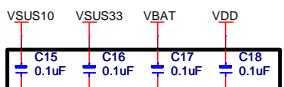
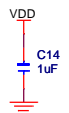
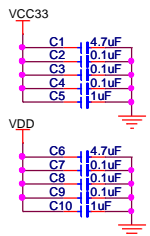


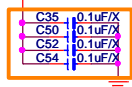
WM8650: Power / Ground

PART: E+F

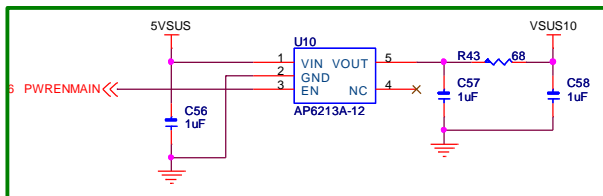
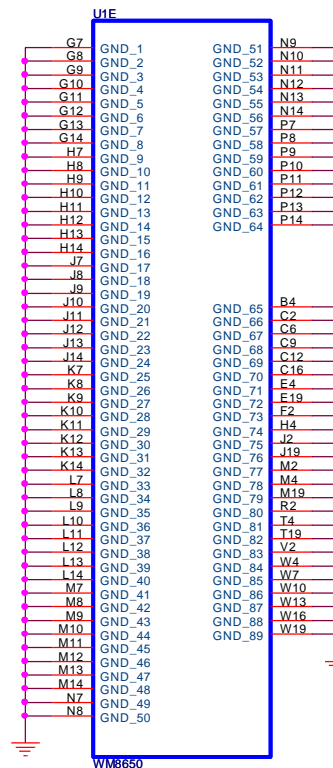
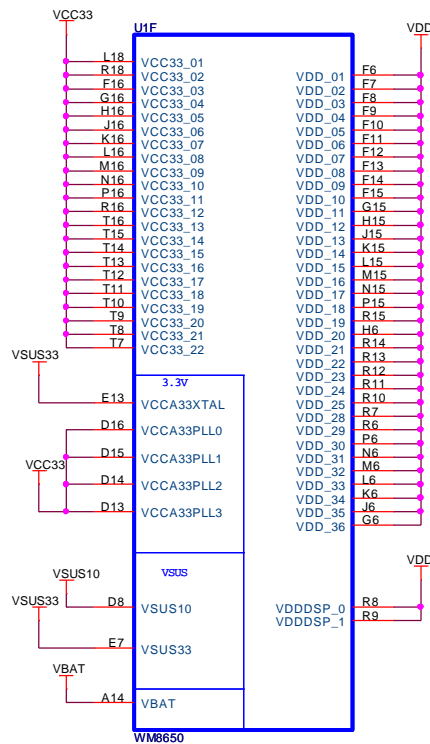



Place close to WM8650.

VDD Reserved:



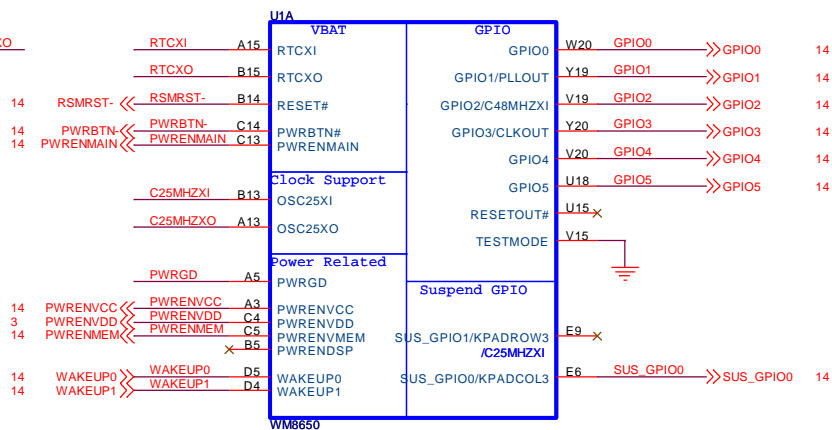
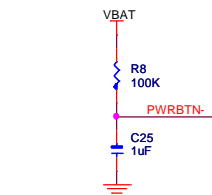
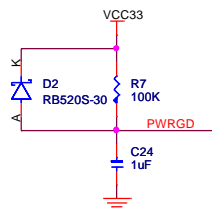
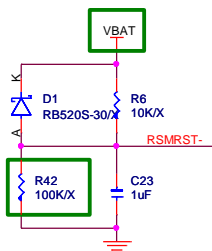
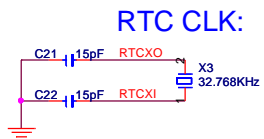
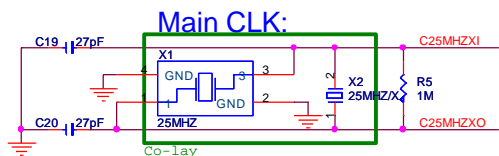
Place under WM8650 PCB bottom side.




WonderMedia Technologies, Inc.
Title WM8650: Power/Ground
Size Custom **Document Number** WMS8121B **Rev** 1.0
Date: Wednesday, January 26, 2011 **Sheet** 3 **of** 15

WM8650: CLOCK/RESET/PMC/GPIO

PART:A



WonderMedia Technologies, Inc.

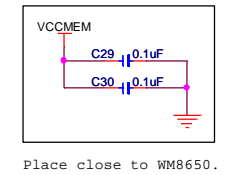
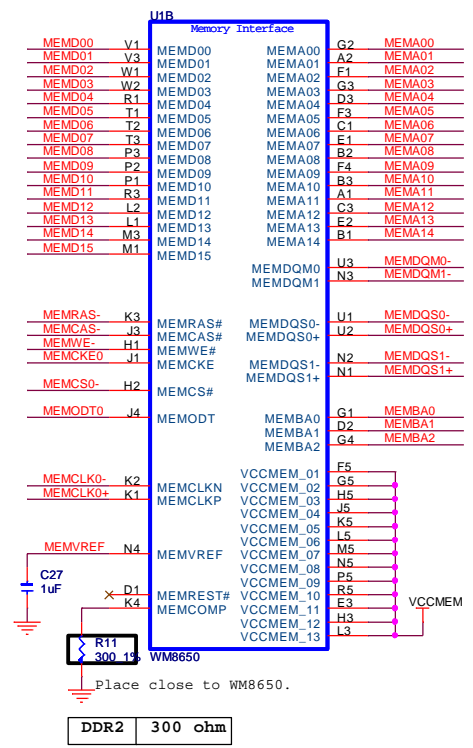
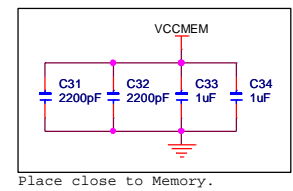
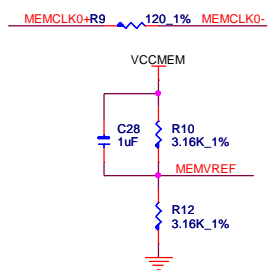
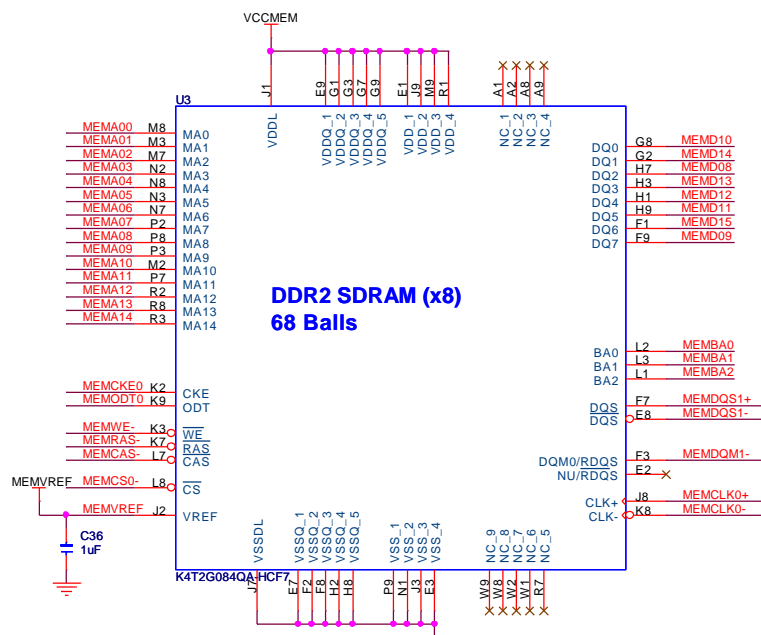
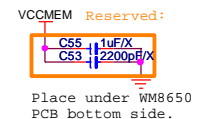
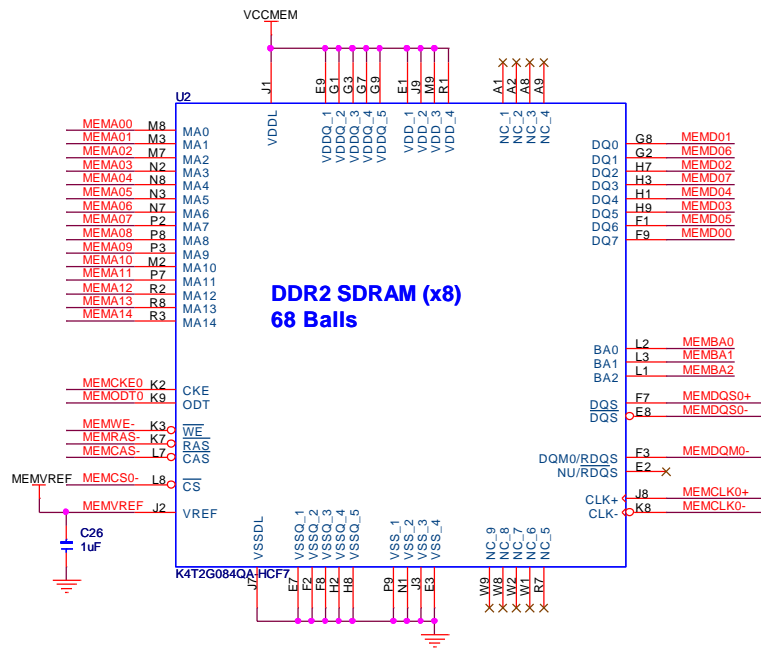
Title: **WM8650: CLOCK/RESET/PMC/GPIO**

Size: Custom Document Number: **WMS8121B** Rev: 1.0

Date: Wednesday, March 30, 2011 Sheet 4 of 15

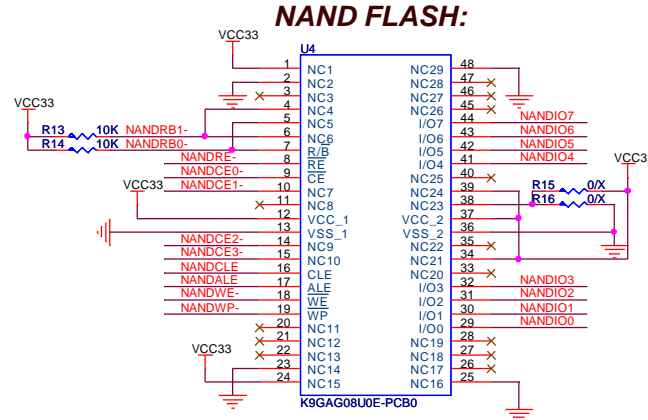
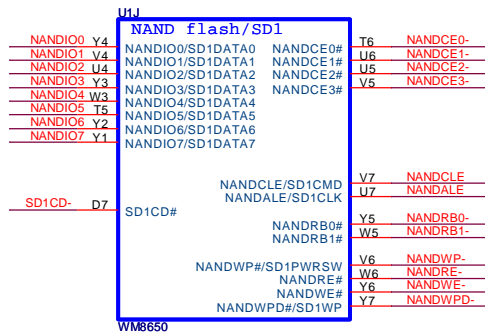
WM8650: DDR2 SDRAM

PART: B



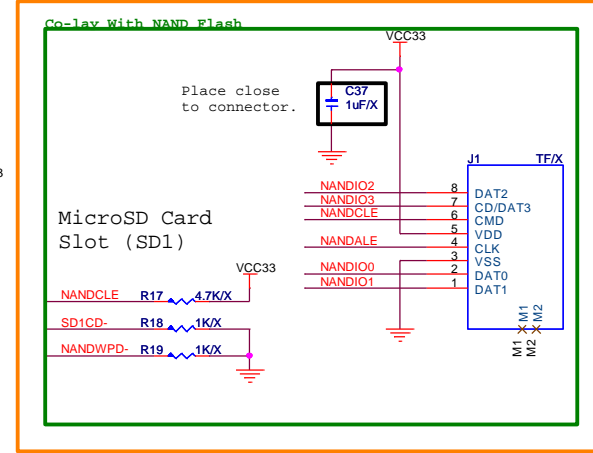
WM8650: NAND FLASH

PART: J



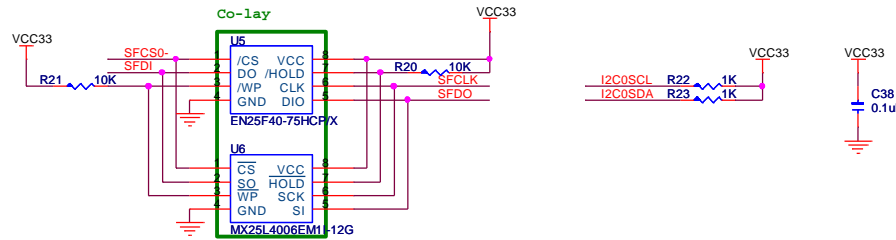
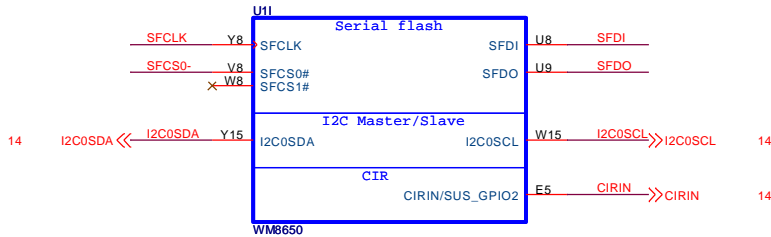
Normal: R15 NC/R16 NC
Intel/Toshiba: R15 0/R16 NC

Optional



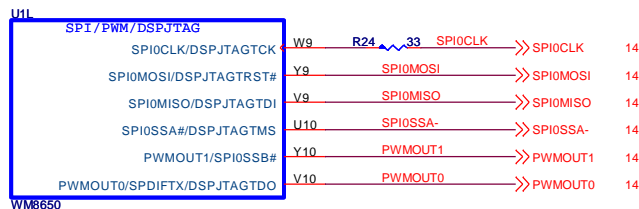
WM8650: SPI FLASH


PART: I



WM8650: SPI + PWM

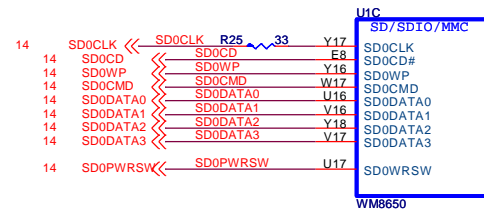
PART: L





WonderMedia Technologies, Inc.
Title: WM8650: NAND FLASH
 Size: Custom Document Number: **WMS8121B** Rev: 1.0
 Date: Saturday, January 22, 2011 Sheet: 6 of 15

WM8650: SD/SDIO

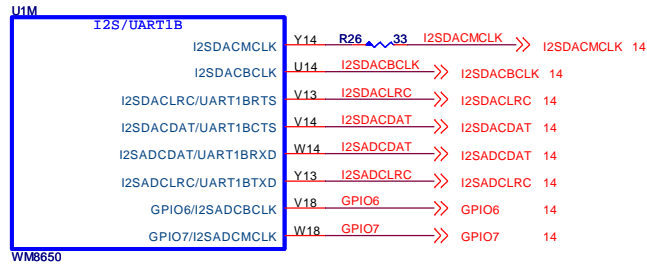
PART: C




 WonderMedia Technologies, Inc.		
Title: WM8650: SD/SDIO		
Size: Custom	Document Number: WMS8121B	Rev: 1.0
Date: Saturday, January 22, 2011		
Sheet 7 of 15		

WM8650: I2S

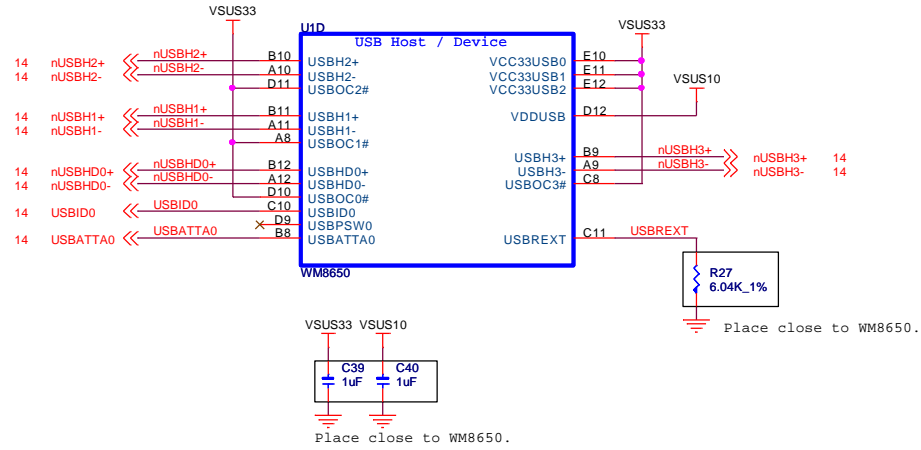
PART: M



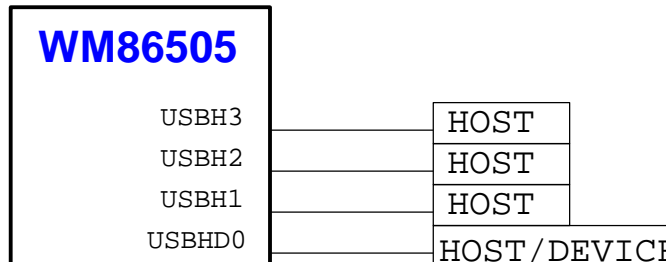
 WonderMedia Technologies, Inc.		
Title: WM8650: I2S		
Size: Custom	Document Number: WMS8121B	Rev: 1.0
Date: Saturday, January 22, 2011		
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WM8505: USB (HOST+DEVICE)


PART: D



(USBH3) to
(USBH2) to
(USBH1) to
(USBHD0) to USB mini-AB connector.

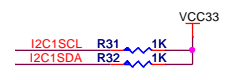
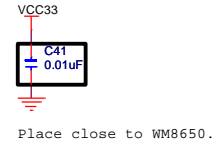
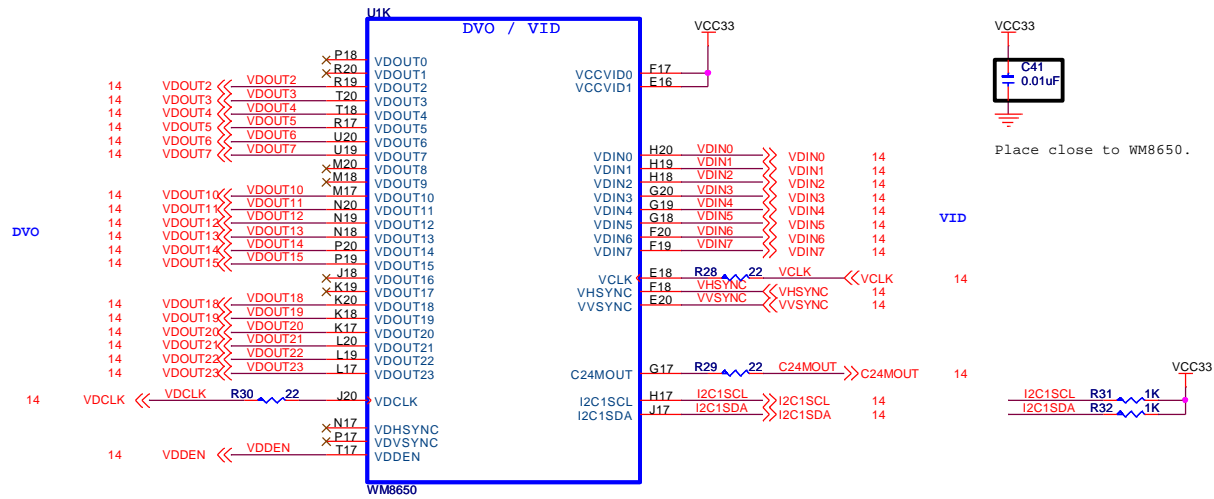


Wakeup signal (USBATTA) is asserted from external USB-Host only.
If WM8650 at USB-Host mode, should ignore USBATTA pin


WonderMedia Technologies, Inc.
 Title: **WM8650: USB (H/D)**
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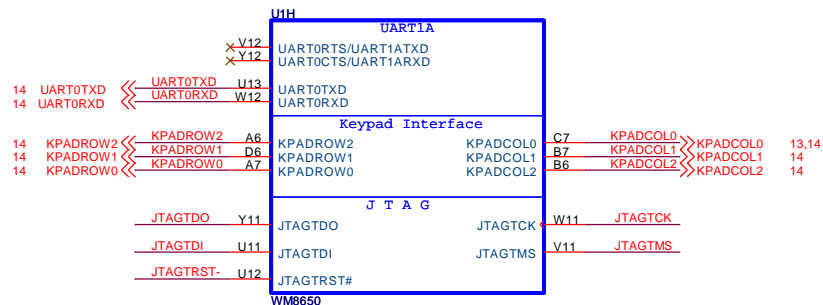
WM8650: DVO/VID

PART: K

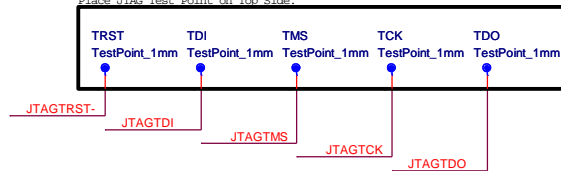



WM8650: UART/KEYPAD/JTAG

PART: H



Place JTAG Test Point on Top Side.



 **WonderMedia Technologies, Inc.**

Title: **WM8650: UART/KEYPAD/JTAG**

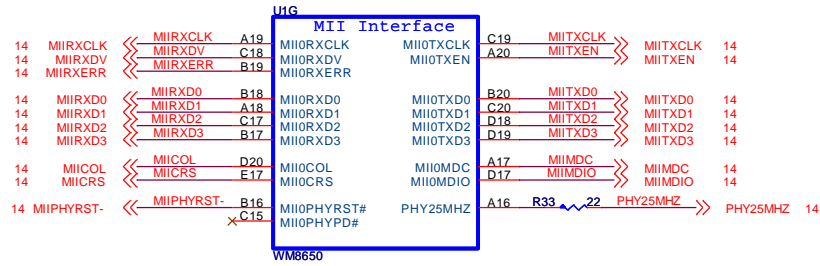
Size: Custom Document Number: **WMS8121B** Rev: 1.0

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WM8650: MII

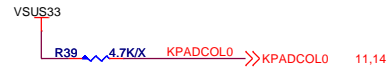
PART: G



WonderMedia Technologies, Inc.		
Title: WM8650: MII		
Size: Custom	Document Number: WMS8121B	Rev: 1.0
Date: Saturday, January 22, 2011	Sheet: 12	of 15

Strapping Option


Pin	Internal Pull up/down	Default	Description
KPADCOL0	pull down	0	Inert PWRBTN# 0:debounced for a few cycles 1:kept 2s to trigger

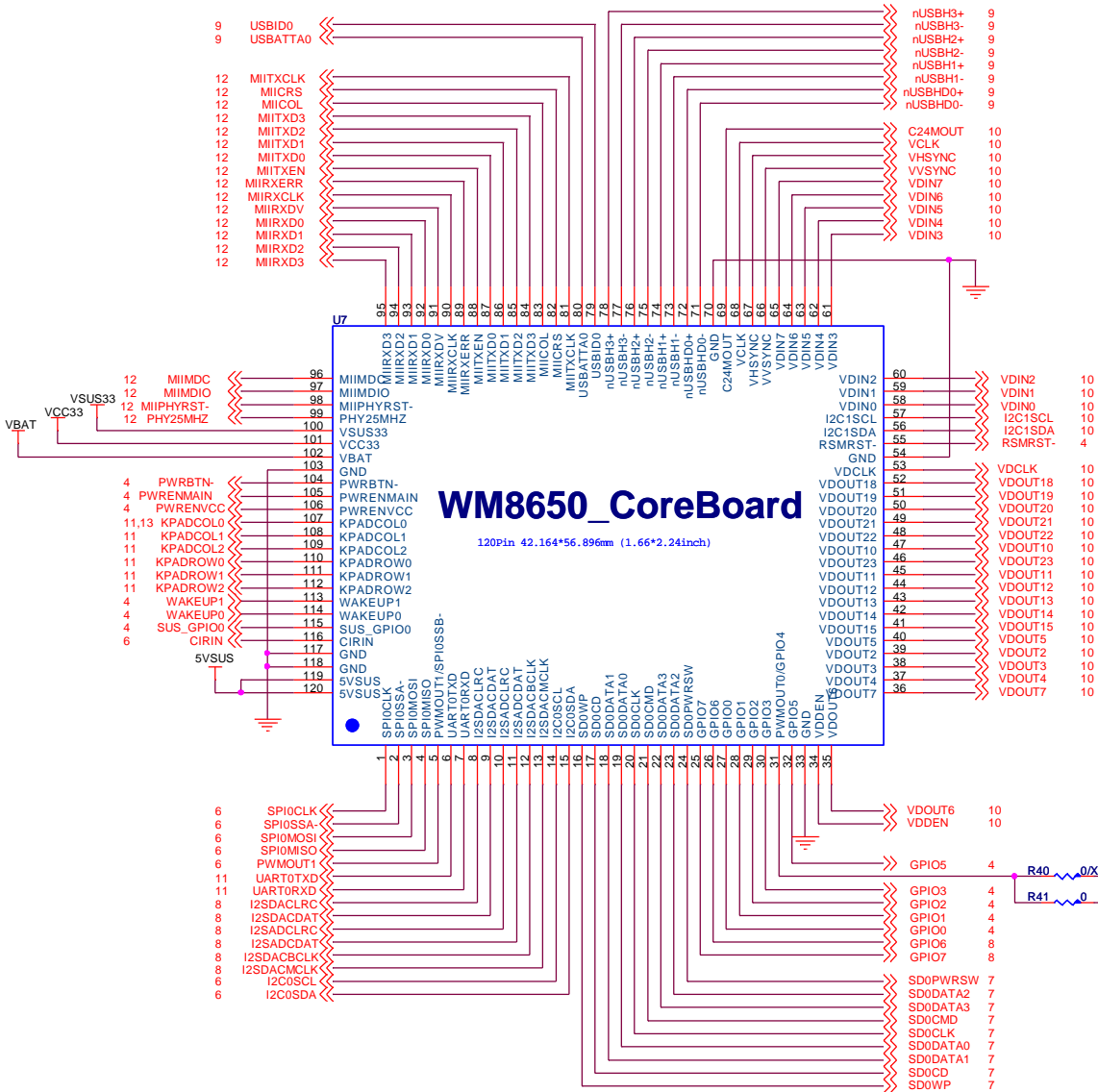


WARNING:

All other strappings not listed above recommend to use internal settings as default. Otherwise un-expected results may encounter.

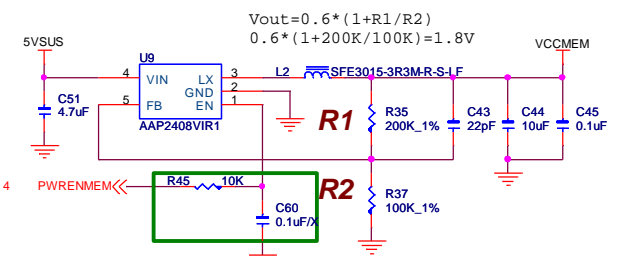
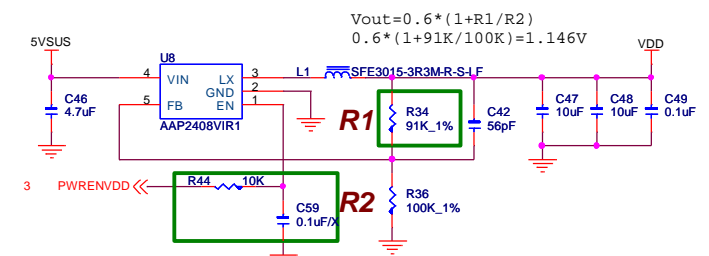
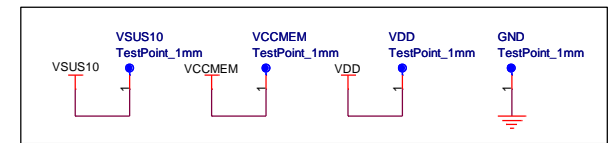
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 WonderMedia Technologies, Inc.	
Title Strapping Option	
Size Custom	Document Number WMS8121B
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WAKEUP0	BAT_LOW Detector
WAKEUP1	DCIN_DET
PWMOUT0	LCD_BL_DIM
PWMOUT1	
GPIO0	
GPIO1	MOTOR_SHAKE
GPIO2	Touch_INT
GPIO3	G-Sensor_INT
GPIO4	
GPIO5	Charger_STAT
GPIO6	Wifi_POWER_DN
GPIO7	CAMERA_POWER_DN
SUS_GPIO0	MUTE_GPIO
I2C0	G-Sensor / I2S / VDOUT
I2C1	VDIN / Touch Panel
SPI0	
KPADCOL0	- Volume + Key
KPADCOL1	- Volume - Key
KPADROW0	- BACK Key
KPADROW1	- Menu Key

Top Side:



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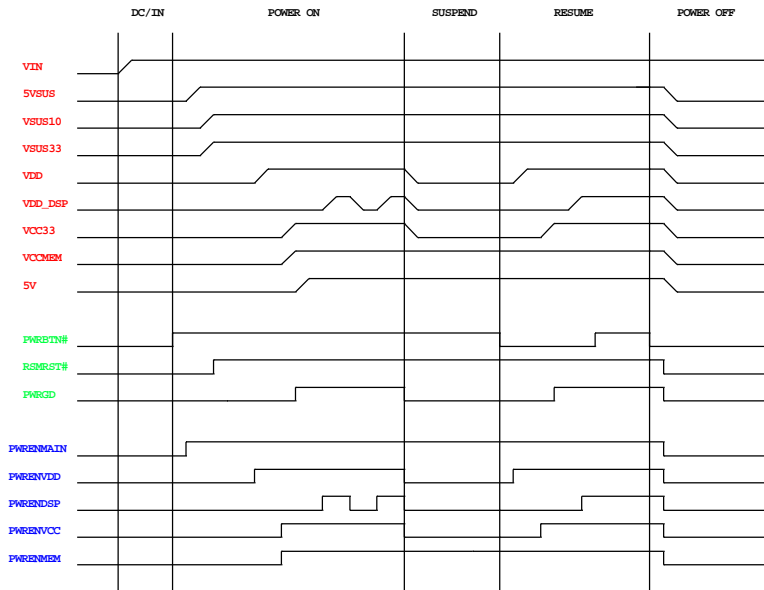
Core Board Package


Title: Core Board Package
 Size: Document Number
 Custom: **WMS8121B**
 Date: Wednesday, January 26, 2011
 Sheet: 14 of 15
 Rev: 1.0

Version History

Version	Modify Content	Responsibility	Date
WMS8121A	Initial released.	Ben Huang	2010/12/12
WMS8121B	1.Delete Q1 GN2314/R1 200K/R2 100K/C12 10uF/C13 0.1uF; 2.Add U10 AP6213A-12/C56/C57/C58 1uF/R43 68; 3.Delete R38 100K, add R44/R45 10K and C59/C60 0.1uF for reserved; 4.R34 95.3K_1% change to 91K_1%; 5.Add R42 100K for Reseved 6.D1/R6 connect to VBAT; 7.UART0RXD spacing 10mil; 8.Change D1/D2 packsge; 9.Optimize layout.	Ben Huang	2011/01/04

Power Sequence:

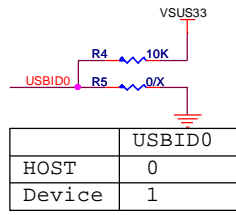
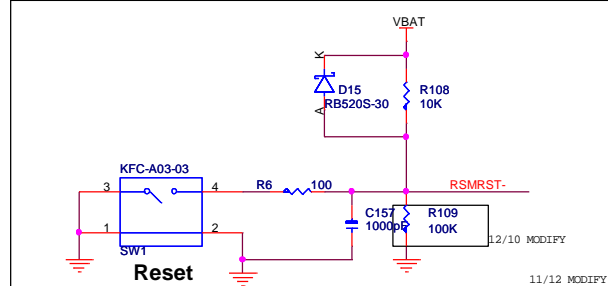
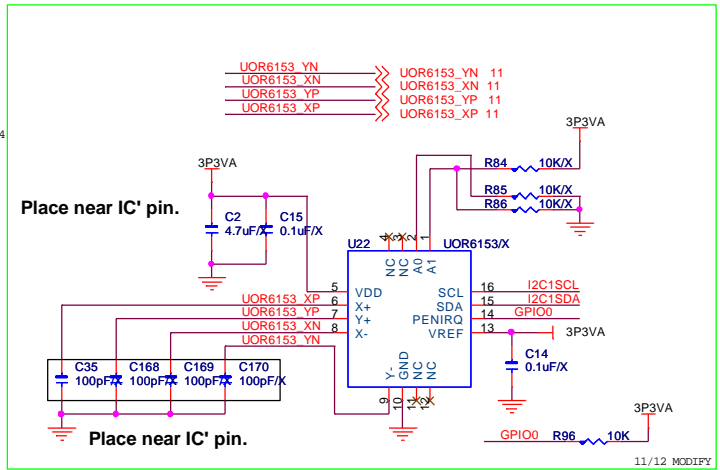
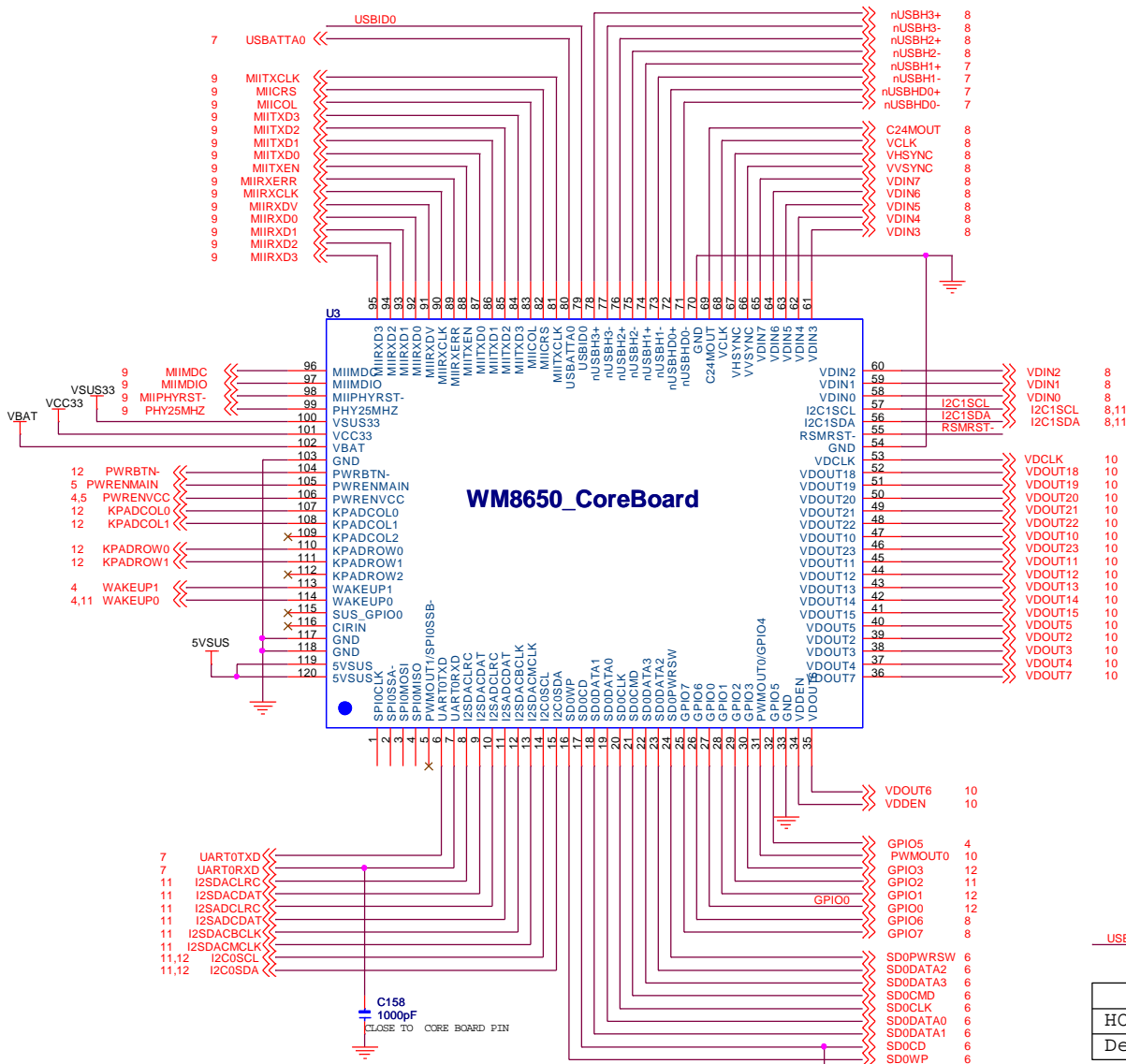



WonderMedia Technologies, Inc.

Title Version History

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HOST	0
Device	1

USB PORT 0 Configuration Table

- WAKEUP0 BAT_LOW Detector
- WAKEUP1 DCIN_DET
- PWMOUT0 LCD_BL_DIM
- PWMOUT1 SPIOSSB-
- GPIO0 TOUCH INT2
- GPIO1 MOTOR_SHAKE
- GPIO2 Touch_INT1
- GPIO3 G-Sensor-INT
- GPIO4
- GPIO5 Charger_STAT
- GPIO6 Wifi_POWER_DN
- GPIO7 CAMERA_POWER_DN
- SUS_GPIO0 MUTE_GPIO
- I2C0 G-Sensor / I2S / VDOUT / EC
- I2C1 VDIN
- SPI0 Touch Pad
- KPADC0L0 - Volume + Key
- KPADC0L1 - Volume - Key
- KPADROW0 - BACK Key
- KPADROW1 - Menu Key

WonderMedia Technologies, Inc.

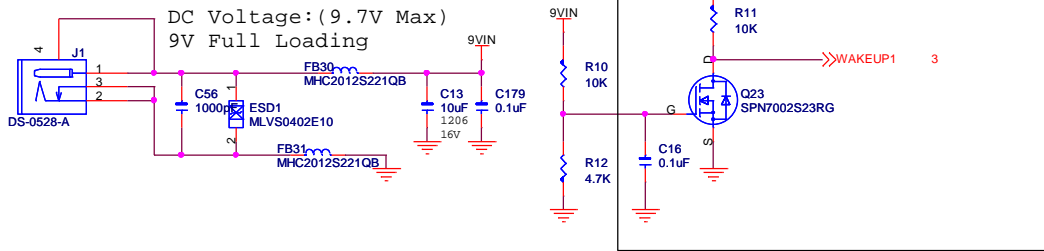
Core Board Package

Size Custom Document Number **BV07-7206-8650** Rev 1.0

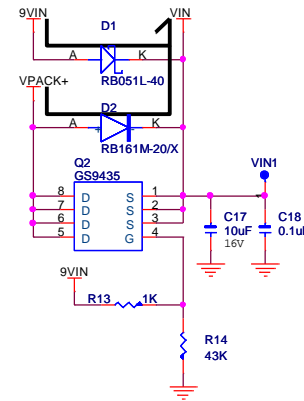
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DC-IN and Battery

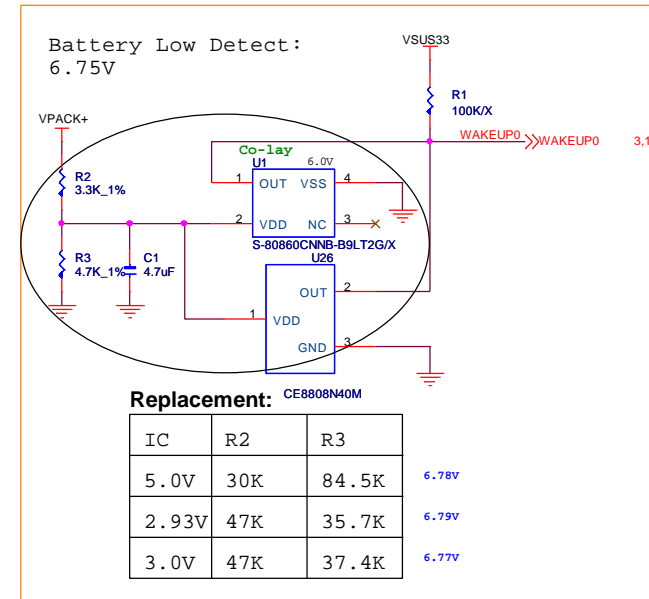
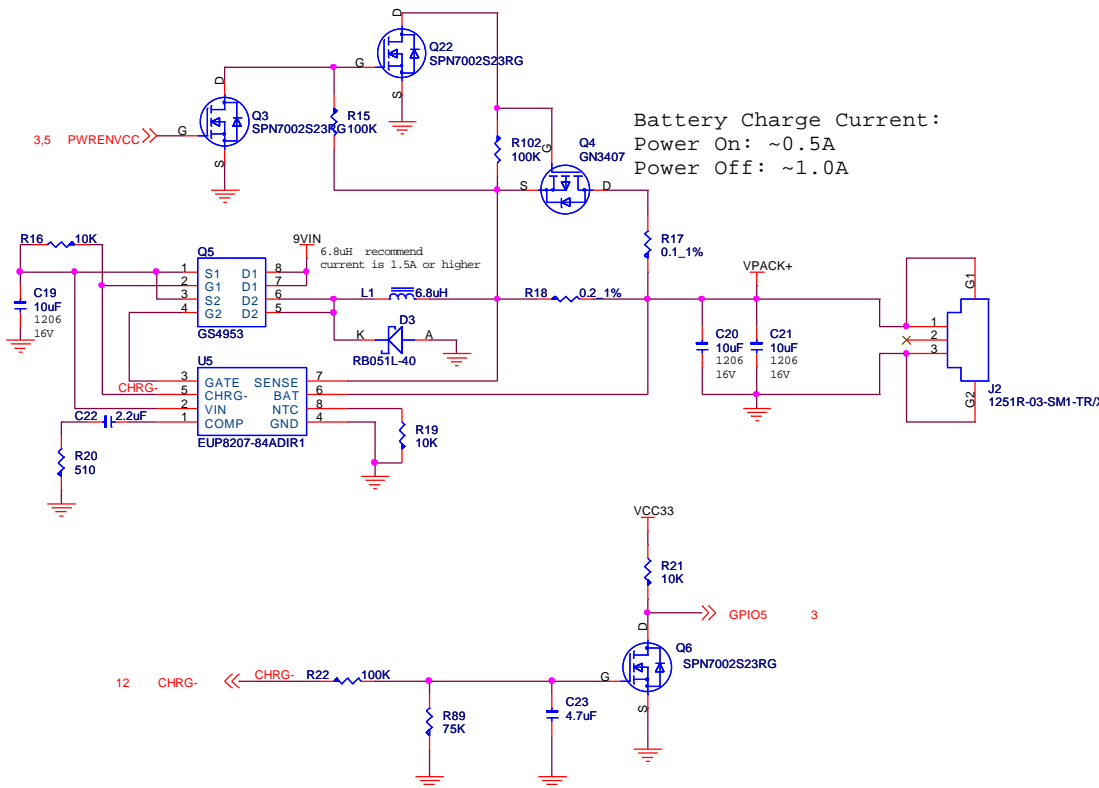
9V DC Input 1.5A



DC Switch



Battery charger 2-Cell

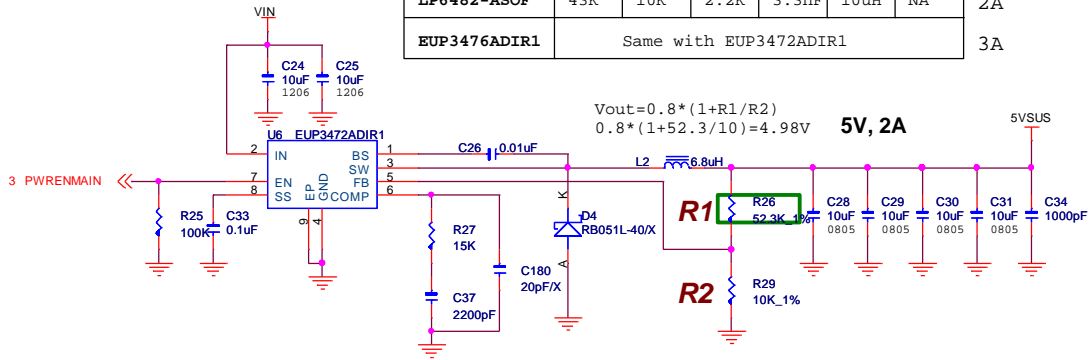


Voltage Regulators

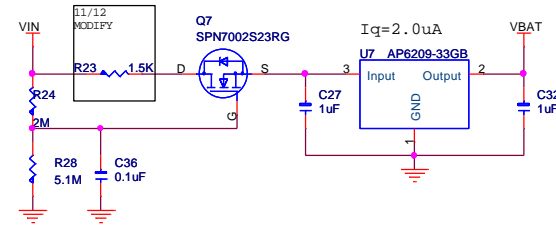
VIN->5VSUS, 2A

Replacement:

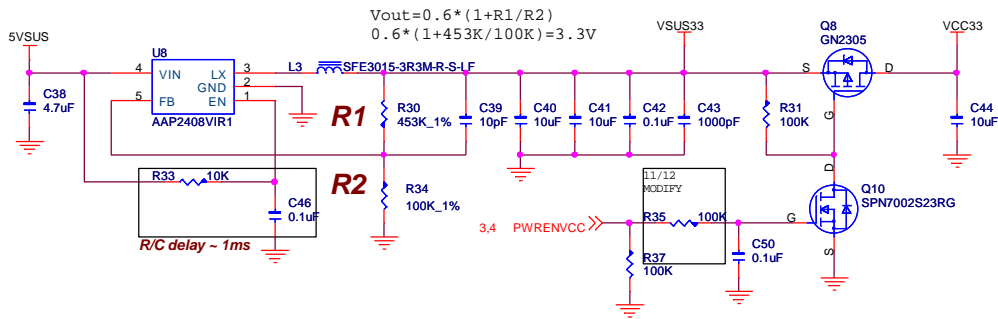
U6	R26	R29	R27	C37	L2	D4	
RT8272GSP	43K	10K	41K	2.2nF	6.8uH	Yes	3A
LP6482-ASOF	43K	10K	2.2K	3.3nF	10uH	NA	2A
EUP3476ADIR1	Same with EUP3472ADIR1						3A



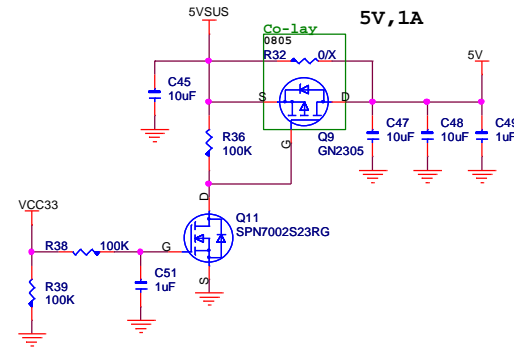
VIN->VCCBAT 3.3V 10uA



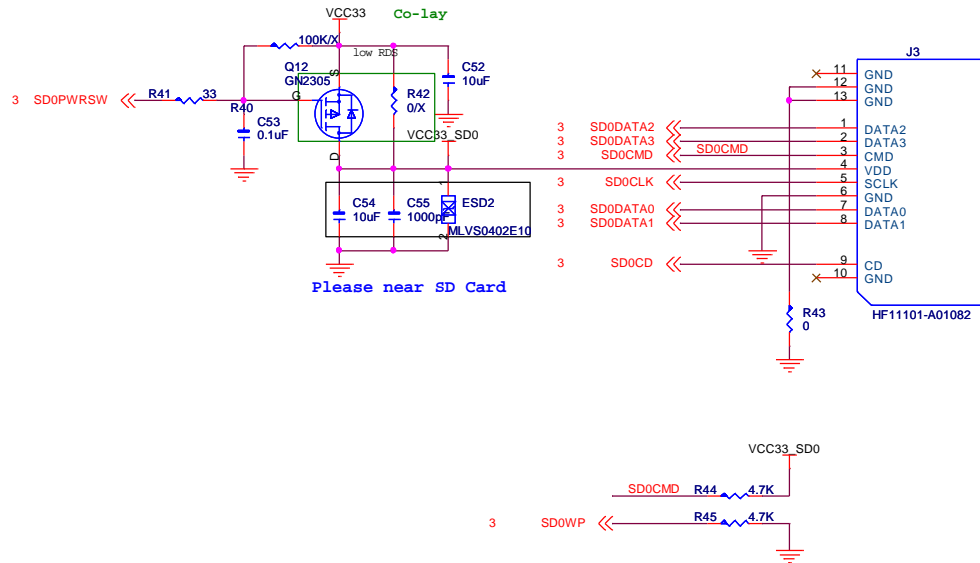
5VSUS->3.3V 800mA



5VSUS->5V, 1A

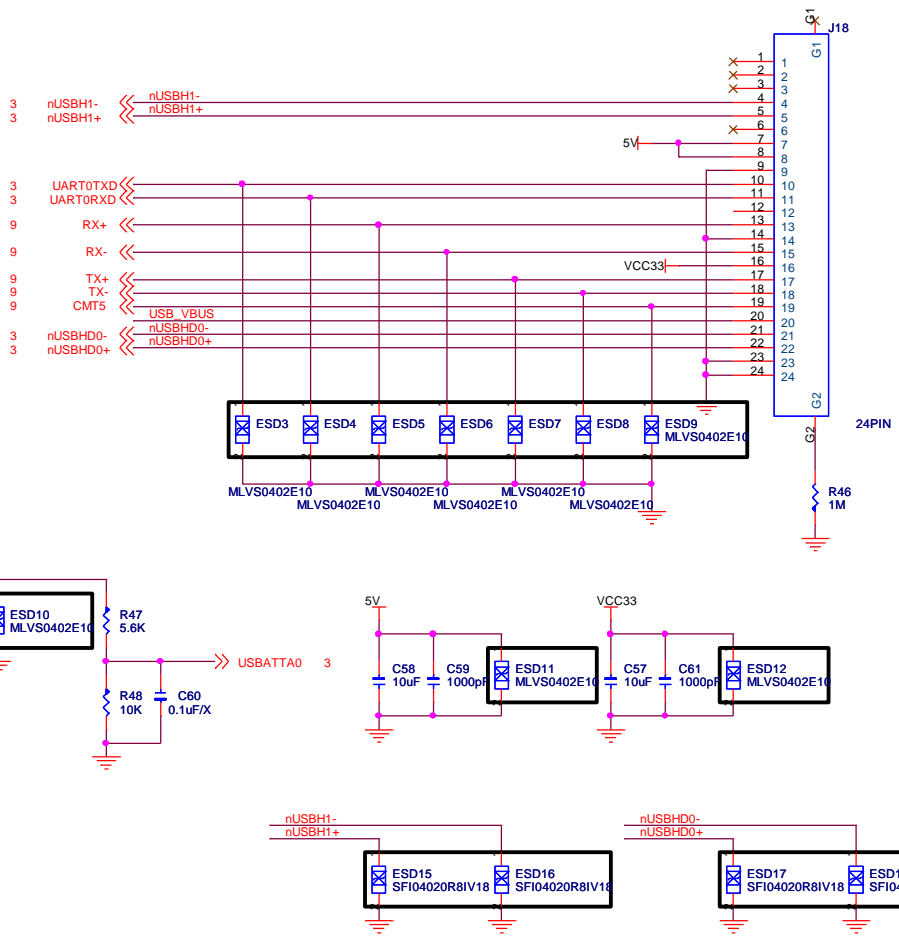


MicroSD Socket




WonderMedia Technologies, Inc.		
Title		
MicroSD Card		
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30pin CONN



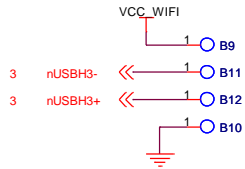
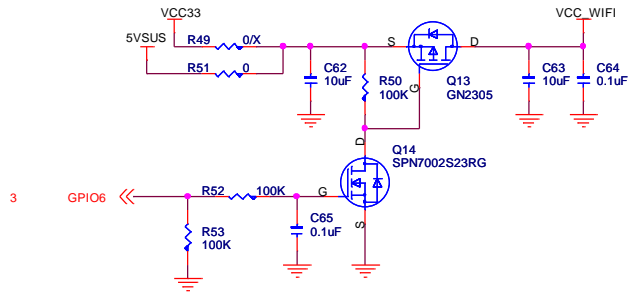
Notice: All ESD components place near 24pin connector.

 WonderMedia Technologies, Inc.		
Title: 30pin CONN		
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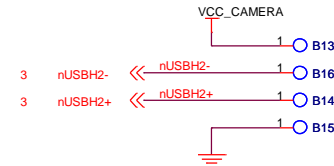
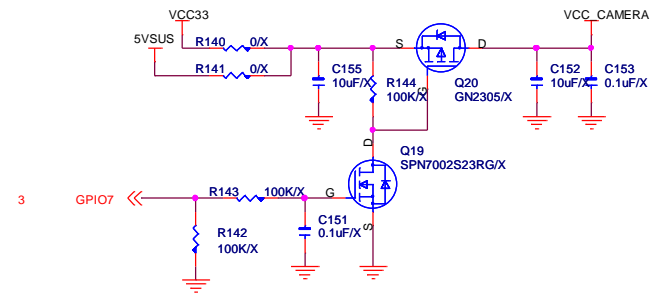
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USB WiFi/CCIR Camera

USB WiFi

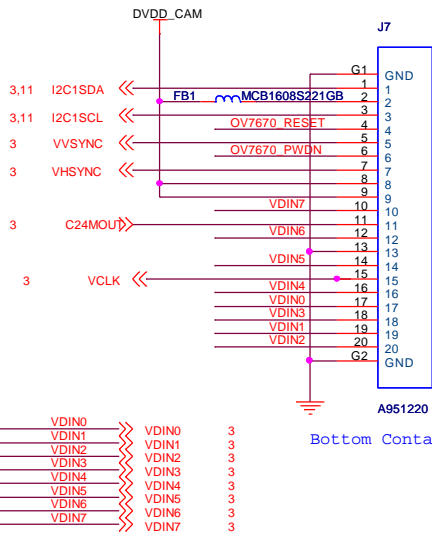
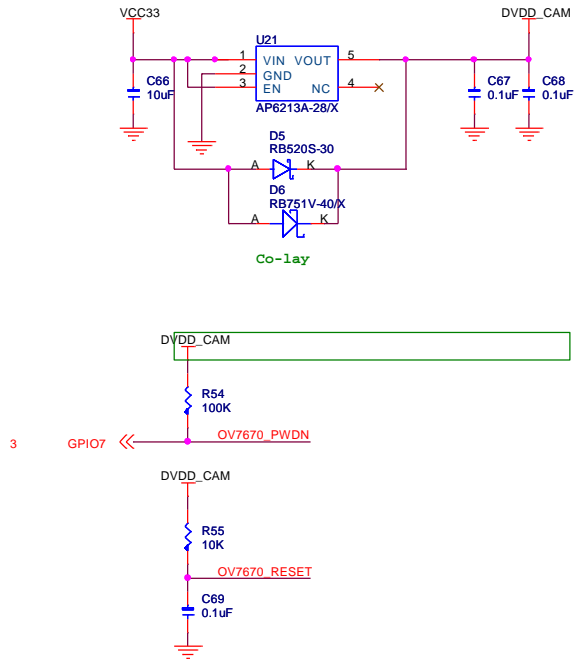


USB CAMERA



H.264 USB camera for skype
DEFAULT IS CCIR656 Camera

CCIR656 Camera



Bottom Contact

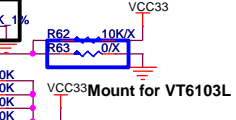
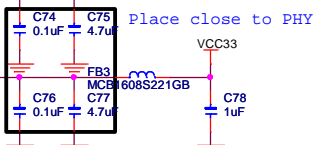
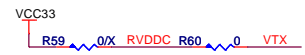
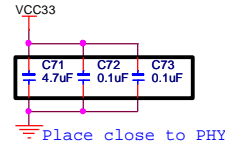
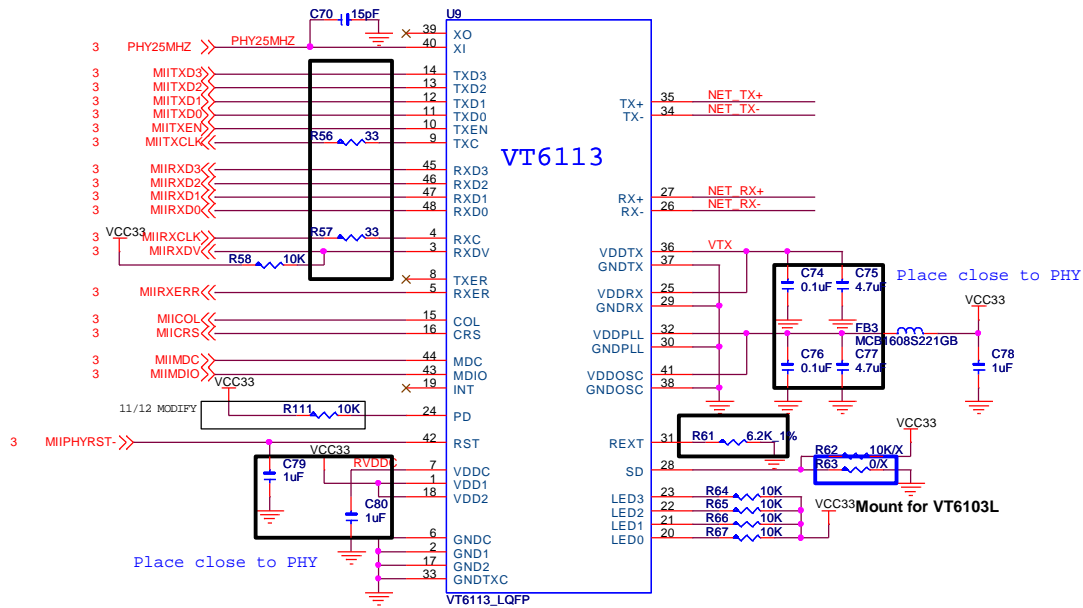
WonderMedia Technologies, Inc.

Title: **USB WiFi/CCIR Camera**

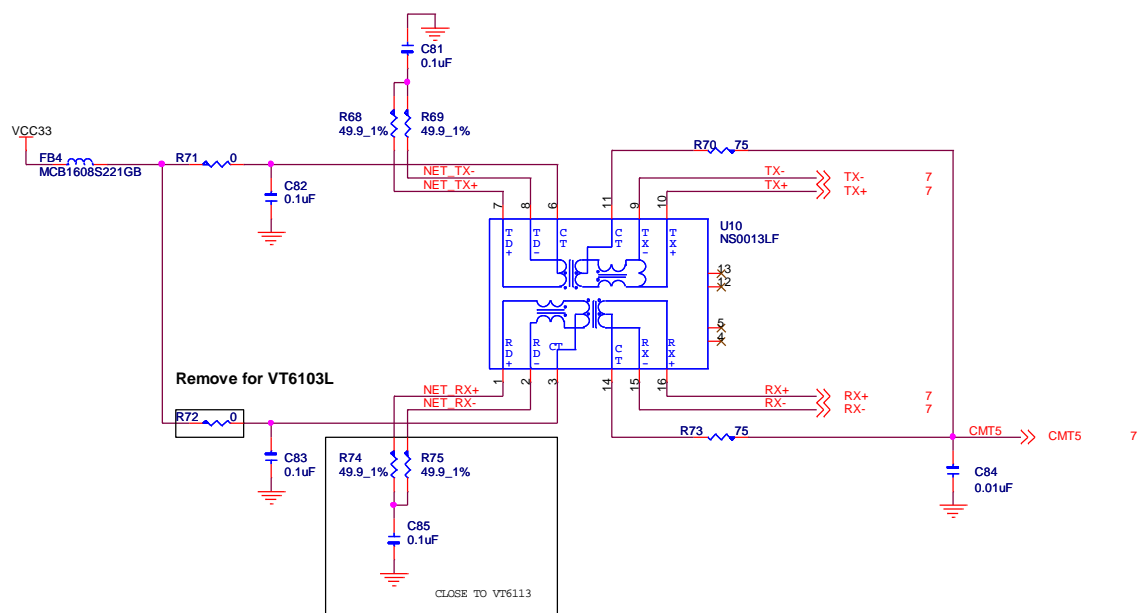
Size: Custom Document Number: **BV07-7206-8650** Rev: 1.0


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Ethernet PHY



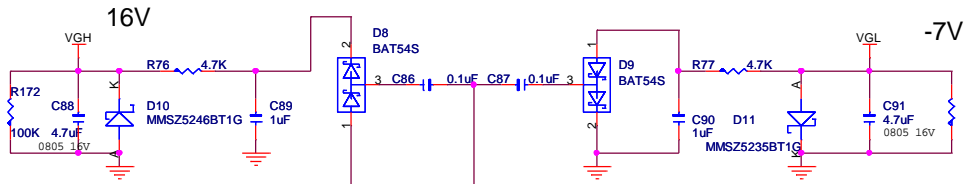
	R61	R59	R63	R62	R72
Default	VT6113	6.2K	Remove	Remove	Mount
	VT6103X	6.49K	Mount	Remove	Mount
	VT6103L	6.49K	Mount	Remove	Remove




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Ethernet PHY
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LCD Panel

Bottom Contact
Place TOP Layer

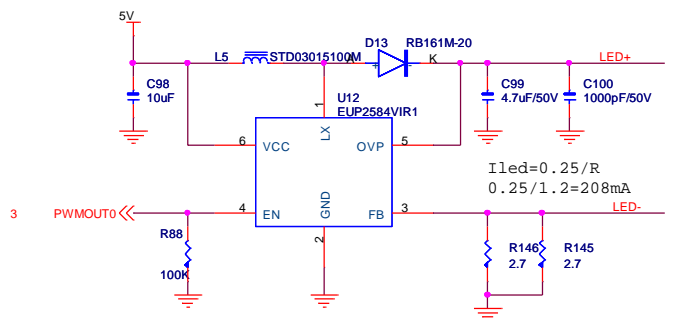
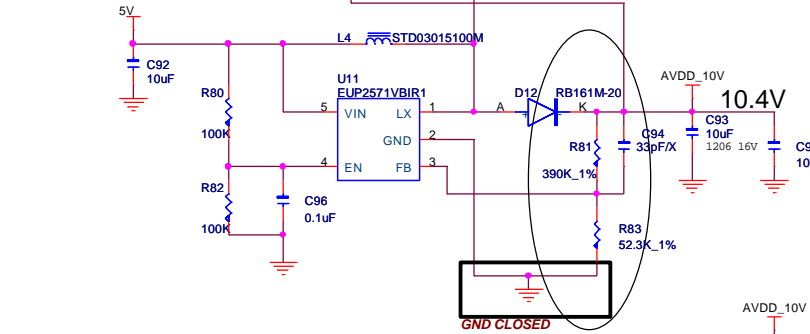


$$V_{out} = 0.25 * (1 + R1/R2)$$

$$0.25 * (1 + 240/5.9) = 10.42V$$

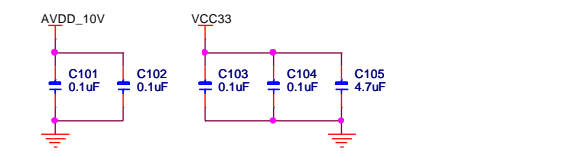
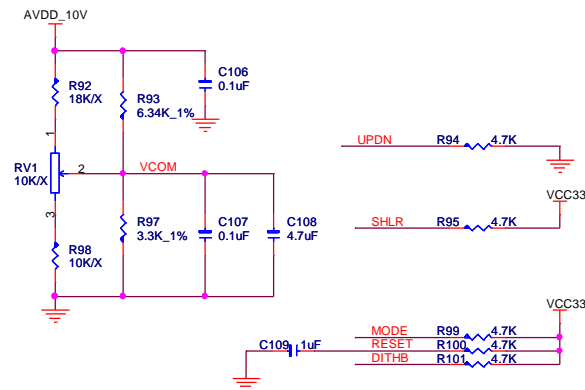
Replacement:

U11	R81	R83
KN8805B	390K	52.3K

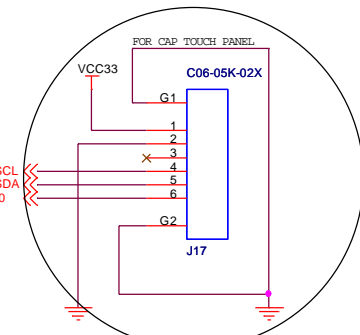
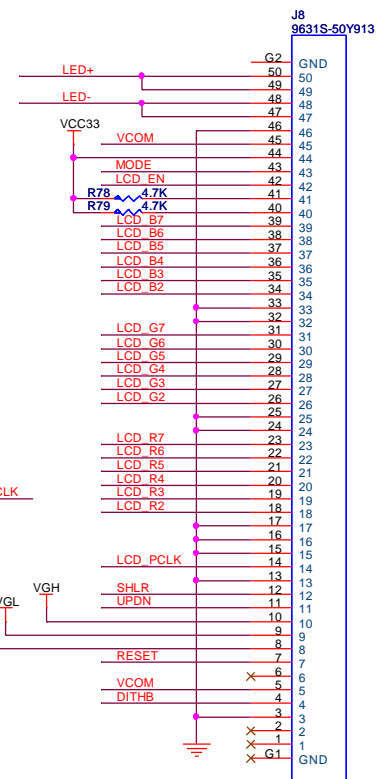


Replacement:

U12	R146	R145
AME5142AEEY	1.6	1.6
RT9293B-20GJ6		



- 3 VDOUT4 LCD B4
- 3 VDOUT5 LCD B5
- 3 VDOUT6 LCD B6
- 3 VDOUT7 LCD B7
- 3 VDOUT14 LCD G6
- 3 VDOUT15 LCD G7
- 3 VDOUT2 LCD B2
- 3 VDOUT3 LCD G2
- 3 VDOUT10 LCD G3
- 3 VDOUT11 LCD G4
- 3 VDOUT12 LCD G5
- 3 VDOUT13 LCD R4
- 3 VDOUT20 LCD R5
- 3 VDOUT21 LCD R6
- 3 VDOUT22 LCD R7
- 3 VDOUT23
- 3 VDOUT18 LCD R2
- 3 VDOUT19 LCD R3
- 3 VDDEN LCD EN
- 3 VDCLK R87 0 LCD_PCLK



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Title: **LCD Panel**

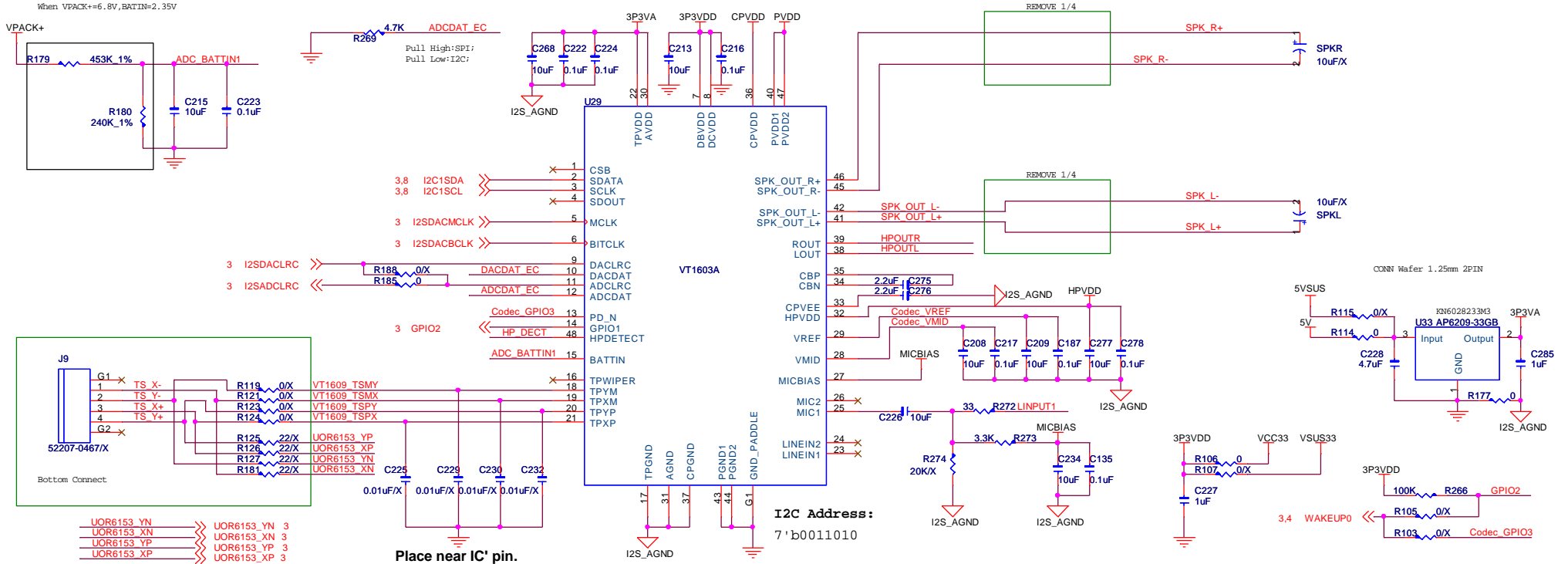
Size: Custom Document Number: **BV07-7206-8650** Rev: 1.0

Date: Wednesday, March 30, 2011 Sheet 10 of 14

I2S CODEC

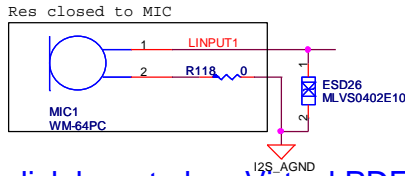
VT1603A Mount: R22, R9 0R/Umount: R23, R18, R25
 VT1609A Mount: R23, R18, R25 0R/Umount: R22, R9

BATTIN=R101/(R101+R99)*VPACK+
 When VPACK=8.4V, BATTIN=2.91V
 When VPACK=7.4V, BATTIN=2.56V
 When VPACK=6.8V, BATTIN=2.35V

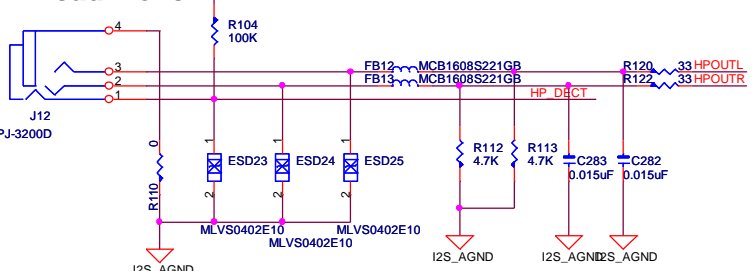


Place near IC' pin.

Onboard MIC



HeadPhone



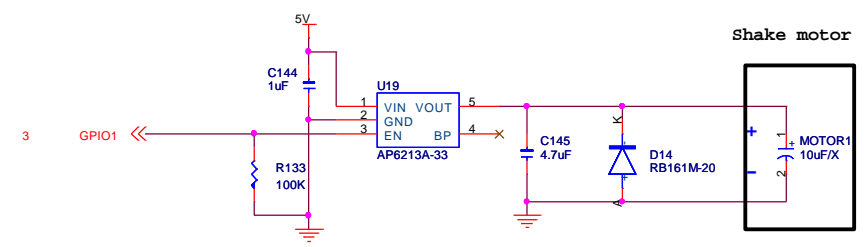
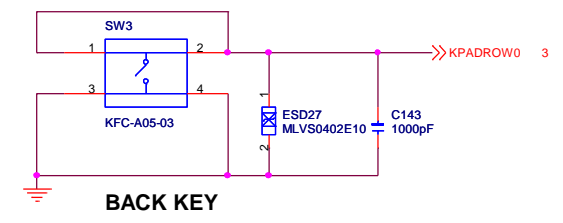
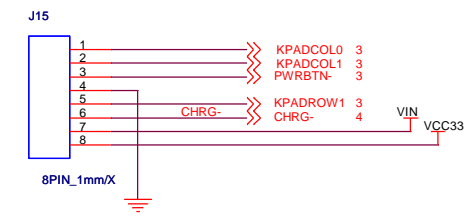
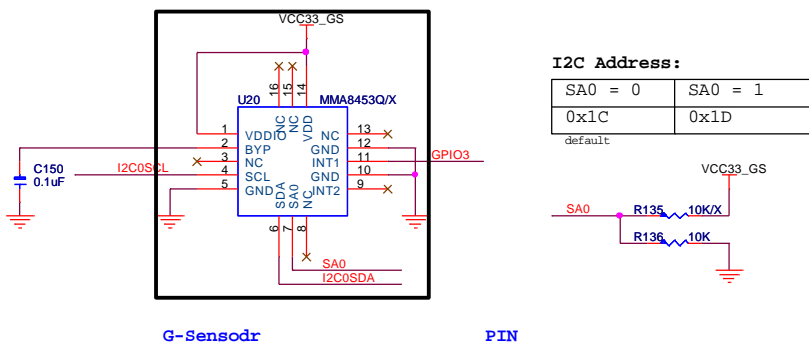
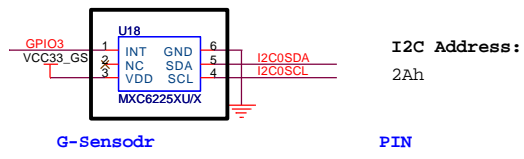
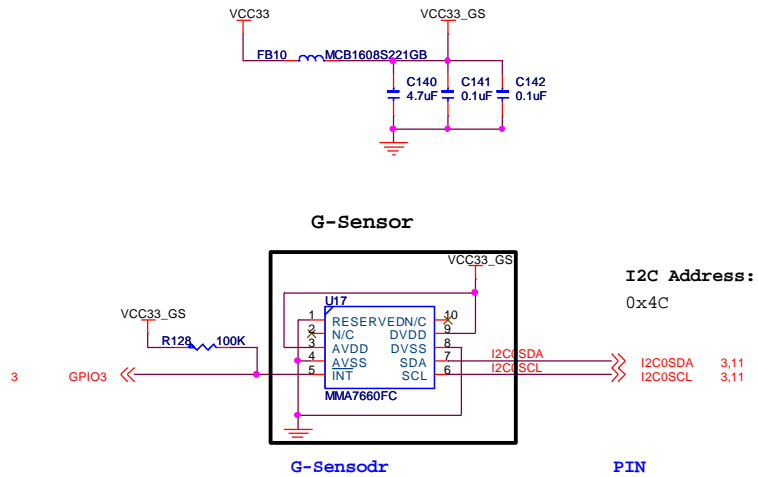
WonderMedia Technologies, Inc.

Title: **AC97 CODEC**

Size: Custom Document Number: **BV07-7206-8650** Rev: 1.0

Date: Wednesday, March 30, 2011 Sheet: 11 of 14

G-Sensor & Shake



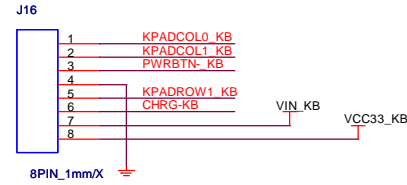
WonderMedia Technologies, Inc.

G-Sensor & shake

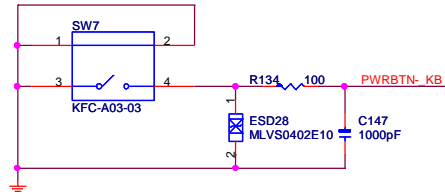
Size: Custom Document Number: **BV07-7206-8650** Rev: 1.0

Date: Wednesday, March 30, 2011 Sheet: 12 of 14

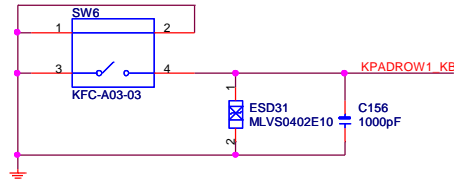
Keypad board



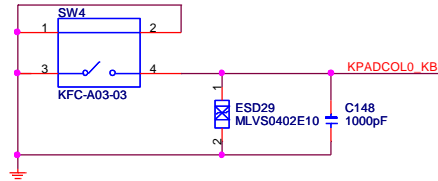
Power Button



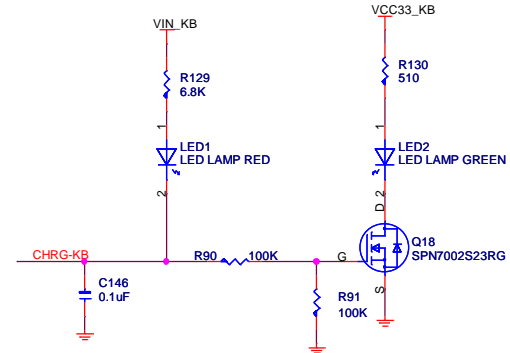
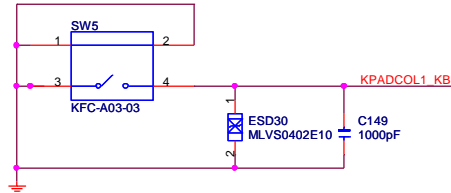
MENU




Volume +



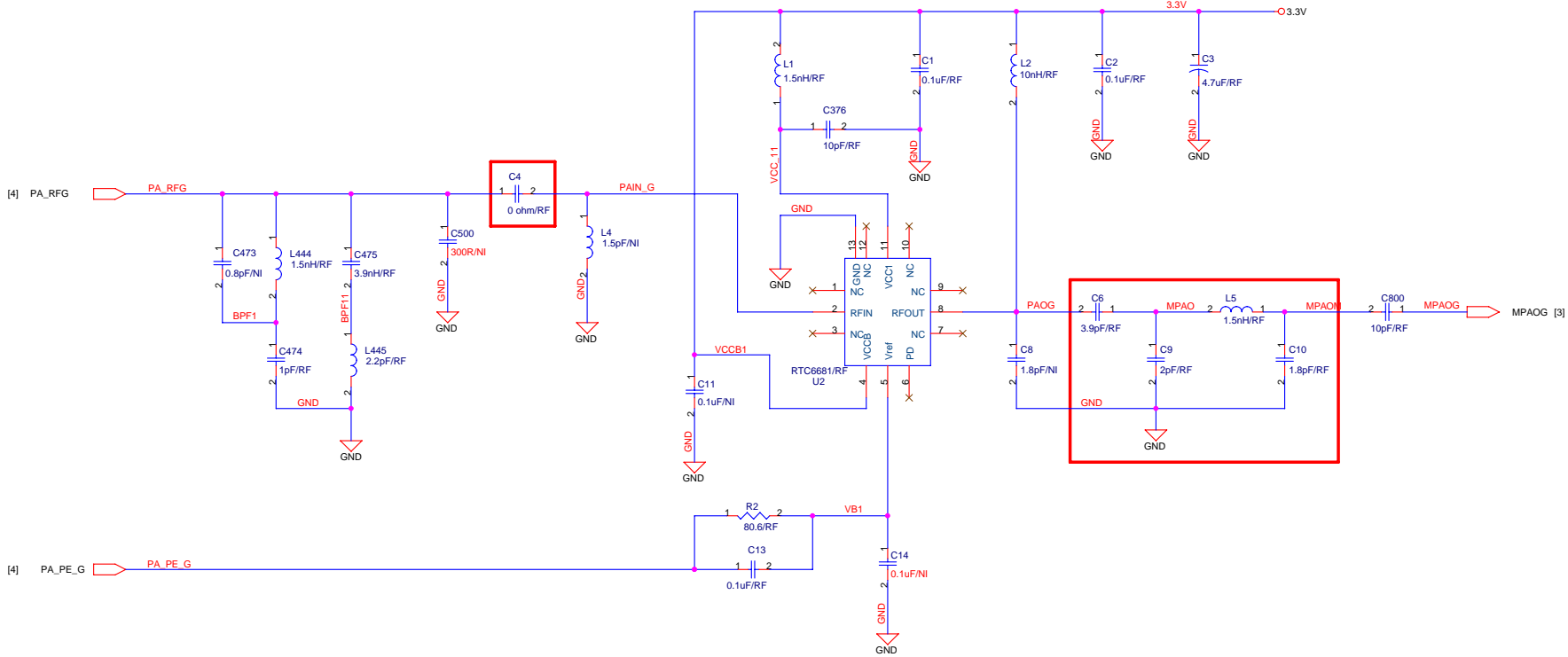
Volume -





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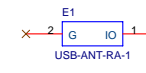
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Keypad Board		
Size	Document Number	Rev
Custom	BV07-7206-8650	1.0
Date:	Wednesday, March 30, 2011	Sheet 13 of 14

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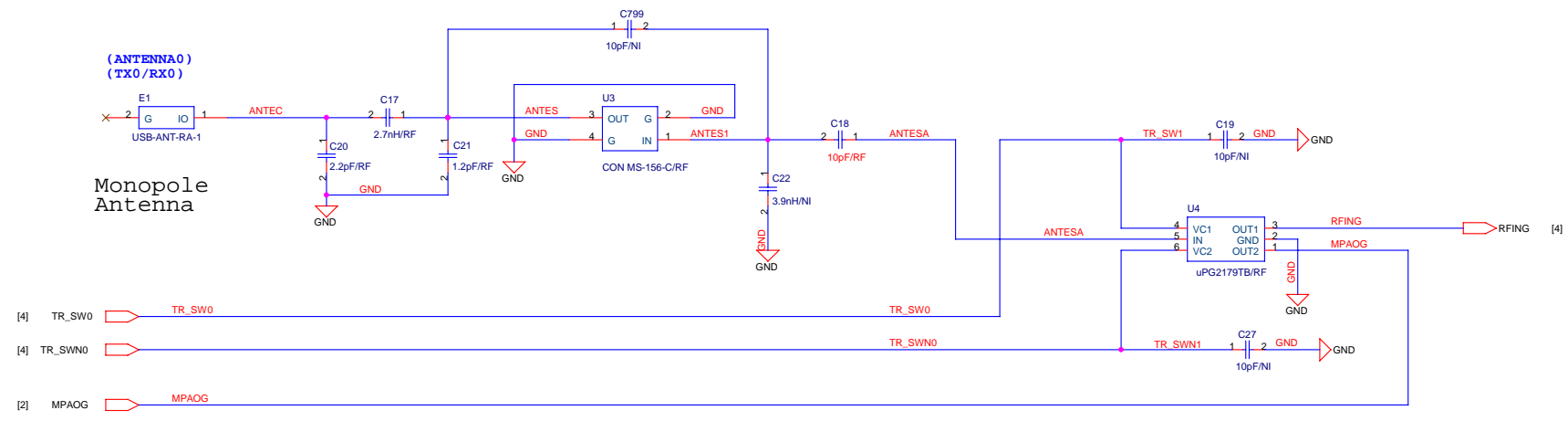


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Date: Friday, January 09, 2009	Sheet: 2	of: 6	

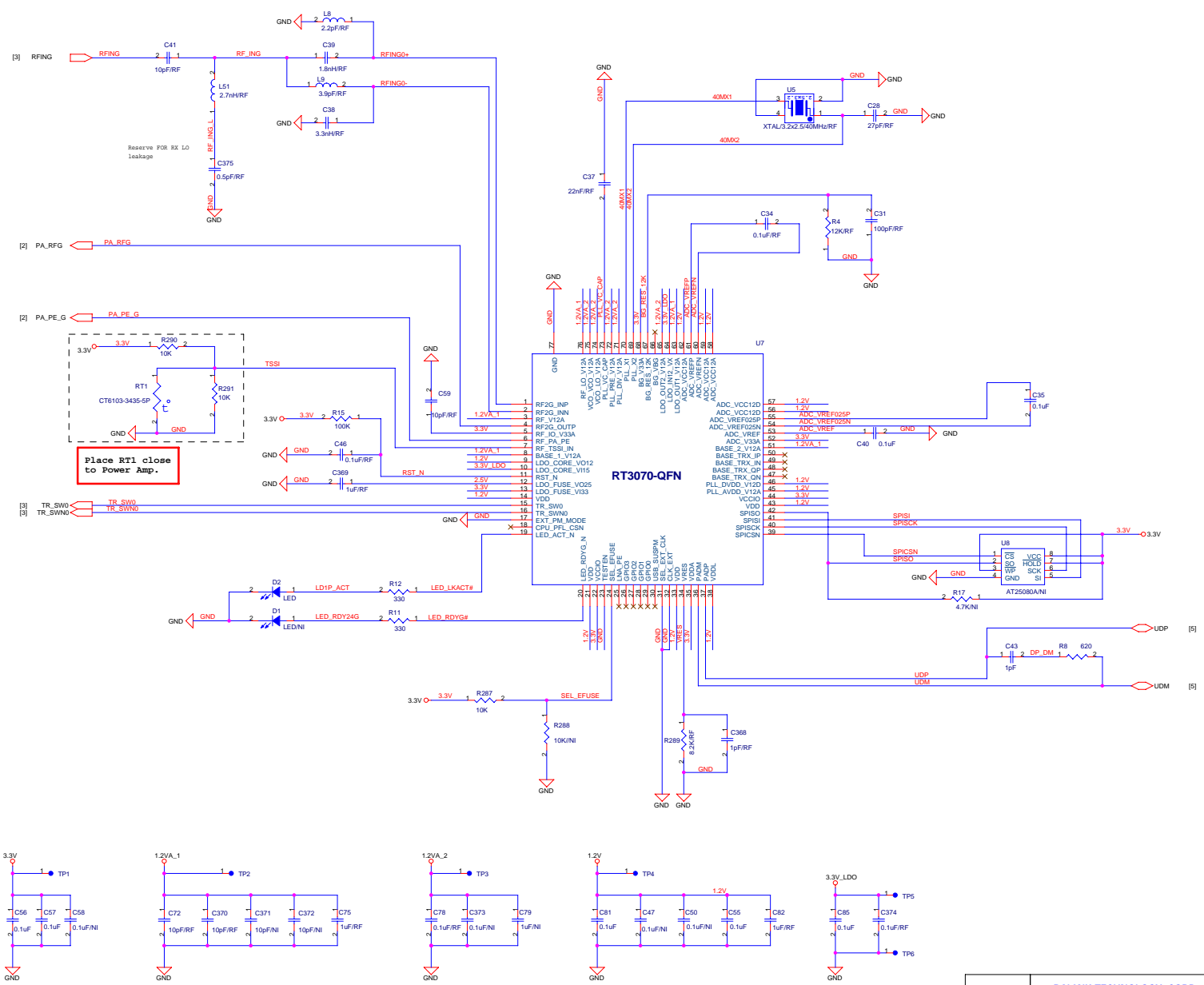
(ANTENNA0)
(TX0/RX0)



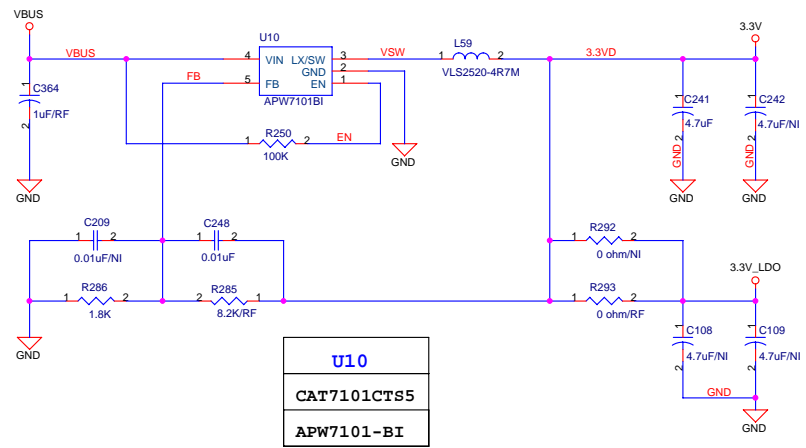
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Antenna



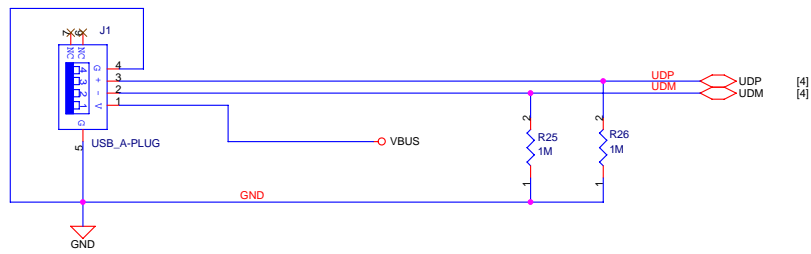
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Date: Monday, October 06, 2008	Sheet: 1	of: 3	6




		RALINK TECHNOLOGY, CORP.	
		file	RT3070-WLAN
Size	C	Document Number	3-RT3070-WLAN.SCH
date	Friday, January 09, 2009	Sheet	4 of 6
		Rev	3.2



U10
CAT7101CTS5
APW7101-BI



		RALINK TECHNOLOGY, CORP.	
		Title: PEN USB Interface and Power	
Size: B	Document Number: 4-USB-A.SCH		Rev: 3.2
Date: Monday, October 06, 2008	Sheet: 1	of: 5	6