RF TEST REPORT

Product Name: Smart-hopping 2.0 Access Point 2.4 GHz

Model Name: RTX3471

FCC ID: T7HRTX3471

Issued For : RTX Hong Kong Ltd.

8/F Corporation Square, 8 Lam Lok Street, Kowloon Bay, Hong Kong

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:	LGT24H184RF04
Sample Received Date:	Sep. 04, 2024
Date of Test:	Sep. 04, 2024 ~ Sep. 23, 2024
Date of Issue:	Sep. 23, 2024

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TEST REPORT CERTIFICATION

Applicant: RTX Hong Kong Ltd.

Address: 8/F Corporation Square, 8 Lam Lok Street, Kowloon Bay, Hong Kong

Manufacturer: RTX Hong Kong Ltd.

Address: 8/F Corporation Square, 8 Lam Lok Street, Kowloon Bay, Hong Kong

Product Name: Smart-hopping 2.0 Access Point 2.4 GHz

Trademark: RTX

Model Name: RTX3471

Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC Part 15.247, Subpart C ANSI C63.10-2013	PASS

Prepared by:

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SHENZHEN LGT TEST SERVICE CO., LTD.
LGT
领冠检测

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Revision History

Rev.	Issue Date	Revisions
00	Sep. 23, 2024	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
KDB 558074 D01 Part 15.247 Meas Guidance v05r02.

FCC Part 15.247, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.247 (a)(2)	6dB Bandwidth	PASS	--
15.247 (b)(3)	Output Power	PASS	--
15.209	Radiated Spurious Emission	PASS	--
15.247 (d)	Conducted Spurious & Band Edge Emission	PASS	--
15.247 (e)	Power Spectral Density	PASS	--
15.205	Restricted Band Edge Emission	PASS	--
Part 15.247(d)/ Part 15.209(a)	Band Edge Emission	PASS	--
15.203	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
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

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

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Smart-hopping 2.0 Access Point 2.4 GHz
Trademark:	RTX
Model Name:	RTX3471
Series Model:	N/A
Model Difference:	N/A
Product Description:	Operation Frequency: 2401.056~2482.272MHz Modulation Type: GFSK, Pi/2-DBPSK, Pi/4-QPSK Number Of Channel: Please see Note 3. Antenna Designation: Stamped metal Antenna Antenna Gain (dBi) ANT1: 4dBi ANT2: 4dBi
Channel List:	Please refer to the Note 3.
Rating:	48VDC
Hardware Version:	2417
Software Version:	5.0.0.1
Connecting I/O Port(s):	Please refer to the Note 1.

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. Antenna 1 and Antenna 2 do not support simultaneous transmission. Pre-test ANT1 and ANT2, only the worst case ANT1 data was recorded in this report.
4.

Channel List					
Channel Number	Center Frequency	Channel Number	Center Frequency	Channel Number	Center Frequency
00	2401.056	16	2428.704	32	2456.352
01	2402.784	17	2430.432	33	2458.080
02	2404.512	18	2432.160	34	2459.808
03	2406.240	19	2433.888	35	2461.536
04	2407.968	20	2435.616	36	2463.264
05	2409.696	21	2437.344	37	2464.992
06	2411.424	22	2439.072	38	2466.720
07	2413.152	23	2440.800	39	2468.448
08	2414.880	24	2442.528	40	2470.176
09	2416.608	25	2444.256	41	2471.904
10	2418.336	26	2445.984	42	2473.632
11	2420.064	27	2447.712	43	2475.360
12	2421.792	28	2449.440	44	2477.088
13	2423.520	29	2451.168	45	2478.816
14	2425.248	30	2452.896	46	2480.544
15	2426.976	31	2454.624	47	2482.272

2.2 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions
Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

Worst Mode	Description	Data/Modulation
Mode 1	TX CH00(2401.05MHz)	GFSK/ PI/2-DBPSK/ PI/4-QPSK
Mode 2	TX CH23(2440.80MHz)	GFSK/ PI/2-DBPSK/ PI/4-QPSK
Mode 3	TX CH47(2482.27MHz)	GFSK/ PI/2-DBPSK/ PI/4-QPSK

Note:
(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.
(2) We have be tested for all avaiable U.S. voltage and frequency (For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/60Hz is shown in the report.
(3) The battery is fully-charged during the radited and RF conducted test.

For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 4: Keeping BLE TX

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: 2.4G	
CMD Command	Mode Or Modulation type	Power setting
	GFSK	Default
	Pi/2-DBPSK	Default
	Pi/4-QPSK	Default

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

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
8-Poxrt Gigabit Desktop Switch with 4-Port PoE	D-LINK	DGS-1008P	N/A	Input:54V==1.2A
Adapter	CHANNEL WELL TECHNOLOGY	KPL-065P-II	N/A	Input: 100-240V ~ 50/60Hz 1.7A Output: 54V, 1.2A
Power Cord	N/A	N/A	N/A	1.8m
Smart-hopping Access Point Controller	Philips	ITS867214A	N/A	Input: 100-240V-50/60Hz 1.5A
Power Cord	N/A	N/A	N/A	1.8m
Laptop	Lenovo	T460s	N/A	N/A
RJ45 Cable	N/A	N/A	N/A	1.5m, shielded
RJ45 Cable	N/A	N/A	N/A	1m, unshielded 3pcs

Note:

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

(2) “YES” is means “with core”; “NO” is means “without core”.

2.5 EQUIPMENTS LIST

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

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Conducted Emission limit (dBuV)	
	Quasi-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

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.

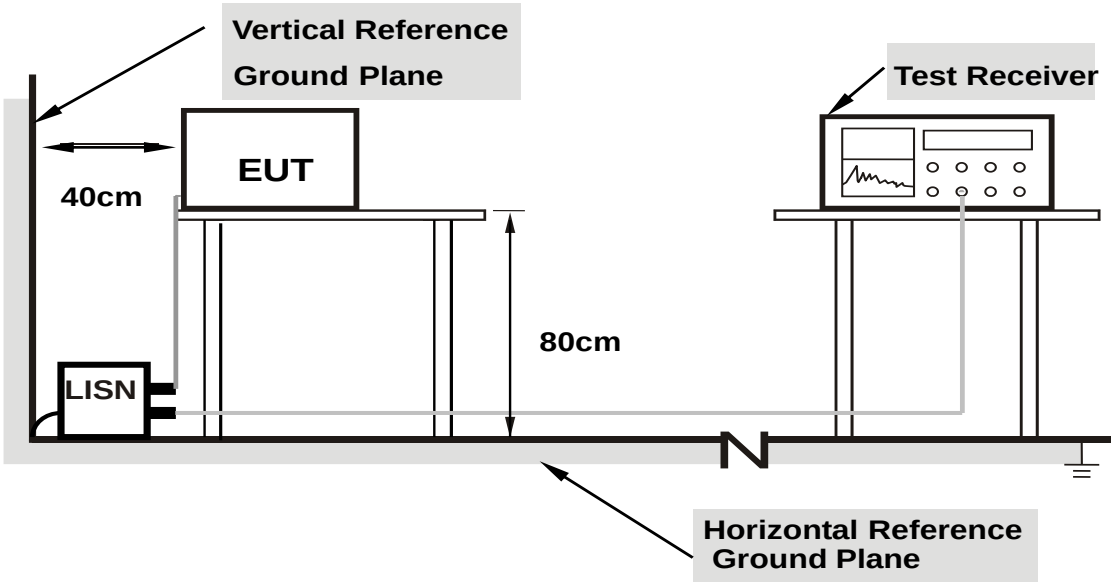
The following table is the setting of the receiver

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

3.2 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.

3.3 TEST SETUP



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

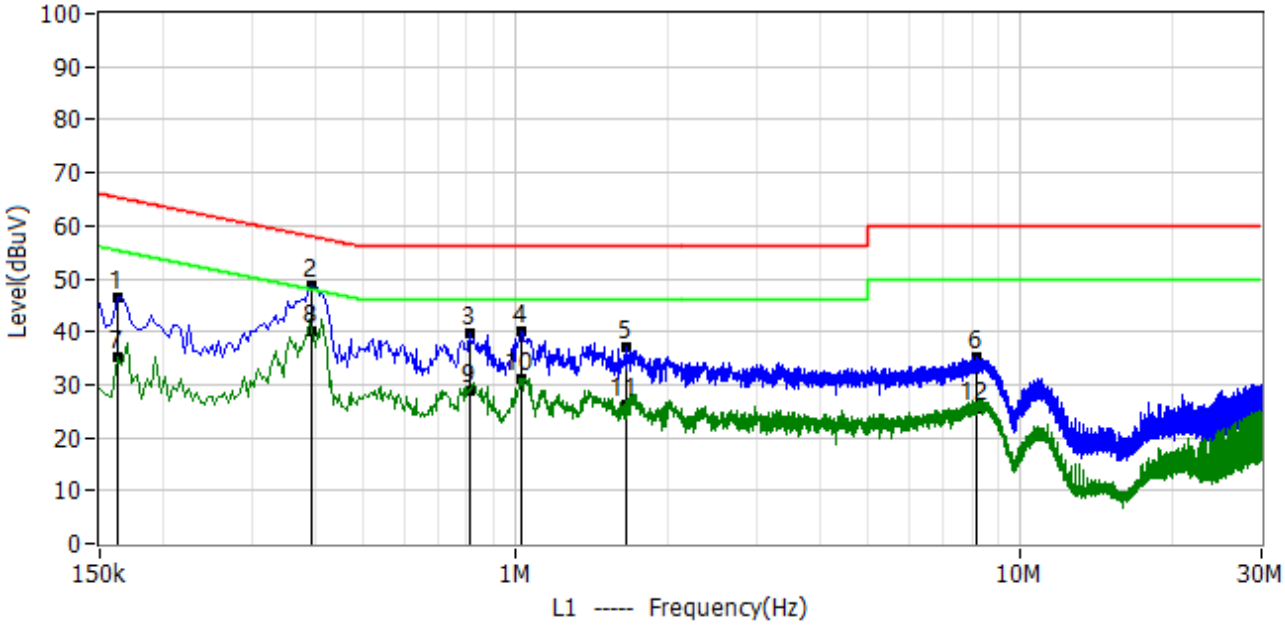
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.4 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.

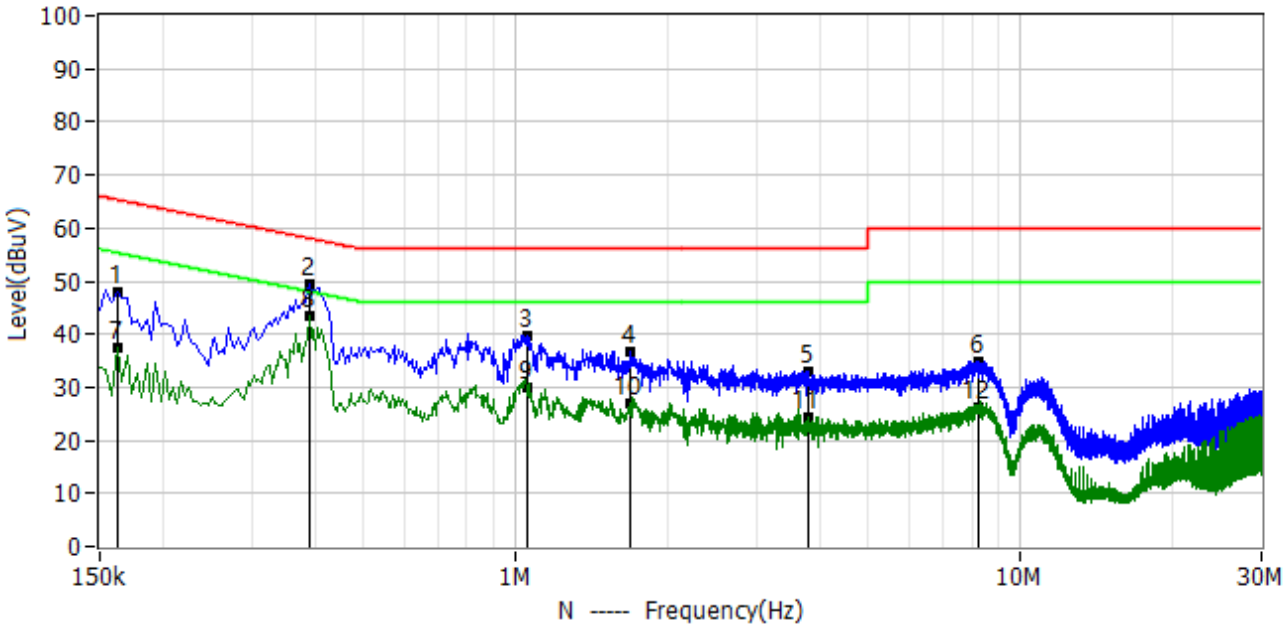
3.5 TEST RESULTS

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 24.6℃
M/N: RTX3471	Humidity: 49%RH
Test Voltage: POE 48VDC	Test Data: 2024-09-06
Test Mode: GFSK CH00	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.162	35.75	10.59	46.34	65.36	-19.02	QP	L1
2*	0.394	38.09	10.56	48.65	57.98	-9.33	QP	L1
3*	0.810	29.17	10.61	39.78	56.00	-16.22	QP	L1
4*	1.030	29.20	10.70	39.90	56.00	-16.10	QP	L1
5*	1.662	26.03	10.89	36.92	56.00	-19.08	QP	L1
6*	8.206	24.39	11.00	35.39	60.00	-24.61	QP	L1
7*	0.162	24.61	10.59	35.20	55.40	-20.20	AV	L1
8*	0.394	29.34	10.56	39.90	48.00	-8.10	AV	L1
9*	0.810	18.39	10.61	29.00	46.00	-17.00	AV	L1
10*	1.030	20.40	10.70	31.10	46.00	-14.90	AV	L1
11*	1.662	15.41	10.89	26.30	46.00	-19.70	AV	L1
12*	8.206	14.40	11.00	25.40	50.00	-24.60	AV	L1

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 24.6℃
M/N: RTX3471	Humidity: 49%RH
Test Voltage: POE 48VDC	Test Data: 2024-09-06
Test Mode: GFSK CH00	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.162	37.38	10.57	47.95	65.36	-17.41	QP	N
2*	0.390	38.79	10.59	49.38	58.06	-8.68	QP	N
3*	1.050	29.22	10.55	39.77	56.00	-16.23	QP	N
4*	1.678	25.97	10.69	36.66	56.00	-19.34	QP	N
5*	3.814	22.20	10.81	33.01	56.00	-22.99	QP	N
6*	8.222	24.11	10.88	34.99	60.00	-25.01	QP	N
7*	0.162	26.73	10.57	37.30	55.40	-18.10	AV	N
8*	0.390	32.91	10.59	43.50	48.10	-4.60	AV	N
9*	1.050	19.25	10.55	29.80	46.00	-16.20	AV	N
10*	1.678	16.31	10.69	27.00	46.00	-19.00	AV	N
11*	3.814	13.49	10.81	24.30	46.00	-21.70	AV	N
12*	8.222	15.52	10.88	26.40	50.00	-23.60	AV	N

4. RADIATED EMISSION MEASUREMENT

4.1 RADIATED EMISSION LIMITS

In case the emission fall within the Restricted band specified on Part15.205 (a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

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 (1GHz-25 GHz)

FREQUENCY (MHz)	(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).

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			

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP/AV
Start Frequency	9 KHz/150KHz (Peak/QP/AV)
Stop Frequency	150KHz/30MHz (Peak/QP/AV)
RB / VB (emission in restricted band)	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz); 200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP
Start Frequency	30 MHz (Peak/QP)
Stop Frequency	1000 MHz (Peak/QP)
RB / VB (emission in restricted band)	120 KHz / 300 KHz

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

For Restricted band

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 2310 to 2410 MHz Upper Band Edge: 2475 to 2500 MHz
RB / VB	1 MHz / 3 MHz(Peak) 1 MHz/1/T MHz(AVG)

Receiver Parameter	**Setting**
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

For Making radiated restricted band

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Upper Band Edge: 2475 to 2500 MHz
RB / VB	30 KHz / 100 KHz(Peak)

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Upper Band Edge: 2475 to 2500 MHz
RB / VB	1 MHz / 3 MHz(Peak)

4.2 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:

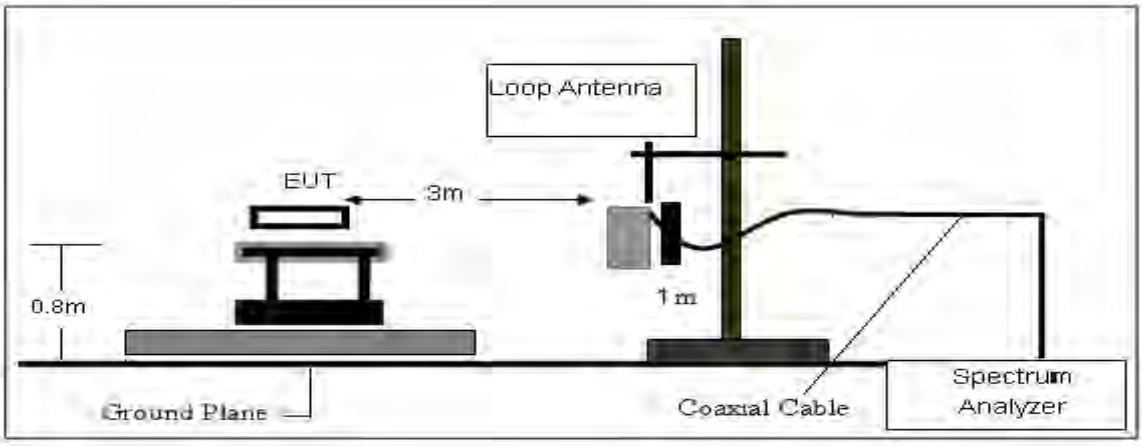
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

For Marker-delta：

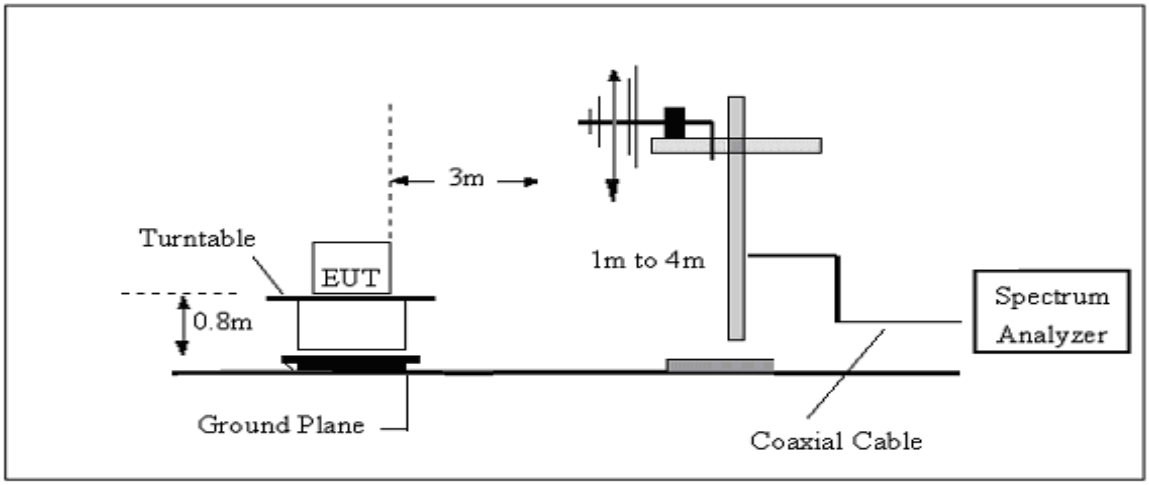
a. Set the instrument RBW to 1% of the total span (but never less than 30 kHz), with a VBW equal to or greater than three times the RBW. Record the peak levels of the fundamental emission and the relevant band-edge emission. Observe the stored trace and measure the amplitude delta between the peak of the fundamental and the peak of the band-edge emission.
b. Use a 1 MHz RBW, a 3 MHz VBW, and a peak detector, Observe the stored trace and measure the peak of the fundamental.AVG=Peak+20*Log(Duty cycle)
c. Subtract the delta measured in step a) from the field strengths measured in step b). The resulting field strengths are then used to determine band-edge emissions compliance.

4.3 TEST SETUP

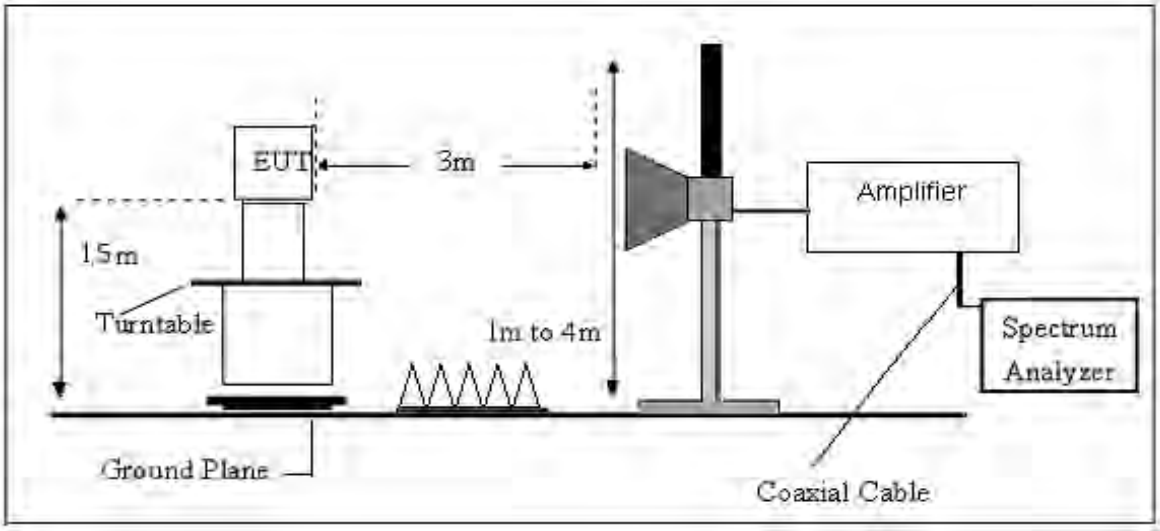
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



4.4 EUT OPERATING CONDITIONS

Please refer to section 3.4 of this report.

4.5 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

4.6 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:

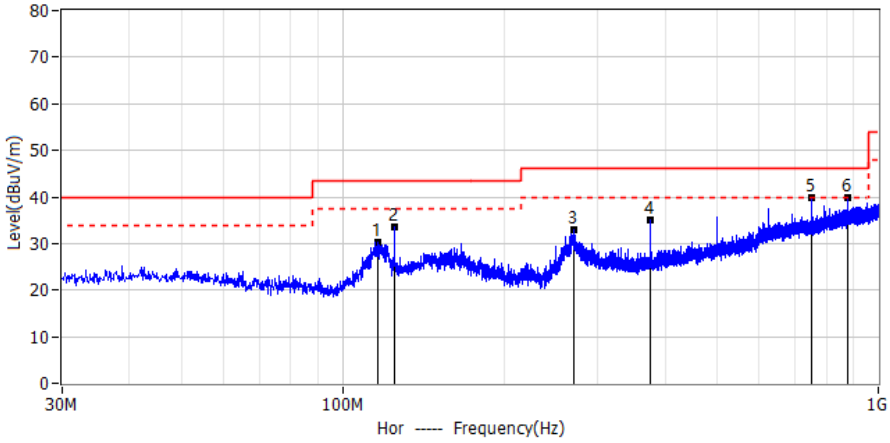
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

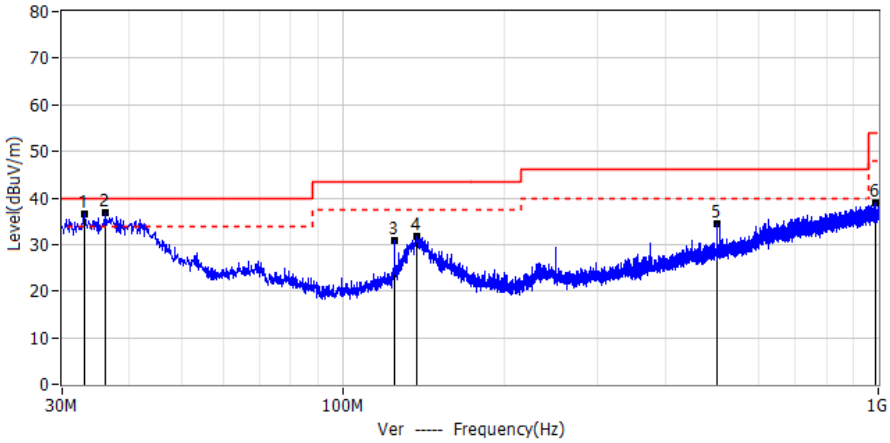
Note:1. All mode has been tested, only shown the worst case data,
2. The peak value is less than the AV limit, so no AV data is displayed.

Results of Radiated Emissions (30MHz~1000MHz)

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 28.2℃
M/N: RTX3471	Humidity: 50%RH
Test Voltage: POE 48VDC	Test Data: 2024-09-09
Test Mode: GFSK CH00	
Note:	



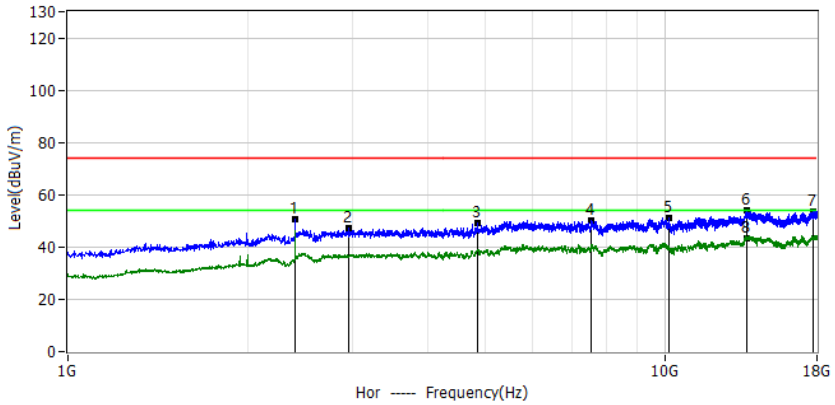
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	116.694	11.22	18.99	30.21	43.50	-13.29	QP	Hor
2*	124.939	13.65	20.05	33.70	43.50	-9.80	QP	Hor
3*	269.711	12.89	20.00	32.89	46.00	-13.11	QP	Hor
4*	374.956	11.31	23.77	35.08	46.00	-10.92	QP	Hor
5*	749.983	8.91	30.81	39.72	46.00	-6.28	QP	Hor
6*	875.113	7.19	32.79	39.98	46.00	-6.02	QP	Hor



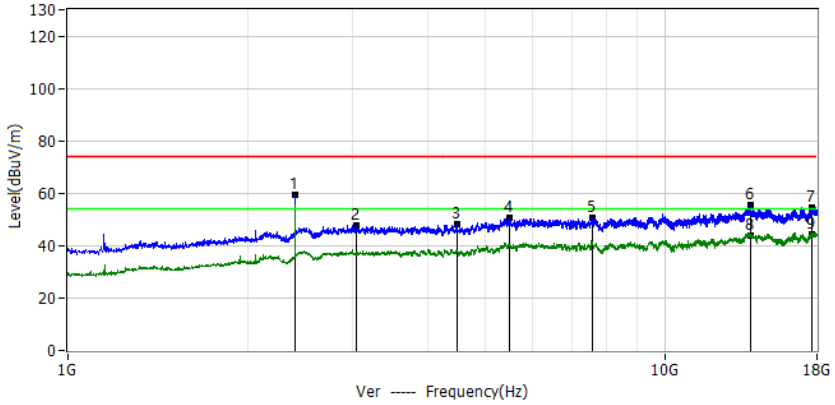
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	33.031	16.92	19.53	36.45	40.00	-3.55	QP	Ver
2*	36.063	16.96	19.94	36.90	40.00	-3.10	QP	Ver
3*	124.939	10.95	20.05	31.00	43.50	-12.50	QP	Ver
4*	137.670	11.03	20.60	31.63	43.50	-11.87	QP	Ver
5*	499.965	7.81	26.55	34.36	46.00	-11.64	QP	Ver
6*	986.178	4.88	34.15	39.03	54.00	-14.97	QP	Ver

Results of Radiated Emissions (Above 1000MHz)

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 25℃
M/N: RTX3471	Humidity: 55%RH
Test Voltage: POE 48VDC	Test Data: 2024-09-13
Test Mode: GFSK CH00	
Note:	

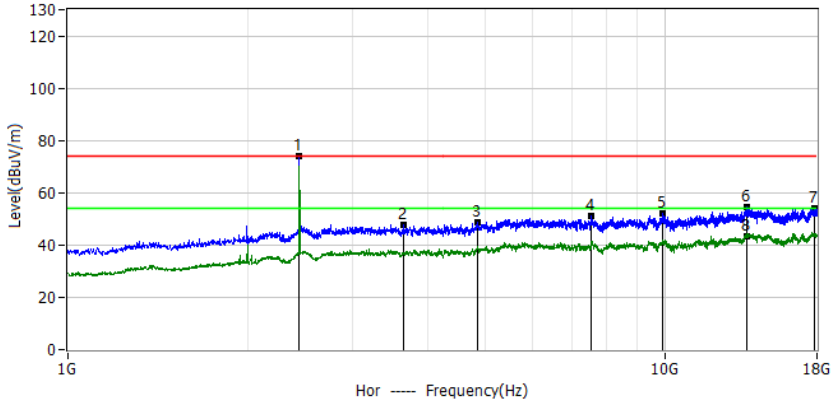


No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2400.4000	62.09	-11.69	50.40	--	--	PK	Hor
2*	2961.4000	55.99	-8.91	47.08	74.00	-26.92	PK	Hor
3*	4861.1000	55.17	-6.07	49.10	74.00	-24.90	PK	Hor
4*	7530.1000	58.73	-8.42	50.31	74.00	-23.69	PK	Hor
5*	10173.6000	57.82	-6.54	51.28	74.00	-22.72	PK	Hor
6*	13760.6000	57.76	-3.50	54.26	74.00	-19.74	PK	Hor
7*	17768.4000	56.53	-2.73	53.80	74.00	-20.20	PK	Hor
8*	13760.6000	46.80	-3.50	43.30	54.00	-10.70	AV	Hor

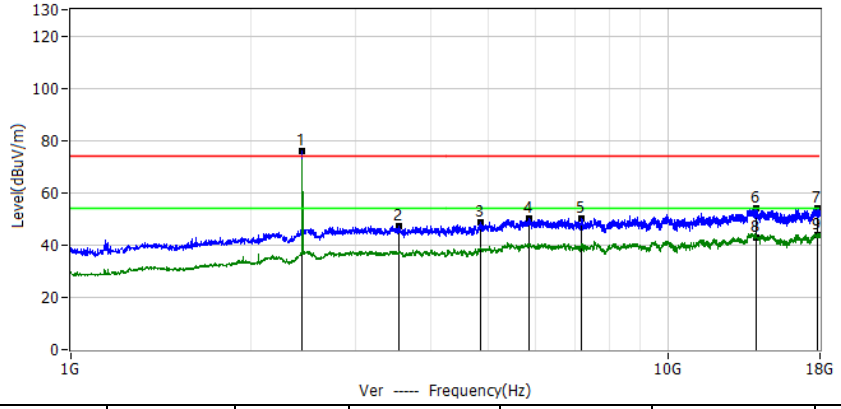


No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2402.5000	71.10	-11.67	59.43	--	--	PK	Ver
2*	3037.9000	56.47	-8.71	47.76	74.00	-26.24	PK	Ver
3*	4493.5000	54.25	-6.28	47.97	74.00	-26.03	PK	Ver
4*	5492.2000	57.40	-6.87	50.53	74.00	-23.47	PK	Ver
5*	7566.2000	58.94	-8.52	50.42	74.00	-23.58	PK	Ver
6*	13926.4000	58.37	-3.09	55.28	74.00	-18.72	PK	Ver
7*	17645.1000	57.56	-2.82	54.74	74.00	-19.26	PK	Ver
8*	13926.4000	47.09	-3.09	44.00	54.00	-10.00	AV	Ver
9*	17645.1000	47.22	-2.82	44.40	54.00	-9.60	AV	Ver

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 25℃
M/N: RTX3471	Humidity: 55%RH
Test Voltage: POE 48VDC	Test Data: 2024-09-13
Test Mode: GFSK CH23	
Note:	

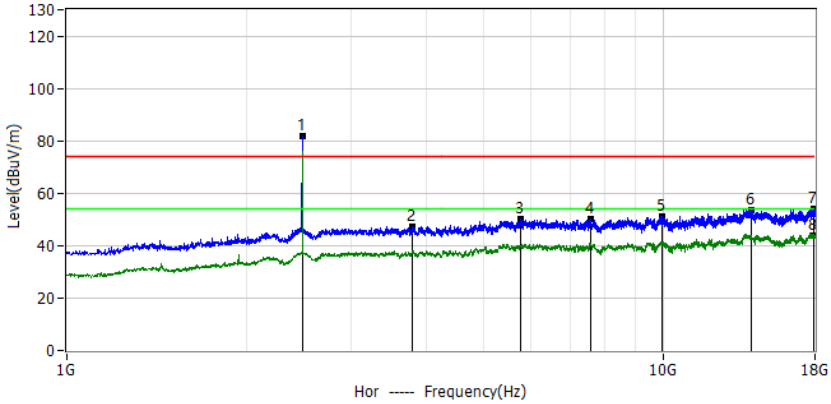


No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2440.7000	85.10	-11.28	73.82	--	--	PK	Hor
2*	3645.6000	55.49	-7.70	47.79	74.00	-26.21	PK	Hor
3*	4867.5000	54.85	-6.06	48.79	74.00	-25.21	PK	Hor
4*	7530.1000	59.61	-8.42	51.19	74.00	-22.81	PK	Hor
5*	9922.9000	58.63	-6.65	51.98	74.00	-22.02	PK	Hor
6*	13741.5000	58.01	-3.55	54.46	74.00	-19.54	PK	Hor
7*	17847.0000	56.60	-2.68	53.92	74.00	-20.08	PK	Hor
8*	13741.5000	46.65	-3.55	43.10	54.00	-10.90	AV	Hor

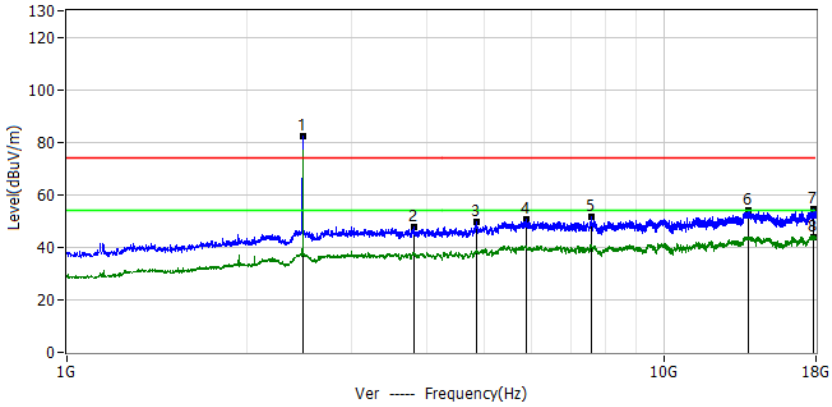


No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
!1*	2440.7000	87.23	-11.28	75.95	--	--	PK	Ver
2*	3552.1000	55.21	-7.93	47.28	74.00	-26.72	PK	Ver
3*	4852.6000	54.86	-6.07	48.79	74.00	-25.21	PK	Ver
4*	5853.5000	57.25	-7.23	50.02	74.00	-23.98	PK	Ver
5*	7179.5000	58.55	-8.19	50.36	74.00	-23.64	PK	Ver
6*	14087.9000	57.32	-3.26	54.06	74.00	-19.94	PK	Ver
7*	17798.1000	56.88	-2.71	54.17	74.00	-19.83	PK	Ver
8*	14087.9000	46.26	-3.26	43.00	54.00	-11.00	AV	Ver
9*	17798.1000	46.71	-2.71	44.00	54.00	-10.00	AV	Ver

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 25℃
M/N: RTX3471	Humidity: 55%RH
Test Voltage: POE 48VDC	Test Data: 2024-09-13
Test Mode: GFSK CH47	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
!1*	2481.1000	92.61	-10.87	81.74	--	--	PK	Hor
2*	3798.6000	54.80	-7.34	47.46	74.00	-26.54	PK	Hor
3*	5783.4000	57.19	-7.17	50.02	74.00	-23.98	PK	Hor
4*	7551.4000	58.49	-8.48	50.01	74.00	-23.99	PK	Hor
5*	9952.6000	57.69	-6.60	51.09	74.00	-22.91	PK	Hor
6*	14047.5000	56.70	-3.09	53.61	74.00	-20.39	PK	Hor
7*	17934.1000	56.81	-2.62	54.19	74.00	-19.81	PK	Hor
8*	17934.1000	46.22	-2.62	43.60	54.00	-10.40	AV	Hor



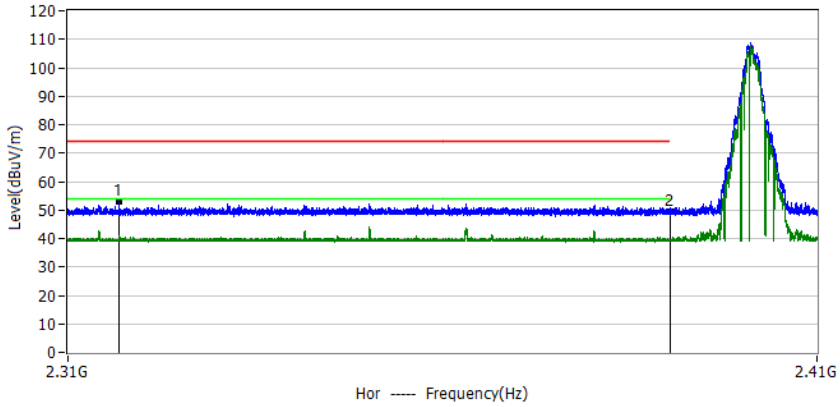
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
!1*	2483.2000	92.98	-10.85	82.13	--	--	PK	Ver
2*	3811.4000	54.80	-7.30	47.50	74.00	-26.50	PK	Ver
3*	4863.2000	55.73	-6.07	49.66	74.00	-24.34	PK	Ver
4*	5889.6000	57.85	-7.27	50.58	74.00	-23.42	PK	Ver
5*	7553.5000	59.89	-8.48	51.41	74.00	-22.59	PK	Ver
6*	13873.2000	57.08	-3.22	53.86	74.00	-20.14	PK	Ver
7*	17806.6000	57.42	-2.71	54.71	74.00	-19.29	PK	Ver
8*	17806.6000	46.61	-2.71	43.90	54.00	-10.10	AV	Ver

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. The highest waveform in the figure is 2.4GHz Fundamental.

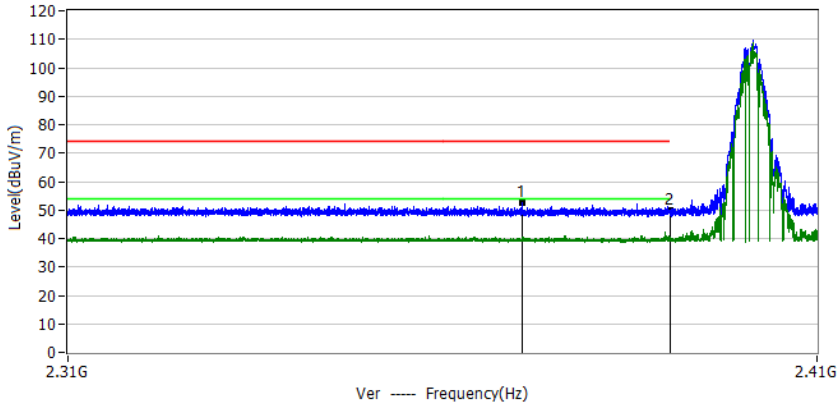
4.6 TEST RESULTS (BAND EDGE REQUIREMENTS)

Note:
1. All mode has been tested, only shown the worst case data.
2. The peak value is less than the AV limit, so no AV data is displayed.

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 25℃
M/N: RTX3471	Humidity: 55%RH
Test Voltage: Battery	Test Data: 2024-09-13
Test Mode: GFSK CH00	
Note:	



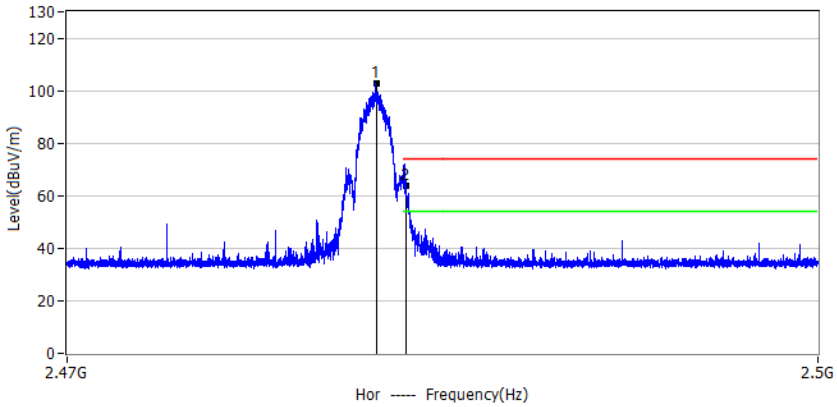
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2316.7000	18.73	34.17	52.90	74.00	-21.10	PK	Hor
2*	2390.0000	15.40	34.10	49.50	74.00	-24.50	PK	Hor



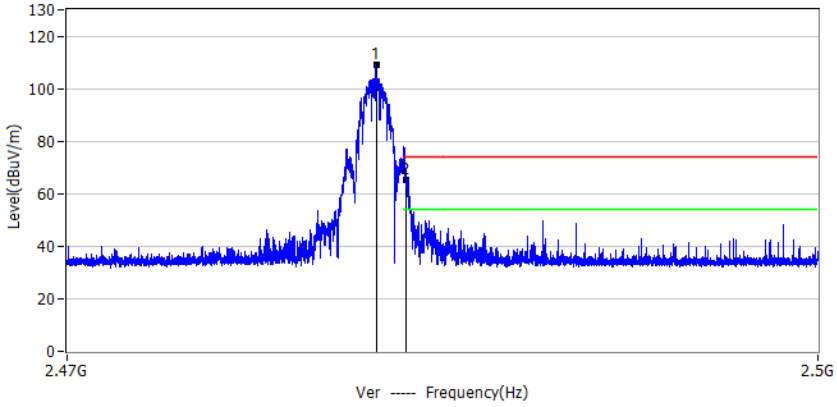
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2370.1000	18.42	34.12	52.54	74.00	-21.46	PK	Ver
2*	2390.0000	15.70	34.10	49.80	74.00	-24.20	PK	Ver

Test incremental Delta value using RBW=30KHz:

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 25.3℃
M/N: RTX3471	Humidity: 54%RH
Test Voltage: POE 48VDC	Test Data: 2024-09-20
Test Mode: GFSK CH47	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2482.3000	68.36	34.43	102.79	/	/	PK	Hor
2*	2483.5000	29.56	34.44	64.00	/	/	PK	Hor



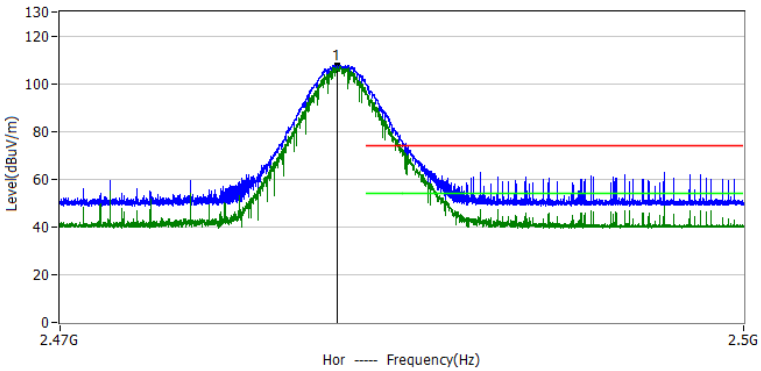
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2482.3000	74.72	34.43	109.15	/	/	PK	Ver
2*	2483.5000	30.96	34.44	65.40	/	/	PK	Ver

Delta value calculation

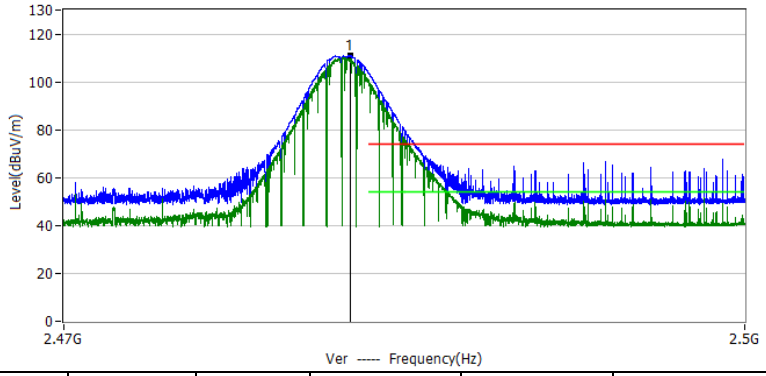
Test Mode	Detector	Frequency (MHz)	Level (dBuv/m)	Delta (dB)	Polarization
GFSK CH47	Peak	2482.3	109.15	-	Vertical
		2483.5	65.4	43.75	Vertical
	Peak	2482.3	102.79	-	Horizontal
		2483.5	64	38.79	Horizontal

Test Fundamental PK value using RBW=1MHz:

Project: LGT24H184	Test Engineer: LiuH
EUT: Smart-hopping 2.0 Access Point 2.4 GHz	Temperature: 25.3℃
M/N: RTX3471	Humidity: 54%RH
Test Voltage: Battery	Test Data: 2024-09-20
Test Mode: GFSK CH47	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2482.1000	73.41	34.43	107.84	/	/	PK	Hor



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2482.6000	76.77	34.43	111.20	/	/	PK	Ver

Peak correction Value

Test Mode	Frequency (MHz)	Detector	Fundamental PK value (dBuv/m)	Delta (dB)	Level (dBuv/m)	Limit (dBuv/m)	Margin dB	Polarization
GFSK CH47	2483.5	PK	111.2	43.75	67.45	74.00	-6.55	Vertical
	2483.5	PK	107.84	38.79	69.05	74.00	-4.95	Horizontal

Average correction Value

Test Mode	Frequency (MHz)	Fundamental PK value (dBuv/m)	Duty cycle Factor (dB)	Fundamental AVG Value (dBuv/m)	Delta (dB)	Level (dBuv/m)	Limit (dBuv/m)	Margin dB	Polarization
GFSK CH47	2483.5	111.2	-28.22	82.98	43.75	39.23	54.00	-14.77	Vertical
	2483.5	107.84	-28.22	79.62	38.79	40.83	54.00	-13.17	Horizontal

5. CONDUCTED SPURIOUS & BAND EDGE EMISSION

5.1 LIMIT

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 2300 – 2407 MHz Upper Band Edge: 2475 – 2500 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

5.3 TEST SETUP

The EUT which is powered by the ${ POWER BY}, is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading. Make the measurement with the spectrum analyzer's resolution bandwidth(RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

5.4 EUT OPERATION CONDITIONS

Please refer to section 3.4 of this report.

5.5 TEST RESULTS

For the measurement records, refer to the appendix I.

Note: Not recorded emission from 9 KHz to 30 MHz as emission level at least 20dBc lower than emission limit.

6. POWER SPECTRAL DENSITY TEST

6.1 LIMIT

FCC Part 15.247, Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	≤8 dBm (RBW≥3KHz)	2400-2483.5	PASS

6.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to: 100 kHz ≥ RBW ≥ 3 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.3 TEST SETUP

6.4 EUT OPERATION CONDITIONS

Please refer to section 3.4 of this report.

6.5 TEST RESULTS

For the measurement records, refer to the appendix I.

7. BANDWIDTH TEST

7.1 LIMIT

FCC Part 15.247, Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

7.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW≥3RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be≥6 dB.

7.3 TEST SETUP

7.4 EUT OPERATION CONDITIONS

Please refer to section 3.4 of this report.

7.5 TEST RESULTS

For the measurement records, refer to the appendix I.

8. PEAK OUTPUT POWER TEST

8.1 LIMIT

FCC Part 15.247, Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Output Power	1 watt or 30dBm	2400-2483.5	PASS

8.2 TEST PROCEDURE

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

RBW ≥ DTS bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ [3 × RBW].
c) Set span ≥ [3 × RBW].
d) Sweep time = auto couple.
e) Detector = peak.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

Integrated band power method:

The following procedure can be used when the maximum available RBW of the instrument is less than the

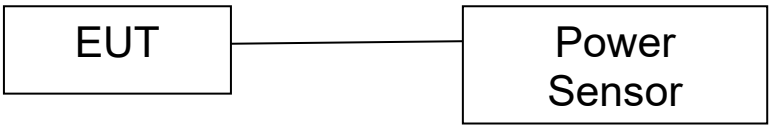
DTS bandwidth:

a) Set the RBW = 1 MHz.
b) Set the VBW ≥ [3 × RBW].
c) Set the span ≥ [1.5 × DTS bandwidth].
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

PKPM1 Peak power meter method:

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

8.3 TEST SETUP



8.4 EUT OPERATION CONDITIONS

Please refer to section 3.4 of this report.

8.5 TEST RESULTS

For the measurement records, refer to the appendix I.

9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

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.

9.2 EUT ANTENNA

The EUT antenna is Stamped metal 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	GFSK	2401.05	Ant1	3.88	14.11	2.58
NVNT	GFSK	2440.8	Ant1	3.88	14.11	2.58
NVNT	GFSK	2482.27	Ant1	3.88	14.11	2.58
NVNT	PI/2-DBPSK	2401.05	Ant1	3.88	14.11	2.58
NVNT	PI/2-DBPSK	2440.8	Ant1	3.88	14.11	2.58
NVNT	PI/2-DBPSK	2482.27	Ant1	3.88	14.11	2.58
NVNT	PI/4-QPSK	2401.05	Ant1	3.88	14.11	2.58
NVNT	PI/4-QPSK	2440.8	Ant1	3.88	14.11	2.58
NVNT	PI/4-QPSK	2482.27	Ant1	3.88	14.11	2.58

Test Graphs

Duty Cycle NVNT GFSK 2401.05MHz Ant1

Duty Cycle NVNT GFSK 2440.8MHz Ant1

Duty Cycle NVNT GFSK 2482.27MHz Ant1

Duty Cycle NVNT PI/2-DBPSK 2401.05MHz Ant1

Duty Cycle NVNT PI/2-DBPSK 2440.8MHz Ant1

Duty Cycle NVNT PI/2-DBPSK 2482.27MHz Ant1

Duty Cycle NVNT PI/4-QPSK 2401.05MHz Ant1

Duty Cycle NVNT PI/4-QPSK 2440.8MHz Ant1

Duty Cycle NVNT PI/4-QPSK 2482.27MHz Ant1

Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	GFSK	2401.05	Ant1	16.82	30	Pass
NVNT	GFSK	2440.8	Ant1	16.8	30	Pass
NVNT	GFSK	2482.27	Ant1	16.15	30	Pass
NVNT	PI/2-DBPSK	2401.05	Ant1	16.29	30	Pass
NVNT	PI/2-DBPSK	2440.8	Ant1	16.28	30	Pass
NVNT	PI/2-DBPSK	2482.27	Ant1	15.6	30	Pass
NVNT	PI/4-QPSK	2401.05	Ant1	15.96	30	Pass
NVNT	PI/4-QPSK	2440.8	Ant1	15.89	30	Pass
NVNT	PI/4-QPSK	2482.27	Ant1	15.43	30	Pass

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	GFSK	2401.05	Ant1	0.752	0.5	Pass
NVNT	GFSK	2440.8	Ant1	0.718	0.5	Pass
NVNT	GFSK	2482.27	Ant1	0.747	0.5	Pass
NVNT	PI/2-DBPSK	2401.05	Ant1	1.231	0.5	Pass
NVNT	PI/2-DBPSK	2440.8	Ant1	1.143	0.5	Pass
NVNT	PI/2-DBPSK	2482.27	Ant1	1.221	0.5	Pass
NVNT	PI/4-QPSK	2401.05	Ant1	1.182	0.5	Pass
NVNT	PI/4-QPSK	2440.8	Ant1	1.224	0.5	Pass
NVNT	PI/4-QPSK	2482.27	Ant1	1.091	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT GFSK 2401.05MHz Ant1

-6dB Bandwidth NVNT GFSK 2440.8MHz Ant1

-6dB Bandwidth NVNT GFSK 2482.27MHz Ant1

-6dB Bandwidth NVNT PI/2-DBPSK 2401.05MHz Ant1

-6dB Bandwidth NVNT PI/2-DBPSK 2440.8MHz Ant1

-6dB Bandwidth NVNT PI/2-DBPSK 2482.27MHz Ant1

-6dB Bandwidth NVNT PI/4-QPSK 2401.05MHz Ant1

-6dB Bandwidth NVNT PI/4-QPSK 2440.8MHz Ant1

-6dB Bandwidth NVNT PI/4-QPSK 2482.27MHz Ant1

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	GFSK	2401.05	Ant1	1.202
NVNT	GFSK	2440.8	Ant1	1.23
NVNT	GFSK	2482.27	Ant1	1.199
NVNT	PI/2-DBPSK	2401.05	Ant1	1.472
NVNT	PI/2-DBPSK	2440.8	Ant1	1.477
NVNT	PI/2-DBPSK	2482.27	Ant1	1.453
NVNT	PI/4-QPSK	2401.05	Ant1	1.473
NVNT	PI/4-QPSK	2440.8	Ant1	1.469
NVNT	PI/4-QPSK	2482.27	Ant1	1.453

Test Graphs

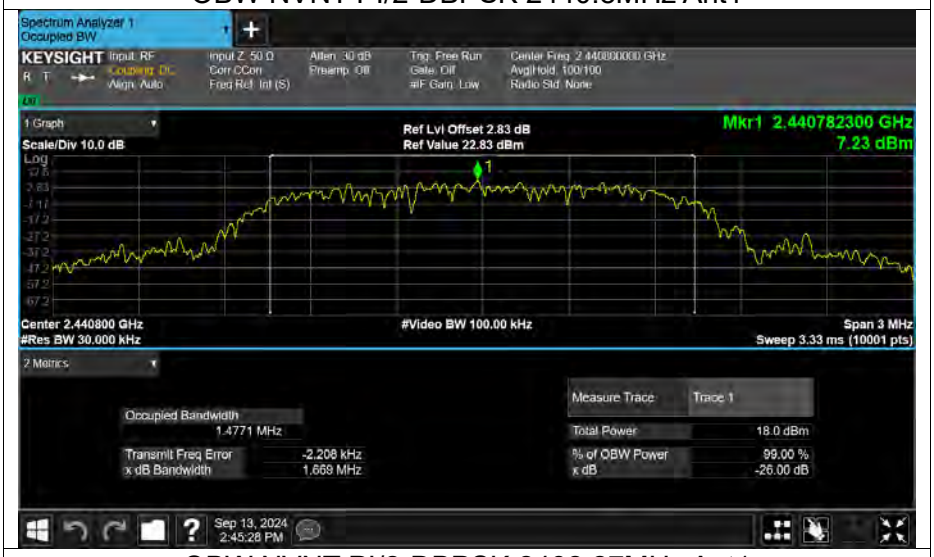
OBW NVNT GFSK 2401.05MHz Ant1

OBW NVNT GFSK 2440.8MHz Ant1

OBW NVNT GFSK 2482.27MHz Ant1

OBW NVNT PI/2-DBPSK 2401.05MHz Ant1

OBW NVNT PI/2-DBPSK 2440.8MHz Ant1



OBW NVNT PI/2-DBPSK 2482.27MHz Ant1

OBW NVNT PI/4-QPSK 2401.05MHz Ant1

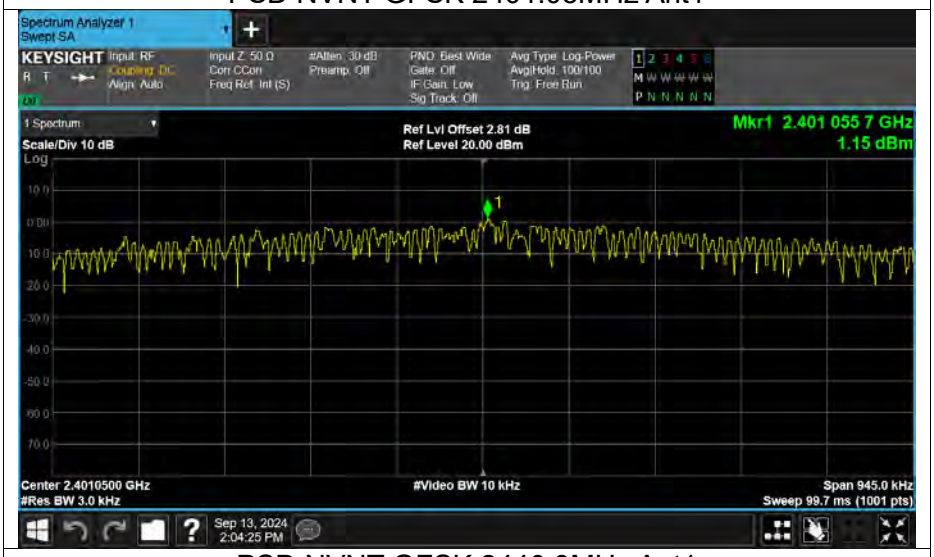
OBW NVNT PI/4-QPSK 2440.8MHz Ant1

OBW NVNT PI/4-QPSK 2482.27MHz Ant1

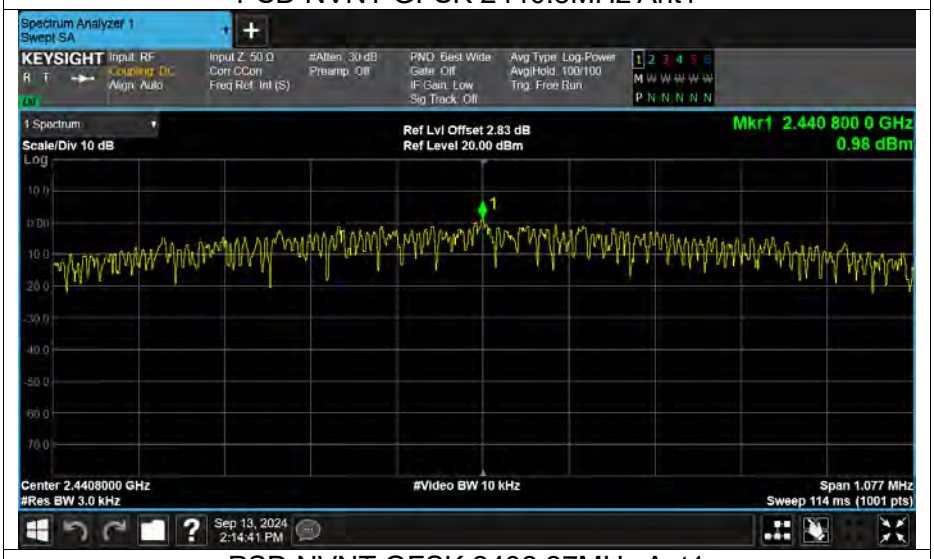
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	GFSK	2401.05	Ant1	1.15	8	Pass
NVNT	GFSK	2440.8	Ant1	0.98	8	Pass
NVNT	GFSK	2482.27	Ant1	0.36	8	Pass
NVNT	PI/2-DBPSK	2401.05	Ant1	-3.25	8	Pass
NVNT	PI/2-DBPSK	2440.8	Ant1	-3.76	8	Pass
NVNT	PI/2-DBPSK	2482.27	Ant1	-3.96	8	Pass
NVNT	PI/4-QPSK	2401.05	Ant1	-1.52	8	Pass
NVNT	PI/4-QPSK	2440.8	Ant1	-0.95	8	Pass
NVNT	PI/4-QPSK	2482.27	Ant1	-1.82	8	Pass

Test Graphs
PSD NVNT GFSK 2401.05MHz Ant1



PSD NVNT GFSK 2440.8MHz Ant1

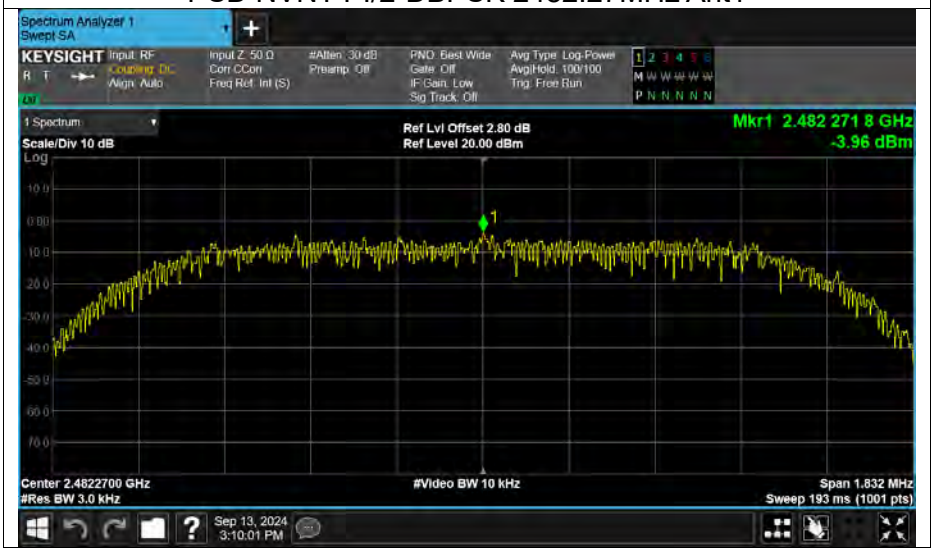


PSD NVNT GFSK 2482.27MHz Ant1

PSD NVNT PI/2-DBPSK 2401.05MHz Ant1

PSD NVNT PI/2-DBPSK 2440.8MHz Ant1

PSD NVNT PI/2-DBPSK 2482.27MHz Ant1



PSD NVNT PI/4-QPSK 2401.05MHz Ant1

PSD NVNT PI/4-QPSK 2440.8MHz Ant1

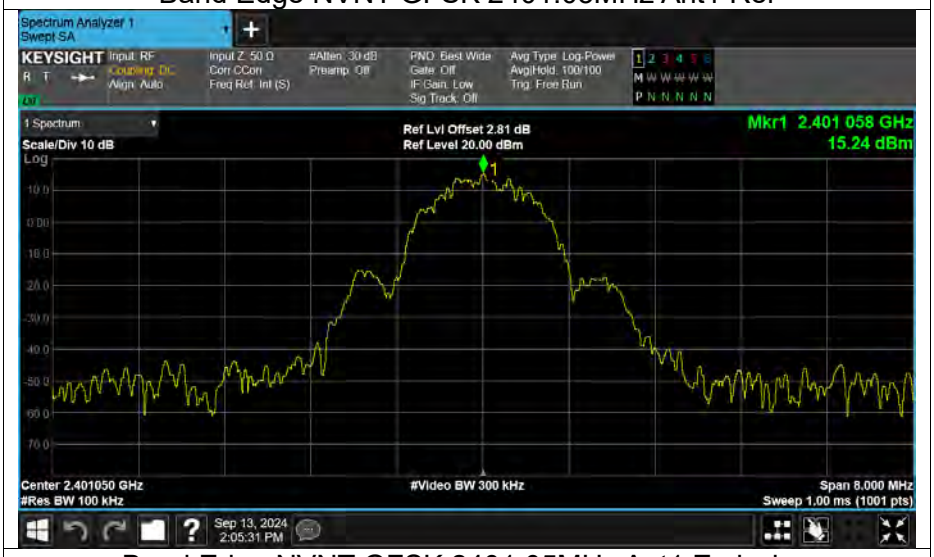
PSD NVNT PI/4-QPSK 2482.27MHz Ant1

Band Edge

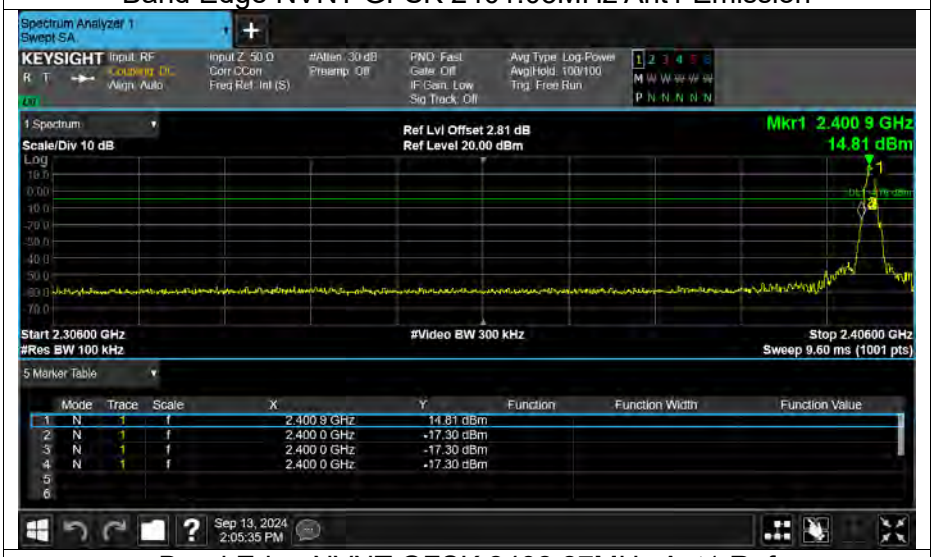
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	GFSK	2401.05	Ant1	-32.53	-20	Pass
NVNT	GFSK	2482.27	Ant1	-35.45	-20	Pass
NVNT	PI/2-DBPSK	2401.05	Ant1	-41.94	-20	Pass
NVNT	PI/2-DBPSK	2482.27	Ant1	-47.13	-20	Pass
NVNT	PI/4-QPSK	2401.05	Ant1	-41.5	-20	Pass
NVNT	PI/4-QPSK	2482.27	Ant1	-41.17	-20	Pass

Test Graphs

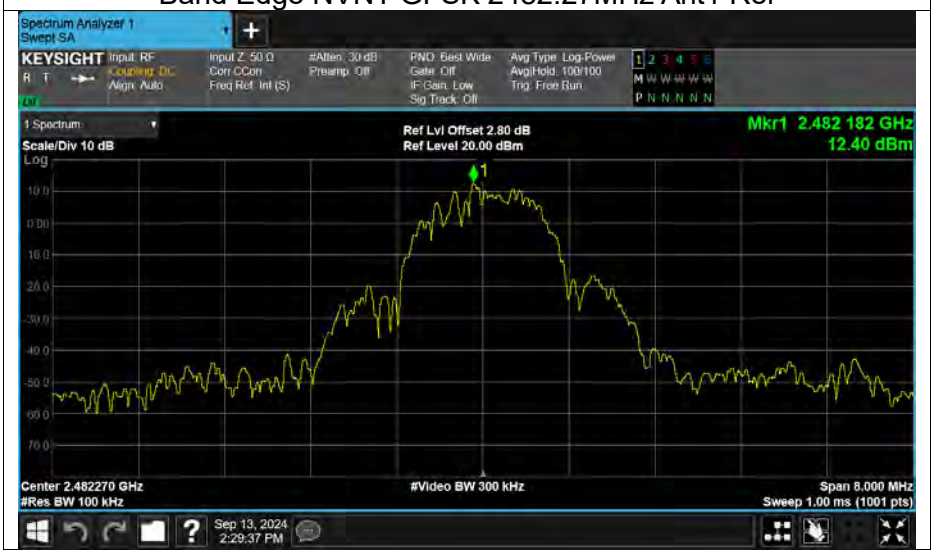
Band Edge NVNT GFSK 2401.05MHz Ant1 Ref



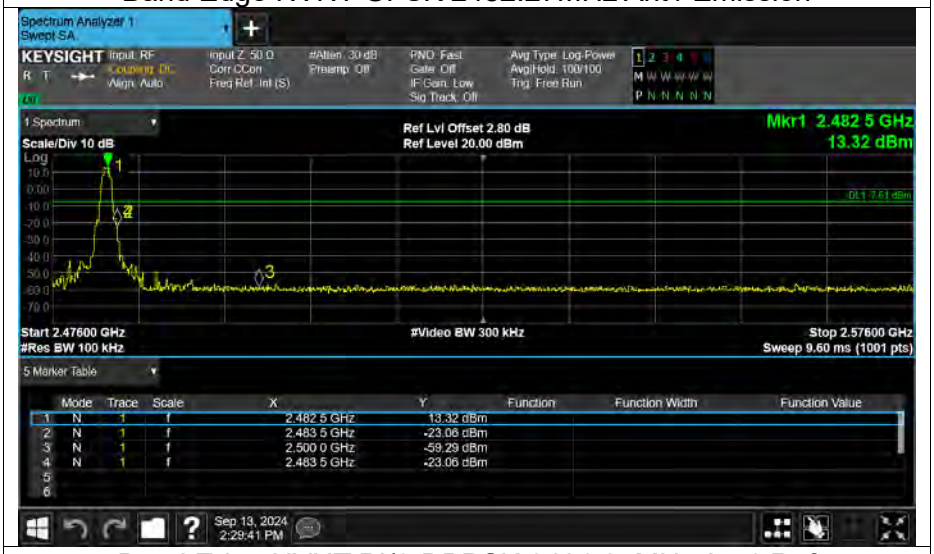
Band Edge NVNT GFSK 2401.05MHz Ant1 Emission



Band Edge NVNT GFSK 2482.27MHz Ant1 Ref

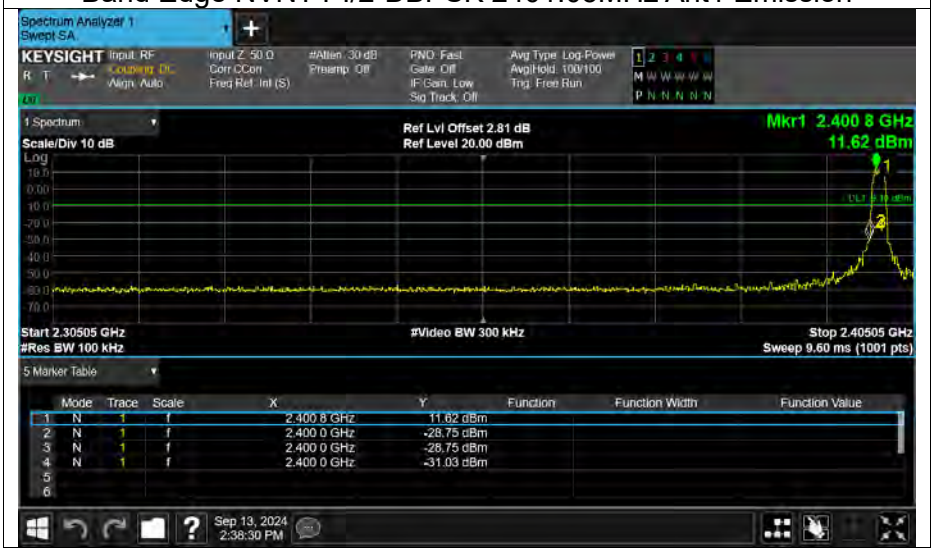


Band Edge NVNT GFSK 2482.27MHz Ant1 Emission

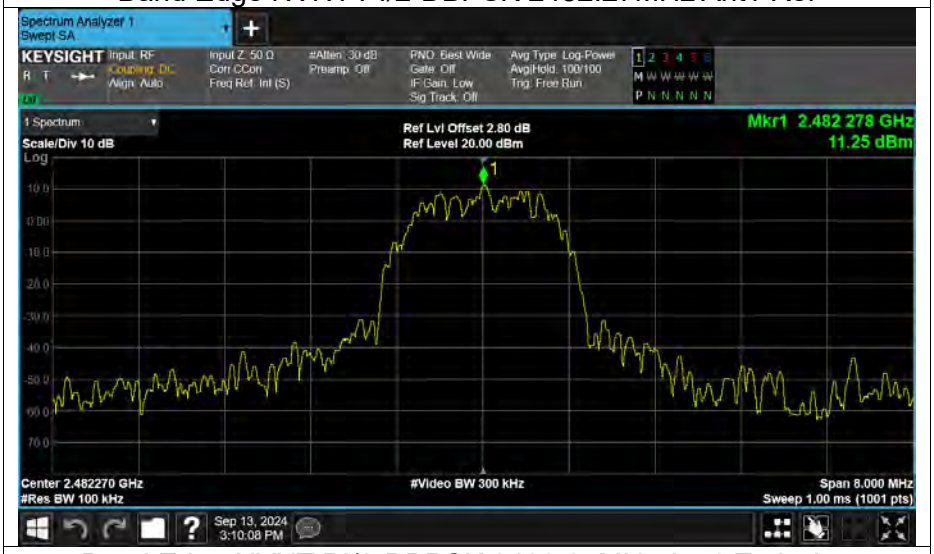


Band Edge NVNT PI/2-DBPSK 2401.05MHz Ant1 Ref

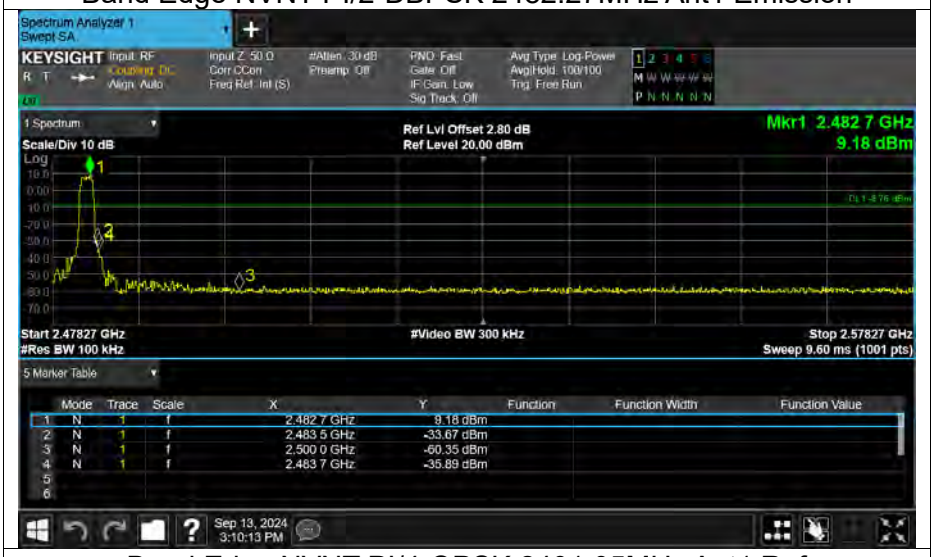
Band Edge NVNT PI/2-DBPSK 2401.05MHz Ant1 Emission



Band Edge NVNT PI/2-DBPSK 2482.27MHz Ant1 Ref



Band Edge NVNT PI/2-DBPSK 2482.27MHz Ant1 Emission

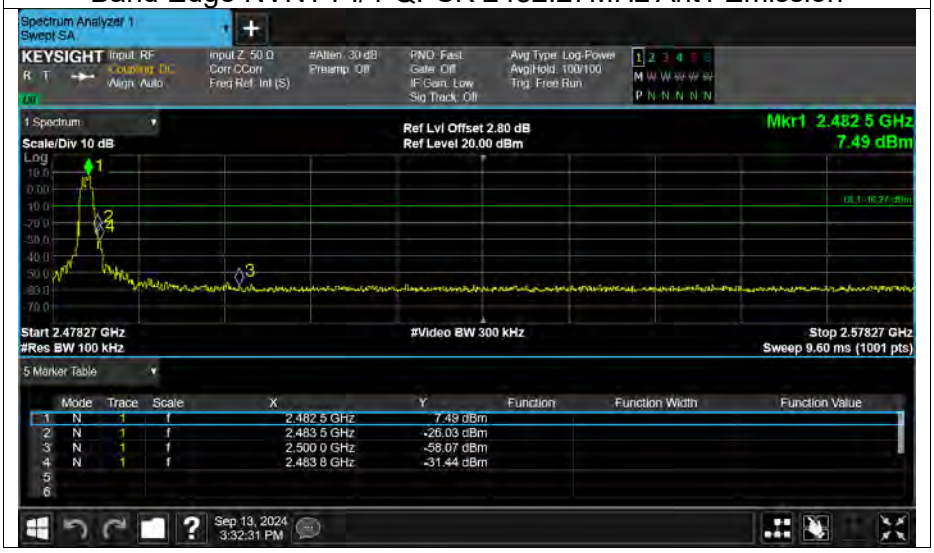


Band Edge NVNT PI/4-QPSK 2401.05MHz Ant1 Ref

Band Edge NVNT PI/4-QPSK 2401.05MHz Ant1 Emission

Band Edge NVNT PI/4-QPSK 2482.27MHz Ant1 Ref

Band Edge NVNT PI/4-QPSK 2482.27MHz Ant1 Emission



Conducted RF Spurious Emission

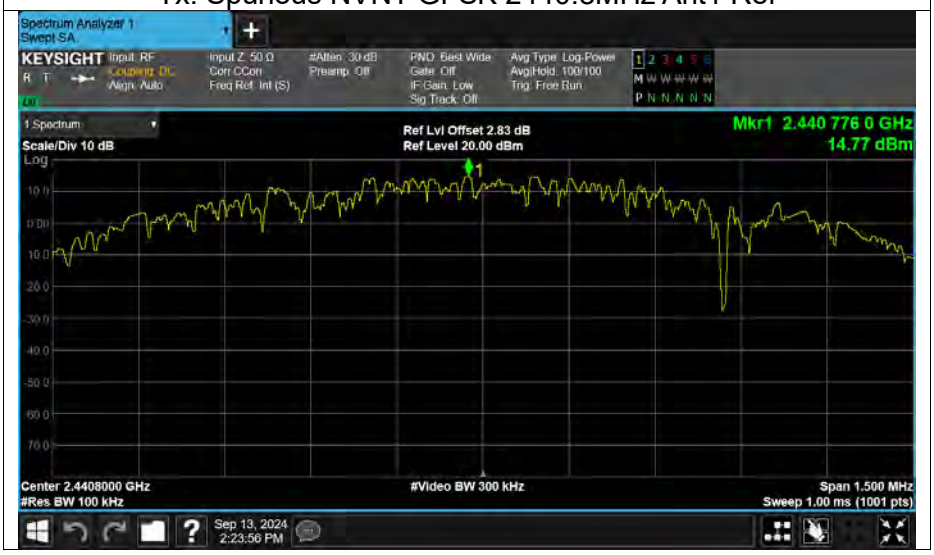
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	GFSK	2401.05	Ant1	-63.81	-20	Pass
NVNT	GFSK	2440.8	Ant1	-63.67	-20	Pass
NVNT	GFSK	2482.27	Ant1	-64.23	-20	Pass
NVNT	PI/2-DBPSK	2401.05	Ant1	-60.98	-20	Pass
NVNT	PI/2-DBPSK	2440.8	Ant1	-60.51	-20	Pass
NVNT	PI/2-DBPSK	2482.27	Ant1	-59.43	-20	Pass
NVNT	PI/4-QPSK	2401.05	Ant1	-58.75	-20	Pass
NVNT	PI/4-QPSK	2440.8	Ant1	-60.07	-20	Pass
NVNT	PI/4-QPSK	2482.27	Ant1	-59.74	-20	Pass

Test Graphs

Tx. Spurious NVNT GFSK 2401.05MHz Ant1 Ref

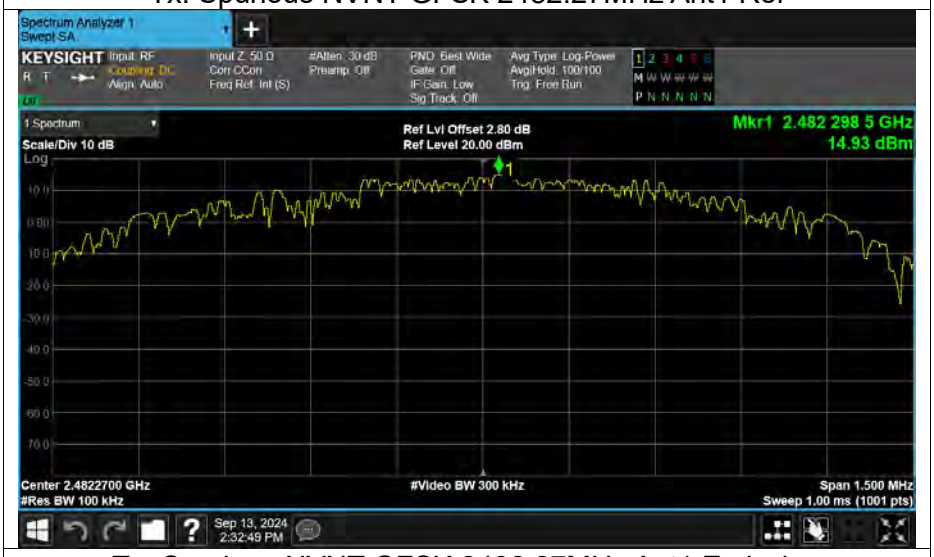
Tx. Spurious NVNT GFSK 2401.05MHz Ant1 Emission

Tx. Spurious NVNT GFSK 2440.8MHz Ant1 Ref



Tx. Spurious NVNT GFSK 2440.8MHz Ant1 Emission

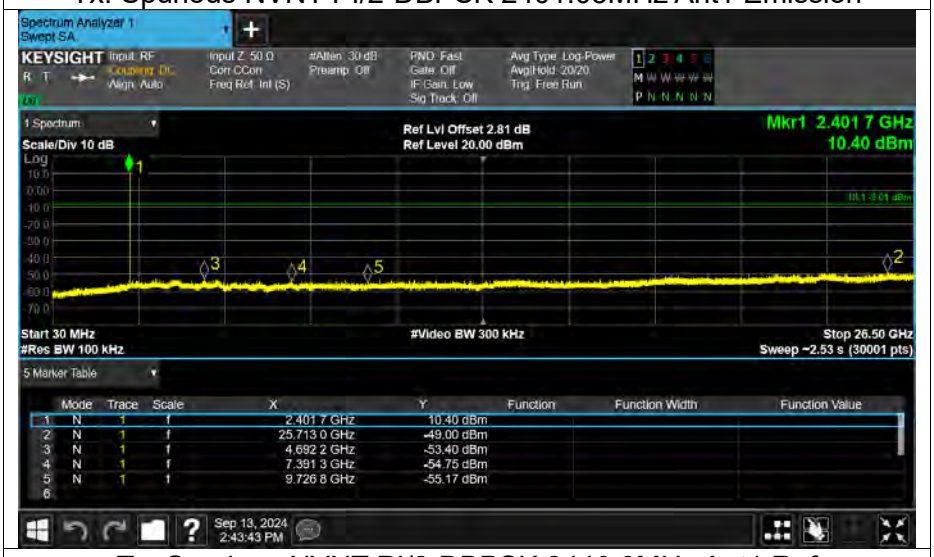
Tx. Spurious NVNT GFSK 2482.27MHz Ant1 Ref



Tx. Spurious NVNT GFSK 2482.27MHz Ant1 Emission

Tx. Spurious NVNT PI/2-DBPSK 2401.05MHz Ant1 Ref

Tx. Spurious NVNT PI/2-DBPSK 2401.05MHz Ant1 Emission



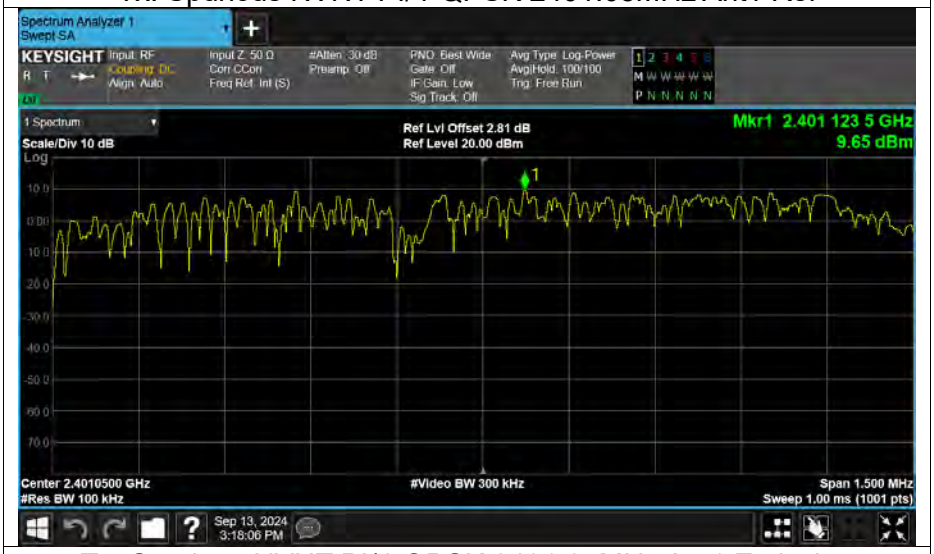
Tx. Spurious NVNT PI/2-DBPSK 2440.8MHz Ant1 Ref

Tx. Spurious NVNT PI/2-DBPSK 2440.8MHz Ant1 Emission

Tx. Spurious NVNT PI/2-DBPSK 2482.27MHz Ant1 Ref

Tx. Spurious NVNT PI/2-DBPSK 2482.27MHz Ant1 Emission

Tx. Spurious NVNT PI/4-QPSK 2401.05MHz Ant1 Ref

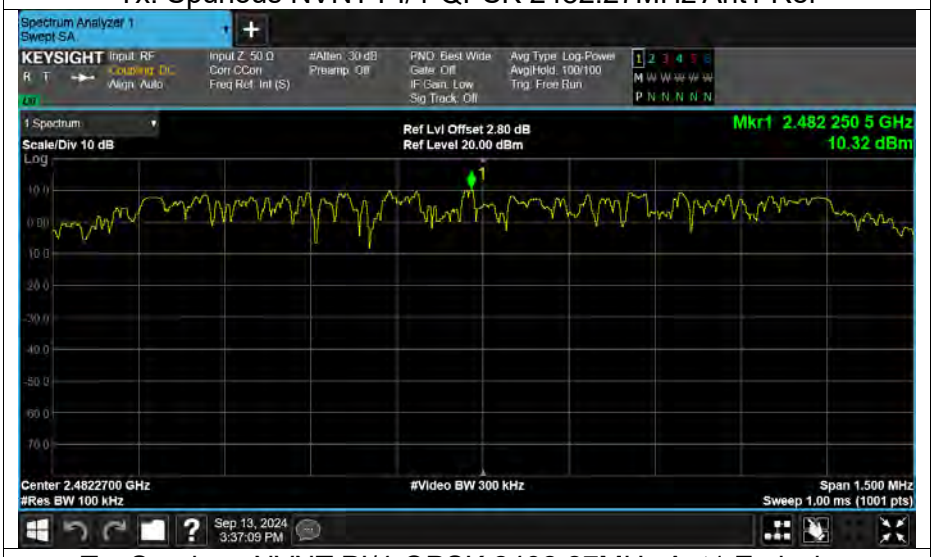


Tx. Spurious NVNT PI/4-QPSK 2401.05MHz Ant1 Emission

Tx. Spurious NVNT PI/4-QPSK 2440.8MHz Ant1 Ref

Tx. Spurious NVNT PI/4-QPSK 2440.8MHz Ant1 Emission

Tx. Spurious NVNT PI/4-QPSK 2482.27MHz Ant1 Ref



Tx. Spurious NVNT PI/4-QPSK 2482.27MHz Ant1 Emission

APPENDIX II - MEASUREMENT PHOTOS

Note: Please see the attached Test Setup photos for FCC Part 15C & RSS-247.

APPENDIX III - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Note: Please see the attached RTX3471_EUT Photos.

※※※※※END OF THE REPORT※※※※※