

# Product Transition Guide

TN (OLD): NHD-5.0-800480TF-Axxx | IPS (NEW): NHD-5.0-800480AF-ASXP

The new 5.0" IPS TFT display has been designed with a similar mechanical footprint and pinout as the older TN display. This makes the IPS display compatible with controller boards, assemblies, enclosures, and other components that are presently used with the TN display.

The purpose of this document is to highlight and explain the key differences that need to be accounted for when transitioning from our 5.0" TN TFT display to our new 5.0" IPS TFT display.

## Design Improvements

- Better EMC with built-in EMI shielding
- Better color reproduction throughout the color gamut
- Better color and image consistency when viewed from various angles
- Better optical characteristics (higher contrast, higher brightness, wider viewing angles)
- Better FPC design (less susceptible to nicks/tears)

## Display Models

	NHD-5.0-800480TF-ATXL#	NHD-5.0-800480TF-ASXN	NHD-5.0-800480AF-ASXP
<b>Display type</b>	TN + Standard	TN + Sunlight Readable	IPS + Sunlight Readable
<b>Resolution</b>	800 x 480	800 x 480	800 x 480
<b>Outer dimensions</b>	120.7 x 75.8 x 3.1 mm	120.7 x 75.8 x 3.1 mm	120.7 x 75.8 x 2.8 mm
<b>Viewing area</b>	111.1 x 67.9 mm	111.1 x 67.9 mm	110.7 x 67.5 mm
<b>Active area</b>	108 x 64.8 mm	108 x 64.8 mm	108 x 64.8 mm
<b>EMI Shielding</b>	No	No	Yes
<b>FPC size &amp; shape</b>	See datasheet	See datasheet	Identical
<b>Pinout</b>	See datasheet	See datasheet	Identical
<b>Driver IC</b>	ILI6122	ILI6122	ST7262
<b>Software timing</b>	See datasheet	See datasheet	Compatible
<b>Interface</b>	24-bit Parallel RGB	24-bit Parallel RGB	24-bit Parallel RGB
<b>LCD Voltage</b>	3.3V	3.3V	3.3V
<b>Backlight</b>	60mA @ 19.2V	60mA @ 27V	60mA @ 21.1V
<b>Brightness</b>	620 cd/m <sup>2</sup>	1000 cd/m <sup>2</sup>	1100 cd/m <sup>2</sup>
<b>Contrast</b>	500	500	1000
<b>Optimal view</b>	12:00	12:00	Full View
<b>Touchscreen Options</b>	No-touch Capacitive Resistive	No-touch Capacitive Resistive*	No-touch Capacitive Resistive*

\*Resistive touchscreen requires a custom solution. Please contact Newhaven Display for more information.

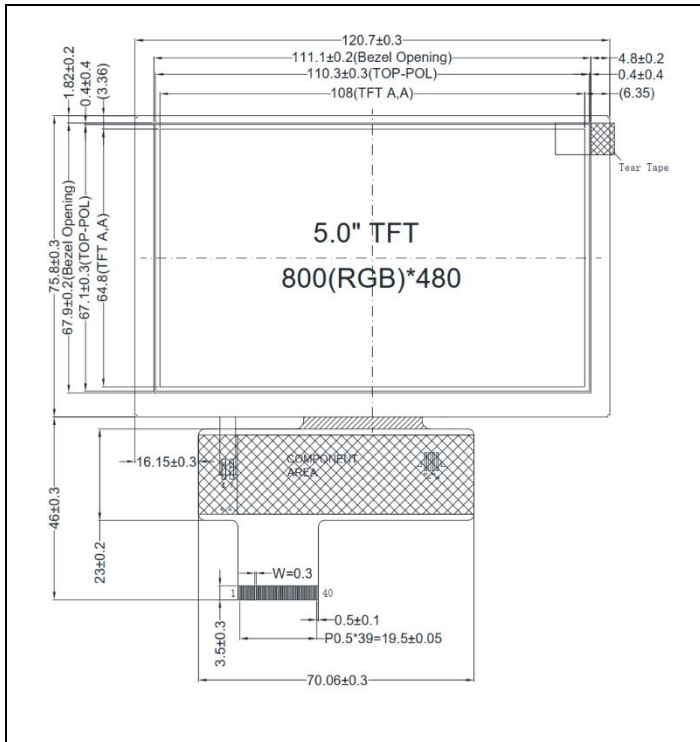


## Pinout Comparison

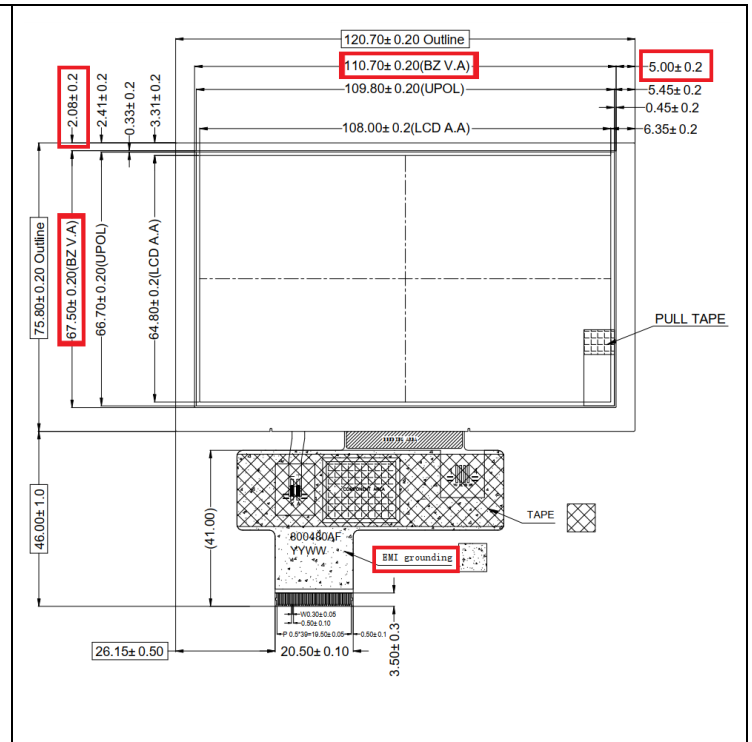
	NHD-5.0-800480TF-Axxx	NHD-5.0-800480AF-ASXP
<b>Pin #</b>	<b>Signal</b>	<b>Signal</b>
1	LED-	LED-
2	LED+	LED+
3	GND	GND
4	VDD	VDD
5-12	R0-R7	R0-R7
13-20	G0-G7	G0-G7
21-28	B0-B7	B0-B7
29	GND	GND
30	CLKIN	CLKIN
31	STBYB	STBYB
32	HSD	HSD
33	VSD	VSD
34	DEN	DEN
35	NC	NC
36	GND	GND
37	NC	NC
38	NC	NC
39	NC	NC

## Mechanical Comparison

NHD-5.0-800480TF-Axxx



NHD-5.0-800480AF-ASXP



## Software

The new 5.0" IPS TFT display can be driven using the same 24-bit RGB input timing as the 5.0" TN TFT display. Our testing has indicated the new IPS display is fully backwards compatible, and no software updates are required. As drive conditions may not be the same for all customers, we recommend you test samples to verify compatibility within your application.

For additional support on transitioning to our new 5.0" IPS TFT display, or questions about other products, please contact us through any of our technical support channels listed below:

Email: [nhtech@newhavendisplay.com](mailto:nhtech@newhavendisplay.com)

Online Support Center: [Contact an Engineer](#)

Forum: [Community Forum](#)

Phone: (847) 844-8795

