

## Interfacing FlashRunner 2.0 with RN93xx USB Flashing

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Driver v. 1.00

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## USB Protocol

RN93xx microprocessors could be used to program huge size memories through its USB interface.

FlashRunner HS combined with the USB active module allows the user to connect the USB interface of the microprocessors to SMH programming system and then send data and USB commands to program the huge size memories connected to them.

#TCSETPAR CMODE <USB>

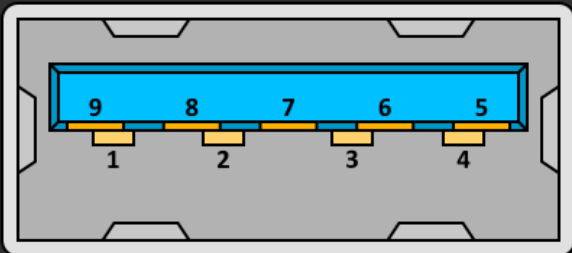
## USB Pin Map

Pin Map Tool

Select your FlashRunner model: FR HS

Export to PDF

Active Module 1 - Connector 1



Select a channel:

A.M.1 Ch.1 - MIMX8MM6CVTKZA\_EMMC16G-WW28 [USB]

Connection descriptions:

VBUS (5V)	Pin: 1
D-	Pin: 2
D+	Pin: 3
GND	Pin: 4
STDA_SSRX-	Pin: 5
STDA_SSRX+	Pin: 6
GND	Pin: 7
STDA_SSTX-	Pin: 8
STDA_SSTX+	Pin: 9

## Programming flow

The first part consists of sending Android Debug Bridge (ADB) commands to let the device bootloader switch to USB FastBoot protocol. During the flow, it would be possible that other ADB commands would be needed to reboot the board or execute some other commands

## Commands

### ADB commands

#TPCMD ADB\_CMD <argument>

Argument can be:

- 1) root: used to restart ADB protocol with root permission
- 2) reboot: used to reboot the board into bootloader mode

### Fastboot commands

#TPCMD FB\_CMD <argument>

Argument can be:

- 1) reboot: used to reboot the board

#TPCMD FB\_ERASE <partitionName>

This command is used to erase an eMMC partition:

- 1) <partitionName> indicates the partition targeted by the operation

#TPCMD FB\_FLASH <partitionName>

This command is used to flash an eMMC partition:

- 1) <partitionName> indicates the partition targeted by the operation

(proper source firmware file required)

### RN93xx\_USB Standard Commands

#TPCMD CONNECT

Used to connect to the target.

#TPCMD DISCONNECT

Used to disconnect to the target.