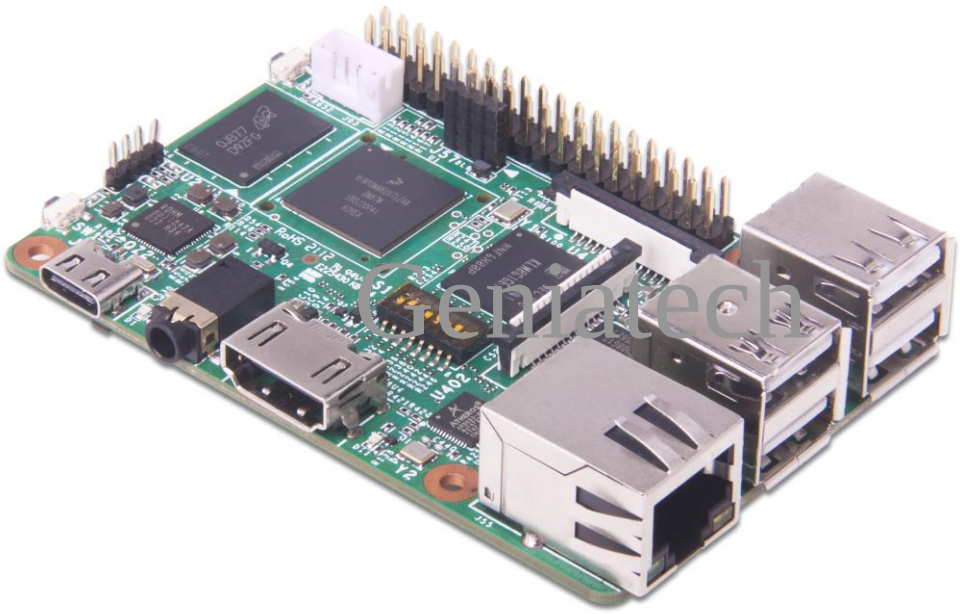
深 圳 金 亚 太 科 技 有 限 公 司

Shenzhen Geniatech Co.,Ltd.

Software User Guide

MODEL: XPI_i.MX8MM

V1.0



REVISION HISTORY

DATE	REVISION TYPE	REVISION #	COMMENTS	INITIALS
09/29/2021	Major	V1.0	Initial version	JY

1. Install Yocto on the XPI_i.MX8MM

XPI_i.MX8MM currently supports the system：Linux version 4.14.98

2. Installing Yocto

2.1 Installing the image from a Host-pc

2.1.1 Installation prerequisites

- Type-c cable
- Host PC
- XPI_i.MX8MM Board
- Burn Line (Dual head USB Type-A port)

2.1.2 Step1: Download the Yocto images and Tools from the Geniatech website

https://www.geniatech.com/download/xpi-imx8mm/;

2.1.3 step 2. Download Driver in Host PC

Download the Driver from below website:

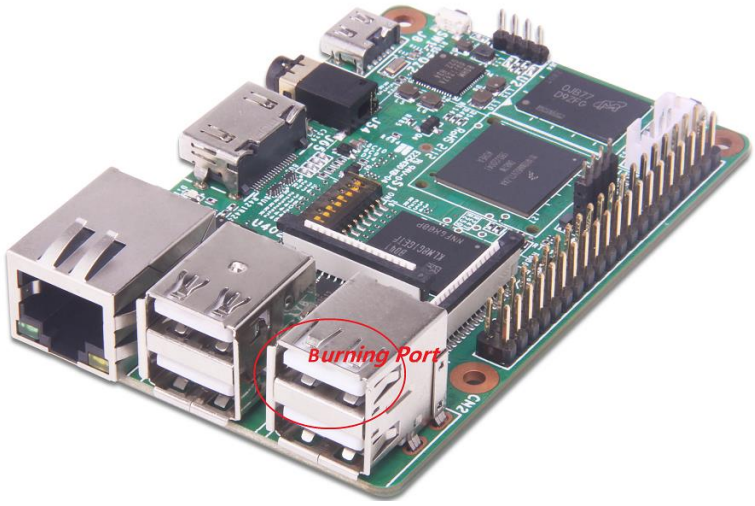
https://www.driverscape.com/download/hid-compliant-vendor-defined-device

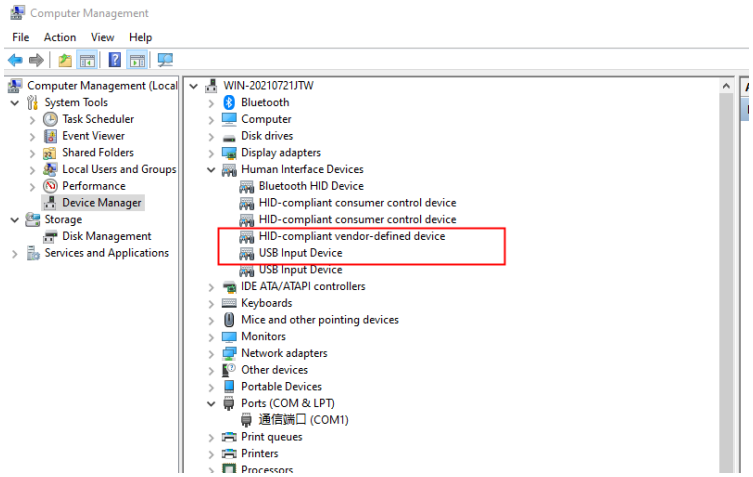
2.1.4 step 3. Bring the board into burn mode

1) Set the S1 switch:

1-on 2-off 3-on 4-off 5-on 6-off 7-on 8-off

2）One end of the Burn Line is connected to the computer and the other is connected to the burn port of the board. The computer’s device manager will load the new device；(The Burn line can be powered, so type-c cable access is not necessary)

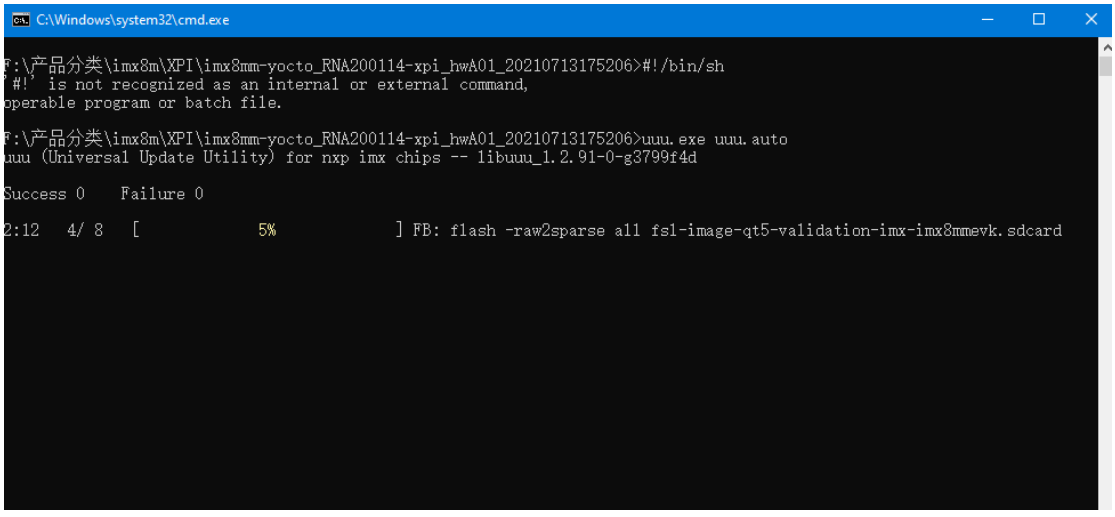


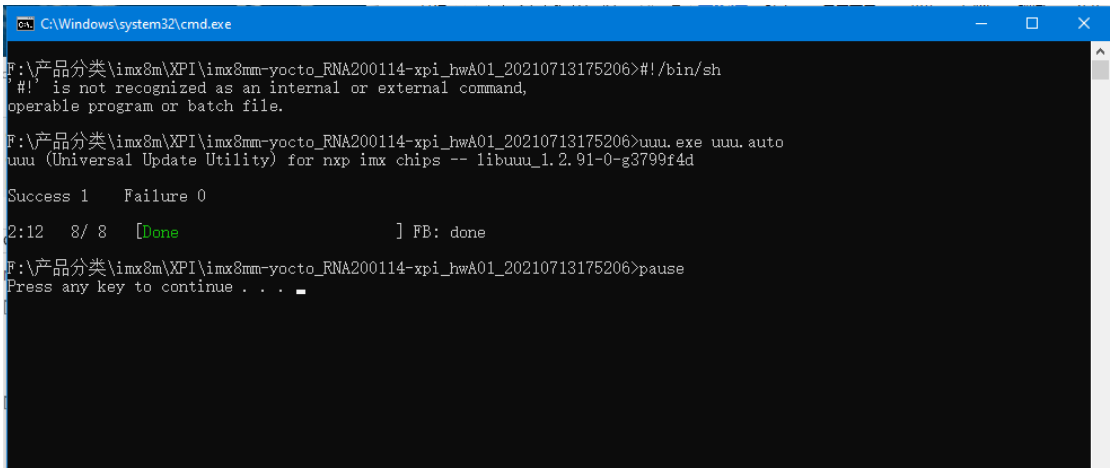


2.1.5 step 4. Flash the Yocto image

1)Unzip the file **imx8mm-yocto_RNA200114-xpi_hwA01_20210713175206.tar.gz .**Double-click flash.bat, the burning progress is loaded, please wait for the burning to complete.

Name	Date modified	Type	Size
flash.bat	2021/7/13 17:52	Windows Batch File	1 KB
fsl-image-qt5-validation-imx-imx8mme...	2021/7/13 17:52	SDCARD File	3,121,152 KB
imx-boot-imx8mmevk-sd.bin-flash_evk	2021/7/13 17:52	BIN-FLASH_EVK File	1,378 KB
uuu.auto	2021/7/13 17:52	AUTO File	2 KB
uuu.exe	2021/7/13 17:52	Application	914 KB





2.1.6 Step 5: Reboot and enjoy!

1) After burning, remove the burn line, Set the SW switch:

1-off 2-on 3-on 4-off 5-on 6-off 7-on 8-off

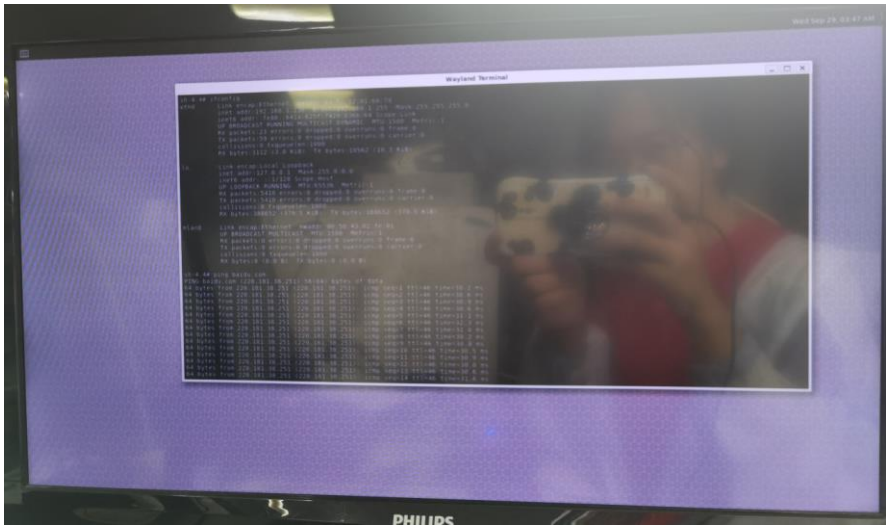
The device is powered by Type-c by default, and the screen can be displayed when connected to the display through the HDMI OUT port.

3. System function introduction

3.1 Test Methods

Test can be done through serial line, SSH, Wayland terminal.

3.1.1.1 Wayland terminal



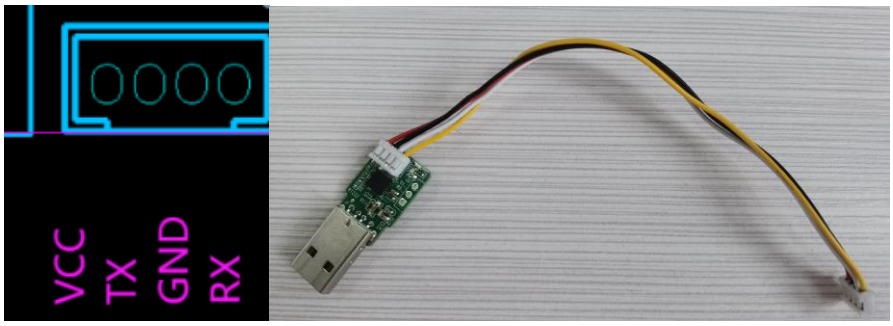
3.1.1.2 Serial Line

The board and the computer can be connected via USB to serial port; the interface definition is

shown in the figure;

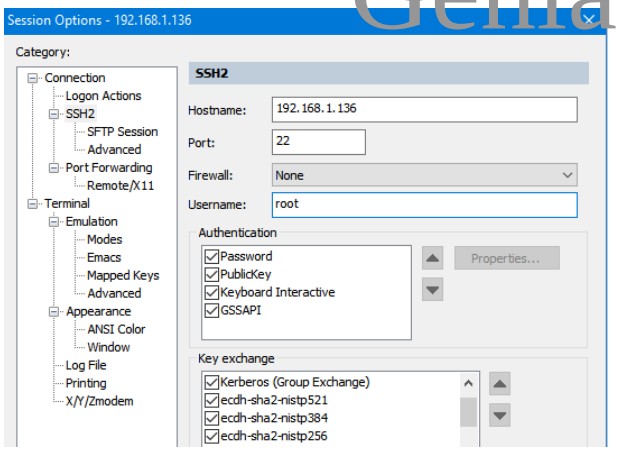
Baud rate: 115200

Data bits: 8



3.1.1.3 SSH

Get the device IP first.When the computer and the device are in the same local area network, they can be connected remotely.



3.2 WiFi & Ethernet

3.2.1 Ethernet

```
root@imx8mmevk:~#
root@imx8mmevk:~# ifconfig
eth0      Link encap:Ethernet  HWaddr ba:fc:32:d1:60:7d
          inet addr:192.168.1.136  Bcast:192.168.1.255  Mask:255.255.255.0
          inet6 addr: fe80::641a:625f:7420:b36b/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST DYNAMIC  MTU:1500  Metric:1
          RX packets:1689 errors:0 dropped:0 overruns:0 frame:0
          TX packets:462 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:188844 (184.4 KiB)  TX bytes:50882 (49.6 KiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:5604 errors:0 dropped:0 overruns:0 frame:0
          TX packets:5604 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:408992 (399.4 KiB)  TX bytes:408992 (399.4 KiB)

mlan0     Link encap:Ethernet  HWaddr 00:50:43:02:fe:01
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

root@imx8mmevk:~# ping baidu.com
PING baidu.com (220.181.38.148) 56(84) bytes of data.
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=1 ttl=46 time=32.7 ms
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=2 ttl=46 time=32.6 ms
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=3 ttl=46 time=32.7 ms
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=4 ttl=46 time=32.5 ms
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=5 ttl=46 time=32.1 ms
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=6 ttl=46 time=32.8 ms
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=7 ttl=46 time=32.9 ms
64 bytes from 220.181.38.148 (220.181.38.148): icmp_seq=8 ttl=46 time=33.0 ms
^C
--- baidu.com ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 11051ms
rtt min/avg/max/mdev = 32.144/32.710/33.016/0.325 ms
root@imx8mmevk:~#
```

3.2.2 WiFi

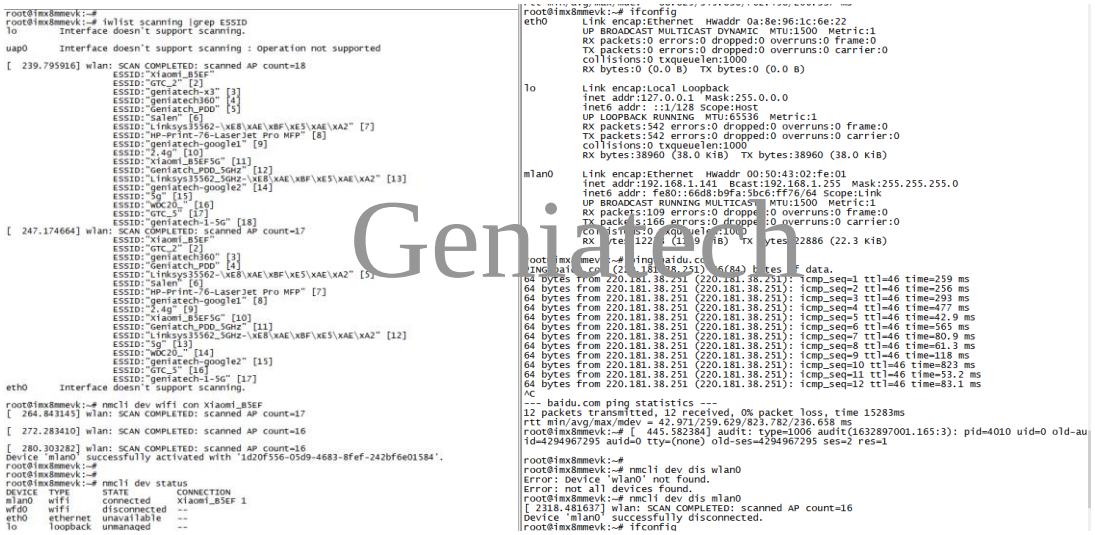
Command operation：

iwlist scanning |grep ESSID //Query nearby WiFi signal

nmcli dev wifi con Xiaomi_B5EF //Connect to WiFi ; Xiaomi_B5EF is the SSID of a certain WiFi in the environment

nmcli dev status //View current device WiFi status

nmcli dev dis mlan0 //Disconnect current connection



PS：

1.nmcli dev wifi con Salen password 11111111 //Use this command for WiFi encryption; Salen is WiFi SSID 11111111 is WiFi password

2. Please connect the antenna.

3.3 Bluetooth

Command operation：

bluetoothctl

power on

agent on

default-agent

scan on //Scan nearby devices

devices //View the searched devices

connect 14:32:D1:CD:00:B3 //Get the device mac, connect with the device

disconnect 14:32:D1:CD:00:B3

exit //Exit operation

PS:

1. For devices that have been connected, you need to remove the device through the command 'remove 7C:A1:77:78:ED:E1' before you can connect again)

2. Please connect the antenna.

3.4 Line OUT

switch sound card: pactl set-default-sink 1 (sound is output from HDMI OUT)

pactl set-default-sink 1 (speaker output)

PS:

The default sound is output from HDMI OUT;