

TEST REPORT

Reference No. : WTH26D08253335W005
FCC ID..... : 2BEWX-SS220
Applicant : Zhejiang Lingzhu Technology Co., Ltd.
Address : Room 302, No 1 Building Huace Center, Xihu District, Hangzhou City,
Zhejiang Province, China
Manufacturer : Zhejiang Lingzhu Technology Co., Ltd.
Address : Room 302, No 1 Building Huace Center, Xihu District, Hangzhou City,
Zhejiang Province, China
Product Name : AI Speaker
Model No. : SS220
Standards..... : FCC 47CFR Part 15 Section 15.407
Date of Receipt Sample : 2026-08-26
Date of Test..... : 2026-08-28 to 2026-09-09
Date of Issue : 2026-10-20
Test Result : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company.
The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3 Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTH26D08253335W005	2026-08-26	2026-08-28 to 2026-09-09	2026-10-20	Original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	AI Speaker
Model(s):	SS220
Model Description:	N/A
Test Sample No.:	1-1/1
Wi-Fi Specification:	5G-802.11a/n(HT20/40)
Hardware Version:	VER1.0
Software Version:	V0.0.5

4.2 Details of E.U.T.

Operation Frequency:	802.11a/n(HT20): U-NII-1: 5180-5240MHz, U-NII-3: 5745-5825MHz 802.11n(HT40): U-NII-1: 5190-5230MHz, U-NII-3: 5755-5795MHz
Max. RF output power:	U-NII-1: 10.63dBm U-NII-3: 10.96dBm
Type of Modulation:	OFDM
Antenna installation:	FPC Antenna
Antenna Gain:	U-NII-1: 3.30dBi U-NII-3: 3.74dBi

Note:

#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTERK lab has not verified the authenticity of its information.

Ratings:	Power Input: 5V=2A
Adapter 1:	Model: DCT10W050200US-C1 Input: 100-240V ~ 50/60Hz 0.3A Output: 5.0V = 2.0A Manufacturer: Zhuzhou Dachuan Electronic Technology Co., Ltd
Adapter 2:	Model: TPA-10D050200UU01 Input: 100-240V ~ 50/60Hz 0.3A Output: 5.0V = 2.0A Manufacturer: Shenzhen Tianyin Electronic Technology Co., Ltd.

4.3 Channel List

U-NII-1 (5.15-5.25GHz)			
channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	38	5190
40	5200	42	5210
44	5220	46	5230
48	5240		

U-NII-3 (5.725-5.85GHz)			
channel	Frequency(MHz)	channel	Frequency(MHz)
149	5745	151	5755
153	5765	155	5775
157	5785	159	5795
161	5805	165	5825

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:

For 802.11a/n(HT20):

channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	40	5200
48	5240		

channel	Frequency(MHz)	channel	Frequency(MHz)
149	5745	157	5785
165	5825		

For 802.11n(HT40):

channel	Frequency(MHz)	channel	Frequency(MHz)
38	5190	46	5230

channel	Frequency(MHz)	channel	Frequency(MHz)
151	5755	159	5795

4.4 Test Mode Description

During testing, Channel and Power Controlling Software provided by the applicant was used to control the operating channel as well as the maximum output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Transmitting duty cycle is no less 98%.

The software is TermAssist and SecureCRT tool Use together.

Test Items	Mode	Data Rate	TX/RX
Radiated Emissions	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Duty Cycle	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Band Edge	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
6dB Bandwidth	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
26dB Bandwidth and 99% Occupied Bandwidth	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Maximum Conducted Output Power	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Power Spectral Density	802.11a(HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Frequency Stability	Un-modulation	/	TX

4.5 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

5 Equipment Used during Test

5.1 Equipments List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date	Calibration Due Date
Conducted Emissions 1#						
1	EMI Test Receiver	R&S	ESCI	100947	2026-08-09	2027-08-08
2	LISN	R&S	ENV216	100115	2026-06-11	2027-06-10
3	Cable	Top	TYPE16(3.5M)	-	2026-06-11	2027-06-10
3m Semi-anechoic Chamber for Radiation Emissions 1#						
1	Spectrum Analyzer	R&S	FSP30	100091	2026-04-07	2027-04-06
2	Amplifier	Agilent	8447D	2944A10178	2026-07-01	2027-06-30
3	Tri-log Broadband Antenna	SCHWARZBECK	VULB9163	336	2025-07-20	2027-07-17
4	Coaxial Cable	Top	TYPE16(13M)	-	2026-04-07	2027-04-06
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1314	2026-08-08	2027-08-07
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2026-07-01	2027-06-30
7	Broadband Preamplifier	COMPLIANCE	PAP-1G18	2004	2026-07-01	2027-06-30
8	Coaxial Cable	Top	ZT26-NJ-NJ-8M/FA	-	2026-04-07	2027-04-06
9	Microwave Amplifier	SCHWARZBECK	BBV 9721	100472	2026-07-01	2027-06-30
10	Coaxial Cable	Top	ZT40-2.92J-2.92J-2.0M	17100919	2026-07-01	2027-06-30
3m Semi-anechoic Chamber for Radiation Emissions 2#						
1	Test Receiver	R&S	ESCI	101296	2026-04-07	2027-04-06
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2026-07-11	2027-07-10
3	Active Loop Antenna	Com-Power	AL-130R	10160007	2026-04-19	2027-04-18
4	Amplifier	ANRITSU	MH648A	M43381	2026-04-07	2027-04-06
5	Cable	HUBER+SUHNER	CBL2	525178	2026-04-07	2027-04-06
RF Conducted Testing						
1	Spectrum Analyzer	R&S	FSP40	100501	2026-07-01	2027-06-30
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2026-07-01	2027-06-30

Test Software:

Test Item	Software name	Software version
Radiated Emission(3m)	EZ-EMC	EZ-EMC(RA-03A1-1)

5.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

5.3 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-6}$
RF Power	± 1.0 dB
RF Power Density	± 2.2 dB
Radiated Spurious Emissions test	± 5.03 dB (30M~1000MHz)
	± 5.47 dB (1000M~25000MHz)
Conducted Spurious Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)

6 Test Summary

Test Items	Test Requirement	Result
Conducted Emissions	15.207(a)	N/A
Radiated Emissions	15.407(b) 15.205(a) 15.209(a)	PASS
Duty Cycle	KDB 789033	PASS
6dB Bandwidth	15.407(e)	PASS
26 dB Emission Bandwidth & 99% Occupied Bandwidth	15.407(a)	PASS
Maximum Conducted Output Power	15.407(a)	PASS
Power Spectral Density	15.407(a)	PASS
Restricted bands around fundamental frequency	15.407(b)	PASS
Frequency stability	15.407(g)	PASS
Antenna Requirement	15.203	PASS
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

Note:

The offset of cable loss (also including the entire test system) has been applied to the measurement result due to no any offset display on the data plots.

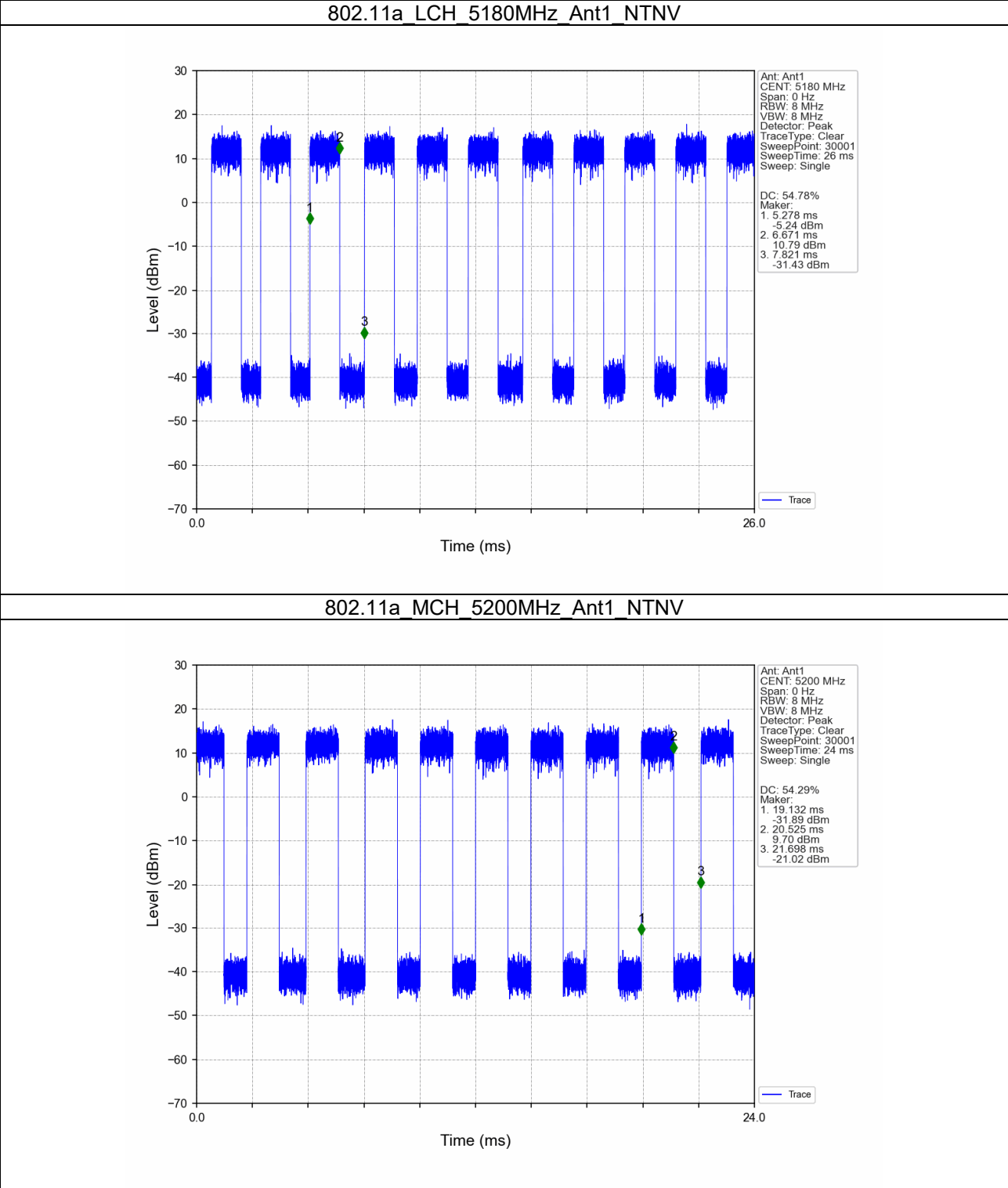
7 Duty cycle

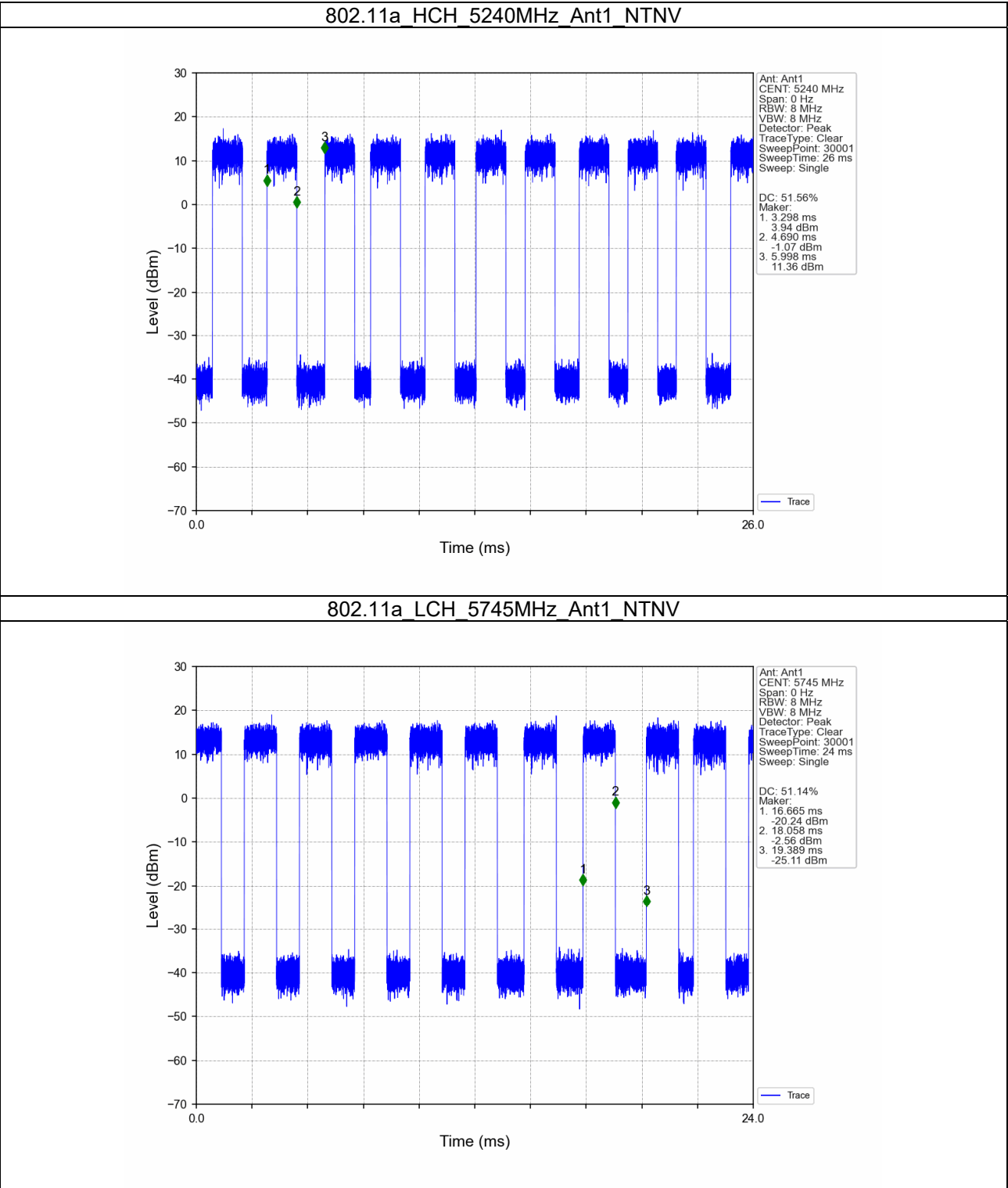
Test Requirement:	FCC 47CFR Part 15 Section 15.407 KDB789033 D02 General U-NII Test Procedures New Rules v02r01, Section (B)
Test Method:	ANSI C63.10-2020
Test Limit:	N/A
Test Result:	PASS
Remark:	Through Pre-scan, and found 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report.

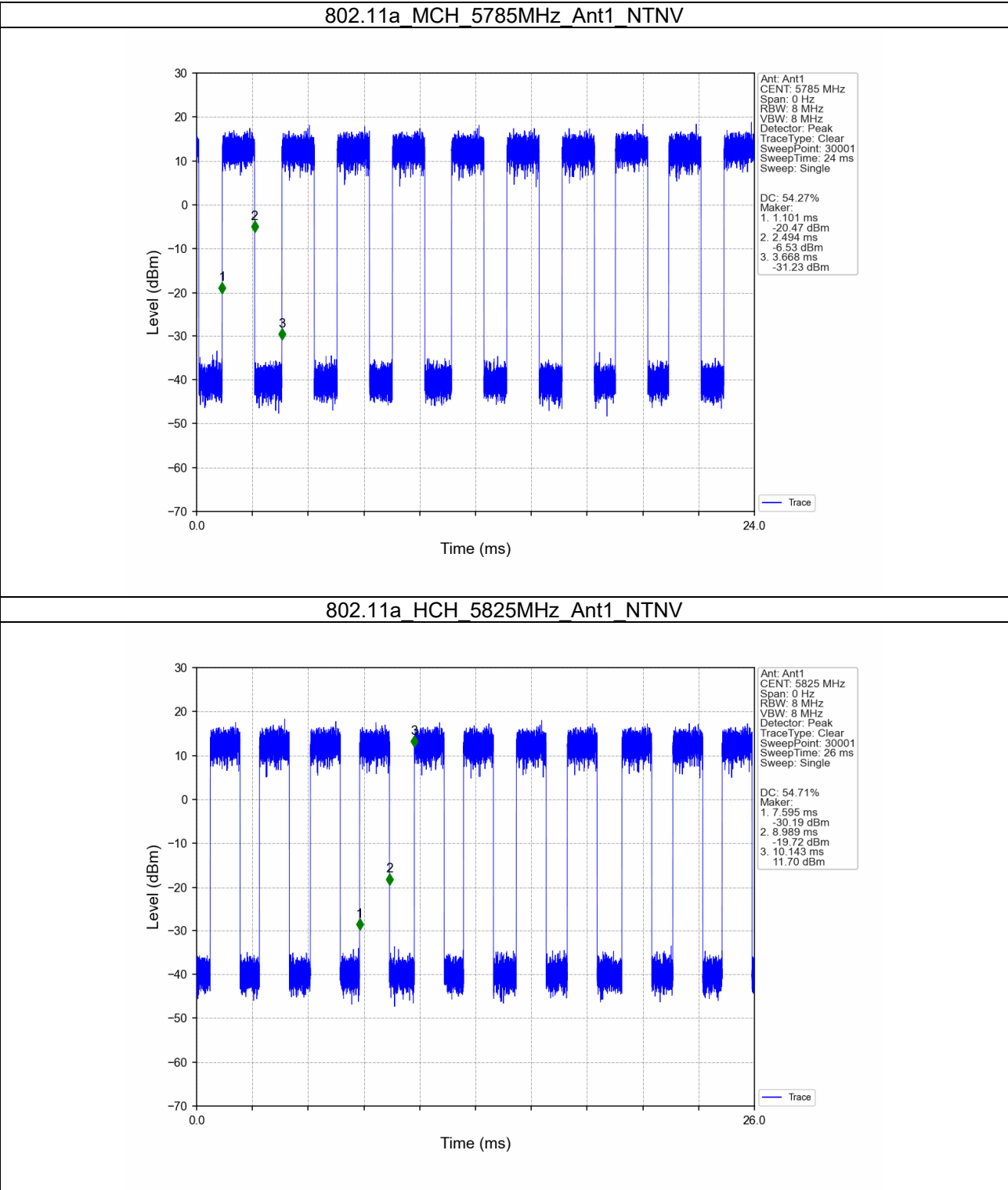
7.1 Summary of Test Results

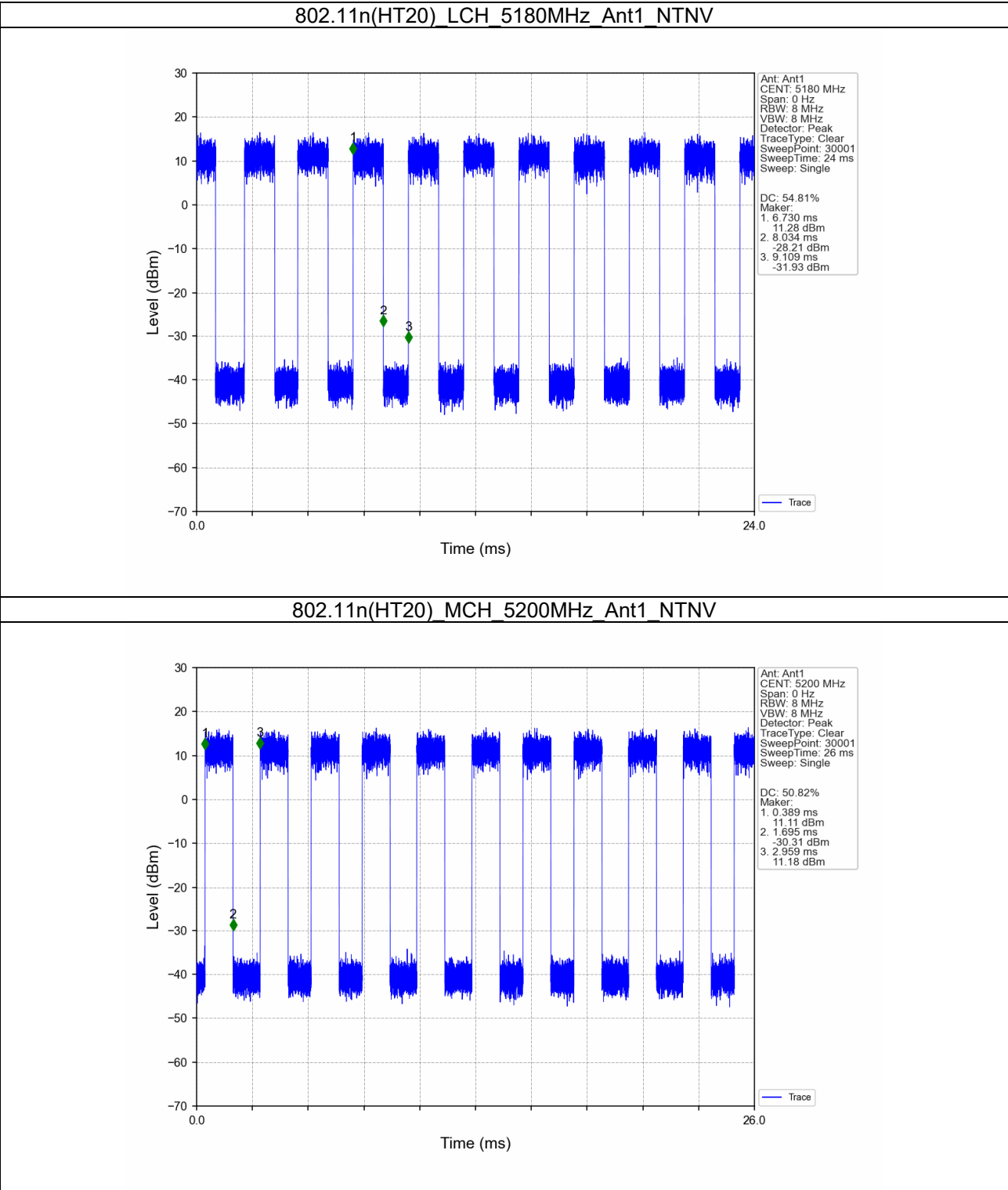
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	1.393	2.543	54.78	2.61	5.97
		5200	1.393	2.566	54.29	2.65	4.33
		5240	1.392	2.700	51.56	2.88	13.60
		5745	1.393	2.724	51.14	2.91	17.48
		5785	1.393	2.567	54.27	2.65	6.48
		5825	1.394	2.548	54.71	2.62	6.02
802.11n (HT20)	SISO	5180	1.304	2.379	54.81	2.61	2.11
		5200	1.306	2.570	50.82	2.94	4.13
		5240	1.306	2.566	50.90	2.93	6.04
		5745	1.338	2.548	52.51	2.80	5.79
		5785	1.305	2.570	50.78	2.94	4.09
		5825	1.305	2.545	51.28	2.90	3.68
802.11n (HT40)	SISO	5190	0.649	1.193	54.40	2.64	0.04
		5230	0.648	1.381	46.92	3.29	7.50
		5755	0.648	1.381	46.92	3.29	7.48
		5795	0.649	1.831	35.45	4.50	26.99

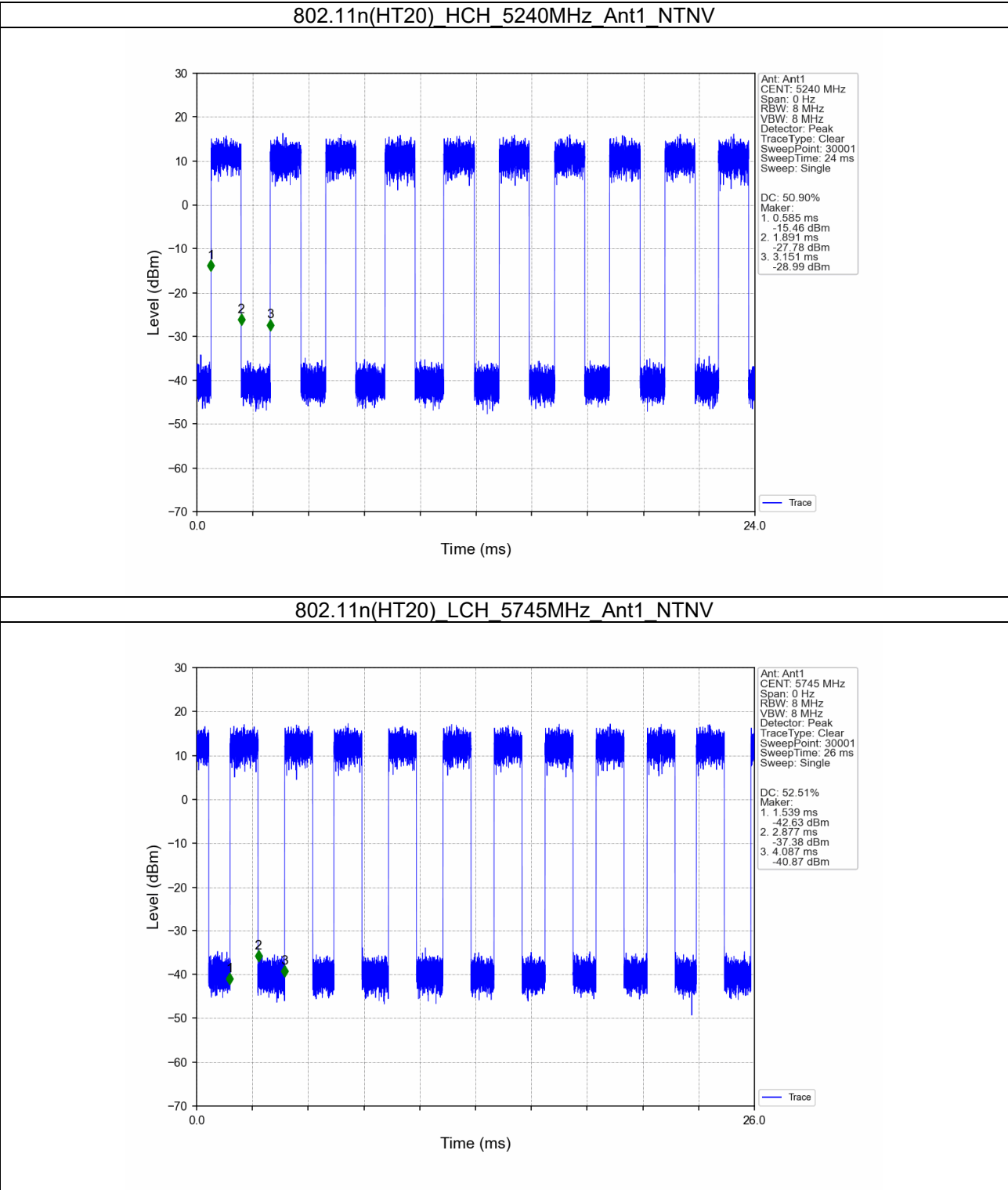
Test result plots shown as follows:

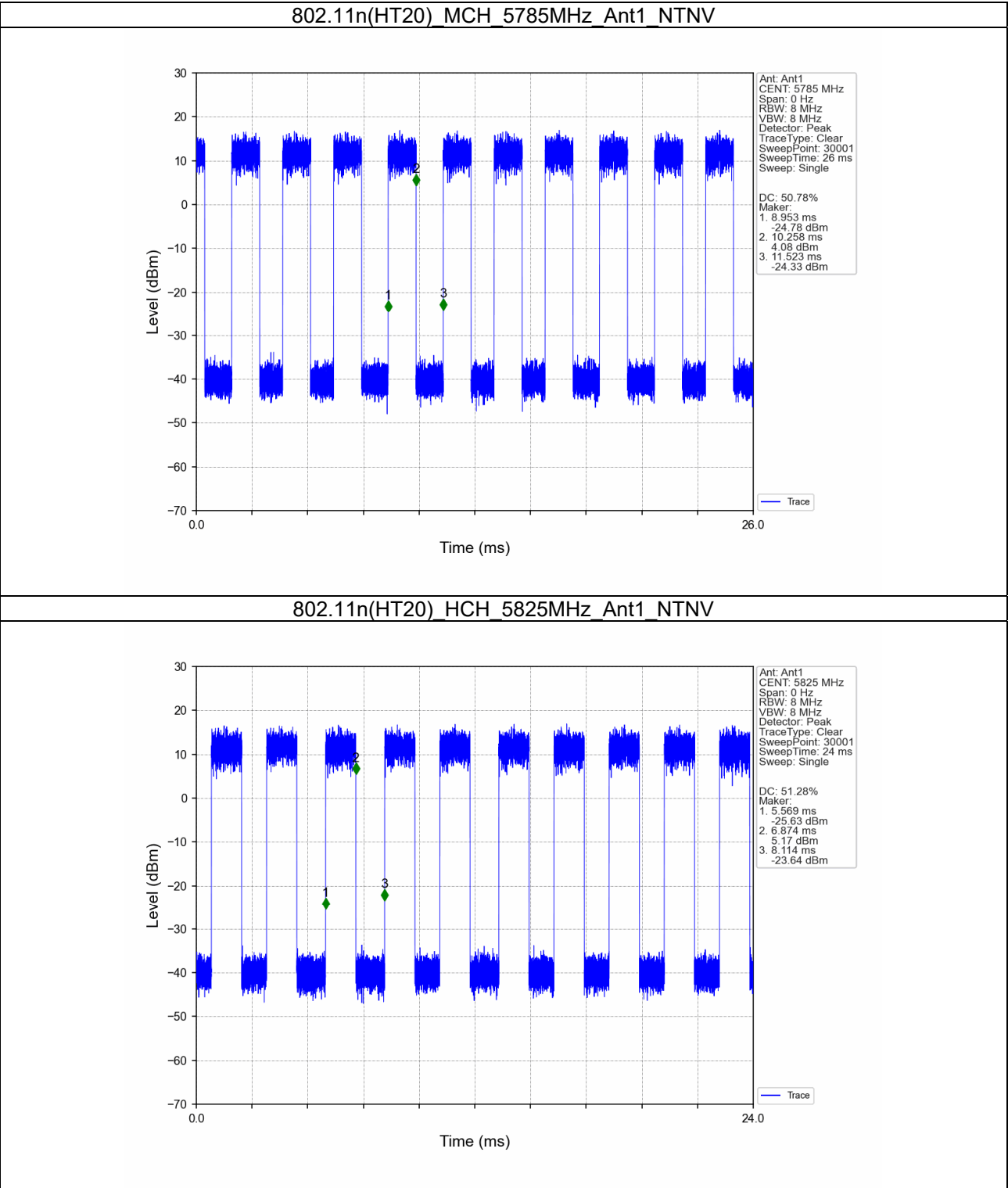


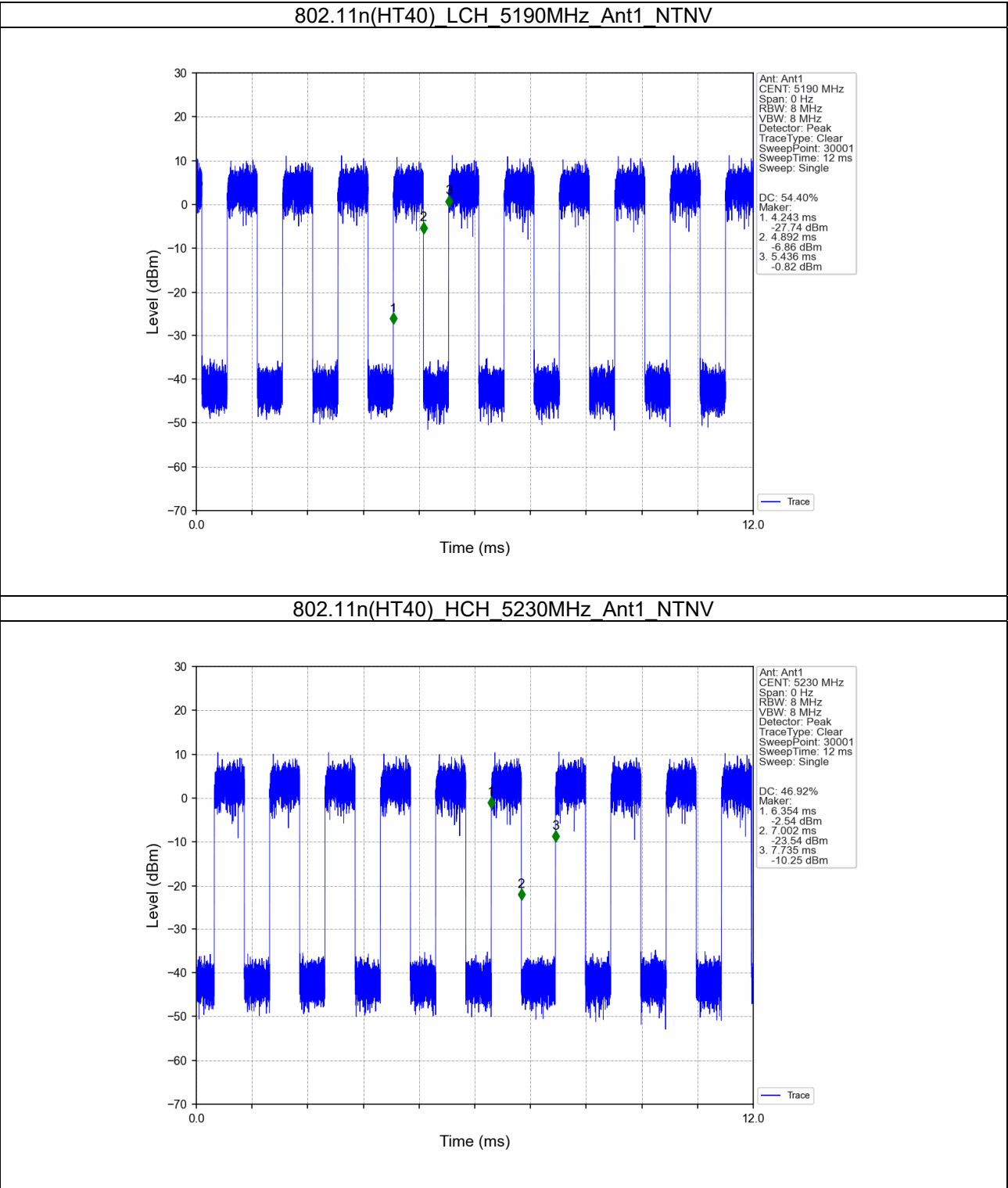


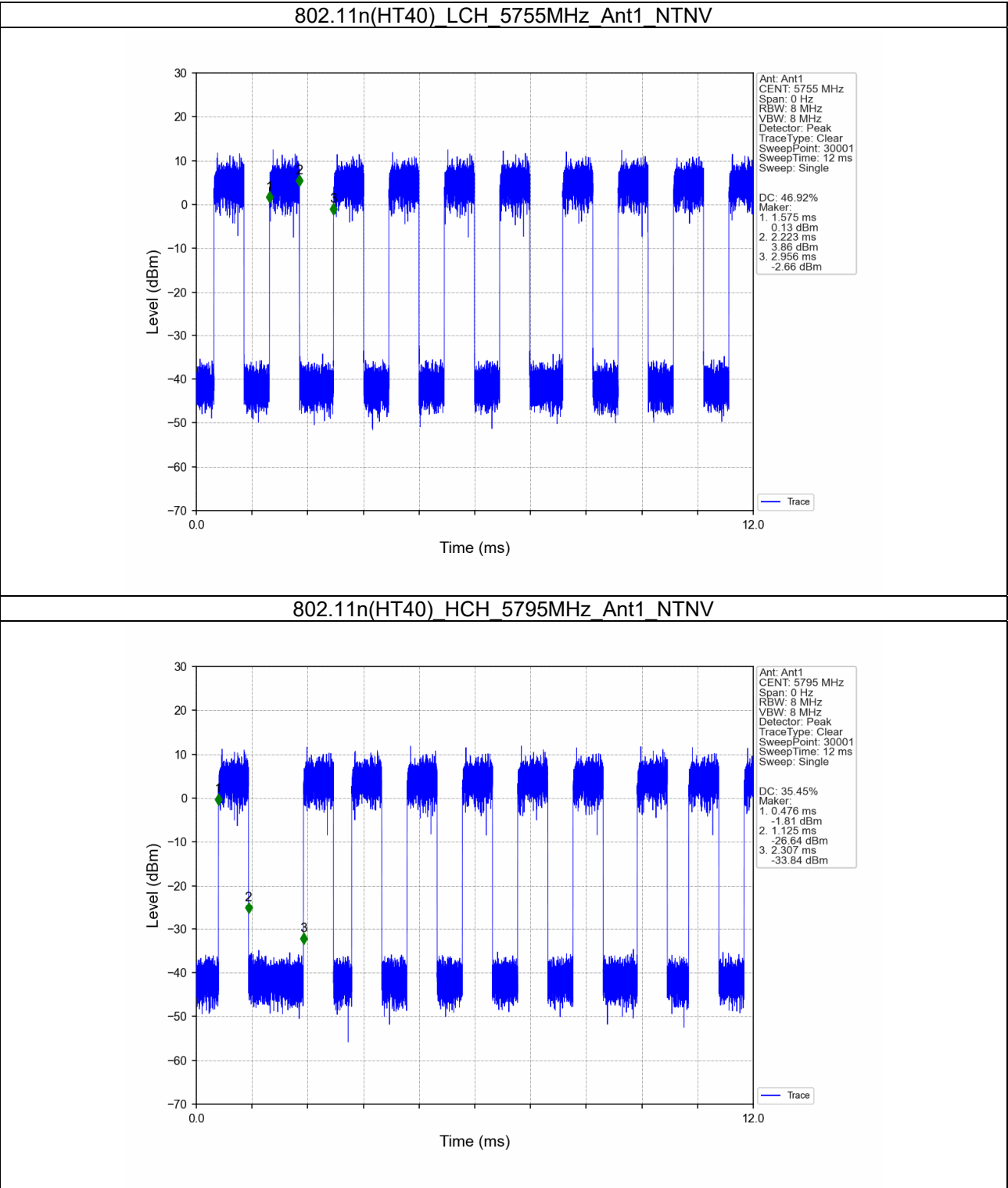












8 Conducted Emission

Test Requirement: FCC 47CFR Part 15 Section 15.207
Test Method: ANSI C63.10-2020
Test Result: PASS
Frequency Range: 150kHz to 30MHz
Limit:

Frequency (MHz)	Conducted Limit (dBμV)	
	Qu i-pe k	verage
.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50

*Decreases with the logarithm of the frequency.

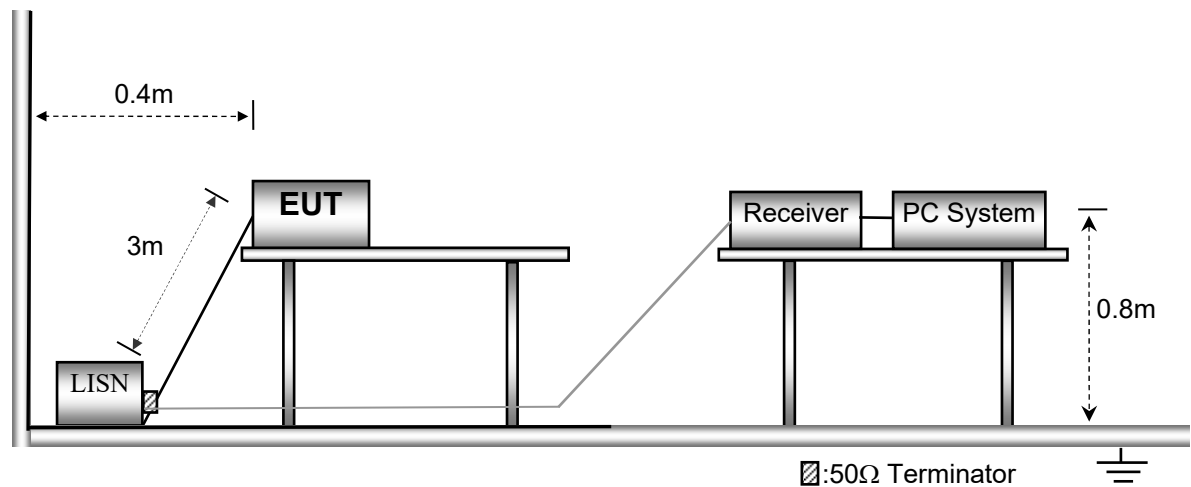
8.1 E.U.T. Operation

Operating Environment :
Temperature: 25.7°C
Humidity: 59.9%RH
Atmospheric Pressure: 101.1kPa

EUT Operation :
The test was performed in transmitting mode, the test data were shown in the report.

8.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10-2020.



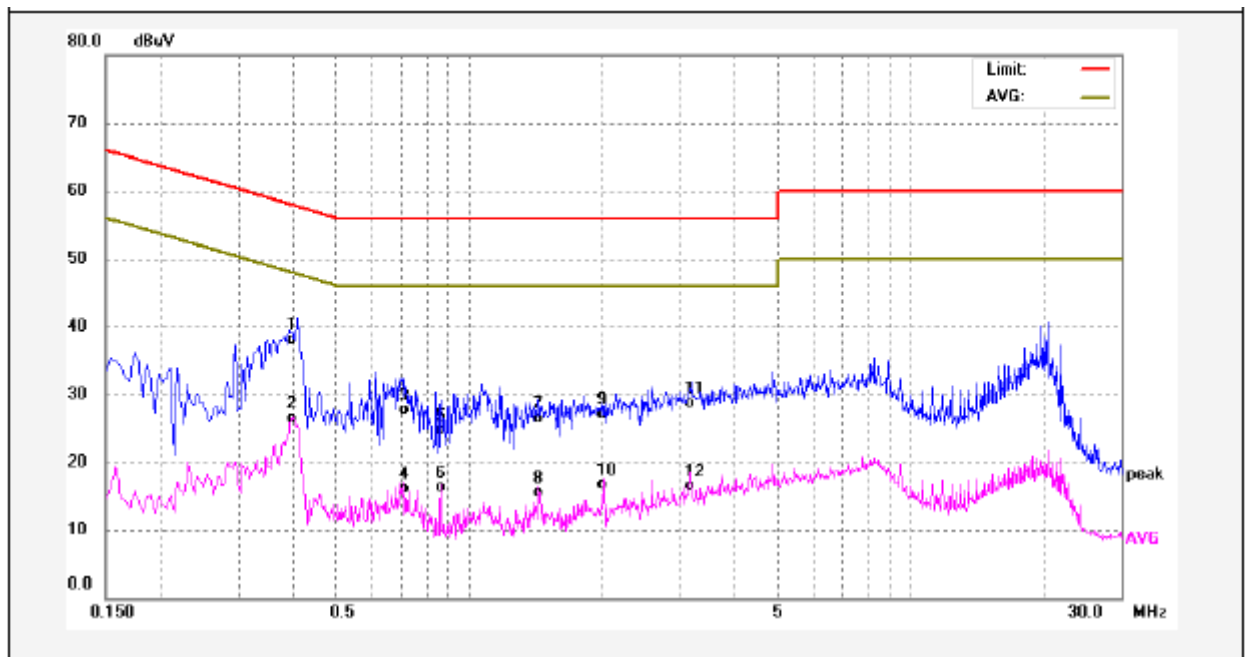
8.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

8.4 Conducted Emission Test Result

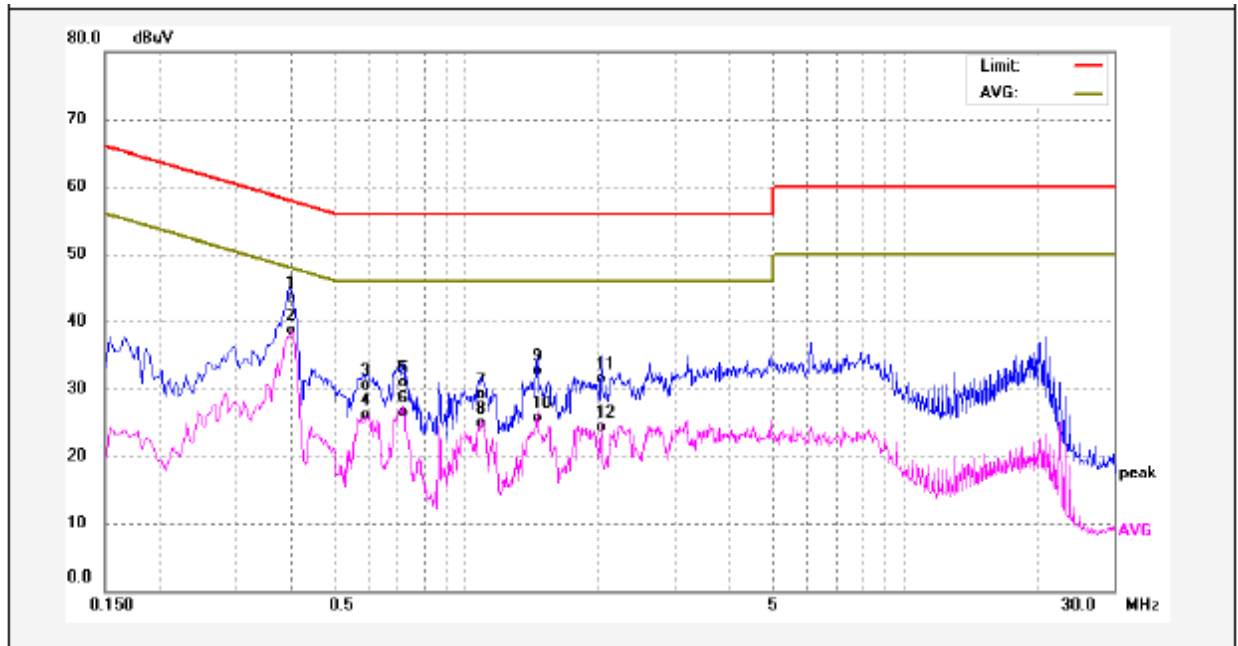
Remark: only the worst data (U-NII-1 802.11a High channel mode) were reported

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.3980	28.07	10.09	38.16	57.89	-19.73	QP	
2	0.3980	16.45	10.09	26.54	47.89	-21.35	AVG	
3	0.7140	17.60	10.16	27.76	56.00	-28.24	QP	
4	0.7140	6.04	10.16	16.20	46.00	-29.80	AVG	
5	0.8660	14.48	10.21	24.69	56.00	-31.31	QP	
6	0.8660	6.00	10.21	16.21	46.00	-29.79	AVG	
7	1.4380	16.25	10.30	26.55	56.00	-29.45	QP	
8	1.4380	5.19	10.30	15.49	46.00	-30.51	AVG	
9	2.0140	16.77	10.37	27.14	56.00	-28.86	QP	
10	2.0140	6.32	10.37	16.69	46.00	-29.31	AVG	
11	3.1619	18.20	10.41	28.61	56.00	-27.39	QP	
12	3.1619	6.15	10.41	16.56	46.00	-29.44	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.4020	33.51	10.09	43.60	57.81	-14.21	QP	
2	0.4020	28.61	10.09	38.70	47.81	-9.11	AVG	
3	0.5899	20.30	10.13	30.43	56.00	-25.57	QP	
4	0.5899	15.92	10.13	26.05	46.00	-19.95	AVG	
5	0.7180	20.66	10.16	30.82	56.00	-25.18	QP	
6	0.7180	16.30	10.16	26.46	46.00	-19.54	AVG	
7	1.0820	18.90	10.25	29.15	56.00	-26.85	QP	
8	1.0820	14.67	10.25	24.92	46.00	-21.08	AVG	
9	1.4500	22.36	10.30	32.66	56.00	-23.34	QP	
10	1.4500	15.35	10.30	25.65	46.00	-20.35	AVG	
11	2.0300	21.18	10.37	31.55	56.00	-24.45	QP	
12	2.0300	13.85	10.37	24.22	46.00	-21.78	AVG	

9 Radiated Emissions

Test Requirement: FCC 47CFR Part 15 Section 15.209 & 15.407

Test Method: ANSI C63.10-2020

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Distance	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

9.1 EUT Operation

Operating Environment :

Temperature: 23.5 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 101.2kPa

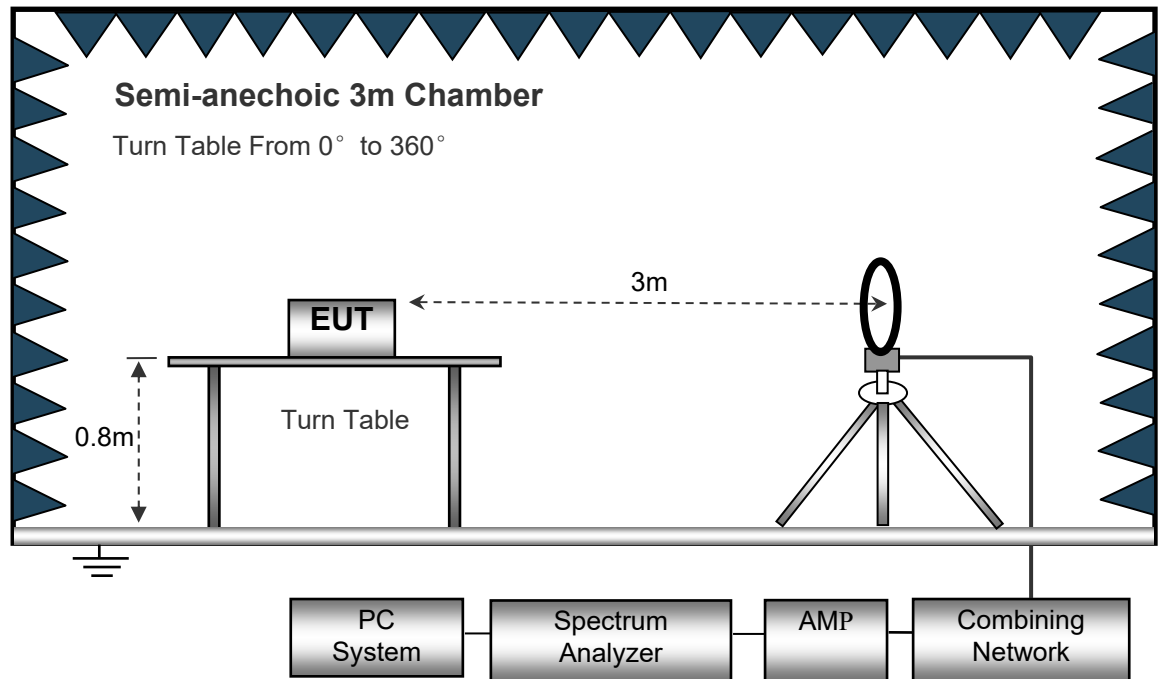
EUT Operation :

The test was performed in transmitting mode, the test data were shown in the report.

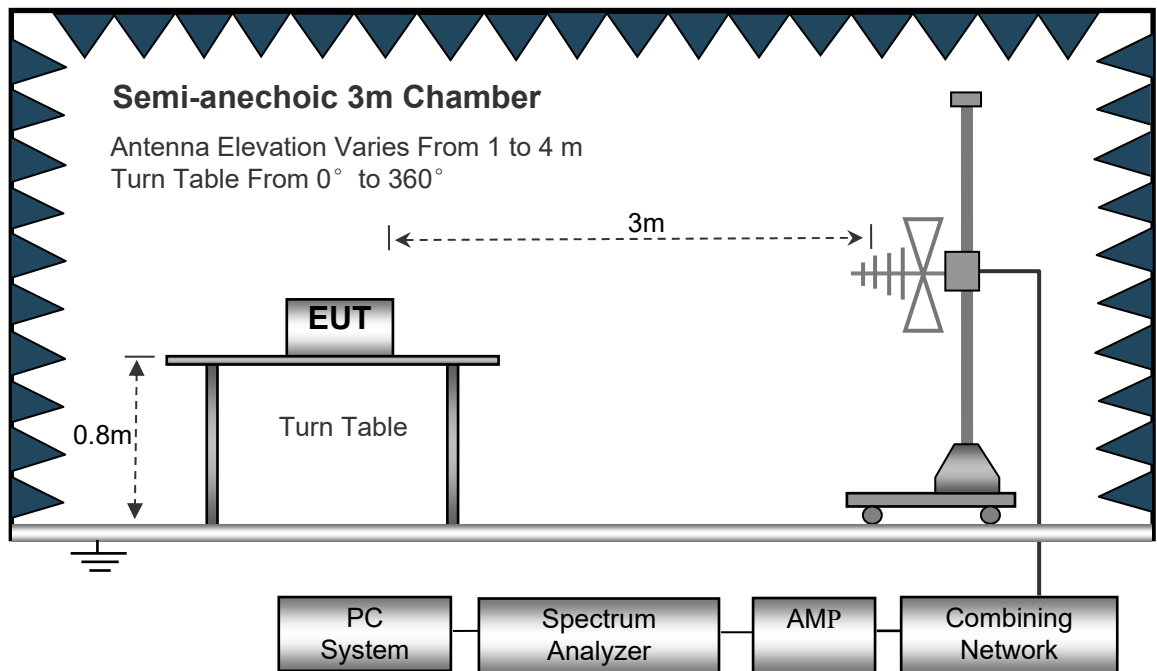
9.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10-2020.

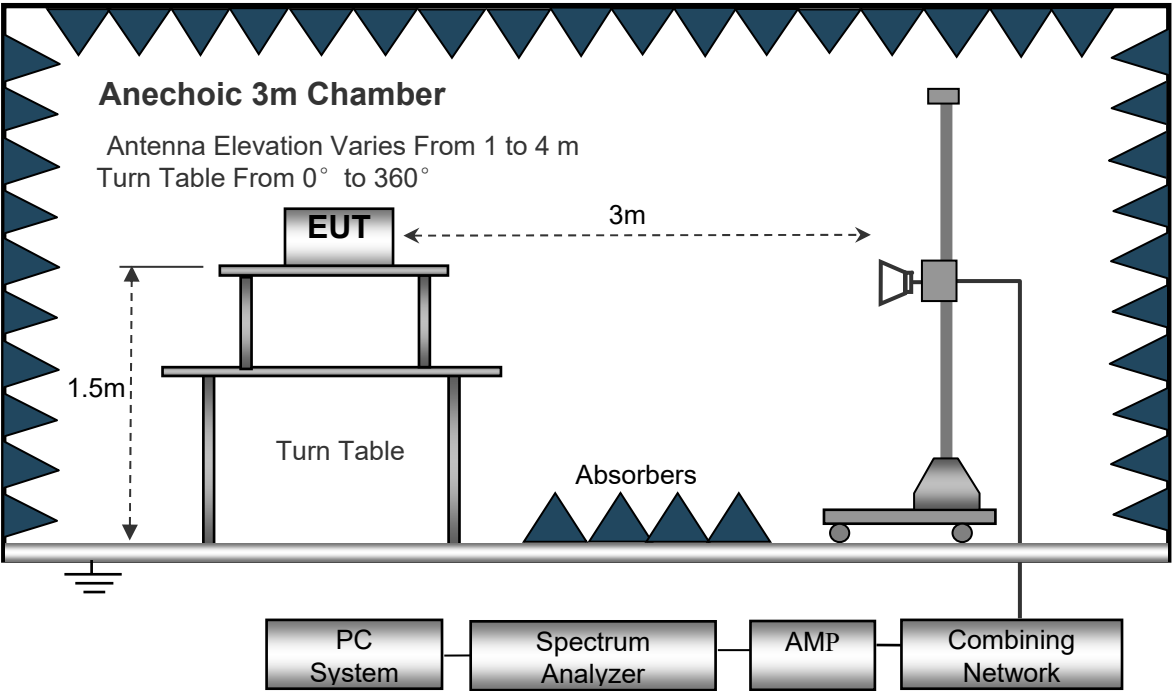
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



9.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed Auto
IF Bandwidth.....10kHz
Video Bandwidth.....10kHz
Resolution Bandwidth.....10kHz

30MHz ~ 1GHz

Sweep Speed Auto
Detector PK
Resolution Bandwidth.....100kHz
Video Bandwidth.....300kHz

Above 1GHz

Sweep Speed Auto
Detector PK
Resolution Bandwidth.....1MHz
Video Bandwidth.....3MHz
Detector Ave.
Resolution Bandwidth.....1MHz
Video Bandwidth.....10Hz

9.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in X axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used during radiated emissions above 1GHz measurement.

9.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

9.6 Summary of Test Results

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 18GHz

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11a U-NII-1 Low Channel 5180MHz									
546.37	42.59	QP	84	1.4	H	-9.35	33.24	46.00	-12.76
546.37	44.96	QP	84	2.0	V	-9.35	35.61	46.00	-10.39
4500.03	59.55	PK	193	1.6	H	-2.03	57.52	74.00	-16.48
4500.03	45.74	Ave	193	1.6	H	-2.03	43.71	54.00	-10.29
5128.45	50.75	PK	312	1.4	H	-1.02	49.73	74.00	-24.27
5128.45	38.68	Ave	312	1.4	H	-1.02	37.66	54.00	-16.34
10360.00	48.12	PK	233	1.9	H	5.33	53.45	74.00	-20.55
10360.00	34.21	Ave	233	1.9	H	5.33	39.54	54.00	-14.46
802.11a U-NII-1 Middle channel 5200MHz									
546.37	42.09	QP	259	1.0	H	-9.35	32.74	46.00	-13.26
546.37	44.74	QP	266	1.8	V	-9.35	35.39	46.00	-10.61
4513.97	58.84	PK	167	1.2	H	-1.94	56.90	74.00	-17.10
4513.97	44.27	Ave	167	1.2	H	-1.94	42.33	54.00	-11.67
5146.28	51.81	PK	5	1.1	H	-1.06	50.75	74.00	-23.25
5146.28	39.17	Ave	5	1.1	H	-1.06	38.11	54.00	-15.89
10400.00	47.10	PK	195	1.6	H	5.21	52.31	74.00	-21.69
10400.00	33.05	Ave	195	1.6	H	5.21	38.26	54.00	-15.74

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11a U-NII-1 High channel 5240MHz									
546.37	41.87	QP	292	1.8	H	-9.35	32.52	46.00	-13.48
546.37	44.20	QP	23	1.8	V	-9.35	34.85	46.00	-11.15
4539.88	57.62	PK	279	1.2	H	-2.24	55.38	74.00	-18.62
4539.88	42.82	Ave	279	1.2	H	-2.24	40.58	54.00	-13.42
5112.04	52.15	PK	327	1.3	H	-1.09	51.06	74.00	-22.94
5112.04	38.19	Ave	327	1.3	H	-1.09	37.10	54.00	-16.90
10480.00	47.53	PK	129	1.1	H	5.14	52.67	74.00	-21.33
10480.00	32.84	Ave	129	1.1	H	5.14	37.98	54.00	-16.02
802.11a U-NII-3 Low Channel 5745MHz									
546.37	41.66	QP	95	1.5	H	-9.35	32.31	46.00	-13.69
546.37	43.61	QP	212	1.3	V	-9.35	34.26	46.00	-11.74
4512.68	56.79	PK	202	1.6	H	-2.06	54.73	74.00	-19.27
4512.68	42.75	Ave	202	1.6	H	-2.06	40.69	54.00	-13.31
5368.13	46.78	PK	182	1.6	H	5.93	52.71	74.00	-21.29
5368.13	33.70	Ave	182	1.6	H	5.93	39.63	54.00	-14.37
11490.00	45.60	PK	79	1.9	H	-1.25	44.35	74.00	-29.65
11490.00	39.87	Ave	79	1.9	H	-1.25	38.62	54.00	-15.38

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11a U-NII-3 middle channel 5785MHz									
546.37	40.26	QP	290	1.4	H	-9.35	30.91	46.00	-15.09
546.37	42.59	QP	42	1.6	V	-9.35	33.24	46.00	-12.76
4538.04	55.93	PK	19	1.6	H	-2.03	53.90	74.00	-20.10
4538.04	42.60	Ave	19	1.6	H	-2.03	40.57	54.00	-13.43
5365.78	47.76	PK	124	1.9	H	5.81	53.57	74.00	-20.43
5365.78	33.10	Ave	124	1.9	H	5.81	38.91	54.00	-15.09
11570.00	46.59	PK	349	1.7	H	-1.22	45.37	74.00	-28.63
11570.00	37.47	Ave	349	1.7	H	-1.22	36.25	54.00	-17.75
802.11a U-NII-3 High channel 5825MHz									
546.37	39.77	QP	12	1.1	H	-9.35	30.42	46.00	-15.58
546.37	41.73	QP	184	1.3	V	-9.35	32.38	46.00	-13.62
4533.13	55.89	PK	132	1.5	H	-1.84	54.05	74.00	-19.95
4533.13	42.23	Ave	132	1.5	H	-1.84	40.39	54.00	-13.61
5350.11	47.13	PK	352	1.8	H	5.84	52.97	74.00	-21.03
5350.11	32.78	Ave	352	1.8	H	5.84	38.62	54.00	-15.38
11650.00	46.39	PK	358	1.9	H	-1.30	45.09	74.00	-28.91
11650.00	38.60	Ave	358	1.9	H	-1.30	37.30	54.00	-16.70

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT20) U-NII-1 Low Channel 5180MHz									
546.37	38.60	QP	258	1.5	H	-9.35	29.25	46.00	-16.75
546.37	41.42	QP	106	1.9	V	-9.35	32.07	46.00	-13.93
4501.08	55.19	PK	246	1.9	H	-2.14	53.05	74.00	-20.95
4501.08	41.74	Ave	246	1.9	H	-2.14	39.60	54.00	-14.40
5115.98	46.21	PK	196	1.2	H	-1.06	45.15	74.00	-28.85
5115.98	34.40	Ave	196	1.2	H	-1.06	33.34	54.00	-20.66
10360.00	46.95	PK	237	1.9	H	5.33	52.28	74.00	-21.72
10360.00	34.01	Ave	237	1.9	H	5.33	39.34	54.00	-14.66
802.11n(HT20) U-NII-1 Middle channel 5200MHz									
546.37	38.00	QP	228	1.9	H	-9.35	28.65	46.00	-17.35
546.37	40.52	QP	126	1.8	V	-9.35	31.17	46.00	-14.83
4531.36	54.88	PK	220	1.1	H	-2.12	52.76	74.00	-21.24
4531.36	40.82	Ave	220	1.1	H	-2.12	38.70	54.00	-15.30
5132.22	46.36	PK	155	1.5	H	-1.06	45.30	74.00	-28.70
5132.22	33.53	Ave	155	1.5	H	-1.06	32.47	54.00	-21.53
10400.00	47.84	PK	70	1.9	H	5.21	53.05	74.00	-20.95
10400.00	34.47	Ave	70	1.9	H	5.21	39.68	54.00	-14.32

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT20) U-NII-1 High channel 5240MHz									
546.37	37.85	QP	255	1.9	H	-9.35	28.50	46.00	-17.50
546.37	41.79	QP	193	1.1	V	-9.35	32.44	46.00	-13.56
4532.50	55.93	PK	289	1.7	H	-1.96	53.97	74.00	-20.03
4532.50	40.04	Ave	289	1.7	H	-1.96	38.08	54.00	-15.92
5141.17	47.00	PK	199	1.3	H	-1.06	45.94	74.00	-28.06
5141.17	33.89	Ave	199	1.3	H	-1.06	32.83	54.00	-21.17
10480.00	48.39	PK	89	1.3	H	5.14	53.53	74.00	-20.47
10480.00	33.09	Ave	89	1.3	H	5.14	38.23	54.00	-15.77
802.11n(HT20) U-NII-3 Low Channel 5745MHz									
546.37	31.13	QP	244	1.4	H	-9.35	21.78	46.00	-24.22
546.37	43.10	QP	297	1.1	V	-9.35	33.75	46.00	-12.25
4530.73	59.06	PK	275	1.8	H	-2.06	57.00	74.00	-17.00
4530.73	45.87	Ave	275	1.8	H	-2.06	43.81	54.00	-10.19
5359.75	49.55	PK	139	1.6	H	5.93	55.48	74.00	-18.52
5359.75	33.68	Ave	139	1.6	H	5.93	39.61	54.00	-14.39
11490.00	45.97	PK	10	1.4	H	-1.25	44.72	74.00	-29.28
11490.00	39.10	Ave	10	1.4	H	-1.25	37.85	54.00	-16.15

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT20) U-NII-3 middle channel 5785MHz									
546.37	34.00	QP	335	1.7	H	-9.35	24.65	46.00	-21.35
546.37	45.88	QP	322	1.4	V	-9.35	36.53	46.00	-9.47
4516.85	59.81	PK	208	1.5	H	-2.03	57.78	74.00	-16.22
4516.85	45.89	Ave	208	1.5	H	-2.03	43.86	54.00	-10.14
5358.76	55.27	PK	124	1.3	H	5.81	61.08	74.00	-12.92
5358.76	39.08	Ave	124	1.3	H	5.81	44.89	54.00	-9.11
11570.00	45.88	PK	329	1.6	H	-1.22	44.66	74.00	-29.34
11570.00	37.73	Ave	329	1.6	H	-1.22	36.51	54.00	-17.49
802.11n(HT20) U-NII-3 High channel 5825MHz									
546.37	35.28	QP	185	1.2	H	-9.35	25.93	46.00	-20.07
546.37	45.38	QP	48	1.1	V	-9.35	36.03	46.00	-9.97
4500.92	58.34	PK	81	1.4	H	-1.84	56.50	74.00	-17.50
4500.92	45.09	Ave	81	1.4	H	-1.84	43.25	54.00	-10.75
5379.39	53.54	PK	122	2.0	H	5.84	59.38	74.00	-14.62
5379.39	38.99	Ave	122	2.0	H	5.84	44.83	54.00	-9.17
11650.00	46.07	PK	329	1.8	H	-1.30	44.77	74.00	-29.23
11650.00	39.69	Ave	329	1.8	H	-1.30	38.39	54.00	-15.61

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT40) U-NII-1 Low Channel 5190MHz									
546.37	42.46	QP	101	1.2	H	-9.35	33.11	46.00	-12.89
546.37	43.27	QP	169	1.8	V	-9.35	33.92	46.00	-12.08
4522.58	55.80	PK	303	1.4	H	-1.89	53.91	74.00	-20.09
4522.58	41.93	Ave	303	1.4	H	-1.89	40.04	54.00	-13.96
5128.67	45.39	PK	103	1.8	H	-1.06	44.33	74.00	-29.67
5128.67	34.51	Ave	103	1.8	H	-1.06	33.45	54.00	-20.55
10380.00	46.70	PK	177	1.8	H	5.26	51.96	74.00	-22.04
10380.00	33.03	Ave	177	1.8	H	5.26	38.29	54.00	-15.71
802.11n(HT40) U-NII-1 High channel 5230MHz									
546.37	42.12	QP	304	1.5	H	-9.35	32.77	46.00	-13.23
546.37	44.18	QP	111	1.4	V	-9.35	34.83	46.00	-11.17
4505.06	56.14	PK	182	1.5	H	-1.94	54.20	74.00	-19.80
4505.06	41.93	Ave	182	1.5	H	-1.94	39.99	54.00	-14.01
5111.26	45.76	PK	326	1.3	H	-1.06	44.70	74.00	-29.30
5111.26	34.95	Ave	326	1.3	H	-1.06	33.89	54.00	-20.11
10460.00	48.29	PK	300	2.0	H	5.28	53.57	74.00	-20.43
10460.00	34.12	Ave	300	2.0	H	5.28	39.40	54.00	-14.60

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT40) U-NII-3 Low Channel 5755MHz									
546.37	43.50	QP	254	1.6	H	-9.35	34.15	46.00	-11.85
546.37	43.89	QP	72	1.3	V	-9.35	34.54	46.00	-11.46
4502.22	53.41	PK	283	1.7	H	-1.96	51.45	74.00	-22.55
4502.22	39.51	Ave	283	1.7	H	-1.96	37.55	54.00	-16.45
5385.76	45.20	PK	287	1.5	H	5.88	51.08	74.00	-22.92
5385.76	32.26	Ave	287	1.5	H	5.88	38.14	54.00	-15.86
11510.00	46.66	PK	200	1.5	H	-1.01	45.65	74.00	-28.35
11510.00	37.50	Ave	200	1.5	H	-1.01	36.49	54.00	-17.51
802.11n(HT40) U-NII-3 High Channel 5795MHz									
546.37	43.99	QP	302	1.3	H	-9.35	34.64	46.00	-11.36
546.37	42.75	QP	280	1.3	V	-9.35	33.40	46.00	-12.60
4507.44	50.06	PK	69	1.3	H	-1.91	48.15	74.00	-25.85
4507.44	37.58	Ave	69	1.3	H	-1.91	35.67	54.00	-18.33
5126.52	46.00	PK	82	1.6	H	-1.06	44.94	74.00	-29.06
5126.52	37.85	Ave	82	1.6	H	-1.06	36.79	54.00	-17.21
10380.00	46.03	PK	227	2.0	H	5.26	51.29	74.00	-22.71
10380.00	31.76	Ave	227	2.0	H	5.26	37.02	54.00	-16.98

Test Frequency: 12GHz~40GHz

The measurements were more than 20 dB below the limit and not reported.

10 Band Edge

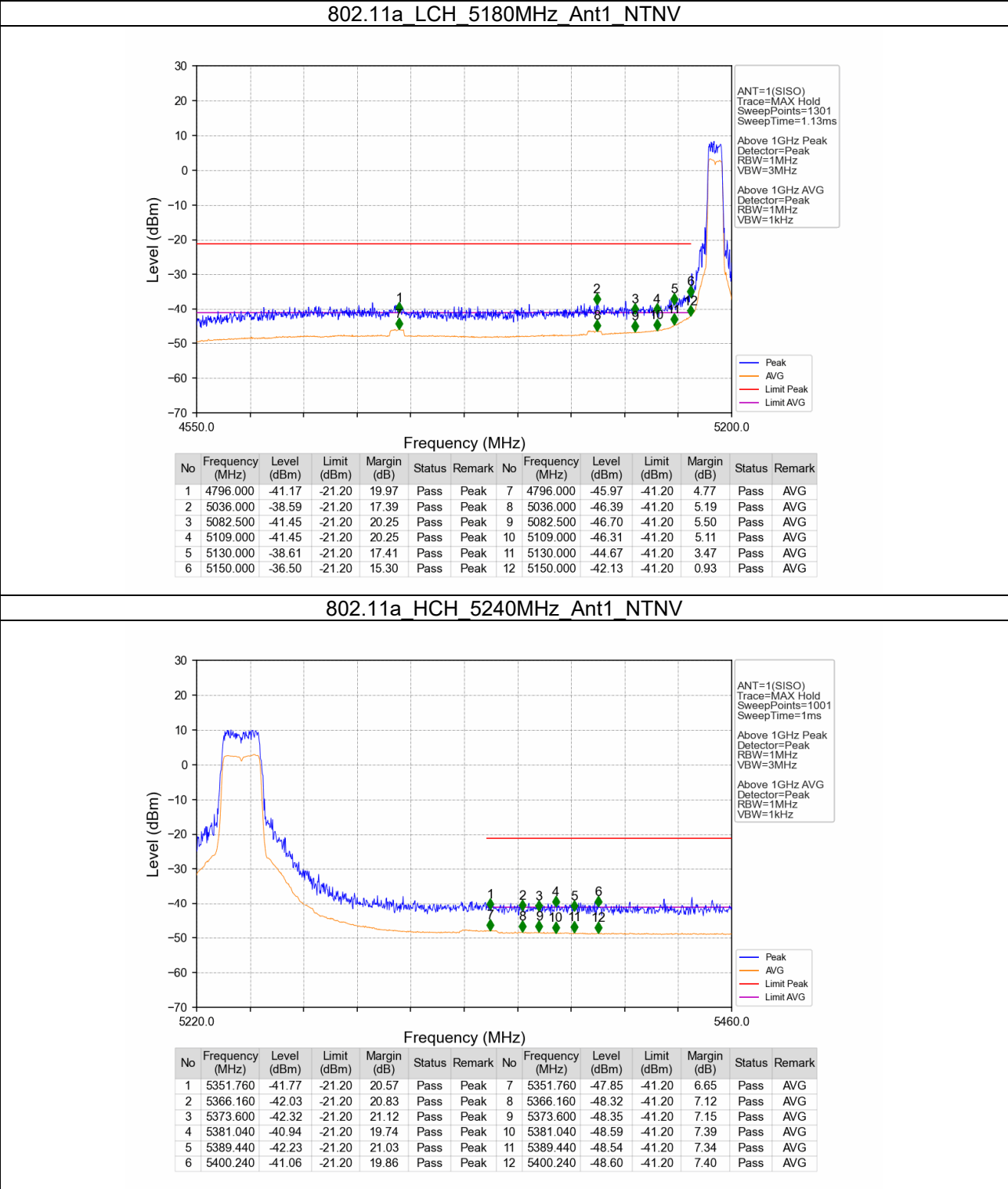
Test Requirement:	FCC 47CFR Part 15 Section 15.407
Test Method:	ANSI C63.10-2020
Test Limit:	For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz. Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following: 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges; 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges; 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.
Test Result:	PASS

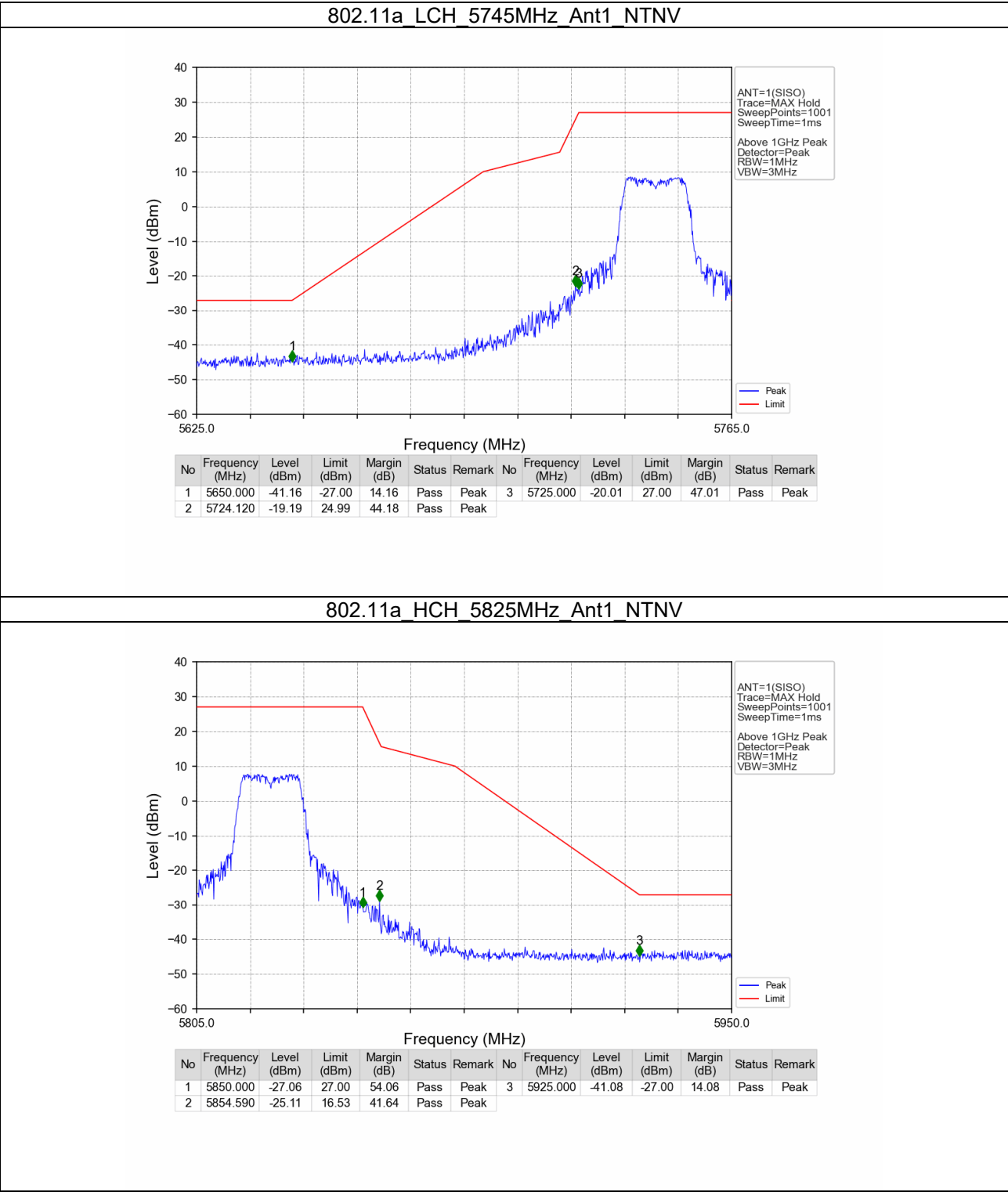
10.1 Test Procedure

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- To convert the conducted power to EIRP as required by FCC 15.407, calculate and apply a Reference Level Offset or Correction factor table in the spectrum analyzer:
 Path Loss: Measure the loss of the cable and any external attenuators set into Reference Level Offset.
 Antenna Gain (G): Determine the maximum directional gain of the antenna in dBi.
 MIMO/Beamforming: If the EUT supports multiple outputs, calculate the Directional Gain according to KDB 662911, set Directional Antenna Gain (dBi) into Correction factor table.
 Follow the procedures specified in KDB Publication 662911 adjusting emission levels measured on individual outputs by $10\log(N_{ANT})$, where N_{ANT} is the number of outputs, set $10\log(N_{ANT})$, into Correction factor table.
- Set RBW to 1000 kHz and VBW of spectrum analyzer to 3000 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
- Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- Repeat above procedures until all measured frequencies were complete.

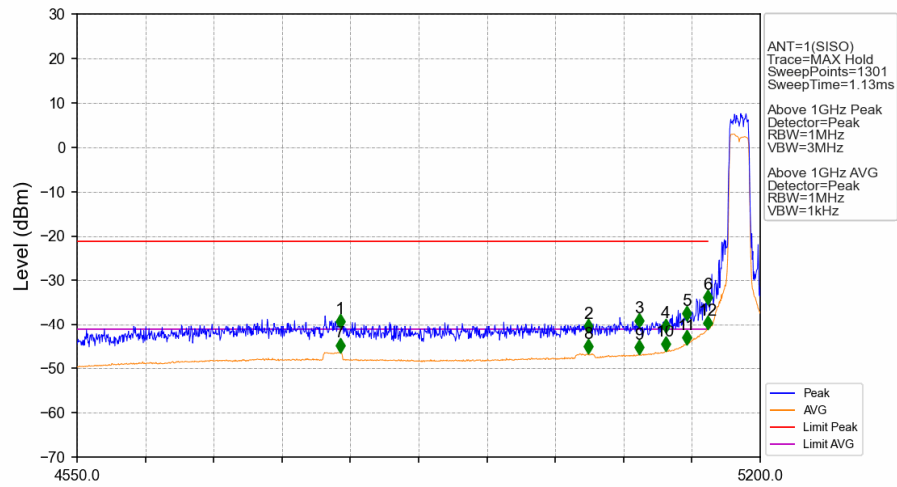
10.2 Test Result

Test result plots shown as follows:



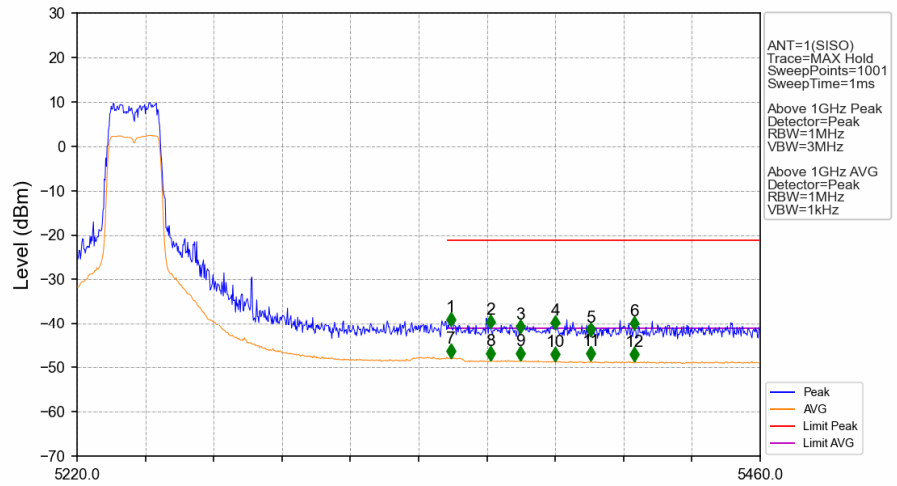


802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



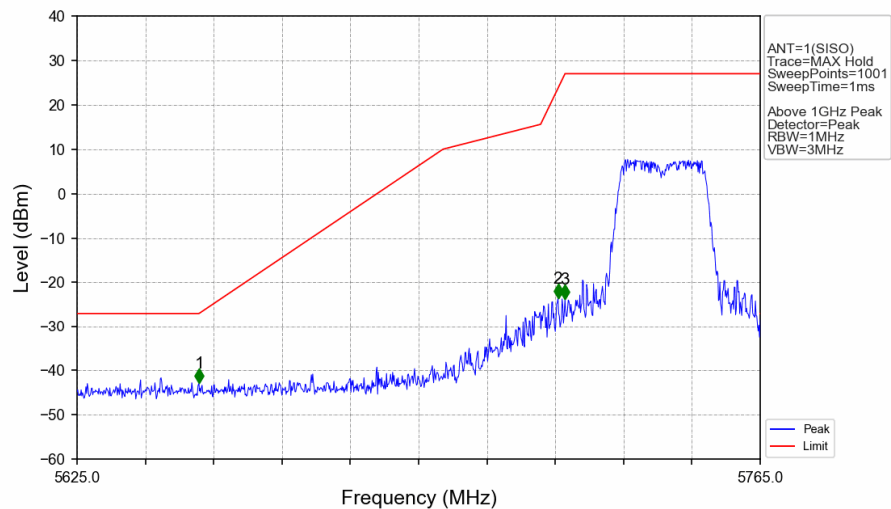
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4800.500	-40.88	-21.20	19.68	Pass	Peak	7	4800.500	-46.35	-41.20	5.15	Pass	AVG
2	5036.500	-41.88	-21.20	20.68	Pass	Peak	8	5036.500	-46.71	-41.20	5.51	Pass	AVG
3	5085.000	-40.56	-21.20	19.36	Pass	Peak	9	5085.000	-46.77	-41.20	5.57	Pass	AVG
4	5110.000	-41.80	-21.20	20.60	Pass	Peak	10	5110.000	-46.14	-41.20	4.94	Pass	AVG
5	5130.000	-38.98	-21.20	17.78	Pass	Peak	11	5130.000	-44.60	-41.20	3.40	Pass	AVG
6	5150.000	-35.35	-21.20	14.15	Pass	Peak	12	5150.000	-41.23	-41.20	0.03	Pass	AVG

802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



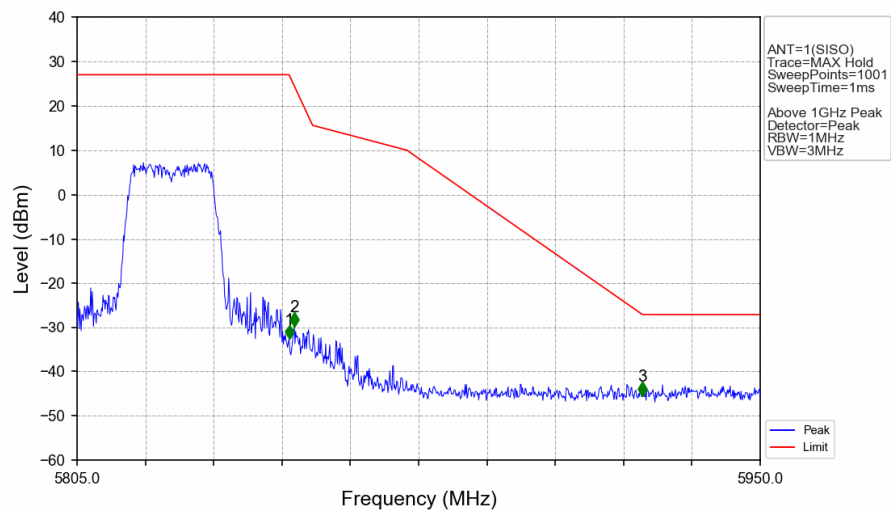
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5351.280	-40.65	-21.20	19.45	Pass	Peak	7	5351.280	-47.86	-41.20	6.66	Pass	AVG
2	5365.200	-41.19	-21.20	19.99	Pass	Peak	8	5365.200	-48.51	-41.20	7.31	Pass	AVG
3	5375.760	-42.33	-21.20	21.13	Pass	Peak	9	5375.760	-48.43	-41.20	7.23	Pass	AVG
4	5388.000	-41.41	-21.20	20.21	Pass	Peak	10	5388.000	-48.63	-41.20	7.43	Pass	AVG
5	5400.480	-42.92	-21.20	21.72	Pass	Peak	11	5400.480	-48.49	-41.20	7.29	Pass	AVG
6	5415.840	-41.48	-21.20	20.28	Pass	Peak	12	5415.840	-48.65	-41.20	7.45	Pass	AVG

802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



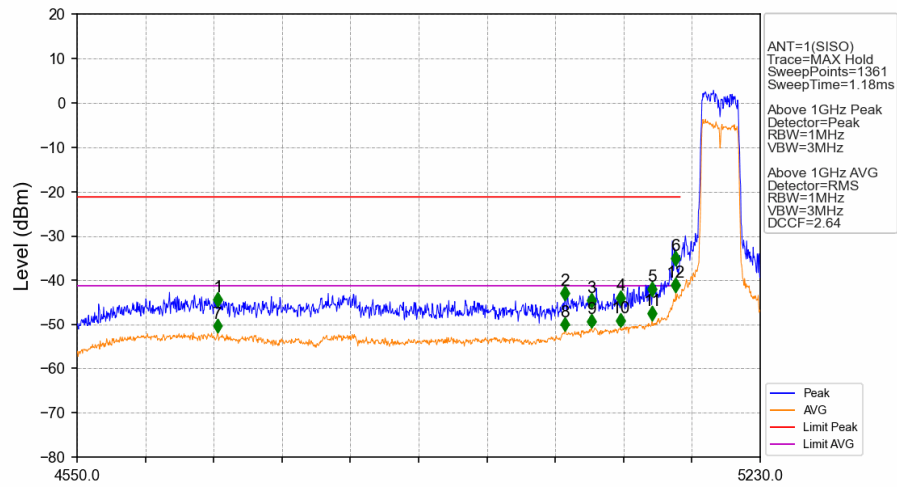
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5650.000	-39.14	-27.00	12.14	Pass	Peak	3	5725.000	-19.99	27.00	46.99	Pass	Peak
2	5723.560	-19.79	23.72	43.51	Pass	Peak							

802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



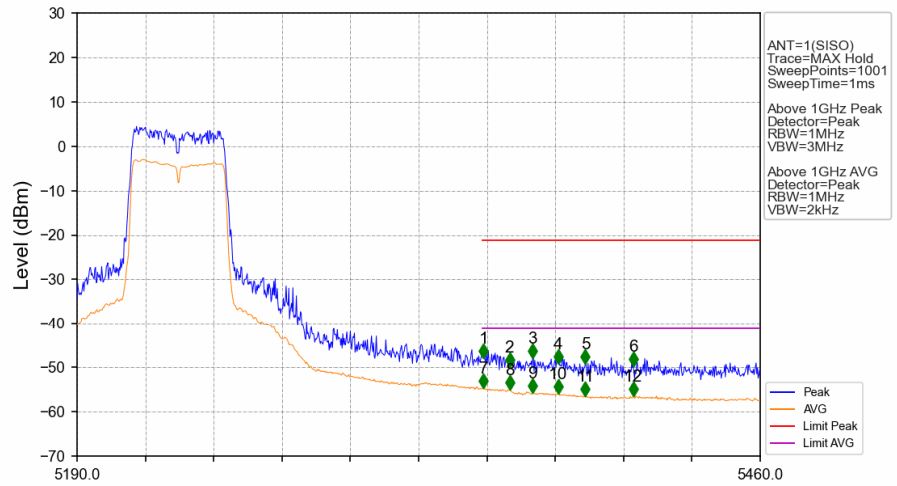
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5850.000	-28.94	27.00	55.94	Pass	Peak	3	5925.000	-41.84	-27.00	14.84	Pass	Peak
2	5851.110	-25.99	24.47	50.46	Pass	Peak							

802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



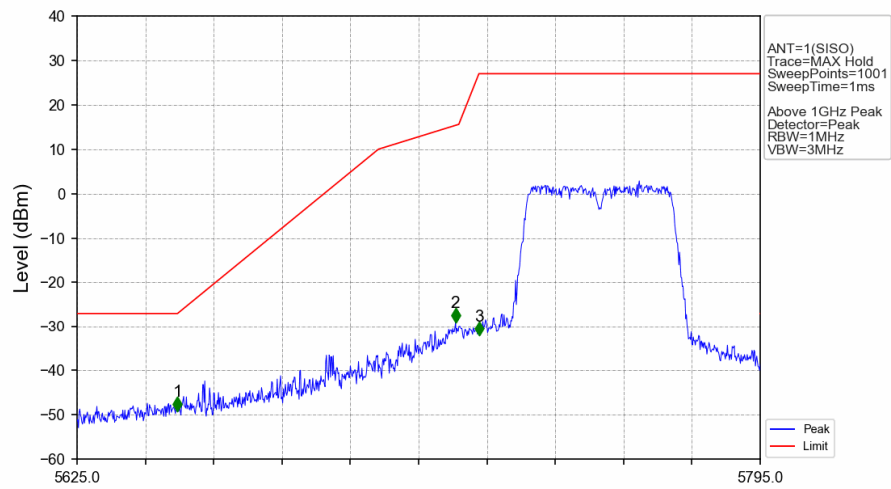
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4690.000	-45.84	-21.20	24.64	Pass	Peak	7	4690.000	-51.97	-41.20	10.77	Pass	AVG
2	5035.500	-44.35	-21.20	23.15	Pass	Peak	8	5035.500	-51.57	-41.20	10.37	Pass	AVG
3	5062.000	-46.03	-21.20	24.83	Pass	Peak	9	5062.000	-50.80	-41.20	9.60	Pass	AVG
4	5091.000	-45.56	-21.20	24.36	Pass	Peak	10	5091.000	-50.64	-41.20	9.44	Pass	AVG
5	5122.500	-43.48	-21.20	22.28	Pass	Peak	11	5122.500	-49.03	-41.20	7.83	Pass	AVG
6	5146.000	-36.56	-21.20	15.36	Pass	Peak	12	5146.000	-42.69	-41.20	1.49	Pass	AVG

802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



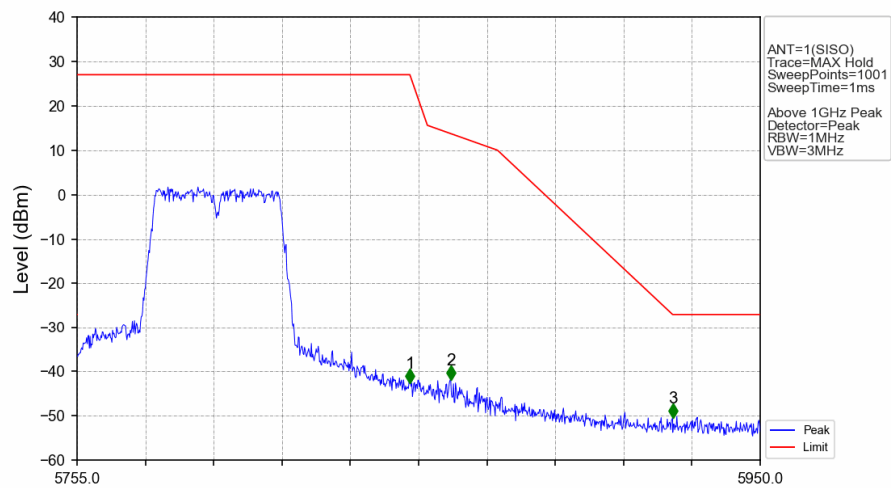
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5350.650	-47.92	-21.20	26.72	Pass	Peak	7	5350.650	-54.68	-41.20	13.48	Pass	AVG
2	5360.910	-49.92	-21.20	28.72	Pass	Peak	8	5360.910	-54.95	-41.20	13.75	Pass	AVG
3	5370.090	-47.97	-21.20	26.77	Pass	Peak	9	5370.090	-55.81	-41.20	14.61	Pass	AVG
4	5380.080	-49.20	-21.20	28.00	Pass	Peak	10	5380.080	-55.94	-41.20	14.74	Pass	AVG
5	5390.880	-49.23	-21.20	28.03	Pass	Peak	11	5390.880	-56.48	-41.20	15.28	Pass	AVG
6	5409.780	-49.77	-21.20	28.57	Pass	Peak	12	5409.780	-56.45	-41.20	15.25	Pass	AVG

802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5650.000	-45.42	-27.00	18.42	Pass	Peak	3	5725.000	-28.34	27.00	55.34	Pass	Peak
2	5719.180	-25.17	15.37	40.54	Pass	Peak							

802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5850.000	-38.94	27.00	65.94	Pass	Peak	3	5925.000	-46.78	-27.00	19.78	Pass	Peak
2	5861.665	-38.24	13.73	51.97	Pass	Peak							

11 6 dB Bandwidth

Test Requirement: FCC 47CFR Part 15 Section 15.407(e)
KDB789033 D02 General U-NII Test Procedures New Rules v02r01

Test Method: Section C
ANSI C63.10-2020

Test Limit: ≥ 500 kHz

Test Result: PASS

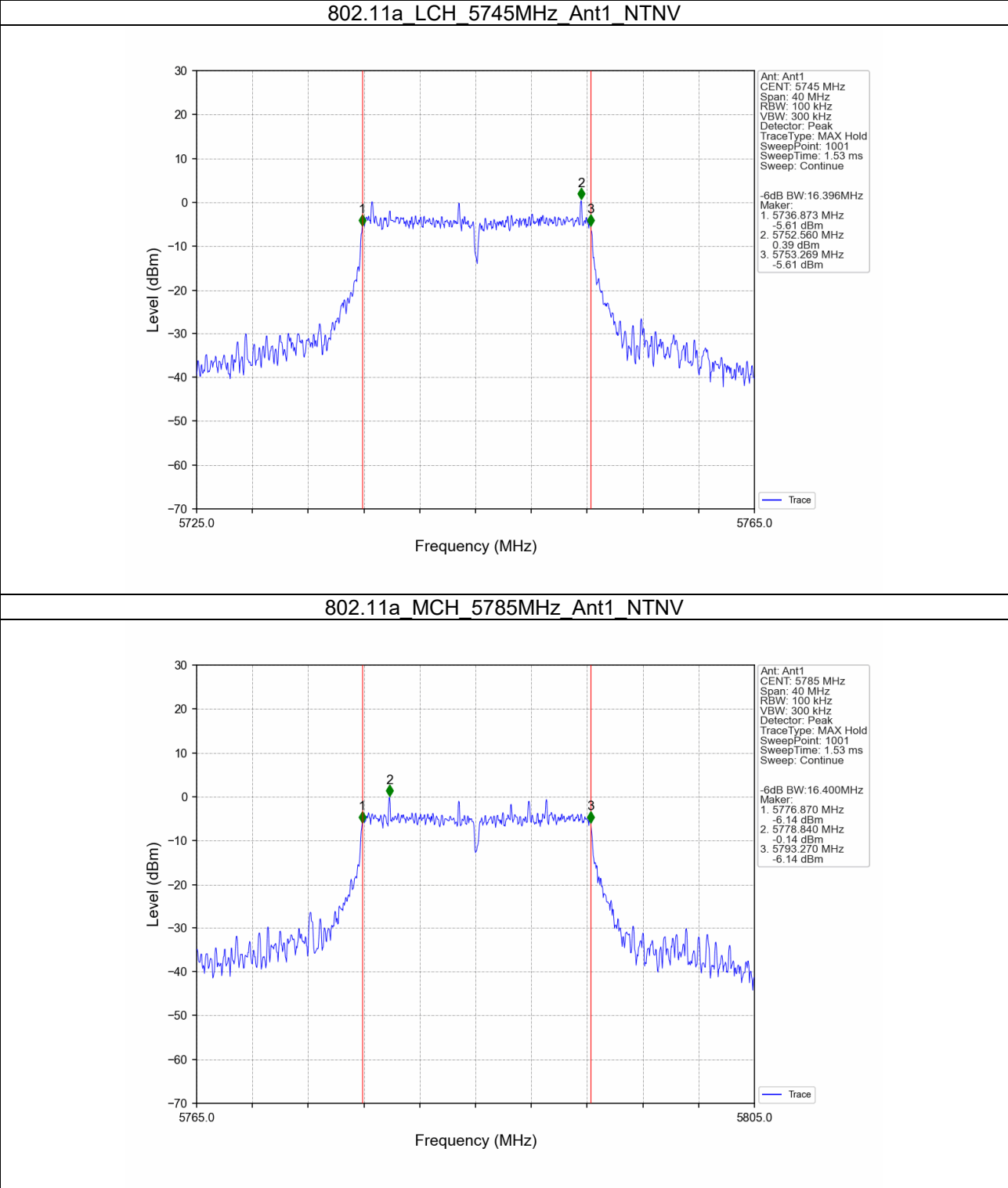
11.1 Test Procedure

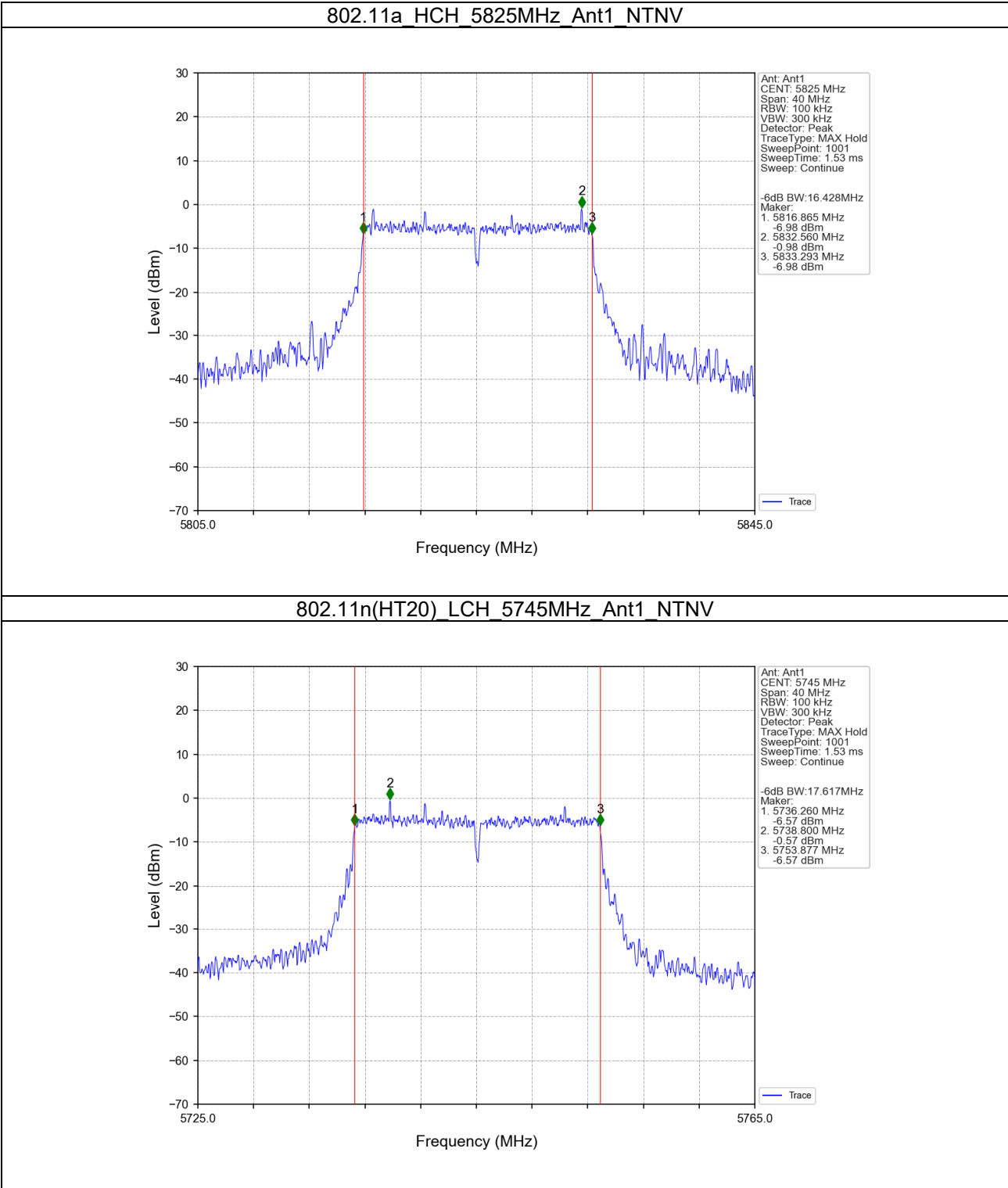
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100 kHz, VBW = 3 times the RBW

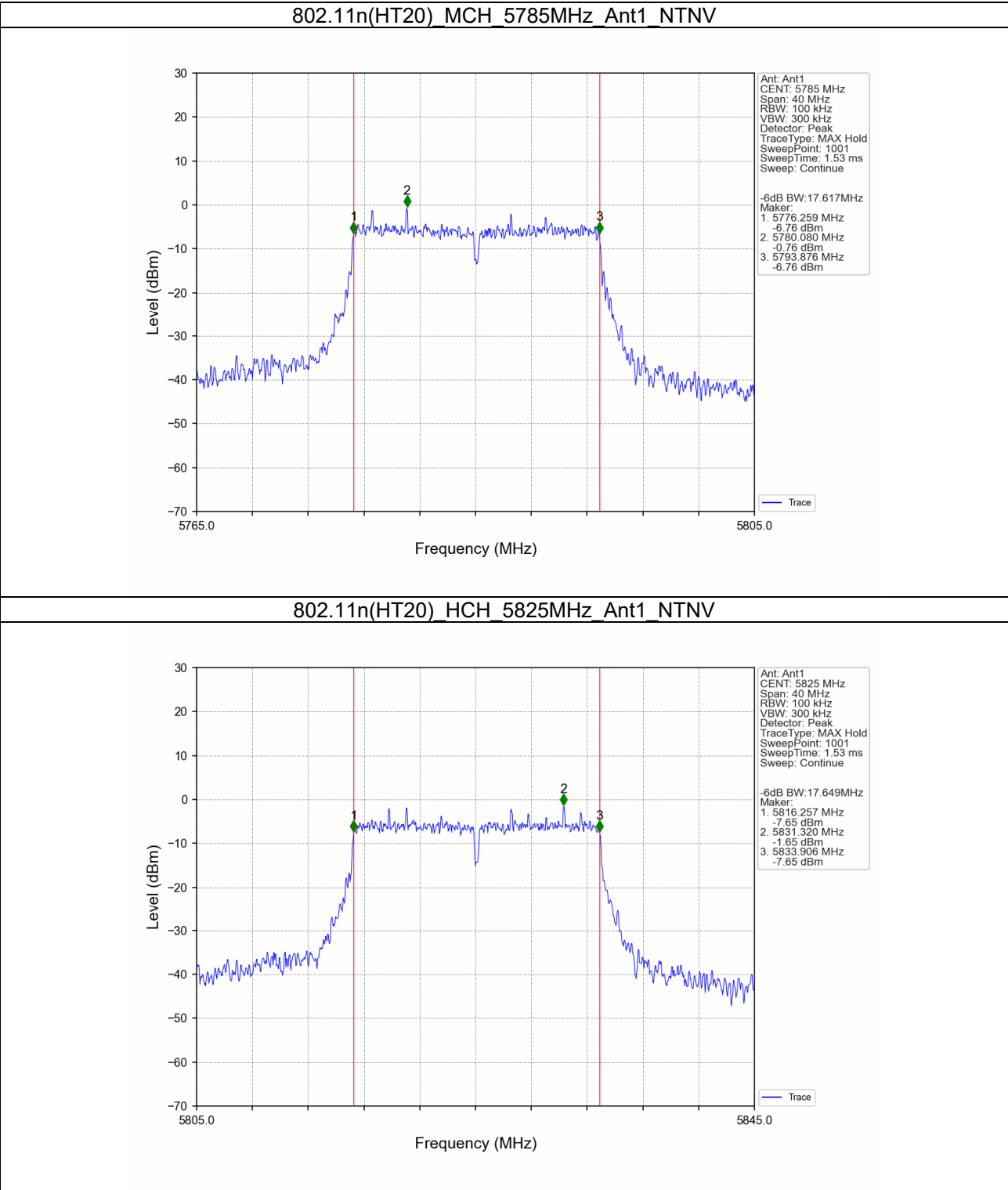
11.2 Test Result

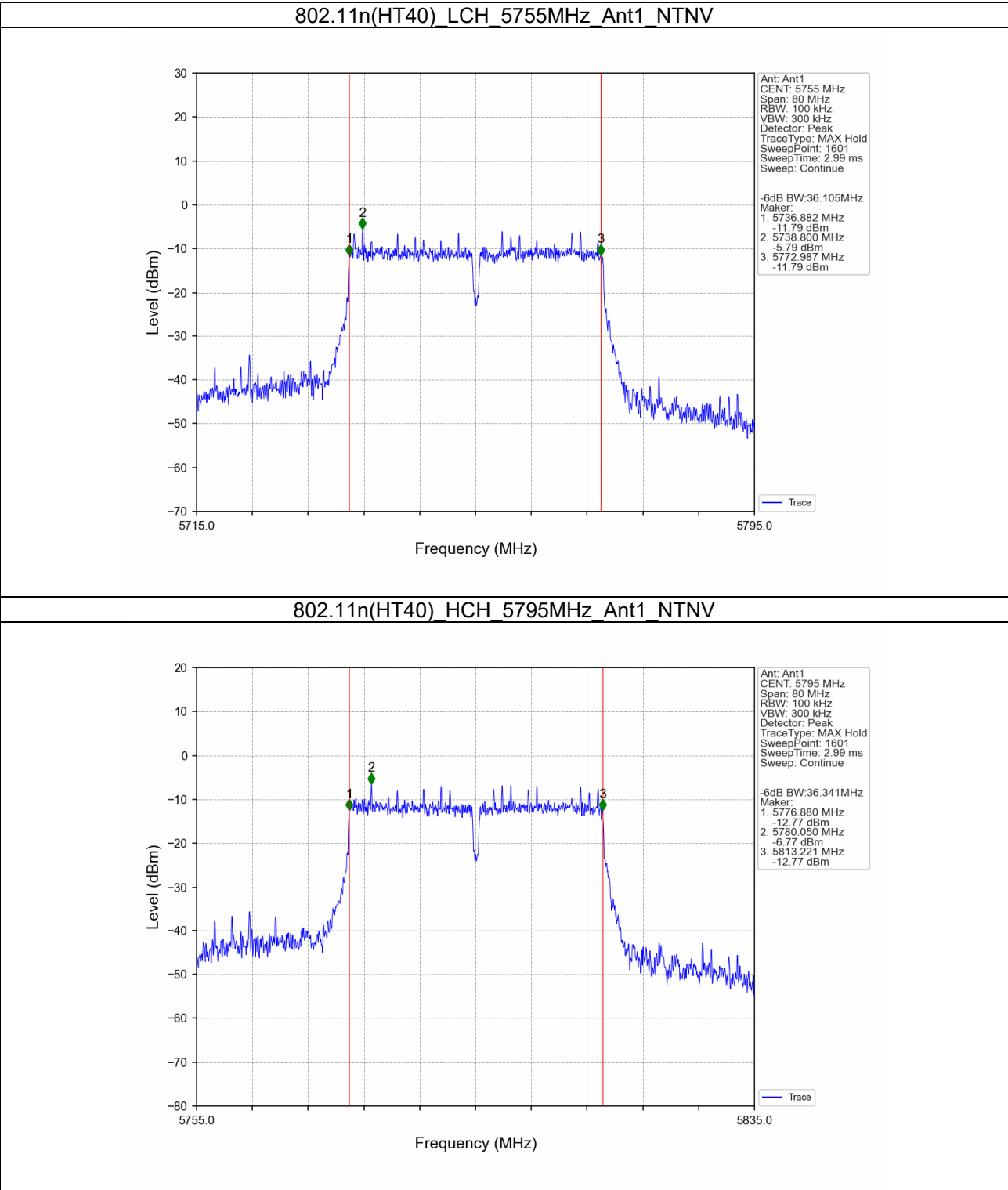
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	1	16.396	≥ 0.5	Pass
		5785	1	16.400	≥ 0.5	Pass
		5825	1	16.428	≥ 0.5	Pass
802.11n (HT20)	SISO	5745	1	17.617	≥ 0.5	Pass
		5785	1	17.617	≥ 0.5	Pass
		5825	1	17.649	≥ 0.5	Pass
802.11n (HT40)	SISO	5755	1	36.105	≥ 0.5	Pass
		5795	1	36.341	≥ 0.5	Pass

Test result plots shown as follows:









12 26 dB Bandwidth and 99% Occupied Bandwidth

Test Requirement: FCC 47CFR Part 15 Section 15.407 (a)
KDB789033 D02 General U-NII Test Procedures New Rules v02r01

Test Method: Section D
ANSI C63.10-2020

Test Limit: No restriction limits

Test Result: PASS

12.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 1% to 5% of the OBW, VBW = 3x RBW

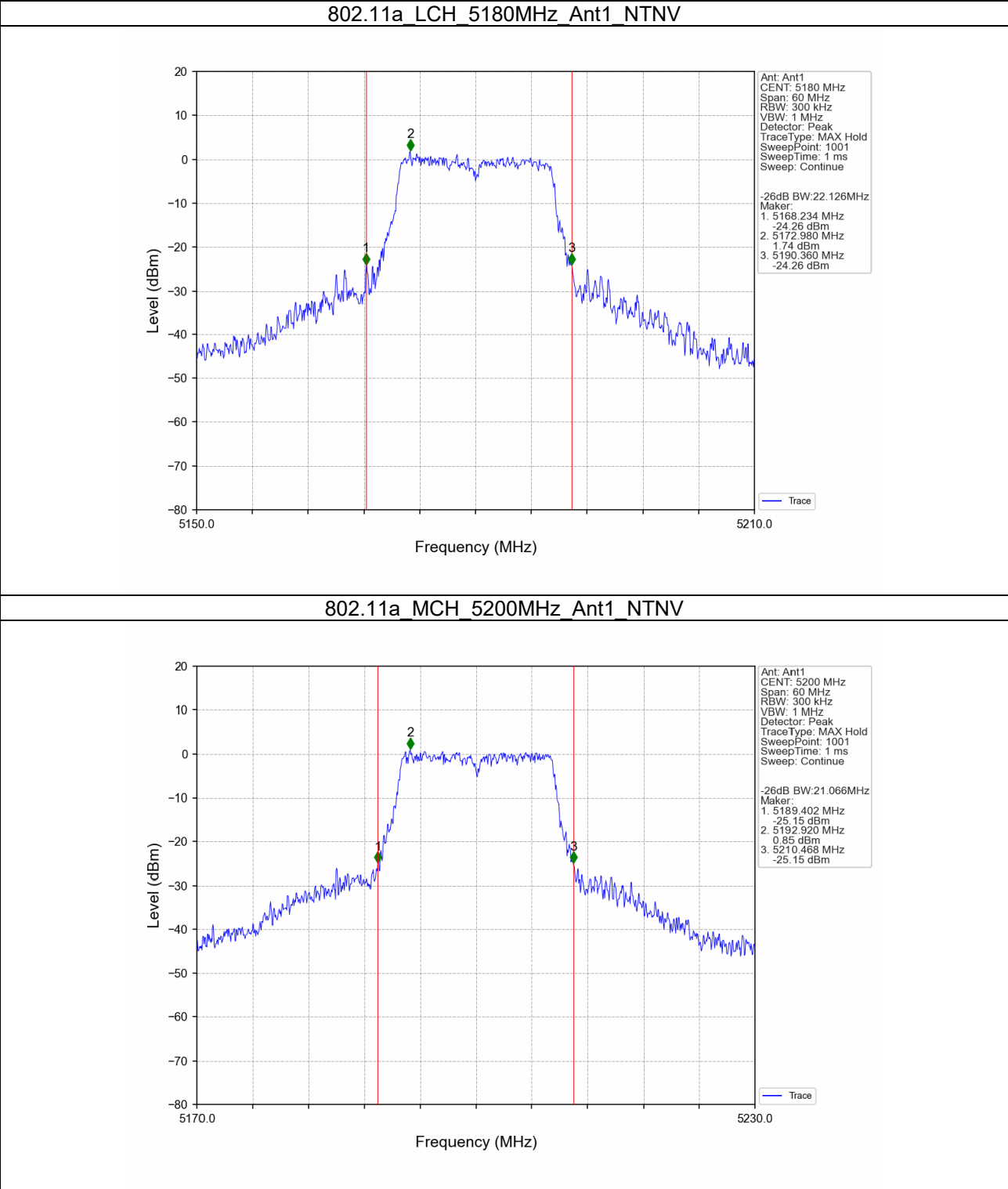
12.2 Test Result

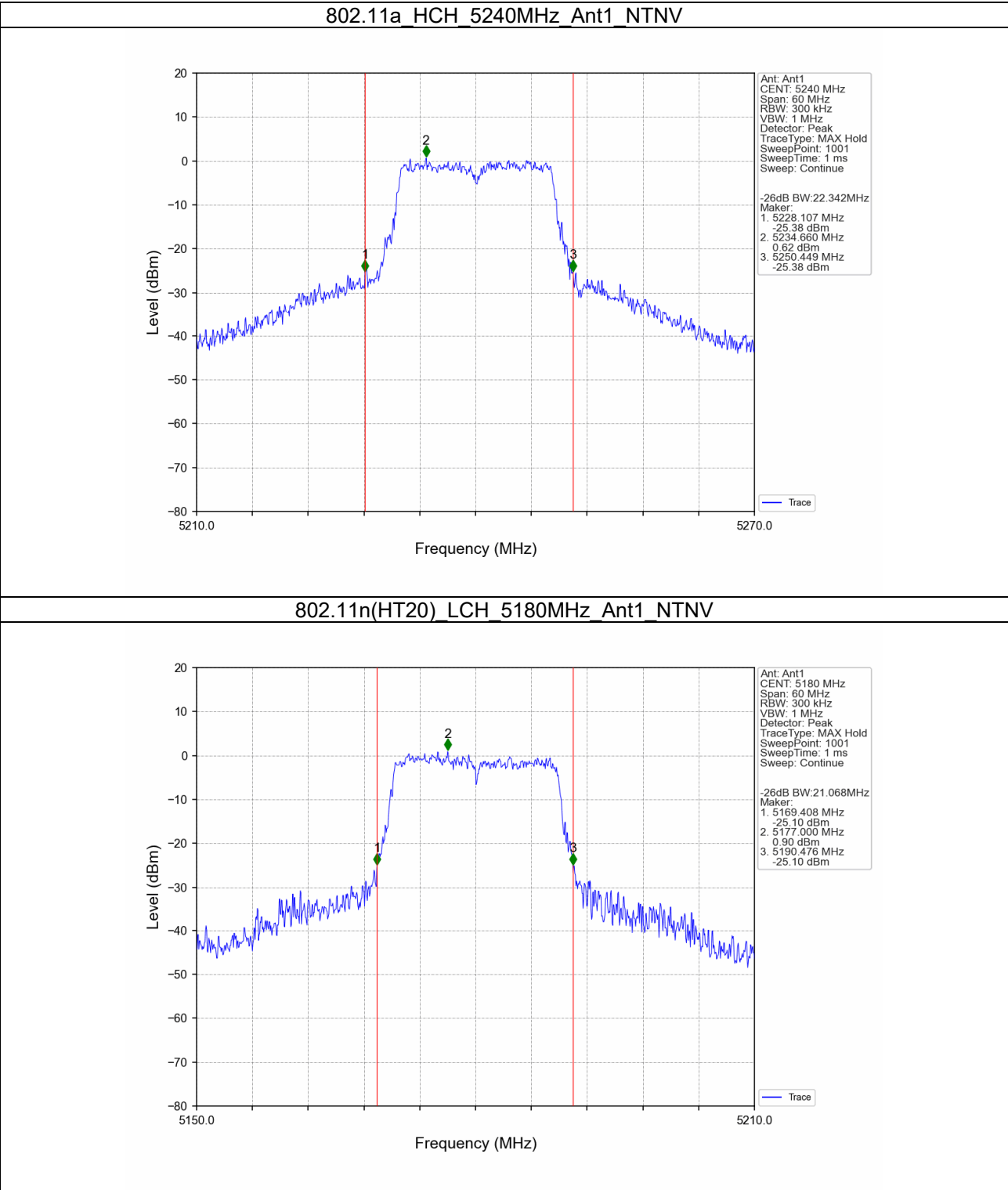
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	22.126	/	Pass
		5200	1	21.066	/	Pass
		5240	1	22.342	/	Pass
802.11n (HT20)	SISO	5180	1	21.068	/	Pass
		5200	1	21.427	/	Pass
		5240	1	21.171	/	Pass
802.11n (HT40)	SISO	5190	1	41.915	/	Pass
		5230	1	42.097	/	Pass

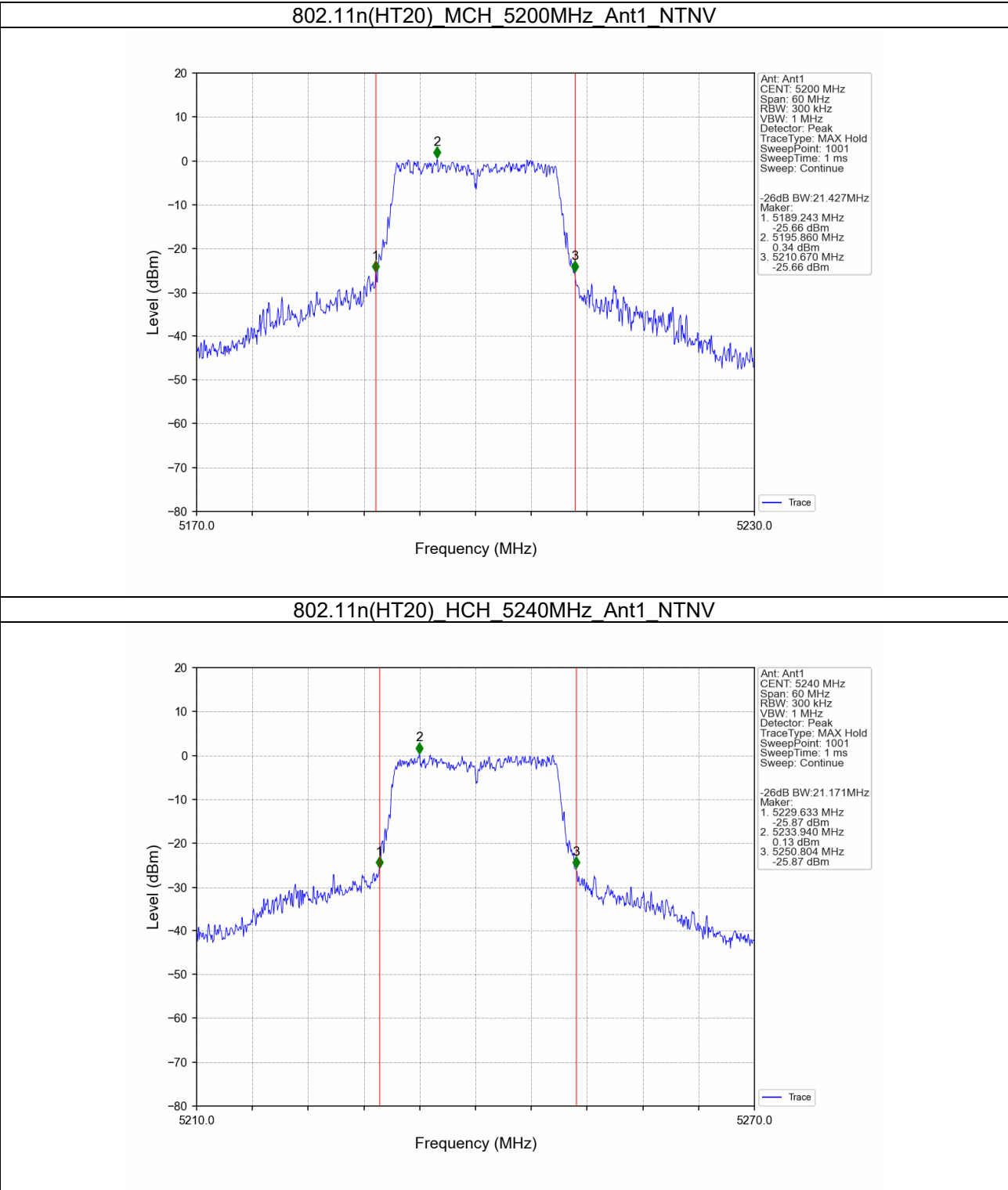
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	16.728	/	Pass
		5200	1	16.744	/	Pass
		5240	1	16.829	/	Pass
		5745	1	16.801	/	Pass
		5785	1	16.748	/	Pass
		5825	1	16.787	/	Pass
802.11n (HT20)	SISO	5180	1	17.804	/	Pass
		5200	1	17.796	/	Pass
		5240	1	17.805	/	Pass
		5745	1	17.794	/	Pass
		5785	1	17.852	/	Pass
		5825	1	17.806	/	Pass
802.11n (HT40)	SISO	5190	1	36.964	/	Pass
		5230	1	36.927	/	Pass
		5755	1	36.763	/	Pass
		5795	1	36.797	/	Pass

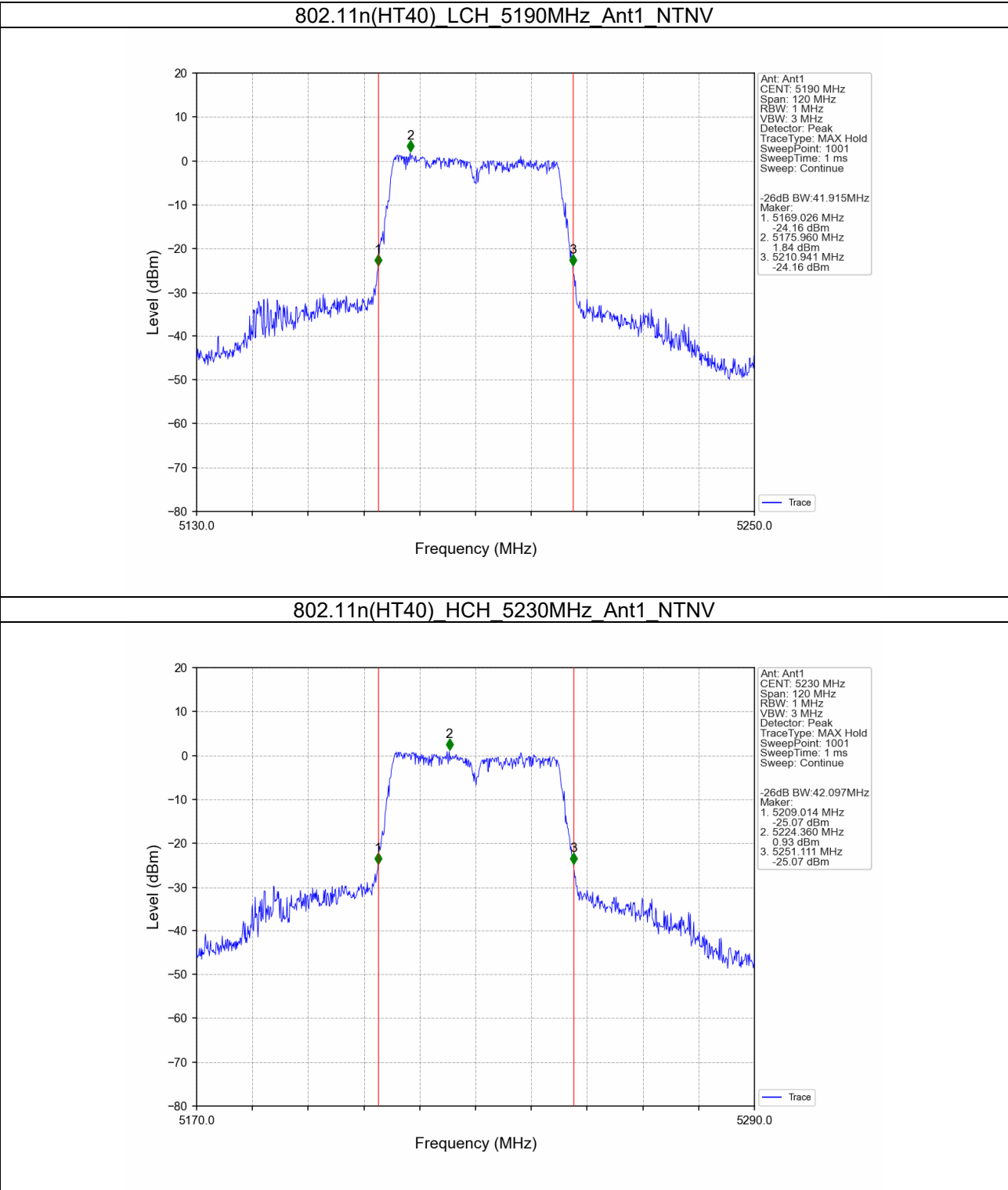
Test result plots shown as follows:

26 dB Bandwidth

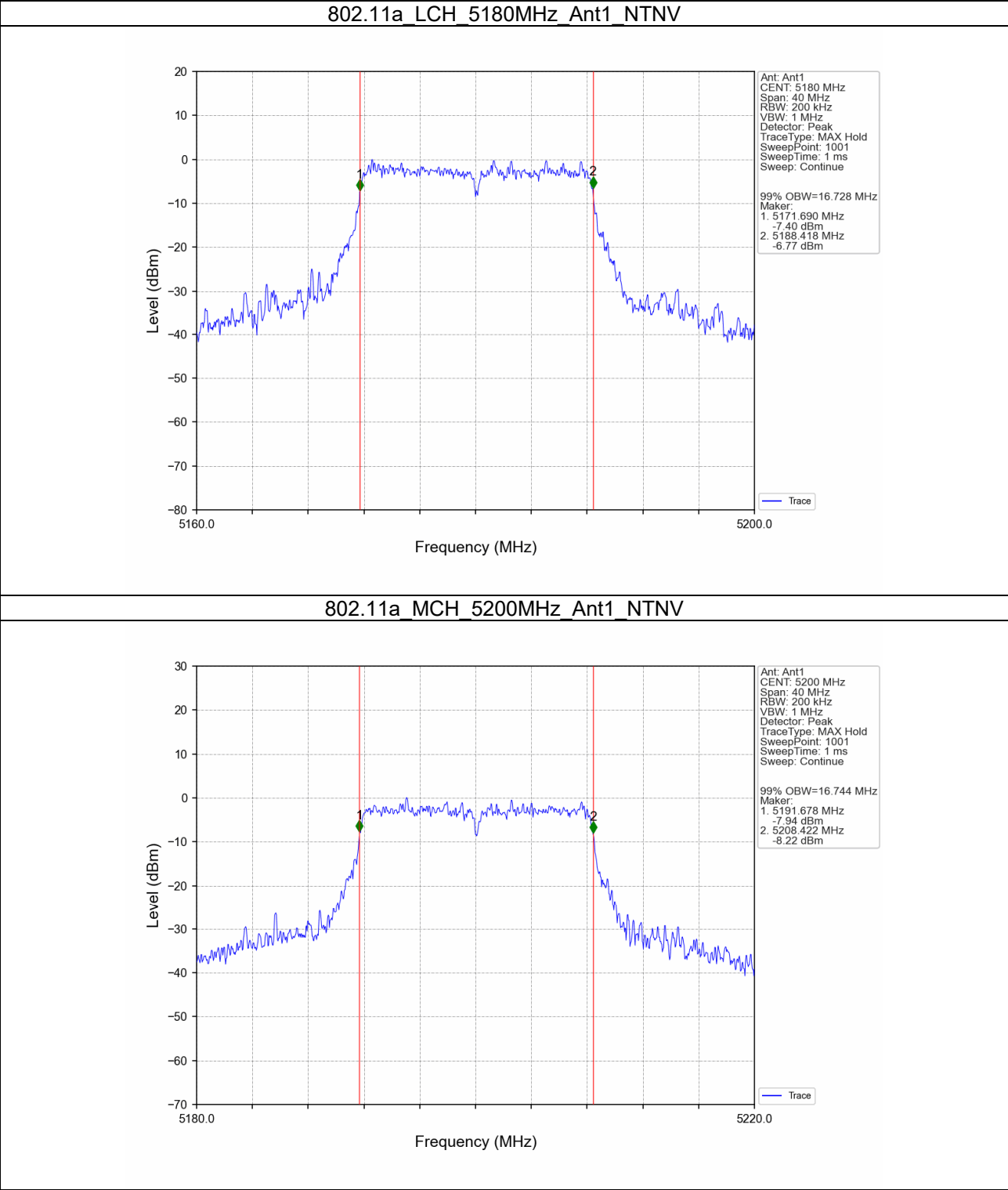


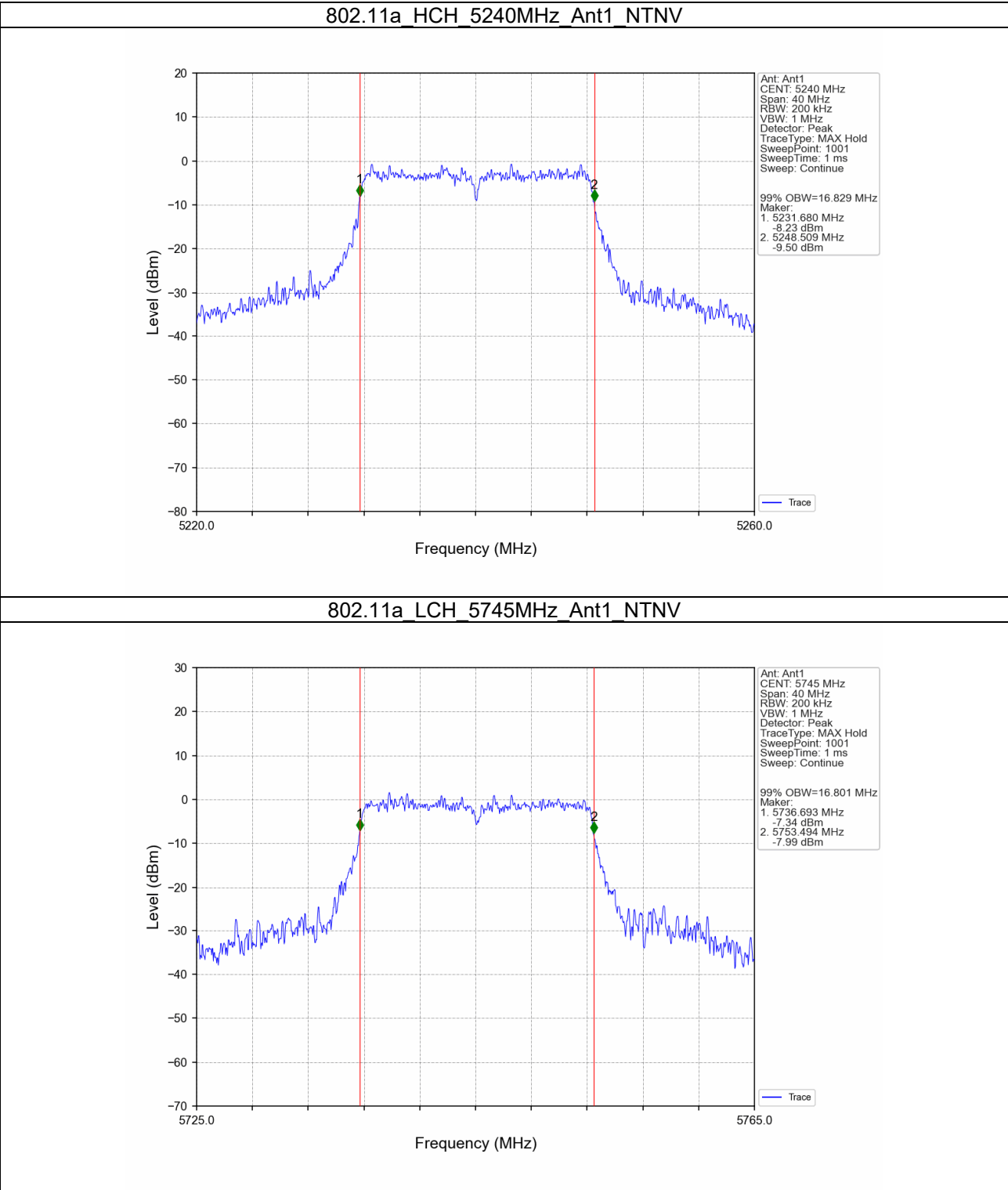


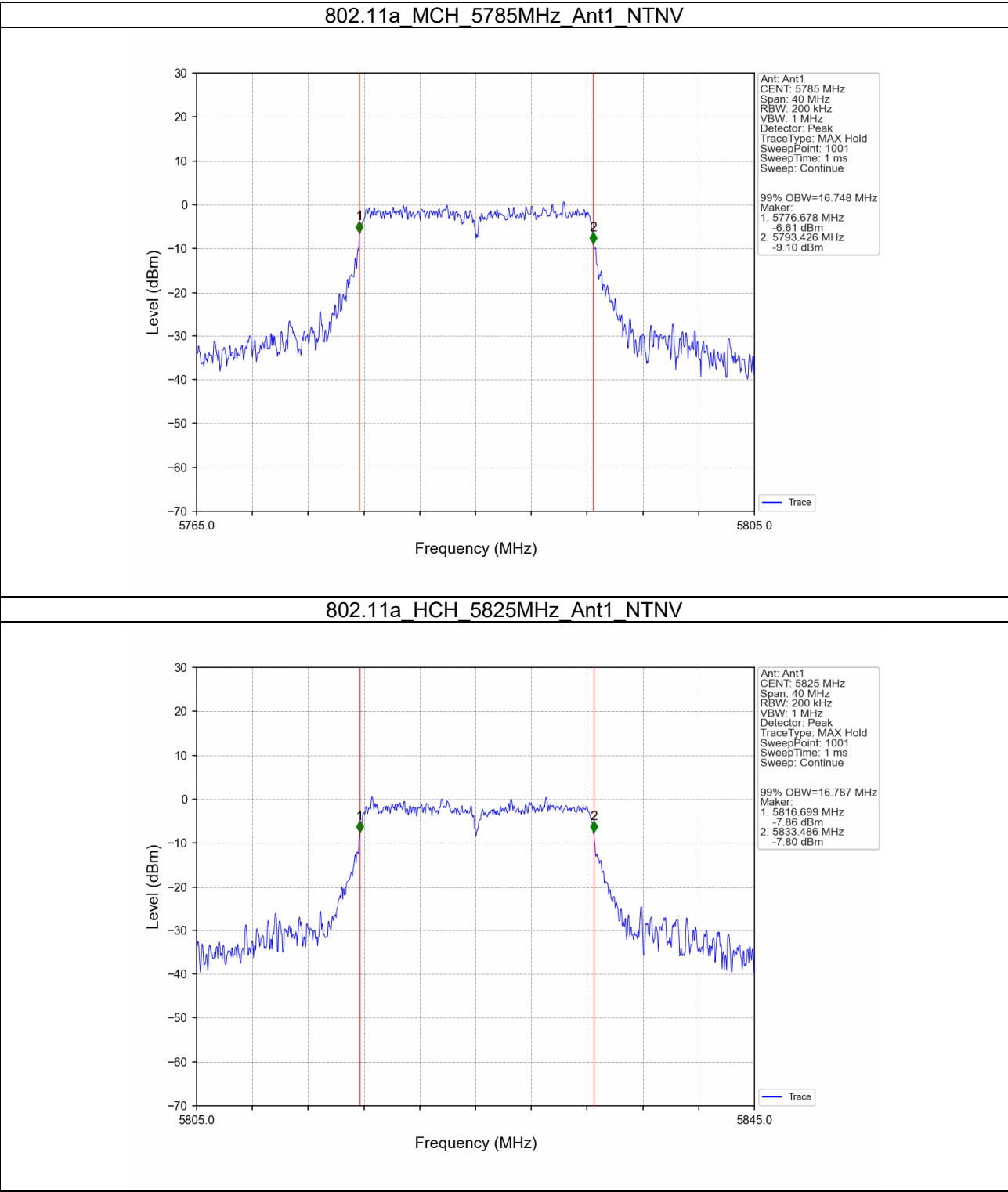


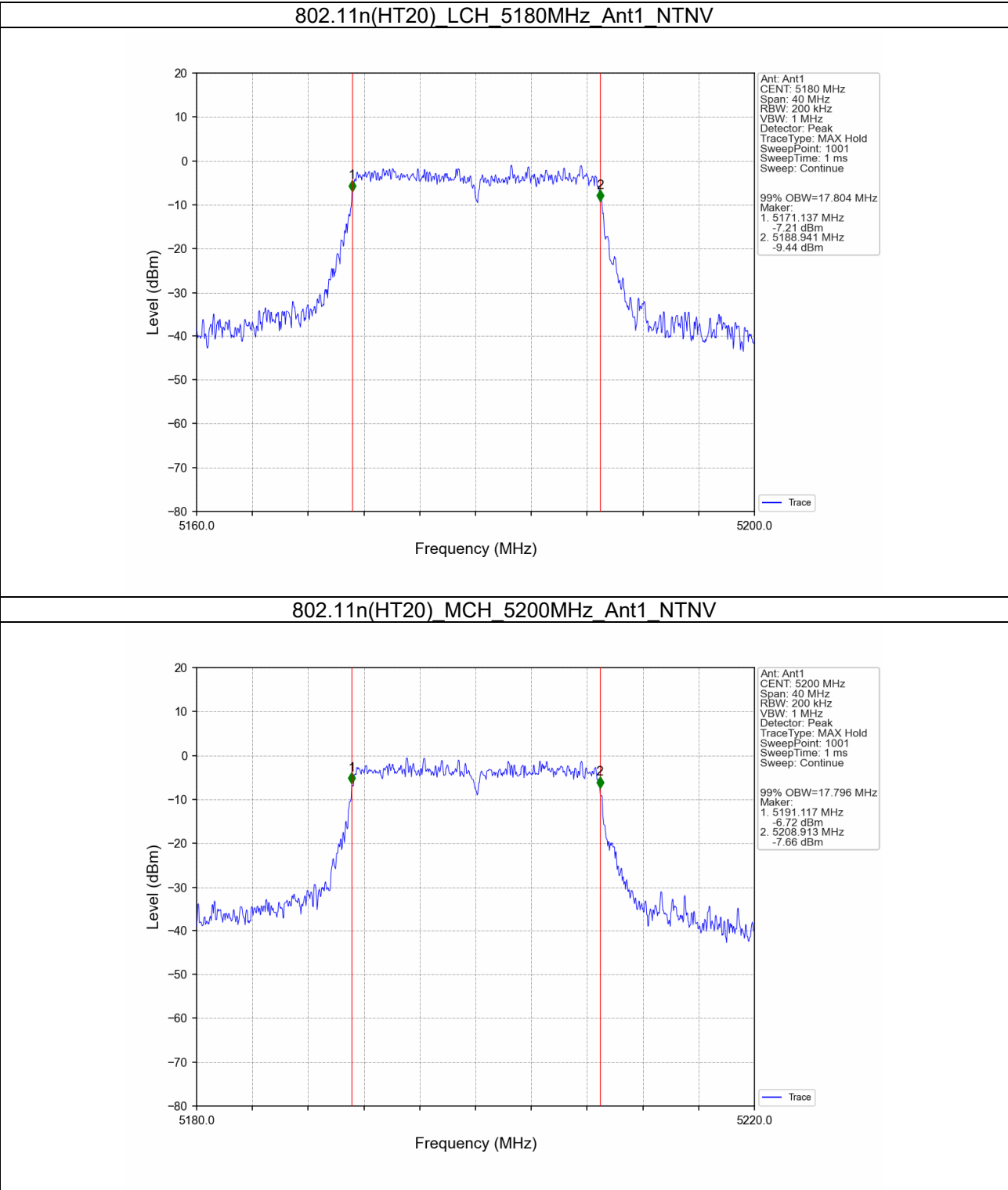


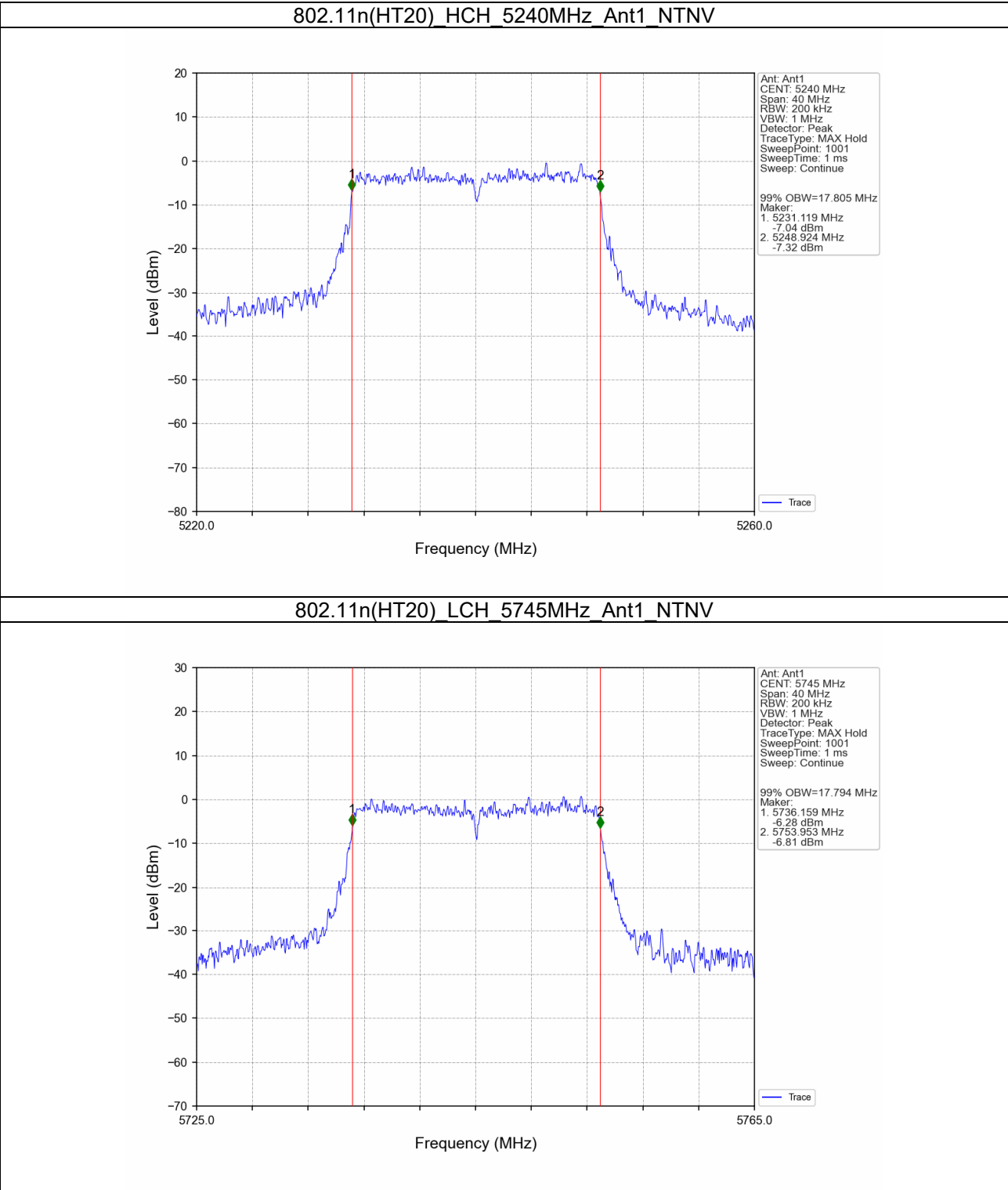
99% Occupied Bandwidth

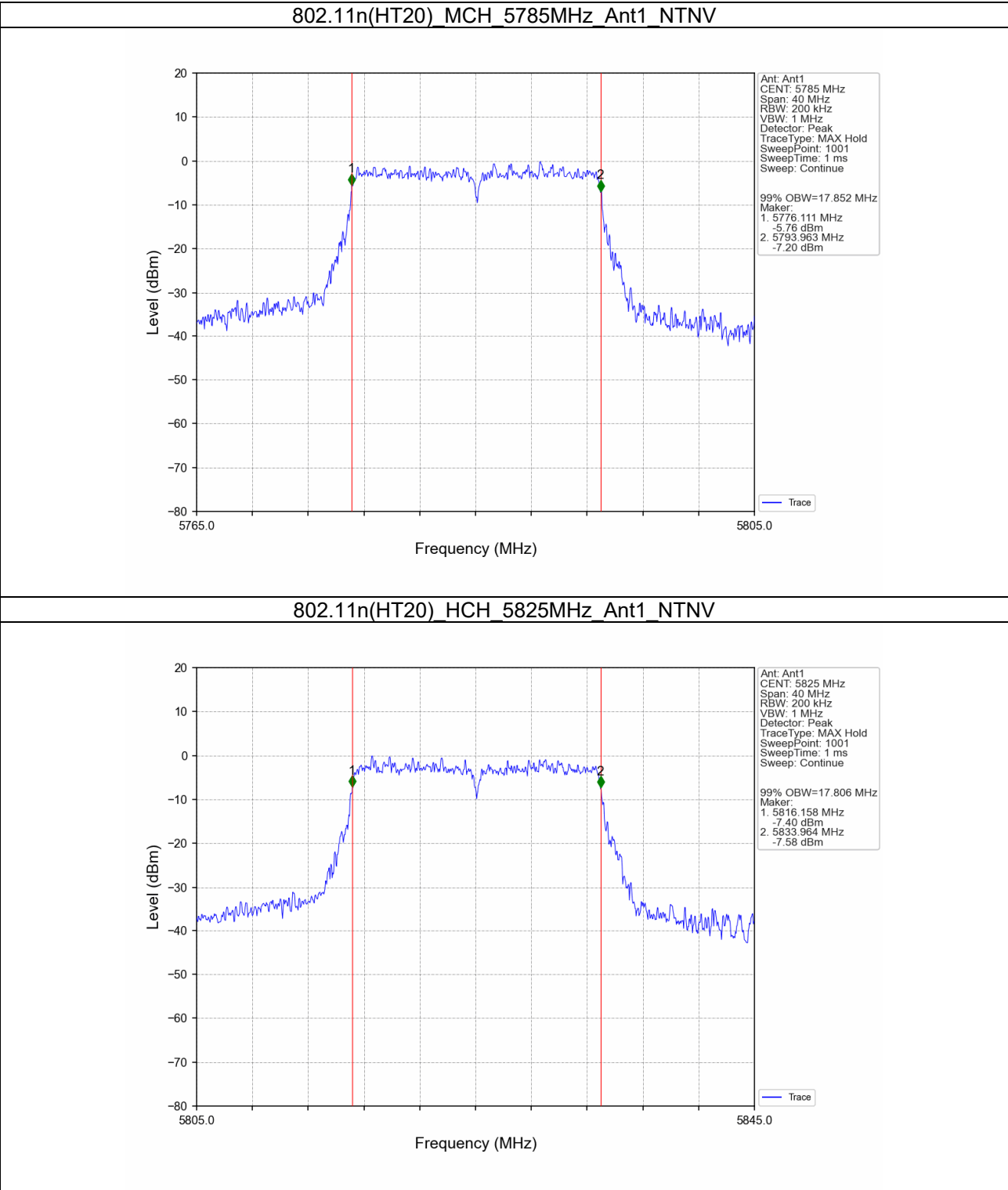


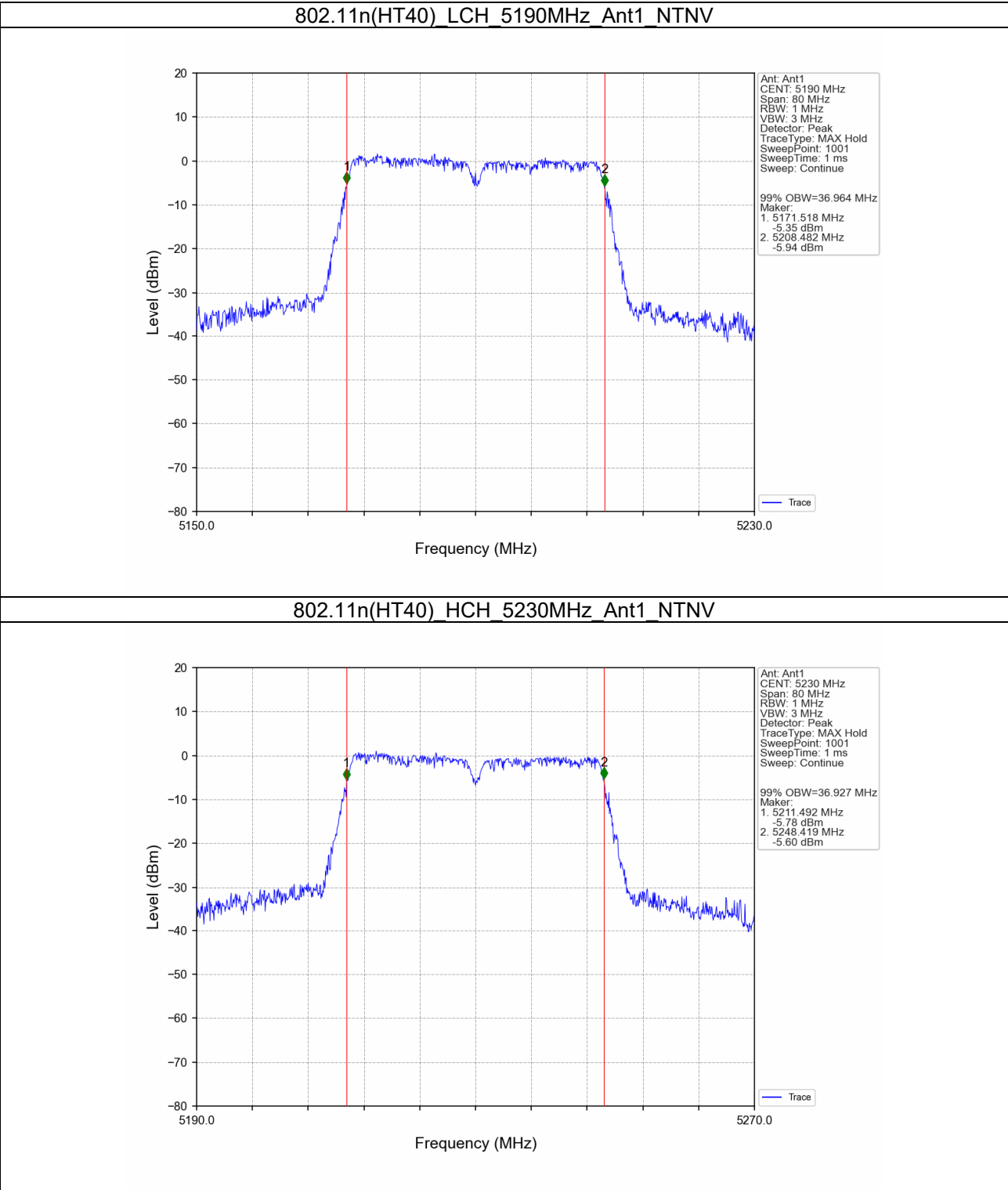


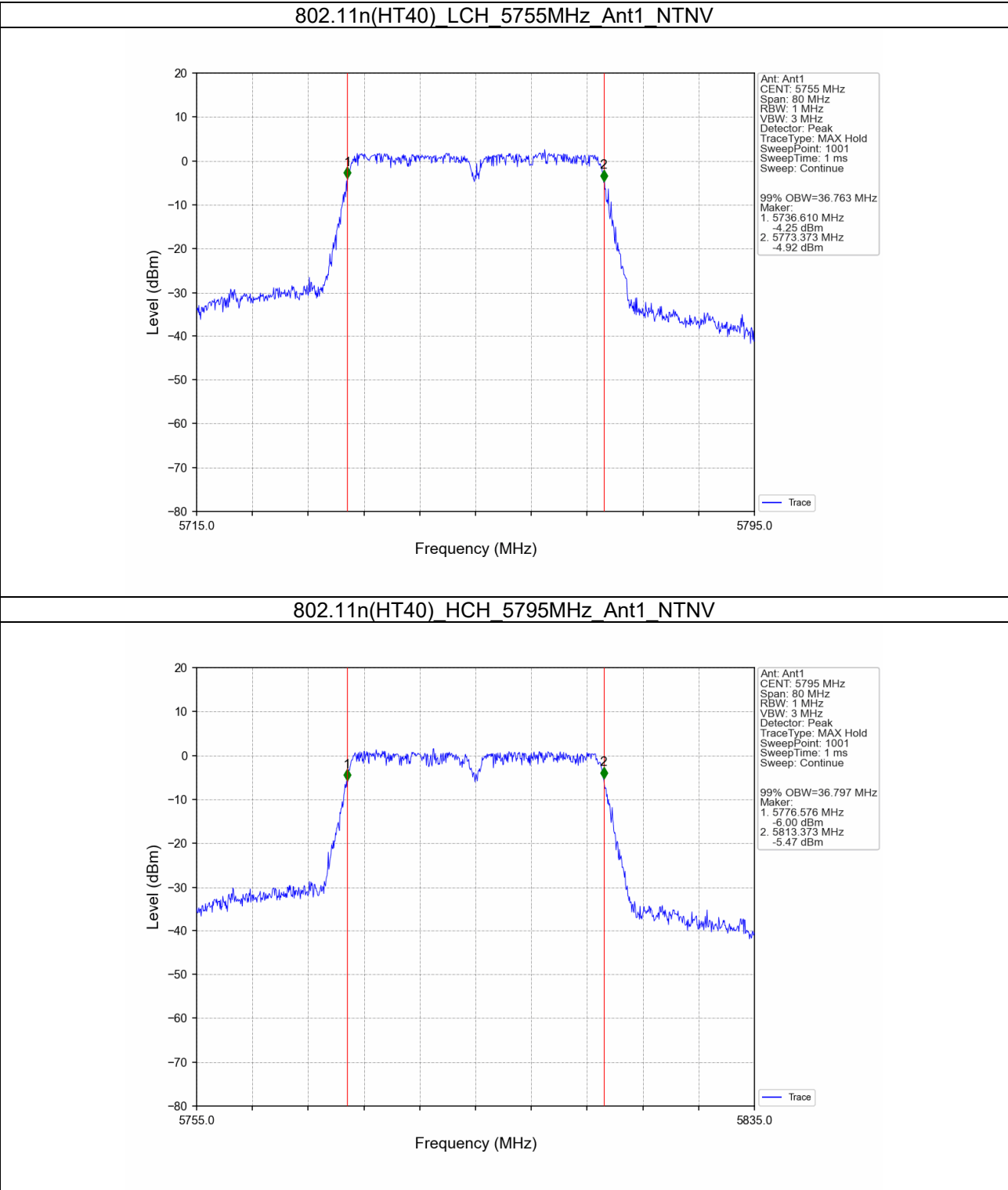












13 Maximum Conducted Output Power

Test Requirement:	FCC 47CFR Part 15 Section 15.407(a) KDB789033 D02 General U-NII Test Procedures New Rules v02r01
Test Method:	Section E ANSI C63.10-2020
Test Limit:	For the band 5.15-5.25 GHz For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. For the band 5.725-5.850 GHz For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.
Test Result:	PASS

13.1 Test Procedure

Note: the method used in this report is Method SA-1.

The procedure for this method is as follows:

- Set span to encompass the entire 99% OBW of the signal.
- Set RBW = 1 MHz.
- Set VBW $\geq$ 3 MHz.
- Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto.
- Detector = Power averaging (rms), if available. Otherwise, use sample detector mode.
- If transmit duty cycle $< 98\%$, use a video trigger with the trigger level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle $\geq 98\%$, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."

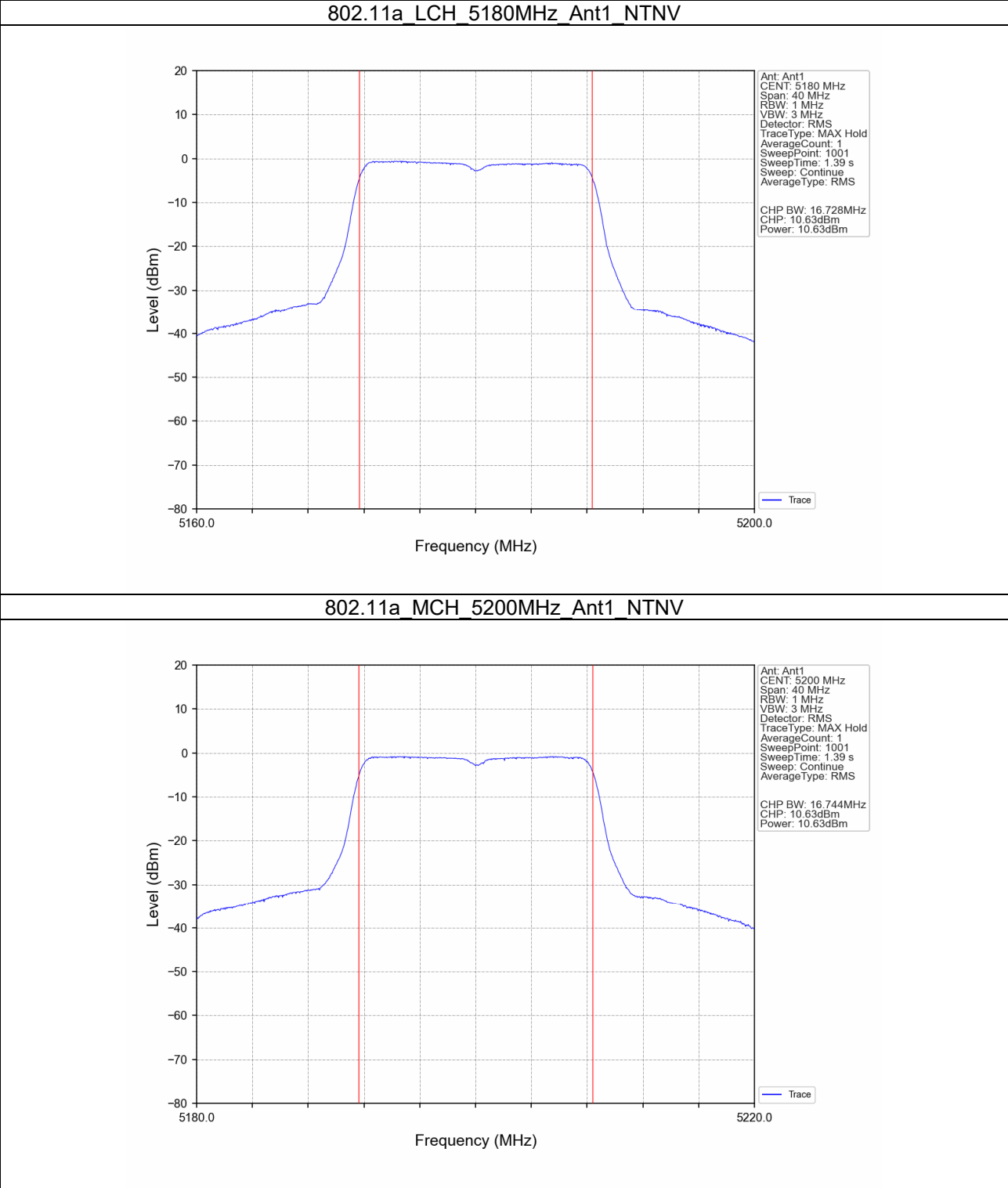
- h) Trace average at least 100 traces in power averaging (rms) mode.
- i) Compute power by integrating the spectrum across the 99% OBW of the signal using the instrument's band-power measurement function, with band limits set equal to the OBW band-edges. If the instrument does not have a band-power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 99% OBW of the spectrum.

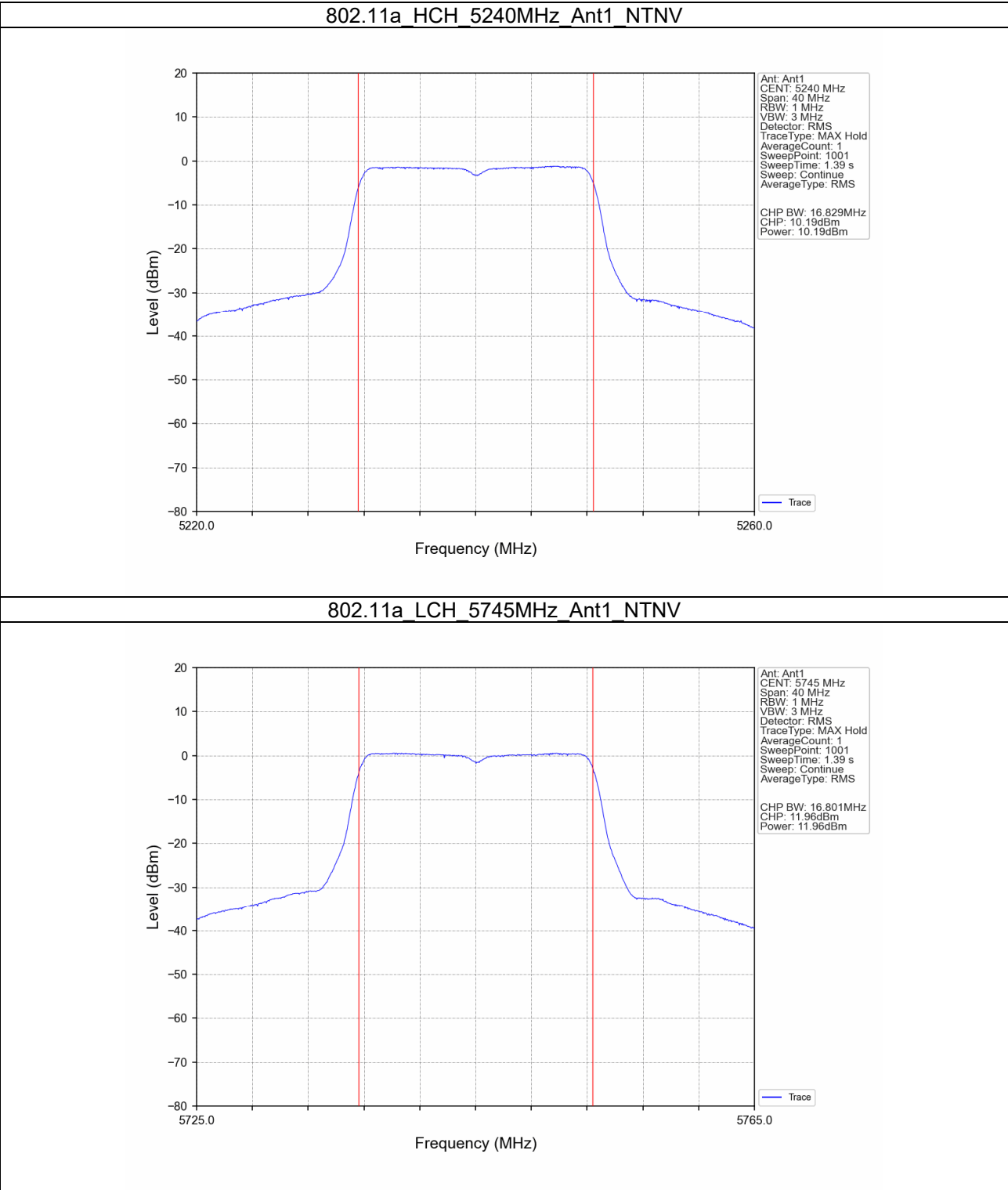
13.2 Test Result

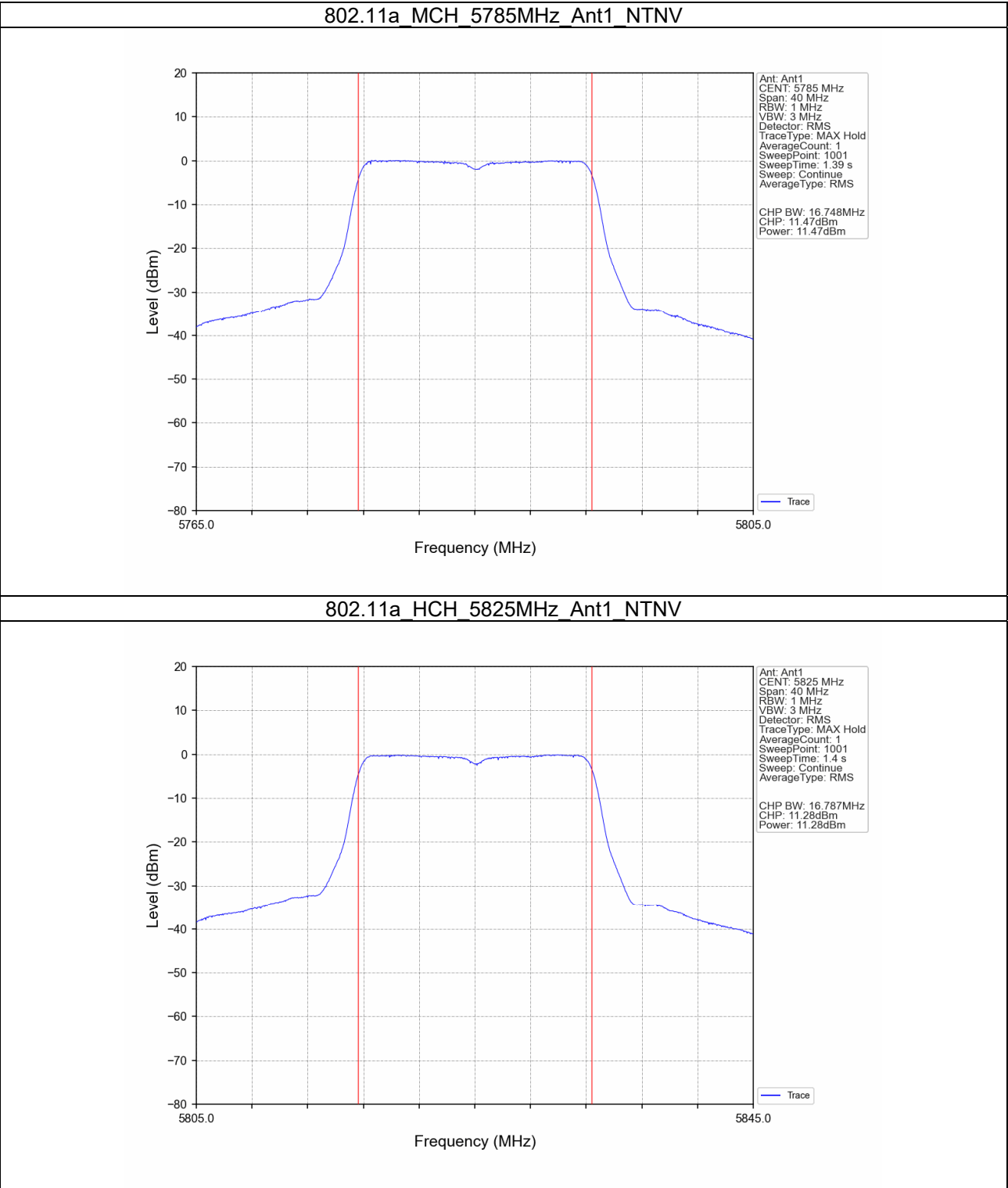
Note: the method used in this report is Method SA-3.

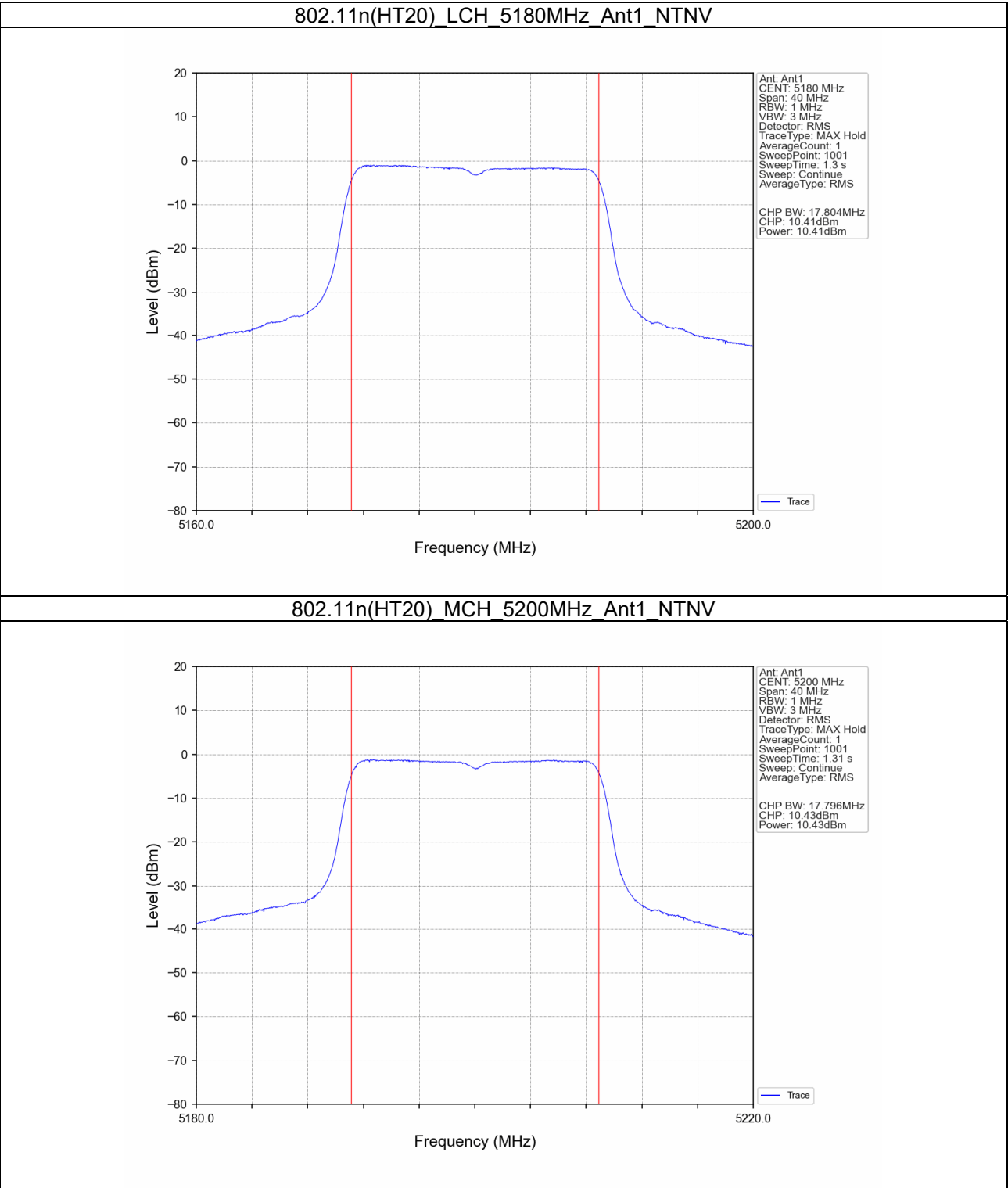
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	10.63	≤ 23.98	Pass
		5200	10.63	≤ 23.98	Pass
		5240	10.19	≤ 23.98	Pass
		5745	11.96	≤ 30	Pass
		5785	11.47	≤ 30	Pass
		5825	11.28	≤ 30	Pass
802.11n (HT20)	SISO	5180	10.41	≤ 23.98	Pass
		5200	10.43	≤ 23.98	Pass
		5240	10.18	≤ 23.98	Pass
		5745	11.28	≤ 30	Pass
		5785	10.84	≤ 30	Pass
		5825	10.73	≤ 30	Pass
802.11n (HT40)	SISO	5190	7.50	≤ 23.98	Pass
		5230	7.27	≤ 23.98	Pass
		5755	8.73	≤ 30	Pass
		5795	8.05	≤ 30	Pass

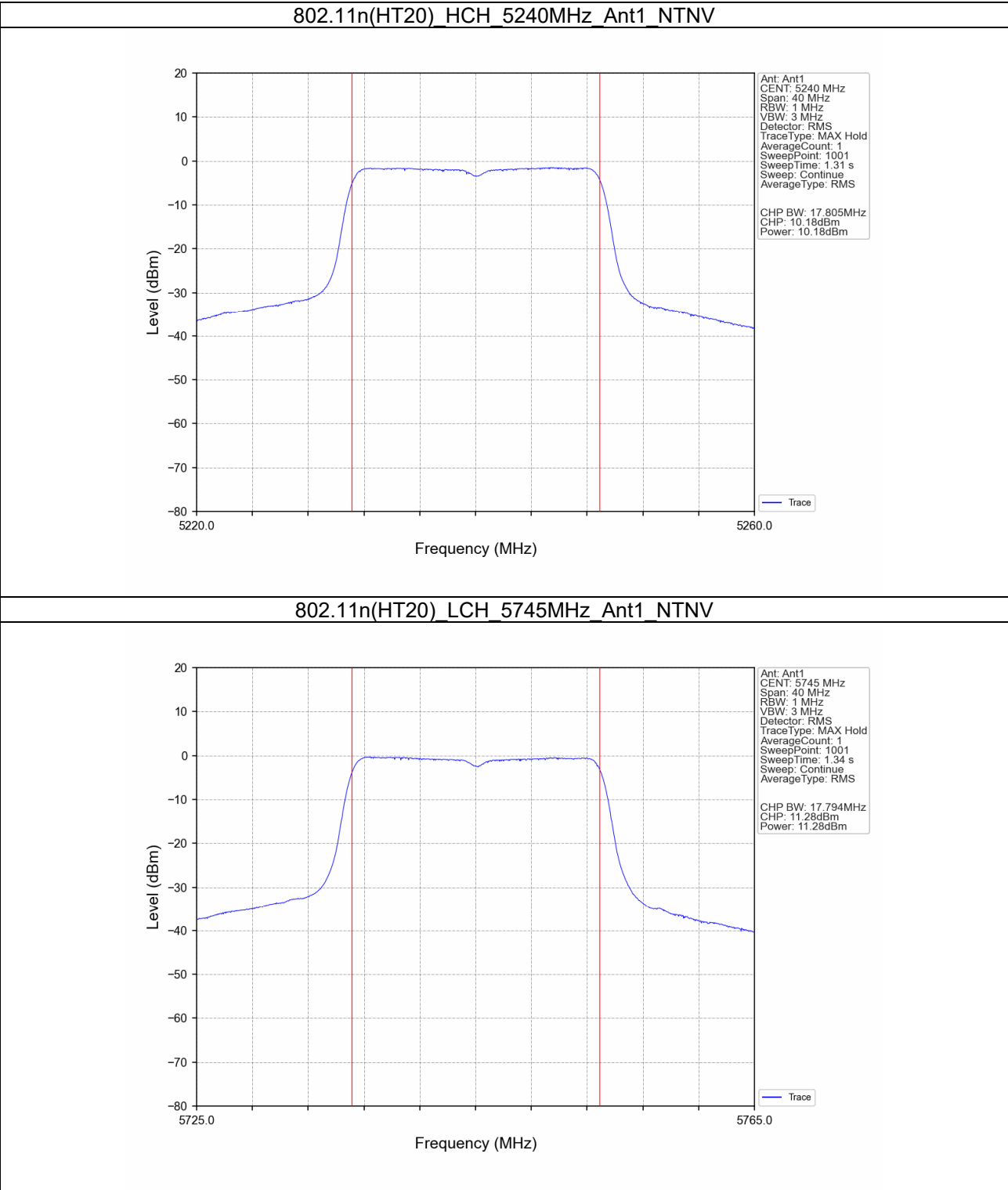
Test result plots shown as follows:

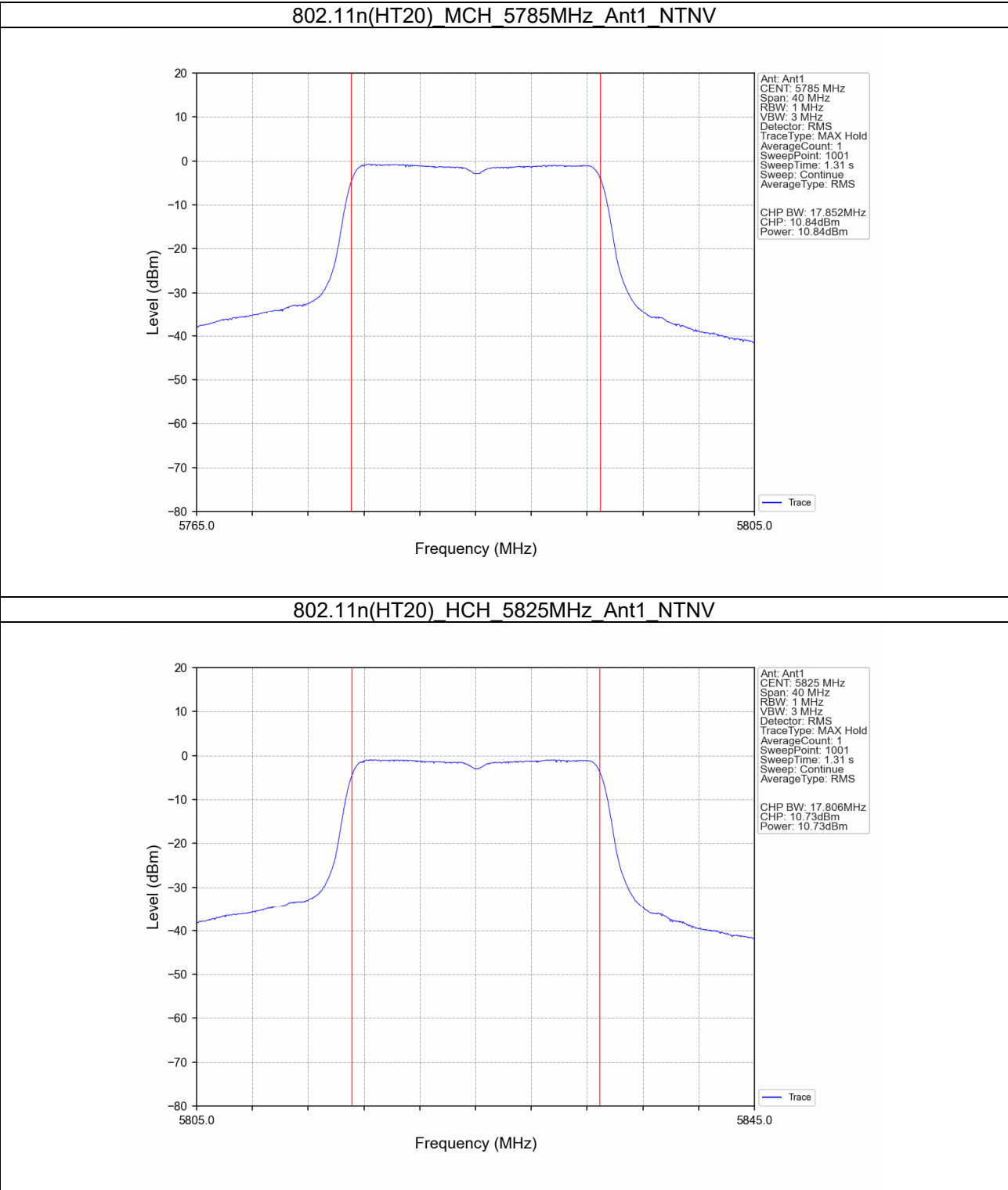


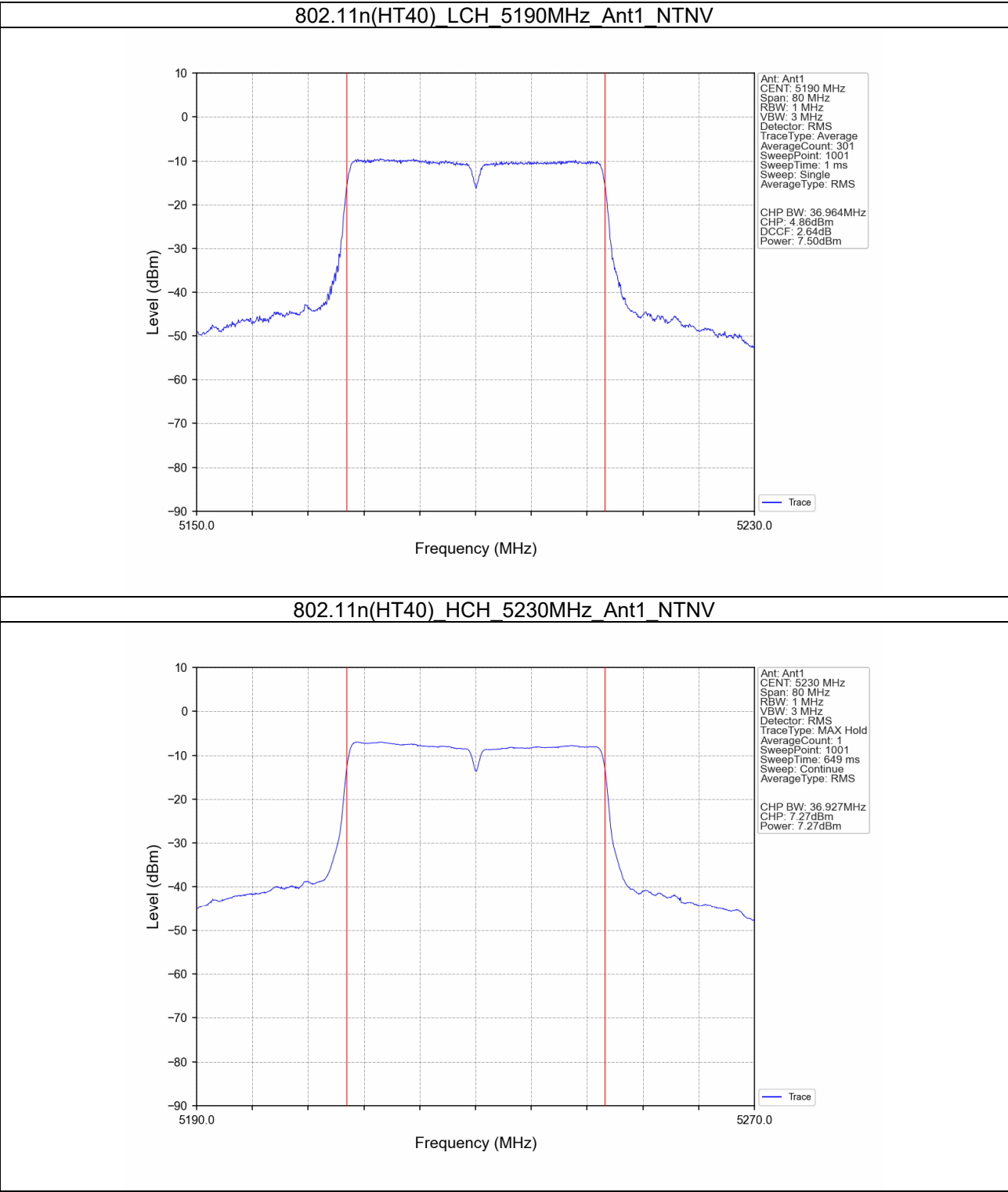


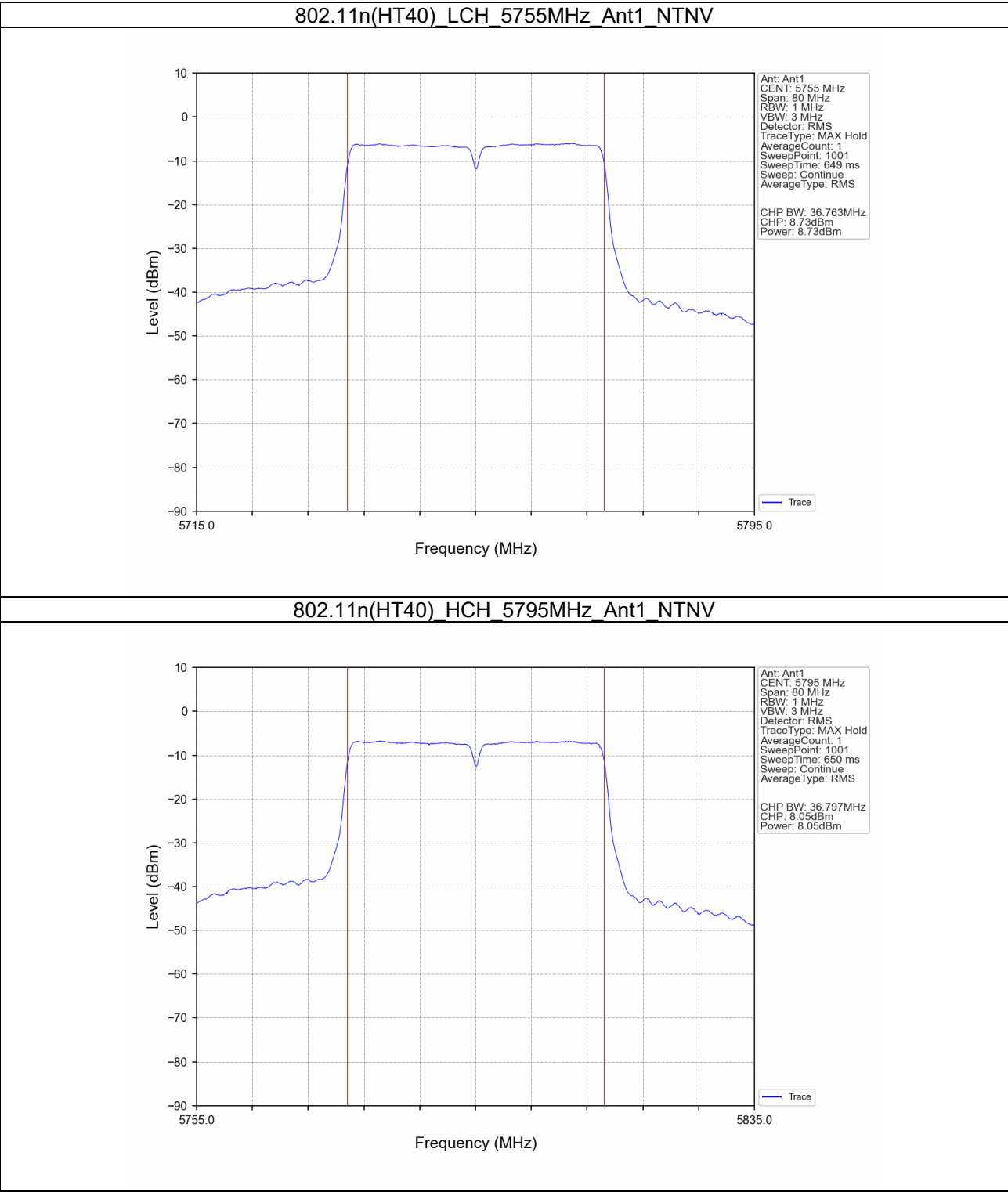












14 Power Spectral Density

Test Requirement:	FCC 47CFR Part 15 Section 15.407(a)
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 ANSI C63.10-2020
Test Limit:	For the band 5.15-5.25 GHz For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. For the band 5.725-5.850 GHz The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.
Test Result:	PASS

14.1 Test Procedure

- a) Create an average power spectrum for the EUT operating mode being tested by following the instructions in 12.4.2 for measuring maximum conducted output power using a spectrum analyzer that is, select the appropriate test method (SA-1, SA-2, SA-3, or their respective alternatives) and apply it up to, but not including, the step labeled, "Compute power....".
- b) Use the peak search function on the instrument to find the peak of the spectrum.

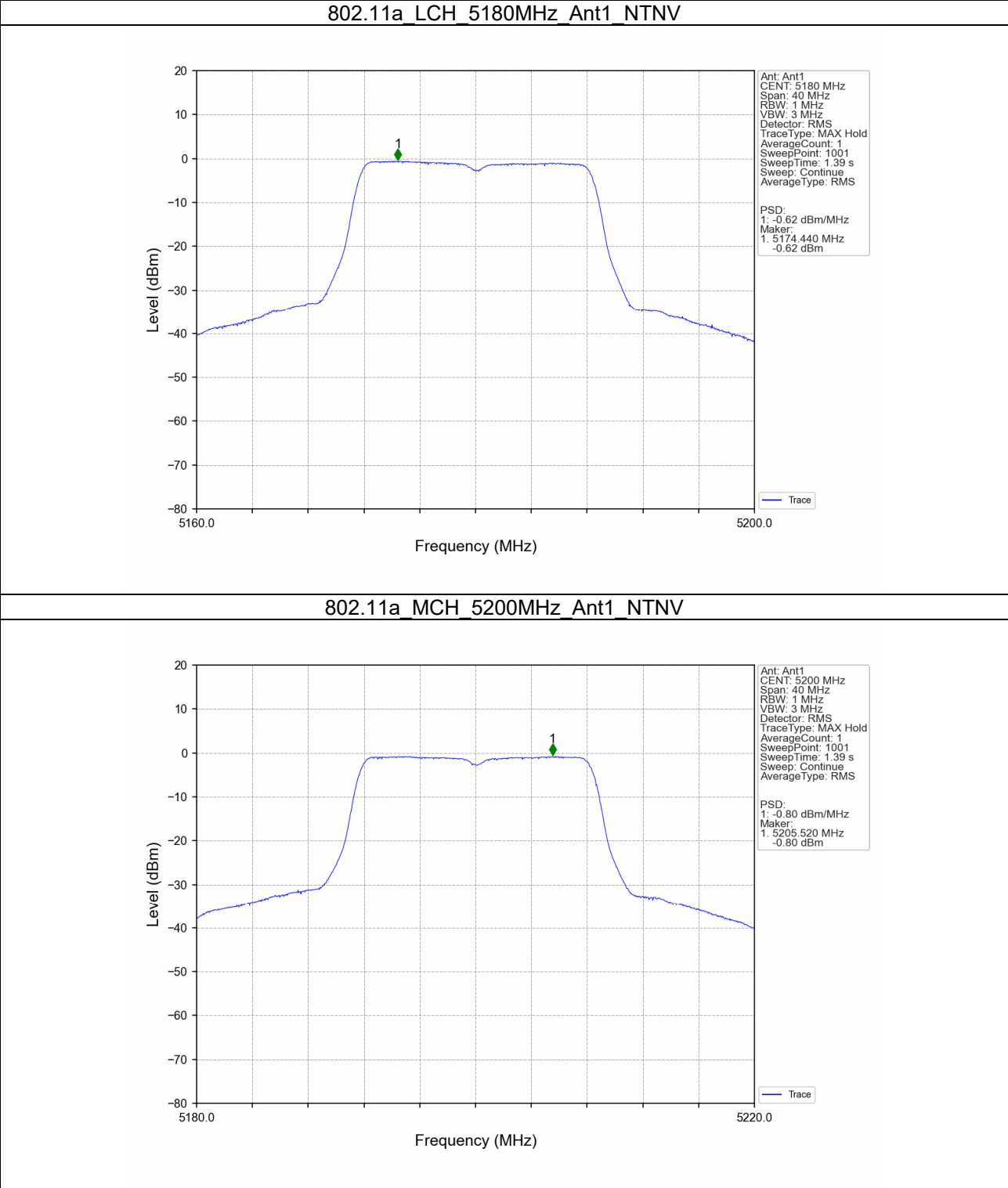
14.2 Test Result

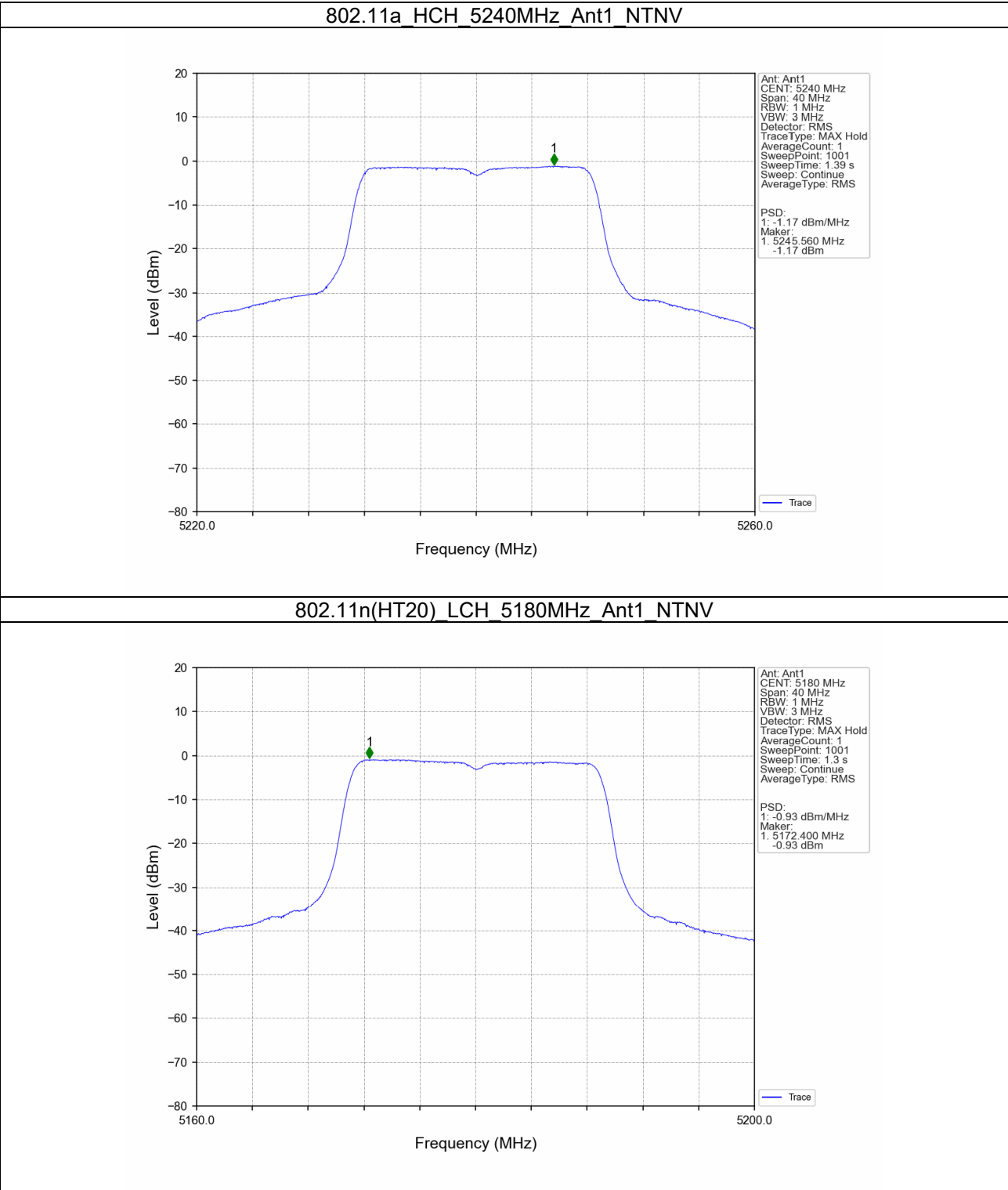
Note: the method used in this report is Method SA-3.

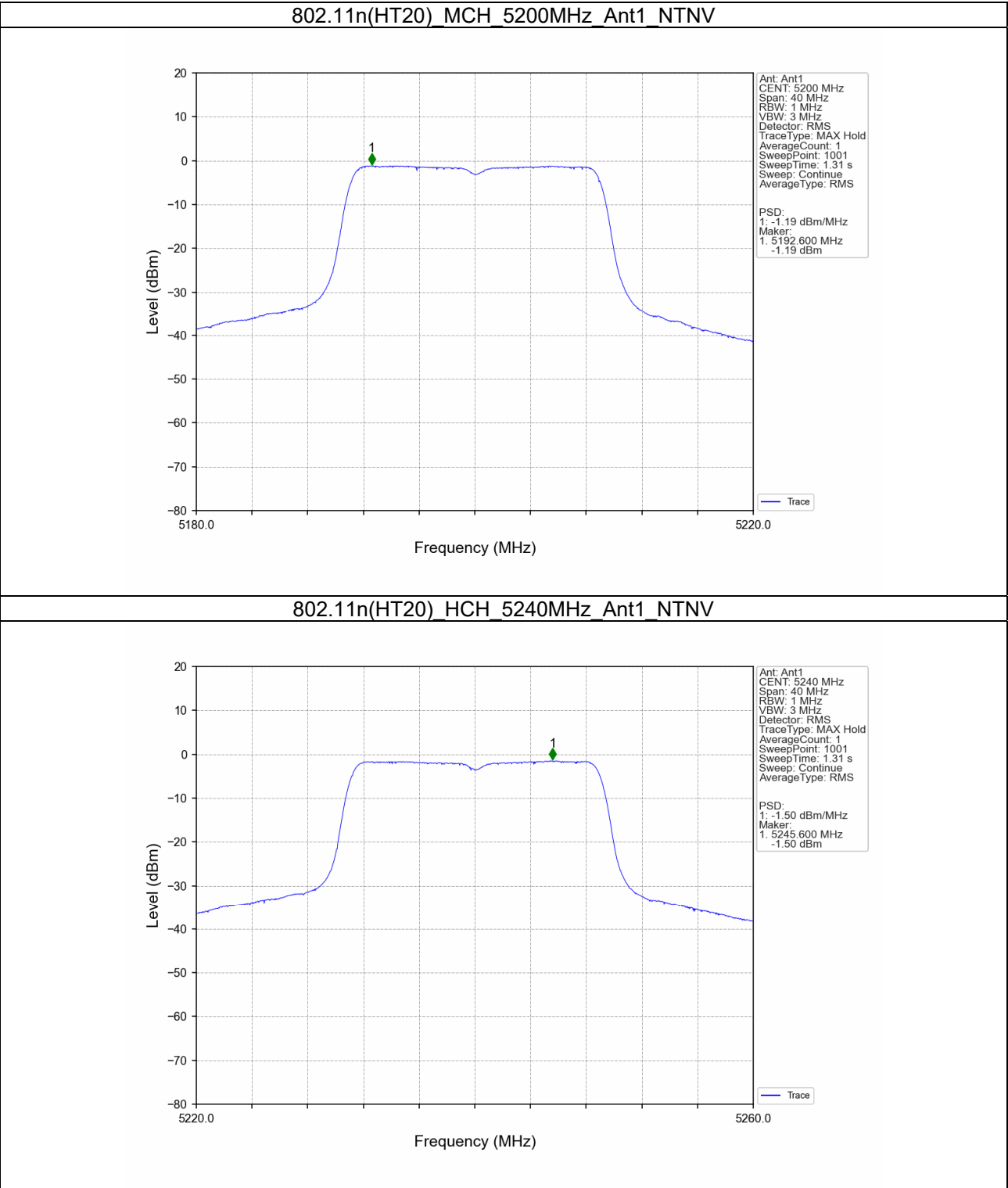
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	-0.62	<=11	Pass
		5200	-0.80	<=11	Pass
		5240	-1.17	<=11	Pass
802.11n (HT20)	SISO	5180	-0.93	<=11	Pass
		5200	-1.19	<=11	Pass
		5240	-1.50	<=11	Pass
802.11n (HT40)	SISO	5190	-6.36	<=11	Pass
		5230	-6.93	<=11	Pass

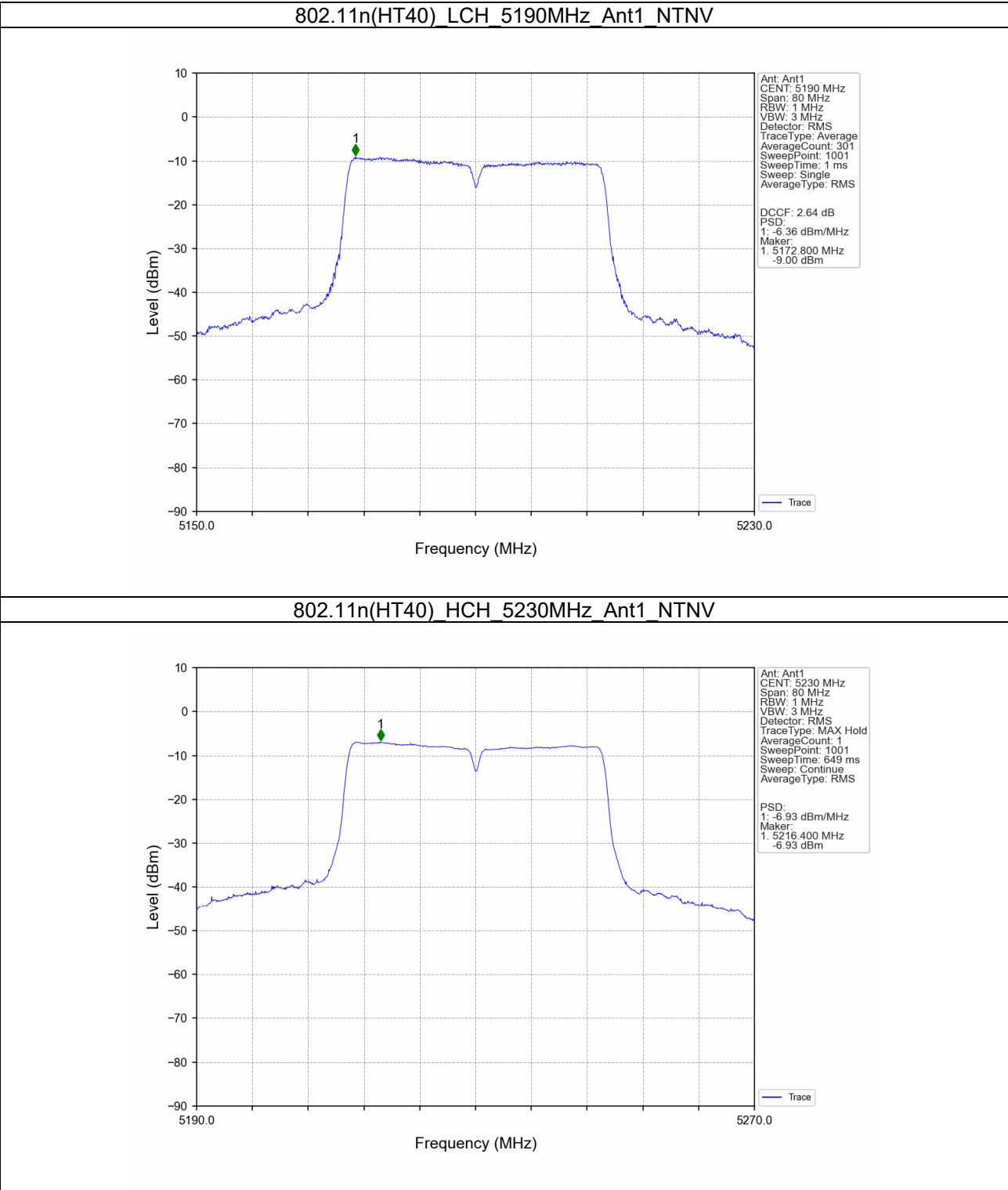
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/500kHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5745	-2.25	<=30	Pass
		5785	-2.74	<=30	Pass
		5825	-2.98	<=30	Pass
802.11n (HT20)	SISO	5745	-3.23	<=30	Pass
		5785	-3.61	<=30	Pass
		5825	-3.81	<=30	Pass
802.11n (HT40)	SISO	5755	-8.86	<=30	Pass
		5795	-9.46	<=30	Pass

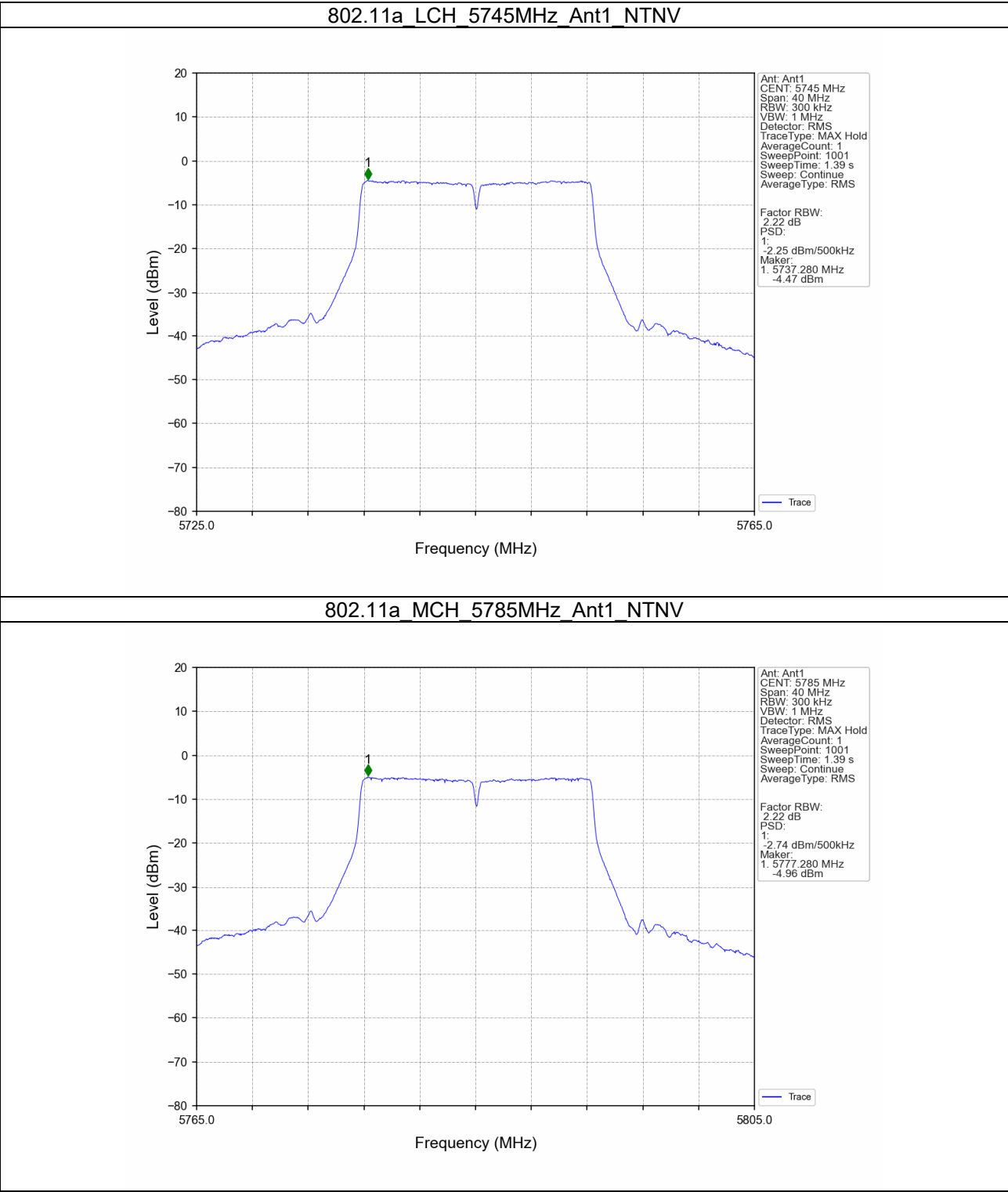
Test result plots shown as follows:

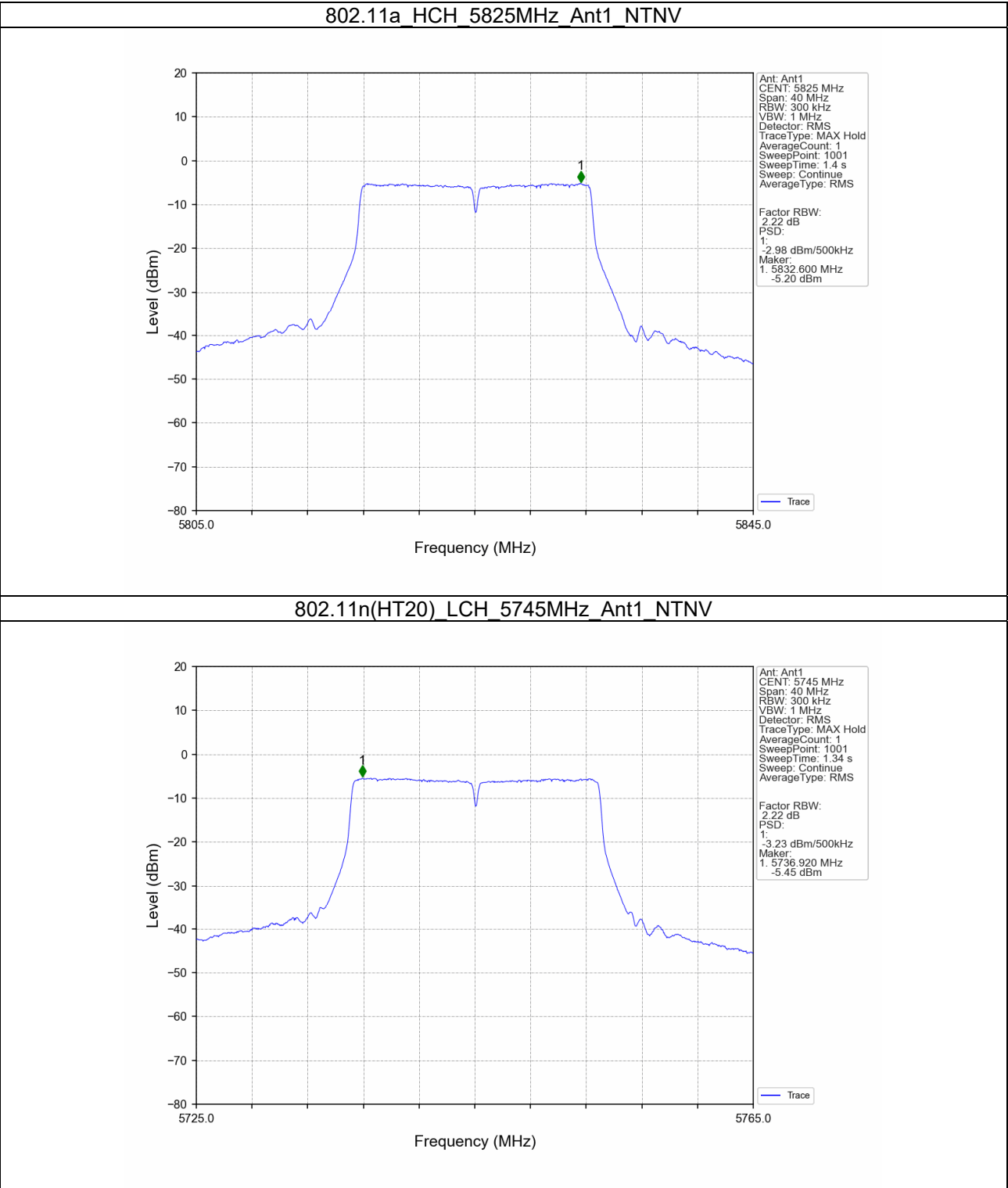


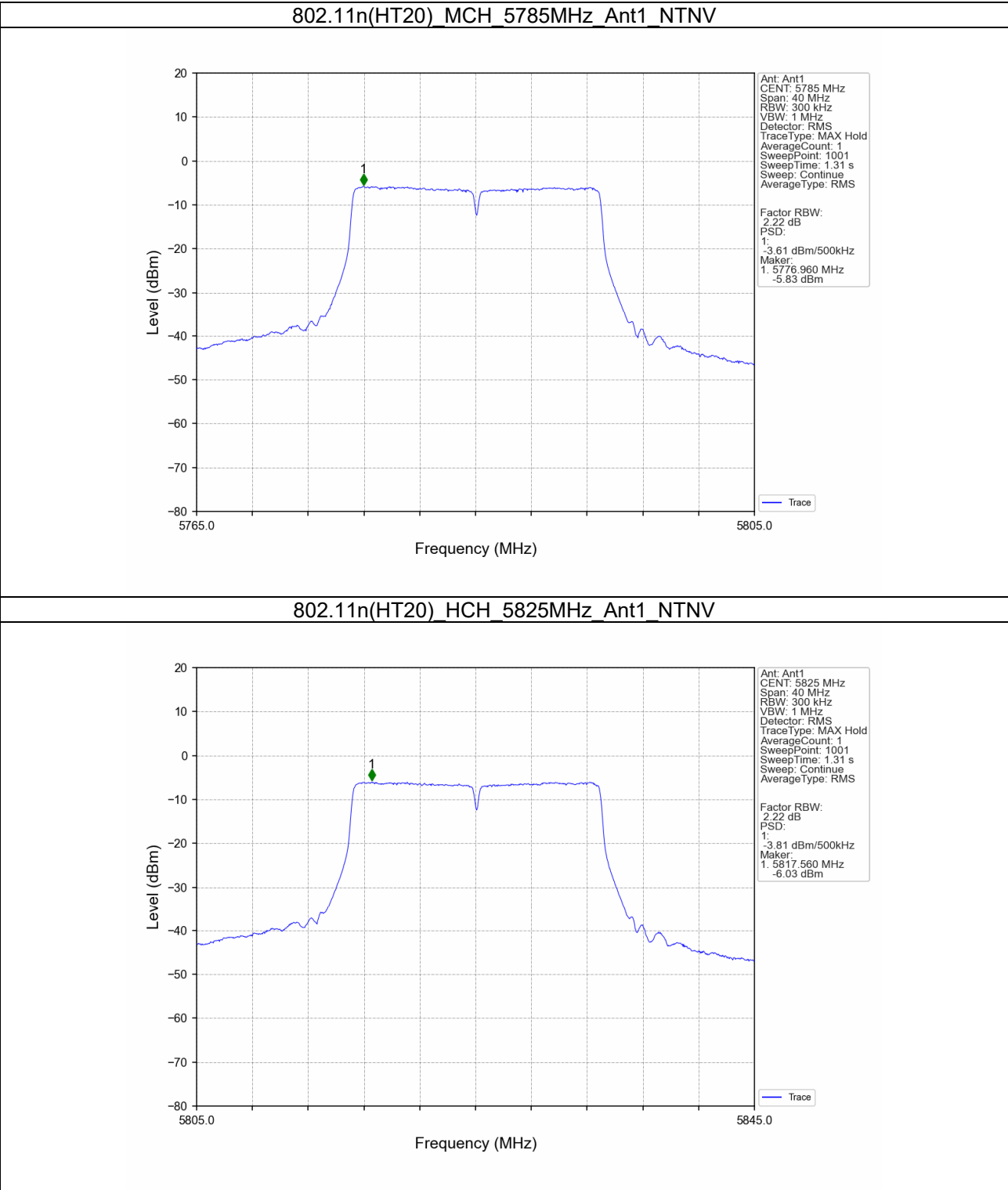


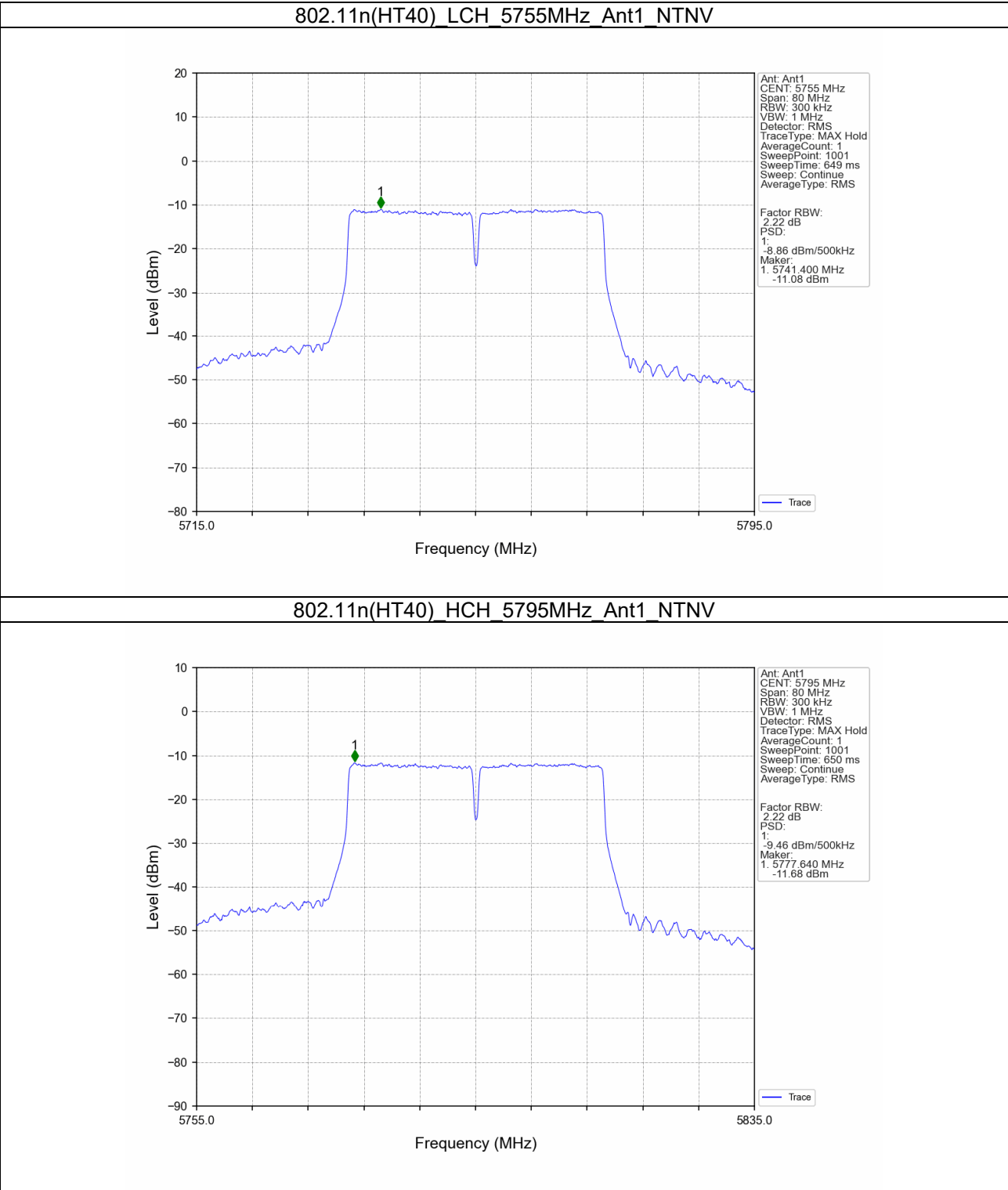












15 Frequency Stability

Test Requirement:	FCC 47CFR Part 15 Section 15.407(g)
Test Method:	ANSI C63.10-2020
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 Result:	PASS

15.1 Test Procedure

1. The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure until the highest temperature of +50°C reached. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
2. Extreme temperature rule is 0°C~ 40°C.

15.2 Test Result

U-NII-1 Test Frequency:5180MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (MHz)	Frequency Error (ppm)	Limit
50	5	/	/	/
40		0.0039	0.76	Within the band
30		0.0015	0.29	Within the band
20		0.0050	0.97	Within the band
10		0.0066	1.27	Within the band
0		0.0056	1.08	Within the band
-10		/	/	/
-20		/	/	/
20	4.5	0.0014	0.28	Within the band
20	5.5	0.0069	1.33	Within the band

U-NII-3 Test Frequency:5785MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (MHz)	Frequency Error (ppm)	Limit
50	5	/	/	/
40		0.0030	0.51	Within the band
30		0.0012	0.20	Within the band
20		0.0060	1.04	Within the band
10		0.0079	1.36	Within the band
0		0.0063	1.09	Within the band
-10		/	/	/
-20		/	/	/
20	4.5	0.0017	0.30	Within the band
20	5.5	0.0073	1.27	Within the band

16 Antenna Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

This product has a FPC Antenna fulfil the requirement of this section.

Note: Please refer to EUT photos for more details.

17 RF Exposure

Remark: Please refer to RF Exposure Report: WTH26D08253335W006.

18 Photographs of test setup and EUT.

Note: Please refer to appendix: Appendix-SS220-Photos.

=====End of Report=====