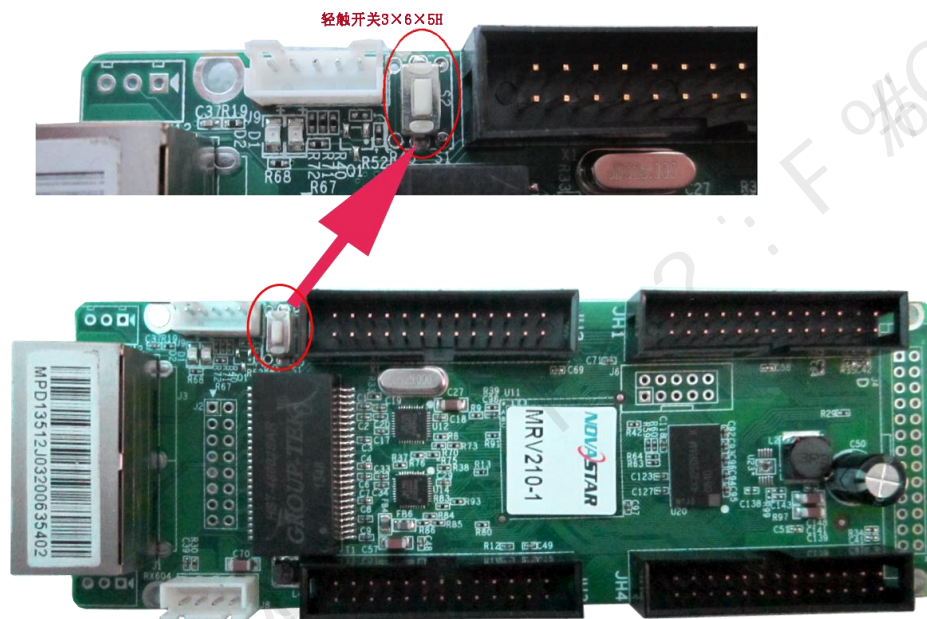


Nova M3 MRV210 Receiving Card

Specifications

V2.0.1 2014-07-14

1. Functions



MRV210 is the receiving card with 24-group data mode of Nova M3, Its characteristics as follows:

- 1) Single card outputs 16-group of RGRB 'data;
- 2) Single card outputs 20-group of RGB data;
- 3) Single card outputs 24-group of RGB data;
- 4) Single card outputs 64-group of serial data, can be expanded to 128-group;
- 5) Single card support resolution 256x220;

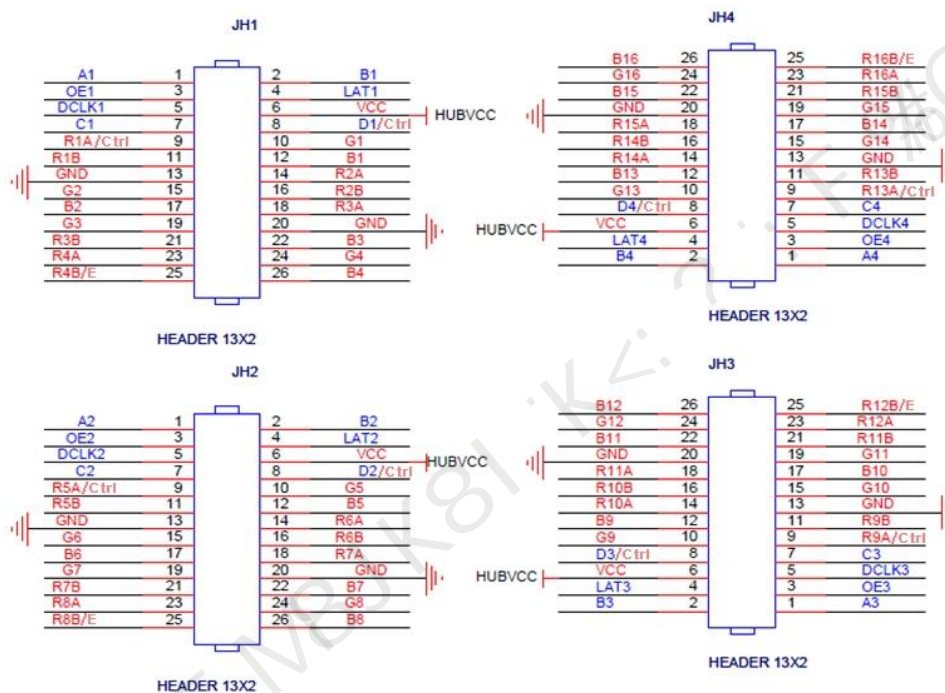
- 6) Support configuration file read back;
- 7) Support temperature monitoring;
- 8) Support Ethernet cable communication status detection;
- 9) Support power supply voltage detection;
- 10) Support high gray-scale high-refresh the high and low brightness mode refresh;
- 11) Support pixel by pixel brightness and chromaticity calibration
Brightness and chromaticity calibration coefficients for each LED;
- 12) Each of port has VCC PIN, the module can power supply to the control system;
- 13) Comply with EU CE-EMC standard.

2. Output interface definition

Under all the four different working modes of it, four 26P interfaces can output different data; interface is defined as follows:

1) 16-group data mode (With virtual output)

Support 16-group of RGBR 'parallel data, defined as follows:



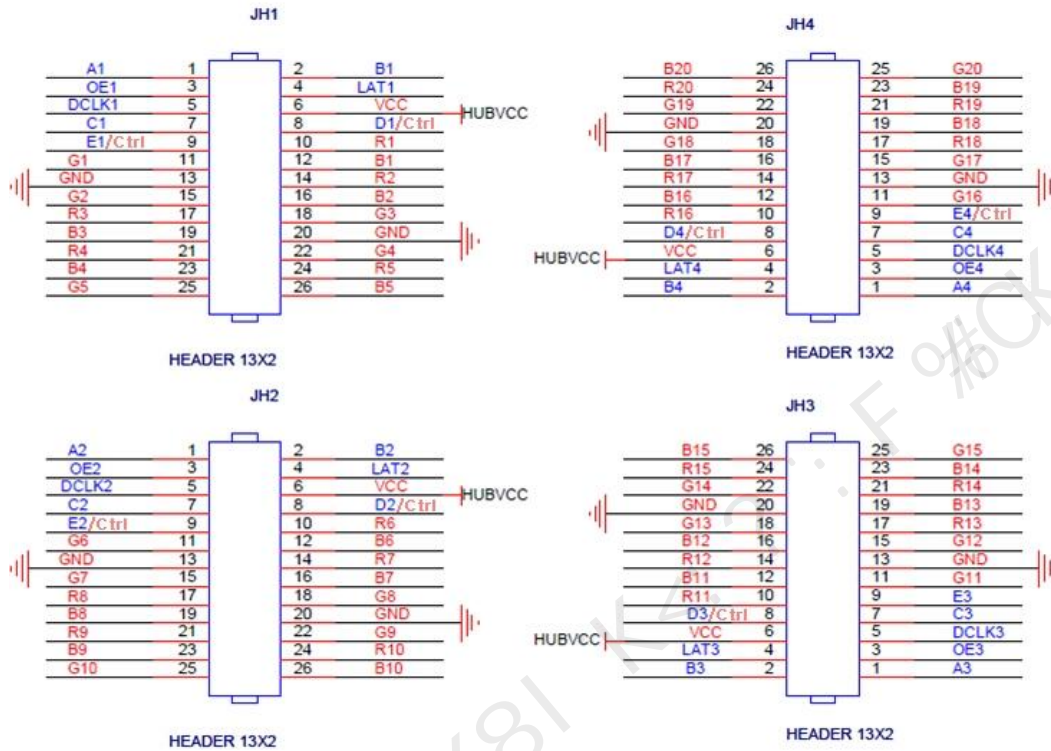
It support 1/32 scan mode in 16-group data mode, and R4B , R8B , R12B , R16B are decoding signal E.

Pin 9 is decoding signal Ctrl below 1/16 scan mode(contain 1/16 scan). Pin 8 is decoding signal Ctrl below 1/8 scan mode.

1	A	B	2
3	OE	LAT	4
5	CLK	VCC	6
7	C	D	8
9	R1a	G1	10
11	R1b	B1	12
13	GND	R2a	14
15	G2	R2b	16
17	B2	R3a	18
19	G3	GND	20
21	R3b	B3	22
23	R4a	G4	24
25	R4b	B4	26

2) 20-group data mode

Support 20 sets of parallel data, defined as follows:

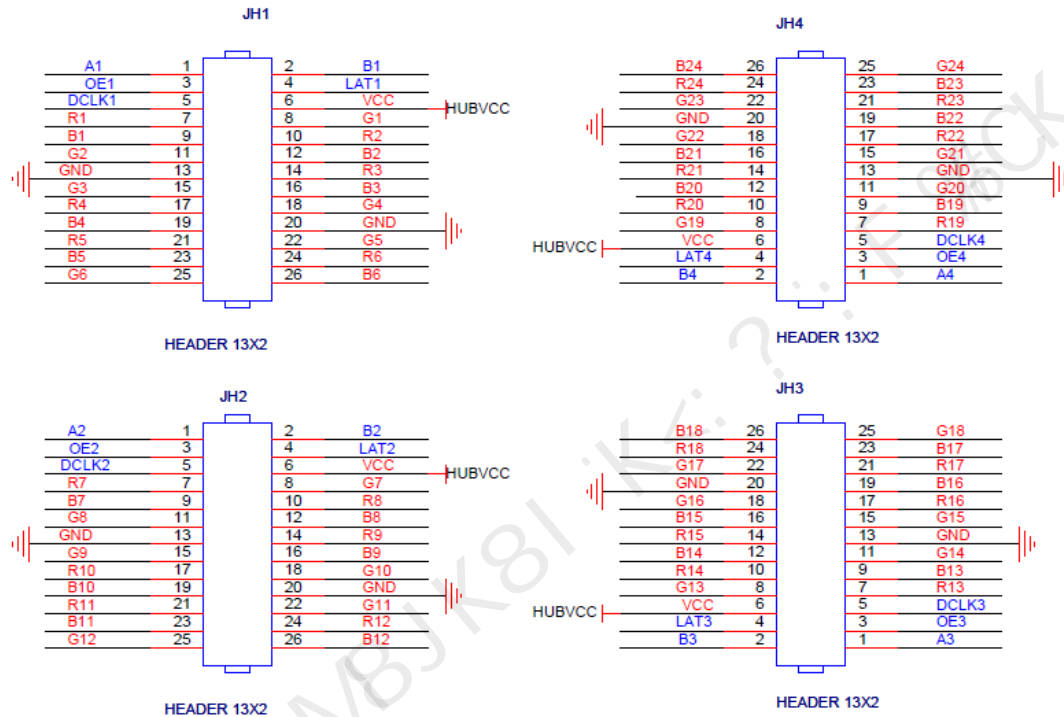


Pin 9 is decoding signal Ctrl below 1/16 scan mode(contain 1/16 scan). Pin 8 is decoding signal Ctrl below 1/8 scan mode.

1	A	B	2
3	OE	LAT	4
5	CLK	VCC	6
7	C	D	8
9	E	R1	10
11	G1	B1	12
13	GND	R2	14
15	G2	B2	16
17	R3	G3	18
19	B3	GND	20
21	R4	G4	22
23	B4	R5	24
25	G5	B5	26

3) 24-group data mode

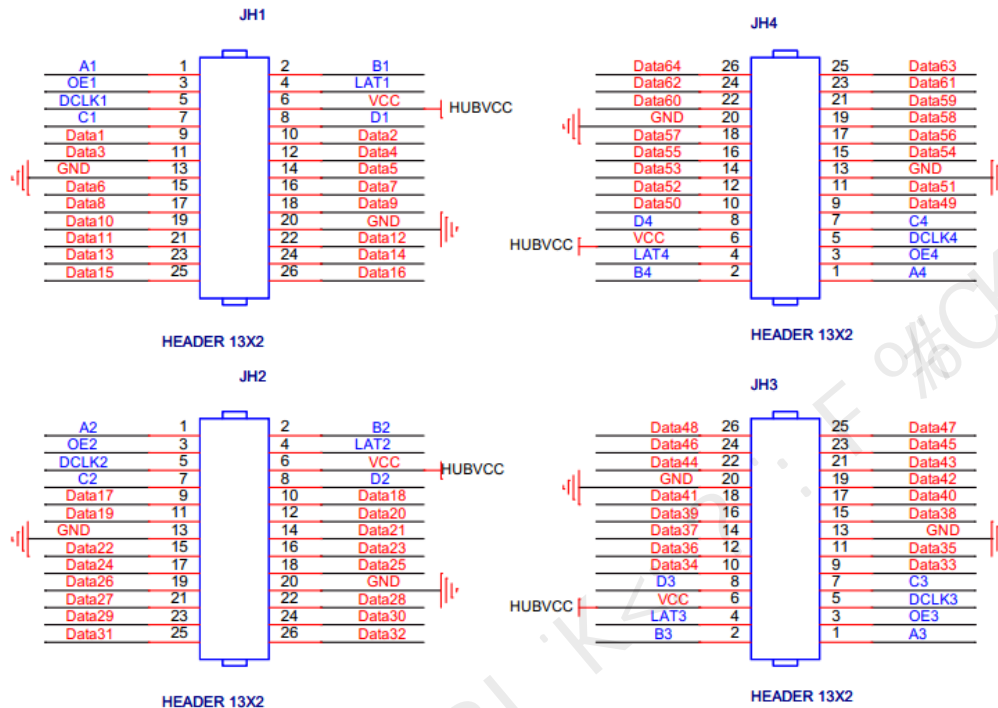
Support 24 sets of parallel data, Serial data decoding is required for scan mode above 1/4 scan (Serial data decoding circuit in the appendix), defined as follows:



1	A	B	2
3	OE	LAT	4
5	CLK	VCC	6
7	R1	G1	8
9	B1	R2	10
11	G2	B2	12
13	GND	R3	14
15	G3	B3	16
17	R4	G4	18
19	B4	GND	20
21	R5	G5	22
23	B5	R6	24
25	G6	B6	26

4) 64-group serial data mode

Support 64 sets of serial data, defined as follows:



Under serial mode, there are 64 data cables totally. Each cable can drive one LED bar independently.

In case of horizontal LED bar, the default is, Data1 drives the first row from the top, and Data64 drives the 64th row.

In case of vertical LED bar, the default is, Data1 drives the first column of from the left, and Data64 drives the 64th column.

1	A	B	2
3	OE	LAT	4
5	DCLK	VCC	6
7	C	D	8
9	Data1	Data2	10
11	Data3	Data4	12
13	GND	Data5	14
15	Data6	Data7	16
17	Data8	Data9	18
19	Data10	GND	20
21	Data11	Data12	22
23	Data13	Data14	24
25	Data15	Data16	26

3. Dimensions

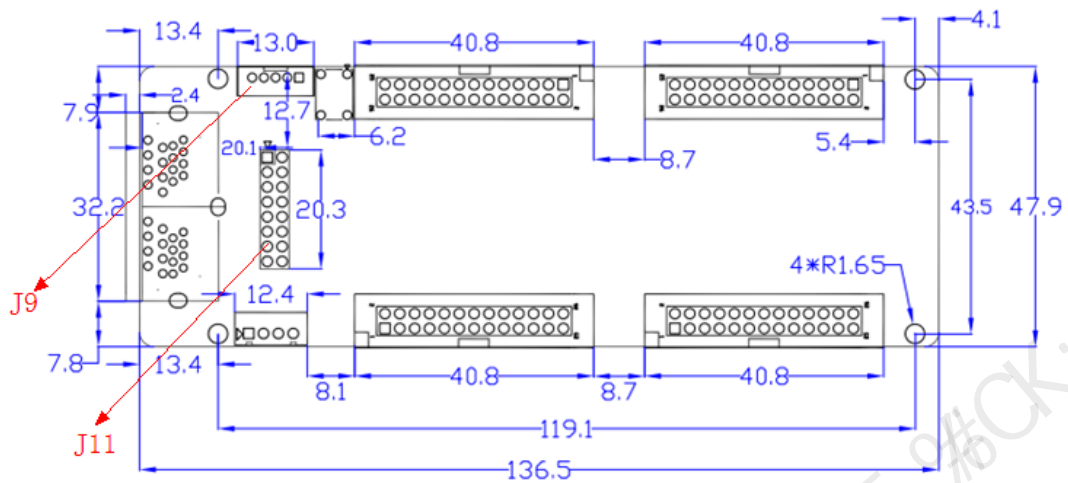


Fig. 1 MRV210 Dimensions

J11 definition (Male connector behind RJ45 port)

2	4	6	8	10	12	14	16
A0+	B0+	C0+	D0+	A0+	B0+	C0+	D0+
1	3	5	7	9	11	13	15
A0-	B0-	C0-	D0-	A0-	B0-	C0-	D0-

J9 definition (Indicator Socket)

1	2	3	4	5
STA_LED	LED +/3.3V	PWR_LED -	KEY +	KEY -/GND

4. Specific Model List

To meet the needs of different customers, Nova provides more specific models of the products, including standard products in stock, other models need to be customized;

Model	Specification
MRV210 - 1	Standard model, male connector on top
MRV210 - 2	Male connector on bottom
MRV210 - 3	Female connector on top
MRV210 - 4	Female connector on bottom

5. Working conditions

Rated voltage (V)	5.0	Maximum	5.5	Minimum	3.3
Rated current (A)	0.5	Maximum	0.6	Minimum	0.4
Rated power (W)	2.5	Maximum	3	Minimum	2
Temperature of working environment (°C)		Maximum	60.0	Minimum	-20.0
Humidity of working environment (%)		Maximum	90.0	Minimum	10.0

6. Appendix

Serial data decoding circuit :

