

iMX8Plus Development Kit

Quick Start Guide

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Issue 2



Introduction

iMX8Plus Development Kit is a quick start package allowing you to begin the development of your product with ease.

The platform comprises a choice of high-performance HDMI and USB touch interfaced PCAP multi-touch TFT displays.

The development kit contains all the necessary accessories you need meaning you can get off to a flying start.

Key Features

NXP i.MX8M Plus Quad, ARM Cortex-A53

5.0", 7.0" or 10.1" Display choice

Projected Capacitive Touchscreen

Co-processor ARM Cortex-M7, 800Mhz

Multiple I/O communications

Yocto Linux

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Document History

Date	Revision	Description	Author	Approved
04/08/2022	1	Document created	L. Tran	
20/01/2023	1	Display part numbers updated	L. O'Toole	

Introduction

- **Purpose**

This document is an introduction to the use of our iMX8Plus Development Kit.

- **Scope**

This document is intended for all users that receive the platform for the first time.

- **Reference**

None

Package Description

The iMX8Plus Development Kit is a quick start package with a selection of displays. The kit supports 3 HDMI and USB touch display variants:

Size	Features					
	Resolution	Touch	Orientation	Viewing Angle (T/B/L/R)	Contrast Ratio	Brightness
5.0"	800 x 480 (WVGA)	PCAP	Landscape	60/65/70/70	500:1	450 cd/m ²
7.0"	1024 x 600 (WSVGA)	PCAP	Landscape	85/85/85/85	800:1	750 cd/m ²
10.1"	1280 x 800 (WXGA)	PCAP	Landscape	85/85/85/85	800:1	600 cd/m ²

The development kit contains all the necessary accessories and offers an easy start base for the development of your product.

Note: Please, ensure you observe ESD precautions when handling this product.

Main Package Content

- **Common content:**

Package Content	Part Number
UCM-iMX8M-Plus Evaluation Kit	
iMX8Plus Quad 1.8GHz	UCM-iMX8PLUS-C1800QM-D4-N32-E-H
Carrier Board	SB-UCMIMX8PLUS

- **5.0" display specific content:**

Package Content	Part Number
5" WVGA PCAP TFT Display	11263

- **7.0" display specific content:**

Package Content	Part Number
7.0" WSVGA IPS PCAP TFT Display	11365

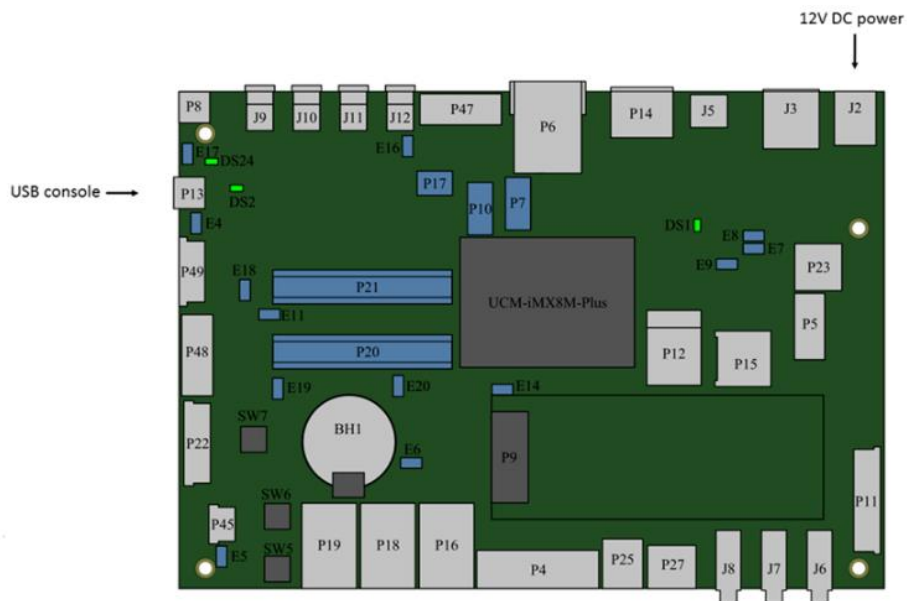
- **10.1" display specific content:**

Package Content	Part Number
10.1" WXGA IPS PCAP TFT Display	11396

Main Interfaces and Function

- Carrier Board

Top Side Diagram:



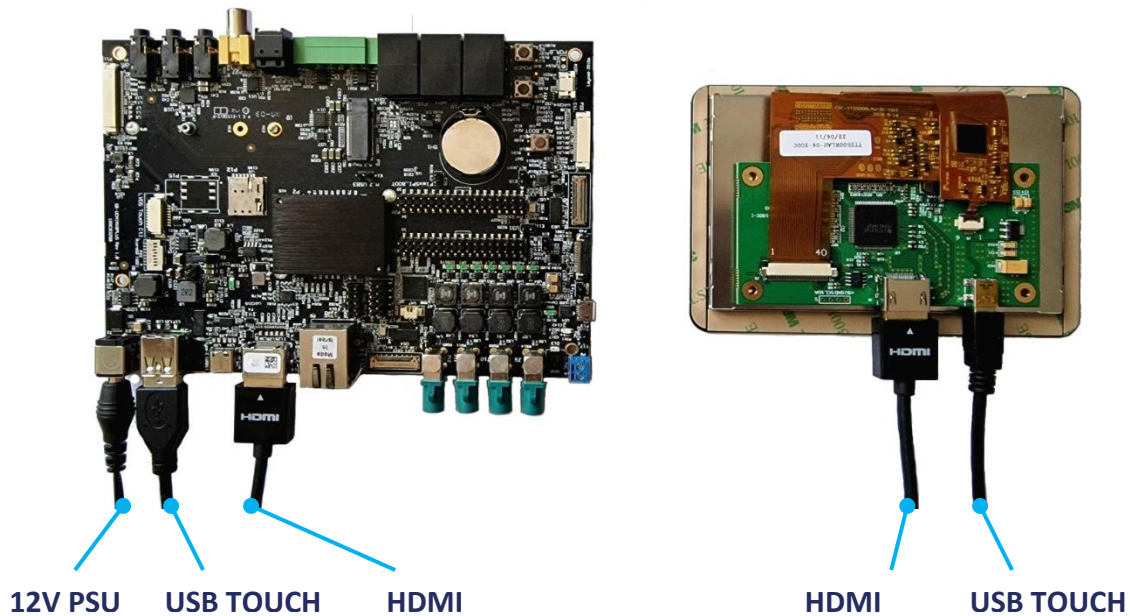
- J2:** 12V DXPower Supply
- J3 and J5:** USB3.0 connectors
- P14:** HDMI output
- P6:** Ethernet connector
- P13:** Serial Console through micro-USB connector
- P49 and P48:** MIPI-CSI Camera connectors
- P22:** Mipi-DSI Display connector
- P45:** Touch-panel connector
- P4:** CAN bus connector
- P11:** LVDS Display connector

Assembly and Basic Set-Up

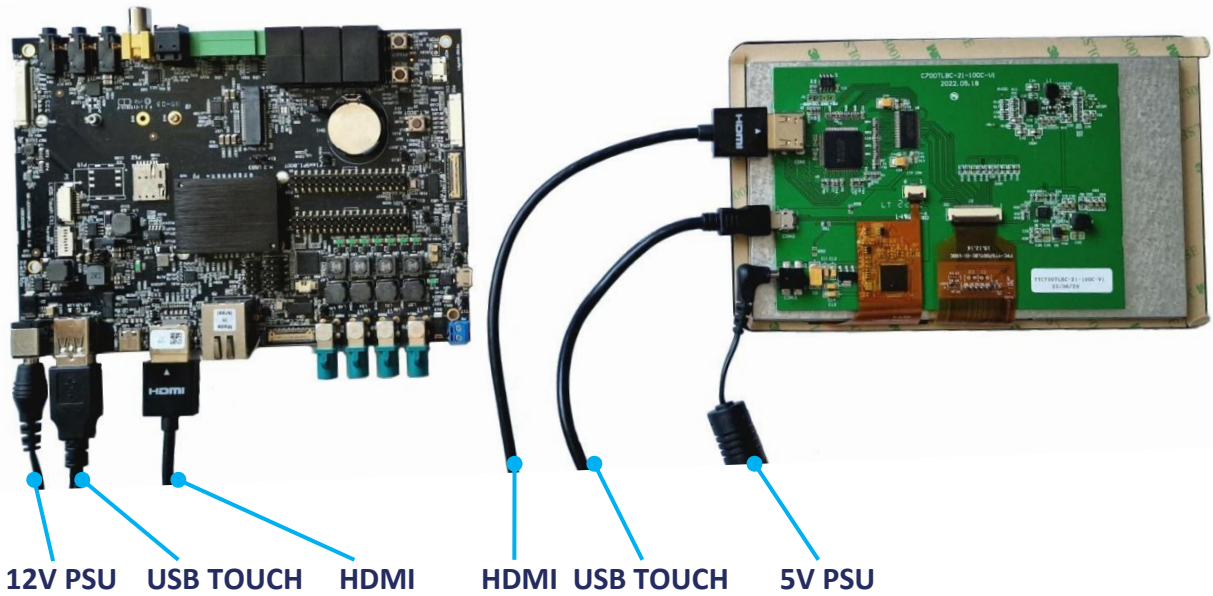
▪ Board Connections

Each display has a HDMI and USB touch interface and can be assembled with standard cabling. Apart from the 5" display variant, the displays will require an additional PSU to power the LCD. All accessories required to assemble the kit are provided.

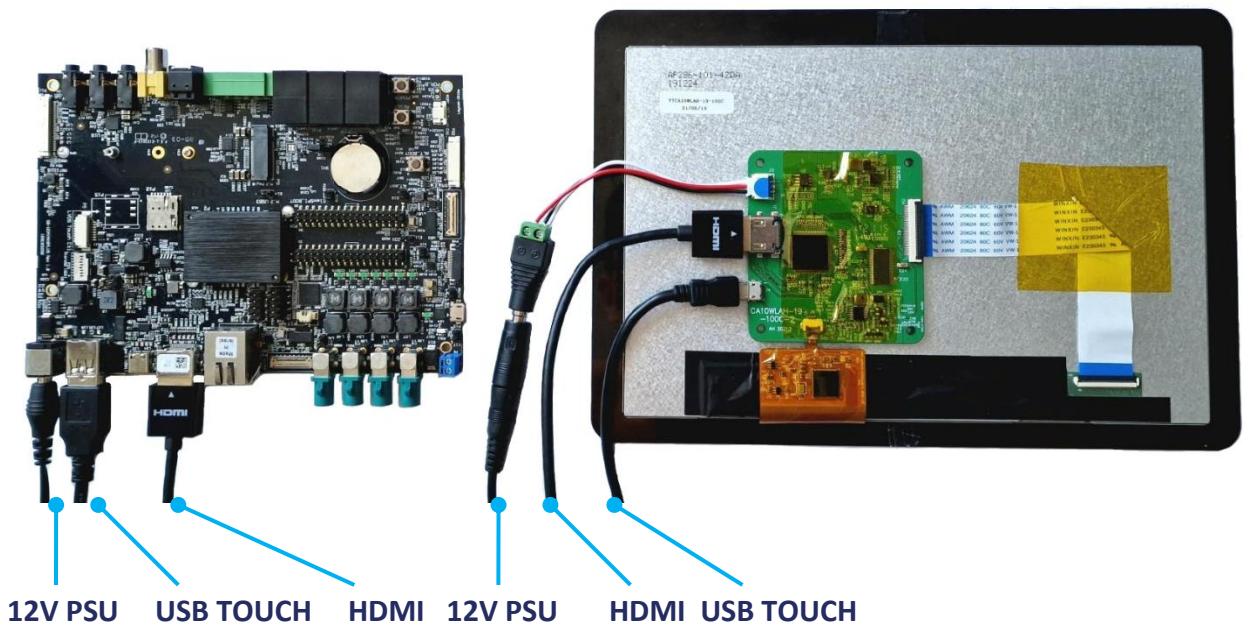
▪ HDMI Kit 5.0"



▪ HDMI Kit 7.0”



▪ HDMI Kit 10.1”



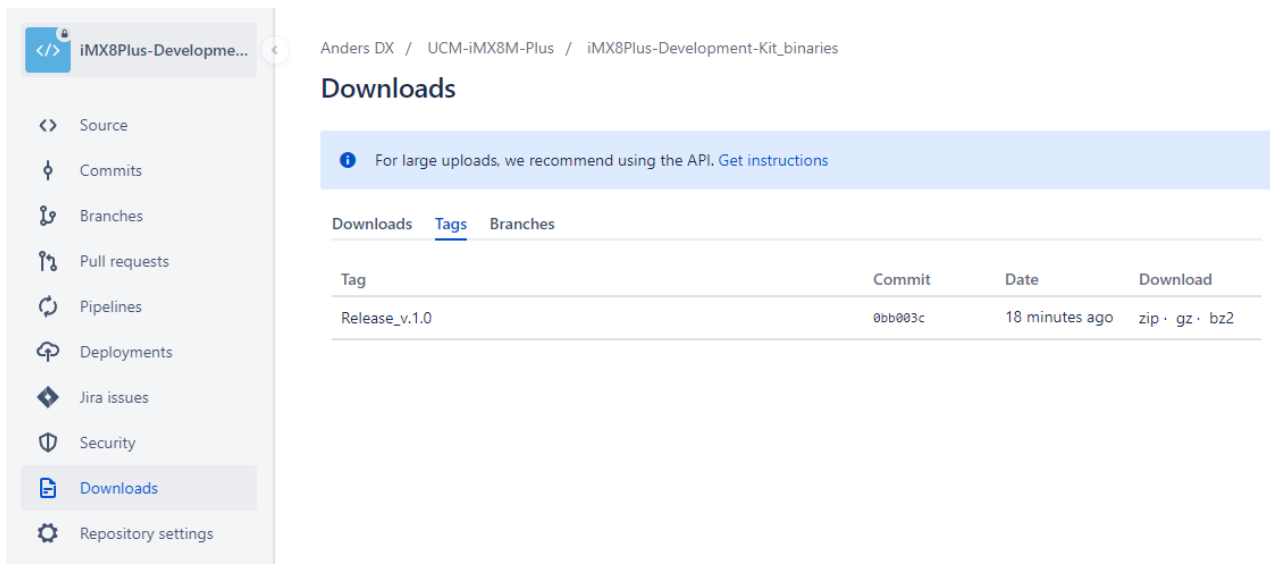
Install Software

▪ Download Linux Images

The iMX8Plus Pre-built Image for all variants can be found at below link:

https://bitbucket.org/andersdx/imx8plus-development-kit_binaries/downloads/?tab=tags

It's always advisable to download the latest release which will have the correspondent label "Latest Release". You can choose among .zip, .gz or .bz2 file format.



The screenshot shows a Bitbucket repository page for 'iMX8Plus-Development-Kit_binaries'. The left sidebar contains navigation options: Source, Commits, Branches, Pull requests, Pipelines, Deployments, Jira issues, Security, Downloads (highlighted), and Repository settings. The main content area shows the 'Downloads' section with a message: 'For large uploads, we recommend using the API. Get instructions'. Below this, there are tabs for 'Downloads', 'Tags', and 'Branches'. The 'Tags' tab is active, displaying a table with columns: Tag, Commit, Date, and Download. The table contains one entry: 'Release_v.1.0' with commit '0bb003c' and date '18 minutes ago'. The download options are 'zip · gz · bz2'.

Tag	Commit	Date	Download
Release_v.1.0	0bb003c	18 minutes ago	zip · gz · bz2

▪ Run the SW image directly from the SD-Card

Follow these instructions for preparing an SD card with the pre-built image and run Yocto from it for the quickest experience:

<https://mediawiki.compulab.com/w/index.php?title=UCM-iMX8M-Plus:YoctoLinux:ManualInstallation:SDcard#RunYoctoLinuximage>

Boot Up and Device Control

▪ Terminal Set-Up

Ensure you have a terminal application installed on the host PC and insert a micro-USB cable into port P13 of the iMX8Plus board.

Open your desired terminal application on the host PC, start a new session and apply the settings below:

- Speed: 115200
- Data bits: 8
- Stop bits: 1
- Parity: None
- Flow Control: None

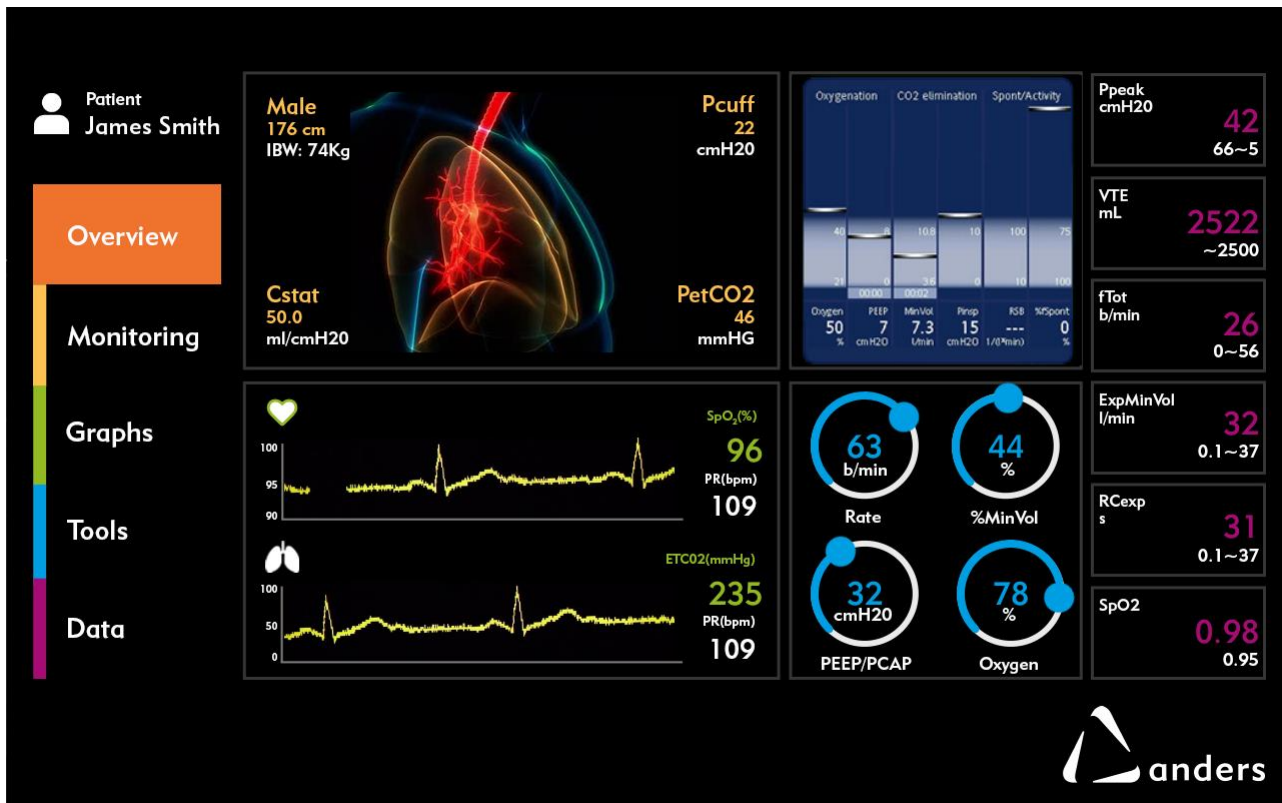
Please insert the power supply provided, then the system will power on automatically.

▪ Execute Anders Demo GUI

The iMX8Plus kit supports three display variants so you will be required to execute a pre-written script to initialise the display and demo application.

Display Kit:	Command:
5.0"	<code>./imx8plus.sh 5disp</code>
7.0"	<code>./imx8plus.sh 7disp</code>
10.1"	<code>./imx8plus.sh 101disp</code>

After issuing the command, the system will restart and initialize your chosen HDMI display. The GUI below will also be displayed shortly after.



Note: if you wish to exit the GUI you may issue the command below from the console: `systemctl disable xanders.service`

- **Install and run the SW image on the onboard mass storage device**

To be able to have the board running the SW autonomously without using the SD-Card and manual interaction, one final step is needed to install the SW onto the integrated onboard eMMC. Follow these instructions for the installation procedure on the unit while running from SD card:

https://mediawiki.compulab.com/w/index.php?title=UCM-iMX8M-Plus:YoctoLinux:InstallingYoctoimagesontoUCM-iMX8M-Plus_eMMC



Support Resources

For more technical information and detailed user-guides, please refer to the following resources:

- **Wiki Pages**

<https://mediawiki.compulab.com/w/index.php?title=UCM-iMX8M-Plus: Evaluation Kit: Hardware Guide>

<https://mediawiki.compulab.com/w/index.php?title=UCM-iMX8M-Plus: Yocto Linux: How-To Guide>

- **Engineering Support**

Access the [online support system](#) with credentials provided or contact Anders directly at engineering@andersdx.com for customisation assistance.