

TEST REPORT

Report No.:	BCTC2207831435E				
Applicant:	Shenzhen Moldull Acoustic Technology Co.,Ltd.				
Product Name:	TWS Bluetooth headset				
Model/Type reference:	MD031				
Tested Date:	2022-08-11 to 2022-08-16				
Issued Date:	2022-08-17	,			
She	nzhen BCTC Testing Co., Ltd.				
No. : BCTC/RF-EMC-007	Page: 1 of 67				



FCC ID: 2AXPW-MD031

Product Name:	TWS Bluetooth headset
Trademark:	N/A
Model/Type Reference:	MD031 H31, RS7, MD031, MD031B, i7, i9
Prepared For:	Shenzhen Moldull Acoustic Technology Co.,Ltd.
Address:	403 Huiyi Wealth Center No.9, Zhongxin Road, Dalang, Longhua New Area, ShenZhen, China
Manufacturer:	Shenzhen Moldull Acoustic Technology Co.,Ltd.
Address:	403 Huiyi Wealth Center No.9, Zhongxin Road, Dalang, Longhua New Area, ShenZhen, China
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2022-08-11
Sample tested Date:	2022-08-11 to 2022-08-16
Issue Date:	2022-08-17
Report No.:	BCTC2207831435E
Test Standards	FCC Part15.247 ANSI C63.10-2013
Test Results	PASS
Remark:	This is Bluetooth Classic radio test report.

Tested by: Zil

Eric Yang/Project Handler

Approved by:

2

Zero Zhou/Reviewer

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(Note: N/A Means Not Applicable)

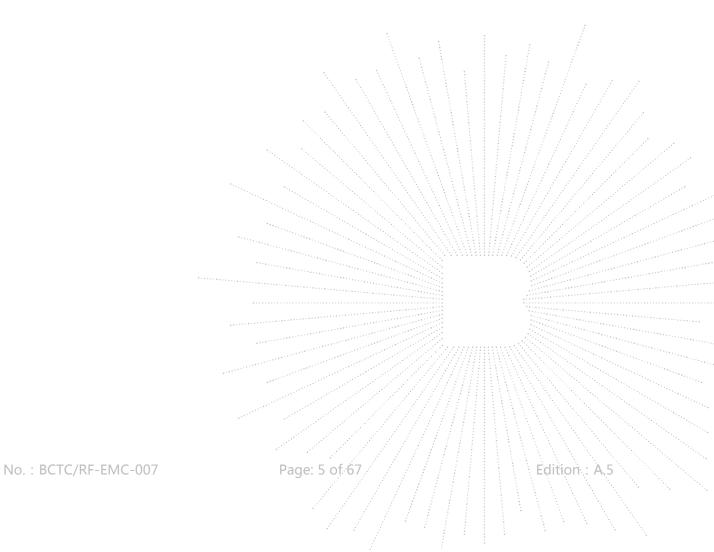
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1. Version

Report No.	Issue Date	Description	Approved
BCTC2207831435E	2022-08-17	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	Number of hoppingfrequencies	§15.247(a)(1)(iii)	PASS
5	Dwell Time	§15.247(a)(1)(iii)	PASS
6	Spurious RF conducted emissions	§15.247(d)	PASS
7	Band edge	§15.247(d)	PASS
8	Spurious radiated emissions for transmitter	§15.247(d) & §15.209 & §15.205	PASS
9	Antenna Requirement	15.203	PASS



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

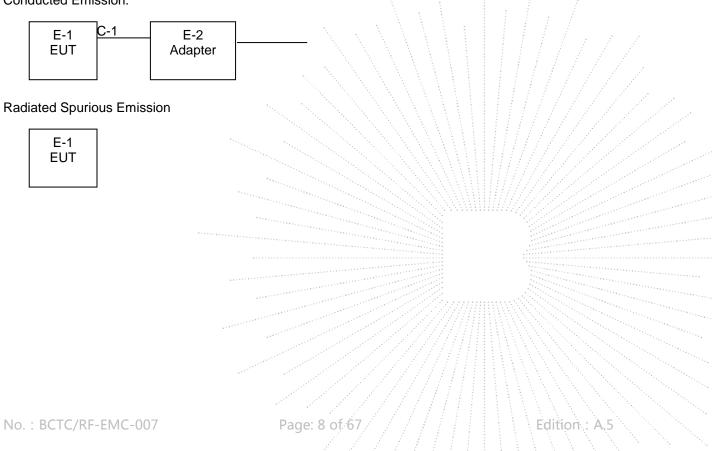
4.1 Product Information

Model/Type reference:	MD031 H31, RS7, MD031, MD031B, i7, i9
Model differences:	All the model are the same circuit and RF module, except model names.
Operation Frequency:	Bluetooth: 2402-2480MHz
Type of Modulation:	Bluetooth: GFSK, π/ 4 DQPSK
Number Of Channel	79CH
Antenna installation:	Laminated Ceramic Antenna
Antenna Gain:	4.08 dBi
Ratings:	DC 3.7V From battery, 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.

Conducted Emission:





4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-2	Adapter	UGREEN	CD122	N/A	Auxiliary

ltem	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	0.5M	USB cable unshielded

Notes:

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

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

4.4 Channel List

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



4.5 Test Mode

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

Test Mode	Test mode	Low channel	Middle channel	High channel		
1	Transmitting(GFSK)	2402MHz	2441MHz	2480MHz		
2	Transmitting(π/ 4 DQPSK)	2402MHz	2441MHz	2480MHz		
3	Transmitting (Radiated emission)					
4	Charging (Conducted 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		FCC assist 1.0.1.1	
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 IC Registered No.: 23583

5.2 Test Instrument Used

		Conducted E	Emissions Test		
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
LISN	R&S	ENV216	101375	May 24, 2022	May 23, 2023
Software	Frad	EZ-EMC	EMC-CON 3A1	١	١
Attenuator	/	10dB DC-6GHz	1650	May 24, 2022	May 23, 2023

		RF Cond	ucted Test		/
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power Metter	Keysight	E4419		May 24, 2022	May 23, 2023
Power Sensor (AV)	Keysight	E9300A		May 24, 2022	May 23, 2023
Signal Analyzer 20kHz-26.5G Hz	Keysight	N9020A	MY49100060	May 24, 2022	May 23, 2023
Spectrum Analyzer 9kHz-40GHz	R&S	FSP 40		May 24, 2022	May 23, 2023



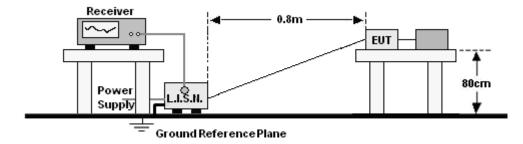
	Radi	ated Emissions	Test (966 Cham	ber)	
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Jun. 06. 2020	Jun. 05, 2023
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
Receiver	R&S	ESRP	101154	May 24, 2022	May 23, 2023
Amplifier	SKET	LAPA_01G18 G-45dB	١	May 24, 2022	May 23, 2023
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 24, 2022	May 23, 2023
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 26, 2022	May 25, 2023
Horn Antenna	Schwarzbeck	BBHA9120D	1541	Jun. 06, 2022	Jun. 05, 2023
Horn Antenn (18GHz-40GHz)	Schwarzbeck	BBHA9170	00822	Jun. 06, 2022	Jun. 05, 2023
Amplifier (18GHz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 26, 2022	May 25, 2023
Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	May 26, 2022	May 25, 2023
RF cables1 (9kHz-30MHz)	Huber+Suhnar	9kHz-30MHz	B1702988-000 8	May 26, 2022	May 25, 2023
RF cables2 (30MHz-1GHz)	Huber+Suhnar	30MHz-1GHz	1486150	May 26, 2022	May 25, 2023
RF cables3 (1GHz-40GHz)	Huber+Suhnar	1GHz-40GHz	1607106	May 26, 2022	May 25, 2023
Power Metter	Keysight	E4419	1	May 26, 2022	May 25, 2023
Power Sensor (AV)	Keysight	E9300A		May 26, 2022	May 25, 2023
Signal Analyzer 20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 26, 2022	May 25, 2023
Spectrum Analyzer 9kHz-40GHz	R&S	FSP 40		May 26, 2022	May 25, 2023
Software	Frad	EZ-EMC	FA-03A2 RE	\\\\	$\langle / / \Lambda \rangle$

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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

Notes:

1. *Decreasing linearly with logarithm of frequency.

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

6.3 Test procedure

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

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.

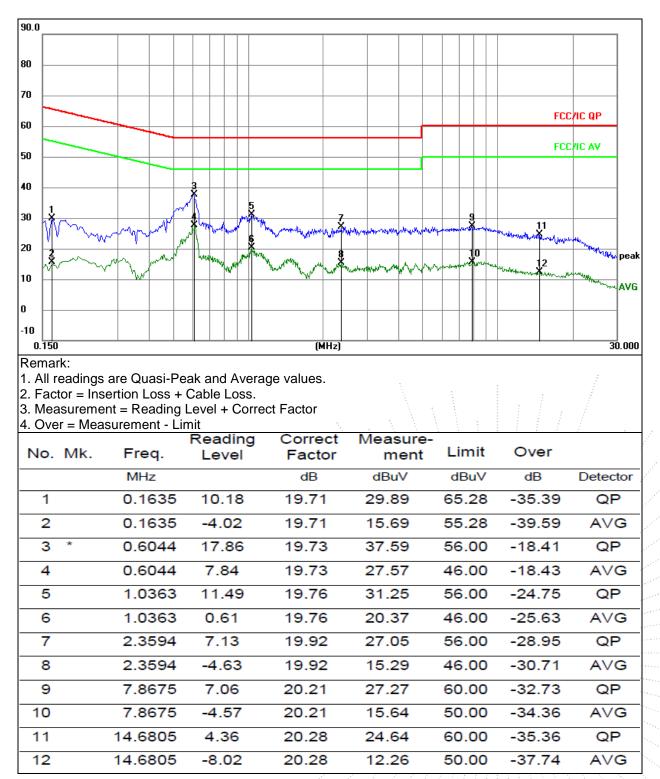
6.4 EUT operating Conditions

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

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



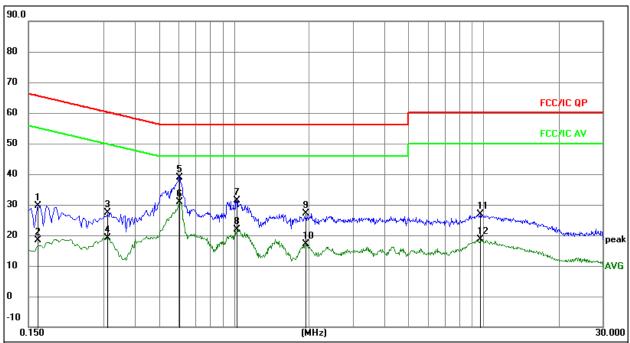
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Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Ν
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz



Remark:

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

No. Mk. Freq. Reading Level Correct Factor Measure- ment Limit Over MHz dB dBuV dBuV dB Dete 1 0.1633 10.01 19.70 29.71 65.29 -35.58 Q 2 0.1633 -1.36 19.70 18.34 55.29 -36.95 AV 3 0.3116 7.59 19.77 27.36 59.93 -32.57 Q 4 0.3116 -0.59 19.77 19.18 49.93 -30.75 AV 5 0.6043 19.19 19.73 38.92 56.00 -17.08 Q 6 * 0.6043 11.11 19.73 30.84 46.00 -15.16 AV	
1 0.1633 10.01 19.70 29.71 65.29 -35.58 Q 2 0.1633 -1.36 19.70 18.34 55.29 -36.95 A 3 0.3116 7.59 19.77 27.36 59.93 -32.57 Q 4 0.3116 -0.59 19.77 19.18 49.93 -30.75 A 5 0.6043 19.19 19.73 38.92 56.00 -17.08 Q	
2 0.1633 -1.36 19.70 18.34 55.29 -36.95 AV 3 0.3116 7.59 19.77 27.36 59.93 -32.57 Q 4 0.3116 -0.59 19.77 19.18 49.93 -30.75 AV 5 0.6043 19.19 19.73 38.92 56.00 -17.08 Q	ctor
3 0.3116 7.59 19.77 27.36 59.93 -32.57 Q 4 0.3116 -0.59 19.77 19.18 49.93 -30.75 AV 5 0.6043 19.19 19.73 38.92 56.00 -17.08 Q	Ρ
4 0.3116 -0.59 19.77 19.18 49.93 -30.75 AV 5 0.6043 19.19 19.73 38.92 56.00 -17.08 Q	′G
5 0.6043 19.19 19.73 38.92 56.00 -17.08 Q	Ρ
	′G
6 * 0.6043 11.11 19.73 30.84 46.00 -15.16 AV	Ρ
	′G
7 1.0211 11.57 19.76 31.33 56.00 -24.67 Q	Р
8 1.0211 2.09 19.76 21.85 46.00 -24.15 AV	′G
9 1.9386 7.18 19.87 27.05 56.00 -28.95 Q	Р
10 1.9386 -2.79 19.87 17.08 46.00 -28.92 AV	′G
11 9.7051 6.64 20.27 26.91 60.00 -33.09 Q	Ρ
12 9.7051 -1.73 20.27 18.54 50.00 -31.46 AV	′G

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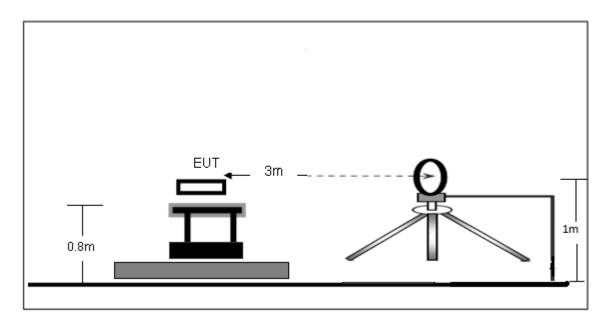
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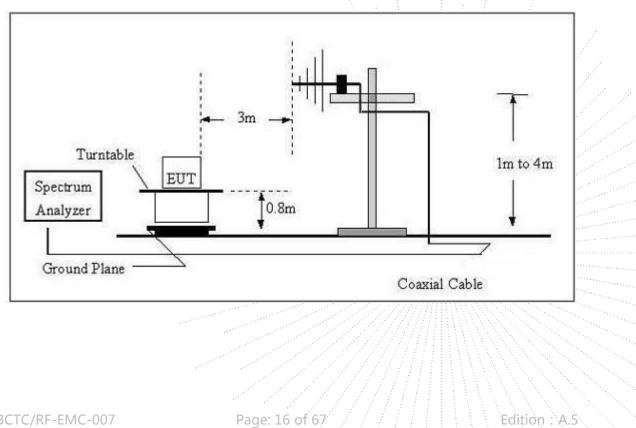
7. **Radiated emissions**

Block Diagram Of Test Setup 7.1

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

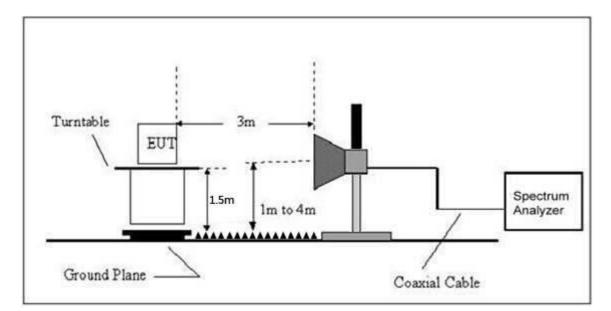


(B) Radiated Emission Test-Up Frequency 30MHz~1GHz





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



7.2 Limit

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

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

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
	Attenuation
	9kHz~150kHz
	150kHz~30MHz
)	30MHz~1000MHz
>)F	

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:	26 ℃	Relative Humidity:	54%	
Pressure:	101KPa	Test Voltage :	AC120V/60Hz	
Test Mode:	Mode 3	Test vollage.		

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

Note:

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

permissible value has no need to be reported.

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

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

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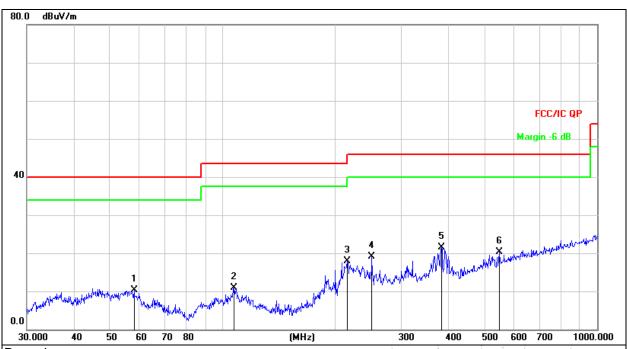
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Between 30MHz - 1GHz

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 3	Test Voltage:	AC 120V/60Hz



Remark:

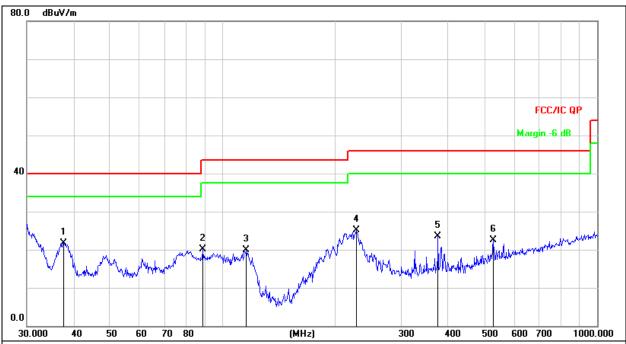
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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

J. Over		asurement - L	11111					
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		57.9993	26.72	-16.39	10.33	40.00	-29.67	QP
2	1	07.1337	28.13	-17.18	10.95	43.50	-32.55	QP
3	2	15.2678	33.34	-15.41	17.93	43.50	-25.57	QP
4	2	250.3012	33.25	-14.18	19.07	46.00	-26.93	QP
5	* 3	83.9318	31.90	-10.35	21.55	46.00	-24.45	QP
6	5	47.0977	27.24	-6.88	20.36	46.00	-25.64	QP



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 3	Test Voltage:	AC 120V/60Hz



Remark:

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

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

0.000	-100					1 1		
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	*	37.5479	38.51	-16.72	21.79	40.00	-18.21	QP
2		88.3421	38.86	-18.74	20.12	43.50	-23.38	QP
3		115.7256	37.67	-17.71	19.96	43.50	-23.54	QP
4		227.6906	39.99	-14.98	25.01	46.00	-20.99	QP
5		375.9385	34.00	-10.49	23.51	46.00	-22.49	QP
6		528.2458	29.83	-7.26	22.57	46.00	-23.43	QP



Polar	Frequency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	Туре
	GFSK Low channel						
V	4804.00	52.10	-0.43	51.67	74.00	-22.33	PK
V	4804.00	42.34	-0.43	41.91	54.00	-12.09	AV
V	7206.00	43.39	8.31	51.70	74.00	-22.30	PK
V	7206.00	32.40	8.31	40.71	54.00	-13.29	AV
Н	4804.00	47.61	-0.43	47.18	74.00	-26.82	PK
Н	4804.00	38.42	-0.43	37.99	54.00	-16.01	AV
Н	7206.00	41.82	8.31	50.13	74.00	-23.87	PK
Н	7206.00	34.69	8.31	43.00	54.00	-11.00	AV
		G	FSK Middle c	hannel			
V	4882.00	49.70	-0.38	49.32	74.00	-24.68	PK
V	4882.00	42.49	-0.38	42.11	54.00	-11.89	AV
V	7323.00	41.63	8.83	50.46	74.00	-23.54	PK
V	7323.00	33.17	8.83	42.00	54.00	-12.00	AV
Н	4882.00	44.95	-0.38	44.57	74.00	-29.43	PK
Н	4882.00	34.19	-0.38	33.81	54.00	-20.19	AV
Н	7323.00	40.35	8.83	49.18	74.00	-24.82	PK
Н	7323.00	33.27	8.83	42.10	54.00	-11.90	AV
			GFSK High ch	annel			
V	4960.00	51.19	-0.32	50.87	74.00	-23.13	PK
V	4960.00	41.47	-0.32	41.15	54.00	-12.85	AV
V	7440.00	44.31	9.35	53.66	74.00	-20.34	PK
V	7440.00	34.00	9.35	43.35	54.00	-10.65	AV
Н	4960.00	49.31	-0.32	48.99	74.00	-25.01	PK
Н	4960.00	40.04	-0.32	39.72	54.00	-14.28	AV
Н	7440.00	41.54	9.35	50.89	74.00	-23.11	PK
Н	7440.00	32.61	9.35	41.96	54.00	-12.04	AV

Between 1GHz – 25GHz

Remark:

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

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

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

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



Polar	Frequency	Frequency Reading Correct Level Factor	Measure- ment	Limits	Over	Detector	
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	Туре
		π/ 4	4 DQPSK Low	channel			
V	4804.00	54.46	-0.43	54.03	74.00	-19.97	PK
V	4804.00	44.00	-0.43	43.57	54.00	-10.43	AV
V	7206.00	44.86	8.31	53.17	74.00	-20.83	PK
V	7206.00	35.07	8.31	43.38	54.00	-10.62	AV
Н	4804.00	50.17	-0.43	49.74	74.00	-24.26	PK
Н	4804.00	40.92	-0.43	40.49	54.00	-13.51	AV
Н	7206.00	43.03	8.31	51.34	74.00	-22.66	PK
Н	7206.00	35.36	8.31	43.67	54.00	-10.33	AV
	·	π/ 4	DQPSK Midd	e channel			
V	4882.00	52.37	-0.38	51.99	74.00	-22.01	PK
V	4882.00	46.31	-0.38	45.93	54.00	-8.07	AV
V	7323.00	42.22	8.83	51.05	74.00	-22.95	PK
V	7323.00	32.88	8.83	41.71	54.00	-12.29	AV
Н	4882.00	48.55	-0.38	48.17	74.00	-25.83	PK
Н	4882.00	38.22	-0.38	37.84	54.00	-16.16	AV
Н	7323.00	39.26	8.83	48.09	74.00	-25.91	PK
Н	7323.00	31.02	8.83	39.85	54.00	-14.15	AV
		π/ 4	DQPSK High	channel			
V	4960.00	53.57	-0.32	53.25	74.00	-20.75	PK
V	4960.00	44.27	-0.32	43.95	54.00	-10.05	AV
V	7440.00	46.72	9.35	56.07	74.00	-17.93	PK
V	7440.00	37.14	9.35	46.49	54.00	-7.51	AV
Н	4960.00	52.27	-0.32	51.95	74.00	-22.05	PK
Н	4960.00	42.73	-0.32	42.41	54.00	-11.59	AV
Н	7440.00	44.46	9.35	53.81	74.00	-20.19	PK
Н	7440.00	35.63	9.35	44.98	54.00	-9.02	AV

Remark:

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

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

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

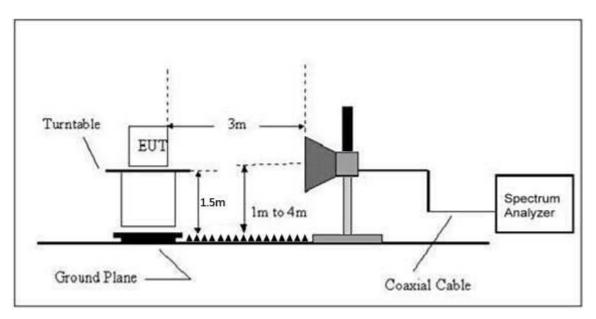
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



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
¹ 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	(²)
13.36-13.41			



Limits Of Radiated Emission Measurement (Above 1000MHz)

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

Notes:

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

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

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

8.3 Test procedure

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

Above 1GHz test procedure as below:

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

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

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

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

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

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

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

Note:

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

8.4 EUT operating Conditions

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



8.5 Test Result

Test mode	Polar (H/V)	Frequency (MHz)	Reading Level	Correct Factor	Measure- ment (dBuV/m)	Limits (dBuV/m)		Result
	(()	(dBuV/m)	(dB)	РК	РК	AV	
		I	Low	Channel 2	402MHz			
	Н	2390.00	53.69	-6.70	46.99	74.00	54.00	PASS
	Н	2400.00	58.46	-6.71	51.75	74.00	54.00	PASS
	V	2390.00	52.92	-6.70	46.22	74.00	54.00	PASS
GFSK	V	2400.00	53.60	-6.71	46.89	74.00	54.00	PASS
GFSK			High	n Channel 2	480MHz			
	Н	2483.50	51.86	-6.79	45.07	74.00	54.00	PASS
	Н	2500.00	49.90	-6.81	43.09	74.00	54.00	PASS
	V	2483.50	53.15	-6.79	46.36	74.00	54.00	PASS
	V	2500.00	49.93	-6.81	43.12	74.00	54.00	PASS
			Low	/ Channel 2 [,]	402MHz			
	Н	2390.00	52.16	-6.70	45.46	74.00	54.00	PASS
	Н	2400.00	56.07	-6.71	49.36	74.00	54.00	PASS
	V	2390.00	53.15	-6.70	46.45	74.00	54.00	PASS
π/4DQPSK	V	2400.00	53.13	-6.71	46.42	74.00	54.00	PASS
II/4DQF3N			High	n Channel 2	480MHz			
	Н	2483.50	52.47	-6.79	45.68	74.00	54.00	PASS
	Н	2500.00	48.53	-6.81	41.72	74.00	54.00	PASS
	V	2483.50	51.27	-6.79	44.48	74.00	54.00	PASS
	V	2500.00	47.46	-6.81	40.65	74.00	54.00	PASS

Remark:

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

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

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

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

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9. Spurious RF Conducted Emissions

9.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

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:

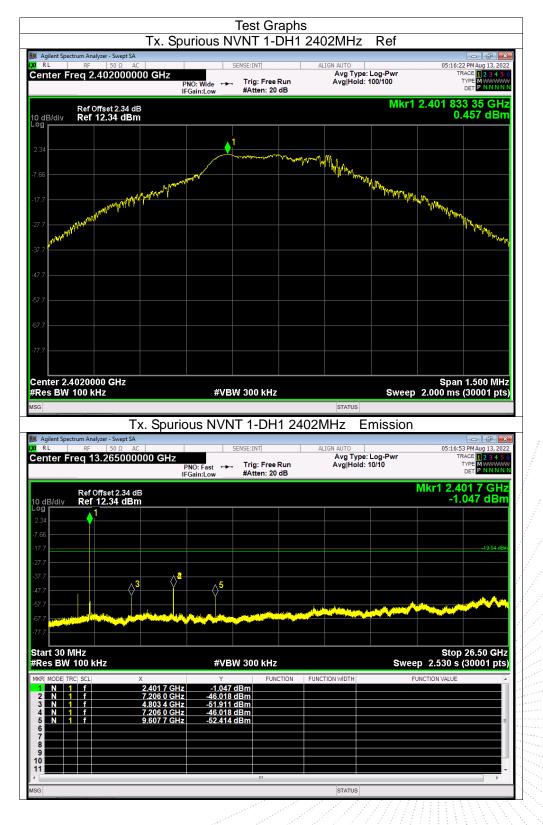
RBW = 100kHz, VBW = 300kHz, Sweep = auto

Detector function = peak, Trace = max hold

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9.4 Test Result

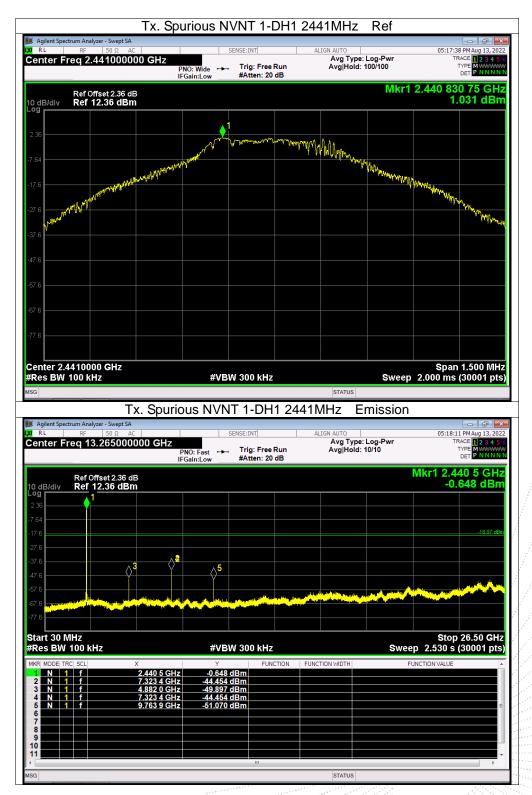


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Agilent Spectrum Analyzer - Swep					- 6 -
RL RF 50 Ω Center Freq 2.48000		SENSE:INT	ALIGN AUTO Avg Ty	/pe: Log-Pwr	05:18:49 PM Aug 13, 202 TRACE 1 2 3 4 5
	Р		Free Run Avg Ho n: 20 dB	id: 100/100	TRACE 1 2 3 4 5 TYPE M
Ref Offset 2.4				Mkr1 2.4	79 834 60 GH
0 dB/div Ref 12.40 d					1.466 dBn
		1			
2.40		-Aller	and the second		
7.60		man pr	· · · · · · · · · · · · · · · · · · ·	<u></u>	
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Agilent Spectrum Analyzer - Swep			DH1 2480MHz		- 6 -
	AC 00000 GHz	SENSE:INT	DH1 2480MHz	Emission	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5
l Agilent Spectrum Analyzer - Swep RL RF 50 Ω	AC	SENSE:INT	DH1 2480MHz	Emission	05:19:20 PM Aug 13, 202
Agilent Spectrum Analyzer - Swep RL RF 50 Ω Senter Freq 13.2650 Ref Offset 2.4	ac	SENSE:INT	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET PNNNN
Agilent Spectrum Analyzer - Swep RL RF 50 Ω center Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c	ac	SENSE:INT	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET PNNNN
Agilent Spectrum Analyzer - Swep RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c	ac	SENSE:INT	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET PNNNN
Agilent Spectrum Analyzer - Swep RL RF 50 Ω center Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c 2 1 7 60	ac	SENSE:INT	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 23 4 5 TYPE MY DET PNNNN r1 2.480 2 GH2 -0.207 dBm
Agilent Spectrum Analyzer - Swep RL RF 50 Ω center Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c 2.40 1 7.60 1 7.60 1	ac	SENSE:INT	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET PNNNN
Agilent Spectrum Analyzer - Swep RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c	AC OO0000 GHz I dB IBm	SENSE:INT PNO: Fast Trig: F Gain:Low #Atter	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 23 4 5 TYPE WWWW DET PNNNN r1 2.480 2 GHz -0.207 dBm
Agilent Spectrum Analyzer - Swep RL RF 50 Ω center Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c 240 1 760 1 760 7	ac	SENSE:INT	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 23 4 5 TYPE WWWW DET PNNNN r1 2.480 2 GHz -0.207 dBm
Agilent Spectrum Analyzer - Swep RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c 240 1 760 1 760 1 77.6 1 77.6 1	AC OO0000 GHz I dB IBm	SENSE:INT PNO: Fast Trig: F Gain:Low #Atter	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 1 23 4 5 TYPE WWWW DET PNNNN r1 2.480 2 GHz -0.207 dBm
RL RF 50 Ω Ref Offset 2.4 center Freq 13.2650 Ref Offset 2.40 c 0 dB/div Ref 12.40 c 2.40 1 1 7.60 1 1 7.60 7 1 7.60 7 1 7.60 7 1 7.60 7 1 7.60 7 1 7.60 7 1	AC OO0000 GHz I dB IBm	SENSE:INT PNO: Fast Trig: F Gain:Low #Atter	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 12 23 4 5 TYPE MYWWW DET PNNNN r1 2.480 2 GHz -0.207 dBm
RL RF 50 Ω Ref Offset 2.4 Content Content 0 dB/div Ref 12.40 c 1 2.40 7.60 1 7.60 7.60 1 7.60 7.60 1 7.60 7.60 1 7.60 7.60 1 7.60 7.60 1 7.60 7.60 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 1	AC OO0000 GHz I dB IBm	SENSE:INT PNO: Fast Trig: F Gain:Low #Atter	ALIGN AUTO Arigi N AUTO Free Run	Emission /pe: Log-Pwr id: 10/10	05:19:20 PM Aug 13, 202 TRACE 12 23 4 5 TYPE MYWWW DET PNNNN r1 2.480 2 GHz -0.207 dBm
RL RF 50 Ω Ref Offset 2.4 Content Freq 13.26500 Ref Offset 2.4 0 dB/div Ref 12.40 c Content Freq 13.26500 2.40 Content Freq 13.26500 Content Freq 13.26500 2.40 Ref 12.40 c Content Freq 13.26500 2.40 Content Freq 13.26500 Content Freq 13.26500 2.40 Content Freq13.26500	AC OO0000 GHz I dB IBm	PNO: Fast Gain:Low	DH1 2480MHz	Emission rpe: Log-Pwr Hd: 10/10 MIK	05:19:20 PM Aug 13, 202 TRACE 1 23 4.5 TYPE M WWW DET P NNNN r1 2.480 2 GHz -0.207 dBm -10 53 dP -10 53 dP
Right RF S0 Ω Ref Offset 2.4 Conter Freq 13.2650 Conter Freq 13.2650 0 dB/div Ref Offset 2.4 Conter Freq 12.40 conter Fr	AC AC IOOOOO GHZ I I I I I I I I I I I I I	SENSE:INT PNO: Fast → Trig: F Gain:Low 5 5 5 4 #VBW 300 I	DH1 2480MHz	Emission rpe: Log-Pwr id: 10/10 Mk	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE M WWW DET P NNNN r1 2.480 2 GH2 -0.207 dBm -10 53 dBm -10 50 dBm
Agilent Spectrum Analyzer - Swep RL RF S0 Ω center Freq 13.2650 Ref Offset 2.4 O dB/div Ref 12.40 c 9 1 2.40 1 7 60 1 7 60 1 7 7 1 7 7 1 7 7 1 7 7 1 7 7 100 KHz 7 80 100 kHz 7 80 1	AC AC AC AC AC AC AC AC AC AC	SENSE:INT PNO: Fast → Trig: F Gain:Low 5 5 5 4 ¥/BW 300 I Y -0.207 dBm	DH1 2480MHz	Emission rpe: Log-Pwr id: 10/10 Mk	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MWWW DET P NNNN r1 2.480 2 GH2 -0.207 dBm
Agilent Spectrum Analyzer - Swep RL RF 50 Ω center Freq 13.2650 Ref Offset 2.40 0 dB/div Ref 12.40 c 29 1 240 1 760 1	AC AC AC AC AC AC AC AC AC AC	SENSE:INT PNO: Fast Gain:Low →	DH1 2480MHz	Emission rpe: Log-Pwr id: 10/10 Mk	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE M WWW DET P NNNN r1 2.480 2 GH2 -0.207 dBm -10 53 dBm -10 50 dBm
RL RF 50 Ω Ref Offset 2.4 0 B/div Ref 12.40 c 240 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.60 1 1 7.61 1 1 7.62 1 1 7.63 1 1 7.64 1 1 7.65 1 1 7.60 1 1 7.61 1 1 7.62 1 1 7.64 1 1 7.65 1 1 7.66 1 1 7.61 1 1 7.62 1 1 7.63 1 1 7.64 1 1	AC AC AC AC AC F F F F F F F F F F F F F	SENSE:INT PNO: Fast Gain:Low	DH1 2480MHz	Emission rpe: Log-Pwr id: 10/10 Mk	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE M WWW DET P NNNN r1 2.480 2 GH2 -0.207 dBm -10 53 dBm -10 50 dBm
RL RF 50 Ω Ref Offset 2.4 Conter Freq 13.26500 Ref Offset 2.4 Conter Freq 13.26500 Conter Freq 12.400 Conter Freq 14.400 Conter Freq14.400 <td>AC 00000 GHz F 000000 GHz F 10 dB 10 dB</td> <td>SENSE:INT] PNO: Fast → Trig: F Gain:Low → Trig: F #Atter 5 5 4 4 4 4 4 4 4 4 4 4 4</td> <td>DH1 2480MHz</td> <td>Emission rpe: Log-Pwr id: 10/10 Mk</td> <td>05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MULTING DET P NNNN r1 2.480 2 GH2 -0.207 dBm -19 53 @ Stop 26.50 GH7 2.530 s (30001 pts NVALUE</td>	AC 00000 GHz F 000000 GHz F 10 dB 10 dB	SENSE:INT] PNO: Fast → Trig: F Gain:Low → Trig: F #Atter 5 5 4 4 4 4 4 4 4 4 4 4 4	DH1 2480MHz	Emission rpe: Log-Pwr id: 10/10 Mk	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MULTING DET P NNNN r1 2.480 2 GH2 -0.207 dBm -19 53 @ Stop 26.50 GH7 2.530 s (30001 pts NVALUE
Agilent Spectrum Analyzer - Swep RL RF S0 Ω center Freq 13.2650 Ref Offset 2.4 0 dB/div Ref 12.40 c 2.40 1 1 7 1 1 7 1 1 7 1 1 1 7 1 1 1 7 1 1 1 7 1 1 1 7 1 1 1	AC 00000 GHz F 000000 GHz F 10 dB 10 dB	SENSE:INT] PNO: Fast → Trig: F Gain:Low → Trig: F #Atter 5 5 4 4 4 4 4 4 4 4 4 4 4	DH1 2480MHz	Emission rpe: Log-Pwr id: 10/10 Mk	05:19:20 PM Aug 13, 202 TRACE 1 2 3 4 5 TYPE MULTING DET P NNNN r1 2.480 2 GH2 -0.207 dBm -10 53 dBm -10 53 dBm Stop 26.50 GH2 2.530 s (30001 pts NVALUE

Edition: A.5



RL RF 50 Ω enter Freq 2.40200	00000 GHz		rig: Free Run Atten: 20 dB	ALIGN AUTO Avg Typ Avg Hold	e: Log-Pwr : 100/100	05:20:35 PM Aug 13, 3 TRACE 1 2 3 4 TYPE MWWW DET P N N N
Ref Offset 2.3	34 dB	FGain:Low #	Atten: 20 dB		Mkr1	2.401 834 50 G 0.455 dE
dB/div Ref 12.34 c	IBm					0.455 GE
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enter 2.4020000 GHz						Span 1.500 M
Res BW 100 kHz		#VBW 3	00 kHz			
					sweep	2.000 ms (30001 p
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Agilent Spectrum Analyzer - Swep		ous NVNT :	2-DH1 24	402MHz I	Emission	
Agilent Spectrum Analyzer - Swep RL RF 50 Ω	at SA AC AC AC AC AC AC AC AC AC AC AC AC AC		2-DH1 24	402MHz	Emission	
Agilent Spectrum Analyzer - Sweg RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.3	AC A		2-DH1 24	402MHz [Align auto Avg Typ	Emission E: Log-Pwr : 10/10	05:21:07 PMAug 13, TRACE 12 2 4 TYPE M OET PNNN OET PNNN
Agilent Spectrum Analyzer - Swee RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.3 dB/div Ref 12.34 d	AC A		2-DH1 24	402MHz [Align auto Avg Typ	Emission E: Log-Pwr : 10/10	05:21:07 PM kug 13, TRACE 12 23 TYPE MWW DET P NNN
Agilent Spectrum Analyzer - Swee RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.3 dB/div Ref 12.34 (9 	AC A		2-DH1 24	402MHz [Align auto Avg Typ	Emission E: Log-Pwr : 10/10	05:21:07 PM Aug 13; TRACE 12:3 4 TYPE MANN DET P NM Mkr1 2:401 7 GI -5:425 dB
Agilent Spectrum Analyzer - Swee RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.3 dB/div Ref 12.34 (34	AC A		2-DH1 24	402MHz [Align auto Avg Typ	Emission E: Log-Pwr : 10/10	05:21:07 PMAug 13, TRACE 12 2 4 TYPE M OET PNNN OET PNNN
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Agilent Spectrum Analyzer - Swee RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.3 dB/div Ref 12.34 (9 34 56 57 77 77 77 77 77 77 77 77 77	AC AC D00000 GHz B4 dB Bm	DUS NVNT	2-DH1 24	402MHz [Align auto Avg Typ	Emission E: Log-Pwr : 10/10	05:21:07 PM Aug 13; TRACE 12:3 4 TYPE MANN DET P NM Mkr1 2:401 7 GI -5:425 dB
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Agilent Spectrum Analyzer - Swee RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.3 dB/div Ref 12.34 d 9 34 66 77 77 77 77 77 77 77 77 77	AC 000000 GHz F	PNO: Fast - T FGain:Low / T SENSI	2-DH1 2: EINT rig: Free Run Atten: 20 dB	402MHz [Align auto Avg Typ	Emission E Log-Pwr : 10/10	05:21:07 PM Aug 13, TRACE 12 2 4 TYPE MUNITS, OCT P NNN Mkr1 2.401 7 GL -5.425 dB
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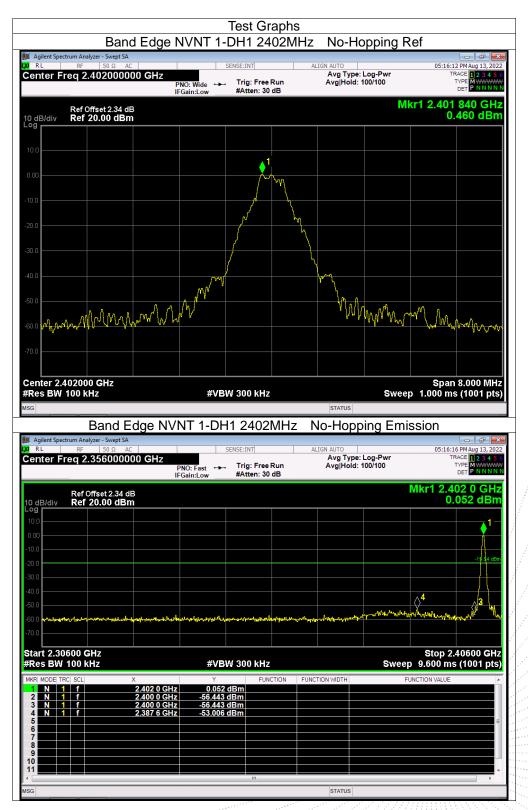


Agilent Spectrum Analyzer - Swe R L RF 50 Ω		SENSE:	INT	ALIGN AUTO		05:22:05 PM /	Aug 13, 20
enter Freq 2.44100	00000 GHz	NO:Wide Tri	ig: Free Run .tten: 20 dB	Avg Ty	pe: Log-Pwr d: 100/100	TRACE	1 2 3 4 M P N N N
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Agilent Spectrum Analyzer - Swe RL RF 50 Ω	pt SA AC	DUS NVNT 2	2-DH1 24	441MHz Align auto	Emission	05-22-35 DM	
Agilent Spectrum Analyzer - Swe RL RF 50 Ω	pt SA AC 000000 GHz	DUS NVNT 2	2-DH1 24	441MHz Align auto	Emission	05:22:35 PM/ TRACE	
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enter Freq 13.2650 Ref Offset 2.	pt SA AC 000000 GHz II 36 dB	DUS NVNT 2	2-DH1 24	441MHz Align Auto Avg Tyj	Emission	05:22:35 PM TRACE TYPE DET Mkr1 2.440	aug 13, 20 12 3 4 3 9 N N N 5 GH 3 dBr
Agilent Spectrum Analyzer - Swee RL RF 50 Ω enter Freq 13.2650 Ref Offset 2. 0 dB/div Ref 12.36 9 9 136 64 7.6 7.6	pt SA AC D000000 GHz II 36 dB dBm	DUS NVNT 2 SENSE: PNO: Fast → Tri FGain:Low → #A	2-DH1 24	441MHz Align Auto Avg Tyj	Emission	05:22:35 PM TRACE TYPE DET Mkr1 2.440	aug 13, 20 12 3 4 3 9 N N N 5 GH 3 dBr
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Aglent Spectrum Analyzer - Swe RL RF 50 Q enter Freq 13.2650 dB/div Ref 12.36 g g g g g g g g g g g g g	pt SA AC DODODOO GHZ 36 dB dBm 33 dB 33 dB 40 dB 40 40 dB 40	PNO: Fast	2-DH1 24 INT ig: Free Run tten: 20 dB	441MHz Align Auto Avg Tyj	Emission De: Log-Pwr d: 10/10 De: Log-Pwr d: 10/10 Swe	05:22:35 PM/ TRACE DET Mkr1 2,440 0.583	2 3 4 3 20 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 2 3 4 3 4
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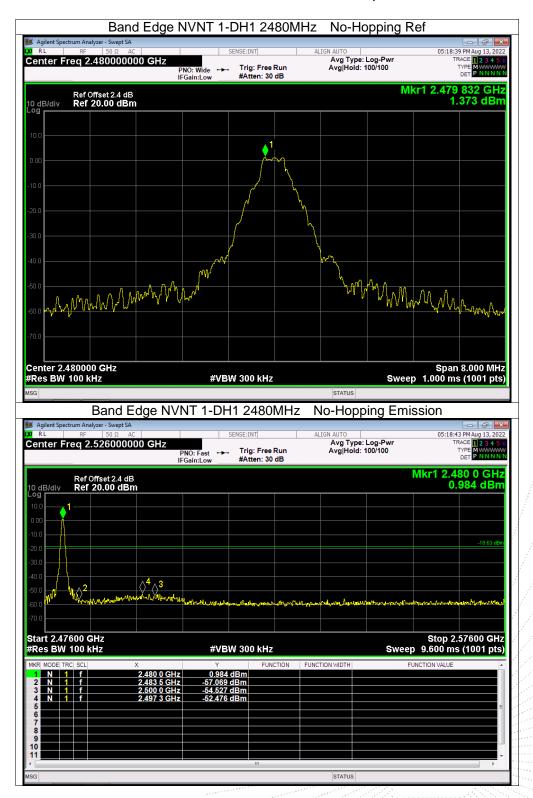
Agilent Spectrum Analyzer - Swe R L RF 50 Ω		L other t	arl i -			05:22:10 DM Ave 12:20
RL RF 50Ω enter Freq 2.48000	00000 GHz	SENSE:II	IT A	LIGN AUTO Avg Type: L Avg Hold: 10	.og-Pwr	05:23:19 PM Aug 13, 20 TRACE 1 2 3 4 TYPE M WWWW DET P N N N
			ten: 20 dB	Avginola. 10		
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enter 2.4800000 GH; Res BW 100 kHz	2	#VBW 300) kHz		Sweep 2.	Span 1.500 MH 000 ms (30001 pt
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				STATUS		
	Tx. Spuric	ous NVNT 2-	-DH1 24801		nission	
RL RF 50 Ω	pt SA AC	DUS NVNT 2-				05:23:50 PM Aug 13, 20
RL RF 50 Ω	pt SA AC 000000 GHz	SENSE:11 PNO: Fast Trig	IT A	MHz En	.og-Pwr	05:23:50 PM Aug 13, 20 TRACE 12.34
RL RF 50 Ω enter Freq 13.2650	pt SA AC 0000000 GHz II	SENSE:II	A Tr	MHZ En	.og-Pwr D/10	05:23:50 PM Aug 13, 20 TRACE 1 2 3 4 9 TYPE MWWW DET P N N N
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RL RF 50 Ω enter Freq 13.265(Ref 0ffset2. 0 dB/div Ref 0ffset2. 0 dB/div Ref 12.40 (0 dB/div Ref 12.40 (pt SA AC DO00000 GHz I I 4 dB	SENSE:11 PNO: Fast Trig	IT A	MHZ En	.og-Pwr D/10	05:23:50 PM Aug 13, 20 TRACE 12:34: TYPE WWWW DET NNNN Cr1 2.480 2 GH -5.004 dBt
RL RF 50 Ω enter Freq 13.265(Ref Offset 2.4 0 dB/div Ref 12.40 0 24 1 60 7.6 7.6 1	pt SA AC 0000000 GHz I 4 dB dBm	SENSE:IT PNO: Fast →→ Trig FGain:Low #At	IT A	MHZ En	.og-Pwr D/10	05:23:50 PM Aug 13, 20 TRACE 12:34: TYPE WWWW DET NNNN Cr1 2.480 2 GH -5.004 dBt
enter Freq 13.2650 Ref Offset 2.4	pt SA AC DO00000 GHz I I 4 dB	SENSE:IT PNO: Fast ↔ Trig FGain:Low #Att	IT A	MHZ En	.og-Pwr D/10	05:23:50 PM Aug 13, 20 TRACE 12: 34 TYPE WWWW DET NNNI Cr1 2.480 2 GH -5.004 dBI
RL RF 50 Ω enter Freq 13.265(Ref Offset 2.40 0 dB/div Ref 12.40 € 240 1 7.6 1 7.7.6 1	pt SA AC 0000000 GHz I 4 dB dBm	SENSE:IT PNO: Fast →→ Trig FGain:Low #At	IT A	MHZ En	.og-Pwr D/10	05:23:50 PM Aug 13, 20 TRACE 12: 34 TYPE WWWW DET NNNI Cr1 2.480 2 GH -5.004 dBI
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RL RF 50 Ω enter Freq 13.265(Ref Offset 2.4 0 dB/div Ref 12.40 d 2.40 1 60 1 7.6 1 7.6 1 7.6 1 7.6 1 7.6 1 7.6 1 7.6 1 7.6 1	pt SA AC 0000000 GHz I 4 dB dBm	SENSE:IT PNO: Fast →→ Trig FGain:Low #At	IT A	MHz En	.og-Pwr D/10	
RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.40 0 dB/div Ref 12.40 d 0 dB/div Ref 12.40 d 1 1 60 1 7.6 1 7.7 1 7.8 1 7.9 1 7.9 1 <t< td=""><td>pt SA AC 0000000 GHz I 4 dB dBm</td><td>PNO: Fast FGain:Low #Att</td><td>xT A</td><td>MHz En</td><td>.og-Pwr)/10 MIK</td><td>05:23:50 PMAug 13, 20 TRACE III 2:3 4 TYPE M WWW DET P NNNN cr1 2.480 2 GH -5.004 dBr -18:53 d -18:53 d Stop 26.50 GH</td></t<>	pt SA AC 0000000 GHz I 4 dB dBm	PNO: Fast FGain:Low #Att	xT A	MHz En	.og-Pwr)/10 MIK	05:23:50 PMAug 13, 20 TRACE III 2:3 4 TYPE M WWW DET P NNNN cr1 2.480 2 GH -5.004 dBr -18:53 d -18:53 d Stop 26.50 GH
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RL RF 50 ft enter Freq 13.265(Ref Offset 2.40 ft Ref Offset 2.40 ft 0 dB/div Ref 12.40 ft Ref 0 7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 7.7.6 1 1 8 N 10 KHz 1 8 N 1 f 1 3 N 1 f 1 5 1 f 1	pt SA AC D000000 GHz 4 dB dBm 4 dB dBm 4 dB 4 dB 4 dB 4 dB 4 dB 4 dB 4 dB 4 dB	SENSE:II PNO: Fast FGain:Low → #Att	IT A	HIZ En	.og-Pwr 0/10 Mł	05:23:50 PMAug 13, 20 TRACE JI 2:3 -1 TYPE M 0 -5.004 dBr -10:53 d -10:53 d Stop 26.50 GH 2.530 s (30001 pt
RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.40 (Ref Offset 2.40	pt SA AC D000000 GHz 4 dB dBm 4 dB dBm 4 dB 4 dB 4 dB 4 dB 4 dB 4 dB 4 dB 4 dB	SENSE:II PNO: Fast FGain:Low → #Att	IT A	HIZ En	.og-Pwr 0/10 Mł	05:23:50 PMAug 13, 20 TRACE [] 2 3 4 TYPE M DET P NNN Cr1 2.480 2 GH -5.004 dB -19 53 d -19 53 d Stop 26.50 GH 2.530 s (30001 pt



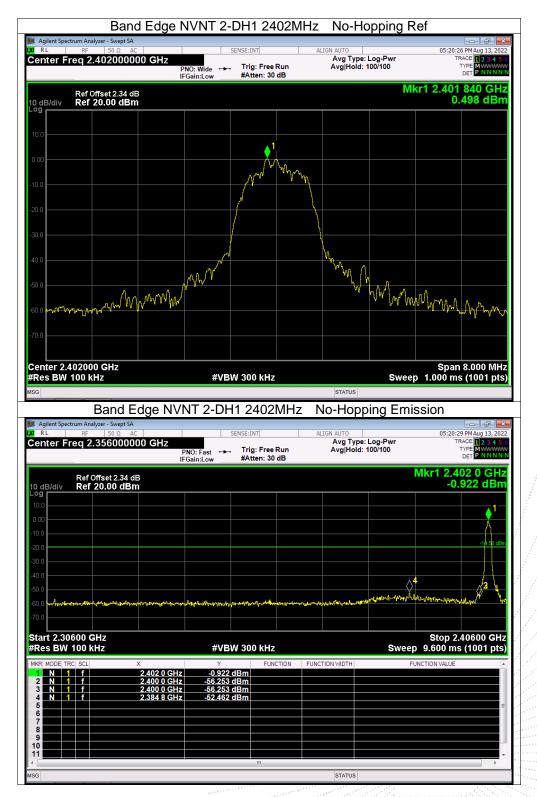


Edition : A.5

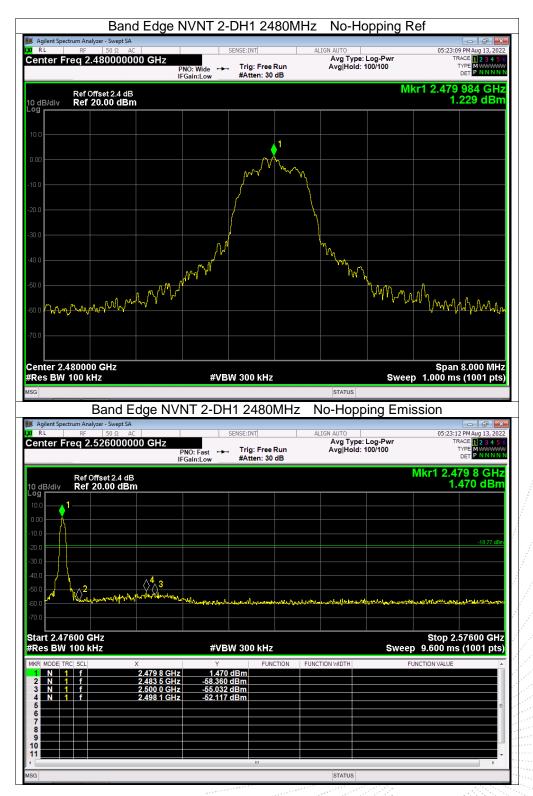














0 GHz PM IFC	NO: Wide Gain:Low	ENSE:INT Trig: Free #Atten: 30		D2MHz	Log-Pwr 2000/2000	05:25: kr1 2.40 0	0.508 dBr
	NO: Wide Gain:Low MM MM MM #VBV	Trig: Free #Atten: 30		Avg Type: Avg Hold: :		kr1 2.400 0	TRACE [] 2 3 4 5 DET D 12 3 4 5 DET D 12 9 1 5 DET D 12 5 DET D 12
	Gain:Low	#Atten: 30				O A A Span 1.000 m	5 840 GH
						O A A Span 1.000 m	0.508 dBr
					Swee	Span p 1.000 m	n 8.000 MH
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Edition : A.5



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Edition: A.5



10. 20 dB Bandwidth

10.1 Block Diagram Of Test Setup



10.2 Limit

N/A

10.3 Test procedure

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

7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

10.4 Test Result

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	0.865	Pass
NVNT	1-DH1	2441	0.822	Pass
NVNT	1-DH1	2480	0.862	Pass
NVNT	2-DH1	2402	1.248	Pass
NVNT	2-DH1	2441	1.245	Pass
NVNT	2-DH1	2480	1.287	Pass















11. Maximum Peak Output Power

11.1 Block Diagram Of Test Setup



11.2 Limit

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

11.3 Test procedure

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

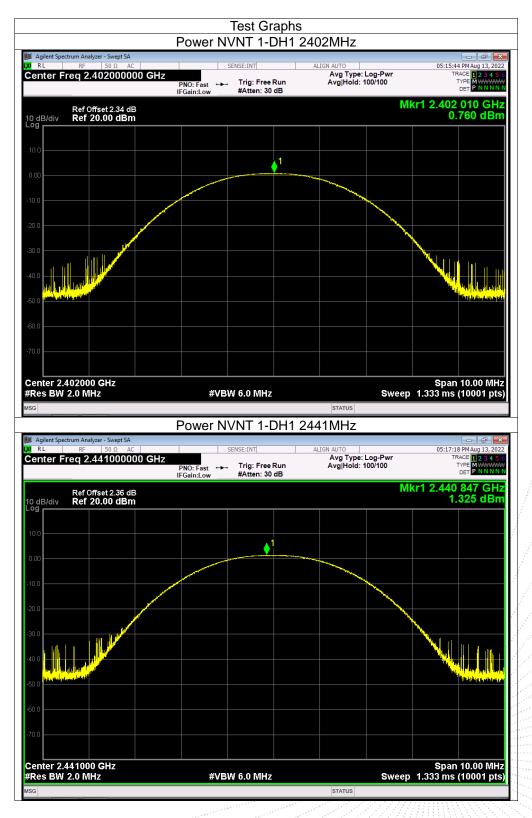
2. Set the spectrum analyzer: RBW = 2MHz. VBW = 6MHz. Sweep = auto; Detector Function = Peak.

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

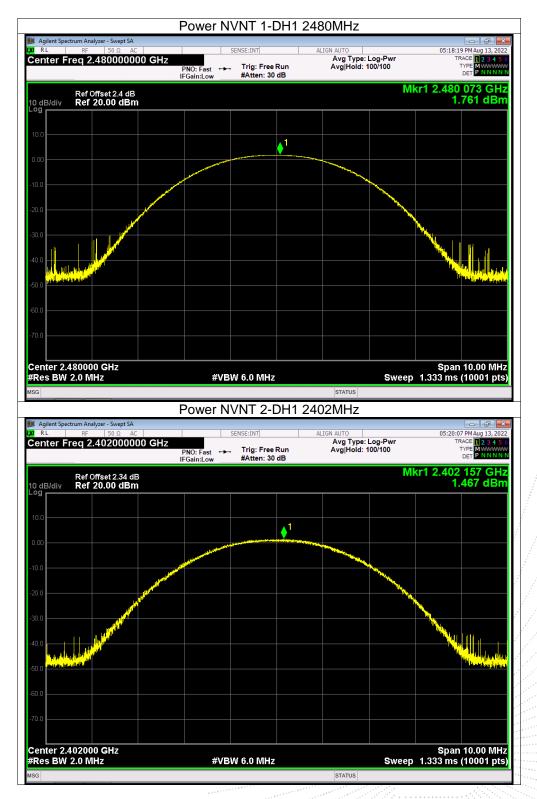
11.4 Test Result

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	0.76	21	Pass
NVNT	1-DH1	2441	1.33	21	Pass
NVNT	1-DH1	2480	1.76	21	Pass
NVNT	2-DH1	2402	1.47	21	Pass
NVNT	2-DH1	2441	2.08	21	Pass
NVNT	2-DH1	2480	2,46	21	Pass

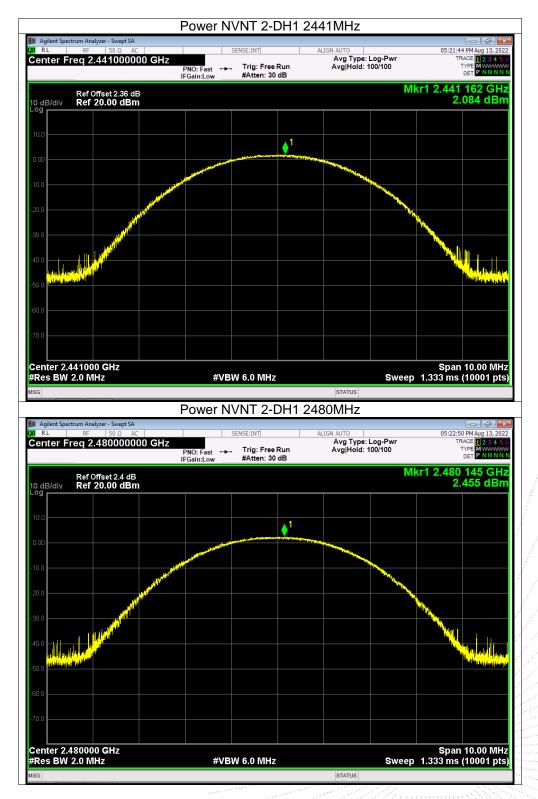














12. Hopping Channel Separation

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	2401.83	2402.828	0.998	0.865	Pass
NVNT	1-DH1	2440.83	2441.83	1.000	0.822	Pass
NVNT	1-DH1	2478.83	2479.828	0.998	0.862	Pass
NVNT	2-DH1	2401.83	2402.83	1.000	0.832	Pass
NVNT	2-DH1	2440.83	2441.83	1.000	0.830	Pass
NVNT	2-DH1	2478.83	2479.83	1.000	0.858	Pass

12.4 Test Result



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RL RF 50 enter Freq 2.402	ο Ω AC 500000 GHz	SENSE:INT	ALIGN AUT Avg Pe Run Avg	ro g Type: Log-Pwr Hold:>100/100	05:39:15 PM Aug 13, 20 TRACE 1 2 3 4 5 TYPE M WARAW
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Agilent Spectrum Analyzer - S	wept SA D Ω AC 500000 GHz	CFS NVNT 1-I	DH1 2441MH	TZ To g Type: Log-Pwr	05:39:30 PM Aug 13, 20 TRACE
Agilent Spectrum Analyzer - S	wept SA) Ω AC 500000 GHz P	CFS NVNT 1-I	DH1 2441MH ALIGN AUT AVG ee Run AVG	1Z 70 g Type: Log-Pwr Hold:>100/100	05:39:30 PM aug 13, 20 TRACE 12, 3, 4 TYPE Monitor DET P.NNM
Agilent Spectrum Analyzer - S RL RF Sc enter Freq 2.441 Ref Offset	wept SA D Ω AC 5000000 GHz P II 2.36 dB		DH1 2441MH ALIGN AUT AVG ee Run AVG	1Z 70 g Type: Log-Pwr Hold:>100/100	05:39:30 PM Aug 13, 20 TRACE 12, 23 4 TYPE MANN DET P.N.N.N Cr1 2.440 830 GH
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Agilent Spectrum Analyzer -5 RL RF 50 enter Freq 2.441 dB/div Ref 20.00	wept SA D Ω AC 5000000 GHz P II 2.36 dB		DH1 2441MH ALIGN AUT AVG ee Run AVG	1Z 70 g Type: Log-Pwr Hold:>100/100	05:39:30 PM Aug 13, 20 TRACE 12, 23 4 TYPE MANN DET P.N.N.N Cr1 2.440 830 GH
Agilent Spectrum Analyzer -5 RL RF 50 enter Freq 2.441: dB/div Ref 20.00	wept SA D Ω AC 5000000 GHz P II 2.36 dB		DH1 2441MH ALIGN AUT AVG ee Run AVG	1Z g Type: Log-Pwr Hold:>100/100 Mł	05:39:30 PM Aug 13, 20 TRACE 12, 23 4 TYPE MANN DET P.N.N.N Cr1 2.440 830 GH
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		S NVNT 2-DH1		
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RL RF 50 S	ept SA 2 AC 00000 GHz	SENSE:INT Nide D Trig: Free Run	2402MHz	05:40:16 PM Aug 13, 202
enter Freq 2.4025	ept SA 2 AC 00000 GHz PNO: V IFGain	SENSE:INT Nide D Trig: Free Run	2402MHz	05:40:16 PM Aug 13, 20: TRACE 1 2 3 4 5 TYPE MWWWW DET PNNNN MKr1 2.401 830 GH
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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

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		ping No.			244 1 1011	12		
Agilent Spectrum Analyz RL RF Enter Freq 2.4	50 Ω AC 41750000 GHz	PNO: Fast	Trig: Free R #Atten: 30 c	tun	LIGN AUTO Avg Type: Avg Hold:	Log-Pwr >100/100	05:2	26:36 PM Aug 13, 20 TRACE 1 2 3 4 5 TYPE WWWW DET PNNN
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R MODE TRC SCL	× <u>2.401 837 0 GHz</u> 2.479 993 0 GHz	Y 0.445 d 0.728 d		TION FUNC	TION WIDTH	l	FUNCTION VALU	JE
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9 D 1								
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Agilent Spectrum Analyz		ping No.	NVNT	2-DH1		Ηz		
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RL Ref Of dB/div Ref 2	zer - Swept SA 50 Ω AC I41750000 GHz F IF Fset 2.36 dB	SE PNO: Fast Gain:Low	Trig: Free R #Atten: 30 c	lun IB	2441MH	Log-Pwr >100/100 Mkr	1 2.401 -	33:25 PMAug 13, 20: TRACE 1 2 3 4 5 TYPE WWWWW DET PNNNN 503 0 GH 6.087 dBn
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RL Ref Of dB/div Ref 2	zer - Swept SA 50 Ω AC I41750000 GHz F fset 2.36 dB 0.00 dBm	SE PNO: Fast Gain:Low	Trig: Free R #Atten: 30 c	lun IB	2441MH	Log-Pwr >100/100 Mkr	1 2.401 -	3:25 PM Jug 13, 20 TRACE 12 2 4 5 TYPE DET DET NNNN 503 0 GH 6.087 dBn 2 AAAAAA 2 AAAAAAAAAAAAAAAAAAAAAAAAAA
RL Ref Of dB/div Ref 2 g db/div Ref 2 db/div Ref 2 db/di db/div Ref 2 db/div Ref 2 db/div Ref 2 db/div Ref 2 db/div Ref 2	2er - Swept SA 50 Q AC 141750000 GHz fset 2.36 dB 0.00 dBm MANN/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M	PNO: Fast Gain:Low	INSE:INT Trig: Free R #Atten: 30 d	lun IB	2441MH	Log-Pwr >100/100 Mike	1 2.401 	3:25 PMA01 3. 20 TRACE 12.3.45 TYPE 0.2.3.45 DET P. NNNN 5033 0 GH 6.087 dBr 2.48350 GH
RL Ref Of dB/div Ref 2 g g dB/div Ref 2 g db/div Ref 2 g db/di db/div Ref 2 g db/div Ref 2 g db/div Ref 2 g db/di db/div	2er - Swept SA 50 Q AC 141750000 GHz F fset 2.36 dB 0.00 dBm MUNNNNNNNNN 12 12 12 12 12 12	PNO: Fast Gain:Low WWWWWWW #VBW	INSE:INT Trig: Free R #Atten: 30 d Add then: 30 d Add then	Lun IB NAMAN	2441MH	Log-Pwr 100/100 Mkr	1 2.401 	3:25 PMA01 3. 20 TRACE [] 2.3 4 5 TYPE D. 10 4 1 503 0 GH 6.087 dBn
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14. Dwell Time

14.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

14.2 Limit

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

14.3 Test procedure

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

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

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

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

14.4 Test Result

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

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

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

DH5:1600/79/6*0.4*79*(MkrDelta)/1000	
DH3:1600/79/4*0.4*79*(MkrDelta)/1000	
DH1:1600/79/2*0.4*79*(MkrDelta)/1000	
Remark: Mkr Delta is once pulse time.	

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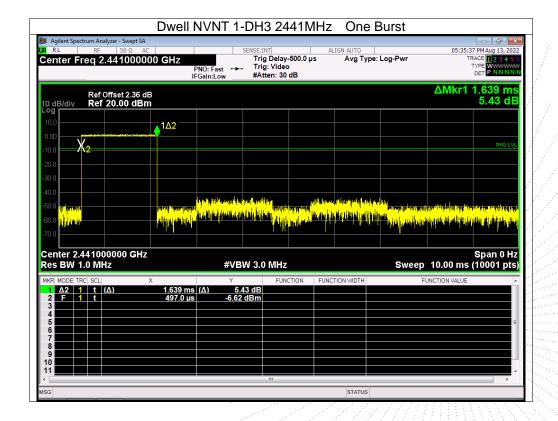
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.382	121.094	400	Pass
NVNT	1-DH3	2441	1.639	272.074	400	Pass
NVNT	1-DH5	2441	2.886	331.890	400	Pass
NVNT	2-DH1	2441	0.392	123.480	400	Pass
NVNT	2-DH3	2441	1.644	261.396	400	Pass
NVNT	2-DH5	2441	2.890	317.900	400	Pass

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				Test Gr					
		Dwell N	NVNT 1-[DH1 24	141MHz	One I	Burst		
URL F	Analyzer - Swept SA RF 50 Ω AC 2.4410000	00 GHz	PNO: Fast Gain:Low	ENSE:INT Trig Delay Trig: Video #Atten: 30	-500.0 µs	IGN AUTO Avg Type:	Log-Pwr	TF	2 PM Aug 13, 20 RACE 1 2 3 4 5 TYPE WWWWW DET PNNN
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40.0 50.0	1000000 GHz MHz	× 382.0 µs	#VB₩ (Δ) -2.94	V 3.0 MHz		n di li an di	Sweep	10.00 ms	Span 0 H





	Dwell NVNT 1-D	DH5 2441MH	z One Burs	st
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Dweil	NVNT 2-D	TO 244 II	Inz One	Burst	
Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC		SE:INT Trig Delay-500.0	ALIGN AUTO	e: Log-Pwr	05:38:02 PM Aug 13, 2 TRACE 1234
	PNO: Fast ↔	Trig: Video #Atten: 30 dB	µs Avgiyp	e: Log-Pwr	TYPE WWWW DET P NNN
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Edition: A.5



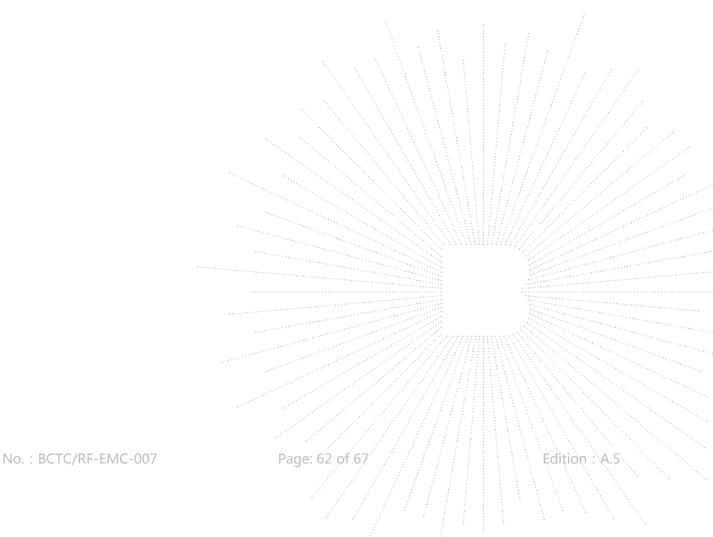
15. Antenna Requirement

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 Laminated Ceramic Antenna, fulfill the requirement of this section.





16. EUT Photographs



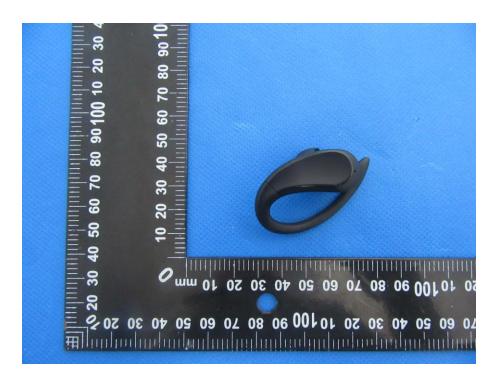


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NOTE: Appendix-Photographs Of EUT Constructional Details

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17. EUT Test Setup Photographs

Conducted emissions

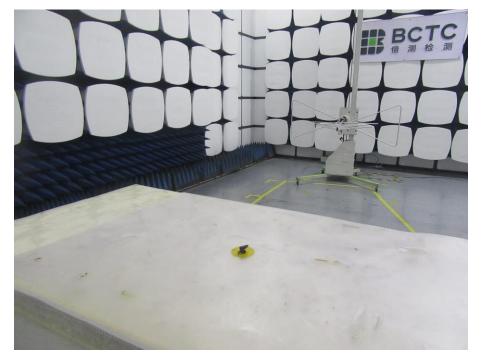


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Radiated Measurement Photos





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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 test report without CMA mark is only used for scientific research, teaching, enterprise product development and internal quality control purposes.

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

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

Address:

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

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website : http://www.chnbctc.com

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

***** END *****

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