

# **TEST REPORT**

Report No.:	BCTC2408319656-1E					
Applicant:	Radxa Computer (Shenzhen) Co.,Ltd.					
Product Name:	Radxa ROCK 5C					
Test Model:	Radxa ROCK 5C D16R26					
Tested Date:	2024-08-21 to 2024-08-30					
Issued Date:	2024-09-02					
She	nzhen BCTC Testing Co., Ltd.					
No.: BCTC/RF-EMC-005	Page: 1 of 91 Edition: B,2					



# FCC ID: 2BC6T-ROCK5C

Product Name:	Radxa ROCK 5C
Trademark: Model/Type Reference:	Radxa ROCK 5C D16R26 Radxa ROCK 5C D1R26, Radxa ROCK 5C D2R26, Radxa ROCK 5C D4R26, Radxa ROCK 5C D8R26, Radxa ROCK 5C D32R26, Radxa ROCK 5C D4R27, Radxa ROCK 5C D2R27, Radxa ROCK 5C D4R27, Radxa ROCK 5C D8R27, Radxa ROCK 5C D16R27, Radxa ROCK 5C D32R27
Prepared For:	Radxa Computer (Shenzhen) Co.,Ltd.
Address:	1602, Smart Valley, tiezai Road, Gongle community, Xixiang, Baoan, Shenzhen
Manufacturer:	Radxa Computer (Shenzhen) Co.,Ltd.
Address:	1602, Smart Valley, tiezai Road, Gongle community, Xixiang, Baoan, Shenzhen
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:	2024-08-21
Sample tested Date:	2024-08-21 to 2024-08-30
Issue Date:	2024-09-02
Report No.:	BCTC2408319656-1E
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)

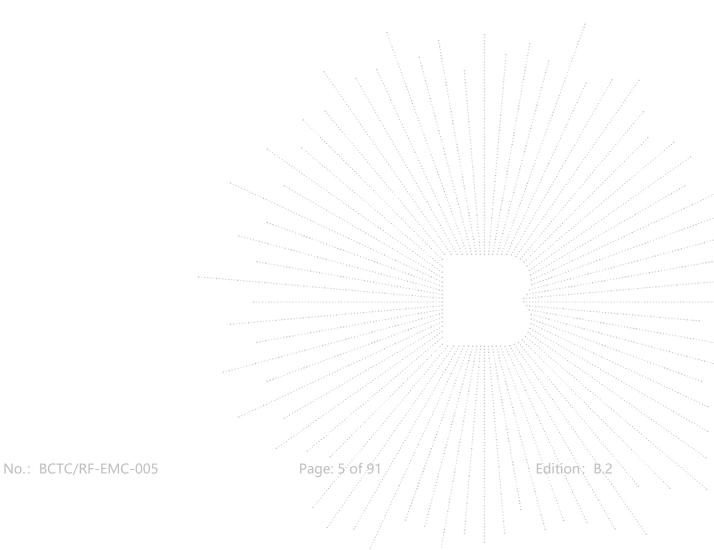
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# 1. Version

Report No.	Issue Date	Description	Approved
BCTC2408319656-1E	2024-09-02	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

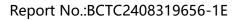
# 4.1 Product Information

Model/Type reference:	Radxa ROCK 5C D16R26 Radxa ROCK 5C D1R26, Radxa ROCK 5C D2R26, Radxa ROCK 5C D4R26, Radxa ROCK 5C D8R26, Radxa ROCK 5C D32R26, Radxa ROCK 5C D1R27, Radxa ROCK 5C D2R27, Radxa ROCK 5C D4R27, Radxa ROCK 5C D8R27, Radxa ROCK 5C D16R27, Radxa ROCK 5C D32R27
Model differences:	All models are the same circuit and RF module, only the model name and memory size, and the SoC model are different.
Bluetooth Version:	5.0
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	2402-2480MHz
Type of Modulation:	GFSK, π/ 4 DQPSK, 8DPSK
Number Of Channel	79CH
Antenna installation:	FPC antenna
Antenna Gain:	<ul> <li>1.73 dBi</li> <li>Remark:</li> <li>☑ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information.</li> <li>☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.</li> </ul>
Ratings:	DC 5V from adapter

# 4.2 Test Setup Configuration

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

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# 4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
1.	Adapter	HP	TPN-LA22		
2.	keyboard	Logitech	1641MG01DLZ8		
3.	Mouse	Logitech	M-U0026		
4.	Earphone	IHIP	SBGE1		
5.	U disk	SanDisk	32G		
6.	Router	HUAWEI	WS318		
7.	HDMI Cable	Belkin	HDMI2.0		
8.	Display	ChangHong	55DBK		

ltem	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	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	1

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# 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	Test mode Low channel Middle chann		High channel			
1	Transmitting(GFSK)	2402MHz	2441MHz	2480MHz			
2	Transmitting(π/ 4 DQPSK)	2402MHz	2441MHz	2480MHz			
3	Transmitting(8DPSK)	2402MHz	2441MHz	2480MHz			
4	4 BT+WIFI+HDMI+RJ45+keyboard+Mouse+USB+Earphone (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		CMD			
Frequency	2402 MHz	2441 MHz		2480 MHz	
Parameters	DEF	DEF		 DEF	



# 5. Test Facility And Test Instrument Used

#### 5.1 Test Facility

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

A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

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

#### 5.2 Test Instrument Used

RF Conducted Test								
Equipment	Manufacturer	Model# Serial#		Last Cal.	Next Cal.			
Power meter	Keysight	E4419	1	May 16, 2024	May 15, 2025			
Power Sensor (AV)	Keysight	E9300A		May 16, 2024	May 15, 2025			
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 16, 2024	May 15, 2025			
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025			
Radio frequency control box	MAIWEI	MW100-RFC B	an a		X			
Software	MAIWEI	MTS 8310	$\cdots$		Y.			



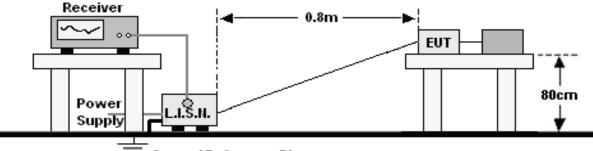
Radiated Emissions Test (966 Chamber01)							
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.		
966 chamber	ChengYu	966 Room	966	May 16, 2024	May 15, 2025		
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025		
Receiver	R&S	ESRP	101154	May 16, 2024	May 15, 2025		
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 16, 2024	May 15, 2025		
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 21, 2024	May 20, 2025		
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 21, 2024	May 20, 2025		
Amplifier	Amplifier SKET		SK202104090 1	May 16, 2024	May 15, 2025		
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025		
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 16, 2024	May 15, 2025		
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	May 21, 2024	May 20, 2025		
Spectrum Analyzer9kHz- 40GHz		FSP40	100363	May 16, 2024	May 15, 2025		
Software	Frad	EZ-EMC	FA-03A2 RE	\	\		

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#### 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
Netes	00100	00100

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	19. 19.	30 MHz
IF Bandwidth		9 kHz

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

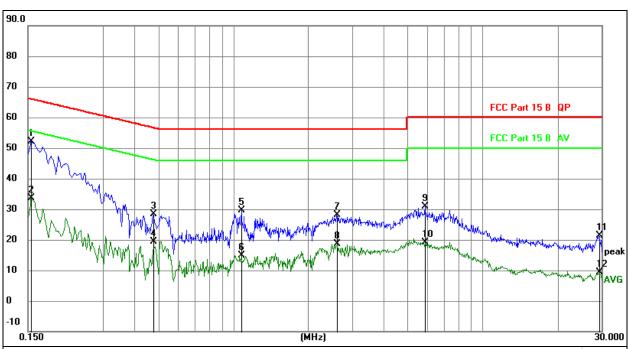
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



# 6.5 Test Result

RK3582	
--------	--

1110002			
Temperature:	<b>26</b> ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz



#### Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.

3. Measurement=Reading Level+ Correct Factor 4. Over= Measurement-Limit

						1 1 1 1		
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1	*	0.1545	31.97	20.07	52.04	65.75	-13.71	QP
2		0.1545	13.52	20.07	33.59	55.75	-22.16	AVG
3		0.4785	8.22	20.08	28.30	56.37	-28.07	QP
4		0.4785	-0.62	20.08	19.46	46.37	-26.91	AVG
5		1.0770	9.54	20.09	29.63	56.00	-26.37	QP
6		1.0770	-5.33	20.09	14.76	46.00	-31.24	AVG
7		2.6070	8.09	20.11	28.20	56.00	-27.80	QP
8		2.6070	-1.51	20.11	18.60	46.00	-27.40	AVG
9		5.8830	10.80	20.15	30.95	60.00	-29.05	QP
10		5.8830	-1.01	20.15	19.14	50.00	-30.86	AVG
11		29.3505	1.16	20.27	21.43	60.00	-38.57	QP
12		29.3505	-10.98	20.27	9.29	50.00	-40.71	AVG
1								

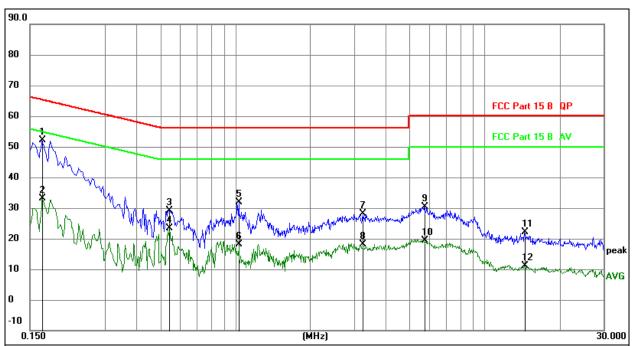
No.: BCTC/RF-EMC-005

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Edition:



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



Remark:

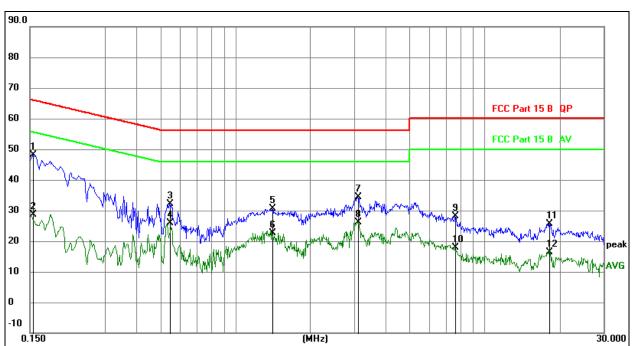
All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.
 Measurement=Reading Level+ Correct Factor
 Over= Measurement-Limit

	modoure							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1	*	0.1680	31.95	20.07	52.02	65.06	-13.04	QP
2		0.1680	13.16	20.07	33.23	55.06	-21.83	AVG
3		0.5415	9.14	20.08	29.22	56.00	-26.78	QP
4		0.5415	3.33	20.08	23.41	46.00	-22.59	AVG
5		1.0320	11.90	20.09	31.99	56.00	-24.01	QP
6		1.0320	-1.86	20.09	18.23	46.00	-27.77	AVG
7		3.2505	7.90	20.13	28.03	56.00	-27.97	QP
8		3.2505	-2.10	20.13	18.03	46.00	-27.97	AVG
9		5.7390	10.31	20.15	30.46	60.00	-29.54	QP
10		5.7390	-0.88	20.15	19.27	50.00	-30.73	AVG
11		14.4645	1.79	20.29	22.08	60.00	-37.92	QP
12		14.4645	-9.27	20.29	11.02	50.00	-38.98	AVG



#### RK3588S2

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



#### Remark:

All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.

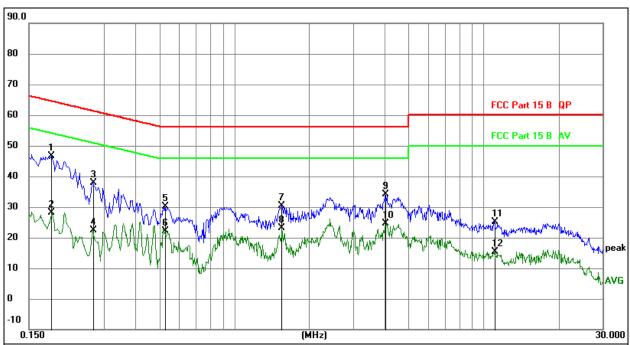
- 3. Measurement=Reading Level+ Correct Factor

	4. Over=	Measurement-Limit
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	modoure							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1	*	0.1544	28.16	20.07	48.23	65.76	-17.53	QP
2		0.1544	8.52	20.07	28.59	55.76	-27.17	AVG
3		0.5459	12.06	20.08	32.14	56.00	-23.86	QP
4		0.5459	5.81	20.08	25.89	46.00	-20.11	AVG
5		1.4100	10.50	20.09	30.59	56.00	-25.41	QP
6		1.4100	2.55	20.09	22.64	46.00	-23.36	AVG
7		3.1065	14.33	20.12	34.45	56.00	-21.55	QP
8		3.1065	6.13	20.12	26.25	46.00	-19.75	AVG
9		7.6333	7.91	20.16	28.07	60.00	-31.93	QP
10		7.6333	-2.26	20.16	17.90	50.00	-32.10	AVG
11		18.1453	5.28	20.32	25.60	60.00	-34.40	QP
12		18.1453	-3.96	20.32	16.36	50.00	-33.64	AVG



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



Remark:

All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.
 Measurement=Reading Level+ Correct Factor

4.	Over=	Measurement-L	im	it
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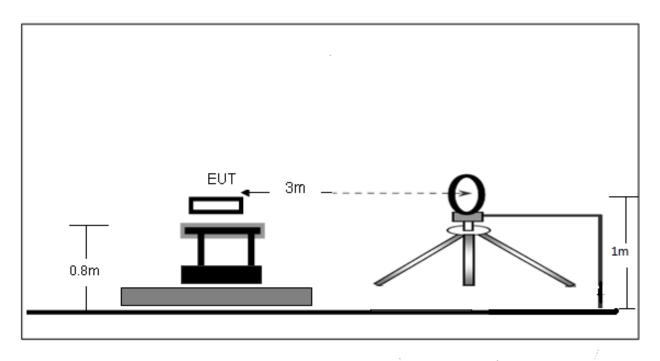
1         *         0.1844         26.60         20.07         46.67         64.29         -17.62         QP           2         0.1844         8.15         20.07         28.22         54.29         -26.07         AVG           3         0.2714         17.73         20.07         37.80         61.07         -23.27         QP           4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.20         25.05         60.00         -21.28         AVG           11         11.		2. Factor = Insertion Loss + Cable Loss.							1
No. Mk.         Freq.         Reading Level         Correct Factor         Measure- ment         Limit         Over           MHz         dB         dBuV         dBuV         dB         Detector           1         *         0.1844         26.60         20.07         46.67         64.29         -17.62         QP           2         0.1844         8.15         20.07         28.22         54.29         -26.07         AVG           3         0.2714         17.73         20.07         37.80         61.07         -23.27         QP           4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87 <t< td=""><td>3. Meas</td><td>urement</td><td>=Reading Le</td><td>vel+ Correct F</td><td>actor</td><td></td><td></td><td></td><td>1</td></t<>	3. Meas	urement	=Reading Le	vel+ Correct F	actor				1
No. Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dB         dBuV         dBuV         dB         Detector           1         *         0.1844         26.60         20.07         46.67         64.29         -17.62         QP           2         0.1844         8.15         20.07         28.22         54.29         -26.07         AVG           3         0.2714         17.73         20.07         37.80         61.07         -23.27         QP           4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -21.98         AVG           9         4.0425         13.87         20.14	4. Over=	= Measur	rement-Limit						
MHz         dB         dBuV         dBuV         dB         Detector           1         *         0.1844         26.60         20.07         46.67         64.29         -17.62         QP           2         0.1844         8.15         20.07         28.22         54.29         -26.07         AVG           3         0.2714         17.73         20.07         37.80         61.07         -23.27         QP           4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.28         AVG           10         4.0425         4.58         20.20				Reading	Correct	Measure-			
1         *         0.1844         26.60         20.07         46.67         64.29         -17.62         QP           2         0.1844         8.15         20.07         28.22         54.29         -26.07         AVG           3         0.2714         17.73         20.07         37.80         61.07         -23.27         QP           4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.20         25.05         60.00         -21.28         AVG           11         11.	No.	Mk.	Freq.	Level	Factor	ment	Limit	Over	
2         0.1844         8.15         20.07         28.22         54.29         -26.07         AVG           3         0.2714         17.73         20.07         37.80         61.07         -23.27         QP           4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP			MHz		dB	dBuV	dBuV	dB	Detector
3         0.2714         17.73         20.07         37.80         61.07         -23.27         QP           4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP	1	*	0.1844	26.60	20.07	46.67	64.29	-17.62	QP
4         0.2714         2.19         20.07         22.26         51.07         -28.81         AVG           5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.29         QP           10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP	2		0.1844	8.15	20.07	28.22	54.29	-26.07	AVG
5         0.5279         10.04         20.08         30.12         56.00         -25.88         QP           6         0.5279         2.15         20.08         22.23         46.00         -23.77         AVG           7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP	3		0.2714	17.73	20.07	37.80	61.07	-23.27	QP
6       0.5279       2.15       20.08       22.23       46.00       -23.77       AVG         7       1.5494       10.27       20.10       30.37       56.00       -25.63       QP         8       1.5494       2.92       20.10       23.02       46.00       -22.98       AVG         9       4.0425       13.87       20.14       34.01       56.00       -21.99       QP         10       4.0425       4.58       20.14       24.72       46.00       -21.28       AVG         11       11.0265       4.85       20.20       25.05       60.00       -34.95       QP	4		0.2714	2.19	20.07	22.26	51.07	-28.81	AVG
7         1.5494         10.27         20.10         30.37         56.00         -25.63         QP           8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP	5		0.5279	10.04	20.08	30.12	56.00	-25.88	QP
8         1.5494         2.92         20.10         23.02         46.00         -22.98         AVG           9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP	6		0.5279	2.15	20.08	22.23	46.00	-23.77	AVG
9         4.0425         13.87         20.14         34.01         56.00         -21.99         QP           10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP	7		1.5494	10.27	20.10	30.37	56.00	-25.63	QP
10         4.0425         4.58         20.14         24.72         46.00         -21.28         AVG           11         11.0265         4.85         20.20         25.05         60.00         -34.95         QP	8		1.5494	2.92	20.10	23.02	46.00	-22.98	AVG
11 11.0265 4.85 20.20 25.05 60.00 -34.95 QP	9		4.0425	13.87	20.14	34.01	56.00	-21.99	QP
	10		4.0425	4.58	20.14	24.72	46.00	-21.28	AVG
12 11 0265 -4 70 20 20 15 50 50 00 -34 50 AVG	11		11.0265	4.85	20.20	25.05	60.00	-34.95	QP
	12		11.0265	-4.70	20.20	15.50	50.00	-34.50	AVG



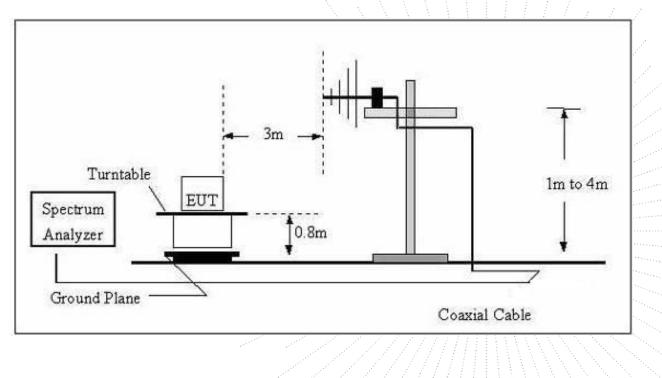
# 7. Radiated emissions

# 7.1 Block Diagram Of Test Setup

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

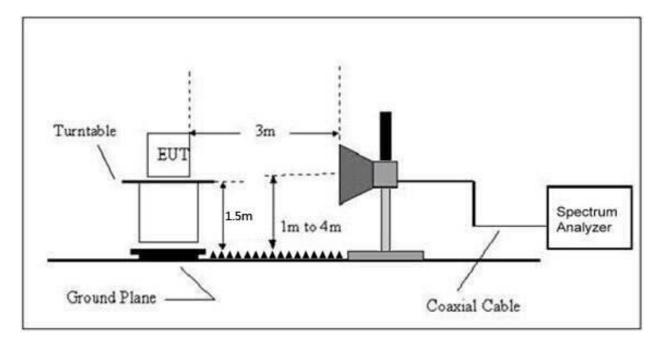


# (B) Radiated Emission Test-Up Frequency 30MHz~1GHz





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



# 7.2 Limit

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

Field Strength	Distance	Field Strength Limit at 3m Distance		
uV/m	(m)	uV/m	dBuV/m	
2400/F(kHz)	300	10000 * 2400/F(kHz)	20log <sup>(2400/F(kHz))</sup> + 80	
24000/F(kHz)	30	100 * 24000/F(kHz)	20log <sup>(24000/F(kHz))</sup> + 40	
30	30	100 * 30	20log <sup>(30)</sup> + 40	
100	3	100	20log <sup>(100)</sup>	
150	3	150	20log <sup>(150)</sup>	
200	3	200	20log <sup>(200)</sup>	
500	3	500	20log <sup>(500)</sup>	
	uV/m 2400/F(kHz) 24000/F(kHz) 30 100 150 200	uV/m         (m)           2400/F(kHz)         300           24000/F(kHz)         30           30         30           100         3           150         3           200         3	uV/m         (m)         uV/m           2400/F(kHz)         300         10000 * 2400/F(kHz)           24000/F(kHz)         30         100 * 24000/F(kHz)           30         30         100 * 30           100         3         100           150         3         150           200         3         200	

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		

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:	24%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	Mode 4	Polarization :	

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
	<u> </u>	· · · · · · · · · · · · · · · · · · ·		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.

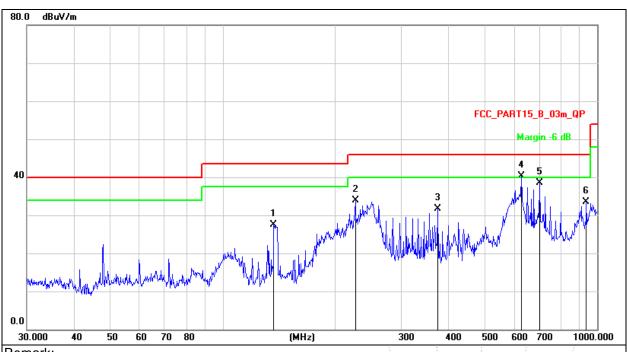
Distance extrapolation factor =40 log (specific distance/test distance)(dB); Limit line = specific limits(dBuv) + distance extrapolation factor.



Between 30MHz - 1GHz

RK3582

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



Remark:

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

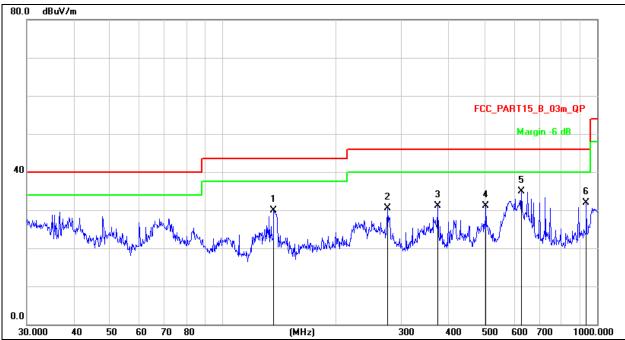
2. Measurement=Reading Level+ Correct Factor

3. Over=Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	1:	36.9391	46.01	-18.52	27.49	43.50	-16.01	QP
2	22	26.0994	48.97	-14.97	34.00	46.00	-12.00	QP
3	3	75.9385	42.77	-11.15	31.62	46.00	-14.38	QP
4	* 62	27.2738	46.76	-6.55	40.21	46.00	-5.79	QP
5	70	01.7610	44.21	-5.68	38.53	46.00	-7.47	QP
6	93	35.5463	36.50	-2.99	33.51	46.00	-12.49	QP



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



#### Remark:

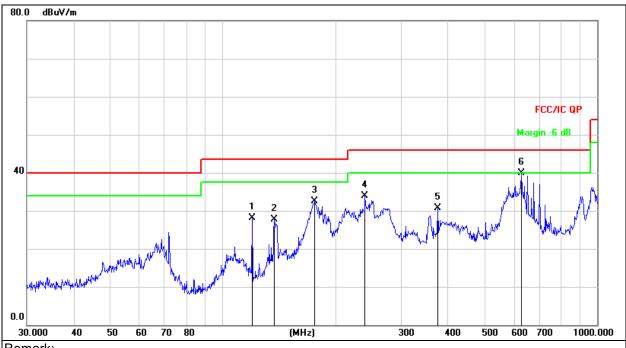
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
 2. Measurement=Reading Level+ Correct Factor

3. Over=Meas	urement-Limit
--------------	---------------

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		136.9391	48.41	-18.52	29.89	43.50	-13.61	QP
2		276.1235	44.27	-13.74	30.53	46.00	-15.47	QP
3		375.9385	42.19	-11.15	31.04	46.00	-14.96	QP
4		504.7062	39.81	-8.78	31.03	46.00	-14.97	QP
5	*	627.2738	41.40	-6.55	34.85	46.00	-11.15	QP
6		935.5463	34.98	-2.99	31.99	46.00	-14.01	QP



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



Remark:

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

2. Measurement=Reading Level+ Correct Factor

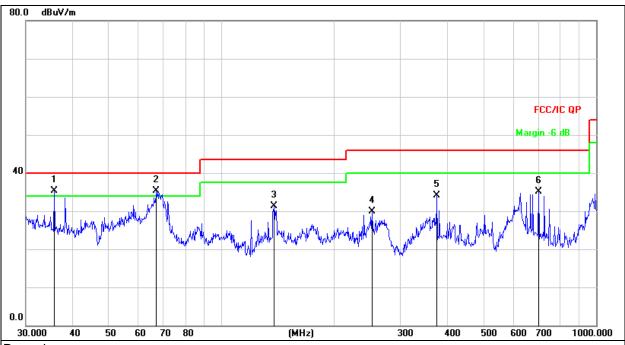
3. Over=Measurement-Limit

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		119.8556	45.43	-17.32	28.11	43.50	-15.39	QP
2		137.4202	46.22	-18.55	27.67	43.50	-15.83	QP
3		176.2686	49.97	-17.48	32.49	43.50	-11.01	QP
4		239.9874	48.50	-14.58	33.92	46.00	-12.08	QP
5		375.9385	41.92	-11.15	30.77	46.00	-15.23	QP
6	*	627.2738	46.36	-6.55	39.81	46.00	-6.19	QP

No.: BCTC/RF-EMC-005



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



#### Remark:

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

3. Over=Measurement-Limit			
	3.	Over=Measuremen	t-Limit

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	*	35.7490	50.85	-15.54	35.31	40.00	-4.69	QP
2	İ	66.9669	52.45	-17.17	35.28	40.00	-4.72	QP
3		137.9028	49.98	-18.58	31.40	43.50	-12.10	QP
4		252.0627	44.24	-14.25	29.99	46.00	-16.01	QP
5		375.9385	45.24	-11.15	34.09	46.00	-11.91	QP
6		701.7610	40.71	-5.68	35.03	46.00	-10.97	QP



Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector					
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Туре					
GFSK Low channel												
V	4804.00	75.18	-19.99	55.19	74.00	-18.81	PK					
V	4804.00	66.98	-19.99	46.99	54.00	-7.01	AV					
V	7206.00	65.23	-14.22	51.01	74.00	-22.99	PK					
V	7206.00	54.66	-14.22	40.44	54.00	-13.56	AV					
Н	4804.00	74.06	-19.99	54.07	74.00	-19.93	PK					
Н	4804.00	64.87	-19.99	44.88	54.00	-9.12	AV					
Н	7206.00	63.59	-14.22	49.37	74.00	-24.63	PK					
Н	7206.00	54.82	-14.22	40.60	54.00	-13.40	AV					
			GFSK Mide	dle channel								
V	4882.00	72.94	-19.84	53.10	74.00	-20.90	PK					
V	4882.00	65.26	-19.84	45.42	54.00	-8.58	AV					
V	7323.00	63.26	-13.90	49.36	74.00	-24.64	PK					
V	7323.00	53.73	-13.90	39.83	54.00	-14.17	AV					
Н	4882.00	69.52	-19.84	49.68	74.00	-24.32	PK					
Н	4882.00	59.25	-19.84	39.41	54.00	-14.59	AV					
Н	7323.00	62.26	-13.90	48.36	74.00	-25.64	PK					
Н	7323.00	54.73	-13.90	40.83	54.00	-13.17	AV					
			GFSK Hig	h channel								
V	4960.00	75.88	-19.68	56.20	74.00	-17.80	PK					
V	4960.00	65.38	-19.68	45.70	54.00	-8.30	AV					
V	7440.00	66.97	-13.57	53.40	74.00	-20.60	PK					
V	7440.00	56.14	-13.57	42.57	54.00	-11.43	AV					
Н	4960.00	74.07	-19.68	54.39	74.00	-19.61	PK					
Н	4960.00	64.96	-19.68	45.28	54.00	-8.72	AV					
Н	7440.00	64.98	-13.57	51.41	74.00	-22.59	PK					
Н	7440.00	57.03	-13.57	43.46	54.00	-10.54	AV					

#### Between 1GHz - 25GHz

#### Remark:

1. Measurement = Reading Level + Correct Factor,

Correct Factor = Antenna Factor + Cable Loss - Pre-amplifier,

Over= Measurement - 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.



Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector					
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Туре					
π /4DQPSK Low channel												
V	4804.00	74.52	-19.99	54.53	74.00	-19.47	PK					
V	4804.00	63.54	-19.99	43.55	54.00	-10.45	AV					
V	7206.00	64.28	-14.22	50.06	74.00	-23.94	PK					
V	7206.00	53.54	-14.22	39.32	54.00	-14.68	AV					
Н	4804.00	69.70	-19.99	49.71	74.00	-24.29	PK					
Н	4804.00	59.94	-19.99	39.95	54.00	-14.05	AV					
Н	7206.00	61.97	-14.22	47.75	74.00	-26.25	PK					
Н	7206.00	53.34	-14.22	39.12	54.00	-14.88	AV					
			π /4DQPSK N	liddle channe	1							
V	4882.00	73.48	-19.84	53.64	74.00	-20.36	PK					
V	4882.00	67.25	-19.84	47.41	54.00	-6.59	AV					
V	7323.00	63.64	-13.90	49.74	74.00	-24.26	PK					
V	7323.00	55.40	-13.90	41.50	54.00	-12.50	AV					
Н	4882.00	72.23	-19.84	52.39	74.00	-21.61	PK					
Н	4882.00	62.41	-19.84	42.57	54.00	-11.43	AV					
Н	7323.00	60.82	-13.90	46.92	74.00	-27.08	PK					
Н	7323.00	53.72	-13.90	39.82	54.00	-14.18	AV					
			$\pi$ /4DQPSK	High channel								
V	4960.00	74.61	-19.68	54.93	74.00	-19.07	PK					
V	4960.00	64.72	-19.68	45.04	54.00	-8.96	AV					
V	7440.00	67.14	-13.57	53.57	74.00	-20.43	PK					
V	7440.00	56.66	-13.57	43.09	54.00	-10.91	AV					
Н	4960.00	73.32	-19.68	53.64	74.00	-20.36	PK					
Н	4960.00	63.83	-19.68	44.15	54.00	-9.85	AV					
Н	7440.00	64.70	-13.57	51.13	74.00	-22.87	PK					
Н	7440.00	56.05	-13.57	42.48	54.00	-11.52	AV					

#### Remark:

1. Measurement = Reading Level + Correct Factor,

Correct Factor = Antenna Factor + Cable Loss - Pre-amplifier,

Over= Measurement - Limit

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

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



Polar	Fre- quency	Reading Level	Correct Factor			Over	Detector
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Туре
			8DPSK Lo	w channel			
V	4804.00	75.56	-19.99	55.57	74.00	-18.43	PK
V	4804.00	66.77	-19.99	46.78	54.00	-7.22	AV
V	7206.00	64.60	-14.22	50.38	74.00	-23.62	PK
V	7206.00	55.40	-14.22	41.18	54.00	-12.82	AV
Н	4804.00	72.35	-19.99	52.36	74.00	-21.64	PK
Н	4804.00	61.63	-19.99	41.64	54.00	-12.36	AV
Н	7206.00	61.70	-14.22	47.48	74.00	-26.52	PK
Н	7206.00	54.01	-14.22	39.79	54.00	-14.21	AV
			8DPSK Mid	ldle channel			
V	4882.00	71.88	-19.84	52.04	74.00	-21.96	PK
V	4882.00	64.58	-19.84	44.74	54.00	-9.26	AV
V	7323.00	64.32	-13.90	50.42	74.00	-23.58	PK
V	7323.00	55.70	-13.90	41.80	54.00	-12.20	AV
Н	4882.00	68.12	-19.84	48.28	74.00	-25.72	PK
Н	4882.00	58.99	-19.84	39.15	54.00	-14.85	AV
Н	7323.00	62.53	-13.90	48.63	74.00	-25.37	PK
Н	7323.00	54.93	-13.90	41.03	54.00	-12.97	AV
			8DPSK Hi	gh channel			
V	4960.00	74.55	-19.68	54.87	74.00	-19.13	PK
V	4960.00	64.73	-19.68	45.05	54.00	-8.95	AV
V	7440.00	66.97	-13.57	53.40	74.00	-20.60	PK
V	7440.00	57.59	-13.57	44.02	54.00	-9.98	AV
Н	4960.00	72.17	-19.68	52.49	74.00	-21.51	PK
Н	4960.00	62.69	-19.68	43.01	54.00	-10.99	AV
Н	7440.00	65.44	-13.57	51.87	74.00	-22.13	PK
Н	7440.00	57.65	-13.57	44.08	54.00	-9.92	AV

#### Remark:

1. Measurement = Reading Level + Correct Factor,

Correct Factor = Antenna Factor + Cable Loss - Pre-amplifier,

Over= Measurement - Limit

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

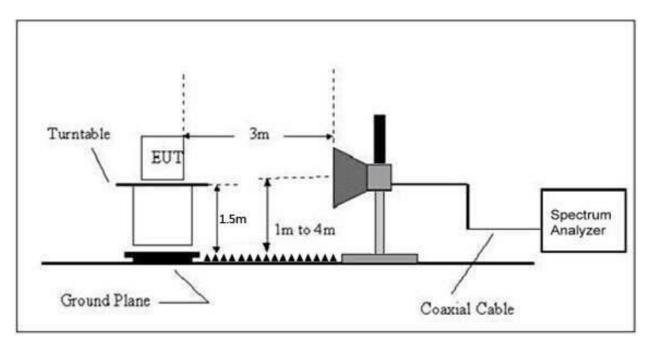
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



# 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)

Frequency (MHz)	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).

#### 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 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.

# 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

	Polar (H/V)	Fre- quency	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m) PK	Limits (dBuV/m)		Result
		(MHz)				PK	AV	
	Low Channel 2402MHz							
GFSK	Н	2390.00	72.19	-25.43	46.76	74.00	54.00	PASS
	Н	2400.00	75.34	-25.40	49.94	74.00	54.00	PASS
	V	2390.00	72.63	-25.43	47.20	74.00	54.00	PASS
	V	2400.00	77.05	-25.40	51.65	74.00	54.00	PASS
Gran	High Channel 2480MHz							
	Н	2483.50	74.83	-25.15	49.68	74.00	54.00	PASS
	Н	2500.00	71.63	-25.10	46.53	74.00	54.00	PASS
	V	2483.50	75.16	-25.15	50.01	74.00	54.00	PASS
·	V	2500.00	71.48	-25.10	46.38	74.00	54.00	PASS
		Low Channel 2402MHz						
	Н	2390.00	72.86	-25.43	47.43	74.00	54.00	PASS
	Н	2400.00	76.80	-25.40	51.40	74.00	54.00	PASS
	V	2390.00	73.81	-25.43	48.38	74.00	54.00	PASS
π	V	2400.00	77.09	-25.40	51.69	74.00	54.00	PASS
4DQPSK	High Channel 2480MHz							
	Н	2483.50	76.77	-25.15	51.62	74.00	54.00	PASS
	Н	2500.00	70.23	-25.10	45.13	74.00	54.00	PASS
	V	2483.50	76.99	-25.15	51.84	74.00	54.00	PASS
	V	2500.00	72.63	-25.10	47.53	74.00	54.00	PASS
8DPSK	Low Channel 2402MHz							
	Н	2390.00	71.67	-25.43	46.24	74.00	54.00	PASS
	Н	2400.00	75.43	-25.40	50.03	74.00	54.00	PASS
	V	2390.00	70.97	-25.43	45.54	74.00	54.00	PASS
	V	2400.00	75.11	-25.40	49.71	74.00	54.00	PASS
	High Channel 2480MHz							
	Н	2483.50	74.64	-25.15	49.49	74.00	54.00	PASS
	Н	2500.00	69.37	-25.10	44.27	74.00	54.00	PASS
	V	2483.50	73.11	-25.15	47.96	74.00	54.00	PASS
	V	2500.00	68.69	-25.10	43.59	74.00	54.00	PASS

1. Measurement = Reading Level + Correct Factor,

Correct Factor = Antenna Factor + Cable Loss - Pre-amplifier,

Over= Measurement - 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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# 9.4 Test Result







Edition: B.2

No.: BCTC/RF-EMC-005









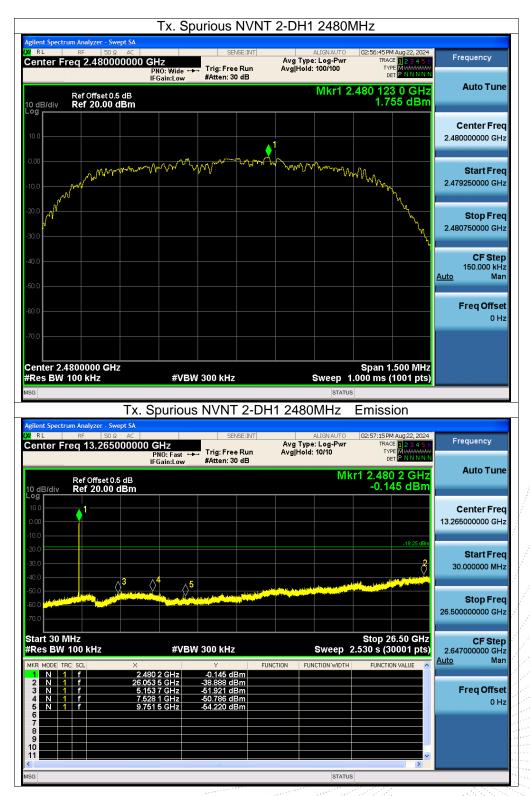
Edition: B.2





Edition: B.2





Edition: B.2





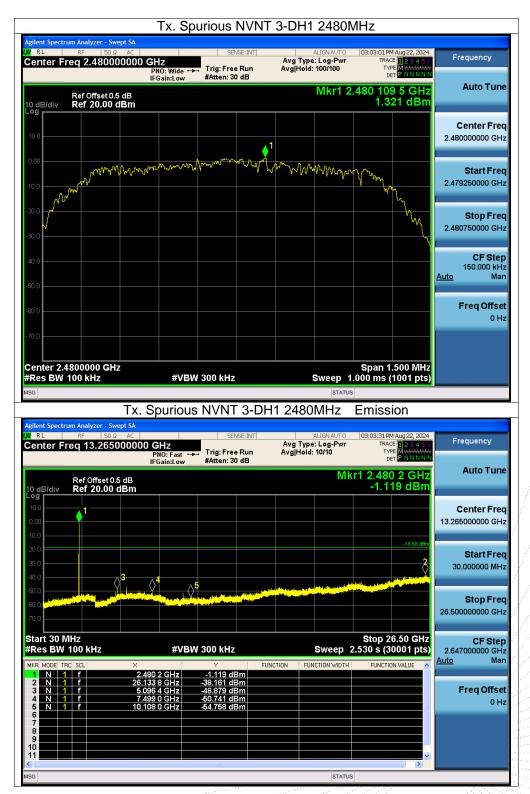
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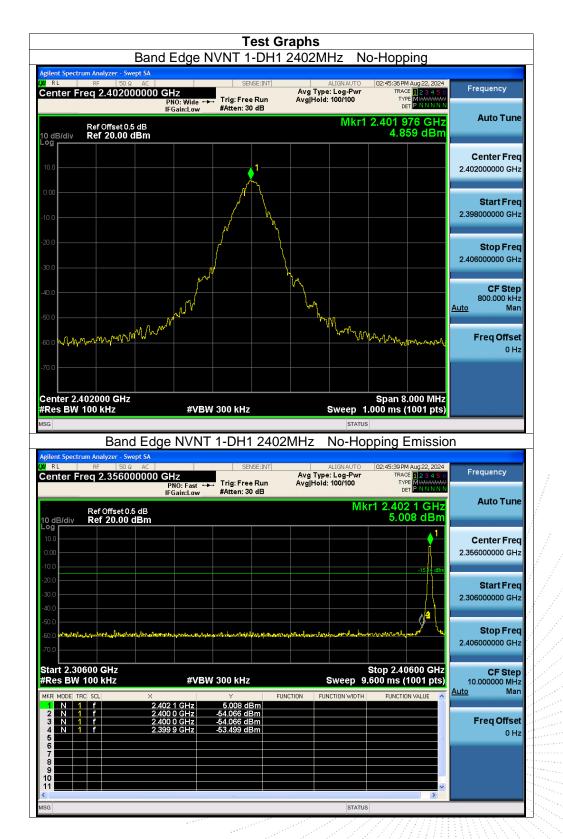
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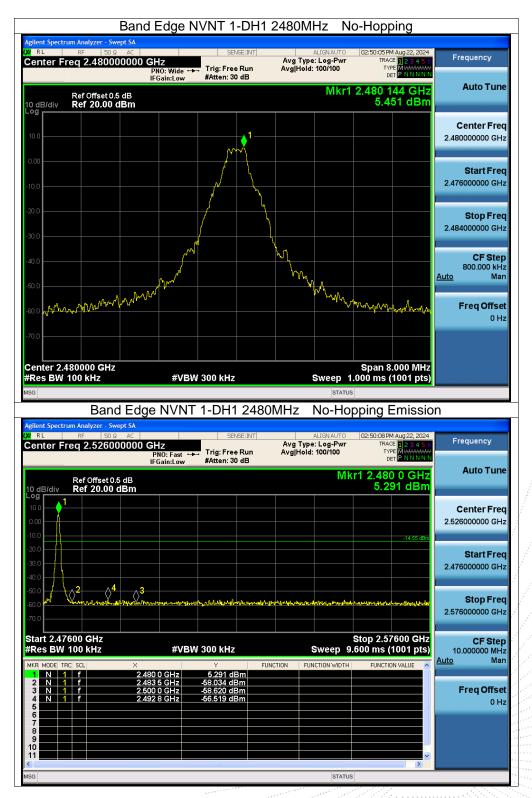


Edition: B.2







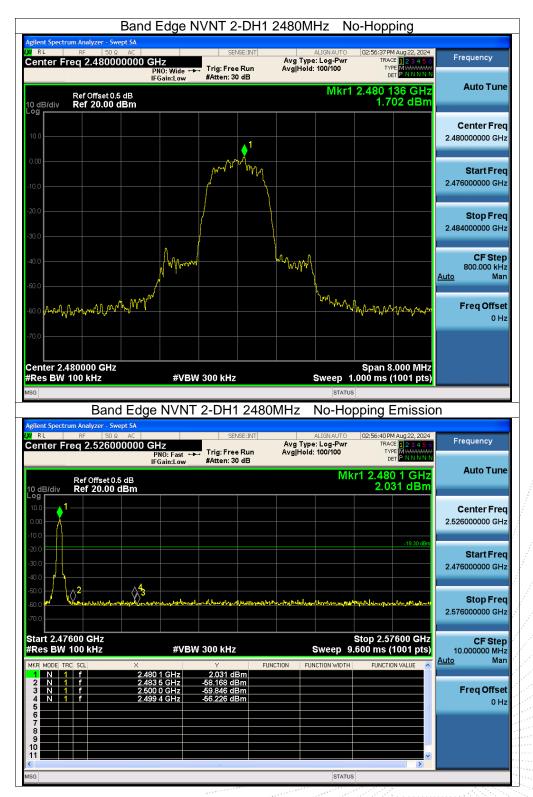


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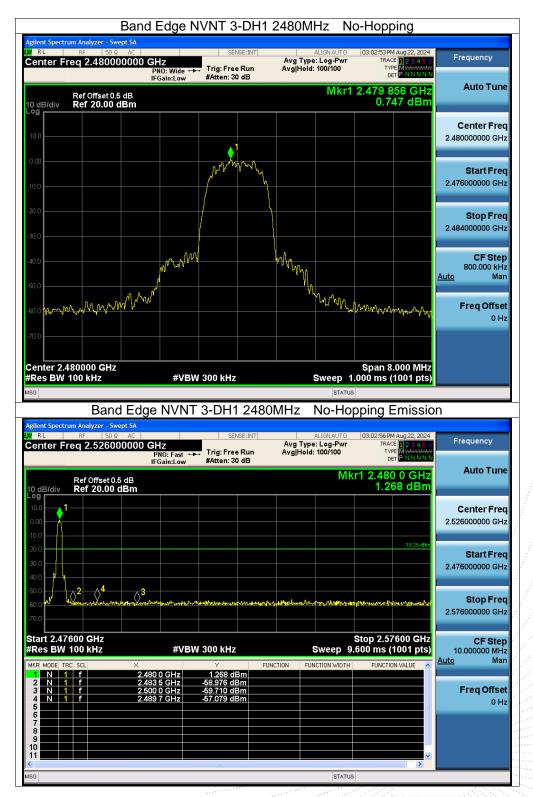
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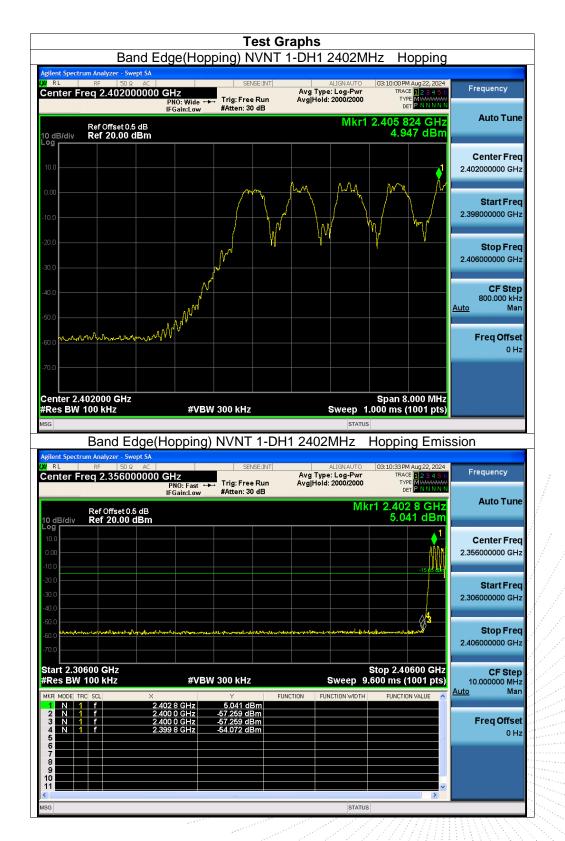


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Edition: B.2









Edition: B.2



# 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

Temperature:	<b>26</b> ℃	1. A.		Relative Humidity:	5	54%		1			
Test Voltage:	DC 5V	· · · · ·	1. 	Remark:	١	N/A		/ /			

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	0.944	Pass
NVNT	1-DH1	2441	0.919	Pass
NVNT	1-DH1	2480	0.912	Pass
NVNT	2-DH1	2402	1.282	Pass
NVNT	2-DH1	2441	1.287	Pass
NVNT	2-DH1	2480	1.256	Pass
NVNT	3-DH1	2402	1.277	Pass
NVNT	3-DH1	2441	1.305	Pass
NVNT	3-DH1	2480	1.294	Pass









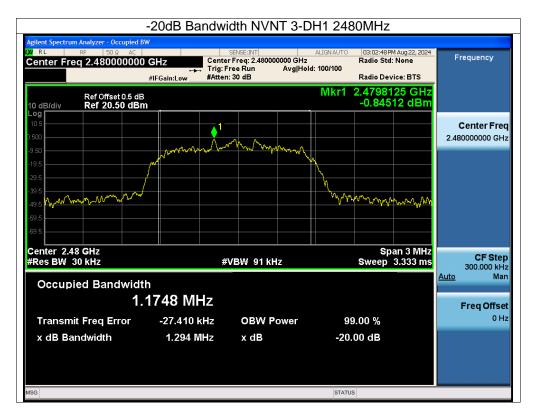












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# 11. Maximum Peak Output Power

# 11.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

#### 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.

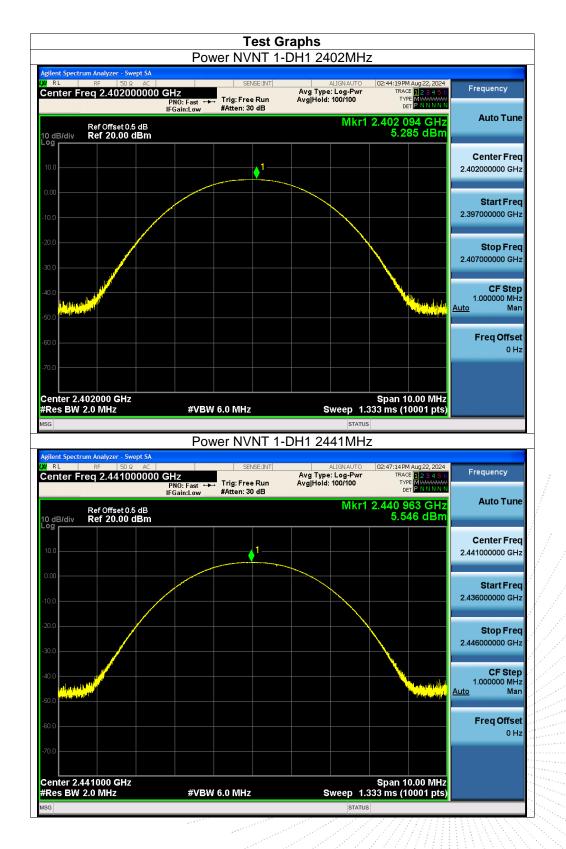
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

# 11.4 Test Result

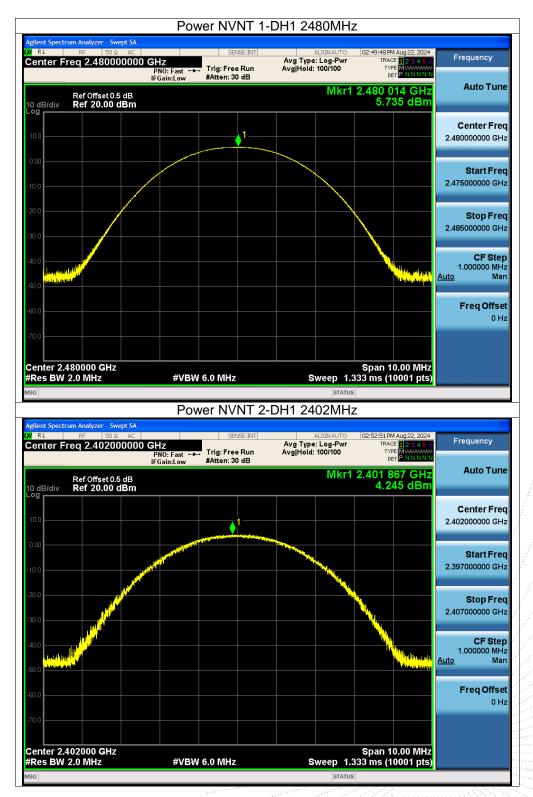
Temperature:	<b>26°</b> C	Relative	e Humidity:	54%			
Test Voltage:	DC 5V	Remark	k:	N/A	177		
					( f ) f	1.	21

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	5.29	21	Pass
NVNT	1-DH1	2441	5.55	21	Pass
NVNT	1-DH1	2480	5.74	21	Pass
NVNT	2-DH1	2402	4.25	21	Pass
NVNT	2-DH1	2441	4.46	21	Pass
NVNT	2-DH1		4.81	21	Pass
NVNT	3-DH1	2402	4,7	21	Pass
NVNT	3-DH1	2441	4.95	21	Pass
NVNT	3-DH1	2480	5.32	21	Pass

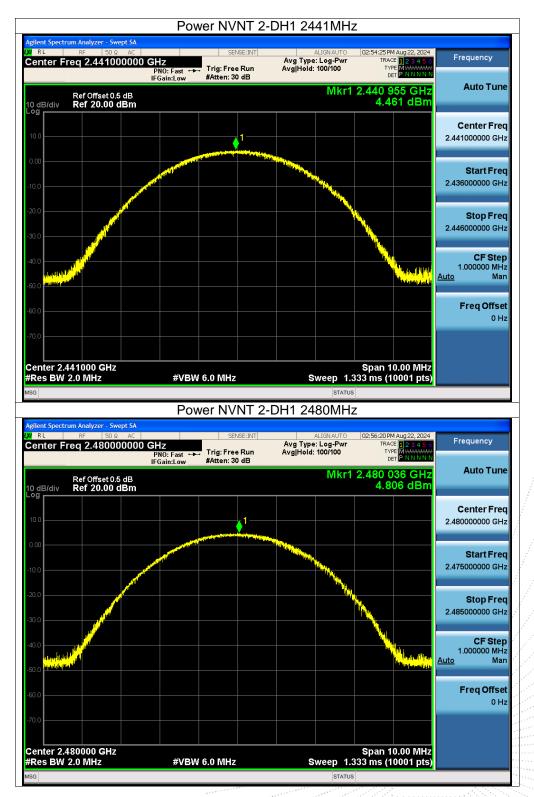




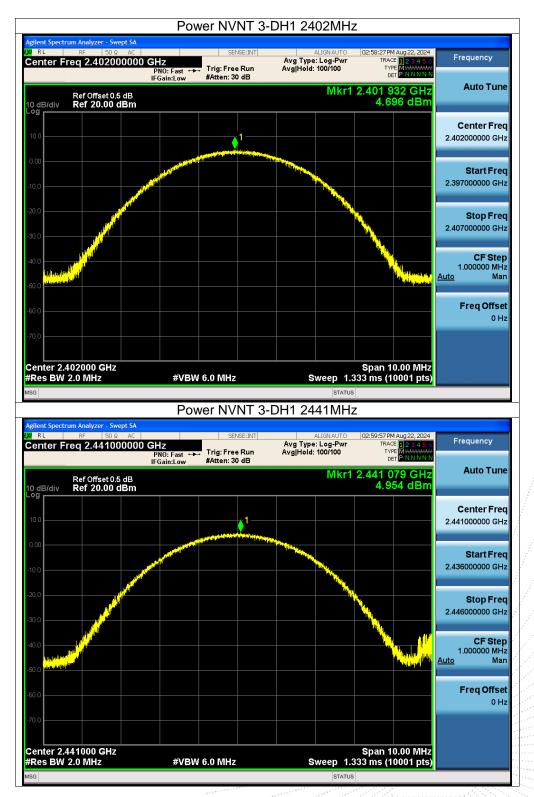




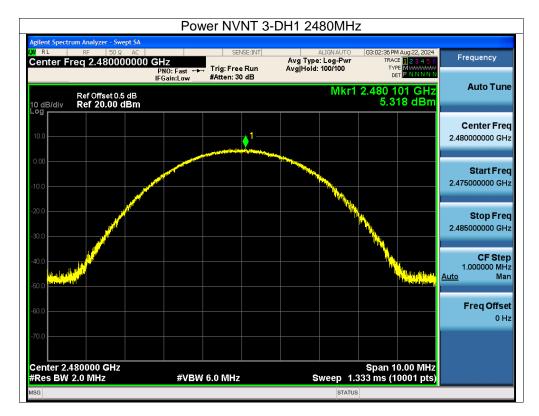












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# 12. Hopping Channel Separation

#### 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.

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	2402.13	2403.132	1.002	0.629	Pass
NVNT	1-DH1	2440.982	2441.978	0.996	0.613	Pass
NVNT	1-DH1	2478.982	2479.982	1	0.608	Pass
NVNT	2-DH1	2401.98	2402.974	0.994	0.855	Pass
NVNT	2-DH1	2440.978	2441.978	1	0.858	Pass
NVNT	2-DH1	2478.988	2479.978	0.99	0.837	Pass
NVNT	3-DH1	2401.978	2402.98	1.002	0.851	Pass
NVNT	3-DH1	2440.98	2441.98	1	0.87	Pass
NVNT	3-DH1	2478.982	2479.984	1.002	0.863	Pass

#### 12.4 Test Result



	Swept SA 0 Ω AC	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	02:45:26 PM Aug 22, 2024 TRACE 12:3:4:5:6	Frequency
	PNO: Wide G IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold:>100/100	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Auto Tur
Ref Offset 0 dB/div Ref 20.0	0.5 dB 0 dBm		Mkr1 2	.402 130 GHz 4.319 dBm	Adto Tul
0.00 10.0			- And	2	Center Fre 2.402500000 G⊢
20.0					Start Fre 2.401500000 G⊦
50.0 60.0 70.0					Stop Fre 2.403500000 GH
Center 2.402500 GI #Res BW 30 kHz		V 100 kHz	Sweep 2.1	Span 2.000 MHz 33 ms (1001 pts) FUNCTION VALUE	CF Ste 200.000 k⊢ Auto Ma
1         N         1         f           2         N         1         f           3         -         -         -           4         -         -         -           5         -         -         -           6         -         -         -           7         -         -         -           8         -         -         -           9         -         -         -           11         -         -         -	2,402 130 GHz 2,403 132 GHz	4.319 dBm 4.428 dBm			Freq Offs 0 ⊦
gilent Spectrum Analyzer - RL RF 5 Center Freq 2.441	Swept SA D Ω AC	SENSE:INT	STATUS DH1 2441MHz ALIONAUTO Avg Type: Log-Pwr AvgHold>100/100	03:12:38 PM Aug 22, 2024 TRACE 122:34 5 6 TYPE MWWWW DET PININNIN	Frequency
Ref Offset 0 dB/div Ref 20.0	IFGain:Low	#Atten: 30 dB	Mkr1 2	.440 982 GHz 2.581 dBm	Auto Tur
• <b>og</b> 10.0 0.00 10.0	1		2	~~	Center Fre 2.441500000 GH
40.0					Start Fre 2.440500000 GH
50.0					<b>Stop Fre</b> 2.442500000 GH
Center 2.441500 GI Res BW 30 kHz		V 100 kHz	Sweep 2.1	Span 2.000 MHz 33 ms (1001 pts)	CF Ste 200.000 k⊢
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3	× 2.440 982 GHz 2.441 978 GHz	Y F 2.581 dBm 2.573 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Nato Ma Freq Offs 0 H





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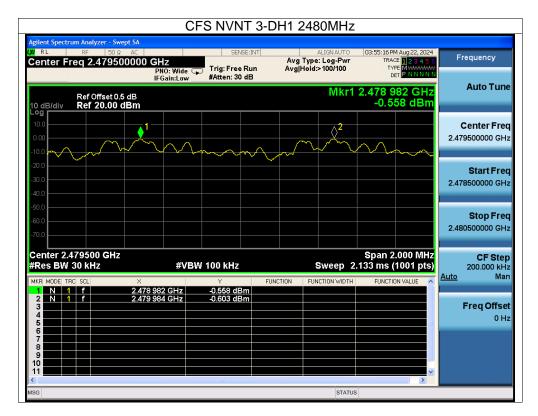












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### 13. Number Of Hopping Frequency

#### 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	Limit	Verdict
NVNT	1-DH1	79	15	Pass
NVNT	2-DH1	79	15	Pass
NVNT	3-DH1	79	15	Pass



rlent Spectrum Analyzer - RL RF 5 RL RF 5	ο Ω AC 750000 GHz	SENSE:INT	Avg Type: Log-Pwr	13:15:56 PM Aug 22, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
D.( 0)	PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold:>1007100 Mkr1 2.40		Auto Tun
0 dB/div Ref 20.0				4.869 dBm ∆2	
	NU ANALAN ANALANA ANALAN			ANANAMANNA	Center Fre 2.441750000 GH
20.0	****	[]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]		*********	Start Fre
40.0					2.400000000 GH
50.0 <mark>/</mark>					Stop Fre 2.483500000 GH
70.0			St	op 2.48350 GHz	CF Ste
Res BW 100 kHz	#VB\ ×	N 300 kHz		0 ms (1001 pts)	8.350000 MH Auto Ma
1 N 1 f 2 N 1 f 3	2.402 004 0 GHz 2.479 993 0 GHz	4.869 dBm 5.104 dBm			Freq Offse
4 5 6					0 H
7 8 9 0					
		IIII			
SG			STATUS		
	Hoppi	ng No. NVN	2-DH1 2441MF	łz	
gilent Spectrum Analyzer - RL RF 5	Swept SA i0 Ω AC	NG NO. NVN	ALIGNAUTO C	13:35:20 PM Aug 22, 2024	Frequency
	Swept SA i0 Ω AC	SENSE:INT	ALIGN AUTO ( Avg Type: Log-Pwr Avg Hold:>100/100	13:35:20 PM Aug 22, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWWW DET P. N. N. N. N.	
RL RF 5 center Freq 2.441 Ref Offse 0 dB/div Ref 20.0	Swept SA 50 Q AC I750000 GHz PN0: Fast IFGain:Low	SENSE:INT	ALIGN AUTO ( Avg Type: Log-Pwr Avg Hold:>100/100	13:35:20 PM Aug 22, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW	
Ref Offse	Swept SA 1750000 GHz PNO: Fast IFGain:Low t0.5 dB 10 dBm	Trig: Free Run #Atten: 30 dB	ALIGNAUTO (C Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.40	13:35:20PM Aug 22, 2024 TRACE 12:3 4:56 TYPE MWWWWWW DET P NNNNN 01 586 5 GHz -4.736 dBm	Auto Tun Center Fre
Ref Offse 0 dB/div Ref 20.0 9 10.0 0.00 0.00 0.00 0.00 0.00 0.00	Swept SA 1750000 GHz PNO: Fast IFGain:Low t0.5 dB 10 dBm	Trig: Free Run #Atten: 30 dB	ALIGN AUTO ( Avg Type: Log-Pwr Avg Hold:>100/100	13:35:20PM Aug 22, 2024 TRACE 12:3 4:56 TYPE MWWWWWW DET P NNNNN 01:586:5 GHz -4.736 dBm	Auto Tun Center Fre
Ref Offse 0 dB/div Ref 20.0 99 0.00 0.00 0.00 0.00 0.00 0.00 0.	Swept SA 1750000 GHz PNO: Fast IFGain:Low t0.5 dB 10 dBm	Trig: Free Run #Atten: 30 dB	ALIGNAUTO (C Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.40	13:35:20PM Aug 22, 2024 TRACE 12:3 4:56 TYPE MWWWWWW DET P NNNNN 01:586:5 GHz -4.736 dBm	Auto Tun Center Fre 2.441750000 GH Start Fre
Ref Offse 0 dB/div Ref 20.0 9 0.00 0.0	Swept SA 1750000 GHz PNO: Fast IFGain:Low t0.5 dB 10 dBm	Trig: Free Run #Atten: 30 dB	ALIGNAUTO (C Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.40	13:35:20PM Aug 22, 2024 TRACE 12:3 4:56 TYPE MWWWWWW DET P NNNNN 01:586:5 GHz -4.736 dBm	Auto Tun Center Fre 2.441750000 GH Start Fre 2.400000000 GH
Ref Offse 0 dB/div Ref 20.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Swept SA 1750000 GHz PNO: Fast IFGain:Low t0.5 dB 10 dBm	Trig: Free Run #Atten: 30 dB	ALIGNAUTO (C Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.40	13:35:20PM Aug 22, 2024 TRACE 12:3 4:56 TYPE MWWWWWW DET P NNNNN 01:586:5 GHz -4.736 dBm	Auto Tun Center Fre 2.441750000 GH Start Fre 2.400000000 GH Stop Fre
Ref Offse 0 dB/div Ref 20.0 0	Swept SA 1750000 GHz PN0: Fast IFGain:Low t0.5 dB 10 dBm	Trig: Free Run #Atten: 30 dB	Aug Type: Log-Pwr Avg Type: Log-Pwr Avg Hoid>100/100 Mkr1 2.40	13:35:20PM Aug 22, 2024 TRACE 12:3 4:56 TYPE MWWWWWW DET P NNNNN 01:586:5 GHz -4.736 dBm	Auto Tun Center Fre 2.441750000 GH Start Fre 2.400000000 GH Stop Fre 2.483500000 GH
Ref Offse o dB/div Ref 2.441 Ref Offse 0 dB/div Ref 20.0 0 00 0 0 0 br>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Swept SA 1750000 GHz PN0: Fast IFGain:Low t0.5 dB 10 dBm MMMMMMMMMMMMM 2.401 586 5 GHz	SENSE:INT Trig: Free Run #Atten: 30 dB	Aug Type: Log-Pwr Avg Type: Log-Pwr Avg Hoid>100/100 Mkr1 2.40	D1 586 5 GHz -4.736 dBm -2.48350 GHz -4.736 dBm -4.736	Auto Tun Center Fre 2.441750000 GF Start Fre 2.400000000 GF Stop Fre 2.483500000 GF
Ref Offse o dB/div Ref 20.0 9 0 dB/div Ref 20.0 0 dB/div	Swept SA           ID2_AC           I750000 GHz           PN0: Fast [FGain:Low           t0.5 dB           I0 dBm           I0 dBm           I0 dBm           III dBm	SENSE:INT Trig: Free Run #Atten: 30 dB	Augnetic (C) Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.40 Mkr1 4.40 Mkr1	D1 586 5 GHz 4.736 dBm	Auto Tun Center Fre 2.441750000 GH Start Fre 2.400000000 GH Stop Fre 2.483500000 GH 2.48350000 GH 8.350000 MH Auto Ma
Ref Offse and B/div Ref 2.441 Ref Offse a dB/div Ref 20.0 a dB/div	Swept SA 1750000 GHz PN0: Fast IFGain:Low t0.5 dB 10 dBm MMMMMMMMMMMMM 2.401 586 5 GHz	SENSE:INT Trig: Free Run #Atten: 30 dB	Augnetic (C) Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.40 Mkr1 4.40 Mkr1	D1 586 5 GHz 4.736 dBm	Auto Tun Center Fre 2.441750000 GF Start Fre 2.400000000 GF Stop Fre 2.483500000 GF



Нор	ping No. NVNT	3-DH1 2441	ЛНz	
Agilent Spectrum Analyzer - Swept SA	SENSE:INT	ALIGNAUTO	03:51:23 PM Aug 22, 2024	
Center Freq 2.441750000 GHz		Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 123456 TYPE MWWWWW	Frequency
PNO: Fast IFGain:Lov		Avgiriola.> loor loo	DET P N N N N N	
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm		Mkr1 2	401 419 5 GHz -4.557 dBm	Auto Tune
	and an analy and an	MANANAM		Center Freq 2.441750000 GHz
-20.0 -30.0 -40.0 -50.0				<b>Start Freq</b> 2.400000000 GHz
-50.0				Stop Freq
-70.0				2.483500000 GHz
Start 2.40000 GHz #Res BW 100 kHz #W	/BW 300 kHz		Stop 2.48350 GHz .000 ms (1001 pts)	CF Step 8.350000 MHz
MKR MODE TRC SCL X 1 N 1 f 2.401 419 5 GHz	Y FUI -4.557 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
2 N 1 f 2.480 410 5 GHz 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-1.417 dBm			<b>Freq Offset</b> 0 Hz
6 7 8 9				
			~	
MSG		STATUS		

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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).

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### 14.4 Test Result

Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.368	117.76	320	31600	400	Pass
NVNT	1-DH3	2441	1.624	266.336	164	31600	400	Pass
NVNT	1-DH5	2441	2.872	330.28	115	31600	400	Pass
NVNT	2-DH1	2441	0.378	120.582	319	31600	400	Pass
NVNT	2-DH3	2441	1.629	249.237	153	31600	400	Pass
NVNT	2-DH5	2441	2.877	307.839	107	31600	400	Pass
NVNT	3-DH1	2441	0.377	120.263	319	31600	400	Pass
NVNT	3-DH3	2441	1.629	268.785	165	31600	400	Pass
NVNT	3-DH5	2441	2.879	308.053	107	31600	400	Pass

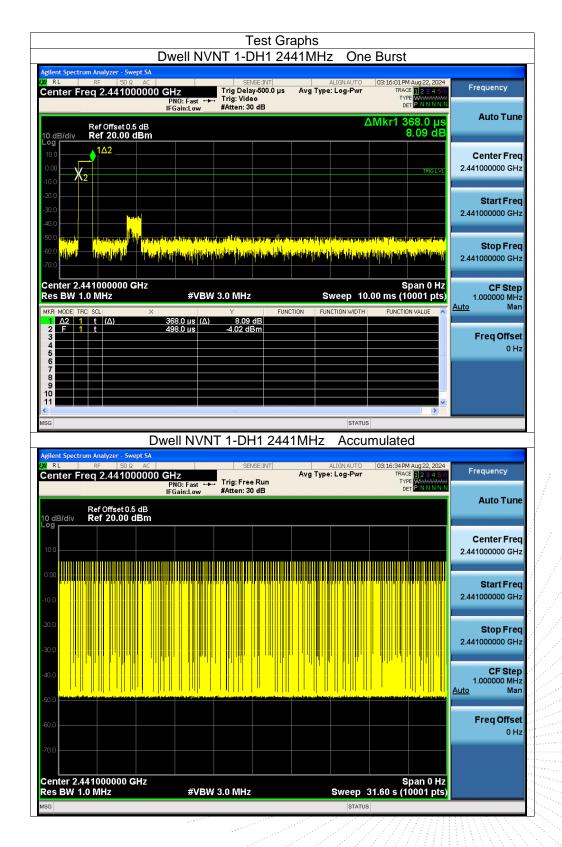
Note: Total Dwell Time (ms) = Pulse Time (ms)\*Burst Count

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	Dwell NV	NT 1-DH3 2	441MHz	One Burst		
Agilent Spectrum Analyzer - S VI RL RF 50 Center Freq 2.4410	Ω AC 0000000 GHz PN0: Fast ↔	SENSE:INT Trig Delay-500.0 μs Trig: Video	ALIGN/ Avg Type: Log	-Pwr TRACE	Aug 22, 2024 123456 WWWWWWW PNNNNN	Frequency
Ref Offset ( 10 dB/div Ref 20.00		#Atten: 30 dB		ΔMkr1 1.6		Auto Tune
10.0 0.00 X2	<b>1</b> Δ2				TRIG LVL	Center Freq 2.441000000 GHz
-10.0						<b>Start Freq</b> 2.441000000 GHz
-40.0 -50.0 Mpp <del>-</del> -60.0 Mph		a far el céletere de l'annument de l' Reference entre annument de la communitation de la communitation de la communitation de la communitation de la c	i palatan bina bahari akami pita Rama Julia Baranta bahari	i pri la porte de la constante de Magna porte de la constante de la constante de la constante de la constante d	elt gene angene Nachten Lade	<b>Stop Freq</b> 2.441000000 GHz
Center 2.441000000 Res BW 1.0 MHz		/ 3.0 MHz	Swee	Sp p 10.00 ms (10	an 0 Hz 001 pts)	<b>CF Step</b> 1.000000 MHz
MKR MODE TRC SCL 1 Δ2 1 t (Δ) 2 F 1 t 3	× 1.624 ms (Δ) 498.0 μs	Y FU 3.54 dB -0.25 dBm	NCTION FUNCTION	WIDTH FUNCTION	VALUE 🔨 <sup>4</sup>	<u>Auto</u> Man Freq Offset
4 5 6 7 8						0 Hz
9 10 11 •				STATUS	~	
MSG				STATUS		
	Dwell NVN	T 1-DH3 24	41MHz A	ccumulated		
Agilent Spectrum Analyzer - S	Swept SA	T 1-DH3 24		ccumulated		
	Swept SA I Ω AC	T 1-DH3 24	41MHz A Aligw Avg Type: Log	AUTO 03:57:47 PM / Pwr TRACE	Aug 22, 2024	Frequency
LXI RL RF 50	Swept SA IΩ AC D000000 GHz PNO: Fast → IFGain:Low 0.5 dB	SENSE:INT	ALIGN /	AUTO 03:57:47 PM / Pwr TRACE	Aug 22, 2024	Frequency Auto Tune
Center Freq 2.4410	Swept SA IΩ AC D000000 GHz PNO: Fast → IFGain:Low 0.5 dB	SENSE:INT	ALIGN /	AUTO 03:57:47 PM / Pwr TRACE	Aug 22, 2024	
Center Freq 2.4410 Ref Offset 0 10 dB/div Ref 20.00	Swept SA IΩ AC D000000 GHz PNO: Fast → IFGain:Low 0.5 dB	SENSE:INT	ALIGN /	AUTO 03:57:47 PM / Pwr TRACE	Aug 22, 2024	Auto Tune Center Freq
Of         RL         RF         50           Center Freq 2.441(         Ref Offset 0         100	Swept SA IΩ AC D000000 GHz PNO: Fast → IFGain:Low 0.5 dB	SENSE:INT	ALIGN /	AUTO 03:57:47 PM / Pwr TRACE	Aug 22, 2024	Auto Tune Center Freq 2.44100000 GHz Start Freq
00 RL RF 50 Center Freq 2.441( 10 dB/div Ref 20.00 10 0 0 00 -20 0	Swept SA IΩ AC D000000 GHz PNO: Fast → IFGain:Low 0.5 dB	SENSE:INT	ALIGN /	AUTO 03:57:47 PM / Pwr TRACE	ug 22, 2024	Auto Tune Center Freq 2.441000000 GHz Start Freq 2.441000000 GHz Stop Freq 2.441000000 GHz CF Step 1.000000 MHz
00 RL RF 50 Center Freq 2.441( 10 dB/div Ref 20.00 10.0 0.00 10.0 -20.0 -30.0	Swept SA IΩ AC D000000 GHz PNO: Fast → IFGain:Low 0.5 dB	SENSE:INT	ALIGN /	AUTO 03:57:47 PM / Pwr TRACE	ug 22, 2024	Auto Tune Center Freq 2.44100000 GHz Start Freq 2.441000000 GHz 2.441000000 GHz 2.441000000 GHz 1.000000 MHz Auto Man
D/I         RL         RF         50           Center Freq 2.441(         Ref Offset 0         Ref Offset 0           10 dB/div         Ref 20.00         Ref 20.00           -10 0	Swept SA IΩ AC D000000 GHz PNO: Fast → IFGain:Low 0.5 dB	SENSE:INT	ALIGN /	AUTO 03:57:47 PM / Pwr TRACE	ug 22, 2024	Auto Tune Center Freq 2.441000000 GHz Start Freq 2.441000000 GHz 2.441000000 GHz 2.441000000 GHz 1.000000 MHz Auto Man
Off         RL         RF         50           Center Freq 2.441(         Ref Offset 0         10.0	Swept SA Q2 AC PR0: Fast IFGain:Low 0.5 dB 0 dBm 0.5 dB 0 dBm 0.5 dB 0 dBm 0.5 dB 0 dBm 0 dBm 0 dBm 0 dBm	SENSE:INT	ALIGN/ Avg Type: Log	AUTO 03:57:47PM/ Pwr TRACE DET	wy22,2024 A 2 3 4 5 6 P NNNNN P NNNNN A 2 4 5 6 P NNNNN P NNNNN A 2 4 5 6 A 2 4 5 6 6 A 2 4 5 6 A 2 4 5 6 6 A 2 4 6 6 6 A 2 4 6 6 6 A 2 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Auto Tune Center Freq 2.44100000 GHz Start Freq 2.441000000 GHz 2.441000000 GHz 2.441000000 GHz 1.000000 MHz Auto Man



Dwe	I NVNT 1-DH5 24	141MHz One	Burst	
Agilent Spectrum Analyzer - Swept SA           IM         RF         50 Ω         AC	SENSE:INT	ALIGNAUTO	04:01:40 PM Aug 22, 2024	Frequency
Center Freq 2.441000000 GHz PNO: IFGair	Trig Delay-500.0 µs Fast ↔ Trig: Video Low #Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE WWWWWW DET PNNNNN	
Ref Offset 0.5 dB		١Δ	Vkr1 2.872 ms -2.28 dB	Auto Tune
10 dB/div Ref 20.00 dBm			-2.26 UB	
0.00	1Δ2		TRIG LVL	Center Freq 2.441000000 GHz
-10.0				
-30.0				Start Freq 2.441000000 GHz
-40.0 -50.0	् त्यां हो वी सन् गत्न प्रमुख्य <sup>क्र</sup> स्तुत्व क्रिये न प्रमुख के स्तु त्यां ह			
-60.0 vilati		<mark>han dan distriktion andar dan sekara dan </mark>		<b>Stop Freq</b> 2.441000000 GHz
-70.0				
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 10.0	Span 0 Hz 00 ms (10001 pts)	CF Step 1.000000 MHz
	ms (Δ) -2.28 dB	ICTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
2 F 1 t 491.0 3 4	µs -6.74 dBm			Freq Offset 0 Hz
5 6 7			=	0 Hz
8				
			~	
MSG		STATUS		
Agilent Spectrum Analyzer - Swept SA	NVNT 1-DH5 244	1MHz Accur	nulated	
Center Freq 2.441000000 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	04:02:13 PM Aug 22, 2024 TRACE 1 2 3 4 5 6	Frequency
	Fast ↔ Trig: Free Run :Low #Atten: 30 dB		DET PNNNN	Auto Tune
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm				Auto Tune
Log				Center Freq
				2.441000000 GHz
	ALL AL			Start Freq
-10.0				2.441000000 GHz
-20.0				Stop Freq
-30.0				2.441000000 GHz
				CF Step
-40.0	<mark>III MARANA NA MANA</mark>			1.000000 MHz <u>Auto</u> Man
-50.0		an han sink k hill find a fail and a hill a sink hi	a di sa ang kalanta Mang pintang sa kanantan pantang kanang sa kanang sa kanang sa kanang sa kanang sa kanang s	
-60.0				Freq Offset 0 Hz
-70.0				
Center 2.441000000 GHz			Span 0 Ha	
Res BW 1.0 MHz	#VBW 3.0 MHz		Span 0 Hz 1.60 s (10001 pts)	
MSG		STATUS		



	well NVNT 2-DH1 2	441MHz One	Burst	
Agilent Spectrum Analyzer - Swept SA (X) RL RF 50Ω AC Center Freq 2.441000000 G	Hz PN0: Fast → Trig: Video FGain:Low #Atten: 30 dB		03:35:25 PM Aug 22, 2024 TRACE <b>1 2 3 4 5 6</b> TYPE WWWWWW DET P N N N N N	Frequency
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm	Sancow and a	Δι	۸kr1 378.0 µs −4.98 dB	Auto Tune
Log 10.0 0.00 χ <sub>2</sub> 1Δ2			TRIG LVL	Center Freq 2.441000000 GHz
-20.0				<b>Start Freq</b> 2.441000000 GHz
	allan alarah di karata kara Alarata karata di karata ka	and the second	n transforma for a state state of the state	<b>Stop Freq</b> 2.441000000 GHz
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz		Span 0 Hz 0 ms (10001 pts)	CF Step 1.000000 MHz <u>Auto</u> Man
	γ         FU           378.0 μs         (Δ)         -4.98 dB           498.0 μs         0.10 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset
5 6 7 8 9				U HZ
10 11 K MSG		STATUS	×	
Dw	ell NVNT 2-DH1 244	41MHz Accum	ulated	
Agilent Spectrum Analyzer - Swept SA           [X]         RL         RF         50 Ω         AC           Center Freq 2.441000000 G	PNO: Fast 🛶 Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr	03:35:58 PM Aug 22, 2024 TRACE 1 2 3 4 5 6 TYPE WWWWWW DET P N N N N N	Frequency
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm	FGain:Low #Atten: 30 dB			Auto Tune
10.0				Center Freq 2.441000000 GHz
0.00 <b></b>				Start Freq 2.441000000 GHz
-20.0				<b>Stop Freq</b> 2.441000000 GHz
-40.0				CF Step 1.000000 MHz <u>Auto</u> Man
-50.0				Freq Offset 0 Hz
-70.0				
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 31	Span 0 Hz 60 s (10001 pts).	-

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	Dwell NVNT 2-	DH3 2441MHz	z One Burs	t	
Agilent Spectrum Analyzer - Swept SA (X) RL RF 50 Ω AC Center Freq 2.441000000		elay-500.0 μs Avg Type ideo	: Log-Pwr TRA	M Aug 22, 2024 CE 1 2 3 4 5 6 (PE WWWWWW DET P N N N N N	Frequency
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm	IFGain.LOW Written.		∆Mkr1 1	.629 ms 0.85 dB	Auto Tune
10.0 10.0 10.00 10.00	2			TRIG LVL	Center Freq 2.441000000 GHz
-10.0 -20.0 -30.0					Start Freq 2.441000000 GHz
		र्गतन् मार्गत् का स्वार्थन् । स्वार्थन्त्र स्वार्थन् । स्वार्थन्त्र स्वार्थन् ।	ער, אני עונין ער נעלולג (ק. 18 אני היב ה	<b>'</b>  1 '41'' <b>' 14' * 1</b> 4	Stop Freq
	Kupilar Muttar di Usaka Malalan Mutar				2.441000000 GHz
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MH	FUNCTION FUN	weep 10.00 ms (		CF Step 1.000000 MHz <u>Auto</u> Man
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		35 dB dBm			<b>Freq Offset</b> 0 Hz
5 6 7 8 9					
10 11 K			STATUS	×	
	well NVNT 2-D	H3 2441MHz	Accumulate	ed	
Agilent Spectrum Analyzer - Swept SA           M         RL         RF         50 Ω         AC           Center Freq         2.441000000		Avg Type	: Loa-Pwr TRA	M Aug 22, 2024 CE 123456	Frequency
	PNO: Fast +++ Trig: Fi			PE WAAAAAAAA	. requeries
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm					Auto Tune
10 dB/div Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm 10.0	PNO: Fast +++ Trig: Fi			PE WAAAAAAAA	
10 dB/div Ref 20.00 dBm 10 0 0 00	PNO: Fast +++ Trig: Fi			PE WAAAAAAAA	Auto Tune Center Freq 2.44100000 GHz Start Freq
10 dB/div Ref 20.00 dBm	PNO: Fast +++ Trig: Fi			PE WAAAAAAAA	Auto Tune Center Freq 2.44100000 GHz Start Freq 2.441000000 GHz
10.0 dB/div Ref 20.00 dBm	PNO: Fast +++ Trig: Fi			PE WAAAAAAAA	Auto Tune Center Freq 2.44100000 GHz Start Freq
10.0 dB/div Ref 20.00 dBm 10.0 0.00 -10.0 -20.0 -30.0 -40.0	PNO: Fast +++ Trig: Fi				Auto Tune Center Freq 2.44100000 GHz Start Freq 2.441000000 GHz Stop Freq
10.0 dB/div Ref 20.00 dBm	PNO: Fast +++ Trig: Fi				Auto Tune
10.0 dB/div Ref 20.00 dBm 10.0 0.00 -10.0 -20.0 -30.0 -40.0	PNO: Fast +++ Trig: Fi				Auto Tune Center Freq 2.44100000 GHz Start Freq 2.441000000 GHz Stop Freq 2.441000000 GHz CF Step 1.000000 MHz Auto Man
10 dB/div Ref 20.00 dBm 10.0 0.00 10.0	PNO: Fast +++ Trig: Fi			Span 0 Hz	Auto Tune



	NVNT 2-DH5 24	441MHz One	Burst	
Agilent Spectrum Analyzer - Swept SA           VX         RL         RF         50 Ω         AC           Center Freq 2.441000000 GHz         PNo: F	SENSE:INT Trig Delay-500.0 μs ast →→ Trig: Video	ALIGNAUTO Avg Type: Log-Pwr	04:04:27 PM Aug 22, 2024 TRACE 123456 TYPE WWWWWW	Frequency
Ref Offset 0.5 dB	.ow #Atten: 30 dB	Δ	Vikr1 2.877 ms -1.32 dB	Auto Tune
	1Δ2		TRIG LVL	Center Freq 2.441000000 GHz
-20.0 -30.0 -40.0				Start Freq 2.441000000 GHz
	<mark>aluputa nyakana kata na kana kana kana kana kana k</mark>	an da na pana an		<b>Stop Freq</b> 2.441000000 GHz
	≇VBW 3.0 MHz	Sweep 10.	Span 0 Hz 00 ms (10001 pts)	<b>CF Step</b> 1.000000 MHz <u>Auto</u> Man
MKR         MODE         TRC         StL         ×           1         Δ2         1         t         (Δ)         2.877 m           2         F         1         t         4830 p           3         -         -         -           5         -         -         -	is (Δ) -1.32 dB	INCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
6 7 8 9 10				
MSG		STATUS	>	
Dwell N	NVNT 2-DH5 244	11MHz Accur	nulated	
Agilent Spectrum Analyzer - Swept SA           W         RL         RF         50 Ω         AC           Center Freq 2.441000000 GHz         PNO: F           PNO: F         F         F         F		ALIGNAUTO Avg Type: Log-Pwr	04:05:00 PM Aug 22, 2024 TRACE 1 2 3 4 5 6 TYPE WWWWW DET P N N N N N	Frequency
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm Log				Auto Tune
10.0				Center Freq 2.441000000 GHz
0.00				Start Freq 2.441000000 GHz
-200				<b>Stop Freq</b> 2.441000000 GHz
-40.0				CF Step 1.000000 MHz <u>Auto</u> Man
-60.0				<b>Freq Offset</b> 0 Hz
.70.0				
Center 2.441000000 GHz	≇VBW 3.0 MHz		Span 0 Hz 1.60 s (10001 pts)	



	well NVNT 3-DH1	2441MHz One	Burst	
Agilent Spectrum Analyzer - Swept SA	SENSE:INT		03:51:28 PM Aug 22, 2024 TRACE 123456	Frequency
Center Freq 2.441000000 G	PNO: Fast ↔→ Trig: Video FGain:Low #Atten: 30 dB	i pa nyg i ype. Logi wi	TYPE WWWWWW DET P N N N N N	
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm		Δ	Mkr1 377.0 µs -1.40 dB	Auto Tune
				Center Fred
0.00 -10.0 χ			TRIG LVL	2.441000000 GH
-20.0				Start Free
-30.0				2.441000000 GH
-50.0 ang an	ui a preteri i mun pe pri enteri e dan preteri e	landa, esta da felorenta grana pada en Rana pada de de		Stop Free
-60.0 <mark>4141<sup>11</sup> - 10 14 200 10 11 14 14 14 14 14 14 14 14 14 14 14 14 </mark>	olen magneter om len og sjender om som pare vinger.	al, na dala da	n na hana an	2.441000000 GH
Center 2.441000000 GHz			Span 0 Hz	CF Step
Res BW 1.0 MHz MKR MODE TRC SCL X	#VBW 3.0 MHz	Sweep 10.	00 ms (10001 pts)	1.000000 MH <u>Auto</u> Mar
	377.0 μs (Δ) -1.40 dB 365.0 μs -9.32 dBm			Freq Offse
4 5			=	он
6 7 8				
9 10 11				
K NSG		STATUS		
Dw	ell NVNT 3-DH1 2	441MHz Accur	mulated	
Agilent Spectrum Analyzer - Swept SA XI RL RF 50 Ω AC	SENSE:INT	ALIGNAUTO	03:52:01 PM Aug 22, 2024	Frequency
	PNO: Fast ↔ Trig: Free Run FGain:Low #Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE WWWWWW DET PNNNNN	Trequency
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm				Auto Tun
-og				Cepter Fre
0g				
				2.441000000 GH
• <b>0</b> 9 10.0				2.441000000 GH Start Fre
• <b>0</b> 10.0 0.00 1100				2.441000000 GH Start Fre 2.441000000 GH
• <b>0</b> 9 10.0 0.00 10.0 20.0				2.441000000 GH Start Fre 2.441000000 GH
-og 10 0 0.00 				2.44100000 GH Start Free 2.44100000 GH Stop Free 2.441000000 GH
<pre></pre>				2.441000000 GH Start Free 2.441000000 GH Stop Free 2.441000000 GH CF Stef 1.000000 MH
<b>- 09</b> 10.0 .0.00				2.44100000 GH Start Free 2.44100000 GH 2.44100000 GH CF Step 1.00000 MH <u>Auto</u> Ma
Log				Center Free 2.441000000 GH Start Free 2.441000000 GH Stop Free 2.441000000 GH CF Step 1.000000 MH Auto Mar Free Offsee 0 H
<ul> <li></li></ul>				2.441000000 GH Start Free 2.441000000 GH 2.441000000 GH CF Step 1.000000 MH <u>Auto</u> Mar Freq Offse
••••     ••••       10.0     ••••       0.00     ••••       10.0     ••••       20.0     ••••       40.0     ••••       50.0     ••••       60.0     ••••			Span 0 Hz	2.44100000 GH Start Free 2.44100000 GH 2.44100000 GH CF Step 1.000000 MH <u>Auto</u> Ma Freq Offsee



Merine Section Maker Swets 3 Center Freq 2.4.11000000 GHz Ref 2000 d Gm Ref 20		′NT 3-DH3 244	41MHz On	e Burst	
Auto Tune 10 discussion of the second secon	X         RL         RF         50 Ω         AC           Center Freq 2.441000000 GHz         PN0: Fast ↔	Trig Delay-500.0 μs , Trig: Video		TRACE 123456	Frequency
100       χ2       102       1	Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm		L		Auto Tune
Start Freq 2.44100000 GHz Start Freq 2.44100000 GHz				TRIG LVL	
Stop Freq 2.4100000 GHz Center 7.441000000 GHz #VEW 3.0 MHz #VEW 3.0 MHz Sweep 10.00 ms (10001 pt) The field of the f	-20.0				
Res BW 1.0 MHz       Sweep 10.00 ms (10001 pts)         MR Mode RC SQL       X       Y       C relation       Renction Multi       Exection Multi       Exection Multi         2       F       1       1       1.520 ms (1001 pts)       3.17 dBm       Freq Offset       0 Hz         3       9       1       1.520 ms (1001 pts)       3.17 dBm       Freq Offset       0 Hz         3       9       1       1.520 ms (1001 pts)       5.17 dBm       Freq Offset       0 Hz         4       9       1       1.520 ms (1001 pts)       5.17 dBm       Freq Offset       0 Hz         9       1       1       1.520 ms (1001 pts)       5.17 dBm       Freq Offset       0 Hz         0       Wei       5.17 dBm       5.17 dBm       7.100000 fHz       Freq Offset       0 Hz         0       B       5.17 dBm       7.100000 fHz       5.17 dBm       7.100000 fHz       Freq Offset         0       8       1       5.17 dBm       7.100000 fHz       7.100000 fHz       7.100000 fHz       7.100000 fHz       7.1000000 fHz         10       0.00000 fHz       5.17 fHz       7.1000000 fHz       7.1000000 fHz       7.1000000 fHz       7.1000000 fHz       7.1000000 fHz		and the second second second	Life a second second second	a internet for a start of the star I have a first of the start of the	
1         1	Res BW 1.0 MHz #VBV		-	).00 ms (10001 pts)	1.000000 MHz
Signed Spectrum Analyzer - Sweet SA       Street Spectrum Analyzer - Sweet SA         All the set Stop AC       Street Spectrum Analyzer - Sweet SA         Center Freq 2.441000000 GHz       Street SA         Avg Type: Leg-Pwr       Trace Point Sa         Center Freq 2.441000000 GHz       Street SA	1         Δ2         1         t         (Δ)         1.629 ms         (Δ)           2         F         1         t         498.0 μs         3         4         498.0 μs         4	2.67 dB			
11       Image: State of the sector of the sec	6 7 8 9				
Agilent Spectrum Analyzer - Swept SA         Serverint         ALIGNAUTO         Deriosizem Aug22, 2024         Frequency           Center Freq 2.441000000 GHz         Frig: Free Run (FGaint.low)         Avg Type: Log.Pwr #Atten: 30 dB         Trace III 2000000000000000000000000000000000	11 <		STATU		
RL       RF       SD2       AC       SENSE.INT       ALISHAUTO       DetGROW Mug 22, 2024       Frequency         PN0: Fast       Trig: Free Run FGain.Low       Trig: Free Run Atten: 30 dB       Avg Type: Log-Pwr       Trig: DetGLOW Mug 22, 2024       Frequency         No dB/dvi       Ref Offset 0.5 dB       Ref 20.00 dBm       Center Freq       2.441000000 GHz       Center Freq         100       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm       Center Freq         100       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm       Center Freq         100       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm       Center Freq         100       def 20.00 dBm       def 20.00 dBm       def 20.400000 GHz       Start Freq         200       def 20.00 dBm       def 20.00 dBm       def 20.400000 GHz       Start Freq         200       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm       def 20.41000000 GHz         200       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm       def 20.41000000 GHz         200       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm         200       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm       def 20.00 dBm	Dwell NVN	IT 3-DH3 2441	IMHz Accu	imulated	
Ref Offset 0.5 dB         Auto Tune           10 dB/div         Ref 20.00 dBm         Center Freq           10 dB/div         Center Freq         2.441000000 GHz           20 dB/div         Center Freq         2.441000000 GHz	X         RL         RF         50 Ω         AC           Center Freq 2.441000000 GHz         PN0: Fast ↔	. Trig: Free Run		TRACE 123456 TYPE WAAAAAAAA	Frequency
100       Center Freq       2.44100000 GHz         100       Start Freq       1.0000 GHz         100       Start Freq       1.00000 GHz	Ref Offset 0.5 dB				Auto Tune
100       Start Freq         200       Stop Freq         201       Stop Freq         202       Stop Freq         203       Stop Freq         204       Stop Freq         205       Stop Freq         206       Stop Freq         217       Stop Freq         218       Stop Freq         219       Stop Freq         210       Stop Freq         211       Stop Freq         212       Stop Freq         213       Stop Freq         21400000 GHz       Freq Offset         0 Hz       OHz         0 Hz       OHz         0 Hz       Span 0 Hz					
-300					
1.00000 MHz         1.00000 MLz         1.00000 MLz         1.00000 MLz         1.00000 MLz         1.00000 MLz         1.0000 MLz         1.0000 MLz	-20.0				Stop Freg
-60 0         Freq Offset           -70 0         Center 2.441000000 GHz         Span 0 Hz	-30.0				
Center 2.441000000 GHz Span 0 Hz	-40.0				2.441000000 GHz CF Step 1.000000 MHz
	-40.0				2.441000000 GHz CF Step 1.000000 MHz <u>Auto</u> Man Freq Offset
Res BW 1.0 WHZ #VBW 3.0 WHZ Sweep 31.60 s (10001 pts)	-40.0 -50.0 -70.0				2.441000000 GHz CF Step 1.000000 MHz <u>Auto</u> Man Freq Offset

No.: BCTC/RF-EMC-005



	II NVNT 3-DH5 24	441MHz One	Burst	
Agilent Spectrum Analyzer - Swept SA           №         RF         50 Ω         AC           Center Freq 2.441000000 GHz           PN0	:Fast 🛶 Trig:Video	ALIGNAUTO Avg Type: Log-Pwr	04:07:23 PM Aug 22, 2024 TRACE 1 2 3 4 5 6 TYPE WAMAAAAA DET P N N N N N	Frequency
IFGa Ref Offset 0.5 dB	n:Low #Atten: 30 dB	Δ	Vikr1 2.879 ms -0.37 dB	Auto Tune
	1Δ2		TRIG LVL	Center Freq 2.441000000 GHz
-20.0				Start Freq 2.441000000 GHz
-60.0 17417 -60.0 1/141 -70.0	underseiten der Hinnels processionen der Henrichten Neuender State (1990)		nnill fild a far mar star fild fild an anna A anna far an star ann a fill an a filiait A anna far an star ann an tar an anna anna anna anna an	Stop Freq 2.441000000 GHz
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz		Span 0 Hz 00 ms (10001 pts)	<b>CF Step</b> 1.000000 MHz <u>Auto</u> Man
MKR         MODE         TRC         SCL         ×           1         Δ2         1         t         (Δ)         2.875           2         F         1         t         365.           3         -         -         365.           4         -         -         5	ms (Δ) -0.37 dB	ICTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
6 7 8 9 9 10				
MSG		STATUS	×	
Dwell	NVNT 3-DH5 244	1MHz Accur	nulated	
	: Fast 🔸 Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr	04:07:56 PM Aug 22, 2024 TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P N N N N N	Frequency
Ref Offset 0.5 dB 10 dB/div Ref 20.00 dBm	n:Low #Atten: 30 dB			Auto Tune
				Center Freq 2.441000000 GHz
0.00	101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 - 101 	"",",",",",",",",",",",",",",",",",","		<b>Start Freq</b> 2.441000000 GHz
-200				<b>Stop Freq</b> 2.441000000 GHz
-40.0 				<b>CF Step</b> 1.000000 MHz <u>Auto</u> Man
-60.0				<b>Freq Offset</b> 0 Hz
-70.0			Span 0 Hz	
Center 2.441000000 GHz				



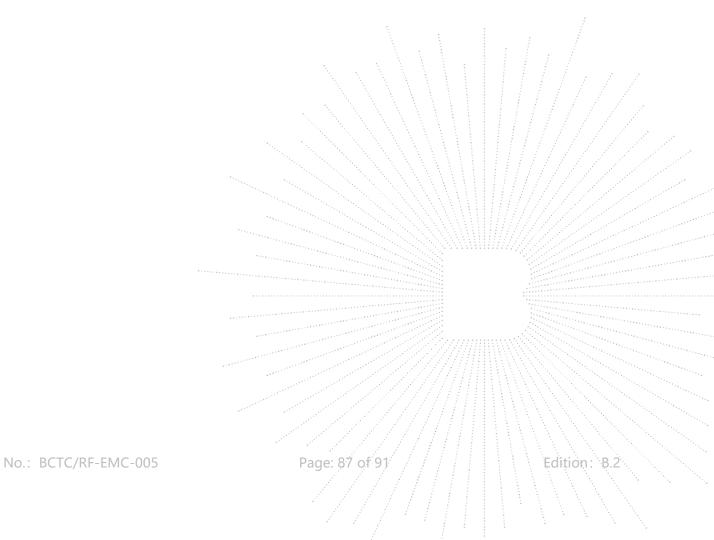
### 15. Antenna Requirement

#### 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

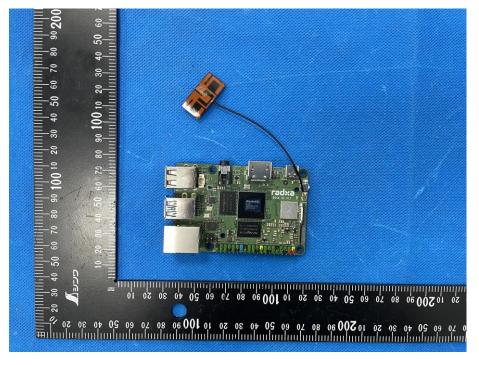
The EUT antenna is FPC antenna, The IPEX antenna connector is adopted.



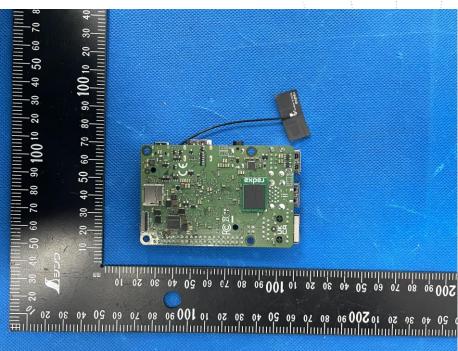


### 16. EUT Photographs

#### EUT Photo 1



#### EUT Photo 2



### NOTE: Appendix-Photographs Of EUT Constructional Details.

No.: BCTC/RF-EMC-005

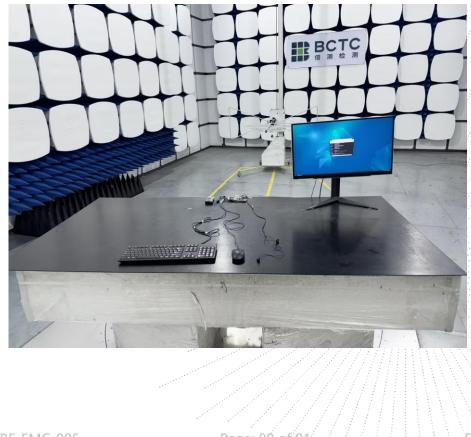


### 17. EUT Test Setup Photographs

### **Conducted Emissions Photo**



#### **Radiated Measurement Photos**



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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

Consultation E-mail: bctc@bctc-lab.com.cn.

Complaint/Advice E-mail: advice@bctc-lab.com.cn

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

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