



Android Control Card Y09

Product specification

Version: Ver. 2.0

Statement

Dear user friend, thanks for choosing SHENZHEN SYSOLUTION TECHNOLOGY CO.,LTD (hereinafter referred to as Sysolution Technology) as your LED advertising equipment control system. The main purpose of this document is to help you quickly understand and use the product. We strive to be precise and reliable when writing the document, and the content may be modified or changed at any time without notice.

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Update Record

No.	Version	Update	Revision date
1	Ver.1.0	Initial	2022.10.19
2	Ver.1.1	Updated interface labeling	2022.11.24
3	Ver.1.2	Update functional features	2023.02.06
4	Ver.1.3	Update interface	2023.04.28
5	Ver.1.4	Update functional features	2024.04.20
6	Ver.1.5	Update content	2024.05.21
7	Ver.1.6	Update content	2024.06.24
8	Ver.2.0	Update content	2024.08.29

Note: The document is subject to change without prior notice.

Products Introduction

Thank you for choosing our LED control card, and we sincerely hope that you will enjoy your experience with the excellent performance of this product. The LED control card is designed to be consistent with international and industry standards, but can still have potential for personal injury and property damage if not operated properly. In order to avoid possible dangers posed by the card and to benefit as much as possible from your card, please follow the relevant instructions for use in this manual when installing and operating the product.

Sysolution Y09 is an outdoor small space screen dedicated control card, performance configuration series using industrial-grade quad-core processor, running frequency 1.5GHz, memory support 1GB + 8GB (compatible with 2GB + 16GB need to be customized) LPDDR3, industrial-grade relative to commercial-grade CPU performance is generally low, but the limit of the temperature difference can be reached -40°C to 85°C , the configuration of the performance can be satisfied with the picture. The performance of this configuration can support the smooth playback of pictures, 1080P video with 2 hard decoders at the same time, flash animation, text and other content.

It can be widely used in vehicle screens, small traffic screens, community screens, light pole screens and other small belt-carrying scenarios.

Product Features:

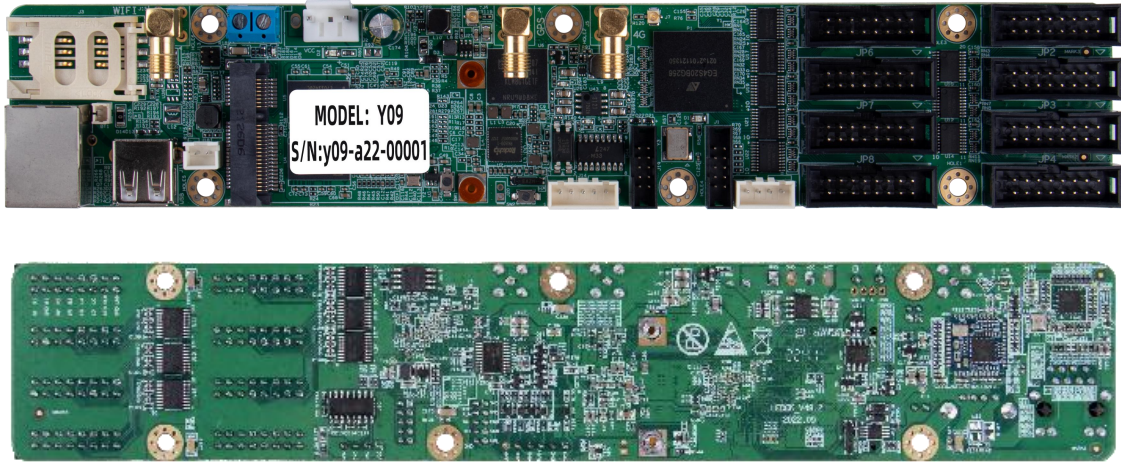
1. Stable and reliable performance. Support -40 °C to high temperature 85 °C temperature range operation, 5V-12V wide voltage, 7 * 24 hours without losing power, ≤ 0.3% failure rate
2. With eight hub75 ports, supports up to 16 groups of RGB parallel data, no need a receiver card , connect directly to the screen;
3. Supports network access through network cable, Wi-Fi or 4G. Can be controlled by cell phone, like a router for wireless network configuration;
4. The chip can support GSM, WCDMA, TD-SCDMA, EVDO, TDD-LTE, FDD-LTE and other standards.
5. Support connecting to the cloud platform to publish programs, easily realize the display of off-site cluster control;
6. The hardware design takes full consideration of the user's on-site deployment, operation and maintenance scenarios, with a simple structure that saves space for the user, reduces wiring, and makes installation easier;
7. The software and platform are designed for stable operation and efficient maintenance.
8. Painted with UV three-proof adhesive, national standard double 85 protection level, dust-proof, moisture-proof, anti-static, and anti-smoke.

Functional Features

1. Eight-port hub75 output direct output to ensure stability of picture transmission.
2. On-board RS485 interface , it is convenient for front-end equipment to control the brightness adjustment, playback screen control, power on/off and other commands for the rear display, and the external eight-element environmental sensor R68, displaying environmental information, without secondary development;
3. Support external GPS positioning and timekeeping modules to ensure synchronization of multi-screen picture playback;
4. Support optional 4G module, the module model varies from country to country, please tell us the country or area before ordering;
5. Support secondary development, support cloud platform remote cluster control, such as centralized release of the program, set the schedule on/off, volume, brightness and so on;
6. Support local web page, support PC, cell phone, Pad and other user terminals program release and display control.
7. Powerful processing performance with 4-core processor, frequency 1.5GHz, support for 1080P video hard decoding, 1GB of operating memory, 8GB of internal storage space, the user can use 4GB;
8. The user terminal connects to the WiFi hotspot that comes with the Y09, the default SSID number is "SN number" and the default password is "12345678";
9. Support GPS timing/time alignment, Support NTP accurate automatic time calibration;

10. Automatic adjustment of the display brightness, which requires a necessary brightness sensor;
11. Support broadcasting programme by way of programme lists.
12. Support USB camera.
13. Expandable amplifier module R16 (optional), direct two 30W speakers for audio playback;
14. Supporting software: AIPS 4.0 cloud publishing platform, PC-based software LedOK Express, mobile app: LedOK lite.

Product Appearance



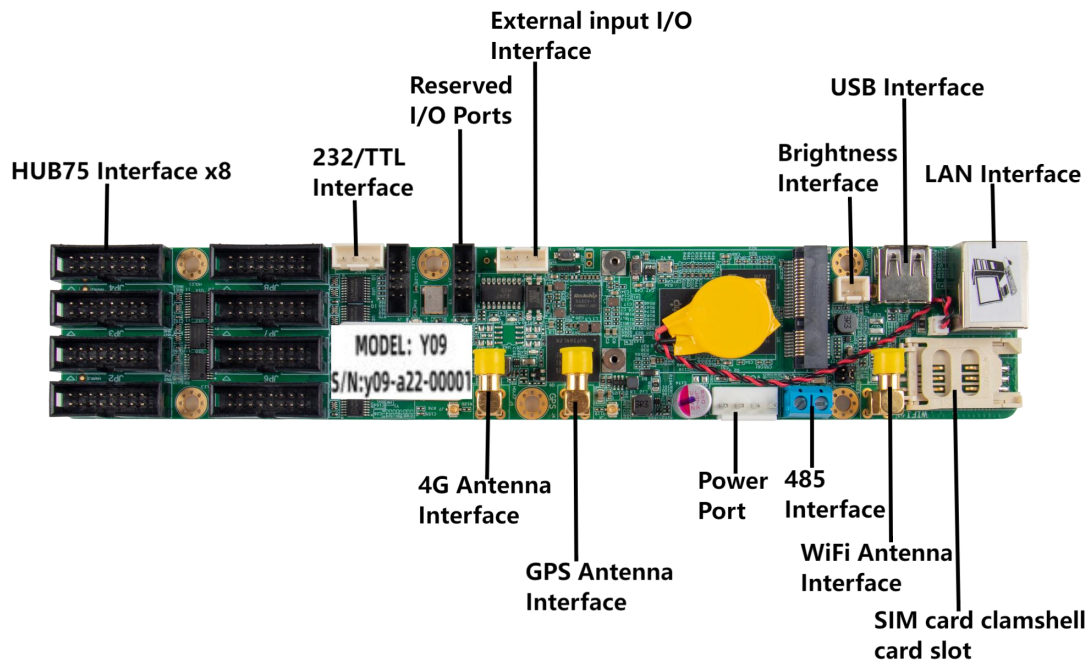
Product Parameters

Product features	Description	
Model	Main: Y09 (no 4G), Y09-CH (China 4G full network access), Y09-G (global access, recommended abroad)	
Pixel	Y09: 170,000 dots, limiting resolution 1024(W)or 1024(H), custom resolution	
Communication	Network port, WiFi, USB stick, optional 4G module	
CPU	Cortex-A35 quad-core at 1.5GH	
GPU	Mali-G31MP2 OpenGL ES3.2, Vulkan 1.0, OpenCL 2.0 Dvalin-2EE	
System memory	8GB Emmc+1GB LPDDR3	
Operating systems	Android 9	
WiFi	IEEE 802.11b/g/n 2.4G	
GPS	GNSS GPS/Beidou/Glonass	
Other interface support	1 stereo audio output. (Requires extension of an adapter card, optional) 2. 1 x USB 2.0 interface. 3. Support for importing and playing programmes from a USB stick. 4. 1 x RS485 interface, 1 x RS232, 1 x TTL serial port. Connection of brightness sensors, other sensors, and connection of other modules for corresponding functions.	
Configurat ion	LedOK Express	
Supported Bands		
Model	3G/4G bands (optional)	Certification

Y09-CH	-China (China/India) FDD-LTE: B1/3/5/8 TDD-LTE: B38/39/40/41 TDSCDMA: B34/39 WCDMA: B1/8 CDMA 1X/EVDO: BC0 GSM: B3/5/8	Mandatory certification: SRRC/ NAL/ CCC Other: WHQL
Y09-NA	-North America (North America) FDD-LTE : B2/4/5/7/12/13/17 WCDMA: B2/4/5	Carrier certification: AT&T/ T-Mobile/Rogers/ TelusVerizon/AT&T (FirstNet)/T-Mobile/U.S. Cellular/Rogers/ Telus Mandatory/conformance certification: : FCC/ IC/ PTCRB Other: WHQL
Y09-EU	-Eurasia (EMEA/Korea/Thailand/ India and other Asian countries) FDD-LTE: B1/3/5/7/8/20 TDD-LTE: B38/40/41 WCDMA: B1/5/8 GSM: B3/5/8	Carrier certification: Vodafone/Deutsche Telekom/SKT/ Telefónica Mandatory/conformance certification : GCF/ CE/ KC/ NCC/RCM/ FAC/ NBTC/ICASA Other: WHQL

Y09-LA	-Latin America (Latin America /Australia / New Zealand) FDD-LTE: B1/3/5/7/8/28 TDD-LTE: B40 WCDMA: B1/2/5/8 GSM: B2/3/5/8	Mandatory/conformance certification : GCF/ FCC/ Anatel/ NCC/RCM Other: WHQL
Y09-G	-Global (Global) FDD-LTE: B1/2/3/4/5/7/8/12/13/ 18/19/20/25/26/28 TDD-LTE: B38/39/40/41 WCDMA : B1/2/4/5/8/6/19 GSM: Quad-band	Carrier certification: Deutsche Telekom/ Verizon/ AT&T/ Sprint/U.S. Cellular/ Telus Mandatory/conformance certification: GCF/ CE/ FCC/ PTCRB/ IC/ Anatel/IFETEL/ SRRC/ NAL/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ NBTC/ IMDA/ICASA Other: WHQL
Y09-J	-Japan (Japan) FDD-LTE : B1/3/8/18/19/26 TDD-LTE: B41 WCDMA: B1/6/8/19	Carrier certification: NTT DOCOMO/SoftBank/ KDDI Mandatory/conformance certification : JATE/ TELEC Other: WHQL

Interface Definition



Type		Description
Input interface	Power connector	+12Vpower supply
	LAN port	Gigabit network input
	USB port	USB2.0 interface, support for U disk programme import and playback, Debug interface
	Brightness line interface	Optional RL2 brightness sensor
	External testing	SOS、EME、BUSY、SPA、ACC
Output Connector	485 interface	Baud rate 9600
	TTL/232 interface	Baud rate 9600 (two choices default TTL)
	GPS interface	GNSS GPS/Beidou/Glonass
	WIFI interface	IEEE 802.11b/g/n 2.4G
	4G interface	4GG module interface

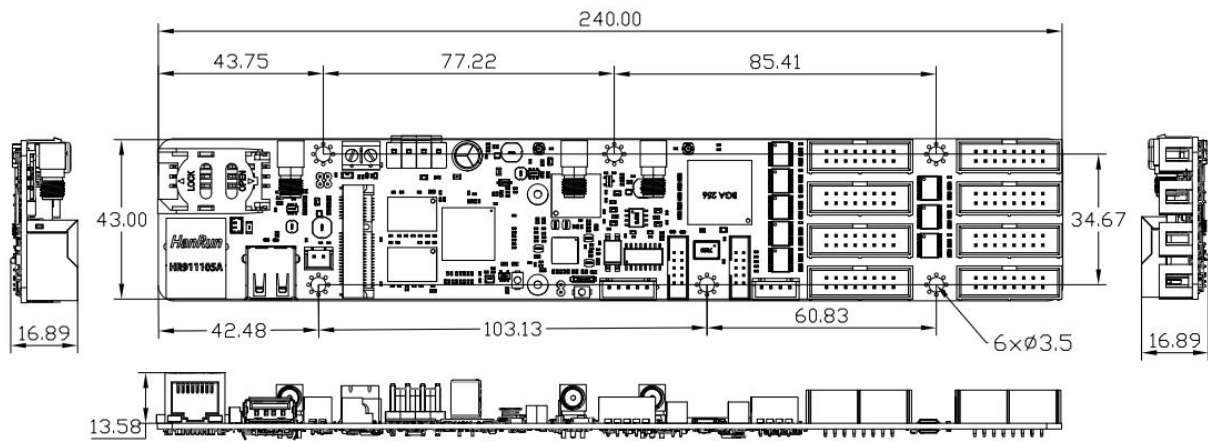
	Audio output connector	Stereo audio output External operation indicator, external reset (optional and to be specified on order)
	HUB75 interface	8 x HUB75 signal outputs
Power indicator	Red light always on	Normal
FPGA Indicator	Red slow flash	Normal operation
CPU indicator	Red slow flash	Normal operation

Working Conditions

Working parameters	
Operating voltage (V)	12V
Operating current (A)	0.9A Max: 3A
Maximum operating power consumption (W)	15
Operating temperature (°C)	- 40°C ~ + 95°C
Storage temperature (°C)	-40°C ~75°C, recommended 5°C ~35°C
Humidity of the working environment (%)	10% ~ 90%, no condensation

1. It is recommended that the control card be powered by a separate (12V/3A or higher) power supply.
2. High operating temperatures can cause a dramatic drop in power supply efficiency. If the control card and module share the same power supply, please ensure that the control card has a stable voltage and a reasonable actual current supply.

Dimensional Drawings



Unit: mm

Dimensional drawing of the bare board installation

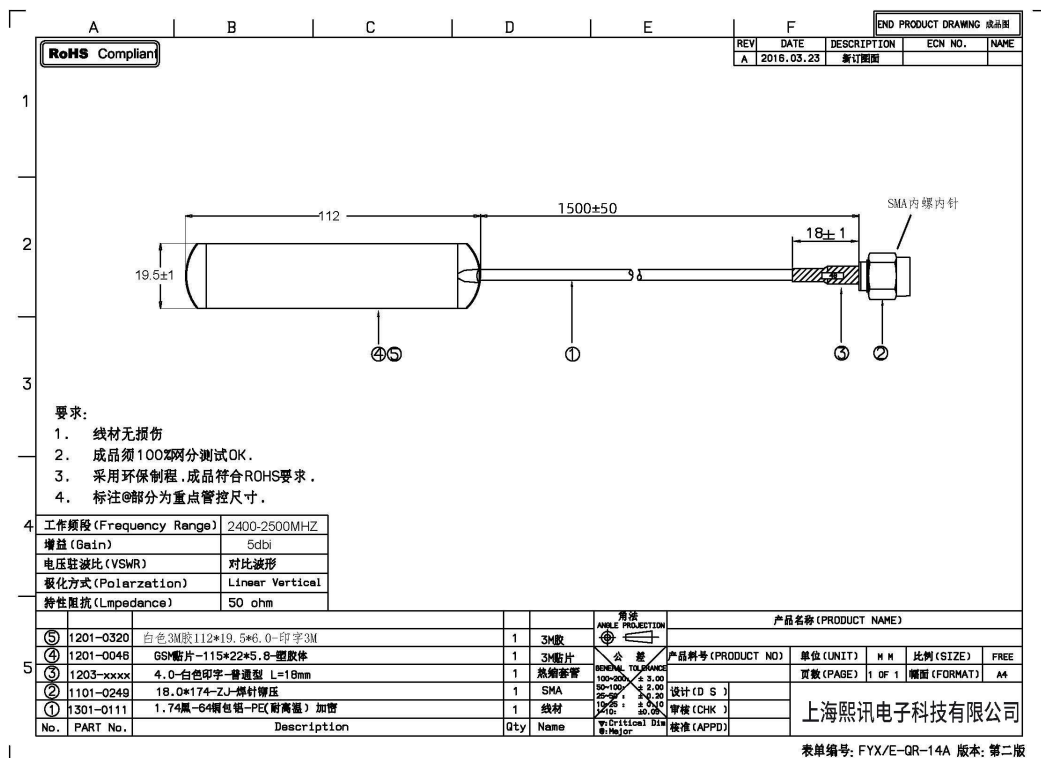
Accessories

Standard accessories	Size/quantity	
WiFi Patch Antenna	1.5m*1 (80cm patch optional)	
4G suction cup antenna (with optional 4G module)	1.5m*1 (80cm patch optional)	
Optional accessories	Accessory functions	
Humidity line RH1	For detecting the current humidity of the external environment	
Luminance line RL2	For sensing the brightness of the current environment	
8 in 1 Environmental Sensor R68 / 6 in 1	Temperature, humidity, illuminance, PM2.5, PM10, noise, wind speed, wind direction	
Power statistics RM1275	View daily electricity consumption in real time	
G10 positioning module	GPS positioning module	
R16	Amplifier Module	
Matching accessories available (optional for the above, additional models to be ordered on request)		
Packaging information	Dimensions (L x W)	255mm x150mm
	List	WiFi Patch Antenna 1.5m
Dimensions (L x W)	240mm x 43mm	
Net weight	110g	

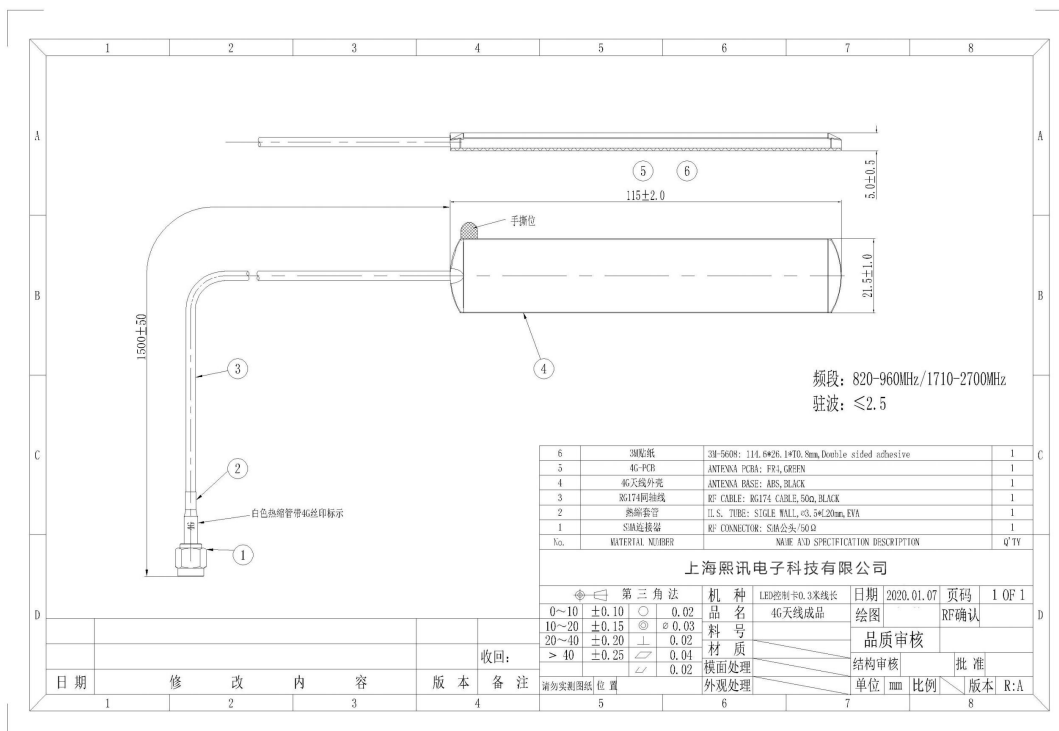
Notes:

Factory welded IoT chip, the use of Sysolution technology comes with the provision of IoT chip does not require any operator whitelisting operation, can be used directly. With self-provided IoT card needs real name system, need to add the platform related domain name, a lot of instability.

Advantages of the chip provided with: high temperature resistance, not easy to deform, stable, not easy to fall off, long time use will not be aging, reasonable tariffs, easy to recharge, after-sales service is guaranteed (such as the need for other specifications of the accessories, please place an order to explain)



WiFi Patch Antenna



4G Patch Antenna

Cautions

1. The input voltage of the power supply of this product is 12V and the voltage range is 5V ~ 12.5V. Please strictly ensure the quality of the power supply of Y09 series.
2. When connecting or disconnecting any signal or control cables, make sure all power cables are unplugged beforehand.
3. Make sure all signal and power cables are unplugged beforehand when you want to add hardware devices to or remove hardware devices from the product.
4. Before any hardware operation, please turn off the power of the control card and discharge the static electricity on your body by touching a grounded surface.
5. Please use the product in a clean, dry and ventilated environment, do not put the product into high temperature, humidity and other environments.
6. This product is an electronic product, please keep it away from fire, water and flammable, explosive dangerous goods.
7. There are high-voltage parts in this product, please do not open the case or repair the equipment by yourself.
8. If you find smoke, odor and other abnormalities, please immediately turn off the power switch and contact the dealer.