SMARC Evaluation Kit

Recovery SD Image

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Quick Start Guidez

Here is a step by step guide to boot up your SMARC:

a. By **default**, the (Android) or (Linux OS) has been preloaded in the eMMC, (or SD card) of the SMARC demo kit. All you have to do is
- - Connect your SMARC with TV/LCD by using an **HDMI** cable,
- - Or connect your LVDS panel by using LVDS cable if you have them
- - Connect the device with 12V power input directly.

b. To make a recovery SD card, please refer to Chapter 2.
c. To use the root/ serial port debug function, please check Chepter3.2.1 (COM1 debug cable setup) information.

1.   Software Setup

Users who has Ibase standard image file can refer to this chapter to prepare your own boot-up SD card. Ibase provides HDMI / LVDS output environment by default to let you prepare the software application pre-development easily under Linux / Android platform.

1.1.   Make a Recovery SD Card
Preparing your Recovery SD card help to install the Linux/ Android image into eMMC

Please download the **Recovery SD card's image by FTP in advance.**
Host: 219.87.145.180 port: 21
User: bsp
Password: (please check with your sales)
Image path:
/bsp/RISC_IMAGE/RM-F6XX-SMC
 (based on Freescale BSP: L3.3.35.4.1.0)

For example:
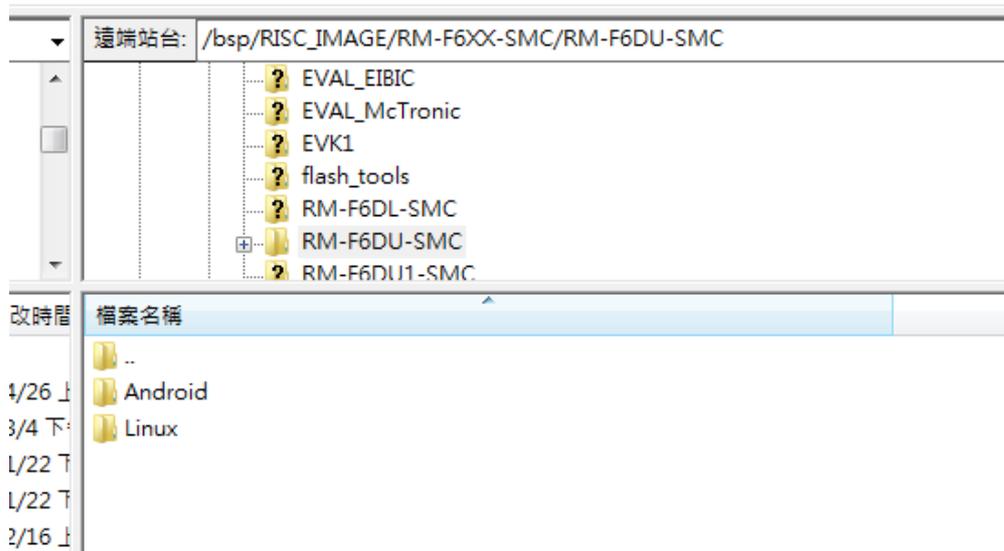
In order to use the evaluation kit, you will need to install an Operating System (OS) onto onboard eMMC by recovery SD card. An Operating System is the set of basic programs and utilities that allow your computer to run.

These instructions will guide you through installing a recovery program on your SD card that will allow you to easily install different OS's and to recover your card when needed.

1. Insert an SD card that is 4GB or greater in size into your computer

2. Format the SD card

   i. Download the SD Association's Formatting Tool (SD Card Formatter 4.0) from **https://www.sdcard.org/downloads/formatter_4/eula_windows/**
   ii. Install and run the Formatting Tool on your machine
   iii. Set "FORMAT SIZE ADJUSTMENT" option to "ON" in the "Options" menu
   iv. Check that the SD card you inserted matches the one selected by the Tool
   v. Click the "Format" button

3. Download the target operating system image from the DVD/ or FTP

   (Descripted in previous page)

4. Download the Win32DiskImager from
http://sourceforge.net/projects/win32diskimager/ and use it to restore the target operating system.

And then, flash the Android/ Linux image into your SD card in your PC (Windows).

6. Please check the DIP switch and make sure it can boot from SD Card.
(See 2.3 Boot on the SMARC starter kit)

1.2. Boot on the SMARC starter kit

Please double check the Boot device selection before power on.

SW3: Boot Select
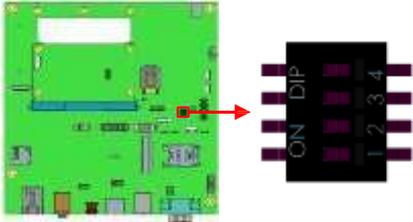
Boot Source	SW3_PIN1	SW3_PIN2	SW3_PIN3	SW3_PIN4	Linux node name	Android node name
Carrier SD	0	1	1	X		
Module eMMC	1	0	0	X		

Note: 1: Switch On   ;   0: Switch Off

1. 7. Insert the SD card/MicroSD into motherboard, make sure the **HDMI panel** is connected, and connect the power supply to boot up the system.
2. 8. Recovery program on your SD card will execute automatically. The eMMC on SMARC will be format, and OS will be installed while the progress bar shows 100% complete.
3. 9. Remove the power, and the recovery SD. Remember to set the boot source from module eMMC.

Boot Source	SW3_PIN1	SW3_PIN2	SW3_PIN3	SW3_PIN4	Linux node name	Android node name
Carrier SD	0	1	1	X		
Module eMMC	1	0	0	X		

4. **Connect the power** and boot up SMARC, you will see the Linux/ Android boot up pages.

1.3. Parameter Setting on U-boot

We provide HDMI output and (10.1 " Onation LVDS Panel output command example) for SMARC starter kit. If you have any other LVDS/ TTL panel need to be customized, please contact Ibase sales or FAE staff.

1.3.1. Preparation (debug console)

i.   We set the COM1 (Tx1, Rx1) as default debug port, please double check it can be connect to (RX, Tx) of your PC environment.

ii.   set 115200 bps (8n1, no flow control) in Windows terminal (for example Putty.exe)

iii.   When booting the system, you can **press "Enter" t**o stop auto boot and modify your environment.

(Note: Users who are not sure the COM connection, please double check your SMARC.COM1.Tx1 connect to PC.COM.Rx ; SMARC.COM1.Rx1 to PC.COM.Tx)

CN15: RS232 x 3 (DF11-12S-PA66H)
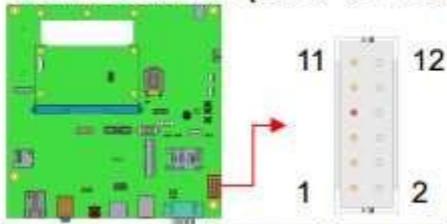
Signal Name	Pin #	Pin #	Signal Name
+5V	1	2	TX1
TX5	3	4	RX1
RTS5#	5	6	GND
RX5	7	8	TX2
CTS5#	9	10	RX2
GND	11	12	GND

For COM:

COM2 is mapped to ttymxc1 under Linux & Android.

COM4 is mapped to ttymxc3 under Linux & Android.

COM5 is mapped to ttymxc4 under Linux & Android

(** COM1 is for Debug only.)

For CAN:

1. Open "Terminal"

2. Execute the following commands:

ip link set can0 type can bitrate 125000

ip link set can1 type can bitrate 125000

ifconfig can0 up

ifconfig can1 up

sudo apt-get install can-utils

cansend can0 xxxxx (** Please use Help to see the detailed command.)

candump can1 xxxxx (** Please use Help to see the detailed command.)