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SAFETY TEST REPORT

MEASUREMENT AND TEST REPORT

For

Shenzhen Karsun Access Technology Co.,Ltd.	
F1- F3 , Building A2, Silicon Valley Power Digital Industrial Park, Guanlan Street, Longhua, Shenzhen, Guang Dong, China.518000	
Models:	JS51
Additional model:	JS-CP001，JS-CP002，JS-CP003，JS-CP004，JS-CP005，JS-CP006，JS51，JS52，JS53，XJP01，XJP02，XJP03，JS-ZY01，JS-JYCP01，JS-JYCPD02
Equipment Type:	License Plate Recognition Camera
Test Standard:	EN IEC 62368-1:2018
Report Number:	GBT5020673655
Test Date:	2025.09.16 to 2025.09.23
Prepared By:	**Guangdong Baotong Quality Inspection Co.,Ltd.** Room 802,Building 22,CIMC Intelligent Manufacturing Center,No.15.Shunye West Road,Xingtan,Shunde District,Foshan,Guangdong.China
Date of issue	2025.09.23

Tested by: Reviewer: Approved:

EMC TEST REPORT	
Applicant	
name..... :	Shenzhen Karsun Access Technology Co.,Ltd.
Address..... :	F1- F3 , Building A2, Silicon Valley Power Digital Industrial Park, Guanlan Street, Longhua, Shenzhen, Guang Dong, China.518000
Test specification:	
Standard..... :	EN IEC 62368-1:2018
Test procedure..... :	Type Test
Non-standard test method……..:	N/A
Test item	
Description..... :	License Plate Recognition Camera
Model and/or type reference..... :	See page 1
Additional model..... :	See page 1
Trade mark ..... :	Karsun
Rated voltage ..... :	/
Manufacturer ..... :	Shenzhen Karsun Access Technology Co.,Ltd.
Address ……..:	F1- F3 , Building A2, Silicon Valley Power Digital Industrial Park, Guanlan Street, Longhua, Shenzhen, Guang Dong, China.518000
Test item particulars	
Classification of installation and use:	N/A
Supply Connection..... :	N/A
Possible test case verdicts	
- test case does not apply to the test object :	N(.A)
- test object does meet the requirement :	P(Pass)
- test object does not meet the requirement :	F(Fail)

Summary of testing:

The product has been tested according to standard

EN IEC 62368-1:2018

- Maximum ambient temperature: +25℃
- Tested for moderate conditions

Copy of marking plate

License Plate Recognition Camera
Model: JS-CP001，JS-CP002，JS-CP003，JS-CP004，JS-CP005，JS-CP006，JS51，JS52，JS53，XJP01，XJP02，XJP03，JS-ZY01，JS-JYCP01， JS-JYCPD02
Rating(s): 220-240V~, 50/60Hz, 30W, Class I

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Made In China

No.	Test Item	Test Requirement	Test Result - Description	Judgment
1.	Appearance and Structure Inspection	1. The appearance of the chassis and structural components should not have obvious unevenness or scratches, cracks, sharp edges and corners, burrs, rust, and other defects; the coating layer should have good adhesion, the surface color should be uniform, smooth, with no traces of repair and obvious impurities. Metal-plated parts should not show rust, blistering, or coating peeling.	Compliant	Qualified
		2. All text and symbols on the outer shell panel should be clear, correct, and easy to identify.	Compliant	Qualified
		3. The position of the equipment's functional operation area should meet standard requirements.	Compliant	Qualified
2.	Marking Inspection	1. Each device of the system should have clear and firm markings, which should include the following content:	Compliant	Qualified
		- Model/Specification;	Compliant	Qualified
		- Manufacturer's name or trademark;	Compliant	Qualified
		- Other necessary prompt symbols, such as: safety warning symbols, safety grounding symbols;	Compliant	Qualified
		- Nature and polarity of the power supply;	Compliant	Qualified
		- Rated value of the supply voltage;	Compliant	Qualified
		- Nature and function of the terminals.	Compliant	Qualified
		If the above content cannot be marked on the device, it should be provided in the instruction manual.	Compliant	Qualified
		2. The durability of the markings against rubbing should comply with the requirements of GB16796-2009 clause 5.3.2.	Compliant	Qualified
3.	Operating Voltage	12V ±5%	Compliant	Qualified
4.	Operating Temperature	-20℃ to +70℃	Compliant	Qualified
5.	Relative Humidity	≤95%, no condensation (at room temperature)	Compliant	Qualified
6.	Rated Power	≤50W	Compliant	Qualified
7.	Communication Method	TCP/IP, RS485	Compliant	Qualified
8.	Display Type	LCD screen	Compliant	Qualified
9.	Display Area	413*233mm	Compliant	Qualified
10.	Enclosure	IP65	Compliant	Qualified

	Protection Level			
11.	Material and Process	High-strength carbon steel, sheet metal spraying	Compliant	Qualified
12.	Dimensions	320*180*1450mm (Length*Width*Height)	Compliant	Qualified
13.	Camera Parameters	Detailed parameters refer to the specific model's camera specification sheet.	Compliant	Qualified
14.	Power Supply	12V/10A	Compliant	Qualified
15.	License Plate Recognition Rate	≥99.8% (all-weather typical license plates)	Compliant	Qualified
16.	Adaptable Vehicle Speed	0-40km/h	Compliant	Qualified
17.	Recognition Angle	≤45°	Compliant	Qualified
18.	Optimal Recognition Distance	3～6m	Compliant	Qualified
19.	Trigger Method	Ground loop coil or video stream	Compliant	Qualified
20.	Supported License Plate Types	Ordinary blue plates, single/double-layer yellow plates, new energy single/double-layer plates, police vehicles, new armed police, single/double-layer military plates, new embassy, coach vehicles, Hong Kong/Macau entry/exit mainland plates, emergency vehicle plates, civil aviation, special plates, etc.	Compliant	Qualified
21.	Support for Card Reading Function	Supports long-range and short-range card reading devices.	Compliant	Qualified
22.	License Plate Recognition Features	License plate number, color, width, confidence level.	Compliant	Qualified
23.	Multi-Device Compatibility of License Plate Recognition System	Supports mainstream license plate recognition cameras such as Zhensi, Huaxia, Qianyi, Xinlutong, etc., and dozens of LED screen control cards such as Daotong, Fangkong, Kefa, etc.	Compliant	Qualified
24.	Forced Conversion Function	For license plates that are frequently misrecognized, they can be forcibly converted to the correct license plate.	Compliant	Qualified
25.	Network Protocol	Supports multiple protocols such as MQTT and HTTP to connect to cloud platforms.	Compliant	Qualified
26.	Remote Debugging Function	Camera devices can be debugged via Bluetooth or internet using a mobile phone.	Compliant	Qualified
27.	Parking Space Display Function	Display time and custom content can be set, and it supports displaying remaining spaces for a specific zone or the entire parking lot.	Compliant	Qualified
		When the parking lot is full, if a vehicle exits,	Compliant	Qualified

		the entrance barrier can be set to automatically lift, mainly used for situations where vehicles waiting at the entrance cannot reverse.		
28.	Shared Parking Spaces	Supports one or N vehicles occupying a specified number of parking spaces or sharing a balance.	Compliant	Qualified
29.	Special Vehicles	Supports setting license plates that start with, contain, or end with a specific character to match license plate numbers.	Compliant	Qualified
30.	Output Information	Vehicle feature image, license plate image, plate number, color, type, passing time.	Compliant	Qualified
31.	License Plate Anti-Counterfeiting	Supports alerts for abnormal license plates (mobile phone photos, printed), accuracy rate ≥95%.	Compliant	Qualified
32.	Automatic Inclusion of Abnormal Vehicles into Rules	For example, if a vehicle inside the lot is not found in the lot's records, or a vehicle arrives at the exit and no entry record is found, or a vehicle arrives at the entrance and is found to already be inside the lot, the vehicle will automatically be included in the abnormal vehicle list.	Compliant	Qualified
33.	Storage	Expandable with microSD card insertion	Compliant	Qualified
34.	Secondary Development Protocol	SDK, ONVIF, HTTP, RTSP	Compliant	Qualified
35.	Volume Settings	Can automatically control the device's volume level within a certain time period.	Compliant	Qualified
36.	Supplementary Light Parameters	Number of LED beads	12 pcs	Compliant
		Maximum Power	≤6W	Compliant
		Supplementary Light Control	Automatically turns on at night	Compliant
		Supplementary Light Distance	Illuminance greater than 50 LUX at 5m	Compliant
37.	Adjustment Angle	Supported	Compliant	Qualified
38.	Mechanical Strength Test	1. The equipment enclosure should be able to withstand a mechanical impact strength of 0.5J applied to each normally accessible surface, without permanent deformation or damage.	Compliant	Qualified
		2. The equipment enclosure should have a locking device.	Compliant	Qualified
		3. The connection between the wiring terminals inside the equipment and the leads should be	Compliant	Qualified

		firm and reliable, with measures to prevent loosening.		
39.	Appearance and Structure Inspection	1. The appearance of the chassis and structural components should not have obvious unevenness or scratches, cracks, sharp edges and corners, burrs, rust, and other defects; the coating layer should have good adhesion, the surface color should be uniform, smooth, with no traces of repair and obvious impurities. Metal-plated parts should not show rust, blistering, or coating peeling.	Compliant	Qualified
		2. All text and symbols on the outer shell panel should be clear, correct, and easy to identify.	Compliant	Qualified
		3. The position of the equipment's functional operation area should meet standard requirements.	Compliant	Qualified
40.	Enclosure Protection Level Test	Outdoor equipment: IP65	Compliant	Qualified
41.	Alarm Prompt Function Test	The system should generate a local alarm or remote transmission alarm when one of the following situations occurs:	Compliant	Qualified
		1. When an unauthorized vehicle identifier is read;	Compliant	Qualified
		2. When a vehicle identifier that has been set to require a prompt is read;	Compliant	Qualified
		3. When the entrance/exit barrier is opened without normal operation;	Compliant	Qualified
		4. When a communication failure occurs.	Compliant	Qualified
42.	Basic Function Check	Entry Function Check:	Compliant	Qualified
		1. When a vehicle arrives in front of the entrance controller, the vehicle sensor detects the vehicle.	Compliant	Qualified
		2. The license plate recognition camera recognizes the vehicle and automatically lifts the barrier for passage.	Compliant	Qualified
		3. If the recognized license plate number matches an entry in the system's blacklist, entry is denied.	Compliant	Qualified
		4. If a vehicle has no license plate and cannot be recognized, the license plate can be manually entered, or a QR code for license-plate-less vehicles can be scanned. The system supports a "scan code verification"	Compliant	Qualified

		passage mode: the vehicle needs to scan a designated QR code, and after verification takes effect, the entry/exit process can be completed.		
		5. Handling of vehicles without entry records supports manual processing, free release, using the last entry time or charging a minimum fee, among other methods.	Compliant	Qualified
		Exit Function Check:	Compliant	Qualified
		1. When a vehicle arrives in front of the exit controller, the vehicle sensor detects the vehicle.	Compliant	Qualified
		2. When the owner is a monthly subscriber, the license plate recognition all-in-one machine automatically recognizes the license plate and compares it with the user's license plate numbers stored in the system. After confirmation, it automatically lifts the barrier for passage.	Compliant	Qualified
		3. For owners with multiple vehicles (one person with multiple cars or multiple people with multiple cars), if a monthly card vehicle already occupies a parking space, subsequent vehicles enter as temporary vehicles. If the monthly card vehicle occupying the space leaves, subsequent vehicles can automatically convert to monthly card status.	Compliant	Qualified
		4. When the owner is a temporary user, the license plate recognition camera recognizes the license plate, automatically compares it, calculates the fee, displays the billing result via voice and LED screen, simultaneously stores the image, and after fee confirmation, automatically lifts the barrier for passage.	Compliant	Qualified
		5. When there is an error in license plate recognition upon exit, the system automatically performs fuzzy matching with similar license plates from entry, allowing the manager to select, correct, and calculate the fee.	Compliant	Qualified
		6. For license-plate-less vehicles exiting, license-plate-less vehicles can be quickly selected for manual matching, the system automatically calculates the fee, and after confirmation by the cashier, the vehicle exits.	Compliant	Qualified
		Equipment with text display function should	Compliant	Qualified

		provide Simplified Chinese display.		
		Equipment with voice prompt function should provide Mandarin voice prompts.	Compliant	Qualified
43.	Audio and Video Test	Entrance/Exit equipment sound prompt sound pressure value ≥55dB(A)	79dB(A) max	Qualified
		Color horizontal resolution: ≥220TVL	Black and white horizontal resolution: ≥320TVL	Color: 550TVL
		Color grayscale level: ≥7 levels	Black and white grayscale level: ≥8 levels	Color: 11 levels
44.	Vehicle License Plate Recognition Test	Actual Vehicle Dynamic Recognition Test:	Vehicle license plate recognition accuracy rate:	Qualified
		Conducted under conditions of clear weather without fog, with license plates unobstructed and undamaged. Ambient illumination during daytime testing should not be less than 200lx, and auxiliary illumination during nighttime testing should not exceed 100lx.	Daytime ≥99.9%	
		The test lane is a single lane.	Nighttime ≥99.9%	
		Vehicle speed during testing is within the range of (5～40)km/h.		
		The probability of occurrence of license plate types and characters should be uniform. Front license plates are used for license plate recognition testing.		
		Conduct 100 tests each during daytime and nighttime.		
		Daytime vehicle license plate recognition accuracy rate should be ≥99.9%. Nighttime vehicle license plate recognition accuracy rate should be ≥99.9%.		
		Image Library Recognition Test:	Vehicle license plate recognition accuracy rate: ≥99.9%	Qualified
		Tested using a license plate recognition image library, containing daytime video recordings of 1000 vehicles entering. The horizontal resolution of the license plate image should not be less than 100 pixels and not more than 160		

		pixels.		
		Daytime vehicle license plate recognition accuracy rate should be ≥99.9%.		
45.	Anti-reentry/Re-exit Function Check	The system shall have anti-reentry/re-exit functionality when online.	Compliant	Qualified
46.	System Response Time Test	Response time from vehicle identity confirmation and release to barrier gate opening ≤ 2s.	<1s	Qualified
47.	Storage Time Check	1. System management software event information storage time ≥ 1 year. 2. Images at entrances/exits and within the parking area storage time ≥ 30 days.	Compliant	Qualified
48.	Entrance/Exit Part Function Check	By detecting vehicle status, the system automatically issues image capture commands, receives transmitted vehicle images, automatically performs recognition of entry/exit credentials, vehicle detection, etc. After verification processing, it shall have the function to control execution devices to allow/prohibit vehicle passage and notify other relevant devices. Passage vehicles can be set so that a specific device only allows a certain type of vehicle to enter/exit, or supports that after entry/exit, recognition by other devices within a specified number of seconds is not processed, or a device can be set to allow only a certain type of vehicle to enter/exit during a specific time period.	Compliant	Qualified
		When the device is connected to the system's central management part, it shall meet the following requirements: 1. Have initialization function to restore the device to its initial state, e.g., factory parameters. 2. Have self-check function for device working status and corresponding indication. 3. Capable of clock calibration for the device via the central management part. 4. Support recognition of one or more types of vehicle entry/exit credentials through the reading part. 5. Timely upload entry/exit events, device status, and other information to the central management part. 6. Receive and execute authorization, control, device setting, and other instructions issued by the central management department.	Compliant	Qualified
		System Self-check and Fault Indication: The	Compliant	Qualified

		system and its main components shall have self-check and fault indication functions to indicate normal operation.		
		Barrier Function: The system's entrance/exit part shall have the function to allow/prohibit vehicle passage by automatically or manually controlling the barrier gate and shall have anti-pinch function.	Compliant	Qualified
		Emergency Open/Close: The barrier gate can be manually opened and closed during power failure or when the system is not functioning normally.	Compliant	Qualified
		Manual Opening Record: In cases where vehicle identification is not performed according to the prescribed process or vehicle identification fails, the barrier gate can be manually opened. The system shall automatically record information such as occurrence time, entrance/exit channel number, operator, etc.	Compliant	Qualified
49.	Central Management Part Function Check	Operation Authority Management: The system shall manage operator authorization and login approval. By setting operation permissions, operators of different levels have different operational powers over the system.	Compliant	Qualified
		Vehicle Entry/Exit Authorization Management: The system shall manage the entry, authorization, modification, cancellation, extension, etc., of vehicle identity information.	Compliant	Qualified
		Data Management: The system shall manage information such as entry/exit vehicle events, operation management events, entrance/exit device working status, etc., and perform functions like querying, statistics, printing of system information, and data backup/restore.	Compliant	Qualified
		System Time Calibration: Timing components related to event recording, display, and recognition information shall have clock calibration function; calibration initiation is completed by the central management unit.	Compliant	Qualified
		Image Comparison: The system shall be able to display entry/exit images of the vehicle and/or driver on the same interface, providing comparison to judge whether to allow or prohibit vehicle passage.	Compliant	Qualified

		Charging Management: The system shall calculate fees according to preset charging standards and modes and output corresponding reports; relevant charging information can be printed as payment vouchers. Charging Rules: Support fee calculation based on license plate color and type. Blue, green, and yellow plates are calculated according to different rules. Support holiday charging based on different rules. Contactless Payment: Vehicle owners can independently bind their license plate to a payment account and enable contactless payment function, or for vehicles equipped with ETC, achieve quick exit through video recognition and system rapid authorization upon exit. Fee Arrears Release: For vehicles unable to pay, release with fee arrears is allowed. The system can automatically collect the relevant fees the next time the vehicle enters. Unpaid Recognition Function: If a vehicle reaches the exit, calculates the fee, but does not pay, the system will automatically include it in the list of vehicles with unpaid recognition, thereby recording vehicles whose barrier is opened by remote control.	Compliant	Qualified
50.	Video Call	Active Call: After the user presses the device call button, they can call central customer service personnel via web page or mini-program. Passive Call: Central customer service personnel can actively initiate a video call to the device end via the cloud.	Compliant	Qualified
51.	Payment Code Payment	Payment can be made by scanning the user's mobile phone payment code with the long-range scanner on the device, functioning normally in environments without mobile phone signal.	Compliant	Qualified
52.	Operation Log	Real-time recording of the entire process event log from device recognition to display, broadcast, and gate opening, available for viewing vehicle entry/exit processing flow at any time.	Compliant	Qualified
53.	Power Supply Voltage Adaptation Range Test	220V ±15%	Compliant	Qualified

54.	Data Security Test	When power is abnormal or lost, authorized information, device configuration information, and event record information of the system equipment shall not be lost.	Compliant	Qualified
55.	Insulation Resistance Test	Normal temperature ≥100MΩ	>500MΩ	Qualified
		Damp heat ≥5MΩ	>500MΩ	Qualified
56.	Electric Strength Test	1.5kV, 1min, no breakdown or flashover	Compliant	Qualified
57.	Leakage Current Test	≤5mA (AC, peak)	0.13mA	Qualified
58.	Protective Earthing Terminal Test	There shall be good direct connection between the protective earthing terminal of the system equipment and accessible conductive parts, with contact resistance not greater than 0.1Ω.	Compliant	Qualified
59.	Temperature Rise Test	Under normal working conditions, the shell temperature of the sample shall not exceed 65°C. After continuous operation for 4 hours, the temperature rise of internal heating components shall not exceed their specified values.	Compliant	Qualified
60.	Flame Retardance Test	Non-metallic外壳 of entrance/exit control equipment shall be flame retardant. After being burned by flame 5 times, each for 5 seconds, it shall not catch fire or ignite.	Compliant	Qualified
61.	Electrostatic Discharge Immunity Test	Conducted according to GB/T 17626.2-2006 severity level 3. No damage, malfunction, or state change shall occur during the test. Normal operation shall resume after the test.	Compliant	Qualified
62.	Electrical Fast Transient/Burst Immunity Test	Conducted according to GB/T 17626.4-2008 severity level 3. No damage, malfunction, or state change shall occur during the test. Normal operation shall resume after the test.	Compliant	Qualified
63.	Radiated, Radio-Frequency, Electromagnetic Field Immunity Test	Conducted according to GB/T 17626.3-2006 severity level 3. No damage, malfunction, or state change shall occur during the test. Communication faults are allowed at sensitive frequency points. Normal operation shall resume after the test.	Compliant	Qualified
64.	Surge (Impulse) Immunity Test	Conducted according to GB/T 17626.5-2008, severity level 3 for power ports and I/O ports, severity level 2 for communication ports. No damage, malfunction, or state change shall occur during the test. Normal operation shall	Compliant	Qualified

		resume after the test.		
65.	Voltage Dips, Short Interruptions and Voltage Variations Immunity Test	30% UT 0.5 cycle, 60% Ur 5 cycles. 95% UT 250 cycles. No damage, malfunction, or state change shall occur during the test. Normal operation shall resume after the test.	Compliant	Qualified
66.	High Temperature Test	Grade I: +70°C ±2°C; 8h	Compliant	Qualified
		Grade II: +85°C ±2°C; 8h	—	—
67.	Low Temperature Test	Grade I: -25°C ±3°C; 8h	Compliant	Qualified
		Grade II: -40°C ±3°C; 8h	Compliant	Qualified
68.	Damp Heat, Steady State Test	+40°C ±2°C; RH (93 +2 -3)%; 48h	Compliant	Qualified
69.	Salt Spray Test	Metal外壳 of entrance/exit control equipment: 35°C ±2°C; Salt solution concentration (5 ±0.1)%; Spray time: 15min spray every 45min; pH value of solution before atomization between 6.5 and 7.2; 16h	Compliant	Qualified

Sample pictures

******END OF REPORT******