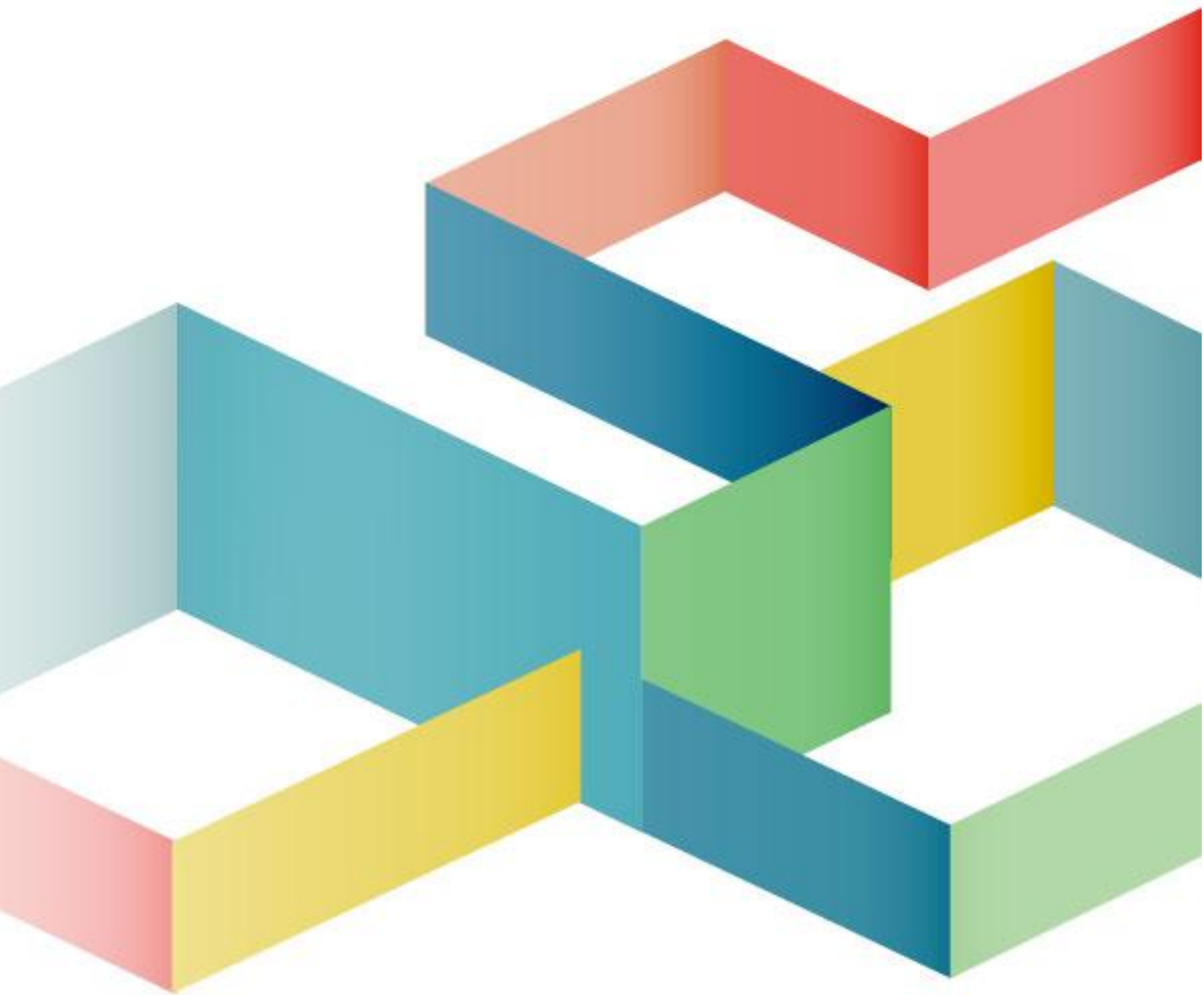


MBR16

Commercial Led Display Controller Series

Specifications V4.0



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1 Update Records

Document Version	Hardware Version	Release Time	Update Record
V4.0	MBR16 (V2.0)	July 30(th), 2025	First release

2 Product Introduction

The MBR16 asynchronous controller features a high-performance quad-core CPU + GPU chip set with an integrated transmit/receive card. It supports 16 HUB75E interfaces and can handle up to 32 sets of parallel RGB data. Capable of playing multimedia content including video, images, and text, it offers exceptional value for money.

The MBR16 is suitable for diverse commercial display applications including smart light pole displays, storefront displays, vehicle displays, transparent displays, window displays, and transportation displays, delivering significant advantages.

3 Product Characteristics

- Supports Android 7.1 system;
- Supports comprehensive program control and display management across smartphones, tablets, and PCs
- Supports cloud-based program editing and publishing, with cluster management capabilities
- Supports multi-screen synchronized playback mechanism
- Supports Ethernet interface
- Supports Wi-Fi hotspot functionality
- Low power consumption, compact size, easy installation, stable and reliable performance

4 Product Features

4.1 Features

- Supports various content types including video, images, text, weather, and clocks
- Enables multi-window playback with customizable window size, position, and layering
- Supports multiple networking methods such as LAN/WIFI
- Compatible with ANDROID/IOS system apps for usage control
- Manage content and configure settings via PC, phone, or tablet for flexible operation
- Features RS485 interface and ambient light sensor for brightness monitoring
- Manual/automatic display brightness adjustment
- Supports NTP for precise timing
- Enables multi-screen synchronized display
- Supports USB drive program updates, enabling import playback or plug-and-play functionality
- Supports playback according to scheduled playlists
- Supports remote screen power control via relay switches
- Supports cloud platform cluster management for program distribution

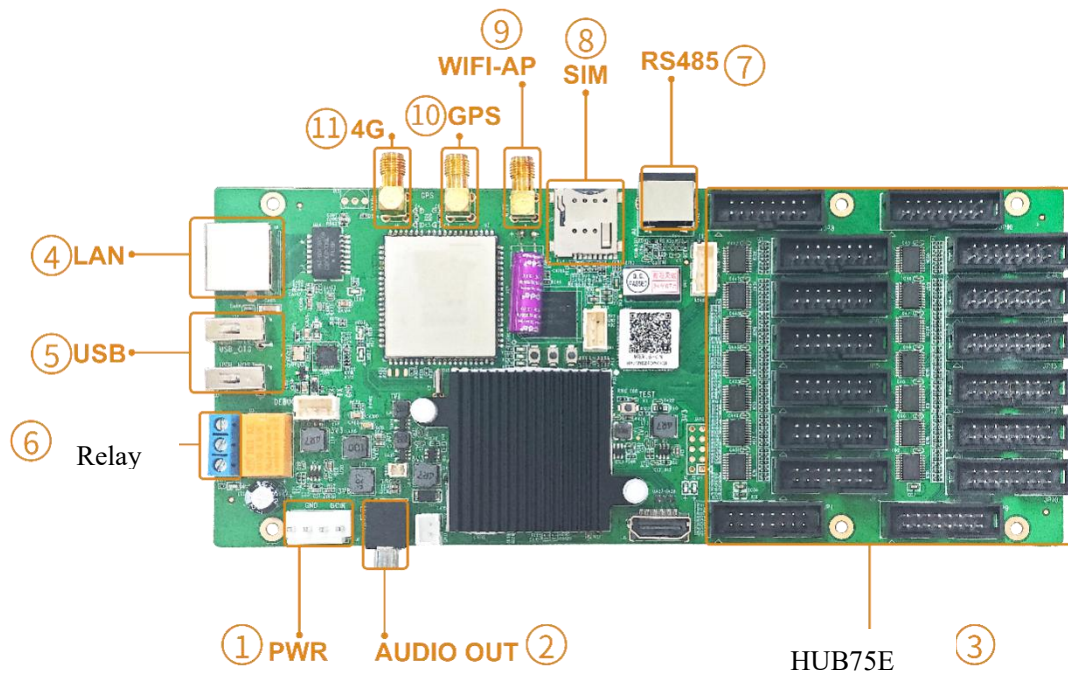
4.2 Audio and Video Features

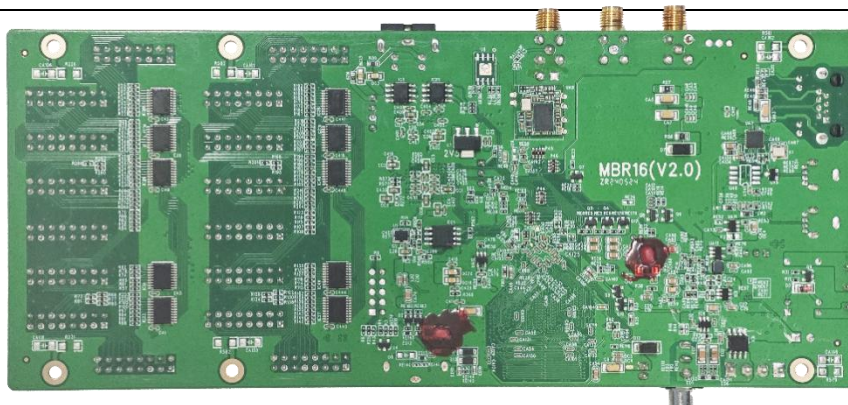
Program Sectioning	Supports arbitrary partitioning of program windows and free layering of windows
Video Format	Common video formats including MP4, MPG, MKV, 3GP, WEMB, etc.
Audio	Supports MPEG-1 Layer III, AAC, etc.
Image Format	Supports jpg, png, gif, etc.
Text Display	Single-line text, static text, multi-line text, etc.
Screen Splitting	Supports video, images, scrolling subtitles, LOGO, date/time; freely split and arrange the screen layout
OSD Support	Supports true-color OSD, displayable at any position; supports mixing video, images, and text; supports fully transparent, opaque, semi-transparent effects, etc.
RTC Clock	Supports digital clock and analog clock display

4.3 Terminal Management

Network Communication	LAN/WiFi
Program Update Methods	USB drive program import; USB plug-and-play; Program updates via terminal network or cloud platform
Device Management	Smart terminal devices including PC, Android, iOS, etc.
Wireless Control	Real-time brightness adjustment, display on/off, system parameter configuration, program playback control, wireless program transmission
Auto Brightness Adjustment	Supports screen brightness adjustment based on scheduled times or ambient light levels
Scheduled Playback	Supports playback according to program schedules
Scheduled Screen On/Off	Relay timer settings available for screen on/off
Management Software	APP supports various Android and iOS devices, with cloud platform remote management

5 Product Appearance



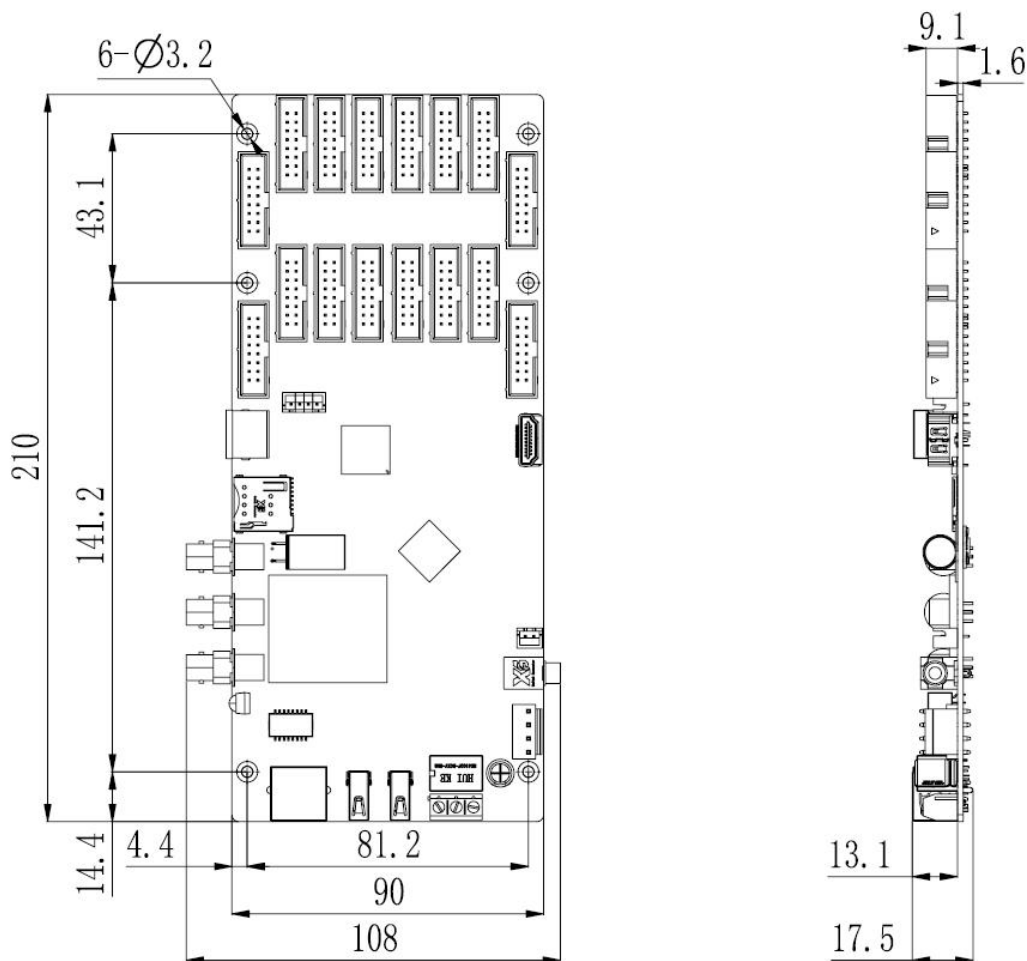


* Product photos are for reference only, please refer to the products actually purchased.

5.1 Data Interface Specification

#	Name	Interface Specifications
1	PWR	5V Power Interface, 4P-2.54MM Socket
2	AUDIO OUT	Audio Output Interface, 1/8" (3.5mm) TRS Plug
4	LAN	Ethernet Interface
5	USB	USB 2.0 x 2, supports external USB flash drives or other devices
9	WiFi-AP	WiFi AP Antenna Interface
8	SIM card slot	Supports 4G Micro SIM card, optional 4G module based on actual network conditions
7	RS485	4P-2.54MM socket, supports external brightness sensor
3	HUB75E Interface	8 HUB75E interfaces for connecting LED displays
6	3-Pin Relay Switch	DC power switch control, max voltage 30V, max current 3A
10	GPS Antenna	GPS Antenna Interface
11	4G Antenna	4G Antenna Interface

5.2 Dimension (Unit: mm)



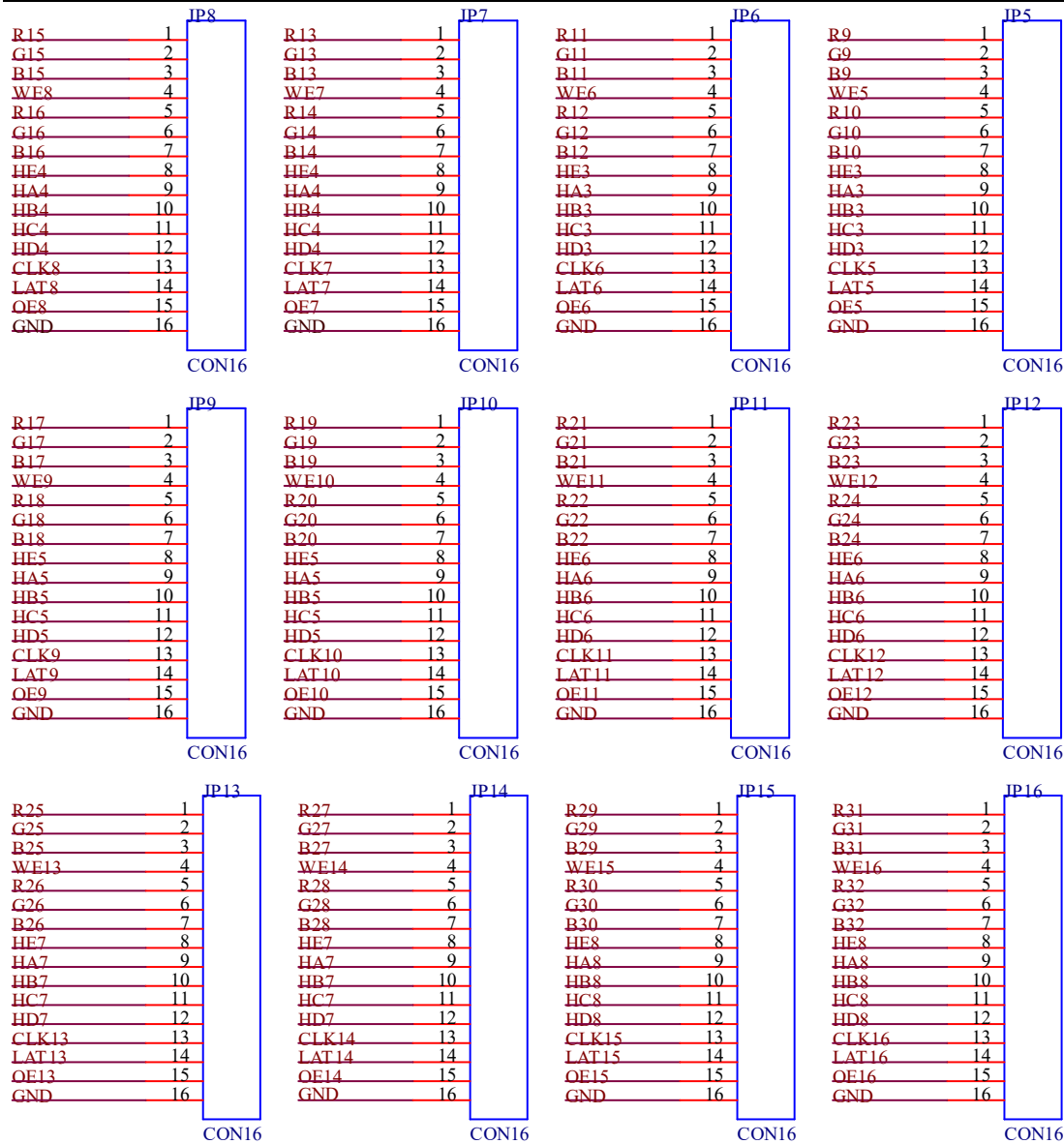
Tolerance: 0.3

Unit: mm

5.3 Output Interface Definition

32-Group Parallel Data Interface Definition

R7	1	IP4	R5	1	IP3	R3	1	IP2	R1	1	IP1
G7	2		G5	2		G3	2		G1	2	
B7	3		B5	3		B3	3		B1	3	
WE4	4		WE3	4		WE2	4		WE1	4	
R8	5		R6	5		R4	5		R2	5	
G8	6		G6	6		G4	6		G2	6	
B8	7		B6	7		B4	7		B2	7	
HE2	8		HE2	8		HE1	8		HE1	8	
HA2	9		HA2	9		HA1	9		HA1	9	
HB2	10		HB2	10		HB1	10		HB1	10	
HC2	11		HC2	11		HC1	11		HC1	11	
HD2	12		HD2	12		HD1	12		HD1	12	
CLK4	13		CLK3	13		CLK2	13		CLK1	13	
LAT4	14		LAT3	14		LAT2	14		LAT1	14	
OE4	15		OE3	15		OE2	15		OE1	15	
GND	16		GND	16		GND	16		GND	16	


JP1—JP16 Data Interface Definition

Pin	1	3	5	7	9	11	13	15
Definition	R0	B0	R1	B1	A	C	CLK	OE
Pin	2	4	6	8	10	12	14	16
Definition	G0	GND	G1	E	B	D	LAT	GND

JP12 Definition

PIN	1	2	3	4	5
Definition	GND\KEY-	KEY+	LEDR-	3V3\LED+	LEDG-

6 Product Parameters

6.1 Basic Parameters

Three-wire Parallel (RGB)	Data Interface	Drive	Maximum Load (pixels)	Brightness Correction Band Load (pixel)	Chromaticity Correction Band Load (pixel)
32 Groups	16*HUB7	Conventional	512*384	512*256	256*320
	5E	PWM	512*512	512*512	256*320
Supports scanning rows		Maximum Bandwidth		Maximum Band Height	
1-64 Sweeps		1920		1080	

6.2 Performance Parameters

Performance Parameters	Processor: Quad-core CPU + GPU Memory: 1GB DDR3 high-speed RAM Flash Storage: 8GB eMMC high-speed storage Media Playback: Supports video, image, and text playback
Network Access Method	Ethernet, WiFi AP, 4G Module

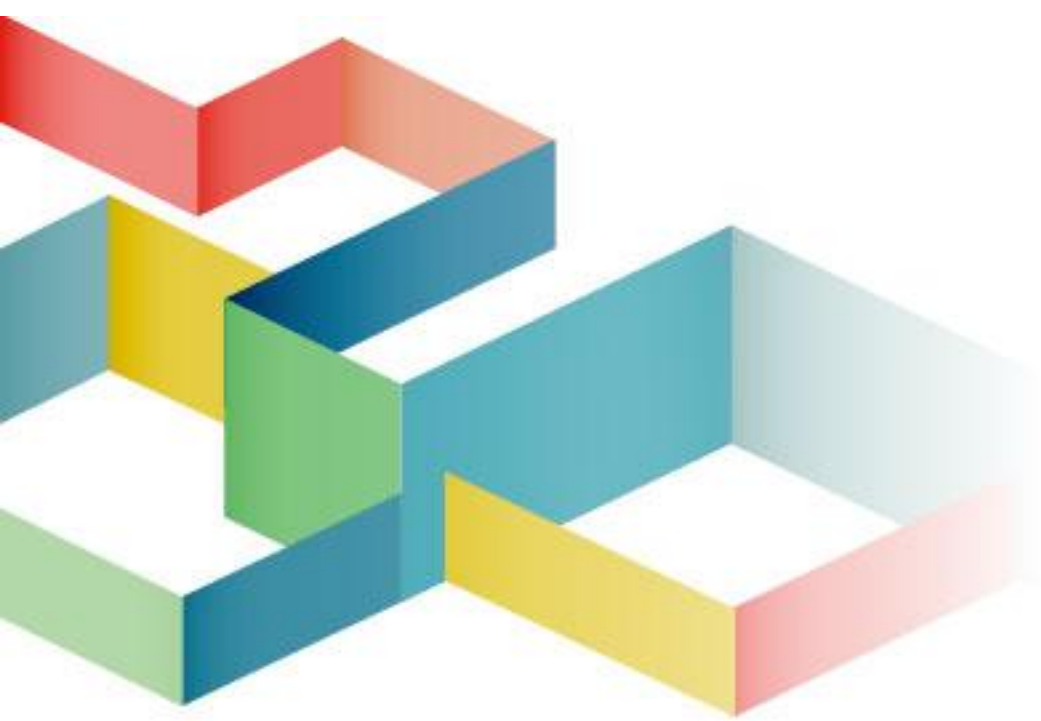
6.3 Specification Parameters

Electrical Parameters	Rated Voltage	5V
	Rated Power	10W
Operating Environment	Operating Temperature	-20°C~60°C
	Operating Humidity	0%RH~80%RH, no condensation
Storage Environment	Storage Temperature	-40°C~80°C
Packaging Information	Box + anti-static bag	
Outer Carton Dimensions	360*266*56mm	
Outer Packaging Weight	0.58kg	
Packaging Method	10 pieces/Carton 535*410*370mm	
Power Supply	Input Voltage: DC 5V/3A	
Board Dimensions	210mm X 108mm X 17.5mm	
Weight	0.186kg	
Accessory List	MBR16*1, Ethernet cable*1, 2.4G WiFi antenna*1, 4-pin power cable*1, LTE Antenna (4G) *1	

* Current and power consumption may vary according to different factors such as product usage, environment and settings.

7 Precautions

- The installation process must be completed by professionals.
- Must be antistatic.
- Please pay attention to waterproof and dust removal.



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