	TEST REPO	RT				
FCC ID: GM8WKB2388M						
Test Report No:	TCT221213E075	(\mathcal{C})	(\mathbf{c})			
Date of issue:	Dec. 23, 2022					
Testing laboratory:	SHENZHEN TONGCE TES	TING LAB	X			
Testing location/ address:	2101 & 2201, Zhenchang Fa Subdistrict, Bao'an District, People's Republic of China					
Applicant's name: :	Ortek Technology Inc	$\left(\mathbf{C}^{\prime}\right)$				
Address:	13F, Number 150, Jian-Yi R Taiwan	d., Zhonghe Dist., New	w Taipei City,			
Manufacturer's name :	Shenzhen DZH Industrial Co	o., Ltd				
Address:	3th Floor, YiTuo Mike Industrial A building, Bu Yong Industrial D zone, Shajing, Shenzhen, China					
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::	Bluetooth 5.1 Keyboard					
Trade Mark:	N/A		5)			
Model/Type reference :	WKB-2388M, WKB-2389M					
Rating(s):	Rechargeable Li-ion Battery	DC 3.7V				
Date of receipt of test item	Dec. 13, 2022					
Date (s) of performance of test:	Dec. 13, 2022 - Dec. 23, 20	22	$\overline{\mathcal{S}}$			
Tested by (+signature) :	Onnado YE	Onnado X20	NGCETA			
Check by (+signature) :	Beryl ZHAO	Bart 26 T	CT			
Approved by (+signature):	Tomsin	Toms in 45	BA			

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.

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1. General Product Information

1.1. EUT description

Product Name:	Bluetooth 5.1 Keyboard	(\mathcal{C})	
Model/Type reference:	WKB-2388M		
Sample Number:	TCT221213E075-0101	/	
Bluetooth Version:	V5.1	Į.	9
Operation Frequency:	2402MHz~2480MHz		
Transfer Rate:	1 Mbits/s		
Number of Channel:	79		
Modulation Type:	GFSK		
Modulation Technology:	FHSS		
Antenna Type:	PCB Antenna		
Antenna Gain:	1.87dBi	$\langle \mathcal{O} \rangle$	(S)
Rating(s):	Rechargeable Li-ion Battery DC	3.7V	

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

No.	Model No.	Tested with
1	WKB-2388M	\boxtimes
Other models	WKB-2389M	

Note: WKB-2388M is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of WKB-2388M can represent the remaining models.

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
					$\mathbf{\nabla}_{}$		
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
9	🔇	9)		9			
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz		-
Remark:	Channel 0, 3	39 & 78 ha	ave been tes	sted for G	FSK modul	ation mod	le.

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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	Occupied Bandwidth §15.247 (a)(1)	
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:	25.3 °C	24.1 °C	
Humidity:	56 % RH	52 % RH	
Atmospheric Pressure:	1010 mbar	1010 mbar	
Test Software:			
Software Information:	Blue tool		
Power Level:	0		
Test Mode:			
Engineer mode: Keep the EUT in continuous transmitting by select channel and modulations with Fully-charged battery			

The sample was placed 0.8m & 1.5m for the measurement below & above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. 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
7	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 requir	ement: FC	C Part15 C Section 15.20	03 /247(c)	
furnished by the permanently atta intentional radiat can be replaced connector is prof 15.247(c) (1)(i) re (i) Systems oper Point-to-point op greater than 6dB	diator shall be de responsible part ched antenna or or, the manufact by the user, but hibited. equirement: ating in the 2400 erations may em i provided the m	esigned to ensure that no ty shall be used with the or r of an antenna that uses turer may design the unit the use of a standard and 0-2483.5 MHz band that is nploy transmitting antenna naximum conducted output very 3 dB that the directio	device. The use of a a unique coupling to the so that a broken antenna tenna jack or electrical s used exclusively for fixe as with directional gain at power of the intentional	a ed.
E.U.T Antenna:				
The Bluetooth ar case gain of the - 은		ntenna which permanentl dBi.	y attached, and the best	No.
001 06 08 02 09 05	10 20 30 40 50 60			
20 30 40 20		00 20 70 30 30 20 10		
				_

5.2. Conducted Emission

5.2.1. Test Specification

As CAS			(
Test Requirement:	FCC Part15 C Section 15.207				
Test Method:	ANSI C63.10:2013				
Frequency Range:	150 kHz to 30 MHz	\mathcal{C}			
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=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 powe Test table/Insulation plane Remark: E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Na Test table height=0.8m	EMI Receiver	-		
Test Mode:	Charging + Transmittir	ng Mode			
	1. The E.U.T is conne impedance stabiliz provides a 500hm/s measuring equipme	zation network 50uH coupling im	(L.I.S.N.). Thi		
Test Procedure:	 2. The peripheral device power through a Licoupling impedance refer to the block photographs). 3. Both sides of A.C. conducted interferent emission, the relative the interface cables 	ces are also conne ISN that provides with 50ohm terr diagram of the . line are checke nce. In order to fi re positions of equ must be changed	s a 50ohm/50uh nination. (Please test setup and ed for maximun nd the maximun ipment and all c l according to		
Test Procedure:	 2. The peripheral device power through a Licoupling impedance refer to the block photographs). 3. Both sides of A.C. conducted interference emission, the relative 	ces are also conne ISN that provides with 50ohm terr diagram of the . line are checke nce. In order to fi re positions of equ must be changed	s a 50ohm/50uh nination. (Please test setup and ed for maximun nd the maximun ipment and all c l according to		





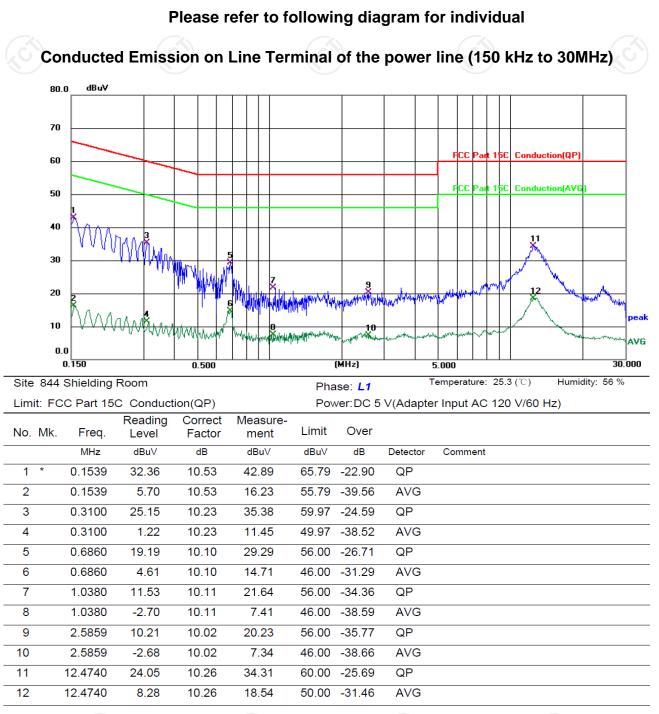
5.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)						
Equipment	Manufacturer	Model	Serial Number	Calibration Due		
EMI Test Receiver	R&S	ESCI3	100898	Jul. 04, 2023		
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	Feb. 24, 2023		
Line-5	ТСТ	CE-05	N/A	Jul. 04, 2024		
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A		



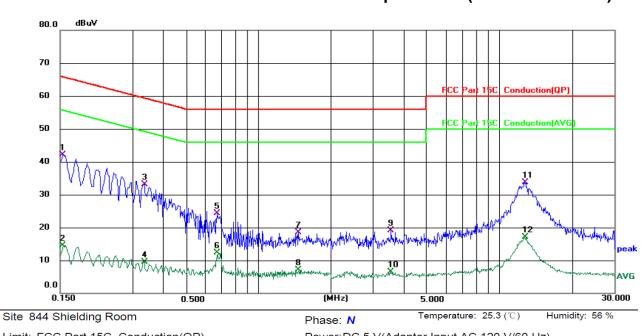
5.2.3. Test data

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Note[.]

INC			
	Freq. = Emission frequency in MHz		
	Reading level (dB μ V) = Receiver reading		
	Corr. Factor (dB) = LISN factor + Cable loss		
	Measurement (dB μ V) = Reading level (dB μ V) + Corr. Factor (dB)		
	Limit (dB μ V) = Limit stated in standard		
	Margin (dB) = Measurement (dB μ V) – Limits (dB μ V)		
	Q.P. =Quasi-Peak		
	AVG =average		
	* is meaning the worst frequency has been tested in the frequency rang	te 150 kHz to 30MHz.	
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Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)

Limit: FCC Part 15C Conduction(QP)				Po	wer:DC 5	5 V(Adapte	er Input AC 120 V/60 Hz)		
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1539	31.70	10.44	42.14	65.79	-23.65	QP	
2		0.1539	4.16	10.44	14.60	55.79	-41.19	AVG	
3		0.3339	22.81	10.22	33.03	59.35	-26.32	QP	
4		0.3339	-0.67	10.22	9.55	49.35	-39.80	AVG	
5		0.6740	14.24	10.10	24.34	56.00	-31.66	QP	
6		0.6740	2.11	10.10	12.21	46.00	-33.79	AVG	
7		1.4700	8.31	10.12	18.43	56.00	-37.57	QP	
8		1.4700	-3.01	10.12	7.11	46.00	-38.89	AVG	
9		3.5500	8.90	10.15	19.05	56.00	-36.95	QP	
10		3.5500	-3.59	10.15	6.56	46.00	-39.44	AVG	
11		12.7580	23.37	10.37	33.74	60.00	-26.26	QP	
12		12.7580	6.66	10.37	17.03	50.00	-32.97	AVG	

Note1:

TCT 通测检测 TCT 通测检测

> 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 the worst case Mode (Lowest channel) was submitted only.

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5.3. Conducted Output Power

5.3.1. Test Specification

J.J.T. 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 EUT			
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	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB		





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					
Test Setup:	Spectrum Analyzer EUT					
Test Mode:	Transmitting mode with modulation					
Test Procedure:	 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. 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. Measure and record the results in the test report. 					
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 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.				
Test Setup:	Spectrum Analyzer EUT				
Test Mode:	Hopping mode				
Test Procedure:	 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. Enable the EUT hopping function. 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. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Record the value in report. 				
Test Result:	PASS				

5.5.2. Test Instruments

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

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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 EUT	
Test Mode:	Hopping mode	
Test Procedure:	 Hopping mode 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. Enable the EUT hopping function. 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. The number of hopping frequency used is defined as the number of total channel. 	
Test Result:	PASS	
5.6.2 Test Instruments		

5.6.2. Test Instruments

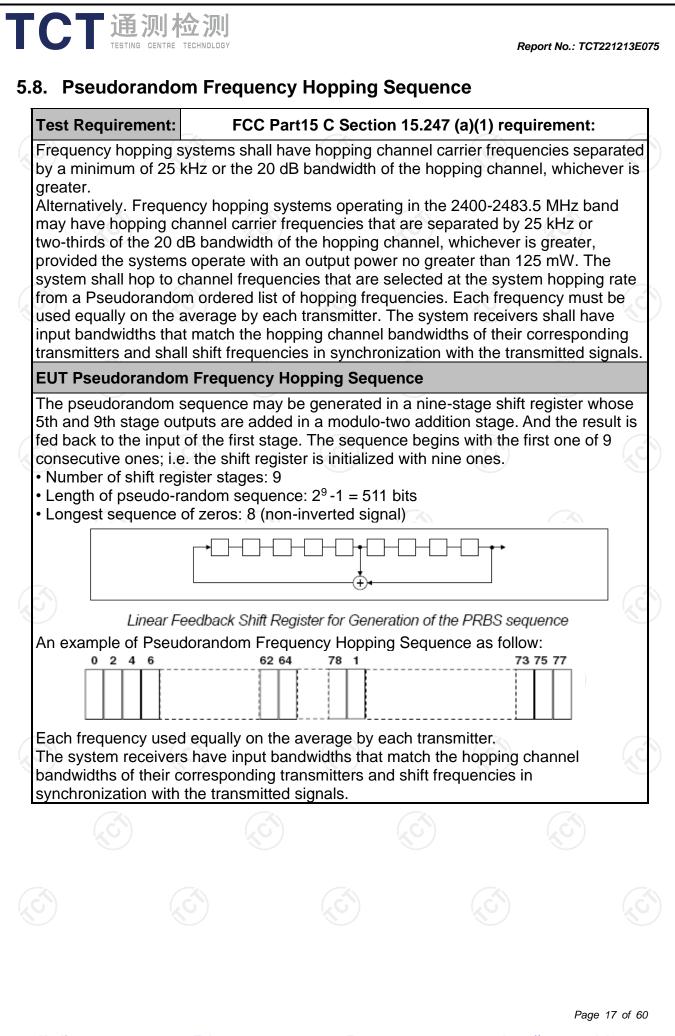
Name	Manufacturer	Model No.	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB	1	/

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:	 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. Enable the EUT hopping function. 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 >> 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. Measure and record the results in the test report.
Test Result:	PASS

5.7.2. Test Instruments

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





5.9. 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:	 Set to the maximum power setting and enable the EUT transmit continuously. 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. Enable hopping function of the EUT and then repeat step 2 and 3. Measure and record the results in the test report.
Test Result:	PASS

5.9.2. Test Instruments

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



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:	 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. 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. Measure and record the results in the test report. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
Test Result:	PASS

5.10.2. Test Instruments

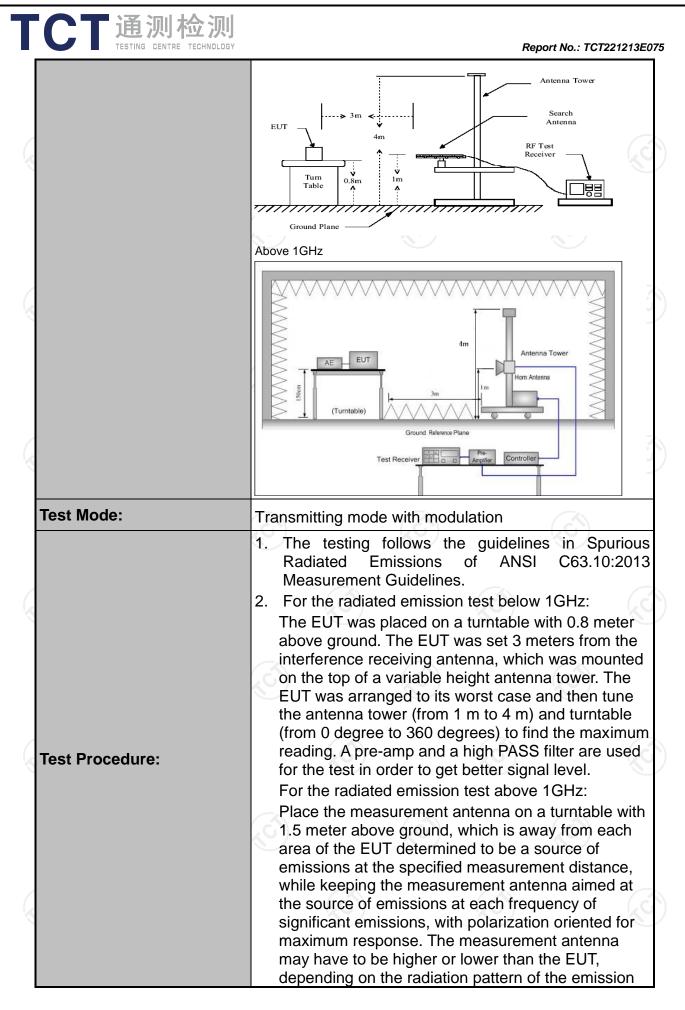
Name	Manufacturer	Model No.	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023
Combiner Box	Ascentest	AT890-RFB		



5.11.1. Test Specification

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Test Requirement:	FCC Part15	C Sectior	n 15.209 🗸			6
Test Method:	ANSI C63.10):2013				
Frequency Range:	9 kHz to 25 (GHz				<i></i>
Measurement Distance:	3 m				K.	
Antenna Polarization:	Horizontal &	Vertical				
	Frequency	Detector	RBW	VBW		Remark
	9kHz- 150kHz	Quasi-pea		1kHz		i-peak Value
Receiver Setup:	150kHz- 30MHz	Quasi-pea	k 9kHz	30kHz	Quas	i-peak Value
	30MHz-1GHz	Quasi-pea	k 120KHz	300KHz	Quas	i-peak Value
	Above 1GHz	Peak	1MHz	3MHz		eak Value
		Peak	1MHz	10Hz	Ave	erage Value
	-		Field Str	ength	Ме	asurement
	Frequen	су	(microvolts	/meter)		nce (meters)
	0.009-0.4		2400/F(300
	0.490-1.7		24000/F	(KHz)		30
	<u>1.705-3</u> 30-88		<u> </u>			<u>30</u> 3
	88-216	1	150		3	
_imit:	216-96		200		3	
	Above 9	500)		3	
	Frequency Above 1GHz	(micr	Field Strength (microvolts/meter) Measure Dista (meter) 500 3 5000 3			Detector Average Peak
Test setup:	For radiated emis	stance = 3m	d Plane		Compu	
			(
						Page 20 of 6



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	receiv meas maxii anter restri above 3. Set f EUT 4. Use (1) \$ (2) \$	ataying aimed at the ving the maximum s surement antenna e mizes the emissions and elevation for ma cted to a range of h e the ground or refe to the maximum po transmit continuous the following spectr Span shall wide end emission being mea Set RBW=120 kHz to for f>1GHz ; VBW≥F Sweep = auto; Det = max hold for pea For average measu	e emission source signal. The final levation shall be s. The measuren aximum emission eights of from 1 erence ground pl ower setting and sly. tum analyzer set bugh to fully capt asured; for f < 1 GHz, RE RBW; ector function = k urement: use dut	e that which nent ns shall be m to 4 m ane. I enable the ture the BW=1MHz peak; Trace ty cycle
	((5)	On time =N1*L1+N2 Where N1 is numb length of type 1 pu Average Emission Level + 20*log(Dut	er of type 1 puls lses, etc. Level = Peak Er y cycle)	es, L1 is
Test results:	ک	On time =N1*L1+N2 Where N1 is numb length of type 1 pu Average Emission	er of type 1 puls lses, etc. Level = Peak Er y cycle) Antenna Factor	es, L1 is mission + Cable
Test results:		On time =N1*L1+N2 Where N1 is numb length of type 1 pu Average Emission Level + 20*log(Dut Corrected Reading:	er of type 1 puls lses, etc. Level = Peak Er y cycle) Antenna Factor	es, L1 is mission + Cable
Test results:		On time =N1*L1+N2 Where N1 is numb length of type 1 pu Average Emission Level + 20*log(Dut Corrected Reading:	er of type 1 puls lses, etc. Level = Peak Er y cycle) Antenna Factor	es, L1 is mission + Cable
Test results:		On time =N1*L1+N2 Where N1 is numb length of type 1 pu Average Emission Level + 20*log(Dut Corrected Reading:	er of type 1 puls lses, etc. Level = Peak Er y cycle) Antenna Factor	es, L1 is mission + Cable

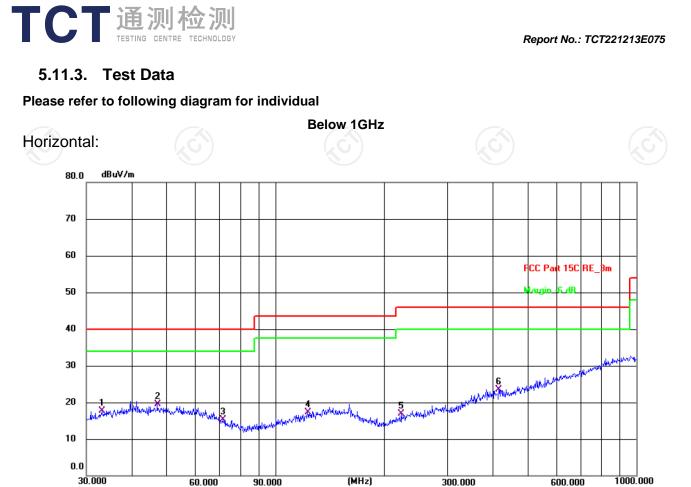


5.11.2. Test Instruments

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. 24, 2023						
Pre-amplifier	SKET	LNPA_1840G- 50	SK2021092 03500	Feb. 24, 2023						
Pre-amplifier	HP	8447D	2727A05017	Jul. 03, 2023						
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 11, 2024						
Broadband Antenna	Schwarzbeck	VULB9163	340	Jul. 05, 2024						
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jul. 05, 2024						
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Apr. 10, 2023						
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	KC)	, «						

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Site #2 3m Anechoic Chamber

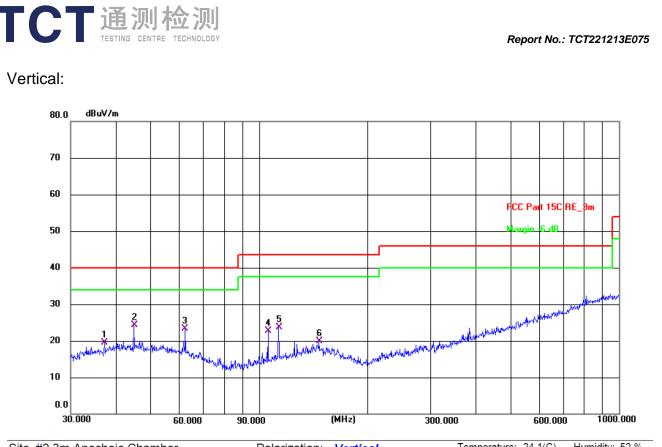
Polarization: Horizontal

Limit: I	FCC Part 15C F	RE_3m			Power: DC 3.7 V				
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	33.0949	4.98	12.73	17.71	40.00	-22.29	QP	Ρ	
2 *	47.1598	5.56	13.85	19.41	40.00	-20.59	QP	Ρ	
3	71.5805	4.52	10.80	15.32	40.00	-24.68	QP	Ρ	
4	122.8339	5.22	12.16	17.38	43.50	-26.12	QP	Ρ	
5	223.7333	5.26	11.65	16.91	46.00	-29.09	QP	Ρ	
6	416.1791	5.91	17.59	23.50	46.00	-22.50	QP	Ρ	

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Temperature: 24.1(C) Humidity: 52 %

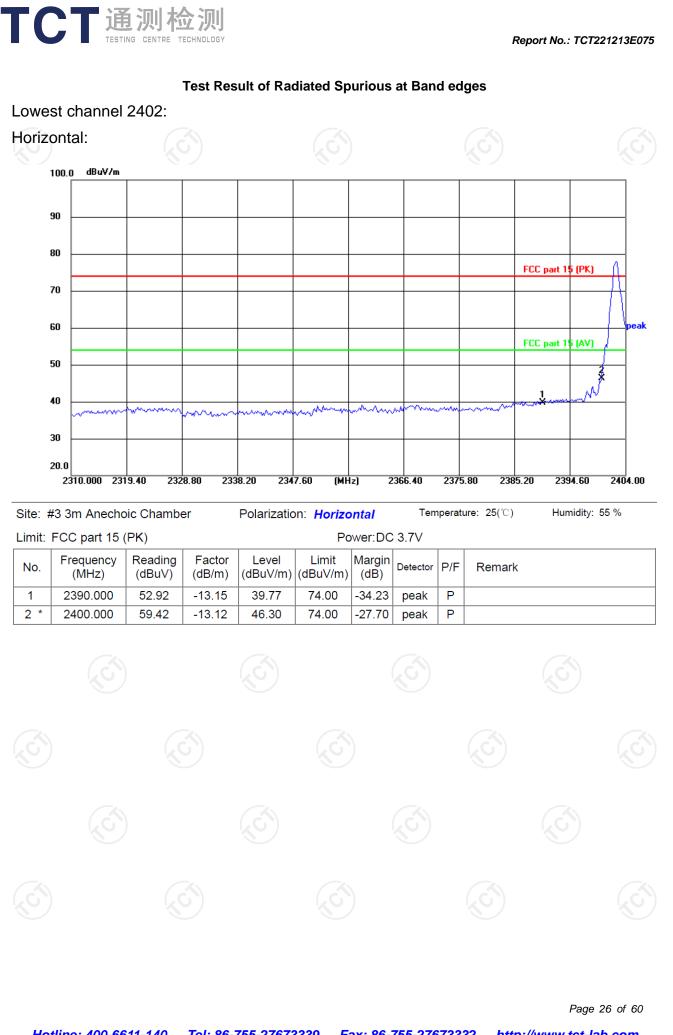




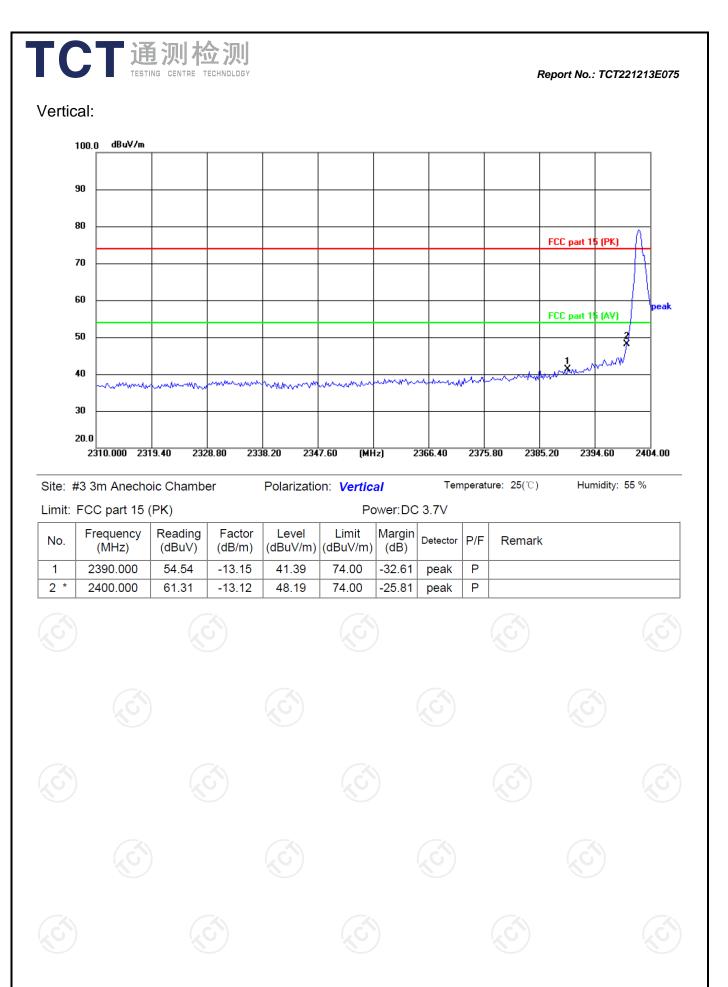
Temperature: 24.1(C) Humidity: 52 % Site #2 3m Anechoic Chamber Polarization: Vertical

Limit:	FCC Part 15C F	RE_3m				Power: DC 3.7 V			
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	37.2854	5.90	13.58	19.48	40.00	-20.52	QP	Р	
2 *	44.9006	10.43	13.90	24.33	40.00	-15.67	QP	Р	
3	62.4313	10.67	12.63	23.30	40.00	-16.70	QP	Р	
4	106.0126	11.73	10.88	22.61	43.50	-20.89	QP	Р	
5	113.3162	12.27	11.46	23.73	43.50	-19.77	QP	Р	
6	146.8876	6.51	13.30	19.81	43.50	-23.69	QP	Р	

- 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 the worst case Mode (Lowest channel) 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
 - $Over (dB) = Measurement (dB\mu V/m) Limits (dB\mu V/m)$
 - * is meaning the worst frequency has been tested in the test frequency range.



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



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

TCT通测检测 TESTING CENTRE TECHNOLOGY Report No.: TCT221213E075 Highest channel 2480: Horizontal: 100.0 dBu∀/m 90 80 FCC part 15 (PK) 70 60 FCC part 15 (AV) 50 40 Man peak and the second 30 20.0 2478.000 2480.70 2483.40 2486.10 2488.80 2494.20 (MHz) 2496.90 2499.60 2502.30 2505.00 Humidity: 55 % Site: #3 3m Anechoic Chamber Temperature: 25(℃) Polarization: Horizontal Limit: FCC part 15 (PK) Power: DC 3.7V Limit Frequency Reading Factor Level Margin Detector P/F Remark No. (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 2483.500 -12.84 46.85 74.00 -27.15 1 * 59.69 Ρ peak Page 28 of 60 Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

	al: 100.0 dBuV/m											
9	90						_	_				_
1	80						_					_
;	70									FCC part 1	\$ (PK)	
		\backslash										
ľ	50									FCC part 1	5 (AV)	
!	50		l,				_					_
	40		man	mont	•••••••	man	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mark	m	mund	wanne	∿-∕ ^M peal
:	30							-		,		
:	20.0											
	2478.000 248				8.80 (MH	·	494.20	2496			<u>.</u> 30	2505.00
	t3 3m Anecho		er	Polarizatio				nperati	µre: 25(° ℃)	Hur	nidity: 58	5 %
mit: No.	FCC part 15 (Frequency	Reading	Factor	Level	Limit	wer:DC Margin			Remark	·		
۹0. 1 *	(MHz) 2483.500	(dBuV) 56.53	(dB/m) -12.84	(dBuV/m) 43.69	(dBuV/m) 74.00	(dB) -30.31	peak	P	Iteman			
	2100.000		12.01		11.00	00.01	pour				P	

Above 1GHz

Modulation	Type: GF	SK							
Low channe	el: 2402 N	1Hz							
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4804	Н	45.87		0.66	46.53		74	54	-7.47
7206	Н	35.24		9.50	44.74		74	54	-9.26
	Н								
((G)		J.)		()	.C`)		(.C)	
4804	V	45.11		0.66	45.77		74	54	-8.23
7206	V	34.82		9.50	44.32		74	54	-9.68
	V								

Middle cha	nnel: 2441	MHz		KC KC))				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	H	45.27		0.99	46.26	<u> </u>	74	54	-7.74
7323	KCĤ)	35.65	-1,0	9.87	45.52	<u>0</u>	74	54	-8.48
	H								
4000		45.54		0.00	10.50		74	5 4	7 47
4882	V	45.54		0.99	46.53		74	54	-7.47
7323	V	34.98		9.87	44.85		74	54	-9.15
2	V				2 /				

High channel: 2480 MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Peak		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4960	Н	44.31		1.33	45.64		74	54	-8.36
7440	Н	34.02		10.22	44.24		74	54	-9.76
	Н	<u> </u>							
4960	V	44.78		1.33	46.11		74	54	-7.89
7440	V	34.53		10.22	44.75		74	54	-9.25
	V								

Note:

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

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

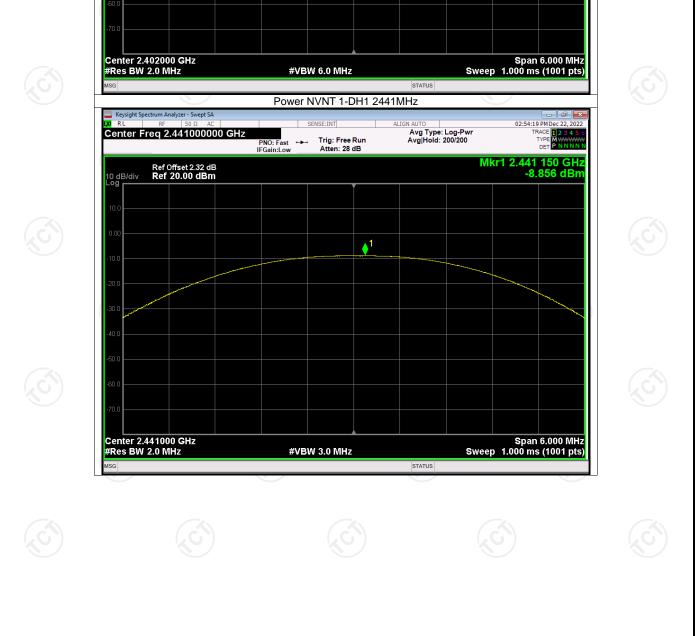
6. All the restriction bands are compliance with the limit of 15.209.

Appendix A: Test Result of Conducted Test

TCT通测检测 TESTING CENTRE TECHNOLOGY

Maximum Conducted Output Power

	Condition	Mode	(MHz)	Power (dBm)	(dBm)	Verdict
	NVNT	1-DH1	2402	-8.67	21	Pass
(NVNT	1-DH1	2441	-8.86	21	Pass
	NVNT	1-DH1	2480	-10.29	21	Pass



Test Graphs Power NVNT 1-DH1 2402MHz

≜1

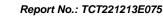
PNO: Fast ---- Trig: Free Run IFGain:Low Atten: 28 dB Avg Type: Log-Pwr Avg|Hold: 200/200

10 dB/div Log

🚾 Keysight Spectrum Analyzer - Swept SA 📈 R.L ____ RF 50 Ω AC

Center Freg 2.402000000 GHz

Ref Offset 2.19 dB Ref 20.00 dBm



02:49:25 PM Dec 22, 2022 TRACE 1 2 3 4 5 0 TYPE MWWWW DET P N N N N

Mkr1 2.401 940 GHz -8.670 dBm

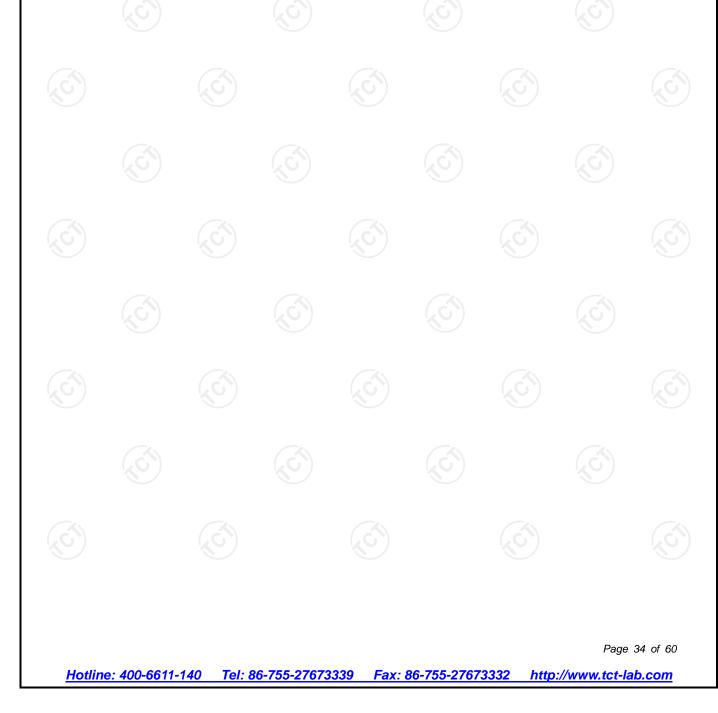
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LXI RL	rum Analyzer - Swept SA RF 50 Ω AC		NVNT 1-DH1 24	ALIGN AUTO	02:50	5:50 PM Dec 22, 2022	
	eq 2.480000000 G	PNO: Fast ↔ IFGain:Low	⊶ Trig: Free Run Atten: 28 dB	Avg Type: Log Avg Hold: 1000	/1000	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P.N.N.N.N 30 132 GHz 0.288 dBm	
10 dB/div Log	Ref Offset 2.41 dB Ref 20.00 dBm				-1	0.288 dBm	
0.00							
-20.0							
-30.0							
-50.0							
-60.0							
Center 2.48 #Res BW 2	80000 GHz .0 MHz	#VE	BW 6.0 MHz		Spa Sweep 1.000	an 6.000 MHz ms (1001 pts)	
MSG	Res and a second		Res and a second	STATUS	Res and a second		

TCT通测检测 TESTING CENTRE TECHNOLOGY

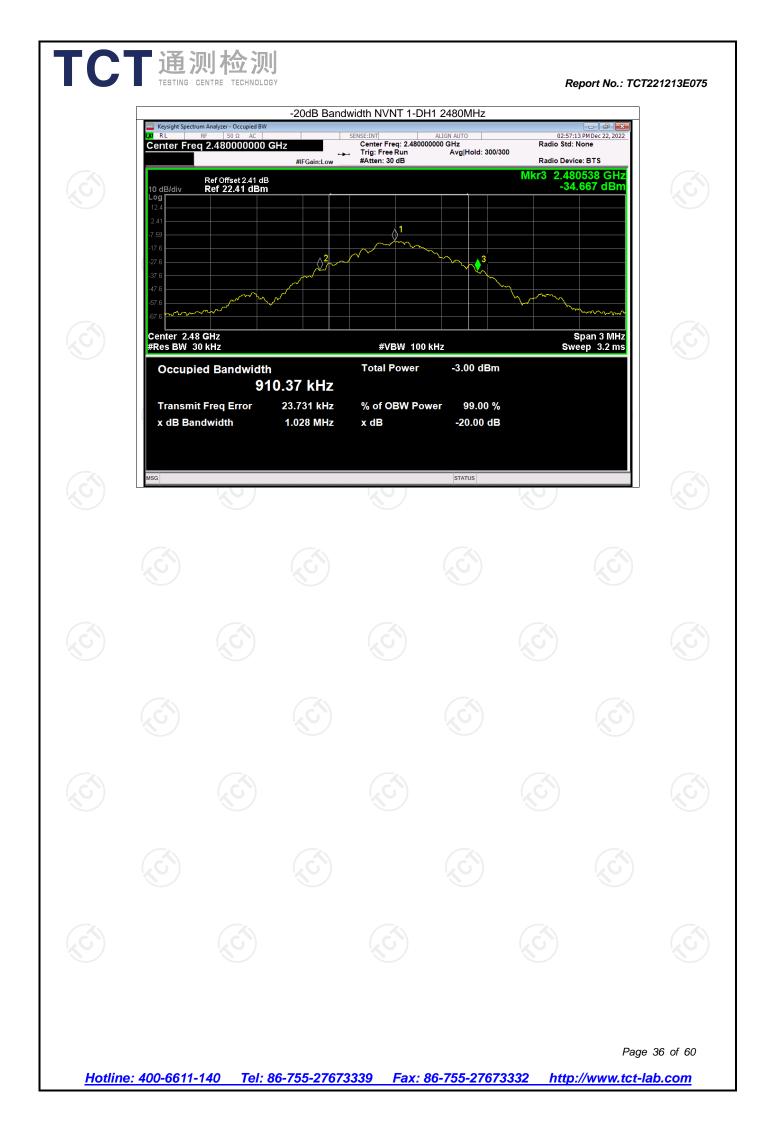
Condition Mode		Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict				
NVNT	1-DH1	2402	1.033	Pass				
NVNT	1-DH1	2441	1.030	Pass				
NVNT	1-DH1	2480	1.028	Pass				
C)	G							







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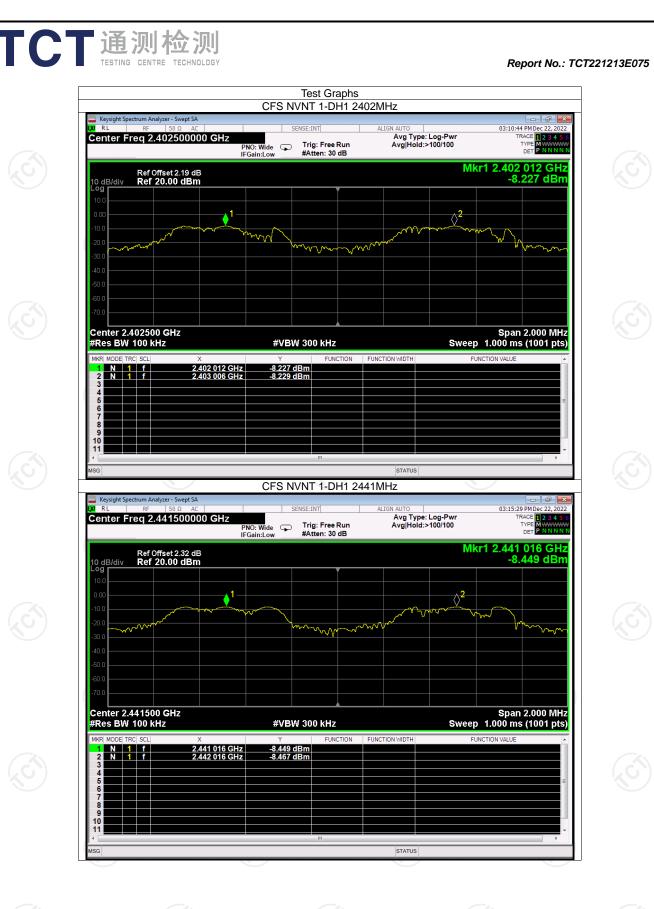
							Page	37 of 60
<u>Hotlin</u>	<u>e: 400-6611-</u>	<u>140 Tel: 8</u>	86-755-27673	339 Fax:	<u>86-755-2767</u>	<u>3332 http</u>	://www.tct-la	<u>b.com</u>

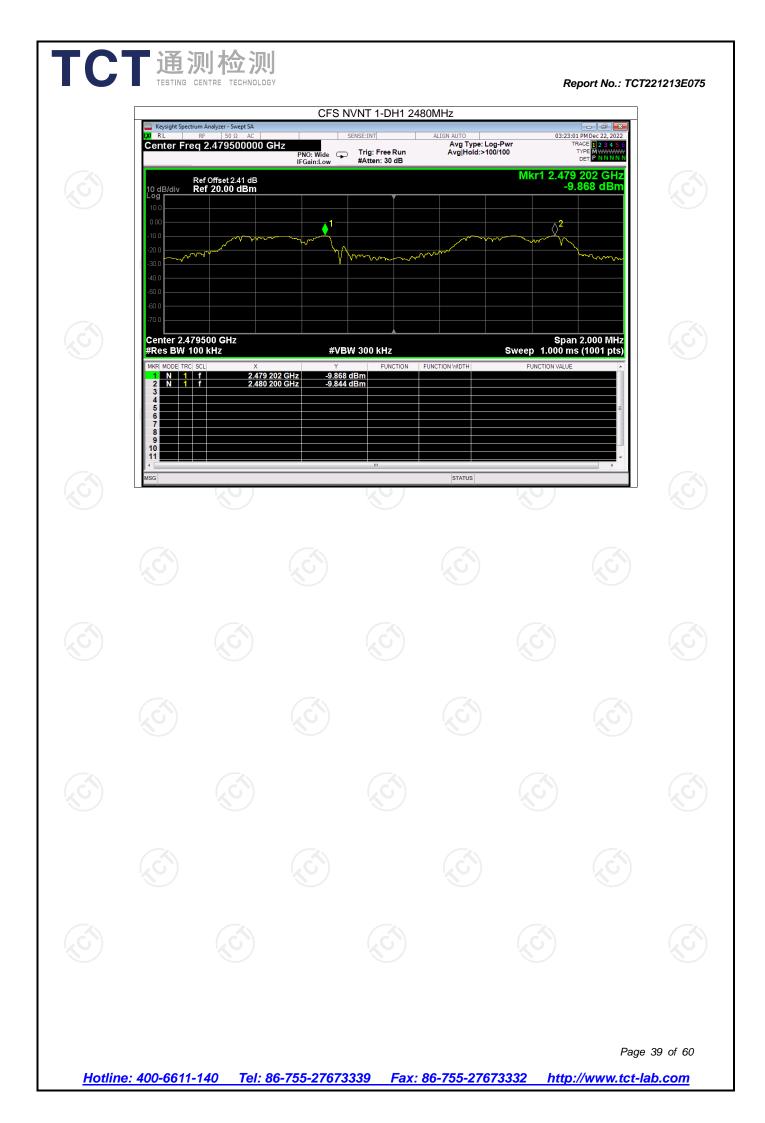
Carrier Frequencies Separation

		••••••				
Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	2402.012	2403.006	0.994	0.689	Pass
NVNT	1-DH1	2441.016	2442.016	1.000	0.689	Pass
NVNT	1-DH1	2479.202	2480.200	0.998	0.689	Pass



Report No.: TCT221213E075





ondition	Mode	Frequency (MHz)	Band Edge Hopping Mode	Max Value (dBc)	Limit (dBc)	Verd
NVNT	1-DH1	2402	No-Hopping	-43.20	-20	Pas
NVNT	1-DH1	2480	No-Hopping	-48.86	-20	Pas
		Band Edge N	Test Graphs /NT 1-DH1 2402MHz No	-Hopping Ref		
	Keysight Spectrum A	Analyzer - Swept SA 50 Ω AC		SN AUTO 02:	49:59 PM Dec 22, 2022	
ľ	Center Freq 2	2.402000000 GHz PNO: Wide IFGain:Low		Avg Type: Log-Pwr Avg Hold: 1000/1000	TRACE 123456 TYPE MWWWWW DET PNNNNN	
	Ref 10 dB/div Ref	Offset 2.19 dB 5 20.00 dBm		Mkr1 2.4	02 024 GHz -8.640 dBm	
	10.0					
	0.00		1			
	-10.0					
	-20.0					
	-30.0					
	-40.0			\sim		
	-50.0					
	-60.0 -~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mun man and and		- water and a second	mhuhum	
	-70.0					
	Center 2.4020			Sp Sweep 1.000	oan 8.000 MHz	
	#Res BW 100 ^{MSG}	KHZ	#VBW 300 kHz	Sweep 1.000	ins (1001 pts)	
	Keysight Spectrum A	Analyzer - Swept SA	T 1-DH1 2402MHz No-H			
	RE RF Center Freq 2	2.356000000 GHz PNO: Fast	Trig: Free Run	AUTO 02: Avg Type: Log-Pwr Avg Hold: 1000/1000	50:17 PM Dec 22, 2022 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNN	
	Ref	IFGain:Low	, #Atten: 30 dB		2.402 0 GHz	
	10 dB/div Ref	f 20.00 dBm	Ĭ		-8.492 dBm	
	0.00				1	
	-10.0					
	-30.0				-20.04 (JDH)	
	-50.0				2 2	
	-70.0					
	Start 2.30600 #Res BW 100		#VBW 300 kHz	Stop Sweep 9.600	o 2.40600 GHz ms (1001 pts)	
	MKR MODE TRC SCL	2.402 0 GHz -	3.492 dBm	DN WIDTH FUNCTION VAL	UE	
	2 N 1 f 3 N 1 f 4 N 1 f	2.390 0 GHZ -6	3.901 dBm 0.653 dBm 1.842 dBm			
	5 6 7				E	

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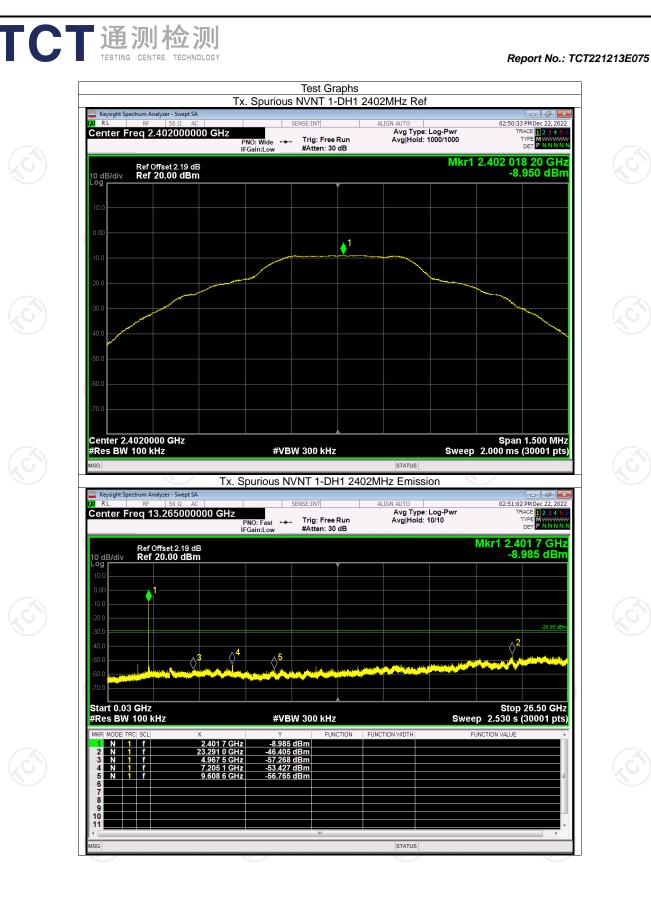
	Keysight Spectrum Analyzer - Swept					
Ce	RL RF 50 Ω nter Freq 2.480000	AC SE 000 GHz PNO: Wide ↔→ IFGain:Low	NSE:INT Trig: Free Run #Atten: 30 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	02:57:22 PM TRACE TYPE DET	1 2 3 4 5 6 MWWWWW P N N N N N
10	Ref Offset 2.41 dB/div Ref 20.00 dB				Mkr1 2.480 03 -10.23	32 GHz 1 dBm
Log 10. -10.	0					
-20. -30. -40. -50.	0					R ^C
	where he are a star		7 300 kHz	S	Span 8.1 weep 1.000 ms (1	лоо мнz 000 мнz
MSG	1	Band Edge NVNT 1-D	H1 2480MHz No	STATUS		
LXI	Keysight Spectrum Analyzer - Swept RL RF 50 Ω Inter Freq 2.526000	SA AC SE	NSE:INT	ALIGN AUTO	02:57:28 PM	Dec 22, 2022
		PNO: Fast ↔→	Trig: Free Run			
	Ref Offerst 2.44	IFGain:Low	#Atten: 30 dB	Avg Hold: 200/200	Mkr1 2.480	1 2 3 4 5 6 MWWWWWW PNNNNN 1 GHz
10 100 0.0	.0 70 1	IFGain:Low		Avg Hold: 200/200	Mkr1 2.480 -10.13	1 GHz
Lo; 10 -10 -20		IFGain:Low		Avg Hold: 200/200	Mkr1 2.480	1 GHz
Lo, 10 -10 -20		IFGain:Low		Avg Hold: 200/200	Mkr1 2.480	1 GHz 9 dBm
Lo; 10 -10 -20 -30 -40		IFGain:Low		Avg Hold: 200/200	Mkr1 2.480	1 GHz 9 dBm
Lo 10 -10 -20 -30 -40 -50 -50 -70 \$tt #R	art 2.47600 GHz les BW 100 kHz	IFGain:Low	#Atten: 30 dB		Mkr1 2.480 -10.13	1 GHz 9 dBm
Lo 10 -10 -20 -30 -40 -50 -50 -70 -70 -70 -70 -70 -70 -70 -70 -70 -7	A D D D D D D D D D D D D D D D D D D D	IFGain:Low	#Atten: 30 dB		Mkr1 2.480 -10.13	1 GHz 9 dBm
Lo 10 -10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	9 1 0 1 0 2 0 1 0 1 0 1 0 1 0 1	IFGain:Low dB m dB m 43 43 43 43 44 4 4 4 4 4 4 4 4 4 4 4	#Atten: 30 dB		Mkr1 2.480 -10.13	1 GHz 9 dBm
Lo 10 -10 -20 -30 -40 -50 -70 -50 -70 -50 -70 -50 -70 -50 -70 -50 -70 -50 -70 -50 -70 -50 -70 -50 -70 -50 -70 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IFGain:Low dB m dB m 43 43 43 43 44 4 4 4 4 4 4 4 4 4 4 4	#Atten: 30 dB		Mkr1 2.480 -10.13	1 GHz 9 dBm
Lo 10 -10 -20 -30 -40 -50 -50 -50 -50 -70 -50 -50 -50 -50 -70 -50 -50 -50 -70 -70 -70 -70 -70 -70 -70 -70 -70 -7	A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IFGain:Low dB m dB m 43 43 43 43 44 4 4 4 4 4 4 4 4 4 4 4	#Atten: 30 dB	NCTION WIDTH	Mkr1 2.480 -10.13	1 GHz 9 dBm
Lo 10 -10 -20 -30 -40 -50 -50 -50 -50 -70 -50 -50 -50 -50 -70 -50 -50 -50 -70 -70 -70 -70 -70 -70 -70 -70 -70 -7	A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IFGain:Low dB m dB m 43 43 43 43 44 4 4 4 4 4 4 4 4 4 4 4	#Atten: 30 dB	NCTION WIDTH	Mkr1 2.480 -10.13	1 GHz 9 dBm
Lo 10 -10 -20 -30 -40 -50 -50 -50 -50 -70 -50 -50 -50 -50 -70 -50 -50 -50 -70 -70 -70 -70 -70 -70 -70 -70 -70 -7	A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IFGain:Low dB m dB m 43 43 43 43 44 4 4 4 4 4 4 4 4 4 4 4	#Atten: 30 dB	NCTION WIDTH	Mkr1 2.480 -10.13	1 GHz 9 dBm

ondition	Mode	Frequency (MHz)		oping ode	Max Value (dBc)	e Limit (dBc)	Verdi
NVNT	1-DH1	2402	Hop	oping	-42.88	-20	Pass
NVNT	1-DH1	2480		oping	-42.61	-20	Pase
			Test G Iopping) NVNT 1	iraphs -DH1 2402M	Hz Hopping Ref		-
		50 Ω AC 2.402000000 GHz	SENSE:INT		AUTO Avg Type: Log-Pwr	03:24:46 PM Dec 22, 2022 TRACE 1 2 3 4 5 6 TYPE MWWWW DET P N N N N N	
	·	PNO IFGa	l:Wide ↔ Trig:Fre iin:Low #Atten: 3		Avg Hold: 10000/10000	1 2.405 848 GHz	
~	Ref 10 dB/div Ref	Offset 2.19 dB 7 20.00 dBm		Ţ		-8.154 dBm	
<u>c)</u>	10.0						
	0.00					1	
	-10.0			A M		\sim	
	-20.0		N			NA MAR	
	-30.0			אַעי		VI VV	
3	-40.0						(é
	-50.0	m an m	M				
	-60.0 - hand	hold have have					
	-70.0						
	Center 2.4020 #Res BW 100		#VBW 300 kH	z	Sweep	Span 8.000 MHz 1.000 ms (1001 pts)	
N	ISG	Band Edge(Hop	ping) NVNT 1-D	H1 2402MHz	status Hopping Emission		-
c) [Keysight Spectrum /	Analyzer - Swept SA	SENSE:INT	ALIGN	I AUTO	03:27:23 PM Dec 22, 2022	, c
	Center Freq 2		D: Fast ↔ Trig: Fre in:Low #Atten: 3	e Run /	Avg Type: Log-Pwr Avg Hold: 10000/10000	TRACE 12 3 4 5 6 TYPE MWWWW DET P NNNN	
	Ref 10 dB/div Ref Log	Offset 2.19 dB 7 20.00 dBm			N	lkr1 2.406 0 GHz -8.153 dBm	
	10.00 0.00					1	
	-10.0						
~	-30.0					-2\$15 dBm	
\mathbf{S}	-40.0					2 111111111111111111111111111111111111	
	-60.0	den fortuk monoriset (nakala) bahasan ottano	an a transforma da antida da an	<u></u>		ADAAAAAAA	
	Start 2.30600 #Res BW 100		#VBW 300 kH	z	Sweep	Stop 2.40600 GHz 9.600 ms (1001 pts)	
	MKR MODE TRC SCL	2.406 0 GHz	-8.153 dBm		N WIDTH FUN	CTION VALUE	
	2 N 1 f 3 N 1 f 4 N 1 f	2.400 0 GHz 2.390 0 GHz 2.389 2 GHz	-52.751 dBm -53.720 dBm -51.034 dBm				
-	6						

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LXI RL		SENSE:INT PNO: Wide → Trig: Free Run IFGain:Low #Atten: 30 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 10000/10000	03:29:00 PM Dec 22, 2022 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNNN	
10 dB/d Log	Ref Offset 2.41 dB	IFGain:Low #Atten: 30 dB	Mkr1	2.478 024 GHz -9.861 dBm	
10.0					
0.00					
-20.0					
-30.0					
-40.0					
-60.0			1º Manana	mann	
-70.0	r 2.480000 GHz			Span 8.000 MHz	
	3W 100 kHz	#VBW 300 kHz	STATUS	span 8.000 MHz 1.000 ms (1001 pts)	
LXI RL	ht Spectrum Analyzer - Swept SA RF 50 Ω AC	Hopping) NVNT 1-DH1 248	OMHz Hopping Emission	03:31:37 PM Dec 22, 2022	
	r Freq 2.526000000 GHz Ref Offset 2.41 dB	PNO: Fast →→ Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Hold: 10000/10000	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET PNNNNN	
10 dB/d Log 10.0				-9.855 dBm	
0.00 -10.0 -20.0					
-30.0	2^{4}			-29.86 dBm	
-50.0	harter marine		MMuhaneldonkankamilation	M.Mannon M.H.H	
#Res I	2.47600 GHz BW 100 kHz	#VBW 300 kHz		Stop 2.57600 GHz 0.600 ms (1001 pts)	
1 N	Image: free set x 1 f 2.478 0 GH; 1 f 2.483 5 GH; 1 f 2.500 0 GH; 1 f 2.486 2 GH;	z -9.855 dBm z -58.820 dBm z -54.772 dBm	FUNCTION WIDTH FUNCT	ION VALUE	
5 6 7 8					
9 10 11					
MSG	/ *		STATUS	No.	

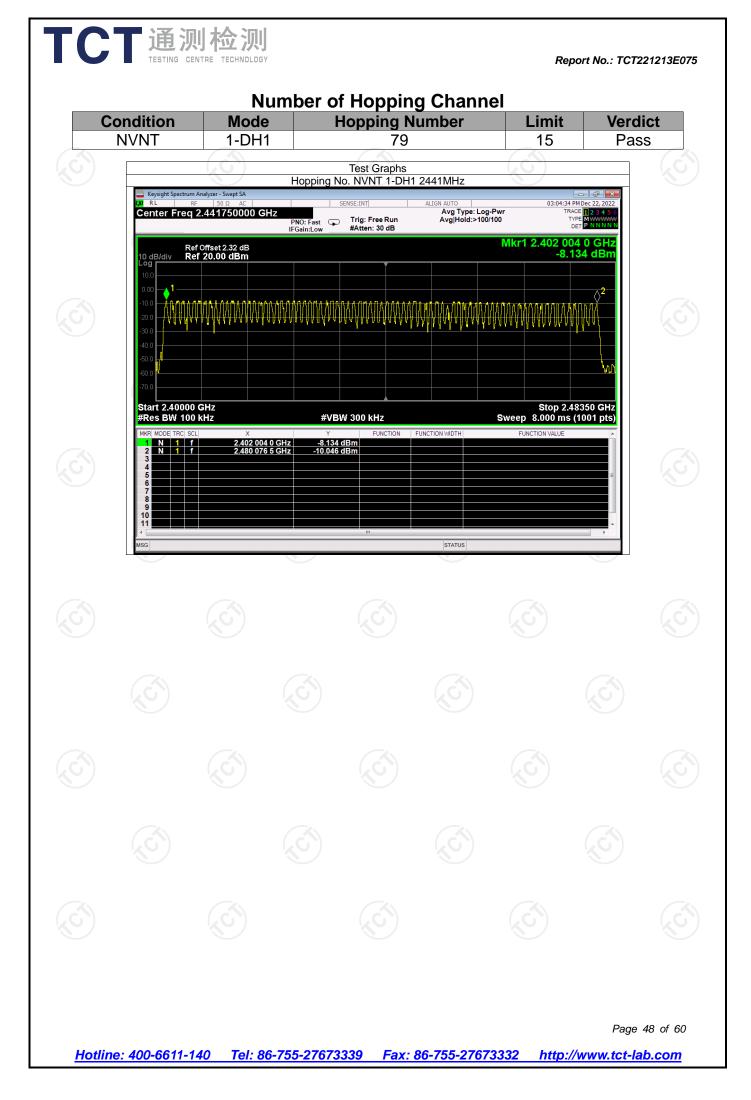
		e Frec	uency (M	Hz) Max	ous Emis x Value (dE	Bc) Lim	it (dBc)	Verdict
NVNT NVNT	1-DH 1-DH	1	2402 2441		-37.45 -37.67		-20 -20	Pass Pass
NVNT	1-DH	1	2480		-35.66		-20	Pass



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TCT	通测检测 STING CENTRE TECHNOLOGY			Report No.: TCT	221213E075
Ken Ken	sight Spectrum Analyzer - Swept SA	Tx. Spurious NVNT 1-DH1	2441MHz Ref		
LXI RI		PNO: Wide Trig: Free Run IFGain:Low #Atten: 30 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	02:54:59 PM Dec 22, 2022 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P NNNN	
10 dE	Ref Offset 2.32 dB 8/div Ref 20.00 dBm		Mkr1 2.	441 015 35 GHz -9.144 dBm	
Log 10.0					
0.00		↓ ¹			
-20.0				-	
-40.0					
-60.0					
-70.0 Cent #Res	ter 2.4410000 GHz 5 BW 100 kHz	#VBW 300 kHz	Sweep 2.	Span 1.500 MHz 000 ms (30001 pts)	
MSG			STATUS		
Key	sight Spectrum Analyzer - Swept SA	Spurious NVNT 1-DH1 24		02:55:29 PM Dec 22, 2022	
	ter Freq 13.265000000 GHz	PNO: Fast ← Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 10/10	TRACE 123456 TYPE MWWWW DET PNNNNN	
10 db Log	Ref Offset 2.32 dB 3/div Ref 20.00 dBm	IFGain:Low writer. 30 db	Mł	r1 2.441 4 GHz -9.035 dBm	
10.0 0.00 -10.0 -20.0	1				
-30.0		4		-29.14 dBm	
-50.0 -60.0 -70.0					
	t 0.03 GHz s BW 100 kHz	#VBW 300 kHz	Sweep	Stop 26.50 GHz 2.530 s (30001 pts)	
1	MODE TRC SCL X N 1 f 2.441 4 GF N 1 f 24.865 9 GF	Y FUNCTION 12 -9.035 dBm 12 -46.817 dBm	FUNCTION WIDTH FUNCT	ION VALUE	
3	N 1 24.865 9 Gr N 1 f 4.867 8 Gr N 1 f 7.323 4 Gr N 1 f 9.944 8 Gr	Iz -56.398 dBm Iz -51.257 dBm		======	
6 7 8					
9 10 11					
MSG			STATUS	b	
C)	S		S	
				Page	46 of 60

	通测检测 ESTING CENTRE TECHNOLOGY	Tx. Spurious NVNT 1-DH1	2480MHz Ref	Report No.: TC	F221213E075
LXI R	rsight Spectrum Analyzer - Swept SA RF 50 Ω AC ter Freq 2.480000000 GHz	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr	02:57:45 PM Dec 22, 2022	
		PNO: Wide Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Hold: 1000/1000	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P N N N N	
C 10 de	Ref Offset 2.41 dB 8/div Ref 20.00 dBm		MKP1 2	2.480 022 40 GHz -10.497 dBm	
10.0					
0.00					
-10.0		↓ ¹			
-20.0					
-30.0					
-40.0					
-50.0					
-60.0					
-70.0					
Cen	ter 2.4800000 GHz			Span 1.500 MHz	
#Re:	s BW 100 kHz	#VBW 300 kHz	Sweep	2.000 ms (30001 pts)	
G)		x. Spurious NVNT 1-DH1 24			
<mark>l,XI</mark> R	rsight Spectrum Analyzer - Swept SA - RF 50 Ω AC ter Freq 13.265000000 GH	SENSE:INT	ALIGN AUTO	02:58:14 PM Dec 22, 2022 TRACE 1 2 3 4 5 6 TYPE DET P N N N N N	
		PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Hold: 10/10		
10 di Log	Ref Offset 2.41 dB B/div Ref 20.00 dBm	Y		/kr1 2.480 2 GHz -10.909 dBm	
10.0 0.00					
-10.0					
-30.0				-30.50 dBm	
-50.0			and the second	and a standard state of the sta	
-60.0 -70.0					
	t 0.03 GHz s BW 100 kHz	#VBW 300 kHz	Sweep	Stop 26.50 GHz 2.530 s (30001 pts)	
	MODE TRC SCL X N 1 f 2.480 2 N 1 f 24.989 4	Y FUNCTION GHz -10.909 dBm Clus 40.464 dDm	FUNCTION WIDTH FUN	ICTION VALUE	
345	N 1 f 24.989 4 N 1 f 4.960 5 N 1 f 7.440 7 N 1 f 10.028 6	GHz -55.753 dBm GHz -53.416 dBm			
6 7 8					
9 10 11					
MSG		"	STATUS	•	



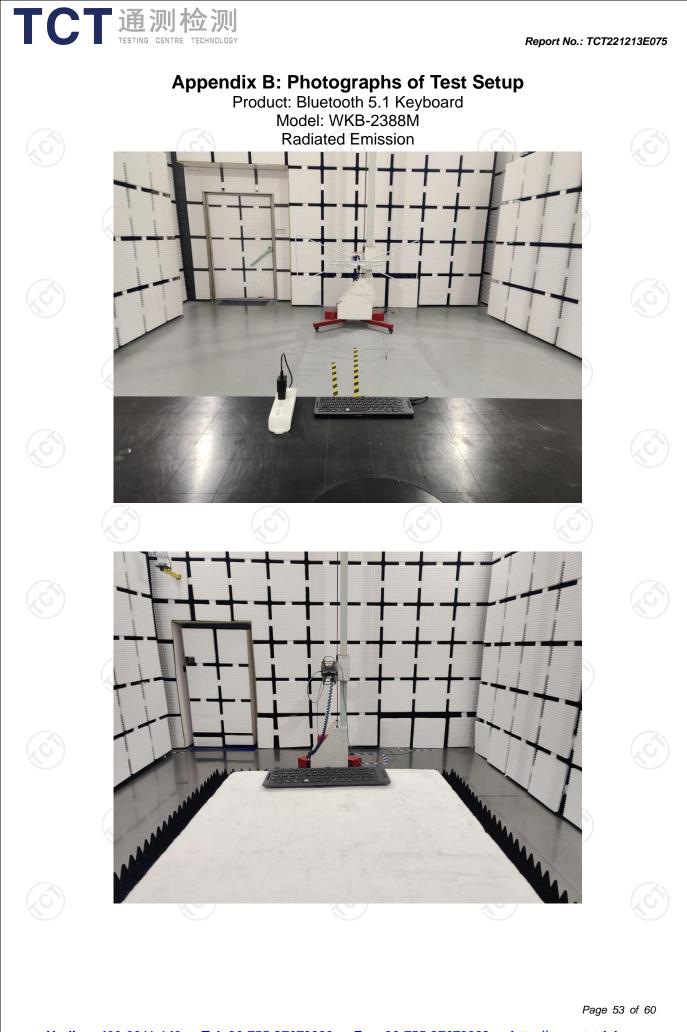
	Dwell Time							
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.23	22.080	96	31600	400	Pass
NVNT	1-DH3	2441	1.69	263.64	156	31600	400	Pass
NVNT	1-DH5	2441	2.93	316.44	108	31600	400	Pass

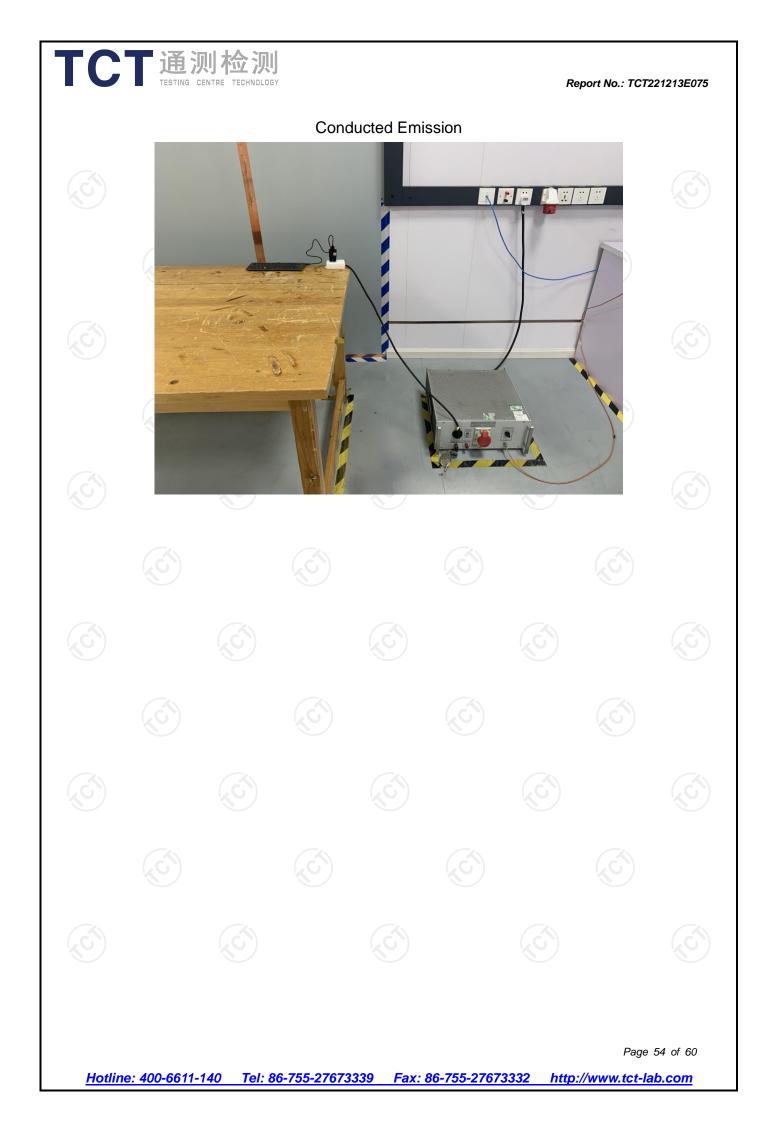
TC	ESTING CENTRE TECHNOLOGY Report No.: TCT	Г221213E075
	Dwell NVNT 1-DH1 2441MHz One Burst W Keysight Spectrum Analyzer - Swept SA Center Freq 2.441000000 GHz Trig Delay-500.0 µs Avg Type: Log-Pwr TRACE US 23.4 5 6 TYPE US 4.1 (Sharton 10.1 (S	
	-200 -22 -200 -200 -300 -400 -400 -400 -400 -600 -122 -114 -141 -114 -141 -114 -141 -100 -141 -114 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141 -141	
	4 5 6 7 8 9 9 9 9 10 10 10 10 10 10 10 10 10 10	
	IFGain:Low #Atten: 30 dB Orr 10 dB/div Ref Offset 2.32 dB Image: Comparison of the second of the se	
	400 500 600 700 700 Center 2.441000000 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 31.60 s (10001 pts) MSG Status	

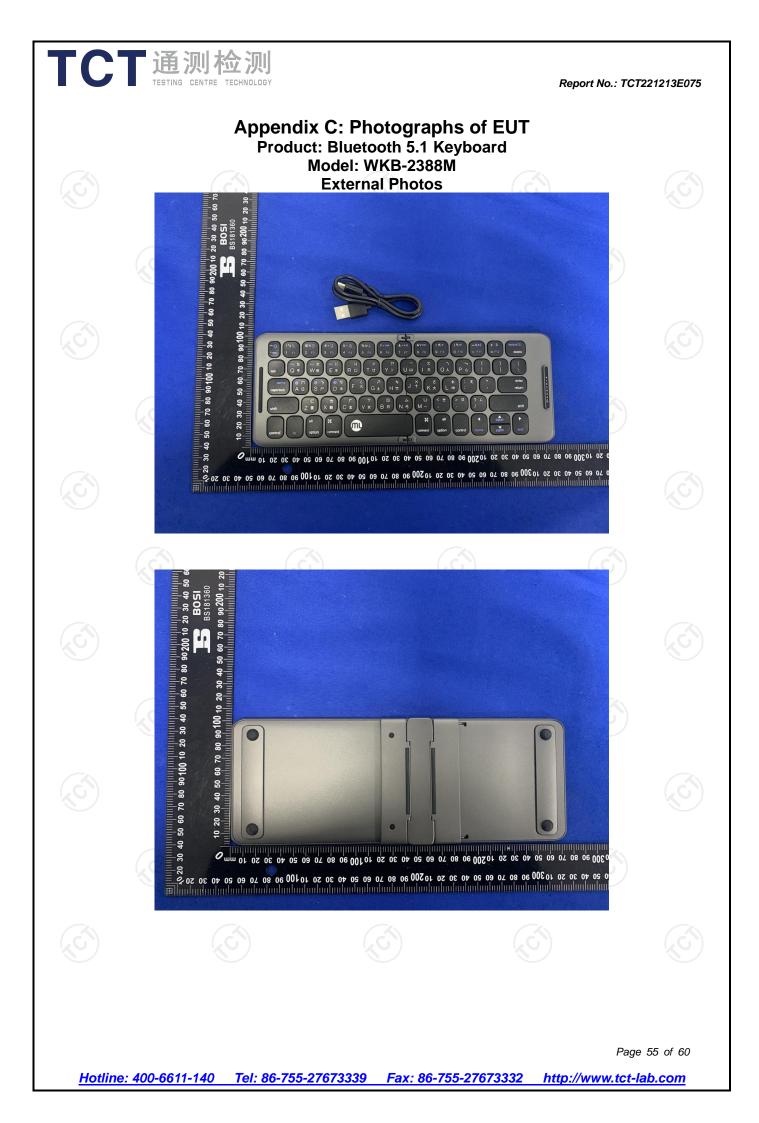
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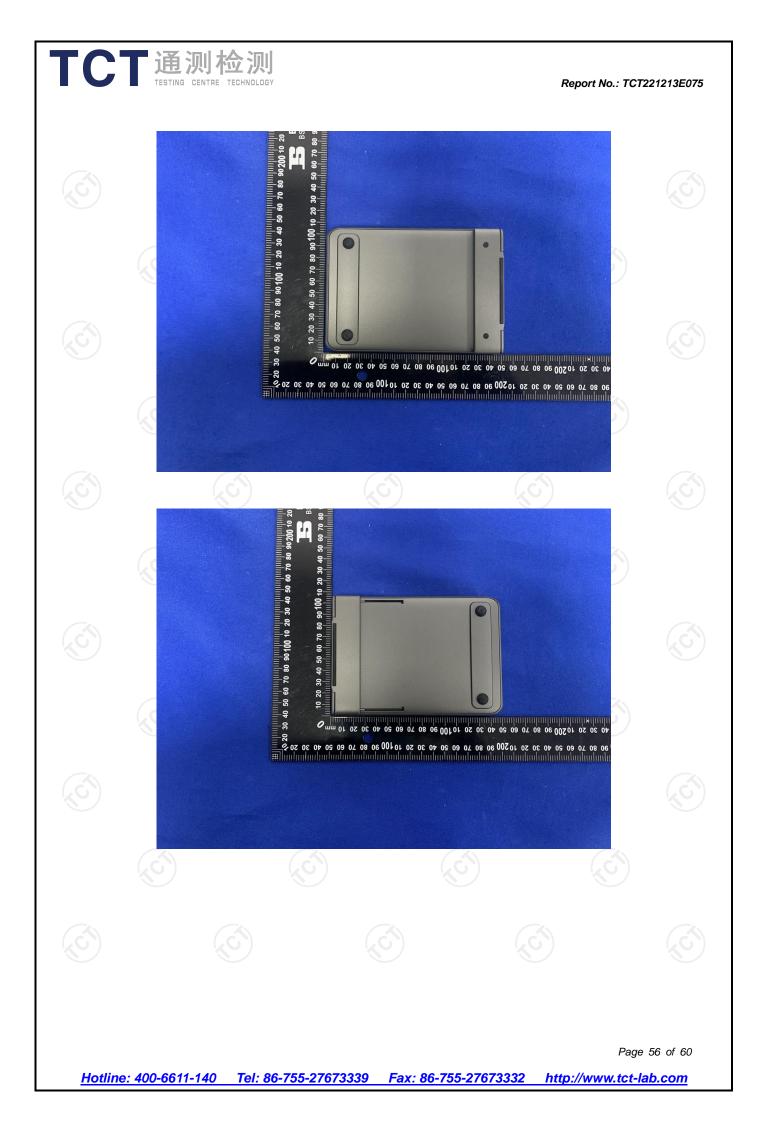
LXI	exight Spectrum Analyzer - Swept SA RL RF 50 Ω AC nter Freq 2.441000000 GHz	PNO: Fast IFGain:Low Brow IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low	Vg Type: Log-Pwr TRACE 1 2 3 4 5 TYPE WWWW DET PNNNN	2 6 ₩ N
(10) 10) 10) 10) 10) 10) 10) 10) 10) 10)			ΔMkr1 1.690 m: -7.86 di	
-50. -60. -70.	n all and a second a se		da biran di pengena pengena pengena di pengena di pengena da biran da Malaya manda pengena ing da Vandar yang pengena da da birang da pengena di pengena di pengena di pengena pengen Malaya manda pengena ing da Vandar yang pengena da	
Re	nter 2.441000000 GHz s BW 1.0 MHz	#VBW 3.0 MHz	Span 0 H Sweep 10.00 ms (10001 pts MDTH FUNCTION VALUE	
1 2 3 4 4 5 6 6 7 7 8 9 9 10 11	Δ2 1 t (Δ) 1.690 m F 1 t 425.0 μ I I I 425.0 μ	IS (Δ) -7.86 dB IS -24.17 dBm		
MSG		well NVNT 1-DH3 2441MHz Accur	status nulated	G
<mark>(,X/</mark>	eysight Spectrum Analyzer - Swept SA RL RF 50 Ω AC Nter Freq 2.441000000 GHz	SENSE:INT ALIGN A		2 6
10.0 0.0 -10.0 -20.0 -30.0 -40.0				Ś
		#VBW 3.0 MHz	Span 0 H Sweep 31.60 s (10001 pt:	
No.	2	C K		

LXI R	ysight Spectrum Analyzer - Swept SA L RF 50 Ω AC	Dwell NVNT 1-DH5 2441MHz One	UTO 03:48:02 PM Dec 22, 2022	
Cen	ter Freq 2.441000000 GHz	PNO: Fast Trig: Video IFGain:Low #Atten: 30 dB	vg Type: Log-Pwr TRACE 2 3 4 5 6 Type Winner Winner Pinning Det Pinning AMkr1 2.930 ms	
10 dl Log	Ref Offset 2.32 dB B/div Ref 20.00 dBm		4.79 dB	
0.00		1Δ2	TRIO LVL	
-20.0 -30.0 -40.0	X <mark>don, maljo, ko klistor, moli star, maljo</mark>			
-40.0 -50.0 -60.0	9 m land	and the place and the set of the place in the set of th	en an factor (a specific transmisser a dan and international processing processing and the specific transmisser in the second se	
-70.0 Cen	ter 2.441000000 GHz	le rabilita na chi ca na chi ca na chi ca	na in a faird an a fair an a fair an a fair an	
Res MKR		#VBW 3.0 MHz	Sweep 10.00 ms (10001 pts)	
2 3 4	$\Delta 2$ 1 t (Δ) 2.93 F 1 t 367	0 ms (Δ) 4.79 dB 0 us -24.69 dBm		
5 6 7 8			E	
9 10 11				
MSG	MSG STATUS Dwell NVNT 1-DH5 2441MHz Accumulated			
LXI R	Keysight Spectrum Analyzer - Swept SA Common Section Common Section<			
	Ref Offset 2.32 dB B/div Ref 20.00 dBm	IFGain:Low #Atten: 30 dB	DET P 'N N N N	
	Bidiv Ref 20.00 dBm			
0.00				
-10.0				
-20.0				
-30.0				
-50.0				
-60.0				
-70.0				
Res	ter 2.441000000 GHz BW 1.0 MHz	#VBW 3.0 MHz	Span 0 Hz Sweep 31.60 s (10001 pts)	
MSG	2	Key K		









Report No.: TCT221213E075





