FCC ID	2AUCLLM-1001						
Test Report No:							
Date of issue:	Jan. 04, 2023		(C)		6		
Testing laboratory: :	SHENZHEN TONGCE	TESTING	LAB				
Testing location/ address:	2101 & 2201, Zhencha Subdistrict, Bao'an Dis People's Republic of C	strict, Shenz					
Applicant's name: :	FX Technology Limite	d					
Address:	2 Stone Buildings, Lin United Kingdom	coln's Inn, L	ondon WC2	4 3TH,			
Manufacturer's name :	FX Technology Limite						
Address:	2 Stone Buildings, Lincoln's Inn, London WC2A 3TH, United Kingdom						
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: :	Linxdot Concentrator Module						
Trade Mark :	Linxdot			(S)			
Model/Type reference :	LM-1001						
Rating(s):	DC 3.3V						
Date of receipt of test item	Dec. 05, 2022				S)		
Date (s) of performance of test:	Jun. 08, 2022 - Jan. 0	4, 2023					
Tested by (+signature) :	Aaron MO		Aaron M	GCETE			
Check by (+signature) :	Beryl ZHAO		Bayl the	PCT)			
Approved by (+signature):	Tomsin		Tomsmis	BAL			
<b>General disclaimer:</b> This report shall not be repr TONGCE TESTING LAB. Th	•	ltered or re	vised by SH	ENZHEN 1	rongc		

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TCT 通测检测 TESTING CENTRE TECHNOLOGY

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# **1. General Product Information**

## 1.1. EUT description

Product Name:	Linxdot Concentrator Module		$(\mathbf{c})$
Model/Type reference:	LM-1001		
Sample Number	TCT221205E903-0101		
Operation Frequency:	500KHz: 923.3MHz~927.5MHz		
Number of Channel:	8 for DTS		
Modulation Type:	LoRa		
Modulation Technology:	Hybrid system		
Antenna Type:	External Antenna		
Antenna Gain:	2dBi		
Rating(s):	DC 3.3V		

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	923.3MHz	2	924.5MHz	4	925.7MHz	6	926.9MHz
1	923.9MHz	3	925.1MHz	5	926.3MHz	7	927.5MHz





# 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)(3)	PASS
6dB Emission Bandwidth	§15.247 (a)(2)	PASS
Power Spectral Density	§15.247 (e)	PASS
Band Edge	§15.247(d)	PASS
Spurious Emission	§15.205/§15.209	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.
- 5. After pre-testing the two earphones, the two earphones are left and right ears respectively; we found that the left earphone is the worst case, so the results are recorded in this report.

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Report No.: TCT221205E904

# 3. General Information

#### 3.1. Test environment and mode

Condition	Conducted Emission		Radiated E	mission	
Temperature:	25.3 °C		24.1 °C		
Humidity:	56 % RH	S)	52 % RH	S)	
Atmospheric Pressure:	1010 mbar		1010 mbar		
Test Software:					
Software Information:	Xshell			(	
Power Level:	27				
Test Mode:					
Engineering mode:	Keep the EUT in continuous transmitting by select channel				

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
Test backplane	R01			LD-1002

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, 6dB Emission Bandwidth, Power Spectral Density, 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

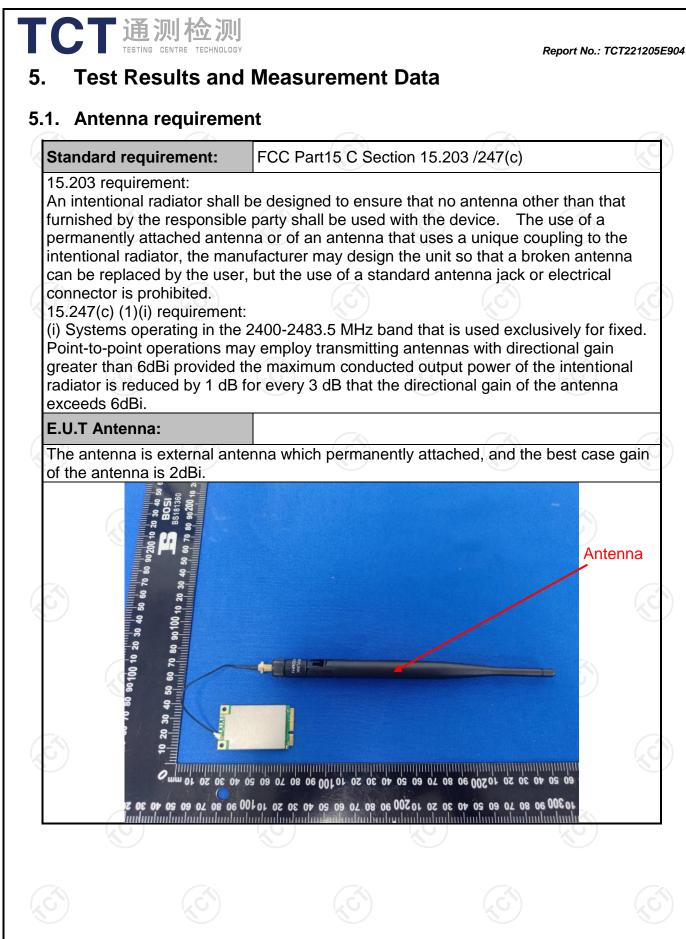
SHENZHEN TONGCE TESTING LAB

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
6	All emissions, radiated(18 GHz- 40 GHz)	± 4



## 5.2. Conducted Emission

#### 5.2.1. Test Specification

Test Method:       ANSI C63.10:2013         Frequency Range:       150 kHz to 30 MHz         Receiver setup:       RBW=9 kHz, VBW=30 kHz,         Limits:       Frequency range (MHz)         Qu       0.15-0.5         0.5-5       5-30         Address       Reference Pla         40cm       80c         EU.T       Adapter         Test Setup:       Test table/Insulation plane         Remark:       UT Equipment Under Test         LISN Line Impedence Stabilization Network       Test table height=0 8m         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization Network       Test Solution plane         Remark:       CU.T is connected to impedance stabilization Network         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization Network       Test bilization Network         Test Procedure:       Solom/50uH omeasuring equipment.         2. The peripheral devices are power through a LISN th coupling impedance with refer to the block diagraphotographs).         3. Both sides of A.C. line conducted interference. In emission, the relative posi	7					
Frequency Range:       150 kHz to 30 MHz         Receiver setup:       RBW=9 kHz, VBW=30 kHz,         Limits:       Frequency range (MHz) Qu         0.15-0.5       6         0.5-5       5-30         Frest Setup:       Reference Pla         Remark       EUT_Adapter         EUT_Equipment Under Test       USN Line Impedence Stabilization Network         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization network rest table/loging mpedance stabilization provides a 500hm/50uH measuring equipment.         2. The peripheral devices are power through a LISN the coupling impedance with refer to the block diagraphotographs).         3. Both sides of A.C. line conducted interference. In emission, the relative posi						
Receiver setup:       RBW=9 kHz, VBW=30 kHz,         Limits:       Frequency range (MHz) Qu         0.15-0.5       6         0.5-5       5-30         Reference Pla         for the setup:       Fest Procedure:         Test Procedure:         Test Procedure:         Test Procedure:         Colspan="2">Reference Pla         Reference Pla         Remark         E.U.T         Colspan="2">Adapter         Test Mode:         Transmitting Mode         1. The E.U.T is connected to impedance stabilization provides a 500hm/50uH measuring equipment.         Colspan="2">Reserve through a LISN th coupling impedance with refer to the block diagra photographs).						
Limits:       Frequency range (MHz) Qu         0.15-0.5       6         0.5-5       5-30         Test Setup:       Reference Pla         Test Setup:       Feerark         Remark       EUT Equipment Under Test         USN Line Impedence Stabilization Network       Test table/Insulation plane         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization Network Test table height=0.8m         Test Procedure:       2. The peripheral devices are power through a LISN the coupling impedance with refer to the block diagraphotographs).         3. Both sides of A.C. line conducted interference. In emission, the relative position for the position of the posit		$(\mathcal{G})$				
Limits:       Image: Constraint of the second	Sweep time	eauto				
Limits:       0.15-0.5       6         0.5-5       5-30         Ference Pla       40cm         40cm       80c         E.U.T       Adapter         Test Setup:       Test table/Insulation plane         Remark       EUT.Faupment Under Test         LISN Line Impedence Stabilization Network         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization provides a 500hm/50uH or measuring equipment.         2. The peripheral devices are power through a LISN the coupling impedance with refer to the block diagraphotographs).         3. Both sides of A.C. line conducted interference. In emission, the relative position of the position	Limit (dBuV)					
0.5-5         5-30         Reference Pla         40cm       80c         E.U.T       Adapter         Test Setup:       Test table/Insulation plane         Remark         EUT: Equipment Under Test         LISN Line Impedence Stabilization Network         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization provides a 500hm/50uH or measuring equipment.         2. The peripheral devices are power through a LISN th coupling impedance with refer to the block diagraphotographs).         3. Both sides of A.C. line conducted interference. In emission, the relative posi	asi-peak	Average				
Test Setup:       E.U.T       Adapter         Test Setup:       Test table/Insulation plane         Remark:       E.U.T       Adapter         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization Network         Test Procedure:       The peripheral devices are power through a LISN the coupling impedance with refer to the block diagraphotographs).         3. Both sides of A.C. line conducted interference. In emission, the relative position in the relative position in the relative position.	6 to 56*	56 to 46*				
Test Setup:       Reference Pla         Image: Test Setup:       Image: Test table/Insulation plane         Remark:       E.U.T         LISN Line impedence Stabilization Network         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization provides a 500hm/50uH on provides a 500hm/	56	46				
Test Setup:       Image: Constraint of the set table of table o	60	50				
Test Setup:       Image: E.U.T Adapter Image: Fest table/Insulation plane         Remark:       EUT: Equipment Under Test LISN Line Impedence Stabilization Network Test table height=0.8m         Test Mode:       Transmitting Mode         1. The E.U.T is connected to impedance stabilization provides a 500hm/50uH or measuring equipment.         2. The peripheral devices are power through a LISN the coupling impedance with refer to the block diagraphotographs).         3. Both sides of A.C. line conducted interference. In emission, the relative position the provide position of the p	ne					
<ul> <li>Test Procedure:</li> <li>Test Procedure:</li> <li>Test Procedure:</li> <li>The peripheral devices are power through a LISN the coupling impedance with refer to the block diagraphotographs).</li> <li>Both sides of A.C. line conducted interference. In emission, the relative position of the position of the</li></ul>	EMI Receiver	Iter — AC power				
<ul> <li>Test Procedure:</li> <li>impedance stabilization provides a 50ohm/50uH of measuring equipment.</li> <li>The peripheral devices are power through a LISN the coupling impedance with refer to the block diagraphotographs).</li> <li>Both sides of A.C. line conducted interference. In emission, the relative position</li> </ul>						
ANSI C63.10: 2013 on cor	<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</li> </ol>					
Test Result: PASS						

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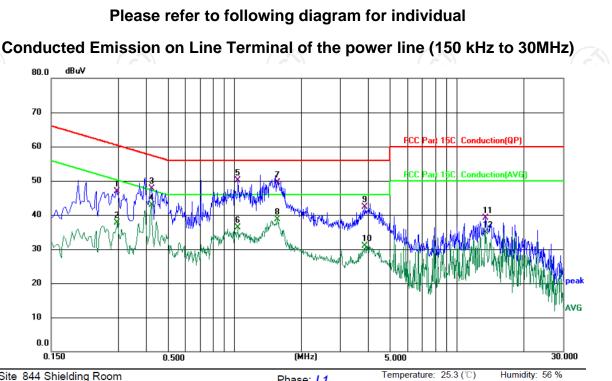
#### 5.2.2. Test Instruments

	Conducted Emission Shielding Room Test Site (843)							
Equipment Manufacture			Equipment Manufacturer Model Serial Numb		Calibration Due			
1	EMI Test Receiver	R&S	ESCI3	100898	Jul. 03, 2023			
	Line Impedance Stabilisation Newtork(LISN)	Stabilisation Schwarzbeck		8126453	Feb. 24, 2023			
	Line-5 TCT		CE-05	/	Jul. 03, 2023			
	EMI Test Software	Shurple Technology	EZ-EMC	1	1			



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#### 5.2.3. Test data



Site 844 Shielding Room Phase: L1 Limit: FCC Part 15C Conduction(QP) Power:AC 120 V/60 Hz Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment dBuV MHz dB dBuV dBuV dB Detector Comment QP 0.2939 36.57 10.24 46.81 60.41 -13.60 1 2 0.2939 27.37 10.24 37.61 50.41 -12.80 AVG 3 0.4220 37.50 10.19 47.69 57.41 -9.72 QP 4 0.4220 32.77 10.19 42.96 47.41 -4.45 AVG 5 1.0380 40.02 10.11 50.13 56.00 -5.87 QP 1.0380 10.11 36.28 46.00 -9.72 6 26.17 AVG 7 1.5660 39.42 10.05 49.47 56.00 -6.53 QP 1.5660 28.58 10.05 38.63 46.00 -7.37 AVG 8 9 3.8620 32.32 10.05 42.37 56.00 -13.63 QP 10 3.8620 20.84 10.05 30.89 46.00 -15.11 AVG 11 13.4179 28.80 10.28 39.08 60.00 -20.92 QP 12 13.4179 24.63 10.28 34.91 50.00 -15.09 AVG

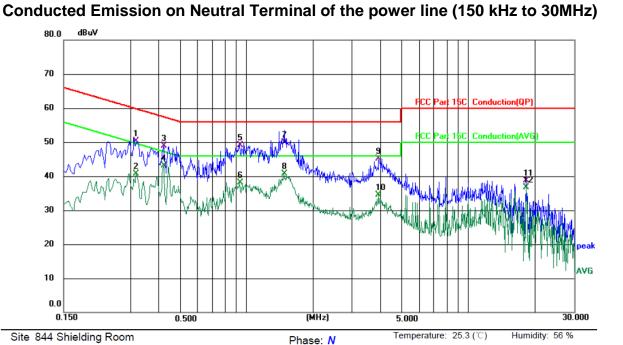
#### Note:

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

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	-							
Limit: FC	Limit: FCC Part 15C Conduction(QP)				Pov	ver:AC 1	20 V/60 H	z
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.3180	40.17	10.23	50.40	59.76	-9.36	QP	
2	0.3180	30.44	10.23	40.67	49.76	-9.09	AVG	
3	0.4220	38.65	10.19	48.84	57.41	-8.57	QP	
4 *	0.4220	32.85	10.19	43.04	47.41	-4.37	AVG	
5	0.9380	39.04	10.11	49.15	56.00	-6.85	QP	
6	0.9380	27.94	10.11	38.05	46.00	-7.95	AVG	
7	1.4780	39.86	10.12	49.98	56.00	-6.02	QP	
8	1.4780	30.60	10.12	40.72	46.00	-5.28	AVG	
9	3.9540	34.97	10.15	45.12	56.00	-10.88	QP	
10	3.9540	24.34	10.15	34.49	46.00	-11.51	AVG	
11	18.2420	28.20	10.43	38.63	60.00	-21.37	QP	
12	18.2420	26.27	10.43	36.70	50.00	-13.30	AVG	

#### Note1:

TCT通测检测 TESTING CENTRE TECHNOLOGY

> 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 two channels (high, low) and the worst case Mode (Lowest channel) was submitted only.



## 5.3. Conducted Output Power

#### 5.3.1. Test Specification

Test Requirement:	FCC Part15 C Sectio	n 15.247 (b)(3)	No.
Test Method:	KDB 558074 D01 v0	5r02	
Limit:	For systems using dig MHz, 2400-2483.5 M Watt.	-	
Test Setup:	Power Meter	EUT	
Test Mode:	Refer to item 3.1		
Test Procedure:		e and attenuator. The results for each m power setting an tinuously.	he path loss was measurement. d enable the
Test Result:	PASS	(c)	

## 5.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Power Meter	Agilent	E4418B	MY45100357	Jul. 04, 2023
Power Senor	Agilent	8481A	MY41091497	Jul. 04, 2023



## 5.3.3. Test Data

Fo<u>r DTS</u>

500KHz			
Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result
Lowest	27.23	30.00	PASS
Highest	27.05	30.00	PASS
X V			













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

## 5.4. Emission Bandwidth

#### 5.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB 558074 D01 v05r02
Limit:	For digital modulation techniques may operate in the 902-928 MHz: The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Setup:	Spectrum Analyzer EUT
Test Mode:	Refer to item 3.1
Test Procedure:	<ol> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz.</li> <li>Measure and record the results in the test report.</li> </ol>
Test Result:	PASS

#### 5.4.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due	
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023	

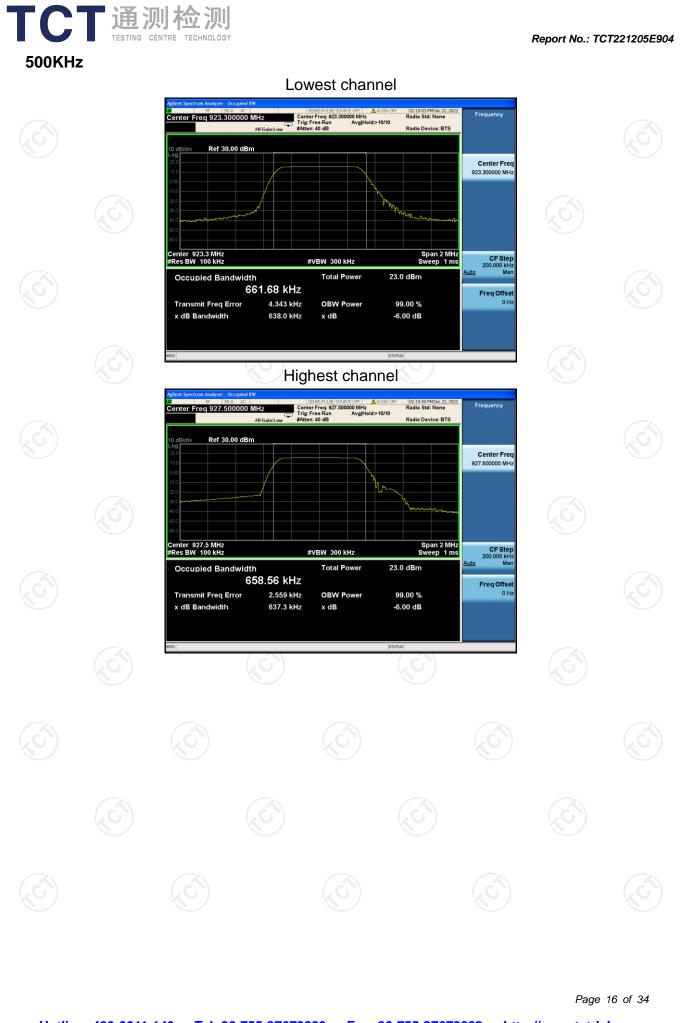


## 5.4.3. Test data

For DTS:

Т	Test channel	6dB Emission Bandwidth (kHz)				
	est channel	500KHz	Limit	Result		
	Lowest	638.0	>500k	PASS		
	Highest	637.3	>500k	PASS		
				$(\mathcal{A}\mathcal{O}^{*})$		

Test plots as follows:				
Hotline: 400-6611-140	Tel: 86-755-27673	 <u>86-755-2767</u>	Page ://www.tct-la	15 of 34



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

## 5.5. Power Spectral Density

#### 5.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (e)				
Test Method:	KDB 558074 D01 v05r02				
Limit:	The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.				
Test Setup:	Spectrum Analyzer EUT				
Test Mode:	Refer to item 3.1				
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>Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): 3 kHz ≤ RBW ≤ 100 kHz. Video bandwidth VBW ≥ 3 x RBW. In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)</li> <li>Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.</li> <li>Measure and record the results in the test report.</li> </ol>				
Test Result:	PASS				

# 5.5.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023

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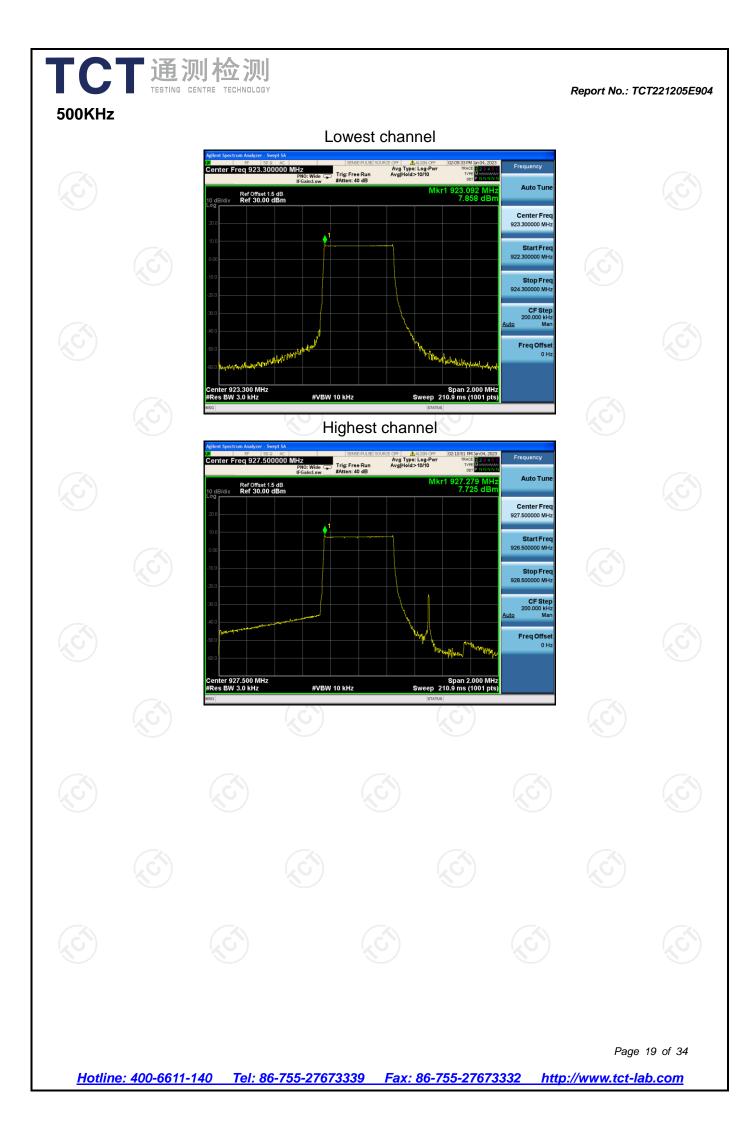
## 5.5.3. Test data

#### For DTS:

Test shapped	Power Spectral D	Power Spectral Density (dBm/3kHz)				
Test channel	500KHz	Limit	Result			
Lowest	7.86	8 dBm/3kHz	PASS			
Highest	7.73	8 dBm/3kHz	PASS			
		$\mathcal{I}$				

#### Test plots as follows:

	ts as follow	vs:						
							Page	19 of 24
<u>Hotline</u>	<u>: 400-6611-</u>	140 Tel: 8	86-755-27673	3339 Fax:	86-755-2767	3332 http	Page <u>://www.tct-la</u>	18 of 34 1 <b>b.com</b>



## TCT通测检测 TESTING CENTRE TECHNOLOGY

# 5.6. Conducted Band Edge and Spurious Emission Measurement

#### 5.6.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB 558074 D01 v05r02
Limit:	In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).
Test Setup:	
	Spectrum Analyzer EUT
Test Mode:	Refer to item 3.1
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=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this</li> </ol>
	<ul> <li>paragraph shall be 30 dB instead of 20 dB per 15.247(d).</li> <li>4. Measure and record the results in the test report.</li> <li>5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</li> </ul>

# 5.6.2. Test Instruments

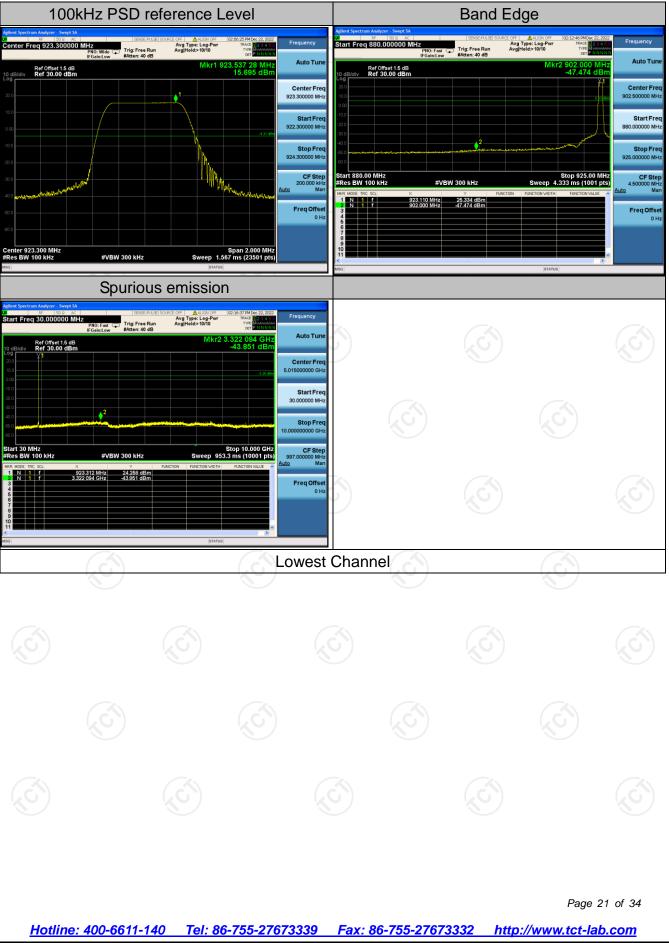
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 04, 2023

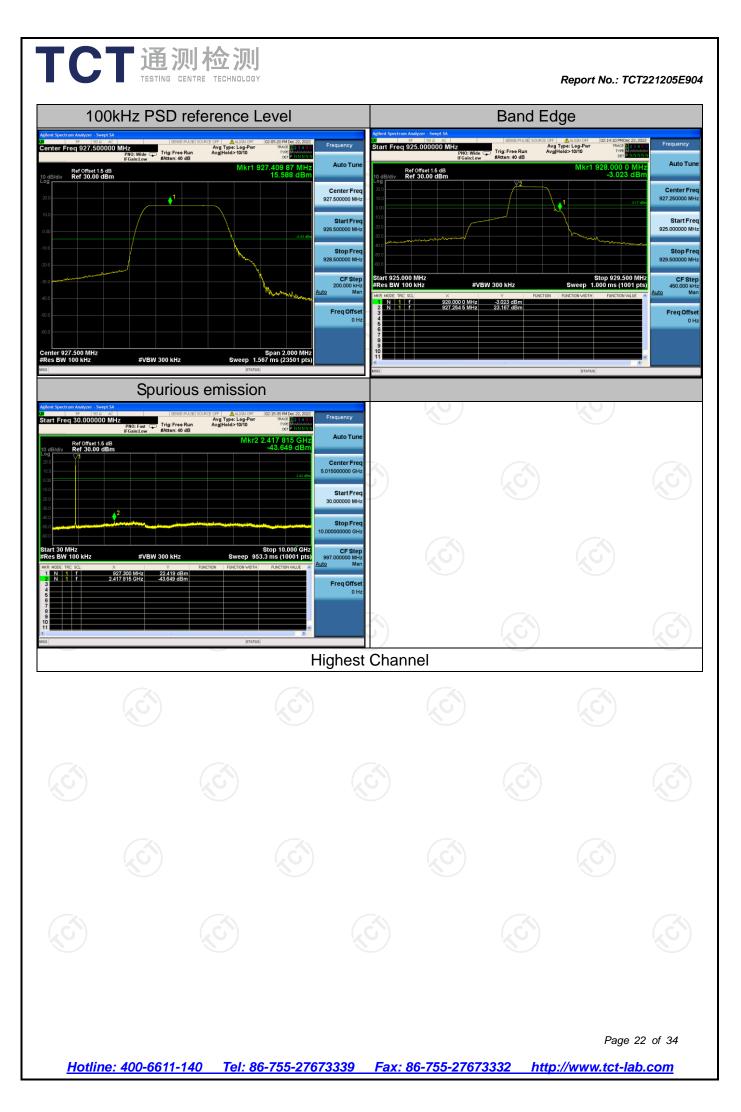
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#### 5.6.3. Test Data

#### 500KHz





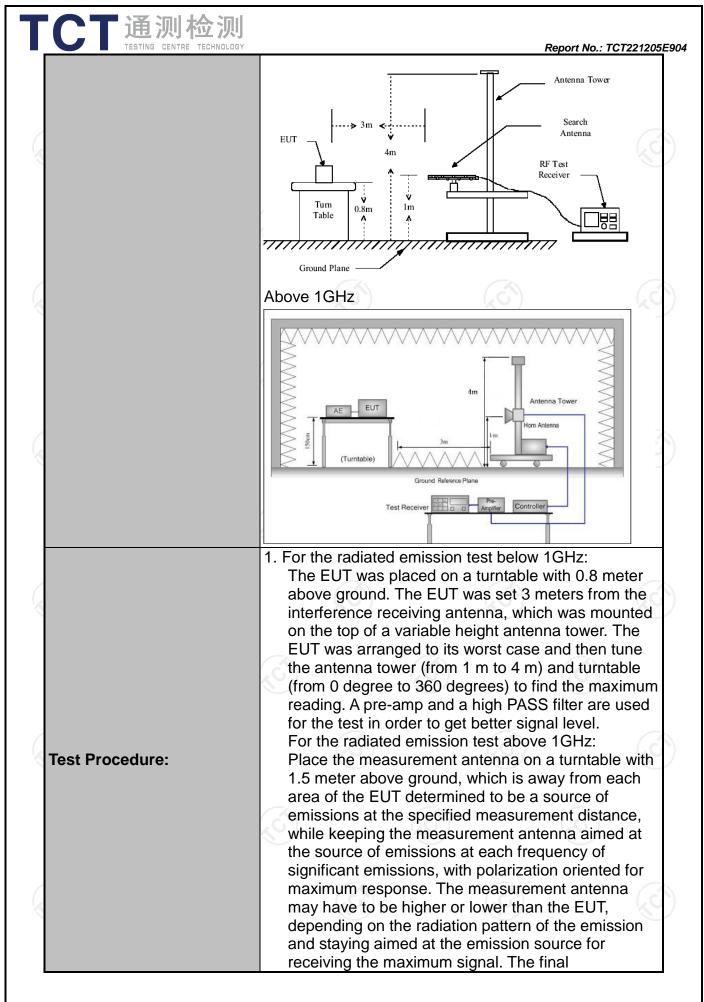
## 5.7. Radiated Spurious Emission Measurement

#### 5.7.1. Test Specification

TCT 通测检测 TESTING CENTRE TECHNOLOGY

Test Requirement:	FCC Part15 C Section 15.209								
Test Method:	ANSI C63.10	ANSI C63.10: 2013							
Frequency Range:	9 kHz to 25 (	GHz	3		C	6			
Measurement Distance:	3 m								
Antenna Polarization:	Horizontal &	Vertical							
Operation mode:	Refer to item	ı 3.1	(	<u>(</u> ()					
	Frequency 9kHz- 150kHz	Detector Quasi-peal	RBW	VBW 1kHz	Qua	Remark si-peak Value			
Receiver Setup:	150kHz- 30MHz	Quasi-peal		30kHz		si-peak Value			
•	30MHz-1GHz	Quasi-peal		300KHz		si-peak Value			
	Above 1GHz	Peak	1MHz	3MHz 10Hz		eak Value			
		Peak	1MHz	TUHZ	AV	erage Value			
	Frequen	су	Field Stro (microvolts)		Measurement Distance (meters)				
	0.009-0.4		2400/F(I		300				
	0.490-1.7	/	24000/F(KHz)			30			
	1.705-3		30			30			
	88-216		100 150			3			
Limit:	216-96		200	3					
	Above 9		500		3				
		( <sup>*</sup> C	(						
	Frequency		d Strength ovolts/meter)	Measurer Distan (meter	nce Detect				
		(	500	3	Averag				
	Above 1GHz	2	3	<u> </u>	Peak				
Test setup:	For radiated emissions below 30MHz								
•	C.Sm Ground Plane 30MHz to 1GHz								

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CT通测检测	Banart No. ( TCT22/200
	<ul> <li>Report No.: TCT221205</li> <li>measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.</li> <li>Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level</li> <li>For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.</li> <li>Use the following spectrum analyzer settings: <ul> <li>Set RBW=120 kHz for f &lt; 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;</li> <li>Set RBW = 1 MHz, VBW= 3MHz for f &gt;1 GHz for peak measurement.</li> <li>For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum</li> </ul> </li> </ul>
Test mode:	Power control level for the tested mode of operation. Refer to section 3.1 for details
	PASS

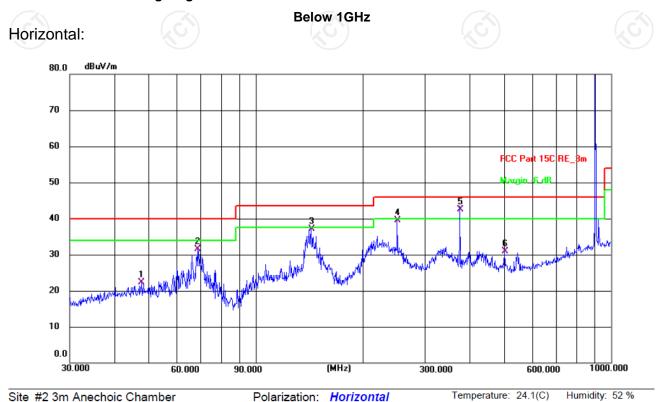
## 5.7.2. Test Instruments

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								
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		1						

#### 5.7.3. Test Data

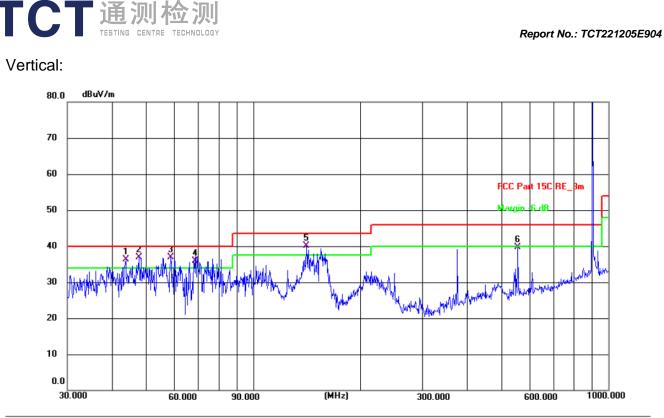
TCT通测检测 TCT通测检测

#### Please refer to following diagram for individual



FCC Part 15C R	E_3m			P	ower: A			
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)			Detector	P/F	Remark
47.8260	8.43	13.84	22.27	40.00	-17.73	QP	Ρ	
68.8721	20.19	11.31	31.50	40.00	-8.50	QP	Ρ	
143.3261	23.89	13.28	37.17	43.50	-6.33	QP	Ρ	
250.3012	26.93	12.62	39.55	46.00	-6.45	QP	Ρ	
375.9385	26.18	16.39	42.57	46.00	-3.43	QP	Ρ	
501.1790	11.53	19.41	30.94	46.00	-15.06	QP	Ρ	
	Frequency (MHz) 47.8260 68.8721 143.3261 250.3012 375.9385	(MHz)         (dBuV)           47.8260         8.43           68.8721         20.19           143.3261         23.89           250.3012         26.93           375.9385         26.18	Frequency (MHz)Reading (dBuV)Factor (dB/m)47.82608.4313.8468.872120.1911.31143.326123.8913.28250.301226.9312.62375.938526.1816.39	Frequency (MHz)Reading (dBuV)Factor (dB/m)Level (dBuV/m)47.82608.4313.8422.2768.872120.1911.3131.50143.326123.8913.2837.17250.301226.9312.6239.55375.938526.1816.3942.57	Frequency (MHz)Reading (dBuV)Factor (dB/m)Level (dBuV/m)Limit (dBuV/m)47.82608.4313.8422.2740.0068.872120.1911.3131.5040.00143.326123.8913.2837.1743.50250.301226.9312.6239.5546.00375.938526.1816.3942.5746.00	Frequency (MHz)Reading (dBuV)Factor (dB/m)Level (dBuV/m)Limit (dBuV/m)Margin (dB)47.82608.4313.8422.2740.00-17.7368.872120.1911.3131.5040.00-8.50143.326123.8913.2837.1743.50-6.33250.301226.9312.6239.5546.00-6.45375.938526.1816.3942.5746.00-3.43	Frequency (MHz)Reading (dBuV)Factor (dB/m)Level (dBuV/m)Limit (dBuV/m)Margin (dB)Detector47.82608.4313.8422.2740.00-17.73QP68.872120.1911.3131.5040.00-8.50QP143.326123.8913.2837.1743.50-6.33QP250.301226.9312.6239.5546.00-6.45QP375.938526.1816.3942.5746.00-3.43QP	Frequency (MHz)         Reading (dBuV)         Factor (dB/m)         Level (dBuV/m)         Limit (dBuV/m)         Margin (dB)         Detector         P/F           47.8260         8.43         13.84         22.27         40.00         -17.73         QP         P           68.8721         20.19         11.31         31.50         40.00         -8.50         QP         P           143.3261         23.89         13.28         37.17         43.50         -6.33         QP         P           250.3012         26.93         12.62         39.55         46.00         -6.45         QP         P           375.9385         26.18         16.39         42.57         46.00         -3.43         QP         P

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

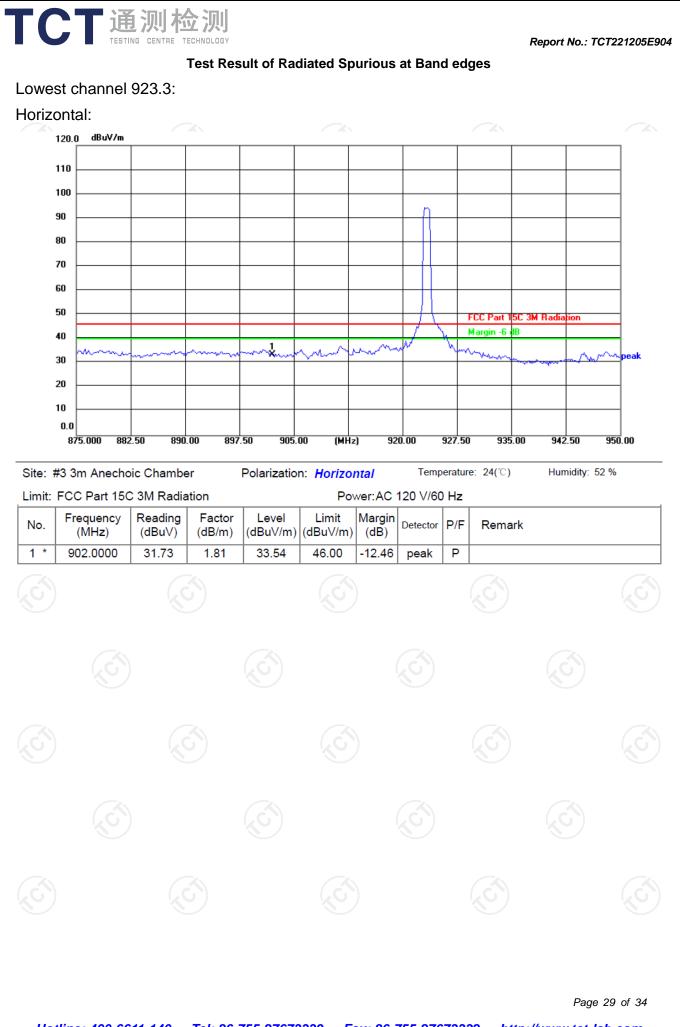
Limit: FCC Part 15C RE_3m										
	No.	Frequency (MHz)	Reading (dBu∀)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
	1!	43.8119	22.42	13.94	36.36	40.00	-3.64	QP	Ρ	
	2 !	47.8260	22.98	13.84	36.82	40.00	-3.18	QP	Ρ	
	3 *	58.6126	23.70	13.22	36.92	40.00	-3.08	QP	Ρ	
	4 !	68.8721	24.69	11.31	36.00	40.00	-4.00	QP	Ρ	
	5!	141.3296	26.75	13.26	40.01	43.50	-3.49	QP	Р	
	6	556.7743	19.21	20.47	39.68	46.00	-6.32	QP	Ρ	

- **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, low), and the worst case Mode (Lowest channel) was submitted only.

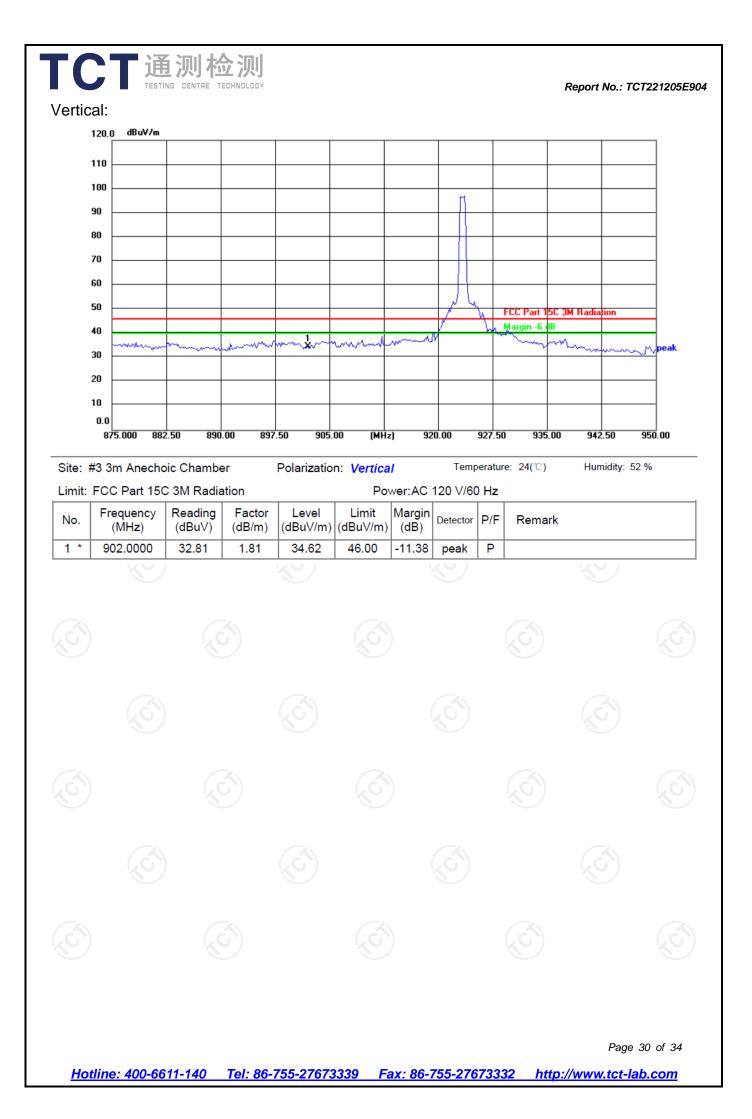
3. Freq. = Emission frequency in MHz

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 Margin  $(dB) = Measurement (dB\mu V/m) - Limits (dB\mu V/m)$ \* is meaning the worst frequency has been tested in the test frequency range

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

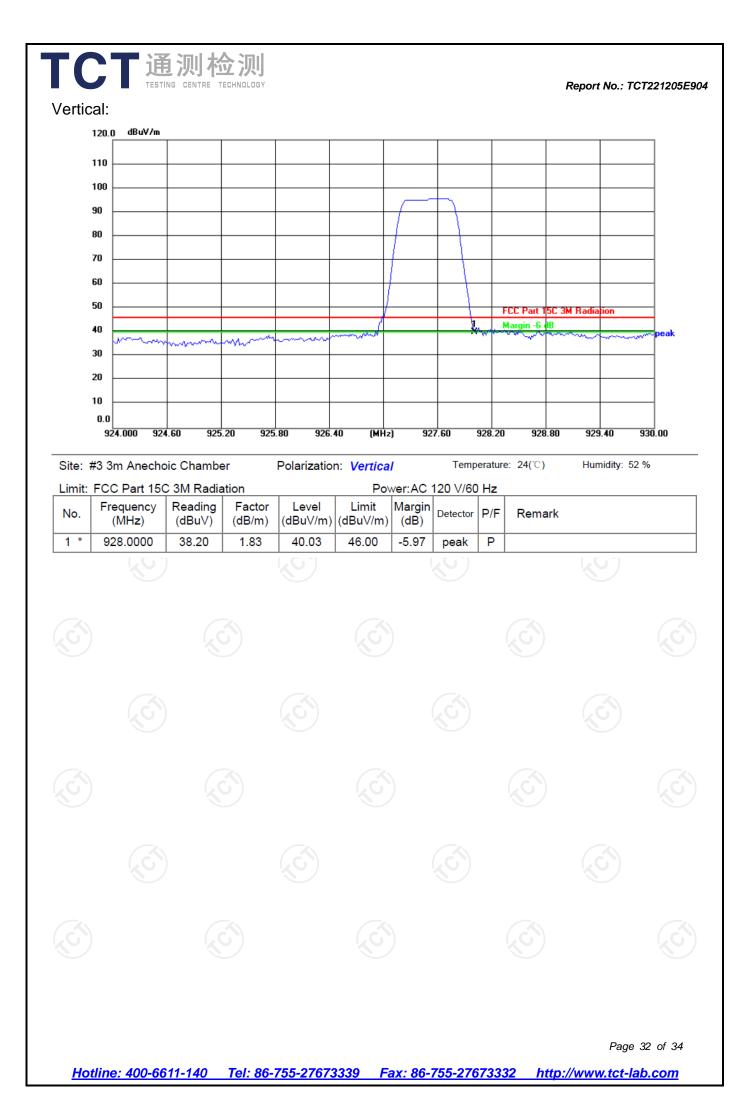


#### Report No.: TCT221205E904 Highest channel 927.5: Horizontal: 120.0 dBuV/m 110 100 90 80 70 60 50 FCC Part 15C 3M Radia Managin -6 dB 14 40 eak mommen 30 20 10 0.0 924.000 924.60 925.20 925.80 926.40 (MHz) 927.60 928.20 928.80 929.40 930.00

Site: #3 3m Anechoic Chamber Polarization: Horizontal Temperature: 24(°C) Humidity: 52 %

Limit: FCC Part 15C 3M Radiation						Pov	ver:AC 1			
	No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector	P/F	Remark
	1 *	928.0000	39.70	1.83	41.53	46.00	-4.47	peak	Ρ	





#### Above 1GHz

				ADUVC					
500KHz									
Low channe	el: 923.3 N	ЛНz							
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)
1846.6	Н	46.83		0.66	47.49		74	54	-6.51
2769.9	Н	37.26		9.50	46.76		74	54	-7.24
	Н								
1846.6	V	46.55	-40	0.66	47.21	<u>(</u> 0 <del>-)</del> -	74	54	-6.79
2769.9	V	36.77		9.50	46.27		74	54	-7.73
	V								

#### High channel: 927.5 MHz

i ligit chatti	IEI. 927.0 I								
Frequency	Ant Pol	Peak	AV	Correction	Emissio	Emission Level		AV limit	Margin
(MHz)	H/V	reading (dBµV)	reading (dBµV)	Factor (dB/m)	Peak (dBµV/m)		(dBuV/m)	(dBµV/m)	(dB)
1855.0	Н	47.99		1.33	49.32		74	54	-4.68
2782.5	Н	36.11		10.22	46.33		74	54	-7.67
	К H			/		₩.			
	$\smile$					$\bigcirc$			
1855.0	V	45.32		1.33	46.65		74	54	-7.35
2782.5	V	35.45		10.22	45.67		74	54	-8.33
G)	V	t l		(.0					

#### Note:

Γ

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

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

