

How to use gpio-hog demo

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EXTERNAL USE



SECURE CONNECTIONS
FOR A SMARTER WORLD

Case Description

Some case need configure the GPIO when system is up.
One way is to use application layer, such as systemd, script to do it.
Linux gpio driver provide gpio-hog to handle this job.

linux/Documentation/devicetree/bindings/gpio/gpio.txt

Each GPIO hog definition is represented as a child node of the GPIO controller.

Required properties:

- **gpio-hog:** A property specifying that this child node represents a GPIO hog.

- **gpios:** Store the GPIO information (id, flags, ...) for each GPIO to affect. Shall contain an integer multiple of the number of cells specified in its parent node (GPIO controller node).

Only one of the following properties scanned in the order shown below.

This means that when multiple properties are present they will be searched in the order presented below and the first match is taken as the intended configuration.

- **input:** A property specifying to set the GPIO direction as input.

- **output-low** A property specifying to set the GPIO direction as output with the value low.

- **output-high** A property specifying to set the GPIO direction as output with the value high.



Demo Environment

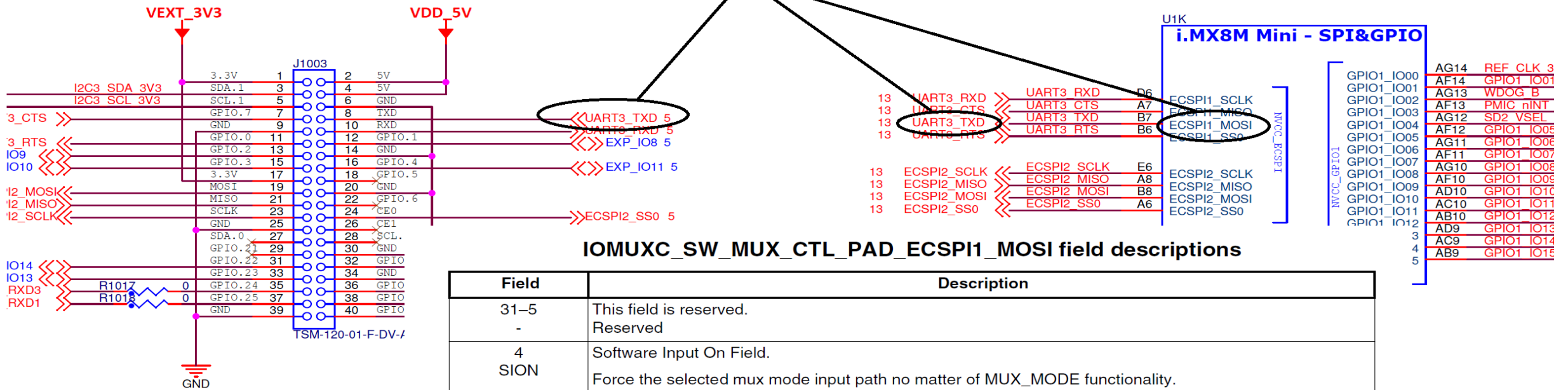
HW: i.MX8MM LPDDR4 EVK

SW: LF5.10.9_1.0.0

GPIO5_IO07

Base Board

SOM Board



IOMUXC_SW_MUX_CTL_PAD_ECSP11_MOSI field descriptions

Field	Description
31-5 -	This field is reserved. Reserved
4 SION	Software Input On Field. Force the selected mux mode input path no matter of MUX_MODE functionality. 1 ENABLED — Force input path of pad ECSP11_MOSI 0 DISABLED — Input Path is determined by functionality of the selected mux mode (regular).
3 -	This field is reserved. Reserved
MUX_MODE	MUX Mode Select Field. Select 1 of 3 iomux modes to be used for pad: ECSP11_MOSI. 000 ALT0 — Select signal ECSP11_MOSI 001 ALT1 — Select signal UART3_TX 101 ALT5 — Select signal GPIO5_IO07

Device Tree

```
imx8mm-evk-gpio-hog-demo.dts
```

```
/dts-v1/;
```

```
#include "imx8mm-evk.dts"
```

```
&iomuxc {
```

```
    /delete-node/ pinctrl_uart3;
```

```
    pinctrl_hog: hoggrp {
```

```
        fsl,pins = <
```

```
            MX8MM_IOMUXC_ECSP11_MOSI_GPIO5_IO7 0x19
```

```
        >;
```

```
    };
```

```
};
```

```
&uart3 {  
    status = "disabled";  
};
```

```
&gpio5 {
```

```
    gpio_hog_demo {
```

```
        gpio-hog;
```

```
        gpios = <7 0>;
```

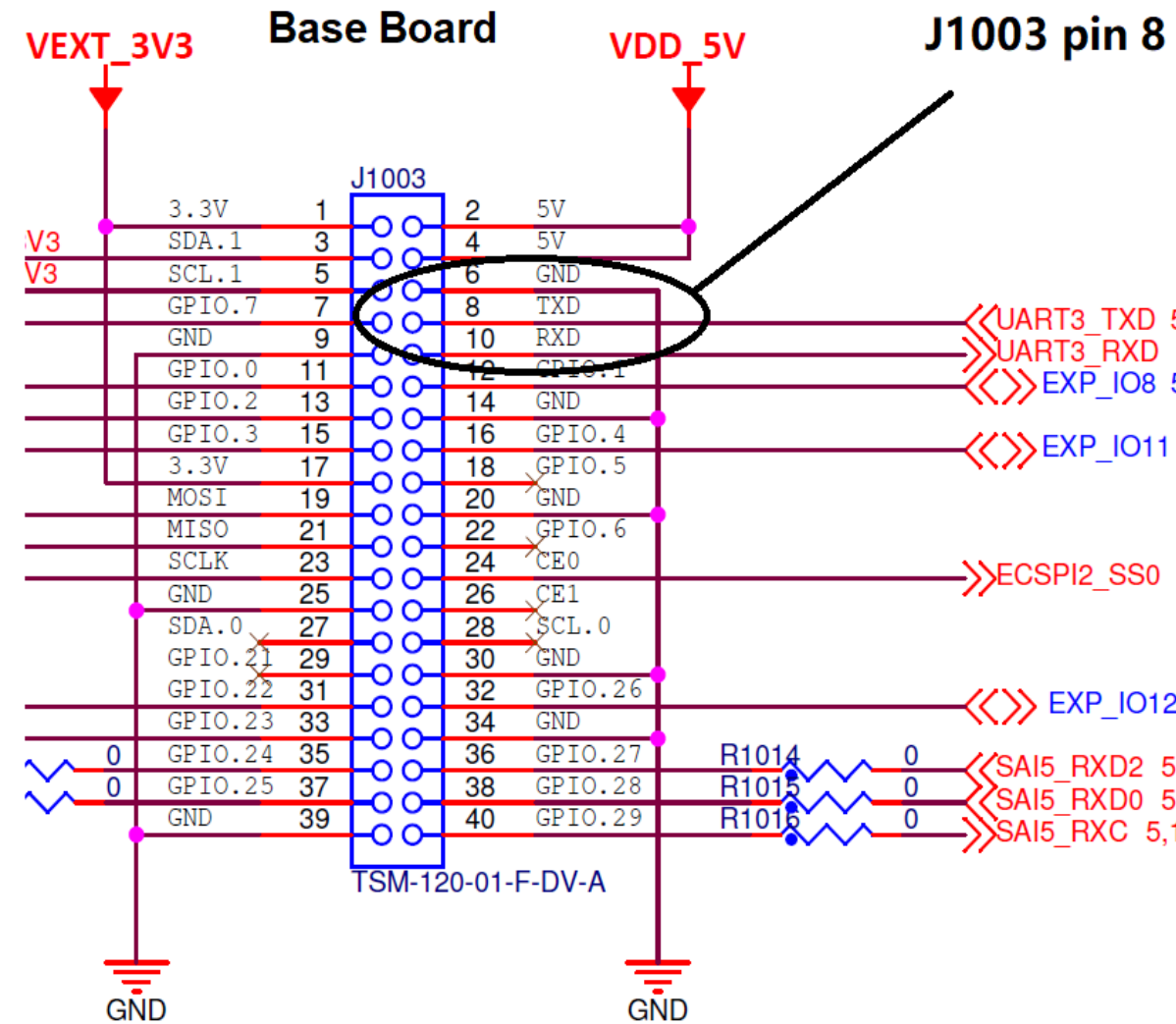
```
        /* output-low;*/
```

```
        output-high;
```

```
    };
```

```
};
```

Demo



```

root@imx8mmevk:~# cat /sys/kernel/debug/gpio
gpiochip0: GPIOs 0-31, parent: platform/30200000.gpio, 30200000.gpio:
gpio-5 (           |PCIe DIS           ) out hi
gpio-13 (           |ir-receiver        ) in hi IRQ ACTIVE LOW
gpio-15 (           |cd                 ) in hi IRQ ACTIVE LOW

gpiochip1: GPIOs 32-63, parent: platform/30210000.gpio, 30210000.gpio:
gpio-38 (           |?                 ) out hi
gpio-42 (           |reset             ) out lo ACTIVE LOW
gpio-51 (           |regulator-usdhc2  ) out lo

gpiochip2: GPIOs 64-95, parent: platform/30220000.gpio, 30220000.gpio:
gpio-80 (           |status            ) out hi

gpiochip3: GPIOs 96-127, parent: platform/30230000.gpio, 30230000.gpio:
gpio-117 (          |PCIe reset        ) out hi

gpiochip4: GPIOs 128-159, parent: platform/30240000.gpio, 30240000.gpio:
gpio-135 (          |gpio_hog_demo     ) out hi
gpio-141 (          |spi1 CS0          ) out hi ACTIVE LOW
gpio-149 (          |wlf,mute          ) out hi ACTIVE LOW
root@imx8mmevk:~#
    
```

