	TEST REPO	RT			
FCC ID	Z2G-PERIMICE-608				
Test Report No:	TCT220309E007				
Date of issue:	Apr. 12, 2022				
Testing laboratory::	SHENZHEN TONGCE TEST	ING LAB			
Testing location/ address:		uqiao 5th Industrial Zone, Fuhai nen, Guangdong, 518103, People's			
Applicant's name::	Perixx Computer GmbH				
Address:	Heerdter Landstrasse 189e 4	0549, Dusseldorf, Germany			
Manufacturer's name :	Perixx Technology(shenzhen)co., LTD				
Address:	#A509-510 JuChuangJinGu Building, XinGuang Rd., XiLi, NanShan, Shenzhen, China				
Standard(s):	FCC CFR Title 47 Part 15 Subpart C Section 15.249 ANSI C63.10:2013				
Product Name::	Programmable Ergonomic Mo	ouse			
Trade Mark:	N/A				
Model/Type reference :	PERIMICE-608				
Rating(s):	DC 3V(2*AAA Battery)				
Date of receipt of test item	Mar. 09, 2022				
Date (s) of performance of test:	Mar. 09, 2022 - Apr. 12, 2022				
Tested by (+signature) :	Onnado YE	Onnado Intonger			
Check by (+signature) :	Beryl ZHAO	Boyl 2 TCT			
Approved by (+signature):	Tomsin	Tomsm 45 55			
General disclaimer:					

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1. **General Product Information**

1.1. EUT description

Product Name:	Programmable Ergonomic Mouse			
Model/Type reference:	PERIMICE-608			
Sample Number:	TCT220309E007-0101		<u>_</u> 1.	
Operation Frequency:	2408MHz - 2474MHz			
Number of Channel:	34			
Modulation Technology:	GFSK	(C)		(\mathbf{c})
Antenna Type:	PCB Antenna			
Antenna Gain:	-5.37dBi			
Rating(s):	DC 3V(2*AAA Battery)		S S	

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
1	2408MHz	10	2426MHz	19	2444MHz	28	2462MHz
2	2410MHz	11	2428MHz	20	2446MHz	29	2464MHz
3	2412MHz	12	2430MHz	21	2448MHz	30	2466MHz
4	2414MHz	13	2432MHz	22	2450MHz	31	2468MHz
5	2416MHz	14	2434MHz	23	2452MHz	32	2470MHz
6	2418MHz	15	2436MHz	24	2454MHz	33	2472MHz
7	2420MHz	16	2438MHz	25	2456MHz	34	2474MHz
8	2422MHz	17	2440MHz	26	2458MHz		
9	2424MHz	18	2442MHz	27	2460MHz		-
Noto [.]	X						KO.

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel	2408MHz
The Middle channel	2440MHz
The Highest channel	2474MHz

TCT通测检测 2. Test Result Summary

Requirement	CFR 47 Section	Result		
Antenna Requirement	§15.203	PASS		
AC Power Line Conducted Emission	§15.207	N/A		
Field Strength of Fundamental	§15.249 (a)	PASS		
Spurious Emissions	§15.249 (a) (d)/ §15.209	PASS		
Band Edge	§15.249 (d)/ §15.205	PASS		
20dB Occupied Bandwidth	§15.215 (c)	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.

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3. General Information

3.1. Test Environment and Mode

Operating Environment:	
Condition	Radiated Emission
Temperature:	25.0 °C
Humidity:	53 % RH
Atmospheric Pressure:	1010 mbar

Test Mode:

Engineering mode: Keep the EUT in continuous transmitting by select channel and modulations

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.

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
Notebook Computer	G3 3500	00342-36088-9983 2-AAOEM	1	DELL
Adapter	HA130PM190	CN-0CY0JM-CH20 0-0B6-7405-A01		DELL

Note:

use.

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



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: TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China TEL: +86-755-27673339

4.3. Measurement Uncertainty

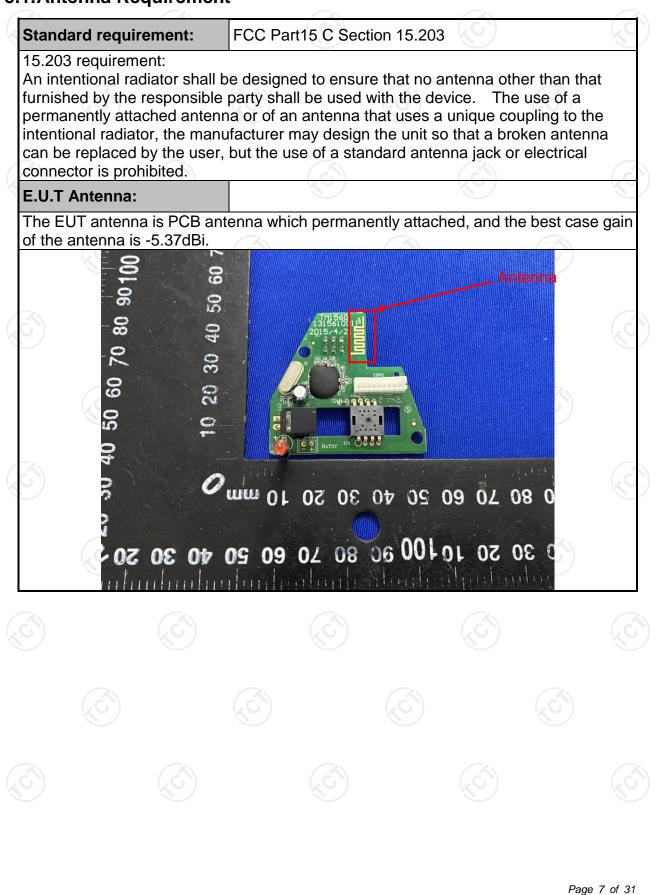
The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

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



5.2. Conducted Emission

5.2.1. Test Specification

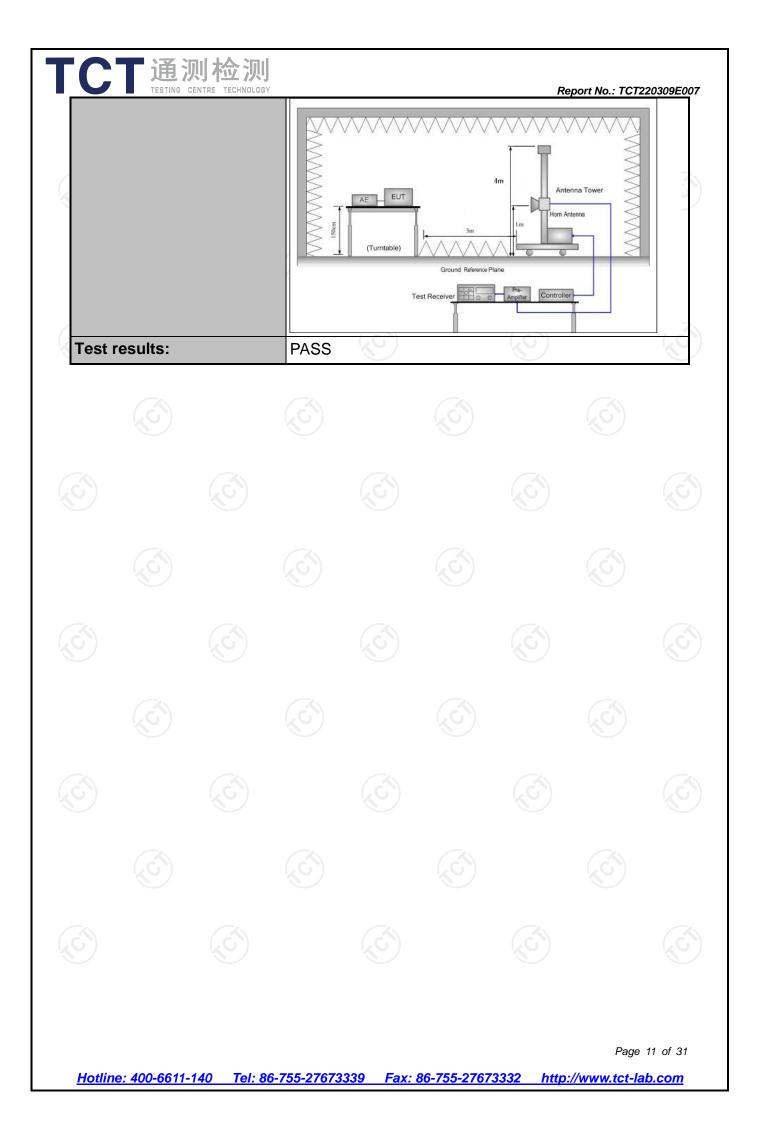
Test Requirement:	FCC Part15 C Section 15.207					
Fest Method:	ANSI C63.10:2013					
Frequency Range:	150 kHz to 30 MHz		(c)			
Receiver setup:	RBW=9 kHz, VBW=30	RBW=9 kHz, VBW=30 kHz, Sweep time=auto				
	Frequency range	Limit (dBuV)			
	(MHz)	Quasi-peak	Average			
_imits:	0.15-0.5	66 to 56*	56 to 46*			
	0.5-5	56	46			
	5-30	60	50			
	Refere	ence Plane				
Fest Setup:	Remarkc E.U.T: Equipment Under Test LISN: Line Impedence Stabilizatio Test table height=0.8m	U.T ane <i>EMI</i> Receiver	I <u>ter</u> — AC power			
Test Mode:	Transmitting mode wit	Transmitting mode with modulation				
Fest Procedure:	 The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 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). 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 of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement. 					
	N/A					

5.3.Radiated Emission Measurement

5.3.1. Test Specification

Test Requirement:	FCC Part15	C Section	15,209		
Test Method:	ANSI C63.10:2013				
Frequency Range:	9 kHz to 25 GHz				
			6)		-(c)
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal &	& Vertical			
	Frequency	Detector	RBW	VBW	Remark
Receiver Setup:	<u>9kHz- 150kHz</u> 150kHz- 30MHz	Quasi-peak Quasi-peak	200Hz 9kHz	1kHz 30kHz	Quasi-peak Value Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
	Above TGHZ	Peak	1MHz	10Hz	Average Value
Limit/Field strongth of the	Freque	ency	Limit (dBu	//m @3m)	Remark
Limit(Field strength of the	2400MHz-24		94.	00	Average Value
fundamental signal):	2400IVIHZ-24	+83.5IVIHZ	114	.00	Peak Value
	Freque	encv	Limit (dBu	//m @3m)	Remark
	0.009-0.490		2400/F(KHz)		Quasi-peak Value
	0.490-1.705		24000/F(KHz)		Quasi-peak Value
	1.705-30		30		Quasi-peak Value
Limit/Spurious Emissions)	30MHz-88MHz		40.0		Quasi-peak Value
Limit(Spurious Emissions):	88MHz-2	16MHz	43	.5	Quasi-peak Value
	216MHz-960MHz		46	.0	Quasi-peak Value
	960MHz	-1GHz	54	.0 🖸	Quasi-peak Value
	Above 1GHz		54	.0	Average Value
			74	-	Peak Value
Limit (band edge) :	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.				
Test Procedure:	 The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber in below 1GHz, 1.5m above the ground in above 1GHz. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 				

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	 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
	For radiated emissions below 30MHz
	Distance = 3m Computer Pre - Amplifier UT UT Turn table Ground Plane 30MHz to 1GHz
Test setup:	Antenna Tower Antenna Tower Search Antenna H H Turm 0.8m Ground Plane
	Above 1GHz (The diagram below shows the test setup that is utilized to make the measurements for emission from 1GHz to the tenth harmonic of the highest fundamental frequency or to 40GHz emissions, whichever is lower.)



5.3.2. Test Instruments

	Radiated En	nission Test Site	e (966)	
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESIB7	100197	Jul. 07, 2022
Spectrum Analyzer	R&S	FSQ40	200061	Jul. 07, 2022
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. 07, 2022
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 05, 2022
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 04, 2022
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 04, 2022
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Apr. 10, 2023
Antenna Mast	Keleto	RE-AM	N/A	N/A
Coaxial cable	SKET	RC_DC18G-N	N/A	Feb. 24, 2023
Coaxial cable	SKET	RC-DC18G-N	N/A	Feb. 24, 2023
Coaxial cable	SKET	RC-DC40G-N	N/A	Jul. 07, 2022
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

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5.3.3. Test Data

Field Strength of Fundamental

Freque (MH		Emission PK (dBuV/m)	Horizonta /Vertical		Limits PK (dBuV/m)	Margin (dB)	
240	8	92.04	Н		114	-21.96	
240	8	91.61	V		114	-22.39	
244	0	90.34	Н	S	114	-23.66	
244	0	92.05	V		114	-21.95	
247	4	90.66	H		114	-23.34	ć.ć
247	4	91.04	V		114	-22.96	0

Frequency (MHz)	Emission AV (dBuV/m)	Horizontal /Vertical	Limits AV (dBuV/m)	Margin (dB)
2408	86.23	Н	94	-7.77
2408	85.22	V	94	-8.78
2440	83.61	Н	94	-10.39
2440	84.09	V	94	-9.91
2474	83.28	H G	94	-10.72
2474	84.83	V	94	-9.17

Spurious Emissions

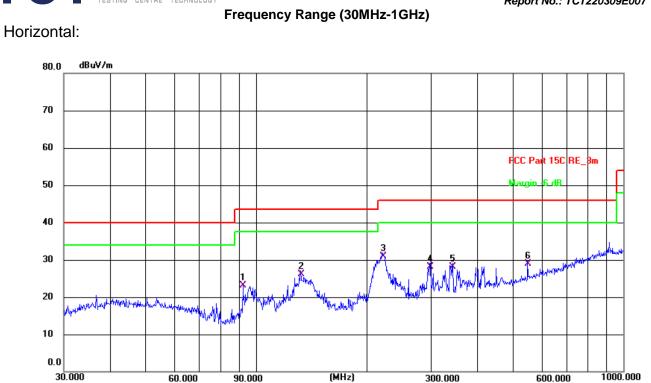
Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@	3m (dBµ	V/m)	Limit@3m (dBµV/m)
				-
				-

Note: 1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

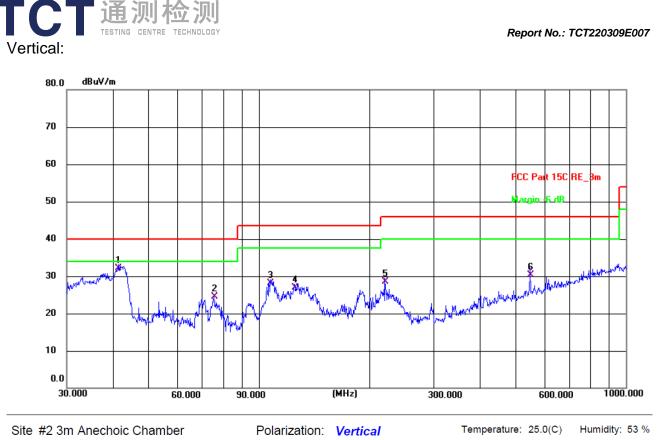
3. For fundamental frequency, RBW >20dB BW , VBW>=RBW, PK detector is for PK value, RMS detector is for AV value.



Site #	2 3m Anecho	ic Chambe	er	Polarization: Horizontal					Temperature:	25.0(C)	Humidity:	53 %
Limit:	FCC Part 15	CRE 3m		Power:								
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	P/F	Remark			
1	92.1388	13.59	9.51	23.10	43.50	-20.40	QP	Ρ				
2	132.2206	13.45	12.75	26.20	43.50	-17.30	QP	Ρ				
3 *	221.3921	19.41	11.49	30.90	46.00	-15.10	QP	Ρ				
4	297.2241	14.44	13.76	28.20	46.00	-17.80	QP	Ρ				
5	343.1800	12.88	15.22	28.10	46.00	-17.90	QP	Ρ				
6	549.0195	8.58	20.32	28.90	46.00	-17.10	QP	Ρ				

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						, and an				-
Limit:	FCC Part 15	C RE_3m			Po	wer:				
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark	
1 *	41.4215	18.11	13.99	32.10	40.00	-7.90	QP	Ρ		
2	75.4464	14.48	10.12	24.60	40.00	-15.40	QP	Ρ		
3	107.5101	17.10	11.00	28.10	43.50	-15.40	QP	Ρ		
4	125.0066	14.61	12.29	26.90	43.50	-16.60	QP	Ρ		
5	220.6171	17.16	11.44	28.60	46.00	-17.40	QP	Ρ		
6	549.0195	10.08	20.32	30.40	46.00	-15.60	QP	Ρ		

 Note:
 Measurements were conducted in all channels (high, middle, low), and the worst case (middle channel) was submitted only.

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C		则检河 ENTRE TECHNOL	U OGY				R	eport No.: T	CT220309E0	07
					1GHz					_
				Low channe	el: 2408MH	z				
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)	
4816	Н	52.14		-3.94	48.20		74	54	-5.80	
7224	Н	46.65		0.52	47.17		74	54	-6.83	
):)=			
				•						
4816	V	49.87		-3.94	45.93		74	54	-8.07	
7224	V	43.36		0.52	43.88	G T	74	54	-10.12	
	<u> </u>			/		<u> </u>				

			N	liddle chann	el: 2440M	Hz			
Frequency	y Ant. Pol. Peak		AV	Correction	Emissio	on Level	Peak limit	A\/ limit	Margin
(MHz)	H/V	reading	reading	Factor	Peak	AV	(dBu\//m)	(dBµV/m)	(dB)
(1011 12)	11/V	(dBµV)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(ubµ v/m)	(ubµ v/m)	(UD)
4880	Н	51.48		-3.98	47.50		74	54	-6.50
7320	Н	45.55		0.57	46.12		74	54	-7.88
					(
			K0						
4880	V	51.49		-3.98	47.51		74	54	-6.49
7320	V	44.72		0.57	45.29		74	54	-8.71
G				((.6

				High channe	el: 2474MH	Ηz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emissic Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4948	Н	52.83		-3.98	48.85	G T	74	54	-5.15
7422	Н	47.99		0.57	48.56		74	54	-5.44
4948	V	51.46		-3.98	47.48		74	54	-6.52
7422	V	45.79		0.57	46.36		74	54	-7.64
<u> </u>				@	/				

Note:

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

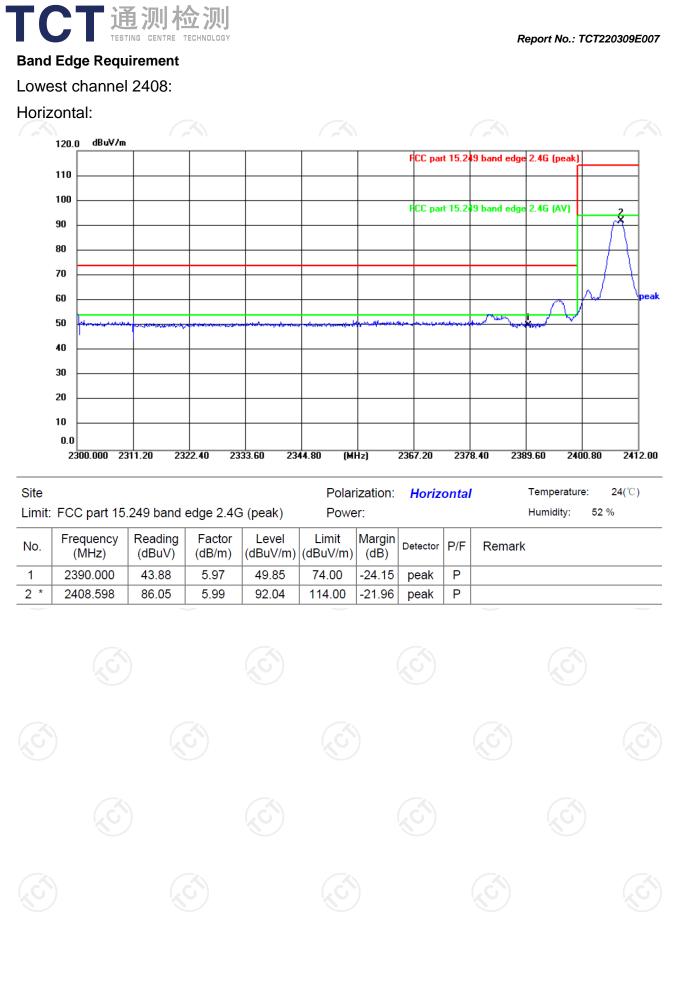
2. Margin (dB) = Emission Level (Peak) (dB μ V/m)-Average limit (dB μ V/m)

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.

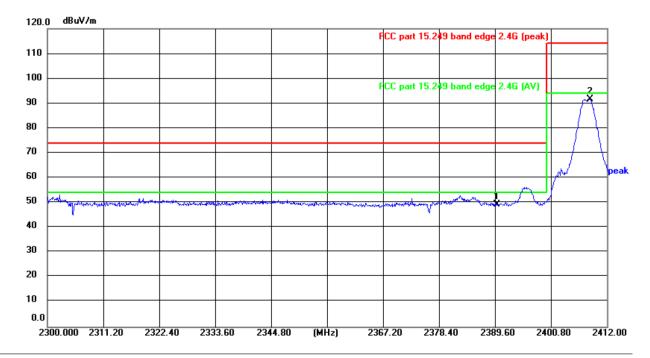
5. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

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



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Vertical:



Site					Polar	ization:	Vertic	al	Temperature: 24(℃)
Limit:	FCC part 15	.249 band	edge 2.4G	ə (peak)	Power:			Humidity: 52 %	
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	P/F	Remark
1	2390.000	43.41	5.97	49.38	74.00	-24.62	peak	Ρ	
2 *	2408.542	85.62	5.99	91.61	114.00	-22.39	peak	Ρ	



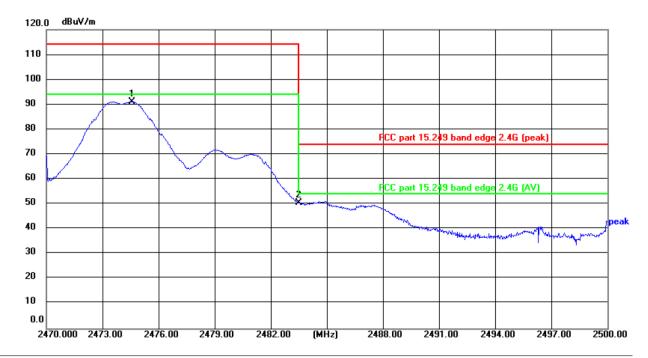
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Report No.: TCT220309E007 Highest channel 2474: Horizontal: 120.0 dBu∀/m 110 100 90 80 FCC part 15.249 band edge 2.4G (peak) 70 60 FCC part 15.249 band edge 2.4G (AV) 50 oeak 40 30 20 10 0.0 2500.00 2470.000 2473.00 2476.00 2479.00 2482.00 (MHz) 2488.00 2491.00 2494.00 2497.00 Temperature: **24(°**℃) Site Polarization: Horizontal Limit: FCC part 15.249 band edge 2.4G (peak) Power: Humidity: 52 % Frequency Reading Factor Level Limit Margin Detector P/F No. Remark (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 2474.575 84.59 Ρ * 6.07 90.66 114.00 -23.34 1 peak 2 2483.500 44.50 6.08 50.58 74.00 -23.42 Ρ peak



Vertical:



Site Limit:	FCC part 15.	249 band (edge 2.4G	(peak)	Polari Powe	ization: r:	Vertic	al	Temperature: 24(℃) Humidity: 52 %
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	P/F	Remark
1 *	2474.597	84.97	6.07	91.04	114.00	-22.96	peak	Ρ	
2	2483.500	44.59	6.08	50.67	74.00	-23.33	peak	Ρ	

Note: Measurements were conducted in all channels (high, middle, low), and the worst case (middle channel) was

submitted only.

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5.4. 20dB Occupied Bandwidth

5.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10: 2013
Limit:	N/A
	 According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 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 3 times the 20 dB bandwidth, centered on a hopping channel; RBW≥1% of the 20 dB bandwidth; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold. Measure and record the results in the test report.
Test setup:	Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test results:	PASS

5.4.2. Test Instruments

Manufacturer	Model	Serial Number	Calibration Due Jul. 18, 2022	
R&S	FSU	200054		
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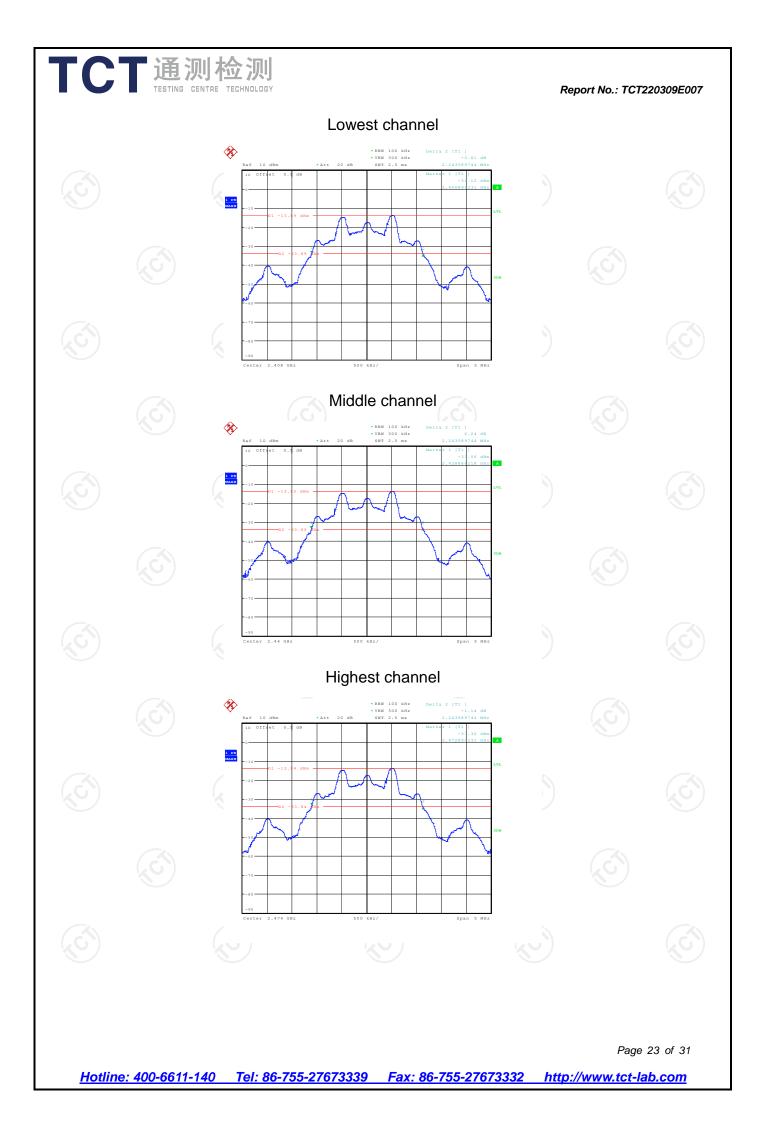
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5.4.3. Test data

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Test Channel	20dB Occupy Bandwidth (kHz)	Limit	Conclusion
Lowest	2243.59		PASS
Middle	2243.59		PASS
Highest	2243.59		PASS

			/s:	ots as follow	Test plo



















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