

FCC CERTIFICATION TEST REPORT

Applicant:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, China
Manufacturer:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, China
Product Description:	Wireless PTZ Camera
Brand Name:	MAXHUB
Tested Model:	EP50
FCC ID:	2AFG6-EP50
Report No.:	JCF260617082-001
Received Date:	Jun. 17, 2026
Tested Date:	Jun. 17, 2026 - Aug. 07, 2026
Issued Date:	Aug. 07, 2026
Test Standards:	FCC Rules and Regulations Part 15 Subpart E,
Test Procedure:	ANSI C63.10-2020 789033 D02 General U-NII Test Procedures New Rules v02r01, 662911 D01 Multiple Transmitter Output v02r01,
Test Result:	Pass

Prepared By:

Kennys Zhang

Kennys Zhang/Engineer **Date:** Aug. 07, 2026

Reviewed By:

Roger Li

Roger Li/Engineer **Date:** Aug. 07, 2026

Approved By:

Talent Zhang

Talent Zhang/Engineer **Date:** Aug. 07, 2026

Note: The test results in this report apply exclusively to the tested model / sample. Without written approval of Guangzhou Jingce Testing Technology Co., Ltd. the test report shall not be reproduced except in full.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
--	/	Aug. 07, 2026	Original Report	/

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1. Test Report Declare

Applicant:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, China
Manufacturer:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, China
Product Name:	Wireless PTZ Camera
Brand Name:	MAXHUB
Model Name:	EP50, EP50***(*=0-9, or A-Z or a-z or "-" or blank, for marketing purpose use only, no technical difference)
Difference Description:	The difference in model names is only for sales purposes, while the EUT remains unchanged.

We Declare:

The equipment described above is tested by Guangzhou Jingce Testing Technology Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangzhou Jingce Testing Technology Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests except as provided information by clients.

2. Summary of test results

The EUT have been tested according to the applicable standards as referenced below.			
Clause	Description of Test Item	Standard	Verdict
1	6/26dB Bandwidth	FCC 15.407 (a)&(e)	Pass
2	99% Occupied Bandwidth	/	Pass
3	Maximum Conducted Output Power	FCC 15.407 (a)	Pass
4	Power Spectral Density	FCC 15.407 (a)	Pass
5	Frequency Stability Measurement	FCC 15.407 (g)	Pass
6	Radiated Band edge and Spurious Emission	FCC 15.407 (b) FCC 15.209 FCC 15.205	Pass
7	Power Line Conducted Emission	FCC 15.207	Pass
8	Antenna requirement	FCC 15.203	Pass
9	Dynamic Frequency Selection	FCC 15.407 (h)	N/A
Note: This report was tested strictly in accordance with the standards, without any additions, deviations or omissions to the standard content.			

3. Test Laboratory

Guangzhou Jingce Testing Technology Co., Ltd.

Add.: No.10, Hefeng No.1 street, Huangpu District, Guangzhou, Guangdong, People's Republic of China

Association for Laboratory Accreditation(A2LA). Certificate Number: 6594.03

FCC Designation Number: CN1381. Test Firm Registration Number: 486550

IC Test Firm Registration Number: 31808

Conformity Assessment Body identifier: CN0173

4. Equipment Under Test

4.1. Description of EUT

EUT Name:	Wireless PTZ Camera
Model Number:	EP50
EUT Function Description:	Please refer to user manual of this device
Power Supply:	12Vdc, 3.0A
Sample No.:	260617082-01-01
Hardware Version:	N/A
Software Version:	N/A
Radio Specification:	IEEE 802.11a/n
Operation Frequency:	IEEE 802.11a: 5150MHz—5250MHz, 5745MHz—5825MHz IEEE 802.11n HT20: 5150MHz—5250MHz, 5745MHz—5825MHz IEEE 802.11n HT40: 5150MHz—5250MHz, 5745MHz—5825MHz
Modulation:	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Type:	External Antenna1, MAX. Gain: 5.63 dBi External Antenna2, MAX. Gain: 5.63 dBi Directional Gain: 8.64 dBi

Note 1: EUT is the ab. of equipment under test.

Note 2: The antenna gain is declared by the customer and the laboratory is not responsible for the accuracy of the antenna gain.

4.2. Channel List

UNII-1 (For Bandwidth = 20 MHz)		UNII-1 (For Bandwidth = 40 MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	/	/
48	5240	/	/

UNII-3 (For Bandwidth = 20 MHz)		UNII-3 (For Bandwidth = 40 MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755
153	5765	159	5795
157	5785	/	/
161	5805	/	/
165	5825	/	/

4.3. Test Channel Configuration

Mode	Data rate (Mbps) (see Note)	Test Channel and Frequency
802.11a TX Mode	6	CH36, 5180
	6	CH44, 5220
	6	CH48, 5240
	6	CH149, 5745
	6	CH157, 5785
	6	CH165, 5825
802.11n HT20 TX Mode	MCS 8	CH36, 5180
	MCS 8	CH44, 5220
	MCS 8	CH48, 5240
	MCS 8	CH149, 5745
	MCS 8	CH157, 5785
	MCS 8	CH165, 5825
802.11n HT40 TX Mode	MCS 8	CH38, 5190
	MCS 8	CH46, 5230
	MCS 8	CH151, 5755
	MCS 8	CH159, 5795

Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

4.4. Test Environment Conditions

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

	Normal Conditions	Extreme Conditions
Temperature range	21-25 °C	0 °C to +40 °C
Humidity range	40-75%	N/A
Pressure range	86-106 kPa	N/A
Power supply	DC 12V	N/A

Note: The Extreme temperature range and extreme voltages are declared by the manufacturer.

4.5. The Worse Case Power Setting Parameter

The Worse Case Power Setting Parameter			
Test Software	Artgui-2.3		
Mode	Channel	Soft set Level	
		ANT0	ANT1
802.11a	36	4	4
	44	4	4
	48	4	4
	149	1	1
	157	0	0
	165	0	0
802.11n HT20	36	3	3

	44	4	4
	48	4	4
	149	1	1
	157	0	0
	165	0	0
802.11n HT40	38	4	4
	46	4	4
	151	0	0
	159	0	0

4.6. Description of Available Antennas

Test Mode	Transmit and Receive Mode	Description
802.11a	☒ 2TX, 2RX	ANT 1 and ANT2 can be used as transmitting/receiving antenna.
802.11n HT20	☒ 2TX, 2RX	ANT 1 and ANT2 can be used as transmitting/receiving antenna.
802.11n HT40	☒ 2TX, 2RX	ANT 1 and ANT2 can be used as transmitting/receiving antenna.

Note: The 802.11n support MIMO.

5. Description of Test Setup

5.1. Accessory

Description of Accessories	Manufacturer	Model Number	Description	Remark
AC Adapter	Mass Power Electronic Limited	S042-1A120300M2	Input: 100-240V 50/60Hz 1.0A Output: 12V $\overline{=}$ 3A	/

5.2. Support Equipment

Equipment	Brand Name	Model Name	P/N
PC	Lenovo	T480	/

5.3. Test Setup

The EUT can work in Fixed Frequency mode.

5.4. Setup Diagram for Tests

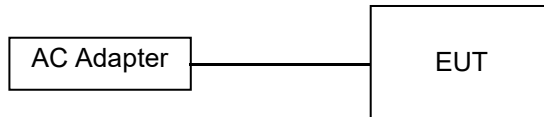
RF Connect Test:



Radiated Emission Test:



AC Power Line Conducted Emissions Test:



6. Measurement uncertainty

Test Item	Uncertainty
AC Power Conduction emission	1.37 dB
All Radiated emissions	5.4dB
Conducted emissions	3.09 dB
Occupied Channel Bandwidth	1.1%
Conducted Output power	0.82dB
Power Spectral Density	0.82dB

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of $k = 2$.

7. Measuring Instrument and Software Used

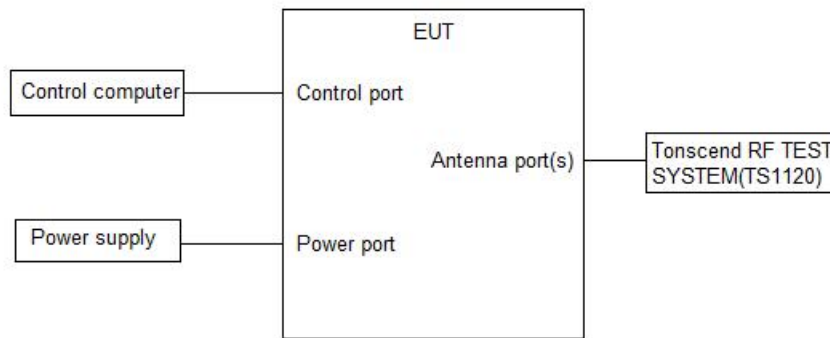
TS Test System						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☒	Spectrum Analyzer	Keysight	N9030B	MY56320512	Jul. 31, 2025	Jul. 30, 2026
☒	Spectrum Analyzer	Keysight	N9030B	MY56320512	Jun. 23, 2026	Jun. 22, 2027
☒	Vector Signal Generator	Keysight	N5182B	MY57300334	Jul. 31, 2025	Jul. 30, 2026
☒	Vector Signal Generator	Keysight	N5182B	MY57300334	Jun. 23, 2026	Jun. 22, 2027
☒	Signal Generator	Keysight	N5171B	MY57280639	Jul. 31, 2025	Jul. 30, 2026
☒	Signal Generator	Keysight	N5171B	MY57280639	Jun. 23, 2026	Jun. 22, 2027
☒	DC POWER	Keysight	E342A	MY59020356	Jul. 31, 2025	Jul. 30, 2026
☒	DC POWER	Keysight	E342A	MY59020356	Jun. 24, 2026	Jun. 23, 2027
☒	Incubator thermometer	GWS	EL-02JA	21107288	Jul. 31, 2025	Jul. 30, 2026
☒	Incubator thermometer	GWS	EL-02JA	21107288	Jun. 23, 2026	Jun. 22, 2027
☒	Control unit(Power sensor)	Tonscend	JS0806-2	20L8060342	Jul. 31, 2025	Jul. 30, 2026
☒	Control unit(Power sensor)	Tonscend	JS0806-2	20L8060342	Jun. 24, 2026	Jun. 23, 2027
☒	Spectrum Analyzer	Keysight	N9020B	MY60112206	Aug. 29, 2025	Aug. 30, 2026
☒	Control unit(Power sensor)	Tonscend	JS0806-2	21H8060465	Aug. 01, 2025	Jul. 31, 2026
☒	Control unit(Power sensor)	Tonscend	JS0806-2	21H8060465	Jun. 24, 2026	Jun. 23, 2027
☒	Spectrum	Keysight	N9020B	MY60112811	Jul. 31, 2025	Jul. 30, 2026

	Analyzer					
☑	Spectrum Analyzer	Keysight	N9020B	MY60112811	Jun. 23, 2026	Jun. 22, 2027
☑	Signal Generator	Keysight	N5173B	MY62220145	Jul. 31, 2025	Jul. 30, 2026
☑	Signal Generator	Keysight	N5173B	MY62220145	Jun. 23, 2026	Jun. 22, 2027
☑	Vector Signal Generator	Keysight	N5182B	MY61252859	Jul. 31, 2025	Jul. 30, 2026
☑	Vector Signal Generator	Keysight	N5182B	MY61252859	Jun. 23, 2026	Jun. 22, 2027
☑	DC POWER	Keysight	E3642A	MY40005294	Jul. 31, 2025	Jul. 30, 2026
☑	DC POWER	Keysight	E3642A	MY40005294	Jun. 24, 2026	Jun. 23, 2027
☑	Control unit(Power sensor)	Tonscend	JS0806-2	24F80620865	Aug. 01, 2025	Jul. 31, 2026
☑	Control unit(Power sensor)	Tonscend	JS0806-2	24F80620865	Jun. 25, 2026	Jun. 24, 2027
Software						
Used	Description	Manufacturer	Name		Version	
☑	Test software	Tonscend	JS1120-3		V3.3.10	
RSE Test System						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☑	EMI Receiver	R&S	ESR26	101424	Nov. 25, 2025	Nov. 24, 2026
☑	Hybrid Antenna	Schwarzbeck	VULB9163	01361	May. 26, 2026	May. 25, 2027
☑	Horn Antenna 1	Schwarzbeck	BBHA 9120 D	02910	Aug. 31, 2025	Aug. 30, 2026
☑	Horn Antenna 2	ETS	BBHA 9170	1090	Aug. 31, 2025	Aug. 30, 2026
☑	loop-antenna	Schwarzbeck	FMZB 1513-60	00030	Jan. 11, 2026	Jan. 10, 2027
☑	Test path	/	Path3: WIFI-5.1G 1-6.5GHz	/	Jul. 31, 2025	Jul. 30, 2026
☑	Test path	/	Path3: WIFI-5.1G 1-6.5GHz	/	Jun. 24, 2026	Jun. 23, 2027
☑	Test path	/	Path4: WIFI-5.4G 1-6.5GHz	/	Jul. 31, 2025	Jul. 30, 2026
☑	Test path	/	Path4: WIFI-5.4G 1-6.5GHz	/	Jun. 24, 2026	Jun. 23, 2027
☑	Test path	/	Path5: WIFI-5.8G 1-6.5GHz	/	Jul. 31, 2025	Jul. 30, 2026
☑	Test path	/	Path5: WIFI-5.8G 1-6.5GHz	/	Jun. 24, 2026	Jun. 23, 2027
☑	Test path	/	Path7: ALL PASS 1-18GHz	/	Jul. 31, 2025	Jul. 30, 2026
☑	Test path	/	Path7: ALL PASS 1-18GHz	/	Jun. 24, 2026	Jun. 23, 2027
☑	Test path	/	Path10:	/	Jul. 31, 2025	Jul. 30, 2026

			6.5GHz High PASS 6.5-18GHz			
☑	Test path	/	Path10: 6.5GHz High PASS 6.5-18GHz	/	Jun. 24, 2026	Jun. 23, 2027
☑	Test path	/	Path16: 30MHz-1GHz ALL PASS NO AMP	/	Jul. 31, 2025	Jul. 30, 2026
☑	Test path	/	Path16: 30MHz-1GHz ALL PASS NO AMP	/	Jun. 24, 2026	Jun. 23, 2027
☑	Signal Pre-Amplifier	ETS	3116C-PA	00217677	Jul. 31, 2025	Jul. 30, 2026
☑	Signal Pre-Amplifier	ETS	3116C-PA	00217677	Jul. 17, 2026	Jul. 16, 2027
☑	3m Fully-anechoic Chamber	YIHENG	9m*6m*6m	001	Sep. 05, 2023	Sep. 04, 2026
Software						
Used	Description	Manufacturer	Name		Version	
☑	Test software	Tonscend	TS+		V5.0.0.0	
Conducted Emission Test For AC Power Port						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☑	LISN	R&S	ENV216	102509	Aug. 01, 2025	Jul. 31, 2026
☑	LISN	R&S	ENV216	102509	Jun. 23, 2026	Jun. 22, 2027
☑	EMI Receiver	R&S	ESR	102154	Aug. 01, 2025	Jul. 31, 2026
☑	EMI Receiver	R&S	ESR	102154	Jun. 10, 2026	Jun. 09, 2027
Software						
Used	Description	Manufacturer	Name		Version	
☑	Test software	EZ	EZ-EMC		EMEC-3A1	
Other Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☑	Temperature & Humidity	Temperature	HTC-1	/	Sep. 20, 2025	Sep. 21, 2026

8. Duty Cycle

8.1. Block Diagram of Test Setup



Note: The EUT is connected to the Control unit, and then the signal is transmitted through internal circuits to the Spectrum Analyzer.

8.2. Limits

None; for reporting purposes only.

8.3. Procedure

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.B.

The zero-span mode on a spectrum analyzer or EMI receiver, if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal.

Set the center frequency of the instrument to the center frequency of the transmission.

Set RBW $\geq$ EBW if possible; otherwise,

set RBW to the largest available Level. Set VBW $\geq$ RBW.

Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$, where T is defined in II.B.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

8.4. Results

Test Mode	Ant.	Freq. (MHz)	Transmission Duration (ms)	Transmission Period (ms)	Duty Cycle (%)
11A	Ant1	5180	1.36	1.40	97.14
	Ant2	5180	1.36	1.41	96.45
	Ant1	5200	1.36	1.41	96.45
	Ant2	5200	1.36	1.41	96.45
	Ant1	5240	1.35	1.40	96.43
	Ant2	5240	1.36	1.41	96.45
	Ant1	5745	1.36	1.40	97.14
	Ant2	5745	1.36	1.41	96.45
	Ant1	5785	1.36	1.41	96.45
	Ant2	5785	1.36	1.40	97.14
11N20MIMO	Ant1	5825	1.35	1.40	96.43
	Ant2	5825	1.36	1.41	96.45
	Ant1	5180	1.27	1.32	96.21
	Ant2	5180	1.27	1.32	96.21
	Ant1	5200	1.27	1.32	96.21
	Ant2	5200	1.27	1.32	96.21
	Ant1	5240	1.28	1.32	96.97
	Ant2	5240	1.27	1.32	96.21
	Ant1	5745	1.35	1.40	96.43
	Ant2	5745	1.36	1.40	97.14
	Ant1	5785	1.36	1.41	96.45
	Ant2	5785	1.36	1.41	96.45

	Ant1	5825	1.36	1.41	96.45
	Ant2	5825	1.36	1.41	96.45
11N40MIMO	Ant1	5190	0.63	0.66	95.45
	Ant2	5190	0.63	0.67	94.03
	Ant1	5230	0.63	0.67	94.03
	Ant2	5230	0.64	0.67	95.52
	Ant1	5755	0.64	0.67	95.52
	Ant2	5755	0.63	0.66	95.45
	Ant1	5795	0.63	0.67	94.03
	Ant2	5795	0.63	0.66	95.45

Note: Offset=cable loss + Test system insertion loss

8.5. Original Test Data





