

S720

GPIO Configuration Guide

Issue 1.0



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Notice

This document provides guide for users to use S720.

This document is intended for system engineers (SEs), development engineers, and test engineers.

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Contents

1 Overview.....	5
2 GPIO Configuration	6
2.1 Setting GPIO Pins	6
2.2 Using the GPIO Pin.....	6

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About This Document

Scope

This document is applicable to the S720 series.




Audience

This document is intended for [system engineers \(SEs\)](#), [development engineers](#), and [test engineers](#).

Change History

Issue	Change	Changed By
1.0	Initial draft	Jian Hou

Conventions

Symbol	Indication
	Indicates danger or warning. This information must be followed. Otherwise, a catastrophic module or user device failure or bodily injury may occur.
	Indicates caution. This symbol alerts the user to important points about using the module. If these points are not followed, the module or user device may fail.
	Indicates instructions or tips. This symbol provides advices or suggestions that may be useful when using the module.

1 Overview

General Purpose Input/output (GPIO) pins are controllable. Connecting a GPIO pin to an external device can implement functions including external communication, control and data acquisition.

2 GPIO Configuration

2.1 Setting GPIO Pins

Before setting a pin to GPIO, confirm the GPIO number by referring to the schematic diagram. Taking **pin 117** as an example, from the the schematic diagram of S726, you can see that **pin 117** corresponds to **GPIO 94**. Then, you need to set **BITS_PIN_AF** by referring to *Neoway_S720_Pin_Definitions*. In this example, configuring **BITS_PIN_AF = 3** is required to set **pin 117** to a GPIO pin.

Pin name	Function 0	Function 1	Function 2	Function 3	Remark
SPIO_CSN	SPIO_CSN	-	EXTINT5	GPIO 90	-

To set **pin 117** to a GPIO pin, you need to modify the **pinmap-sl8541e.c** file, which is located under the **bsp\bootloader\u-boot15\board\spreadtrum\S720** directory.

As shown in the below code in **pinmap-sl8541e.c**, find **SPIO_CSN**, and set **BITS_PIN_AF(3)**. Then, **pin 117** can be used as a GPIO pin.

```
{REG_PIN_SPIO_CSN, BITS_PIN_AF(3)},
{REG_MISC_PIN_SPIO_CSN, BITS_PIN_DS(1)|BIT_PIN_NULL|BIT_PIN_NUL|BIT_PIN_SLP_AP|BIT_PIN_SLP_NUL|BIT_PIN_SLP_OE},
```

2.2 Using the GPIO Pin

The following shows the sample code of implementing data transmission services.

```
extcon_gpio: extcon-gpio {
    compatible = "linux,extcon-usb-gpio";
    vbus-gpio = <&pmic_eic 0 GPIO_ACTIVE_HIGH>;
    id-gpio = <&ap_gpio 126 0>;
    otg5v-gpio = <&ap_gpio 90 0>;
};
```