RF TEST REPORT

Product Name: Smart Phone

Model Name: K15

FCC ID: R38YLCPK15

Issued For	:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd Floor 21, Block A, Coolpad Building, Nanshan District, ShenZhen, China
Issued By	:	Shenzhen LGT Test Service Co., Ltd. Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT24L062RF13
Sample Received Date:	Dec. 12, 2024
Date of Test:	Dec. 12, 2024 ~ Feb. 11, 2025
Date of Issue:	Feb. 11, 2025

TEST REPORT CERTIFICATION

Applicant:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address:	Floor 21, Block A, Coolpad Building, Nanshan District, Shenzhen, China
Manufacturer:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address:	Floor 21, Block A, Coolpad Building, Nanshan District, Shenzhen, China
Product Name:	Smart Phone
Trademark:	coolpad
Model Name:	K15
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC Part 15.407, Subpart E ANSI C63.10-2013	PASS

Prepared by:

Zane Shan

Zane Shan
Engineer

Approved by:

Vita Li
Technical Director

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Revision History

Rev.	Issue Date	Contents
00	Feb. 11, 2025	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
Part 15.407,KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC Part 15.407		
FCC standard	Test Item	Results
15.207	AC Conducted Emission	PASS
15.407 (a) /15.407 (e)	26dB/6dB &99% Bandwidth	PASS
15.407(a)	Maximum Conducted Output Power	PASS
15.407(b)/15.205/15.209	Radiated Emission And (bandedge Emissions) Measurement	PASS
15.407(a)	Power Spectral Density	PASS
15.407(c)	Automatically Discontinue Transmission	PASS
15.203/15.204	Antenna Requirement	PASS

NOTE:

(1) 'N/A' denotes test is not applicable in this Test Report.

(2) All tests are according to ANSI C63.10-2013.

1.1 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Registration number:	746540
Accreditation Certificate:	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 9K-30MHz	±2.84dB
4	All emissions, radiated 30M-1GHz	±4.39dB
5	All emissions, radiated 1G-6GHz	±5.10dB
6	All emissions, radiated>6G	±5.48dB
7	Conducted Emission (9KHz-150KHz)	±2.79dB
8	Conducted Emission (150KHz-30MHz)	±2.80dB
9	Bandwidth	±10.40KHz
10	PSD	±1.5734dB

Note: The measurement uncertainty is not included in the test result.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name:</td><td>Smart Phone</td></tr>
<tr><td>Trademark:</td><td>coolpad</td></tr>
<tr><td>Model Name:</td><td>K15</td></tr>
<tr><td>Series Model:</td><td>N/A</td></tr>
<tr><td>Model Difference:</td><td>N/A</td></tr>
<tr><td>Product Description:</td><td>
<table>
<tr><td rowspan="2">Operation Frequency:</td><td>IEEE 802.11a/n(HT20)/ac(VHT20): 5.180GHz-5.240GHz
IEEE 802.11n(HT40)/ac(VHT40): 5.190GHz-5.230GHz
IEEE 802.11ac(VHT80): 5.210GHz</td></tr>
<tr><td>IEEE 802.11a/n(HT20)/ac(VHT20): 5.260GHz-5.320GHz
IEEE 802.11 n(HT40)/ac(VHT40): 5.270GHz-5.310GHz
IEEE 802.11ac(VHT80): 5.290GHz</td></tr>
<tr><td>Modulation Type:</td><td>802.11a(OFDM): BPSK, QPSK, 16-QAM, 64-QAM
802.11n(OFDM): BPSK, QPSK, 16-QAM, 64-QAM
802.11ac (OFDM): BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM</td></tr>
<tr><td>Antenna Designation:</td><td>FPC</td></tr>
<tr><td>Antenna Gain(dBi)</td><td>2.39</td></tr>
</table>
More details of EUT technical specification, please refer to the User Manual.
</td></tr>
<tr><td>Test Channel:</td><td>Please refer to the Note 3.</td></tr>
<tr><td>Adapter:</td><td>Input: 100-240V 50/60Hz 0.8A Max
Output: 5V 3A, 9V 3A, 12V 2.75A
PSS: 3.3V~11V 3A 33W Max</td></tr>
<tr><td>Battery:</td><td>Capacity: 4880mAh
Rated Voltage: 3.87V</td></tr>
<tr><td>Hardware Version:</td><td>H897_MB_V1</td></tr>
<tr><td>Software Version:</td><td>N/A</td></tr>
<tr><td>Connecting I/O Port(s):</td><td>Please refer to the Note 1.</td></tr>
</table>

Note

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. The antenna information refers to the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

3.

Operation Frequency of channel			
5.180GHz-5.240GHz		5.260GHz-5.320GHz	
Channel	Frequency	Channel	Frequency
36	5180	52	5260
38	5190	54	5270
40	5200	56	5280
42	5210	58	5290
44	5220	60	5300
46	5230	62	5310
48	5240	64	5320

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:
Carrier Frequency Channel

Channel List for 802.11a/n/ac(20MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	52	5260	--	--	--	--
40	5200	60	5300	--	--	--	--
48	5240	64	5320	--	--	--	--

Channel List for 802.11n/ac(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	54	5270	--	--	--	--
46	5230	62	5310	--	--	--	--
--	--	--	--	--	--	--	--

Channel List for 802.11ac(80MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	58	5290	--	--	--	--
--	--	--	--	--	--	--	--

2.2 DESCRIPTION OF TEST MODES

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.

Worst Mode	Description	Data Rate
Mode 1	TX IEEE 802.11a HT20 CH36&CH40&CH48	6 Mbps
Mode 2	TX IEEE 802.11a HT20 CH52&CH60&CH64	6 Mbps
Mode 3	TX IEEE 802.11n HT20 CH36&CH40&CH48	MCS 0
Mode 4	TX IEEE 802.11ac VHT20 CH36&CH40&CH48	NSS1 MCS0
Mode 5	TX IEEE 802.11n HT20 CH52&CH60&CH64	MCS 0
Mode 6	TX IEEE 802.11ac VHT20 CH52&CH60&CH64	NSS1 MCS0
Mode 7	TX IEEE 802.11n HT40 CH38&CH46	MCS 0
Mode 8	TX IEEE 802.11ac VHT40 CH38&CH46	NSS1 MCS0
Mode 9	TX IEEE 802.11n HT40 CH54 &CH62	MCS 0
Mode 10	TX IEEE 802.11ac VHT40 CH54 &CH62	NSS1 MCS0
Mode 11	TX IEEE 802.11ac VHT80 CH42	NSS1 MCS0
Mode 12	TX IEEE 802.11ac VHT80 CH58	NSS1 MCS0

Note: (1) The measurements are performed at the highest, middle, lowest available channels.

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

(3) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation.

(4) The battery is fully-charged during the radited and RF conducted test.

(5) All 20M,40M bandwidth modes have been tested, and the report only shown the worst mode data

AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 13: TX Mode

2.3 TEST SOFTWARE AND POWER LEVEL

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test software Version	Test program: 5G WIFI B1	
Engineering Mode	Mode Or Modulation type	Power setting
	a	19
	n20	17
	n40	17
	ac20	16
	ac40	16
	ac80	16
Test software Version	Test program: 5G WIFI B2	
Engineering Mode	Mode Or Modulation type	Power setting
	a	17
	n20	17
	n40	17
	ac20	16
	ac40	16
	ac80	16

2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
Adapter	Huizhou Wanzhisheng New Energy Technology Co., Ltd	WS-D053	N/A	Input: 100-240V ~ 50/60Hz 0.8A Output: 5V, 3A/9V,3A/12V,2.75A PPS:3.3V-11V,3A
USB-A to USB-C Cable	N/A	N/A	N/A	1m

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Laptop	Lenovo	HKF-16	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2024.03.09	2025.03.08
LISN	COM-POWER	LI-115	02032	2024.03.09	2025.03.08
LISN	SCHWARZBECK	NNLK 8122	00160	2024.03.09	2025.03.08
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2024.03.09	2025.03.08
Temperature & Humidity	KTJ	TA218B	N.A	2024.03.09	2025.03.08
Testing Software	EMC-I_V1.4.0.3_SKET				

Radiated Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2024.03.09	2025.03.08
Active loop Antenna	ETS	6502	00049544	2023.10.13	2025.10.12
Spectrum Analyzer	Keysight	N9010B	MY60242508	2024.08.05	2025.08.04
Bilog Antenna(30M-1G)	SCHWARZBECK	VULB 9168	2705	2022.12.12	2025.12.11
Horn Antenna(1-18G)	SCHWARZBECK	3115	10SL0060	2022.06.02	2025.06.01
Horn Antenna(18-40G)	A-INFO	LB-180400-KF	J211060273	2022.06.08	2025.06.07
Pre-amplifier(30M-1G)	EMtrace	RP01A	02019	2024.03.09	2025.03.08
Pre-amplifier(1-26.5G)	Agilent	8449B	3008A4722	2024.03.09	2025.03.08
Pre-amplifier(18-40G)	com-mw	LNPA_18-40-01	18050003	2024.03.09	2025.03.08
Wireless Communications Test Set	R&S	CMW 500	137737	2024.03.09	2025.03.08
Antenna Tower	SAEMC	BK-4AT-BS-D	SK2021093008	N.A	N.A
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2024.03.11	2025.03.10
Testing Software	EMC-I_V1.4.0.3_SKET				

RF Conducted Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
Signal Analyzer	Keysight	N9010B	MY60242508	2024.08.05	2025.08.04
Signal Analyzer	Keysight	N9020A	MY50530994	2024.03.09	2025.03.08
RF Automatic Test system	MW	MW100-RFCB	MW220322LG-033	2024.03.09	2025.03.08
MXG Vector Signal Generator	Keysight	N5182B	MY59100717	2024.03.09	2025.03.08
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2024.03.09	2025.03.08
Attenuator	eastsheep	90db	N.A	2024.03.09	2025.03.08
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2024.03.11	2025.03.10
Digital multimeter	MASTECH	MS8261	MBGBC83053	2024.03.09	2025.03.08
Testing Software	MTS8310_V2.0.0.0_MW				

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class B (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	56.00	46.00	CISPR
5.0 -30.0	60.00	50.00	CISPR

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

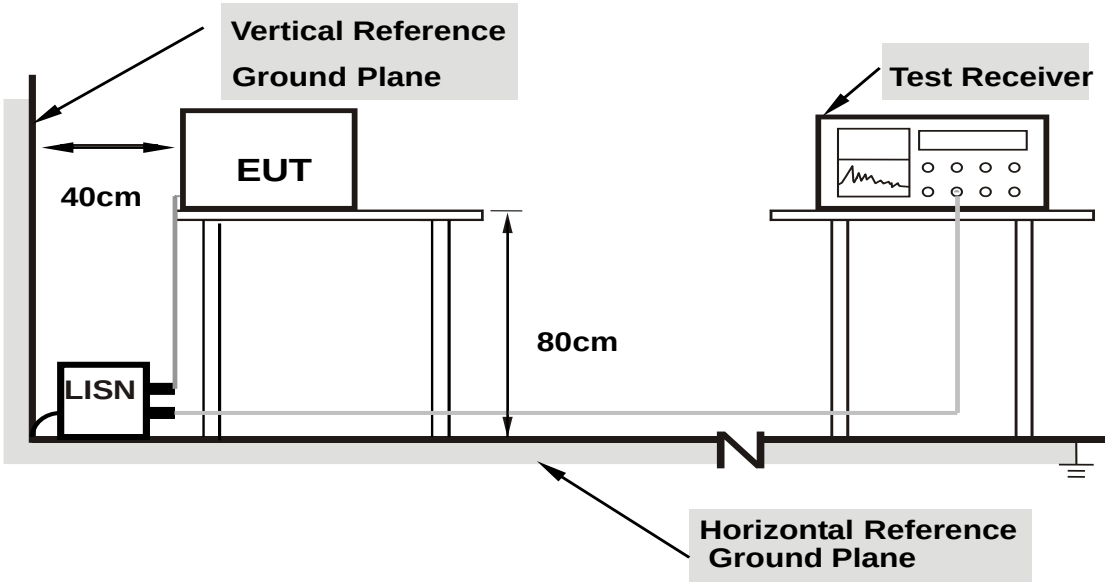
3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1. Support units were connected to second LISN.

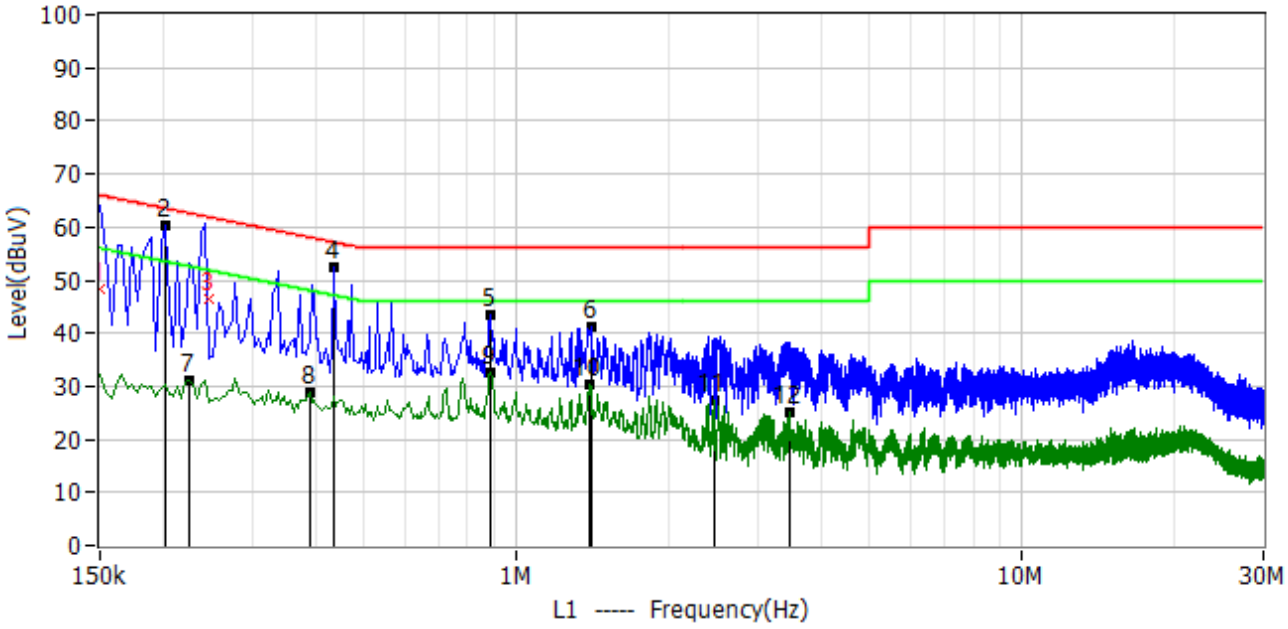
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.5 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.

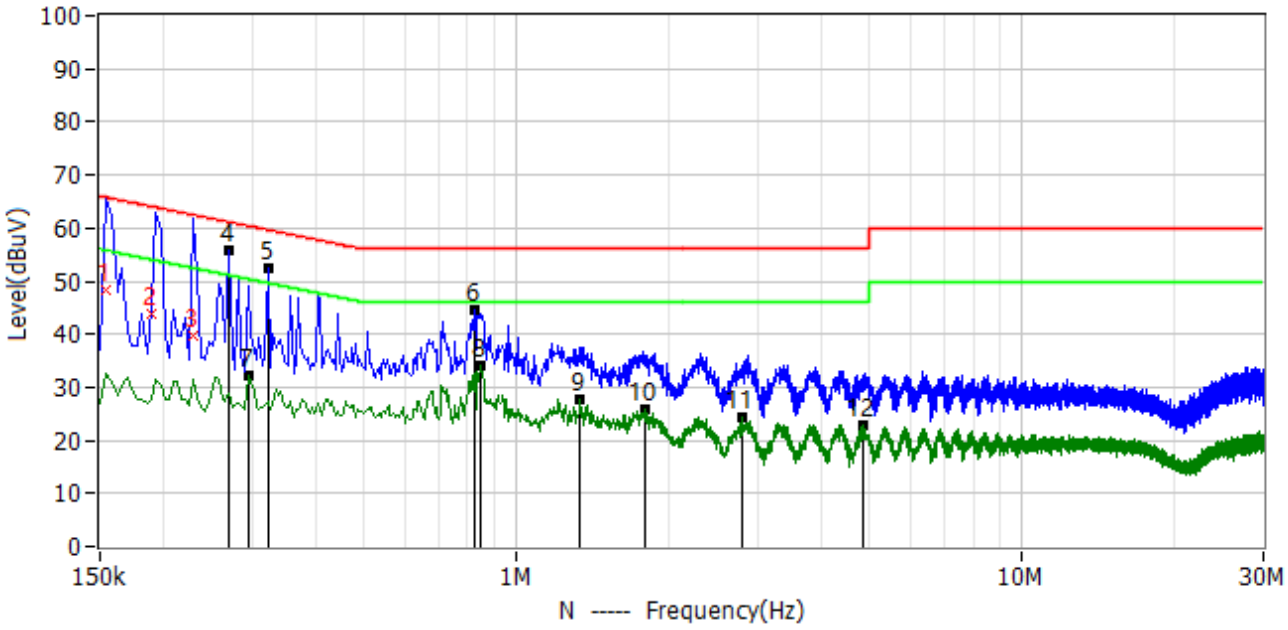
3.1.6 TEST RESULTS

Project: LGT24L062	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 22.5℃
M/N: K15	Humidity: 35%RH
Test Voltage: AC 120V/60Hz	Test Data: 2024-12-18
Test Mode: TX 802.11a 5180	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1	0.150	37.76	10.60	48.36	66.00	-17.64	QP	L1
2*	0.202	49.59	10.62	60.21	63.53	-3.31	QP	L1
3	0.246	35.98	10.60	46.58	61.89	-15.31	QP	L1
4*	0.434	41.84	10.57	52.41	57.18	-4.76	QP	L1
5*	0.886	32.76	10.64	43.40	56.00	-12.60	QP	L1
6*	1.402	30.28	10.81	41.09	56.00	-14.91	QP	L1
7*	0.226	20.65	10.61	31.26	52.60	-21.34	AV	L1
8*	0.390	18.14	10.56	28.70	48.06	-19.36	AV	L1
9*	0.890	22.04	10.64	32.68	46.00	-13.32	AV	L1
10*	1.390	19.58	10.81	30.39	46.00	-15.61	AV	L1
11*	2.458	16.34	11.08	27.42	46.00	-18.58	AV	L1
12*	3.458	14.03	11.17	25.20	46.00	-20.80	AV	L1

Project: LGT24L062	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 22.5℃
M/N: K15	Humidity: 35%RH
Test Voltage: AC 120V/60Hz	Test Data: 2024-12-18
Test Mode: TX 802.11a 5180	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1	0.154	37.62	10.60	48.22	65.78	-17.56	QP	N
2	0.190	33.28	10.60	43.88	64.04	-20.15	QP	N
3	0.230	29.05	10.60	39.65	62.45	-22.80	QP	N
4*	0.270	45.09	10.58	55.67	61.12	-5.45	QP	N
5*	0.322	42.01	10.59	52.60	59.66	-7.06	QP	N
6*	0.826	33.87	10.55	44.42	56.00	-11.58	QP	N
7*	0.294	21.44	10.59	32.03	50.41	-18.38	AV	N
8*	0.846	23.57	10.55	34.12	46.00	-11.88	AV	N
9*	1.338	17.27	10.61	27.88	46.00	-18.12	AV	N
10*	1.798	15.29	10.72	26.01	46.00	-19.99	AV	N
11*	2.798	13.43	10.78	24.21	46.00	-21.79	AV	N
12*	4.862	11.93	10.84	22.77	46.00	-23.23	AV	N

3.2 RADIATED EMISSION AND (BANDEDGE) MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

In case the emission fall within the restricted band specified on 15.407(b)7&15.205/209(a), then the limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	68.2	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15E.

(2) The tighter limit applies at the band edges.

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

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

Note: In case the emission radiated emission above 1000MHz fall within the restricted band the restricted frequency bands, the peak limit is 74 dBuV/m.

LIMITS OF EMISSIONS OUTSIDE OF THE FREQUENCY BANDS

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note: dBuV/m(at 3M) = EIRP(dBm) + 95.2.

Peak Limit = -27dBm/MHz + 95.2 = 68.2 dBuV/m.

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier harmonic (Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

For Band edge

Spectrum Parameter	Setting
Detector	Peak
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization 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 QuasiPeak detector mode will be re-measured.
e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

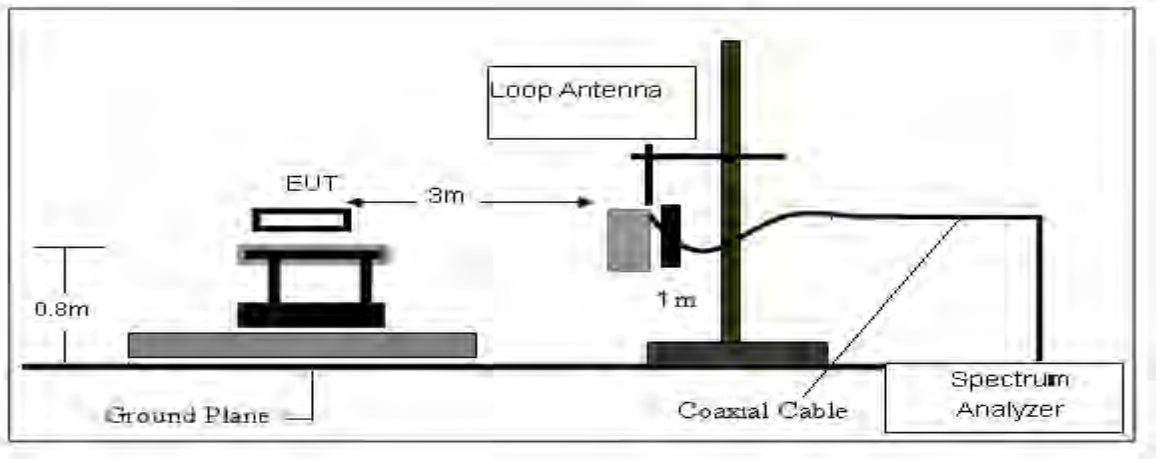
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.2 DEVIATION FROM TEST STANDARD

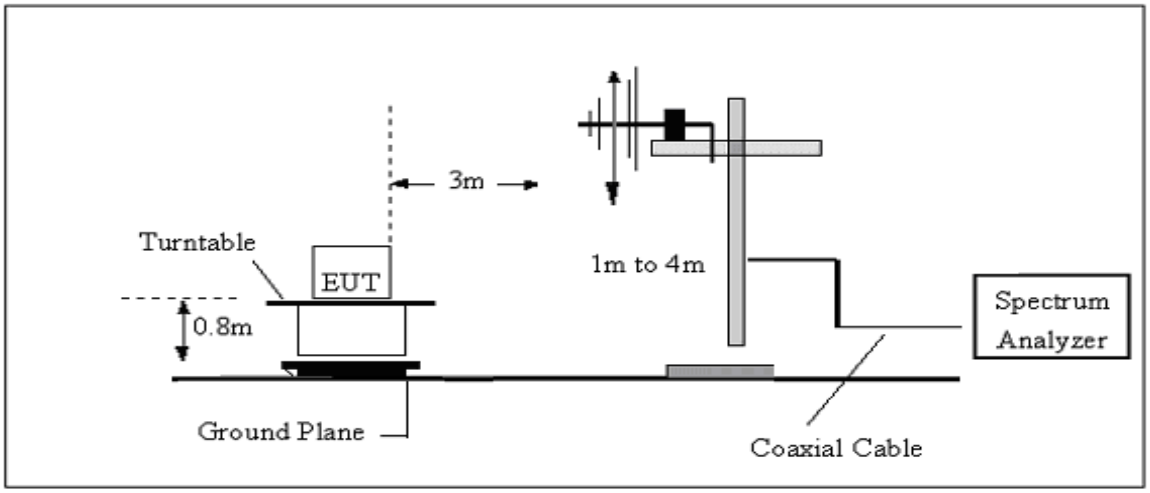
No deviation

3.2.3 TEST SETUP

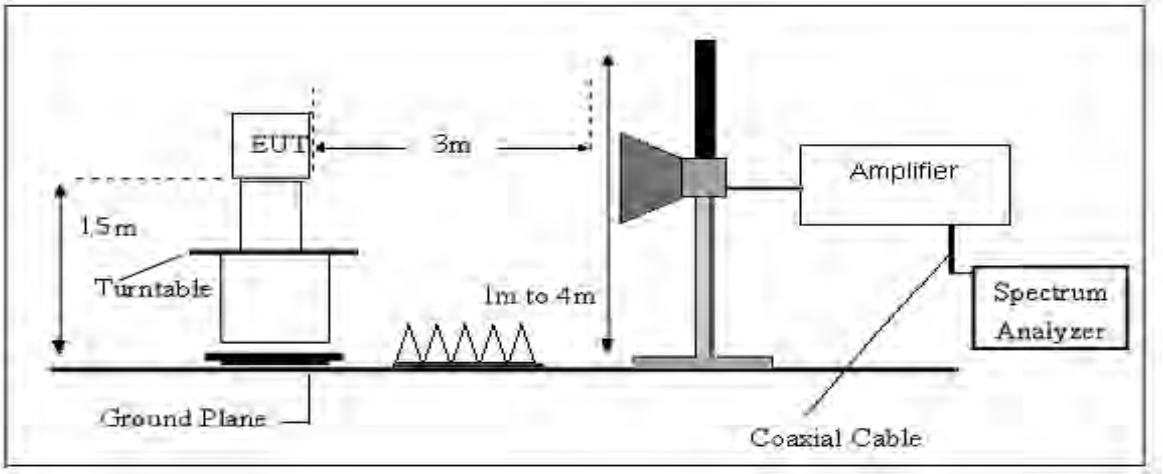
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:
FS = RA + AF + CL - AG
Where
FS = Field Strength
CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude
AG = Amplifier Gain
AF = Antenna Factor
For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG

3.2.6 TEST RESULTS

Results of Radiated Emissions (9 KHz~30MHz)

No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Remark
1*	-	-	-	-	-	-	-	See Note

Note:

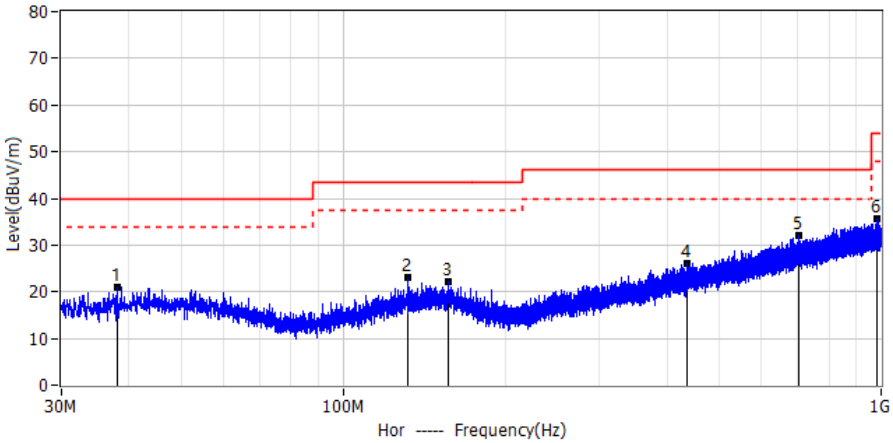
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

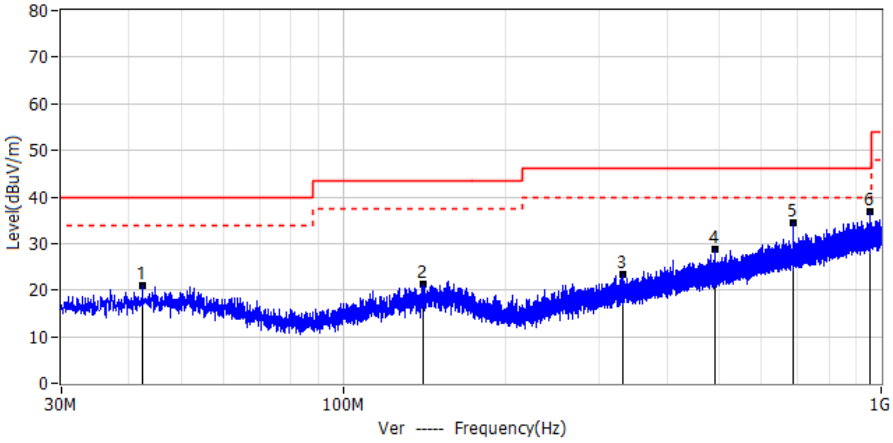
Limit line = specific limits (dBuV) + distance extrapolation factor.

Results of Radiated Emissions (30MHz~1000MHz)

Project: LGT24L062	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 23.8℃
M/N: K15	Humidity: 47%RH
Test Voltage: Battery	Test Data: 2024-12-18
Test Mode: TX 802.11a 5180	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	38.003	37.43	-16.47	20.96	40.00	-19.04	QP	Hor
2*	131.996	36.98	-14.05	22.93	43.50	-20.57	QP	Hor
3*	156.925	34.99	-12.85	22.14	43.50	-21.36	QP	Hor
4*	436.527	36.36	-10.32	26.04	46.00	-19.96	QP	Hor
5*	704.102	35.92	-4.00	31.92	46.00	-14.08	QP	Hor
6*	981.764	35.22	0.33	35.55	54.00	-18.45	QP	Hor



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	42.368	36.44	-15.61	20.83	40.00	-19.17	QP	Ver
2*	140.968	34.66	-13.38	21.28	43.50	-22.22	QP	Ver
3*	331.913	36.74	-13.26	23.48	46.00	-22.52	QP	Ver
4*	492.448	37.67	-8.94	28.73	46.00	-17.27	QP	Ver
5*	687.515	39.12	-4.72	34.40	46.00	-11.60	QP	Ver
6*	952.907	36.76	-0.00	36.76	46.00	-9.24	QP	Ver

Results of Radiated Emissions (Above 1000MHz)

Band I(5.15-5.25) GHz							
Frequency (MHz)	Reading (dBμV)	Corrected Factor (dB)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector	Polarity
Low Channel (802.11/ 5180 MHz)							
3982.26	53.34	-6.89	46.45	74.00	-27.55	PK	Vertical
3982.26	42.76	-6.89	35.87	54.00	-18.13	AV	Vertical
3989.44	52.41	-6.89	45.52	74.00	-28.48	PK	Horizontal
3989.44	42.57	-6.89	35.68	54.00	-18.32	AV	Horizontal
8923.99	53.51	-3.80	49.71	68.20	-18.49	PK	Vertical
8923.99	43.36	-3.80	39.56	54.00	-14.44	AV	Vertical
8922.70	53.76	-3.80	49.96	68.20	-18.24	PK	Horizontal
8922.70	43.49	-3.80	39.69	54.00	-14.31	AV	Horizontal
10360.09	55.11	-2.92	52.19	68.20	-16.01	PK	Vertical
10360.09	45.45	-2.92	42.53	54.00	-11.47	AV	Vertical
10359.98	55.79	-2.92	52.87	68.20	-15.33	PK	Horizontal
10359.98	45.41	-2.92	42.49	54.00	-11.51	AV	Horizontal
13290.89	54.42	-0.67	53.75	74.00	-20.25	PK	Vertical
13290.89	44.07	-0.67	43.40	54.00	-10.60	AV	Vertical
13283.09	53.80	-0.67	53.13	74.00	-20.87	PK	Horizontal
13283.09	44.28	-0.67	43.61	54.00	-10.39	AV	Horizontal
Mid Channel (802.11/ 5200 MHz)							
3984.11	53.17	-6.89	46.28	74.00	-27.72	PK	Vertical
3984.11	42.35	-6.89	35.46	54.00	-18.54	AV	Vertical
3992.07	52.69	-6.89	45.80	74.00	-28.20	PK	Horizontal
3992.07	42.37	-6.89	35.48	54.00	-18.52	AV	Horizontal
7220.25	54.34	-3.80	50.54	68.20	-17.66	PK	Vertical
7220.25	43.76	-3.80	39.96	54.00	-14.04	AV	Vertical
7232.41	53.20	-3.80	49.40	68.20	-18.80	PK	Horizontal
7232.41	43.70	-3.80	39.90	54.00	-14.10	AV	Horizontal
10400.03	55.85	-2.92	52.93	68.20	-15.27	PK	Vertical
10400.03	44.42	-2.92	41.50	54.00	-12.50	AV	Vertical
10400.11	56.23	-2.92	53.31	68.20	-14.89	PK	Horizontal
10400.11	45.02	-2.92	42.10	54.00	-11.90	AV	Horizontal
13285.75	53.95	-0.67	53.28	74.00	-20.72	PK	Vertical
13285.75	44.80	-0.67	44.13	54.00	-9.87	AV	Vertical
13280.88	54.86	-0.67	54.19	74.00	-19.81	PK	Horizontal
13280.88	44.86	-0.67	44.19	54.00	-9.81	AV	Horizontal
High Channel (802.11/ 5240 MHz)							
3987.82	52.26	-6.89	45.37	74.00	-28.63	PK	Vertical
3987.82	42.08	-6.89	35.19	54.00	-18.81	AV	Vertical
3994.86	52.41	-6.89	45.52	74.00	-28.48	PK	Horizontal
3994.86	42.07	-6.89	35.18	54.00	-18.82	AV	Horizontal
7233.94	53.25	-3.80	49.45	68.20	-18.75	PK	Vertical
7233.94	43.78	-3.80	39.98	54.00	-14.02	AV	Vertical
7229.10	53.88	-3.80	50.08	68.20	-18.12	PK	Horizontal
7229.10	44.03	-3.80	40.23	54.00	-13.77	AV	Horizontal
10480.38	56.41	-2.92	53.49	68.20	-14.71	PK	Vertical
10480.38	44.08	-2.92	41.16	54.00	-12.84	AV	Vertical
10480.09	55.53	-2.92	52.61	68.20	-15.59	PK	Horizontal
10480.09	44.67	-2.92	41.75	54.00	-12.25	AV	Horizontal
13291.19	53.51	-0.67	52.84	74.00	-21.16	PK	Vertical
13291.19	44.96	-0.67	44.29	54.00	-9.71	AV	Vertical
13298.33	54.36	-0.67	53.69	74.00	-20.31	PK	Horizontal
13298.33	44.71	-0.67	44.04	54.00	-9.96	AV	Horizontal

Band II(5.25-5.35) GHz							
Frequency (MHz)	Reading (dBμV)	Corrected Factor (dB)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector	Polarity
Low Channel (802.11/ 5260 MHz)							
3998.98	52.63	-6.89	45.74	74.00	-28.26	PK	Vertical
3998.98	43.12	-6.89	36.23	54.00	-17.77	AV	Vertical
3987.72	53.45	-6.89	46.56	74.00	-27.44	PK	Horizontal
3987.72	42.53	-6.89	35.64	54.00	-18.36	AV	Horizontal
8920.25	53.63	-3.80	49.83	68.20	-18.37	PK	Vertical
8920.25	43.50	-3.80	39.70	54.00	-14.30	AV	Vertical
8919.02	54.33	-3.80	50.53	68.20	-17.67	PK	Horizontal
8919.02	43.14	-3.80	39.34	54.00	-14.66	AV	Horizontal
10520.15	55.06	-2.92	52.14	68.20	-16.06	PK	Vertical
10520.15	44.67	-2.92	41.75	54.00	-12.25	AV	Vertical
10520.41	56.02	-2.92	53.10	68.20	-15.10	PK	Horizontal
10520.41	45.10	-2.92	42.18	54.00	-11.82	AV	Horizontal
13283.01	53.99	-0.67	53.32	74.00	-20.68	PK	Vertical
13283.01	44.08	-0.67	43.41	54.00	-10.59	AV	Vertical
13285.09	54.16	-0.67	53.49	74.00	-20.51	PK	Horizontal
13285.09	44.18	-0.67	43.51	54.00	-10.49	AV	Horizontal
Mid Channel (802.11/ 5300 MHz)							
4000.09	53.08	-6.89	46.19	74.00	-27.81	PK	Vertical
4000.09	43.49	-6.89	36.60	54.00	-17.40	AV	Vertical
3997.15	52.52	-6.89	45.63	74.00	-28.37	PK	Horizontal
3997.15	42.80	-6.89	35.91	54.00	-18.09	AV	Horizontal
8909.98	53.73	-3.80	49.93	68.20	-18.27	PK	Vertical
8909.98	43.50	-3.80	39.70	54.00	-14.30	AV	Vertical
8926.33	54.30	-3.80	50.50	68.20	-17.70	PK	Horizontal
8926.33	43.51	-3.80	39.71	54.00	-14.29	AV	Horizontal
10600.32	55.88	-2.92	52.96	74.00	-21.04	PK	Vertical
10600.32	44.65	-2.92	41.73	54.00	-12.27	AV	Vertical
10600.33	55.32	-2.92	52.40	74.00	-21.60	PK	Horizontal
10600.33	44.02	-2.92	41.10	54.00	-12.90	AV	Horizontal
13296.99	54.94	-0.67	54.27	74.00	-19.73	PK	Vertical
13296.99	43.91	-0.67	43.24	54.00	-10.76	AV	Vertical
13283.84	53.84	-0.67	53.17	74.00	-20.83	PK	Horizontal
13283.84	43.73	-0.67	43.06	54.00	-10.94	AV	Horizontal
High Channel (802.11/ 5320 MHz)							
3987.08	53.16	-6.89	46.27	74.00	-27.73	PK	Vertical
3987.08	42.72	-6.89	35.83	54.00	-18.17	AV	Vertical
3992.21	52.28	-6.89	45.39	74.00	-28.61	PK	Horizontal
3992.21	42.64	-6.89	35.75	54.00	-18.25	AV	Horizontal
8918.61	54.48	-3.80	50.68	68.20	-17.52	PK	Vertical
8918.61	44.22	-3.80	40.42	54.00	-13.58	AV	Vertical
8916.57	53.84	-3.80	50.04	68.20	-18.16	PK	Horizontal
8916.57	43.23	-3.80	39.43	54.00	-14.57	AV	Horizontal
10640.15	55.36	-2.92	52.44	74.00	-21.56	PK	Vertical
10640.15	45.30	-2.92	42.38	54.00	-11.62	AV	Vertical
10640.18	55.97	-2.92	53.05	74.00	-20.95	PK	Horizontal
10640.18	45.28	-2.92	42.36	54.00	-11.64	AV	Horizontal
13295.11	54.96	-0.67	54.29	74.00	-19.71	PK	Vertical
13295.11	44.23	-0.67	43.56	54.00	-10.44	AV	Vertical
13287.54	53.95	-0.67	53.28	74.00	-20.72	PK	Horizontal
13287.54	43.89	-0.67	43.22	54.00	-10.78	AV	Horizontal

Remark:
In frequency ranges 18~25GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less than 20dB below the limit. No recording in the test report.

3.2.7 TEST RESULTS(Band edge Requirements)

Band I& Band 2 (5.15-5.35) GHz							
Frequency (MHz)	Reading (dBμV)	Corrected Factor (dB）	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector	Polarity
802.11n BW20MHz							
5150	56.22	-7.51	48.71	74	-25.29	PK	Vertical
5150	45.17	-7.51	37.66	54	-16.34	AV	Vertical
5150	55.67	-7.51	48.16	74	-25.84	PK	Horizontal
5150	45.01	-7.51	37.50	54	-16.50	AV	Horizontal
5350	54.89	-8.19	46.70	74	-27.30	PK	Vertical
5350	44.28	-8.19	36.09	54	-17.91	AV	Vertical
5350	55.45	-8.19	47.26	74	-26.74	PK	Horizontal
5350	44.30	-8.19	36.11	54	-17.89	AV	Horizontal
802.11n BW40MHz							
5150	55.85	-7.51	48.34	74	-25.66	Peak	Vertical
5150	45.15	-7.51	37.64	54	-16.36	AVG	Vertical
5150	56.24	-7.51	48.73	74	-25.27	Peak	Horizontal
5150	44.92	-7.51	37.41	54	-16.59	AVG	Horizontal
5350	55.14	-8.19	46.95	74	-27.05	Peak	Vertical
5350	44.31	-8.19	36.12	54	-17.88	AVG	Vertical
5350	54.40	-8.19	46.21	74	-27.79	Peak	Horizontal
5350	44.33	-8.19	36.14	54	-17.86	AVG	Horizontal
802.11ac BW80MHz							
5150	56.36	-7.51	48.85	74	-25.15	Peak	Vertical
5150	44.15	-7.51	36.64	54	-17.36	AVG	Vertical
5150	55.02	-7.51	47.51	74	-26.49	Peak	Horizontal
5150	44.81	-7.51	37.30	54	-16.70	AVG	Horizontal
5350	54.87	-8.19	46.68	74	-27.32	Peak	Vertical
5350	43.71	-8.19	35.52	54	-18.48	AVG	Vertical
5350	54.76	-8.19	46.57	74	-27.43	Peak	Horizontal
5350	44.60	-8.19	36.41	54	-17.59	AVG	Horizontal

4. POWER SPECTRAL DENSITY TEST

4.1 LIMIT

1. For mobile and portable 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.
2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, 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 5.725-5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500KHz band. If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.2 TEST PROCEDURE

1. The setting follows Method SA-1 of FCC KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

For devices operating in the band, 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 ≥ 1/*T*, where *T* is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

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

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP

4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS

For the measurement records, refer to the appendix I.

5. BANDWIDTH MEASUREMENT

5.1 EMISSION BANDWIDTH (EBW) 26 BANDWID PROCEDURES / LIMIT

The following procedure shall be used for measuring 26 bandwidth.

5.1.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > =RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 dB down from the peak 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%.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 TEST RESULTS

For the measurement records, refer to the appendix I.

5.2 OCCUPIED BANDWIDTH (99%) TEST APPLIED PROCEDURES / LIMIT

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

5.2.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v02r01.
The following procedure shall be used for measuring (99 %) power bandwidth:
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · 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.

5.2.2 DEVIATION FROM STANDARD

No deviation.

5.2.3 TEST SETUP

5.2.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.2.5 TEST RESULTS

For the measurement records, refer to the appendix I.

5.3 MINIMUM EMISSION BANDWIDTH(6 DB) PROCEDURES / LIMIT

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth.

5.3.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v02r01.
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.3.2 DEVIATION FROM STANDARD

No deviation.

5.3.3 TEST SETUP

5.3.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.3.5 TEST RESULTS

For the measurement records, refer to the appendix I.

6. MAXIMUM CONDUCTED OUTPUT POWER

6.1 LIMIT

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. 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 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,If transmitting antennas of directional gain greater than 6 dBi are used.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used.

FCC Part15 (15.407) , Subpart E				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.407(a) (1) (iv)	Output Power	0.25 watt	5150-5250	PASS
		The lesser of 250 mW or 11 dBm + 10 log (26 dB emission bandwidth)	5250-5350 5470-5725	
15.407(a) (3)		1 watt	5725-5825	

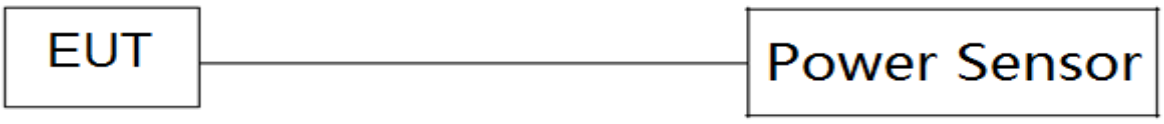
6.2 TEST PROCEDURE

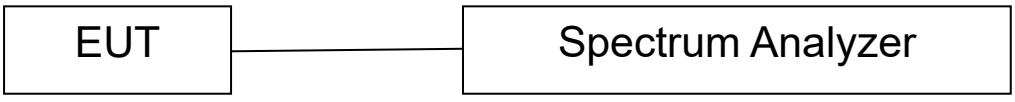
The EUT was directly connected to the Power Sensor&PC

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP





6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 5 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULTS

For the measurement records, refer to the appendix I.

7. AUTOMATICALLY DISCONTINUE TRANSMISSION

7.1 LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

7.2 TEST RESULT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission

8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

Part 15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

8.2 EUT ANTENNA

The EUT antenna is FPC Antenna. It comply with the standard requirement.

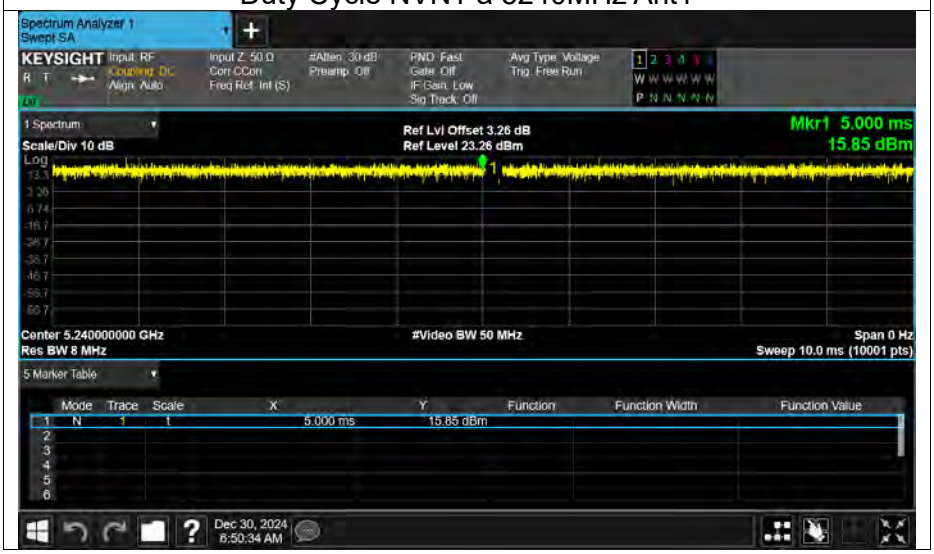
APPENDIX I - TEST RESULTS

Duty Cycle

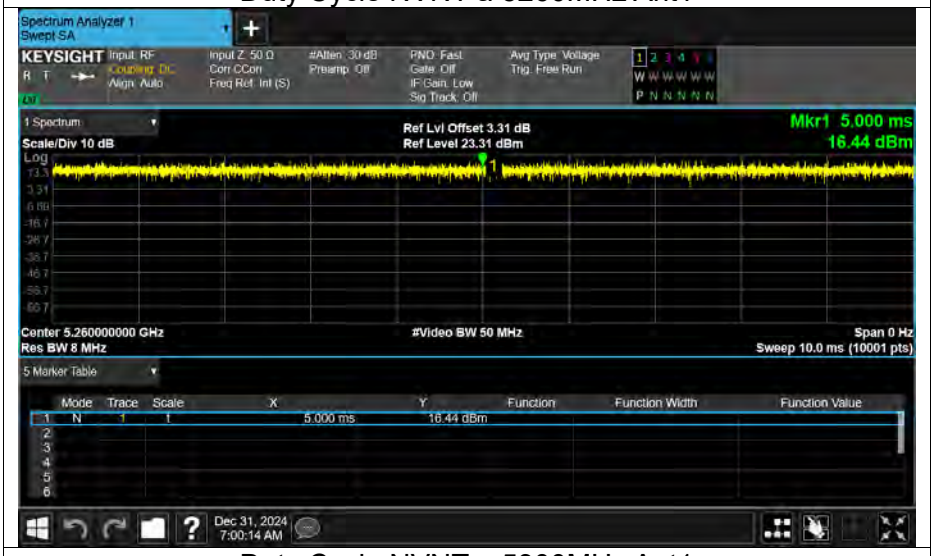
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	100	0	0.01
NVNT	a	5200	Ant1	100	0	0.01
NVNT	a	5240	Ant1	100	0	0.01
NVNT	a	5260	Ant1	100	0	0.01
NVNT	a	5300	Ant1	100	0	0.01
NVNT	a	5320	Ant1	100	0	0.01
NVNT	n20	5180	Ant1	100	0	0.01
NVNT	n20	5200	Ant1	100	0	0.01
NVNT	n20	5240	Ant1	100	0	0.01
NVNT	n20	5260	Ant1	100	0	0.01
NVNT	n20	5300	Ant1	100	0	0.01
NVNT	n20	5320	Ant1	100	0	0.01
NVNT	n40	5190	Ant1	100	0	0.01
NVNT	n40	5230	Ant1	100	0	0.01
NVNT	n40	5270	Ant1	100	0	0.01
NVNT	n40	5310	Ant1	100	0	0.01
NVNT	ac20	5180	Ant1	100	0	0.01
NVNT	ac20	5200	Ant1	100	0	0.01
NVNT	ac20	5240	Ant1	100	0	0.01
NVNT	ac20	5260	Ant1	100	0	0.01
NVNT	ac20	5300	Ant1	100	0	0.01
NVNT	ac20	5320	Ant1	100	0	0.01
NVNT	ac40	5190	Ant1	100	0	0.01
NVNT	ac40	5230	Ant1	100	0	0.01
NVNT	ac40	5270	Ant1	100	0	0.01
NVNT	ac40	5310	Ant1	100	0	0.01
NVNT	ac80	5210	Ant1	100	0	0.01
NVNT	ac80	5290	Ant1	100	0	0.01

Test Graphs
Duty Cycle NVNT a 5180MHz Ant1

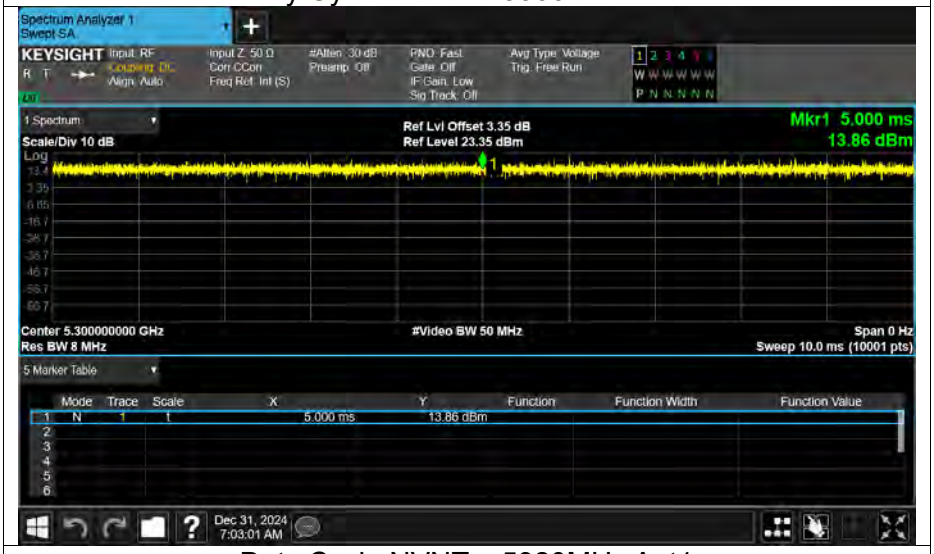
Duty Cycle NVNT a 5200MHz Ant1

Duty Cycle NVNT a 5240MHz Ant1


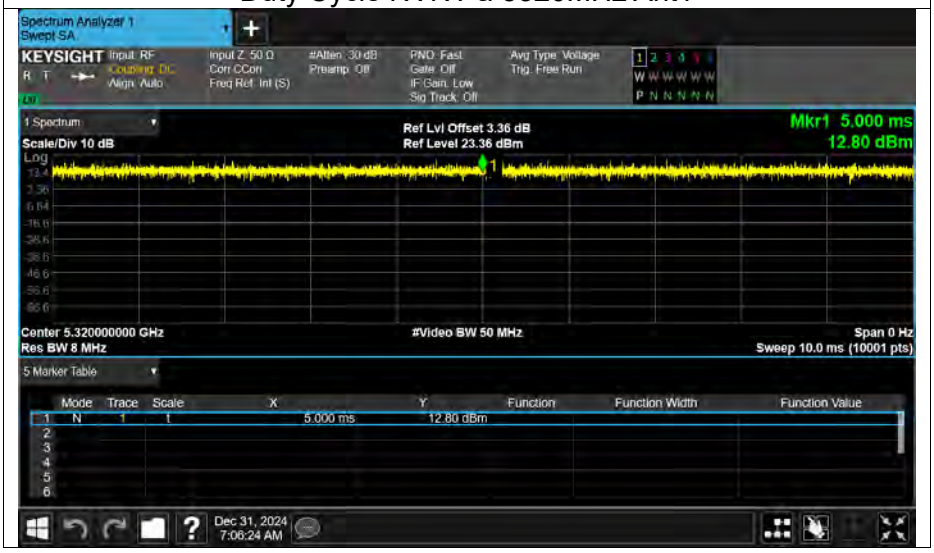
Duty Cycle NVNT a 5260MHz Ant1



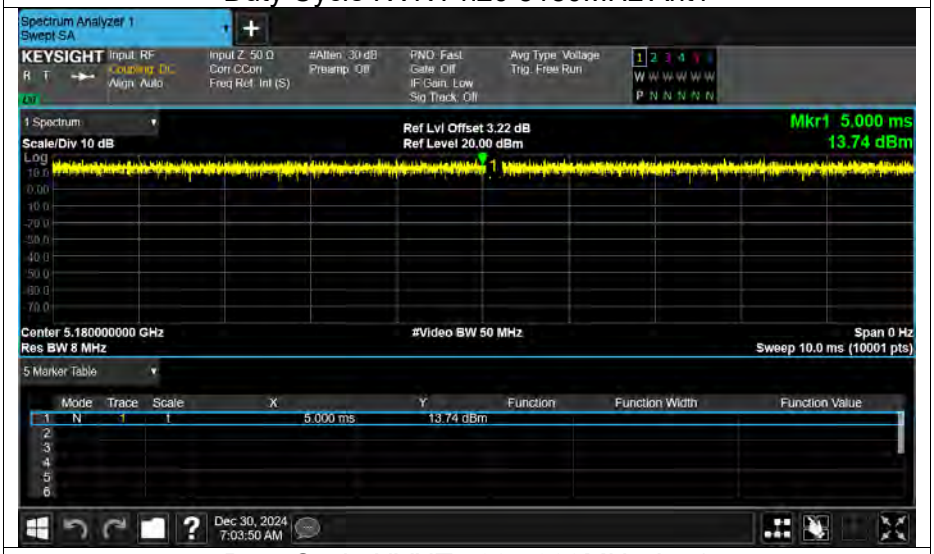
Duty Cycle NVNT a 5300MHz Ant1



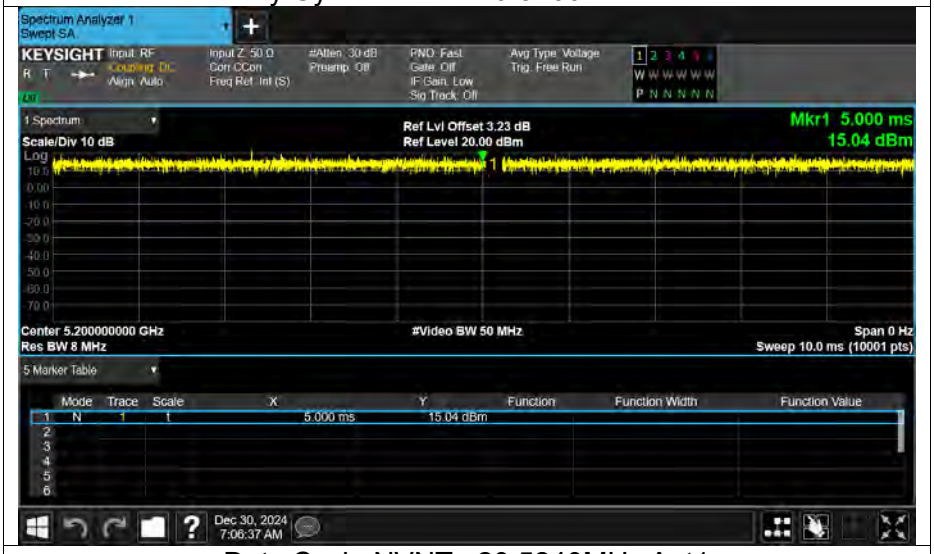
Duty Cycle NVNT a 5320MHz Ant1



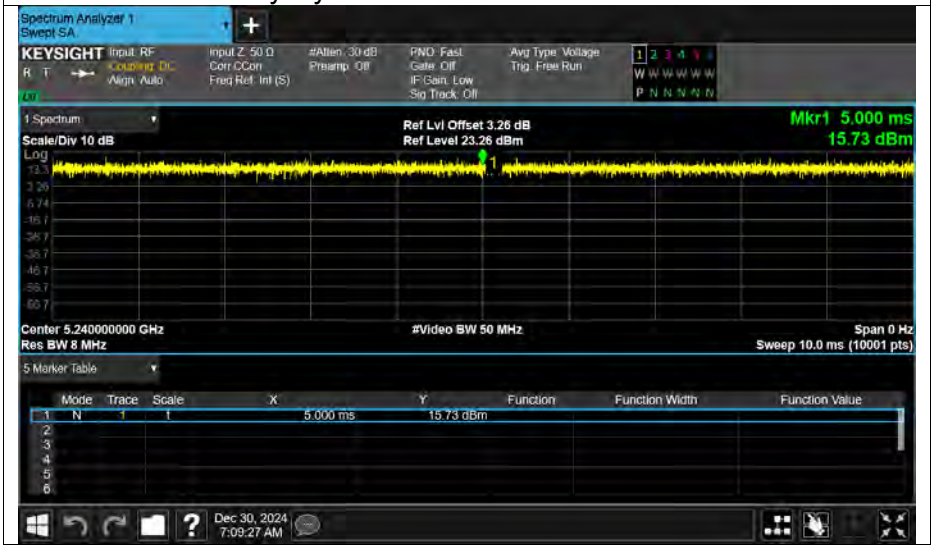
Duty Cycle NVNT n20 5180MHz Ant1



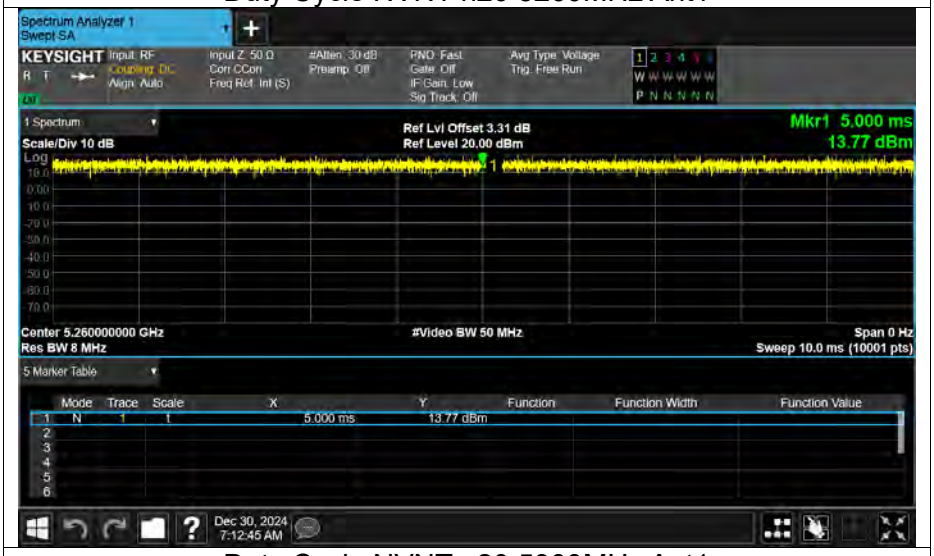
Duty Cycle NVNT n20 5200MHz Ant1



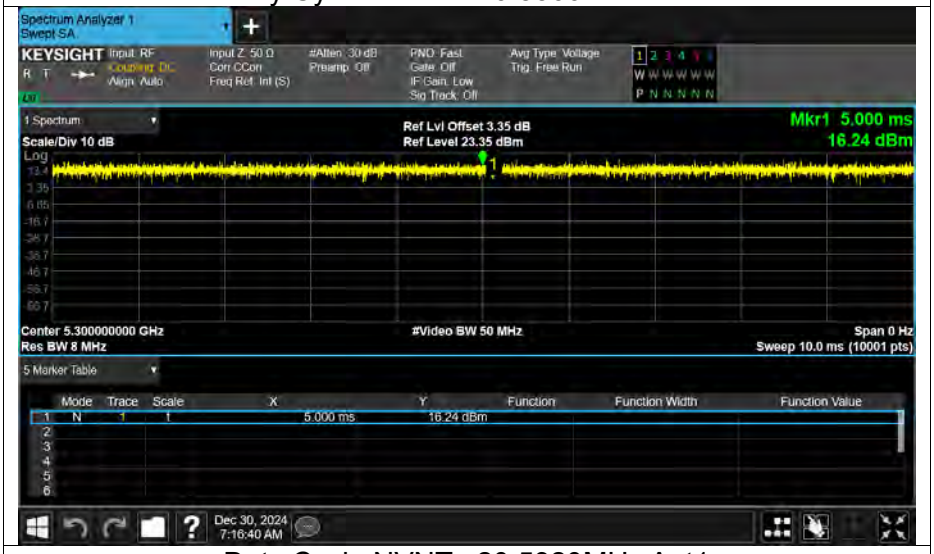
Duty Cycle NVNT n20 5240MHz Ant1



Duty Cycle NVNT n20 5260MHz Ant1



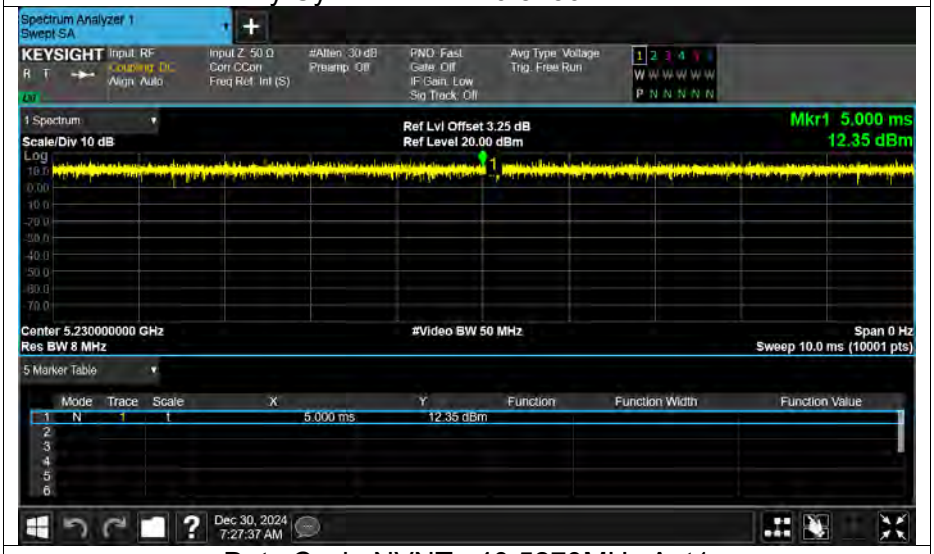
Duty Cycle NVNT n20 5300MHz Ant1



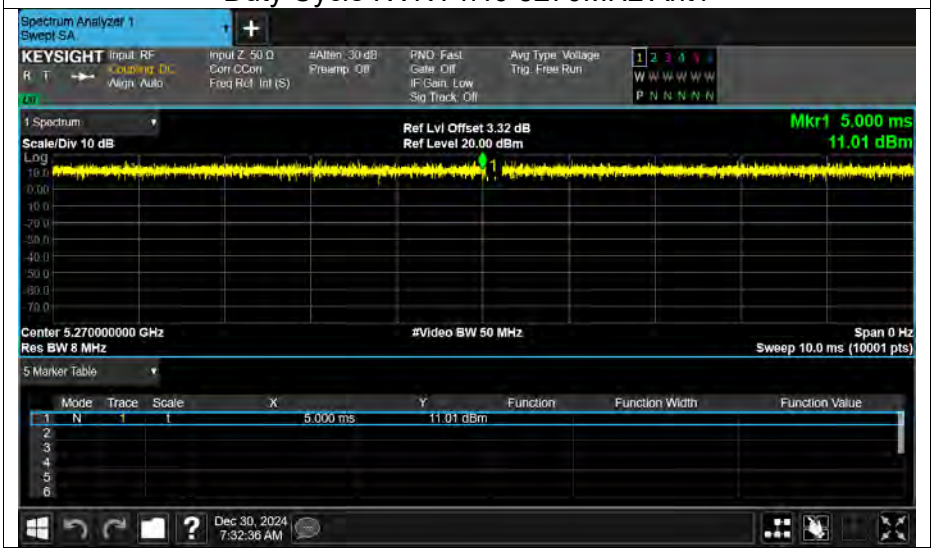
Duty Cycle NVNT n20 5320MHz Ant1

Duty Cycle NVNT n40 5190MHz Ant1

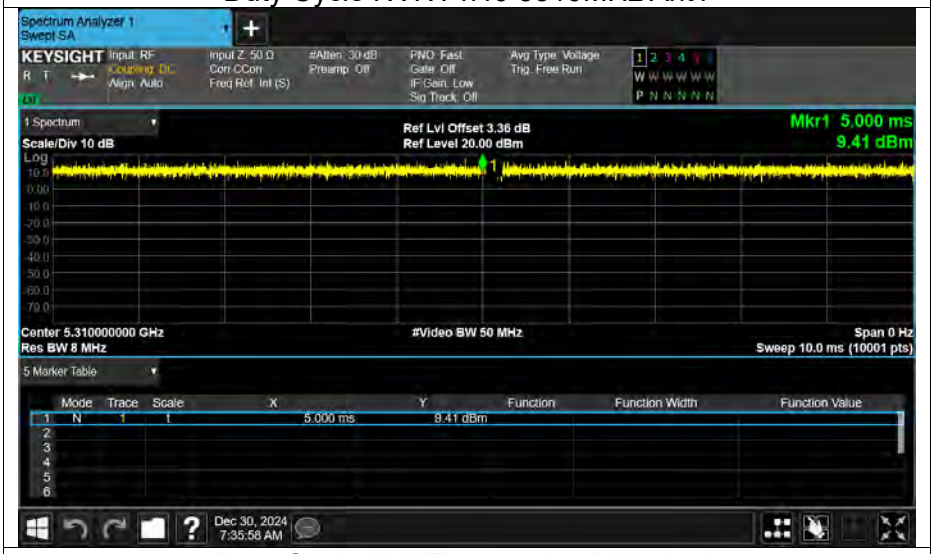
Duty Cycle NVNT n40 5230MHz Ant1



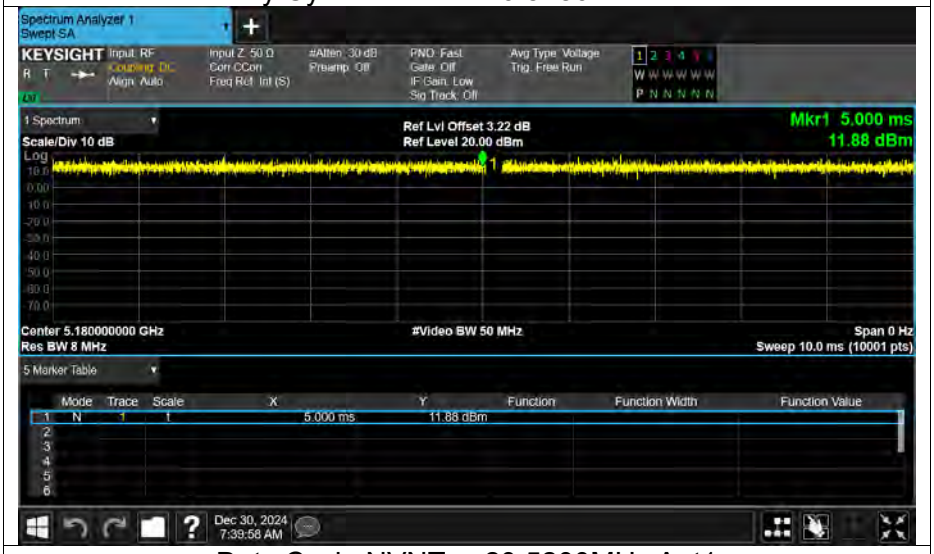
Duty Cycle NVNT n40 5270MHz Ant1



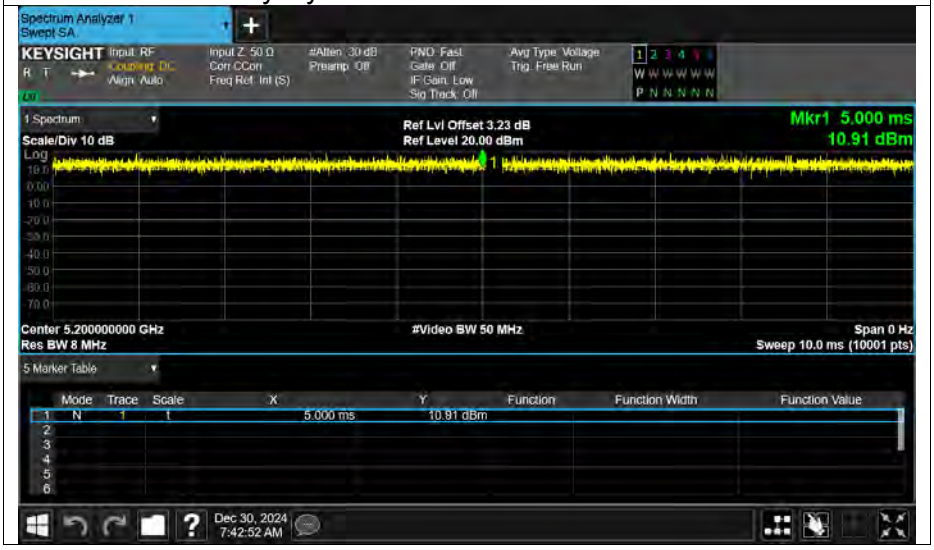
Duty Cycle NVNT n40 5310MHz Ant1



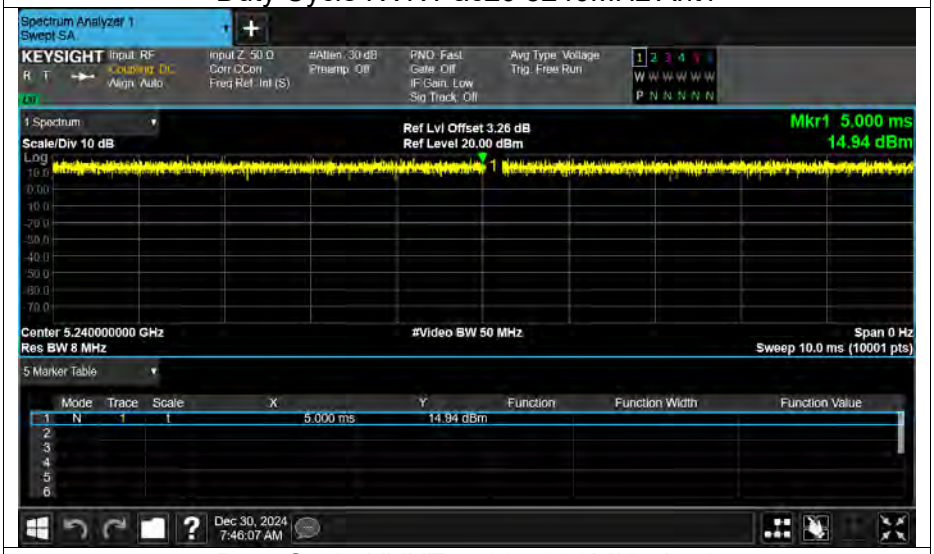
Duty Cycle NVNT ac20 5180MHz Ant1



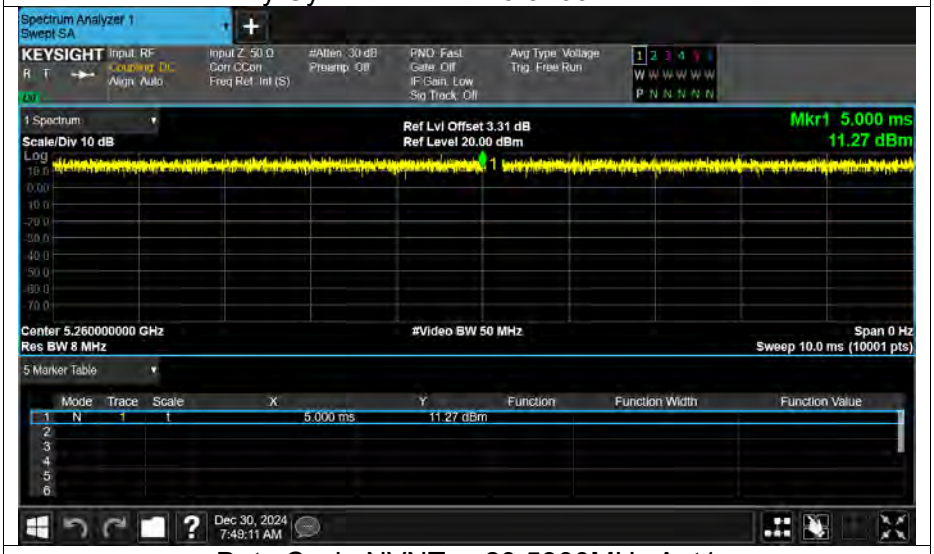
Duty Cycle NVNT ac20 5200MHz Ant1



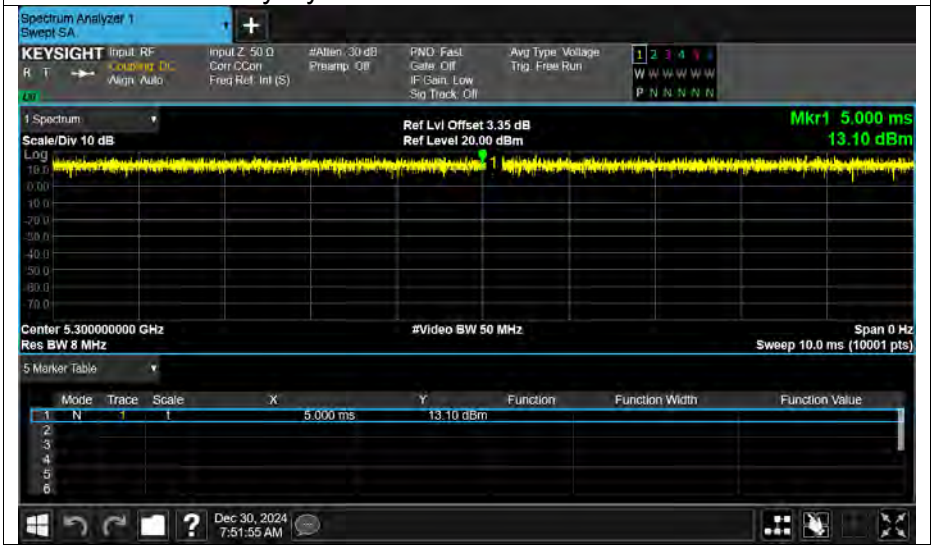
Duty Cycle NVNT ac20 5240MHz Ant1



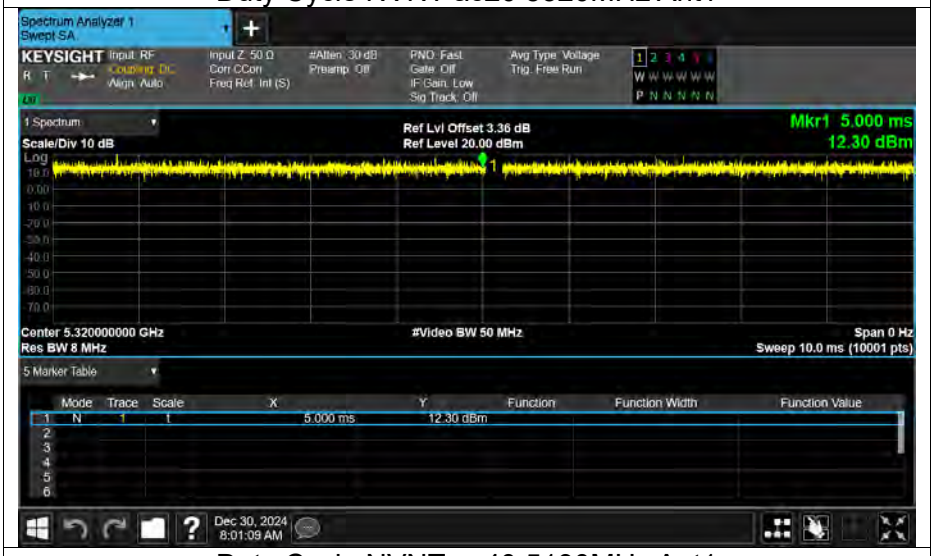
Duty Cycle NVNT ac20 5260MHz Ant1



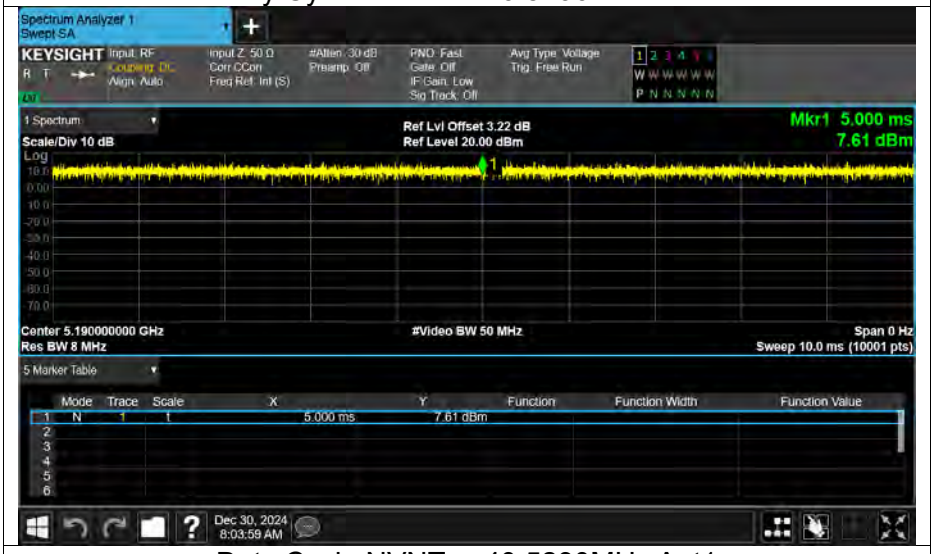
Duty Cycle NVNT ac20 5300MHz Ant1



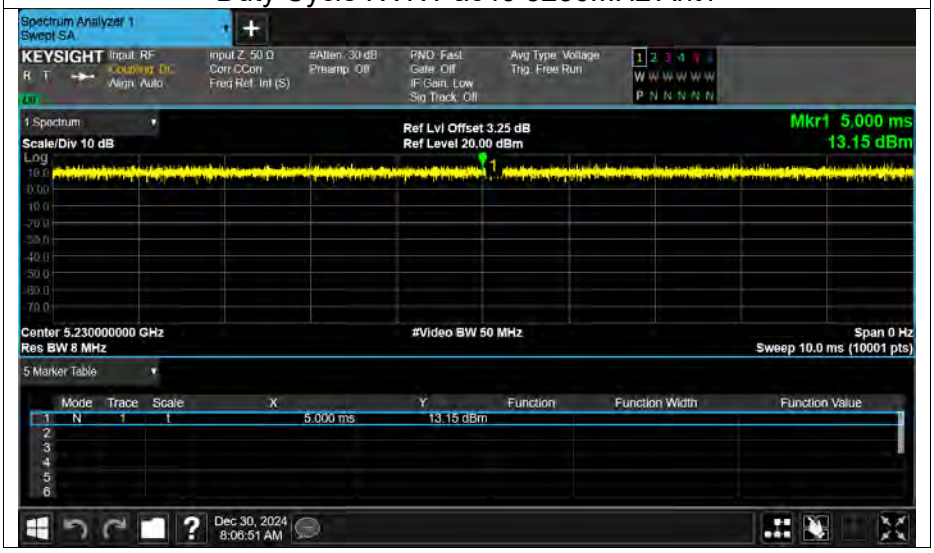
Duty Cycle NVNT ac20 5320MHz Ant1



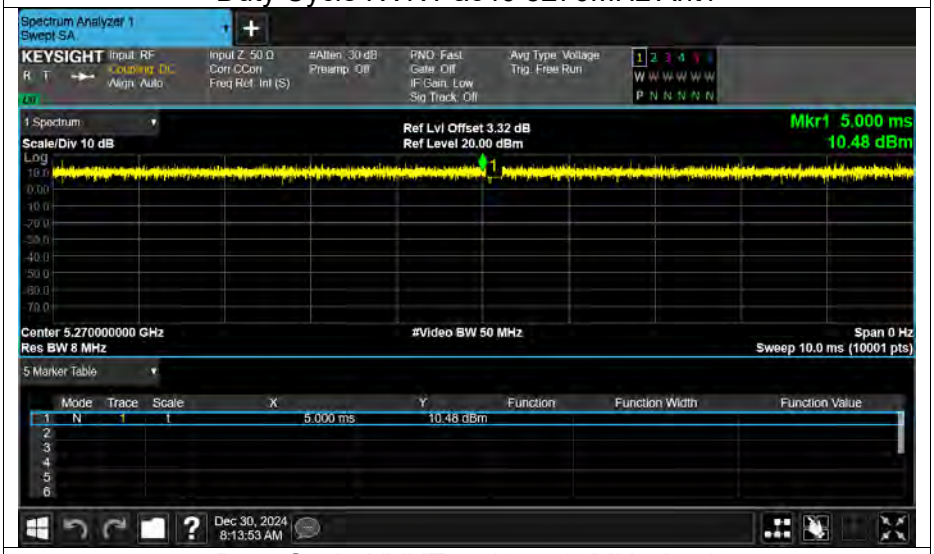
Duty Cycle NVNT ac40 5190MHz Ant1



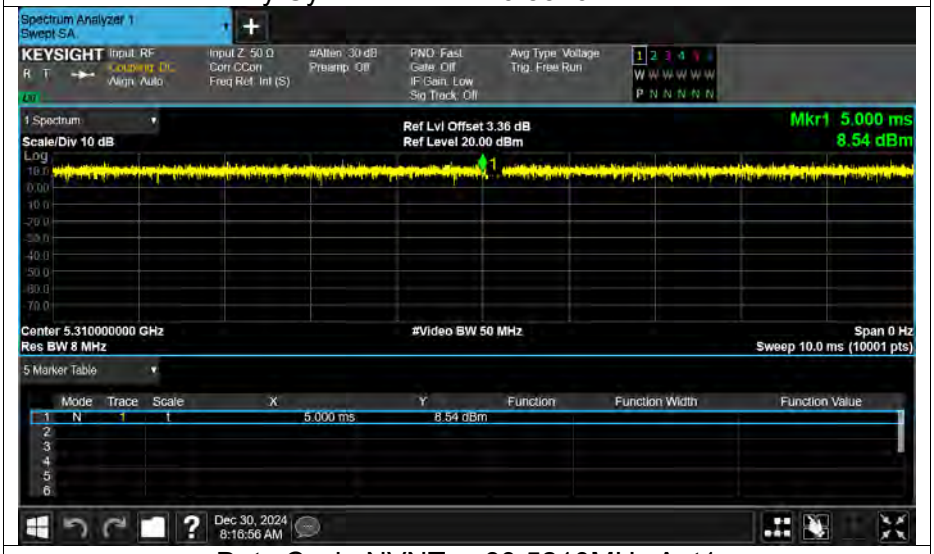
Duty Cycle NVNT ac40 5230MHz Ant1



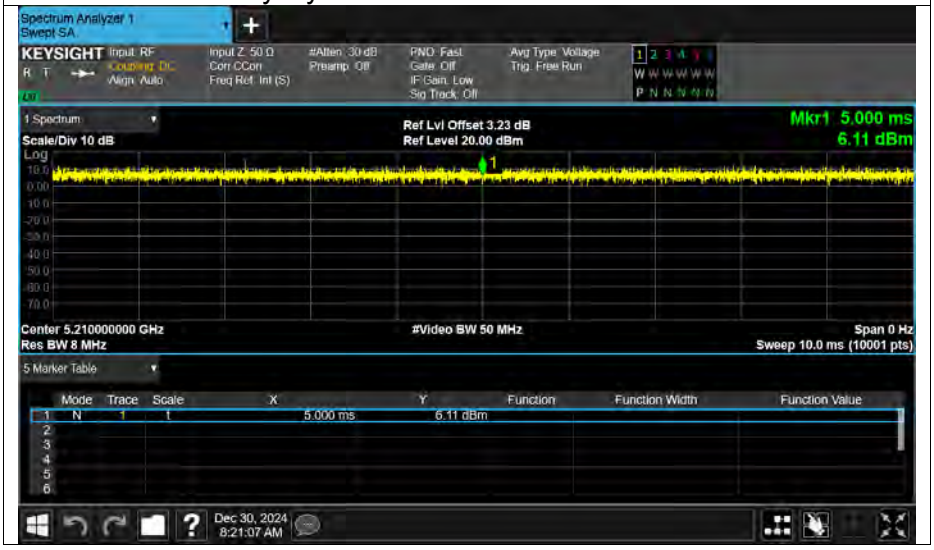
Duty Cycle NVNT ac40 5270MHz Ant1

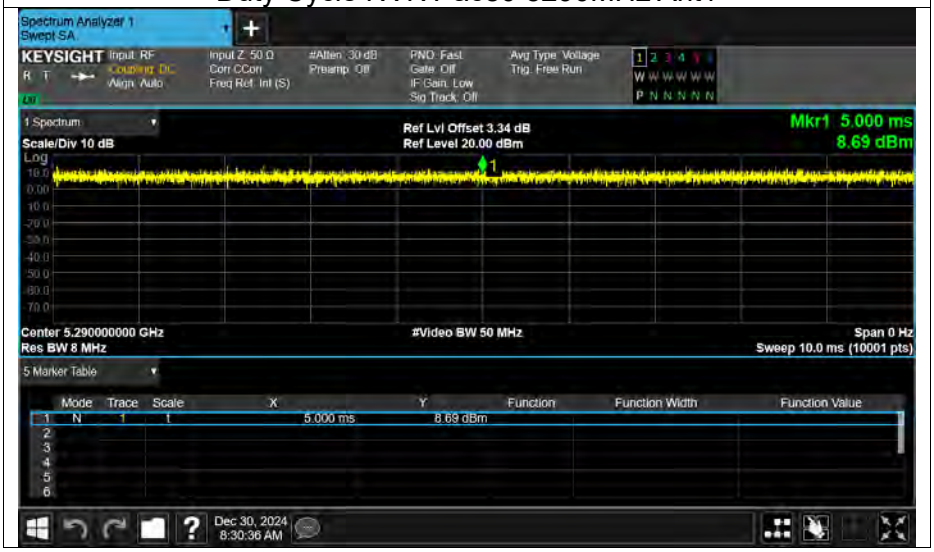


Duty Cycle NVNT ac40 5310MHz Ant1



Duty Cycle NVNT ac80 5210MHz Ant1



Duty Cycle NVNT ac80 5290MHz Ant1


Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	13.19	0	13.19	24	Pass
NVNT	a	5200	Ant1	13.28	0	13.28	24	Pass
NVNT	a	5240	Ant1	13.56	0	13.56	24	Pass
NVNT	a	5260	Ant1	12.28	0	12.28	24	Pass
NVNT	a	5300	Ant1	11.81	0	11.81	24	Pass
NVNT	a	5320	Ant1	11.66	0	11.66	24	Pass
NVNT	n20	5180	Ant1	10.97	0	10.97	24	Pass
NVNT	n20	5200	Ant1	11.73	0	11.73	24	Pass
NVNT	n20	5240	Ant1	11.77	0	11.77	24	Pass
NVNT	n20	5260	Ant1	11.88	0	11.88	24	Pass
NVNT	n20	5300	Ant1	11.48	0	11.48	24	Pass
NVNT	n20	5320	Ant1	11.48	0	11.48	24	Pass
NVNT	n40	5190	Ant1	10.9	0	10.9	24	Pass
NVNT	n40	5230	Ant1	11.26	0	11.26	24	Pass
NVNT	n40	5270	Ant1	11.92	0	11.92	24	Pass
NVNT	n40	5310	Ant1	11.63	0	11.63	24	Pass
NVNT	ac20	5180	Ant1	10.17	0	10.17	24	Pass
NVNT	ac20	5200	Ant1	10.73	0	10.73	24	Pass
NVNT	ac20	5240	Ant1	11	0	11	24	Pass
NVNT	ac20	5260	Ant1	10.99	0	10.99	24	Pass
NVNT	ac20	5300	Ant1	10.5	0	10.5	24	Pass
NVNT	ac20	5320	Ant1	10.18	0	10.18	24	Pass
NVNT	ac40	5190	Ant1	10.53	0	10.53	24	Pass
NVNT	ac40	5230	Ant1	10.57	0	10.57	24	Pass
NVNT	ac40	5270	Ant1	10.84	0	10.84	24	Pass
NVNT	ac40	5310	Ant1	10.4	0	10.4	24	Pass
NVNT	ac80	5210	Ant1	10.52	0	10.52	24	Pass
NVNT	ac80	5290	Ant1	11.05	0	11.05	24	Pass

-26dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	22.519	Pass
NVNT	a	5200	Ant1	20.772	Pass
NVNT	a	5240	Ant1	21.829	Pass
NVNT	a	5260	Ant1	20.986	Pass
NVNT	a	5300	Ant1	20.896	Pass
NVNT	a	5320	Ant1	20.151	Pass
NVNT	n20	5180	Ant1	20.214	Pass
NVNT	n20	5200	Ant1	20.116	Pass
NVNT	n20	5240	Ant1	21.704	Pass
NVNT	n20	5260	Ant1	20.33	Pass
NVNT	n20	5300	Ant1	20.441	Pass
NVNT	n20	5320	Ant1	20.176	Pass
NVNT	n40	5190	Ant1	39.813	Pass
NVNT	n40	5230	Ant1	39.747	Pass
NVNT	n40	5270	Ant1	40.118	Pass
NVNT	n40	5310	Ant1	40.079	Pass
NVNT	ac20	5180	Ant1	20.188	Pass
NVNT	ac20	5200	Ant1	20.436	Pass
NVNT	ac20	5240	Ant1	20.453	Pass
NVNT	ac20	5260	Ant1	20.442	Pass
NVNT	ac20	5300	Ant1	20.324	Pass
NVNT	ac20	5320	Ant1	20.274	Pass
NVNT	ac40	5190	Ant1	40.162	Pass
NVNT	ac40	5230	Ant1	39.813	Pass
NVNT	ac40	5270	Ant1	39.635	Pass
NVNT	ac40	5310	Ant1	40.089	Pass
NVNT	ac80	5210	Ant1	79.313	Pass
NVNT	ac80	5290	Ant1	78.641	Pass

Test Graphs
-26dB Bandwidth NVNT a 5180MHz Ant1

-26dB Bandwidth NVNT a 5200MHz Ant1

-26dB Bandwidth NVNT a 5240MHz Ant1


-26dB Bandwidth NVNT a 5260MHz Ant1

-26dB Bandwidth NVNT a 5300MHz Ant1

-26dB Bandwidth NVNT a 5320MHz Ant1

-26dB Bandwidth NVNT n20 5180MHz Ant1

-26dB Bandwidth NVNT n20 5200MHz Ant1

-26dB Bandwidth NVNT n20 5240MHz Ant1

-26dB Bandwidth NVNT n20 5260MHz Ant1

-26dB Bandwidth NVNT n20 5300MHz Ant1

-26dB Bandwidth NVNT n20 5320MHz Ant1

-26dB Bandwidth NVNT n40 5190MHz Ant1

-26dB Bandwidth NVNT n40 5230MHz Ant1

-26dB Bandwidth NVNT n40 5270MHz Ant1

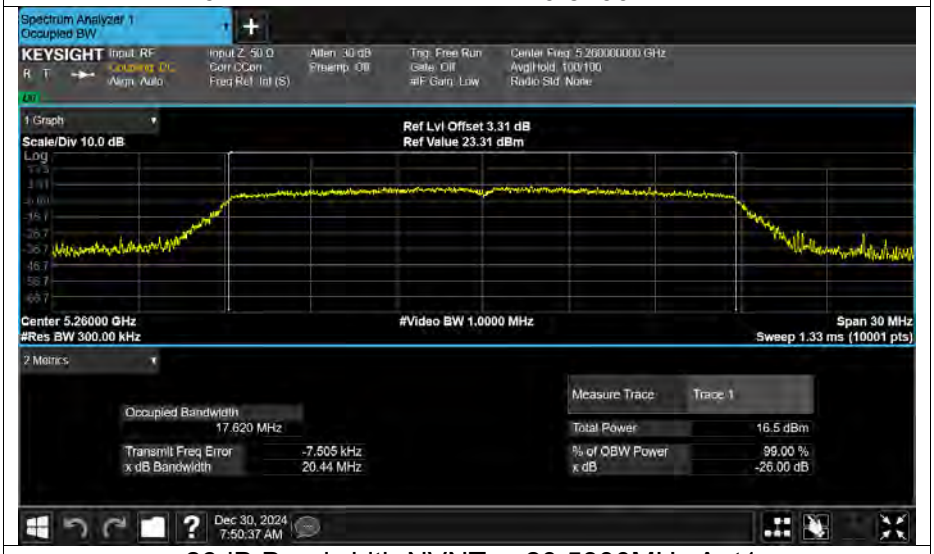
-26dB Bandwidth NVNT n40 5310MHz Ant1

-26dB Bandwidth NVNT ac20 5180MHz Ant1

-26dB Bandwidth NVNT ac20 5200MHz Ant1

-26dB Bandwidth NVNT ac20 5240MHz Ant1

-26dB Bandwidth NVNT ac20 5260MHz Ant1



-26dB Bandwidth NVNT ac20 5300MHz Ant1

-26dB Bandwidth NVNT ac20 5320MHz Ant1

-26dB Bandwidth NVNT ac40 5190MHz Ant1

-26dB Bandwidth NVNT ac40 5230MHz Ant1

-26dB Bandwidth NVNT ac40 5270MHz Ant1

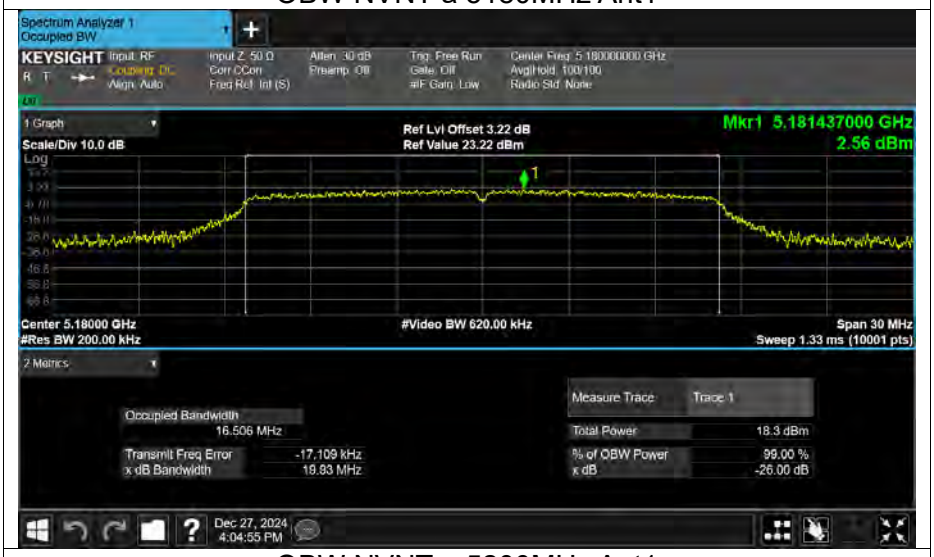
-26dB Bandwidth NVNT ac40 5310MHz Ant1

-26dB Bandwidth NVNT ac80 5210MHz Ant1

-26dB Bandwidth NVNT ac80 5290MHz Ant1

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.506
NVNT	a	5200	Ant1	16.429
NVNT	a	5240	Ant1	16.47
NVNT	a	5260	Ant1	16.425
NVNT	a	5300	Ant1	16.434
NVNT	a	5320	Ant1	16.429
NVNT	n20	5180	Ant1	17.539
NVNT	n20	5200	Ant1	17.544
NVNT	n20	5240	Ant1	17.556
NVNT	n20	5260	Ant1	17.558
NVNT	n20	5300	Ant1	17.583
NVNT	n20	5320	Ant1	17.554
NVNT	n40	5190	Ant1	35.991
NVNT	n40	5230	Ant1	35.98
NVNT	n40	5270	Ant1	35.997
NVNT	n40	5310	Ant1	36.025
NVNT	ac20	5180	Ant1	17.579
NVNT	ac20	5200	Ant1	17.555
NVNT	ac20	5240	Ant1	17.576
NVNT	ac20	5260	Ant1	17.556
NVNT	ac20	5300	Ant1	17.555
NVNT	ac20	5320	Ant1	17.565
NVNT	ac40	5190	Ant1	35.956
NVNT	ac40	5230	Ant1	35.992
NVNT	ac40	5270	Ant1	35.938
NVNT	ac40	5310	Ant1	35.969
NVNT	ac80	5210	Ant1	75.161
NVNT	ac80	5290	Ant1	75.183

Test Graphs
OBW NVNT a 5180MHz Ant1

OBW NVNT a 5200MHz Ant1

OBW NVNT a 5240MHz Ant1


OBW NVNT a 5260MHz Ant1

OBW NVNT a 5300MHz Ant1

OBW NVNT a 5320MHz Ant1

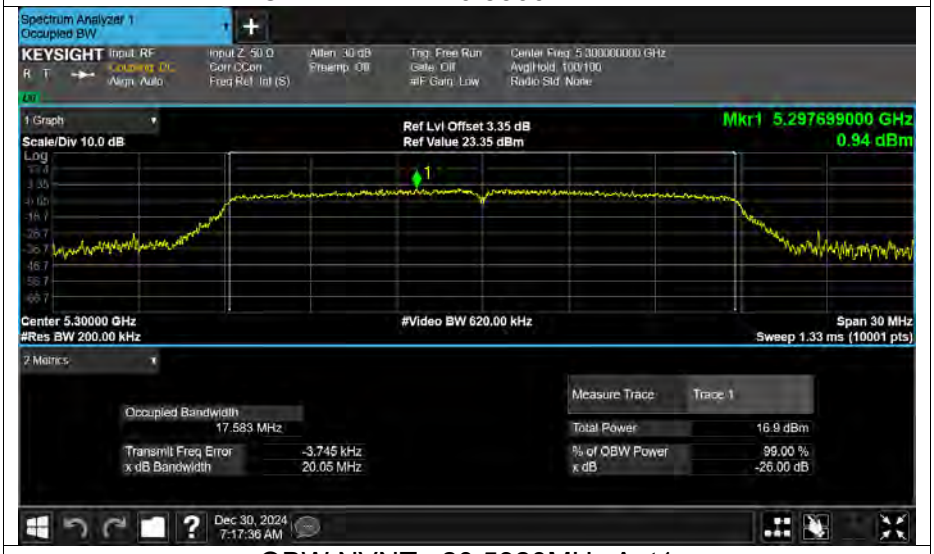
OBW NVNT n20 5180MHz Ant1

OBW NVNT n20 5200MHz Ant1

OBW NVNT n20 5240MHz Ant1

OBW NVNT n20 5260MHz Ant1

OBW NVNT n20 5300MHz Ant1



OBW NVNT n20 5320MHz Ant1

OBW NVNT n40 5190MHz Ant1

OBW NVNT n40 5230MHz Ant1

OBW NVNT n40 5270MHz Ant1

OBW NVNT n40 5310MHz Ant1

OBW NVNT ac20 5180MHz Ant1

OBW NVNT ac20 5200MHz Ant1

OBW NVNT ac20 5240MHz Ant1

OBW NVNT ac20 5260MHz Ant1

OBW NVNT ac20 5300MHz Ant1

OBW NVNT ac20 5320MHz Ant1

OBW NVNT ac40 5190MHz Ant1

OBW NVNT ac40 5230MHz Ant1

OBW NVNT ac40 5270MHz Ant1

OBW NVNT ac40 5310MHz Ant1

OBW NVNT ac80 5210MHz Ant1

OBW NVNT ac80 5290MHz Ant1

Maximum Power Spectral Density Level

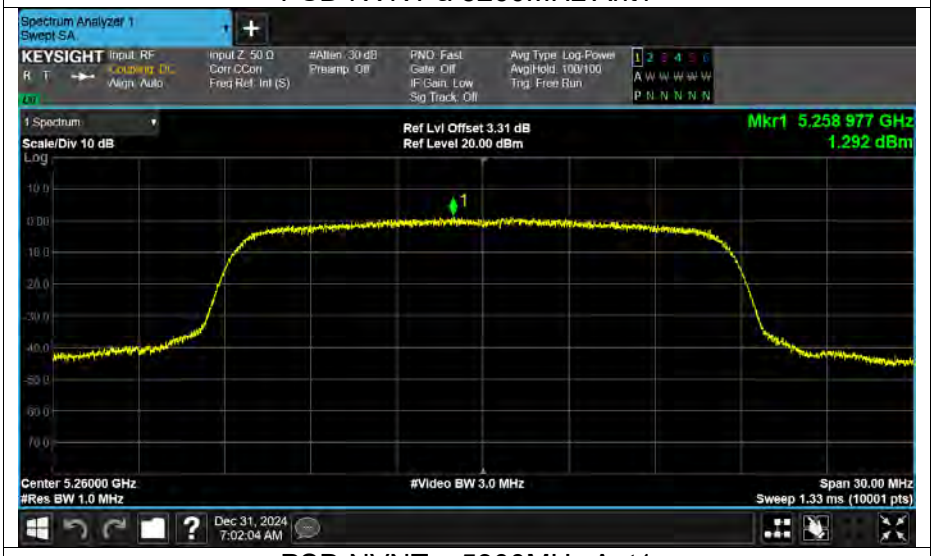
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant1	2	0	2	11	Pass
NVNT	a	5200	Ant1	1.96	0	1.96	11	Pass
NVNT	a	5240	Ant1	2.74	0	2.74	11	Pass
NVNT	a	5260	Ant1	1.29	0	1.29	11	Pass
NVNT	a	5300	Ant1	0.79	0	0.79	11	Pass
NVNT	a	5320	Ant1	0.79	0	0.79	11	Pass
NVNT	n20	5180	Ant1	-0.33	0	-0.33	11	Pass
NVNT	n20	5200	Ant1	0.49	0	0.49	11	Pass
NVNT	n20	5240	Ant1	0.37	0	0.37	11	Pass
NVNT	n20	5260	Ant1	1.18	0	1.18	11	Pass
NVNT	n20	5300	Ant1	0.65	0	0.65	11	Pass
NVNT	n20	5320	Ant1	0.56	0	0.56	11	Pass
NVNT	n40	5190	Ant1	-3.22	0	-3.22	11	Pass
NVNT	n40	5230	Ant1	-2.69	0	-2.69	11	Pass
NVNT	n40	5270	Ant1	-2.11	0	-2.11	11	Pass
NVNT	n40	5310	Ant1	-2.55	0	-2.55	11	Pass
NVNT	ac20	5180	Ant1	-1.35	0	-1.35	11	Pass
NVNT	ac20	5200	Ant1	-0.45	0	-0.45	11	Pass
NVNT	ac20	5240	Ant1	-0.34	0	-0.34	11	Pass
NVNT	ac20	5260	Ant1	0.07	0	0.07	11	Pass
NVNT	ac20	5300	Ant1	-0.62	0	-0.62	11	Pass
NVNT	ac20	5320	Ant1	-0.73	0	-0.73	11	Pass
NVNT	ac40	5190	Ant1	-3.58	0	-3.58	11	Pass
NVNT	ac40	5230	Ant1	-3.28	0	-3.28	11	Pass
NVNT	ac40	5270	Ant1	-2.84	0	-2.84	11	Pass
NVNT	ac40	5310	Ant1	-3.66	0	-3.66	11	Pass
NVNT	ac80	5210	Ant1	-6.7	0	-6.7	11	Pass
NVNT	ac80	5290	Ant1	-6.14	0	-6.14	11	Pass

Test Graphs
PSD NVNT a 5180MHz Ant1

PSD NVNT a 5200MHz Ant1

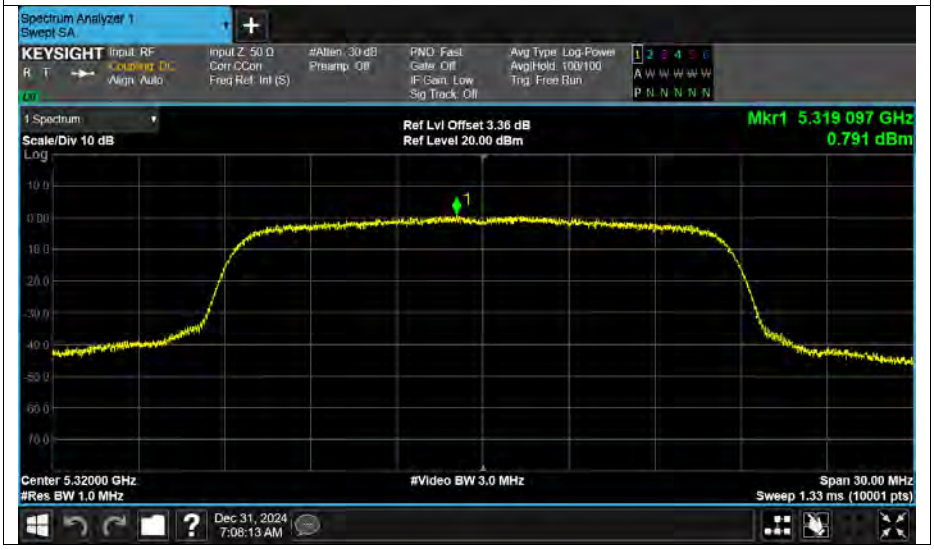
PSD NVNT a 5240MHz Ant1

PSD NVNT a 5260MHz Ant1

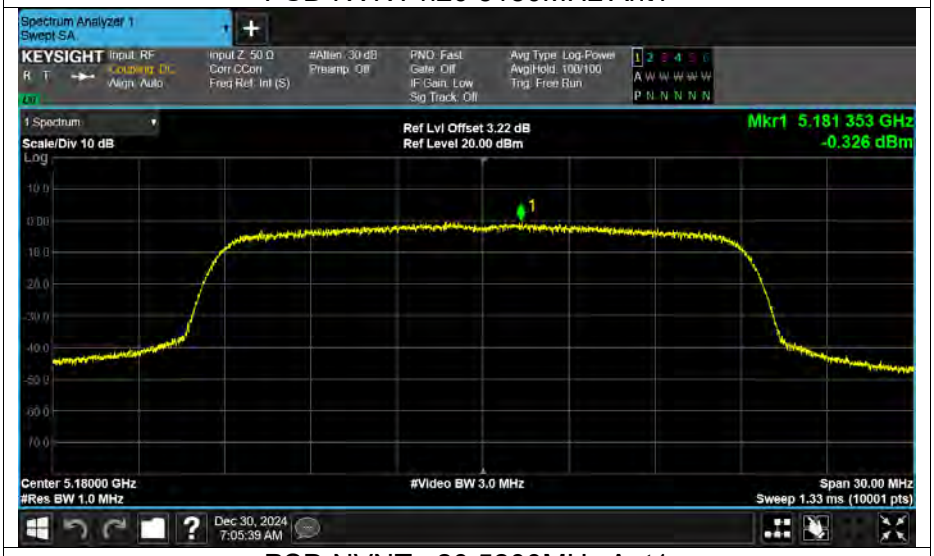


PSD NVNT a 5300MHz Ant1

PSD NVNT a 5320MHz Ant1



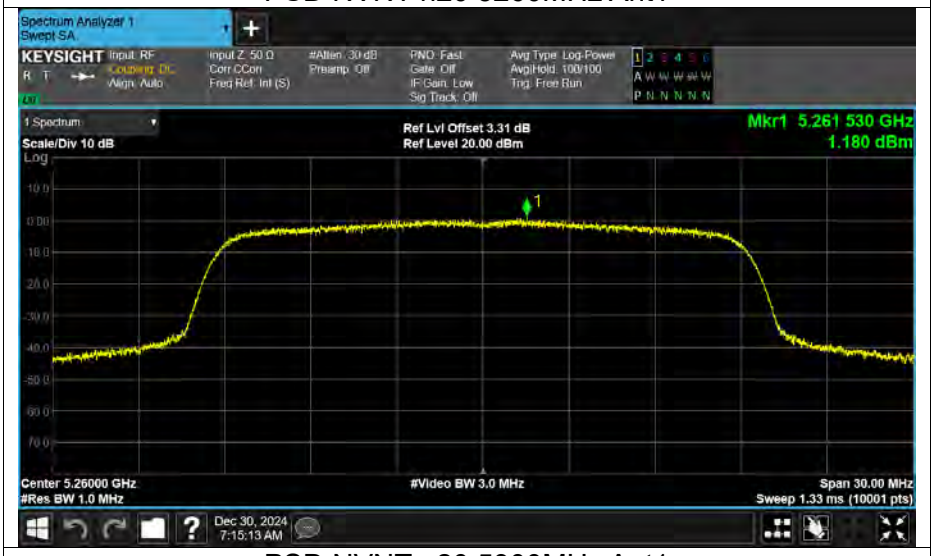
PSD NVNT n20 5180MHz Ant1



PSD NVNT n20 5200MHz Ant1

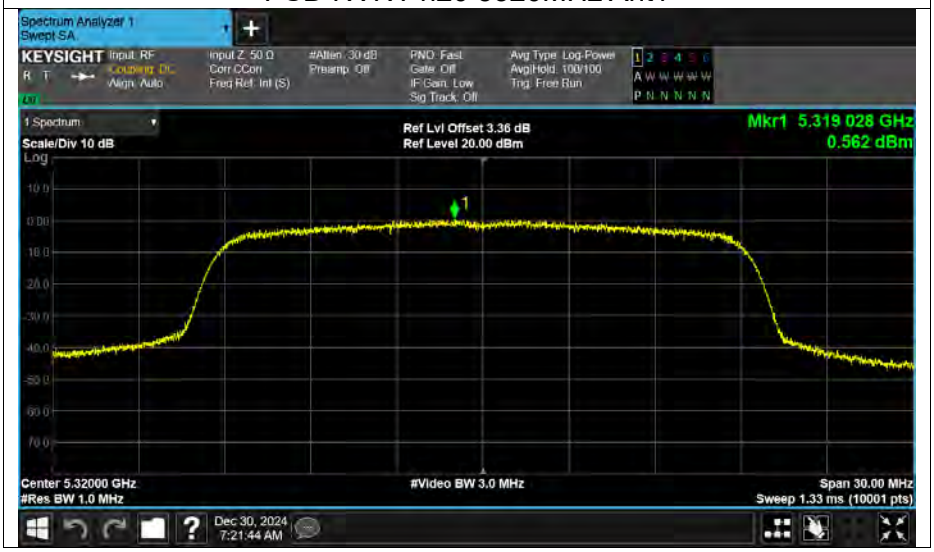
PSD NVNT n20 5240MHz Ant1

PSD NVNT n20 5260MHz Ant1



PSD NVNT n20 5300MHz Ant1

PSD NVNT n20 5320MHz Ant1



PSD NVNT n40 5190MHz Ant1

PSD NVNT n40 5230MHz Ant1

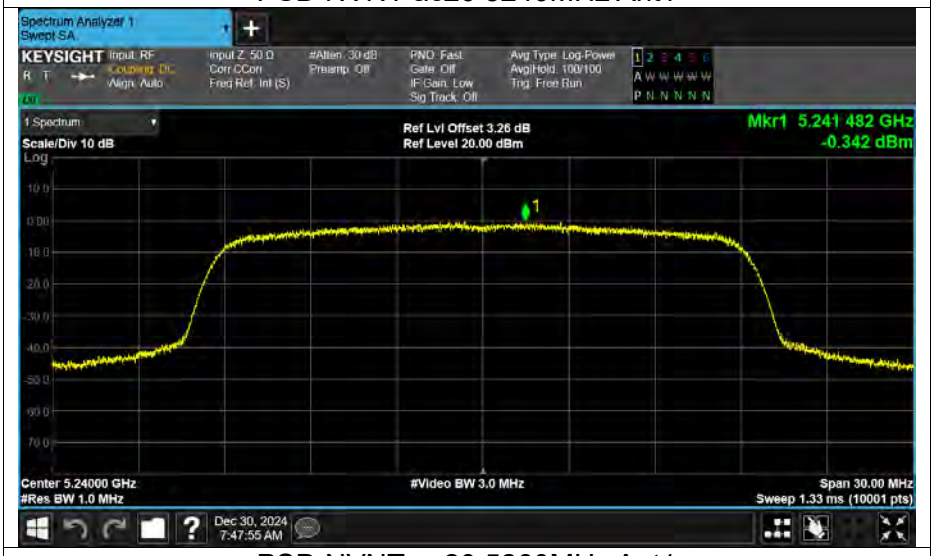
PSD NVNT n40 5270MHz Ant1

PSD NVNT n40 5310MHz Ant1

PSD NVNT ac20 5180MHz Ant1

PSD NVNT ac20 5200MHz Ant1

PSD NVNT ac20 5240MHz Ant1



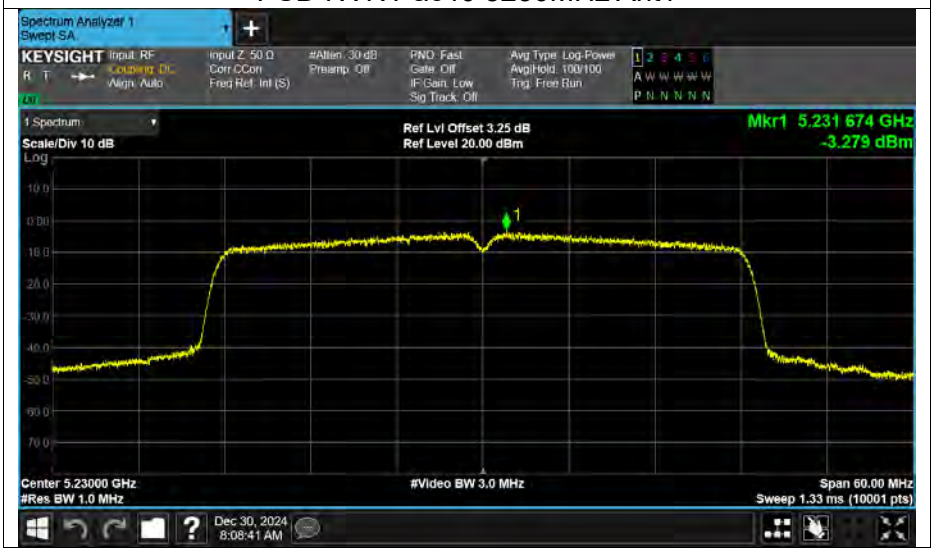
PSD NVNT ac20 5260MHz Ant1

PSD NVNT ac20 5300MHz Ant1

PSD NVNT ac20 5320MHz Ant1

PSD NVNT ac40 5190MHz Ant1

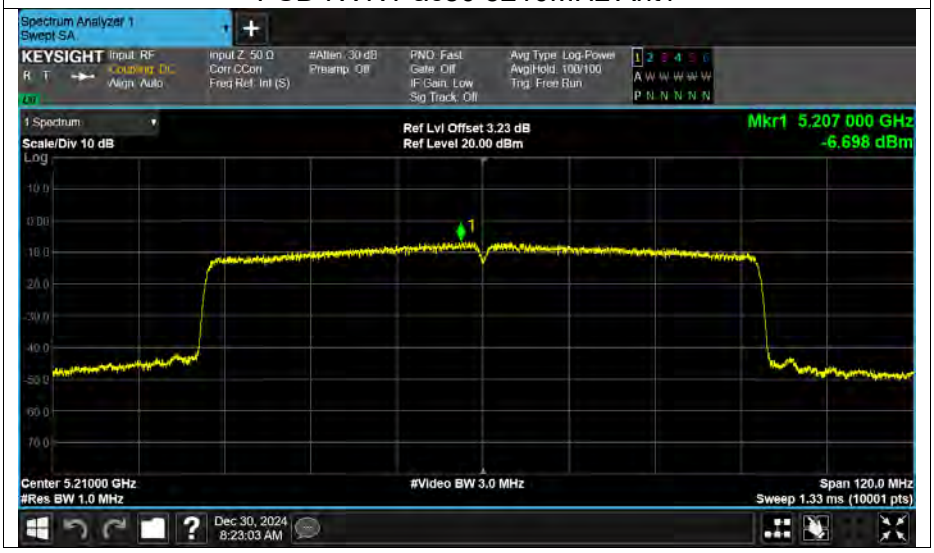
PSD NVNT ac40 5230MHz Ant1

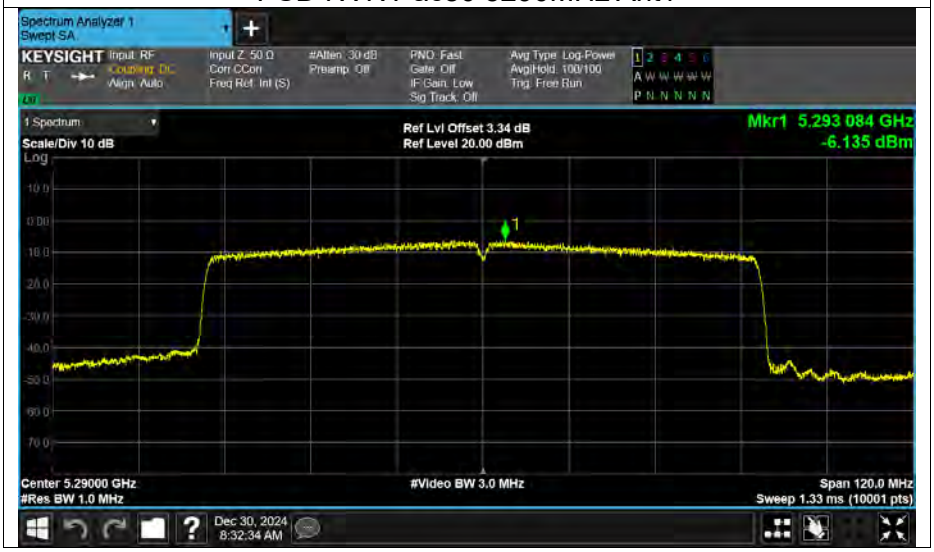


PSD NVNT ac40 5270MHz Ant1

PSD NVNT ac40 5310MHz Ant1

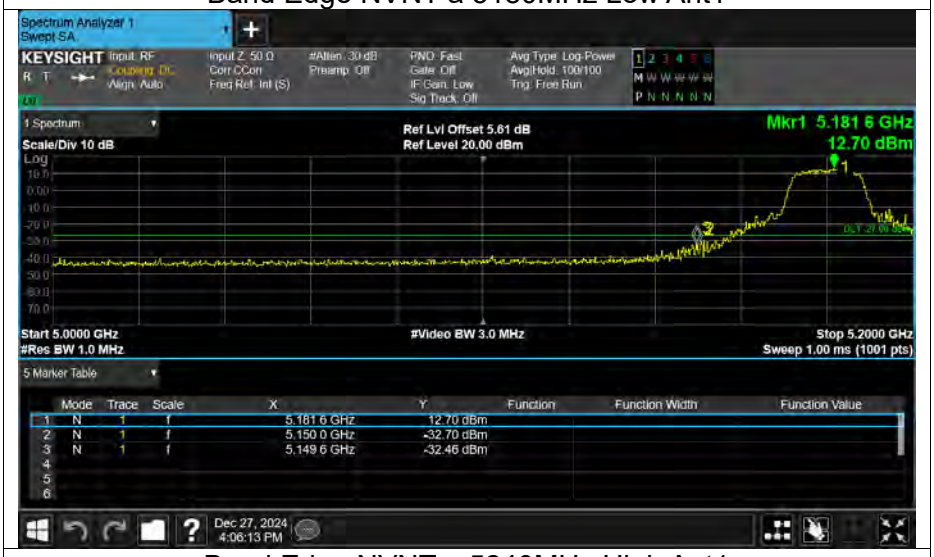
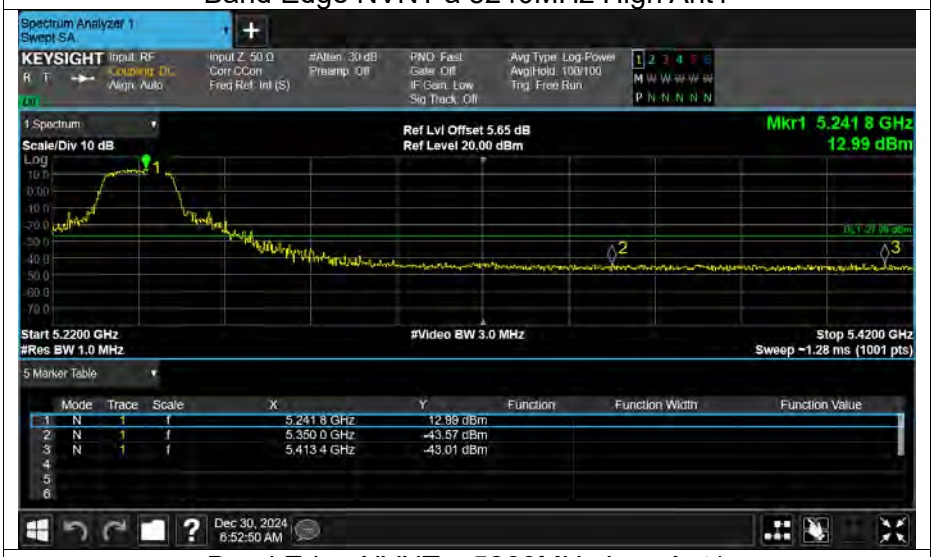
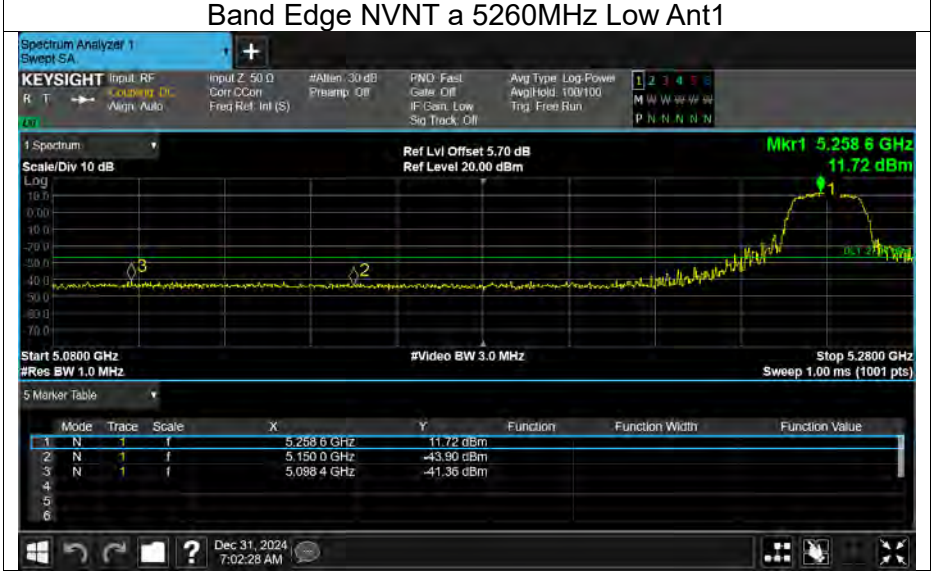
PSD NVNT ac80 5210MHz Ant1



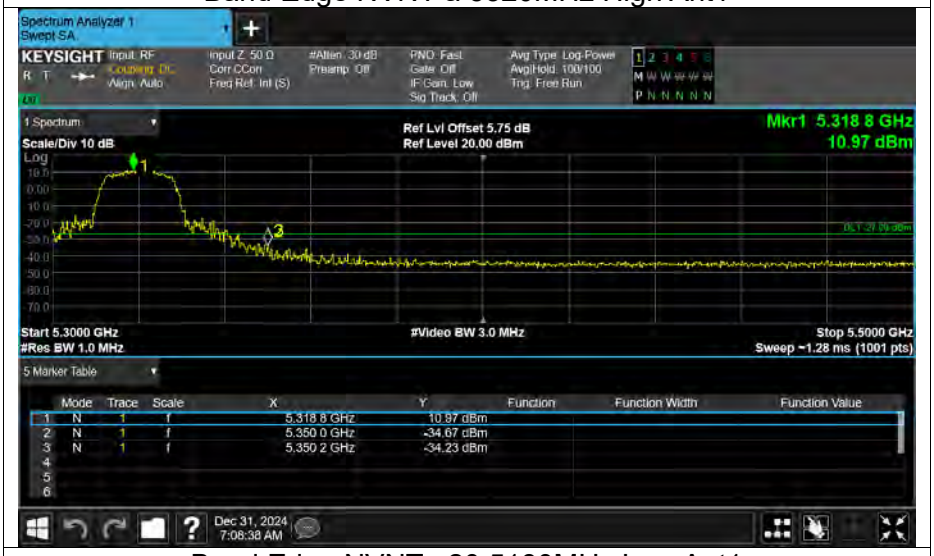
PSD NVNT ac80 5290MHz Ant1


Band Edge

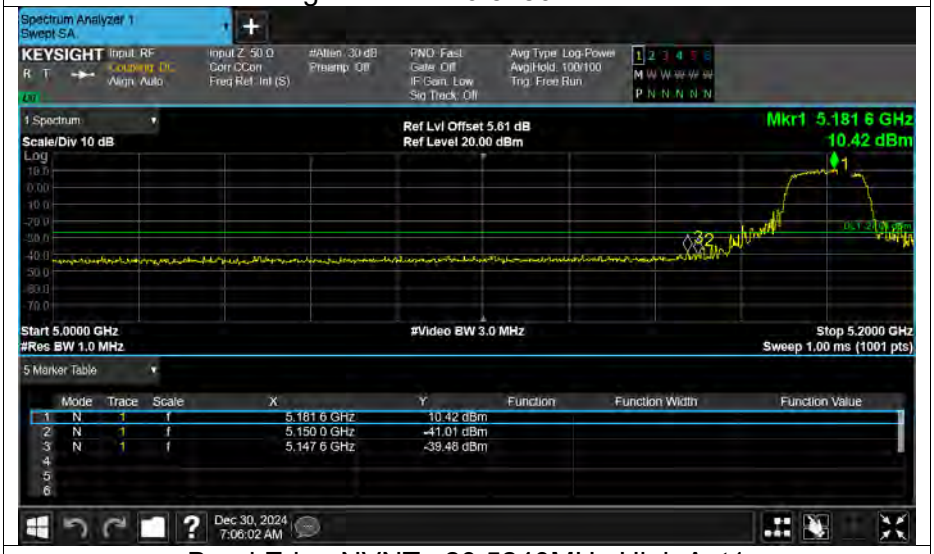
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-32.46	-27	Pass
NVNT	a	5240	Ant1	-43	-27	Pass
NVNT	a	5260	Ant1	-41.36	-27	Pass
NVNT	a	5320	Ant1	-34.23	-27	Pass
NVNT	n20	5180	Ant1	-39.47	-27	Pass
NVNT	n20	5240	Ant1	-41.85	-27	Pass
NVNT	n20	5260	Ant1	-40.46	-27	Pass
NVNT	n20	5320	Ant1	-28.62	-27	Pass
NVNT	n40	5190	Ant1	-32.3	-27	Pass
NVNT	n40	5230	Ant1	-41.75	-27	Pass
NVNT	n40	5270	Ant1	-40.75	-27	Pass
NVNT	n40	5310	Ant1	-28.64	-27	Pass
NVNT	ac20	5180	Ant1	-40.57	-27	Pass
NVNT	ac20	5240	Ant1	-43.16	-27	Pass
NVNT	ac20	5260	Ant1	-41.27	-27	Pass
NVNT	ac20	5320	Ant1	-39.88	-27	Pass
NVNT	ac40	5190	Ant1	-34.29	-27	Pass
NVNT	ac40	5230	Ant1	-42.83	-27	Pass
NVNT	ac40	5270	Ant1	-41.34	-27	Pass
NVNT	ac40	5310	Ant1	-29.9	-27	Pass
NVNT	ac80	5210	Ant1	-30.73	-27	Pass
NVNT	ac80	5290	Ant1	-27.16	-27	Pass

Test Graphs
Band Edge NVNT a 5180MHz Low Ant1

Band Edge NVNT a 5240MHz High Ant1

Band Edge NVNT a 5260MHz Low Ant1


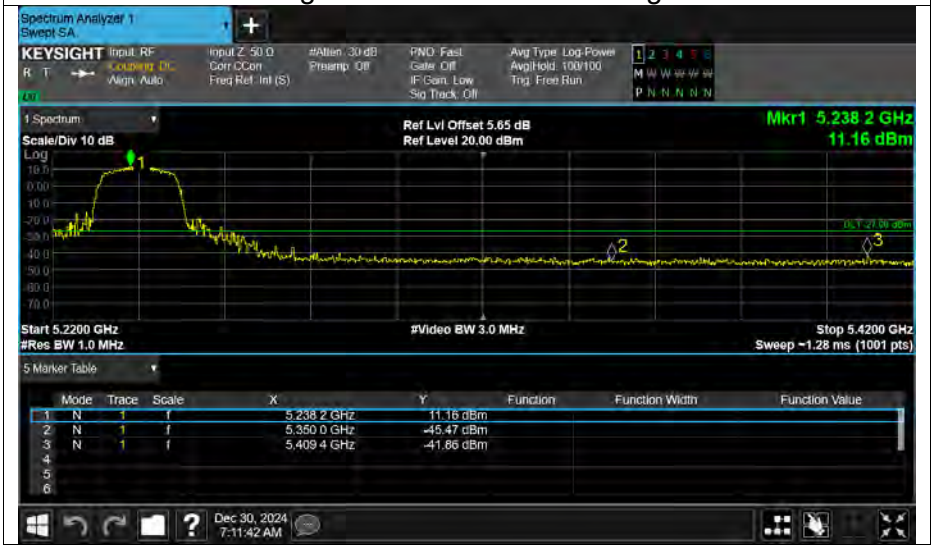
Band Edge NVNT a 5320MHz High Ant1



Band Edge NVNT n20 5180MHz Low Ant1



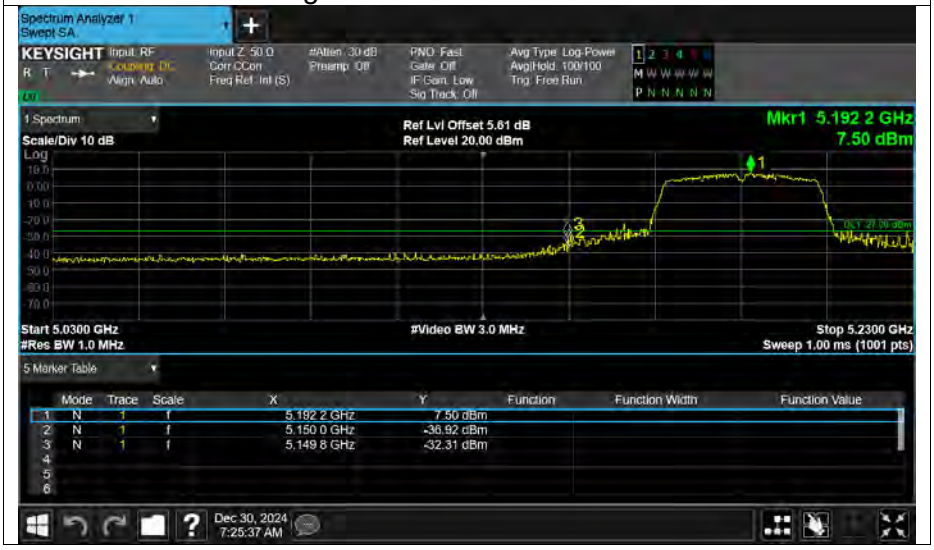
Band Edge NVNT n20 5240MHz High Ant1



Band Edge NVNT n20 5260MHz Low Ant1

Band Edge NVNT n20 5320MHz High Ant1

Band Edge NVNT n40 5190MHz Low Ant1

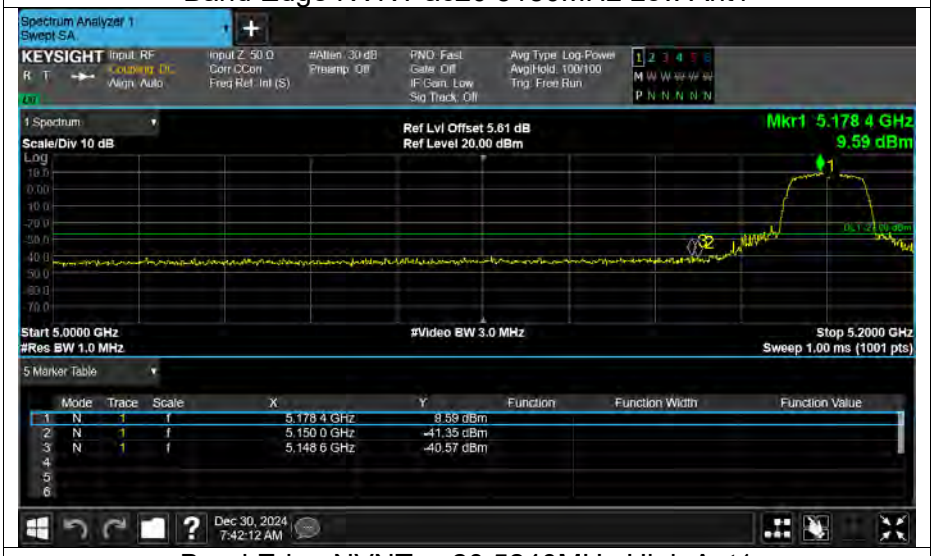


Band Edge NVNT n40 5230MHz High Ant1

Band Edge NVNT n40 5270MHz Low Ant1

Band Edge NVNT n40 5310MHz High Ant1

Band Edge NVNT ac20 5180MHz Low Ant1

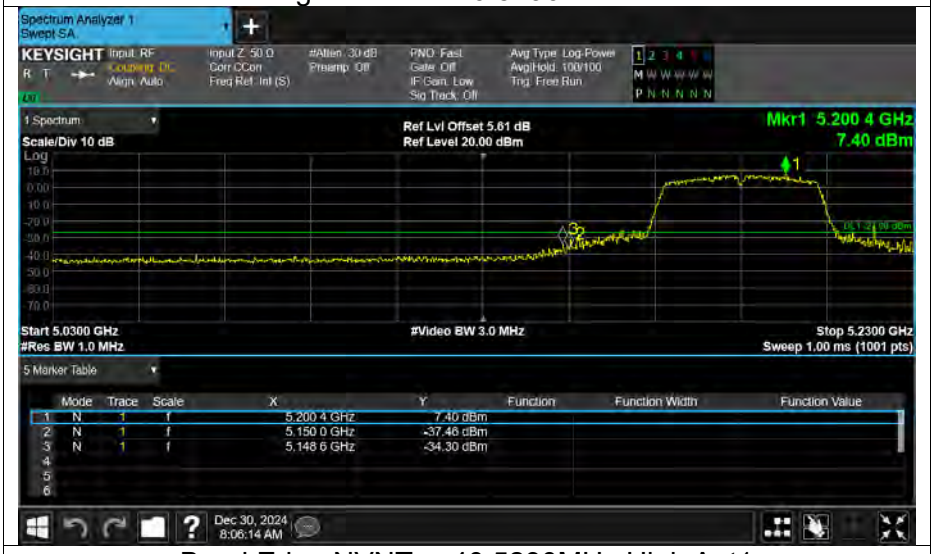


Band Edge NVNT ac20 5240MHz High Ant1

Band Edge NVNT ac20 5260MHz Low Ant1

Band Edge NVNT ac20 5320MHz High Ant1

Band Edge NVNT ac40 5190MHz Low Ant1



Band Edge NVNT ac40 5230MHz High Ant1

Band Edge NVNT ac40 5270MHz Low Ant1

Band Edge NVNT ac40 5310MHz High Ant1

Band Edge NVNT ac80 5210MHz Low Ant1

Band Edge NVNT ac80 5290MHz High Ant1


APPENDIX II - MEASUREMENT PHOTOS

Note: Please see the attached RF_Test Setup photos for FCC ID & IC.

APPENDIX III - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Note: Please see LGT24L062EM03_APPENDIX II.

※※※※※END OF THE REPORT※※※※※