Allwinner Technology CO., Ltd.

A31(s)　DDR　sys_config.fex
配置使用指南

V1.0　（for homlet-mars44-v4.4.2）
2014-04-01

一、简介

　　使用不同的 sys_config.fex 配置支持使用 **DDR3、DDR3L、LDDR2、LPDDR3**。

二、Sys_config.fex 配置修改说明

1、修改路径

　　Sys_config.fex 配置文件，为硬件设备描述文件，路径：

　lichee\tools\pack\chips\sun6i\configs\android\mars-xxx\sys_config.fex

2、如何修改

　　(特别注意：DDR3,DDR3L 的 DRAM 配置的 dram_zq 的配置，根据位宽进行配置　dram_zq　　　　= 0xFB (for 8bit) or 0xBB (for 16bit))

2.1、以 DDR3 为例，其中红色代码为主要修改点：

```
;----------------------------------------------------
;for DDR3:              dcdc5_vol = 1500
;for DDR3L:             dcdc5_vol = 1350
;for LPDDR2,LPDDR3: dcdc5_vol = 1200
;----------------------------------------------------
[power_sply]
dcdc1_vol                  = 3000
dcdc2_vol                  = 1200
dcdc3_vol                  = 1260
dcdc4_vol                  = 1240
dcdc5_vol                  = 1500
aldo2_vol                  = 1800
aldo3_vol                  = 3000
eldo3_vol                  = 1200
;*******************************************************************************
;sdram configuration
;*******************************************************************************
;***************DDR3/DDR3L*************
;dram_type       = 3
;dram_zq          = 0xFB (for 8bit) or 0xBB (for 16bit)
;dram_odt_en     = 0
;dram_tpr13      = 0x10000
;***************LPDDR2*****************
;dram_type       = 6
;dram_zq          = 0x149
;dram_odt_en     = 1
;dram_tpr13      = 0x10000
;***************LPDDR3*****************
;dram_type       = 7
;dram_zq          = 0x149
;dram_odt_en     = 1
;dram_tpr13       = 0x10000
```

```
[dram_para]
dram_clk          = 432
dram_type         = 3
dram_zq           = 0xFB    ;DRAM 位宽为 8bit
dram_odt_en       = 0
dram_para1        = 0
dram_para2        = 0
dram_mr0          = 0
dram_mr1          = 0
dram_mr2          = 0
dram_mr3          = 0
dram_tpr0         = 0
dram_tpr1         = 0
dram_tpr2         = 0
dram_tpr3         = 0
dram_tpr4         = 0
dram_tpr5         = 0
dram_tpr6         = 0
dram_tpr7         = 0
dram_tpr8         = 0
dram_tpr9         = 0
dram_tpr10        = 0
dram_tpr11        = 0
dram_tpr12        = 0
dram_tpr13        = 0x10000
```

2.2、以 DDR3L 为例，其中红色代码为主要修改点：

```
;-------------------------------------------------
;for DDR3:              dcdc5_vol = 1500
;for DDR3L:             dcdc5_vol = 1350
;for LPDDR2,LPDDR3: dcdc5_vol = 1200
;-------------------------------------------------
[power_sply]
dcdc1_vol                 = 3000
dcdc2_vol                 = 1200
dcdc3_vol                 = 1260
dcdc4_vol                 = 1240
dcdc5_vol                 = 1350
aldo2_vol                 = 1800
aldo3_vol                 = 3000
eldo3_vol                 = 1200


;********************************************************************************
;sdram configuration
;********************************************************************************
;--------------------------------------------------------------------------------
;**************DDR3/DDR3L*************
;dram_type        = 3
;dram_zq           = 0xFB (for 8bit) or 0xBB (for 16bit)
;dram_odt_en      = 0
;dram_tpr13        = 0x10000
;**************LPDDR2*****************
;dram_type        = 6
;dram_zq           = 0x149
;dram_odt_en      = 1
;dram_tpr13        = 0x10000
;**************LPDDR3*****************
;dram_type        = 7
;dram_zq           = 0x149
;dram_odt_en      = 1
;dram_tpr13        = 0x10000
;--------------------------------------------------------------------------------
```

```
[dram_para]
dram_clk          = 432
dram_type         = 3
dram_zq           = 0xFB    ;DRAM 位宽为 8bit
dram_odt_en       = 0
dram_para1        = 0
dram_para2        = 0
dram_mr0          = 0
dram_mr1          = 0
dram_mr2          = 0
dram_mr3          = 0
dram_tpr0         = 0
dram_tpr1         = 0
dram_tpr2         = 0
dram_tpr3         = 0
dram_tpr4         = 0
dram_tpr5         = 0
dram_tpr6         = 0
dram_tpr7         = 0
dram_tpr8         = 0
dram_tpr9         = 0
dram_tpr10        = 0
dram_tpr11        = 0
dram_tpr12        = 0
dram_tpr13        = 0x10000
```

2.3、以 LPDDR2 为例，红色代码为主要修改点：

```
;-------------------------------------------------------
;for DDR3:               dcdc5_vol = 1500
;for DDR3L:              dcdc5_vol = 1350
;for LPDDR2,LPDDR3: dcdc5_vol = 1200
;-------------------------------------------------------
[power_sply]
dcdc1_vol                    = 3000
dcdc2_vol                    = 1200
dcdc3_vol                    = 1260
dcdc4_vol                    = 1240
dcdc5_vol                    = 1200
aldo2_vol                    = 1800
aldo3_vol                    = 3000
eldo3_vol                    = 1200


;****************************************************************************
;sdram configuration
;****************************************************************************
;-----------------------------------------------------------------------------
;*************DDR3/DDR3L*************
;dram_type        = 3
;dram_zq          = 0xFB (for 8bit) or 0xBB (for 16bit)
;dram_odt_en      = 0
;dram_tpr13       = 0x10000
;*************LPDDR2*****************
;dram_type        = 6
;dram_zq          = 0x149
;dram_odt_en      = 1
;dram_tpr13       = 0x10000
;*************LPDDR3*****************
;dram_type        = 7
;dram_zq          = 0x149
;dram_odt_en      = 1
;dram_tpr13       = 0x10000
;-----------------------------------------------------------------------------
```

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```
[dram_para]
dram_clk          = 336    //推荐使用 336M 频率
dram_type         = 6
dram_zq           = 0x149
dram_odt_en       = 1
dram_para1        = 0
dram_para2        = 0
dram_mr0          = 0
dram_mr1          = 0
dram_mr2          = 0
dram_mr3          = 0
dram_tpr0         = 0
dram_tpr1         = 0
dram_tpr2         = 0
dram_tpr3         = 0
dram_tpr4         = 0
dram_tpr5         = 0
dram_tpr6         = 0
dram_tpr7         = 0
dram_tpr8         = 0
dram_tpr9         = 0
dram_tpr10        = 0
dram_tpr11        = 0
dram_tpr12        = 0
dram_tpr13        = 0x10000
```

2.4、以 LPDDR3 为例，红色代码为主要修改点：

```
;-------------------------------------------------------
;for DDR3:              dcdc5_vol = 1500
;for DDR3L:             dcdc5_vol = 1350
;for LPDDR2,LPDDR3: dcdc5_vol = 1200
;-------------------------------------------------------
[power_sply]
dcdc1_vol                    = 3000
dcdc2_vol                    = 1200
dcdc3_vol                    = 1260
dcdc4_vol                    = 1240
dcdc5_vol                    = 1200
aldo2_vol                    = 1800
aldo3_vol                    = 3000
eldo3_vol                    = 1200


;****************************************************************************
;sdram configuration
;****************************************************************************
;----------------------------------------------------------------------------
;**************DDR3/DDR3L*************
;dram_type        = 3
;dram_zq           = 0xFB (for 8bit) or 0xBB (for 16bit)
;dram_odt_en      = 0
;dram_tpr13       = 0x10000
;**************LPDDR2*****************
;dram_type        = 6
;dram_zq           = 0x149
;dram_odt_en      = 1
;dram_tpr13       = 0x10000
;**************LPDDR3*****************
;dram_type        = 7
;dram_zq           = 0x149
;dram_odt_en      = 1
;dram_tpr13       = 0x10000
;----------------------------------------------------------------------------
```

```
[dram_para]
dram_clk          = 336    //推荐使用 336M 频率
dram_type         = 7
dram_zq           = 0x149
dram_odt_en       = 1
dram_para1        = 0
dram_para2        = 0
dram_mr0          = 0
dram_mr1          = 0
dram_mr2          = 0
dram_mr3          = 0
dram_tpr0         = 0
dram_tpr1         = 0
dram_tpr2         = 0
dram_tpr3         = 0
dram_tpr4         = 0
dram_tpr5         = 0
dram_tpr6         = 0
dram_tpr7         = 0
dram_tpr8         = 0
dram_tpr9         = 0
dram_tpr10        = 0
dram_tpr11        = 0
dram_tpr12        = 0
dram_tpr13        = 0x10000
```