REVISION HISTORY

DATE:	DESCRIPTION	REVISION
Nov. 2009	First Created	1.0
April. 2012	Add an note for the inside 1.2V LDO controller, change R9 from 4.7K to 1K, remove FB2, etc. Update the SPI pull-up resistors value for R1/R2/R3/R4, add transformer recommendation, remove TMII for TMQ part, update strap pins to match current datasheet, remove interrupt indication LED, add JP49 and a table for VDDIO optional.	1.1
Dec., 2012	Add a R60 3.3K pull-down resistor on pin 126 for better using the internal 1.2V LDO controller in case of slow 3.3V power ramp-up.	1.2

KSZ8895 Family Reference Design Schematics

MICREL
KENDIN OPERATIONS

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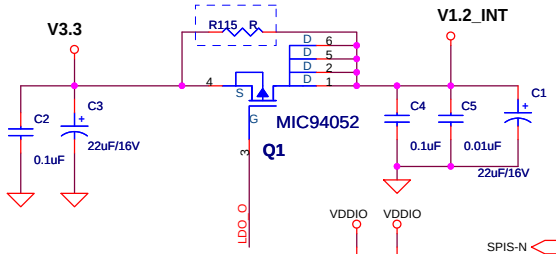
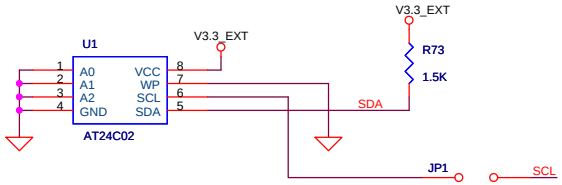
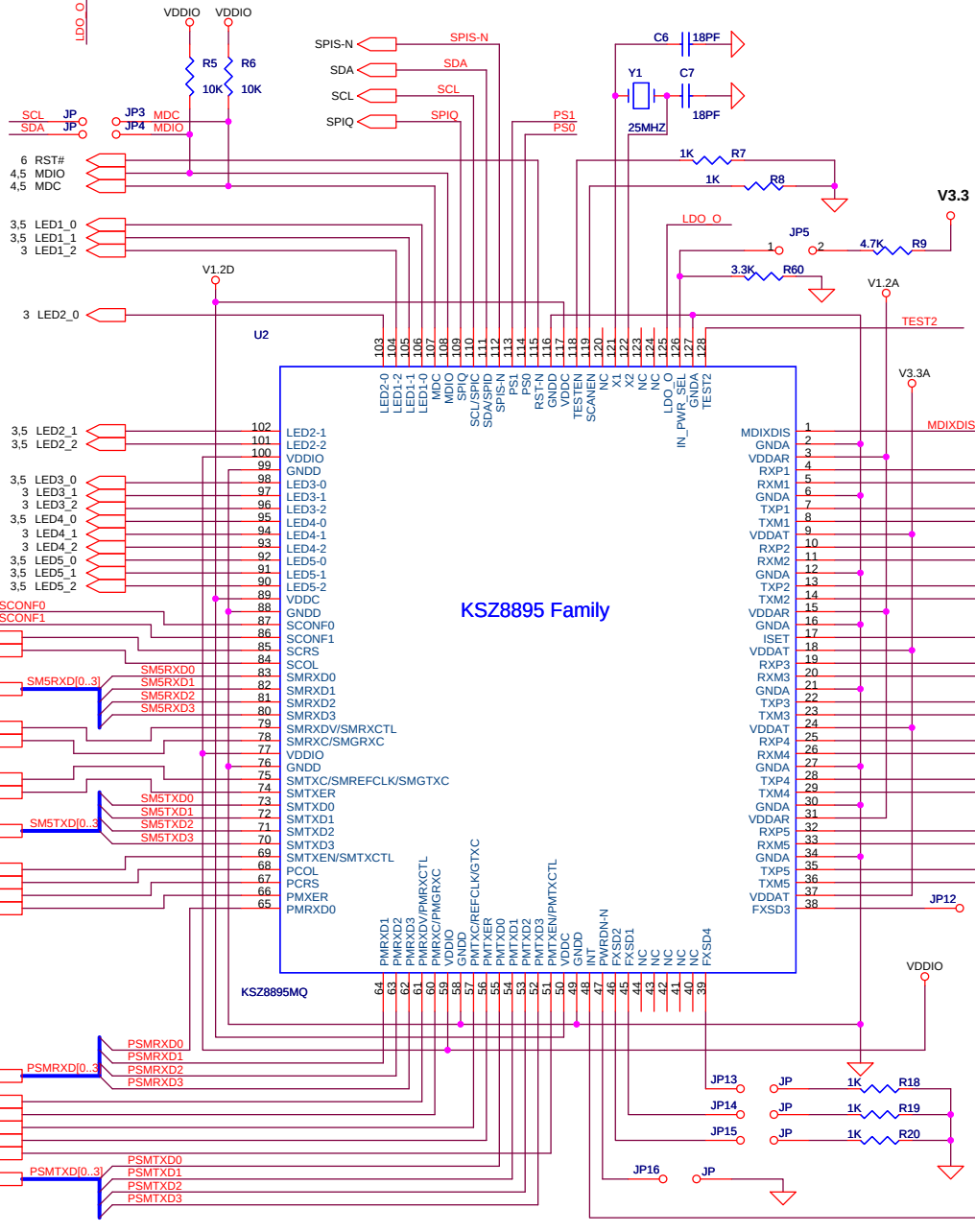
Recommended MOSFET:
MIC94052,MIC94053.

Note is for using internal 1.2V LDO controller and MOSFET,
1. Use resistors divider as below for IN_PWR_SEL pin 126.
2. R115 100-400ohm is an option only.
By the way, MOSFET 1.2V output Drain pin should close to VDDAR pin 3 without ferrite bead for a good 1.2V LDO feedback path in PCB layout.

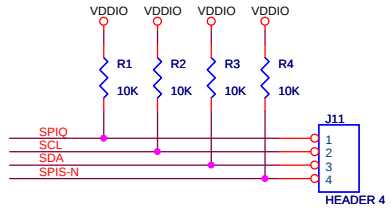


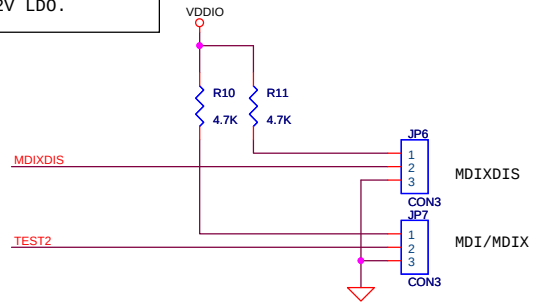


JP1	JP3	JP4	JP8	JP9	Modes
Open	Open	Open	Open	Close	SPI
Open	Close	Close	Open	Open	MIIM/SMI
Close	Open	Open	Open	Open	EEPROM

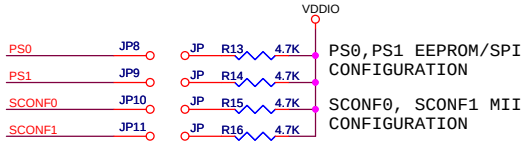


JP5	Description
Close	Enable inside 1.2V controller
Open	Disable inside 1.2V controller, use external 1.2V LDO.





1. MDIXDIS floating is for normal operation, internal pull down to enable auto-MDI/MDIX.
2. MDIXDIS pull up to disable auto-MDI/MDIX.
3. TEST2 floating is for normal operation.



JP11	JP10	SW5-MII/RMII	Port 5 PHY
Open	Open	DISABLE	DISABLE
Open	Close	PHY MODE	PHY MODE MII/RMII
Close	Open	MAC MODE	PHY MODE MII/RMII
Close	Close	SNI	PHY MODE MII/RMII

Note:
RMII is for KSZ8895RQ only

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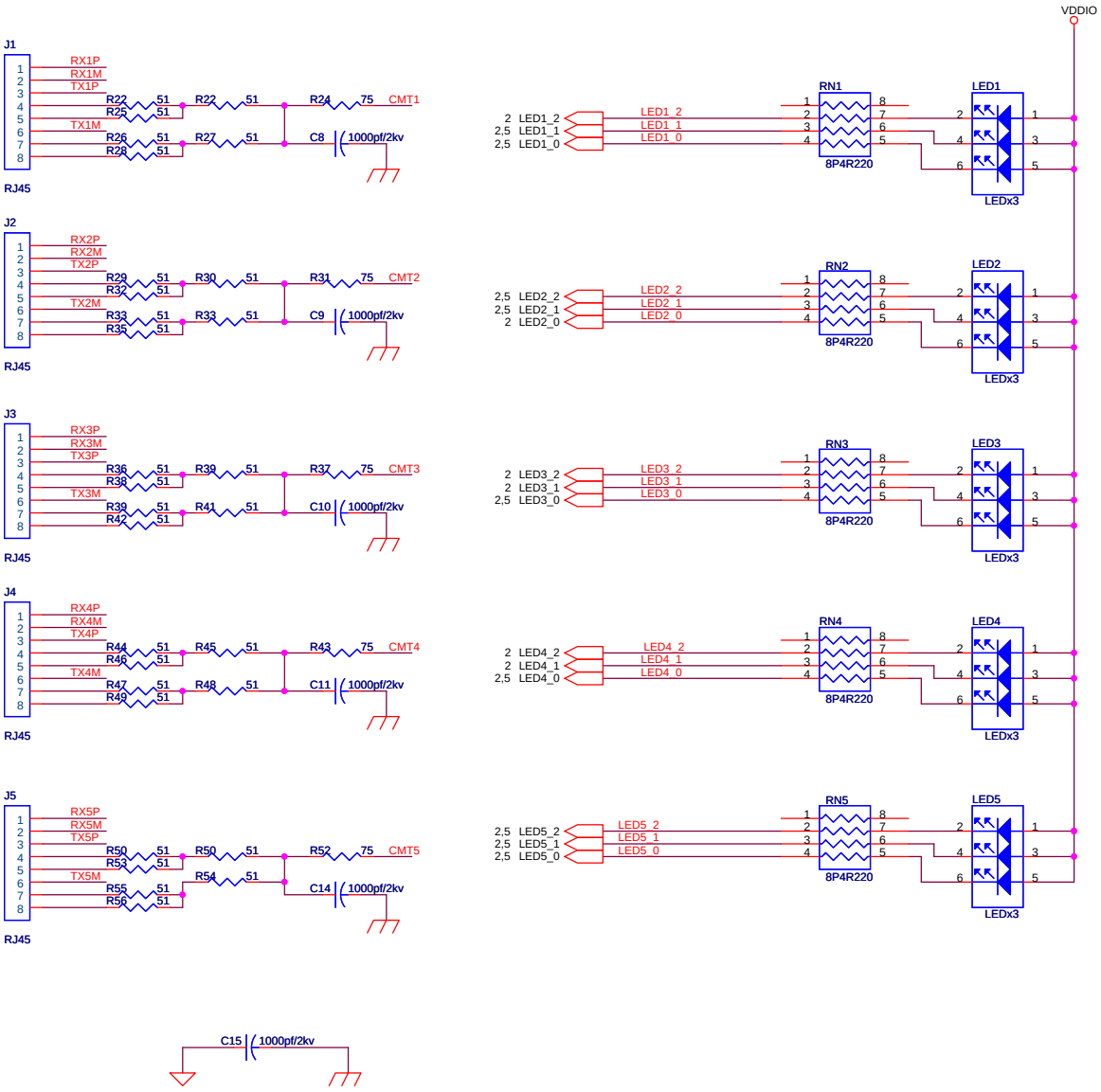
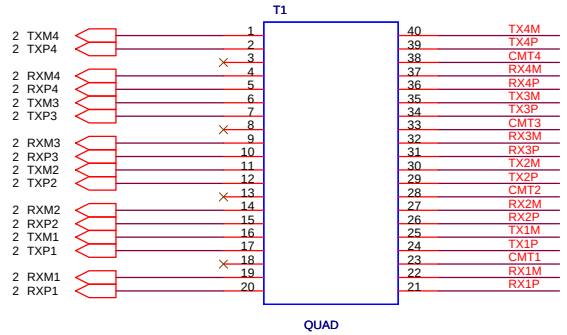


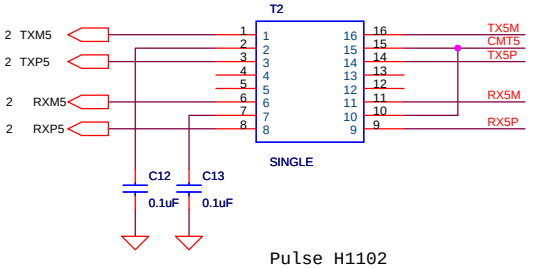
Note:

1.There are no 50ohm termination resistors and external biasing due to support on-chip termination and internal biasing.

2. Please do not connect the center tap of transformer RX/TX together to an external analog power.



Pulse H1664NL
YCL PH406082



Pulse H1102
Bel Fuse S558-5999-U7
YCL PT163020
Transpower HB726
DELTA LF8505
Datatronic NT79075
TLA-6T718A

KENDIN OPERATIONS

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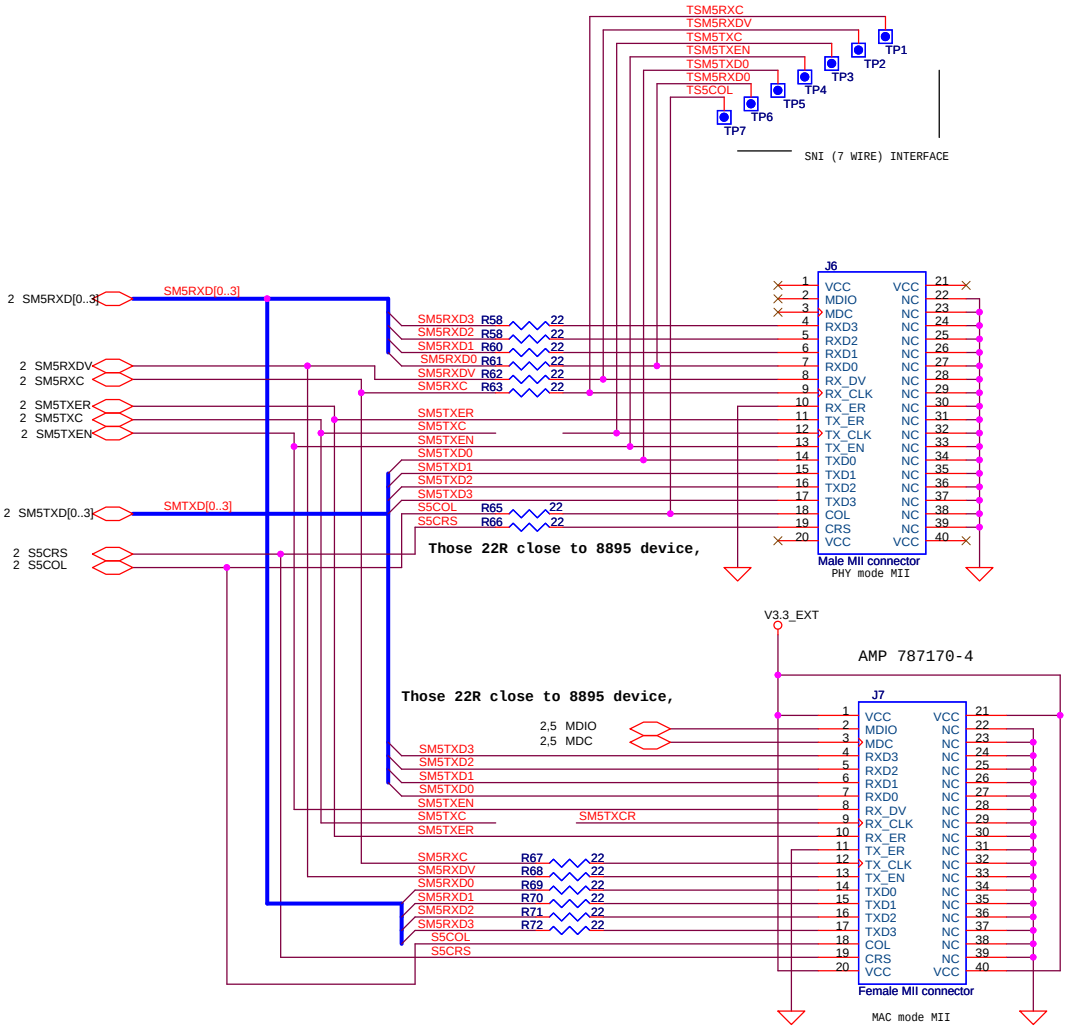
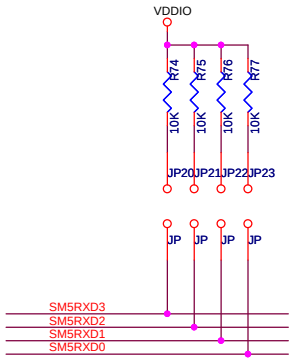
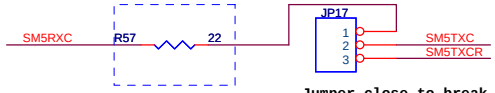


Port 5:SW5-MII/RMII MAC mode and PHY mode

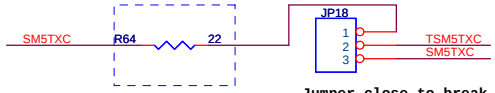




22R close to 8895 device,

Jumper close to break point,

1-2 Close is RMII w/clock provided,
The mode can be used to provide
50MHz to both side of RMII interface
2-3 Close is SW5-MII mode



22R close to 8895 device,

Jumper close to break point,

1-2 Close is MII mode,
2-3 Close and 1-2-3 Open are for SW5/P5-RMII
Detail see the table below

Port 5 MAC5 SW5-MII mode (Default):	
JP17 Pin2-3 CLOSE, JP18 Pin1-2 CLOSE,	
Port 5 SW5-RMII (Connection between clock and normal mode):	
Clock mode: (board #1) **Provide RMII Clock**	**Normal mode: (board #2)** **Receive RMII Clock**
Port 5 MAC5 SW5-RMII to PHY by J7 **JP17 1-2 CLOSE,** **JP18 1-2-3 OPEN**	**Port 5 MAC5 SW5-RMII to MAC by J6** **JP17 1-2-3 OPEN,** **JP18 2-3 CLOSE.** **Or any single PHY with RMII**
Port 5 MAC5 SW5-RMII to MAC by J6 **JP17 1-2 CLOSE,** **JP18 1-2-3 OPEN.** **Or any single PHY with RMII**	**Port 5 MAC5 SW5-RMII to PHY by J7** **JP17 2-3 CLOSE,** **JP18 1-2-3 OPEN**

Note:
MII interface mode is for KSZ8895MQ
RMII Interface mode is for KSZ8895RQ

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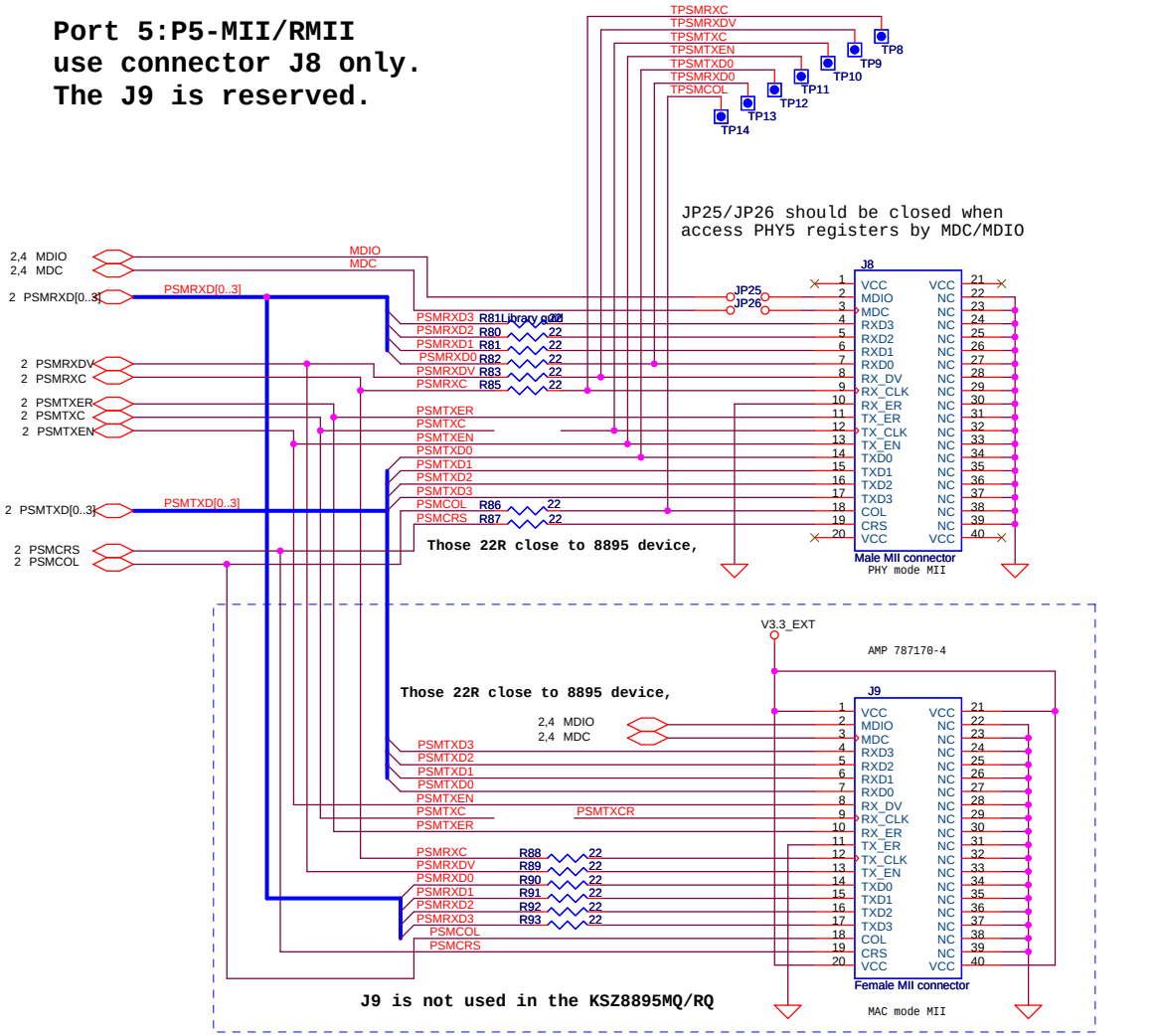
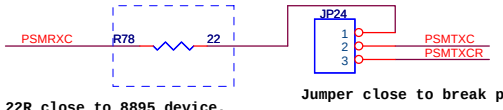
Port 5:P5-MII/RMII
use connector J8 only.
The J9 is reserved.

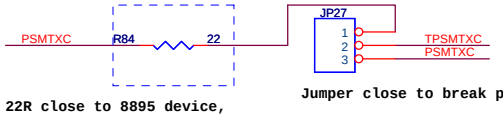




22R close to 8895 device,

Jumper close to break point,

1-2 Close is P5-RMII
interface provide clock 50MHz to both sides
of RMII interface
2-3 Close are for P5-MII



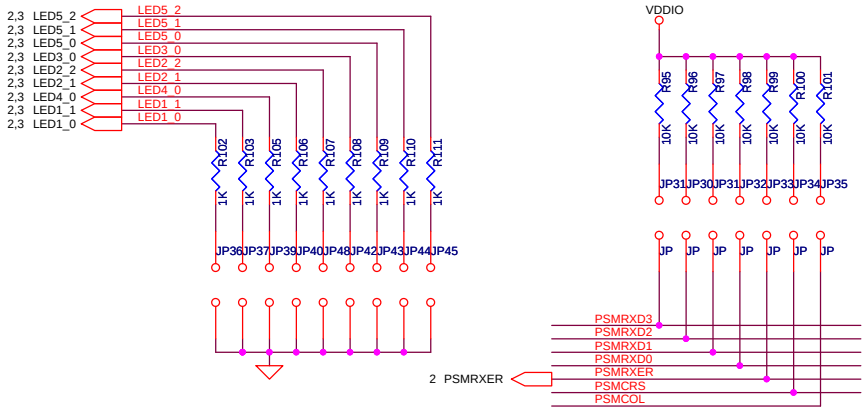
22R close to 8895 device,

Jumper close to break point,

1-2 Close is for P5-MII operation.
2-3 Close and 1-2-3 Open are for
P5-RMII
Detail see the table below.

Port 5 PHY5 P5-MII (Default):
JP24 Pin2-3 CLOSE, JP27 Pin1-2 CLOSE,
Port 5 PHY5 P5-RMII:
Whatever the device is set to clock mode (default) or normal mode, port 5 P5-RMII provides RMII Clock
Port 5 PHY5 P5-RMII by J8 connect to any MAC RMII with receiving RMII clock JP24 1-2 CLOSE, JP27 1-2-3 OPEN

Note:
MII interface mode is for KSZ8895MQ
RMII Interface mode is for KSZ8895RQ
J9 will be reserved for KSZ8875MQ



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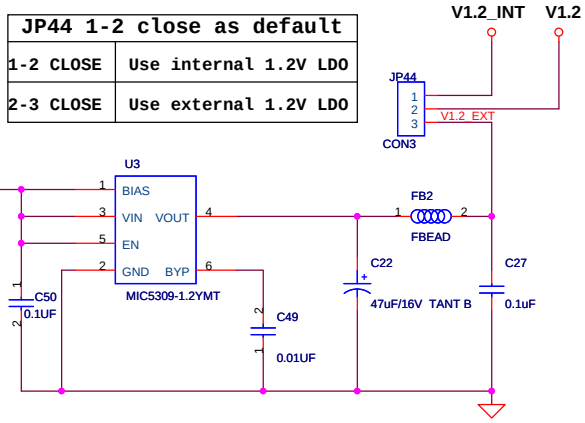
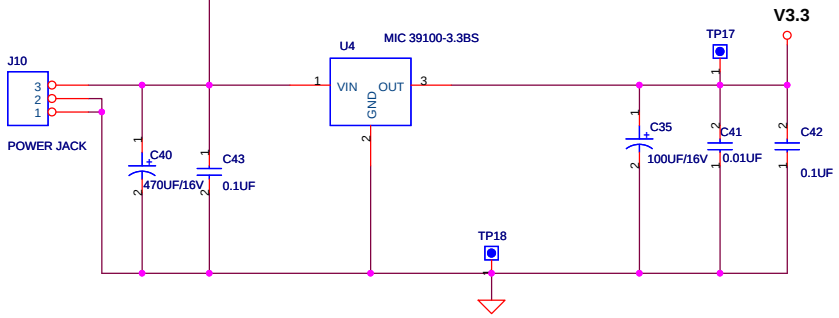
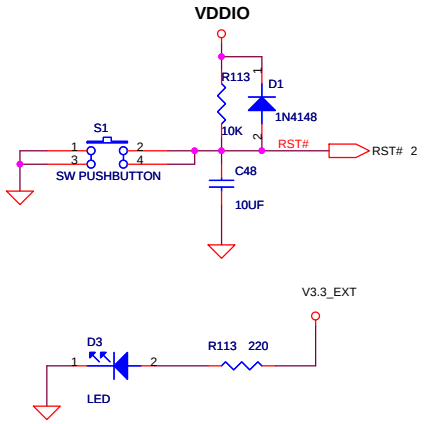
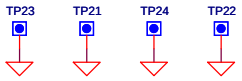
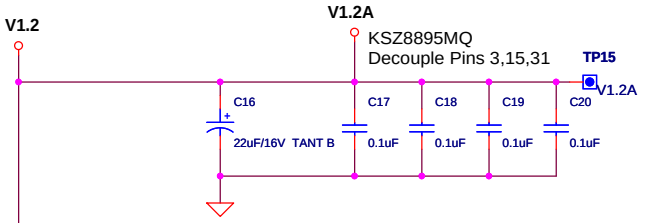
JP44 1-2 close as default	
1-2 CLOSE	Use internal 1.2V LDO
2-3 CLOSE	Use external 1.2V LDO

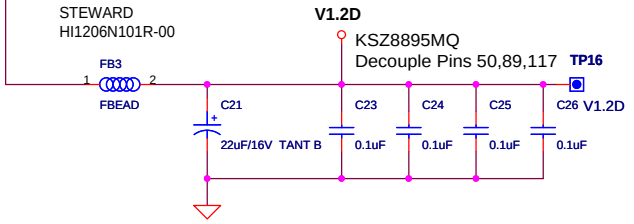




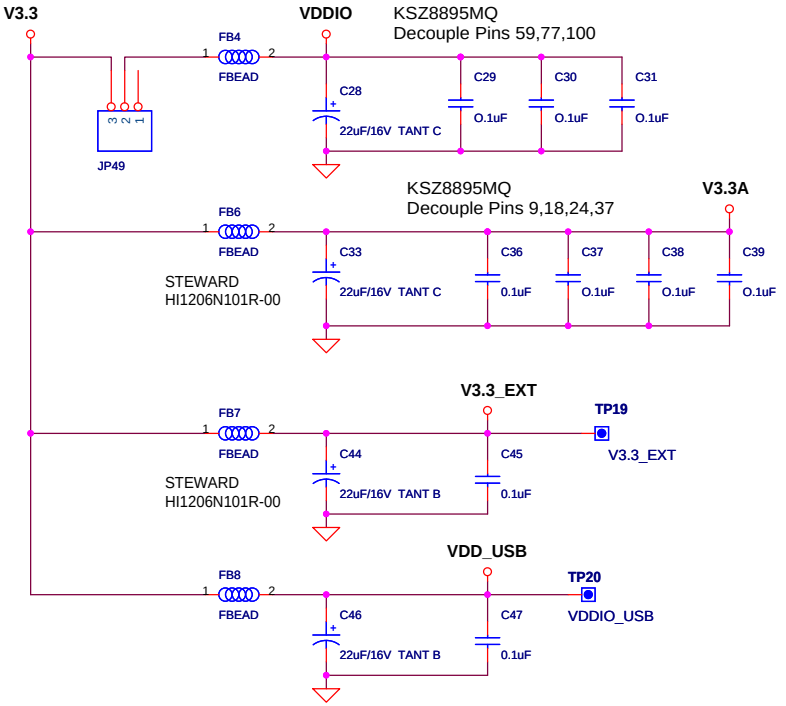








JP49 2-3 close as default	
1-2 CLOSE	Other 2.5V or 1.8V
2-3 CLOSE	VDDIO is 3.3V



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