Shenzhen CTA Testing Technology Co., Ltd. Room 106, Building 1, Yibaolai Industrial Pa

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

FCC PART 15 SUBPART C TEST REPORT

FCC PART 15.231

Report Reference No.: CTA24030100601 FCC ID.: 2A5LK-X3PRO

Compiled by

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Date of issue Mar. 06, 2024

Testing Laboratory Name: Shenzhen CTA Testing Technology Co., Ltd.

Address Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,

Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name Shenzhen Ruilang Technology Co., Ltd

Shenzhen, Guangdong, 518000 China

Test specification....:

Standard FCC Part 15.231

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Test item description.....: WiFi cameras

Trade Mark...... N/A

Manufacturer Shenzhen Ruilang Technology Co., Ltd

Model/Type reference: X3 Pro

Listed Models: X3

Modulation: ASK

Result PASS

CTATEST

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TEST REPORT

Equipment under Test : WiFi cameras

Model /Type : X3 Pro

Listed Models : X3

Applicant : Shenzhen Ruilang Technology Co., Ltd

Address : 7 207 Mengliyuan Industrial Zone, Oil Song Road, Longhua District,

Shenzhen, Guangdong, 518000 China

Manufacturer : Shenzhen Ruilang Technology Co., Ltd

Address : 7 207 Mengliyuan Industrial Zone, Oil Song Road, Longhua District,

Shenzhen, Guangdong, 518000 China

Test Result: PASS

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.231: Periodic operation in the band 40.66-40.70 MHz and above 70 MHz. ANSI C63.10:2013: American National Standard for Testing Unlicensed Wireless Devices

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SUMMARY

2.1 General Remarks

2.1 General Remarks		
Date of receipt of test sample	:	Feb. 29, 2024
	Service Control	
Testing commenced on	T.	Feb. 29, 2024
	P > wanten	
Testing concluded on	:	Mar. 06, 2024

2.2 Product Description

Product Name:	WiFi cameras
Model/Type reference:	X3 Pro
Power supply:	DC 3.7V From battery and DC 5.0V From external circuit
Adapter information (Auxiliary test supplied by test Lab):	Model: EP-TA20CBC Input: AC 100-240V 50/60Hz Output: DC 5V 2A
Testing sample ID:	CTA240301006-1# (Engineer sample), CTA240301006-2#(Normal sample)
Modulation:	ASK
Operation frequency:	433.910MHz
Channel number:	1
Antenna type:	Spring antenna
Antenna gain:	0.00 dBi

2.3 Equipment Under Test

Power supply system utilised

	Power supply voltage	:	0	230V / 50 Hz	0	120V / 60Hz
TES	5 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		0	12 V DC	0	24 V DC
CTA	Other (specified in blank below)					
	D0057/5					1.39

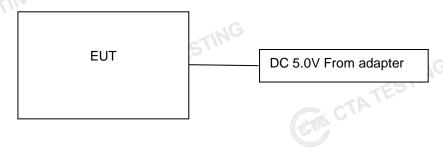
DC 3.7V From battery and DC 5.0V From external circuit

Short description of the Equipment under Test (EUT)

This is a WiFi cameras.

For more details, refer to the user's manual of the EUT.

Block Diagram of Test Setup CTATEST



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2.6 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
15018	/	CIP		STAN	
		A STAN AS ES MANY	CTA		

2.7 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for the device filing to comply with Section 15.231 of the FCC Part 15, Subpart C Rules.

2.8 Modifications

No modifications were implemented to meet testing criteria.

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3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

3.2 Test Facility

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

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

Industry Canada Registration Number. Is: 27890 CAB identifier: CN0127

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

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

Environmental conditions

CTA TESTING During the measurement the environmental conditions were within the listed ranges:

Radiated Emission:

Temperature:	25 ° C
Humidity:	45 %
Atmospheric pressure:	950-1050mbar

Conducted testing:

	Atmospheric pressure:	950-1050mbar	
TES	See Legis Headle		
CIP	Conducted testing:	3	_
	Temperature:	25 ° C	
	STATE		ING
	Humidity:	44 %	STIN
			CATE
	Atmospheric pressure:	950-1050mbar	1

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Summary of measurement results

FCC and IC Requirements		
FCC Part 15.207	Conducted Emission	PASS
FCC Part 15.231(a)(2)	Automatically Deactivate	PASS
FCC Part 15.231(b)	Electric Field Strength of Fundamental Emission	PASS
FCC Part 15.205 &15.209& 15.231(b)	Electric Field Strength of Spurious Emission	PASS
FCC Part 15.231(c)	-20dB bandwidth	PASS

Remark: The measurement uncertainty is not included in the test result.

Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device. Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd.:

Measurement **Notes** Range Uncertainty Radiated Emission 9KHz~30MHz 3.02 dB (1)Radiated Emission 30~1000MHz 4.06 dB (1) Radiated Emission 1~18GHz 5.14 dB (1)Radiated Emission 18-40GHz 5.38 dB (1)Conducted Disturbance 0.15~30MHz 2.14 dB (1)Output Peak power 30MHz~18GHz 0.55 dB (1)Power spectral density 0.57 dB (1)Spectrum bandwidth 1.1% (1)Radiated spurious emission 30~1000MHz 4.10 dB (1) (30MHz-1GHz) Radiated spurious emission 1~18GHz 4.32 dB (1) (1GHz-18GHz) Radiated spurious emission 18-40GHz 5.54 dB (1) (18GHz-40GHz)

Equipments Used during the Test

confidence level using a coverage factor of k=2. 3.6 Equipments Used during the Test								
Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date			
LISN	R&S	ENV216	CTA-308	2023/08/02	2024/08/01			
LISN	R&S	ENV216	CTA-314	2023/08/02	2024/08/01			
EMI Test Receiver	R&S	ESPI	CTA-307	2023/08/02	2024/08/01			
EMI Test Receiver	R&S	ESCI	CTA-306	2023/08/02	2024/08/01			
Spectrum Analyzer	Agilent	N9020A	CTA-301	2023/08/02	2024/08/01			

⁽¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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	Spectrum Analyzer	R&S	FSP	CTA-337	2023/08/02	2024/08/01
	Vector Signal generator	Agilent	N5182A	CTA-305	2023/08/02	2024/08/01
	Analog Signal Generator	R&S	SML03	CTA-304	2023/08/02	2024/08/01
	WIDEBAND RADIO COMMUNICATION TESTER	CMW500	R&S	CTA-302	2023/08/02	2024/08/01
	Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2023/08/02	2024/08/01
	Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2023/10/17	2024/10/16
	Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2023/10/13	2024/10/12
CTATE	Loop Antenna	Zhinan	ZN30900C	CTA-311	2023/10/17	2024/10/16
1	Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2021/08/07	2024/08/06
	Amplifier	Schwarzbeck	BBV 9745	CTA-312	2023/08/02	2024/08/01
	Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2023/08/02	2024/08/01
	Directional coupler	NARDA	4226-10	CTA-303	2023/08/02	2024/08/01
	High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2023/08/02	2024/08/01
	High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2023/08/02	2024/08/01
	Automated filter bank	Tonscend	JS0806-F	CTA-404	2023/08/02	2024/08/01
	Power Sensor	Agilent	U2021XA	CTA-405	2023/08/02	2024/08/01
	Amplifier	Schwarzbeck	BBV9719	CTA-406	2023/08/02	2024/08/01
	Test Equipment	Manufacturer	Model No.	Version	Calibration	Calibration

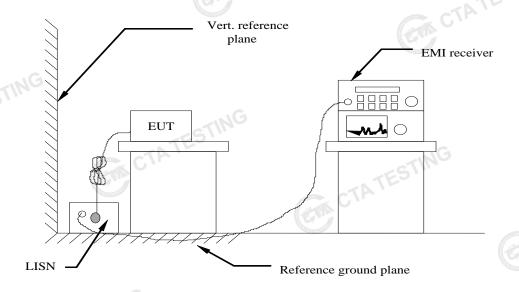
	Test Equipment	Manufacturer	Model No.	Version number	Calibration Date	Calibration Due Date
CTATE	EMI Test Software	Tonscend	TS®JS32-RE	5.0.0.2	N/A	N/A
	EMI Test Software	Tonscend	TS®JS32-CE	5.0.0.1	N/A	N/A
	RF Test Software	Tonscend	TS®JS1120-3	3.1.65	N/A	N/A
	RF Test Software	Tonscend	TS®JS1120	3.1.46	N/A	N/A
			To market		CT CT	Α,
G						

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TEST CONDITIONS AND RESULTS

4.1 AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
- 2 Support equipment, if needed, was placed as per ANSI C63.10-2013
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
- 4 The EUT received DC 12V power from adapter, the adapter received AC120V/60Hz and AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load: the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following:

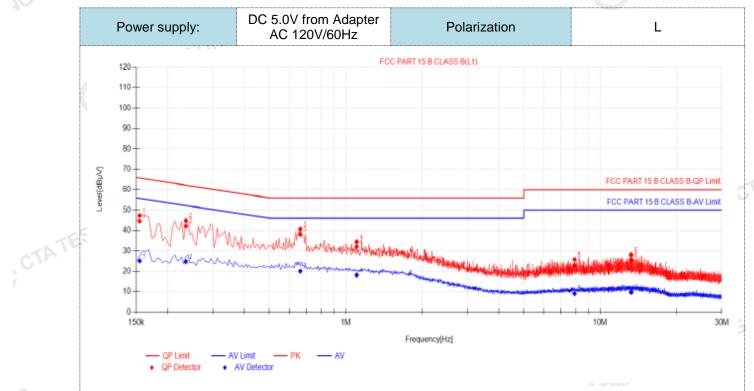
Eroguanov rango (MUz)	Limit (dBuV)				
Frequency range (MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	G 60	50			
* Decreases with the logarithm of the frequency.					

Note: We tested all Modes and recorded the worst case as follow.

Please refer to the below test data:

TA TESTING

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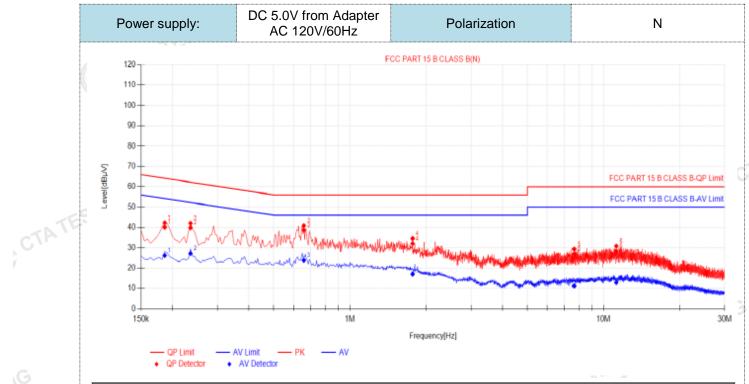


Fina No.	Preq. [MHz]	Factor [dB]	QP Reading[dB μV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict	
1	0.1545	9.89	34.72	44.61	65.75	21.14	15.18	25.07	55.75	30.68	PASS	
2	0.2355	9.98	32.16	42.14	62.25	20.11	14.72	24.70	52.25	27.55	PASS	
3	0.663	9.96	28.12	38.08	56.00	17.92	10.11	20.07	46.00	25.93	PASS	
4	1.104	9.91	22.23	32.14	56.00	23.86	8.27	18.18	46.00	27.82	PASS	
5	7.9125	10.28	12.63	22.91	60.00	37.09	-1.16	9.12	50.00	40.88	PASS	
6	13.2315	10.29	15.14	25.43	60.00	34.57	-0.54	9.75	50.00	40.25	PASS	
2). Fac 3). QP).QP Value ctor (dB)=in Margin(dB) . AVMargir	sertion I) = QP Li	oss of LIS imit (dBµ	SN (dB) V) - QP '	+ Cable l Value (di	loss (dB) 3µV))				CIN C	ΚP

- 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
- 3). QPMargin(dB) = QP Limit (dB μ V) QP Value (dB μ V) CTATEL
 - 4). $AVMargin(dB) = AV Limit (dB\mu V) AV Value (dB\mu V)$ CTATESTING



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2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)	Final Data List												
2 0.2355 10.00 29.89 39.89 62.25 22.36 17.28 27.28 52.25 24.97 PASS 3 0.6585 10.10 28.62 38.72 56.00 17.28 13.79 23.89 46.00 22.11 PASS 4 1.7655 10.16 21.96 32.12 56.00 23.88 6.95 17.11 46.00 28.89 PASS 5 7.6515 10.42 16.58 27.00 60.00 33.00 0.85 11.27 50.00 38.73 PASS 6 11.229 10.40 17.85 28.25 60.00 31.75 2.50 12.90 50.00 37.10 PASS	NO.			Reading[dB	Value	Limit	Margin	Reading	Value	Limit	Margin	Verdict	
3 0.8585 10.10 28.62 38.72 56.00 17.28 13.79 23.89 46.00 22.11 PASS 4 1.7655 10.16 21.96 32.12 56.00 23.88 6.95 17.11 46.00 28.89 PASS 5 7.8515 10.42 16.58 27.00 60.00 33.00 0.85 11.27 50.00 38.73 PASS 6 11.229 10.40 17.85 28.25 60.00 31.75 2.50 12.90 50.00 37.10 PASS Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB) 29. Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)	1	0.186	10.01	30.12	40.13	64.21	24.08	16.22	26.23	54.21	27.98	PASS	
4 1.7655 10.16 21.96 32.12 56.00 23.88 6.95 17.11 46.00 28.89 PASS 5 7.6515 10.42 16.58 27.00 60.00 33.00 0.85 11.27 50.00 38.73 PASS 6 11.229 10.40 17.85 28.25 60.00 31.75 2.50 12.90 50.00 37.10 PASS Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB) 2. Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)	2	0.2355	10.00	29.89	39.89	62.25	22.36	17.28	27.28	52.25	24.97	PASS	
5 7.8515 10.42 16.58 27.00 80.00 33.00 0.85 11.27 50.00 38.73 PASS d 11.229 10.40 17.85 28.25 80.00 31.75 2.50 12.90 50.00 37.10 PASS Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB) 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)	3	0.6585	10.10	28.62	38.72	56.00	17.28	13.79	23.89	46.00	22.11	PASS	
d 11.229 10.40 17.85 28.25 60.00 31.75 2.50 12.90 50.00 37.10 PASS Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB) 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)	4	1.7655	10.16	21.96	32.12	56.00	23.88	6.95	17.11	46.00	28.89	PASS	
Note:1).QP Value (dBµV)= QP Reading (dBµV)+ Factor (dB) 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)	5	7.6515	10.42	16.58	27.00	60.00	33.00	0.85	11.27	50.00	38.73	PASS	
2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)	8	11.229	10.40	17.85	28.25	60.00	31.75	2.50	12.90	50.00	37.10	PASS	
3) CIPIVISTAINIAB) - CIP LIMIT (ABILVI - CIP VISIUA (ABILVI)													

- 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
- 3). QPMargin(dB) = QP Limit (dB μ V) QP Value (dB μ V)

CTATES1

4). $AVMargin(dB) = AV Limit (dB\mu V) - AV Value (dB\mu V)$

4.2 Radiated Emission

Limit

For intentional device, according to 15.209(a) the general requirement of field strength of radiated emission

from intentional radiators at a distance of 3 meters shall not exceed the following table.

	Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
	0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
	0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
	1.705-30	3	20log(30)+ 40log(30/3)	30
	30-88	3	40.0	100
TE	88-216	3	43.5	150
CTATE	216-960	31MB	46.0	200
1	Above 960	3	54.0	500

In addition to the provisions of 15.231(b), the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

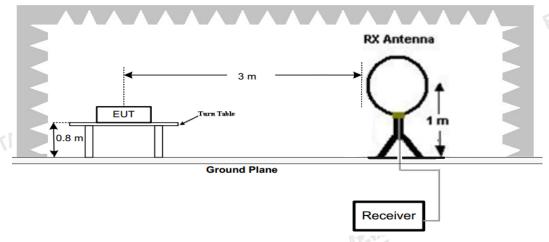
Funda- mental fre- quency (MHz)	Field strength of funda- mental (microvolts/ meter)	Field strength of spurious emissions (microvolts/meter)
40.66– 40.70.	2,250	225
70-130	1,250	125
130-174	¹ 1,250 to 3,750	¹ 125 to 375
174-260	3,750	375
260-470	¹ 3,750 to 12,500	1375 to 1,250
Above 470	12,500	1,250

¹ Linear interpolations.

[Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 260-470 MHz, 20*log(41.6667*433.910-7083.3333)=80.82dBuV/m The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.]

TEST CONFIGURATION

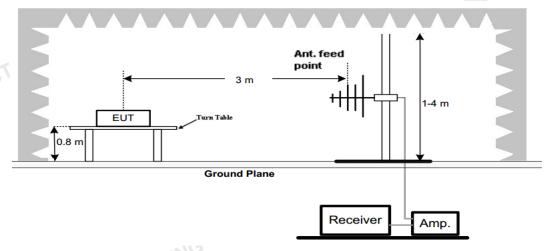
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



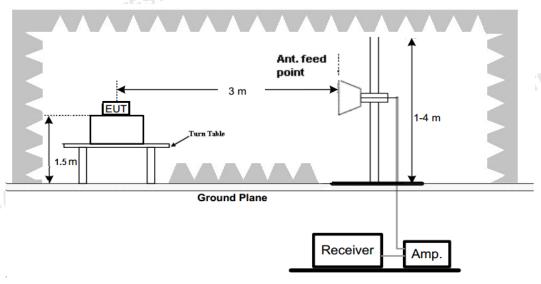
(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



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(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



Test Procedure

- Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
- 2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0°C to 360°C to acquire the highest emissions from EUT
- And also, each emission was to be maximized by changing the polarization of receiving antenna both CTATESTING 3. horizontal and vertical.
- 4. Repeat above procedures until all frequency measurements have been completed.
- 5. There were no emissions found below 30MHz within 20dB of the limit.

TEST RESULTS

The emissions from 30MHz to 5GHz are measured peak and average level, below 1 GHz measured QP level, detailed test data please see below. Besides, we tested 3 directions and recorded the worst data.

Note: We tested all Modes and recorded the worst case as follow. CTATES



	Emission Styles	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	PK Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Direction (H/V)
	Fundamental	433.910	86.05	-10.19	75.86	100.82	24.96	PK	Н
· ·	Spurious	480.12	48.41	-12.49	35.92	46.00	10.08	PK	Н
	Harmonics	867.820	59.44	-3.20	56.24	80.82	24.58	PK	Н
	Harmonics	1301.730	58.80	-9.79	49.01	74.00	24.99	PK	Н
					1	Va use William			
	Fundamental	433.910	84.39	-10.19	74.20	100.82	26.62	PK	V
TES	Spurious	480.12	46.29	-12.49	33.80	46.00	12.20	PK	V
CTATES	Harmonics	867.820	57.52	-3.20	54.32	80.82	26.50	PK	V
1	Harmonics	1301.730	59.07	-9.79	49.28	74.00	24.72	PK	V
		<u> </u>			-	STI			

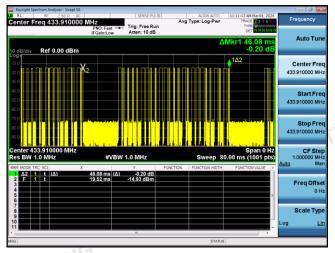
				-4511			
			G C	TATE			TESTING
Emission Styles	Frequency (MHz)	PK Level (dBuV/m)	AV Factor (dB/m)	AV Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Direction (H/V)
Fundamental	433.910	75.86	-8.93	66.93	80.82	13.89	Н
Harmonics	867.820	56.24	-8.93	47.31	60.82	13.51	Н
Harmonics	1301.730	49.01	-8.93	40.08	54.00	13.92	Н
		TA		-		SING	
Fundamental	433.910	74.20	-8.93	65.27	80.82	15.55	V
Harmonics	867.820	54.32	-8.93	45.39	60.82	15.43	V
Harmonics	1301.730	49.28	-8.93	40.35	54.00	13.65	V
							M

Note:

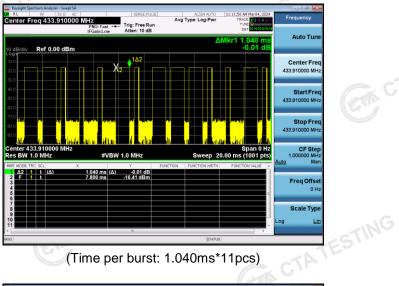
- --: The other emission levels were very low against the limit.
- 1. Level (dBuV/m)= Reading (dBuV)+Factor(dB/m)
- 2. AV Level (dBuV/m)= PK Level (dBuV/m)+ AV Factor(dB)
- In a transmit cycle 100ms period found burst 25pcs, the Duty Cycle can calculate as below: CTATESTING Duty Cycle= (1.040*11+0.360*14)/46.08=(11.44+5.40)/46.08=0.3576 AV Factor=20*log(Duty Cycle)=20*log(0.3576)=-8.93

(The plot of Duty Cycle See the follow page)

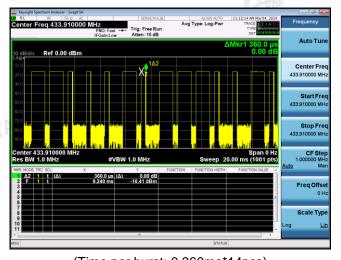




(Transmit cycle 46.08ms)



(Time per burst: 1.040ms*11pcs)



(Time per burst: 0.360ms*14pcs)

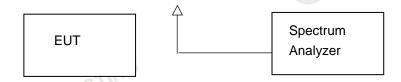
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4.3 20dB Bandwidth

Limit

According to 47 CFR 15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the centre frequency for devices operating above 70MHz and below 900MHz. Bandwidth is determined at the points 20dB down from the modulated carrier.

Test Configuration



CTATESTING **Test Procedure**

The 20dB bandwidth and 99% bandwidth is measured with a spectrum analyzer connected via a receive antenna placed near the EUT while the EUT is operating in transmission mode.

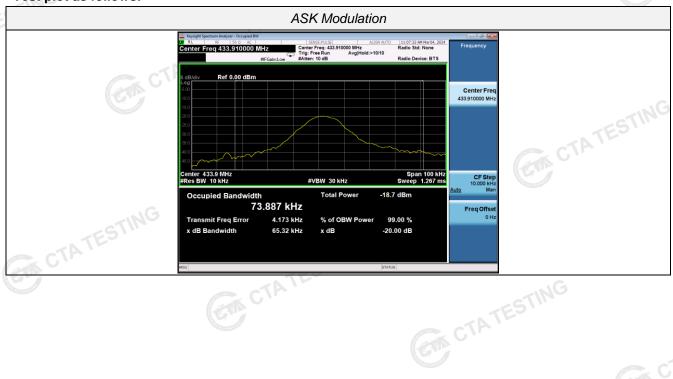
The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

The occupied bandwidth (OBW), that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Test Results

Test Results			TESTING			
Modulation	Channel Frequency (MHz)	99% OBW (KHz)	20dB bandwidth (KHz)	Limit (KHz)	Result	~5
ASK	433.910	73.887	65.32	0.25%*433.910*1000=1084.755	Pass	YY,

Test plot as follows:



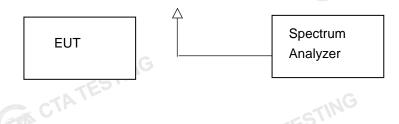
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Deactivation Time 4.4

Limit

According to FCC § 15. 231 (a) (2), A transmitter activated automatically shall cease transmission within CTA TESTING 5 seconds after activation.

Test Configuration



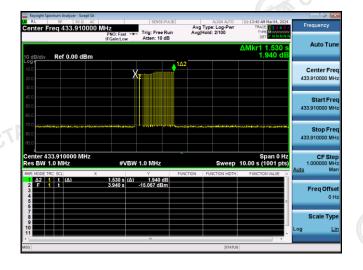
CTATESTING **Test Procedure**

- The EUT was placed on a wooded table which is 0.8m height and close to receiver antenna of spectrum analyzer.
- 2. The spectrum analyzer resolution bandwidth was set to 1 MHz and video bandwidth was set to 1 MHz to encompass all significant spectral components during the test. The spectrum analyzer was operated in linear scale and zero span mode after tuning to the transmitter carrier frequency.

TEST RESULTS

Note: The transmitter was automatically activated, and the carrier frequency 433.910MHz:

Frequency (MHz)	One transmission time (S)	Limit(S)	Result	
433.910	1.530	5	Pass	
	Equiple Spectrum Analyzer - Swept SA OF RL 65 50 G AC Center Freq 433.910000 MHz FIGURE 1 Trig: Free Run FIGURE 1 Trig: Free Run FIGURE 1 Trig: Free Run	ALTGN AUTO 11:12:40 AM Mar 04 2024	wuuncy	CTATI
	10 dBldiv Ref 0.00 dBm	1.940 dB	uto Tune Inter Freq	



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4.5 Antenna Requirement

Standard Applicable

According to FCC Part 15C 15.203

- a) An intentional radiator shall be de-signed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
- b) The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is a Spring Antenna, The directional gains of antenna used for transmitting is 0.00 dBi.

Remark: The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Shenzhen CTA Testing Technology Co., Ltd. does not assume any responsibility.



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5 Test Setup Photos of the EUT





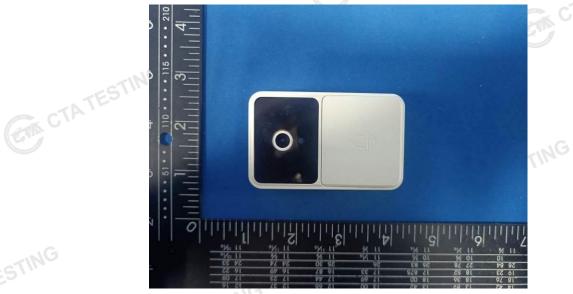


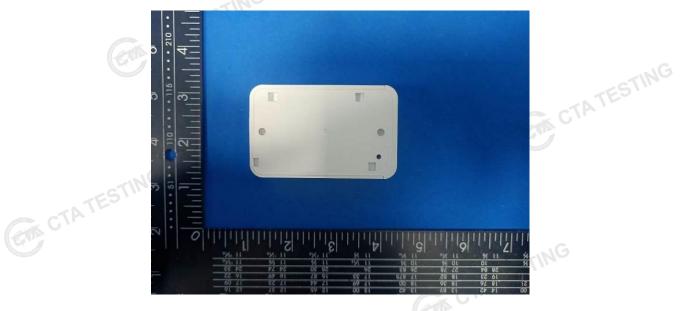
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6 Photos of the EUT



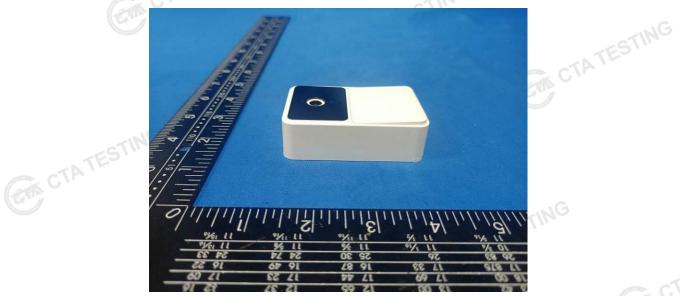


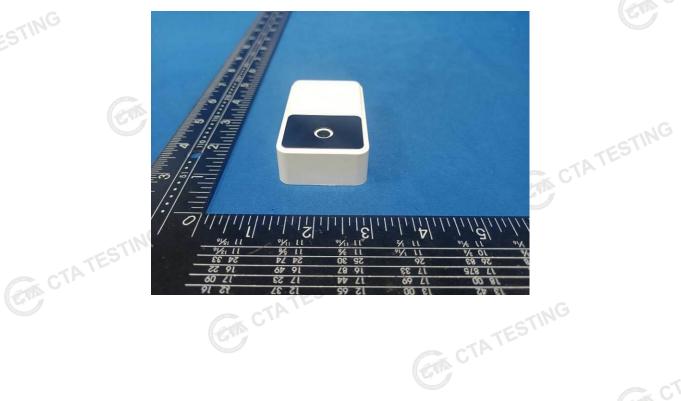


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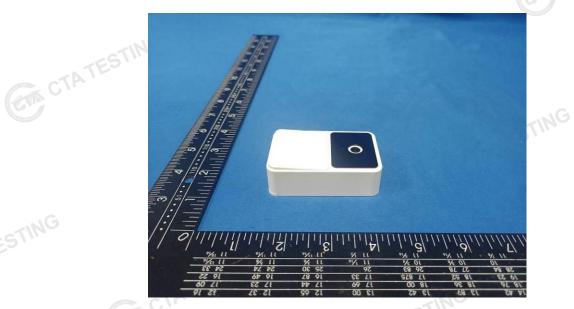


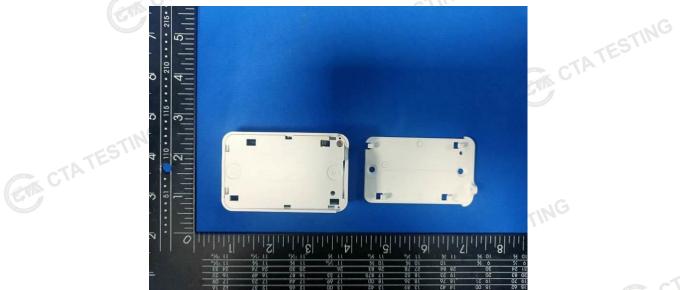




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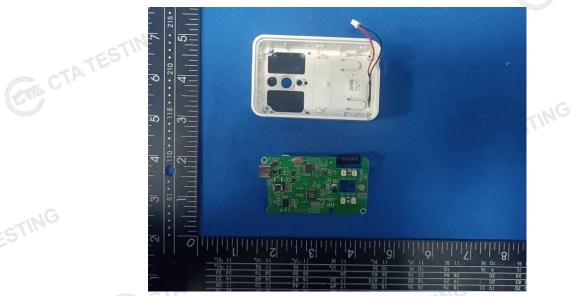


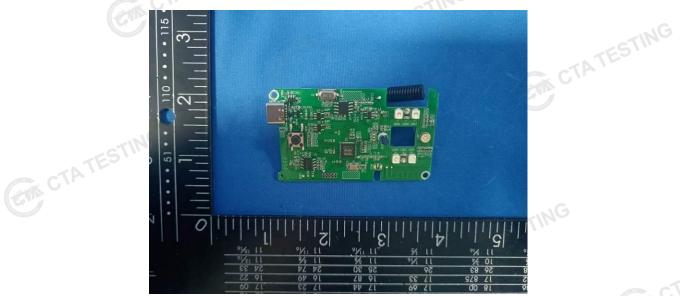


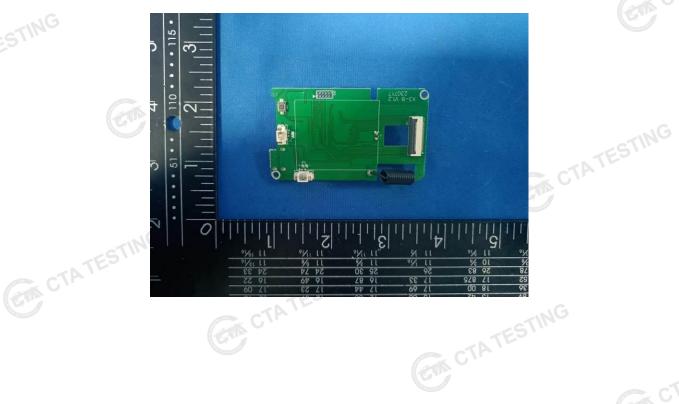


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TESTING

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