

TEST REPORT

Report No.: BCTC2507499166-4E

Applicant: Shenzhen Qichang Intelligent Technology Co., Ltd

Product Name: Smart Phone

Test Model: F110L

Tested Date: 2025-07-02 to 2025-07-31

Issued Date: 2025-08-01

Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2BAK2-F110L

Product Name: Smart Phone

Trademark: 

Model/Type reference: F110L
F110L Ultra, F110L PLUS, F110L P, F117, F117 PRO, F117 PLUS, F117 P, F117 Ultra, iHunt Titan Music P11001 ULTRA

Prepared For: Shenzhen Qichang Intelligent Technology Co., Ltd

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Manufacturer: Shenzhen Qichang Intelligent Technology Co., Ltd

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Prepared By: Shenzhen BCTC Testing Co., Ltd.

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Sample Received Date: 2025-07-02

Sample tested Date: 2025-07-02 to 2025-07-31

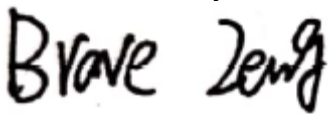
Issue Date: 2025-08-01

Report No.: BCTC2507499166-4E

Test Standards: FCC Part15 15.407
ANSI C63.10-2013
KDB 789033 D02 v02r01

Test Results: PASS

Tested by:



Brave Zeng/ Project Handler

Approved by:



Zero Zhou/Reviewer

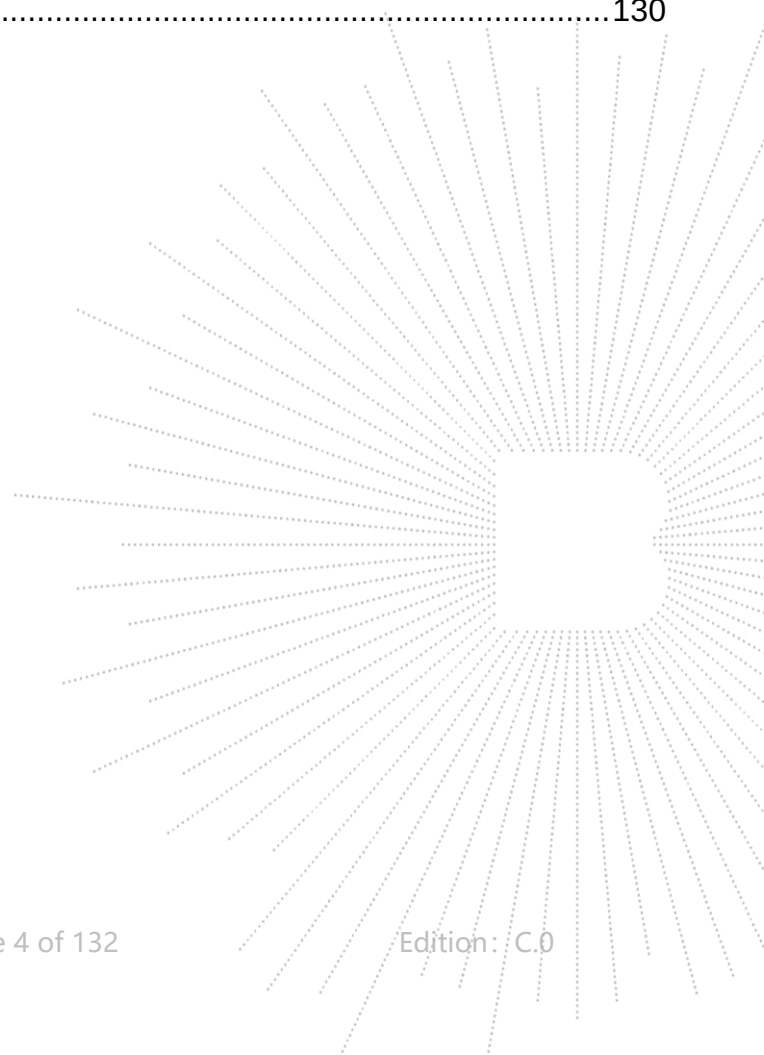
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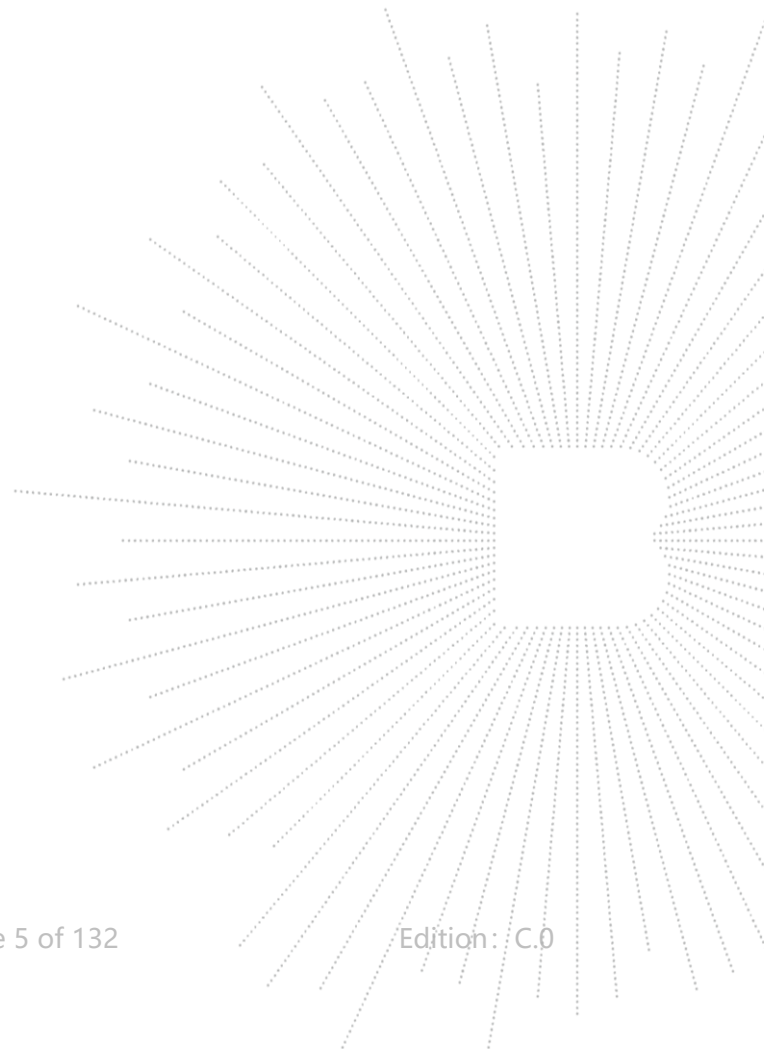
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(Note: N/A Means Not Applicable)



1. Version

Report No.	Issue Date	Description	Approved
BCTC2507499166-4E	2025-08-01	Original	Valid



2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No.	Results
1	Spurious Radiated Emissions	15.209(a), 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(8)	PASS
2	Conducted Emission	15.207	PASS
3	26 dB and 99% Emission Bandwidth	15.407 (a)(12) 15.1049	PASS
4	Minimum 6 dB bandwidth	15.407(e)	PASS
5	Maximum Conducted Output Power	15.407 (a)(1) 15.407 (a)(3)	PASS
6	Band Edge	2.1051, 15.407(b)(1) 15.407(b)(4)	PASS
7	Power Spectral Density	15.407 (a)(1) 15.407 (a)(3)	PASS
8	Spurious Emissions at Antenna Terminals	2.1051, 15.407(b)	PASS
9	Antenna Requirement	15.203	PASS

Note: "N/A" means not applicable in this report.

3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(9kHz-30MHz)	U=3.7dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission(150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59°C

4. Product Information And Test Setup

4.1 Product Information

Model/Type reference:	F110L F110L Ultra, F110L PLUS, F110L P, F117, F117 PRO, F117 PLUS, F117 P, F117 Ultra, iHunt Titan Music P11001 ULTRA
Model differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	J614-V1.0
Software Version:	FOSSiBOT F110L F V
IEEE 802.11 WLAN Mode Supported	802.11a/n/ac(20MHz channel bandwidth) 802.11n/ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n(HT20)/ac(HT20); 5190-5230MHz for 802.11n(HT40)/ac(HT40); 5210MHz for 802.11 ac(HT80); 5745-5825 MHz for 802.11a/n(HT20)/ac(HT20); 5755-5795 MHz for 802.11n(HT40)/ac(HT40); 5775MHz for 802.11 ac(HT80);
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac; 4 channels for 802.11a/n20/ac20 in the 5180-5240MHz band ; 2 channels for 802.11 n40/ac40 in the 5190-5230MHz band ;
Number Of Channel	1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20/ac20 in the 5745-5825MHz band ; 2 channels for 802.11 n40/ac40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band
Antenna installation:	Internal antenna 1.8 dBi
Antenna Gain:	Remark: ☐ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☒ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
Ratings:	DC 9V from adapter/DC 3.87V from battery Model: QZ-0180AA2H
Adapter Information:	Input: 100-240V~50/60Hz 0.5A Output: DC 5.0V 3.0A 15.0W or DC 9.0V 2.22A 20.0W Max. or DC 12.0V 1.67A 20.0W Max.

4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
1	Smart Phone		F110L	N/A	EUT
2	Adapter	/	QZ-0180AA2H	N/A	Auxiliary
3	TF card	SanDisk	32G	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	0M	DC cable unshielded

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

5.1G

802.11a/n/ac (20MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220	-	-	-	-
40	5200	48	5240	-	-	-	-

802.11n /ac(40MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	-	-	-	-	-	-
46	5230	-	-	-	-	-	-

802.11ac (80MHz) Carrier Frequency Channel	
Channel	Frequency (MHz)
42	5210

5.8G

802.11a/n/ac(20 MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n/ac (40MHz) Carrier Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-

802.11ac (80MHz) Carrier Frequency Channel	
Channel	Frequency (MHz)
155	5775

4.5 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155
Mode 4	WIFI Link

Note:

1. The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

4.6 Table Of Parameters Of Text Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the 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 power parameters

Test software Version	CMD		
Parameters	DEF	DEF	DEF

5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850

A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

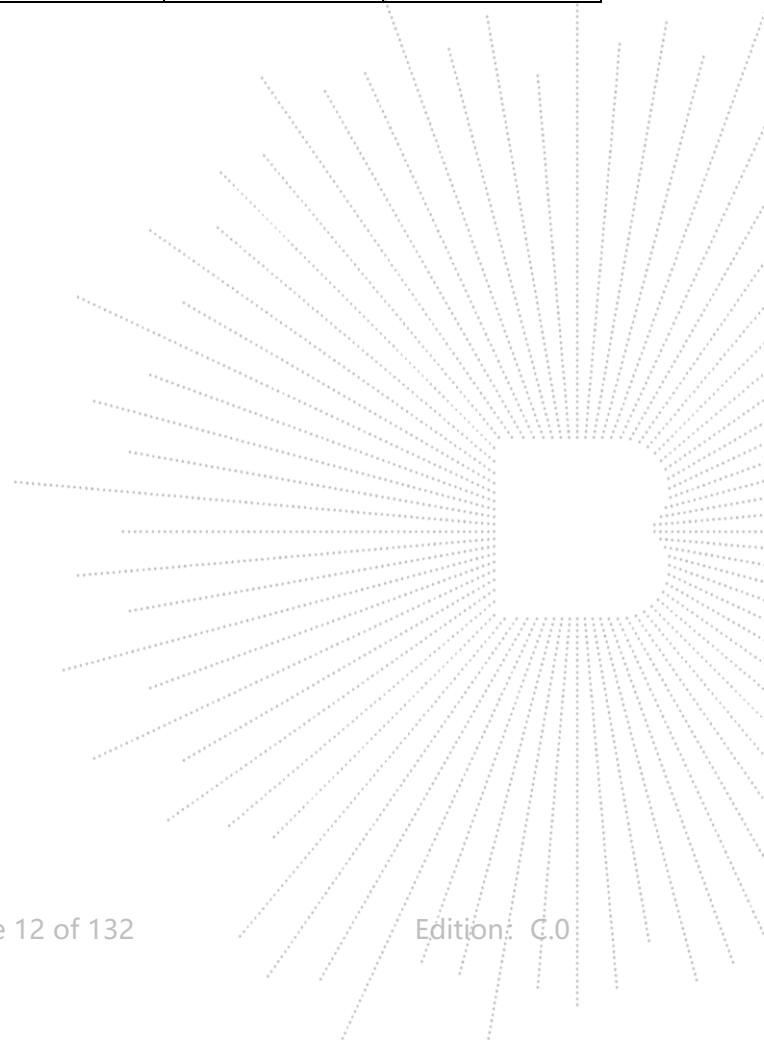
ISED CAB identifier: CN0017

5.2 Test Instrument Used

Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 08, 2025	May 07, 2026
LISN	R&S	ENV216	101375	May 14, 2025	May 13, 2026
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD9561-F	01323	May 14, 2025	May 13, 2026

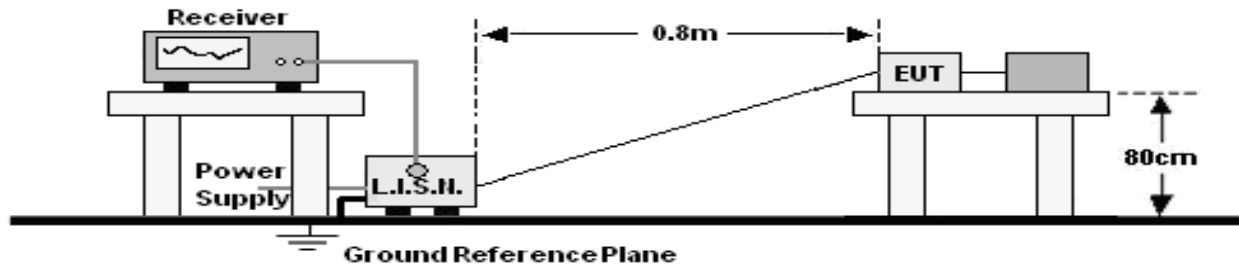
RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	\	May 14, 2025	May 13, 2026
Power Sensor (AV)	Keysight	E9300A	\	May 14, 2025	May 13, 2026
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 14, 2025	May 13, 2026
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 14, 2025	May 13, 2026
Communication test set	R&S	CMW500	126173	May 14, 2025	May 13, 2026
Radio frequency control box	MAIWEI	MW200-RFC B	\	\	\
Software	MAIWEI	MTS 8200	\	\	\

Radiated Emissions Test (966 Chamber01)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026
Receiver	R&S	ESR3	102075	May 08, 2025	May 07, 2026
Receiver	R&S	ESRP	101154	May 14, 2025	May 13, 2026
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 14, 2025	May 13, 2026
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 24, 2025	May 23, 2026
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 24, 2025	May 23, 2026
Amplifier	SKET	LAPA_01G18 G-45dB	SK2021040901	May 14, 2025	May 13, 2026
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 24, 2025	May 23, 2026
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35-HG	2034381	May 14, 2025	May 13, 2026
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	May 24, 2025	May 23, 2026
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 14, 2025	May 13, 2026
Communication test set	R&S	CMW500	126173	Nov. 11. 2024	Nov. 10, 2025
Software	Frad	EZ-EMC	FA-03A2 RE	\	\



6. Conducted Emissions

6.1 Block Diagram Of Test Setup



6.2 Limit

Frequency (MHz)	Limit (dBuV)	
	Quas-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Notes:

- *Decreasing linearly with logarithm of frequency.
- The lower limit shall apply at the transition frequencies.

6.3 Test Procedure

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

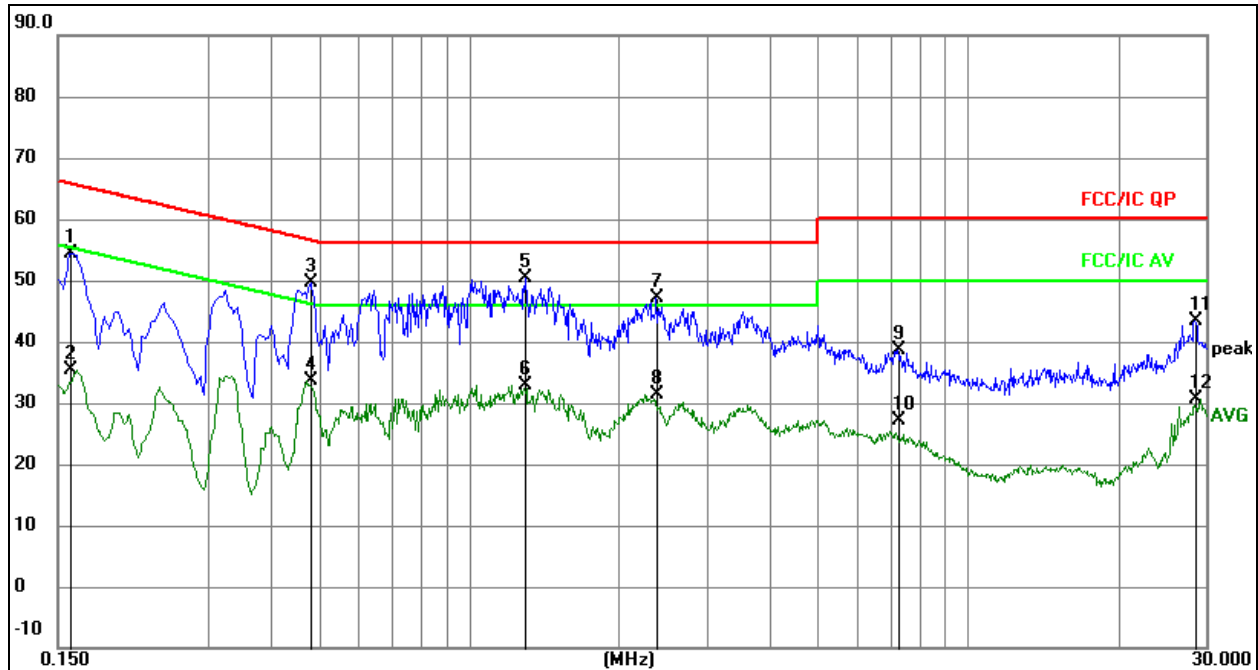
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

6.5 Test Result

Temperature:	24.3 °C	Relative Humidity:	53 %
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz

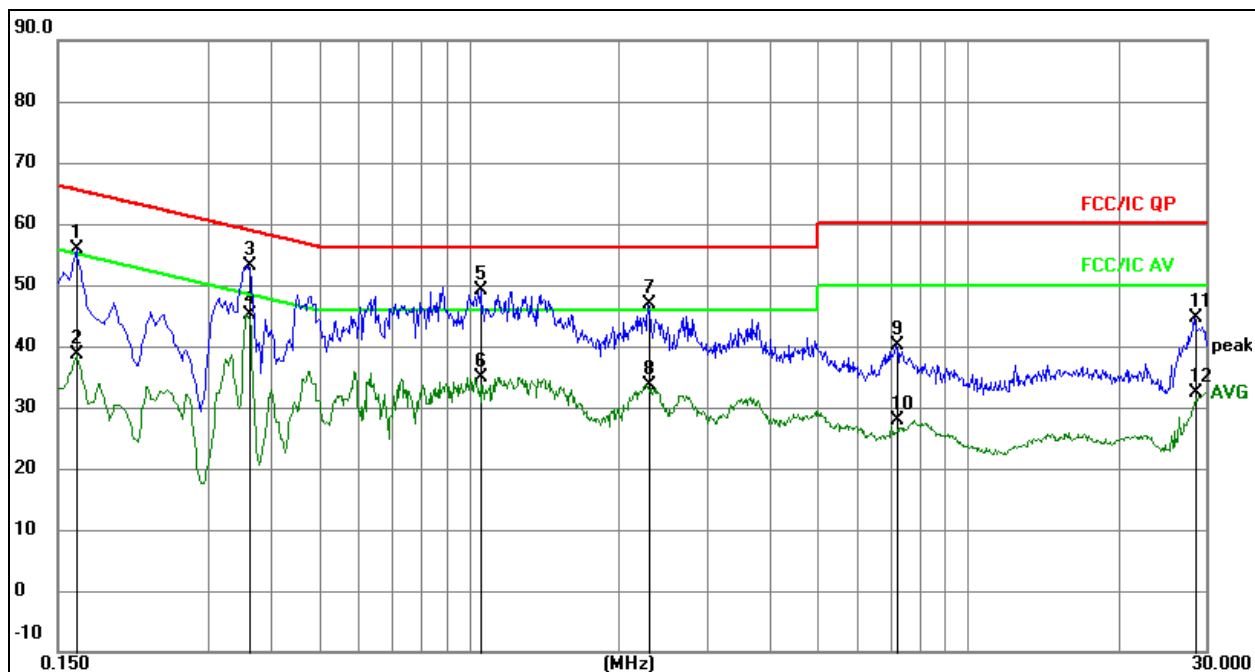


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1582	34.27	20.04	54.31	65.56	-11.25	QP
2		0.1582	15.32	20.04	35.36	55.56	-20.20	AVG
3		0.4812	29.51	20.06	49.57	56.32	-6.75	QP
4		0.4812	13.48	20.06	33.54	46.32	-12.78	AVG
5	*	1.2960	30.05	20.24	50.29	56.00	-5.71	QP
6		1.2960	12.58	20.24	32.82	46.00	-13.18	AVG
7		2.3710	26.96	20.26	47.22	56.00	-8.78	QP
8		2.3710	11.21	20.26	31.47	46.00	-14.53	AVG
9		7.2135	17.77	20.96	38.73	60.00	-21.27	QP
10		7.2135	6.28	20.96	27.24	50.00	-22.76	AVG
11		28.4519	18.66	24.61	43.27	60.00	-16.73	QP
12		28.4519	6.11	24.61	30.72	50.00	-19.28	AVG

Temperature:	24.3 °C	Relative Humidity:	53 %
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz


Remark:

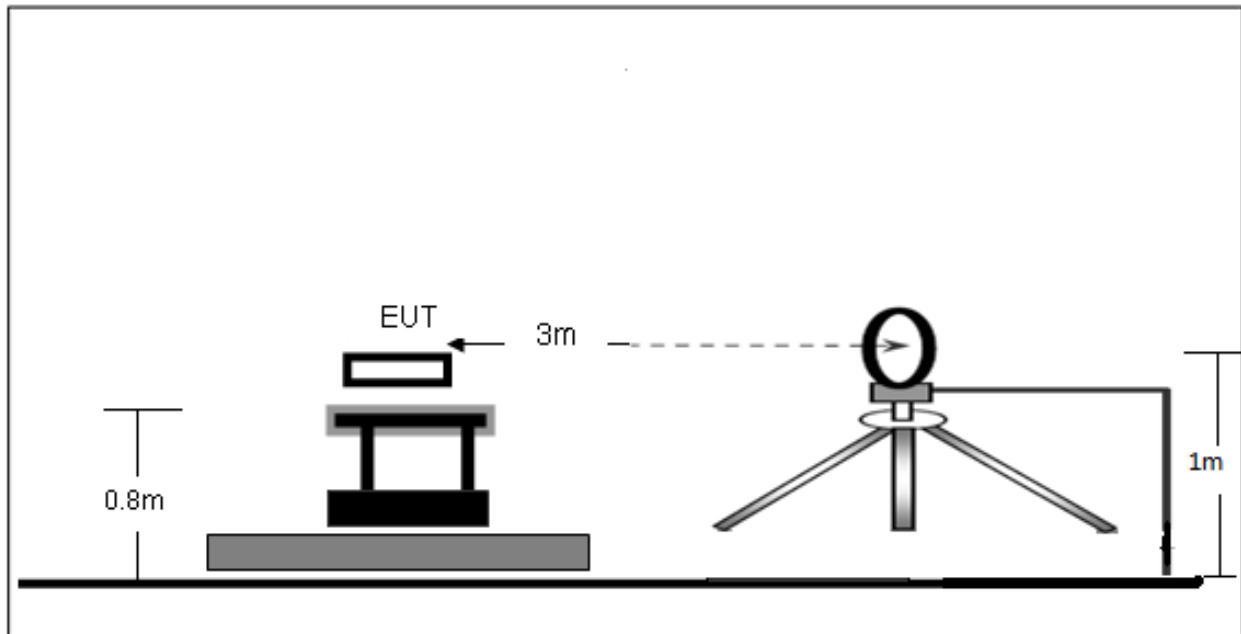
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level dB	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1633	35.74	20.04	55.78	65.29	-9.51	QP
2		0.1633	18.62	20.04	38.66	55.29	-16.63	AVG
3		0.3615	33.14	20.05	53.19	58.69	-5.50	QP
4	*	0.3615	25.06	20.05	45.11	48.69	-3.58	AVG
5		1.0541	28.90	20.27	49.17	56.00	-6.83	QP
6		1.0541	14.65	20.27	34.92	46.00	-11.08	AVG
7		2.2847	26.60	20.24	46.84	56.00	-9.16	QP
8		2.2847	13.46	20.24	33.70	46.00	-12.30	AVG
9		7.1754	19.10	20.95	40.05	60.00	-19.95	QP
10		7.1754	6.83	20.95	27.78	50.00	-22.22	AVG
11		28.4519	19.94	24.61	44.55	60.00	-15.45	QP
12		28.4519	7.68	24.61	32.29	50.00	-17.71	AVG

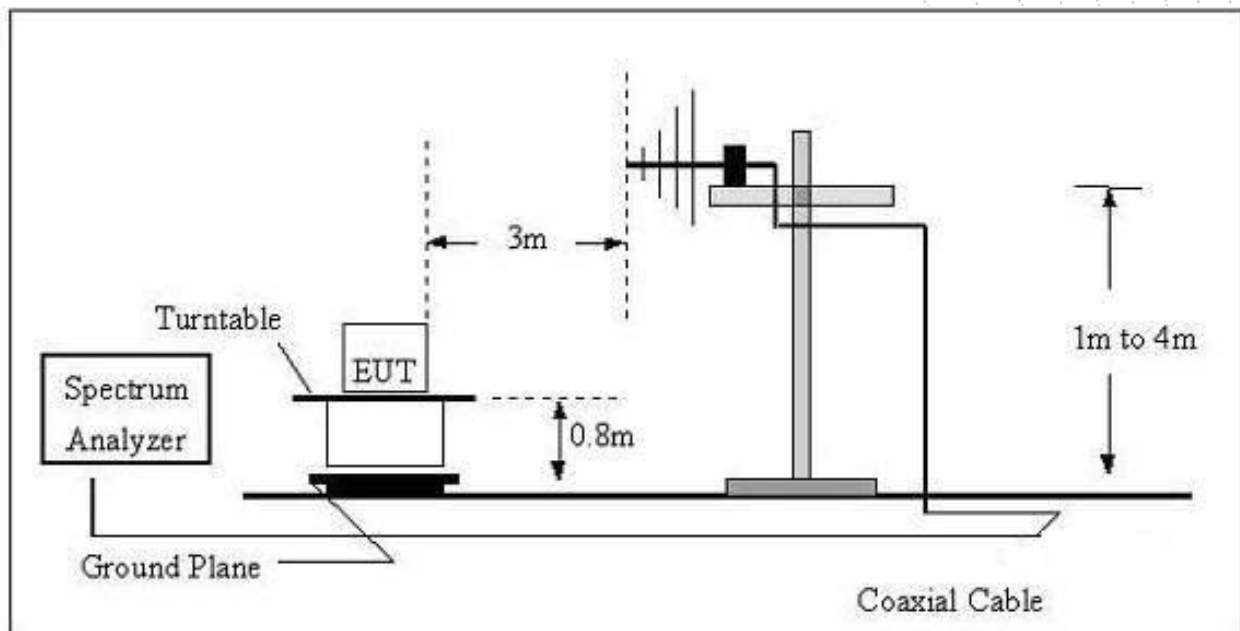
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

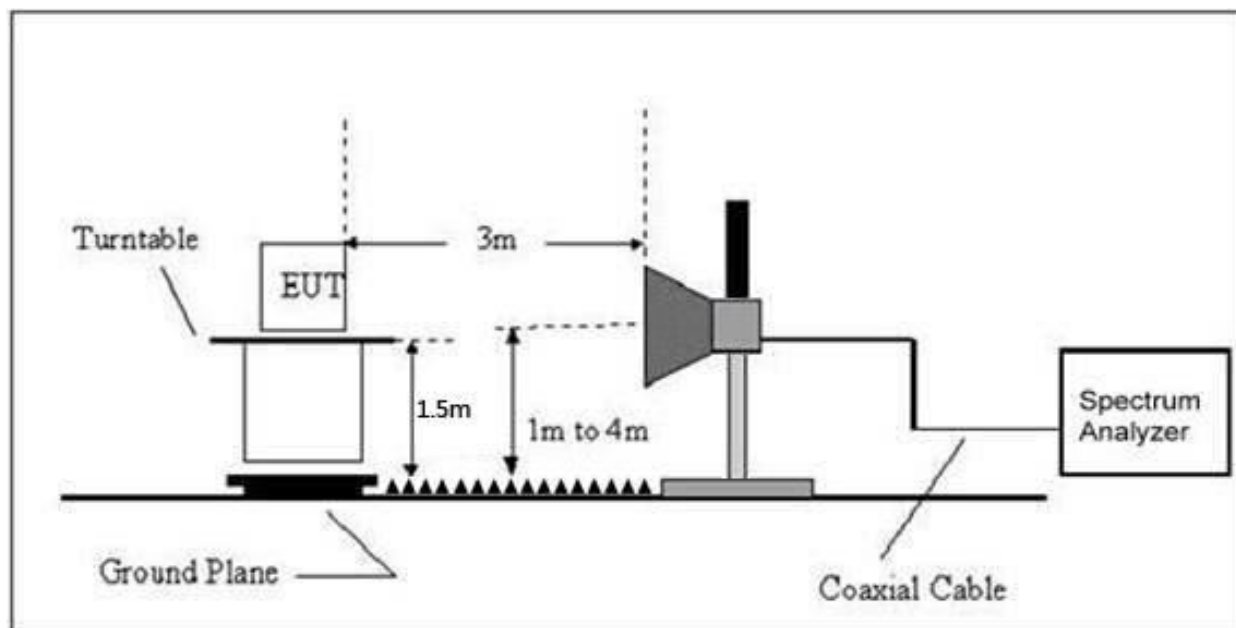
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency (MHz)	Field Strength uV/m	Distance (m)	Field Strength Limit at 3m Distance	
			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	$20\log^{(500)}$

Limits Of Radiated Emission Measurement (Above 1000MHz)

Frequency (MHz)	Limit (dBuV/m) (at 3M)	
	Peak	Average
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

7.3 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT.

Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where $RBWCF [dB] = 10 \cdot \lg(100 [kHz] / \text{narrower RBW} [kHz])$. , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

7.5 Test Result

Below 30MHz

Temperature:	24.9 °C	Relative Humidity:	55 %
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	Mode 4	Polarization :	--

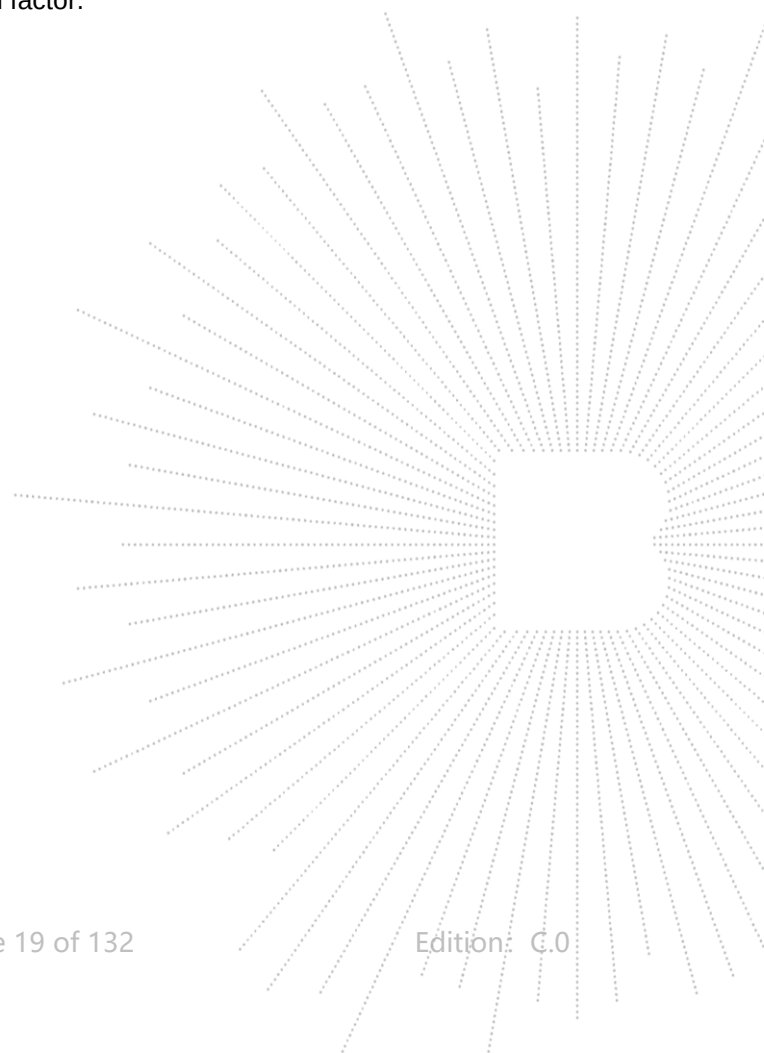
Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

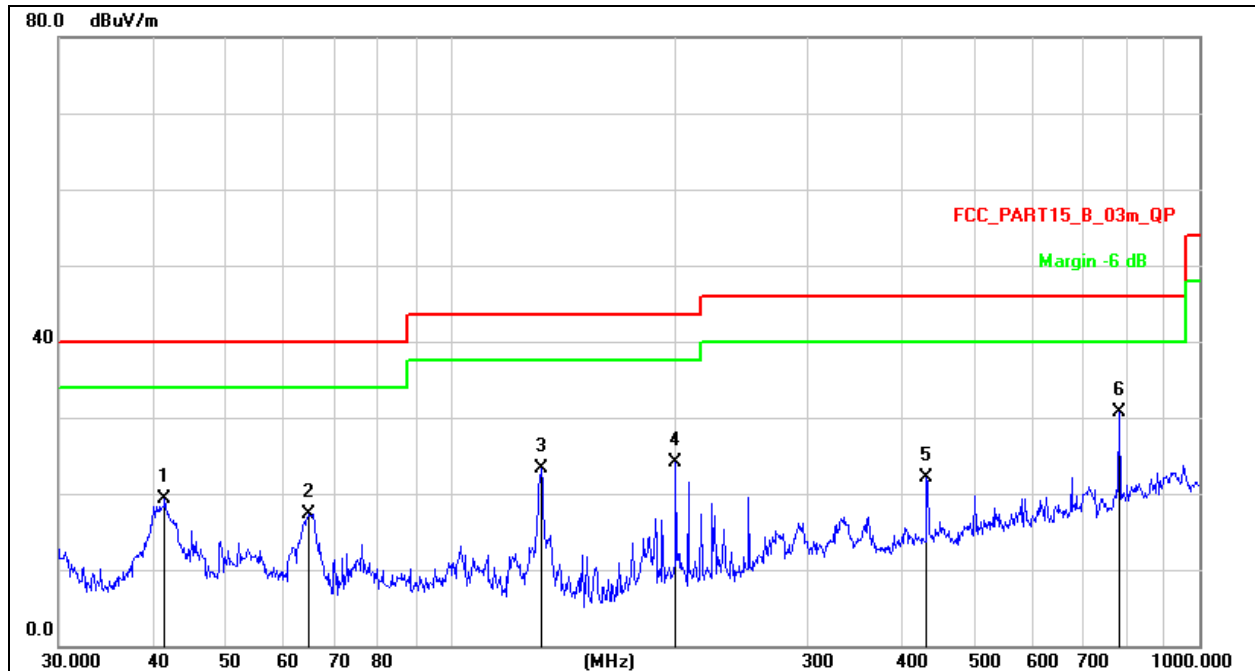
Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



Between 30MHz – 1GHz

Temperature:	24.9 °C	Relative Humidity:	55 %
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4	Test Voltage:	AC 120V/60Hz

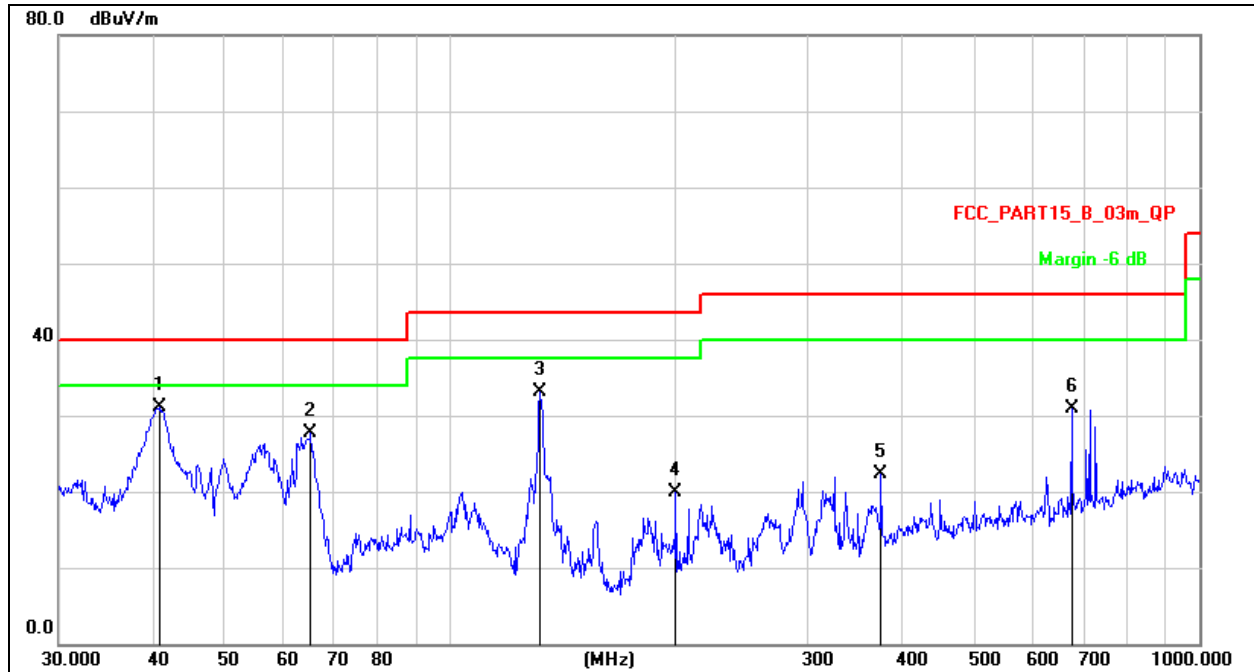


Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		41.5670	33.08	-13.87	19.21	40.00	-20.79	QP
2		64.6594	32.90	-15.54	17.36	40.00	-22.64	QP
3		132.2206	39.82	-16.59	23.23	43.50	-20.27	QP
4		199.9856	38.45	-14.40	24.05	43.50	-19.45	QP
5		432.5457	30.92	-8.75	22.17	46.00	-23.83	QP
6	*	782.3453	33.69	-3.01	30.68	46.00	-15.32	QP

Temperature:	24.9 °C	Relative Humidity:	55 %
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4	Test Voltage:	AC 120V/60Hz



Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1	*	40.9881	45.07	-13.94	31.13	40.00	-8.87	QP
2		65.1145	43.35	-15.62	27.73	40.00	-12.27	QP
3		131.7577	49.76	-16.57	33.19	43.50	-10.31	QP
4		199.9856	34.29	-14.40	19.89	43.50	-23.61	QP
5		375.9385	32.36	-10.03	22.33	46.00	-23.67	QP
6		675.2080	36.02	-5.02	31.00	46.00	-15.00	QP

Between 1GHz – 40GHz

Test Mode:	TX(5.1G) - 802.11a
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.101	74.01	-20.73	53.28	68.20	-14.92	PK
Vertical	4434.101	59.30	-20.73	38.57	54.00	-15.43	AV
Vertical	10360.015	62.12	-9.36	52.76	68.20	-15.44	PK
Vertical	10360.015	49.47	-9.36	40.11	54.00	-13.89	AV
Vertical	15540.068	62.26	-7.84	54.42	74.00	-19.58	PK
Vertical	15540.068	49.86	-7.84	42.02	54.00	-11.98	AV
Horizontal	4434.095	72.02	-20.73	51.29	68.20	-16.91	PK
Horizontal	4434.095	59.34	-20.73	38.61	54.00	-15.39	AV
Horizontal	10360.104	61.71	-9.36	52.35	68.20	-15.85	PK
Horizontal	10360.104	49.54	-9.36	40.18	54.00	-13.82	AV
Horizontal	15540.072	64.79	-7.84	56.95	74.00	-17.05	PK
Horizontal	15540.072	49.85	-7.84	42.01	54.00	-11.99	AV
Middle Channel (5200 MHz)-Above 1G							
Vertical	4592.042	74.65	-20.42	54.23	74.00	-19.77	PK
Vertical	4592.042	59.57	-20.42	39.15	54.00	-14.85	AV
Vertical	10400.040	64.99	-9.30	55.69	68.20	-12.51	PK
Vertical	10400.040	49.94	-9.30	40.64	54.00	-13.36	AV
Vertical	15600.016	61.92	-7.82	54.10	74.00	-19.90	PK
Vertical	15600.016	49.48	-7.82	41.66	54.00	-12.34	AV
Horizontal	4592.089	72.84	-20.42	52.42	74.00	-21.58	PK
Horizontal	4592.089	59.14	-20.42	38.72	54.00	-15.28	AV
Horizontal	10400.110	62.74	-9.30	53.44	68.20	-14.76	PK
Horizontal	10400.110	49.12	-9.30	39.82	54.00	-14.18	AV
Horizontal	15600.113	62.39	-7.82	54.57	74.00	-19.43	PK
Horizontal	15600.113	50.00	-7.82	42.18	54.00	-11.82	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.186	72.77	-20.12	52.65	74.00	-21.35	PK
Vertical	4739.186	59.11	-20.12	38.98	54.00	-15.02	AV
Vertical	10480.063	62.86	-9.18	53.68	68.20	-14.52	PK
Vertical	10480.063	49.00	-9.18	39.82	54.00	-14.18	AV
Vertical	15720.043	62.75	-7.78	54.97	74.00	-19.03	PK
Vertical	15720.043	49.14	-7.78	41.36	54.00	-12.64	AV
Horizontal	4739.197	72.75	-20.12	52.62	74.00	-21.38	PK
Horizontal	4739.197	59.87	-20.12	39.75	54.00	-14.25	AV
Horizontal	10480.098	62.14	-9.18	52.96	68.20	-15.24	PK
Horizontal	10480.098	49.45	-9.18	40.27	54.00	-13.73	AV
Horizontal	15720.000	63.12	-7.78	55.34	74.00	-18.66	PK
Horizontal	15720.000	49.25	-7.78	41.47	54.00	-12.53	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode:	TX(5.1G) - 802.11n-HT20
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.007	74.83	-20.73	54.10	68.20	-14.10	PK
Vertical	4434.007	59.51	-20.73	38.78	54.00	-15.22	AV
Vertical	10360.067	61.65	-9.36	52.29	68.20	-15.91	PK
Vertical	10360.067	49.14	-9.36	39.78	54.00	-14.22	AV
Vertical	15540.106	61.08	-7.84	53.24	74.00	-20.76	PK
Vertical	15540.106	49.89	-7.84	42.05	54.00	-11.95	AV
Horizontal	4434.064	70.67	-20.73	49.94	68.20	-18.26	PK
Horizontal	4434.064	59.83	-20.73	39.10	54.00	-14.90	AV
Horizontal	10360.006	63.75	-9.36	54.39	68.20	-13.81	PK
Horizontal	10360.006	49.17	-9.36	39.81	54.00	-14.19	AV
Horizontal	15540.172	64.25	-7.84	56.41	74.00	-17.59	PK
Horizontal	15540.172	49.09	-7.84	41.25	54.00	-12.75	AV
Middle Channel (5200 MHz)-Above 1G							
Vertical	4592.089	73.51	-20.42	53.09	74.00	-20.91	PK
Vertical	4592.089	59.61	-20.42	39.19	54.00	-14.81	AV
Vertical	10400.186	60.38	-9.30	51.08	68.20	-17.12	PK
Vertical	10400.186	49.19	-9.30	39.89	54.00	-14.11	AV
Vertical	15600.046	62.55	-7.82	54.73	74.00	-19.27	PK
Vertical	15600.046	49.75	-7.82	41.93	54.00	-12.07	AV
Horizontal	4592.156	72.72	-20.42	52.30	74.00	-21.70	PK
Horizontal	4592.156	59.43	-20.42	39.01	54.00	-14.99	AV
Horizontal	10400.161	62.44	-9.30	53.14	68.20	-15.06	PK
Horizontal	10400.161	49.78	-9.30	40.48	54.00	-13.52	AV
Horizontal	15600.173	62.31	-7.82	54.49	74.00	-19.51	PK
Horizontal	15600.173	49.67	-7.82	41.85	54.00	-12.15	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.149	74.21	-20.12	54.09	74.00	-19.91	PK
Vertical	4739.149	59.68	-20.12	39.56	54.00	-14.44	AV
Vertical	10480.011	64.89	-9.18	55.71	68.20	-12.49	PK
Vertical	10480.011	49.43	-9.18	40.25	54.00	-13.75	AV
Vertical	15720.038	63.21	-7.78	55.43	74.00	-18.57	PK
Vertical	15720.038	49.40	-7.78	41.62	54.00	-12.38	AV
Horizontal	4739.146	74.67	-20.12	54.54	74.00	-19.46	PK
Horizontal	4739.146	59.79	-20.12	39.67	54.00	-14.33	AV
Horizontal	10480.134	60.91	-9.18	51.73	68.20	-16.47	PK
Horizontal	10480.134	49.02	-9.18	39.84	54.00	-14.16	AV
Horizontal	15720.131	62.58	-7.78	54.80	74.00	-19.20	PK
Horizontal	15720.131	50.00	-7.78	42.22	54.00	-11.78	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode:	TX(5.1G) - 802.11n-HT40
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5190 MHz)-Above 1G							
Vertical	4434.148	71.56	-20.73	50.83	68.20	-17.37	PK
Vertical	4434.148	59.58	-20.73	38.85	54.00	-15.15	AV
Vertical	10380.013	61.42	-9.33	52.09	68.20	-16.11	PK
Vertical	10380.013	49.10	-9.33	39.77	54.00	-14.23	AV
Vertical	15570.099	63.62	-7.83	55.79	74.00	-18.21	PK
Vertical	15570.099	49.23	-7.83	41.40	54.00	-12.60	AV
Horizontal	4434.188	73.01	-20.73	52.27	74.00	-21.73	PK
Horizontal	4434.188	59.61	-20.73	38.88	54.00	-15.12	AV
Horizontal	10380.120	64.78	-9.33	55.45	68.20	-12.75	PK
Horizontal	10380.120	49.57	-9.33	40.24	54.00	-13.76	AV
Horizontal	15570.020	63.13	-7.83	55.30	74.00	-18.70	PK
Horizontal	15570.020	49.57	-7.83	41.74	54.00	-12.26	AV
Middle Channel (5230 MHz)-Above 1G							
Vertical	4739.078	72.53	-20.12	52.41	68.20	-15.79	PK
Vertical	4739.078	59.47	-20.12	39.34	54.00	-14.66	AV
Vertical	10460.057	63.91	-9.21	54.70	68.20	-13.50	PK
Vertical	10460.057	49.24	-9.21	40.03	54.00	-13.97	AV
Vertical	15690.088	60.92	-7.79	53.13	74.00	-20.87	PK
Vertical	15690.088	49.77	-7.79	41.98	54.00	-12.02	AV
Horizontal	4739.100	74.90	-20.12	54.78	68.20	-13.42	PK
Horizontal	4739.100	59.82	-20.12	39.70	54.00	-14.30	AV
Horizontal	10460.117	63.43	-9.21	54.22	68.20	-13.98	PK
Horizontal	10460.117	49.87	-9.21	40.66	54.00	-13.34	AV
Horizontal	15690.069	61.93	-7.79	54.14	74.00	-19.86	PK
Horizontal	15690.069	49.49	-7.79	41.70	54.00	-12.30	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode:	TX(5.1G) - 802.11ac-HT20
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.133	74.58	-20.73	53.85	68.20	-14.35	PK
Vertical	4434.133	59.90	-20.73	39.17	54.00	-14.83	AV
Vertical	10360.139	60.47	-9.36	51.11	68.20	-17.09	PK
Vertical	10360.139	49.39	-9.36	40.03	54.00	-13.97	AV
Vertical	15540.105	61.65	-7.84	53.81	74.00	-20.19	PK
Vertical	15540.105	49.34	-7.84	41.50	54.00	-12.50	AV
Horizontal	4434.129	71.18	-20.73	50.45	68.20	-17.75	PK
Horizontal	4434.129	59.51	-20.73	38.77	54.00	-15.23	AV
Horizontal	10360.054	62.78	-9.36	53.42	68.20	-14.78	PK
Horizontal	10360.054	49.42	-9.36	40.06	54.00	-13.94	AV
Horizontal	15540.114	61.84	-7.84	54.00	74.00	-20.00	PK
Horizontal	15540.114	49.16	-7.84	41.32	54.00	-12.68	AV
Middle Channel (5200 MHz)-Above 1G							
Vertical	4592.139	71.02	-20.42	50.61	74.00	-23.39	PK
Vertical	4592.139	59.22	-20.42	38.81	54.00	-15.19	AV
Vertical	10400.196	61.42	-9.30	52.12	68.20	-16.08	PK
Vertical	10400.196	49.72	-9.30	40.42	54.00	-13.58	AV
Vertical	15600.138	62.28	-7.82	54.46	74.00	-19.54	PK
Vertical	15600.138	49.67	-7.82	41.85	54.00	-12.15	AV
Horizontal	4592.021	71.45	-20.42	51.04	74.00	-22.96	PK
Horizontal	4592.021	59.41	-20.42	38.99	54.00	-15.01	AV
Horizontal	10400.152	63.22	-9.30	53.92	68.20	-14.28	PK
Horizontal	10400.152	49.59	-9.30	40.29	54.00	-13.71	AV
Horizontal	15600.002	63.85	-7.82	56.03	74.00	-17.97	PK
Horizontal	15600.002	49.43	-7.82	41.61	54.00	-12.39	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.078	74.26	-20.12	54.14	74.00	-19.86	PK
Vertical	4739.078	59.23	-20.12	39.11	54.00	-14.89	AV
Vertical	10480.190	62.73	-9.18	53.55	68.20	-14.65	PK
Vertical	10480.190	49.15	-9.18	39.97	54.00	-14.03	AV
Vertical	15720.007	61.01	-7.78	53.23	74.00	-20.77	PK
Vertical	15720.007	49.07	-7.78	41.29	54.00	-12.71	AV
Horizontal	4739.098	73.93	-20.12	53.81	74.00	-20.19	PK
Horizontal	4739.098	59.72	-20.12	39.60	54.00	-14.40	AV
Horizontal	10480.118	64.57	-9.18	55.39	68.20	-12.81	PK
Horizontal	10480.118	49.92	-9.18	40.74	54.00	-13.26	AV
Horizontal	15720.010	62.42	-7.78	54.64	74.00	-19.36	PK
Horizontal	15720.010	49.03	-7.78	41.25	54.00	-12.75	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode:	TX(5.1G) - 802.11ac-HT40
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5190 MHz)-Above 1G							
Vertical	4434.182	70.29	-20.73	49.55	68.20	-18.65	PK
Vertical	4434.182	59.65	-20.73	38.92	54.00	-15.08	AV
Vertical	10380.031	64.28	-9.33	54.95	68.20	-13.25	PK
Vertical	10380.031	49.62	-9.33	40.29	54.00	-13.71	AV
Vertical	15570.108	60.85	-7.83	53.02	74.00	-20.98	PK
Vertical	15570.108	49.79	-7.83	41.96	54.00	-12.04	AV
Horizontal	4434.031	72.13	-20.73	51.39	74.00	-22.61	PK
Horizontal	4434.031	59.23	-20.73	38.50	54.00	-15.50	AV
Horizontal	10380.065	61.23	-9.33	51.90	68.20	-16.30	PK
Horizontal	10380.065	49.87	-9.33	40.54	54.00	-13.46	AV
Horizontal	15570.019	63.10	-7.83	55.27	74.00	-18.73	PK
Horizontal	15570.019	49.25	-7.83	41.42	54.00	-12.58	AV
Middle Channel (5230 MHz)-Above 1G							
Vertical	4739.041	72.51	-20.12	52.39	68.20	-15.81	PK
Vertical	4739.041	59.81	-20.12	39.69	54.00	-14.31	AV
Vertical	10460.019	62.33	-9.21	53.12	68.20	-15.08	PK
Vertical	10460.019	49.46	-9.21	40.25	54.00	-13.75	AV
Vertical	15690.041	60.57	-7.79	52.78	74.00	-21.22	PK
Vertical	15690.041	49.37	-7.79	41.58	54.00	-12.42	AV
Horizontal	4739.068	70.09	-20.12	49.97	68.20	-18.23	PK
Horizontal	4739.068	59.46	-20.12	39.34	54.00	-14.66	AV
Horizontal	10460.032	63.30	-9.21	54.09	68.20	-14.11	PK
Horizontal	10460.032	49.66	-9.21	40.45	54.00	-13.55	AV
Horizontal	15690.088	60.19	-7.79	52.40	74.00	-21.60	PK
Horizontal	15690.088	49.27	-7.79	41.48	54.00	-12.52	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode:	TX(5.1G) - 802.11ac 80
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5210 MHz)-Above 1G							
Vertical	4434.003	73.87	-20.73	53.14	68.20	-15.06	PK
Vertical	4434.003	59.83	-20.73	39.10	54.00	-14.90	AV
Vertical	10420.141	62.85	-9.27	53.58	68.20	-14.62	PK
Vertical	10420.141	49.26	-9.27	39.99	54.00	-14.01	AV
Vertical	15630.175	63.32	-7.81	55.51	74.00	-18.49	PK
Vertical	15630.175	49.10	-7.81	41.29	54.00	-12.71	AV
Horizontal	4434.129	70.64	-20.73	49.91	68.20	-18.29	PK
Horizontal	4434.129	59.17	-20.73	38.44	54.00	-15.56	AV
Horizontal	10420.091	44.22	9.27	53.49	68.20	-14.71	PK
Horizontal	10420.091	29.71	9.27	38.98	54.00	-15.02	AV
Horizontal	15630.178	61.35	-7.81	53.54	74.00	-20.46	PK
Horizontal	15630.178	49.44	-7.81	41.63	54.00	-12.37	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode:	TX (5.8G) -- 802.11a
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.182	71.04	-20.24	50.80	74.00	-23.20	PK
Vertical	4679.182	59.33	-20.24	39.09	54.00	-14.91	AV
Vertical	11490.187	63.43	-8.79	54.64	68.20	-13.56	PK
Vertical	11490.187	49.82	-8.79	41.03	54.00	-12.97	AV
Vertical	17235.005	59.49	-3.18	56.31	68.20	-11.89	PK
Vertical	17235.005	44.53	-3.18	41.35	54.00	-12.65	AV
Horizontal	4679.154	74.23	-20.73	53.50	74.00	-20.50	PK
Horizontal	4679.154	59.91	-20.73	39.18	54.00	-14.82	AV
Horizontal	11490.134	60.20	-8.79	51.41	68.20	-16.79	PK
Horizontal	11490.134	49.97	-8.79	41.18	54.00	-12.82	AV
Horizontal	17235.008	55.16	-3.18	51.98	68.20	-16.22	PK
Horizontal	17235.008	44.44	-3.18	41.26	54.00	-12.74	AV
Middle Channel (5785 MHz)-Above 1G							
Vertical	4592.023	70.93	-20.42	50.51	74.00	-23.49	PK
Vertical	4592.023	59.59	-20.42	39.18	54.00	-14.82	AV
Vertical	11570.007	61.63	-8.86	52.77	68.20	-15.43	PK
Vertical	11570.007	49.26	-8.86	40.40	54.00	-13.60	AV
Vertical	17355.166	58.12	-2.52	55.60	68.20	-12.60	PK
Vertical	17355.166	44.18	-2.52	41.66	54.00	-12.34	AV
Horizontal	4592.093	73.82	-20.42	53.41	74.00	-20.59	PK
Horizontal	4592.093	59.93	-20.42	39.51	54.00	-14.49	AV
Horizontal	11570.010	61.31	-8.86	52.45	68.20	-15.75	PK
Horizontal	11570.010	49.42	-8.86	40.56	54.00	-13.44	AV
Horizontal	17355.038	56.34	-2.52	53.82	68.20	-14.38	PK
Horizontal	17355.038	44.90	-2.52	42.38	54.00	-11.62	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.120	70.64	-18.93	51.71	68.20	-16.49	PK
Vertical	6039.120	59.20	-18.93	40.27	54.00	-13.73	AV
Vertical	11650.097	61.65	-8.92	52.73	74.00	-21.27	PK
Vertical	11650.097	49.94	-8.92	41.02	54.00	-12.98	AV
Vertical	17475.025	56.51	-1.86	54.65	68.20	-13.55	PK
Vertical	17475.025	44.38	-1.86	42.52	54.00	-11.48	AV
Horizontal	6039.134	72.08	-18.93	53.14	68.20	-15.06	PK
Horizontal	6039.134	59.48	-18.93	40.55	54.00	-13.45	AV
Horizontal	11650.170	63.41	-8.92	54.49	74.00	-19.51	PK
Horizontal	11650.170	49.91	-8.92	40.99	54.00	-13.01	AV
Horizontal	17475.080	58.07	-1.86	56.21	68.20	-11.99	PK
Horizontal	17475.080	44.16	-1.86	42.30	54.00	-11.70	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode: TX (5.8G) --802.11n-HT20

Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.119	74.86	-20.24	54.61	74.00	-19.39	PK
Vertical	4679.119	59.26	-20.24	39.02	54.00	-14.98	AV
Vertical	11490.084	63.92	-8.79	55.13	68.20	-13.07	PK
Vertical	11490.084	49.75	-8.79	40.96	54.00	-13.04	AV
Vertical	17235.065	58.30	-3.18	55.12	68.20	-13.08	PK
Vertical	17235.065	44.19	-3.18	41.01	54.00	-12.99	AV
Horizontal	4679.162	72.01	-20.24	51.77	74.00	-22.23	PK
Horizontal	4679.162	59.25	-20.24	39.01	54.00	-14.99	AV
Horizontal	11490.168	64.82	-8.79	56.03	68.20	-12.17	PK
Horizontal	11490.168	49.88	-8.79	41.09	54.00	-12.91	AV
Horizontal	17235.135	57.72	-3.18	54.54	68.20	-13.66	PK
Horizontal	17235.135	44.34	-3.18	41.16	54.00	-12.84	AV
Middle Channel (5785 MHz)-Above 1G							
Vertical	4592.090	73.25	-20.42	52.83	74.00	-21.17	PK
Vertical	4592.090	59.75	-20.42	39.33	54.00	-14.67	AV
Vertical	11570.080	64.86	-8.86	56.00	68.20	-12.20	PK
Vertical	11570.080	49.89	-8.86	41.03	54.00	-12.97	AV
Vertical	17355.196	56.73	-2.52	54.21	68.20	-13.99	PK
Vertical	17355.196	44.83	-2.52	42.31	54.00	-11.69	AV
Horizontal	4592.125	73.05	-20.42	52.63	74.00	-21.37	PK
Horizontal	4592.125	59.05	-20.42	38.64	54.00	-15.36	AV
Horizontal	11570.101	61.84	-8.86	52.98	68.20	-15.22	PK
Horizontal	11570.101	49.01	-8.86	40.15	54.00	-13.85	AV
Horizontal	17355.151	58.86	-2.52	56.34	68.20	-11.86	PK
Horizontal	17355.151	44.43	-2.52	41.91	54.00	-12.09	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.172	70.19	-18.93	51.26	68.20	-16.94	PK
Vertical	6039.172	59.89	-18.93	40.96	54.00	-13.04	AV
Vertical	11650.006	61.69	-8.92	52.77	74.00	-21.23	PK
Vertical	11650.006	49.65	-8.92	40.73	54.00	-13.27	AV
Vertical	17475.085	58.34	-1.86	56.48	68.20	-11.72	PK
Vertical	17475.085	44.90	-1.86	43.04	54.00	-10.96	AV
Horizontal	6039.070	71.34	-18.93	52.40	68.20	-15.80	PK
Horizontal	6039.070	59.83	-18.93	40.89	54.00	-13.11	AV
Horizontal	11650.184	62.10	-8.92	53.18	74.00	-20.82	PK
Horizontal	11650.184	49.70	-8.92	40.78	54.00	-13.22	AV
Horizontal	17475.062	56.13	-1.86	54.27	68.20	-13.93	PK
Horizontal	17475.062	44.54	-1.86	42.68	54.00	-11.32	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode:	TX (5.8G) -- 802.11n-HT40
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Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5755 MHz)-Above 1G							
Vertical	4679.195	71.34	-20.24	51.10	74.00	-22.90	PK
Vertical	4679.195	59.49	-20.24	39.25	54.00	-14.75	AV
Vertical	11510.140	60.98	-8.81	52.17	74.00	-21.83	PK
Vertical	11510.140	49.84	-8.81	41.03	54.00	-12.97	AV
Vertical	17265.028	58.89	-3.01	55.88	68.20	-12.32	PK
Vertical	17265.028	44.30	-3.01	41.29	54.00	-12.71	AV
Horizontal	4679.194	73.33	-20.24	53.09	74.00	-20.91	PK
Horizontal	4679.194	59.91	-20.24	39.66	54.00	-14.34	AV
Horizontal	11510.135	60.98	-8.81	52.17	74.00	-21.83	PK
Horizontal	11510.135	49.97	-8.81	41.16	54.00	-12.84	AV
Horizontal	17265.041	57.48	-3.01	54.47	68.20	-13.73	PK
Horizontal	17265.041	44.71	-3.01	41.70	54.00	-12.30	AV
Middle Channel (5795 MHz)-Above 1G							
Vertical	6039.099	70.11	-18.93	51.18	68.20	-17.02	PK
Vertical	6039.099	59.05	-18.93	40.12	54.00	-13.88	AV
Vertical	11590.118	62.54	-8.87	53.67	74.00	-20.33	PK
Vertical	11590.118	49.82	-8.87	40.95	54.00	-13.05	AV
Vertical	17385.025	59.64	-2.35	57.29	68.20	-10.91	PK
Vertical	17385.025	44.34	-2.35	41.99	54.00	-12.01	AV
Horizontal	6039.062	74.44	-18.93	55.51	68.20	-12.69	PK
Horizontal	6039.062	59.79	-18.93	40.86	54.00	-13.14	AV
Horizontal	11590.161	62.44	-8.87	53.57	74.00	-20.43	PK
Horizontal	11590.161	49.93	-8.87	41.06	54.00	-12.94	AV
Horizontal	17385.110	56.15	-2.35	53.80	68.20	-14.40	PK
Horizontal	17385.110	44.04	-2.35	41.69	54.00	-12.31	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode: TX (5.8G) --802.11ac-HT20

Polar	Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.200	71.42	-20.24	51.18	74.00	-22.82	PK
Vertical	4679.200	59.15	-20.24	38.90	54.00	-15.10	AV
Vertical	11490.097	62.75	-8.79	53.96	68.20	-14.24	PK
Vertical	11490.097	49.37	-8.79	40.58	54.00	-13.42	AV
Vertical	17235.049	57.76	-3.18	54.58	68.20	-13.62	PK
Vertical	17235.049	44.65	-3.18	41.47	54.00	-12.53	AV
Horizontal	4679.110	73.86	-20.24	53.62	74.00	-20.38	PK
Horizontal	4679.110	59.92	-20.24	39.68	54.00	-14.32	AV
Horizontal	11490.150	64.24	-8.79	55.45	68.20	-12.75	PK
Horizontal	11490.150	49.65	-8.79	40.86	54.00	-13.14	AV
Horizontal	17235.119	55.85	-3.18	52.67	68.20	-15.53	PK
Horizontal	17235.119	44.26	-3.18	41.08	54.00	-12.92	AV
Middle Channel (5785 MHz)-Above 1G							
Vertical	4592.111	70.45	-20.42	50.04	74.00	-23.96	PK
Vertical	4592.111	59.36	-20.42	38.94	54.00	-15.06	AV
Vertical	11570.181	64.12	-8.86	55.26	68.20	-12.94	PK
Vertical	11570.181	49.80	-8.86	40.94	54.00	-13.06	AV
Vertical	17355.182	55.35	-2.52	52.83	68.20	-15.37	PK
Vertical	17355.182	44.57	-2.52	42.05	54.00	-11.95	AV
Horizontal	4592.044	73.01	-20.42	52.59	74.00	-21.41	PK
Horizontal	4592.044	59.02	-20.42	38.61	54.00	-15.39	AV
Horizontal	11570.031	64.29	-8.86	55.43	68.20	-12.77	PK
Horizontal	11570.031	49.66	-8.86	40.80	54.00	-13.20	AV
Horizontal	17355.143	58.70	-2.52	56.18	68.20	-12.02	PK
Horizontal	17355.143	44.36	-2.52	41.84	54.00	-12.16	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.009	73.68	-18.93	54.75	68.20	-13.45	PK
Vertical	6039.009	59.45	-18.93	40.52	54.00	-13.48	AV
Vertical	11650.075	61.22	-8.92	52.30	74.00	-21.70	PK
Vertical	11650.075	49.28	-8.92	40.36	54.00	-13.64	AV
Vertical	17475.107	58.36	-1.86	56.50	68.20	-11.70	PK
Vertical	17475.107	44.24	-1.86	42.38	54.00	-11.62	AV
Horizontal	6039.178	73.82	-18.93	54.89	68.20	-13.31	PK
Horizontal	6039.178	59.35	-18.93	40.42	54.00	-13.58	AV
Horizontal	11650.024	60.27	-8.92	51.35	74.00	-22.65	PK
Horizontal	11650.024	49.42	-8.92	40.50	54.00	-13.50	AV
Horizontal	17475.068	57.91	-1.86	56.05	68.20	-12.15	PK
Horizontal	17475.068	44.12	-1.86	42.26	54.00	-11.74	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) -- 802.11ac-HT40
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Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G							
Vertical	4679.130	70.73	-20.24	50.49	74.00	-23.51	PK
Vertical	4679.130	59.14	-20.24	38.90	54.00	-15.10	AV
Vertical	11510.037	64.67	-8.81	55.86	74.00	-18.14	PK
Vertical	11510.037	49.61	-8.81	40.80	54.00	-13.20	AV
Vertical	17265.113	59.89	-3.01	56.88	68.20	-11.32	PK
Vertical	17265.113	44.31	-3.01	41.30	54.00	-12.70	AV
Horizontal	4679.183	71.85	-20.24	51.60	74.00	-22.40	PK
Horizontal	4679.183	59.46	-20.24	39.22	54.00	-14.78	AV
Horizontal	11510.132	63.93	-8.81	55.12	74.00	-18.88	PK
Horizontal	11510.132	49.77	-8.81	40.96	54.00	-13.04	AV
Horizontal	17265.179	57.07	-3.01	54.06	68.20	-14.14	PK
Horizontal	17265.179	44.76	-3.01	41.75	54.00	-12.25	AV
Middle Channel (5795 MHz)-Above 1G							
Vertical	6039.086	71.93	-18.93	53.00	68.20	-15.20	PK
Vertical	6039.086	59.73	-18.93	40.80	54.00	-13.20	AV
Vertical	11590.160	61.95	-8.87	53.08	74.00	-20.92	PK
Vertical	11590.160	49.57	-8.87	40.70	54.00	-13.30	AV
Vertical	17385.164	57.15	-2.35	54.80	68.20	-13.40	PK
Vertical	17385.164	44.22	-2.35	41.87	54.00	-12.13	AV
Horizontal	6039.111	70.15	-18.93	51.22	68.20	-16.98	PK
Horizontal	6039.111	59.70	-18.93	40.76	54.00	-13.24	AV
Horizontal	11590.098	63.50	-8.87	54.63	74.00	-19.37	PK
Horizontal	11590.098	49.15	-8.87	40.28	54.00	-13.72	AV
Horizontal	17385.106	56.95	-2.35	54.60	68.20	-13.60	PK
Horizontal	17385.106	44.50	-2.35	42.15	54.00	-11.85	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) -- 802.11ac 80
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Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low Channel (5775 MHz)-Above 1G							
Vertical	4679.133	70.31	-20.24	50.07	74.00	-23.93	PK
Vertical	4679.133	59.16	-20.24	38.91	54.00	-15.09	AV
Vertical	11550.158	64.26	-8.84	55.42	74.00	-18.58	PK
Vertical	11550.158	49.81	-8.84	40.97	54.00	-13.03	AV
Vertical	17325.043	58.61	-2.68	55.93	68.20	-12.27	PK
Vertical	17325.043	44.27	-2.68	41.59	54.00	-12.41	AV
Horizontal	4679.005	72.43	-20.24	52.19	74.00	-21.81	PK
Horizontal	4679.005	59.29	-20.24	39.04	54.00	-14.96	AV
Horizontal	11550.080	63.14	-8.84	54.30	74.00	-19.70	PK
Horizontal	11550.080	49.72	-8.84	40.88	54.00	-13.12	AV
Horizontal	17325.020	56.68	-2.68	54.00	68.20	-14.20	PK
Horizontal	17325.020	44.43	-2.68	41.75	54.00	-12.25	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

8. Power Spectral Density Test

8.1 Block Diagram Of Test Setup



8.2 Limit

For the band 5.15-5.25 GHz,

(i) 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. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) 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. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) 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. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. 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.

(iv) 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. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz

(3) For the band 5.725-5.85 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3 Test Procedure

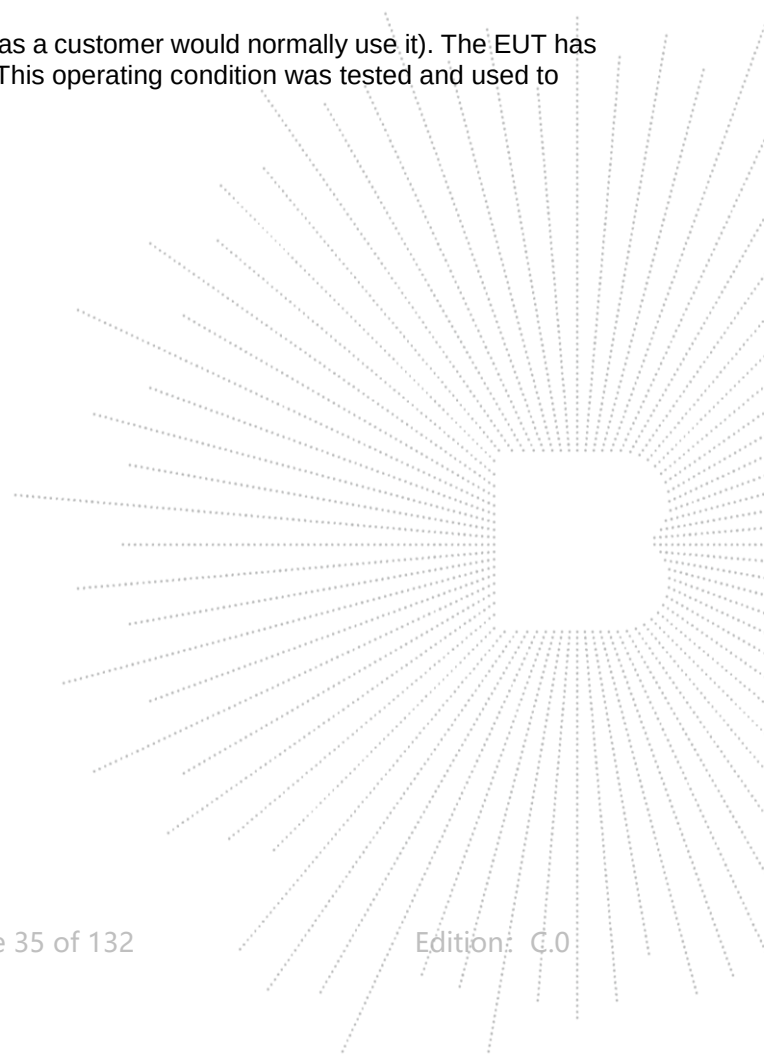
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas $RBW (< 500 \text{ KHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since $RBW=100 \text{ KHz}$ is available on nearly all spectrum analyzers.

8.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



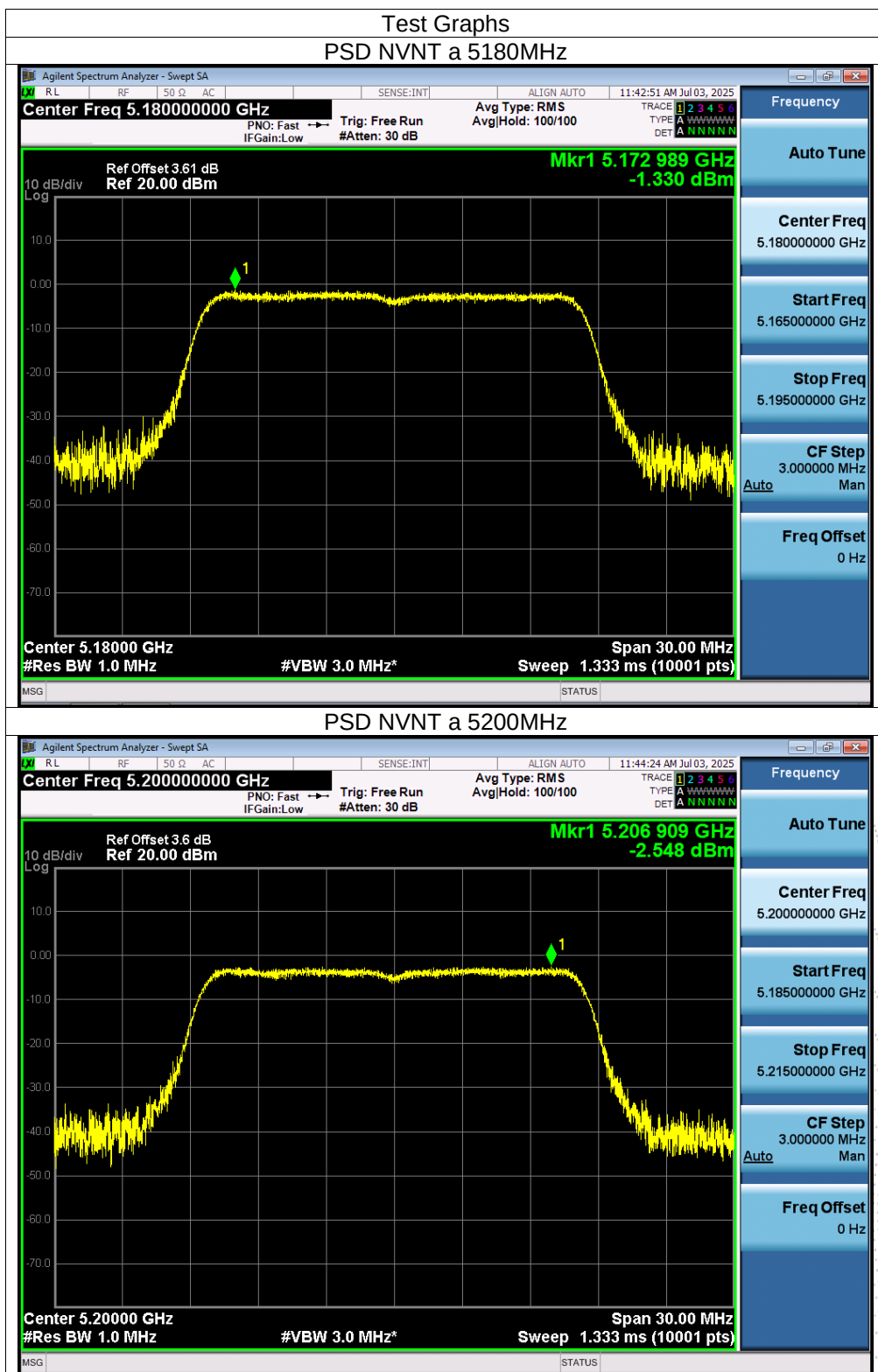
8.5 Test Result

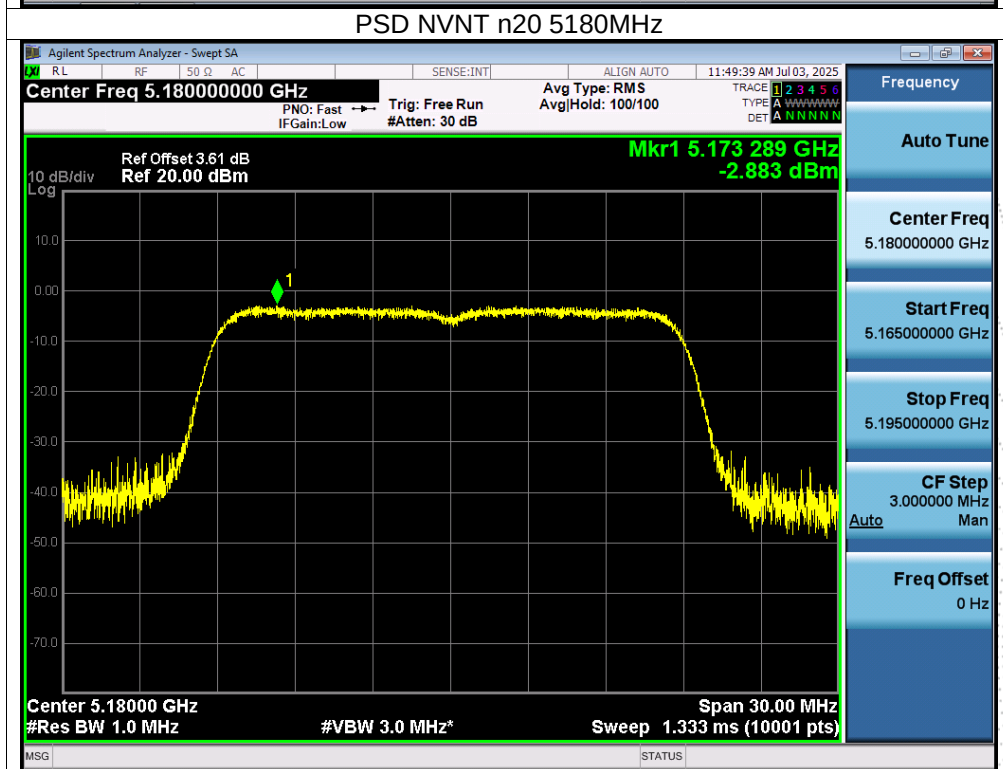
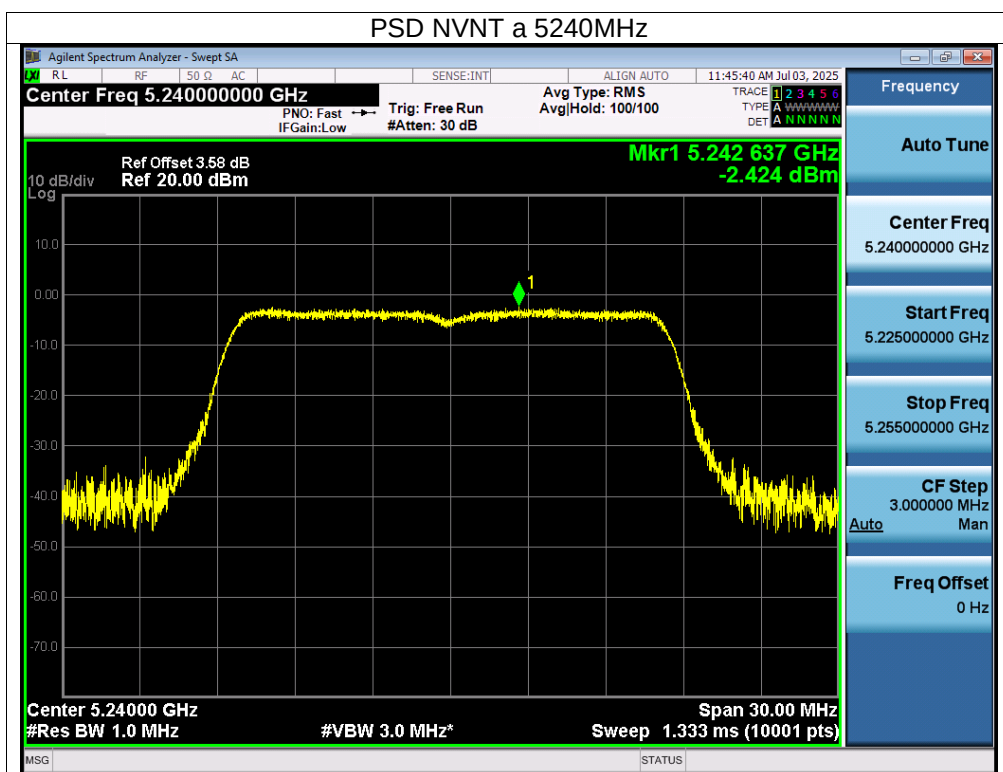
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 3.87V
Test Mode:	(U-NII-1) 5180MHz-5240MHz (U-NII-3) 5745MHz-5825MHz		

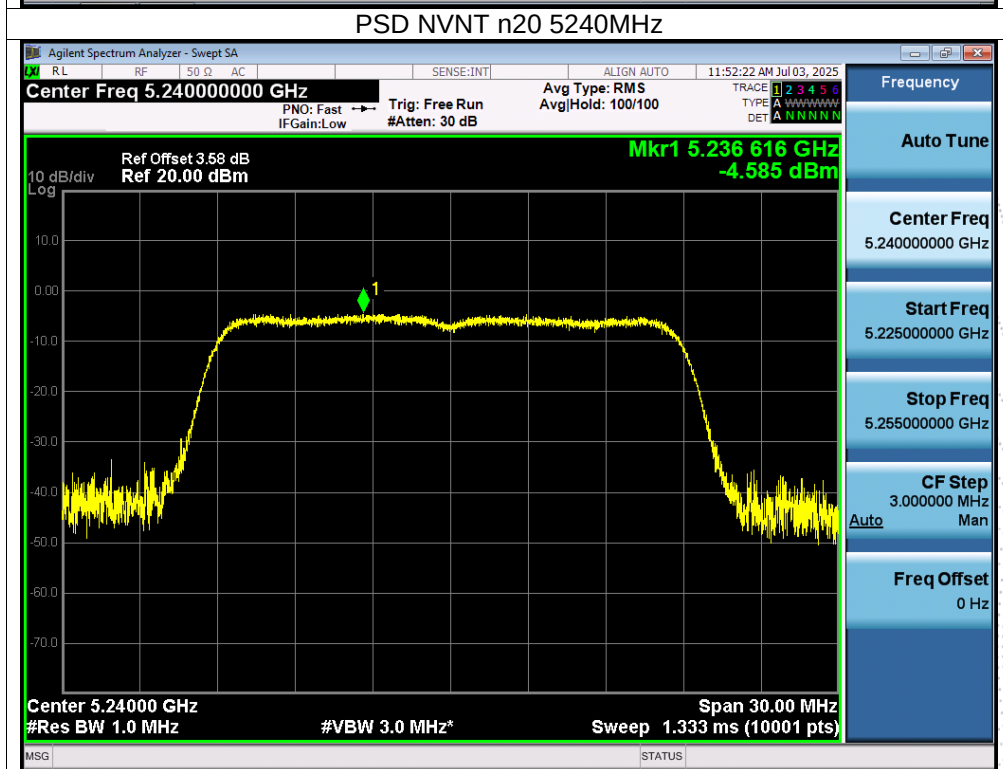
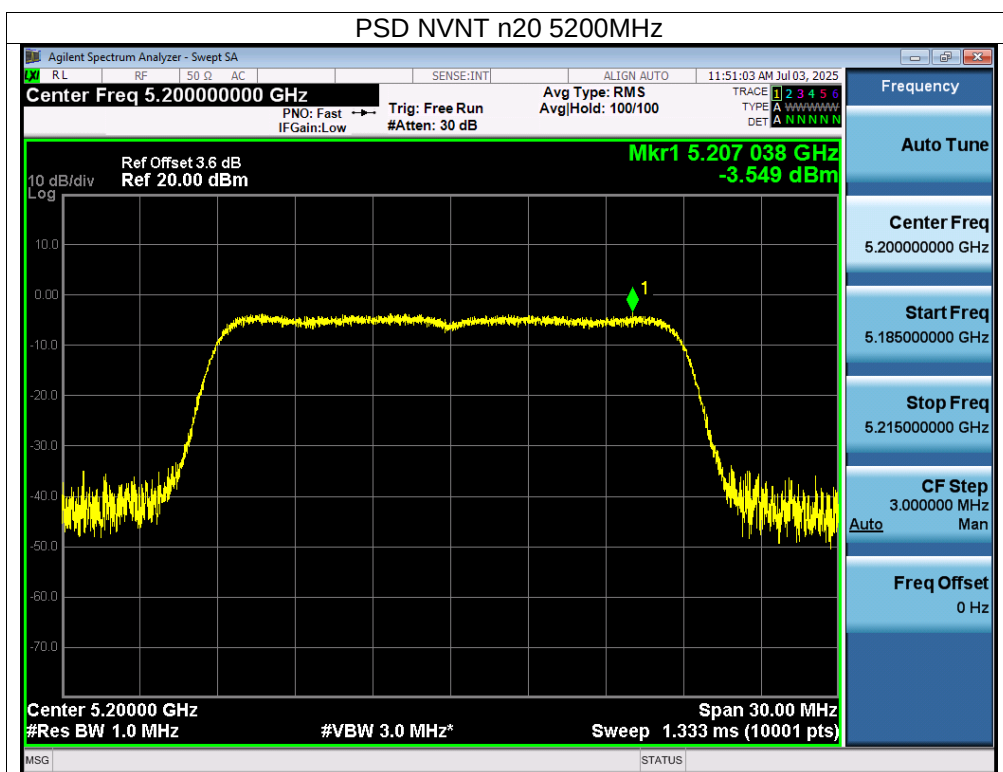
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/1MHz)	Limit (dBm/1MHz)	Verdict
NVNT	a	5180	-1.33	11	Pass
NVNT	a	5200	-2.55	11	Pass
NVNT	a	5240	-2.42	11	Pass
NVNT	n20	5180	-2.88	11	Pass
NVNT	n20	5200	-3.55	11	Pass
NVNT	n20	5240	-4.59	11	Pass
NVNT	n40	5190	-6.93	11	Pass
NVNT	n40	5230	-8.38	11	Pass
NVNT	ac20	5180	-2.96	11	Pass
NVNT	ac20	5200	-3.58	11	Pass
NVNT	ac20	5240	-4.19	11	Pass
NVNT	ac40	5190	-7.16	11	Pass
NVNT	ac40	5230	-8.35	11	Pass
NVNT	ac80	5210	-12.57	11	Pass

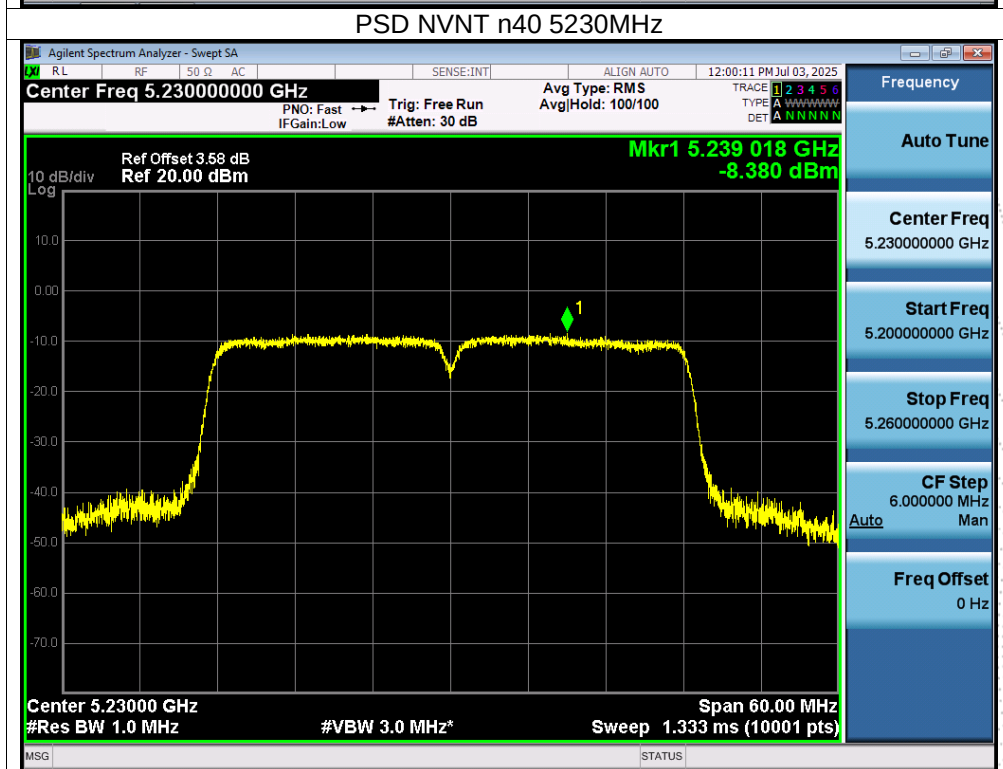
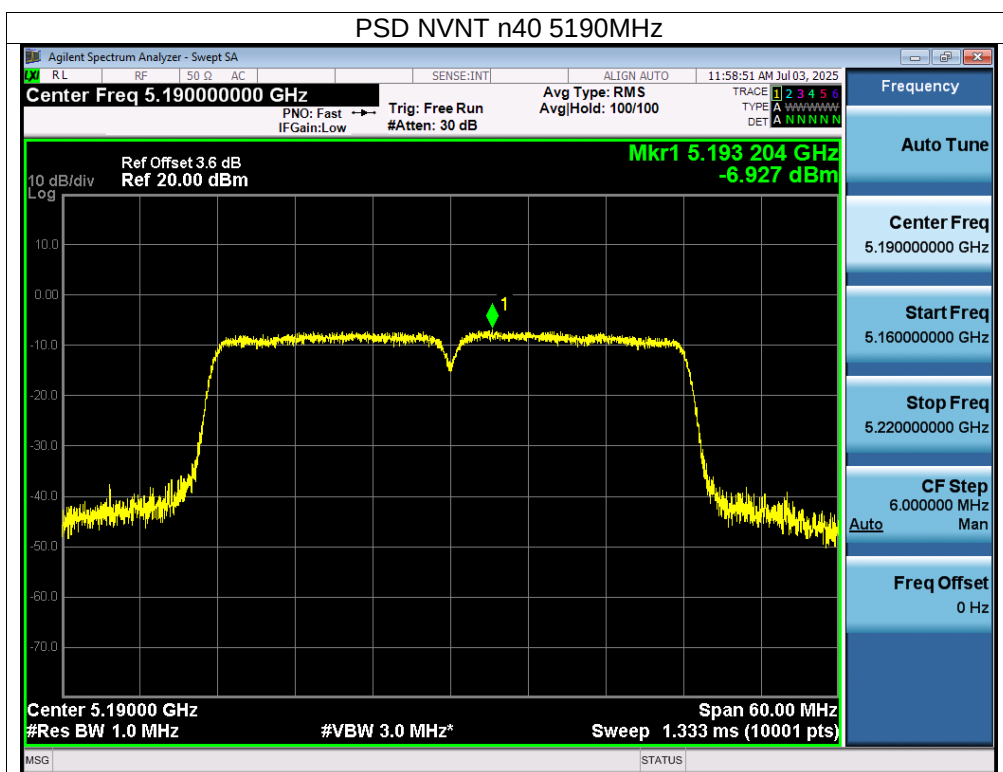
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/510KHz)	Conducted PSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
NVNT	a	5745	-8.81	-8.896	30	Pass
NVNT	a	5785	-7.38	-7.466	30	Pass
NVNT	a	5825	-5.57	-5.656	30	Pass
NVNT	n20	5745	-9.68	-9.766	30	Pass
NVNT	n20	5785	-8.41	-8.496	30	Pass
NVNT	n20	5825	-7.3	-7.386	30	Pass
NVNT	n40	5755	-11.84	-11.926	30	Pass
NVNT	n40	5795	-10.7	-10.786	30	Pass
NVNT	ac20	5745	-10.04	-10.126	30	Pass
NVNT	ac20	5785	-8.55	-8.636	30	Pass
NVNT	ac20	5825	-7.45	-7.536	30	Pass
NVNT	ac40	5755	-11.88	-11.966	30	Pass
NVNT	ac40	5795	-11.1	-11.186	30	Pass
NVNT	ac80	5775	-16.35	-16.436	30	Pass

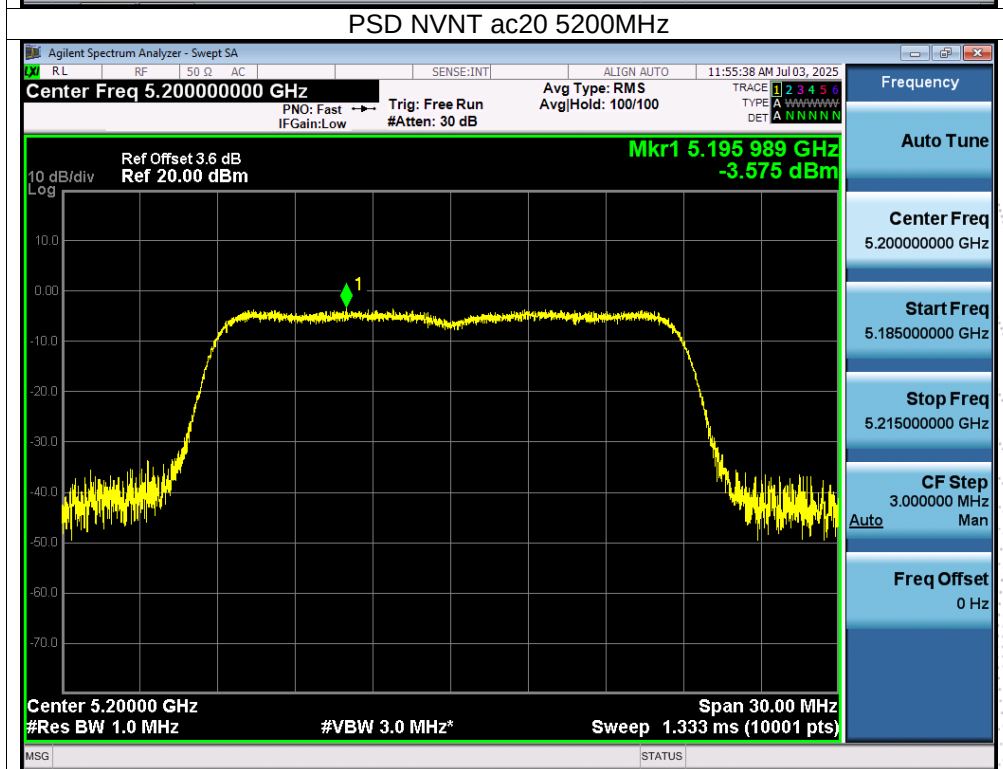
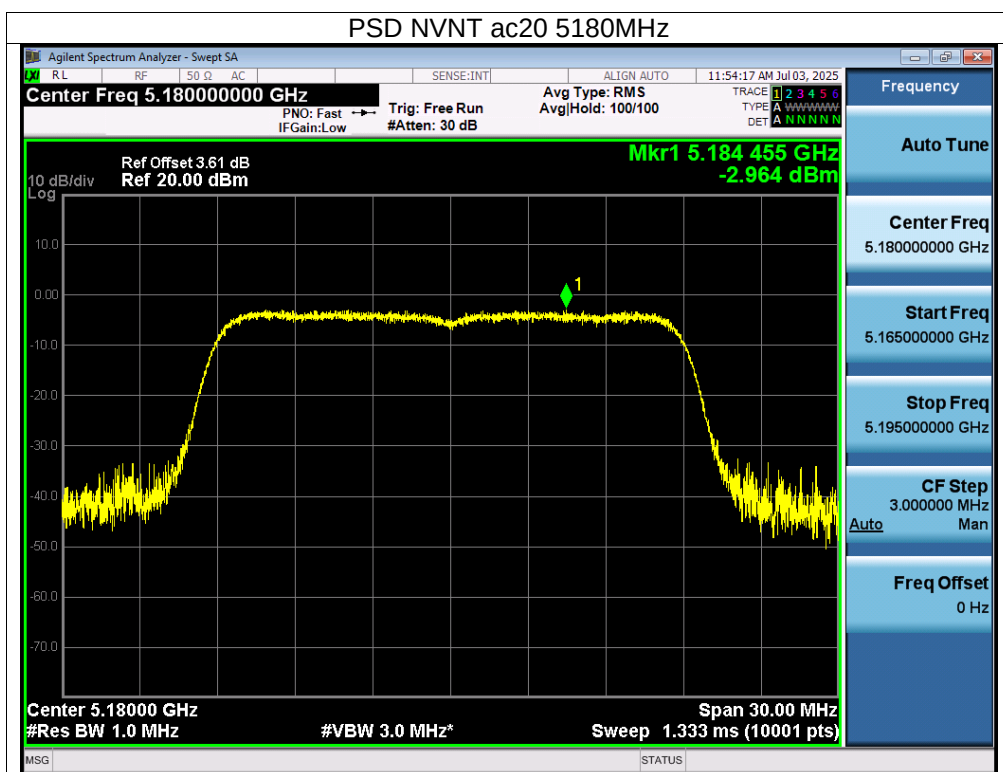
Note: Correction Factor = $10\log(500\text{KHz}/\text{RBW in measurement}) = -0.086$

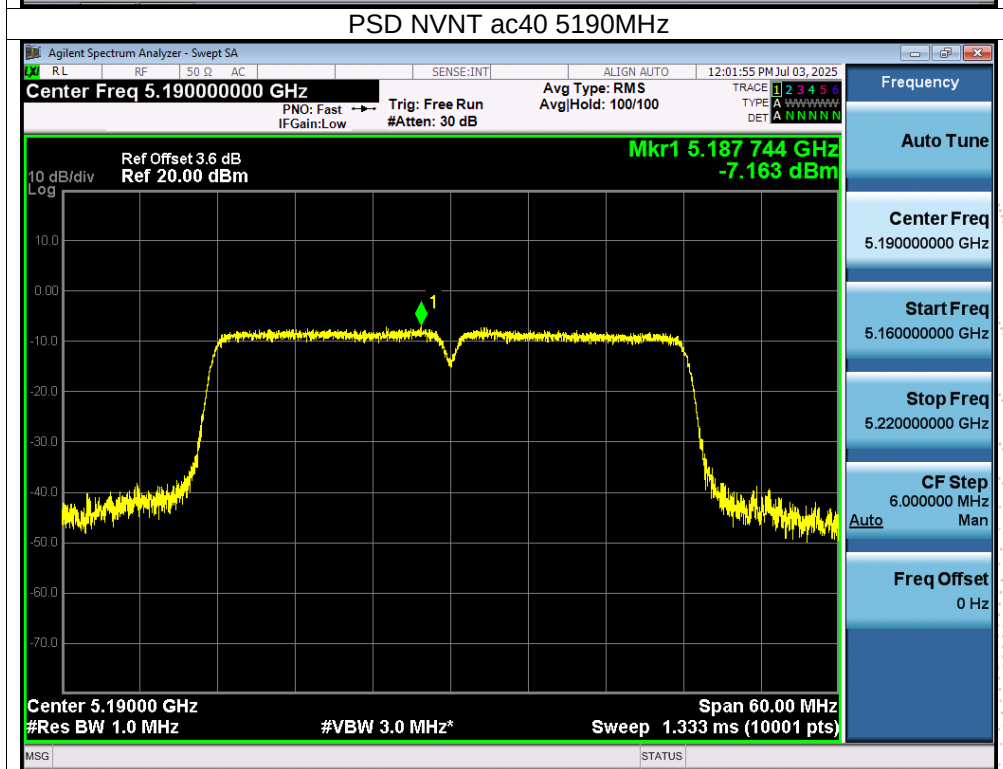
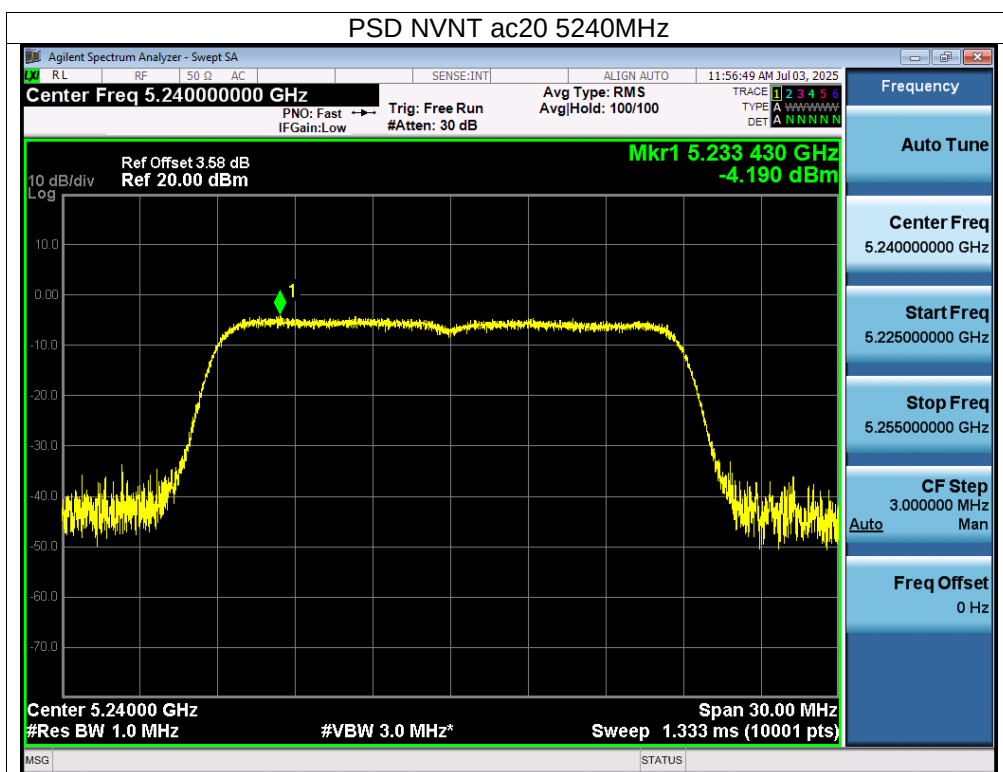


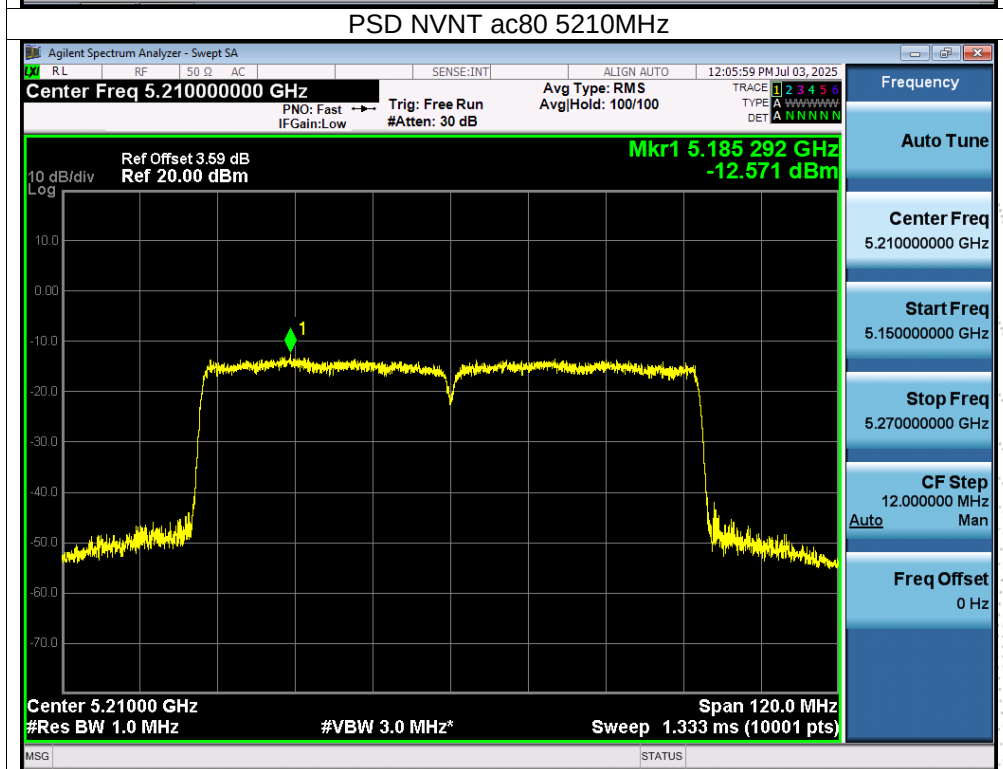
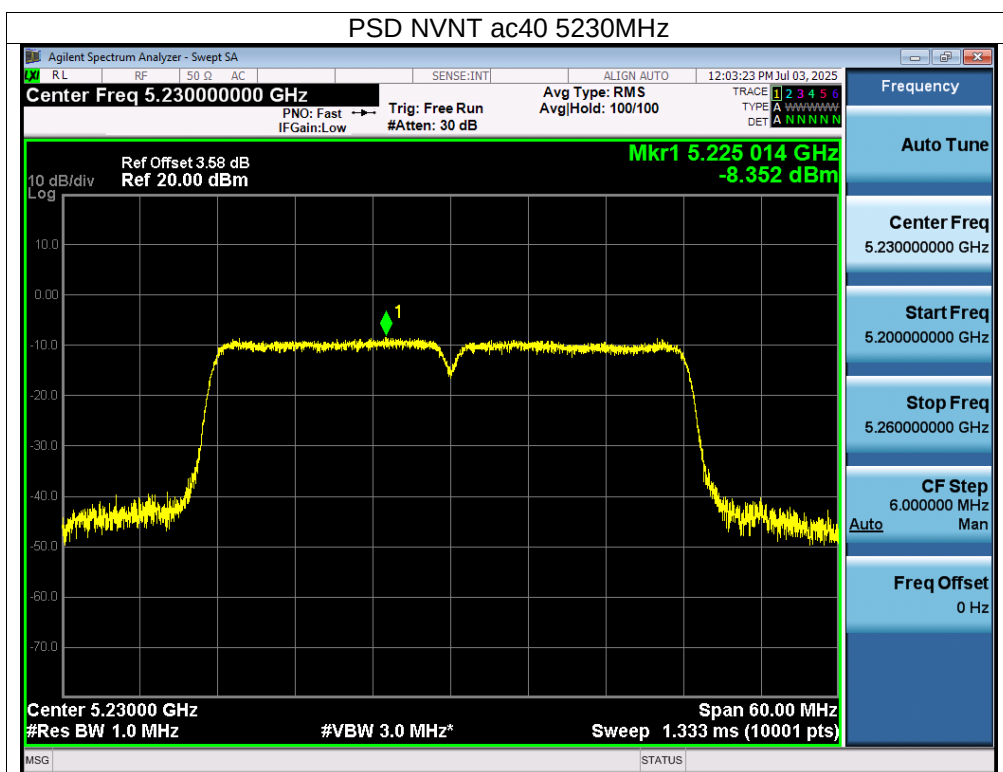


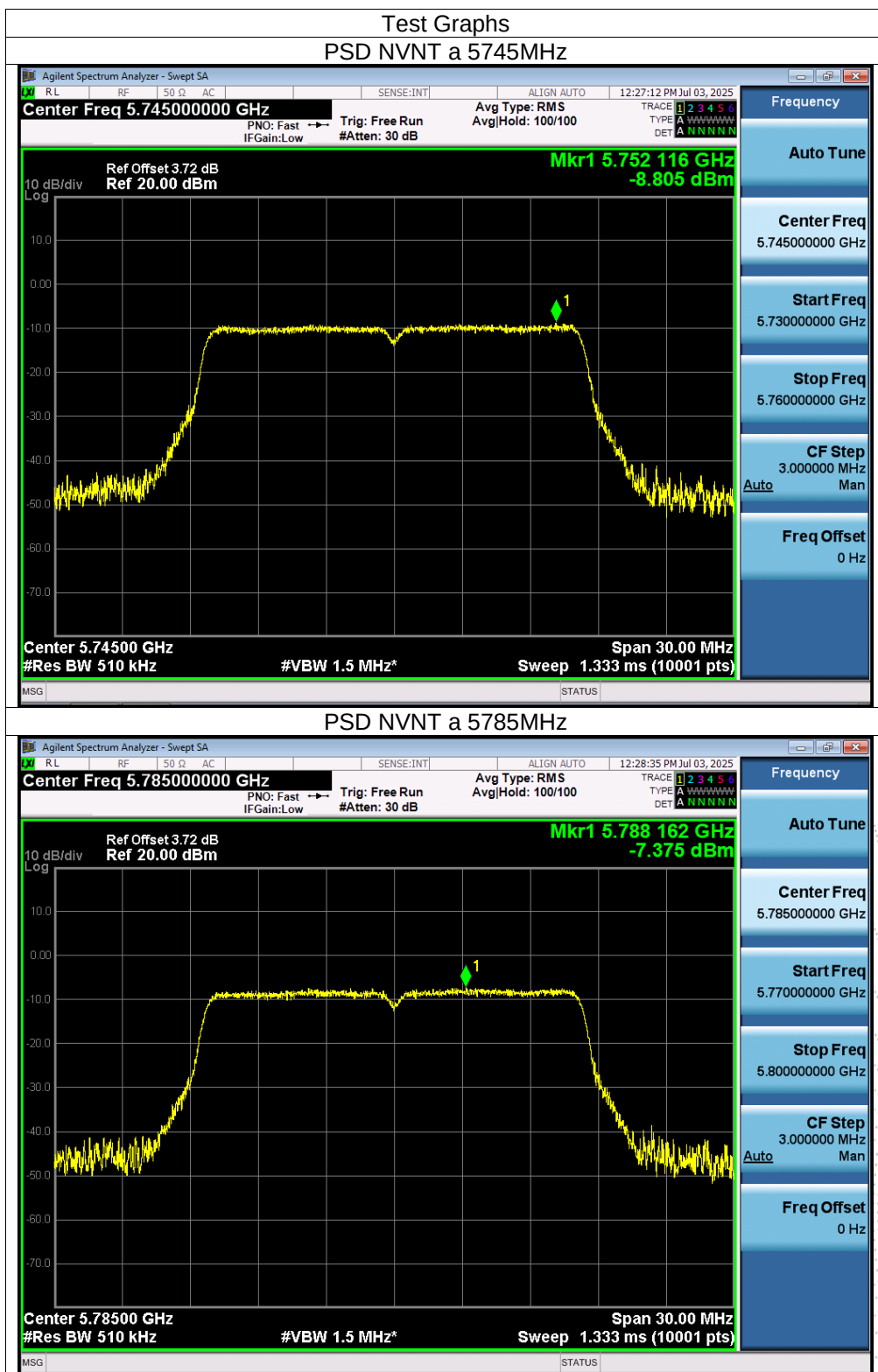


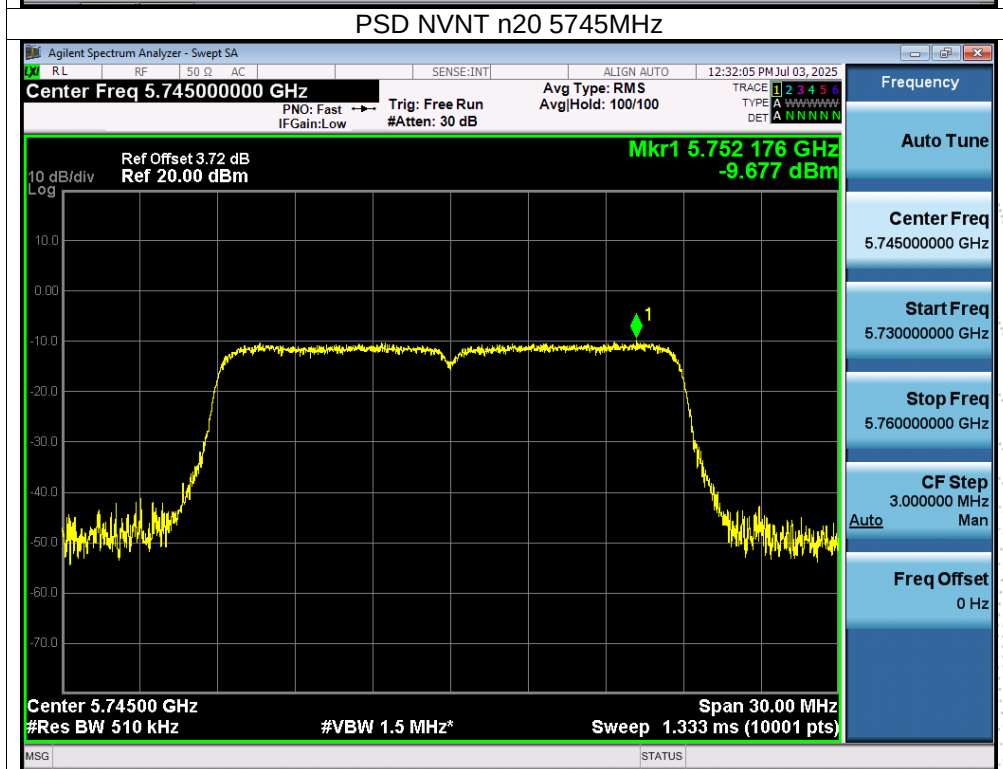
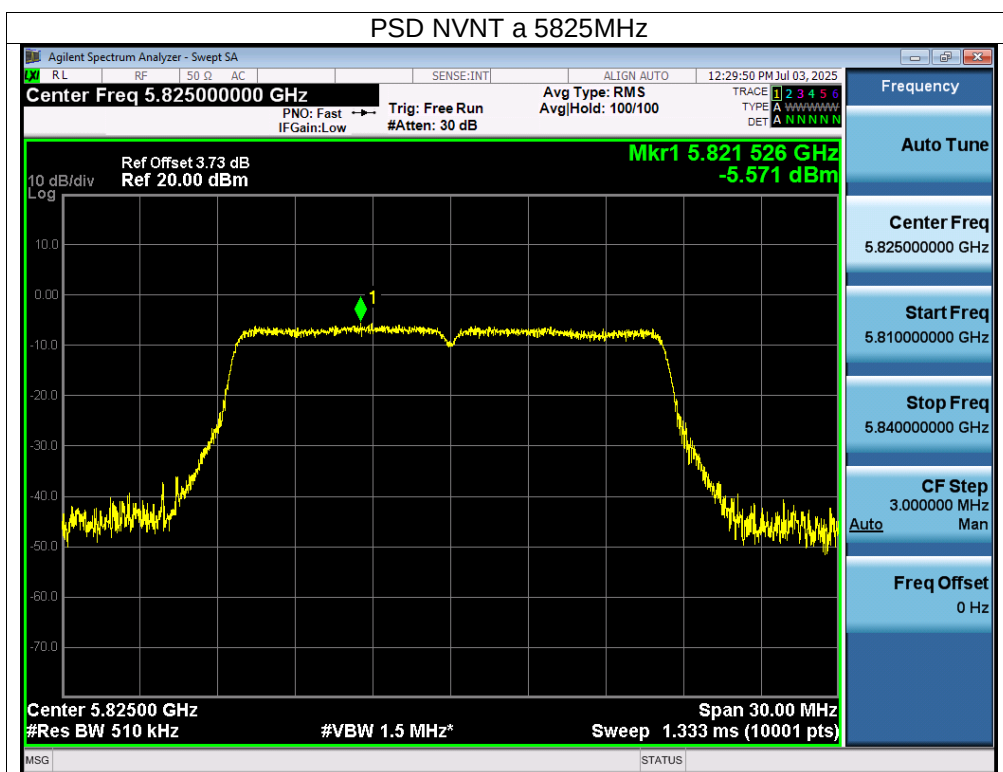


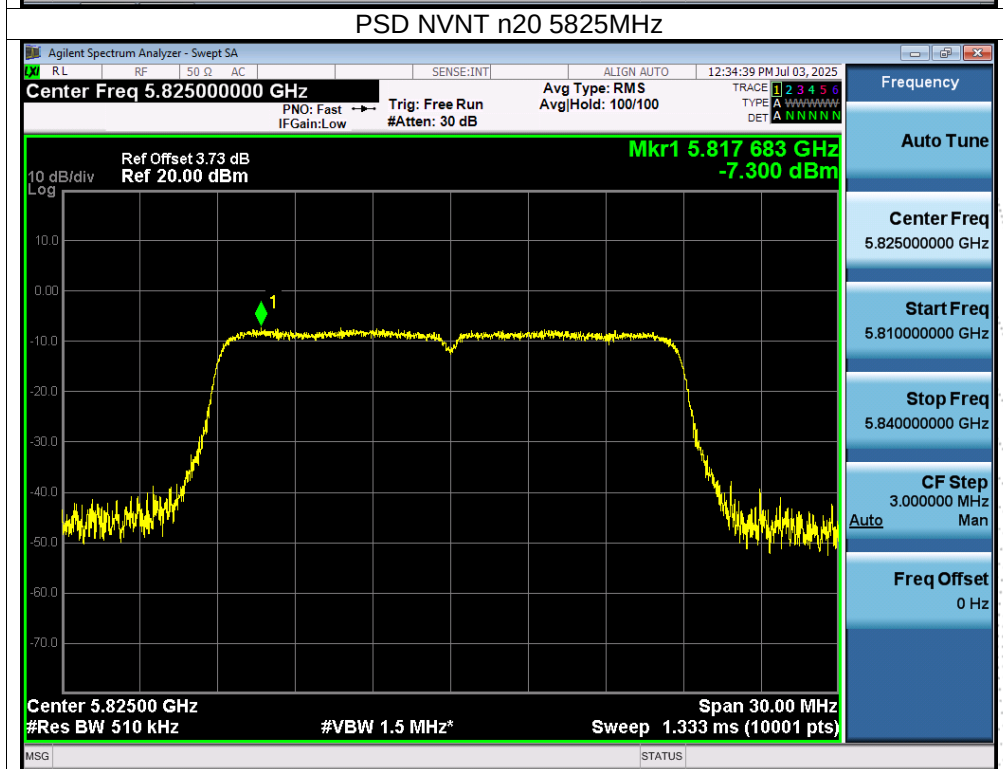
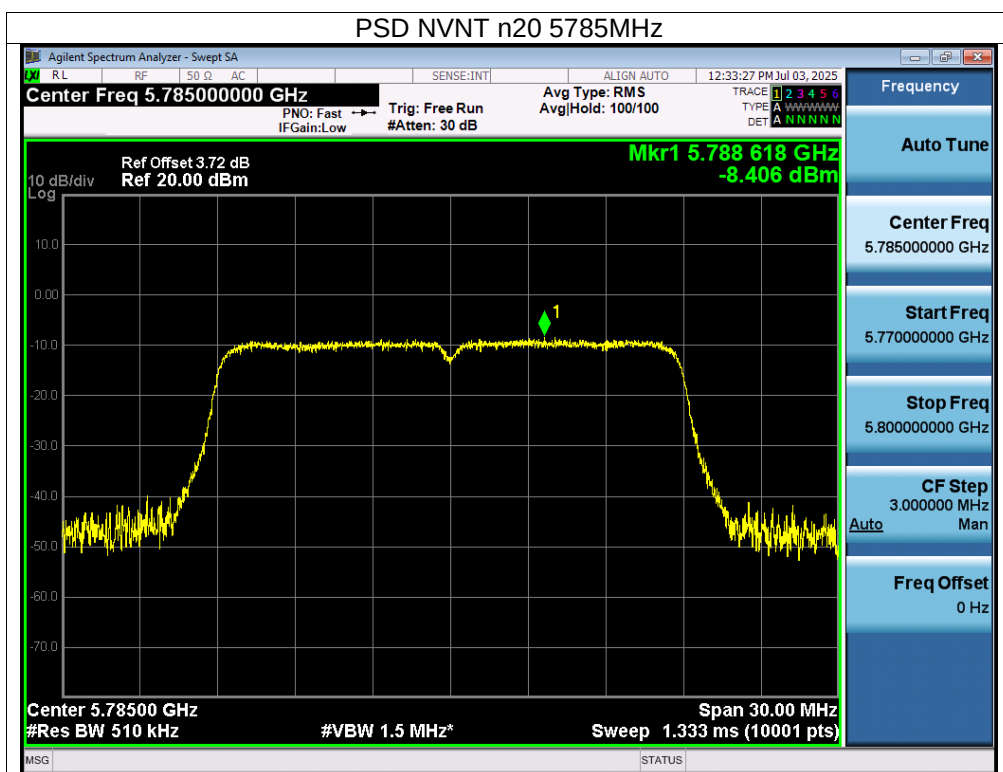


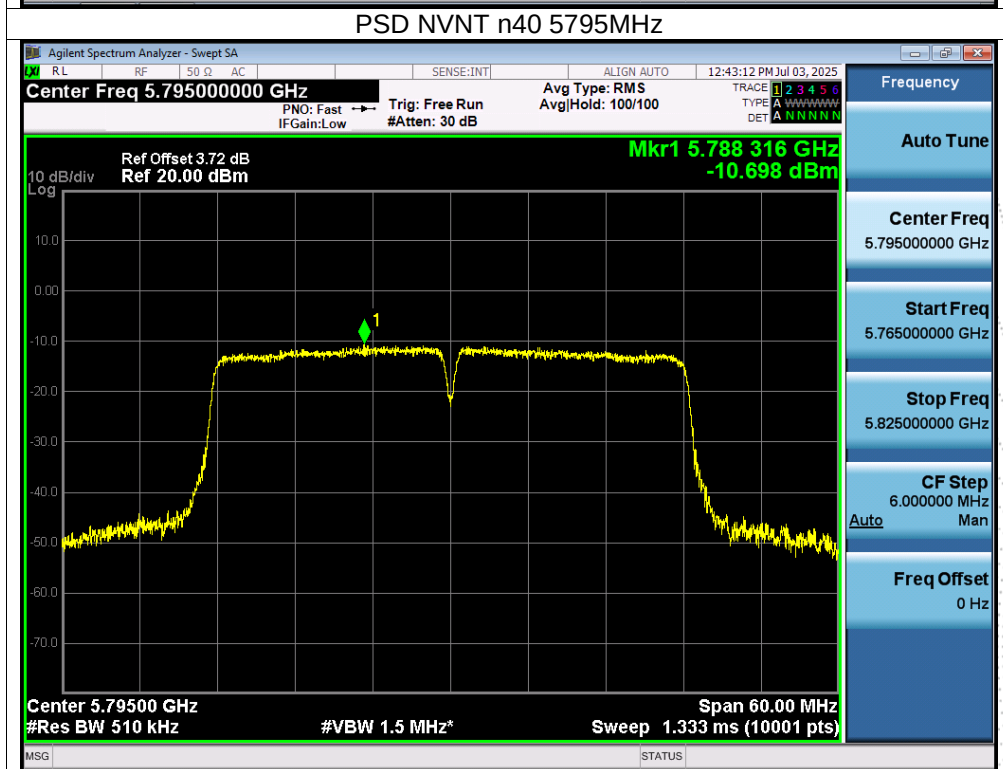
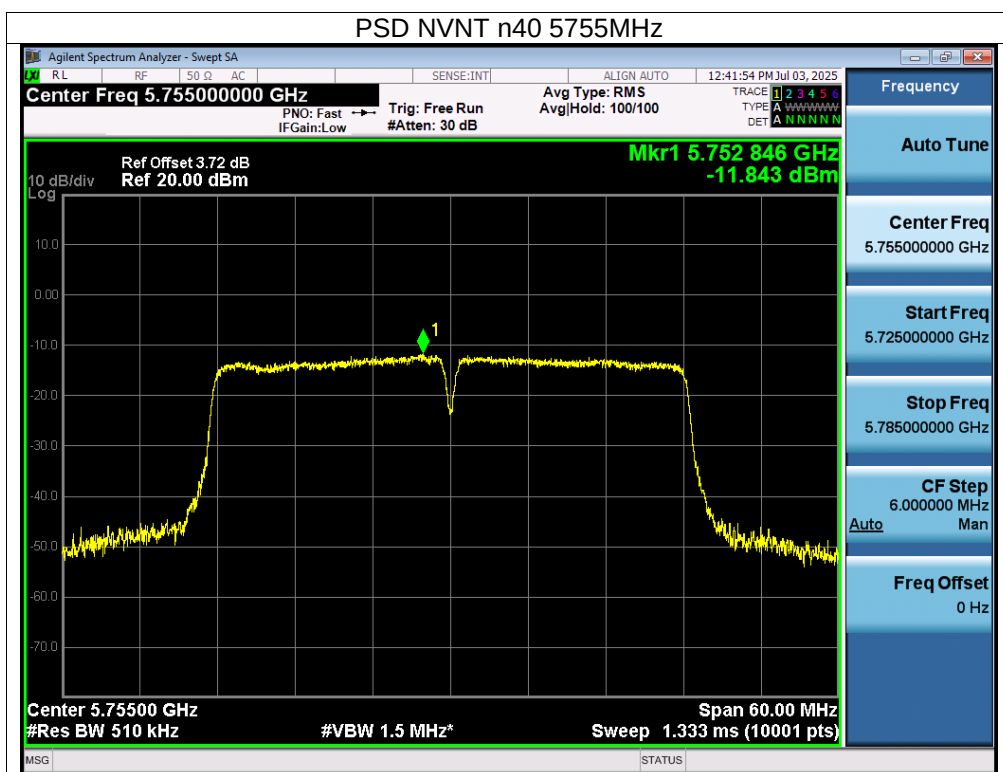


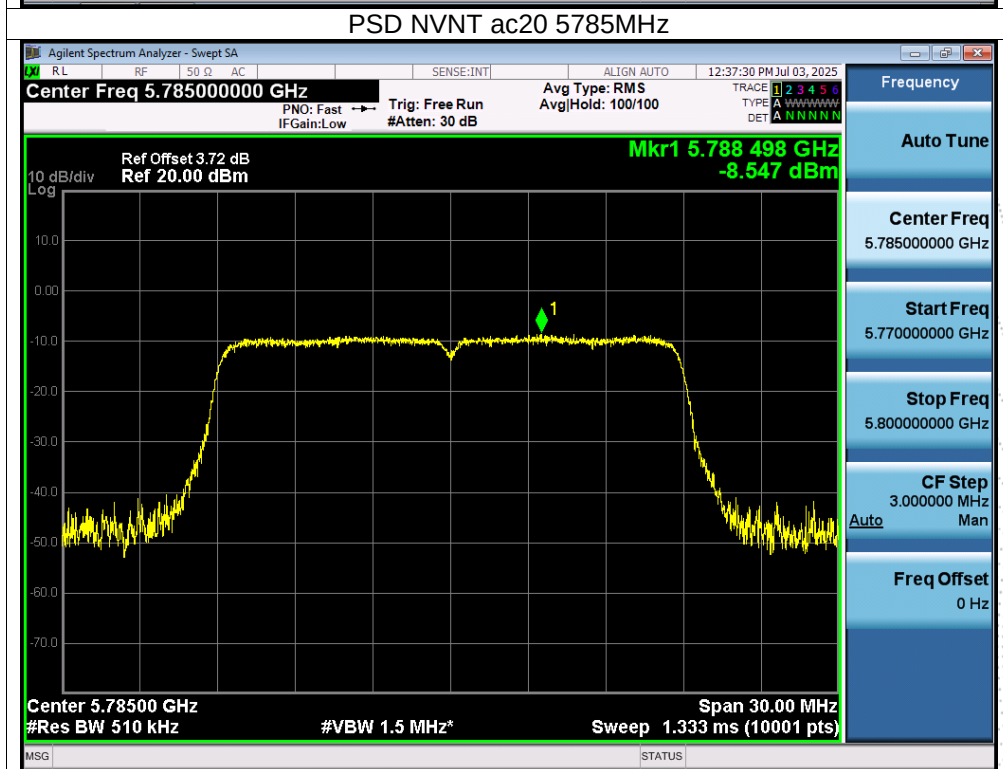
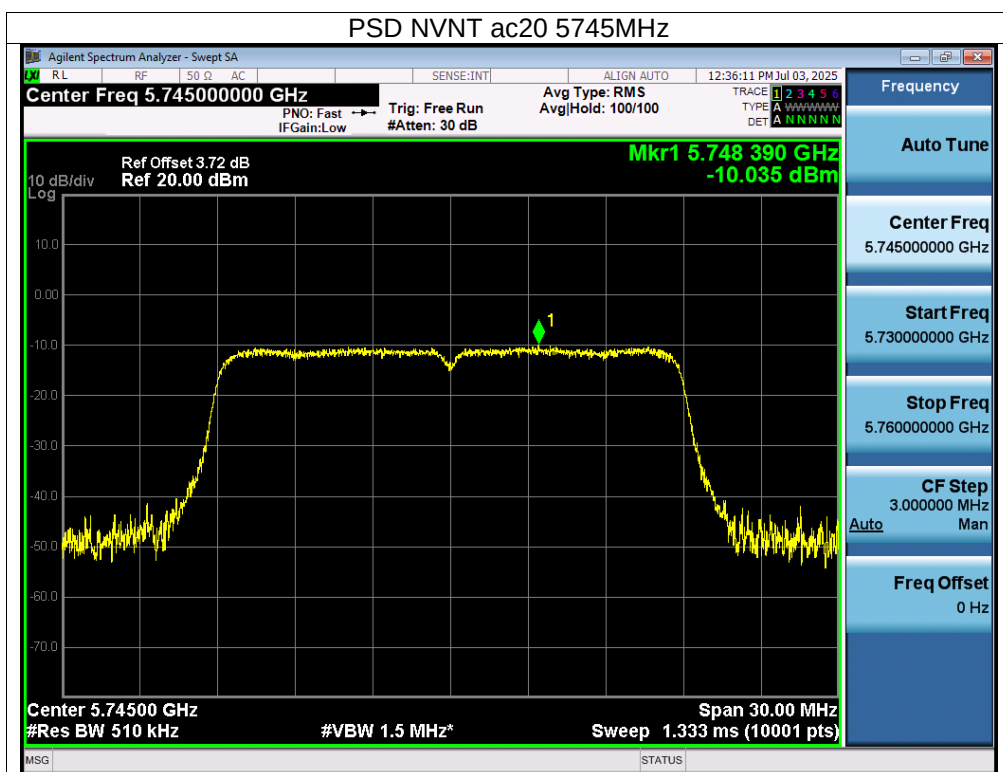


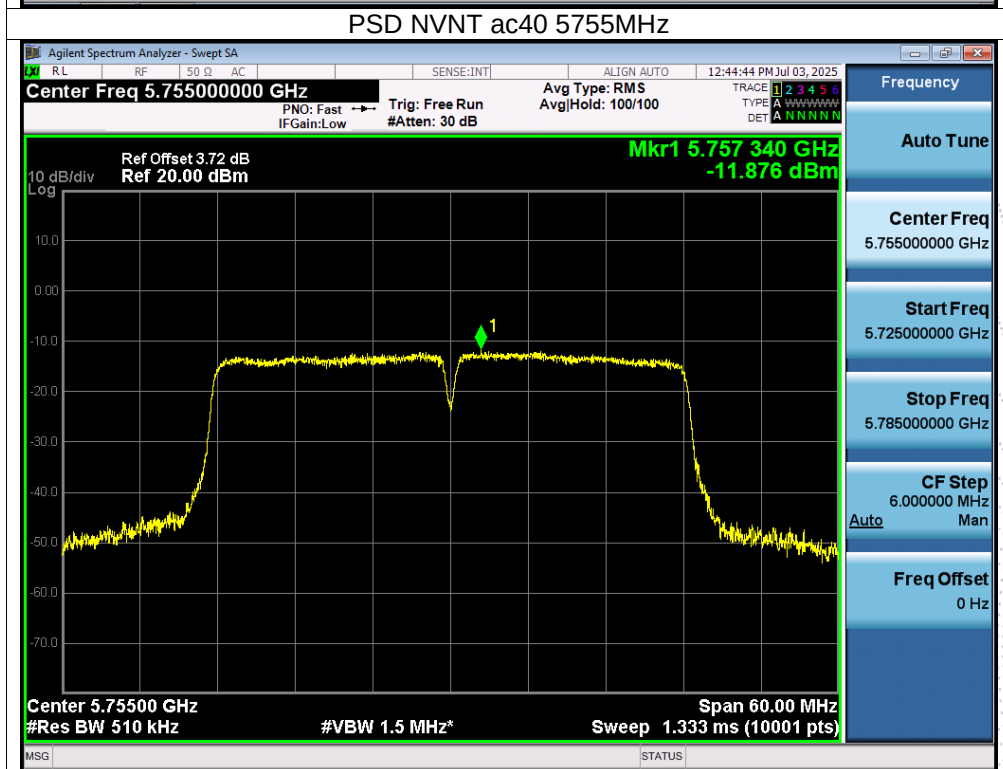
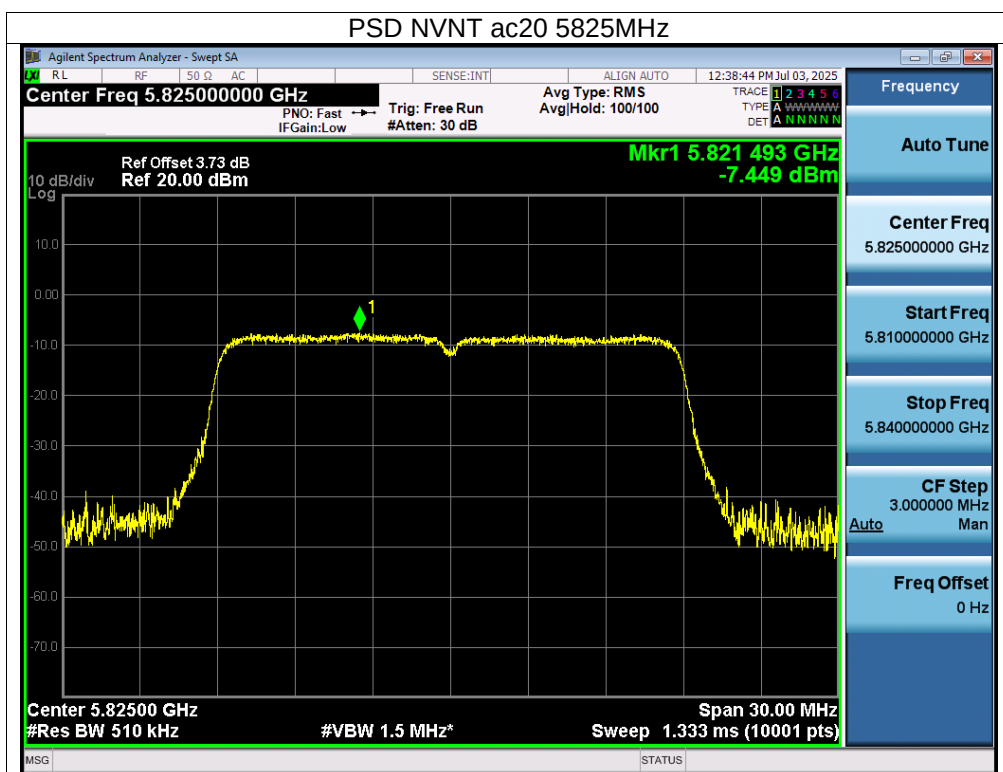


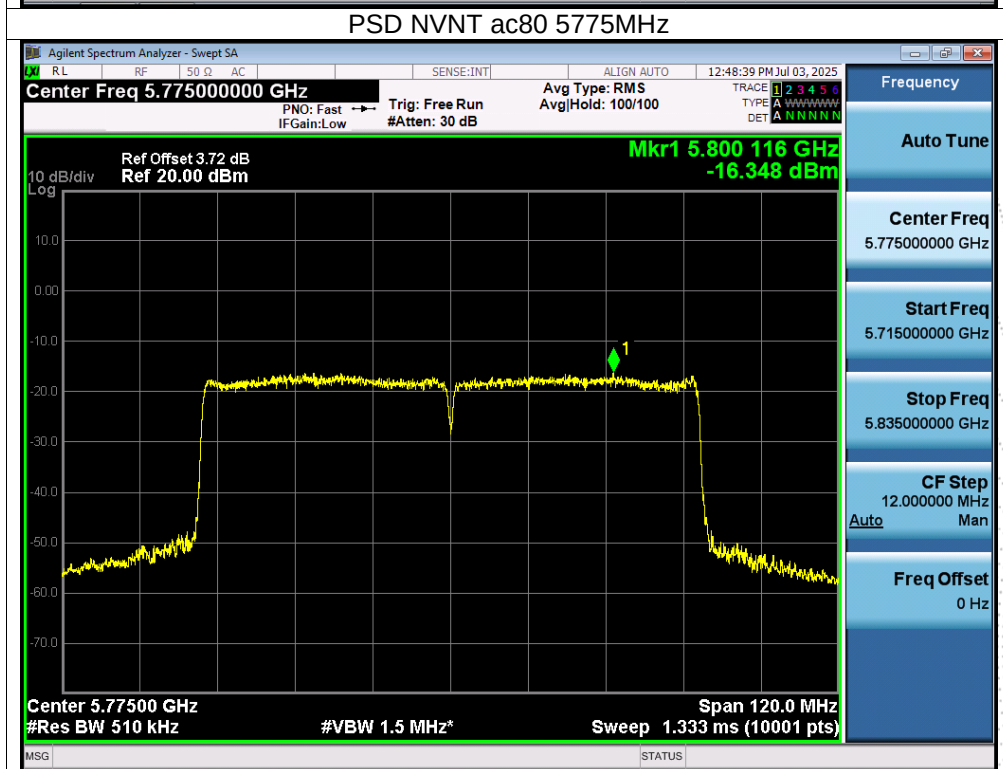
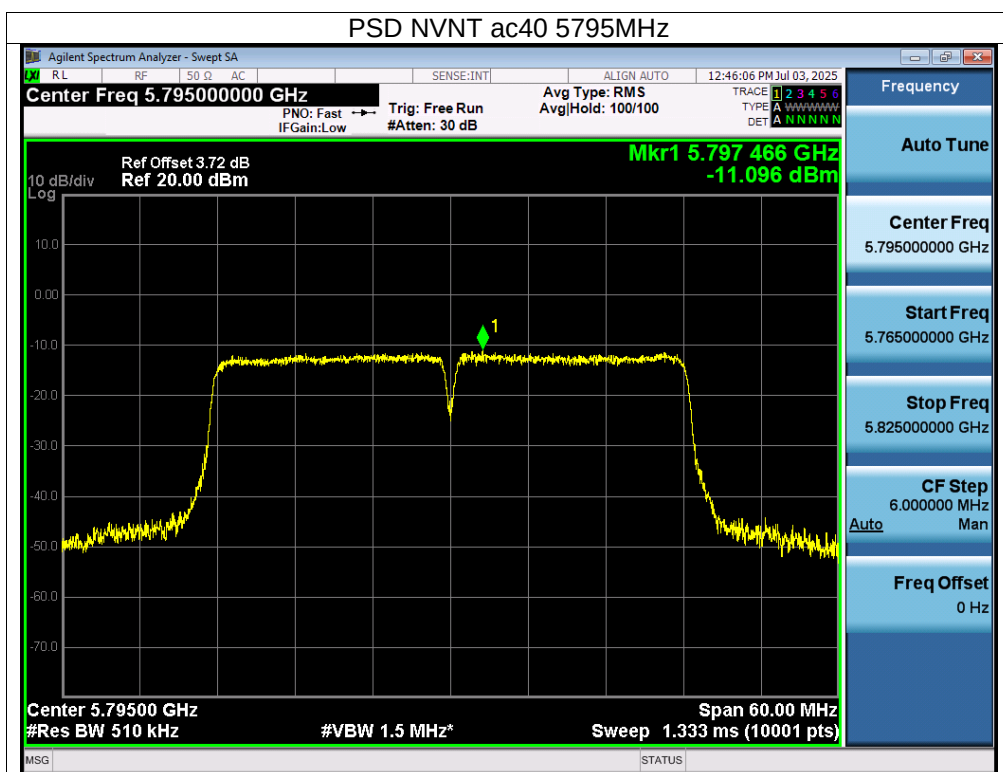






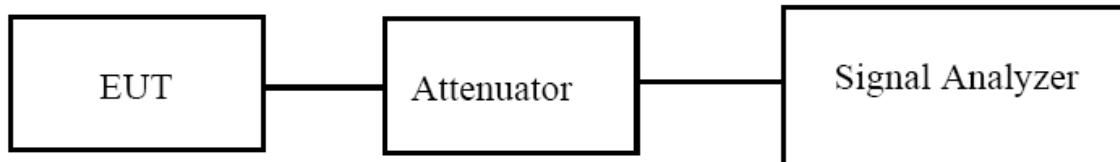






9. 26dB & 6dB & 99% Emission Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.
(6dB bandwidth)>500kHz

9.3 Test Procedure

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

The following procedure shall be used for measuring (99 %) power bandwidth:

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1 % to 5 % of the OBW
- Set $VBW \geq 3 \cdot RBW$
- 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.
- Use the 99 % power bandwidth function of the instrument (if available).
- If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. 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% occupied bandwidth is the difference between these two frequencies.

6dB

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times RBW$.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.

6. Allow the trace to stabilize.

7. 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.

9.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

9.5 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 3.87V
Test Mode:	TX Frequency U-NII-1 (5180-5240MHz)		

Condition	Mode	Frequency (MHz)	99% bandwidth (MHz)	-26dB bandwidth (MHz)	Result
NVNT	a	5180	16.55	21.69	Pass
NVNT	a	5200	16.589	24.715	Pass
NVNT	a	5240	16.57	25.497	Pass
NVNT	n20	5180	17.618	22.469	Pass
NVNT	n20	5200	17.576	24.432	Pass
NVNT	n20	5240	17.616	25.307	Pass
NVNT	n40	5190	36.134	46.425	Pass
NVNT	n40	5230	36.191	46.298	Pass
NVNT	ac20	5180	17.598	24.449	Pass
NVNT	ac20	5200	17.592	22.584	Pass
NVNT	ac20	5240	17.6	23.187	Pass
NVNT	ac40	5190	36.133	39.912	Pass
NVNT	ac40	5230	36.143	41.52	Pass
NVNT	ac80	5210	75.659	82.64	Pass

