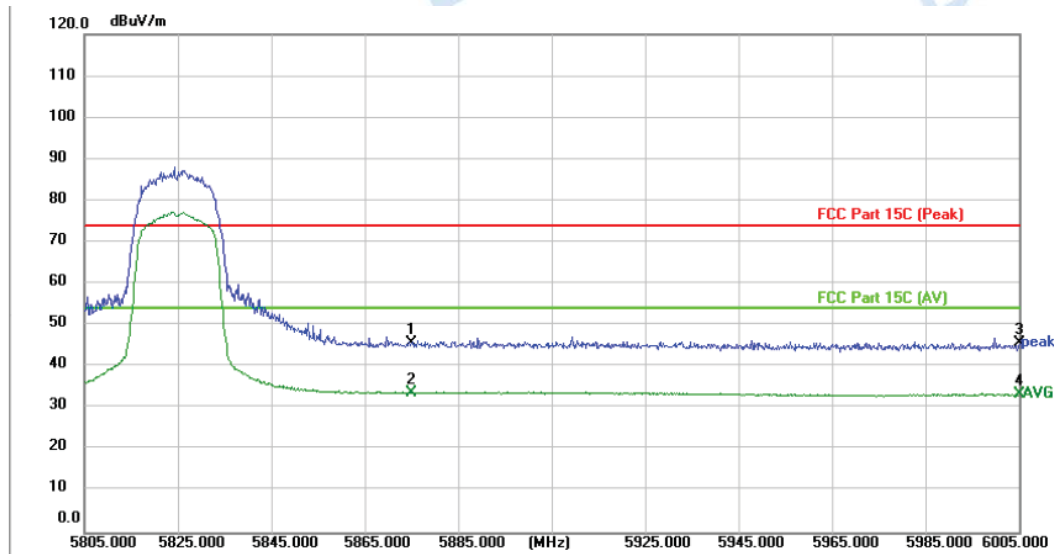
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		P/F	Remark
1	5565.000	44.02	1.00	45.02	74.00	-28.98	peak		P	
2	5565.000	32.55	1.00	33.55	54.00	-20.45	AVG		P	
3	5725.000	57.83	1.17	59.00	74.00	-15.00	peak		P	
4 *	5725.000	40.58	1.17	41.75	54.00	-12.25	AVG		P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	5875.000	43.69	1.35	45.04	74.00	-28.96	peak			P	
2 *	5875.000	32.79	1.35	34.14	54.00	-19.86	AVG			P	
3	6005.000	43.66	1.50	45.16	74.00	-28.84	peak			P	
4	6005.000	31.96	1.50	33.46	54.00	-20.54	AVG			P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	5875.000	44.29	1.35	45.64	74.00	-28.36	peak			P	
2 *	5875.000	32.39	1.35	33.74	54.00	-20.26	AVG			P	
3	6005.000	44.16	1.50	45.66	74.00	-28.34	peak			P	
4	6005.000	31.99	1.50	33.49	54.00	-20.51	AVG			P	

Remark: Margin=Level - Limit, Level=Test receiver reading + correction factor

All modes have been tested, and the test results show that a-mode data is the worst, only a-mode test chart is put. Test Mode: 802.11a20 low channel (the worst)

3.8 Undesirable emission limits (below 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(9)																									
Test Limit:	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table: <table> <tr> <th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr> <tr> <td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr> <tr> <td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr> <tr> <td>1.705-30.0</td><td>30</td><td>30</td></tr> <tr> <td>30-88</td><td>100 **</td><td>3</td></tr> <tr> <td>88-216</td><td>150 **</td><td>3</td></tr> <tr> <td>216-960</td><td>200 **</td><td>3</td></tr> <tr> <td>Above 960</td><td>500</td><td>3</td></tr> </table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a 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.		Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100 **	3	88-216	150 **	3	216-960	200 **	3	Above 960	500	3
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																								
0.009-0.490	2400/F(kHz)	300																								
0.490-1.705	24000/F(kHz)	30																								
1.705-30.0	30	30																								
30-88	100 **	3																								
88-216	150 **	3																								
216-960	200 **	3																								
Above 960	500	3																								
Test Method:	ANSI C63.10-2020, section 12.7.4, 12.7.5																									
Procedure:	Below 1GHz: - For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. - The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. - The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. - For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. - The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. - If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet. - Test the EUT in the lowest channel, the middle channel, the Highest channel. - The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. - Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor																									

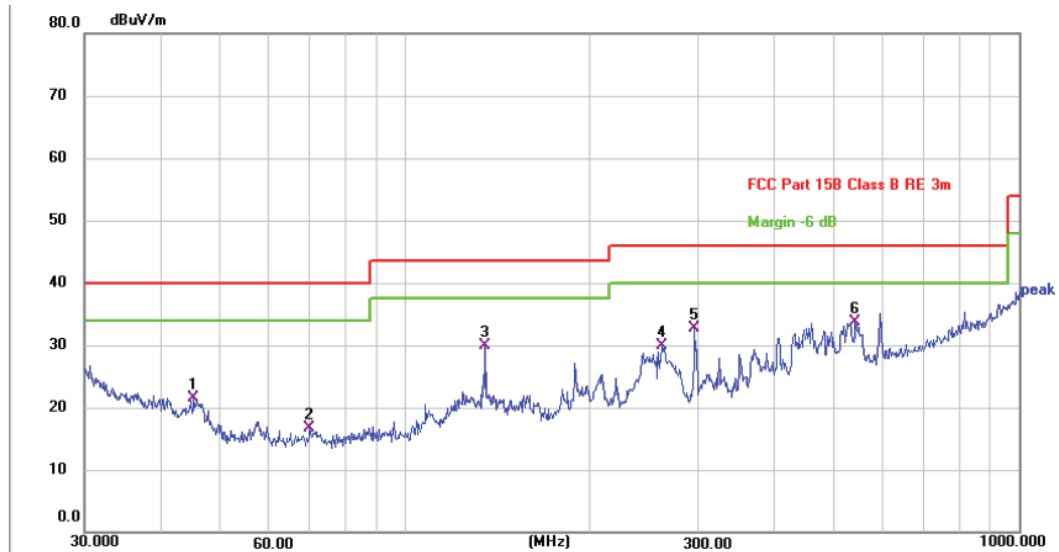
	2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
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3.8.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.3 °C	Humidity:	49 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

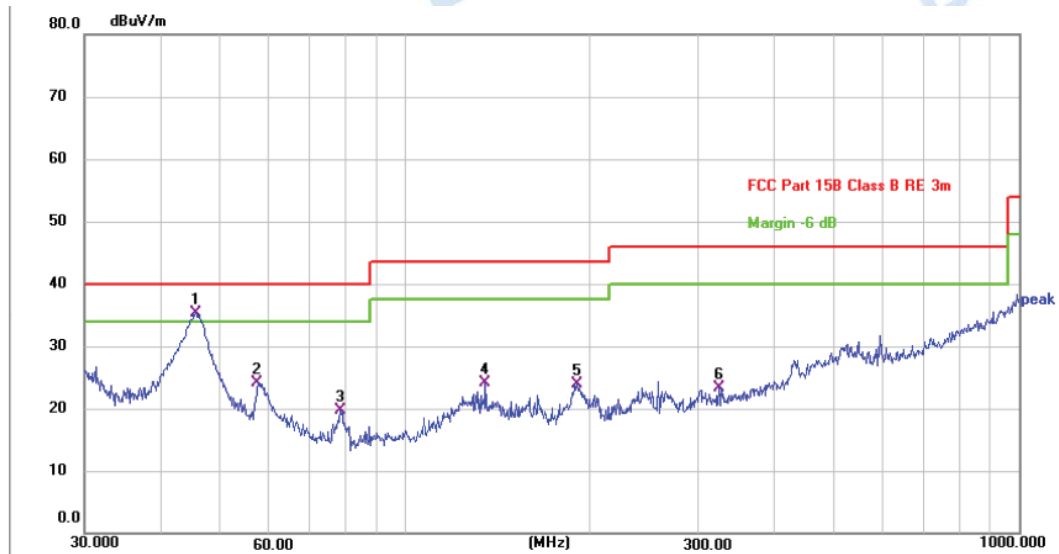
3.8.2 Test Data:

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		P/F	Remark
1	45.2166	28.34	-6.84	21.50	40.00	-18.50	QP		P	
2	69.8450	25.67	-9.00	16.67	40.00	-23.33	QP		P	
3	135.0319	32.82	-2.92	29.90	43.50	-13.60	QP		P	
4	261.9753	33.82	-3.85	29.97	46.00	-16.03	QP		P	
5	296.1836	35.49	-2.76	32.73	46.00	-13.27	QP		P	
6 *	541.3725	30.17	3.53	33.70	46.00	-12.30	QP		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1 *	45.5348	42.29	-7.03	35.26	40.00	-4.74	QP			P	
2	57.5939	32.59	-8.51	24.08	40.00	-15.92	QP			P	
3	78.4133	29.16	-9.40	19.76	40.00	-20.24	QP			P	
4	135.0319	27.00	-2.92	24.08	43.50	-19.42	QP			P	
5	190.4050	27.87	-3.90	23.97	43.50	-19.53	QP			P	
6	324.4561	25.20	-1.92	23.28	46.00	-22.72	QP			P	

Remark: Margin=Level - Limit, Level=Test receiver reading + correction factor

All modes have been tested, and the test results show that a-mode data is the worst, only a-mode test chart is put. Test Mode: 802.11a20 low channel (the worst)

3.9 Undesirable emission limits (above 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)																																																																																	
Test Limit:	For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. <table><tr><th>MHz</th><th>MHz</th><th>MHz</th><th>GHz</th></tr><tr><td>0.090-0.110</td><td>16.42-16.423</td><td>399.9-410</td><td>4.5-5.15</td></tr><tr><td>¹ 0.495-0.505</td><td>16.69475-16.69525</td><td>608-614</td><td>5.35-5.46</td></tr><tr><td>2.1735-2.1905</td><td>16.80425-16.80475</td><td>960-1240</td><td>7.25-7.75</td></tr><tr><td>4.125-4.128</td><td>25.5-25.67</td><td>1300-1427</td><td>8.025-8.5</td></tr><tr><td>4.17725-4.17775</td><td>37.5-38.25</td><td>1435-1626.5</td><td>9.0-9.2</td></tr><tr><td>4.20725-4.20775</td><td>73-74.6</td><td>1645.5-1646.5</td><td>9.3-9.5</td></tr><tr><td>6.215-6.218</td><td>74.8-75.2</td><td>1660-1710</td><td>10.6-12.7</td></tr><tr><td>6.26775-6.26825</td><td>108-121.94</td><td>1718.8-1722.2</td><td>13.25-13.4</td></tr><tr><td>6.31175-6.31225</td><td>123-138</td><td>2200-2300</td><td>14.47-14.5</td></tr><tr><td>8.291-8.294</td><td>149.9-150.05</td><td>2310-2390</td><td>15.35-16.2</td></tr><tr><td>8.362-8.366</td><td>156.52475-156.52525</td><td>2483.5-2500</td><td>17.7-21.4</td></tr><tr><td>8.37625-8.38675</td><td>156.7-156.9</td><td>2690-2900</td><td>22.01-23.12</td></tr><tr><td>8.41425-8.41475</td><td>162.0125-167.17</td><td>3260-3267</td><td>23.6-24.0</td></tr><tr><td>12.29-12.293</td><td>167.72-173.2</td><td>3332-3339</td><td>31.2-31.8</td></tr><tr><td>12.51975-12.52025</td><td>240-285</td><td>3345.8-3358</td><td>36.43-36.5</td></tr><tr><td>12.57675-12.57725</td><td>322-335.4</td><td>3600-4400</td><td>(²)</td></tr><tr><td>13.36-13.41</td><td></td><td></td><td></td></tr></table> ¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6 The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table: <table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr></table>				MHz	MHz	MHz	GHz	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15	¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2	4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7	6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4	6.31175-6.31225	123-138	2200-2300	14.47-14.5	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2	8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5	12.57675-12.57725	322-335.4	3600-4400	(²)	13.36-13.41				Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300
MHz	MHz	MHz	GHz																																																																															
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15																																																																															
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46																																																																															
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75																																																																															
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5																																																																															
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2																																																																															
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5																																																																															
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7																																																																															
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4																																																																															
6.31175-6.31225	123-138	2200-2300	14.47-14.5																																																																															
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2																																																																															
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4																																																																															
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12																																																																															
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0																																																																															
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8																																																																															
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5																																																																															
12.57675-12.57725	322-335.4	3600-4400	(²)																																																																															
13.36-13.41																																																																																		
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																																																																																
0.009-0.490	2400/F(kHz)	300																																																																																

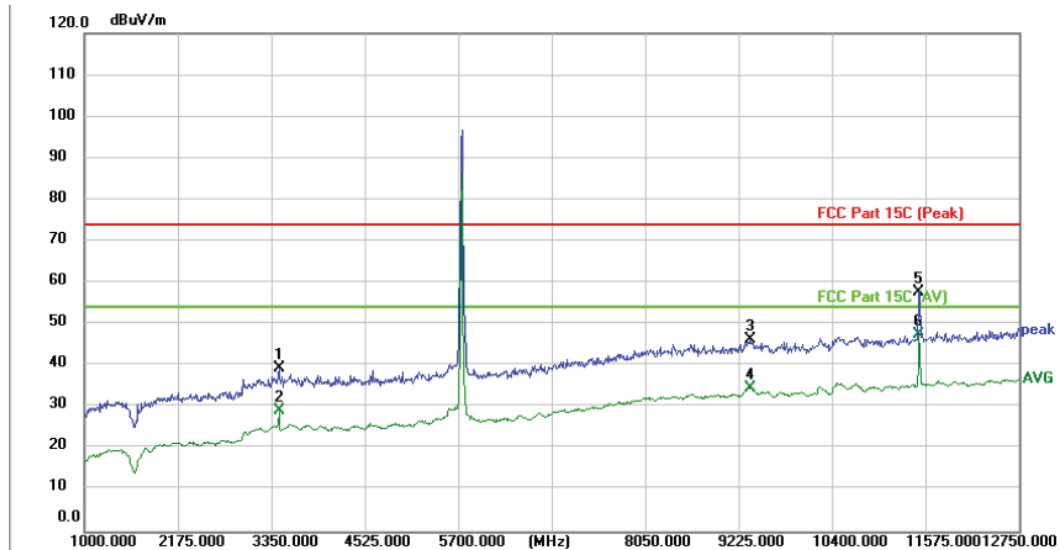
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a 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.			
Test Method:	ANSI C63.10-2020, section 12.7.4, 12.7.6, 12.7.7		
Procedure:	Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.		

3.9.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.1 °C	Humidity:	52 %	Atmospheric Pressure:	101.1 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

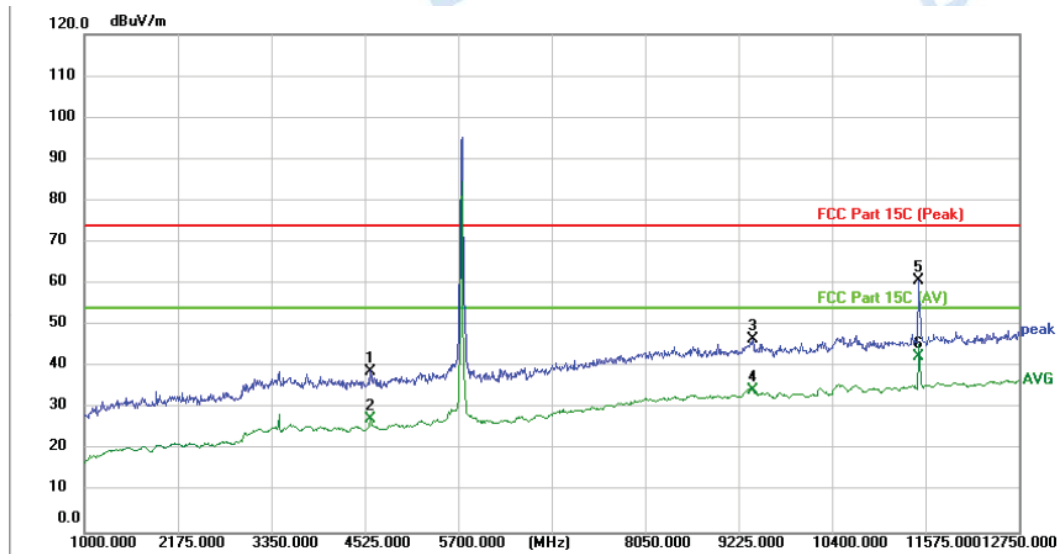
3.9.2 Test Data:

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



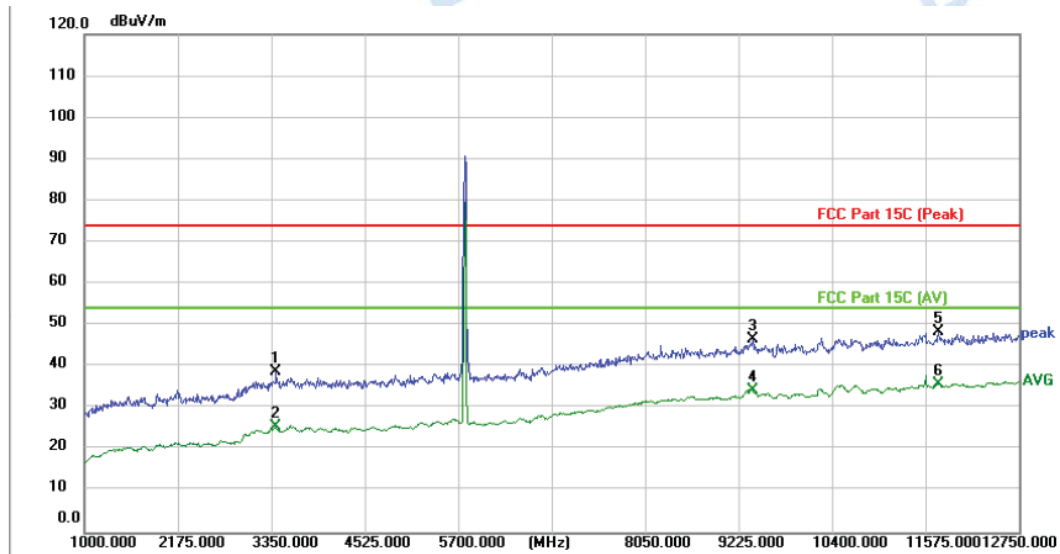
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		P/F	Remark
1	3444.000	43.32	-3.78	39.54	74.00	-34.46	peak		P	
2	3444.000	32.92	-3.78	29.14	54.00	-24.86	AVG		P	
3	9366.000	38.21	8.15	46.36	74.00	-27.64	peak		P	
4	9366.000	26.50	8.15	34.65	54.00	-19.35	AVG		P	
5	11492.750	48.21	9.66	57.87	74.00	-16.13	peak		P	
6 *	11492.750	37.83	9.66	47.49	54.00	-6.51	AVG		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



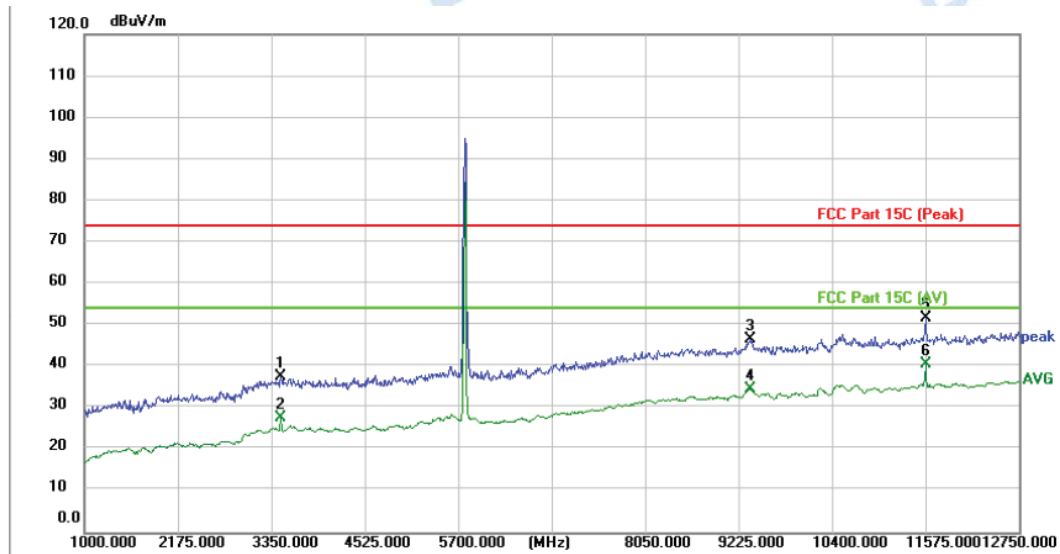
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	4595.500	40.42	-1.42	39.00	74.00	-35.00	peak			P	
2	4595.500	28.95	-1.42	27.53	54.00	-26.47	AVG			P	
3	9401.250	38.58	8.14	46.72	74.00	-27.28	peak			P	
4	9401.250	26.18	8.14	34.32	54.00	-19.68	AVG			P	
5	11481.000	51.15	9.65	60.80	74.00	-13.20	peak			P	
6 *	11481.000	32.84	9.65	42.49	54.00	-11.51	AVG			P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: M



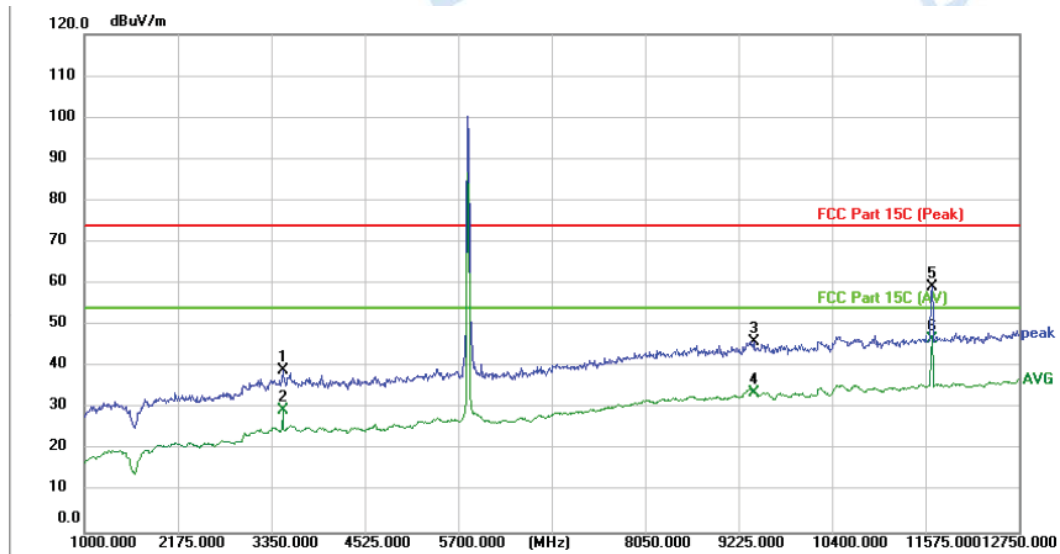
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		P/F	Remark
1	3408.750	42.85	-3.90	38.95	74.00	-35.05	peak		P	
2	3408.750	29.57	-3.90	25.67	54.00	-28.33	AVG		P	
3	9401.250	38.45	8.14	46.59	74.00	-27.41	peak		P	
4	9401.250	26.08	8.14	34.22	54.00	-19.78	AVG		P	
5	11739.500	38.53	9.84	48.37	74.00	-25.63	peak		P	
6 *	11739.500	26.09	9.84	35.93	54.00	-18.07	AVG		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: M



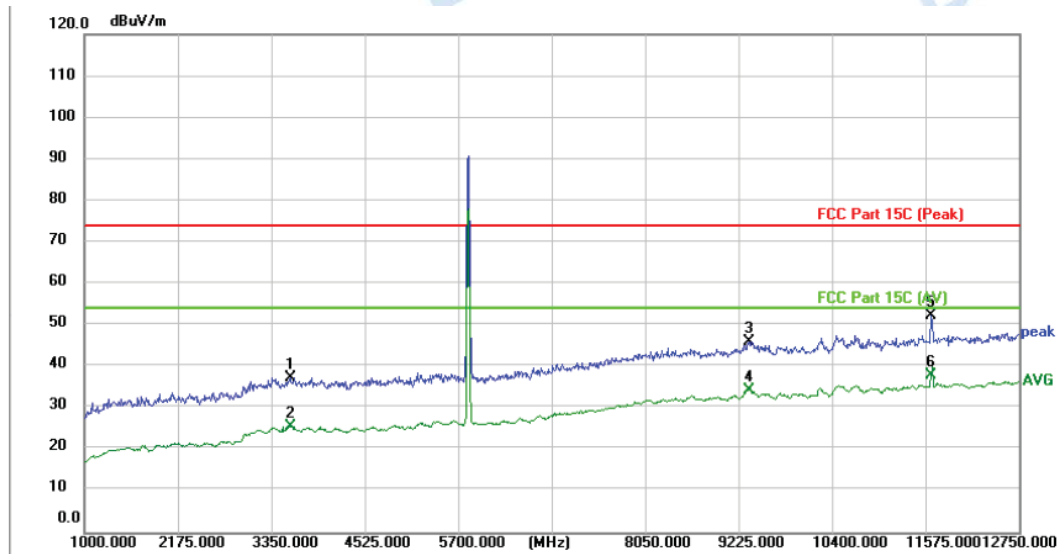
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	3467.500	41.23	-3.69	37.54	74.00	-36.46	peak			P	
2	3467.500	31.54	-3.69	27.85	54.00	-26.15	AVG			P	
3	9377.750	38.52	8.14	46.66	74.00	-27.34	peak			P	
4	9377.750	26.52	8.14	34.66	54.00	-19.34	AVG			P	
5	11575.000	41.93	9.72	51.65	74.00	-22.35	peak			P	
6 *	11575.000	31.00	9.72	40.72	54.00	-13.28	AVG			P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	3491.000	42.80	-3.62	39.18	74.00	-34.82	peak			P	
2	3491.000	33.04	-3.62	29.42	54.00	-24.58	AVG			P	
3	9413.000	37.95	8.14	46.09	74.00	-27.91	peak			P	
4	9413.000	25.73	8.14	33.87	54.00	-20.13	AVG			P	
5	11657.250	49.55	9.77	59.32	74.00	-14.68	peak			P	
6 *	11657.250	36.83	9.77	46.60	54.00	-7.40	AVG			P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



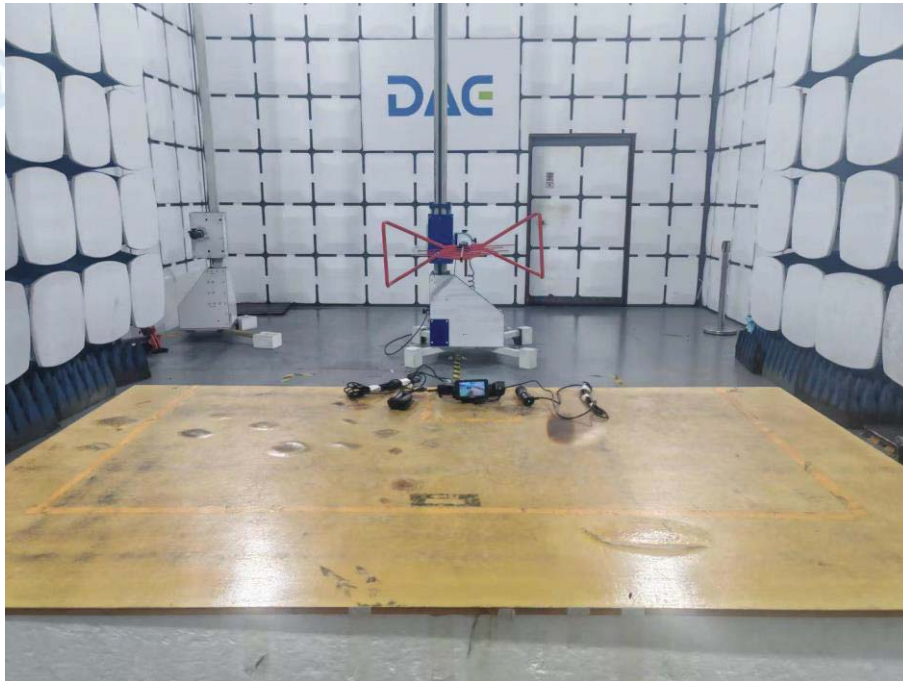
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	3585.000	40.80	-3.42	37.38	74.00	-36.62	peak			P	
2	3585.000	29.13	-3.42	25.71	54.00	-28.29	AVG			P	
3	9354.250	37.94	8.15	46.09	74.00	-27.91	peak			P	
4	9354.250	26.35	8.15	34.50	54.00	-19.50	AVG			P	
5	11645.500	42.46	9.77	52.23	74.00	-21.77	peak			P	
6 *	11645.500	28.29	9.77	38.06	54.00	-15.94	AVG			P	

Remark: Margin=Level - Limit, Level=Test receiver reading + correction factor

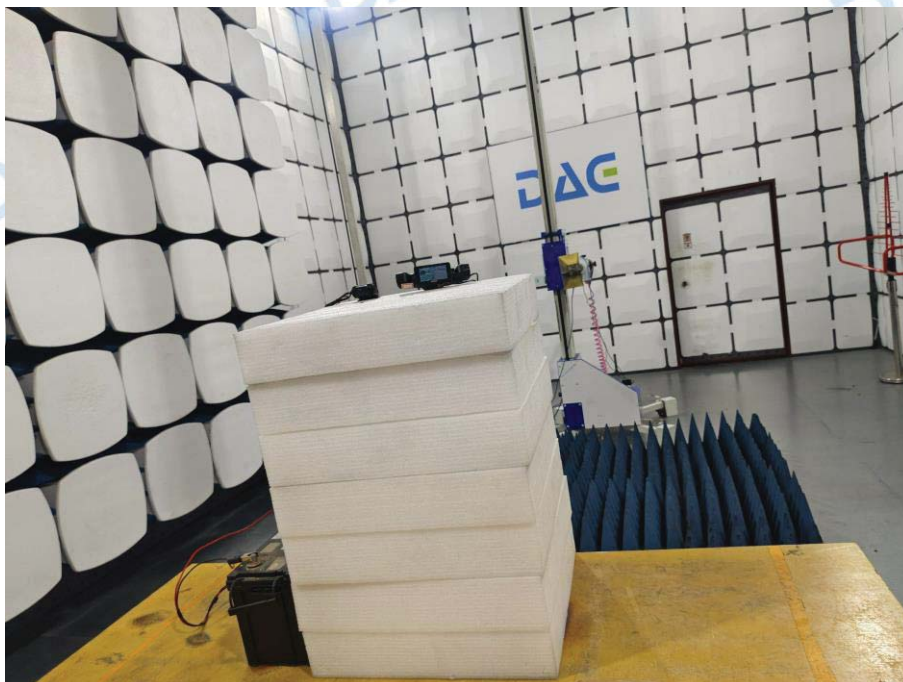
All modes have been tested, and the test results show that a-mode data is the worst, only a-mode test chart is put. Test Mode: 802.11a20 low channel (the worst)

4 TEST SETUP PHOTOS

Undesirable emission limits (below 1GHz)



Undesirable emission limits (above 1GHz)



5 PHOTOS OF THE EUT

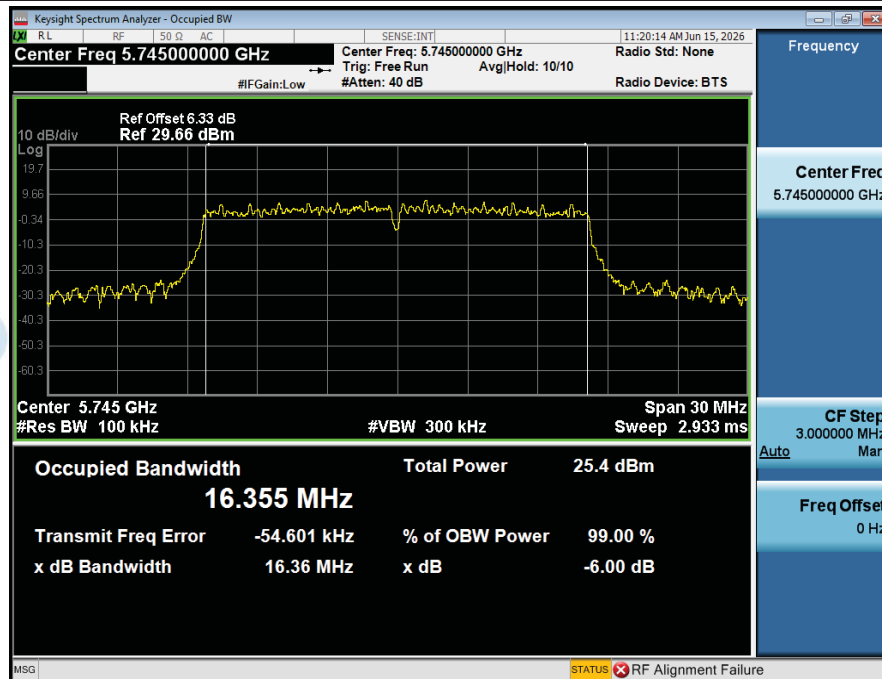
Refer to Appendix - EUT Photos for EUT External Photo and Internal Photo.

Appendix

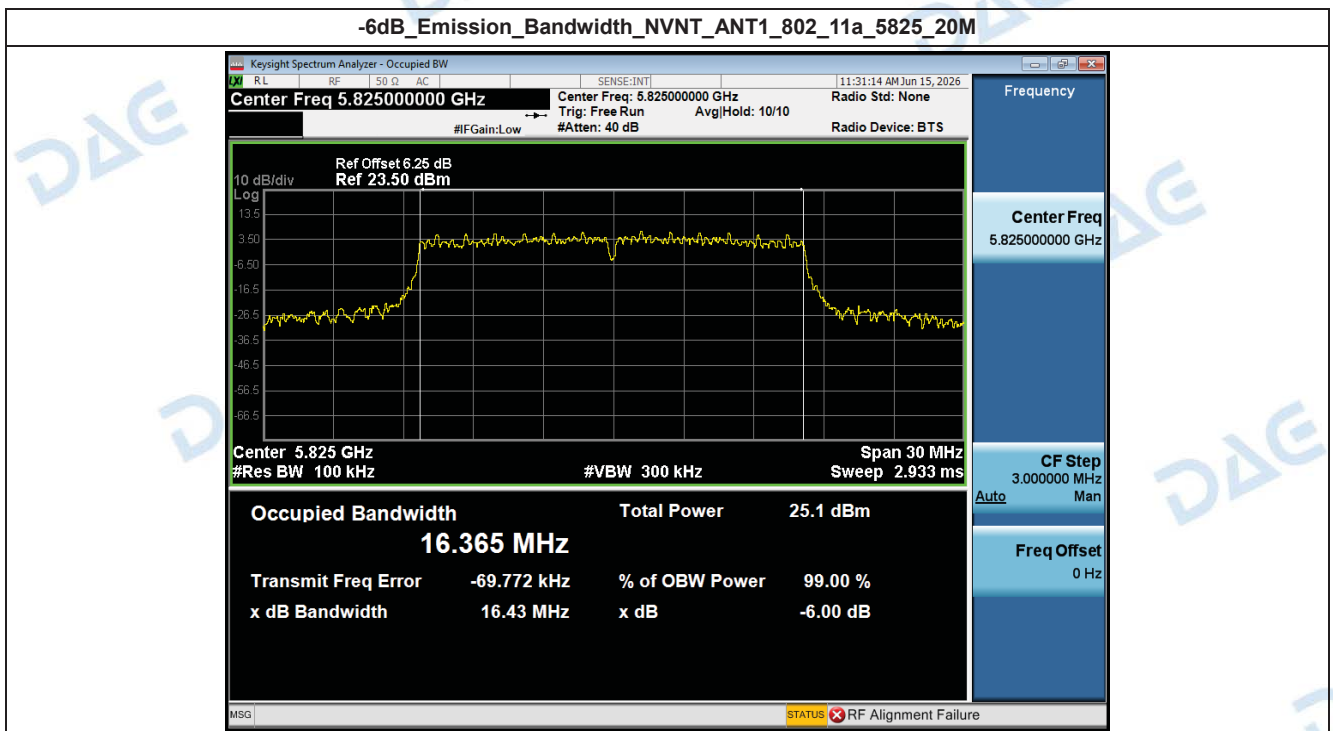
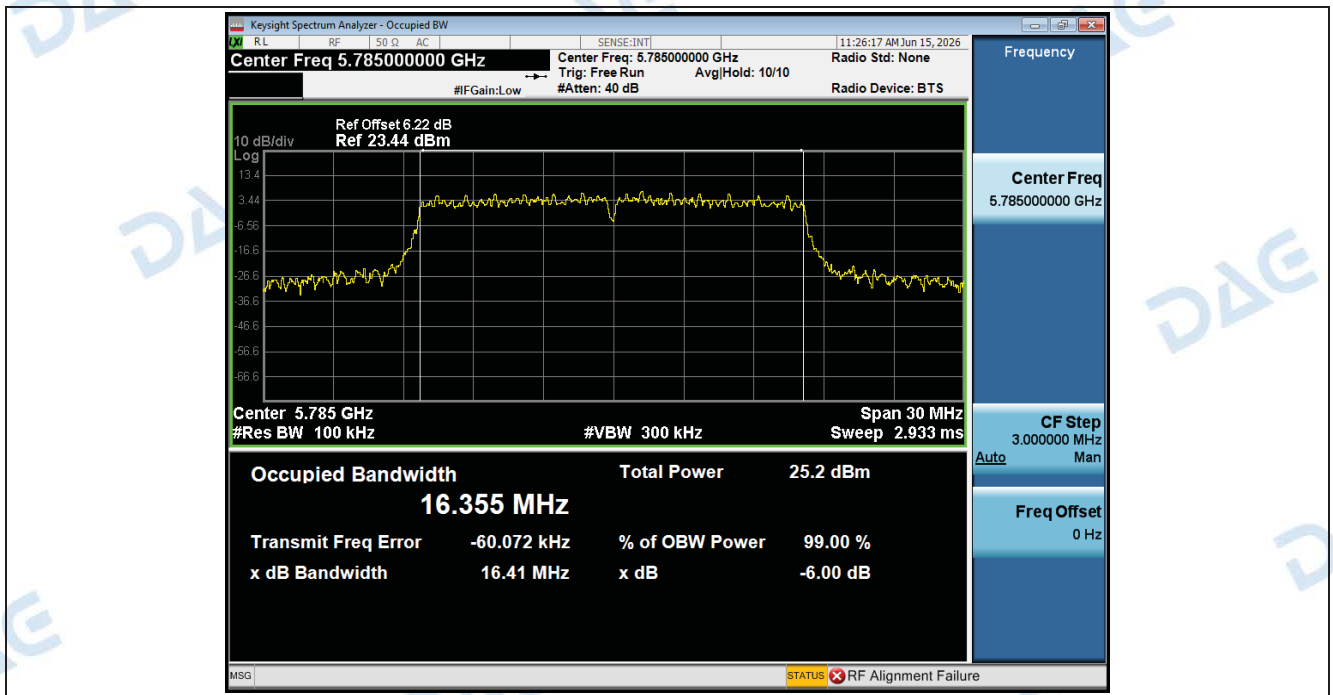
1. -6dB Emission Bandwidth

Condition	Antenna	Mode	Frequency(MHz)	-6dB_Emission_Bandwidth(MHz)	Limit(MHz)	Result
NVNT	ANT1	802.11a	5745.00	16.358	0.500	Pass
NVNT	ANT1	802.11a	5785.00	16.406	0.500	Pass
NVNT	ANT1	802.11a	5825.00	16.429	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	16.578	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	16.808	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	16.943	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5745.00	16.316	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5785.00	16.807	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5825.00	17.292	0.500	Pass
NVNT	ANT1	802.11ax(HE20)	5745.00	19.039	0.500	Pass
NVNT	ANT1	802.11ax(HE20)	5785.00	19.122	0.500	Pass
NVNT	ANT1	802.11ax(HE20)	5825.00	19.089	0.500	Pass
NVNT	ANT1	802.11n(HT40)	5755.00	35.163	0.500	Pass
NVNT	ANT1	802.11n(HT40)	5795.00	35.121	0.500	Pass
NVNT	ANT1	802.11ac(VHT40)	5755.00	36.458	0.500	Pass
NVNT	ANT1	802.11ac(VHT40)	5795.00	36.485	0.500	Pass
NVNT	ANT1	802.11ax(HE40)	5755.00	38.146	0.500	Pass
NVNT	ANT1	802.11ax(HE40)	5795.00	38.168	0.500	Pass

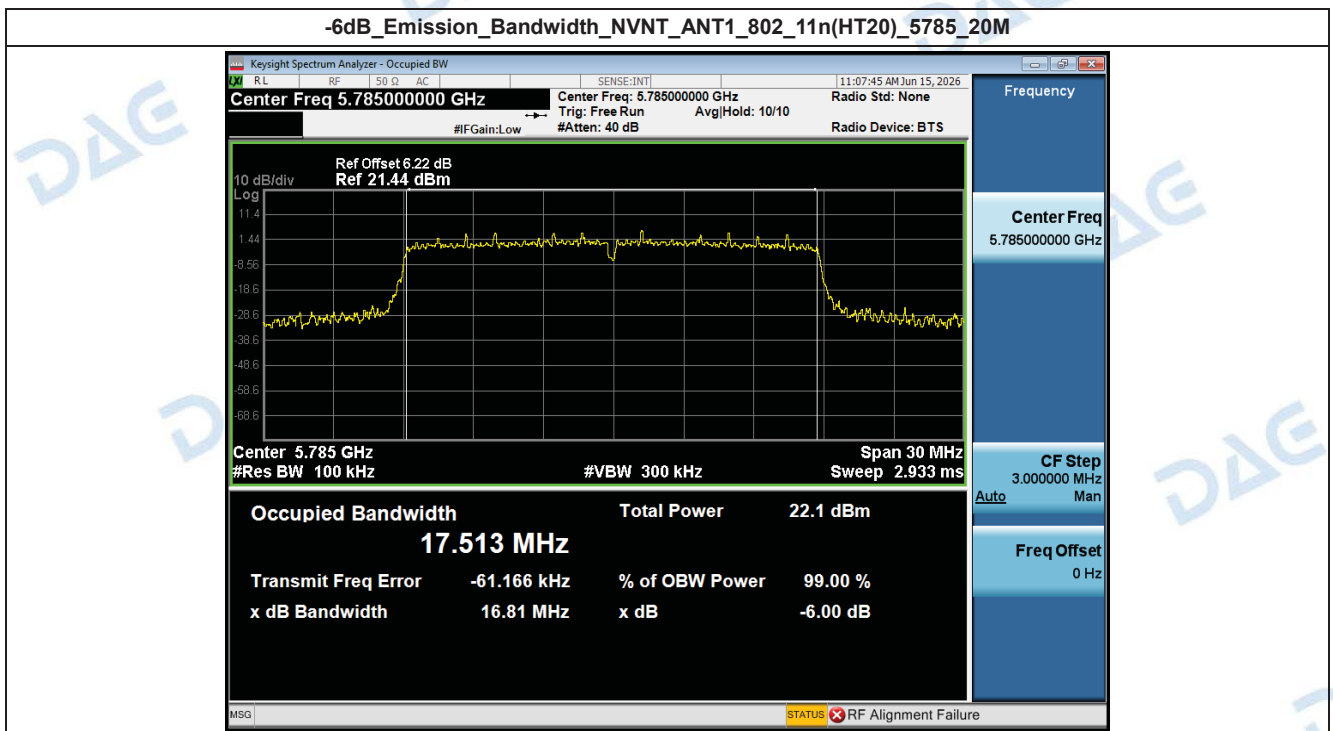
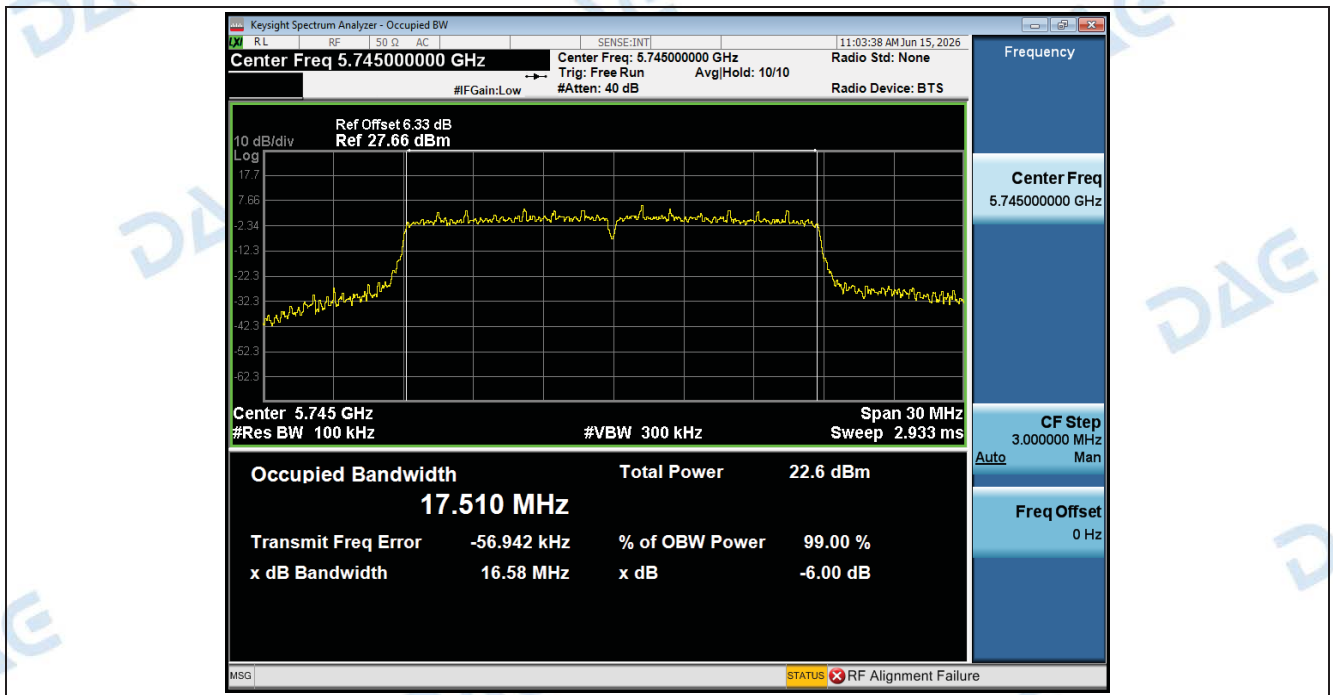
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11a_5745_20M

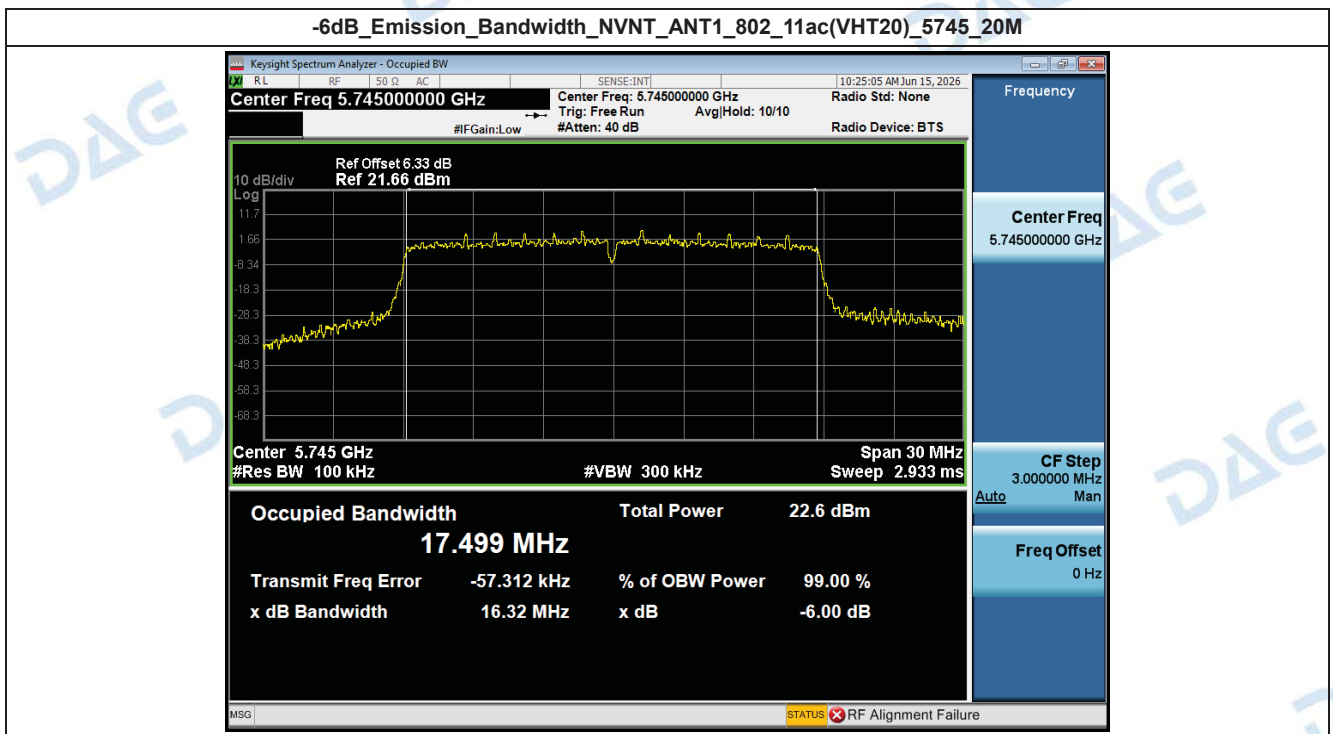
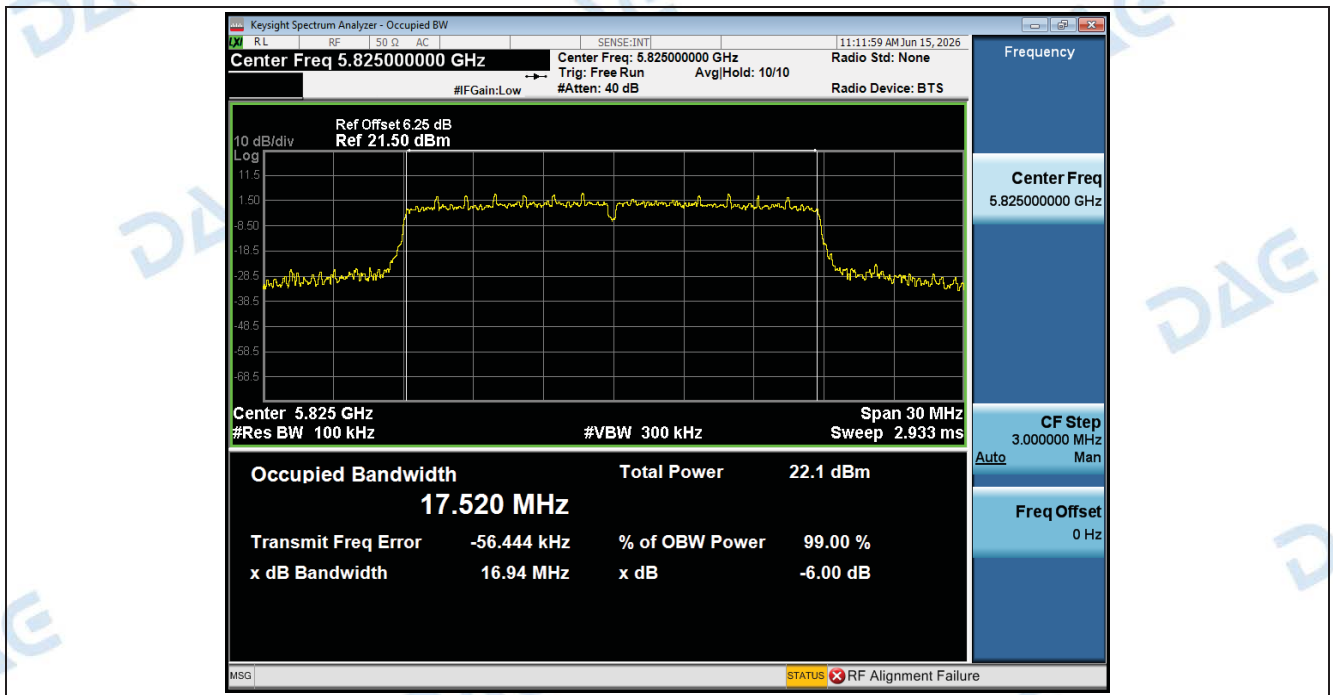


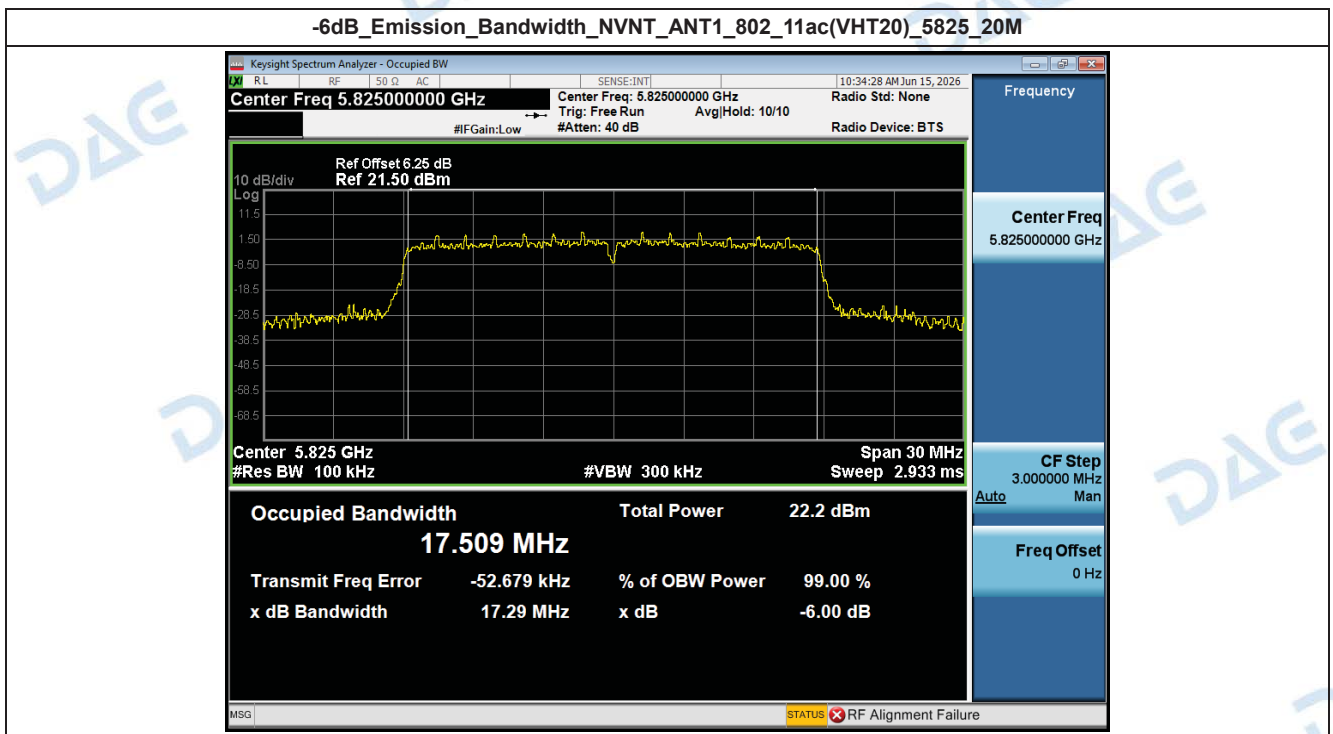
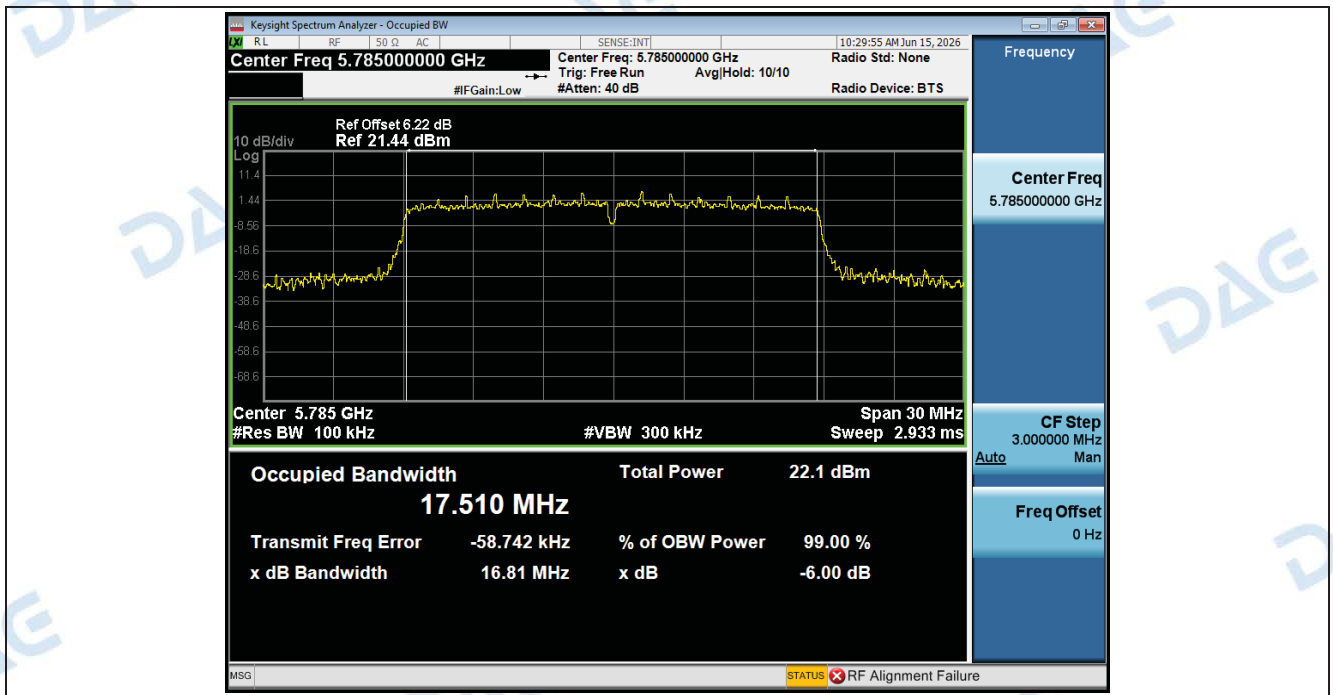
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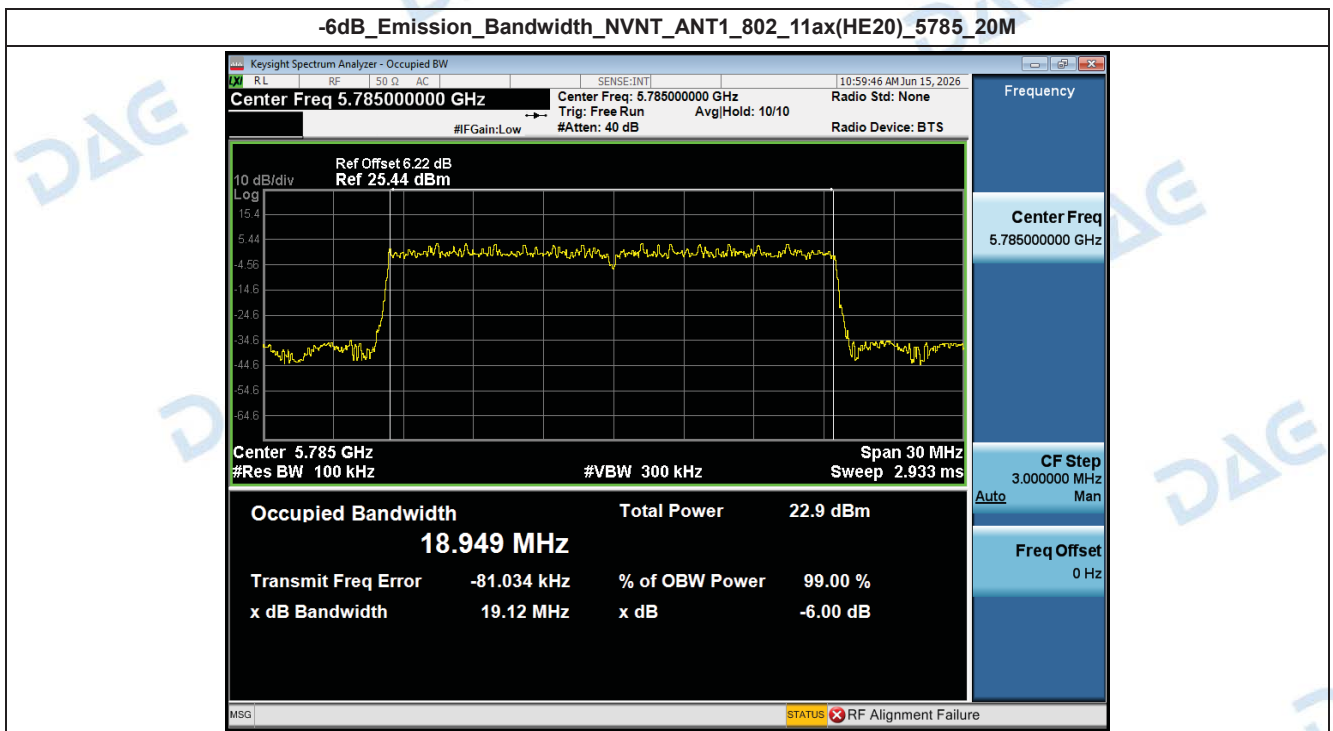
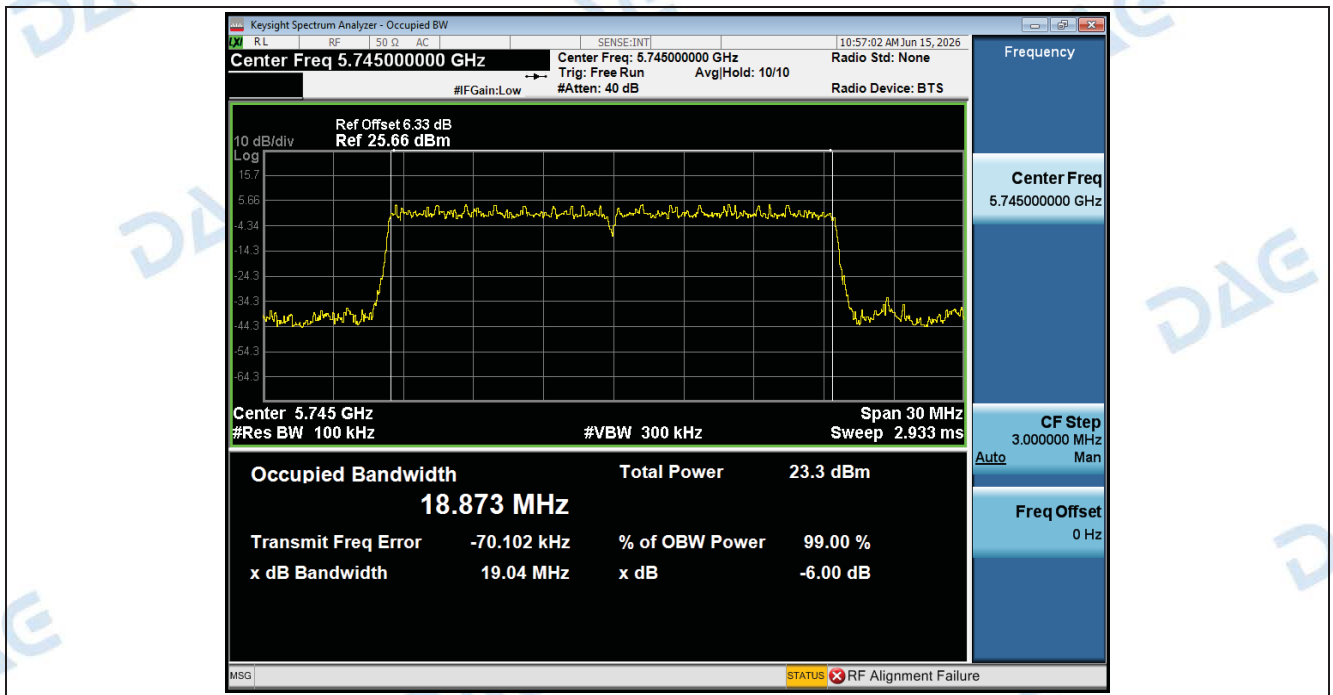


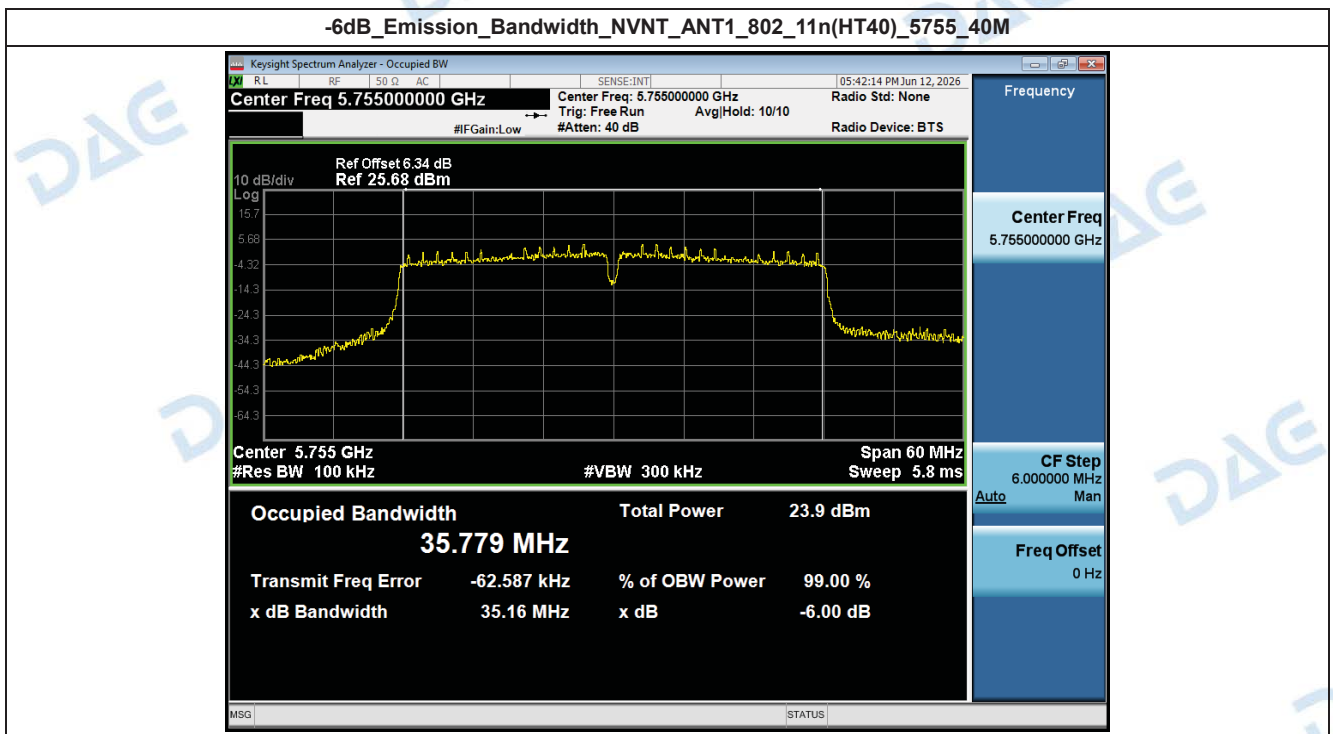
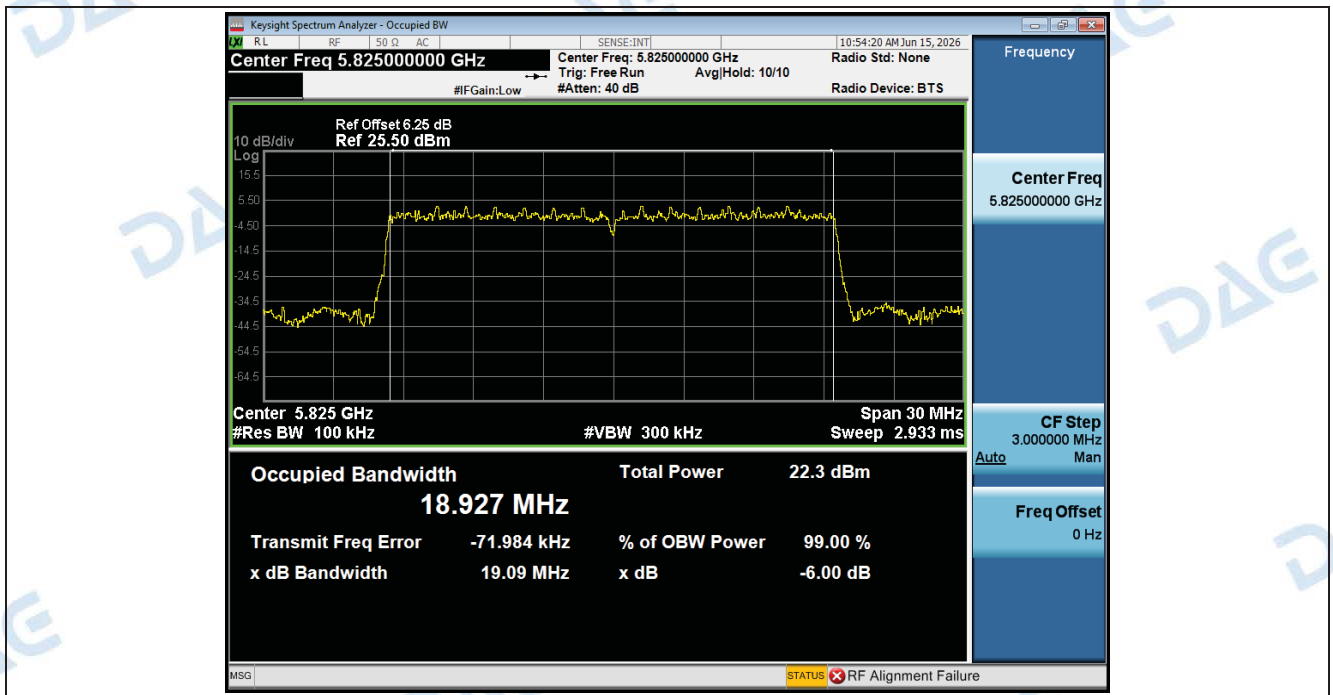
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT20)_5745_20M

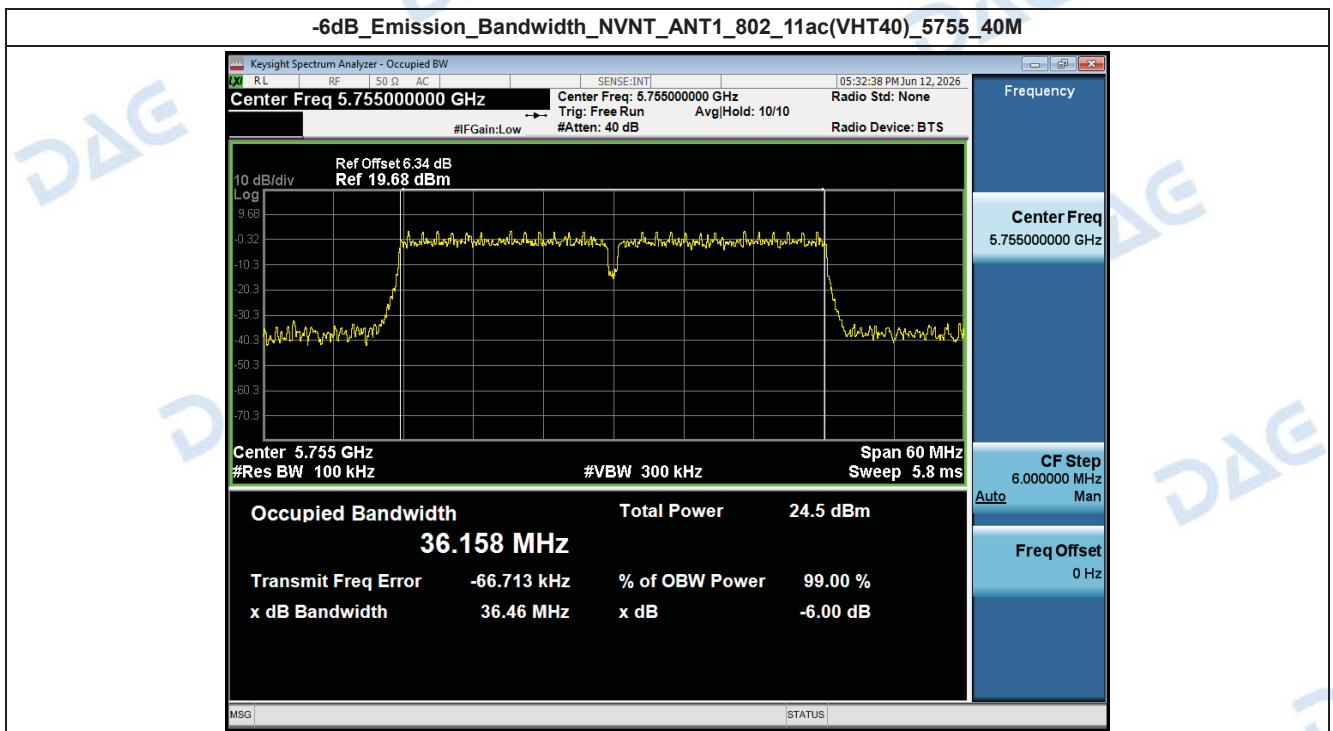
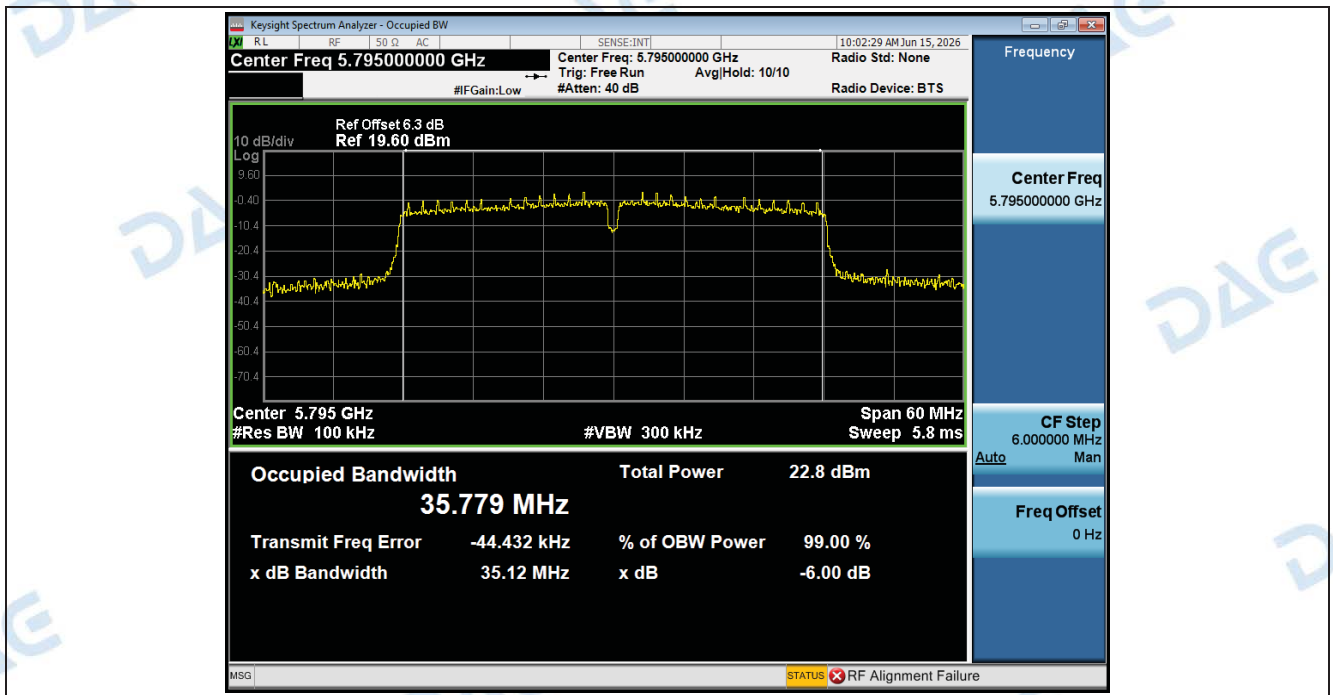




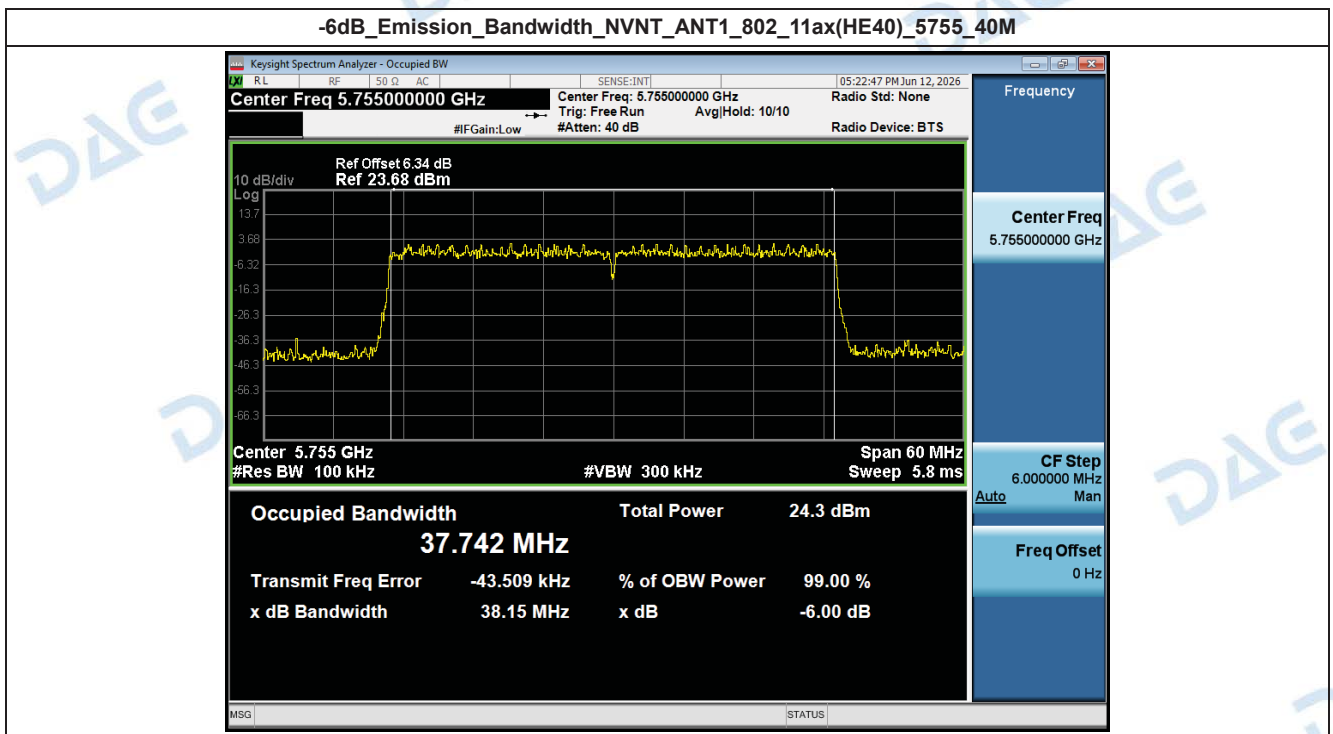
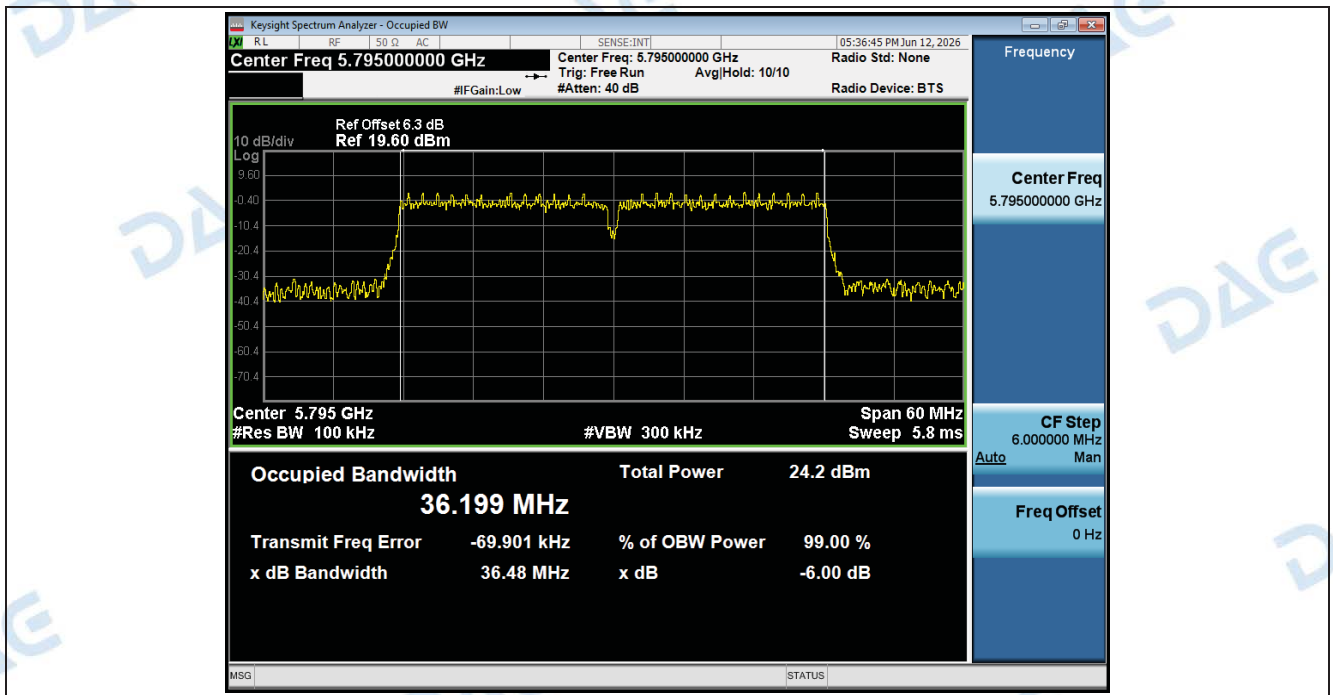


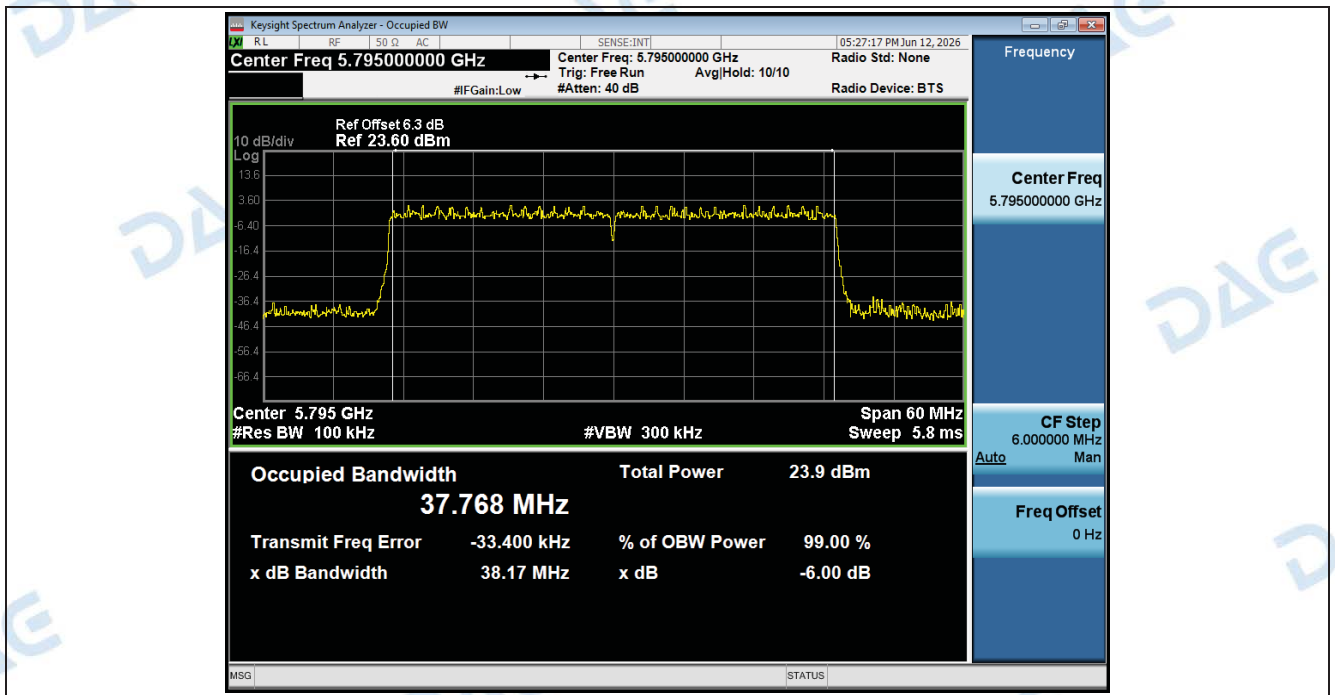






-6dB_Emission_Bandwidth_NVNT_ANT1_802_11ac(VHT40)_5795_40M

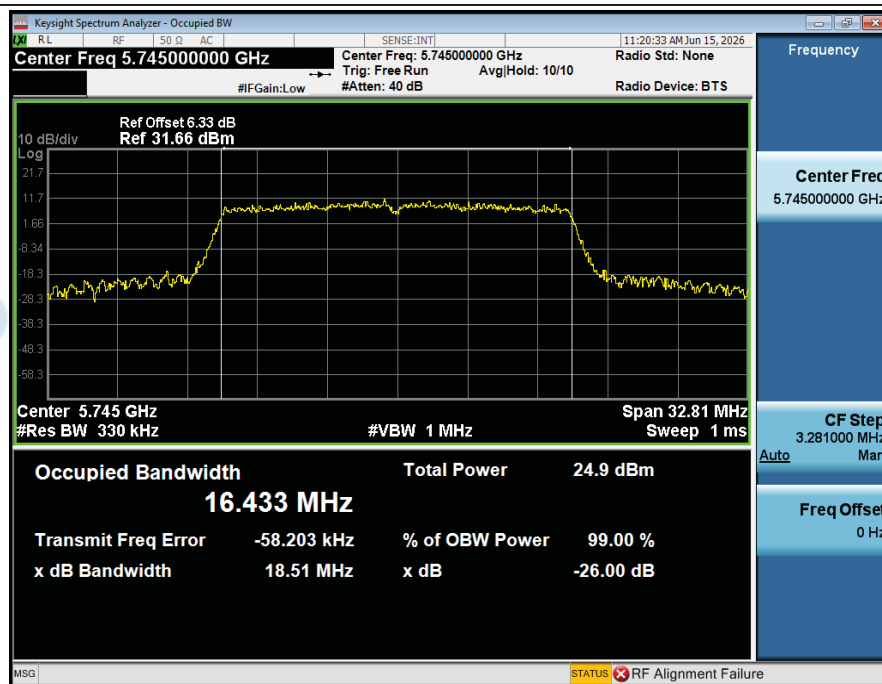




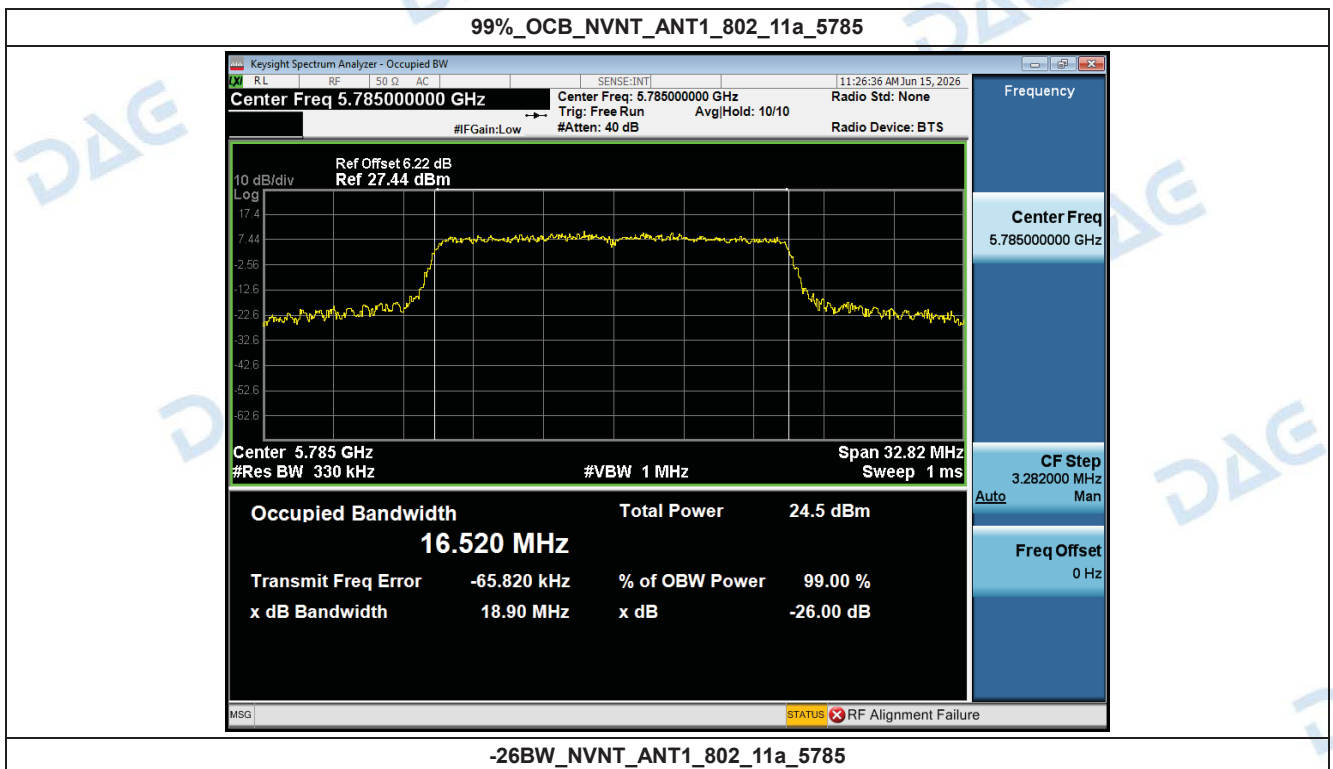
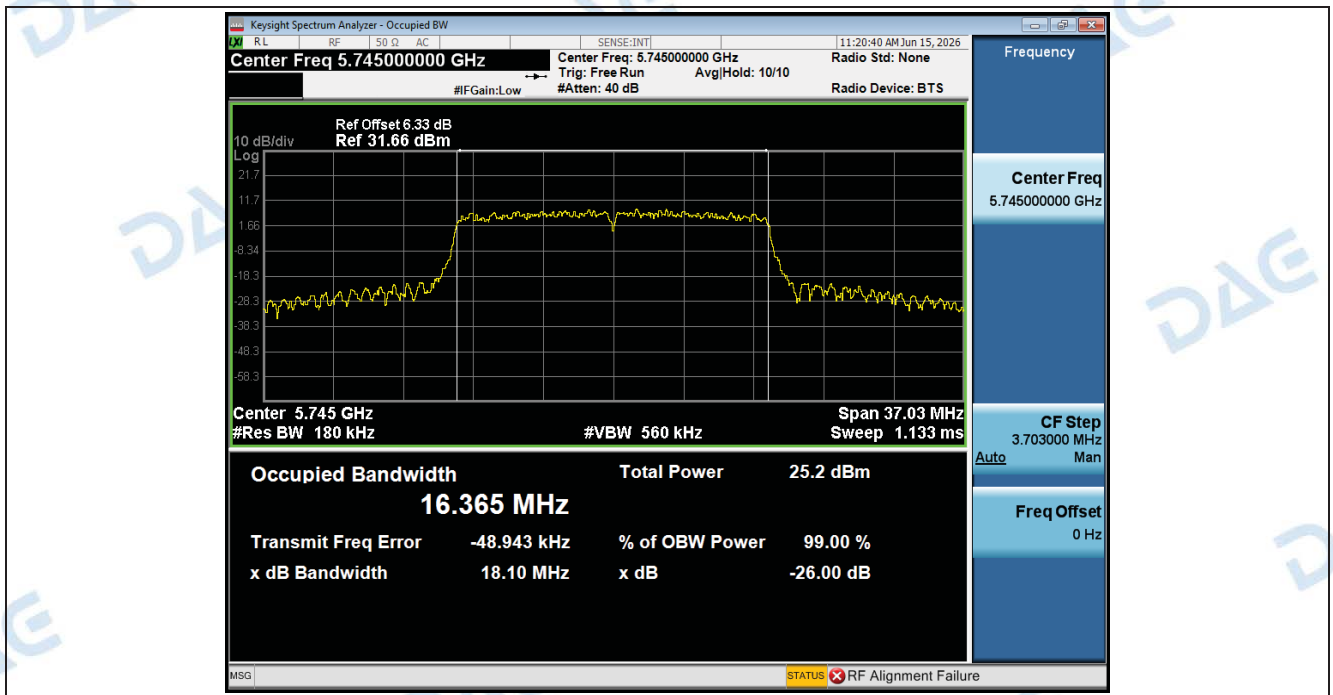
2. -26dB and 99% Emission Bandwidth

Condition	Antenna	Modulation	Frequency(MHz)	26dB_Emission_Bandwidth(MHz)	Occupied Bandwidth(MHz)
NVNT	ANT1	802.11a	5745.00	18.10	16.43
NVNT	ANT1	802.11a	5785.00	18.26	16.52
NVNT	ANT1	802.11a	5825.00	18.07	16.48
NVNT	ANT1	802.11n(HT20)	5745.00	20.40	17.54
NVNT	ANT1	802.11n(HT20)	5785.00	18.92	17.56
NVNT	ANT1	802.11n(HT20)	5825.00	21.04	17.56
NVNT	ANT1	802.11ac(VHT20)	5745.00	18.93	17.56
NVNT	ANT1	802.11ac(VHT20)	5785.00	19.07	17.56
NVNT	ANT1	802.11ac(VHT20)	5825.00	21.50	17.56
NVNT	ANT1	802.11ax(HE20)	5745.00	19.83	19.04
NVNT	ANT1	802.11ax(HE20)	5785.00	19.83	19.00
NVNT	ANT1	802.11ax(HE20)	5825.00	19.89	19.00
NVNT	ANT1	802.11n(HT40)	5755.00	38.41	35.89
NVNT	ANT1	802.11n(HT40)	5795.00	38.46	35.91
NVNT	ANT1	802.11ac(VHT40)	5755.00	38.64	36.36
NVNT	ANT1	802.11ac(VHT40)	5795.00	38.76	36.33
NVNT	ANT1	802.11ax(HE40)	5755.00	39.62	37.94
NVNT	ANT1	802.11ax(HE40)	5795.00	39.53	38.02

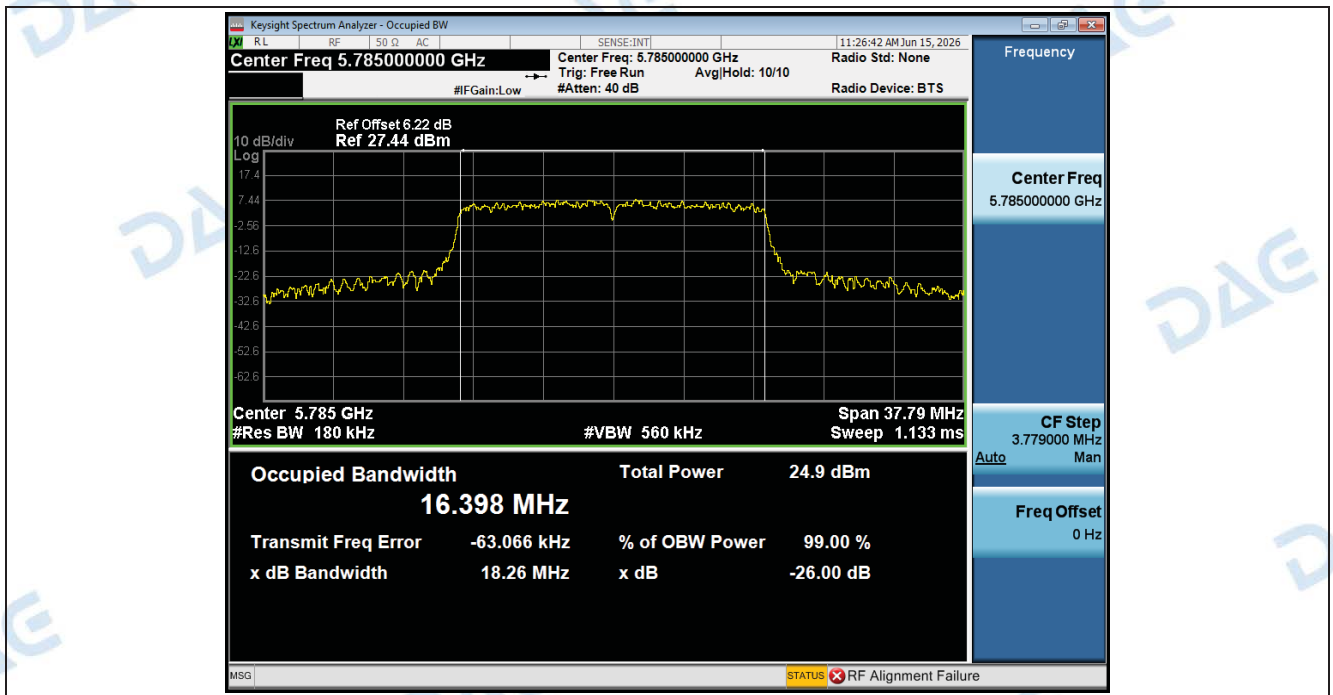
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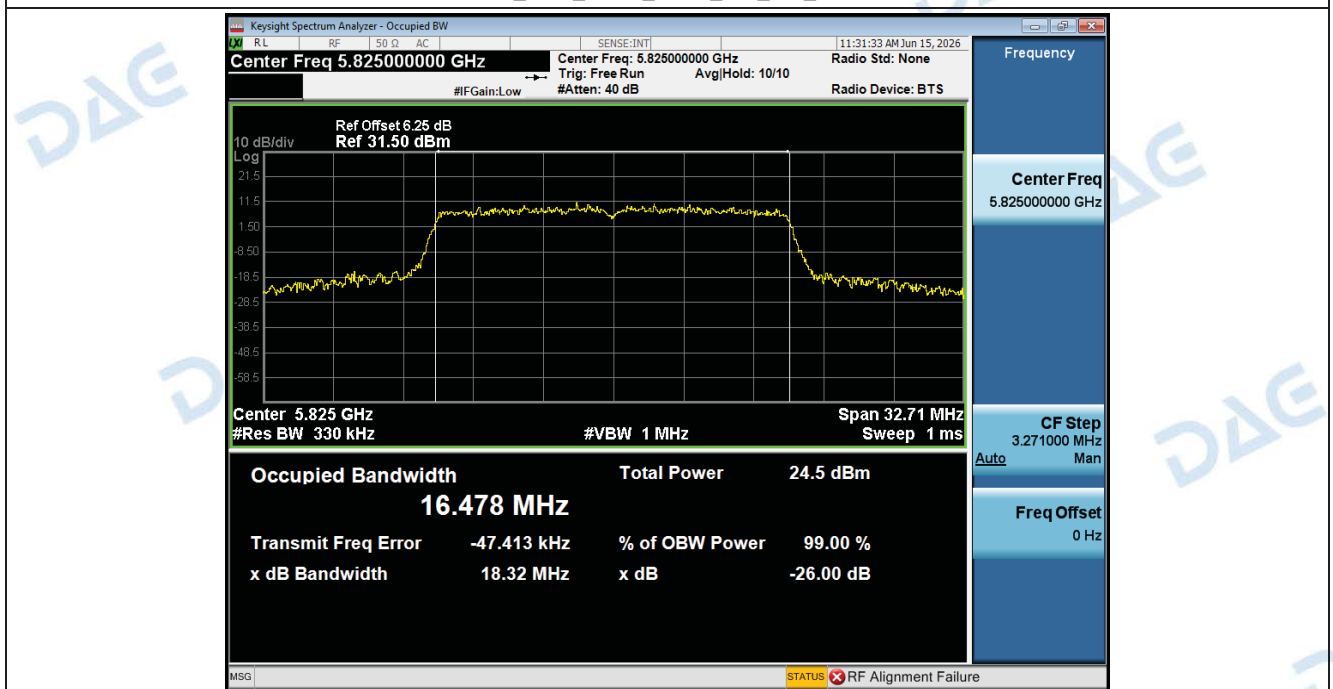
-26BW_NVNT_ANT1_802_11a_5745



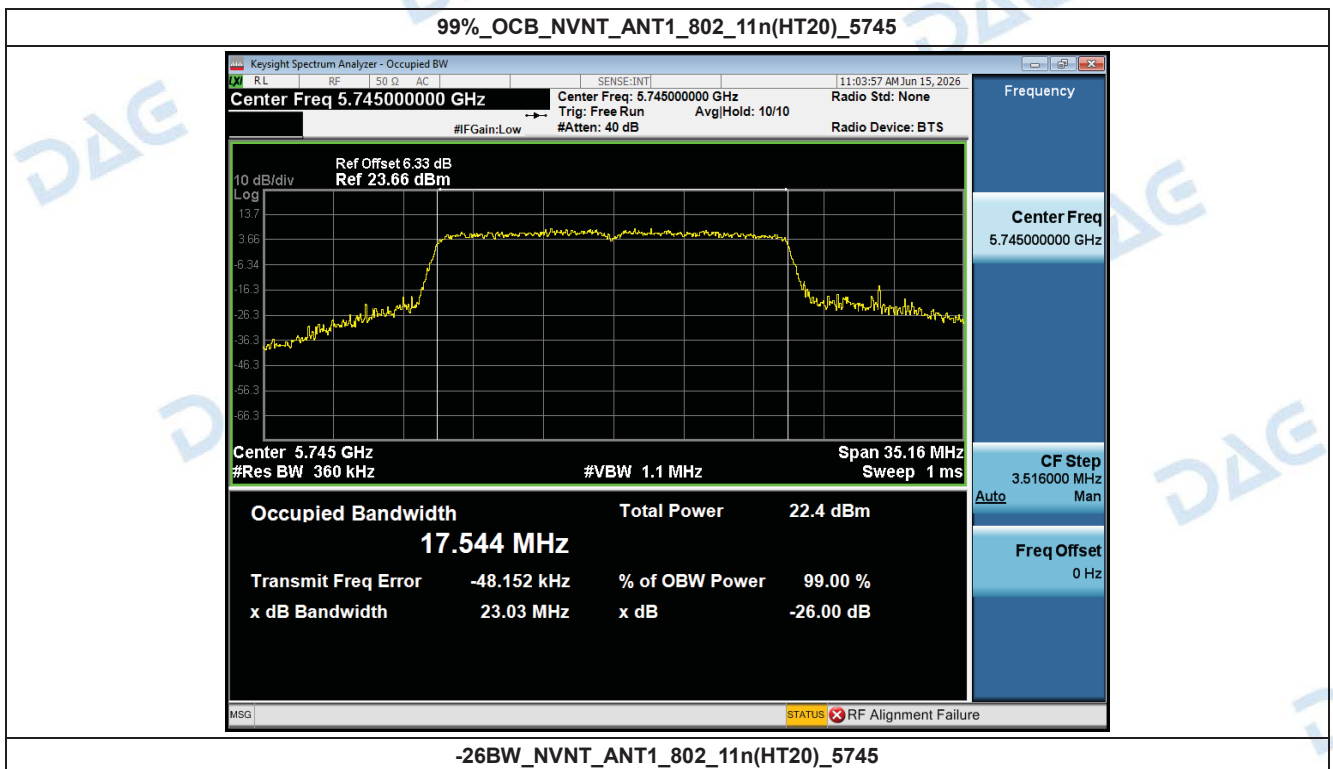
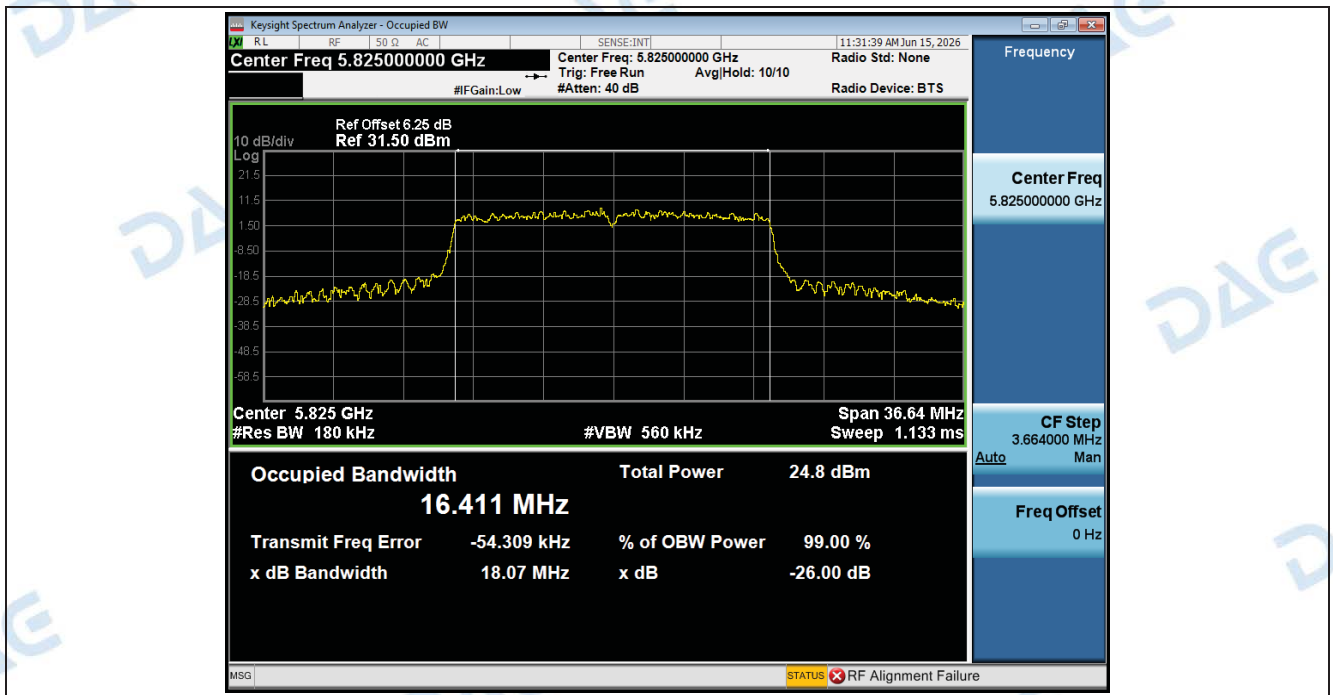
-26BW_NVNT_ANT1_802_11a_5785

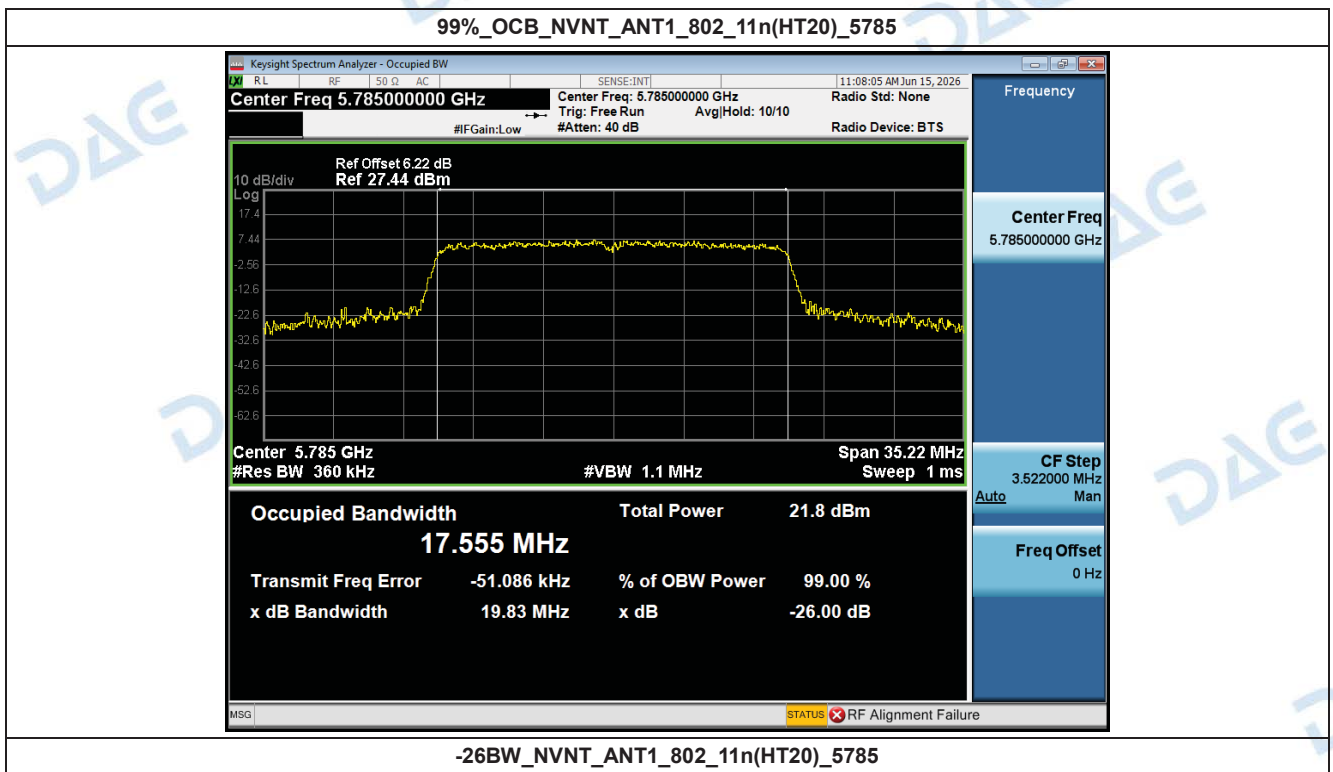
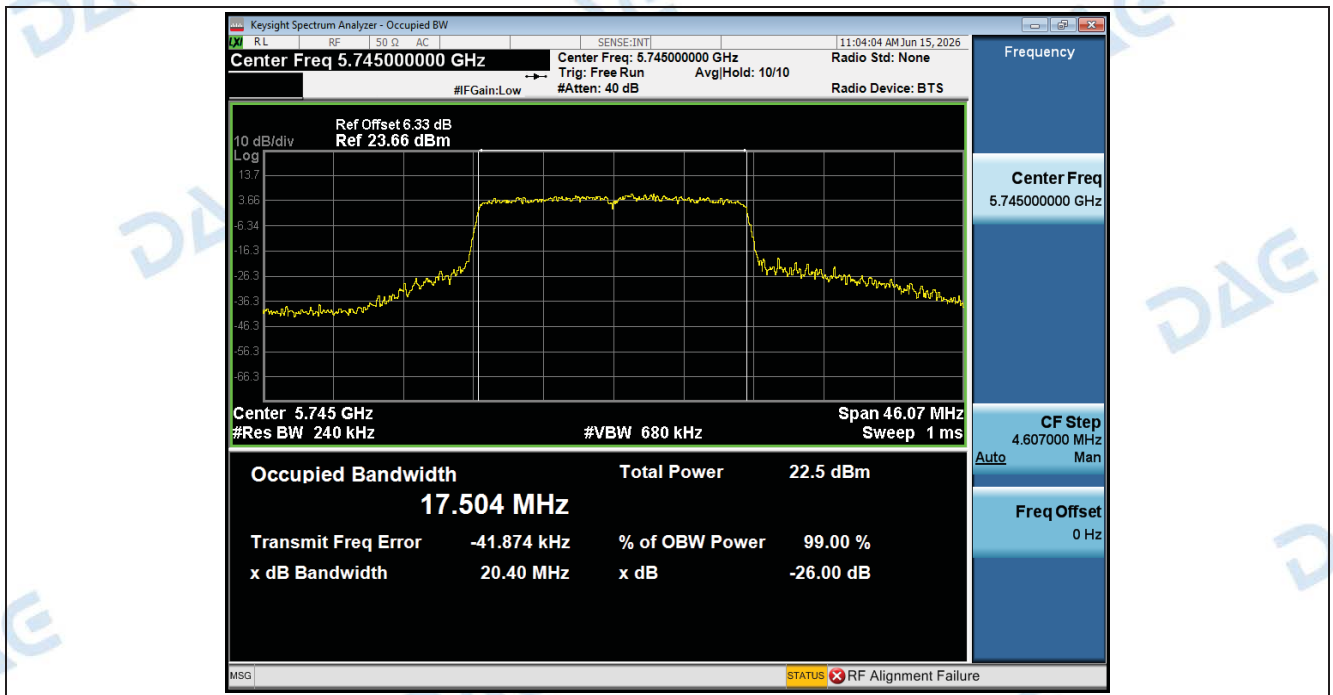


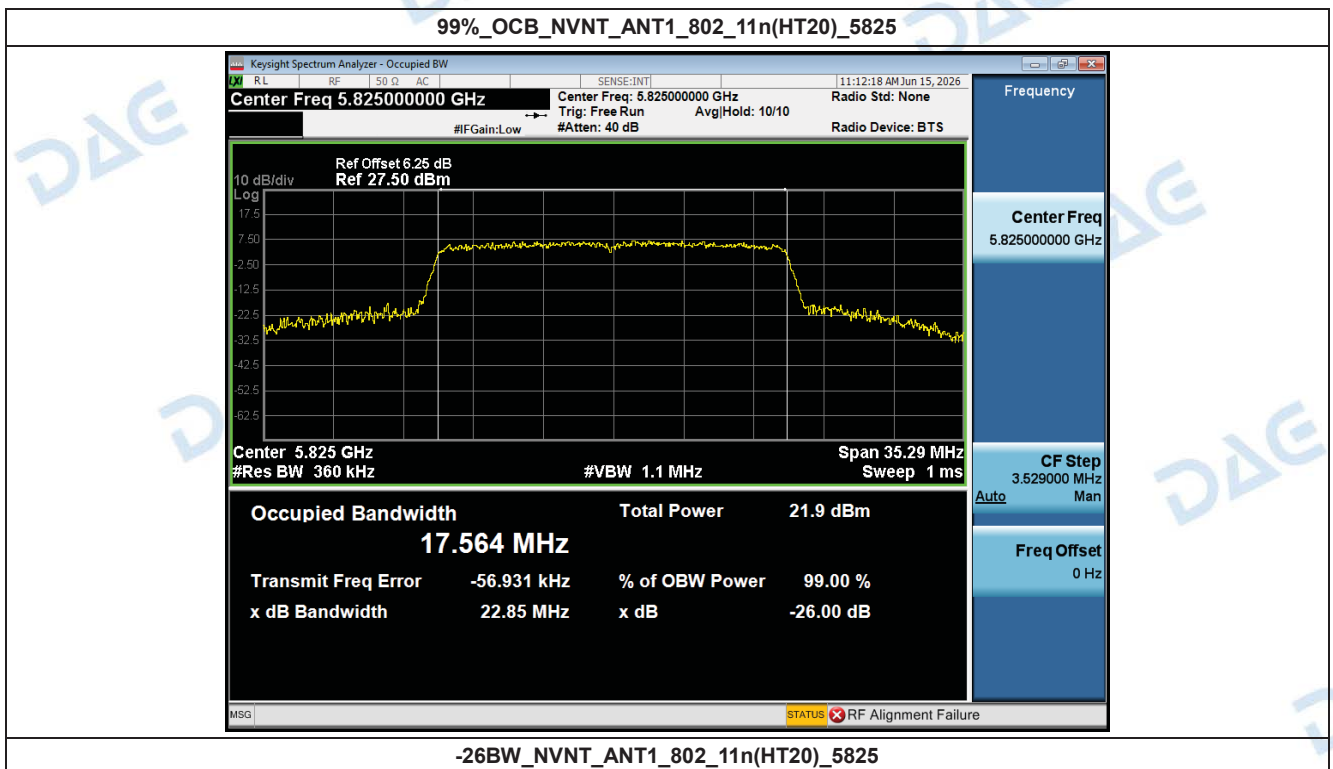
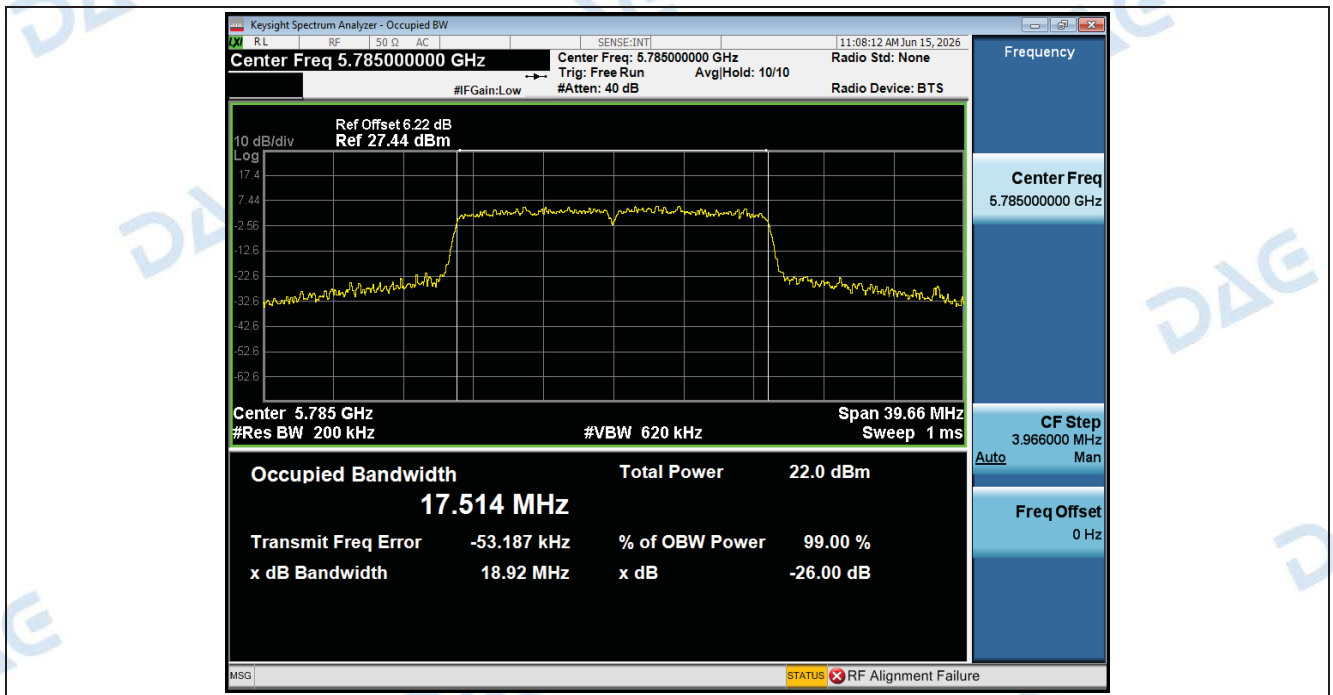
99%_OCB_NVNT_ANT1_802_11a_5825

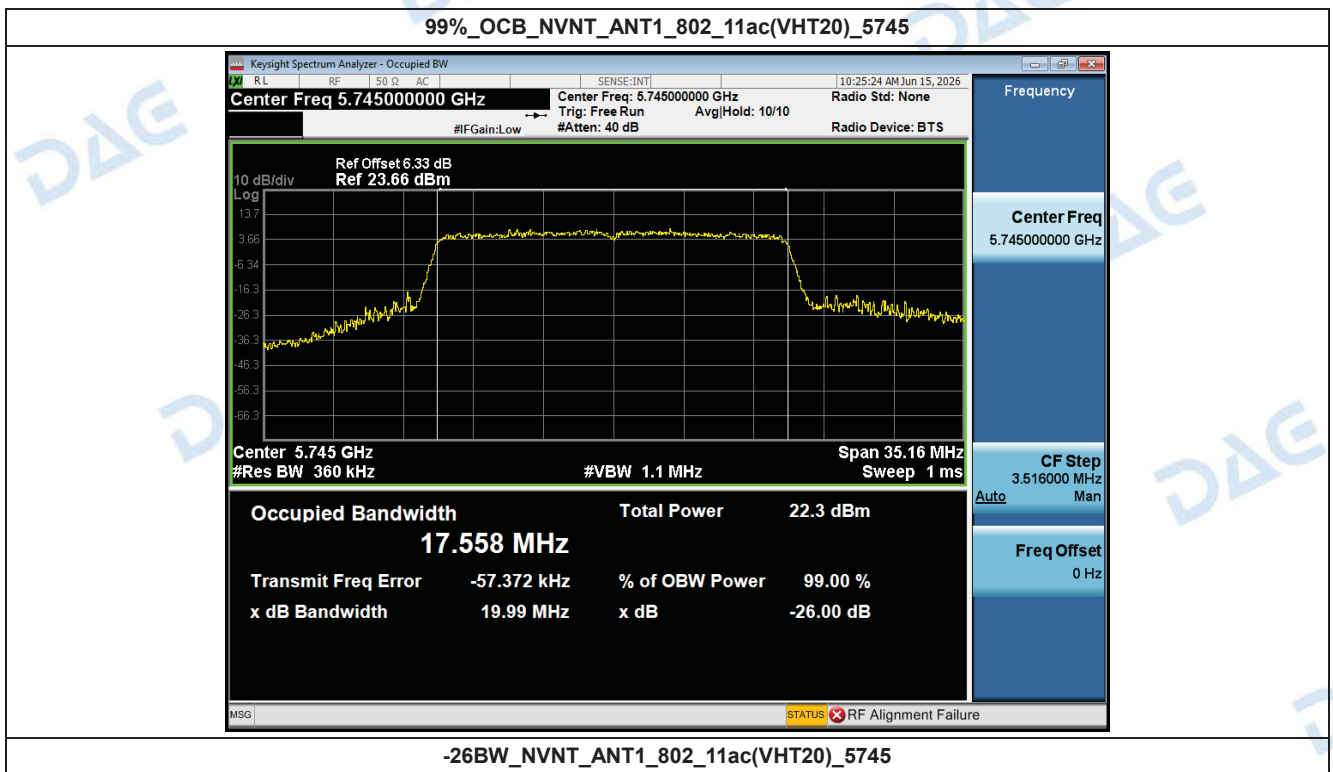
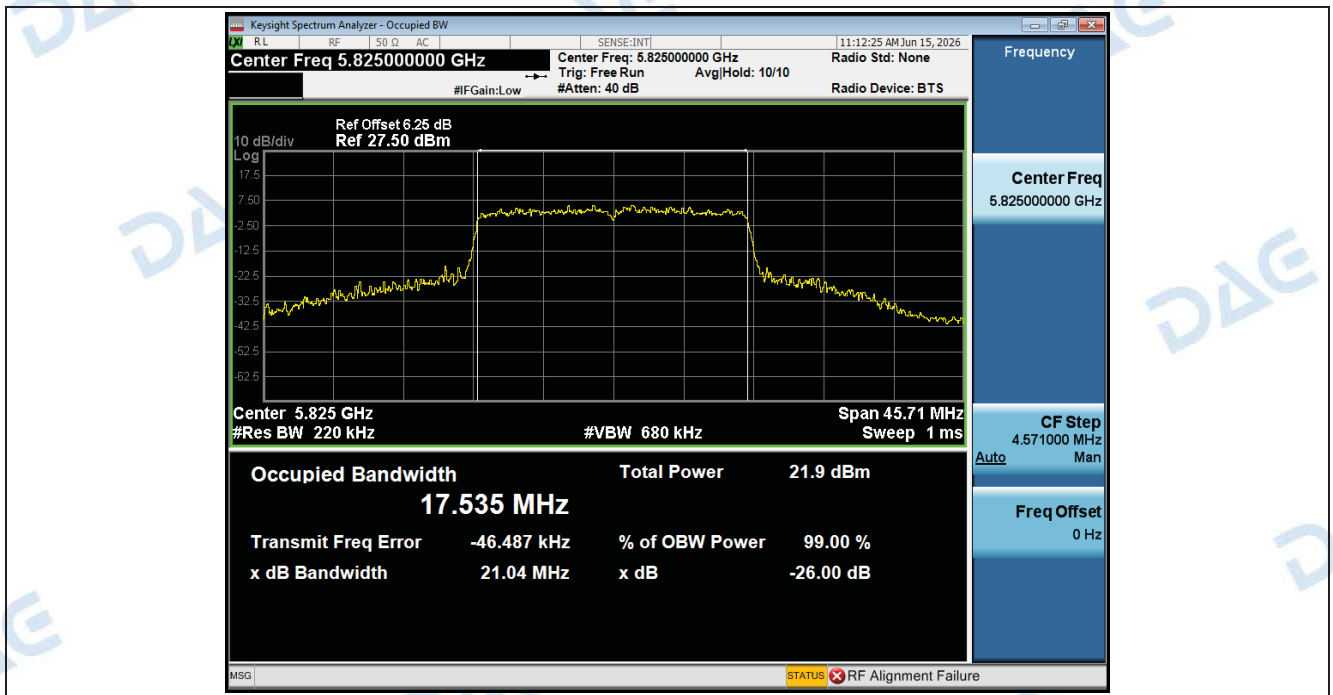


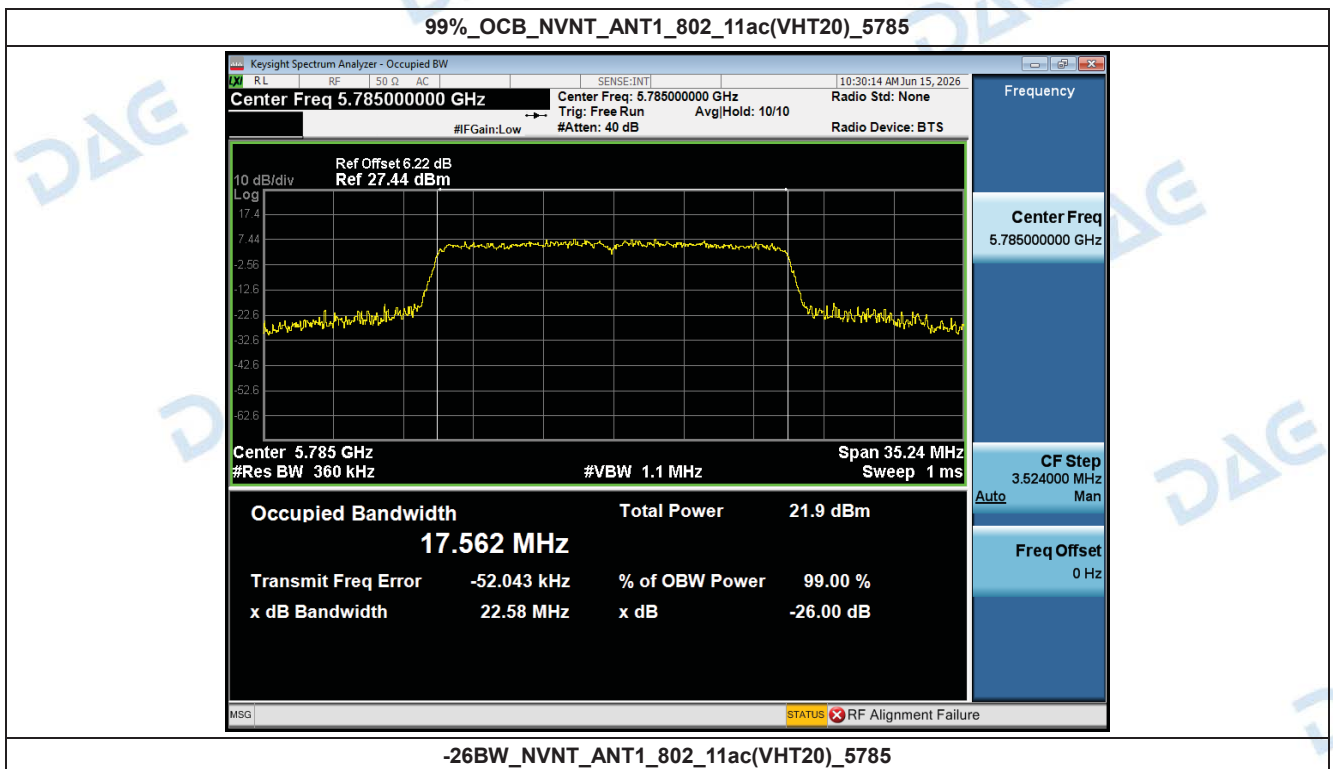
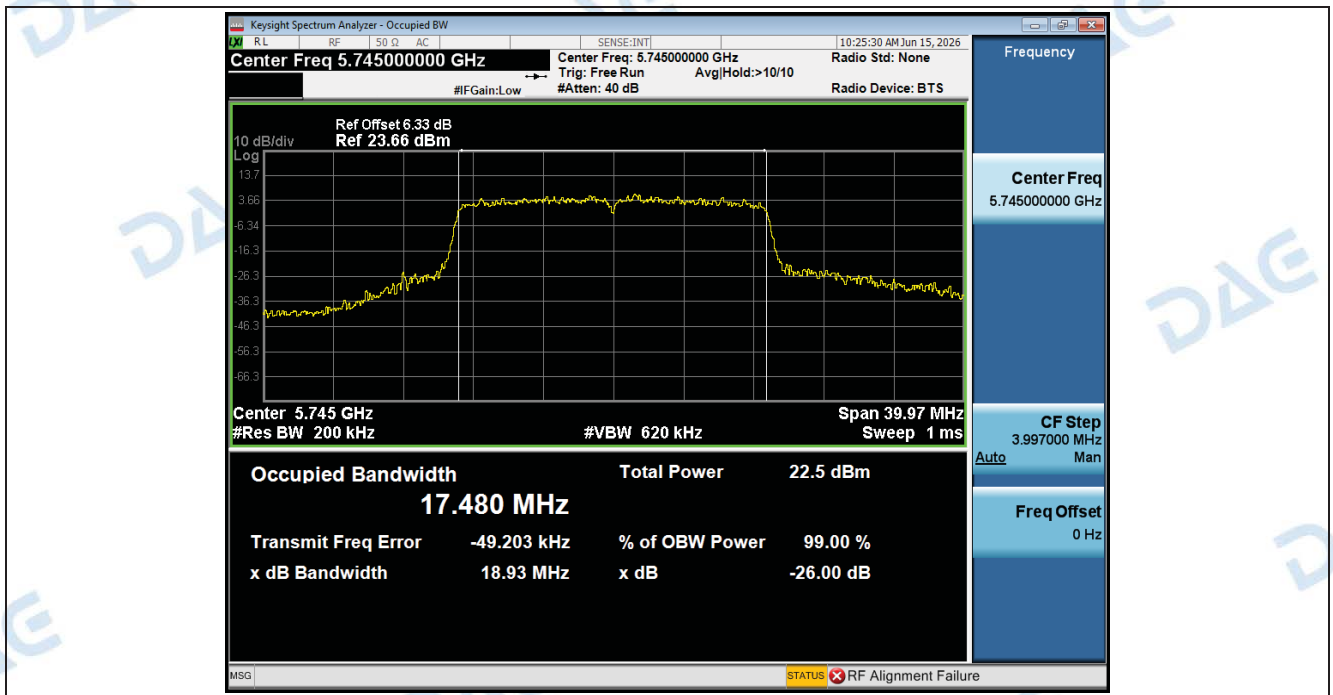
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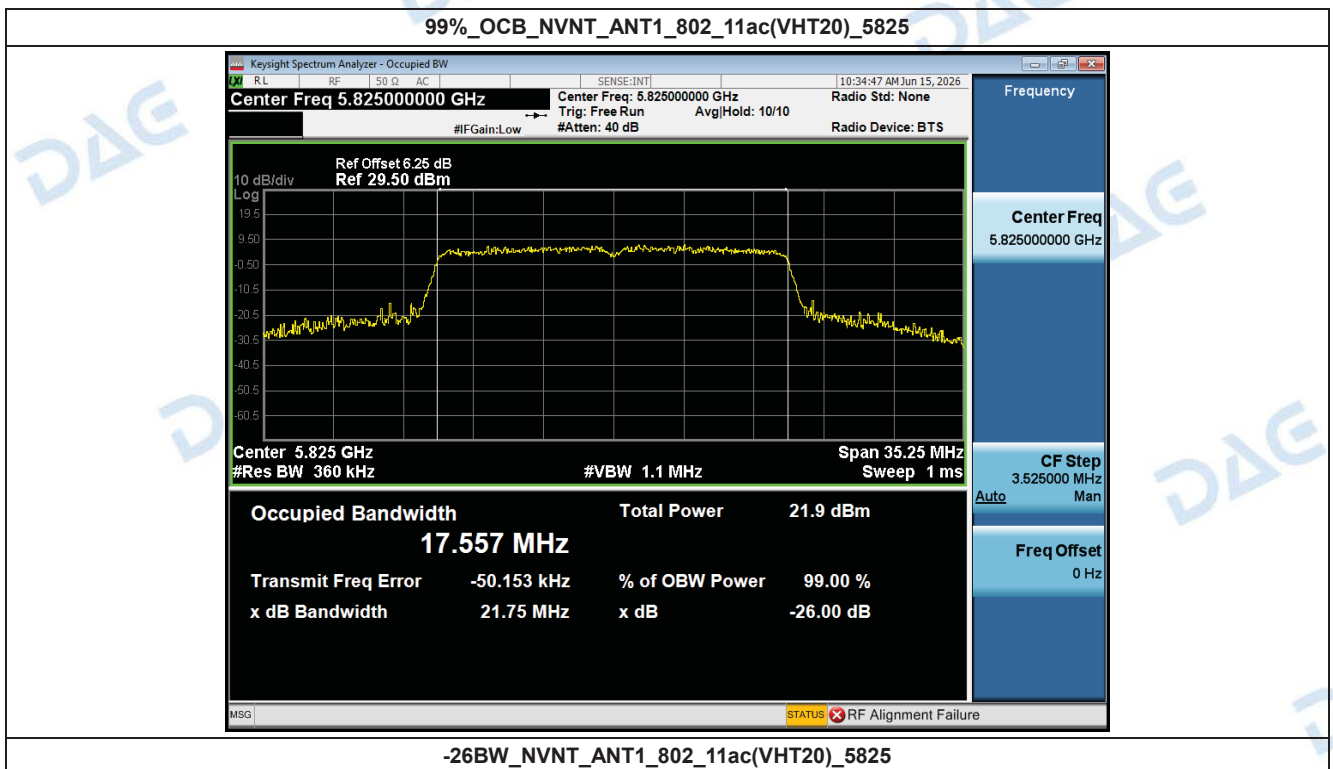
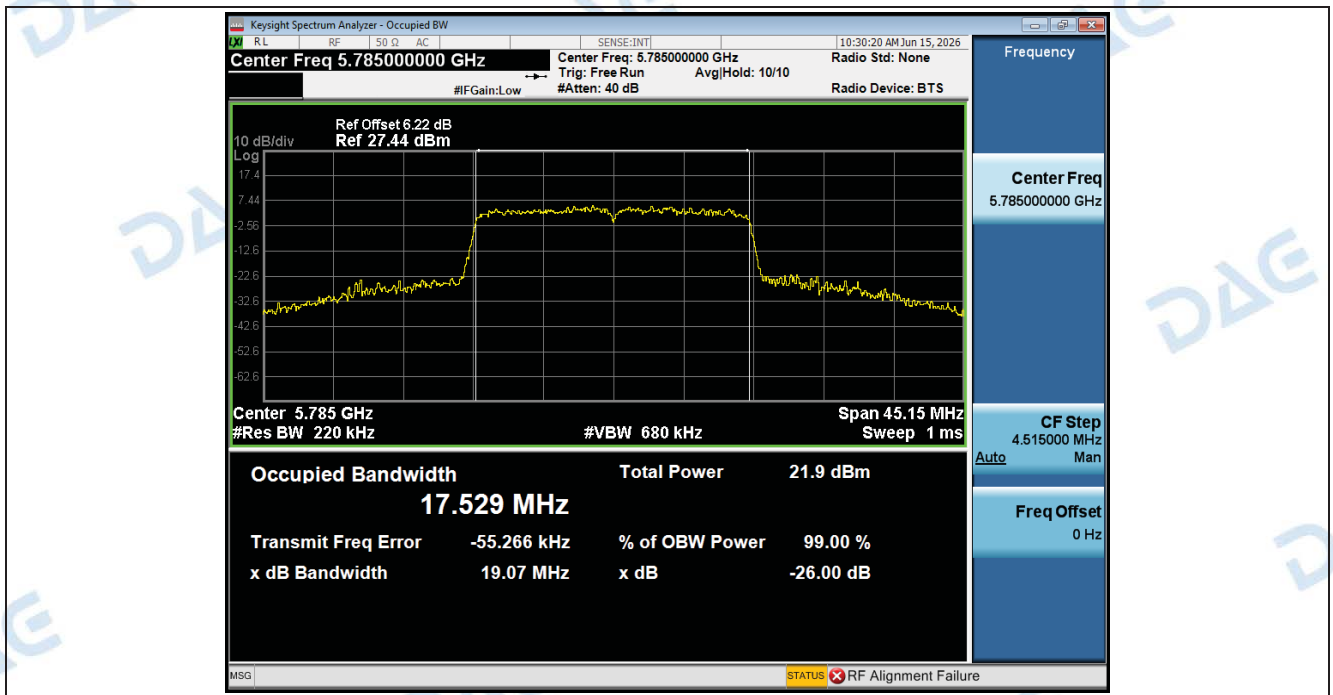




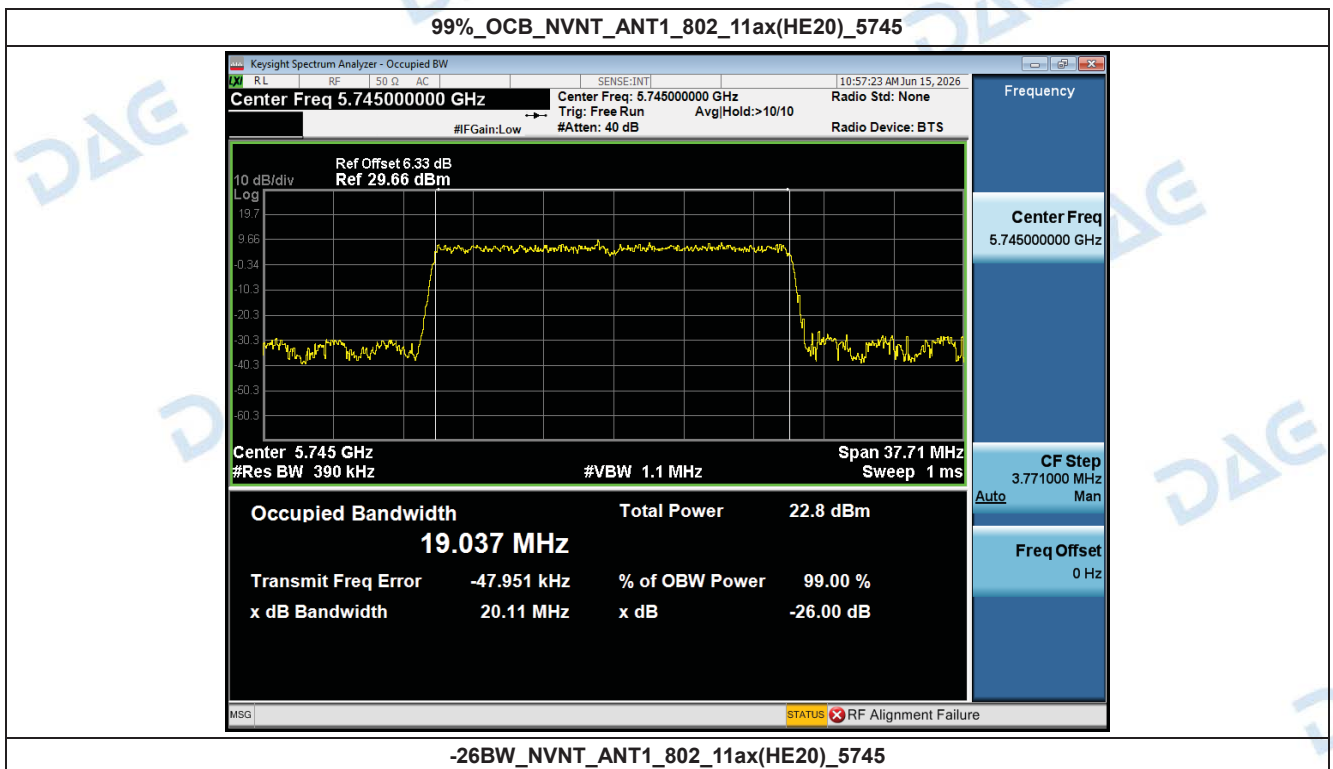
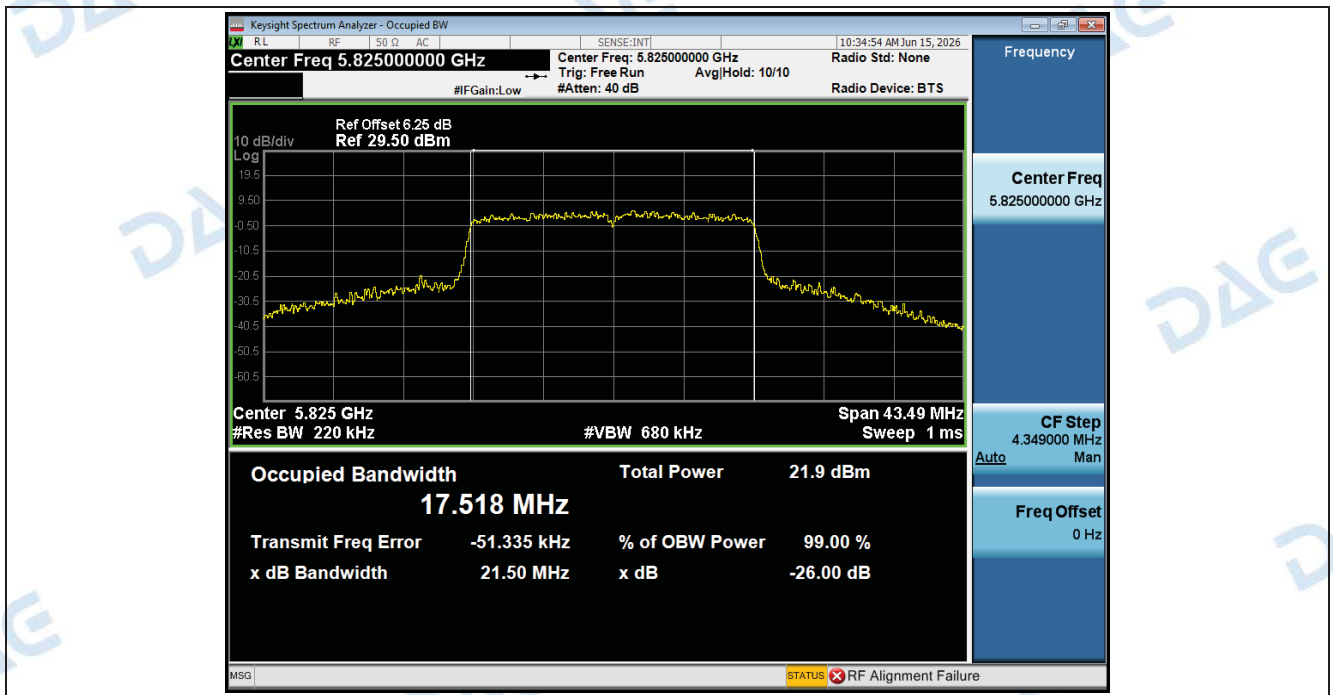




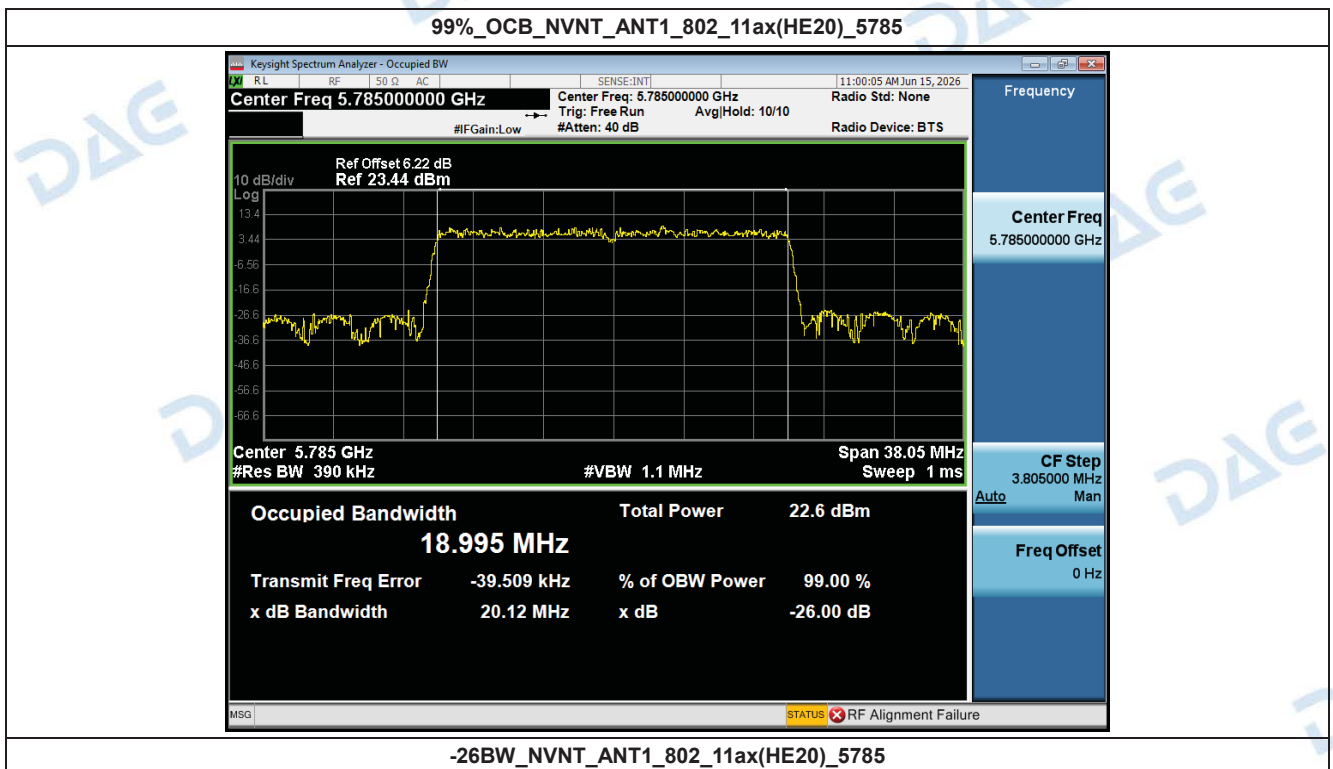
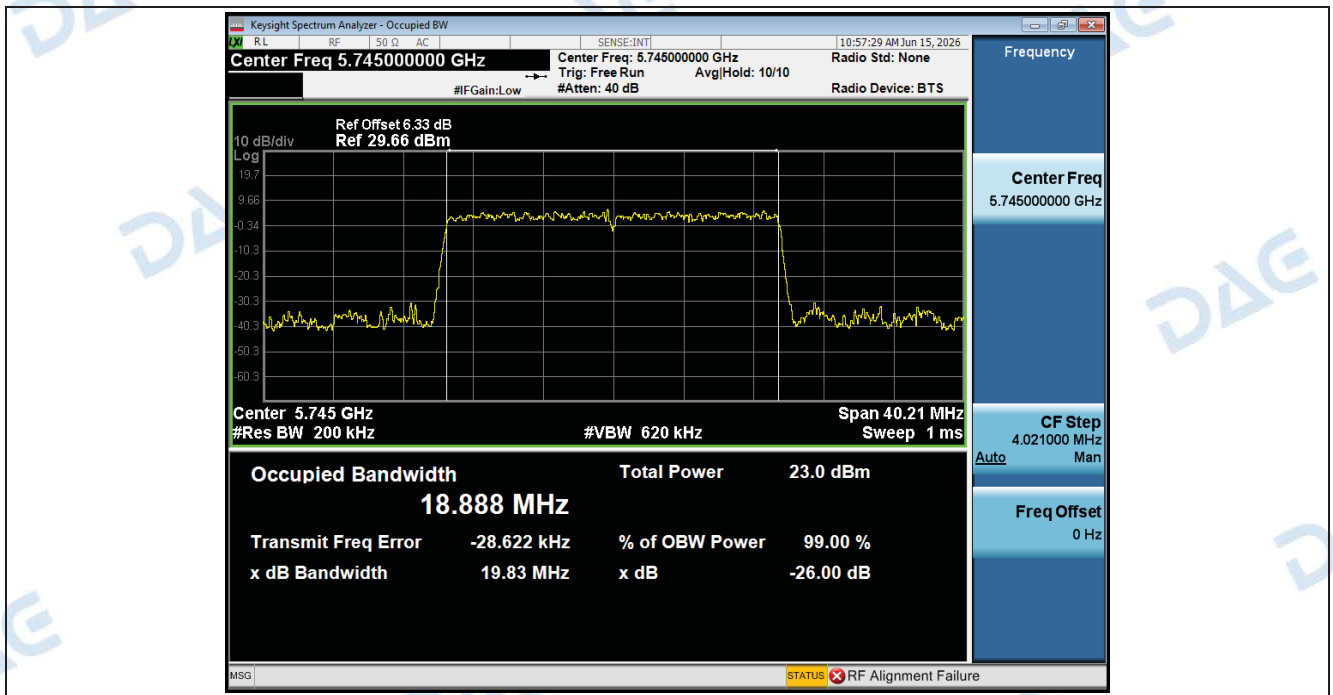


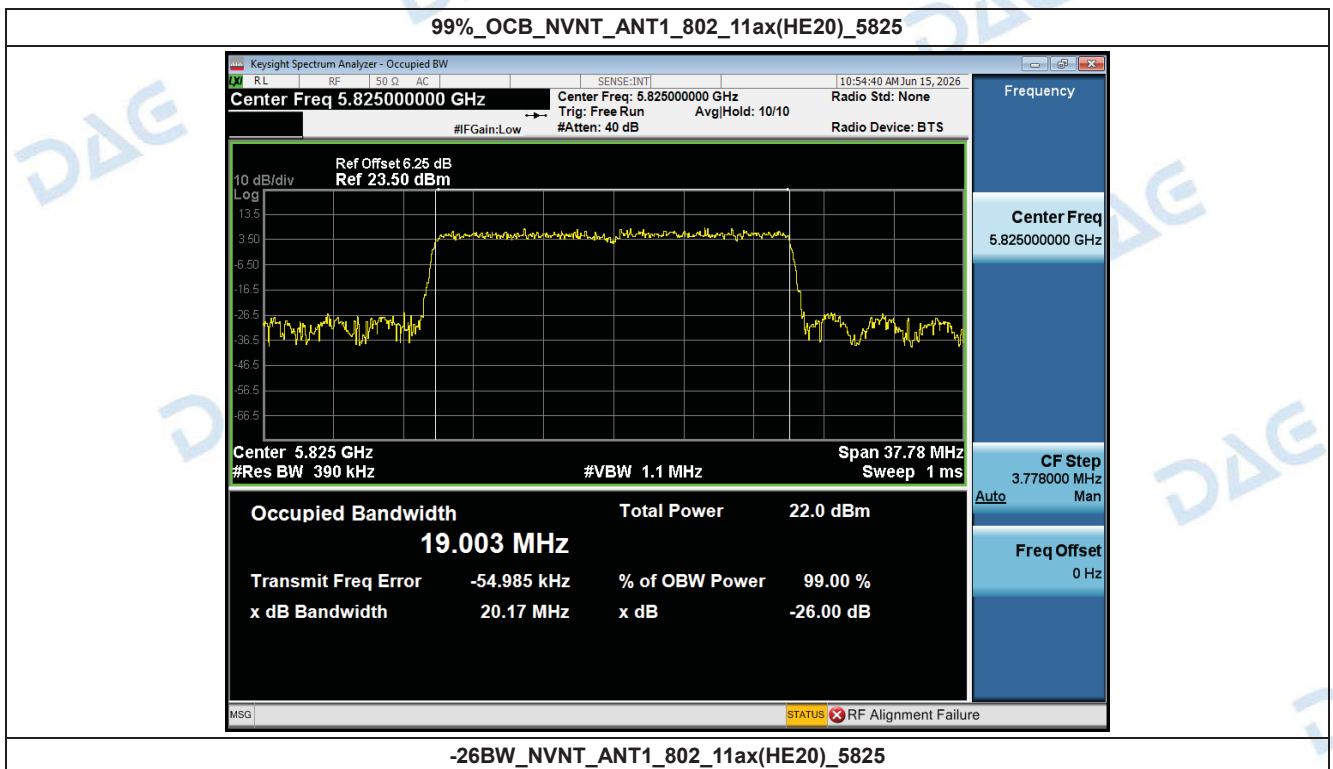
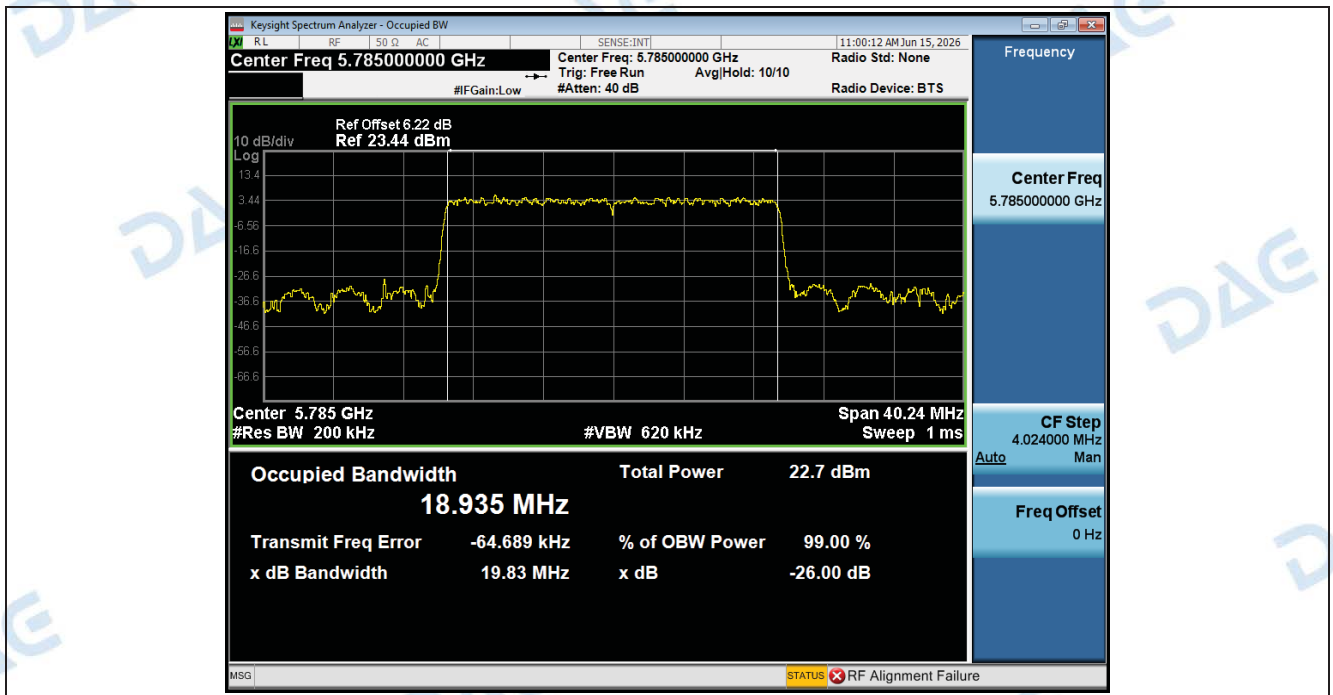


-26BW_NVNT_ANT1_802_11ac(VHT20)_5825

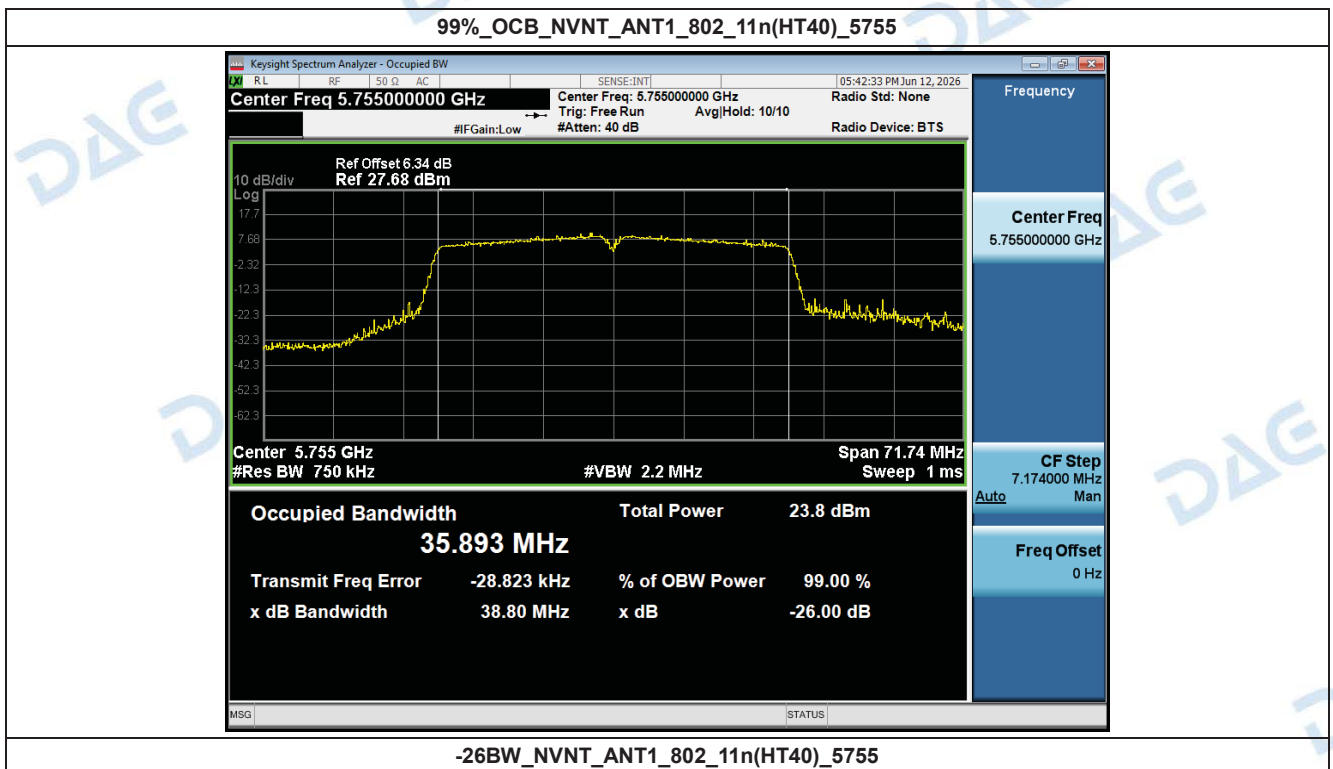
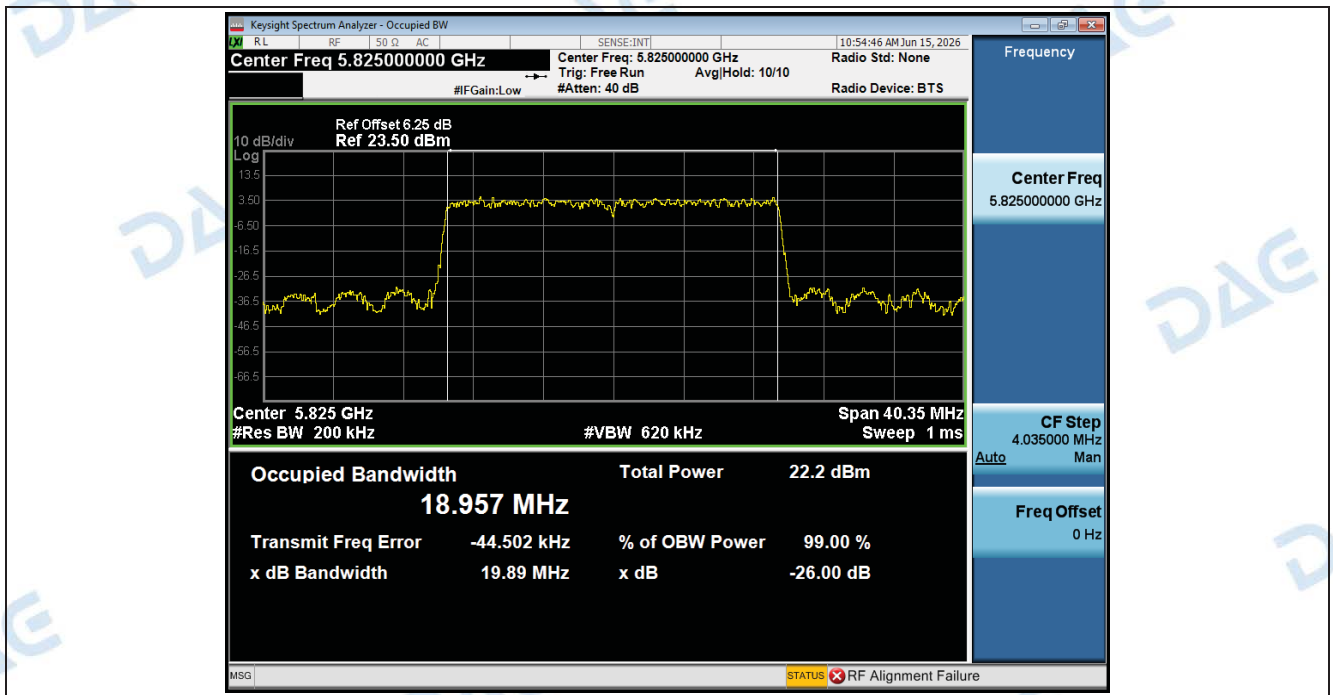


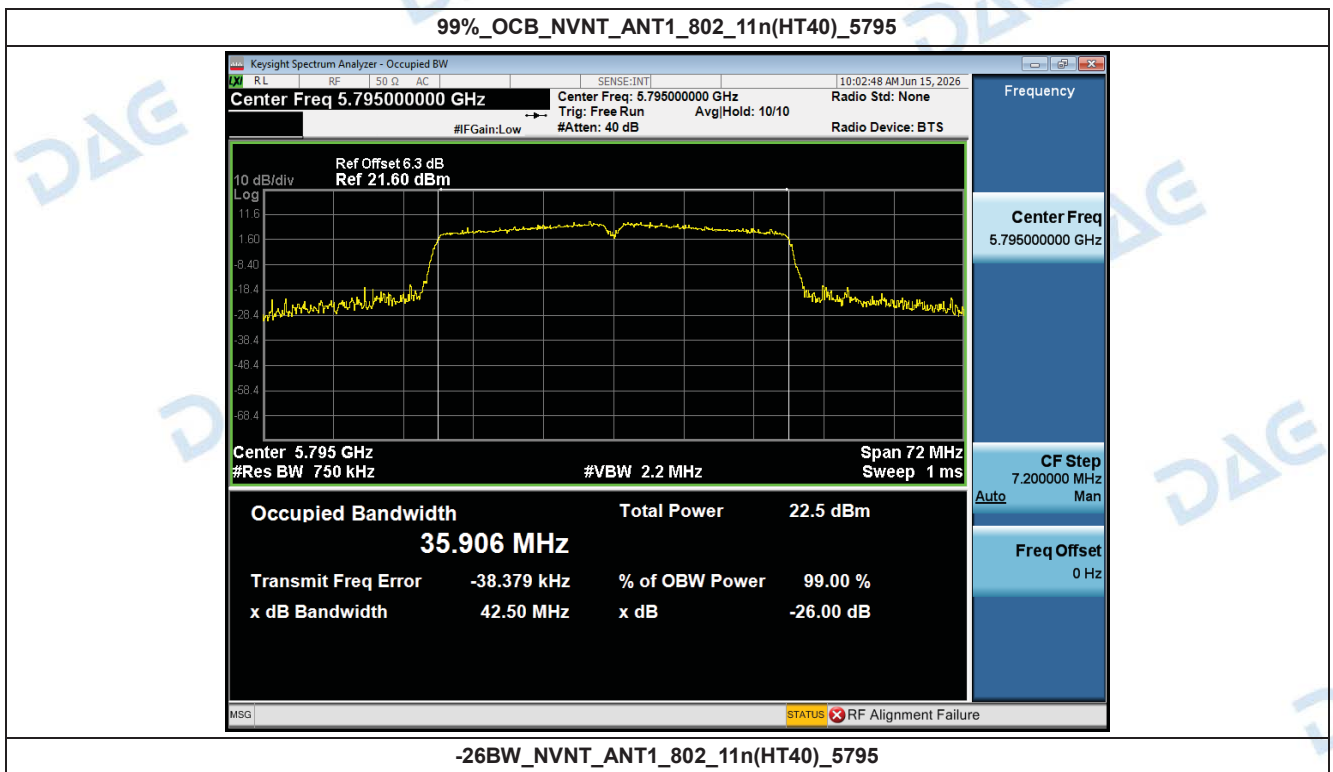
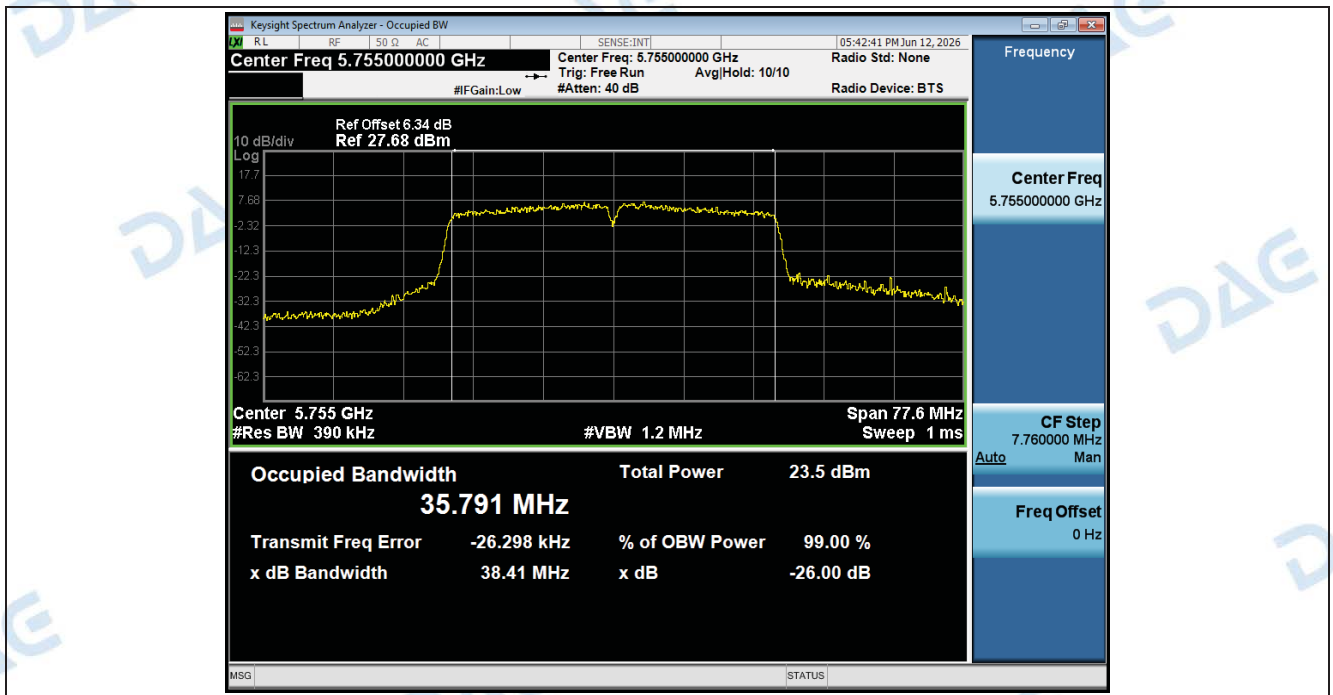
-26BW_NVNT_ANT1_802_11ax(HE20)_5745

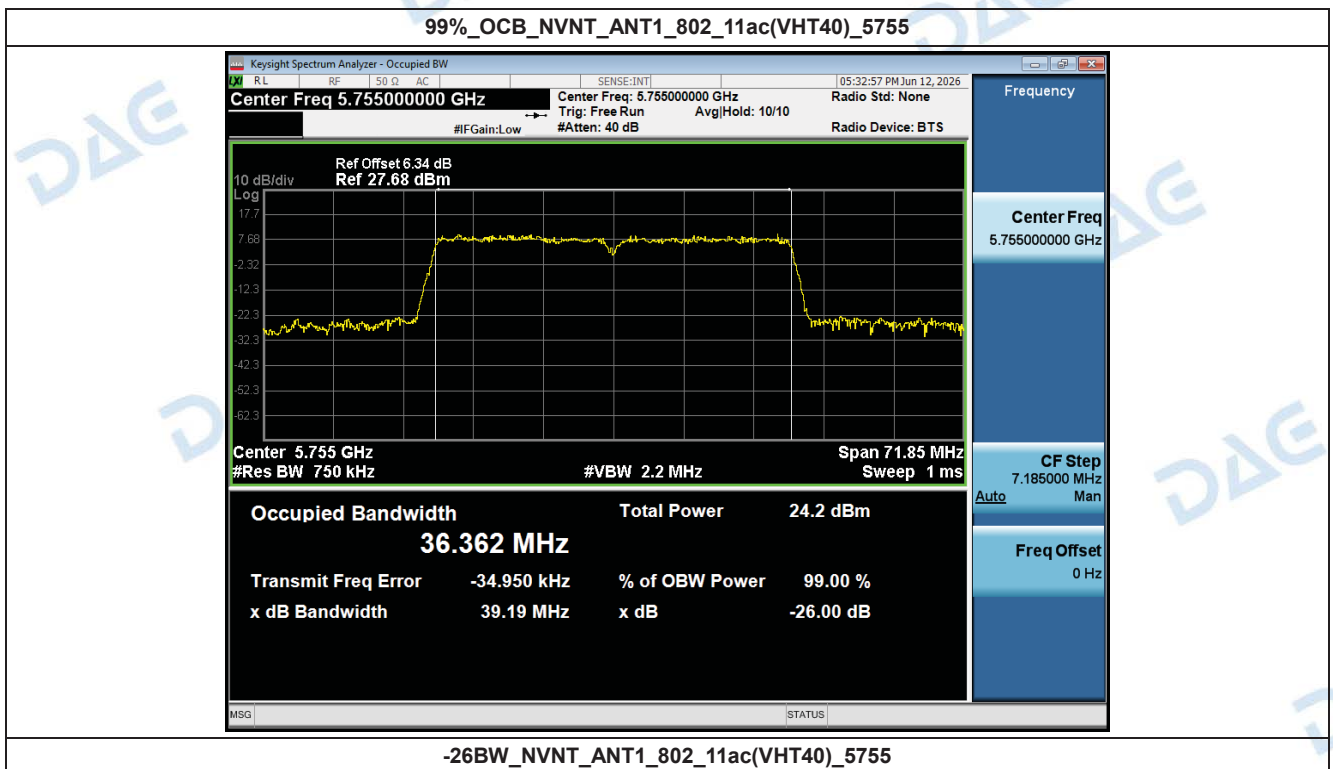
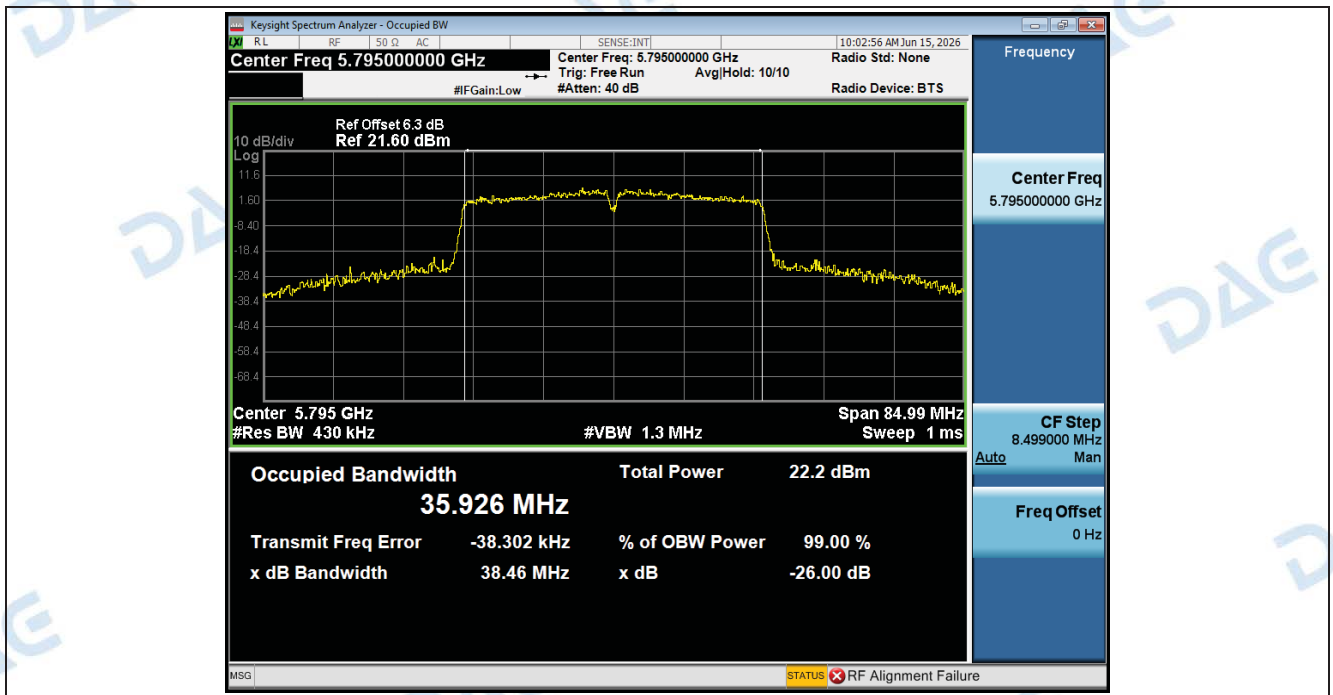




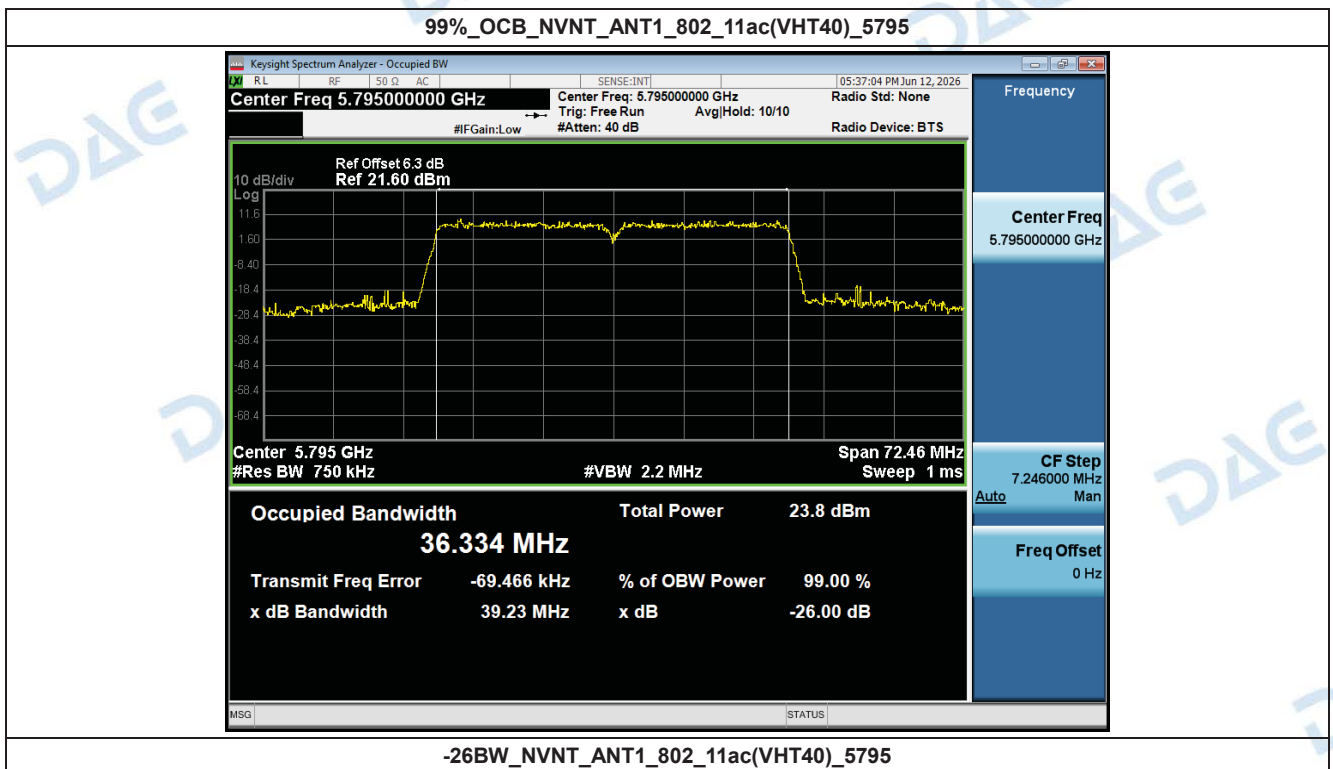
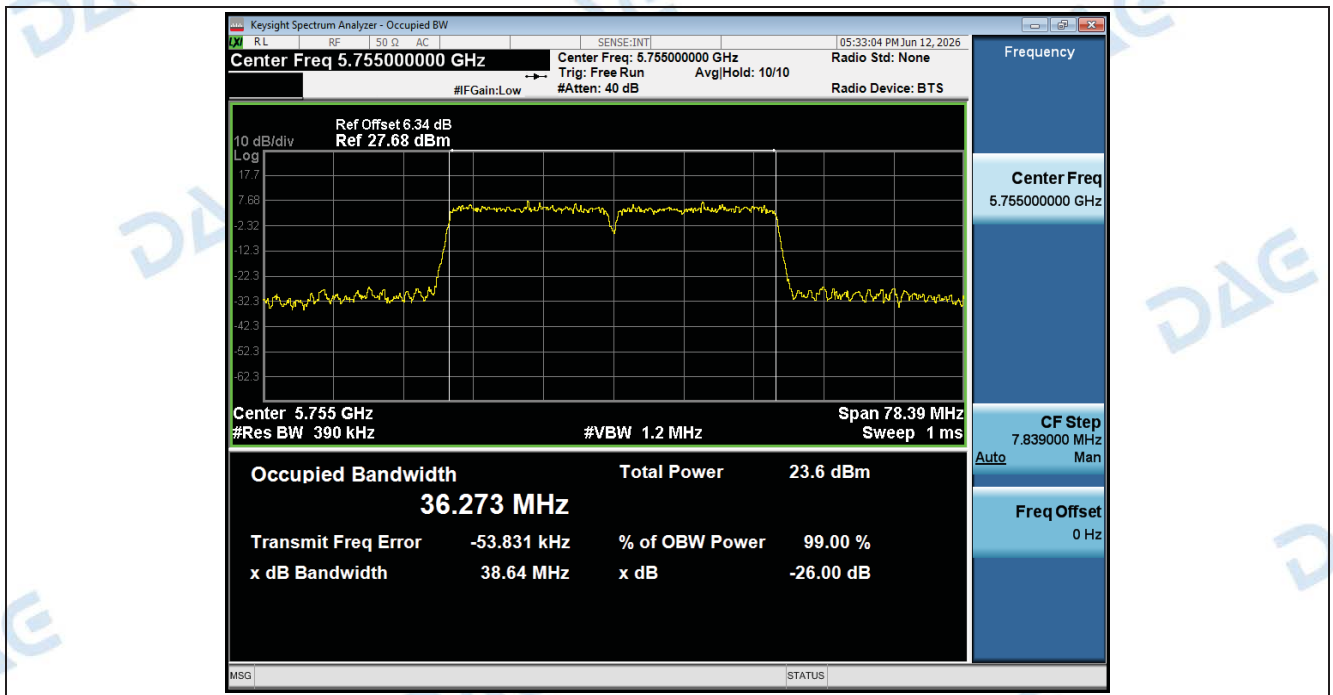
-26BW_NVNT_ANT1_802_11ax(HE20)_5825







-26BW_NVNT_ANT1_802_11ac(VHT40)_5755



-26BW_NVNT_ANT1_802_11ac(VHT40)_5795

