

# **TEST REPORT**

Report No.:	BCTC2307909509-2E					
Applicant:	SHENZHEN NST INDUSTRY AND TRADE CO., LTD					
Product Name:	10.1 inch tablet PC					
Model/Type reference:	T10					
Tested Date:	2023-07-31 to 2023-08-07					
Issued Date:	2023-08-07					
She	nzhen BCTC Testing Co., Ltd.					
No.: BCTC/RF-EMC-007	Page: 1 of 79					



# FCC ID: 2AAMS-SGINT10V2

Product Name:	10.1 inch tablet PC
Trademark:	N/A
Model/Type Reference:	T10 M1045T
Prepared For:	SHENZHEN NST INDUSTRY AND TRADE CO., LTD
Address:	3-4/F, Bldg 1, Hongbang Intelligent Technology Park,No.30 Cuibao Road, Baolong Street, Longgang District, Shenzhen China
Manufacturer:	SHENZHEN NST INDUSTRY AND TRADE CO., LTD
Address:	3-4/F, Bldg 1, Hongbang Intelligent Technology Park,No.30 Cuibao Road, Baolong Street, Longgang District, Shenzhen China
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2023-07-31
Sample tested Date:	2023-07-31 to 2023-08-07
Issue Date:	2023-08-07
Report No.:	BCTC2307909509-2E
Test Standards:	FCC Part15.247 ANSI C63.10-2013
Test Results:	PASS
Remark:	This is Bluetooth Classic radio test report.

Tested by:

Brave Zeng/ Project Handler

Approved by

Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp.This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full.The tested sample(s) and the sample information are provided by the client.

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(Note: N/A Means Not Applicable)

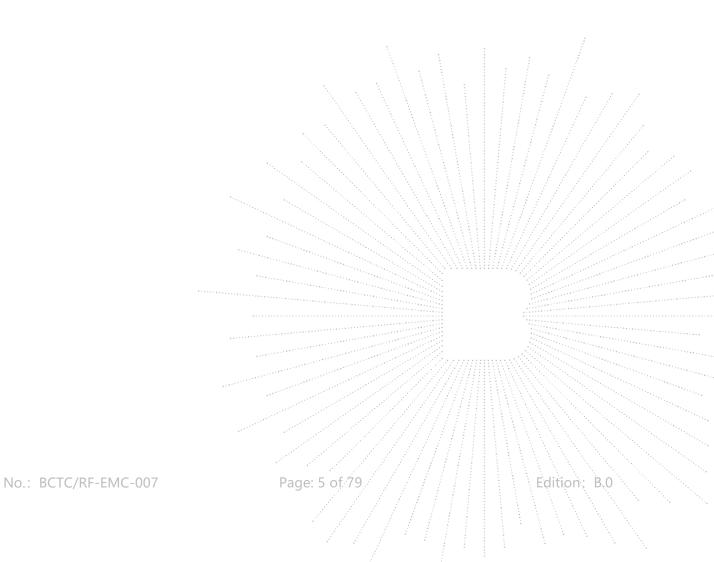
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#### 1. Version

Report No.	Issue Date	Description	Approved
BCTC2307909509-2E	2023-08-07	Original	Valid





### 2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No	Results
1	Conducted emission AC power port	§15.207	PASS
2	Conducted peak output power for FHSS	§15.247(b)(1)	PASS
3	20dB Occupied bandwidth	§15.247(a)(1)	PASS
4	Hopping channel separation	§15.247(a)(1)	PASS
5	Number of hopping frequencies	§15.247(a)(1)(iii)	PASS
6	Dwell Time	§15.247(a)(1)(iii)	PASS
7	Spurious RF conducted emissions	§15.247(d)	PASS
8	Band edge	§15.247(d)	PASS
9	Spurious radiated emissions for transmitter	§15.247(d) & §15.209 & §15.205	PASS
10	Antenna Requirement	15.203	PASS

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#### 3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(9KHz-30MHz)	U=3.7dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission (150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59°C



### 4. Product Information And Test Setup

#### 4.1 Product Information

Model/Type reference:	T10 M1045T
Model differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	P863 WT_P863_W_8183_BJJ_MB_WIFI_V2.2_20230509
Software Version:	N/A
Bluetooth Version:	5.0
Operation Frequency:	2402-2480MHz
Type of Modulation:	GFSK, π/ 4 DQPSK, 8DPSK
Number Of Channel:	79CH
Antenna installation:	Internal antenna
Antenna Gain:	1.09 dBi
Ratings:	DC 5V from adapter
Adapter:	MOEDL: MK050200-T10USU INPUT: 100-240V ~50-60Hz 0.5A Max OUTPUT: 5.0V 2.0A



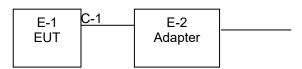
#### 4.2 Test Setup Configuration

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

Conducted Emission:



**Radiated Spurious Emission** 



#### 4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	10.1 inch tablet PC	N/A	T10	M1045T	EUT
E-2	Adapter	N/A	MK050200-T10USU	N/A	Auxiliary

ltem	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	0.3M	DC cable unshielded

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

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#### 4.4 Channel List

СН	Frequency (MHz)	СН	Frequency (MHz)	СН	Frequency (MHz)	СН	Frequency (MHz)
0	2402	1	2403	2	2404	3	2405
4	2406	5	2407	6	2408	7	2409
8	2410	9	2411	10	2412	11	2413
12	2414	13	2415	14	2416	15	2417
16	2418	17	2419	18	2420	19	2421
20	2422	21	2423	22	2424	23	2425
24	2426	25	2427	26	2428	27	2429
28	2430	29	2431	30	2432	31	2433
32	2434	33	2435	34	2436	35	2437
36	2438	37	2439	38	2440	39	2441
40	2442	41	2443	42	2444	43	2445
44	2446	45	2447	46	2448	47	2449
48	2450	49	2451	50	2452	51	2453
52	2454	53	2455	54	2456	55	2457
56	2458	57	2459	58	2460	59	2461
60	2462	61	2463	62	2464	63	2465
64	2466	65	2467	66	2468	67	2469
68	2470	69	2471	70	2472	71	2473
72	2474	73	2475	74	2476	75	2477
76	2478	77	2479	78	2480	79	/

#### 4.5 Test Mode

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

Test Mode	Test mode	Low channel	Middle channel	High channel		
1	Transmitting(GFSK)	2402MHz	2441MHz	2480MHz		
2	Transmitting(π/ 4 DQPSK)	2402MHz	2441MHz	2480MHz		
3	Transmitting(8DPSK)	2402MHz	2441MHz	2480MHz		
4	Transmitting (Conducted emission & Radiated emission)					

#### Note:

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

(2) Fully-charged battery is used during the test

#### 4.6 Table Of Parameters Of Text Software Setting

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

Test software Version	SecureCRT
Frequency	2402 MHz 2441 MHz 2480 MHz
Parameters	DEF



#### 5. Test Facility And Test Instrument Used

#### 5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address:1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards. FCC Test Firm Registration Number: 712850

FCC Designation Number: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

#### 5.2 Test Instrument Used

Conducted Emissions Test						
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.	
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024	
LISN	R&S	ENV216	101375	May 15, 2023	May 14, 2024	
Software	Frad	EZ-EMC	EMC-CON 3A1	/	/	
Attenuator	\	10dB DC-6GHz	1650	May 15, 2023	May 14, 2024	

	RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.	
Power Metter	Keysight	E4419		May 15, 2023	May 14, 2024	
Power Sensor (AV)	Keysight	E9300A		May 15, 2023	May 14, 2024	
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 15, 2023	May 14, 2024	
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 15, 2023	May 14, 2024	
Radio frequency control box	MAIWEI	MW100-RFC B		۱		
Software	MAIWEI	MTS 8310	·····			

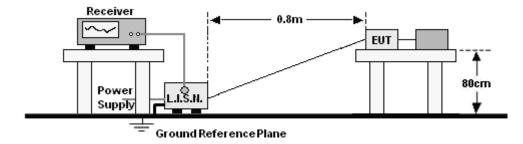


Radiated Emissions Test (966 Chamber02)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	SKET	966 Room	966	Nov. 02. 2021	Nov. 01.2024
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
Receiver	R&S	ESRI7	100010	Nov. 08. 2022	Nov. 07.2023
Amplifier	SKET	LNPA-30M01 G-30	SK202108200 4	Nov. 08. 2022	Nov. 07.2023
TRILOG Broadband Antenna	Schwarzbeck	VULB9168	1323	Mar. 06, 2022	Mar. 05, 2024
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 31, 2023	May 30, 2024
Amplifier	SKET	LAPA_01G18 G-45dB	١	May 15, 2023	May 14, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 31, 2023	May 30, 2024
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 15, 2023	May 14, 2024
Horn Antenn(18GH z-40GHz)	Schwarzbeck	BBHA9170	00822	May 31, 2023	May 30, 2024
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	FA-03A2 RE	\ :	$\Lambda$



#### 6. Conducted Emissions

#### 6.1 Block Diagram Of Test Setup



#### 6.2 Limit

	Limit (dBuV)		
Frequency (MHz)	Quas-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	
0.50 -5.0	56.00	46.00	
5.0 -30.0	60.00	50.00	

Notes:

1. \*Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

#### 6.3 Test procedure

Receiver Parameters		Setting	
Attenuation		10 dB	
Start Frequency		0.15 MHz	
Stop Frequency		30 MHz	, ,
IF Bandwidth		9 kHz	1

a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).

b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

#### 6.4 EUT operating Conditions

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



#### 6.5 Test Result

1 0.2175 29.99 9.61 39.60 62.91 -23.31	
90.0 90.0	
80       70       FCC/IC         60       70       FCC/IC         50       70       FCC/IC         60       70       FCC/IC         50       70       FCC/IC         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70         70       70       70 <tr< td=""><td></td></tr<>	
70       60       FCC/IC         50       7       7         40       7       7         30       7       7         20       7       7         30       7       7         20       7       7         30       7       7         20       7       7         30       7       7         20       7       7         30       7       7         20       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7       7         30       7 </td <td></td>	
70       60       FCC/IC         50       FCC/IC         70       FC/IC         7	
60       FCC/RC         50       FCC/RC         60       FCC/RC         7       FCC/RC         7       FC/RC	
50	<b>Į</b> ₽
40       1	w
30       30       40 <td< td=""><td></td></td<>	
20       Image: Contract of the second	
10       Image: Constraint of the second secon	MANN
0	peak
Image: No. Mk.       Freq.       Level       Factor       Measure- ment       Limit       Over         MHz       MHz       MHz       MHz       MHz       MHz       MHz       MHz         1. All readings are Quasi-Peak and Average values.       2. Factor = Insertion Loss + Cable Loss.       3. Measurement = Reading Level + Correct Factor       4. Over = Measurement - Limit       MHz       Measure- ment       MHz       Measure- ment       MHz       Over         1       0.2175       29.99       9.61       39.60       62.91       -23.31	- 4/4₩ <sup>AVG</sup>
Remark:         1. All readings are Quasi-Peak and Average values.         2. Factor = Insertion Loss + Cable Loss.         3. Measurement = Reading Level + Correct Factor         4. Over = Measurement - Limit         Reading Correct Measure-         No. Mk.       Freq.         Level       Factor         MHz       dB         1       0.2175         29.99       9.61         39.60       62.91         -23.31	
1. All readings are Quasi-Peak and Average values.         2. Factor = Insertion Loss + Cable Loss.         3. Measurement = Reading Level + Correct Factor         4. Over = Measurement - Limit         Reading Correct Measure- No. Mk. Freq. Level Factor         MHz       dB         0.2175       29.99         9.61       39.60         62.91       -23.31	30.000
3. Measurement = Reading Level + Correct Factor         4. Over = Measurement - Limit         Reading Correct Measure-         No. Mk.       Freq.       Level       Factor       ment       Limit       Over         MHz       dB       dBuV       dBuV       dB       D         1       0.2175       29.99       9.61       39.60       62.91       -23.31	7
4. Over = Measurement - Limit       Reading       Correct       Measure-         No. Mk.       Freq.       Level       Factor       ment       Limit       Over         MHz       dB       dBuV       dBuV       dB       D         1       0.2175       29.99       9.61       39.60       62.91       -23.31	
No. Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dB         dBuV         dBuV         dB         D           1         0.2175         29.99         9.61         39.60         62.91         -23.31	
1 0.2175 29.99 9.61 39.60 62.91 -23.31	, en 1
	etector
2 0.2175 12.91 9.61 22.52 52.91 -30.39	QP
	AVG
3 * 0.5370 32.97 9.62 42.59 56.00 -13.41	QP
4 0.5370 18.27 9.62 27.89 46.00 -18.11	AVG
5 1.3695 31.90 9.73 41.63 56.00 -14.37	QP .
6 1.3695 16.14 9.73 25.87 46.00 -20.13	
7 6.2295 27.49 9.77 37.26 60.00 -22.74	AVG
8 6.2295 12.26 9.77 22.03 50.00 -27.97	AVG QP
9 9.7350 34.91 9.67 44.58 60.00 -15.42	
10 9.7350 20.02 9.67 29.69 50.00 -20.31	QP
11 20.1390 26.93 9.78 36.71 60.00 -23.29	QP AVG
12 20.1390 15.02 9.78 24.80 50.00 -25.20	QP AVG QP

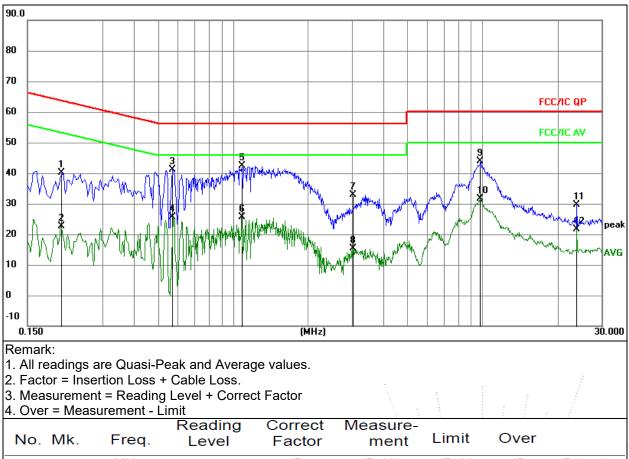
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Temperature:	<b>26</b> ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 4	Polarization :	Ν



No.	Mk.	Freq.	Level	Factor	ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.2040	30.46	9.61	40.07	63.45	-23.38	QP
2		0.2040	13.01	9.61	22.62	53.45	-30.83	AVG
3		0.5701	31.54	9.62	41.16	56.00	-14.84	QP
4		0.5701	16.06	9.62	25.68	46.00	-20.32	AVG
5	*	1.0824	32.54	9.73	42.27	56.00	-13.73	QP
6		1.0824	15.94	9.73	25.67	46.00	-20.33	AVG
7		3.0253	23.16	9.79	32.95	56.00	-23.05	QP
8		3.0253	5.66	9.79	15.45	46.00	-30.55	AVG
9		9.7567	34.14	9.67	43.81	60.00	-16.19	QP
10		9.7567	22.02	9.67	31.69	50.00	-18.31	AVG
11		23.8878	20.00	9.75	29.75	60.00	-30.25	QP
12		23.8878	11.90	9.75	21.65	50.00	-28.35	AVG

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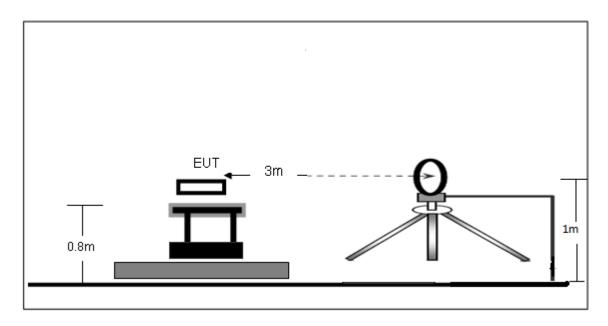
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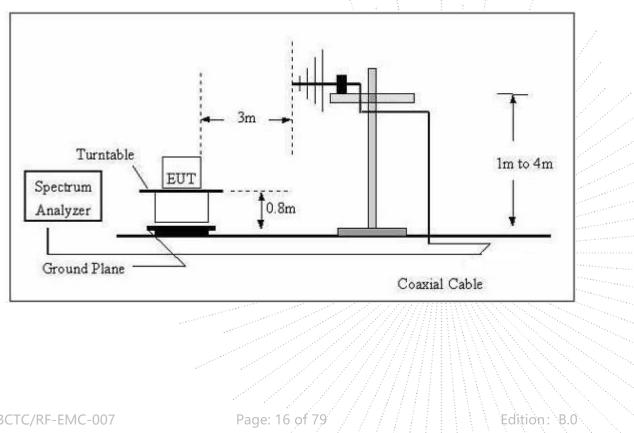
#### 7. **Radiated emissions**

#### Block Diagram Of Test Setup 7.1

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

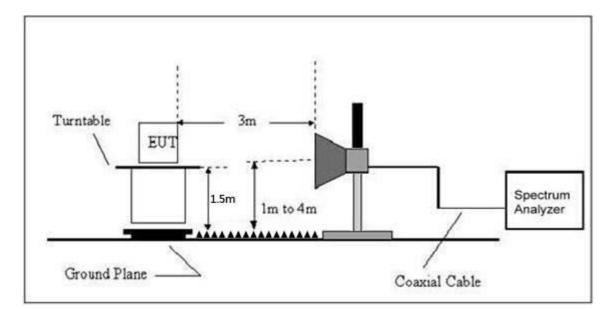


(B) Radiated Emission Test-Up Frequency 30MHz~1GHz





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



#### 7.2 Limit

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

Frequency	Field Strength	Distance	nce Field Strength Limit at 3m Distance		
(MHz)	uV/m	(m)	uV/m	dBuV/m	
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	20log <sup>(2400/F(kHz))</sup> + 80	
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	20log <sup>(24000/F(kHz))</sup> + 40	
1.705 ~ 30	30	30	100 * 30	20log <sup>(30)</sup> + 40	
30 ~ 88	100	3	100	20log <sup>(100)</sup>	
88 ~ 216	150	3	150	20log <sup>(150)</sup>	
216 ~ 960	200	3	200	20log <sup>(200)</sup>	
Above 960	500	3	500	20log <sup>(500)</sup>	

Limits Of Radiated Emission Measurement (Above 1000MHz)

	Limit (dBuV/m)	(at 3M)
Frequency (MHz)	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).



Frequency Range Of Radiated Measurement

(a) For an intentional radiator the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in this paragraph:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(4) If the intentional radiator operates at or above 95 GHz: To the third harmonic of the highest fundamental frequency or to 750 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(5) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a) (1)through (4) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this section, whichever is the higher frequency range of investigation.

#### 7.3 Test procedure

Receiver Parameter	Setting		
Attenuation	Auto		
9kHz~150kHz	RBW 200Hz for QP		
150kHz~30MHz	RBW 9kHz for QP		
30MHz~1000MHz	RBW 120kHz for QP		
30MHz~1000MHz	RBW 120kHz for QP		

Spectrum Parameter	Setting
1-25GHz	RBW 1 MHz /VBW 1 MHz for Peak, RBW 1 MHz / VBW 10Hz for Average

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.



d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b.The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c.The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d.For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

e.The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middlest channel, the Highest channel.

Note:

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

#### 7.4 EUT operating Conditions

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



#### 7.5 Test Result

#### Below 30MHz

Temperature:	<b>26</b> ℃	Relative Humidity:	54%
Pressure:	101KPa	Tost Voltago :	AC 120V/60Hz
Test Mode:	Mode 4	Test Voltage :	

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

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the

permissible value has no need to be reported.

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

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

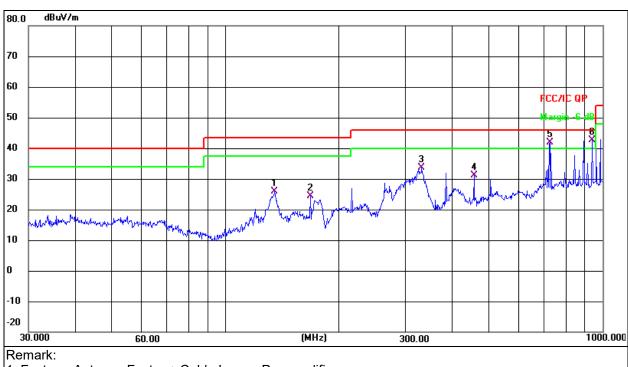
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	Between 30	MHz – 1GHz	
Temperature:	<b>26</b> ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4	Test Voltage:	AC 120V/60Hz



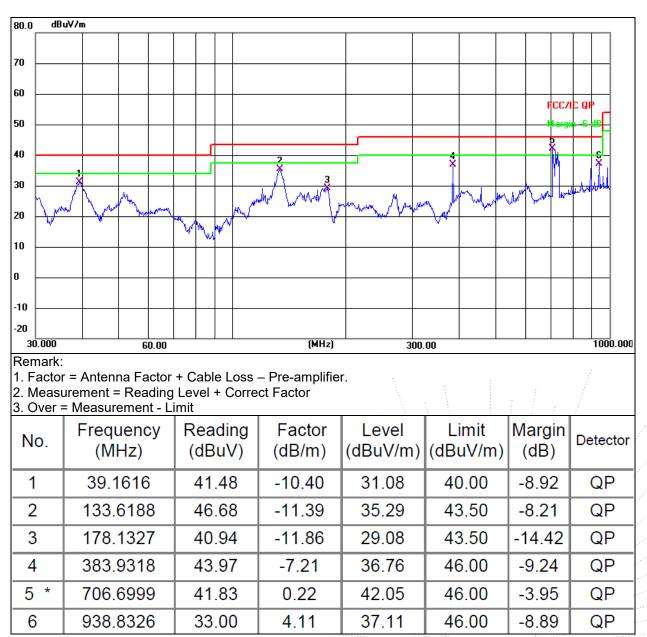
#### 1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Measurement = Reading Level + Correct Factor
 Over = Measurement - Limit

3. Over =	Measurement - Li	mit					1
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	135.0319	37.19	-11.32	25.87	43.50	-17.63	QP
2	167.8243	35.51	-11.01	24.50	43.50	-19.00	QP
3	331.3546	42.14	-8.51	33.63	46.00	-12.37	QP
4	455.9058	35.31	-4.08	31.23	46.00	-14.77	QP
5!	724.2611	41.20	0.67	41.87	46.00	-4.13	QP
6 *	938.8326	38.57	4.11	42.68	46.00	-3.32	QP
			Contraction of the second s		1 / L 1 / L		



Temperature:	<b>26</b> ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 4	Polarization :	Vertical



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#### Between 1GHz – 25GHz

Polar	Frequency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	Туре
			GFSK Low ch	annel			
V	4804.00	54.28	-19.99	34.29	74.00	-39.71	PK
V	4804.00	45.08	-19.99	25.09	54.00	-28.91	AV
V	7206.00	45.31	-14.22	31.09	74.00	-42.91	PK
V	7206.00	35.20	-14.22	20.98	54.00	-33.02	AV
Н	4804.00	52.93	-19.99	32.94	74.00	-41.06	PK
Н	4804.00	42.46	-19.99	22.47	54.00	-31.53	AV
Н	7206.00	43.70	-14.22	29.48	74.00	-44.52	PK
Н	7206.00	35.00	-14.22	20.78	54.00	-33.22	AV
	•	G	FSK Middle c	hannel		•	•
V	4882.00	52.21	-19.84	32.37	74.00	-41.63	PK
V	4882.00	45.92	-19.84	26.08	54.00	-27.92	AV
V	7323.00	44.72	-13.90	30.82	74.00	-43.18	PK
V	7323.00	36.16	-13.90	22.26	54.00	-31.74	AV
Н	4882.00	50.41	-19.84	30.57	74.00	-43.43	PK
Н	4882.00	39.55	-19.84	19.71	54.00	-34.29	AV
Н	7323.00	41.90	-13.90	28.00	74.00	-46.00	PK
Н	7323.00	34.06	-13.90	20.16	54.00	-33.84	AV
			GFSK High ch	annel			
V	4960.00	55.13	-19.68	35.45	74.00	-38.55	PK
V	4960.00	45.39	-19.68	25.71	54.00	-28.29	AV
V	7440.00	47.52	-13.57	33.95	74.00	-40.05	PK
V	7440.00	37.52	-13.57	23.95	54.00	-30.05	AV
Н	4960.00	52.15	-19.68	32.47	74.00	-41.53	PK
Н	4960.00	42.85	-19.68	23.17	54.00	-30.83	AV
Н	7440.00	46.24	-13.57	32.67	74.00	-41.33	PK
Н	7440.00	38.58	-13.57	25.01	54.00	-28.99	AV

#### Remark:

1.Emission Level = Meter Reading + Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier. Over= Emission Level - Limit

2.If peak below the average limit, the average emission was no test.

3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB

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

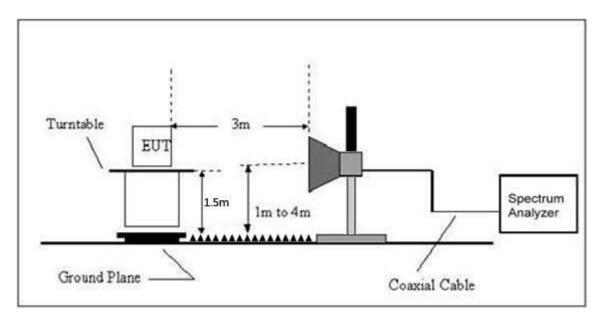
5.All the Modulation are test, the worst mode is GFSK, the data recording in the report.



#### 8. Radiated Band Emission Measurement And Restricted Bands Of Operation

#### 8.1 Block Diagram Of Test Setup

Radiated Emission Test-Up Frequency Above 1GHz



#### 8.2 Limit

FCC Part15 C Section 15.209 and 15.205

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 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	( <sup>2</sup> )
13.36-13.41			



Limits Of Radiated Emission Measurement (Above 1000MHz)

Fraguanay (MHz)	Limit (d	BuV/m) (at 3M)
Frequency (MHz)	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).

#### 8.3 Test procedure

Receiver Parameter	Setting
Attenuation	Auto
Start Frequency	2300MHz
Stop Frequency	2520
RB / VB (Emission In Restricted Band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Above 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b.The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c.The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d.For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

e.The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the Highest channel.

Note:

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

#### 8.4 EUT operating Conditions

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



#### 8.5 Test Result

Test mode	Polar (H/V)		Level	Correct Factor	Measure- ment (dBuV/m)	ment Limits		
	()	()	(dBuV/m)	(dB)	РК	РК	AV	
			Low	Channel 2	402MHz			
	Н	2390.00	53.28	-19.46	33.82	74.00	54.00	PASS
	Н	2400.00	58.25	-19.42	38.83	74.00	54.00	PASS
	V	2390.00	53.30	-19.46	33.84	74.00	54.00	PASS
GFSK	V	2400.00	54.32	-19.42	34.90	74.00	54.00	PASS
GFSK			High	n Channel 2	480MHz	•	•	
	Н	2483.50	52.27	-19.05	33.22	74.00	54.00	PASS
	Н	2500.00	49.17	-18.98	30.19	74.00	54.00	PASS
	V	2483.50	52.22	-19.05	33.17	74.00	54.00	PASS
	V	2500.00	49.18	-18.95	30.23	74.00	54.00	PASS
			Low	Channel 2	402MHz			
	Н	2390.00	52.80	-19.46	33.34	74.00	54.00	PASS
	Н	2400.00	56.57	-19.42	37.15	74.00	54.00	PASS
	V	2390.00	53.48	-19.46	34.02	74.00	54.00	PASS
	V	2400.00	54.91	-19.42	35.49	74.00	54.00	PASS
π/4DQPSK			High	n Channel 2	480MHz	•	•	
	Н	2483.50	51.96	-19.05	32.91	74.00	54.00	PASS
	Н	2500.00	49.14	-18.98	30.16	74.00	54.00	PASS
	V	2483.50	53.43	-19.05	34.38	74.00	54.00	PASS
	V	2500.00	50.14	-18.95	31.19	74.00	54.00	PASS
			Low	Channel 2	402MHz	•		
	Н	2390.00	53.99	-19.46	34.53	:74.00	54.00	PASS
	Н	2400.00	57.00	-19.42	37.58	74.00	54.00	PASS
	V	2390.00	54.63	-19.46	35.17	74.00	54.00	PASS
	V	2400.00	56.27	-19.42	36.85	74.00	54.00	PASS
8DPSK			High	n Channel 2				
	Н	2483.50	54.21	-19.05	35.16	74.00	54.00	PASS
	Н	2500.00	49.27	-18.98	30.29	74.00	54.00	PASS
	V	2483.50	54.40	-19.05	35.35	74.00	54.00	PASS
	V	2500.00	51.23	-18.95	32.28	74.00	54.00	PASS

#### Remark:

1. Emission Level = Meter Reading + Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier. Over= Emission Level - Limit

2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB

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



#### 9. Spurious RF Conducted Emissions

#### 9.1 Block Diagram Of Test Setup



#### 9.2 Limit

Regulation 15.247 (d),In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.205(c))

#### 9.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;

2. Set the spectrum analyzer:

RBW = 100kHz, VBW = 300kHz, Sweep = auto

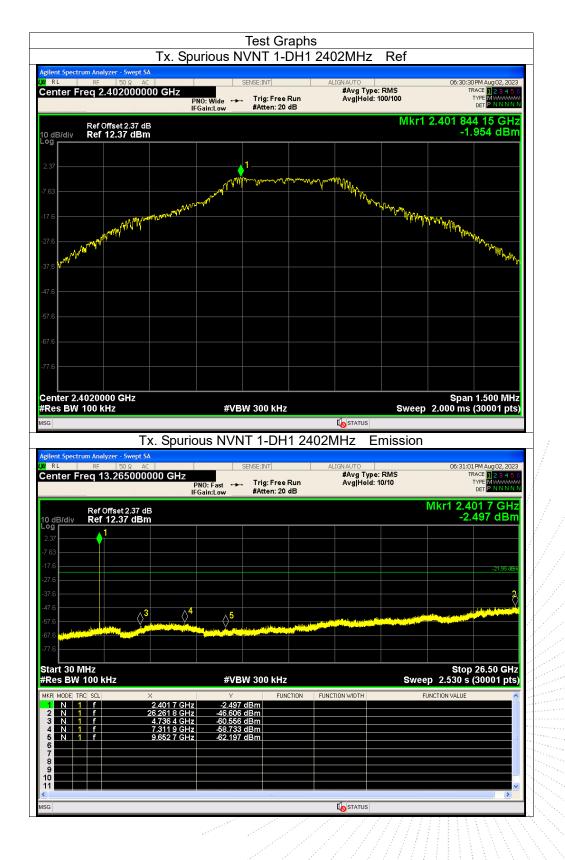
Detector function = peak, Trace = max hold

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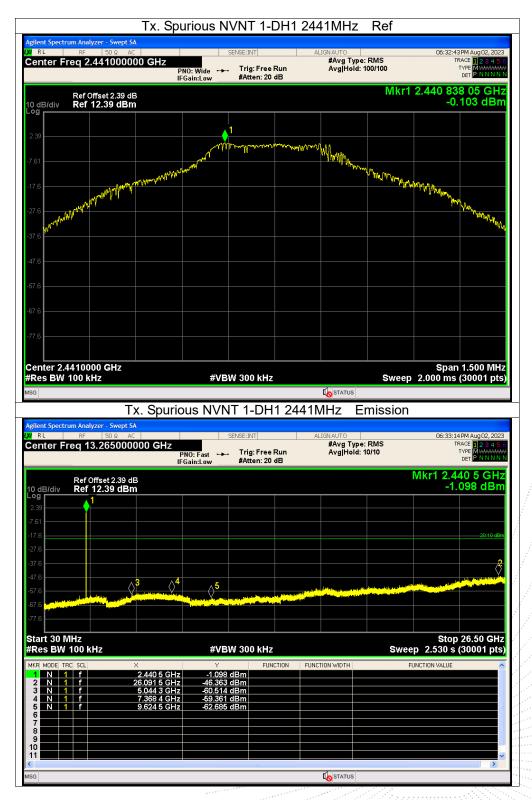
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#### 9.4 Test Result







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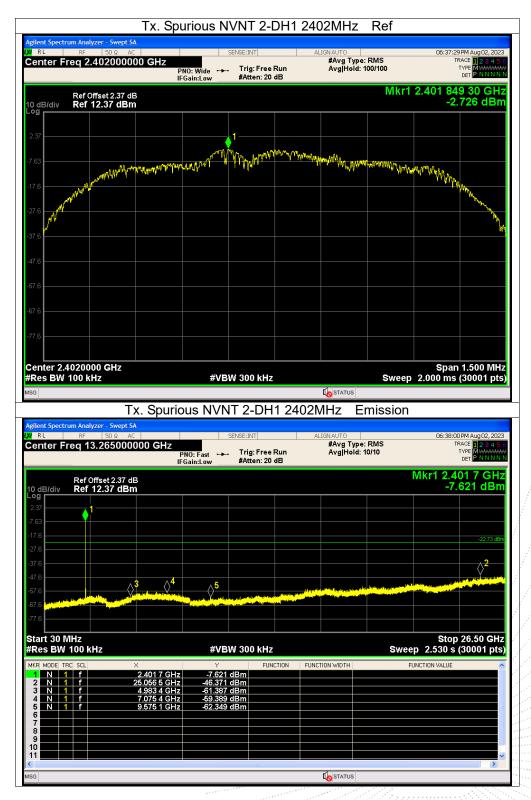




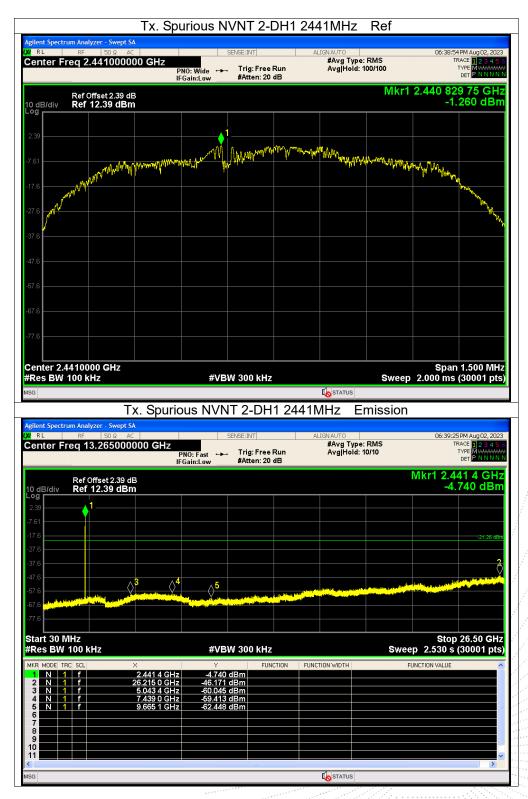
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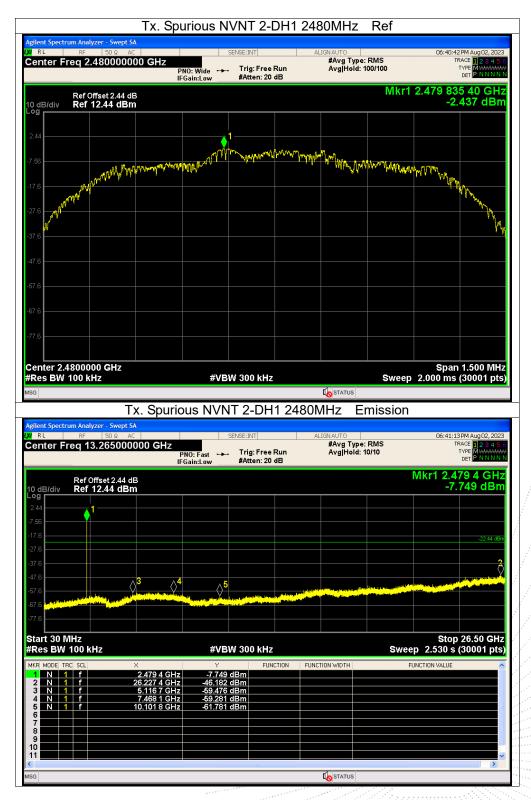




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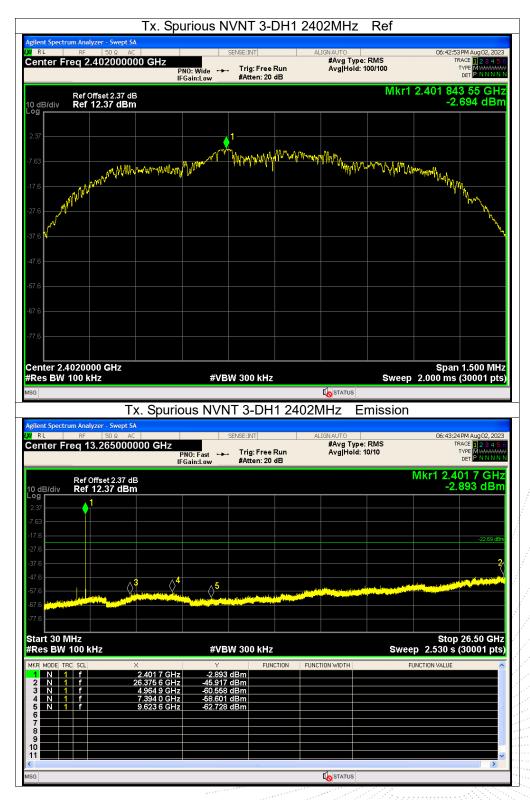
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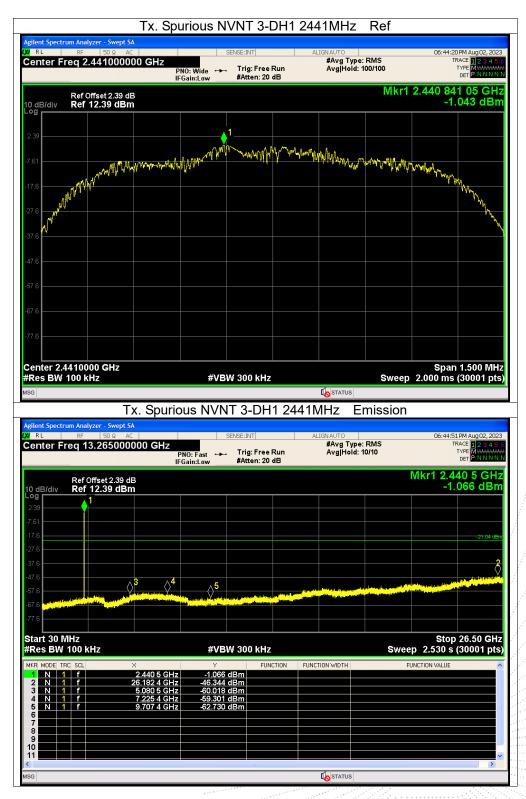


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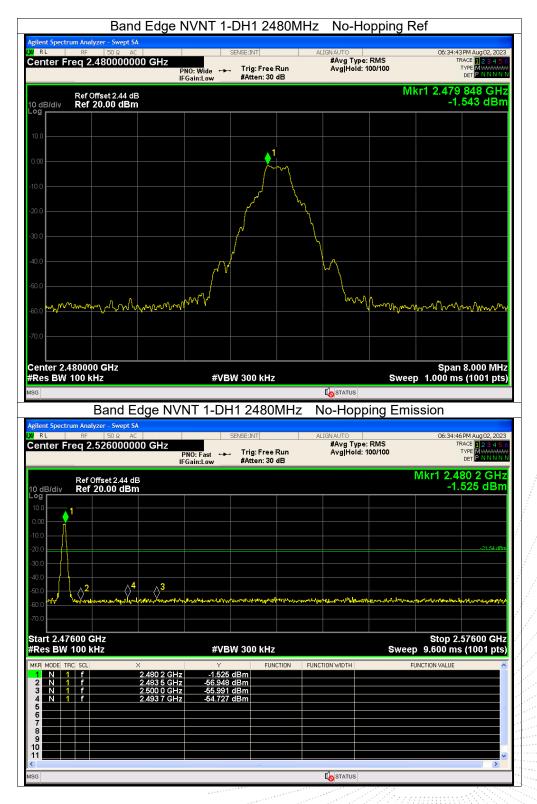
ilent Spectrum Analyzer - Swej		ous NVNT 3-E	DH1 2480MHz	Ref	
RL RF 50 Ω	AC	SENSE:INT			06:45:51 PM Aug 02, 20
enter Freq 2.48000	PNO: V	Vide ↔ Trig: Free F :low #Atten: 20 o			TRACE 1234 TYPE MWWW DET P N N N
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Ref Offset 2.4 0 dB/div 9 44 56 7.6	PN0: IFGain IFGain 4 dB		Run Avg Hold:	: 10/10	1 2.480 2 GF -2.915 dB
Ref Offset 2.4 0 dB/div Ref 12.44 d	PN0: IFGain IFGain 4 dB		Run Avg Hold:	: 10/10	TRACE 1 2 3 4 TYPE MWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW
Ref Offset 2.4 0 dB/div Ref 12.44 d 9 7 6 7 6 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	PNO: IFGain Bm	Low #Atten: 20 d	Run Avg Hold:	: 10/10	1 2.480 2 GH -2.915 dBi
Ref Offset 2.4 0 dB/div Ref 12.44 d 9 d 7.6 7.6 7.7 7.7	PN0: IFGain IFGain 4 dB		Run Avg Hold:	: 10/10	1 2.480 2 GH -2.915 dBi
Ref Offset 2.4           d B/div         Ref 12.44 d           1         1           56         1           76         1           776         1           776         1           776         1	PNO: IFGain Bm	Low #Atten: 20 d	Run Avg Hold:	: 10/10	1 2.480 2 GF -2.915 dB
Ref Offset 2.4.           0 dB/div         Ref 12.44 d           9         1           2.44         1           7.6         1           7.7.6         1           7.7.6         1           7.7.6         1           7.7.6         1	PNO: IFGain Bm	Low #Atten: 20 d	Run Avg Hold:	: 10/10	-22.480 2 GH -2.915 dBi
Ref Offset 2.4. d dB/div 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	PNO: IFGain Bm	Low #Atten: 20 d	Run Avg Hold:		2.480 2 GH -2.915 dB -2.915 dB
Ref Offset 2.4. 0 dB/div Ref 12.44 d 9 d 2.44 56 7.6 7.6 7.6 7.6 1. 7.6 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	PNO: IFGain	Low #Atten: 20 d ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	Run Avg Hold:		22.43 d -2.915 dB -2.915 dB -2.915 dB -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d
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Ref Offset 2.4.           O dB/div         Ref 12.44 d           0 d         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           2         1           1         1           2         1           2         1           1         1           2         1           3         1           5         1           6         -           7         -           8         -           9         -	× 2.480 2 GHz 26.225 6 GHz 5.084 9 GHz 7.601 3 GHz		Run Avg Hold: dB	Sweep 2.	22.43 d -2.915 dB -2.915 dB -2.915 dB -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d -22.43 d



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		#VBW 300	) kHz		Sweep	
Res BW 100 kHz <sup>sg</sup> Band	Edge NVN					1.000 ms (1001 pts
Band Band gilent Spectrum Analyzer - Swep	ot SA	NT 1-DH1 24	402MHz	No-Hopp	Sweep bing Emiss	1.000 ms (1001 pts sion
SG Band gilent Spectrum Analyzer - Swe RL RF 50 Ω	AC OOOO GHZ	NT 1-DH1 24	402MHz		bing Emiss	1.000 ms (1001 pts) sion 06:30:24PM Aug 02, 2023 TRACE 12:34 5 1
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Band Blent Spectrum Analyzer - Swe RL RF IS00 center Freq 2.35600 Ref Offset 2.3 0 dB/div Ref 20.00 d 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AC ODUC GHZ PN FG 7 dB	NT 1-DH1 24	402MHz	No-Hopp Alignauto #Avg Type	Ding Emiss	1.000 ms (1001 pts sion 06:30:24PM Aug 02, 2023 TRACE 12 3 4 5 TRACE 12 3 5 TRACE
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S6         Band           glent Spectrum Analyzer - Swe         RL         RF         50 Q           renter Freq 2.356000         Sector Ref Offset 2.3         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.3         Sector Ref Offset 2.4         Sector Ref Offset 2.3           0 dB/div         Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.4         Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.4         Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.4         Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.4         Ref Offset 2.4         Sector Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offset 2.4         Ref Offset 2.4         Ref Offset 2.4         Sector Ref Offset 2.4           0 dB/div         Ref Offs	ac prisa ac prisa 00000 GHz PP IFG 7 dB Bm	IT 1-DH1 24 SENSE:IN NO: Fast →→ Trig Sain:Low → #Att	402MHz T : Free Run en: 30 dB	No-Hopp	RMS 100/100	1.000 ms (1001 pts sion 06:30:24PM Aug02,2023 TRACE 12:34:54 TRACE 12:34:5
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Band         Blent Spectrum Analyzer - Swee         Ref Offset 2.3         enter Freq 2.35600         Ref Offset 2.3         d B/div         Ref Offset 2.3         d B/div         Ref Offset 2.3         0 d B/div         Ref Offset 2.3         0 d B/div         d B/div         Ref Offset 2.3         0 d B/div	AC         AC         Philodology           AC         Philodology         Philodology           7 dB         Bm         Philodology           7 dB         Philodology         Philodology           8         Philodology         Philodology           9         Philodology         Philodology           9 <t< td=""><td>JT 1-DH1 24 SENSE:IN NO: Fast → Trig Sain:Low #Att #Att #VBW 300 ¥VBW 300</td><td>402MHz</td><td>No-Hopp</td><td>ERMS 100/100 M</td><td>1.000 ms (1001 pts sion 06:30:24PM Aug02, 2023 TRACE 02:34 5 TRACE 02:34 5 T</td></t<>	JT 1-DH1 24 SENSE:IN NO: Fast → Trig Sain:Low #Att #Att #VBW 300 ¥VBW 300	402MHz	No-Hopp	ERMS 100/100 M	1.000 ms (1001 pts sion 06:30:24PM Aug02, 2023 TRACE 02:34 5 TRACE 02:34 5 T
Band         Blent Spectrum Analyzer - Swe         RL       RF       ISO         Ref Offset 2.3         Ref Offset 2.3         O dB/div       Ref 20.00 d         O dott colspan="2">O dott colspan="2"         O dott colspan="2" <td>AC         AC         Philodology           AC         Philodology         Philodology           7 dB         Bm         Philodology           7 dB         Philodology         Philodology           8         Philodology         Philodology           9         <t< td=""><td>JT 1-DH1 24 SENSE:IN NO: Fast → Trig Sain:Low #Att #Att #VBW 300 ¥VBW 300</td><td>402MHz</td><td>No-Hopp</td><td>ERMS 100/100 M</td><td>1.000 ms (1001 pts) sion 06:30:24PM Aug 02,2023 TRACE 02 34 5 6 TYPE 04 12 34 5 6 TRACE 02 34 5 6 TRAC</td></t<></td>	AC         AC         Philodology           AC         Philodology         Philodology           7 dB         Bm         Philodology           7 dB         Philodology         Philodology           8         Philodology         Philodology           9         Philodology         Philodology           9 <t< td=""><td>JT 1-DH1 24 SENSE:IN NO: Fast → Trig Sain:Low #Att #Att #VBW 300 ¥VBW 300</td><td>402MHz</td><td>No-Hopp</td><td>ERMS 100/100 M</td><td>1.000 ms (1001 pts) sion 06:30:24PM Aug 02,2023 TRACE 02 34 5 6 TYPE 04 12 34 5 6 TRACE 02 34 5 6 TRAC</td></t<>	JT 1-DH1 24 SENSE:IN NO: Fast → Trig Sain:Low #Att #Att #VBW 300 ¥VBW 300	402MHz	No-Hopp	ERMS 100/100 M	1.000 ms (1001 pts) sion 06:30:24PM Aug 02,2023 TRACE 02 34 5 6 TYPE 04 12 34 5 6 TRACE 02 34 5 6 TRAC

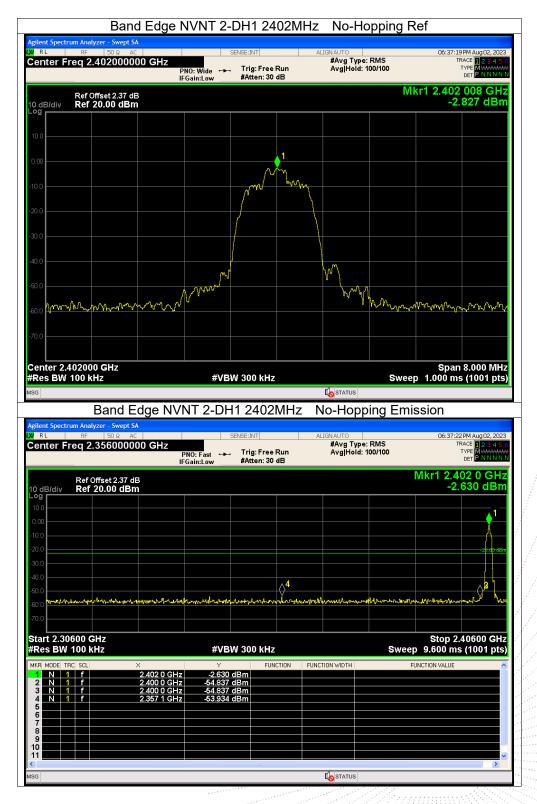
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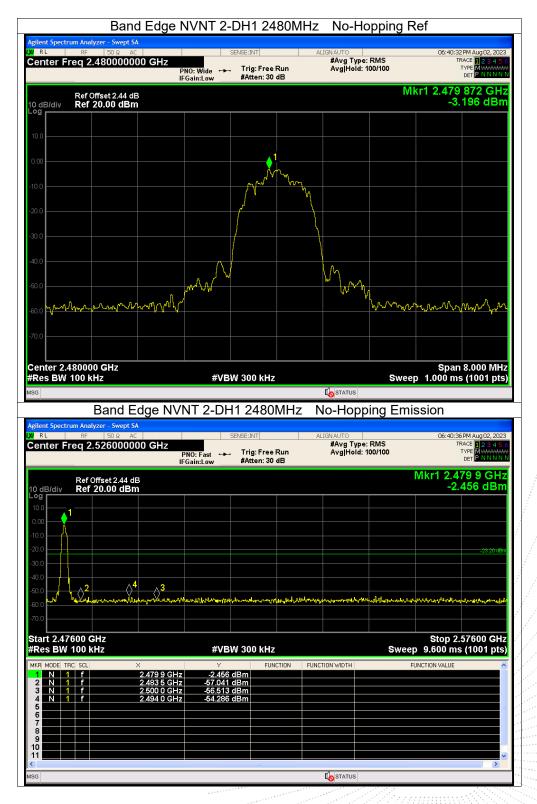
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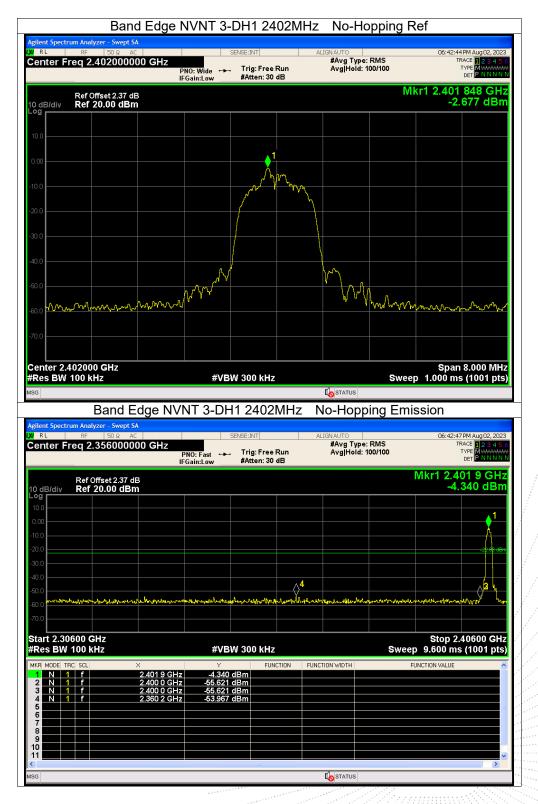
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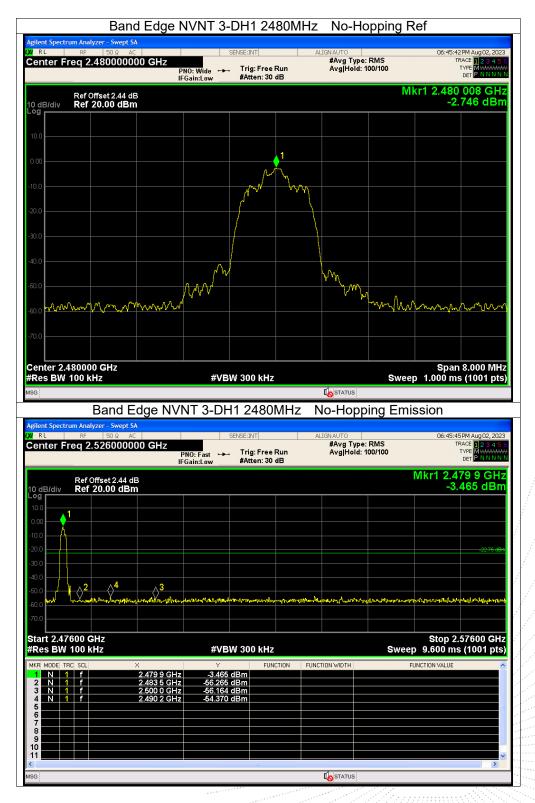
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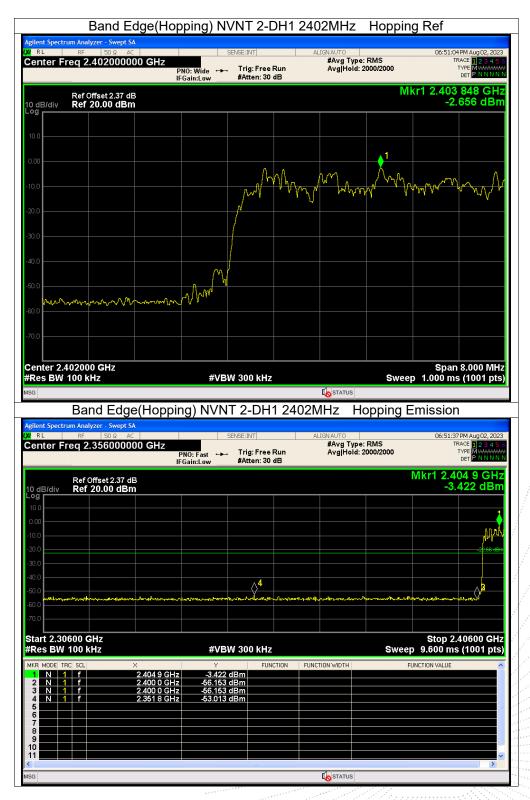
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## 10. 20 dB Bandwidth

## 10.1 Block Diagram Of Test Setup



#### 10.2 Limit

N/A

#### 10.3 Test procedure

- 1. Set RBW = 30kHz.
- 2. Set the video bandwidth (VBW)  $\ge$  3 x RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.

7. 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.

#### 10.4 Test Result

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	0.914	Pass
NVNT	1-DH1	2441	0.896	Pass
NVNT	1-DH1	2480	0.926	Pass
NVNT	2-DH1	2402	1.269	Pass
NVNT	2-DH1	2441	1.254	Pass
NVNT	2-DH1	2480	1.260	Pass
NVNT	3-DH1	2402	1.259	Pass
NVNT	3-DH1	2441	1.250	Pass
NVNT	3-DH1	2480	1.256	Pass



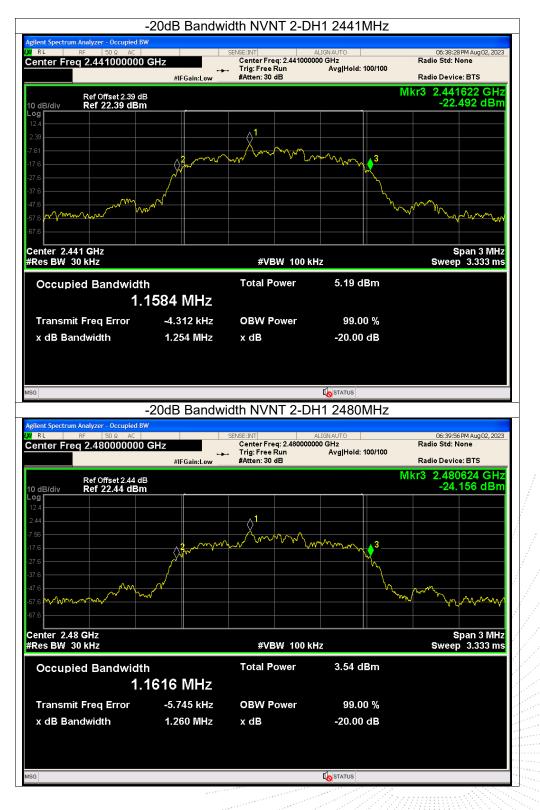




















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# 11. Maximum Peak Output Power

## 11.1 Block Diagram Of Test Setup



#### 11.2 Limit

FCC Part15 (15.247) , Subpart C						
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247(b)(1)	Peak Output Power	0.125 watt or 21dBm	2400-2483.5	PASS		

#### 11.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

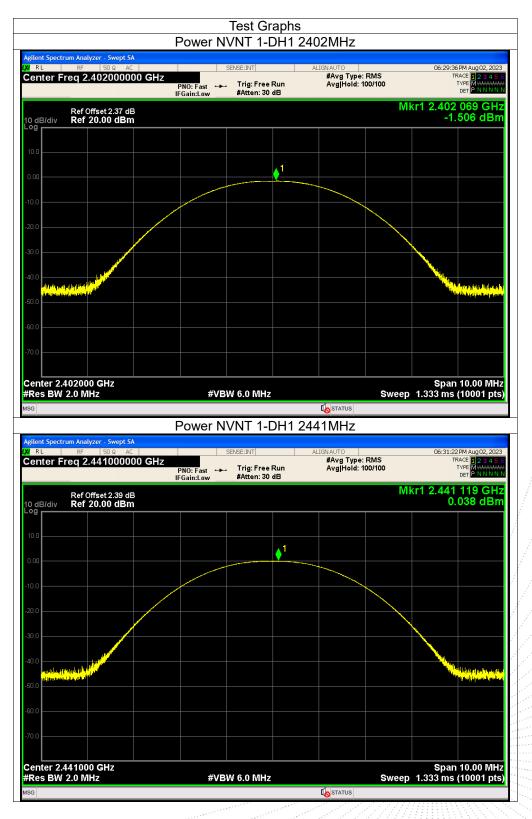
2. Set the spectrum analyzer: RBW = 2MHz. VBW = 6MHz. Sweep = auto; Detector Function = Peak.

3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

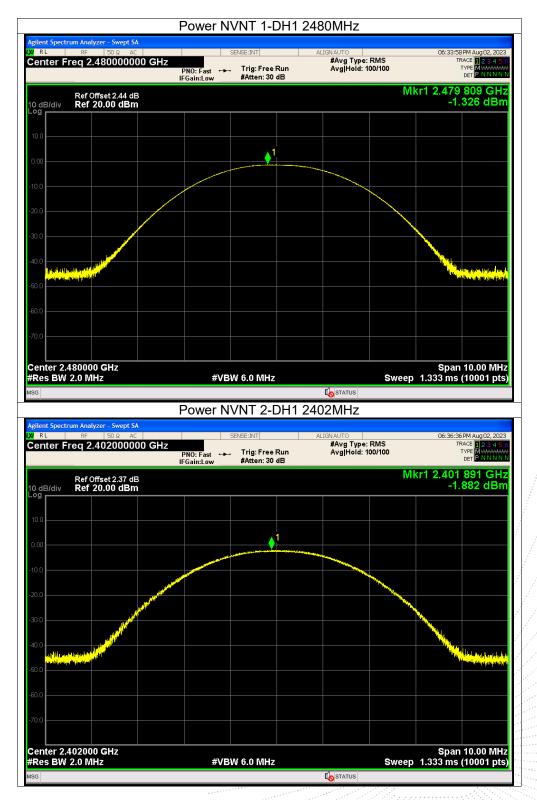
## 11.4 Test Result

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	-1.51	21	Pass
NVNT	1-DH1	2441	0.04	21	Pass
NVNT	1-DH1	2480	-1.33	21	Pass
NVNT	2-DH1	2402	-1.88	21	Pass
NVNT	2-DH1	2441	-0.23	21	Pass
NVNT	2-DH1	2480	-1.58	21	Pass
NVNT	3-DH1	2402	-1.49	21	Pass
NVNT	3-DH1	2441	0.14	21	Pass
NVNT	3-DH1	2480	-1.29	21	Pass

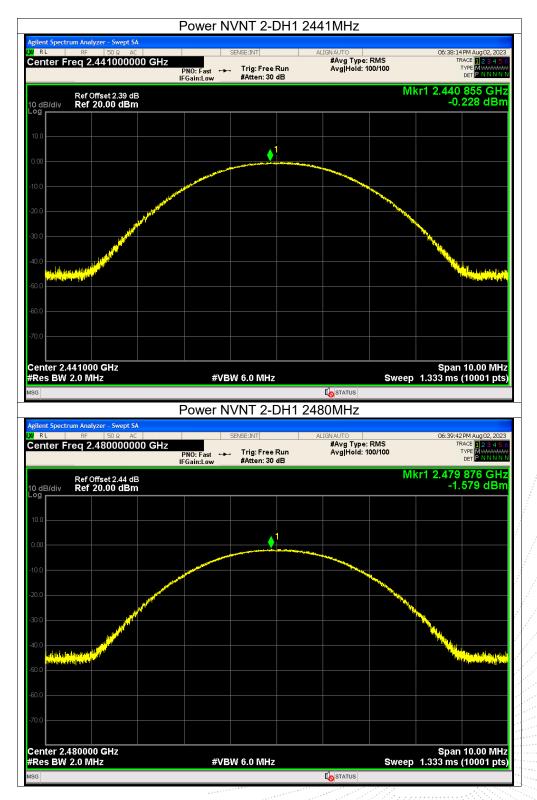




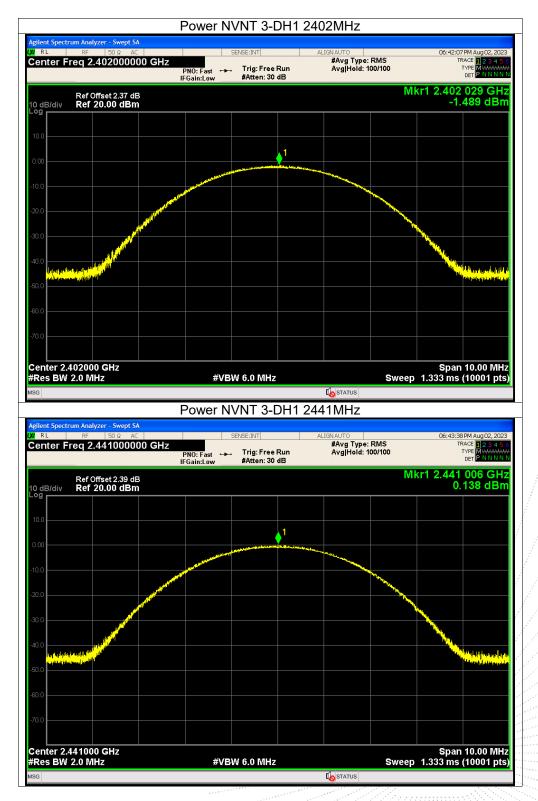




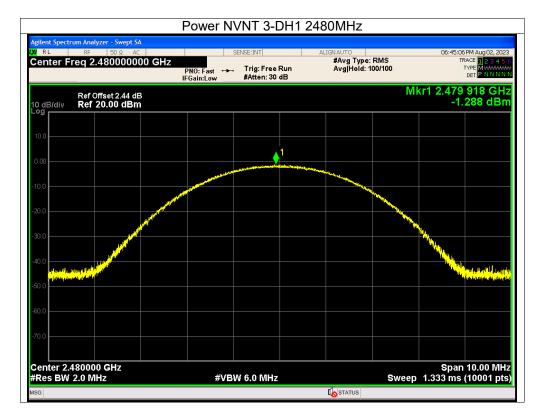












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# 12. Hopping Channel Separation

# 12.1 Block Diagram Of Test Setup



## 12.2 Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 0.125W.

#### 12.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 30kHz. VBW = 100kHz , Span = 2.0MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

odulation	Test Channel	Separation (MHz)	Limit(MHz)	Result
GFSK	Low Market	1.000	0.914	PASS
GFSK	Middle	1.000	0.896	PASS
GFSK	High 🗠	1.000	0.926	PASS
π/4 DQPSK	Low	1.000	0.846	PASS
π/4 DQPSK	Middle	1.002	0.836	PASS
π/4 DQPSK	High	1.002	0.840	PASS
8DPSK	Low	1.002	0.839	PASS
8DPSK	Middle	1.000	0.833	PASS
8DPSK	High	1.000	0.837	PASS

#### 12.4 Test Result



		Test S NVNT 1	Graphs -DH1 24	02MHz		
ilent Spectrum Analyzer - Swa RL RF 50 ହ enter Freq 2.40250	AC 00000 GHz PNO:	SENSE:INT Wide Trig: F n:Low #Atten	ree Run : 30 dB	ALIGNAUTO #Avg Type: RM Avg Hold:>100	IS	30:16 PM Aug 02, 2023 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N
Ref Offset 2.3 0 dB/div Ref 20.00 d	37 dB d <b>Bm</b>				Mkr1 2.4	01 838 GHz -3.530 dBm
				2 	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
40.0						
enter 2.402500 GHz Res BW 30 kHz		#VBW 100 k	(Hz		Sp Sweep 2.133	an 2.000 MHz ms (1001 pts)
2 N 1 F 3 4	2.402 838 GHz	-3.544 dBm 	-DH1 24	Costatus 41MHz		•
ilent Spectrum Analyzer - Swe	ept SA		-DITI 24			
RL RF 50 Ω enter Freq 2.44150	PNO:	Wide Trig: F #Atten	ree Run : 30 dB	ALIGN AUTO #Avg Type: RM Avg Hold:>100	IS	32:37 PM Aug 02, 2023 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N
10.0	39 dB dBm			2	Mkr1 2.4	40 838 GHz -1.880 dBm
0 dB/div Ref 20.00 d og 000 000 000 000 000 000 000	39 dB dBm			2	Mkr1 2.4	40 838 GHz -1.880 dBm
o dB/div Ref 20.00 o 99 100 200 200 200 200 200 200 200 200 200	39 dB dBm			2		-1.880 dBm
o dB/div Ref 20.00 o 9 10 10 10 10 10 10 10 10 10 10		#VBW 100 k			Sweep 2.133	-1.880 dBm
Ref Offset 2.3           0 dB/div         Ref 20.00 d           10 0	39 dB 18m 1 1 1 2.440 638 GHz 2.441 838 GHz 2.441 838 GHz	#VBW 100 k				-1.880 dBm

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ilent Spectrum Analyzer					
enter Freq 2.47	9500000 GHz	O: Wide Trig: Fre ain:Low #Atten: 3	ALIGN AUTO #Avg Ty e Run Avg Hol 0 dB		06:34:39 PM Aug 02, 202 TRACE 12345 TYPE MWWWW DET PNNNN
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.00		$\sim$		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
D.0 D.0					
0.0					
0.0					
enter 2.479500 G Res BW 30 kHz	iHz	#VBW 100 kH	z	Sweep 2.13	Span 2.000 MH 3 ms (1001 pts
R MODE TRC SCL	× 2.478 840 GHz	Y FL -3.133 dBm	JNCTION FUNCTION WIDTH	FUNCTION	ALUE
2 N 1 f	2.479 840 GHz	-3.267 dBm			
5					
6 7					
					>
3			STATUS		
	(	CFS NVNT 2-I	DH1 2402MHz		
In the Constant of American	Course CA				
RL RF !	50 Ω AC	SENSE:INT	ALIGNAUTO		06:37:14 PM Aug 02, 202
RL RF !	50 Ω AC 2500000 GHz PN	SENSE:INT O: Wide Trig: Fre ain:Low #Atten: 3	#Avg Ty e Run Avg Hol		06:37:14 PM Aug 02, 202 TRACE 1 2 3 4 5 TYPE MWWWM DET P N N N N
RL RF 2.402 enter Freq 2.402 Ref Offse I dB/div Ref 20.1	50 Ω AC 2500000 GHz PN IFG et 2.37 dB	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol	se: RMS i:>100/100	
RL RF 2.402 enter Freq 2.402 Ref Offse dB/div Ref 20.1	50 Q AC 2500000 GHz PN IFG at 2.37 dB 00 dBm	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol 0 dB	≥e: RMS I:>100/100 Mkr1 2.	
RL         RF         Item           enter Freq 2.402         Ref Offse           dB/div         Ref Offse           0         0.0           00         0	50 Ω AC 2500000 GHz PN IFG et 2.37 dB	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol	≥e: RMS I:>100/100 Mkr1 2.	
RL RF 12 enter Freq 2.402 Ref Offse d dB/div Ref 20.1	50 Q AC 2500000 GHz PN IFG at 2.37 dB 00 dBm	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol 0 dB	≥e: RMS I:>100/100 Mkr1 2.	
RL RF III	50 Q AC 2500000 GHz PN IFG at 2.37 dB 00 dBm	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol 0 dB	≥e: RMS I:>100/100 Mkr1 2.	
RL RF 12 enter Freq 2.402 Ref Offse dB/div Ref 20.1	50 Q AC 2500000 GHz PN IFG at 2.37 dB 00 dBm	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol 0 dB	≥e: RMS I:>100/100 Mkr1 2.	
RL RF 12 enter Freq 2.402 Ref Offse dB/div Ref 20.1	50 Q AC 2500000 GHz PN IFG at 2.37 dB 00 dBm	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol 0 dB	≥e: RMS I:>100/100 Mkr1 2.	
RL RF 12 enter Freq 2.402 Ref Offse dB/div Ref 20.1	50 Q AC 2500000 GHz PN IFG at 2.37 dB 00 dBm	0: Wide 😱 Trig: Fre	#Avg Ty e Run Avg Hol 0 dB	≥e: RMS I:>100/100 Mkr1 2.	
RL         RF         I           enter Freq 2.402         Ref Offse         Ref 20.1           dB/div         Ref 20.1         Ref 20.1           d0	50 Q AC 2500000 GHz PN IFG 25237 dB 00 dBm	O: Wide ain:Low #Atten: 3	e Run Avg Ty 0 dB	Pe: RMS 1>100/100 Mkr1 2.	401 838 GH -4.431 dBr
RL         RF           enter Freq 2.402           dB/div         Ref Offse           dB/div         Ref 20.1           00	50 Q AC 2500000 GHz PN PN PN PN PN PN PN PN PN PN PN PN PN	O: Wide Trig: Fre ain:Low #Atten: 3	e Run Avg Hol 0 dB	Pe: RMS i>100/100 Mkr1 2. 2 4 4 5 Sweep 2.13	401 838 GH -4.431 dBn 5pan 2.000 MH 3 ms (1001 pts
RL         RF           enter Freq 2.402           Ref Offse           dB/div         Ref 20.1           0         Ref 20.1	50.2 AC 2500000 GHz PN PN PN PC PC PC PC PC PC PC PC PC PC PC PC PC	O: Wide Trig: Fre ain:Low Atten: 3	e Run Avg Ty 0 dB	Pe: RMS 1>100/100 Mkr1 2.	401 838 GH: -4.431 dBn -4.431 dBn -4.431 dBn -4.431 dBn -4.431 dBn -4.431 dBn
RL         RF         Ref Offse           enter Freq 2.402         Ref Offse         Ref Offse           dB/div         Ref 20.1         Ref 20.1           20	SO R AC 2500000 GHz PN FG et 2.37 dB 00 dBm	O: Wide ain:Low Trig: Fre #Atten: 3	e Run Avg Hol 0 dB	Pe: RMS i>100/100 Mkr1 2. 2 4 4 5 Sweep 2.13	401 838 GH -4.431 dBn 5pan 2.000 MH 3 ms (1001 pts
RL         RF           enter Freq 2.402           Ref Offse           dB/div         Ref 20.1           00	50.2 AC 2500000 GHz PN PN PN PC PC PC PC PC PC PC PC PC PC PC PC PC	O: Wide Trig: Fre ain:Low Atten: 3	e Run Avg Hol 0 dB	Pe: RMS i>100/100 Mkr1 2. 2 4 4 5 Sweep 2.13	TRACE D 23 45 TYPE D 1000 PET D 1000 MH 3 ms (1001 pts
Ref Offse Ref 2.402 Ref 20.1 29 00 00 00 00 00 00 00 00 00 00 00 00 00	50.2 AC 2500000 GHz PN PN PN PC PC PC PC PC PC PC PC PC PC PC PC PC	O: Wide Trig: Fre ain:Low Atten: 3	e Run Avg Hol 0 dB	Pe: RMS i>100/100 Mkr1 2. 2 4 4 5 Sweep 2.13	Span 2.000 MH 13 ms (1001 pts
RL         RF           enter Freq 2.402           Ref Offse           dB/div         Ref 20.1           00	50.2 AC 2500000 GHz PN PN PN PC PC PC PC PC PC PC PC PC PC PC PC PC	O: Wide Trig: Fre ain:Low Atten: 3	e Run Avg Hol 0 dB	Pe: RMS i>100/100 Mkr1 2. 2 4 4 5 Sweep 2.13	401 838 GH: -4.431 dBn -4.431 dBn -4.431 dBn -4.431 dBn -4.431 dBn -4.431 dBn



RL RF enter Freq 2.44	50 Ω AC 1500000 GHz		T Free Run	ALIGNAUTO #Avg Type: R Avg Hold:>10	06:38:48 MS Ti 0/100	8 PM Aug 02, 202 RACE 1 2 3 4 5 TYPE MWWWW DET P N N N N
	P IF	NO: Wide 😱 Trig: Gain:Low #Atte	en:30 dB	Avg Hold:>10		
	et 2.39 dB .00 dBm				Mkr1 2.440 -2.	838 GH 818 dBr
2 <b>9</b> 0.0	1			<mark>2</mark>		
.00	$\lambda \sim$				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
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).0 ).0						
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enter 2.441500 C	GHz					1 2.000 MH
Res BW 30 KHz	X	#VBW 100	FUNCTION	FUNCTION WIDTH	Sweep 2.133 ms	s (1001 pt
N 1 f 2 N 1 f	2.440 838 GHz 2.441 840 GHz		TORCHOR		TONCTION VALUE	
3 A						
6 7						
B B						
						>
3				<b>I</b> STATUS		
		CFS NVNT :	2-DH1 2	2480MHz		
RL RF	- Swept SA 50 Ω AC			ALIGNAUTO	06:41:4	1PM Aug 02, 202
RL RF	- Swept SA 50 Ω AC     '9500000 GHz P	SENSE:IN NO: Wide 😱 Trig:			06:41:43 IMS TI 100/100	1 PM Aug 02, 202 RACE 1 2 3 4 5 TYPE MWWW DET P N N N N
RL RF enter Freq 2.47 Ref Offs	Swept SA 50 Ω AC 29500000 GHz P IF et 2.44 dB	SENSE:IN NO: Wide Trig:	T : Free Run	ALIGN AUTO #Avg Type: R	Ms 100/100 Mkr1 2.478	
dB/div Ref 20.	- Swept SA 50 Ω AC     /9500000 GHz P IF	SENSE:IN NO: Wide 😱 Trig:	T : Free Run	ALIGNAUTO #Avg Type: R Avg Hold:>10	Ms 100/100 Mkr1 2.478	
RL RF enter Freq 2.47 Ref Offs dB/div Ref 20.	Swept SA 50 Ω AC 29500000 GHz P IF et 2.44 dB	SENSE:IN NO: Wide 😱 Trig:	T : Free Run	ALIGN AUTO #Avg Type: R	Ms 100/100 Mkr1 2.478	
RL RF enter Freq 2.47 Ref Offs dB/div Ref 20.	- Swept SA 50 Ω AC 9 9500000 GHz P P F et 2.44 dB .00 dBm	SENSE:IN NO: Wide 😱 Trig:	T : Free Run	ALIGNAUTO #Avg Type: R Avg Hold:>10	Ms 100/100 Mkr1 2.478	
RL RF enter Freq 2.47 Ref Offs dB/div Ref 20.	- Swept SA 50 Ω AC 9 9500000 GHz P P F et 2.44 dB .00 dBm	SENSE:IN NO: Wide 😱 Trig:	T : Free Run	ALIGNAUTO #Avg Type: R Avg Hold:>10	Ms 100/100 Mkr1 2.478	
RL RF A	- Swept SA 50 Ω AC 9 9500000 GHz P P F et 2.44 dB .00 dBm	SENSE:IN NO: Wide 😱 Trig:	T : Free Run	ALIGNAUTO #Avg Type: R Avg Hold:>10	Ms 100/100 Mkr1 2.478	
RL RF A	- Swept SA 50 Ω AC 9 9500000 GHz P P F et 2.44 dB .00 dBm	SENSE:IN NO: Wide 😱 Trig:	T : Free Run	ALIGNAUTO #Avg Type: R Avg Hold:>10	Ms 100/100 Mkr1 2.478	
RL RF Ciffs Ref Ciffs dB/div Ref 20. 00 00 00 00 00 00 00 00 00	- Swept SA 50 Ω AC 9 9500000 GHz P P F et 2.44 dB .00 dBm	SENSE:IN NO: Wide 😱 Trig:	T : Free Run	ALIGNAUTO #Avg Type: R Avg Hold:>10	Ms 100/100 Mkr1 2.478	
RL         RF           enter Freq 2.47           Ref Offs           dB/div           Ref 20.           00 <tr< td=""><td>- Swept SA 50 Ω AC 9500000 GHz P P F et 2.44 dB .00 dBm</td><td>SENSE:IN NO: Wide Trig: Gain:Low #Atte</td><td>T Free Run en: 30 dB</td><td>ALIGNAUTO #Avg Type: R Avg Hold:&gt;10</td><td>Mkr1 2.478 -3.</td><td>RACE 12 34 5 TYPE MANNA Det 21 24 6 836 GH 940 dBr</td></tr<>	- Swept SA 50 Ω AC 9500000 GHz P P F et 2.44 dB .00 dBm	SENSE:IN NO: Wide Trig: Gain:Low #Atte	T Free Run en: 30 dB	ALIGNAUTO #Avg Type: R Avg Hold:>10	Mkr1 2.478 -3.	RACE 12 34 5 TYPE MANNA Det 21 24 6 836 GH 940 dBr
RL Ref Offs Ref Offs dB/div Ref 20. 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- Swept SA 50 Ω AC 9500000 GHz P F et 2.44 dB 00 dBm 1 5Hz X	SENSE:IN NO: Wide Trig: Gain:Low #Atte	T Free Run en: 30 dB	ALIGNAUTO #Avg Type: R Avg Hold:>10	Mkr1 2.478 -3.	940 dBr
RL         RF           enter Freq 2.47           Balance           Balance <td>- Swept SA 50 Ω AC 9500000 GHz P P F et 2.44 dB .00 dBm 1 .00 dBm .00 dBm .00 dBm .00 dBm</td> <td>SENSE:IN NO: Wide Trig: Gain:Low #Atte</td> <td>T Free Run en: 30 dB</td> <td>ALIGNAUTO #Avg Type: R Avg Hold&gt;10</td> <td>Mkr1 2.478 -3.</td> <td>RACE 12 34 5 TYPE MANNA Det 21 24 6 836 GH 940 dBr</td>	- Swept SA 50 Ω AC 9500000 GHz P P F et 2.44 dB .00 dBm 1 .00 dBm .00 dBm .00 dBm .00 dBm	SENSE:IN NO: Wide Trig: Gain:Low #Atte	T Free Run en: 30 dB	ALIGNAUTO #Avg Type: R Avg Hold>10	Mkr1 2.478 -3.	RACE 12 34 5 TYPE MANNA Det 21 24 6 836 GH 940 dBr
RL         RF           enter Freq 2.47           dB/div           Ref Offs           000      <	- Swept SA 50 Ω AC 9500000 GHz P et 2.44 dB .00 dBm 1 .00 dBm 3Hz 2.478 836 GHz	SENSE:IN NO: Wide Trig: Gain:Low #Atte	T Free Run en: 30 dB	ALIGNAUTO #Avg Type: R Avg Hold>10	Mkr1 2.478 -3.	RACE 12 34 5 TYPE MANNA Det 21 24 6 836 GH 940 dBr
RL         RF           enter Freq 2.47           enter Freq 2.47           dB/div           Ref Offs           000           9           000           9           000 <td>- Swept SA 50 Ω AC 9500000 GHz P et 2.44 dB .00 dBm 1 .00 dBm 3Hz 2.478 836 GHz</td> <td>SENSE:IN NO: Wide Trig: Gain:Low #Atte</td> <td>T Free Run en: 30 dB</td> <td>ALIGNAUTO #Avg Type: R Avg Hold&gt;10</td> <td>Mkr1 2.478 -3.</td> <td>RACE 12 34 5 TYPE MANNA Det 2010 836 GH 940 dBr</td>	- Swept SA 50 Ω AC 9500000 GHz P et 2.44 dB .00 dBm 1 .00 dBm 3Hz 2.478 836 GHz	SENSE:IN NO: Wide Trig: Gain:Low #Atte	T Free Run en: 30 dB	ALIGNAUTO #Avg Type: R Avg Hold>10	Mkr1 2.478 -3.	RACE 12 34 5 TYPE MANNA Det 2010 836 GH 940 dBr
RL Ref Offs Ref Offs dB/div Ref 20. Ref 20. Re	- Swept SA 50 Ω AC 9500000 GHz P et 2.44 dB .00 dBm 1 .00 dBm 3Hz 2.478 836 GHz	SENSE:IN NO: Wide Trig: Gain:Low #Atte	T Free Run en: 30 dB	ALIGNAUTO #Avg Type: R Avg Hold>10	Mkr1 2.478 -3.	RACE 12 34 5 TYPE MANNA Det 2010 836 GH 940 dBr



ilent Spectrum Analyze RL RF	50 Ω AC	SENSE:INT	ALIGNAUTO #Avg Type: RMS	06:42:39 PM Aug 02, 202
enter Freq 2.40	PI	NO: Wide 😱 Trig: Free Ru Gain:Low #Atten: 30 dE	ın Avg Hold:>100/10	DET P N N N N
) dB/div Ref 20	set 2.37 dB .00 dBm			Mkr1 2.401 838 GH -6.036 dBr
og 0.0				
0.0		~	2	~~~ <u>~</u>
0.0				
0.0				
0.0				
enter 2.402500 ( Res BW 30 kHz	GHz	#VBW 100 kHz		Span 2.000 MH Sweep 2.133 ms (1001 pts
KR MODE TRC SCL	× 2.401 838 GHz	Y FUNCTI		FUNCTION VALUE
2 N 1 f 3 4	2.402 840 GHz	-6.204 dBm		
5 <b> </b>				
8				
0				>
G			STATUS	
ilent Spectrum Analyze		CFS NVNT 3-DH	11 2441MHz	
RL RF	F0.0 4C			
	1500000 GHz	SENSE:INT	ALIGNAUTO #Avg Type: RMS	06:44:14 PM Aug 02, 203 TRACE 1 2 3 4 5 TVPE MULLAN
	1500000 GHz	NO: Wide Trig: Free Ru Gain:Low #Atten: 30 dE	#Avg Type: RMS In Avg Hold:>100/10	TRACE 12345 TYPE MWWW DET PNNNN
Ref Offs dB/div Ref 20	1500000 GHz	10: Wide 🖵 Trig: Free Ru	#Avg Type: RMS In Avg Hold:>100/10	06:44:14PM Aug 02, 20 TRACE 12 3 4 TYPE 12
Ref Offs dB/div Ref 20	1500000 GHz P IF set 2.39 dB	10: Wide 🖵 Trig: Free Ru	#Avg Type: RMS in Avg Hold>100/10/ 3	TRACE 12345 TYPE MWWW DET PNNN Mkr1 2.440 836 GH
enter Freq 2.44 Ref Offs	11500000 GHz P IF et 2.39 dB .00 dBm	10: Wide 🖵 Trig: Free Ru	#Avg Type: RMS In Avg Hold:>100/10	TRACE 12345 TYPE MWWW DET PNNN Mkr1 2.440 836 GH
Ref Offs o dB/div Ref 20	11500000 GHz P IF et 2.39 dB .00 dBm	10: Wide 🖵 Trig: Free Ru	#Avg Type: RMS in Avg Hold>100/10/ 3	TRACE 12345 TYPE MWWW DET PNNN Mkr1 2.440 836 GH
Ref Offse D dB/div Ref 20 0 0 0 0 0 0 0 0 0 0 0 0 0	11500000 GHz P IF et 2.39 dB .00 dBm	10: Wide 🖵 Trig: Free Ru	#Avg Type: RMS in Avg Hold>100/10/ 3	TRACE 12345 TYPE MWWW DET PNNN Mkr1 2.440 836 GH
Ref Offse D dB/div Ref 20 0 0 0 0 0 0 0 0 0 0 0 0 0	11500000 GHz P IF et 2.39 dB .00 dBm	10: Wide 🖵 Trig: Free Ru	#Avg Type: RMS in Avg Hold>100/10/ 3	TRACE 12345 TYPE MWWW DET PNNN Mkr1 2.440 836 GH
Ref Offs 0 dB/div Ref 20 00 00 00 00 00 00 00 00 00	11500000 GHz P F 100 dBm	10: Wide 🖵 Trig: Free Ru	#Avg Type: RMS in Avg Hold>100/10/ 3	Mkr1 2.440 836 GH -4.443 dBr
Ref Offs dB/div Ref 20 Ref 0 Ref 0 Ref 0 Ref 0 Ref 20 Ref 0 Ref 20 Ref 0 Ref 20 Ref 0 Ref 20 Ref 0 Ref 20 Ref 2	11500000 GHz P F 100 dBm	10: Wide 🖵 Trig: Free Ru	Avg Hold>100/10	TRACE 12345 TYPE MWWW DET PNNN Mkr1 2.440 836 GH
Ref Offs Ref Offs Ref 20 Ref 2	11500000 GHz P P P P P P P P P P P P P	VO: Wide Gain:Low Trig: Free Ru #Atten: 30 dE	Avg Hold>100/10	12 84 9 Mkr1 2.440 836 GH -4.443 dBr
Ref Offs         Ref Offs           0 dB/div         Ref 20	11500000 GHz P P P P P P P P P P P P P	VO: Wide Gain:Low Trig: Free Ru #Atten: 30 dE	Avg Hold>100/10	Mkr1 2.440 836 GH -4.443 dBr -4.443 dBr
Ref Offs           0 dB/div         Ref Offs           0 dB/div         Ref 20           0 dB/div         Ref 20 </td <td>11500000 GHz P P P P P P P P P P P P P</td> <td>VO: Wide Gain:Low Trig: Free Ru #Atten: 30 dE</td> <td>Avg Hold&gt;100/10</td> <td>Mkr1 2.440 836 GH -4.443 dBr -4.443 dBr</td>	11500000 GHz P P P P P P P P P P P P P	VO: Wide Gain:Low Trig: Free Ru #Atten: 30 dE	Avg Hold>100/10	Mkr1 2.440 836 GH -4.443 dBr -4.443 dBr
Ref Offs 0 dB/div Ref 20 0 dB/div Ref 20 0 d 0 d 0 d 0 d 0 d 0 d 0 d 0	11500000 GHz P P P P P P P P P P P P P	VO: Wide Gain:Low Trig: Free Ru #Atten: 30 dE	Avg Hold>100/10	Mkr1 2.440 836 GH -4.443 dBr -4.443 dBr -4.443 dBr -4.443 dBr -4.443 dBr -4.443 dBr -4.443 dBr -4.443 dBr -4.443 dBr -4.443 dBr



	CFS NVNT 3-DF	11 2480MHz	
Agilent Spectrum Analyzer - Swept SA			
ଆ RL RF   50 ହ AC   Center Freq 2.479500000 GHz	PNO: Wide File Arten: 30 dl		
Ref Offset 2.44 dB 10 dB/div Ref 20.00 dBm	II Ganzeow		Mkr1 2.478 838 GHz -5.529 dBm
10.0 0.00		<mark>2</mark>	
-10.0			
-30.0			
60.0 60.0 -70.0			
Center 2.479500 GHz #Res BW 30 kHz	#VBW 100 kHz		Span 2.000 MH: Sweep 2.133 ms (1001 pts
MKR MODE TRC SCL X	Y FUNCT	ION FUNCTION WIDTH	FUNCTION VALUE
1         N         1         f         2.478 838 GH           2         N         1         f         2.479 838 GH           3	Iz -5.529 dBm Iz -6.069 dBm		
4 5 6 7			
8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10			
<		<b>I</b> STATUS	>

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# 13. Number Of Hopping Frequency

## 13.1 Block Diagram Of Test Setup



## 13.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

#### 13.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.

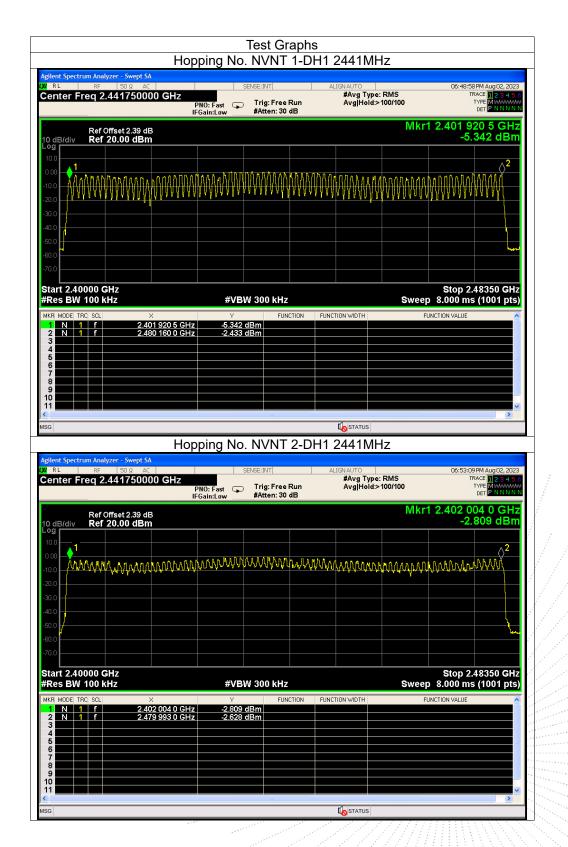
4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz, Sweep=auto;

#### 13.4 Test Result

Condition	Mode	Hopping Number	Verdict
NVNT	1-DH1	79	Pass
NVNT	2-DH1	79	Pass
NVNT	3-DH1	79 15	Pass









Нор	ping No. NVNT 3	3-DH1 2441MHz	
	SENSE:INT PNO: Fast Trig: Free Ru FGain:Low #Atten: 30 dE		06:57:18PM Aug 02, 2023 TRACE 123456 TYPE M
Ref Offset 2.39 dB           10 dB/div         Ref 20.00 dBm           10 dB/div         1           000         1      <			Икг1 2.401 837 0 GHz -2.651 dBm 
Start 2.40000 GHz #Res BW 100 kHz	#VBW 300 kHz	S	Stop 2.48350 GHz weep 8.000 ms (1001 pts)
MKR         MODE         TCI         SCL         X           1         N         1         f         2.401         837         0         Hz           2         N         1         f         2.401         837         0         Hz           3         N         1         f         2.479         993         0         Hz           4         5         6         6         7         7         8         9         9         9         9         9         10         11 <t< td=""><td></td><td>ON FUNCTION WIDTH</td><td>FUNCTION VALUE</td></t<>		ON FUNCTION WIDTH	FUNCTION VALUE
MSG		<b>STATUS</b>	

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# 14. Dwell Time

# 14.1 Block Diagram Of Test Setup



### 14.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

# 14.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set spectrum analyzer span = 0. Centred on a hopping channel;

3. Set RBW = 1MHz and VBW = 3MHz.Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.

4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

#### 14.4 Test Result

DH5 Packet permit maximum 1600 / 79 / 6 hops per second in each channel (5 time slots RX, 1 time slot TX).

DH3 Packet permit maximum 1600 / 79 / 4 hops per second in each channel (3 time slots RX, 1 time slot TX).

DH1 Packet permit maximum 1600 / 79 /2 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the Dwell Time can be calculated as follows: DH5:1600/79/6\*0.4\*79\*(MkrDelta)/1000

DH3:1600/79/4\*0.4\*79\*(MkrDelta)/1000 DH1:1600/79/2\*0.4\*79\*(MkrDelta)/1000

Remark: Mkr Delta is once pulse time.

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Modulation	Channel Data	Packet	pulse time(ms)	Dwell Time(s)	Limits(s)
		1DH1	0.378	0.121	0.4
GFSK	Middle	1DH3	1.633	0.261	0.4
		1DH5	2.882	0.307	0.4
		2DH1	0.385	0.123	0.4
π/ 4 DQPSK	Middle	2DH3	1.635	0.262	0.4
		2DH5	2.880	0.307	0.4
		3DH1	0.386	0.124	0.4
8DPSK	Middle	3DH3	1.635	0.262	0.4
		3DH5	2.885	0.308	0.4

ilent Spectrum Analyzer - Swept S/		IVNT 1-	Test Gr DH1 24		One	Burst		
RL RF 50Ω AC enter Freq 2.4410000	00 GHz	Solution So	ENSE:INT Trig Delay Trig: Video #Atten: 30	-500.0 µs	ALIGN AUTO #Avg Typ	e: RMS		4 PM Aug 02, 202 RACE 1 2 3 4 5 TYPE WWWWWW DET PNNNN
Ref Offset 2.39 dl dB/div Ref 20.00 dBn							ΔMkr1	378.0 μ 1.68 dΕ
0 .00↓1∆2								
0.0 <mark>2</mark> 0.0								TRIG LVI
0.0								
	elentelenne fitelet <sup>a</sup> g <sup>un</sup> e <sub>le</sub> gietelegitel	da di di di dia da aku kata La parti jing da ping dia p	na de litter star de la de la de J <sub>al</sub> lea de <mark>la se la de la d</mark> a de la des	n hlanden för störadet Hendra <sup>den</sup> förserade	a di sela da di Manjuna Anglas di alta di Manjuna Anglas di alta di Anglas	hteen diken keter bet bieden en jange staten ander bieden en jange staten stat	e <sup>bi</sup> l di terren direkter <mark>pri fil pil ande pil pil di t</mark> ip	<mark>o na slova presidente se se slova slova Na slova s</mark>
	<mark>e da ang period al ang pad</mark>	<mark>. (1996) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (199</mark>	W 3.0 MHz	n felmi konstruktion In <sub>fi</sub> nd jo <sup>n ka</sup> t (or en parta)		and <u>, blicks, it it in a</u> tom, <u>k</u> ik	<mark>, 44, 194, 194, 194, 194, 194, 194, 194,</mark>	Span 0 Hz (10001 pts
100         Π         Δ	<mark>e da ang period al ang pad</mark>	<mark>∔aperitananananananananananananananananananan</mark>	W 3.0 MHz	in poly <sup>disi</sup> n (a and )		Sweep	<mark>, 44, 194, 194, 194, 194, 194, 194, 194,</mark>	Span 0 Hz
100         Π         Δ          Δ         Δ         Δ	× 378.0 µs (	#VBV #VBV	W 3.0 MHz	in poly <sup>disi</sup> n (ar and	nd and a same	Sweep	10.00 ms	Span 0 Hz
0.0         φμειψι         φμειψιψι         φμειψι         φμειψιψ	× 378.0 µs (	#VBV #VBV	W 3.0 MHz	in poly <sup>disi</sup> n (ar and	nd and a same	Sweep	10.00 ms	Span 0 Hz



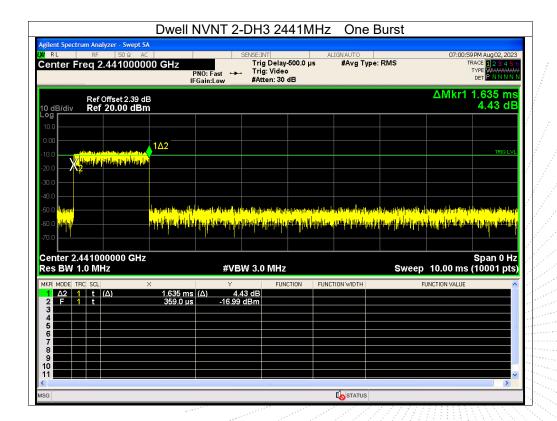
	Dwell N	NVNT 1-DF	<del>1</del> 3 2441M	lHz One	e Burst		
gilent Spectrum Analyzer - Swept SA		SENSE	- <b>X4</b> (17)			00 50 45	
RL RF 50 Ω AC Center Freq 2.44100000	00 GHz	NO:East ↔ Ti	rig Delay-500.0 μα rig: Video Atten: 30 dB	ALIGN AUTO s #Avg Ty	rpe: RMS	TR/	PM Aug 02, 2023 ACE <b>1</b> 2 3 4 5 YPE WWWWWWW DET P N N N N
Ref Offset 2.39 dE						ΔMkr1 1	.633 ms 0.85 dE
10.0	<b>↓</b> 1∆2						
10.0 10.0							TRIG LVI
20.0							
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40.0		المراجع المراجع المراجع المراجع	din an	nduðinut í Íslandina á samað at	and to be a compared at our to be of the	at be made also diversation	herid a hatala ha
40.0 50.0 <mark>m/dda.</mark> 60.0 <mark>4/da.dl/</mark>		alala za dulla (uni) da a du Na alala za la la alala dulla dulla	a <mark>listenie alle ditense alle Alistenie alle ditense alle ditens Alistenie alle ditense alle ditens</mark>	ala fisika kan kan kan kan basa kan sa	<mark>ingrad a</mark> the complete state physics		
40.0	14-04-04-04-04-04-04-04-04-04-04-04-04-04	#United for the second se	a nakulu <u>kulu</u> (na pala na	(1947) - Angelen (1947) Alan Ingelen (1947) Alan Ingelen (1947)		all the planet of the planet of the second s	Span 0 H:
40.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	×	#vBW 3	.0 MHz		Sweep		Span 0 H: 10001 pts
40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0		#vBW 3			Sweep	10.00 ms (	Span 0 H
400 winds. 600 winds. 600 μid winds. 600 μ	× 1.633 ms	#VBW 3			Sweep	10.00 ms (	Span 0 H: 10001 pts
40.0 with 1000000 GHz 60.0 with 1000000 GHz Center 2.4410000000 GHz Res BW 1.0 MHz KR MODE TRC SCL 2 2 F 1 t (Δ) 2 2 F 1 t 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	× 1.633 ms	#VBW 3			Sweep	10.00 ms (	Span 0 H: 10001 pts
40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0	× 1.633 ms	#VBW 3			Sweep	10.00 ms (	Span 0 H: 10001 pts
1         Δ2         1         t         (Δ)           2         F         1         t         3           3         -         -         -         -           4         -         -         -         -           5         -         -         -         -           6         -         -         -         -	× 1.633 ms	#VBW 3			Sweep	10.00 ms (	Span 0 H: 10001 pts
40.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 70.0	× 1.633 ms	#VBW 3			Sweep	10.00 ms (	Span 0 H:
40.0 40	× 1.633 ms	#VBW 3			Sweep	10.00 ms (	Span 0 H: 10001 pts

	Dwell NVNT 1-	-DH5 2441N	1Hz One	Burst		
Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC Center Freq 2.44100000		SENSE:INT Trig Delay-500.0 μ . Trig: Video #Atten: 30 dΒ	ALIGN AUTO Is #Avg Typ	e: RMS	07:00:05 PM Aug ( TRACE 1 2 TYPE WM DET P N	345
Ref Offset 2.39 dB 10 dB/div Ref 20.00 dBm Log					ΔMkr1 2.882 -0.4	
10.0 0.00 X2	<b>1</b> Δ2					TRIG LVI
-10.0						
-40.0 -50.0 <mark>/////</mark>		y person it days for a support of the start in the				
-60.0 <mark>11 (A<sub>10</sub>)  </mark>	na su la	, <b>[_],[_1],[_1],[</b> ,[],[],[],[],[],[],[],[],[],[],[],[],[],	<mark>in dan bahar baha</mark>	<mark>na shekiri ka k</mark> ala	irithediset () and a state of the second	li ki li li
Center 2.441000000 GHz Res BW 1.0 MHz	#VB	W 3.0 MHz			Span 10.00 ms (1000	
MKR MODE TRC SCL X 1 A2 1 t (A) 2 F 1 t 3	2.882 ms (Δ) -0.4	FUNCTION 41 dB dBm	FUNCTION WIDTH	Fl	UNCTION VALUE	
4 5 6 7						
8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10						
sg		Ш	STATUS			>

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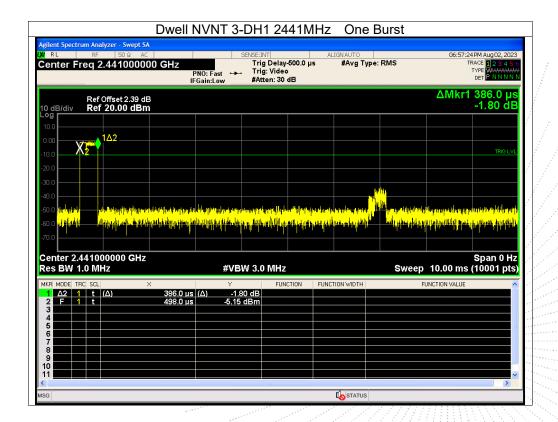


	Dwell N	NVNT 2-D	DH1 2441N	/IHz One	Burst	
gilent Spectrum Analyzer - Swept S						
RL RF 50Ω A Center Freq 2.4410000	00 GHz	NO:East ↔	NSE:INT Trig Delay-500.0 Trig: Video #Atten: 30 dB	ALIGNAUTO µs #Avg Tyj	pe: RMS	06:53:14 PM Aug 02, 202 TRACE 1 2 3 4 5 TYPE WAAAAAA DET P N N N N
Ref Offset 2.39 d 0 dB/div Ref 20.00 dBr						ΔMkr1 385.0 μ -3.55 dI
10.0						
						TRIG LV
40.0						
40.0 50.0 <mark>teterril voldugsgemätlide</mark>		den ser di se se di se di El 1 se di se d		desimble birden bir senekatira <mark>Julijan dan pangkan bir senekatira</mark>	alla dag da dalaki Majada kudi pin Transport pina pina pina pina pina pina pina pina	n <mark>han.</mark> N <mark>agter og blever og blever</mark>
10.0 50.0 50.0 ангениза 70.0 Center 2.441000000 GHz		alling and a second		de sielet de se de la constantes Al tradicione de la tradicione Al tradicione de la t		Span 0 H
10.0 50.0 40.0 50.0 10.0		<sup>ظ</sup> ائرة إلم عرامة المعارة ا #VBW	3.0 MHz	FUNCTION WIDTH	Sweep	Span 0 H
0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 2	<sup>ظ</sup> ائرة إلم عرامة المعارة ا #VBW	3.0 MHz		Sweep	Span 0 H 10.00 ms (10001 pt
0.0     0.0 </td <td>× 385.0 µs</td> <td>#VBW</td> <td>3.0 MHz</td> <td></td> <td>Sweep</td> <td>Span 0 H 10.00 ms (10001 pt</td>	× 385.0 µs	#VBW	3.0 MHz		Sweep	Span 0 H 10.00 ms (10001 pt
40.0 50.0 41,0 μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ	× 385.0 µs	#VBW	3.0 MHz		Sweep	Span 0 H 10.00 ms (10001 pt
10.0     10.0       10.0     10.0    <	× 385.0 µs	#VBW	3.0 MHz		Sweep	Span 0 H 10.00 ms (10001 pt





	Dwell NVNT 2-	DH5 2441MHz	One Burst	
gilent Spectrum Analyzer - Swept S/				
RL RF 50Ω AC Center Freq 2.44100000		ENSE:INT A Trig Delay-500.0 μs Trig: Video #Atten: 30 dB	ALIGN AUTO #Avg Type: RMS	07:01:51 PM Aug 02, 202: TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N N
Ref Offset 2.39 df 0 dB/div Ref 20.00 dBn				∆Mkr1 2.880 ms -3.05 dE
10.0 0.00				
				TRIG LVI
30.0				
40.0	ն տեսություն է։ ն տեսություն է։ ն տեսություն են հետություն է։	n bay kang bang kang kang bang bang bang bang bang bang bang b	in to prior the second	ala kan sa kana da sa kata a kata Mana kata a k
		ng ang ng an Ng ang ng ang	ha lagung para palan di ang manang sala da pa Mganang panang panang barga katina tang manang sala na	an an the all the all and the second states of the second states of the second states of the second states of t
400		nin 3.0 MHz	<mark>n san plana plana dan san sa</mark>	Span 0 H
400 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	#VBV	N 3.0 MHz	<mark>n san plana plana dan san sa</mark>	Span 0 H p 10.00 ms (10001 pts
10.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	#VBV	N 3.0 MHz	Swe	Span 0 H ep 10.00 ms (10001 pt
40 0 50 0 0 117 50 0 10	× γ 2.880 ms (Δ) -3.09	N 3.0 MHz	Swe	Span 0 H ep 10.00 ms (10001 pt
40.0         1           50.0         1           50.0         1           50.0         1           50.0         1           50.0         1           50.0         1           50.0         1           1         A2           2         F           1         t           3         -           4         -	× γ 2.880 ms (Δ) -3.09	N 3.0 MHz	Swe	Span 0 H ep 10.00 ms (10001 pt
40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0	× γ 2.880 ms (Δ) -3.09	N 3.0 MHz	Swe	Span 0 H p 10.00 ms (10001 pts
40.0 40.0 41.0 41.0 41.0 41.0 41.0 41.0	× γ 2.880 ms (Δ) -3.09	N 3.0 MHz	Swe	Span 0 H ep 10.00 ms (10001 pt
40 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	× γ 2.880 ms (Δ) -3.09	N 3.0 MHz	Swe	Span 0 H ep 10.00 ms (10001 pt
40.0         1           60.0         1           60.0         1           60.0         1           Center 2.441000000 GHz           Res BW 1.0 MHz           AKR MODE TRC SCL           1         Δ2           1         t           2         F           4         -           5         -           6         -           7         -           8         -	× γ 2.880 ms (Δ) -3.09	N 3.0 MHz	Swe	Span 0 H p 10.00 ms (10001 pts



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	Dwell NVNT 3	-DH3 2441	MHz One	Burst	
Agilent Spectrum Analyzer - Swept SA CRL RF 50 Ω AC Center Freq 2.44100000	0 GHz PN0: Fast IFGain:Low	SENSE:INT Trig Delay-500.0 → Trig: Video #Atten: 30 dB	∣ ALIGNAUTO )µs <b>#Avg Typ</b>	e: RMS	07:02:41 PM Aug 02, 2023 TRACE 1 2 3 4 5 6 TYPE WWWWW DET PNNNN
Ref Offset 2.39 dB 10 dB/div Ref 20.00 dBm					ΔMkr1 1.635 ms -4.54 dB
	1Δ2		, co. I for the left of the control		TRIG LVL
-10.0 -20.0 -30.0			<mark></mark>		
-40.0 -50.0 40 jp -60.0 11.1.1	n de presidente de la primer de l Nature de la primer en se la primer, con la primer de la pr	dina in the contract of the second state of th			en television and a second
-70.0	and a flath and a				<u> </u>
Center 2.441000000 GHz Res BW 1.0 MHz	#VE	3W 3.0 MHz		Sweep	Span 0 Hz 10.00 ms (10001 pts)
MKR         MODE         TRC         SCL         X           1         Δ2         1         t         (Δ)           2         F         1         t           3	1.635 ms (Δ) -4.	FUNCTION 54 dB dBm	FUNCTION WIDTH	FL	NCTION VALUE
4 5 6 7					
8 9 10					
MSG			STATUS		>

D	well NVNT 3-DH5	5 2441MHz	One Burst	
Agilent Spectrum Analyzer - Swept SA R RL RF 50 Ω AC Center Freq 2.441000000 G	PNO: East ↔ Trig:		AUTO Avg Type: RMS	07:03:33 PM Aug 02, 2023 TRACE 1 2 3 4 5 0 TYPE WWWWWW DET P N N N 1
Ref Offset 2.39 dB 10 dB/div Ref 20.00 dBm				ΔMkr1 2.885 ms 2.25 dB
0.00	1Δ2			
				TRIG LVL
-30.0				
-40.0	مريالية فالتربين مريانية		and de besternen fersternen besteret.	
-60.0	jing di pagwing li si di pagi paga ing paga ing paging jing paging jing paging	a da ma da da dina da da na si na sa na si na da n Na si na s	a shekari shekari sa kata a shekara a A shekari shekara shekara a	un del la de la casa d An al de la casa de la c
-50.0 Mag	Hatanau Phatanau #VBW 3.0	n an		والعربية المراجع المراجع Span 0 Hz 10.00 ms (10001 pts
60 0 45 1 60 0 4 1 1 70 0 Сепter 2.441000000 GHz Res BW 1.0 MHz МКЯ МОДЕ [TRC] SCL  Х	۲ ۲ (۵۱۹) #VBW 3.0	n an	Sweep	Span 0 Hz
60.0         0.0 </td <td>#VBW 3.0</td> <td>na an a</td> <td>Sweep</td> <td>Span 0 H: 10.00 ms (10001 pts</td>	#VBW 3.0	na an a	Sweep	Span 0 H: 10.00 ms (10001 pts
60.0         μ         μ           70.0         μ         μ           Center 2.441000000 GHz         Les BW 1.0 MHz           KKR MODE  TRC  SCL          X           1         Δ2         1         t         (Δ)         2	##0#476#114## #VBW 3.0 2.25 dB	na an a	Sweep	Span 0 H: 10.00 ms (10001 pts
60.0         0.0 </td <td>##0#476#114## #VBW 3.0 2.25 dB</td> <td>na an a</td> <td>Sweep</td> <td>Span 0 H: 10.00 ms (10001 pts</td>	##0#476#114## #VBW 3.0 2.25 dB	na an a	Sweep	Span 0 H: 10.00 ms (10001 pts
600         1	##0#476#114## #VBW 3.0 2.25 dB	na an a	Sweep	Span 0 H; 10.00 ms (10001 pts
50 0         1 <td>##0#476#114## #VBW 3.0 2.25 dB</td> <td>na an a</td> <td>Sweep</td> <td>Span 0 H 10.00 ms (10001 pts</td>	##0#476#114## #VBW 3.0 2.25 dB	na an a	Sweep	Span 0 H 10.00 ms (10001 pts
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	##0#476#114## #VBW 3.0 2.25 dB	na an a	Sweep	Span 0 H: 10.00 ms (10001 pts

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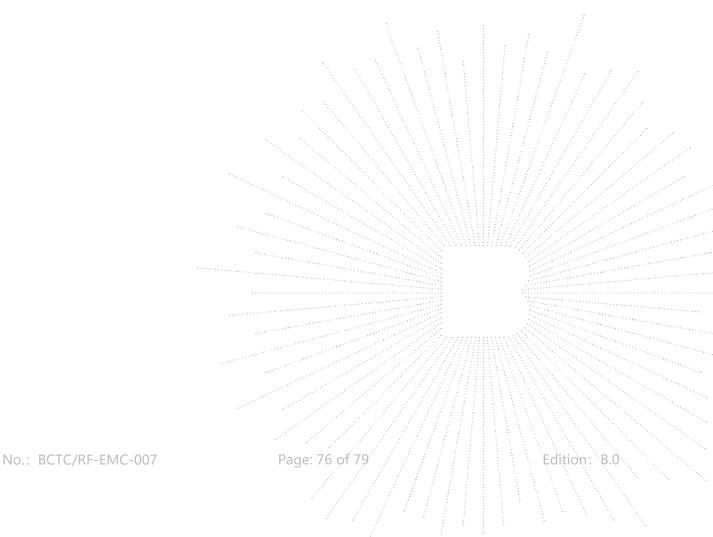
# 15. Antenna Requirement

#### 15.1 Limit

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.

# 15.2 Test Result

The EUT antenna is Internal antenna, fulfill the requirement of this section.





# 16. EUT Photographs

EUT Photo



NOTE: Appendix-Photographs Of EUT Constructional Details



# 17. EUT Test Setup Photographs

NOTE: Appendix -Test Setup Photographs.

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# STATEMENT

- 1. The equipment lists are traceable to the national reference standards.
- 2. The test report can not be partially copied unless prior written approval is issued from our lab.
- 3. The test report is invalid without the "special seal for inspection and testing".
- 4. The test report is invalid without the signature of the approver.
- 5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: http://www.chnbctc.com

E-Mail: bctc@bctc-lab.com.cn

\*\*\*\*\*\* END \*\*\*\*\*

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