

TEST REPORT

Report No.: BCTC2206792017-2E

Applicant: Reolink Innovation Limited

Product Name: WiFi IP Camera

Model/Type
reference: Reolink TrackMix WiFi

Tested Date: 2022-06-06 to 2022-06-16

Issued Date: 2022-06-17

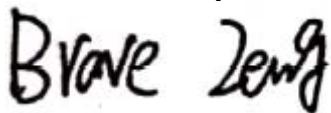
Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2AYHE-2205C

Product Name: WiFi IP Camera
Trademark: Reolink
Model/Type Ref.: Reolink TrackMix WiFi
Prepared For: Reolink Innovation Limited
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Sample Received Date: 2022-06-06
Sample tested Date: 2022-06-06 to 2022-06-16
Issue Date: 2022-06-17
Report No.: BCTC2206792017-2E
FCC Part15 15.407
Test Standards: 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

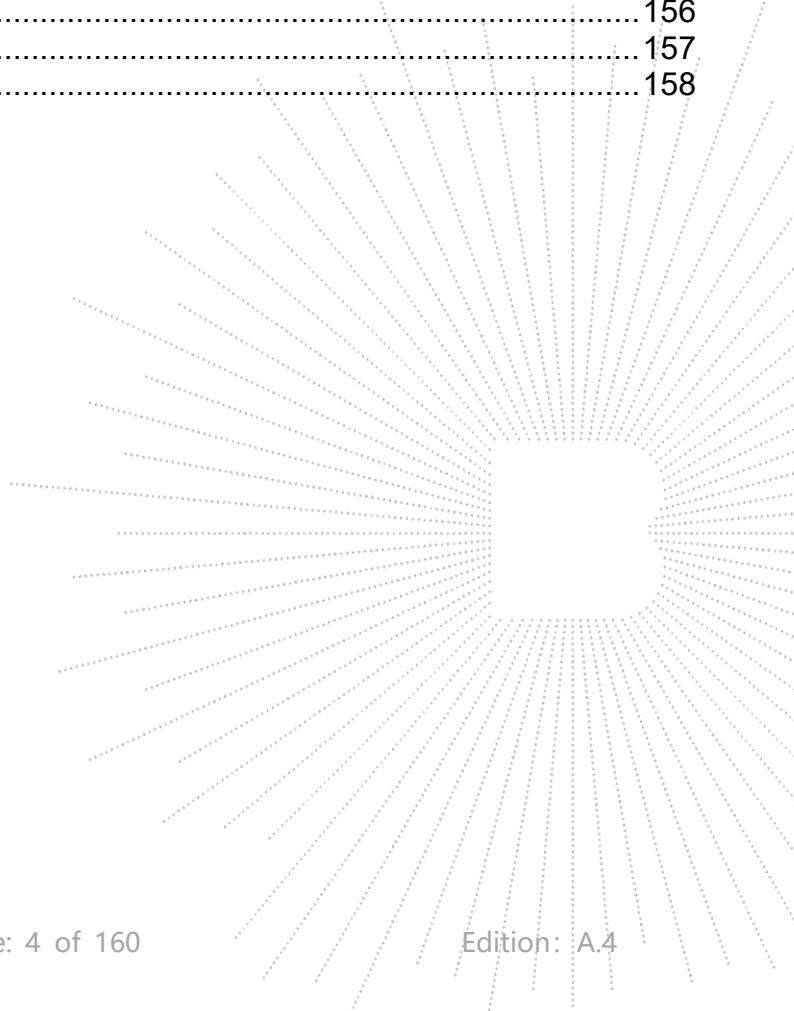
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(Note: N/A Means Not Applicable)



1. Version

Report No.	Issue Date	Description	Approved
BCTC2206792017-2E	2022-06-17	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No.	Results
1	Spurious Radiated Emissions	15.209(a), 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(6)	PASS
2	Conducted Emission	15.207	PASS
3	26 dB and 99% Emission Bandwidth	15.407 (a)(5) 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(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

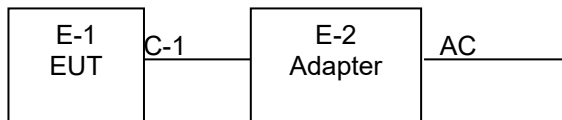
4.1 Product Information

Model/Type Ref.:	Reolink TrackMix WiFi
Model differences:	N/A
Hardware Version:	N29C02 pwr29
Software Version:	V1.0
IEEE 802.11 WLAN Mode Supported	802.11a/n (20MHz channel bandwidth) 802.11n (40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth) 5180-5240MHz for 802.11a/n/ac(HT20); 5190-5230MHz for 802.11n/ac(HT40); 5210MHz for 802.11 ac80;
Operation Frequency:	5745-5825 MHz for 802.11a/n/ac(HT20); 5755-5795 MHz for 802.11n/ac(HT40); 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-MCS9
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac 4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ;
Number Of Channel	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*2
Antenna Gain:	5.1G: Antenna A & B: 4.5 dBi 5.8G: Antenna A & B: 4.5 dBi
Ratings:	AC 120V/60Hz
Adapter:	Model:DCT24W120200US-A0 Input: 100-240V~50/60Hz 0.7A max Output: 12V === 2.0A

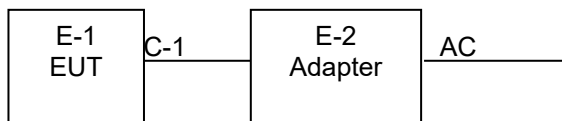
4.2 Test Setup Configuration

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	WiFi IP Camera	Reolink	Reolink TrackMix WiFi	N/A	EUT
E-2	Adapter	N/A	DCT24W120200US-A0	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	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(20 MHz) band IV (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)
42	5210

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

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

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

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

4.5 Test Mode

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

Pretest Mode	Description
Mode 1	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155
Mode 4	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 5	Link Mode

Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

For Radiated Emission	
Final Test 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	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165

Note:

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

4.6 Table Of Parameters Of Text Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Test software Version	CMD		
Parameters	DEF	DEF	DEF

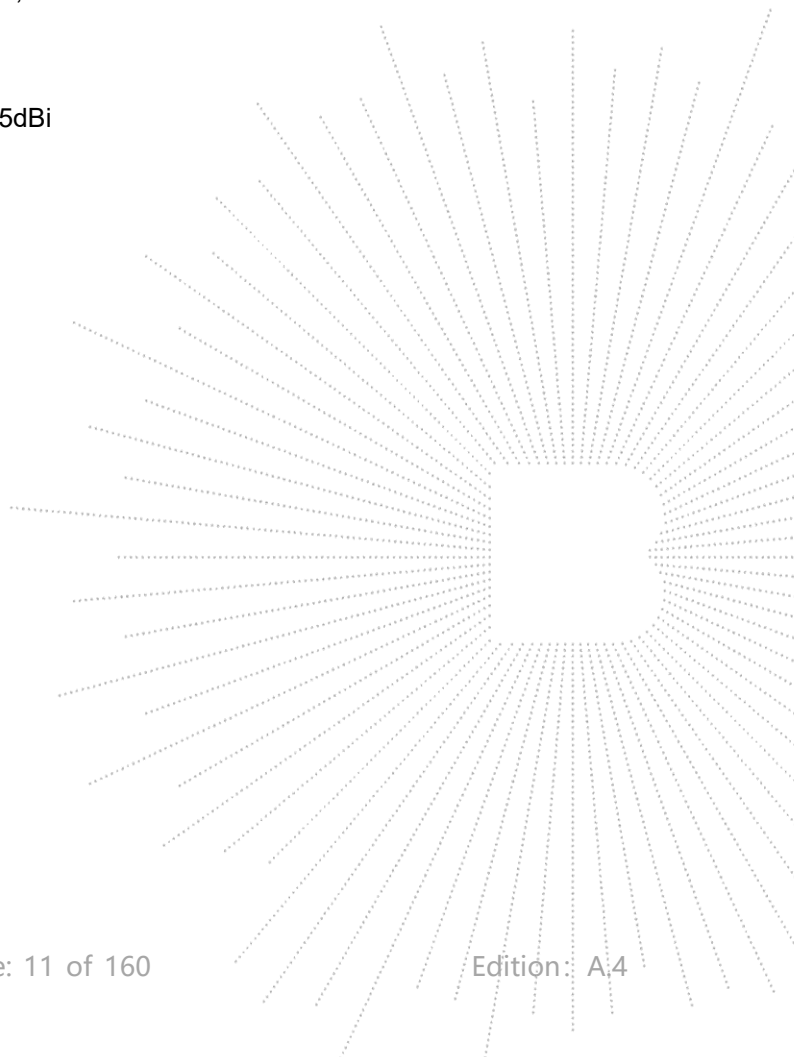
4.7 Antenna

5.1G & 5.8G

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	External antenna	4.5	N/A
B	N/A	N/A	External antenna	4.5	N/A

EUT has two External antennas with Max gain GANT 4.5dBi on every antenna, CDD device with one spatial streams, also can operat with one spatial streams according to KDB662911 D01 v02r01, Directional gain= GANT + Array Gain, where Array Gain is as follows.

- 1)For power spectral density(PSD) measurements,
 $\text{Array Gain} = 10\log(\text{NANT}/\text{NSS})\text{dB} = 10\log(2/1) = 3.01 \text{ dBi}$,
 So the directional gain for PSD is 7.51 dBi
- 2)For power measurements,
 The Array gain=0 for $\text{NANT} \leq 4$,
 So the directional gain for Power measurements is 4.5dBi



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
IC Registered No.: 23583

5.2 Test Instrument Used

Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
LISN	R&S	ENV216	101375	May 24, 2022	May 23, 2023
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 24, 2022	May 23, 2023

RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power Metter	Keysight	E4419	\	May 24, 2022	May 23, 2023
Power Sensor (AV)	Keysight	E9300A	\	May 24, 2022	May 23, 2023
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 24, 2022	May 23, 2023
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	\	May 24, 2022	May 23, 2023

Radiated Emissions Test (966 Chamber)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Jun. 06. 2020	Jun. 05, 2023
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
Receiver	R&S	ESRP	101154	May 24, 2022	May 23, 2023
Amplifier	SKET	LAPA_01G18 G-45dB	\	May 24, 2022	May 23, 2023
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 24, 2022	May 23, 2023
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 26, 2022	May 25, 2023
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 24, 2022	May 23, 2023
Horn Antenn(18GH z-40GHz)	Schwarzbeck	BBHA9170	00822	May 24, 2022	May 23, 2023
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 24, 2022	May 23, 2023
Loop Antenna(9kHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 26, 2022	May 25, 2023
RF cables1(9kHz- 30MHz)	Huber+Suhnar	9kHz-30MHz	B1702988-000 8	May 26, 2022	May 25, 2023
RF cables2(30MH z-1GHz)	Huber+Suhnar	30MHz-1GHz	1486150	May 26, 2022	May 25, 2023
RF cables3(1GHz -40GHz)	Huber+Suhnar	1GHz-40GHz	1607106	May 24, 2022	May 23, 2023
Power Metter	Keysight	E4419	\	May 26, 2022	May 25, 2023
Power Sensor (AV)	Keysight	E9300A	\	May 26, 2022	May 25, 2023
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 26, 2022	May 25, 2023
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	\	May 26, 2022	May 25, 2023
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

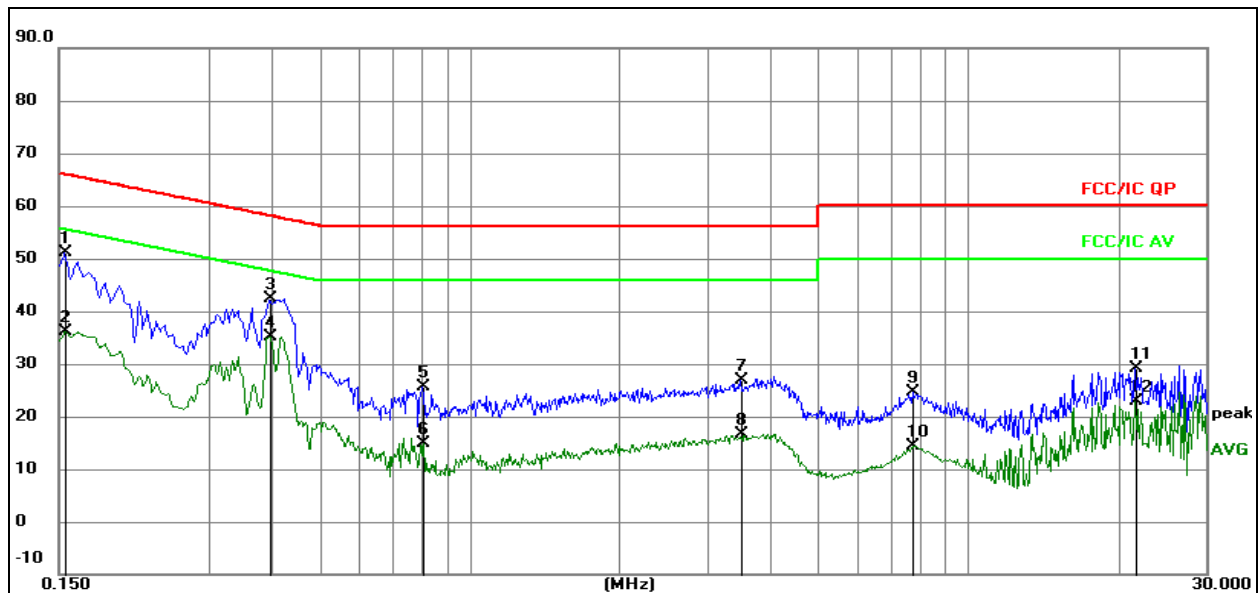
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak 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 :	AC120V/60Hz
Test Mode:	Mode 1	Polarization :	L

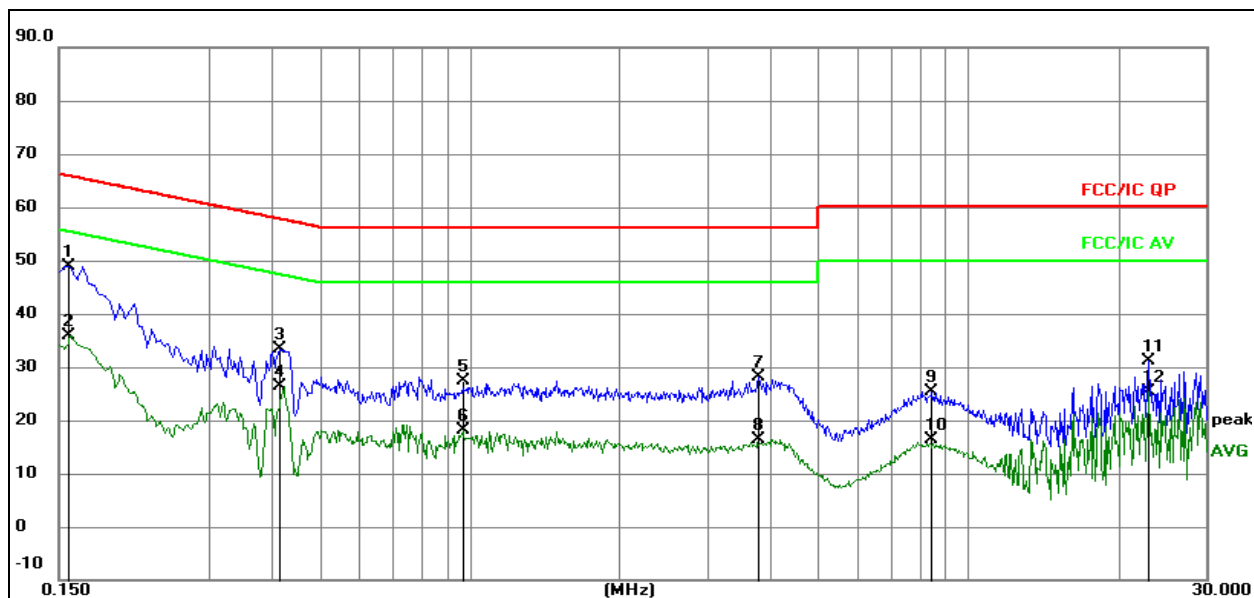


Remark:

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 dB	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1545	31.51	19.60	51.11	65.75	-14.64	QP
2		0.1545	16.48	19.60	36.08	55.75	-19.67	AVG
3		0.3975	22.78	19.61	42.39	57.91	-15.52	QP
4	*	0.3975	15.55	19.61	35.16	47.91	-12.75	AVG
5		0.8070	6.00	19.61	25.61	56.00	-30.39	QP
6		0.8070	-4.76	19.61	14.85	46.00	-31.15	AVG
7		3.4935	7.26	19.66	26.92	56.00	-29.08	QP
8		3.4935	-2.94	19.66	16.72	46.00	-29.28	AVG
9		7.7550	4.85	19.75	24.60	60.00	-35.40	QP
10		7.7550	-5.35	19.75	14.40	50.00	-35.60	AVG
11		21.6645	9.42	19.74	29.16	60.00	-30.84	QP
12		21.6645	3.03	19.74	22.77	50.00	-27.23	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	AC120V/60Hz
Test Mode:	Mode 1	Polarization :	N


Remark:

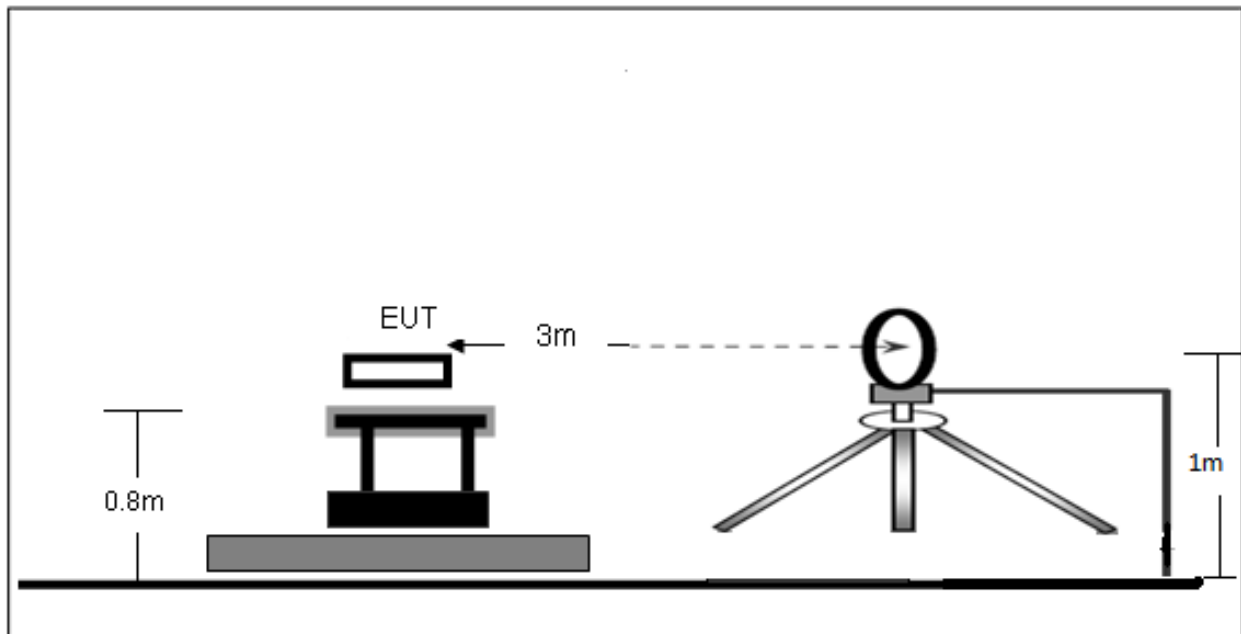
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No. Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1 *	0.1565	29.18	19.60	48.78	65.65	-16.87	QP
2	0.1565	16.16	19.60	35.76	55.65	-19.89	AVG
3	0.4148	13.81	19.61	33.42	57.55	-24.13	QP
4	0.4148	6.69	19.61	26.30	47.55	-21.25	AVG
5	0.9684	7.84	19.62	27.46	56.00	-28.54	QP
6	0.9684	-1.57	19.62	18.05	46.00	-27.95	AVG
7	3.7994	8.49	19.67	28.16	56.00	-27.84	QP
8	3.7994	-3.19	19.67	16.48	46.00	-29.52	AVG
9	8.4561	5.56	19.76	25.32	60.00	-34.68	QP
10	8.4561	-3.41	19.76	16.35	50.00	-33.65	AVG
11	23.0181	11.34	19.73	31.07	60.00	-28.93	QP
12	23.0181	5.62	19.73	25.35	50.00	-24.65	AVG

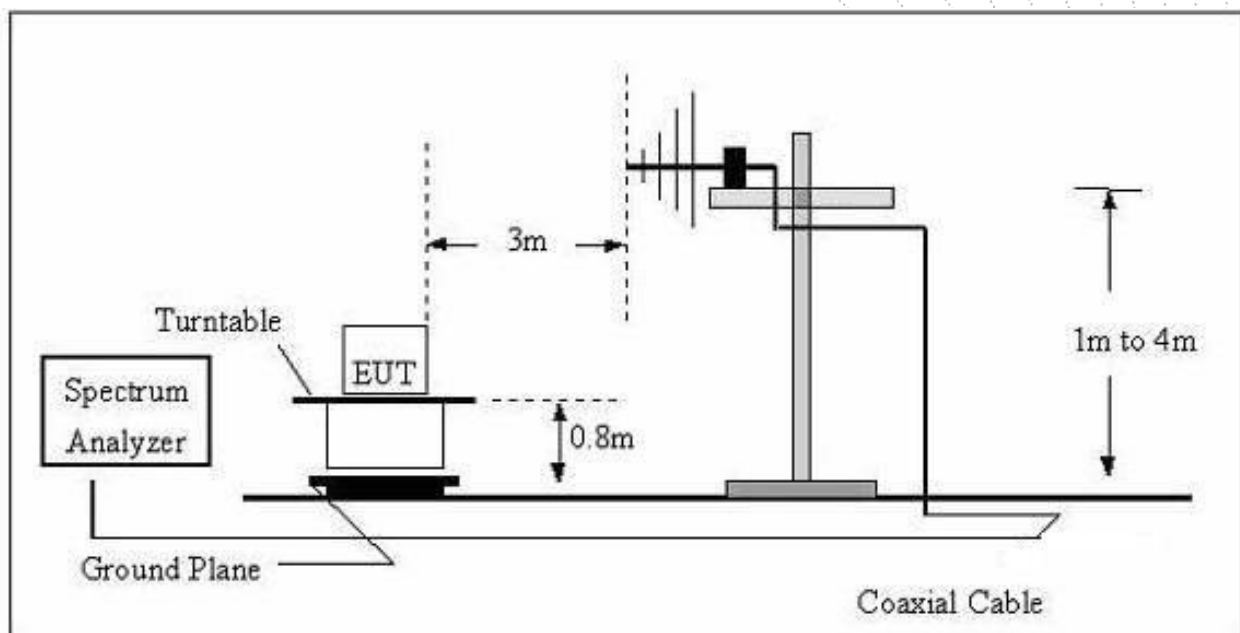
7. Radiated Emissions

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:	AC120V/60Hz
Test Mode:	Mode 1	Polarization:	--

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

Note:

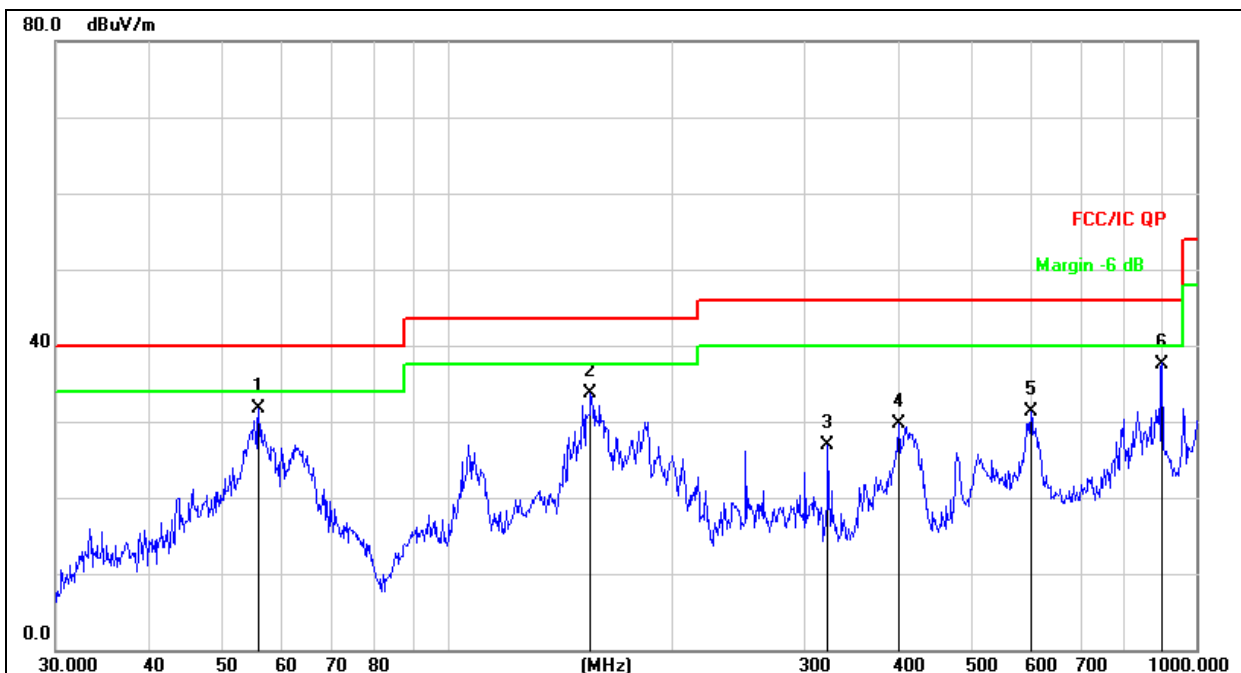
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Between 30MHz – 1GHz

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	AC120V/60Hz
Test Mode :	Mode 1	Polarization :	Horizontal

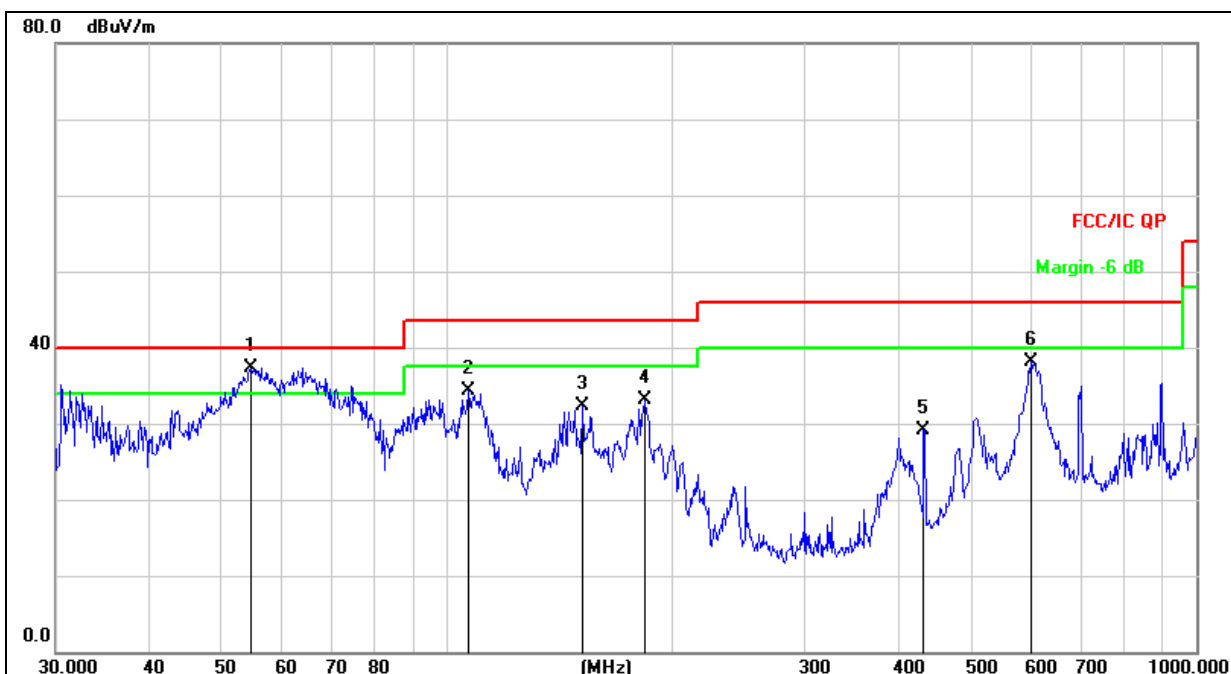


Remark:

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	*	56.0007	47.19	-15.49	31.70	40.00	-8.30	QP
2		155.3644	52.82	-19.16	33.66	43.50	-9.84	QP
3		322.1886	39.90	-12.99	26.91	46.00	-19.09	QP
4		400.4319	40.80	-11.08	29.72	46.00	-16.28	QP
5		601.4265	37.75	-6.53	31.22	46.00	-14.78	QP
6		900.1474	39.10	-1.50	37.60	46.00	-8.40	QP

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	AC120V/60Hz
Test Mode :	Mode 1	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	*	54.6428	52.66	-15.34	37.32	40.00	-2.68	QP
2		106.7587	50.94	-16.72	34.22	43.50	-9.28	QP
3		151.5971	51.68	-19.40	32.28	43.50	-11.22	QP
4		183.8438	50.41	-17.33	33.08	43.50	-10.42	QP
5		432.5457	39.52	-10.36	29.16	46.00	-16.84	QP
6		601.4265	44.55	-6.53	38.02	46.00	-7.98	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	4434.163	60.80	5.94	35.40	44.00	58.14	68.2	-10.06	PK
V	4434.163	43.30	5.94	35.40	44.00	40.64	54	-13.36	AV
V	10360.156	60.83	8.46	39.75	44.50	64.54	68.2	-3.66	PK
V	10360.156	43.09	8.46	39.75	44.50	46.80	54	-7.20	AV
V	15540.118	64.19	10.12	38.80	44.10	69.01	74	-4.99	PK
V	15540.118	43.13	10.12	38.80	42.70	49.35	54	-4.65	AV
H	4434.196	63.03	5.94	35.18	44.00	60.15	68.2	-8.05	PK
H	4434.196	43.00	5.94	35.18	44.00	40.12	54	-13.88	AV
H	10360.186	53.99	8.46	38.71	44.50	56.66	68.2	-11.54	PK
H	10360.186	40.26	8.46	38.71	44.50	42.93	54	-11.07	AV
H	15540.045	53.34	10.12	38.38	44.10	57.74	74	-16.26	PK
H	15540.045	41.91	10.12	38.38	44.10	46.31	54	-7.69	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.071	63.14	6.48	36.35	44.05	61.92	74	-12.08	PK
V	4592.071	43.15	6.48	36.35	44.05	41.93	54	-12.07	AV
V	10400.173	61.41	8.47	37.88	44.51	63.25	68.2	-4.95	PK
V	10400.173	43.69	8.47	37.88	44.51	45.53	54	-8.47	AV
V	15600.088	64.98	10.12	38.80	44.10	69.80	74	-4.20	PK
V	15600.088	43.76	10.12	38.80	42.70	49.98	54	-4.02	AV
H	4592.044	64.00	6.48	36.37	44.05	62.80	74	-11.20	PK
H	4592.044	43.17	6.48	36.37	44.05	41.97	54	-12.03	AV
H	10400.000	54.71	8.47	38.64	44.50	57.32	68.2	-10.88	PK
H	10400.000	42.00	8.47	38.64	44.50	44.61	54	-9.39	AV
H	15600.001	54.48	10.12	38.38	44.10	58.88	74	-15.12	PK
H	15600.001	44.79	10.12	38.38	44.10	49.19	54	-4.81	AV
High Channel (5240 MHz)-Above 1G									
V	4739.182	64.15	7.10	37.24	43.50	64.99	74	-9.01	PK
V	4739.182	43.61	7.10	37.24	43.50	44.45	54	-9.55	AV
V	10480.113	64.91	8.46	37.68	44.50	66.55	68.2	-1.65	PK
V	10480.113	43.68	8.46	37.68	44.50	45.32	54	-8.68	AV
V	15720.136	64.97	10.12	38.80	44.10	69.79	74	-4.21	PK
V	15720.136	43.87	10.12	38.80	42.70	50.09	54	-3.91	AV
H	4739.121	64.82	7.10	37.24	43.50	65.66	74	-8.34	PK
H	4739.121	43.68	7.10	37.24	43.50	44.52	54	-9.48	AV
H	10480.194	52.35	8.46	38.57	44.50	54.88	68.2	-13.32	PK
H	10480.194	40.78	8.46	38.57	44.50	43.31	54	-10.69	AV
H	15720.143	51.42	10.12	38.38	44.10	55.82	74	-18.18	PK
H	15720.143	42.11	10.12	38.38	44.10	46.51	54	-7.49	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 (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	4434.069	61.22	5.94	35.40	44.00	58.56	68.2	-9.64	PK
V	4434.069	43.17	5.94	35.40	44.00	40.51	54	-13.49	AV
V	10360.150	62.05	8.46	39.75	44.50	65.76	68.2	-2.44	PK
V	10360.150	43.21	8.46	39.75	44.50	46.92	54	-7.08	AV
V	15540.167	64.19	10.12	38.80	44.10	69.01	74	-4.99	PK
V	15540.167	43.11	10.12	38.80	42.70	49.33	54	-4.67	AV
H	4434.168	62.01	5.94	35.18	44.00	59.13	68.2	-9.07	PK
H	4434.168	43.55	5.94	35.18	44.00	40.67	54	-13.33	AV
H	10360.066	52.59	8.46	38.71	44.50	55.26	68.2	-12.94	PK
H	10360.066	43.55	8.46	38.71	44.50	46.22	54	-7.78	AV
H	15540.027	52.18	10.12	38.38	44.10	56.58	74	-17.42	PK
H	15540.027	44.74	10.12	38.38	44.10	49.14	54	-4.86	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.018	62.49	6.48	36.35	44.05	61.27	74	-12.73	PK
V	4592.018	43.41	6.48	36.35	44.05	42.19	54	-11.81	AV
V	10400.133	62.40	8.47	37.88	44.51	64.24	68.2	-3.96	PK
V	10400.133	43.09	8.47	37.88	44.51	44.93	54	-9.07	AV
V	15600.123	63.71	10.12	38.80	44.10	68.53	74	-5.47	PK
V	15600.123	43.70	10.12	38.80	42.70	49.92	54	-4.08	AV
H	4592.065	64.27	6.48	36.37	44.05	63.07	74	-10.93	PK
H	4592.065	43.16	6.48	36.37	44.05	41.96	54	-12.04	AV
H	10400.124	54.81	8.47	38.64	44.50	57.42	68.2	-10.78	PK
H	10400.124	44.65	8.47	38.64	44.50	47.26	54	-6.74	AV
H	15600.063	52.26	10.12	38.38	44.10	56.66	74	-17.34	PK
H	15600.063	43.31	10.12	38.38	44.10	47.71	54	-6.29	AV
High Channel (5240 MHz)-Above 1G									
V	4739.020	64.81	7.10	37.24	43.50	65.65	74	-8.35	PK
V	4739.020	43.45	7.10	37.24	43.50	44.29	54	-9.71	AV
V	10480.039	63.06	8.46	37.68	44.50	64.70	68.2	-3.50	PK
V	10480.039	43.77	8.46	37.68	44.50	45.41	54	-8.59	AV
V	15720.197	64.98	10.12	38.80	44.10	69.80	74	-4.20	PK
V	15720.197	43.12	10.12	38.80	42.70	49.34	54	-4.66	AV
H	4739.050	60.87	7.10	37.24	43.50	61.71	74	-12.29	PK
H	4739.050	43.96	7.10	37.24	43.50	44.80	54	-9.20	AV
H	10480.168	50.00	8.46	38.57	44.50	52.53	68.2	-15.67	PK
H	10480.168	40.79	8.46	38.57	44.50	43.32	54	-10.68	AV
H	15720.046	54.62	10.12	38.38	44.10	59.02	74	-14.98	PK
H	15720.046	40.59	10.12	38.38	44.10	44.99	54	-9.01	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 Mode.

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	4434.091	62.37	5.94	35.40	44.00	59.71	68.2	-8.49	PK
V	4434.091	43.39	5.94	35.40	44.00	40.73	54	-13.27	AV
V	10380.125	63.11	8.46	39.75	44.50	66.82	68.2	-1.38	PK
V	10380.125	43.83	8.46	39.75	44.50	47.54	54	-6.46	AV
V	15570.008	62.34	10.12	38.80	44.10	67.16	74	-6.84	PK
V	15570.008	43.35	10.12	38.80	42.70	49.57	54	-4.43	AV
H	4434.022	60.73	5.94	35.18	44.00	57.85	74	-16.15	PK
H	4434.022	43.27	5.94	35.18	44.00	40.39	54	-13.61	AV
H	10380.057	52.06	8.46	38.71	44.50	54.73	68.2	-13.47	PK
H	10380.057	40.01	8.46	38.71	44.50	42.68	54	-11.32	AV
H	15570.052	52.30	10.12	38.38	44.10	56.70	74	-17.30	PK
H	15570.052	42.75	10.12	38.38	44.10	47.15	54	-6.85	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.053	64.31	6.48	36.35	44.05	63.09	68.2	-5.11	PK
V	4739.053	43.46	6.48	36.35	44.05	42.24	54	-11.76	AV
V	10460.053	61.34	8.47	37.88	44.51	63.18	68.2	-5.02	PK
V	10460.053	43.39	8.47	37.88	44.51	45.23	54	-8.77	AV
V	15690.022	60.99	10.12	38.80	44.10	65.81	74	-8.19	PK
V	15690.022	43.82	10.12	38.80	42.70	50.04	54	-3.96	AV
H	4739.113	63.92	6.48	36.37	44.05	62.72	68.2	-5.48	PK
H	4739.113	43.45	6.48	36.37	44.05	42.25	54	-11.75	AV
H	10460.193	53.24	8.47	38.64	44.50	55.85	68.2	-12.35	PK
H	10460.193	41.41	8.47	38.64	44.50	44.02	54	-9.98	AV
H	15690.060	50.60	10.12	38.38	44.10	55.00	74	-19.00	PK
H	15690.060	41.50	10.12	38.38	44.10	45.90	54	-8.10	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 Mode.

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	4434.061	60.14	5.94	35.40	44.00	57.48	68.2	-10.72	PK
V	4434.061	43.02	5.94	35.40	44.00	40.36	54	-13.64	AV
V	10360.117	62.40	8.46	39.75	44.50	66.11	68.2	-2.09	PK
V	10360.117	43.51	8.46	39.75	44.50	47.22	54	-6.78	AV
V	15540.032	63.37	10.12	38.80	44.10	68.19	74	-5.81	PK
V	15540.032	43.46	10.12	38.80	42.70	49.68	54	-4.32	AV
H	4434.008	61.62	5.94	35.18	44.00	58.74	68.2	-9.46	PK
H	4434.008	43.52	5.94	35.18	44.00	40.64	54	-13.36	AV
H	10360.024	50.69	8.46	38.71	44.50	53.36	68.2	-14.84	PK
H	10360.024	41.84	8.46	38.71	44.50	44.51	54	-9.49	AV
H	15540.184	50.68	10.12	38.38	44.10	55.08	74	-18.92	PK
H	15540.184	43.24	10.12	38.38	44.10	47.64	54	-6.36	AV
Middle Channel (5200 MHz)-Above 1G									
V	4592.072	62.39	6.48	36.35	44.05	61.17	74	-12.83	PK
V	4592.072	43.36	6.48	36.35	44.05	42.14	54	-11.86	AV
V	10400.194	61.15	8.47	37.88	44.51	62.99	68.2	-5.21	PK
V	10400.194	43.13	8.47	37.88	44.51	44.97	54	-9.03	AV
V	15600.010	61.44	10.12	38.80	44.10	66.26	74	-7.74	PK
V	15600.010	43.70	10.12	38.80	42.70	49.92	54	-4.08	AV
H	4592.089	64.53	6.48	36.37	44.05	63.33	74	-10.67	PK
H	4592.089	43.50	6.48	36.37	44.05	42.30	54	-11.70	AV
H	10400.088	51.40	8.47	38.64	44.50	54.01	68.2	-14.19	PK
H	10400.088	41.69	8.47	38.64	44.50	44.30	54	-9.70	AV
H	15600.166	54.36	10.12	38.38	44.10	58.76	74	-15.24	PK
H	15600.166	42.98	10.12	38.38	44.10	47.38	54	-6.62	AV
High Channel (5240 MHz)-Above 1G									
V	4739.200	63.86	7.10	37.24	43.50	64.70	74	-9.30	PK
V	4739.200	43.76	7.10	37.24	43.50	44.60	54	-9.40	AV
V	10480.163	64.50	8.46	37.68	44.50	66.14	68.2	-2.06	PK
V	10480.163	43.65	8.46	37.68	44.50	45.29	54	-8.71	AV
V	15720.131	63.96	10.12	38.80	44.10	68.78	74	-5.22	PK
V	15720.131	43.92	10.12	38.80	42.70	50.14	54	-3.86	AV
H	4739.037	61.80	7.10	37.24	43.50	62.64	74	-11.36	PK
H	4739.037	43.71	7.10	37.24	43.50	44.55	54	-9.45	AV
H	10480.142	50.23	8.46	38.57	44.50	52.76	68.2	-15.44	PK
H	10480.142	42.03	8.46	38.57	44.50	44.56	54	-9.44	AV
H	15720.120	53.53	10.12	38.38	44.10	57.93	74	-16.07	PK
H	15720.120	40.88	10.12	38.38	44.10	45.28	54	-8.72	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 Mode.

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	4434.115	61.96	5.94	35.40	44.00	59.30	68.2	-8.90	PK
V	4434.115	43.75	5.94	35.40	44.00	41.09	54	-12.91	AV
V	10380.062	61.51	8.46	39.75	44.50	65.22	68.2	-2.98	PK
V	10380.062	43.05	8.46	39.75	44.50	46.76	54	-7.24	AV
V	15570.006	64.67	10.12	38.80	44.10	69.49	74	-4.51	PK
V	15570.006	43.26	10.12	38.80	42.70	49.48	54	-4.52	AV
H	4434.014	62.33	5.94	35.18	44.00	59.45	74	-14.55	PK
H	4434.014	43.88	5.94	35.18	44.00	41.00	54	-13.00	AV
H	10380.101	53.45	8.46	38.71	44.50	56.12	68.2	-12.08	PK
H	10380.101	40.90	8.46	38.71	44.50	43.57	54	-10.43	AV
H	15570.146	54.29	10.12	38.38	44.10	58.69	74	-15.31	PK
H	15570.146	40.40	10.12	38.38	44.10	44.80	54	-9.20	AV
High Channel (5230 MHz)-Above 1G									
V	4739.180	64.71	6.48	36.35	44.05	63.49	68.2	-4.71	PK
V	4739.180	43.80	6.48	36.35	44.05	42.58	54	-11.42	AV
V	10460.105	63.51	8.47	37.88	44.51	65.35	68.2	-2.85	PK
V	10460.105	43.46	8.47	37.88	44.51	45.30	54	-8.70	AV
V	15690.199	60.09	10.12	38.80	44.10	64.91	74	-9.09	PK
V	15690.199	43.19	10.12	38.80	42.70	49.41	54	-4.59	AV
H	4739.077	62.40	6.48	36.37	44.05	61.20	68.2	-7.00	PK
H	4739.077	43.72	6.48	36.37	44.05	42.52	54	-11.48	AV
H	10460.065	53.78	8.47	38.64	44.50	56.39	68.2	-11.81	PK
H	10460.065	44.23	8.47	38.64	44.50	46.84	54	-7.16	AV
H	15690.190	52.02	10.12	38.38	44.10	56.42	74	-17.58	PK
H	15690.190	41.22	10.12	38.38	44.10	45.62	54	-8.38	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 Mode.

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	4434.194	63.75	5.94	35.40	44.00	61.09	68.2	-7.11	PK
V	4434.194	43.49	5.94	35.40	44.00	40.83	54	-13.17	AV
V	10420.144	61.47	8.46	39.75	44.50	65.18	68.2	-3.02	PK
V	10420.144	43.06	8.46	39.75	44.50	46.77	54	-7.23	AV
V	15630.004	63.42	10.12	38.80	44.10	68.24	74	-5.76	PK
V	15630.004	43.34	10.12	38.80	42.70	49.56	54	-4.44	AV
H	4434.054	60.25	5.94	35.18	44.00	57.37	68.2	-10.83	PK
H	4434.054	43.10	5.94	35.18	44.00	40.22	54	-13.78	AV
H	10420.091	50.97	8.46	38.71	44.50	53.64	68.2	-14.56	PK
H	10420.091	40.86	8.46	38.71	44.50	43.53	54	-10.47	AV
H	15630.111	54.51	10.12	38.38	44.10	58.91	74	-15.09	PK
H	15630.111	43.49	10.12	38.38	44.10	47.89	54	-6.11	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 is MIMO Mode.

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	4679.093	59.77	5.94	35.40	44.00	57.11	74	-16.89	PK
V	4679.093	43.51	5.94	35.40	44.00	40.85	54	-13.15	AV
V	11490.104	56.25	8.46	39.75	44.50	59.96	68.2	-8.24	PK
V	11490.104	43.50	8.46	39.75	44.50	47.21	54	-6.79	AV
V	17235.074	58.89	10.12	38.80	44.10	63.71	68.2	-4.49	PK
V	17235.074	43.47	10.12	38.80	42.70	49.69	54	-4.31	AV
H	4679.111	56.23	5.94	35.18	44.00	53.35	74	-20.65	PK
H	4679.111	43.52	5.94	35.18	44.00	40.64	54	-13.36	AV
H	11490.051	52.25	8.46	38.71	44.50	54.92	68.2	-13.28	PK
H	11490.051	43.21	8.46	38.71	44.50	45.88	54	-8.12	AV
H	17235.115	50.99	10.12	38.38	44.10	55.39	68.2	-12.81	PK
H	17235.115	43.86	10.12	38.38	44.10	48.26	54	-5.74	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.042	55.84	6.48	36.35	44.05	54.62	74	-19.38	PK
V	4592.042	43.93	6.48	36.35	44.05	42.71	54	-11.29	AV
V	11570.100	57.26	8.47	37.88	44.51	59.10	68.2	-9.10	PK
V	11570.100	43.01	8.47	37.88	44.51	44.85	54	-9.15	AV
V	17355.015	58.97	10.12	38.80	44.10	63.79	68.2	-4.41	PK
V	17355.015	39.42	10.12	38.80	42.70	45.64	54	-8.36	AV
H	4592.048	59.25	6.48	36.37	44.05	58.05	74	-15.95	PK
H	4592.048	43.76	6.48	36.37	44.05	42.56	54	-11.44	AV
H	11570.192	50.08	8.47	38.64	44.50	52.69	68.2	-15.51	PK
H	11570.192	43.89	8.47	38.64	44.50	46.50	54	-7.50	AV
H	17355.165	52.14	10.12	38.38	44.10	56.54	68.2	-11.66	PK
H	17355.165	43.58	10.12	38.38	44.10	47.98	54	-6.02	AV
High Channel (5825 MHz)-Above 1G									
V	6039.140	59.20	7.10	37.24	43.50	60.04	68.2	-8.16	PK
V	6039.140	43.56	7.10	37.24	43.50	44.40	54	-9.60	AV
V	11650.050	62.93	8.46	37.68	44.50	64.57	74	-9.43	PK
V	11650.050	43.83	8.46	37.68	44.50	45.47	54	-8.53	AV
V	17475.142	55.92	10.12	38.80	44.10	60.74	68.2	-7.46	PK
V	17475.142	43.28	10.12	38.80	42.70	49.50	54	-4.50	AV
H	6039.083	58.24	7.10	37.24	43.50	59.08	68.2	-9.12	PK
H	6039.083	43.68	7.10	37.24	43.50	44.52	54	-9.48	AV
H	11650.053	52.16	8.46	38.57	44.50	54.69	74	-19.31	PK
H	11650.053	44.49	8.46	38.57	44.50	47.02	54	-6.98	AV
H	17475.079	52.22	10.12	38.38	44.10	56.62	68.2	-11.58	PK
H	17475.079	41.77	10.12	38.38	44.10	46.17	54	-7.83	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
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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	4679.177	56.11	5.94	35.40	44.00	53.45	74	-20.55	PK
V	4679.177	43.35	5.94	35.40	44.00	40.69	54	-13.31	AV
V	11490.132	54.97	8.46	39.75	44.50	58.68	68.2	-9.52	PK
V	11490.132	43.59	8.46	39.75	44.50	47.30	54	-6.70	AV
V	17235.146	61.21	10.12	38.80	44.10	66.03	68.2	-2.17	PK
V	17235.146	43.50	10.12	38.80	42.70	49.72	54	-4.28	AV
H	4679.153	57.58	5.94	35.18	44.00	54.70	74	-19.30	PK
H	4679.153	43.71	5.94	35.18	44.00	40.83	54	-13.17	AV
H	11490.023	47.01	8.46	38.71	44.50	49.68	68.2	-18.52	PK
H	11490.023	43.83	8.46	38.71	44.50	46.50	54	-7.50	AV
H	17235.123	54.10	10.12	38.38	44.10	58.50	68.2	-9.70	PK
H	17235.123	41.10	10.12	38.38	44.10	45.50	54	-8.50	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.131	61.18	6.48	36.35	44.05	59.96	74	-14.04	PK
V	4592.131	43.19	6.48	36.35	44.05	41.97	54	-12.03	AV
V	11570.161	56.11	8.47	37.88	44.51	57.95	68.2	-10.25	PK
V	11570.161	43.03	8.47	37.88	44.51	44.87	54	-9.13	AV
V	17355.190	58.98	10.12	38.80	44.10	63.80	68.2	-4.40	PK
V	17355.190	43.45	10.12	38.80	42.70	49.67	54	-4.33	AV
H	4592.168	60.56	6.48	36.37	44.05	59.36	74	-14.64	PK
H	4592.168	43.84	6.48	36.37	44.05	42.64	54	-11.36	AV
H	11570.150	53.70	8.47	38.64	44.50	56.31	68.2	-11.89	PK
H	11570.150	42.80	8.47	38.64	44.50	45.41	54	-8.59	AV
H	17355.154	51.69	10.12	38.38	44.10	56.09	68.2	-12.11	PK
H	17355.154	43.67	10.12	38.38	44.10	48.07	54	-5.93	AV
High Channel (5825 MHz)-Above 1G									
V	6039.067	55.65	7.10	37.24	43.50	56.49	68.2	-11.71	PK
V	6039.067	43.97	7.10	37.24	43.50	44.81	54	-9.19	AV
V	11650.113	56.82	8.46	37.68	44.50	58.46	74	-15.54	PK
V	11650.113	43.44	8.46	37.68	44.50	45.08	54	-8.92	AV
V	17475.025	57.25	10.12	38.80	44.10	62.07	68.2	-6.13	PK
V	17475.025	43.50	10.12	38.80	42.70	49.72	54	-4.28	AV
H	6039.145	58.60	7.10	37.24	43.50	59.44	68.2	-8.76	PK
H	6039.145	43.40	7.10	37.24	43.50	44.24	54	-9.76	AV
H	11650.010	50.32	8.46	38.57	44.50	52.85	74	-21.15	PK
H	11650.010	40.65	8.46	38.57	44.50	43.18	54	-10.82	AV
H	17475.025	53.48	10.12	38.38	44.10	57.88	68.2	-10.32	PK
H	17475.025	44.21	10.12	38.38	44.10	48.61	54	-5.39	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 is MIMO Mode.

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	4679.084	60.16	5.94	35.40	44.00	57.50	74	-16.50	PK
V	4679.084	43.36	5.94	35.40	44.00	40.70	54	-13.30	AV
V	11510.147	55.16	8.46	39.75	44.50	58.87	74	-15.13	PK
V	11510.147	43.99	8.46	39.75	44.50	47.70	54	-6.30	AV
V	17265.065	56.20	10.12	38.80	44.10	61.02	68.2	-7.18	PK
V	17265.065	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.075	56.24	5.94	35.18	44.00	53.36	74	-20.64	PK
H	4679.075	43.23	5.94	35.18	44.00	40.35	54	-13.65	AV
H	11510.064	50.31	8.46	38.71	44.50	52.98	74	-21.02	PK
H	11510.064	44.51	8.46	38.71	44.50	47.18	54	-6.82	AV
H	17265.119	50.13	10.12	38.38	44.10	54.53	68.2	-13.67	PK
H	17265.119	40.15	10.12	38.38	44.10	44.55	54	-9.45	AV
High Channel (5795 MHz)-Above 1G									
V	6039.186	58.75	6.48	36.35	44.05	57.53	68.2	-10.67	PK
V	6039.186	43.45	6.48	36.35	44.05	42.23	54	-11.77	AV
V	11590.021	59.16	8.47	37.88	44.51	61.00	74	-13.00	PK
V	11590.021	43.35	8.47	37.88	44.51	45.19	54	-8.81	AV
V	17385.073	55.96	10.12	38.80	44.10	60.78	68.2	-7.42	PK
V	17385.073	41.07	10.12	38.80	42.70	47.29	54	-6.71	AV
H	6039.191	59.62	6.48	36.37	44.05	58.42	68.2	-9.78	PK
H	6039.191	43.23	6.48	36.37	44.05	42.03	54	-11.97	AV
H	11590.028	50.72	8.47	38.64	44.50	53.33	74	-20.67	PK
H	11590.028	44.76	8.47	38.64	44.50	47.37	54	-6.63	AV
H	17385.127	51.34	10.12	38.38	44.10	55.74	68.2	-12.46	PK
H	17385.127	43.03	10.12	38.38	44.10	47.43	54	-6.57	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 Mode.

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	4679.159	59.94	5.94	35.40	44.00	57.28	74	-16.72	PK
V	4679.159	43.13	5.94	35.40	44.00	40.47	54	-13.53	AV
V	11490.184	56.25	8.46	39.75	44.50	59.96	68.2	-8.24	PK
V	11490.184	43.86	8.46	39.75	44.50	47.57	54	-6.43	AV
V	17235.005	57.65	10.12	38.80	44.10	62.47	68.2	-5.73	PK
V	17235.005	43.85	10.12	38.80	42.70	50.07	54	-3.93	AV
H	4679.114	57.44	5.94	35.18	44.00	54.56	74	-19.44	PK
H	4679.114	43.84	5.94	35.18	44.00	40.96	54	-13.04	AV
H	11490.089	49.28	8.46	38.71	44.50	51.95	68.2	-16.25	PK
H	11490.089	41.23	8.46	38.71	44.50	43.90	54	-10.10	AV
H	17235.190	50.64	10.12	38.38	44.10	55.04	68.2	-13.16	PK
H	17235.190	44.62	10.12	38.38	44.10	49.02	54	-4.98	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.034	62.23	6.48	36.35	44.05	61.01	74	-12.99	PK
V	4592.034	43.58	6.48	36.35	44.05	42.36	54	-11.64	AV
V	11570.182	54.32	8.47	37.88	44.51	56.16	68.2	-12.04	PK
V	11570.182	43.15	8.47	37.88	44.51	44.99	54	-9.01	AV
V	17355.074	58.54	10.12	38.80	44.10	63.36	68.2	-4.84	PK
V	17355.074	43.64	10.12	38.80	42.70	49.86	54	-4.14	AV
H	4592.044	56.35	6.48	36.37	44.05	55.15	74	-18.85	PK
H	4592.044	43.87	6.48	36.37	44.05	42.67	54	-11.33	AV
H	11570.149	50.96	8.47	38.64	44.50	53.57	68.2	-14.63	PK
H	11570.149	40.16	8.47	38.64	44.50	42.77	54	-11.23	AV
H	17355.094	54.01	10.12	38.38	44.10	58.41	68.2	-9.79	PK
H	17355.094	44.41	10.12	38.38	44.10	48.81	54	-5.19	AV
High Channel (5825 MHz)-Above 1G									
V	6039.024	57.92	7.10	37.24	43.50	58.76	68.2	-9.44	PK
V	6039.024	43.58	7.10	37.24	43.50	44.42	54	-9.58	AV
V	11650.152	57.13	8.46	37.68	44.50	58.77	74	-15.23	PK
V	11650.152	43.44	8.46	37.68	44.50	45.08	54	-8.92	AV
V	17475.118	57.26	10.12	38.80	44.10	62.08	68.2	-6.12	PK
V	17475.118	43.75	10.12	38.80	42.70	49.97	54	-4.03	AV
H	6039.059	59.01	7.10	37.24	43.50	59.85	68.2	-8.35	PK
H	6039.059	43.49	7.10	37.24	43.50	44.33	54	-9.67	AV
H	11650.128	52.39	8.46	38.57	44.50	54.92	74	-19.08	PK
H	11650.128	44.03	8.46	38.57	44.50	46.56	54	-7.44	AV
H	17475.181	51.11	10.12	38.38	44.10	55.51	68.2	-12.69	PK
H	17475.181	44.59	10.12	38.38	44.10	48.99	54	-5.01	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 Mode.

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	4679.130	58.66	5.94	35.40	44.00	56.00	74	-18.00	PK
V	4679.130	43.61	5.94	35.40	44.00	40.95	54	-13.05	AV
V	11510.175	56.10	8.46	39.75	44.50	59.81	74	-14.19	PK
V	11510.175	43.60	8.46	39.75	44.50	47.31	54	-6.69	AV
V	17265.067	57.02	10.12	38.80	44.10	61.84	68.2	-6.36	PK
V	17265.067	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.119	57.02	5.94	35.18	44.00	54.14	74	-19.86	PK
H	4679.119	43.24	5.94	35.18	44.00	40.36	54	-13.64	AV
H	11510.065	50.47	8.46	38.71	44.50	53.14	74	-20.86	PK
H	11510.065	42.75	8.46	38.71	44.50	45.42	54	-8.58	AV
H	17265.009	50.89	10.12	38.38	44.10	55.29	68.2	-12.91	PK
H	17265.009	43.86	10.12	38.38	44.10	48.26	54	-5.74	AV
High Channel (5795 MHz)-Above 1G									
V	6039.075	59.27	6.48	36.35	44.05	58.05	68.2	-10.15	PK
V	6039.075	43.89	6.48	36.35	44.05	42.67	54	-11.33	AV
V	11590.036	56.53	8.47	37.88	44.51	58.37	74	-15.63	PK
V	11590.036	43.02	8.47	37.88	44.51	44.86	54	-9.14	AV
V	17385.196	55.48	10.12	38.80	44.10	60.30	68.2	-7.90	PK
V	17385.196	41.54	10.12	38.80	42.70	47.76	54	-6.24	AV
H	6039.164	59.88	6.48	36.37	44.05	58.68	68.2	-9.52	PK
H	6039.164	43.53	6.48	36.37	44.05	42.33	54	-11.67	AV
H	11590.045	53.11	8.47	38.64	44.50	55.72	74	-18.28	PK
H	11590.045	40.75	8.47	38.64	44.50	43.36	54	-10.64	AV
H	17385.093	51.48	10.12	38.38	44.10	55.88	68.2	-12.32	PK
H	17385.093	43.72	10.12	38.38	44.10	48.12	54	-5.88	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 Mode.

Test Mode:	TX(5.8G) - 802.11ac-HT80
------------	--------------------------

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	4679.070	56.15	5.94	35.40	44.00	53.49	74	-20.51	PK
V	4679.070	43.52	5.94	35.40	44.00	40.86	54	-13.14	AV
V	11550.109	58.71	8.46	39.75	44.50	62.42	74	-11.58	PK
V	11550.109	42.95	8.46	39.75	44.50	46.66	54	-7.34	AV
V	17325.122	57.24	10.12	38.80	44.10	62.06	68.2	-6.14	PK
V	17325.122	41.44	10.12	38.80	42.70	47.66	54	-6.34	AV
H	4679.151	58.87	5.94	35.18	44.00	55.99	74	-18.01	PK
H	4679.151	43.00	5.94	35.18	44.00	40.12	54	-13.88	AV
H	11550.058	52.21	8.46	38.71	44.50	54.88	74	-19.12	PK
H	11550.058	44.12	8.46	38.71	44.50	46.79	54	-7.21	AV
H	17325.026	54.86	10.12	38.38	44.10	59.26	68.2	-8.94	PK
H	17325.026	40.04	10.12	38.38	44.10	44.44	54	-9.56	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 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

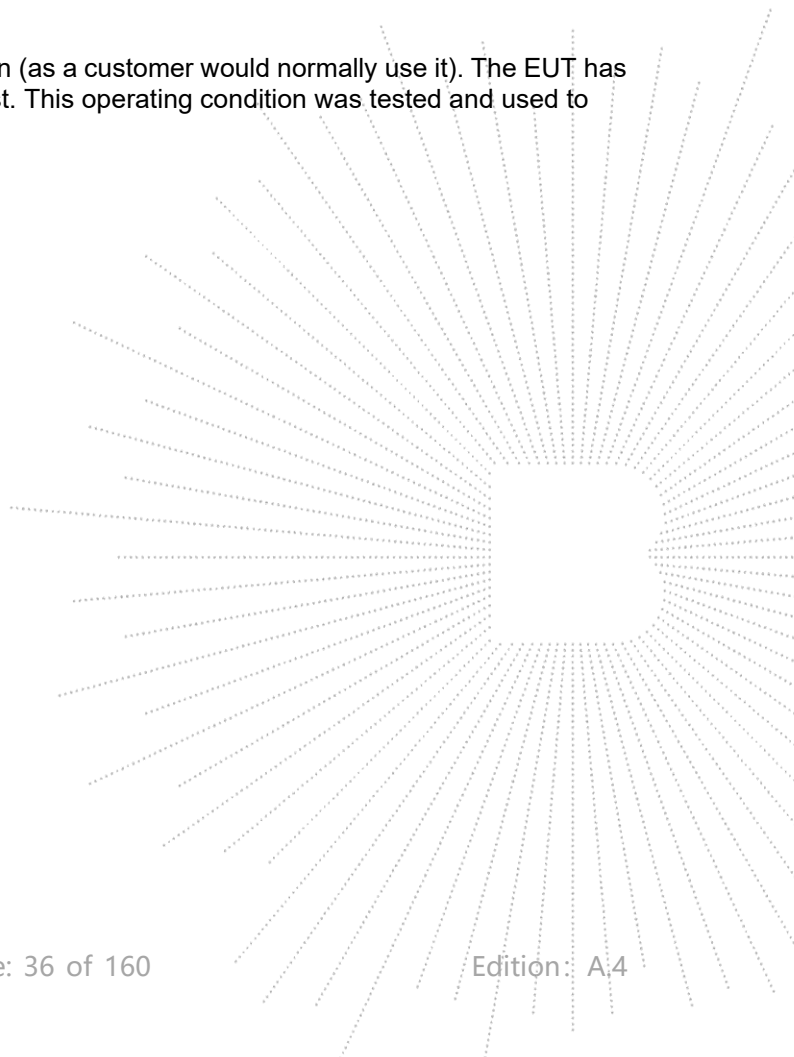
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 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:	AC120V/60Hz
Test Mode:	(5180-5240MHz)		

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/MHz)		Total (dBm/MHz)	Limit (dBm/MHz)	Verdict
			Ant A	Ant B			
NVNT	a	5180	-5.38	-4.93	/	11	Pass
NVNT	a	5200	-5.79	-5.72	/	11	Pass
NVNT	a	5240	-6	-5.91	/	11	Pass
NVNT	n20	5180	-6.97	-5.8	-3.34	9.49	Pass
NVNT	n20	5200	-6.8	-4.36	-2.40	9.49	Pass
NVNT	n20	5240	-4.93	-5.44	-2.17	9.49	Pass
NVNT	n40	5190	-14.53	-13.62	-11.04	9.49	Pass
NVNT	n40	5230	-14.65	-11.51	-9.79	9.49	Pass
NVNT	ac20	5180	-9.94	-8.46	-6.13	9.49	Pass
NVNT	ac20	5200	-10.53	-8.63	-6.47	9.49	Pass
NVNT	ac20	5240	-8.89	-8.58	-5.72	9.49	Pass
NVNT	ac40	5190	-16.48	-13.55	-11.76	9.49	Pass
NVNT	ac40	5230	-15.07	-14.72	-11.88	9.49	Pass
NVNT	ac80	5210	-24.38	-21.91	-19.96	9.49	Pass

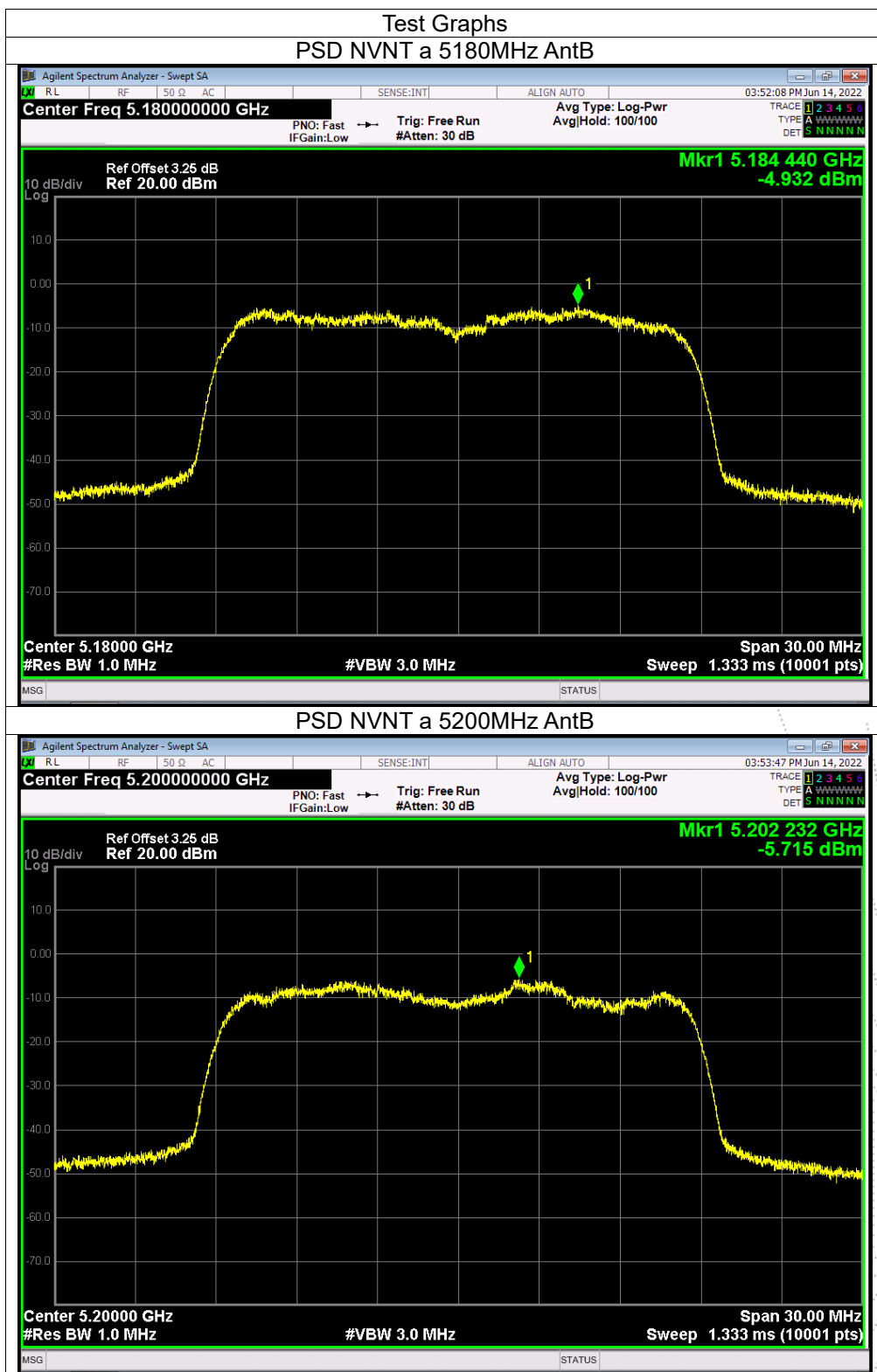
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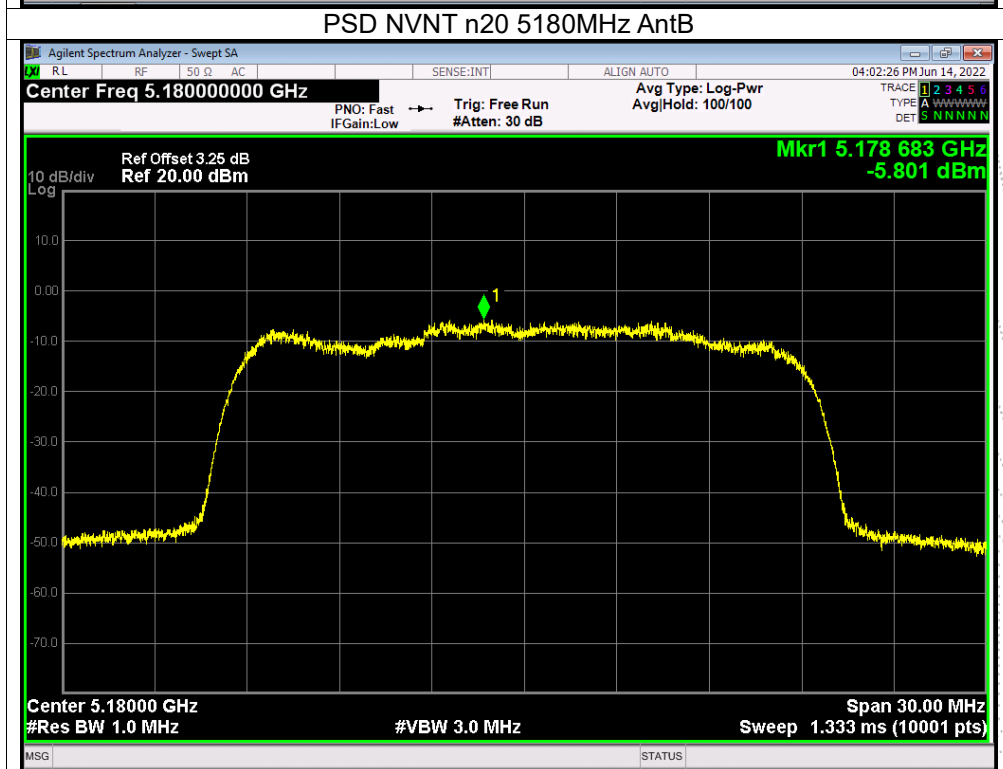
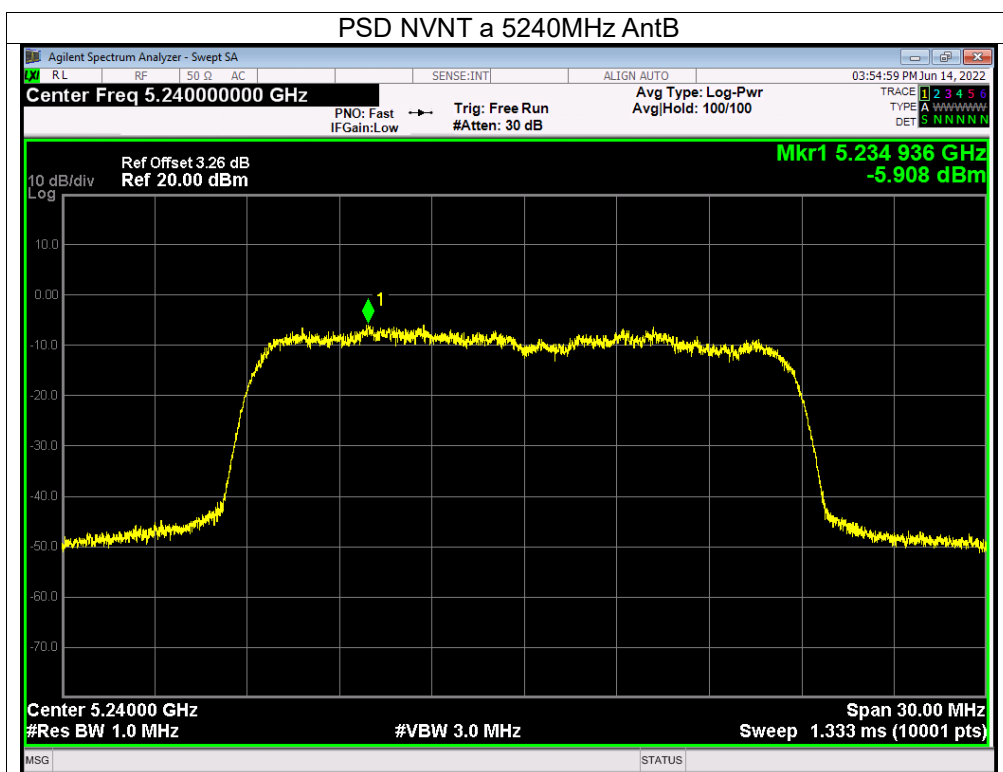
Antenna A gain:4.5dBi, Antenna B gain: 4.5dBi, Directional gain=[GainANT + 10 log(NANT) dBi]

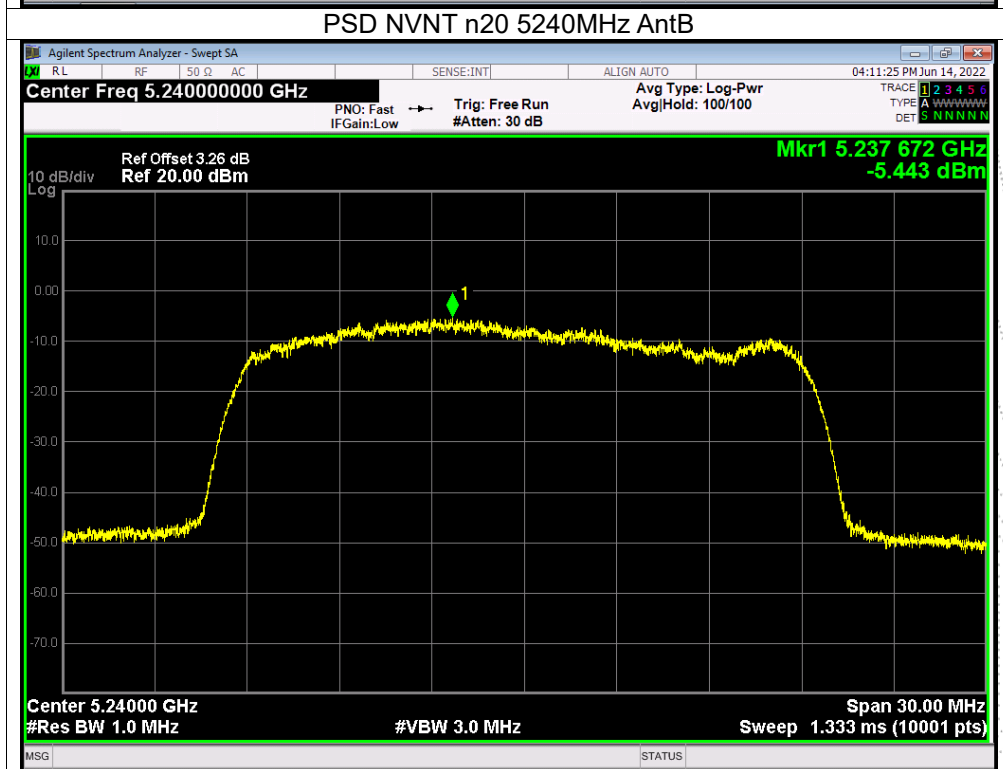
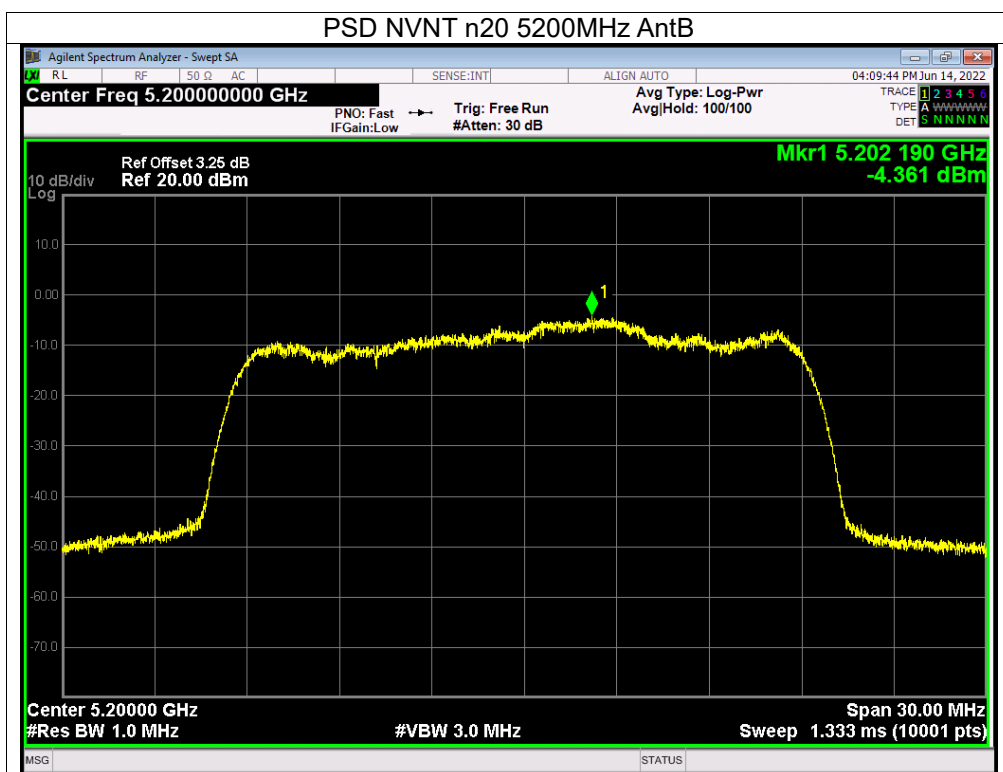
=7.51dbi>6dbi

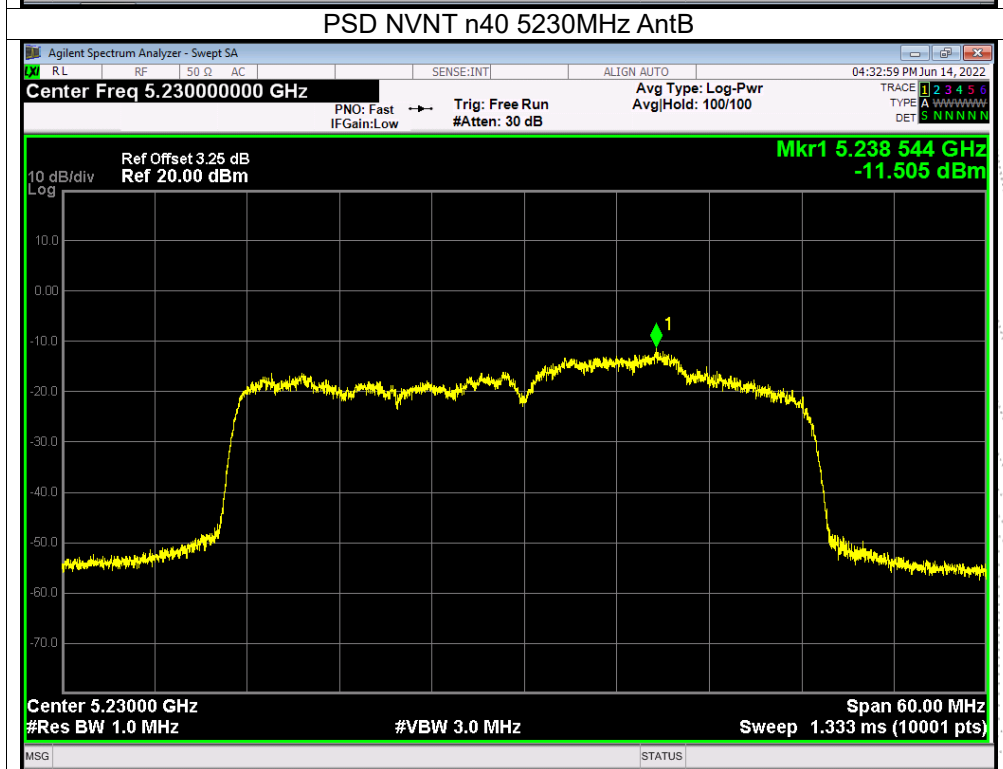
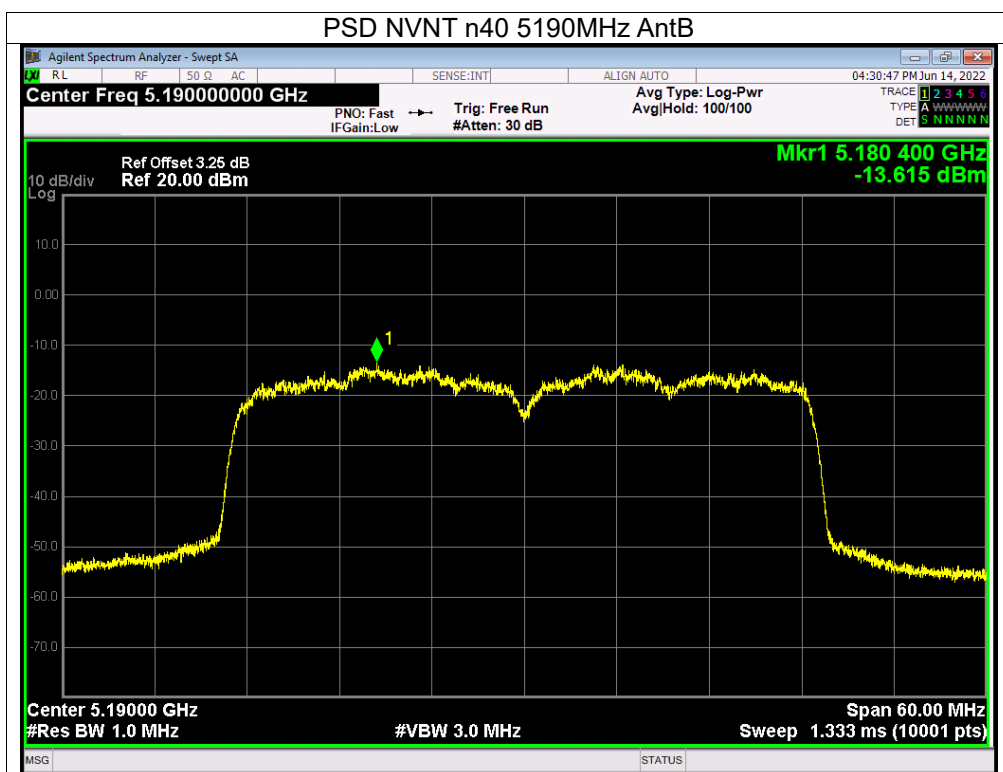
so limit=11-(7.51-6.0)=9.49 dBm

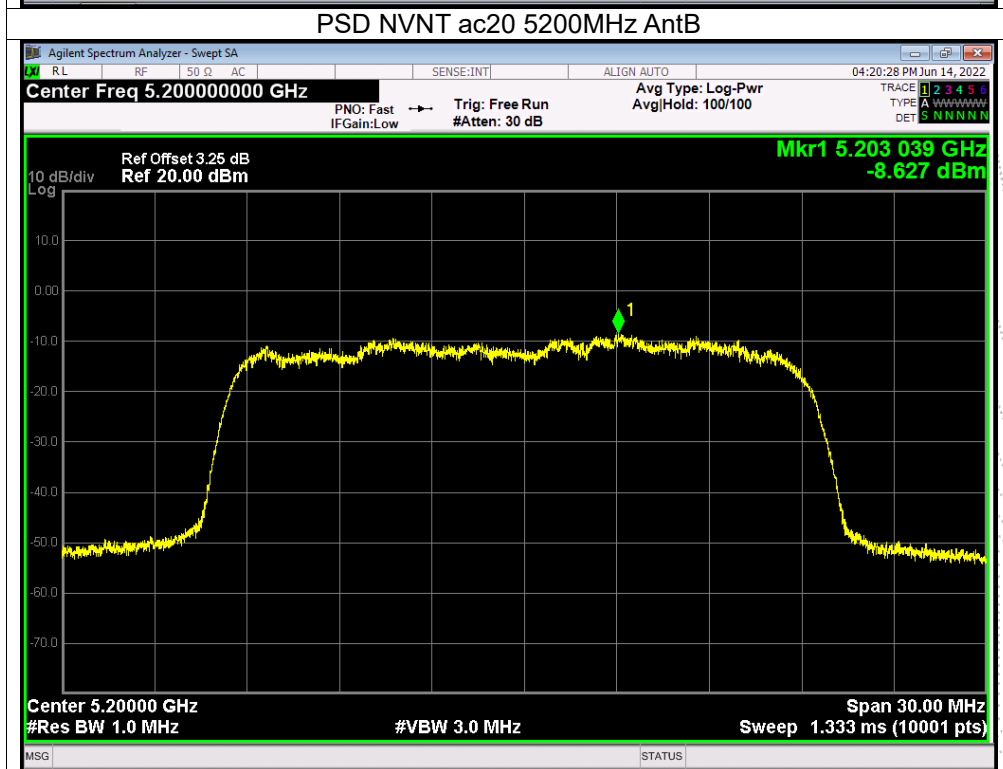
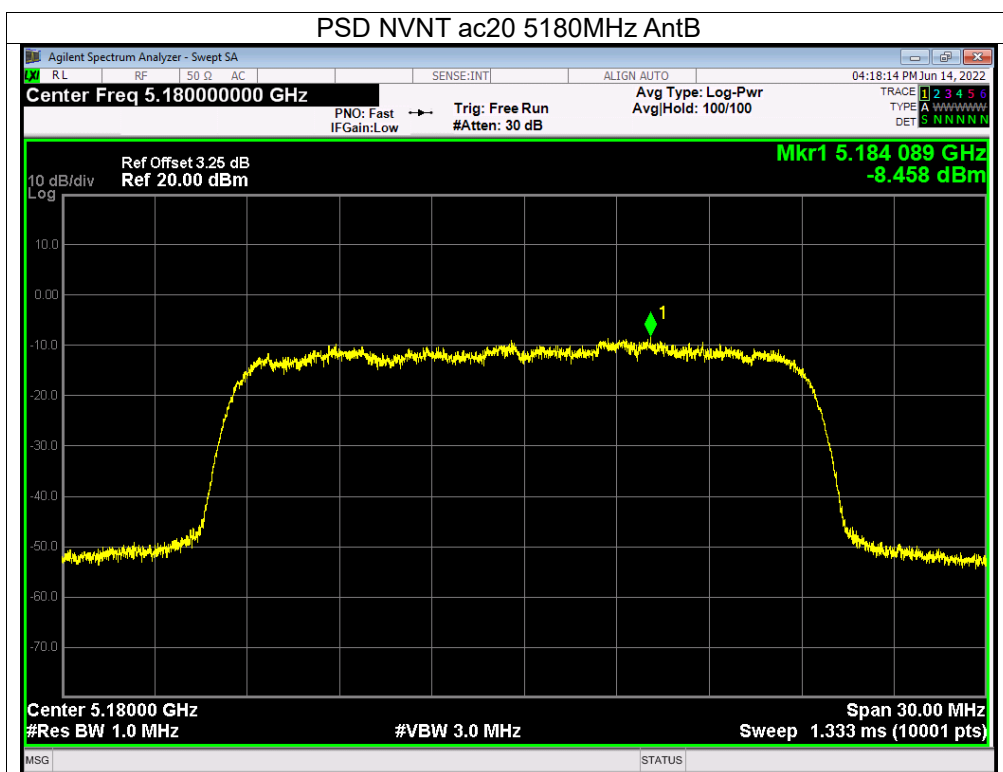
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

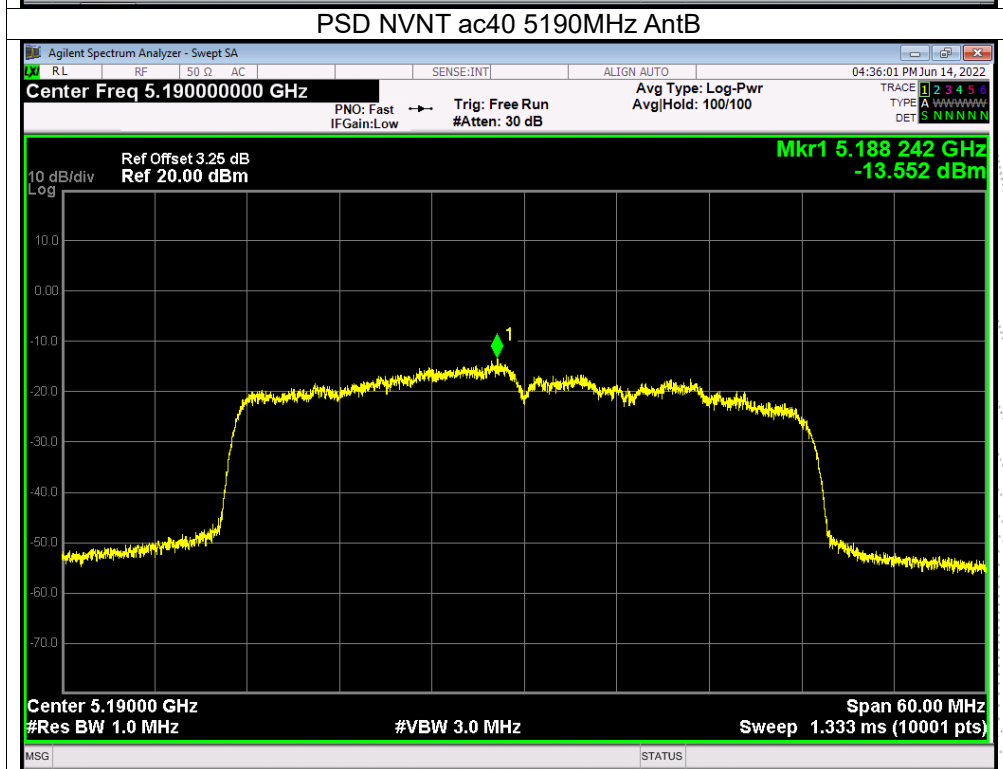
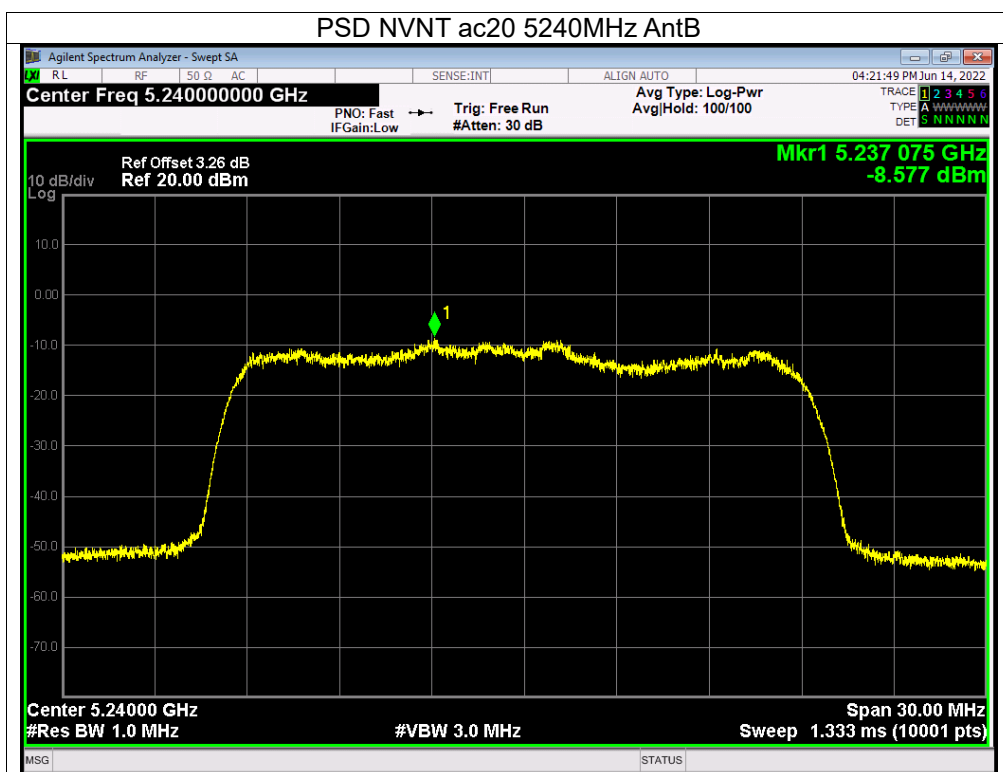


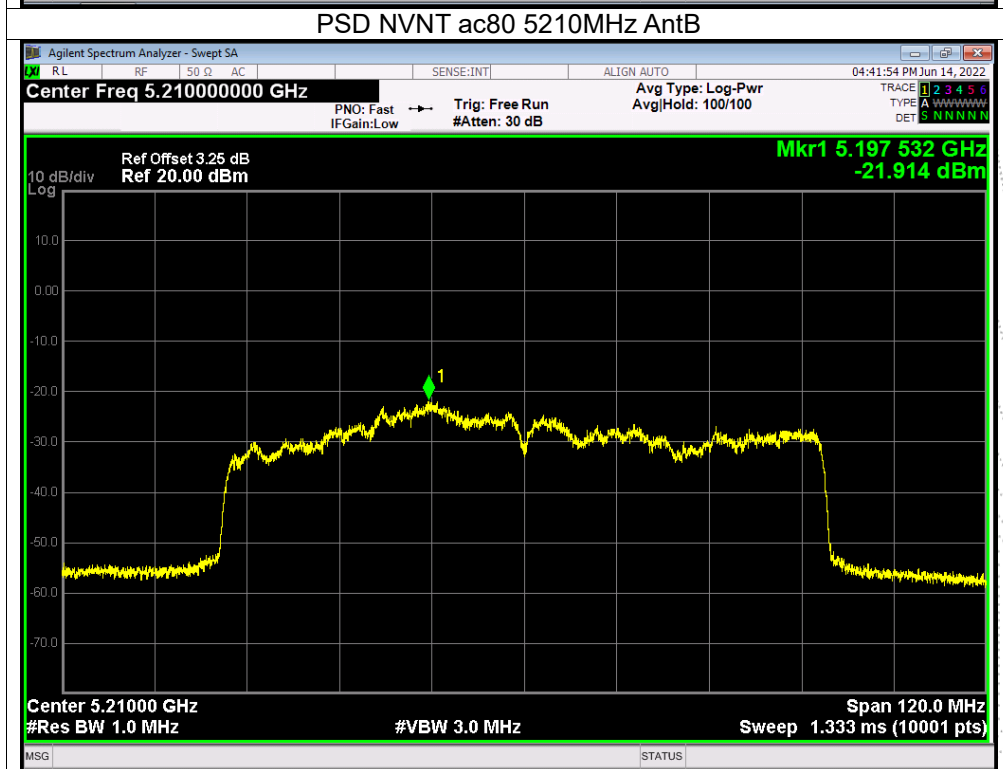
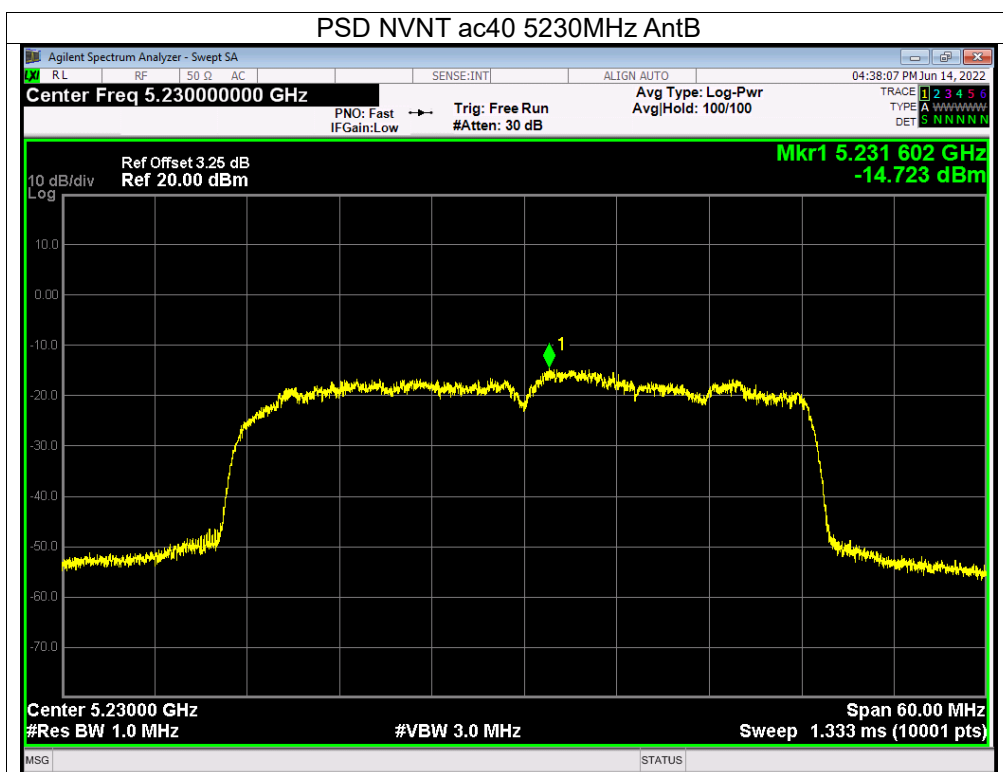












Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	(5745-5825MHz)		

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/500KHz)		Total (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
			Ant A	Ant B			
NVNT	a	5745	-6.99	-7.86	/	30	Pass
NVNT	a	5785	-7.83	-8.8	/	30	Pass
NVNT	a	5825	-8.34	-9.89	/	30	Pass
NVNT	n20	5745	-8.72	-8.95	-5.82	28.49	Pass
NVNT	n20	5785	-9.41	-9.71	-6.55	28.49	Pass
NVNT	n20	5825	-10.04	-12.73	-8.17	28.49	Pass
NVNT	n40	5755	-16.02	-16.62	-13.30	28.49	Pass
NVNT	n40	5795	-16.75	-17.68	-14.18	28.49	Pass
NVNT	ac20	5745	-9.69	-11.4	-7.45	28.49	Pass
NVNT	ac20	5785	-9.85	-11.63	-7.64	28.49	Pass
NVNT	ac20	5825	-12.31	-12.83	-9.55	28.49	Pass
NVNT	ac40	5755	-17.29	-17.17	-14.22	28.49	Pass
NVNT	ac40	5795	-17.47	-20.64	-15.76	28.49	Pass
NVNT	ac80	5775	-26.23	-26.35	-23.28	28.49	Pass

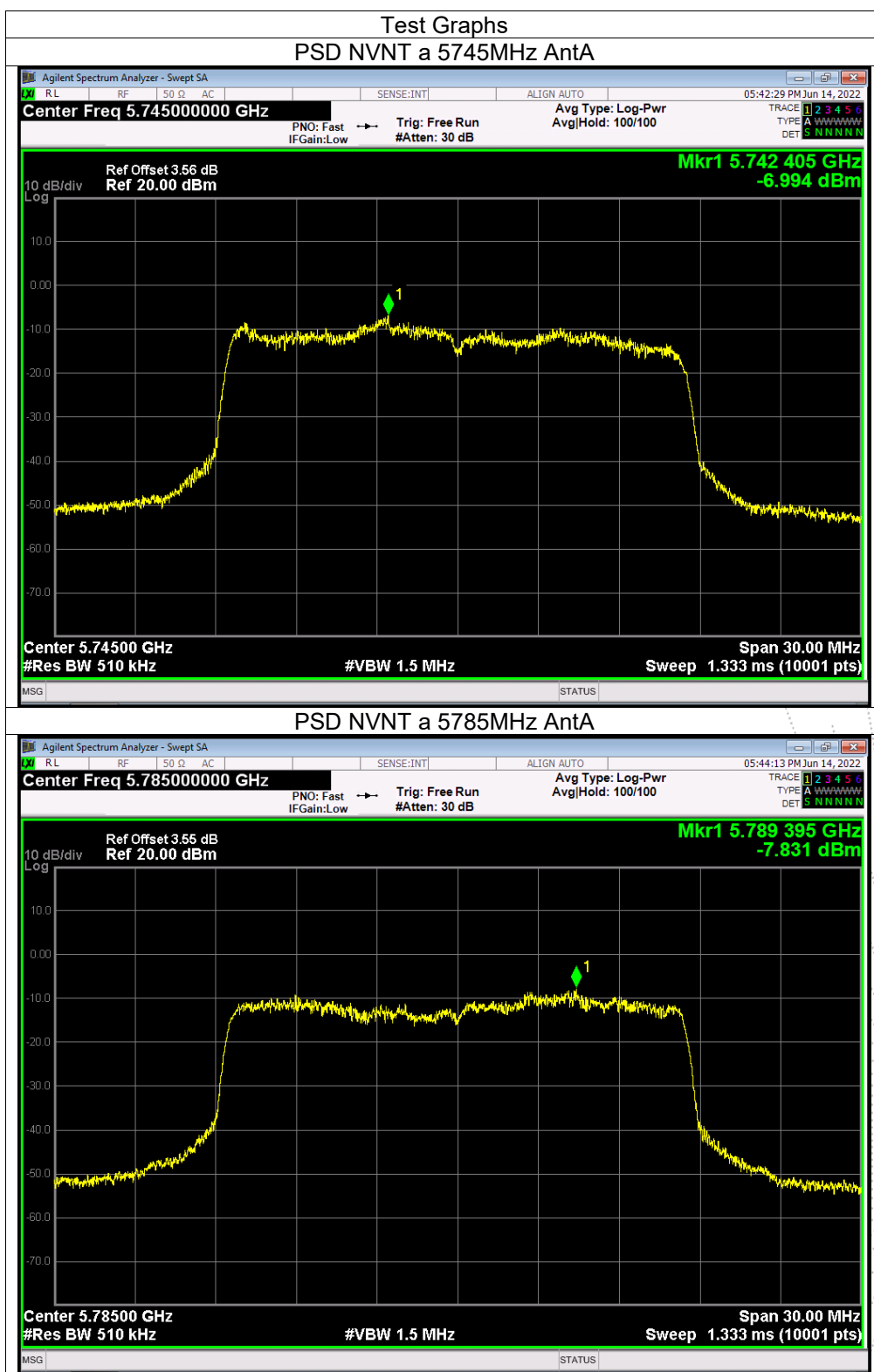
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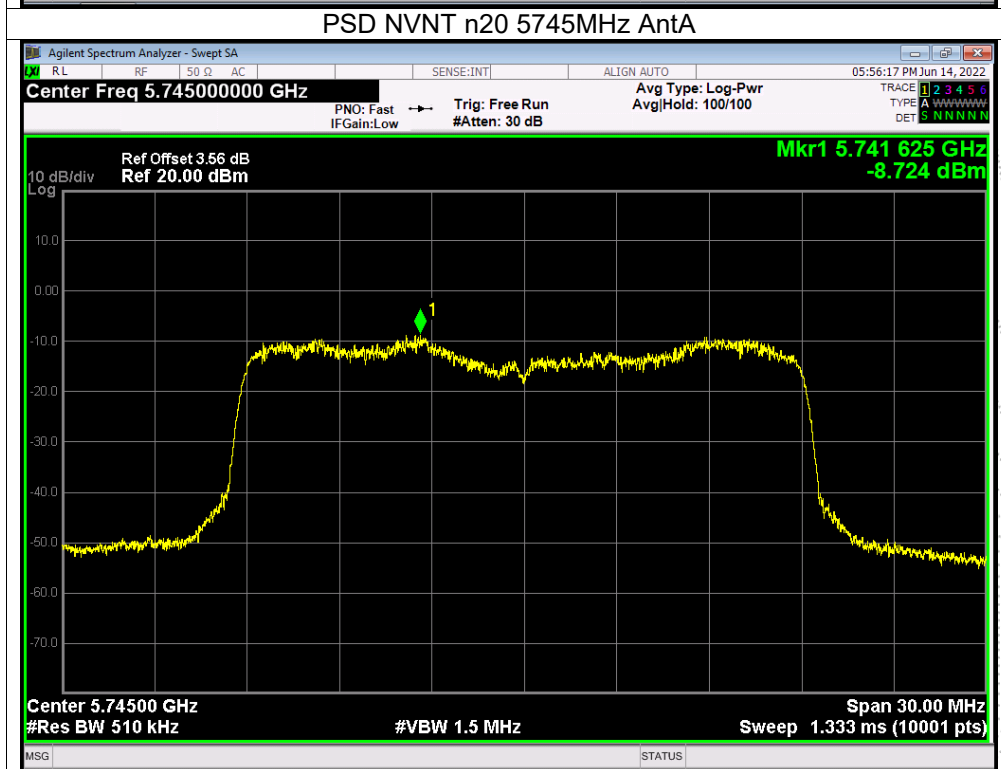
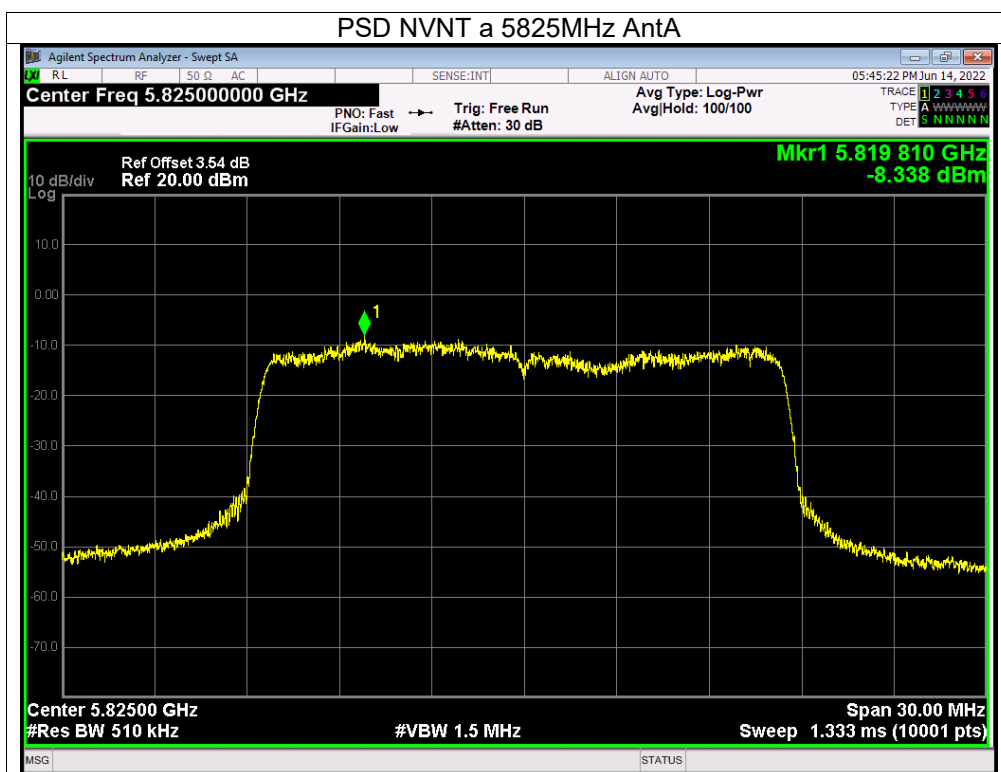
Antenna A gain:4.5dBi, Antenna B gain: 4.5dBi, Directional gain=[GainANT + 10 log(NANT) dBi]

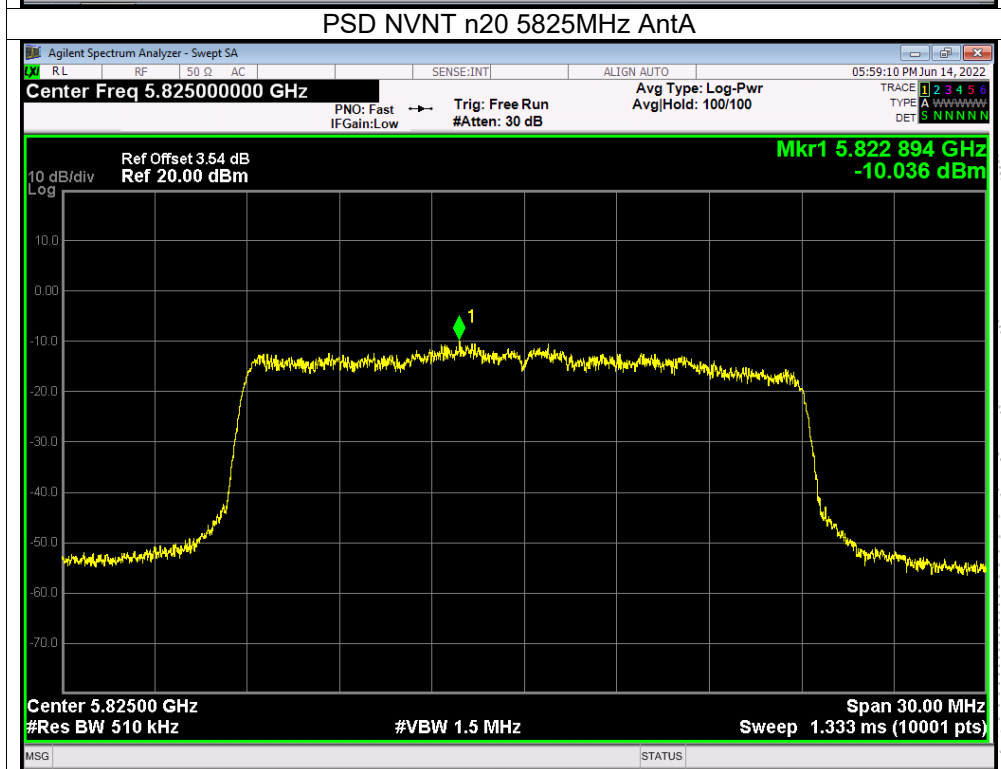
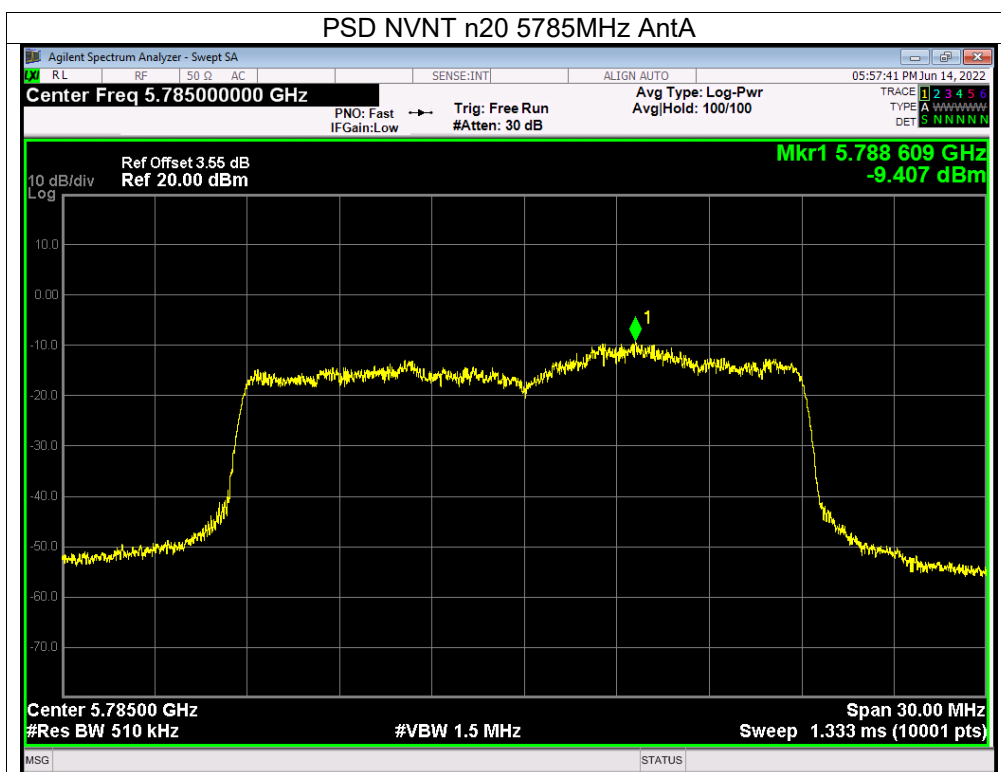
=7.51dbi>6dbi

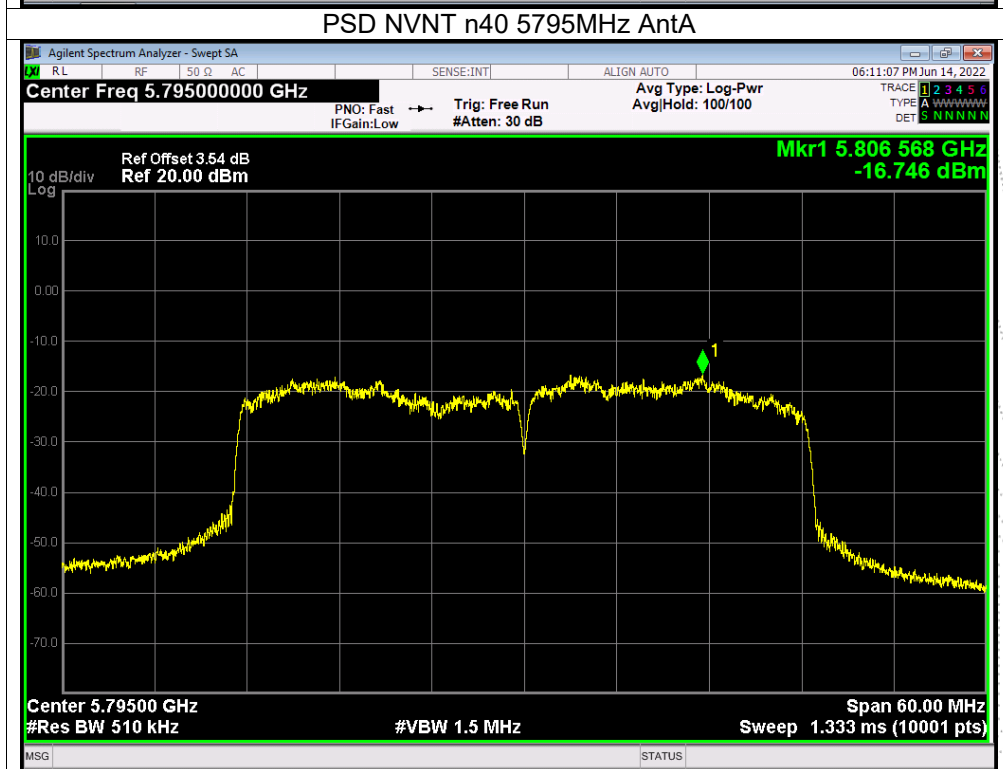
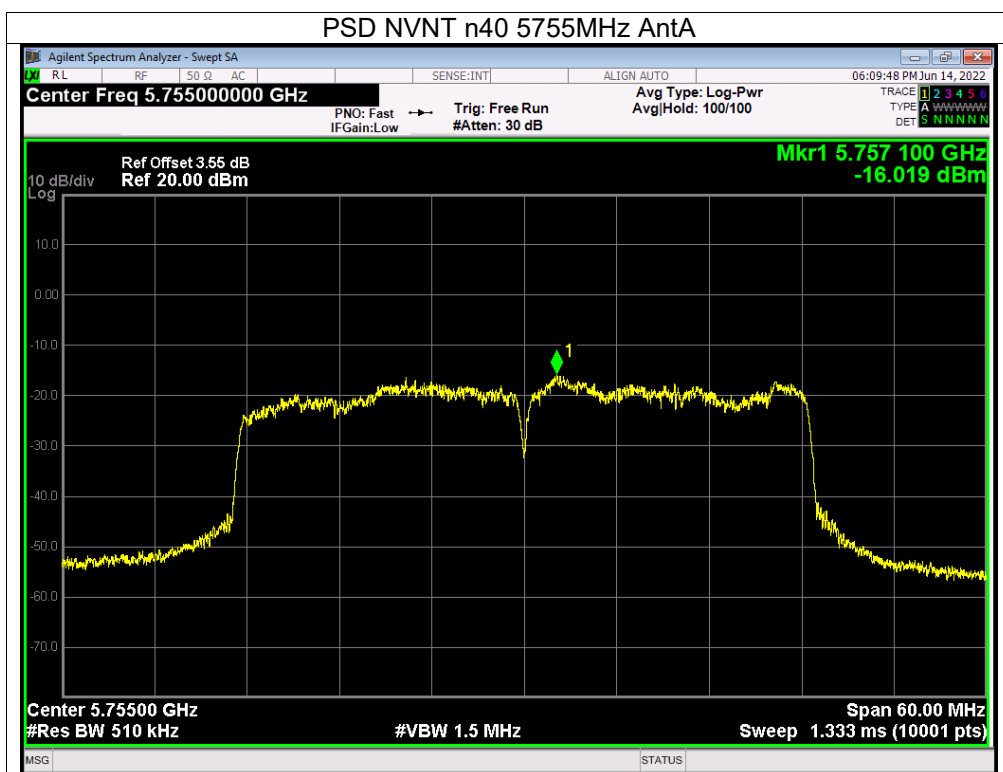
so limit=30-(7.51-6.0)=28.49 dBm

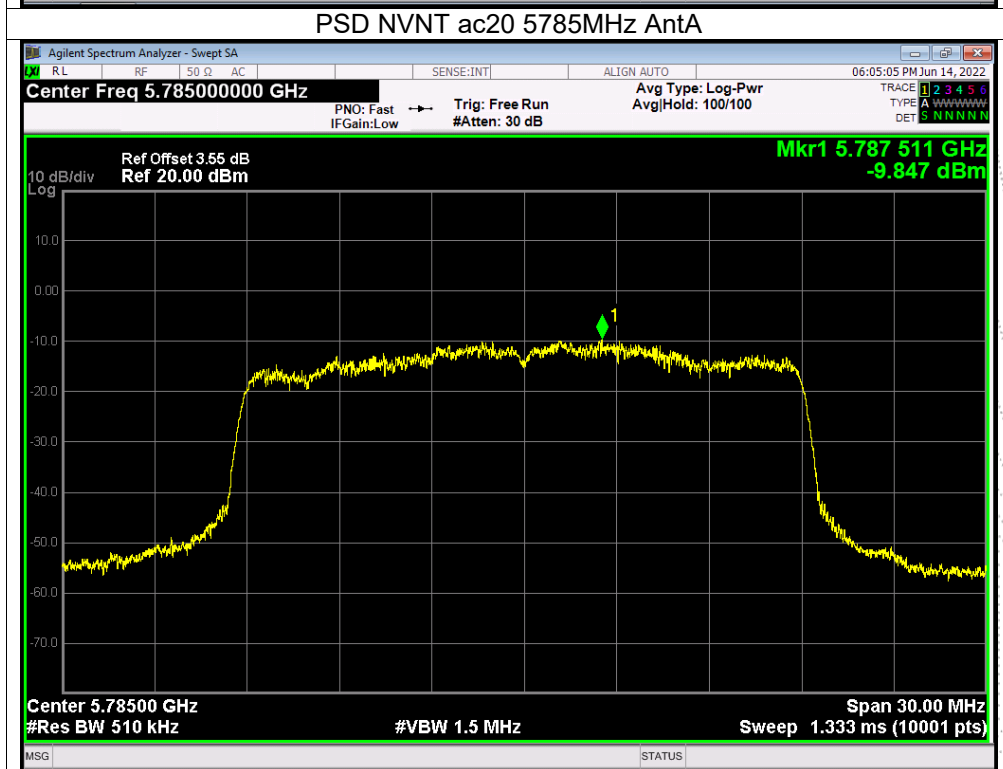
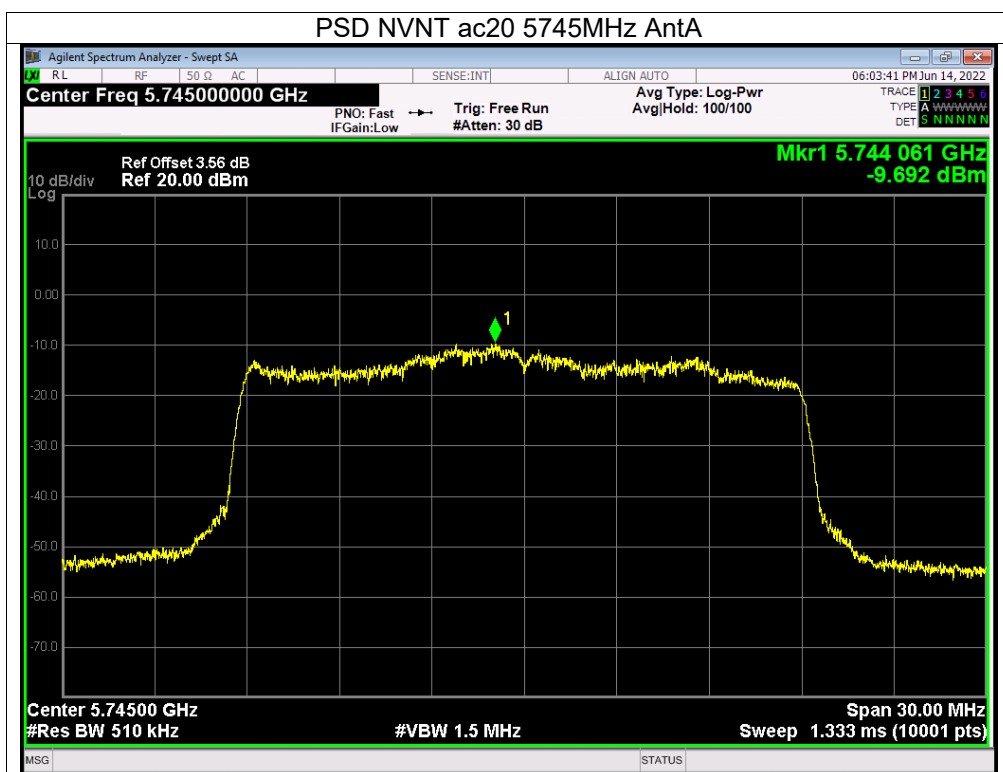
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

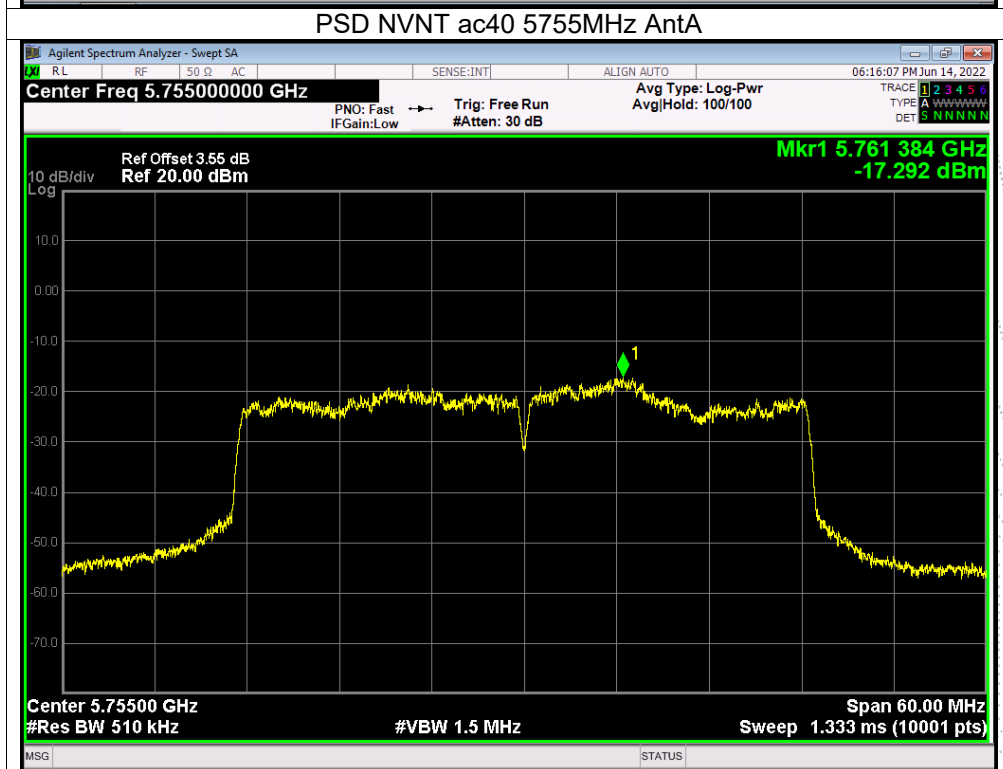
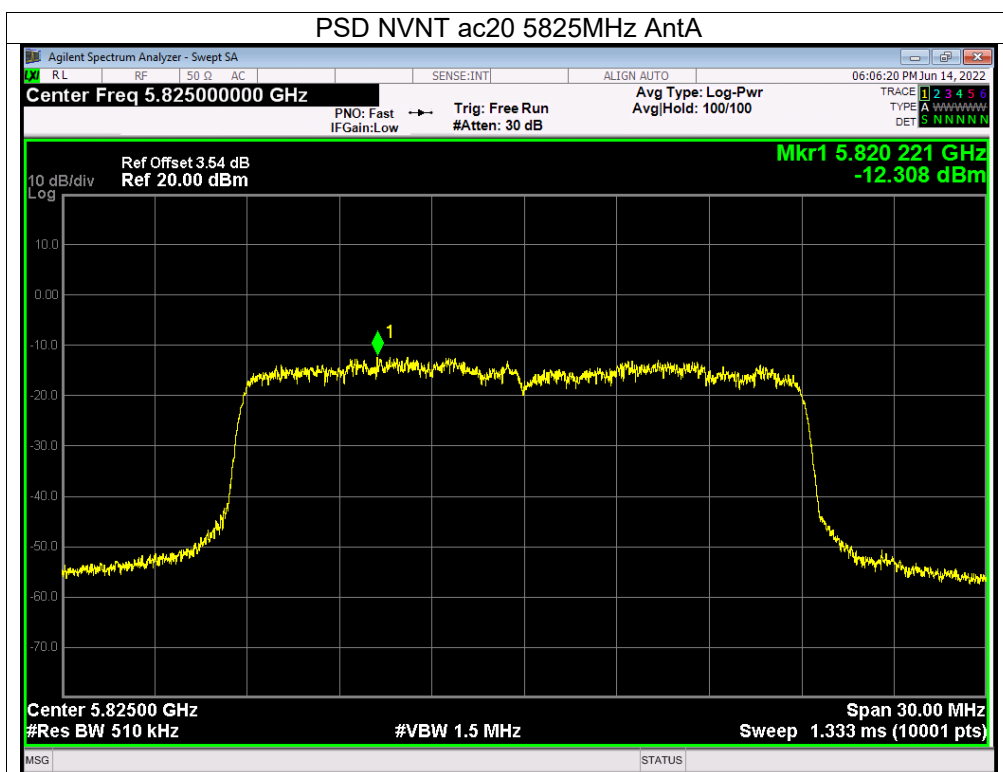


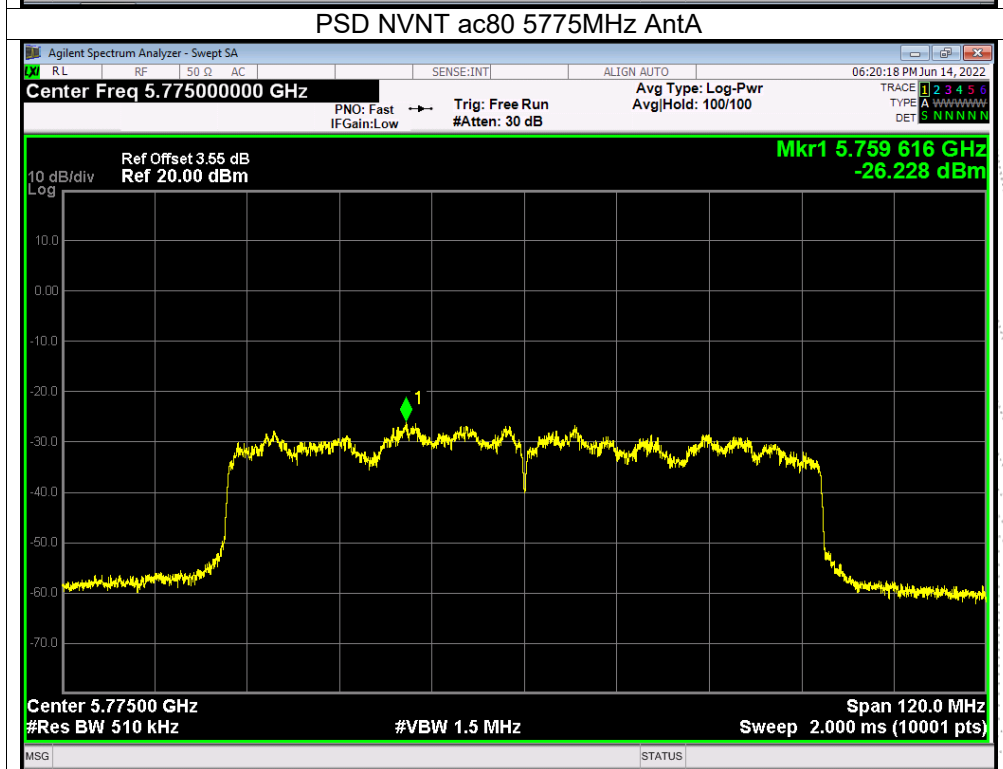
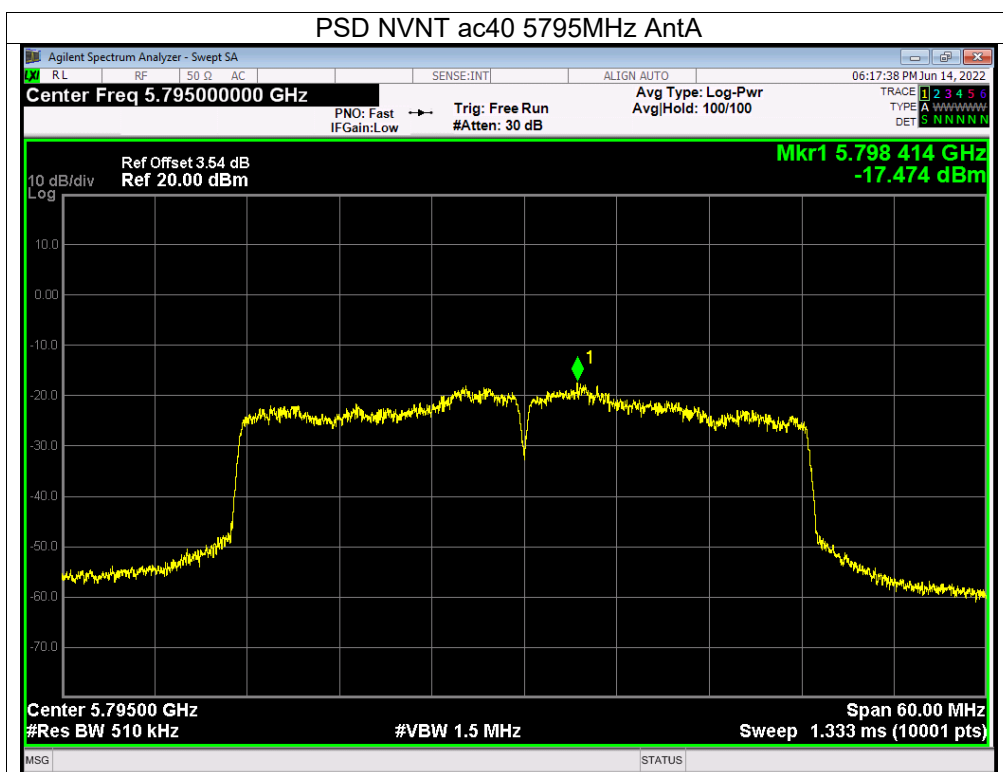






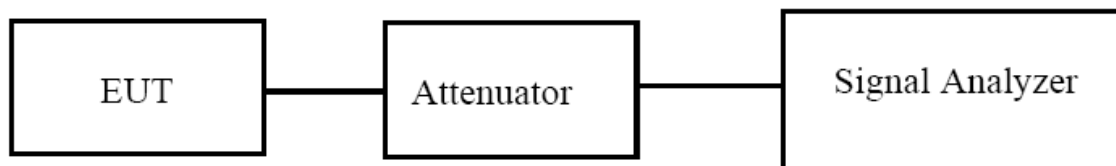






9. 26dB & 6dB & 99% Emission Bandwidth

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

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

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

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1 % to 5 % of the OBW
- Set VBW $\geq 3 \cdot$ RBW
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- Use the 99 % power bandwidth function of the instrument (if available).
- If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

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:	AC120V/60Hz
Test Mode:	(5180-5240MHz)		

Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		Verdict
			Ant A	Ant B	
NVNT	a	5180	18.637	18.745	Pass
NVNT	a	5200	18.46	18.657	Pass
NVNT	a	5240	18.591	18.659	Pass
NVNT	n20	5180	19.553	19.616	Pass
NVNT	n20	5200	19.599	19.611	Pass
NVNT	n20	5240	19.422	19.765	Pass
NVNT	n40	5190	42.585	42.085	Pass
NVNT	n40	5230	42.453	41.985	Pass
NVNT	ac20	5180	19.585	19.544	Pass
NVNT	ac20	5200	19.458	19.524	Pass
NVNT	ac20	5240	19.628	19.492	Pass
NVNT	ac40	5190	42.564	41.832	Pass
NVNT	ac40	5230	42.064	42.233	Pass
NVNT	ac80	5210	80.89	80.798	Pass

Condition	Mode	Frequency (MHz)	99% OBW (MHz)	
			Ant A	Ant B
NVNT	a	5180	16.332	16.329
NVNT	a	5200	16.333	16.351
NVNT	a	5240	16.335	16.333
NVNT	n20	5180	17.534	17.517
NVNT	n20	5200	17.522	17.525
NVNT	n20	5240	17.52	17.505
NVNT	n40	5190	36.06	36.061
NVNT	n40	5230	36.048	35.988
NVNT	ac20	5180	17.535	17.517
NVNT	ac20	5200	17.524	17.535
NVNT	ac20	5240	17.521	17.52
NVNT	ac40	5190	36.149	36.045
NVNT	ac40	5230	36.032	36.04
NVNT	ac80	5210	74.637	74.458

Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

