

DSBOARD-NX2 Rev 1.24

USER MANUAL

UM-DSBDNX2-01

Revision 1.11

01/10/2024



Forecr
<https://www.forecr.io>
support@forecr.io

Table of Contents

- Preface 4**
 - Disclaimer..... 4
 - Customer Support 4
 - Contact Information 4
 - Copyright Notice..... 4
 - Trademark Acknowledgment..... 4
 - Symbols 5
 - Limited Product Warranty 6
 - Revision History 6
- 1. Introduction 7**
- 2. Product Specification 7**
 - 2.1 Technical Specification 7
 - 2.2 Block Diagram 8
 - 2.3 Board Visuals 8
- 3. Hardware Information 9**
 - 3.1 Connector and Button Location..... 9
 - 3.1.1 Top Side 9
 - 3.1.2 Bottom Side 10
 - 3.2 List of Connectors and Buttons 11
 - 3.3 The Definition of Each Connector 12
 - 3.3.1 Power Connector 12
 - 3.3.2 I/O Terminal Connector 12
 - 3.3.3 SD Card Connector..... 12
 - 3.3.4 M.2 Key-M Connector 13
 - 3.3.5 M.2 Key-B Connector..... 14
 - 3.3.6 M.2 Key-E Connector..... 15
 - 3.3.7 MIPI CSI Connector (Raspberry Pi Camera Compatible)..... 16
 - 3.3.8 Fan Connector 16
 - 3.3.9 Expansion Header Connector..... 17
 - 3.3.10 Front Panel Connector..... 17
 - 3.3.11 HDMI Connector 17
 - 3.3.12 USB 3.1 Type-A Connector 18
 - 3.3.13 10/100/1000 Ethernet Connector 18
 - 3.3.14 Recovery Mode Micro USB Connector 18
 - 3.3.15 Debug Header Connector 18

3.4 The Definition of Buttons	18
3.4.1 Power Button	18
3.4.2 Recovery Pushbutton.....	18
3.4.3 Reset Pushbutton	18
4. Software Information	19
4.1 Installation	19
5. Connectivity.....	19
5.1 General Purpose Input/Output (GPIO)	19
6. 3D Model & Mechanical Information	20
7. Power Consumption	24
7.1 Jetson Nano	24
7.2 Jetson TX2 NX	24
7.3 Jetson Xavier NX 8GB	24
7.4 Jetson Xavier NX 8GB (with NVME SSD)	24
7.5 Jetson Xavier NX 16GB	25
7.6 Jetson Xavier NX 16GB (with NVME SSD).....	25
8. MTBF Prediction.....	25
9. Ordering Information	25

Preface

Disclaimer

Forecr emphasizes that the information contained in this user manual is continuously updated in line with the technical modifications and enhancements made by Forecr to its carrier board. Therefore, this manual only represents the technical status of Forecr carrier board at the time of publishing.

Forecr shall not be held responsible for any damages that may occur directly or indirectly as a result of any technical or typographical errors or omissions found in this document or for any discrepancies between the product and the user's manual.

Customer Support

In case you encounter any challenges after reading the user manual and/or using the carrier board, please reach out to the Forecr reseller from which you purchased the carrier board.

See the contact information section below for more information on how to contact us directly.

Contact Information

E-mail Address	For information requests: info@forecr.io For support requests: support@forecr.io For wholesale inquiries: sales@forecr.io
Address	Forecr OÜ Akadeemia tee 21/1 (II floor), Room 219, 12618, Tallinn, Estonia
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Symbols



ElectroStatic Discharge (ESD) Sensitive Device!

Electronic boards and their components are sensitive to static electricity. When handling any circuit board assemblies, it is recommended that ESD safety precautions be observed.

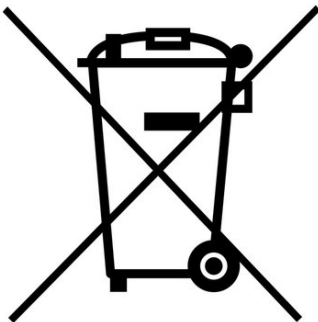
ESD safe best practices include, but are not limited to:

- Do not handle the carrier board out of its antistatic packaging while it is not used for operational purposes unless it is otherwise protected.
- Whenever possible, unpack or pack this product only at ESD safe work stations.
- Where a safe work station is not guaranteed, it is important for the user to be electrically discharged before touching the product with his/her hands or tools.
- Try to handle the board by the edges, avoiding contact with components.



HOT Surface!

Do not touch. Contact may cause burns. Allow to cool before servicing.



Waste Electrical and Electronic Equipment (WEEE)!

The carrier board should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.



Restriction of Hazardous Substances (RoHS)!

The carrier board complies with the regulations and restrictions established by the ROHS Directive and does not contain hazardous substances in concentrations that may be harmful to health or the environment.

Limited Product Warranty

Forecr provides a 1-year Warranty for the carrier board. This warranty period is valid from the original purchase date of the carrier board. In order to maintain warranty, the carrier board must not be altered or modified in any way. Changes or modifications to the board, that are not explicitly approved by Forecr and described in this user manual or received from Forecr Support as a special handling instruction, will void your warranty.

To receive warranty service, the carrier board must be delivered to Forecr within the warranty period together with the original invoice or proof of purchase.

Revision History

Revision No	Revision Date	Revision Description
rev 1.0	09.05.2024	Preliminary Release
rev 1.1	06.09.2024	Key-M, Key-B and Key-E connector pinouts have been added to section 3.3.4, 3.3.5 and 3.3.6.

1. Introduction

The DSBOARD-NX2 is a carrier board designed to support the NVIDIA Xavier NX, Jetson Nano, and TX2 NX System on Modules (SoMs) for advanced edge computing applications.

The carrier board features multiple camera connectors, Gigabit Ethernet, HDMI, and USB 3.0, providing a wide range of I/O interfaces for your project needs. Additionally, it supports PCIe and M.2 expansion options, allowing for further customization and scalability.

The DSBOARD-NX2 provides a complete development and deployment platform for the Xavier NX, Jetson Nano, and TX2 NX SoMs, offering excellent performance and flexibility for your edge computing applications. Whether you are building intelligent robots, drones, or other edge devices, the DSBOARD-NX2 offers a powerful and flexible foundation for your project.

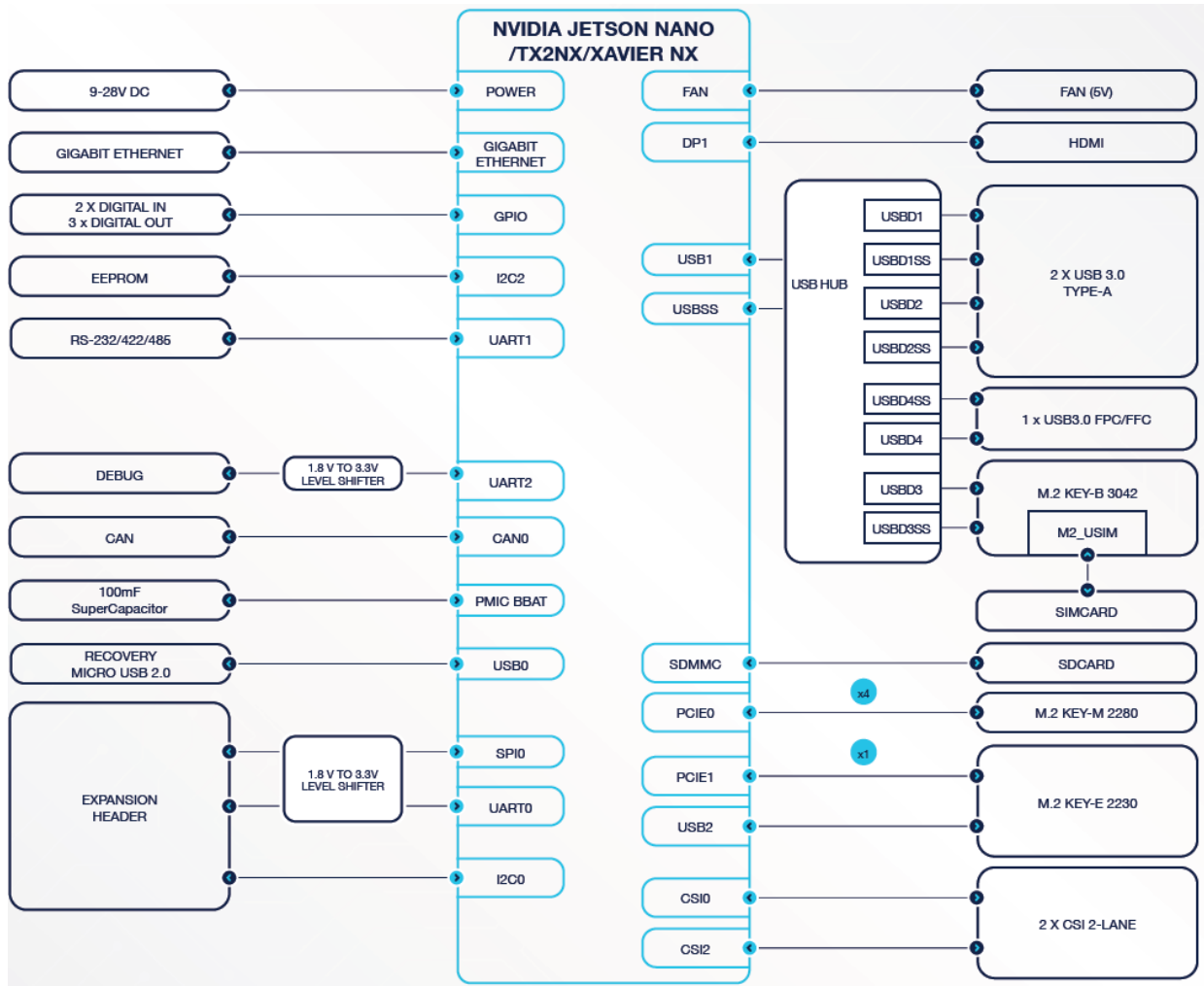
Latest revision of this user manual, datasheet, and 3D model can be downloaded from [Forecr Web Page](#).

2. Product Specification

2.1 Technical Specification

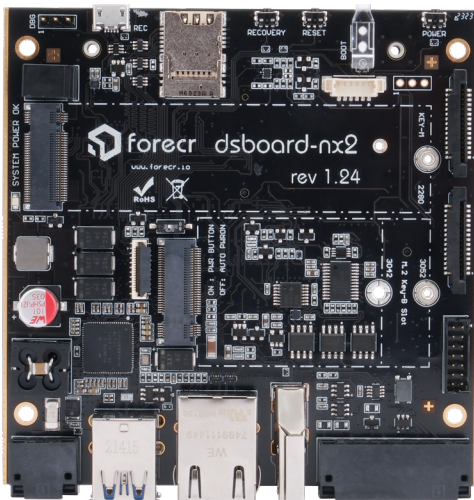
Supported Modules	NVIDIA Jetson Nano NVIDIA Jetson Xavier NX 8GB / 16GB NVIDIA Jetson TX2 NX
Memory	4 GB 64-bit LPDDR4 8 GB 128-bit LPDDR4x / 16 GB 128-bit LPDDR4x 4GB 128-bit LPDDR4
Graphics Interfaces	1x HDMI 2.0 (max resolution 3840x2160)
Interfaces	1x Gigabit Ethernet 2x USB 3.1 Type-A 1x CAN Bus (Only in Xavier NX and TX2NX SoM) 1x RS232/422/485 (software configurable) 1 x microUSB (Recovery) 1 x UART (Debug, 3.3V) 2x CSI 2-LANE 2x Digital Input 3x Digital Output
Wireless Communication	WiFi/Bluetooth/LTE/5G Connectivity by extension sockets
Power Supply	9-28 VDC
Extension Sockets	1x M.2 Key-E, 1x M.2 Key-B, 1x MicroSD, 1x SIM, 1x 5V FAN, 1x SPI, 1x UART, 1x I2C
Mass Storage	16 GB eMMC 5.1 Flash 1x M.2 Key-M SSD Slot
Ambient Conditions	-25°C ... +85°C
Form Factor / Dimensions	100 mm x 100 mm, 85gr
Operating Systems	Ubuntu Linux 18.04 / 20.04
JetPack Support	JetPack 4.x JetPack 5.x

2.2 Block Diagram

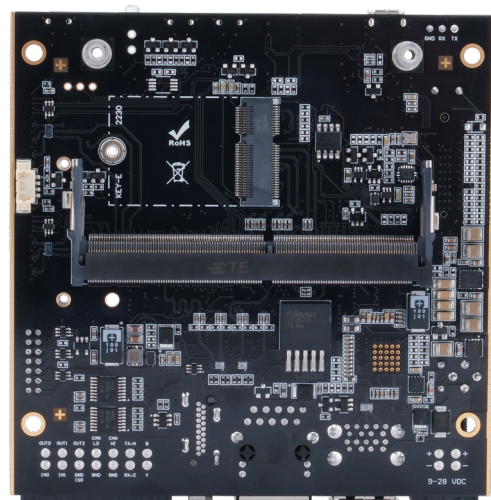


2.3 Board Visuals

Top Side



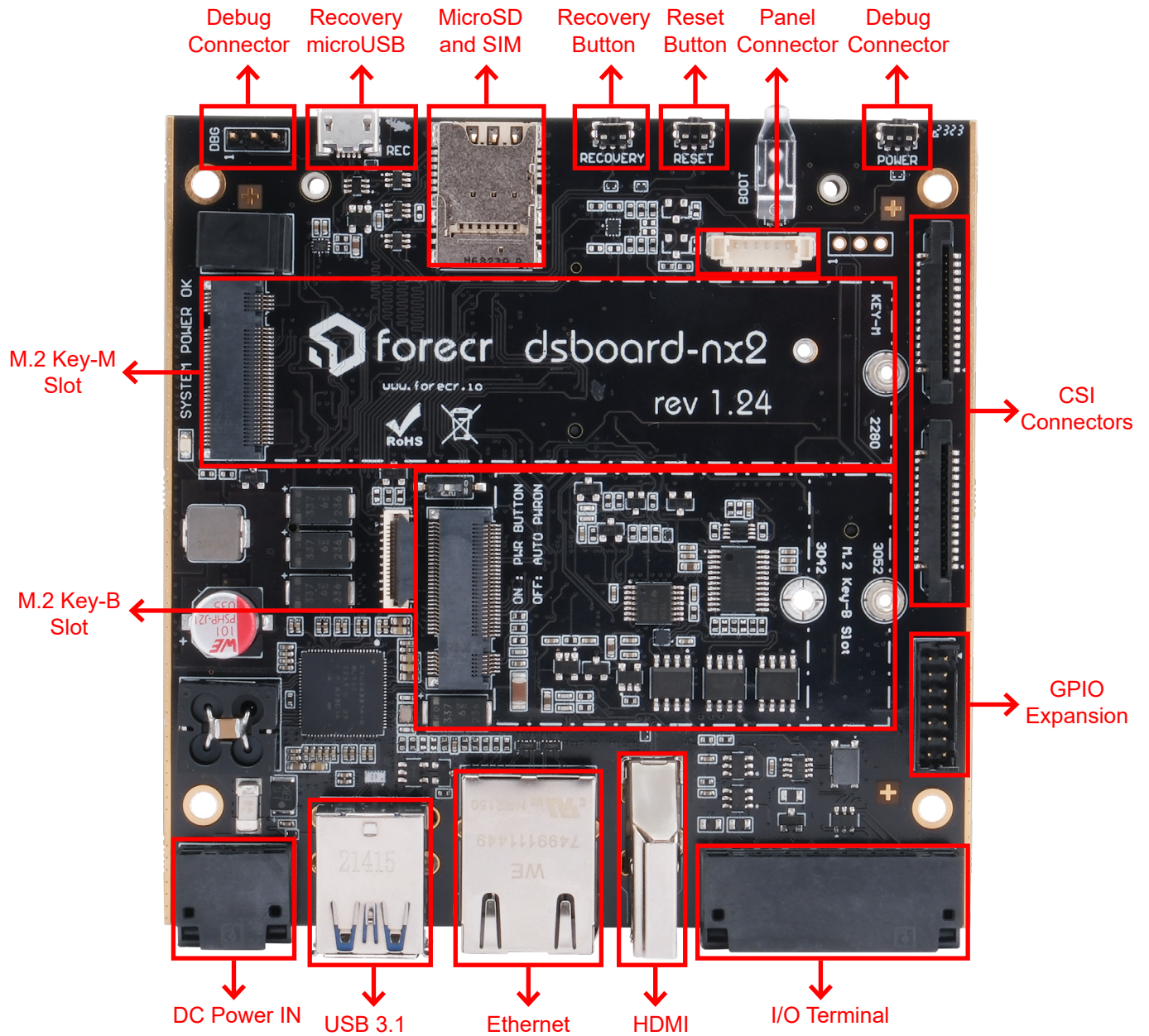
Bottom Side



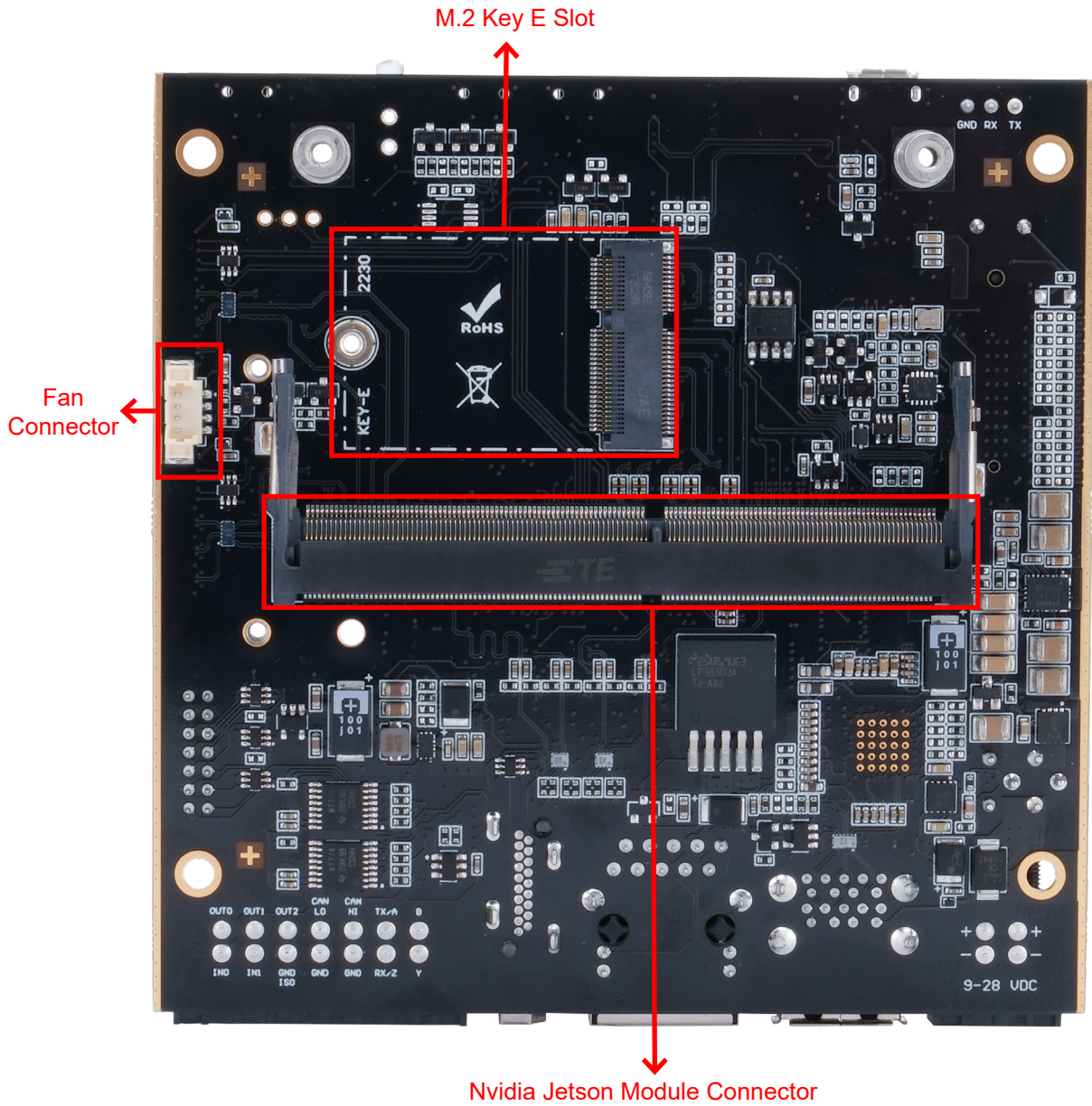
3. Hardware Information

3.1 Connector and Button Location

3.1.1 Top Side



3.1.2 Bottom Side

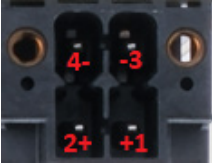


3.2 List of Connectors and Buttons


Connectors
DSBOARD-NX2 Power Connector
DSBOARD-NX2 SD Card Connector
DSBOARD-NX2 M.2 Key-M Connector
DSBOARD-NX2 M.2 Key-B Connector
DSBOARD-NX2 M.2 Key-E Connector
DSBOARD-NX2 MIPI CSI Connector (Raspberry Pi Camera Compatible)
DSBOARD-NX2 I/O Terminal Connector
DSBOARD-NX2 Fan Connector
DSBOARD-NX2 Expansion Header Connector
DSBOARD-NX2 Front Panel Connector
DSBOARD-NX2 HDMI Connector
DSBOARD-NX2 USB 3.1 Type-A Connector
DSBOARD-NX2 10/100/1000 Ethernet Connector
DSBOARD-NX2 Recovery Mode Micro USB Connector
DSBOARD-NX2 Debug Header Connector
Buttons
DSBOARD- NX2 Power Button
DSBOARD-NX2 Recovery Pushbutton
DSBOARD-NX2 Reset Pushbutton

3.3 The Definition of Each Connector

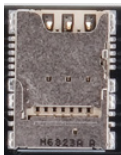
3.3.1 Power Connector

	Function		Description	
	Mating Connector		1708595	
	Minimum Input Voltage		+9V	
	Maximum Input Voltage		+28V	
	Pinout		Pin	Description
		1	Positive	
		2	Positive	
		3	Negative	
		4	Negative	

3.3.2 I/O Terminal Connector

	Function		Description		
	Mating connector		1790344 (DFMC 1,5/ 7-STF-3,5) from Phoenix Contact		
	Pinout		Pin	Description	I/O Type
			1	RS422 B	I/O
			2	RS422 Y / RS485 A	I/O
			3	RS232 RX / RS422 A	I/O
			4	RS232 TX / RS422 Z / RS485 B	I/O
			5	CAN_H	I/O
			6	GROUND	Power
			7	CAN_L	I/O
			8	GROUND	Power
			9	DIGITAL_OUT2	Output
			10	ISOLATED GROUND	Power
			11	DIGITAL_OUT1 <i>Note:</i> Up to 24V, low-side switch mechanism	Output
			12	DIGITAL_IN1 <i>Note:</i> High at 11-24V	Input
		13	DIGITAL_OUT0 <i>Note:</i> Up to 24V, low-side switch mechanism	Output	
		14	DIGITAL_IN0 <i>Note:</i> High at 11-24V	Input	

3.3.3 SD Card Connector


	Description	
	The DSBOARD-NX2 implements a micro SD Card connector and nano SIM card connector together. The bottom part is used for micro SD card and the upper part is used for nano SIM card connector.	

3.3.4 M.2 Key-M Connector

		Description					
Pinout	Pin	Description	Pin	Description	Pin	Description	
	1	DGND	24	NC	47	PCIE0.TX0_N	
	2	VDD_3V3	25	PCIE0.TX2_P	48	NC	
	3	DGND	26	NC	49	PCIE0.TX0_P	
	4	VDD_3V3	27	DGND	50	PCIE0.RST_N	
	5	PCIE0.RX3_N	28	NC	51	DGND	
	6	NC	29	PCIE0.RX1_N	52	PCIE0.CLKREQ_N	
	7	PCIE0.RX3_P	30	NC	53	PCIE0.CLK_N	
	8	NC	31	PCIE0.RX1_P	54	PCIE.WAKE_N	
	9	DGND	32	NC	55	PCIE0.CLK_P	
	10	NC	33	DGND	56	NC	
	11	PCIE0.TX3_N	34	NC	57	DGND	
	12	VDD_3V3	35	PCIE0.TX1_N	58	NC	
	13	PCIE0.TX3_P	36	NC	67	NC	
	14	VDD_3V3	37	PCIE0.TX1_P	68	32KHZ_CLK	
	15	DGND	38	NC	69	NC	
	16	VDD_3V3	39	DGND	70	VDD_3V3	
	17	PCIE0.RX2_N	40	M2M_I2C2.SCL	71	DGND	
	18	VDD_3V3	41	PCIE0.RX0_N	72	VDD_3V3	
	19	PCIE0.RX2_P	42	M2M_I2C2.SDA	73	DGND	
	20	NC	43	PCIE0.RX0_P	74	VDD_3V3	
	21	DGND	44	M2M_ALERT_N	75	DGND	
	22	NC	45	DGND	MNT1	DGND	
	23	PCIE0.TX2_N	46	NC	MNT2	DGND	

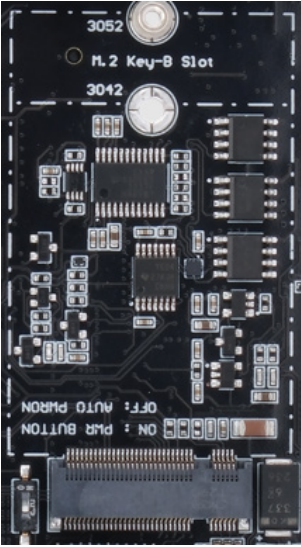
Board to board spacing=2.45 mm
Max component height=0 mm

Blue: Board-to-Board spacing
Red: Max component height





3.3.5 M.2 Key-B Connector

		Description			
Pinout	Pin	Description	Pin	Description	
	1	NC	44	NC	
	2	VDD_3V8	45	DGND	
	3	DGND	46	NC	
	4	VDD_3V8	47	NC	
	5	DGND	48	NC	
	6	M2B_FULLCARD_PWOFF#	49	NC	
	7	USBD3.D_P	50	NC	
	8	M2B_W_DISABLE1#	51	DGND	
	9	USBD3.D_N	52	NC	
	10	NC	53	NC	
	11	DGND	54	NC	
	20	NC	55	NC	
	21	NC	56	M2B_I2C2.SDA	
	22	NC	57	DGND	
	23	NC	58	M2B_I2C2.SCL	
	24	NC	59	NC	
	25	NC	60	NC	
	26	M2B_W_DISABLE2#	61	NC	
	27	DGND	62	NC	
	28	NC	63	NC	
	29	USBD3.SSRX_N	64	NC	
	30	M2_USIM_RST	65	NC	
	31	USBD3.SSRX_P	66	NC	
	32	M2_USIM_CLK	67	M2B_RESET	
	33	DGND	68	NC	
	34	M2_USIM_DAT	69	NC	
	35	USBD3_SSTX_N	70	VDD_3V8	
	36	M2_USIM_VDD	71	DGND	
	37	USBD3_SSTX_P	72	VDD_3V8	
	38	NC	73	DGND	
	39	DGND	74	VDD_3V8	
	40	NC	75	NC	
	41	NC	MNT1	DGND	
	42	NC	MNT2	DGND	
	43	NC			



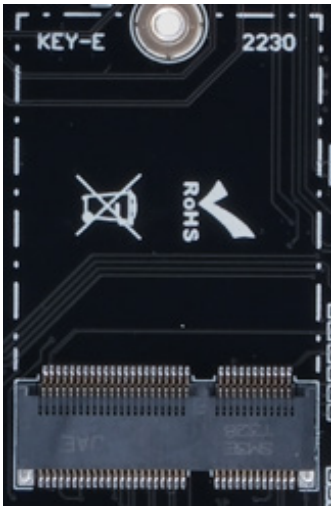
Board to board spacing=2.45 mm
Max component height=1.75 mm

Blue: Board-to-Board spacing
Red: Max component height




3.3.6 M.2 Key-E Connector

Description				
Pinout	Pin	Description	Pin	Description
	1	DGND	44	NC
	2	VDD_3V3	45	DGND
	3	USB2.AP_P	46	NC
	4	VDD_3V3	47	PCIE.CLK_P
	5	USB2.AP_N	48	NC
	6	NC	49	PCIE.CLK_N
	7	DGND	50	M2E_SUSCLK_32KHZ
	8	NC	51	DGND
	9	NC	52	PCIE1.RST_N
	10	NC	53	PCIE1.CLKREQ_N
	11	NC	54	M2E_WDISABLE2_N
	12	NC	55	PCIE.WAKE_N
	13	NC	56	M2E_WDISABLE1_N
	14	NC	57	DGND
	15	NC	58	M2E_I2C2.SDA
	16	NC	59	NC
	17	NC	60	M2E_I2C2.SCL
	18	DGND	61	NC
	19	NC	62	M2E_ALERT_N
	20	NC	63	DGND
	21	NC	64	NC
	22	NC	65	NC
	23	NC	66	NC
	32	NC	67	NC
	33	DGND	68	NC
	34	NC	69	DGND
	35	PCIE1.TX0_P	70	NC
	36	NC	71	NC
	37	PCIE1.TX0_N	72	VDD_3V3
	38	NC	73	NC
	39	DGND	74	VDD_3V3
	40	NC	75	DGND
	41	PCIE1.RX0_P	MNT1	DGND
	42	NC	MNT2	DGND
	43	PCIE1.RX0_N		




Board to board spacing=1.45 mm
Max component height=0 mm


Blue: Board-to-Board spacing
Red: Max component height



3.3.7 MIPI CSI Connector (Raspberry Pi Camera Compatible)


	Function	Description		
	Mating connector	686715100001 (Flat Flex Ribbon Cable)		
	Pin/Pitch/Bottom contact	The connector type is FPC Vertical Connector 15 Pin - Pitch 1 mm.		
	Pinout	Pin	Description	I/O Type
		1	GROUND	Power
		2	CSI_D0_N	Data
		3	CSI_D0_P	Data
		4	GROUND	Power
		5	CSI_D1_N	Data
		6	CSI_D1_P	Data
		7	GROUND	Power
		8	SCI_CLK_N	Clock
		9	SCI_CLK_P	Clock
		10	GROUND	Power
		11	CAM_PWDN_CONN	Data
12		CAM_MCLK_CONN	Data	
13		CAM_I2C.SCL	Clock	
14	CAM_I2C.SDA	Data		
15	VDD_3V3	Power		

3.3.8 Fan Connector

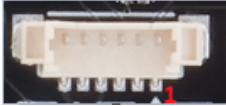
	Function	Description	
	Mating Connector	0510210400 from Molex Picoblade	
	Pinout	Pin	Description
		1	GND
		2	5V
3		TACH	
4	PWM		

3.3.9 Expansion Header Connector


The DSBOARD-NX2 implements 14 pins GPIO Expansion connector which has SPI, I2C and UART standard pins. All signals are the 3.3V voltage level.

	Function		Description		
	Connector Type		DF11-14DP-2DSA(24)		
	Mating connector		DF11-14DS-2C		
	Pinout		Pin	Description	
			1	+5V	
			2	+3.3V	
			3	GROUND	
			4	GROUND	
			5	SPI0_CS	
			6	SPI0_SCK	
			7	SPI0_MISO	
			8	SPI0_MOSI	
			9	I2C0_SCL	
			10	I2C0_SDA	
11			UART0_TX		
12			UART0_RTS		
13	UART0_RX				
14	UART0_CTS				


3.3.10 Front Panel Connector

	Function		Description		
	Connector Type		62201021121 from Würth Elektronik		
	Pinout		Pin	Description	
			1	PWR_BTN_N	
			2	GND	
			3	RESET_N	
			4	GND	
5			RECOVERY_N		
6	GND				


3.3.11 HDMI Connector

	Description	
	The NVIDIA® Jetson Xavier NX™, TX2 NX™ or Jetson Nano™ module will output video via the DSBOARD-NX2 vertical HDMI connector that is HDMI 2.0 capable.	

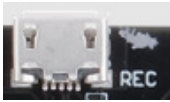
3.3.12 USB 3.1 Type-A Connector

	<table border="1"> <tr> <th colspan="2">Description</th> </tr> <tr> <td colspan="2">The DSBOARD-NX2 incorporates 2 USB 3.1 Type-A connectors with a 1.5A current limit per connector.</td> </tr> </table>	Description		The DSBOARD-NX2 incorporates 2 USB 3.1 Type-A connectors with a 1.5A current limit per connector.	
Description					
The DSBOARD-NX2 incorporates 2 USB 3.1 Type-A connectors with a 1.5A current limit per connector.					


3.3.13 10/100/1000 Ethernet Connector

	<table border="1"> <tr> <th colspan="2">Description</th> </tr> <tr> <td colspan="2">The DSBOARD-NX2 implements RJ-45 Gigabit Ethernet Connector for network connection.</td> </tr> </table>	Description		The DSBOARD-NX2 implements RJ-45 Gigabit Ethernet Connector for network connection.	
Description					
The DSBOARD-NX2 implements RJ-45 Gigabit Ethernet Connector for network connection.					

3.3.14 Recovery Mode Micro USB Connector


	<table border="1"> <tr> <th colspan="2">Description</th> </tr> <tr> <td colspan="2">The DSBOARD-NX2 implements a Micro USB connector to allow to install or upgrade the operating system.</td> </tr> </table>	Description		The DSBOARD-NX2 implements a Micro USB connector to allow to install or upgrade the operating system.	
Description					
The DSBOARD-NX2 implements a Micro USB connector to allow to install or upgrade the operating system.					

3.3.15 Debug Header Connector


	<table border="1"> <tr> <th colspan="2">Function</th> <th colspan="2">Description</th> </tr> </table>		Function		Description										
	Function		Description												
	<table border="1"> <tr> <th colspan="2">Pinout</th> </tr> <tr> <td>1</td> <td>UART_TX (3.3V)</td> </tr> <tr> <td>2</td> <td>UART_RX (3.3V)</td> </tr> <tr> <td>3</td> <td>GND</td> </tr> </table>	Pinout		1	UART_TX (3.3V)	2	UART_RX (3.3V)	3	GND	<table border="1"> <tr> <th colspan="2">Pin</th> </tr> </table>	Pin		<table border="1"> <tr> <th colspan="2">Description</th> </tr> </table>	Description	
		Pinout													
		1	UART_TX (3.3V)												
2		UART_RX (3.3V)													
3	GND														
Pin															
Description															
1	UART_TX (3.3V)														
2	UART_RX (3.3V)														
3	GND														

3.4 The Definition of Buttons


3.4.1 Power Button

	<table border="1"> <tr> <th colspan="2">Description</th> </tr> <tr> <td colspan="2">The DSBOARD-NX2 implements a power button for energize the platform when in button powered mode.</td> </tr> </table>	Description		The DSBOARD-NX2 implements a power button for energize the platform when in button powered mode.	
Description					
The DSBOARD-NX2 implements a power button for energize the platform when in button powered mode.					

3.4.2 Recovery Pushbutton

	<table border="1"> <tr> <th colspan="2">Description</th> </tr> <tr> <td colspan="2">The DSBOARD-NX2 implements a recovery pushbutton. Recovery button should be pressed with reset button at the same time. After released reset button, recovery button should be pressed a little bit more (min. 250 ms).</td> </tr> </table>	Description		The DSBOARD-NX2 implements a recovery pushbutton. Recovery button should be pressed with reset button at the same time. After released reset button, recovery button should be pressed a little bit more (min. 250 ms).	
Description					
The DSBOARD-NX2 implements a recovery pushbutton. Recovery button should be pressed with reset button at the same time. After released reset button, recovery button should be pressed a little bit more (min. 250 ms).					

3.4.3 Reset Pushbutton

	<table border="1"> <tr> <th colspan="2">Description</th> </tr> <tr> <td colspan="2">The DSBOARD-NX2 implements a reset button to reset the Jetson SoM.</td> </tr> </table>	Description		The DSBOARD-NX2 implements a reset button to reset the Jetson SoM.	
Description					
The DSBOARD-NX2 implements a reset button to reset the Jetson SoM.					

4. Software Information

4.1 Installation

For the Jetson Xavier Nx module:

JetPack-4.x Installation can be found here: <https://www.forecr.io/blogs/installation/jetpack-4-x-installation-for-dsbox-nx2>

JetPack-5.x Installation can be found here: <https://www.forecr.io/blogs/installation/jetpack-5-x-installation-for-dsbox-nx2>

For the Jetson TX2 NX module:

JetPack-4.x Installation can be found here: <https://www.forecr.io/blogs/installation/jetpack-4-x-installation-for-dsbox-tx2nx>

For the Jetson Nano module:

JetPack-4.x Installation can be found here: <https://www.forecr.io/blogs/installation/jetpack-4-x-installation-for-dsbox-n2>

5. Connectivity

5.1 General Purpose Input/Output (GPIO)

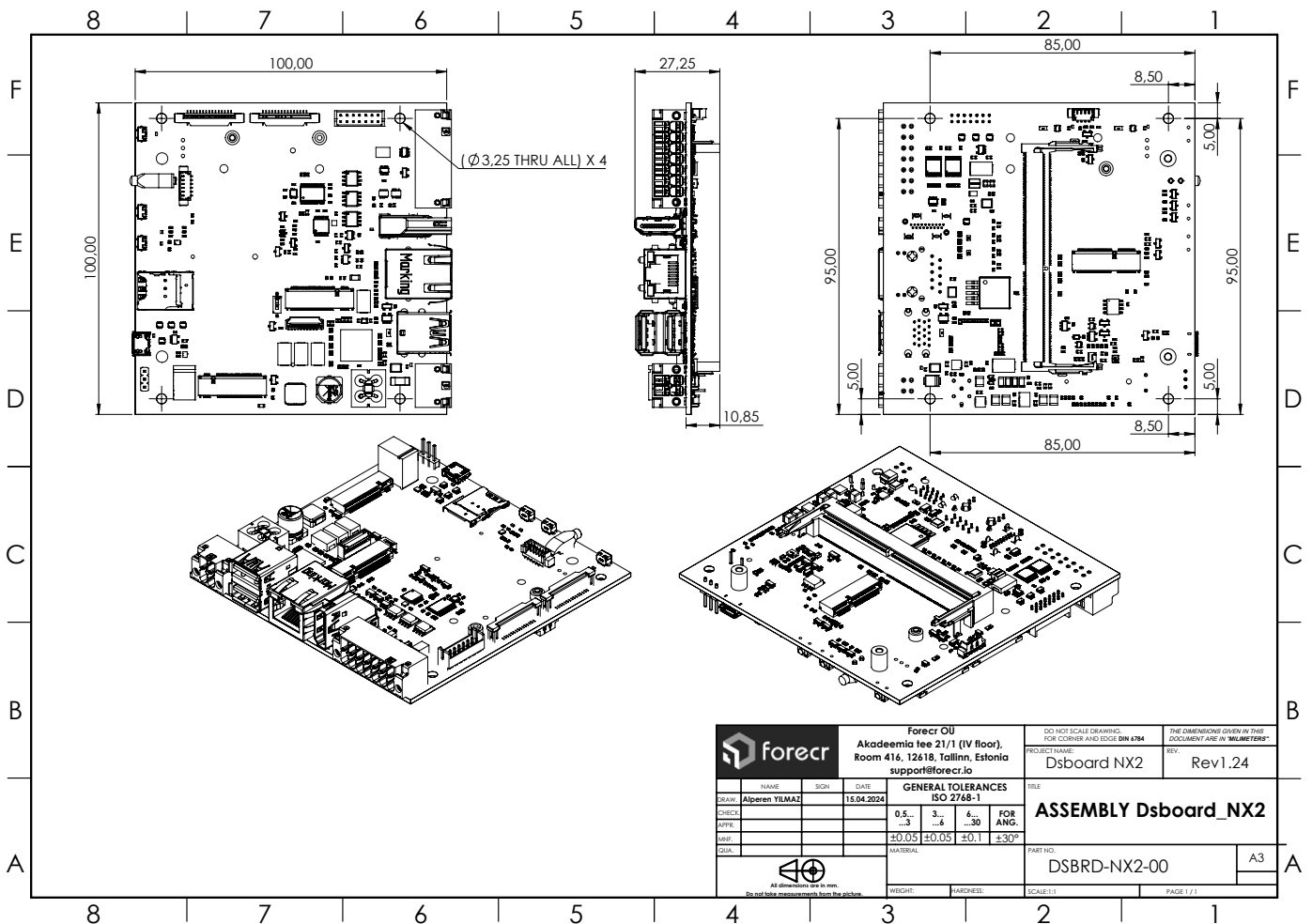
MODULE PIN NUMBER	I/O NAME	MODULE PIN NAME	TYPE	DESCRIPTION
220	PWRLED_R	I2S1_DOUT	OUTPUT	Drive high to turn on the Red LED.
222	PWRLED_G	I2S1_DIN	OUTPUT	Drive high to turn on the Green LED.
224	PWRLED_B	I2S1_FS	OUTPUT	Drive high to turn on the Blue LED.
124	M2B_W_DISABLE2#	GPIO02	OUTPUT	LTE/5G module GNSS enablement control. Drive low to disable GNSS. Drive high for normal operation.
126	M2B_W_DISABLE1#	GPIO13 (PWM)	OUTPUT	LTE/5G module airplane mode control. Drive low to enable airplane mode. Drive high for normal operation.
127	M2B_FULLCARD_PWROFF#	GPIO04	OUTPUT	LTE/5G module power on/off control. Drive low to power off the module. Drive high for normal operation.
128	M2B_PWR_ON#	GPIO05	OUTPUT	LTE/5G module 3.8V power supply LDO enable control. Drive high to disable LDO. Drive low for normal operation.
118	M2B_RESET	GPIO01(CLK)	OUTPUT	LTE/5G module reset control input. Drive high to trigger reset. Drive low for normal operation.
228	M2E_WDISABLE1	GPIO13(PWM)	OUTPUT	WiFi/BT module full powerdown control for the WiFi/BT radio. Drive high to disable WiFi/BT. Drive low for normal operation.
97	M2E_WDISABLE2	SPI0_CSI	OUTPUT	Reset for Bluetooth.
106	DATA_IN0	SPI_SCK	INPUT	Control signal for DIGITAL_IN0 in I/O Connector.
108	DATA_IN1	SPI_MISO	INPUT	Control signal for DIGITAL_IN1 in I/O Connector.
104	DATA_OUT0	SPI1_MOSI	OUTPUT	Control signal for DIGITAL_OUT0 in I/O Connector.
110	DATA_OUT1	SPI1_CS0	OUTPUT	Control signal for DIGITAL_OUT1 in I/O Connector.

112	DATA_OUT2	SPI1_CS1	OUTPUT	Control signal for DIGITAL_OUT2 in I/O Connector.
130	RS485_CTRL	GPIO06	OUTPUT	Receiver or driver control for RS-485. Drive low to enable receiver. Drive high to enable driver.
206	RS485/RS232	GPIO07/PWM)	OUTPUT	Serial communication control for SP330EEY-L transceiver. Drive low to enable RS-232. Drive high to enable RS-485.
211	HALF/FULL	GPIO09(AUD_MCLK)	OUTPUT	Half duplex or full duplex control for RS-485 communication protocol. Drive low for full duplex communication. Drive high for half duplex communication.

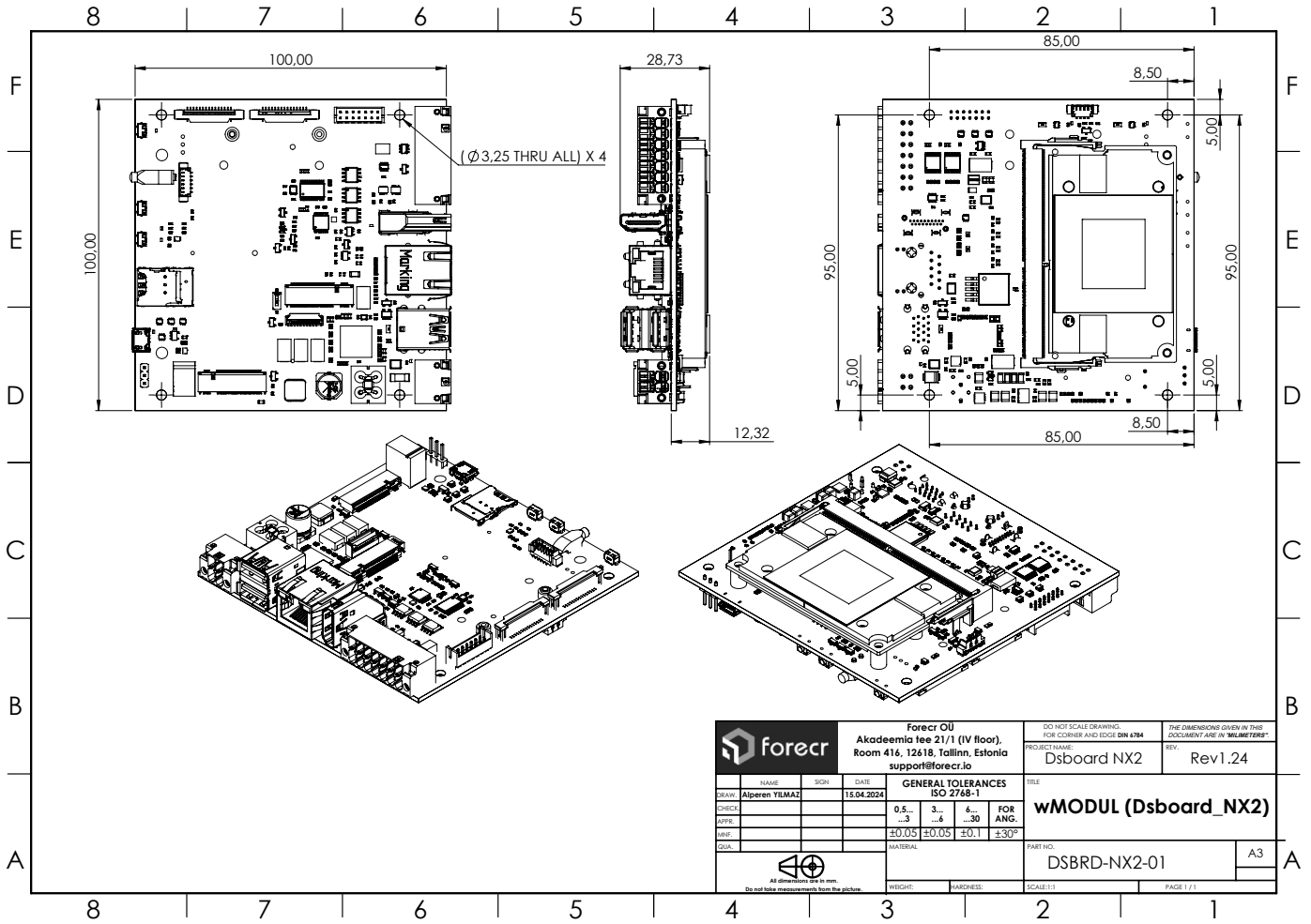
6. 3D Model & Mechanical Information

Full 3D models of all DSBOARD NX2 Carrier Board can be found here: https://github.com/forecr/forecr_3d_models/tree/master/DSBOARD-NX2

DSBOARD-NX2 Stand Alone

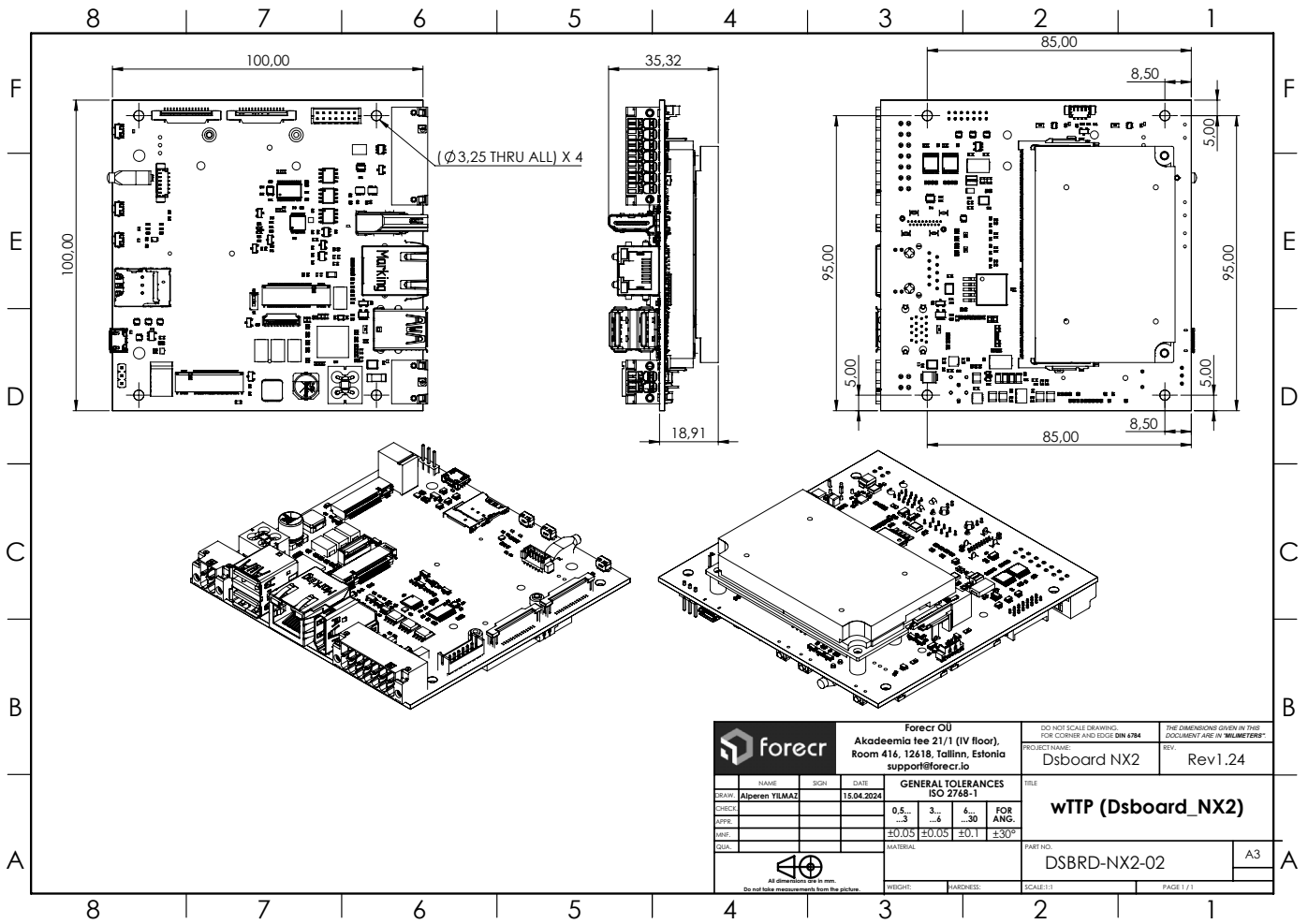


DSBOARD-NX2 with Jetson Nano/TX2 NX/Xavier NX Module



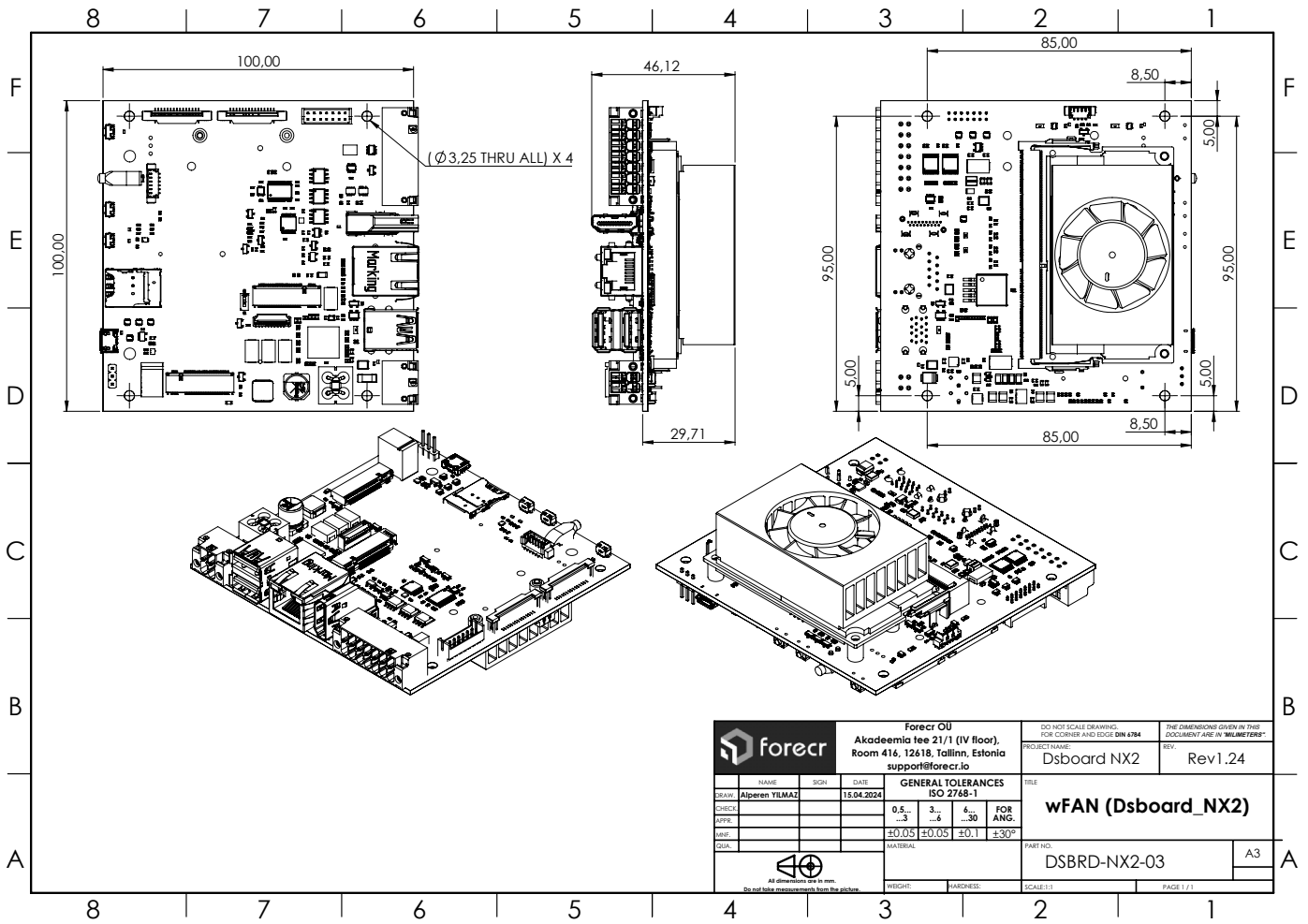
		Forecr OÜ Akadeemia tee 21/1 (IV floor), Room 416, 12618, Tallinn, Estonia support@forecr.io		DO NOT SCALE DRAWING. FOR CORNER AND EDGE DIN 4784		THE DIMENSIONS GIVEN IN THIS DOCUMENT ARE IN "MILLIMETERS"	
NAME: Alperen YILMAZ SIGN: [Signature] DATE: 15.04.2024		GENERAL TOLERANCES ISO 2768-1		PROJECT NAME: Dsboard NX2 REV: Rev1.24		TITLE: wMODUL (Dsboard_NX2)	
DRAW: Alperen YILMAZ CHECK: [Signature] DESIGNED: [Signature] DATE: [Signature]		0.5 - 3 - 6 - 12 - 30 -0.3 -0.4 -0.5 -0.7 FOR ANG		MATERIAL: [Blank] PART NO: DSBRD-NX2-01		A3	
Do not take measurements from the picture.		WEIGHT: [Blank] HARDNESS: [Blank]		SCALE: 1:1		PAGE 1 / 1	

DSBOARD-NX2 with Jetson Nano/TX2 NX/Xavier NX Module and TTP Integration Details



		Forecr OÜ Akadeemia tee 21/1 (IV floor), Room 416, 12618, Tallinn, Estonia support@forecr.io		DO NOT SCALE DRAWING. FOR CORNER AND EDGE DIN 4784		THE DIMENSIONS GIVEN IN THIS DOCUMENT ARE IN "MILLIMETERS"	
PROJECT NAME: Dsboard NX2		REV: Rev1.24		wTP (Dsboard_NX2)			
NAME Alperen YILMAZ		SIGN 		DATE 15.04.2024		TITLE wTP (Dsboard_NX2)	
CHECK 		GENERAL TOLERANCES ISO 2768-1		0.5, 3, 6, FOR -0.3, -0.4, -0.30 ANG		PART NO. DSBRD-NX2-02	
MFG 		±0.05 ±0.05 ±0.1		MATERIAL 		A3	
SEAL 		WEIGHT:		HARDNESS:		SCALE: 1:1 PAGE 1 / 1	

DSBOARD-NX2 with Jetson Nano/TX2 NX/Xavier NX Module and Thermal Integration Details



		Forecr OÜ Akadeemia tee 21/1 (IV floor), Room 416, 12618, Tallinn, Estonia support@forecr.io		DO NOT SCALE DRAWING. FOR CORNER AND EDGE DIM 4784		THE DIMENSIONS GIVEN IN THIS DOCUMENT ARE IN "MILLIMETERS"	
PROJECT NAME: Dsboard NX2		REV: Rev1.24		TITLE: wFAN (Dsboard_NX2)			
NAME: Alperen YILMAZ		SIGN: DATE: 15.04.2024		GENERAL TOLERANCES ISO 2768-1		MATERIAL: PART NO: DSBRD-NX2-03	
DRAW: CHECK: ESTD: APPR: QVAL:		0.5 -0.3		3 -0.6		6 -0.30	
WEIGHT: HARDNESS:		±0.05 ±0.05 ±0.1		FOR ANGL 3.30°		SCALE: 1:1 PAGE 1 / 1	
<p>ASME Y14.5M Do not take measurements from the picture.</p>						A3	

7. Power Consumption

7.1 Jetson Nano

Power Supply: 12V-5A

All CPU and GPU cores are %100 loaded.

	Power Up Sequence	Idle	Standby (Suspend mode)	5W (4 core)	MAXN
Current (A)	0,54	0,27	0,04	0,62	1,05
Power (W)	6,48	3,24	0,48	7,44	12,6

7.2 Jetson TX2 NX

Power Supply: 12V-5A

All CPU and GPU cores are %100 loaded.

	Power Up Sequence	Idle	Standby (Suspend mode)	MAXP_CORE_ARM	MAXP_CORE_ALL	MAXQ	MAXN (6 core)
Current (A)	0,56	0,18	0,028	1,42	1,20	0,82	1,6
Power (W)	6,72	2,16	0,336	17,04	14,4	9,84	19,2

7.3 Jetson Xavier NX 8GB

Power Supply: 12V-5A

All CPU and GPU cores are %100 loaded.

	Power Up Sequence	Idle	Standby (Suspend mode)	10W 2 core	10W 4 core	10W Desktop	15W 2 core	15W 4 core	15W 6 core	20W 2 core	20W 4 core	20W 6 core
Current (A)	0,92	0,38	0,051	1,45	1,5	1,38	1,72	2	2,1	2,07	2,24	2,38
Power (W)	11,04	4,56	0,612	17,4	18	16,56	20,64	24	25,2	24,84	26,88	28,56

7.4 Jetson Xavier NX 8GB (with NVME SSD)

Power Supply: 12V-5A

All CPU and GPU cores are %100 loaded.

	Power Up Sequence	Idle	Standby (Suspend mode)	10W 2 core	10W 4 core	10W Desktop	15W 2 core	15W 4 core	15W 6 core	20W 2 core	20W 4 core	20W 6 core
Current (A)	1,27	0,65	0,058	1,58	1,63	1,55	1,84	2,08	2,24	2,14	2,23	2,51
Power (W)	15,24	7,8	0,696	18,96	19,56	18,6	22,08	24,96	26,88	25,68	26,76	30,12

7.5 Jetson Xavier NX 16GB

Power Supply: 12V-5A

All CPU and GPU cores are %100 loaded.

	Power Up Sequence	Idle	Standby (Suspend mode)	10W 2 core	10W 4 core	10W Desktop	15W 2 core	15W 4 core	15W 6 core	20W 2 core	20W 4 core	20W 6 core
Current (A)	0,86	0,34	0,05	1,53	1,56	1,52	1,55	2,02	2,1	2,07	2,12	2,3
Power (W)	10,32	4,08	0,6	18,36	18,72	18,24	18,6	24,24	25,2	24,84	25,44	27,6

7.6 Jetson Xavier NX 16GB (with NVME SSD)

Power Supply: 12V-5A

All CPU and GPU cores are %100 loaded.

	Power Up Sequence	Idle	Standby (Suspend mode)	10W 2 core	10W 4 core	10W Desktop	15W 2 core	15W 4 core	15W 6 core	20W 2 core	20W 4 core	20W 6 core
Current (A)	1,17	0,6	0,06	1,7	1,9	1,6	1,88	2,08	2,4	2,11	2,2	2,5
Power (W)	14,04	7,2	0,72	20,4	22,8	19,2	22,56	24,96	28,8	25,32	26,4	30

8. MTBF Prediction

This section will be completed soon. It will be published on our website once completed. Please check our [Forecr Web Page](#) regularly.

9. Ordering Information

