

## Interfacing FlashRunner 2.0 with NXP LPC2xxx



## LPC2xxx Protocols and PIN maps

All the LPC2xxx devices support the UART protocol.

#TCSETPAR CMODE <UART>

### UART PIN MAP

Pin Map Tool

Select your FlashRunner model: FR 2.0 Export to PDF

Master board connector (Ch.1 - Ch.8)

Select a channel:

- Ch.1 - LPC2294 [UART]

Connection descriptions:

DIO2: TxD	Pin: C1
DIO3: RxD	Pin: A2
DIO6: RESET	Pin: A3
VPROG0	Pin: A4
GND	Pin: B3, C4



## LPC2xxx Available Commands

### LPC2xxx Series

MEMORY	MASSERASE	ERASE PAGE	BLANKCHECK	PROGRAM	VERIFY READOUT	VERIFY CHECKSUM	READ	DUMP
Flash [F]	✓	✓	✓	✓	✓		✓	✓

### LPC2xxx Additional Commands

Commands for Flash memory:

#TPCMD SECTOR\_ERASE F [Address] [Size]

## LPC2xxx Driver Commands

### LPC2xxx Standard Commands

Here you can find the complete list of all available commands for LPC2xxx driver.

Memory type:

F → FLASH

#### #TPCMD CONNECT

#TPCMD CONNECT

This function performs the entry and is the first command to be executed when starting the communication with the device.

#### #TPCMD MASSERASE

#TPCMD MASSERASE <F>

F: Masserase command for Flash memory of target device.

#### #TPCMD SECTOR\_ERASE

#TPCMD SECTOR\_ERASE <F>

#TPCMD SECTOR\_ERASE <F> <start address> <size>

This function performs a sector erase of Flash memory.  
Enter the Start Address and Size in hexadecimal format.

#### #TPCMD BLANKCHECK

#TPCMD BLANKCHECK <F>

Blankcheck is available for Flash memory.  
Verify if all memory is erased.

#TPCMD BLANKCHECK <F> <start address> <size>

Blankcheck is available for Flash memory.  
Verify if selected part of memory is erased.  
Enter the Start Address and Size in hexadecimal format.

#### #TPCMD PROGRAM

#TPCMD PROGRAM <F>

Program is available for Flash memory.  
Programs all memory of the selected type based on the data in the FRB file.

#TPCMD PROGRAM <F> <start address> <size>

Program is available for Flash memory.  
Programs selected part of memory of the selected type based on the data in the FRB file.  
Enter the Start Address and Size in hexadecimal format.

#### #TPCMD VERIFY

#TPCMD VERIFY <F> <R>

R: Readout Mode.  
Verify Readout is available for Flash memory.  
Verify all memory of the selected type based on the data in the FRB file.

#TPCMD VERIFY <F> <R> <start address> <size>

R: Readout Mode.

Verify Readout is available for Flash memory.

Verify the selected part of the memory of the chosen type based on the data in the FRB file.

Enter the Start Address and Size in hexadecimal format.

## #TPCMD READ

**#TPCMD READ <F>**

Read all memory of selected type.

The result of the read command will be visible into the Terminal.

**#TPCMD READ <F> <start address> <size>**

Read selected part of memory of the selected type.

The result of the read command will be visible into the Terminal.

## #TPCMD DUMP

**#TPCMD DUMP <F>**

Dump all memory of selected type.

The result of the dump command will be stored in the FlashRunner 2.0 internal memory.

**#TPCMD DUMP <F> <start address> <size>**

Dump selected part of memory of the selected type.

The result of the dump command will be stored in the FlashRunner 2.0 internal memory.

## #TPCMD DISCONNECT

**#TPCMD DISCONNECT**

Disconnect function. Power off and exit.

## LPC2xxx Driver Parameters

The additional parameters are used to configure some specific option inside LPC2xxx driver.

### LPC2xxx Standard Additional Parameters:

#### #TCSETPAR EXT\_OSC

**Syntax:** `#TCSETPAR EXT_OSC <Frequency>`

`<Frequency>` Possible parameters 10000000, 11059200, 12288000, 14745600, 15360000, 18432000, 19660800, 24576000, 25000000 Hz

**Description:** Used during connection to communicate to the target device its external oscillator frequency.

**Note:** Default value 10000000 Hz.  
PROTCLK value must be set according to the following table.

ISP Baudrate .vs. External Crystal Frequency	9600	19200	38400	57600	115200	230400
10.0000	+	+	+			
11.0592	+	+		+		
12.2880	+	+	+			
14.7456	+	+	+	+	+	+
15.3600	+					
18.4320	+	+		+		
19.6608	+	+	+			
24.5760	+	+	+			
25.0000	+	+	+			

Different values will be automatically changed by the FlashRunner.



## LPC2xxx Driver Changelog

**Info about driver version 1.00 - 14/11/2024**

Supported Flash memory Commands for LPC2xxx devices through UART.