

TEST REPORT

Report No.: BCTC2305665909-4E

Applicant: Shenzhen Efercro Electronic Technology Co., Ltd

Product Name: Laptop

Model/Type
Reference: LT1504

Tested Date: 2023-05-24 to 2023-08-30

Issued Date: 2023-08-30

Shenzhen BCTC Testing Co., Ltd.



FCC ID:2AW9M-LT1504

Product Name: Laptop

Trademark: N/A

Model/Type reference: LT1504,LT1505,LT1506,LT1507,LT1508,LT1509,C-S156,C-S156A,C-S156B,C-S156C,C-S156D,C-S156E,C-S156F,C-S156G,NB185,NB184,NB182,NB186

Prepared For: Shenzhen Efercro Electronic Technology Co., Ltd

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Manufacturer: Shenzhen Efercro Electronic Technology Co., Ltd

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Prepared By: Shenzhen BCTC Testing Co., Ltd

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Sample Received Date: 2023-05-24

Sample tested Date: 2023-05-24 to 2023-08-30

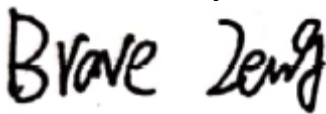
Report No.: BCTC2305665909-4E

Test Standards: FCC Part15 15.407
ANSI C63.10-2013
KDB 662911 D01 v02r01
KDB 789033 D02 v02r01

Test Results: PASS

Remark: This is WIFI-5GHz band radio test report.

Tested by:



Brave Zeng/ Project Handler

Approved by:



Zero Zhou/Reviewer

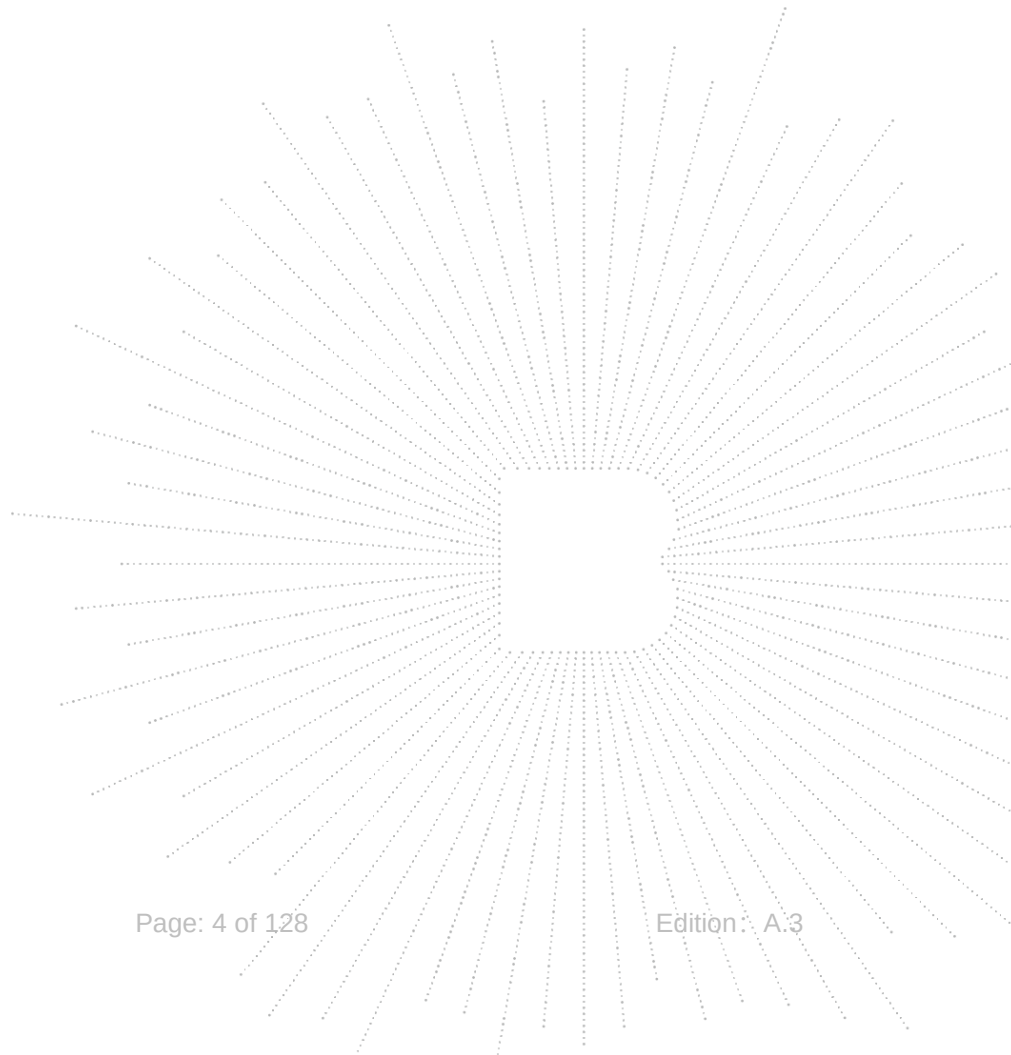
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(Note: N/A Means Not Applicable)



1. Version

Report No.	Issue Date	Description	Approved
BCTC2305665909-4E	2023-08-30	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

1	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

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(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(9KHz-30MHz)	U=3.7dB
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

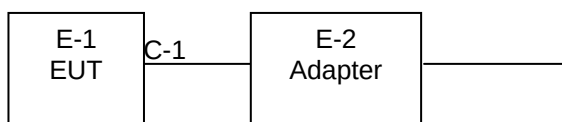
4.1 Product Information

Model/Type reference:	LT1504,LT1505,LT1506,LT1507,LT1508,LT1509,C-S156,C-S156A,C-S156B,C-S156C,C-S156D,C-S156E,C-S156F,C-S156G,NB185,NB184,NB182,NB186
Model differences:	Our production units bearing the following model numbers are identical in circuitry and electrical, mechanical and physical construction; The difference is only in model names. We choose LT1504 as the final test prototype.
Hardware Version:	N/A
Software Version:	N/A
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)/ac20; 5190-5230MHz for 802.11n(HT40)/ac40; 5210MHz for 802.11 ac80; 5745-5825 MHz for 802.11a/n(HT20)/ac20; 5755-5795 MHz for 802.11a/n(HT40)/ac40; 5775MHz for 802.11 ac80;
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 for 802.11a/n OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11ac
Number Of Channel:	4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band ;
Antenna installation:	Internal antenna
Antenna Gain:	3.92dBi
power supply:	DC 12V from Adapter DC 7.4V from battery
Battery:	DC7.4V,5000 mAh
Adapter:	Input:AC 100-240V,50/60Hz Output:12V/3.0A,36.0W

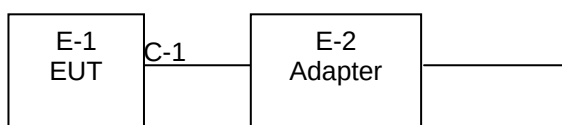
4.2 Test Setup Configuration

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

Conducted Emission:



Radiated Spurious Emission



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Laptop r	N/A	LT1504	N/A	EUT
E-2	Adapter	N/A	N/A	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	0.3M	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

Frequency and Channel list for 802.11a/n /ac (5180-5240MHz):

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)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	-	-	-	-	-	-

Frequency and Channel list for 802.11a/n /ac (5745-5825MHz):

802.11a/n/ac(20MHz) 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)	Channel	Frequency (MHz)
151	5755	159	5795	-	-	-	-

802.11ac (80MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	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	Link Mode

Note: The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.
Fully-charged battery is used during the test

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, Tangwei, 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

FCC Designation Number: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

5.2 Test Instrument Used

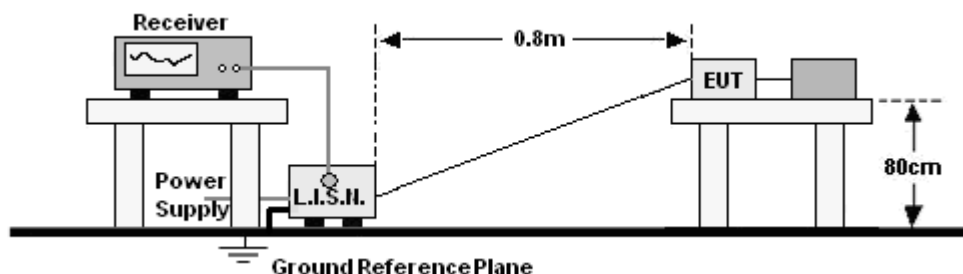
Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
LISN	R&S	ENV216	101375	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 15, 2023	May 14, 2024

RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power Metter	Keysight	E4419	\	May 15, 2023	May 14, 2024
Power Sensor (AV)	Keysight	E9300A	\	May 15, 2023	May 14, 2024
Signal Analyzer 20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 15, 2023	May 14, 2024
Spectrum Analyzer 9kHz-40GHz	R&S	FSP40	\	May 15, 2023	May 14, 2024

Radiated Emissions Test (966 Chamber)					
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 15, 2023	May 14, 2024
Receiver	R&S	ESRP	101154	May 15, 2023	May 14, 2024
Amplifier	SKET	LAPA_01G18 G-45dB	\	May 15, 2023	May 14, 2024
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 15, 2023	May 14, 2024
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 15, 2023	May 14, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 15, 2023	May 14, 2024
Horn Antenn(18GH z-40GHz)	Schwarzbeck	BBHA9170	00822	May 15, 2023	May 14, 2024
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 15, 2023	May 14, 2024
Loop Antenna(9kHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 15, 2023	May 14, 2024
RF cables1(9kHz- 30MHz)	Huber+Suhnar	9kHz-30MHz	B1702988-000 8	May 15, 2023	May 14, 2024
RF cables2(30MH z-1GHz)	Huber+Suhnar	30MHz-1GHz	1486150	May 15, 2023	May 14, 2024
RF cables3(1GHz -40GHz)	Huber+Suhnar	1GHz-40GHz	1607106	May 15, 2023	May 14, 2024
Power Metter	Keysight	E4419	\	May 15, 2023	May 14, 2024
Power Sensor (AV)	Keysight	E9300A	\	May 15, 2023	May 14, 2024
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 15, 2023	May 14, 2024
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	\	May 15, 2023	May 14, 2024
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.

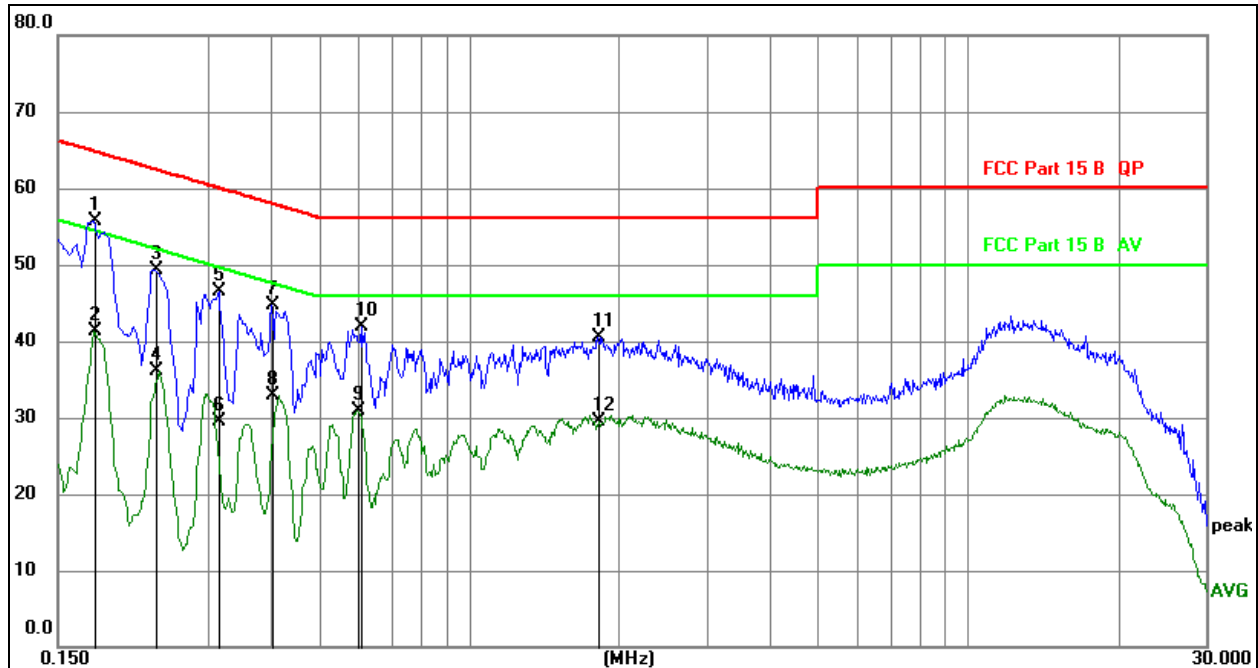
6.4 EUT operating Conditions

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.

We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

6.5 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 4	Polarization :	L

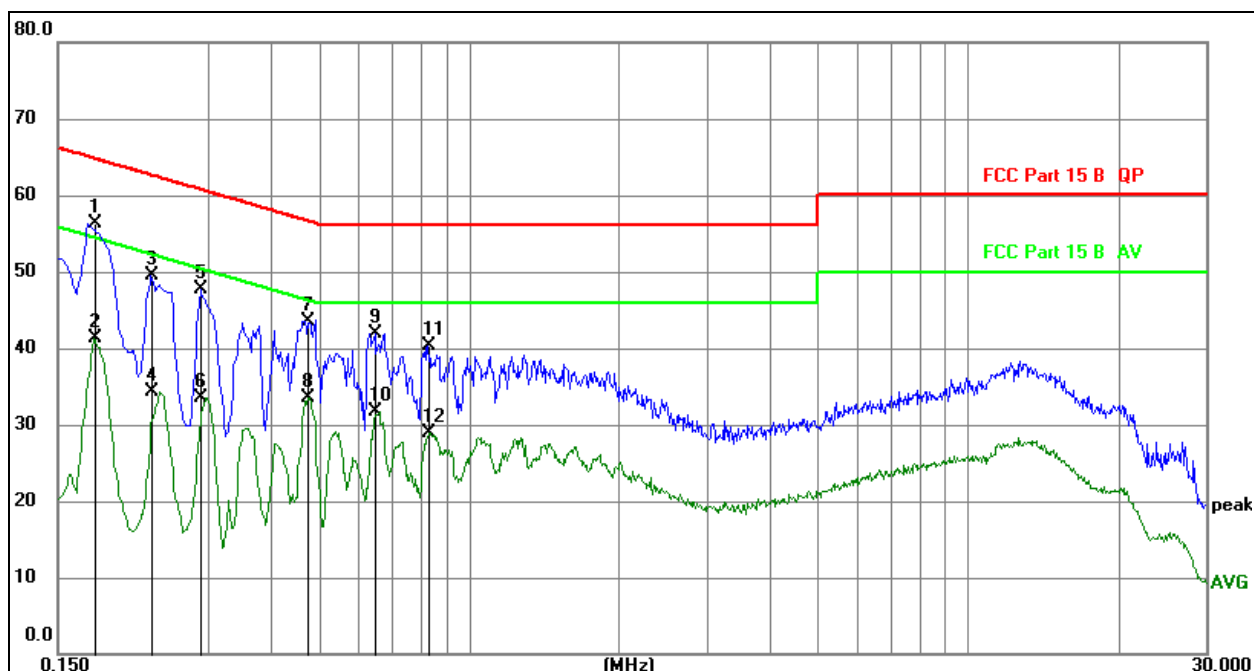


Remark:

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.	M.k.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1770	45.42	10.24	55.66	64.63	-8.97	QP
2		0.1770	30.97	10.24	41.21	54.63	-13.42	AVG
3		0.2355	39.14	10.24	49.38	62.25	-12.87	QP
4		0.2355	25.93	10.24	36.17	52.25	-16.08	AVG
5		0.3165	36.30	10.24	46.54	59.80	-13.26	QP
6		0.3165	19.33	10.24	29.57	49.80	-20.23	AVG
7		0.4020	34.38	10.23	44.61	57.81	-13.20	QP
8		0.4020	22.76	10.23	32.99	47.81	-14.82	AVG
9		0.6090	31.64	10.23	41.87	56.00	-14.13	QP
10		0.6090	20.58	10.23	30.81	46.00	-15.19	AVG
11		1.8150	30.31	10.18	40.49	56.00	-15.51	QP
12		1.8150	19.41	10.18	29.59	46.00	-16.41	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 4	Polarization :	N



Remark:

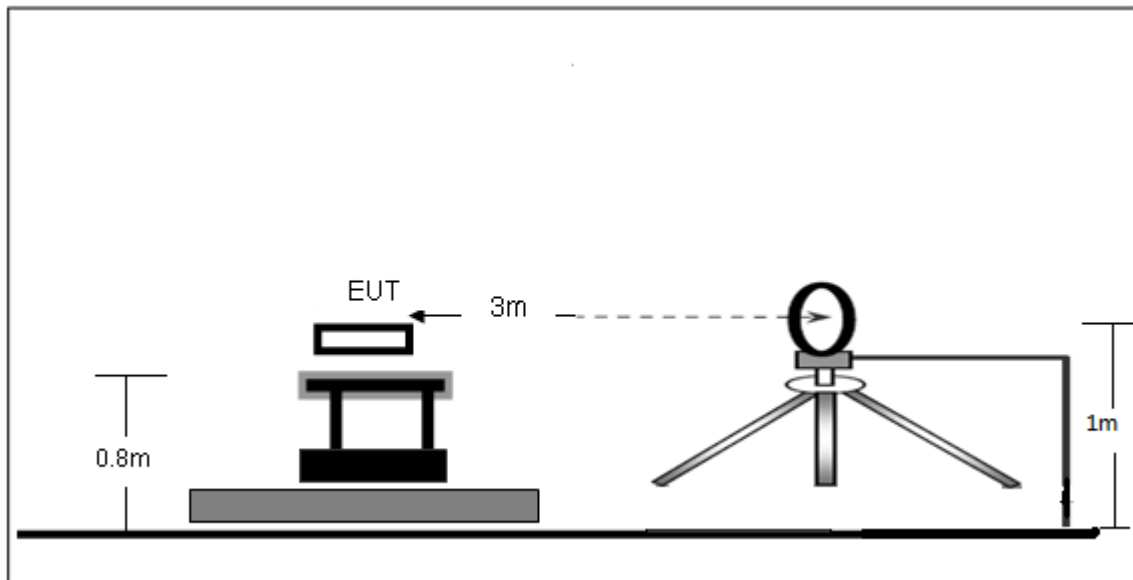
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1768	45.98	10.24	56.22	64.63	-8.41	QP
2		0.1768	31.00	10.24	41.24	54.63	-13.39	AVG
3		0.2304	39.29	10.24	49.53	62.44	-12.91	QP
4		0.2304	23.99	10.24	34.23	52.44	-18.21	AVG
5		0.2893	37.41	10.24	47.65	60.54	-12.89	QP
6		0.2893	23.28	10.24	33.52	50.54	-17.02	AVG
7		0.4761	33.27	10.24	43.51	56.41	-12.90	QP
8		0.4761	23.20	10.24	33.44	46.41	-12.97	AVG
9		0.6474	31.81	10.19	42.00	56.00	-14.00	QP
10		0.6474	21.46	10.19	31.65	46.00	-14.35	AVG
11		0.8261	30.23	10.14	40.37	56.00	-15.63	QP
12		0.8261	18.84	10.14	28.98	46.00	-17.02	AVG

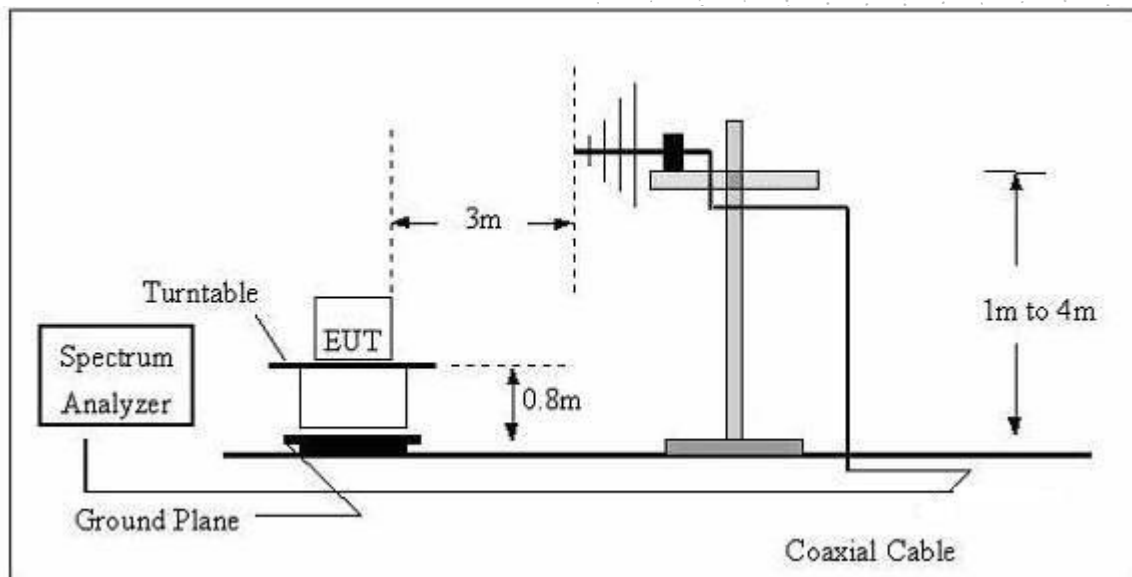
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

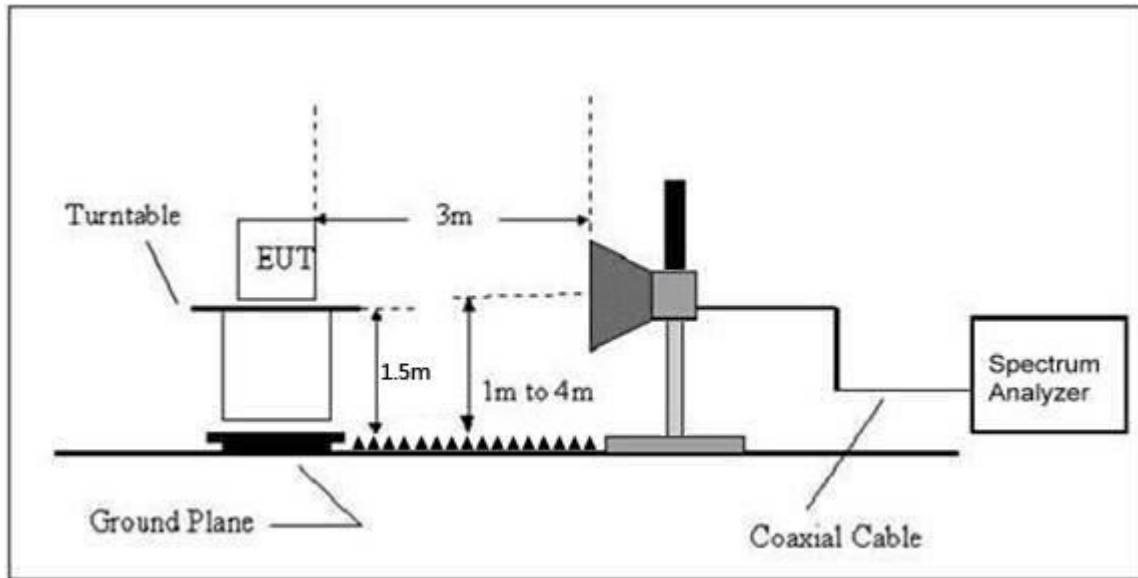
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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(kHz)	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	24000/F(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:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 7.4V
Test Mode:	Mode 4		

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

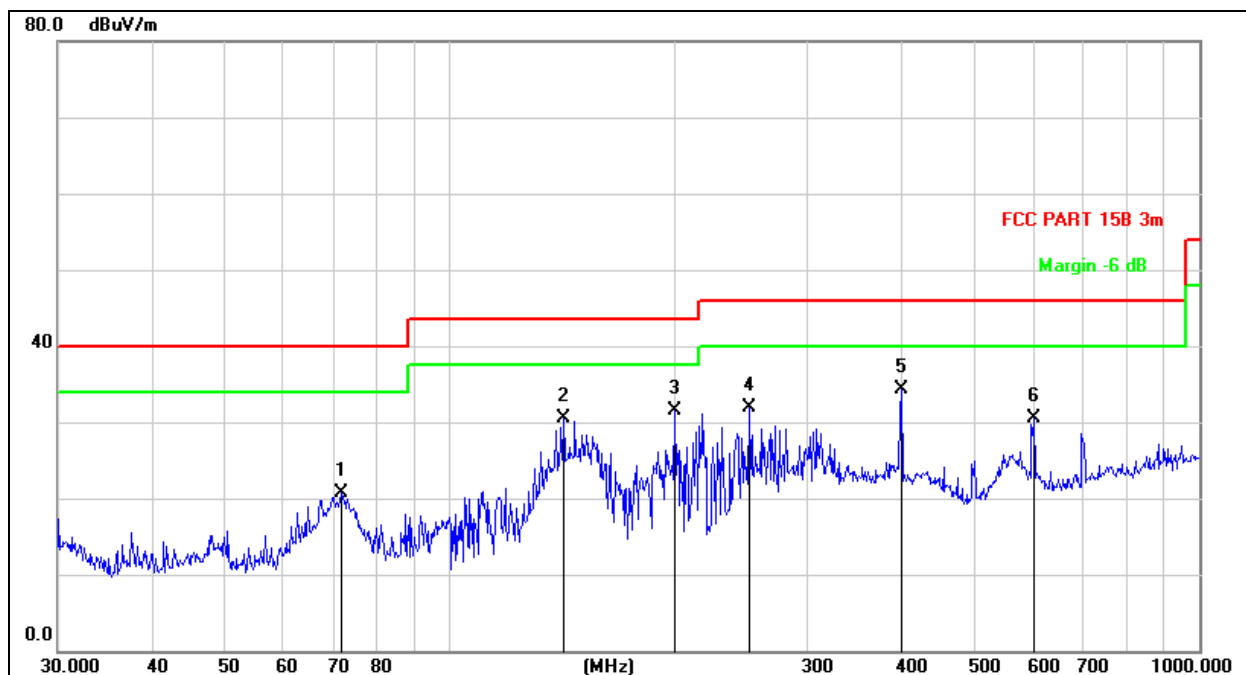
Note:

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.

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 7.4V
Test Mode:	Mode 4	Polarization :	Horizontal

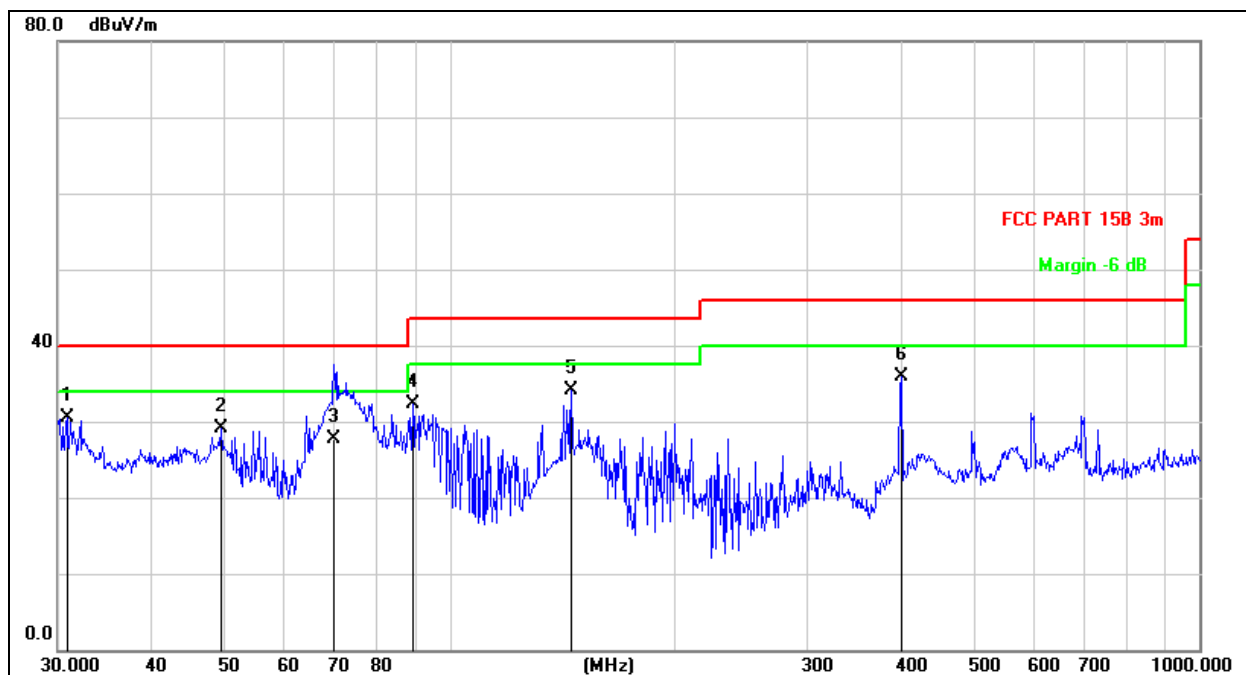


Remark:

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		71.8320	31.77	-11.06	20.71	40.00	-19.29	QP
2		141.8262	36.70	-6.29	30.41	43.50	-13.09	QP
3		199.2855	40.74	-9.29	31.45	43.50	-12.05	QP
4		251.1804	39.24	-7.34	31.90	46.00	-14.10	QP
5	*	400.4319	37.21	-2.97	34.24	46.00	-11.76	QP
6		601.4265	29.11	1.48	30.59	46.00	-15.41	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 7.4V
Test Mode:	Mode 4	Polarization :	Vertical



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		30.8535	38.72	-8.20	30.52	40.00	-9.48	QP
2		49.5328	38.09	-9.02	29.07	40.00	-10.93	QP
3		70.0903	38.73	-10.93	27.80	40.00	-12.20	QP
4		89.2764	43.76	-11.48	32.28	43.50	-11.22	QP
5	*	145.3506	40.09	-5.98	34.11	43.50	-9.39	QP
6		400.4319	38.92	-2.97	35.95	46.00	-10.05	QP

Between 1GHz – 40GHz

Test Mode:	TX(5.1G) - 802.11a
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.133	61.84	5.94	35.40	44.00	59.18	68.2	-9.02	PK
V	4434.133	43.48	5.94	35.40	44.00	40.82	54	-13.18	AV
V	10360.155	61.62	8.46	39.75	44.50	65.33	68.2	-2.87	PK
V	10360.155	43.69	8.46	39.75	44.50	47.40	54	-6.60	AV
V	15540.026	62.34	10.12	38.80	44.10	67.16	74	-6.84	PK
V	15540.026	43.52	10.12	38.80	42.70	49.74	54	-4.26	AV
H	4434.127	63.51	5.94	35.18	44.00	60.63	68.2	-7.57	PK
H	4434.127	43.33	5.94	35.18	44.00	40.45	54	-13.55	AV
H	10360.117	50.99	8.46	38.71	44.50	53.66	68.2	-14.54	PK
H	10360.117	42.94	8.46	38.71	44.50	45.61	54	-8.39	AV
H	15540.060	54.38	10.12	38.38	44.10	58.78	74	-15.22	PK
H	15540.060	44.28	10.12	38.38	44.10	48.68	54	-5.32	AV
Middle Channel (5200 MHz)-Above 1G									
V	4592.144	60.25	6.48	36.35	44.05	59.03	74	-14.97	PK
V	4592.144	43.65	6.48	36.35	44.05	42.43	54	-11.57	AV
V	10400.050	61.30	8.47	37.88	44.51	63.14	68.2	-5.06	PK
V	10400.050	43.91	8.47	37.88	44.51	45.75	54	-8.25	AV
V	15600.054	61.29	10.12	38.80	44.10	66.11	74	-7.89	PK
V	15600.054	43.38	10.12	38.80	42.70	49.60	54	-4.40	AV
H	4592.091	62.13	6.48	36.37	44.05	60.93	74	-13.07	PK
H	4592.091	43.65	6.48	36.37	44.05	42.45	54	-11.55	AV
H	10400.102	50.54	8.47	38.64	44.50	53.15	68.2	-15.05	PK
H	10400.102	43.20	8.47	38.64	44.50	45.81	54	-8.19	AV
H	15600.037	50.63	10.12	38.38	44.10	55.03	74	-18.97	PK
H	15600.037	42.46	10.12	38.38	44.10	46.86	54	-7.14	AV
High Channel (5240 MHz)-Above 1G									
V	4739.013	61.52	7.10	37.24	43.50	62.36	74	-11.64	PK
V	4739.013	43.30	7.10	37.24	43.50	44.14	54	-9.86	AV
V	10480.068	63.96	8.46	37.68	44.50	65.60	68.2	-2.60	PK
V	10480.068	43.61	8.46	37.68	44.50	45.25	54	-8.75	AV
V	15720.157	63.67	10.12	38.80	44.10	68.49	74	-5.51	PK
V	15720.157	43.74	10.12	38.80	42.70	49.96	54	-4.04	AV
H	4739.003	64.85	7.10	37.24	43.50	65.69	74	-8.31	PK
H	4739.003	43.64	7.10	37.24	43.50	44.48	54	-9.52	AV
H	10480.158	52.70	8.46	38.57	44.50	55.23	68.2	-12.97	PK
H	10480.158	44.71	8.46	38.57	44.50	47.24	54	-6.76	AV
H	15720.115	52.82	10.12	38.38	44.10	57.22	74	-16.78	PK
H	15720.115	41.89	10.12	38.38	44.10	46.29	54	-7.71	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 (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.094	61.90	5.94	35.40	44.00	59.24	68.2	-8.96	PK
V	4434.094	43.41	5.94	35.40	44.00	40.75	54	-13.25	AV
V	10360.198	61.88	8.46	39.75	44.50	65.59	68.2	-2.61	PK
V	10360.198	43.67	8.46	39.75	44.50	47.38	54	-6.62	AV
V	15540.175	60.55	10.12	38.80	44.10	65.37	74	-8.63	PK
V	15540.175	43.12	10.12	38.80	42.70	49.34	54	-4.66	AV
H	4434.030	63.67	5.94	35.18	44.00	60.79	68.2	-7.41	PK
H	4434.030	43.55	5.94	35.18	44.00	40.67	54	-13.33	AV
H	10360.158	51.14	8.46	38.71	44.50	53.81	68.2	-14.39	PK
H	10360.158	40.20	8.46	38.71	44.50	42.87	54	-11.13	AV
H	15540.177	53.84	10.12	38.38	44.10	58.24	74	-15.76	PK
H	15540.177	40.54	10.12	38.38	44.10	44.94	54	-9.06	AV
Middle Channel (5200 MHz)-Above 1G									
V	4592.031	61.40	6.48	36.35	44.05	60.18	74	-13.82	PK
V	4592.031	43.48	6.48	36.35	44.05	42.26	54	-11.74	AV
V	10400.146	63.83	8.47	37.88	44.51	65.67	68.2	-2.53	PK
V	10400.146	43.04	8.47	37.88	44.51	44.88	54	-9.12	AV
V	15600.019	63.37	10.12	38.80	44.10	68.19	74	-5.81	PK
V	15600.019	43.76	10.12	38.80	42.70	49.98	54	-4.02	AV
H	4592.044	64.13	6.48	36.37	44.05	62.93	74	-11.07	PK
H	4592.044	43.87	6.48	36.37	44.05	42.67	54	-11.33	AV
H	10400.121	50.24	8.47	38.64	44.50	52.85	68.2	-15.35	PK
H	10400.121	41.06	8.47	38.64	44.50	43.67	54	-10.33	AV
H	15600.001	50.11	10.12	38.38	44.10	54.51	74	-19.49	PK
H	15600.001	40.01	10.12	38.38	44.10	44.41	54	-9.59	AV
High Channel (5240 MHz)-Above 1G									
V	4739.146	64.19	7.10	37.24	43.50	65.03	74	-8.97	PK
V	4739.146	43.44	7.10	37.24	43.50	44.28	54	-9.72	AV
V	10480.128	60.30	8.46	37.68	44.50	61.94	68.2	-6.26	PK
V	10480.128	43.44	8.46	37.68	44.50	45.08	54	-8.92	AV
V	15720.155	63.64	10.12	38.80	44.10	68.46	74	-5.54	PK
V	15720.155	43.76	10.12	38.80	42.70	49.98	54	-4.02	AV
H	4739.194	61.92	7.10	37.24	43.50	62.76	74	-11.24	PK
H	4739.194	43.62	7.10	37.24	43.50	44.46	54	-9.54	AV
H	10480.044	51.89	8.46	38.57	44.50	54.42	68.2	-13.78	PK
H	10480.044	41.80	8.46	38.57	44.50	44.33	54	-9.67	AV
H	15720.074	52.10	10.12	38.38	44.10	56.50	74	-17.50	PK
H	15720.074	43.25	10.12	38.38	44.10	47.65	54	-6.35	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 (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.127	61.84	5.94	35.40	44.00	59.18	68.2	-9.02	PK
V	4434.127	43.47	5.94	35.40	44.00	40.81	54	-13.19	AV
V	10380.056	62.77	8.46	39.75	44.50	66.48	68.2	-1.72	PK
V	10380.056	43.61	8.46	39.75	44.50	47.32	54	-6.68	AV
V	15570.159	60.20	10.12	38.80	44.10	65.02	74	-8.98	PK
V	15570.159	43.58	10.12	38.80	42.70	49.80	54	-4.20	AV
H	4434.099	63.00	5.94	35.18	44.00	60.12	74	-13.88	PK
H	4434.099	43.95	5.94	35.18	44.00	41.07	54	-12.93	AV
H	10380.099	54.40	8.46	38.71	44.50	57.07	68.2	-11.13	PK
H	10380.099	43.09	8.46	38.71	44.50	45.76	54	-8.24	AV
H	15570.088	54.12	10.12	38.38	44.10	58.52	74	-15.48	PK
H	15570.088	44.81	10.12	38.38	44.10	49.21	54	-4.79	AV
High Channel (5230 MHz)-Above 1G									
V	4739.067	63.23	6.48	36.35	44.05	62.01	68.2	-6.19	PK
V	4739.067	43.19	6.48	36.35	44.05	41.97	54	-12.03	AV
V	10460.080	62.31	8.47	37.88	44.51	64.15	68.2	-4.05	PK
V	10460.080	43.33	8.47	37.88	44.51	45.17	54	-8.83	AV
V	15690.026	60.48	10.12	38.80	44.10	65.30	74	-8.70	PK
V	15690.026	43.97	10.12	38.80	42.70	50.19	54	-3.81	AV
H	4739.197	62.00	6.48	36.37	44.05	60.80	68.2	-7.40	PK
H	4739.197	43.98	6.48	36.37	44.05	42.78	54	-11.22	AV
H	10460.129	51.24	8.47	38.64	44.50	53.85	68.2	-14.35	PK
H	10460.129	45.00	8.47	38.64	44.50	47.61	54	-6.39	AV
H	15690.139	51.60	10.12	38.38	44.10	56.00	74	-18.00	PK
H	15690.139	40.24	10.12	38.38	44.10	44.64	54	-9.36	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 (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.161	63.90	5.94	35.40	44.00	61.24	68.2	-6.96	PK
V	4434.161	43.59	5.94	35.40	44.00	40.93	54	-13.07	AV
V	10360.060	60.08	8.46	39.75	44.50	63.79	68.2	-4.41	PK
V	10360.060	43.96	8.46	39.75	44.50	47.67	54	-6.33	AV
V	15540.168	60.55	10.12	38.80	44.10	65.37	74	-8.63	PK
V	15540.168	43.34	10.12	38.80	42.70	49.56	54	-4.44	AV
H	4434.091	64.70	5.94	35.18	44.00	61.82	68.2	-6.38	PK
H	4434.091	43.40	5.94	35.18	44.00	40.52	54	-13.48	AV
H	10360.195	54.30	8.46	38.71	44.50	56.97	68.2	-11.23	PK
H	10360.195	42.33	8.46	38.71	44.50	45.00	54	-9.00	AV
H	15540.138	51.05	10.12	38.38	44.10	55.45	74	-18.55	PK
H	15540.138	44.31	10.12	38.38	44.10	48.71	54	-5.29	AV
Middle Channel (5200 MHz)-Above 1G									
V	4592.172	63.52	6.48	36.35	44.05	62.30	74	-11.70	PK
V	4592.172	43.92	6.48	36.35	44.05	42.70	54	-11.30	AV
V	10400.030	62.52	8.47	37.88	44.51	64.36	68.2	-3.84	PK
V	10400.030	43.85	8.47	37.88	44.51	45.69	54	-8.31	AV
V	15600.153	60.91	10.12	38.80	44.10	65.73	74	-8.27	PK
V	15600.153	43.02	10.12	38.80	42.70	49.24	54	-4.76	AV
H	4592.138	64.70	6.48	36.37	44.05	63.50	74	-10.50	PK
H	4592.138	43.24	6.48	36.37	44.05	42.04	54	-11.96	AV
H	10400.097	53.93	8.47	38.64	44.50	56.54	68.2	-11.66	PK
H	10400.097	40.23	8.47	38.64	44.50	42.84	54	-11.16	AV
H	15600.160	51.72	10.12	38.38	44.10	56.12	74	-17.88	PK
H	15600.160	40.24	10.12	38.38	44.10	44.64	54	-9.36	AV
High Channel (5240 MHz)-Above 1G									
V	4739.186	63.57	7.10	37.24	43.50	64.41	74	-9.59	PK
V	4739.186	43.80	7.10	37.24	43.50	44.64	54	-9.36	AV
V	10480.162	64.73	8.46	37.68	44.50	66.37	68.2	-1.83	PK
V	10480.162	43.92	8.46	37.68	44.50	45.56	54	-8.44	AV
V	15720.048	62.97	10.12	38.80	44.10	67.79	74	-6.21	PK
V	15720.048	43.92	10.12	38.80	42.70	50.14	54	-3.86	AV
H	4739.124	63.38	7.10	37.24	43.50	64.22	74	-9.78	PK
H	4739.124	43.06	7.10	37.24	43.50	43.90	54	-10.10	AV
H	10480.112	50.91	8.46	38.57	44.50	53.44	68.2	-14.76	PK
H	10480.112	42.62	8.46	38.57	44.50	45.15	54	-8.85	AV
H	15720.151	53.97	10.12	38.38	44.10	58.37	74	-15.63	PK
H	15720.151	44.82	10.12	38.38	44.10	49.22	54	-4.78	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) - 802.11ac-HT40
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.006	63.38	5.94	35.40	44.00	60.72	68.2	-7.48	PK
V	4434.006	43.87	5.94	35.40	44.00	41.21	54	-12.79	AV
V	10380.159	61.82	8.46	39.75	44.50	65.53	68.2	-2.67	PK
V	10380.159	43.42	8.46	39.75	44.50	47.13	54	-6.87	AV
V	15570.058	61.61	10.12	38.80	44.10	66.43	74	-7.57	PK
V	15570.058	43.94	10.12	38.80	42.70	50.16	54	-3.84	AV
H	4434.187	62.43	5.94	35.18	44.00	59.55	74	-14.45	PK
H	4434.187	43.08	5.94	35.18	44.00	40.20	54	-13.80	AV
H	10380.001	50.91	8.46	38.71	44.50	53.58	68.2	-14.62	PK
H	10380.001	44.45	8.46	38.71	44.50	47.12	54	-6.88	AV
H	15570.115	52.02	10.12	38.38	44.10	56.42	74	-17.58	PK
H	15570.115	43.20	10.12	38.38	44.10	47.60	54	-6.40	AV
High Channel (5230 MHz)-Above 1G									
V	4739.085	61.87	6.48	36.35	44.05	60.65	68.2	-7.55	PK
V	4739.085	43.27	6.48	36.35	44.05	42.05	54	-11.95	AV
V	10460.043	63.26	8.47	37.88	44.51	65.10	68.2	-3.10	PK
V	10460.043	43.15	8.47	37.88	44.51	44.99	54	-9.01	AV
V	15690.169	64.53	10.12	38.80	44.10	69.35	74	-4.65	PK
V	15690.169	43.17	10.12	38.80	42.70	49.39	54	-4.61	AV
H	4739.040	64.53	6.48	36.37	44.05	63.33	68.2	-4.87	PK
H	4739.040	43.20	6.48	36.37	44.05	42.00	54	-12.00	AV
H	10460.194	53.99	8.47	38.64	44.50	56.60	68.2	-11.60	PK
H	10460.194	41.97	8.47	38.64	44.50	44.58	54	-9.42	AV
H	15690.133	51.45	10.12	38.38	44.10	55.85	74	-18.15	PK
H	15690.133	41.60	10.12	38.38	44.10	46.00	54	-8.00	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-HT80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
(5210 MHz)-Above 1G									
V	4434.057	60.58	5.94	35.40	44.00	57.92	68.2	-10.28	PK
V	4434.057	43.14	5.94	35.40	44.00	40.48	54	-13.52	AV
V	10420.039	60.55	8.46	39.75	44.50	64.26	68.2	-3.94	PK
V	10420.039	43.79	8.46	39.75	44.50	47.50	54	-6.50	AV
V	15630.147	60.13	10.12	38.80	44.10	64.95	74	-9.05	PK
V	15630.147	43.69	10.12	38.80	42.70	49.91	54	-4.09	AV
H	4434.119	61.99	5.94	35.18	44.00	59.11	68.2	-9.09	PK
H	4434.119	43.19	5.94	35.18	44.00	40.31	54	-13.69	AV
H	10420.147	51.36	8.46	38.71	44.50	54.03	68.2	-14.17	PK
H	10420.147	40.12	8.46	38.71	44.50	42.79	54	-11.21	AV
H	15630.154	51.21	10.12	38.38	44.10	55.61	74	-18.39	PK
H	15630.154	42.99	10.12	38.38	44.10	47.39	54	-6.61	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.

- ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
- All the modes 802.11a/n/ac has been tested and the worst result 802.11ac recorded as below:

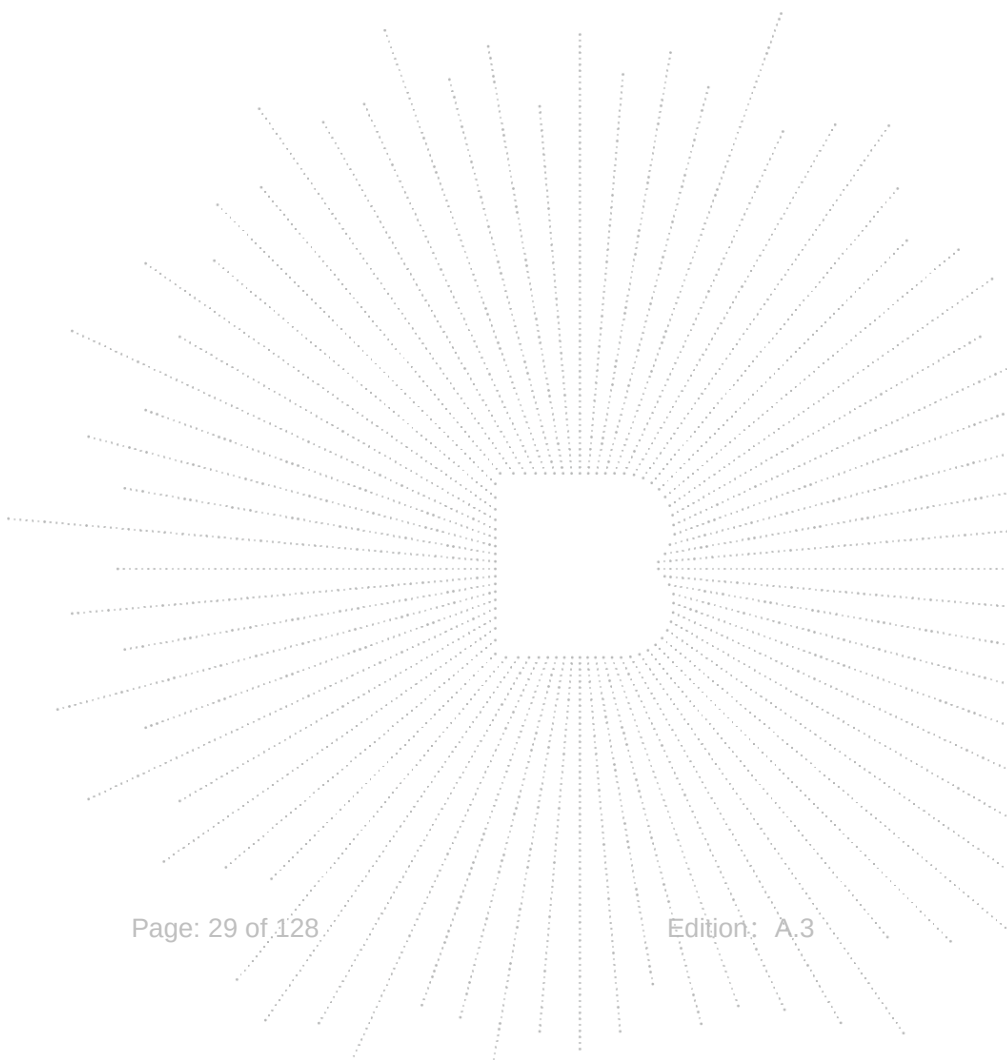
Test mode: 802.11ac Frequency(MHz): 5180

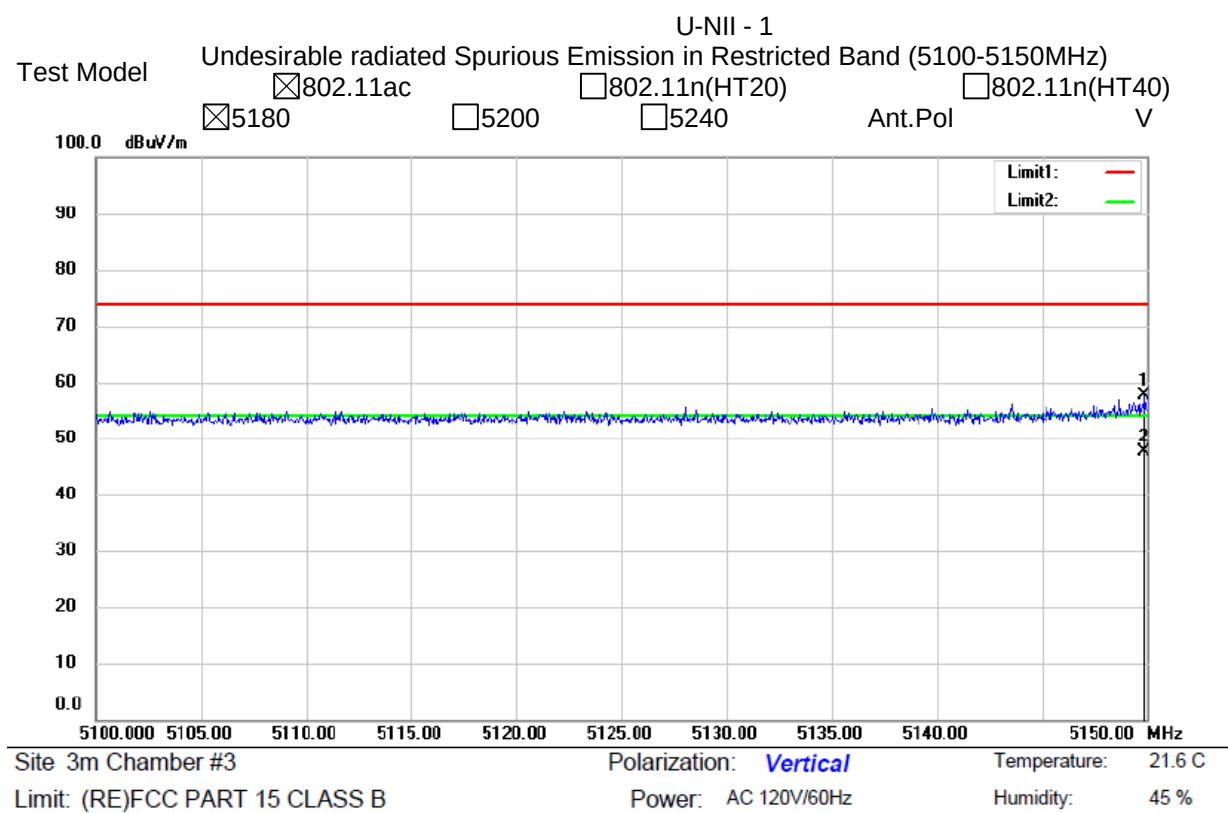
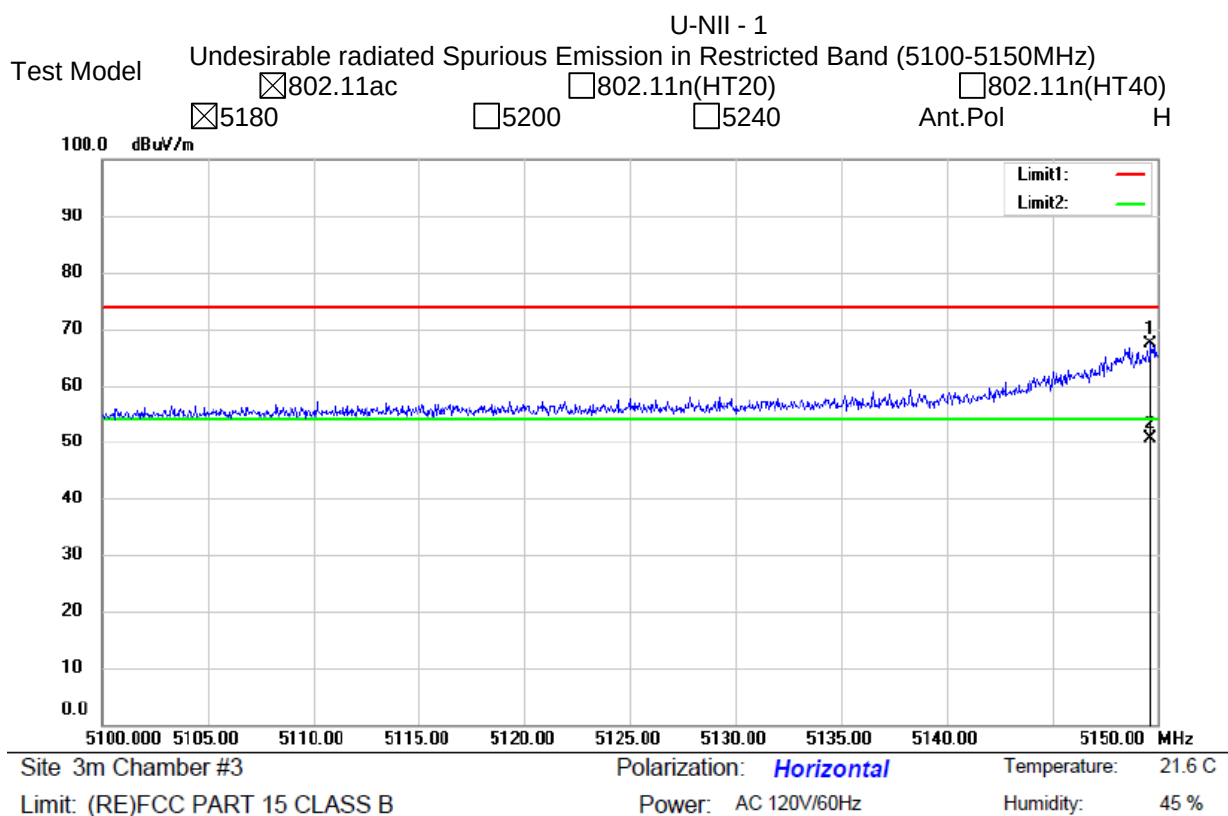
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
5149.68	H	65.23	74	49.73	54
5149.89	V	55.62	74	43.51	54

Test mode: 802.11ac Frequency(MHz): 5240

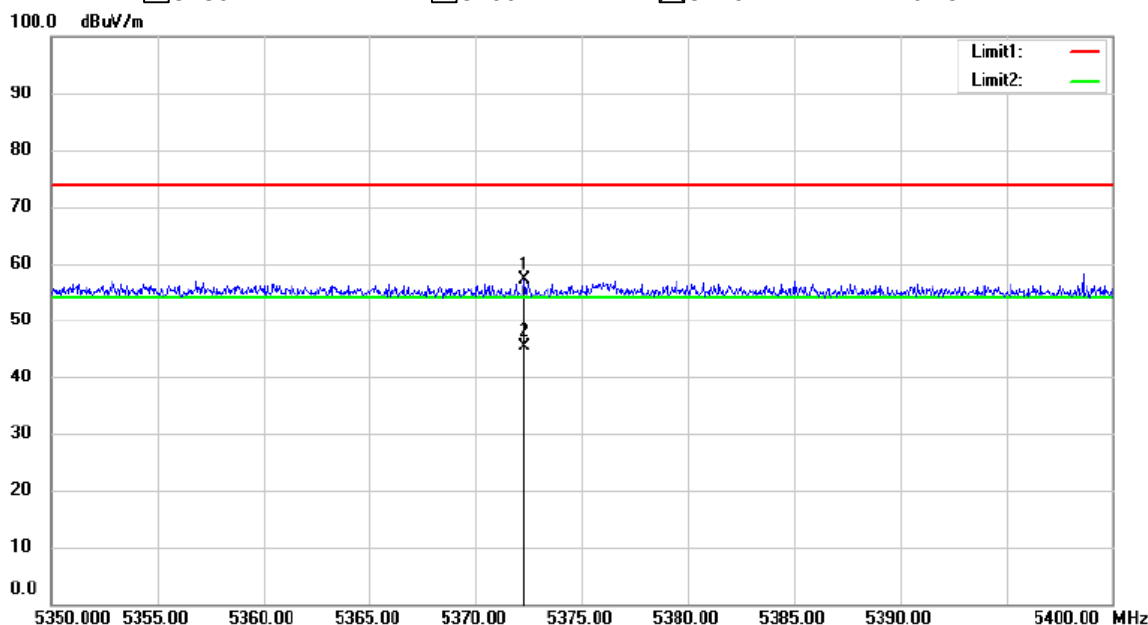
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
5372.31	H	56.82	74	44.97	54
5356.29	V	54.16	74	42.76	54

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp



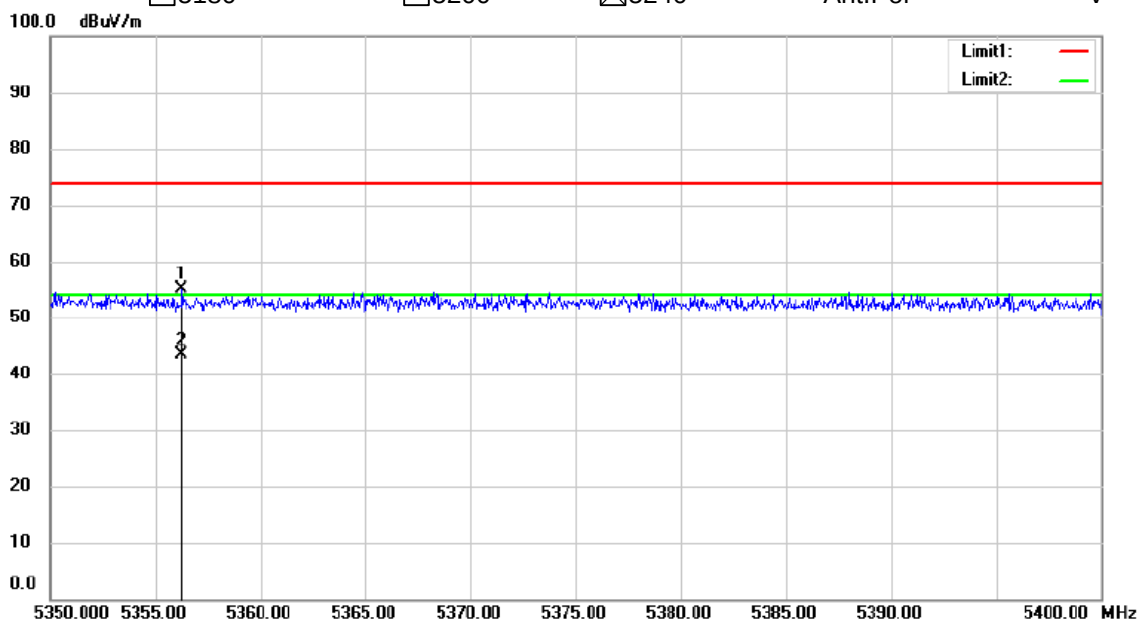


U-NII - 1
Test Model Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 5180 ☒ 802.11ac ☐ 802.11n(HT20) ☐ 802.11n(HT40)
☐ 5200 ☒ 5240 Ant. Pol H



Site 3m Chamber #3 Polarization: **Horizontal** Temperature: 21.6 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 45 %

U-NII - 1
Test Model Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 5180 ☒ 802.11ac ☐ 802.11n(HT20) ☐ 802.11n(HT40)
☐ 5200 ☒ 5240 Ant. Pol V



Site 3m Chamber #3 Polarization: **Vertical** Temperature: 21.6 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 45 %

Test Mode:	TX(5.8G) - 802.11a
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.066	59.13	5.94	35.40	44.00	56.47	74	-17.53	PK
V	4679.066	43.55	5.94	35.40	44.00	40.89	54	-13.11	AV
V	11490.198	57.39	8.46	39.75	44.50	61.10	68.2	-7.10	PK
V	11490.198	43.12	8.46	39.75	44.50	46.83	54	-7.17	AV
V	17235.115	59.90	10.12	38.80	44.10	64.72	68.2	-3.48	PK
V	17235.115	43.45	10.12	38.80	42.70	49.67	54	-4.33	AV
H	4679.199	58.80	5.94	35.18	44.00	55.92	74	-18.08	PK
H	4679.199	43.37	5.94	35.18	44.00	40.49	54	-13.51	AV
H	11490.036	52.05	8.46	38.71	44.50	54.72	68.2	-13.48	PK
H	11490.036	43.03	8.46	38.71	44.50	45.70	54	-8.30	AV
H	17235.063	52.74	10.12	38.38	44.10	57.14	68.2	-11.06	PK
H	17235.063	41.35	10.12	38.38	44.10	45.75	54	-8.25	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.175	57.83	6.48	36.35	44.05	56.61	74	-17.39	PK
V	4592.175	43.53	6.48	36.35	44.05	42.31	54	-11.69	AV
V	11570.026	55.13	8.47	37.88	44.51	56.97	68.2	-11.23	PK
V	11570.026	43.77	8.47	37.88	44.51	45.61	54	-8.39	AV
V	17355.000	56.12	10.12	38.80	44.10	60.94	68.2	-7.26	PK
V	17355.000	39.47	10.12	38.80	42.70	45.69	54	-8.31	AV
H	4592.127	56.85	6.48	36.37	44.05	55.65	74	-18.35	PK
H	4592.127	43.27	6.48	36.37	44.05	42.07	54	-11.93	AV
H	11570.157	51.03	8.47	38.64	44.50	53.64	68.2	-14.56	PK
H	11570.157	44.48	8.47	38.64	44.50	47.09	54	-6.91	AV
H	17355.072	53.18	10.12	38.38	44.10	57.58	68.2	-10.62	PK
H	17355.072	43.77	10.12	38.38	44.10	48.17	54	-5.83	AV
High Channel (5825 MHz)-Above 1G									
V	6039.046	56.53	7.10	37.24	43.50	57.37	68.2	-10.83	PK
V	6039.046	43.01	7.10	37.24	43.50	43.85	54	-10.15	AV
V	11650.118	61.35	8.46	37.68	44.50	62.99	74	-11.01	PK
V	11650.118	43.18	8.46	37.68	44.50	44.82	54	-9.18	AV
V	17475.085	57.39	10.12	38.80	44.10	62.21	68.2	-5.99	PK
V	17475.085	43.55	10.12	38.80	42.70	49.77	54	-4.23	AV
H	6039.033	57.20	7.10	37.24	43.50	58.04	68.2	-10.16	PK
H	6039.033	43.35	7.10	37.24	43.50	44.19	54	-9.81	AV
H	11650.005	51.48	8.46	38.57	44.50	54.01	74	-19.99	PK
H	11650.005	42.82	8.46	38.57	44.50	45.35	54	-8.65	AV
H	17475.076	50.59	10.12	38.38	44.10	54.99	68.2	-13.21	PK
H	17475.076	41.21	10.12	38.38	44.10	45.61	54	-8.39	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.131	56.50	5.94	35.40	44.00	53.84	74	-20.16	PK
V	4679.131	43.66	5.94	35.40	44.00	41.00	54	-13.00	AV
V	11490.135	54.72	8.46	39.75	44.50	58.43	68.2	-9.77	PK
V	11490.135	43.35	8.46	39.75	44.50	47.06	54	-6.94	AV
V	17235.178	60.04	10.12	38.80	44.10	64.86	68.2	-3.34	PK
V	17235.178	43.42	10.12	38.80	42.70	49.64	54	-4.36	AV
H	4679.005	59.16	5.94	35.18	44.00	56.28	74	-17.72	PK
H	4679.005	43.45	5.94	35.18	44.00	40.57	54	-13.43	AV
H	11490.141	48.87	8.46	38.71	44.50	51.54	68.2	-16.66	PK
H	11490.141	40.71	8.46	38.71	44.50	43.38	54	-10.62	AV
H	17235.130	51.68	10.12	38.38	44.10	56.08	68.2	-12.12	PK
H	17235.130	40.64	10.12	38.38	44.10	45.04	54	-8.96	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.118	58.06	6.48	36.35	44.05	56.84	74	-17.16	PK
V	4592.118	43.86	6.48	36.35	44.05	42.64	54	-11.36	AV
V	11570.142	55.09	8.47	37.88	44.51	56.93	68.2	-11.27	PK
V	11570.142	43.15	8.47	37.88	44.51	44.99	54	-9.01	AV
V	17355.054	58.48	10.12	38.80	44.10	63.30	68.2	-4.90	PK
V	17355.054	43.60	10.12	38.80	42.70	49.82	54	-4.18	AV
H	4592.013	57.07	6.48	36.37	44.05	55.87	74	-18.13	PK
H	4592.013	43.32	6.48	36.37	44.05	42.12	54	-11.88	AV
H	11570.068	51.82	8.47	38.64	44.50	54.43	68.2	-13.77	PK
H	11570.068	40.64	8.47	38.64	44.50	43.25	54	-10.75	AV
H	17355.043	54.31	10.12	38.38	44.10	58.71	68.2	-9.49	PK
H	17355.043	42.71	10.12	38.38	44.10	47.11	54	-6.89	AV
High Channel (5825 MHz)-Above 1G									
V	6039.154	59.07	7.10	37.24	43.50	59.91	68.2	-8.29	PK
V	6039.154	43.44	7.10	37.24	43.50	44.28	54	-9.72	AV
V	11650.010	59.58	8.46	37.68	44.50	61.22	74	-12.78	PK
V	11650.010	43.85	8.46	37.68	44.50	45.49	54	-8.51	AV
V	17475.113	58.44	10.12	38.80	44.10	63.26	68.2	-4.94	PK
V	17475.113	43.79	10.12	38.80	42.70	50.01	54	-3.99	AV
H	6039.023	58.10	7.10	37.24	43.50	58.94	68.2	-9.26	PK
H	6039.023	43.58	7.10	37.24	43.50	44.42	54	-9.58	AV
H	11650.124	54.02	8.46	38.57	44.50	56.55	74	-17.45	PK
H	11650.124	44.30	8.46	38.57	44.50	46.83	54	-7.17	AV
H	17475.182	53.53	10.12	38.38	44.10	57.93	68.2	-10.27	PK
H	17475.182	42.39	10.12	38.38	44.10	46.79	54	-7.21	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 (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.026	59.61	5.94	35.40	44.00	56.95	74	-17.05	PK
V	4679.026	43.97	5.94	35.40	44.00	41.31	54	-12.69	AV
V	11510.056	55.77	8.46	39.75	44.50	59.48	74	-14.52	PK
V	11510.056	43.91	8.46	39.75	44.50	47.62	54	-6.38	AV
V	17265.011	55.09	10.12	38.80	44.10	59.91	68.2	-8.29	PK
V	17265.011	43.65	10.12	38.80	42.70	49.87	54	-4.13	AV
H	4679.111	57.54	5.94	35.18	44.00	54.66	74	-19.34	PK
H	4679.111	43.15	5.94	35.18	44.00	40.27	54	-13.73	AV
H	11510.142	53.07	8.46	38.71	44.50	55.74	74	-18.26	PK
H	11510.142	44.66	8.46	38.71	44.50	47.33	54	-6.67	AV
H	17265.136	52.16	10.12	38.38	44.10	56.56	68.2	-11.64	PK
H	17265.136	41.17	10.12	38.38	44.10	45.57	54	-8.43	AV
High Channel (5795 MHz)-Above 1G									
V	6039.069	57.11	6.48	36.35	44.05	55.89	68.2	-12.31	PK
V	6039.069	43.76	6.48	36.35	44.05	42.54	54	-11.46	AV
V	11590.174	55.88	8.47	37.88	44.51	57.72	74	-16.28	PK
V	11590.174	43.69	8.47	37.88	44.51	45.53	54	-8.47	AV
V	17385.003	55.73	10.12	38.80	44.10	60.55	68.2	-7.65	PK
V	17385.003	41.92	10.12	38.80	42.70	48.14	54	-5.86	AV
H	6039.101	57.04	6.48	36.37	44.05	55.84	68.2	-12.36	PK
H	6039.101	43.56	6.48	36.37	44.05	42.36	54	-11.64	AV
H	11590.004	52.55	8.47	38.64	44.50	55.16	74	-18.84	PK
H	11590.004	43.33	8.47	38.64	44.50	45.94	54	-8.06	AV
H	17385.140	50.58	10.12	38.38	44.10	54.98	68.2	-13.22	PK
H	17385.140	42.49	10.12	38.38	44.10	46.89	54	-7.11	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.090	59.38	5.94	35.40	44.00	56.72	74	-17.28	PK
V	4679.090	43.90	5.94	35.40	44.00	41.24	54	-12.76	AV
V	11490.101	53.64	8.46	39.75	44.50	57.35	68.2	-10.85	PK
V	11490.101	43.39	8.46	39.75	44.50	47.10	54	-6.90	AV
V	17235.054	58.96	10.12	38.80	44.10	63.78	68.2	-4.42	PK
V	17235.054	43.88	10.12	38.80	42.70	50.10	54	-3.90	AV
H	4679.167	58.33	5.94	35.18	44.00	55.45	74	-18.55	PK
H	4679.167	43.97	5.94	35.18	44.00	41.09	54	-12.91	AV
H	11490.197	50.08	8.46	38.71	44.50	52.75	68.2	-15.45	PK
H	11490.197	44.84	8.46	38.71	44.50	47.51	54	-6.49	AV
H	17235.037	53.77	10.12	38.38	44.10	58.17	68.2	-10.03	PK
H	17235.037	40.24	10.12	38.38	44.10	44.64	54	-9.36	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.087	62.70	6.48	36.35	44.05	61.48	74	-12.52	PK
V	4592.087	43.55	6.48	36.35	44.05	42.33	54	-11.67	AV
V	11570.101	58.14	8.47	37.88	44.51	59.98	68.2	-8.22	PK
V	11570.101	43.78	8.47	37.88	44.51	45.62	54	-8.38	AV
V	17355.045	59.65	10.12	38.80	44.10	64.47	68.2	-3.73	PK
V	17355.045	43.55	10.12	38.80	42.70	49.77	54	-4.23	AV
H	4592.199	60.75	6.48	36.37	44.05	59.55	74	-14.45	PK
H	4592.199	43.35	6.48	36.37	44.05	42.15	54	-11.85	AV
H	11570.036	53.89	8.47	38.64	44.50	56.50	68.2	-11.70	PK
H	11570.036	40.42	8.47	38.64	44.50	43.03	54	-10.97	AV
H	17355.049	53.25	10.12	38.38	44.10	57.65	68.2	-10.55	PK
H	17355.049	44.13	10.12	38.38	44.10	48.53	54	-5.47	AV
High Channel (5825 MHz)-Above 1G									
V	6039.150	56.88	7.10	37.24	43.50	57.72	68.2	-10.48	PK
V	6039.150	43.85	7.10	37.24	43.50	44.69	54	-9.31	AV
V	11650.045	58.46	8.46	37.68	44.50	60.10	74	-13.90	PK
V	11650.045	43.22	8.46	37.68	44.50	44.86	54	-9.14	AV
V	17475.188	56.36	10.12	38.80	44.10	61.18	68.2	-7.02	PK
V	17475.188	43.19	10.12	38.80	42.70	49.41	54	-4.59	AV
H	6039.169	57.49	7.10	37.24	43.50	58.33	68.2	-9.87	PK
H	6039.169	43.45	7.10	37.24	43.50	44.29	54	-9.71	AV
H	11650.080	53.73	8.46	38.57	44.50	56.26	74	-17.74	PK
H	11650.080	40.47	8.46	38.57	44.50	43.00	54	-11.00	AV
H	17475.093	51.52	10.12	38.38	44.10	55.92	68.2	-12.28	PK
H	17475.093	40.42	10.12	38.38	44.10	44.82	54	-9.18	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)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.183	57.78	5.94	35.40	44.00	55.12	74	-18.88	PK
V	4679.183	43.96	5.94	35.40	44.00	41.30	54	-12.70	AV
V	11510.006	55.74	8.46	39.75	44.50	59.45	74	-14.55	PK
V	11510.006	43.20	8.46	39.75	44.50	46.91	54	-7.09	AV
V	17265.185	57.21	10.12	38.80	44.10	62.03	68.2	-6.17	PK
V	17265.185	43.92	10.12	38.80	42.70	50.14	54	-3.86	AV
H	4679.008	60.03	5.94	35.18	44.00	57.15	74	-16.85	PK
H	4679.008	43.59	5.94	35.18	44.00	40.71	54	-13.29	AV
H	11510.084	53.69	8.46	38.71	44.50	56.36	74	-17.64	PK
H	11510.084	42.47	8.46	38.71	44.50	45.14	54	-8.86	AV
H	17265.114	52.25	10.12	38.38	44.10	56.65	68.2	-11.55	PK
H	17265.114	40.17	10.12	38.38	44.10	44.57	54	-9.43	AV
High Channel (5795 MHz)-Above 1G									
V	6039.196	59.07	6.48	36.35	44.05	57.85	68.2	-10.35	PK
V	6039.196	43.07	6.48	36.35	44.05	41.85	54	-12.15	AV
V	11590.147	58.44	8.47	37.88	44.51	60.28	74	-13.72	PK
V	11590.147	43.90	8.47	37.88	44.51	45.74	54	-8.26	AV
V	17385.102	55.08	10.12	38.80	44.10	59.90	68.2	-8.30	PK
V	17385.102	41.50	10.12	38.80	42.70	47.72	54	-6.28	AV
H	6039.170	58.78	6.48	36.37	44.05	57.58	68.2	-10.62	PK
H	6039.170	43.12	6.48	36.37	44.05	41.92	54	-12.08	AV
H	11590.020	53.70	8.47	38.64	44.50	56.31	74	-17.69	PK
H	11590.020	42.22	8.47	38.64	44.50	44.83	54	-9.17	AV
H	17385.025	51.72	10.12	38.38	44.10	56.12	68.2	-12.08	PK
H	17385.025	43.57	10.12	38.38	44.10	47.97	54	-6.03	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-HT80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
(5775 MHz)-Above 1G									
V	4679.166	59.21	5.94	35.40	44.00	56.55	74	-17.45	PK
V	4679.166	43.66	5.94	35.40	44.00	41.00	54	-13.00	AV
V	11550.018	58.53	8.46	39.75	44.50	62.24	74	-11.76	PK
V	11550.018	42.08	8.46	39.75	44.50	45.79	54	-8.21	AV
V	17325.122	58.23	10.12	38.80	44.10	63.05	68.2	-5.15	PK
V	17325.122	41.39	10.12	38.80	42.70	47.61	54	-6.39	AV
H	4679.183	55.66	5.94	35.18	44.00	52.78	74	-21.22	PK
H	4679.183	43.69	5.94	35.18	44.00	40.81	54	-13.19	AV
H	11550.080	53.69	8.46	38.71	44.50	56.36	74	-17.64	PK
H	11550.080	41.71	8.46	38.71	44.50	44.38	54	-9.62	AV
H	17325.048	51.34	10.12	38.38	44.10	55.74	68.2	-12.46	PK
H	17325.048	43.90	10.12	38.38	44.10	48.30	54	-5.70	AV

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

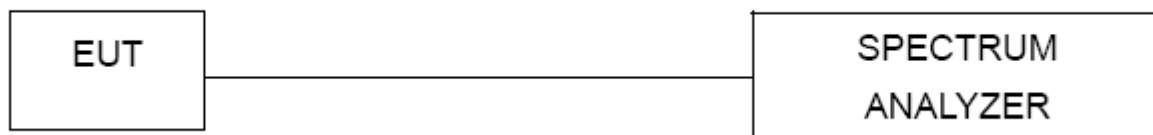
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

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 Wifi Repeater 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 Wifi Repeater 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 Wifi Repeaters 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

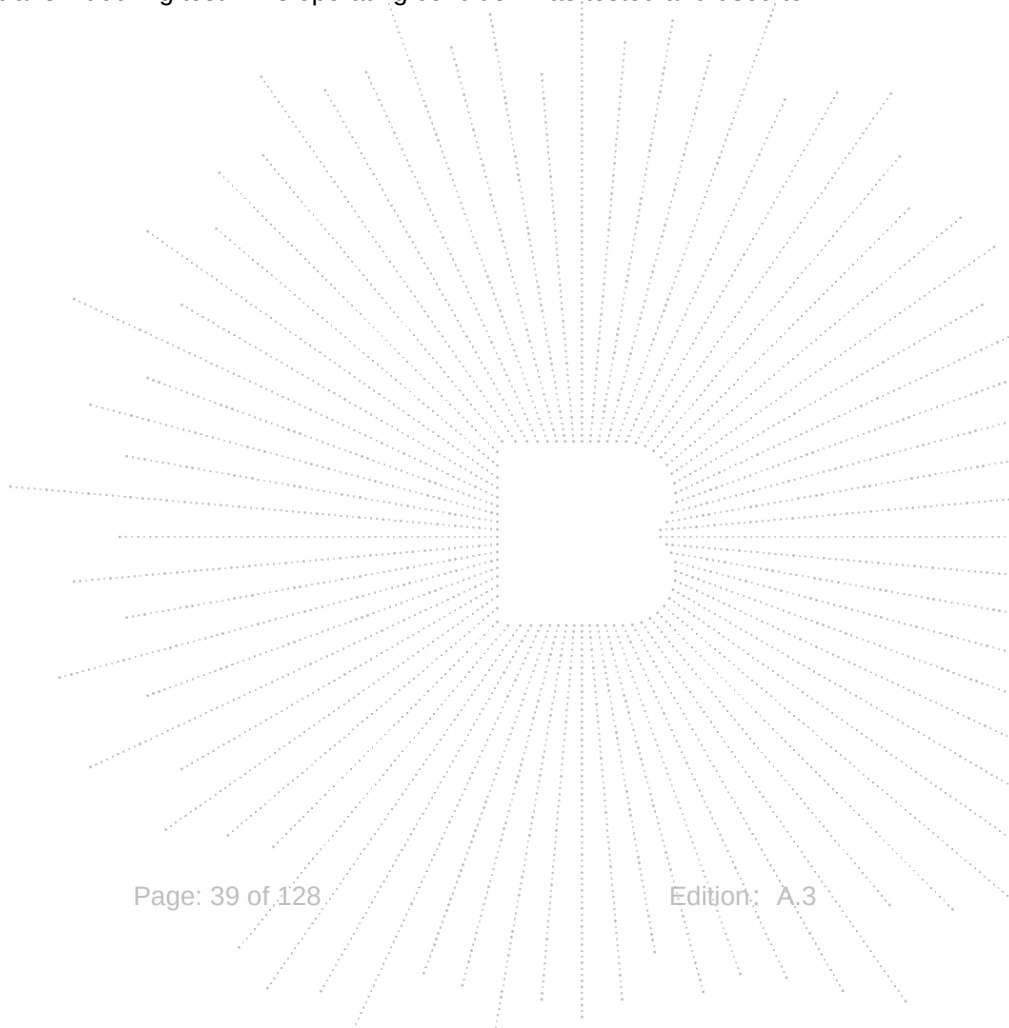
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 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 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 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 KHz is available on nearly all spectrum analyzers.

8.4 EUT operating Conditions

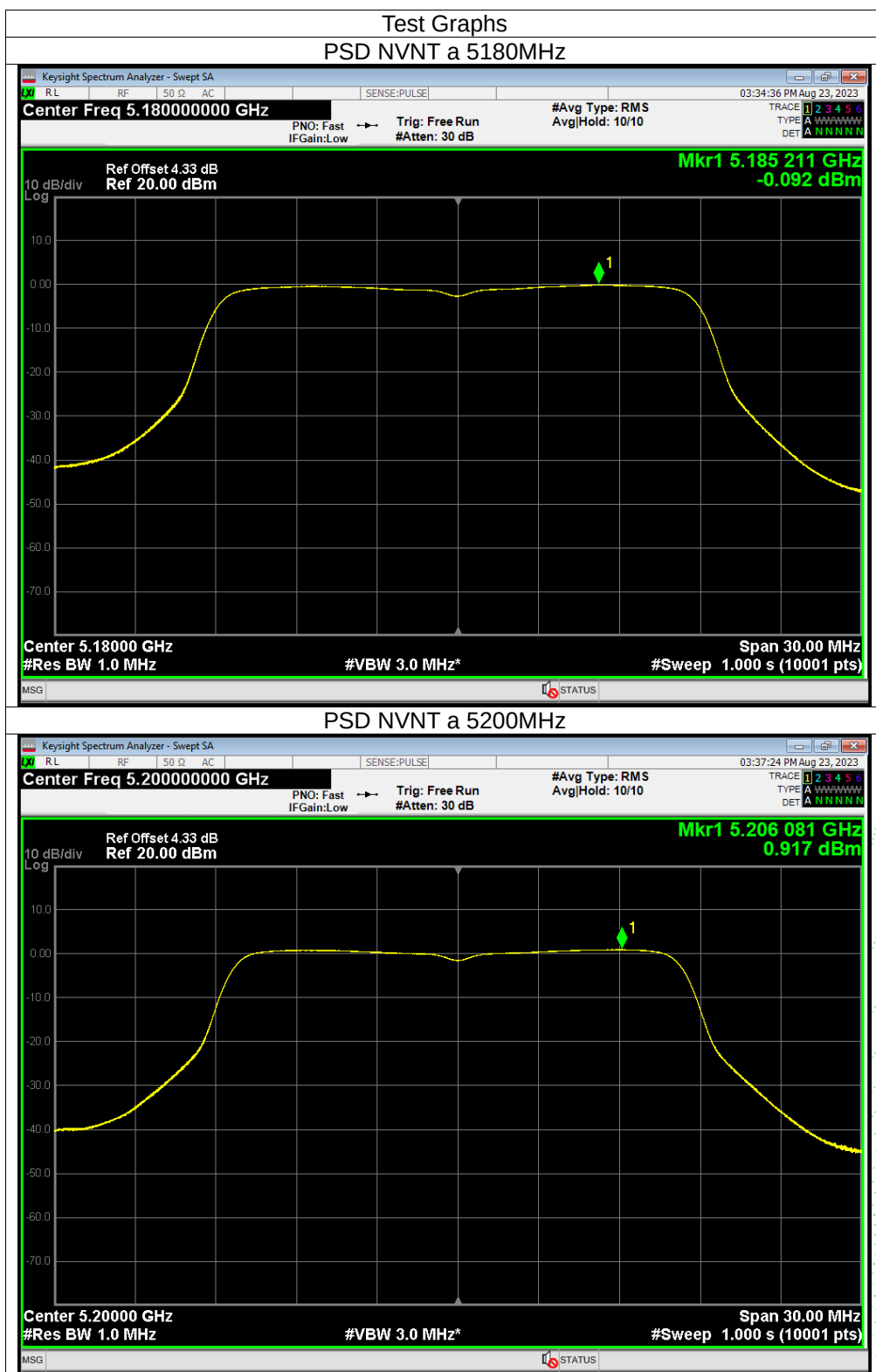
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

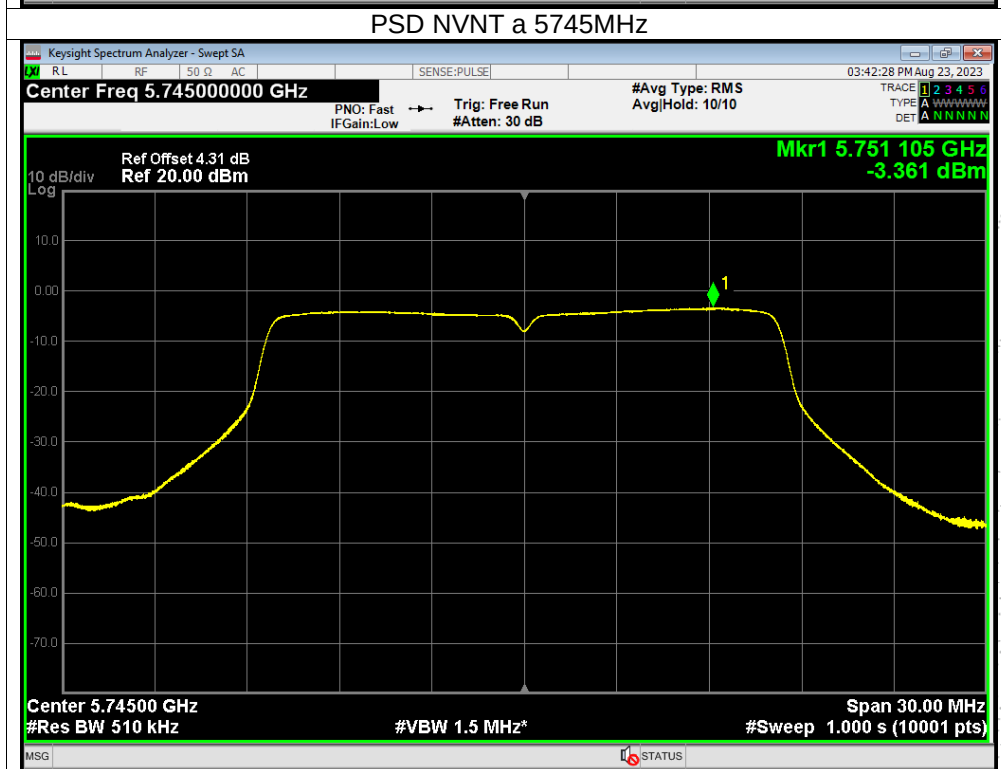
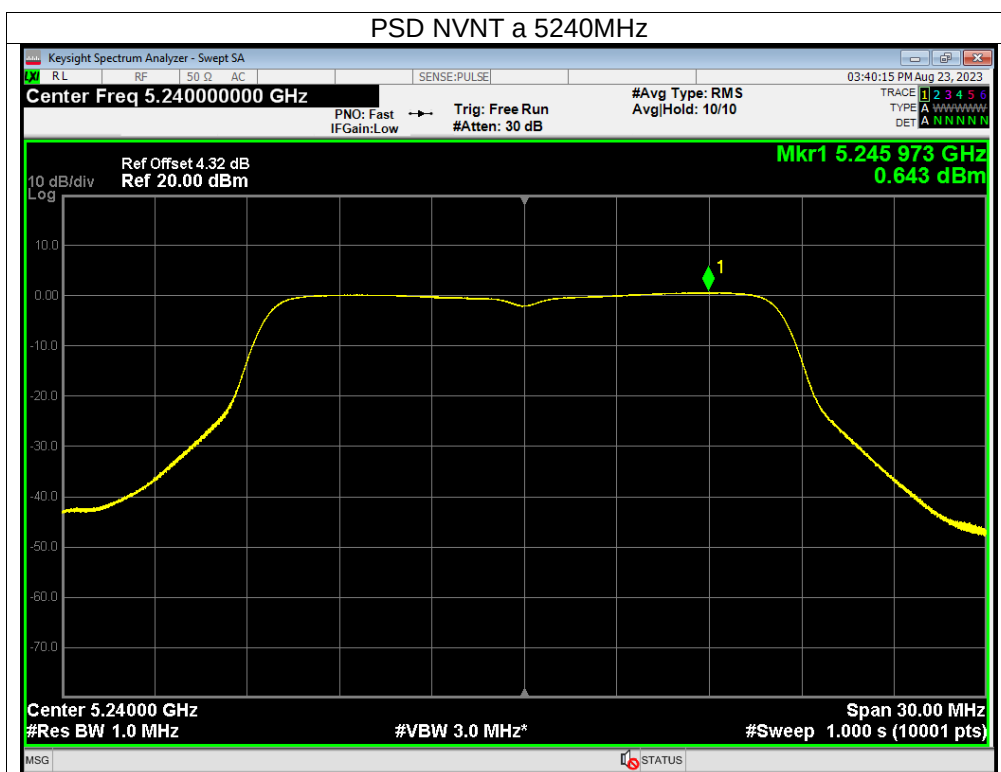


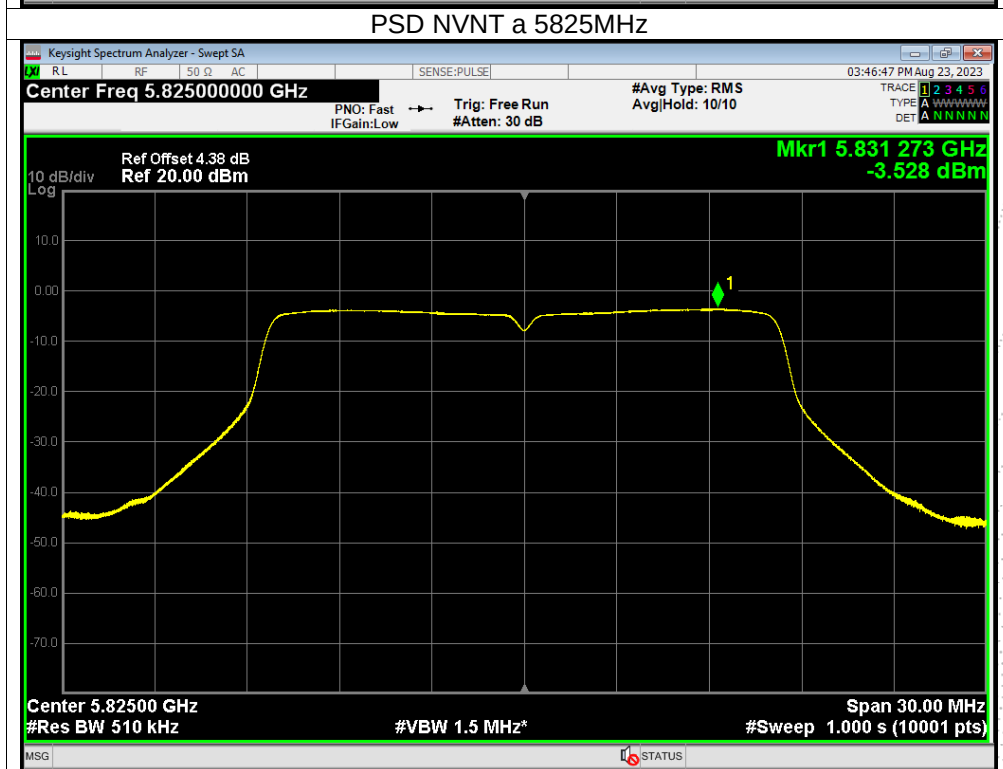
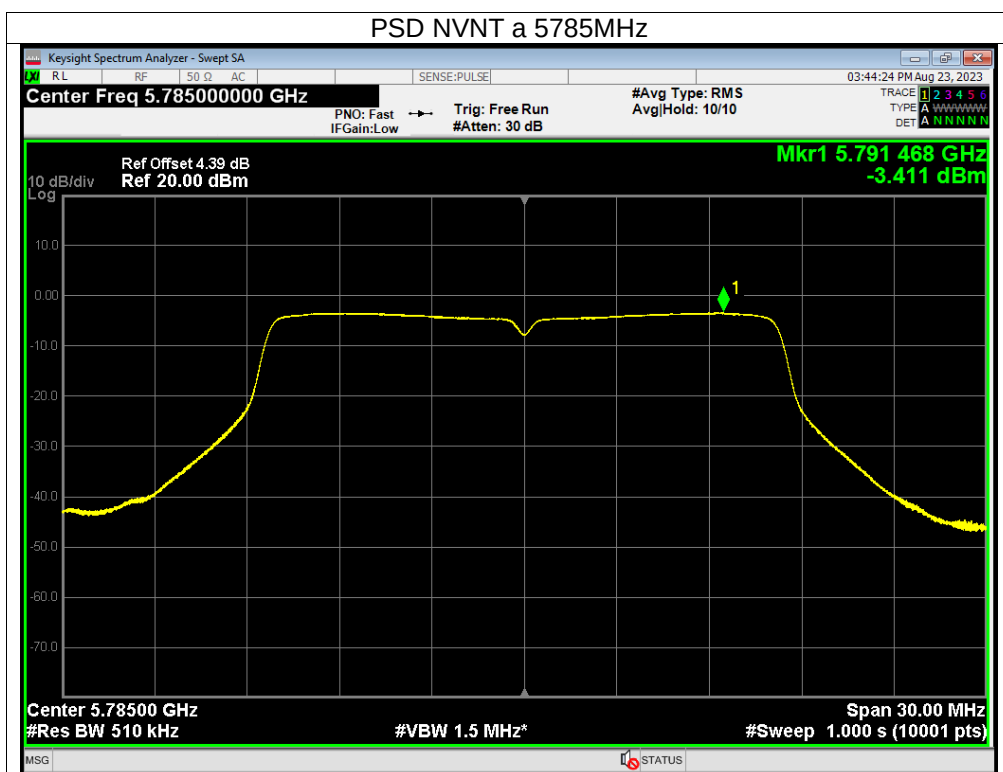
8.5 Test Result

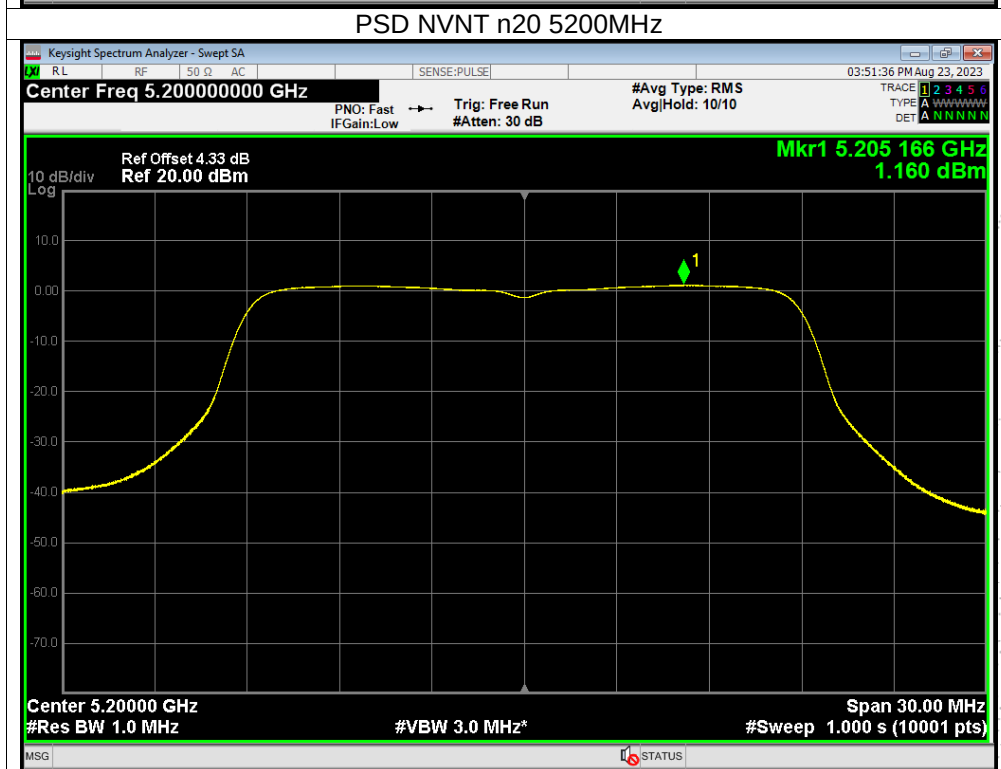
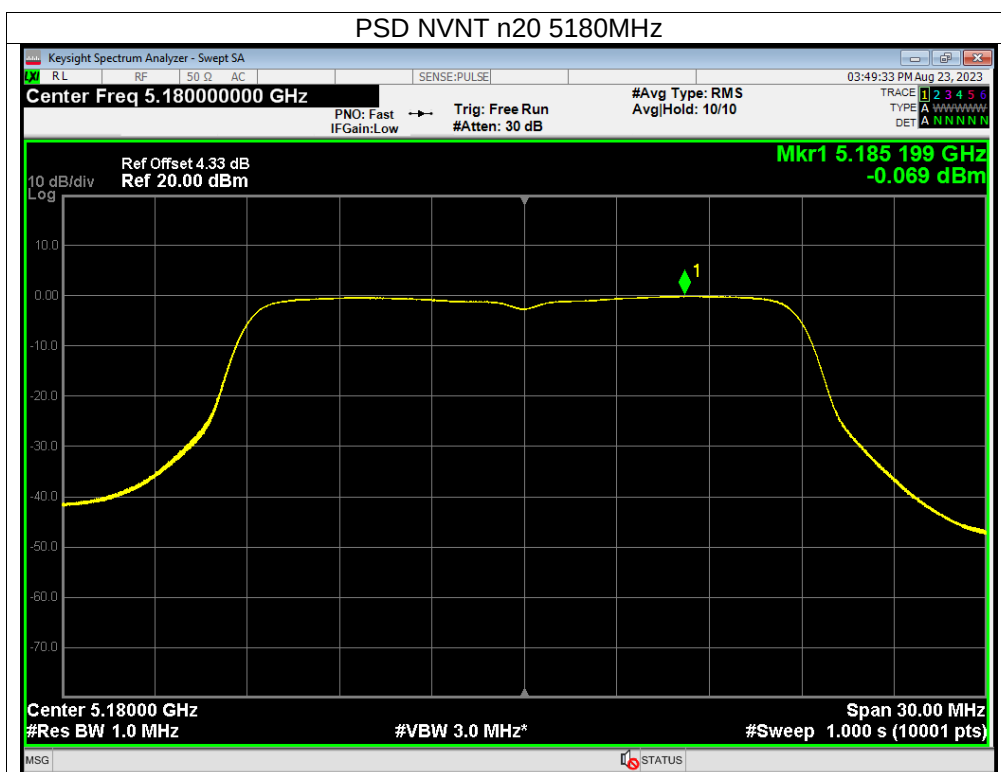
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 7.4V
Test Mode:	(5180-5240MHz); (5745-5825MHz)		

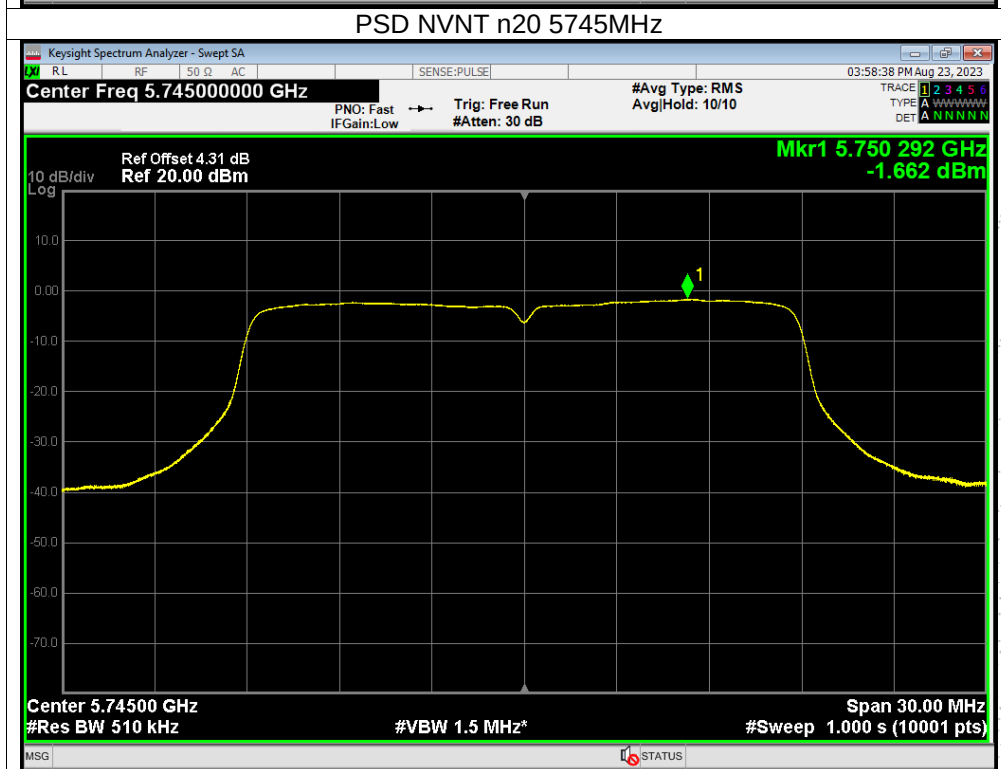
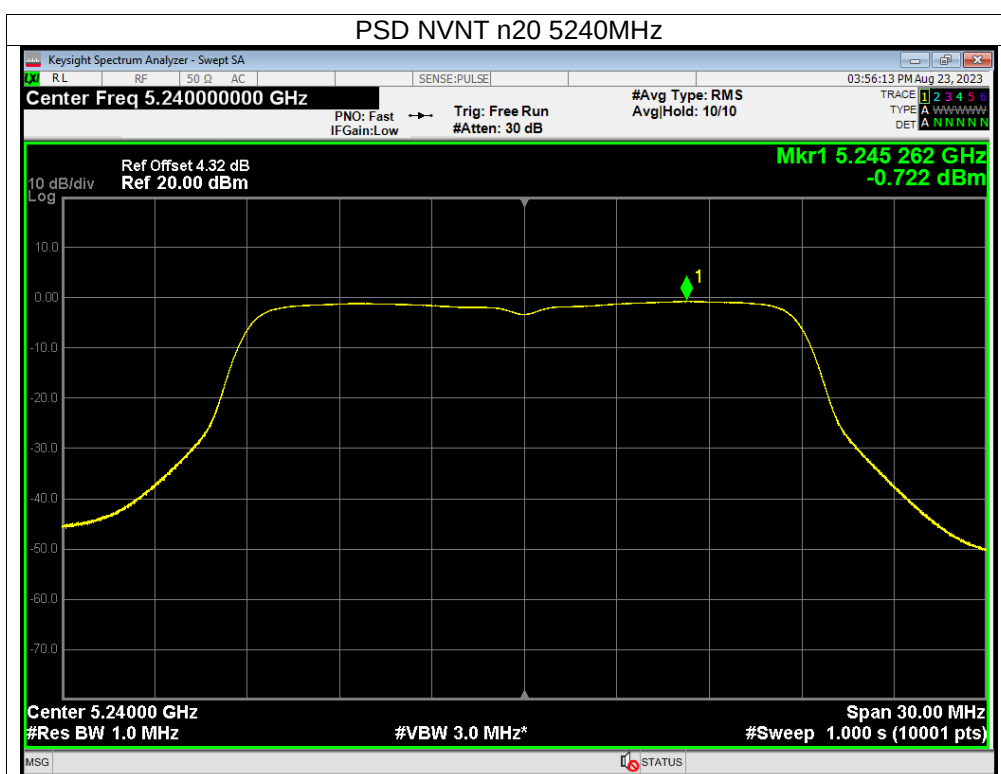
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	-0.09	11	Pass
NVNT	a	5200	0.92	11	Pass
NVNT	a	5240	0.64	11	Pass
NVNT	a	5745	-3.36	30	Pass
NVNT	a	5785	-3.41	30	Pass
NVNT	a	5825	-3.53	30	Pass
NVNT	n20	5180	-0.07	11	Pass
NVNT	n20	5200	1.16	11	Pass
NVNT	n20	5240	-0.72	11	Pass
NVNT	n20	5745	-1.66	30	Pass
NVNT	n20	5785	-1.56	30	Pass
NVNT	n20	5825	-1.66	30	Pass
NVNT	n40	5190	-2.72	11	Pass
NVNT	n40	5230	-0.66	11	Pass
NVNT	n40	5755	-5.27	30	Pass
NVNT	n40	5795	-5.45	30	Pass
NVNT	ac20	5180	-0.05	11	Pass
NVNT	ac20	5200	1.06	11	Pass
NVNT	ac20	5240	-0.73	11	Pass
NVNT	ac20	5745	0.67	30	Pass
NVNT	ac20	5785	-1.64	30	Pass
NVNT	ac20	5825	0.70	30	Pass
NVNT	ac40	5190	-2.50	11	Pass
NVNT	ac40	5230	-0.69	11	Pass
NVNT	ac40	5755	-5.27	30	Pass
NVNT	ac40	5795	-5.18	30	Pass
NVNT	ac80	5210	-7.76	11	Pass
NVNT	ac80	5775	-8.50	30	Pass

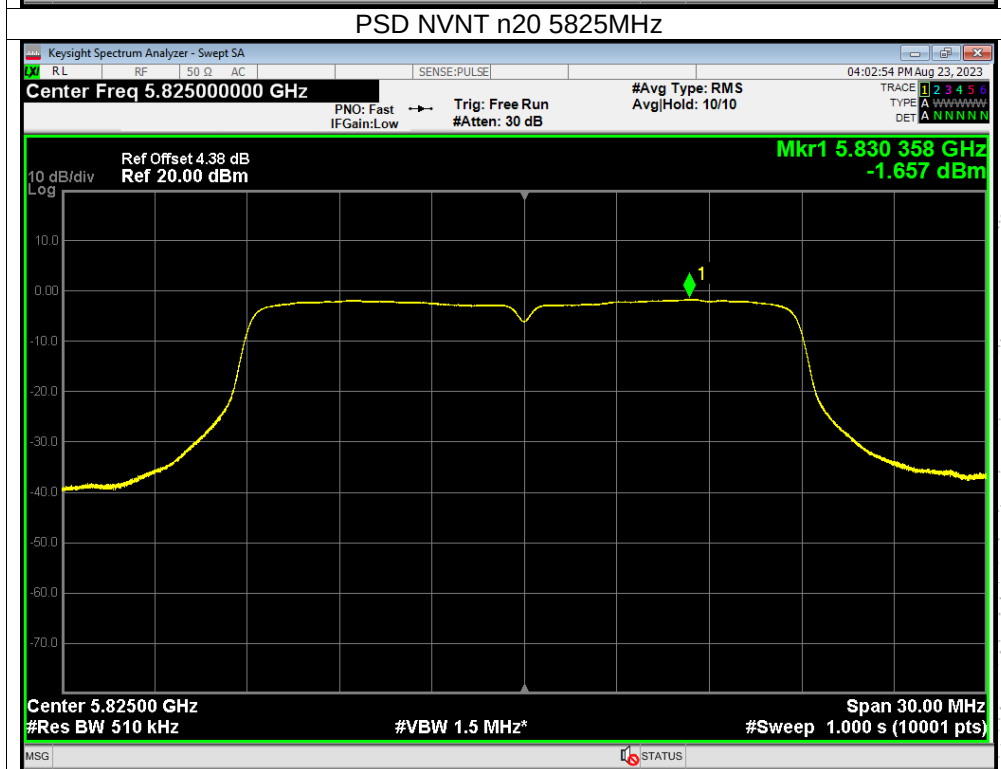
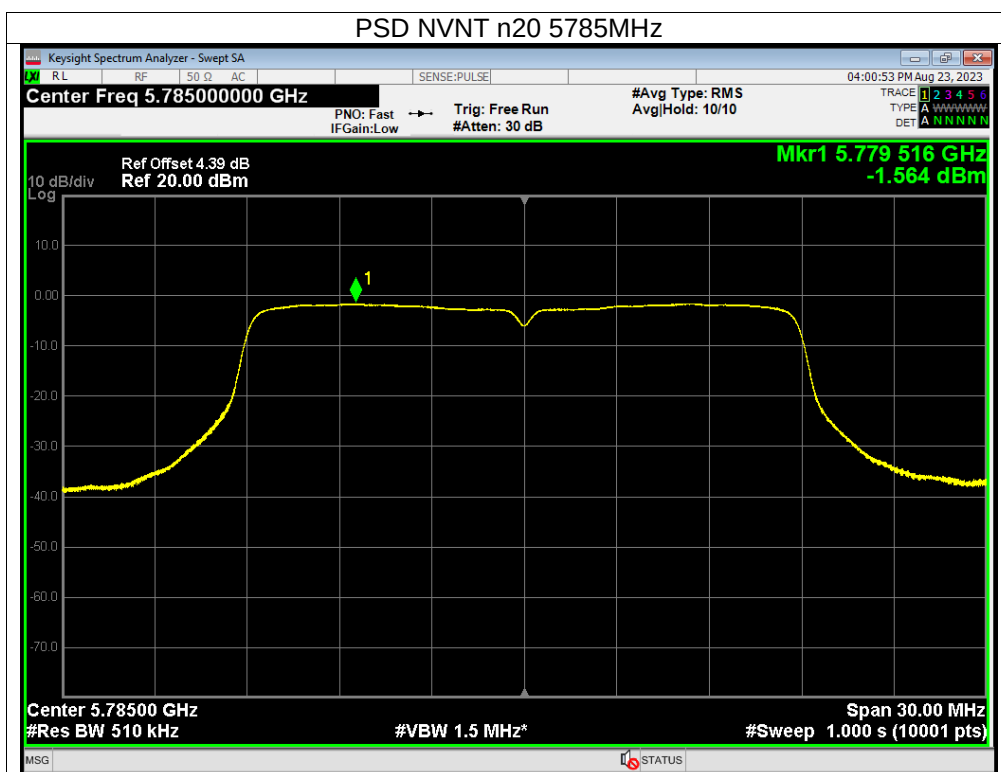


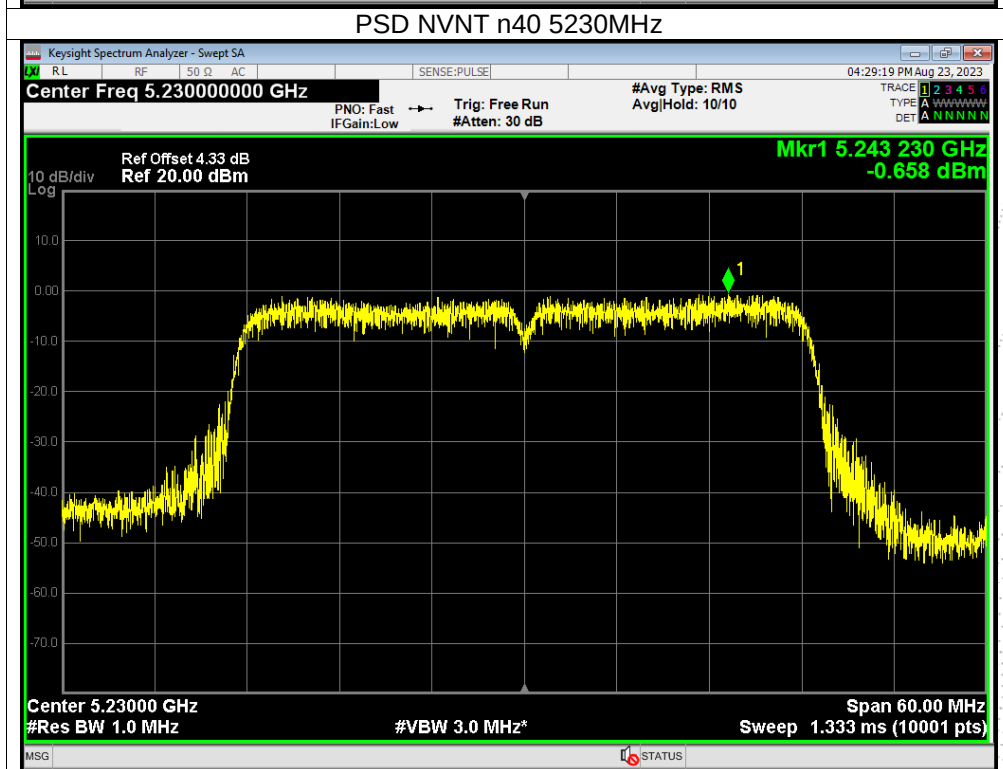
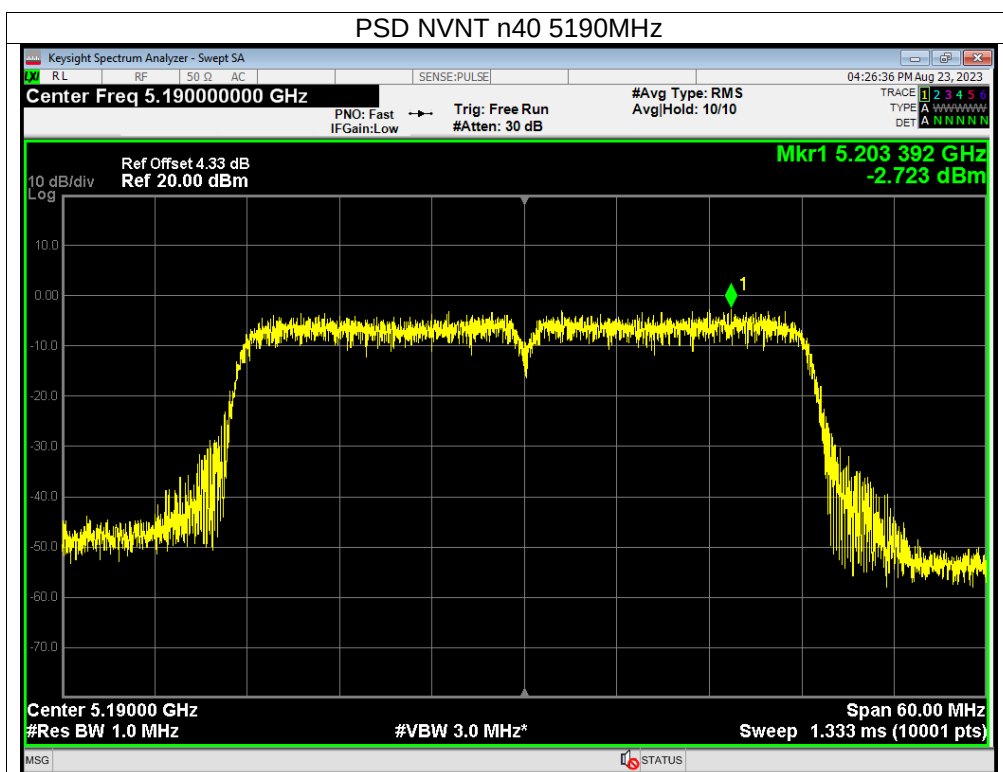


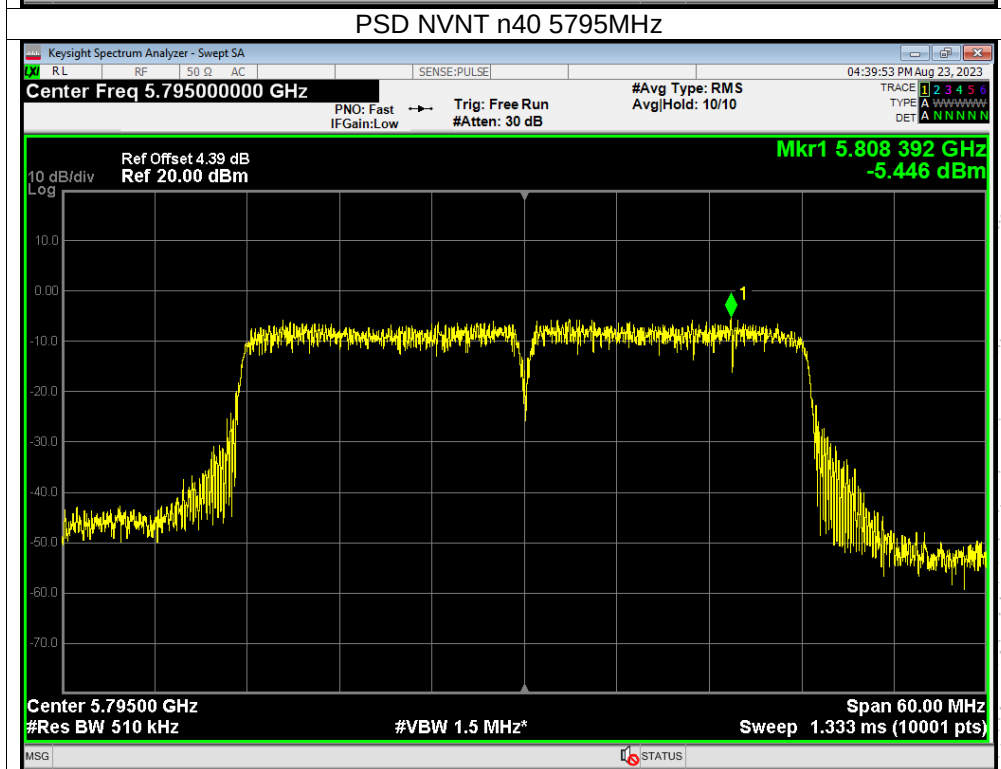
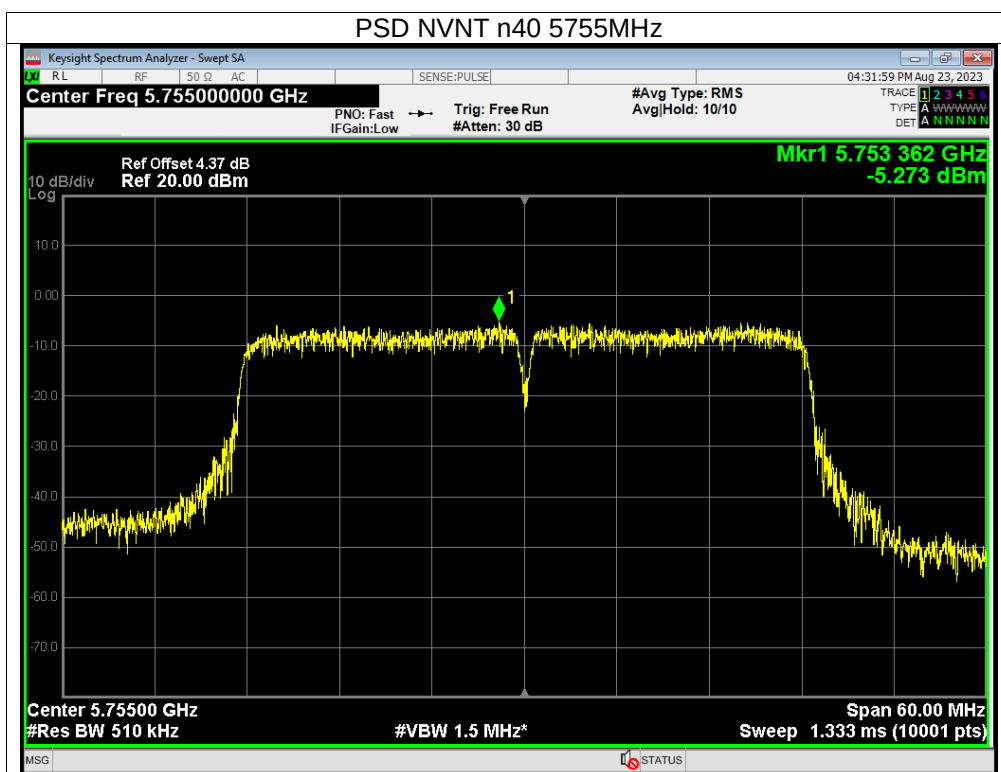


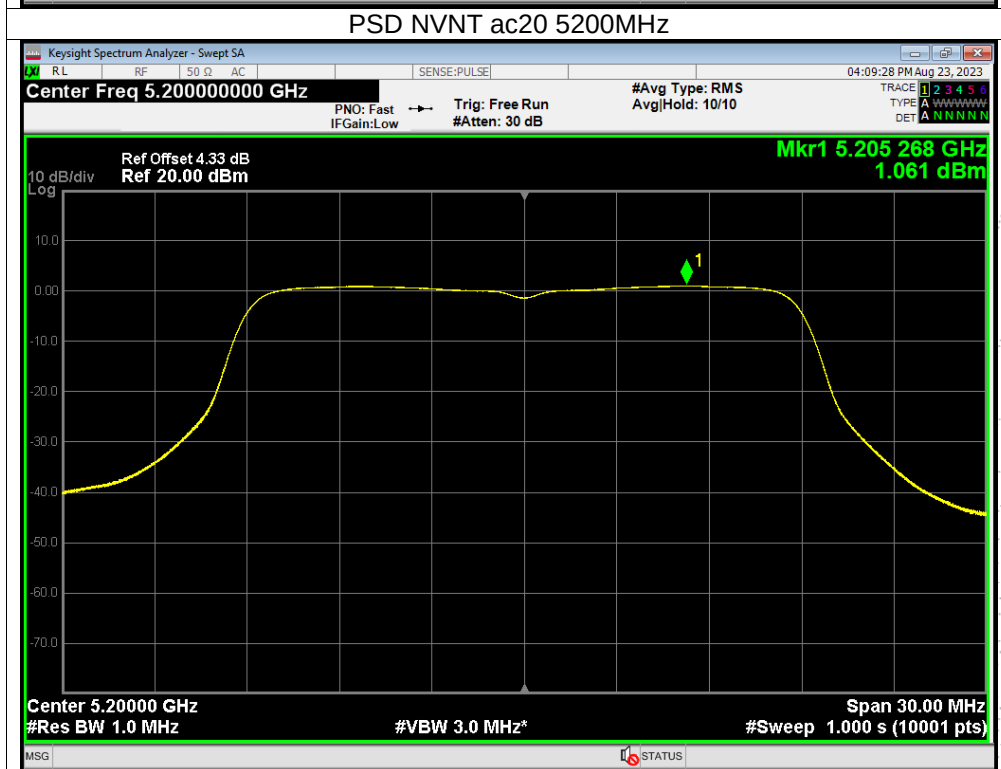
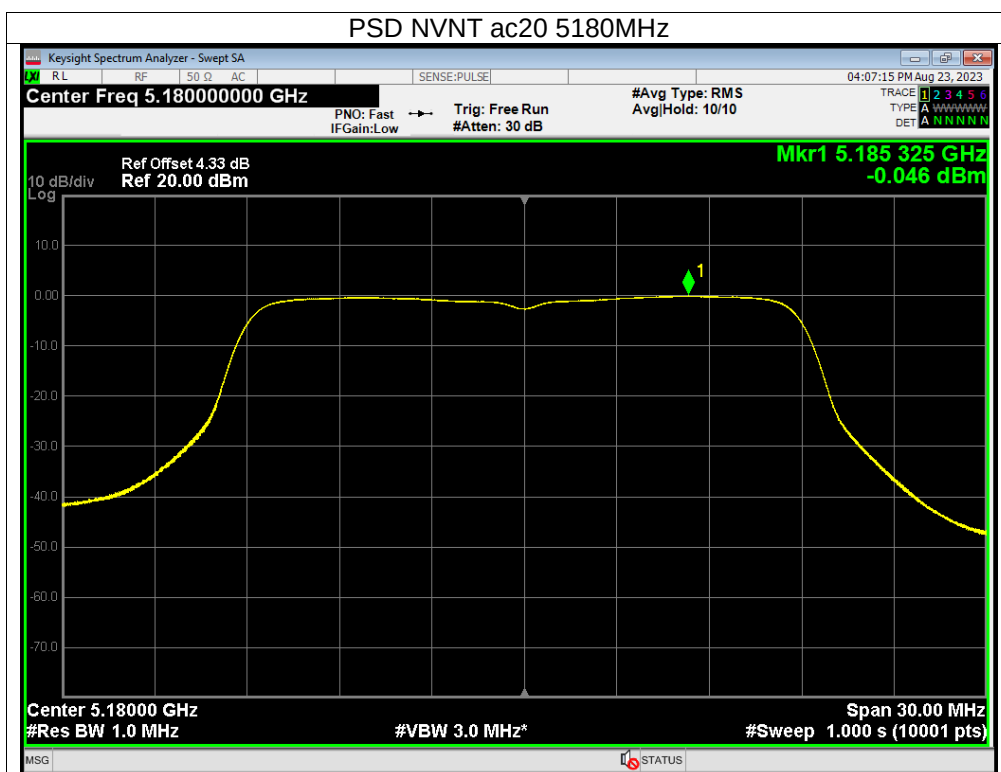


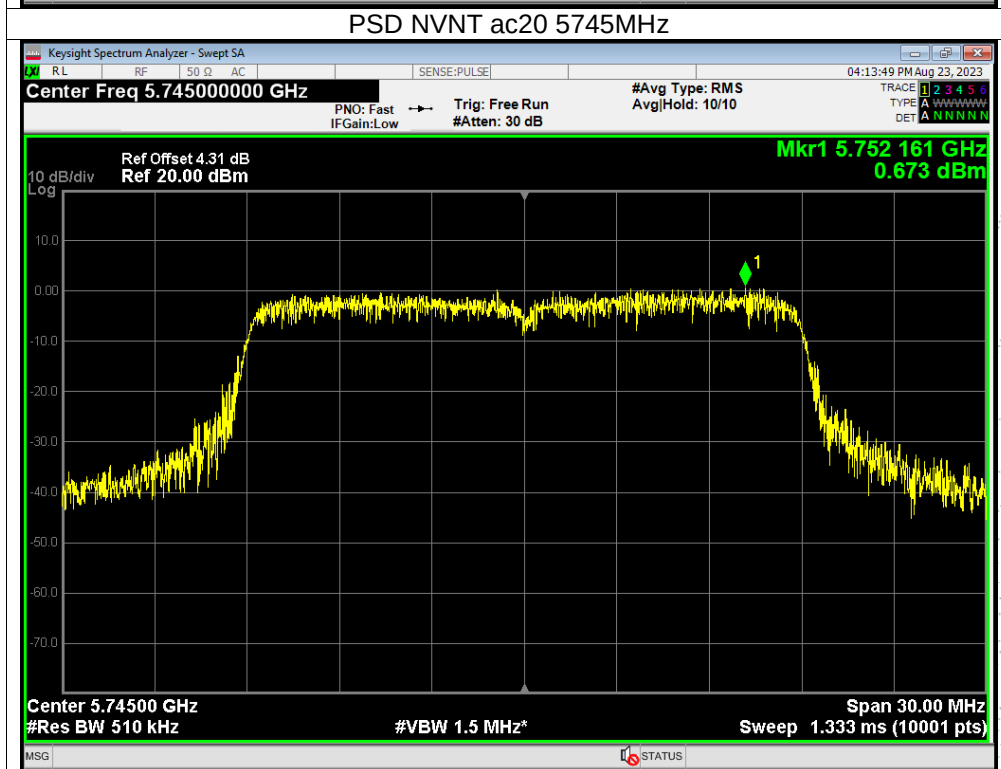
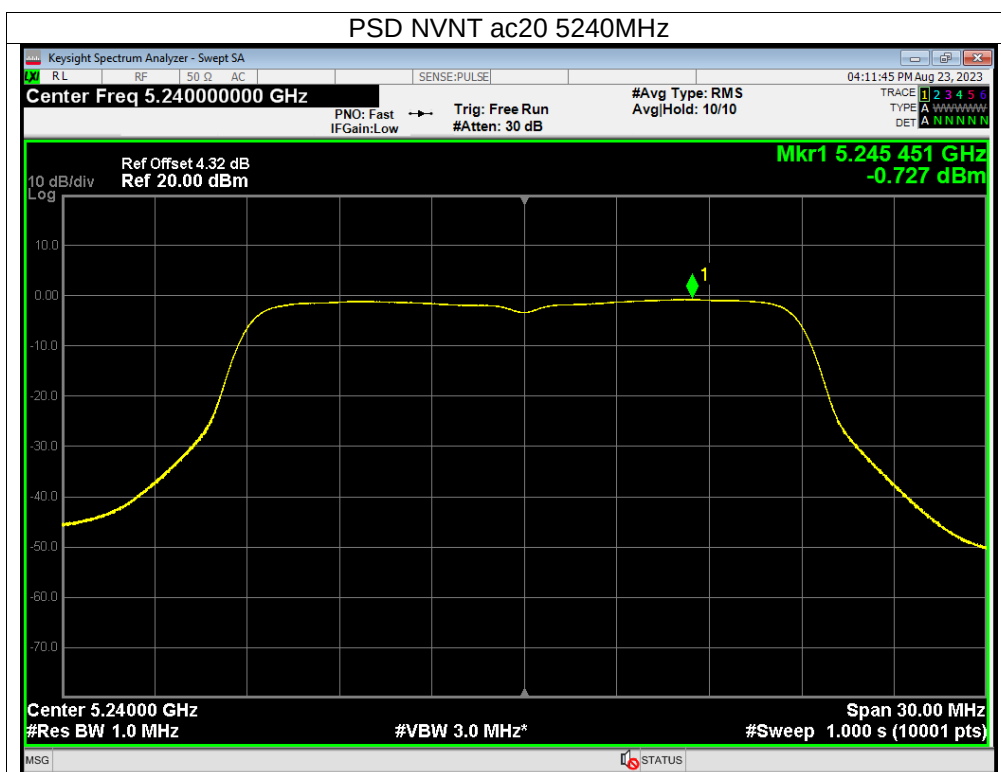


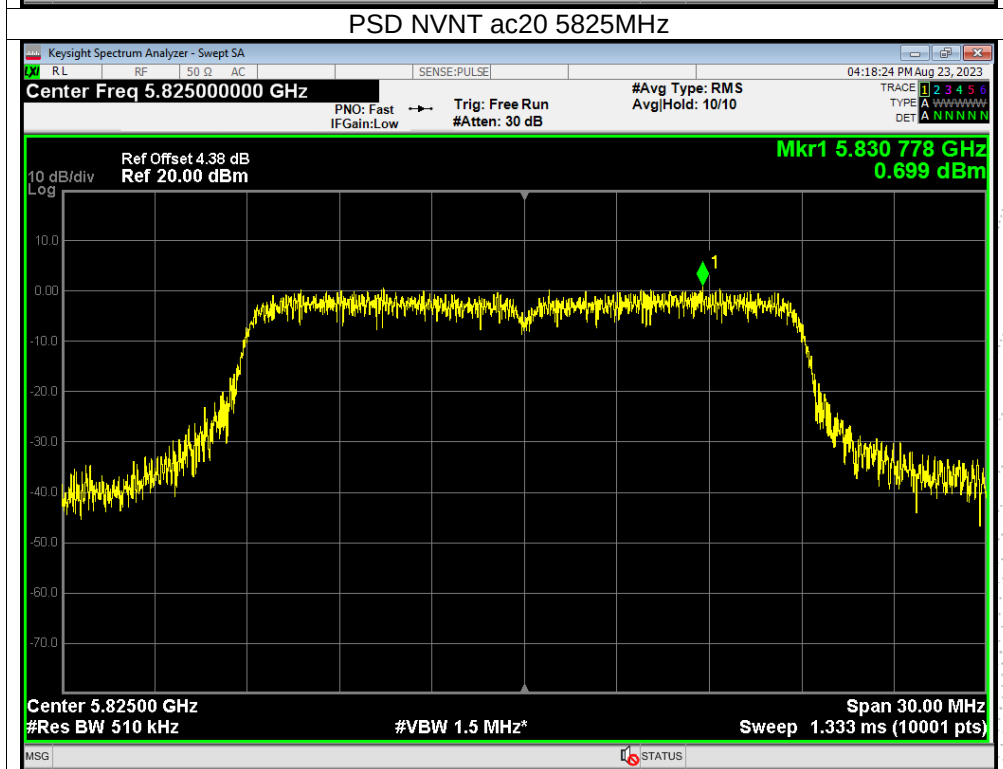
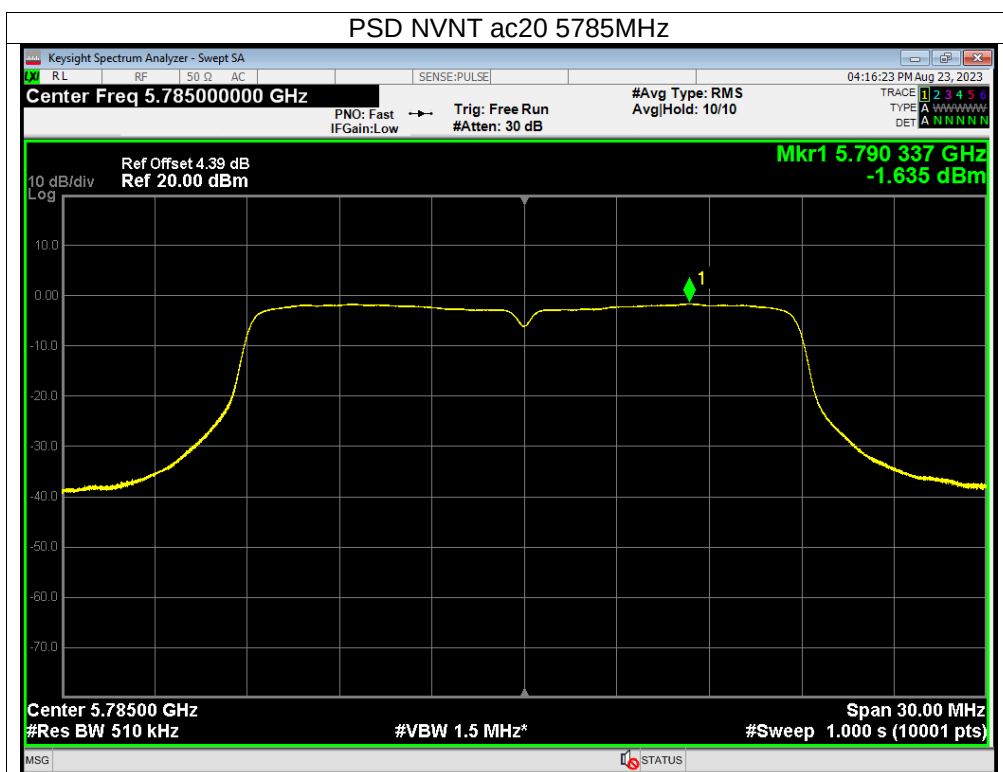


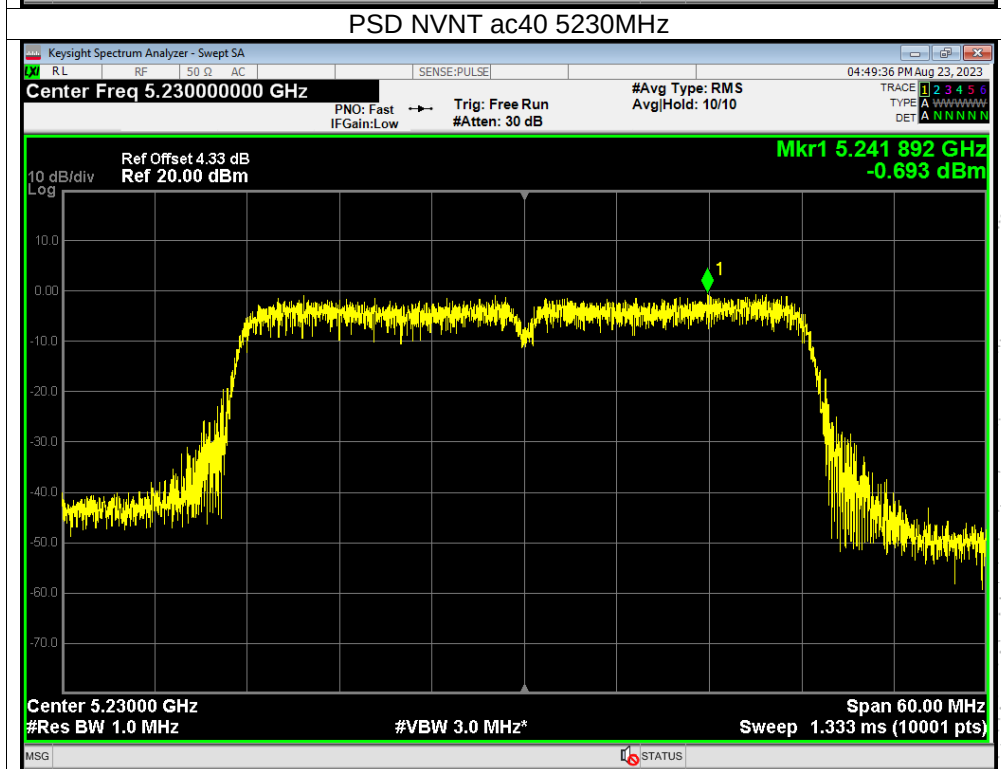
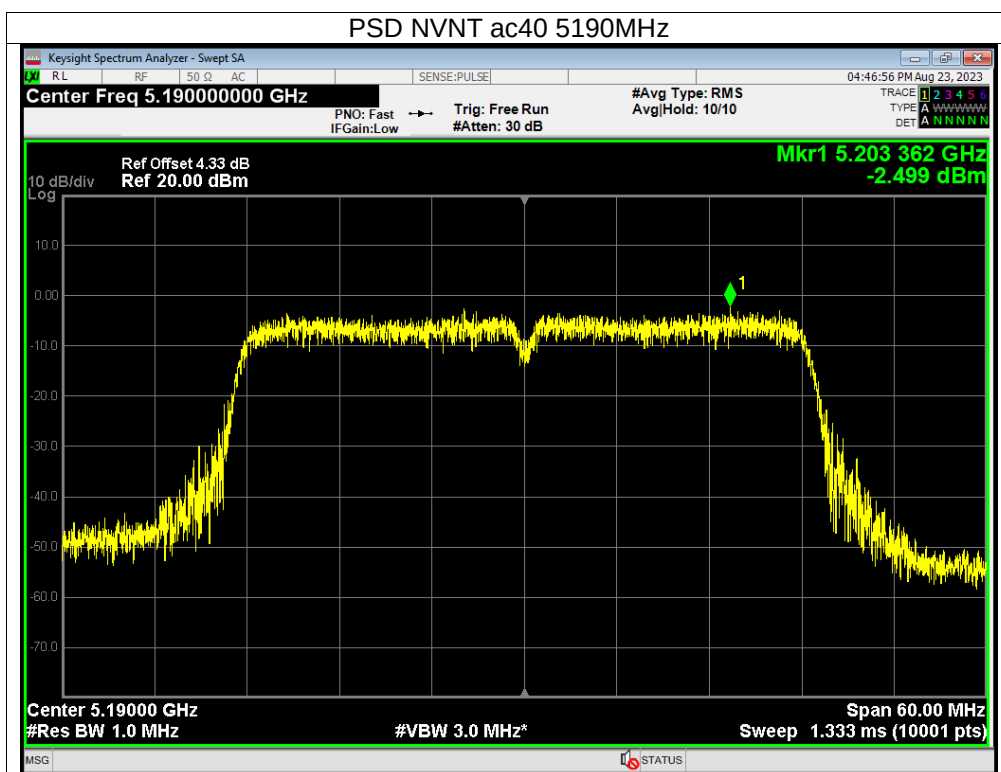


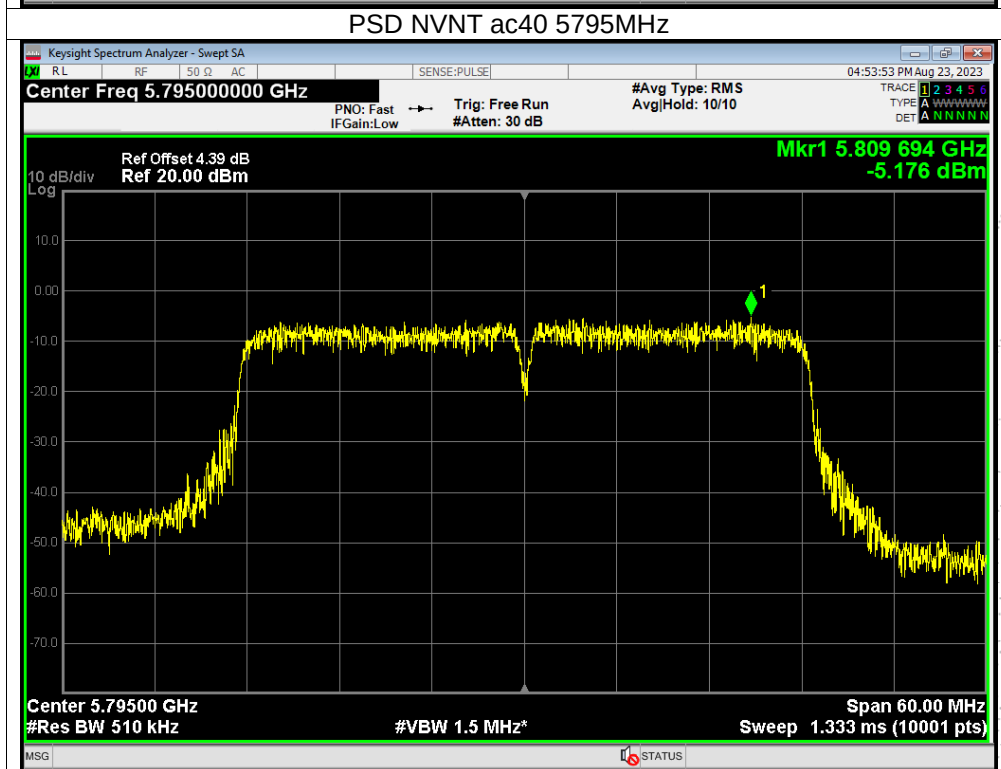
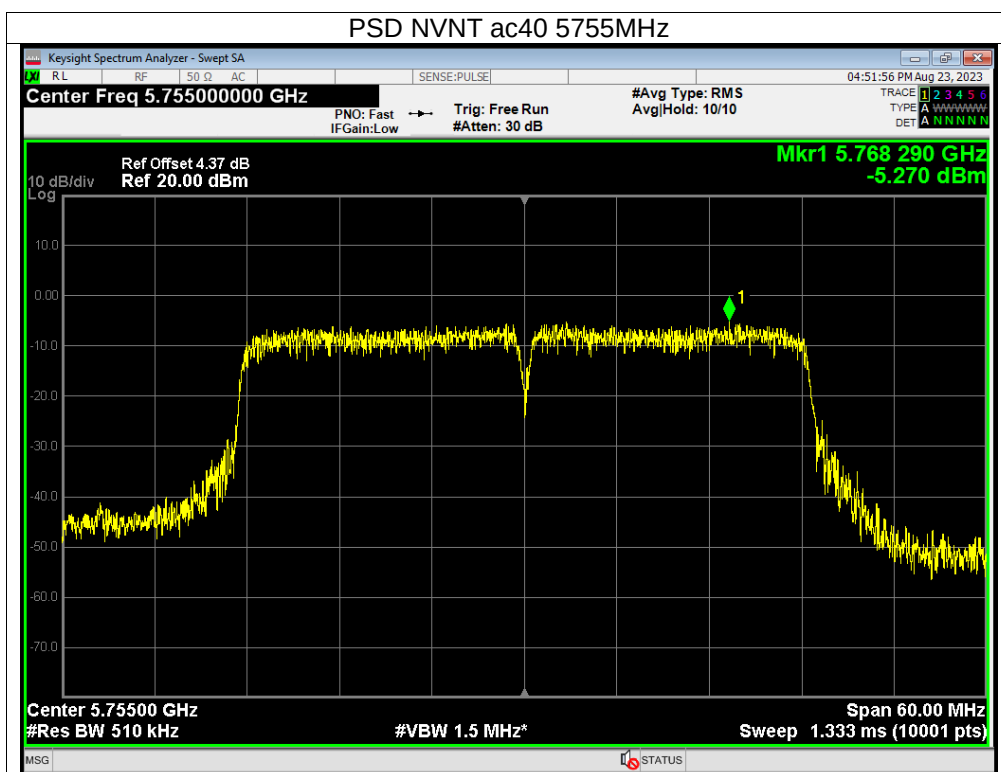


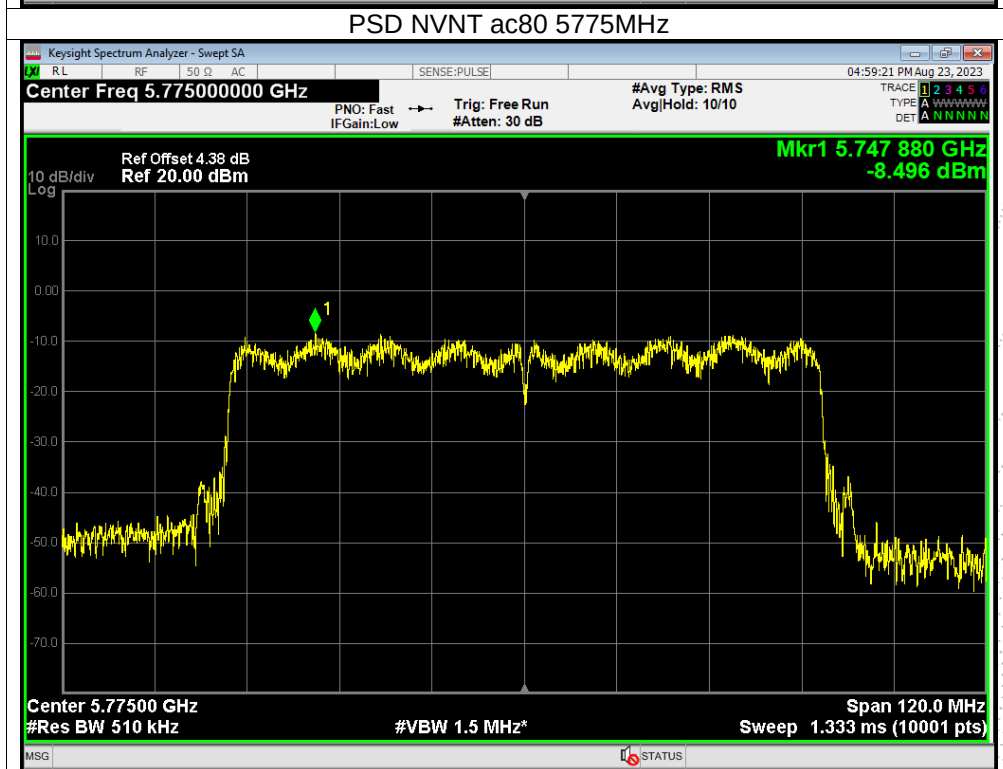
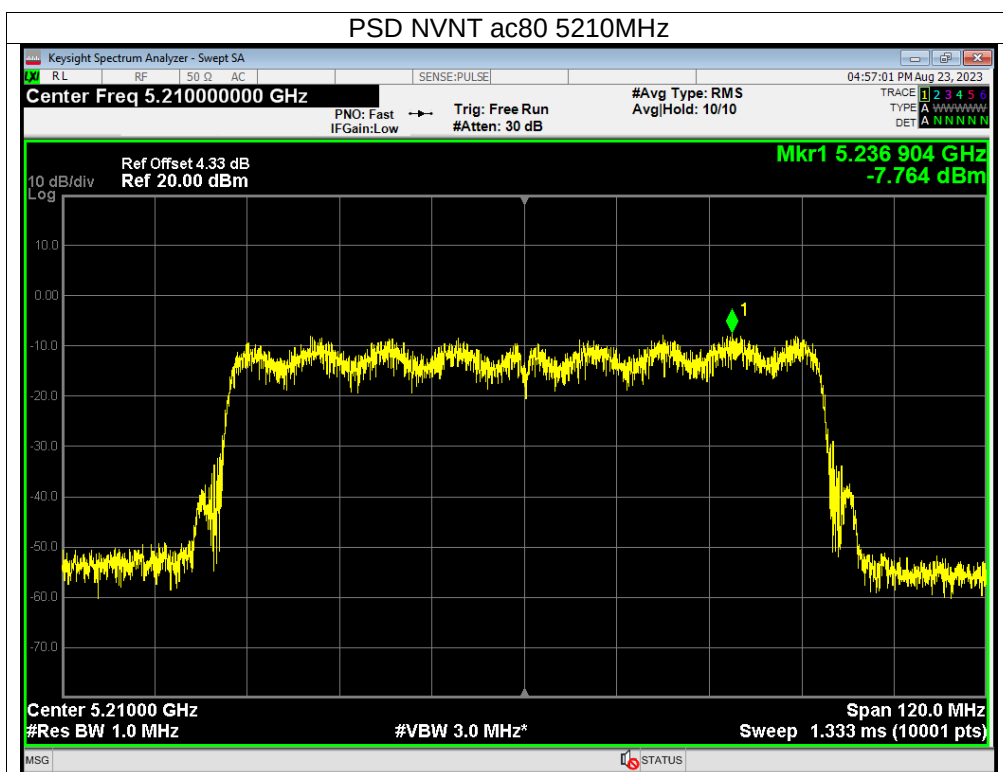






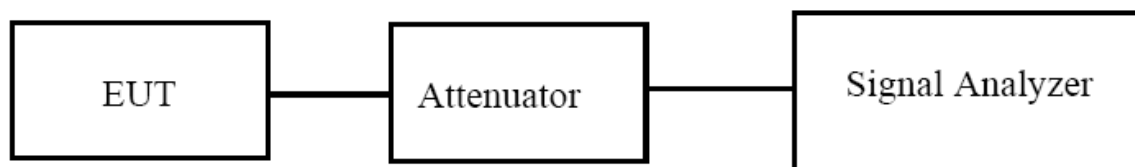






9. 26dB & 6dB & 99% Emission Bandwidth

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.

9.3 Test procedure

a) Set RBW = approximately 1% of the emission bandwidth.

b) Set the VBW > RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) 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:

1. Set center frequency to the nominal EUT channel center frequency.

2. Set span = 1.5 times to 5.0 times the OBW.

3. Set RBW = 1 % to 5 % of the OBW

4. Set VBW $\geq 3 \cdot$ RBW

5. 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.

6. Use the 99 % power bandwidth function of the instrument (if available).

7. 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.

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 7.4V
Test Mode:	(5180-5240MHz), (5745-5825MHz)		

Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	21.537	Pass
NVNT	a	5200	20.663	Pass
NVNT	a	5240	20.663	Pass
NVNT	n20	5180	21.468	Pass
NVNT	n20	5200	21.432	Pass
NVNT	n20	5240	21.460	Pass
NVNT	n40	5190	40.930	Pass
NVNT	n40	5230	41.054	Pass
NVNT	ac20	5180	21.396	Pass
NVNT	ac20	5200	21.509	Pass
NVNT	ac20	5240	21.395	Pass
NVNT	ac40	5190	41.197	Pass
NVNT	ac40	5230	40.868	Pass
NVNT	ac80	5210	79.677	Pass

Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	16.501	0.5	Pass
NVNT	a	5785	16.489	0.5	Pass
NVNT	a	5825	16.535	0.5	Pass
NVNT	n20	5745	17.702	0.5	Pass
NVNT	n20	5785	17.652	0.5	Pass
NVNT	n20	5825	17.646	0.5	Pass
NVNT	n40	5755	36.435	0.5	Pass
NVNT	n40	5795	36.383	0.5	Pass
NVNT	ac20	5745	17.713	0.5	Pass
NVNT	ac20	5785	17.735	0.5	Pass
NVNT	ac20	5825	17.673	0.5	Pass
NVNT	ac40	5755	36.383	0.5	Pass
NVNT	ac40	5795	36.405	0.5	Pass
NVNT	ac80	5775	76.321	0.5	Pass

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 7.4V
Test Mode:	(5180-5240MHz), (5745-5825MHz)		

Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	a	5180	17.642
NVNT	a	5200	16.511
NVNT	a	5240	16.511
NVNT	a	5745	16.534
NVNT	a	5785	16.540
NVNT	a	5825	16.540
NVNT	n20	5180	17.689
NVNT	n20	5200	17.655
NVNT	n20	5240	17.640
NVNT	n20	5745	17.676
NVNT	n20	5785	17.695
NVNT	n20	5825	17.684
NVNT	n40	5190	36.140
NVNT	n40	5230	36.194
NVNT	n40	5755	36.104
NVNT	n40	5795	36.136
NVNT	ac20	5180	17.647
NVNT	ac20	5200	17.662
NVNT	ac20	5240	17.657
NVNT	ac20	5745	17.677
NVNT	ac20	5785	17.711
NVNT	ac20	5825	17.689
NVNT	ac40	5190	36.105
NVNT	ac40	5230	36.185
NVNT	ac40	5755	36.113
NVNT	ac40	5795	36.122
NVNT	ac80	5210	75.586
NVNT	ac80	5775	75.422

