Application Notes

Amlogic MID Products SDIO Port Configuration Guide

Revision 0.1

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Revision History

Revision	Date	Owner	Changes
0.1	April 2st, 2013	Larson Jiang	Draft

1. Overview

MX chip have three sets of SDIO pins, SDIO-A, SDIO-B and SDIO-C. We can use them all on one platform:

- one is for TF/SD card
- Another is for eMMC
- The other is for SDIO WiFi

Amlogic MID products use this guide to configure SDIO port. It includes:

- Configure SDIO port
- Example

2. Configure SDIO port

It's easy to add new SDIO device to board:

- Fill in structure ***meson_card_info[]*** in board-xxxx.c

For example:

```
struct aml_card_info {
   char *name;       //name, must correct. TF/SD:"sd_card"; iNand:"inand_card"; SDIO WiFi:" sdio_card"
   Card_Work_Mode_t work_mode;  // work mode select, always CARD_HW_MODE
   SDIO_Pad_Type_t  io_pad_type;   //hw io pin pad
   unsigned card_ins_en_reg;  // set this pin output/input register
   unsigned card_ins_en_mask;     //the bit number of this pin
   unsigned card_ins_input_reg;    //get input value register
   unsigned card_ins_input_mask;  //the bit number of this pin
   unsigned card_power_en_reg;     //set this pin output/input register
   unsigned card_power_en_mask;    //the bit number of this pin
   unsigned card_power_output_reg;   //set this pin output level register
   unsigned card_power_output_mask;  //the bit number of this pin
   unsigned char card_power_en_lev;  //power enable level,'0' means output low level will enable power
   unsigned card_wp_en_reg;     // write protect pin set, only SD card have it.
   unsigned card_wp_en_mask;
   unsigned card_wp_input_reg;
   unsigned card_wp_input_mask;
   void (*card_extern_init)(void);   // for you to do some special thing in your function before card init
   /*for inand partition: struct mtd_partition, easy porting from nand*/
   struct mtd_partition    *partitions;  // for iNand/eMMC partitions
   unsigned int         nr_partitions;
};
```

3. Example

TF/SD:

SDIO pin pad: SDHC_CARD_0_5

CARDIO_29 for card detect

CARDIO_31 for card power control, and low level enable power

SDIO WiFi:

SDIO pin pad: SDHC_GPIOX_0_9

<Note>

- Pad type and card_xxx_xxx_xxx are defined in arch\arm\mach-meson6\include\mach\card_io.h
- Please set power, insert and wp setting to 0 given invalid

Configuration:

```
static struct aml_card_info meson_card_info[] = {
   [0] = {
      .name         = "sd_card",
      .work_mode     = CARD_HW_MODE,
      .io_pad_type       = SDHC_CARD_0_5,
      .card_ins_en_reg    = CARD_GPIO_ENABLE,
      .card_ins_en_mask   = PREG_IO_29_MASK,
      .card_ins_input_reg = CARD_GPIO_INPUT,
      .card_ins_input_mask    = PREG_IO_29_MASK,
      .card_power_en_reg  = CARD_GPIO_ENABLE,
      .card_power_en_mask = PREG_IO_31_MASK,
      .card_power_output_reg  = CARD_GPIO_OUTPUT,
      .card_power_output_mask = PREG_IO_31_MASK,
      .card_power_en_lev  = 0,
      .card_wp_en_reg     = 0,
      .card_wp_en_mask    = 0,
      .card_wp_input_reg  = 0,
      .card_wp_input_mask = 0,
      .card_extern_init   = 0,
   },
#if 1
   [1] = {
      .name         = "sdio_card",
      .work_mode     = CARD_HW_MODE,
      .io_pad_type       = SDHC_GPIOX_0_9,
      .card_ins_en_reg    = 0,
      .card_ins_en_mask   = 0,
      .card_ins_input_reg = 0,
      .card_ins_input_mask    = 0,
      .card_power_en_reg  = 0,
```

```
        .card_power_en_mask = 0,
        .card_power_output_reg  = 0,
        .card_power_output_mask = 0,
        .card_power_en_lev  = 0,
        .card_wp_en_reg     = 0,
        .card_wp_en_mask    = 0,
        .card_wp_input_reg  = 0,
        .card_wp_input_mask = 0,
        .card_extern_init   = sdio_extern_init,
    },
#endif
```