

Page 2

Power, Flash, SDCard
User switch, Reset switch.

Page 3

Ethernet

Page 4

Audio

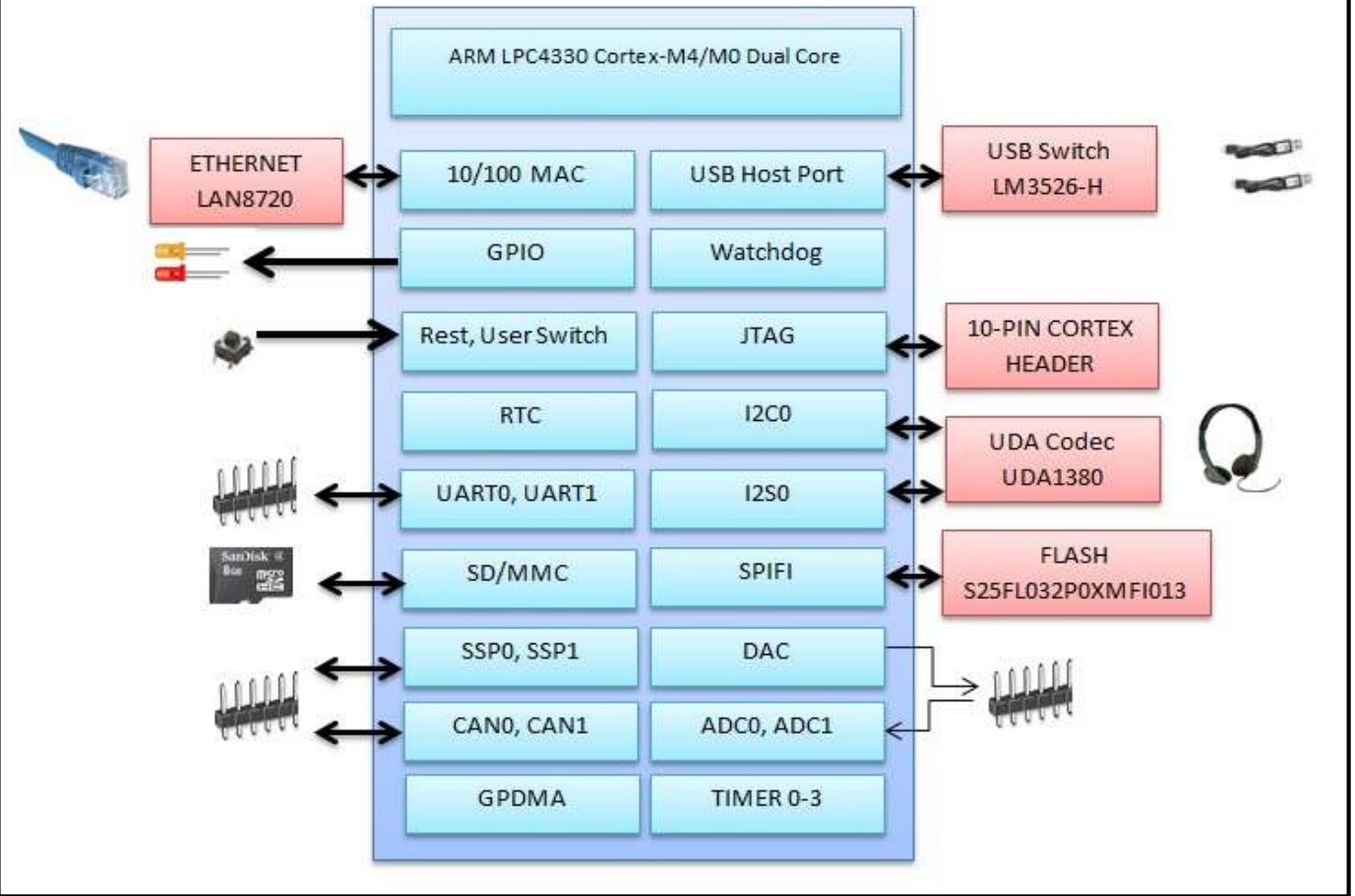
Page 5

USB

Page 6

JTAG, BOOTSW, LED, Header

Design Overview



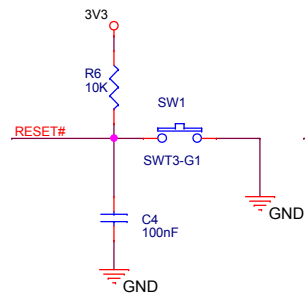
Disclaimer:

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

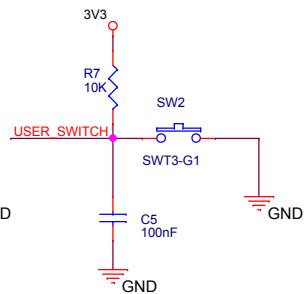
| | | | |
|-------|------------------------|----------------------------|--------|
| | | NGX Technologies Pvt. Ltd. | |
| Title | | 01 COVER | |
| Size | Document Number | Rev | |
| B | XPLORER | 1.2 | |
| Date: | Monday, March 26, 2012 | Sheet | 1 of 6 |

RESET# <<< RESET#
 GPIO0[7] <<< USER_SWITCH

RESET SWITCH



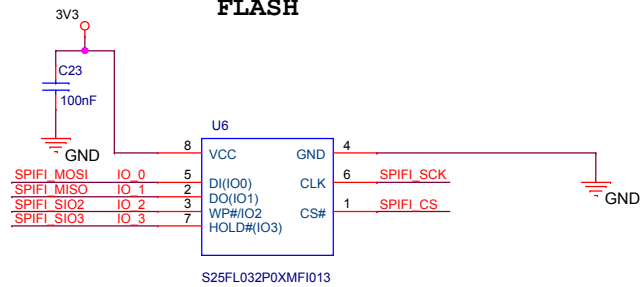
USER SWITCH



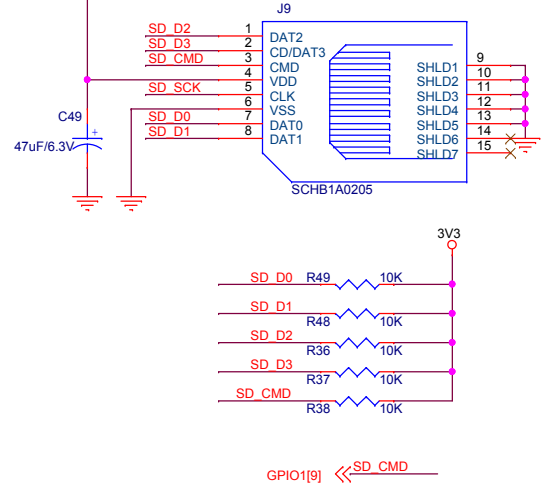
| U9C | | | |
|--------|----|---------|------------|
| SD_D0 | J5 | SD_DAT0 | SPIFI_SCK |
| SD_D1 | H6 | SD_DAT1 | SPIFI_CS |
| SD_D2 | J7 | SD_DAT2 | SPIFI_MOSI |
| SD_D3 | K7 | SD_DAT3 | SPIFI_MISO |
| SD_SCK | K6 | SD_CLK | SPIFI_SIO2 |
| SD_CMD | K4 | SD_CMD | SPIFI_SIO3 |

LPC4330_1830

FLASH



SD CARD

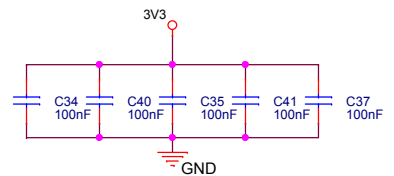
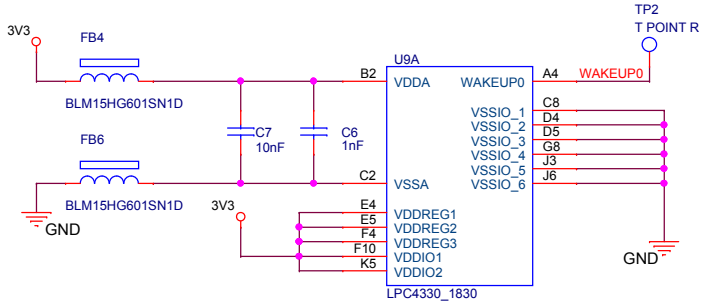
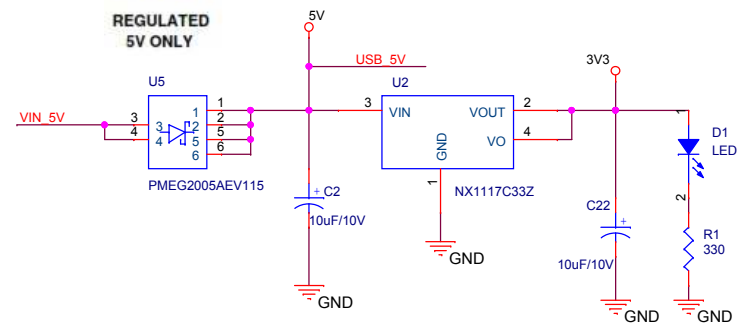


VIN_5V >>> VIN_5V
 USB_5V >>> USB_5V

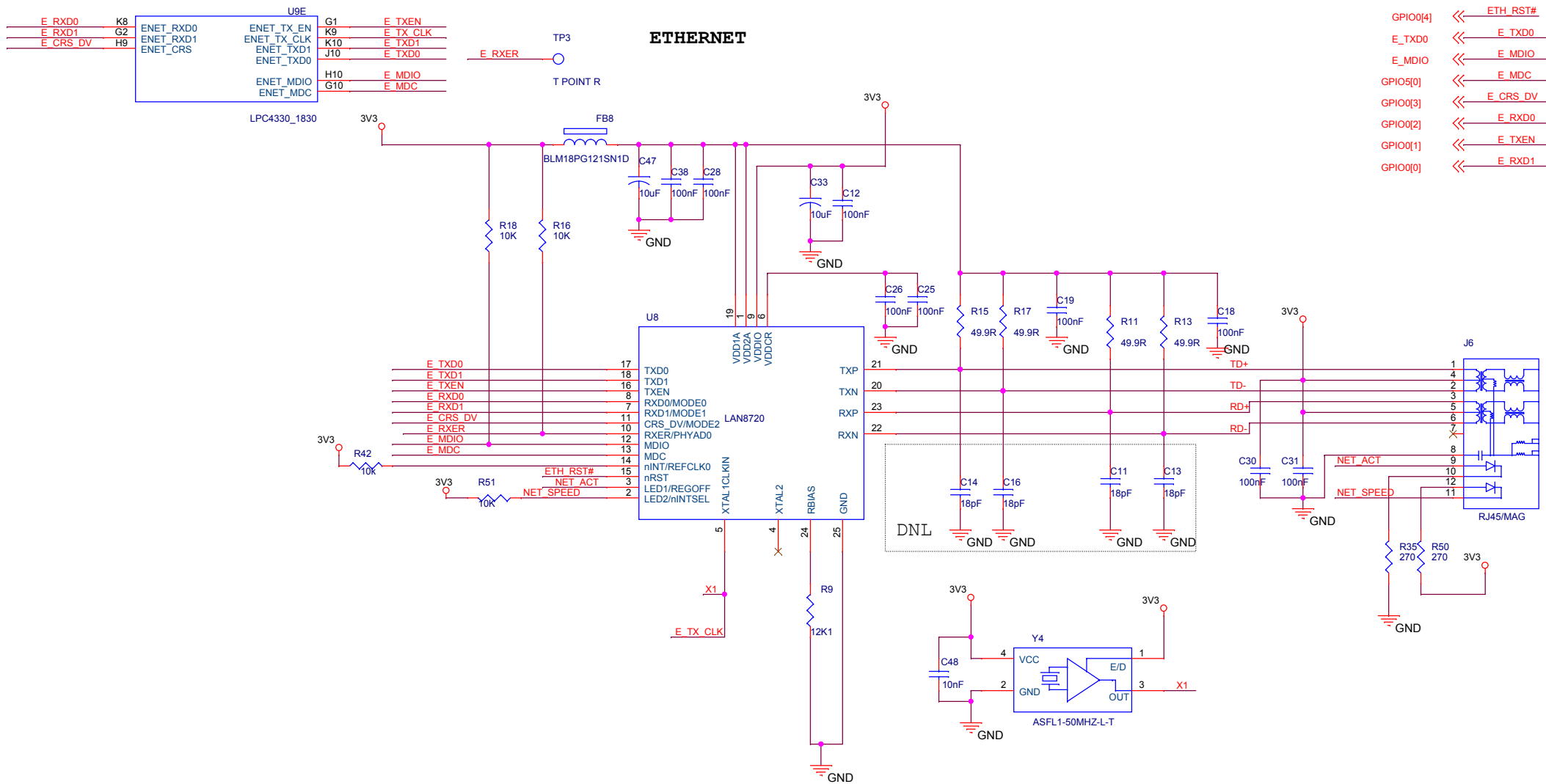
POWER



REGULATED
5V ONLY



| | | |
|------------------------|------------------------|--------------|
| | | |
| Title | | |
| 02 FLASH,SD CARD,POWER | | |
| Size | Document Number | Rev |
| B | XPLORER | 1.2 |
| Date: | Monday, March 26, 2012 | Sheet 2 of 6 |



- GPIO[4] << ETH_RST#
- E_TXD0 << E_TXD0
- E_MDIO << E_MDIO
- GPIO[0] << E_MDC
- GPIO[3] << E_CRSDV
- GPIO[2] << E_RXD0
- GPIO[1] << E_TXEN
- GPIO[0] << E_RXD1

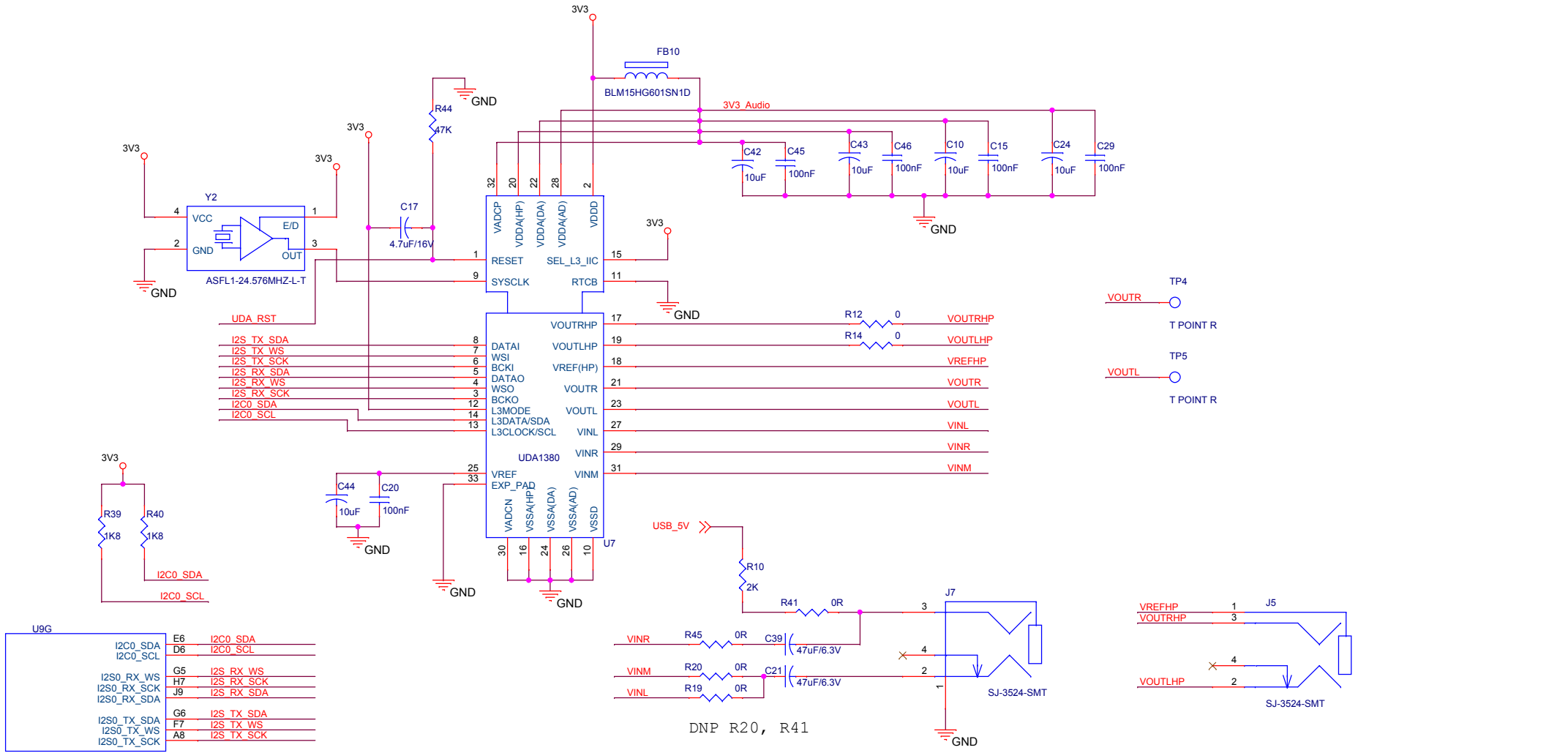
ETHERNET ROUTING GUIDELINES

- =>Keep the trace length difference between TX+ and TX- (or RX+ and RX-) in 700 mils.
- => Keep RX+/- signal on the top layer, the RX+/- signal should avoid any vias, if possible. Avoid right angle signal trace.
- =>The crystal/oscillator clock and the switching noise from digital signals should be far away from TX+/-, RX+/- pairs.
- =>Keep TX, RX differential signals running symmetric, equal length, and closely. The trace spacing between TX+ and TX- or between RX+ and RX- pair should be in 8 ~ 10 mils.
- The better spacing between TX+/- and RX+/- pairs should be larger than 200 mils
- =>The trace length from LAN8720 to the transformer should not be longer than 5 inches, keep the trace as straight as possible, and keep it parallel for differential pairs.
- =>The termination resistors 49.90 and capacitors of TX+ and RX+ pairs should be placed near the transformer side and should be shorter than 400 mils.

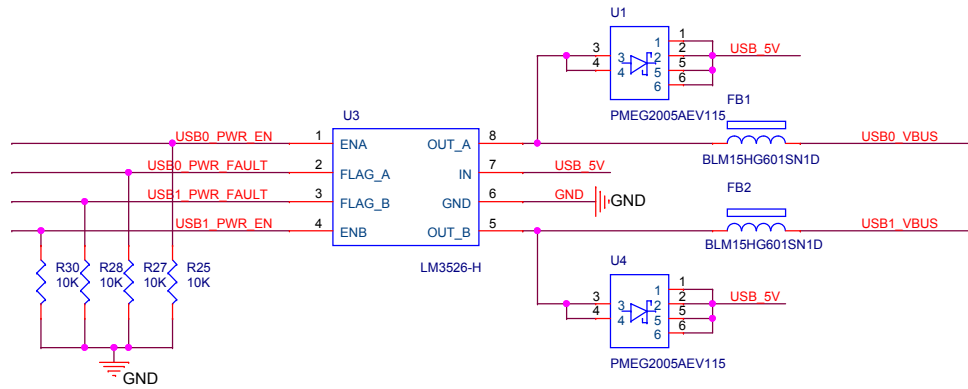
| | | |
|-----------------------------------|------------------------|--------------|
| NGX Technologies Pvt. Ltd. | | |
| Title | | |
| 03 ETHERNET | | |
| Size | Document Number | Rev |
| B | XPLORER | 1.2 |
| Date: | Monday, March 26, 2012 | Sheet 3 of 6 |

UDA CODEC

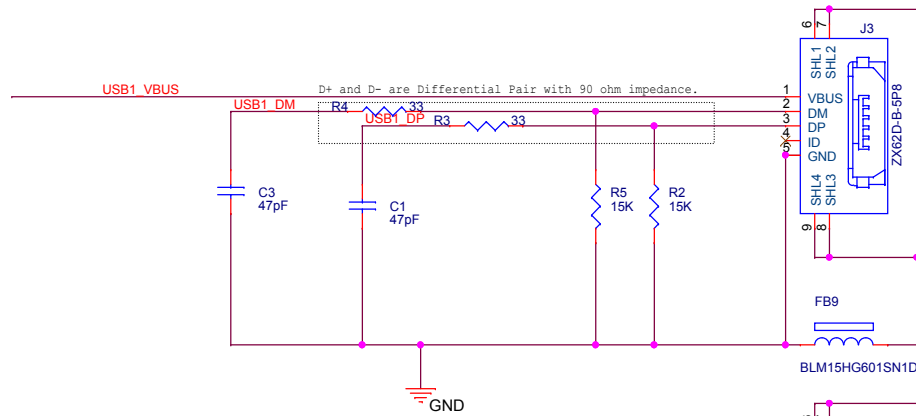
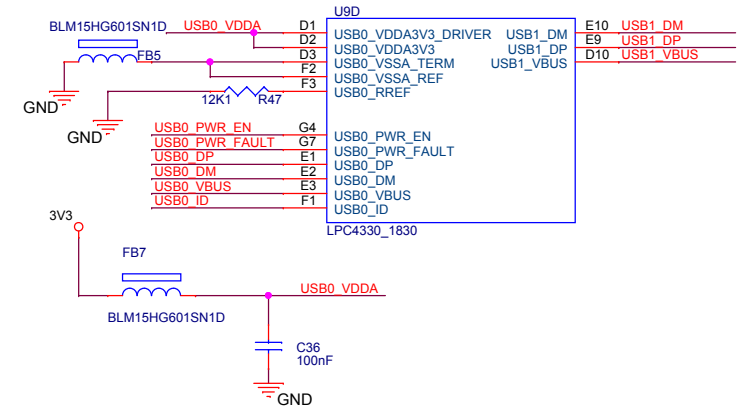
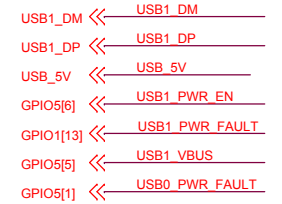
GPI00[14] << UDA_RST



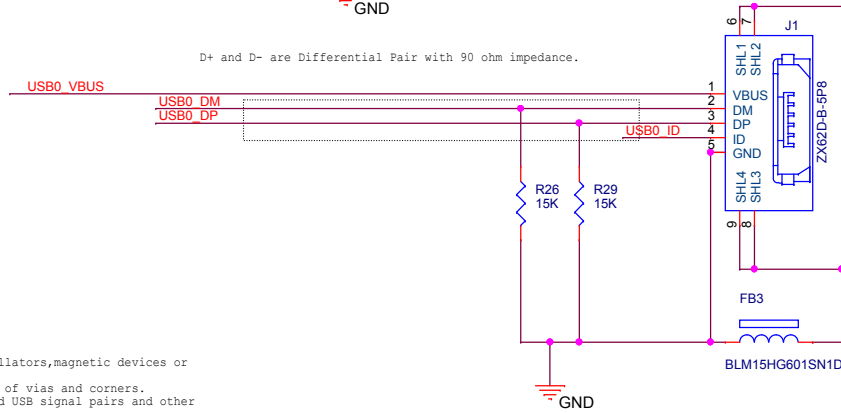
USB SECTION



USB1 Power enable and fault pins are monitored/controlled using GPIO.



D+ and D- are Differential Pair with 90 ohm impedance.



D+ and D- are Differential Pair with 90 ohm impedance.

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.

| | |
|-------------|-------------|
| | 1/0 |
| USB0_PWR_EN | HOST/DEVICE |
| USB1_PWR_EN | HOST/DEVICE |

NOTE:- When both USB0 and USB1 are in Host mode external 5V DC to be given to J8 pin 2.

| | | |
|------------------------------|-------------------------|---------|
| NGX Technologies Pvt. Ltd. | | |
| Title: 05 USB | | |
| Size B | Document Number: XPLOER | Rev 1.2 |
| Date: Monday, March 26, 2012 | Sheet 5 | of 6 |

