

NHD-7.0CTP-CAPE-N

Color TFT Liquid Crystal Display Module + BeagleBone Black Cape

NHD-	Newhaven Display
7.0-	7.0" Diagonal
CTP-	Capacitive Touch Panel with Controller
CAPE-	BeagleBone Black Cape
N-	Display: NHD-7.0-800480EF-ASXN#-CTP, Sunlight Readable Type, Wide Temperature

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Document Revision History

Revision	Date	Description	Changed by
0	09/22/16	Initial Release	PB
1	11/22/21	CTP IC Updated to FT5426	ZP

Functions and Features

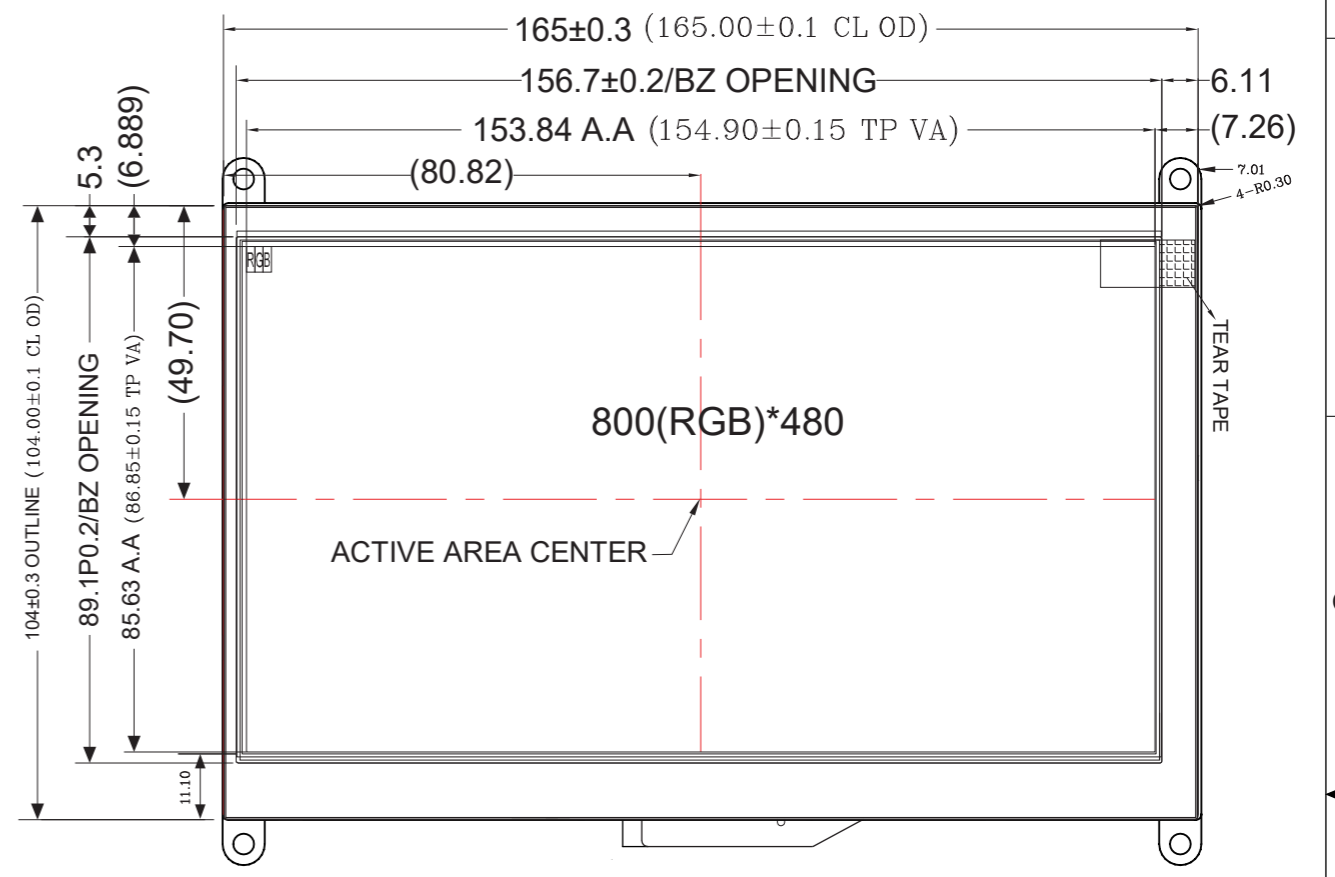
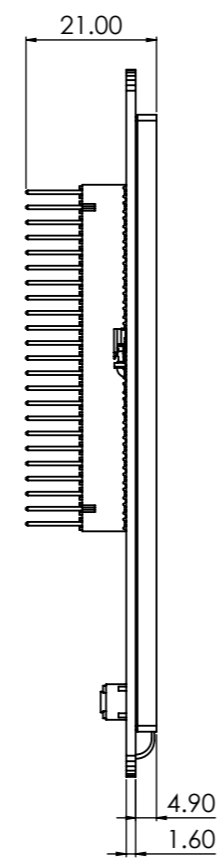
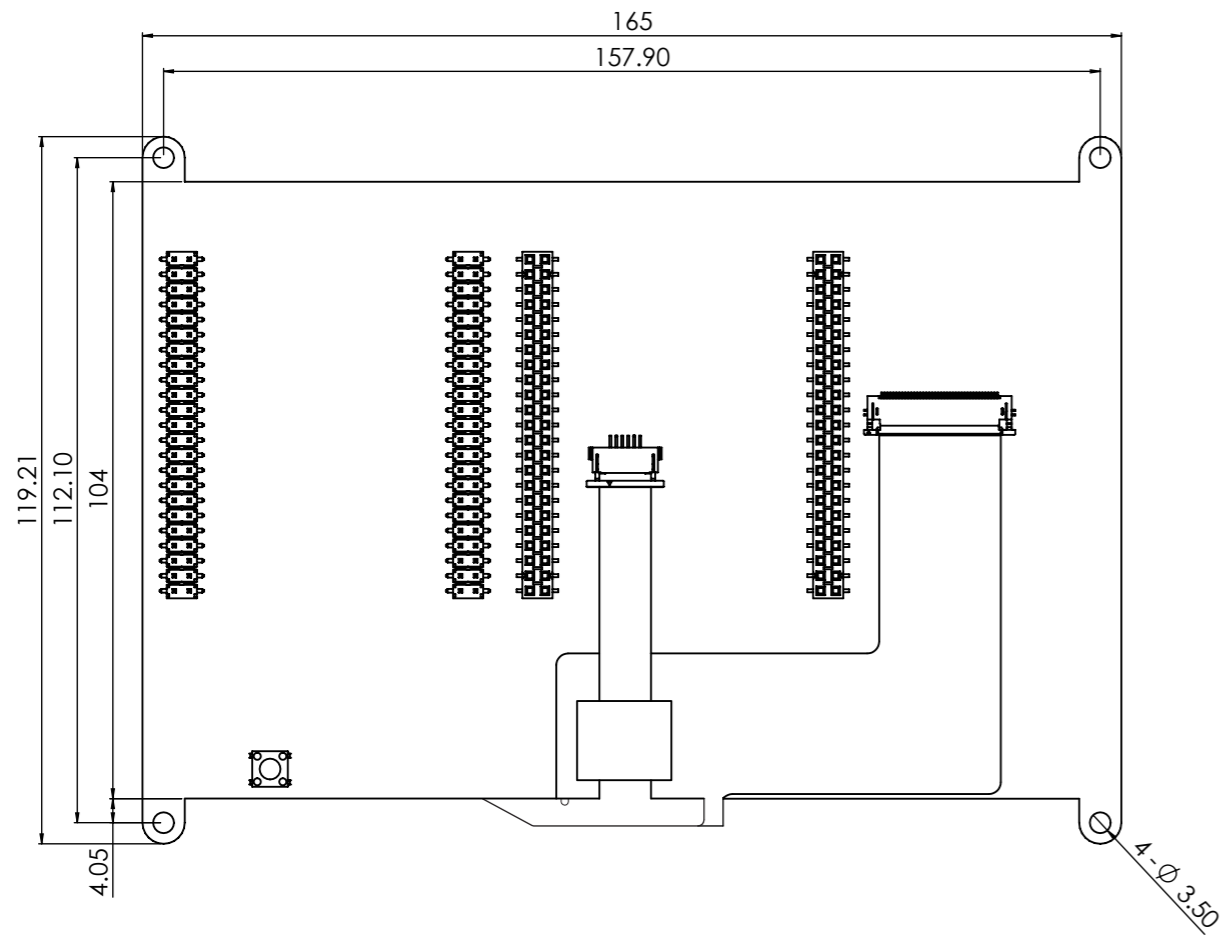
- 800xRGBx480 resolution, up to 16.7M colors
- Sunlight Readable
- PWM backlight control
- EEPROM w/ on-board dip switches: Supports four cape addresses
- Secondary cape slot
- 4 x 3.5mm mounting holes
- Assembled with NHD-7.0-800480EF-ATXL#-CTP
- Capacitive touch panel with controller
 - 5 point multi-touch input
 - Gesture input
 - Zoom In/Out
 - Swipe Up/Down/Left/Right

User Guide:

Please download the User Guide at http://www.newhavendisplay.com/userguides/NHD-7.0CTP-CAPE_User_Guide.pdf


Mechanical Drawing

SYMBOL	REVISION	DATE



Product Description: 7" BeagleBone Cape TFT w/ Capacitive Touch

1. TFT Driver IC: EK9716B, CTP IC: FT5426
2. TFT Interface: 24-Bit RGB, CTP Interface: I2C
3. TFT Power Requirement: 5.0V
4. Optical Features: Normally White, Transmissive, 830 cd/m²

Standard Tolerance: (Unless otherwise specified) Linear: ±0.3mm		
	Drawing/Part Number: NHD-7.0-CTP-CAPE-N	Revision: -
Unless otherwise specified: • Dimensions are in Millimeters • Third Angle Projection	Drawn By: Z.Palrang	Approved By: Z.Palrang
	Drawn Date: 11/23/2021	Approved Date: 11/23/2021
Do Not Scale Drawing		Sheet 1 of 1
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Display Information

TFT:

NHD-7.0-800480EF-ASXN#-CTP - Sunlight Readable 7.0" TFT, 800x480 Pixels, 24-bit Parallel RGB Interface, w/ Projected Capacitive Touch Panel.

Please download specification at <http://www.newhavendisplay.com/specs/NHD-7.0-800480EF-ASXN-CTP.pdf>

Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating Temperature Range	T _{OP}	Absolute Max	-20	-	+70	°C
Storage Temperature Range	T _{ST}	Absolute Max	-30	-	+80	°C
Supply Voltage	V _{DD}	-	4.8	5.0	5.5	V
Supply Current	I _{DD}	V _{DD} = 5V	-	1	1.5	A
"H" level input	V _{IH}	-	2.2	-	V _{DD}	V
"L" level input	V _{IL}	-	GND	-	0.8	V

Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	
Optimal Viewing Angles	Top	CR ≥ 10	-	60	-	°	
	Bottom		-	50	-	°	
	Left		-	60	-	°	
	Right		-	60	-	°	
Contrast Ratio	CR	-	-	400	-	-	
Luminance	L _V	I _{LED} = 180 mA	660	830	-	cd/m ²	
Response Time	T _R + T _F	T _{OP} = 25°C	-	25	35	ms	
Chromaticity	Red	X _R	-	0.526	0.576	0.626	-
		Y _R	-	0.290	0.340	0.390	-
	Green	X _G	-	0.278	0.328	0.378	-
		Y _G	-	0.575	0.625	0.675	-
	Blue	X _B	-	0.102	0.152	0.202	-
		Y _B	-	0.085	0.135	0.185	-
White	X _W	-	0.245	0.295	0.345	-	
	Y _W	-	0.514	0.366	0.614	-	

Capacitive Touch Panel Material Characteristics:

Property	Requirement	Unit
IC	FT5426	-
ITO Glass thickness	0.55	mm
Surface Hardness	≥6	H
Light transmission	82% ± 5%	-
Operating Humidity	20~90	RH
Storage Humidity	20~90	RH

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 , 96hrs	2
Low Temperature storage	Endurance test applying the low storage temperature for a long time.	-30°C , 96hrs	1,2
High Temperature Operation	Endurance test applying the electric stress (voltage & current) and the high thermal stress for a long time.	+70°C , 96hrs	2
Low Temperature Operation	Endurance test applying the electric stress (voltage & current) and the low thermal stress for a long time.	-20°C , 96hrs	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 , 96hrs	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.	VS=800V, RS=1.5kΩ, CS=100pF One time	

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.

Precautions for using LCDs/LCMs

See Precautions at www.newhavendisplay.com/specs/precautions.pdf

Warranty Information

See Terms & Conditions at http://www.newhavendisplay.com/index.php?main_page=terms