Radio Test Report

Report No.:STS2312145W02

Issued for

BTECH (Baofeng Tech)

702N industrial Ave Arlington, SD 57212, US

Product Name:	Bluetooth Speaker Microphone
Brand Name:	BTECH
Model Name:	BS-22
Series Model(s):	N/A
FCC ID:	2AGND-BS-22
Test Standards:	FCC Part15.247

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.



TEST REPORT

Applicant's Name:	BTECH (Baofeng Tech)
Address:	702N industrial Ave Arlington, SD 57212, US
Manufacturer's Name	BTECH (Baofeng Tech)
Address	702N industrial Ave Arlington, SD 57212, US
Product Description	
Product Name:	Bluetooth Speaker Microphone
Brand Name:	BTECH
Model Name:	BS-22
Series Model(s):	N/A
Test Standards	FCC Part15.247
Test Procedure:	ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

Date of Test.....

Date of receipt of test item: 22 Dec. 2023

Date (s) of performance of tests .: 22 Dec. 2023 ~ 09 Jan. 2024

Date of Issue: 09 Jan. 2024

Test Result Pass

Testing Engineer

Jan Bu

(Aaron Bu)

Technical Manager

cher

(Chris Chen)



Authorized Signatory :

(Bovey Yang)



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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	09 Jan. 2024	STS2312145W02	ALL	Initial Issue
			9	9





1. SUMMARY OF TEST RESULTS

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

FCC Part 15.247,Subpart C				
Standard Section	Judgment	Remark		
15.207	Conducted Emission	PASS		
15.247(a)(1)	Hopping Channel Separation	PASS		
15.247(a)(1)&(b)(1)	Output Power	PASS		
15.209	Radiated Spurious Emission	PASS		
15.247(d)	Conducted Spurious & Band Edge Emission	PASS	-	
15.247(a)(1)(iii)	Number of Hopping Frequency	PASS		
15.247(a)(1)(iii)	Dwell Time	PASS		
15.247(a)(1)	Bandwidth	PASS		
15.205	Restricted bands of operation	PASS		
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS	-	
15.203	Antenna Requirement	PASS	9	

NOTE:

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

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



1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China FCC test Firm Registration Number: 625569 IC test Firm Registration Number: 12108A A2LA Certificate No.: 4338.01

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1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	RF output power, conducted	±0.755dB
2	Unwanted Emissions, conducted	±2.874dB
3	All emissions, radiated 9K-30MHz	±3.80dB
4	All emissions, radiated 30M-1GHz	±4.18dB
5	All emissions, radiated 1G-6GHz	±4.90dB
6	All emissions, radiated>6G	±5.24dB
7	Conducted Emission (9KHz-150KHz)	±2.19dB
8	Conducted Emission (150KHz-30MHz)	±2.53dB
9	Occupied Channel Bandwidth	±3.5%
10	Duty Cycle	±3.2%



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Bluetooth Speaker Microphone
Brand Name	втесн
Model Name	BS-22
Series Model(s)	N/A
Model Difference	N/A
Channel List	Please refer to the Note 3.
Bluetooth	Frequency:2402 – 2480 MHz Modulation: GFSK(1Mbps), π/4-DQPSK(2Mbps), 8DPSK(3Mbps)
Bluetooth Configuration	BR+EDR
Antenna Type	РСВ
Antenna Gain	1.6 dBi
Rating	Input: DC 5V
Battery	Rated Voltage:3.7V Charge Limit Voltage:4.2 Capacity: 1200
Hardware version number	N/A
Software version number	N/A
Connecting I/O Port(s)	Please refer to the Note 1.
	•

Note:

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



3.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		



2.2 DESCRIPTION OF THE TEST MODES

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

Worst Mode	Description	Data Rate/Modulation
Mode 1	TX CH00	1Mbps/GFSK
Mode 2	TX CH39	1Mbps/GFSK
Mode 3	TX CH78	1Mbps/GFSK
Mode 4	TX CH00	2 Mbps/π/4-DQPSK
Mode 5	TX CH39	2 Mbps/π/4-DQPSK
Mode 6	TX CH78	2 Mbps/π/4-DQPSK
Mode7	TX CH00	3 Mbps/8DPSK
Mode 8	TX CH39	3 Mbps/8DPSK
Mode 9	TX CH78	3 Mbps/8DPSK
Mode 10	Hopping	GFSK
Mode 11	Hopping	π/4-DQPSK
Mode 12	Hopping	8DPSK

Note:

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

(2) We tested for all available U.S. voltage and frequencies (For 120V, 50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/ 60Hz is shown in the report.

(3) The battery is fully-charged during the radiated and RF conducted test.

For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 13 : Keeping BT TX

2.3 FREQUENCY HOPPING SYSTEM REQUIREMENTS

(1)Standard and Limit

According to FCC Part 15.247(a)(1), The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

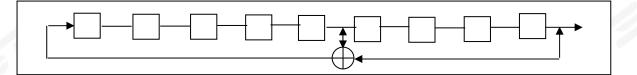


The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hop sets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

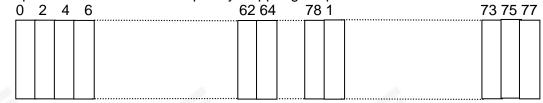
(2)The Pseudorandom sequence may be generated in a nin-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones: i.e. the shift register is initialized with nine ones.

Numver of shift register stages:9

Length of pseudo-random sequence:29-1=511bits Longest sequence of zeros: 8(non-inverted signal)



Liner Feedback Shift Register for Generator of the PRBS sequence An example of Pseudorandom Frequency Hoppong Sequence as follow:



Each frequency used equally on the average by each transmitter. The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies ini synchronization with the transmitted signals.

(3)Frequency Hopping System

This transmitter device is frequency hopping device, and complies with FCC part 15.247 rule.

This device uses Bluetooth radio which operates in 2400-2483.5 MHz band. Bluetooth uses a radio technology called frequency-hopping spread spectrum, which chops up the data being sent and transmits chunks of it on up to 79 bands (1 MHz each; centred from 2402 to 2480 MHz) in the range 2,400-2,483.5MHz. The transmitter switches hop frequencies 1,600 times per second to assure a high degree of data security. All Bluetooth devices participating in a given piconet are synchronized to the frequency-hopping channel for the piconet. The frequency hopping sequence is determined by the master's device address and the phase of the hopping sequence (the frequency to hop at a specific time) is determined by the master's internal clock. Therefore, all slaves in a piconet must know the master's device address and must synchronize their clocks with the master's clock.

Adaptive Frequency Hopping (AFH) was introduced in the Bluetooth specification to provide an effective way for a Bluetooth radio to counteract normal interference. AFH identifies "bad" channels, where either other wireless devices are interfering with the Bluetooth signal or the Bluetooth signal is interfering with another device. The AFH-enabled Bluetooth device will then communicate with other devices within its piconet to share details of any identified bad channels. The devices will then switch to alternative available "good" channels, away from the areas of interference, thus having no impact on the bandwidth used.

This device was tested with a bluetooth system receiver to check that the device maintained hopping synchronization, and the device complied with these requirements FCC Part 15.247 rule.



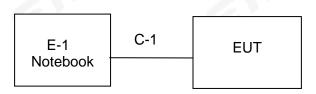
2.4 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

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 of FHSS.

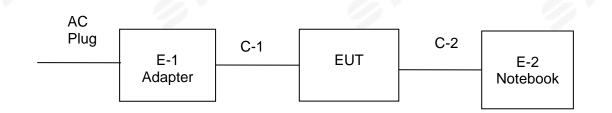
1	Т	est program: Bluetooth	
(Control software) Parameters(1/2/3Mbps)	Packet type: DH1:4:27 2DH1:20:54 3DH1:24:83	Packet type: DH3:11:183 2DH3:26:367 3DH3:27:552	Packet type: DH5:15:339 2DH5:30:679 3DH5:31:1021

RF Function	Туре	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
11		GFSK	1.6	5	
ВТ	BR+EDR	π/4-DQPSK	1.6	4	bt_tool_v1.1.2
		8DPSK	1.6	4	

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED Radiated Spurious Emission Test



Conducted Emission Test





2.6 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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

I	Necessary accessories					
	Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
	Adapter	HUAWEI	HW-050450C00	N/A	N/A
	USB Cable	N/A	N/A	110cm	NO
	Personal computer	DELL	Inspiron 14-3467	N/A	N/A
	USB Cable	N/A	N/A	150cm	NO

Note:

- (1) For detachable type I/O cable should be specified the length in cm in ^CLength₂ column.
- (2) "YES" is means "with core"; "NO" is means "without core".



2.7 EQUIPMENTS LIST

	RF Radia	tion Test Equipme	nt		
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2023.03.03	2024.03.02
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2023.02.28	2024.02.27
Pre-Amplifier(1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2023.09.26	2024.09.25
Pre-Amplifier(18G-40GHz)	SKET	LNPA_1840-50	SK2018101801	2023.03.06	2024.03.05
Active loop Antenna	ZHINAN	ZN30900C	16035	2023.02.28	2024.02.27
Bilog Antenna	TESEQ	CBL6111D	34678	2022.09.30	2024.09.29
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2023.09.24	2025.09.23
Horn Antenna	A-INFOMW	LB-180400-KF	J211020657	2023.10.10	2025.10.09
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2023.09.26	2024.09.25
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	SC100_1	60531	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC power supply	HONGSHENGFENG	DPS-305AF	17064939	2023.09.26	2024.09.25
Test SW	EZ-EMC		Ver.STSLAB-03	A1 RE	1
	Conduct	ion Test equipme	nt	- 20	
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2023.09.25	2024.09.24
LISN	R&S	ENV216	101242	2023.09.25	2024.09.24
LISN	EMCO	3810/2NM	23625	2023.09.25	2024.09.24
Temperature & Humidity	SW-108	SuWei	N/A	2023.03.03	2024.03.02
Test SW	EZ-EMC	Ver.STSLAB-03A1 CE			
1.7	RFC	Connected Test			1
Kind of Equipment	Manufacturer	Туре No.	Serial No.	Last calibration	Calibrated until
Signal Analyzer	Agilent	N9020A	MY51510623	2023.03.01	2024.02.28
Power Sensor	Keysight	U2021XA	MY55520005	2023.09.26	2024.09.25
Temperature & Humidity	SW-108	SuWei	N/A	2023.03.03	2024.03.02
Test SW	MW		MTS 8310_2.0	0.0.0	



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

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

	Conducted Emissionlimit (dBuV)		
FREQUENCY (MHz)	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	
0.50 -5.0	56.00	46.00	
5.0 -30.0	60.00	50.00	

Note:

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

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

The following table is the setting of the receiver

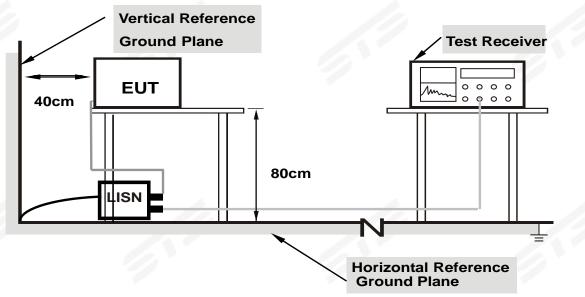
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



3.1.2 TEST PROCEDURE

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

3.1.3 TEST SETUP



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

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

3.1.4 EUT OPERATING CONDITIONS

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



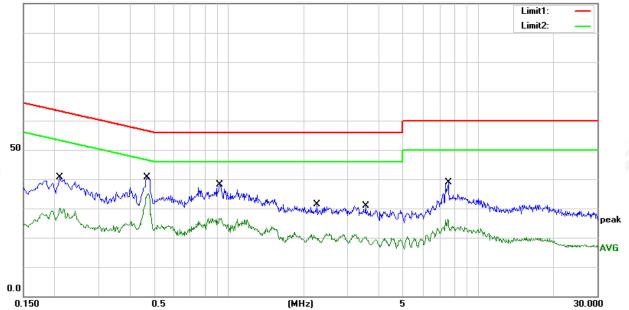
3.1.5 TEST RESULT

Temperature:	24.3(C)	Relative Humidity:	41%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 13	68	65

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.2100	20.78	19.80	40.58	63.21	-22.63	QP
2	0.2100	10.27	19.80	30.07	53.21	-23.14	AVG
3	0.4700	20.69	20.00	40.69	56.51	-15.82	QP
4	0.4700	15.01	20.00	35.01	46.51	-11.50	AVG
5	0.9220	18.40	19.77	38.17	56.00	-17.83	QP
6	0.9220	6.98	19.77	26.75	46.00	-19.25	AVG
7	2.2580	11.55	19.76	31.31	56.00	-24.69	QP
8	2.2580	1.57	19.76	21.33	46.00	-24.67	AVG
9	3.5460	11.09	19.80	30.89	56.00	-25.11	QP
10	3.5460	0.47	19.80	20.27	46.00	-25.73	AVG
11	7.6020	18.76	19.99	38.75	60.00	-21.25	QP
12	7.6020	6.42	19.99	26.41	50.00	-23.59	AVG

Remark:

- All readings are Quasi-Peak and Average values
 Margin = Result (Result =Reading + Factor)–Limit
 Factor=LISN factor+Cable loss+Limiter (10dB)





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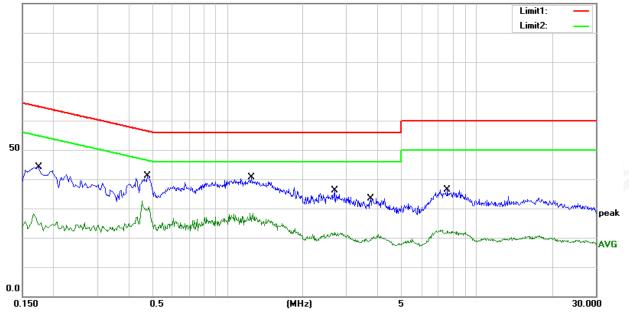
Temperature:	24.3(C)	Relative Humidity:	41%RH
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 13	17	1

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1740	24.44	19.77	44.21	64.77	-20.56	QP
2	0.1740	8.36	19.77	28.13	54.77	-26.64	AVG
3	0.4780	21.25	20.00	41.25	56.37	-15.12	QP
4	0.4780	12.57	20.00	32.57	46.37	-13.80	AVG
5	1.2460	20.84	19.76	40.60	56.00	-15.40	QP
6	1.2460	8.69	19.76	28.45	46.00	-17.55	AVG
7	2.6820	16.39	19.77	36.16	56.00	-19.84	QP
8	2.6820	2.07	19.77	21.84	46.00	-24.16	AVG
9	3.7420	13.63	19.80	33.43	56.00	-22.57	QP
10	3.7420	1.40	19.80	21.20	46.00	-24.80	AVG
11	7.6340	16.49	20.00	36.49	60.00	-23.51	QP
12	7.6340	2.51	20.00	22.51	50.00	-27.49	AVG

Remark:

- All readings are Quasi-Peak and Average values
 Margin = Result (Result =Reading + Factor)–Limit
- 3. Factor=LISN factor+Cable loss+Limiter (10dB)





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205 (a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed.

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)		
	PEAK	AVERAGE	
Above 1000	74	54	
Materia			

Notes:

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

- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RESTRICTED FREQUENCY BANDS

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



For Radiated Emission

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

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

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

For Restricted band

	Spectrum Parameter	Setting		
	Detector	Peak/AV		
	Start/Stop Frequency	Lower Band Edge: 2310 to 2410 MHz		
		Upper Band Edge: 2476 to 2500 MHz		
	RB / VB	1 MHz / 3 MHz(Peak)		
		1 MHz/1/T MHz(AVG)		



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

3.2.2 TEST PROCEDURE

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

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

3.2.3 DEVIATION FROM TEST STANDARD

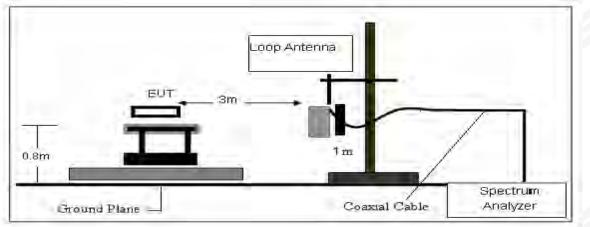
No deviation.



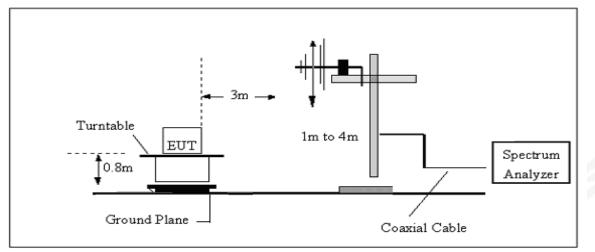
EV P

3.2.4 TESTSETUP

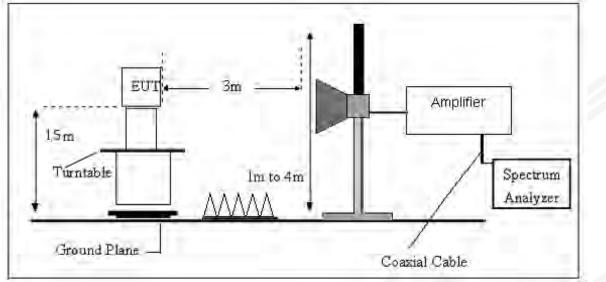
(A) Radiated Emission Test-Up Frequency Below 30MHz

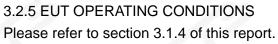


(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



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







3.2.6 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AGWhere FS = Field Strength CL = Cable Attenuation Factor (Cable Loss) RA = Reading Amplitude AG = Amplifier Gain AF = Antenna Factor

For example

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

Factor=AF+CL-AG











3.2.7 TEST RESULTS

(9KHz-30MHz)

Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 3.7V	Test Mode:	TX Mode

Freq.	Reading	Limit	Margin	State	Toot Dooult
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F	Test Result
					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.



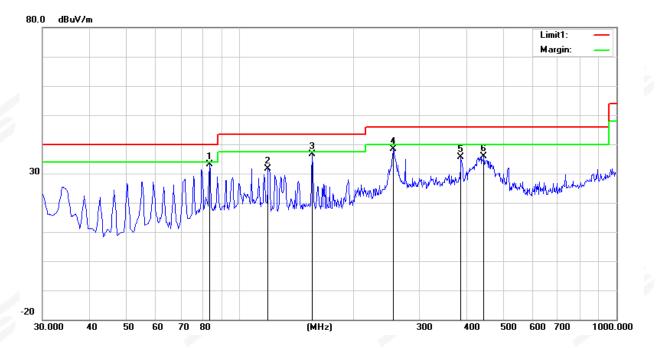
(30MHz-1000MHz)

Temperature:	23.1(C)	Relative Humidity:	60%RH		
Test Voltage:	DC 3.7V	Phase:	Horizontal		
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode 2 worst mode)				

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	83.3500	55.70	-22.52	33.18	40.00	-6.82	peak
2	119.2400	50.12	-18.38	31.74	43.50	-11.76	peak
3	156.1000	55.39	-18.66	36.73	43.50	-6.77	peak
4	256.0100	53.68	-15.24	38.44	46.00	-7.56	peak
5	386.9600	47.49	-11.79	35.70	46.00	-10.30	peak
6	445.1600	45.66	-9.87	35.79	46.00	-10.21	peak

Remark:

- 1. Margin = Result (Result = Reading + Factor)-Limit
- 2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain
- 3. All modes have been tested, only show the worst case.



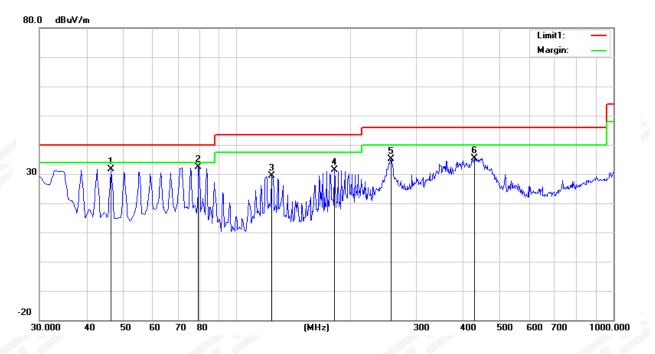


Report No.: STS2312145W02

Temperature:	23.1(C)	Relative Humidity:	60%RH		
Test Voltage:	DC 3.7V	Phase:	Vertical		
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode 2 worst mode)				

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	46.4900	53.04	-21.41	31.63	40.00	-8.37	peak
2	79.4700	55.61	-23.11	32.50	40.00	-7.50	peak
3	124.0900	47.73	-18.24	29.49	43.50	-14.01	peak
4	182.2900	51.46	-20.19	31.27	43.50	-12.23	peak
5	256.9800	50.34	-15.13	35.21	46.00	-10.79	peak
6	428.6700	45.61	-10.14	35.47	46.00	-10.53	peak
emark:			a L Eastar) Limit				

- 1. Margin = Result (Result = Reading + Factor)-Limit
- 2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain





(1GHz~25GHz) Spurious emission Requirements

Frequency	Meter Reading	Amplifier	Loss	Antenna Factor	Corrected Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
	• • • •		1.1	Low Cl	nannel (GFSK/	2402 MHz)	• • • • •	•	110	1977 - C.
3264.88	62.11	44.70	6.70	28.20	-9.80	52.31	74.00	-21.69	PK	Vertical
3264.88	50.45	44.70	6.70	28.20	-9.80	40.65	54.00	-13.35	AV	Vertical
3264.57	61.90	44.70	6.70	28.20	-9.80	52.10	74.00	-21.90	PK	Horizontal
3264.57	50.58	44.70	6.70	28.20	-9.80	40.78	54.00	-13.22	AV	Horizontal
4804.37	58.93	44.20	9.04	31.60	-3.56	55.37	74.00	-18.63	PK	Vertical
4804.37	49.30	44.20	9.04	31.60	-3.56	45.74	54.00	-8.26	AV	Vertical
4804.46	59.57	44.20	9.04	31.60	-3.56	56.01	74.00	-17.99	PK	Horizontal
4804.46	50.12	44.20	9.04	31.60	-3.56	46.56	54.00	-7.44	AV	Horizontal
5359.60	48.77	44.20	9.86	32.00	-2.34	46.43	74.00	-27.57	PK	Vertical
5359.60	40.24	44.20	9.86	32.00	-2.34	37.90	54.00	-16.10	AV	Vertical
5359.84	48.00	44.20	9.86	32.00	-2.34	45.66	74.00	-28.34	PK	Horizontal
5359.84	39.31	44.20	9.86	32.00	-2.34	36.97	54.00	-17.03	AV	Horizontal
7205.69	54.15	43.50	11.40	35.50	3.40	57.55	74.00	-16.45	PK	Vertical
7205.69	44.44	43.50	11.40	35.50	3.40	47.84	54.00	-6.16	AV	Vertical
7205.71	53.81	43.50	11.40	35.50	3.40	57.21	74.00	-16.79	PK	Horizontal
7205.71	43.77	43.50	11.40	35.50	3.40	47.17	54.00	-6.83	AV	Horizontal
				Middle 0	Channel (GFSK	(/2441 MHz)			•	•
3264.83	61.15	44.70	6.70	28.20	-9.80	51.35	74.00	-22.65	PK	Vertical
3264.83	50.87	44.70	6.70	28.20	-9.80	41.07	54.00	-12.93	AV	Vertical
3264.63	61.21	44.70	6.70	28.20	-9.80	51.41	74.00	-22.59	PK	Horizontal
3264.63	50.41	44.70	6.70	28.20	-9.80	40.61	54.00	-13.39	AV	Horizontal
4882.32	58.84	44.20	9.04	31.60	-3.56	55.28	74.00	-18.72	PK	Vertical
4882.32	50.54	44.20	9.04	31.60	-3.56	46.98	54.00	-7.02	AV	Vertical
4882.53	59.57	44.20	9.04	31.60	-3.56	56.01	74.00	-17.99	PK	Horizontal
4882.53	49.27	44.20	9.04	31.60	-3.56	45.71	54.00	-8.29	AV	Horizontal
5359.64	48.73	44.20	9.86	32.00	-2.34	46.39	74.00	-27.61	PK	Vertical
5359.64	40.05	44.20	9.86	32.00	-2.34	37.71	54.00	-16.29	AV	Vertical
5359.64	48.30	44.20	9.86	32.00	-2.34	45.96	74.00	-28.04	PK	Horizontal
5359.64	39.16	44.20	9.86	32.00	-2.34	36.82	54.00	-17.18	AV	Horizontal
7323.84	54.83	43.50	11.40	35.50	3.40	58.23	74.00	-15.77	PK	Vertical
7323.84	44.83	43.50	11.40	35.50	3.40	48.23	54.00	-5.77	AV	Vertical
7323.77	53.57	43.50	11.40	35.50	3.40	56.97	74.00	-17.03	PK	Horizontal
7323.77	43.77	43.50	11.40	35.50	3.40	47.17	54.00	-6.83	AV	Horizontal



Report No.: STS2312145W02

				High Char	nnel (GFSK/	2480 MHz)				
3264.89	61.99	44.70	6.70	28.20	-9.80	52.19	74.00	-21.81	PK	Vertical
3264.89	50.84	44.70	6.70	28.20	-9.80	41.04	54.00	-12.96	AV	Vertical
3264.62	60.79	44.70	6.70	28.20	-9.80	50.99	74.00	-23.01	PK	Horizontal
3264.62	50.30	44.70	6.70	28.20	-9.80	40.50	54.00	-13.50	AV	Horizontal
4960.45	58.40	44.20	9.04	31.60	-3.56	54.84	74.00	-19.16	PK	Vertical
4960.45	50.38	44.20	9.04	31.60	-3.56	46.82	54.00	-7.18	AV	Vertical
4960.31	59.33	44.20	9.04	31.60	-3.56	55.77	74.00	-18.23	PK	Horizontal
4960.31	50.29	44.20	9.04	31.60	-3.56	46.73	54.00	-7.27	AV	Horizontal
5359.86	48.03	44.20	9.86	32.00	-2.34	45.69	74.00	-28.31	PK	Vertical
5359.86	39.03	44.20	9.86	32.00	-2.34	36.69	54.00	-17.31	AV	Vertical
5359.75	48.29	44.20	9.86	32.00	-2.34	45.95	74.00	-28.05	PK	Horizontal
5359.75	38.71	44.20	9.86	32.00	-2.34	36.37	54.00	-17.63	AV	Horizontal
7439.90	54.73	43.50	11.40	35.50	3.40	58.13	74.00	-15.87	PK	Vertical
7439.90	43.85	43.50	11.40	35.50	3.40	47.25	54.00	-6.75	AV	Vertical
7439.86	53.53	43.50	11.40	35.50	3.40	56.93	74.00	-17.07	PK	Horizontal
7439.86	44.16	43.50	11.40	35.50	3.40	47.56	54.00	-6.44	AV	Horizontal

Note:

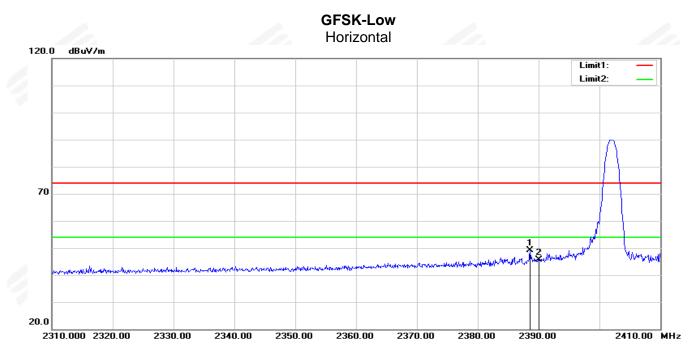
- 1) Scan with GFSK, $\pi/4$ -DQPSK, 8DPSK, the worst case is GFSK Mode.
- 2) Factor = Antenna Factor + Cable Loss Pre-amplifier.

Emission Level = Reading + Factor

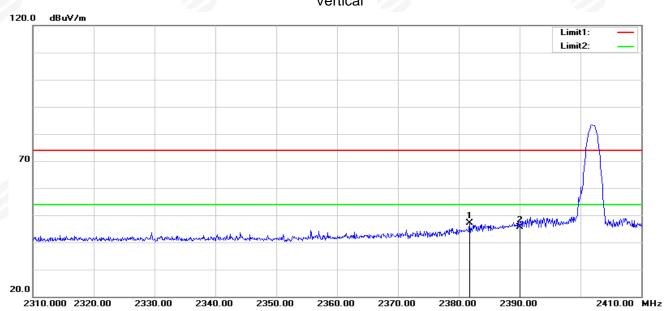
3) The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.



Restricted band Requirements



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2388.600	44.91	4.32	49.23	74.00	-24.77	peak
2	2390.000	41.29	4.34	45.63	74.00	-28.37	peak



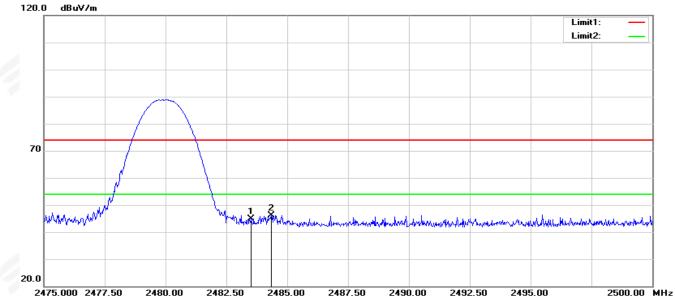
	No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
	1	2381.800	43.00	4.22	47.22	74.00	-26.78	peak
1	2	2390.000	41.36	4.34	45.70	74.00	-28.30	peak

Vertical

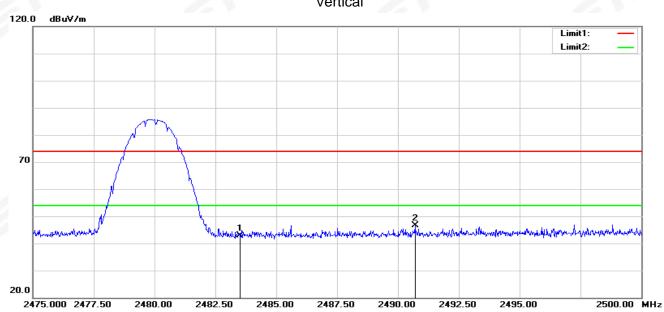


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GFSK-High Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	40.26	4.60	44.86	74.00	-29.14	peak
2	2484.350	41.63	4.61	46.24	74.00	-27.76	peak



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	38.27	4.60	42.87	74.00	-31.13	peak
2	2490.700	42.10	4.63	46.73	74.00	-27.27	peak
2	2490.700	42.10	4.03	40.73	74.00	-21.21	pe

Vertical



Note: GFSK, $\pi/4$ -DQPSK, 8DPSK of the nohopping and hopping mode all have been test, the worst case is GFSK of the nohopping mode, this report only show the worst case.





4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

4.1 LIMIT

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

4.2 TEST PROCEDURE

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

For Band edge

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

For Hopping Band edge

Spectrum Parameter	Setting
Detector	Peak
Stort/Stop Fraguenov	Lower Band Edge: 2300– 2403 MHz
Start/Stop Frequency	Upper Band Edge: 2479 – 2500 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold





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

4.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

4.5 TEST RESULTS



5. NUMBER OF HOPPING CHANNEL

5.1 LIMIT

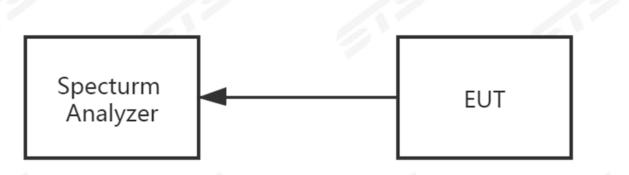
FCC Part 15.247,Subpart C						
	Section	Test Item	Limit	FrequencyRange (MHz)	Result	
	15.247 (a)(1)(iii)	Number of Hopping Channel	≥15	2400-2483.5	PASS	

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating FrequencyRange
RB	100KHz
VB	300KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

5.3 TEST SETUP



5.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

5.5 TEST RESULTS



6. AVERAGE TIME OF OCCUPANCY

6.1 LIMIT

FCC Part 15.247,Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

6.2 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyzer.
- b. Set RBW =1MHz/VBW =3MHz.
- c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- Set the center frequency on any frequency would be measure and set the frequency span to e. zero span.
- f. Measure the maximum time duration of one single pulse.
- g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- h. Measure the maximum time duration of one single pulse.
- i. DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel (5 time slots RX, 1 time slot TX). So the number of pulses in the observation period of 31.6 seconds is 3.37 x 31.6 = 106.6.
- j. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots RX, 1 time slot TX). So the number of pulses in the observation period of 31.6 seconds is $5.06 \times 31.6 = 160$.
- k. DH1 Packet permit maximum 1600 / 79 / 2 = 10.12 hops per second in each channel (1 time slot RX, 1 time slot TX). So the number of pulses in the observation period of 31.6 seconds is 10.12 x 31.6 = 320.

6.3 TEST SETUP



6.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

6.5 TEST RESULTS



7. HOPPING CHANNEL SEPARATION MEASUREMEN

7.1 LIMIT

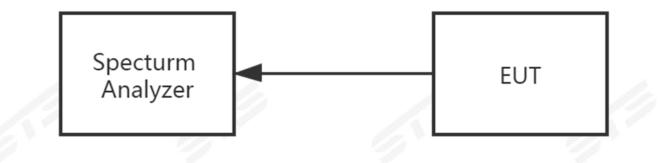
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that 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 125 mW.

Spectrum Parameter	Setting		
Attenuation	Auto		
Span Frequency	> 20 dB Bandwidth or Channel Separation		
RB	30 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)		
VB	/B 100 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)		
Detector	Peak		
Trace	Max Hold		
Sweep Time	Auto		

7.2 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
- b. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised for 20 dB bandwidth measurement.
- c. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised for channel separation measurement.

7.3 TEST SETUP



7.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.5 TEST RESULTS



8.1 LIMIT

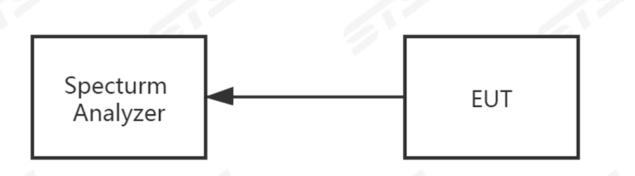
		FC	C Part15 15.247,Subp	art C	
	Section	Test Item	Limit	FrequencyRange (MHz)	Result
ĺ	15.247 (a)(1)	Bandwidth	N/A	2400-2483.5	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)
VB	100 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep time = Auto.

8.3 TEST SETUP



8.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

8.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



9. OUTPUT POWER TEST

9.1 LIMIT

			A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O	
		FCC Part 15.247,Subpart	C	
Section	Test Item	Limit	Frequency Range (MHz)	Result
	<i></i>	1 W or 0.125W		
15.247 (a)(1)&(b)(1)	Output Power	if channel separation > 2/3 bandwidthprovided thesystems operatewith an	2400-2483.5	PASS
		output power no greater than125 mW(20.97dBm)		

9.2 TEST PROCEDURE

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. The hopping shall be disabled for this test:

a) Use the following spectrum analyzer settings:

1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.

2) RBW > 20 dB bandwidth of the emission being measured.

3) VBW ≥ RBW.

4) Sweep: Auto.

5) Detector function: Peak.

6) Trace: Max hold.

b) Allow trace to stabilize.

c) Use the marker-to-peak function to set the marker to the peak of the emission.

d) The indicated level is the peak output power, after any corrections for external attenuators and cables.

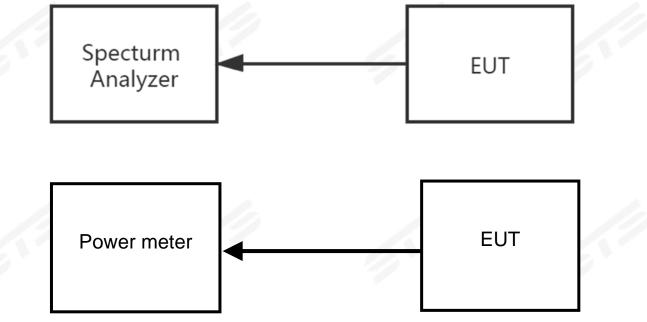
e) A plot of the test results and setup description shall be included in the test report.

NOTE—A peak responding power meter may be used, where the power meter and sensor system video bandwidth is greater than the occupied bandwidth of the unlicensed wireless device, rather than a spectrum analyzer.

PKPM1 Peak power meter method:

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





9.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

9.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1. **10. ANTENNA REQUIREMENT**

10.1 STANDARD REQUIREMENT

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

10.2 EUT ANTENNA The EUT antenna is PCB Antenna. It comply with the standard requirement.

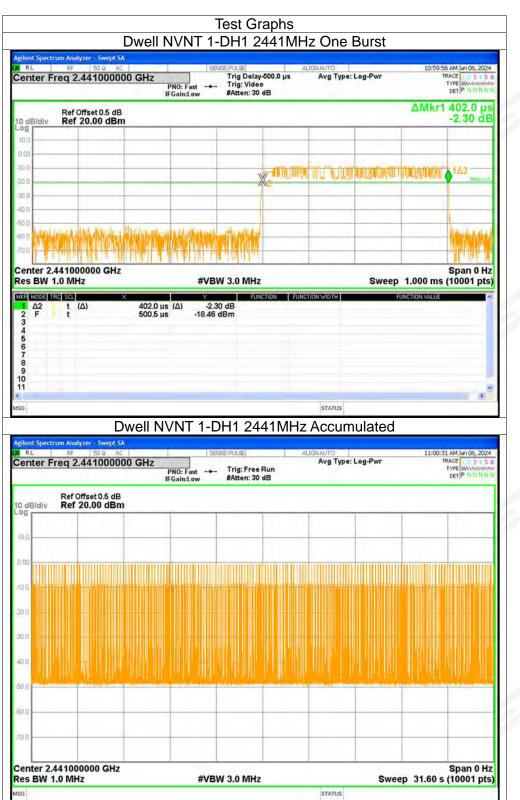


1. Dwell Time

Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.402	126.63	315	31600	<=400	Pass
NVNT	1-DH3	2441	1.659	275.394	166	31600	<=400	Pass
NVNT	1-DH5	2441	2.906	313.848	108	31600	<=400	Pass
NVNT	2-DH1	2441	0.412	130.192	316	31600	<=400	Pass
NVNT	2-DH3	2441	1.661	264.099	159	31600	<=400	Pass
NVNT	2-DH5	2441	2.912	317.408	109	31600	<=400	Pass
NVNT	3-DH1	2441	0.409	128.835	315	31600	<=400	Pass
NVNT	3-DH3	2441	1.66	260.62	157	31600	<=400	Pass
NVNT	3-DH5	2441	2.913	305.865	105	31600	<=400	Pass

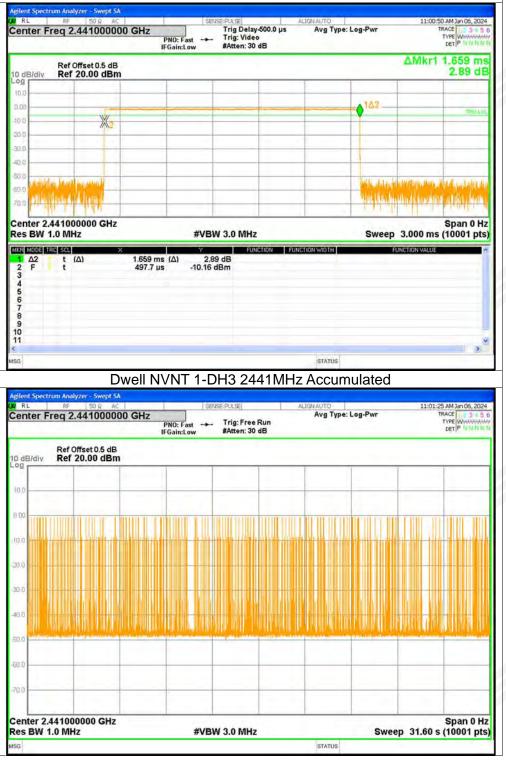


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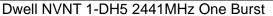


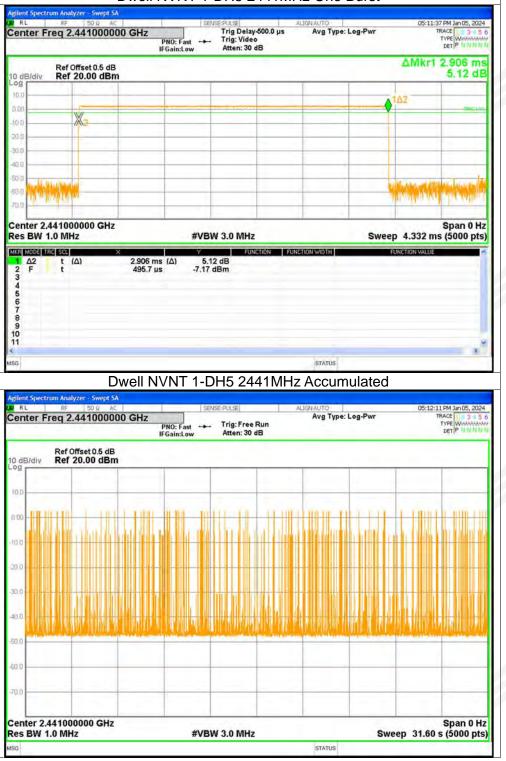


Dwell NVNT 1-DH3 2441MHz One Burst



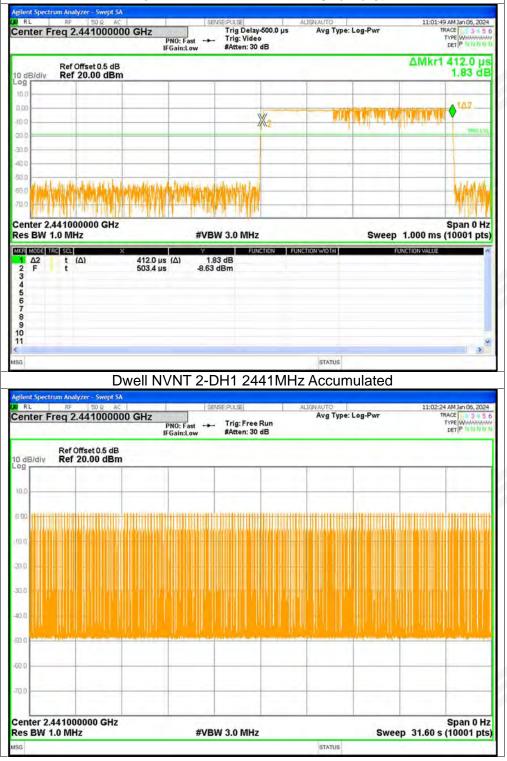




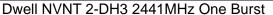


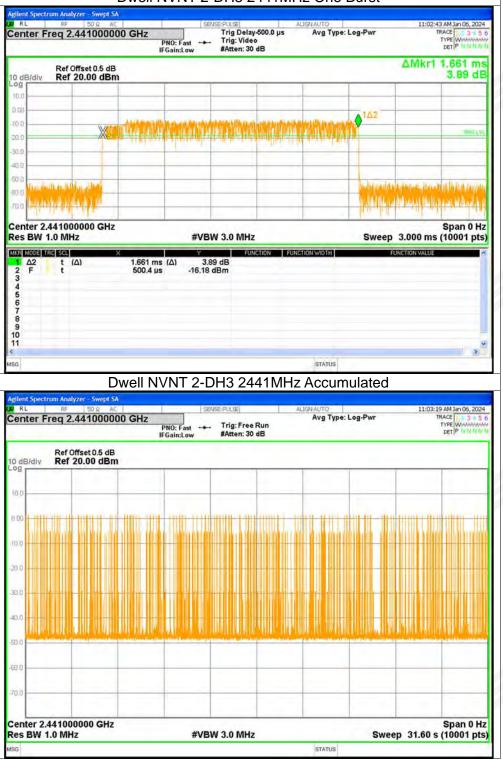


Dwell NVNT 2-DH1 2441MHz One Burst

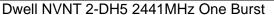


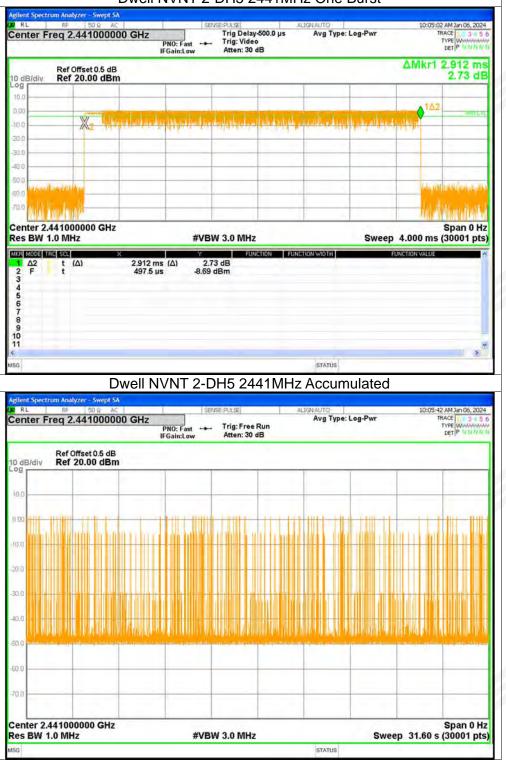






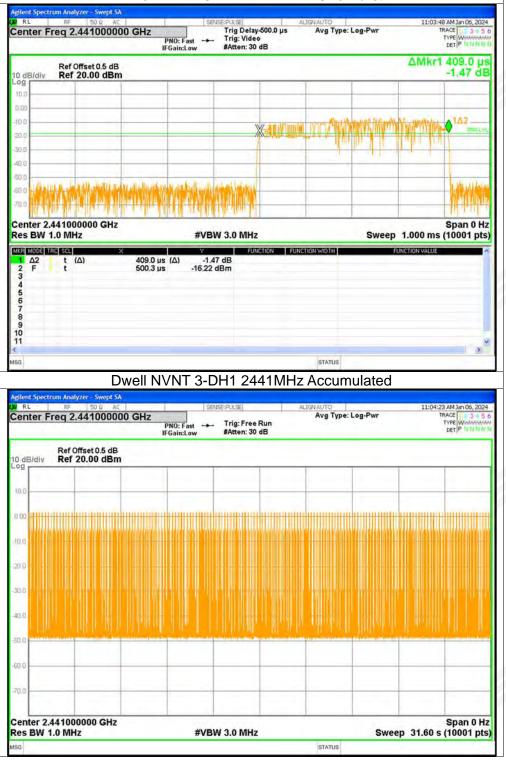








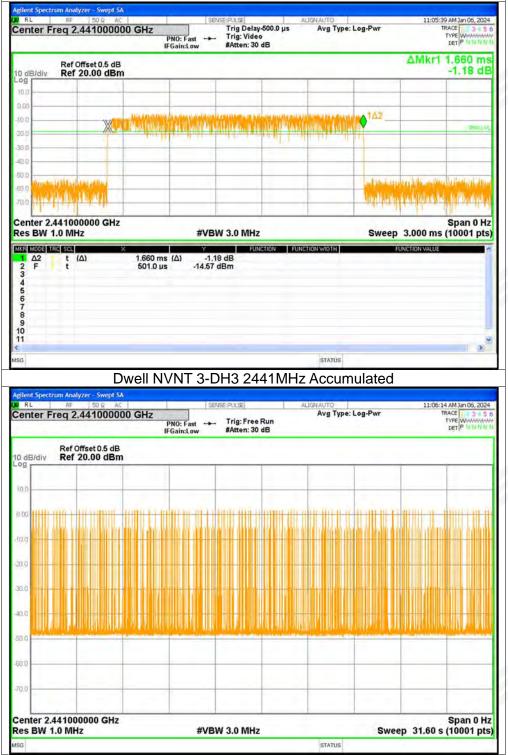
Dwell NVNT 3-DH1 2441MHz One Burst



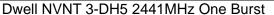
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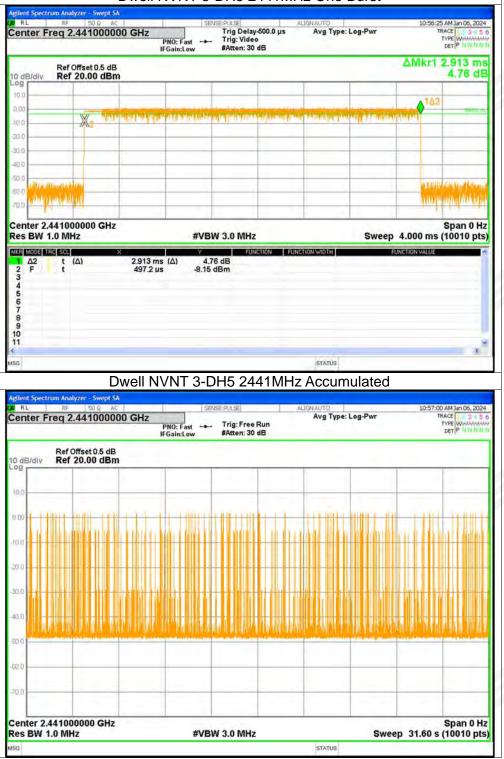


Dwell NVNT 3-DH3 2441MHz One Burst









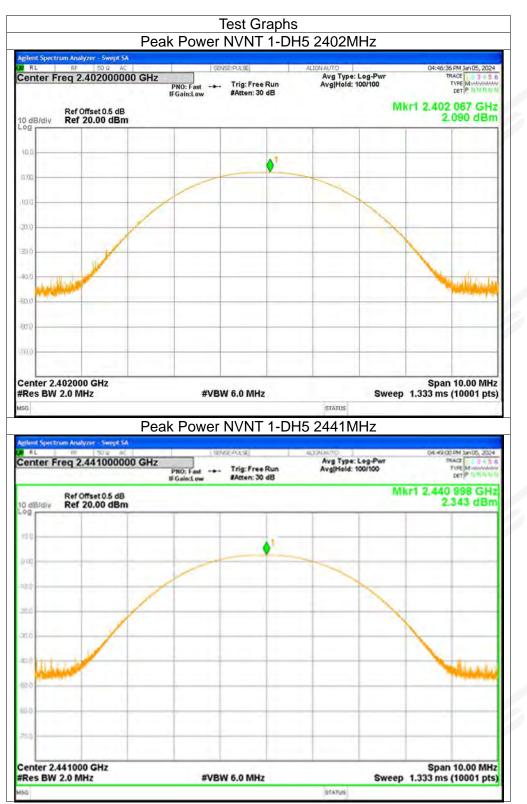


2. Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	2.09	<=20.97	Pass
NVNT	1-DH5	2441	2.34	<=20.97	Pass
NVNT	1-DH5	2480	2.19	<=20.97	Pass
NVNT	2-DH5	2402	1.18	<=20.97	Pass
NVNT	2-DH5	2441	1.58	<=20.97	Pass
NVNT	2-DH5	2480	1.03	<=20.97	Pass
NVNT	3-DH5	2402	1.79	<=20.97	Pass
NVNT	3-DH5	2441	2.2	<=20.97	Pass
NVNT	3-DH5	2480	1.66	<=20.97	Pass



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Peak Power NVNT 1-DH5 2480MHz 04:50:27 PM Jan 05, 2024 TRACE 3 1 5 6 TYPE M M M M M RL ENSE: PULSE Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 Mkr1 2.479 838 GHz Ref Offset 0.5 dB Ref 20.00 dBm 2.191 dBm 10 dB/div 101 0 nн (m) 20. 30 20.7 11.11 50 (00. Center 2.480000 GHz Span 10.00 MHz #VBW 6.0 MHz Sweep 1.333 ms (10001 pts) #Res BW 2.0 MHz STATUS nat Peak Power NVNT 2-DH5 2402MHz t Spectrum Analyzer 09:55:36 AM Jan 06, 2024 TRACE 3 5 C TYPE M Manual A RL Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 PNO: Fast - Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.402 134 GHz 1.181 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div ٥1 an 20.0 30.0 40.0 50.0 60.0 Center 2.402000 GHz Span 10.00 MHz #VBW 6.0 MHz Sweep 1.333 ms (10001 pts) #Res BW 2.0 MHz STATUS SG



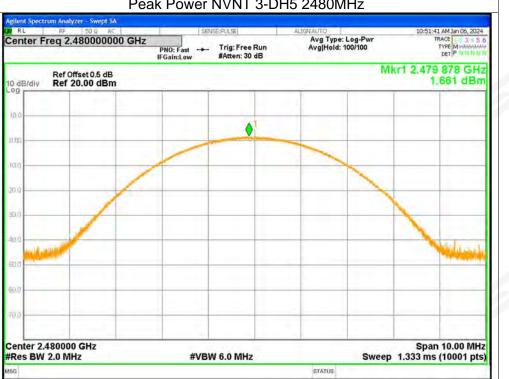
Peak Power NVNT 2-DH5 2441MHz 09:58:29 AM Jan 06, 2024 TRACE 1 3 4 5 6 TYPE M M M M M RL ENSE: PULSE Center Freq 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 Mkr1 2.441 010 GHz Ref Offset 0.5 dB Ref 20.00 dBm 1.581 dBm 10 dB/div 10 'nЯ ini. 20. 20.1 ant. 501 Center 2.441000 GHz Span 10.00 MHz #VBW 6.0 MHz Sweep 1.333 ms (10001 pts) #Res BW 2.0 MHz STATUS 1921 Peak Power NVNT 2-DH5 2480MHz ectrum Analyzer t Sp 10:00:36 AM Jan 06, 2024 TRACE 3 5 C TYPE M MANANA DET P M M M RL Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 PNO: Fast ---- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.480 085 GHz Ref Offset 0.5 dB Ref 20.00 dBm 1.031 dBm 10 dB/div 0 an 30.1 40.0 50.0 60.0 Center 2.480000 GHz Span 10.00 MHz #VBW 6.0 MHz Sweep 1.333 ms (10001 pts) #Res BW 2.0 MHz STATUS SG



Peak Power NVNT 3-DH5 2402MHz 10:24:41 AM Jan 06, 2024 TRACE 3 4 5 6 TYPE M M M M M RL SENSE: PULSE Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 Mkr1 2.401 878 GHz Ref Offset 0.5 dB Ref 20.00 dBm 1.787 dBm 10 dB/div ٥ nн ini. 20. 20.1 50.0 Center 2.402000 GHz Span 10.00 MHz #VBW 6.0 MHz Sweep 1.333 ms (10001 pts) #Res BW 2.0 MHz STATUS 1921 Peak Power NVNT 3-DH5 2441MHz ctrum Analyzer t Sp 0:30:50 AM Jan 06, 2024 TRACE 3 4 5 TYPE M WANNAW DET P WIN M RL Center Freg 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 PNO: Fast ---- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.440 825 GHz Ref Offset 0.5 dB Ref 20.00 dBm 2.204 dBm 10 dB/div ٥ an 30.1 40.0 hiller 50.0 60.0 Span 10.00 MHz Sweep 1.333 ms (10001 pts) Center 2.441000 GHz #VBW 6.0 MHz #Res BW 2.0 MHz STATUS SG



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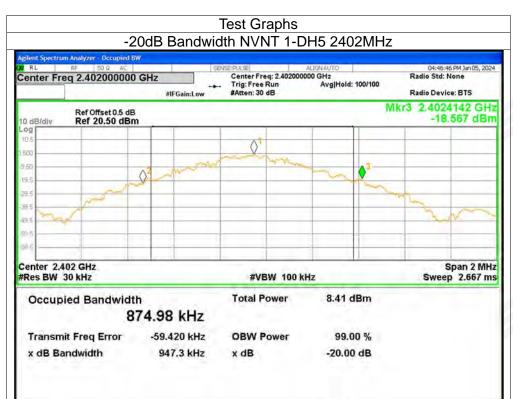
Peak Power NVNT 3-DH5 2480MHz



4. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	0.9473	Pass
NVNT	1-DH5	2441	0.9363	Pass
NVNT	1-DH5	2480	0.9432	Pass
NVNT	2-DH5	2402	1.3348	Pass
NVNT	2-DH5	2441	1.3127	Pass
NVNT	2-DH5	2480	1.2822	Pass
NVNT	3-DH5	2402	1.2965	Pass
NVNT	3-DH5	2441	1.301	Pass
NVNT	3-DH5	2480	1.2961	Pass





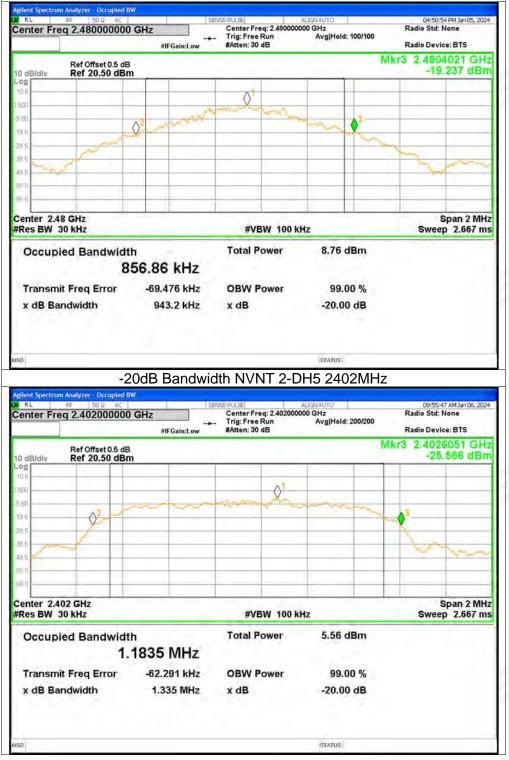
-20dB Bandwidth NVNT 1-DH5 2441MHz

STATUS



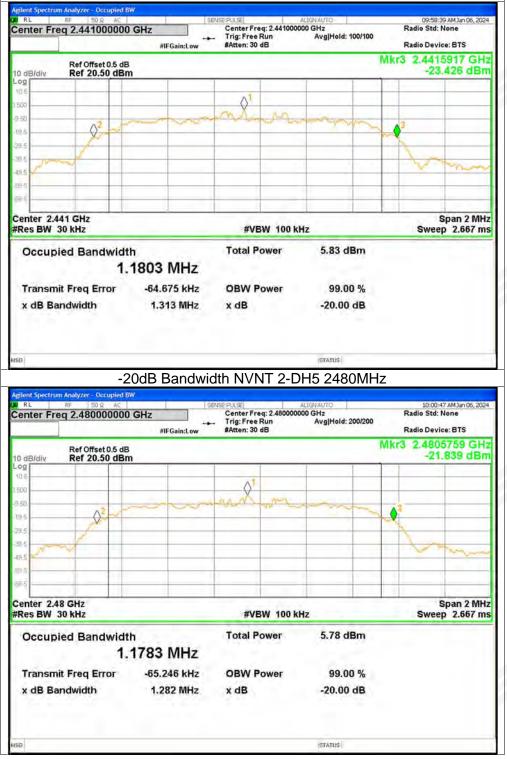


-20dB Bandwidth NVNT 1-DH5 2480MHz



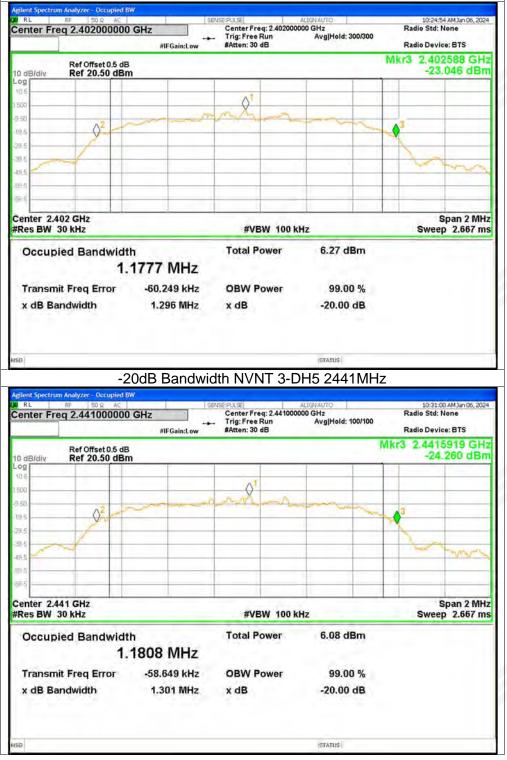


-20dB Bandwidth NVNT 2-DH5 2441MHz



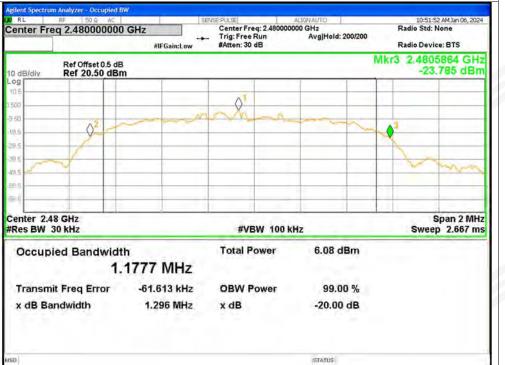


-20dB Bandwidth NVNT 3-DH5 2402MHz





-20dB Bandwidth NVNT 3-DH5 2480MHz





5. Carrier Frequencies Separation

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	2401.994	2402.952	0.958	>=0.632	Pass
NVNT	1-DH5	2439.956	2440.846	0.89	>=0.624	Pass
NVNT	1-DH5	2478.912	2479.994	1.082	>=0.63	Pass
NVNT	2-DH5	2401.954	2402.858	0.904	>=0.89	Pass
NVNT	2-DH5	2441.052	2441.936	0.884	>=0.875	Pass
NVNT	2-DH5	2478.87	2480.072	1.202	>=0.855	Pass
NVNT	3-DH5	2401.936	2402.942	1.006	>=0.86	Pass
NVNT	3-DH5	2440.948	2441.94	0.992	>=0.867	Pass
NVNT	3-DH5	2478.856	2480.104	1.248	>=0.864	Pass

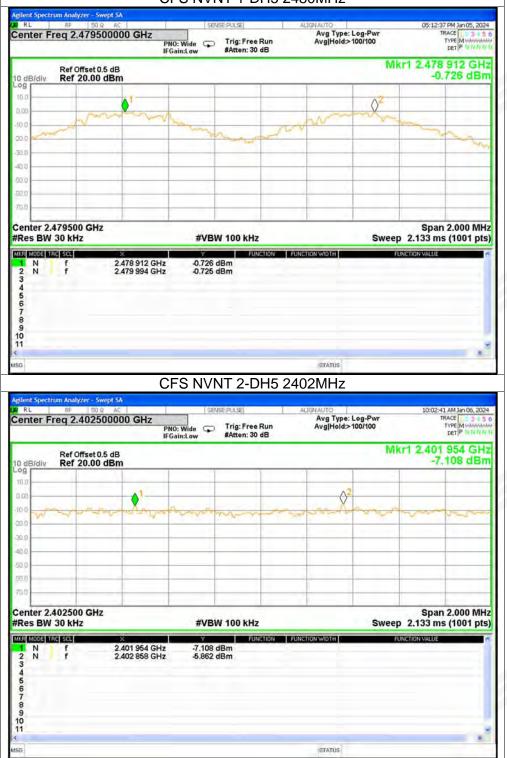


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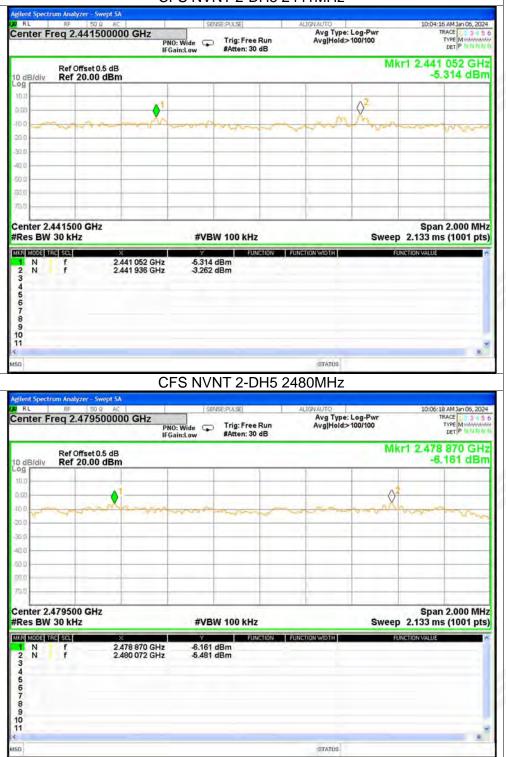


CFS NVNT 1-DH5 2480MHz



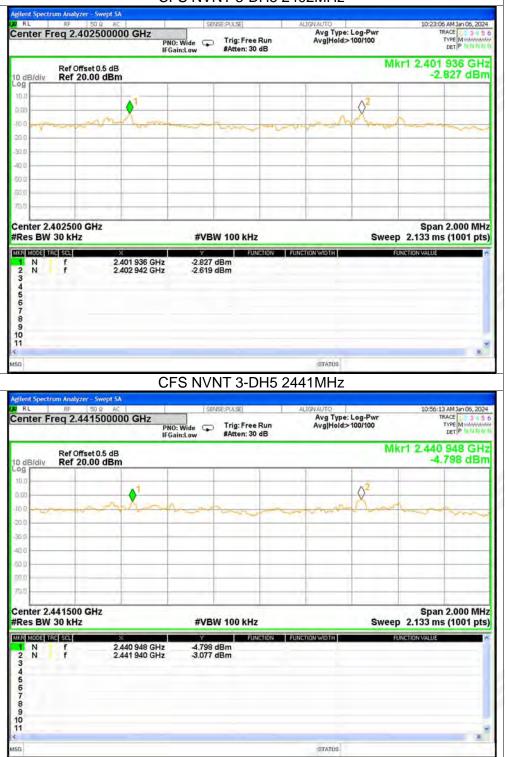


CFS NVNT 2-DH5 2441MHz





CFS NVNT 3-DH5 2402MHz





CFS NVNT 3-DH5 2480MHz

	50 Q AC	0 GHz		ISE PULSE	1	ALIGNAUTO Avg Type:	Log-Pwr	10:58	54 AM Jan 06, 2024 TRACE 3 5 (TYPE Minimum
		PNO	D: Wide 😱 ain:Low	Trig: Free I #Atten: 30	dB	Avg Hold>	100/100		DET P WWWW
dB/div Re	ef Offset 0.5 dB ef 20.00 dBm	<u></u>					М	kr1 2.47	8 856 GHz 4.065 dBm
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nter 2.479 es BW 30			#VB	W 100 kHz			Swee	Spa p 2.133 n	n 2.000 MHz ns (1001 pts)
R MODE TRC SC N f		478 856 GHz	-4.065		TION FU	NCTION WIDTH		FUNCTION VALUE	
N f		480 104 GHz	-4.661						
N f									
						STATUS			



6. Number of Hopping Channel

Condition	Mode	Hopping Number	Limit	Verdict
NVNT	1-DH5	79	>=15	Pass
NVNT	2-DH5	79	>=15	Pass
NVNT	3-DH5	79	>=15	Pass





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	Hor	Test Gra	apns 1-DH5 Hopping	
at Spectrum Analyzer	- Swept SA			
nter Freq 2.44		PNO: Fast FIGain:Low #Atten: 30 of	ALIGNAUTO Avg Type: Log-Pw Run Avg Hold>100/100 18	05:10:18 PM Jan 05, 2024 TRACE 12 3 4 5 6 TYPE M WWWWW DET P NARR N
Ref Offse dB/div Ref 20.				Mkr1 2.401 920 5 GHz 1.220 dBm
		A 5 5 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		2
<u> tantantantan</u>	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	<u>tanaaraaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa</u>	<u>AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA</u>	AAAAAAAAAAAAAAAA
rt 2.40000 GHz		#VBW 300 kHz	s	Stop 2.48350 GHz weep 8.000 ms (1001 pts)
MODE TRC SCL	×	Y FUNC		FUNCTION VALUE
	Нор	oping No. NVNT	2-DH5 Hopping	
L BE	- Swept SA 50 Ω AC	SENSE:PULSE PNO: Fast C Trig: Free F	2-DH5 Hopping Alignauto Avg Type: Log-Pw AvgHold>100/100	TYPE Multimeter
RL RF Inter Freq 2.44 Ref Offse	- Swept SA S0 9 AC 1750000 GHz et 0.5 dB	SENSE:PULLE	2-DH5 Hopping Augnauto Avg Type: Log-Pw Avg Hold>100/100	TRACE 123456 TYPE MUMMMU DET P NOTATION Mkr1 2.401 753 5 GHz
RE Ref Offse B/div Ref 20.	- Swept SA S0 Ω AC 1750000 GHz	SENSE:PULSE PNO: Fast C Trig: Free F	2-DH5 Hopping Augnauto Avg Type: Log-Pw Avg Hold>100/100	TRACE 3 8 5 6 TYPE M WARNANN
Ref Offse Ref 2.44	-Swept SA 50.9 AC 1750000 GHz et 0.5 dB 00 dBm	SENSE-PULSE PNO: Fast Trig: Free F IFGain:Low #Atten: 30 d	2-DH5 Hopping Augnauto Avg Type: Log-Pw Avg Hold>100/100	Mkr1 2.401 753 5 GHz -4.128 dBm
Ref Offse	-Swept SA 50.9 AC 1750000 GHz et 0.5 dB 00 dBm	SENSE-PULSE PNO: Fast Trig: Free F IFGain:Low #Atten: 30 d	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm
Ref Offse	-Swept SA 50.9 AC 1750000 GHz et 0.5 dB 00 dBm	SENSE-PULSE PNO: Fast Trig: Free F IFGain:Low #Atten: 30 d	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm
RL RF nter Freq 2.44 Ref Offse dB/div Ref 20.4	-Swept SA 50.9 AC 1750000 GHz et 0.5 dB 00 dBm	SENSE-PULSE PNO: Fast Trig: Free F IFGain:Low #Atten: 30 d	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm
RL RF nter Freq 2.44 Ref Offse B/div Ref 20.	-Swept SA 50 g AC 1750000 GHz et 0.5 dB 00 dBm	SENSE-PULSE PNO: Fast Trig: Free F IFGain:Low #Atten: 30 d	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm
RL RF Offse Bldiv Ref 20.	-Swept SA 50 g AC 1750000 GHz et 0.5 dB 00 dBm	SENSE-PULSE PNO: Fast Trig: Free F IFGain:Low #Atten: 30 d	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm
Ref Offse dB/div Ref 20.	-Swept SA 50 g AC 1750000 GHz et 0.5 dB 00 dBm	SENSE PULSE PNO: Fast Trig: Free F IFGain:Lew #Atten: 30 d #Atten: 30 d #VBW 300 kHz 42 4.128 dBm	2-DH5 Hopping	Mkr1 2.401 753 5 GHz 4.128 dBm
Ref Offse B/div Ref 20.	-Swept SA 50 g AC 1750000 GHz et 0.5 dB 00 dBm 	SENSE PULSE PNO: Fast Trig: Free F IFGain:Lew #Atten: 30 d #Atten: 30 d #VBW 300 kHz 42 4.128 dBm	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm -4.128 dBm -
Ref Offse B/div Ref 20.	-Swept SA 50 g AC 1750000 GHz et 0.5 dB 00 dBm 	SENSE PULSE PNO: Fast Trig: Free F IFGain:Lew #Atten: 30 d #Atten: 30 d #VBW 300 kHz 42 4.128 dBm	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm -4.128 dBm -
Ref Offse B/div Ref 20.	-Swept SA 50 g AC 1750000 GHz et 0.5 dB 00 dBm 	SENSE PULSE PNO: Fast Trig: Free F IFGain:Lew #Atten: 30 d #Atten: 30 d #VBW 300 kHz 42 4.128 dBm	2-DH5 Hopping	Mkr1 2.401 753 5 GHz -4.128 dBm -4.128 dBm -



1

Hopping No. NVNT 3-DH5 Hopping

RL RL	RF 50 Q AC		SENSE:PULSE		LIGNAUTO		10-22-44 44 34 24 25 25	024
	req 2.44175000		ast 😱 Trig:Free	Run	Avg Type: Le Avg Hold>10		10:23:44 AM Jan 06, 20 TRACE	5 6
dB/div	Ref Offset 0.5 dB Ref 20.00 dBm					Mkr1 2	.401 670 0 GI -4.741 dB	
	rin han Wiener Mine	water and	want wat	man	inisternal	Astronomer	mmm	2
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	0000 GHz / 100 kHz		#VBW 300 kH	z			Stop 2.48350 G .000 ms (1001 p	
	f 2.40	1 670 0 GHz 0 410 5 GHz	4.741 dBm -5.192 dBm	NCTION FUNI	CTION WIDTH	FUNCT	ON VALUE	n
								8
					STATUS			











7. Band Edge

Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	No-Hopping	-50.84	<=-20	Pass
NVNT	1-DH5	2480	No-Hopping	-51.82	<=-20	Pass
NVNT	2-DH5	2402	No-Hopping	-51.8	<=-20	Pass
NVNT	2-DH5	2480	No-Hopping	-53.83	<=-20	Pass
NVNT	3-DH5	2402	No-Hopping 🔰	-52.04	<=-20	Pass
NVNT	3-DH5	2480	No-Hopping	-51.85	<=-20	Pass











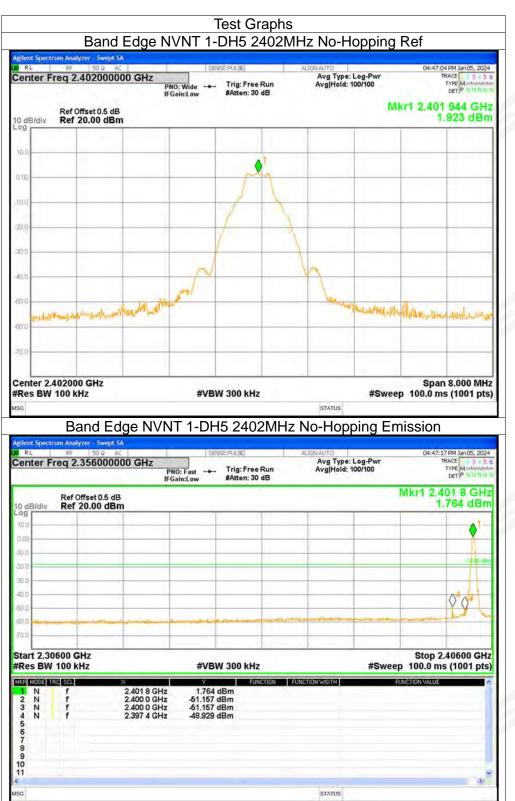








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RI 04:51:12 PM Jan 05, 2024 TRACE 3 1 5 NSE: FULSE Center Freg 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 TYPE MM _ Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.479 936 GHz Ref Offset 0.5 dB Ref 20.00 dBm 1.975 dBm 10 dB/div ٥ ńЯ in: 20. 30 201 500 1.2. A. A. J. J. 60. Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz #Sweep 100.0 ms (1001 pts) #Res BW 100 kHz STATUS nat Band Edge NVNT 1-DH5 2480MHz No-Hopping Emission RL 04:51:25 PM Jan 05, 2024 Center Freq 2.526000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 TYPE Mulant PNO: Fast --- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2,479 9 GHz Ref Offset 0.5 dB Ref 20.00 dBm 1.791 dBm 10 dB/div 10. ÷. ŧŋ. a 03 Stop 2.57600 GHz Start 2.47600 GHz #Res BW 100 kHz #VBW 300 kHz #Sweep 100.0 ms (1001 pts) MKR MODEL TROUSEL FUNCTION FUNCTION WIDTH 1.791 dBm -56.077 dBm -57.137 dBm -49.847 dBm 2.479 9 GHz 2.483 5 GHz 2.500 0 GHz 2.484 4 GHz ZZZZ 23456789101 STATUS SG

Band Edge NVNT 1-DH5 2480MHz No-Hopping Ref



Band Edge NVNT 2-DH5 2402MHz No-Hopping Ref RI 09:56:05 AM Jan 06, 2024 TRACE SENSE: PULSE Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 Trig: Free Run #Atten: 30 dB TYPE MIN PNO: Wide IFGain:Low Mkr1 2.401 936 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.660 dBm 10 dB/div 1.H 10.0 20.0 30.0 30.7 50 0 60. Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz #Sweep 100.0 ms (1001 pts) #Res BW 100 kHz STATUS MSG Band Edge NVNT 2-DH5 2402MHz No-Hopping Emission I Sp RL 9:56:18 AM Jan 06, 2024 Center Freq 2.356000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 TYPE Mindanda PNO: Fast --- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.401 9 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.670 dBm 10 dB/div 10. 301 301 0.03 Stop 2.40600 GHz Start 2.30600 GHz #Res BW 100 kHz #VBW 300 kHz #Sweep 100.0 ms (1001 pts) MKR MODEL TROUSEL FUNCTION FUNCTION WIDTH 2.401 9 GHz 2.400 0 GHz 2.400 0 GHz 2.397 5 GHz -1.670 dBm -54.257 dBm -54.257 dBm -53.463 dBm ZZZZ 23456789101 STATUS SG



Band Edge NVNT 2-DH5 2480MHz No-Hopping Ref RI 10:00:55 AM Jan 06, 2024 TRACE 3 5 C TVPE M MANAGE DET P M M M M NSE: FULSE Center Freg 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 _ Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.480 064 GHz -2.115 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div ńЯ in: 20.0 30.0 251 50 (00. Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz #Res BW 100 kHz Sweep 1.000 ms (1001 pts) STATUS nat Band Edge NVNT 2-DH5 2480MHz No-Hopping Emission I Sp RL 0:00:58 AM Jan 06, 2024 TRACE Center Freq 2.526000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 TYPE Mislower PNO: Fast --- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2,479 9 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.648 dBm 10 dB/div 10. Ġ. in i Ø $\langle \rangle$ Stop 2.57600 GHz Start 2.47600 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 9.600 ms (1001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH -1.648 dBm -58.201 dBm -59.889 dBm -55.941 dBm 2.479 9 GHz 2.483 5 GHz 2.500 0 GHz 2.484 0 GHz ZZZZ 23456789011 STATUS SG



Band Edge NVNT 3-DH5 2402MHz No-Hopping Ref RI 10:25:30 AM Jan 06, 2024 TRACE 3 4 5 NSE: PULSE Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 TYPE M ____ Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.401 936 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.574 dBm 10 dB/div ñЯ 101 30 201 500 MAN 00. Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz #Sweep 100.0 ms (1001 pts) #Res BW 100 kHz STATUS nat Band Edge NVNT 3-DH5 2402MHz No-Hopping Emission RL 0:25:44 AM Jan 06, 2024 TRACE Center Freq 2.356000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 TYPE MINAN PNO: Fast --- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2,401 9 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.567 dBm 10 dB/div 10. 301 301 003 Stop 2.40600 GHz Start 2.30600 GHz #Res BW 100 kHz #VBW 300 kHz #Sweep 100.0 ms (1001 pts) MKR MODEL TROUSEL FUNCTION FUNCTION WIDTH 2.401 9 GHz 2.400 0 GHz 2.400 0 GHz 2.397 4 GHz -1.567 dBm -54.091 dBm -54.091 dBm -53.615 dBm ZZZZ 23456789011 STATUS SG



Band Edge NVNT 3-DH5 2480MHz No-Hopping Ref RI 10:51:59 AM Jan 06, 2024 TRACE 3 4 5 NSE:PULSE Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 ____ Trig: Free Run #Atten: 30 dB TYPE M PNO: Wide IFGain:Low Mkr1 2.479 944 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.597 dBm 10 dB/div ńЯ in. 30.0 251 50 (MAN 00 Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz #Res BW 100 kHz Sweep 1.000 ms (1001 pts) STATUS na Band Edge NVNT 3-DH5 2480MHz No-Hopping Emission I Sp RL 0:52:02 AM Jan 06, 2024 Center Freq 2.526000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 TYPE Mulant PNO: Fast --- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2,480 0 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.691 dBm 10 dB/div 10. 30 មា Ø 03 Stop 2.57600 GHz Start 2.47600 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 9.600 ms (1001 pts) MKR MODEL TRC SCL FUNCTION FUNCTION WIDTH -1.691 dBm -58.311 dBm -58.474 dBm -53.451 dBm 2.480 0 GHz 2.483 5 GHz 2.500 0 GHz 2.484 5 GHz ZZZZ 23456789011 STATUS SG



8. Band Edge(Hopping)

Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Hopping	-57.2	<=-20	Pass
NVNT	1-DH5	2480	Hopping	-56.54	<=-20	Pass
NVNT	2-DH5	2402	Hopping	-53.37	<=-20	Pass
NVNT	2-DH5	2480	Hopping	-53.91	<=-20	Pass
NVNT	3-DH5	2402	Hopping	-63.44	<=-20	Pass
NVNT	3-DH5	2480	Hopping	-53.57	<=-20	Pass



















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er Freq 2.4800000	PNO	: Wide Ti in:Low #/	rig: Free Run Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 3000/3000	,	TYPE MINANA
Ref Offset 0.5 dB				Mki	1 2.479 9	55 2 GH 391 dB
/div Ref 20.00 dBm	1	1			T	
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er 2.480000 GHz					Span	8.000 MH
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So		#vbw 3		Sweer status 80MHz Hopping	1.333 ms Emissi	(10001 pt
BW 100 kHz Band Edge(Spectrum Analyzer - Swept St	00 GHz) NVNT	1-DH5 24	STATUS	0 1.333 ms 1 Emissi 05:13:3	(10001 pt ON 5 PM Jan 05, 200 RACE
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Held: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	(10001 pt ON SPM 3an05, 200 RACE 3 S TYPE M MANAGE DET P WINN B 82 GH
BW 100 kHz Band Edge(Spectrum Analyzer - Swept St RF D R AC cer Freq 2,52600000	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Held: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	(10001 pt ON SPM 3an05, 200 RACE 3 S TYPE M MANAGE DET P WINN B 82 GH
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Held: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	(10001 pt ON SPM 3an05, 200 RACE 3 S TYPE M MANAGE DET P WINN B 82 GH
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Held: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	(10001 pt ON SPM Jan 05, 202 RACE S 3 & 5 TYPE M Jan 05, 202 RACE S 3 & 5 TYPE M Jan 05, 202 RACE S 3 & 5 TYPE M Jan 05, 202 B 8 2 GH 494 d Br
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	(10001 pt ON SPM 3an05, 200 RACE 3 S TYPE M MANAGE DET P WINN B 82 GH
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	(10001 pt ON SPM Jan 05, 202 RACE S 3 & 5 TYPE M Jan 05, 202 RACE S 3 & 5 TYPE M Jan 05, 202 RACE S 3 & 5 TYPE M Jan 05, 202 B 8 2 GH 494 d Br
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	ON SPM Jan05, 2022 RACE 3 5 TYPE M JANUAR DET P WHAT B 82 GH 494 dBr
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	1.333 ms Emissi 05:13:3 7 Mkr1 2.47	(10001 pt ON SPM Janos, 202 RACE TYPE M Janos, 202 RACE B 3 4 5 SPM Janos, 202 RACE B 3 4 5 SPM Janos, 202 RACE B 3 4 5 SPM Janos, 202 SPM Ja
BW 100 kHz Band Edge(Spectrum Analyzer - SweptS) ser Freq 2.52600000 Ref Offset 0.5 dB Ref 20.00 dBn	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	05:1333 ms Emissi 05:13-3 Wkr1 2.47	(10001 pt ON 5PM Jan 05, 202 RACE 3 - 8 TVPE M-WANN DET P WINN 8 82 GH 494 dBT
BW 100 kHz Band Edge(Spectrum Analyzer - Swept So Ref Diffset 0.5 dB	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping AUGNAUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	05:1333 ms Emissi 05:13-3 Wkr1 2.47	(10001 pt ON SPM Jan (5, 202 RACE 3 3 TYPE M VAN (5, 202 STP VAN (4, 202 STP V
BW 100 kHz Band Edge(Spectrum Analyzer - Swept S3 85 50 Ω AC er Freq 2.52600000 Ref Offset 0.5 dB Ref 20.00 dBn	A PNO IFG2) NVNT	1-DH5 24 Tig: Free Run Atten: 30 dB	STATUS 80MHz Hopping AUGNAUTO Avg Type: Log-Pwr AvgHeid: 1000/1000	1.333 ms 1 Emissi 05:13:3 1 Mkr1 2.47 1 5 5top 2	(10001 pt ON SPM Jan (5, 202 RACE 3 3 TYPE M VAN (5, 202 STP VAN (4, 202 STP V
BW 100 kHz Band Edge(Spectrum Analyzer - Swept S3 85 50 Ω AC er Freq 2.52600000 Ref Offset 0.5 dB Ref 20.00 dBn	A 00 GHz IFGa) NVNT	1-DH5 24	STATUS 80MHz Hopping AUGNAUTO Avg Type: Log-Pwr AvgHeid: 1000/1000	1.333 ms Emissi 05:13-3 Mkr1 2.47 1. Stop 2. 5 10.00 ms	(10001 pt ON SPM Jan (5, 202 RACE 3 3 TYPE M VAN (5, 202 STP VAN (4, 202 STP V
BW 100 kHz Band Edge(Spectrum Analyzer - Swept St Ref Offset 0.5 dB Ref Offset 0.5 dB Ref 20.00 dBn 2 0 2 0 2 0 2 4 2 47600 GHz BW 100 kHz D09 BR St N f N f	00 GHz PN(IFG2 n 0 0 3 2.478 82 GHz 2.478 82 GHz 2.483 50 GHz) NVNT	1-DH5 24	STATUS 80MHz Hopping AUGNAUTO Avg Type: Log-Pwr AvgHeid: 1000/1000	1.333 ms Emissi 05:13-3 Mkr1 2.47 1. Stop 2. 5 10.00 ms	(10001 pt ON SPM Jan (5, 202 RACE 3 3 TYPE M VAN (5, 202 STP VAN (4, 202 STP V
BW 100 kHz Band Edge(Spectrum Analyzer - Swept S3 85 50 Ω AC er Freq 2.52600000 Ref Offset 0.5 dB Ref 20.00 dBn	00 GHz PN(IFG2 n 0 2.478 82 GHz 2.478 82 GHz 2.478 80 GHz 2.483 50 GHz 2.483 50 GHz) NVNT	1-DH5 24	STATUS 80MHz Hopping AUGNAUTO Avg Type: Log-Pwr AvgHeid: 1000/1000	1.333 ms Emissi 05:13-3 Mkr1 2.47 1. Stop 2. 5 10.00 ms	(10001 pt ON SPM Jan (5, 202 RACE 3 - 5 TYPE (M HANNE B 82 GH 494 dBr



Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Ref 10:03:22 AM Jan 06, 2024 TRACE 1 3 4 5 TYPE M MANAGE DET P WINN M RL Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.402 944 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.571 dBm 10 dB/div 0.0 20.0 2er hur 50.0 Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz #Res BW 100 kHz Sweep 1.000 ms (1001 pts) STATUS nat Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Emission RL 103:39 AM Jan 06, 2024 Center Freq 2.356000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 TYPE Medanty DET P WWWW PNO: Fast ---- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2,406 0 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.283 dBm 10 dB/div 10. 301 301 00 Start 2.30600 GHz Stop 2.40600 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 9.600 ms (1001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH 2.406 0 GHz 2.400 0 GHz 2.390 0 GHz 2.388 3 GHz -1.283 dBm -58.414 dBm -58.520 dBm -54.947 dBm ZZZZ 23456789011 STATUS SG



Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Ref 10:06:32 AM Jan 06, 2024 TRACE 3 5 6 TYPE M MANAGE DET P M M M M RL Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.478 944 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.481 dBm 10 dB/div 20. 2er N 50.0 00. Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz #Res BW 100 kHz Sweep 1.000 ms (1001 pts) STATUS nat Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Emission ctrum Analyzer S RL 06:49 AM Jan 06, 2024 Center Freq 2.526000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 TYPE Mulant PNO: Fast --- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2,477 1 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.863 dBm 10 dB/div 10 30.1 401 00 0 Stop 2.57600 GHz Start 2.47600 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 9.600 ms (1001 pts) MKR MODEL TROUSEL FUNCTION FUNCTION WIDTH 2.477 1 GHz 2.483 5 GHz 2.500 0 GHz 2.498 1 GHz -1.863 dBm -57.449 dBm -58.869 dBm -55.394 dBm ZZZZ 23456789101 STATUS SG



Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Ref 10:55:04 AM Jan 06, 2024 TRACE 1 3 4 5 6 TYPE M MANAGE DET P WINN M RL Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 Trig: Free Run #Atten: 28 dB PNO: Wide IFGain:Low Mkr1 2,405 928 GHz Ref Offset 0.5 dB Ref 18.50 dBm -2.062 dBm 10 dB/div 15 mun MAG ALA 21 1 the set 81) 61. Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz #Res BW 100 kHz Sweep 1.733 ms (1001 pts) STATUS nat Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Emission RL 37 AM Jan 06, 2024 TRACE Center Freq 2.356000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 TYPE MINAN PNO: Fast ---- Trig: Free Run IFGain:Low #Atten: 28 dB Mkr1 2,403 9 GHz Ref Offset 0.5 dB Ref 18.50 dBm -8.181 dBm 10 dB/div 8.5 -21 11 51 \Diamond \Diamond^4 0 Start 2.30600 GHz Stop 2.40600 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 21.40 ms (1001 pts) MKRI MODEL TRCI SCL FUNCTION FUNCTION WIDTH -8.181 dBm -65.909 dBm -68.401 dBm -65.505 dBm 2.403 9 GHz 2.400 0 GHz 2.390 0 GHz 2.386 9 GHz ZZZZ 23456789011 STATUS SG



er Freq 2.4800	PN		ree Run : 30 dB	Avg Type: Log-Pwr Avg Hold: 1000/1000		TYPE MINNIN
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er 2.480000 GHz BW 100 kHz		#VBW 300 H		1 1		n 8.000 MH ns (1001 pts
Band Ed		g) NVNT 3-[DH5 248	status SOMHz Hopping		
	Vept SA 2 AC 000000 GHz PI	SENSE-PULSE	ree Run	STATUS	g Emiss	07 AM Jan 06, 202 TRACE
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	1	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	TRACE 3 5 TYPE M WINNE DET P WINNE 479 9 GH
Spectrum Analyzer – Sy RF 50 S er Freq 2.5260	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	TRACE 3 5 TYPE M WINNE DET P WINNE 479 9 GH
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	TRACE 3 5 TYPE M WINNE DET P WINNE 479 9 GH
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	TRACE 3 5 TYPE M WINNE DET P WINNE 479 9 GH
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	Sion 107 AM Jan 06, 2024
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	TRACE 345 TYPE M MARINE DET P WHAT
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	TRACE 345 TYPE M MARINE DET P WHAT
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run	STATUS SOMHz Hopping Alignauto Avg Type: Log-Pwr	g Emiss	TRACE 345 TYPE M MARINE DET P WHAT
Spectrum Analyzer - Sy RF 50 S er Freq 2.5260 Ref Offset 0	AC AC 000000 GHz PI IFC .5 dB	SENSE-PULSE	ree Run : 30 dB	STATUS	g Emiss 10:58 Mkr1 2.4	sion 77 AM Jan 05, 202- TRACE TYPE MANNA 479 9 GH: 275 dBn
Spectrum Analyzer - Sv er Freq 2.5260 /div Ref 20.00	xept SA 2 AC P P IF(S dB dBm 3 4 3 4 3 4 3 4 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5	SENSE-PLLSE NO: Fast Trig: F Sain:Low #Atten	ree Run : 30 dB	STATUS	g Emiss 10:58 Mkr1 2.4	sion 77 AM Jan 05, 202- TRACE TRACE 13 5 TYPE M 479 9 GH: 3.275 dBn 479 9 GH: 3.275 dBn 2.57600 GH; 15 (1001 pts
Spectrum Analyzer - Sv er Freq 2.5260 /div Ref 20.00	xept SA 2 AC 2 A	#VBW 300 H 3.275 dBm -57.077 dBm -57.080 dBm	ree Run : 30 dB	STATUS	g Emiss 1059 Mkr1 2.4 Stop 2 ep 9.600 m	sion 77 AM Jan 05, 202- TRACE TRACE 13 5 TYPE M 479 9 GH: 3.275 dBn 479 9 GH: 3.275 dBn 2.57600 GH; 15 (1001 pts
Spectrum Analyzer - Sv er Freq 2.5260 /div Ref 20.00	xept SA 2 AC 2 AC P IF0 IF0 IF0 IF0 IF0 IF0 IF0 IF0	SENSE-PLLSE NO: Fast → Trig: F Sain:Low #Atten #VBW 300 H 3.275 dBm -57.077 dBm	ree Run : 30 dB	STATUS	g Emiss 1059 Mkr1 2.4 Stop 2 ep 9.600 m	sion 77 AM Jan 05, 202- TRACE TRACE 13 5 TYPE M 479 9 GH: 3.275 dBn 479 9 GH: 3.275 dBn 2.57600 GH; 15 (1001 pts
Spectrum Analyzer - Sv er Freq 2.5260 /div Ref 20.00	xept SA 2 AC 2 A	#VBW 300 H 3.275 dBm -57.077 dBm -57.080 dBm	ree Run : 30 dB	STATUS	g Emiss 1059 Mkr1 2.4 Stop 2 ep 9.600 m	sion 77 AM Jan 05, 202- TRACE TRACE 13 5 TYPE M 479 9 GH: 3.275 dBn 479 9 GH: 3.275 dBn 2.57600 GH; 15 (1001 pts
Spectrum Analyzer - Sv er Freq 2.5260 /div Ref 20.00	xept SA 2 AC 2 A	#VBW 300 H 3.275 dBm -57.077 dBm -57.080 dBm	ree Run : 30 dB	STATUS	g Emiss 1059 Mkr1 2.4 Stop 2 ep 9.600 m	sion 77 AM Jan 05, 202- TRACE TRACE THE MANNAGE THE MANNAGE 479 9 GH: 3.275 dBn 479 9 GH: 3.275 dBn 479 9 GH: 5.275 dBn 479 9 GH: 5.275 dBn 479 9 GH: 5.275 dBn 5.275 dBn

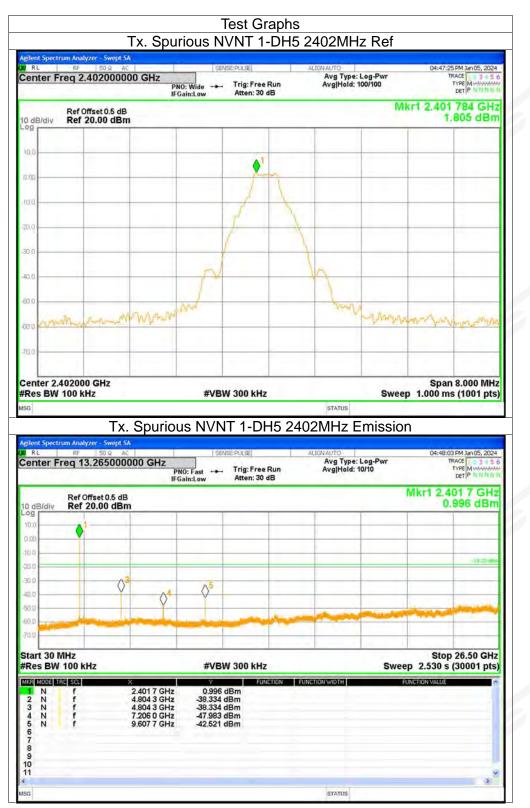


9. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	-40.14	<=-20	Pass
NVNT	1-DH5	2441	-40.65	<=-20	Pass
NVNT	1-DH5	2480	-37.53	<=-20	Pass
NVNT	2-DH5	2402	-42.09	<=-20	Pass
NVNT	2-DH5	2441	-42.11	<=-20	Pass
NVNT	2-DH5	2480	-37.92	<=-20	Pass
NVNT	3-DH5	2402	-42.23	<=-20	Pass
NVNT	3-DH5	2441	-42.12	<=-20	Pass
NVNT	3-DH5	2480	-38.02	<=-20	Pass



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RL 04:49:36 PM Jan 05, 2024 TRACE 3 1 5 6 Center Freq 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 TYPE MW _ Trig: Free Run Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.440 776 GHz Ref Offset 0.5 dB Ref 20.00 dBm 2.318 dBm 10 dB/div ٥ n H ini. 20.0 30.0 2017 50 (monthing .60.0 Center 2.441000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 1-DH5 2441MHz Emission RL 14:50:07 PM Jan 05, 2024 Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 TYPE M WOMAN PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 30 dB Mkr1 2.441 4 GHz 0.474 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div 10. 178 30 0 0 40.1 0 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.530 s (10001 pts) MKR MODEL TROUSCU FUNCTION FUNCTION WIDTH ALLE 2.441 4 GHz 4.882 0 GHz 4.882 0 GHz 7.322 5 GHz 9.763 0 GHz 0.474 dBm -38.333 dBm -38.333 dBm -51.338 dBm -43.170 dBm 123456789101 22222 STATUS SG

Tx. Spurious NVNT 1-DH5 2441MHz Ref



RL 04:51:32 PM Jan 05, 2024 TRACE NSE: FULSE Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 TYPE MW Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.479 944 GHz Ref Offset 0.5 dB Ref 20.00 dBm 1.647 dBm 10 dB/div ٥ ňЯ in. 20. 30.0 201 50 (Maria MARAN .001 Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 1-DH5 2480MHz Emission RL :52:04 PM Jan 05, 2024 Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 TYPE M WANT PNO: Fast ---- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.481 1 GHz Ref Offset 0.5 dB Ref 20.00 dBm 1.511 dBm 10 dB/div 10. àċ. 0 \Diamond 40.1 0 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.530 s (10001 pts) MKRI MODEL TRCI SCL FUNCTION FUNCTION WIDTH 1.511 dBm -35.889 dBm -35.889 dBm -48.838 dBm -43.275 dBm 2.481 1 GHz 4.958 7 GHz 4.958 7 GHz 7.439 0 GHz 9.919 2 GHz 123456789101 22222 STATUS SG

Tx. Spurious NVNT 1-DH5 2480MHz Ref



Tx. Spurious NVNT 2-DH5 2402MHz Ref 09:56:26 AM Jan 06, 2024 TRACE 1 3 5 6 TYPE M MANAGE DET P WIND N RL Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 _ Trig: Free Run Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2,402 080 GHz Ref Offset 0.5 dB Ref 20.00 dBm -2.177 dBm 10 dB/div ňЯ 101 20.0 30.0 2017 50 (00. Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 2-DH5 2402MHz Emission RL 19:57:03 AM Jan 06, 2024 Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 TYPE Muland PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 30 dB Mkr1 2.401 7 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.565 dBm 10 dB/div 10. à 05 40.1 C 0 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.530 s (30001 pts) MKR MODE TRC SEL FUNCTION FUNCTION WIDTH 2.401 7 GHz 9.607 7 GHz 4.804 3 GHz 7.206 0 GHz 9.607 7 GHz 4.565 dBm 44.279 dBm 47.042 dBm 54.360 dBm 44.279 dBm 22222 23456789101 STATUS SG



RI Center Freq 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 Trig: Free Run Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2,440 952 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.037 dBm 10 dB/div n H ini. 20.0 30.0 201 50 (min 60.0 Center 2.441000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 2-DH5 2441MHz Emission RL 09:59:22 AM Jan 06, 2024 Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 TYPE Mislowe PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 30 dB Mkr1 2.440 5 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.631 dBm 10 dB/div 10. 30.1 05 0 40.1 0 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.530 s (30001 pts) MKR MODE TRC SEL FUNCTION FUNCTION WIDTH 4.631 dBm 43.158 dBm 43.158 dBm 55.398 dBm 45.541 dBm 2.440 5 GHz 4.882 0 GHz 4.882 0 GHz 7.322 5 GHz 9.763 9 GHz 23456789101 22222 STATUS SG

Tx. Spurious NVNT 2-DH5 2441MHz Ref



10:01:06 AM Jan 06, 2024 TRACE 1 3 4 5 6 TYPE M MANAGE DET P WITH 10 RL Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 Trig: Free Run Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.480 072 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.870 dBm 10 dB/div ńЯ in. 20. 30.0 2017 50 (NYN myyth -00. Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 2-DH5 2480MHz Emission RL 0:01:42 AM Jan 06, 2024 Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 TYPE MWAWA PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 30 dB Mkr1 2,480 2 GHz Ref Offset 0.5 dB Ref 20.00 dBm -5.988 dBm 10 dB/div 10) 30.1 $\langle \rangle$ 0^5 40.1 0 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.530 s (30001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH -5.988 dBm -39.796 dBm -39.796 dBm -53.217 dBm -44.289 dBm 2.480 2 GHz 4.959 6 GHz 4.959 6 GHz 7.439 8 GHz 9.920 1 GHz 123456789101 22222 STATUS SG

Tx. Spurious NVNT 2-DH5 2480MHz Ref



Tx. Spurious NVNT 3-DH5 2402MHz Ref 10:26:21 AM Jan 06, 2024 TRACE 1 3 5 6 TYPE M M M M RL Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 _ Trig: Free Run Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2,401 936 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.553 dBm 10 dB/div ňЯ 101 20. 30 201 500 60. Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz #Sweep 3.000 s (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 3-DH5 2402MHz Emission RL 0:27:34 AM Jan 06, 2024 Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 20/20 TYPE Mulauda PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 30 dB Mkr1 2.401 7 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.547 dBm 10 dB/div 10) 30.1 Q³ (401 0 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz #Sweep 3.000 s (30001 pts) MKRI MODEL TROUSCU FUNCTION FUNCTION WIDTH 2.401 7 GHz 9.607 7 GHz 4.803 4 GHz 7.206 0 GHz 9.607 7 GHz 4.547 dBm 43.785 dBm 45.529 dBm 50.436 dBm 43.785 dBm 123456789101 22222 STATUS SG



10:31:07 AM Jan 06, 2024 TRACE 1 3 5 6 TYPE M MANAGE DET P 110 10 RL Center Freq 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 Trig: Free Run Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.440 928 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.951 dBm 10 dB/div n H ini. 20. 30.0 201 50 (60. Center 2.441000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 3-DH5 2441MHz Emission RL 0:31:43 AM Jan 06, 2024 Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 TYPE Mislored PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 30 dB Mkr1 2.440 5 GHz Ref Offset 0.5 dB Ref 20.00 dBm -3.397 dBm 10 dB/div 10) 100 05 \Diamond 40.1 \Diamond^4 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.530 s (30001 pts) MKRI MODEL TROUSCU FUNCTION FUNCTION WIDTH -3.397 dBm -44.074 dBm -44.074 dBm -54.619 dBm -44.718 dBm 2.440 5 GHz 4.882 0 GHz 4.882 0 GHz 7.322 5 GHz 9.763 9 GHz 23456789101 22222 STATUS SG

Tx. Spurious NVNT 3-DH5 2441MHz Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ref 10:52:10 AM Jan 06, 2024 TRACE 1 3 4 5 6 TYPE M MANAGE DET P 1010 101 RL Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 _ Trig: Free Run Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.480 112 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.712 dBm 10 dB/div ńЯ in. 20. 30.0 2017 50 (60. Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) #Res BW 100 kHz STATUS na Tx. Spurious NVNT 3-DH5 2480MHz Emission RL 0:52:48 AM Jan 06, 2024 TRACE Center Freg 13.265000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 TYPE MINAWA PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 30 dB Mkr1 2.480 2 GHz Ref Offset 0.5 dB Ref 20.00 dBm -3.369 dBm 10 dB/div 10) 30.1 05 $\langle \rangle$ 401 0 Start 30 MHz Stop 26.50 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.530 s (30001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH -3.369 dBm -39.735 dBm -39.735 dBm -51.319 dBm -44.255 dBm 2.480 2 GHz 4.959 6 GHz 4.959 6 GHz 7.439 8 GHz 9.920 1 GHz 123456789101 22222 STATUS SG



APPENDIX 2-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

* * * * * END OF THE REPORT * * * *