	と 次リ CHNOLOGY					
	<b>TEST REPOR</b>	Т				
FCC ID	2AUIF-NV-08245R					
Test Report No:	TCT230423E026					
Date of issue:	May 09, 2023					
Testing laboratory:	SHENZHEN TONGCE TESTING	G LAB				
Testing location/ address:	2101 & 2201, Zhenchang Factor Subdistrict, Bao'an District, Sher People's Republic of China					
Applicant's name: :	Max Sales Group	$\left( \mathcal{C}^{\prime}\right)$				
Address:	15240 NELSON AVENUE CITY California 90040, United States	OF INDÚSTRY, Los Ang	geles,			
Manufacturer's name :	SHENZHEN KINGSUN ENTER	PRISES Co., Ltd.				
Address:	25F, CEC information Building, Shenzhen, Guangdong, P.R.Ch		trict,			
Standard(s) :	FCC CFR Title 47 Part 15 Subpart C Section 15.247 FCC KDB 558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013					
Product Name::	WIRELESS HEADPHONE AND KIT - TRANSMITTER	TRANSMITTER				
Trade Mark:	N/A 🔇					
Model/Type reference :	NV-08245R					
Rating(s):	DC 5V		$(\mathbf{c})$			
Date of receipt of test item	Apr. 23, 2023					
Date (s) of performance of test:	Apr. 23, 2023 - May 09, 2023					
Tested by (+signature) :	Onnado YE Onnado YE					
Check by (+signature) :	Beryl ZHAO					
Approved by (+signature):	Tomsin Tomsin 35					
	oduced except in full, without the					

TONGCE TESTING LAB. This document may be altered or revised by SHENZHEN TONGCE TESTING LAB personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

# **Table of Contents**

TCT 通测检测 TESTING CENTRE TECHNOLOGY

1. General Product Information	
1.1. EUT description	
1.2. Model(s) list	3
1.3. Operation Frequency	3
2. Test Result Summary	4
3. General Information	5
3.1. Test environment and mode	5
3.2. Description of Support Units	5
4. Facilities and Accreditations	
4.1. Facilities	6
4.2. Location	6
4.3. Measurement Uncertainty	6
5. Test Results and Measurement Data	
5.1. Antenna requirement	7
5.2. Conducted Emission	
5.3. Conducted Output Power	12
5.4. 20dB Occupy Bandwidth	
5.5. Carrier Frequencies Separation	14
5.6. Hopping Channel Number	15
5.7. Dwell Time	
5.8. Pseudorandom Frequency Hopping Sequence	17
5.9. Conducted Band Edge Measurement	
5.10.Conducted Spurious Emission Measurement	
5.11.Radiated Spurious Emission Measurement	20
Appendix A: Test Result of Conducted Test	
Appendix B: Photographs of Test Setup	
Appendix C: Photographs of EUT	



### **1. General Product Information**

### 1.1. EUT description

Product Name:	WIRELESS HEADPHONE AND TRANSMIT KIT - TRANSMITTER		
Model/Type reference:	NV-08245R		
Sample Number:	TCT230423E026-0101		
Bluetooth Version:	V5.1		
Operation Frequency:	2402MHz~2480MHz		
Transfer Rate:	1/2 Mbits/s		
Number of Channel:	79		
Modulation Type:	GFSK, π/4-DQPSK	S)	
Modulation Technology:	FHSS		
Antenna Type:	PCB Antenna		
Antenna Gain:	-0.58dBi		
Rating(s):	DC 5V		

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

### 1.2. Model(s) list

None.

### **1.3. Operation Frequency**

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz 🔾
<u> </u>	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz		
Remark:	Channel 0, 3	39 & 78 ha	ave been te	sted for G	FSK. π/4-D	QPSK m	odulation

Remark: Channel 0, 39 & 78 have been tested for GFSK, π/4-DQPSK modula mode.

Report No.: TCT230423E026



### 2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna Requirement	§15.203/§15.247 (c)	PASS
AC Power Line Conducted Emission	§15.207	PASS
Conducted Peak Output Power	§15.247 (b)(1)	PASS
20dB Occupied Bandwidth	§15.247 (a)(1)	PASS
Carrier Frequencies Separation	§15.247 (a)(1)	PASS
Hopping Channel Number	§15.247 (a)(1)	PASS
Dwell Time	§15.247 (a)(1)	PASS
Radiated Emission	§15.205/§15.209	PASS
Band Edge	§15.247(d)	PASS

#### Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

# 3. General Information

### 3.1. Test environment and mode

Operating Environment:				
Condition	Conducted Emission	Radiated Emission		
Temperature:	23.5 °C	25.2 °C		
Humidity:	52 % RH	53 % RH		
Atmospheric Pressure:	1010 mbar	1010 mbar		
Test Software:				
Software Information:	: FCCAssist2.4			
Power Level:	10			
Test Mode:				
Engineer mode:	Keep the EUT in continuous channel	transmitting by select		
above the ground plane of 3 polarities were performed. I the EUT continuously work axis (X, Y & Z) and cor manipulating interconnectin from 1m to 4m in both	8m & 1.5m for the measure 8m chamber. Measurements in During the test, each emissio ing, investigated all operating insidered typical configuration og cables, rotating the turnta horizontal and vertical po-	n both horizontal and vertica n was maximized by: having g modes, rotated about all 3 n to obtain worst position ble, varying antenna heigh plarizations. The emissions		

worst-case( Z axis) are shown in Test Results of the following pages. DH1 DH3 DH5 all have been tested , only worse case DH1 is reported.

### 3.2. Description of Support Units

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

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Adapter	JD-050200	2012010907576735	/	JD

Note:

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

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

3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.



### 4. Facilities and Accreditations

### 4.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

• FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC Registration No.: 10668A-1
- SHENZHEN TONGCE TESTING LAB
- CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

### 4.2. Location

### SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China TEL: +86-755-27673339

### 4.3. 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	MU
1	Conducted Emission	± 3.10 dB
2	RF power, conducted	± 0.12 dB
3	Spurious emissions, conducted	± 0.11 dB
4	All emissions, radiated(<1 GHz)	± 4.56 dB
5	All emissions, radiated(1 GHz - 18 GHz)	± 4.22 dB
6	All emissions, radiated(18 GHz- 40 GHz)	± 4.36 dB



### 5. Test Results and Measurement Data

### 5.1. Antenna requirement

### Standard requirement: FCC Part15 C Section 15.203 /247(c)

#### 15.203 requirement:

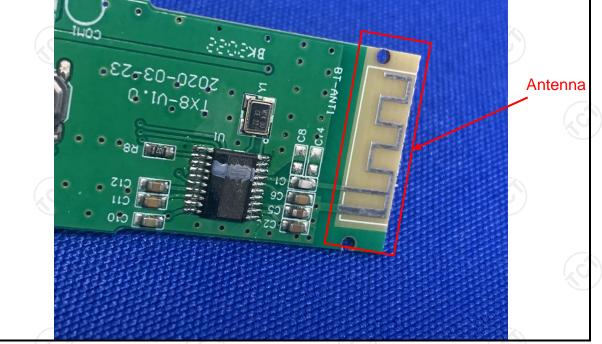
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

#### E.U.T Antenna:

The Bluetooth antenna is PCB antenna which permanently attached, and the best case gain of the antenna is -0.58dBi.



### 5.2. Conducted Emission

### 5.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207						
Test Method:	ANSI C63.10:2013	ANSI C63.10:2013					
Frequency Range:	150 kHz to 30 MHz						
Receiver setup:	RBW=9 kHz, VBW=30	) kHz, Sweep time	e=auto				
	Frequency range	Limit (	dBuV)				
	(MHz)	Quasi-peak	Average				
Limits:	0.15-0.5	66 to 56*	56 to 46*				
	0.5-5	56	46				
	5-30	60	50				
	Referenc	e Plane					
Test Setup:	E.U.T AC power Test table/Insulation plane Remarkc E.U.T: Equipment Under Test LISN: Line Impedence Stabilization N Test table height=0.8m	EMI Receiver	AC power				
Test Mode:	Transmitting Mode						
	<ol> <li>The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all o the interface cables must be changed according to</li> </ol>						
Test Procedure:	<ul> <li>coupling impedance refer to the block photographs).</li> <li>3. Both sides of A.C. conducted interfere emission, the relativ the interface cables</li> </ul>	e with 50ohm terr diagram of the line are checke nce. In order to fi re positions of equ must be changed	nination. (Pleas test setup an ed for maximur nd the maximur ipment and all o l according to				
Test Procedure:	<ul> <li>coupling impedance refer to the block photographs).</li> <li>3. Both sides of A.C. conducted interfere emission, the relative</li> </ul>	e with 50ohm terr diagram of the line are checke nce. In order to fi re positions of equ must be changed	nination. (Pleas test setup an ed for maximur nd the maximur ipment and all o l according to				

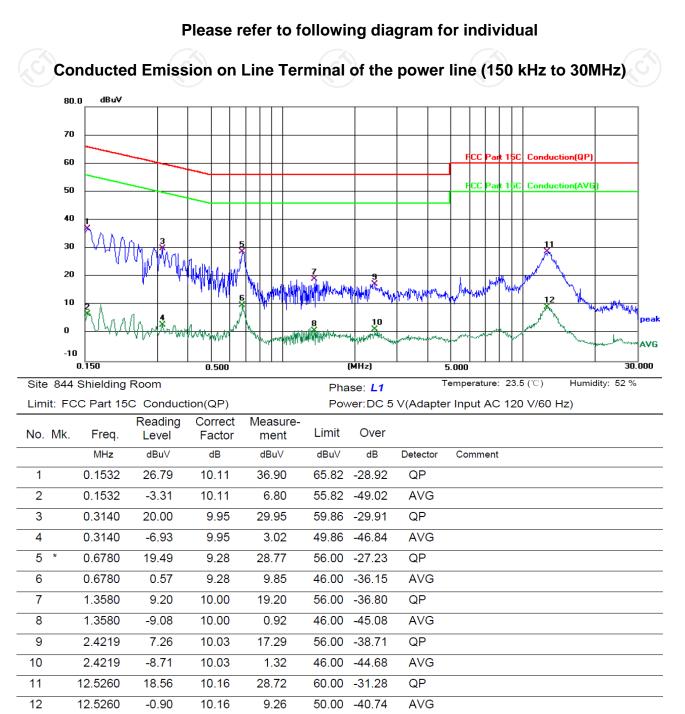
### 5.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)						
Equipment	Manufacturer	Model	Serial Number	Calibration Due		
EMI Test Receiver	R&S	ESCI3	100898	Jul. 03, 2023		
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	Feb. 20, 2024		
Line-5	тст	CE-05		Jul. 03, 2024		
EMI Test Software	Shurple Technology	EZ-EMC	1	1		



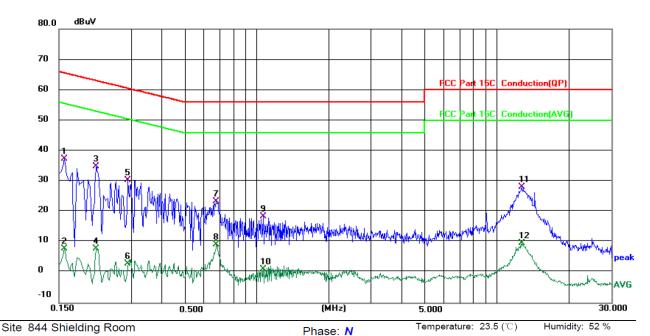
Page 9 of 75

#### 5.2.3. Test data



#### Note:

Freq. = Emission frequency in MHz Reading level  $(dB\mu V) = Receiver reading$ Corr. Factor (dB) = LISN factor + Cable loss Measurement  $(dB\mu V) = Reading \, level \, (dB\mu V) + Corr. Factor \, (dB)$ Limit  $(dB\mu V) = Limit$  stated in standard Margin (dB) = Measurement (dB $\mu$ V) – Limits (dB $\mu$ V) Q.P. =Quasi-Peak AVG =average \* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz. Page 10 of 75



#### Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)

Limit: FCC Part 15C Conduction(QP)

TCT通测检测 TESTING CENTRE TECHNOLOGY

Power:DC 5 V(Adapter Input AC 120 V/60 Hz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBuV	dBu∨	dB	Detector	Comment
1		0.1580	27.24	10.10	37.34	65.57	-28.23	QP	
2		0.1580	-2.28	10.10	7.82	55.57	-47.75	AVG	
3	*	0.2139	24.99	9.95	34.94	63.05	-28.11	QP	
4		0.2139	-2.06	9.95	7.89	53.05	-45.16	AVG	
5		0.2900	20.75	9.65	30.40	60.52	-30.12	QP	
6		0.2900	-6.60	9.65	3.05	50.52	-47.47	AVG	
7		0.6780	14.23	9.29	23.52	56.00	-32.48	QP	
8		0.6780	-0.07	9.29	9.22	46.00	-36.78	AVG	
9		1.0660	9.59	8.92	18.51	56.00	-37.49	QP	
10		1.0660	-7.89	8.92	1.03	46.00	-44.97	AVG	
11		12.7700	17.82	10.23	28.05	60.00	-31.95	QP	
12		12.7700	-0.54	10.23	9.69	50.00	-40.31	AVG	

#### Note1:

Freq. = Emission frequency in MHz

Reading level  $(dB\mu V) = Receiver reading$ 

Corr. Factor (dB) = LISN factor + Cable loss

Measurement  $(dB\mu V) = Reading \, level \, (dB\mu V) + Corr. Factor \, (dB)$ 

Limit  $(dB\mu V) = Limit$  stated in standard

Margin (dB) = Measurement (dB $\mu$ V) – Limits (dB $\mu$ V)

Q.P. =Quasi-Peak AVG =average

\* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

#### Note2:

Measurements were conducted in all three channels (high, middle, low) and two modulation (GFSK, Pi/4 DQPSK), and the worst case Mode (Lowest channel and Pi/4 DQPSK) was submitted only.



### 5.3. Conducted Output Power

### 5.3.1. Test Specification

3.5.1. Test Specification					
Test Requirement:	FCC Part15 C Section 15.247 (b)(1)				
Test Method:	KDB 558074 D01 v05r02				
Limit:	Section 15.247 (b) 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.				
Test Setup:	Spectrum Analyzer				
Test Mode:	Transmitting mode with modulation				
Test Procedure:	Use the following spectrum analyzer settings: Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel RBW > the 20 dB bandwidth of the emission being measured VBW ≥ RBW Sweep = auto Detector function = peak Trace = max hold Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission.				
Test Result:	PASS				

#### 5.3.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	<b>Calibration Due</b>
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB	9 1	



# 5.4. 20dB Occupy Bandwidth

### 5.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)			
Test Method:	KDB 558074 D01 v05r02			
Limit:	N/A C			
Test Setup:	Spectrum Analyzer EUT			
Test Mode:	Transmitting mode with modulation			
Test Procedure:	<ol> <li>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.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hopping channel; 1%≤RBW≤5% of the 20 dB bandwidth; VBW≥3RBW; Sweep = auto; Detector function = peak; Trace = max hold.</li> <li>Measure and record the results in the test report.</li> </ol>			
Test Result:	PASS			

### 5.4.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB	/	/



### 5.5. Carrier Frequencies Separation

### 5.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	KDB 558074 D01 v05r02
Limit:	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.
Test Setup:	Spectrum Analyzer EUT
Test Mode:	Hopping mode
Test Procedure:	<ol> <li>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.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Enable the EUT hopping function.</li> <li>Use the following spectrum analyzer settings: Span = wide enough to capture the peaks of two adjacent channels; RBW is set to approximately 30% of the channel spacing, adjust as necessary to best identify the center of each individual channel; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold.</li> <li>Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Record the value in report.</li> </ol>
Test Result:	PASS

### 5.5.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	<b>Calibration Due</b>
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB		, ~

Page 14 of 75

# 5.6. Hopping Channel Number

### 5.6.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	KDB 558074 D01 v05r02
Limit:	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.
Test Setup:	
	Spectrum Analyzer
Test Mode:	Hopping mode
Test Procedure:	<ol> <li>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.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Enable the EUT hopping function.</li> <li>Use the following spectrum analyzer settings: Span = the frequency band of operation; set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold.</li> <li>The number of hopping frequency used is defined as the number of total channel.</li> <li>Record the measurement data in report.</li> </ol>
Test Result:	PASS
E 6 2. Toot Instruments	

### 5.6.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	<b>Calibration Due</b>
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB	/	/

### 5.7.1. Test Specification

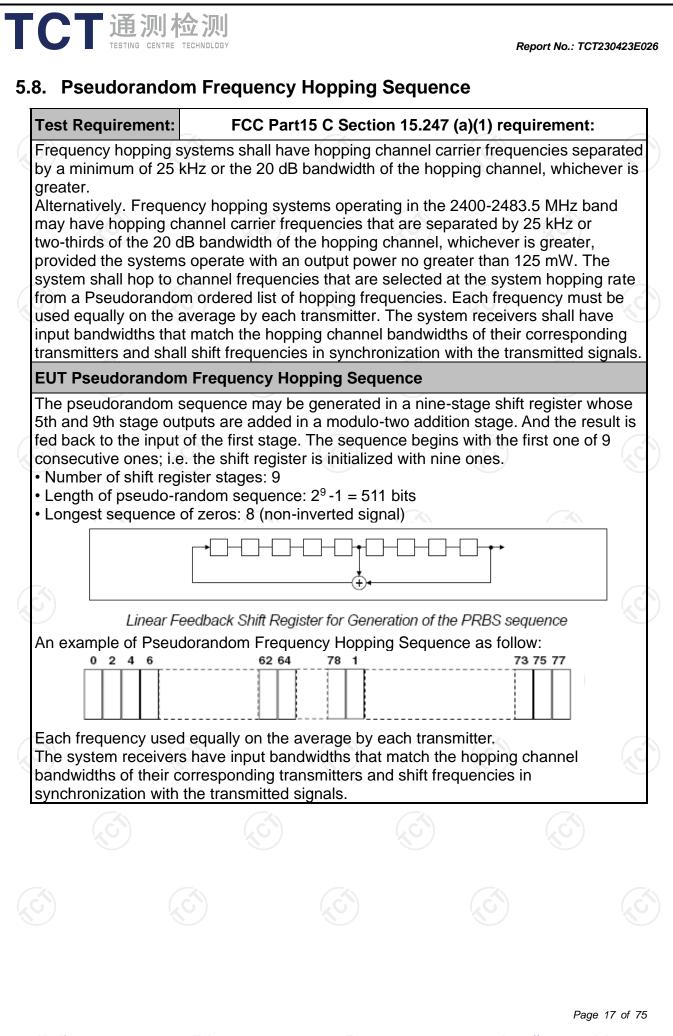
Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	KDB 558074 D01 v05r02
Limit:	The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.
Test Setup:	Spectrum Analyzer EUT
Test Mode:	Hopping mode
Test Procedure:	<ol> <li>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.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Enable the EUT hopping function.</li> <li>Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel; RBW shall be ≤ channel spacing and where possible RBW should be set &gt;&gt; 1 / T, where T is the expected dwell time per channel; VBW≥RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold.</li> <li>Measure and record the results in the test report.</li> </ol>
Test Result:	PASS

### 5.7.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	<b>Calibration Due</b>
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB		

Report No.: TCT230423E026

Page 16 of 75





### 5.9. Conducted Band Edge Measurement

### 5.9.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB 558074 D01 v05r02
Limit:	In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.
Test Setup:	Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Set RBW = 100 kHz (≥1% span=10MHz), VBW = 300 kHz (≥RBW). 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.</li> <li>Enable hopping function of the EUT and then repeat step 2 and 3.</li> <li>Measure and record the results in the test report.</li> </ol>
Test Result:	PASS

#### 5.9.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	<b>Calibration Due</b>
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB	1	1
$(\mathcal{S})$	(G)		$\mathcal{S}$	$(\mathcal{G})$



### 5.10. Conducted Spurious Emission Measurement

### 5.10.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB 558074 D01 v05r02
Limit:	In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.
Test Setup:	Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol> <li>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.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.</li> <li>Measure and record the results in the test report.</li> <li>The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</li> </ol>
Test Result:	PASS

### 5.10.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	<b>Calibration Due</b>
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB		

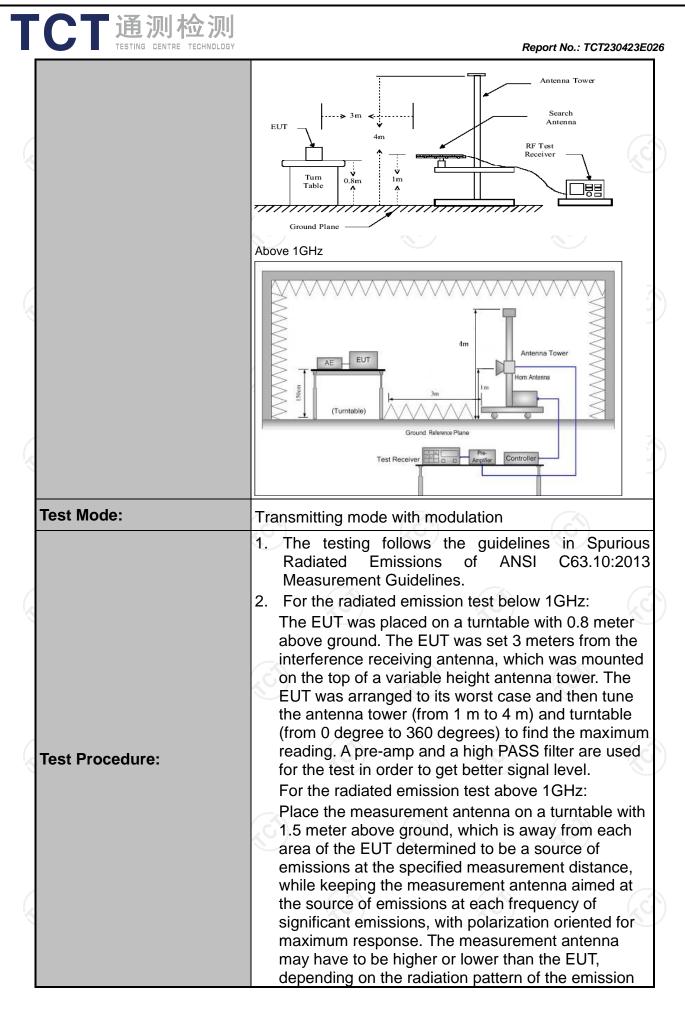


### 5.11.1. Test Specification

TCT通测检测 TESTING CENTRE TECHNOLOGY

Test Requirement:	FCC Part15	C Section	n 15.209			K
Test Method:	ANSI C63.10	):2013				
Frequency Range:	9 kHz to 25 (	GHz				6
Measurement Distance:	3 m				R.	)
Antenna Polarization:	Horizontal &	Vertical				
	Frequency	Detector		VBW		Remark
Receiver Setup:	9kHz- 150kHz 150kHz- 30MHz	Quasi-pea Quasi-pea		1kHz 30kHz	1	si-peak Value si-peak Value
	30MHz-1GHz Above 1GHz	Quasi-pea Peak	1MHz	300KHz 3MHz	P	si-peak Value eak Value
		Peak	1MHz	10Hz	I	erage Value
	Frequen		Field Str (microvolts	s/meter)	Measurement Distance (meters)	
	0.009-0.4		2400/F( 24000/F			<u>300</u> 30
	1.705-30		30		30	
	30-88		100		3	
Limit:	<u>88-216</u> 216-96		150		1	3 3
Emilt.	Above 9		200 500		3	
	Frequency     (min       Above 1GHz		rovolts/meter) (mete 500 3 5000 3		rs)	Average Peak
Test setup:	EUT	stance = 3m	v 30MHz		Compu Amplifier	
5) (S)	S.		(			
						Page 20 of 2

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



Page 21 of 75

	rea ma an res ab 3. Sa 4. U (	= max hold for (3) For average me correction facto	um signal. The fina na elevation shall sions. The measur r maximum emiss of heights of from reference ground n power setting a uously. ectrum analyzer s enough to fully ca measured; Hz for f < 1 GHz, W≥RBW; Detector function peak easurement: use o	al be that which rement sions shall be a 1 m to 4 m I plane. and enable the settings: apture the RBW=1MHz = peak; Trace duty cycle
	J.	On time =N1*L1 Where N1 is nu length of type 1 Average Emiss Level + 20*log(	ion Level = Peak (Duty cycle)	ulses, L1 is Emission
Test results:	PASS	On time =N1*L1 Where N1 is null length of type 1 Average Emiss Level + 20*log( Corrected Read Loss + Read Let	umber of type 1 pu I pulses, etc. sion Level = Peak	ulses, L1 is Emission for + Cable
Test results:	PASS	On time =N1*L1 Where N1 is null length of type 1 Average Emiss Level + 20*log( Corrected Read Loss + Read Let	umber of type 1 pu I pulses, etc. sion Level = Peak (Duty cycle) ing: Antenna Fact	ulses, L1 is Emission for + Cable
Test results:	PASS	On time =N1*L1 Where N1 is null length of type 1 Average Emiss Level + 20*log( Corrected Read Loss + Read Let	umber of type 1 pu I pulses, etc. sion Level = Peak (Duty cycle) ing: Antenna Fact	ulses, L1 is Emission for + Cable
Test results:	PASS	On time =N1*L1 Where N1 is null length of type 1 Average Emiss Level + 20*log( Corrected Read Loss + Read Let	umber of type 1 pu I pulses, etc. sion Level = Peak (Duty cycle) ing: Antenna Fact	ulses, L1 is Emission for + Cable

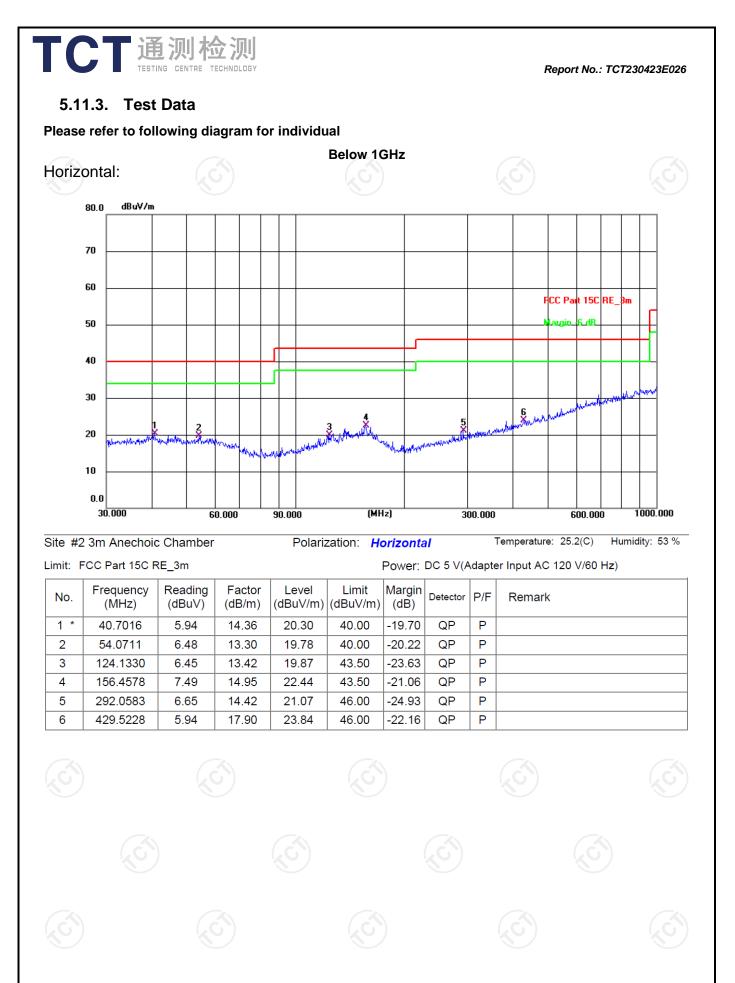


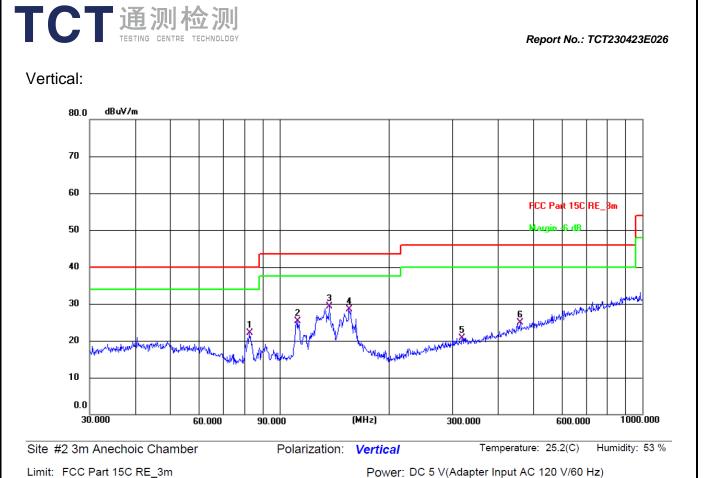
### 5.11.2. Test Instruments

TCT 通测检测 TESTING CENTRE TECHNOLOGY

Radiated Emission Test Site (966)								
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due				
EMI Test Receiver	R&S	ESIB7	100197	Jul. 03, 2023				
Spectrum Analyzer	R&S	FSQ40	200061	Jul. 03, 2023				
Pre-amplifier	SKET	LNPA_0118G- 45	SK2021012 102	Feb. 20, 2024				
Pre-amplifier	SKET	LNPA_1840G- 50	SK2021092 03500	Feb. 20, 2024				
Pre-amplifier	HP	8447D	2727A05017	Jul. 03, 2023				
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 11, 2023				
Broadband Antenna	Schwarzbeck	VULB9163	340	Jul. 05, 2023				
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jul. 05, 2023				
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Feb. 24, 2024				
Antenna Mast	Keleto	RE-AM	1					
Coaxial cable	SKET	RC-18G-N-M	1	Feb. 24, 2024				
Coaxial cable	SKET	RC_40G-K-M	1	Feb. 24, 2024				
EMI Test Software	Shurple Technology	EZ-EMC	(C)	, «				

Page 23 of 75





(MHz) (dBuV) (dB/m)(dBuV/m) (dBuV/m) (dB) QP 82.6482 12.20 9.93 22.13 40.00 -17.87 Ρ 1 2 112.1305 13.26 25.34 43.50 QP Ρ 12.08 -18.16 3 137.4202 15.15 14.22 29.37 43.50 -14.13 QP Ρ 155.3644 13.35 15.06 28.41 43.50 -15.09 QP Ρ 4 5 318.8170 5.41 15.29 20.70 46.00 -25.30 QP Ρ 460.7271 6.35 18.62 24.97 46.00 -21.03 QP Ρ 6

Limit

Margin

Detector

P/F

Remark

- **Note:** 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.
  - 2. Measurements were conducted in all three channels (high, middle, low) and two modulation (GFSK,
  - *Pi/4* DQPSK) and the worst case Mode (Lowest channel and *Pi/4* DQPSK) was submitted only. 3. Freq. = Emission frequency in MHz
  - Measurement ( $dB\mu V/m$ ) = Reading level ( $dB\mu V$ ) + Corr. Factor (dB) Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
  - $Limit (dB\mu V/m) = Limit stated in standard$

Reading

Factor

Level

Frequency

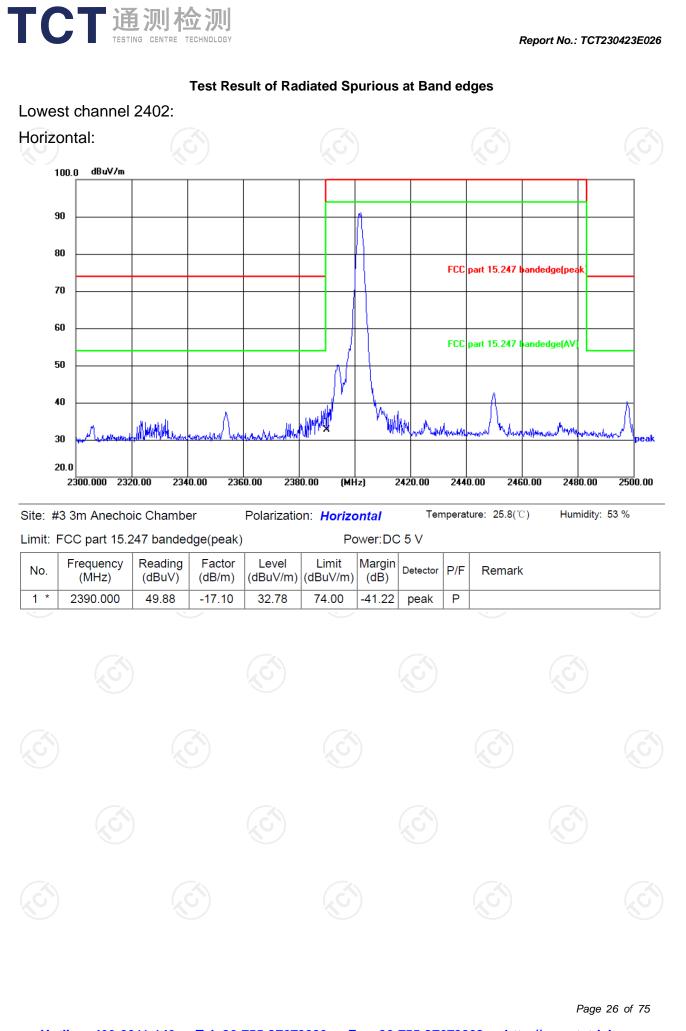
No.

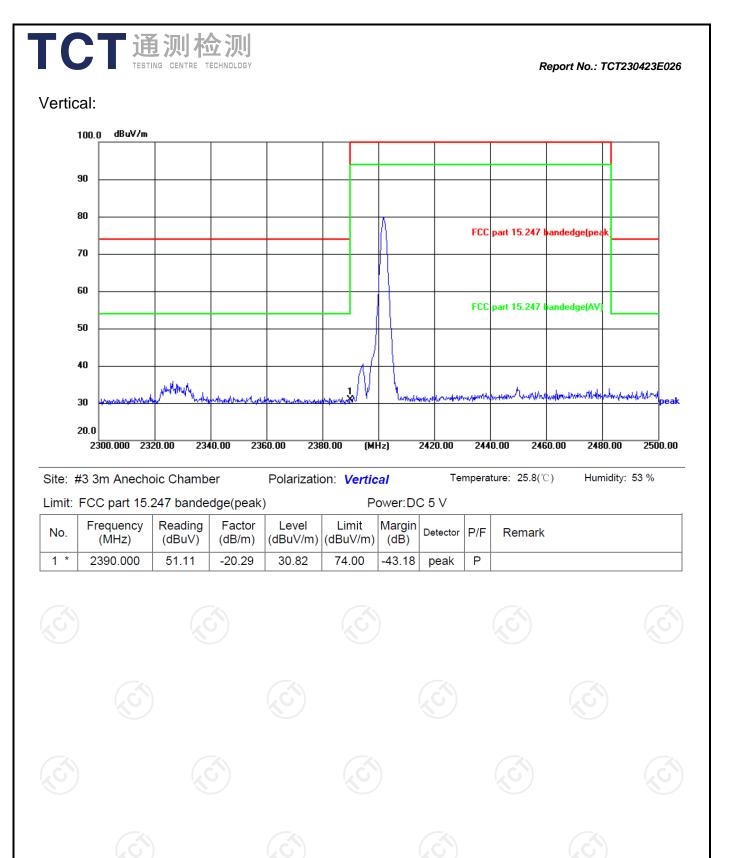
Over  $(dB) = Measurement (dB\mu V/m) - Limits (dB\mu V/m)$ 

\* is meaning the worst frequency has been tested in the test frequency range.

Page 25 of 75

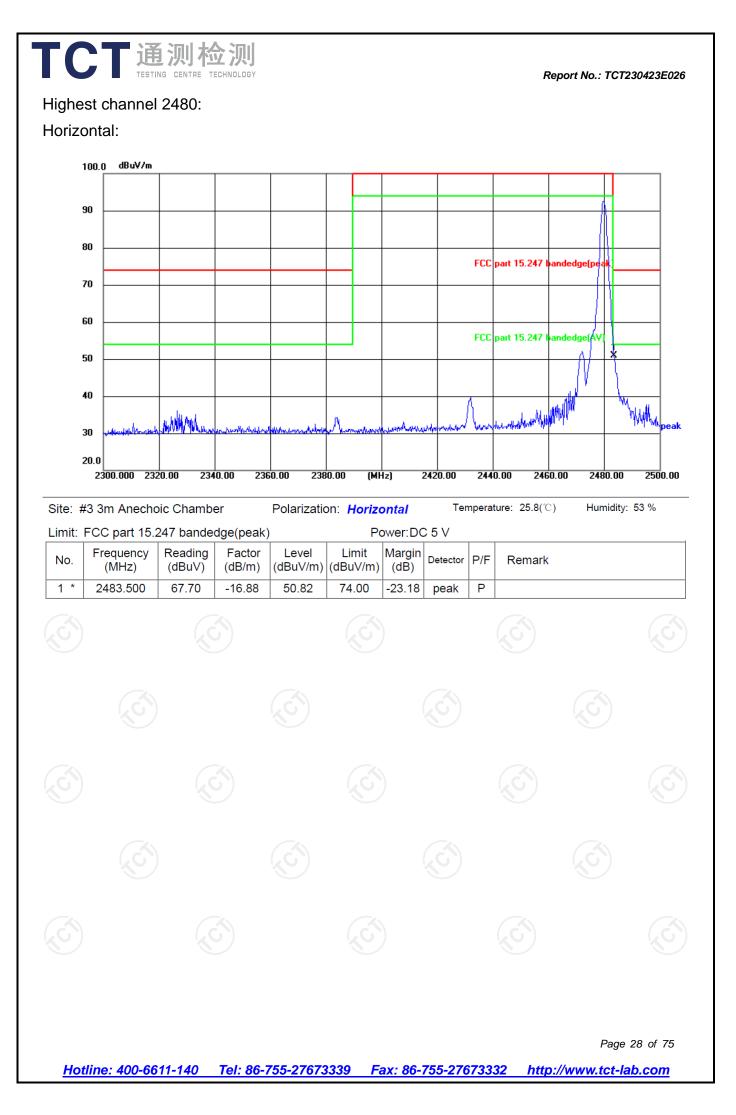


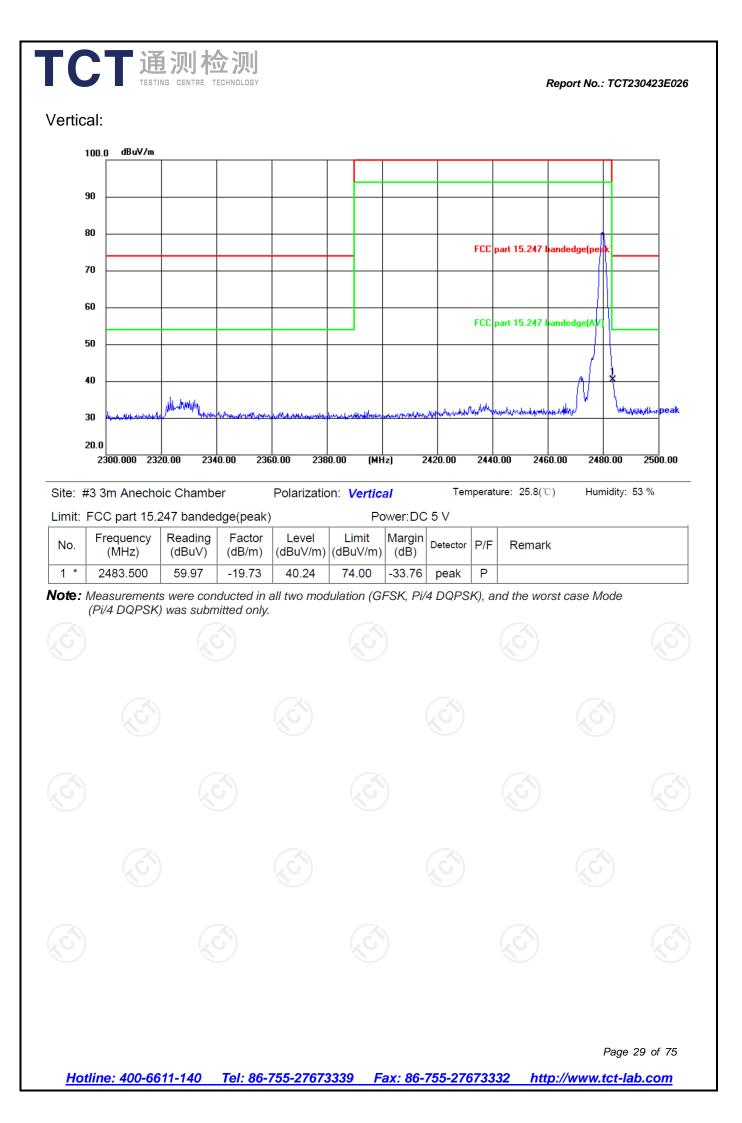




Page 27 of 75

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com





# 

#### Above 1GHz

Modulation	Type: Pi/4	4 DQPSK							
Low channe	el: 2402 N	1Hz							
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak	A \ /	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4804	Н	44.75		0.66	45.41		74	54	-8.59
7206	Н	35.32		9.50	44.82		74	54	-9.18
	H				)			754	
(	<b>G</b>		Û.	<ul> <li>)</li> </ul>	()	.G`)		(G)	
4804	V	45.68		0.66	46.34		74	54	-7.66
7206	V	36.07		9.50	45.57		74	54	-8.43
	V								

Middle cha	nnel: 2441	MHz		N N	))				2
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Peak		Peak limit (dBµV/m)		Margin (dB)
4882	Н	45.77		0.99	46.76	<u> </u>	74	54	-7.24
7323	KCĤ)	35.35	LX O	9.87	45.22	<u>, O 1).</u>	74	54	-8.78
	Ĥ								
4882	V	46.18		0.99	47.17		74	54	-6.83
7323	V	35.20		9.87	45.07		74	54	-8.93
27	V			X	27				

High channel: 2480 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Peak	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4960	H	45.56		1.33	46.89		74	54	-7.11
7440	Н	34.87		10.22	45.09		74	54	-8.91
	Н								
				(.6			$(\mathbf{a})$		(.6
4960	V	45.06		1.33	46.39		74	54	-7.61
7440	V	35.35		10.22	45.57		74	54	-8.43
	V								

#### Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss - Pre-amplifier

2. Margin (dB) = Emission Level (Peak) (dB $\mu$ V/m)-Average limit (dB $\mu$ V/m)

3. The emission levels of other frequencies are very lower than the limit and not show in test report.

4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

5. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB

below the limits or the field strength is too small to be measured.

6. Measurements were conducted in all two modulation (GFSK, Pi/4 DQPSK), and the worst case Mode (Pi/4 DQPSK) was submitted only.

7. All the restriction bands are compliance with the limit of 15.209.

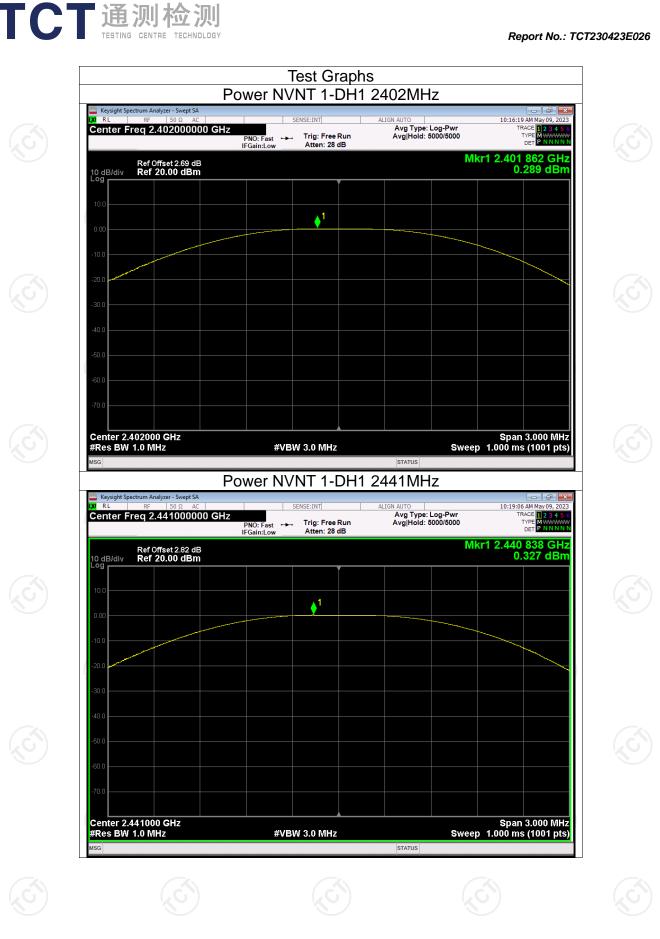


# **Appendix A: Test Result of Conducted Test**

Maximum Conducted Output Power								
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict			
NVNT	1-DH1	2402	0.29	30	Pass			
NVNT	1-DH1	2441	0.33	30	Pass			
NVNT	1-DH1	2480	-0.47	30	Pass			
NVNT	2-DH1	2402	0.97	21	Pass			
NVNT	2-DH1	2441	0.95	21	Pass			
NVNT	2-DH1	2480	0.19	21	Pass			



Page 31 of 75



# 10:21:11 AM May 09, 2023 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNN Avg Type: Log-Pwr Avg|Hold: 5000/5000 Trig: Free Run Atten: 28 dB PNO: Fast ++++ IFGain:Low Mkr1 2.479 868 GHz -0.471 dBm Ref Offset 2.91 dB Ref 20.00 dBm 10 dB/div Log V Center 2.480000 GHz #Res BW 1.0 MHz Span 3.000 MHz Sweep 1.000 ms (1001 pts) #VBW 3.0 MHz STATUS Power NVNT 2-DH1 2402MHz Keysight Spectrum Analyzer - Swept SA 10:30:37 AM May 09, 2023 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N KI RL Avg Type: Log-Pwr Avg|Hold: 5000/5000 Center Freq 2.402000000 GHz PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 28 dB Mkr1 2.401 928 5 GHz 0.970 dBm Ref Offset 2.69 dB Ref 20.00 dBm 10 dB/div Log Ø Center 2.402000 GHz #Res BW 2.0 MHz Span 6.500 MHz Sweep 1.000 ms (1001 pts) #VBW 6.0 MHz STATUS

Power NVNT 1-DH1 2480MHz

KI RL

Keysight Spectrum Analyzer - Swept SA

Center Freq 2.480000000 GHz

Report No.: TCT230423E026

Page 33 of 75

### 10:33:31 AM May 09, 2023 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N KI RL Avg Type: Log-Pwr Avg|Hold: 5000/5000 Center Freq 2.441000000 GHz Trig: Free Run Atten: 28 dB PNO: Fast ++++ IFGain:Low Mkr1 2.440 850 5 GHz 0.951 dBm Ref Offset 2.82 dB Ref 20.00 dBm 10 dB/div Log **♦**<sup>1</sup> Center 2.441000 GHz #Res BW 2.0 MHz Span 6.500 MHz Sweep 1.000 ms (1001 pts) #VBW 6.0 MHz STATUS Power NVNT 2-DH1 2480MHz Keysight Spectrum Analyzer - Swept SA 10:35:44 AM May 09, KI RL Center Freq 2.480000000 GHz TRACE 1 2 3 4 5 6 TYPE MWWWW DET P NNNN Avg Type: Log-Pwr Avg|Hold: 5000/5000 PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 28 dB Mkr1 2.479 916 GHz 0.190 dBm Ref Offset 2.91 dB Ref 20.00 dBm 10 dB/div Log ▲1 Center 2.480000 GHz #Res BW 2.0 MHz Span 6.000 MHz Sweep 1.000 ms (1001 pts) #VBW 6.0 MHz STATUS

Report No.: TCT230423E026

Power NVNT 2-DH1 2441MHz

Keysight Spectrum Analyzer - Swept SA













Page 34 of 75

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	0.884	Pass
NVNT 🚫	1-DH1	2441	0.881	Pass
NVNT	1-DH1	2480	0.881	Pass
NVNT	2-DH1	2402	1.290	Pass
NVNT	2-DH1	2441	1.287	Pass
NVNT	2-DH1	2480	1.286	Pass

#### -20dB Bandwidth



TCT通测检测 TESTING CENTRE TECHNOLOGY

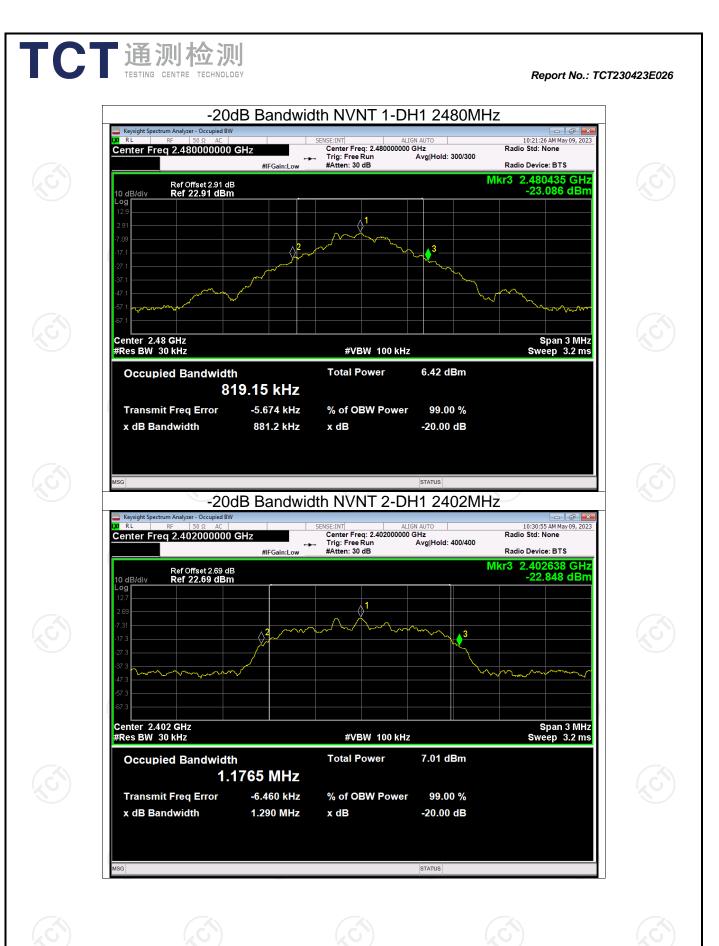


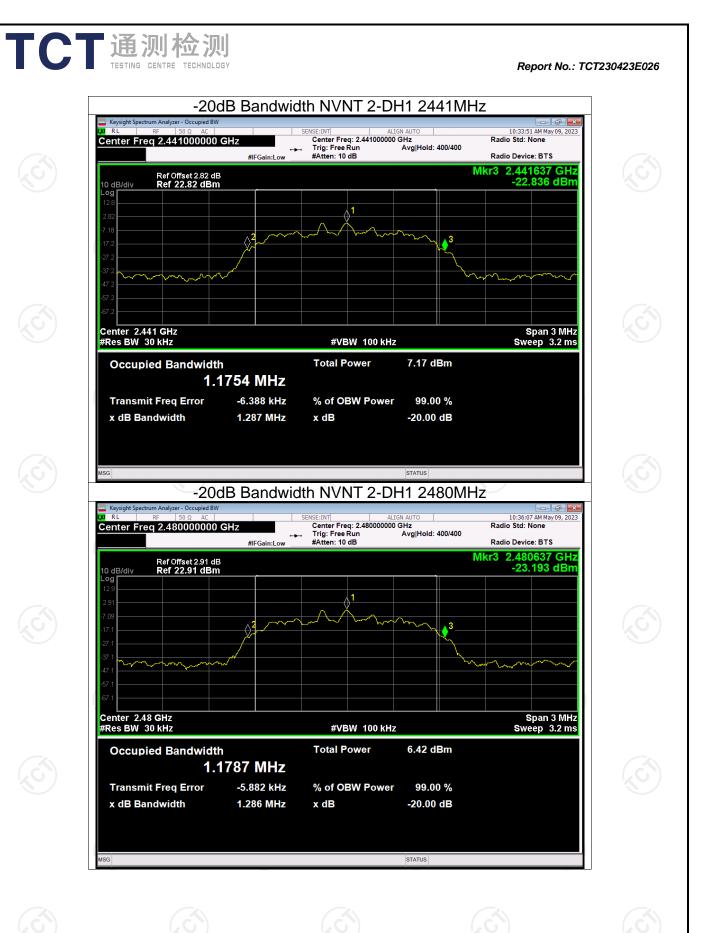


Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



Page 36 of 75





Page 38 of 75

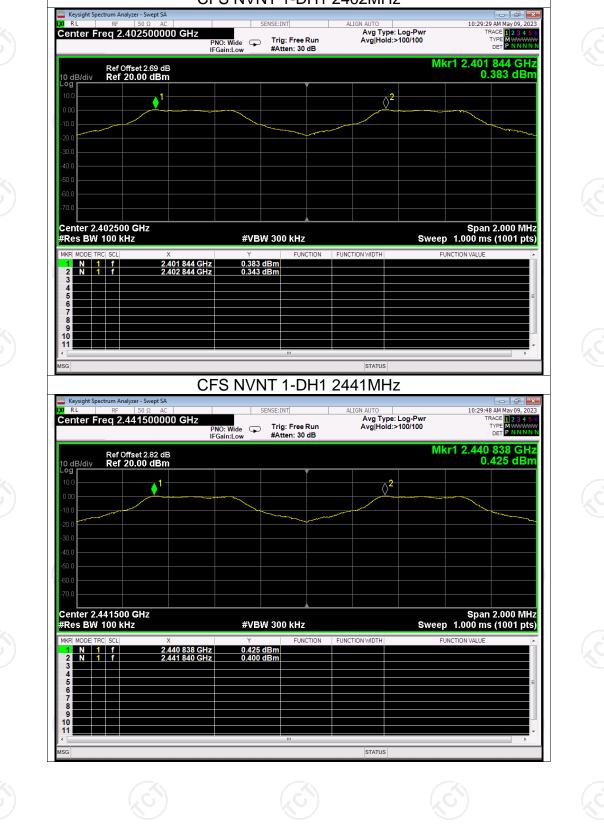
	••••••				
Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
1-DH1	2401.844	2402.844	1.000	0.884	Pass
1-DH1	2440.838	2441.840	1.002	0.884	Pass
1-DH1	2478.844	2479.844	1.000	0.884	Pass
2-DH1	2401.844	2402.842	0.998	0.860	Pass
2-DH1	2440.842	2441.850	1.008	0.860	Pass
2-DH1	2478.844	2479.848	1.004	0.860	Pass
	1-DH1 1-DH1 1-DH1 2-DH1 2-DH1	Mode(MHz)1-DH12401.8441-DH12440.8381-DH12478.8442-DH12401.8442-DH12440.842	Wode(MHz)(MHz)1-DH12401.8442402.8441-DH12440.8382441.8401-DH12478.8442479.8442-DH12401.8442402.8422-DH12440.8422441.850	Mode(MHz)(MHz)(MHz)1-DH12401.8442402.8441.0001-DH12440.8382441.8401.0021-DH12478.8442479.8441.0002-DH12401.8442402.8420.9982-DH12440.8422441.8501.008	Mode(MHz)(MHz)(MHz)(MHz)1-DH12401.8442402.8441.0000.8841-DH12440.8382441.8401.0020.8841-DH12478.8442479.8441.0000.8842-DH12401.8442402.8420.9980.8602-DH12440.8422441.8501.0080.860

#### **Carrier Frequencies Separation**



Page 39 of 75

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



Test Graphs CFS NVNT 1-DH1 2402MHz

Report No.: TCT230423E026

Page 40 of 75

## Mkr1 2.478 844 GHz -0.407 dBm Ref Offset 2.91 dB Ref 20.00 dBm 10 d Log ♦<sup>1</sup> $\Diamond^2$ Center 2.479500 GHz #Res BW 100 kHz Span 2.000 MHz Sweep 1.000 ms (1001 pts) #VBW 300 kHz N 1 f N 1 f 2.478 844 GHz 2.479 844 GHz -0.407 dBm -0.438 dBm 234 10 11 CFS NVNT 2-DH1 2402MHz Keysight Spectrum Analyzer - Swept SA 10:39:01 AM May 09, 2023 TRACE 1 2 3 4 5 0 TYPE M WWWW DET P N N N N Avg Type: Log-Pw Avg|Hold:>100/100 Center Freg 2.402500000 GHz Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.401 844 GHz 0.395 dBm Ref Offset 2.69 dB Ref 20.00 dBm 10 dB/div Log **r ≬**1 ⊘<sup>2</sup> Center 2.402500 GHz #Res BW 100 kHz Span 2.000 MHz Sweep 1.000 ms (1001 pts) #VBW 300 kHz FUNCTION WIDTH TION N 1 f N 1 f 2.401 844 GHz 2.402 842 GHz 0.395 dBm 0.403 dBm

CFS NVNT 1-DH1 2480MHz

Trig: Free Run #Atten: 30 dB

PNO: Wide 😱 IFGain:Low

ALTGN AL

Avg Type: Log-Pwr Avg|Hold:>100/100

🔤 Keysight Spe KI RL Center Freg 2.479500000 GHz

10 11

Report No.: TCT230423E026

10:23:04 AM May 09, 20 TRACE 1 2 3 4 TYPE MWWW DET P N N N

TYPE DET



Page 41 of 75



STATUS

# 10 d Log **∲** $\Diamond^2$ Center 2.441500 GHz #Res BW 100 kHz Span 2.000 MHz Sweep 1.000 ms (1001 pts) #VBW 300 kHz N 1 f N 1 f 2.440 842 GHz 2.441 850 GHz 0.473 dBm 0.386 dBm 234 10 11 CFS NVNT 2-DH1 2480MHz Keysight Spectrum Analyzer - Swept SA 10:38:09 AM May 09, 2023 TRACE 1 2 3 4 5 0 TYPE M WWWW DET P N N N N Avg Type: Log-Pw Avg|Hold:>100/100 Center Freg 2.479500000 GHz Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.478 844 GHz -0.334 dBm Ref Offset 2.91 dB Ref 20.00 dBm 10 dB/div Log **r** \_\_\_\_2 ▲1 Center 2.479500 GHz #Res BW 100 kHz Span 2.000 MHz Sweep 1.000 ms (1001 pts) #VBW 300 kHz FUNCTION WIDTH TION N 1 f N 1 f 2.478 844 GHz 2.479 848 GHz -0.334 dBm -0.308 dBm 10 11 STATUS

CFS NVNT 2-DH1 2441MHz

Trig: Free Run #Atten: 30 dB

PNO: Wide 😱 IFGain:Low

AI IGN

Avg Type: Log-Pwr Avg|Hold:>100/100

KI RL

🔤 Keysight Spectrum Analyzer -

Center Freg 2.441500000 GHz

Ref Offset 2.82 dB Ref 20.00 dBm

Report No.: TCT230423E026

Page 42 of 75

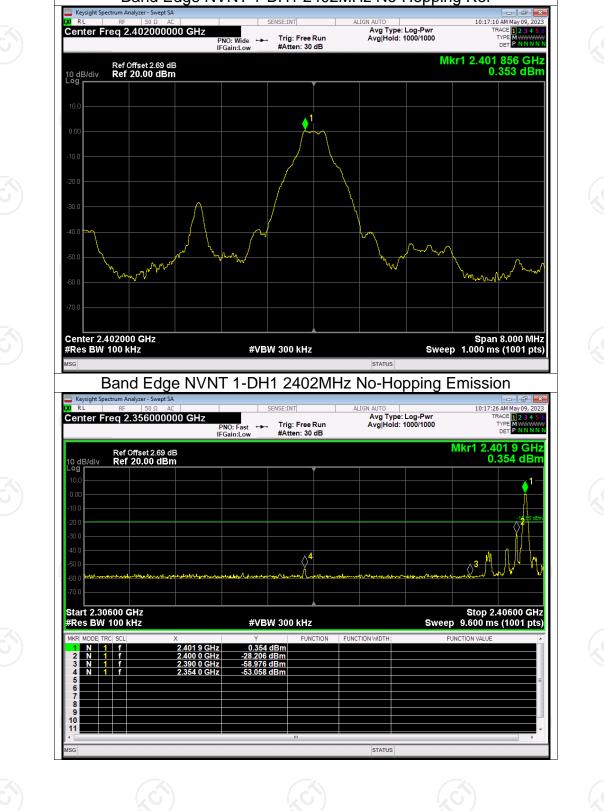
10:38:35 AM May 09, 20 TRACE 1 2 3 4 TYPE MWWW DET P N N N

Mkr1 2.440 842 GHz 0.473 dBm

			Page 43 of 75
Hotline: 400-6611-140	Tel: 86-755-27673339	Fax: 86-755-27673332	http://www.tct-lab.com

			вапа саде			
Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	No-Hopping	-53.40	-20	Pass
NVNT	1-DH1	2480	No-Hopping	-50.23	-20	Pass
NVNT	2-DH1	2402	No-Hopping	-53.88	-20	Pass
NVNT	2-DH1	2480	No-Hopping	-49.80	-20	Pass
C	C)	(d)	(	3	$(\mathbf{c})$	





Test Graphs Band Edge NVNT 1-DH1 2402MHz No-Hopping Ref

TCT通测检测 TESTING CENTRE TECHNOLOGY

Report No.: TCT230423E026

Page 44 of 75

# 10:21:36 AM May 09, 20 TRACE 1 2 3 4 9 TYPE M Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Low Mkr1 2.479 848 GHz -0.394 dBm Ref Offset 2.91 dB Ref 20.00 dBm 10 dB/div Loa human www. Center 2.480000 GHz #Res BW 100 kHz Span 8.000 MHz Sweep 1.000 ms (1001 pts) #VBW 300 kHz STATUS Band Edge NVNT 1-DH1 2480MHz No-Hopping Emission Keysight Spectrum Analyzer - Swept Sk 41 AM May 09 Avg Type: Log-Pw Avg|Hold: 200/200 1 2 3 4 5 MWWWW P NNNN Center Freq 2.526000000 GHz Trig: Free Run #Atten: 30 dB TYPE PNO: Fast ↔→→ IFGain:Low Mkr1 2.479 9 GHz -0.648 dBm Ref Offset 2.91 dB Ref 20.00 dBm 10 dB/div Log $\Diamond^3$ Stop 2.57600 GHz Sweep 9.600 ms (1001 pts) Start 2.47600 GHz #Res BW 100 kHz #VBW 300 kHz FUNCTION WIDTH FUNCTION N 1 f N 1 f N 1 f N 1 f 2.479 9 GHz 2.483 5 GHz 2.500 0 GHz 2.484 5 GHz -50.981 dBm -60.637 dBm -50.629 dBm 10 11 STATUS

Band Edge NVNT 1-DH1 2480MHz No-Hopping Ref

-----

Avg Type: Log-Pwr Avg|Hold: 1000/1000

- Keysight

KI RL



Center Freg 2.480000000 GHz

STATUS

-28.230 dBm -28.230 dBm -59.242 dBm -53.563 dBm

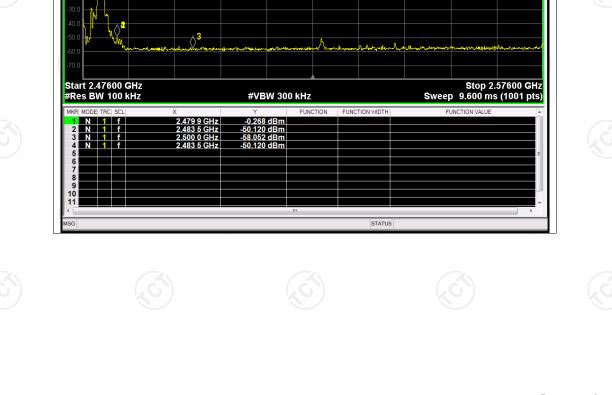


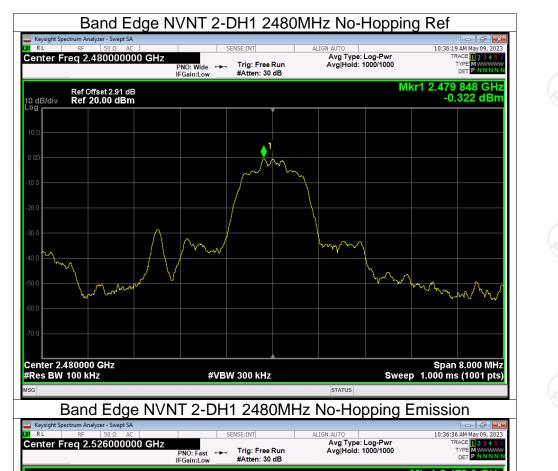
 N
 1
 f

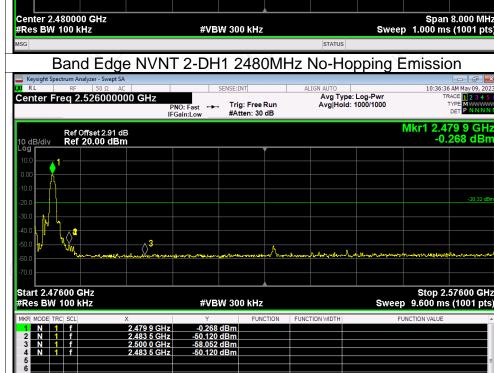
 N
 1
 f

 N
 1
 f

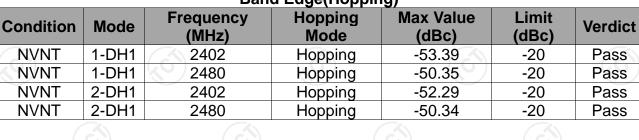
 N
 1
 f

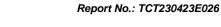






Page 47 of 75







**Band Edge(Hopping)** 

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

Page 48 of 75

Avg Type: Log-Pwr Avg|Hold: 3000/3000 TRACE 1 2 3 4 5 TYPE MWWWW DET PNNNN PNO: Wide +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.405 168 GHz 0.195 dBm Ref Offset 2.69 dB Ref 20.00 dBm 10 dB/div Log 1 V N M Center 2.402000 GHz #Res BW 100 kHz Span 8.000 MHz Sweep 1.000 ms (1001 pts) #VBW 300 kHz STATUS Band Edge(Hopping) NVNT 1-DH1 2402MHz Hopping Emission Keysight Spectru Center Freq 2.356000000 GHz Avg Type: Log-Pwr Avg|Hold: 3000/3000 PNO: Fast ---- Trig: Free Run IFGain:Low #Atten: 30 dB TYP Mkr1 2.401 9 GHz 0.359 dBm Ref Offset 2.69 dB Ref 20.00 dBm 10 dB/di Log <u>×</u>1 ĬŬ mannan winner Start 2.30600 GHz #Res BW 100 kHz Stop 2.40600 GHz Sweep 9.600 ms (1001 pts) #VBW 300 kHz FUNCTION WIDTH 1 f 1 f 1 f -28.292 dBm -54.213 dBm -53.193 dBm N N 2.390 0 GHz 2.389 0 GHz STATUS

**Test Graphs** Band Edge(Hopping) NVNT 1-DH1 2402MHz Hopping Ref

Report No.: TCT230423E026

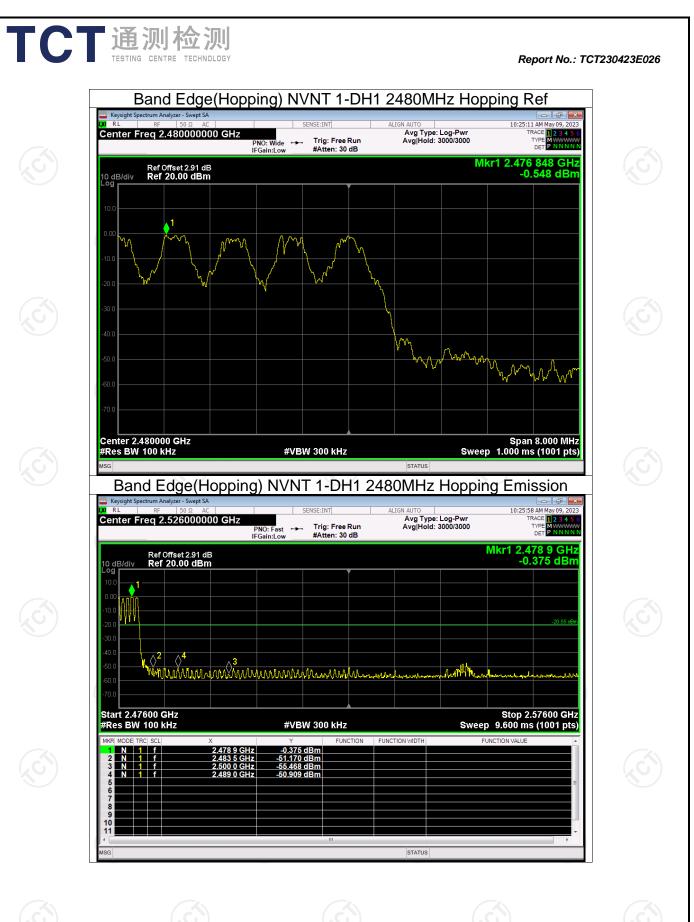
Page 49 of 75

6 X 10:28:07 AM May 09, 2023

TCT通测检测 TESTING CENTRE TECHNOLOGY

Center Freq 2.402000000 GHz

Keysight Spectrum Analyzer







Page 51 of 75



Page 52 of 75

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

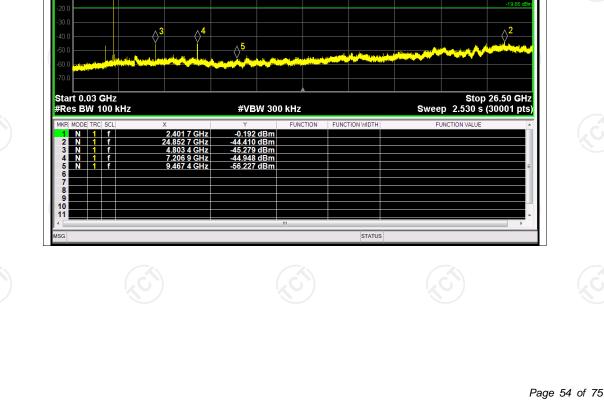
	20	1 400
/	00	

Conducted	RF	Sourious	Emission
Conducted	1/1	Spurious	LIIIISSIUII

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	-44.74	-20	Pass
NVNT	1-DH1	2441	-43.00	-20	Pass
NVNT	1-DH1	2480	-44.06	-20	Pass
NVNT	2-DH1	2402	-45.11	-20	Pass
NVNT	2-DH1	2441	-45.41	-20	Pass
NVNT	2-DH1	2480	-40.67	-20	Pass
X				KO )	



Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



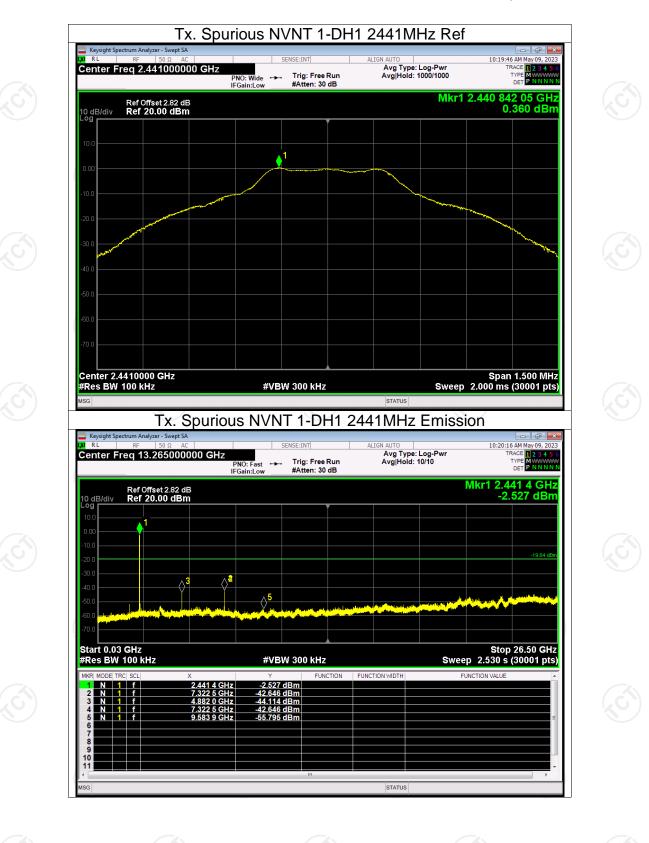
Avg Type: Log-Pwr Avg|Hold: 1000/1000 TRACE 1 2 3 4 5 6 TYPE MWWWW DET P NNNN PNO: Wide +++ Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.401 843 00 GHz 0.342 dBm Ref Offset 2.69 dB Ref 20.00 dBm 10 dB/div Log Center 2.4020000 GHz #Res BW 100 kHz Span 1.500 MHz Sweep 2.000 ms (30001 pts) #VBW 300 kHz STATUS Tx. Spurious NVNT 1-DH1 2402MHz Emission Keysight Spe 10:18:16 AM May 09, 2023 TRACE 1 2 3 4 5 6 TYPE DET P N N N N Avg Type: Log-Pwr Avg|Hold: 10/10 Center Freq 13.265000000 GHz PNO: Fast ---- Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.401 7 GHz -0.192 dBm Ref Offset 2.69 dB Ref 20.00 dBm 10 dB/di<sup>,</sup> Log

**Test Graphs** Tx. Spurious NVNT 1-DH1 2402MHz Ref



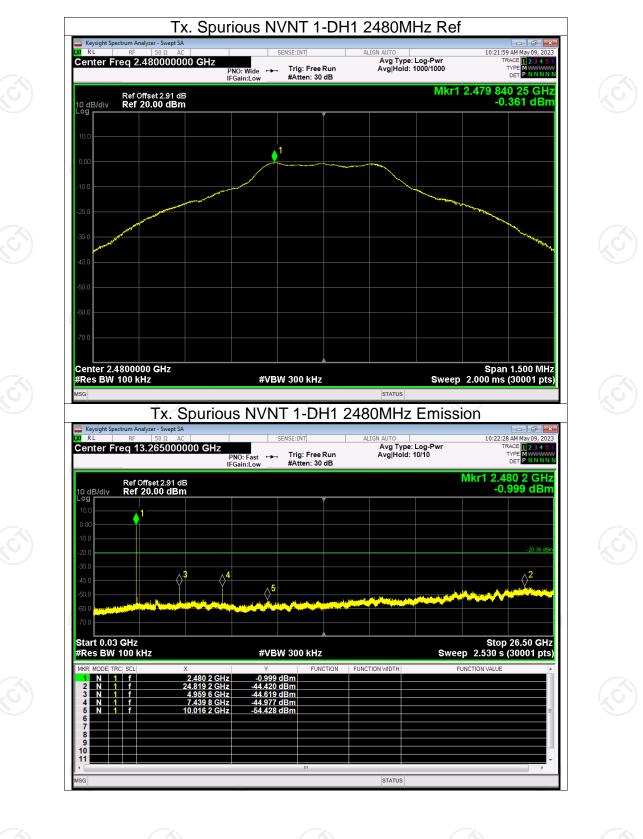
Report No.: TCT230423E026

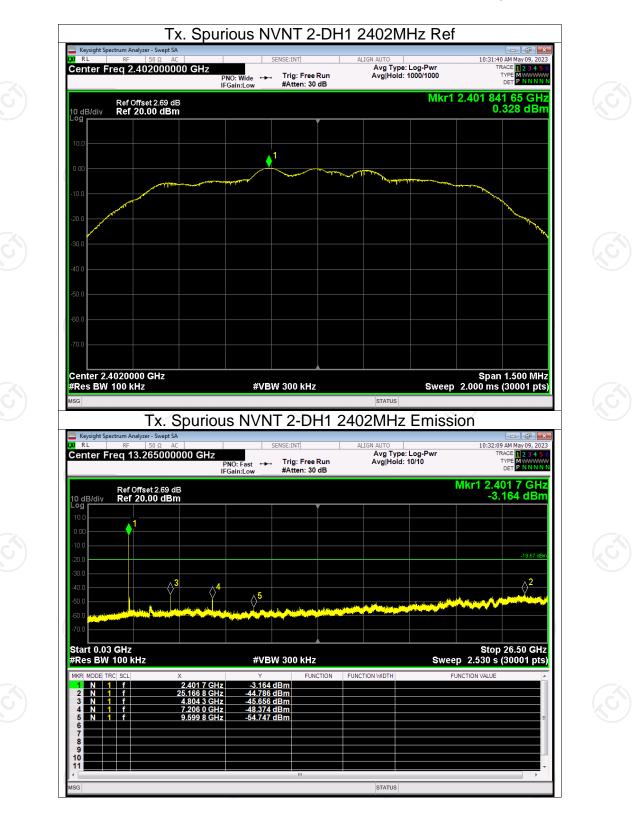
10:17:45 AM May 09, 2023

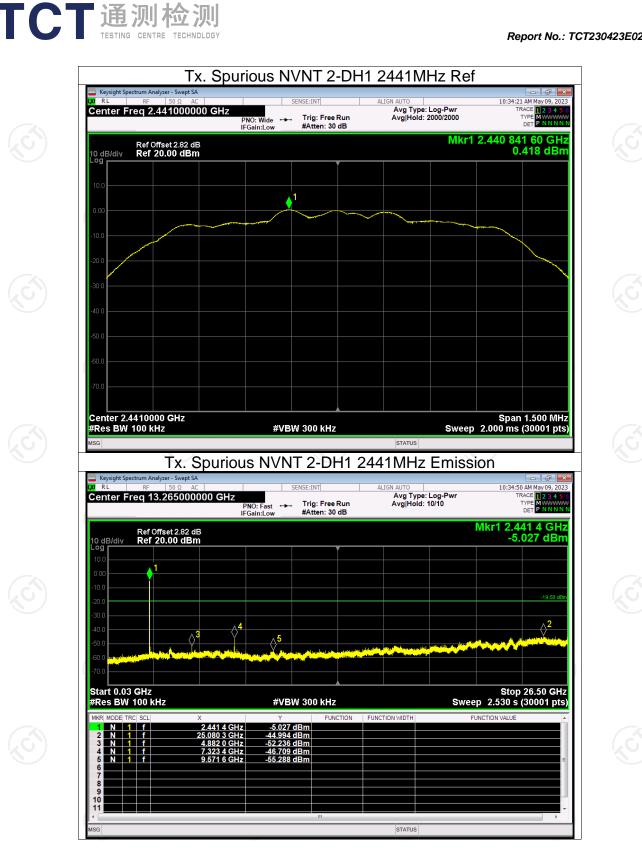


Report No.: TCT230423E026

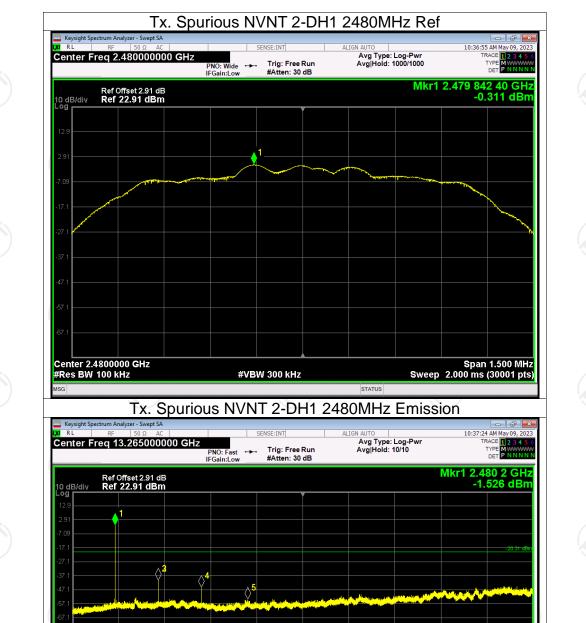
Page 55 of 75





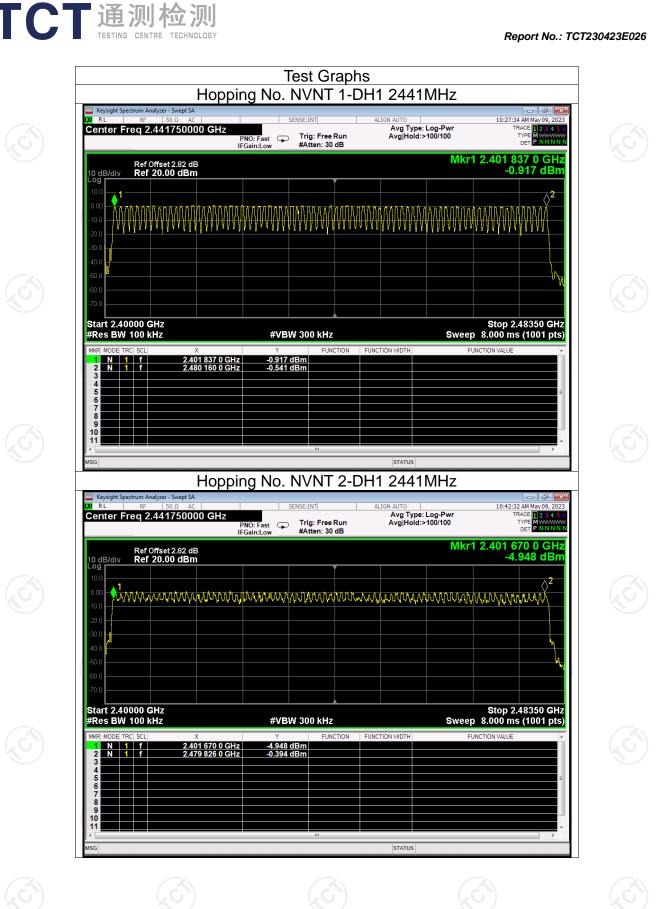






Page 59 of 75

Verd	Limit	Channel umber	lopping N	e   F	Mode	Condition NVNT	C
Pas Pas	15 15		79 79		2-DH	NVNT	



			Dwe	II Time				
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.38	121.22	319	31600	400	Pass
NVNT	1-DH3	2441	1.63	251.02	154	31600	400	Pass
NVNT	1-DH5	2441	2.88	299.52	104	31600	400	Pass
NVNT 😓	2-DH1	2441	0.39	124.41	319	31600	400	Pass
NVNT	2-DH3	2441	1.64	270.60	165	31600	400	Pass
NVNT	2-DH5	2441	2.88	282.24	98	31600	400	Pass

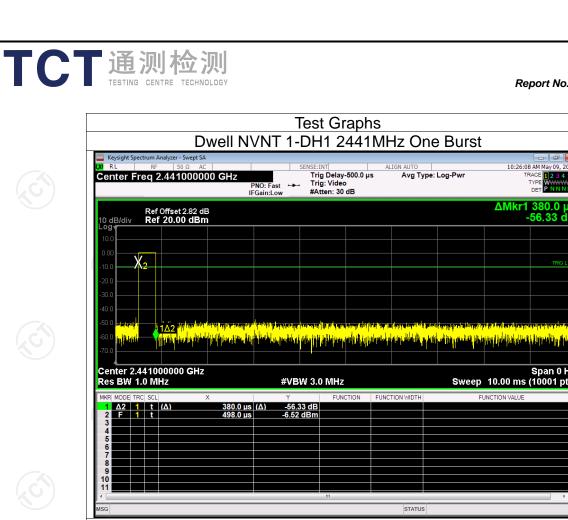
Page 62 of 75

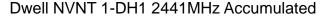
Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

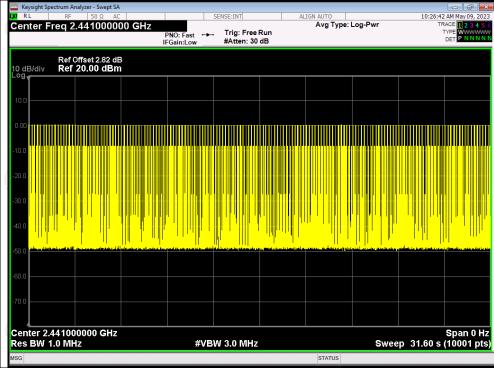
d 🛃 10:26:08 AM May 09, 2023 TRACE 1 2 3 4 5 6 TYPE WWWWWW DET P N N N N

ΔMkr1 380.0 μs -56.33 dB

Span 0 Hz Sweep 10.00 ms (10001 pts)

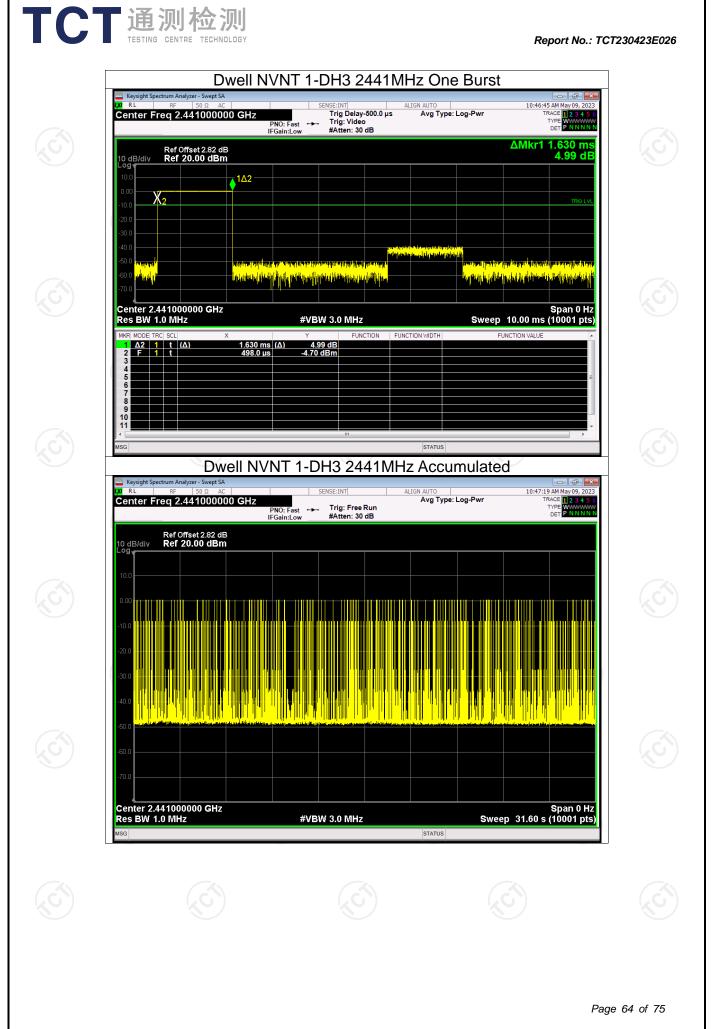




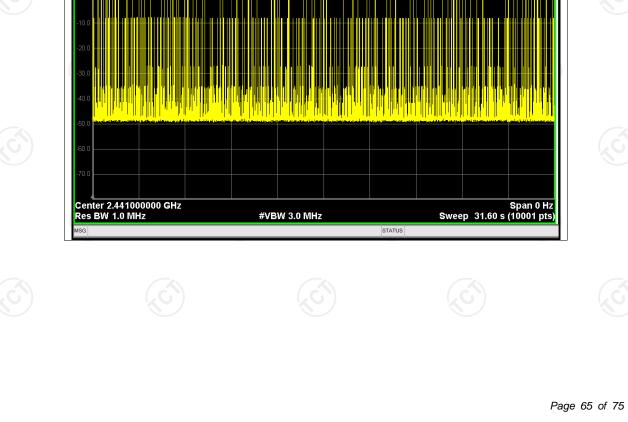


Page 63 of 75

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



Log	B/div	NG	f 20.00 dBr	n											
10.0															
					L 🔺	1∆2									
	──X	2													
	<b>É</b>	<u>.</u>													
					$\vdash$										
	<b>PIT TRAN</b>				<u>,</u>	r reta fre a	a significant	<mark>n hiter</mark>	- TO ANY DA	un biblio	ting of participa	inj,	a an	and the state of the	r K hou, t'
	بواقد.					li madalet	and a the fill	o dandi.	in de rid is pa	والغافط	a de la	haila	na shekara dhekara a da	ipan (main	ultan at
	n' tinn				ľ	, du , in	Condh.	ակես	a hubb	۳ r.		.1.1.0	d date of the	La star e	
					ľ	, <b>.</b>	, and the	ուլիսն	a 1. m	μ. Γ.		.1.1.0	al datase de		+ +
		410	00000 GHz		ľ		, dadi.	ուլի		r r.		-140	d Johnson		
-70.0 , Cen							W 3.0			r r.		-140		10.00 ms	Spa
-70.0 Cen Res	ter 2.4 BW 1	.0 M	Hz	x				MHz			TION WIDTH	. 1 1 1	Sweep		Spa
-70.0 Cen Res	ter 2.4 BW 1 MODE TR	.0 M c  scl t	Hz	× 2.880 ms	, (Δ)	#VB	W 3.0 27 dB	MHz					Sweep	10.00 ms	Spa
-70.0 Cen Res	ter 2.4 BW 1	.0 M c  scl t	Hz	X	, (Δ)	#VB	W 3.0	MHz					Sweep	10.00 ms	Spa
-70.0 Cen Res	ter 2.4 BW 1 MODE TR	.0 M c  scl t	Hz	× 2.880 ms	, (Δ)	#VB	W 3.0 27 dB	MHz					Sweep	10.00 ms	Spa
-70.0 Cen Res MKR 1 2 3 4 5	ter 2.4 BW 1 MODE TR	.0 M c  scl t	Hz	× 2.880 ms	, (Δ)	#VB Y	W 3.0 27 dB	MHz					Sweep	10.00 ms	Spa
-70.0 Cen Res MKR 1 2 3 4	ter 2.4 BW 1 MODE TR	.0 M c  scl t	Hz	× 2.880 ms	, (Δ)	#VB Y	W 3.0 27 dB	MHz					Sweep	10.00 ms	Spa
-70.0 Cen Res MKR 1 2 3 4 5	ter 2.4 BW 1 MODE TR	.0 M c  scl t	Hz	× 2.880 ms	, (Δ)	#VB Y	W 3.0 27 dB	MHz					Sweep	10.00 ms	Spa
-70.0 Cen Res MKR 1 2 3 4 5 6 7	ter 2.4 BW 1 MODE TR	.0 M c  scl t	Hz	× 2.880 ms	, (Δ)	#VB Y	W 3.0 27 dB	MHz					Sweep	10.00 ms	Spa

Dwell NVNT 1-DH5 2441MHz One Burst

PNO: Fast IFGain:Low NSE:INT ALIGN AUTO Trig Delay-500.0 µs Avg Type: Log-Pwr Trig: Video #Atten: 30 dB

MSG

Keysight Spe

Center Freg 2.441000000 GHz

Ref Offset 2.82 dB Ref 20.00 dBm

U RL

10 dB/div

 Keysight Spectrum Analyzer - Swept SA

 RL
 RF
 50 Ω
 AC

 Center Freq 2.441000000 GHz

# Dwell NVNT 1-DH5 2441MHz Accumulated

Trig: Free Run #Atten: 30 dB

PNO: Fast ++++

STATUS

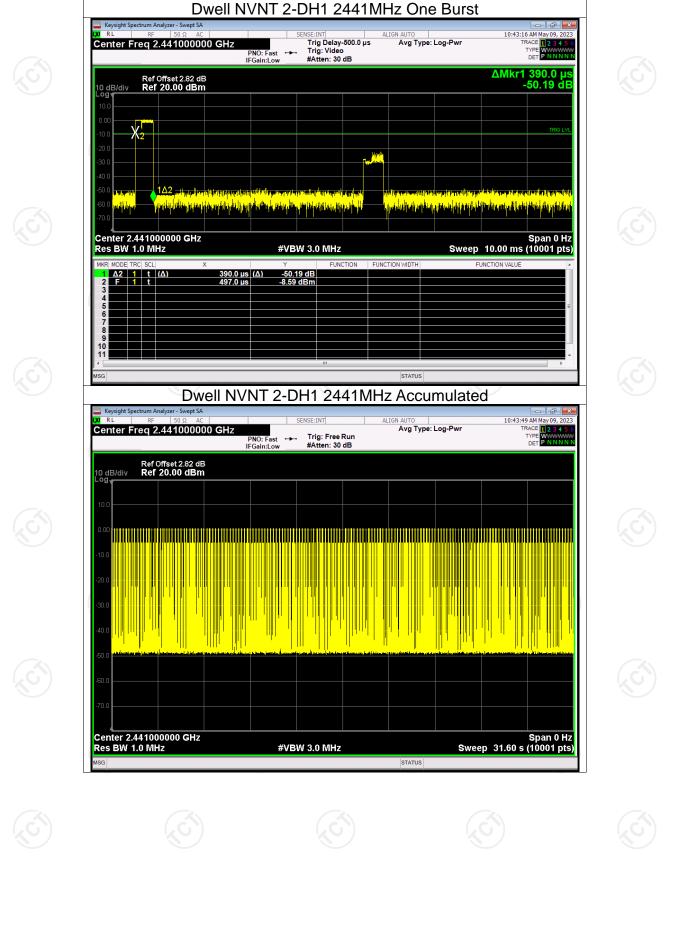
Avg Type: Log-Pwr

Report No.: TCT230423E026

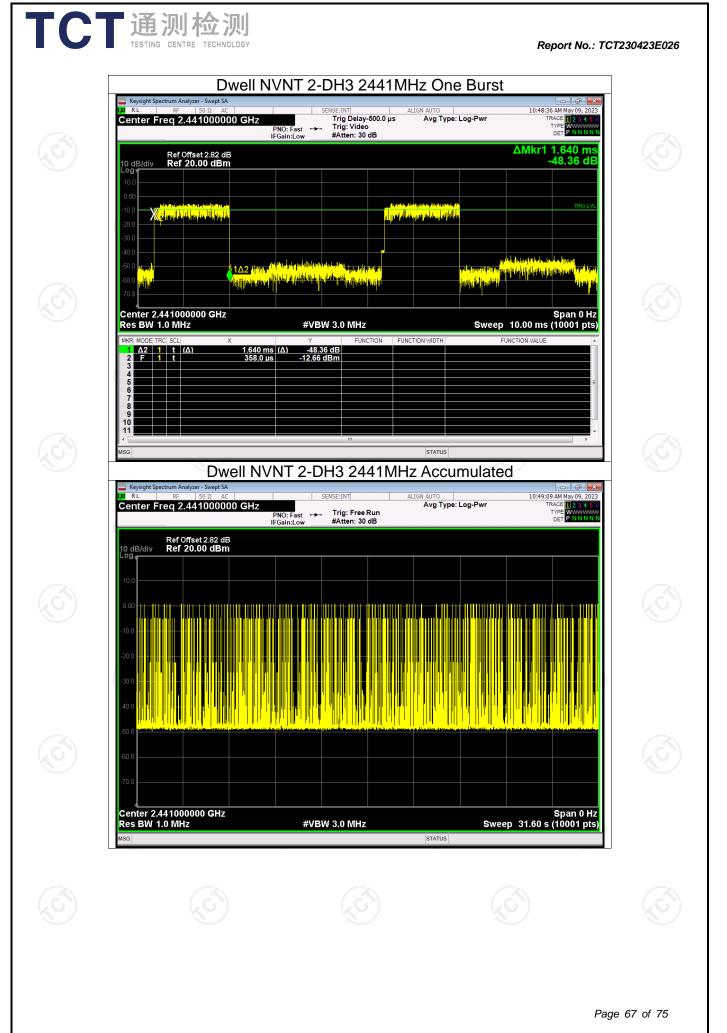
10:47:40 AM May 09, 20 TRACE 1 2 3 4 TYPE WWWW DET P N N N

10:48:13 AM May 09, 2023 TRACE 1 2 3 4 5 6 TYPE WWWWWW DET PNNNN

4 0 0



TCT通测检测 TESTING CENTRE TECHNOLOGY



		#VBW 3.0 MHz	Sweep 10.00 ms (10001 pts)
MKR         MODE         TRC         SCL           1         A2         1         t         (A)           2         F         1         t         (A)           3         -         -         -         -           5         -         -         -         -           6         -         -         -         -           7         -         -         -         -           8         -         -         -         -	× 2.880 ms (Δ) 359.0 μs	Y FUNCTION FUNCTI 0.86 dB -12.46 dBm	E
🔤 Keysight Spectrum Analyzer - S		THE SENSE:INT ALL	STATUS Accumulated
Center Freq 2.4410		st 🛶 Trig: Free Run	Avg Type: Log-Pwr Avg Type: Log-Pwr Depression of the second se
Ref Offset 2 10 dB/div Ref 20.00 Log	2.82 dB ) dBm		
0.00			
-60.0 -70.0			
Center 2.441000000 Res BW 1.0 MHz	GHz	#VBW 3.0 MHz	Span 0 Hz Sweep 31.60 s (10001 pts) status

Dwell NVNT 2-DH5 2441MHz One Burst

PNO: Fast ↔→ IFGain:Low

<mark>\_1∆2</mark>

NSE:INT ALIGN AUTO Trig Delay-500.0 µs Avg Type: Log-Pwr Trig: Video #Atten: 30 dB

### Report No.: TCT230423E026

10:49:31 AM May 09, 20 TRACE 1 2 3 4 TYPE WWWW DET P N N N

TYPE

ΔMkr1 2.880 ms 0.86 dB

Span 0 Hz

TCT通测检测 TESTING CENTRE TECHNOLOGY

Keysight: **LXI**RL

10 d Logʻ

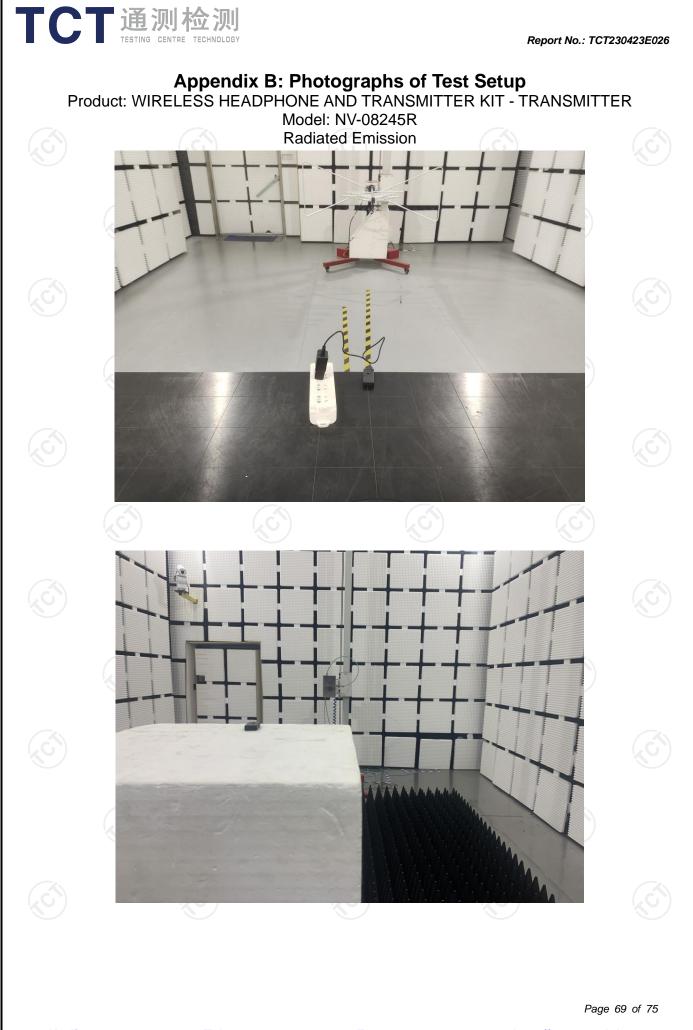
Center Freq 2.441000000 GHz

Center 2.441000000 GHz

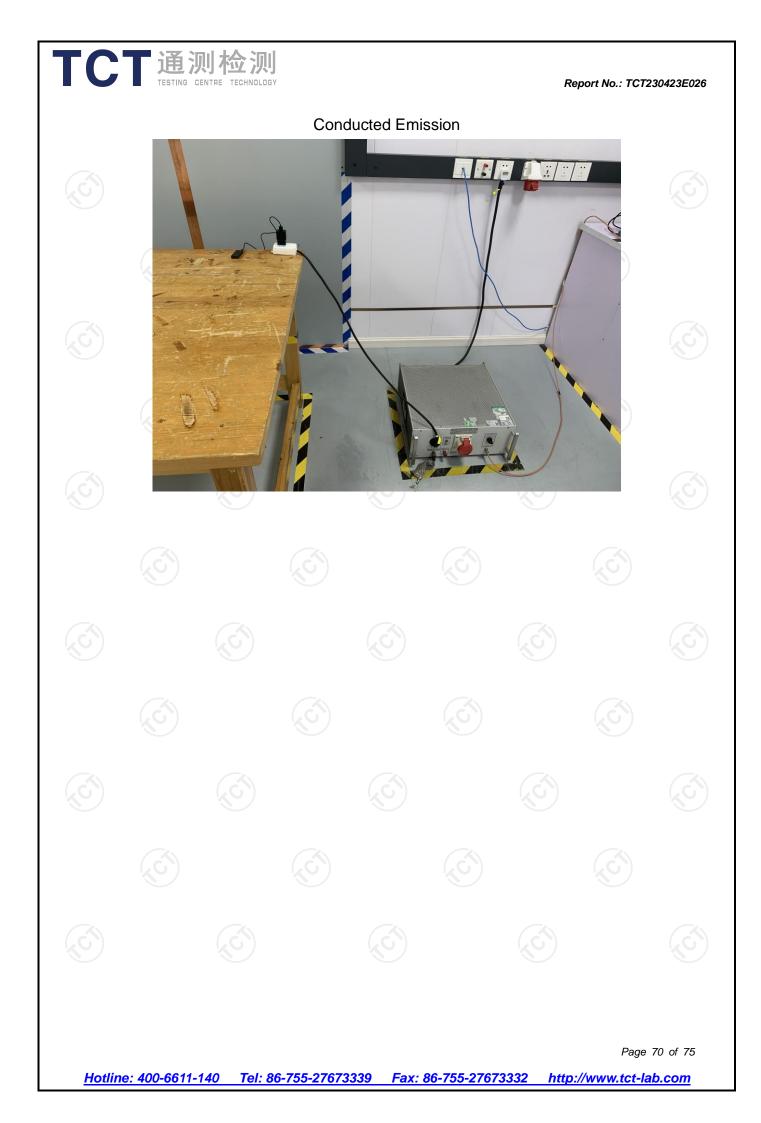
Ref Offset 2.82 dB Ref 20.00 dBm

i saha ing sa pangang ng s

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

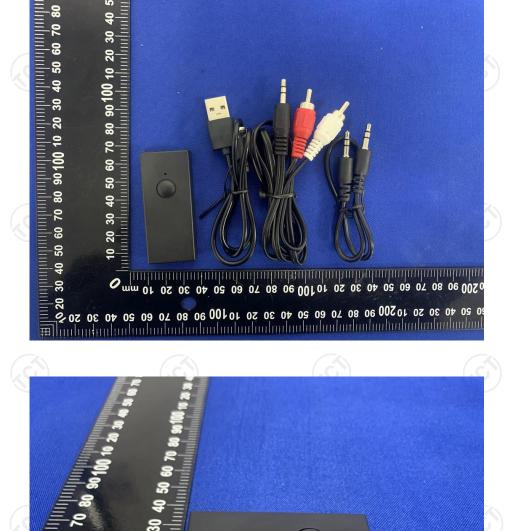


Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com





Report No.: TCT230423E026



Model: NV-08245R **External Photos** 

1111/1111/1111/1111/1111/111/111/111/111/111/111/111/111/11/11/11/11/11/11/11/11/11/11/11/11/11/11/11/11/11/11 ao 80 10 60 20 40 30 20 10 mm

Page 71 of 75

0 30 50 10100 30 80 10 60 20 40 30 50

