# **Radio Test Report**

Report No.:STS2411019W01

Issued for

Shenzhen Monster Creative Technology Co., Ltd.

Room 1602, Building A, Fencheng Zhigu Building, Xixiang Street, Bao 'an District, Shenzhen, Guangdong, China

Product Name:	Bluetooth Speaker
Brand Name:	MONSTER
Model Name:	MS62106
Series Model(s):	D127
FCC ID:	2AVD2-MS62106
Test Standards:	FCC Part15.247

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



# **TEST REPORT**

Applicant's Name	Shenzhen Monster Creative Technology Co., Ltd.
Address	Room 1602, Building A, Fencheng Zhigu Building, Xixiang Street, Bao 'an District, Shenzhen, Guangdong, China
Manufacturer's Name	Shenzhen Monster Creative Technology Co., Ltd.
Address	Room 1602, Building A, Fencheng Zhigu Building, Xixiang Street, Bao 'an District, Shenzhen, Guangdong, China
Product Description	
Product Name	Bluetooth Speaker
Brand Name:	MONSTER
Model Name:	MS62106

Series Model(s) ..... D127

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 .....: 04 Nov. 2024

Date (s) of performance of tests : 04 Nov. 2024~ 08 Nov. 2024

Date of Issue .....:: 08 Nov. 2024

Test Result .....: Pass

Testing Engineer

Jann Bu

(Aaron Bu)

iv

ST SER

ESTING APP

**Technical Manager** 

Authorized Signatory :

(Bovey Yang)

howy

(Tony Liu)



Table of Contents	Page
1. SUMMARY OF TEST RESULTS	6
1.1 TEST FACTORY	7
1.2 MEASUREMENT UNCERTAINTY	7
2. GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF THE EUT	8
2.2 DESCRIPTION OF THE TEST MODES	10
2.3 FREQUENCY HOPPING SYSTEM REQUIREMENTS	10
2.4 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING	12
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	
2.6 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	13
2.7 EQUIPMENTS LIST	14
3. EMC EMISSION TEST	15
3.1 CONDUCTED EMISSION MEASUREMENT	15
3.2 RADIATED EMISSION MEASUREMENT	19
4. CONDUCTED SPURIOUS & BAND EDGE EMISSION	31
4.1 LIMIT	31
4.2 TEST PROCEDURE	31
4.3 TEST SETUP	32
4.4 EUT OPERATION CONDITIONS	32
4.5 TEST RESULTS	32
5. NUMBER OF HOPPING CHANNEL	33
5.1 LIMIT	33
5.2 TEST PROCEDURE	33
5.3 TEST SETUP	33
5.4 EUT OPERATION CONDITIONS	33
5.5 TEST RESULTS	33
6. AVERAGE TIME OF OCCUPANCY	34
6.1 LIMIT	34
6.2 TEST PROCEDURE	34
6.3 TEST SETUP	34
6.4 EUT OPERATION CONDITIONS	34
6.5 TEST RESULTS	34
7. HOPPING CHANNEL SEPARATION MEASUREMEN	35



	Table of Contents	Page
7.1 LIMI	т //) //	35
	TPROCEDURE	35
7.3 TES	T SETUP	35
7.4 EUT	OPERATION CONDITIONS	35
7.5 TES	TRESULTS	35
8. BANDWI	DTH TEST	36
8.1 LIMI	Т	36
8.2 TES	T PROCEDURE	36
8.3 TES	T SETUP	36
8.4 EUT	OPERATION CONDITIONS	36
8.5 TES	TRESULTS	36
9. OUTPUT	POWER TEST	37
9.1 LIMI	т	37
9.2 TES	T PROCEDURE	37
	T SETUP	38
	OPERATION CONDITIONS	38
9.5 TES	TRESULTS	38
10. ANTEN	NA REQUIREMENT	39
10.1 ST/	ANDARD REQUIREMENT	39
10.2 EU	TANTENNA	39
APPENDIX	1-TEST DATA	40
1. DWELL 1	ГІМЕ	40
2. MAXIMU	M PEAK CONDUCTED OUTPUT POWER	50
320DB B/	ANDWIDTH	56
4. CARRIEI	R FREQUENCIES SEPARATION	62
5. NUMBER	R OF HOPPING CHANNEL	68
6. BAND EI	DGE	71
7. BAND EI	DGE(HOPPING)	78
8. CONDUC	TED RF SPURIOUS EMISSION	85
APPENDIX	2-PHOTOS OF TEST SETUP	95



Page 5 of 95

Report No.: STS2411019W01

# **Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	08 Nov. 2024	STS2411019W01	ALL	Initial Issue
			10	





# **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	Lest Item		Remark	
15.207	Conducted Emission	PASS		
15.247(a)(1)	Hopping Channel Separation	PASS		
15.247(a)(1)&(b)(1)	Output Power	PASS		
15.209	Radiated Spurious Emission	PASS		
15.247(d)	Conducted Spurious & Band Edge Emission	PASS	-	
15.247(a)(1)(iii)	Number of Hopping Frequency	PASS	-	
15.247(a)(1)(iii)	Dwell Time	PASS		
15.247(a)(1)	Bandwidth	PASS		
15.205	Restricted bands of operation	PASS		
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS	-	
15.203	Antenna Requirement PASS		9	

NOTE:

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

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



#### 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

Page 7 of 95

#### **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 ±4.90d	
6	All emissions, radiated>6G ±5.24dE	
7	Conducted Emission (9KHz-150KHz)	±2.19dB
8	Conducted Emission (150KHz-30MHz)	±2.53dB
9	Occupied Channel Bandwidth	±3.5%
10	Dwell Time	±3.2%



# 2. GENERAL INFORMATION

# 2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Bluetooth Speaker
Brand Name	MONSTER
Model Name	MS62106
Series Model(s)	D127
Model Difference	Only the model name is different
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 Gain	2.75dBi
Rating	Input: 5V 1A
Battery	Rated Voltage:3.7V Capacity: 450mAh
Hardware version number	VA.0
Software version number	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.



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.

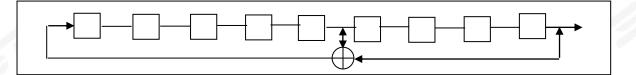


The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hop sets to avoid hopping on occupied channels is permitted. The coordination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

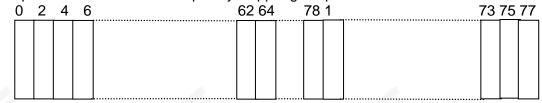
(2)The Pseudorandom sequence may be generated in a nin-stage shift register whose 5<sup>th</sup> and 9<sup>th</sup> stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones: i.e. the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



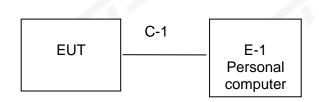
# 2.4 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

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.

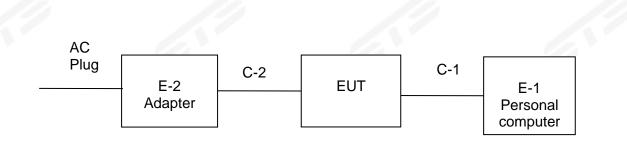
	Test program: Bluetooth				
(Control software) Parameters(1/2/3Mbps)	Packet type: DH1:4:27 2DH1:20:54 3DH1:24:83	Packet type: DH3:11:183 2DH3:26:367 3DH3:27:552	Packet type: DH5:15:339 2DH5:30:679 3DH5:31:1021		

RF Function	Туре	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
		GFSK	2.75	10	
ВТ	BR+EDR	π/4-DQPSK	2.75	10	FCC_assist1.0.4
		8DPSK	2.75	10	

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



**Conducted Emission Test** 





# 2.6 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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

	Necessary accessories						
Item	e Equipment	Mfr/Brand	Model/Type No.	Length	Note		
N/A	N/A	N/A	N/A	N/A	N/A		

#### Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-1	Personal computer	DELL	Inspiron 3501	N/A	N/A
E-2	Adapter	ZTC	NB-A515A	N/A	N/A
C-1	Serial port board	XES	WTYZK	N/A	N/A
C-2	USB Cable	ZTC	NB-A515A	N/A	N/A

Note:

- (1) For detachable type I/O cable should be specified the length in cm in <sup>r</sup> Length <sup>a</sup> column.
- (2) "YES" is means "with core"; "NO" is means "without core".



# 2.7 EQUIPMENTS LIST

RF Radiation Test Equipment						
Kind of Equipment	Manufacturer	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	2024.09.23	2025.09.22	
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	2024.09.30	2025.09.29	
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	2024.09.23	2025.09.22	
Switch Control Box	N/A	N/A	N/A	N/A	N/A	
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A	
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A	
Turn Table	MF	SC100_1	60531	N/A	N/A	
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A	
DC power supply	HONGSHENGFENG	DPS-305AF	17064939	2024.09.23	2025.09.22	
Test SW	EZ-EMC		Ver.STSLAB-034	A1 RE		
	Condu	ction Test equipmen	t			
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	
Test Receiver	R&S	ESCI	101427	2024.09.24	2025.09.23	
Limtter	CYBERTEK	EM5010	N/A	2024.09.24	2025.09.23	
LISN	R&S	ENV216	101242	2024.09.24	2025.09.23	
LISN	EMCO	3810/2NM	23625	2024.09.24	2025.09.23	
Temperature & Humidity	SW-108	SuWei	N/A	2024.03.15	2025.03.14	
Test SW	EZ-EMC		Ver.STSLAB-03A	A1 CE		
	RF	Connected Test				
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	
Signal Analyzer	Agilent	N9020A	MY51510623	2024.02.23	2025.02.22	
Power Sensor	Keysight	U2021XA	MY56120038	2024.09.23	2025.09.22	
Temperature & Humidity	SW-108	SuWei	N/A	2024.03.15	2025.03.14	
Test SW	MW		MTS 8310_2.0	0.0.0		



#### 3. EMC EMISSION TEST

# 3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

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

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

Note:

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

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

# The following table is the setting of the receiver

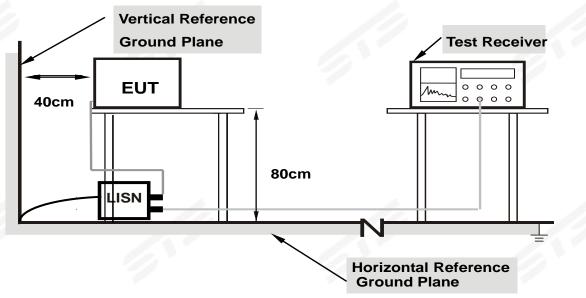
Receiver Parameters	Setting		
Attenuation	10 dB		
Start Frequency	0.15 MHz		
Stop Frequency	30 MHz		
IF Bandwidth	9 kHz		



#### 3.1.2 TEST PROCEDURE

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

#### 3.1.3 TEST SETUP



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

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

# 3.1.4 EUT OPERATING CONDITIONS

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



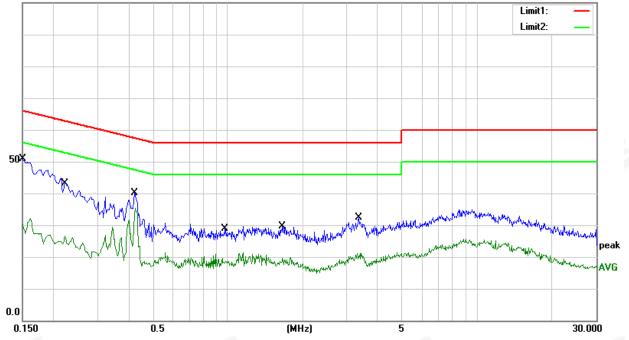
# 3.1.5 TEST RESULT

Temperature:	<b>25.1℃</b>	Relative Humidity:	59%
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	0.1500	30.99	19.78	50.77	66.00	-15.23	QP
2	0.1500	11.15	19.78	30.93	56.00	-25.07	AVG
3	0.2220	23.38	19.87	43.25	62.74	-19.49	QP
4	0.2220	6.80	19.87	26.67	52.74	-26.07	AVG
5	0.4220	20.19	20.01	40.20	57.41	-17.21	QP
6	0.4220	15.36	20.01	35.37	47.41	-12.04	AVG
7	0.9780	9.20	19.77	28.97	56.00	-27.03	QP
8	0.9780	-1.11	19.77	18.66	46.00	-27.34	AVG
9	1.6620	9.88	19.79	29.67	56.00	-26.33	QP
10	1.6620	-0.09	19.79	19.70	46.00	-26.30	AVG
11	3.3460	12.64	19.84	32.48	56.00	-23.52	QP
12	3.3460	1.32	19.84	21.16	46.00	-24.84	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





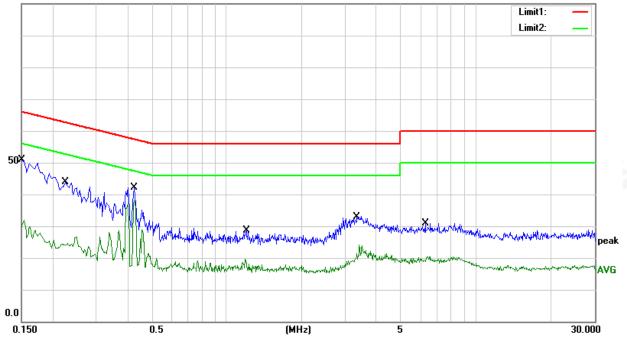
Temperature:	<b>25.1</b> ℃	Relative Humidity:	59%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 13	17	12

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1500	31.13	19.74	50.87	66.00	-15.13	QP
2	0.1500	12.21	19.74	31.95	56.00	-24.05	AVG
3	0.2260	24.03	19.96	43.99	62.60	-18.61	QP
4	0.2260	6.71	19.96	26.67	52.60	-25.93	AVG
5	0.4260	22.01	20.02	42.03	57.33	-15.30	QP
6	0.4260	18.21	20.02	38.23	47.33	-9.10	AVG
7	1.2020	8.87	19.79	28.66	56.00	-27.34	QP
8	1.2020	-0.20	19.79	19.59	46.00	-26.41	AVG
9	3.3300	12.91	19.94	32.85	56.00	-23.15	QP
10	3.3300	4.07	19.94	24.01	46.00	-21.99	AVG
11	6.2620	11.11	19.83	30.94	60.00	-29.06	QP
12	6.2620	0.56	19.83	20.39	50.00	-29.61	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)

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

Notes:

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

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

# LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505 16.69475-16.6952		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		
d	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)		

Report No.: STS2411019W01



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.

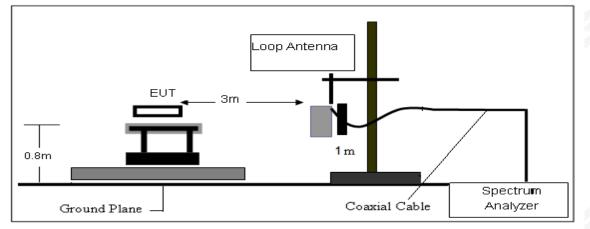
# 3.2.3 DEVIATION FROM TEST STANDARD

No deviation.

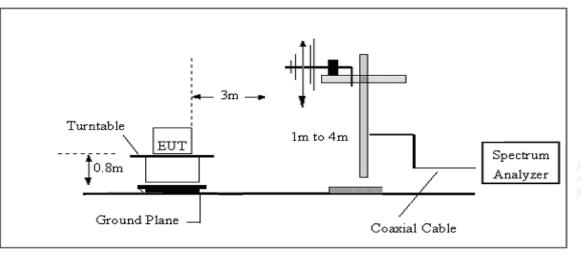


# 3.2.4 TESTSETUP

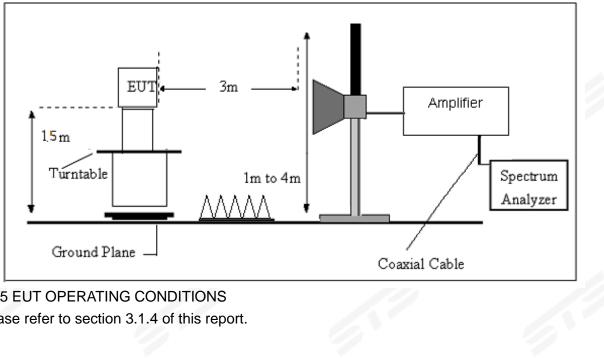
(A) Radiated Emission Test-Up Frequency Below 30MHz

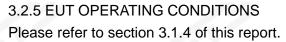


(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(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:	<b>23.1℃</b>	Relative Humidity:	60%
-	Test Voltage:	DC 3.7V From Battery	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.



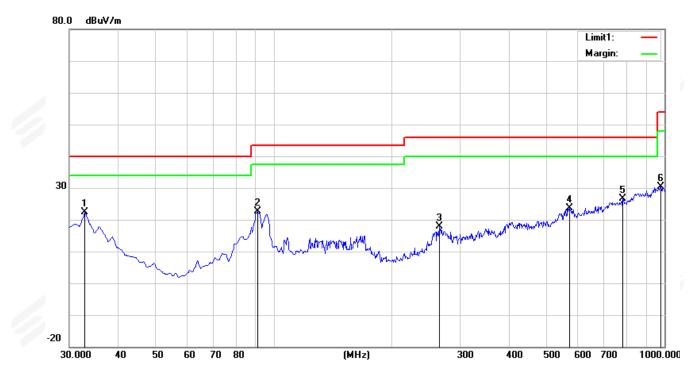
(30MHz-1000MHz)

Temperature:	<b>23.4℃</b>	Relative Humidity:	60%
Test Voltage:	DC 3.7V From Battery	Phase:	Horizontal
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode	9 worst mode)	0

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	32.9100	36.66	-14.33	22.33	40.00	-17.67	peak
2	91.1100	44.04	-21.31	22.73	43.50	-20.77	peak
3	265.7100	32.77	-14.83	17.94	46.00	-28.06	peak
4	572.2300	29.20	-5.63	23.57	46.00	-22.43	peak
5	782.7200	28.86	-2.14	26.72	46.00	-19.28	peak
6	982.5400	27.96	2.52	30.48	54.00	-23.52	peak

Remark:

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



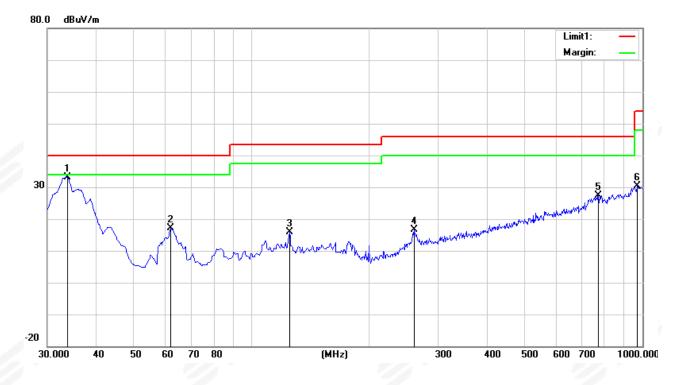


Report No.: STS2411019W01

Temperature:	<b>23.4</b> ℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V From Battery	Phase:	Vertical
Test Mode:	Mode 1/2/3/4/5/6/7/8/9(Mode	9 worst mode)	1.7

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	33.8800	47.97	-14.80	33.17	40.00	-6.83	peak
2	62.0100	42.98	-25.76	17.22	40.00	-22.78	peak
3	125.0600	34.12	-18.22	15.90	43.50	-27.60	peak
4	260.8600	31.35	-14.78	16.57	46.00	-29.43	peak
5	773.9900	29.64	-2.29	27.35	46.00	-18.65	peak
6	969.9300	28.49	2.00	30.49	54.00	-23.51	peak
0	000.0000	20.43	2.00	00.40	04.00	20.01	реак
emark:			n i Fastan) Lincit				

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	
(MHz)	(dBµV)	(dB)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	Comment
111	,			Low Char	nel (8DPSK/2	402 MHz)			100	
3264.72	62.20	44.70	6.70	28.20	-9.80	52.40	74.00	-21.60	PK	Vertical
3264.72	51.51	44.70	6.70	28.20	-9.80	41.71	54.00	-12.29	AV	Vertical
3264.69	61.94	44.70	6.70	28.20	-9.80	52.14	74.00	-21.86	PK	Horizontal
3264.69	50.44	44.70	6.70	28.20	-9.80	40.64	54.00	-13.36	AV	Horizontal
4804.38	59.11	44.20	9.04	31.60	-3.56	55.55	74.00	-18.45	PK	Vertical
4804.38	50.47	44.20	9.04	31.60	-3.56	46.91	54.00	-7.09	AV	Vertical
4804.32	59.63	44.20	9.04	31.60	-3.56	56.07	74.00	-17.93	PK	Horizontal
4804.32	50.42	44.20	9.04	31.60	-3.56	46.86	54.00	-7.14	AV	Horizontal
5359.79	48.19	44.20	9.86	32.00	-2.34	45.85	74.00	-28.15	PK	Vertical
5359.79	40.39	44.20	9.86	32.00	-2.34	38.05	54.00	-15.95	AV	Vertical
5359.87	47.77	44.20	9.86	32.00	-2.34	45.43	74.00	-28.57	PK	Horizontal
5359.87	39.45	44.20	9.86	32.00	-2.34	37.11	54.00	-16.89	AV	Horizontal
7205.75	53.82	43.50	11.40	35.50	3.40	57.22	74.00	-16.78	PK	Vertical
7205.75	43.91	43.50	11.40	35.50	3.40	47.31	54.00	-6.69	AV	Vertical
7205.87	53.99	43.50	11.40	35.50	3.40	57.39	74.00	-16.61	PK	Horizontal
7205.87	43.49	43.50	11.40	35.50	3.40	46.89	54.00	-7.11	AV	Horizontal
				Middle Cha	annel (8DPSK	/2441 MHz)				
3264.61	61.49	44.70	6.70	28.20	-9.80	51.69	74.00	-22.31	PK	Vertical
3264.61	50.08	44.70	6.70	28.20	-9.80	40.28	54.00	-13.72	AV	Vertical
3264.76	61.39	44.70	6.70	28.20	-9.80	51.59	74.00	-22.41	PK	Horizontal
3264.76	50.70	44.70	6.70	28.20	-9.80	40.90	54.00	-13.10	AV	Horizontal
4882.34	58.21	44.20	9.04	31.60	-3.56	54.65	74.00	-19.35	PK	Vertical
4882.34	49.65	44.20	9.04	31.60	-3.56	46.09	54.00	-7.91	AV	Vertical
4882.40	59.35	44.20	9.04	31.60	-3.56	55.79	74.00	-18.21	PK	Horizontal
4882.40	50.17	44.20	9.04	31.60	-3.56	46.61	54.00	-7.39	AV	Horizontal
5359.88	49.08	44.20	9.86	32.00	-2.34	46.74	74.00	-27.26	PK	Vertical
5359.88	40.07	44.20	9.86	32.00	-2.34	37.73	54.00	-16.27	AV	Vertical
5359.64	47.84	44.20	9.86	32.00	-2.34	45.49	74.00	-28.51	PK	Horizontal
5359.64	39.47	44.20	9.86	32.00	-2.34	37.12	54.00	-16.88	AV	Horizontal
7323.86	54.38	43.50	11.40	35.50	3.40	57.78	74.00	-16.22	PK	Vertical
7323.86	43.57	43.50	11.40	35.50	3.40	46.97	54.00	-7.03	AV	Vertical
7323.72	54.24	43.50	11.40	35.50	3.40	57.64	74.00	-16.36	PK	Horizontal
7323.72	44.20	43.50	11.40	35.50	3.40	47.60	54.00	-6.40	AV	Horizontal



#### Report No.: STS2411019W01

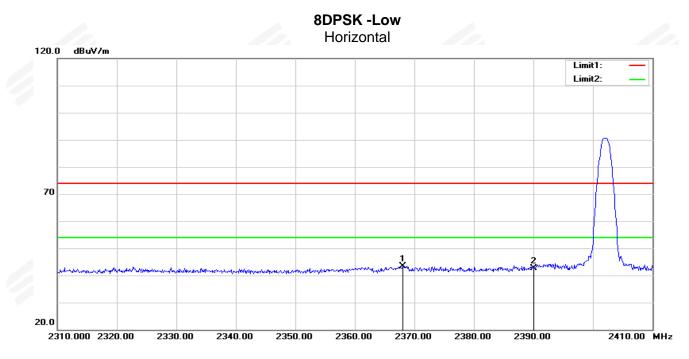
	High Channel (8DPSK/2480 MHz)									
3264.65	62.15	44.70	6.70	28.20	-9.80	52.35	74.00	-21.65	PK	Vertical
3264.65	51.22	44.70	6.70	28.20	-9.80	41.42	54.00	-12.58	AV	Vertical
3264.59	61.79	44.70	6.70	28.20	-9.80	51.99	74.00	-22.01	PK	Horizontal
3264.59	49.83	44.70	6.70	28.20	-9.80	40.03	54.00	-13.97	AV	Horizontal
4960.56	58.76	44.20	9.04	31.60	-3.56	55.20	74.00	-18.80	PK	Vertical
4960.56	50.52	44.20	9.04	31.60	-3.56	46.96	54.00	-7.04	AV	Vertical
4960.58	58.35	44.20	9.04	31.60	-3.56	54.79	74.00	-19.21	PK	Horizontal
4960.58	49.29	44.20	9.04	31.60	-3.56	45.73	54.00	-8.27	AV	Horizontal
5359.88	48.41	44.20	9.86	32.00	-2.34	46.06	74.00	-27.94	PK	Vertical
5359.88	40.10	44.20	9.86	32.00	-2.34	37.75	54.00	-16.25	AV	Vertical
5359.64	48.39	44.20	9.86	32.00	-2.34	46.05	74.00	-27.95	PK	Horizontal
5359.64	39.21	44.20	9.86	32.00	-2.34	36.87	54.00	-17.13	AV	Horizontal
7439.88	53.74	43.50	11.40	35.50	3.40	57.14	74.00	-16.86	PK	Vertical
7439.88	44.23	43.50	11.40	35.50	3.40	47.63	54.00	-6.37	AV	Vertical
7439.90	53.99	43.50	11.40	35.50	3.40	57.39	74.00	-16.61	PK	Horizontal
7439.90	44.58	43.50	11.40	35.50	3.40	47.98	54.00	-6.02	AV	Horizontal

Note:

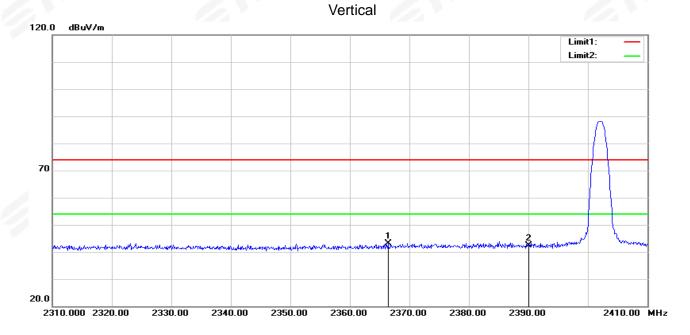
- 1) Scan with GFSK,  $\pi$ /4-DQPSK, 8DPSK, the worst case is 8DPSK Mode.
- 2) Factor = Antenna Factor + Cable Loss Pre-amplifier.
  - Emission Level = Reading + Factor
- 3) The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.



# Restricted band Requirements



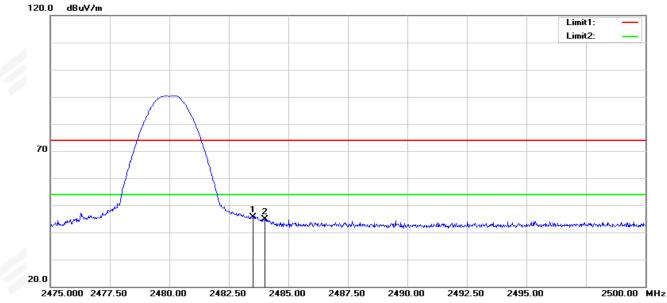
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2368.000	39.44	4.01	43.45	74.00	-30.55	peak
2	2390.000	38.20	4.34	42.54	74.00	-31.46	peak



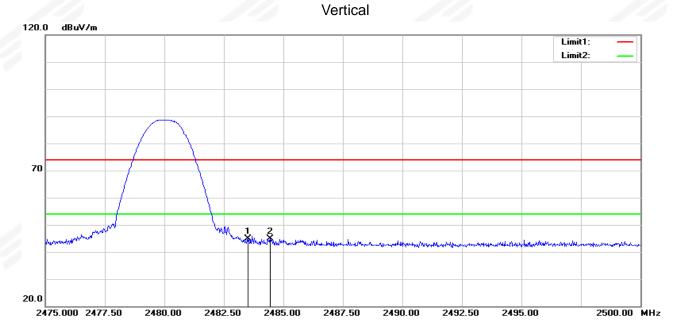
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2366.400	39.10	3.99	43.09	74.00	-30.91	peak
2	2390.000	38.10	4.34	42.44	74.00	-31.56	peak



# 8DPSK -High Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	40.91	4.60	45.51	74.00	-28.49	peak
2	2484.025	40.24	4.61	44.85	74.00	-29.15	peak



	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	40.27	4.60	44.87	74.00	-29.13	peak
2	2484.450	40.37	4.61	44.98	74.00	-29.02	peak

Note: All modes have been tested, only show the worst case.



# 4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

# 4.1 LIMIT

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

# 4.2 TEST PROCEDURE

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

# For Band edge

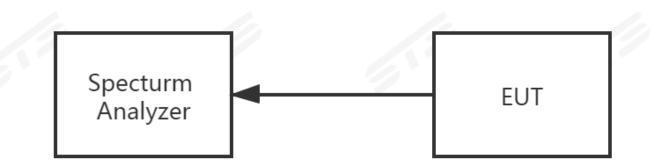
Spectrum Parameter	Setting	
Detector	Peak	
	Lower Band Edge: 2300 – 2407 MHz	
Start/Stop Frequency	Upper Band Edge: 2475 – 2500 MHz	
RB / VB (emission in restricted band)	100 KHz/300 KHz	
Trace-Mode:	Max hold	

# For Hopping Band edge

Spectrum Parameter	Setting
Detector	Peak
Stort/Stop Fraguanay	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

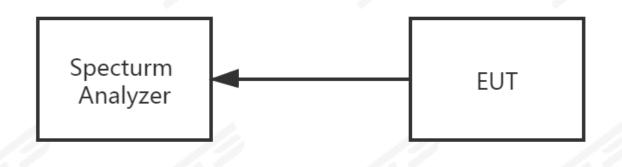
# 6.2 TEST PROCEDURE

- 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.
- $\check{h}$ . Measure the maximum time duration of one single pulse.

The Dwell Time=Burst Width\*Total Hops.The detailed calculations are showed as follows: The duration for dwell time calculation: 0.4[s]\*hopping number=0.4[s]\*79[ch)=31.6[s\*ch]; Dwell Time Calculate formula:

Dwell time = pulse time (ms) x pulse number in 31.6s

# 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. BANDWIDTH TEST

# 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



# 9. OUTPUT POWER TEST

9.1 LIMIT

	8				
			FCC Part 15.247,Subpart	C	
Sec	tion	Test Item	Limit	Frequency Range (MHz)	Result
		1	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.

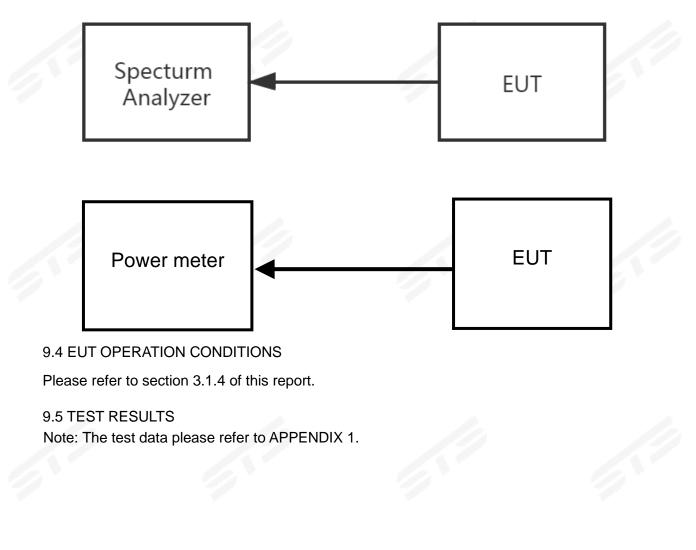
e) A plot of the test results and setup description shall be included in the test report.

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.







# **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. D	well T	ime						
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.38	120.46	317	31600	<=400	Pass
NVNT	1-DH3	2441	1.637	248.824	152	31600	<=400	Pass
NVNT	1-DH5	2441	2.885	285.615	99	31600	<=400	Pass
NVNT	2-DH1	2441	0.389	123.702	318	31600	<=400	Pass
NVNT	2-DH3	2441	1.641	272.406	166	31600	<=400	Pass
NVNT	2-DH5	2441	2.889	297.567	103	31600	<=400	Pass
NVNT	3-DH1	2441	0.389	123.702	318	31600	<=400	Pass
NVNT	3-DH3	2441	1.64	250.92	153	31600	<=400	Pass
NVNT	3-DH5	2441	2.891	312.228	108	31600	<=400	Pass
6			3		1	-	S.	

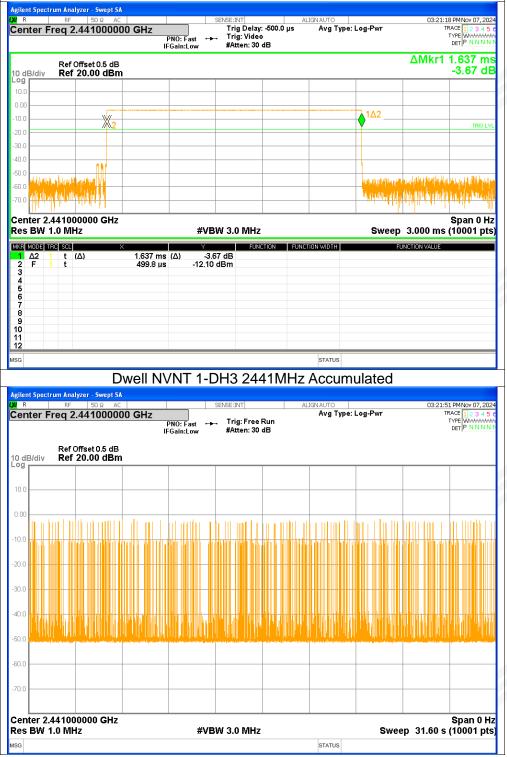


Page 41 of 95

Test Graphs Dwell NVNT 1-DH1 2441MHz One Burst VSE:INT Trig Delay: -500.0 μs Trig: Video #Atten: 30 dB Center Freq 2.441000000 GHz Avg Type: Log-Pwr PNO: Fast IFGain:Low DET P N N N N ΔMkr1 380.0 μs 1.12 dB Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log 0.00 TRIG LV 20.0 30.0 40.0 -50.0 and the contract of the 60.0 Center 2.441000000 GHz Res BW 1.0 MHz Span 0 Hz #VBW 3.0 MHz Sweep 1.000 ms (10001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH FUNCTION VALUE 380.0 μs (Δ) 499.5 μs t (∆) t 1.12 dB -20.03 dBm 1 ∆2 2 F 2 3 4 5 6 7 8 9 10 11 12 STATUS MSG Dwell NVNT 1-DH1 2441MHz Accumulated ept SA 04 R RF 50 Ω AC Center Freq 2.441000000 GHz 55 PM Nov 07, 202 Avg Type: Log-Pwr TRACE Trig: Free Run #Atten: 30 dB PNO: Fast +++ IFGain:Low TYPE WWW DET P N N Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log 10. 0.00 10.0 30 r 40.C -50.1 -60.0 70. Center 2.441000000 GHz Res BW 1.0 MHz Span 0 Hz Sweep 31.60 s (10001 pts) #VBW 3.0 MHz STATUS MSG

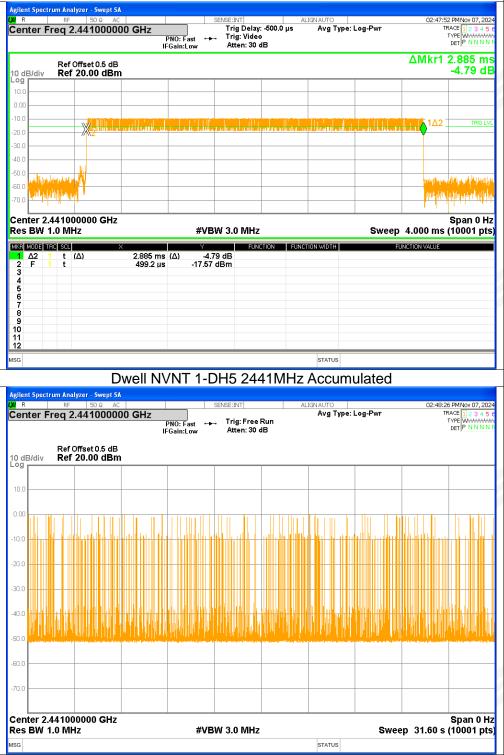


## Dwell NVNT 1-DH3 2441MHz One Burst



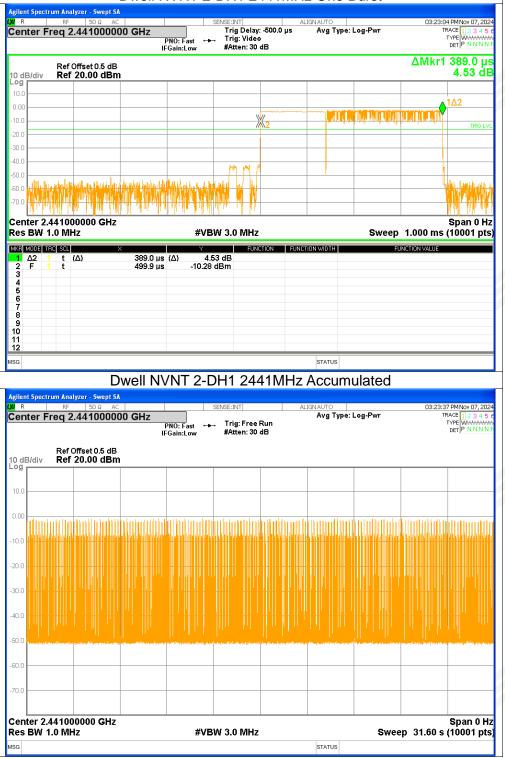






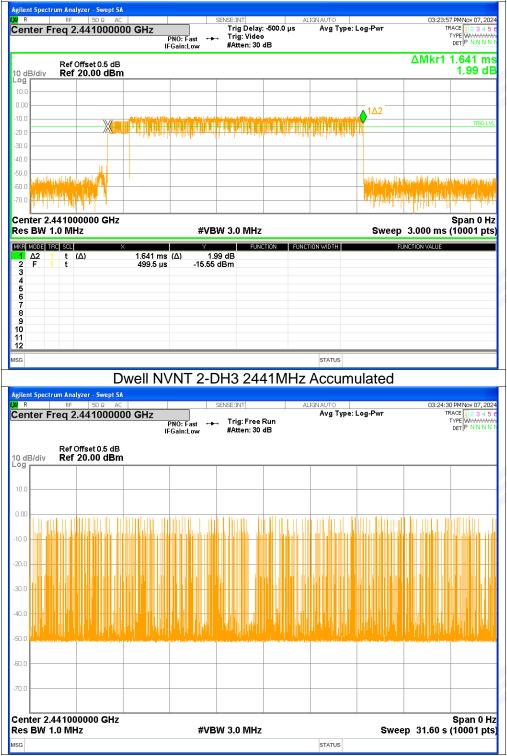






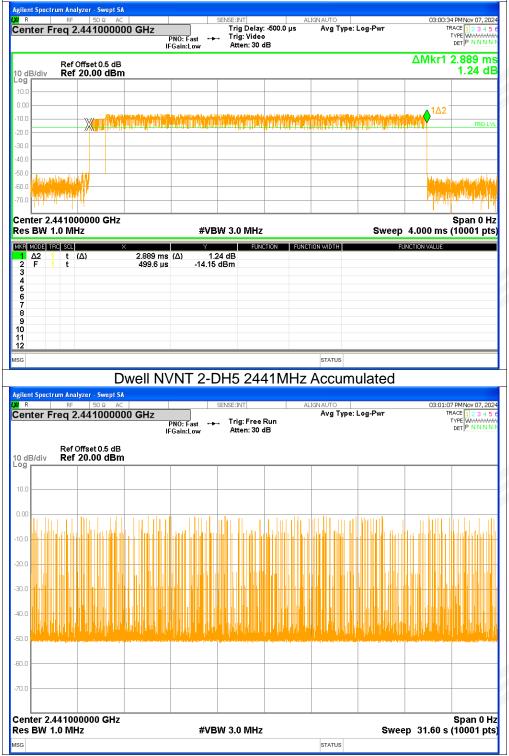


### Dwell NVNT 2-DH3 2441MHz One Burst





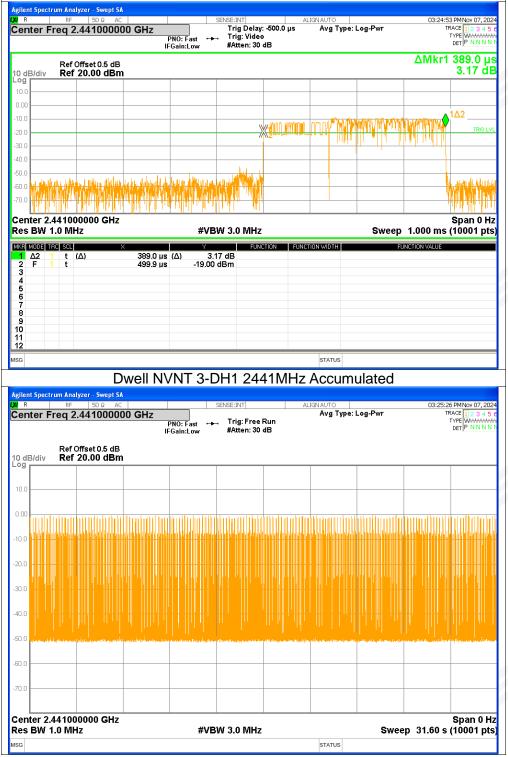
### Dwell NVNT 2-DH5 2441MHz One Burst



19

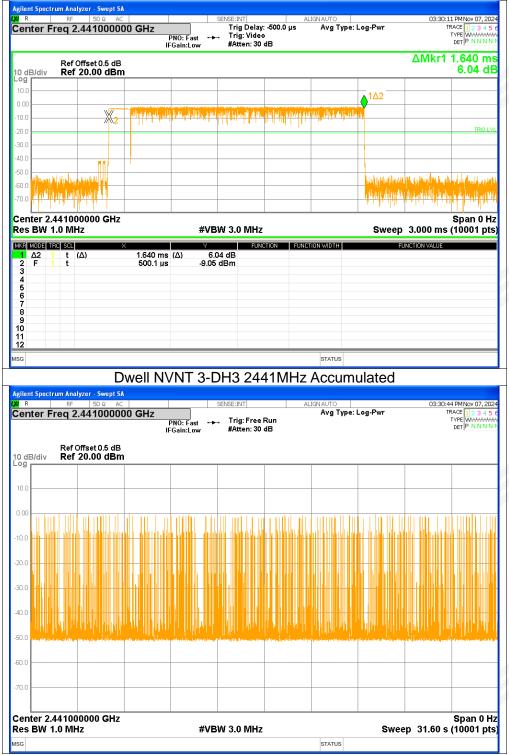


# Dwell NVNT 3-DH1 2441MHz One Burst



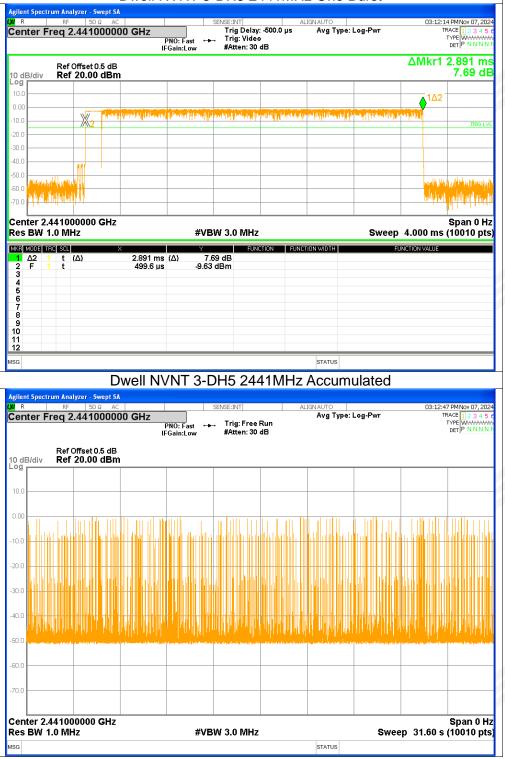


### Dwell NVNT 3-DH3 2441MHz One Burst









1



# 2. Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	-0.52	<=20.97	Pass
NVNT	1-DH5	2441	-0.91	<=20.97	Pass
NVNT	1-DH5	2480	-0.26	<=20.97	Pass
NVNT	2-DH5	2402	-0.37	<=20.97	Pass
NVNT	2-DH5	2441	-0.65	<=20.97	Pass
NVNT	2-DH5	2480	-0.04	<=20.97	Pass
NVNT	3-DH5	2402	-0.11	<=20.97	Pass
NVNT	3-DH5	2441	-0.4	<=20.97	Pass
NVNT	3-DH5	2480	0.16	<=20.97	Pass



Page 51 of 95





### Peak Power NVNT 1-DH5 2480MHz t Spectrum Analyzer - Swept SA 02:43:41 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N R SENSE:INT Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.480 088 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.255 dBm 10 dB/div Log 10.0 ▲1 0.00 -20.0 30.0 -40 r uuu halu haluu ha -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 R 02:54:00 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE M WWWWW DET P N N N N Center Freq 2.402000000 GHz Avg Type: Log-Pwr Avg|Hold: 10/10 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.401 961 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.373 dBm 10 dB/div Log 10.0 0.0 20.0 30. -40.C -50.0 -60 | Span 10.00 MHz #Sweep 150 ms (10001 pts) Center 2.402000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz STATUS MSG

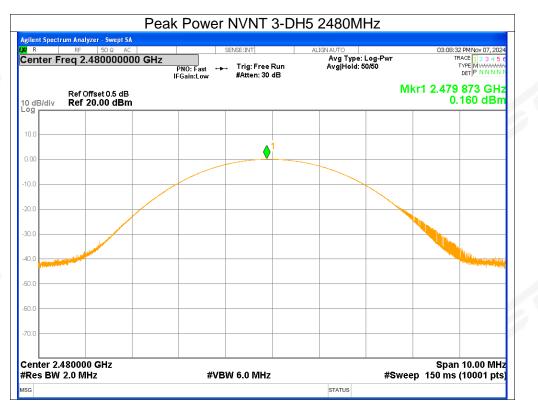


### Peak Power NVNT 2-DH5 2441MHz t Spectrum Analyzer - Swept SA 02:55:43 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N R SENSE:INT Center Freq 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 50/50 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.440 975 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.648 dBm 10 dB/div Log 10.0 0.00 -20.0 30.0 -40 r internet and -50.0 -60.0 70 r Span 10.00 MHz #Sweep 150 ms (10001 pts) Center 2.441000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz STATUS MSG Peak Power NVNT 2-DH5 2480MHz nt Spectrum Analyzer - Swept SA R 02:57:03 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE M WWWWW DET P N N N N Center Freq 2.480000000 GHz Avg Type: Log-Pwr Avg|Hold: 50/50 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.479 954 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.041 dBm 10 dB/div Log 10.0 0.0 20.0 30. -40.C -50.0 -60.1 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 3-DH5 2402MHz t Spectrum Analyzer - Swept SA 03:05:17 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N R 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 2.401 916 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.108 dBm 10 dB/div Log 10.0 0.00 -20.0 30.0 -40 r -50.0 -60.0 70 r 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 03:07:13 PMNov 07, 202 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N N R Center Freq 2.441000000 GHz Avg Type: Log-Pwr Avg|Hold: 50/50 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.440 948 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.402 dBm 10 dB/div Log 10.0 ¢1 0.0 -20.0 30. -40.C -50.0 -60.1 Center 2.441000 GHz Span 10.00 MHz #Sweep 150 ms (10001 pts) #Res BW 2.0 MHz #VBW 6.0 MHz STATUS MSG



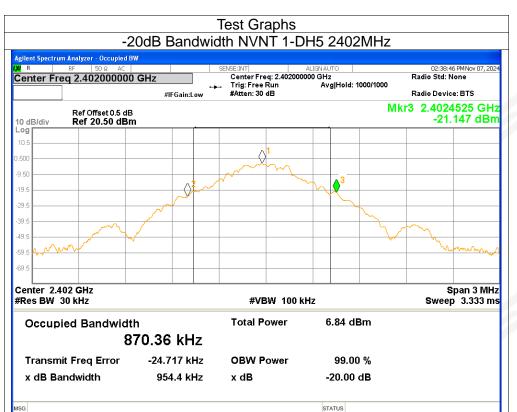


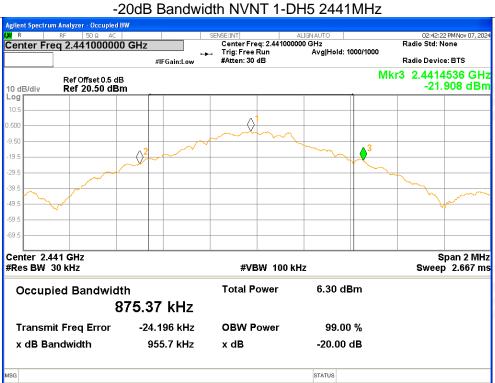


# 3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
Condition	INIQUE	Frequency (MHZ)		veruici
NVNT	1-DH5	2402	0.9544	Pass
NVNT	1-DH5	2441	0.9557	Pass
NVNT	1-DH5	2480	0.9488	Pass
NVNT	2-DH5	2402	1.4878	Pass
NVNT	2-DH5	2441	1.4844	Pass
NVNT	2-DH5	2480	1.4453	Pass
NVNT	3-DH5	2402	1.4826	Pass
NVNT	3-DH5	2441	1.4838	Pass
NVNT	3-DH5	2480	1.4835	Pass

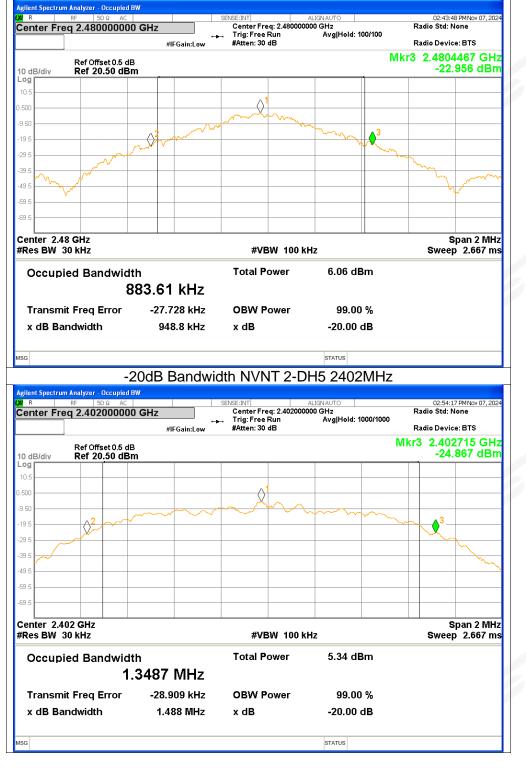






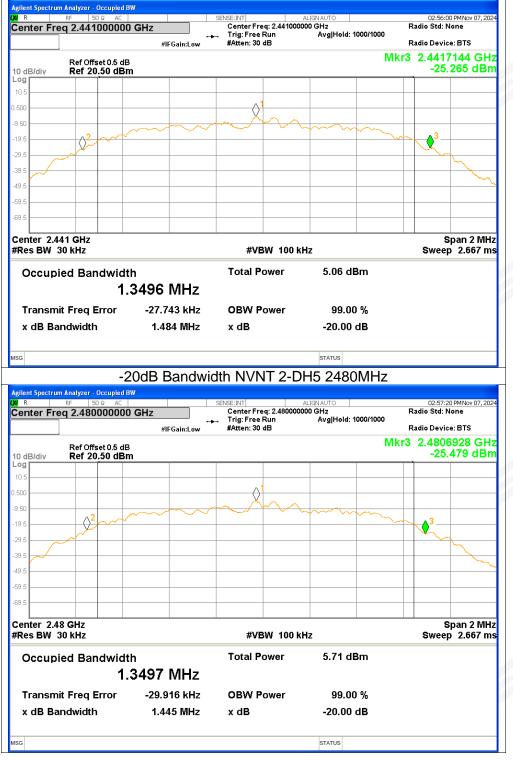








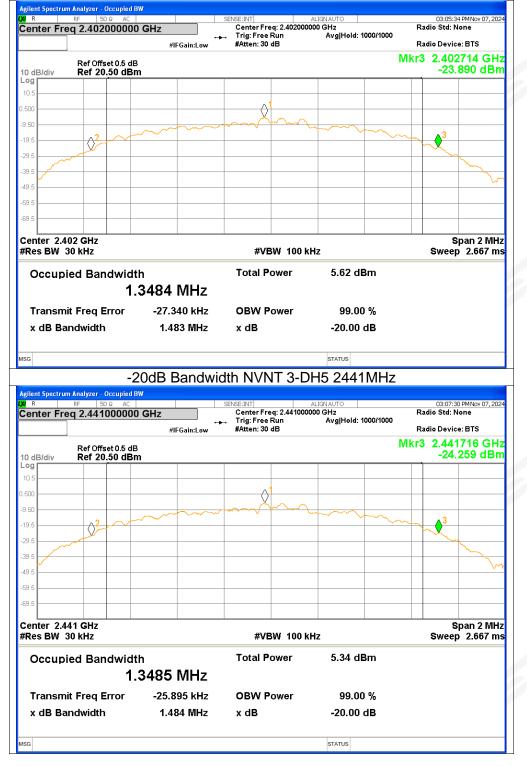








### -20dB Bandwidth NVNT 3-DH5 2402MHz











# 4. Carrier Frequencies Separation

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	2401.948	2402.986	1.038	>=0.636	Pass
NVNT	1-DH5	2440.94	2441.976	1.036	>=0.637	Pass
NVNT	1-DH5	2479.136	2479.964	0.828	>=0.633	Pass
NVNT	2-DH5	2401.982	2403.036	1.054	>=0.992	Pass
NVNT	2-DH5	2440.796	2441.954	1.158	>=0.99	Pass
NVNT	2-DH5	2478.842	2480.308	1.466	>=0.964	Pass
NVNT	3-DH5	2401.952	2403.088	1.136	>=0.988	Pass
NVNT	3-DH5	2440.884	2442.044	1.16	>=0.989	Pass
NVNT	3-DH5	2478.878	2480.102	1.224	>=0.989	Pass

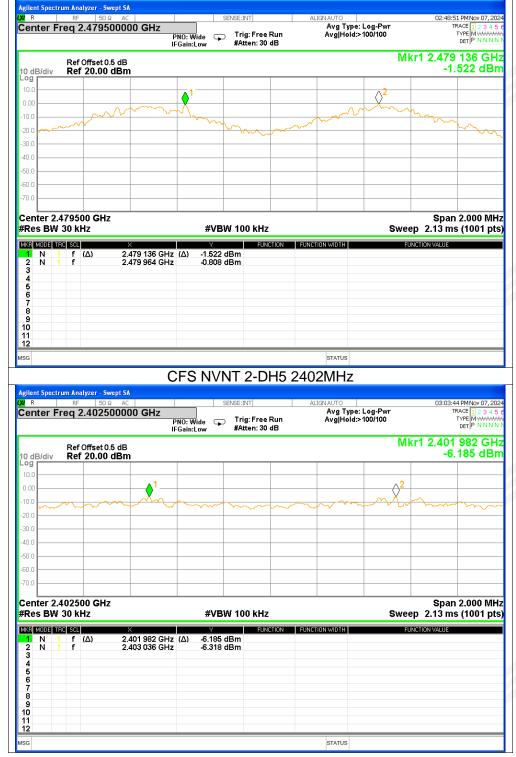


Page 63 of 95

Test Graphs CFS NVNT 1-DH5 2402MHz ectrum Analyzer 12 PM Nov 07, 2 Center Freq 2.402500000 GHz Avg Type: Log-Pw Avg|Hold:>100/100 Trig: Free Run #Atten: 30 dB DET P N N N N PNO: Wide IFGain:Low  $\mathbf{r}$ Mkr1 2.401 948 GHz Ref Offset 0.5 dB Ref 20.00 dBm -3.700 dBm 10 dB/div Log 0  $\langle \rangle$ 0.00 20.0 30.0 -40.0 -50.0 60.0 Center 2.402500 GHz #Res BW 30 kHz Span 2.000 MHz #VBW 100 kHz Sweep 2.13 ms (1001 pts) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH UNCTION VALUE 1 2.401 948 GHz 2.402 986 GHz -3.700 dBm -3.088 dBm 1 N N f f 2 3 4 5 6 7 8 9 10 11 12 STATUS MSG CFS NVNT 1-DH5 2441MHz Spectrum Analyzer - Swept SA <mark>ໝ</mark> R RF 50 Ω AC Center Freq 2.441500000 GHz :47:45 PM Nov 07, 202 Avg Type: Log-Pwr Avg|Hold:>100/100 TRACE 1 2 3 4 5 TYPE MWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Wide 😱 IFGain:Low Mkr1 2.440 940 GHz -3.622 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log  $\langle \rangle$ ٥ 0.00 10. -20.0 30.0 -40 r -50.0 -60.0 70.0 Center 2.441500 GHz #Res BW 30 kHz Span 2.000 MHz #VBW 100 kHz Sweep 2.13 ms (1001 pts) MKR MODE TRC SCL UNCTION FUNCTION WIDTH -3.622 dBm -2.219 dBm 2.440 940 GHz 2.441 976 GHz N N 1 2 3 4 5 6 7 8 9 10 11 12 f STATUS ISG



## CFS NVNT 1-DH5 2480MHz



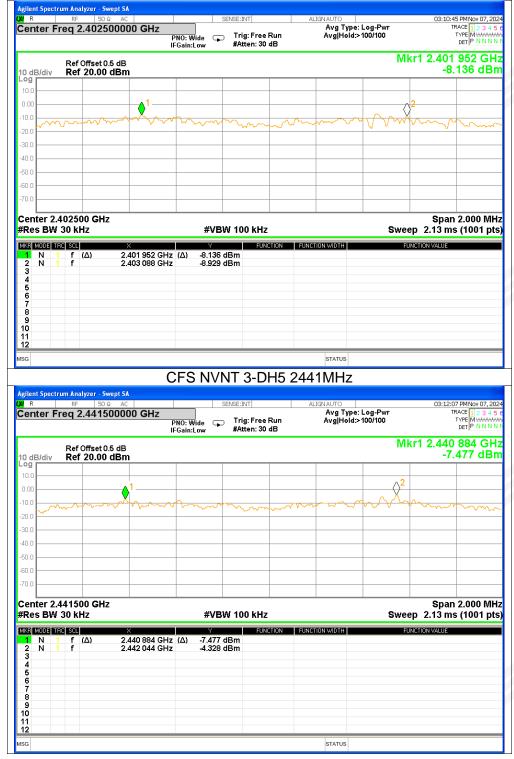


CFS NVNT 2-DH5 2441MHz

	PNO: Wide 😱 Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N
Ref Offset 0.5 dB		Mki	1 2.440 796 GHz
Ref 20.00 dBm			-8.854 dBm
<b>≬</b> 1			
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	A manufacture of the second se	and a survey	m
441500 GHz			Span 2.000 MHz
30 kHz	#VBW 100 kHz	-	2.13 ms (1001 pts)
FC SCL X f (Δ) 2.440 796 (		FUNCTION WIDTH FUN	CTION VALUE
f 2.441 954 (	GHz -7.955 dBm		
		STATUS	
		011100	
	CES NVNT 2-DH5 2		
trum Analyzer - Swept SA	CFS NVNT 2-DH5 2		
RF 50 Ω AC	SENSE:INT	480MHz alignauto	03:01:23 PM Nov 07, 2024
RF 50 Ω AC	SENSE:INT PNO: Wide	480MHz	TRACE 1 2 3 4 5 6
rF   50 ହ AC   Freq 2.479500000 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N
RF 50 Ω AC	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 1 2 3 4 5 6
RF 50 ହ AC req 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 Ω AC req 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 Ω AC req 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 Ω AC req 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 Ω AC req 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 Ω AC req 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 ହ AC req 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 Ω AC Treq 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF 50 Q AC Freq 2.479500000 GHz Ref Offset 0.5 dB	SENSE:INT PNO: Wide	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	TRACE 123456 TYPE MMMM DET P NNNN 1 2.478 842 GHz
RF         S0 Ω         AC           ireq         2.479500000 GHz           Ref Offset 0.5 dB           Ref 20.00 dBm	PNO: Wide IFGain:Low Trig: Free Run #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr Avg Hold:>100/100 Mki	TRACE [1:2:3:45 C TYPE [M HWHN DET [P NNNN 1 2.478 842 GHz -7.279 dBm 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
RF         SO Ω         AC           req 2.479500000 GHz           Ref Offset 0.5 dB           Ref 20.00 dBm           1           1           1           479500 GHz           30 KHz	PNO: Wide PFGain:Low FGGain:Low #Atten: 30 dB FGGain:Low #Atten: 30 dB Free Run #Atten: 30 dB	480MHz	TRACE [1:2:3:4:5 C)         TYPE [M HWHNN         1 2.478 842 GHz         -7.279 dBm         2         4         2         5         Span 2.000 MHz         2.13 ms (1001 pts)
Ref         SO Ω         AC           Ref Offset 0.5 dB         Ref 20.00 dBm           1         1           1         1           479500 GHz         30 kHz	PNO: Wide Trig: Free Run #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100 Mki	TRACE [1:2:3:45 C TYPE [M HWHN DET [P NNNN 1 2.478 842 GHz -7.279 dBm 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
RF         S0 Ω         AC           Freq 2.479500000 GHz         GHZ           Ref Offset 0.5 dB         GHZ           Ref 20.00 dBm         1           1         1           479500 GHz         30 KHz	SENSE:INT PNO: Wide PFGain:Low Trig: Free Run #Atten: 30 dB #Atten: 30 dB #Atten: 40 dB #VBW 100 kHz FUNCTION SHz (Δ) -7.279 dBm	480MHz	TRACE [1:2:3:4:5 C)         TYPE [M HWHNN         1 2.478 842 GHz         -7.279 dBm         2         4         2         5         Span 2.000 MHz         2.13 ms (1001 pts)
RF         SO B         AC           Freq 2.479500000 GHz         Ref 20.00 dBm         Image: Constraint of the second	SENSE:INT PNO: Wide PFGain:Low Trig: Free Run #Atten: 30 dB #Atten: 30 dB #Atten: 40 dB #VBW 100 kHz FUNCTION SHz (Δ) -7.279 dBm	480MHz	TRACE [1:2:3:4:5 C)         TYPE [M HWHNN         1 2.478 842 GHz         -7.279 dBm         2         4         2         5         Span 2.000 MHz         2.13 ms (1001 pts)
RF         50 g         AC           Freq 2.479500000 GHz         Ref 0ffset 0.5 dB         Ref 20.00 dBm	SENSE:INT PNO: Wide PFGain:Low Trig: Free Run #Atten: 30 dB #Atten: 30 dB #Atten: 40 dB #VBW 100 kHz FUNCTION SHz (Δ) -7.279 dBm	480MHz	TRACE [1:2:3:4:5 C)         TYPE [M HWHNN         1 2.478 842 GHz         -7.279 dBm         2         4         2         5         Span 2.000 MHz         2.13 ms (1001 pts)
Ref 20.00 dBm	SENSE:INT PNO: Wide PFGain:Low Trig: Free Run #Atten: 30 dB #Atten: 30 dB #Atten: 40 dB #VBW 100 kHz FUNCTION SHz (Δ) -7.279 dBm	480MHz	TRACE [1:2:3:4:5 C)         TYPE [M HWHNN         1 2.478 842 GHz         -7.279 dBm         2         4         2         5         Span 2.000 MHz         2.13 ms (1001 pts)
RF         50.0         AC           Freq 2.479500000 GHz         Ref 0ffset 0.5 dB         Ref 20.00 dBm	SENSE:INT PNO: Wide PFGain:Low Trig: Free Run #Atten: 30 dB #Atten: 30 dB #Atten: 40 dB #VBW 100 kHz FUNCTION SHz (Δ) -7.279 dBm	480MHz	TRACE [1:2:3:4:5 C)         TYPE [M HWHNN         1 2.478 842 GHz         -7.279 dBm         2         4         2         5         Span 2.000 MHz         2.13 ms (1001 pts)



### CFS NVNT 3-DH5 2402MHz





t Spectrum Analyzer - Swept SA	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	03:15:41 PMNov 07, 2024 TRACE 1 2 3 4 5 6
	PNO: Wide Trig: Free Run IFGain:Low #Atten: 30 dB		DET P N N N N
Ref Offset 0.5 dB B/div Ref 20.00 dBm		MI	r1 2.478 878 GHz -6.457 dBm
<u> </u>			2
mar and a second	where we have a second	V www. www.	www.
ter 2.479500 GHz s BW 30 kHz	#VBW 100 kHz	Swe	Span 2.000 MHz p 2.13 ms (1001 pts)
400E TRC SCL × N 1 f (Δ) 2.478 878 G	Υ FUNCTIO	N FUNCTION WIDTH FU	NCTION VALUE
N 1 f 2.480 102 0			
11 1 2.400 102 0			













# 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





ISG

Page 69 of 95

**Test Graphs** Hopping No. NVNT 1-DH5 Hopping Center Freq 2.441750000 GHz Avg Type: Log-Pw Avg|Hold:>100/100 Trig: Free Run #Atten: 30 dB DET P N N N N PNO: Fast IFGain:Low  $\mathbf{r}$ Mkr1 2.402 004 0 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.521 dBm 10 dB/div Log 0.00 10.0 ╢╓╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗╗ 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) MKR MODE TRC SCL FUNCTION FUNCTION WIDTH UNCTION VALUE 2.402 004 0 GHz 2.480 076 5 GHz -1.521 dBm 0.154 dBm 1 N N f f 2 3 4 5 6 7 8 9 10 11 12 STATUS MSG Hopping No. NVNT 2-DH5 Hopping trum Analyzer - Swept SA <mark>ໝ</mark> R RF 50 Ω AC Center Freq 2.441750000 GHz :44 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE MWWW 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 2.401 753 5 GHz -6.255 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log 0.00 wherever marrow -20.0 30.0 -40 r 50.0 -60.0 70.1 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 2.401 753 5 GHz (Δ) 2.480 243 5 GHz -6.255 dBm -3.453 dBm (Δ) 1 2 3 4 5 6 7 8 9 10 11 12 N N f f

STATUS



Page 70 of 95

# Hopping No. NVNT 3-DH5 Hopping

ectrum Analyzer - Swept SA RF 50 Ω AC	SENSE: INT	ALIGNAUTO		3:11:11 PM Nov 07, 2024
r Freq 2.441750000 GHz	PNO: Fast Trig: Fre IFGain:Low #Atten: 3	Avg Type e Run Avg Hold	e: Log-Pwr I:>100/100	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N
Ref Offset 0.5 dB			Mkr1 2.40	1 586 5 GHz -8.248 dBm
1	<u>አስፈራ ስኩ ለጀጫ አዲቤ እስ አስታታ</u>	An Ani Ana a ma a ta ata ata ata ata ata ata ata	ann an Ann Ann Ann Ann Ann Ann Ann Ann A	
244144444444444444444444	<u> </u>			
				N
.40000 GHz 3W 100 kHz	#VBW 300 kH	z		op 2.48350 GHz 0 ms (1001 pts)
E TRC SQL X 1 f (Δ) 2.401 586 5 G 1 f 2.480 410 5 G	Hz (Δ) -8.248 dBm	NCTION FUNCTION WIDTH	FUNCTION VA	LUE



# 6. Band Edge

Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	No-Hopping	-44.15	<=-20	Pass
NVNT	1-DH5	2480	No-Hopping	-41.16	<=-20	Pass
NVNT	2-DH5	2402	No-Hopping	-44.96	<=-20	Pass
NVNT	2-DH5	2480	No-Hopping	-42.75	<=-20	Pass
NVNT	3-DH5	2402	No-Hopping 💚	-45.85	<=-20	Pass
NVNT	3-DH5	2480	No-Hopping	-39.55	<=-20	Pass



















Page 72 of 95

#### **Test Graphs** Band Edge NVNT 1-DH5 2402MHz No-Hopping Ref rum Analyzer - Swept SA Center Freq 2.402000000 GHz Avg Type: Log-Pwi Avg|Hold: 100/100 TRACE TYPE MWWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.402 136 GHz Ref Offset 0.5 dB Ref 20.00 dBm -0.610 dBm 10 dB/div Log 10.0 ۵ 0.00 20.0 30. 40. -50.0 -60.0 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 trum Analyzer - Swept SA ଆ ନ ା ନ⊧ 50 ହ AC | Center Freq 2.356000000 GHz 02:39:24 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N Avg Type: Log-Pwr Avg|Hold: 200/200 Trig: Free Run #Atten: 30 dB PNO: Fast 🔸 Mkr1 2.402 1 GHz -0.630 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log 0.00 10. -20.1 30.0 -40 r -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 -0.630 dBm -44.762 dBm -44.762 dBm -44.762 dBm 2.402 1 GHz 2.400 0 GHz 2.400 0 GHz 2.400 0 GHz 1 2 3 4 5 6 7 8 9 10 11 12 N N N N f f STATUS ISG



t Spectrum Analyzer			13 240010		999		
RF	50 Ω AC 0000000 GHz		rig: Free Run Atten: 30 dB	ALIGN AUTO Avg Type: Avg Hold: 1			04 PM Nov 07, 2024 RACE 1 2 3 4 5 6 TYPE MWWWWM DET P N N N N N
Ref Offse 3/div Ref 20.	et 0.5 dB 00 dBm				N	1kr1 2.480 -0	) 128 GHz .339 dBm
			<b>↓</b> <sup>1</sup>				
		/					
				$\uparrow$	$\wedge$		
)	Munduralwood	NH with		- Jack	$\checkmark$	مالەر را ا	
for an open of the call belle of the					hinder 1	ungullwand alla	April Marine
ter 2.480000 G	:H7					Snar	1 8.000 MHz
		#\/D\M 2					
S BW 100 KHZ		#VDVV J	00 kHz	STATIS	#Sv	/eep 100 m	s (1001 pts)
	d Edge NVN			status z No-Hopp		•	s (1001 pts)
Ban nt Spectrum Analyzer	d Edge NVN - Swept SA 50 Ω AC		2480MHz			nission	s (1001 pts)
Ban It Spectrum Analyzer RF	- Swept SA 50 Ω AC     6000000 GHz		2480MHz INT rig: Free Run	z No-Hopp	oing Er ⊾₀g-₽wr	nission	
Ban Il Spectrum Analyzer RF Iter Freq 2.52 Ref Offse	- Swept SA 50 Ω AC 60000000 GHz IF et 0.5 dB		2480MHz	Z NO-HOPP Alignauto Avg Type:	oing Er ⊾₀g-₽wr	nission <sup>02:44:3</sup> Mkr1 2.4	16 PM Nov 07, 2024 RACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N 80 1 GHz
Ban Il Spectrum Analyzer RF Iter Freq 2.52 Ref Offse	- Swept SA 50 Ω AC   60000000 GHz IF		2480MHz INT rig: Free Run	Z NO-HOPP Alignauto Avg Type:	oing Er ⊾₀g-₽wr	nission <sup>02:44:3</sup> Mkr1 2.4	L6 PM Nov 07, 2024 RACE 12 3 4 5 6 TYPE M WWWWW DET P N N N N N
Ban ht Spectrum Analyzer RF iter Freq 2.52 Ref Offse	- Swept SA 50 Ω AC 60000000 GHz IF et 0.5 dB		2480MHz INT rig: Free Run	Z NO-HOPP Alignauto Avg Type:	oing Er ⊾₀g-₽wr	nission <sup>02:44:3</sup> Mkr1 2.4	16 PM Nov 07, 2024 RACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N 80 1 GHz
Ban nt Spectrum Analyzer R FF nter Freq 2.52 Ref Offs Ref 20.	- Swept SA 50 Ω AC 60000000 GHz IF et 0.5 dB		2480MHz INT rig: Free Run	Z NO-HOPP Alignauto Avg Type:	oing Er ⊾₀g-₽wr	nission <sup>02:44:3</sup> Mkr1 2.4	16 PM Nov 07, 2024 RACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N 80 1 GHz
Ban nt Spectrum Analyzer RF nter Freq 2.52 B/div Ref Offss Ref Offss Ref Offss A	- Swept SA 50 Ω AC 60000000 GHz IF et 0.5 dB		2480MHz INT rig: Free Run	Z NO-HOPP Alignauto Avg Type:	oing Er ⊾₀g-₽wr	nission <sup>02:44:3</sup> Mkr1 2.4	16 PMNov 07, 2024 RACE 12 3 4 5 6 TYPE MWWWWW Det P NNNN 80 1 GHz 369 dBm
ent Spectrum Analyzer R RF nter Freq 2.52 Ref Offse dB/div Ref 20. 0 0 0 0 0 0 0 0 0 0 0 0 0	- Swept SA 50 Ω AC 60000000 GHz IF et 0.5 dB		2480MHz INT rig: Free Run	Z NO-HOPP Alignauto Avg Type:	oing Er ⊾₀g-₽wr	nission <sup>02:44:3</sup> Mkr1 2.4	16 PMNov 07, 2024 RACE 12 3 4 5 6 TYPE MWWWWW Det P NNNN 80 1 GHz 369 dBm
Ban nt Spectrum Analyzer Pre nter Freq 2.52 IB/div Ref Offse Ref Offse a 4 a 4 a 4 a 4 a 4 a 4 a 4 a 4	- Swept SA 50 Q AC     6000000 GHz   IF et 0.5 dB 00 dBm		2480MHz INT rig: Free Run	Z NO-HOPP Alignauto Avg Type:	oing Er ⊾₀g-₽wr	nission <sup>02:44:3</sup> Mkr1 2.4	16 PMNov 07, 2024 RACE 12 3 4 5 6 TYPE MWWWWW Det P NNNN 80 1 GHz 369 dBm
Ban ent Spectrum Analyzer R FF offse ab/div Ref Offse Ref Offse Ref Offse Ref 20.2 Ab/div Ref 20.2 Ab/di Ab/div Ref 20.2 Ab/di Ab/div Ref 20.2 Ab/di Ab/di Ab/div Ref	- Swept SA 50 Q AC     6000000 GHz     10 10 10 10 10 10 10 10 10 10	NT 1-DH5 SENSE PRO: Fast → T Gain:Low ↓ 1 Gain:Low ↓ 1 J J J J J J J J J J J J J J J J J J J	2480MHz		Log-Pwr loo/100	Mkr1 2.4	16 PMNov 07, 2024 RACE 112 3 4 5 6 TYPE IN NN N 80 1 GHz 369 dBm -20.34 dbm -20.34 dbm -20.34 dbm
Ban nt Spectrum Analyzer nter Freq 2.52 Beldiv Ref Offss Ref Offss Ref Offss du du d	- Swept SA 50 Q AC 6000000 GHz 6000000 GHz 6000000 GHz 6000000 GHz 60000000 GHz 60000000 GHz 6000000000000000000000000000000000000	IT 1-DH5           SENSE           PNO: Fast         →           Gain:Low         →           #VBW 3	2480MHz	Z NO-HOPP Alignauto Avg Type:	Log-Pwr loo/100	nission 02:44: Mkr1 2.4 -0 	16 PMNov 07, 2024 RACE 112 3 4 5 6 TYPE IN NN N 80 1 GHz 369 dBm -20.34 dbm -20.34 dbm -20.34 dbm
Ban Int Spectrum Analyzer Inter Freq 2.52 Ref Offse Heldiv Ref 20. Heldiv	- Swept SA 50 Q AC 6 6000000 GHz 7 10 10 10 10 10 10 10 10 10 10	IT 1-DH5           SENSE           PNO: Fast         →           Gain:Low         →           #VBW 3	2480MHz		Log-Pwr loo/100	Mkr1 2.4	16 PMNov 07, 2024 RACE 112 3 4 5 6 TYPE IN NN N 80 1 GHz 369 dBm -20.34 dbm -20.34 dbm -20.34 dbm
Ban nt Spectrum Analyzer nter Freq 2.52 Ref Offse dB/div Ref 20.	- Swept SA 50 Q AC 6 6000000 GHz 7 10 10 10 10 10 10 10 10 10 10	IT 1-DH5           SENSE           PNO: Fast         →           Gain:Low         →           #VBW 3	2480MHz		Log-Pwr loo/100	Mkr1 2.4	16 PMNov 07, 2024 RACE 112 3 4 5 6 TYPE IN NN N 80 1 GHz 369 dBm -20.34 dbm -20.34 dbm -20.34 dbm
Ban t Spectrum Analyzer RF ter Freq 2.52 Ref Offse B/div Ref 20. 1 1 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4	- Swept SA 50 Q AC 6 6000000 GHz 7 10 10 10 10 10 10 10 10 10 10	IT 1-DH5           SENSE           PNO: Fast         →           Gain:Low         →           #VBW 3	2480MHz		Log-Pwr loo/100	Mkr1 2.4	16 PMNov 07, 2024 RACE 112 3 4 5 6 TYPE IN NN N 80 1 GHz 369 dBm -20.34 dbm -20.34 dbm -20.34 dbm



Spectrum Analyzer - Swept RF 50 Ω	SA			MHz No-Ho			20 PMN/w 07, 000 f
r Freq 2.402000	000 GHz P		rig: Free Run Atten: 30 dB	ALIGNAUTO Avg Type: Lo Avg Hold: 10			32 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N
Ref Offset 0.5 d	в	-Gain:Low			Μ		l 968 GHz .697 dBm
			1				
			~m~	~			
				$\mathbf{X}$			
				ma			
	- Anger				<u>m</u>		
montheasterney	di '				a and all the	allowed when we	solution the second
er 2.402000 GHz						Sna	n 8.000 MHz
BW 100 kHz		#VBW 3	00 kHz		#Sw		s (1001 pts)
				07.1710			· · · ·
Deved 5	alaia NIV/N		04000411	STATUS			
		IT 2-DH5	2402MH	status z No-Hoppi	ng En	nission	
Spectrum Analyzer - Swept RF 50 Ω	SA AC	SENSE	INT	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54:	44 PM Nov 07, 2024 TRACE 1 2 3 4 5 6
Spectrum Analyzer - Swept RF 50 Ω	AC 000 GHz	SENSE		z No-Hoppi	og-Pwr	02:54:	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET PNNNNN
Spectrum Analyzer - Swept RF 50 Ω er Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	
Spectrum Analyzer - Swept RF 50 Ω er Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET PNNNNN
Spectrum Analyzer - Swept RF 50 Ω er Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	
Spectrum Analyzer - Swept RF 50 Ω er Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	
Spectrum Analyzer - Swept RF 50 Ω Ser Freq 2.356000 Ref Offset 0.5 d	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	
Spectrum Analyzer - Swept RF 50 Ω er Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	
Spectrum Analyzer - Swept RF 50 Ω Ser Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	IRACE [].23456 TYPE [MANNAN bet]P NNNN 1021 GHz .815 dBm 
Spectrum Analyzer - Swept RF 50 Ω Ser Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	rig: Free Run	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr	02:54: Mkr1 2.4	IRACE [].23456 TYPE [MANNAN bet]P NNNN 1021 GHz .815 dBm 
Spectrum Analyzer - Swept         Spectrum Analyzer - Swept         Sp 2           RF         50 2         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	SA AC     000 GHz IF	SENSE	eint	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr 0/100	02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	IRACE U.2345 C DET P NNNN 1021 GHZ .815 dBm 
Spectrum Analyzer - Swept RF 50 Ω Ser Freq 2.356000 Ref Offset 0.5 c	SA AC     000 GHz IF	SENSE	eint	Z NO-HOPPI Alignauto Avg Type: Lo	og-Pwr 0/100 #SW	02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	IRACE U.2345 C TYPE MANNAGE DET P NNNN 1021 GHz .815 dBm -270 dbm
Spectrum Analyzer         Swept           RF         50 2           cer         Freq         2.356000           Ref Offset 0.5 c         Ref 20.00 dE           /div         Ref 20.00 dE           : 2.306000         GHz           : BW 100 KHz         Image: Section S	SA           AC           OOO GHz           IF           IF		eint	Z No-Hoppi	og-Pwr 0/100 #SW	02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	IRACE U.2345 C DET P NNNN 1021 GHZ .815 dBm 
Spectrum Analyzer         Swept           RF         50 Ω           cer         FF = 2.356000           Ref Offset 0.5 c         0.00 dE           Jdiv         Ref 20.00 dE	SA           AC           AC           OOO GHz           IF           IF	SENSE     T Gain:Low	eint	Z No-Hoppi	og-Pwr 0/100 #SW	02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	IRACE U.2345 C DET P NNNN 1021 GHZ .815 dBm 
Spectrum Analyzer - Swept	SA           AC           OOO GHZ           IF           IF		eint	Z No-Hoppi	og-Pwr 0/100 #SW	02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	IRACE U.2345 C DET P NNNN 1021 GHZ .815 dBm 
Spectrum Analyzer - Swept         SO Ω           RF         50 Ω           er         Freq 2.356000           Adiv         Ref Offset 0.5 c           /div         Ref 20.00 dE           /div         Ref 20.00 dE           /div         Ref 20.00 dE           /div         Ref 20.00 dE           //div         Ref 20.00 dE           //div <td>SA           AC           OOO GHZ           IF           IF</td> <td></td> <td>eint                                      </td> <td>Z No-Hoppi</td> <td>og-Pwr 0/100 #SW</td> <td>02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2</td> <td>IRACE U.2345 C DET P NNNN 1021 GHZ .815 dBm </td>	SA           AC           OOO GHZ           IF           IF		eint	Z No-Hoppi	og-Pwr 0/100 #SW	02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	IRACE U.2345 C DET P NNNN 1021 GHZ .815 dBm 
Spectrum Analyzer - Swept RF 90 Ω er Freq 2.356000 Ref Offset 0.5 c Ref 20.00 dE 2.30600 GHz BW 100 kHz 2.30600 GHz BW 100 kHz 1 f Δ f Δ	SA           AC           OOO GHZ           IF           IF		eint	Z No-Hoppi	og-Pwr 0/100 #SW	02:54: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	IRACE U.2345 C DET P NNNN 1021 GHZ .815 dBm 



Band Spectrum Analyzer - Swept							
spectrum Analyzer - Swept RF 50 Ω er Freq 2.480000	AC 000 GHz P		E:INT Frig: Free Run Atten: 30 dB	ALIGN AUTO Avg Type: Lo Avg Hold: 100	/100		35 PM Nov 07, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N
Ref Offset 0.5 d Ref 20.00 dB	B Sm				М		976 GHz 280 dBm
			1				
			m				
		mond					
	and the second second			Manna	Λ.		
and the alfertuation of the W	Acord.				, Same	aller male from	mpeture
er 2.480000 GHz						0	- 0.000 MUL-
BW 100 kHz	dae NVN	#vbw : IT 2-DH5		status z No-Hoddi		eep 100 m	n 8.000 MHz is (1001 pts)
BW 100 kHz Band E Spectrum Analyzer - Swept RF 50 Ω	AC 000 GHz	IT 2-DH5	2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em	eep 100 m Nission	39 PMNov 07, 2024 RACE 1 2 3 4 5 6
BW 100 kHz Band E pectrum Analyzer - Swept RF   50 Ω r Freq 2.526000	SA AC     000 GHz F IF		2480MH	z No-Hoppi	ng Em	eep 100 m NISSION 02:57:	is (1001 pts) 39 PM Nov 07, 2024
Band E Band E petrum Analyzer - Swept RF 50 Q r Freq 2.526000 Ref Offset 0.5 d	SA AC     OOO GHz IF		2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em	eep 100 m hission 02:57: Mkr1 2.4	39 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N
BW 100 kHz Band E pectrum Analyzer - Swept RF 50 Ω Pr Freq 2.526000 Ref Offset 0.5 d	SA AC     OOO GHz IF		2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em	eep 100 m hission 02:57: Mkr1 2.4	39 PMNov 07, 2024 TRACE 1 2 3 4 5 C TYPE MANNIN DET P N N N N 179 9 GHz
BW 100 kHz Band E spectrum Analyzer - Swept RF 50 Ω Pr Freq 2.526000 Ref Offset 0.5 d	SA AC     OOO GHz IF		2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em	eep 100 m hission 02:57: Mkr1 2.4	39 PMNov 07, 2024 TRACE 1 2 3 4 5 C TYPE MANNIN DET P N N N N 179 9 GHz
BW 100 kHz Band E pectrum Analyzer - Swept RF 50 Ω er Freq 2.526000 Ref Offset 0.5 d	SA AC     OOO GHz IF		2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em	eep 100 m hission 02:57: Mkr1 2.4	39 PMNov 07, 2024 TRACE 1 2 3 4 5 C TYPE MANNIN DET P N N N N 179 9 GHz
BW 100 kHz Band E Spectrum Analyzer - Swept RF 50 Q er Freq 2.526000 Ref Offset 0.5 d	SA AC     OOO GHz IF		2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em	eep 100 m hission 02:57: Mkr1 2.4	39 PMNov 07, 2024 TRACE 1 2 3 4 5 C TYPE MANNIN DET P N N N N 179 9 GHz
BW 100 kHz Band E spectrum Analyzer - Swept RF 50 Ω Pr Freq 2.526000 Ref Offset 0.5 d	SA AC     OOO GHz IF		2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em	eep 100 m hission 02:57: Mkr1 2.4	39 PMNov 07, 2024 TRACE 1 2 3 4 5 C TYPE MANNIN DET P N N N N 179 9 GHz
BW 100 kHz Band E spectrum Analyzer - Swept FF 50 op FF Freq 2.526000 Ref Offset 0.5 d Ref 20.00 dB 1 2.47600 GHz BW 100 kHz	SA AC     BB SM   		2480MH	Z No-Hoppi	ng Em g-Pwr 20	Nission 02:57: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	39 PMNov 07, 2024 TRACE 1 2 3 4 5 C TYPE MANNIN DET P N N N N 179 9 GHz
BW 100 kHz Band E Spectrum Analyzer - Swept RF S0 2 er Freq 2.526000 div Ref Offset 0.5 d Ref 20.00 dB 1 2.47600 GHz BW 100 kHz DI FIG SCI N 1 f	SA AC     OOO GHz F IF B Sm - - - - - - - - - - - - -	IT 2-DH5 SENS NO: Fast	2480MH	Z NO-HOPPI Alignauto Avg Type: Lo	ng Em g-Pwr 20	Nission 02:57: Mkr1 2.4 -2	39 PMNov 07, 2024 TRACE [] 2 3 4 5 6 TYPE [] 3 3 4 5 6 TYPE [] 4 5 6 TYPE [] 4 3 4 5 6 TYPE [] 4 5 6 7 7 TYPE [] 4 5 7 7 TYPE []
BW 100 kHz Band E pectrum Analyzer - Swept RF 50 Ω Pr Freq 2.526000 div Ref Offset 0.5 d Ref 20.00 dB 1 2.47600 GHz BW 100 kHz CR F 50 L 1 f 1 f 1 f	SA AC     000 GHz F IF BB Sm 3 4 2 479 9 GHz	IT 2-DH5 SENS PNO: Fast → 1 Gain:Low + 1 #VBW : #VBW :	2480MH	Z No-Hoppi	ng Em g-Pwr 20	Nission 02:57: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	39 PMNov 07, 2024 TRACE [] 2 3 4 5 6 TYPE [] 3 3 4 5 6 TYPE [] 4 5 6 TYPE [] 4 3 4 5 6 TYPE [] 4 5 6 7 7 TYPE [] 4 5 7 7 TYPE []
BW 100 kHz Band E Spectrum Analyzer - Swept RF 50 2 er Freq 2.526000 /div Ref Offset 0.5 d Ref 20.00 dB 2.47600 GHz BW 100 kHz 2.37600 GHz BW 100 kHz 2.37600 GHz BW 100 kHz	SA           AC           OOO GHz           F           IF           IF	IT 2-DH5 SENS PNO: Fast → 1 Gain:Low 4 #VBW ( 4 (Δ) -2.943 dBr -57.842 dBr -57.842 dBr -57.842 dBr	2480MH	Z No-Hoppi	ng Em g-Pwr 20	Nission 02:57: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	39 PMNov 07, 2024 TRACE [] 2 3 4 5 6 TYPE [] 3 3 4 5 6 TYPE [] 4 5 6 TYPE [] 4 3 4 5 6 TYPE [] 4 5 6 7 7 TYPE [] 4 5 7 7 TYPE []
BW 100 kHz Band E pectrum Analyzer - Swept RF 50 Ω Pr Freq 2.526000 div Ref Offset 0.5 d Ref 20.00 dB 1 2.47600 GHz BW 100 kHz CR F 50 L 1 f 1 f 1 f	SA           AC           OOO GHz           F           IF           IF	IT 2-DH5 SENS PNO: Fast → 1 Gain:Low 4 #VBW ( 4 (Δ) -2.943 dBr -57.842 dBr -57.842 dBr -57.842 dBr	2480MH	Z No-Hoppi	ng Em g-Pwr 20	Nission 02:57: Mkr1 2.4 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	39 PMNov 07, 2024 TRACE [] 2 3 4 5 6 TYPE [] 3 3 4 5 6 TYPE [] 4 5 6 TYPE [] 4 3 4 5 6 TYPE [] 4 5 6 7 7 TYPE [] 4 5 7 7 TYPE []



		lyzer - Swept	SA				1Hz No-H			
		50 Ω / 2.4020000	000 GHz		SENSE:INT		ALIGN AUTO Avg Type Avg Hold:	: Log-Pwr 100/100	03:	D5:50 PM Nov 07, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWM DET P N N N N N
	Ref	Offset 0.5 di		IFGain:Low	#Atten:	30 dB				02 136 GHz
B/div		20.00 dB								-2.621 dBm
						<b>1</b>				
					~	~m_				
							1			
					/					
					/					
				and and and			- har			
			and the second second					mary	<b>.</b>	
	And Make	Vorwhater	www						And Marine	Low Marcel Margale Jack way on
Iter 2	.40200	00 GHz							Sp	an 8.000 MHz
s BW	100 k	Hz		#V	BW 300 ki	Ηz		#\$	Sweep 100	ms (1001 pts)
							STATUS			
				NT 3-D	H5 240	)2MHz	z No-Hop	ping E	missior	ı
ł	t <b>rum Ana</b> RF	<mark>lyzer - Swept</mark> 50 Ω /	SA AC	NT 3-D	H5 24(	)2MHz	NO-HOP			D6:01 PM Nov 07, 2024
	t <b>rum Ana</b> RF	lyzer - Swept	sa ac DOO GHz	NT 3-D PNO: Fast IFGain:Low		ee Run	NO-HOP	: Log-Pwr		
nter F	rum Ana RF Freq 2 Ref (	lyzer - Swept 50 Ω 2.3560000 Offset 0.5 dl	SA AC DOO GHz B	PNO: Fast ←	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	D6:01 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MAAAAAA DET P N N N N N
nter F	rum Ana RF Freq 2 Ref (	lyzer - Swept 50 Ω / 1.3560000	SA AC DOO GHz B	PNO: Fast ←	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	D6:01 PM Nov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P N N N N
ter F	rum Ana RF Freq 2 Ref (	lyzer - Swept 50 Ω 2.3560000 Offset 0.5 dl	SA AC DOO GHz B	PNO: Fast ←	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	D6:01 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MAAAAAA DET P N N N N N
ter F	rum Ana RF Freq 2 Ref (	lyzer - Swept 50 Ω 2.3560000 Offset 0.5 dl	SA AC DOO GHz B	PNO: Fast ←	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	D6:01 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MAAAAAA DET P N N N N N
nter F	rum Ana RF Freq 2 Ref (	lyzer - Swept 50 Ω 2.3560000 Offset 0.5 dl	SA AC DOO GHz B	PNO: Fast ←	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	D6:01 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MAAAAAA DET P N N N N N
B/div	rum Ana RF Freq 2 Ref (	lyzer - Swept 50 Ω 2.3560000 Offset 0.5 dl	SA AC DOO GHz B	PNO: Fast ←	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	D6:01 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MAAAAAA DET P N N N N N
B/div	rum Ana RF Freq 2 Ref (	lyzer - Swept 50 Ω 2.3560000 Offset 0.5 dl	SA AC DOO GHz B	PNO: Fast +	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	D6:01 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MAAAAAA DET P N N N N N
	rum Ana RF Freq 2 Ref Ref	Iyzer - Swept   50 2	SA AC DOO GHz B	PNO: Fast +	SENSE:INT	ee Run	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr	03: Mkr1 2	26:01 PMNov 07, 2024 TRACE 12 3 4 5 C TYPE IMMNNN 2.402 1 GHz -2.646 dBm
IB/div	rum Ana RF Freq 2 Ref (	Iver, - Swept 50 2 .3560000 Offset 0.5 dl 20.00 dB	SA AC DOO GHz B	PNO: Fast IFGain:Low	SENSE:INT	ee Run 30 dB	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr 100/100	03: Mkr1 2	D6:01 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MAAAAAA DET P N N N N N
B/div	rum Ane RF Treq 2 Ref Ref 06000 ( 100 k	Iver - Swept 50 2 / .3560000 Offset 0.5 dl 20,00 dB	sa ac   bood GHz B m - - - - - - - - - - - - -	PNO: Fast IFGain:Low	SENSE:INT	20 dB	Z NO-HOP ALIGNAUTO Avg Type	: Log-Pwr 100/100	03: Mkr1 2	2.40600 GHz ms (1001 pts)
B/div B/div Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison	(fum Ane RF req 2 Ref ( Ref 0600 ( { 100 k 1 f	Iver - Swept 50 2 / .3560000 Offset 0.5 dl 20,00 dB	SA AC   DOO GHZ B m 	PNO: Fast IFGain:Low #V z (Δ) -2.64 z -48.47 z -48.47	SENSE:INT	20 dB	ALIGNAUTO Avg Type Avg]Hold:	: Log-Pwr 100/100	Mkr1 2 Mkr1 2	2.40600 GHz ms (1001 pts)
IB/div	rrum Ane RF Treq 2 Ref ( Ref 0600 ( { 100 k	Iver - Swept 50 2 / .3560000 Offset 0.5 dl 20,00 dB	SA AC   D000 GHz B m 	PNO: Fast IFGain:Low #V z (Δ) -2.64 z -48.47 z -48.47	SENSE:INT	20 dB	ALIGNAUTO Avg Type Avg]Hold:	: Log-Pwr 100/100	Mkr1 2 Mkr1 2	2.40600 GHz ms (1001 pts)
B/div B/div Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constr	rrum Ane RF Treq 2 Ref ( Ref 0600 ( 1 0 1 1 f	Iver - Swept 50 2 / .3560000 Offset 0.5 dl 20,00 dB	SA AC 0000 GHz B m 2.402 1 GH 2.400 0 GH	PNO: Fast IFGain:Low #V z (Δ) -2.64 z -48.47 z -48.47	SENSE:INT	20 dB	ALIGNAUTO Avg Type Avg]Hold:	: Log-Pwr 100/100	Mkr1 2 Mkr1 2	2.40600 GHz ms (1001 pts)
B/div B/div Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constraints Constr	rrum Ane RF Treq 2 Ref ( Ref 0600 ( 1 0 1 1 f	Iver - Swept 50 2 / .3560000 Offset 0.5 dl 20,00 dB	SA AC 0000 GHz B m 2.402 1 GH 2.400 0 GH	PNO: Fast IFGain:Low #V z (Δ) -2.64 z -48.47 z -48.47	SENSE:INT	20 dB	ALIGNAUTO Avg Type Avg]Hold:	: Log-Pwr 100/100	Mkr1 2 Mkr1 2	2.40600 GHz ms (1001 pts)
B/div B/div at tas s BW	rrum Ane RF Treq 2 Ref ( Ref 0600 ( 1 0 1 1 f	Iver - Swept 50 2 / .3560000 Offset 0.5 dl 20,00 dB	SA AC 0000 GHz B m 2.402 1 GH 2.400 0 GH	PNO: Fast IFGain:Low #V z (Δ) -2.64 z -48.47 z -48.47	SENSE:INT	20 dB	ALIGNAUTO Avg Type Avg]Hold:	: Log-Pwr 100/100	Mkr1 2 Mkr1 2	2.40600 GHz ms (1001 pts)



	trum Analyzer - Swep RF 50 Ω	AC	9	SENSE:INT	ALIG	NAUTO			04 PMNov 07, 2024
ter F	req 2.48000	Р	PNO: Wide ↔	Trig: Free Ru #Atten: 30 df		Avg Type: Avg Hold: 1			TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N
	Ref Offset 0.5		-Gain:Low	whiten, of a	-		R		0 136 GHz
div	Ref 20.00 dl	Bm						-2	2.231 dBm
					<b>▲</b> 1				
				m	La la				
				1					
			/	(	$\longrightarrow$				
			/						
			www						
		- WTUP WIN				11	my h		
-	More surroughteren	Malaran Ask The						and the state of t	wanterforthouse
r 2.	.480000 GHz							Spa	n 8.000 MHz
BW	/ 100 kHz		#VB	W 300 kHz			#Sv		ns (1001 pts)
					<b>4</b> 1 1 1 1	STATUS			
	Rand F	- 440 111/11		15 24801					
Snect			11 3-01	15 2-001		o-Hopp	bing Er	nission	
	<mark>trum Analyzer - Swe</mark> p RF 50 Ω	pt SA AC		SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09	16 PMNov 07, 2024 TRACE 1 2 3 4 5 6
	trum Analyzer - Swep	pt SA AC 0000 GHz			ALIG	NAUTO	Log-Pwr	03:09	
ter F	trum Analyzer - Sweg RF 50 Ω Freq 2.526000 Ref Offset 0.5	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09 Mkr1 2.4	
er F	trum Analyzer - Sweg RF 50 ຊ Freq 2.526000	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09 Mkr1 2.4	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N
ər F	trum Analyzer - Sweg RF 50 Ω Freq 2.526000 Ref Offset 0.5	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09 Mkr1 2.4	
er F	trum Analyzer - Sweg RF 50 Ω Freq 2.526000 Ref Offset 0.5	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09 Mkr1 2.4	
ter F	trum Analyzer - Sweg RF 50 Ω Freq 2.526000 Ref Offset 0.5	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09 Mkr1 2.4	
er F	trum Analyzer - Sweg RF 50 Ω Freq 2.526000 Ref Offset 0.5	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09 Mkr1 2.4	
ter F	trum Analyzer - Sweg RF 50 Ω Freq 2.526000 Ref Offset 0.5	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09 Mkr1 2.4	
B/div	trum Analyzer - Swep RF 50 0 Freq 2.526000 Ref Offset 0.5 Ref 20.00 dl 1 4 4 2 4	pt SA AC     00000 GHz IF dB	PNO: Fast	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr	03:09	TRACE 1 2 3 4 5 6 TYPE MANAGEM BET P NNNN 480 1 GHz 227 dBm 22.23 dBm 22.23 dBm
B/div	trum Analyzer - Sweg RF 50 Ω Freq 2.526000 Ref Offset 0.5	pt SA AC     00000 GHz IF dB	PNO: Fast -Gain:Low	SENSE:INT	ALIG	NAUTO Avg Type:	Log-Pwr 100/100	03:09	
B/div	Trum Analyzer - Swep RF 50 0 Freq 2.526000 Ref Offset 0.5 Ref 20.00 dl 1 4 4 7600 GHz / 100 KHz TRC 561	x	PNO: Fast Gain:Low	SENSE:INT  Trig: Free Ri #Atten: 30 df	ALIG	INAUTO	Log-Pwr 100/100	03:09	TRACE 1 23 45 5 TYPE MANNA 480 1 GHz 227 dBm 22.23 dBm 22.23 dBm 22.23 dBm 22.23 dBm
t 2.4. S BW	trum Analyzer - Swep RF 50 Ω Freq 2.526000 Ref Offset 0.5 Ref 20.00 df 1 4 4 2 7600 GHz 1 100 kHz FG Scl 1 1 f (Δ) 1 f	2.480 1 GHz 2.480 1 GHz	PN0: Fast -Gain:Low #VBI	SENSE:INT  Trig: Free Ri #Atten: 30 df  W 300 kHz  U S00 kHz  U S00 kHz	un B	INAUTO	Log-Pwr 100/100	03:09 Mkr1 2. -2	TRACE 1 23 45 5 TYPE MANNA 480 1 GHz 227 dBm 22.23 dBm 22.23 dBm 22.23 dBm 22.23 dBm
ter F	trum Analyzer - Swep RF 50 Ω Freq 2.526000 Ref Offset 0.5 Ref 20.00 di 1 4 2 7600 GHz 1 100 kHz 1 5 (Δ) 1 5	AC 0000 GHz 1 dB Bm 3 4 4 4 4 4 4 4 4 4 4 4 4 4	PN0: Fast -Gain:Low #VBI	SENSE:INT  Trig: Free Ri #Atten: 30 df  W 300 kHz  U S00 kHz  U S00 kHz	un B	INAUTO	Log-Pwr 100/100	03:09 Mkr1 2. -2	TRACE 1 23 45 5 TYPE MANNA 480 1 GHz 227 dBm 22.23 dBm 22.23 dBm 22.23 dBm 22.23 dBm
Bidiv Bidiv Trt 2.4: ss BW	trum Analyzer - Swep RF 50 Ω Freq 2.526000 Ref Offset 0.5 Ref 20.00 df 1 4 4 2 7600 GHz 1 100 kHz FG Scl 1 1 f (Δ) 1 f	2.480 1 GHz 2.480 1 GHz	PN0: Fast -Gain:Low #VBI	SENSE:INT  Trig: Free Ri #Atten: 30 df  W 300 kHz  U S00 kHz  U S00 kHz	un B	INAUTO	Log-Pwr 100/100	03:09 Mkr1 2. -2	TRACE 1 23 45 5 TYPE MANNA 480 1 GHz 227 dBm 22.23 dBm 22.23 dBm 22.23 dBm 22.23 dBm
t 2.4. S BW	trum Analyzer - Swep RF 50 Ω Freq 2.526000 Ref Offset 0.5 Ref 20.00 df 1 4 4 2 7600 GHz 1 100 kHz FG Scl 1 1 f (Δ) 1 f	2.480 1 GHz 2.480 1 GHz	PN0: Fast -Gain:Low #VBI	SENSE:INT  Trig: Free Ri #Atten: 30 df  W 300 kHz  U S00 kHz  U S00 kHz	un B	INAUTO	Log-Pwr 100/100	03:09 Mkr1 2. -2	TRACE 1 23 45 5 TYPE MANNA 480 1 GHz 227 dBm 22.23 dBm 22.23 dBm 22.23 dBm 22.23 dBm
2.4	trum Analyzer - Swep RF 50 Ω Freq 2.526000 Ref Offset 0.5 Ref 20.00 df 1 4 4 2 7600 GHz 1 100 kHz FG Scl 1 1 f (Δ) 1 f	AC       AC       0000 GHz     IF dB Bm 	PN0: Fast -Gain:Low #VBI	SENSE:INT  Trig: Free Ri #Atten: 30 df  W 300 kHz  U S00 kHz  U S00 kHz	un B	INAUTO	Log-Pwr 100/100	03:09 Mkr1 2. -2	TRACE 1 23 45 5 TYPE MANNA 480 1 GHz 227 dBm 22.23 dBm 22.23 dBm 22.23 dBm 22.23 dBm



# 7. Band Edge(Hopping)

Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Hopping	-53.87	<=-20	Pass
NVNT	1-DH5	2480	Hopping	-58.09	<=-20	Pass
NVNT	2-DH5	2402	Hopping	-52.47	<=-20	Pass
NVNT	2-DH5	2480	Hopping	-41.47	<=-20	Pass
NVNT	3-DH5	2402	Hopping	-52.8	<=-20	Pass
NVNT	3-DH5	2480	Hopping	-53.24	<=-20	Pass









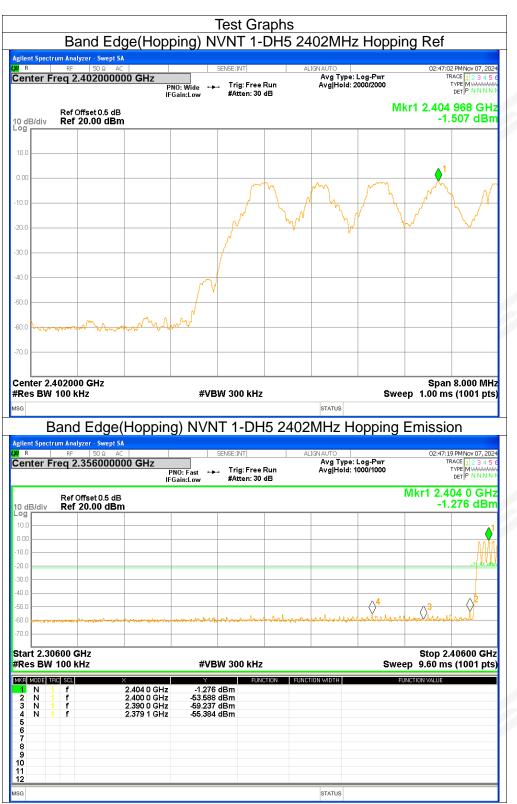














nt Spectrum Analyzer - Swep RF 50 Ω	AC	SE	ENSE:INT	AL		Log-Pwr	02:-	49:01 PM Nov 07, 202 TRACE 1 2 3 4 5
ter Freq 2.480000	F	PNO: Wide 🔸	Trig: Free F #Atten: 30 (		Avg Type: Avg Hold:	Log-PWr 1000/1000		TYPE MWWWW DET P N N N N
Ref Offset 0.5 o B/div Ref 20.00 dE						I	Mkr1 2.4	77 936 GH 0.592 dBr
m m	M	m	M	M				
h h			h	h				
γ I	ณ์ เ	W	10					
					r.m			
					}n∧			
					al my	Whom	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Annon
ter 2.480000 GHz								an 8.000 MH
Band Edg	e(Honnin		¥ 300 kHz	5 2480	status MH7 H		-	ms (1001 pts
Band Edge	t SA	ig) NVN⊺	T 1-DH		MHz H		g Emiss	sion
n <mark>t Spectrum Analyzer - Swep</mark> RF 50 Ω	AC 0000 GHz	ig) NVN⊺		AL Run		opping	g Emiss	
nt Spectrum Analyzer - Swep RF 50 Q Iter Freq 2.526000 Ref Offset 0.5 o	t SA AC       10000 GHz II	I <b>g) NVN</b> SE PN0: Fast →→	T 1-DH	AL Run	MHZ H	opping	g Emis: 02:	49:17 PM Nov 07, 203 TRACE 1 2 3 4 5 TYPE M WWWWW
t Spectrum Analyzer - Swep RF 50 Ω ter Freq 2.526000 Ref Offset 0.5	t SA AC       10000 GHz II	I <b>g) NVN</b> SE PN0: Fast →→	T 1-DH	AL Run	MHZ H	opping	g Emis: 02:	49:17 PMNov 07, 202 TRACE 1 2 3 4 5 TYPE M MMMM DET P N N N N
nt Spectrum Analyzer - Swep RF 50 Q Iter Freq 2.526000 Ref Offset 0.5 o	t SA AC       10000 GHz II	I <b>g) NVN</b> SE PN0: Fast →→	T 1-DH	AL Run	MHZ H	opping	g Emis: 02:	49:17 PMNov 07, 202 TRACE 1 2 3 4 5 TYPE M MMMM DET P N N N N
nt Spectrum Analyzer - Swep RF 50 2 So 2	t SA AC       10000 GHz II	I <b>g) NVN</b> SE PN0: Fast →→	T 1-DH	AL Run	MHZ H	opping	g Emis: 02:	49:17 PMNov 07, 202 TRACE 1 2 3 4 5 TYPE M MMMM DET P N N N N
Ref Offset 0.5 of Ref 20,00 dt	t SA AC       10000 GHz II	I <b>g) NVN</b> SE PN0: Fast →→	T 1-DH	AL Run	MHZ H	opping	g Emis: 02:	49:17 PMNov 07, 200 TRACE 1:2:3:45 TYPE MWWWW DET P. NNNN 2.480 0 GH 0.701 dBr
RF 0ffset 0.5 c	t SA AC       10000 GHz II	I <b>g) NVN</b> SE PN0: Fast →→	T 1-DH	AL Run	MHZ H	opping	g Emis: 02:	49:17 PMNov 07, 200 TRACE 1:2:3:45 TYPE MWWWW DET P. NNNN 2.480 0 GH 0.701 dBr
nt Spectrum Analyzer - Swep RF 50 2 hter Freq 2.526000 B/div Ref 20.00 dE	t SA AC       10000 GHz II	I <b>g) NVN</b> SE PN0: Fast →→	T 1-DH	AL Run	MHZ H	opping	g Emiss oz: Mkr1 2	49:17 PMNov 07, 200 ITRACE 12:34 5 TYPE IM WHANK DET IP NNNN 2,480 0 GH 0,701 dBr 19.41 dB
RF 0ffset 0.5 o	t SA AC       10000 GHz II	Ig) NVN SR PHO: Fast →→ FGain:Low	T 1-DH	AL Run	MHZ H		g Emiss oz: Mkr1 2	Sion 49:17 PMI/wr 07, 202 ITRACE 12:3 4 5 TYPE M MANNA 2,480 0 GH 0,701 dBr 19:41 dB 19:41 dB 19:41 dB 19:41 dB 
nt Spectrum Analyzer - Swep RF 50 Q tter Freq 2.526000 B/div Ref Offset 0.5 d Ref 20.00 dE 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4	15A AC     1000 GHz   11 13B 33m - - - - - - - - - - - - -	IG) NVN <sup>¬</sup> S PNO: Fast →→ FGain:Low #VBV #VBV	V 300 kHz	Run dB	MHZ H		y Emiss oz: Mkr1 2	Sion 49:17 PMI/wr 07, 202 ITRACE 12:3 4 5 TYPE M MANNA 2,480 0 GH 0,701 dBr 19:41 dB 19:41 dB 19:41 dB 19:41 dB 
Ref Offset 0.5 of Ref Offset 0.5 of Ref 20.00 dE	x	Ig) NVN <sup>¬</sup> SE           PNO: Fast           FGain:Low           #VEV           #VEV           (Δ)           0.701 cl -58.022 dl -58.022 dl	T 1-DH ENSE:INT Trig: Free I #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 /	Run dB	MHZ H		g Emiss oz: Mkr1 2	Sion 49:17 PMI/wr 07, 202 ITRACE 12:3 4 5 TYPE M MANNA 2,480 0 GH 0,701 dBr 19:41 dB 19:41 dB 19:41 dB 19:41 dB 
nt Spectrum Analyzer - Swep RF 50 Ω nter Freq 2.526000 B/div Ref 20.00 dB 1 1 1 1 1 2 4 1 2 4 1 2 4 1 1 2 4 1 1 1 1 1 1 1 1 1 1 1 1 1	ISA           AC           JODOO GHZ           III           IB           3m           III           2.480 0 GHz           2.483 6 GHz           2.500 0 GHz	Ig) NVN <sup>¬</sup> SR PNO: Fast → F Fain:Low #VBV (Δ) 0.701 c -58.029 d -58.029 d	T 1-DH ENSE:INT Trig: Free I #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 /	Run dB	MHZ H		g Emiss oz: Mkr1 2	Sion 49:17 PMI/wr 07, 202 ITRACE 12:3 4 5 TYPE M MANNA 2,480 0 GH 0,701 dBr 19:41 dB 19:41 dB 19:41 dB 19:41 dB 
N Spectrum Analyzer - Swep RF 50 Ω iter Freq 2.526000 B/div Ref Offset 0.5 d Ref 20.00 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	ISA           AC           JODOO GHZ           III           IB           3m           III           2.480 0 GHz           2.483 6 GHz           2.500 0 GHz	Ig) NVN <sup>¬</sup> SR PNO: Fast → F Fain:Low #VBV (Δ) 0.701 c -58.029 d -58.029 d	T 1-DH ENSE:INT Trig: Free I #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 / #Atten: 30 /	Run dB	MHZ H		g Emiss oz: Mkr1 2	Sion 49:17 PMI/wr 07, 202 ITRACE 12:3 4 5 TYPE M MANNA 2,480 0 GH 0,701 dBr 19:41 dB 19:41 dB 19:41 dB 19:41 dB 

1.



Spectrum Analyzer			a second as confi						
	50 Ω AC 2000000 GHz		INSE: INT		GNAUTO Avg Type: Avg Hold: 1	Log-Pwr 1000/1000	C	TRA	PM Nov 07, 2024 CE 1 2 3 4 5 6 PE M WARKAN
		PNO: Wide ↔ IFGain:Low	#Atten: 30 d		inginoia. I		Mind 0	D	ET P N N N N N
Ref Offse div Ref 20.							WIKTI 2.		340 GHz 194 dBm
									<b>\</b> 1
			m	man	MANAM	MAN	Anna	ww	$\gamma \sim p$
			1	V · V	1.0	4. i	Υν. Υ		۲.
	A	mm							
	malimm								
And Markader	VANA KAN								
er 2.402000 G	Hz						S	Span 8	3.000 MHz
	dge(Hoppir		/ 300 кнz Г 2-DH	5 2402	status MHz H		-		(1001 pts) N
Spectrum Analyzer RF	- Swept SA 50 Ω AC	ng) NVNT			MHz H	oppin	g Emis	SSIOI	<b>n</b> MNov 07, 2024
Spectrum Analyzer RF	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	Г 2-DH	ALI	MHz H	opping	g Emis	<b>SSIOI</b> 13:00:11 F TRAI	n
Spectrum Analyzer RF	- Swept SA 50 Ω AC 60000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 CE 12 3 4 5 6 PE M M N N N ET P N N N N 6 0 GHz
Spectrum Analyzer RF er Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 60000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	M Nov 07, 2024 CE 1 2 3 4 5 6 PE M WWWWW ET P N N N N N
Spectrum Analyzer RF er Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 CE 12 3 4 5 6 PE M M N N N ET P N N N N 6 0 GHz
Spectrum Analyzer RF er Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 CE 12 3 4 5 6 PE M M N N N ET P N N N N 6 0 GHz
Spectrum Analyzer RF er Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 CE 1 2 3 4 5 C FE MWWWW 6 0 GHz 87 dBm 1 1
Spectrum Analyzer	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 ET 12 3 4 5 6 ET P N N N N ET P N N N N N N ET P N N N N N N N N N N N N N N N N N N
Spectrum Analyzer RF er Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 CE 1 2 3 4 5 C FE MWWWW 6 0 GHz 87 dBm 1 1
Spectrum Analyzer RF Pr Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 CE 1 2 3 4 5 C FE MWWWW 6 0 GHz 87 dBm 1 1
Spectrum Analyzer RF er Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	55i0i 03:00:11 F TRAV TY D 2.40	MNov 07, 2024 CE 1 2 3 4 5 C FE MWWWW 6 0 GHz 87 dBm 1 1
Spectrum Analyzer RF Pr Freq 2.35 Ref Offse div Ref 20.	- Swept SA 50 Ω AC 6000000 GHz	ng) NVNT	T 2-DH	ALI	MHZ H	opping	g Emis	33:00:11 FR TRANS TY TY 2.400 -4.4	MNov 07, 2024 CE 1 2 3 4 5 6 FE MANNAN 6 0 GHz 87 dBm 1 4440 2 -2 09 dBm
Spectrum Analyzer RF er Freq 2.35 Ref Offse	- Swept SA 50 Ω AC 6000000 GHz	PNO: Fast +++	T 2-DH	ALI	MHZ H		g Emis	22.400 -4.4	MNov 07, 2024 GE 12 3 4 5 6 FFE MANNAN 6 0 GHz 87 dBm 1 -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm
Spectrum Analyzer RF er Freq 2.35 Ref Offse Ref 20. 2.30600 GHz BW 100 KHz	- Swept SA 50 Ω AC 6000000 GHz	PNO: Fast +++	T 2-DH INSE:INT Trig: Free F #Atten: 30 of 4 4 4 4 300 kHz	ALI	MHZ H		g Emis	SSIOI 33:00:11 F TRAIN TV 2.40 -4.4	MNov 07, 2024 CE 1 2 3 4 5 6 FE MANNAN 6 0 GHz 87 dBm 1 4440 2 -2 09 dBm
Spectrum Analyzer RF er Freq 2.35 /div Ref 20. 2.30600 GHz BW 100 kHz 3005 TRC Sct. N 1 f (Δ)	- Swept SA 50 Q AC 6000000 GHz st 0.5 dB 00 dBm	PNO: Fast ↔      FGain:Low      #VBW      #VBW      (Δ) 4.487 d	T 2-DH Trig: Free F #Atten: 30 c	Run HB	MHZ H		g Emis	SSIOI 33:00:11 F TRAIN TV 2.40 -4.4	MNov 07, 2024 GE 12 3 4 5 6 FFE MANNAN 6 0 GHz 87 dBm 1 -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm
Spectrum Analyzer RF er Freq 2.35 /div Ref 20. 2.30600 GHz BW 100 kHz 100 kHz 100 kHz 101 f (Δ) 1 f (Δ)	- Swept SA 50 Q AC 6000000 GHz et 0.5 dB 00 dBm	PNO: Fast ↔ IFGain:Low #VBM (Δ) 4.487 di -54.547 di -60.221 di	T 2-DH INSE:INT Trig: Free F #Atten: 30 c 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Run HB	MHZ H		g Emis	SSIOI 33:00:11 F TRAIN TV 2.40 -4.4	MNov 07, 2024 GE 12 3 4 5 6 FFE MANNAN 6 0 GHz 87 dBm 1 -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm
Spectrum Analyzer	- Swept SA 50 Q AC 6000000 GHz et 0.5 dB 00 dBm 2406 0 GHz 2,406 0 GHz 2,400 0 GHz	PNO: Fast ↔      FGain:Low      #VBM      (Δ) 4.487 di     -54.547 di     -60.221 di	T 2-DH INSE:INT Trig: Free F #Atten: 30 c 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Run HB	MHZ H		g Emis	SSIOI 33:00:11 F TRAIN TV 2.40 -4.4	MNov 07, 2024 GE 12 3 4 5 6 FFE MANNAN 6 0 GHz 87 dBm 1 -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm
Spectrum Analyzer RF er Freq 2.35 /div Ref 20. 2.30600 GHz BW 100 kHz 100 kHz 100 kHz 101 f (Δ) 1 f (Δ)	- Swept SA 50 Q AC 6000000 GHz et 0.5 dB 00 dBm 2406 0 GHz 2,406 0 GHz 2,400 0 GHz	PNO: Fast ↔ IFGain:Low #VBM (Δ) 4.487 di -54.547 di -60.221 di	T 2-DH INSE:INT Trig: Free F #Atten: 30 c 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Run HB	MHZ H		g Emis	SSIOI 33:00:11 F TRAIN TV 2.40 -4.4	MNov 07, 2024 GE 12 3 4 5 6 FFE MANNAN 6 0 GHz 87 dBm 1 -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm
Spectrum Analyzer RF er Freq 2.35 /div Ref 20. 2.30600 GHz BW 100 kHz 100 kHz 100 kHz 101 f (Δ) 1 f	- Swept SA 50 Q AC 6000000 GHz et 0.5 dB 00 dBm 2406 0 GHz 2,406 0 GHz 2,400 0 GHz	PNO: Fast ↔ IFGain:Low #VBM (Δ) 4.487 di -54.547 di -60.221 di	T 2-DH INSE:INT Trig: Free F #Atten: 30 c 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Run HB	MHZ H		g Emis	SSIOI 33:00:11 F TRAIN TV 2.40 -4.4	MNov 07, 2024 GE 12 3 4 5 6 FFE MANNAN 6 0 GHz 87 dBm 1 -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm
ectrum Analyzer	- Swept SA 50 Q AC 6000000 GHz et 0.5 dB 00 dBm 2406 0 GHz 2,406 0 GHz 2,400 0 GHz	PNO: Fast ↔ IFGain:Low #VBM (Δ) 4.487 di -54.547 di -60.221 di	T 2-DH INSE:INT Trig: Free F #Atten: 30 c 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Run HB	MHZ H		g Emis	SSIOI 33:00:11 F TRAIN TV 2.40 -4.4	MNov 07, 2024 GE 12 3 4 5 6 FFE MANNAN 6 0 GHz 87 dBm 1 -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm -25 09 dBm



#### Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Ref 03:01:36 PM Nov 07, 20; TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N R 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 2.476 000 GHz Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log -1.756 dBm 10. 0.00 -20. 30.0 -40 -50.0 m -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 2-DH5 2480MHz Hopping Emission nt Spectrum Analyzer - Swept SA R 01 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N Center Freq 2.526000000 GHz Avg Type: Log-Pwr Avg|Hold: 1500/1500 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.477 0 GHz Ref Offset 0.5 dB Ref 20.00 dBm -1.912 dBm 10 dB/div Log 10.0 20.0 21.76 d 30.0 $\langle \rangle^2$ 40.0 -50.0 $\overline{\bigcirc}^3$ -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 2.477 0 GHz (Δ) 2.483 5 GHz 2.500 0 GHz 2.483 5 GHz -1.912 dBm -43.239 dBm -60.473 dBm -43.239 dBm NNNN (Δ) f f f 2 3 4 5 6 7 8 9 10 11 12 STATUS ISG

L.





#### Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Ref 03:11:24 PM Nov 07, 20 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N R 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 2.401 904 GHz Ref Offset 0.5 dB Ref 20.00 dBm -4.640 dBm 10 dB/div 10. 0.00 Ĉ -20. 30.0 40.1 -50.0 -60.1 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 t Spectrum Analyzer - Swept SA 11:41 PM Nov 07, 202 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N R Center Freq 2.356000000 GHz Avg Type: Log-Pwr Avg|Hold: 1000/1000 PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.404 1 GHz -4.491 dBm Ref Offset 0.5 dB Ref 20.00 dBm 10 dB/div Log Ø 0.00 10.0 20.0 30.0 40.0 -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 2.404 1 GHz (Δ) 2.400 0 GHz 2.390 0 GHz 2.364 1 GHz -4.491 dBm -56.158 dBm -60.398 dBm -57.450 dBm NNNN (Δ) f f f 2 3 4 5 6 7 8 9 10 11 12 STATUS ISG





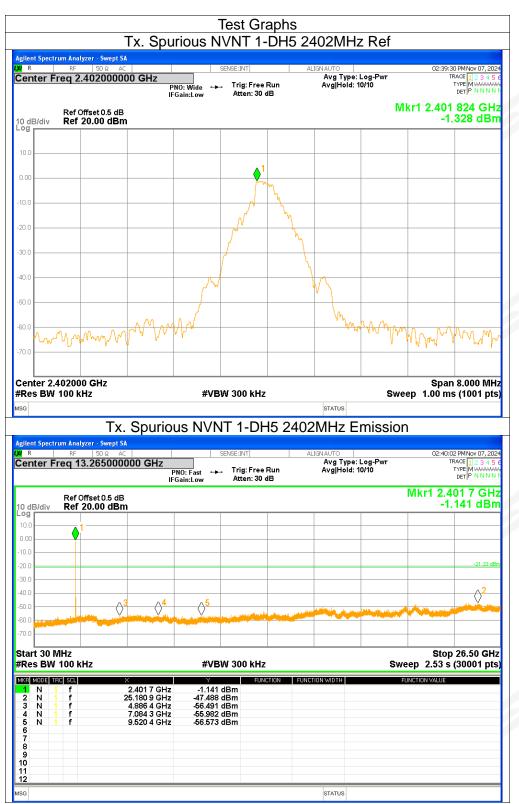


## 8. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	-46.15	<=-20	Pass
NVNT	1-DH5	2441	-46.24	<=-20	Pass
NVNT	1-DH5	2480	-46.73	<=-20	Pass
NVNT	2-DH5	2402	-43.47	<=-20	Pass
NVNT	2-DH5	2441	-44.25	<=-20	Pass
NVNT	2-DH5	2480	-41.9	<=-20	Pass
NVNT	3-DH5	2402	-43.89	<=-20	Pass
NVNT	3-DH5	2441	-43.44	<=-20	Pass
NVNT	3-DH5	2480	-44.96	<=-20	Pass



Page 86 of 95





	Tx. Spu							
Spectrum Analyzer - Swep RF 50 Ω Ser Freq 2.441000	AC DOOO GHz P	PNO:Wide ↔	ENSE:INT Trig: Free Ru Atten: 30 dB		AUTO Avg Type: Avg Hold: 1	Log-Pwr 00/100	02:42	2:28 PM Nov 07, 20 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N
Ref Offset 0.5	dB	FGain:Low	Atten: 30 dB			N		0 984 GH
div Ref 20.00 di	Bm						-'	1.255 dBi
			1					
			$\wedge$	η				
				Y.				
			1					
			/					
		M		-	$\overline{\boldsymbol{\lambda}}$			
					<u> </u>			
· OCharbell +	mann	ww			Mr. Martin	m	AA	A .
and here there with							MUMPER DO N	- w www.m
r 2.441000 GHz 3W 100 kHz	1		V 300 kHz					n 8.000 MH ns (1001 pt
DW TOO KITZ								
			1 000 1112		STATUS	000		15 (1001 pt
T	x. Spurio						•	
Spectrum Analyzer - Swep		us NVN	T 1-DH5	5 2441N	ЛНz E		n	
<mark>pectrum Analyzer - Swep</mark> RF 50 Ω	AC DOOOO GHz	us NVN	T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N		Missio	n	2:44 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE M WWWWW
ectrum Analyzer - Swep RF 50 ຊ • Freq 13.26500	AC DOOOO GHZ	us NVN	T 1-DH5	5 2441N	AHZE	Missio	N 02:42	2:44 PM Nov 07, 20 TRACE 1 2 3 4 5 TYPE M WWWW DET P N N N
ectrum Analyzer - Swep RF 50 Ω Freq 13.26500 Ref Offset 0.5 σ	AC DOUCO GHZ		T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N	AHZE	Missio	02:42 Mkr1 2.	2:44 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE M WWWWW
ctrum Analyzer - Swep RF 50 Q Freq 13.26500 Ref Offset 0.5	AC DOUCO GHZ		T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N	AHZE	Missio	02:42 Mkr1 2.	2:44 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N 441 4 GH
ectrum Analyzer - Swep RF 50 Ω r Freq 13.26500 Ref Offset 0.5 σ	AC DOOOO GHz		T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N	AHZE	Missio	02:42 Mkr1 2.	2:44 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N 441 4 GH
pectrum Analyzer - Swep RF 50 Ω r Freq 13.26500 Ref Offset 0.5 σ	AC DOOOO GHz		T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N	AHZE	Missio	02:42 Mkr1 2.	2:44 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N 441 4 GH
Ref Offset 0.5 σ	AC DOOOO GHz		T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N	AHZE	Missio	02:42 Mkr1 2.	2.44 PM Nov 07, 20 TRACE 12345 TYPE MWWWW DET P N N M 441 4 GH 2.078 dB
ectrum Analyzer - Swep RF 50 Ω r Freq 13.26500 Ref Offset 0.5 σ	AC DOOOO GHz		T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N	AHZE	Missio	02:42 Mkr1 2.	2.44 PM Nov 07, 20 TRACE 12345 TYPE MWWWW DET P N N M 441 4 GH 2.078 dB
ectrum Analyzer - Swep RF 50 Ω r Freq 13.26500 Ref Offset 0.5 σ	AC DOOOO GHz		T 1-DH5 ENSE:INT Trig: Free Ru	5 2441N	AHZE	Missio	02:42 Mkr1 2.	2.44 PM Nov 07, 20 TRACE 12345 TYPE MWWWW DET P N N M 441 4 GH 2.078 dB
pectrum Analyzer - Swep RF   50 Ω r Freq 13.26500 Ref Offset 0.5 div Ref 20.00 di 1 1 30 MHz BW 100 KHz	AC DOOOO GHz	US NVN	T 1-DH5	5 2441M	AHZ E	Missio Log-Pwr /5	Mkr1 2. -/	244 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWW DET P NNNH 441 4 GH 2.078 dB1 -21 26 dl -21
Ref Offset 0.5 Ref Offset 0.5 Ref 20.00 dl	AC 00000 GHz 1 000000 GHz 1 6 6 8 8 0 0 0 0 0 0 0 0 0 0 0 0 0	PNO: Fast FGain:Low #VBV	T 1-DH5	5 2441N	AHZ E	Missio Log-Pwr /5	n 02:42 Mkr1 2.	244 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWW DET P NNNH 441 4 GH 2.078 dB1 -21 26 dl -21
Prectrum Analyzer         Swep           RF         50 0           Pr         50 0           Pr         Freq 13.26500           Ref Offset 0.5 of         0           div         Ref 20.00 dl           1         1           30 MHz         0           BW 100 kHz         0           1         1           1         1           1         1	AC 00000 GHz 16 AC 16	US NVN PRO: Fast → FGain:Low #VEV #VEV 2078 c 47.495 c 56.225 c 56.225 c 56.225 c	T 1-DH5 ENSE:INT Trig: Free Ru Atten: 30 dB U U U U U U U U U U U U U U U U U U U	5 2441M	AHZ E	Missio Log-Pwr /5	Mkr1 2. -/	244 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWW DET P NNNH 441 4 GH 2.078 dB1 -21 26 dl -21
Ref Offset 0.5 c	AC 00000 GHz 1 000000 GHz 1 11 dB Bm 2.441 4 GHz 2.441 4 GHz 2.4480 3 GHz 5.055 9 GHz	US NVN PRO: Fast → FGain:Low #VEV #VEV 2078 c 47.495 c 56.225 c 56.225 c 56.225 c	T 1-DH5 ENSE:INT Trig: Free Ru Atten: 30 dB U U U U U U U U U U U U U U U U U U U	5 2441M	AHZ E	Missio Log-Pwr /5	Mkr1 2. -/	244 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWW DET P NNNH 441 4 GH 2.078 dB1 -21 26 dl -21
Ref Offset 0.5 of the second s	AC 00000 GHz 16 AC 16	US NVN PRO: Fast → FGain:Low #VEV #VEV 2078 c 47.495 c 56.225 c 56.225 c 56.225 c	T 1-DH5 ENSE:INT Trig: Free Ru Atten: 30 dB U U U U U U U U U U U U U U U U U U U	5 2441M	AHZ E	Missio Log-Pwr /5	Mkr1 2. -/	244 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWW DET P NNNH 441 4 GH 2.078 dB1 -21 26 dl -21
ectrum Analyzer - Swep RF 50.0 Freq 13.26500 Ref Offset 0.5 V Ref 20.00 dl 1 1 0 MHz W 100 kHz Freq 5 1 1 1 1 5 1 1 5 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	AC 00000 GHz 16 AC 16	US NVN PRO: Fast → FGain:Low #VEV #VEV 2078 c 47.495 c 56.225 c 56.225 c 56.225 c	T 1-DH5 ENSE:INT Trig: Free Ru Atten: 30 dB U U U U U U U U U U U U U U U U U U U	5 2441M	AHZ E	Missio Log-Pwr /5	Mkr1 2. -/	244 PMNov 07, 20 TRACE 1 2 3 4 5 TYPE MWWW DET P NNNH 441 4 GH 2.078 dB1 -21 26 dl -21

## Tx. Spurious NVNT 1-DH5 2441MHz Ref



pectrum Analyzer - Swep	t SA							
RF 50 Ω r Freq 2.480000	AC 0000 GHz	NO: Wide ↔→	ENSE:INT Trig: Free Ri Atten: 30 dE	un	GNAUTO Avg Type: Avg Hold: 1		02:44	22 PM Nov 07, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWM DET P N N N N
Ref Offset 0.5 o	IB	-Gain:Low	Atten. oo at	-		М		9 928 GHz ).716 dBm
V Rei 20.00 de								
			. 1					
				nJ				
				<u> </u>				
			- f	- Y				
		A			Λ			
					h	Λ		
h mand Alman	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	NW.			WLL	M WWWA	marmon	who me the
	x. Spurio		№ 300 кнz Т 1-DH	5 2480	status MHz E		ep 1.00 n	n 8.000 MHz ns (1001 pts)
N 100 kHz T: ctrum Analyzer - Swep RF 50 Q	AC 00000 GHz	us NVN		ALI un		Missior	ep 1.00 n ר	
N 100 kHz trum Analyzer - Swep RF 50 2 Freq 13.26500 Ref Offset 0.5 c	AC 0000 GHz	us NVN	T 1-DH	ALI un		Missior	ep 1.00 n ר 02:44 Mkr1 21	38 PMNov 07, 2024
₩ 100 kHz trum Analyzer - Swep	AC 0000 GHz	us NVN	T 1-DH	ALI un		Missior	ep 1.00 n ר 02:44 Mkr1 21	38 PM Nov 07, 2024 38 PM Nov 07, 2024 38 PM Nov 07, 2024 12 3 4 5 6 TYPE NN NN NN DET P NN NN NN 481 1 GHz
₩ 100 kHz trum Analyzer - Swep	AC 0000 GHz	us NVN	T 1-DH	ALI un		Missior	ep 1.00 n ר 02:44 Mkr1 21	38 PM Nov 07, 2024 38 PM Nov 07, 2024 38 PM Nov 07, 2024 12 3 4 5 6 TYPE NN NN NN DET P NN NN NN 481 1 GHz
N 100 kHz trum Analyzer - Swep RF 50 2 Freq 13.26500 Ref Offset 0.5 c	AC 0000 GHz	us NVN	T 1-DH	ALI un		Missior	ep 1.00 n ר 02:44 Mkr1 21	38 PM Nov 07, 2024 38 PM Nov 07, 2024 38 PM Nov 07, 2024 12 3 4 5 6 TYPE NN NN NN DET P NN NN NN 481 1 GHz
₩ 100 kHz trum Analyzer - Swep	AC 0000 GHz	us NVN	T 1-DH	ALI un		Missior	ep 1.00 n ר 02:44 Mkr1 21	38 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE MANNAN 481 1 GHz .698 dBm
N 100 kHz ctrum Analyzer - Swep RF 50 2 Freq 13.26500 Ref Offset 0.5 c	AC 0000 GHz	us NVN	T 1-DH	ALI un		Missior	ep 1.00 n ר 02:44 Mkr1 21	38 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE MANNAN 481 1 GHz .698 dBm
N 100 kHz	AC 0000 GHz	us NVN	T 1-DH	ALI un	MHZ E GNAUTO Avg Type: Avg Hold: 5	Missior	ep 1.00 n	33 PMNov 07, 2024 TRACE [] 2 3 4 5 6 TYPE [] 2 3 4 5 6 DET P N N N N 481 1 GHz .698 dBm 
N 100 kHz T: ctrum Analyzer - Swe Freq 13.26500 Ref Offset 0.5 c Ref 20.00 dE	15A AC     100000 GHz   18 33m 33m 4 4 4 4 4 4 4 4 4 4 4 4 4	US NVN	T 1-DH:	ALI 2	MHZ E	missior Log-Pwr 15	ep 1.00 n	38 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE MANNAN 481 1 GHz .698 dBm
N 100 kHz T: ctrum Analyzer - Swep FF eq 13.26500 Ref Offset 0.5 c Ref 200 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	AC         Image: Solution of the solution of	US NVN PNO: Fast Gain:Low	T 1-DH:	ALI un	MHZ E	missior Log-Pwr 15	ep 1.00 n	133 PMNov 07, 2024
N 100 kHz T ctrum Analyzer - Swep FF 50 Ω Freq 13.26500 Ref Offset 0.5 c Ref 20.00 dE	AC     AC     100000 GHz   IF IB 3m ↓ AC     IF IB 3m ↓ AC     IF IF IF IF IF IF IF IF IF IF	US NVN	T 1-DH:	ALI 2	MHZ E	missior Log-Pwr 15	ep 1.00 n	133 PMNov 07, 2024
N 100 kHz	ISA           AC           ID0000 GHz           II           IB           3m           II           2           II           2           II           2           II           II           II           III           IIII           IIII           IIII           IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	US NVN	T 1-DH:	ALI 2	MHZ E	missior Log-Pwr 15	ep 1.00 n	133 PMNov 07, 2024
N 100 kHz	ISA           AC           ID0000 GHz           II           IB           3m           II           2           II           2           II           2           II           II           II           III           IIII           IIII           IIII           IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	US NVN	T 1-DH:	ALI un 3	MHZ E	missior Log-Pwr 15	ep 1.00 n	133 PMNov 07, 2024 174 CE 11 2 3 4 5 c 179 E 12 3 4



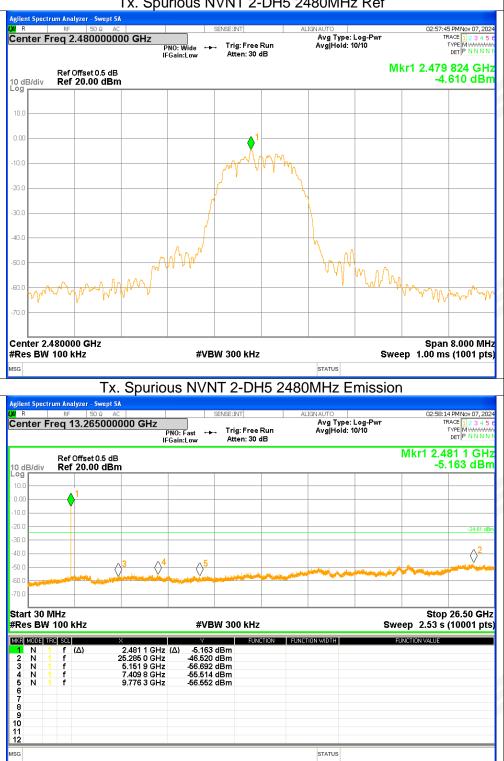
nt Spectrum Analyz R RF nter Freq 2.4	er - Swept SA   50 Q AC   02000000 GHz		ISE:INT Trig: Free Run Atten: 30 dB	ALIGNAUTO Avg Type: Log- Avg Hold: 10/10		TYPE DET	123456 MWARAAAA PNNNNN
B/div Ref 20	set 0.5 dB ).00 dBm				Mkr1 :	2.402 00 -4.07	)8 GHz 5 dBm
			1				
				A.			
		r	1	'N			
				<u>h</u>			
]							
		mana /		Vhym			
an Aralise por	mana			· M	MAR MAN		
MMmun	m V V V V V				γ <sub>4</sub> γ 4 '	WWW	m
ter 2.402000				I			
	2		300 kHz		Sweep 1	Span 8.0 .00 ms (1	000 MHz 001 pts)
S BW 100 KH It Spectrum Analyz RF	z Tx. Spurio ר- Swept SA ס ג גר	ous NVNT		02MHz Emi	ission	.00 ms (1	001 pts)
s BW 100 kH t Spectrum Analyz RF	Tx. Spurie		2-DH5 24	02MHz Emi	SSION	.00 ms (1 02:55:19 PMI TRACE	001 pts)
s BW 100 kH	z Tx. Spurio 50 x AC 265000000 GHz set 0.5 dB		2-DH5 24	02MHz Emi	SSION Pwr	.00 ms (1) 02:55:19 PMI TRACE TYPE DET 1 2.401	001 pts)
s BW 100 kH	z Tx. Spurio er - Swept SA  50		2-DH5 24	02MHz Emi	SSION Pwr	.00 ms (1) 02:55:19 PMI TRACE TYPE DET 1 2.401	001 pts)
s BW 100 kH Spectrum Analyz RF ater Freq 13. Ref Off B/div Ref 20	z Tx. Spurio 50 x AC 265000000 GHz set 0.5 dB		2-DH5 24	02MHz Emi	SSION Pwr	.00 ms (1) 02:55:19 PMI TRACE TYPE DET 1 2.401	001 pts)
nt Spectrum Analyz RF Iter Freq 13. B/div Ref Off	z Tx. Spurio 50 x AC 265000000 GHz set 0.5 dB		2-DH5 24	02MHz Emi	SSION Pwr	.00 ms (1) 02:55:19 PMI TRACE TYPE DET 1 2.401	001 pts)
s BW 100 kH It Spectrum Analyz RF Iter Freq 13. Ref Off	z Tx. Spurio 50 x AC 265000000 GHz set 0.5 dB		2-DH5 24	02MHz Emi	SSION Pwr	.00 ms (1) 02:55:19 PMI TRACE TYPE DET 1 2.401	001 pts)
s BW 100 kH	z Tx. Spurio 50 x AC 265000000 GHz set 0.5 dB		2-DH5 24	02MHz Emi	SSION Pwr	.00 ms (1) 02:55:19 PMI TRACE TYPE DET 1 2.401	001 pts)
s BW 100 kH It Spectrum Analyz RF Iter Freq 13. Ref Off	z Tx. Spurio 50 x AC 265000000 GHz set 0.5 dB		2-DH5 24	02MHz Emi	SSION Pwr	.00 ms (1) 02:55:19 PMI TRACE TYPE DET 1 2.401	001 pts)
nt Spectrum Analyz Ref Off iB/div Ref 21 Ref Off iB/div Ref 21 rt 30 MHz ss BW 100 kH	z Tx. Spurie sr - Swept SA 50 2 AC 2 265000000 GHz set 0.5 dB 0.00 dBm	PRO: Fast IFGain:Low	C2-DH5 24	O2MHz Emi	Pwr Mkr	.00 ms (1)	001 pts)
Ref Off Ref Of	z Tx. Spurie sr - Swept SA 50.2 AC 265000000 GHz set 0.5 dB 0.00 dBm 200 dBm 200 dBm 200 dBm	PRO: Fast PRO: Fast IFGain:Low 4 4 5 WBW 2 (Δ) 4.684 dB 2 4.7542 dB	C2-DH5 24	02MHz Emi	Pwr Mkr	.00 ms (1)	001 pts)
nt Spectrum Analyz Ref Off iB/div Ref 21 Ref Off iB/div Ref 21 rt 30 MHz ss BW 100 kH N 1 f N 1 f N 1 f	z Tx. Spurie sr - Swept SA 50 0 AC 265000000 GHz set 0.5 dB 0.00 dBm 2 2 2 2 2 2 2 2 2 2 2 2	PNO: Fast	C2-DH5 24	O2MHz Emi	Pwr Mkr	.00 ms (1)	001 pts)
rt 30 MHz es BW 100 kH	z Tx. Spurie er - Swept SA   50 R AC   2650000000 GHz Set 0.5 dB 0.00 dBm 	PN0: Fast         →           IFGain:Low         →           4         5           4         5           4         5           4         5           4         5           5         4           4         5           2         4           5         4           5         4           2         4           5         4           2         4           5         5           2         4           5         5           2         4           5         5           2         4           5         5           2         4           5         5           2         4           5         5           2         4           5         5           2         5           2         5           3         5           2         5           3         5           3         5           3         5           3	C2-DH5 24	O2MHz Emi	Pwr Mkr	.00 ms (1)	001 pts)
s BW 100 kH	z Tx. Spurie sr - Swept SA 50 0 AC 265000000 GHz set 0.5 dB 0.00 dBm 2 2 2 2 2 2 2 2 2 2 2 2	PNO: Fast	C2-DH5 24	O2MHz Emi	Pwr Mkr	.00 ms (1)	001 pts)
Spectrum Analyz FF FF FF FF FF FF FF FF FF F	z Tx. Spurie sr - Swept SA 50 0 AC 265000000 GHz set 0.5 dB 0.00 dBm 2 2 2 2 2 2 2 2 2 2 2 2	PNO: Fast	C2-DH5 24	O2MHz Emi	Pwr Mkr	.00 ms (1)	001 pts)





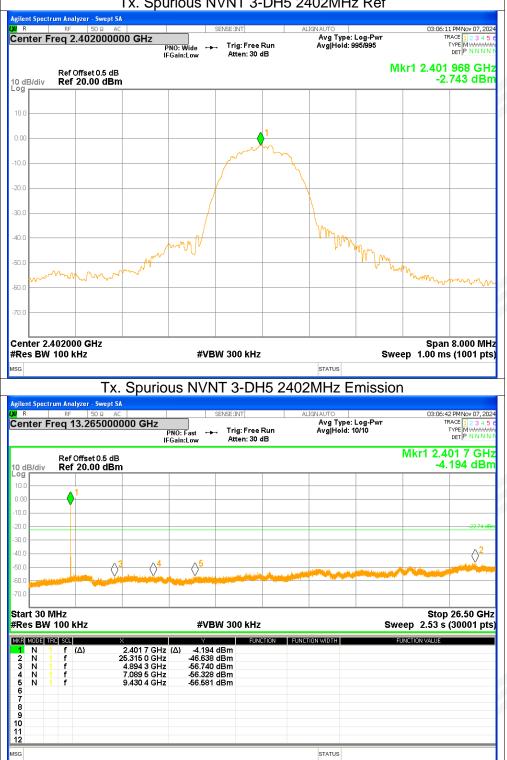
### Tx. Spurious NVNT 2-DH5 2441MHz Ref





Tx. Spurious NVNT 2-DH5 2480MHz Ref





Tx. Spurious NVNT 3-DH5 2402MHz Ref



R	t <mark>rum Analyzer - Swept</mark> RF 50 Ω	AC		SENSE:INT	ALI	IGNAUTO		03:07	:40 PM Nov 07, 2024
	req 2.441000	000 GHz	PNO: Wide ↔	🛶 Trig: Free R	lun	Avg Type: Avg Hold:			TRACE 1 2 3 4 5 0 TYPE M
	Ref Offset 0.5 d		IFGain:Low	Atten: 30 dE	В		Μ		1 136 GHz
dB/div	Ref 20.00 dB						1	-4	2.843 dBm
0									
					•1				
				~~~~	V.				
0					- '\ \				
0									
			/			\			
						buy mo-			
		<u>س</u>	mmi				Ma		
0	mon	manflat				U	D WW	Maria	mm
									M M M M
0									
ter 2	441000 GH7							Sna	n 8 000 MHz
	.441000 GHz / 100 kHz T )	. Spuric		зw 300 кнz NT 3-DH	5 2441	status MHz E		ep 1.00 n	n 8.000 MHz ns (1001 pts
nt Spect	/ 100 kHz	SA Ac	bus NVN		ALI Run		Missioi	ep 1.00 n ົາ	11 PMNov 07, 2024 TRACE 12 3 4 5 6 TYPE MANAGEMENT
nt Spect	7 100 kHz T trum Analyzer - Sw Ω RF 50 Ω Freq 13.26500	sa ac D0000 GHz	ous NVN	NT 3-DH	ALI Run	MHZ E	Missioi	eep 1.00 n ີ ດ <sub>3:08</sub>	11 PMNov 07, 202 TRACE 12 3 4 5 ( TYPE MWWWWW DET P N N N N
ent Spect R Inter F	100 kHz T) trum Analyzer - Swept RF 50 Ω	sa ac   D0000 GHz B	DUS NVI		ALI Run	MHZ E	Missioi	eep 1.00 n ک 03:08 Mkr1 2.4	11 PMNov 07, 2024
nt Spect	f 100 kHz T) trum Analyzer - Swept RF 50 Ω Freq 13.26500 Ref Offset 0.5 d	sa ac   D0000 GHz B	DUS NVI		ALI Run	MHZ E	Missioi	eep 1.00 n ک 03:08 Mkr1 2.4	11 PMNov 07, 202 TRACE 12 3 4 5 0 DET P N N N N
es BW ent Spect R nter F dB/div	f 100 kHz T) trum Analyzer - Swept RF 50 Ω Freq 13.26500 Ref Offset 0.5 d	sa ac   D0000 GHz B	DUS NVI		ALI Run	MHZ E	Missioi	eep 1.00 n ک 03:08 Mkr1 2.4	11 PMNov 07, 202 TRACE 12 3 4 5 0 DET P N N N N
es BW	f 100 kHz T) trum Analyzer - Swept RF 50 Ω Freq 13.26500 Ref Offset 0.5 d	sa ac   D0000 GHz B	DUS NVI		ALI Run	MHZ E	Missioi	eep 1.00 n ک 03:08 Mkr1 2.4	11 PMNov 07, 202 TRACE 12 3 4 5 0 DET P N N N N
ant Spect	f 100 kHz T) trum Analyzer - Swept RF 50 Ω Freq 13.26500 Ref Offset 0.5 d	sa ac   D0000 GHz B	PNO: Fast IFGain:Low		ALI Run	MHZ E	Missioi	eep 1.00 n ک 03:08 Mkr1 2.4	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE MWWWWW 0ETP NNNN 441 4 GHz 1.553 dBm
dB/div	f 100 kHz T) trum Analyzer - Swept RF 50 Ω Freq 13.26500 Ref Offset 0.5 d	sa ac   D0000 GHz B	DUS NVI		ALI Run	MHZ E	Missioi	eep 1.00 n ک 03:08 Mkr1 2.4	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE MWWWWW 0ETP NNNN 441 4 GHz 1.553 dBm
es BW ent Spect R nter F dB/div	f 100 kHz T) trum Analyzer - Swept RF 50 Ω Freq 13.26500 Ref Offset 0.5 d	sa ac   D0000 GHz B	PNO: Fast IFGain:Low		ALI Run	MHZ E	Missioi	eep 1.00 n ک 03:08 Mkr1 2.4	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE MWWWWW 0ETP NNNN 441 4 GHz 1.553 dBm
es BW	F 100 kHz T Trum Analyzer - Swept RF 50 Ω Freq 13.26500 Ref Offset 0.5 d Ref 20.00 dE	sa ac   D0000 GHz B	PNO: Fast IFGain:Low		ALI Run	MHZ E	Missioi	Mkr1 2	11 PMNov 07, 202 11 PMNov 07, 202 17 ACC 12 3 4 5 TYPE MWANNA Det P NN NN 1 441 4 GH2 553 dBm -22.04 dBm -22.04 dBm
es BW	F 100 kHz T Trum Analyzer - Swept RF 50 Ω Treq 13.26500 Ref Offset 0.5 d Ref 20.00 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	sa ac   D0000 GHz B	PNO: Fast IFGain:Low	NT 3-DH		MHz E	mission Log-Pwr 10/10	eep 1.00 n	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE MWWWWW 0ETP NNNN 441 4 GHz 1.553 dBm
dB/div a a b b c c c c c c c c c c c c c c c c	f 100 kHz Tum Analyzer - Swept Ref Offset 0.5 d Ref 20.00 dE 1 1 1 MHz f 100 kHz FRC 561	SA AC   D0000 GHz B m 3 ↓ 3 ↓ 2.441 4 GH:	PNO: Fast IFGain:Low 4 5 #VE	NT 3-DH		MHZ E	mission Log-Pwr 10/10	eep 1.00 n	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE M WWWWW 441 4 GHz 553 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm
ent Spect R mter F dB/div 0 0 0 0 0 0 0 0 0 0 0 0 0	F 100 kHz Turu Analyzer - Swep RF 50 Ω Freq 13.26500 Ref Offset 0.5 d Ref 20.00 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	SA AC D0000 GHz B m → 2.441 4 GH; 25.230 3 GH; 5.078 7 GH;	PNO: Fast PNO: Fast IFGain:Low 4 4 5 #VE 2 (Δ) 4.563 2 -46.287 2 -56.14C	VT 3-DH		MHz E	mission Log-Pwr 10/10	eep 1.00 n	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE M WWWWW 441 4 GHz 553 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm
es BW	F 100 kHz Tum Analyzer - Swept RF 90 Ω Treq 13.26500 Ref Offset 0.5 d Ref 20.00 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	SA AC   D0000 GHz B m 3 2.441 4 GHi 25.230 3 GHi	PN0: Fast → IFGain:Low 4 5 2 (Δ) 4555 2 46.287 2 56.140	NT 3-DH		MHz E	mission Log-Pwr 10/10	eep 1.00 n	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE M WWWWW 441 4 GHz 553 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm
ani Speci R nter F algorithm	F 100 kHz Tum Analyzer - Swept RF 50 Ω Treq 13.26500 Ref Offset 0.5 d Ref 20.00 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	SA AC B B M 3 2.441 4 GH; 25.230 3 GH; 5.078 7 GH; 5.078 7 GH;	PN0: Fast → IFGain:Low 4 5 4 5 4 5 4 5 4 5 4 5 5 4 5 5 5 4 5	NT 3-DH		MHz E	mission Log-Pwr 10/10	eep 1.00 n	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE M WWWWW 441 4 GHz 553 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm
s BW	F 100 kHz Tum Analyzer - Swept RF 50 Ω Treq 13.26500 Ref Offset 0.5 d Ref 20.00 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	SA AC B B M 3 2.441 4 GH; 25.230 3 GH; 5.078 7 GH; 5.078 7 GH;	PN0: Fast → IFGain:Low 4 5 4 5 4 5 4 5 4 5 4 5 5 4 5 5 5 4 5	NT 3-DH		MHz E	mission Log-Pwr 10/10	eep 1.00 n	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE M WWWWW 441 4 GHz 553 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm
	F 100 kHz Tum Analyzer - Swept RF 50 Ω Treq 13.26500 Ref Offset 0.5 d Ref 20.00 dE 1 1 1 1 1 1 1 1 1 1 1 1 1	SA AC B B M 3 2.441 4 GH; 25.230 3 GH; 5.078 7 GH; 5.078 7 GH;	PN0: Fast → IFGain:Low 4 5 4 5 4 5 4 5 4 5 4 5 5 4 5 5 5 4 5	NT 3-DH		MHz E	mission Log-Pwr 10/10	eep 1.00 n	11 PM Nov 07, 2024 TRACE 12 3 4 5 TYPE M WWWWW 441 4 GHz 553 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm -22.04 dBm



nt Spectrum Analyze		Spurio	us NV	'NT 3-L	JH5 24					
nt spectrum Analyze RF nter Freq 2.4	50Ω AC	PNO: V	Vide ↔ → →	ISE:INT Trig: Free Ru Atten: 30 dB	un	GNAUTO Avg Type:   Avg Hold: 1	Log-Pwr 000/1000	03:09	26 PM Nov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M WATWAA DET P N N N N N	
	set 0.5 dB	IFGain:	:Low	Atten: 50 dE	1		м	kr1 2.48	0 136 GHz 161 dBm	
B/div Ref 20	).00 dBm							-		
]										
)				~	<b>2</b> <sup>1</sup>					
				man	- h					
			/		$ \rightarrow $					
						Mary				
		MAM				1 · V	my M.			
mon	mon	4 U V					ነ ነገው	www.	mon	
nter 2.480000									n 8.000 MHz	
			#\/B\A(	300 kHz			Swa	on 100 m	e (1001 nte)	
			#VBW	300 kHz		STATUS	Swe	ep 1.00 m	is (1001 pts)	
	Z	ourious			5 2480			-	is (1001 pts)	
es BW 100 kHz	z <b>Tx. S</b> β er - Swept SA 50 Ω AC		NVNT			MHz E	missior	י <b>ו</b> ספינטפי	58 PM Nov 07, 2024	
es BW 100 kHz	z <b>Tx. S</b> β er - Swept SA 50 Ω AC		NVNT	- 3-DH	ALI	MHz E	Missior	י <b>ו</b> ספינטפי		
nt Spectrum Analyze RF Inter Freq 13. Ref Offi	z Tx. Sp so a AC 265000000 set 0.5 dB	GHz PNO: I	NVNT	<b>3-DH</b> ISE: INT Trig: Free Ru	ALI	MHZ E	Missior	03:09 Mkr1 2.4	58 PM Nov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M WMMMM	-
es BW 100 kHz	z Tx. Sp <sup>27 - Swept SA</sup> 50 x AC 265000000	GHz PNO: I	NVNT	<b>3-DH</b> ISE: INT Trig: Free Ru	ALI	MHZ E	Missior	03:09 Mkr1 2.4	58 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MANANA DET P N N N N 179 4 GHz	
es BW 100 kHz	z Tx. Sp so a AC 265000000 set 0.5 dB	GHz PNO: I	NVNT	<b>3-DH</b> ISE: INT Trig: Free Ru	ALI	MHZ E	Missior	03:09 Mkr1 2.4	58 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MANANA DET P N N N N 179 4 GHz	
Ref Offi B/div Ref 20	z Tx. Sp so a AC 265000000 set 0.5 dB	GHz PNO: I	NVNT	<b>3-DH</b> ISE: INT Trig: Free Ru	ALI	MHZ E	Missior	03:09 Mkr1 2.4	58 PMNov 07, 2024 TRACE 1 2 3 4 5 6 TYPE M MANANA DET P N N N N 179 4 GHz	
es BW 100 kHz	z Tx. Sp so a AC 265000000 set 0.5 dB	GHz PNO: I	NVNT	<b>3-DH</b> ISE: INT Trig: Free Ru	ALI	MHZ E	Missior	03:09 Mkr1 2.4	58 PMNov 07, 2024 TRACE 11 3 3 4 5 6 TYPE MWWWWW ort P NNNN 479 4 GHz .095 dBm	
nt Spectrum Analyze RF Inter Freq 13. Ref Offit	z Tx. Sp so a AC 265000000 set 0.5 dB	GHz PNO: I	NVNT	<b>3-DH</b> ISE: INT Trig: Free Ru	ALI	MHZ E	Missior	03:09 Mkr1 2.4	58 PMNov 07, 2024 TRACE 11 3 3 4 5 6 TYPE MWWWWW ort P NNNN 479 4 GHz .095 dBm	
nt Spectrum Analyze RF Iter Freq 13.	z Tx. Sp so a AC 265000000 set 0.5 dB	GHz PNO: I	NVNT	<b>3-DH</b> ISE: INT Trig: Free Ru	ALI	MHZ E	Missior	03:09 Mkr1 2.4	58 PMNov 07, 2024 TRACE 11 3 3 4 5 6 TYPE MWWWWW ort P NNNN 479 4 GHz .095 dBm	
nt Spectrum Analyze Ref Offn B/div Ref 20 P 1 1 1 1 1 1 1 1 1 1 1 1 1	z Tx. Sp er - Swept SA 265000000 set 0.5 dB 0.00 dBm	GHz PNO: I		3-DH		MHZ E	missior 	Mkr1 2.4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4	58 PMNov 07, 2024 TRACE 11 3 3 4 5 6 TYPE MWWWWW ort P NNNN 479 4 GHz .095 dBm	
ARE SBW 100 KH2	z Tx. Sp r-Swept 5A 902 AC 265000000 set 0.5 dB 0.00 dBm	GHz PNO: IFGain:	NVNT SEN Fast → - Low 4.095 dE 47.124 dE	3-DH( SE:INT Trig: Free Rt Atten: 30 dB	ALI	MHZ E	missior 	03:09	58 PMNov 07, 2024 TRACE 12 3 4 5 6 TYPE MWWWWW 001 P NNN N 479 4 GHz .095 dBm 2216 dBm 2216 dBm 22 16 dBm	
Ref Offine B/div Ref Offine B/div Ref Offine B/div Ref 20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	z Tx. Sp er - Swept 5A 502 AC 265000000 set 0.5 dB 0.00 dBm	GHz PNO: IFGain: 4 9 4 GHz (Δ) 5 8 GHz 7 6 GHz 9 5 GHz	NVNT	3-DH( SE:INT Trig: Free Ri Atten: 30 dB		MHZ E	missior 	Mkr1 2.4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4	58 PMNov 07, 2024 TRACE 12 3 4 5 6 TYPE MWWWWW 001 P NNN N 479 4 GHz .095 dBm 2216 dBm 2216 dBm 22 16 dBm	
es BW 100 kHz	z Tx. Sp er - Swept 5A 502 AC 265000000 set 0.5 dB 0.00 dBm	GHz PNO: IFGain:	NVNT SER Fast ↔ Low #VBW × 4.095 dF 4.095 dF 4.095 dF 4.095 dF 5.6674 dF	3-DH( SE:INT Trig: Free Ri Atten: 30 dB		MHZ E	missior 	Mkr1 2.4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4	58 PMNov 07, 2024 TRACE 12 3 4 5 6 TYPE MWWWWW 001 P NNN N 479 4 GHz .095 dBm 2216 dBm 2216 dBm 22 16 dBm	
Ref Offn B/div Ref Offn B/div Ref 20 P Tter Freq 13. Ref Offn Ref Offn B/div Ref 20 P Tt 30 MHz S BW 100 kHz S BW 100	z Tx. Sp er - Swept 5A 502 AC 265000000 set 0.5 dB 0.00 dBm	GHz PNO: IFGain: 4 9 4 GHz (Δ) 5 8 GHz 7 6 GHz 9 5 GHz	NVNT	3-DH( SE:INT Trig: Free Ri Atten: 30 dB		MHZ E	missior 	Mkr1 2.4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4	58 PMNov 07, 2024 TRACE 12 3 4 5 6 TYPE MWWWWW 001 P NNN N 479 4 GHz .095 dBm 2216 dBm 2216 dBm 22 16 dBm	



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