AX88772A Demo Board Reference Schematic Index

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Page 2

AX88772A schematic
(12MHz/25MHz Crystals,
EEPROM,
RJ-45 Transformer,
USB Connector,
Power/Reset Circuit)

Page 3

Revision History

Note:

1.Please refer to AX88x72A USB-to-LAN Application Design Note for more AX88x72A PCB layout design notes.

2.Please contact ASIX Support (support@asix.com.tw) to get AX88x72A EEPROM User Guide for more details about AX88x72A EEPROM setting.

3.Please deliver us your AX88x72A schematic and your AX88x72A EEPROM data file for further review.

ASIX ELECTRONICS CORPORATION

Title
AX88772A Demo Board Reference Schematic

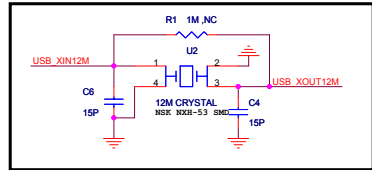| Size	Document Number	Rev
B	Index	1.34

Date: Monday, May 18, 2009   Sheet 1 of 3
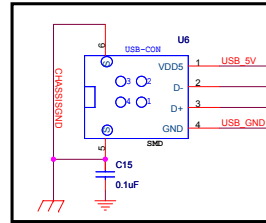
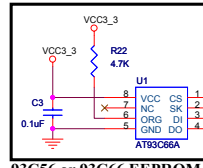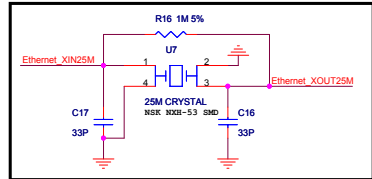**Power and by-pass capacitors** *Note2/*Note6/*Note8
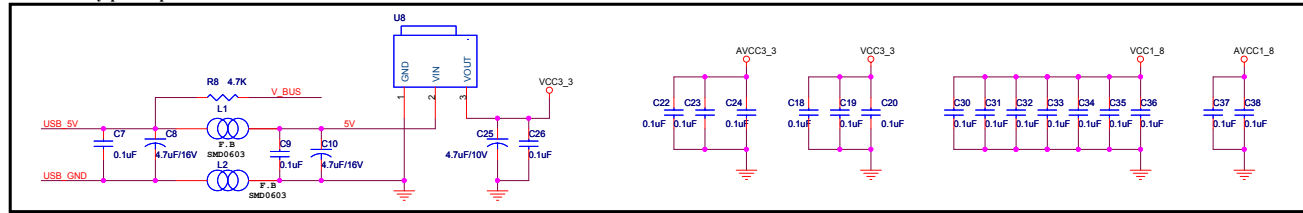
Reset Circuit *Note11
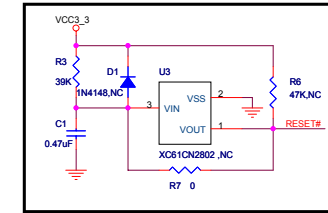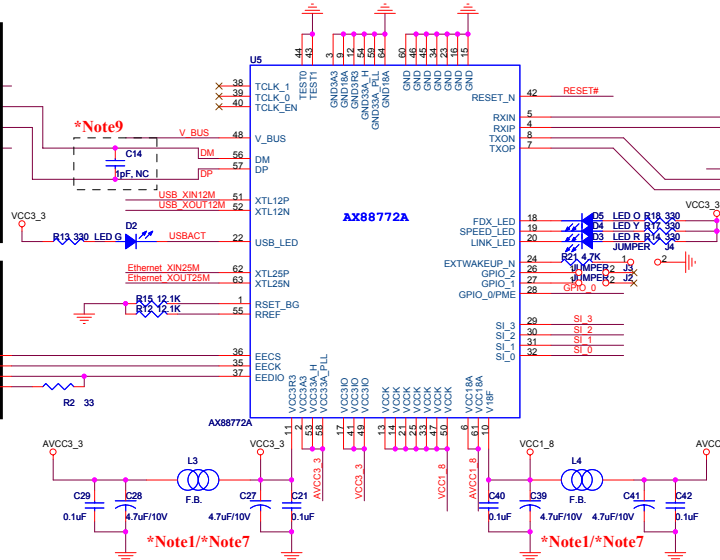
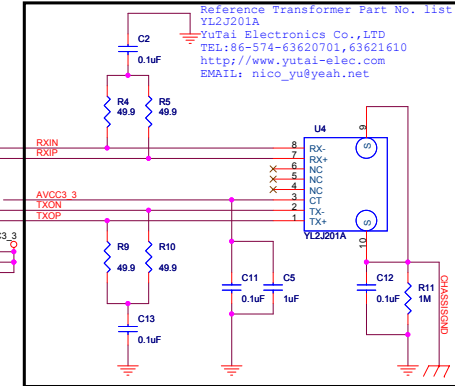**12MHz +- 30ppm Crystal for USB interface** *Note3

USB Connector

*Note9

RJ-45 Connector + Tranformer (Turns Ratio 1CT:1CT, with auto-MDIX)

Reference Transformer Part No. list
YL2J201A
YuTai Electronics Co.,LTD
TEL:86-574-63620701,63621610
http;//www.yutai-elec.com
EMAIL: nico_yu@yeah.net

25MHz +- 30ppm Crystal for Ethernet interface *Note4

93C56 or 93C66 EEPROM *Note5

AX88772A

Serial Interface *Note10

*Note1/*Note7

*Note1/*Note7
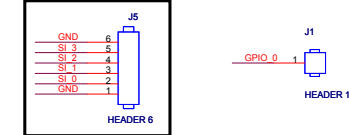
AX88772A

*Note1:
AX88772A on-chip 3.3V to 1.8V regulator is a low dropout
regulator (LDO), which requires some large external
compensating capacitors on its input (pin #10) and output
(pin #11) pins. The C21, C27, C39 and C40 capacitors are
the compensating capacitors for the on-chip regulator.

*Note2:
The L1, L2, C7, C8 and U8 should be as close as possible.

*Note3:
The 1M feedback resistor is not necessary for 12MHz crystal
circuit because it has been integrated into AX88772A.
The reference 12MHz crystal is the NSK NXH-53 SMD 12MHz crystal
with CL 16pF and ESR max. 90 Ohm.

*Note4:
The 1M feedback resistor is necessary for 25MHz crystal
circuit. The reference 25MHz crystal is the NSK NXH-53 SMD
25MHz crystal with CL 20pF and ESR max. 70 Ohm.

*Note5:
The AX88772A supports 16-bit mode 93C56/93C66 EEPROM.
The R22 resistor is not mounted on AX88772A demo board
since the ATMEL AT93C66A EEPROM will set to 16-bit mode
by default when the ORG pin is floating.
Please select the 93C66 EEPROM if you need to implement
the serial interface function on your AX88772A application.

*Note6:
The 5V power signals between the USB VBUS and the regulator
5V input should be isolated with a Ferrite Bead (L1).

*Note7:
The analog powers and digital powers should be isolated
with a Ferrite Bead (L3, L4).

*Note8:
All power pins should be implemented with a by-pass capacitor,
and the by-pass capacitors should be as close as the power pins.

*Note9:
The C14 cap between the DP and DM pins is optional for you
to filter the common-mode noise and should be placed as close
as pin #57 and #56 if necessary.

*Note10:
Please refer to AX88x72A datasheet for the details of the
serial interface function.

*Note11:
The RC reset circuit is recommended for a better
reset timing and the Reset IC circuit is optional.

ASIX ELECTRONICS CORPORATION

Title: AX88772A Demo Board Reference Schematic

Size: C
Document Number: AX88772A schematic
Rev: 1.34

Date: Thursday, January 21, 2010   Sheet 2 of 3

Revision History

Revision	Date	Comment
V1.0	01/05/07	1.Initial Release.
V1.1	07/10/07	1.Rearrange the whole schematic for easy read.
		2.Remove R19, R20 4.7K resistors.
		3.Change C27 from 0.1uF to 4.7uF/10V.
V1.2	08/23/07	1.Connect R12 and R15 to GND.
		2.Connect U4, U6, C12, C15 and R11 to CHASSIS GND.
V1.30	10/24/2007	1. Re-arrange the whole schematic.
		2. Change the revision format to x.xx.
		3. Add some notes to indicate the important information of this schematic.
		4. Correct the Ethernet transformer circuit (U4).
V1.31	11/20/2007	1. Add a note message for the reset circuit.
V1.32	01/17/2008	1. Add R22 resistor in the 93C66 EEPROM circuit to pull high the ORG signal for 16-bit organization and add more information in Note 5.
V1.33	12/11/2008	1. Changed the C1 of RC reset circuit from 0.1uF to 0.47uF for a better reset timing.
		2. Modified some descriptions in Note11 about the reset circuit. To keep the RESET_N pin floating should be OK for AX88772A, but we suggest to add a RC reset circuit for a better reset timing.
V1.34	05/18/2009	1. Add some important note messages in Page 1.