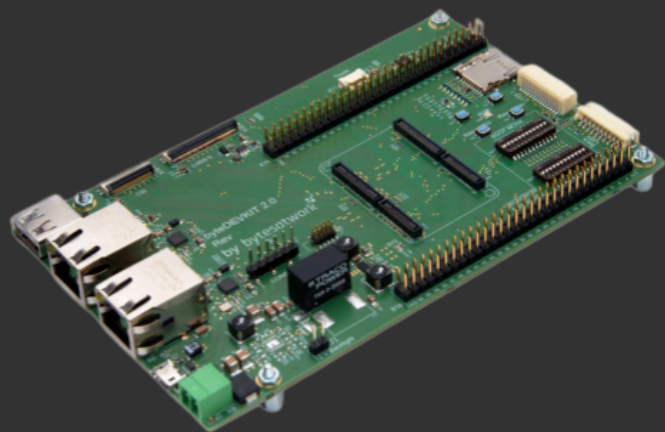
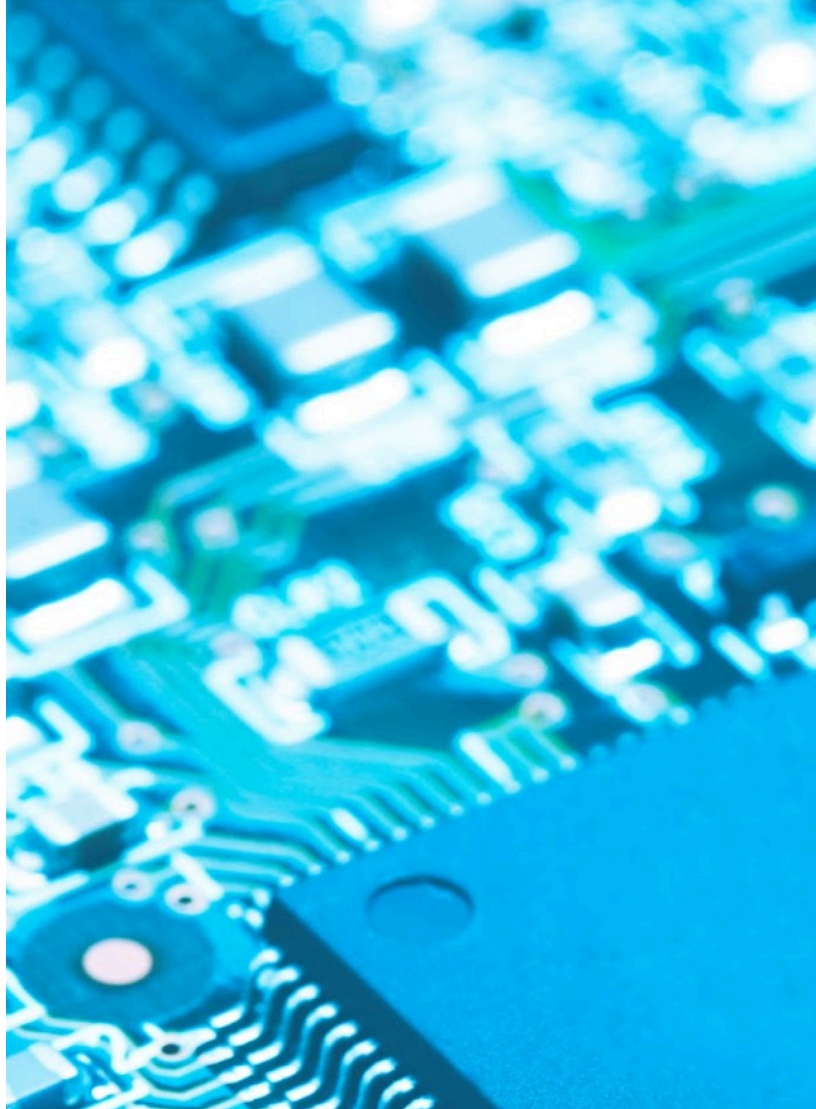


bytes**at**work

DataSheet

Rev. 2.0 28.03.2025



industrial development kit

byteDEVKIT 2



Copyright Notice

Copyright 2025 bytes at work AG, CH-8406 Winterthur, Switzerland. All rights reserved.

Reproduction in any form or by any means without permission is prohibited. Bytes at work AG reserves the right to make improvements to the products described in this manual at any time without notice.

No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without the prior written permission of the company. Information provided in this manual is intended to be accurate and reliable. However, bytes at work assumes no responsibility for its use, or for any infringements upon the rights of third parties that may result from its use.

The material in this document is for product information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, bytes at work assumes no liabilities resulting from errors or omissions in this document, or from the use of the information contained herein. bytes at work reserves the right to make changes in the product design without notice to its users.

Trademarks

Product names, logos, brands, and other trademarks featured, or referred to are the property of their respective trademark holders. These include, but are not limited to U-Boot, Linux and ARM.

Disclaimer

Bytesatwork does not guarantee that the information in this manual is up-to-date, correct, complete or of good quality. Nor does bytesatwork assume guarantee for further usage of the information. Liability claims against bytesatwork, referring to material or non-material related damages caused, due to usage or non-usage of the information given in the manual, or due to usage of erroneous or incomplete information, are exempted, as long as there is no bytesatwork.

Bytesatwork explicitly reserves the rights to change or add to the contents of this manual or parts of it without special notification.

Imprint

Bytesatwork
Technoparkstrasse 7
CH-8406 Winterthur
+41 52 213 79 79

info@bytesatwork.ch
www.bytesatwork.io

Symbols and Typographic Conventions

These symbols represent important details or aspects for working with bytesatwork-products.



NOTICE

Follow instructions. Acting against the procedure described can lead to malfunction.



www.bytesatwork.io

Table of Contents

1. Revision History	4
2. Overview	4
2.1. General Information	5
2.2. Technical Data byteDEVKIT 2	6
2.3. Technical Data of the SOM byteENGINE AM62x	7
2.4. Decision guidance byteDEVKIT 2	8
2.5. Quickstart guide	9
2.6. Yocto Project Quick Build	10
3. Pinout functions	11
3.1. X10 LVDS1 connector for optional second Display	11
3.2. X11 Touch Connector	12
3.3. X12 5-inch Display Connector	12
3.4. X13 Backlight Connector for optional second Display	13
3.5. X14 Camera	14
3.6. X15 60PIN Connector	15
3.7. X16 60PIN Connector	17
4. Connectors	20
5. Boot modes byteENGINE AM62x	21
6. Mechanical dimensions byteDEVKIT 2	22
6.1. Mechanical dimensions of byteENGINE AM62x	22
7. Ordering info	23
8. References byteDEVKIT 2	24

1. Revision History

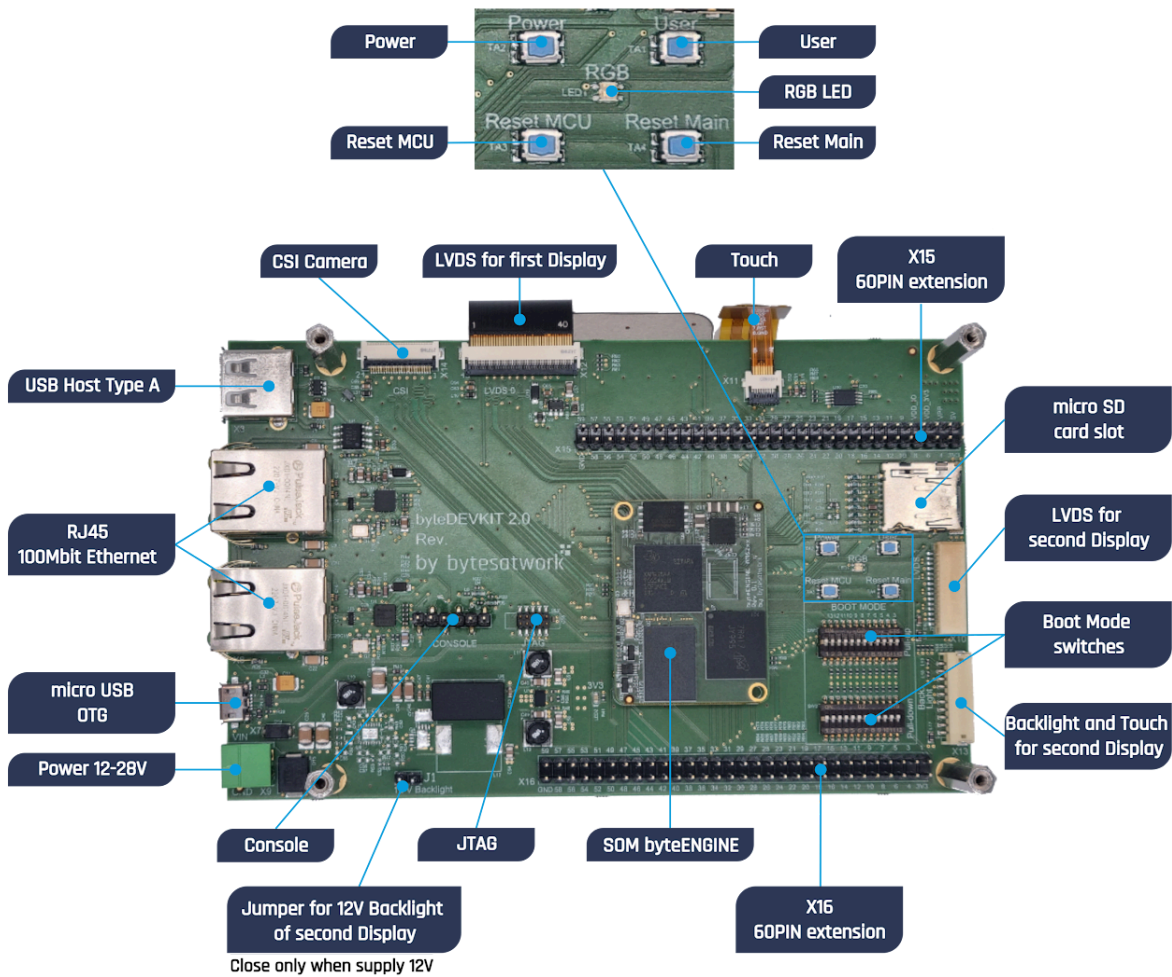
Hardware Revision	Marking on PCB	Release Date	Info
1.0	byteDEVKIT 2 Rev. 1.0	Juni 2023	First version available for sales
0.1	byteDEVKIT 2 Rev. 0.1	2022	Prototypes



NOTICE

This document refers to byteDEVKIT 2 V1.0

2. Overview



2.1. General Information

Maximum flexibility and simplicity

The byteDEVKIT 2 enables you to work on your own projects while shortening time-to-market significantly. It is engineered for a huge variety of applications and the flexible structure allows easy implementations of even profound changes. Furthermore, it offers maximum flexibility and simplicity. The byteDEVKIT 2 is available with the complete AM62xx-Module family:

- > AM6231, AM6232, AM6234
- > AM6251, AM6252, AM6254.

Plenty of possibilities

The byteDEVKIT 2 includes the base board that features a strong array of interfaces for a variety of applications:

- > 2x 100Mbit Ethernet RJ45
- > 1x microSD Slot
- > 1x USB Host Type A
- > 1x USB OTG microUSB
- > 5-inch LVDS Touchscreen Display
- > extension connector for second Display
- > 2x 60 PIN Header: Extension-Header X15: LCD, OSPI, MMC2, SPI0, MCAN, MCASP X16: GMPC, I2C1, MCU_I2C0, MCU_SPI0, MCU_UART0, MCU-MCAN0, MCU-MCAN1, WKUP, RESET
- > Boot mode switches
- > CSI Camera 4lanes

Ready to start and use

The byteDEVKIT 2 package comes ready to run, which includes a power supply, a serial console and a microSD card with pre-installed embedded Linux. As a result, you benefit from rapid prototyping, maximum flexibility and a very short time-to-market.

Low consumption & high performance

The ARM®-Cortex® CPUs from Texas Instruments are on the cutting edge of their industry thanks to the combination of functional integration, high performance and extremely low power consumption.

Two in one

The byteENGINE AM62x has up to four Cortex®-A53 cores for exceptionally high system performance. The Cortex®-M4 core enables real-time applications with low performance at the same time.

Easy to adapt to your project

Thanks to the two 60PIN headers, rapid prototyping is easy and efficient. The byteDEVKIT 2 offers on its 112 PINs a variety of interfaces such as I2C, SPI - CAN, UART, USART, PWM and GPIO.

Quality which endures

Our Swiss standard pays off. We only install components to the byteDEVKIT 2 that will be still available in ten years. The byteDEVKIT 2 is engineered with the focus on robustness and longevity.

2.2. Technical Data byteDEVKIT 2

byteDEVKIT 2

Connectors	2x 1000MBit Ethernet RJ45
Hardware Slot	1x microSD slot
Device Slot 1	1x USB 3.0 Host Type A
Device Slot 2	1x USB OTG microUSB
Display	5-inch LVDS Display with Touch; Extension connectors for second Display
Connector 60 PIN	X15: LCD, OSPI, MMC2, SPI0, MCAN, MCASP X16: GMPC, I2C1, MCU_I2CO, MCU_SPI0, MCU_UART0, MCU_MCAN0, MCU_MCAN1, WKUP, RESET

2.3. Technical Data of the SOM byteENGINE AM62x



Notice

For detailed information regarding the AM62x please refer to the document byteENGINE AM62x Datasheet.



[Datasheet byteENGINE AM62x](#)

byteENGINE AM62x Specification

CPU	Up to Quad 64-bit ARM® Cortex® A53 processors 1.8 GHz
Co-Processor	Cortex® M7 up to 800 MHz
Memory	512 MB to 2048 MB LPDDR4
Flash eMMC	up to 128 GB
Temperature	Industrial: -40° to +85° C, consumer: 0 to 85° C
Power Supply	5.0 V, 4 W
Dimensions	30 x 40 x 4 mm

2.4. Decision guidance byteDEVKIT 2

The following six steps help identifying the suitable DEVKIT with the needed SOM for the specific customer application.

> **Step 1:** Select the needed CPU for the SOM

> **Choose Quad/Dual or Single Arm[®] Cortex[®]-A53**

Quad Core: AM62x**4**

Dual Core: AM62x**2**

Single Core: AM62x**1**

> **Choose with or without 3D-Graphics Engine**

With 3D-Graphics Engine: AM62**5**x

Without 3D-Graphics Engine: AM62**3**x

> **Step 2:** Select the needed CPU speed

> **Choose 1.0 GHz / 1.4 GHz**

> **Step 3:** Select the needed flash memory capacity

> **Choose eMMC 8 / 16 / 32 / 64 GB / 128 GB**

> **Step 4:** Select the needed RAM capacity

> **Choose 512 / 1024 /1536 / 2048 MB**

> **Step 5:** Select the needed temperature range

> **Choose consumer or industrial**

> **Step 6:** Select the needed Display

> **Choose with or without**



[Ordering info](#)

2.5. Quickstart guide

The Quickstart guide simplifies the startup process with step-by-step instructions. Should you have questions you are always welcome to ask our experts for technical support. See Chapter „[Connectors](#)“ for connectors layout.

- > **Step 1:** Connect the USB-RS232 cable to SL1 (black wire is marking PIN 1)
- > **Step 2:** (Optional) Connect the network cable
- > **Step 3:** Put a valid micro SD-Card into the SD-Card slot
- > **Step 4:** Connect the console cable to your computer serial or USB port if you're using the adapter.

> Start the Terminal Software and configure your serial port with the following port settings:

Port Settings

Bits per second	115200
Data bits	8
Parity	N
Stop bits	1

- > **Step 5:** Connect the power supply to X9
- > **Step 6:** After connected to power supply, the console shows the boot log
- > **Step 7:** Login to the system with:

Login Data

User	root
Password	rootme

2.6. Yocto Project Quick Build

These steps guide you through the process for an image build using the Yocto Project.



[Bytesatwork on github](https://github.com/bytesatwork)

> **Step 1:** Create the folder „yocto“ and change into directory using the following commands:

```
mkdir yocto
cd yocto
```

> **Step 2:** : Download all necessary repositories using repo:

```
repo init -u https://github.com/bytesatwork/bsp-platform-ti.git -b kirkstone repo sync
```

> **Step 3:** When these commands are completed successfully, the following command will setup a Yocto Project environment for byteDEVKIT:

```
MACHINE=bytedevkit-am62xx DISTRO=poky-bytesatwork EULA=1 . setup-environment build
```

> **Step 4:** The final command builds a development image:

(this will last several hours, depending on the build machine)

```
bitbake bytesatwork-minimal-image
```

> **Step 5:** Create and write the SD-Card Image:

(replace sdX with SD-Card drive)

```
cd tmp/deploy/images/bytedevkit-am62xx xzcat
bytesatwork-minimal-image-bytedevkit-am62xx.wic.xz | dd of =/dev/sdX bs=1M conv=fsync
```

3. Pinout functions

3.1. X10 LVDS1 connector for optional second Display

Con	Pin	Signal Name
X10	1	GND
X10	2	GND
X10	3	OLDIO_A5N
X10	4	OLDIO_A4N
X10	5	OLDIO_A5P
X10	6	OLDIO_A4P
X10	7	GND
X10	8	GND
X10	9	OLDIO_A6N
X10	10	NC
X10	11	OLDIO_A6P
X10	12	NC
X10	13	GND
X10	14	NC
X10	15	OLDIO_CLK1P
X10	16	GND
X10	17	OLDIO_CLK1N
X10	18	NC
X10	19	GND
X10	20	SEL6/8
X10	21	OLDIO_A7P
X10	22	GND
X10	23	OLDIO_A7N
X10	24	Reserve
X10	25	GND
X10	26	GND
X10	27	GND
X10	28	3V3
X10	29	3V3
X10	30	3V3

3.2. X11 Touch Connector

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X11	1	GND							
X11	2	VDDIO							
X11	3	VDD							
X11	4	I2C1_SCL	UART1_RXD	TIMER_IO0	SPI2_CS1	EHRPWM0_SYNCI			GPIO1_28
X11	5	I2C1_SDA	UART1_TXD	TIMER_IO1	SPI2_CLK	EHRPWM0_SYNCO			GPIO1_29
X11	6	TOUCH_INT							
X11	7	TOUCH_RESET							
X11	8	GND							

3.3. X12 5-inch Display Connector

Con	Pin	Signal Name
X12	1	LEDA
X12	2	LEDA
X12	3	YU(NC)
X12	4	XL(NC)
X12	5	YD(NC)
X12	6	XR(NC)
X12	7	U/D/HDIR
X12	8	L/R/VDIR
X12	9	LED
X12	10	LED
X12	11	GND
X12	12	NC
X12	13	NC
X12	14	NC
X12	15	NC
X12	16	GND
X12	17	NC
X12	18	NC
X12	19	GND

Con	Pin	Signal Name
X12	20	OLDIO_A3P
X12	21	OLDIO_A3N
X12	22	GND
X12	23	OLDIO_CLK0P
X12	24	OLDIO_CLK0N
X12	25	GND
X12	26	OLDIO_A2N
X12	27	OLDIO_A2P
X12	28	GND
X12	29	OLDIO_A1N
X12	30	OLDIO_A1P
X12	31	GND
X12	32	OLDIO_A0N
X12	33	OLDIO_A0P
X12	34	GND
X12	35	DISPLAY1_ENABL E
X12	36	DISPLAY1_RESET
X12	37	NC
X12	38	3V3
X12	39	3V3
X12	40	NC

3.4. X13 Backlight Connector for optional second Display

Con	Pin	Signal Name
X13	1	VIN_12V
X13	2	VIN_12V
X13	3	VIN_12V
X13	4	VIN_12V
X13	5	GND
X13	6	GND
X13	7	GND
X13	8	GND
X13	9	DISPLAY2_ENABLE
X13	10	DISPLAY2_PWM

3.5. X14 Camera

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X14	1	GND							
X14	2	CSI0_RXN0							
X14	3	CSI0_RXP0							
X14	4	GND							
X14	5	CSI0_RXCLKN							
X14	6	CSI0_RXCLKP							
X14	7	GND							
X14	8	CSI0_RXN1							
X14	9	CSI0_RXP1							
X14	10	GND							
X14	11	CSI0_RXN2							
X14	12	CSI0_RXP2							
X14	13	GND							
X14	14	CSI0_RXN3							
X14	15	CSI0_RXP3							
X14	16	GND							
X14	17	CAMERA_nPWDN							
X14	18	NC							
X14	19	GND							
X14	20	I2C1_SCL	UART1_RXD	TIMER_IO0	SPI2_CS1	EHRPWM0_SYNCI			GPIO1_28
X14	21	I2C1_SDA	UART1_TXD	TIMER_IO1	SPI2_CLK	EHRPWM0_SYNCO			GPIO1_29
X14	22	NC							
X14	23	CAMERA_RESET							
X14	24	3V3							

3.6. X15 60PIN Connector

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X15	1	5V							
X15	2	3V3							
X15	3	VPP							
X15	4	VOUT0_DATA0	GPMC0_A0	PR0_PRU1_GPO0	PR0_PRU1_GPI0	UART2_RXD	PR0_PRU0_GPO8	PR0_PRU0_GPI8	GPIO0_45
X15	5	VDD_3V3							
X15	6	VOUT0_DATA1	GPMC0_A1	PR0_PRU1_GPO1	PR0_PRU1_GPI1	UART2_TXD	PR0_PRU0_GPO9	PR0_PRU0_GPI9	GPIO0_46
X15	7	VDD_IO							
X15	8	VOUT0_DATA2	GPMC0_A2	PR0_PRU1_GPO2	PR0_PRU1_GPI2	UART3_RXD	PR0_PRU0_GPO10	PR0_PRU0_GPI10	GPIO0_47
X15	9	OSPI0_CLK							GPIO0_0
X15	10	VOUT0_DATA3	GPMC0_A3	PR0_PRU1_GPO3	PR0_PRU1_GPI3	UART3_TXD	PR0_PRU0_GPO11	PR0_PRU0_GPI11	GPIO0_48
X15	11	OSPI0_IO0							
X15	12	VOUT0_DATA4	GPMC0_A4	PR0_PRU1_GPO4	PR0_PRU1_GPI4	UART4_RXD	PR0_PRU0_GPO12	PR0_PRU0_GPI12	GPIO0_49
X15	13	OSPI0_IO1							
X15	14	VOUT0_DATA5	GPMC0_A5	PR0_PRU1_GPO5	PR0_PRU1_GPI5	UART4_TXD	PR0_PRU0_GPO13	PR0_PRU0_GPI13	GPIO0_50
X15	15	OSPI0_IO2							
X15	16	VOUT0_DATA6	GPMC0_A6	PR0_PRU1_GPO6	PR0_PRU1_GPI6	UART5_RXD	PR0_PRU0_GPO14	PR0_PRU0_GPI14	GPIO0_51
X15	17	OSPI0_IO3							
X15	18	VOUT0_DATA7	GPMC0_A7	PR0_PRU1_GPO7	PR0_PRU1_GPI7	UART5_TXD	PR0_PRU0_GPO15	PR0_PRU0_GPI15	GPIO0_52
X15	19	OSPI0_IO4							
X15	20	VOUT0_DATA8	GPMC0_A8	PR0_PRU1_GPO16	PR0_PRU1_GPI16	UART6_RXD	PR0_PRU0_GPO17	PR0_PRU0_GPI17	GPIO0_53
X15	21	OSPI0_IO5							
X15	22	VOUT0_DATA9	GPMC0_A9	PR0_PRU1_GPO8	PR0_PRU1_GPI8	UART6_TXD	PR0_PRU0_GPO16	PR0_PRU0_GPI16	GPIO0_54

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X15	23	OSPI0_IO6							
X15	24	VOUT0_DATA10	GPMC0_A10	PR0_PRU1_GPO9	PR0_PRU1_GPI9	UART6_RTSn	PR0_PRU0_GPO0	PR0_PRU0_GPI0	GPIO0_55
X15	25	OSPI0_IO7							
X15	26	VOUT0_DATA11	GPMC0_A11	PR0_PRU1_GPO10	PR0_PRU1_GPI10	UART6_CTSn	PR0_PRU0_GPO1	PR0_PRU0_GPI1	GPIO0_56
X15	27	OSPI0_CS1							
X15	28	VOUT0_DATA12	GPMC0_A12	PR0_PRU1_GPO11	PR0_PRU1_GPI11	UART5_RTSn	PR0_PRU0_GPO2	PR0_PRU0_GPI2	GPIO0_57
X15	29	OSPI0_CS2							
X15	30	VOUT0_DATA13	GPMC0_A13	PR0_PRU1_GPO12	PR0_PRU1_GPI12	UART5_CTSn	PR0_PRU0_GPO3	PR0_PRU0_GPI3	GPIO0_58
X15	31	OSPI0_DQS					UART5_CTSn		GPIO0_2
X15	32	VOUT0_DATA14	GPMC0_A14	PR0_PRU1_GPO13	PR0_PRU1_GPI13	UART4_RTSn	PR0_PRU0_GPO4	PR0_PRU0_GPI4	GPIO0_59
X15	33	OSPI0_LBCLK0					UART5_RTSn		GPIO0_1
X15	34	VOUT0_DATA15	GPMC0_A15	PR0_PRU1_GPO14	PR0_PRU1_GPI14	UART4_CTSn	PR0_PRU0_GPO5	PR0_PRU0_GPI5	GPIO0_60
X15	35	MMC2_CLK	MCASP1_ACLKR	MCASP1_AXR5	UART6_RXD				GPIO0_69
X15	36	VOUT0_PCLK	GPMC0_A19	PR0_PRU1_GPO19	PR0_PRU1_GPI19	UART2_CTSn	PR0_PRU0_GPO19	PR0_PRU0_GPI19	GPIO0_64
X15	37	MMC2_CMD	MCASP1_AFSR	MCASP1_AXR4	UART6_TXD				GPIO0_70
X15	38	VOUT0_DE	GPMC0_A19	PR0_PRU1_GPO19	PR0_PRU1_GPI19	UART2_CTSn	PR0_PRU0_GPO19	PR0_PRU0_GPI19	GPIO0_64
X15	39	MMC2_DATA0							
X15	40	VOUT0_VSYNC	GPMC0_A18	PR0_PRU1_GPO18	PR0_PRU1_GPI18	UART2_RTSn	PR0_PRU0_GPO18	PR0_PRU0_GPI18	GPIO0_63
X15	41	MMC2_DATA1							
X15	42	VOUT0_HSYNC	GPMC0_A16	PR0_PRU1_GPO15	PR0_PRU1_GPI15	UART3_RTSn	PR0_PRU0_GPO6	PR0_PRU0_GPI6	GPIO0_61
X15	43	MMC2_DATA2							
X15	44	MCAN0_RX	UART5_TXD	TIMER_IO3	SYNC3_OUT	UART1_RIn	EQEP2_S	PR0_UART0_TXD	GPIO1_25
X15	45	MMC2_DATA3							
X15	46	MCAN0_TX	UART5_RXD	TIMER_IO2	SYNC2_OUT	UART1_DTRn	EQEP2_I	PR0_UART0_RXD	GPIO1_24
X15	47	MMC2_WP							
X15	48	EMU0							

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X15	49	MMC2_CD							
X15	50	EMU1							
X15	51	SPI0_CS1	CP_GEMAC_CPTS0_TS_COMP	EHRPWM0_B	ECAP0_IN_APWM_OUT				GPIO1_16
X15	52	MCASPO_AXR0							
X15	53	SPI0_CS0		EHRPWM0_A				PR0_ECAP0_SYNC_IN	GPIO1_15
X15	54	MCASPO_ACLKX							
X15	55	SPI0_D0	CP_GEMAC_CPTS0_HW1TSPUSH	EHRPWM1_B					GPIO1_18
X15	56	MCASPO_ACLKR							
X15	57	SPI0_D1	CP_GEMAC_CPTS0_HW2TSPUSH	EHRPWM_TZn_IN0					GPIO1_19
X15	58	VSELECT							
X15	59	SPI0_CLK	CP_GEMAC_CPTS0_TS_SYNC	EHRPWM1_A					GPIO1_17
X15	60	GND							

3.7. X16 60PIN Connector

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X16	1	GPMC0_CLK		MCASP1_AXR3	GPMC0_FCLK_MUX	PR0_PRU0_GPO8	PR0_PRU0_GPI8	TRC_DATA6	GPIO0_31
X16	2	3V3							
X16	3	GPMC0_AD0	PR0_PRU1_GPO8	PR0_PRU1_GPI8	MCASP2_AXR4	PR0_PRU0_GPO0	PR0_PRU0_GPI0	TRC_CLK	GPIO0_15
X16	4	I2C1_SCL	UART1_RXD	TIMER_IO0	SPI2_CS1	EHRPWM0_SYNCI			GPIO1_28
X16	5	GPMC0_AD1	PR0_PRU1_GPO9	PR0_PRU1_GPI9	MCASP2_AXR5	PR0_PRU0_GPO1	PR0_PRU0_GPI1	TRC_CTL	GPIO0_16
X16	6	I2C1_SDA	UART1_TXD	TIMER_IO1	SPI2_CLK	EHRPWM0_SYNC0			GPIO1_29
X16	7	GPMC0_AD2	PR0_PRU1_GPO10	PR0_PRU1_GPI10	MCASP2_AXR6	PR0_PRU0_GPO2	PR0_PRU0_GPI2	TRC_DATA0	GPIO0_17
X16	8	MCU_I2C0_SCL							MCU_GPIO0_17

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X16	9	GPMC0_AD3	PR0_PRU1_GPO11	PR0_PRU1_GPI11	MCASP2_AXR7	PR0_PRU0_GPO3	PR0_PRU0_GPI3	TRC_DATA1	GPIO0_18
X16	10	MCU_I2C0_SDA							MCU_GPIO0_18
X16	11	GPMC0_AD4	PR0_PRU1_GPO12	PR0_PRU1_GPI12	MCASP2_AXR8	PR0_PRU0_GPO4	PR0_PRU0_GPI4	TRC_DATA2	GPIO0_19
X16	12	MCU_SPI0_CS1	MCU_OBSCLK0	MCU_SYSCLKOUT0	MCU_EXT_REFCLK0	MCU_TIMER_IO1			MCU_GPIO0_1
X16	13	GPMC0_AD5	PR0_PRU1_GPO13	PR0_PRU1_GPI13	MCASP2_AXR9	PR0_PRU0_GPO5	PR0_PRU0_GPI5	TRC_DATA3	GPIO0_20
X16	14	MCU_SPI0_CS0				WKUP_TIMER_IO1			MCU_GPIO0_0
X16	15	GPMC0_AD6	PR0_PRU1_GPO14	PR0_PRU1_GPI14	MCASP2_AXR10	PR0_PRU0_GPO6	PR0_PRU0_GPI6	TRC_DATA4	GPIO0_21
X16	16	MCU_SPI0_D1							MCU_GPIO0_4
X16	17	GPMC0_AD7	PR0_PRU1_GPO15	PR0_PRU1_GPI15	MCASP2_AXR11	PR0_PRU0_GPO7	PR0_PRU0_GPI7	TRC_DATA5	GPIO0_22
X16	18	MCU_SPI0_D0							MCU_GPIO0_3
X16	19	GPMC0_AD8	VOUT0_DATA16	UART2_RXD	MCASP2_AXR0	PR0_PRU1_GPO0	PR0_PRU1_GPI0		GPIO0_23
X16	20	MCU_SPI0_CLK							MCU_GPIO0_2
X16	21	GPMC0_AD9	VOUT0_DATA17	UART2_TXD	MCASP2_AXR1	PR0_PRU1_GPO1	PR0_PRU1_GPI1		GPIO0_24
X16	22	MCU_UART0_RXD							MCU_GPIO0_5
X16	23	GPMC0_AD10	VOUT0_DATA18	UART3_RXD	MCASP2_AXR2	PR0_PRU1_GPO2	PR0_PRU1_GPI2		GPIO0_25
X16	24	MCU_UART0_TXD							MCU_GPIO0_6
X16	25	GPMC0_AD11	VOUT0_DATA19	UART3_TXD	MCASP2_AXR3	PR0_PRU1_GPO3	PR0_PRU1_GPI3	TRC_DATA23	GPIO0_26
X16	26	MCU_UART0_CTSN	MCU_TIMER_IO0		MCU_SPI1_D0				MCU_GPIO0_7
X16	27	GPMC0_AD12	VOUT0_DATA20	UART4_RXD	MCASP2_AFSX	PR0_PRU0_GPO0	PR0_PRU0_GPI0	TRC_DATA22	GPIO0_27
X16	28	MCU_UART0_RTSN	MCU_TIMER_IO1		MCU_SPI1_D1				MCU_GPIO0_8
X16	29	GPMC0_AD13	VOUT0_DATA21	UART4_TXD	MCASP2_ACLKX	PR0_PRU0_GPO1	PR0_PRU0_GPI1	TRC_DATA21	GPIO0_28
X16	30	MCU_MCAN0RX							
X16	31	GPMC0_AD14	VOUT0_DATA22	UART5_RXD	MCASP2_AFSR	PR0_PRU0_GPO2	PR0_PRU0_GPI2	TRC_DATA20	GPIO0_29
X16	32	MCU_MCAN0TX							
X16	33	GPMC0_AD15	VOUT0_DATA23	UART5_TXD	MCASP2_ACLKR	PR0_PRU0_GPO3	PR0_PRU0_GPI3	TRC_DATA19	GPIO0_30
X16	34	MCU_MCAN1_RX	MCU_TIMER_IO3	MCU_SPI0_CS2	MCU_SPI1_CS2	MCU_SPI1_CLK			MCU_GPIO0_16
X16	35	GPMC0_CSN0			MCASP2_AXR14	PR0_PRU0_GPO17	PR0_PRU0_GPI17	TRC_DATA15	GPIO0_88

Con	Pin	Signal Name	Alternative Modes						
			1	2	3	4	5	6	7
X16	36	MCU_MCAN1_TX	MCU_TIMER_IO2		MCU_SPI1_CS1	MCU_EXT_REFCLK0			MCU_GPIO0_15
X16	37	GPMC0_CSN1	PR0_PRU1_GPO16	PR0_PRU1_GPI16	MCASP2_AXR15	PR0_PRU0_GPO18	PR0_PRU0_GPI18	TRC_DATA16	GPI00_42
X16	38	WKUP_I2C0_SCL							MCU_GPIO0_19
X16	39	GPMC0_CSN2	I2C2_SCL	MCASP1_AXR4	UART4_RXD	PR0_PRU0_GPO19	PR0_PRU0_GPI19	TRC_DATA17	GPI00_43
X16	40	WKUP_I2C0_SDA							MCU_GPIO0_20
X16	41	GPMC0_CSN3	I2C2_SDA	GPMC0_A20	UART4_TXD	MCASP1_AXR5		TRC_DATA18	GPI00_44
X16	42	WKUP_UART0_RXD		MCU_SPI0_CS2					MCU_GPIO0_9
X16	43	GPMC0_ADV_ALE							
X16	44	WKUP_UART0_TXD		MCU_SPI1_CS2					MCU_GPIO0_10
X16	45	GPMC0_BE0N_CLE		MCASP1_ACLKX		PR0_PRU0_GPO12	PR0_PRU0_GPI12	TRC_DATA10	GPI00_35
X16	46	WKUP_UART0_RTSN	WKUP_TIMER_IO1		MCU_SPI1_CLK				MCU_GPIO0_12
X16	47	GPMC0_BE1N			MCASP2_AXR12	PR0_PRU0_GPO13	PR0_PRU0_GPI13	TRC_DATA11	GPI00_36
X16	48	WKUP_UART0_CTSN	WKUP_TIMER_IO0		MCU_SPI1_CS0				MCU_GPIO0_11
X16	49	GPMC0_DIR	PR0_ECAP0_IN_APW M_OUT		MCASP2_AXR13	PR0_PRU0_GPO16	PR0_PRU0_GPI16	TRC_DATA14	GPI00_40
X16	50	Nmcu_safety_error							
X16	51	GPMC0_WAIT0		MCASP1_AFSX		PR0_PRU0_GPO14	PR0_PRU0_GPI14	TRC_DATA12	GPI00_37
X16	52	PORZ_OUT							
X16	53	GPMC0_WAIT1	VOUT0_EXTPCLKIN	GPMC0_A21	UART6_RXD				GPI00_38
X16	54	WKUP_CLKOUT0							MCU_GPIO0_23
X16	55	GPMC0_WPN	AUDIO_EXT_REFCLK1	GPMC0_A22	UART6_TXD	PR0_PRU0_GPO15	PR0_PRU0_GPI15	TRC_DATA13	GPI00_39
X16	56	MCU_RESETSTATZ							MCU_GPIO0_21
X16	57	GPMC0_OEN_REN		MCASP1_AXR1		PR0_PRU0_GPO10	PR0_PRU0_GPI10	TRC_DATA8	GPI00_33
X16	58	EXT_REFCLK1	SYNC1_OUT	SPI2_CS3	SYSCLKOUT0	TIMER_IO4	CLKOUT0	CP_GEMAC_CPTS0_RFT_CLK	GPI01_30
X16	59	GPMC0_WEN		MCASP1_AXR0		PR0_PRU0_GPO11	PR0_PRU0_GPI11	TRC_DATA9	GPI00_34
X16	60	GND							

4. Connectors

Power

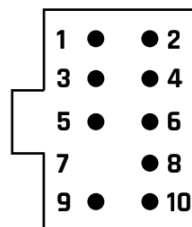
X9.1	8-30 V
X9.2	Ground (GND)

SL1: Console

SL1.1	GND
SL1.4	UART0-RXD_
SL1.5	UART0-TXD_
Do not connect other pins	

SL2: JTAG/SWD (ARM 10 Pin connector)

1	VTref
2	SWDIO/TMS
3	GND
4	SWCLK/TCK
5	GND
6	SWO/TDO
7	---
8	TDI
9	NC - TRSTN
10	nRESET



LEDs

LED1	Red: Connected to RGMII2.TD3
	Green: Connected to RGMII2.RD2
	Blue: Connected to RGMII2.RD3

Buttons

User Button	Connected to MMC1.WP
Power Button	Connected to PMIC.EN
RESET_MCU	Connected to MCU_RESETZ
Reset Button	Connected to RESET_REQZ

5. Boot modes byteENGINE AM62x

> Bootmode Pins are GPMC0_AD[0..15].

2.2x2BOOTMODE Pin Mapping															
B15	B14	B13	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1	B0
Reserved		Backup Boot Mode Config	Backup Boot Mode			Primary Boot Mode Config			Primary Boot mode				PLL Config		



See chapter 5.3.1 of the Technical Reference Manual for more Details:
[Technical Reference Manual](#)

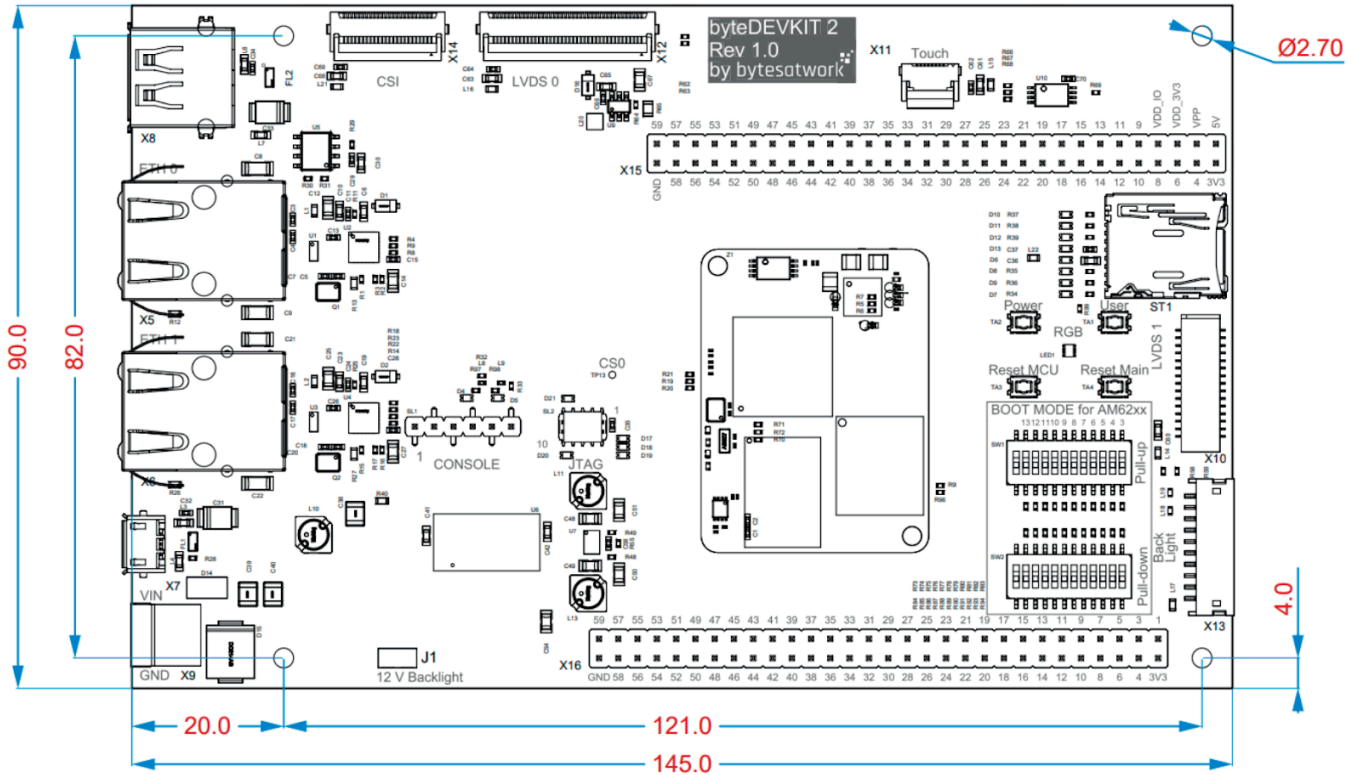
Primary Boot Mode	B9	B8	B7	B6	B5	B4	B3
MMCSD	1	0	0	1	0	0	0
QSPI	0	1	0	0	0	1	0
UART	0	0	0	0	1	1	1
Ethernet RMII	0	0	0	0	1	0	1
eMMC	0	0	0	1	0	0	1
USB	0	0	0	1	0	1	0

Backup BootMode	B13	B12	B11	B10
MMCSD	1	1	0	1
UART	0	0	1	1
USB DFU	0	0	0	1

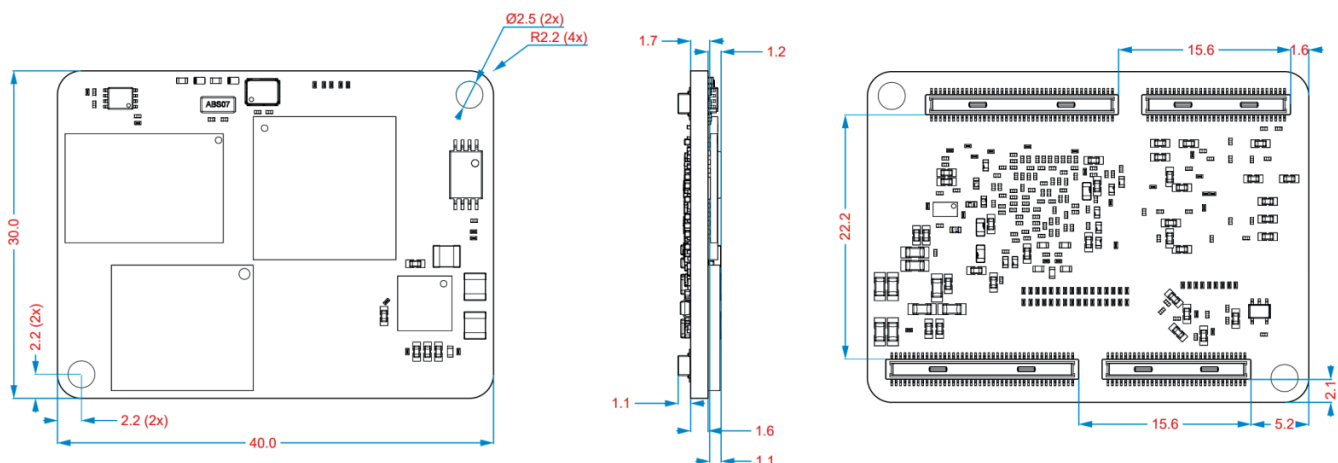
6. Mechanical dimensions byteDEVKIT 2

The following illustration shows all important dimensions for mounting and installation of the byteDEVKIT2.

> All dimensions are indicated in millimetres (mm)



6.1. Mechanical dimensions of byteENGINE AM62x



7. Ordering info

The Order Code allows customers to easily recognize the detailed specification of the ordered SOM. Please refer to chapter [Decision guidance byteDEVKIT 2](#) for further information.

byte[KIT]-[CPU]-[SPEED]-[RAM]-[FLASH]-[temp-range]-[revision]

[KIT]	Display Option	DEVKIT: With Display STARTKIT: Without Display
[CPU]	CPU Type	AM6231 / AM6232 / AM6234 / AM6251 / AM6252 / AM6254
[SPEED]	Clock speed	1.0 Ghz / 1.4 GHz
[RAM]	RAM size	512 / 768 / 1024 / 1536 / 2048 MB
[FLASH]	eMMC flash size	8 / 16 / 32 / 64 / 128 GB
[temp-range]	Temperature range	[C] Consumer 0° to +85° C [I] Industrial -40°C to +85 °C
[revision]	Revision	1.0

8. References byteDEVKIT 2



NOTICE

Files can only be downloaded with login credentials. Please request your download credentials via support@bytesatwork.ch or contact your sales representative.



Links

- > bytewiki:
<https://github.com/bytesatwork/bytewiki>
- > Readthedocs:
<https://bytewiki.readthedocs.io/en/latest/yocto/5.0/bytedevkit-am62x.html>
- > bytesatwork on github:
<https://github.com/bytesatwork>
- > byteDEVKIT 2 Schematic V1.0:
[byteDEVKIT 2 Schematic V1.0](#)
- > byteDEVKIT 2 Connector Pinout:
[byteDEVKIT 2 Connector Pinout](#)



Contact Information



Address

bytesatwork
Technoparkstrasse 7
CH-8406 Winterthur
Switzerland



Phone

Phone: +41 52 213 79 79



Email

support@bytesatwork.ch



Product Information

www.bytesatwork.io



Help

bytewiki.readthedocs.io