

TEST REPORT

Report No.: BCTC2208093188-2E

Applicant: Galgus Global SRL

Product Name: Wireless Router

Model/Type
reference: RIX850

Tested Date: 2022-08-01 to 2022-08-18

Issued Date: 2022-08-30

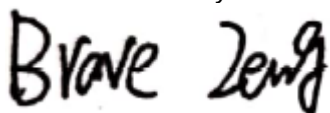
Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2A7WI-RIX850

Product Name: Wireless Router
Trademark: N/A
Model/Type Ref.: RIX850
Prepared For: Galgus Global SRL
Address: Calle Itálica 1, (1st floor), 41900 Camas, Spain
Manufacturer: Galgus Global SRL
Address: Calle Itálica 1, (1st floor), 41900 Camas, Spain
Prepared By: 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
Sample Received Date: 2022-08-01
Sample tested Date: 2022-08-01 to 2022-08-18
Report No.: BCTC2208093188-2E
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:



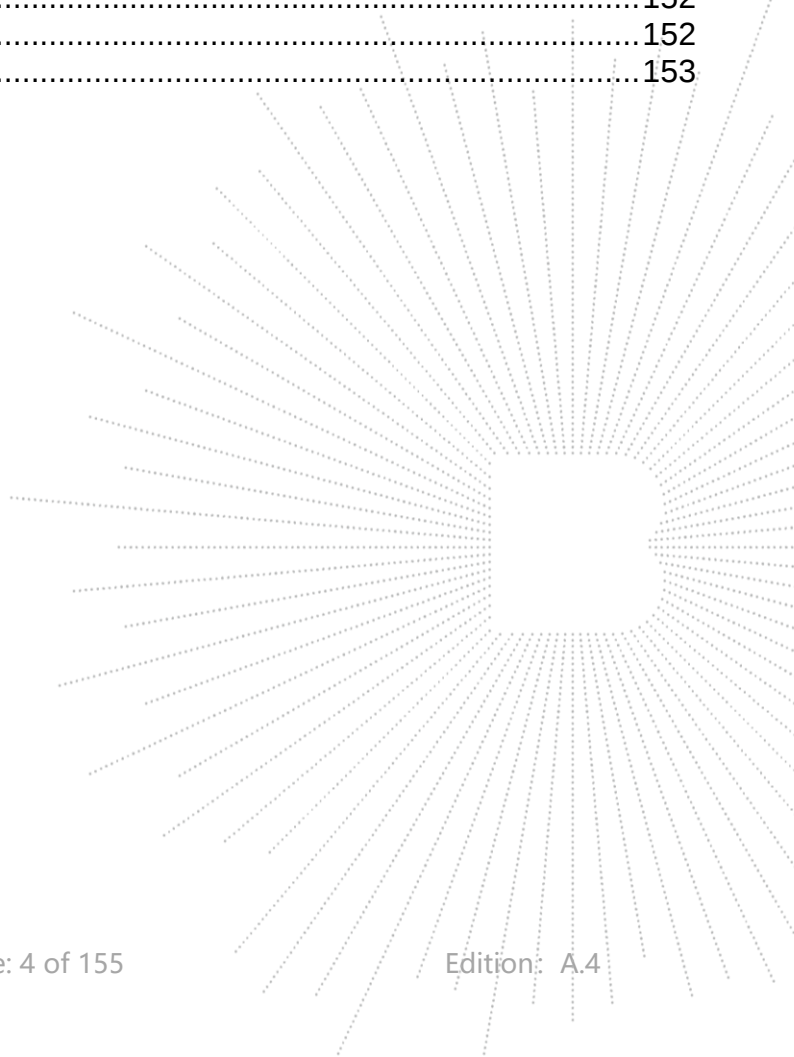
Zero Zhou/Reviewer

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1. Version

Report No.	Issue Date	Description	Approved
BCTC2208093188-2E	2022-08-30	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

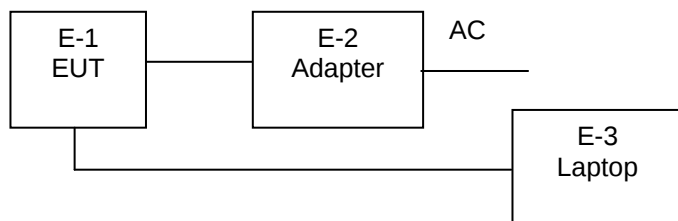
4.1 Product Information

Model/Type Ref.:	RIX850
Model differences:	N/A
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:	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	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
Transmit Power:	22.66 dBm
Antenna installation:	External antenna*4
Antenna Gain:	Antenna A&B&C&D: 4.5dBi
Power supply:	DC12V/3A for adapter
Adapter:	Model:SA36H-120300U Input: 100-240VAC,50/60Hz, 1.0A Max Output: DC12V/3A

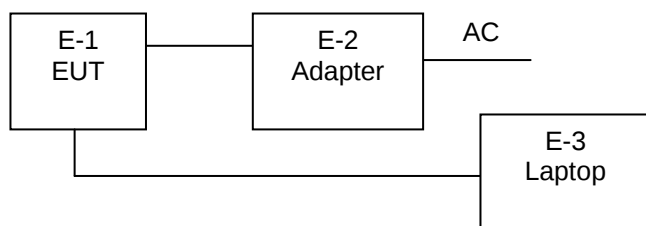
4.2 Test Setup Configuration

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	Z2101	N/A	N/A
E-2	Adapter	N/A	WA-36N12R	N/A	N/A
E-3	Laptop	Lenovo	ThinkPad E550C	SL10H52814	N/A

Item	Shielded Type	Ferrite Core	Length	Note
LAN line	N/A	N/A	1.5M	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 (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 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac/ax40 CH 151 / CH 159
Mode 3	802.11 ac/ax80 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

Table for External antenna

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
C	N/A	N/A	External antenna	4.5	N/A
D	N/A	N/A	External antenna	4.5	N/A

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

Directional gain = GANT + 10 log (NANT) dBi=4.5+10log (2) =7.5dBi

Directional gain = GANT + 10 log (NANT) dBi=4.5+10log (3) =9.3dBi

Directional gain = GANT + 10 log (NANT) dBi=4.5+10log (4) =10.5dBi

i

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

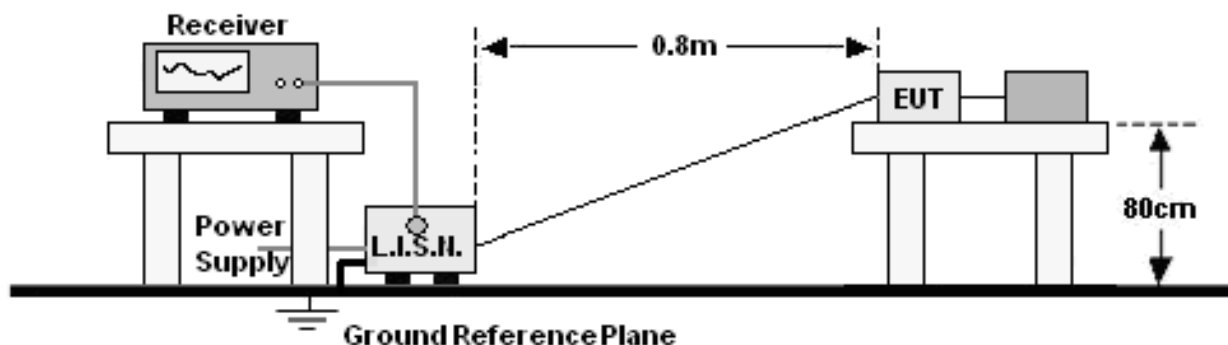
Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
LISN	R&S	ENV216	101375	May 24, 2022	May 23, 2023
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 24, 2022	May 23, 2023

RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power Meter	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.

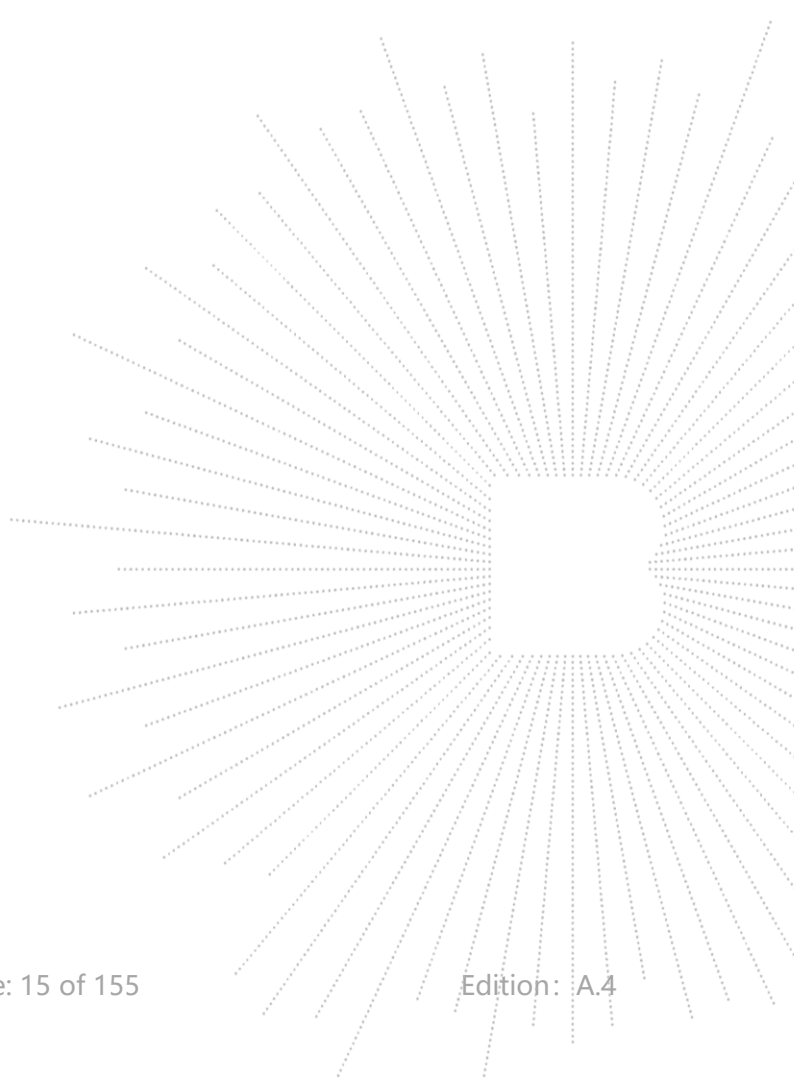
6.3 Test Procedure

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.

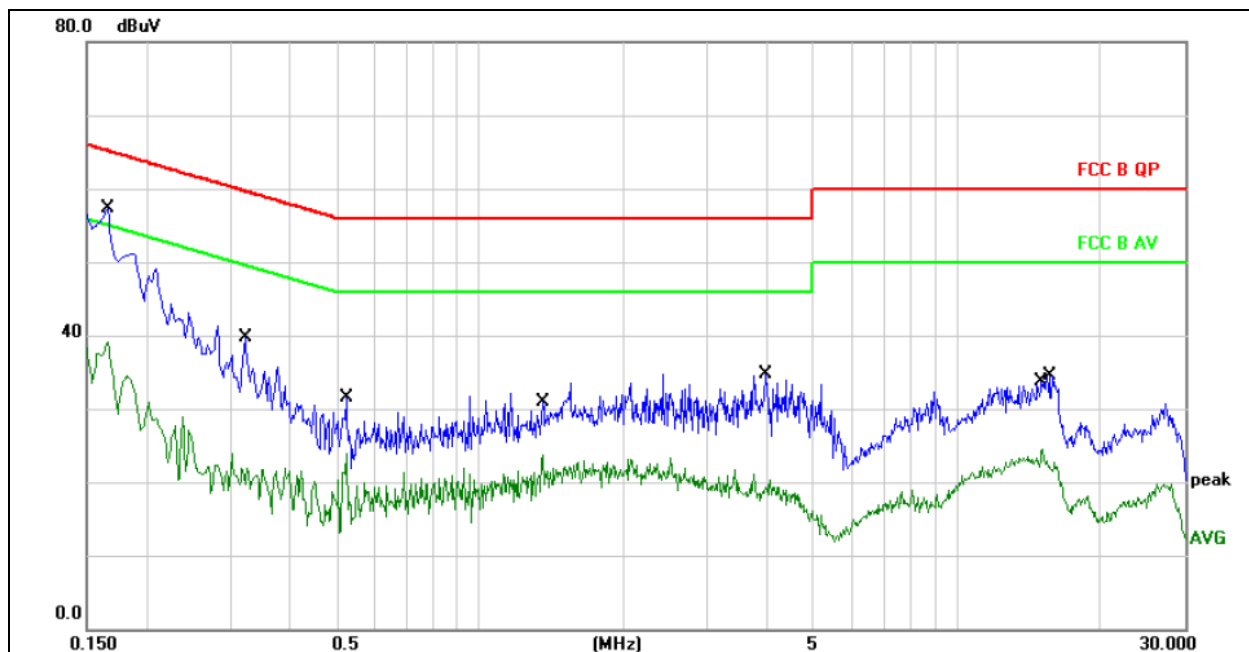
6.4 EUT Operating Conditions

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 4	Polarization :	L

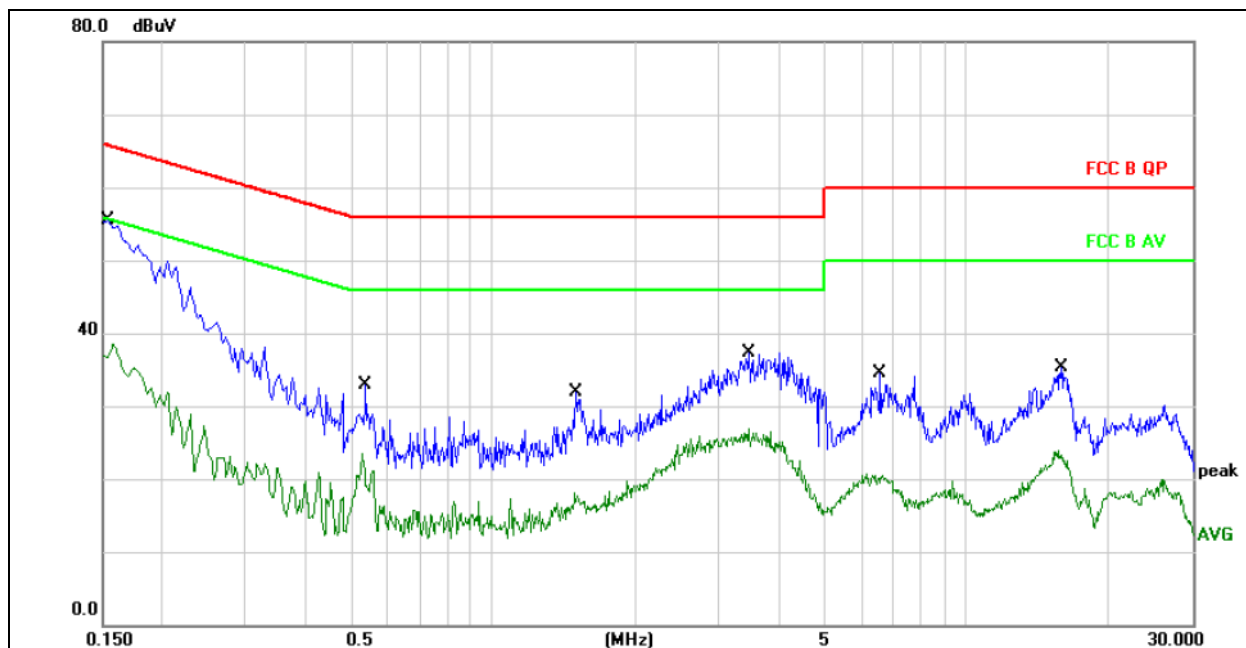


Remark:

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 dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1 *	0.1660	47.36	9.97	57.33	65.15	-7.82	QP	
2	0.1660	29.20	9.97	39.17	55.15	-15.98	AVG	
3	0.3220	29.66	10.04	39.70	59.65	-19.95	QP	
4	0.3220	13.82	10.04	23.86	49.65	-25.79	AVG	
5	0.5260	21.40	10.12	31.52	56.00	-24.48	QP	
6	0.5260	13.74	10.12	23.86	46.00	-22.14	AVG	
7	1.3540	20.78	10.15	30.93	56.00	-25.07	QP	
8	1.3540	13.57	10.15	23.72	46.00	-22.28	AVG	
9	3.9780	24.08	10.62	34.70	56.00	-21.30	QP	
10	3.9780	9.71	10.62	20.33	46.00	-25.67	AVG	
11	15.0640	13.69	10.90	24.59	50.00	-25.41	AVG	
12	15.6540	23.66	10.90	34.56	60.00	-25.44	QP	

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



Remark:

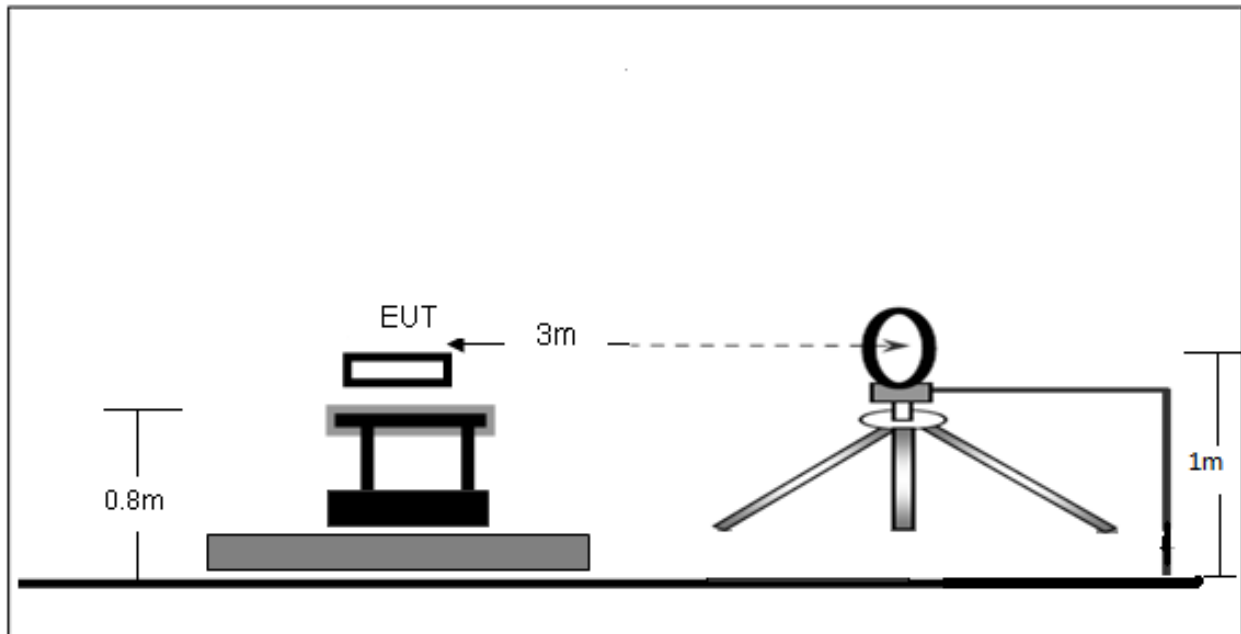
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1 *	0.1539	45.50	9.96	55.46	65.78	-10.32	QP	
2	0.1539	28.54	9.96	38.50	55.78	-17.28	AVG	
3	0.5380	22.80	10.12	32.92	56.00	-23.08	QP	
4	0.5380	13.33	10.12	23.45	46.00	-22.55	AVG	
5	1.4980	21.76	10.16	31.92	56.00	-24.08	QP	
6	1.4980	8.01	10.16	18.17	46.00	-27.83	AVG	
7	3.4660	26.83	10.52	37.35	56.00	-18.65	QP	
8	3.4660	16.38	10.52	26.90	46.00	-19.10	AVG	
9	6.5740	23.65	10.80	34.45	60.00	-25.55	QP	
10	6.5740	9.87	10.80	20.67	50.00	-29.33	AVG	
11	15.8340	24.33	10.89	35.22	60.00	-24.78	QP	
12	15.8340	12.94	10.89	23.83	50.00	-26.17	AVG	

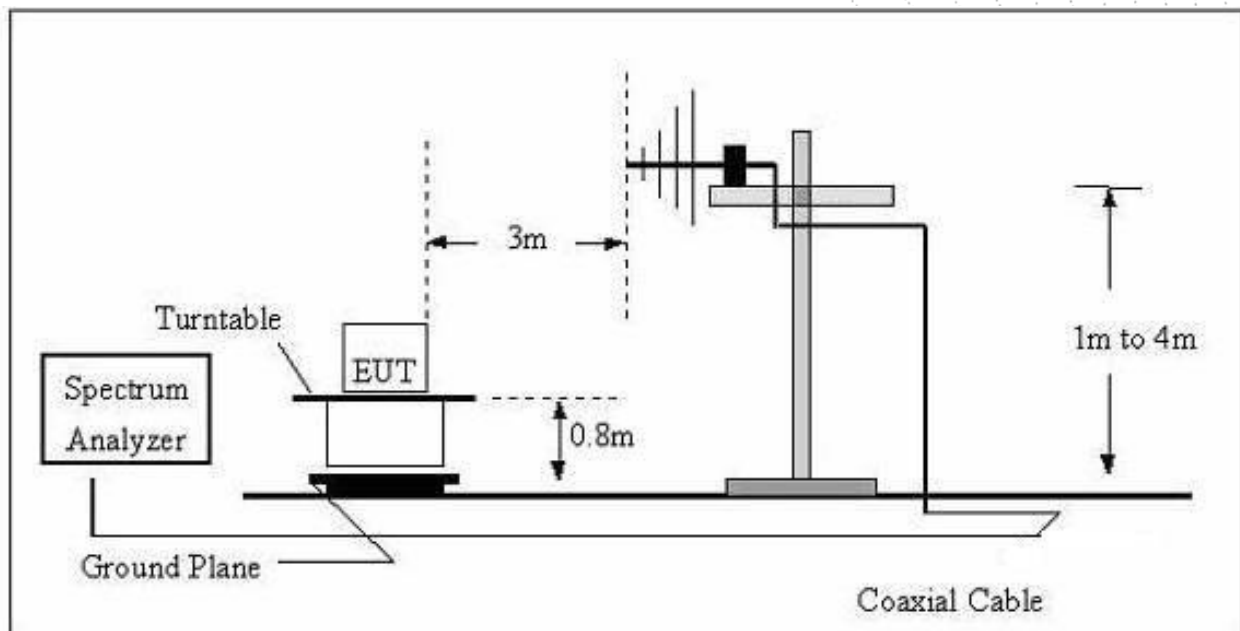
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

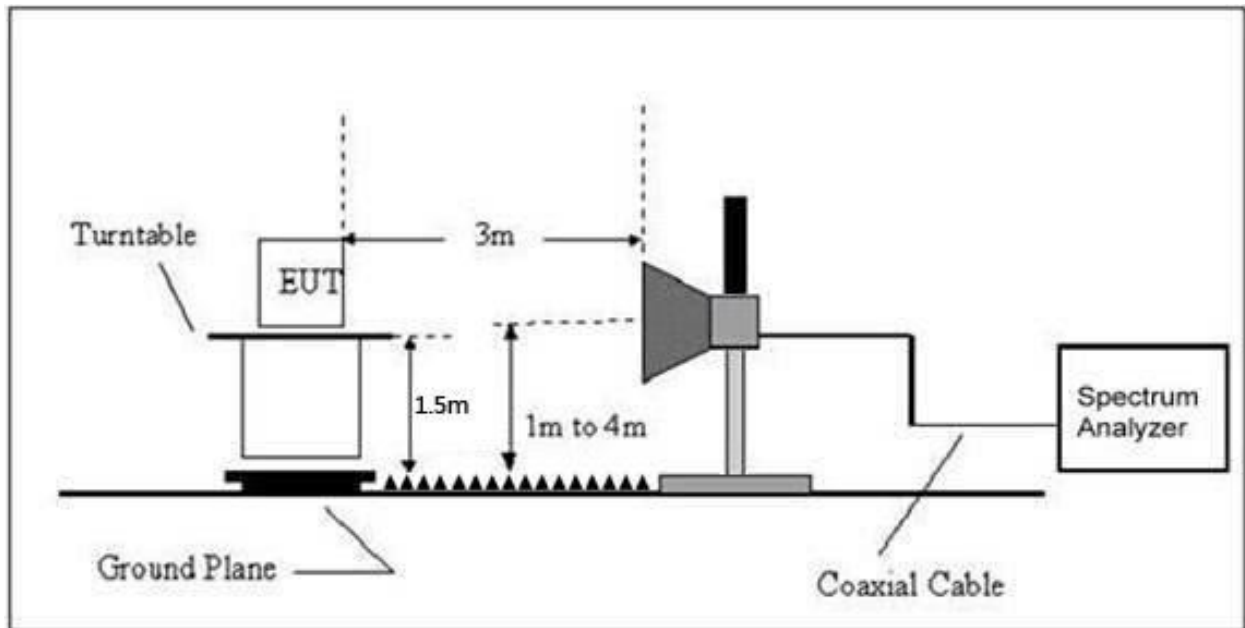
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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 4	Polarization:	--

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

Note:

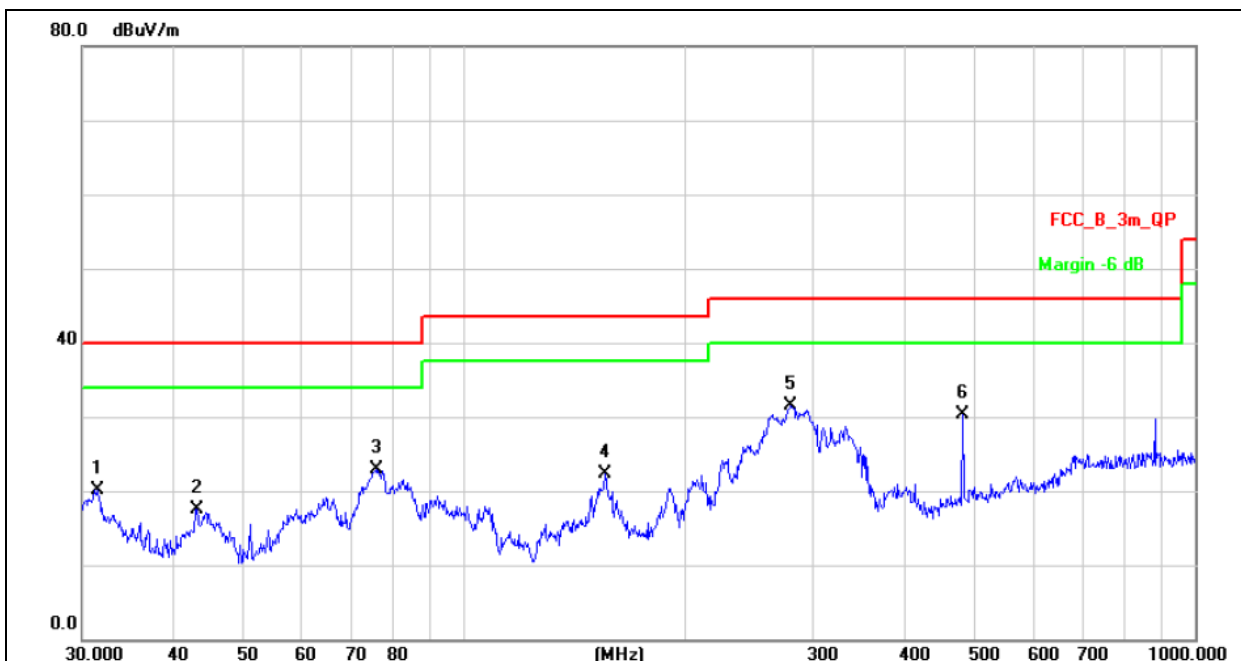
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})$ (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 4	Polarization :	Horizontal

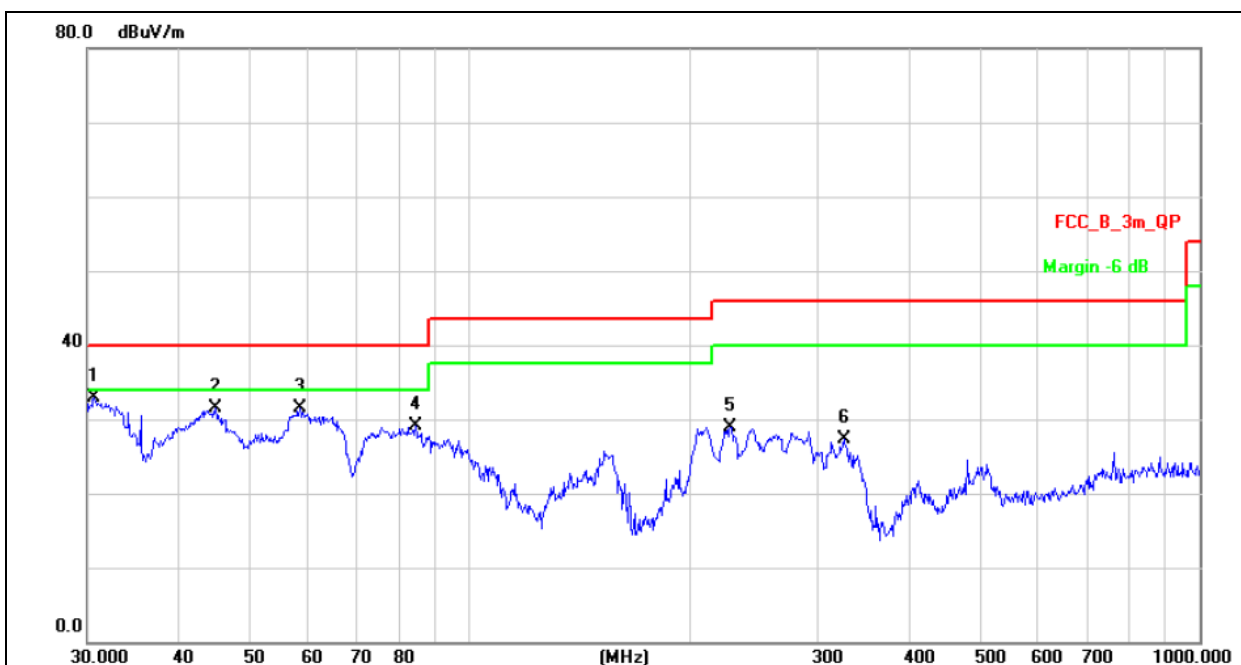


Remark:

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

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		31.5095	29.05	-8.94	20.11	40.00	-19.89	QP		
2		43.0505	27.77	-10.22	17.55	40.00	-22.45	QP		
3		75.7114	36.81	-13.88	22.93	40.00	-17.07	QP		
4		155.9101	30.39	-8.18	22.21	43.50	-21.29	QP		
5	*	280.0237	39.82	-8.39	31.43	46.00	-14.57	QP		
6		480.5276	32.74	-2.35	30.39	46.00	-15.61	QP		

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



Remark:

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

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	30.6379	41.67	-8.74	32.93	40.00	-7.07	QP		
2		44.9006	41.67	-10.10	31.57	40.00	-8.43	QP		
3		58.6126	42.89	-11.35	31.54	40.00	-8.46	QP		
4		84.4054	43.31	-14.22	29.09	40.00	-10.91	QP		
5		227.6906	39.11	-10.19	28.92	46.00	-17.08	QP		
6		325.5958	34.35	-7.13	27.22	46.00	-18.78	QP		

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	4434.13	64.82	5.94	35.40	44.00	62.16	68.20	-6.04	PK
V	4434.13	43.81	5.94	35.40	44.00	41.15	54.00	-12.85	AV
V	11490.12	60.87	8.46	39.75	44.50	64.58	68.20	-3.62	PK
V	11490.12	43.87	8.46	39.75	44.50	47.58	54.00	-6.42	AV
V	17235.05	63.60	10.12	38.80	44.10	68.42	74.00	-5.58	PK
V	17235.05	43.91	10.12	38.80	42.70	50.13	54.00	-3.87	AV
H	4434.04	62.11	5.94	35.18	44.00	59.23	68.20	-8.97	PK
H	4434.04	43.51	5.94	35.18	44.00	40.63	54.00	-13.37	AV
H	11490.06	50.80	8.46	38.71	44.50	53.47	68.20	-14.73	PK
H	11490.06	41.41	8.46	38.71	44.50	44.08	54.00	-9.92	AV
H	17235.04	52.73	10.12	38.38	44.10	57.13	74.00	-16.87	PK
H	17235.04	41.28	10.12	38.38	44.10	45.68	54.00	-8.32	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.01	60.28	6.48	36.35	44.05	59.06	74.00	-14.94	PK
V	4592.01	43.95	6.48	36.35	44.05	42.73	54.00	-11.27	AV
V	11570.13	62.26	8.47	37.88	44.51	64.10	68.20	-4.10	PK
V	11570.13	43.40	8.47	37.88	44.51	45.24	54.00	-8.76	AV
V	17355.02	62.92	10.12	38.80	44.10	67.74	74.00	-6.26	PK
V	17355.02	43.38	10.12	38.80	42.70	49.60	54.00	-4.40	AV
H	4592.03	63.18	6.48	36.37	44.05	61.98	74.00	-12.02	PK
H	4592.03	43.06	6.48	36.37	44.05	41.86	54.00	-12.14	AV
H	11570.15	53.84	8.47	38.64	44.50	56.45	68.20	-11.75	PK
H	11570.15	40.25	8.47	38.64	44.50	42.86	54.00	-11.14	AV
H	17355.07	54.04	10.12	38.38	44.10	58.44	74.00	-15.56	PK
H	17355.07	42.18	10.12	38.38	44.10	46.58	54.00	-7.42	AV
High Channel (5825 MHz)-Above 1G									
V	4739.09	60.23	7.10	37.24	43.50	61.07	74.00	-12.93	PK
V	4739.09	43.18	7.10	37.24	43.50	44.02	54.00	-9.98	AV
V	11650.04	61.09	8.46	37.68	44.50	62.73	68.20	-5.47	PK
V	11650.04	43.40	8.46	37.68	44.50	45.04	54.00	-8.96	AV
V	17475.04	60.29	10.12	38.80	44.10	65.11	74.00	-8.89	PK
V	17475.04	43.19	10.12	38.80	42.70	49.41	54.00	-4.59	AV
H	4739.17	61.56	7.10	37.24	43.50	62.40	74.00	-11.60	PK
H	4739.17	43.76	7.10	37.24	43.50	44.60	54.00	-9.40	AV
H	11650.07	53.17	8.46	38.57	44.50	55.70	68.20	-12.50	PK
H	11650.07	40.48	8.46	38.57	44.50	43.01	54.00	-10.99	AV
H	17475.11	52.11	10.12	38.38	44.10	56.51	74.00	-17.49	PK
H	17475.11	41.10	10.12	38.38	44.10	45.50	54.00	-8.50	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.

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	4434.04	63.30	5.94	35.40	44.00	60.64	68.20	-7.56	PK
V	4434.04	43.28	5.94	35.40	44.00	40.62	54.00	-13.38	AV
V	11490.09	61.18	8.46	39.75	44.50	64.89	68.20	-3.31	PK
V	11490.09	43.05	8.46	39.75	44.50	46.76	54.00	-7.24	AV
V	17235.03	60.77	10.12	38.80	44.10	65.59	74.00	-8.41	PK
V	17235.03	43.02	10.12	38.80	42.70	49.24	54.00	-4.76	AV
H	4434.06	62.69	5.94	35.18	44.00	59.81	68.20	-8.39	PK
H	4434.06	43.44	5.94	35.18	44.00	40.56	54.00	-13.44	AV
H	11490.16	51.96	8.46	38.71	44.50	54.63	68.20	-13.57	PK
H	11490.16	44.80	8.46	38.71	44.50	47.47	54.00	-6.53	AV
H	17235.16	50.87	10.12	38.38	44.10	55.27	74.00	-18.73	PK
H	17235.16	44.21	10.12	38.38	44.10	48.61	54.00	-5.39	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.10	63.62	6.48	36.35	44.05	62.40	74.00	-11.60	PK
V	4592.10	43.79	6.48	36.35	44.05	42.57	54.00	-11.43	AV
V	11570.01	61.11	8.47	37.88	44.51	62.95	68.20	-5.25	PK
V	11570.01	43.09	8.47	37.88	44.51	44.93	54.00	-9.07	AV
V	17355.08	62.73	10.12	38.80	44.10	67.55	74.00	-6.45	PK
V	17355.08	43.37	10.12	38.80	42.70	49.59	54.00	-4.41	AV
H	4592.03	62.96	6.48	36.37	44.05	61.76	74.00	-12.24	PK
H	4592.03	43.33	6.48	36.37	44.05	42.13	54.00	-11.87	AV
H	11570.19	54.82	8.47	38.64	44.50	57.43	68.20	-10.77	PK
H	11570.19	42.40	8.47	38.64	44.50	45.01	54.00	-8.99	AV
H	17355.15	51.01	10.12	38.38	44.10	55.41	74.00	-18.59	PK
H	17355.15	43.21	10.12	38.38	44.10	47.61	54.00	-6.39	AV
High Channel (5825 MHz)-Above 1G									
V	4739.13	63.95	7.10	37.24	43.50	64.79	74.00	-9.21	PK
V	4739.13	43.13	7.10	37.24	43.50	43.97	54.00	-10.03	AV
V	11650.15	63.76	8.46	37.68	44.50	65.40	68.20	-2.80	PK
V	11650.15	43.43	8.46	37.68	44.50	45.07	54.00	-8.93	AV
V	17475.15	62.32	10.12	38.80	44.10	67.14	74.00	-6.86	PK
V	17475.15	43.86	10.12	38.80	42.70	50.08	54.00	-3.92	AV
H	4739.16	60.58	7.10	37.24	43.50	61.42	74.00	-12.58	PK
H	4739.16	43.85	7.10	37.24	43.50	44.69	54.00	-9.31	AV
H	11650.18	54.41	8.46	38.57	44.50	56.94	68.20	-11.26	PK
H	11650.18	44.27	8.46	38.57	44.50	46.80	54.00	-7.20	AV
H	17475.18	54.76	10.12	38.38	44.10	59.16	74.00	-14.84	PK
H	17475.18	40.34	10.12	38.38	44.10	44.74	54.00	-9.26	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 Mode (2T2R).

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	4434.03	64.26	5.94	35.40	44.00	61.60	68.20	-6.60	PK
V	4434.03	43.25	5.94	35.40	44.00	40.59	54.00	-13.41	AV
V	11510.04	61.31	8.46	39.75	44.50	65.02	68.20	-3.18	PK
V	11510.04	43.73	8.46	39.75	44.50	47.44	54.00	-6.56	AV
V	17265.16	62.95	10.12	38.80	44.10	67.77	74.00	-6.23	PK
V	17265.16	43.41	10.12	38.80	42.70	49.63	54.00	-4.37	AV
H	4434.12	62.91	5.94	35.18	44.00	60.03	74.00	-13.97	PK
H	4434.12	43.27	5.94	35.18	44.00	40.39	54.00	-13.61	AV
H	11510.15	51.39	8.46	38.71	44.50	54.06	68.20	-14.14	PK
H	11510.15	41.71	8.46	38.71	44.50	44.38	54.00	-9.62	AV
H	17265.19	50.19	10.12	38.38	44.10	54.59	74.00	-19.41	PK
H	17265.19	41.02	10.12	38.38	44.10	45.42	54.00	-8.58	AV
High Channel (5795 MHz)-Above 1G									
V	4739.06	61.57	6.48	36.35	44.05	60.35	68.20	-7.85	PK
V	4739.06	43.93	6.48	36.35	44.05	42.71	54.00	-11.29	AV
V	11590.14	61.66	8.47	37.88	44.51	63.50	68.20	-4.70	PK
V	11590.14	43.11	8.47	37.88	44.51	44.95	54.00	-9.05	AV
V	17385.06	60.56	10.12	38.80	44.10	65.38	74.00	-8.62	PK
V	17385.06	43.01	10.12	38.80	42.70	49.23	54.00	-4.77	AV
H	4739.04	62.21	6.48	36.37	44.05	61.01	68.20	-7.19	PK
H	4739.04	43.49	6.48	36.37	44.05	42.29	54.00	-11.71	AV
H	11590.19	53.16	8.47	38.64	44.50	55.77	68.20	-12.43	PK
H	11590.19	44.15	8.47	38.64	44.50	46.76	54.00	-7.24	AV
H	17385.15	50.99	10.12	38.38	44.10	55.39	74.00	-18.61	PK
H	17385.15	41.82	10.12	38.38	44.10	46.22	54.00	-7.78	AV

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

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

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

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

Test Mode is MIMO Mode (4T4R).

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	4434.16	63.88	5.94	35.40	44.00	61.22	68.20	-6.98	PK
V	4434.16	43.25	5.94	35.40	44.00	40.59	54.00	-13.41	AV
V	11490.19	60.95	8.46	39.75	44.50	64.66	68.20	-3.54	PK
V	11490.19	43.66	8.46	39.75	44.50	47.37	54.00	-6.63	AV
V	17235.16	60.46	10.12	38.80	44.10	65.28	74.00	-8.72	PK
V	17235.16	43.73	10.12	38.80	42.70	49.95	54.00	-4.05	AV
H	4434.09	61.80	5.94	35.18	44.00	58.92	68.20	-9.28	PK
H	4434.09	43.94	5.94	35.18	44.00	41.06	54.00	-12.94	AV
H	11490.18	52.17	8.46	38.71	44.50	54.84	68.20	-13.36	PK
H	11490.18	40.72	8.46	38.71	44.50	43.39	54.00	-10.61	AV
H	17235.06	53.90	10.12	38.38	44.10	58.30	74.00	-15.70	PK
H	17235.06	41.02	10.12	38.38	44.10	45.42	54.00	-8.58	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.09	62.82	6.48	36.35	44.05	61.60	74.00	-12.40	PK
V	4592.09	43.43	6.48	36.35	44.05	42.21	54.00	-11.79	AV
V	11570.15	60.90	8.47	37.88	44.51	62.74	68.20	-5.46	PK
V	11570.15	43.62	8.47	37.88	44.51	45.46	54.00	-8.54	AV
V	17355.01	62.47	10.12	38.80	44.10	67.29	74.00	-6.71	PK
V	17355.01	43.31	10.12	38.80	42.70	49.53	54.00	-4.47	AV
H	4592.16	63.61	6.48	36.37	44.05	62.41	74.00	-11.59	PK
H	4592.16	43.52	6.48	36.37	44.05	42.32	54.00	-11.68	AV
H	11570.12	52.06	8.47	38.64	44.50	54.67	68.20	-13.53	PK
H	11570.12	43.57	8.47	38.64	44.50	46.18	54.00	-7.82	AV
H	17355.17	51.29	10.12	38.38	44.10	55.69	74.00	-18.31	PK
H	17355.17	44.53	10.12	38.38	44.10	48.93	54.00	-5.07	AV
High Channel (5825 MHz)-Above 1G									
V	4739.20	62.77	7.10	37.24	43.50	63.61	74.00	-10.39	PK
V	4739.20	43.65	7.10	37.24	43.50	44.49	54.00	-9.51	AV
V	11650.01	63.50	8.46	37.68	44.50	65.14	68.20	-3.06	PK
V	11650.01	43.02	8.46	37.68	44.50	44.66	54.00	-9.34	AV
V	17475.04	60.29	10.12	38.80	44.10	65.11	74.00	-8.89	PK
V	17475.04	43.72	10.12	38.80	42.70	49.94	54.00	-4.06	AV
H	4739.19	60.22	7.10	37.24	43.50	61.06	74.00	-12.94	PK
H	4739.19	43.63	7.10	37.24	43.50	44.47	54.00	-9.53	AV
H	11650.14	54.18	8.46	38.57	44.50	56.71	68.20	-11.49	PK
H	11650.14	41.03	8.46	38.57	44.50	43.56	54.00	-10.44	AV
H	17475.02	51.71	10.12	38.38	44.10	56.11	74.00	-17.89	PK
H	17475.02	40.83	10.12	38.38	44.10	45.23	54.00	-8.77	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 (4T4R).

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	4434.12	62.85	5.94	35.40	44.00	60.19	68.20	-8.01	Pk
V	4434.12	43.13	5.94	35.40	44.00	40.47	54.00	-13.53	AV
V	11510.02	62.14	8.46	39.75	44.50	65.85	68.20	-2.35	Pk
V	11510.02	43.89	8.46	39.75	44.50	47.60	54.00	-6.40	AV
V	17265.12	64.26	10.12	38.80	44.10	69.08	74.00	-4.92	Pk
V	17265.12	43.02	10.12	38.80	42.70	49.24	54.00	-4.76	AV
H	4434.14	60.24	5.94	35.18	44.00	57.36	74.00	-16.64	Pk
H	4434.14	43.59	5.94	35.18	44.00	40.71	54.00	-13.29	AV
H	11510.07	50.40	8.46	38.71	44.50	53.07	68.20	-15.13	Pk
H	11510.07	44.43	8.46	38.71	44.50	47.10	54.00	-6.90	AV
H	17265.01	52.08	10.12	38.38	44.10	56.48	74.00	-17.52	Pk
H	17265.01	41.44	10.12	38.38	44.10	45.84	54.00	-8.16	AV
High Channel (5795 MHz)-Above 1G									
V	4739.12	60.35	6.48	36.35	44.05	59.13	68.20	-9.07	Pk
V	4739.12	43.38	6.48	36.35	44.05	42.16	54.00	-11.84	AV
V	11590.12	62.61	8.47	37.88	44.51	64.45	68.20	-3.75	Pk
V	11590.12	43.63	8.47	37.88	44.51	45.47	54.00	-8.53	AV
V	17385.15	60.34	10.12	38.80	44.10	65.16	74.00	-8.84	Pk
V	17385.15	43.62	10.12	38.80	42.70	49.84	54.00	-4.16	AV
H	4739.03	62.55	6.48	36.37	44.05	61.35	68.20	-6.85	Pk
H	4739.03	43.52	6.48	36.37	44.05	42.32	54.00	-11.68	AV
H	11590.13	54.47	8.47	38.64	44.50	57.08	68.20	-11.12	Pk
H	11590.13	44.86	8.47	38.64	44.50	47.47	54.00	-6.53	AV
H	17385.12	51.56	10.12	38.38	44.10	55.96	74.00	-18.04	Pk
H	17385.12	41.06	10.12	38.38	44.10	45.46	54.00	-8.54	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 (4T4R).

Test Mode:	TX(5.8G) - 802.11ac-HT80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
(5775 MHz)-Above 1G									
V	4434.09	62.44	5.94	35.40	44.00	59.78	68.20	-8.42	Pk
V	4434.09	43.62	5.94	35.40	44.00	40.96	54.00	-13.04	AV
V	11550.07	60.40	8.46	39.75	44.50	64.11	68.20	-4.09	Pk
V	11550.07	43.22	8.46	39.75	44.50	46.93	54.00	-7.07	AV
V	17325.11	63.73	10.12	38.80	44.10	68.55	74.00	-5.45	Pk
V	17325.11	43.69	10.12	38.80	42.70	49.91	54.00	-4.09	AV
H	4434.12	64.73	5.94	35.18	44.00	61.85	68.20	-6.35	Pk
H	4434.12	43.29	5.94	35.18	44.00	40.41	54.00	-13.59	AV
H	11550.10	50.85	8.46	38.71	44.50	53.52	68.20	-14.68	Pk
H	11550.10	41.76	8.46	38.71	44.50	44.43	54.00	-9.57	AV
H	17325.19	53.10	10.12	38.38	44.10	57.50	74.00	-16.50	Pk
H	17325.19	44.58	10.12	38.38	44.10	48.98	54.00	-5.02	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 (4T4R).

Test Mode:	TX(5.8G) - 802.11ax-HE20
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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	4434.14	62.17	5.94	35.40	44.00	59.51	68.20	-8.69	PK
V	4434.14	43.51	5.94	35.40	44.00	40.85	54.00	-13.15	AV
V	11490.11	60.95	8.46	39.75	44.50	64.66	68.20	-3.54	PK
V	11490.11	43.64	8.46	39.75	44.50	47.35	54.00	-6.65	AV
V	17235.06	62.31	10.12	38.80	44.10	67.13	74.00	-6.87	PK
V	17235.06	43.13	10.12	38.80	42.70	49.35	54.00	-4.65	AV
H	4434.02	63.11	5.94	35.18	44.00	60.23	68.20	-7.97	PK
H	4434.02	43.31	5.94	35.18	44.00	40.43	54.00	-13.57	AV
H	11490.10	50.99	8.46	38.71	44.50	53.66	68.20	-14.54	PK
H	11490.10	41.02	8.46	38.71	44.50	43.69	54.00	-10.31	AV
H	17235.04	54.64	10.12	38.38	44.10	59.04	74.00	-14.96	PK
H	17235.04	41.93	10.12	38.38	44.10	46.33	54.00	-7.67	AV
Middle Channel (5785 MHz)-Above 1G									
V	4592.17	62.41	6.48	36.35	44.05	61.19	74.00	-12.81	PK
V	4592.17	43.91	6.48	36.35	44.05	42.69	54.00	-11.31	AV
V	11570.08	63.95	8.47	37.88	44.51	65.79	68.20	-2.41	PK
V	11570.08	44.00	8.47	37.88	44.51	45.84	54.00	-8.16	AV
V	17355.15	63.77	10.12	38.80	44.10	68.59	74.00	-5.41	PK
V	17355.15	43.73	10.12	38.80	42.70	49.95	54.00	-4.05	AV
H	4592.17	62.39	6.48	36.37	44.05	61.19	74.00	-12.81	PK
H	4592.17	43.40	6.48	36.37	44.05	42.20	54.00	-11.80	AV
H	11570.15	50.75	8.47	38.64	44.50	53.36	68.20	-14.84	PK
H	11570.15	41.90	8.47	38.64	44.50	44.51	54.00	-9.49	AV
H	17355.19	51.58	10.12	38.38	44.10	55.98	74.00	-18.02	PK
H	17355.19	41.75	10.12	38.38	44.10	46.15	54.00	-7.85	AV
High Channel (5825 MHz)-Above 1G									
V	4739.00	62.26	7.10	37.24	43.50	63.10	74.00	-10.90	PK
V	4739.00	43.30	7.10	37.24	43.50	44.14	54.00	-9.86	AV
V	11650.15	60.31	8.46	37.68	44.50	61.95	68.20	-6.25	PK
V	11650.15	43.69	8.46	37.68	44.50	45.33	54.00	-8.67	AV
V	17475.01	62.52	10.12	38.80	44.10	67.34	74.00	-6.66	PK
V	17475.01	43.13	10.12	38.80	42.70	49.35	54.00	-4.65	AV
H	4739.10	63.13	7.10	37.24	43.50	63.97	74.00	-10.03	PK
H	4739.10	43.34	7.10	37.24	43.50	44.18	54.00	-9.82	AV
H	11650.09	54.93	8.46	38.57	44.50	57.46	68.20	-10.74	PK
H	11650.09	43.64	8.46	38.57	44.50	46.17	54.00	-7.83	AV
H	17475.03	50.72	10.12	38.38	44.10	55.12	74.00	-18.88	PK
H	17475.03	44.54	10.12	38.38	44.10	48.94	54.00	-5.06	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 (4T4R).

Test Mode:	TX(5.8G) - 802.11ax-HE40
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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	4434.10	64.41	5.94	35.40	44.00	61.75	68.20	-6.45	Pk
V	4434.10	43.63	5.94	35.40	44.00	40.97	54.00	-13.03	AV
V	11510.16	60.72	8.46	39.75	44.50	64.43	68.20	-3.77	Pk
V	11510.16	43.46	8.46	39.75	44.50	47.17	54.00	-6.83	AV
V	17265.11	63.84	10.12	38.80	44.10	68.66	74.00	-5.34	Pk
V	17265.11	43.23	10.12	38.80	42.70	49.45	54.00	-4.55	AV
H	4434.14	63.83	5.94	35.18	44.00	60.95	74.00	-13.05	Pk
H	4434.14	43.45	5.94	35.18	44.00	40.57	54.00	-13.43	AV
H	11510.19	50.65	8.46	38.71	44.50	53.32	68.20	-14.88	Pk
H	11510.19	40.31	8.46	38.71	44.50	42.98	54.00	-11.02	AV
H	17265.09	52.35	10.12	38.38	44.10	56.75	74.00	-17.25	Pk
H	17265.09	41.90	10.12	38.38	44.10	46.30	54.00	-7.70	AV
High Channel (5795 MHz)-Above 1G									
V	4739.13	62.50	6.48	36.35	44.05	61.28	68.20	-6.92	Pk
V	4739.13	43.48	6.48	36.35	44.05	42.26	54.00	-11.74	AV
V	11590.10	60.44	8.47	37.88	44.51	62.28	68.20	-5.92	Pk
V	11590.10	43.07	8.47	37.88	44.51	44.91	54.00	-9.09	AV
V	17385.04	60.31	10.12	38.80	44.10	65.13	74.00	-8.87	Pk
V	17385.04	43.29	10.12	38.80	42.70	49.51	54.00	-4.49	AV
H	4739.17	61.26	6.48	36.37	44.05	60.06	68.20	-8.14	Pk
H	4739.17	43.84	6.48	36.37	44.05	42.64	54.00	-11.36	AV
H	11590.17	50.69	8.47	38.64	44.50	53.30	68.20	-14.90	Pk
H	11590.17	43.04	8.47	38.64	44.50	45.65	54.00	-8.35	AV
H	17385.16	52.03	10.12	38.38	44.10	56.43	74.00	-17.57	Pk
H	17385.16	40.77	10.12	38.38	44.10	45.17	54.00	-8.83	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.

Test Mode is MIMO Mode (4T4R).

Test Mode:	TX(5.8G) - 802.11ax-HE80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
(5775 MHz)-Above 1G									
V	4434.08	63.45	5.94	35.40	44.00	60.79	68.20	-7.41	Pk
V	4434.08	43.80	5.94	35.40	44.00	41.14	54.00	-12.86	AV
V	11550.16	60.53	8.46	39.75	44.50	64.24	68.20	-3.96	Pk
V	11550.16	43.50	8.46	39.75	44.50	47.21	54.00	-6.79	AV
V	17325.09	64.75	10.12	38.80	44.10	69.57	74.00	-4.43	Pk
V	17325.09	43.10	10.12	38.80	42.70	49.32	54.00	-4.68	AV
H	4434.01	60.48	5.94	35.18	44.00	57.60	68.20	-10.60	Pk
H	4434.01	43.10	5.94	35.18	44.00	40.22	54.00	-13.78	AV
H	11550.02	52.92	8.46	38.71	44.50	55.59	68.20	-12.61	Pk
H	11550.02	42.33	8.46	38.71	44.50	45.00	54.00	-9.00	AV
H	17325.11	50.86	10.12	38.38	44.10	55.26	74.00	-18.74	Pk
H	17325.11	40.06	10.12	38.38	44.10	44.46	54.00	-9.54	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 (4T4R).

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.

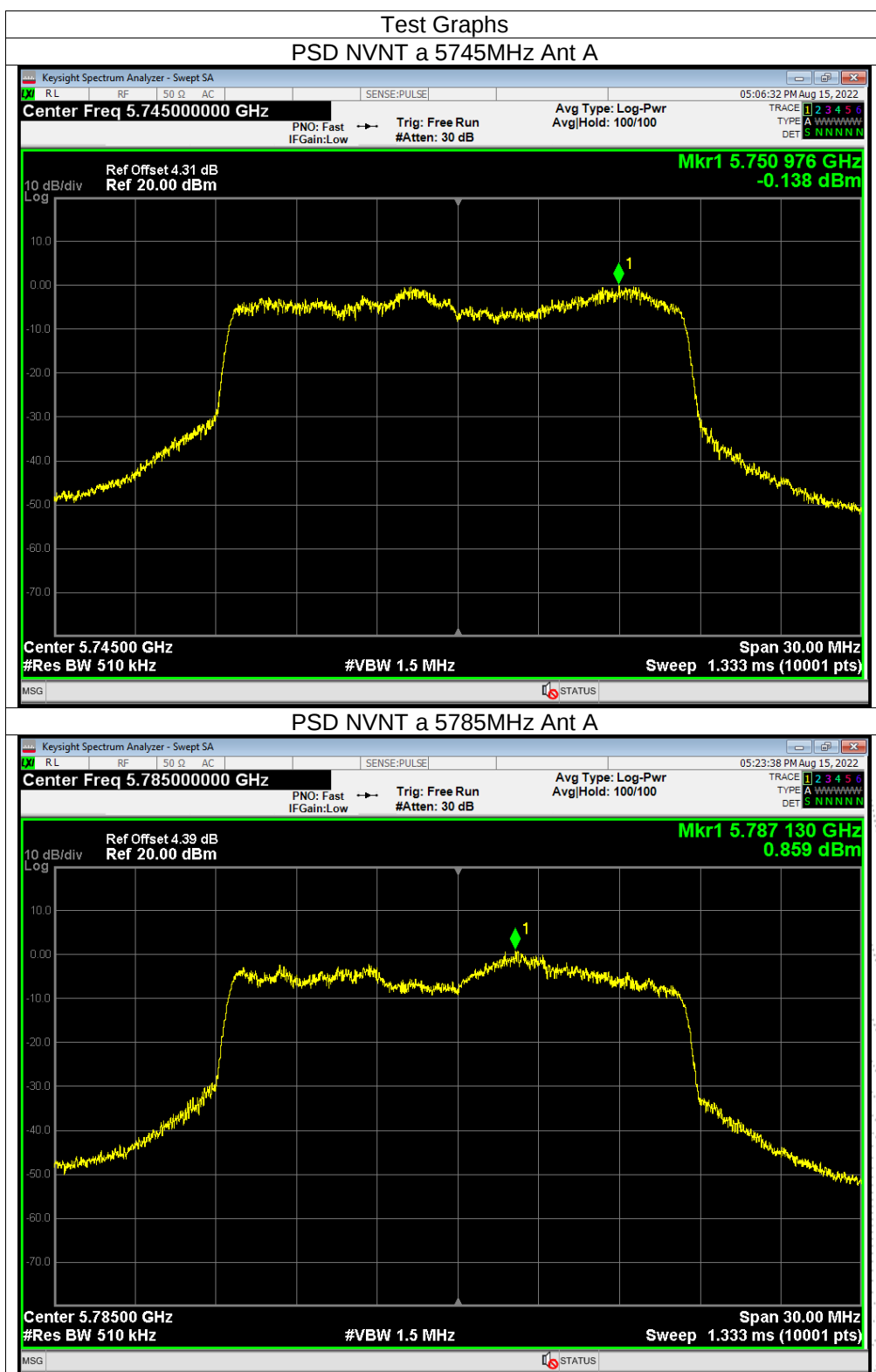
8.5 Test Result

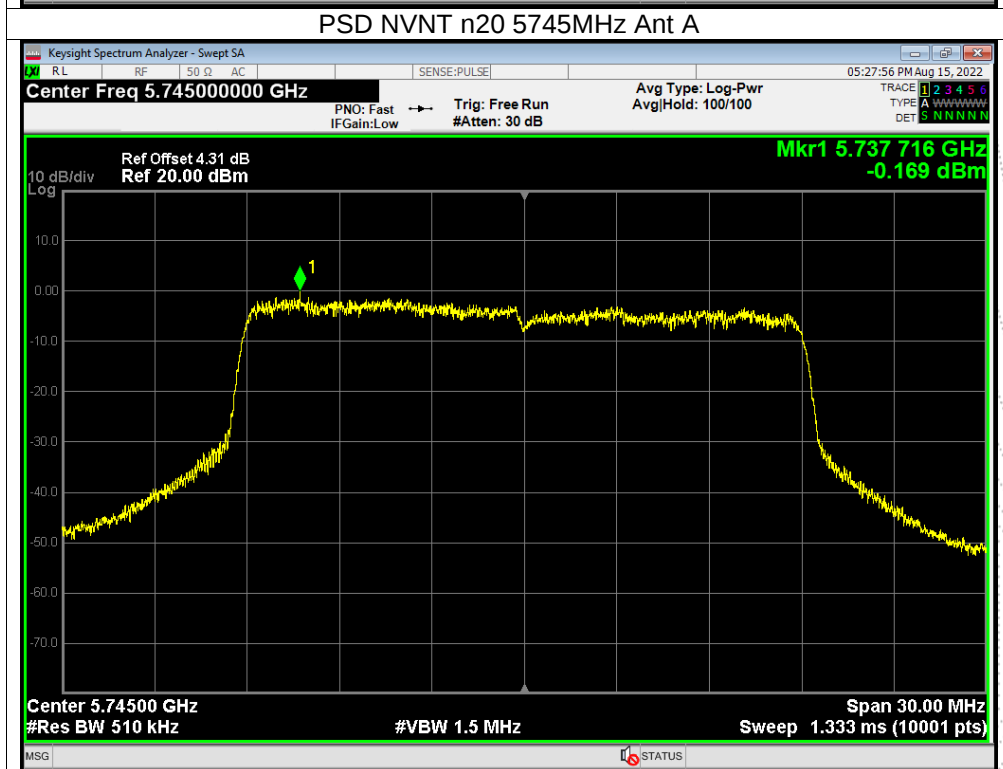
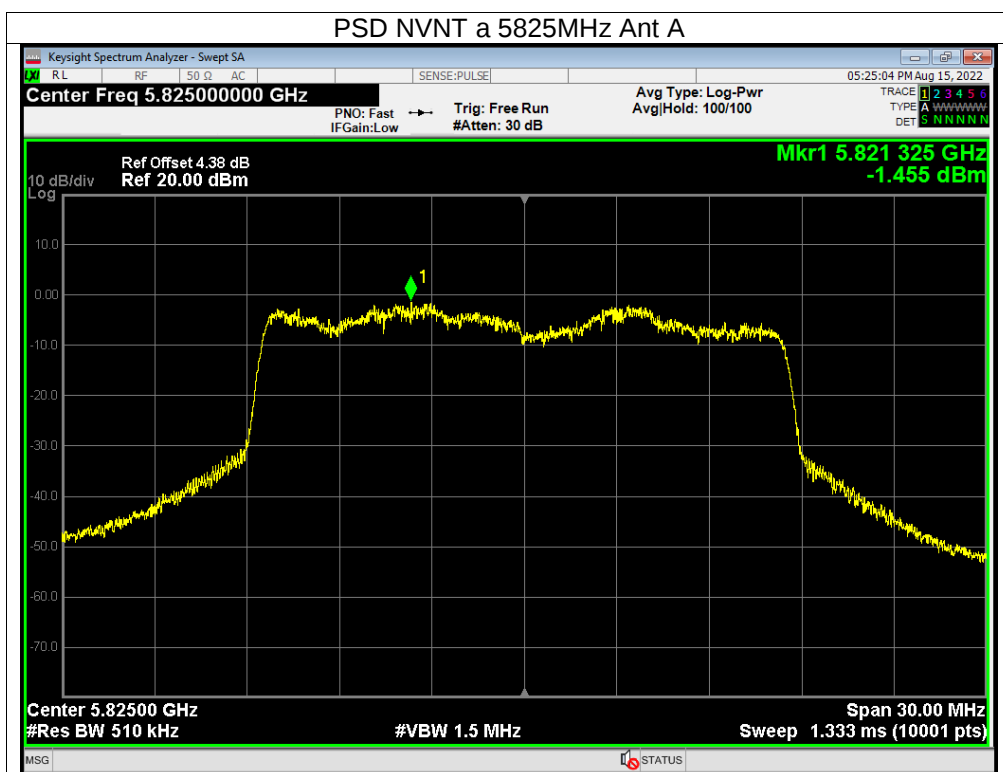
For 1T1R

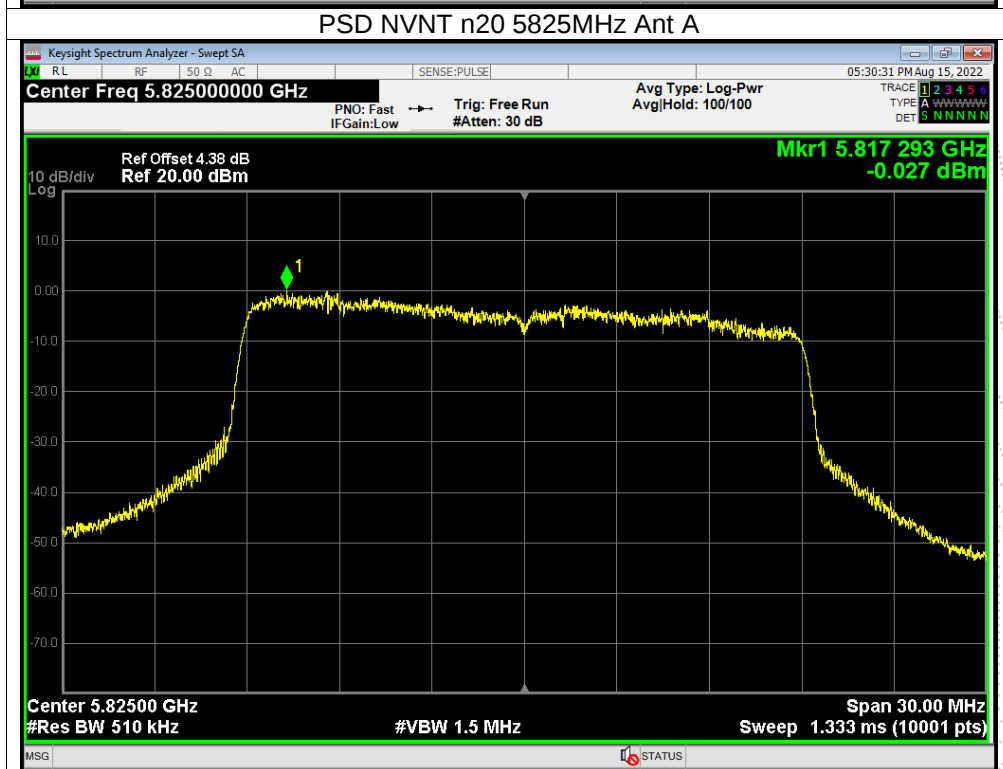
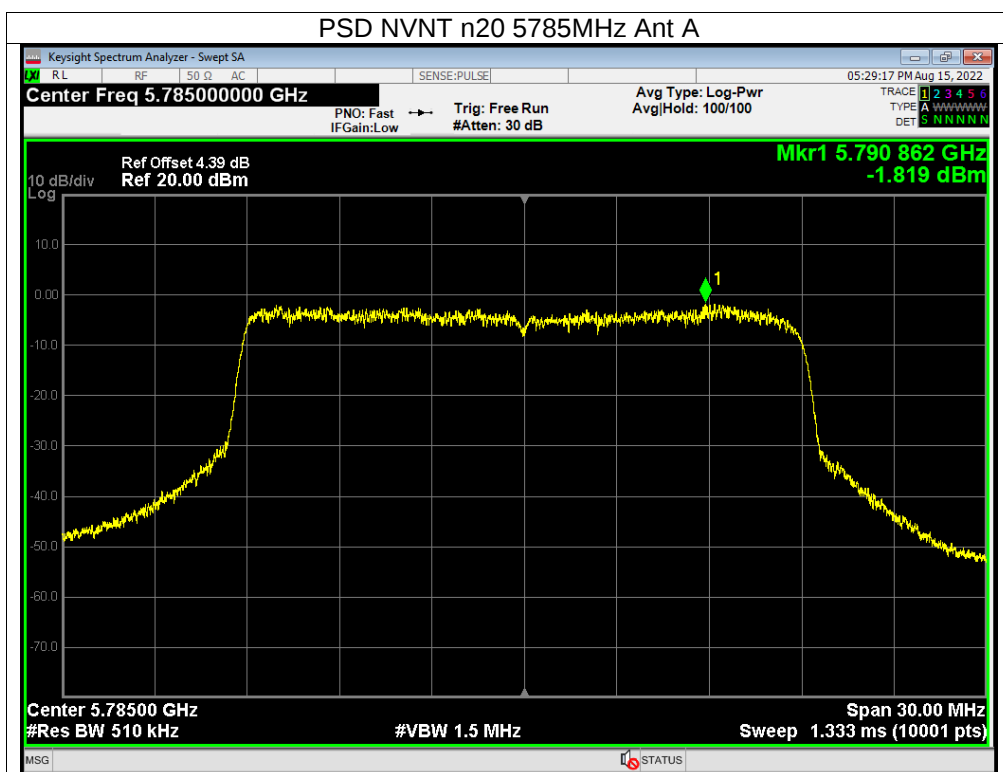
Antenna A

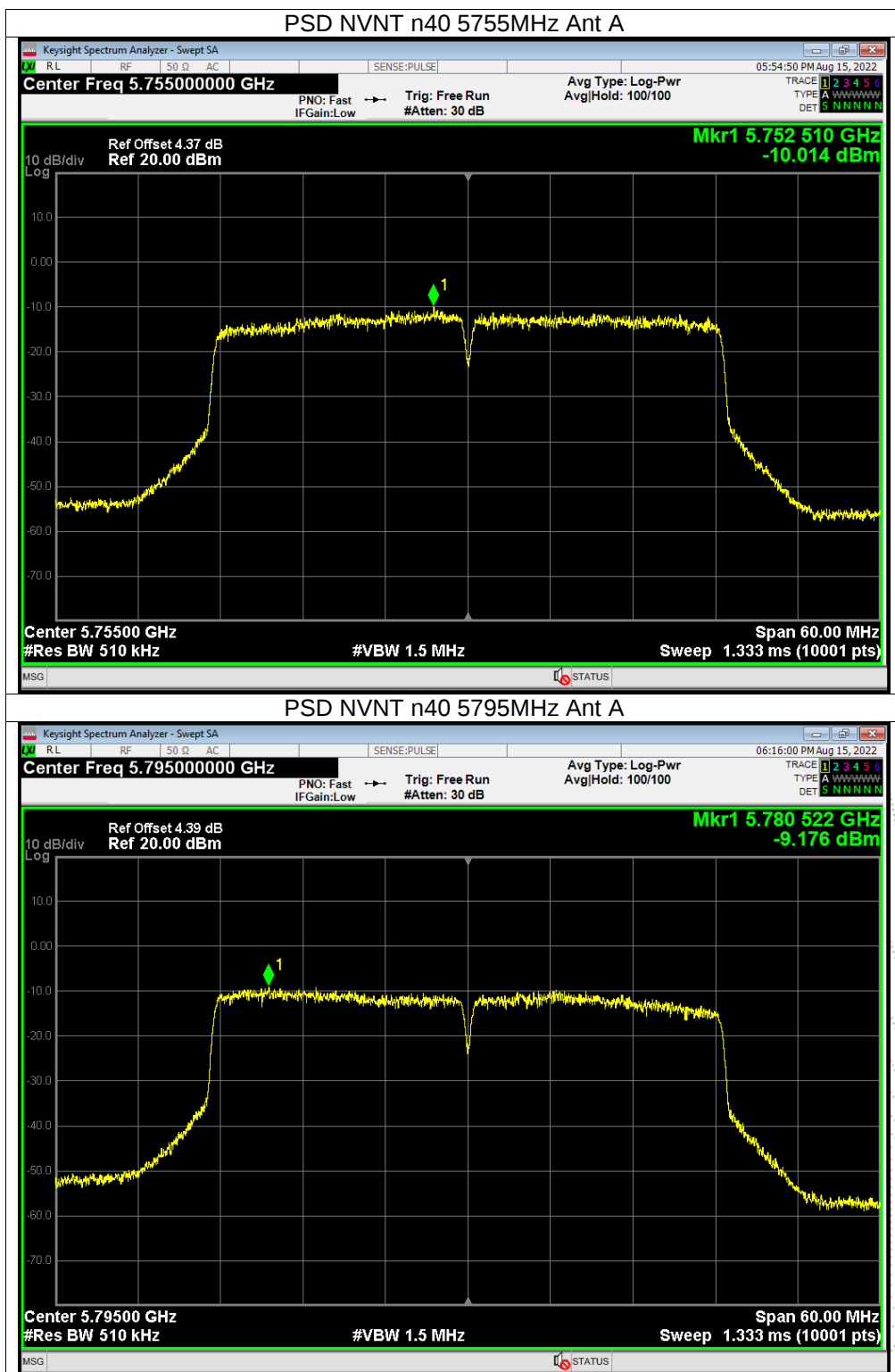
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	(5745-5825MHz)		

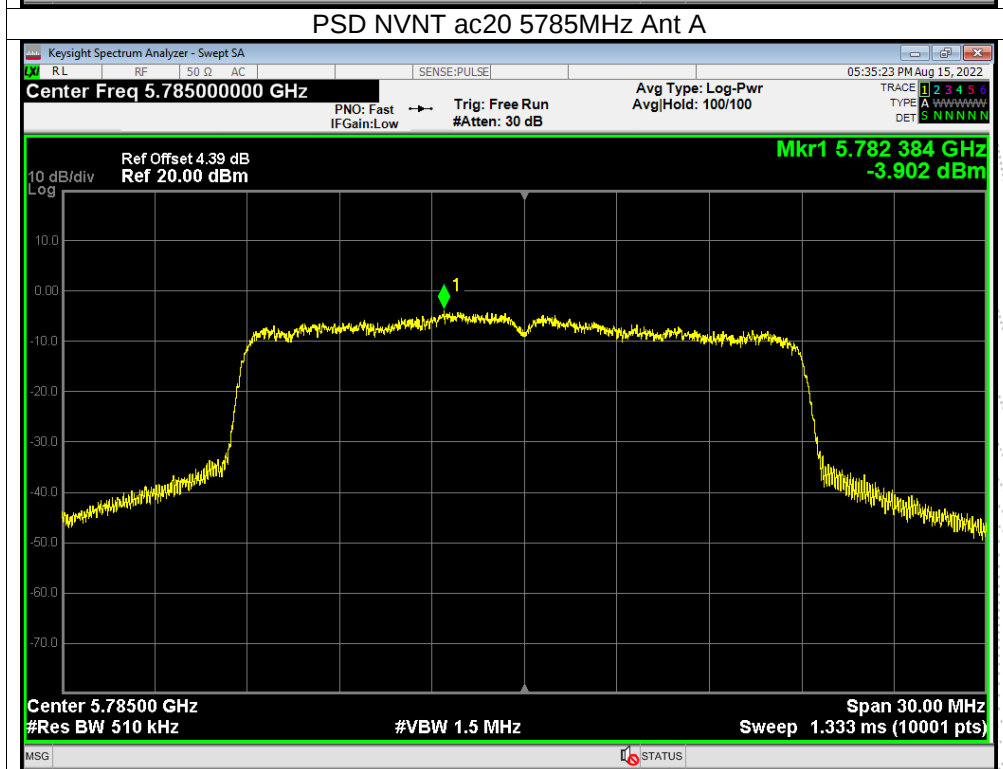
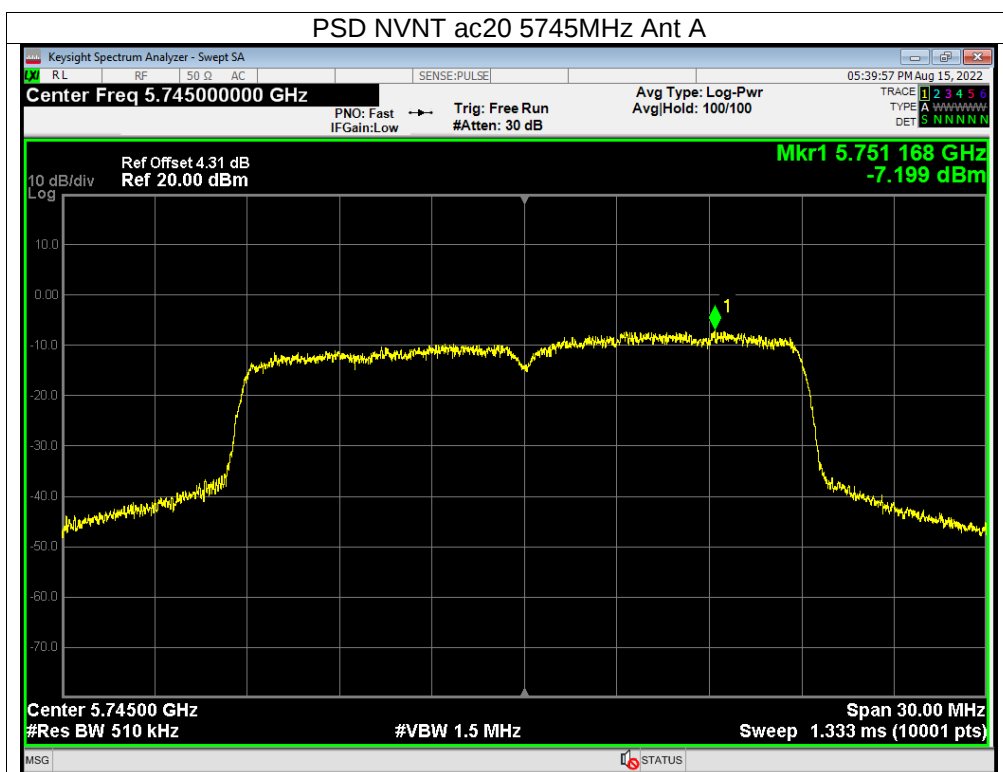
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
NVNT	a	5745	-0.14	30	Pass
NVNT	a	5785	0.86	30	Pass
NVNT	a	5825	-1.46	30	Pass
NVNT	n20	5745	-0.17	30	Pass
NVNT	n20	5785	-1.82	30	Pass
NVNT	n20	5825	-0.03	30	Pass
NVNT	n40	5755	-10.01	30	Pass
NVNT	n40	5795	-9.18	30	Pass
NVNT	ac20	5745	-7.2	30	Pass
NVNT	ac20	5785	-3.9	30	Pass
NVNT	ac20	5825	-8.67	30	Pass
NVNT	ac40	5755	-6.26	30	Pass
NVNT	ac40	5795	-9.28	30	Pass
NVNT	ac80	5775	-10.82	30	Pass
NVNT	ax20	5745	-2.52	30	Pass
NVNT	ax20	5785	-3.67	30	Pass
NVNT	ax20	5825	-6.38	30	Pass
NVNT	ax40	5755	-8.33	30	Pass
NVNT	ax40	5795	-7.38	30	Pass
NVNT	ax80	5775	-12.87	30	Pass

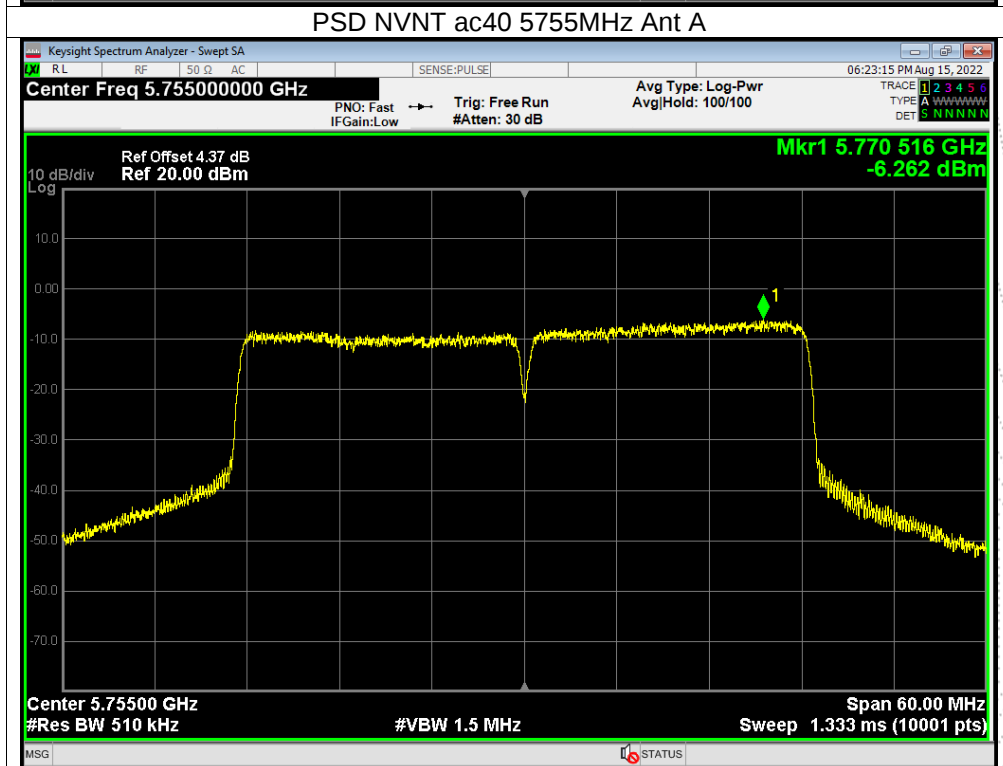
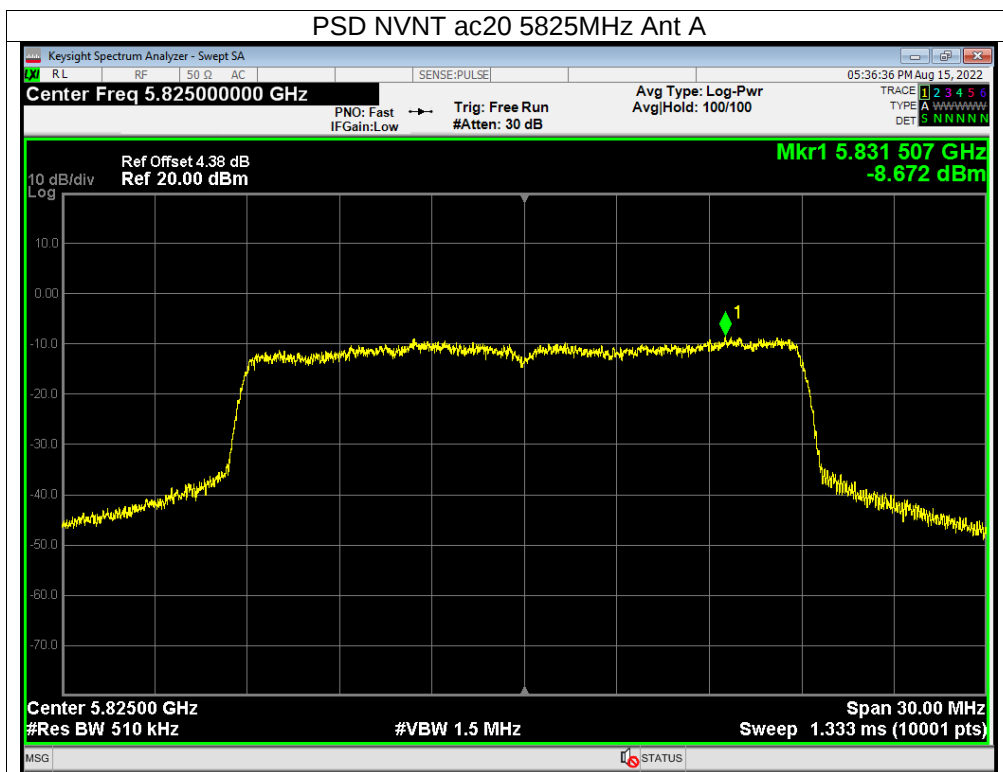


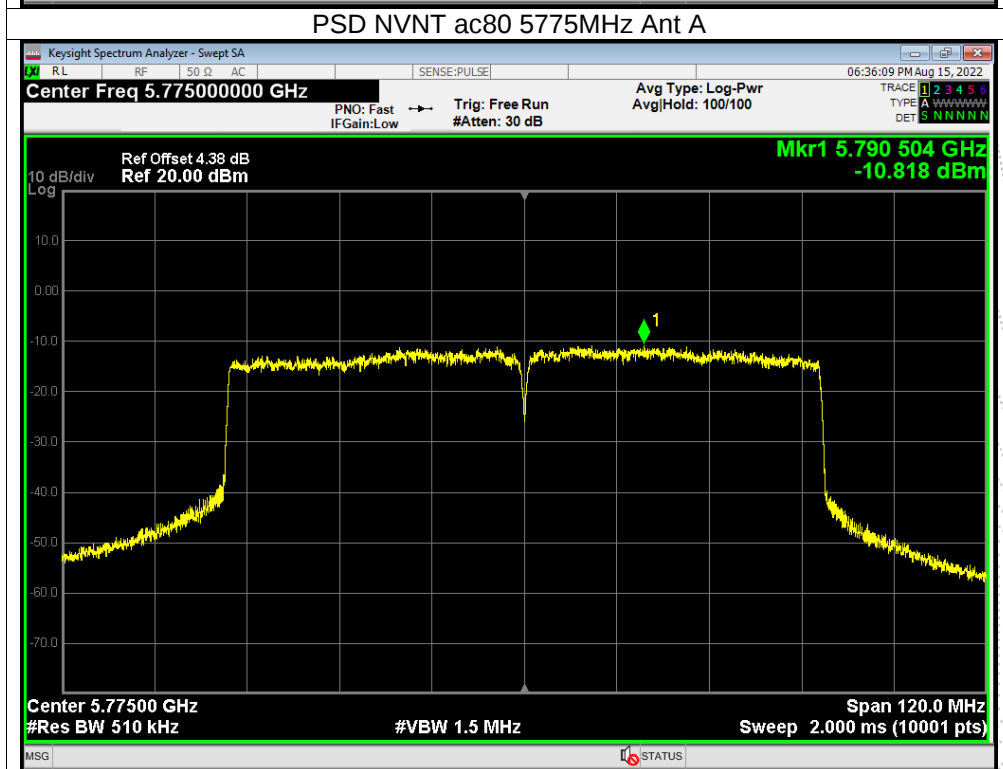
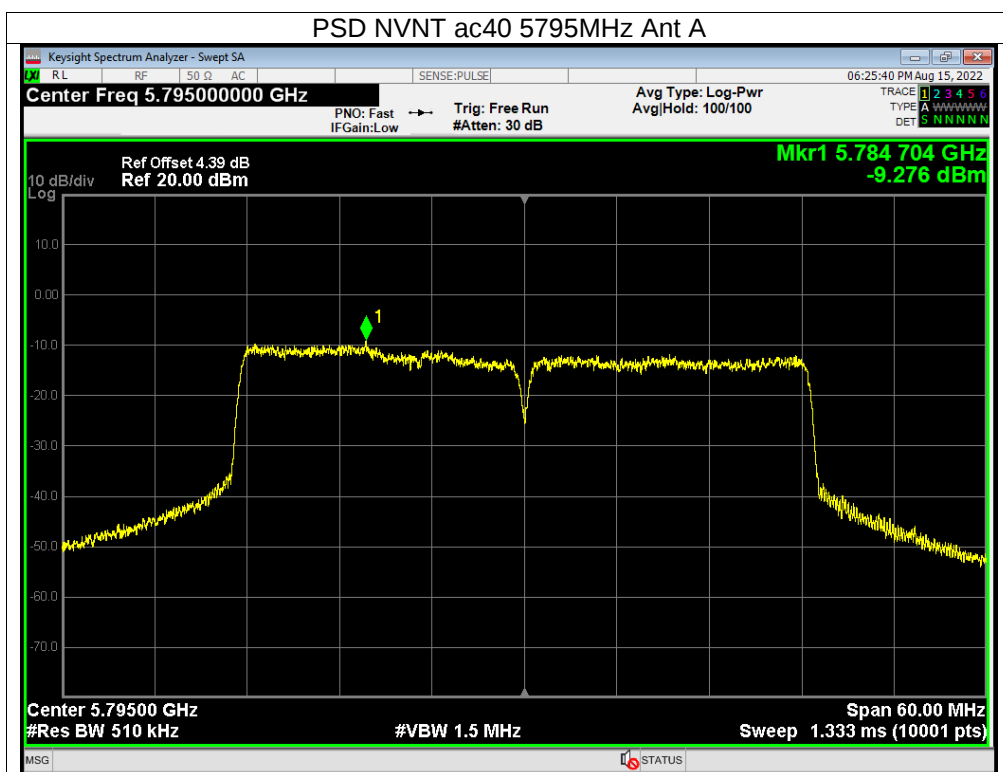


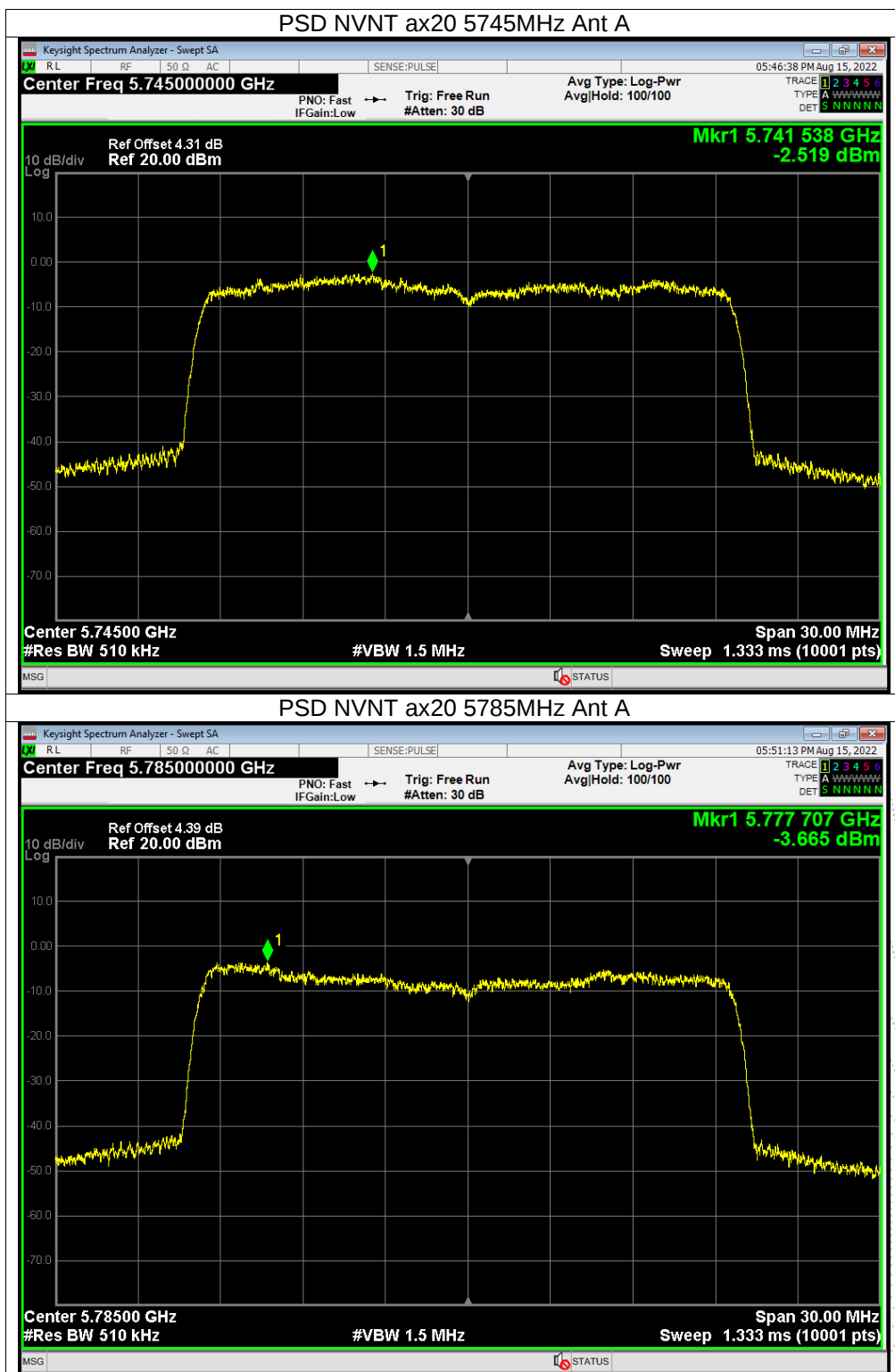


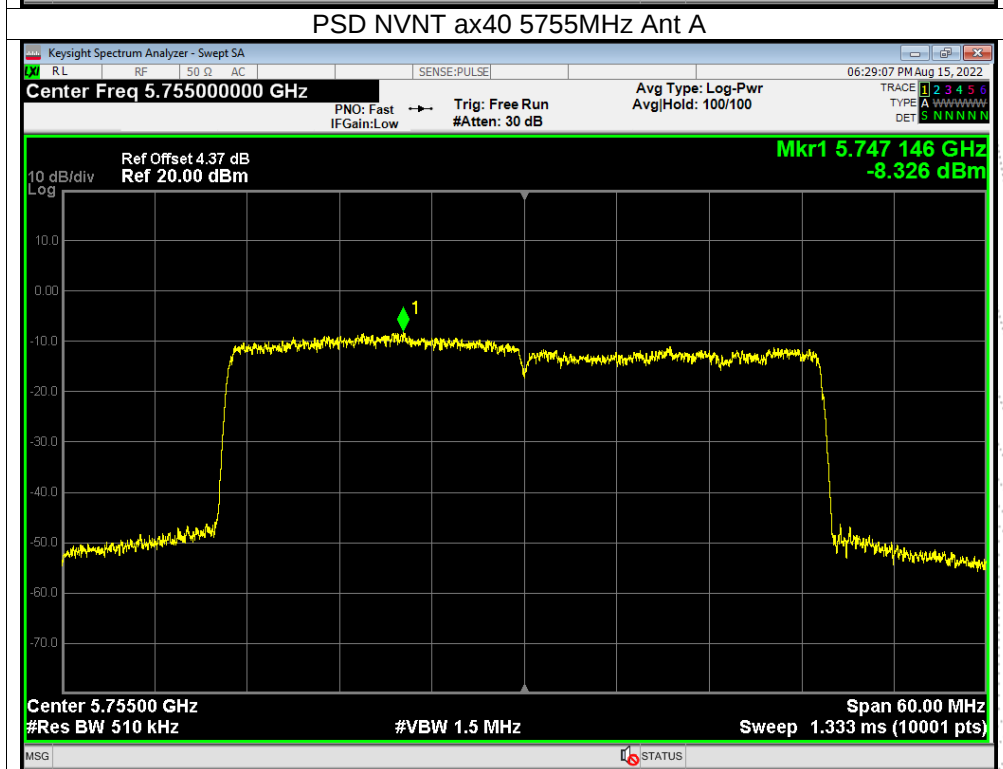
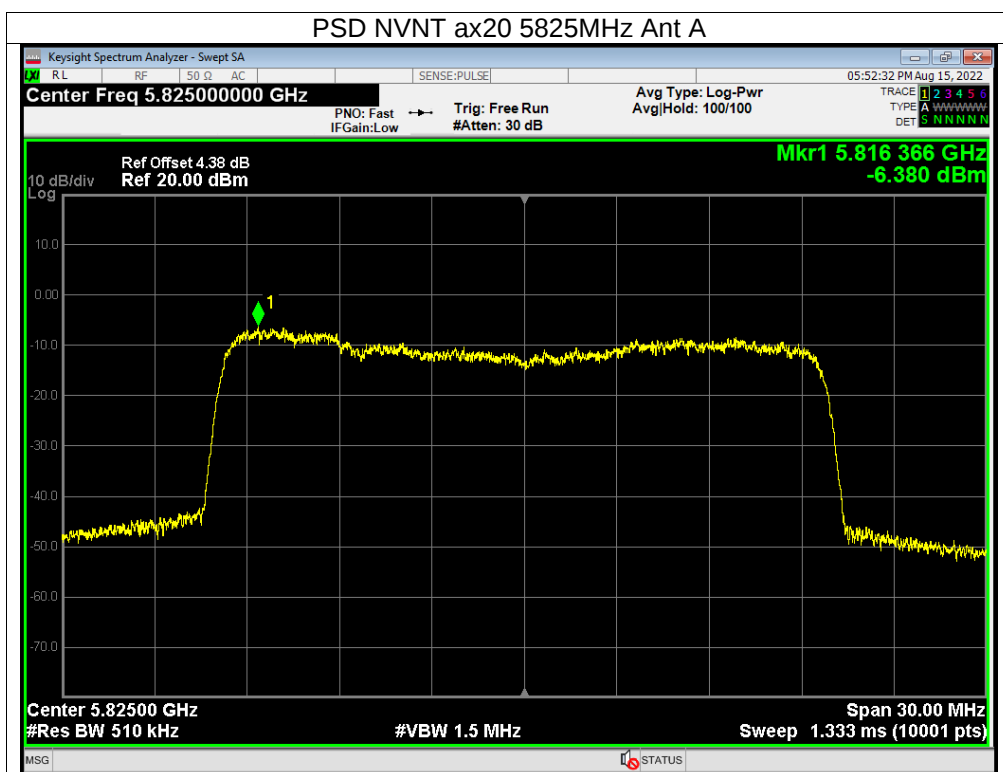


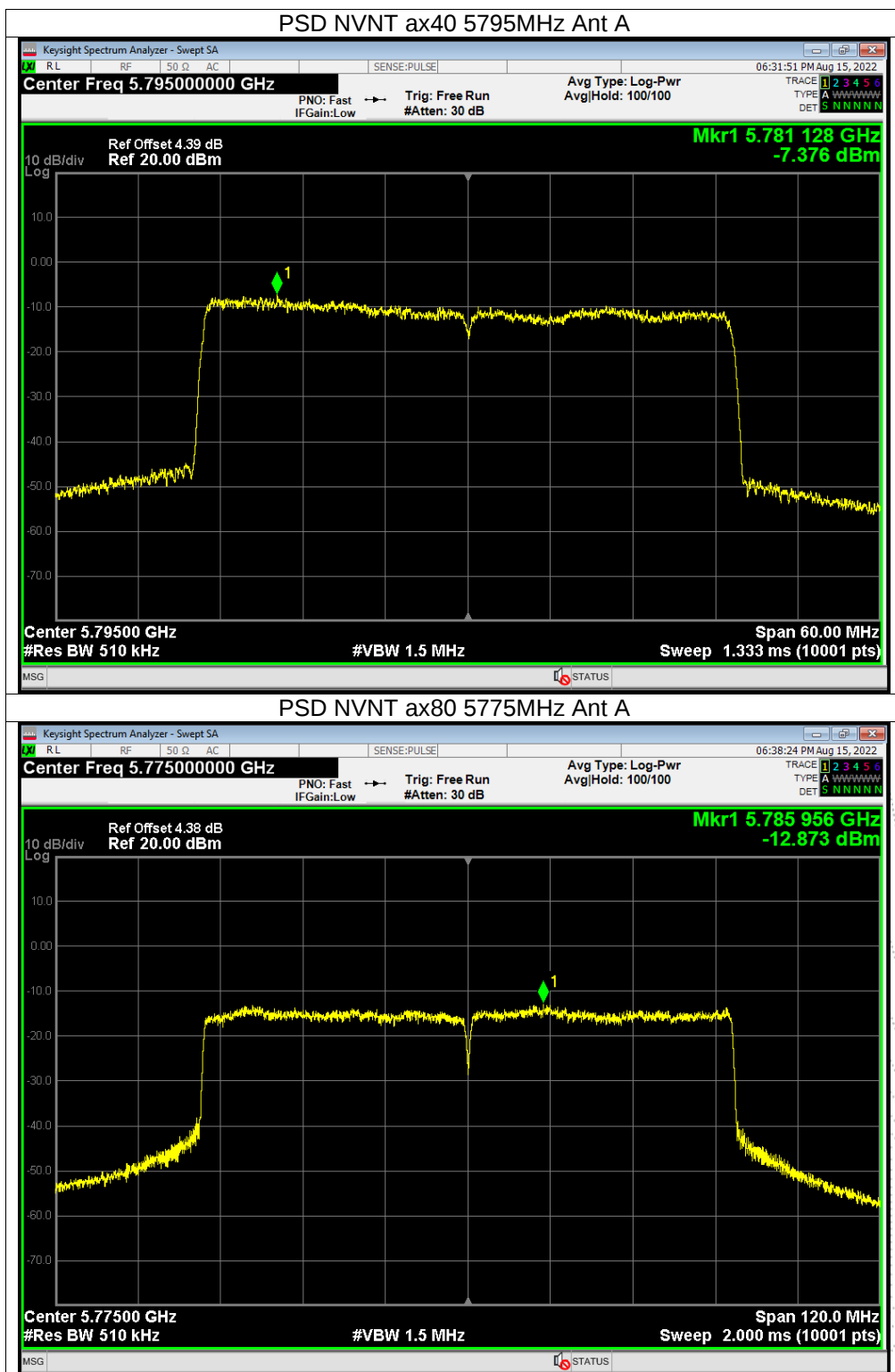












Antenna B

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

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
NVNT	a	5745	-3.63	30	Pass
NVNT	a	5785	-2.61	30	Pass
NVNT	a	5825	-3.63	30	Pass
NVNT	n20	5745	-1.04	30	Pass
NVNT	n20	5785	-1.32	30	Pass
NVNT	n20	5825	-0.13	30	Pass
NVNT	n40	5755	-3.79	30	Pass
NVNT	n40	5795	-7.70	30	Pass
NVNT	ac20	5745	-2.61	30	Pass
NVNT	ac20	5785	-1.92	30	Pass
NVNT	ac20	5825	-3.54	30	Pass
NVNT	ac40	5755	-6.49	30	Pass
NVNT	ac40	5795	-6.06	30	Pass
NVNT	ac80	5775	-9.65	30	Pass
NVNT	ax20	5745	-3.48	30	Pass
NVNT	ax20	5785	-2.96	30	Pass
NVNT	ax20	5825	-3.95	30	Pass
NVNT	ax40	5755	-4.81	30	Pass
NVNT	ax40	5795	-6.50	30	Pass
NVNT	ax80	5775	-8.12	30	Pass



