NEWHAVEN DISPLAY INTERNATIONAL

Product Specification

NHD-3.5-HDMI-HR-RSXP-CTU

TFT Liquid Crystal Display

NHD-	Newhaven Display
3.5-	3.5" Diagonal
HDMI-	HDMI Interface
HR-	640x480 Resolution
RSXP-	IPS Display
CTU-	Capacitive USB-HID Touch

Newhaven Display International, Inc.
2661 Galvin Court, Elgin, IL 60124 USA

Ph: 847.844.8795 | Fx: 847.844.8796
www.newhavendisplay.com

REACH Compliant

RoHS Compliant

NEWHAVEN DISPLAY INTERNATIONAL

Table of Contents

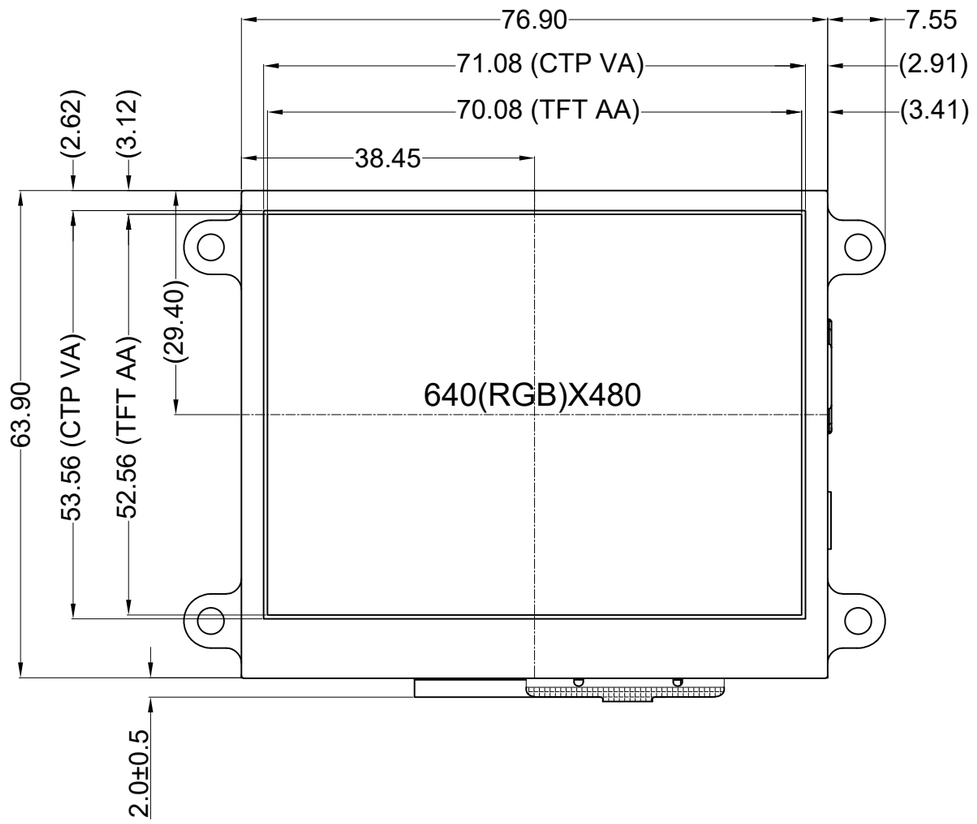
Additional Resources

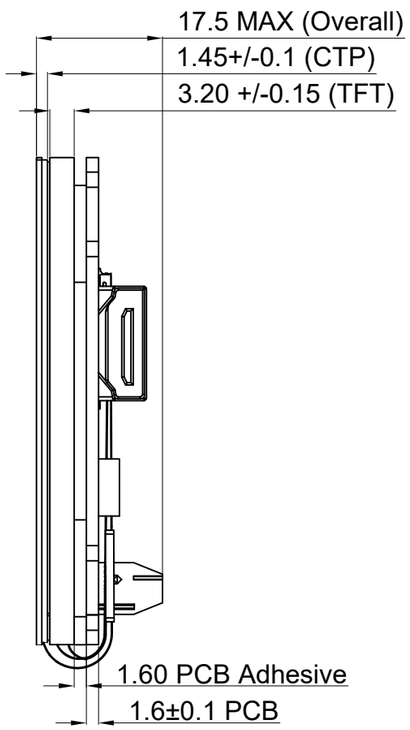
- **Support Forum:** https://support.newhavendisplay.com/hc/en-us/community/topics
- **GitHub:** https://github.com/newhavendisplay
- **Example Code:** https://support.newhavendisplay.com/hc/en-us/categories/4409527834135-Example-Code/
- **Knowledge Center:** https://www.newhavendisplay.com/knowledge_center.html
- **Quality Center:** https://www.newhavendisplay.com/quality_center.html
- **Precautions for using LCDs/LCMs:** https://www.newhavendisplay.com/specs/precautions.pdf
- **Warranty / Terms & Conditions:** https://www.newhavendisplay.com/terms.html

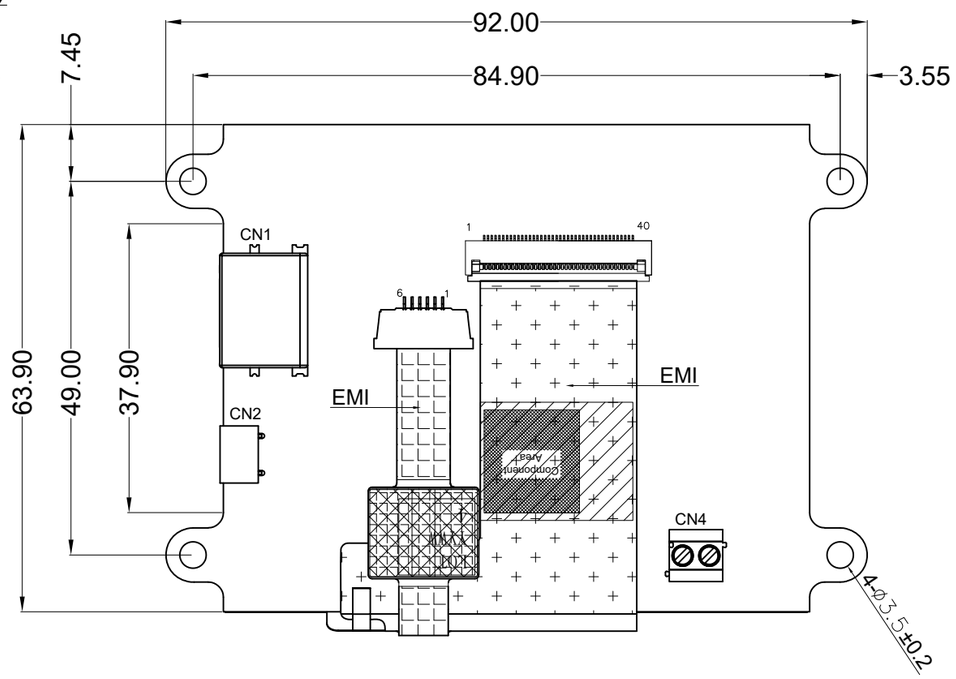
Document Revision History

Revision	Date	Description	Changed By
-	05/21/2025	Initial Release	KL

Mechanical Drawing







Product Description: 3.5” 640x480 IPS TFT w/ Capacitive Touch

1. Driver IC: LT6911C
2. Interface: HDMI, USB
3. Power Requirement: 5.0V
4. Optical Features: Normally Black, Transmissive, 810cd/m²
5. Built-in EMI Shielding

Standard Tolerance: (Unless otherwise specified) Linear: ±0.3mm	NEWHAVEN DISPLAY INTERNATIONAL	
	Drawing/Part Number: NHD-3.5-HDMI-HR-RSXP-CTU	Revision: -
Unless otherwise specified: • Dimensions are in Millimeters • Third Angle Projection	Drawn By: K. Lewis	Approved By: K. Lewis
	Drawn Date: 05/21/2025	Approved Date: 05/21/2025

This drawing is solely the property of Newhaven Display International, Inc. The information it contains is not to be disclosed, reproduced or copied in whole or part without written approval from Newhaven Display.

Electrical Characteristics

Item	Symbol	Condition	Min.	Typical	Max.	Unit
Operating Temperature Range	T_{OP}	Absolute Max	-20	-	+70	°C
Storage Temperature Range	T_{ST}	Absolute Max	-30	-	+80	°C
Backlight PWM Voltage	V_{PWM}	-	2.5	3.3	5.5	V
Backlight PWM Frequency	f_{PWM}	V_{PWM} = 3.3V	5	-	100	kHz
Module Supply Voltage	V_{DD}	-	4.5V	5	5.5	V
Module Supply Current	I_{DD}	V_{DD} = 5.0V	-	490	650	mA

HDMI to MIPI Bridge IC Information

To view the full LT6911C specification, please download it by accessing the link:
https://support.newhavendisplay.com/hc/en-us/articles/29830212424215-LT6911C

Technical Resource

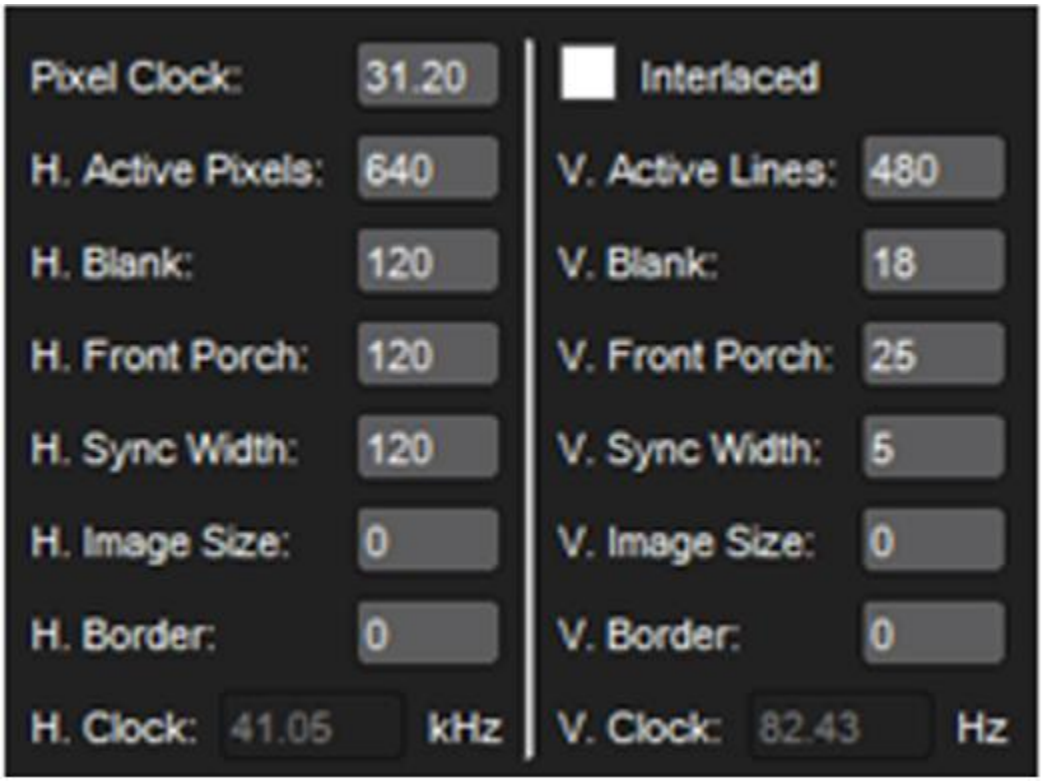
3D Model	TFT Panel Used	Display Type	Luminance Rating	Optimal Viewing Angle	Touch Panel
NHD-3.5-HDMI-HR-RSXP-CTU	NHD-3.5-640480EF-MSXP-CTP	IPS, Sunlight Readable	810cd/m²	85° all angles	PCAP (USB-HID)

EDID Array

```
Const unsigned char NHD_HDMI3.5[] = {

00, FF, FF, FF, FF, FF, FF, 00, 32, 8D, 00, 00, 00, 00, 00, 00,
24, 1F, 01, 03, 80, 00, 00, 78, 0A, 0D, C9, A0, 57, 47, 98, 27,
12, 48, 4C, 00, 00, 00, 01, 01, 01, 01, 01, 01, 01, 01, 01, 01,
01, 01, 01, 01, 01, 01, 3A, 0C, 80, 68, 21, E0, 30, 10, 78, 78,
95, 04, 80, E0, 21, 00, 00, 1E, 00, 00, 00, 00, 00, 00, 00, 00,
00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00,
00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, 00, FC,
00, 36, 39, 31, 31, 43, 0A, 20, 20, 20, 20, 20, 20, 20, 00, E4
```

EDID Timing



Quality Information

Test Item	Content of Test	Test Condition	Note
High Temperature storage	Endurance test applying the high storage temperature for a long time.	+80°C, 96 hrs.	2
Low Temperature storage	Endurance test applying the low storage temperature for a long time.	-30°C, 96 hrs.	1,2
High Temperature Operation	Endurance test applying the electric stress (voltage & current) and the high thermal stress for a long time.	+70°C, 96 hrs.	2
Low Temperature Operation	Endurance test applying the electric stress (voltage & current) and the low thermal stress for a long time.	-20°C, 96 hrs.	1,2
High Temperature / Humidity Operation	Endurance test applying the electric stress (voltage & current) and the high thermal with high humidity stress for a long time.	+60°C, 90% RH, 96 hrs.	1,2
Thermal Shock resistance	Endurance test applying the electric stress (voltage & current) during a cycle of low and high thermal stress.	-20°C, 30min->25°C, 5min -> 70°C, 30min = 1 Cycle 10 cycles	
Vibration test	Endurance test applying vibration to simulate transportation and use.	10-55Hz, 15mm amplitude. 60 sec in each of 3 directions X,Y,Z For 15 minutes	3
Static electricity test	Endurance test applying electric static discharge.	Air: V_S=±8KV, Contact: V_S=±4KV 10 Times	

Note 1: No condensation to be observed.
Note 2: Conducted after 4 hours of storage at 25°C, 0%RH.
Note 3: Test performed on product itself, not inside a container.