

TEST REPORT

Report No.: BCTC2408771280-2E

Applicant: Shenzhen Minew Technologies Co., Ltd.

Product Name: LCD Electronic Shelf Lable

Test Model: LCD-PM1011

Tested Date: 2024-08-26 to 2024-12-04

Issued Date: 2024-12-04

Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2ABU6-LCD

Product Name: LCD Electronic Shelf Lable

Trademark:



Model/Type reference:

LCD-PM1011
LCD-PM101, LCD-PM0241, LCD-PM0261, LCD-PM0291, LCD-PM0421,
LCD-PM0751, LCD-PM0752, LCD-PM1012, LCD-PM1013, LCD-PM1014,
LCD-PM1015, LCD-PM1016, LCD-PM1561, LCD-PM1562, LCD-PM1611,
LCD-PM1612, LCD-PM2121, LCD-PM2122, LCD-PM2311, LCD-PM2312,
LCD-PM2511, LCD-PM2512, LCD-PM2901, LCD-PM2902, LCD-PM3201,
LCD-PM3202, LCD-PM3501, LCD-PM3502, LCD-PM3701, LCD-PM3702,
LCD-PM4301, LCD-PM4302, LCD-PM4701, LCD-PM4702, LCD-PM5001,
LCD-PM5002, LCD-PM5501, LCD-PM5502, LCD-PM6501, LCD-PM6502,
LCD-PM7501, LCD-PM7502

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Sample Received Date: 2024-08-26

Sample tested Date: 2024-08-26 to 2024-12-04

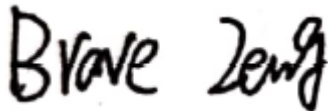
Issue Date: 2024-12-04

Report No.: BCTC2408771280-2E

Test Standards: 47 CFR FCC Part 15.407
ANSI C63.10:2013

Test Results: PASS

Tested by:



Brave Zeng/ Project Handler

Approved by:



Zero Zhou/Reviewer

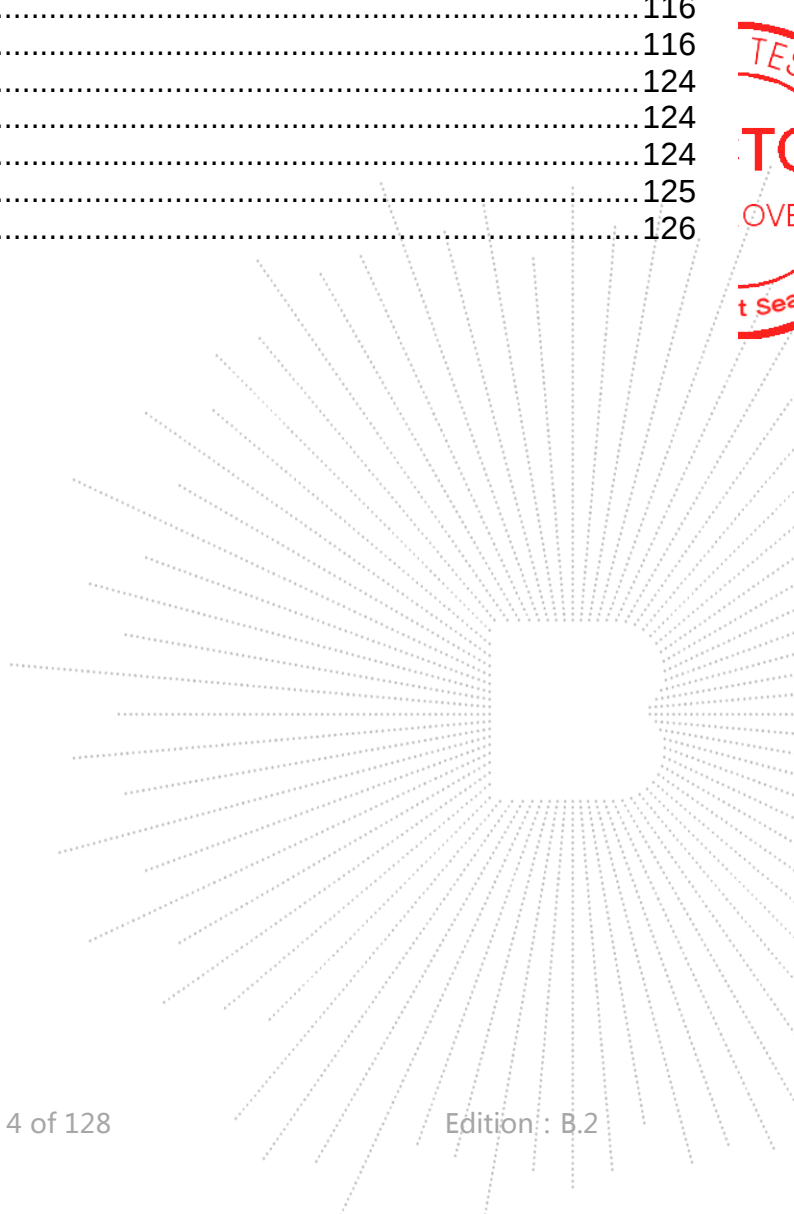
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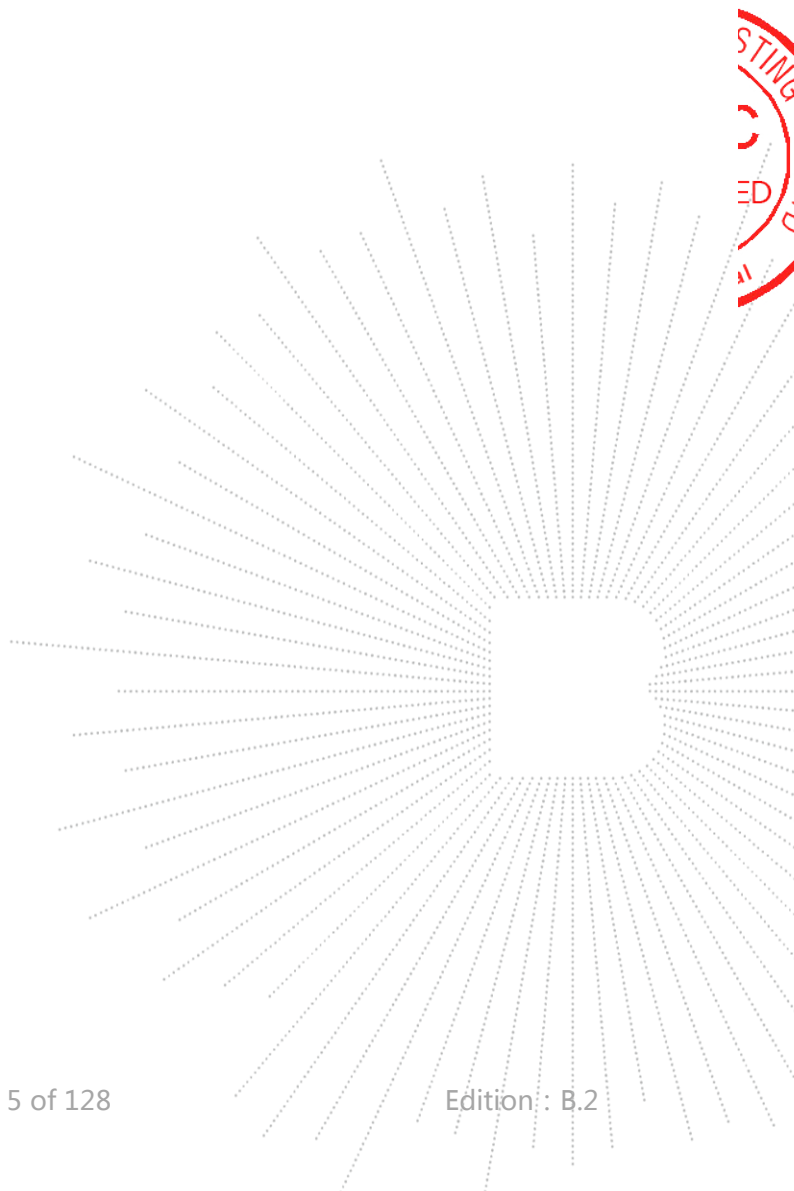
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(Note: N/A Means Not Applicable)



1. Version

Report No.	Issue Date	Description	Approved
BCTC2408771280-2E	2024-12-04	Original	Valid



2. Test Summary

The Product has been tested according to the following specifications:

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

Note: The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure.

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℃

4. Product Information And Test Setup

4.1 Product Information

Model/Type reference:	LCD-PM1011 LCD-PM101, LCD-PM0241, LCD-PM0261, LCD-PM0291, LCD-PM0421, LCD-PM0751, LCD-PM0752, LCD-PM1012, LCD-PM1013, LCD-PM1014, LCD-PM1015, LCD-PM1016, LCD-PM1561, LCD-PM1562, LCD-PM1611, LCD-PM1612, LCD-PM2121, LCD-PM2122, LCD-PM2311, LCD-PM2312, LCD-PM2511, LCD-PM2512, LCD-PM2901, LCD-PM2902, LCD-PM3201, LCD-PM3202, LCD-PM3501, LCD-PM3502, LCD-PM3701, LCD-PM3702, LCD-PM4301, LCD-PM4302, LCD-PM4701, LCD-PM4702, LCD-PM5001, LCD-PM5002, LCD-PM5501, LCD-PM5502, LCD-PM6501, LCD-PM6502, LCD-PM7501, LCD-PM7502
Model differences:	All the model are the same circuit and RF module, except model names. The test model is LCD-PM1011.
Hardware Version:	N/A
Software Version:	N/A
IEEE 802.11 WLAN Mode Supported	802.11a/n (20MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n (HT20); 5260-5320MHz for 802.11a/n (HT20); 5500-5700MHz for 802.11a/n (HT20); 5745-5825 MHz for 802.11a/n (HT20);
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15;
Type of Modulation:	DBPSK,DQPSK,CCK and OFDM(BPSK/QPSK/16-QAM/64-QAM)
Antenna installation:	FPC antenna 4.88 dBi
Antenna Gain:	Remark: ☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
Ratings:	DC 12V from adapter
Adapter Information:	Model: ADP-60E2 Input: 100-240V~50/60Hz 1.5A MAX Output:+12V = 5A

4.2 Test Setup Configuration

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

4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	LCD Electronic Shelf Lable	 	LCD-PM1011	N/A	EUT
E-2	Adapter	N/A	ADP-60E2	N/A	Auxiliary

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

(U-NII-1) 5180MHz-5240MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency
20MHz	36	5180	40	5200
	44	5220	48	5240
(U-NII-2A) 5260MHz-5320MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency
20MHz	52	5260	56	5280
	60	5300	64	5320
(U-NII-2C) 5500MHz-5700MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency
20MHz	100	5500	105	5520
	108	5540	112	5560
	116	5580	132	5660
	136	5680	140	5700
(U-NII-3) 5745MHz-5825MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency
20MHz	149	5745	153	5765
	157	5785	161	5805
	165	5825		

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 20 CH36/ CH40/ CH 48 802.11a /n 20 CH52/ CH56/ CH 64 802.11a /n 20 CH100/ CH116/ CH 140 802.11a /n 20 CH149/ CH157/ CH 165
Mode 2	BT Link+WIFI Link+ Normal operation

Note:

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

4.6 Table Of Parameters Of Text Software Setting

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

Test software Version	CMD		
Parameters	DEF	DEF	DEF

5. Test Facility And Test Instrument Used

5.1 Test Facility

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

FCC Test Firm Registration Number: 712850

A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

5.2 Test Instrument Used

Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
LISN	R&S	ENV216	101375	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD9561-F	01323	May 16, 2024	May 15, 2025

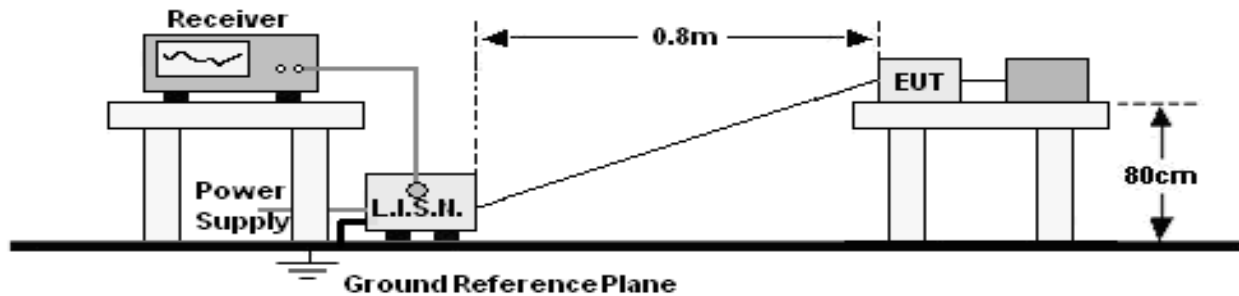
RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	\	May 16, 2024	May 15, 2025
Power Sensor (AV)	Keysight	E9300A	\	May 16, 2024	May 15, 2025
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 16, 2024	May 15, 2025
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025
Communication test set	R&S	CMW500	126173	Nov. 13. 2023	Nov. 12, 2024
Radio frequency control box	MAIWEI	MW200-RFC B	\	\	\
Software	MAIWEI	MTS 8200	\	\	\

Radiated Emissions Test (966 Chamber02)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	SKET	966 Room	966	Oct. 31. 2024	Oct. 30. 2027
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
Receiver	R&S	ESR17	100010	Oct. 31. 2024	Oct. 30. 2025
Amplifier	SKET	LNPA-30M01 G-30	SK2021082004	Oct. 31. 2024	Oct. 30. 2025
TRILOG Broadband Antenna	Schwarzbeck	VULB9168	1323	May 21, 2024	May 20, 2025
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 21, 2024	May 20, 2025
Amplifier	SKET	LAPA_01G18 G-45dB	SK202104090 1	May 16, 2024	May 15, 2025
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 16, 2024	May 15, 2025
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	May 21, 2024	May 20, 2025
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

CO.LTD

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:
1. *Decreasing linearly with logarithm of frequency.
2. 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

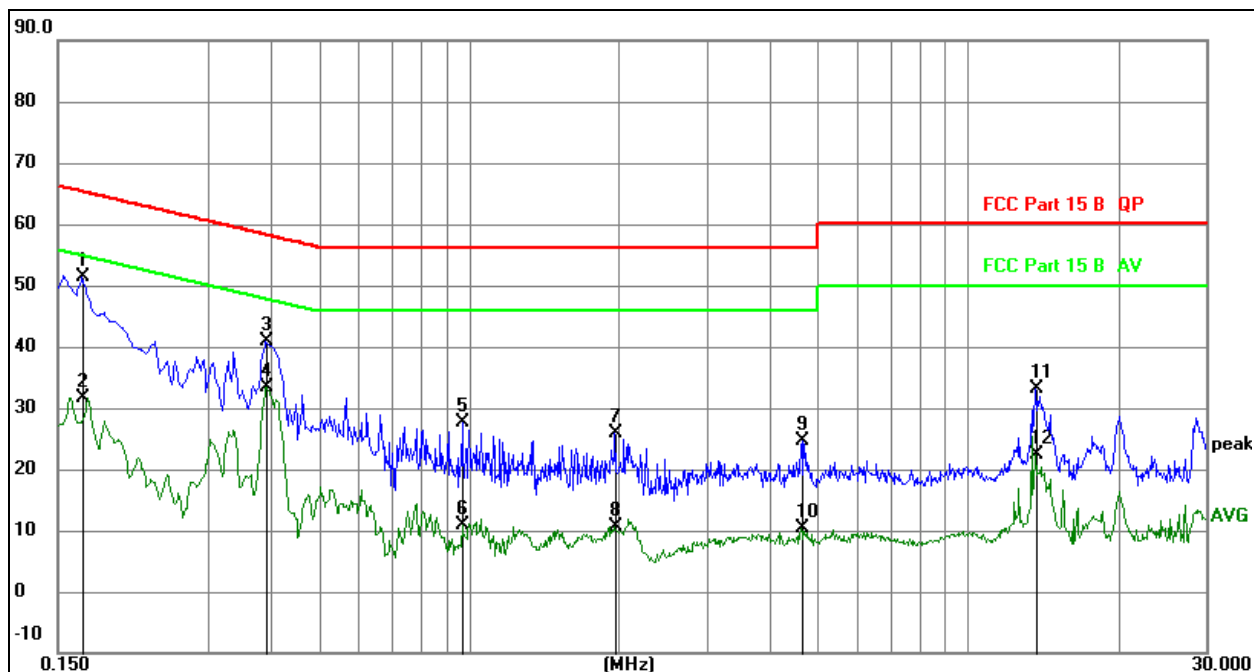
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak 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	Phase :	L
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz

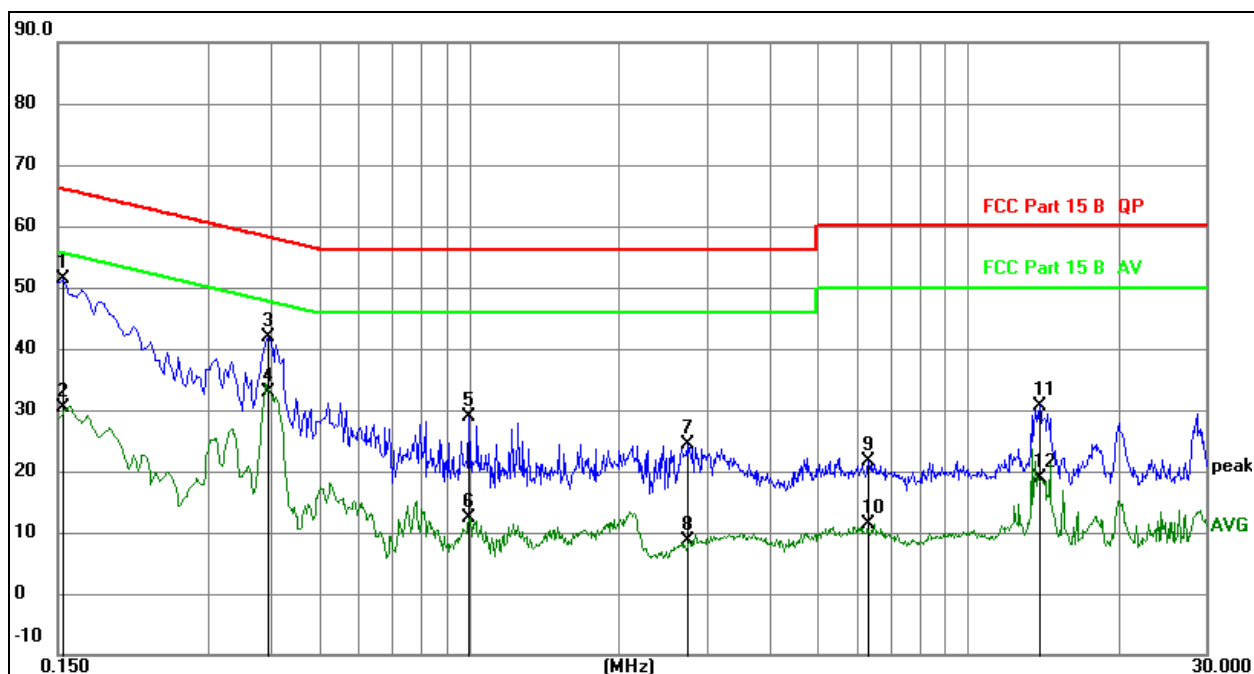


Remark:

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

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1680	31.23	20.07	51.30	65.06	-13.76	QP
2		0.1680	11.49	20.07	31.56	55.06	-23.50	AVG
3		0.3930	20.70	20.08	40.78	58.00	-17.22	QP
4		0.3930	13.37	20.08	33.45	48.00	-14.55	AVG
5		0.9735	7.51	20.09	27.60	56.00	-28.40	QP
6		0.9735	-9.14	20.09	10.95	46.00	-35.05	AVG
7		1.9635	5.66	20.10	25.76	56.00	-30.24	QP
8		1.9635	-9.49	20.10	10.61	46.00	-35.39	AVG
9		4.6500	4.42	20.14	24.56	56.00	-31.44	QP
10		4.6500	-9.71	20.14	10.43	46.00	-35.57	AVG
11		13.6635	12.89	20.27	33.16	60.00	-26.84	QP
12		13.6635	2.02	20.27	22.29	50.00	-27.71	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz



Remark:

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

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz		dB	dBuV	dBuV	dB	
1	*	0.1539	31.33	20.07	51.40	65.79	-14.39	QP
2		0.1539	10.43	20.07	30.50	55.79	-25.29	AVG
3		0.3955	21.71	20.08	41.79	57.95	-16.16	QP
4		0.3955	12.92	20.08	33.00	47.95	-14.95	AVG
5		0.9996	8.91	20.09	29.00	56.00	-27.00	QP
6		0.9996	-7.80	20.09	12.29	46.00	-33.71	AVG
7		2.7356	4.32	20.11	24.43	56.00	-31.57	QP
8		2.7356	-11.42	20.11	8.69	46.00	-37.31	AVG
9		6.3185	1.41	20.16	21.57	60.00	-38.43	QP
10		6.3185	-8.84	20.16	11.32	50.00	-38.68	AVG
11		13.9146	10.47	20.28	30.75	60.00	-29.25	QP
12		13.9146	-1.30	20.28	18.98	50.00	-31.02	AVG

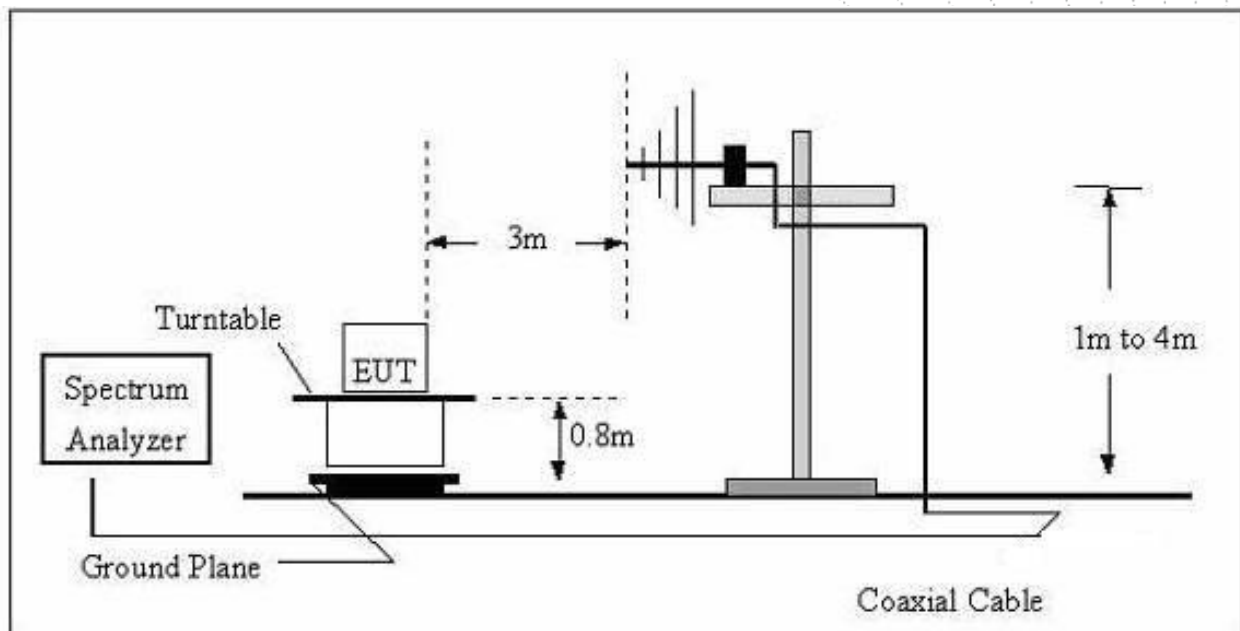
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

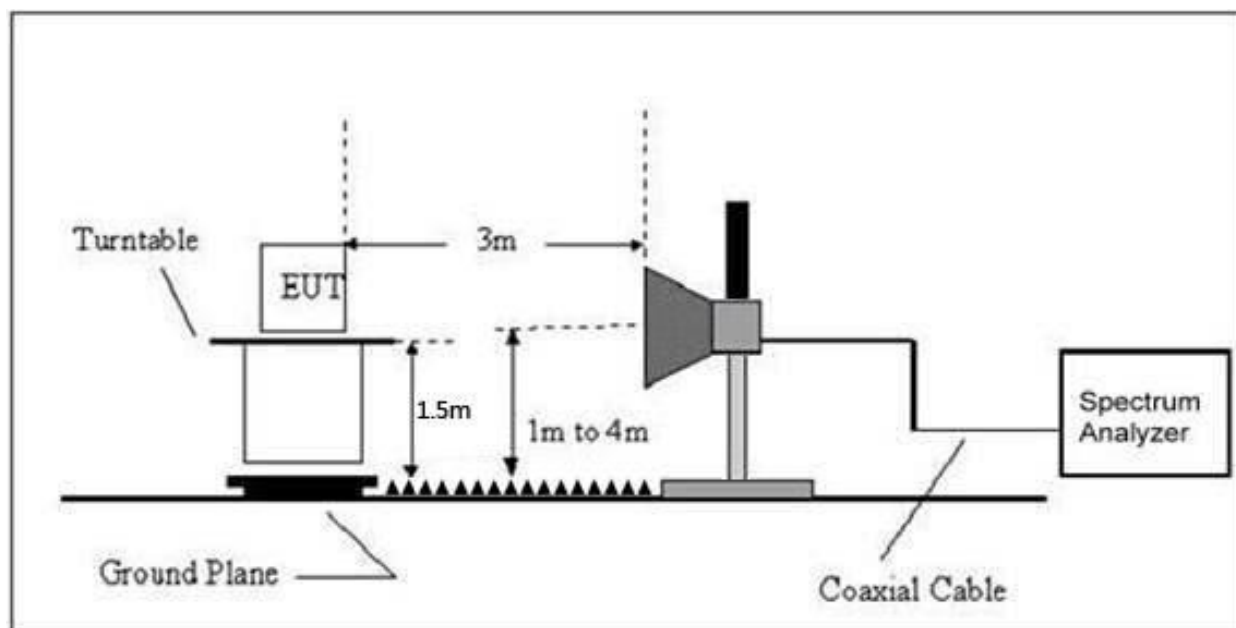
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



7.2 Limit

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

Frequency (MHz)	Field Strength uV/m	Distance (m)	Field Strength Limit at 3m Distance	
			uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log(2400/F(\text{kHz})) + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log(24000/F(\text{kHz})) + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

Limits Of Radiated Emission Measurement (Above 1000MHz)

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

Notes:

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

7.3 Test Procedure

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

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

Use the following spectrum analyzer settings:

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

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

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

Note:

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

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

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

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

7.4 EUT Operating Conditions

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

7.5 Test Result

Below 30MHz

Temperature:	26℃	Relative Humidity:	24%
Pressure:	101 kPa	Test Voltage :	AC 120V/60Hz
Test Mode:	Mode 2	Polarization:	--

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

Note:

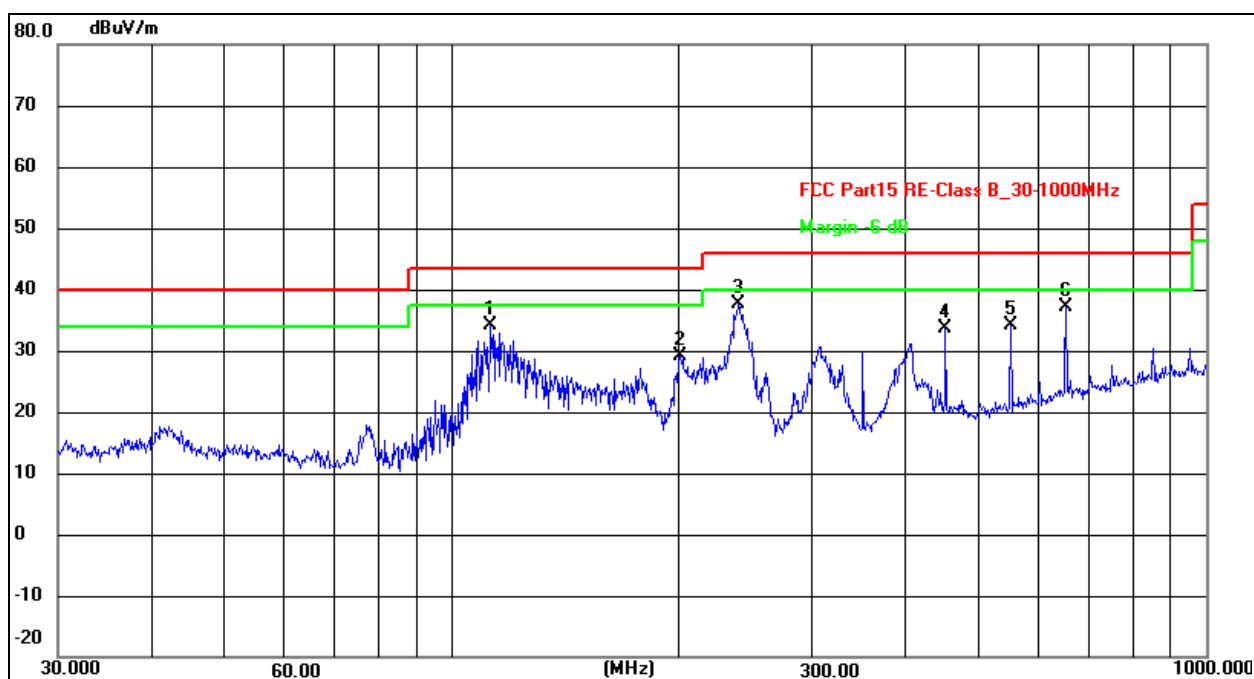
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Between 30MHz – 1GHz

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz

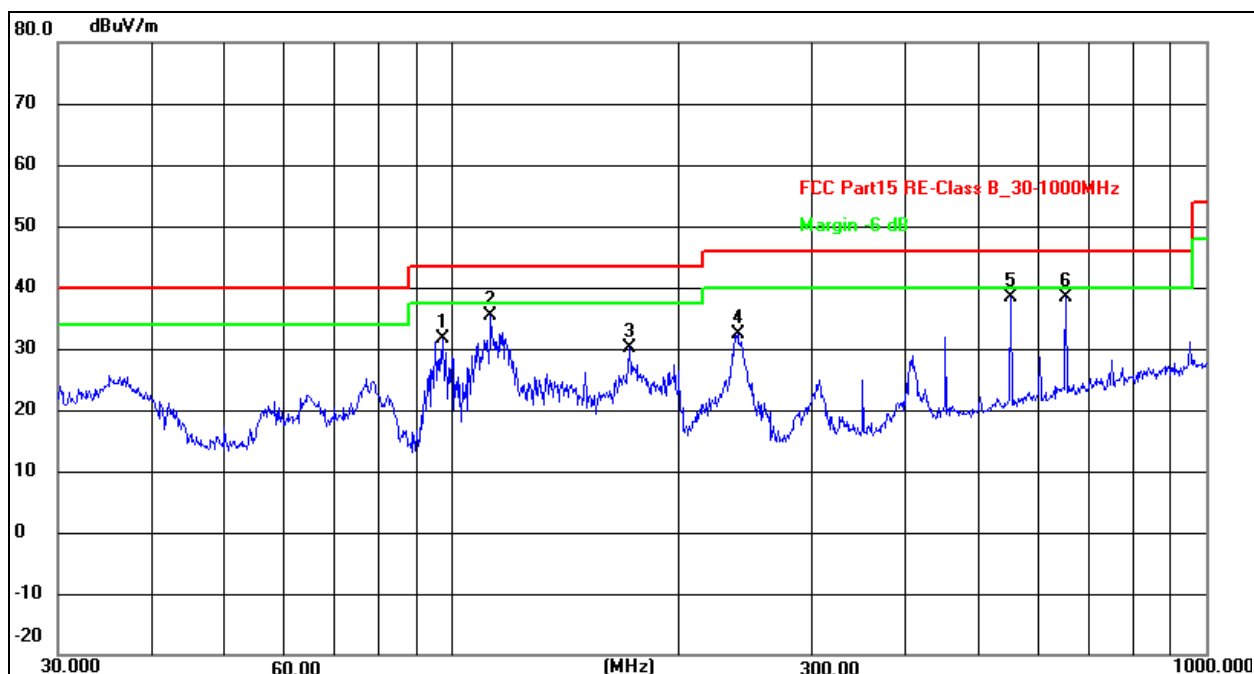


Remark:

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

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	112.5244	48.04	-13.94	34.10	43.50	-9.40	QP
2	200.6881	43.88	-14.73	29.15	43.50	-14.35	QP
3 *	239.9874	50.43	-12.82	37.61	46.00	-8.39	QP
4	451.1350	40.40	-6.71	33.69	46.00	-12.31	QP
5	550.9480	38.27	-4.26	34.01	46.00	-11.99	QP
6	651.9417	39.18	-2.01	37.17	46.00	-8.83	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz



Remark:

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

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	97.1148	47.02	-15.46	31.56	43.50	-11.94	QP
2	112.5244	49.22	-13.94	35.28	43.50	-8.22	QP
3	171.9946	42.70	-12.65	30.05	43.50	-13.45	QP
4	239.1473	45.35	-12.86	32.49	46.00	-13.51	QP
5 *	550.9480	42.67	-4.26	38.41	46.00	-7.59	QP
6	651.9417	40.34	-2.01	38.33	46.00	-7.67	QP

Test Mode:	TX(5.1G) - 802.11a
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Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.190	72.62	-20.73	51.89	68.2	-16.31	PK
Vertical	4434.190	59.03	-20.73	38.29	54	-15.71	AV
Vertical	10360.124	63.79	-9.36	54.43	68.2	-13.77	PK
Vertical	10360.124	49.77	-9.36	40.41	54	-13.59	AV
Vertical	15540.030	60.22	-7.84	52.38	74	-21.62	PK
Vertical	15540.030	49.69	-7.84	41.85	54	-12.15	AV
Horizontal	4434.079	74.62	-20.73	53.89	68.2	-14.31	PK
Horizontal	4434.079	59.25	-20.73	38.52	54	-15.48	AV
Horizontal	10360.144	61.70	-9.36	52.34	68.2	-15.86	PK
Horizontal	10360.144	49.29	-9.36	39.93	54	-14.07	AV
Horizontal	15540.022	63.07	-7.84	55.23	74	-18.77	PK
Horizontal	15540.022	49.24	-7.84	41.40	54	-12.60	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.089	74.53	-20.42	54.11	74	-19.89	PK
Vertical	4592.089	59.28	-20.42	38.87	54	-15.13	AV
Vertical	10400.018	64.55	-9.30	55.25	68.2	-12.95	PK
Vertical	10400.018	49.16	-9.30	39.86	54	-14.14	AV
Vertical	15600.182	63.11	-7.82	55.29	74	-18.71	PK
Vertical	15600.182	49.15	-7.82	41.33	54	-12.67	AV
Horizontal	4592.046	74.84	-20.42	54.42	74	-19.58	PK
Horizontal	4592.046	59.70	-20.42	39.28	54	-14.72	AV
Horizontal	10400.003	61.61	-9.30	52.31	68.2	-15.89	PK
Horizontal	10400.003	49.74	-9.30	40.44	54	-13.56	AV
Horizontal	15600.193	63.43	-7.82	55.61	74	-18.39	PK
Horizontal	15600.193	49.29	-7.82	41.47	54	-12.53	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.169	73.89	-20.12	53.77	74	-20.23	PK
Vertical	4739.169	59.80	-20.12	39.67	54	-14.33	AV
Vertical	10480.185	61.49	-9.18	52.31	68.2	-15.89	PK
Vertical	10480.185	49.46	-9.18	40.28	54	-13.72	AV
Vertical	15720.160	63.68	-7.78	55.90	74	-18.10	PK
Vertical	15720.160	49.05	-7.78	41.27	54	-12.73	AV
Horizontal	4739.154	72.82	-20.12	52.70	74	-21.30	PK
Horizontal	4739.154	59.77	-20.12	39.65	54	-14.35	AV
Horizontal	10480.196	64.75	-9.18	55.57	68.2	-12.63	PK
Horizontal	10480.196	49.41	-9.18	40.23	54	-13.77	AV
Horizontal	15720.009	60.35	-7.78	52.57	74	-21.43	PK
Horizontal	15720.009	49.72	-7.78	41.94	54	-12.06	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:	TX(5.1G) - 802.11n-HT20
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Polar (H/V)	Fre- quency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)	Over (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.013	71.71	-20.73	50.98	68.2	-17.22	PK
Vertical	4434.013	59.14	-20.73	38.41	54	-15.59	AV
Vertical	10360.048	63.34	-9.36	53.98	68.2	-14.22	PK
Vertical	10360.048	49.33	-9.36	39.97	54	-14.03	AV
Vertical	15540.078	62.07	-7.84	54.23	74	-19.77	PK
Vertical	15540.078	49.18	-7.84	41.34	54	-12.66	AV
Horizontal	4434.172	74.92	-20.73	54.19	68.2	-14.01	PK
Horizontal	4434.172	59.18	-20.73	38.45	54	-15.55	AV
Horizontal	10360.168	63.43	-9.36	54.07	68.2	-14.13	PK
Horizontal	10360.168	49.79	-9.36	40.43	54	-13.57	AV
Horizontal	15540.137	61.94	-7.84	54.10	74	-19.90	PK
Horizontal	15540.137	49.20	-7.84	41.36	54	-12.64	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.113	74.43	-20.42	54.02	74	-19.98	PK
Vertical	4592.113	59.29	-20.42	38.87	54	-15.13	AV
Vertical	10400.105	64.62	-9.30	55.32	68.2	-12.88	PK
Vertical	10400.105	49.43	-9.30	40.13	54	-13.87	AV
Vertical	15600.088	62.51	-7.82	54.69	74	-19.31	PK
Vertical	15600.088	49.84	-7.82	42.02	54	-11.98	AV
Horizontal	4592.043	73.56	-20.42	53.15	74	-20.85	PK
Horizontal	4592.043	59.07	-20.42	38.65	54	-15.35	AV
Horizontal	10400.054	63.45	-9.30	54.15	68.2	-14.05	PK
Horizontal	10400.054	49.45	-9.30	40.15	54	-13.85	AV
Horizontal	15600.056	61.93	-7.82	54.11	74	-19.89	PK
Horizontal	15600.056	49.02	-7.82	41.20	54	-12.80	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.101	70.57	-20.12	50.44	74	-23.56	PK
Vertical	4739.101	59.61	-20.12	39.48	54	-14.52	AV
Vertical	10480.071	64.50	-9.18	55.32	68.2	-12.88	PK
Vertical	10480.071	49.93	-9.18	40.75	54	-13.25	AV
Vertical	15720.054	62.05	-7.78	54.27	74	-19.73	PK
Vertical	15720.054	49.43	-7.78	41.65	54	-12.35	AV
Horizontal	4739.033	70.25	-20.12	50.13	74	-23.87	PK
Horizontal	4739.033	59.29	-20.12	39.17	54	-14.83	AV
Horizontal	10480.084	61.53	-9.18	52.35	68.2	-15.85	PK
Horizontal	10480.084	49.75	-9.18	40.57	54	-13.43	AV
Horizontal	15720.038	62.50	-7.78	54.72	74	-19.28	PK
Horizontal	15720.038	49.97	-7.78	42.19	54	-11.81	AV

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

Test Mode:	TX(5.3G) - 802.11a
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Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5260 MHz)-Above 1G							
Vertical	4434.061	70.53	-20.73	49.80	68.2	-18.40	PK
Vertical	4434.061	59.29	-20.73	38.56	54	-15.44	AV
Vertical	10520.109	61.10	-9.12	51.98	68.2	-16.22	PK
Vertical	10520.109	49.68	-9.12	40.56	54	-13.44	AV
Vertical	15780.090	62.54	-7.77	54.77	74	-19.23	PK
Vertical	15780.090	49.79	-7.77	42.02	54	-11.98	AV
Horizontal	4434.018	71.91	-20.73	51.18	68.2	-17.02	PK
Horizontal	4434.018	59.59	-20.73	38.86	54	-15.14	AV
Horizontal	10520.028	63.19	-9.12	54.07	68.2	-14.13	PK
Horizontal	10520.028	49.33	-9.12	40.21	54	-13.79	AV
Horizontal	15780.007	60.18	-7.77	52.41	74	-21.59	PK
Horizontal	15780.007	49.29	-7.77	41.52	54	-12.48	AV
middle Channel (5280 MHz)-Above 1G							
Vertical	4592.134	73.68	-20.42	53.27	74	-20.73	PK
Vertical	4592.134	59.58	-20.42	39.16	54	-14.84	AV
Vertical	10560.060	60.79	-9.06	51.73	68.2	-16.47	PK
Vertical	10560.060	49.99	-9.06	40.93	54	-13.07	AV
Vertical	15840.002	64.45	-7.75	56.70	74	-17.30	PK
Vertical	15840.002	49.72	-7.75	41.97	54	-12.03	AV
Horizontal	4592.196	72.91	-20.42	52.49	74	-21.51	PK
Horizontal	4592.196	59.15	-20.42	38.73	54	-15.27	AV
Horizontal	10560.007	61.38	-9.06	52.32	68.2	-15.88	PK
Horizontal	10560.007	49.60	-9.06	40.54	54	-13.46	AV
Horizontal	15840.142	64.56	-7.75	56.81	74	-17.19	PK
Horizontal	15840.142	49.86	-7.75	42.11	54	-11.89	AV
High Channel (5320 MHz)-Above 1G							
Vertical	4739.022	73.65	-20.12	53.53	74	-20.47	PK
Vertical	4739.022	59.62	-20.12	39.49	54	-14.51	AV
Vertical	10640.183	60.09	-8.94	51.15	68.2	-17.05	PK
Vertical	10640.183	49.54	-8.94	40.60	54	-13.40	AV
Vertical	15960.025	60.20	-7.71	52.49	74	-21.51	PK
Vertical	15960.025	49.33	-7.71	41.62	54	-12.38	AV
Horizontal	4739.086	71.20	-20.12	51.08	74	-22.92	PK
Horizontal	4739.086	59.74	-20.12	39.62	54	-14.38	AV
Horizontal	10640.046	62.94	-8.94	54.00	68.2	-14.20	PK
Horizontal	10640.046	49.48	-8.94	40.54	54	-13.46	AV
Horizontal	15960.164	64.09	-7.71	56.38	74	-17.62	PK
Horizontal	15960.164	49.43	-7.71	41.72	54	-12.28	AV

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

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

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

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

Test Mode:	TX(5.3G) - 802.11n-HT20
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Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5260 MHz)-Above 1G							
Vertical	4434.021	73.51	-20.73	52.77	68.2	-15.43	PK
Vertical	4434.021	59.24	-20.73	38.51	54	-15.49	AV
Vertical	10520.104	61.55	-9.12	52.43	68.2	-15.77	PK
Vertical	10520.104	49.32	-9.12	40.20	54	-13.80	AV
Vertical	15780.018	62.01	-7.77	54.24	74	-19.76	PK
Vertical	15780.018	49.39	-7.77	41.62	54	-12.38	AV
Horizontal	4434.147	74.01	-20.73	53.28	68.2	-14.92	PK
Horizontal	4434.147	59.90	-20.73	39.17	54	-14.83	AV
Horizontal	10520.132	63.14	-9.12	54.02	68.2	-14.18	PK
Horizontal	10520.132	49.24	-9.12	40.12	54	-13.88	AV
Horizontal	15780.063	64.12	-7.77	56.35	74	-17.65	PK
Horizontal	15780.063	49.68	-7.77	41.91	54	-12.09	AV
middle Channel (5280 MHz)-Above 1G							
Vertical	4592.048	74.92	-20.42	54.51	74	-19.49	PK
Vertical	4592.048	59.84	-20.42	39.43	54	-14.57	AV
Vertical	10560.134	62.08	-9.06	53.02	68.2	-15.18	PK
Vertical	10560.134	49.84	-9.06	40.78	54	-13.22	AV
Vertical	15840.196	62.43	-7.75	54.68	74	-19.32	PK
Vertical	15840.196	49.95	-7.75	42.20	54	-11.80	AV
Horizontal	4592.163	71.28	-20.42	50.86	74	-23.14	PK
Horizontal	4592.163	59.30	-20.42	38.88	54	-15.12	AV
Horizontal	10560.024	61.31	-9.06	52.25	68.2	-15.95	PK
Horizontal	10560.024	49.92	-9.06	40.86	54	-13.14	AV
Horizontal	15840.042	62.83	-7.75	55.08	74	-18.92	PK
Horizontal	15840.042	49.83	-7.75	42.08	54	-11.92	AV
High Channel (5320 MHz)-Above 1G							
Vertical	4739.195	72.08	-20.12	51.96	74	-22.04	PK
Vertical	4739.195	59.78	-20.12	39.66	54	-14.34	AV
Vertical	10640.159	61.10	-8.94	52.16	68.2	-16.04	PK
Vertical	10640.159	49.60	-8.94	40.66	54	-13.34	AV
Vertical	15960.196	60.14	-7.71	52.43	74	-21.57	PK
Vertical	15960.196	49.42	-7.71	41.71	54	-12.29	AV
Horizontal	4739.120	71.03	-20.12	50.91	74	-23.09	PK
Horizontal	4739.120	59.68	-20.12	39.56	54	-14.44	AV
Horizontal	10640.059	61.13	-8.94	52.19	68.2	-16.01	PK
Horizontal	10640.059	49.91	-8.94	40.97	54	-13.03	AV
Horizontal	15960.145	61.75	-7.71	54.04	74	-19.96	PK
Horizontal	15960.145	49.52	-7.71	41.81	54	-12.19	AV

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

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

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

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

Test Mode:	TX(5.6G) - 802.11a
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Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5500 MHz)-Above 1G							
Vertical	4434.170	70.64	-20.73	49.91	68.2	-18.29	PK
Vertical	4434.170	59.53	-20.73	38.79	54	-15.21	AV
Vertical	11000.009	61.74	-8.40	53.34	68.2	-14.86	PK
Vertical	11000.009	49.57	-8.40	41.17	54	-12.83	AV
Vertical	16500.118	60.48	-6.09	54.39	74	-19.61	PK
Vertical	16500.118	49.55	-6.09	43.46	54	-10.54	AV
Horizontal	4434.091	74.76	-20.73	54.03	68.2	-14.17	PK
Horizontal	4434.091	60.00	-20.73	39.27	54	-14.73	AV
Horizontal	11000.085	64.26	-8.40	55.86	68.2	-12.34	PK
Horizontal	11000.085	49.83	-8.40	41.43	54	-12.57	AV
Horizontal	16500.088	63.00	-6.09	56.91	74	-17.09	PK
Horizontal	16500.088	49.03	-6.09	42.94	54	-11.06	AV
middle Channel (5580 MHz)-Above 1G							
Vertical	4592.003	73.12	-20.42	52.70	74	-21.30	PK
Vertical	4592.003	59.50	-20.42	39.09	54	-14.91	AV
Vertical	11160.073	60.66	-8.53	52.13	68.2	-16.07	PK
Vertical	11160.073	49.34	-8.53	40.81	54	-13.19	AV
Vertical	16740.127	61.86	-5.31	56.55	74	-17.45	PK
Vertical	16740.127	49.57	-5.31	44.26	54	-9.74	AV
Horizontal	4592.047	71.78	-20.42	51.36	74	-22.64	PK
Horizontal	4592.047	59.52	-20.42	39.10	54	-14.90	AV
Horizontal	11160.157	64.09	-8.53	55.56	68.2	-12.64	PK
Horizontal	11160.157	49.01	-8.53	40.48	54	-13.52	AV
Horizontal	16740.047	60.61	-5.31	55.30	74	-18.70	PK
Horizontal	16740.047	49.61	-5.31	44.30	54	-9.70	AV
High Channel (5700 MHz)-Above 1G							
Vertical	4739.163	71.91	-20.12	51.79	74	-22.21	PK
Vertical	4739.163	59.05	-20.12	38.93	54	-15.07	AV
Vertical	11400.195	61.18	-8.72	52.46	68.2	-15.74	PK
Vertical	11400.195	49.38	-8.72	40.66	54	-13.34	AV
Vertical	17100.024	61.31	-3.92	57.39	74	-16.61	PK
Vertical	17100.024	49.14	-3.92	45.22	54	-8.78	AV
Horizontal	4739.101	72.82	-20.12	52.70	74	-21.30	PK
Horizontal	4739.101	59.66	-20.12	39.54	54	-14.46	AV
Horizontal	11400.000	64.59	-8.72	55.87	68.2	-12.33	PK
Horizontal	11400.000	49.43	-8.72	40.71	54	-13.29	AV
Horizontal	17100.074	62.58	-3.92	58.66	74	-15.34	PK
Horizontal	17100.074	49.74	-3.92	45.82	54	-8.18	AV

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

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

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

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

Test Mode:	TX(5.6G) - 802.11n-HT20
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Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5500 MHz)-Above 1G							
Vertical	4434.167	70.99	-20.73	50.25	68.2	-17.95	PK
Vertical	4434.167	59.14	-20.73	38.40	54	-15.60	AV
Vertical	11000.092	62.95	-8.40	54.55	68.2	-13.65	PK
Vertical	11000.092	49.32	-8.40	40.92	54	-13.08	AV
Vertical	16500.122	61.62	-6.09	55.53	74	-18.47	PK
Vertical	16500.122	49.31	-6.09	43.22	54	-10.78	AV
Horizontal	4434.040	73.97	-20.73	53.24	68.2	-14.96	PK
Horizontal	4434.040	59.52	-20.73	38.79	54	-15.21	AV
Horizontal	11000.169	63.31	-8.40	54.91	68.2	-13.29	PK
Horizontal	11000.169	49.11	-8.40	40.71	54	-13.29	AV
Horizontal	16500.062	61.93	-6.09	55.84	74	-18.16	PK
Horizontal	16500.062	49.10	-6.09	43.01	54	-10.99	AV
middle Channel (5580 MHz)-Above 1G							
Vertical	4592.123	74.83	-20.42	54.41	74	-19.59	PK
Vertical	4592.123	59.92	-20.42	39.51	54	-14.49	AV
Vertical	11160.011	64.80	-8.53	56.27	68.2	-11.93	PK
Vertical	11160.011	49.27	-8.53	40.74	54	-13.26	AV
Vertical	16740.130	61.57	-5.31	56.26	74	-17.74	PK
Vertical	16740.130	49.79	-5.31	44.48	54	-9.52	AV
Horizontal	4592.135	71.10	-20.42	50.68	74	-23.32	PK
Horizontal	4592.135	59.28	-20.42	38.87	54	-15.13	AV
Horizontal	11160.073	62.50	-8.53	53.97	68.2	-14.23	PK
Horizontal	11160.073	49.53	-8.53	41.00	54	-13.00	AV
Horizontal	16740.184	63.37	-5.31	58.06	74	-15.94	PK
Horizontal	16740.184	49.14	-5.31	43.83	54	-10.17	AV
High Channel (5700 MHz)-Above 1G							
Vertical	4739.045	72.76	-20.12	52.63	74	-21.37	PK
Vertical	4739.045	59.13	-20.12	39.00	54	-15.00	AV
Vertical	11400.009	61.27	-8.72	52.55	68.2	-15.65	PK
Vertical	11400.009	49.00	-8.72	40.28	54	-13.72	AV
Vertical	17100.037	60.22	-3.92	56.30	74	-17.70	PK
Vertical	17100.037	49.45	-3.92	45.53	54	-8.47	AV
Horizontal	4739.074	70.23	-20.12	50.11	74	-23.89	PK
Horizontal	4739.074	59.83	-20.12	39.71	54	-14.29	AV
Horizontal	11400.044	62.99	-8.72	54.27	68.2	-13.93	PK
Horizontal	11400.044	49.32	-8.72	40.60	54	-13.40	AV
Horizontal	17100.154	63.05	-3.92	59.13	74	-14.87	PK
Horizontal	17100.154	49.25	-3.92	45.33	54	-8.67	AV

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

Test Mode:	TX(5.8G) - 802.11a
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Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.075	72.26	-20.24	52.02	74	-21.98	PK
Vertical	4679.075	59.13	-20.24	38.89	54	-15.11	AV
Vertical	11490.134	61.76	-8.79	52.97	68.2	-15.23	PK
Vertical	11490.134	49.66	-8.79	40.87	54	-13.13	AV
Vertical	17235.160	57.01	-3.18	53.83	68.2	-14.37	PK
Vertical	17235.160	44.28	-3.18	41.10	54	-12.90	AV
Horizontal	4679.164	70.97	-20.73	50.24	74	-23.76	PK
Horizontal	4679.164	59.46	-20.73	38.73	54	-15.27	AV
Horizontal	11490.174	64.21	-8.79	55.42	68.2	-12.78	PK
Horizontal	11490.174	49.86	-8.79	41.07	54	-12.93	AV
Horizontal	17235.007	55.18	-3.18	52.00	68.2	-16.20	PK
Horizontal	17235.007	44.37	-3.18	41.19	54	-12.81	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.012	73.38	-20.42	52.97	74	-21.03	PK
Vertical	4592.012	59.12	-20.42	38.71	54	-15.29	AV
Vertical	11570.127	62.55	-8.86	53.69	68.2	-14.51	PK
Vertical	11570.127	49.44	-8.86	40.58	54	-13.42	AV
Vertical	17355.016	57.60	-2.52	55.08	68.2	-13.12	PK
Vertical	17355.016	44.38	-2.52	41.86	54	-12.14	AV
Horizontal	4592.144	70.78	-20.42	50.36	74	-23.64	PK
Horizontal	4592.144	59.31	-20.42	38.90	54	-15.10	AV
Horizontal	11570.127	64.31	-8.86	55.45	68.2	-12.75	PK
Horizontal	11570.127	49.44	-8.86	40.58	54	-13.42	AV
Horizontal	17355.061	56.77	-2.52	54.25	68.2	-13.95	PK
Horizontal	17355.061	44.32	-2.52	41.80	54	-12.20	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.060	73.58	-18.93	54.64	68.2	-13.56	PK
Vertical	6039.060	59.29	-18.93	40.36	54	-13.64	AV
Vertical	11650.051	61.15	-8.92	52.23	74	-21.77	PK
Vertical	11650.051	49.87	-8.92	40.95	54	-13.05	AV
Vertical	17475.145	59.16	-1.86	57.30	68.2	-10.90	PK
Vertical	17475.145	44.49	-1.86	42.63	54	-11.37	AV
Horizontal	6039.147	72.05	-18.93	53.11	68.2	-15.09	PK
Horizontal	6039.147	59.53	-18.93	40.60	54	-13.40	AV
Horizontal	11650.111	60.91	-8.92	51.99	74	-22.01	PK
Horizontal	11650.111	49.74	-8.92	40.82	54	-13.18	AV
Horizontal	17475.138	55.47	-1.86	53.61	68.2	-14.59	PK
Horizontal	17475.138	44.15	-1.86	42.29	54	-11.71	AV

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

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

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

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

Test Mode:	TX(5.8G) - 802.11n-HT20
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Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.078	74.29	-20.24	54.05	74	-19.95	PK
Vertical	4679.078	59.45	-20.24	39.21	54	-14.79	AV
Vertical	11490.163	60.51	-8.79	51.72	68.2	-16.48	PK
Vertical	11490.163	49.55	-8.79	40.76	54	-13.24	AV
Vertical	17235.089	55.40	-3.18	52.22	68.2	-15.98	PK
Vertical	17235.089	44.91	-3.18	41.73	54	-12.27	AV
Horizontal	4679.101	70.34	-20.24	50.10	74	-23.90	PK
Horizontal	4679.101	59.85	-20.24	39.61	54	-14.39	AV
Horizontal	11490.159	62.85	-8.79	54.06	68.2	-14.14	PK
Horizontal	11490.159	49.99	-8.79	41.20	54	-12.80	AV
Horizontal	17235.068	59.51	-3.18	56.33	68.2	-11.87	PK
Horizontal	17235.068	44.17	-3.18	40.99	54	-13.01	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.072	71.24	-20.42	50.83	74	-23.17	PK
Vertical	4592.072	59.14	-20.42	38.72	54	-15.28	AV
Vertical	11570.018	60.65	-8.86	51.79	68.2	-16.41	PK
Vertical	11570.018	49.56	-8.86	40.70	54	-13.30	AV
Vertical	17355.179	57.42	-2.52	54.90	68.2	-13.30	PK
Vertical	17355.179	44.16	-2.52	41.64	54	-12.36	AV
Horizontal	4592.077	72.57	-20.42	52.16	74	-21.84	PK
Horizontal	4592.077	59.63	-20.42	39.22	54	-14.78	AV
Horizontal	11570.095	62.09	-8.86	53.23	68.2	-14.97	PK
Horizontal	11570.095	49.10	-8.86	40.24	54	-13.76	AV
Horizontal	17355.131	59.34	-2.52	56.82	68.2	-11.38	PK
Horizontal	17355.131	44.96	-2.52	42.44	54	-11.56	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.122	73.21	-18.93	54.27	68.2	-13.93	PK
Vertical	6039.122	59.95	-18.93	41.02	54	-12.98	AV
Vertical	11650.001	62.61	-8.92	53.69	74	-20.31	PK
Vertical	11650.001	49.14	-8.92	40.22	54	-13.78	AV
Vertical	17475.190	56.81	-1.86	54.95	68.2	-13.25	PK
Vertical	17475.190	44.87	-1.86	43.01	54	-10.99	AV
Horizontal	6039.104	71.40	-18.93	52.47	68.2	-15.73	PK
Horizontal	6039.104	59.34	-18.93	40.41	54	-13.59	AV
Horizontal	11650.174	62.04	-8.92	53.12	74	-20.88	PK
Horizontal	11650.174	49.33	-8.92	40.41	54	-13.59	AV
Horizontal	17475.050	58.26	-1.86	56.40	68.2	-11.80	PK
Horizontal	17475.050	44.72	-1.86	42.86	54	-11.14	AV

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

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

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

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

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

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

(b) (2) The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, 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.

(3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3 Test Procedure

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

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

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

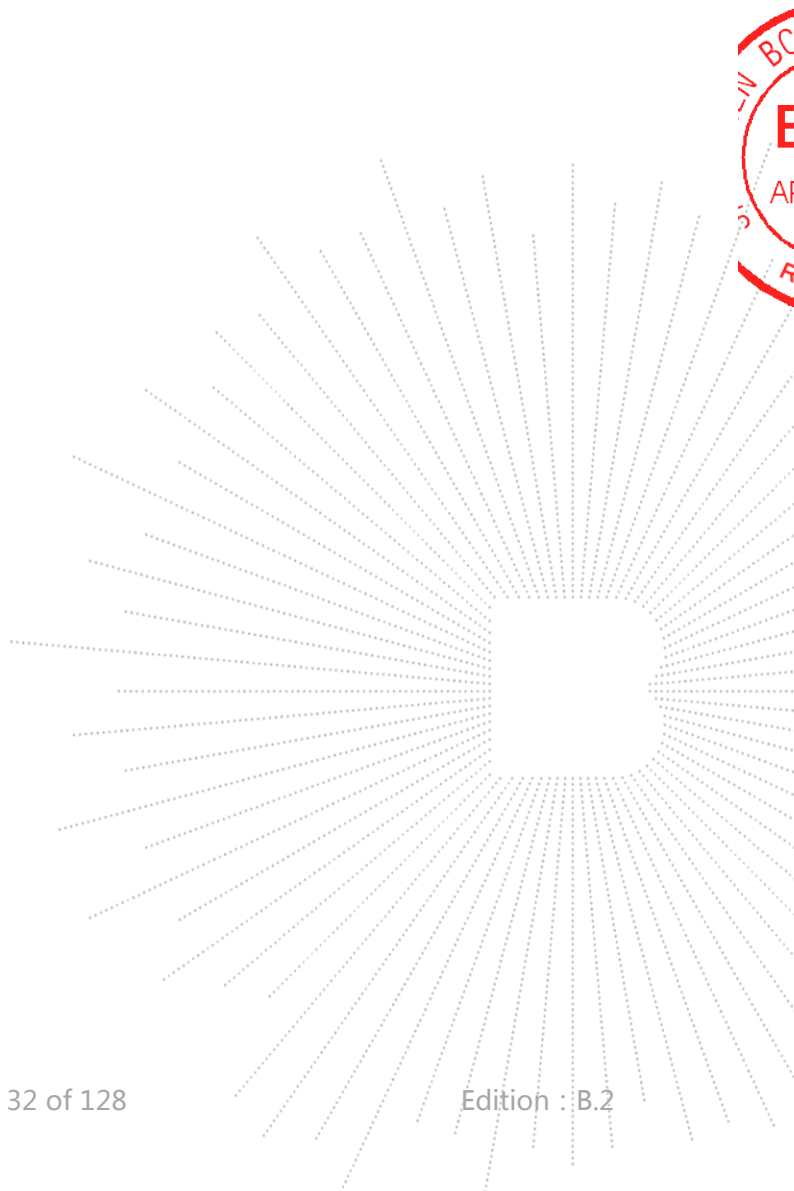
8.4 EUT Operating Conditions

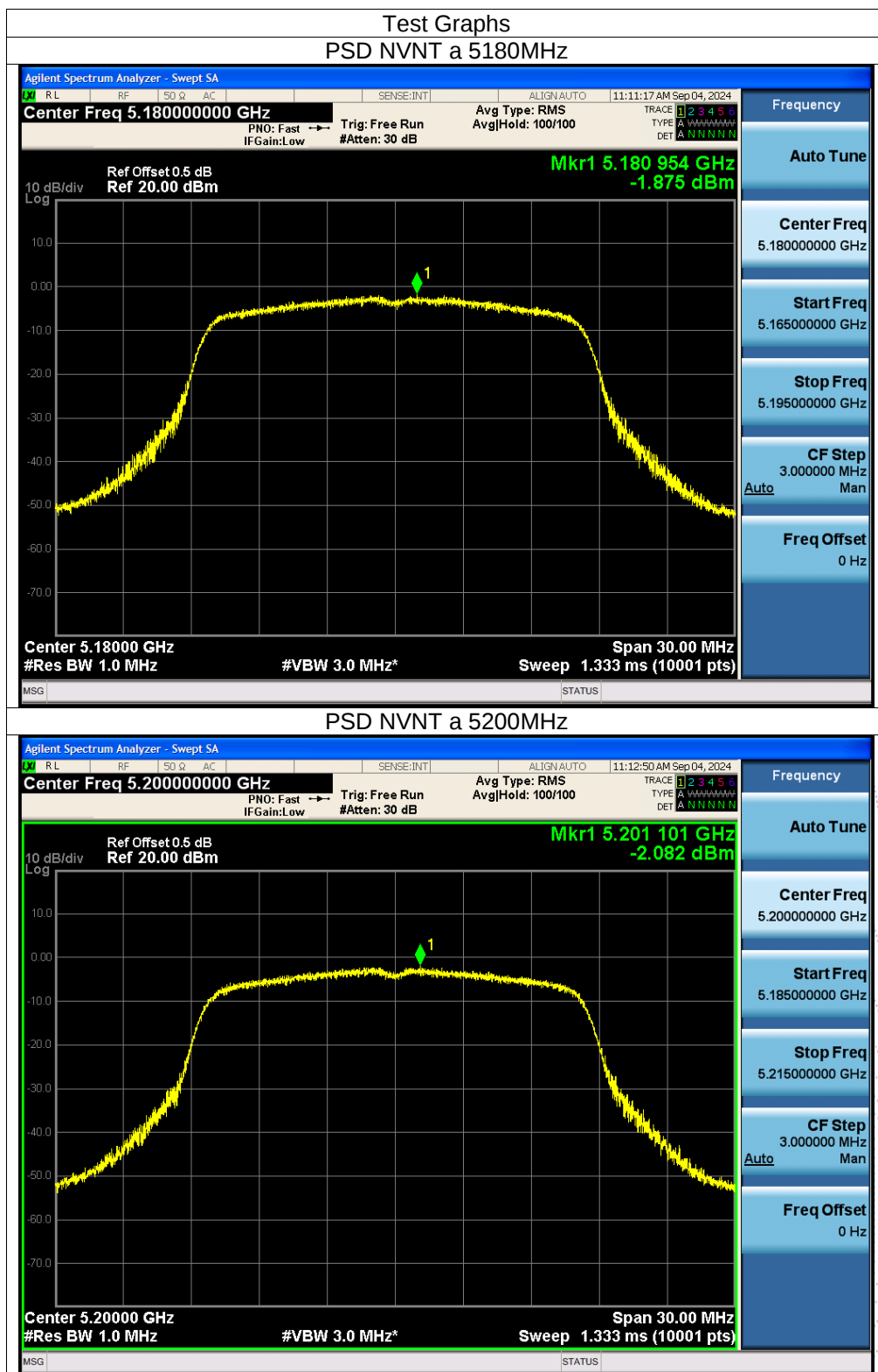
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

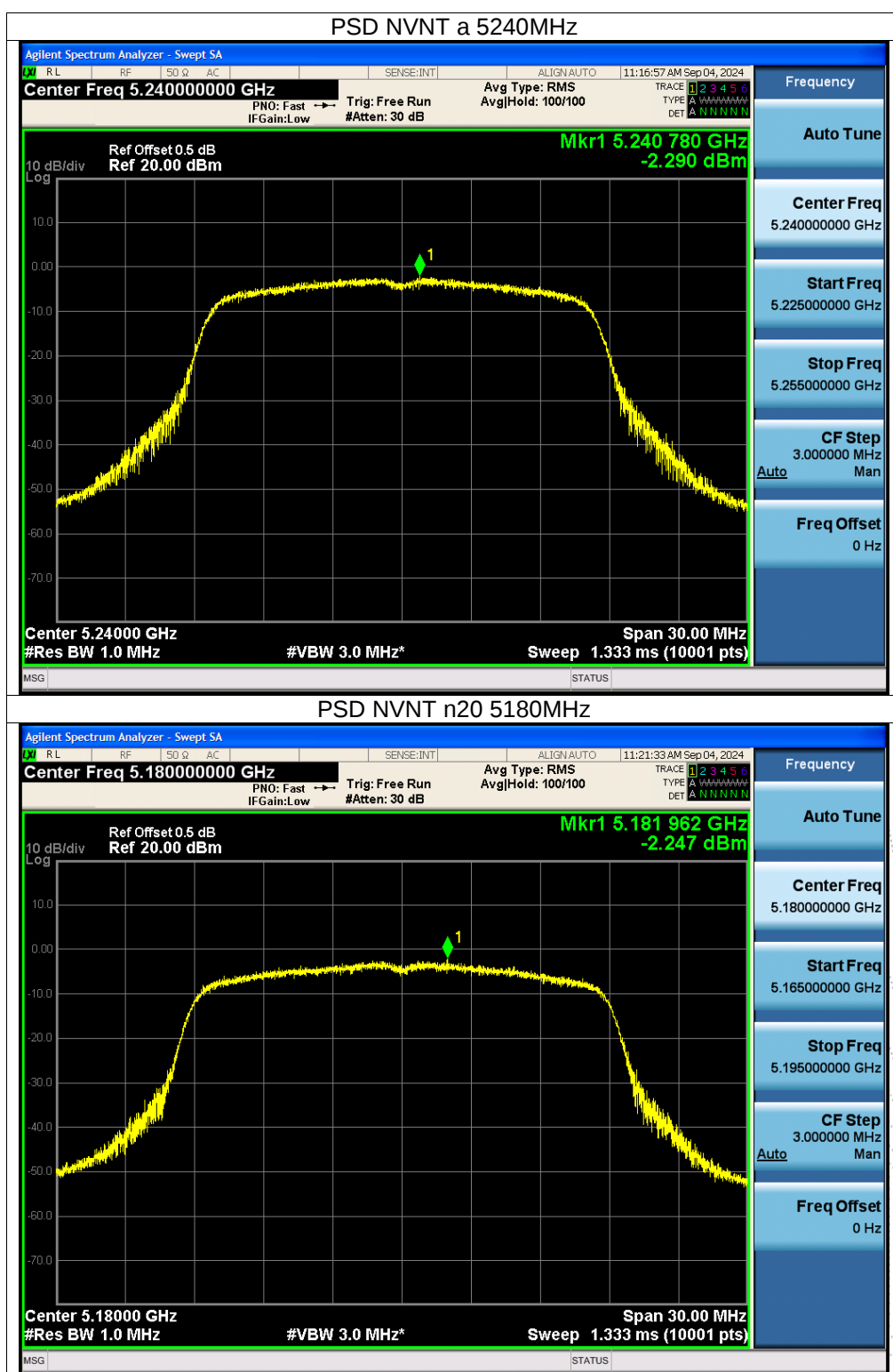
8.5 Test Result

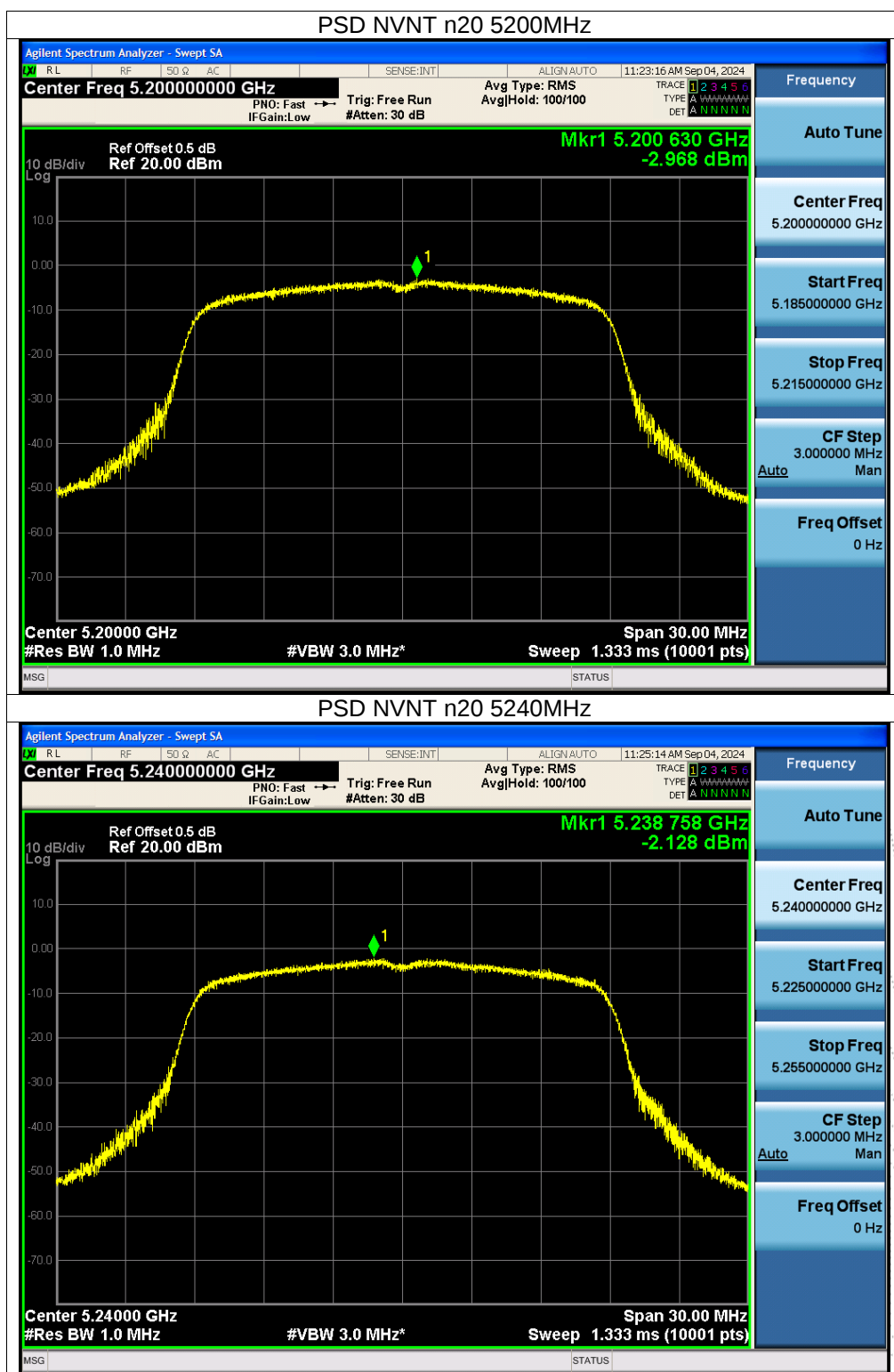
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5180-5240MHz)		

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	-1.88	11	Pass
NVNT	a	5200	-2.08	11	Pass
NVNT	a	5240	-2.29	11	Pass
NVNT	n20	5180	-2.25	11	Pass
NVNT	n20	5200	-2.97	11	Pass
NVNT	n20	5240	-2.13	11	Pass





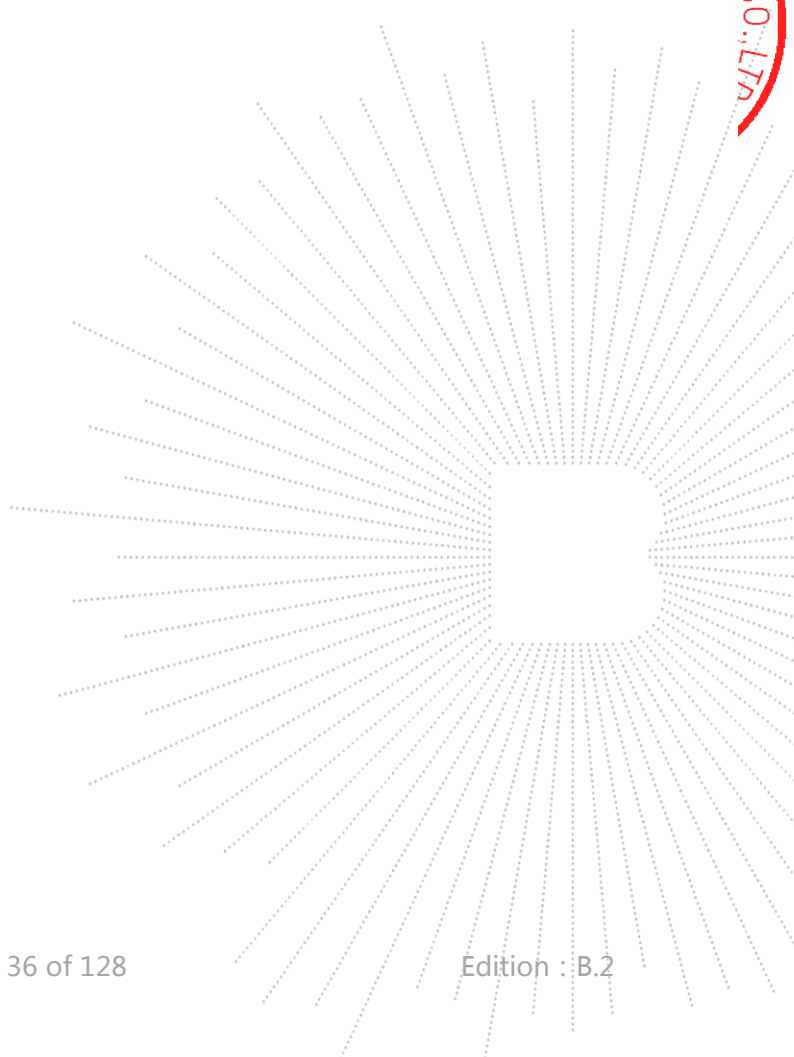


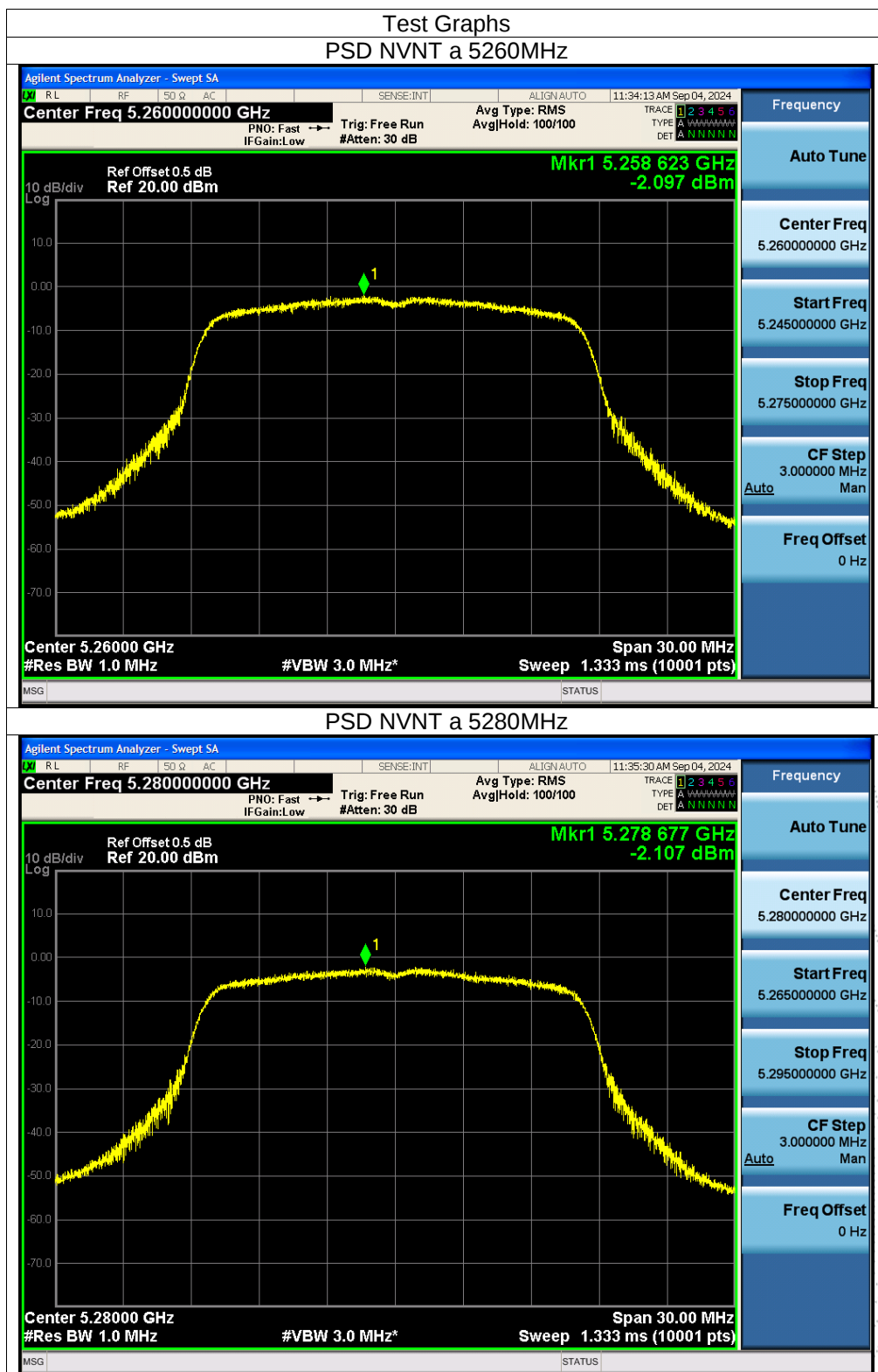


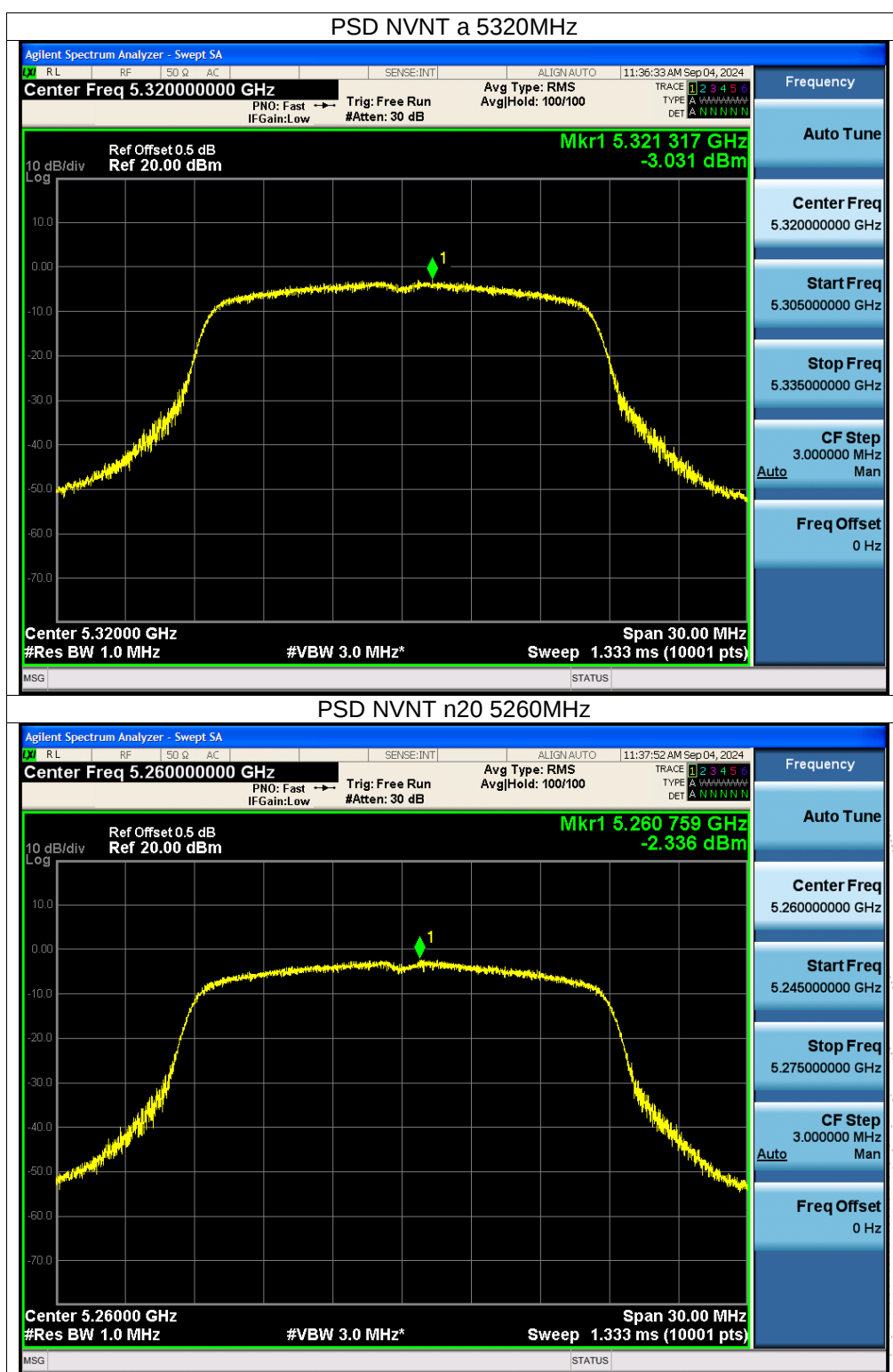
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5260-5320MHz)		

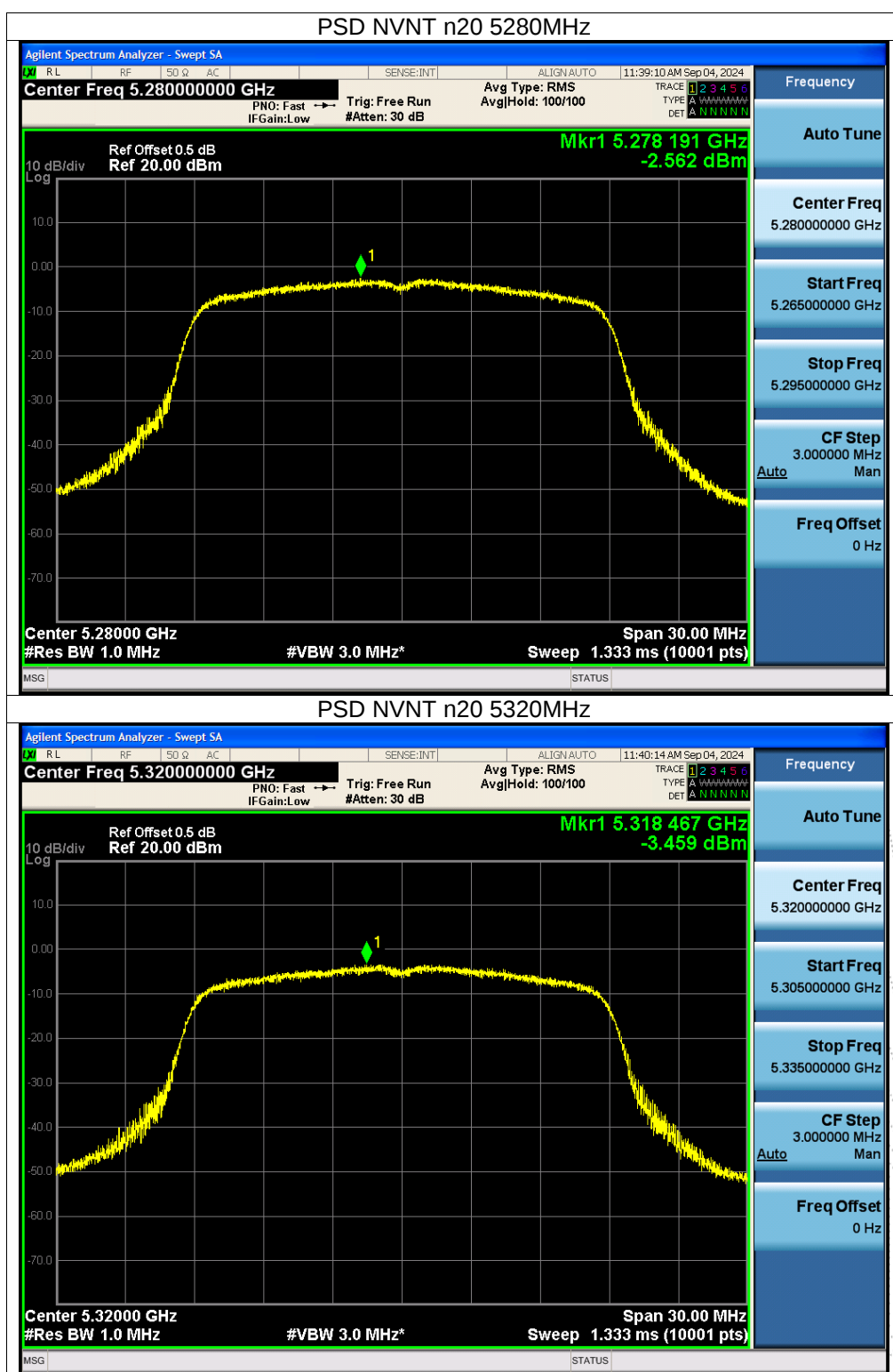
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5260	-2.1	11	Pass
NVNT	a	5280	-2.11	11	Pass
NVNT	a	5320	-3.03	11	Pass
NVNT	n20	5260	-2.34	11	Pass
NVNT	n20	5280	-2.56	11	Pass
NVNT	n20	5320	-3.46	11	Pass

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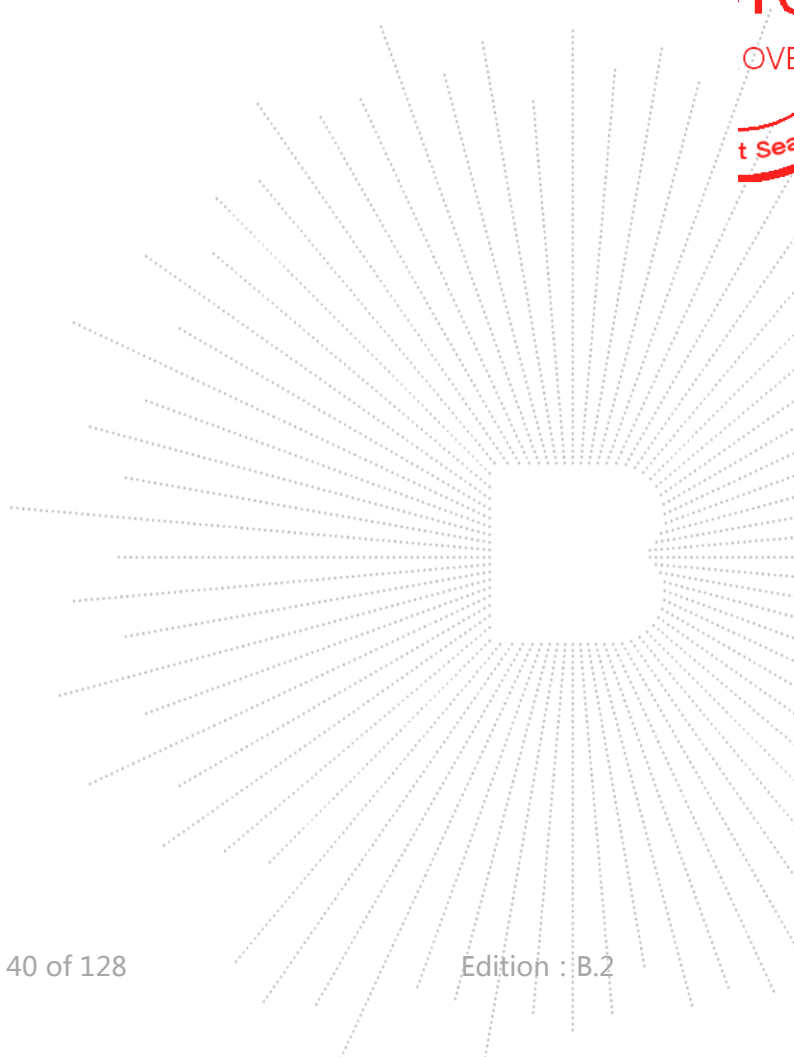


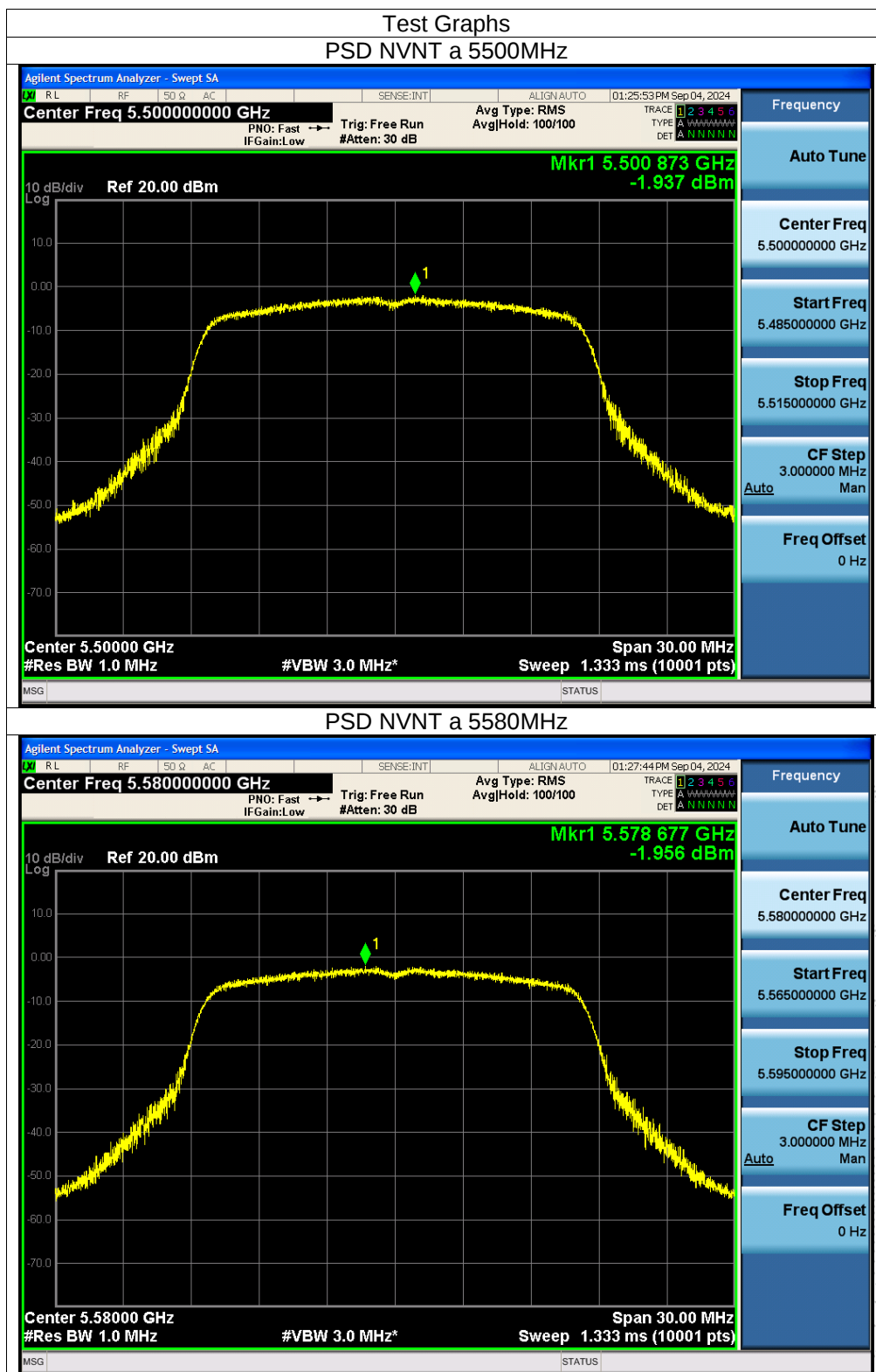


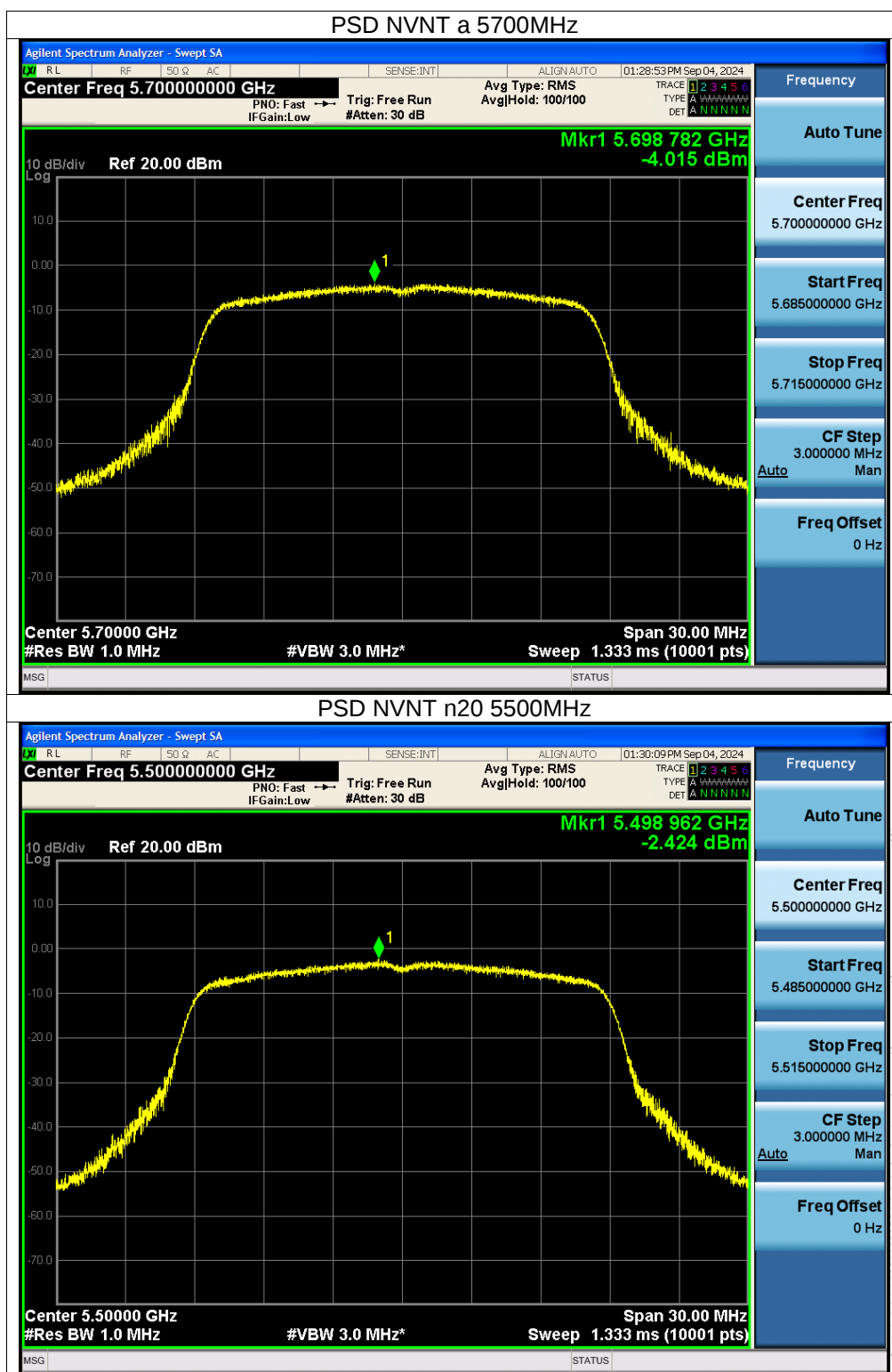
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Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5500-5700MHz)		

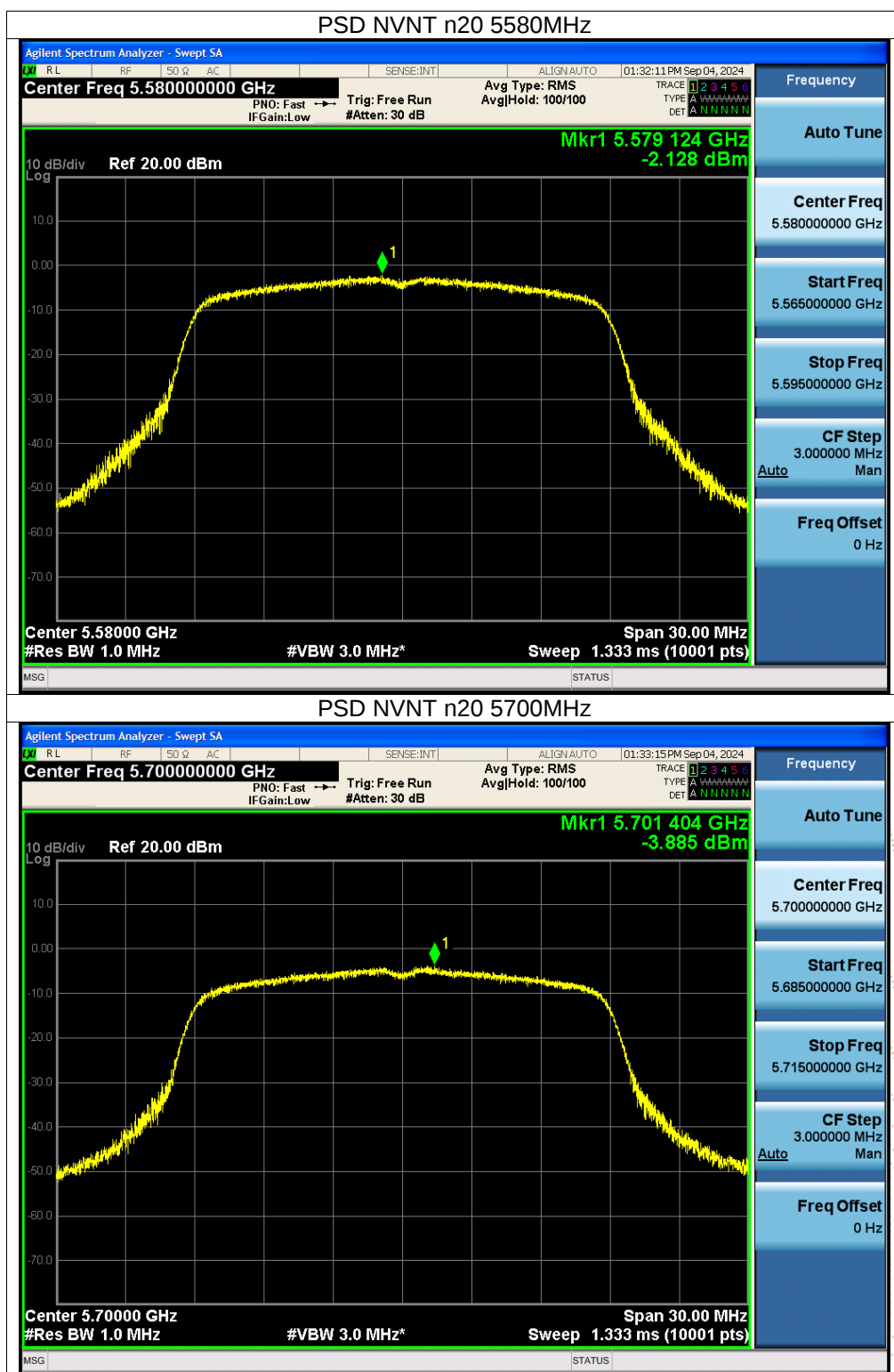
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5500	-1.94	11	Pass
NVNT	a	5580	-1.96	11	Pass
NVNT	a	5700	-4.01	11	Pass
NVNT	n20	5500	-2.42	11	Pass
NVNT	n20	5580	-2.13	11	Pass
NVNT	n20	5700	-3.89	11	Pass

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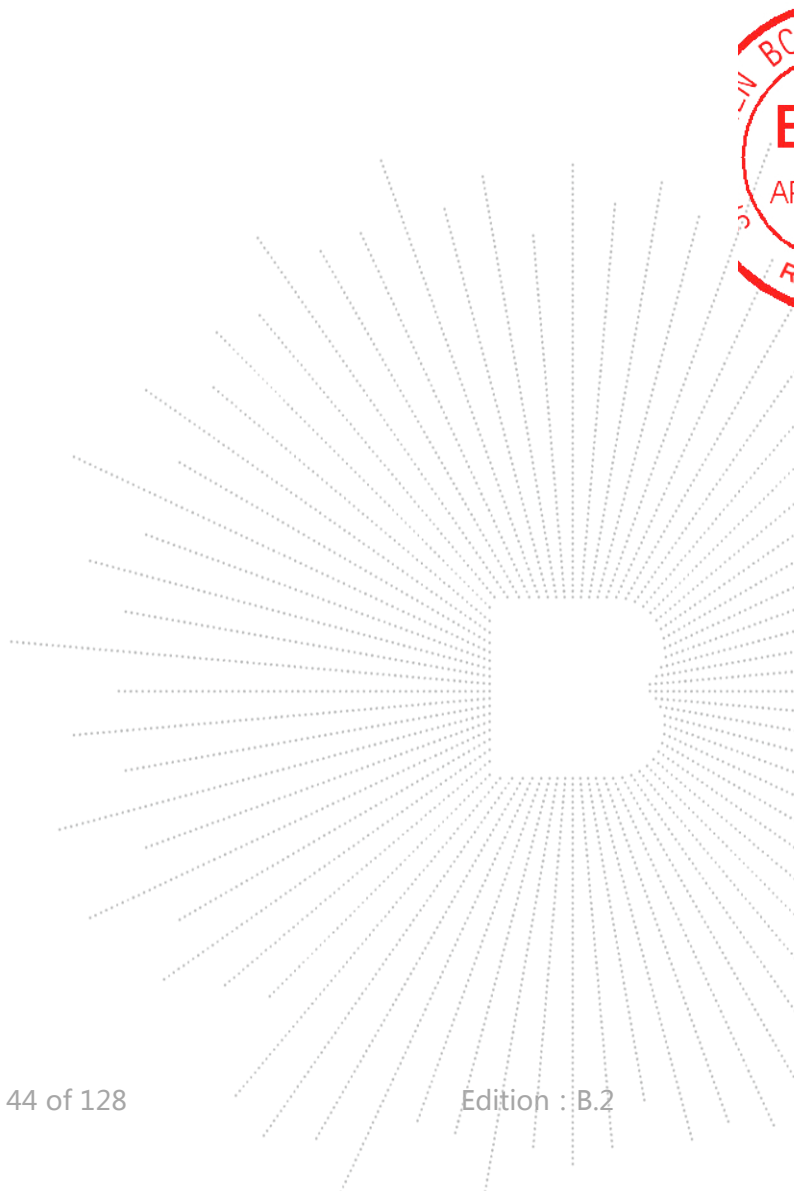


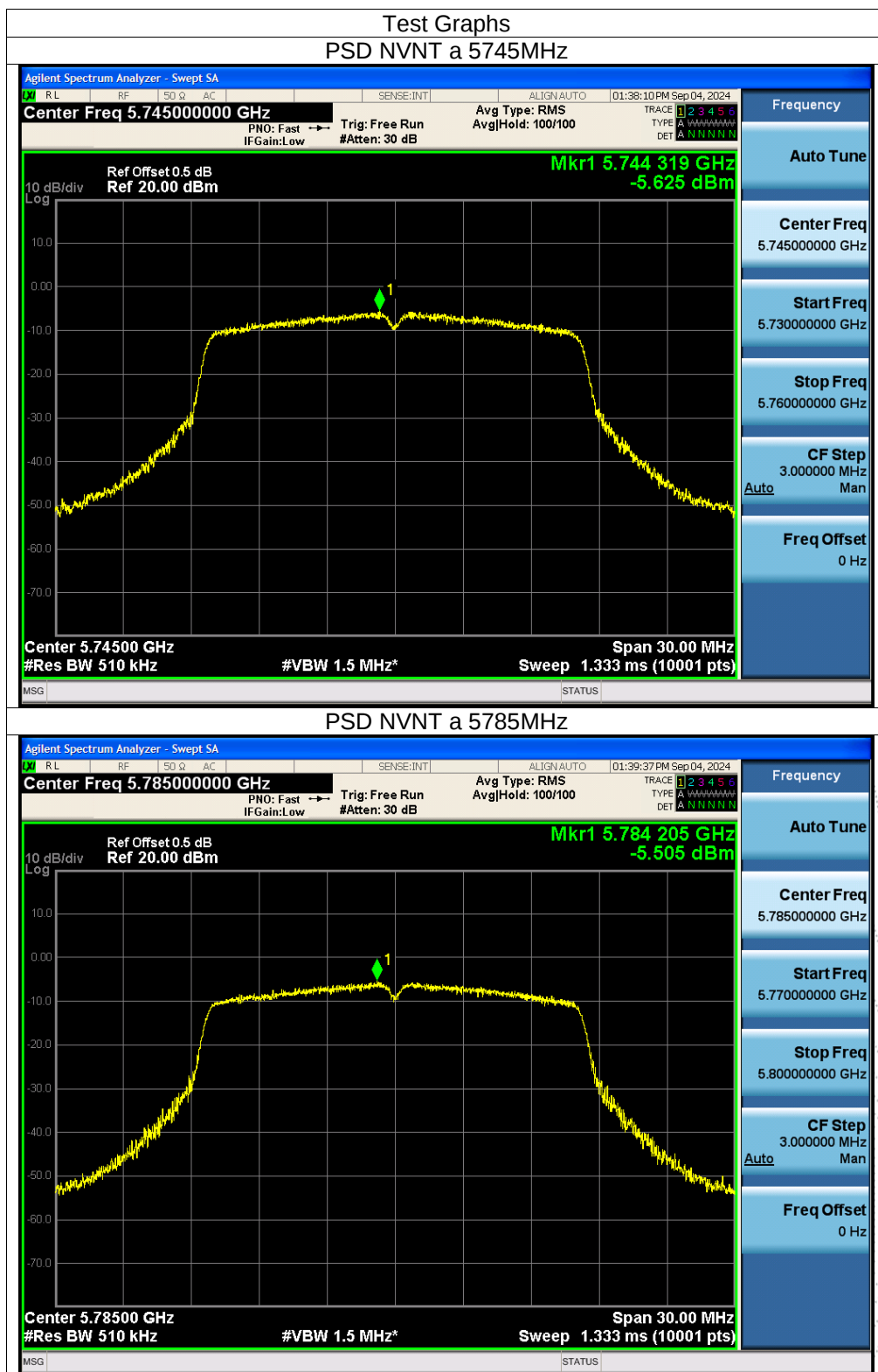


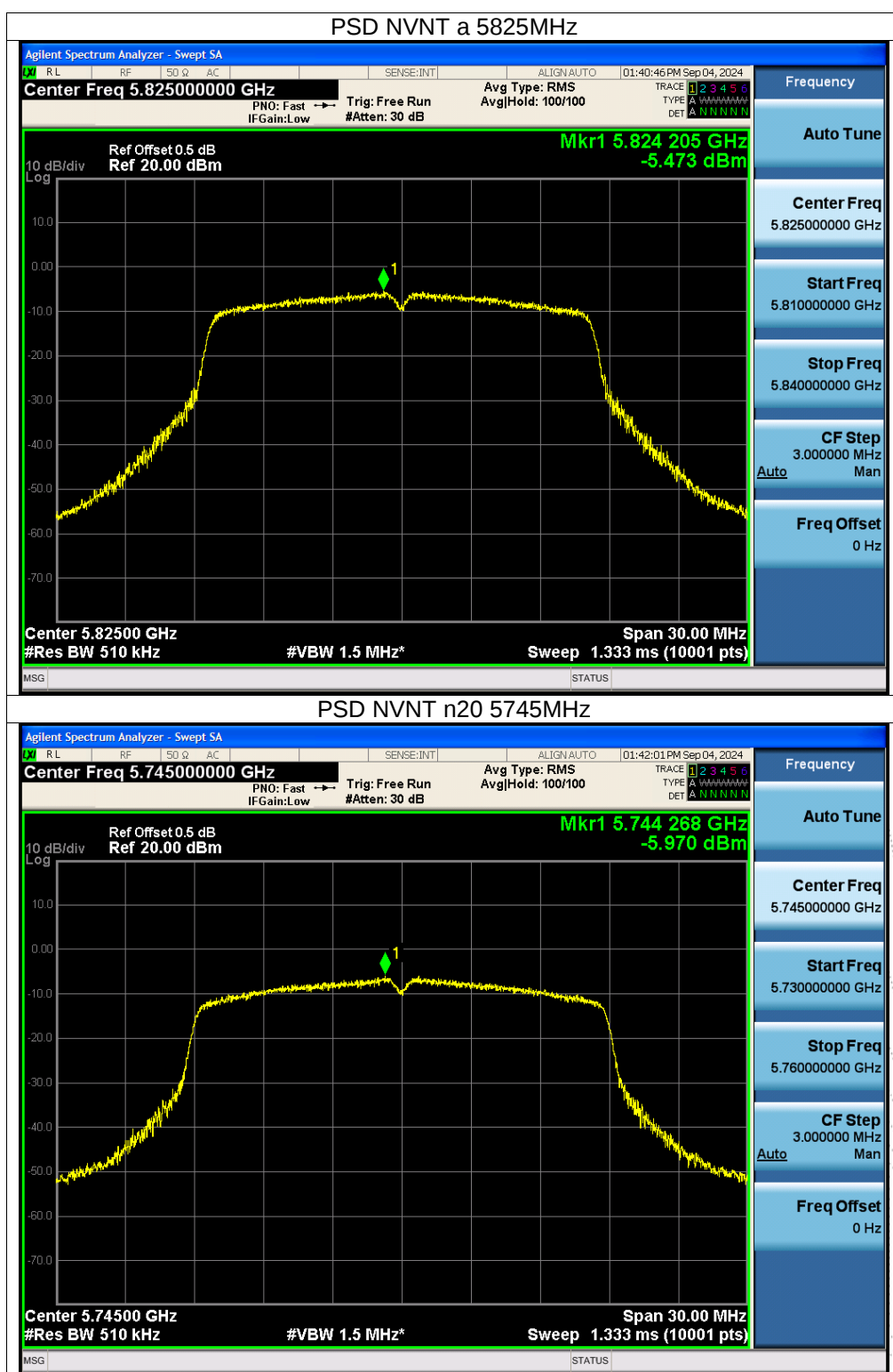


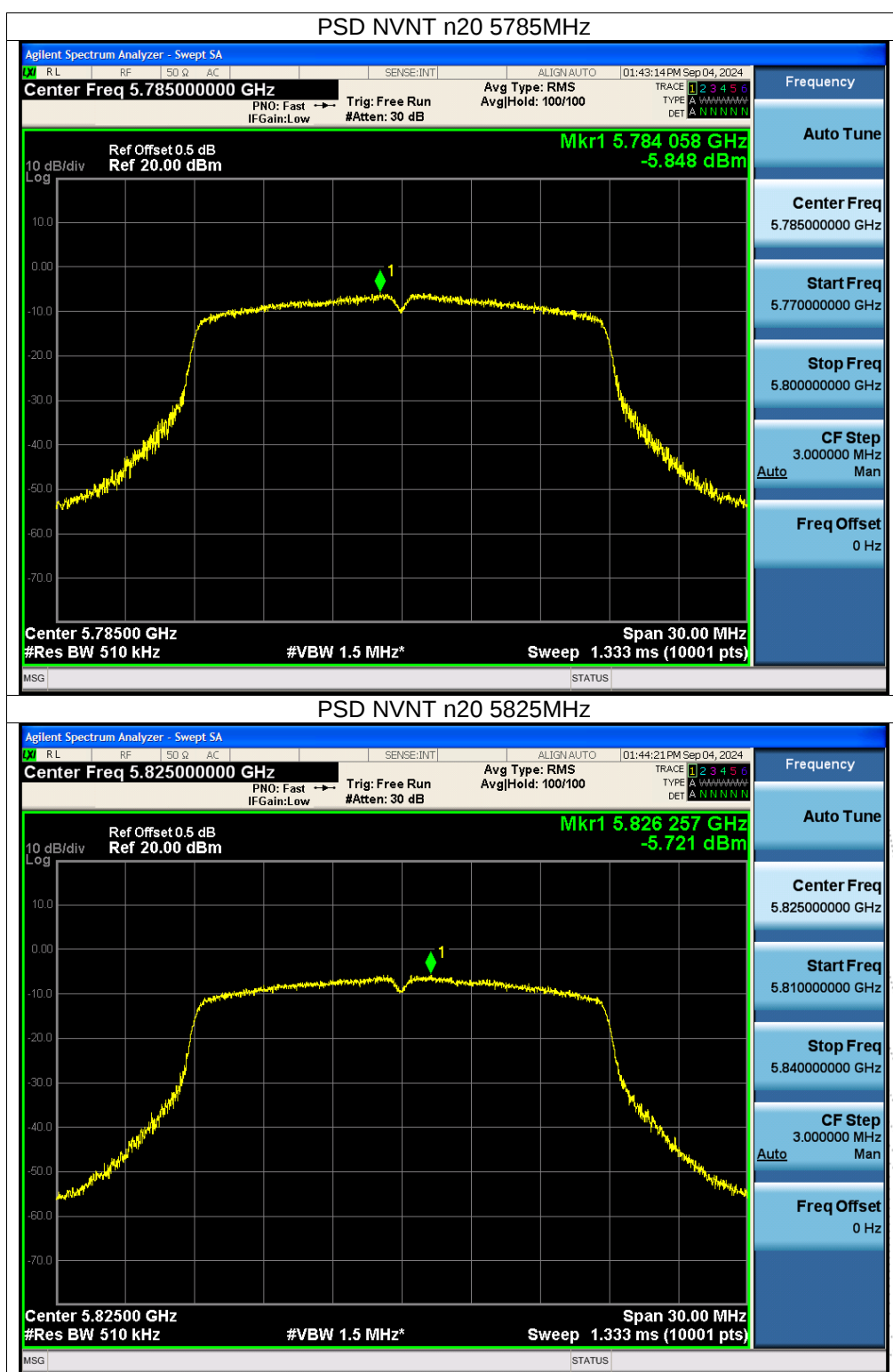
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5745-5825MHz)		

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	-5.63	30	Pass
NVNT	a	5785	-5.51	30	Pass
NVNT	a	5825	-5.47	30	Pass
NVNT	n20	5745	-5.97	30	Pass
NVNT	n20	5785	-5.85	30	Pass
NVNT	n20	5825	-5.72	30	Pass



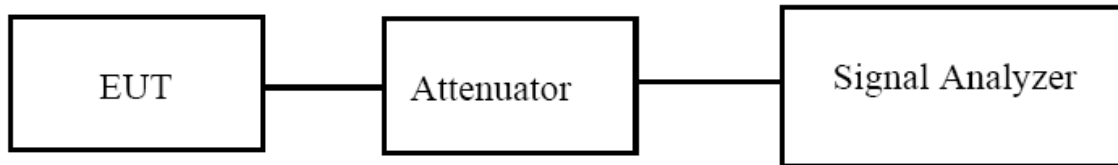






9. 26dB & 6dB & 99% Emission Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, 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.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, 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.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

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.

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

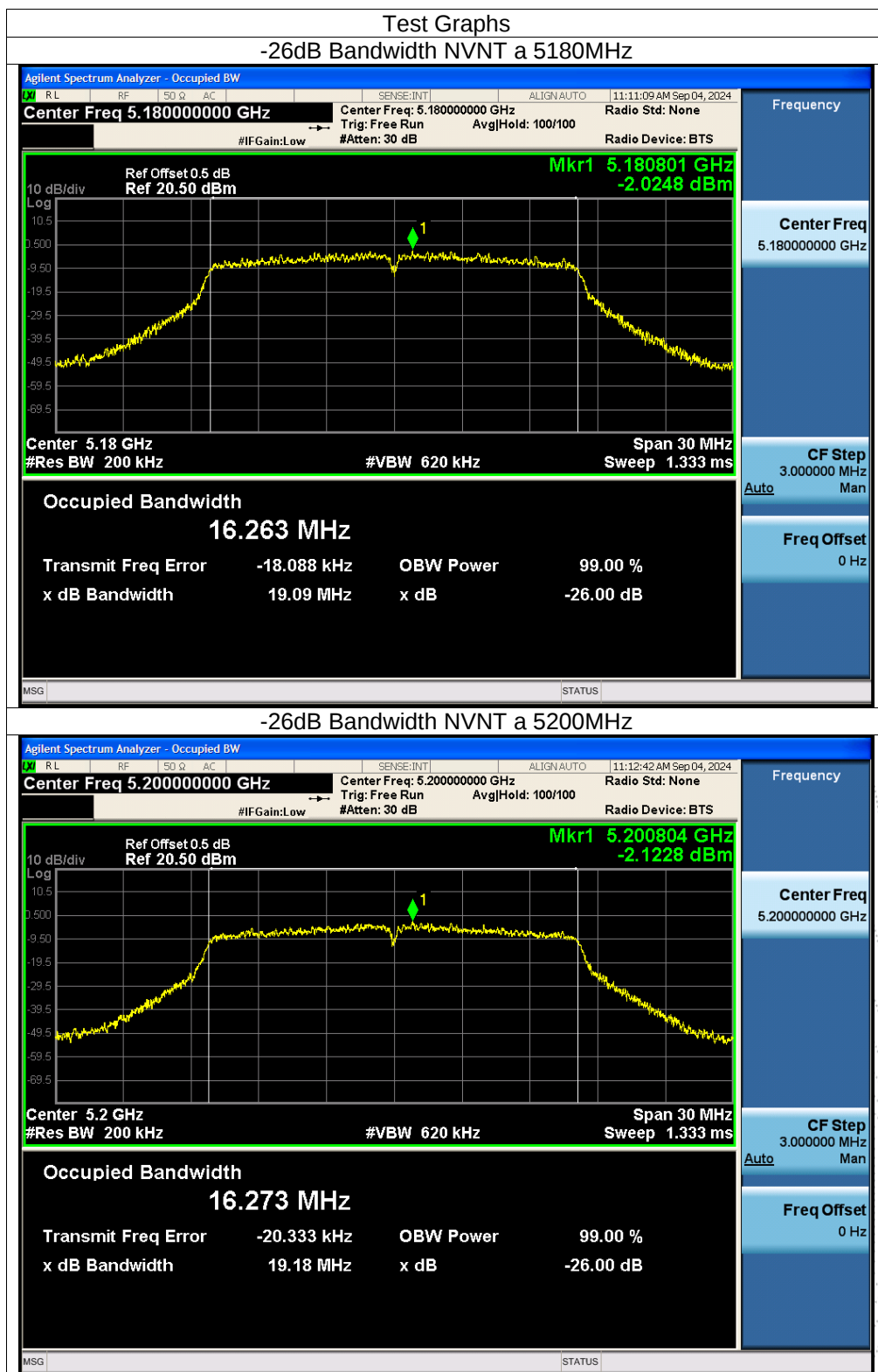
9.4 EUT Operating Conditions

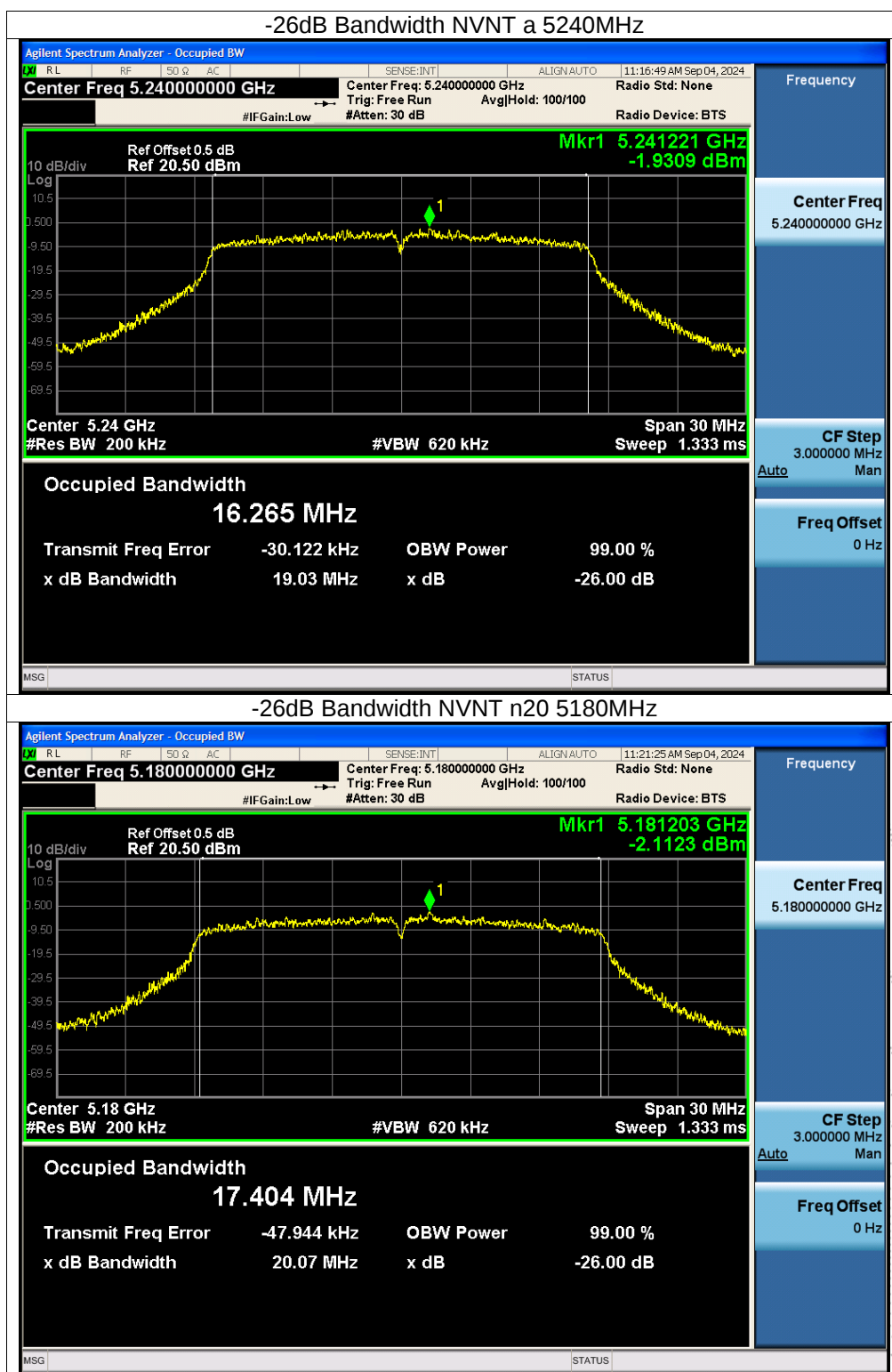
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

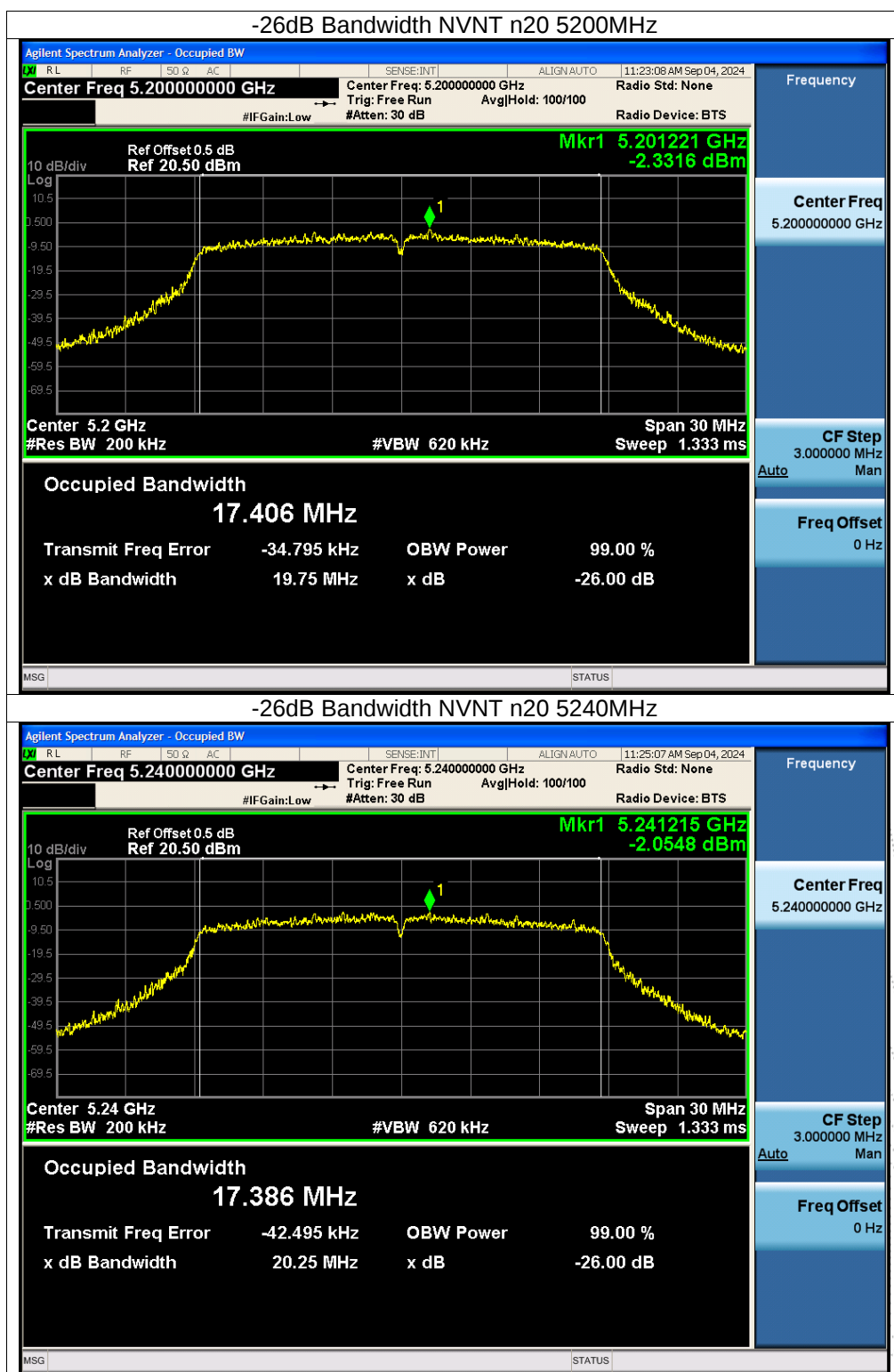
9.5 Test Result

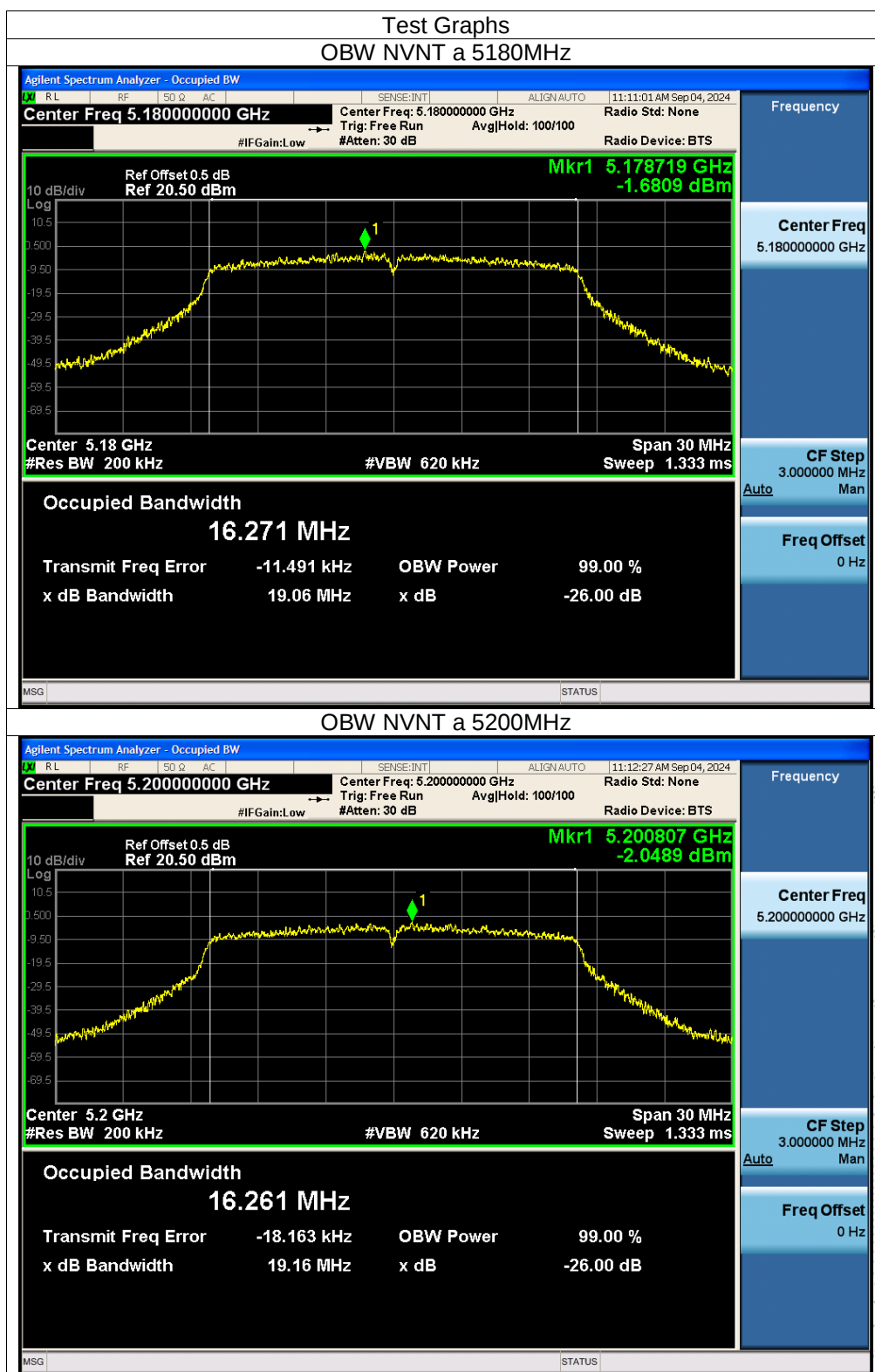
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5180-5240MHz)		

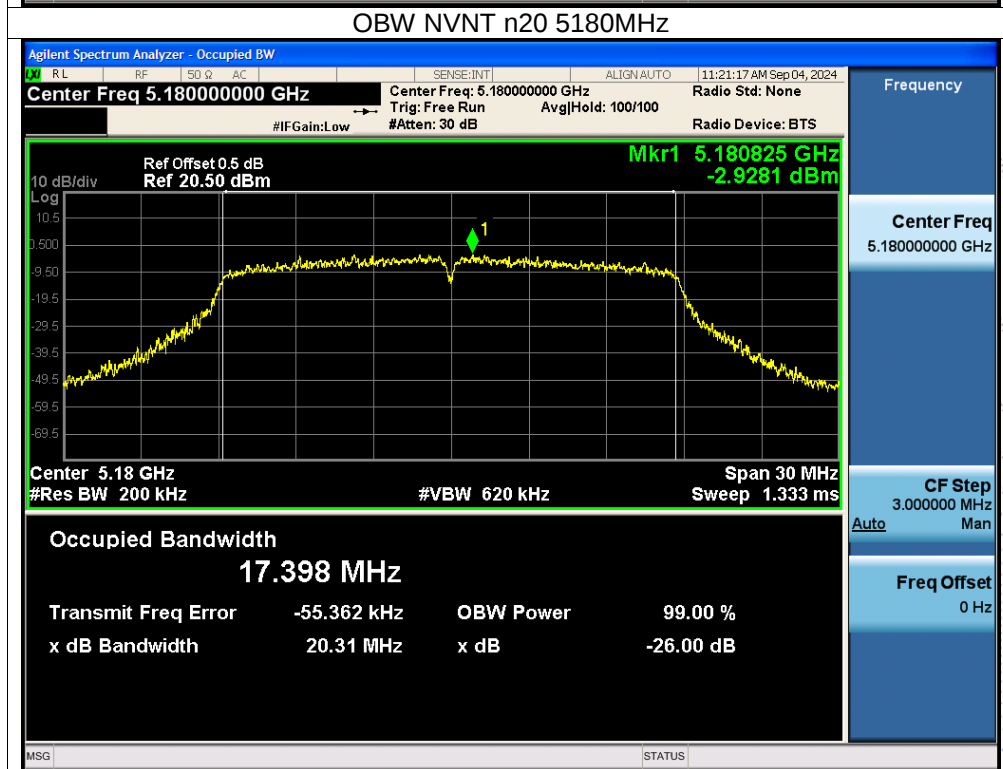
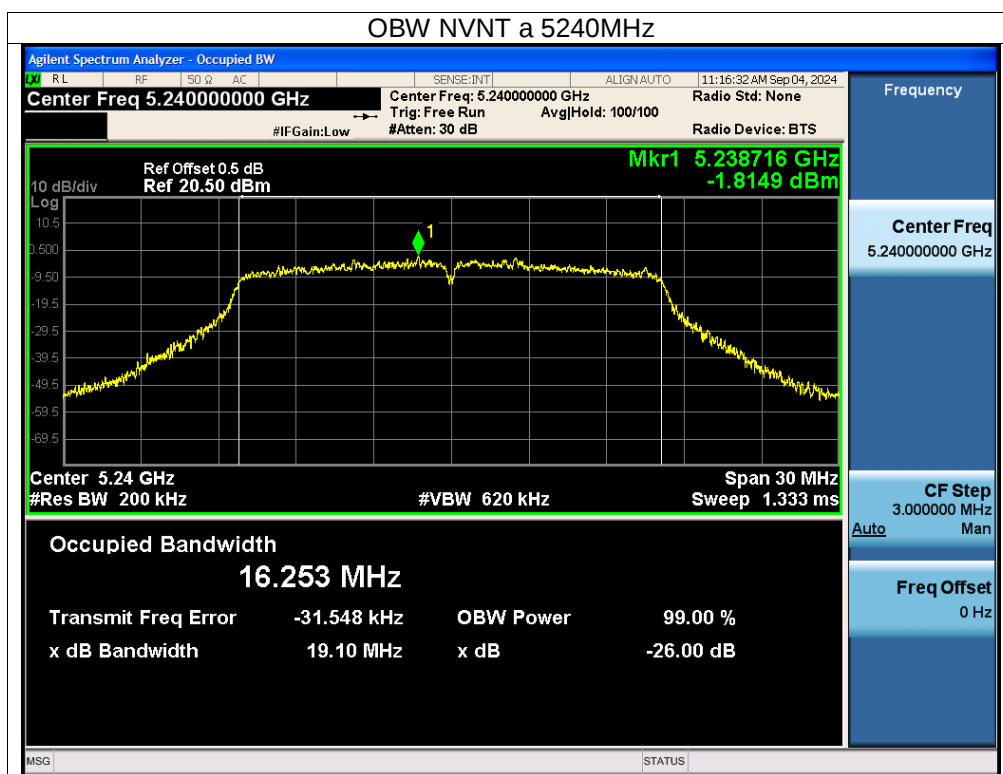
Condition	Mode	Frequency (MHz)	99% OBW (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	16.271	19.092	Pass
NVNT	a	5200	16.261	19.181	Pass
NVNT	a	5240	16.253	19.033	Pass
NVNT	n20	5180	17.398	20.075	Pass
NVNT	n20	5200	17.399	19.752	Pass
NVNT	n20	5240	17.377	20.251	Pass

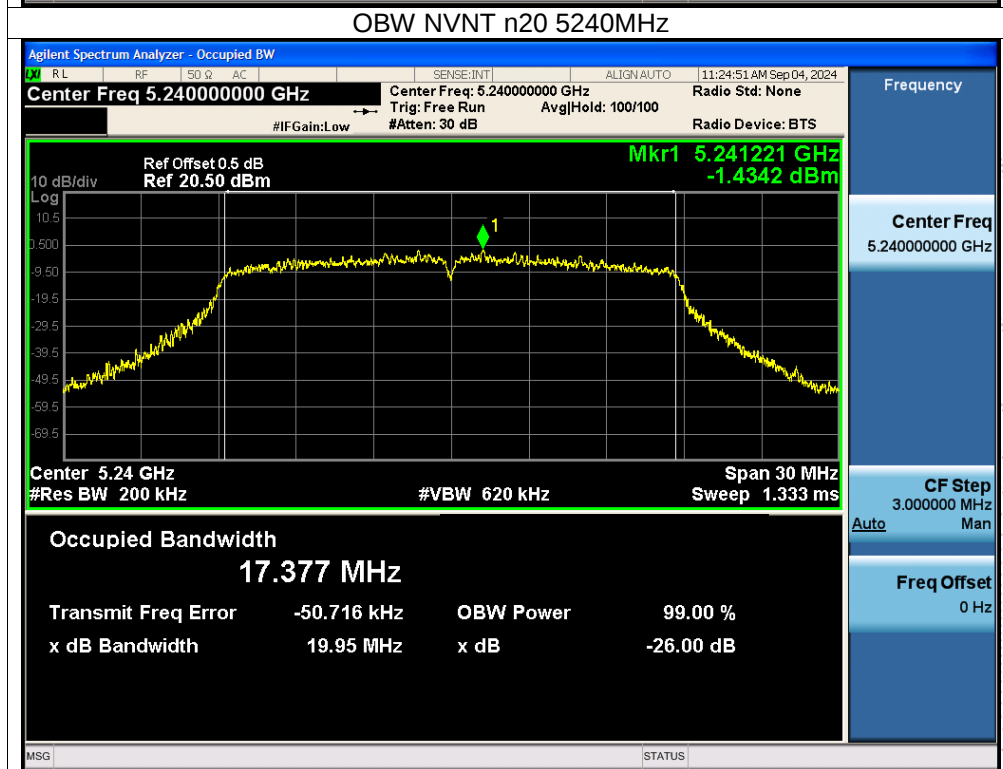
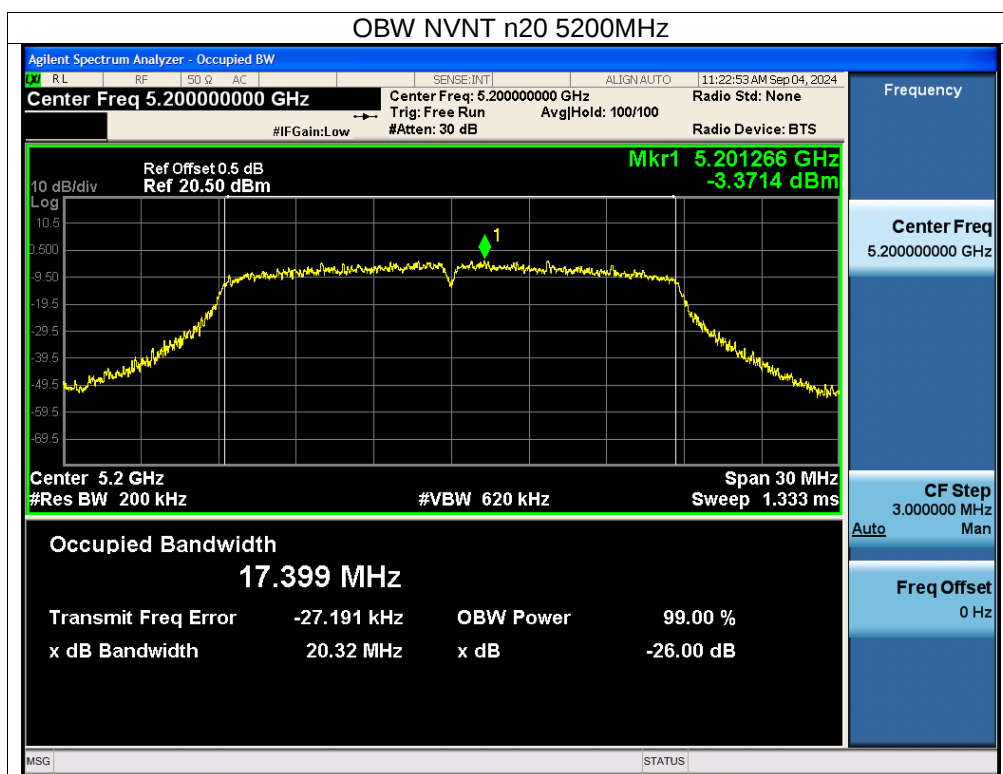








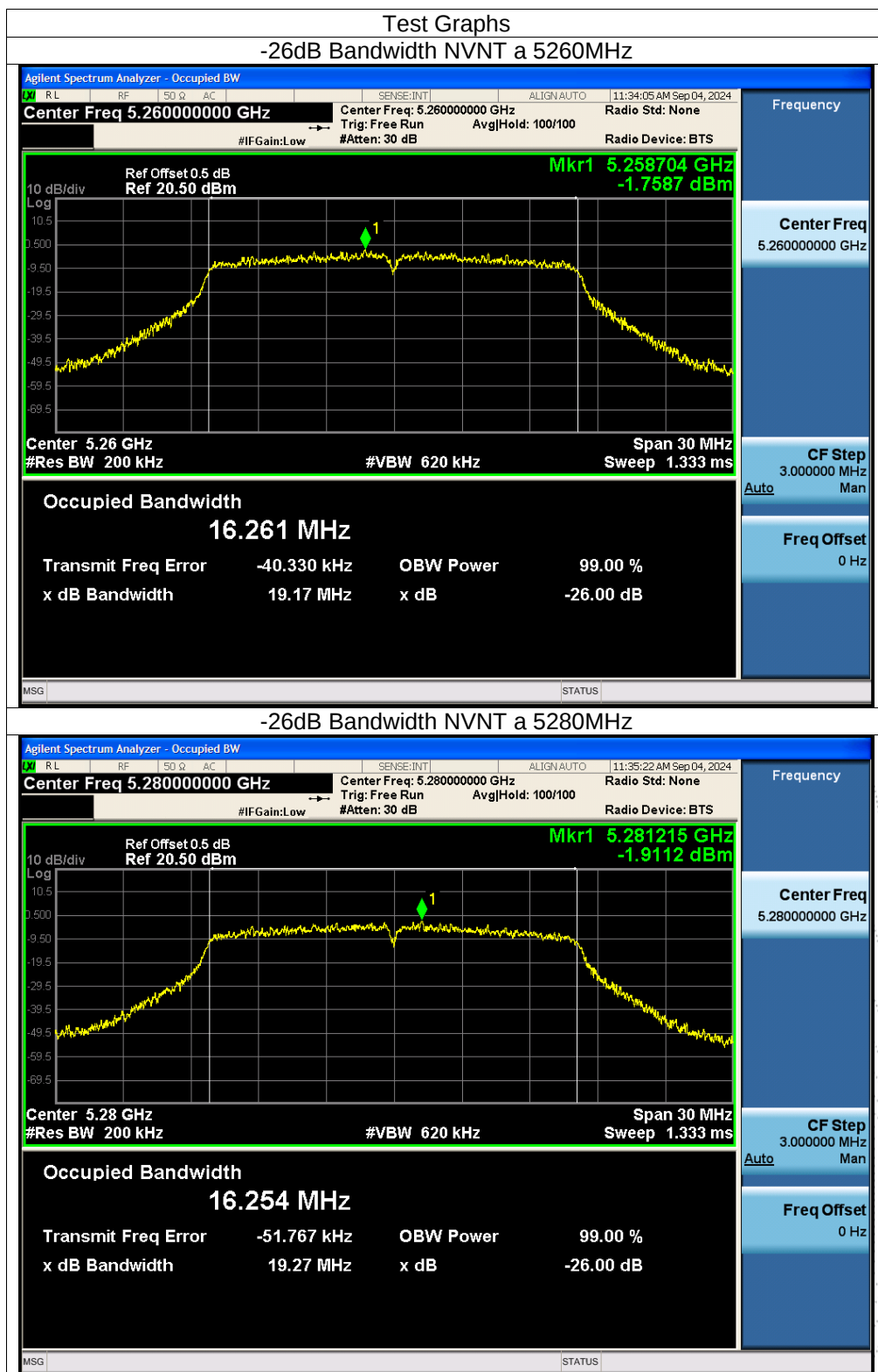


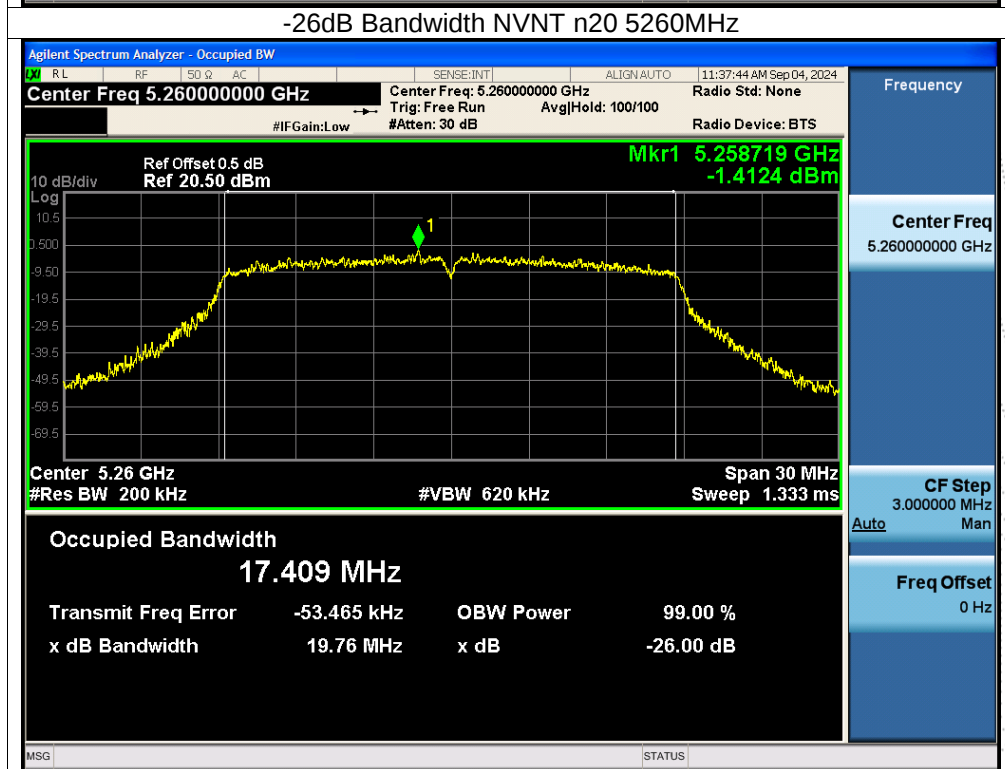
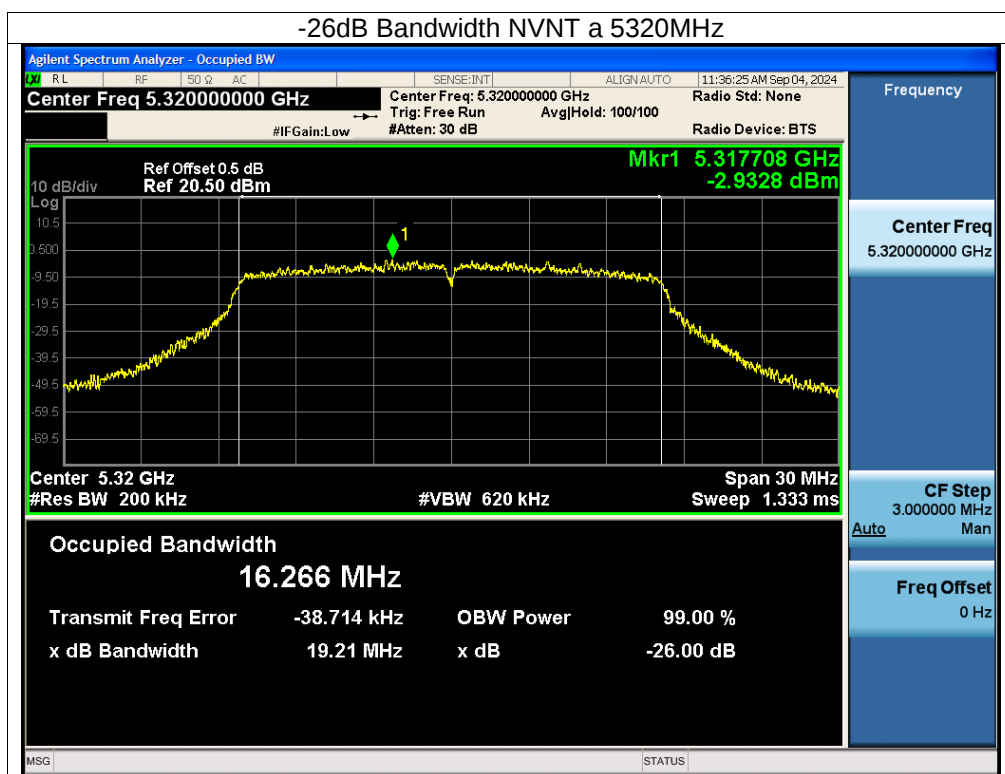


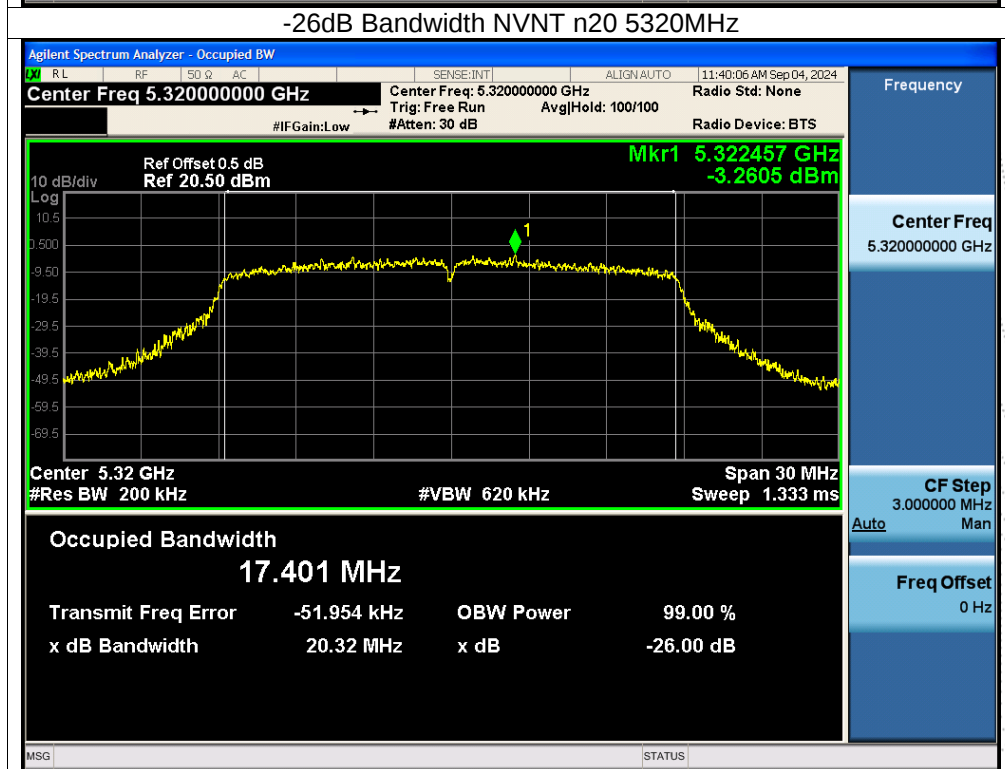
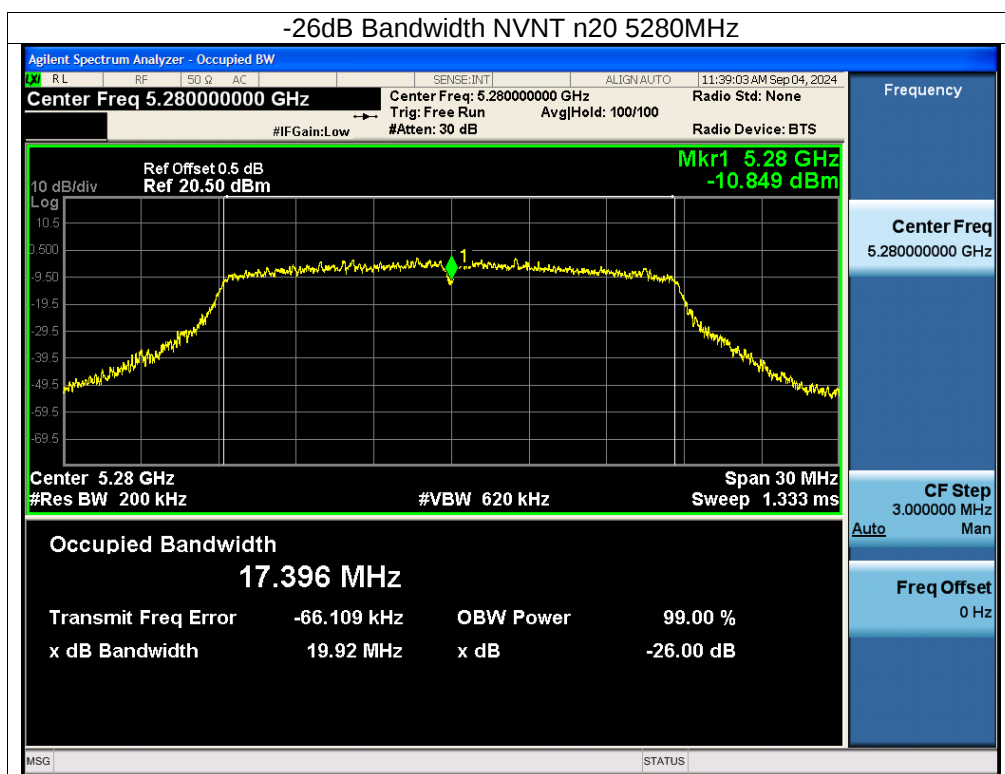
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5260-5320MHz)		

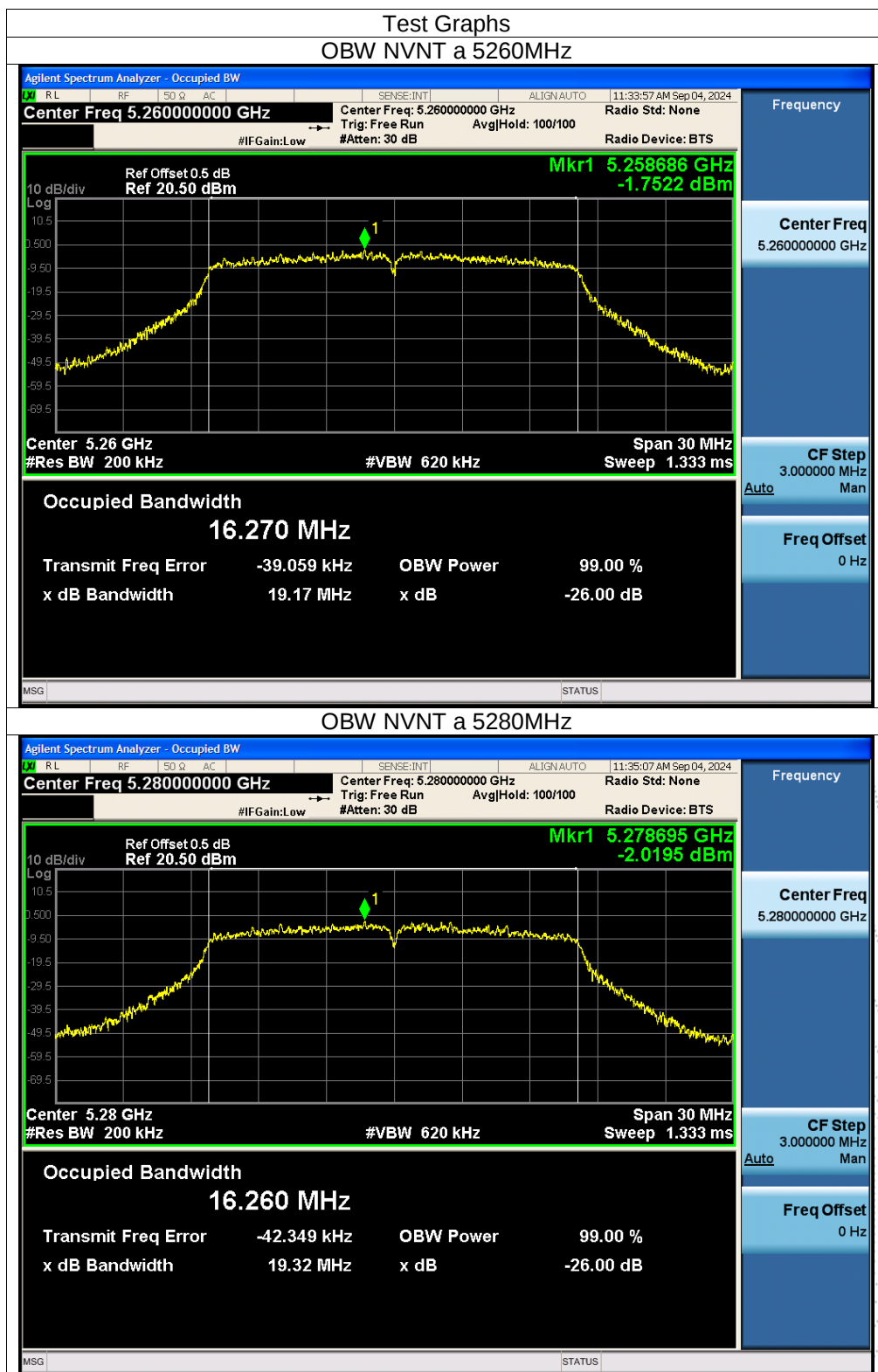
Condition	Mode	Frequency (MHz)	99% OBW (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5260	16.27	19.168	Pass
NVNT	a	5280	16.26	19.268	Pass
NVNT	a	5320	16.263	19.211	Pass
NVNT	n20	5260	17.366	19.757	Pass
NVNT	n20	5280	17.376	19.916	Pass
NVNT	n20	5320	17.395	20.319	Pass

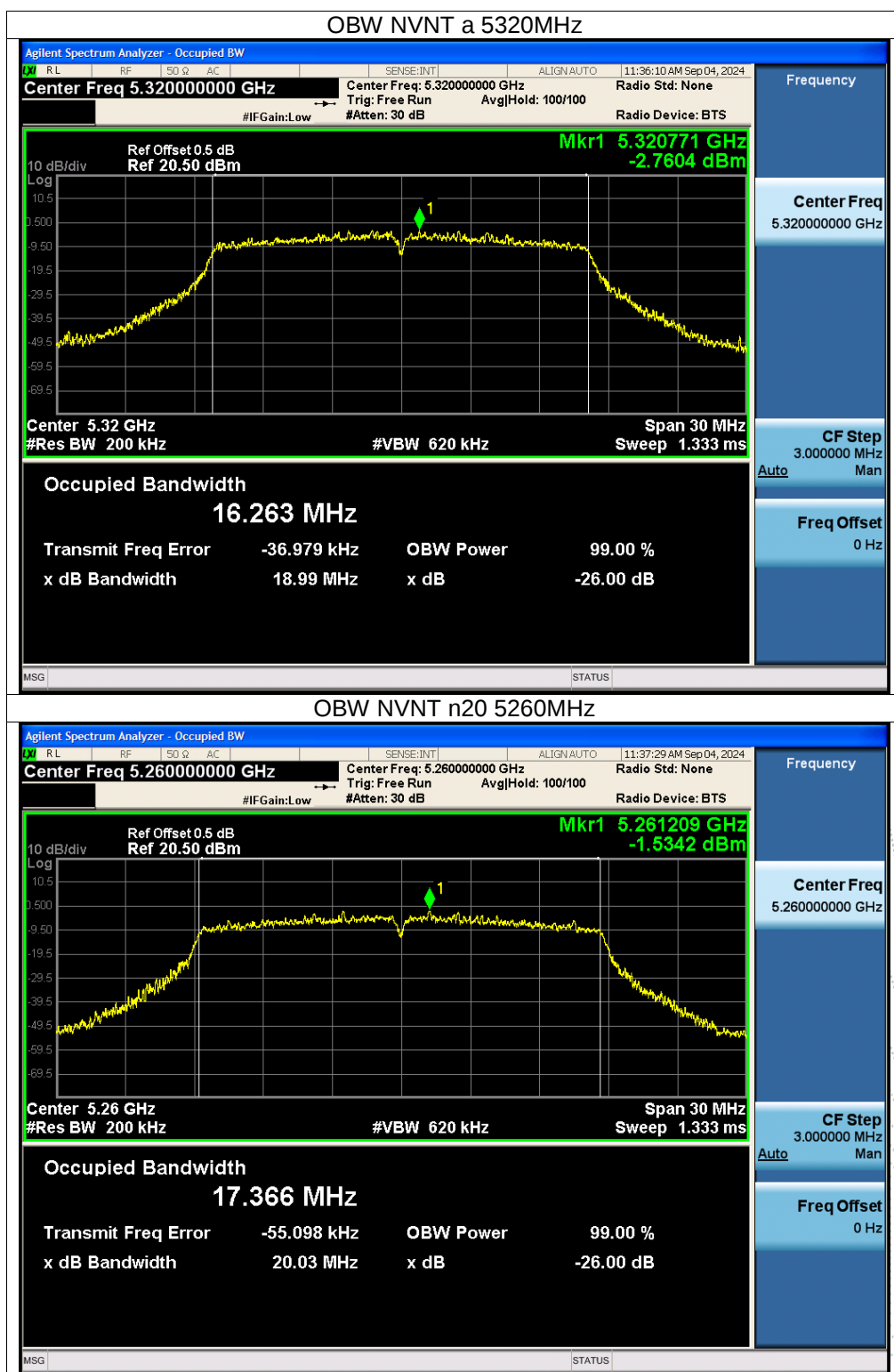


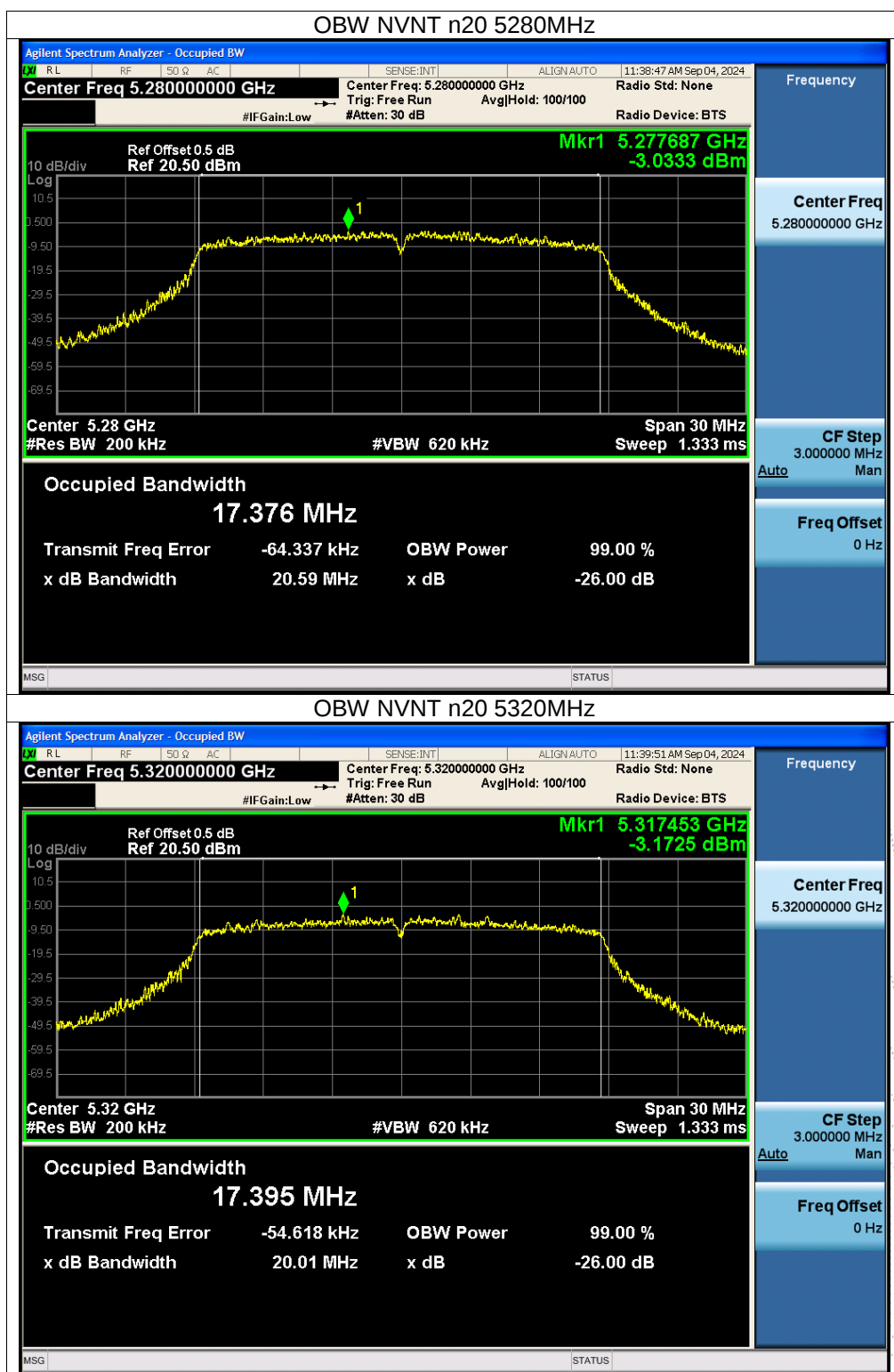












Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5500-5700MHz)		

Condition	Mode	Frequency (MHz)	99% OBW (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5500	16.278	19.459	Pass
NVNT	a	5580	16.273	19.278	Pass
NVNT	a	5700	16.282	19.421	Pass
NVNT	n20	5500	17.451	20.119	Pass
NVNT	n20	5580	17.426	20.442	Pass
NVNT	n20	5700	17.417	20.028	Pass

