

- GPS TO GIVE TIME TO THE GPS Support Model
- Connection Mode
- Check Whether The Timing Was Successful
- Troubleshooting
 - 1. Check If The GPS Has Output
 - 2. Check The OUTPUT of THE GPS PPS Signal
 - 3. Identify Methods
- CAN
- Wireless Setting
 - WiFi Setting4G Setting
- Demo and application
- Appendix
- - Exception Handling
 - Images Burning
 - 1.Function Introduction2.Prepare Software And Hardware
 - 2.Prepare Software And Hardware
 2.1. Burn The Host Ready

- 2.2. Prepare Miivii Burn Tools And Miivii Device Images
- 2.3. Prepare The Hardware
- 3. The Operation
 - 3.1 Hardware Connection
 - 3.2 Use of Software
 - 3.2.1. Images Burn
 - 3.2.2. Images Clone
 - Attached 1. Kernel and DTB burn
 - Attached 2. Self-test For Burning Problems

Notice

Please read manual carefully before install, operate, or transport MiiVii device.

- Ensure that the correct power range is being used before powering the device.
- Avoid hot plugging.
- To properly turn off the power, please shut down the Ubuntu system first, and then cut off the power. Due to the particularity of the Ubuntu system, on the Nvidia developer kit, if the power is turned off when the startup is not completed, there will be a 0.03% probability of abnormality, which will cause the device to fail to start. Due to the use of the Ubuntu system, the same problem also exists on the Miivii device.
- Do not use cables or connectors other than described in this manual.
- Do not use MiiVii device near strong magnetic fields.
- Backup your data before transportation or MiiVii device is idle.
- Recommend to transport MiiVii device in its original packaging.

Brief

MiiVii S2 is a fully-featured embedded platform for AI computing. It provides both high processing capabilities and high energy efficiency. MiiVii S2 brings artificial intelligence to terminal devices. MiiVii S2 carries one of the most powerful mobile computing module, NVIDIA Jetson TX2. In addition, a variety of algorithms are provided on S2 platform, especially in the field of computer vision.

Included in the Box

- S2 x 1
- Power supply x 1
- Power cable x 1
- I/O Cable Assemblies x 2
- WiFi Antenna x 2
- Network cable x 1
- Quick start x 1
- Test certificate x 1



8

Specifications

Processor

	Processor	NVIDIA Jetson TX2						
	CPU	Dual-core Denver 2 64-bit CPU Quad-core ARM A57 complex						
	GPU	256 CUDA cores Pascal™ architecture						
	Memory	8 GB 128-bit LPDDR4						
2	Storage	32GB eMMC 5.1						
1202,00 12,00 ^{1,0} 0	I/O	The philotte 201						
		Interface Quantity Note						

			C C
	Interface	Quantity	Note
Function KEY	Switch Key	1	Control Boot Mode
	Reset Key	1	
Network/Camera	Ethernet	2	Gigabit Ethernet port RJ45
Video output	HDMI	1	HDMI 2.0 TYPE A 5V 1A
USB	USB	3	2×USB 3.0 TYPE A 5V, 1A 1×micro USB 5V, 0.5A
1/0	UART	3	1xTTL 3.3V 1xRS485 1xDebug 3.3V
2012	CAN	3	With CAN chip terminal resistor 120
	GPIO	2	IN 0-12V OUT 3.3V
			Cob.

THAT AND

8

1202102015-2021 MBR

12021-020-5-12-01 Hard

A State Copyright O 2015-2021 MER

Power Supply

	N
Power Supply	Spec
Input Type	DC
Input Voltage	12V
Typical consumption	15W

Mechanical

Mechanical	Spec	in the
Dimensions (W×H×D)	100mm×56mm×62mm	
Weight	350g	

Environmental

Environmental	Spec
Operating Temperature	-20°C-60°C, 0.2~0.3m/s air flow ¹
Storage Temperature	-25℃-80℃
Storage Humidity	10%-90% non-condensing

Certification

Certification	Status	
CE	Passed	
CCC, FCC, RoHS, SRRC	Processing	

[1] According to GB/T 2423-2008 60°C Working frequency is subject to change after temperature reaches 60°C

Copyright C

Dimension

S2 Dimensions as below:

Up view(Unit:mm)

2:02 168. # Zahl 18. 18 18

2:02 1682

Copyright@20

Copyright @ 201



Service and Support

Support

MiiVii is glad to help you with any questions you may have about our product, or about the use of the technology for your application. The fastest way is sending us an email: helpdesk@miivii.com. Or you could visit our developer forum: http://forum.miivii.com for solutions.

Warranties

Warranty period: One year from the date of delivery.

Warranty content: MiiVii warrants the product manufactured by us to be free from defects in material and workmanship during warranty period. Please contact helpdesk@miivii.com for return material authorization (RMA) prior to returning any items for repair or exchange. The product must be returned in its original packaging to prevent damage during shipping. Before returning any product for repair, it is recommended to back up your data and delete any confidential or personal data.







29. 我怎来又想力接接着

Copyright 20

	Port	Pin	Definition	Description
	MCU_UART	1	MCU_UART1_TX	TTL transmit
		2	MCU_UART1_RX	TTL receive
		3	VDD_3V3_MCU	3.3V
		4	GND	Ground
	MCU_SWD	5	MCU_SWD_I/O	SWDIO
1		6	MCU_SWD_CLK	SWD Clock signal
ſ	MCU_CAN1	7	CAN1_L	CAN1 Low
		8	CAN1_H	CAN1 High
	MCU_RS485	9	RS485_A	RS485 DATA+
		10	RS485_B	RS485 DATA-

I/O_2 Pin Assignment



7

Martin Copyright Q 2015-2021 Hard

12021-102015-2021 Hard

And Copyright O 2015-2021 Horse

Dt.	rà)	D. C. N.	Production
Port	Pin	Definition	Description
RS485_1	1	POWERBIN	Manual Power on
-6 <u>-</u> 6 <u>-</u> 6 <u>-</u> 6 <u>-</u>	2	GND	Ground
Self-inspection Port	3	BUTTON_VOL_DOWN	Connect pin 3 and pin 4 for self-inspection
<u>0</u> `	4	GND	Ground
Recovery port	5	FORCE_RECOVERY	Connect pin 5 and pin 6 to enter Recovery mod
	6	GND	Ground
CAN_0	7	TX1_CAN0_L	CAN_0 Low
	8	TX1_CAN0_H	CAN_0 High
CAN_1	9	TX1_CAN1_L	CAN_1 Low
	10	TX1_CAN1_H	CAN_1 High
Debug UART1	11	DGB_UART1_TXD_3V3	UART1 TTL transmit: 3.3V
	12	DGB_UART1_RXD_3V3	UART1 TTL receive: 3.3V
	13	GND	Ground
GPIO_11/GPIO_12	14	GND	Ground
15:2:10 XBX	15	GPIO11_3V3	GPIO IN: High 1V-12V Low 0V-0.8V OUT: 3.3V
012	16	GPIO12_3V3	GPIO IN: High 1V-12V Low 0V-0.8V OUT: 3.3V

8

GPIO Port

Port	Pin	GPIO	GPIO Export Value
GPIO	I/02_15	GPIO_11	389
	I/02_16	GPIO_12	332

UART Port

Port GPIO	Pin I/O2_15	GPIO_11	GPIO Ex 389	port Value	
	I/O2_16	GPIO_12	332		
UAR Pin	l Port Number	UAF	T Port	Device Nod	A AND
I/O1	_1~1/01_4	MCL	J_UART	ttyTHS1	N. X.
I/01_	9~1/01_10	D MCU	_RS485	NA	26.201
1/02_	11~I/O2_1	3 U/	ART1	ttyS0	220 2013
Rea	r Pan	el			Convisite

Rear Panel





图 S2 Rear Panel

、王朝打除精

E COPHIGHT ON

Interface	Name	Description	
SMA	2.4G/5G Antenna connector	Connect to 2.4G/5G WiFi	

Note: For full speed mode of USB_2, use \$ ifconfig eth1 down
 Note: Contact MiiVii at: helpdesk@miivii.com for further information about I/O_1

I/O Cable

S2 Provides two I/O cables1: I/O_1 cable and I/O_2 cable. Shown as below:

01,0°	S2 Provides two I/O cables1: I/O_1 cable and I/O_2 cable. Show							
N'IL	Number	Port	Details					
597	1	MCU_UART MCU_SWD	Black 1X6 Pin Connector					
	2	MCU_CAN1	Black 1X3 Pin Connector					
	3	MCU_RS485	Green 1x2 Pin Connector					



		Ĩ
I/O_2 C	able	
Number	Port	Details
S. P.	POWER_BTN	Button
2	BUTTON_VOL_DOWN	Button
3	FORCE_RECOVERY	Button
4	CAN_0	Black 1X3 Pin Connector
5	CAN_1	Black 1X3 Pin Connector
6	UART1	Black 1X3 Pin Connector
7	GPIO_11/GPIO_12	White 1X3 Pin Connector



Copyright 201

[1] note: I/O cables are subject to change, please refer to PIN assignment or search help at helpdesk@miivii.com.

General Setting

General Setting

System

MiiVii device use Ubuntu system. Default username: nvidia default password: nvidia

System Image and Flashing Tool

Please visit MiiVii developer forum: http://forum.miivii.com/ for flash tool and system image.

Power on

Connect an external HDMI display to MiiVii's HDMI port.

•

Connect a USB keyboard and mouse.

8

行制教育開始

nect the included AC adapter to power so	cket. Plug AC adapter into an appropriately rate	ed electrical outlet.	.0
anku Desktop		۵ ۵	49 841
dors dors			
			er son a sa
AND?	Figure Startup		
er off: Use the following command in term	ninal.		.10
MiiVii device with entity PWR button, you o	can also press and hold PWR button.		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
sudo poweroff			100
et: Use the following command in terminal	the second se	and the second	
MiiVii device with entity RESET button, you	can also press RESET button to reboot.	Coort.	
sudo reboot			
		<u>Al</u> i	
A A A A A A A A A A A A A A A A A A A	. A Contract of the second sec	A A A A A A A A A A A A A A A A A A A	
iVii Setting	ATT PERSON AND PERSON		
ii Device provides a setting program called	d MiiVii Setting. You can get access to basic info	ormation and settings through MiiVii	1
Ing. Click the Icon on upper right corner。I ii Setting introduction.	n adaition, these settings can be set through co	bae, please refer to the section after	and and
	20.5201	~?	63.201
	AN BANT		201
	-x Part		
ure Version Info	CON STATES	A COLUMN -	
	~		

You can set up GMSL camera here. MiiVii Device Apex has two groups of GMSL camera GMSL_A and GMSL_B, while MiiVii Device S2Pro has only one group GMSL A.

Figure Set up GMSL Camera

You can set up Sync mode here:

Figure Set Synchronization Mode

Default setting is NTP mode. MiiVii Device accept NTP service while set to this mode.

MiiVii Device accept GPS synchronization while set to GPS mode.

MiiVii Device cannot be synchronized but can synchronize other sensors while set to None mode.

You can also set Sync out frequency here, please note it is not GMSL frequency.

Finish setting and exit

Figure Finish setting

You can also check software version through code

cat /etc/miivii_release
APEX 4.2.2-1.5.0

Set up GMSL Camera

When accessing GMSL camera for the first time and changing GMSL camera model, you need to change the configuration file and restart the device.Configuration file path: /opt/miivii/config/gmsl_camera/camera.cfg MVGCB-001A : Entron MVGCB-002A: Calmcar MVGCB-003A: Adayo MVGCB-006A: Sensing The default configuration of GMSL_A and GMSL_B are both MVGCB-001A.

Set up synchronization Mode and Sync out frequency Synchronization Mode and Sync out frequency settings need to modify the configuration file and restart the device.Configuration file path: /opt/miivii/config/sync/sync.cfg Synchronization Mode is achieved by modifying the X value of "sync_type:X". 0: GPS mode 1: NTP mode 2: None mode Sync out frequency is achieved by modifying the XX value of "sync_out_freq:XX". Only integers are supported.\

```
cat /opt/miivii/config/sync/sync.cfg
sync_out_freq:25
sync_type:2
/*
note:
sync_out_freq---the frequency is 25 for sync out time
sync_type---0 is for GPS calibrate time
1 is for SYS calibrate time
2 can not calibrate time
```

Power mode setting

MiiVii device has several power modes. You can set up power mode through the green NVIDIA icon on the upper right corner.

Figure Power mode Icon

For MiiVii device equipped with NVIDIA Jetson TX2, the following table shows details of each power mode. The default mode is 2.

Mode	Mode Name	Denver2	Frequency	ARM A57	Frequency	GPU Frequency
0	Max-N	2	2.0GHz	4	2.0GHz	1.30 GHz
1	Max-Q	0		4	1.2GHz	0.85 GHz
2	Max-P Core-All	2	1.4GHz	4	1.4GHz	1.12 GHz
3	Max-P ARM	0		4	2.0GHz	1.12 GHz

You can also set up through code:

10

#check current mode sudo nvpmodel -q verbose # set to a certain mode sudo nvpmodel -m [MODE ID] #achieve best performance of current mode sudo jetson_clocks #check more info sudo jetson_clocks --show

GPIO

Please change the code in <> to your GPIO export value

```
#switch to root
sudo su -
#set GPIO to high
echo 1 > /sys/class/gpio/<gpio339>/vlaue
#set GPIO to low
echo 0 > /sys/class/gpio/<gpio339>/vlaue
```

For auto config, write above commands to file /etc/rc.local.

Note: Description of GPIO external connection

DO is on/off output (on/off output is no output voltage, control output low voltage, pin grounding in normal time, control output high voltage, pin neither output high level nor low level, high resistance state. If the external pull-up resistor is connected, the voltage will be drawn to the power supply voltage of the pull-up resistor at the time of high output voltage.)

Set to high voltage, DO foot and external voltage are the same (0V~40V); Set to low level, DO feet for the ground.

UART

Open device node in /dev/. Then use stty command to set parameters. See stty command manual for details, please change the code in <> to your UART device node.

```
#config UART
$ sudo stty -F /dev/<ttyTHS1> speed 115200 cs8 -parenb -cstopb -echo
#send data through UART
$ sudo echo "miivii tty debug" > /dev/<ttyTHS1>
#receive data from UART
$ sudo cat /dev/<ttyTHS1>
```

Use GPS To Give Time To The Device

Advantages of GPS timing function: The device obtains local standard time signal from GPS satellite through GPS device, so as to accurately locate the device time

GPS Support Model

The serial port supports modifying baud rate. The default baud rate is 9600 GPS brand supported: all GPS devices that conform to GPRMC data standard format output and must have PPS second pulse output

Connection Mode

Refer to the "Interface Description" in the manual.

Timing Function Configuration

When the GPS is connected for the first time, the system configuration should be conducted in MiiVii Setting configuration software. Configure the Sync Mode option to GPS Mode and restart the system.Please refer to the section of "MiiVii Setting" for specific methods.

Check Whether The Timing Was Successful

Modify the system time, enter the command

sudo date -s "2018-10-1"

Wait for 2~3s, check the current time, and enter the command

data

If the display time is: "2018-10-1", it means the timing failed If the display time is: "current time", the timing is successful

Troubleshooting

If the timing fails, fault troubleshooting shall be carried out

1. Check If The GPS Has Output

Type the command

cat /dev/ttyTHS1

The terminal receives output with a GPRMC field, such as: GPRMC,014600.00,A,2237.496474,N,11356.089515,E,0.0,225.5,310518,2.3,W, A*23

2. Check The OUTPUT of THE GPS PPS Signal

Type the command

hexdump /dev/miivii-sync-in-a

The terminal has hexadecimal data output, such as: 0000400 02fe 9f40 490e 562d 1647 004e 0000 0000

3. Identify Methods

If the above "1"&"2" has no output, indicating that the GPS is not working properly, you can put the GPS out of the window or go outside for testing, or change the GPS for testing

If the output of "1"&"2" is normal, check whether the MiiVii Setting configuration is in GPS mode. If not, change the mode and restart it

After the above operation, GPS timing is still unsuccessful, enter the command

hexdump /dev/miivii-sync-out

The terminal has hexadecimal data output, such as: 0000400 02fe 9f40 490e 562d 1647 004e 0000 0000

If there is no data output, it may be that there is no matching brush tool and mirror brush. It is recommended to check the mirror and the brush tool to re-brush

If there is data output, it may be a hardware problem, it is recommended to contact after-sales maintenance treatment

CAN

Please check cansend.c and candump.c from https://github.com/linux-can/can-utils for instructions.

Test command:

sudo modprobe can sudo modprobe can_raw sudo modprobe mttcan sudo ip link set can0 type can bitrate 500000 berr-reporting on loopback off sudo ip link set up can0 sudo cansend can0 123#abcdabcd sudo candump can0 sudo ip -details -statistics link show can0 sudo ifconfig can0 down

CAN fd:

sudo modprobe can sudo modprobe can_raw sudo modprobe mttcan sudo ip link set can0 type can bitrate 500000 dbitrate 2000000 berrreporting on fd on sudo ip link set up can0 sudo cansend can0 213##011

Wireless Setting

WiFi Setting

MiiVii S2, S2Pro and EVO TX2, EVO TX2 GMSL2 has WiFi function.While Apex Xavier MiiVii EVO Xavier, Lite NX and Lite Nano provides WiFi function via a expansion module. Please refer to the information in [Expansion] to intall WiFi module. Click the network icon in upper-right corner of the desktop. Find the name of your WiFi network and click on it. Enter your password and click 'Connect'.

🤏 🔵 🛛 v	/i-Fi Network /	Authentication Required
O	Authentica	ation required by Wi-Fi network
E U	Passwords or the Wi-Fi netw	encryption keys are required to access vork 'handejituan'.
	Password:	Show password
		Cancel Connect
	J.	Figure WiFi Connection
	A CONTRACTOR OF THE OWNER	A CONTRACT OF

4G Setting

4G module is not included in MiiVii device package. Please refer to the information in [Expansion] to intall 4G module. Instructions for 4G module configuration are shown as below, using QUECTEL EM05 as an example. EM05 4G driver is included in MiiVii system. This SIM card could be detected automatically. There should be 4 devices under /dev/ttyUSB0~/dev/ttyUSB3.

Users need to choose their own 4G LTE SIM card(note that mobile phone sim card and IOT sim card is supported, but IOT sim card is hardware-binding, please consult your carrier for more information). Before getting started, please insert SIM card into sim socket.

Click the network icon in upper-right corner of the desktop. Find 'Edit Connections', then click 'add'.

Name	Last Used 🔺	Add		Pop [®] co ^Q
• Ethernet	4	Edit		
Bridge	i nour ago	Delete		
docker0	now	Delete		
		Close	5.12.20 北京秋天前竹桥村21周W	N.J. KR
hange connection type to	'Mobile Broadbai	nd'	18. 20 V	10 10 V
,		Copyring	0 1015	1202-10-2015

	~	- Jī	
8			
Choos	e a Connec	tion Type	
Select th	ne type of con	nection you wish to create.	
If you ar create d plugin i	e creating a V loes not appea nstalled.	PN, and the VPN connection you wish to ar in the list, you may not have the correct VPN	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
Mob	ile Broadband	•	10 2015 V
			202 C
		Cancel Create	CONTRACTOR OF
Next			
😣 🗉 Set up a Mobile I	Broadband Connec	tion	
Set up a Mobile Broadban Choose your Provider's C Choose your Provider	nd Connection ountry or Region	This assistant helps you easily set up a mobile broadband connection to a cellular (3G) network	
Choose your Billing Plan		You will need the following information:	
Confirm Mobile Broadbar	nd Settings	• Your broadband provider's name	
		• Your broadband billing plan name • (in some cases) Your broadband billing plan APN (Access Point Name)	
		Create a connection for this mobile broadband device:	N22
		Quectel LTE 🔹	10 ¹ 01
4			10.00
		Creat Numb	Nº OF
		Cancer Next	The second se
Change country to 'C	hina'. Then choo	ose network provider.	A CONT
😣 🗈 Choose your Pro	vider		
Set up a Mobile Broadban Choose your Provider's C	nd Connection ountry or Region	• Select your provider from a list:	
Choose your Provider		Provider	
choose your bitting Plan	nd Settings	China Mobile China Unicom	
Confirm Mobile Broadbar			
Confirm Mobile Broadbar			
Confirm Mobile Broadbaı			
Confirm Mobile Broadbaı			
Confirm Mobile Broadbaı		○ I can't find my provider and I wish to enter it manually:	?
Confirm Mobile Broadbaı		 I can't find my provider and I wish to enter it manually: Provider: 	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
Confirm Mobile Broadbaı		I can't find my provider and I wish to enter it manually: Provider:	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Confirm Mobile Broadba		O I can't find my provider and I wish to enter it manually: Provider: Cancel Back Next	21,02,05,02
Confirm Mobile Broadbar	der is not include	I can't find my provider and I wish to enter it manually: Provider: Cancel Back Next ed in the list, then enter it manually.	202,020 2015,202
Confirm Mobile Broadbar	der is not include	I can't find my provider and I wish to enter it manually: Provider: Cancel Back Next ed in the list, then enter it manually.	# IL WINT @ 2015-202
Confirm Mobile Broadbar	der is not include	I can't find my provider and I wish to enter it manually: Provider: Cancel Back Next ed in the list, then enter it manually.	Elit 1202102015202



Warning: Selecting an incorrect plan may result in billing issues for your

If you are unsure of your plan please ask your provider for your plan's

Next

Back

Cancel

broadband account or may prevent connectivity.

Check entire settings, then click 'Apply'



APN.

		Ĩ	Ĩle	
	🧧 🖨 🙃 Editin	g China Mobile Internet 1		
	Connection nam	e: China Mobile Internet 1	A. C.	
	General Mobi	le Broadband PPP Settings IPv4 Settings IPv6 Settings		
	Basic		20°	
	Number:	*99#	A.	
	Username:	miivii	A lot	in the
	Password:	miivii	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
	Advanced		15-15-15-15-15-15-15-15-15-15-15-15-15-1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
n	APN:	cmnet Change	16 2.7 ×	10 J.V.
Ϋ́	Network ID:		10° 612	10° 10° 10° 10° 10° 10° 10° 10° 10° 10°
0		Allow roaming if home network is not available	NOT	N°OV
~	PIN:		N 2 2 C	1 Pratice
		🗹 Show passwords		A AND
		Cancel Save	jox.	Cox.

Click the network icon in upper-right corner of the desktop. Then connect to your network. If you need auto connection, please edit Network connections:

12021-02015-2 02015-2 0001-02015-2

Select 'General', then check 'Automatically connect to this network when it is available'

Reset MiiVii device, you can automatically connect to 4G network

800	Editing C	hina Mobil	e Internet			
Connectio	n name:	China Mol	bile Internet			
General	Mobile B	roadband	PPP Settings	Proxy	IPv4 Settings	IPv6 Settings
🖾 Auto	matically	connect to	this network w	hen it is	available	
Connect	ion priori	ty for auto-	activation: 0			- +
□ All us	sers may o	onnect to t	his network			
Auto	matically	connect to	VPN when usin	g this co	nnection	
						Ŧ
L						
					Cancel	Save

Demo and application

MiiVii offers several demo code:

Algorithm: MiiVii device offers human, vehicle, bicycle detection. Please refer to /opt/miivii/features/algorithm

Acceleration SDK: MiiVii device provides acceleration SDK based on Yolo v3. Please refer to /opt/miivii/features/miivii-accelerator

ROS demo: MiiVii device offers ROS DEMO. Please refer to /opt/miivii/ros demo

Among them, miivii msgs is the message rule of ROS. miivii gmsl is the ROS node of GMSL camer. miivii detector is the ROS node of object detection.

Besides, MiiVii also open source part of our code in Github. Please visit https://github.com/MiiViiDynamics for more information.

Appendix

Exception Handling

If bug occurs to you while developing, please check DEBUG log first:

Step 1: Find the position of DEBUG port in 'Interfaces'

Step 2: Connect DEBUG port with a PC using a UART-USB cable¹

Step 3: Download Serial debugging tool in the PC, set Baud to 115200

Step 4: Check DEBUG log

[1]: According to the information in 'Interfaces', select the RS232-USB cable or TTL-USB cable.

Images Burning

1.Function Introduction

Miivii burning tool, suitable for Miivii series products. The tool has two main functions: burn images and clone images. You can burn the official image of Miivii power for Miivii devices using an X86 architecture PC as the burn host. After developing a Miivii device for some time, you can save your progress by cloning an existing device images and burning it to other Miivii devices.

2.Prepare Software And Hardware

2.1. Burn The Host Ready

It is necessary to connect the writing host to the Miivii device to burn the images. The recommended figuration of the write host is as follows:

- CPU uses Intel core series processors with X86 architecture
- Memory 8GB DDR3 and above
- Spare hard disk capacity 40G and above
- The system is Ubuntu Linux X64 v16.04 or V18.04

2.2. Prepare Miivii Burn Tools And Miivii Device Images

- Low for a link: https://en.miivii.com/index.php?s=index/category/index&id=119
- Download the Miivii burn tool
- Download the Miivii device image and the image MD5 value
- Store the above files in the same path as the burn host

• Supports simultaneous burning of multiple identical devices, but does not support simultaneous burning of multiple different devices

Note: The file storage path cannot contain Chinese characters or special characters

2.3. Prepare The Hardware

• Miivii equipment and power, USB data cable

3. The Operation

3.1 Hardware Connection

• Connect the writing port of Miivii device to the writing host through USB data cable

3.2 Use of Software

3.2.1. Images Burn

- Copy the images and MD5 values to the imGS folder of the burn tool
- Go to the bin folder of the burn tool and open the Burn tool "MVflasher"

🧧 刷机工具4.2.2					
环境设置	文件路径:	烧写文件	/home/nvidia/Desktop/Apex_s2_	_s2pro4.2.2/miivii_ftool_4.2.2/imgs/j	18 8
输入上位机密码		克隆文件	/home/nvidia/Downloads/apexte	est4.2.2.img	
设备型号:	设备列表:	刷新	烧写	克隆	
- APEX:					
jetpack4.2.2-apex					
ietnack4.2-apex					
S2PRO:			提示! 注意!		
SZPRO.			效与主机只可为X86梁构的台式和或笔记本。 操作系统为64位UBUNTU 16.04/18.04。其他设备如ARM架构设备, 嵌入式设备,服务器,虚拟机等暂不支持。		
Jethack4.z.z-szpro			QK		
jetpack3.3-s2pro					
jetpack4.2.2-s2					
jetpack4.2-s2					
jetpack3.3-s2					
0.				10.00	
V			<u></u>	N A M	

• Click [Enter upper computer password] button, enter the current burning host boot password

• In the device model on the right, select the device you want to burn and the Images version. Click the "Burn file" button to select the specific image for burn

输入上位机密码		克隆文件	/home/nvidia/Downloads/ape	xtest4.2.2.img		
设备型号:	设备列表:	刷新	烧写		克隆	28 <u>.</u>
APEX:	Xavier 001. /dev/bu	- s/usb/009/005				
jetpack4.2.2-apex		6 ① 燒写文件		_		3
jetpack4.2-apex		Directory: /home/nvid	lia/Desktop/Apex_s2_s2pro4.2.2/miivii_ftool_4.2.2/im	gs — 🔯		· · · · ·
S2PRO:		jetson-apex-18.04-bs jetson-s2-18.04-bsp- jetson-s2pro-18.04-b	sp-4.2.2-1.1.1-release.img 4.2.2-1.1.0-release.img osp-4.2.2-1.1.0-release.img			
jetpack4.2.2-s2pro		1				
jetpack3.3-s2pro		File name: jetson-ape	x-18.04-bsp-4.2.2-1.1.1-release.img	<u>O</u> pen		
52 :		Files of type: Image Fil	les (*.img) 🥏	Gancel		
jetpack4.2.2-s2						
jetpack4.2-s2						
jetpack3.3-s2						
			A CAN	S.		

12021-02015-122 12021-02015-202 12021-02015-202

坏 現 反 直	文件路径:	烧写文件	/home/nvidia/Desktop/Apex_s2_s2	pro4.2.2/miivii_ftool_4.2.2/imgs/j	通言 —
输入上位机密码		克隆文件	/home/nvidia/Downloads/apextest	4.2.2.img	
设备型号:	设备列表:	刷新	烧写	克隆	29 ·
APEX: jetpack4.2.2-apex jetpack4.2.2-apex S2PRO: jetpack4.2.2-s2pro jetpack4.3.3-s2pro 52: jetpack4.2.2-s2 jetpack4.2-s2	Xavier 001. /dev/bus/	usb/009/005	Checking the MD5 of the image		

12021020152021XB

12021-102015-1021 HER

Bit 12021020152021 With W

• Images burning usually takes more than 15 minutes to complete. Please be patient:

环境设置	文件路径:	烧写文件	/home/nvidia/Desktop/Apex_s2_s2pro4.2.2/miivii_ftool_4.2.2/imgs/j	150 L
输入上位机密码		克隆文件	/home/nvidia/Downloads/apextest4.2.2.img	
设备型号:	设备列表:	刷新	烧写	更多
APEX: jetpack4.2.2-apex jetpack4.2.2-apex S2PRO: jetpack4.2.2-s2pro jetpack3.3-s2pro 52: jetpack4.2.2-s2 jetpack4.2.2-s2 jetpack4.2-s2	Xavier 001. /dev/bus	/usb/009/005	orging processes: 6045[15:37:33] onging processes: 6645[15:37:33] onging processes: 6645[15:37:36] onging processes: 6645[15:37:39] onging processes: 6645[15:37:42] onging processes: 6645[15:37:49] onging processes: 6645[15:37:52] onging processes: 6645[15:37:55] onging processes: 6645[15:37:55] onging processes: 6645[15:38:01] onging processes: 6645[15:38:10] onging processes: 6645[15:38:20] onging processes: 6645[15:38:22] onging processes: 6645[15:38:23] onging processes: 6645[15:38:23] onging processes: 6645[15:38:23] onging processes: 6645[15:38:24] onging processes: 6645[15:38:24] onging processes: 6645[15:38:25]	

3.2.2. Images Clone

- Enter the FORCE_Recovery mode of the Miivii device to be cloned according to method 3.1, and open the burn tool
- Click [Enter upper computer password] button, enter the current burning host boot password
- Click the "Clone file" button to modify the path and name of the clone file saved in the write host :

Note: The file storage path cannot contain Chinese characters or special characters

	环境设置	文件路径:	烧写文件	/home/nvidia/Desktop/Apex_s2	_s2pro4.2.2/miivii_ftool_4.2.2/imgs/j	18 ft
	输入上位机密码 设备型号:	设备列表:	克隆文件	/home/nvidia/Downloads/apextest4.2.2.img		
_			刷新	烧写	克隆	₹ 8
~	APEX:					
	jetpack4.2.2-apex					
- E	jetpack4.2-apex	·	O 克隆 Directory:	/home 🔯		
~	52PRO:		🛅 nvidia			
~	jetpack4.2.2-s2pro					
101	jetpack3.3-s2pro		File name:	apexclonetest4.2.2.ing Save		
ിം	52:		Piles of type.			
~	jetpack4.2.2-s2					
8	jetpack4.2-s2					
	jetpack3.3-s2					
L						

4

• Click the "clone" button to enter the cloning process, as shown in the figure:

- MODIL 201-12-12-12						
环境设置	文件路径: 设备列表:	烧写文件	/home/nvidia/Desktop/Apex_s2_s2pro4.2.2/miivii_ftool_4.2.2/imgs/j		35 R	î -
输入上位机密码		克隆文件 刷新	/home/clonetest4.2.2.img			
设备型号:			烧写	克隆	更多	•
	Xavier 001. /dev/bus	- 5/usb/009/006	start clone with PID=7866 start cloning device: /dev/bus/us 1 clone processes ongoing: 788	b/009/006, process ID: 7882 2		
jetpack4.2.2-apex			onging processes: 7882[15:46:14] onging processes: 7882[15:46:19]			
jetpack4.2-apex						
⇒ S2PRO:						
jetpack4.2.2-s2pro						
jetpack3.3-s2pro						
jetpack4.2.2-s2						
jetpack4.2-s2						
internet 2.2 c2						

• Images cloning usually takes more than 30 minutes to complete:

环境反直	文件路径:	烧写文件	/home/nvidia/Desktop/Apex_s2_s2pro4.2.2/miivii_ftool_4.2.2/imgs/j /home/clonetest4.2.2.img		8
输入上位机密码		克隆文件			
设备型号:	设备列表:	刷新	烧写 克隆	更多	
 APEX: jetpack4.2.2-opex jetpack4.2-opex jetpack4.2-o	Xavier 001. /dev/bus	/usb/009/006	Origing processes 7802[16:10:35] onging processes 7882[16:10:35] onging processes 7882[16:10:45] onging processes 7882[16:10:50] onging processes 7882[16:10:50] onging processes 7882[16:10:50] onging processes 7882[16:11:05] onging processes 7882[16:11:00] onging processes 7882[16:11:10] onging processes 7882[16:11:10] onging processes 7882[16:11:20] onging processes 7882[16:11:20] onging processes 7882[16:11:35] onging processes 7882[16:11:35] onging processes 7882[16:11:35] onging processes 7882[16:11:35] onging processes 7882[16:11:45] onging processes 7882[16:11:55] onging processes 7882[16:11:45] onging processes 7882[16:11:55] onging processes 7882[16:11:55] onging processes 7882[16:11:45] onging processes 7882[16:11:45] onging processes 7882[16:11:45] onging pro		

2

7

1202102015-2021 Hard

12021-02015-2021 WER

12021-02015-2021 Hard

• Cloning completed, will generate a clone image and MD5 file, please burn again according to step 3.2.1 operation

Note: if you encounter problems in the cloning process, please contact Miivii power for help:

helpdesk@miivii.com

Attached 1. Kernel and DTB burn

Miivii device burn tool can burn system kernel and DTB separately, click [more] in the upper right corner to choose.



环境设置	文件路径:	烧写文件	/home/nvidia/Desktop/Apex_s2_s2	2pro4.2.2/miivii_ftool_4.2.2/imgs/j	语言
输入上位机密码		克隆文件 刷新	/home/clonetest4.2.2.img		
设备型号:	设备列表:		烧写	克隆	统写dtb
APEX: Jetpack4.2:-apex Jetpack4.2:-apex S2PRO: Jetpack4.2:-s2pro Jetpack3.3-s2pro S2: Jetpack4.2:-s2 Jetpack4.2:-s2 Jetpack4.2:-s2	Xavier 001. /dev/bus	/usb/009/010	start flash with PID=10559 start flashing device: /dev/bus/us 1 flash processes ongoing: 10575 onging processes: 10575	b/009/010, process ID: 10575 5 48:09] 48:12] 48:15] mpleted	

Note: before you do this in meters, power after confirmation: helpdesk@miivii.com

Attached 2. Self-test For Burning Problems

If you encounter burning problem, please first conduct self-test according to the following items:

- Check whether the upper computer boot password is entered in the upper left corner of the burn tool
- Check whether to enter the Recovery mode, can be identified by the lsusb command
- Check whether Micro USB cable quality is up to standard and whether it is only a dual-core cable used for charging

1202102015-12.4 2015-12.1 2015-12.1 2015-12.1

• Check upper computer, whether it is x86-64 architecture desktop, notebook.(Server, embedded device, virtual machine and other devices are not supported temporarily)

49.11万米文制力持持指

12021020152021 Hard

12021-102015-12-A1 Hard

- Check whether the upper computer system is Linux 1604 /1804
- Check the disk format, the recommended disk format for burning hosts is EXT4
- Check whether the upper computer capacity is enough

C. H.B. W. Tall

• The Images and burn tool storage path cannot have Chinese or other special characters