

TEST REPORT

Report No.: BCTC2310796681-3E

Applicant: Zhibotong (Shenzhen) Electronics Co.,Ltd.

Product Name: Wireless Router

Model/Type
reference: Z8102A

Tested Date: 2023-09-26 to 2023-11-13

Issued Date: 2023-12-21

Shenzhen BCTC Testing Co., Ltd.

FCC ID: 2AH9T-Z8102A

Product Name: Wireless Router

Trademark: N/A

Model/Type Ref.: Z8102A,Z8102,Z8102C,Z8102D,Z8102E,Z8102F,Z8102G,Z8102H,Z8102I,Z8102J,Z8102K,Z8102L,Z8102M

Prepared For: Zhibotong (Shenzhen) Electronics Co.,Ltd.

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Manufacturer: Zhibotong (Shenzhen) Electronics Co.,Ltd.

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Prepared By: Shenzhen BCTC Testing Co., Ltd.

Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei,
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Sample Received Date: 2023-09-26

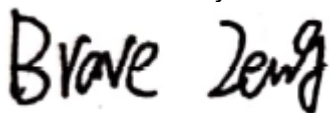
Sample tested Date: 2023-09-26 to 2023-11-13

Report No.: BCTC2310796681-3E

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

Test Results: PASS

Tested by:



Brave Zeng/ Project Handler

Approved by:



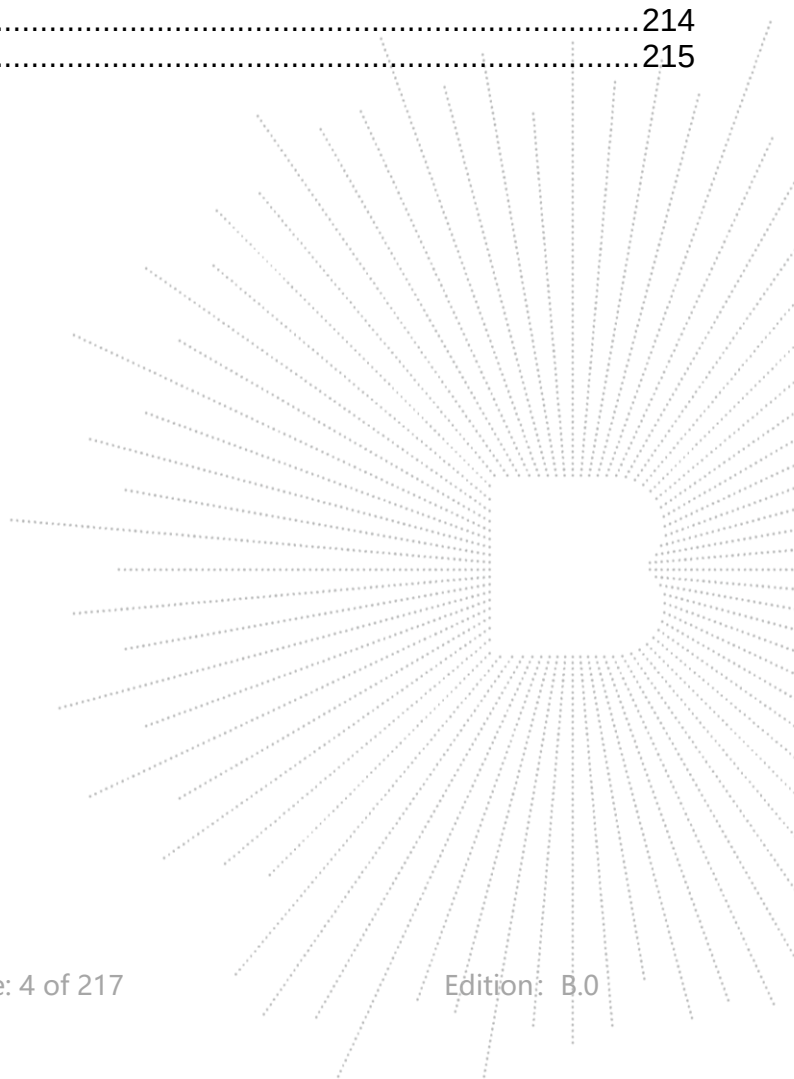
Zero Zhou/Reviewer

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1. Version

Report No.	Issue Date	Description	Approved
BCTC2310796681-3E	2023-12-21	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)	PASS
2	Conducted Emission	15.207	PASS
3	26 dB and 99% Emission Bandwidth	15.407 (a)	PASS
4	Minimum 6 dB bandwidth	15.407(e)	PASS
5	Maximum Conducted Output Power	15.407 (a)	PASS
6	Band Edge	15.407(b)	PASS
7	Power Spectral Density	15.407 (a)	PASS
8	Spurious Emissions at Antenna Terminals	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(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

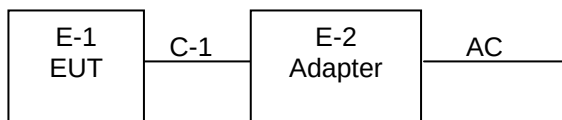
4.1 Product Information

Model/Type Ref.:	Z8102A,Z8102,Z8102C,Z8102D,Z8102E,Z8102F,Z8102G,Z8102H,Z8102I,Z8102J,Z8102K,Z8102L,Z8102M
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 finally have Z8102A as test model.
Hardware Version:	N/A
Software Version:	N/A
IEEE 802.11 WLAN Mode Supported	☒ 802.11a ☒ 802.11n(20MHz channel bandwidth) ☒ 802.11n(40MHz channel bandwidth) ☒ 802.11ac(20MHz channel bandwidth) ☒ 802.11ac(40MHz channel bandwidth) ☒ 802.11ac(80MHz channel bandwidth) ☒ 802.11ax(20MHz channel bandwidth) ☒ 802.11ax(40MHz channel bandwidth) ☒ 802.11ax(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n/ac(HT20)/ax(HE20); 5190-5230MHz for 802.11n/ac(HT40)/ax(HE40); 5210MHz for 802.11 ac/ax80; 5745-5825 MHz for 802.11a/n/ac(HT20)/ax(HE20); 5755-5795 MHz for 802.11n/ac(HT40)/ax(HE40); 5775MHz for 802.11 ac/ax80
Data Rate	☒ 802.11a:54/48/36/24/18/12/9/6Mbps ☒ 802.11n:up to 300 Mbps ☒ 802.11ac:up to 867 Mbps ☒ 802.11ax:up to 1201 Mbps
Type of Modulation:	☒ OFDM with BPSK/QPSK/16QAM/64QAM for 802.11a/n ☒ OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11ac ☒ OFDMA with 1024QAM for 802.11AX HE
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:	External antenna*3
Antenna Gain:	Antenna A & B&C: 5dBi
Power supply:	DC12V

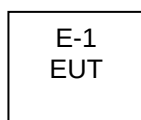
4.2 Test Setup Configuration

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	Wireless Router	N/A	Z8102A	N/A	EUT
E-2	Adapter	N/A	N/A	N/A	Auxiliary

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

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/ax(20 MHz) band IV (5180-5240MHz):

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

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

Frequency and Channel list for 802.11a/n/ac/ax(20 MHz) band IV (5745-5825MHz):

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

802.11ac/ax 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/ ax 20 CH36/ CH40/ CH 48 802.11a /n/ ac/ax 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac/ ax40 CH38/ CH 46 802.11n/ ac/ax40 CH 151 / CH 159
Mode 3	802.11 ac/ax80 CH 42/CH 155
Mode 4	Link Mode

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

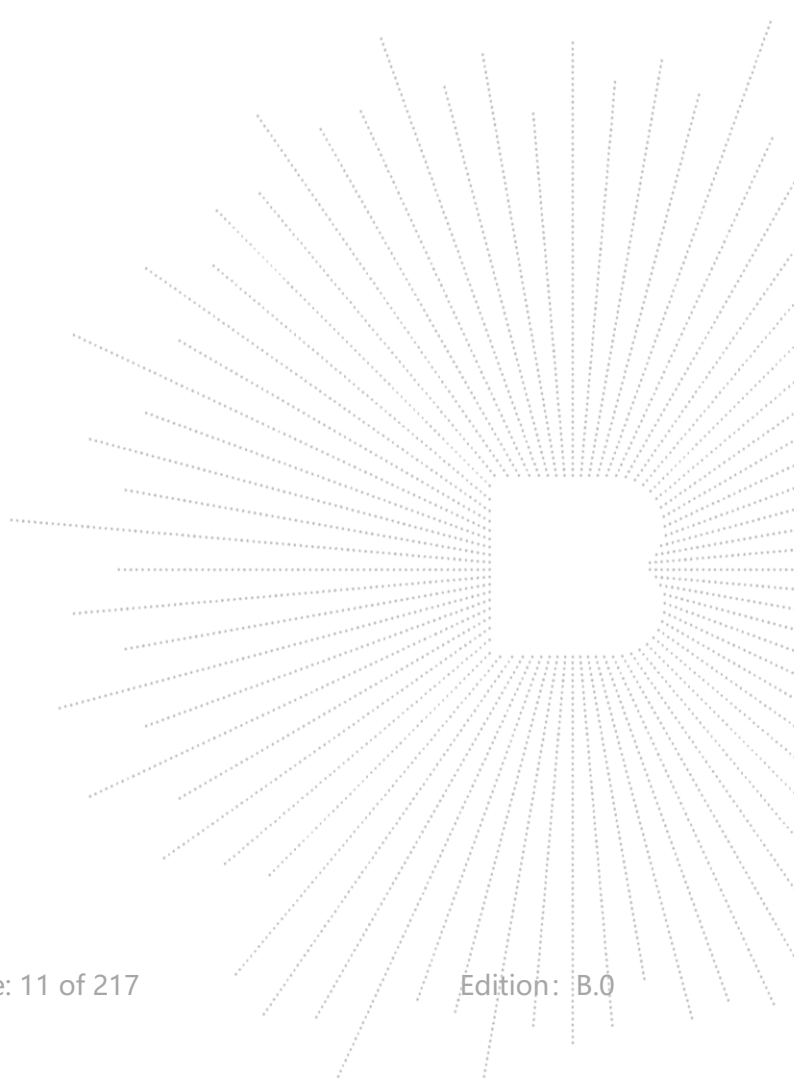
Test software Version	CMD		
Parameters	DEF	DEF	DEF

4.7 Antenna

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	External antenna	5	N/A
B	N/A	N/A	External antenna	5	N/A
C	N/A	N/A	External antenna	5	N/A

EUT has two External antennas with Max gain GANT 5dBi on every antenna, CDD device with one spatial streams, also can operat with one spatial streams according to KDB662911 D01 v02r01,

Directional gain = GANT + 10 log (NANT) dBi=5+10log (3) =9.771dBi



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

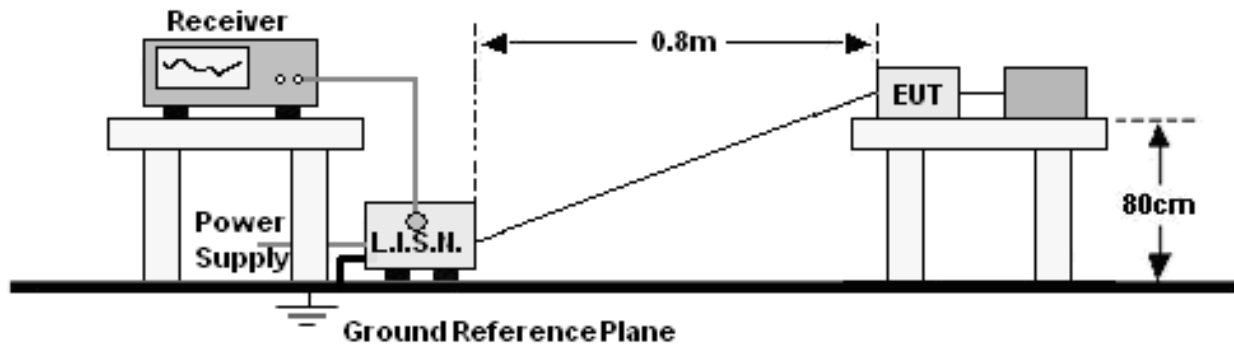
Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
LISN	R&S	ENV216	101375	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 15, 2023	May 14, 2024

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.

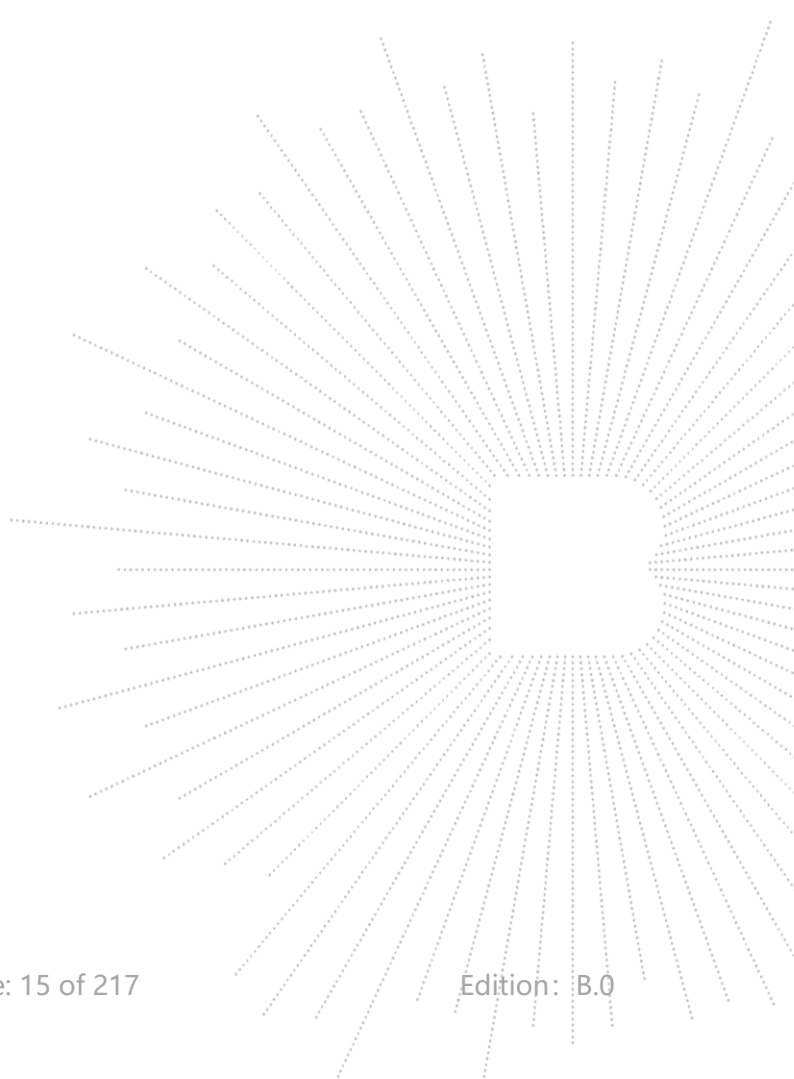
6.3 Test Procedure

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.

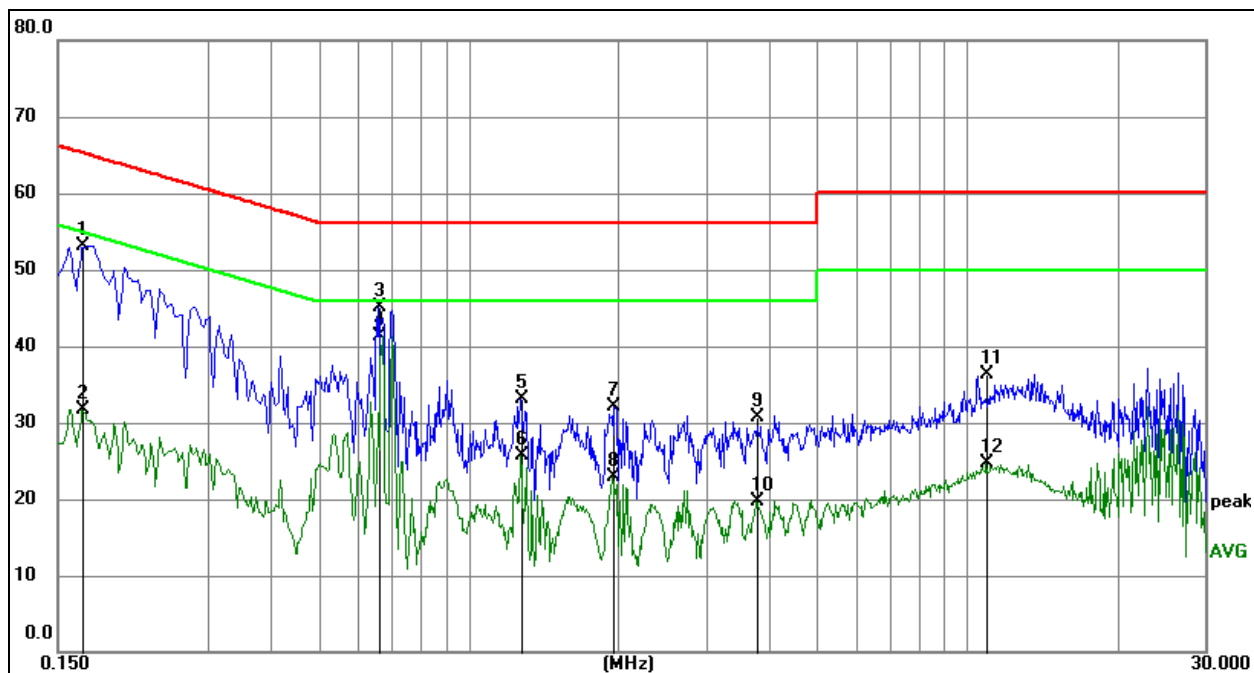
6.4 EUT Operating Conditions

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.



6.5 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	AC120/60Hz
Test Mode:	Mode 4	Polarization :	L

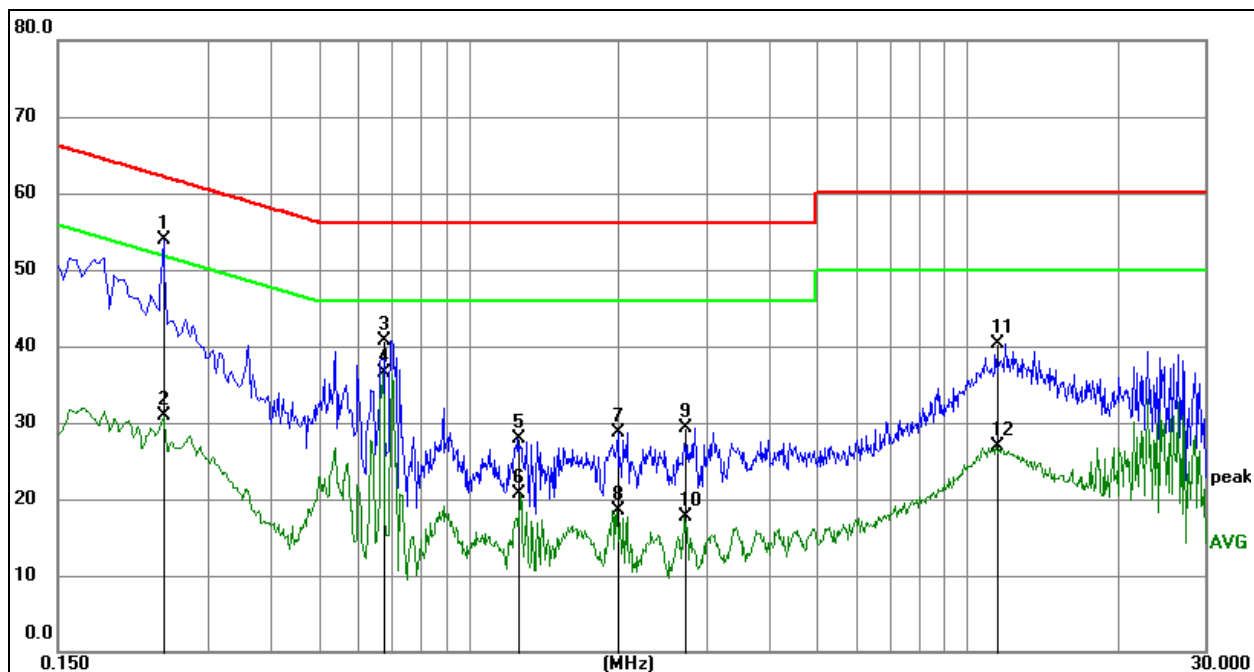


Remark:

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. Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1680	42.95	10.18	53.13	65.06	-11.93	QP	
2	0.1680	21.56	10.18	31.74	55.06	-23.32	AVG	
3	0.6585	34.86	10.19	45.05	56.00	-10.95	QP	
4 *	0.6585	31.12	10.19	41.31	46.00	-4.69	AVG	
5	1.2750	22.86	10.18	33.04	56.00	-22.96	QP	
6	1.2750	15.50	10.18	25.68	46.00	-20.32	AVG	
7	1.9455	22.05	10.10	32.15	56.00	-23.85	QP	
8	1.9455	12.76	10.10	22.86	46.00	-23.14	AVG	
9	3.7860	20.57	10.23	30.80	56.00	-25.20	QP	
10	3.7860	9.47	10.23	19.70	46.00	-26.30	AVG	
11	10.9545	25.86	10.44	36.30	60.00	-23.70	QP	
12	10.9545	14.18	10.44	24.62	50.00	-25.38	AVG	

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	AC120/60Hz
Test Mode:	Mode 4	Polarization :	N



Remark:

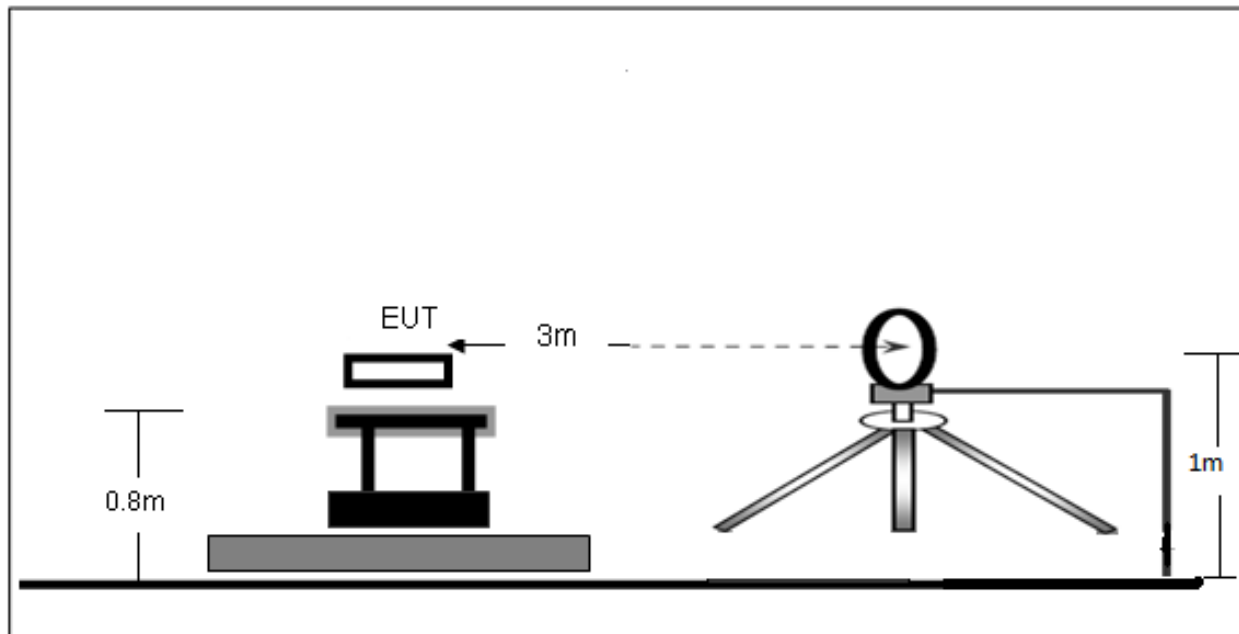
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No. Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1 *	0.2445	43.89	10.19	53.88	61.94	-8.06	QP	
2	0.2445	20.79	10.19	30.98	51.94	-20.96	AVG	
3	0.8720	30.80	10.19	40.79	56.00	-15.21	QP	
4	0.8720	26.27	10.19	36.46	46.00	-9.54	AVG	
5	1.2615	17.75	10.18	27.93	56.00	-28.07	QP	
6	1.2615	10.60	10.18	20.78	46.00	-25.22	AVG	
7	1.9815	18.68	10.09	28.77	56.00	-27.23	QP	
8	1.9815	8.48	10.09	18.57	46.00	-27.43	AVG	
9	2.7195	19.07	10.15	29.22	56.00	-26.78	QP	
10	2.7195	7.50	10.15	17.65	46.00	-28.35	AVG	
11	11.4720	29.83	10.45	40.28	60.00	-19.72	QP	
12	11.4720	16.48	10.45	26.93	50.00	-23.07	AVG	

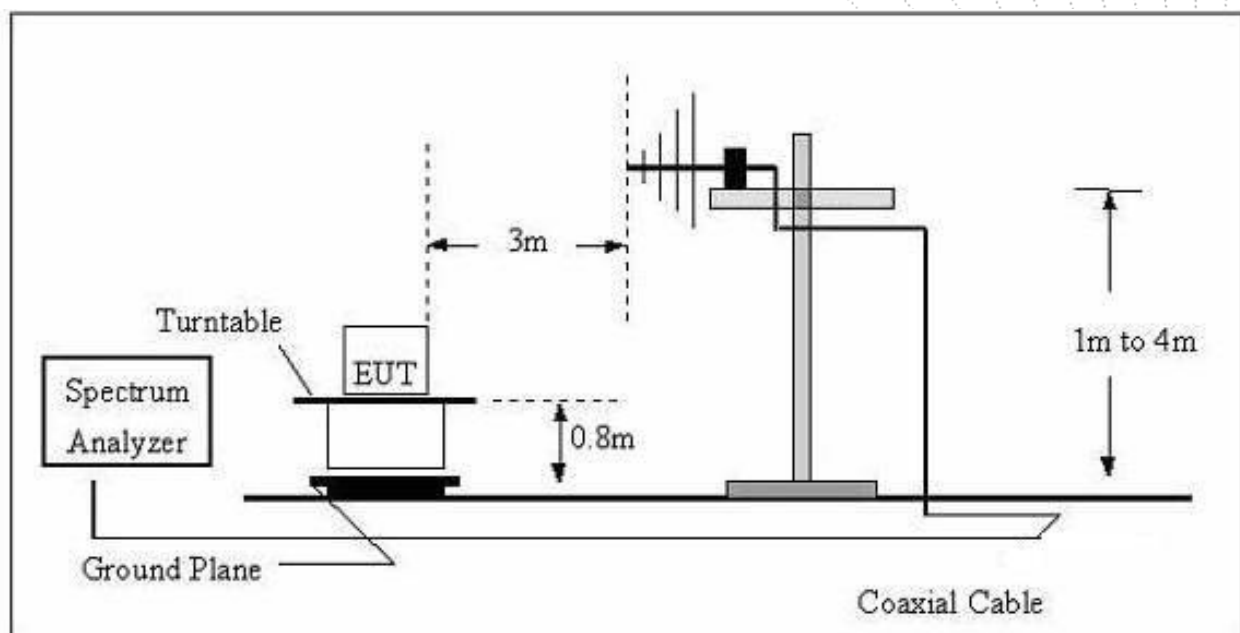
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

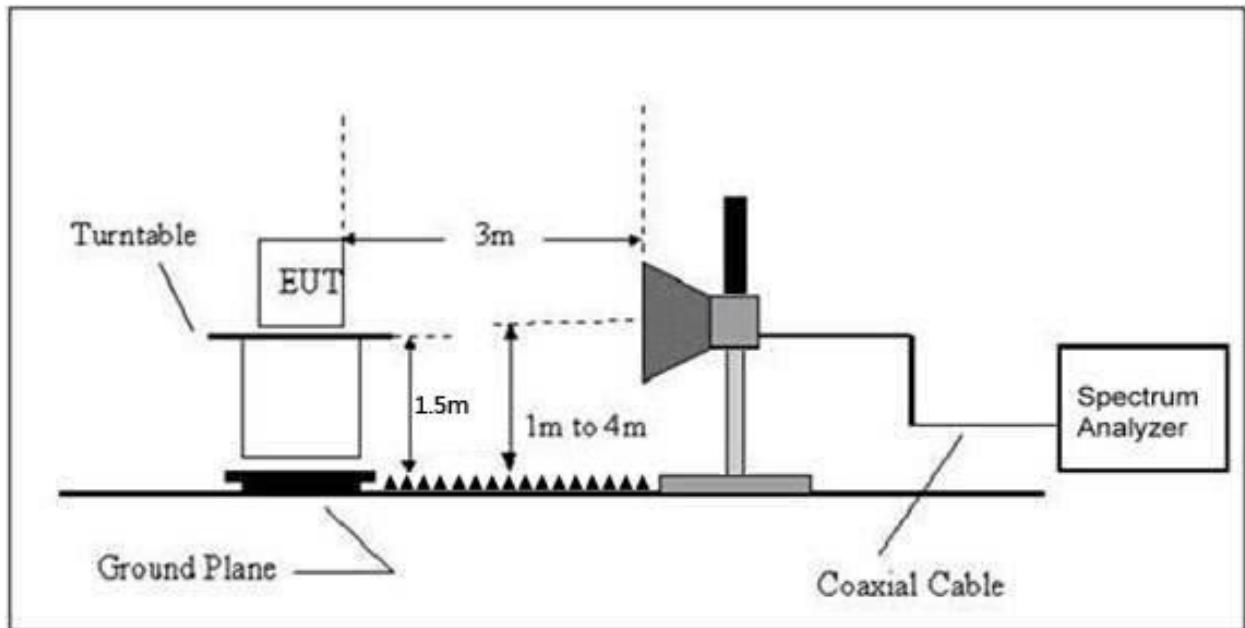
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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

- a. 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.
- b. 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.
- c. 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.
- d. 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.
- e. 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.
- f. 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:	24%
Pressure:	101 kPa	Test Voltage:	DC12V
Test Mode:	Mode 4	Polarization:	--

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

Note:

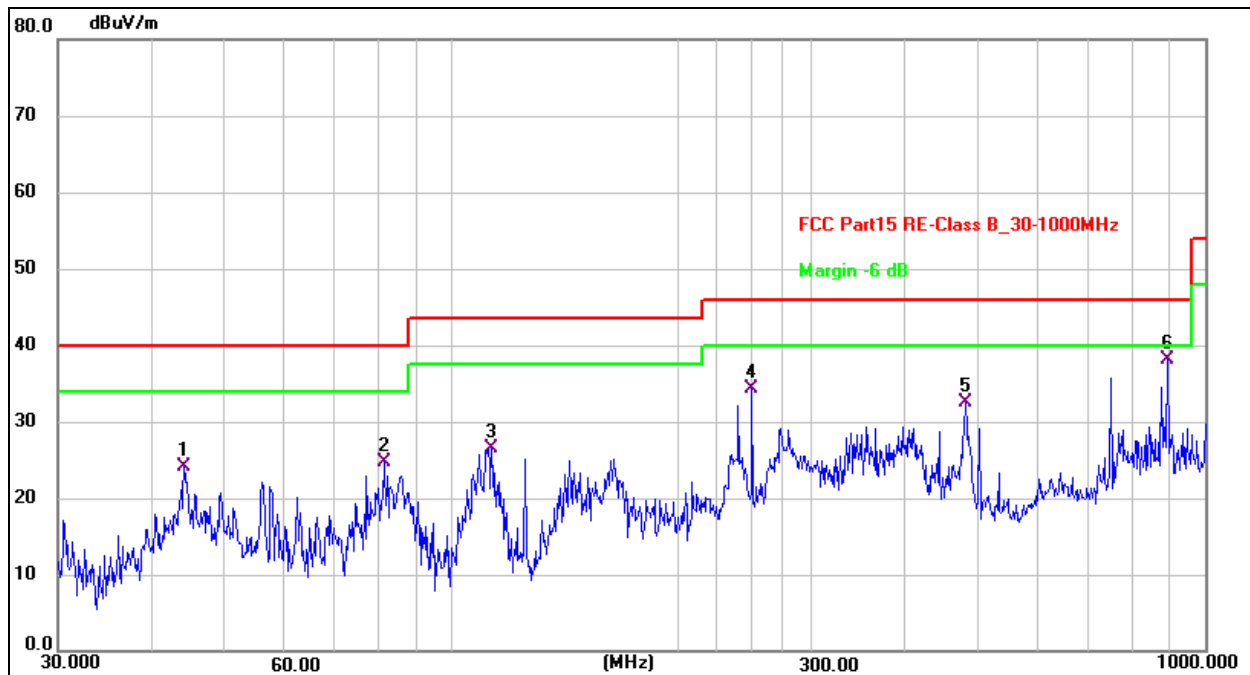
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Between 30MHz – 1GHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	DC12V
Test Mode :	Mode 4	Polarization :	Horizontal

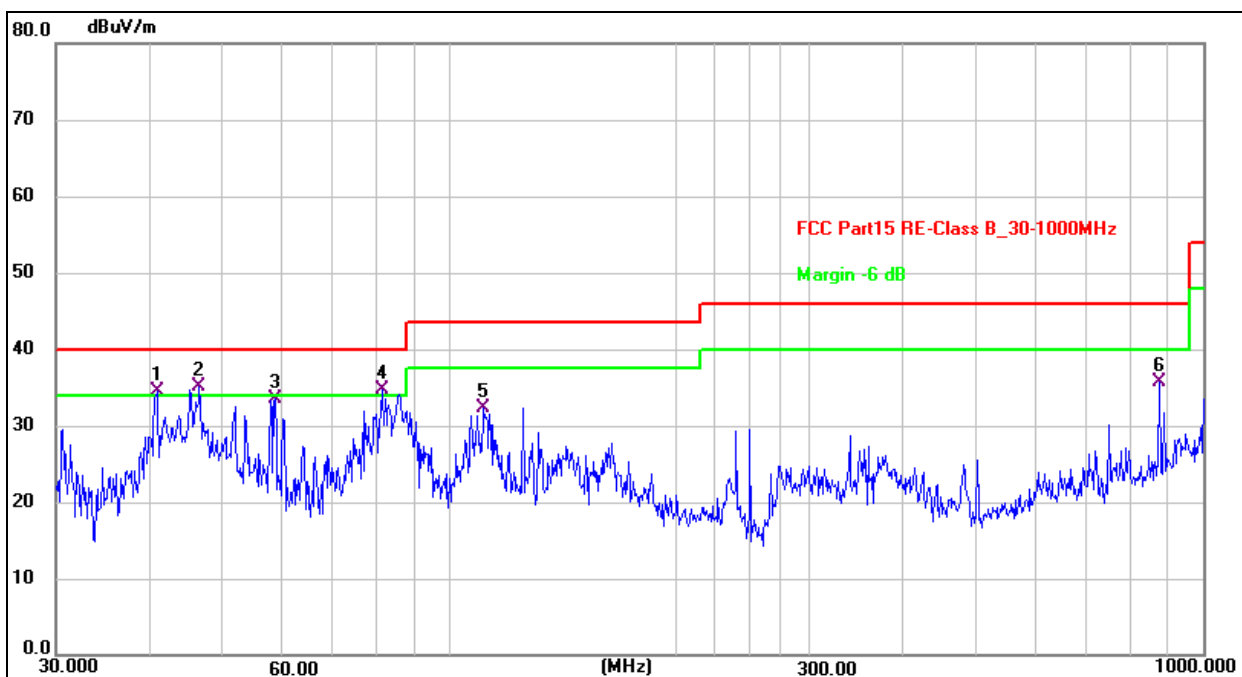


Remark:

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

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	44.1202	41.00	-16.88	24.12	40.00	-15.88	QP
2	81.2117	45.08	-20.30	24.78	40.00	-15.22	QP
3	112.9196	46.24	-19.74	26.50	43.50	-17.00	QP
4	250.3011	53.52	-19.18	34.34	46.00	-11.66	QP
5	480.5276	45.45	-12.95	32.50	46.00	-13.50	QP
6	890.7277	44.07	-8.00	38.07	46.00	-7.93	QP

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	DC12V
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.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	40.8446	51.43	-16.89	34.54	40.00	-5.46	QP
2 *	46.5030	51.84	-16.80	35.04	40.00	-4.96	QP
3	58.8126	50.94	-17.43	33.51	40.00	-6.49	QP
4 !	81.2117	55.00	-20.30	34.70	40.00	-5.30	QP
5	110.9571	52.26	-19.88	32.38	43.50	-11.12	QP
6	875.2470	41.89	-8.16	35.73	46.00	-10.27	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	4434.117	72.38	-20.73	51.65	68.2	-16.55	Pk
Vertical	4434.117	59.46	-20.73	38.73	54	-15.27	AV
Vertical	10360.184	60.04	-9.36	50.68	68.2	-17.52	Pk
Vertical	10360.184	49.65	-9.36	40.29	54	-13.71	AV
Vertical	15540.158	63.83	-7.84	55.99	74	-18.01	Pk
Vertical	15540.158	49.59	-7.84	41.75	54	-12.25	AV
Horizontal	4434.049	71.24	-20.73	50.51	68.2	-17.69	Pk
Horizontal	4434.049	59.34	-20.73	38.61	54	-15.39	AV
Horizontal	10360.195	62.68	-9.36	53.32	68.2	-14.88	Pk
Horizontal	10360.195	49.21	-9.36	39.85	54	-14.15	AV
Horizontal	15540.078	62.06	-7.84	54.22	74	-19.78	Pk
Horizontal	15540.078	49.72	-7.84	41.88	54	-12.12	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.055	73.06	-20.42	52.64	74	-21.36	Pk
Vertical	4592.055	59.65	-20.42	39.24	54	-14.76	AV
Vertical	10400.073	63.73	-9.30	54.43	68.2	-13.77	Pk
Vertical	10400.073	49.19	-9.30	39.89	54	-14.11	AV
Vertical	15600.049	63.39	-7.82	55.57	74	-18.43	Pk
Vertical	15600.049	49.91	-7.82	42.09	54	-11.91	AV
Horizontal	4592.169	74.52	-20.42	54.10	74	-19.90	Pk
Horizontal	4592.169	59.65	-20.42	39.23	54	-14.77	AV
Horizontal	10400.119	60.24	-9.30	50.94	68.2	-17.26	Pk
Horizontal	10400.119	49.83	-9.30	40.53	54	-13.47	AV
Horizontal	15600.088	60.37	-7.82	52.55	74	-21.45	Pk
Horizontal	15600.088	49.61	-7.82	41.79	54	-12.21	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.081	72.03	-20.12	51.91	74	-22.09	Pk
Vertical	4739.081	59.61	-20.12	39.49	54	-14.51	AV
Vertical	10480.188	64.74	-9.18	55.56	68.2	-12.64	Pk
Vertical	10480.188	49.57	-9.18	40.39	54	-13.61	AV
Vertical	15720.059	60.69	-7.78	52.91	74	-21.09	Pk
Vertical	15720.059	49.49	-7.78	41.71	54	-12.29	AV
Horizontal	4739.010	74.94	-20.12	54.82	74	-19.18	Pk
Horizontal	4739.010	59.94	-20.12	39.81	54	-14.19	AV
Horizontal	10480.001	63.95	-9.18	54.77	68.2	-13.43	Pk
Horizontal	10480.001	49.93	-9.18	40.75	54	-13.25	AV
Horizontal	15720.160	61.96	-7.78	54.18	74	-19.82	Pk
Horizontal	15720.160	49.05	-7.78	41.27	54	-12.73	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.

The worst case is Antenna A.

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	4434.082	74.58	-20.73	53.85	68.2	-14.35	Pk
Vertical	4434.082	59.78	-20.73	39.04	54	-14.96	AV
Vertical	10360.096	61.07	-9.36	51.71	68.2	-16.49	Pk
Vertical	10360.096	49.07	-9.36	39.71	54	-14.29	AV
Vertical	15540.071	63.40	-7.84	55.56	74	-18.44	Pk
Vertical	15540.071	49.20	-7.84	41.36	54	-12.64	AV
Horizontal	4434.198	74.82	-20.73	54.09	68.2	-14.11	Pk
Horizontal	4434.198	59.47	-20.73	38.73	54	-15.27	AV
Horizontal	10360.111	63.44	-9.36	54.08	68.2	-14.12	Pk
Horizontal	10360.111	49.88	-9.36	40.52	54	-13.48	AV
Horizontal	15540.083	64.19	-7.84	56.35	74	-17.65	Pk
Horizontal	15540.083	49.48	-7.84	41.64	54	-12.36	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.158	72.13	-20.42	51.72	74	-22.28	Pk
Vertical	4592.158	59.39	-20.42	38.98	54	-15.02	AV
Vertical	10400.116	61.70	-9.30	52.40	68.2	-15.80	Pk
Vertical	10400.116	49.90	-9.30	40.60	54	-13.40	AV
Vertical	15600.003	63.30	-7.82	55.48	74	-18.52	Pk
Vertical	15600.003	49.32	-7.82	41.50	54	-12.50	AV
Horizontal	4592.096	71.30	-20.42	50.88	74	-23.12	Pk
Horizontal	4592.096	59.89	-20.42	39.47	54	-14.53	AV
Horizontal	10400.046	62.21	-9.30	52.91	68.2	-15.29	Pk
Horizontal	10400.046	49.35	-9.30	40.05	54	-13.95	AV
Horizontal	15600.080	63.27	-7.82	55.45	74	-18.55	Pk
Horizontal	15600.080	49.85	-7.82	42.03	54	-11.97	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.026	74.33	-20.12	54.20	74	-19.80	Pk
Vertical	4739.026	59.80	-20.12	39.67	54	-14.33	AV
Vertical	10480.007	62.15	-9.18	52.97	68.2	-15.23	Pk
Vertical	10480.007	49.57	-9.18	40.39	54	-13.61	AV
Vertical	15720.132	63.05	-7.78	55.27	74	-18.73	Pk
Vertical	15720.132	49.00	-7.78	41.22	54	-12.78	AV
Horizontal	4739.065	71.92	-20.12	51.80	74	-22.20	Pk
Horizontal	4739.065	59.34	-20.12	39.22	54	-14.78	AV
Horizontal	10480.173	60.73	-9.18	51.55	68.2	-16.65	Pk
Horizontal	10480.173	49.02	-9.18	39.84	54	-14.16	AV
Horizontal	15720.194	63.25	-7.78	55.47	74	-18.53	Pk
Horizontal	15720.194	49.49	-7.78	41.71	54	-12.29	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

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	4434.088	70.61	-20.73	49.88	68.2	-18.32	Pk
Vertical	4434.088	59.66	-20.73	38.93	54	-15.07	AV
Vertical	10380.174	61.31	-9.33	51.98	68.2	-16.22	Pk
Vertical	10380.174	49.70	-9.33	40.37	54	-13.63	AV
Vertical	15570.014	60.37	-7.83	52.54	74	-21.46	Pk
Vertical	15570.014	49.12	-7.83	41.29	54	-12.71	AV
Horizontal	4434.057	70.62	-20.73	49.88	74	-24.12	Pk
Horizontal	4434.057	59.83	-20.73	39.09	54	-14.91	AV
Horizontal	10380.049	61.63	-9.33	52.30	68.2	-15.90	Pk
Horizontal	10380.049	49.64	-9.33	40.31	54	-13.69	AV
Horizontal	15570.170	61.88	-7.83	54.05	74	-19.95	Pk
Horizontal	15570.170	49.28	-7.83	41.45	54	-12.55	AV
High Channel (5230 MHz)-Above 1G							
Vertical	4739.188	74.96	-20.12	54.84	68.2	-13.36	Pk
Vertical	4739.188	59.41	-20.12	39.29	54	-14.71	AV
Vertical	10460.197	60.36	-9.21	51.15	68.2	-17.05	Pk
Vertical	10460.197	49.04	-9.21	39.83	54	-14.17	AV
Vertical	15690.145	64.02	-7.79	56.23	74	-17.77	Pk
Vertical	15690.145	49.71	-7.79	41.92	54	-12.08	AV
Horizontal	4739.014	74.94	-20.12	54.82	68.2	-13.38	Pk
Horizontal	4739.014	59.35	-20.12	39.23	54	-14.77	AV
Horizontal	10460.005	63.25	-9.21	54.04	68.2	-14.16	Pk
Horizontal	10460.005	49.88	-9.21	40.67	54	-13.33	AV
Horizontal	15690.106	63.40	-7.79	55.61	74	-18.39	Pk
Horizontal	15690.106	49.59	-7.79	41.80	54	-12.20	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

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	4434.158	72.22	-20.73	51.49	68.2	-16.71	Pk
Vertical	4434.158	59.67	-20.73	38.93	54	-15.07	AV
Vertical	10360.038	63.38	-9.36	54.02	68.2	-14.18	Pk
Vertical	10360.038	49.71	-9.36	40.35	54	-13.65	AV
Vertical	15540.116	62.81	-7.84	54.97	74	-19.03	Pk
Vertical	15540.116	49.28	-7.84	41.44	54	-12.56	AV
Horizontal	4434.031	70.82	-20.73	50.08	68.2	-18.12	Pk
Horizontal	4434.031	59.54	-20.73	38.81	54	-15.19	AV
Horizontal	10360.078	61.82	-9.36	52.46	68.2	-15.74	Pk
Horizontal	10360.078	49.48	-9.36	40.12	54	-13.88	AV
Horizontal	15540.009	62.87	-7.84	55.03	74	-18.97	Pk
Horizontal	15540.009	49.92	-7.84	42.08	54	-11.92	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.046	70.32	-20.42	49.90	74	-24.10	Pk
Vertical	4592.046	59.19	-20.42	38.77	54	-15.23	AV
Vertical	10400.143	64.92	-9.30	55.62	68.2	-12.58	Pk
Vertical	10400.143	49.09	-9.30	39.79	54	-14.21	AV
Vertical	15600.150	64.56	-7.82	56.74	74	-17.26	Pk
Vertical	15600.150	49.23	-7.82	41.41	54	-12.59	AV
Horizontal	4592.154	71.55	-20.42	51.13	74	-22.87	Pk
Horizontal	4592.154	59.97	-20.42	39.55	54	-14.45	AV
Horizontal	10400.156	62.57	-9.30	53.27	68.2	-14.93	Pk
Horizontal	10400.156	49.60	-9.30	40.30	54	-13.70	AV
Horizontal	15600.118	64.92	-7.82	57.10	74	-16.90	Pk
Horizontal	15600.118	49.91	-7.82	42.09	54	-11.91	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.106	73.00	-20.12	52.88	74	-21.12	Pk
Vertical	4739.106	59.81	-20.12	39.69	54	-14.31	AV
Vertical	10480.163	62.43	-9.18	53.25	68.2	-14.95	Pk
Vertical	10480.163	49.75	-9.18	40.57	54	-13.43	AV
Vertical	15720.006	61.47	-7.78	53.69	74	-20.31	Pk
Vertical	15720.006	49.23	-7.78	41.45	54	-12.55	AV
Horizontal	4739.169	70.41	-20.12	50.29	74	-23.71	Pk
Horizontal	4739.169	59.65	-20.12	39.53	54	-14.47	AV
Horizontal	10480.149	60.55	-9.18	51.37	68.2	-16.83	Pk
Horizontal	10480.149	49.44	-9.18	40.26	54	-13.74	AV
Horizontal	15720.004	62.46	-7.78	54.68	74	-19.32	Pk
Horizontal	15720.004	49.91	-7.78	42.13	54	-11.87	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

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	4434.007	73.91	-20.73	53.18	68.2	-15.02	Pk
Vertical	4434.007	59.09	-20.73	38.36	54	-15.64	AV
Vertical	10380.144	61.99	-9.33	52.66	68.2	-15.54	Pk
Vertical	10380.144	49.69	-9.33	40.36	54	-13.64	AV
Vertical	15570.050	60.85	-7.83	53.02	74	-20.98	Pk
Vertical	15570.050	49.73	-7.83	41.90	54	-12.10	AV
Horizontal	4434.140	71.70	-20.73	50.97	74	-23.03	Pk
Horizontal	4434.140	59.65	-20.73	38.92	54	-15.08	AV
Horizontal	10380.001	60.53	-9.33	51.20	68.2	-17.00	Pk
Horizontal	10380.001	49.80	-9.33	40.47	54	-13.53	AV
Horizontal	15570.149	60.73	-7.83	52.90	74	-21.10	Pk
Horizontal	15570.149	49.10	-7.83	41.27	54	-12.73	AV
middle Channel (5230 MHz)-Above 1G							
Vertical	4739.059	74.67	-20.12	54.54	68.2	-13.66	Pk
Vertical	4739.059	59.65	-20.12	39.53	54	-14.47	AV
Vertical	10460.137	64.54	-9.21	55.33	68.2	-12.87	Pk
Vertical	10460.137	49.55	-9.21	40.34	54	-13.66	AV
Vertical	15690.007	60.57	-7.79	52.78	74	-21.22	Pk
Vertical	15690.007	49.36	-7.79	41.57	54	-12.43	AV
Horizontal	4739.020	74.05	-20.12	53.92	68.2	-14.28	Pk
Horizontal	4739.020	59.35	-20.12	39.23	54	-14.77	AV
Horizontal	10460.082	61.46	-9.21	52.25	68.2	-15.95	Pk
Horizontal	10460.082	49.27	-9.21	40.06	54	-13.94	AV
Horizontal	15690.134	60.14	-7.79	52.35	74	-21.65	Pk
Horizontal	15690.134	49.59	-7.79	41.80	54	-12.20	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode:	TX(5.1G) - 802.11ac-HT80
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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)	
(5210 MHz)-Above 1G							
Vertical	4434.127	74.08	-20.73	53.35	68.2	-14.85	Pk
Vertical	4434.127	59.28	-20.73	38.55	54	-15.45	AV
Vertical	10420.154	64.22	-9.27	54.95	68.2	-13.25	Pk
Vertical	10420.154	49.88	-9.27	40.61	54	-13.39	AV
Vertical	15630.122	60.91	-7.81	53.10	74	-20.90	Pk
Vertical	15630.122	49.88	-7.81	42.07	54	-11.93	AV
Horizontal	4434.118	74.68	-20.73	53.95	68.2	-14.25	Pk
Horizontal	4434.118	59.60	-20.73	38.87	54	-15.13	AV
Horizontal	10420.028	63.78	-9.27	73.05	68.2	-4.85	Pk
Horizontal	10420.112	64.10	-9.27	54.83	68.2	-13.37	AV
Horizontal	10420.112	49.88	-9.27	40.61	54	-13.39	Pk
Horizontal	15630.087	62.44	-7.81	54.63	74	-19.37	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode:	TX(5.1G) - 802.11ax-HE20
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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	4434.145	70.56	-20.73	49.83	68.2	-18.37	Pk
Vertical	4434.145	59.82	-20.73	39.09	54	-14.91	AV
Vertical	10360.144	61.98	-9.36	52.62	68.2	-15.58	Pk
Vertical	10360.144	49.88	-9.36	40.52	54	-13.48	AV
Vertical	15540.066	63.49	-7.84	55.65	74	-18.35	Pk
Vertical	15540.066	49.56	-7.84	41.72	54	-12.28	AV
Horizontal	4434.021	70.36	-20.73	49.63	68.2	-18.57	Pk
Horizontal	4434.021	59.89	-20.73	39.15	54	-14.85	AV
Horizontal	10360.083	63.04	-9.36	53.68	68.2	-14.52	Pk
Horizontal	10360.083	49.46	-9.36	40.10	54	-13.90	AV
Horizontal	15540.179	63.39	-7.84	55.55	74	-18.45	Pk
Horizontal	15540.179	49.62	-7.84	41.78	54	-12.22	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.117	71.32	-20.42	50.91	74	-23.09	Pk
Vertical	4592.117	59.69	-20.42	39.28	54	-14.72	AV
Vertical	10400.132	63.17	-9.30	53.87	68.2	-14.33	Pk
Vertical	10400.132	49.15	-9.30	39.85	54	-14.15	AV
Vertical	15600.087	63.87	-7.82	56.05	74	-17.95	Pk
Vertical	15600.087	49.72	-7.82	41.90	54	-12.10	AV
Horizontal	4592.013	73.96	-20.42	53.54	74	-20.46	Pk
Horizontal	4592.013	59.44	-20.42	39.02	54	-14.98	AV
Horizontal	10400.143	61.01	-9.30	51.71	68.2	-16.49	Pk
Horizontal	10400.143	49.70	-9.30	40.40	54	-13.60	AV
Horizontal	15600.028	61.25	-7.82	53.43	74	-20.57	Pk
Horizontal	15600.028	49.94	-7.82	42.12	54	-11.88	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.118	73.31	-20.12	53.19	74	-20.81	Pk
Vertical	4739.118	59.50	-20.12	39.37	54	-14.63	AV
Vertical	10480.099	60.56	-9.18	51.38	68.2	-16.82	Pk
Vertical	10480.099	49.83	-9.18	40.65	54	-13.35	AV
Vertical	15720.179	64.51	-7.78	56.73	74	-17.27	Pk
Vertical	15720.179	49.35	-7.78	41.57	54	-12.43	AV
Horizontal	4739.100	74.20	-20.12	54.08	74	-19.92	Pk
Horizontal	4739.100	59.62	-20.12	39.50	54	-14.50	AV
Horizontal	10480.075	61.23	-9.18	52.05	68.2	-16.15	Pk
Horizontal	10480.075	49.50	-9.18	40.32	54	-13.68	AV
Horizontal	15720.008	62.35	-7.78	54.57	74	-19.43	Pk
Horizontal	15720.008	49.13	-7.78	41.35	54	-12.65	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode:	TX(5.1G) - 802.11ax-HE40
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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	4434.111	74.76	-20.73	54.03	68.2	-14.17	Pk
Vertical	4434.111	59.41	-20.73	38.67	54	-15.33	AV
Vertical	10380.184	63.60	-9.33	54.27	68.2	-13.93	Pk
Vertical	10380.184	49.79	-9.33	40.46	54	-13.54	AV
Vertical	15570.160	62.43	-7.83	54.60	74	-19.40	Pk
Vertical	15570.160	49.90	-7.83	42.07	54	-11.93	AV
Horizontal	4434.123	72.47	-20.73	51.74	74	-22.26	Pk
Horizontal	4434.123	59.65	-20.73	38.92	54	-15.08	AV
Horizontal	10380.052	62.12	-9.33	52.79	68.2	-15.41	Pk
Horizontal	10380.052	49.48	-9.33	40.15	54	-13.85	AV
Horizontal	15570.108	64.04	-7.83	56.21	74	-17.79	Pk
Horizontal	15570.108	49.85	-7.83	42.02	54	-11.98	AV
High Channel (5230 MHz)-Above 1G							
Vertical	4739.189	72.31	-20.12	52.19	68.2	-16.01	Pk
Vertical	4739.189	59.90	-20.12	39.78	54	-14.22	AV
Vertical	10460.166	61.31	-9.21	52.10	68.2	-16.10	Pk
Vertical	10460.166	49.16	-9.21	39.95	54	-14.05	AV
Vertical	15690.023	64.75	-7.79	56.96	74	-17.04	Pk
Vertical	15690.023	49.78	-7.79	41.99	54	-12.01	AV
Horizontal	4739.138	74.26	-20.12	54.14	68.2	-14.06	Pk
Horizontal	4739.138	59.65	-20.12	39.53	54	-14.47	AV
Horizontal	10460.195	61.08	-9.21	51.87	68.2	-16.33	Pk
Horizontal	10460.195	49.58	-9.21	40.37	54	-13.63	AV
Horizontal	15690.072	60.37	-7.79	52.58	74	-21.42	Pk
Horizontal	15690.072	49.64	-7.79	41.85	54	-12.15	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode:	TX(5.1G) - 802.11ax-HE80
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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)	
(5210 MHz)-Above 1G							
Vertical	4434.082	73.19	-20.73	52.46	68.2	-15.74	Pk
Vertical	4434.082	59.72	-20.73	38.99	54	-15.01	AV
Vertical	10420.001	60.69	-9.27	51.42	68.2	-16.78	Pk
Vertical	10420.001	49.48	-9.27	40.21	54	-13.79	AV
Vertical	15630.029	60.54	-7.81	52.73	74	-21.27	Pk
Vertical	15630.029	49.16	-7.81	41.35	54	-12.65	AV
Horizontal	4434.177	72.54	-20.73	51.81	68.2	-16.39	Pk
Horizontal	4434.177	59.17	-20.73	38.44	54	-15.56	AV
Horizontal	10420.178	60.97	-9.27	51.70	68.2	-16.50	Pk
Horizontal	10420.178	49.23	-9.27	39.96	54	-14.04	AV
Horizontal	15630.049	62.59	-7.81	54.78	74	-19.22	Pk
Horizontal	15630.049	49.44	-7.81	41.63	54	-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 is MIMO(antenna A+ antenna B + antenna C) Mode.

- ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
- All the modes 802.11a/n/ac has been tested and the worst result 802.11n20 recorded as below:

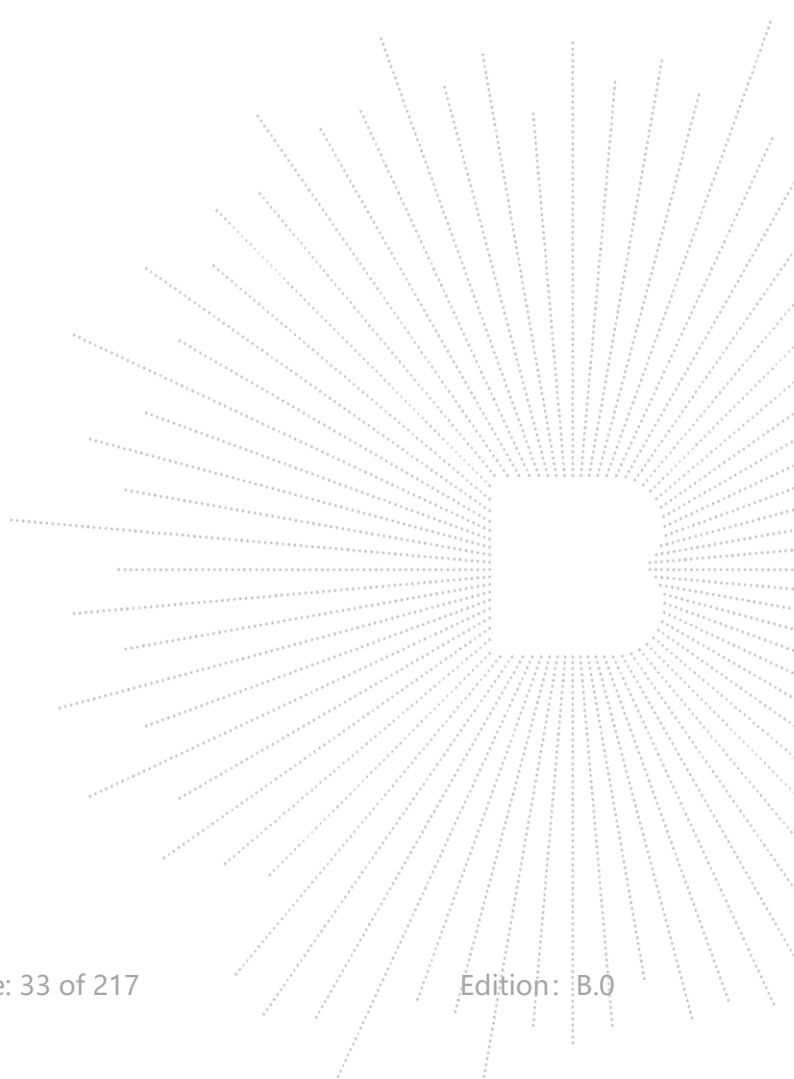
Test mode: 802.11n20 Frequency(MHz): 5180

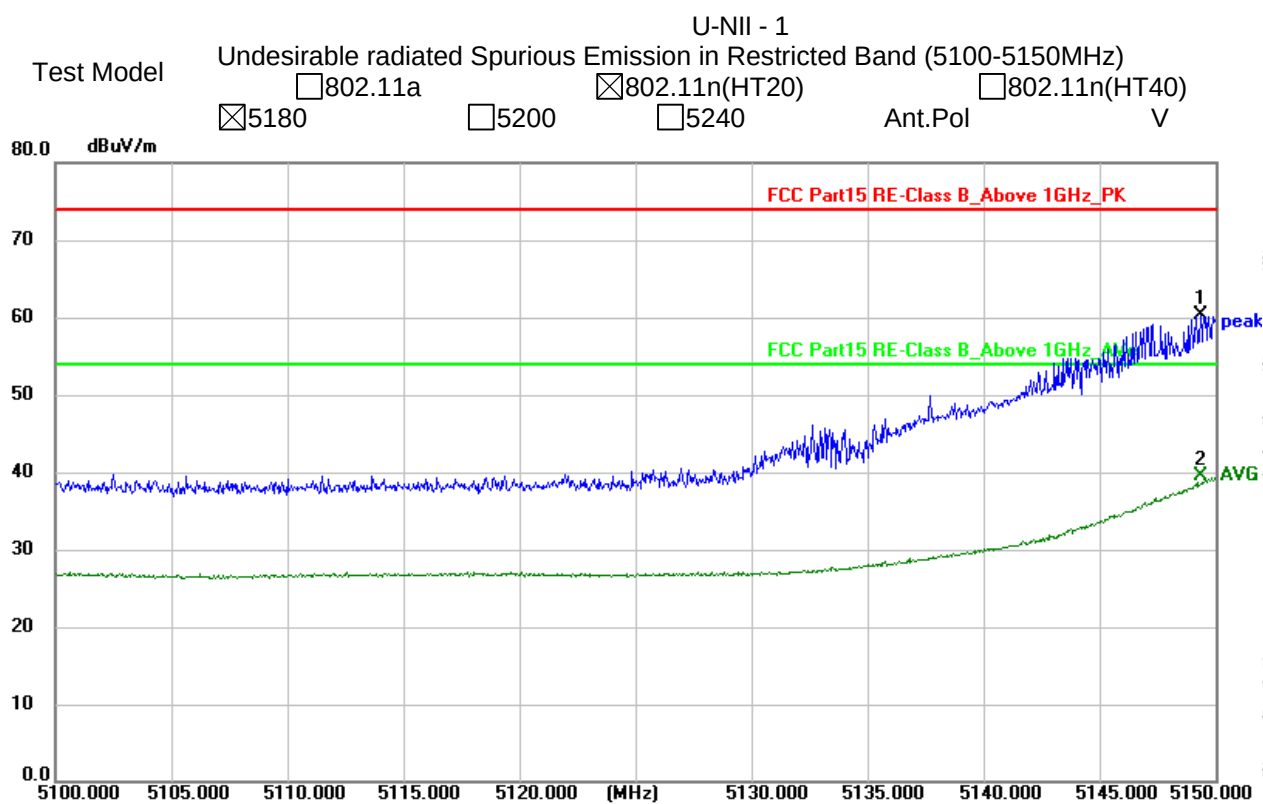
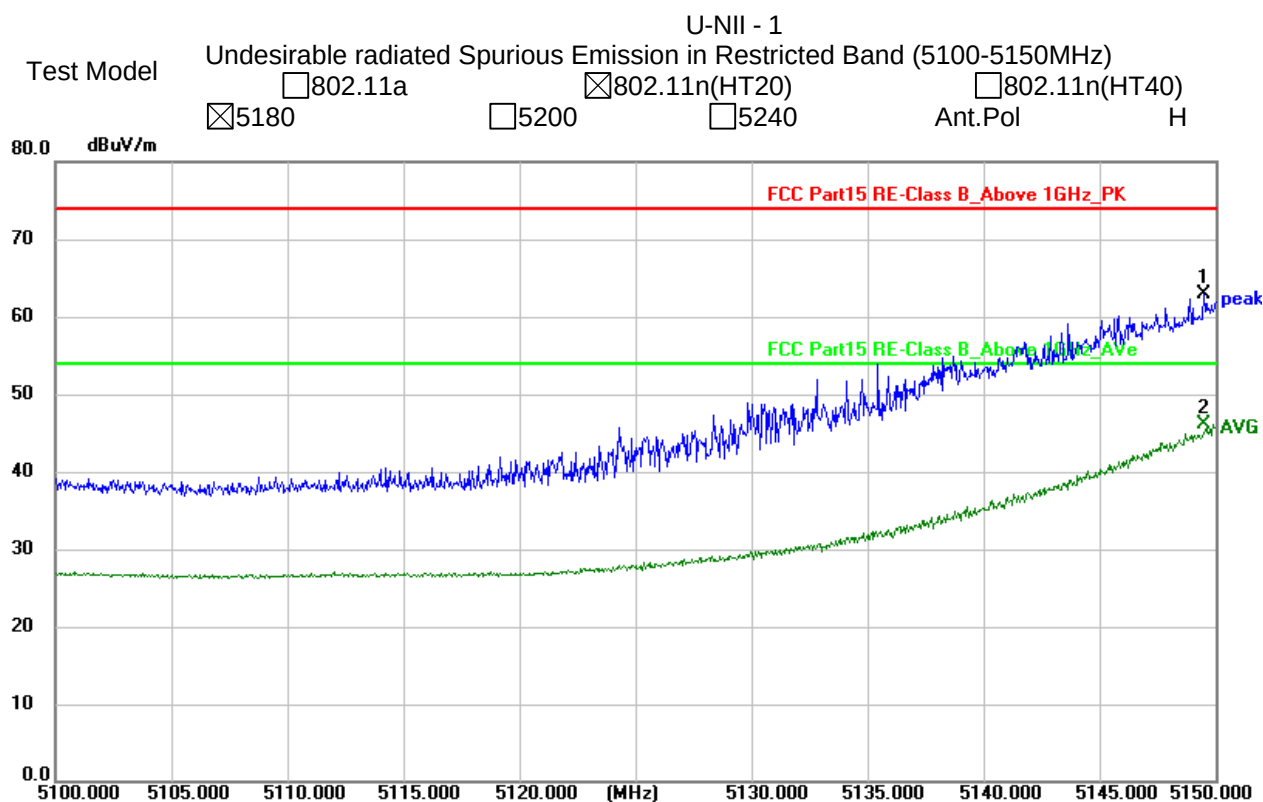
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
5149.50	H	62.92	74	46.02	54
5149.35	V	60.21	74	39.43	54

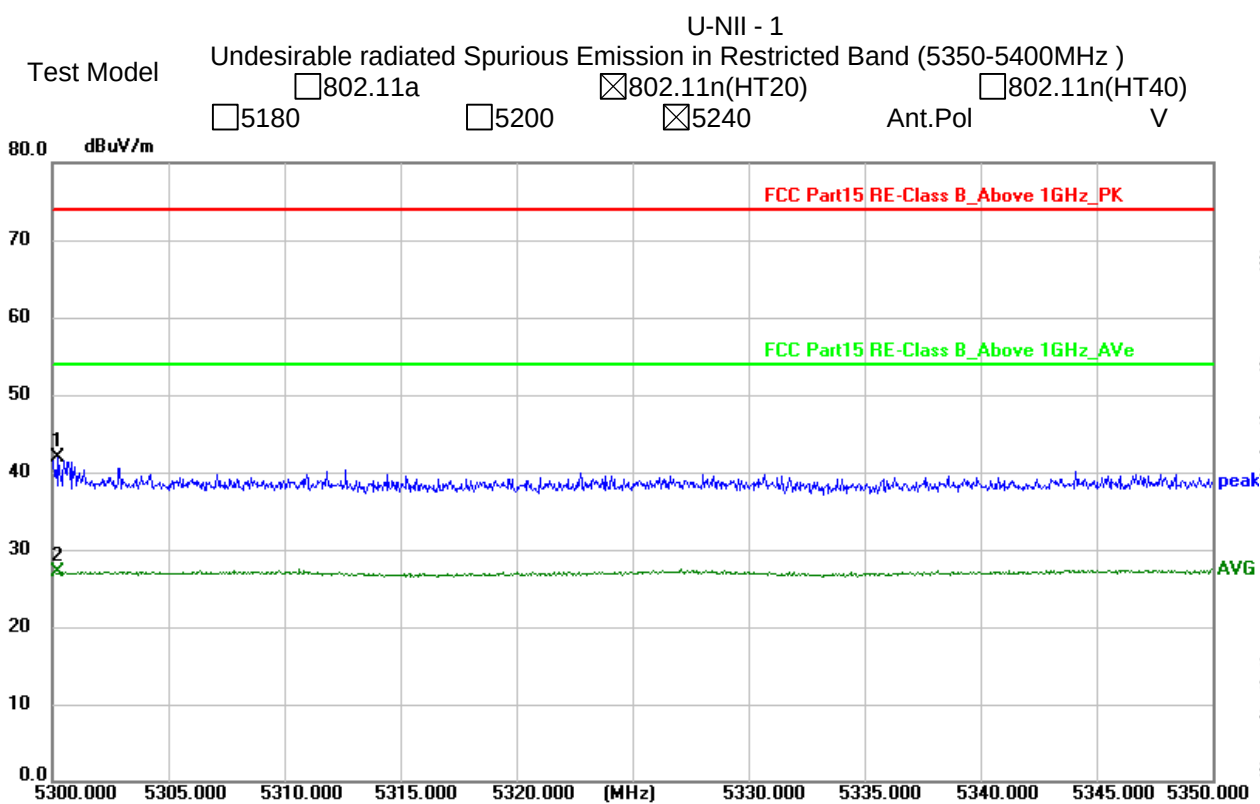
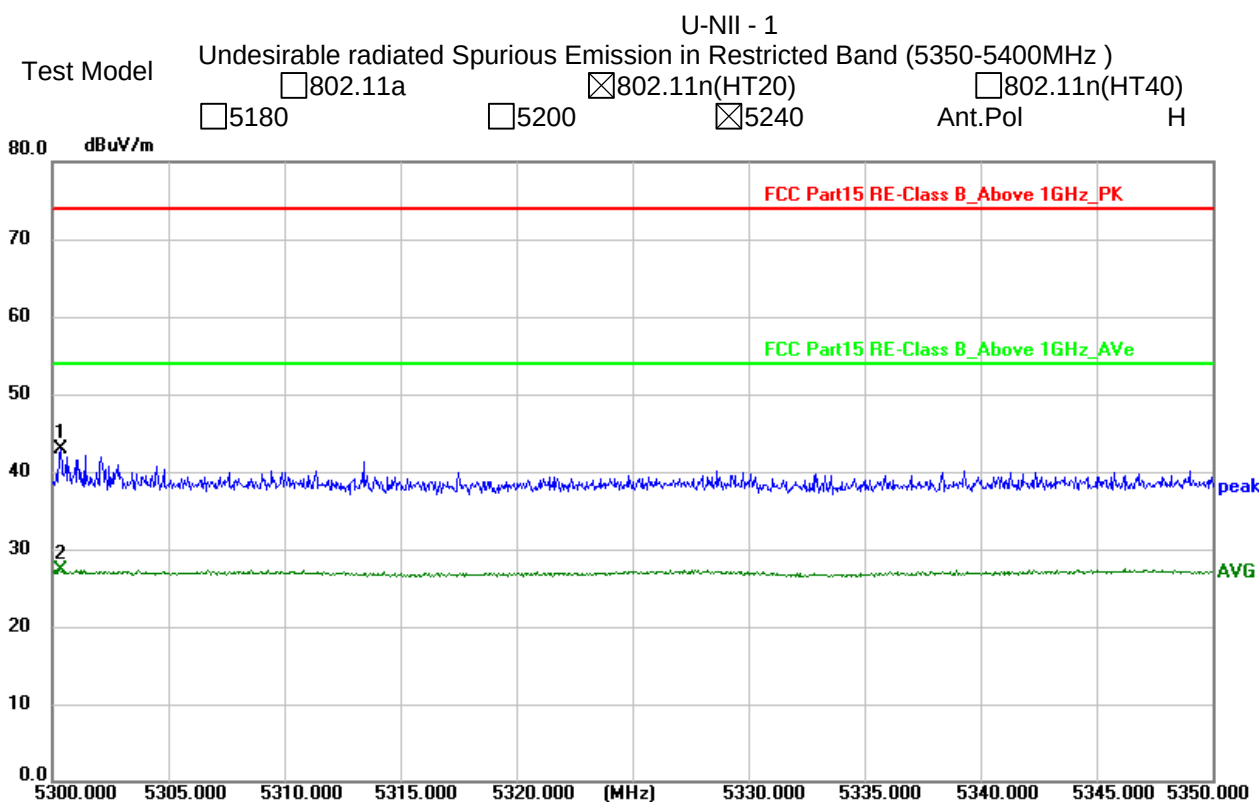
Test mode: 802.11n20 Frequency(MHz): 5240

Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
5300.35	H	42.88	74	27.35	54
5300.35	V	41.86	74	27.20	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







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	4679.087	73.54	-20.24	53.30	74	-20.70	Pk
Vertical	4679.087	59.01	-20.24	38.76	54	-15.24	AV
Vertical	11490.013	62.48	-8.79	53.69	68.2	-14.51	Pk
Vertical	11490.013	49.51	-8.79	40.72	54	-13.28	AV
Vertical	17235.153	57.15	-3.18	53.97	68.2	-14.23	Pk
Vertical	17235.153	44.84	-3.18	41.66	54	-12.34	AV
Horizontal	4679.047	71.86	-20.73	51.13	74	-22.87	Pk
Horizontal	4679.047	59.65	-20.73	38.92	54	-15.08	AV
Horizontal	11490.057	60.44	-8.79	51.65	68.2	-16.55	Pk
Horizontal	11490.057	49.82	-8.79	41.03	54	-12.97	AV
Horizontal	17235.051	57.40	-3.18	54.22	68.2	-13.98	Pk
Horizontal	17235.051	44.07	-3.18	40.89	54	-13.11	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.001	71.34	-20.42	50.92	74	-23.08	Pk
Vertical	4592.001	59.07	-20.42	38.65	54	-15.35	AV
Vertical	11570.008	60.71	-8.86	51.85	68.2	-16.35	Pk
Vertical	11570.008	49.17	-8.86	40.31	54	-13.69	AV
Vertical	17355.104	59.43	-2.52	56.91	68.2	-11.29	Pk
Vertical	17355.104	44.30	-2.52	41.78	54	-12.22	AV
Horizontal	4592.067	73.74	-20.42	53.32	74	-20.68	Pk
Horizontal	4592.067	59.91	-20.42	39.49	54	-14.51	AV
Horizontal	11570.093	60.00	-8.86	51.14	68.2	-17.06	Pk
Horizontal	11570.093	49.22	-8.86	40.36	54	-13.64	AV
Horizontal	17355.107	56.89	-2.52	54.37	68.2	-13.83	Pk
Horizontal	17355.107	44.05	-2.52	41.53	54	-12.47	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.144	73.44	-18.93	54.51	68.2	-13.69	Pk
Vertical	6039.144	59.21	-18.93	40.28	54	-13.72	AV
Vertical	11650.056	60.32	-8.92	51.40	74	-22.60	Pk
Vertical	11650.056	49.09	-8.92	40.17	54	-13.83	AV
Vertical	17475.094	58.73	-1.86	56.87	68.2	-11.33	Pk
Vertical	17475.094	44.11	-1.86	42.25	54	-11.75	AV
Horizontal	6039.001	71.64	-18.93	52.71	68.2	-15.49	Pk
Horizontal	6039.001	59.27	-18.93	40.34	54	-13.66	AV
Horizontal	11650.066	60.36	-8.92	51.44	74	-22.56	Pk
Horizontal	11650.066	49.60	-8.92	40.68	54	-13.32	AV
Horizontal	17475.070	55.01	-1.86	53.15	68.2	-15.05	Pk
Horizontal	17475.070	44.50	-1.86	42.64	54	-11.36	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.

The worst case is Antenna A.

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	4679.101	71.06	-20.24	50.82	74	-23.18	Pk
Vertical	4679.101	59.54	-20.24	39.30	54	-14.70	AV
Vertical	11490.119	60.02	-8.79	51.23	68.2	-16.97	Pk
Vertical	11490.119	49.48	-8.79	40.69	54	-13.31	AV
Vertical	17235.018	56.70	-3.18	53.52	68.2	-14.68	Pk
Vertical	17235.018	44.36	-3.18	41.18	54	-12.82	AV
Horizontal	4679.112	70.58	-20.24	50.34	74	-23.66	Pk
Horizontal	4679.112	59.15	-20.24	38.91	54	-15.09	AV
Horizontal	11490.155	63.09	-8.79	54.30	68.2	-13.90	Pk
Horizontal	11490.155	49.50	-8.79	40.71	54	-13.29	AV
Horizontal	17235.094	57.56	-3.18	54.38	68.2	-13.82	Pk
Horizontal	17235.094	44.26	-3.18	41.08	54	-12.92	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.091	73.99	-20.42	53.58	74	-20.42	Pk
Vertical	4592.091	59.82	-20.42	39.41	54	-14.59	AV
Vertical	11570.027	62.59	-8.86	53.73	68.2	-14.47	Pk
Vertical	11570.027	49.09	-8.86	40.23	54	-13.77	AV
Vertical	17355.063	56.35	-2.52	53.83	68.2	-14.37	Pk
Vertical	17355.063	44.54	-2.52	42.02	54	-11.98	AV
Horizontal	4592.166	70.14	-20.42	49.72	74	-24.28	Pk
Horizontal	4592.166	59.94	-20.42	39.53	54	-14.47	AV
Horizontal	11570.116	60.69	-8.86	51.83	68.2	-16.37	Pk
Horizontal	11570.116	49.05	-8.86	40.19	54	-13.81	AV
Horizontal	17355.133	56.86	-2.52	54.34	68.2	-13.86	Pk
Horizontal	17355.133	44.45	-2.52	41.93	54	-12.07	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.159	71.32	-18.93	52.39	68.2	-15.81	Pk
Vertical	6039.159	59.03	-18.93	40.10	54	-13.90	AV
Vertical	11650.193	62.02	-8.92	53.10	74	-20.90	Pk
Vertical	11650.193	49.01	-8.92	40.09	54	-13.91	AV
Vertical	17475.013	55.64	-1.86	53.78	68.2	-14.42	Pk
Vertical	17475.013	44.04	-1.86	42.18	54	-11.82	AV
Horizontal	6039.147	74.14	-18.93	55.21	68.2	-12.99	Pk
Horizontal	6039.147	59.14	-18.93	40.21	54	-13.79	AV
Horizontal	11650.084	64.74	-8.92	55.82	74	-18.18	Pk
Horizontal	11650.084	49.54	-8.92	40.62	54	-13.38	AV
Horizontal	17475.103	59.30	-1.86	57.44	68.2	-10.76	Pk
Horizontal	17475.103	44.23	-1.86	42.37	54	-11.63	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode: TX(5.8G) - 802.11n-HT40

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	4679.056	70.47	-20.24	50.22	74	-23.78	AV
Vertical	4679.056	59.19	-20.24	38.95	54	-15.05	Pk
Vertical	11510.086	63.86	-8.81	55.05	74	-18.95	AV
Vertical	11510.086	49.50	-8.81	40.69	54	-13.31	Pk
Vertical	17265.045	59.24	-3.01	56.23	68.2	-11.97	AV
Vertical	17265.045	44.85	-3.01	41.84	54	-12.16	Pk
Horizontal	4679.118	71.22	-20.24	50.98	74	-23.02	AV
Horizontal	4679.118	59.76	-20.24	39.52	54	-14.48	Pk
Horizontal	11510.144	61.08	-8.81	52.27	74	-21.73	AV
Horizontal	11510.144	49.84	-8.81	41.03	54	-12.97	Pk
Horizontal	17265.106	56.22	-3.01	53.21	68.2	-14.99	AV
Horizontal	17265.106	44.53	-3.01	41.52	54	-12.48	AV
middle Channel (5795 MHz)-Above 1G							
Vertical	6039.109	71.08	-18.93	52.15	68.2	-16.05	Pk
Vertical	6039.109	59.26	-18.93	40.33	54	-13.67	AV
Vertical	11590.174	60.63	-8.87	51.76	74	-22.24	Pk
Vertical	11590.174	49.03	-8.87	40.16	54	-13.84	AV
Vertical	17385.073	55.87	-2.35	53.52	68.2	-14.68	Pk
Vertical	17385.073	44.26	-2.35	41.91	54	-12.09	AV
Horizontal	6039.072	70.18	-18.93	51.25	68.2	-16.95	Pk
Horizontal	6039.072	59.16	-18.93	40.23	54	-13.77	AV
Horizontal	11590.160	61.57	-8.87	52.70	74	-21.30	Pk
Horizontal	11590.160	49.64	-8.87	40.77	54	-13.23	AV
Horizontal	17385.067	57.05	-2.35	54.70	68.2	-13.50	Pk
Horizontal	17385.067	44.85	-2.35	42.50	54	-11.50	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

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	4679.070	70.11	-20.24	49.87	74	-24.13	Pk
Vertical	4679.070	59.39	-20.24	39.14	54	-14.86	AV
Vertical	11490.123	62.88	-8.79	54.09	68.2	-14.11	Pk
Vertical	11490.123	49.76	-8.79	40.97	54	-13.03	AV
Vertical	17235.060	56.42	-3.18	53.24	68.2	-14.96	Pk
Vertical	17235.060	44.05	-3.18	40.87	54	-13.13	AV
Horizontal	4679.172	72.56	-20.24	52.32	74	-21.68	Pk
Horizontal	4679.172	59.20	-20.24	38.96	54	-15.04	AV
Horizontal	11490.030	60.32	-8.79	51.53	68.2	-16.67	Pk
Horizontal	11490.030	49.74	-8.79	40.95	54	-13.05	AV
Horizontal	17235.179	57.72	-3.18	54.54	68.2	-13.66	Pk
Horizontal	17235.179	44.73	-3.18	41.55	54	-12.45	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.084	72.43	-20.42	52.01	74	-21.99	Pk
Vertical	4592.084	59.67	-20.42	39.25	54	-14.75	AV
Vertical	11570.165	60.89	-8.86	52.03	68.2	-16.17	Pk
Vertical	11570.165	49.78	-8.86	40.92	54	-13.08	AV
Vertical	17355.034	55.95	-2.52	53.43	68.2	-14.77	Pk
Vertical	17355.034	44.95	-2.52	42.43	54	-11.57	AV
Horizontal	4592.027	70.30	-20.42	49.88	74	-24.12	Pk
Horizontal	4592.027	59.57	-20.42	39.16	54	-14.84	AV
Horizontal	11570.096	64.92	-8.86	56.06	68.2	-12.14	Pk
Horizontal	11570.096	49.21	-8.86	40.35	54	-13.65	AV
Horizontal	17355.011	59.35	-2.52	56.83	68.2	-11.37	Pk
Horizontal	17355.011	44.44	-2.52	41.92	54	-12.08	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.140	73.03	-18.93	54.10	68.2	-14.10	Pk
Vertical	6039.140	59.10	-18.93	40.17	54	-13.83	AV
Vertical	11650.165	62.47	-8.92	53.55	74	-20.45	Pk
Vertical	11650.165	49.23	-8.92	40.31	54	-13.69	AV
Vertical	17475.086	55.56	-1.86	53.70	68.2	-14.50	Pk
Vertical	17475.086	44.14	-1.86	42.28	54	-11.72	AV
Horizontal	6039.095	74.86	-18.93	55.93	68.2	-12.27	Pk
Horizontal	6039.095	59.51	-18.93	40.58	54	-13.42	AV
Horizontal	11650.064	61.24	-8.92	52.32	74	-21.68	Pk
Horizontal	11650.064	49.43	-8.92	40.51	54	-13.49	AV
Horizontal	17475.169	56.87	-1.86	55.01	68.2	-13.19	Pk
Horizontal	17475.169	44.24	-1.86	42.38	54	-11.62	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode: TX(5.8G) - 802.11ac-HT40

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	73.59	-20.24	53.35	74	-20.65	AV
Vertical	4679.195	59.93	-20.24	39.69	54	-14.31	Pk
Vertical	11510.053	62.59	-8.81	53.78	74	-20.22	AV
Vertical	11510.053	49.14	-8.81	40.33	54	-13.67	Pk
Vertical	17265.036	56.96	-3.01	53.95	68.2	-14.25	AV
Vertical	17265.036	44.05	-3.01	41.04	54	-12.96	Pk
Horizontal	4679.091	74.89	-20.24	54.65	74	-19.35	AV
Horizontal	4679.091	59.23	-20.24	38.98	54	-15.02	Pk
Horizontal	11510.043	63.26	-8.81	54.45	74	-19.55	AV
Horizontal	11510.043	49.24	-8.81	40.43	54	-13.57	Pk
Horizontal	17265.163	57.40	-3.01	54.39	68.2	-13.81	AV
Horizontal	17265.163	44.22	-3.01	41.21	54	-12.79	AV
middle Channel (5795 MHz)-Above 1G							
Vertical	6039.049	71.92	-18.93	52.99	68.2	-15.21	Pk
Vertical	6039.049	59.77	-18.93	40.84	54	-13.16	AV
Vertical	11590.126	62.76	-8.87	53.89	74	-20.11	Pk
Vertical	11590.126	49.12	-8.87	40.25	54	-13.75	AV
Vertical	17385.121	59.18	-2.35	56.83	68.2	-11.37	Pk
Vertical	17385.121	44.39	-2.35	42.04	54	-11.96	AV
Horizontal	6039.077	72.86	-18.93	53.93	68.2	-14.27	Pk
Horizontal	6039.077	59.68	-18.93	40.74	54	-13.26	AV
Horizontal	11590.178	62.52	-8.87	53.65	74	-20.35	Pk
Horizontal	11590.178	49.11	-8.87	40.24	54	-13.76	AV
Horizontal	17385.100	56.44	-2.35	54.09	68.2	-14.11	Pk
Horizontal	17385.100	44.75	-2.35	42.40	54	-11.60	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode:	TX(5.8G) - 802.11ac-HT80
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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)	
(5775 MHz)-Above 1G							
Vertical	4679.102	70.94	-20.24	50.70	74	-23.30	Pk
Vertical	4679.102	59.21	-20.24	38.97	54	-15.03	AV
Vertical	11550.104	64.96	-8.84	56.12	74	-17.88	Pk
Vertical	11550.104	49.37	-8.84	40.53	54	-13.47	AV
Vertical	17325.004	55.91	-2.68	53.23	68.2	-14.97	Pk
Vertical	17325.004	44.46	-2.68	41.78	54	-12.22	AV
Horizontal	4679.183	73.83	-20.24	53.59	74	-20.41	Pk
Horizontal	4679.183	59.44	-20.24	39.20	54	-14.80	AV
Horizontal	11550.166	63.55	-8.84	54.71	74	-19.29	Pk
Horizontal	11550.166	49.51	-8.84	40.67	54	-13.33	AV
Horizontal	17325.031	56.58	-2.68	53.90	68.2	-14.30	Pk
Horizontal	17325.031	44.99	-2.68	42.31	54	-11.69	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode: TX(5.8G) - 802.11ax-HE20

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	4679.008	74.91	-20.24	54.67	74	-19.33	Pk
Vertical	4679.008	59.10	-20.24	38.86	54	-15.14	AV
Vertical	11490.082	60.35	-8.79	51.56	68.2	-16.64	Pk
Vertical	11490.082	49.09	-8.79	40.30	54	-13.70	AV
Vertical	17235.178	58.70	-3.18	55.52	68.2	-12.68	Pk
Vertical	17235.178	44.62	-3.18	41.44	54	-12.56	AV
Horizontal	4679.011	72.20	-20.24	51.96	74	-22.04	Pk
Horizontal	4679.011	59.20	-20.24	38.96	54	-15.04	AV
Horizontal	11490.166	64.16	-8.79	55.37	68.2	-12.83	Pk
Horizontal	11490.166	49.36	-8.79	40.57	54	-13.43	AV
Horizontal	17235.010	57.18	-3.18	54.00	68.2	-14.20	Pk
Horizontal	17235.010	44.06	-3.18	40.88	54	-13.12	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.190	73.00	-20.42	52.58	74	-21.42	Pk
Vertical	4592.190	59.07	-20.42	38.65	54	-15.35	AV
Vertical	11570.062	64.84	-8.86	55.98	68.2	-12.22	Pk
Vertical	11570.062	49.17	-8.86	40.31	54	-13.69	AV
Vertical	17355.157	55.87	-2.52	53.35	68.2	-14.85	Pk
Vertical	17355.157	44.75	-2.52	42.23	54	-11.77	AV
Horizontal	4592.159	70.34	-20.42	49.92	74	-24.08	Pk
Horizontal	4592.159	59.90	-20.42	39.48	54	-14.52	AV
Horizontal	11570.047	61.26	-8.86	52.40	68.2	-15.80	Pk
Horizontal	11570.047	49.21	-8.86	40.35	54	-13.65	AV
Horizontal	17355.088	59.11	-2.52	56.59	68.2	-11.61	Pk
Horizontal	17355.088	44.96	-2.52	42.44	54	-11.56	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.069	70.26	-18.93	51.32	68.2	-16.88	Pk
Vertical	6039.069	59.36	-18.93	40.43	54	-13.57	AV
Vertical	11650.069	60.77	-8.92	51.85	74	-22.15	Pk
Vertical	11650.069	49.04	-8.92	40.12	54	-13.88	AV
Vertical	17475.075	55.41	-1.86	53.55	68.2	-14.65	Pk
Vertical	17475.075	44.06	-1.86	42.20	54	-11.80	AV
Horizontal	6039.080	71.25	-18.93	52.32	68.2	-15.88	Pk
Horizontal	6039.080	59.74	-18.93	40.81	54	-13.19	AV
Horizontal	11650.154	61.30	-8.92	52.38	74	-21.62	Pk
Horizontal	11650.154	49.09	-8.92	40.17	54	-13.83	AV
Horizontal	17475.049	59.30	-1.86	57.44	68.2	-10.76	Pk
Horizontal	17475.049	44.12	-1.86	42.26	54	-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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode: TX(5.8G) - 802.11ax-HE40

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	4679.046	71.89	-20.24	51.65	74	-22.35	AV
Vertical	4679.046	59.24	-20.24	39.00	54	-15.00	Pk
Vertical	11510.123	60.89	-8.81	52.08	74	-21.92	AV
Vertical	11510.123	49.97	-8.81	41.16	54	-12.84	Pk
Vertical	17265.082	56.29	-3.01	53.28	68.2	-14.92	AV
Vertical	17265.082	44.65	-3.01	41.64	54	-12.36	Pk
Horizontal	4679.012	72.23	-20.24	51.99	74	-22.01	AV
Horizontal	4679.012	59.29	-20.24	39.05	54	-14.95	Pk
Horizontal	11510.117	61.95	-8.81	53.14	74	-20.86	AV
Horizontal	11510.117	49.72	-8.81	40.91	54	-13.09	Pk
Horizontal	17265.047	56.26	-3.01	53.25	68.2	-14.95	AV
Horizontal	17265.047	44.45	-3.01	41.44	54	-12.56	AV
middle Channel (5795 MHz)-Above 1G							
Vertical	6039.008	72.03	-18.93	53.09	68.2	-15.11	Pk
Vertical	6039.008	59.55	-18.93	40.61	54	-13.39	AV
Vertical	11590.089	61.46	-8.87	52.59	74	-21.41	Pk
Vertical	11590.089	49.43	-8.87	40.56	54	-13.44	AV
Vertical	17385.029	59.58	-2.35	57.23	68.2	-10.97	Pk
Vertical	17385.029	44.68	-2.35	42.33	54	-11.67	AV
Horizontal	6039.061	72.38	-18.93	53.45	68.2	-14.75	Pk
Horizontal	6039.061	59.64	-18.93	40.71	54	-13.29	AV
Horizontal	11590.010	62.23	-8.87	53.36	74	-20.64	Pk
Horizontal	11590.010	49.32	-8.87	40.45	54	-13.55	AV
Horizontal	17385.127	57.52	-2.35	55.17	68.2	-13.03	Pk
Horizontal	17385.127	44.21	-2.35	41.86	54	-12.14	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

Test Mode:	TX(5.8G) - 802.11ax-HE80
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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)	
(5775 MHz)-Above 1G							
Vertical	4679.133	70.99	-20.24	50.75	74	-23.25	Pk
Vertical	4679.133	59.62	-20.24	39.38	54	-14.62	AV
Vertical	11550.137	61.20	-8.84	52.36	74	-21.64	Pk
Vertical	11550.137	49.89	-8.84	41.05	54	-12.95	AV
Vertical	17325.082	59.90	-2.68	57.22	68.2	-10.98	Pk
Vertical	17325.082	44.54	-2.68	41.86	54	-12.14	AV
Horizontal	4679.072	73.04	-20.24	52.80	74	-21.20	Pk
Horizontal	4679.072	59.75	-20.24	39.51	54	-14.49	AV
Horizontal	11550.061	62.67	-8.84	53.83	74	-20.17	Pk
Horizontal	11550.061	49.07	-8.84	40.23	54	-13.77	AV
Horizontal	17325.010	57.96	-2.68	55.28	68.2	-12.92	Pk
Horizontal	17325.010	44.42	-2.68	41.74	54	-12.26	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 is MIMO(antenna A+ antenna B + antenna C) Mode.

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

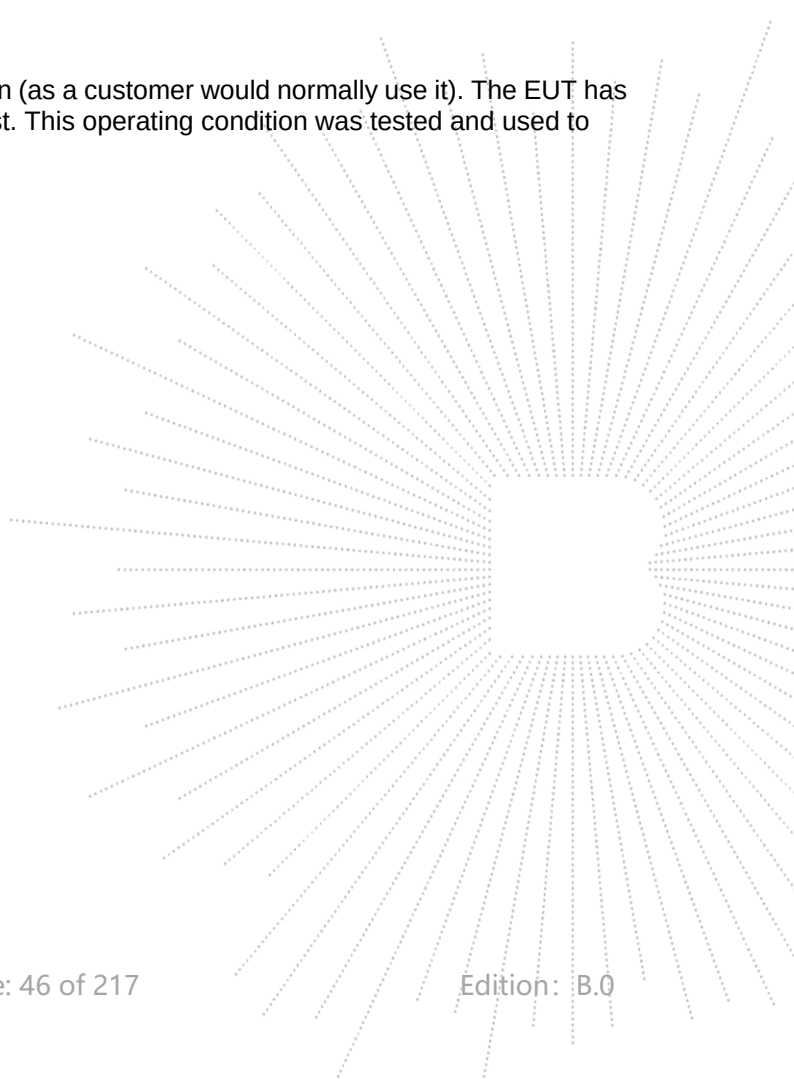
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 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 12V
Test Mode:	(5180-5240MHz)		

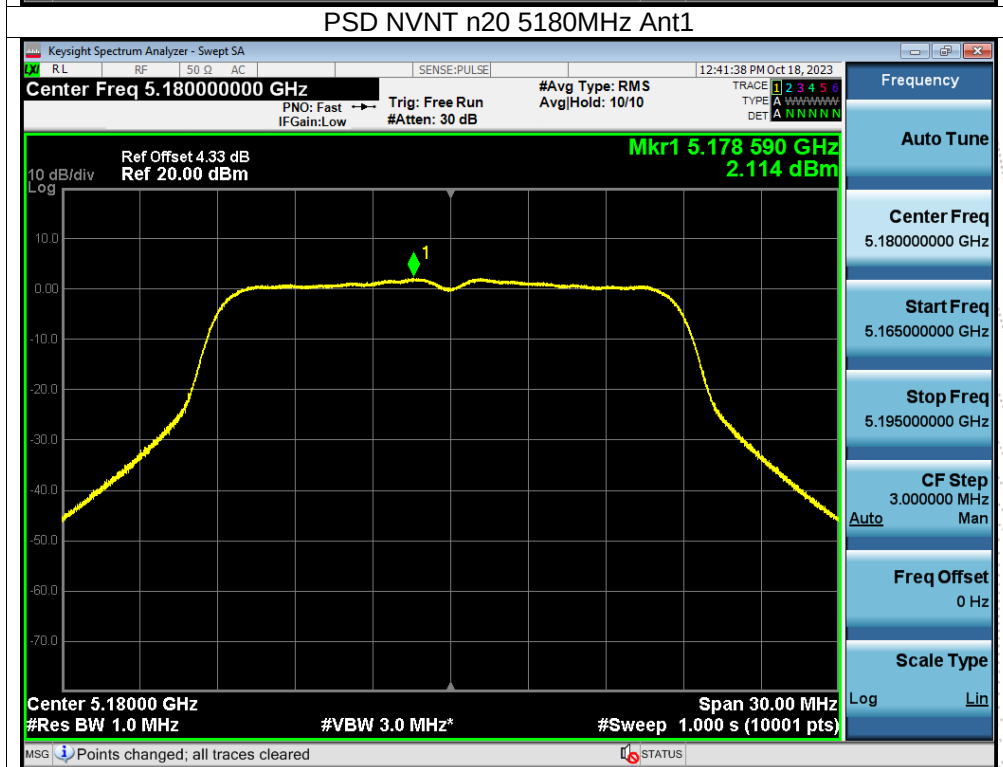
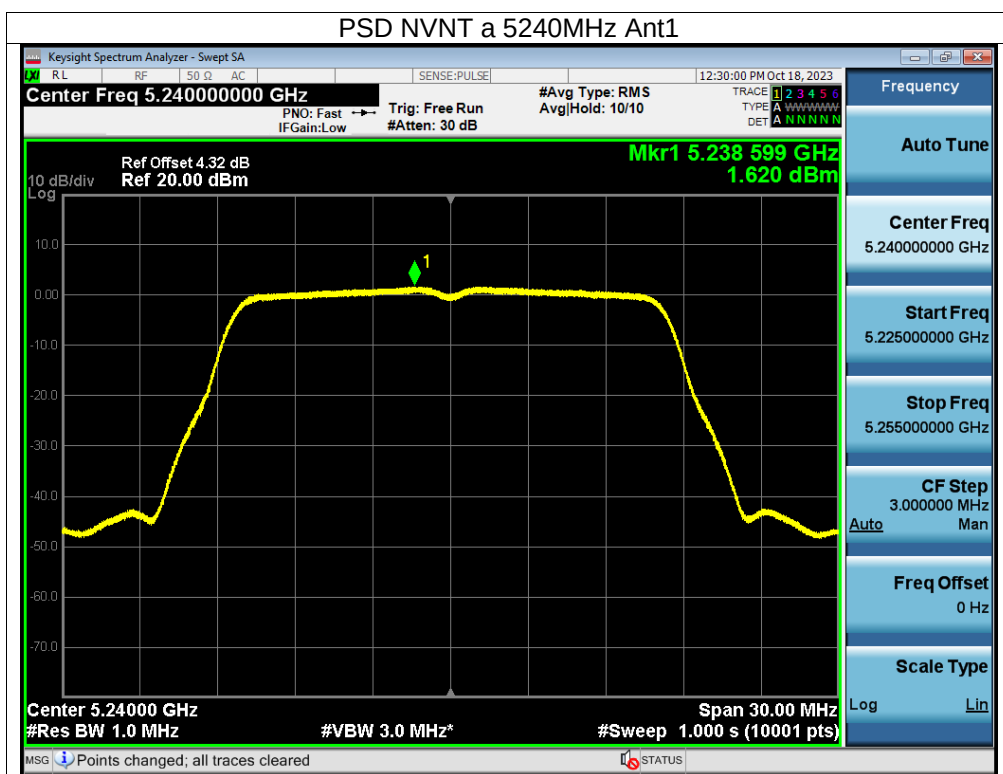
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/MHz)			Total (dBm/MHz)	Limit (dBm/MHz)	Verdict
			Ant A	Ant B	Ant C			
NVNT	a	5180	2.75	2.35	2.45	/	17	Pass
NVNT	a	5200	2.55	1.91	1.99	/	17	Pass
NVNT	a	5240	1.62	0.99	2.24	/	17	Pass
NVNT	n20	5180	2.11	2.16	1.93	6.84	13.23	Pass
NVNT	n20	5200	1.99	1.85	1.31	6.50	13.23	Pass
NVNT	n20	5240	1.59	1.42	1.27	6.20	13.23	Pass
NVNT	n40	5190	-0.29	0.11	0.12	4.76	13.23	Pass
NVNT	n40	5230	0.46	1.17	0.19	5.40	13.23	Pass
NVNT	ac20	5180	1.7	-0.9	1.52	5.69	13.23	Pass
NVNT	ac20	5200	0.76	0.46	0.38	5.31	13.23	Pass
NVNT	ac20	5240	0.77	0.52	0.17	5.26	13.23	Pass
NVNT	ac40	5190	-2.13	-2.27	-1.98	2.65	13.23	Pass
NVNT	ac40	5230	-2.83	-2.64	-1.76	2.39	13.23	Pass
NVNT	ac80	5210	-6.06	-6.47	-5.78	-1.32	13.23	Pass
NVNT	ax20	5180	1.25	1.15	1.74	6.16	13.23	Pass
NVNT	ax20	5200	0.75	0.01	0.98	5.37	13.23	Pass
NVNT	ax20	5240	0.37	-0.18	1.08	5.23	13.23	Pass
NVNT	ax40	5190	-2.47	-2.58	-2.63	2.21	13.23	Pass
NVNT	ax40	5230	-2.99	-2.74	-2.53	2.02	13.23	Pass
NVNT	ax80	5210	-6.73	-6.65	-6.73	-1.93	13.23	Pass

Total: antenna A+ antenna B + antenna C

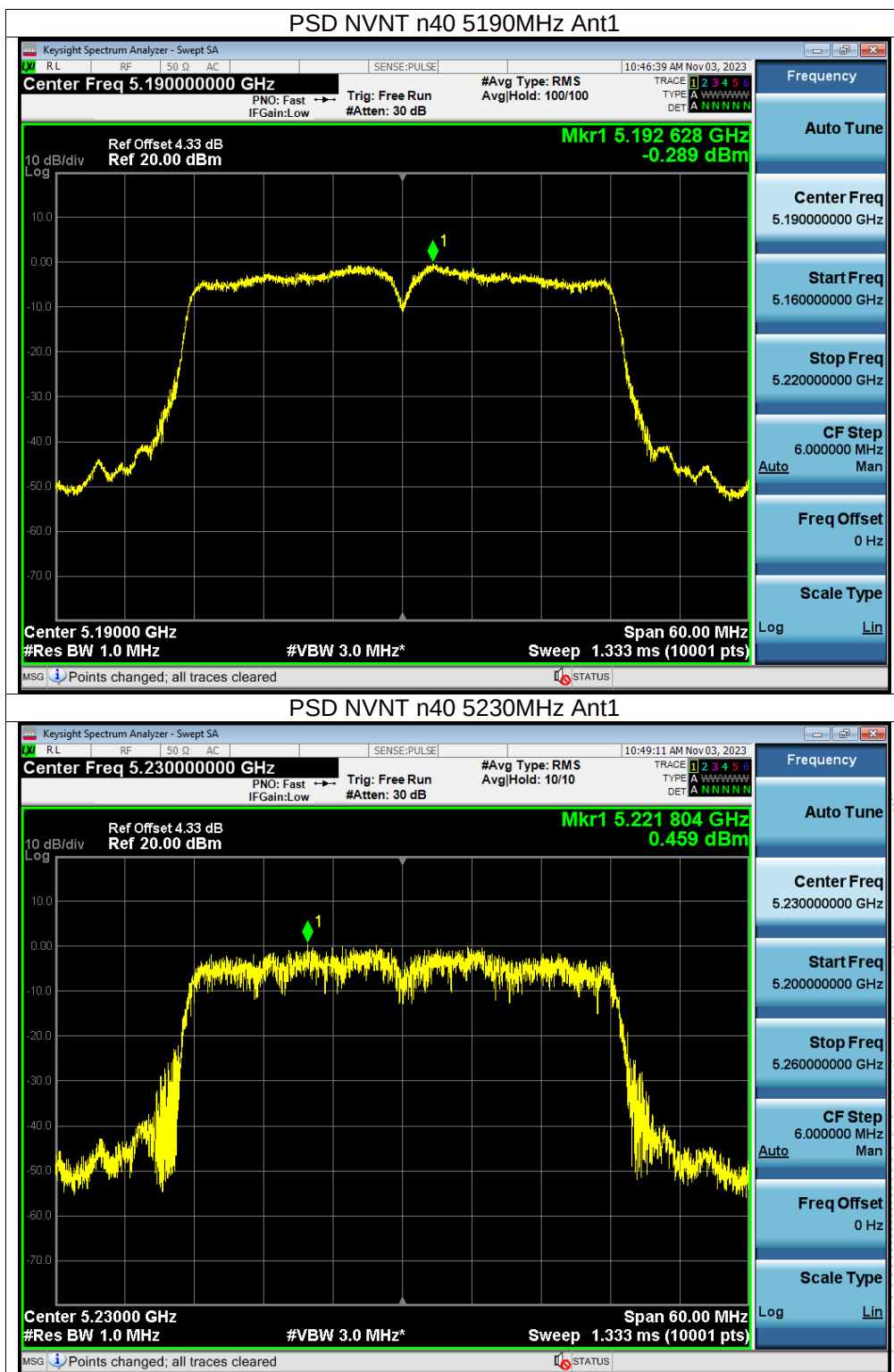


Ant A:

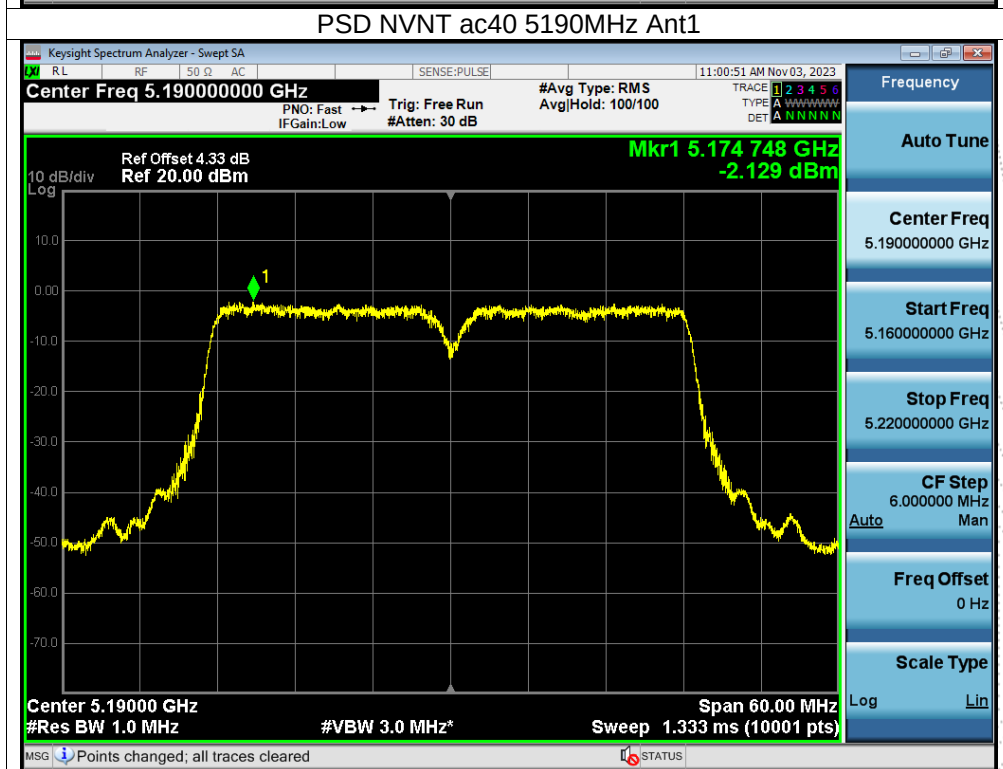
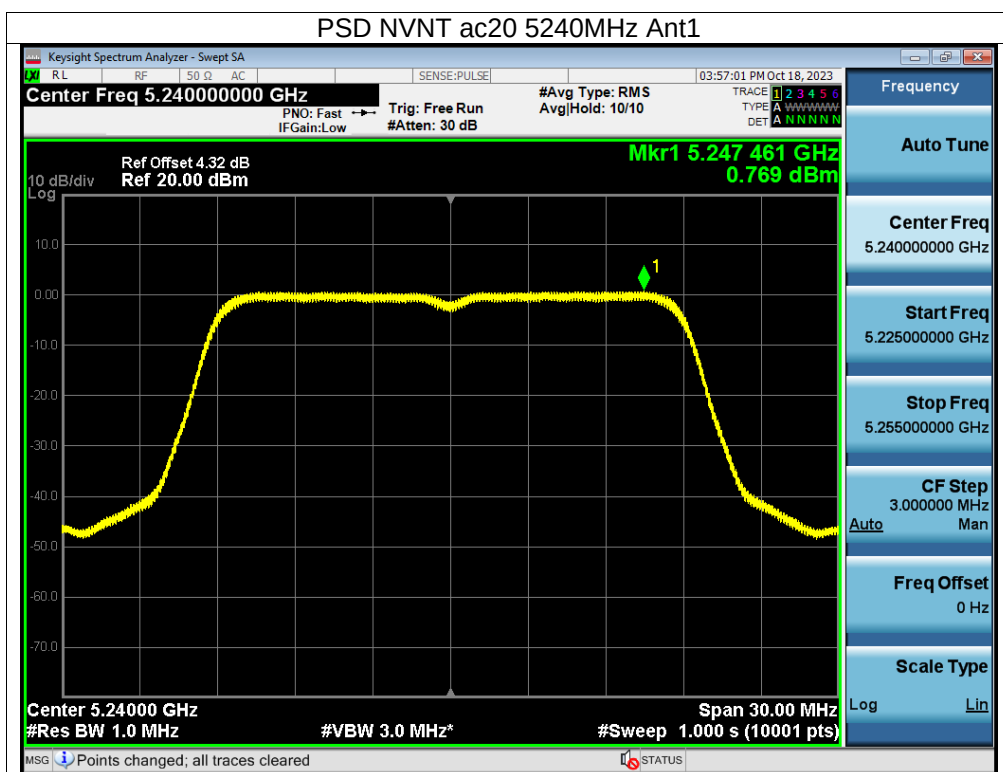




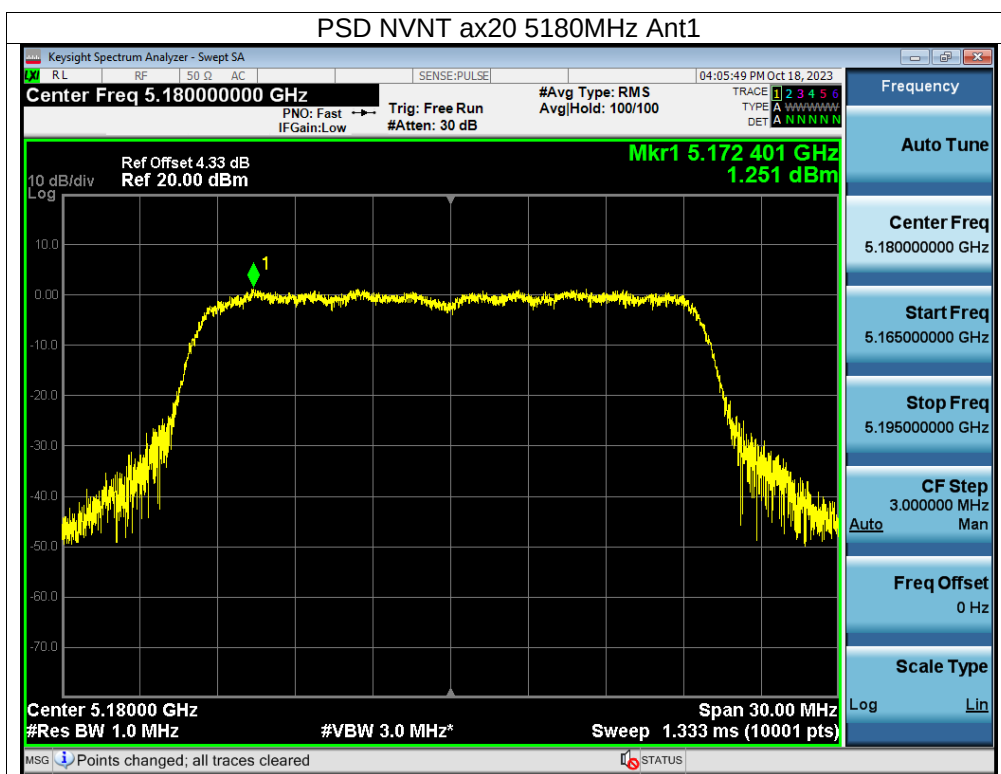




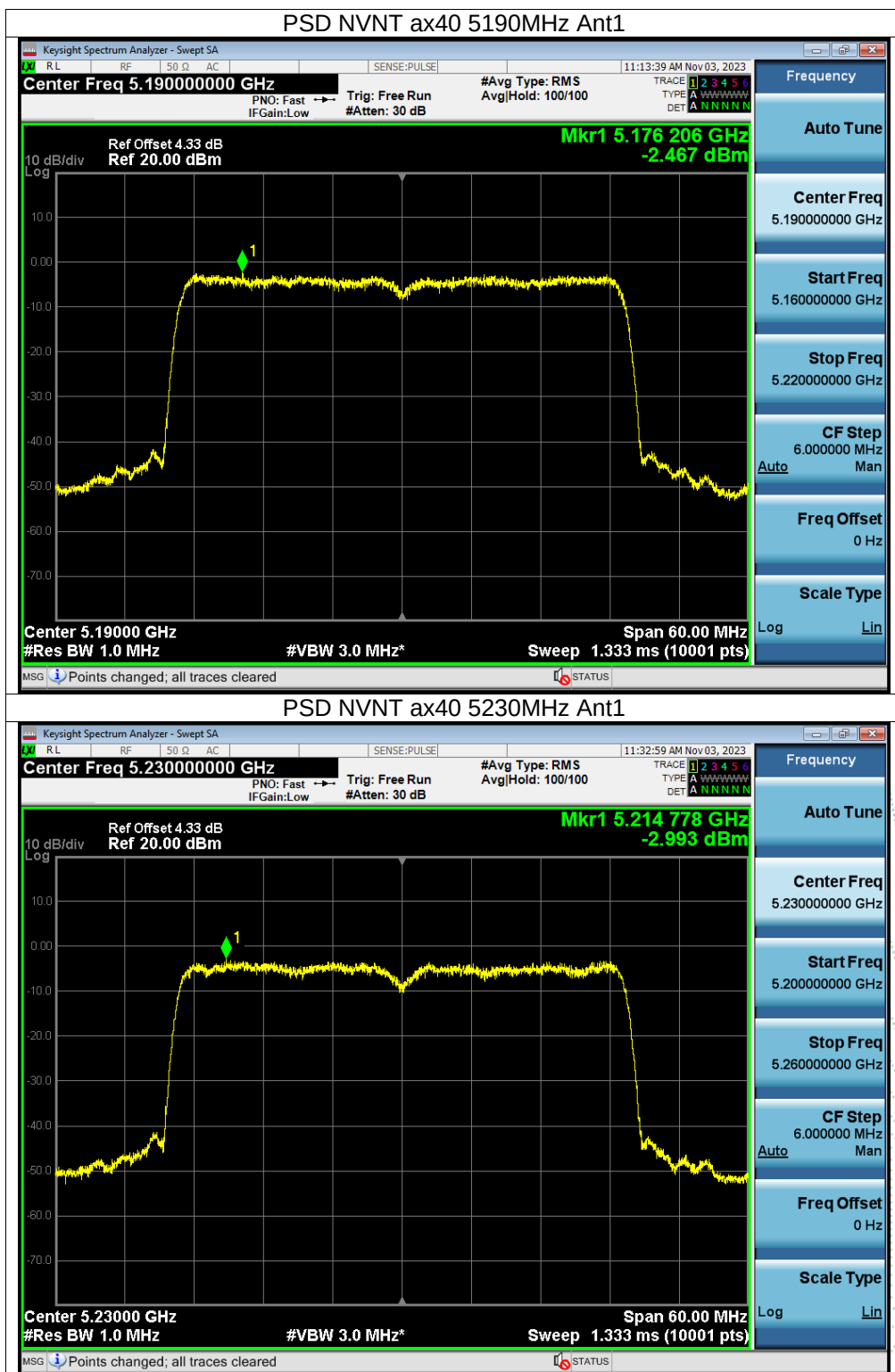


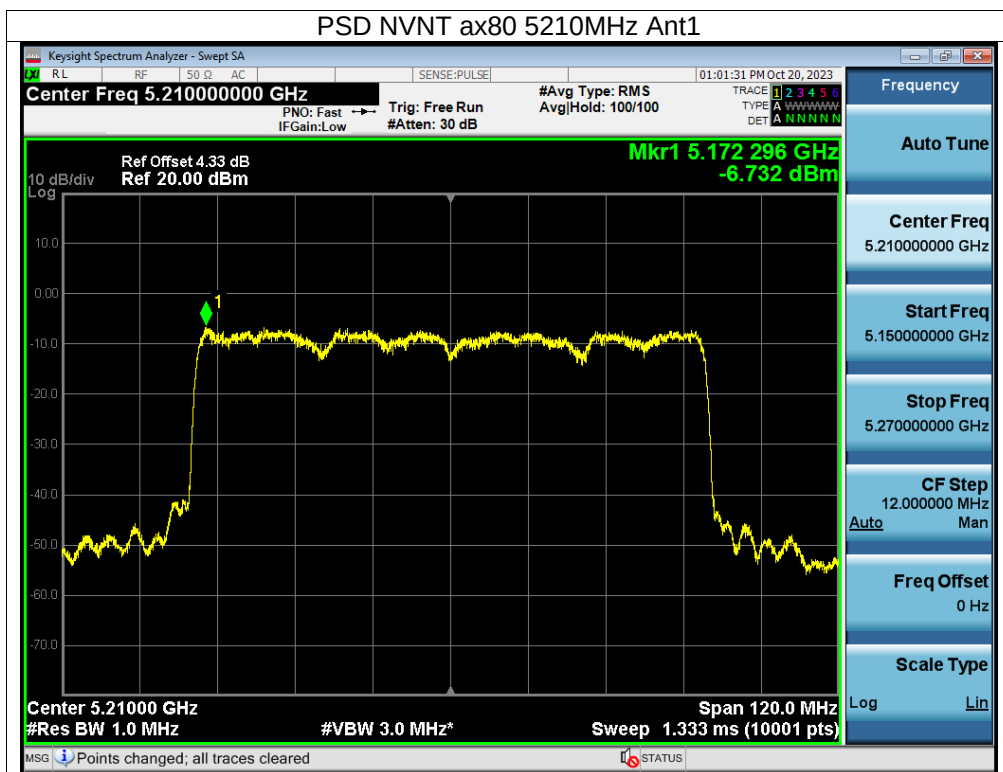






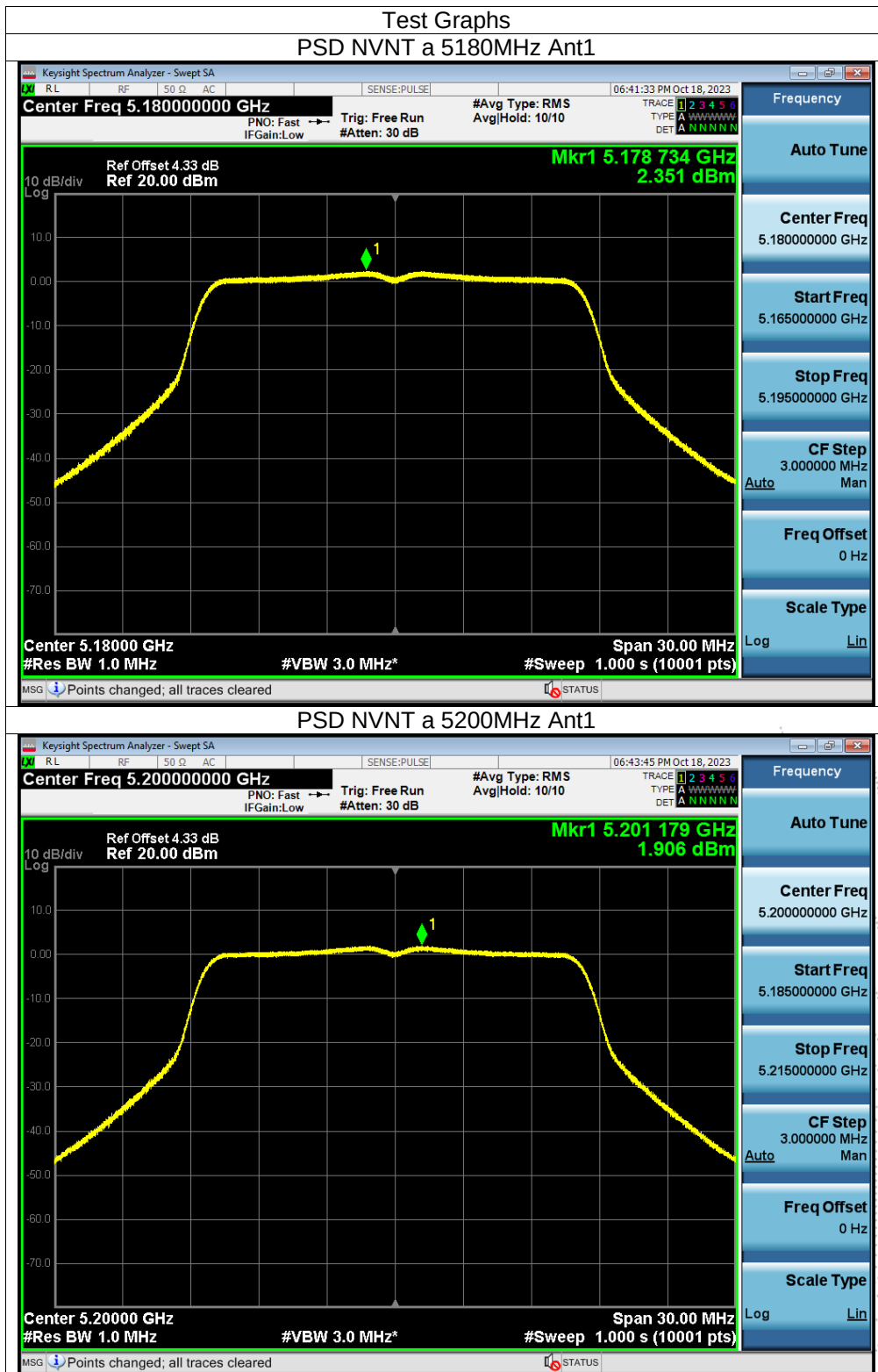


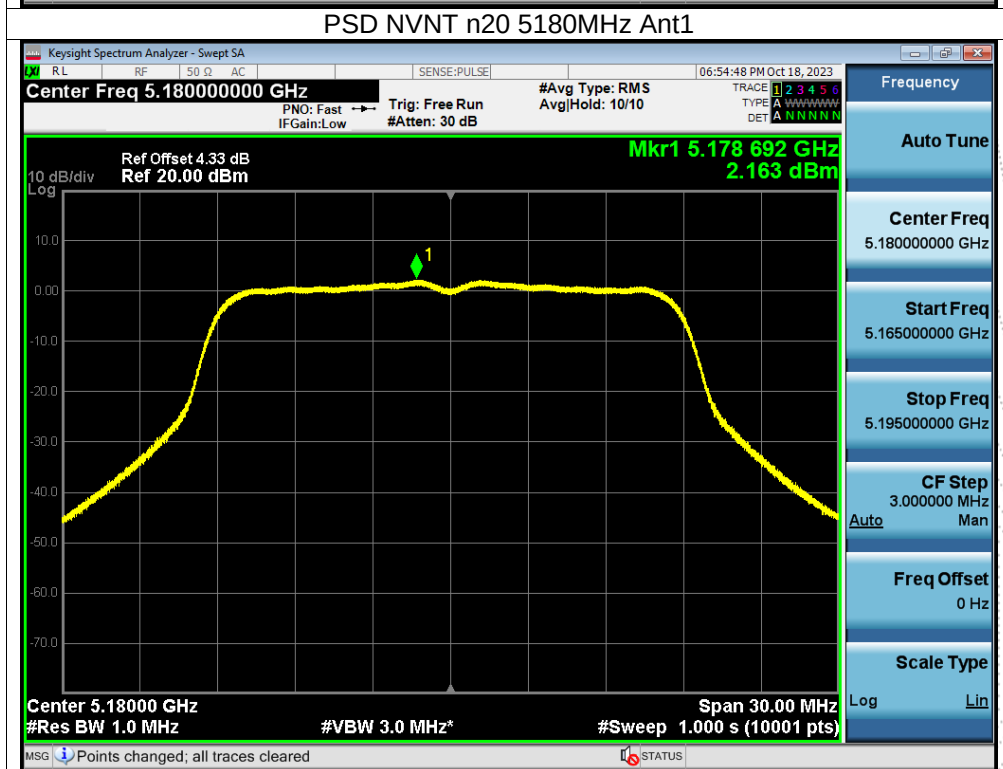
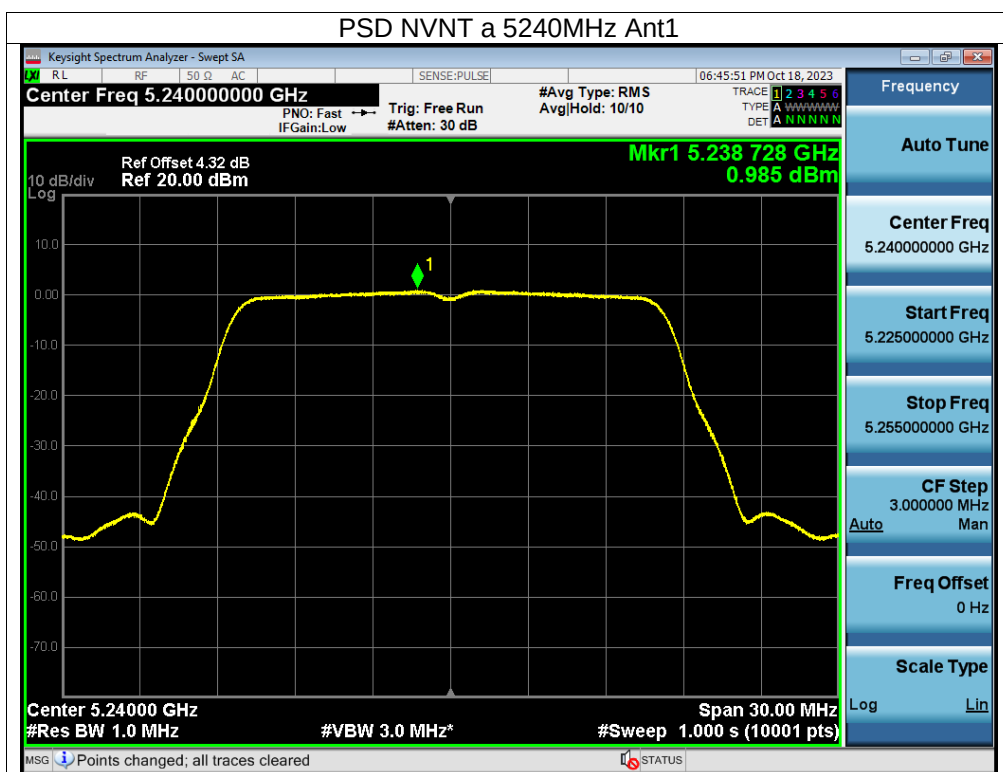




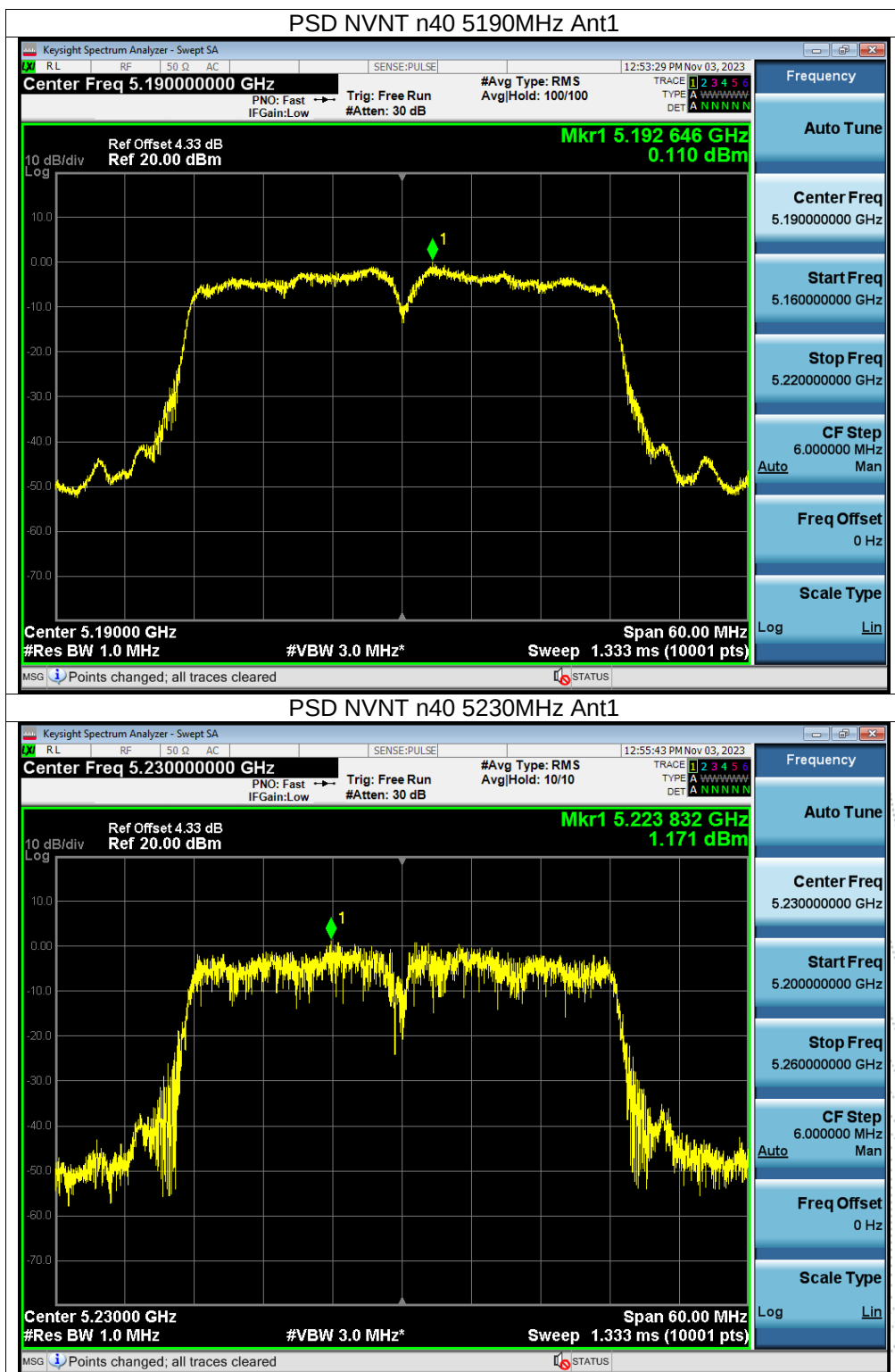


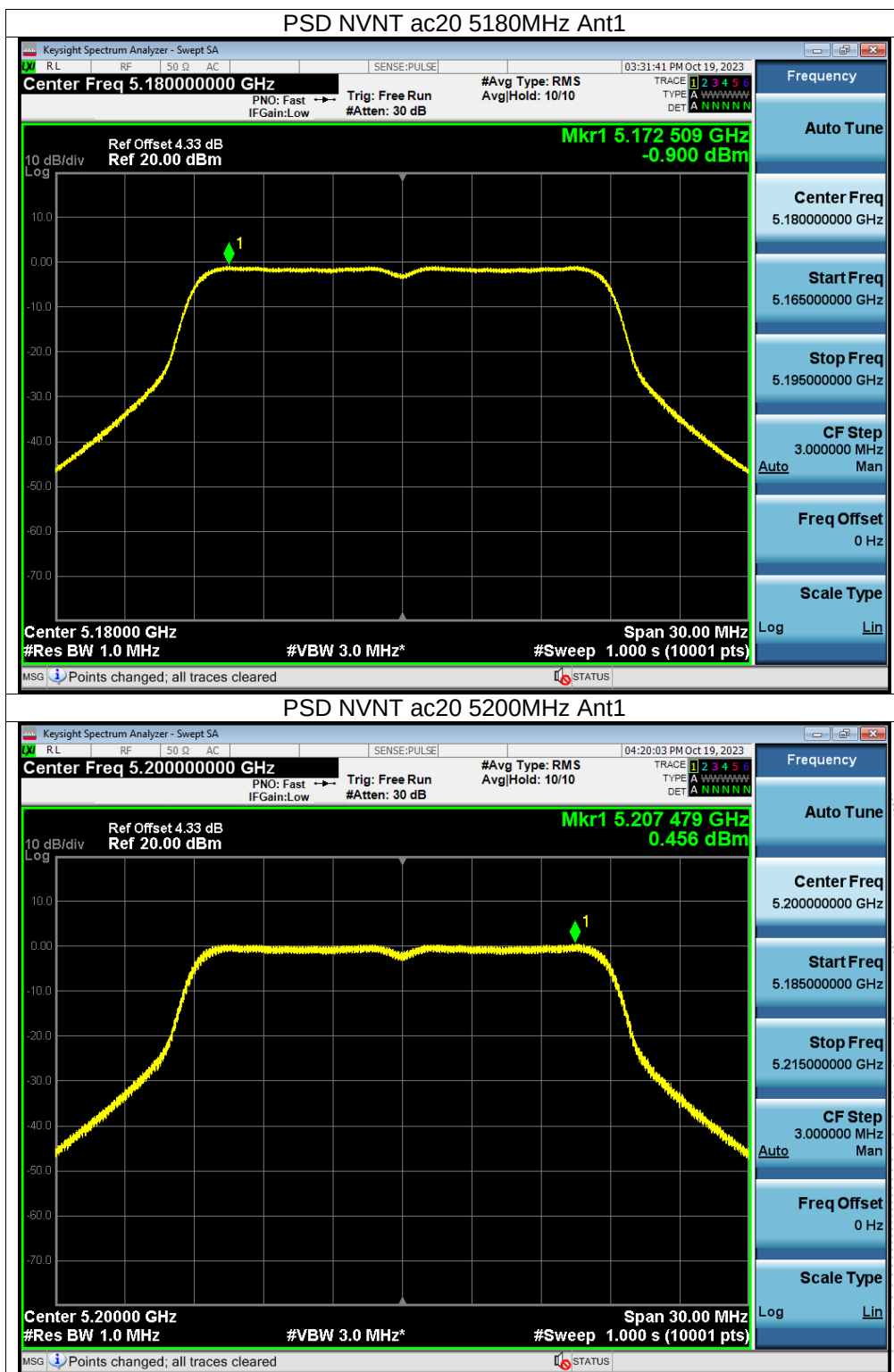
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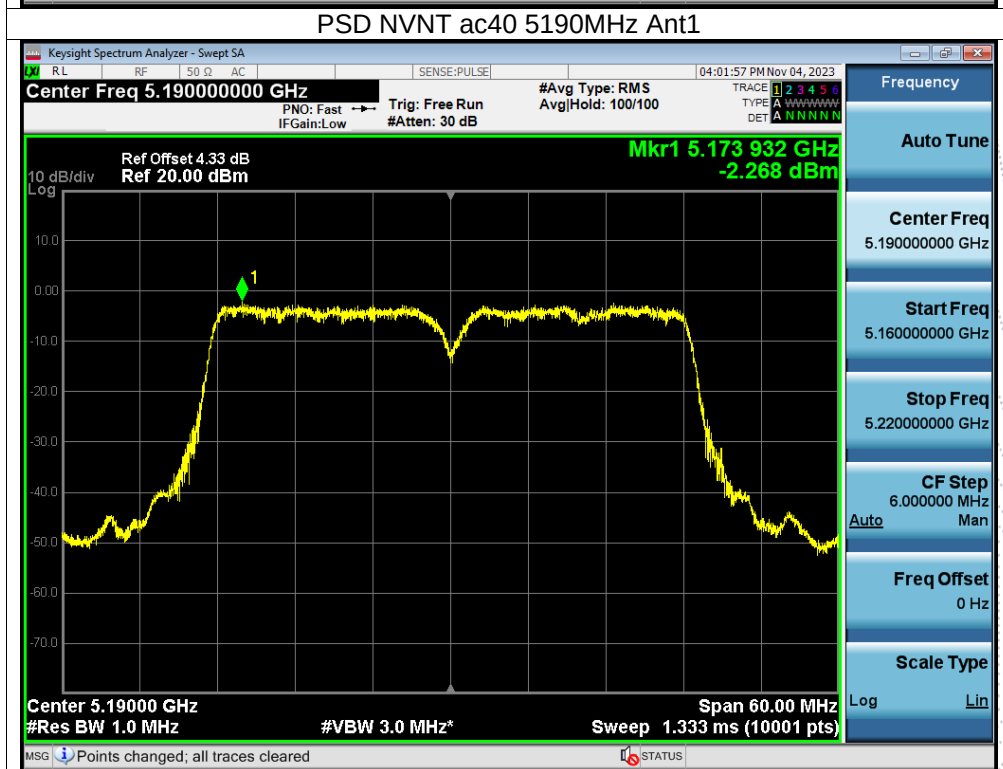
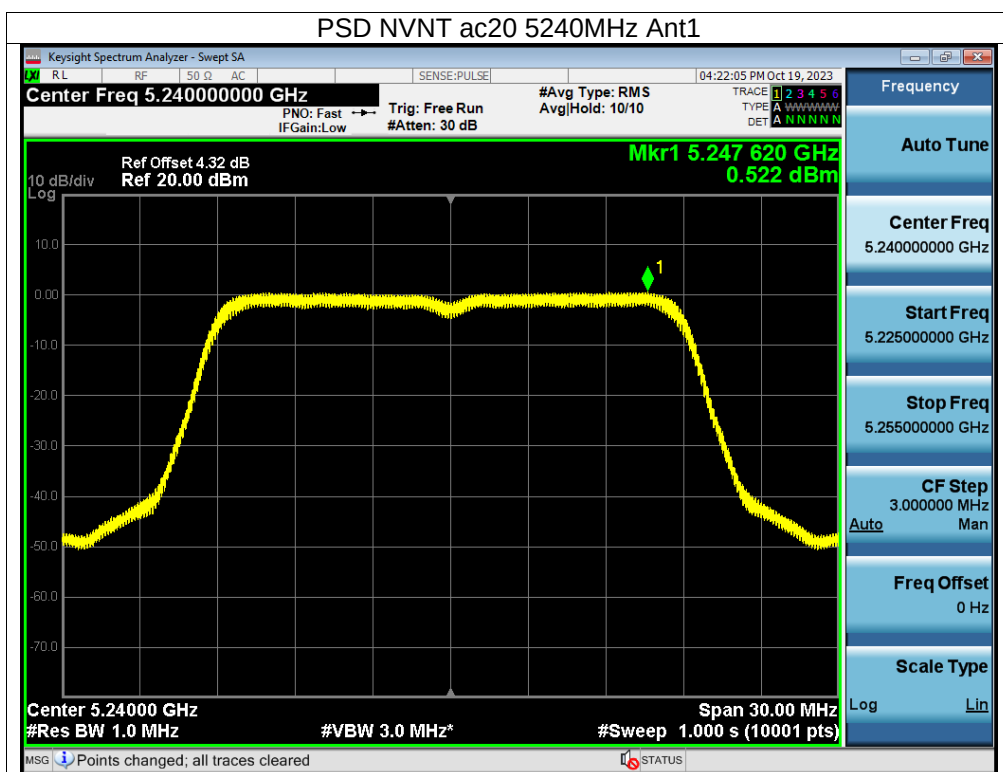




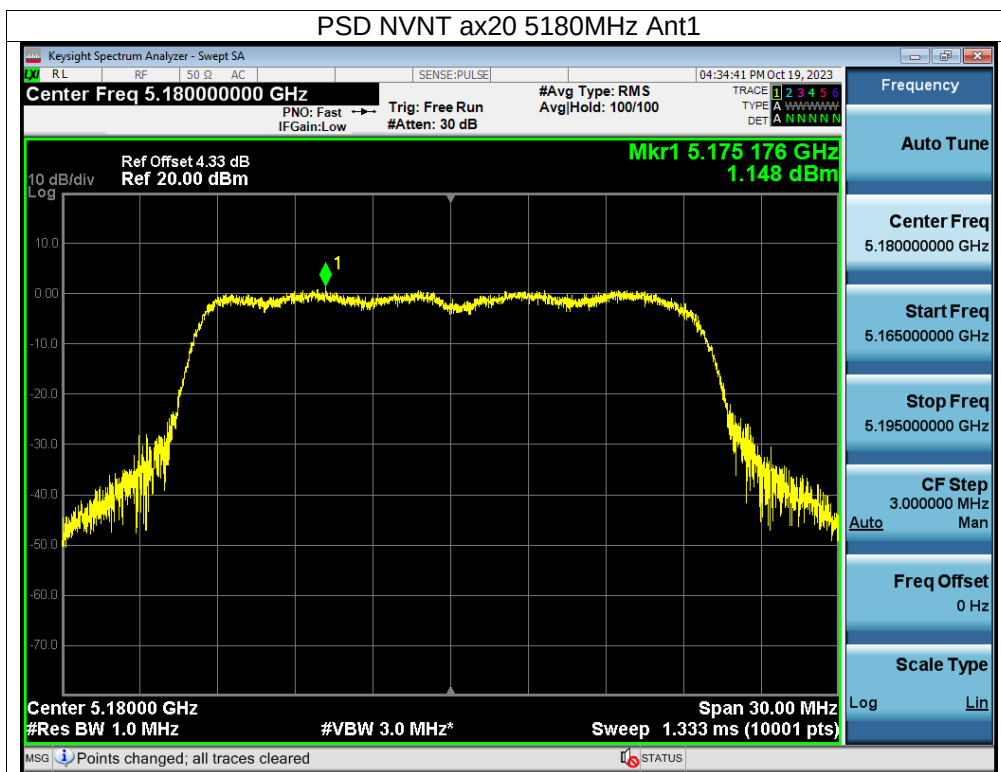






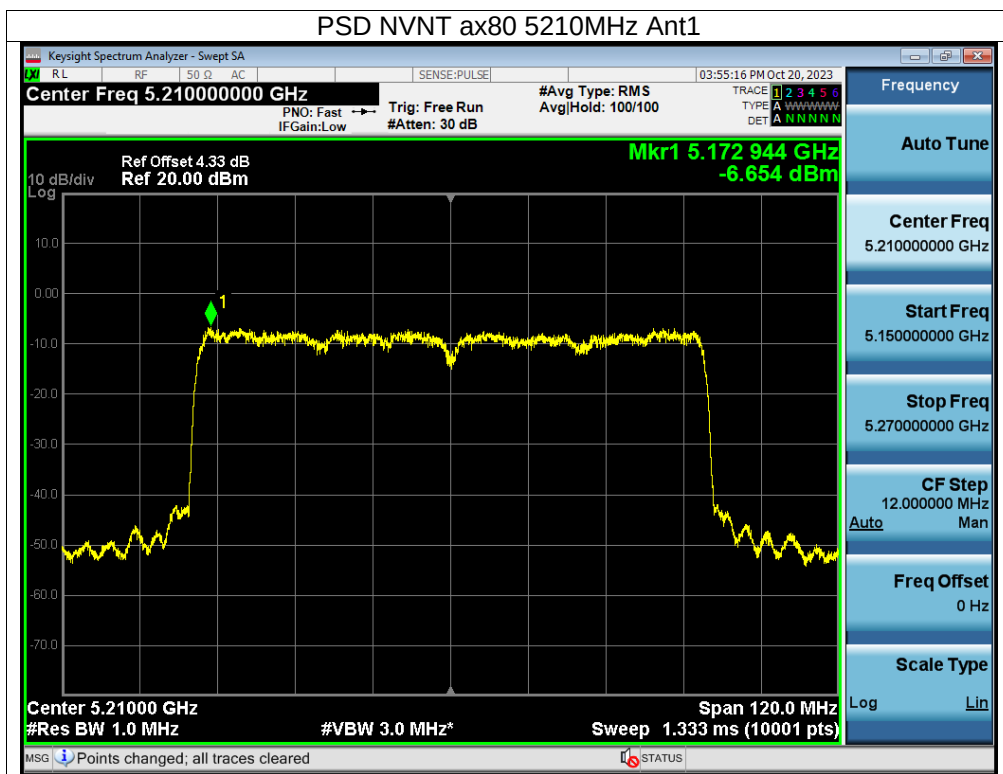














Ant C:

