# **Radio Test Report**

Report No.:STS2403108W01

Issued for

# GEMMY INDUSTRIES (HK)LIMITED BVI

Unit No.301 on 3rd Floor, East Ocean Centre, No.98, Kowloon, Hong Kong

Product Name:	Orchestra of Lights-Lightshow Box w/Speaker
Brand Name:	Gemmy
Model Name:	883103
Series Model(s):	N/A
FCC ID:	GPO883103B
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**

	GEMMY INDUSTRIES (HK)LIMITED BVI
Address	Unit No.301 on 3rd Floor, East Ocean Centre, No.98, Kowloon, Hong Kong
Manufacturer's Name	GEMMY INDUSTRIES (HK)LIMITED BVI
Address: Factory1 Address: Factory2 Address	Unit No.301 on 3rd Floor, East Ocean Centre, No.98, Kowloon, Hong Kong ZAIXING ELECTRONIC (SHENZHEN) CO., LTD No. 1 and 3, 1st Road Yang Yong, Tangxiayong Community, Yanluo Street, Bao'an District, Shenzhen City, Guangdong Province, China YUQI ELECTRONIC (HUAIBEI) CO., LTD 32 fengguan road, xiangshan district, Huaibei city, Anhui province, China
Factory3	XINGYU ELECTRONIC (HUIZHOU) CO., LTD
Address Factory4 Address Factory5	Hengjiangwei Village, Yihe Town, Boluo County, Huizhou City, Guangdong Province, China QIYANG TECHNOLOGY (HUAIBEI) CO., LTD 32 Fengguan road, xiangshan district, Huaibei city, Anhui province YUAN HONG COMPANY LIMITED
Address Factory6 Address	No. 3 Street, My Xuan A Industrial Zone, My Xuan Ward, Phu My Town, Ba Ria-Vung Tau province, Vietnam DYNATECH LIGHTING TECHNOLOGY CO., LTD GIGA RESOURCE SPECIAL ECONOMIC ZONE, NATIONAL ROAD NO.1, DERM POU VILLAGE, KANDIENG REAY COMMUNE, SVAY TEAP DISTRICT, SVAY RIENG PROVINCE, CAMBODIA
Product Description	
Product Name:	Orchestra of Lights-Lightshow Box w/Speaker
Brand Name	Gemmy
Model Name:	883103
Series Model(s)	N/A
Tost Standards	ECC Part15 247

Test Standards..... FCC Part15.247

Test Procedure .....: ANSI C63.10-2020

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 .....: 11 Mar. 2024

Date (s) of performance of tests : 11 Mar. 2024 ~ 30 Apr. 2024

Date of Issue .....: 30 Apr. 2024

Test Result .....: Pass



Testing Engineer :

Aann Bu

(Aaron Bu)

Technical Manager :

is cher

(Chris Chen)

Authorized Signatory :

hovery Yoney

(Bovey Yang)





















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Report No.: STS2403108W01

# **Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	30 Apr. 2024	STS2403108W01	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	-	

NOTE:

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

(2) All tests are according to ANSI C63.10-2020.



#### 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	Orchestra of Lights-Lightshow Box w/Speaker
Brand Name	Gemmy
Model Name	883103
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	PCB antenna
Antenna Gain	3 dBi
Rating	Input: AC 120V
Hardware version number	883103-USA (V2)
Software version number	883103-USA (V2)
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.

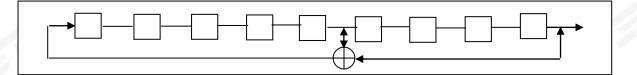


The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hop sets to avoid hopping on occupied channels is permitted. The coordination 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.

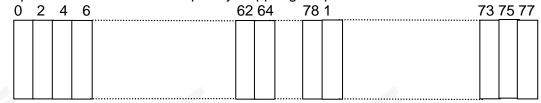
(2)The Pseudorandom sequence may be generated in a nin-stage shift register whose 5<sup>th</sup> and 9<sup>th</sup> stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones: i.e. the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

Numver of shift register stages:9

Length of pseudo-random sequence:2<sup>9</sup>-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.



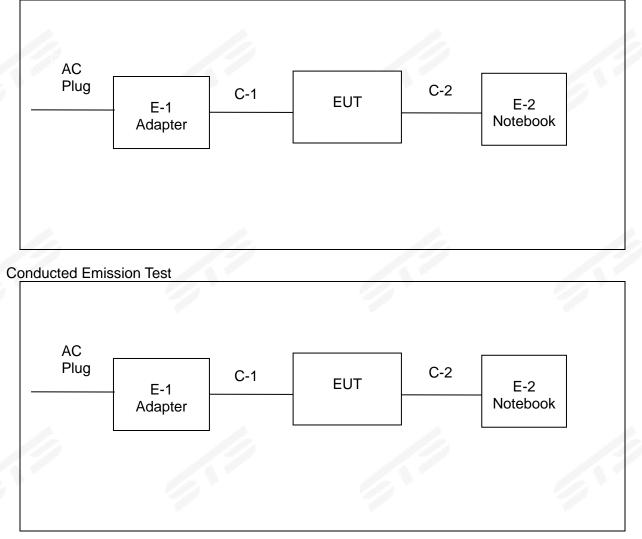
#### 2.4 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

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	Test 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
		GFSK	3	5	
BT	BR+EDR	π/4-DQPSK	3	3	BT_Tool
		8DPSK	3	3	

# 2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED Radiated Spurious 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.

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
	Personal computer	DELL	Inspiron 14-3467	N/A	N/A
	Adapter	N/A	N/A	150cm	NO
	4				

# Support units

				S. 7	
Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
	Personal computer	DELL	Inspiron 14-3467	N/A	N/A
	USB Cable	N/A	N/A	150cm	NO
	Adapter	N/A	N/A	150cm	NO

Note:

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



# 2.7 EQUIPMENTS LIST

Kind of Equipment	Manufacturer	ation Test Equipmer Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2024.03.15	2025.03.14
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2024.02.23	2025.02.22
Pre-Amplifier(1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2023.09.26	2024.09.25
Pre-Amplifier(18G-40GHz)	SKET	LNPA_1840-50	SK2018101801	2024.02.23	2025.02.22
Active loop Antenna	ZHINAN	ZN30900C	16035	2023.02.28	2025.02.27
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
Temperature & Humidity	SW-108	SuWei	N/A	2024.03.15	2025.03.14
Test SW	EZ-EMC	1	Ver.STSLAB-03	A1 RE	
	Conduct	ion Test equipme	nt		
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2023.09.25	2024.09.24
Limtter	CYBERTEK	EM5010	N/A	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
Test SW	EZ-EMC		Ver.STSLAB-03	A1 CE	
		Connected Test		63	
Kind of Equipment	Manufacturer	Туре No.	Serial No.	Last calibration	Calibrated until
Signal Analyzer	Agilent	N9020A	MY51510623	2024.02.23	2025.02.22
Power Sensor	Keysight	U2021XA	MY55520005	2023.09.26	2024.09.25
Temperature & Humidity	SW-108	SuWei	N/A	2024.03.15	2025.03.14
Test SW	MW		MTS 8310_2.	0.0.0	
		6		6	1



#### 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

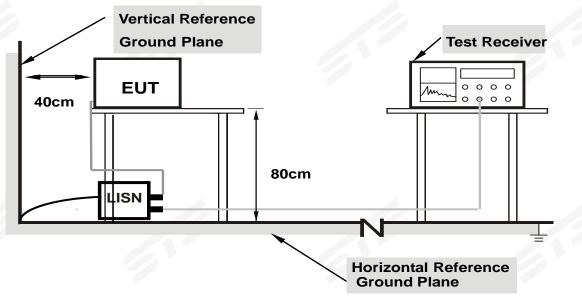
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



#### 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.



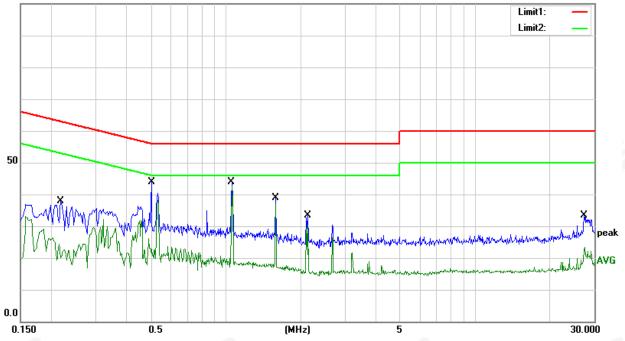
#### 3.1.5 TEST RESULT

Temperature:	25.1(C)	Relative Humidity:	59%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 13	65	65

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.2180	18.02	19.85	37.87	62.89	-25.02	QP
2	0.2180	9.78	19.85	29.63	52.89	-23.26	AVG
3	0.5020	23.78	20.01	43.79	56.00	-12.21	QP
4	0.5020	18.24	20.01	38.25	46.00	-7.75	AVG
5	1.0580	24.14	19.77	43.91	56.00	-12.09	QP
6	1.0580	22.93	19.77	42.70	46.00	-3.30	AVG
7	1.5820	19.16	19.78	38.94	56.00	-17.06	QP
8	1.5820	17.31	19.78	37.09	46.00	-8.91	AVG
9	2.1380	13.48	19.79	33.27	56.00	-22.73	QP
10	2.1380	10.61	19.79	30.40	46.00	-15.60	AVG
11	27.4100	13.23	20.16	33.39	60.00	-26.61	QP
12	27.4100	3.12	20.16	23.28	50.00	-26.72	AVG

#### Remark:

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





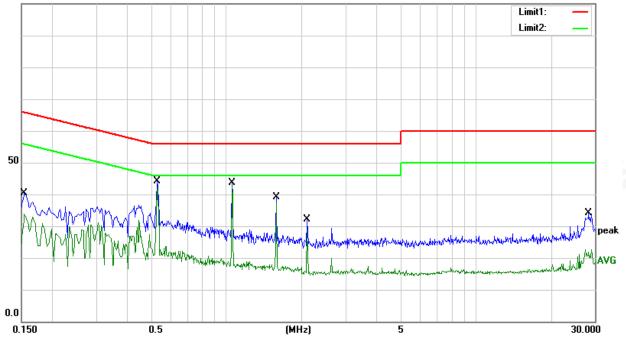
Temperature:	25.1(C)	Relative Humidity:	59%RH
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 13	17	1

		And shares and sh		A CONTRACT AND A CONTRACT			and the second se
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1540	20.63	19.78	40.41	65.78	-25.37	QP
2	0.1540	14.04	19.78	33.82	55.78	-21.96	AVG
3	0.5260	24.06	19.99	44.05	56.00	-11.95	QP
4	0.5260	22.07	19.99	42.06	46.00	-3.94	AVG
5	1.0540	23.87	19.77	43.64	56.00	-12.36	QP
6	1.0540	23.12	19.77	42.89	46.00	-3.11	AVG
7	1.5820	19.29	19.78	39.07	56.00	-16.93	QP
8	1.5820	17.63	19.78	37.41	46.00	-8.59	AVG
9	2.1100	12.42	19.79	32.21	56.00	-23.79	QP
10	2.1100	9.09	19.79	28.88	46.00	-17.12	AVG
11	28.3020	13.83	20.17	34.00	60.00	-26.00	QP
12	28.3020	2.47	20.17	22.64	50.00	-27.36	AVG

#### Remark:

3. Factor=LISN factor+Cable loss+Limiter (10dB)

100.0 dBuV



All readings are Quasi-Peak and Average values
 Margin = Result (Result = Reading + Factor )–Limit



#### 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 C63.10-2020 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)

	(dBuV/m) (at 3M)		
FREQUENCY (MHz)	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			
ø	Detector	Peak/AV			
	Start/Stop Frequency	Lower Band Edge: 2310 to 2410 MHz			
		Upper Band Edge: 2476 to 2500 MHz			
		1 MHz / 3 MHz(Peak)			
	RB / VB	1 MHz/1/T MHz(AVG)			

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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.

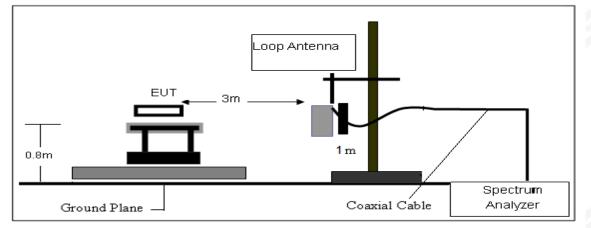
# 3.2.3 DEVIATION FROM TEST STANDARD

No deviation.

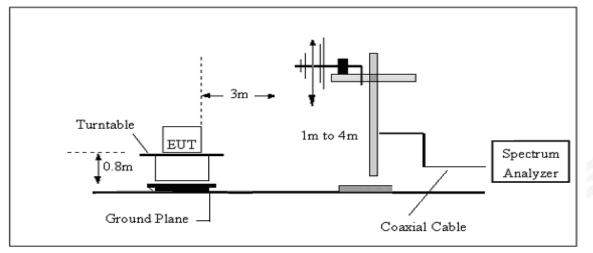


# 3.2.4 TESTSETUP

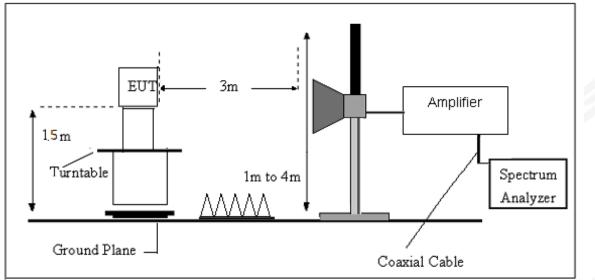
(A) Radiated Emission Test-Up Frequency Below 30MHz

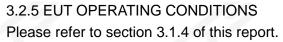


#### (B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(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:	AC 120V/60Hz	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.



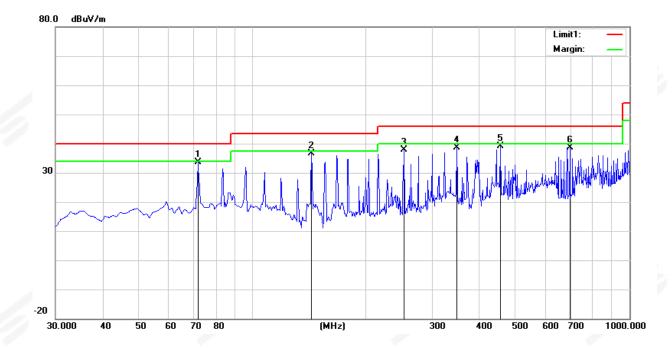
(30MHz-1000MHz)

Temperature:	23.1(C)	Relative Humidity:	60%RH			
Test Voltage:	AC 120V/60Hz	Phase:	Horizontal			
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode 1 worst mode)					

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	71.7100	58.20	-24.56	33.64	40.00	-6.36	peak
2	143.4900	54.98	-18.23	36.75	43.50	-6.75	peak
3	252.1300	53.60	-15.80	37.80	46.00	-8.20	peak
4	348.1600	51.81	-13.13	38.68	46.00	-7.32	peak
5	455.8300	48.74	-9.55	39.19	46.00	-6.81	peak
6	696.3900	42.97	-4.23	38.74	46.00	-7.26	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.



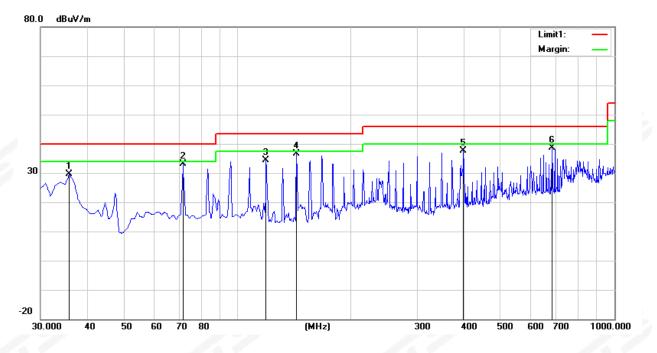


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Temperature:	23.1(C)	Relative Humidity:	60%RH		
Test Voltage:	AC 120V/60Hz	Phase:	Vertical		
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode 1 worst mode)				

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark	
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	35.8200	45.50	-15.91	29.59	40.00	-10.41	peak	
2	71.7100	57.58	-24.56	33.02	40.00	-6.98	peak	
3	119.2400	52.88	-18.38	34.50	43.50	-9.00	peak	
4	143.4900	54.84	-18.23	36.61	43.50	-6.89	peak	
5	398.6000	48.93	-11.20	37.73	46.00	-8.27	peak	
6	683.7800	43.06	-4.31	38.75	46.00	-7.25	peak	
mark:		10.3	a L Eactor ) Limit					

- Margin = Result (Result = Reading + Factor )–Limit
   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	-		1.12	Low Cl	nannel (GFSK/	2402 MHz)	•		100	
3264.85	61.62	44.70	6.70	28.20	-9.80	51.82	74.00	-22.18	PK	Vertical
3264.85	51.06	44.70	6.70	28.20	-9.80	41.26	54.00	-12.74	AV	Vertical
3264.58	61.39	44.70	6.70	28.20	-9.80	51.59	74.00	-22.41	PK	Horizontal
3264.58	51.27	44.70	6.70	28.20	-9.80	41.47	54.00	-12.53	AV	Horizontal
4804.38	58.47	44.20	9.04	31.60	-3.56	54.91	74.00	-19.09	PK	Vertical
4804.38	49.88	44.20	9.04	31.60	-3.56	46.32	54.00	-7.68	AV	Vertical
4804.57	58.68	44.20	9.04	31.60	-3.56	55.12	74.00	-18.88	PK	Horizontal
4804.57	49.52	44.20	9.04	31.60	-3.56	45.96	54.00	-8.04	AV	Horizontal
5359.65	48.34	44.20	9.86	32.00	-2.34	46.00	74.00	-28.00	PK	Vertical
5359.65	40.03	44.20	9.86	32.00	-2.34	37.69	54.00	-16.31	AV	Vertical
5359.70	48.07	44.20	9.86	32.00	-2.34	45.73	74.00	-28.27	PK	Horizontal
5359.70	38.69	44.20	9.86	32.00	-2.34	36.35	54.00	-17.65	AV	Horizontal
7205.83	53.84	43.50	11.40	35.50	3.40	57.24	74.00	-16.76	PK	Vertical
7205.83	43.66	43.50	11.40	35.50	3.40	47.06	54.00	-6.94	AV	Vertical
7205.75	54.83	43.50	11.40	35.50	3.40	58.23	74.00	-15.77	PK	Horizontal
7205.75	44.03	43.50	11.40	35.50	3.40	47.43	54.00	-6.57	AV	Horizontal
		•		Middle 0	Channel (GFSK	(/2441 MHz)			•	
3264.73	61.41	44.70	6.70	28.20	-9.80	51.61	74.00	-22.39	PK	Vertical
3264.73	51.20	44.70	6.70	28.20	-9.80	41.40	54.00	-12.60	AV	Vertical
3264.76	62.22	44.70	6.70	28.20	-9.80	52.42	74.00	-21.58	PK	Horizontal
3264.76	50.83	44.70	6.70	28.20	-9.80	41.03	54.00	-12.97	AV	Horizontal
4882.57	58.57	44.20	9.04	31.60	-3.56	55.01	74.00	-18.99	PK	Vertical
4882.57	50.27	44.20	9.04	31.60	-3.56	46.71	54.00	-7.29	AV	Vertical
4882.35	58.39	44.20	9.04	31.60	-3.56	54.83	74.00	-19.17	PK	Horizontal
4882.35	50.24	44.20	9.04	31.60	-3.56	46.68	54.00	-7.32	AV	Horizontal
5359.72	48.00	44.20	9.86	32.00	-2.34	45.66	74.00	-28.34	PK	Vertical
5359.72	39.97	44.20	9.86	32.00	-2.34	37.63	54.00	-16.37	AV	Vertical
5359.66	48.45	44.20	9.86	32.00	-2.34	46.11	74.00	-27.89	PK	Horizontal
5359.66	38.23	44.20	9.86	32.00	-2.34	35.89	54.00	-18.11	AV	Horizontal
7323.80	53.72	43.50	11.40	35.50	3.40	57.12	74.00	-16.88	PK	Vertical
7323.80	43.54	43.50	11.40	35.50	3.40	46.94	54.00	-7.06	AV	Vertical
7323.95	54.70	43.50	11.40	35.50	3.40	58.10	74.00	-15.90	PK	Horizontal
7323.95	44.42	43.50	11.40	35.50	3.40	47.82	54.00	-6.18	AV	Horizontal



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	High Channel (GFSK/2480 MHz)									
3264.75	61.02	44.70	6.70	28.20	-9.80	51.22	74.00	-22.78	PK	Vertical
3264.75	50.30	44.70	6.70	28.20	-9.80	40.50	54.00	-13.50	AV	Vertical
3264.85	62.12	44.70	6.70	28.20	-9.80	52.32	74.00	-21.68	PK	Horizontal
3264.85	51.09	44.70	6.70	28.20	-9.80	41.29	54.00	-12.71	AV	Horizontal
4960.51	59.13	44.20	9.04	31.60	-3.56	55.57	74.00	-18.43	PK	Vertical
4960.51	49.76	44.20	9.04	31.60	-3.56	46.20	54.00	-7.80	AV	Vertical
4960.43	59.54	44.20	9.04	31.60	-3.56	55.98	74.00	-18.02	PK	Horizontal
4960.43	49.70	44.20	9.04	31.60	-3.56	46.14	54.00	-7.86	AV	Horizontal
5359.71	48.82	44.20	9.86	32.00	-2.34	46.48	74.00	-27.52	PK	Vertical
5359.71	39.26	44.20	9.86	32.00	-2.34	36.92	54.00	-17.08	AV	Vertical
5359.57	47.90	44.20	9.86	32.00	-2.34	45.56	74.00	-28.44	PK	Horizontal
5359.57	38.64	44.20	9.86	32.00	-2.34	36.30	54.00	-17.70	AV	Horizontal
7439.93	54.44	43.50	11.40	35.50	3.40	57.84	74.00	-16.16	PK	Vertical
7439.93	44.70	43.50	11.40	35.50	3.40	48.10	54.00	-5.90	AV	Vertical
7439.88	54.39	43.50	11.40	35.50	3.40	57.79	74.00	-16.21	PK	Horizontal
7439.88	44.09	43.50	11.40	35.50	3.40	47.49	54.00	-6.51	AV	Horizontal

#### Note:

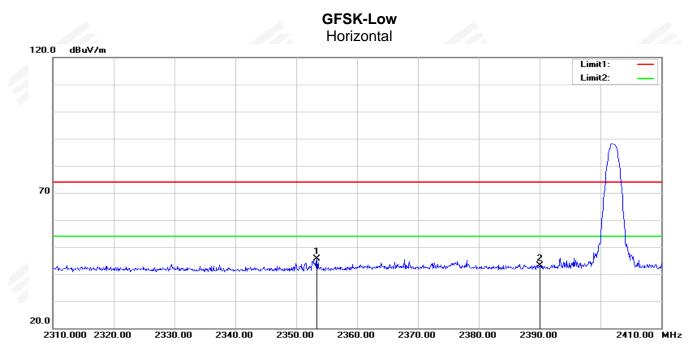
- 1) Scan with GFSK,  $\pi/4$ -DQPSK, 8DPSK, the worst case is GFSK Mode.
- 2) Factor = Antenna Factor + Cable Loss Pre-amplifier.

Emission Level = Reading + Factor

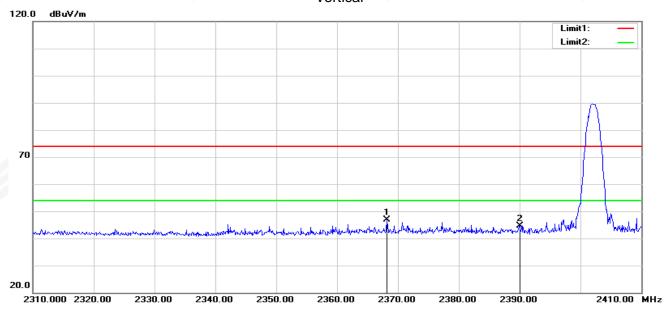
3) The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.



#### Restricted band Requirements



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2353.400	41.91	3.79	45.70	74.00	-28.30	peak
2	2390.000	38.72	4.34	43.06	74.00	-30.94	peak

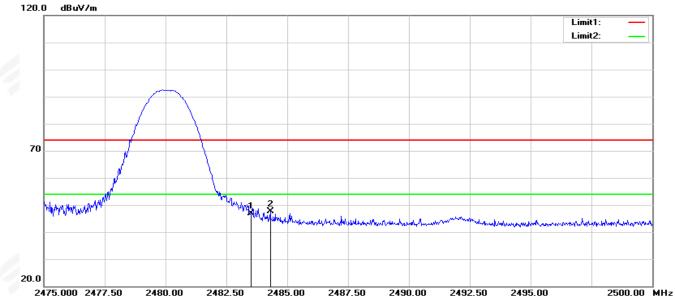


No. Frequency Reading Correct Result Limit Margin Remark (MHz) (dBuV) Factor(dB/m) (dBuV/m) (dBuV/m) (dB) 74.00 1 2368.200 42.96 4.01 46.97 -27.03 peak 2 2390.000 40.17 4.34 44.51 74.00 -29.49 peak

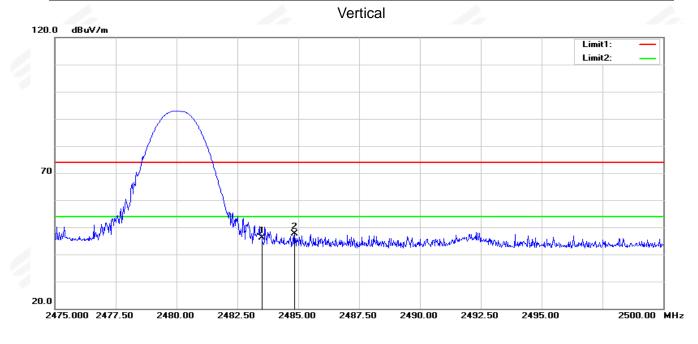
Vertical



#### **GFSK-High** Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	42.40	4.60	47.00	74.00	-27.00	peak
2	2484.300	42.93	4.61	47.54	74.00	-26.46	peak



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	41.44	4.60	46.04	74.00	-27.96	peak
2	2484.850	43.01	4.61	47.62	74.00	-26.38	peak

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
	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

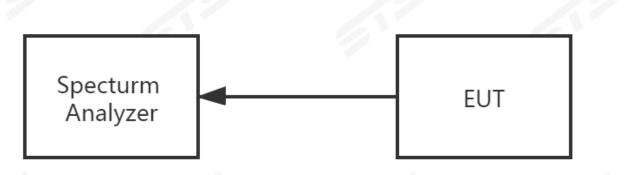
	FCC Part 15.247,Subpart C									
Section	Test Item	Limit	FrequencyRange (MHz)	Result						
15.247 (a)(1)(iii)	Number of Hopping Channel	≥15	2400-2483.5	PASS						

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  $3.37 \times 31.6 = 106.6$ .
- 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  $10.12 \times 31.6 = 320$ .

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

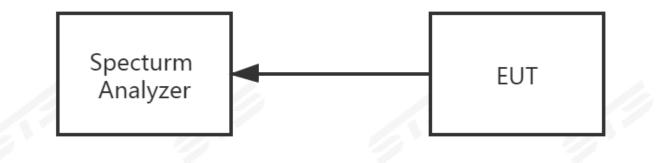
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that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

FCC Part15 15.247,Subpart C								
Section	Test Item	Limit	FrequencyRange (MHz)	Result				
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

	8									
	FCC Part 15.247,Subpart C									
Sec	tion	Test Item	Limit	Frequency Range (MHz)	Result					
			1 W or 0.125W							
	247 &(b)(1)	Output Power	if channel separation > 2/3 bandwidthprovided thesystems operatewith an output power no greater than125 mW(20.97dBm)	2400-2483.5	PASS					

### 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.

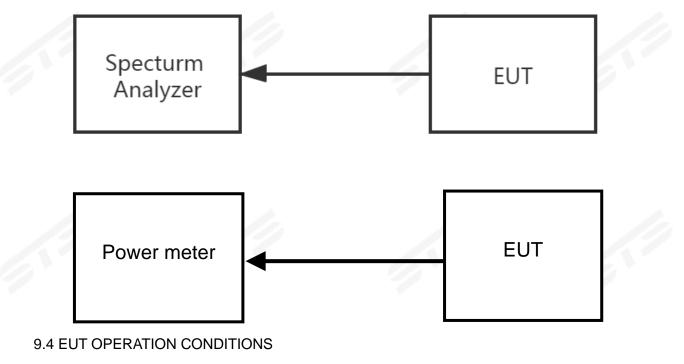
e) A plot of the test results and setup description shall be included in the test report.

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.





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

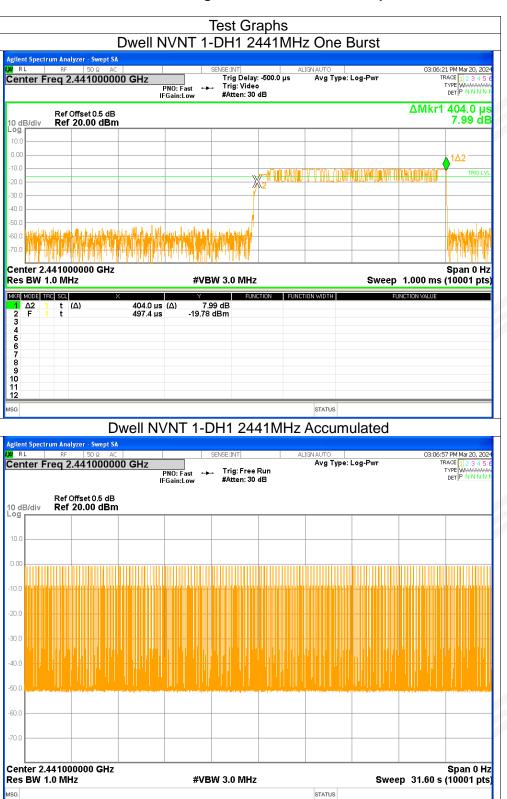
The EUT antenna is PCB Antenna. It comply with the standard requirement.



# 1. Dwell Time

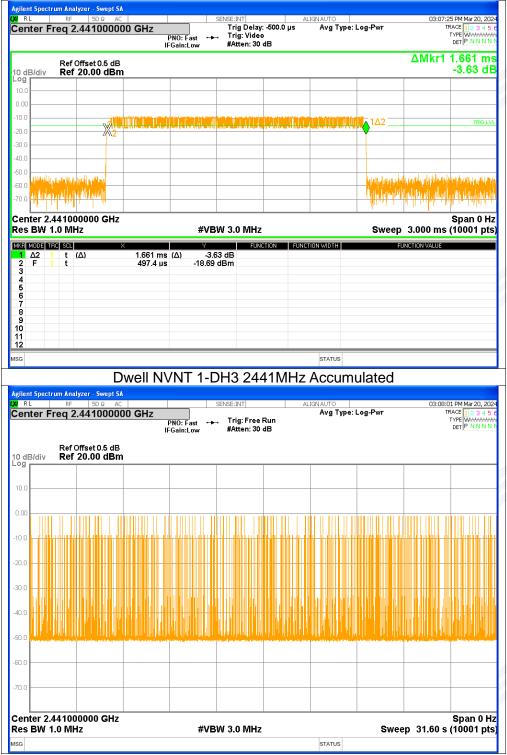
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.404	128.876	319	31600	<=400	Pass
NVNT	1-DH3	2441	1.661	265.76	160	31600	<=400	Pass
NVNT	1-DH5	2441	2.909	308.354	106	31600	<=400	Pass
NVNT	2-DH1	2441	0.419	131.566	314	31600	<=400	Pass
NVNT	2-DH3	2441	1.667	275.055	165	31600	<=400	Pass
NVNT	2-DH5	2441	2.915	291.5	100	31600	<=400	Pass
NVNT	3-DH1	2441	0.417	131.772	316	31600	<=400	Pass
NVNT	3-DH3	2441	1.67	258.85	155	31600	<=400	Pass
NVNT	3-DH5	2441	2.917	303.368	104	31600	<=400	Pass





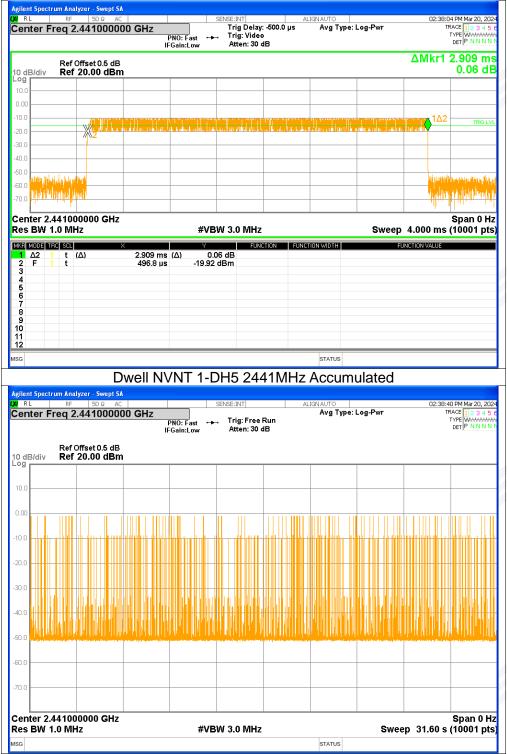


### Dwell NVNT 1-DH3 2441MHz One Burst



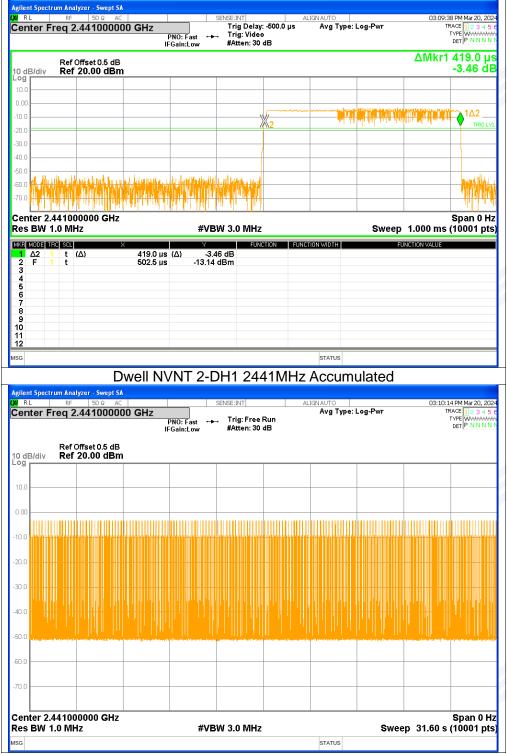


### Dwell NVNT 1-DH5 2441MHz One Burst





### Dwell NVNT 2-DH1 2441MHz One Burst

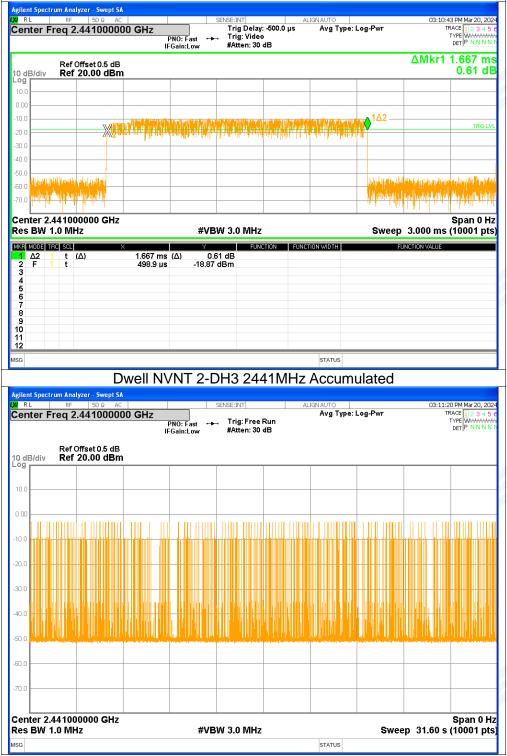


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7 - E

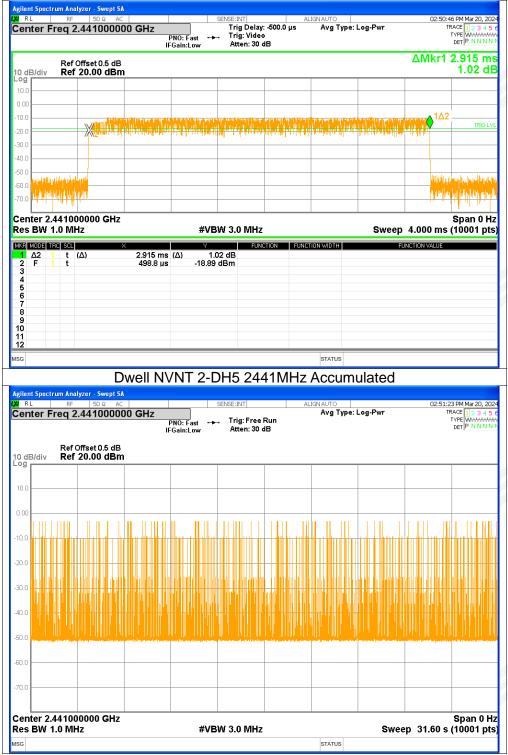


### Dwell NVNT 2-DH3 2441MHz One Burst



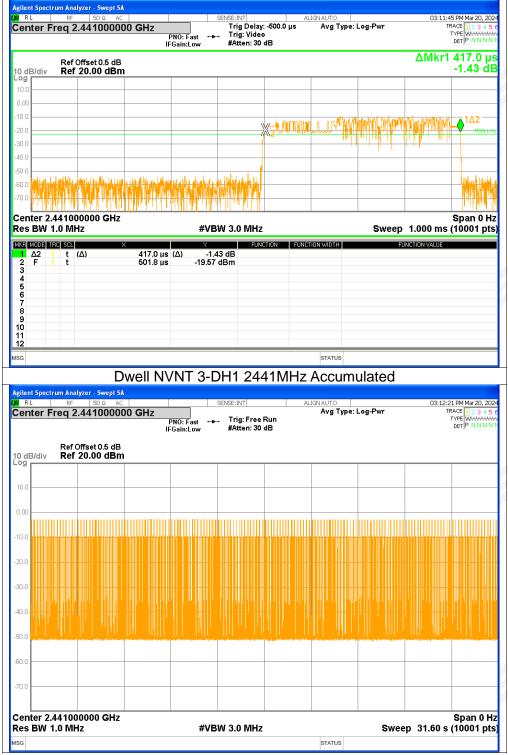


### Dwell NVNT 2-DH5 2441MHz One Burst



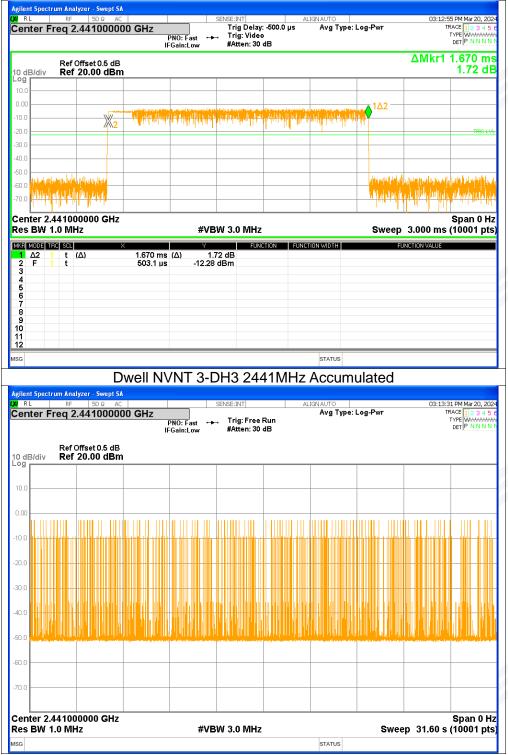


### Dwell NVNT 3-DH1 2441MHz One Burst





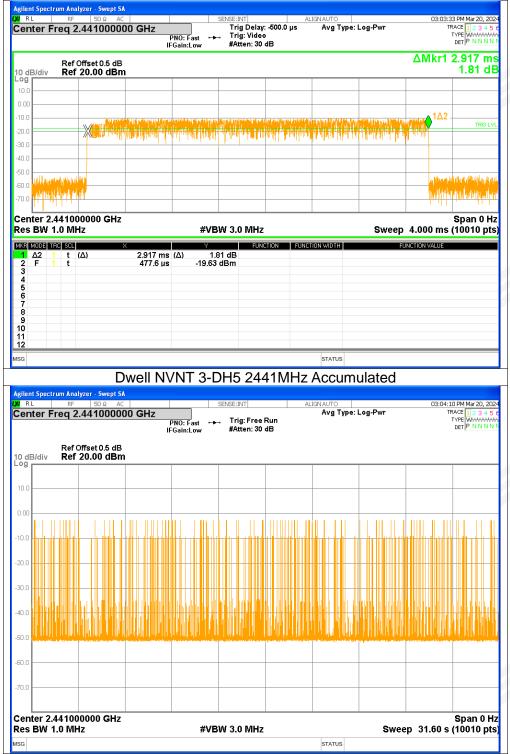
### Dwell NVNT 3-DH3 2441MHz One Burst



19



### Dwell NVNT 3-DH5 2441MHz One Burst



19



### 2. Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	0.31	<=20.97	Pass
NVNT	1-DH5	2441	-0.84	<=20.97	Pass
NVNT	1-DH5	2480	-1.83	<=20.97	Pass
NVNT	2-DH5	2402	-1.41	<=20.97	Pass
NVNT	2-DH5	2441	-2.6	<=20.97	Pass
NVNT	2-DH5	2480	-3.59	<=20.97	Pass
NVNT	3-DH5	2402	-1.05	<=20.97	Pass
NVNT	3-DH5	2441	-2.28	<=20.97	Pass
NVNT	3-DH5	2480	-3.19	<=20.97	Pass



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#### Peak Power NVNT 1-DH5 2480MHz nt Spectrum Analyzer - Swept SA 02:33:47 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL SENSE:INT Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 50/50 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.480 032 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.832 dBm 10 dB/div Log 10.0 0.00 -20.0 30.0 -40 r والمطلقان لاعتداده وال -50.0 -60.0 70. Span 10.00 MHz #Sweep 150 ms (10001 pts) Center 2.480000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz STATUS MSG Peak Power NVNT 2-DH5 2402MHz nt Spectrum Analyzer - Swept SA 02:42:55 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL Center Freq 2.402000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.401 882 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.409 dBm 10 dB/div Log 10.0 0.0 20.0 30.0 -40.C -50.0 -60 | Center 2.402000 GHz Span 10.00 MHz #Sweep 150 ms (10001 pts) #Res BW 2.0 MHz #VBW 6.0 MHz STATUS MSG

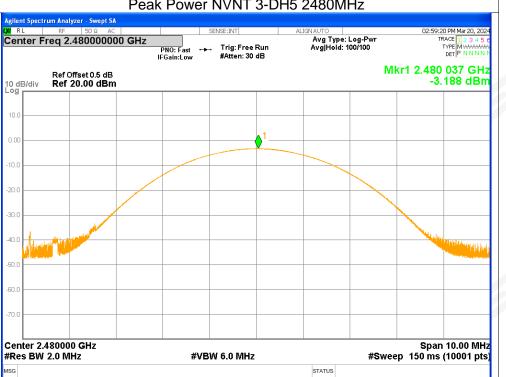


#### Peak Power NVNT 2-DH5 2441MHz nt Spectrum Analyzer - Swept SA 2:44:53 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL SENSE:INT Center Freq 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 50/50 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.440 810 GHz Ref Offset 0.5 dB Ref 20.00 dBm -2.602 dBm 10 dB/div Log 10.0 0.00 -20.0 30. -40 r -50.0 -60.0 70. Span 10.00 MHz #Sweep 150 ms (10001 pts) Center 2.441000 GHz #VBW 6.0 MHz #Res BW 2.0 MHz STATUS MSG Peak Power NVNT 2-DH5 2480MHz nt Spectrum Analyzer - Swept SA 46:25 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N XI RL Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 50/50 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.479 823 GHz Ref Offset 0.5 dB Ref 20.00 dBm -3.587 dBm 10 dB/div Log 10.0 0.0 0 20. -30.0 -40.C -50.0 -60 ( Center 2.480000 GHz Span 10.00 MHz #Sweep 150 ms (10001 pts) #Res BW 2.0 MHz #VBW 6.0 MHz STATUS MSG



#### Peak Power NVNT 3-DH5 2402MHz nt Spectrum Analyzer - Swept SA 02:54:40 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL SENSE:INT Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 100/100 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.402 055 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.046 dBm 10 dB/div Log 10.0 0.00 -20.0 30.0 -40 r -50.0 -60.0 70. Span 10.00 MHz #Sweep 150 ms (10001 pts) Center 2.402000 GHz #VBW 6.0 MHz #Res BW 2.0 MHz STATUS MSG Peak Power NVNT 3-DH5 2441MHz nt Spectrum Analyzer - Swept SA 02:57:41 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL Center Freq 2.441000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.441 003 GHz Ref Offset 0.5 dB Ref 20.00 dBm -2.277 dBm 10 dB/div Log 10.0 0.0 20.0 30. -40.C distan -50.0 -60 | Center 2.441000 GHz Span 10.00 MHz #Sweep 150 ms (10001 pts) #Res BW 2.0 MHz #VBW 6.0 MHz STATUS MSG





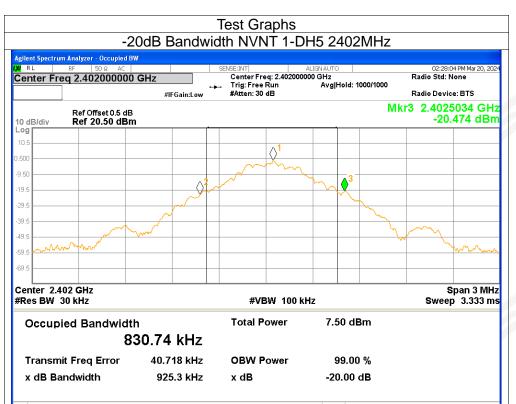
### Peak Power NVNT 3-DH5 2480MHz

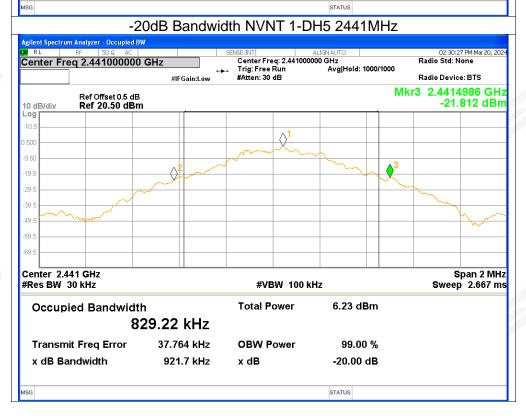


### 3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	0.9253	Pass
NVNT	1-DH5	2441	0.9217	Pass
NVNT	1-DH5	2480	0.9512	Pass
NVNT	2-DH5	2402	1.2744	Pass
NVNT	2-DH5	2441	1.2744	Pass
NVNT	2-DH5	2480	1.2741	Pass
NVNT	3-DH5	2402	1.2825	Pass
NVNT	3-DH5	2441	1.2835	Pass
NVNT	3-DH5	2480	1.283	Pass

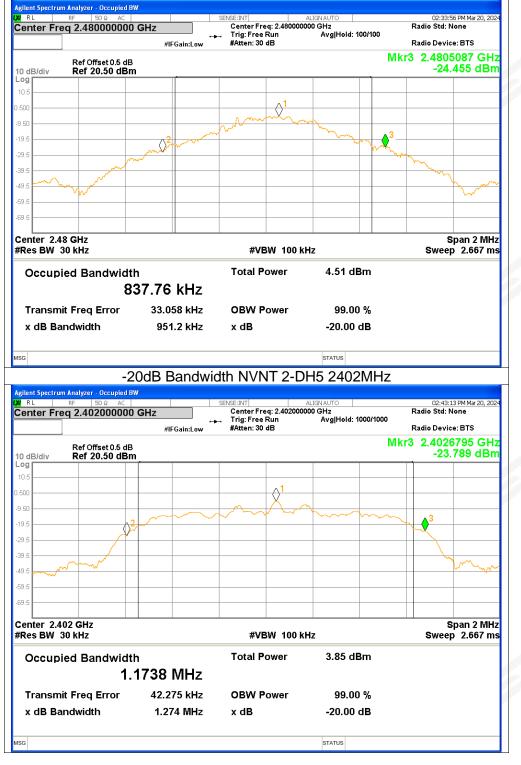












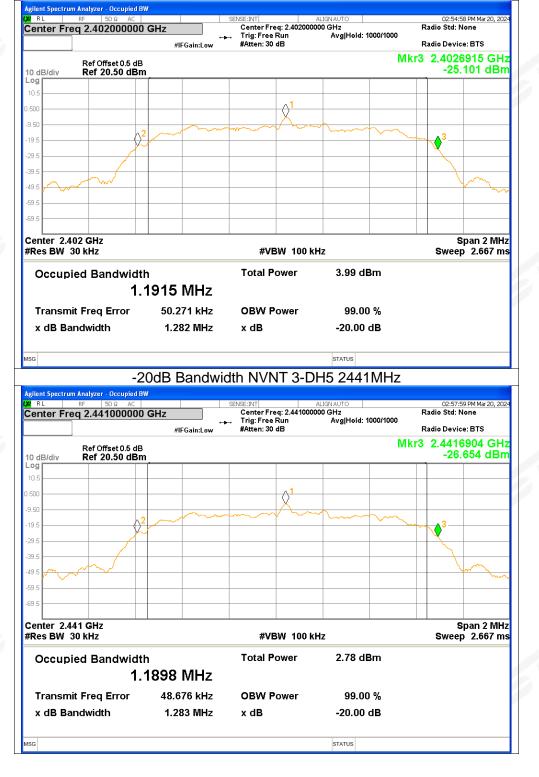


### -20dB Bandwidth NVNT 2-DH5 2441MHz





### -20dB Bandwidth NVNT 3-DH5 2402MHz

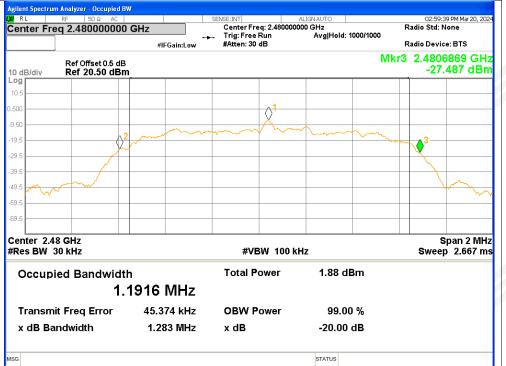


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### -20dB Bandwidth NVNT 3-DH5 2480MHz













## 4. Carrier Frequencies Separation

Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
1-DH5	2402.016	2403.052	1.036	>=0.617	Pass
1-DH5	2440.034	2441.046	1.012	>=0.614	Pass
1-DH5	2479.034	2480.006	0.972	>=0.634	Pass
2-DH5	2402.174	2403.044	0.87	>=0.85	Pass
2-DH5	2440.886	2442.384	1.498	>=0.85	Pass
2-DH5	2478.884	2480.036	1.152	>=0.849	Pass
3-DH5	2402.032	2403.142	1.11	>=0.855	Pass
3-DH5	2441.04	2442.062	1.022	>=0.856	Pass
3-DH5	2479.05	2479.942	0.892	>=0.855	Pass
1					
	1-DH5 1-DH5 2-DH5 2-DH5 2-DH5 3-DH5 3-DH5	Mode(MHz)1-DH52402.0161-DH52440.0341-DH52479.0342-DH52402.1742-DH52440.8862-DH52478.8843-DH52402.0323-DH52441.04	Mode(MHz)(MHz)1-DH52402.0162403.0521-DH52440.0342441.0461-DH52479.0342480.0062-DH52402.1742403.0442-DH52440.8862442.3842-DH52478.8842480.0363-DH52402.0322403.1423-DH52441.042442.062	Mode(MHz)(MHz)(MHz)1-DH52402.0162403.0521.0361-DH52440.0342441.0461.0121-DH52479.0342480.0060.9722-DH52402.1742403.0440.872-DH52440.8862442.3841.4982-DH52478.8842480.0361.1523-DH52402.0322403.1421.113-DH52441.042442.0621.022	Mode(MHz)(MHz)(MHz)1-DH52402.0162403.052 $1.036$ >=0.6171-DH52440.0342441.046 $1.012$ >=0.6141-DH52479.0342480.006 $0.972$ >=0.6342-DH52402.1742403.044 $0.87$ >=0.852-DH52440.8862442.384 $1.498$ >=0.852-DH52478.8842480.036 $1.152$ >=0.8493-DH52402.0322403.142 $1.11$ >=0.8553-DH52441.042442.062 $1.022$ >=0.856

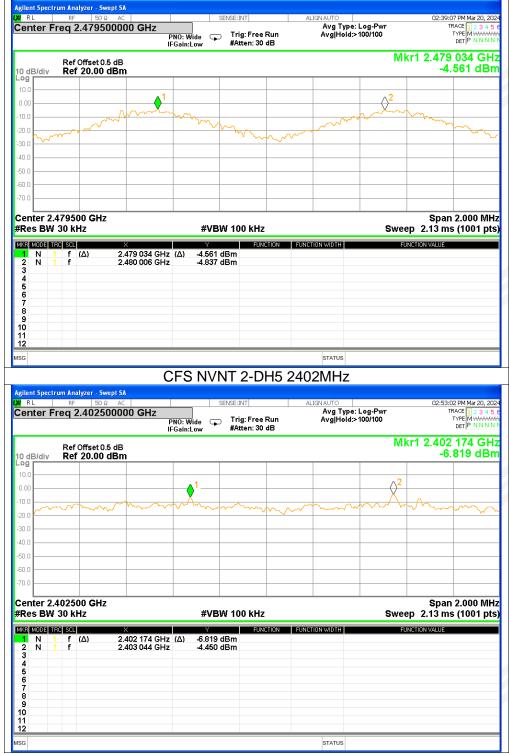


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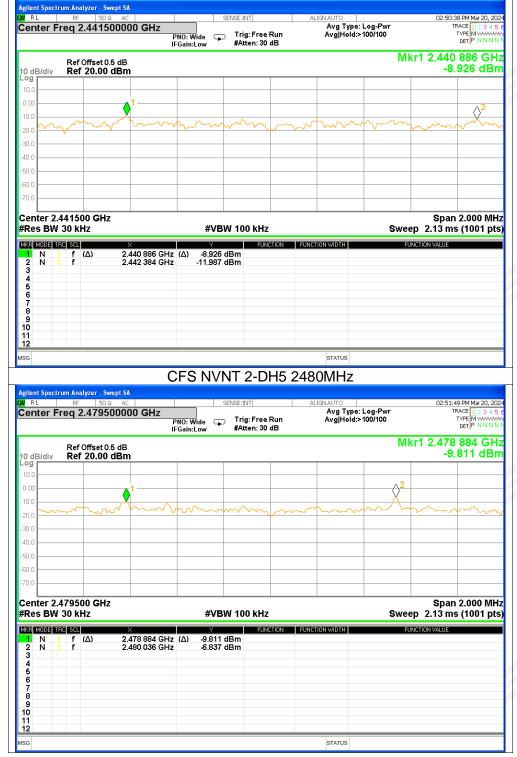


### CFS NVNT 1-DH5 2480MHz



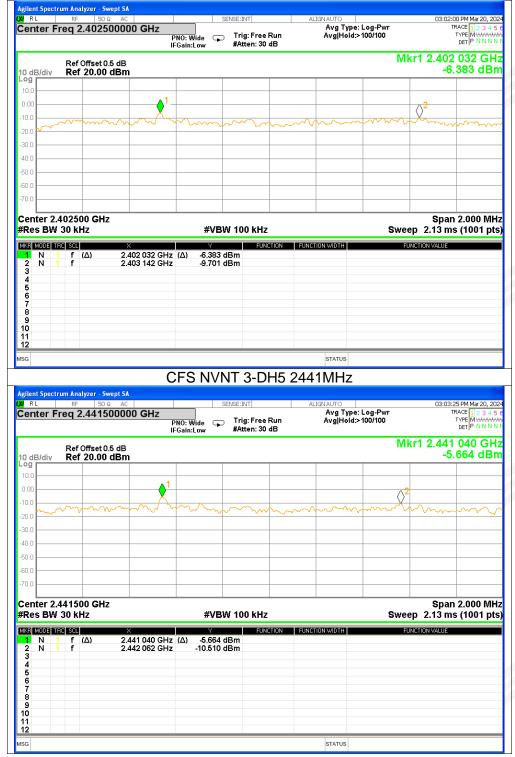


### CFS NVNT 2-DH5 2441MHz





### CFS NVNT 3-DH5 2402MHz





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jlent Spectrum Analyzer - Swept SA RL RF   50 gr AC   enter Freq 2.479500000 GHz	PNO: Wide IFGain:Low HAtten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr Avg Hold:>100/100	03:04:36 PM Mar 20, 2024 TRACE 12:34 5 6 TYPE M WWWWW DET P N N N N
Ref Offset 0.5 dB OdB/div Ref 20.00 dBm		Mł	(r1 2.479 050 GHz -7.594 dBm
	<b>1</b>		
	mon	mm	m
0			
0.0			
enter 2.479500 GHz Res BW 30 kHz	#VBW 100 kHz	Swee	Span 2.000 MHz 2 2.13 ms (1001 pts)
G         MODE         TRC         SCL         X           1         N         1         f         (Δ)         2.479         050         G           2         N         1         f         2.479         942         G           3         -		FUNCTION WIDTH FU	NCTION VALUE
4 5 6			
7 8 8 9 9 0			
1 2 G		STATUS	











## 5. 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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**Test Graphs** Hopping No. NVNT 1-DH5 Hopping RL Center Freq 2.441750000 GHz Avg Type: Log-Pw Avg|Hold:>100/100 TRACE Trig: Free Run #Atten: 30 dB DET P N N N N PNO: Fast IFGain:Low  $\mathbf{r}$ Mkr1 2.401 920 5 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.344 dBm 10 dB/div Log  $\langle \rangle$ 0.00 UAAAAAAAAAAAAAAAAA 20.0 30.0 -40.0 -50.0 60.0 Start 2.40000 GHz #Res BW 100 kHz Stop 2.48350 GHz #VBW 300 kHz Sweep 8.00 ms (1001 pts) FUNCTION FUNCTION WIDTH MKR MODE TRC SCL UNCTION VALUE f (Δ) f 2.401 920 5 GHz (Δ) 2.480 160 0 GHz -0.344 dBm -2.703 dBm 1 N N 2 3 4 5 6 7 8 9 10 11 12 STATUS MSG Hopping No. NVNT 2-DH5 Hopping ctrum Analyzer - Swept SA <mark>ໝ</mark> RL RF 50 Ω AC Center Freq 2.441750000 GHz 49:42 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE MWWWWW DET P N N N N Avg Type: Log-Pwi Avg|Hold:>100/100 Trig: Free Run #Atten: 30 dB PNO: Fast 😱 IFGain:Low Mkr1 2.401 670 0 GHz Ref Offset 0.5 dB Ref 20.00 dBm -8.690 dBm 10 dB/div 0.00 and the www.r.h.a.l.h.m.a.a.l.a -20.0 30.0 -40 r -50.0 -60.0 70.0 Start 2.40000 GHz #Res BW 100 kHz Stop 2.48350 GHz Sweep 8.00 ms (1001 pts) #VBW 300 kHz MKR MODE TRC SCL FUNCTION WIDTH INCTION 2.401 670 0 GHz (Δ) 2.480 410 5 GHz -8.690 dBm -9.739 dBm (Δ) 1 2 3 4 5 6 7 8 9 10 11 12 N N f f STATUS ISG



### Hopping No. NVNT 3-DH5 Hopping

							yzer - Swept S <i>I</i>		
03:02:27 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M MMMMM DET P N N N N N	⇒e: Log-Pwr d:>100/100		Run	ENSE:INT Trig: Free #Atten: 30	NO: Fast Gain:Low	00 GHz	50 Ω AC .44175000	Freq 2.	iter
1 2.401 670 0 GHz -6.864 dBm	Mkr1 2.4	1				1	offset 0.5 dB 20.00 dBm		B/div
2	mana and a construction of the construction of		a		al lodas		1-1-11-		
		n an	יואטוביונטלאלבאטלטוא				htto an anaicht fa an	the particular	
									-
									<u></u>
Stop 2.48350 GHz ep 8.00 ms (1001 pts)	Sweep 8.0			№ 300 kHz	#VB		Hz	10000 G V 100 k	s B
INCTION VALUE	FUNCTION	TION WIDTH	TION FUNCT	dBm	(Δ) -6.864 -9.849	1 670 0 GHz 0 494 0 GHz		TRC SCL 1 f (, 1 f	N N
		STATUS							_











### 6. Band Edge

Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	No-Hopping	-50.69	<=-20	Pass
NVNT	1-DH5	2480	No-Hopping	-54.81	<=-20	Pass
NVNT	2-DH5	2402	No-Hopping	-41.94	<=-20	Pass
NVNT	2-DH5	2480	No-Hopping	-46.75	<=-20	Pass
NVNT	3-DH5	2402	No-Hopping	-50.27	<=-20	Pass
NVNT	3-DH5	2480	No-Hopping	-52.3	<=-20	Pass



#### **Test Graphs** Band Edge NVNT 1-DH5 2402MHz No-Hopping Ref rum Analyzer - Swept SA RL 10 DM Mar 20 - 20 Center Freq 2.402000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 Trig: Free Run #Atten: 30 dB TYPE MWWWWW DET P N N N N PNO: Wide IFGain:Low Mkr1 2.401 880 GHz -0.077 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log 10.0 0.00 20.0 30. 40. -50.0 and Martin Andrewan which h Lucker -60.0 70. Center 2.402000 GHz #Res BW 100 kHz Span 8.000 MHz #Sweep 100 ms (1001 pts) #VBW 300 kHz STATUS MSG Band Edge NVNT 1-DH5 2402MHz No-Hopping Emission ctrum Analyzer - Swept SA <mark>ν/</mark> RL | RF 50Ω AC | Center Freq 2.356000000 GHz :32 PM Mar 20, 202 Avg Type: Log-Pwr Avg|Hold: 100/100 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Fast 🔸 Mkr1 2.401 9 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.145 dBm 10 dB/div Log 0.00 10. -20.0 30.0 -40 r $\langle \rangle$ -50.0 -60.0 70.0 Start 2.30600 GHz #Res BW 100 kHz Stop 2.40600 GHz #VBW 300 kHz #Sweep 100 ms (1001 pts) MKR MODE TRC SCL UNCTION FUNCTION WIDTH × 2.401 9 GHz (Δ) 2.400 0 GHz 2.400 0 GHz 2.398 8 GHz -0.145 dBm -52.565 dBm -52.565 dBm -50.777 dBm (Δ) 1 2 3 4 5 6 7 8 9 10 11 12 N N N N f f f STATUS ISG



nt Spectrum Analyzer - S L RF 50 Iter Freq 2.4800	Ω AC 00000 GHz	SE NO:Wide ↔	NSE:INT		NAUTO Avg Type: I Avg Hold: 1			:12 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWM
Ref Offset 0	IF	NU: Wide ↔ Gain:Low	#Atten: 30 dB		in girlora. I		lkr1 2.48	0 040 GHz
B/div Ref 20.00						1	-2	2.181 dBm
				1				
			$\int$	7				
			/	$\rightarrow$				
					~			
	- 104	m						die .
where	when we will a	W <sup>r</sup>			જાયમાન	M. Markener	forenonytenters	Munimum
r 2.480000 GH: 3W 100 kHz	2	#\/R\A	/ 300 kHz			#Sw/		n 8.000 MHz ns (1001 pts)
S BH TOO MIL					STATUS	<i>"</i>	•	
Band	Edge NVN	NT 1-DH		/Hz No			nission	
Band t Spectrum Analyzer - So - RF 50	wept SA Ω AC				D-Hopp	oing En	02:34	:25 PM Mar 20, 2024
Band Spectrum Analyzer - So RF 50	wept SA Ω AC        000000 GHz		5 2480N	ALIG	o-Hopp	bing En	02:34	,
Band	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34 Mkr1 2.4	25 PM Mar 20, 2024 TRACE 12 3 4 5 6 TYPE M WWWWW DET P N N N N 479 9 GHz
Band t Spectrum Analyzer - So RF 50 ter Freq 2.5260 Ref Offset 0	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34 Mkr1 2.4	:25 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N
Band Spectrum Analyzer - S RF 50 er Freq 2.5260 Ref Offset 0	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34 Mkr1 2.4	25 PM Mar 20, 2024 TRACE 12 3 4 5 6 TYPE M WWWWW DET P N N N N 479 9 GHz
Band Spectrum Analyzer - S RF 50 rer Freq 2.5260 Ref Offset 0	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34 Mkr1 2.4	25 PM Mar 20, 2024 TRACE 12 3 4 5 6 TYPE M WWWWW DET P N N N N 479 9 GHz
Band Spectrum Analyzer - So RF 500 er Freq 2.5260 Ref Offset 0	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34 Mkr1 2.4	:25 PM Mar 20, 2024 TRACE 1 2 3 4 5 C TYPE MWWWWN DET P NNNN 479 9 GHz 2.303 dBm
Band Spectrum Analyzer - S RF 50 ter Freq 2.5260 Ref Offset 0	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34 Mkr1 2.4	:25 PM Mar 20, 2024 TRACE 1 2 3 4 5 C TYPE MWWWWN DET P NNNN 479 9 GHz 2.303 dBm
Band Spectrum Analyzer - So RF   SO ter Freq 2.5260 Ref Offset 0	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34 Mkr1 2.4	:25 PM Mar 20, 2024 TRACE 1 2 3 4 5 C TYPE MWWWWN DET P NNNN 479 9 GHz 2.303 dBm
Band	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast ↔	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	bing En	02:34	25 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW 479 9 GHz 2.303 dBm 2.303 dBm
Band	wept SA Ω AC     000000 GHz IF IF 0.5 dB	SE PNO: Fast Gain:Low	5 2480N INSE:INT Trig: Free Ru	ALIG	D-Hopp	Log-Pwr 00/100	02:34	:25 PM Mar 20, 2024 TRACE 1 2 3 4 5 C TYPE MWWWWN DET P NNNN 479 9 GHz 2.303 dBm
Band	xept 5A	(∆) -2.303 d	5 2480N	ALIG	D-Hopp	Log-Pwr 00/100 #Sw	02:34	25 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MANNANA 479 9 GHz .303 dBm 22.19 dBm 22.19 dBm 22.57600 GHz
Band	x 2.479 9 GHz 2.479 9 GHz 2.479 9 GHz 2.483 5 GHz 2.50 GHz		5 2480N	n	D-Hopp	Log-Pwr 00/100 #Sw	02:34	25 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MANNANA 479 9 GHz .303 dBm 22.19 dBm 22.19 dBm 22.57600 GHz
Band Spectrum Analyzer - Si ter Freq 2.5260 Ref Offset 0 Ref 20.00 1 1 1 1 1 1 1 1 1 1 1 1 1	x x x x x x x x x x x x x x	PN0: Fast -Gain:Low #VBM (Δ) -2.303 dl -59.232 dl -50.281 d	5 2480N	n	D-Hopp	Log-Pwr 00/100 #Sw	02:34	25 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MANNANA 479 9 GHz .303 dBm 22.19 dBm 22.19 dBm 22.57600 GHz
Band Spectrum Analyzer - Si ter Freq 2.5260 Ref Offset 0 Ref 20.00 1 1 1 1 1 1 1 1 1 1 1 1 1	x 2.479 9 GHz 2.479 9 GHz 2.479 9 GHz 2.483 5 GHz 2.50 GHz		5 2480N	n	D-Hopp	Log-Pwr 00/100 #Sw	02:34	25 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MANNANA 479 9 GHz .303 dBm 22.19 dBm 22.19 dBm 22.57600 GHz
Band ectrum Analyzer - S <sup>0</sup> r Freq 2.5260 Ref Offset 0 Ref 20.00 1 4.7600 GHz W 100 KHz 1 f (Δ) 1 f (Δ)	x 2.479 9 GHz 2.479 9 GHz 2.479 9 GHz 2.483 5 GHz 2.50 GHz		5 2480N	n	D-Hopp	Log-Pwr 00/100 #Sw	02:34	25 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MANNANA 479 9 GHz .303 dBm 22.19 dBm 22.19 dBm 22.57600 GHz



Ba t Spectrum Analyzer - Sv		NVNT 2-D	713 24021			
ter Freq 2.4020	Ω AC 1000000 GHz		ISE:INT Trig: Free Run #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pv Avg Hold: 100/100	vr	13:29 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N
Ref Offset 0 B/div Ref 20.00						02 040 GHz 4.070 dBm
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at Physical La Million	and a stranger and a	pm/		Marine ,	Marty average prover	Martin and Martin
w.W.W.						Logh grants House
ter 2.402000 GHz						
			300 кнz 5 2402MH	status Iz No-Hopping	#Sweep 100	
Band t Spectrum Analyzer - Sv	wept SA Ω AC   1000000 GHz		5 2402MH ISE:INT Trig: Free Run		#Sweep 100 Emission	ms (1001 pts)
Band t Spectrum Analyzer - Sv RF 50 ter Freq 2.3560 Ref Offset 0	wept SA Ω AC   000000 GHz 0.5 dB	NT 2-DH5	5 2402MH	Z No-Hopping	#Sweep 100 Emission vr Mkr1 2	ms (1001 pts) 13:42 PM Mar 20, 2024 TRACE 12:3:4:5:6 TYPE MAXIMUM DET P NNNN 402 1 GHz
Band 1 Spectrum Analyzer - So 1 BF 50 1 ter Freq 2.3560	wept SA Ω AC   000000 GHz 0.5 dB		5 2402MH ISE:INT Trig: Free Run	Z No-Hopping	#Sweep 100 Emission vr Mkr1 2	MS (1001 pts) 13:42 PM Mar 20, 2024 1742 CM Mar 20, 2024 1742 CM Mar 20, 2024 1742 M Mar 20, 2024 1742 M Mar 20, 2024
Band t Spectrum Analyzer - Sv RF 50 ter Freq 2.3560 Ref Offset 0	wept SA Ω AC 0 000000 GHz 0.5 dB		5 2402MH ISE:INT Trig: Free Run	Z No-Hopping	#Sweep 100 Emission vr Mkr1 2	ms (1001 pts) 13:42 PM Mar 20, 2024 TRACE 12:3:4:5:6 TYPE MAXIMUM DET P NNNN 402 1 GHz
Band t Spectrum Analyzer - Sv RF 50 ter Freq 2.3560 Ref Offset 0	wept SA Ω AC 0 000000 GHz 0.5 dB		5 2402MH ISE:INT Trig: Free Run	Z No-Hopping	#Sweep 100 Emission vr Mkr1 2	ms (1001 pts) 13:42 PM Mar 20, 2024 TRACE 12:3:4:5:6 TYPE MAXIMUM DET P NNNN 402 1 GHz
Band t Spectrum Analyzer - Sv RF 50 ter Freq 2.3560 Ref Offset 0	wept SA Ω AC 0 000000 GHz 0.5 dB		5 2402MH ISE:INT Trig: Free Run	Z No-Hopping	#Sweep 100 Emission vr Mkr1 2	13:42 PM Mar 20, 2024 178xCE 1
Band t Spectrum Analyzer - Sv RF 50 ter Freq 2.3560 Ref Offset 0	wept SA Ω AC 0 000000 GHz 0.5 dB		5 2402MH ISE:INT Trig: Free Run	Z No-Hopping	#Sweep 100 Emission vr Mkr1 2	13:42 PM Mar 20, 2024 178xCE 1
Band	wept SA Ω AC 0 000000 GHz 0.5 dB		5 2402MH ISE:INT Trig: Free Run	Z No-Hopping	#Sweep 100 Emission vr Mkr1 2	13:42 PM Mar 20, 2024 178xCE 1
Band 1 Spectrum Analyzer - Sv Ter Freq 2.3560 Ref Offset 0 3/div Ref 20.00 3/div Ref 20.00 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	wept SA           2         AC           D00000 GHz           D.5 dB           dBm	NT 2-DH5	5 2402MH	Z No-Hopping	#Sweep 100 Emission wr Mkr1 2 Bigging Stop #Sweep 100	ms (1001 pts)
Band	wept SA Ω AC 0 000000 GHz 0.5 dB	NT 2-DH5           SEN           PNO: Fast           IFGain:Low           #VBW           #VBW           2           (Δ)           46.019 dE           2           46.019 dE	300 KHz	IZ NO-HOpping	#Sweep 100 Emission or Mkr1 2	ms (1001 pts)
Band 1 Spectrum Analyzer - Sv ter Freq 2.3560 B/div Ref Offset 0 B/div Ref 20.00 t 2.30600 GHz s BW 100 kHz M 1 f (Δ) N 1 f (Δ)	x 2.402 1 GH2 2.400 0 GH2 x 2.400 0 GH2	NT 2-DH5           SEN           PNO: Fast           IFGain:Low           #VBW           #VBW           (Δ)           46.019 dE           2           46.019 dE	300 KHz	Z No-Hopping	#Sweep 100 Emission wr Mkr1 2 Bigging Stop #Sweep 100	ms (1001 pts)



Ban nt Spectrum Analyzer - Swep					
nt Spectrum Analyzer - Swep LL RF 50 Ω hter Freq 2.480000	AC		ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 100/100	TRA TY D	M Mar 20, 2024 26 1 2 3 4 5 6 PE M <del>V M M M M</del> ET P N N N N N
Ref Offset 0.5 Ref 20.00 dl				Mkr1 2.480 0 -6.1	74 dBm
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and all handstrated and the			<u>'      </u>	and the part of the	ar you while the
nter 2.480000 GHz s BW 100 kHz Band E	dge NVNT	#vвw 300 кнz 2-DH5 2480MH	# status 12 No-Hopping E	Sweep 100 ms i	.000 MHz 1001 pts)
es BW 100 kHz	AC	2-DH5 2480MH	STATUS	Sweep 100 ms Emission 02:47:301 TRA TRA	1001 pts) MMar20, 2024 E12 3 4 5 6 EMWAWAWA
Band E Band E nt Spectrum Analyzer - Swep L RF 50 @ nter Freq 2.526000 Ref Offiset 0.5 /	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOPPING E ALIGNAUTO Avg Type: Log-Pwr	Sweep 100 ms Emission 02:47:301 TRA TY 0 Mkr1 2.48	1001 pts)
s BW 100 kHz Band E It Spectrum Analyzer - Swep L RF 50 Q Iter Freq 2.526000 Ref Offset 0.5 - Ref Offset 0.5 -	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOPPING E ALIGNAUTO Avg Type: Log-Pwr	Sweep 100 ms Emission 02:47:301 TRA TY 0 Mkr1 2.48	(1001 pts) MMar 20, 2024 EE [] 2 3 4 5 6 PE M MMAR MAR ET P N N N N
BW 100 kHz Band E Spectrum Analyzer - Swep L RF 50 Q Iter Freq 2.526000 B/div Ref Offset 0.5 - Ref 20.00 dl	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOPPING E ALIGNAUTO Avg Type: Log-Pwr	Sweep 100 ms Emission 02:47:301 TRA TY 0 Mkr1 2.48	1001 pts)
BICIV Ref Offset 0.5	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOPPING E ALIGNAUTO Avg Type: Log-Pwr	Sweep 100 ms Emission 02:47:301 TRA TY 0 Mkr1 2.48	1001 pts)
Band E Band E nt Spectrum Analyzer - Swep C RF 502 Nter Freq 2.526000 Ref Offset 0.5 - Ref 20.00 dl	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOPPING E ALIGNAUTO Avg Type: Log-Pwr	Sweep 100 ms Emission 02:47:301 TRA TY 0 Mkr1 2.48	(1001 pts) M Mar 20, 2024 Ef 112 3 4 5 6 Ef 12 3 4 5 6 M M M M N N N D 2 GHz 74 dBm
Bidiv Ref Offset 0.5 of Ref 20.00 dl	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOPPING E ALIGNAUTO Avg Type: Log-Pwr	Sweep 100 ms Emission 02:47:301 TRA TY 0 Mkr1 2.48	(1001 pts) M Mar 20, 2024 Ef 112 3 4 5 6 Ef 12 3 4 5 6 M M M M N N N D 2 GHz 74 dBm
BW 100 kHz Band E I Spectrum Analyzer - Swep L RF 500 Ref Offset 0.5 6 B/div Ref 20.00 dl	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOPPING E ALIGNAUTO Avg Type: Log-Pwr	Sweep 100 ms   Emission 02:47:30 TRA TY 0 Mkr1 2.48 -6.3	(1001 pts)
s BW 100 kHz Band E t Spectrum Analyzer - Swep ter Freq 2.526000 Ref Offset 0.5 - Ref 20.00 dl	nt SA AC DOOO GHZ PNO: IFGain dB	2-DH5 2480MH	STATUS IZ NO-HOpping E ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 20/20 Avg Hold: 20/20 Av	Sweep 100 ms ( Emission 02:47:30 Mkr1 2.48 -6.3 	1001 pts)
s BW 100 kHz Band E tspectrum Analyzer - Swep L RF 500 tter Freq 2.526000 B/div Ref 20.00 dl 1 1 1 1 1 1 1 1 1 1 1 1 1	AC DOOD GH2 PNO: IF Gain dB 3m 2.480 2 GH2 2.483 5 GH2 (Δ)	2-DH5 2480MH	ALIGNAUTO ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 20/20	Sweep 100 ms   Emission 02:47:30 TRA 177 0 Mkr1 2.48 -6.3	1001 pts)
s BW 100 kHz Band E It Spectrum Analyzer - Swep L RF 50 9 Iter Freq 2.5266000 B/div Ref Offset 0.5 - Ref 20.00 dl 1 1 1 1 1 1 1 1 1 1 1 1 1	AC DOOD GHZ PNO: IFGair dB 3m	2-DH5 2480MH	STATUS IZ NO-HOpping E ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 20/20 Avg Hold: 20/20 Av	Sweep 100 ms ( Emission 02:47:30 Mkr1 2.48 -6.3 	1001 pts)
BW 100 kHz Band E Itspectrum Analyzer - Swep L RF 50 Ω Iter Freq 2.526000 B/div Ref Offset 0.5 B/div Ref 20.00 dl Transformed and the second and the	AC DOOD GHZ PN0: IFGair dB 3m 2.480 2 GHz 2.483 5 GHz 2.600 0 GHz (Δ)	2-DH5 2480MH	STATUS IZ NO-HOpping E ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 20/20 Avg Hold: 20/20 Av	Sweep 100 ms ( Emission 02:47:30 Mkr1 2.48 -6.3 	1001 pts)
BW 100 kHz Band E Itspectrum Analyzer - Swep L RF 50 Ω Iter Freq 2.526000 B/div Ref Offset 0.5 B/div Ref 20.00 dl Transformed and the second and the	AC DOOD GHZ PN0: IFGair dB 3m 2.480 2 GHz 2.483 5 GHz 2.600 0 GHz (Δ)	2-DH5 2480MH	STATUS IZ NO-HOpping E ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 20/20 Avg Hold: 20/20 Av	Sweep 100 ms ( Emission 02:47:30 Mkr1 2.48 -6.3 	1001 pts)



Spectrum Analyze						00.00.4 04111 00
er Freq 2.4	50 Ω AC 02000000 GHz	PNO:Wide ↔	ENSE:INT	ALIGNAUTO Avg Type: L Avg Hold: 10		02:55:14 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P N N N N
		IFGain:Low	#Atten: 30 dB			DET P NNNN 2.402 040 GHz
	set 0.5 dB ).00 dBm				WINT	-4.075 dBm
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An	Bar Sucher	- Belger Martine The		mark the second	Want an ar h	
maral marall h	hudopharbara and have a				Wissen wythe hutert	million Mundulinger
er 2.402000	GHz					Span 8.000 MHz
	_	-40 (BU	N 000 I-II-		<b>#8</b>	400 mm (4004 mm)
8W 100 kHz	2	#VBV	V 300 kHz	STATUS	#Sweep	100 ms (1001 pts)
					-	100 ms (1001 pts)
Bar	nd Edge NV			status Hz No-Hoppi	-	100 ms (1001 pts)
Bar Spectrum Analyze	nd Edge NV er - Swept SA	/NT 3-DH		Hz No-Hoppi	ing Emiss	100 ms (1001 pts) ion
Bar Spectrum Analyze	nd Edge NV er - Swept SA	/NT 3-DH	5 2402MF	Hz No-Hoppi	ng Emiss	100 ms (1001 pts) İON
Bar Spectrum Analyze RF Par Freq 2.33	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM M# 20, 2024 TRACE 12 23 4 5 6 TYPE MMMMMM DET P.N.N.N.P r1 2.402 1 GHz
Bar Spectrum Analyze RF Par Freq 2.33	nd Edge NV r - Swept SA  50 Ω AC   560000000 GHz	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM Mar 20, 202 TRACE 12 3 4 5 6 TYPE M WWWWW DET P. N.N.N.N
Bar pectrum Analyze r Freq 2.33 Ref Offs	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM M# 20, 2024 TRACE 12 23 4 5 6 TYPE MMMMMM DET P.N.N.N.P r1 2.402 1 GHz
Bar pectrum Analyze RF Pr Freq 2.33 Ref Offs	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM M# 20, 2024 TRACE 12 23 4 5 6 TYPE MMMMMM DET P.N.N.N.P r1 2.402 1 GHz
Bar Spectrum Analyze RF er Freq 2.33	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM M# 20, 2024 TRACE 12 23 4 5 6 TYPE MMMMMM DET P.N.N.N.P r1 2.402 1 GHz
Bar Spectrum Analyze RF er Freq 2.33 Ref Offe	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM Mar 20, 2024 TRACE 12:34:56 TYPE MWWWWW PET PNNNN r1 2.402 1 GHz -4.265 dBm
Bar Spectrum Analyze RF er Freq 2.33	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM Mar 20, 2024 TRACE 12:34:56 TYPE MWWWWW PET PNNNN r1 2.402 1 GHz -4.265 dBm
Bar Spectrum Analyze RF er Freq 2.33	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM Mar 20, 2024 TRACE 12:34:56 TYPE MWWWWW PET P N N N N P r1 2.402 1 GHz -4.265 dBm
Bar Spectrum Analyze RF er Freq 2.33	nd Edge NV er - Swept 5A 50 000000 GHz set 0.5 dB	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	ng Emiss	100 ms (1001 pts) ion 02:55:27 PM Mar 20, 2024 TRACE 12:34:56 TYPE MWWWWW PET P N N N N P r1 2.402 1 GHz -4.265 dBm
Bar Spectrum Analyze RF er Freq 2.33 Idiv Ref Offs Ref 20	nd Edge NV sr - Swept SA S0 Ω AC S60000000 GHz set 0.5 dB 0.00 dBm	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12 3 4 5 6 TYPE MWWWWWW 11 2.402 1 GHz -4.265 dBm 1 -24 05 05m 5top 2.40600 GHz
Bar Spectrum Analyze er Freq 2.3	nd Edge NV sr - Swept SA S0 Ω AC S60000000 GHz set 0.5 dB 0.00 dBm	/NT 3-DH	5 2402MH	HZ NO-HOPPI Alignauto Avg Type: L	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12:34 5 c TYPE 12:34 5 c TYPE 12:34 5 c TYPE 12:402 1 GHz -4.265 dBm 1 -4.265 dBm 5 top 2:40600 GHz 100 ms (1001 pts)
Bar Spectrum Analyze RF er Freq 2.32 /div Ref Offs Ref Offs Ref Offs 2.30600 GH BW 100 kHz 2009 FRE SCL	nd Edge NV sr - Swept SA S0 Ω AC S6000000 GHz set 0.5 dB 0.00 dBm 2.00 dBm 2.402 1 Gf 2.400 0 GF	/NT 3-DH	5 2402MH	Hz No-Hoppi	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12:34 5 c TYPE 12:34 5 c TYPE 12:34 5 c TYPE 12:402 1 GHz -4.265 dBm 1 -4.265 dBm 5 top 2:40600 GHz 100 ms (1001 pts)
Bar Spectrum Analyze er Freq 2.32 /div Ref 20 /div Ref 20 2.30600 GH BW 100 kHz 005 120 SQL N 1 f (Δ)	nd Edge NV 50 0 AC 5000000 GHz 56000000 GHz set 0.5 dB .00 dBm	/NT 3-DH	5 2402MH	Hz No-Hoppi	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12:34 5 c TYPE 12:34 5 c TYPE 12:34 5 c TYPE 12:402 1 GHz -4.265 dBm 1 -4.265 dBm 5 top 2:40600 GHz 100 ms (1001 pts)
Bar Spectrum Analyze er Freq 2.32 /div Ref 20 /div Ref 20 .2.30600 GH; BW 100 KH2 N 1 f (Δ) N 1 f	nd Edge NV 50	/NT 3-DH	5 2402MH	Hz No-Hoppi	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12:34 5 c TYPE 12:34 5 c TYPE 12:34 5 c TYPE 12:402 1 GHz -4.265 dBm 1 -4.265 dBm 5 top 2:40600 GHz 100 ms (1001 pts)
Bar Spectrum Analyze er Freq 2.32 /div Ref 20 /div Ref 20 .2.30600 GH; BW 100 KH2 N 1 f (Δ) N 1 f	nd Edge NV 50	/NT 3-DH	5 2402MH	Hz No-Hoppi	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12:34 5 c TYPE 12:34 5 c TYPE 12:34 5 c TYPE 12:402 1 GHz -4.265 dBm 1 -4.265 dBm 5 top 2:40600 GHz 100 ms (1001 pts)
Bar Spectrum Analyze er Freq 2.32 div Ref Offic Ref Offic Ref 20 2.30600 GH BW 100 KHZ DIS INC SCL 1 f (Δ)	nd Edge NV 50	/NT 3-DH	5 2402MH	Hz No-Hoppi	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12:34 5 c TYPE 12:34 5 c TYPE 12:34 5 c TYPE 12:402 1 GHz -4.265 dBm 1 -4.265 dBm 5 top 2:40600 GHz 100 ms (1001 pts)
Bar sctrum Analyze Freq 2.3: Freq 2.3: Ref Offre v Ref 20 a 306000 GH; W 100 KHz 1 f (Δ) 1 f (Δ)	nd Edge NV 50	/NT 3-DH	5 2402MH	Hz No-Hoppi	og-Pwr 0/100 Mki	100 ms (1001 pts) iON 02:55:27 PM Mar 20, 2024 TRACE 12:34 5 c TYPE 12:34 5 c TYPE 12:34 5 c TYPE 12:402 1 GHz -4.265 dBm 1 -4.265 dBm 5 top 2:40600 GHz 100 ms (1001 pts)



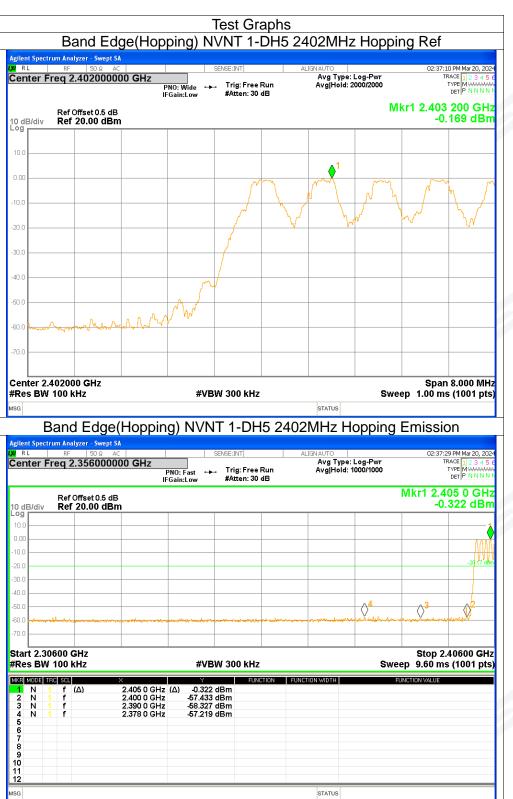
Ba nt Spectrum Analyzer - Sv	nd Edge N	IVNT 3-DI			pping		
	2 AC 000000 GHz P		E:INT Frig: Free Run Atten: 30 dB	ALIGNAUTO Avg Type: I Avg Hold: 1	00/100	-	57 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWW DET P N N N N
Ref Offset 0. B/div Ref 20.00					N		0 040 GHz .164 dBm
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Multimenter Multime	Munim	William		er vikanst	the work when	heredurinaly	Mulandan
nter 2.480000 GHz						Cnai	
es BW 100 kHz		#vвw з		status z No-Hopp		veep 100 m	n 8.000 MHz is (1001 pts)
BBW 100 kHz Band ht Spectrum Analyzer - Sv RL RF 50 S	Edge NVN rept 5A 2 AC     000000 GHz		2480MH	STATUS Z NO-HOPP ALIGNAUTO Avg Type: 1 Avg Hold: 1	ing Er	veep 100 m nission	
BBW 100 kHz Band nt Spectrum Analyzer - Sv Ref Offset 0 Ref Offset 0	Edge NVN rept SA 2 AC 1 00000 GHz 1 5 dB		2480MH	Z NO-HOPP	ing Er	veep 100 m nission 03:00: Mkr1 2.4	10 PM Mar 20, 2024
BBW 100 kHz Band nt Spectrum Analyzer - Sv L RF 50 G nter Freq 2.5260 B/div Ref 20.00	Edge NVN rept SA 2 AC 1 00000 GHz 1 5 dB		2480MH	Z NO-HOPP	ing Er	veep 100 m nission 03:00: Mkr1 2.4	10 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M MAR AN N N
Band The spectrum Analyzer - Sw Subsection Spectrum Analyzer - Sw Ther Freq 2.5260 Ref Offset 0 Ref 20.00 The spectrum Analyzer - Sw Ref Offset 0 Ref 20.00	Edge NVN rept SA 2 AC 1 00000 GHz 1 5 dB		2480MH	Z NO-HOPP	ing Er	veep 100 m nission 03:00: Mkr1 2.4	10 PM Mar 20, 2024
Band Band ent Spectrum Analyzer - Sv RL RF 500 nter Freq 2.5260 Ref Offset 0	Edge NVN rept SA 2 AC 1 00000 GHz 1 5 dB		2480MH	Z NO-HOPP	ing Er	veep 100 m nission 03:00: Mkr1 2.4	10 PM Mar 20, 2024
Ref Offset 0	Edge NVN rept SA 2 AC     000000 GHz 5 dB dBm		2480MH	Z NO-HOPP	ing Er	veep 100 m nission 03:00: Mkr1 2.4	10 PM Mar 20, 2024
Band ant Spectrum Analyzer - Sv RL RF S0 G inter Freq 2.5260 Ref Offset 0 Ref 20.00	Edge NVN rept SA 2 AC 1 00000 GHz 1 5 dB		2480MH	Z NO-HOPP	ing Er	veep 100 m nission 03:00: Mkr1 2.4	10 PM Mar 20, 2024
Band ant Spectrum Analyzer - Sv RL RF 50 G mter Freq 2.5260 Ref Offset 0 Ref 20.00 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	Edge NVN rept SA 2 AC     000000 GHz 5 dB dBm		2480MH	Z NO-HOPP	Log-Pwr 00/100	veep 100 m nission 03:00: Mkr1 2.4 -6	10 PM Mar 20, 2024 IRACE 1 2 3 4 5 6 TYPE MAXWOOD BEIP NN NN 1800 0 GHz 233 dBm -26.16 dBm -26.16 dBm -26.7600 GHz
Band ant Spectrum Analyzer - Sw RL RF S0 G mter Freq 2.5260 Ref Offset 0 B/div Ref 20.00 D 1 C 2.5260 C 2.52	Edge NVN rept SA 2 AC     000000 GHz 5 dB dBm		2480MH	Z NO-HOPP	ullur www.	veep 100 m nission 03:00: Mkr1 2.4 -6	10 PM Mar 20, 2024
ES BW 100 kHz Band Int Spectrum Analyzer - Sv Inter Freq 2.5260 B/div Ref Offset 0 B/div Ref 20.00 0 0 0 0 0 0 0 0 0 0 0 0	Edge NVN rept SA 2 AC 0 00000 GHz 5 dB dBm 3 4 2 480 0 GHz 2 480 0 GHz 2 480 0 GHz	IT 3-DH5 SENSE PRO: Fast → Т Gain:Low ↓ 1 4 4 4 4 4 4 4 4 4 4 4 4 4	2480MH	Z No-Hopp	ullur www.	veep 100 m nission 03:00: Mkr1 2.4 -6 	10 PM Mar 20, 2024 IRACE 1 2 3 4 5 6 TYPE MAXWOOD BEIP NN NN 1800 0 GHz 233 dBm -26.16 dBm -26.16 dBm -26.7600 GHz
Band Int Spectrum Analyzer - Sw Inter Freq 2.5260 Ref Offset 0 Ref 20.00 IB/div Ref 20.00 IB/div	Edge NVN	IT 3-DH5           SENSE           PNO: Fast           Gain:Low           #VBW 3           #VBW 3           (Δ)           59.811 dBm           59.876 dBm           59.876 dBm	2480MH	Z No-Hopp	ullur www.	veep 100 m nission 03:00: Mkr1 2.4 -6 	10 PM Mar 20, 2024 IRACE 1 2 3 4 5 6 TYPE MAXWOOD BEIP NN NN 1800 0 GHz 233 dBm -26.16 dBm -26.16 dBm -26.7600 GHz
s BW 100 kHz Band It Spectrum Analyzer - SV L RF 50 ( tter Freq 2.5260) B/div Ref 20.00 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Edge NVN rept 5A 2 AC 100000 GHz F 5 dB dBm 2 480 0 GHz 2.480 0 GHz 2.483 5 GHz 2.480 0 GHz	IT 3-DH5           SENSE           PNO: Fast           Gain:Low           #VBW 3           #VBW 3           (Δ)           59.811 dBm           59.876 dBm           59.876 dBm	2480MH	Z No-Hopp	ullur www.	veep 100 m nission 03:00: Mkr1 2.4 -6 	10 PM Mar 20, 2024 IRACE 1 2 3 4 5 6 TYPE MAXWOOD BEIP NN NN 1800 0 GHz 233 dBm -26.16 dBm -26.16 dBm -26.7600 GHz
Band Int Spectrum Analyzer - Sw Inter Freq 2.5260 Ref Offset 0 Ref 20.00 IB/div Ref 20.00 IB/div	Edge NVN rept 5A 2 AC 100000 GHz F 5 dB dBm 2 480 0 GHz 2.480 0 GHz 2.483 5 GHz 2.480 0 GHz	IT 3-DH5           SENSE           PNO: Fast           Gain:Low           #VBW 3           #VBW 3           (Δ)           59.811 dBm           59.876 dBm           59.876 dBm	2480MH	Z No-Hopp	ullur www.	veep 100 m nission 03:00: Mkr1 2.4 -6 	10 PM Mar 20, 2024 IRACE 1 2 3 4 5 6 TYPE MAXWOOD BEIP NN NN 1800 0 GHz 233 dBm -26.16 dBm -26.16 dBm -26.7600 GHz



# 7. Band Edge(Hopping)

Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Hopping	-57.04	<=-20	Pass
NVNT	1-DH5	2480	Hopping	-49.15	<=-20	Pass
NVNT	2-DH5	2402	Hopping	-53.26	<=-20	Pass
NVNT	2-DH5	2480	Hopping	-49.34	<=-20	Pass
NVNT	3-DH5	2402	Hopping	-52.19	<=-20	Pass
NVNT	3-DH5	2480	Hopping	-51.15	<=-20	Pass







#### Band Edge(Hopping) NVNT 1-DH5 2480MHz Hopping Ref ctrum Analyzer -02:39:20 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL SENSE:INT Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 2000/2000 Trig: Free Run #Atten: 36 dB PNO: Wide IFGain:Low Mkr1 2.477 024 GHz Ref Offset 0.5 dB Ref 25.00 dBm -2.226 dBm 10 dB/div 15. 25 | 351 45. -55.1 -65 ( Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.00 ms (1001 pts) #Res BW 100 kHz STATUS MSG Band Edge(Hopping) NVNT 1-DH5 2480MHz Hopping Emission nt Spectrum Analyzer - Swept SA 9:39 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL Center Freq 2.526000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 36 dB Mkr1 2.479 0 GHz Ref Offset 0.5 dB -2.352 dBm 10 dB/div Log Ref 25.00 dBm 15.0 5.00 -5.00 15 f -22.23 df 25.0 35.0 -45.0 $\langle \rangle^2$ $\ominus$ $\langle \rangle^3$ -55.0 -65.0 Start 2.47600 GHz #Res BW 100 kHz Stop 2.57600 GHz #VBW 300 kHz Sweep 9.60 ms (1001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH UNCTION VALUE 2.479 0 GHz (Δ) 2.483 5 GHz 2.500 0 GHz 2.495 1 GHz -2.352 dBm -54.317 dBm -53.654 dBm -51.385 dBm NNNN (Δ) f f f 2 3 4 5 6 7 8 9 10 11 12 STATUS ISG

51





Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Ref ctrum Analyzer 2:49:55 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL SENSE:INT Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 2000/2000 Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.403 048 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.093 dBm 10 dB/div 10. 0.00 -20. 30.0 -40 -50.0 -60.0 70. Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.00 ms (1001 pts) #Res BW 100 kHz STATUS MSG Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Emission nt Spectrum Analyzer - Swept SA 22 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N RL Center Freq 2.356000000 GHz Avg Type: Log-Pwr Avg|Hold: 1500/1500 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.404 0 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.176 dBm 10 dB/div Log 0 0.00 10.0 20.0 30.0 40.0 -50.0 ⊘∱3 -60.0 -70.0 Start 2.30600 GHz #Res BW 100 kHz Stop 2.40600 GHz #VBW 300 kHz Sweep 9.60 ms (1001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH UNCTION VALUE 2.404 0 GHz (Δ) 2.400 0 GHz 2.390 0 GHz 2.389 1 GHz -4.176 dBm -57.832 dBm -58.463 dBm -57.354 dBm NNNN (Δ) f f f 2 3 4 5 6 7 8 9 10 11 12 STATUS ISG



RL RF 50 Ω AC SENSE:INT ALIGNAUTO	02:52:03 PM Mar 20, 2024
ter Freq 2.480000000 GHz Avg Type: Log-Pwr PN0: Wide → Trig: Free Run Avg Hold: 2000/2000	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N
Ref Unset U.S dB	.479 048 GHz -6.132 dBm
3/div Ref 20.00 dBm	0.102 0.511
and all and and and and and	
"Mm. mar born	Aver Arona
	Span 8.000 MHz
•	00 ms (1001 pts)
Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Em	ssion
The precision analysis of product         Sense:int         ALIGN AUTO           Ther Freq 2.526000000 GHz         Avg Type: Log-Pwr	02:52:29 PM Mar 20, 2024
PNO: Fast +++ Trig: Free Run Avg Hold: 1500/1500	TRACE 1 2 3 4 5 6 TYPE MWWWWW
IFGain:Low #Atten: 30 dB	DET P N N N N N
Ref Offset 0.5 dB Mkr	DET P NNNN 2.476 2 GHz
Ref Offset 0.5 dB Mkr	DET P N N N N
Ref Offset 0.5 dB Mkr IB/div Ref 20.00 dBm	DET P NNNN 2.476 2 GHz
Ref Offset 0.5 dB Mkr	DET P NNNN 2.476 2 GHz
Ref Offset 0.5 dB IB/div Ref 20.00 dBm	DET P NNNN 2.476 2 GHz
Ref Offset 0.5 dB IB/div Ref 20.00 dBm	2.476 2 GHz -8.372 dBm
Ref Offset 0.5 dB IB/div Ref 20.00 dBm	2.476 2 GHz -8.372 dBm
Ref Offset 0.5 dB B/div Ref 20.00 dBm	2.476 2 GHz -8.372 dBm
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	-26.13 dBm
Ref Offset 0.5 dB         Mkr           dB/div         Ref 20.00 dBm           1         1	2.476 2 GHz -8.372 dBm
Ref Offset 0.5 dB     Mkr       dB/div     Ref 20.00 dBm       0     0       1     0       0     0       1     0       0     0       1     0       0 <td< td=""><td>CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -</td></td<>	CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -
Ref Offset 0.5 dB         Mkr           dB/div         Ref 20.00 dBm           1         1	CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -
Ref Offset 0.5 dB     Mkr       B/div     Ref 20.00 dBm       Image: Second State	CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -
Ref Offset 0.5 dB         Mkr           IB/div         Ref 20.00 dBm           IB/div         Ref 20.00 dBm           II         III           III         IIII           IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -
Ref Offset 0.5 dB         Mkr           B/div         Ref 20.00 dBm           1         1           2         4           3         3           1         1           1         1           2         4           3         1           1         1           1         1           2         4           3         1           4         3           4         3           4         3	CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -
Ref Offset 0.5 dB         Mkr           3/div         Ref 20.00 dBm           1	CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -
Ref Offset 0.5 dB         Mkr           div         Ref 20.00 dBm           1         1           1         1           2         4           3         1           2         4           3         1           2         4           3         1           4         3           4         3           5         Sweep 9.           2.47600 GHz         #VBW 300 kHz           5         Sweep 9.           9         1           1         1           1         1           1         2.476 2 GHz           40         2.476 2 GHz           50.0 2 GHz         50.428 dBm           40.428 dBm         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           2.600 0 GHz         <	CET  P NNNNA 1 2.476 2 GHz -8.372 dBm -28.13 dBm -28.14 dBm -



Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Ref ctrum Analyzer 03:02:40 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL SENSE:INT Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 2000/2000 Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.404 904 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.814 dBm 10 dB/div 10. 0.00 ٥ -20.0 30.0 -40 -50.0 -60.0 70. Center 2.402000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.00 ms (1001 pts) #Res BW 100 kHz STATUS MSG Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Emission nt Spectrum Analyzer - Swept SA RL Center Freq 2.356000000 GHz TRACE 12345 TYPE MWANAAA DET PNNNN Avg Type: Log-Pwr Avg|Hold: 1000/1000 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.402 1 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.328 dBm 10 dB/div Log 0.00 10.0 20.0 4.81 dt 30.0 40.0 {}<mark>4</mark> -50.0  $\langle \rangle$ -60.0 -70.0 Start 2.30600 GHz #Res BW 100 kHz Stop 2.40600 GHz #VBW 300 kHz Sweep 9.60 ms (1001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH UNCTION VALUE 2.402 1 GHz (Δ) 2.400 0 GHz 2.390 0 GHz 2.371 3 GHz -4.328 dBm -59.024 dBm -60.553 dBm -57.001 dBm NNNN (Δ) f f f 2 3 4 5 6 7 8 9 10 11 12 STATUS ISG





Band Edge(Hopping) NVNT 3-DH5 2480MHz Hopping Ref ctrum Analyzer -03:04:50 PM Mar 20, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N RL SENSE:INT Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 2000/2000 Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.479 040 GHz Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log -6.168 dBm 10. 20. 30.0 -40 -50.0 MM -60.1 70 r Center 2.480000 GHz Span 8.000 MHz #VBW 300 kHz Sweep 1.00 ms (1001 pts) #Res BW 100 kHz STATUS MSG Band Edge(Hopping) NVNT 3-DH5 2480MHz Hopping Emission t Spectrum Analyzer - Swept SA RL TRACE 12345 TYPE MWMMM DET PNNNN Center Freq 2.526000000 GHz Avg Type: Log-Pwr Avg|Hold: 2000/2000 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.478 1 GHz Ref Offset 0.5 dB Ref 20.00 dBm -6.588 dBm 10 dB/div Log 0 10.0 20.0 -26.17 di 30.0 40.0 -50.0  $\bigcirc^4$  $\langle \rangle^2$ -60.0 70.0 Start 2.47600 GHz #Res BW 100 kHz Stop 2.57600 GHz #VBW 300 kHz Sweep 9.60 ms (1001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH UNCTION VALUE 2.478 1 GHz (Δ) 2.483 5 GHz 2.500 0 GHz 2.493 1 GHz -6.588 dBm -59.265 dBm -59.116 dBm -57.324 dBm NNNN (Δ) f f f 2 3 4 5 6 7 8 9 10 11 12 STATUS ISG

4

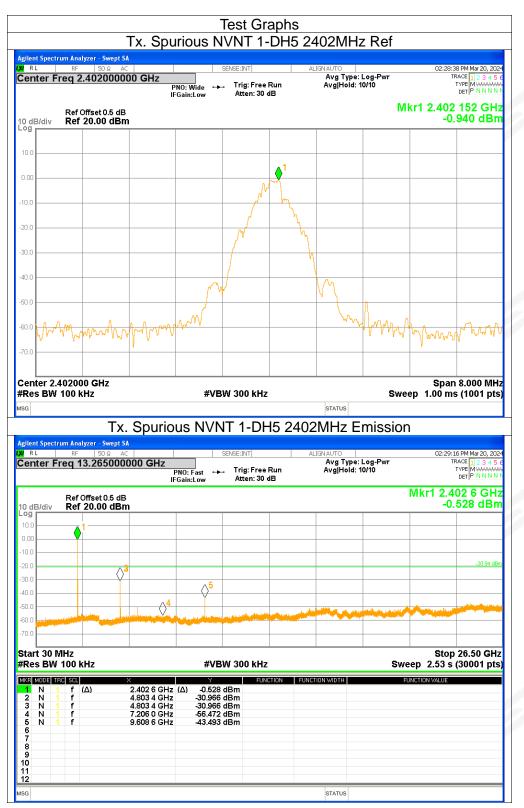


## 8. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	-30.02	<=-20	Pass
NVNT	1-DH5	2441	-33.66	<=-20	Pass
NVNT	1-DH5	2480	-35.43	<=-20	Pass
NVNT	2-DH5	2402	-32.91	<=-20	Pass
NVNT	2-DH5	2441	-36.93	<=-20	Pass
NVNT	2-DH5	2480	-37.37	<=-20	Pass
NVNT	3-DH5	2402	-35.38	<=-20	Pass
NVNT	3-DH5	2441	-34.52	<=-20	Pass
NVNT	3-DH5	2480	-39.78	<=-20	Pass



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	um Analyzer - Swept Sr RF   50 Ω AC req 2.4410000	00 GHz	Si PNO:Wide ↔	ENSE:INT	un	AUTO Avg Type: Avg Hold: 1	Log-Pwr 100/100		33 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW	
	Ref Offset 0.5 dB	IF	Gain:Low	Atten: 30 dE				lkr1 2.44	<sup>рет]Р NNNN</sup> 1 096 GHz .396 dBm	
IB/div	Ref 20.00 dBn	1							.396 UBII	
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	441000 GHz 100 kHz		#\/P\/	V 300 kHz			Qui		n 8.000 MHz is (1001 pts)	
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3	Tx.	. Spurio	us NVN	T 1-DH	5 2441			•		_
lent Spectr	TX. um Analyzer - Swept So RF 50 Ω AC	A		T 1-DH				N 02:30	:52 PM Mar 20, 2024	_
lent Spectr R L	um Analyzer - Swept S	000 GHz	Si PNO: Fast ↔	ENSE:INT	ALIG <sup>A</sup>	ЛНz E	Missio	N 02:30	:52 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M MATANAMA	_
ent Spectr R L	um Analyzer - Swept Si RF 50 Ω AC req 13.265000	000 GHz	S	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	∩ ∩	52 PM Mar 20, 2024 TRACE 1 2 3 4 5 6	_
nter Fi	um Analyzer - Swept S RF 50 Ω AG	000 GHz	Si PNO: Fast ↔	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	02:30 Mkr1 2.4	52 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N	
dB/div	um Analyzer - Swept S RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	000 GHz	Si PNO: Fast ↔	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	02:30 Mkr1 2.4	52 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WARAWAA DET P N N N N N 441 4 GHz	-
dB/div	um Analyzer - Swept S RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	000 GHz	Si PNO: Fast ↔	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	02:30 Mkr1 2.4	52 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WARAWAA DET P N N N N N 441 4 GHz	
dB/div 9	um Analyzer - Swept S. RF 90 2 AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn	000 GHz	Si PNO: Fast ↔	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	02:30 Mkr1 2.4	52 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M WARAWAA DET P N N N N N 441 4 GHz	
dB/div 9 0 0 0	um Analyzer - Swept S RF 50 Ω AC req 13.265000 Ref Offset 0.5 dB	000 GHz	FNO: Fast	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	02:30 Mkr1 2.4	52 PM Mar 20, 2024 TRACE 12 2 4 5 € TYPE MWWWWW DET P NNNN L41 4 GHz .300 dBm	
dB/div 9 00 00 00 00 00 00 00 00 00 00 00 00 0	um Analyzer - Swept S. RF 90 2 AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn	000 GHz	Si PNO: Fast ↔	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	02:30 Mkr1 2.4	52 PM Mar 20, 2024 TRACE 12 2 4 5 € TYPE MWWWWW DET P NNNN L41 4 GHz .300 dBm	
lent Spectr R L	um Analyzer - Swept S. RF 90 2 AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn		FNO: Fast	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	02:30 Mkr1 2.4	52 PM Mar 20, 2024 TRACE 12 2 4 5 € TYPE MWWWWW DET P NNNN L41 4 GHz .300 dBm	
dB/div 9 00 00 00 00 00 00 00 00 00 00 00 00 0	In Analyzer - Swept S. RF   50 2 AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn		FNO: Fast	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	Mkr1 2.4		
dB/div 99 00 00 00 00 00 00 00 00 00 00 00 00	In Analyzer - Swept S. RF   50 2 AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn		FNO: Fast	ENSE:INT	ALIG <sup>A</sup>	AHZ E	Missio	Mkr1 2.4 -2	52 PM Mar 20, 2024 TRACE 12 2 4 5 € TYPE MWWWWW DET P NNNN L41 4 GHz .300 dBm	
dB/div g g g g g g g g g g g g g g g g g g g	In Analyzer - Swept S RF 90 2 AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn 	A 000 GHz IF IF A A A A A A A A A A A A A	PNO: Fast	ENSE:INT Trig: Free Ri Atten: 30 dE	ALIG <sup>A</sup>	AHZ E	Mission	Mkr1 2.4 -2		
dB/div           ganter Fi           00      <	um Analyzer - Swept S. RF   50 2 AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn 1 1 4 1 4 4 4 4 4 4 4 4 4 4 5 5 6 6 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	000 GHz IF	PNC: Fast -Gain:Low -Gain:Low #VBV #VBV (Δ) _2.300 c -35.065 c	V 300 kHz	ALIGR	AHZ E	Mission	Mkr1 2.4 -2 -2 -2 		
dB/div 9 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0	um Analyzer - Swept S. RF   50 Ω AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn 1 1 4 1 4 4 1 4 4 4 4 4 4 4 5 5 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	A 000 GHz IF IF A A A A A A A A A A A A A	PN0: Fast -Gain:Low #VBV #VBV (Δ) -2,300 c -35,065 c -35,065 c -35,065 c	V 300 kHz Bm Bm Bm Bm Bm	ALIGR	AHZ E	Mission	Mkr1 2.4 -2 -2 -2 		
Ient Spectr           RL           anter Fi           9           00	um Analyzer - Swept S. RF   50 Ω AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn 1 1 1 1 1 1 1 1 1 1 1 1 1	A 000 GHz IF IF A A A A A A A A A A A A A	PN0: Fast -Gain:Low #VBV #VBV (Δ) -2,300 c -35,065 c -35,065 c -35,065 c	V 300 kHz Bm Bm Bm Bm Bm	ALIGR	AHZ E	Mission	Mkr1 2.4 -2 -2 -2 		
dB/div g dB/div g g g g g g g g g g g g g	um Analyzer - Swept S. RF   50 Ω AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn 1 1 4 1 4 4 1 4 4 4 4 4 4 4 5 5 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	A 000 GHz IF IF A A A A A A A A A A A A A	PN0: Fast -Gain:Low #VBV #VBV (Δ) -2,300 c -35,065 c -35,065 c -35,065 c	V 300 kHz Bm Bm Bm Bm Bm	ALIGR	AHZ E	Mission	Mkr1 2.4 -2 -2 -2 		
IB/div IB/div	um Analyzer - Swept S. RF   50 Ω AC req 13.265000 Ref Offset 0.5 dB Ref 20.00 dBn 1 1 4 1 4 4 1 4 4 4 4 4 4 4 5 5 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	A 000 GHz IF IF A A A A A A A A A A A A A	PN0: Fast -Gain:Low #VBV #VBV (Δ) -2,300 c -35,065 c -35,065 c -35,065 c	V 300 kHz Bm Bm Bm Bm Bm	ALIGR	AHZ E	Mission	Mkr1 2.4 -2 -2 -2 		

Tx. Spurious NVNT 1-DH5 2441MHz Ref



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t Spectrum Analyzer - :		urious N\							
. RF 50 ter Freq 2.480	Ω AC		NSE:INT		GNAUTO Avg Type: I Avg Hold: 1	Log-Pwr	02:34	30 PM Mar 20, 2024	
		PNO: Wide ↔ IFGain:Low	Atten: 30 dl		Avgirioid. I		U		
Ref Offset						V		0 096 GHz 3.026 dBm	
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er 2.480000 GH	lz					1	Spa	n 8.000 MHz	
		#\/D\A	1 200 24-2			Curr	on 100 n	ac (1001 ptc)	
BW 100 kHz		#VBN	/ 300 kHz		STATUS	Swe	ep 1.00 n	ns (1001 pts)	
BW 100 kHz	Tx. Spuri			5 2480			•	ns (1001 pts)	
Spectrum Analyzer - :	Swept SA	ous NVN⁻	T 1-DH		MHz E		n		
Spectrum Analyzer - 1 RF 50	Swept SA DΩ AC	ous NVN⁻		AL Run		missioi	n	1:49 PM Mar 20, 2024 TRACE 1 2 3 4 5 6 TYPE M Mar 20, 2024	
Spectrum Analyzer - 5 RF SC er Freq 13.26 Ref Offset	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run		missioi	02:34 Mkr1 2.4	149 PM Mar 20, 202 TRACE 1 2 3 4 5 6 TYPE M MARAAMA DET P N N N N 481 1 GHz	
Spectrum Analyzer - : RF SC er Freq 13.26 Ref Offset	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run		missioi	02:34 Mkr1 2.4	:49 PM Mar 20, 202 TRACE 1 2 3 4 5 6 TYPE M WARAAAA DET P N N N N	
Spectrum Analyzer - St RF SC er Freq 13.26 Ref Offset	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run		missioi	02:34 Mkr1 2.4	149 PM Mar 20, 202 TRACE 1 2 3 4 5 6 TYPE M MARAAMA DET P N N N N 481 1 GHz	
Spectrum Analyzer - St RF SC er Freq 13.26 Ref Offset	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run		missioi	02:34 Mkr1 2.4	149 PM Mar 20, 202- TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNN 481 1 GHz 3.615 dBm	
Spectrum Analyzer - St RF SC er Freq 13.26 Ref Offset	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run		missioi	02:34 Mkr1 2.4	149 PM Mar 20, 202 TRACE 1 2 3 4 5 6 TYPE M MARAAMA DET P N N N N 481 1 GHz	
	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run	MHZ E	Mission Log-Pwr 15	02:34 Mkr1 2.4	149 PM Mar 20, 202- TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNN 481 1 GHz 3.615 dBm	
Spectrum Analyzer - St RF SC er Freq 13.26 Ref Offset	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run	MHZ E	missioi	02:34 Mkr1 2.4	149 PM Mar 20, 202- TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNN 481 1 GHz 3.615 dBm	
Spectrum Analyzer - 5 RF SC er Freq 13.26 Ref Offset	Swept SA DΩ AC 50000000 GHz 0.5 dB		T 1-DH	AL Run	MHZ E	Mission Log-Pwr 15	Mkr1 2.	H9 PM Mar 20, 202 TRACE 1 2 3 4 5 6 TYPE MWWWWWW ber IP NN NN 481 1 GHz 5.615 dBm 	
Spectrum Analyzer - ' RF SC er Freq 13.26 /div Ref 20.00	Swept SA DΩ AC 50000000 GHz 0.5 dB	PNO: Fast ++-	T 1-DH	AL Run	MHZ E	Mission	Mkr1 2	149 PM Mar 20, 202- TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNN 481 1 GHz 3.615 dBm	
Spectrum Analyzer RF ISC ier Freq 13.26 /div Ref 20.00 1 	Swept SA □ Q AC 5000000 GHz 0.5 dB 0 dBm 0 dBm	OUS NVN <sup>-</sup> PNO: Fast → IFGain:Low 4 ↓ 5 4 ↓ 5 4 ↓ 5 4 ↓ 5 4 ↓ 5 4 ↓ 5	T 1-DH	AL Run	MHZ E	Mission Log-Pwr 15	Mkr1 2	149 PM Mar 20, 202- TRACE 1 2 3 4 5 G TYPE M WWWWW 481 1 GHz 3.615 dBm -29.09 dBm -29.09 dBm -29.09 dBm	
Spectrum Analyzer	Swept SA ⊇	OUS NVN <sup>-</sup> PN0: Fast → IFGain:Low #VBM #VBM Iz (Δ) -3.615 d z -38.460 d	T 1-DH INSE:INT Trig: Free R Atten: 30 dl 4 300 kHz Bm Bm Bm	Run B	MHZ E	Mission Log-Pwr 15	Mkr1 2. 	149 PM Mar 20, 202- TRACE 1 2 3 4 5 G TYPE M WWWWW 481 1 GHz 3.615 dBm -29.09 dBm -29.09 dBm -29.09 dBm	
Spectrum Analyzer - 5 RF 5 cer Freq 13.26 Ref Offset /div Ref 20.01 	Swept SA 2 Q AC 5000000 GHz 0.5 dB 0 dBm 0 dBm 0 dBm 0 dBm 0 dBm 0 dBm	OUS NVN <sup>-</sup> PHO: Fast →→ IFGain:Low #VBM (4 0 5 4 0 5 5 0 5 6 0 5 7 0 5	T 1-DH Trig: Free R Atten: 30 dl	Run B	MHZ E	Mission Log-Pwr 15	Mkr1 2. 	149 PM Mar 20, 202- TRACE 1 2 3 4 5 G TYPE M WWWWW 481 1 GHz 3.615 dBm -29.09 dBm -29.09 dBm -29.09 dBm	
Spectrum Analyzer	Swept SA D Q AC 5000000 GHz 0.5 dB 0 dBm 0 dBm 2.481 1 GH 4.961 4 GH 4.961 4 GH 4.961 4 GH	OUS NVN <sup>-</sup> PHO: Fast →→ IFGain:Low #VBM (4 0 5 4 0 5 5 0 5 4 0 5 5 0 5 6 0 5 7 0 5	T 1-DH Trig: Free R Atten: 30 dl	Run B	MHZ E	Mission Log-Pwr 15	Mkr1 2. 	149 PM Mar 20, 202- TRACE 1 2 3 4 5 G TYPE M WWWWW 481 1 GHz 3.615 dBm -29.09 dBm -29.09 dBm -29.09 dBm	
Spectrum Analyzer - RF Sc ser Freq 13.26 Ref Offset Ref 20.01 1 30 MHz BW 100 KHz D00 IEE Sc4 N 1 f Λ 1 f Λ 1 f	Swept SA D Q AC 5000000 GHz 0.5 dB 0 dBm 0 dBm 2.481 1 GH 4.961 4 GH 4.961 4 GH 4.961 4 GH	OUS NVN <sup>-</sup> PHO: Fast →→ IFGain:Low #VBM (4 0 5 4 0 5 5 0 5 4 0 5 5 0 5 6 0 5 7 0 5	T 1-DH Trig: Free R Atten: 30 dl	Run B	MHZ E	Mission Log-Pwr 15	Mkr1 2. 	149 PM Mar 20, 202- TRACE 1 2 3 4 5 G TYPE M WWWWW 481 1 GHz 3.615 dBm -29.09 dBm -29.09 dBm -29.09 dBm	

## Tx. Spurious NVNT 1-DH5 2480MHz Ref



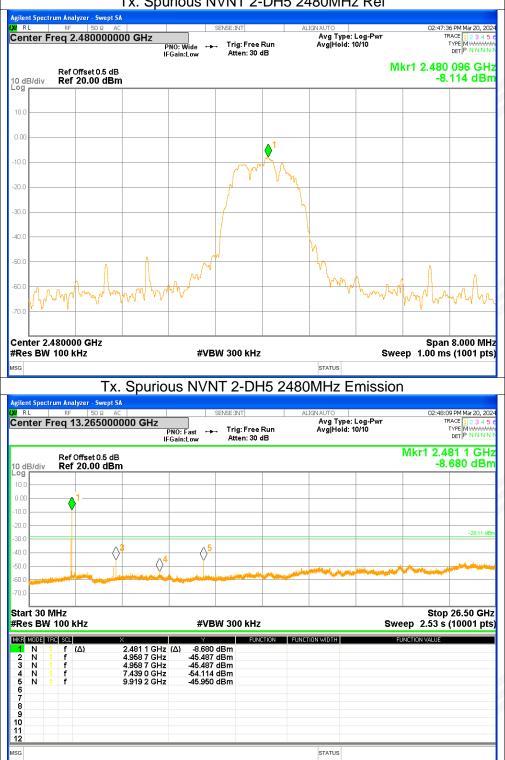
L	rum Analyzer - Swept SJ RF 50 Ω AC Teq 2.4020000	00 GHz P	NO: Wide ↔ Gain:Low	/NT 2-DH ENSE:INT Trig: Free Run Atten: 30 dB	ALIGNAUTO Avg Type: I Avg Hold: 1	Log-Pwr 0/10	-	48 PM Mar 20, 2024 IRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N N
3/div	Ref Offset 0.5 dB Ref 20.00 dBm	1				N		l 992 GHz .484 dBm
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"VIN	Ma LWWW	w W	4		μ	Y W Y	anar Mar	What
	100 kHz		#VBV	V 300 kHz		Swe	eep 1.00 m	n 8.000 MHz s (1001 pts)
s BW	100 KHz Tx. rum Analyzer - Swept S/	I	us NVN	T 2-DH5 2	status 2402MHz E		eep 1.00 m	s (1001 pts)
s BW	100 кнг Тх.	000 GHz		T 2-DH5 2		missio	eep 1.00 m N 02:44:	s (1001 pts)
S BW	100 kHz Tx. rum Analyzer - Swept S/ RF 50 Ω AC req 13.2650000	000 GHz	us NVN s	T 2-DH5 2	2402MHz E	missio	eep 1.00 m N 02:44:	s (1001 pts) 20 PM Mar 20, 2024 IRACE 1 2 3 4 5 6
BW Spect	100 KHz Tx. rum Analyzer - Swept SJ RF 50 Ω AC	000 GHz IF		T 2-DH5 2	2402MHz E	missio	eep 1.00 m n 02:44: Mkr1 2.4	S (1001 pts)
Spect	100 kHz Tx. rum Analyzer - Swept S/ RF 50 Ω AC req 13.2650000 Ref Offset 0.5 dB	000 GHz IF		T 2-DH5 2	2402MHz E	missio	eep 1.00 m n 02:44: Mkr1 2.4	s (1001 pts)
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t Spect	100 kHz Tx. rum Analyzer - Swept S/ RF 50 Ω AC req 13.2650000 Ref Offset 0.5 dB	000 GHz IF		T 2-DH5 2	2402MHz E	missio	eep 1.00 m n 02:44: Mkr1 2.4	s (1001 pts)
Spect	100 kHz Tx. rum Analyzer - Swept S/ RF 50 Ω AC req 13.2650000 Ref Offset 0.5 dB	000 GHz IF		T 2-DH5 2	2402MHz E	missio	eep 1.00 m n 02:44: Mkr1 2.4	20 PM Mar 20, 2024 IRACE [] 23 4 5 6 TYPE [] MANNIN 001 7 GHz .423 dBm
S BW	100 kHz Tx. rum Analyzer - Swept S/ RF 50 Ω AC req 13.2650000 Ref Offset 0.5 dB	000 GHz IF	US NVN Se PN0: Fast Gain:Low	T 2-DH5 2	2402MHz E	missio	eep 1.00 m n 02:44: Mkr1 2.4	20 PM Mar 20, 2024 IRACE [] 23 4 5 6 TYPE [] MANNIN 001 7 GHz .423 dBm
s BW	100 kHz Tx. rum Analyzer - Swept S/ RF 50 Ω AC req 13.2650000 Ref Offset 0.5 dB	000 GHz IF	US NVN Se PN0: Fast Gain:Low	T 2-DH5 2	2402MHz E	missio	eep 1.00 m n 02:44: Mkr1 2.4	20 PM Mar 20, 2024 IRACE [] 23 4 5 6 TYPE [] MANNIN 001 7 GHz .423 dBm
I Spect	100 kHz Tx. rum Analyzer - Swept S/ RF 50 Q AC req 13.265000 dBn Ref 20.00 dBn	000 GHz IF	us NVN	T 2-DH5 2	2402MHz E	Missio	eep 1.00 m	s (1001 pts)
t Spect ter F	100 kHz Tx. rum Analyzer - Swept S/ Ref 2002 AC Ref Offset 0.5 dB Ref 20.00 dBn	000 GHz IF	us NVN	T 2-DH5 2	2402MHz E	Log-Pwr 0/10	eep 1.00 m 02:44: Mkr1 2.4 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	s (1001 pts)
s BW	100 kHz Tx. rum Analyzer - Swept S/ RF 50 2 AC req 13.2650000 Ref Offset 0.5 dB Ref 20.00 dBn	2.401 7 GHz	US NVN → SE → O: Fast → → Gain:Low ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	T 2-DH5 2	2402MHz E	Log-Pwr 0/10	eep 1.00 m	s (1001 pts)
s BW	100 kHz Tx. Tum Analyzer - Swept S/ Ref 2002 act Ref Offset 0.5 dB Ref 20.00 dBn 0 0 0 0 0 0 0 0 0 0 0 0 0	2.401 7 GHz 4.805 2 GHz 4.805 2 GHz 4.805 2 GHz	US NVN NO: Fast → Gain:Low #VEV (Δ) -7.423 d -40.397 d -40.397 d -40.397 d	T 2-DH5 2	2402MHz E	Log-Pwr 0/10	eep 1.00 m 02:44: Mkr1 2.4 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	s (1001 pts)
nt Spect L Inter F B/div B/div S BW	100 kHz Tx. rum Analyzer - Swept S/ RF 30 Ω AC req 13.2650000 Ref Offset 0.5 dB Ref 20.00 dBm 0 0 0 0 0 0 0 0 0 0 0 0 0	0000 GHz F F F F F F F F F F F F F F F F F F F	US NVN → → → → → → → → → → → → →	T 2-DH5 2	2402MHz E	Log-Pwr 0/10	eep 1.00 m 02:44: Mkr1 2.4 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	s (1001 pts)
s BW	100 kHz Tx. Tum Analyzer - Swept S/ Ref 2002 act Ref Offset 0.5 dB Ref 20.00 dBn 0 0 0 0 0 0 0 0 0 0 0 0 0	2.401 7 GHz 4.805 2 GHz 4.805 2 GHz 4.805 2 GHz	US NVN NO: Fast → Gain:Low #VEV (Δ) -7.423 d -40.397 d -40.397 d -40.397 d	T 2-DH5 2	2402MHz E	Log-Pwr 0/10	eep 1.00 m 02:44: Mkr1 2.4 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	s (1001 pts)
Spect er F /div 30 I BW	100 kHz Tx. Tum Analyzer - Swept S/ Ref 2002 act req 13.2650000 Ref Offset 0.5 dB Ref 20.00 dBn 0 0 0 0 0 0 0 0 0 0 0 0 0	2.401 7 GHz 4.805 2 GHz 4.805 2 GHz 4.805 2 GHz	US NVN NO: Fast → Gain:Low #VEV (Δ) -7.423 d -40.397 d -40.397 d -40.397 d	T 2-DH5 2	2402MHz E	Log-Pwr 0/10	eep 1.00 m 02:44: Mkr1 2.4 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	s (1001 pts)



RF Freq 2.44	50 Ω AC 10000000 GHz	PNO: Wide ↔	ENSE:INT Trig: Free Run Atten: 30 dB	ALIGNAUTO Avg Type: Log Avg Hold: 10/1	g-Pwr	02:45:17 PM Mar 20, 202 TRACE 1 2 3 4 5 1 TYPE MWWWW DET P N N N N
Ref Offse		IFGain:Low	Atten: 30 th		Mkr1 2.	441 048 GHz -5.481 dBm
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2.441000 G	iHz					Span 8.000 MH:
W 100 kHz		#VB\	№ 300 kHz		Sweep 1.0	0 ms (1001 pts
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	Tx Souri	ous NV/N	T 2-DH5 2	status 441MHz Fm	ission	
pectrum Analyzer	- Swept SA	ous NVN	T 2-DH5 2	status 441MHz Em	ission	
RF		s	ENSE:INT	441MHz Em	g-Pwr	02:45:54 PM Mar 20, 202 TRACE 1 2 3 4 5
RF	- Swept SA 50 Ω AC			441MHz Em	g-Pwr 0	TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N 2.441 4 GHz
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC   65000000 GHz	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N 2.441 4 GHz
Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N 2.441 4 GHz
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N 2.441 4 GHz
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	17442 12345. TYPE MWWWW DET PNNNN 2.4414 GHz -7.442 dBm
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	17442 12345. TYPE MWWWW DET PNNNN 2.4414 GHz -7.442 dBm
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr 0	17442 12345. TYPE MWWWW DET PNNNN 2.4414 GHz -7.442 dBm
r Freq 13.2	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast	ENSE:INT	441MHz Em	g-Pwr Mkr1	12.345. TYPE MWWWW DET P N N N N 2.441 4 GH2 -7.442 dBm -25.48 dBm
r Freq 13.2 Ref Offse	- Swept SA 50 Ω AC 65000000 GHz et 0.5 dB	PNO: Fast IFGain:Low	ENSE:INT	441MHz Em	g-Pwr 0 Mkr1	17442 12345. TYPE MWWWW DET PNNNN 2.4414 GHz -7.442 dBm
In Freq 13.2 Ref Offse In Ref 20. In Re	- Swept SA 50 Q AC 65000000 GHz et 0.5 dB 00 dBm	PNO: Fast IFGain:Low 4 4 #VB	ENSE:INT	441MHz Em	g-Pwr 0 Mkr1	TARCE 11 2 3 4 5. TYPEE MWAAHWAW DET P N N N N 2.441 4 GH2 -7.442 dBm -25.40 dBm -25.40 dBm 550 26.50 GHz 53 s (30001 pts
Ref Offse           div         Ref Offse           div         Ref 20.	- Swept SA 50 Q AC 65000000 GHz et 0.5 dB 00 dBm	PNO: Fast IFGain:Low 4 4 #VB	ENSE:INT Trig: Free Run Atten: 30 dB	441MHz Em	g-Pwr Mkr1	TARCE 11 2 3 4 5. TYPEE MWAAHWAW DET P N N N N 2.441 4 GH2 -7.442 dBm -25.40 dBm -25.40 dBm 550 26.50 GHz 53 s (30001 pts
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Ref Offse           div         Ref Offse           div         Ref 20.	- Swept SA 50 Q AC 65000000 GHz et 0.5 dB 00 dBm 2 2 2 4 4 4 8 2 4 4 8 2 0 4 4 8 2 0 4 4 8 2 0 4 4 8 2 0 4 4 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 0 5 0 5 0 0 5 0 5 0 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	PNO: Fast IFGain:Low #VBλ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ	ENSE:INT Trig: Free Run Atten: 30 dB	441MHz Em	g-Pwr Mkr1	TARCE 11 2 3 4 5. TYPEE MWAAHWAW DET P N N N N 2.441 4 GH2 -7.442 dBm -25.40 dBm -25.40 dBm 550 26.50 GHz 53 s (30001 pts
Ref Offse           div         Ref Offse           div         Ref 20.	- Swept SA 50 Q AC 65000000 GHz et 0.5 dB 00 dBm 2 2 2 4 4 4 8 2 4 4 8 2 0 4 4 8 2 0 4 4 8 2 0 4 4 8 2 0 4 4 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 0 5 0 5 0 0 5 0 5 0 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	PNO: Fast IFGain:Low #VBλ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ	ENSE:INT Trig: Free Run Atten: 30 dB	441MHz Em	g-Pwr Mkr1	TARCE 11 2 3 4 5. TYPEE MWAAHWAW DET P N N N N 2.441 4 GH2 -7.442 dBm -25.40 dBm -25.40 dBm 550 26.50 GHz 53 s (30001 pts
Ref Offse Ref 20.	- Swept SA 50 Q AC 65000000 GHz et 0.5 dB 00 dBm 2 2 2 4 4 4 8 2 4 4 8 2 0 4 4 8 2 0 4 4 8 2 0 4 4 8 2 0 4 4 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 0 5 0 5 0 0 5 0 5 0 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	PNO: Fast IFGain:Low #VBλ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ	ENSE:INT Trig: Free Run Atten: 30 dB	441MHz Em	g-Pwr Mkr1	TARCE 11 2 3 4 5. TYPEE MWAAHWAW DET P N N N N 2.441 4 GH2 -7.442 dBm -25.40 dBm -25.40 dBm 550 26.50 GHz 53 s (30001 pts

Tx. Spurious NVNT 2-DH5 2441MHz Ref





Tx. Spurious NVNT 2-DH5 2480MHz Ref



L	rum Analyzer - Swept : RF 50Ω A Freq 2.4020000	6A 000 GHz		ENSE:INT Trig: Free Run Atten: 30 dB	5 2402MHz ALIGN AUTO Avg Type: L Avg Hold: 10	og-Pwr	T	33 PM Mar 20, 2024 RACE 1 2 3 4 5 6 TYPE M WWWW DET P N N N N N
3/div	Ref Offset 0.5 dE Ref 20.00 dB					М		048 GHz 310 dBm
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	402000 GHz		#\/D\/	N 200 KH2		Curo	on 100 m	1 8.000 MHz
s BW	100 кнz Тх			№ 300 кнz Т 3-DH5 2	status 402MHz Er		ep 1.00 m	s (1001 pts)
s BW	100 kHz	SA IC	us NVN	T 3-DH5 2	402MHz Er	nissior •g-Pwr	ep 1.00 m ) 02:56:	5 (1001 pts)
S BW	100 kHz Tx rum Analyzer - Swept 1 RF 50 Ω A	5A IC   10000 GHz	us NVN	T 3-DH5 2	402MHz Er	nissior •g-Pwr	ep 1.00 m ) 02:56: T	E (1001 pts)
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## Tx Sourious NIVNT 3-DH5 2402MHz Ref



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### **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 \* \* \* \*