



# Specifications

## Receiving Card MRV270

## Overview

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Nova M3 MRV270 is one model of Nova receiving card. It has the interface of MOM(Memory On Module).

## Features

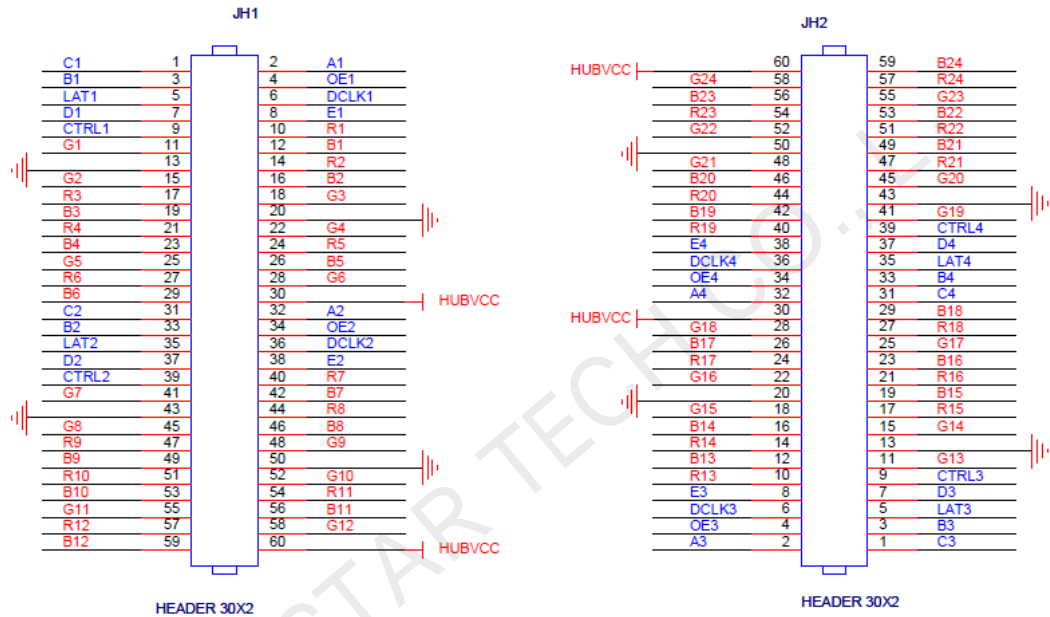
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- 1) Single card outputs 24-group of data;
- 2) Single card support resolution 256x226 ;
- 3) MOM management, MOM can store calibration coefficient and the LED module information;
- 4) Configuration file read back;
- 5) Temperature monitoring.
- 6) Ethernet cable communication status detection;
- 7) Power supply voltage detection;
- 8) High gray scale and high refresh rate;
- 9) Pixel-by-pixel brightness and chromaticity calibration.  
Brightness and chromaticity calibration coefficients for each LED;
- 10) Pre-store picture setting;
- 11) Comply with RoHS standard;
- 12) Comply with EU CE-EMC standard.

# Output Interface Definition

## 1) 24-group data mode

MRV270 supports 24-group data mode. Interfaces are defined as follows:

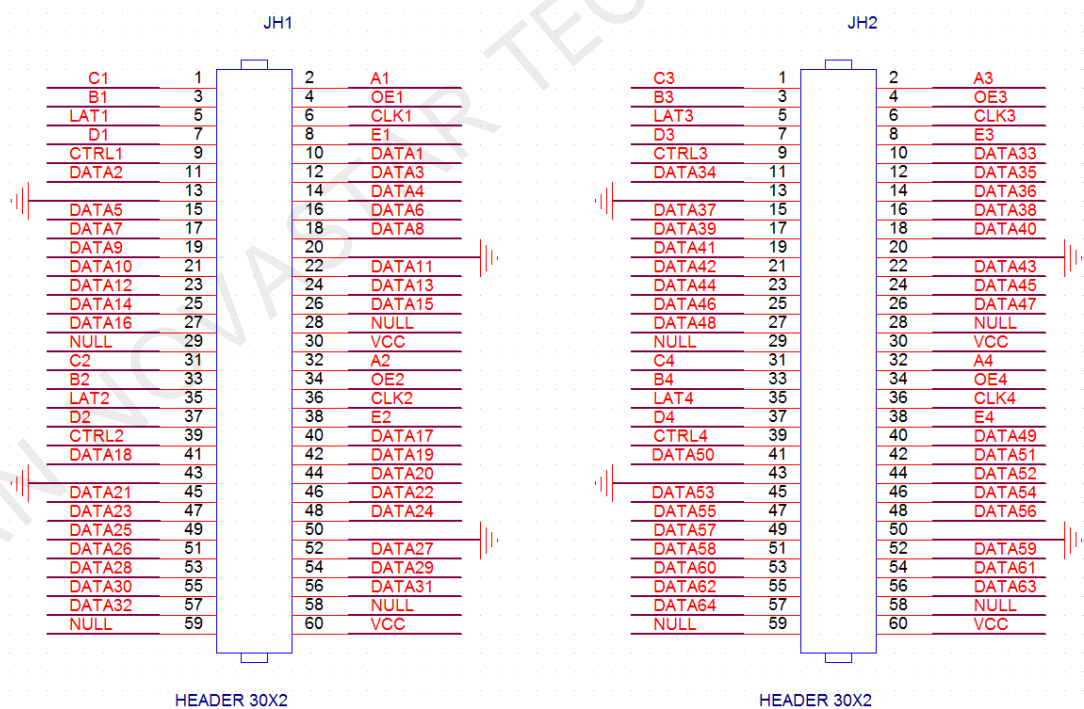


JH1				JH2			
1	C1	A1	2	1	C3	A3	2
3	B1	OE1	4	3	B3	OE3	4
5	LAT1	DCLK1	6	5	LAT3	DCLK3	6
7	D1	E1	8	7	D3	E3	8
9	CTRL1	R1	10	9	CTRL3	R13	10
11	G1	B1	12	11	G13	B13	12
13	GND	R2	14	13	GND	R14	14
15	G2	B2	16	15	G14	B14	16
17	R3	G3	18	17	R15	G15	18
19	B3	GND	20	19	B15	GND	20
21	R4	G4	22	21	R16	G16	22
23	B4	R5	24	23	B16	R17	24
25	G5	B5	26	25	G17	B17	26
27	R6	G6	28	27	R18	G18	28
29	B6	VCC	30	29	B18	VCC	30
31	C2	A2	32	31	C4	A4	32
33	B2	OE2	34	33	B4	OE4	34
35	LAT2	DCLK2	36	35	LAT4	DCLK4	36

37	D2	E2	38	37	D4	E4	38
39	CTRL2	R7	40	39	CTRL4	R19	40
41	G7	B7	42	41	G19	B19	42
43	GND	R8	44	43	GND	R20	44
45	G8	B8	46	45	G20	B20	46
47	R9	G9	48	47	R21	G21	48
49	B9	GND	50	49	B21	GND	50
51	R10	G10	52	51	R22	G22	52
53	B10	R11	54	53	B22	R23	54
55	G11	B11	56	55	G23	B23	56
57	R12	G12	58	57	R24	G24	58
59	B12	VCC	60	59	B24	VCC	60

## 2) 64-group serial data mode

MRV270 supports 64 sets of serial data, defined as follows:

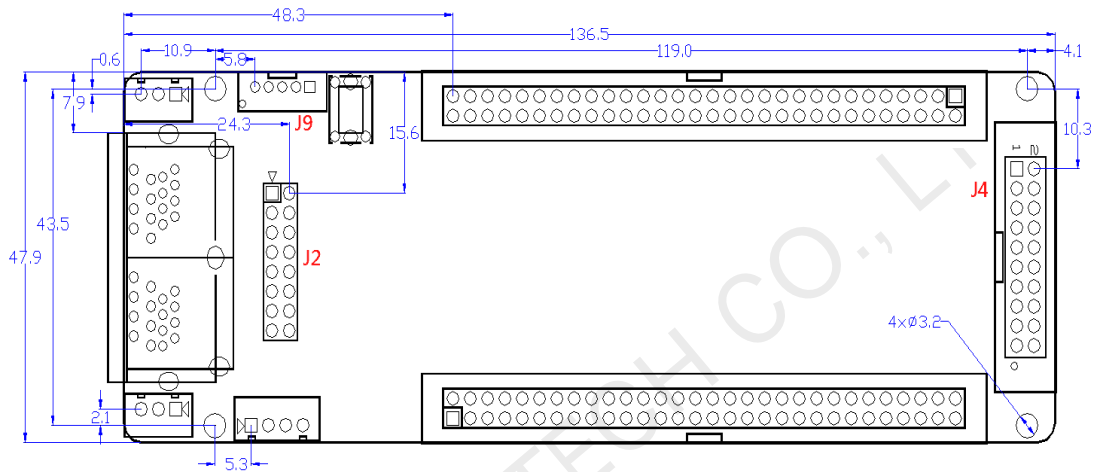


JH1				JH2			
1	C1	A1	2	1	C3	A3	2
3	B1	OE1	4	3	B3	OE3	4
5	LAT1	CLK1	6	5	LAT3	CLK3	6
7	D1	E1	8	7	D3	E3	8
9	CTRL1	DATA1	10	9	CTRL3	DATA33	10
11	DATA2	DATA3	12	11	DATA34	DATA35	12
13	GND	DATA4	14	13	GND	DATA36	14

15	DATA5	DATA6	16	15	DATA37	DATA38	16
17	DATA7	DATA8	18	17	DATA39	DATA40	18
19	DATA9	GND	20	19	DATA41	GND	20
21	DATA10	DATA11	22	21	DATA42	DATA43	22
23	DATA12	DATA13	24	23	DATA44	DATA45	24
25	DATA14	DATA15	26	25	DATA46	DATA47	26
27	DATA16	NULL	28	27	DATA48	NULL	28
29	NULL	VCC	30	29	NULL	VCC	30
31	C2	A2	32	31	C4	A4	32
33	B2	OE2	34	33	B4	OE4	34
35	LAT2	CLK2	36	35	LAT4	CLK4	36
37	D2	E2	38	37	D4	E4	38
39	CTRL2	DATA17	40	39	CTRL4	DATA49	40
41	DATA18	DATA19	42	41	DATA50	DATA51	42
43	GND	DATA20	44	43	GND	DATA52	44
45	DATA21	DATA22	46	45	DATA53	DATA54	46
47	DATA23	DATA24	48	47	DATA55	DATA56	48
49	DATA25	GND	50	49	DATA57	GND	50
51	DATA26	DATA27	52	51	DATA58	DATA59	52
53	DATA28	DATA29	54	53	DATA60	DATA61	54
55	DATA30	DATA31	56	55	DATA62	DATA63	56
57	DATA32	NULL	58	57	DATA64	NULL	58
59	NULL	VCC	60	59	NULL	VCC	60

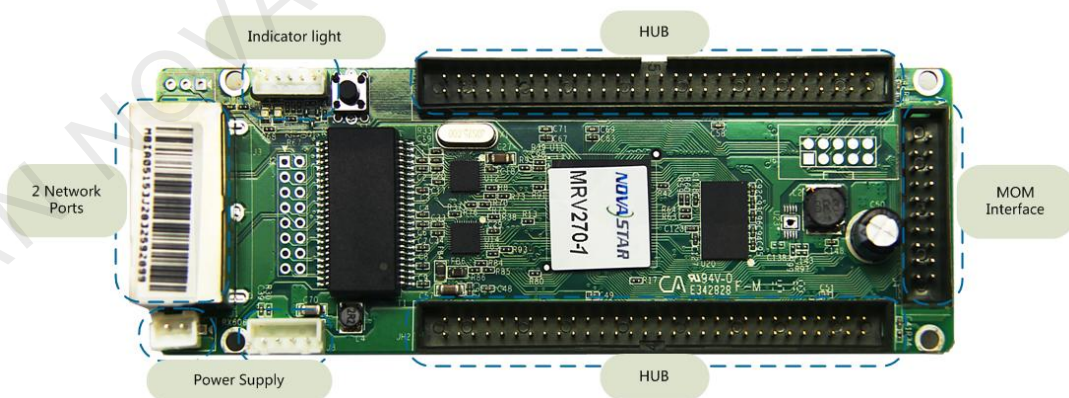
## Dimensions

Thickness of the board is about 2mm. The overall thickness (board thickness + thickness of the components on front and back side) is about 18mm.



Unit: mm.

## Appearance



**Note:** Pictures used in this manual are **A** version of the board card. The functions of different versions are basically the same. There are only a few small differences in their appearance.

J2 definition ( Connector interface of the network ports )

2	4	6	8	10	12	14	16	18	20
A0+	A1+	A2+	A3+	B0+	B1+	B2+	B3+	GND	VCC
1	3	5	7	9	11	13	15	17	19
A0-	A1-	A2-	A3-	B0-	B1-	B2-	B3-	GND	VCC

J9 definition ( Indicator light Socket )

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

J4 ( MOM Interface ) :

GND	1	2	SPI_CS
SPI_CLK	3	4	SPI_MOSI
CODE0	5	6	H164_CSD
CODE1	7	8	H164_CLK
CODE2	9	10	
	11	12	CODE3
CODE4	13	14	
	15	16	SPI_MISO
	17	18	
	19	20	GND

## Specifications

	MIN	TYP	MAX	UNIT
Rated voltage	3.3	5.0	5.5	V
Rated current	0.33	0.50	0.55	A
Temperature of working environment	-20.0~70.0			°C
Humidity of working environment	10.0~90.0			%

## Specific Model List

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To meet the needs of different customers, Nova has provided more specific models of the products, including standard products in stock.

Other models need to be customized.

Model	Specification
MRV270 - 1	Standard model, male connector on top
MRV270 - 2	Male connector on bottom
MRV270 - 3	Female connector on top
MRV270 - 4	Female connector on bottom



# Appendix

Serial data decoding circuit :

