seeed studio

reComputer Jetson-20-1

Introduction

reComputer Jetson-20-1 series are compact edge computers built with NVIDIA advanced AI embedded system Jetson XavierNX and Seeed reference carrier board v1. With rich extension modules, industrial peripherals, thermal management combined with decades of Seeed's hard-ware expertise, reComputer Jetson is ready to help you accelerate and scale the next-gen AI product emerging diverse AI scenarios.

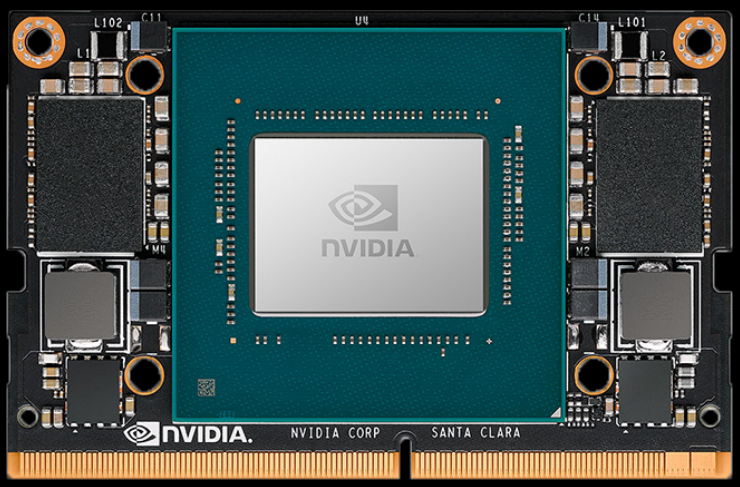
reComputer Jetson is compatible with the entire NVIDIA Jetson software stack, cloud-native workflows, industry- leading AI frameworks, helping deliver seamless AI integration.

Part list

- Jetson Xavier NX 8GB / NX 16GB x1
- Seeed reference carrier board x1
- Fan aluminium heatsink x1
- Aluminium case(black) x1
- 19V power adapter x1

Category

Module - Jetson Xavier (production version)



Xavier Performance. Nano Size

At 70mm x 45mm, Jetson Xavier NX packs the power of the NVIDIA Xavier SoC into a module the size of a JetsonNano™. This compact module combines exceptional performance and power advantage with a rich set of IOs - from high-speed CSI and PCIe to low-speed I2Cs and GPIOs. Take advantage of the small form factor, sensor-rich interfaces, and big performance to bring new capability to all your embedded AI and edge systems.

Incredible Power Efficiency

Jetson Xavier NX supports multiple power modes, including low-power modes for battery-operated systems, and delivers up to 14 TOPs for AI applications in as little as 10 W. This leaves more of your power budget for sensors and peripherals, while still letting you use the entire NVIDIA software stack. You now have the performance to run all modern AI networks and frameworks with accelerated libraries for deep learning, computer vision, computer graphics, multimedia, and more.

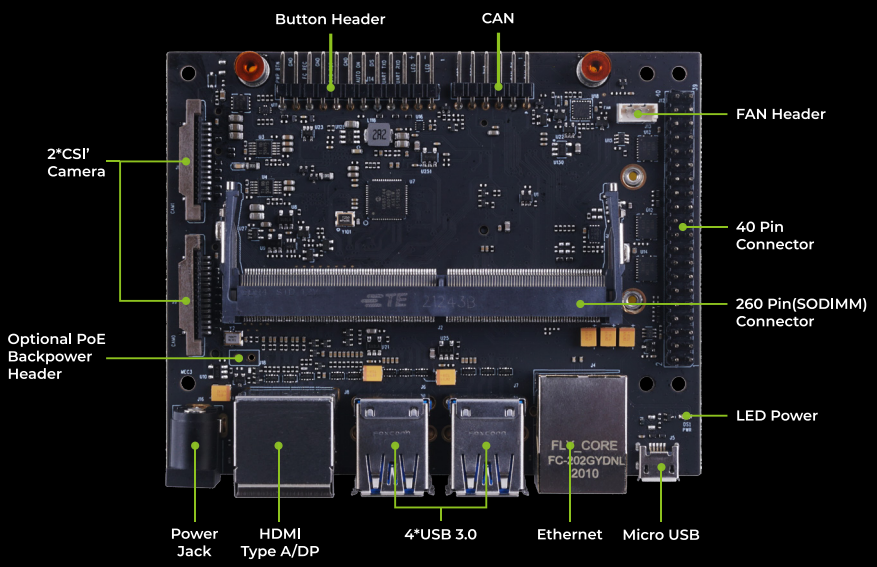
Powerful 21 Tops AI Performance

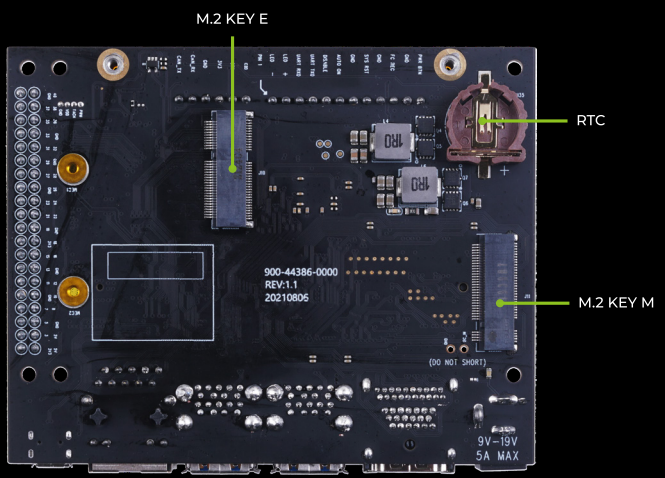
Jetson Xavier NX delivers up to 21 TOPS, making it ideal for high-performance compute and AI in embedded and edge systems. You get the performance of 384 NVIDIA CUDA® Cores, 48 Tensor Cores, 6 Carmel ARM CPUs, and two NVIDIA Deep Learning Accelerators (NVDLA) engines. Combined with over 59.7GB/s of memory bandwidth, video encoded, and decode, these features make Jetson Xavier NX the platform of choice to run multiple modern neural networks in parallel and process high-resolution data from multiple sensors simultaneously.

Module Technical Specifications

	Jetson Xavier NX	Jetson Xavier NX 16GB
AI Performance	21 TOPS	
GPU	384-core NVIDIA Volta™ GPU with 48 Tensor Cores	
CPU	6-core NVIDIA Carmel ARM®v8.2 64-bit CPU 6MB L2 + 4MB L3	
Memory	8 GB 128-bit LPDDR4x 59.7GB/s	16 GB 128-bit LPDDR4x 59.7GB/s
Storage	16 GB eMMC 5.1	
Power	10 W | 15 W | 20 W	
PCIe	1 x1 (PCIe Gen3) + 1 x4 (PCIe Gen4), total 144 GT/s*	
CSI Camera	Up to 6 cameras (24 via virtual channels); 14 lanes (3x4 or 6x2) MIPI CSI-2; D-PHY 1.2 (up to 30 Gbps)	
Video Encode	2x 4K60 | 4x 4K30 | 10x 1080p60 | 22x 1080p30 (H.265) 2x 4K60 | 4x 4K30 | 10x 1080p60 | 20x 1080p30 (H.264)	
Video Decode	2x 8K30 | 6x 4K60 | 12x 4K30 | 22x 1080p60 | 44x 1080p30 (H.265) 2x 4K60 | 6x 4K30 | 10x 1080p60 | 22x 1080p30 (H.264)	
Display	2 multi-mode DP 1.4/eDP 1.4/HDMI 2.0	
DL Accelerator	2x NVDLA Engines	
Vision Accelerator	7-Way VLIW Vision Processor	
Networking	10/100/1000 BASE-T Ethernet	
Mechanical	69.6 mm x 45 mm 260-pin SO-DIMM connector	

Seeed reference Carrier Board v1





The Seeed reference carrier board provides several connectors with industry standard pin outs to support additional functionality beyond what is integrated on the main platform board. This includes:

- USB 2.0: Micro B Connector
- USB 3.0: 4 x Type A Connectors
- Gigabit Ethernet: RJ45 Connector
- HDMI / DP: HDMI Type A and DisplayPort Stacked Connector
- M.2 Key E Socket
- M.2 Key M Socket

USB Port

The carrier board supports two USB Connectors. One is a USB 2.0 Micro B connector supporting Device mode only (including USB Recovery). There are two, dual stacked USB 3.0 Type A connectors. Each connector supports Host mode only. A single load switch supplies VBUS to all four USB 3.0 ports and is limited to 2A of output current.

USB 2.0 Micro B Connector Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage and Description	Type/Dir
1	-	-	VUSB Supply	Power
2	USB0_D_N	115	USB 2.0#0 Data	Bidir
3	USB0_D_P	117		
4	-	-	Unused	Unused
5	-	-	Ground	Ground
Note: In the Type/Dir column, Output I s to USB connector. Input is form USB connector. Bidir is for bidirectional signals.				

USB 3.0 Type A Connector Pin Descriptions:

Pin #	Module Pin Nam	Module Pin	Usage/Description	Type/Dir[2]
USB 3.0 Type A (2)				
1	–	–	VBUS Supply	Power
2	USB1_D_N	115	USB 2.0 #2 Data from hub	Bidir
3	USB1_D_P	117		
4	–	–	Ground	Ground
5	USBSS_RX_N	161	USB 3.0 Receive #2 Data from hub	Input
6	USBSS_RX_P	163		
7	–	–	Ground	Ground
8	USBSS_TX_N	166	USB 3.0 Transmit #2 Data from hub	Output
9	USBSS_TX_P	168		
USB 3.0 Type A (1)				
10	–	–	VBUS Supply	Power
11	USB1_D_N	115	USB 2.0 Data #1 Data from hub	Bidir
12	USB1_D_P	117		
13	–	–	Ground	Ground
14	USBSS_RX_N	161	USB 3.0 Receive #1 Data from hub	Input
15	USBSS_RX_P	163		
16	–	–	Ground	Ground
17	USBSS_TX_N	166	USB 3.0 Transmit #1 Data from hub	Output
18	USBSS_TX_P	168		

Note:
1. The module pin names not directly connected to the USB connector pins but are routed to the input of the USB hub.
2. In the Type/Dir column, Output is to USB connectors. Input is from USB connectors. Bidir is for bidirectional signals.

USB 3.0 Type A Connector Pin Descriptions:

Pin #	Module Pin Name[1]	Module Pin #	Usage/Description	Type/Dir[2]
USB 3.0 Type A (4)				
1	–	–	VBUS Supply	Power
2	USB1_D_N	115	USB 2.0 #4 Data from hub	Bidir
3	USB1_D_P	117		
4	–	–	Ground	Ground
5	USBSS_RX_N	161	USB 3.0 Receive #4 Data from hub	Input
6	USBSS_RX_P	163		
7	–	–	Ground	Ground
8	USBSS_TX_N	166	USB 3.0 Transmit #4 Data from hub	Output
9	USBSS_TX_P	168		
USB 3.0 Type A (3)				
10	–	–	VBUS Supply	Power
11	USB1_D_N	115	USB 2.0 Data #3 Data from hub	Bidir
12	USB1_D_P	117		
13	–	–	Ground	Ground
14	USBSS_RX_N	161	USB 3.0 Receive #3 Data from hub	Input
15	USBSS_RX_P	163		
16	–	–	Ground	Ground
17	USBSS_TX_N	166	USB 3.0 Transmit #3 Data from hub	Output
18	USBSS_TX_P	168		

Note:
1. The module pin names not directly connected to the USB connector pins but are routed to the input of the USB hub.
2. In the Type/Dir column, Output is to USB connectors. Input is from USB connectors. Bidir is for bidirectional signals.

Gigabit Ethernet

Ethernet RJ45 Connector Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir
1	GPE_MDI0_P	186	Gigabit Ethernet MDI 0+	Bidir
2	GPE_MDI0_N	184	Gigabit Ethernet MDI 0–	Bidir
3	GPE_MDI1_P	192	Gigabit Ethernet MDI 1+	Bidir
4	–	–	MCT	–
5	–	–	MCT	–
6	GPE_MDI1_N	190	Gigabit Ethernet MDI 1–	Bidir
7	GPE_MDI2_P	198	Gigabit Ethernet MDI 2+	Bidir
8	GPE_MDI2_N	196	Gigabit Ethernet MDI 2–	Bidir
9	GPE_MDI3_P	204	Gigabit Ethernet MDI 3+	Bidir
10	GPE_MDI3_N	202	Gigabit Ethernet MDI 3–	Bidir
11	–	–	Power-Over-Ethernet	Power
12				
13				
14				
15	–	–	Green LED Anode	Input
16	GBE_LED_LINK	188	Green LED Cathode. On for 1000Mbps link. Off for 10/100Mbps.	Output
17	–	–	Yellow LED Anode	Input
18	GBE_LED_ACT	194	Yellow LED Cathode. On indicates activity.	Output
19	–	–	Shield Ground	Ground
20				

Note:
In the Type/Dir column, Output is to RJ45 connector. Input is from RJ45 connector.
Bidir is for bidirectional signals.

HDMI and DisplayPort

HDMI Connector Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir
1	DP1_TXD0_P	65	HDMI Transmit Data 2+	Output
2	–	–	Ground	Ground
3	DP1_TXD0_N	63	HDMI Transmit Data 2–	Output
4	DP1_TXD1_P	71	HDMI Transmit Data 1+	Output
5	–	–	Ground	Ground
6	DP1_TXD1_N	69	HDMI Transmit Data 1–	Output
7	DP1_TXD2_P	77	HDMI Transmit Data 0+	Output
8	–	–	Ground	Ground
9	DP1_TXD2_N	75	HDMI Transmit Data 0–	Output
10	DP1_TXD3_P	83	HDMI Transmit Clock+	Output
11	–	–	Ground	Ground
12	DP1_TXD3_N	81	HDMI Transmit Clock–	Output
13	HDMI_CEC	94	HDMI CEC	Bidir
14	–	–	Unused	Unused
15	DP1_AUX_P	100	HDMI DDC Clock	Output /OD
16	DP1_AUX_N	98	HDMI DDC Data	Bidir/OD
17	–	–	Ground	Ground
18	–	–	HDMI 5V Power	Power
19	DP1_HPD	96	HDMI Hot Plug Detect	Input

Note:
In the Type/Dir column, Output is to HDMI connector. Input is from HDMI connector. Birdir is for bidirectional signals.

HDMI Connector Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir
1	DP0_TXD0_P	41	DP Lane 0+	Output
2	–	–	Ground	Ground
3	DP0_TXD0_N	39	DP Lane 0–	Output
4	DP0_TXD1_P	47	DP Lane 1+	Output
5	–	–	Ground	Ground
6	DP0_TXD1_N	45	DP Lane 1–	Output
7	DP0_TXD2_P	53	DP Lane 2+	Output
8	–	–	Ground	Ground
9	DP0_TXD2_N	51	DP Lane 2–	Output
10	DP0_TXD3_P	59	DP Lane 3+	Output
11	–	–	Ground	Ground
12	DP0_TXD3_N	57	DP Lane 3–	Output
13	–	–	MODE: Selects between DP and	Unused
14	–	–	CEC_DP: Not used – pulled to G	Unused
15	DP0_AUX_N	90	DisplayPort Auxiliary Channel 0-	Bidir
16	–	–	Ground	Ground
17	DP0_AUX_P	92	DisplayPort Auxiliary Channel 0+	Bidir
18	DP0_HPD	88	HDMI Hot Plug Detect	Input
19	–	–	Power Return (Ground)	Ground
20	–	–	+3.3V	Power

Note:
In the Type/Dir column, Output is to DP connector. Input is from DP connector. Bidir is for bidirectional signals.

M.2 Key E Expansion Slot

M.2, Key E Expansion Slot Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir
1	–		Ground	Ground
3	USB2_D_P	123	USB 2.0 Data	Bidir
5	USB2_D_N	121		
7	–		Ground	Ground
9	–	–	Unused	Unused
11				
13				
15				
17				
19				
21				
23				
25	–	–	Key	Unused
27				
29				
31				
33	–	–	Ground	Ground
35	PEX1_TX0_P	174	PCIe #1 Transmit Lane 0	Output
37	PEX1_TX0_N	172		
39	–	–	Ground	Ground
41	PEX1_RX0_P	169	PCIe #1 Receive Lane 0	Input
43	PEX1_RX0_N	167		
45	–	–	Ground	Ground
47	PEX1_CLK_P	175	PCIe #1 Reference clock	Output
49	PEX1_CLK_N	173		
51	–	–	Ground	Ground
53	PEX1_ CLKREQ*	182	PCIe #1 Clock Request	Bidir, 3.3V
55	PEX_WAKE*	179	PCIe Wake	Input, 3.3V
57	–	–	Ground	Ground
59	–	–	Unused	Unused
61				
63	–	–	Ground	Ground
65	–	–	Unused	Unused
67				
69	–	–	Ground	Ground
71	–	–	Unused	Unused
73				
75	–	–	Ground	Ground

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir
2	–	–	Main 3.3V Supply	Power
4				
6	–	–	Unused	Unused
8	I2S1_CLK	226	I2S #1 Clock	Bidir, 1.8V
10	I2S1_FS	224	I2S #1 Left/Right Clock	Bidir, 1.8V
12	I2S1_DIN	222	I2S #1 Data In	Input, 1.8V
14	I2S1_DOUT	220	I2S #1 Data Out	Bidir, 1.8V
16	–	–	Unused	Unused
18	–	–	Ground	Ground
20	GPIO02	124	Bluetooth #2 Wake AP	Input, 3.3V
22	UART0_RXD	101	UART #0 Receive	Input, 1.8V
24	–	–	Key	Unused
26				
28				
30				
32	UART0_TXD	99	UART #0 Transmit	Output, 1.8V
34	UART0_CTS*	105	UART #0 Clear to Send	Input, 1.8V
36	UART0_RTS*	103	UART #0 Request to Send	Output, 1.8V
38	–	–	Unused	Unused
40				
42				
44				
46				
48				
50	CLK_32K_OUT	210	Suspend Clock (32KHz)	Output, 3.3V
52	PEX0_RST*	183	PCIe #0 Reset	Output, 3.3V
54	–	–	Unused	Unused
56				
58	I2C2_SDA	234	General I2C #2 (optional)	Bidir/OD, 1.8V
60	I2C2_SCL	232		
62	GPIO10	212	M.2, Key E Connector Alert	Input, 1.8V
64	–	–	Unused	Unused
66				
68				
70				
72	–	–	Main 3.3V Supply	Power
74				

Note:
In the Type/Dir column, Output is to M.2 module. Input is from M.2 module. Bidir is for bidirectional signals.

M.2 Key M Expansion Slot

M.2 Key M Expansion Slot Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	–	–	Ground	Ground
3				
5	PCIE0_RX3_N	155	PCIe IF #0 Lane 3 Receive	Input
7	PCIE0_RX3_P	157		
9	–	–	Ground	Ground
11	PCIE0_TX3_N	154	PCIe IF #0 Lane 3 Transmit	Output
13	PCIE0_TX3_P	156		
15	–	–	Ground	Ground
17	PCIE0_RX2_N	149	PCIe IF #0 Lane 2 Receive	Input
19	PCIE0_RX2_P	151		
21	–	–	Ground	Ground
23	PCIE0_TX2_N	148	PCIe IF #0 Lane 2 Transmit	Output
25	PCIE0_TX2_P	150		
27	–	–	Ground	Ground
29	PCIE0_RX1_N	137	PCIe IF #0 Lane 1 Receive	Input
31	PCIE0_RX1_P	139		
33	–	–	Ground	Ground
35	PCIE0_TX1_N	140	PCIe IF #0 Lane 1 Transmit	Output
37	PCIE0_TX1_P	142		
39	–	–	Ground	Ground
41	PCIE0_RX0_N	131	PCIe IF #0 Lane 0 Receive	Input
43	PCIE0_RX0_P	133		
45	–	–	Ground	Ground
47	PCIE0_TX0_N	134	PCIe IF #0 Lane 0 Transmit	Output
49	PCIE0_TX0_P	136		
51	–	–	Ground	Ground
53	PCIE0_CLK_N	160	PCIe IF #0 Reference Clock	Output
55	PCIE0_CLK_P	162		
57	–	–	Ground	Ground
59	–	–	Unused (Key)	Unused
61				
63				
65				
67	–	–	Unused	Unused
69				
71	–	–	Ground	Ground
73				
75				

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
2	–	–	Main 3.3V Supply	Power
4				
6	–	–	Unused	Unused
8				
10				
12	–	–	Main 3.3V Supply	Power
14				
16				
18				
20	–	–	Unused	Unused
22				
24				
26				
28				
30				
32				
34				
36				
38				
40	I2C2_SCL	232	General I2C #2 (optional)	Bidir/OD, 1.8V
42	I2C2_SDA	234		
44	SDMMC_DAT1	221	M.2 Key M Alert	Output, 1.8V
46	–	–	Unused	Unused
48				
50	PEX0_RST*	181	PCIe IF #0 Reset	Output, 3.3V
52	PEX0_ CLKREQ*	180	PCIe IF #0 Clock Request	Input, 3.3V
54	PEX_WAKE*	179	PCIe Wake (Level Shifted from 3.3V	Input, 3.3V
56	–	–	Unused	Unused
58				
60	–	–	Unused (Key)	Unused
62				
64				
66				
68	–	–	32KHz Suspend Clock	Output, 3.3V
70	–	–	Main 3.3V Supply	Power
72				
74				

Note:
In the Type/Dir column, Output is to M.2 module. Input is from M.2 Module. Bidir is for bidirectional signals.

Camera Connectors

Camera 0 Connector Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	–	–	Ground	Ground
3	CSI0_D0_N	4	CSI 0 Data 0	Input
5	CSI0_D0_P	6		
7	–	–	Ground	Ground
9	CSI0_D1_N	16	CSI 0 Data 1	Input
11	CSI0_D1_P	18		
13	–	–	Ground	Ground
15	CSI0_CLK_N	10	CSI 0 Clock	Input
17	CSI0_CLK_P	12		
19	–	–	Ground	Ground
21	CAM0_PWDN	114	Camera #0 Power-down	Output, 1.8V
23	CAM0_MCLK	116	Camera #0 Master Clock	Output, 1.8V
25	CAM_I2C_SCL	213	Camera I2C. 2.2kΩ pull-ups on module. 1.6kΩ pull-ups on the carrier board. The module CAM_I2C pins connect to an I2C mux. The camera connector #1 receives the I2C from the mux (1st output). The I2C signals on the camera side of the mux have 47kΩ pull-ups.	Output, 3.3V
27	CAM_I2C_SDA	215		Bidir, 3.3V
29	–	–	+3.3V	Power
2	–	–	Not Used	–
4				
6				
8				
10				
12				
14				
16				
18				
20				
22				
24				
26				
28				
30				

Note:
In the Type/Dir column, Output is to camera module. Input is from camera module. Bidir is for bidirectional signals.

Camera 1 Connector Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir
1	–	–	Ground	Ground
3	CSI2_D0_N	22	CSI 2 Data 0	Input
5	CSI2_D0_P	24		
7	–	–	Ground	Ground
9	CSI2_D1_N	34	CSI 2 Data 1	Input
11	CSI2_D1_P	36		
13	–	–	Ground	Ground
15	CSI2_CLK_N	28	CSI 2 Clock	Input
17	CSI2_CLK_P	30		
19	–	–	Ground	Ground
21	CAM1_PWDN	120	Camera #1 Power-down	Output, 1.8V
23	CAM1_MCLK	122	Camera #1 Master Clock	Output, 1.8V
25	CAM_I2C_SCL	213	Camera I2C. 2.2kΩ pull-ups on module. 1.6kΩ pull-ups on the carrier board. The module CAM_I2C pins connect to an I2C mux. The camera connector #2 receives the I2C from the mux (2nd output). The I2C signals on the camera side of the mux have 47kΩ pull-ups.	Output, 3.3V
27	CAM_I2C_SDA	215		Bidir, 3.3V
29	–	–	+3.3V	Power
2	–	–	Not Used	–
4				
6				
8				
10				
12				
14				
16				
18				
20				
22				
24				
26				
28				
30				

Note:
In the Type/Dir column, Output is to camera module. Input is from camera module. Bidir is for bidirectional signals.

40-Pin Expansion Header

40-pin : part 1

Header Pin #	Module	Module Pi	SoC Pin name	Default Usage / D	Alternate Functionality
1	–	–	–	Main 3.3V Supply	–
2	–	–	–	Main 5.0V Supply	–
3	I2C1_SDA	191	DP_AUX_CH3_N	I2C #1 Data	–
4	–	–	–	Main 5.0V Supply	–
5	I2C1_SCL	189	DP_AUX_CH3_P	I2C #1 Clock	–
6	–	–	–	Ground	–
7	GPIO09	211	AUD_MCLK	GPIO	Audio Master Clock
8	UART1_TXD	203	UART1_TX	UART #1 Transmit	GPIO
9	–	–	–	Ground	–
10	UART1_RXD	205	UART1_RX	UART #1 Receive	GPIO
11	UART1_RTS*	207	UART1_RTS	GPIO	UART #2 Request to Send
12	I2S0_SCLK	199	DAP5_SCLK	GPIO	Audio I2S #0 Clock
13	SPI1_SCK	106	SPI3_SCK	GPIO	SPI #1 Shift Clock
14	–	–	–	Ground	–
15	GPIO12	218	TOUCH_CLK	GPIO	–
16	SPI1_CSI1*	112	SPI3_CS1	GPIO	SPI #1 Chip Select #1
17	–	–	–	Main 3.3V Supply	–
18	SPI1_CSI0*	110	SPI3_CS0	GPIO	SPI #0 Chip Select #0
19	SPI0_MOSI	89	SPI1_MOSI	GPIO	SPI #0 Master Out/Slave In
20	–	–	–	Ground	–
21	SPI0_MISO	93	SPI1_MISO	GPIO	SPI #0 Master In/Slave Out
22	SPI1_MISO	108	SPI3_MISO	GPIO	SPI #1 Master In/Slave Out
23	SPI0_SCK	91	SPI1_SCK	GPIO	SPI #0 Shift Clock
24	SPI0_CS0*	95	SPI1_CS0	GPIO	SPI #0 Chip Select #0
25	–	–	–	Ground	–
26	SPI0_CS1*	97	SPI1_CS1	GPIO	SPI #0 Chip Select #1
27	I2C0_SDA	187	GEN2_I2C_SDA	I2C #0 Data	GPIO
28	I2C0_SCL	185	GEN2_I2C_SCL	I2C #0 Clock	GPIO
29	GPIO01	118	SOC_GPIO41	GPIO	General Purpose Clock #0
30	–	–	–	Ground	–
31	GPIO11	216	SOC_GPIO42	GPIO	General Purpose Clock #1
32	GPIO07	206	SOC_GPIO44	GPIO	PWM
33	GPIO13	228	SOC_GPIO54	GPIO	PWM
34	–	–	–	Ground	–
35	I2S0_FS	197	DAP5_FS	GPIO	Audio I2S #0 Field Select
36	UART1_CTS*	209	UART1_CTS	GPIO	UART #1 Clear to Send
37	SPI1_MOSI	104	SPI3_MOSI	GPIO	SPI #1 Master Out/Slave In
38	I2S0_DIN	195	DAP5_DIN	GPIO	Audio I2S #0 Data in
39	–	–	–	Ground	–
40	I2S0_DOUT	193	DAP5_DOUT	GPIO	Audio I2S #0 Data Out

40-pin : part 2

Header Pin #	Type/ Dir	Pin Drive or Power	SoC GPIO Port #	Power-	PU/PD	Notes
1	Power (input)	1A	–	–	–	1
2	Power (input/output_	1A	–	–	–	1
3	Bidir OD	±2mA	–	z	2.2KΩ	2
4	Power	1A	–	–	–	–
5	Bidir OD	±2mA	–	z	2.2KΩ	2
6	Ground	–	–	–	–	–
7	Bidir/Output	±20uA	PS.04	pd		3
8	Output/Bidir	±20uA	PR.02	pd		3
9	Ground	–	–	–	–	–
10	Input/Bidir	±20uA	PR.03	pu		3
11	Bidir/Output	±20uA	PR.04	pd		3
12	Bidir	±20uA	PT.05	pd		3
13	Bidir/Output	±20uA	PY.00	pd		3
14	Ground	–	–	–	–	–
15	Bidir	±20uA	PCC.04	pd		3
16	Bidir/Output	±20uA	PY.04	pu		3
17	Power	1A	–	–	–	1
18	Bidir/Output	±20uA	PY.03	pu		3
19	Bidir/Output	±20uA	PZ.05	pd		3
20	Ground	–	–	–	–	–
21	Bidir/Input	±20uA	PZ.04	pd		3
22	Bidir/Input	±20uA	PY.01	pd		3
23	Bidir/Output	±20uA	PZ.03	pd		3
24	Bidir/Output	±20uA	PZ.06	pu		3
25	Ground	–	–	–	–	–
26	Bidir/Output	±20uA	PZ.07	pu		3
27	Bidir OD/Bidir	±2mA	PDD.00	z	2.2KΩ	2
28	Bidir OD/Bidir	±2mA	PCC.07	z	2.2KΩ	2
29	Bidir/Output	±20uA	PQ.05	pd		3
30	Ground	–	–	–	–	–
31	Bidir/Output	±20uA	PQ.06	pd		3
32	Bidir/Output	±20uA	PR.00	pd		3
33	Bidir/Output	±20uA	PN.01	pd		3
34	Ground	–	–	–	–	–
35	Bidir	±20uA	PU.00	pd		3
36	Bidir/Input	±20uA	PR.05	pd		3
37	Bidir/Output	±20uA	PY.02	pd		3
38	Bidir/Input	±20uA	PT.07	pd		3
39	Ground	–	–	–	–	–
40	Bidir/Output	±20uA	PT.06	pd		3

Note:
1. This is current capability per power pin.

2. These pins are connected to the SoC directly. They are open-drain (either pulled up or driven low by the SoC when configured as outputs). The max drive that meets the data sheet VOL is ±2mA.

3. These pins connect to TI TXB0108 level translators. Due to the design of these devices, the output drivers are very weak, so they can be overdriven by another connected device output for bidirectional support.

4. In the Type/Dir column, output is to expansion header. Input is from expansion header. Bidir is for bidirectional signals. Where two directions are shown, the first is for the primary function (mostly GPIOs) and the second is for the alternate function.

5. Where the signal direction is input or output in this table (Table 3-3), this matches the typical special function usage (e.g. SPI, I2S, etc.). The direction is bidirectional if these are configured as GPIOs.

6. All signals on the 40-pin header are 3.3V levels.

Button Header

Button Header Description:

Pin #	Module Pin Name	Module Pi	Usage/Description	Type/Dir Default
1	–	–	PC_LED-	Input, 5V
2	–	–	PC_LED+: Connects to LED Anode (see above)	Output
3	UART2_RXD (DEBUG)	238	UART #2 Receive	Input, 3.3V
4	UART2_TXD (DEBUG)	236	UART #2 Transmit	Output, 3.3V
5	–	–	AC OK: Connect pins 5 and 6 to disable Auto-	Input, 3.3V
6	–	–	Auto Power-on disable: Pulled to GND. See Pin 5.	na
7	–	–	Ground	Ground
8	SYS_RESET*	239	Temporarily connect pins 7 and 8 to reset system	Input, 1.8V
9	–	–	Ground	Ground
10	FORCE_RECOVERY*	214	Connect pins 9 and 10 during power-	Input, 1.8V
11	–	–	Ground	Ground
12	SLEEP/WAKE*	240	Connect pins 11 and 12 to initiate power-on if Auto-	Input, 5V

Note:
In the Type/Dir column, Output is to button header. Input is from button header. Bidir is for bidirectional signals.

CAN Bus Header

CAN Header Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	CAN_TX	145	CAN Bus transmit	Output, 3.3V
2	CAN_RX	143	CAN Bus receive	Input, 3.3V
3	–	–	Ground	Ground
4	–	–	Main 3.3V Supply	Power

Note:
In the Type/Dir column, Output is to CAN connector. Input is from CAN connector. Bidir is for bidirectional signals.

Fan Connector

Fan Connector Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	–	–	Ground	Ground
2	–	–	Main 5.0V Supply	Power
3	GPIO08	208	Fan Tachometer signal	Input, 5V
4	GPIO14	230	Fan Pulse Width Modulation signal	Output, 5V

Note:
In the Type/Dir column, Output is to fan connector. Input is from fan connector. Bidir is for bidirectional signals.

RTC-Coin Cell Batter Holder

Coin Cell Batter Holder Pin Description:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir
1	PMIC_BBAT	235	Power Management IC (PMIC) real-time clock battery back-up. Optionally used to provide back-up power for the Real-Timeclock (RTC). Connects to coin cell (lithium or other). PMIC is supply when charging rechargeable cells. Coin cell is source when system is disconnected from power. Charging is enabled by default in software. If non-rechargeable battery is to be used, charging should be disabled.	Power (Bidir)
2	–	–	Ground	Ground
3	PMIC_BBAT	235	Same as pin #1	Power (Bidir)

Note:
In the Type/Dir column, Output is to button header. Input is from button header.
Bidir is for bidirectional signals.

DC Power Jack

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	–	–	Main DC input supplying DC jack input (9-20V)	Power
2	–	–	Ground	Ground
3	–	–	Ground	Ground

Note:
In the Type/Dir column, Output is to button header. Input is from button header.
Bidir is for bidirectional signals.

Optional Power-Over Ethernet and Backpower Headers

PoE Header:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	–	–	Ethernet RG45 connector PoE VC1 power	Power
2	–	–	Ethernet RG45 connector PoE VC2 power	Power
3	–	–	Ethernet RG45 connector PoE VC3 power	Power
4	–	–	Ethernet RG45 connector PoE VC4 power	Power

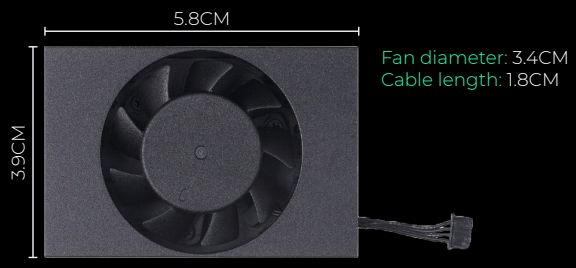
PoE Backpower Header:

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	–	–	Main DC input supplying DC jack input (9V-	Power
2	–	–	Ground	Ground

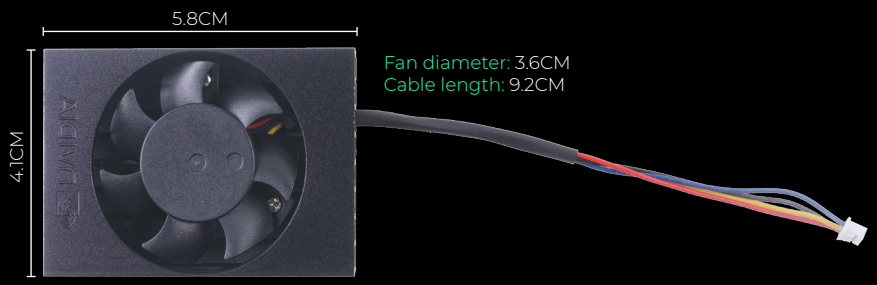
Fan Aluminium Heatsink

Aluminium Heatsink with bigger Fan for Jetson Xavier NX Module with Long Cable, with same mounting holes design, ready to use for Xavier NX. Here is the comparison of the above heatsink with Official Xavier NX Heatsink:

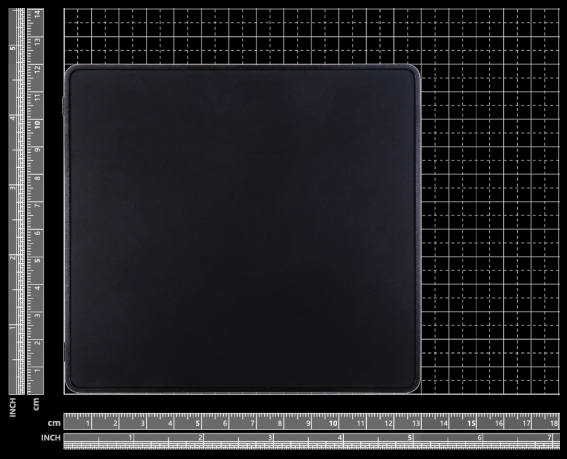
Official Xavier NX Heatsink



Xavier NX Heatsink with long cable



reComputer Case



- Overall dimension: 130mm x120mm x 50mm

More information

Please check our Wiki and ask question at our Forum or Discord community.
For more information, you can also refer to NVIDIA official Jetson Download Center