

#### SYS. Solution P/J (Mobile) SAMSUNG ELECTRONICS Co.,Ltd.





# 2440X vs 2440A Revision Points(1/2)

Item	S3C2440X	S3C2440A	Note
Pin Configuration	U11 is VDDiarm	U11 is VDDi	
AC97	-	AC97 Codec interface	
Camera	FIMv1.0(Max. 1016x1016)	FIMv2.0(Max. 4096x4096)	
Clock	FCLK:HCLK = 1:1 / 1:2 / 1:3 / 1:4	FCLK:HCLK = 1:1 / 1:2 / 1:3 / 1:4 / 1:6 / 1:8 Support XTAL clock through CLKOUT port Support RTC clock(32.768khz) through CLKOUT port	
	Fixed core voltage	DVS(Dynamic Voltage Scaling)	
GPIO	ID(GSTATUS1) = 0x32410000	ID(GSTATUS1) = 0x32440001	
LCD		In STN LCD, 16bpp frame data can be displayed 12bpp display without conversion	



## 2440X vs 2440A Revision Points(2/2)

Item	S3C2440X	S3C2440A	Note
Audio Clock	IIS input Clock = PCLK only	IIS input Clock = PCLK, XTAL input	
MPLL	Part: Pll2115x VCO out: 200~533MHz FCLK: 100~533MHz	Part: Pll2188x VCO out: 600~1.2GHz FCLK: 200~600MHz	
UART	Uart Clock source = PCLK, EXTCLK(UCLK)	Uart Clock source = PCLK, EXTCLK(UCLK), ( FCLK/n)	
NAND	H/W ECC check in 16-bit interface has problem	Corrected	



### **Camera Revision Point**

S3C2440X	S3C2440A	Note
<ul> <li>Supports ITU 601/656 YCbCr 4:2:2 8-bit interface.</li> <li>Image down scaling capability for variable applications.</li> <li>Max. 1016x1016 pixel input support with scaling</li> <li>Two master port for dedicated DMA operation.</li> <li>Programmable the polarity of video sync signals.</li> </ul>	<ul> <li>Added the followings.</li> <li>DZI(Digital Zoom In) capability.</li> <li>Max. Input resolution: 4096x4096 pixels without scaling</li> <li>Max. 2048x2048 pixel input support with scaling</li> <li>Image mirror and rotation (X/Y-axis mirror and 180° rotation)</li> <li>Output format: RGB444, 16/24bit, YCbCr 4:2:2/4:2:0.</li> </ul>	S/W



# Appendix



# 2410 vs 2440X Revision Points(1/2)

Item	S3C2410	S3C2440X	Note
ADC	ADC Pen-Down interrupt only.	ADC Pen-Down and Up interrupt.	
	4-External FET is needed for Touch screen.	FET is Included for Touch screen.	
Camera		YCbCr 420 8-bit interface,	
		Max 1016x1016	
	DMA interrupt occurs when TC=0.	DMA interrupt occurs when	
DMA		(1) TC=0	
		(2) After auto-reload is performed.	
IIC		Programmable IIC Data hold time.	
		Digital filter is included.	
LCD	LPC3600 timing controller for LTS350Q1-PD1/2.	Added LCC3600 timing controller for Samsung Transflective TFT LCD(LTS350Q-PE1/2).	



# 2410 vs 2440X Revision Points(2/2)

Item	S3C2410	S3C2440X	Note
Memory	Memory control pins in sleep mode: Hi-z or Previous status Data bus: Hi-z	Memory control pins in sleep mode: Hi-z or inactive. Data bus: Hi-z or Output low.	
		Controllable drive-strength for memory control pins.	
NAND	8-bit interface only	8/16-bit interface, Advanced NAND flash accessible, RnB Interrupt is added.	
Power	nBATT_FLT signal is fixed function	Controllable nBATT_FLT function	
RTC	1.8V RTC	1.8V ~ 3.6V RTC	
SDI	Support DMA transfer by word	Support DMA transfer by word, Half word, and Byte.	
UART	FIFO size: 16-bytes	FIFO size: 64-bytes	
USB	USB device FIFO size:64-bytes	USB device FIFO size:128-bytes	



# **SMDK2440 Revision Points**

Board Type	Revision Points	Board Version
CPU Board	<ol> <li>CPU board to Base board connectors(CON6, CON7) were changed.</li> <li>Main power supply was changed with 5V input.</li> <li>Adjustable voltage regulator(MAX1718-U13) was adopted for core voltage(VDDalive, VDDi, VDDiarm, VDDupll, VDDmpll).</li> <li>Regulator(U9) was changed for sequential Power input.</li> <li>RC filter for NAND control signal and pull-up resistor for NAND chip select pin were added .</li> <li>1.2V VDD_RTC input was changed with 3.3V.</li> <li>Bypass capacitors were added or changed for noise reduction.</li> <li>Changed nCD_SD connection pin from EINT18(GPG10) to EINT16(GPG8).</li> <li>Modified the power supply circuit for using DVS mode.</li> <li>Changed U11 pin of S3C2440A from VDDiarm to VDDi.</li> <li>Changed PLL clock input from 12MHz to 16.9344MHz for using IIS exactly.</li> </ol>	From v0.11 to v0.18
Base Board	<ol> <li>CPU board to Base board connectors(CON23, CON24) were changed.</li> <li>Added the AC'97 codec circuit.</li> <li>Modified the camera interface circuit to use SAMSUNG Camera(s5x532) Module.</li> </ol>	From v0.13 to v0.18

