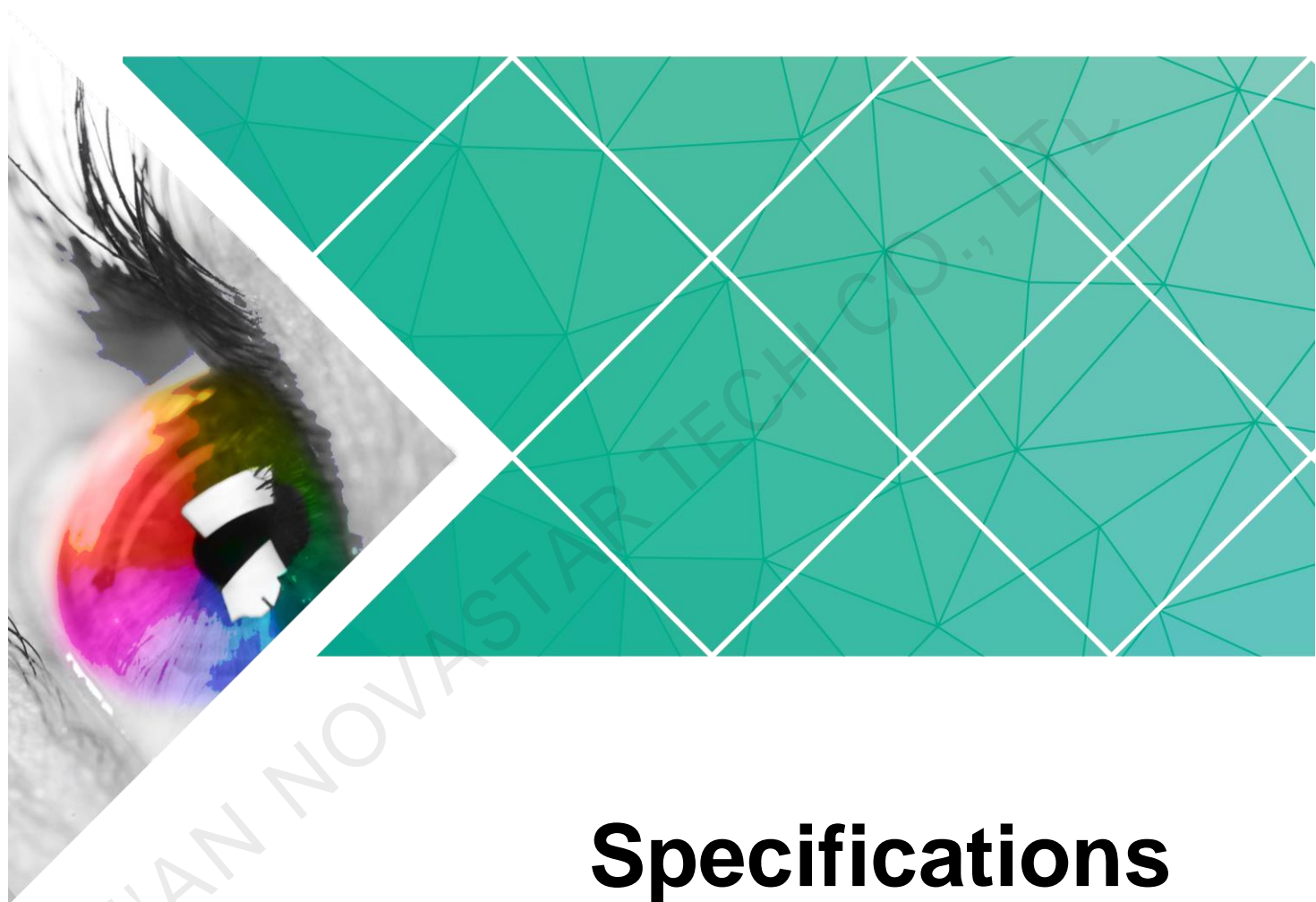


Receiving Card

MRV481-1



Specifications

Document Version: V1.1.0

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Change History

Version	Release Date	Description
V1.1.0	2018-05-07	Updated pictures and document style.

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1 Safety

This chapter illustrates safety of the MRV481-1 receiving card to ensure the product's storage, transport, installation and use safety. Safety instructions are applicable to all personnel who contact or use the product. First of all, pay attention to following points.

- Read through the instructions.
- Retain all instructions.
- Comply with all instructions.

Storage and Transport Safety

- Pay attention to dust and water prevention.
- Avoid long-term direct sunlight.
- Do not place the product at a position near fire and heat.
- Do not place the product in an area containing explosive materials.
- Do not place the product in a strong electromagnetic environment.
- Place the product at a stable position to prevent damage or personal injury caused by dropping.
- Save the packing box and materials which will come in handy if you ever have to store and ship the product. For maximum protection during storage and shipping, repack the product as it was originally packed at the factory.

Installation and Use Safety

- Only trained professionals may install the product.
- Plugging and unplugging operations are prohibited when the power is on.
- Ensure safe grounding of the product.
- Always wear a wrist band and insulating gloves.
- Do not place the product in an area having frequent or strong shake.
- Perform dust removing regularly.
- Contact NovaStar for maintenance at any time, rather than have the product disassembled and maintained by non-professionals without authorization.
- Replace faulty parts only with the spare parts supplied by NovaStar.

2 Overview

The MRV481-1 is a new receiving card developed by NovaStar. A single MRV481-1 loads up to 256×360 pixels.

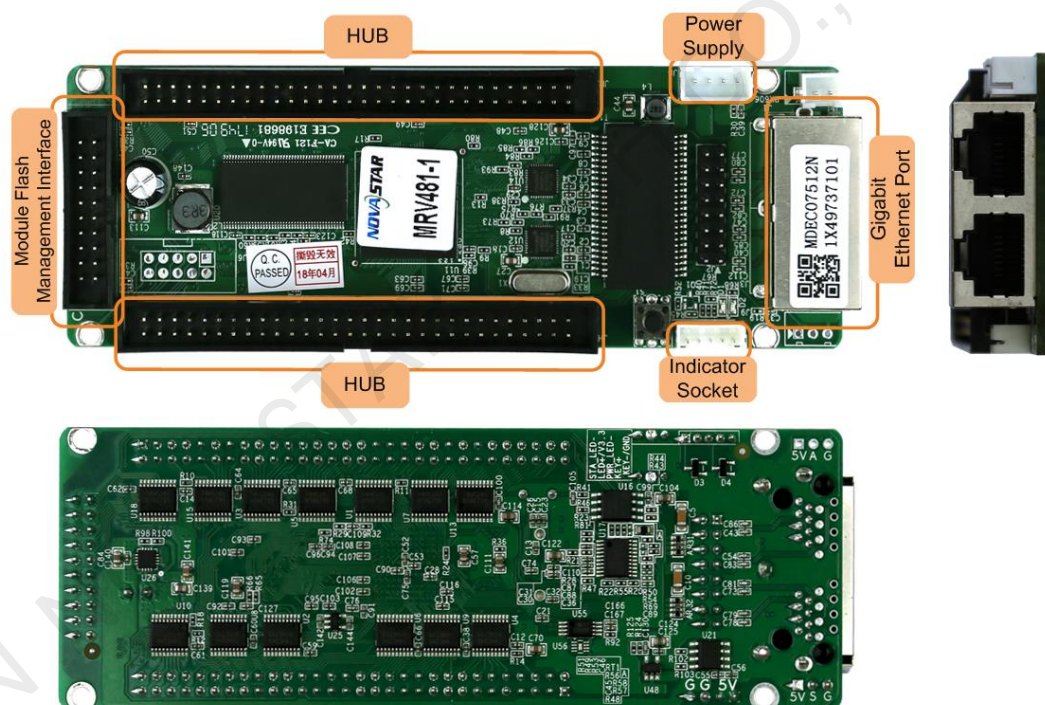
The MRV481-1 supports pixel level brightness and chroma calibration, which effectively removes color difference, greatly improves display consistency of LED images, and presents finer displays to users.

3 Features

- Outputs 24 groups of RGB parallel data per receiving card.
- Supports 1/32 scan.
- Supports pixel level brightness and chroma calibration.
- Supports setting of images pre-stored in the receiving card.
- Supports detection of temperature, voltage, Ethernet cable communication status and video source signals status.
- Supports management of module flash which stores calibration coefficients and module information.
- Supports readback of configuration files.

4 Hardware Structure

4.1 Appearance



Pictures shown in this document are for illustration purpose only. Actual product may differ.

Definition of J4 (module flash management 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

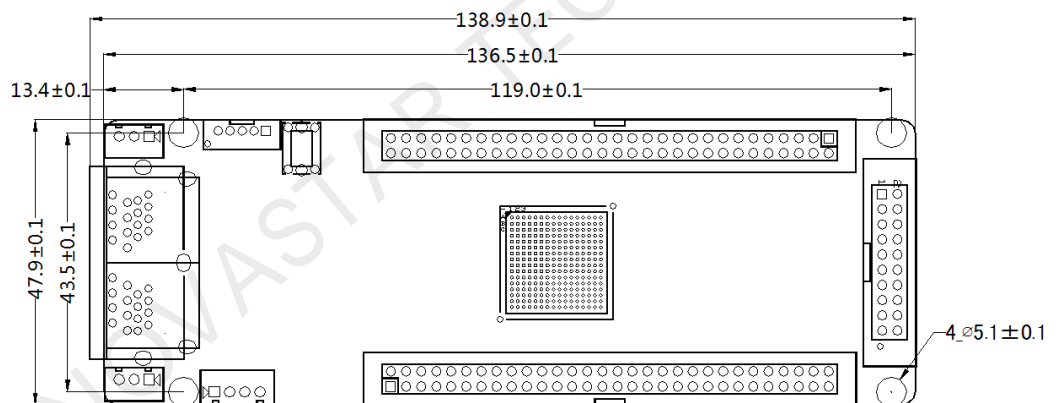
Definition of J9 (indicator socket):

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

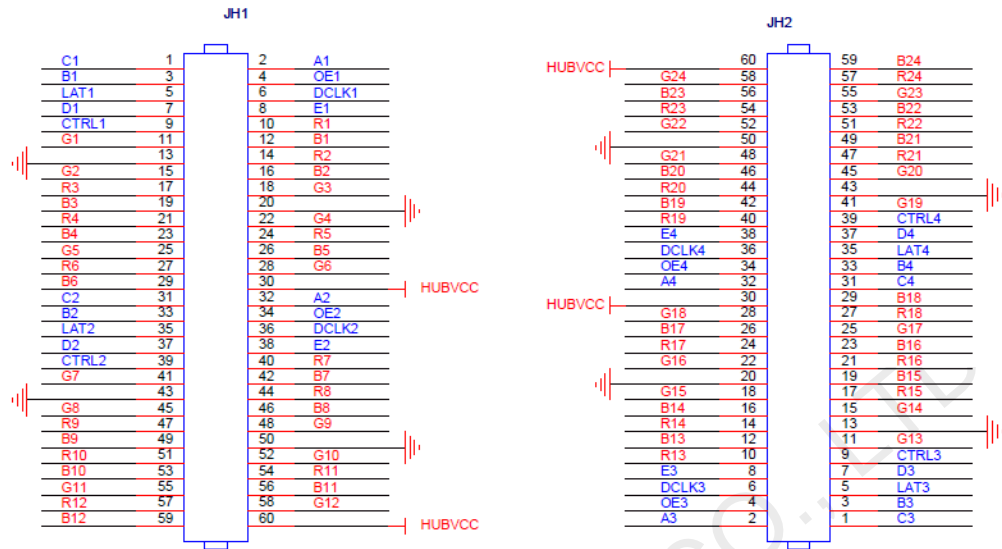
4.2 Dimensions

The board thickness is not greater than 2.0 mm, and the total thickness (board thickness + thickness of components on front and rear panels) is not greater than 17.5 mm.

The unit of dimension chart is “mm”. The location holes are connected to signal grounds (GND).



4.3 Definition of Data Interface



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

5 Specifications

Input Voltage	DC 3.3 V–5.5 V
Rated Current	0.5 A
Rated Power Consumption	2.5 W
Operating Temperature	-20°C–70°C
Storage Temperature	-25°C–125°C
Operating Humidity	10% RH–90% RH
Dimensions	138.9 mm × 47.9 mm × 17.0 mm
Net Weight	59.2 g