

# RADIO TEST REPORT FCC ID: 2AYL6-SH005

Product:	ANC Bluetooth Headphones
Trade Mark:	MOYO
Model No.:	SH005
Family Model:	7197-47BK, MHANC609
Report No.:	S20122802502001
Issue Date:	Jan 12. 2021

# Prepared for

Shenzhen Moyoworld electronics Development Limited 16th Floor, Building C6, HengFeng Industrial Park, No. 739 Zhou Shi Road, Bao'an District, Shenzhen, China

# Prepared by

Shenzhen NTEK Testing Technology Co., Ltd. 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street Bao'an District, Shenzhen 518126 P.R. China Tel. 400-800-6106, 0755-3699 5508 Website: http://www.ntek.org.cn





# TABLE OF CONTENTS

ACCREDITED

Certificate #4298.01

1	TES	ST RESULT CERTIFICATION	3		
2	2 SUMMARY OF TEST RESULTS				
3	FAC	CILITIES AND ACCREDITATIONS	5		
	3.1 3.2 3.3	FACILITIES LABORATORY ACCREDITATIONS AND LISTINGS MEASUREMENT UNCERTAINTY	5		
4	GE	NERAL DESCRIPTION OF EUT	6		
5	DES	SCRIPTION OF TEST MODES	8		
6	SET	UP OF EQUIPMENT UNDER TEST	9		
	6.1 6.2 6.3	BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM SUPPORT EQUIPMENT EQUIPMENTS LIST FOR ALL TEST ITEMS	9 10		
7	TES	ST REQUIREMENTS	13		
		CONDUCTED EMISSIONS TEST RADIATED SPURIOUS EMISSION NUMBER OF HOPPING CHANNEL HOPPING CHANNEL SEPARATION MEASUREMENT AVERAGE TIME OF OCCUPANCY (DWELL TIME) 20DB BANDWIDTH TEST PEAK OUTPUT POWER CONDUCTED BAND EDGE MEASUREMENT SPURIOUS RF CONDUCTED EMISSION ANTENNA APPLICATION REQUENCY HOPPING SYSTEM (FHSS) EQUIPMENT REQUIREMENTS	16 25 26 27 29 30 31 32 33 34		
8	TES	ST RESULTS			
	8.1 8.2 8.3 8.4 8.5 8.6 8.7	DWELL TIME MAXIMUM CONDUCTED OUTPUT POWER OCCUPIED CHANNEL BANDWIDTH CARRIER FREQUENCIES SEPARATION NUMBER OF HOPPING CHANNEL BAND EDGE CONDUCTED RF SPURIOUS EMISSION	40 45 55 60 61		



# **1 TEST RESULT CERTIFICATION**

Applicant's name:	Shenzhen Moyoworld electronics Development Limited			
Address:	16th Floor, Building C6, HengFeng Industrial Park, No. 739 Zhou Shi Road, Bao'an District, Shenzhen, China			
Manufacturer's Name:	Shenzhen Moyoworld electronics Development Limited			
Address:	: 16th Floor, Building C6, HengFeng Industrial Park, No. 739 Zhou Shi Road, Bao'an District, Shenzhen, China			
Product description				
Product name:	ANC Bluetooth Headphones			
Model and/or type reference:	SH005			
Family Model:	7197-47BK, MHANC609			

Measurement Procedure Used:

APPLICABLE STANDARDS		
STANDARD/ TEST PROCEDURE	TEST RESULT	
FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart C ANSI C63.10-2013	Complied	
This device described above has been tested by Shenzhen NTEK Testing Technology Co., Ltd., and 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. This report shall not be reproduced except in full, without the written approval of Shenzhen NTEK Testing Technology Co., Ltd., this document may be altered or revised by Shenzhen NTEK Testing Technology Co., Ltd., personnel only, and shall be noted in the revision of the document.		

The test results of this report relate only to the tested sample identified in this report.

Date of Test	:	Dec 02. 2020 ~Jan 12, 2021	
Testing Engineer	:	John Lin	
		(Allen Liu)	
Technical Manager	:	Jason Chen (Jason Chen)	
Authorized Signatory	:	Alex	
		(Alex Li)	



FCC Part15 (15.247), Subpart C			
Standard Section	Test Item	Verdict	Remark
15.207	Conducted Emission	PASS	
15.209 (a) 15.205 (a)	Radiated Spurious Emission	PASS	
15.247(a)(1)	Hopping Channel Separation	PASS	
15.247(b)(1)	Peak Output Power	PASS	
15.247(a)(iii)	Number of Hopping Frequency	PASS	
15.247(a)(iii)	Dwell Time	PASS	
15.247(a)(1)	Bandwidth	PASS	
15.247 (d)	Band Edge Emission	PASS	
15.247 (d)	Spurious RF Conducted Emission	PASS	
15.203	Antenna Requirement	PASS	

Remark:

 "N/A" denotes test is not applicable in this Test Report.
 All test items were verified and recorded according to the standards and without any deviation during the test.



# **3 FACILITIES AND ACCREDITATIONS**

## 3.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R. China.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

# 3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description	
CNAS-Lab.	: The Laboratory has been assessed and proved to be in compliance with
	CNAS-CL01:2006 (identical to ISO/IEC 17025:2005)
	The Certificate Registration Number is L5516.
IC-Registration	The Certificate Registration Number is 9270A.
	CAB identifier:CN0074
FCC- Accredited	Test Firm Registration Number: 463705.
	Designation Number: CN1184
A2LA-Lab.	The Certificate Registration Number is 4298.01
	This laboratory is accredited in accordance with the recognized
	International Standard ISO/IEC 17025:2005 General requirements for
	the competence of testing and calibration laboratories.
	This accreditation demonstrates technical competence for a defined
	scope and the operation of a laboratory quality management system
	(refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).
Name of Firm	: Shenzhen NTEK Testing Technology Co., Ltd.
Site Location	: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang
	Street, Bao'an District, Shenzhen 518126 P.R. China.

# 3.3 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	Conducted Emission Test	±2.80dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	All emissions, radiated(30MHz~1GHz)	±2.64dB
5	All emissions, radiated(1GHz~6GHz)	±2.40dB
6	All emissions, radiated(>6GHz)	±2.52dB
7	Temperature	±0.5°C
8	Humidity	±2%
9	All emissions, radiated(9KHz~30MHz)	±6dB



# 4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification			
ANC Bluetooth Headphones			
ΜΟΥΟ			
2AYL6-SH005			
SH005			
S201228025002			
7197-47BK, MHANC609			
All the model are the same circuit and RF module, except the model name.			
Operating Frequency 2402MHz~2480MHz			
Modulation GFSK, π/4-DQPSK, 8-DPSK			
79 Channels			
PCB Antenna			
0 dBi			
DC 3.7V/ 400mAh from battery or DC 5V from Adapter.			
N/A			
J33-A2-AC6955F			
AC6955F_ANC Bluetooth Headphones_EQ			

Note: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.



# **Revision History**

	•		
Report No.	Version	Description	Issued Date
S20122802502001	Rev.01	Initial issue of report	Jan 12, 2021
	J		



# 5 DESCRIPTION OF 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.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (1Mbps for GFSK modulation; 2Mbps for  $\pi$ /4-DQPSK modulation; 3Mbps for 8-DPSK modulation) were used for all test.

The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement -X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

#### Carrier Frequency and Channel list:

Channel	Frequency(MHz)
0	2402
1	2403
39	2441
40	2442
77	2479
78	2480

Note: fc=2402MHz+k×1MHz k=0 to 78

The following summary table is showing all test modes to demonstrate in compliance with the standard.

For AC Conducted Emission		
Final Test Mode	Description	
Mode 1	2-DH3 CH39(2441MHz)	

Note: AC power line Conducted Emission was tested under maximum output power.

	For Radiated Test Cases			
Final Test Mode	Description			
Mode 1	2-DH3 CH39(2441MHz)			
Mode 2	CH00(2402MHz)			
Mode 3	CH39(2441MHz)			
Mode 4	CH78(2480MHz)			

Note: For radiated test cases, the worst mode data rate 1Mbps was reported only, because this data rate has the highest RF output power at preliminary tests, and no other significantly frequencies found in conducted spurious emission.

For Conducted Test Cases				
Final Test Mode	Description			
Mode 2	CH00(2402MHz)			
Mode 3	CH39(2441MHz)			
Mode 4	CH78(2480MHz)			
Mode 5 Hopping mode				
Note: The engineering	test program was provided and the EUT was programmed to be in continuously			

Note: The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.



6 SETUP OF EQUIPMENT UNDER TEST	
6.1 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM For AC Conducted Emission Mode	
C-1 AC PLUG Adapter Adapter	
For Radiated Test Cases	
EUT	
For Conducted Test Cases	
Measurement C-2 EUT	
Note: 1. The temporary antenna connector is soldered on the PCB board in order to and this temporary antenna connector is listed in the equipment list. 2. EUT built-in battery-powered, the battery is fully-charged.	perform conducted tests



### 6.2 SUPPORT EQUIPMENT

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

Item	Equipment	Model/Type No.	Series No.	Note
AE-1	Adapter	N/A	N/A	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	USB Cable	NO	NO	1.0m
C-2	RF Cable	YES	NO	0.1m

#### Notes:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in [Length] column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



# 6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted	Test equ	uipment
----------------------	----------	---------

		col equipment					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
1	Spectrum Analyzer	Aglient	E4407B	MY45108040	2020.05.11	2021.05.10	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2020.07.13	2021.07.12	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2020.07.13	2021.07.12	1 year
4	Test Receiver	R&S	ESPI7	101318	2020.05.11	2021.05.10	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2020.04.11	2021.04.10	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
7	Horn Antenna	EM	EM-AH-1018 0	2011071402	2020.04.11	2021.04.10	1 year
8	Broadband Horn Antenna	SCHWARZBE CK	BBHA 9170	803	2020.07.13	2021.07.12	1 year
9	Amplifier	EMC	EMC051835 SE	980246	2020.07.13	2021.07.12	1 year
10	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2020.07.13	2021.07.12	1 year
11	Power Meter	DARE	RPR3006W	15I00041SN 084	2020.07.13	2021.07.12	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2019.08.6	2022.08.05	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2019.08.6	2022.08.05	3 year
14	High Test Cable(1G-40G Hz)	N/A	R-03	N/A	2019.06.28	2022.06.27	3 year
15	High Test Cable(1G-40G Hz)	N/A	R-04	N/A	2020.04.11	2021.04.10	1 year
16	Filter	TRILTHIC	2400MHz	29	2020.07.13	2021.07.12	1 year
17	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test And this temporary antenna connector is listed within the instrument list



AC Co	AC Conduction Test equipment						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2020.05.11	2021.05.10	1 year
2	LISN	R&S	ENV216	101313	2020.04.11	2021.04.10	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2020.05.11	2021.05.10	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2020.05.11	2023.05.10	3 year
5	Test Cable (9KHz-30MH z)	N/A	C01	N/A	2020.05.11	2023.05.10	3 year
6	Test Cable (9KHz-30MH z)	N/A	C02	N/A	2020.05.11	2023.05.10	3 year
7	Test Cable (9KHz-30MH z)	N/A	C03	N/A	2020.05.11	2023.05.10	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Aux Equipment & Test Cable which is scheduled for calibration every 2 or 3 years.



# 7 TEST REQUIREMENTS

# 7.1 CONDUCTED EMISSIONS TEST

## 7.1.1 Applicable Standard

According to FCC Part 15.207(a)

### 7.1.2 Conformance Limit

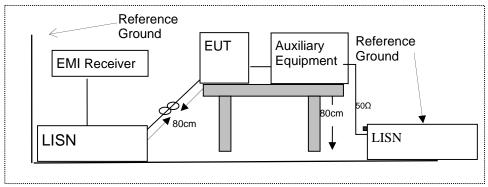
Frequency (MHz)	Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average	
0.15-0.5	66-56*	56-46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

Note: 1. \*Decreases with the logarithm of the frequency

2. The lower limit shall apply at the transition frequencies

3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

# 7.1.3 Test Configuration



# 7.1.4 Test Procedure

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
- 2. The EUT was placed on a table which is 0.8m above ground plane.
- 3. Connect EUT to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 4. 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 40cm long.
- 5. 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.
- 6. LISN at least 80 cm from nearest part of EUT chassis.
- 7. The frequency range from 150KHz to 30MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
- 9. For the actual test configuration, please refer to the related Item -EUT Test Photos.

# 7.1.5 Test Results

Pass



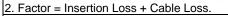
## 7.1.6 Test Results

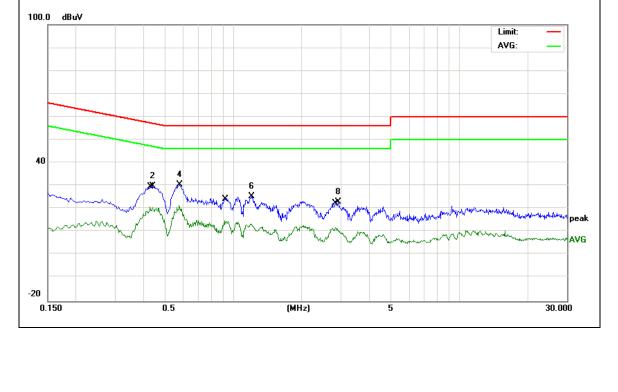
EUT:	ANC Bluetooth Headphones	Model Name :	SH005
Temperature:	20 °C	Relative Humidity:	38%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Lest Mode.	2-DH3 CH39(2441MHz)

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domorik
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.4260	11.40	9.55	20.95	47.33	-26.38	AVG
0.4380	20.29	9.55	29.84	57.10	-27.26	peak
0.5740	12.05	9.55	21.60	46.00	-24.40	AVG
0.5780	20.88	9.55	30.43	56.00	-25.57	peak
0.9180	5.36	9.56	14.92	46.00	-31.08	AVG
1.2059	15.80	9.56	25.36	56.00	-30.64	peak
2.8380	2.30	9.60	11.90	46.00	-34.10	AVG
2.9060	13.39	9.60	22.99	56.00	-33.01	peak

Remark:

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







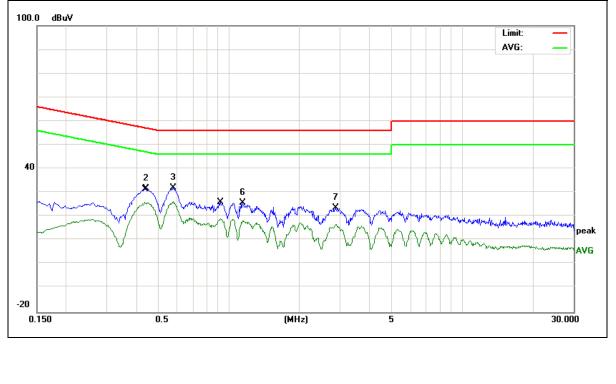
EUT:	ANC Bluetooth Headphones	Model Name :	SH005
Temperature:	20 ℃	Relative Humidity:	38%
Pressure:	1010hPa	Phase :	N
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Last Moda.	2-DH3 CH39(2441MHz)

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domorik
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.4340	16.60	9.54	26.14	47.18	-21.04	AVG
0.4420	22.08	9.54	31.62	57.02	-25.40	peak
0.5780	22.61	9.54	32.15	56.00	-23.85	peak
0.5780	16.90	9.54	26.44	46.00	-19.56	AVG
0.9220	9.63	9.55	19.18	46.00	-26.82	AVG
1.1420	16.28	9.55	25.83	56.00	-30.17	peak
2.8699	14.13	9.59	23.72	56.00	-32.28	peak
2.8699	7.25	9.59	16.84	46.00	-29.16	AVG

Remark:

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

2. Factor = Insertion Loss + Cable Loss.





### 7.2 RADIATED SPURIOUS EMISSION

#### 7.2.1 Applicable Standard

#### According to FCC Part 15.247(d) and 15.209 and ANSI C63.10-2013

#### 7.2.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)). According to FCC Part15.205, Restricted bands

MHz	MHz	GHz				
16.42-16.423	399.9-410	4.5-5.15				
16.69475-16.69525	608-614	5.35-5.46				
16.80425-16.80475	960-1240	7.25-7.75				
25.5-25.67	1300-1427	8.025-8.5				
37.5-38.25	1435-1626.5	9.0-9.2				
73-74.6	1645.5-1646.5	9.3-9.5				
74.8-75.2	1660-1710	10.6-12.7				
123-138	2200-2300	14.47-14.5				
149.9-150.05	2310-2390	15.35-16.2				
156.52475-156.52525	2483.5-2500	17.7-21.4				
156.7-156.9	2690-2900	22.01-23.12				
162.0125-167.17	3260-3267	23.6-24.0				
167.72-173.2	3332-3339	31.2-31.8				
240-285	3345.8-3358	36.43-36.5				
322-335.4	3600-4400	(2)				
	MHz 16.42-16.423 16.69475-16.69525 16.80425-16.80475 25.5-25.67 37.5-38.25 73-74.6 74.8-75.2 123-138 149.9-150.05 156.52475-156.52525 156.7-156.9 162.0125-167.17 167.72-173.2 240-285	MHzMHz16.42-16.423399.9-41016.69475-16.69525608-61416.80425-16.80475960-124025.5-25.671300-142737.5-38.251435-1626.573-74.61645.5-1646.574.8-75.21660-1710123-1382200-2300149.9-150.052310-2390156.52475-156.525252483.5-2500156.7-156.92690-2900162.0125-167.173260-3267167.72-173.23332-3339240-2853345.8-3358				

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

Restricted Frequency(MHz)	Field Strength ( $\mu$ V/m)	Field Strength (dBµV/m)	Measurement Distance
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300
0.490~1.705	24000/F(KHz)	20 log (uV/m)	30
1.705~30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV/m) (at 3M)		
Frequency(MHZ)	PEAK	AVERAGE	
Above 1000	74	54	

Remark :1. Emission level in dBuV/m=20 log (uV/m)

Measurement was performed at an antenna to the closed point of EUT distance of meters.
 For Frequency 9kHz~30MHz:

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

Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz:

Distance extrapolation factor =20log(Specific distance/ test distance)(dB);

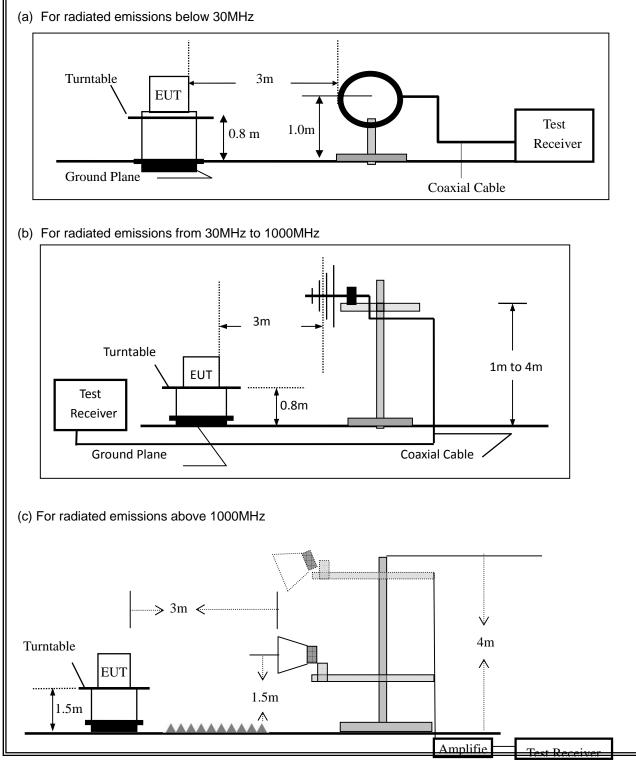


Limit line=Specific limits(dBuV) + distance extrapolation factor.

# 7.2.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

# 7.2.4 Test Configuration





#### 7.2.5 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

eee ale lenething epecalarit analyzer eetange	-
Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 1 MHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

- e. 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 then Quasi Peak detector mode re-measured.
- f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- g. 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



During the radiated emission test, the Spectrum Analyzer was set with the following configurations:							
Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth				
30 to 1000	QP	120 kHz	300 kHz				
Ab avec 4000	Peak	1 MHz	1 MHz				
Above 1000	Average	1 MHz	1 MHz				

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10\*lg(100 [kHz]/narrower RBW [kHz])., the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

## 7.2.6 Test Results

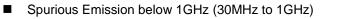
<ul> <li>Spurious Emission below 30MHz (9KHz to 30MHz)</li> </ul>		Spurious	Emission	below 30MHz	(9KHz to 3	60MHz)
-------------------------------------------------------------------	--	----------	----------	-------------	------------	--------

EUT:	ANC Bluetooth Headphones	Model No.:	SH005
Temperature:	<b>20</b> ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu

Freq.	Ant.Pol.	Emission L	.evel(dBuV/m)	Limit 3	m(dBuV/m)	Over	r(dB)
(MHz)	H/V	PK	AV	PK	AV	PK	AV

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



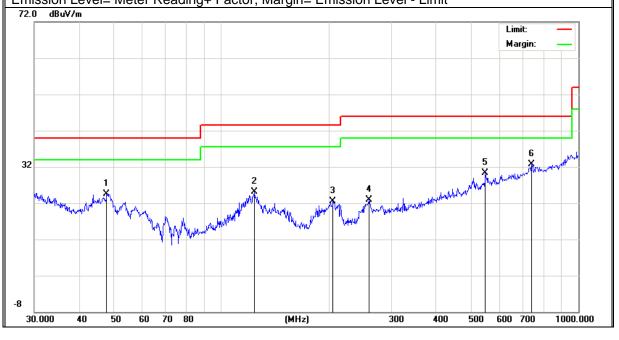


All the modulation modes have been tested, and the worst result was report as below:					
EUT:	ANC Bluetooth Headphones	Model Name :	SH005		
Temperature:	<b>23</b> ℃	Relative Humidity:	55%		
Pressure:	1010hPa	Test Mode:	2-DH3 CH39(2441MHz)		
Test Voltage :	DC 3.7V				

Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	47.8260	13.57	10.84	24.41	40.00	-15.59	peak
V	124.1330	12.98	12.20	25.18	43.50	-18.32	peak
V	205.6751	12.69	9.83	22.52	43.50	-20.98	peak
V	259.2338	8.16	14.80	22.96	46.00	-23.04	peak
V	549.0195	7.81	22.53	30.34	46.00	-15.66	peak
V	739.6604	7.69	25.11	32.80	46.00	-13.20	peak

#### Remark:

Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit





Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Н	148.9625	11.87	11.98	23.85	43.50	-19.65	peak
Н	261.0583	10.70	14.85	25.55	46.00	-20.45	peak
Н	340.7817	11.13	16.19	27.32	46.00	-18.68	peak
Н	552.8832	6.57	22.54	29.11	46.00	-16.89	peak
H Remark	851.0353	7.09	26.22	33.31	46.00	-12.69	peak
						Limit: Margin:	_
32	Munu Munu Munu Munu Munu Munu Munu Munu	Maganda Managana Mana Managana Managana Mana	1 Martin Martin Martin		3 www.handow		5
8	40 50 6	D 70 80	(MH		300 400	500 600 700	1000.000



EUT:	ANC	C Bluetoo	th Headph	ones I	Nodel No.:	SHO	05			
Temperature	e: 20 °	С			Relative Humidity:	48%	8%			
Test Mode:	Mod	le2/Mode	3/Mode4	1	Fest By:	Alle	n Liu			
All the modul	ation mode	es have b	een tested	l, and the	worst result	was repo	ort as belov	V:		
Frequency	Read Level	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Rema	rk Commen	
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµV/m	) (dB)			
			Low Chann	el (2402 N	IHz)(8-DPSK)	Above 1	G			
4804	68.81	5.21	35.59	44.30	65.31	74.00	-8.69	Pk	Vertical	
4804	45.11	5.21	35.59	44.30	41.61	54.00	-12.39	AV	Vertical	
7206	70.99	6.48	36.27	44.60	69.14	74.00	-4.86	Pk	Vertical	
7206	49.05	6.48	36.27	44.60	47.20	54.00	-6.80	AV	Vertical	
4804	69.66	5.21	35.55	44.30	66.12	74.00	-7.88	Pk	Horizontal	
4804	48.68	5.21	35.55	44.30	45.14	54.00	-8.86	AV	Horizontal	
7206	68.88	6.48	36.27	44.52	67.11	74.00	-6.89	Pk	Horizontal	
7206	46.22	6.48	36.27	44.52	44.45	54.00	-9.55	AV	Horizontal	
			Mid Channe	el (2441 M	Hz)( 8-DPSK)	Above 1	G			
4882	70.57	5.21	35.66	44.20	67.24	74.00	-6.76	Pk	Vertical	
4882	50.72	5.21	35.66	44.20	47.39	54.00	-6.61	AV	Vertical	
7323	69.14	7.10	36.50	44.43	68.31	74.00	-5.69	Pk	Vertical	
7323	50.91	7.10	36.50	44.43	50.08	54.00	-3.92	AV	Vertical	
4882	70.29	5.21	35.66	44.20	66.96	74.00	-7.04	Pk	Horizontal	
4882	49.47	5.21	35.66	44.20	46.14	54.00	-7.86	AV	Horizontal	
7323	70.76	7.10	36.50	44.43	69.93	74.00	-4.07	Pk	Horizontal	
7323	50.42	7.10	36.50	44.43	49.59	54.00	-4.41	AV	Horizontal	
		ŀ	ligh Channe	el (2480 M	Hz)( 8-DPSK	) Above	1G			
4960	69.1	5.21	35.52	44.21	65.62	74.00	-8.38	Pk	Vertical	
4960	48.35	5.21	35.52	44.21	44.87	54.00	-9.13	AV	Vertical	
7440	70.26	7.10	36.53	44.60	69.29	74.00	-4.71	Pk	Vertical	
7440	46.45	7.10	36.53	44.60	45.48	54.00	-8.52	AV	Vertical	
4960	68.79	5.21	35.52	44.21	65.31	74.00	-8.69	Pk	Horizontal	
4960	50.81	5.21	35.52	44.21	47.33	54.00	-6.67	AV	Horizontal	
7440	69	7.10	36.53	44.60	68.03	74.00	-5.97	Pk	Horizontal	
7440	49.15	7.10	36.53	44.60	48.18	54.00	-5.82	AV	Horizontal	

Note:

(1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor (2)All other emissions more than 20dB below the limit.





Report No.: S20122802502001

Spurious	Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz									
EUT:	ANC Bluet	ooth Hea	adphones	Model	No.:	SH	1005			
Temperature	: <b>20</b> ℃			Relativ	Relative Humidity: 4		48%			
Test Mode:	Mode2/ Mo	de4		Test B	sy:	AI	len Liu			
All the modu	lation mode	s have b	een teste			lt was r	eport as	belc	w:	
Frequency	Meter Reading	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Limit	s Ma	irgin	Detector	Comment
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµV/	/m) (o	B)	Туре	
			3Mbp	os(8-DPSK	()- Non-hop	ping				
2310.00	68.51	2.97	27.80	43.80	55.48	74	-18	3.52	Pk	Horizontal
2310.00	50.6	2.97	27.80	43.80	37.57	54	-16	6.43	AV	Horizontal
2310.00	70.24	2.97	27.80	43.80	57.21	74	-16	6.79	Pk	Vertical
2310.00	50.93	2.97	27.80	43.80	37.90	54	-16	6.10	AV	Vertical
2390.00	70.46	3.14	27.21	43.80	57.01	74	-16	6.99	Pk	Vertical
2390.00	47.51	3.14	27.21	43.80	34.06	54	-19	9.94	AV	Vertical
2390.00	70.57	3.14	27.21	43.80	57.12	74	-16	6.88	Pk	Horizontal
2390.00	50.14	3.14	27.21	43.80	36.69	54	-17	7.31	AV	Horizontal
2483.50	70.86	3.58	27.70	44.00	58.14	74	-15	5.86	Pk	Vertical
2483.50	47.63	3.58	27.70	44.00	34.91	54	-19	9.09	AV	Vertical
2483.50	69.39	3.58	27.70	44.00	56.67	74	-17	7.33	Pk	Horizontal
2483.50	45.04	3.58	27.70	44.00	32.32	54	-2′	1.68	AV	Horizontal
			31	Mbps(8-DF	PSK)- hoppin	g				
2310.00	68.43	2.97	27.80	43.80	55.40	74	-18	3.60	Pk	Horizontal
2310.00	46.7	2.97	27.80	43.80	33.67	54	-20	).33	AV	Horizontal
2310.00	69.2	2.97	27.80	43.80	56.17	74	-17	7.83	Pk	Vertical
2310.00	48.73	2.97	27.80	43.80	35.70	54	-18	3.30	AV	Vertical
2390.00	70.46	3.14	27.21	43.80	57.01	74	-16	6.99	Pk	Vertical
2390.00	50.92	3.14	27.21	43.80	37.47	54	-16	6.53	AV	Vertical
2390.00	68.79	3.14	27.21	43.80	55.34	74	-18	3.66	Pk	Horizontal
2390.00	49.36	3.14	27.21	43.80	35.91	54	-18	3.09	AV	Horizontal
2483.50	69.59	3.58	27.70	44.00	56.87	74	-17	7.13	Pk	Vertical
2483.50	48.85	3.58	27.70	44.00	36.13	54	-17	7.87	AV	Vertical
2483.50	70.6	3.58	27.70	44.00	57.88	74	-16	6.12	Pk	Horizontal
2483.50	48.19	3.58	27.70	44.00	35.47	54	-18	3.53	AV	Horizontal

Note: (1) All other emissions more than 20dB below the limit.



E	UT:		ANC E	Bluetooth	n Headpho	ones	Model No.:		SH005	5		
Т	Temperature: 20 °C			Relative Humidity:	48%							
Т	Test Mode: Mode2/ Mode4				Test By:		Allen L	_iu				
	All the modul	lation	modes	s have b	een testeo	d, and th	ne worst res	ult wa	is repo	rt as belc	w:	
	Frequency		ading əvel	Cable Loss	Antenna Factor	Pream Factor		Li	imits	Margin	Detector	Comment
	(MHz)	(dl	3μV)	(dB)	dB/m	(dB)	(dBµV/m)	(dB	βµV/m)	(dB)	Туре	
	3260	7(	0.02	4.04	29.57	44.70	58.93		74	-15.07	Pk	Vertical
	3260	46	6.97	4.04	29.57	44.70	35.88		54	-18.12	AV	Vertical
	3260	69	9.67	4.04	29.57	44.70	58.58		74	-15.42	Pk	Horizontal
	3260	49	9.41	4.04	29.57	44.70	38.32		54	-15.68	AV	Horizontal
	3332	68	3.15	4.26	29.87	44.40	57.88		74	-16.12	Pk	Vertical
	3332	45	5.04	4.26	29.87	44.40	34.77		54	-19.23	AV	Vertical
	3332	70	0.83	4.26	29.87	44.40	60.56		74	-13.44	Pk	Horizontal
	3332	47	7.61	4.26	29.87	44.40	37.34		54	-16.66	AV	Horizontal
	17797	57	7.96	10.99	43.95	43.50	69.40		74	-4.60	Pk	Vertical
	17797	34	4.89	10.99	43.95	43.50	46.33		54	-7.67	AV	Vertical
	17788	59	9.99	11.81	43.69	44.60	70.89		74	-3.11	Pk	Horizontal
	17788	38	3.86	11.81	43.69	44.60	49.76		54	-4.24	AV	Horizontal

Note: (1) All other emissions more than 20dB below the limit.



#### 7.3 NUMBER OF HOPPING CHANNEL

#### 7.3.1 Applicable Standard

According to FCC Part 15.247(a)(1) (iii)and ANSI C63.10-2013

#### 7.3.2 Conformance Limit

Frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels.

#### 7.3.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

#### 7.3.4 Test Setup

Please refer to Section 6.1 of this test report.

#### 7.3.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.3 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings: Span = the frequency band of operation RBW : To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller. VBW  $\geq$  RBW Sweep = auto Detector function = peak Trace = max hold

#### 7.3.6 Test Results

EUT:	ANC Bluetooth Headphones	Model No.:	SH005
Temperature:	20 ()	Relative Humidity:	48%
Test Mode:	Mode 5(1Mbps)	Test By:	Allen Liu



### 7.4 HOPPING CHANNEL SEPARATION MEASUREMENT

#### 7.4.1 Applicable Standard

According to FCC Part 15.247(a)(1) and ANSI C63.10-2013

#### 7.4.2 Conformance 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 2400-2483.5MHz band shall have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

#### 7.4.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

#### 7.4.4 Test Setup

Please refer to Section 6.1 of this test report.

#### 7.4.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Span = Measurement Bandwidth or Channel Separation RBW: Start with the RBW set to approximately 3% of the channel spacing; adjust as necessary to best identify the center of each individual channel. VBW  $\geq$  RBW Sweep = auto Detector function = peak Trace = max hold

#### 7.4.6 Test Results

EUT:	ANC Bluetooth Headphones	Model No.:	SH005
Temperature:	<b>20</b> ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu



## 7.5 AVERAGE TIME OF OCCUPANCY (DWELL TIME)

#### 7.5.1 Applicable Standard

According to FCC Part 15.247(a)(1)(iii) and ANSI C63.10-2013

#### 7.5.2 Conformance Limit

The average time of occupancy on any channel shall not be greater than 0.4s within a period of 0.4s multiplied by the number of hopping channels employed.

#### 7.5.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

#### 7.5.4 Test Setup

Please refer to Section 6.1 of this test report.

#### 7.5.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.4 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel RBW  $\geq$  1MHz VBW  $\geq$  RBW Sweep = as necessary to capture the entire dwell time per hopping channel Detector function = peak Trace = max hold Measure the maximum time duration of one single pulse. Set the EUT for DH5, DH3 and DH1 packet transmitting. Measure the maximum time duration of one single pulse.



#### 7.5.6 Test Results

EUT:	ANC Bluetooth Headphones	Model No.:	SH005
Temperature:	20 (	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu

Test data reference attachment.

Note:

A Period Time = (channel number)\*0.4 DH1 Dwell time: Reading \* (1600/2)\*31.6/(channel number) DH3 Dwell time: Reading \* (1600/4)\*31.6/(channel number) DH5 Dwell time: Reading \* (1600/6)\*31.6/(channel number)

For Example:

- 1. In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels. With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit  $(0.4 \times 79)$  (s), Hops Over Occupancy Time comes to  $(1600 / 6 / 79) \times (0.4 \times 79) = 106.67$  hops.
- In AFH mode, hopping rate is 800 hops/s with 6 slots in 20 hopping channels. With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit (0.4 x 20) (s), Hops Over Occupancy Time comes to (800 / 6 / 20) x (0.4 x 20) = 53.33 hops.
- 3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time



#### 7.6 20DB BANDWIDTH TEST

#### 7.6.1 Applicable Standard

According to FCC Part 15.247(a)(1) and ANSI C63.10-2013

#### 7.6.2 Conformance Limit

No limit requirement.

#### 7.6.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

#### 7.6.4 Test Setup

Please refer to Section 6.1 of this test report.

#### 7.6.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 6.9.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel RBW  $\geq$  1% of the 20 dB bandwidth VBW  $\geq$  RBW Sweep = auto Detector function = peak Trace = max hold

#### 7.6.6 Test Results

EUT:	ANC Bluetooth Headphones	Model No.:	SH005
Temperature:	20 ()	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu



## 7.7 PEAK OUTPUT POWER

#### 7.7.1 Applicable Standard

According to FCC Part 15.247(b)(1) and ANSI C63.10-2013

#### 7.7.2 Conformance Limit

The maximum peak conducted output power of the intentional radiator shall not exceed the following: (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band 0.125 watts.

#### 7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

#### 7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

#### 7.7.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.5. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel RBW  $\geq$  the 20 dB bandwidth of the emission being measured VBW  $\geq$  RBW Sweep = auto Detector function = peak Trace = max hold

# 7.7.6 Test Results

EUT:	ANC Bluetooth Headphones	Model No.:	SH005
Temperature:	<b>20</b> ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu



#### 7.8 CONDUCTED BAND EDGE MEASUREMENT

#### 7.8.1 Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013

#### 7.8.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

#### 7.8.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

#### 7.8.4 Test Setup

Please refer to Section 6.1 of this test report.

#### 7.8.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.6.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT must have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

RBW = 100KHz

VBW = 300KHz

Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used.

Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

Repeat above procedures until all measured frequencies were complete.

#### 7.8.6 Test Results

EUT:	ANC Bluetooth Headphones	Model No.:	SH005
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	Mode2 /Mode4/ Mode 5	Test By:	Allen Liu



## 7.9 SPURIOUS RF CONDUCTED EMISSION

#### 7.9.1 Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013.

#### 7.9.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

#### 7.9.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

#### 7.9.4 Test Setup

Please refer to Section 6.1 of this test report.

#### 7.9.5 Test Procedure

Establish an emission level by using the following procedure:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW  $\geq$  [3 × RBW].
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.

h) Use the peak marker function to determine the maximum amplitude level. Then the limit shall be attenuated by at least 20 dB relative to the maximum amplitude level in 100 kHz.

#### 7.9.6 Test Results

Remark: The measurement frequency range is from 30MHzHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.



## 7.10 ANTENNA APPLICATION

#### 7.10.1 Antenna 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.

#### 7.10.2 Result

The EUT antenna is permanent attached PCB antenna (Gain: 0dBi). It comply with the standard requirement.



#### 7.11 FREQUENCY HOPPING SYSTEM (FHSS) EQUIPMENT REQUIREMENTS 7.11.1 Standard Applicable

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. (g) 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 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. (h) 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 hopsets 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.

# 7.11.2 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 2,400-2,483.5 MHz. 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 an bluetooth system receiver to check that the device maintained hopping synchronization, and the device complied with these requirements for FCC Part 15.247 rule.

# 7.11.3 EUT Pseudorandom Frequency Hopping Sequence

Pseudorandom Frequency Hopping Sequence Table as below: Channel: 08, 24, 40, 56, 40, 56, 72, 09, 01, 09, 33, 41, 33, 41, 65, 73, 53, 69, 06, 22, 04, 20, 36, 52, 38, 46, 70, 78, 68, 76, 21, 29, 10, 26, 42, 58, 44, 60, 76, 13, 03, 11, 35, 43, 37, 45, 69, 77, 55, 71, 08, 24, 08, 24, 40, 56, 40, 48, 72, 01, 72, 01, 25, 33, 12, 28, 44, 60, 42, 58, 74, 11, 05, 13, 37, 45 etc.

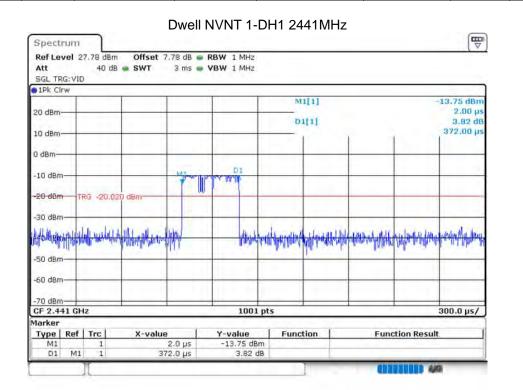
The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

#### 

# 8 TEST RESULTS

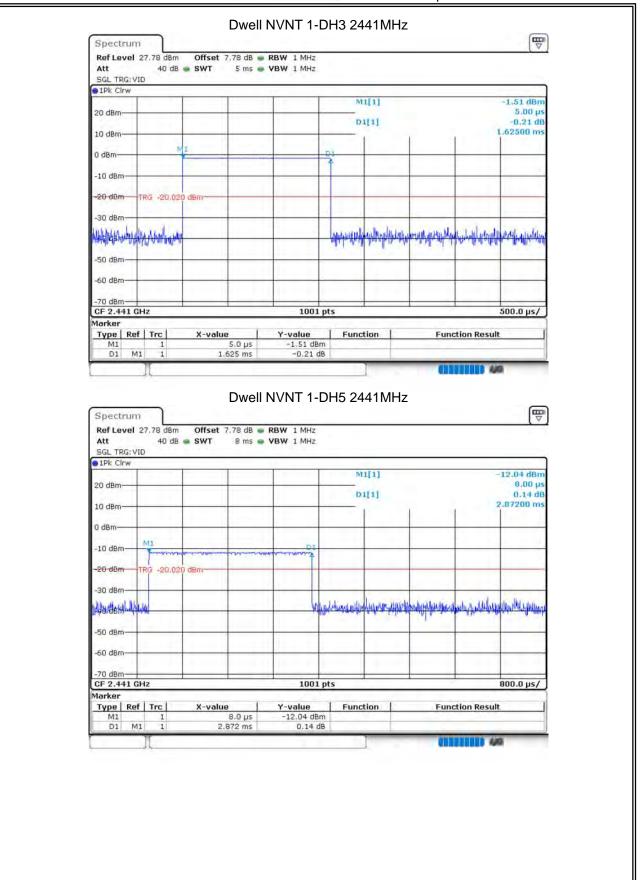
## 8.1 **DWELL TIME**

Condition	Mode	Frequency	Pulse Time	Total Dwell	Period Time	Limit	Verdict
Condition	woue	(MHz)	(ms)	Time (ms)	(ms)	(ms)	verdict
NVNT	1-DH1	2441	0.372	119.04	31600	400	Pass
NVNT	1-DH3	2441	1.625	260	31600	400	Pass
NVNT	1-DH5	2441	2.872	306.347	31600	400	Pass
NVNT	2-DH1	2441	0.384	122.88	31600	400	Pass
NVNT	2-DH3	2441	1.63	260.8	31600	400	Pass
NVNT	2-DH5	2441	2.872	306.347	31600	400	Pass
NVNT	3-DH1	2441	0.372	119.04	31600	400	Pass
NVNT	3-DH3	2441	1.63	260.8	31600	400	Pass
NVNT	3-DH5	2441	2.88	307.2	31600	400	Pass







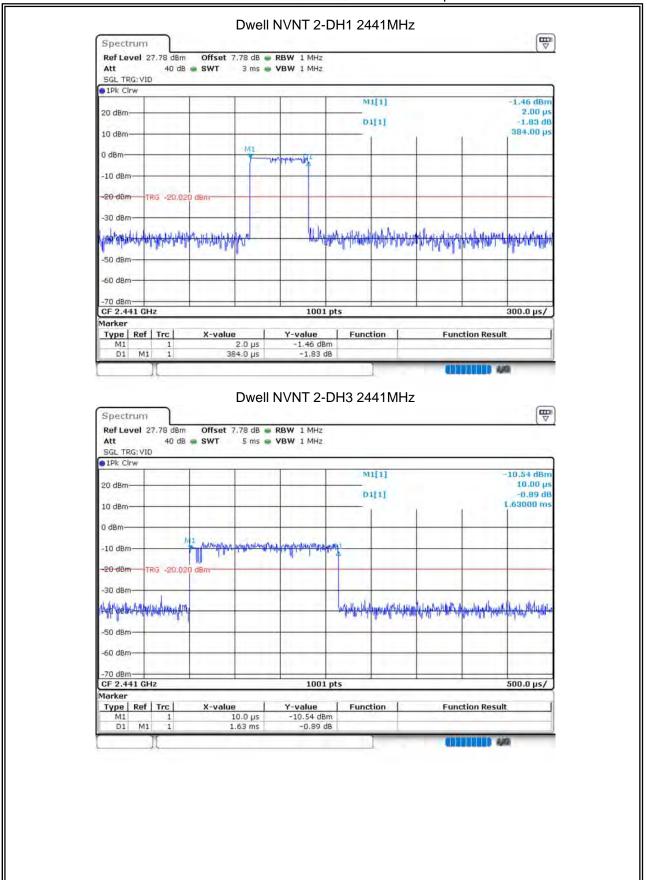


ACCREDITED

Certificate #4298.01



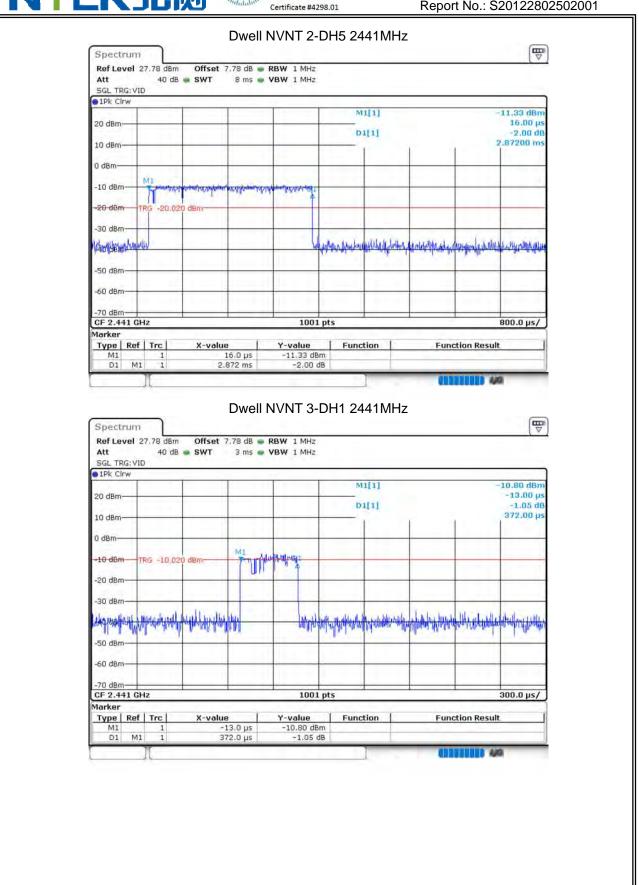




ACCREDITED



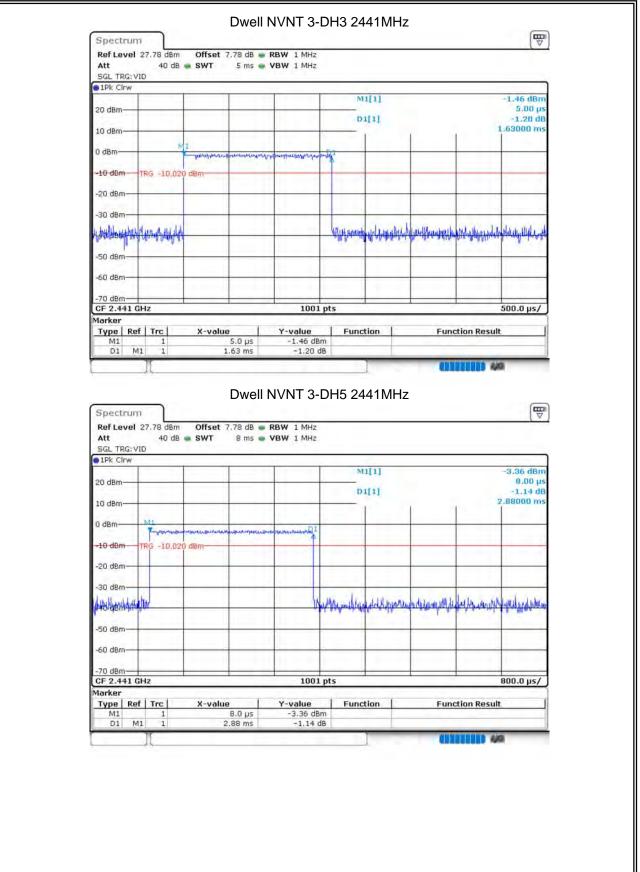




ACCREDITED







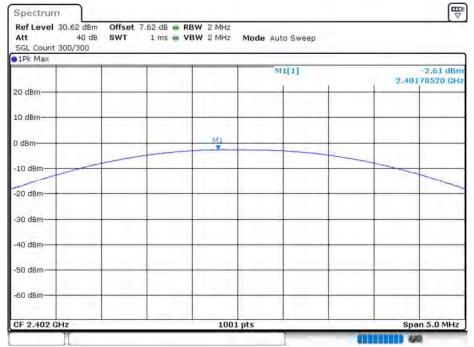
ACCREDITED



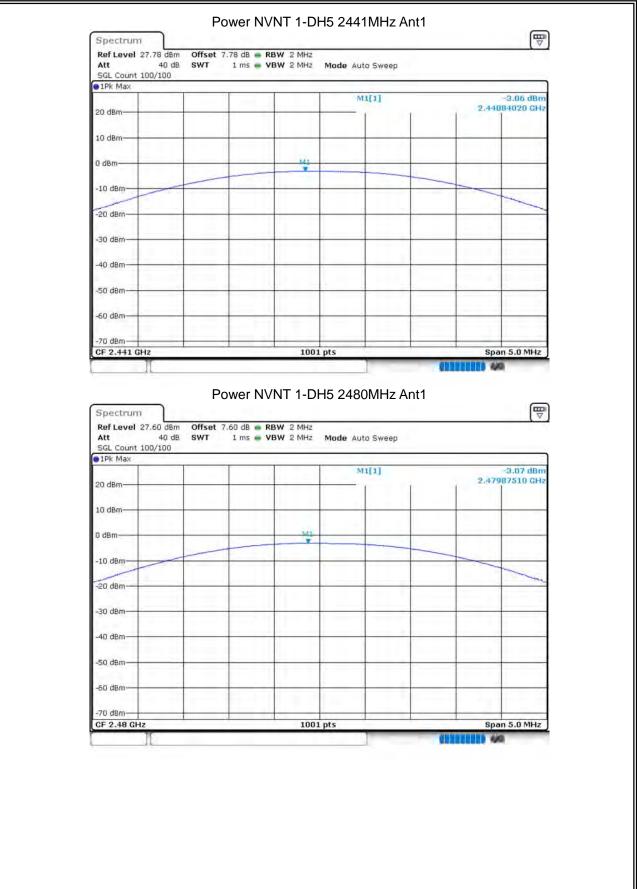
## 8.2 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant 1	-2.61	30	Pass
NVNT	1-DH5	2441	Ant 1	-3.056	30	Pass
NVNT	1-DH5	2480	Ant 1	-3.072	30	Pass
NVNT	2-DH5	2402	Ant 1	-1.99	21	Pass
NVNT	2-DH5	2441	Ant 1	-2.435	21	Pass
NVNT	2-DH5	2480	Ant 1	-2.418	21	Pass
NVNT	3-DH5	2402	Ant 1	-1.62	21	Pass
NVNT	3-DH5	2441	Ant 1	-1.98	21	Pass
NVNT	3-DH5	2480	Ant 1	-2.109	21	Pass

### Power NVNT 1-DH5 2402MHz Ant1



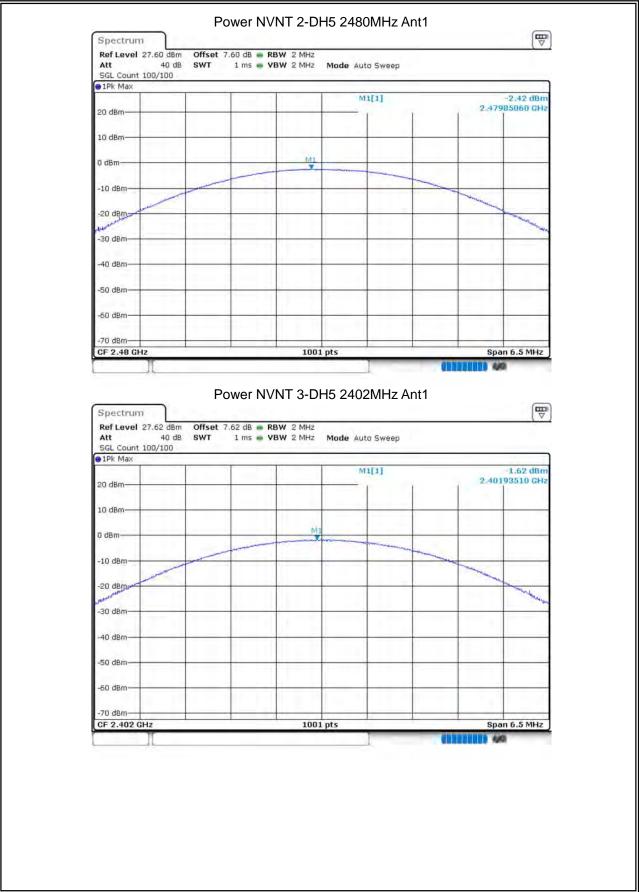




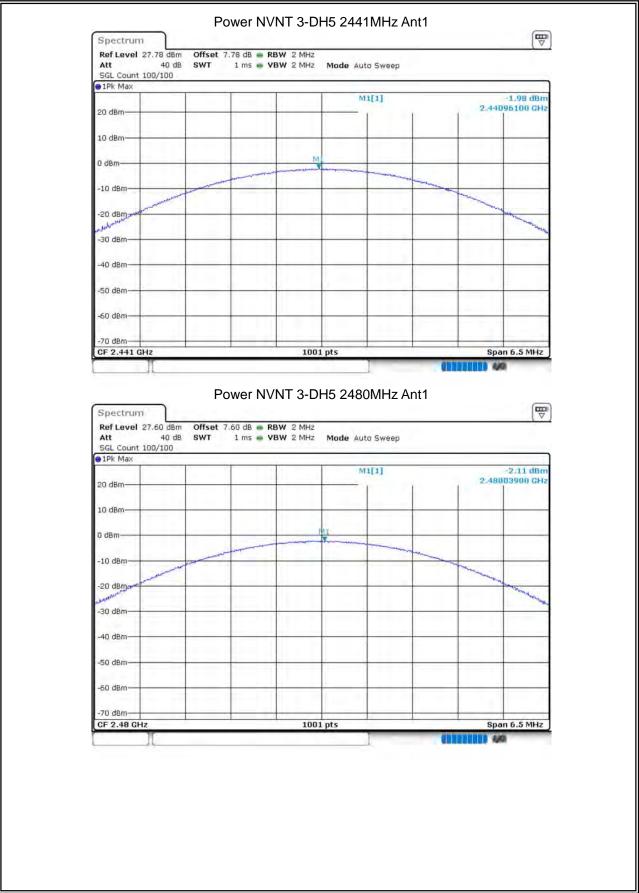












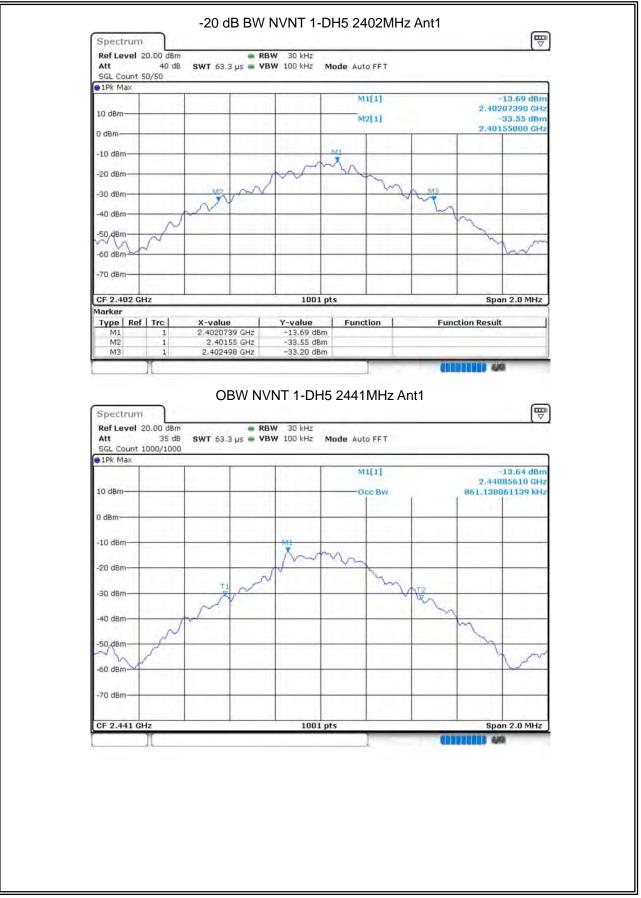


# 8.3 OCCUPIED CHANNEL BANDWIDTH

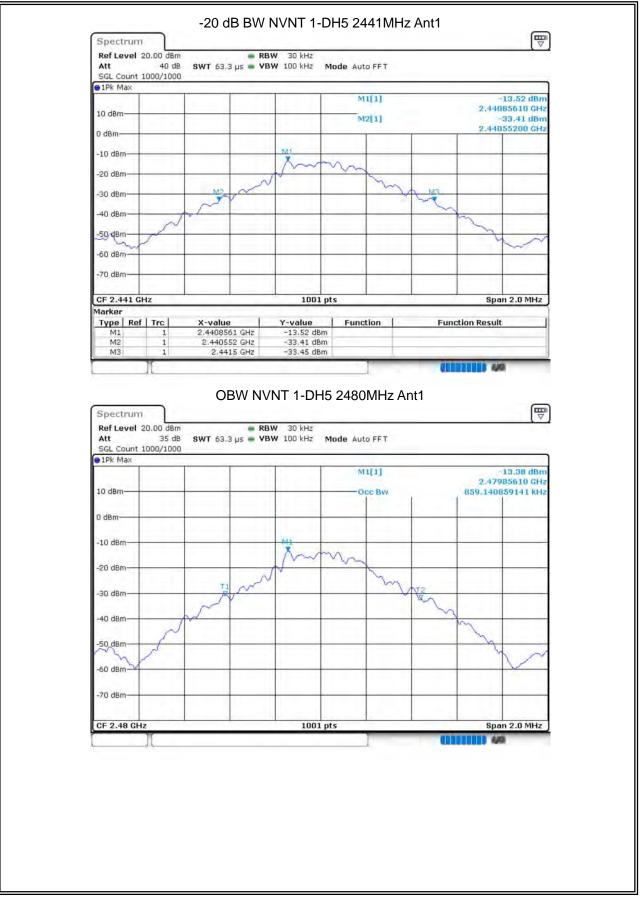
0.0 000011							
		Fraguanay		99%	-20 dB	Limit -20 dB	
Condition	Mode	Frequency (MHz)	Antenna	OBW	Bandwidth	Bandwidth	Verdict
				(MHz)	(MHz)	(MHz)	
NVNT	1-DH5	2402	Ant 1	0.8871	0.948	0	Pass
NVNT	1-DH5	2441	Ant 1	0.8611	0.948	0	Pass
NVNT	1-DH5	2480	Ant 1	0.8591	0.946	0	Pass
NVNT	2-DH5	2402	Ant 1	1.1728	1.28	0	Pass
NVNT	2-DH5	2441	Ant 1	1.1688	1.282	0	Pass
NVNT	2-DH5	2480	Ant 1	1.1768	1.314	0	Pass
NVNT	3-DH5	2402	Ant 1	1.1808	1.288	0	Pass
NVNT	3-DH5	2441	Ant 1	1.1788	1.292	0	Pass
NVNT	3-DH5	2480	Ant 1	1.1788	1.286	0	Pass







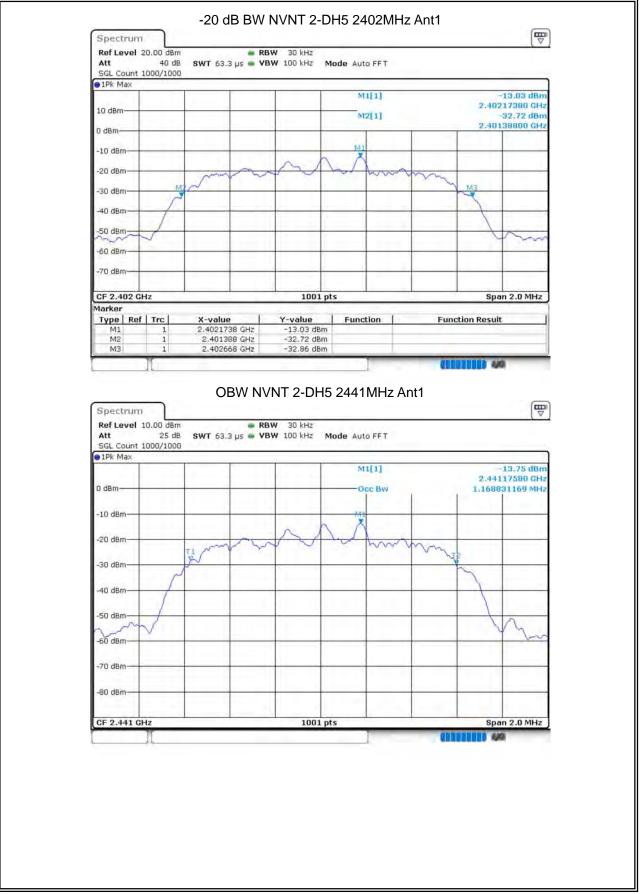




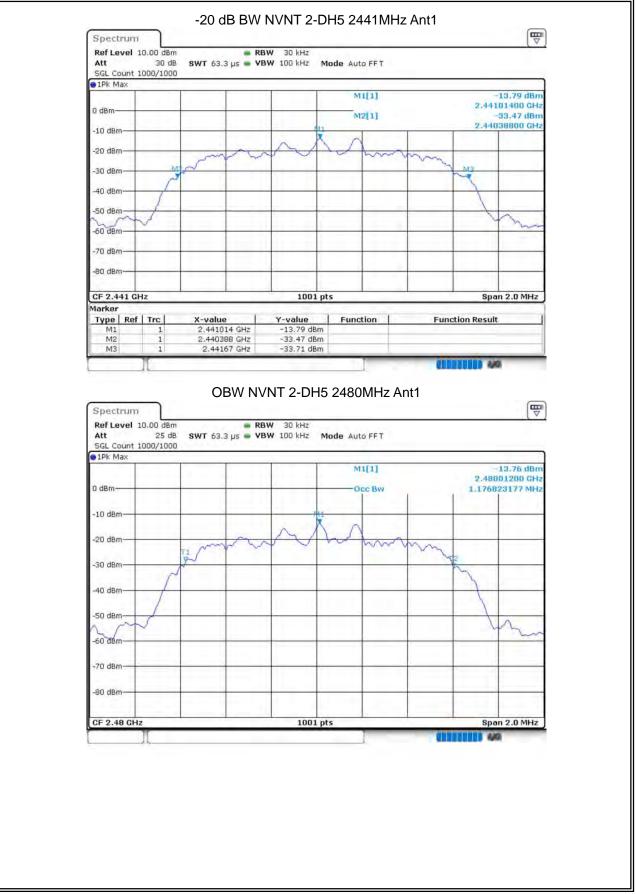




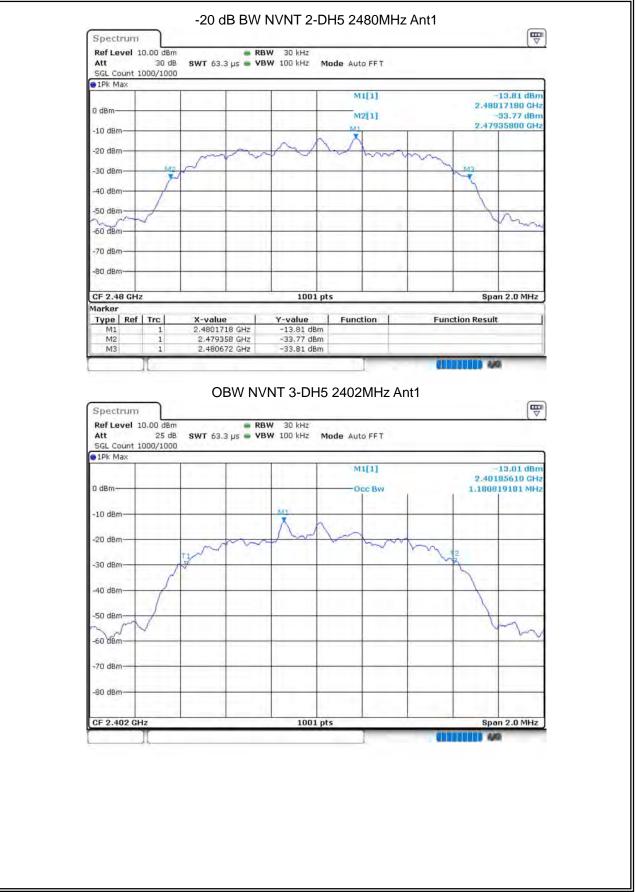




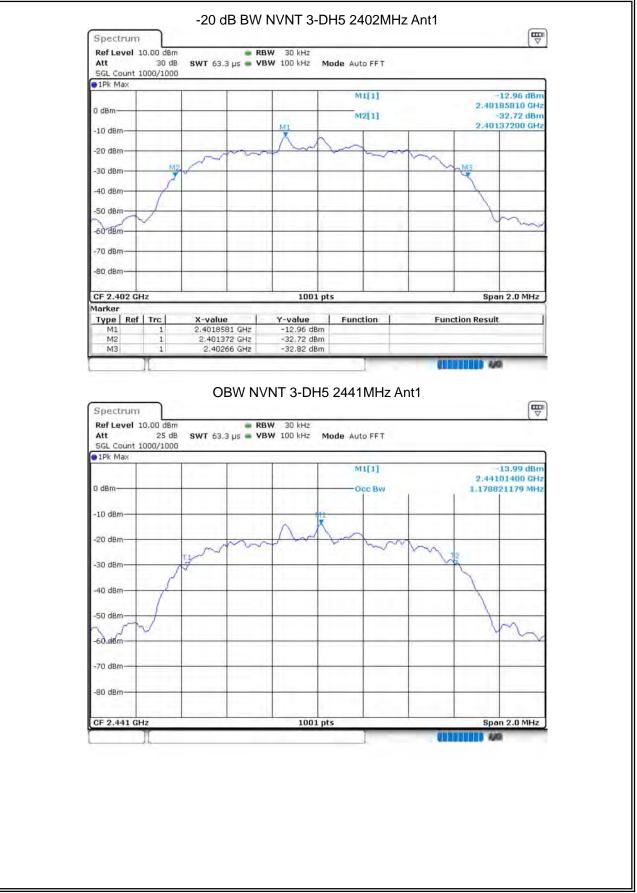




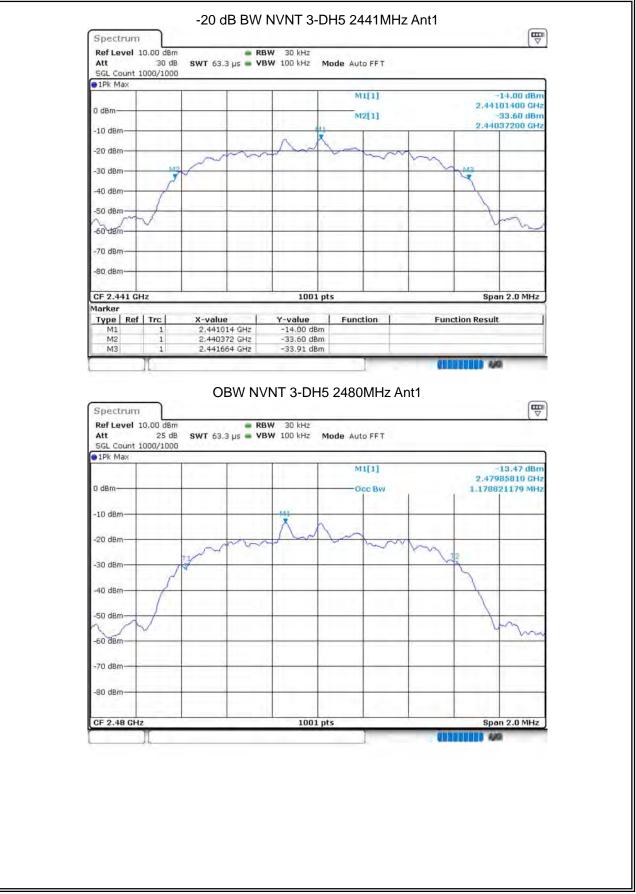




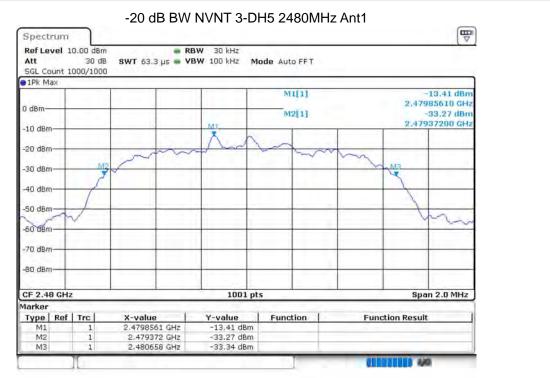








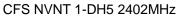


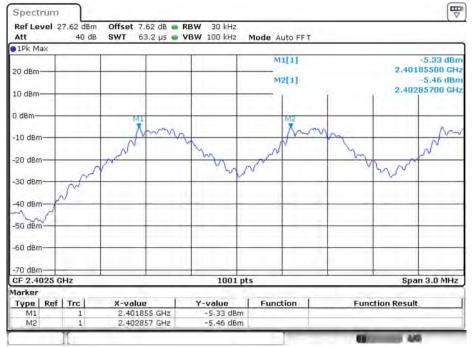




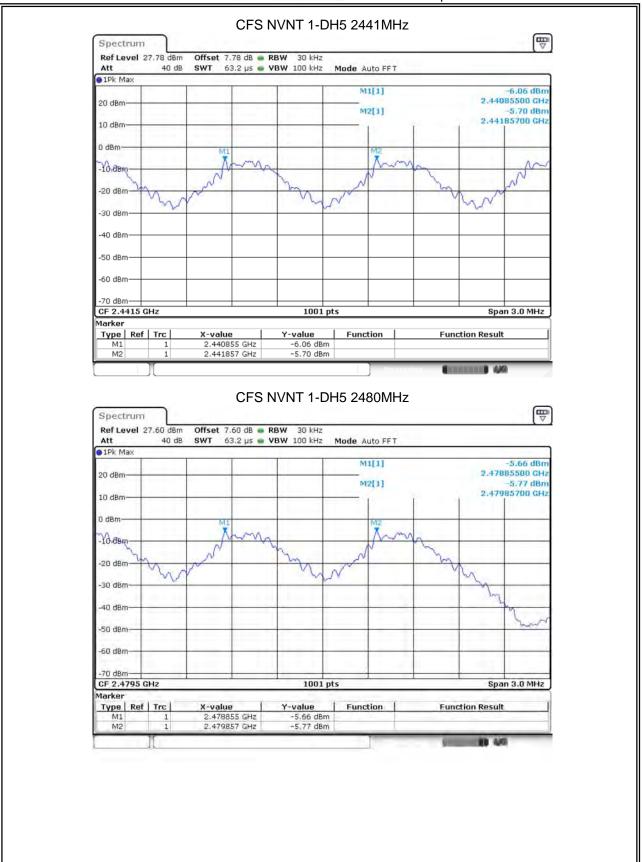
# 8.4 CARRIER FREQUENCIES SEPARATION

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	2401.855	2402.857	1.002	0.948	Pass
NVNT	1-DH5	2440.855	2441.857	1.002	0.948	Pass
NVNT	1-DH5	2478.855	2479.857	1.002	0.946	Pass
NVNT	2-DH5	2402.176	2403.172	0.996	0.853	Pass
NVNT	2-DH5	2441.17	2442.175	1.005	0.855	Pass
NVNT	2-DH5	2479.011	2480.01	0.999	0.876	Pass
NVNT	3-DH5	2401.855	2402.857	1.002	0.859	Pass
NVNT	3-DH5	2440.855	2441.857	1.002	0.861	Pass
NVNT	3-DH5	2478.855	2479.857	1.002	0.857	Pass



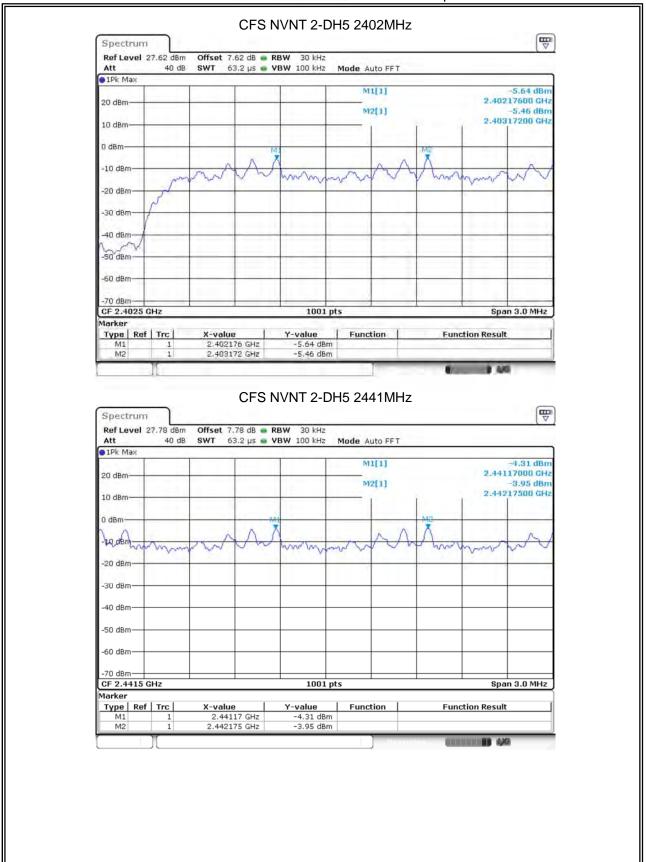






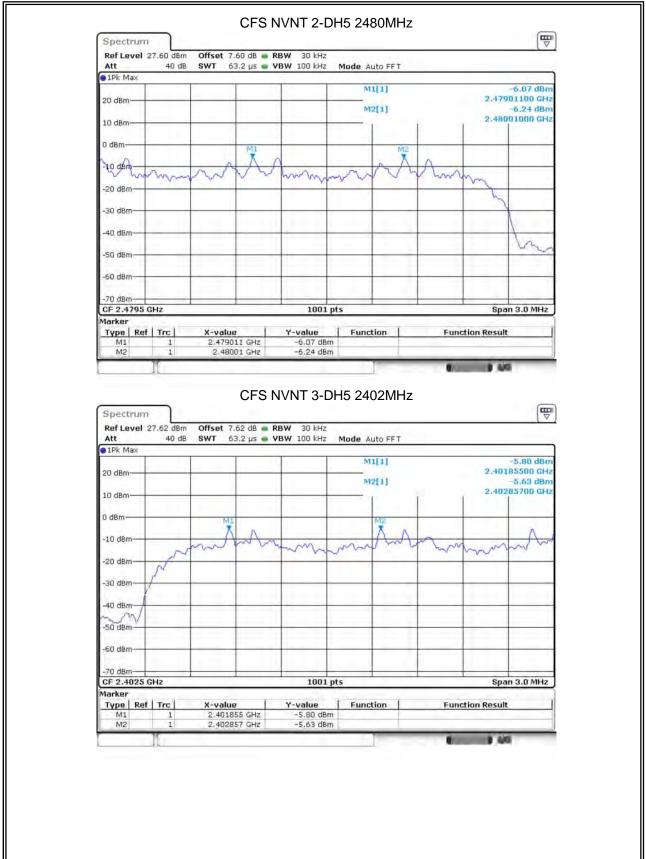
ACCREDITED





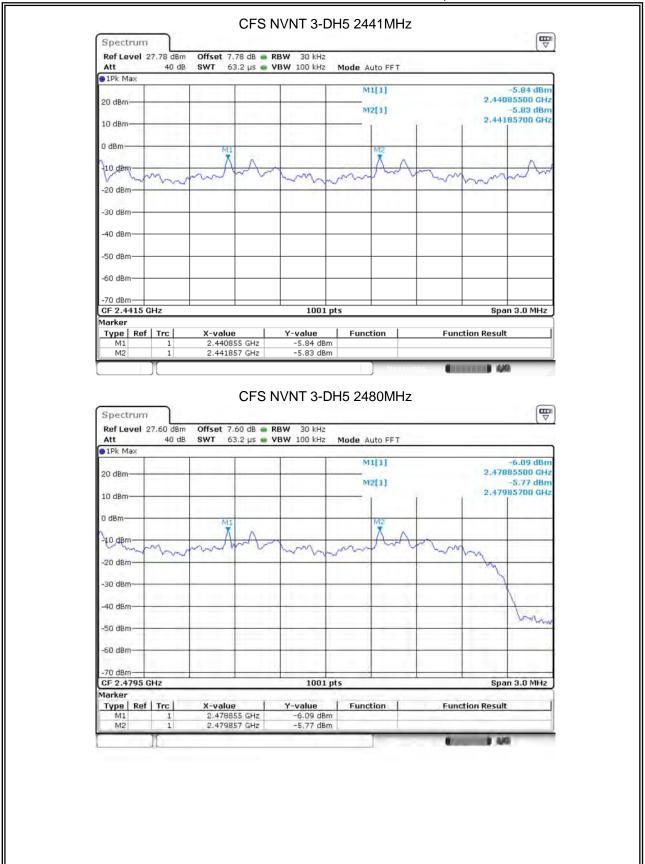
ACCREDITED





ACCREDITED





ACCREDITED



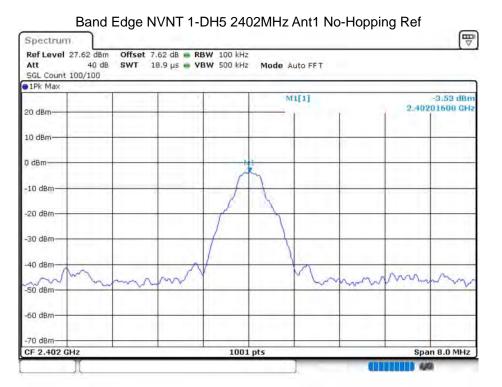
٦

Ref Level 27.62 dBm         Offset 7.62 dB         RBW 100 kHz           Att         40 dB         SWT         1 ms         VBW 300 kHz         Mode Auto Sweep           SGL Count 5000/5000         1Pk Max	NVNT         1-DH5         79         15         Pass           Hopping No. NVNT 1-DH5 2402MHz           Spectrum           Ref Level 27.62 dB         RBW 100 kHz           Att 40 dB         SWT 1 ms VBW 300 kHz           Mode Auto Sweep           SGL Count 5000/S000           MI[1]         -3.65 dB           MI[1]         -3.65 dB           O'Bem         MI[1]         -3.65 dB           O'Bem         MI[1]         -3.65 dB           -10 SB         MI[1]         -3.65 dB           -10 SB         -10 SB               -10 SB <td c<="" th=""><th>NVNT</th><th>1-DH5</th><th></th><th></th><th>4 5</th><th>Deee</th><th></th></td>	<th>NVNT</th> <th>1-DH5</th> <th></th> <th></th> <th>4 5</th> <th>Deee</th> <th></th>	NVNT	1-DH5			4 5	Deee	
Spectrum         C           Ref Level 27.62 dB         Offset 7.62 dB         RBW 100 kHz           Att         40 dB         SWT         1 ms         VBW 300 kHz         Mode Auto Sweep           SGL Count S000/S000         Ims         VBW 300 kHz         Mode Auto Sweep         -3.65 dB           1Pk Max	Spectrum         C           Ref Level 27.62 dB         Offset 7.62 dB         RBW 100 kHz           Att         40 dB         SWT         1 ms         VBW 300 kHz         Mode Auto Sweep           SGL Count S000/S000         Ims         VBW 300 kHz         Mode Auto Sweep         -3.65 dB           1Pk Max					15	Pass		
Spectrum         The second secon	Spectrum         The second secon								
Ref Level         27.62 dBm         Offset         7.62 dB         RBW 100 kHz           Att         40 dB         SWT         1 ms         VBW 300 kHz         Mode Auto Sweep           SGL Count 5000/5000         Ims         VBW 300 kHz         Mode Auto Sweep         -3.65 dB           1Pk Max	Ref Level         27.62 dBm         Offset         7.62 dB         RBW 100 kHz           Att         40 dB         SWT         1 ms         VBW 300 kHz         Mode Auto Sweep           SGL Count 5000/5000         Ims         VBW 300 kHz         Mode Auto Sweep         -3.65 dB           1Pk Max	Construmen	Hopping N	0. NVN I 1-I	JH5 2402	IVIHZ		G	
Att         40 dB         SWT         1 ms         VBW 300 kHz         Mode Auto Sweep           SGL Count S000/S000         Ims         VBW 300 kHz         Mu[1]         -3.65 dBn           20 dBm	Att         40 dB         SWT         1 ms         VBW 300 kHz         Mode Auto Sweep           SGL Count S000/S000         Ims         VBW 300 kHz         Mu[1]         -3.65 dBn           20 dBm		set 7.62 dB 🖷 RI	3W 100 kHz		_			
• 1Pk Max         -3.65 dBr           20 dBm         M1[1]         -3.65 dBr           10 dBm         M2[1]         3.84 dBr           0'dBm         2.4799930 GH         M2           -10 dBm         -2.4799930 GH         M2           -20 dBm         -2.4799930 GH         M2           -10 dBm         -2.4799930 GH         M2           -20 dBm         -402         -402           -30 dBm         -402         -402           -50 dBm         -402         -402           -50 dBm         -402         -402           -70 dBm         -402         -402           -70 dBm         -402         -403           -70 dBm         -403         -403           -70 dBm         -70 dBm         -700           -70 dBm         -700 dBm         -700 dBm           -70 dBm         -700 dBm         -700 dBm	• 1Pk Max         -3.65 dBr           20 dBm         M1[1]         -3.65 dBr           10 dBm         M2[1]         3.84 dBr           0'dBm         2.4799930 GH         M2           -10 dBm         -24 dBr         -24 dBr           -20 dBm         -3.65 dBr         -3.84 dBr           -20 dBm         -2479930 GH         -42           -20 dBm         -42         -479930 GH           -20 dBm         -42         -44           -20 dBm         -42         -44           -30 dBm         -44         -44           -50 dBm         -50 dBm         -50 dBm           -50 dBm         -50 dBm         -50 dBm           -70 dBm         -50 dBm         -50 dBm           -70 dBm         -50 dBm         -50 dBm	Att 40 dB SW			de Auto Swee	P.			
20 dBm     2.4920040 GH       10 dBm     -3.84 dBr       10 dBm     2.4799930 GH       -10 dBm     412       -20 dBm     412       -30 dBm     412       -30 dBm     -412       -50 dBm     -412       -70 dBm     -412<	20 dBm     2.4020040 GH       10 dBm     -3.84 dBr       10 dBm     2.4799930 GH       0'38m     412       -10 dBm     412       -20 dBm     412       -30 dBm     412				Mile?			o ce de	
10 dBm       2.4799930 GH         0 dBm       442         -10 dBm       442         -20 dBm       442         -30 dBm       -47         -30 dBm       -48         -50 dBm       -48         -60 dBm       -48         -70 dBm       -50 dBm         -70 dBm       -70 dBm         -	10 dBm       2.4799930 GH         0 dBm       442         -10 dBm       442         -20 dBm       442         -30 dBm       -47         -30 dBm       -48         -50 dBm       -48         -60 dBm       -48         -70 dBm       -50 dBm         -70 dBm       -70 dBm         -	20 dBm			_		2.40	20040 GH	
-10 B97 -20 dBm -20 dBm -30 dBm -30 dBm -30 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -70	-10 B97 -20 dBm -20 dBm -30 dBm -30 dBm -30 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -70	10 dBm-	_		MZ[1]	T.	2.47		
-10 BM -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -60 dBm -70	-10 BM -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -60 dBm -70	0/g8m-						142	
-50 dBm +0 dBm -50 dBm -50 dBm -50 dBm -60 dBm -70 dBm Start 2.4 GHz Type Ref Trc X-value Y-value Function Result M1 1 2.402004 GHz -3.65 dBm	-50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -60 dBm -70	- LANARARARARARARARARARARARARARARARARARARA	ANA ADADAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	MAMAMAM		AAAAAAAAA	MANANANA	AAAAA	
-50 dBm +0 dBm -50 dBm -50 dBm -50 dBm -60 dBm -70 dBm Start 2.4 GHz Type Ref Trc X-value Y-value Function Result M1 1 2.402004 GHz -3.65 dBm	-50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -60 dBm -70	TATAAN	ALAOMAN AAAAA	A MANA MANA MANA MANA MANA MANA MANA MA	(I A A A A A A A A A A A A A A A A A A A	INTERNER	MAAAAAAAA	WW	
H0 dBm         -50 dBm         -50 dBm         -60 dBm           -60 dBm         -60 dBm         -60 dBm         -60 dBm           -70 dBm         -60 dBm         -60 dBm         -60 dBm           -70 dBm         -70 dBm         -70 dBm         -70 dBm	H0 dBm         -50 dBm         -50 dBm         -50 dBm           -50 dBm         -60 dBm         -60 dBm         -60 dBm           -70 dBm         -60 dBm         -60 dBm         -60 dBm           -70 dBm         -70 dBm         -70 dBm         -70 dBm								
-50 dBm -60 dBm -70 dBm -70 dBm Start 2.4 GHz Type Ref Trc X-value Y-value Function Function Result M1 1 2.402004 GHz -3.65 dBm	-50 dBm -60 dBm -60 dBm -70 dBm Start 2.4 GHz 1001 pts Stop 2.4935 GHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 2.402004 GHz -3.65 dBm							1	
-60 dBm -70 dBm Start 2.4 GHz 1001 pts Stop 2.4835 GHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 2:402004 GHz -3.65 dBm	-60 dBm -70 dBm Start 2.4 GHz 1001 pts Stop 2.4835 GHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 2:402004 GHz -3.65 dBm	j#0 dBm-						her	
TO dBm-         1001 pts         Stop 2.4835 GHz           Start 2.4 GHz         1001 pts         Stop 2.4835 GHz           Marker         Type         Ref         Trc         X-value         Y-value         Function         Function Result           M1         1         2:402004 GHz         -3.65 dBm         Function         Function	TO dBm-         1001 pts         Stop 2.4835 GHz           Start 2.4 GHz         1001 pts         Stop 2.4835 GHz           Marker         Type         Ref         Trc         X-value         Y-value         Function         Function Result           M1         1         2:402004 GHz         -3.65 dBm         Function         Function	-50 dBm							
Start 2.4 GHz         1001 pts         Stop 2.4835 GHz           Marker         Type         Ref         Trc         X-value         Y-value         Function         Function Result           M1         1         2.402004 GHz         -3.65 dBm         Function         Function	Start 2.4 GHz         1001 pts         Stop 2.4835 GHz           Marker         Type         Ref         Trc         X-value         Y-value         Function         Function Result           M1         1         2.402004 GHz         -3.65 dBm         Function         Function	-60 dBm				-	-		
Marker         Year         Year         Function         Function Result           M1         1         2.402004 GHz         -3.65 dBm         -3.65 dBm	Marker         Year         Year         Function         Function Result           M1         1         2.402004 GHz         -3.65 dBm         -3.65 dBm		_		-	-		1005 011	
M1 1 2:402004 GHz -3.65 dBm	M1 1 2:402004 GHz -3.65 dBm	Marker	-	1001 pts			Stop 2	.4033 GH2	
		11							



## 8.6 BAND EDGE

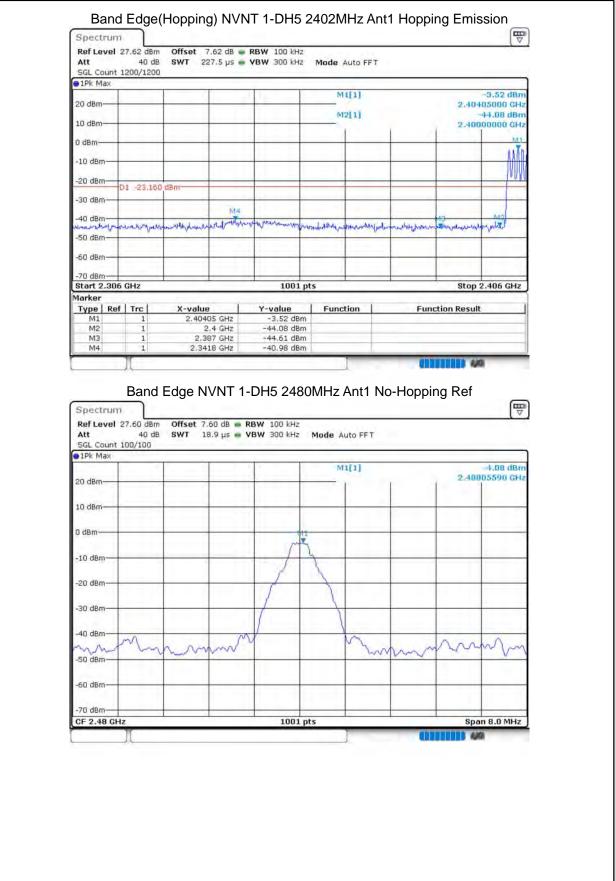
0.0 DANUEU	GE						
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant 1	No-Hopping	-38.29	-20	Pass
NVNT	1-DH5	2402	Ant 1	Hopping	-37.82	-20	Pass
NVNT	1-DH5	2480	Ant 1	No-Hopping	-37.85	-20	Pass
NVNT	1-DH5	2480	Ant 1	Hopping	-39.3	-20	Pass
NVNT	2-DH5	2402	Ant 1	No-Hopping	-38.01	-20	Pass
NVNT	2-DH5	2402	Ant 1	Hopping	-36.93	-20	Pass
NVNT	2-DH5	2480	Ant 1	No-Hopping	-37.81	-20	Pass
NVNT	2-DH5	2480	Ant 1	Hopping	-38.36	-20	Pass
NVNT	3-DH5	2402	Ant 1	No-Hopping	-38.13	-20	Pass
NVNT	3-DH5	2402	Ant 1	Hopping	-37.21	-20	Pass
NVNT	3-DH5	2480	Ant 1	No-Hopping	-39.56	-20	Pass
NVNT	3-DH5	2480	Ant 1	Hopping	-39.08	-20	Pass





•••••••••••••••••••••••••	GHZ dBm GHZ
10 dBm     M2[1]     -45.94       10 dBm     2.40000000       0 dBm     9       -10 dBm     9       -20 dBm     01 -23.528 dBm       -30 dBm     60       -30 dBm     60       -40 dBm     60       -40 dBm     60       -30 dBm     60       -30 dBm     60       -40 dBm     60       -40 dBm     60       -40 dBm     60       -50 dBm     60       -70 dBm     1001 pts       Start 2.306 GHz     100	
D dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -30 dBm -40 dBm -40 dBm -40 dBm -40 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -70 dBm -70 dBm M1 1 2.40205 GHz 1001 pts Stop 2.406 C Marker Type Ref Trc X-value M1 1 2.40205 GHz -3.52 dBm M3 1 2.39 GHz -3.52 dBm M4 1 2.34 GHz -3.52 dBm M4 1 2.34 GHz -45.94 dBm M3 1 2.39 GHz -45.94 dBm M4 1 2.3422 GHz -41.83 dBm 	
-10 dBm       -20 dBm       -10 -23.528 dBm       -10 -23.528 dBm         -30 dBm       -10 dBm       -10 -23.528 dBm       -10 -23.528 dBm         -40 dBm       -10 -23.528 dBm       -10 -23.528 dBm       -10 -23.528 dBm         -40 dBm       -10 -23.528 dBm       -10 -23.528 dBm       -10 -23.528 dBm         -40 dBm       -10 -23.528 dBm       -10 -23.528 dBm       -10 -23.528 dBm         -50 dBm       -10 -23.528 dBm       -10 -23.528 dBm       -10 -23.528 dBm         -50 dBm       -20 dBm       -3.62 dBm       Function       Function Result         -70 dBm       -10 -23.528 dBm       -3.62 dBm       Function Result       -10 -23.52 dBm         M1 1       2.4005 GHz       -3.62 dBm       Function Result       -10 -23.52 dBm       -41.83 dBm         M1 1       2.3422 GHz       -41.83 dBm       -41.83 dBm       -41.83 dBm       -41.83 dBm         M4       1       2.3422 GHz       -41.83 dBm       -41.83 dBm       -41.83 dBm       -41.83 dBm         M1 1       2.3422 GHz       -41.83 dBm       -4	
-20 dBm         01 -23.528 dBm           -30 dBm	t.
O1         -23.528 dBm           -30 dBm         Id4           -40 dBm         Id4           -50 dBm         Id4           -70 dBm         Function Result           M1         1         2.40205 GHz           -3.62 dBm         Hittig           M2         1         2.39 GHz           M4         1         2.3422 GHz           -41.83 dBm         Id4           M1         2.3422 GHz <tr< td=""><td>ta</td></tr<>	ta
-40 dBm       M4       M4       M4       M3       M3       M3       M4       M3       M4       M3       M4       M3       M4       M3       M4       M4       M4       M3       M4       M4       M3       M4       M4       M4       M4       M3       M4	La
40 dbm       41 dbm       40 dbm       41 dbm       40 dbm       40 dbm       40 dbm       40 dbm       41 dbm	Le
-60 dBm         Stop 2.406 C         Stop 2.406 C         Marker         Type Ref Trc       X -value       Function       Function Result         M1       1       2.40205 GHz       -3.62 dBm       Function       Function Result         M2       1       2.4 GHz       -45.94 dBm       Function       Function Result         M3       1       2.39 GHz       -45.91 dBm       Function       Function Result         M4       1       2.39 GHz       -45.71 dBm       Function       Function Result         Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref         Spectrum         Ref Level 27.62 dBm       Offset 7.62 dB       RBW 100 kHz         M1[1]       -2.166         M1[1]       -2.166         M1[1]       -2.166	100-
-70 dBm         Stort 2.306 GHz         1001 pts         Stop 2.406 G           Marker         Type         Ref         Trc         X-value         Y-value         Function         Function Result           M1         1         2.40205 GHz         -3.62 dBm         Function         Function Result           M2         1         2.4 GHz         -45.94 dBm         Here         Function Result           M3         1         2.39 GHz         -45.71 dBm         Here         Function Result           M4         1         2.3422 GHz         -41.83 dBm         Function Result         Function Result           M4         1         2.3422 GHz         -41.83 dBm         Function Result         Function Result           Ref Level 27.62 dBm         Offset 7.62 dB         RBW 100 kHz         Ref         Stop 2.4000 kHz           Ref Level 27.62 dBm         Offset 7.62 dB         RBW 100 kHz         Mode Auto FFT         SGL Count 8000/8000           IPk Max         M1[1]         9.426 f         9.426 f         9.426 f	
Start 2.306 GHz         1001 pts         Stop 2.406 C           Marker         Type         Ref         Trc         X-value         Y-value         Function         Function Result           M1         1         2.40205 GHz         -3.62 dBm         Function         Function Result           M2         1         2.4 GHz         -45.94 dBm         Function         Function Result           M3         1         2.39 GHz         -45.71 dBm         Function         Function Result           M4         1         2.3422 GHz         -41.83 dBm         Function         Function Result           M4         1         2.3422 GHz         -41.83 dBm         Function Result         Function Result           M4         1         2.3422 GHz         -41.83 dBm         Function Result         Function Result           Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref         Spectrum         Function Result         Function Result           Spectrum         Start 40 dB         SWT 18.9 µs         VBW 300 kHz         Mode Auto FFT           SGL Count 8000/8000         First 40 dB         Surf 18.9 µs         M1[1]         Function First 60 for First 73.66 for First	
Marker         Type         Ref         Trc         X-value         Y-value         Function         Function Result           M1         1         2.40205 GHz         -3.62 dBm         Function         Function Result           M2         1         2.4 GHz         -45.94 dBm         Function         Function Result           M3         1         2.39 GHz         -45.94 dBm         Function         Function Result           M4         1         2.39 GHz         -41.83 dBm         Function         Function Result           M4         1         2.3422 GHz         -41.83 dBm         Function         Function Result           Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref         Function Result         Function Result         Function Result           Ref Level 27.62 dBm         Offset 7.62 dB         RBW 100 kHz         Mode Auto FFT         SGL Count 8000/8000         FT           Fight Max         M1[1]         Fight Result         Fight Result         Fight Result         Fight Result	SH2
M1         1         2.40205 GHz         -3.62 dBm           M2         1         2.4 GHz         -45.94 dBm           M3         1         2.39 GHz         -45.71 dBm           M4         1         2.3422 GHz         -41.83 dBm           MBand Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref           Spectrum           Ref Level 27.62 dBm         Offset 7.62 dB         RBW 100 kHz           Att         40 dB         SWT 18.9 µs         VBW 300 kHz           MI[1]         -3.16 f	
M3         1         2.39 GHz         -45.71 dBm           M4         1         2.3422 GHz         -41.83 dBm           Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref           Spectrum           Ref Level 27.62 dBm Offset 7.62 dB RBW 100 kHz           Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT           SGL Count 8000/8000           IPk Max         M1[1]         -3.166	
M4         1         2.3422 GHz         -41.83 dBm           Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref           Spectrum           Ref Level 27.62 dBm         Offset 7.62 dB         RBW 100 kHz           Att         40 dB         SWT 18.9 µs         VBW 300 kHz           Mode Auto FFT           SGL Count 8000/8000           IPk Max	
Spectrum           Ref Level 27.62 dBm         Offset 7.62 dB         RBW 100 kHz           Att         40 dB         SWT         18.9 µs         VBW 300 kHz           SGL Count 8000/8000         Image: SGL Count 8000/8000         Image: SGL Count 8000/8000         Image: SGL Count 8000/8000           IPk Max         M1[1]         -3.166	
20.dBm 2.40517280	
10 dBm	
10 001	
D dBm	~
-10 dBm	1
-20 d8m	
-30 dBm	
-40 dBm	
-50 dBm-	
-60 dBm	
-70 dBm	
-70 dBm CF 2.402 GHz 1001 pts Span 8.0 M	1Hz







Att SGL Count 1 1Pk Max	40 dB 100/100	2.0.0		VBW 300 kH	- moue	Auto FFT			1
20 dBm				1	M	11[1]		2.40	-4.06 dBm 105000 GHz
					M	12[1]			-41.93 dBm
10 dBm-						1	1 1	2,48	350000 GHz
0 dBm									
-10 dBm									
-20 dBm-0	1 -24,079	dBm				-	-		
-30 cBm									
-40 dBm	in the settle	M3 July a	n bate way	Munderword	a un mar a taku ila ar	Ma Montal	and and dis such	monthethe	Welly a second starting the
-50 dBm	And A David	allocations of				a share a g	a to v v v v v v		
-60 dBm				-		-	-		
-70 dBm-	CUS			1001	nte	-		Pton	2.576 GHz
Marker	unz			1001				acup	2.370 GH2
Type Ref M1	Trc 1	X-value 2,4800	05 GHz	Y-value -4.06 dB	Func	tion	Func	tion Resul	
M2 M3	1	2,483	35 GHz .5 GHz	-41.93 dB -46.86 dB	m				
M4	1		35 GHz	-41.93 dB					
	Л					ľ	01		0
Ba Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	VNT 1-D	Mode A	Auto FFT	Ant1 Hop	oping R	(B)
Spectrum Ref Level 2 Att SGL Count 8	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	e end	Ant1 Hop		
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT	Ant1 Hop		-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 1Pk Max 20 dBm 10 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 1Pk Max 20 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 1Pk Max 20 dBm 10 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max 20 dBm 10 dBm - 10 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max 20 dBm 10 dBm - 10 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 9 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm	27.60 dBm 40 dB	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT			-3.19 dBm
Spectrum Ref Level 2 Att SGL Count 8 IPk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm	27.60 dBm 40 dB 3000/8000	Offset 7.	60 dB 🖷 R	<b>BW</b> 100 kHz	Mode A	Auto FFT	Ant1 Hop	2.47	-3.19 dBm /85810 GHz
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max 20 dBm 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	27.60 dBm 40 dB 3000/8000	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT		2.47	-3.19 dBm /85810 GHz
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max 20 dBm 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	27.60 dBm 40 dB 3000/8000	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT		2.47	-3.19 dBm /85810 GHz
Spectrum Ref Level 2 Att SGL Count 8 • 1Pk Max 20 dBm 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	27.60 dBm 40 dB 3000/8000	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT	Ant1 Hop	2.47	-3.19 dBm /85810 GHz
Spectrum Ref Level 2 Att SGL Count 8 IPk Max 20 dBm 10 dBm 10 dBm -10 dBm -10 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm	27.60 dBm 40 dB 3000/8000	Offset 7.	60 dB 🖷 R	BW 100 kHz	Mode A	Auto FFT	Ant1 Hop	2.47	-3.19 dBm /85810 GHz

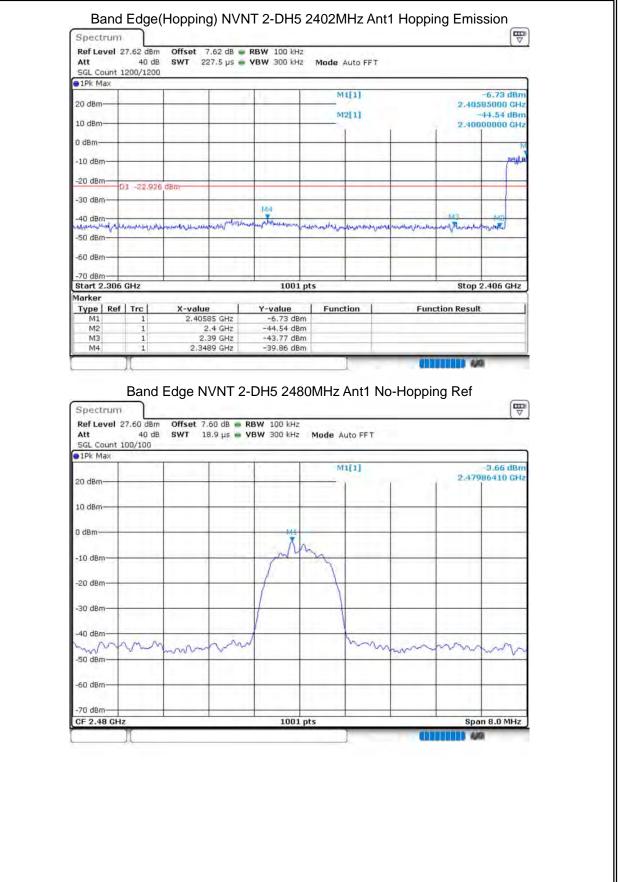


Att SGL Count 120		VI 227.5	s ha 🖷 🗸	VBW 300 kHz	Mode 4	Auto FFT			
1Pk Max			1.1	1	M	1[1]			-3.80 dBm
20 dBm					M	2[1]			695000 GHz -43.25 dBm
10 dBm-					_		1		350000 GHz
0 dBm-									
-10 dBm									-
-20 dBm-01	-23.189 dBm								-
-30 cBm-	23,103 UDIN				_				
-40 dBM2	N	14	L4 billion			-		there	1
-50 dBm	and the many all the states	a surger and the second	Variantinot	an remained was	munultyd	Helminenter	howany where	property and the	apertanian and
-60 dBm								1.1.1.	1
-70 dBm Start 2.476 GH	z	1		1001	pts		1.	Stop	2.576 GHz
Marker Type   Ref   T	incl 1	(-value	1	Y-value	Funct	tion	Fun	ction Resul	lt I
M1	1	2.47695 0		-3.80 dBn	n		1 un	cion nesta	
M2 M3	1	2,4835 ( 2.5 (	GHz	-43.25 dBn -44.13 dBn	n				
M4	1	2,4999 (	GHZ	-42.50 dBn	n	1		-	-
Spectrum Ref Level 27.6 Att SGL Count 100, PIPk Max	40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz BW 300 kHz	Mode A	uto FFT			
Spectrum Ref Level 27.6 Att SGL Count 100,	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	ond -			-3.28 dBm 200800 GHz
Spectrum Ref Level 27.6 Att SGL Count 100, 1Pk Max	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum Ref Level 27.6 Att SGL Count 100, 91Pk Max 20 dBm	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum Ref Level 27.6 Att SGL Count 100, 91Pk Max 20 dBm- 10 dBm-	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           -10 dBm	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum Ref Level 27.6 Att SGL Count 100, 1Pk Max 20 dBm 10 dBm 0 dBm	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           0 dBm	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           -10 dBm           -20 dBm           -30 dBm	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz	Mode A	uto FFT			-3.28 dBm
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           -10 dBm           -20 dBm           -30 dBm	52 dBm Of 40 dB SV	fset 7.62	dB 💼 RE	BW 100 kHz	Mode A	LID FFT			-3.28 dBm
Spectrum           Ref Level 27.6           Att           SGL Count 100,           ● IPk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz	Mode A	LID FFT			-3.28 dBm
Spectrum Ref Level 27.6 Att SGL Count 100, ● 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz	Mode A	LID FFT			-3.28 dBm
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • 1Pk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -60 dBm           -70 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz BW 300 kHz	Mode Ar	LID FFT		2.40	-3.28 dBm 200800 GHz
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -50 dBm           -60 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz	Mode Ar	LID FFT		2.40	-3.28 dBm 200800 GHz
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -60 dBm           -70 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz BW 300 kHz	Mode Ar	uto FFT		2.40	-3.28 dBm 200800 GHz
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • IPk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -60 dBm           -70 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz BW 300 kHz	Mode Ar	uto FFT		2.40	-3.28 dBm 200800 GHz
Spectrum           Ref Level 27.6           Att           SGL Count 100,           • 1Pk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -60 dBm           -70 dBm	52 dBm Of 40 dB SV	fset 7.62 VT 18.9	dB 💼 RE	BW 100 kHz BW 300 kHz	Mode Ar	uto FFT		2.40	-3.28 dBm 200800 GHz

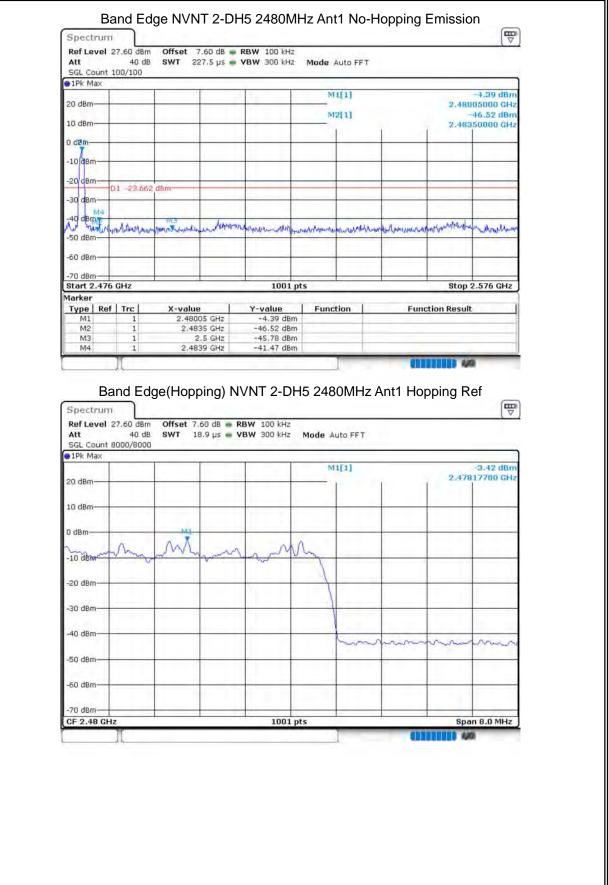


	0/100			VBW 300 kH		e Auto FFT			
20 dBm-			1	1.1.		M1[1]			3.68 dBm 5000 GHz
10 dBm-					-	M2[1]		-45	5.45 dBm 0000 GHz
0 dBm									MI
-10 dBm				-	-	-			Å
-20 dBm-		100 V		-	_	-			
-30 dBm-	-23.285	dem-			-				
-40 dBm	1	Same		M14				MS	113
-50 dBm	in the particular	er-Unorthan Aspenne	within a country	Romathia and second and	hipstructures	have a served war years	en and a start and a start and a start a	whenthereity	halo we
-60 dBm				-	-	-		_	
-70 dBm	113			100	1 ote			Ptop 0	406 GHz
Marker					1 pts				400 GH2
Type Ref M1	1		85 GHz	Y-value -3.68 dB	Bm	Inction	Funct	ion Result	
M2	1		39 GHz	-45.45 de					
M3			25 GHz	-41.30 de					
M4	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	IVNT 2-E	z		Ant1 Hop		(B)
M4 Ban Spectrum Ref Level 27 Att SGL Count 80 • 1Pk Max	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z		Ant1 Hop	-5	
M4 Ban Spectrum Ref Level 27 Att 5GL Count 80 • 1Pk Max 20 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	a Auto FFT	Ant1 Hop	-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 80 • 1Pk Max	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	a Auto FFT	Ant1 Hop	-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att 5GL Count 80 • 1Pk Max 20 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 80 • 1Pk Max 20 dBm- 10 dBm-	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	a Auto FFT		-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 80 • 1Pk Max 20 dBm 10 dBm 0 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 80 • 1Pk Max 20 dBm • 10 dBm • 10 dBm • 10 dBm • 20 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 80 • 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 800 • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 800 • 1Pk Max 20 dBm • 10 dBm • 10 dBm • -10 dBm • -20 dBm • -30 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4           Spectrum           Ref Level 27           Att           SGL Count 80           •1Pk Max           20 dBm           10 dBm           -10 dBm           -20 dBm           -30 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4 Ban Spectrum Ref Level 27 Att SGL Count 80 • 1Pk Max 20 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm	1 nd Edg .62 dBm 40 dB	ge(Hopp	oing) N	RBW 100 kHz	z	M1[1]		-5	2.93 dBm
M4         Ban           Spectrum         Ref Level 27           Att         SGL Count 80           • 1Pk Max         20 dBm           • 1Pk Max         20 dBm           • 10 dBm         -           -20 dBm         -           -30 dBm         -           -50 dBm         -	1 .62 dBm 40 dB 00/8000	ge(Hopp	oing) N	RBW 100 kH2 VBW 300 kH2	z	M1[1]		2,40518	2.93 dBm











SGL Count 100 1Pk Max		SW1 22	27.5 µs 🖷 🕯	/BW 300 kH	2 Mode /	Auto FFT			
20 dBm-				1	M	1[1]		2.48	~6.65 dBm 105000 GHz
				11.2.12	M	2[1]			-42.60 dBm
10 dBm							1	2,483	350000 GHz
0 dBm									
MaldydBm-									
-20 cBm-01	-23,419 de	10				_			
-30 d8m-	-20,419 (1	2111							
-40 dBm	M4	112	Marken					1 Marthau	
-50 dBm	- May marked	www.www.un	and the second second	Munderstand	munina	approximited house	andream	water annound	the Dermonant of
				11					
-60 dBm-									
-70 dBm Start 2.476 G	Hz		-	1001	pts			Stop	2.576 GHz
Marker			- i						
Type Ref M1	1	X-value 2.4800	05 GHz	Y-value -6.65 dB	Func m	tion	Fund	tion Result	· · · · ·
M2 M3	1		35 GHz .5 GHz	-42.60 dB -44.48 dB		_			
M4	1		59 GHz	-41.78 dB					
Att SGL Count 300 1Pk Max		SWI 18	3.9 µs 🖷 VI	BW 300 kHz		1[1]			-2.91 dBm
20 dBm					$\rightarrow$		1	2.401	185610 GHz
10 dBm	-								
0 dBm				MI					
-10 dBm	-			V	M	-	-		
-20 dBm	-	-		1		-			
-30 dBm									
-40 dBm	64.2		- mnl			1 A a			
-50 dBm	m	www	www			with	m	m	mm
-60 dBm									
-70 dBm				1001	pts			Spa	n 8.0 MHz
	_							In the log of the log	6
-70 dBm						J	(III		0
-70 dBm					-	Ţ	(III)		8
-70 dBm						J	Q1		0

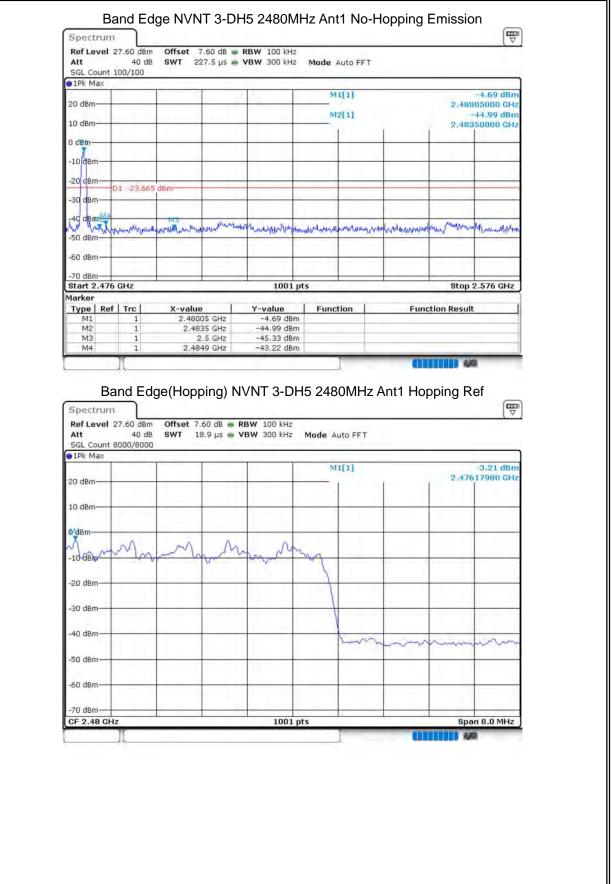


SGL Count 1Pk Max	100/100	10.4							
20 dBm-	_			1.	M	il11			-4.00 dBm 95000 GHz
10 dBm					M	2[1]			45.62 dBm 00000 GHz
0 dBm									MI
-10 dBm			_						
-20 dBm									
-30 dBm	01 -22.908	dBm					-		
-40 dBm			_	M4		11.0		MD	1972
-50 dBm	publication	nutury return	ndumentu	un and the show	had a general and a second	name and the	manywheneverthe	malification and	way top
-60 dBm									
-70 d8m-	-								1.1.1
Start 2.306 Marker	GHz			100	1 pts			Stop 2	2.406 GHz
Type   Ref		X-value		Y-value	Funct	tion	Func	tion Result	1
M1 M2	1	2.4019 2.	5 GHz 4 GHz	-4.00 d -45.62 d					
M3 M4	1	2.3	9 GHz	-46.45 d -41.04 d		_			
144	10	2,000		41,04 0	but 1	r	anne		
Ba Spectrum Ref Level Att SGL Count 9 1Pk Max	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	BW 100 kH		una)	Ant1 Hop	oping Re	ef
Spectrum Ref Level Att SGL Count • 1Pk Max	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	BW 100 kH	iz Iz Mode Au	una)	Ant1 Hop		-2.87 dBm
Spectrum Ref Level Att SGL Count	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	BW 100 kH	iz Iz Mode Au	uto FFT	Ant1 Hop		
Spectrum Ref Level Att SGL Count • 1Pk Max	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	BW 100 kH	iz Iz Mode Au	uto FFT	Ant1 Hop		-2.87 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	BW 100 kH	iz Iz Mode Au	uto FFT	Ant1 Hop		-2.87 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	BW 100 kH	iz Iz Mode Au	uto FFT	Ant1 Hop		-2.87 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm- 10 dBm-	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm 0 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm - 10 dBm - 10 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB 💼 R	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum           Ref Level           Att           SGL Count           ● 1Pk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm	27.62 dBm 40 dB	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>	28 100 kH	iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum Ref Level Att SGL Count ● 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	27.62 dBm 40 dB 8000/8000	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>		iz Mode Au	uto FFT	Ant1 Hop	2.404	-2.87 dBm
Spectrum           Ref Level           Att           SGL Count           • 1Pk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm           -70 dBm	27.62 dBm 40 dB 8000/8000	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>		IZ Mode Ai	uto FFT	h	2.404	-2.87 dBm 86110 GHz
Spectrum           Ref Level           Att           SGL Count           • 1Pk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm           -70 dBm	27.62 dBm 40 dB 8000/8000	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>		IZ Mode Ai	uto FFT	h	2.404	-2.87 dBm 86110 GHz
Spectrum           Ref Level           Att           SGL Count           • 1Pk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm           -70 dBm	27.62 dBm 40 dB 8000/8000	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>		IZ Mode Ai	uto FFT	h	2.404	-2.87 dBm 86110 GHz
Spectrum           Ref Level           Att           SGL Count           • 1Pk Max           20 dBm           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm           -70 dBm	27.62 dBm 40 dB 8000/8000	Offset 7.6	i2 dB <b>R</b> 9 µs <b>V</b>		IZ Mode Ai	uto FFT	h	2.404	-2.87 dBm 86110 GHz



10 dBm     10 dBm     0 dBm     10 dBm     10 dBm     -10 dBm     -20 dBm     01 -22,872 -30 dBm	2.dBm			11[1]			-4.23 dBm
10 dBm	2 dBm						
0 dBm -10 dBm -20 dBm -20 dBm -30 dBm	2 dBm						95000 GHz 13.58 dBm
-10 dBm -20 dBm 01 -22,872 -30 dBm	2 dBm			12[1]			00000 GHz
-20 dBm-01 -22,872 -30 dBm-	2 dBm	- 11 H	_	-			M
-20 dBm-01 -22,872 -30 dBm-	2 dBm						MAN,
-30 dBm	2 dBm						
St							
		M4				100	
-40 dBm	menning more went	while chappendance is	all alleway to the	fully algorith	reparty entropy	Mar Ballen Aren 16	Man a
-50 dBm	The Part of the Pa						
-60 dBm	-		-	-	-		-
-70 dBm			-				
Start 2.306 GHz		10	001 pts			Stop 2	.406 GHz
1arker Type   Ref   Trc	X-value	Y-value	e   Fun	tion	Funct	ion Result	1
M1 1 M2 1	2.40595 GH	lz -4.23	dBm				
M3 1	2.39 Gł	Hz -44.70	dBm				
M4 1	2,3424 Gł	Hz -40.09	dBm	1	and the second se		
Spectrum Ref Level 27.60 dBm Att 40 dB SGL Count 100/100 PPk Max		T 3-DH5 2	kHz		-Hoppin	g Ref	(The second seco
Spectrum Ref Level 27.60 dBm Att 40 dB SGL Count 100/100 Pk Max	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode		-Hoppin		-3.66 dBm
Spectrum Ref Level 27.60 d8m Att 40 d8 SGL Count 100/100	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum Ref Level 27.60 dBm Att 40 dB SGL Count 100/100 Pk Max	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL         Count         100/100           IPk Max         20 dBm         10 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           PPk Max         20 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL         Count         100/100           IPk Max         20 dBm         10 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           IPk Max           20 dBm           10 dBm           -10 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60           Att         40           SGL         Count           SGL         Count           100         Bm           100         Bm           -100         Bm           -200         Bm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           IPk Max           20 dBm           10 dBm           -10 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60           Att         40           SGL         Count           SGL         Count           100         Bm           100         Bm           -100         Bm           -200         Bm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           IPk Max         20 dBm           10 dBm         0 dBm           -10 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           IPk Max         20 dBm           10 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           IPk Max         20 dBm           10 dBm         0 dBm           -10 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           IPk Max         20 dBm           20 dBm	Offset 7.60 d	B 🖷 RBW 100	kHz kHz Mode	Auto FFT	-Hoppin		-3.66 dBm
Spectrum           Ref Level         27.60 dBm           Att         40 dB           SGL Count         100/100           IPk Max         20 dBm           10 dBm	Offset 7.60 d	B RBW 100	kHz kHz Mode	Auto FFT	-Hoppin	2.480	-3.66 dBm





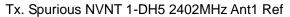


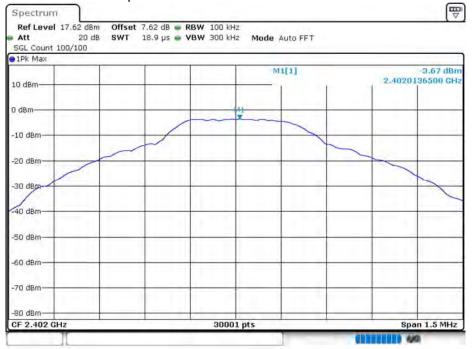
M2[1]	-3.35 dBm 85000 GHz -44.40 dBm
0 dBm 2.47 0 dBm 2.48	885000 GHz
0 dBm 2,48	
Here:	350000 GHz
	100 T 2
20 dBm D1 -23.206 dBm	
40 dBmis Mp 143 have a subscription of the sub	Mr. Markanen
50 dBm-	
50 dBm	
70 dBm-	
	2.576 GHz
arker	
Type Ref Trc X-value Y-value Function Function Resul	
M1 1 2.47885 GHz -3.35 dBm	
M2 1 2.4835 GHz -44.40 dBm	
M3 1 2.5 GHz -44.29 dBm M4 1 2.4955 GHz -42.30 dBm	



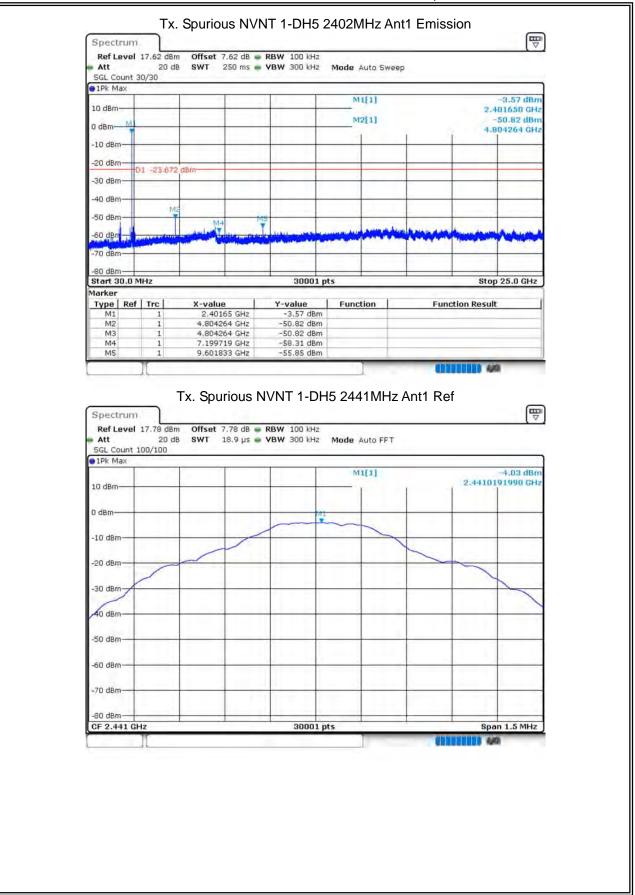
## 8.7 CONDUCTED RF SPURIOUS EMISSION

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant 1	-47.15	-20	Pass
NVNT	1-DH5	2441	Ant 1	-46.86	-20	Pass
NVNT	1-DH5	2480	Ant 1	-40.46	-20	Pass
NVNT	2-DH5	2402	Ant 1	-45.81	-20	Pass
NVNT	2-DH5	2441	Ant 1	-47.28	-20	Pass
NVNT	2-DH5	2480	Ant 1	-43.5	-20	Pass
NVNT	3-DH5	2402	Ant 1	-50.45	-20	Pass
NVNT	3-DH5	2441	Ant 1	-41.36	-20	Pass
NVNT	3-DH5	2480	Ant 1	-39.13	-20	Pass

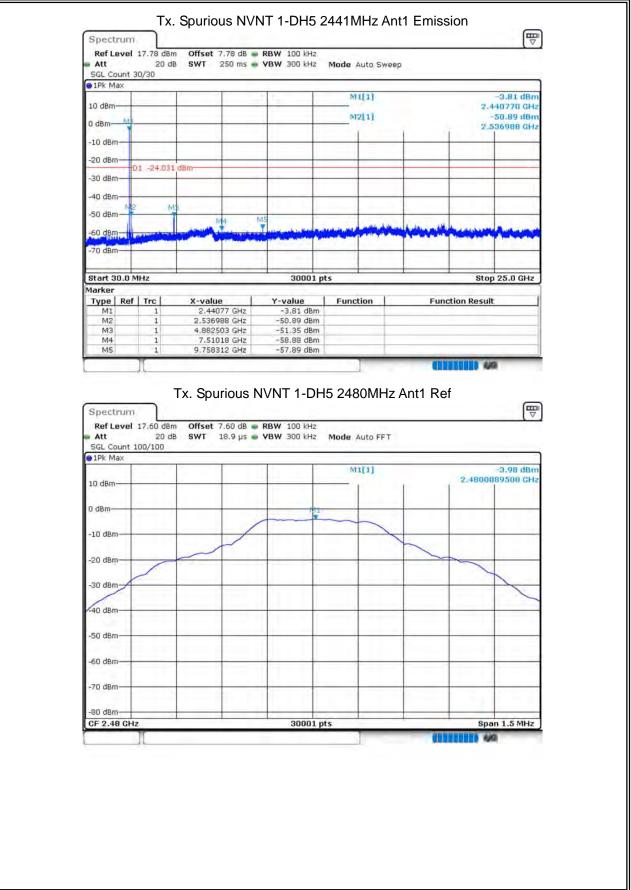




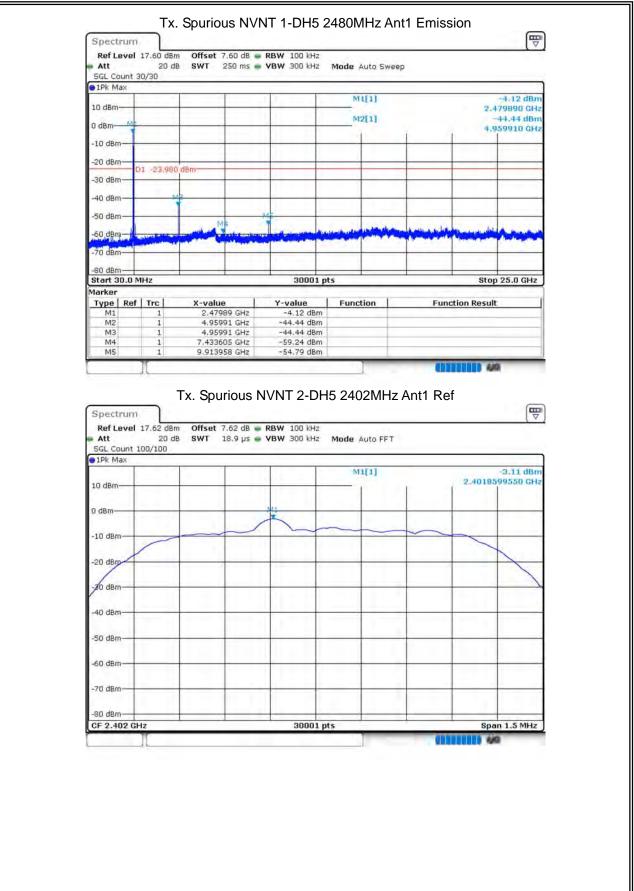




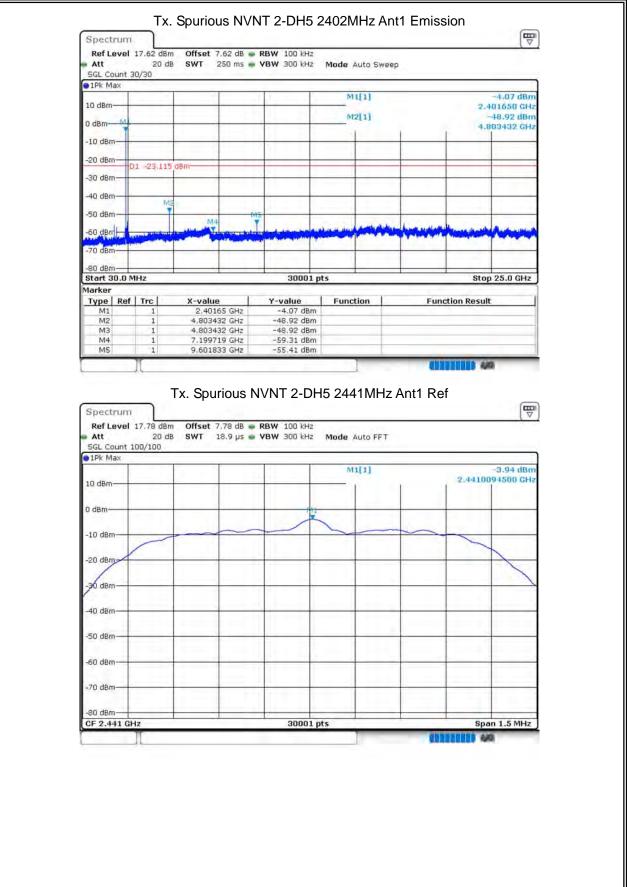




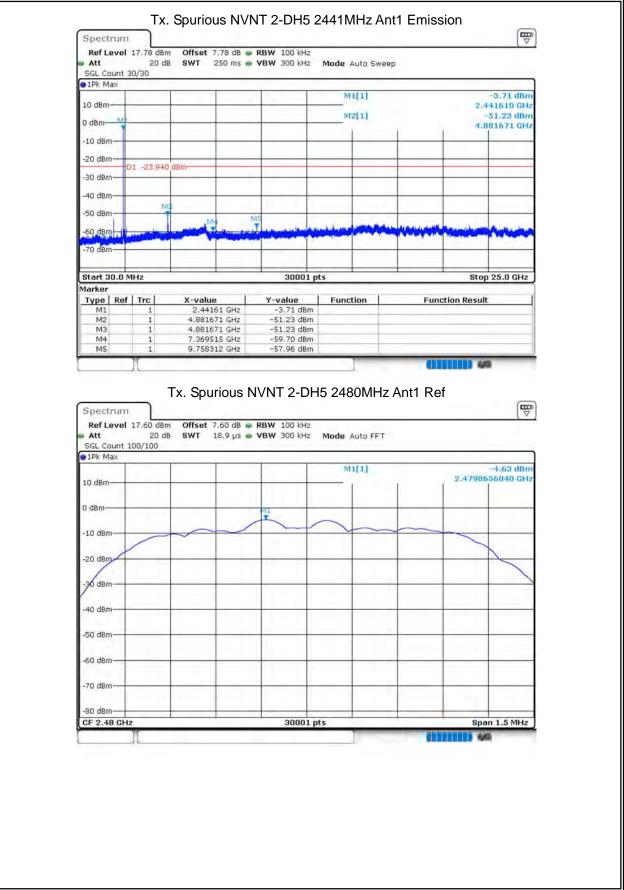




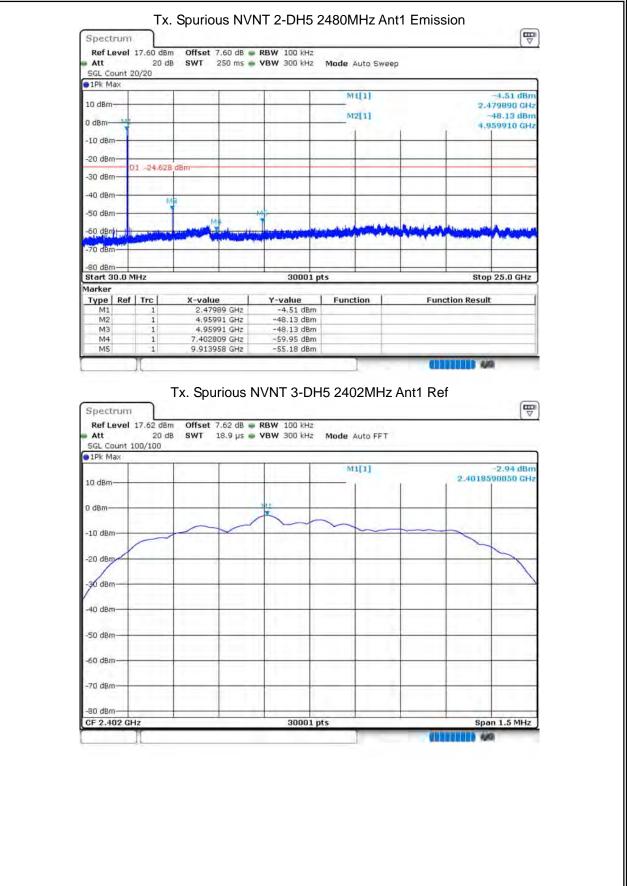




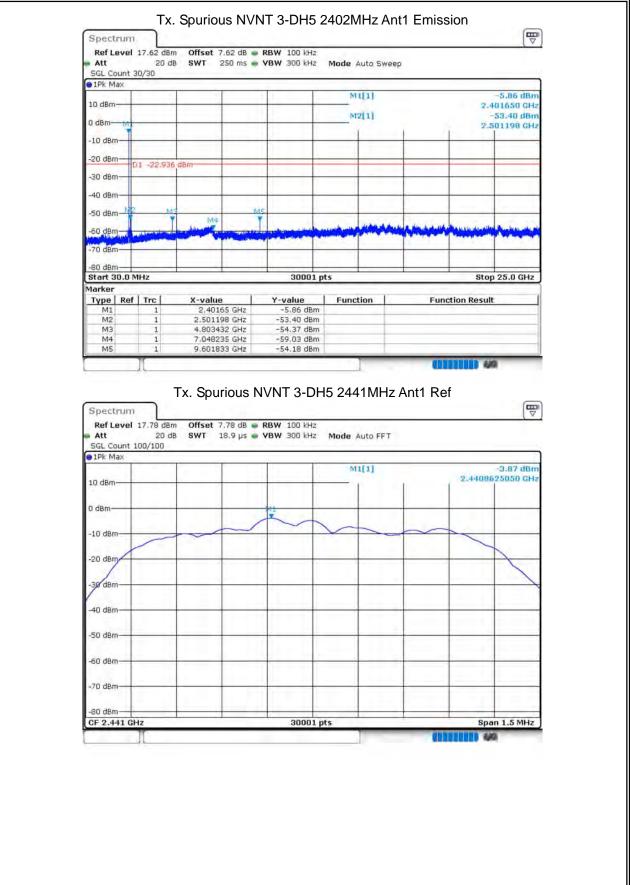




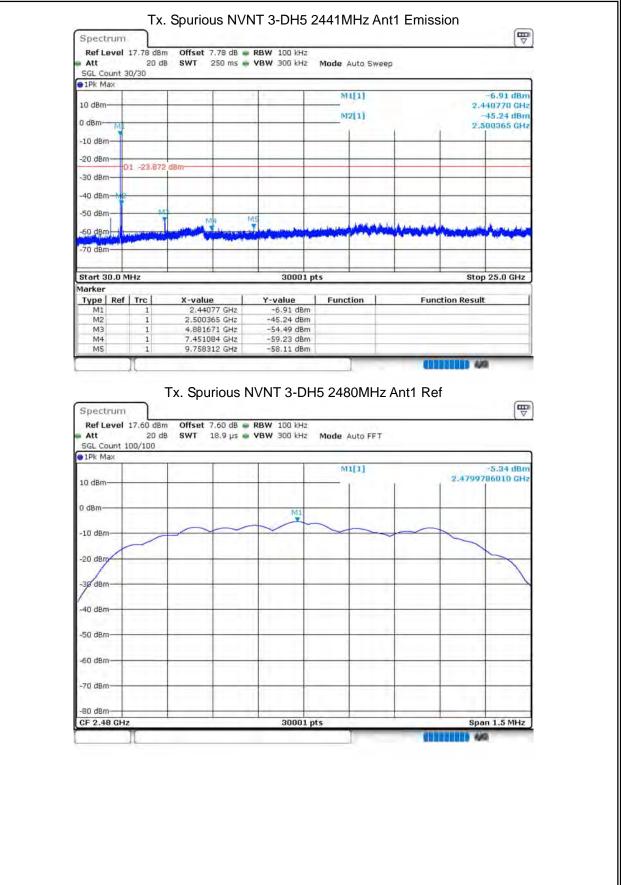




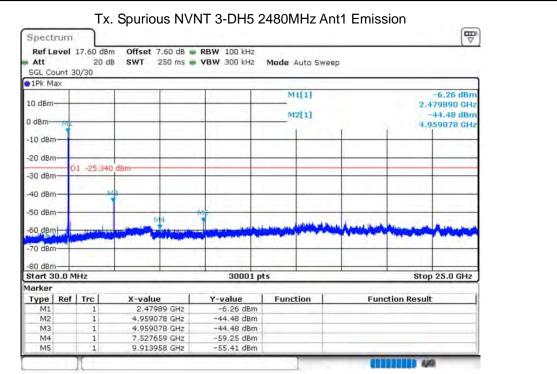












END OF REPORT