

LPC1857

Disclaimer:


Schematic's are for reference only. NGX Technologies Pvt. Ltd. provides no warranty for the use of these schematics.

NGX TECHNOLOGIES		NGX Technologies Pvt. Ltd.	
Title LPC1857 XPLORE++			
Size B	Document Number SCHEMATIC		Rev A.
Date:	Tuesday, May 21, 2013	Sheet	1 of 15

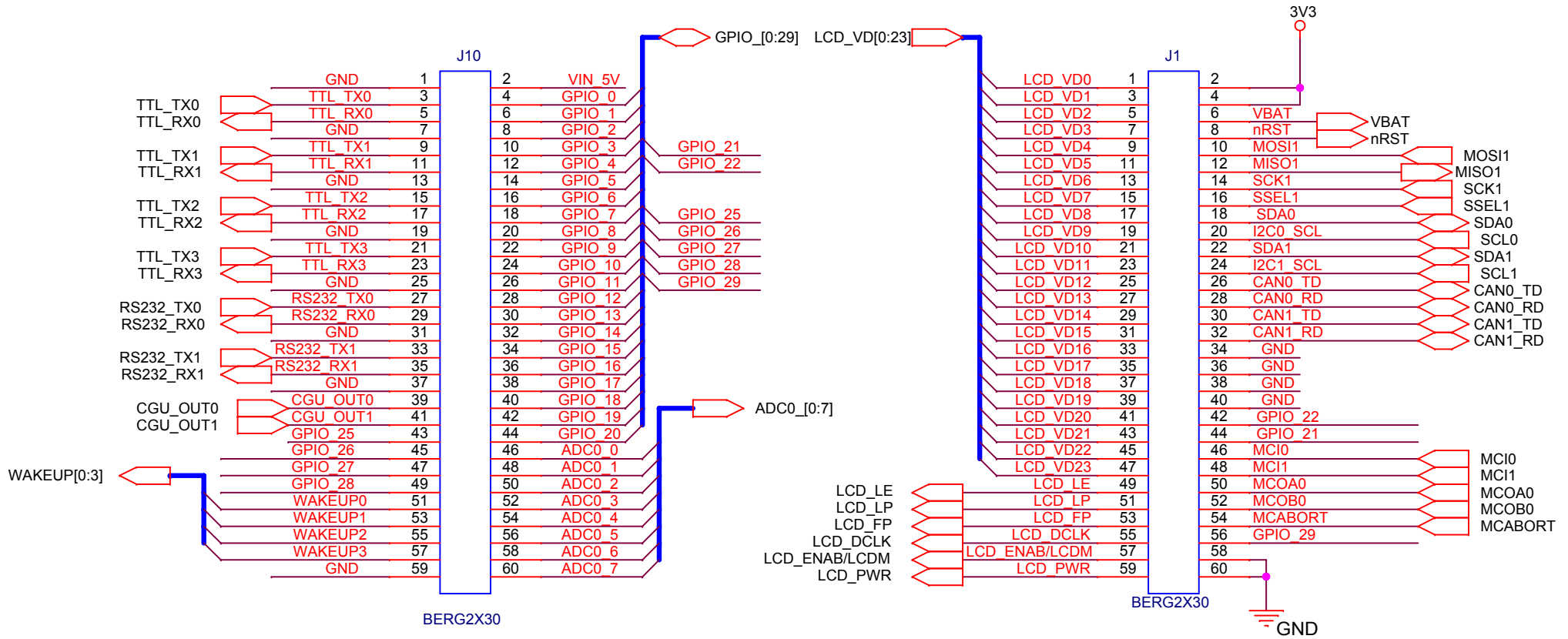
PIN OUT

PORT	HEADER J10	PORT	PORT
GND	GND 1 2	VIN 5V	VIN 5V
GPIO7[24]	TX0 3 4	GPIO_0	GPIO4[0]
GPIO2[25]	RX0 5 6	GPIO_1	GPIO3[0]
GND	GND 7 8	GPIO_2	GPIO6[0]
GPIO6[12]	TX1 9 10	GPIO_3	GPIO6[1]
GPIO6[13]	RX1 11 12	GPIO_4	GPIO3[1]
GND	GND 13 14	GPIO_5	GPIO6[2]
GPIO4[8]	TX2 15 16	GPIO_6	GPIO7[4]
GPIO4[9]	RX2 17 18	GPIO_7	GPIO4[10]
GND	GND 19 20	GPIO_8	GPIO6[10]
GPIO7[17]	TX3 21 22	GPIO_9	GPIO6[11]
GPIO7[18]	RX3 23 24	GPIO_10	GPIO7[14]
GND	GND 25 26	GPIO_11	GPIO7[15]
RS232_TX1	RS232_TX1 27 28	GPIO_12	GPIO7[16]
RS232_RX1	RS232_RX1 29 30	GPIO_13	GPIO5[19]
GND	GND 31 32	GPIO_14	GPIO7[21]
RS232_TX0	RS232_TX0 33 34	GPIO_15	GPIO7[22]
RS232_RX0	RS232_RX0 35 36	GPIO_16	GPIO7[23]
GND	GND 37 38	GPIO_17	GPIO6[24]
CGU_OUT0	CGU_OUT0 39 40	GPIO_18	GPIO6[25]
CGU_OUT1	CGU_OUT1 41 42	GPIO_19	GPIO6[26]
GPIO1[8]	GPIO_25 43 44	GPIO_20	GPIO5[1]
GPIO5[15]	GPIO_26 45 46	ADC0_0	ADC0_0
GPIO6[29]	GPIO_27 47 48	ADC0_1	ADC0_1
GPIO6[30]	GPIO_28 49 50	ADC0_2	ADC0_2
WAKEUP0	WAKEUP0 51 52	ADC0_3	ADC0_3
WAKEUP1	WAKEUP1 53 54	ADC0_4	ADC0_4
WAKEUP2	WAKEUP2 55 56	ADC0_5	ADC0_5
WAKEUP3	WAKEUP3 57 58	ADC0_6	ADC0_6
GND	GND 59 60	ADC0_7	ADC0_7

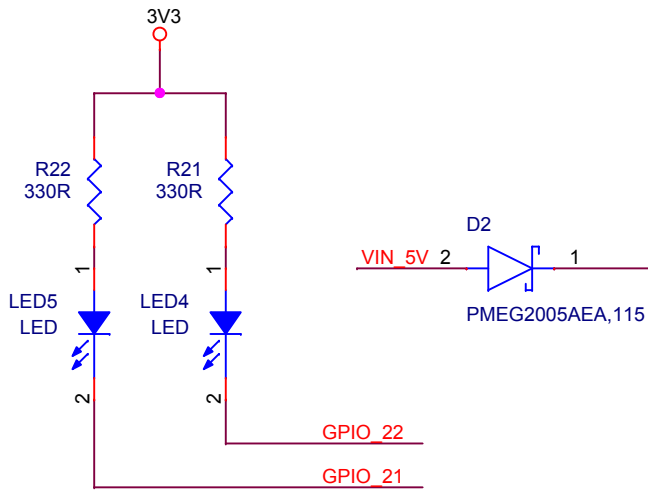
PORT	HEADER J1	PORT	PORT
GPIO2[1]	LCD_VD0 1 2	3V3	3V3
GPIO2[4]	LCD_VD1 3 4	3V3	3V3
GPIO2[3]	LCD_VD2 5 6	VBAT	VBAT
GPIO2[2]	LCD_VD3 7 8	nRST	RESET
GPIO2[12]	LCD_VD4 9 10	SSP1_MOSI	GPIO[11]
GPIO4[6]	LCD_VD5 11 12	SSP1_MISO	GPIO7[20]
GPIO4[5]	LCD_VD6 13 14	SSP1_SCK	SSP1_SCK
GPIO3[9]	LCD_VD7 15 16	SSP1_SSEL	GPIO7[19]
GPIO3[13]	LCD_VD8 17 18	I2C0_SDA	I2C0_SDA
GPIO5[12]	LCD_VD9 19 20	I2C0_SCL	I2C0_SCL
GPIO5[14]	LCD_VD10 21 22	I2C1_SDA	GPIO5[3]
GPIO5[13]	LCD_VD11 23 24	I2C1_SCL	GPIO5[4]
GPIO4[3]	LCD_VD12 25 26	CAN0_TD	GPIO7[3]
GPIO2[0]	LCD_VD13 27 28	CAN0_RD	GPIO7[2]
GPIO5[25]	LCD_VD14 29 30	CAN1_TD	GPIO7[0]
GPIO5[24]	LCD_VD15 31 32	CAN1_RD	GPIO7[1]
GPIO4[4]	LCD_VD16 33 34	GND	GND
GPIO3[11]	LCD_VD17 35 36	GND	GND
GPIO3[10]	LCD_VD18 37 38	GND	GND
GPIO5[26]	LCD_VD19 39 40	GND	GND
GPIO5[23]	LCD_VD20 41 42	GPIO_22	GPIO5[18]
GPIO5[22]	LCD_VD21 43 44	GPIO_21	GPIO4[11]
GPIO5[21]	LCD_VD22 45 46	MCI0	GPIO4[2]
GPIO7[12]	LCD_VD23 47 48	MCI1	GPIO4[1]
GPIO3[8]	LCD_LE 49 50	MCOA0	GPIO4[15]
GPIO3[14]	LCD_LP 51 52	MCOB0	GPIO5[17]
GPIO2[5]	LCD_FP 53 54	MCABORT	GPIO4[12]
LCD_DCLK	LCD_DCLK 55 56	GPIO_29	GPIO0[10]
GPIO2[6]	LCD_ENAB/LCDM 57 58	GND	GND
GPIO4[7]	LCD_PWR 59 60	GND	GND

		NGX Technologies Pvt, Ltd., India.	
Title LPC1857 XPLORER++			
Size A	Document Number PIN OUT		Rev A.
Date:	Tuesday, May 21, 2013	Sheet	2 of 15

HEADER

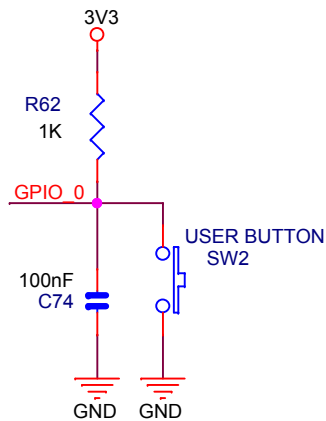


TEST LED



NOTE : Active low

USER SWITCH



NGX Technologies Pvt. Ltd., India.

Title
LPC1857 XPLORER++

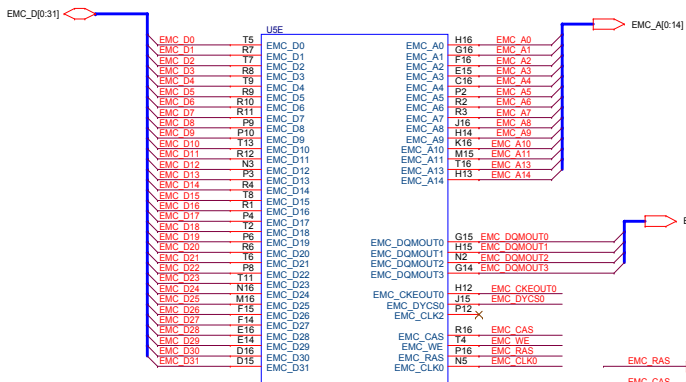
Size A Document Number
A HEADER

Rev A.

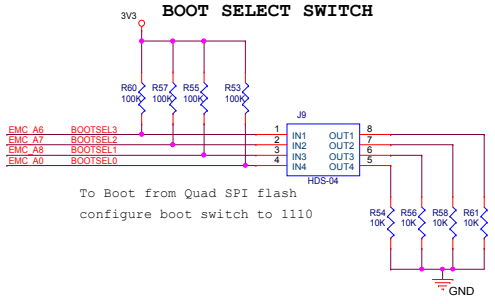
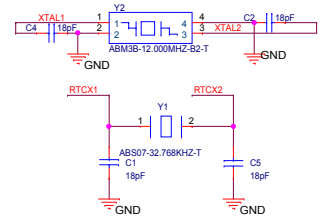
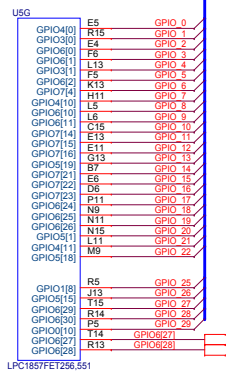
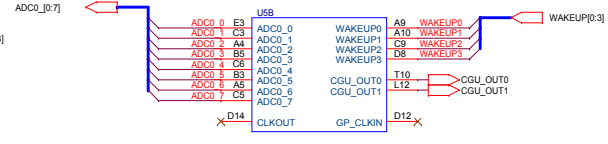
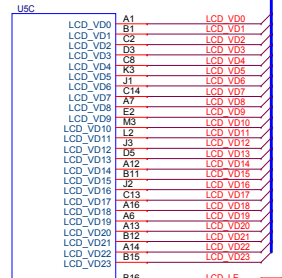
Date: Tuesday, May 21, 2013

Sheet 3 of 15

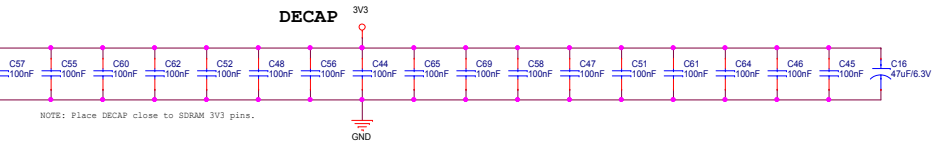
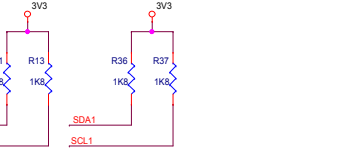
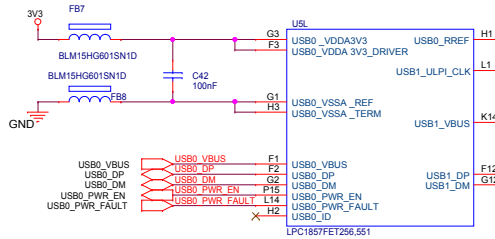
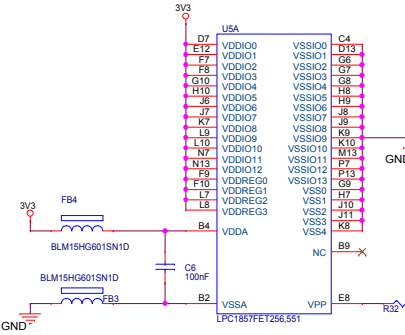
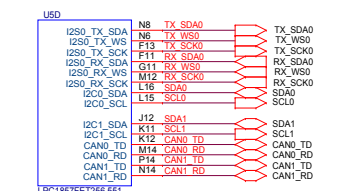
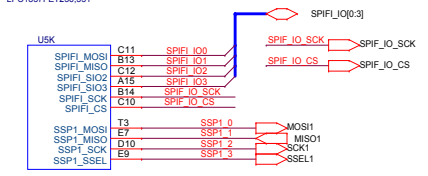
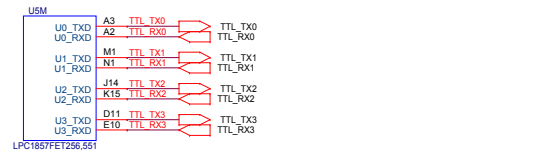
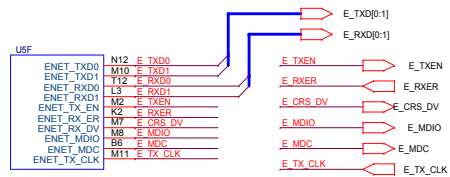
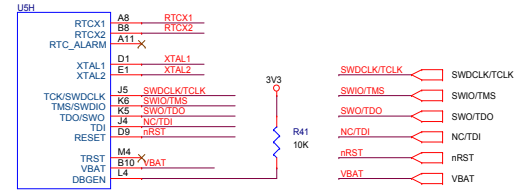
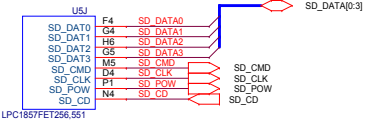
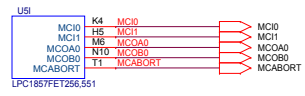
LPC4357



NOTE:
LCD lines are multiplexed with I2S and PWM pin.
IMPACT: Can not use Audio and PWM when LCD is configured for 24-bit resolution.

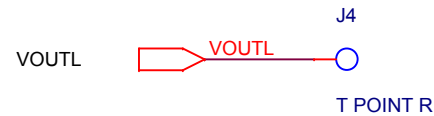
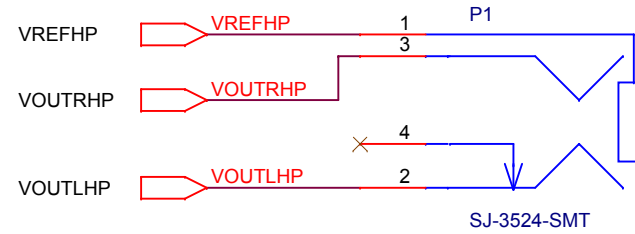
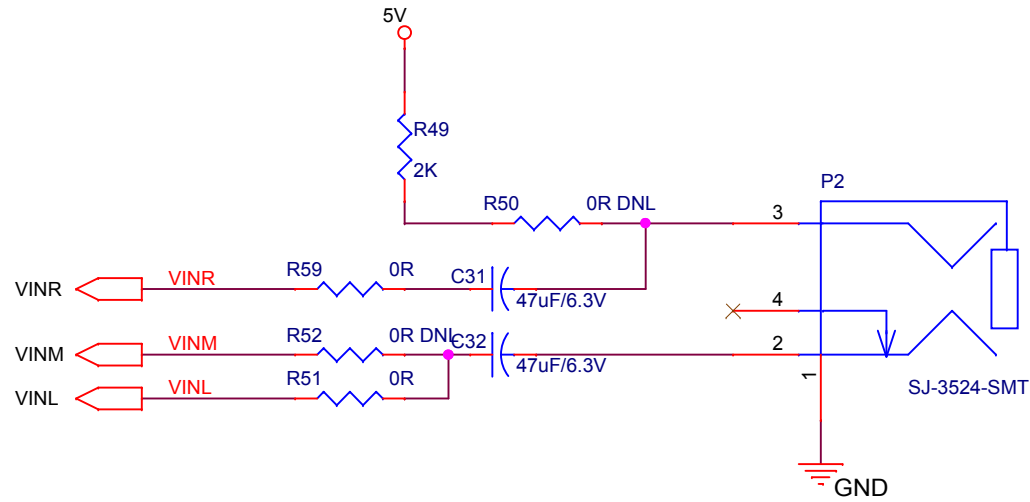


To Boot from Quad SPI flash configure boot switch to 1110



NOTE: Place DECAP close to SDRAM 3V3 pins.

AUDIO JACK3.5MM



NOTE:

DNI R50, R52



NGX Technologies Pvt, Ltd., India.

Title
LPC1857 XPLORER++

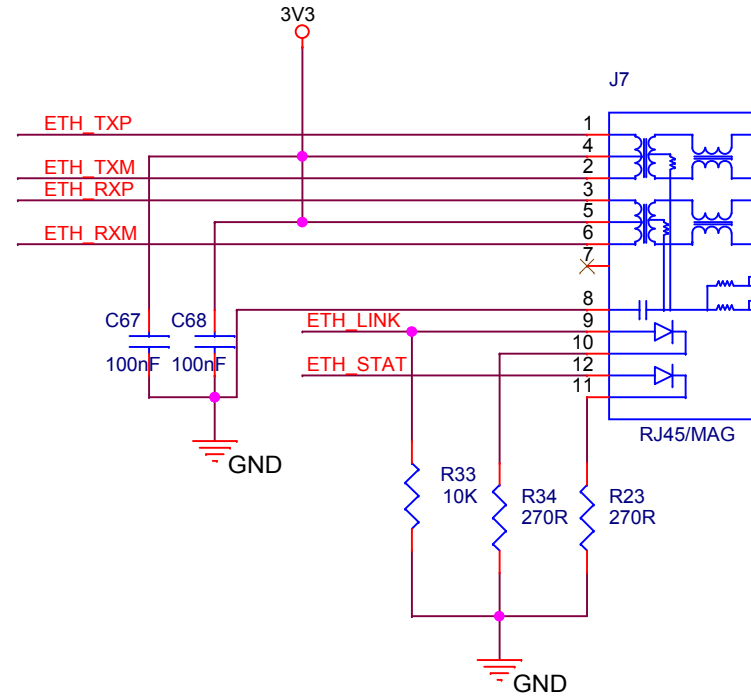
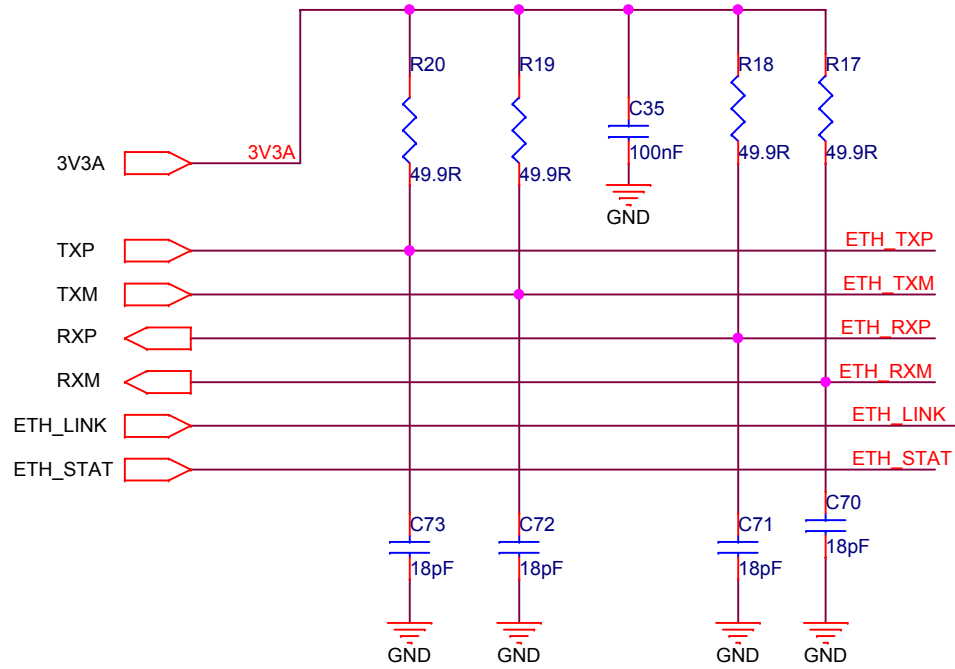
Size A Document Number
AUDIO_JACK3.5MM

Rev A.

Date: Tuesday, May 21, 2013

Sheet 6 of 15

RJ45 MAGNETICS



NGX Technologies Pvt, Ltd., India.

Title
LPC1857 XPLORER++

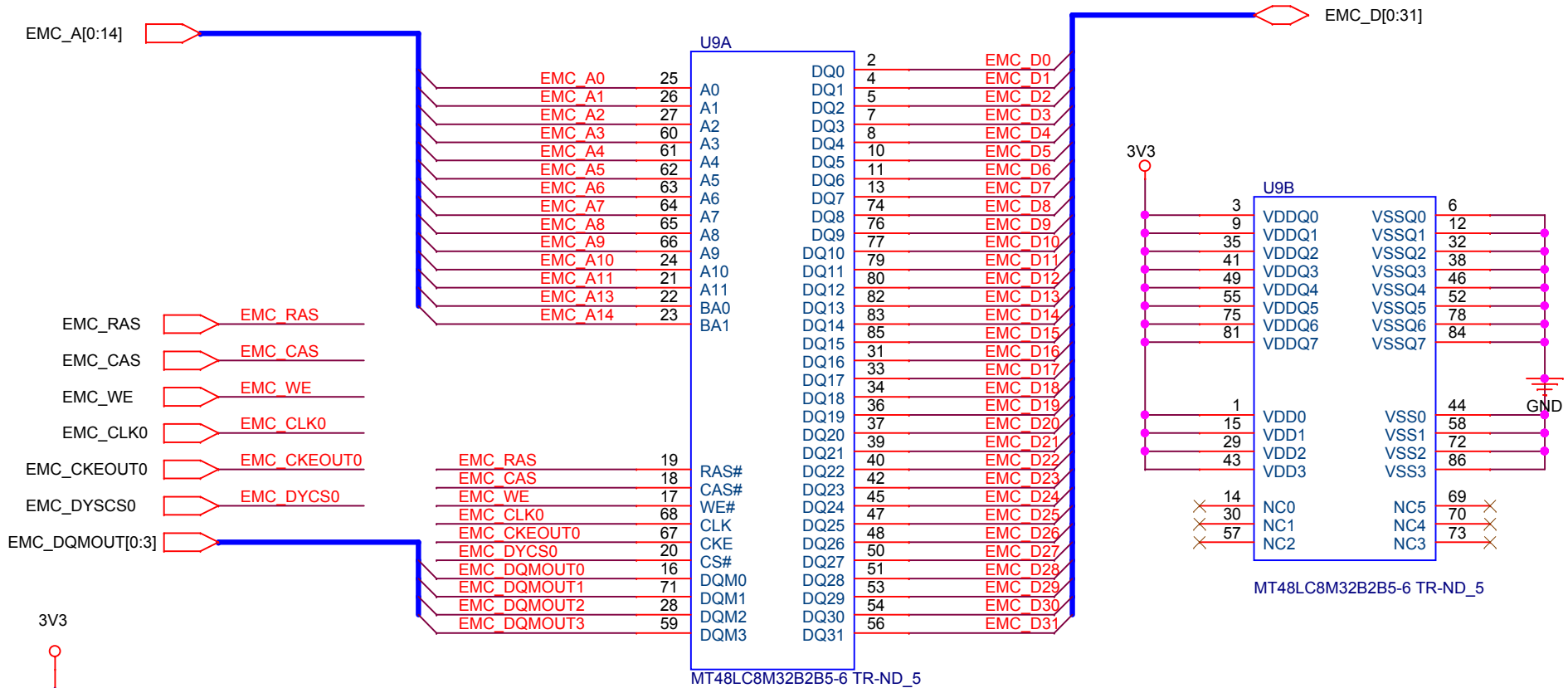
Size A Document Number
RJ45 MAGNETICS

Rev A.

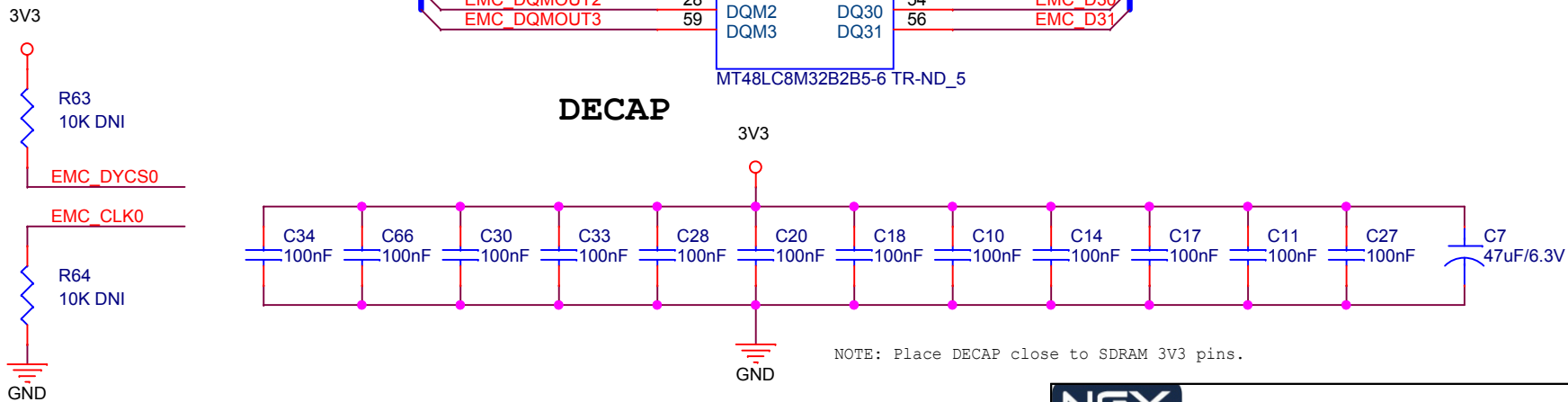
Date: Tuesday, May 21, 2013

Sheet 8 of 15

SDRAM

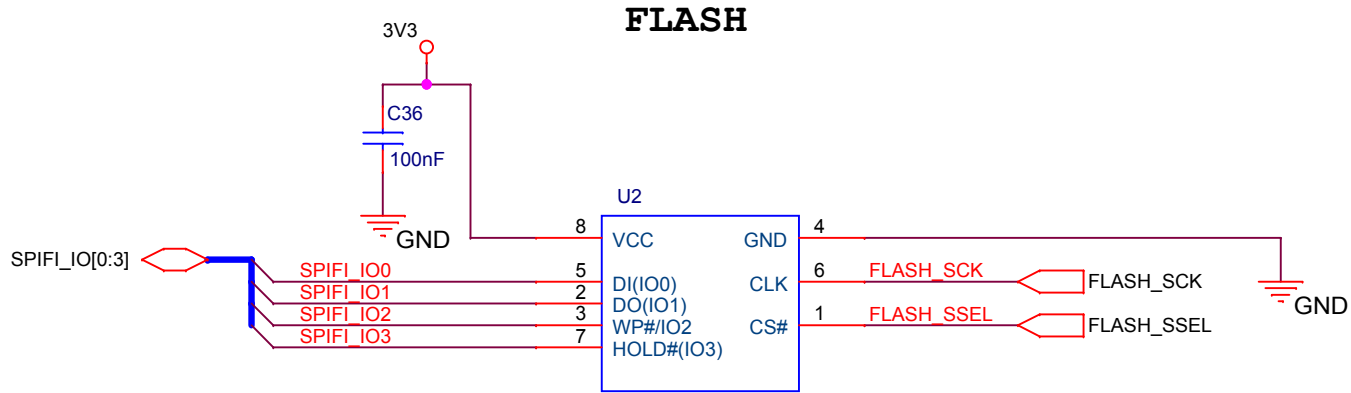


DECAP



NOTE:
 DNI R63, R64

NGX Technologies Pvt, Ltd., India.		
Title LPC1857 XPLORER++		
Size A	Document Number SDRAM_32-BIT	Rev A.
Date:	Tuesday, May 21, 2013	Sheet 9 of 15



S25FL032P0XMFI013

SPIFI_MOSI---->SPIFI_IO0
 SPIFI_MISO---->SPIFI_IO1
 SPIFI_SIO2---->SPIFI_IO2
 SPIFI_SIO3---->SPIFI_IO3



NGX Technologies Pvt. Ltd., India.

Title
 LPC1857 XPLORER++

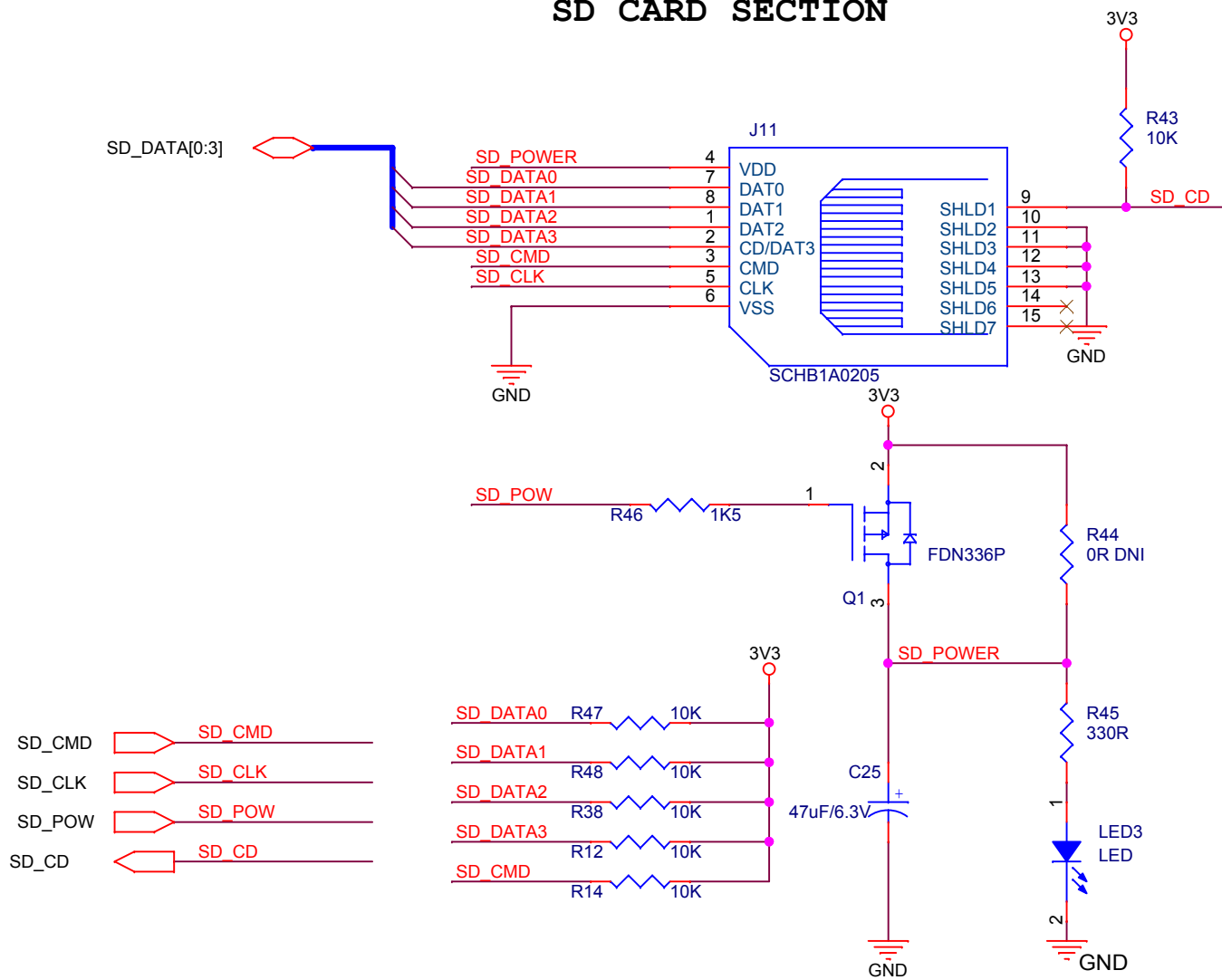
Size A Document Number
 FLASH

Rev A.

Date: Tuesday, May 21, 2013

Sheet 10 of 15

SD CARD SECTION



NOTE:

DNI R44



NGX Technologies Pvt, Ltd., India.

Title
LPC1857 XPLORER++

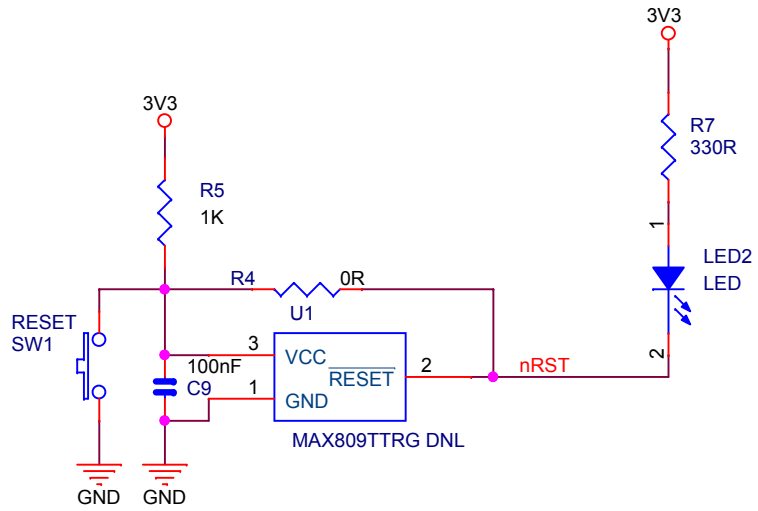
Size A	Document Number SD_MICRO_MMC
-----------	---------------------------------

Rev A.

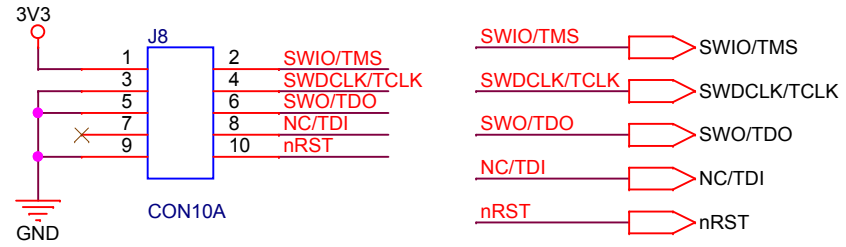
Date: Tuesday, May 21, 2013

Sheet 11 of 15

RESET SWITCH



JTAG



NOTE :

DNI U1



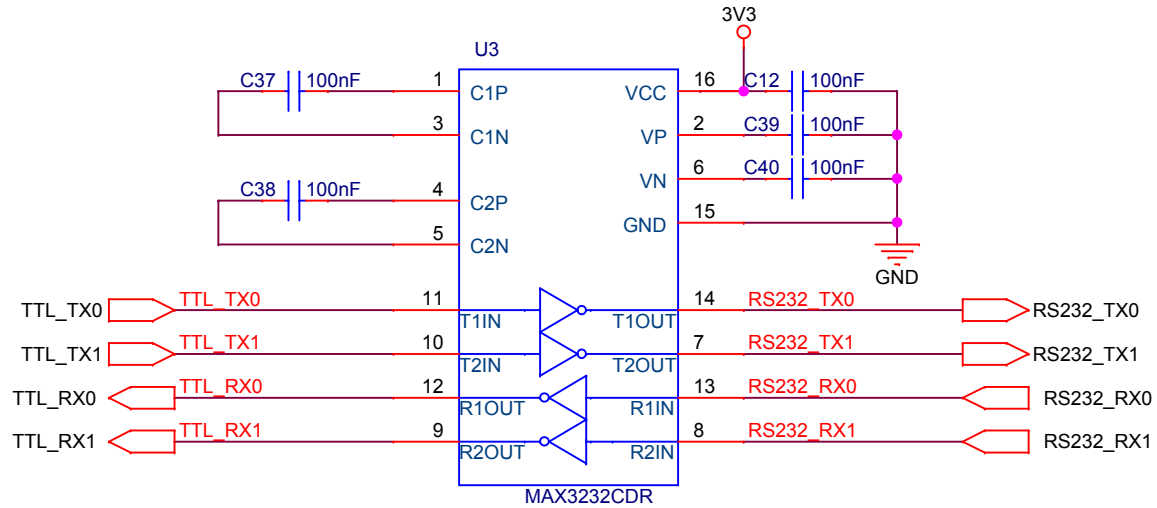
NGX Technologies Pvt, Ltd., India.

Title
LPC1857 XPLORER++

Size A	Document Number JTAG/SWD_MRESET	Rev A.
-----------	------------------------------------	-----------

Date: Tuesday, May 21, 2013 Sheet 12 of 15

UART SECTION



NGX Technologies Pvt, Ltd., India.

Title
LPC1857 XPLOER++

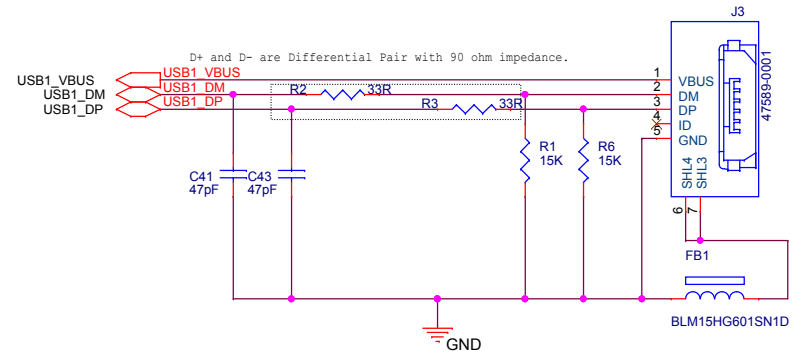
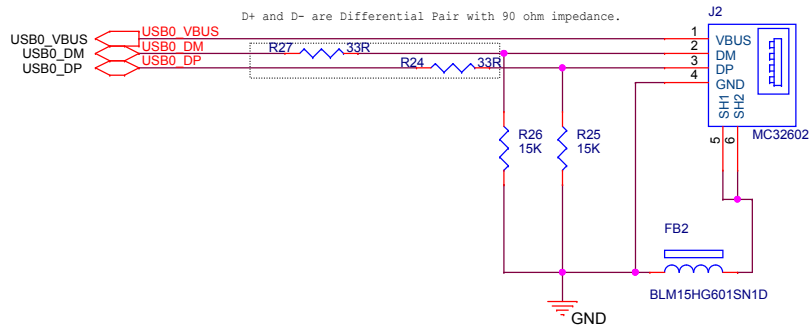
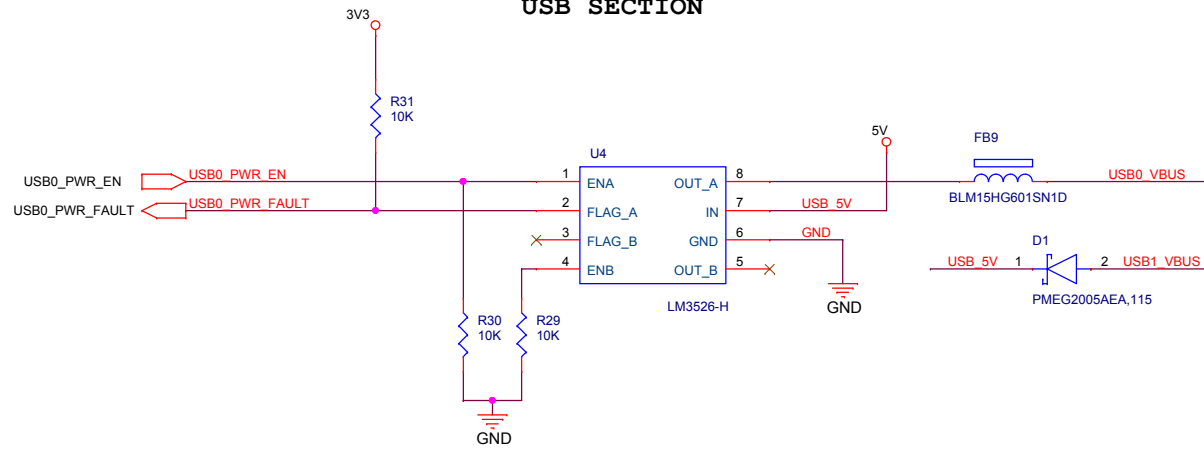
Size
A Document Number
UART_MAX3232

Rev
A.

Date: Tuesday, May 21, 2013

Sheet 13 of 15

USB SECTION

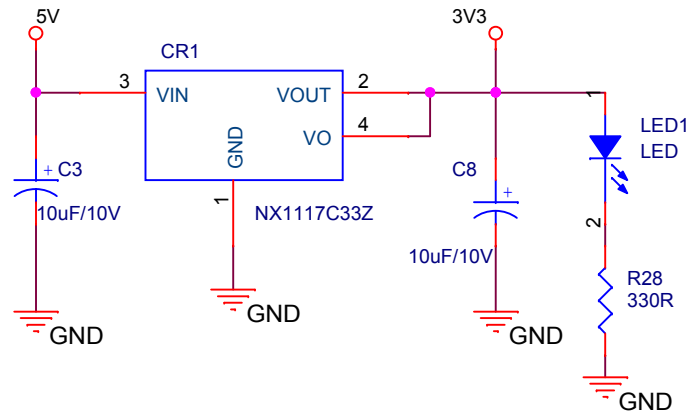


USB ROUTING GUIDELINES

- =>Route USB trace pairs together [DM & DP].
- =>Do not route USB traces under crystals, oscillators,magnetic devices or ICs that use and/or duplicate clocks.
- =>Route high-speed USB signals using a minimum of vias and corners.
- =>Use 20-mil minimum spacing between high-speed USB signal pairs and other signal traces for optimal signal quality.

NGX TECHNOLOGIES		NGX Technologies Pvt, Ltd., India.
Title LPC1857 XPLORER++		
Size B	Document Number USB 1x HOST 1x DEVICE	Rev A.
Date:	Tuesday, May 21, 2013	Sheet 14 of 15

POWER



NGX Technologies Pvt, Ltd., India.

Title
LPC1857 XPLORER++

Size A	Document Number POWER
-----------	--------------------------

Rev A.

Date: Tuesday, May 21, 2013 Sheet 15 of 15