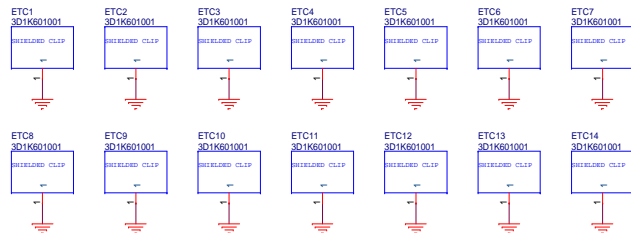
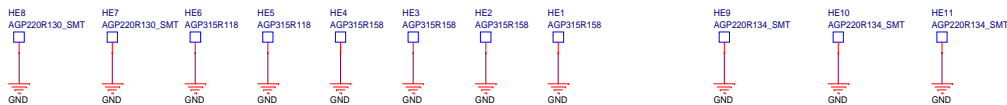
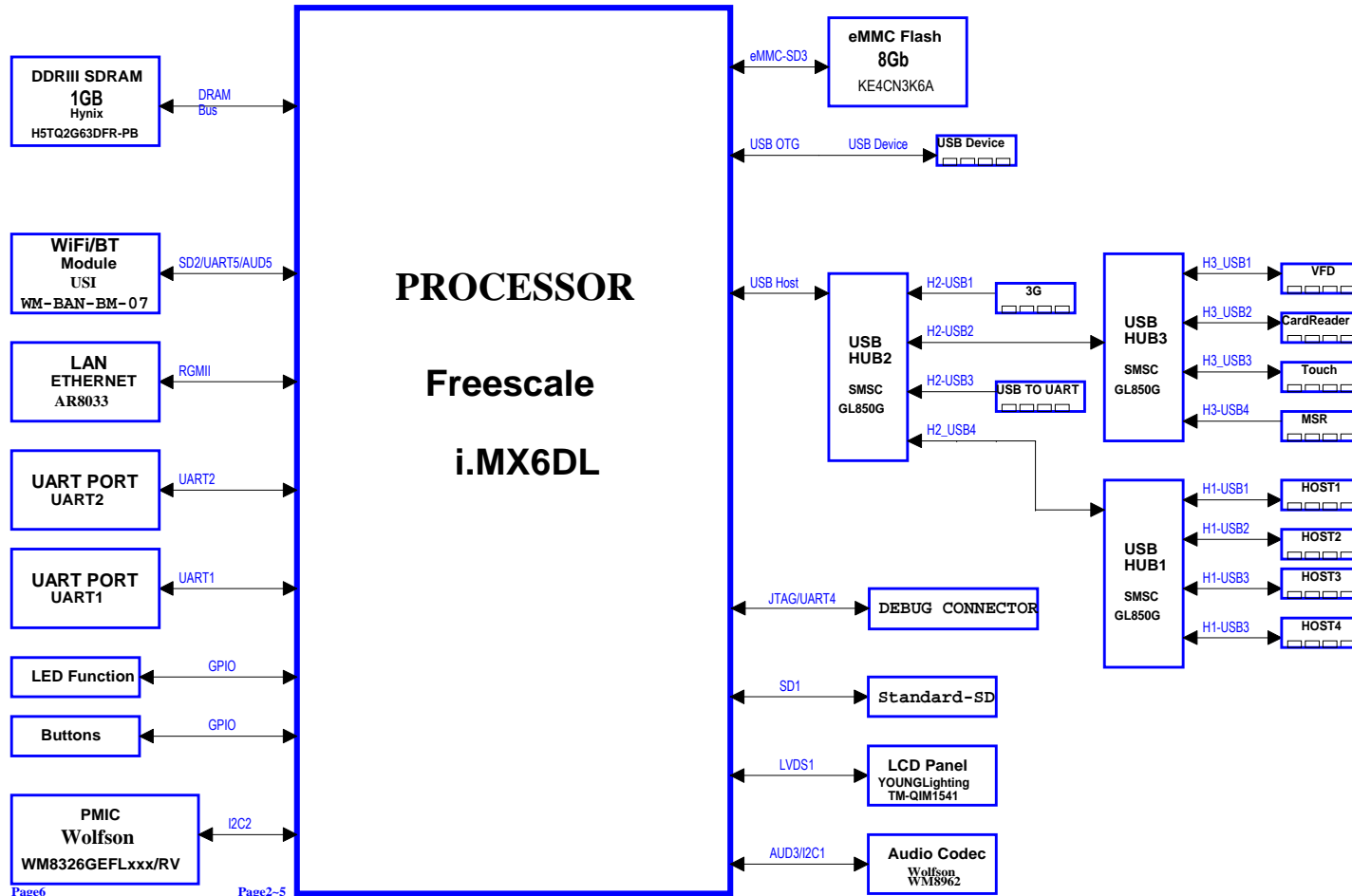
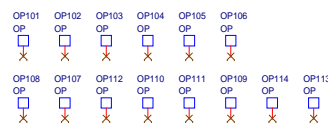


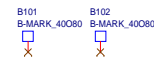
BLOCK DIAGRAM



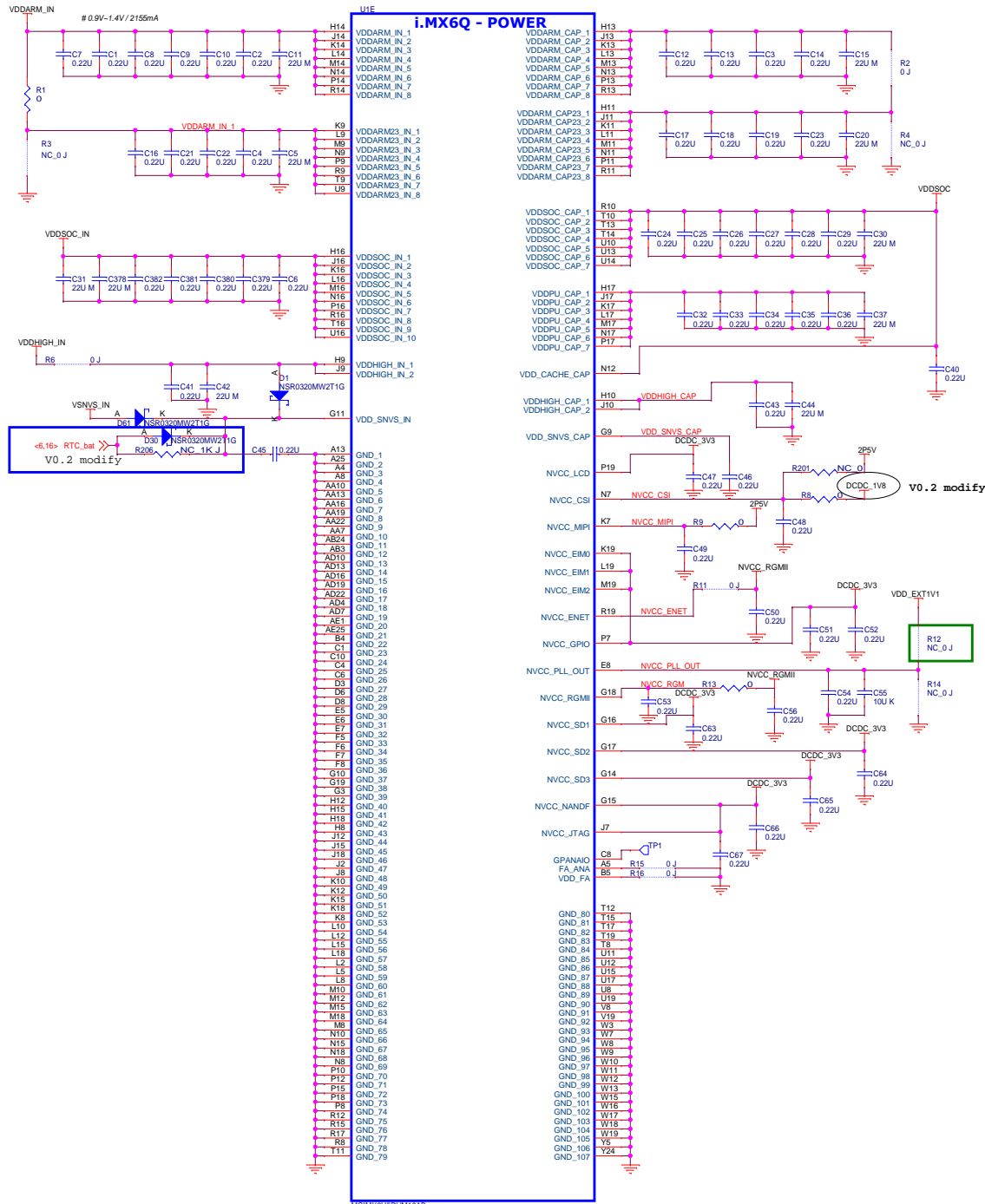
OPTICAL POINT



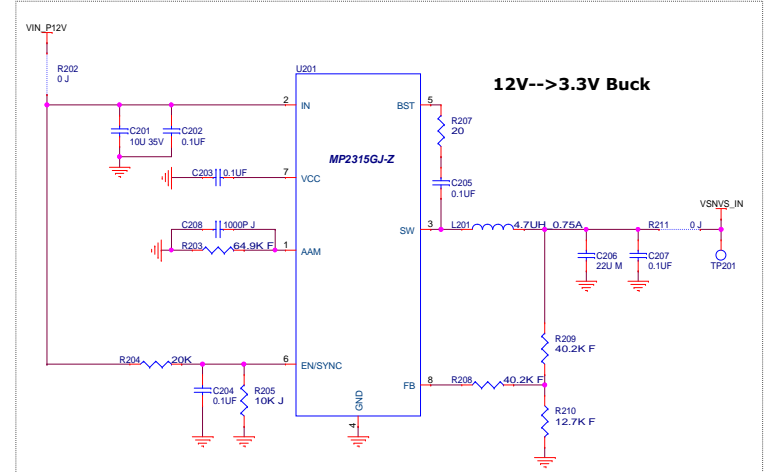
B MARK



Qisda Corporation			
Project Code 9J25F01.001	Model Name P1156F00	OEM/ODM Model Name PAI-215	
Title Index & Block Diagram			
Size C	PCB P/N 4H.25F01.S01	PCB Rev. S01	Document Number 9J25F01.001-Q20-204-002
Date: Thursday, March 26, 2015	Sheet 1	of 16	
Prepared By Lewis Tai	Reviewed By Chiyang Wang	Approved By Bill Chuan	

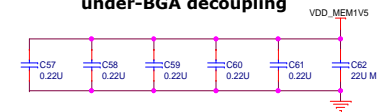


2015/2/12: Change C201 from 7H.10623.5B1 to 7H.10628.5K1

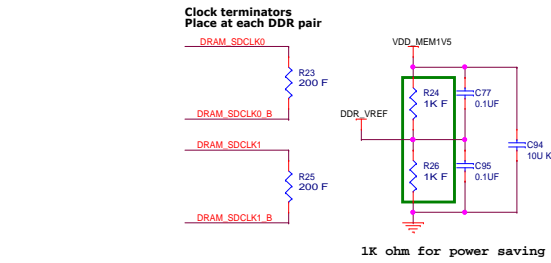
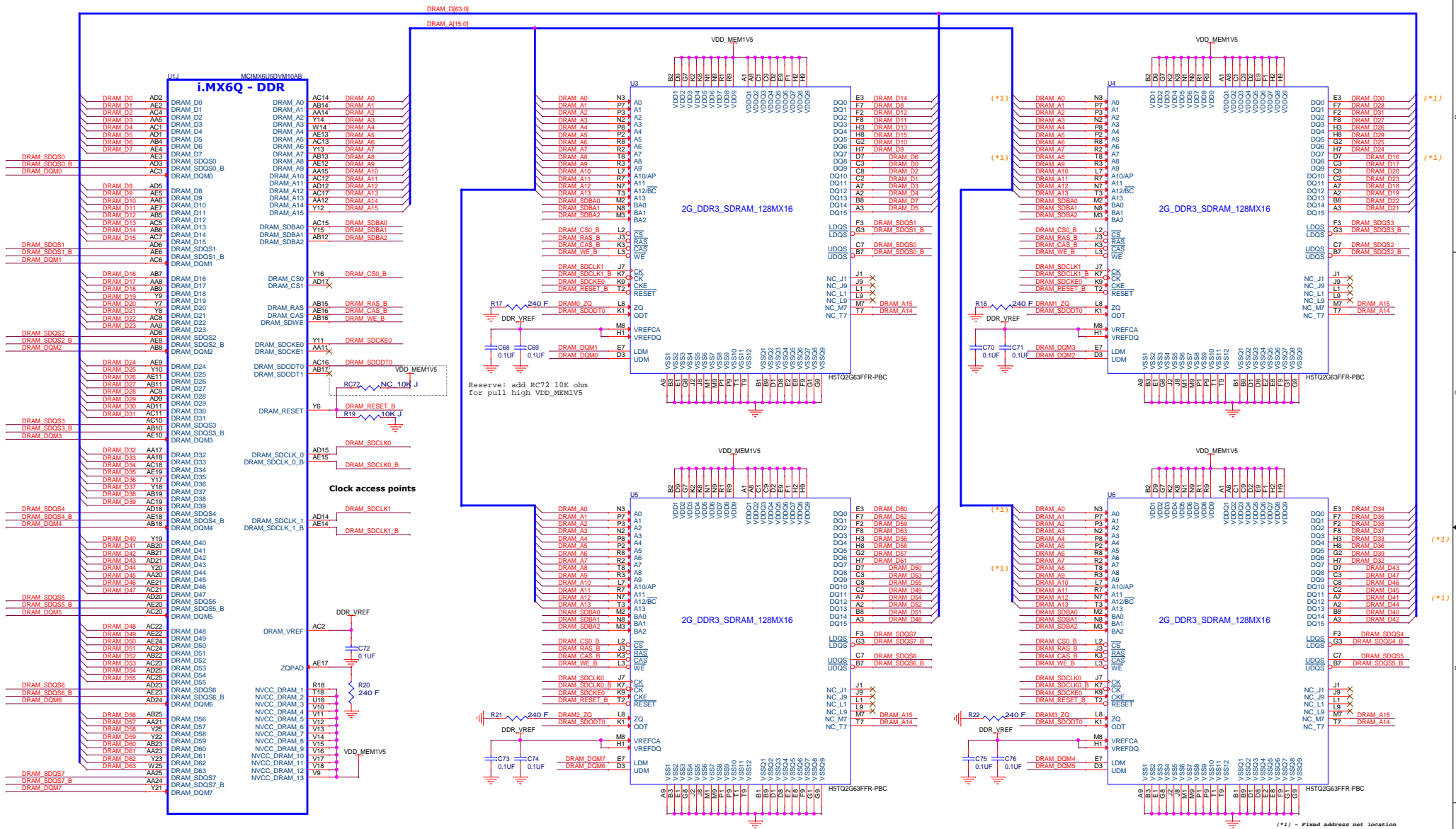


V0.2 modify

MX6 power domains under-BGA decoupling



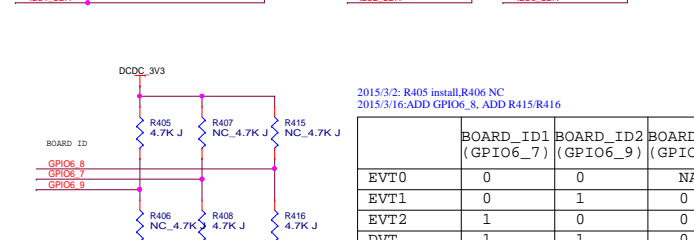
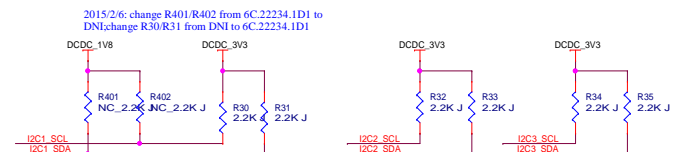
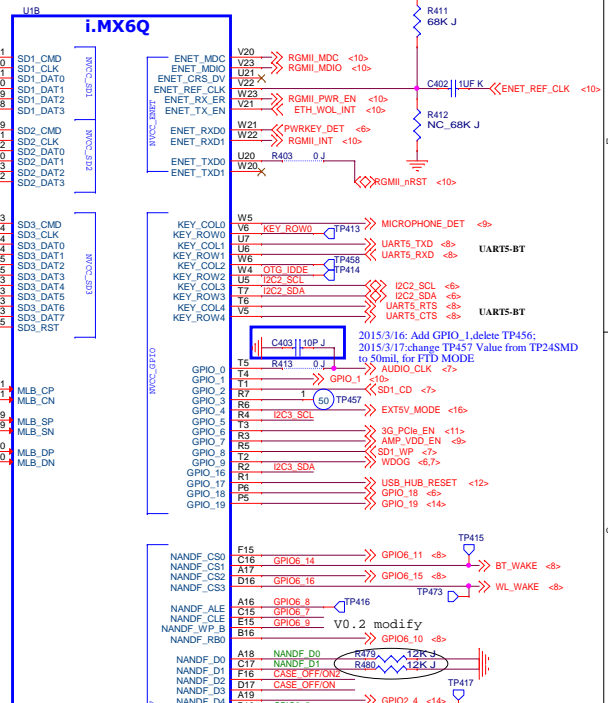
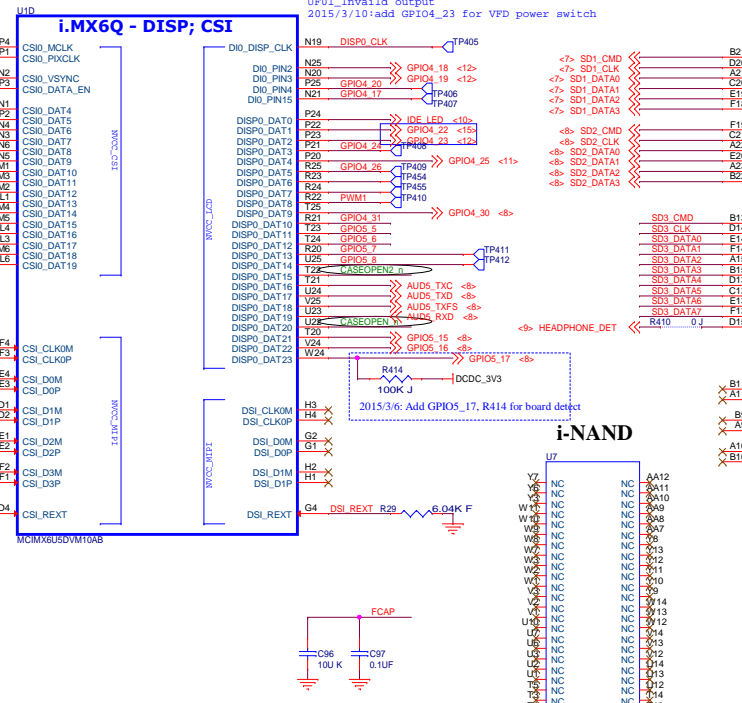
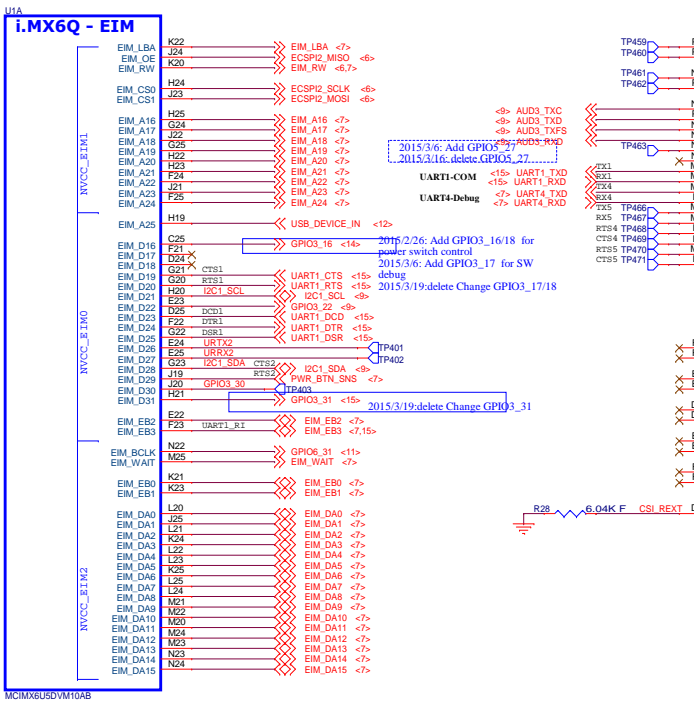
Qisda Corporation			
Project Code	Model Name	OEM/ODM Model Name	
9J.25F01.001	P1156F00	PAT-215	
Title: MX6 POWER			
Size	PCB P/N	PCB Rev.	Document Number
C	4H.25F01.S01	S01	9J.25F01.001-Q20-204-002
Rev.			
			D
Date:	Thursday, March 26, 2015	Sheet	2 of 16
Prepared By	Reviewed By	Approved By	
Lewis Tai	Chiyang Wang	Bill Chuan	



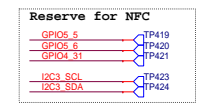
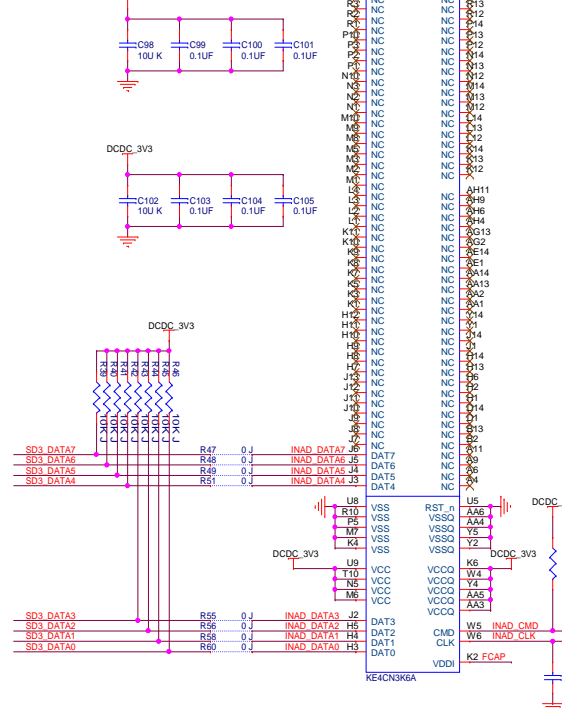
2015/2/6: change C78/C82/C86/C90 from 7H.10623.5B1 to 7H.22613.5B1
 2015/3/26: change C78/C90 from 7H.22613.5B1 to 7H.10623.5B1

(*1) - Fixed address net location

Qisda Corporation			
Project Code 9J25F01.001	Model Name P1156F0	OEM/ODM Model Name PAI215	
Title MX6 DDR3			
Size C	PCB P/N 4H25F01.S01	PCB Rev. S01	Document Number 9J25F01.001-Q20-204-002
Date: Thursday, March 26, 2015	Sheet 3	of 16	
Prepared By Lewie Tsi	Reviewed By Chyang Wang	Approved By Bill Chuan	



	BOARD_ID1 (GPIO6_7)	BOARD_ID2 (GPIO6_9)	BOARD_ID2 (GPIO6_8)
EVT0	0	0	NA
EVT1	0	1	0
EVT2	1	0	0
DVT	1	1	0



Qisda Corporation

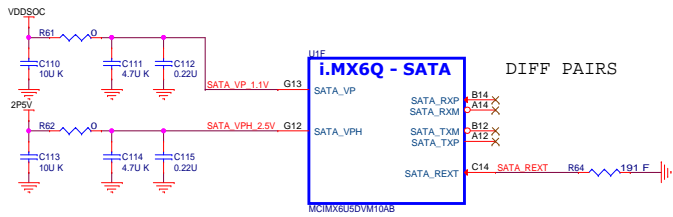
Project Code: 9125F01.001 | Model Name: P1156F0 | OEM/ODM Model Name: PAT215

Title: MX6 SOC

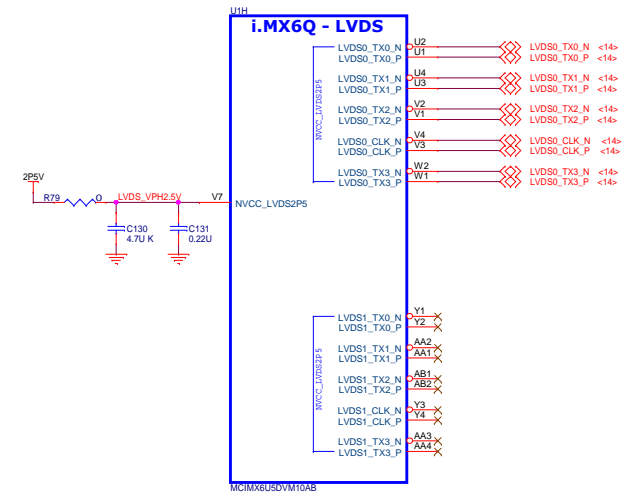
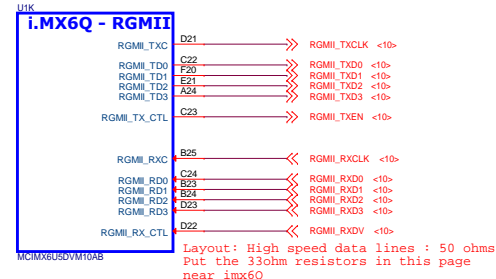
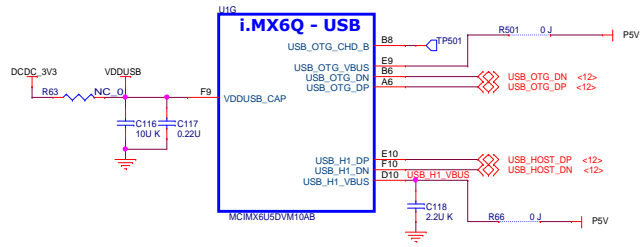
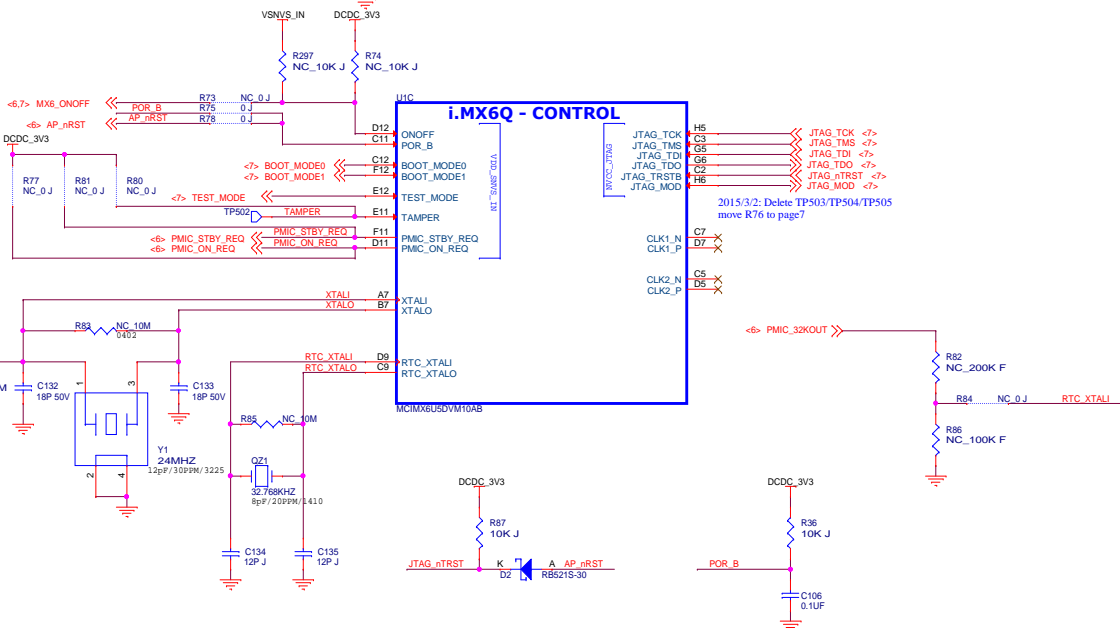
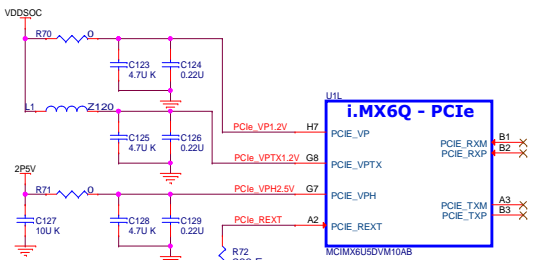
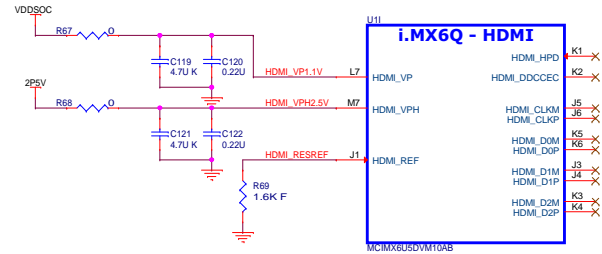
Size: 4H.25F01.S01 | PCB P/N: S01 | PCB Rev.: 9125F01.001-Q20-204-002 | Document Number: | Rev.: p

Date: Tuesday, March 31, 2015 | Sheet: 4 of 16

Prepared By: Lewis Tsi | Reviewed By: Chiyang Wang | Approved By: Bill Chuan

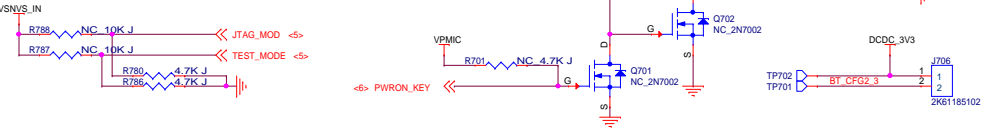
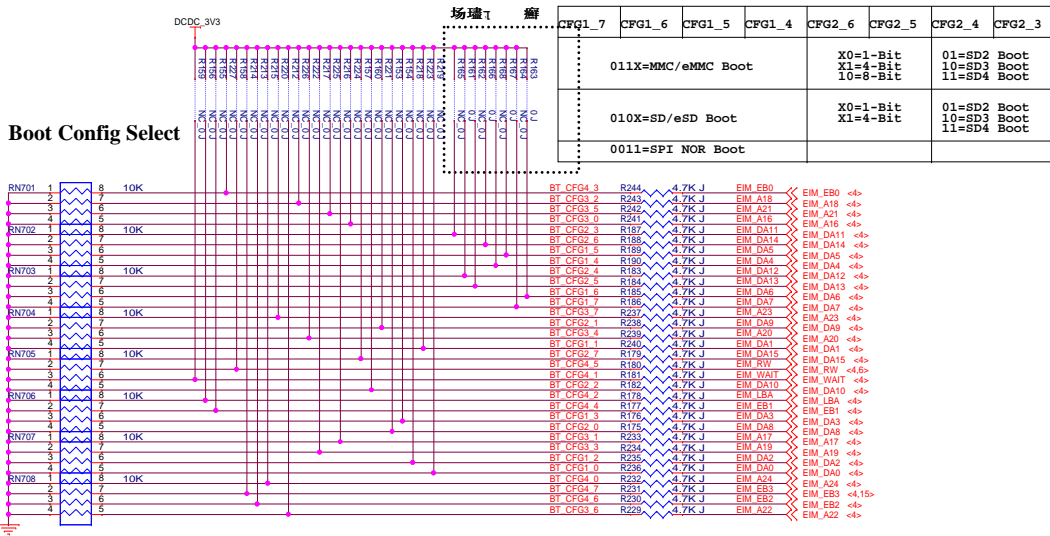


DIFF PAIRS

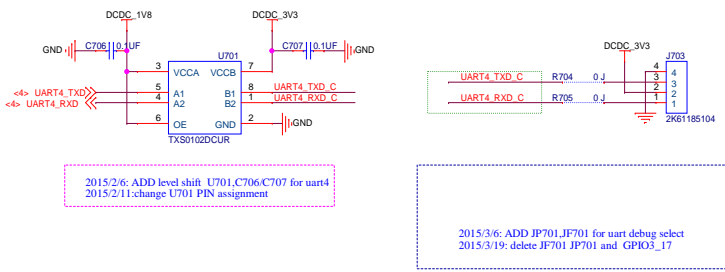


Qisda Corporation		Qisda	
Project Code	Model Name	OEM/ODM Model Name	
9J.25F01.001	P1156F00	PAT-215	
Title: IMX6 USB			
Size	PCB P/N	PCB Rev.	Document Number
C	4H.25F01.501	S01	9J.25F01.001-Q20-204-002
Rev.			
D			
Date:	Thursday, March 26, 2015	Sheet	5 of 16
Prepared By	Reviewed By	Approved By	
Lewis Tai	Chiyang Wang	Bill Chuan	

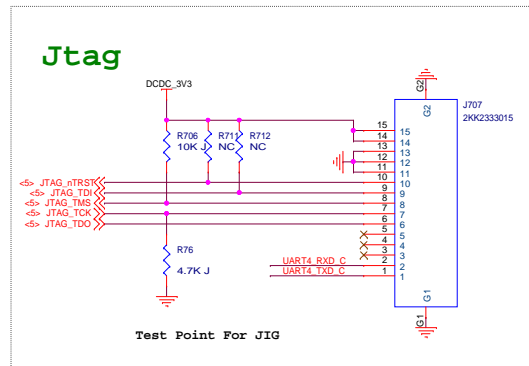
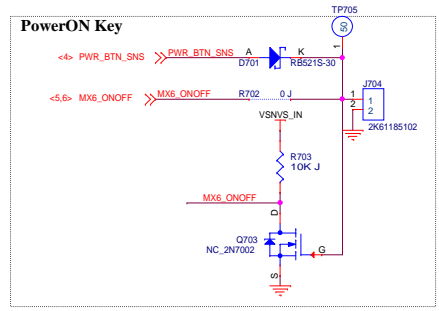
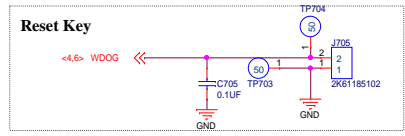
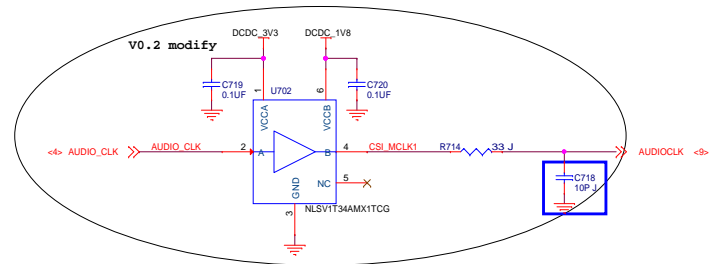
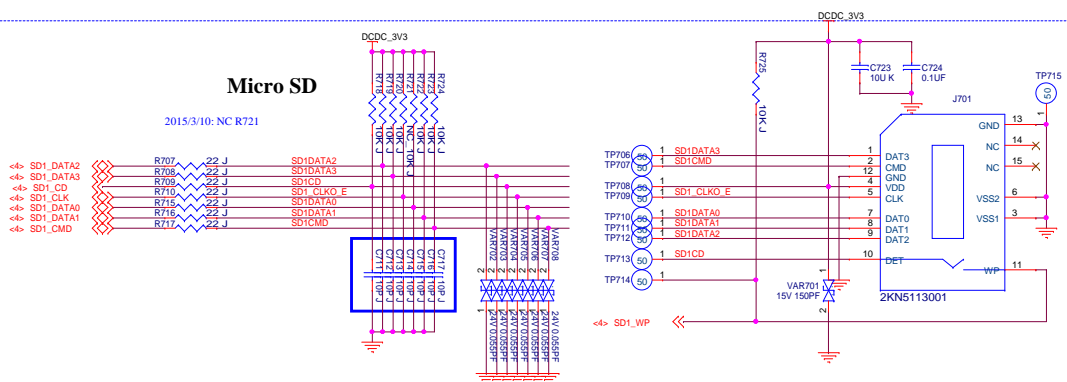
Boot Config Select



CONSOLE

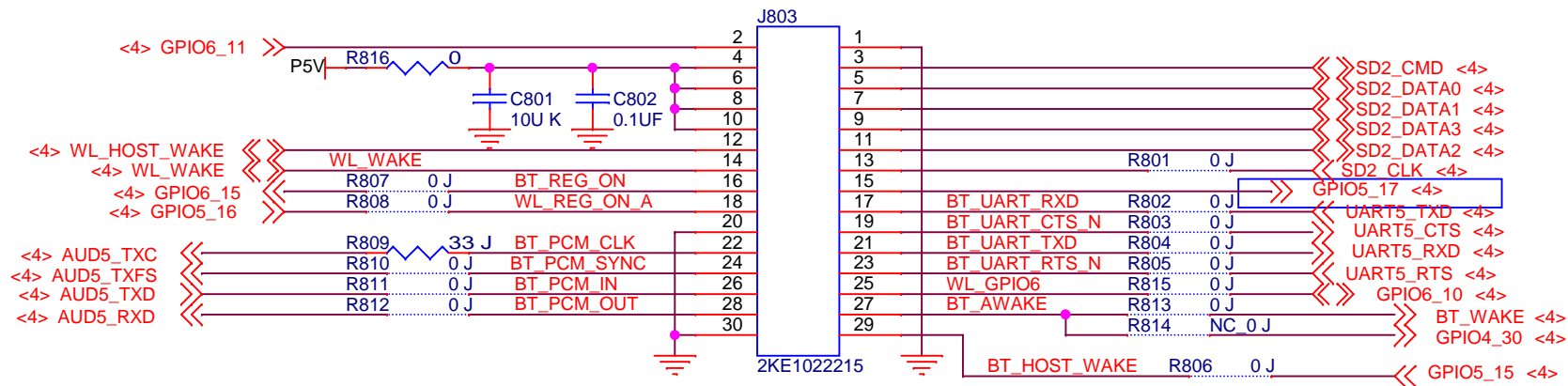


Micro SD

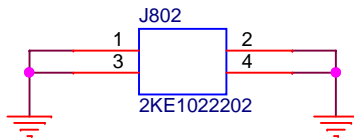


2015/3/2: Add J707,R706/R711/R712
move R76 from page 5 to page7

Qisda Corporation		Qisda	
Project Code 9J25F01.001	Model Name P1156F00	OEM/ODM Model Name PAI-215	
Title SD Card			
Size C	PCB P/N 4H.25F01.S01	PCB Rev. S01	Document Number 9J25F01.001-Q20-204-002
Date: Thursday, March 26, 2015	Sheet 7	of 16	
Prepared By Lewie Tsi	Reviewed By Chiyang Wang	Approved By Bill Chuan	

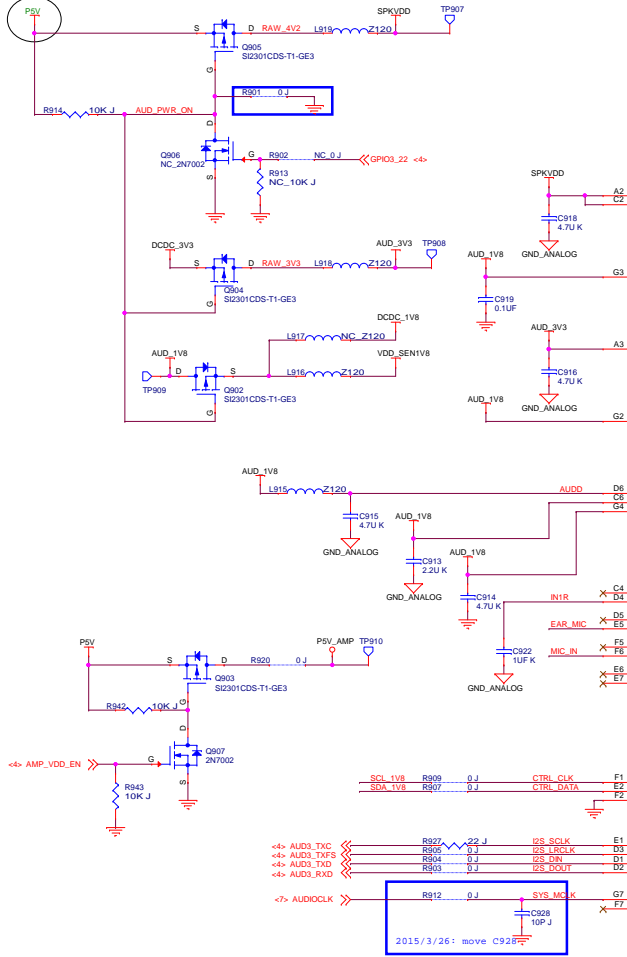


2015/3/6: Add GPIO5_17 for board detect

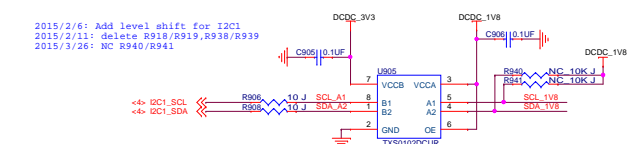
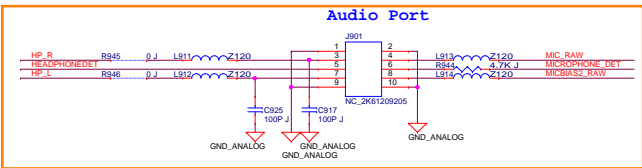
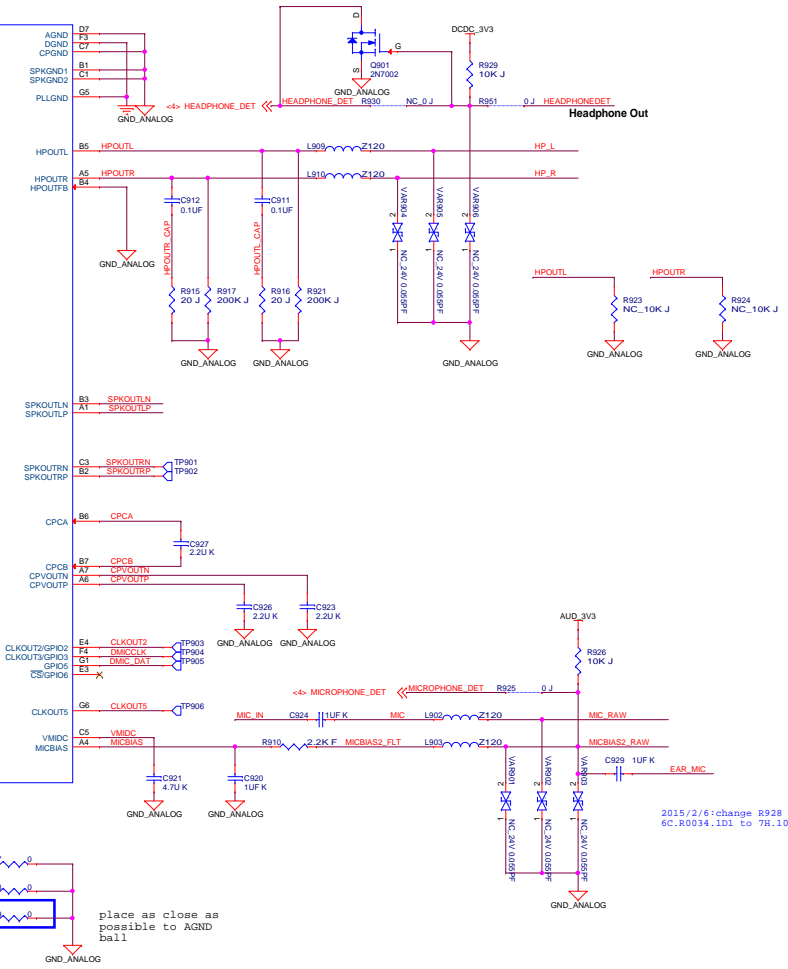


Qisda Corporation				
Project Code 9J.2SF01.001		Model Name PT150F00		OEM/ODM Model Name PAT-215
Title WLAN & BT				
Size C	PCB P/N 4H.2SF01.S01	PCB Rev. S01	Document Number 9J.2SF01.001-Q20-204-002	Rev. 0
Date: Thursday, March 26, 2015		Sheet 8 of 16		
Prepared By Lewis Tsai		Reviewed By Chiyang Wang		Approved By Bill Chuan

V0_2 modify

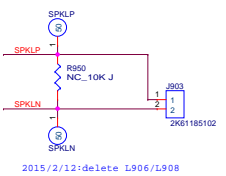
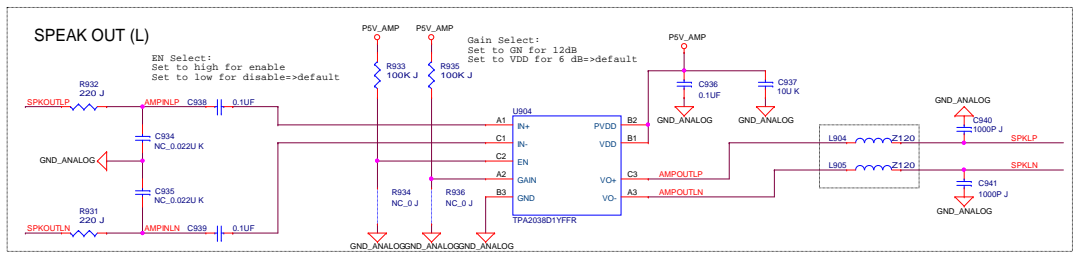


Audio Codec



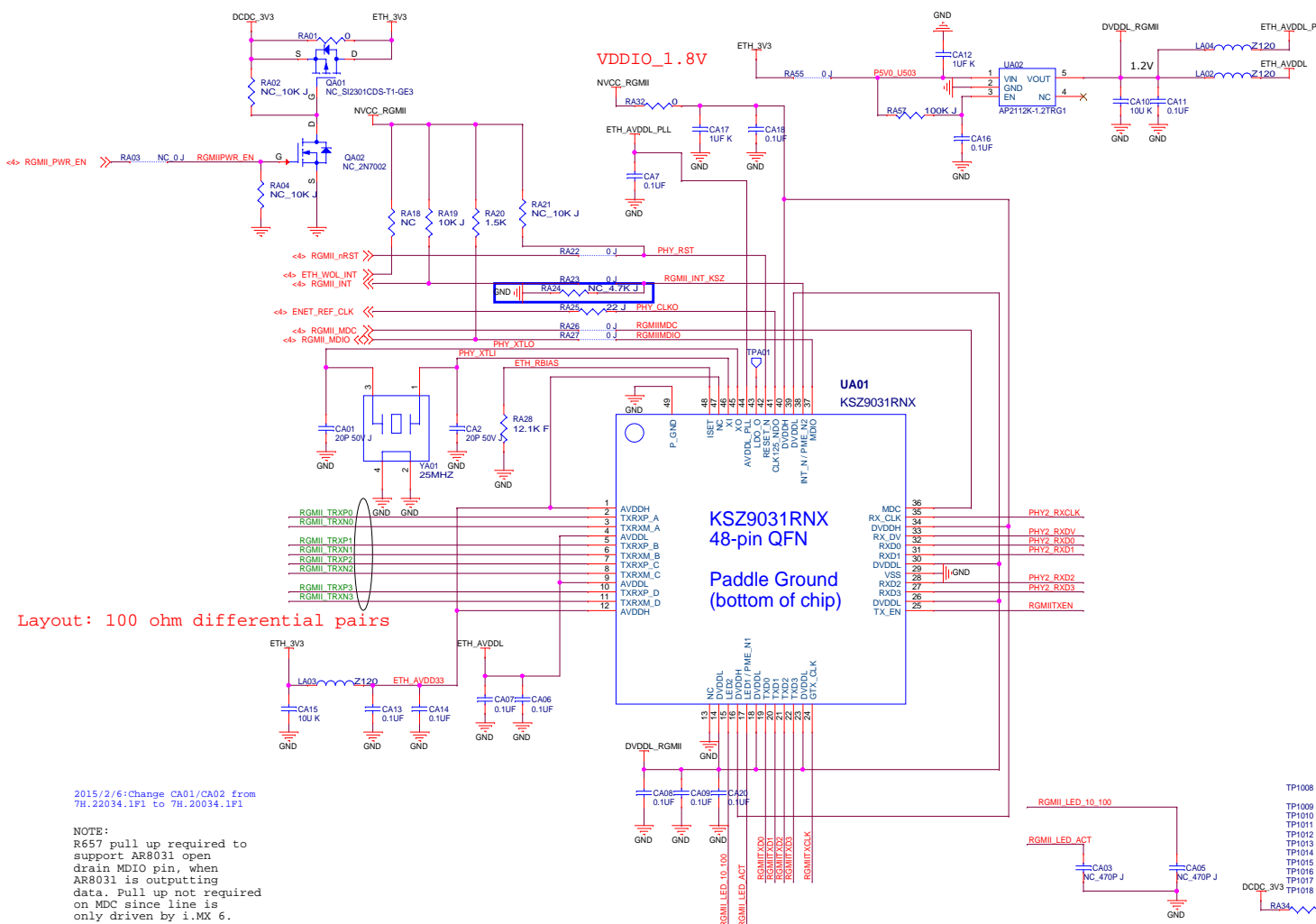
place as close as possible to AGND ball

2015/2/6: change R938 from 6C.R0034.LD1 to 7B.10521.SF1



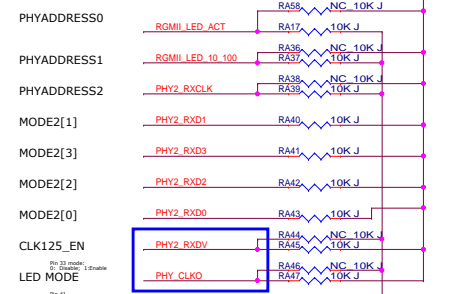
2015/2/12: delete L906/L908

Qisda Corporation		Qisda	
Project Code 9125F01.001	Model Name P1150F00	OEM/ODM Model Name PAT-215	
Title Audio WM8942			
Size C	PCB P/N 4H25F01.S01	Document Number 9125F01.001-Q20-204-002	Rev. D
Date: Thursday, March 26, 2015		Sheet 9 of 16	Rev. D
Prepared By Lewie Tzai		Reviewed By Ching Wang	Approved By Bill Chuan



NOTE:
Solder short normally connects NVCC_RGMII to ETH_VDDIO.
To connect NVCC_RGMII to VGEN1_LV5, cut the trace between pads 1 - 2 and solder a 0 Ohm resistor between pads 2 - 3.

Power-on Strapping Pins



MODE2[3:0]

(Default assemble: 0000)

- 0100 NAND tree mode
- 1100 RGMII mode - advertise 1000Base-t fully -duplex only
- 1101 RGMII mode - advertise 1000Base-t fully - and half- duplex only
- 1110 RGMII mode - advertise all capabilities, except 1000Base-t half- duplex
- 1111 RGMII mode - advertise all capabilities
- Others Reserved

Layout: 100 ohm differential pairs

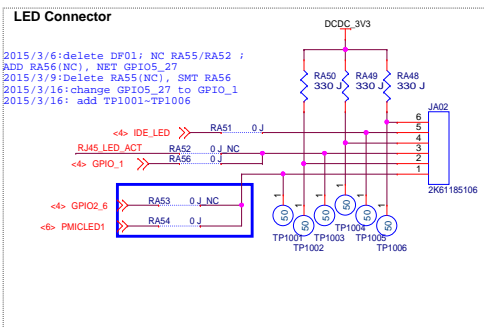
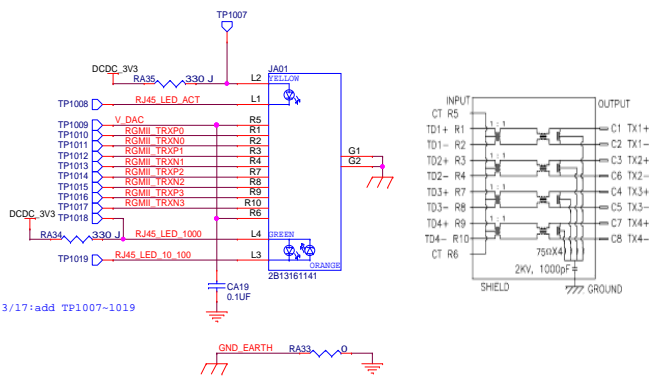
2015/2/6: Change CA01/CA02 from 7H.22034.1F1 to 7H.20034.1F1

NOTE:
R657 pull up required to support AR8031 open drain MDIO pin, when AR8031 is outputting data. Pull up not required on MDC since line is only driven by i.MX 6.

Layout: High speed data lines : 50 ohms
Place R634 near the AR8031 PHY.

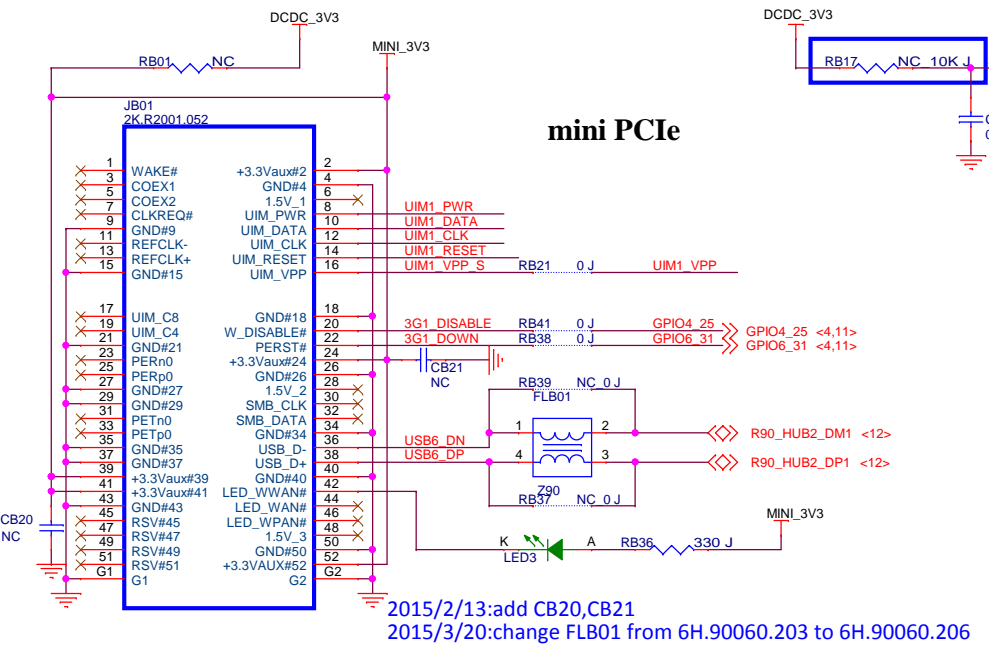
- <> RGMII_TXCLK <> RA05 0 J RGMII_TXCLK
- <> RGMII_TXD0 <> RA06 0 J RGMII_TXD0
- <> RGMII_TXD1 <> RA07 0 J RGMII_TXD1
- <> RGMII_TXD2 <> RA08 0 J RGMII_TXD2
- <> RGMII_TXD3 <> RA09 0 J RGMII_TXD3
- <> RGMII_TXEN <> RA10 0 J RGMII_TXEN

- <> RGMII_RXCLK << RA11 0 J PHY2_RXCLK
- <> RGMII_RXD0 << RA12 0 J PHY2_RXD0
- <> RGMII_RXD1 << RA13 0 J PHY2_RXD1
- <> RGMII_RXD2 << RA14 0 J PHY2_RXD2
- <> RGMII_RXD3 << RA15 0 J PHY2_RXD3
- <> RGMII_RXDV << RA16 0 J PHY2_RXDV



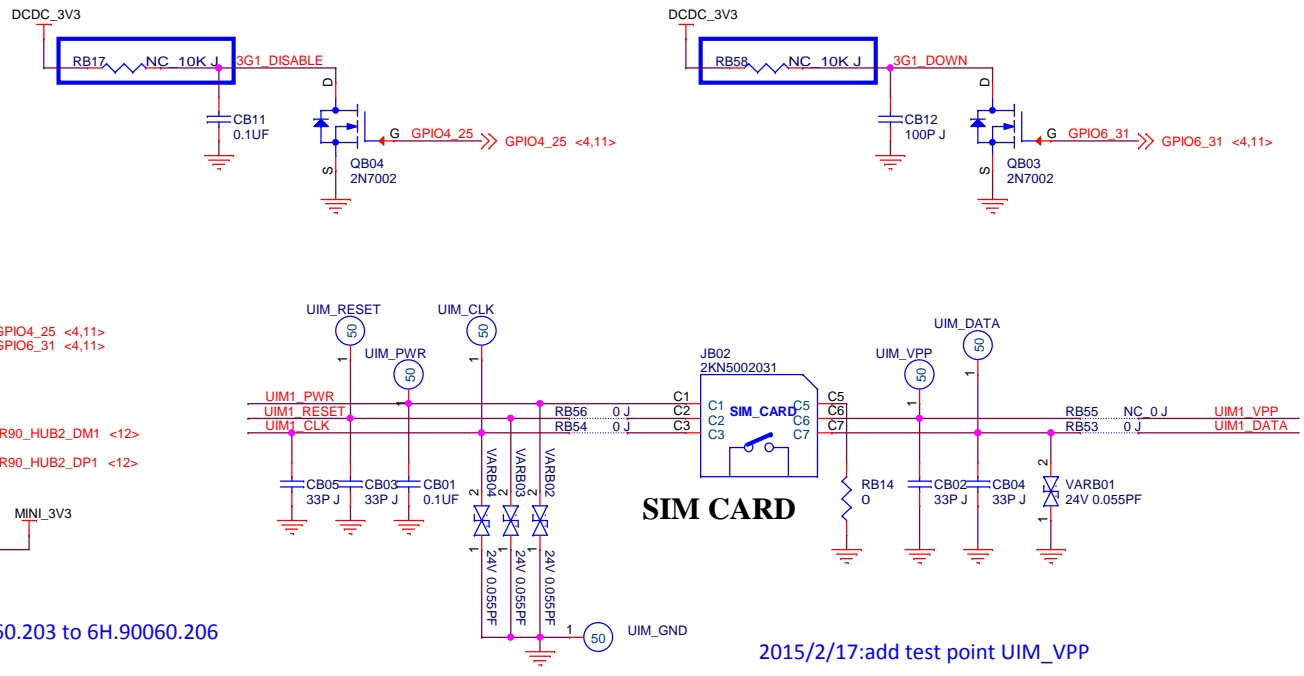
Place LED D11 near LED for pins 11 - 12 of RJ-45 connector. Orange LED indicates 1000 speed.

Qisda Corporation			
Project Code	Model Name	OEM/ODM Model Name	
9J25F01.001	PT156F0	PAT215	
Title: ETHERNET AR8033			
Size	PCB P/N	PCB Rev.	Document Number
C	4H.25F01.501	S01	9J25F01.001-Q20-204-002
Date:	Thursday, March 26, 2015	Sheet	10 of 16
Prepared By	Reviewed By	Approved By	
Lewis Tai	Chiyang Wang	Bill Chuan	

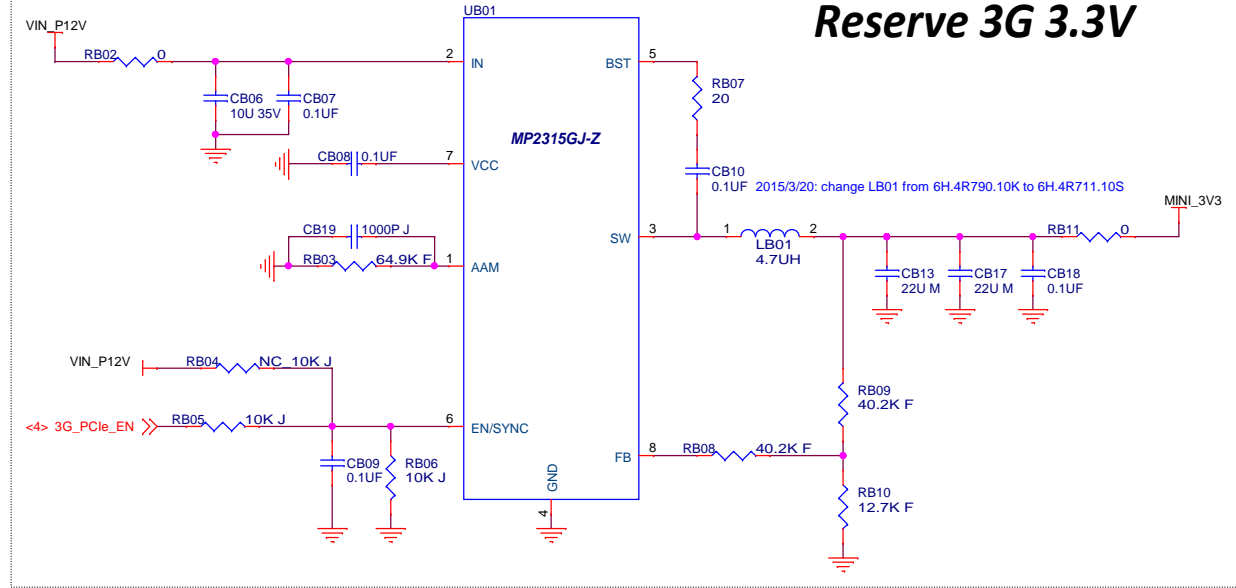


2015/2/13:add CB20,CB21
 2015/3/20:change FLB01 from 6H.90060.203 to 6H.90060.206

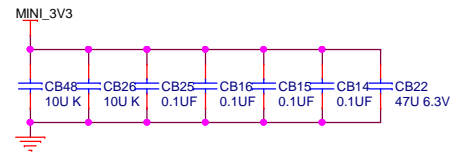
2015/2/12: Change CB06 from 7H.10623.5B1 to 7H.10628.5K1



2015/2/17:add test point UIM_VPP



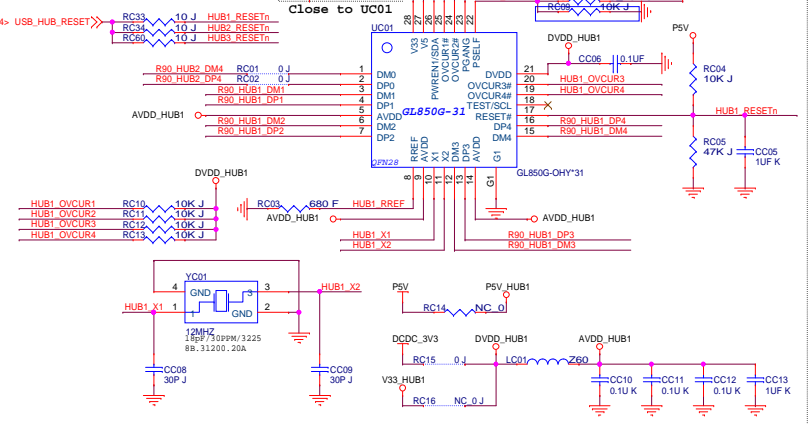
Reserve 3G 3.3V



Qisda Corporation				
Project Code	Model Name	OEM/ODM Model Name		
9J.2SF01.001	PT150F00	PAT-215		
Title				
m-PCIe				
Size	PCB P/N	PCB Rev.	Document Number	
C	4H.2SF01.S01	S01	9J.2SF01.001-Q20-204-002	
Rev.				
			0	
Date:	Thursday, March 26, 2015	Sheet	11 of 16	
Prepared By	Reviewed By	Approved By		
Lewis Tsai	Chiyang Wang	Bill Chuan		

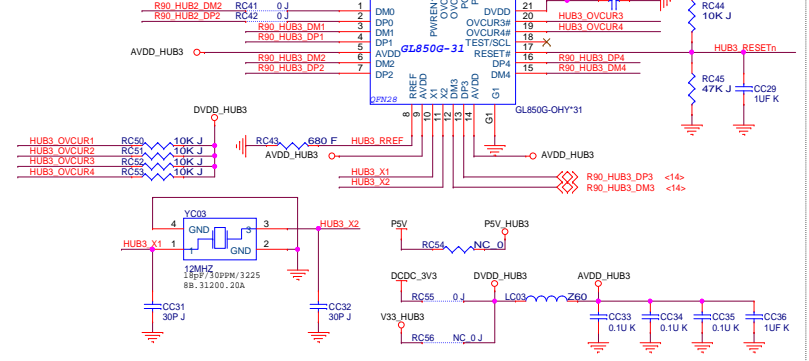
USB HUB1

2015/2/11:
DNI: RC08/RC06/RC09/RC14/RC16
SMT: RC15
2015/2/12: Delete RC09



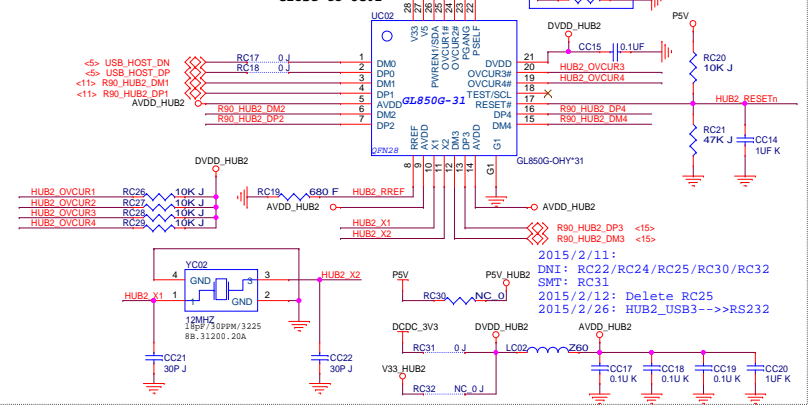
USB HUB3

2015/2/11: add net R90_HUB3_DP1, R90_HUB3_DM1 for VFD1;
DNI: RC54/RC56/RC47/RC48/RC49;
SMT: RC55
2015/2/12: Delete RC49
2015/2/26: HUB1_USB2-->Cardreader

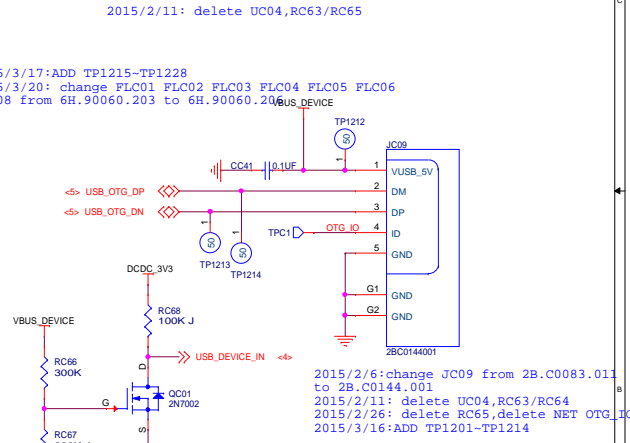
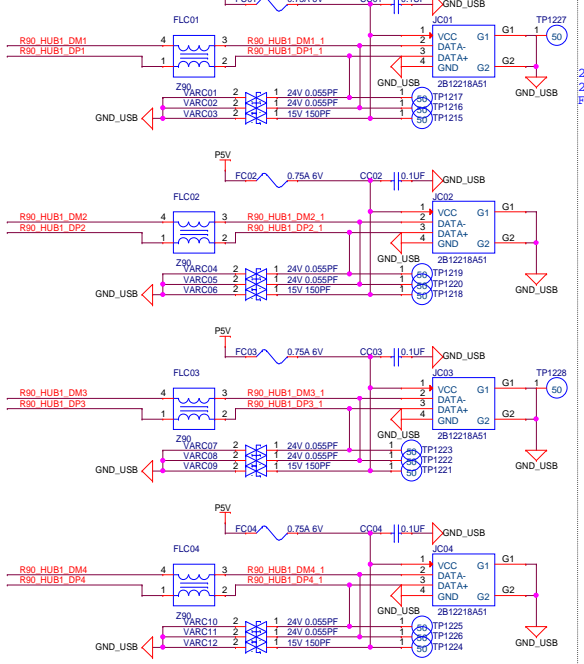


USB HUB2

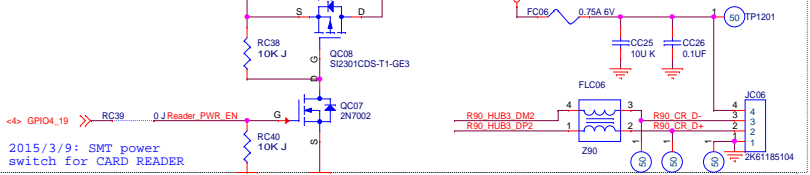
CH1: 3G
CH2: HUB3
CH3: RS232
CH4: HUB1



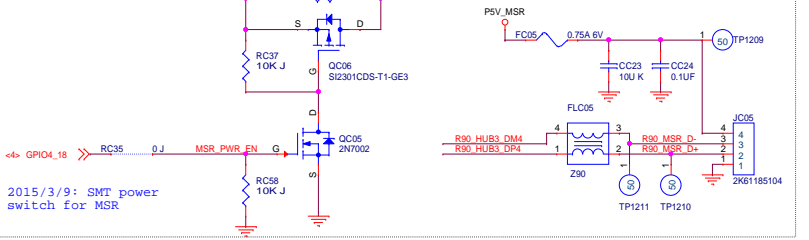
USB HOST*4



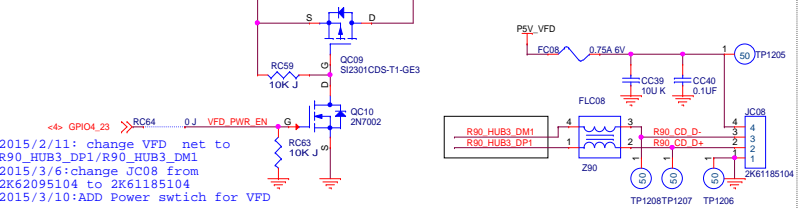
Card Reader



MSR

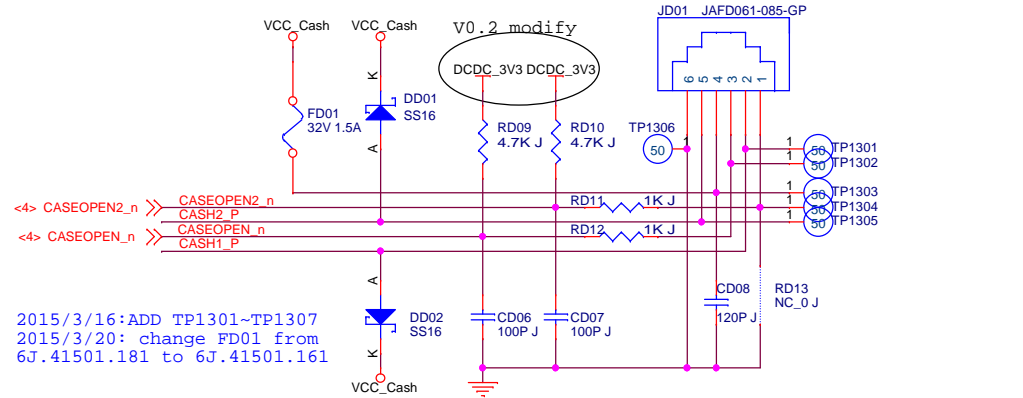
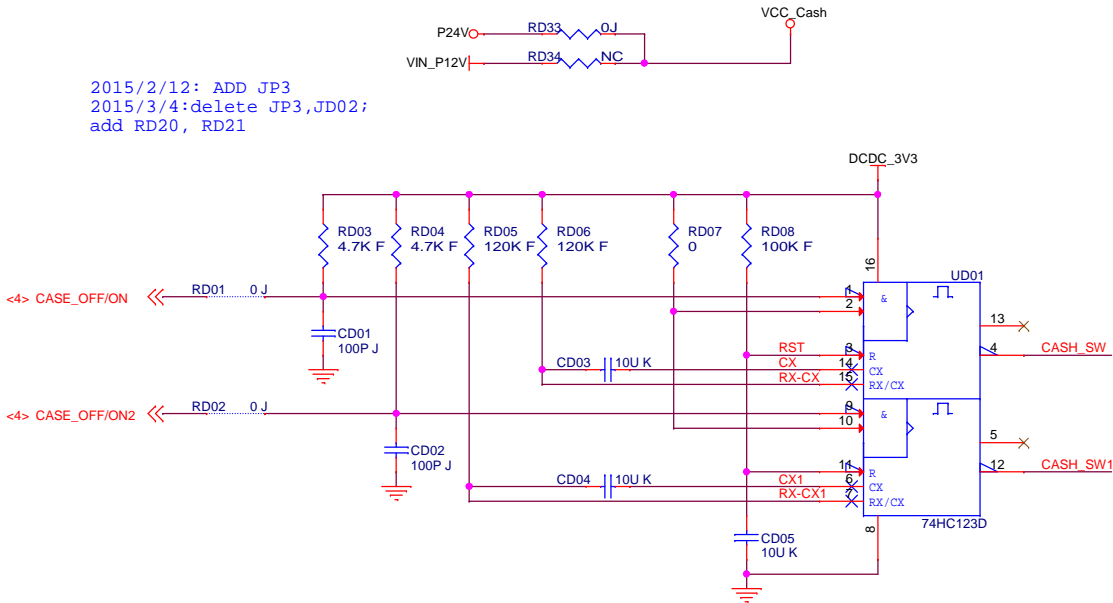


VFD

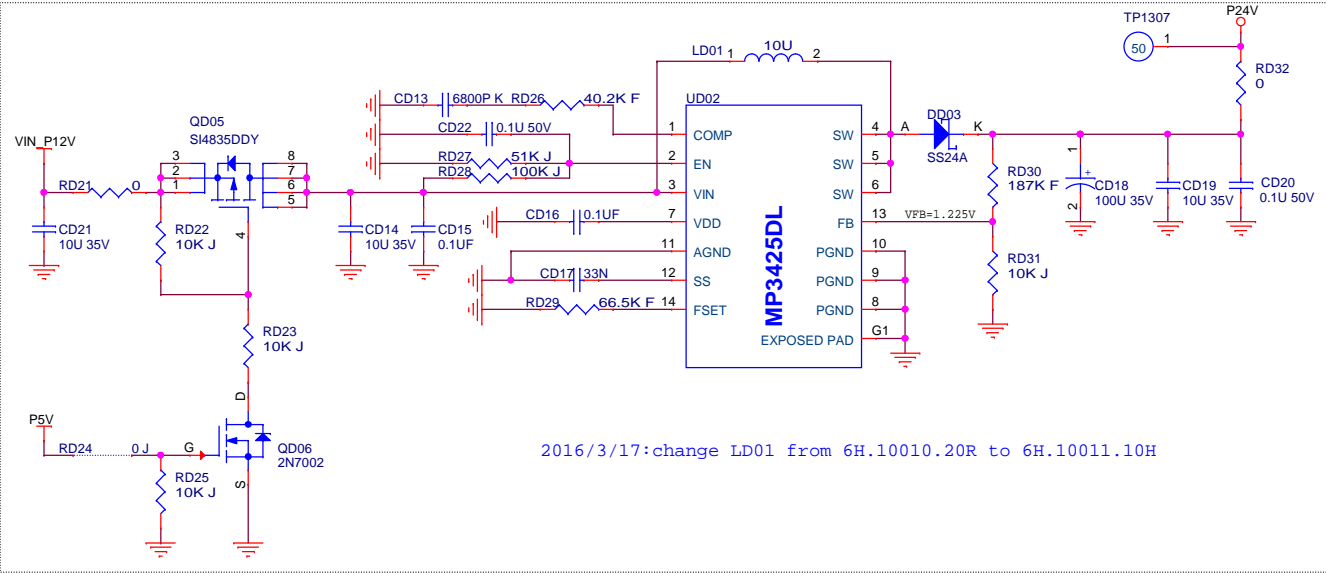
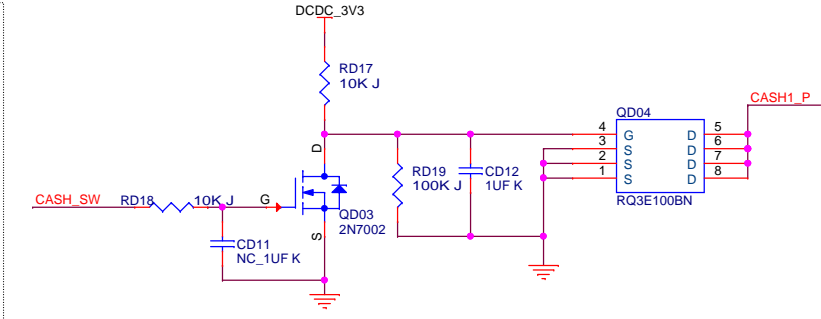
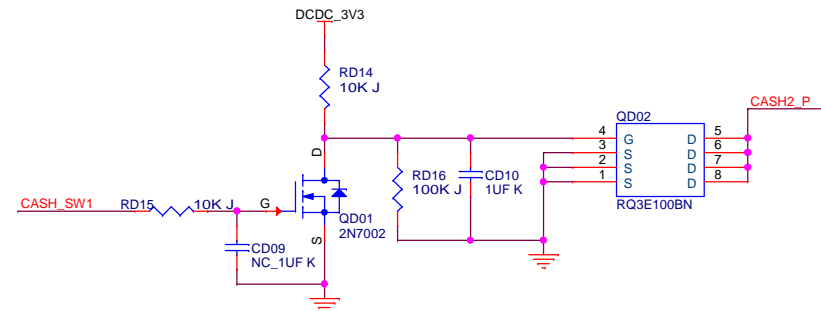


Qisda Corporation			
Project Code	Model Name	OEM/ODM Model Name	
9125F01.001	P115X60	PAT215	
Title: USB HUB			
Size C	PCB P/N	PCB Rev.	Document Number
	4H.25F01.501	S01	9125F01.001-Q20-204-002
Rev.			
Date:	Thursday, March 26, 2015	Sheet	12 of 16
Prepared By	Reviewed By	Approved By	
Lewis Tai	Chiyang Wang	Bill Chuan	

2015/2/12: ADD JP3
 2015/3/4: delete JP3, JD02;
 add RD20, RD21



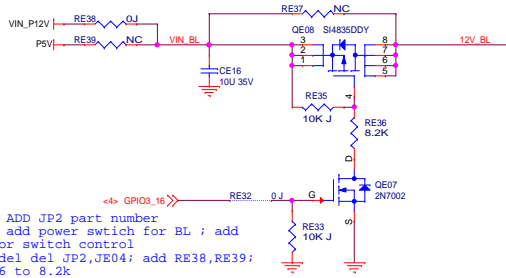
2015/3/16: ADD TP1301~TP1307
 2015/3/20: change FD01 from
 6J.41501.181 to 6J.41501.161



2016/3/17: change LD01 from 6H.10010.20R to 6H.10011.10H

Qisda Corporation				
Project Code	Model Name	OEM/ODM Model Name		
9J.2SF01.001	PT150F00	PAT-215		
Title: Cash Drawer				
Size C	PCB P/N	PCB Rev.	Document Number	
	4H.2SF01.S01	S01	9J.2SF01.001-Q20-204-002	
Date:	Thursday, March 26, 2015	Sheet	13 of 16	
Prepared By	Reviewed By	Approved By		
Lewis Tsai	Chiyang Wang	Bill Chuan		

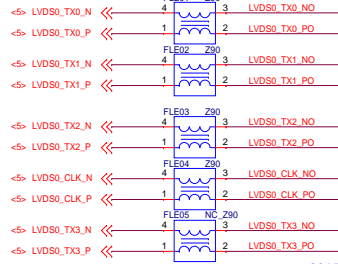
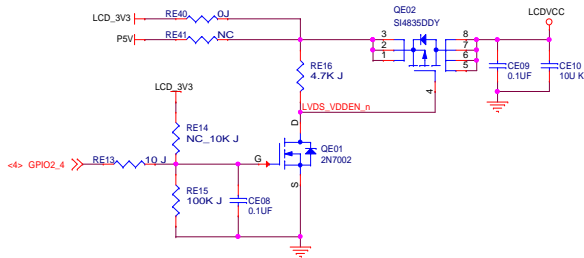
B/L(12V/5V) Jumper/ Power switch



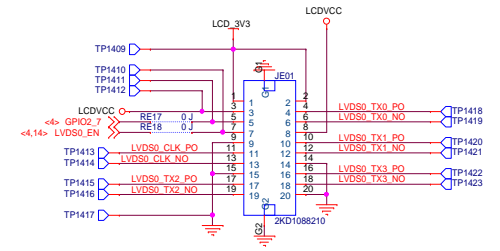
2015/2/12: ADD JP2 part number
 2015/2/26: add power switch for BL ; add GPIO3_16 for switch control
 2015/3/2: del del JP2,JE04; add RE38,RE39;
 change RE36 to 8.2k
 2015/3/19: delete RE34

LCD POWER(3.3V/5V) Jumper

2015/2/12: ADD JP1 part number
 2015/3/2: del JP1,JE06; add RE40,RE41

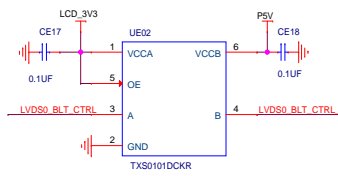


2015/3/17:ADD TP1409-TP1423
 2015/3/20:change FLE01 FLE02 FLE03 FLE04 FLE05
 FLE11 from 6H.90060.203 to 6H.90060.206, FLE05 NC

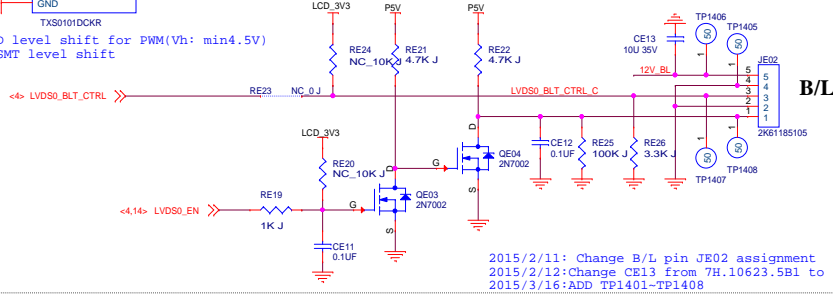


1. VDD
2. VDD
3. GND
4. REV
5. Rin1-
6. RIN1+
7. GND
8. RIN2-
9. RIN2+
10. GND
11. RIN3-
12. RIN3+
13. GND
14. CLKIN-
15. CLKIN+
16. GND
17. NC
18. NC
19. GND
20. NC

B/L

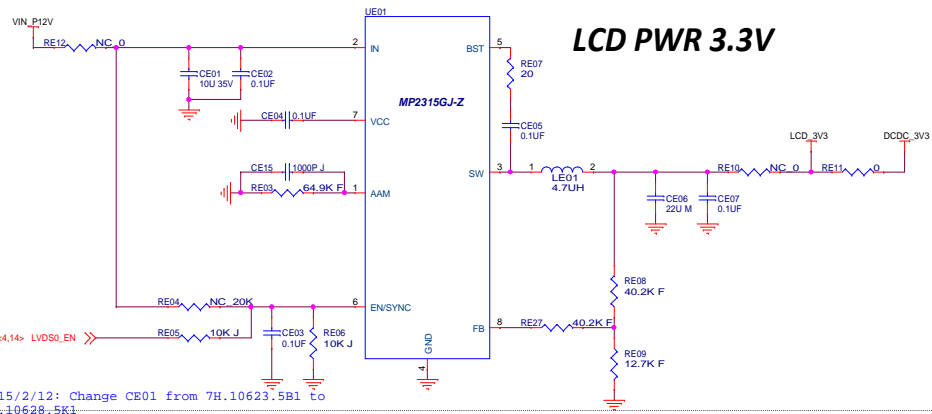


2015/3/9:ADD level shift for PWM(Vh: min4.5V)
 2015/3/20: SMT level shift



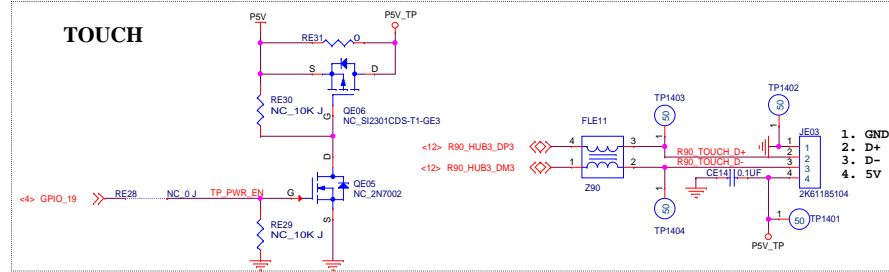
2015/2/11: Change B/L pin JE02 assignment
 2015/2/12:Change CE13 from 7H.10623.5B1 to 7H.10628.5K1
 2015/3/16:ADD TP1401-TP1408

LCD PWR 3.3V



2015/2/12: Change CE01 from 7H.10628.5K1 to 7H.10628.5K1
 2015/3/20:change LE01 from 6H.4R790.10K to 6H.4R711.10S

TOUCH



1. GND
2. D+
3. D-
4. 5V

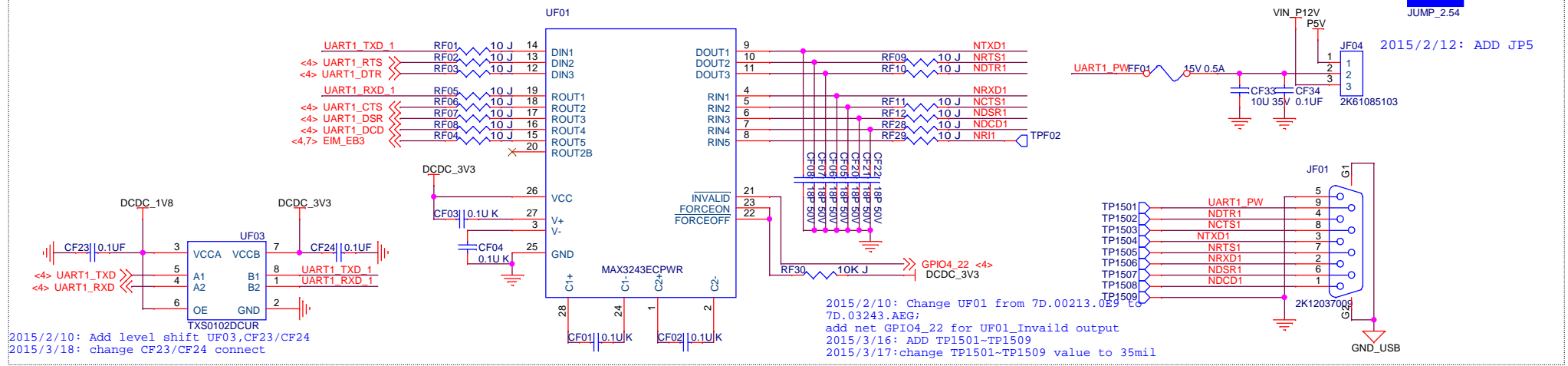
Qisda Corporation			
Project Code	Model Name	OEM/ODM Model Name	
9J25F01.001	P1156F00	PAT215	
Title: PANEL & TOUCH			
Size	PCB P/N	PCB Rev.	Document Number
C	4H.25F01.S01	S01	9J25F01.001-Q20-204-002
Date:	Thursday, March 26, 2015	Sheet	14 of 16
Prepared By	Reviewed By	Approved By	
Lewis Tai	Chiyang Wang	Bill Chuan	

External COM

5V/12V(500mA) provided by Jumper selection

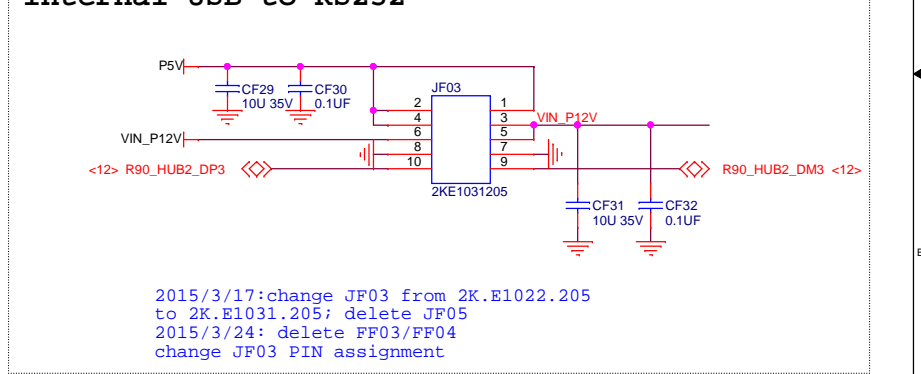
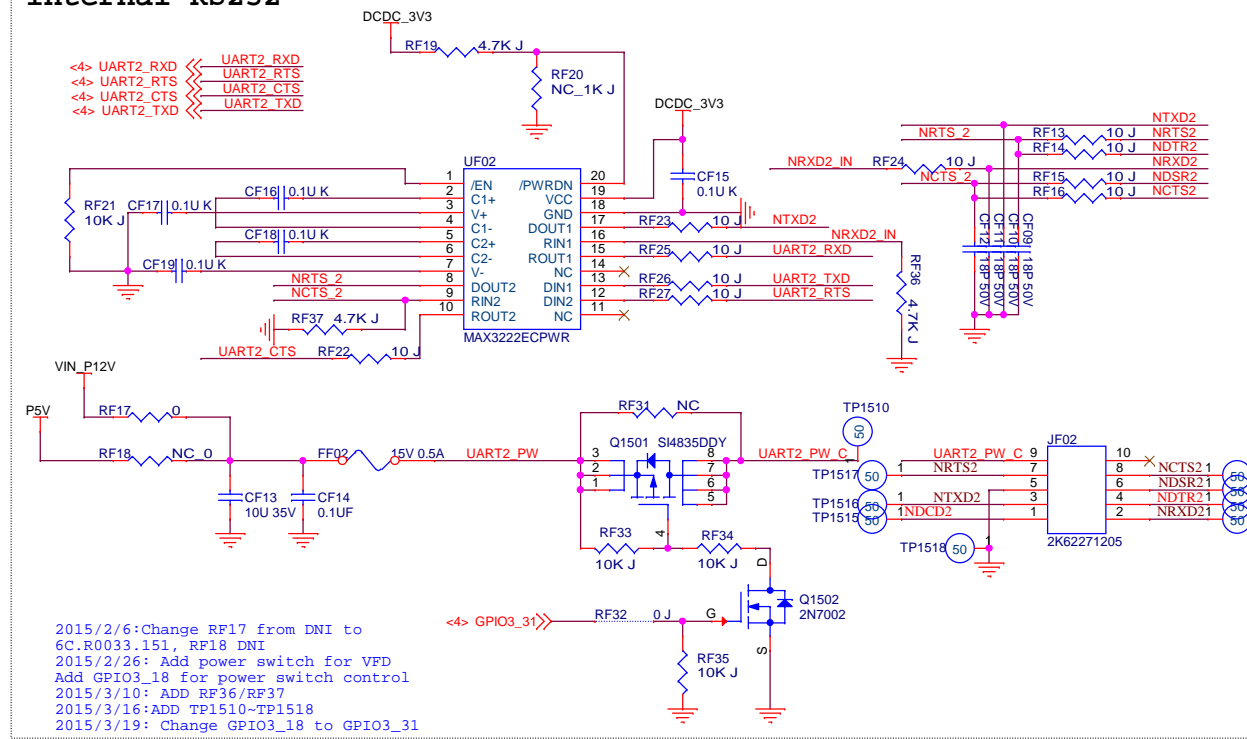


2015/2/12: ADD JP5



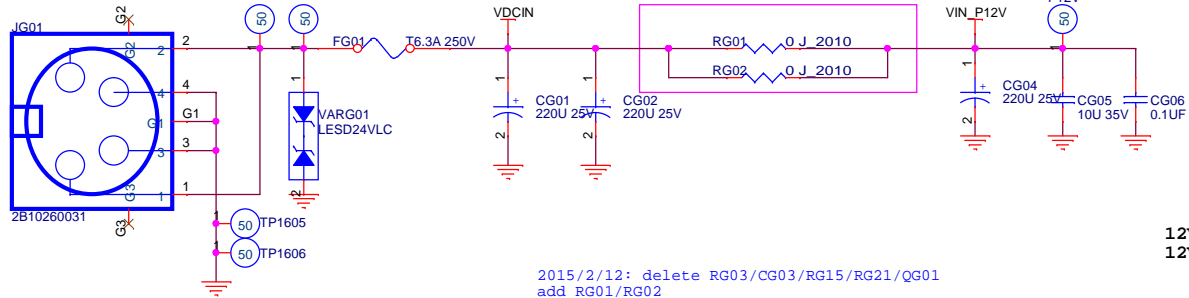
Internal RS232

Internal USB to RS232



Qisda Corporation				
Project Code	Model Name	OEM/ODM Model Name		
9J.2SF01.001	PT150F00	PAT-215		
Title: COM				
Size C	PCB P/N	PCB Rev.	Document Number	
	4H.2SF01.S01	S01	9J.2SF01.001-Q20-204-002	
Date:	Thursday, March 26, 2015	Sheet	15 of 16	
Prepared By	Reviewed By	Approved By		
Lewis Tsai	Chiyang Wang	Bill Chuan		

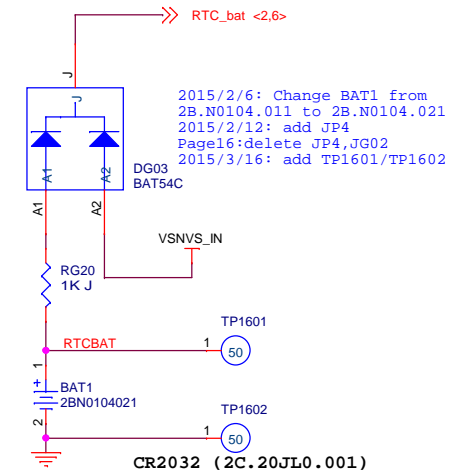
ADT IN



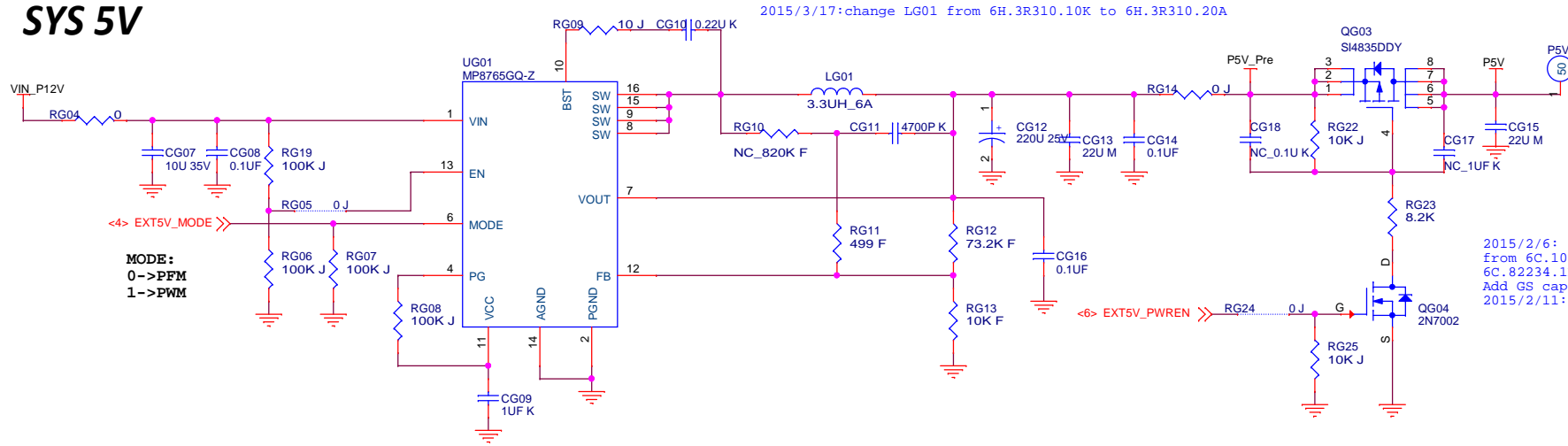
2015/2/12: delete RG03/CG03/RG15/RG21/QG01
add RG01/RG02
2015/3/17: ADD TP1603-TP1606; Change
CG01/CG02/CG04/CG12 from 0J.2272D.09B to
0J.227A2.09L

12V/5V auto boot: RG17, RG19 mount
12V/5V power key on: RG18 mount

CLR_CMOS



SYS 5V



2015/2/6: change RG23
from 6C.10334.1D1 to
6C.82234.1D1;
Add GS cap CG17
2015/2/11: add GC18

Qisda Corporation				
Project Code 9J.2SF01.001		Model Name PT150F00		OEM/ODM Model Name PAT-215
Title POWER				
Size C	PCB P/N 4H.2SF01.501	PCB Rev. S01	Document Number 9J.2SF01.001-Q20-204-002	Rev. 0
Date: Thursday, March 26, 2015		Sheet 16 of 16		
Prepared By Lewis Tsai		Reviewed By Chiyang Wang		Approved By Bill Chuan