WM8505 PID IO Board

WMS8061A

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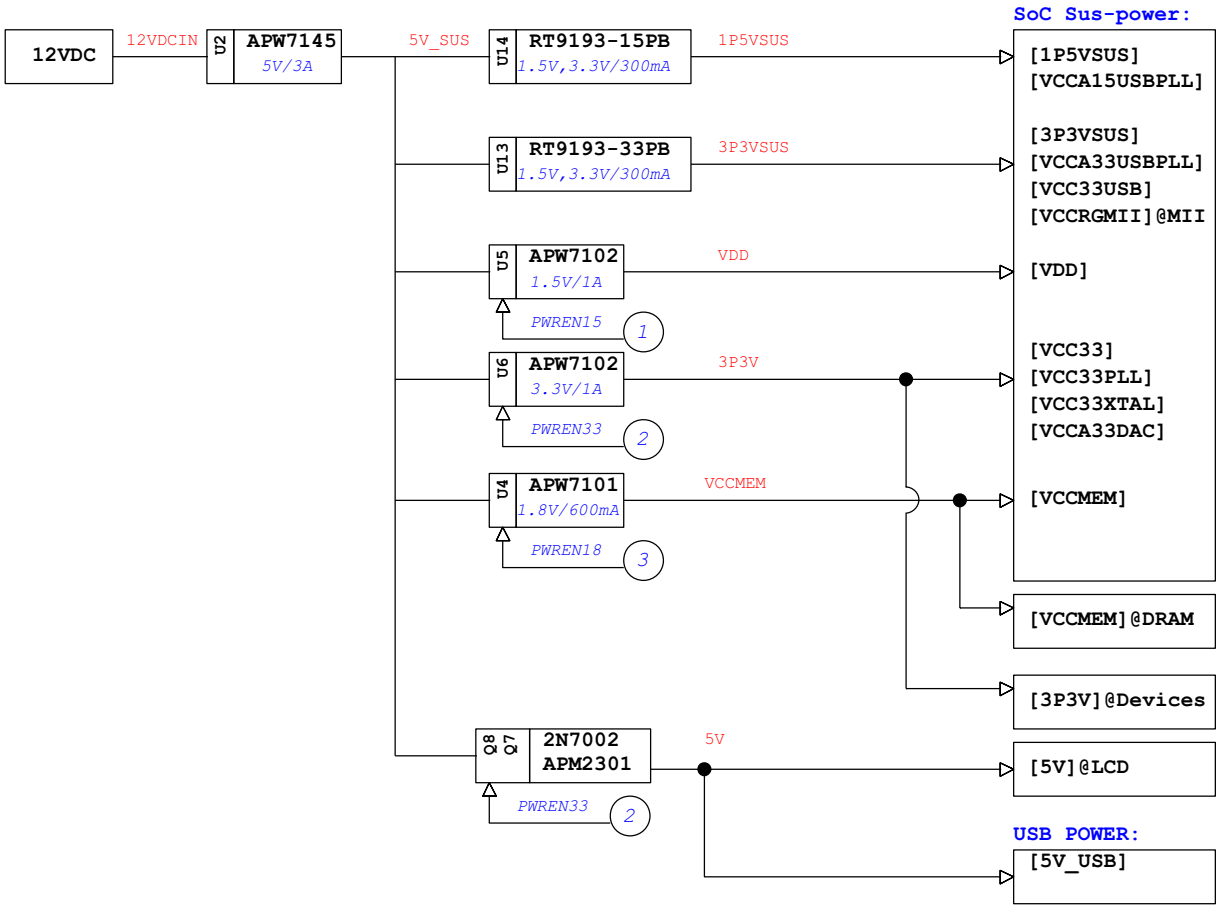
Power Tree & Power Sequence

POWER TREE:



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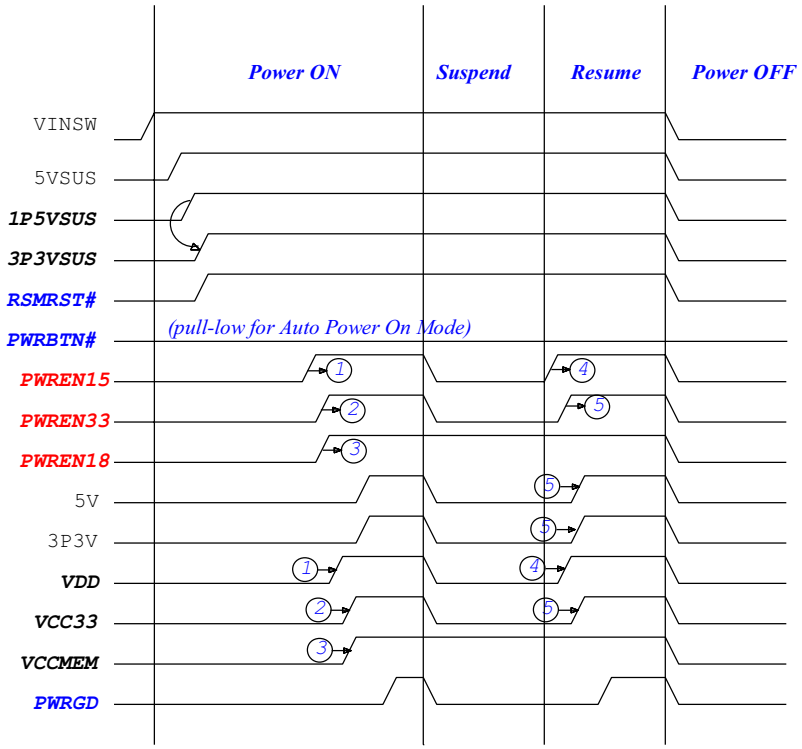

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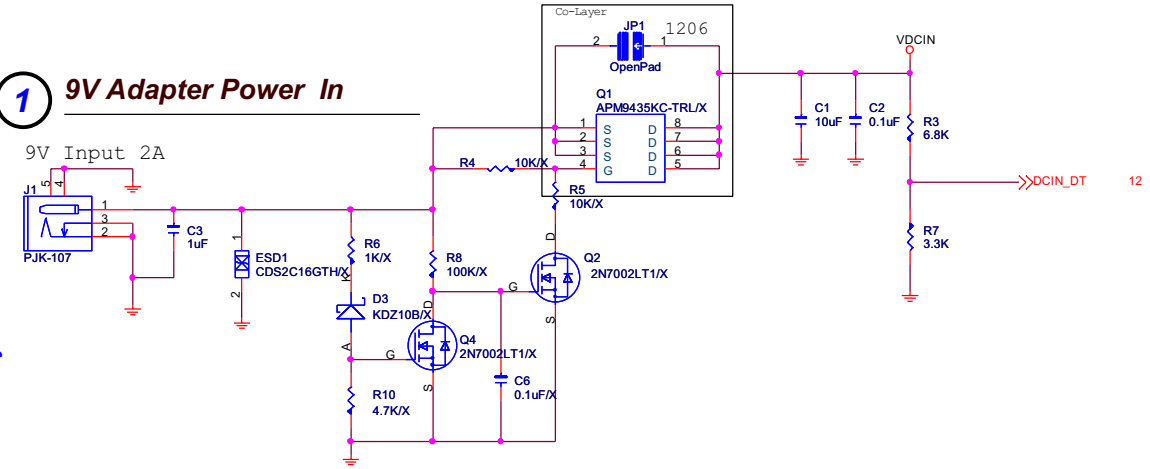
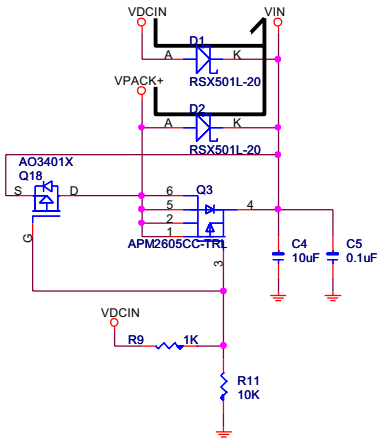
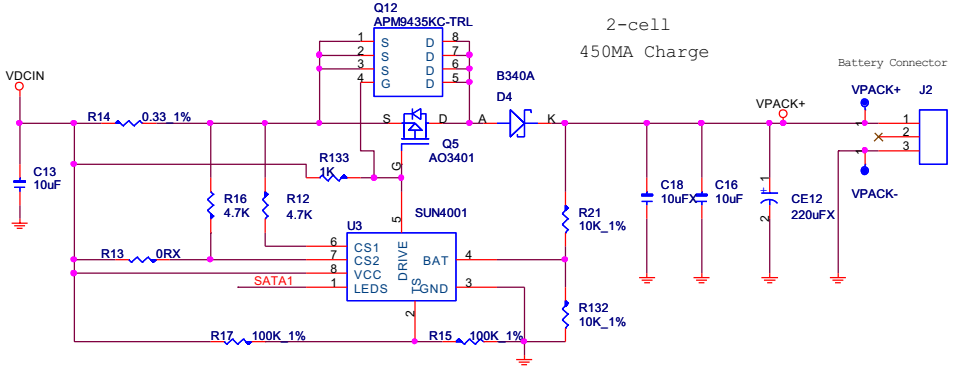
1 9V Adapter Power In

9V Input 2A

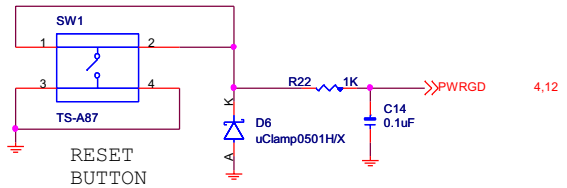


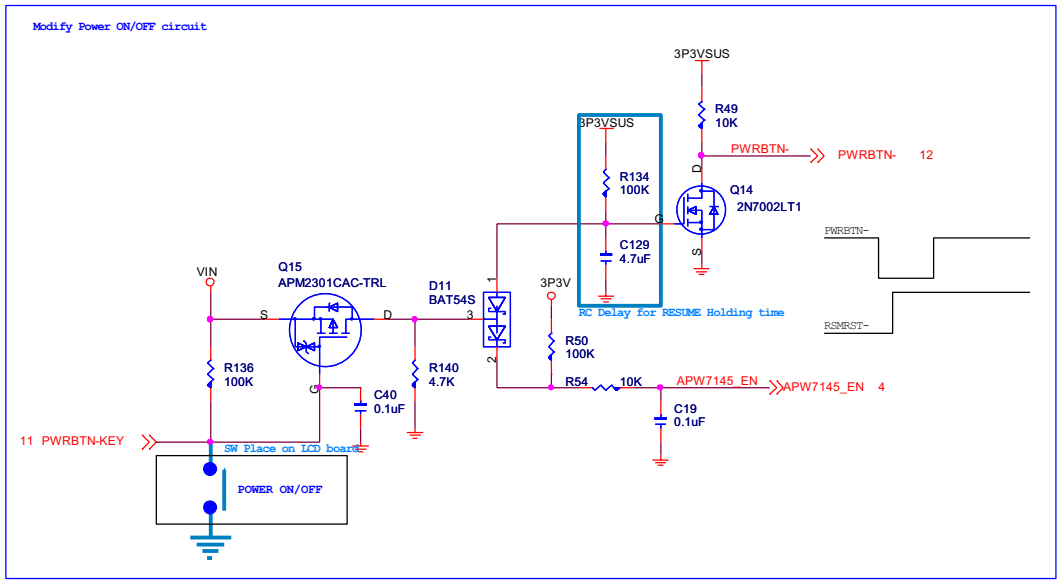
1.5A Rating

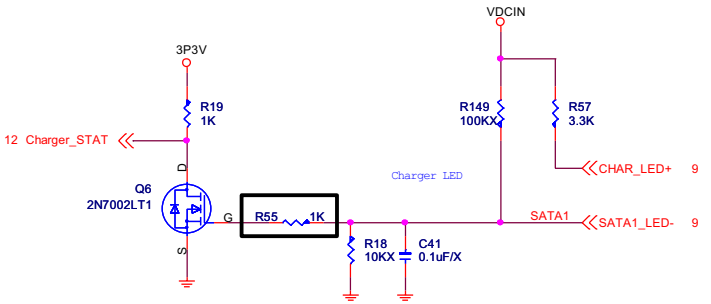




Buttons



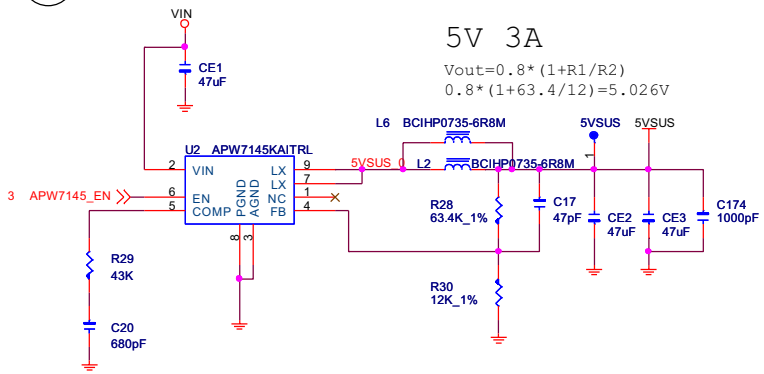




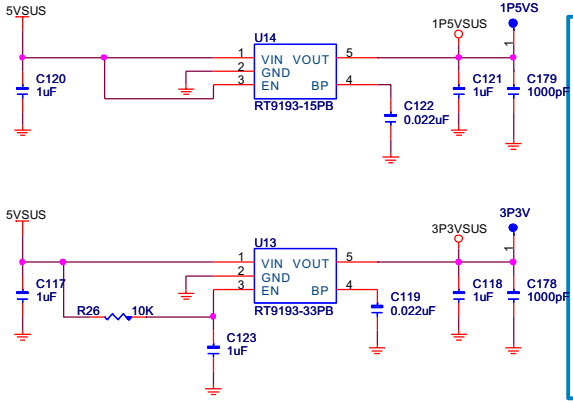
Voltage Regulators

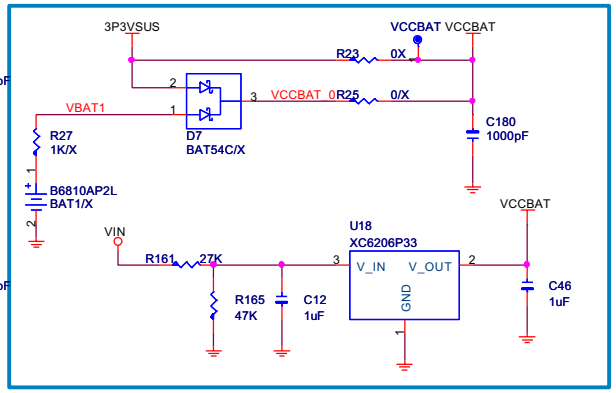
RTC POWER:

2 12V -> 5VSUS (SoC Power, USB VBUS Power)



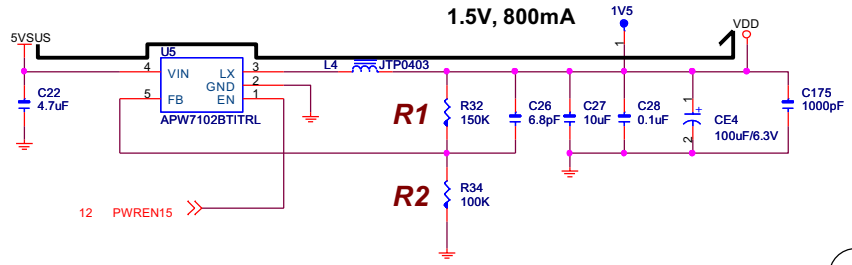
3/4 5VSUS -> 1P5VSUS/3P3VSUS (300mA each)





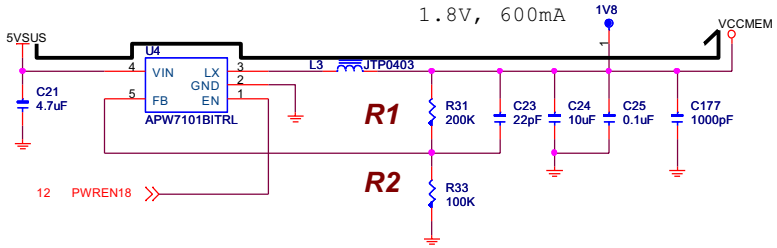
5 5VSUS -> VDD

Vout=0.6*(1+R1/R2)
06*(1+300/200)=1.5v@1A



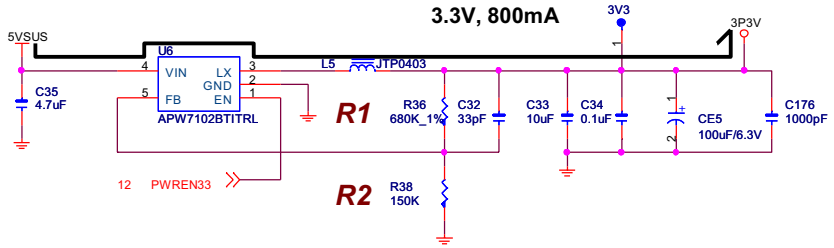
7 5VSUS -> VCCMEM (SoC+DDR2 Chip Power)

Vout=0.6*(1+R1/R2)
06*(1+400/200)=1.8v@1A

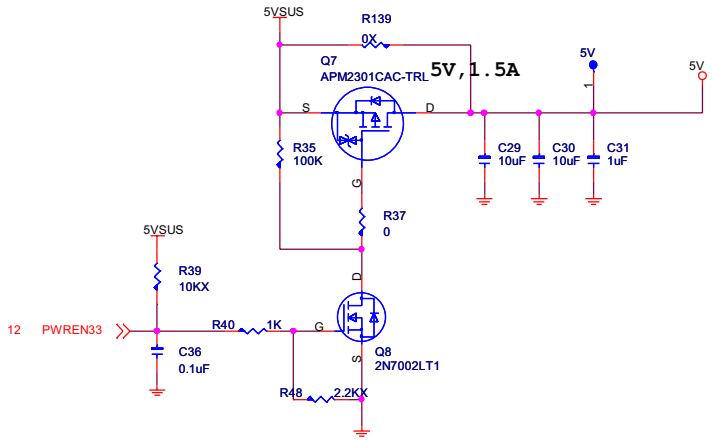


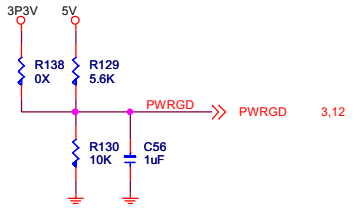
6 5VSUS -> 3P3V

Vout=0.6*(1+R1/R2)
0.6*(1+180K/39K)=3.37v@1A



8 5VSUS -> 5V (Device Power) (LCD,I2S,UART)





Power Enable:

PWREN15 12
PWREN18 12
PWREN33 12

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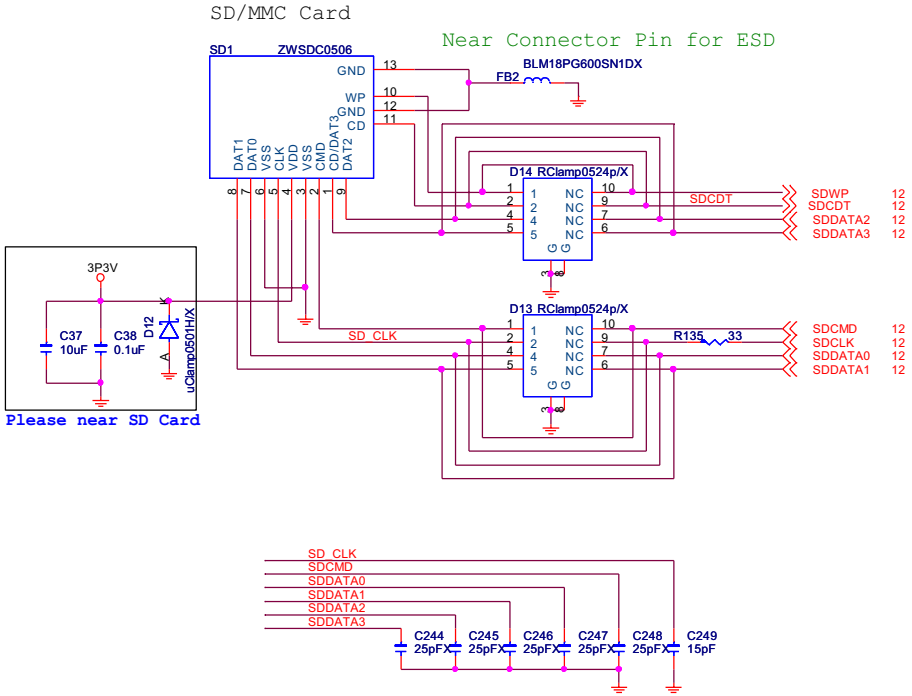
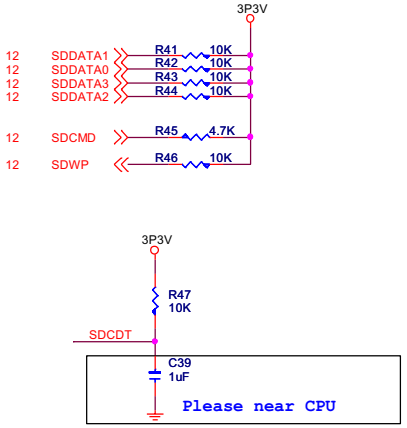
SD Socket (SD/MMC only)



PU Resistors:



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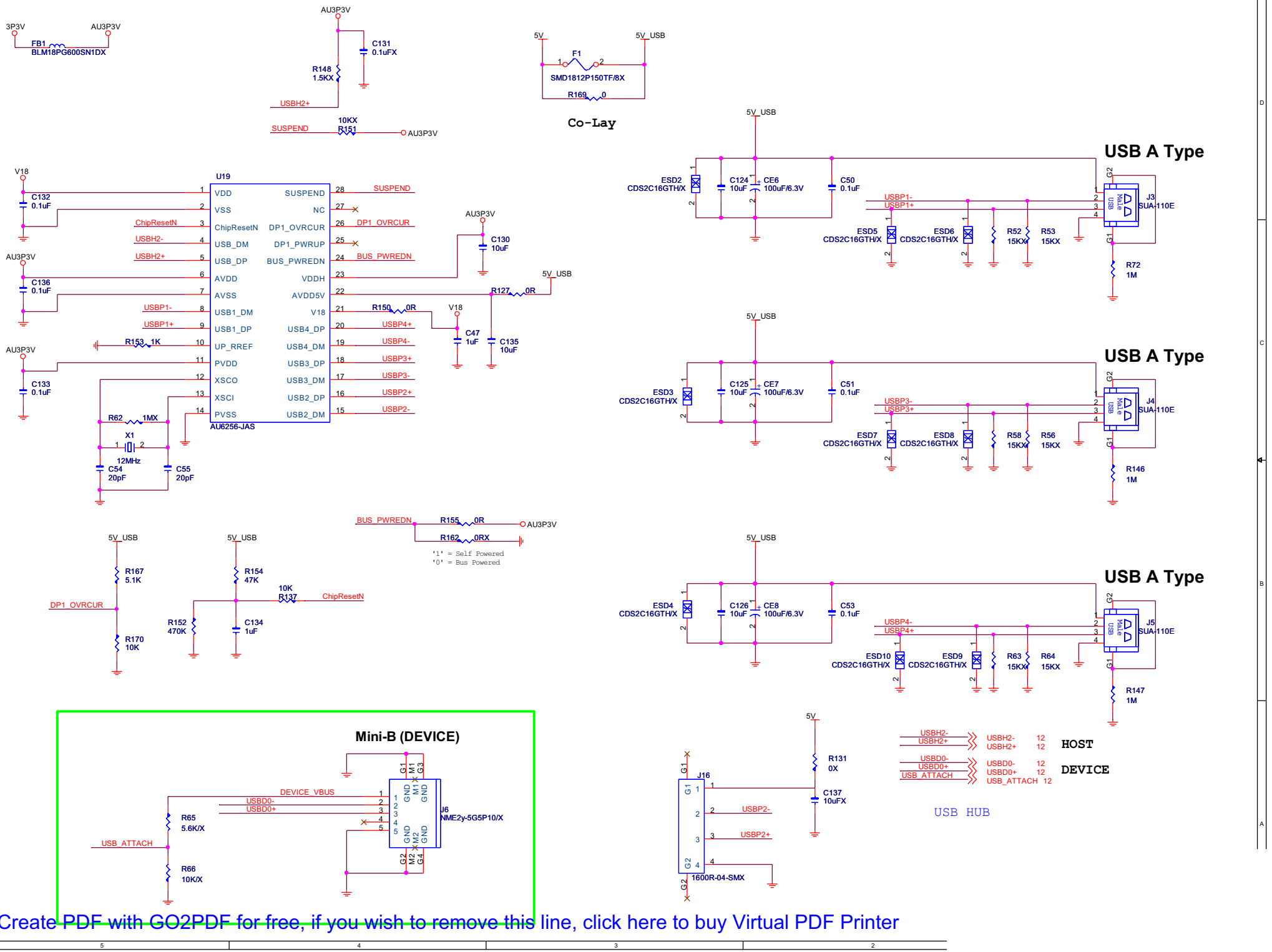

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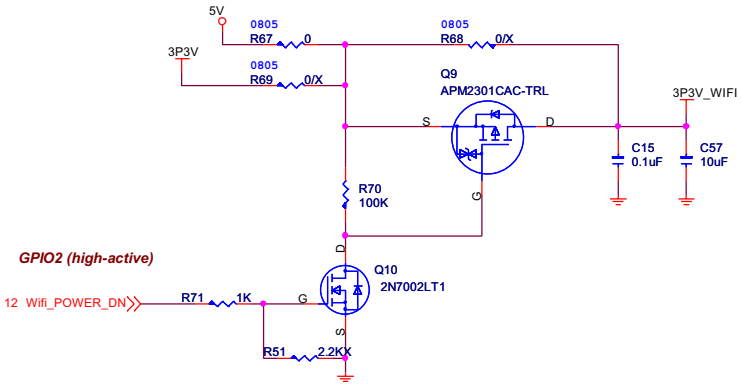
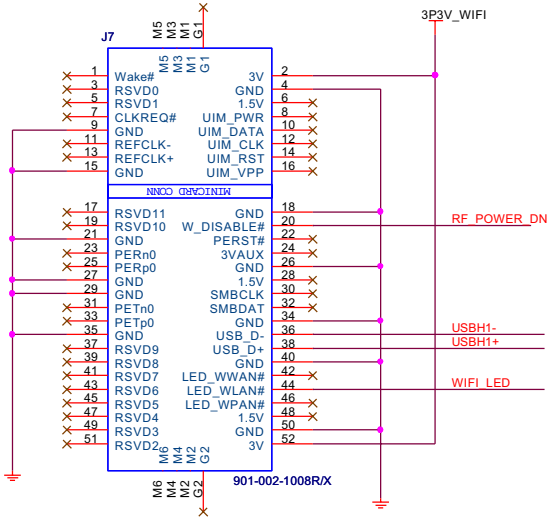
3.3V WiFi POWER:

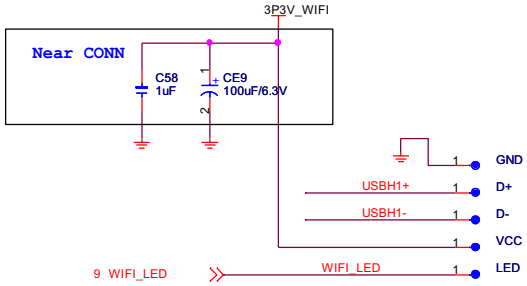


WiFi Mini-Card Connector (ref to standard PCIE-minicard)



12 Wifi_POWER_DN — Wifi_POWER_DN

12 USBH1-
12 USBH1+
USBH1-
USBH1+



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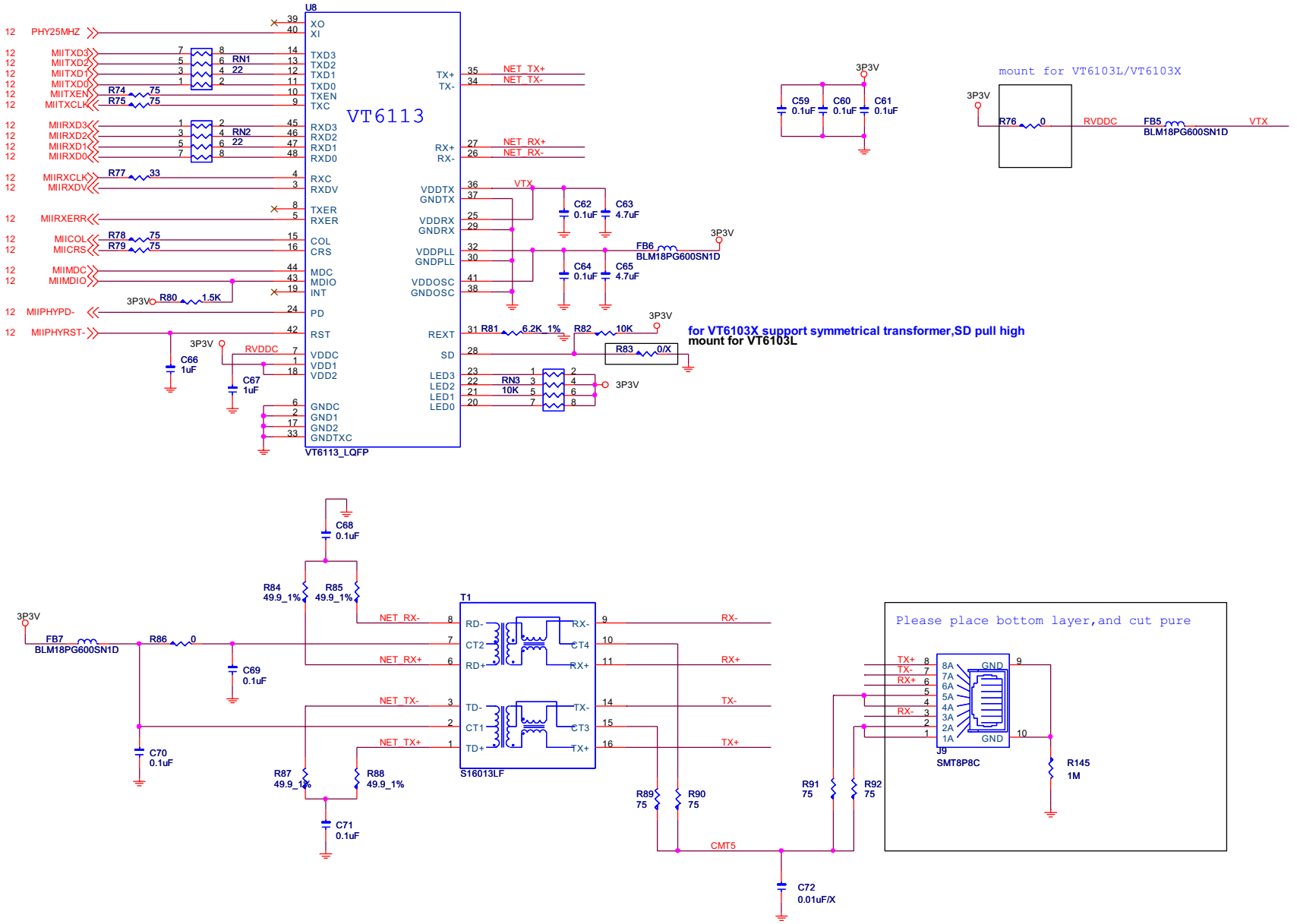
Ethernet PHY



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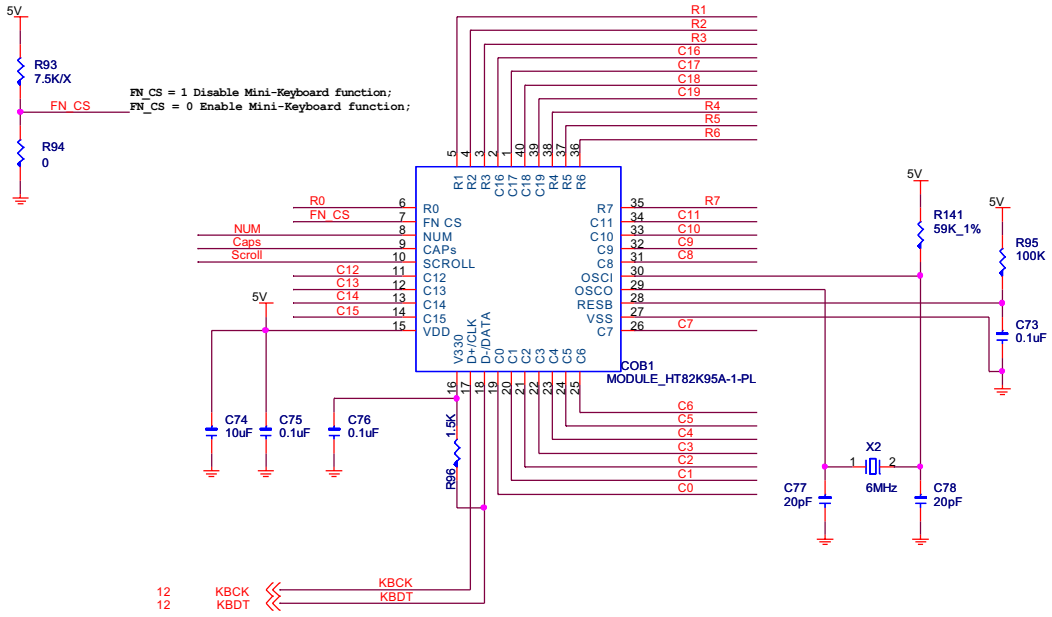
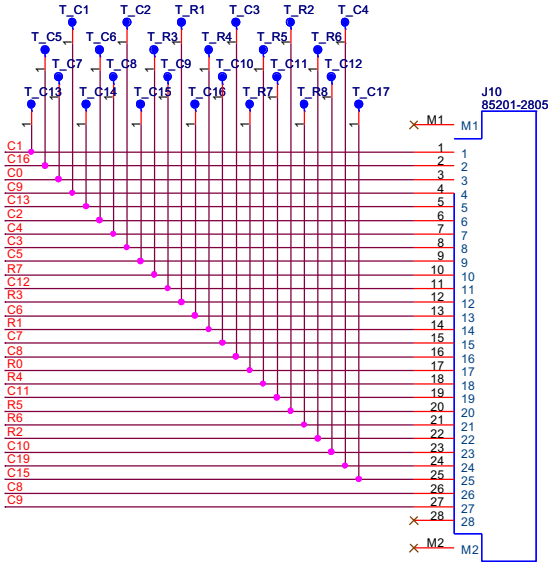
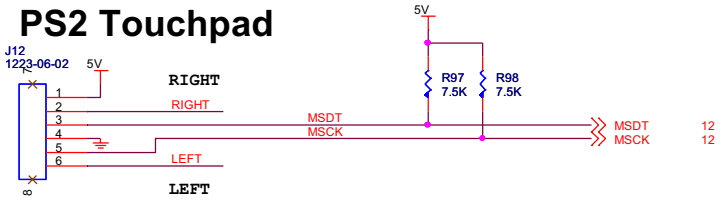
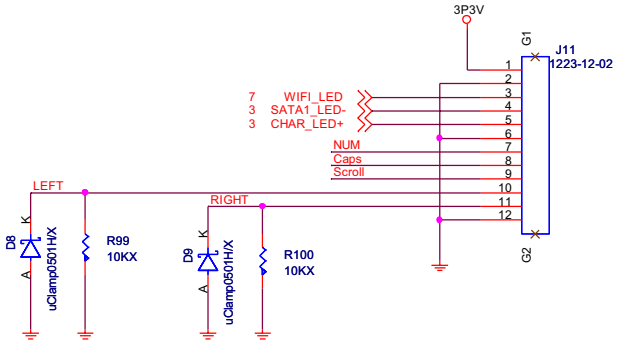
PS2/USB Keyboard



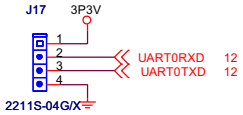


PS2 Touchpad

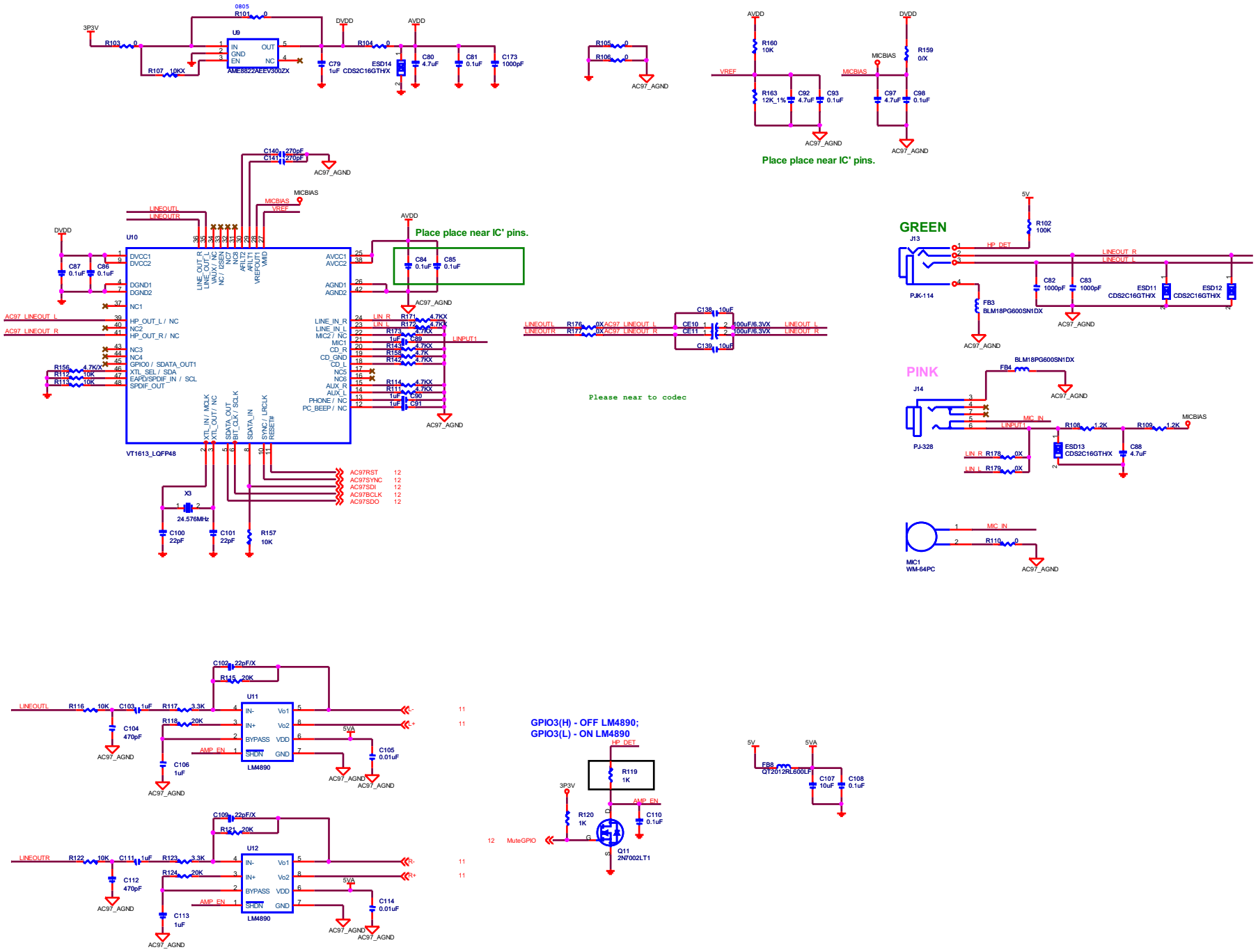




Reversed for debug



AC97 CODEC


Place place near IC' pins.
Place place near IC' pins.
Please near to codec
GREEN
PINK
GPIO3(H) - OFF LM4890;
GPIO3(L) - ON LM4890
VT1613_LQFP48
LM4890
LM4890
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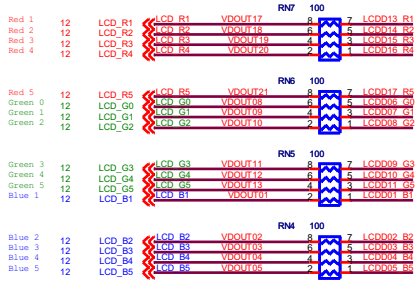

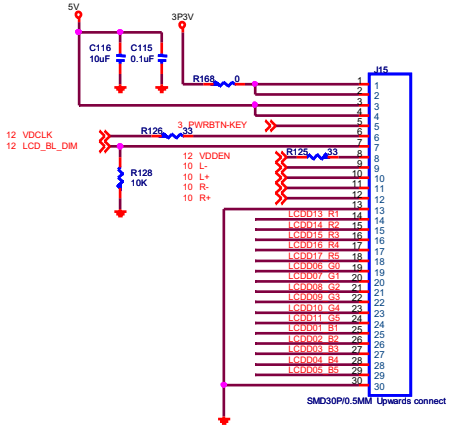

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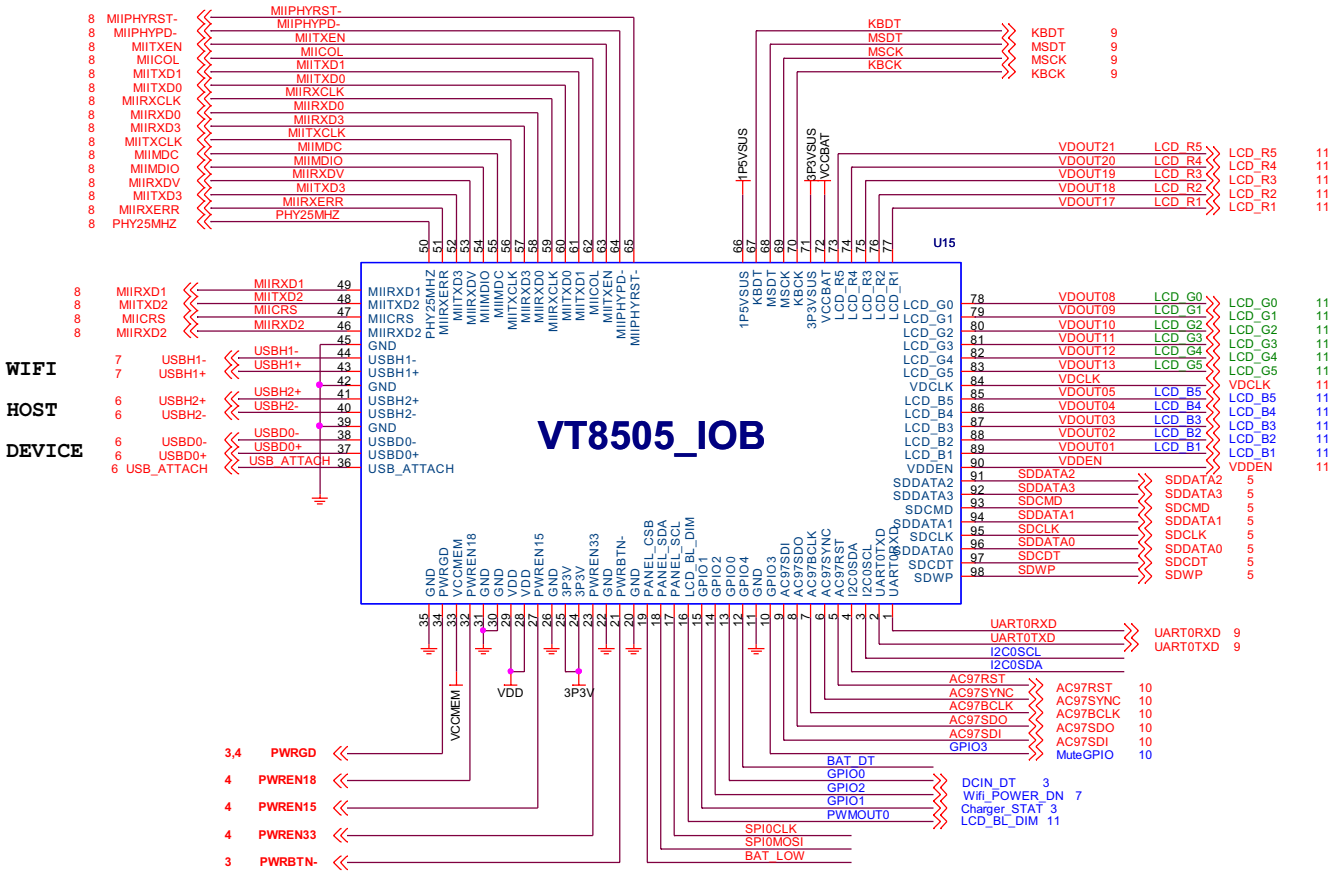

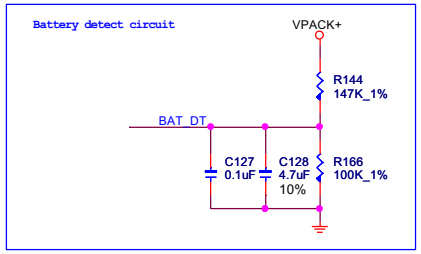

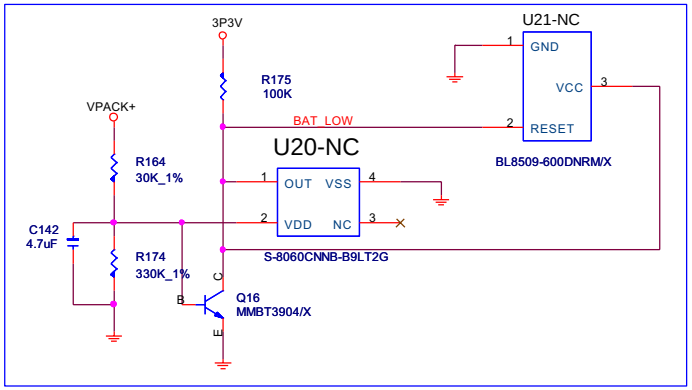

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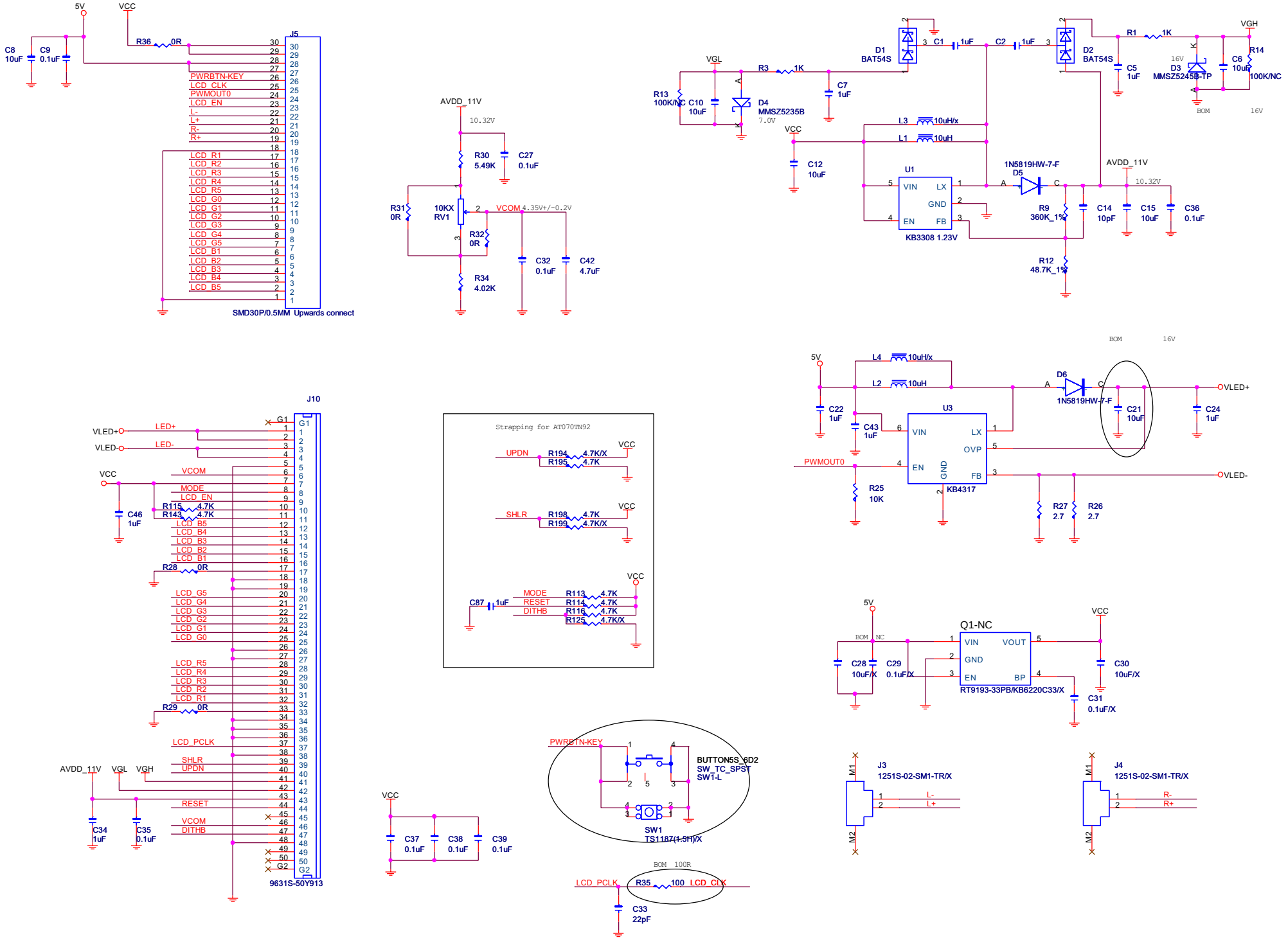

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WM8505 PID Core Board

WMSXXXX

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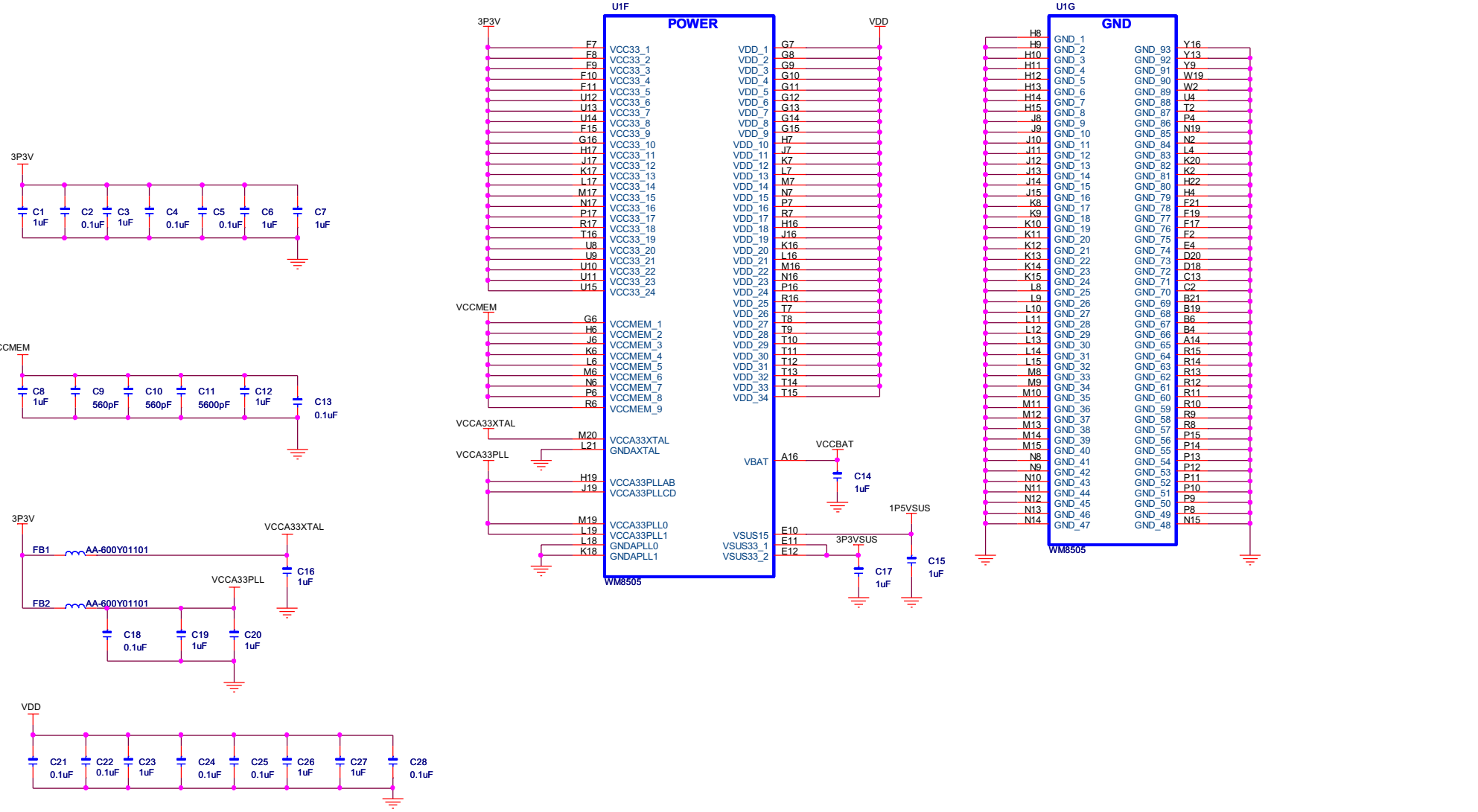
WM8505: Power / Ground

PART: F+G



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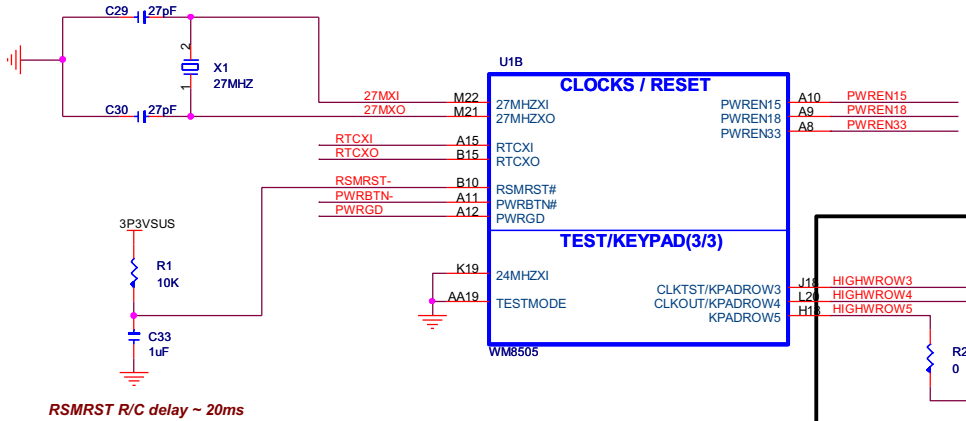
CLOCK + RESET + PMC

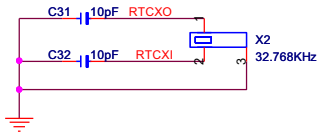
PART:B

Main CLK:

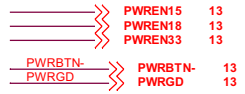


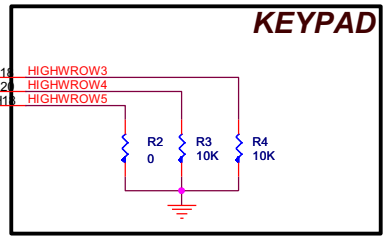
RSMRST R/C delay ~ 20ms

RTC CLK:



Power Enable:





For KEYPAD direct input, need PD 10K

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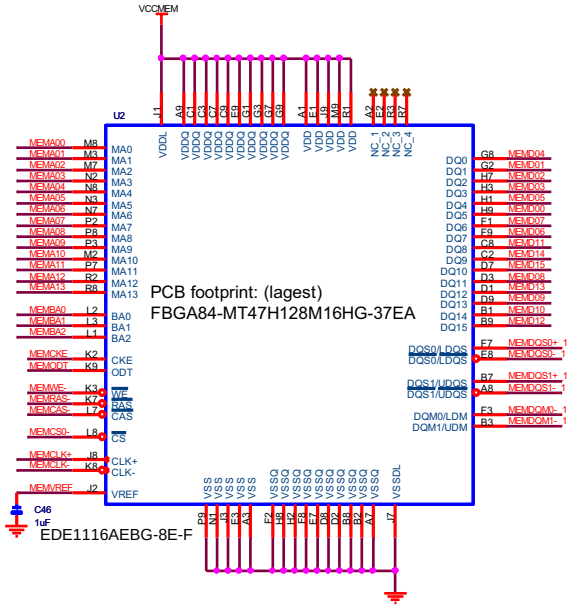
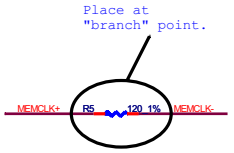
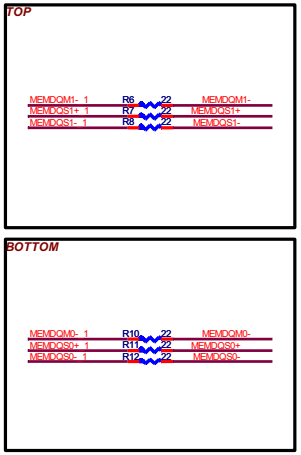
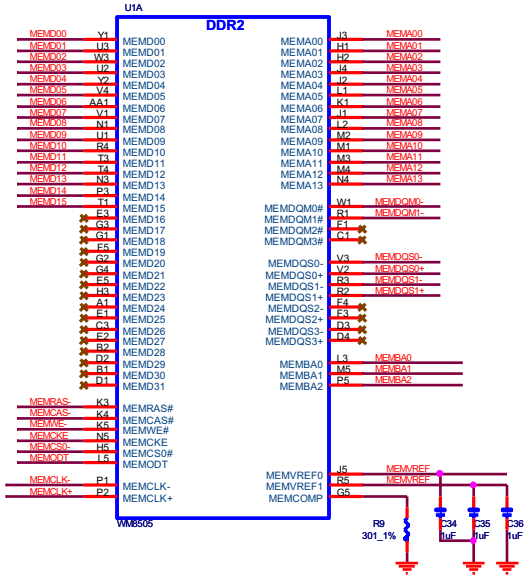
WM8505: DDR2 SDRAM

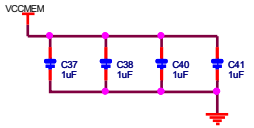


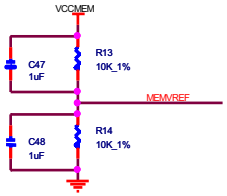
A3R1GE4CFF-G6E 64M x 16bit



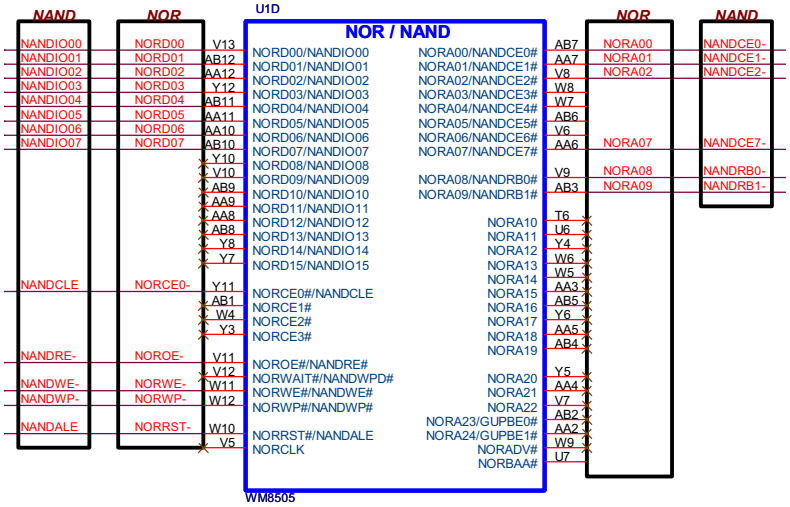








WM8505: NAND FLASH



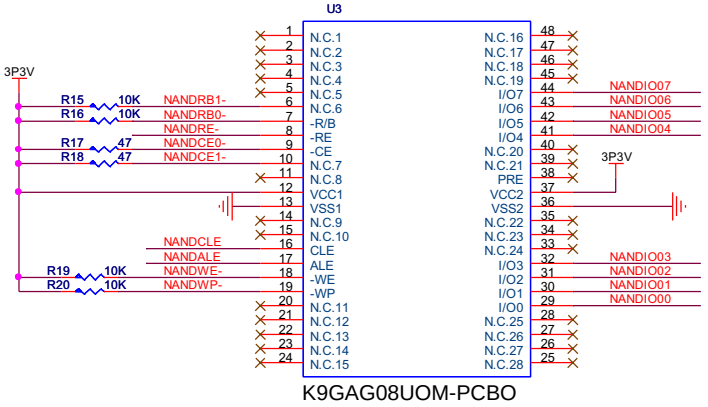
STRRAPPING:

NORA00 11

NORA02 11

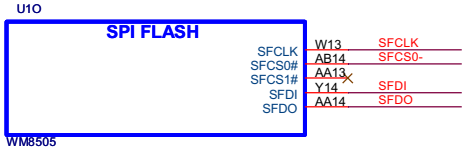
NORA07 11

NAND FLASH:

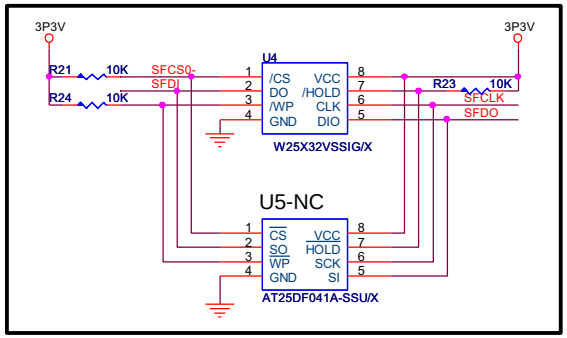


K9GAG08UOM-PCBO

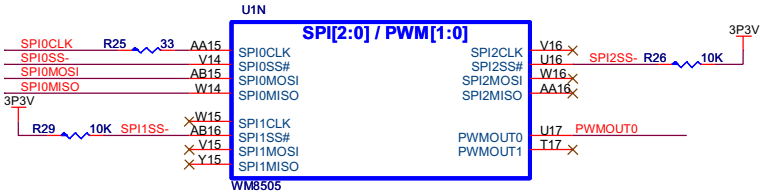
WM8505: SPI FLASH

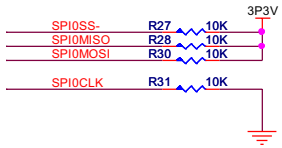


(optional) 8 pins package (co-lay)



WM8505: SPI + PWM





LCD Backlight Control:

PWMOUT0 LCD_BL_DIM 13

LCD 3-wire I2C Control:

SPI0CLK Panel_SCL 13
SPI0MOSI Panel_SDA 13
SPI0SS- Panel_CSB 13

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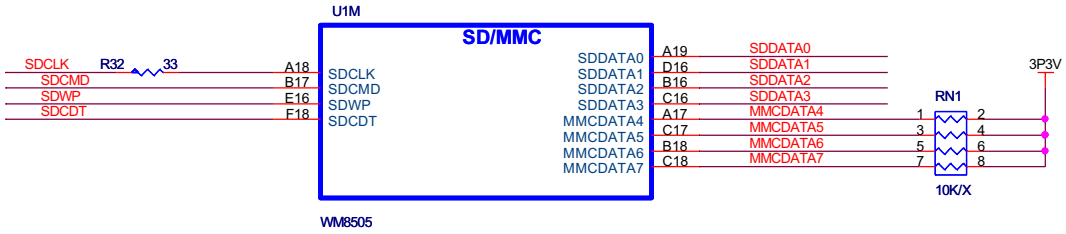
WM8505: SD / MMC

PART: M



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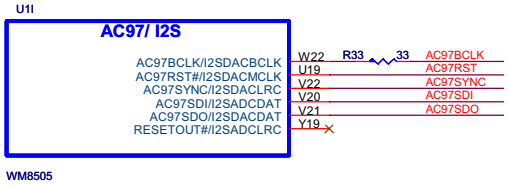
WM8505: I2S

PART: I

(Mike)



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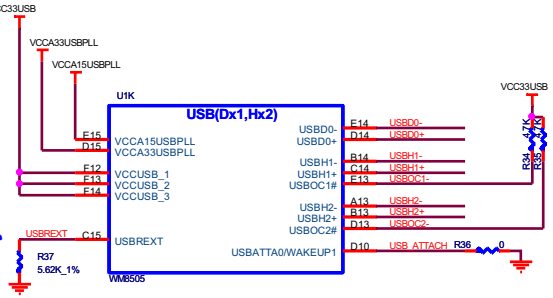
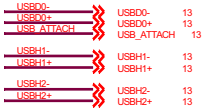
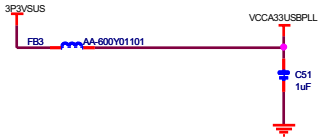
WM8505: USB (HOST+DEVICE)

PART: K

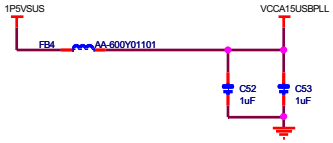




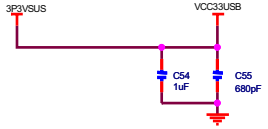
VCCA33USBPLL (suspend power)



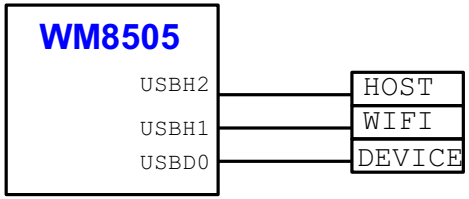
VCCA33USBPLL (suspend power)



VCC33USB (suspend power)



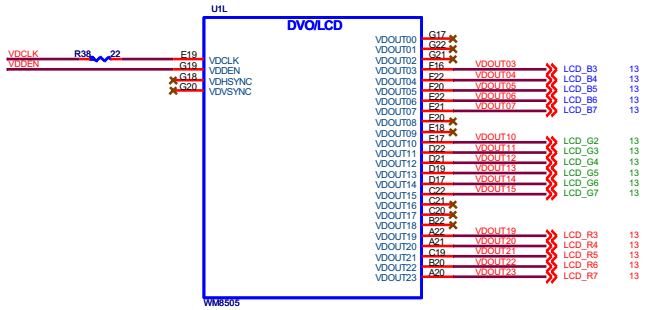
(USBH2) to USB A TYPE HOST single right-angle connector.
(USBH1) to WiFi miniCard connector
(USBD0) to USB mini-B connector.



WM8510: DVO / LCD

PART: L

Damping Rs (put close to WM8510) --> deleted. no need!



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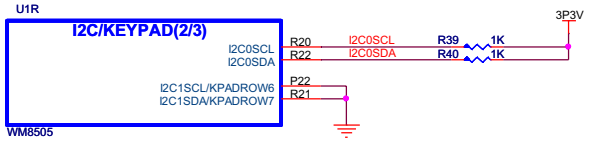
WM8505: I2C / KEYPAD

PART: R



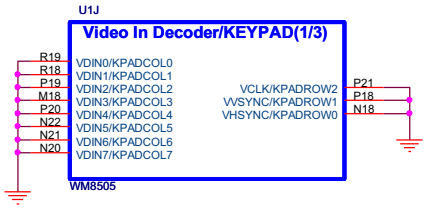
I2C ADDRESS TABLE:

BUS	DEVICE	FUNCTION	ADDRESS
I2C0	VT1602	I2S Codec	0x34

VGA EDID:

WM8505: VDIN / CMOS / KEYPAD

PART: J



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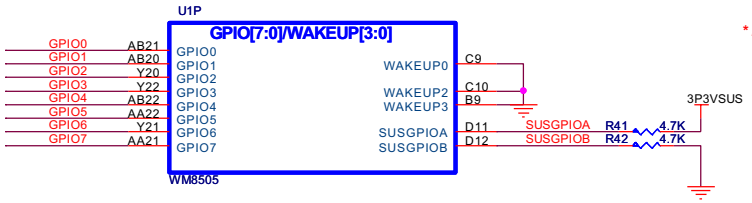
WM8505: GPIO+STRAPPING+WAKEUP

PART: P



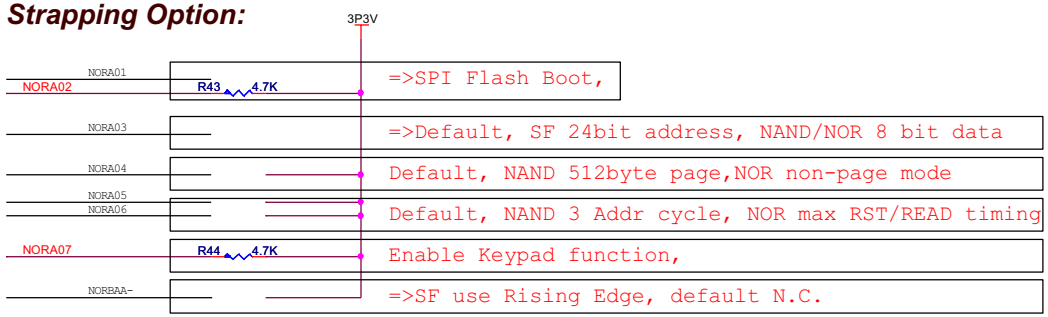
** IMPORTANT: If IO board not use GPIO,please connect GND;*

GPIO Pins: / Function:

GPIO0	DCIN	DCIN Detect
GPIO1	CHARGE	CHAEGE STATE
GPIO2	Wifi_POWER_DN	Wifi_POWER_DN
GPIO3	MuteGPIO	AC97/I2S Amp ShutDown/Mute GPIO:
GPIO4	RF_POWER_DN	RF_PWRDN
GPIO5	GPIO5	Light_INT
GPIO6	GPIO6	To MP1530 LCD Power ENABLE
GPIO7	GPIO7	SD Card Power

Ethenet MII Mode:

Strapping Option:



** IMPORTANT: Need PD in normal use.*

STRAPPING TABLE:

PIN_NAME	RS	ON/OFF	Internal	DESCRIPTIONS
NORA0	R98	ON	PD	Debug Mode, default PD ext.
NORA[2:1]	R221,R109		PD,PD	NOR Boot
		ON-OFF		=>SPI Flash Boot,
NORA3	R220,	OFF	PD	=>Default, SF 24bit address, NAND/NOR 8 bit data
				PU ext. SF 32bit address, NAND/NOR 16 bit data
NORA4	R224	OFF	PD	Default, NAND 512byte page,NOR non-page mode
				PU ext. NAND 2K page,NOR page mode
NORA[6:5]	R223,R110	OFF-OFF	PD,PD	Default, NAND 3 Addr cycle, NOR max RST/READ timing
				PD,PU= NAND 4 Addr cycle
NORA7	R118		PD	Disable Keypad function, default N.C.
		ON		Enable Keypad function,
NORBAA-	R222	OFF	PD	=>SF use Rising Edge, default N.C.
				SF use Falling Edge , need PU ext.
SUSGPIO[A:B]	R204,R58		PD,PD	RGMII Mode.
		ON-OFF		=>MII MODE

WARMING:

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

STRRAPPING:

NORA00 5

NORA02 5

NORA07 5

USB2 to WiFi Module:

GPIO4 → RF_POWER_DN 13

GPIO2 → Wifi_POWER_DN 13

Mute GPIO:

GPIO3 → MuteGPIO 13

Detect DCIN

GPIO0 → DCIN 13

LCD CONTROL:

GPIO1 → TPINT 13

GPIO5 → GPIO5 13

GPIO6 → GPIO6 13

GPIO7 → GPIO7 13

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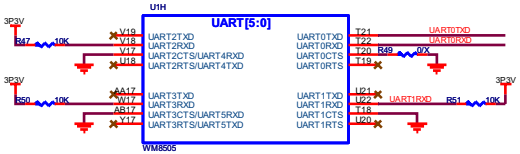
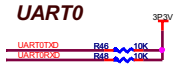
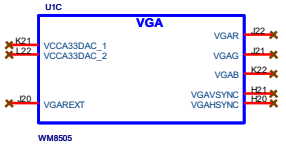
UART/JTAG:



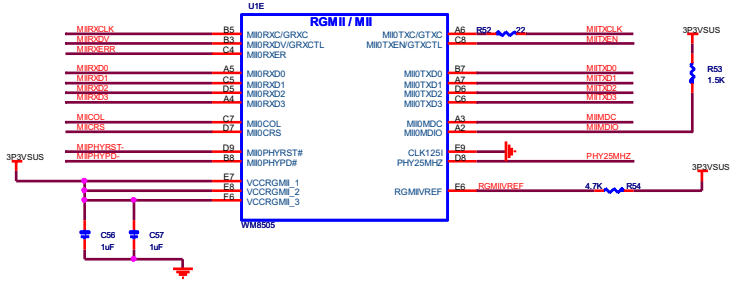


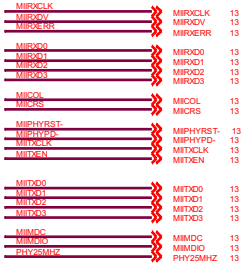
VGA (DAC):



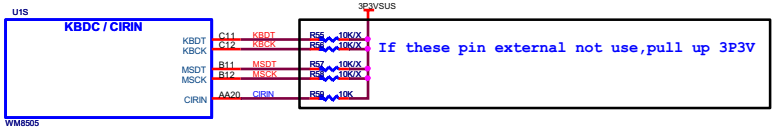
WM8505: RGMII/MII

PART: E





WM8505: PS2 KBDC



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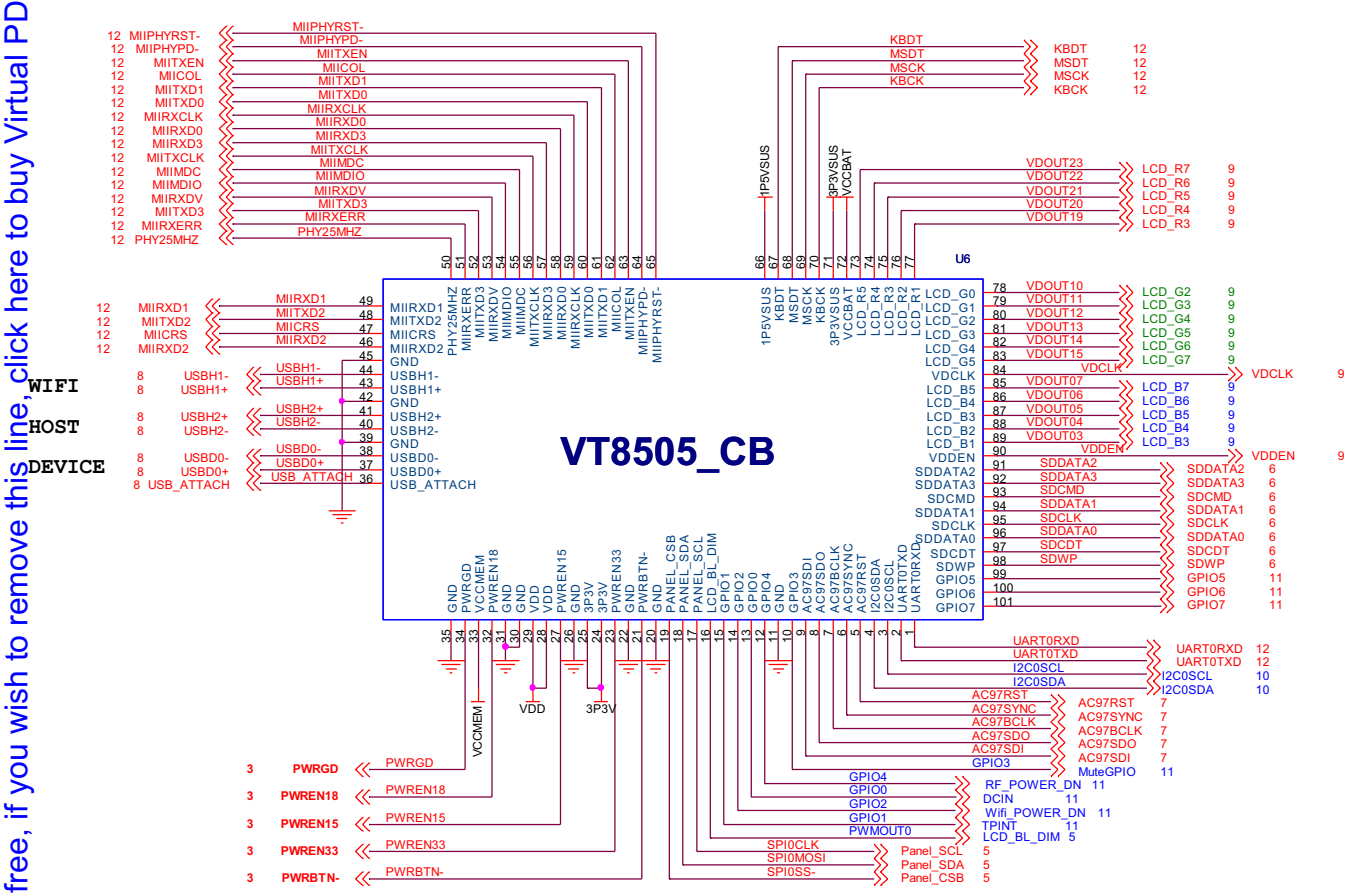
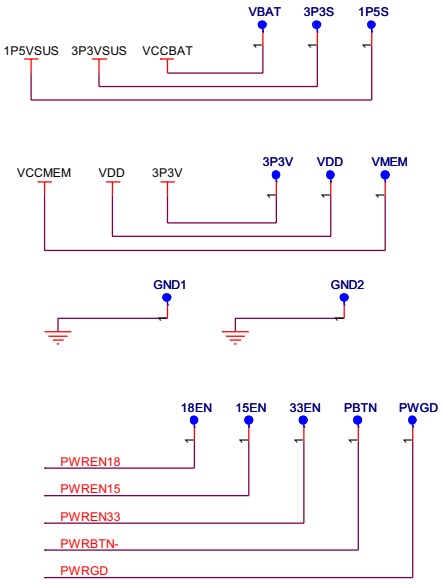


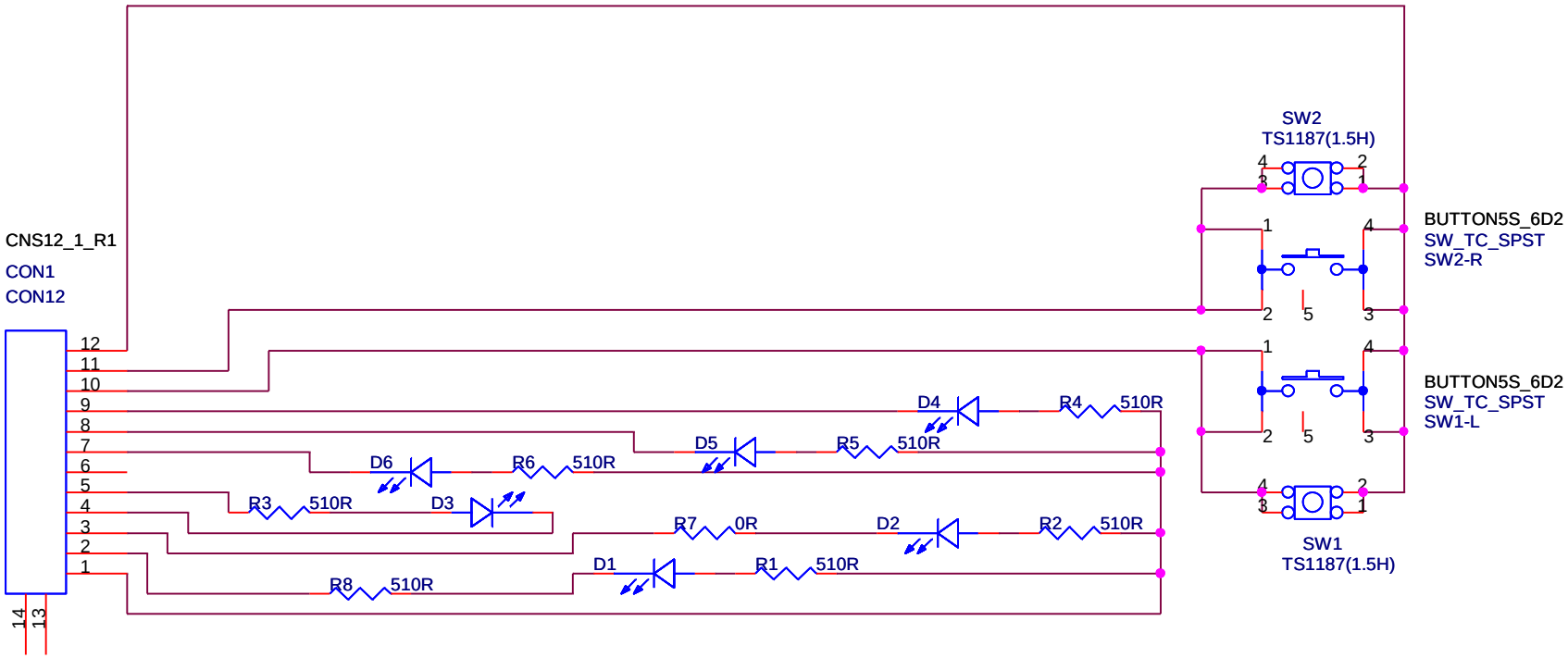
Test Point place bottom



Power must add test point,and place same Bottom layer:

3P3VSUS
1P5VSUS
VCCBAT
VDD
3P3V
VCCMEM
GND(2)

PWRBTN
PWREN15
PWREN33
PWREN18



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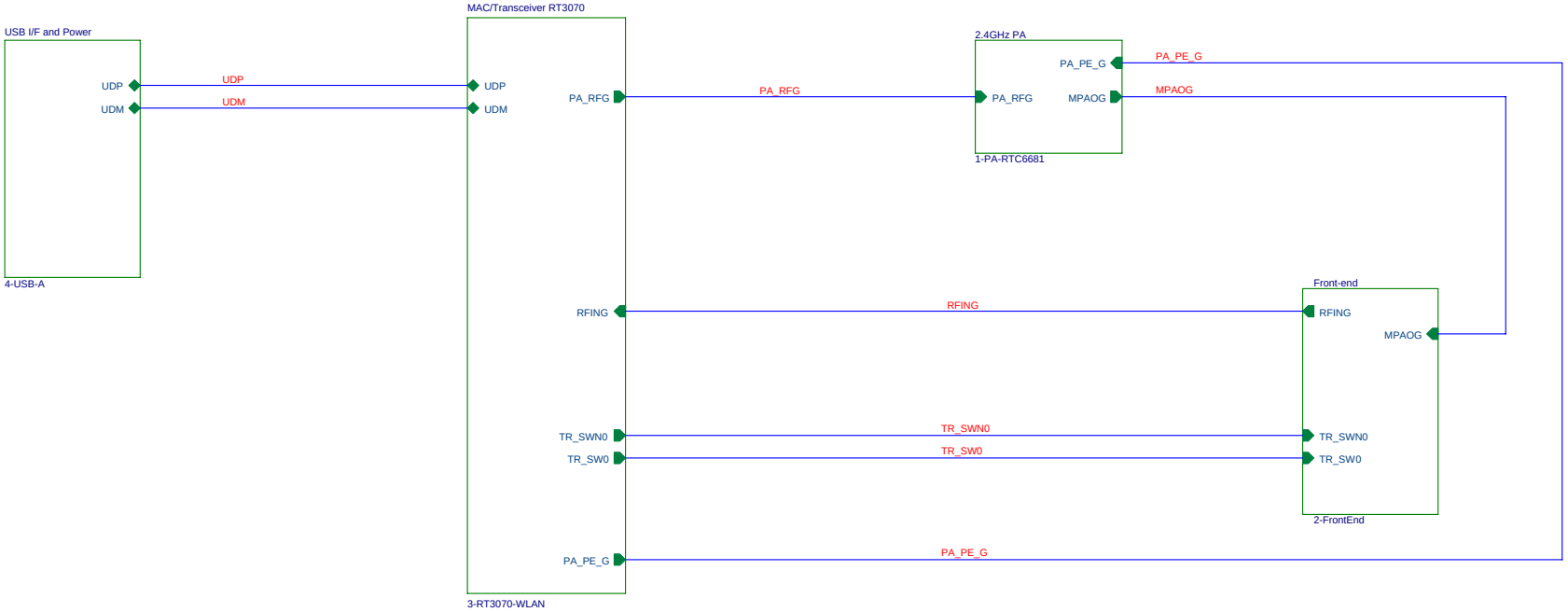
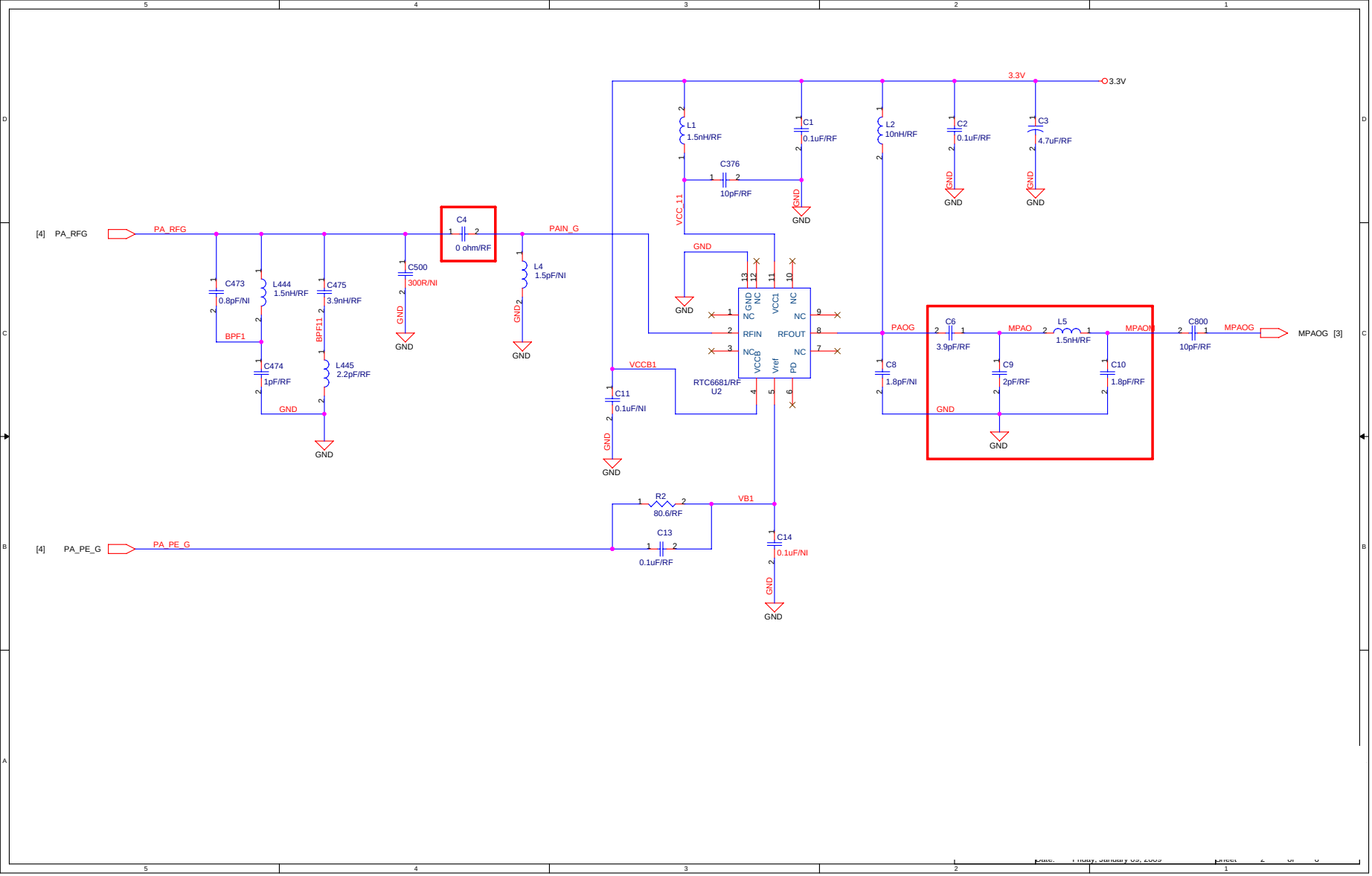
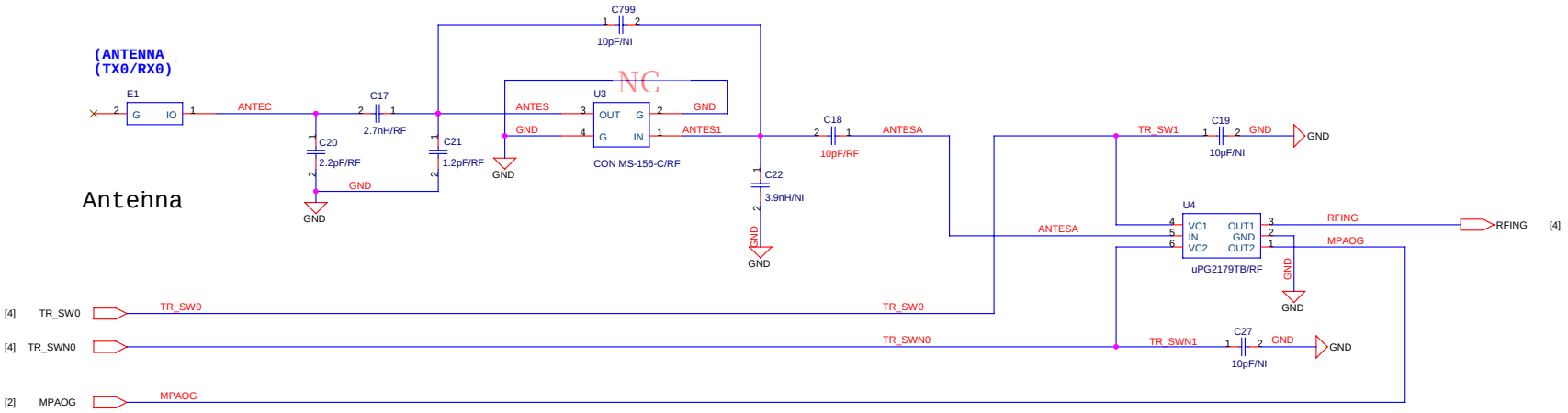
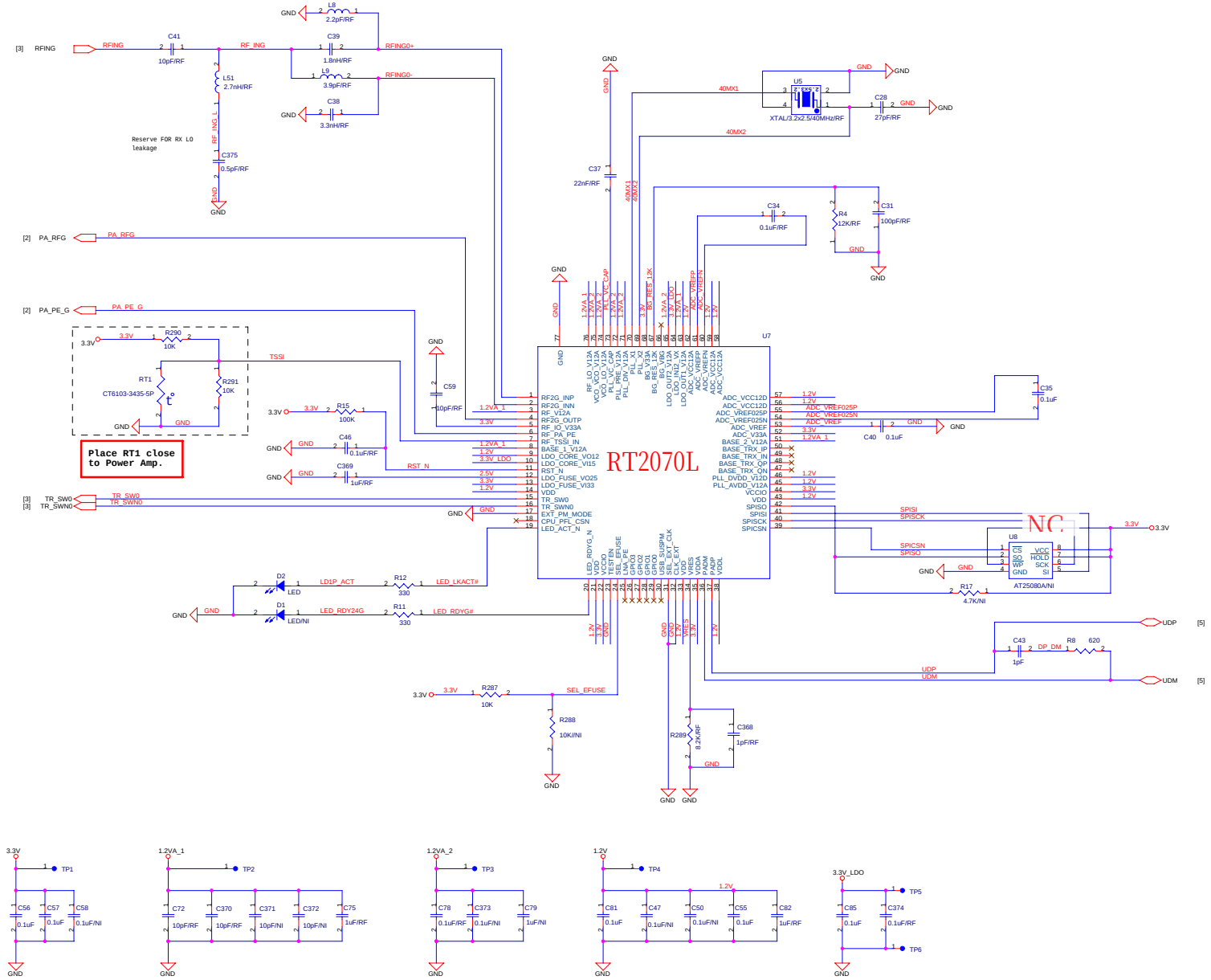
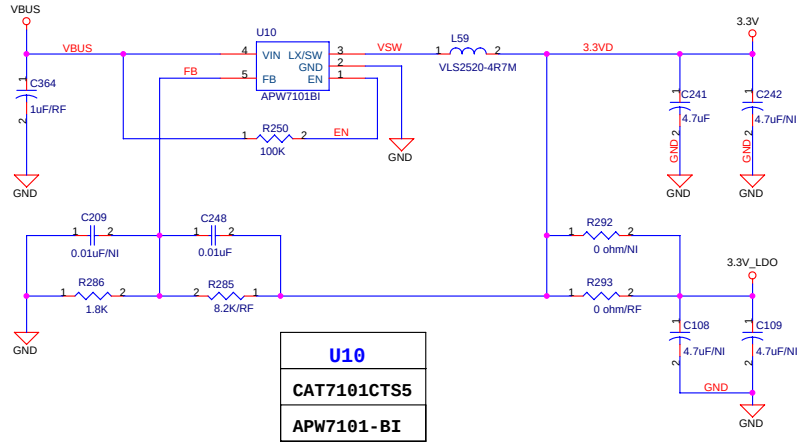
Code>

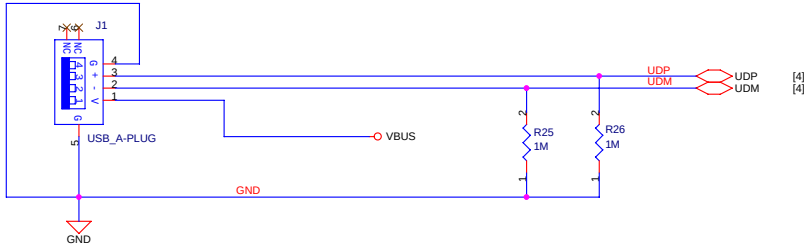

USB I/F and Power
UDP
UDM
4-USB-A
UDP
UDM
MAC/Transceiver RT3070
UDP
UDM
PA_RFG
RFING
TR_SWN0
TR_SW0
PA_PE_G
3-RT3070-WLAN
PA_RFG
2.4GHz PA
PA_PE_G
PA_RFG
MPAOG
1-PA-RTC6681
PA_PE_G
MPAOG
RFING
Front-end
RFING
MPAOG
TR_SWN0
TR_SW0
TR_SWN0
TR_SW0
2-FrontEnd
PA_PE_G


3.3V
3.3V
L1
1.5nH/RF
C1
0.1uF/RF
L2
10nH/RF
C2
0.1uF/RF
C3
4.7uF/RF
C376
10pF/RF
VCC_11
GND
[4] PA_RFG
PA_RFG
C4
0 ohm/RF
PAIN_G
C473
0.8pF/NI
L444
1.5nH/RF
C475
3.9nH/RF
C500
300R/NI
L4
1.5pF/NI
BPF1
BPF11
C474
1pF/RF
L445
2.2pF/RF
GND
VCCB1
C11
0.1uF/NI
RTC6681/RF
U2
GND NC
VCC1
NC
RFIN
RFOUT
VCCB
Vref
PD
PAOG
C6
3.9pF/RF
MPAO
L5
1.5nH/RF
MPAOM
C800
10pF/RF
MPAOG
MPAOG [3]
C8
1.8pF/NI
C9
2pF/RF
C10
1.8pF/RF
[4] PA_PE_G
PA_PE_G
R2
80.6/RF
VB1
C13
0.1uF/RF
C14
0.1uF/NI

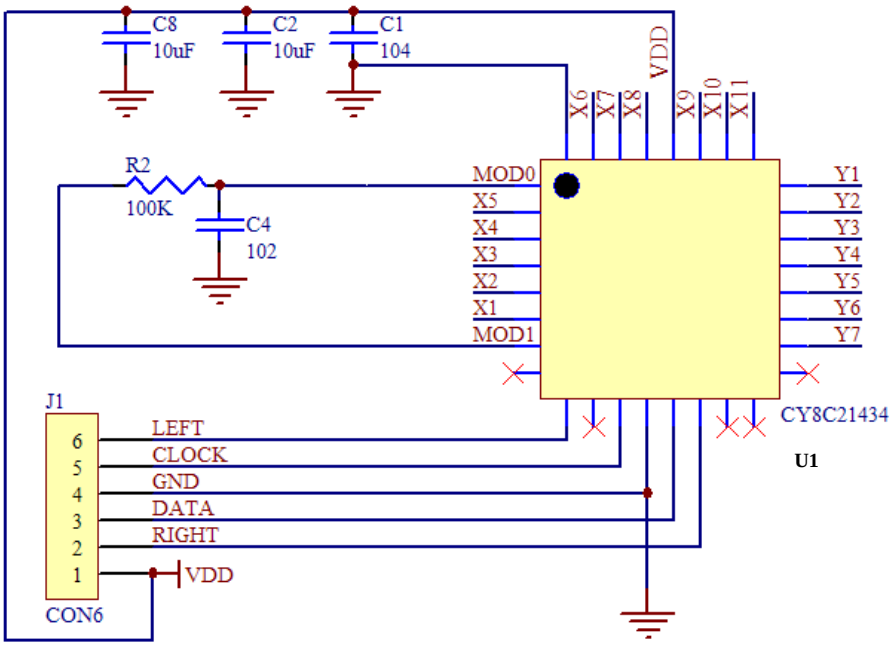

(ANTENNA
(TX0/RX0)
E1
G
IO
ANTEC
C17
2.7nH/RF
C799
10pF/NI
NC
U3
OUT
G
IN
ANTES
ANTES1
GND
CON MS-156-C/RF
C18
10pF/RF
ANTESA
C20
2.2pF/RF
C21
1.2pF/RF
C22
3.9nH/NI
Anteнna
TR_SW1
C19
10pF/NI
U4
VC1
VC2
OUT1
OUT2
IN
uPG2179TB/RF
RFING
MPAOG
[4] TR_SW0
[4] TR_SWN0
TR_SWN1
C27
10pF/NI
[2] MPAOG


RT2070L
U7
U5
U8
NC
AT25080A/NI
XTAL/3.2x2.5/40MHz/RF
Reserve FOR RX LO leakage
Place RT1 close to Power Amp.
RT1
CT6103-3435-5P
RF_ING
RFING
RFING0+
RFING0-
PA_RFG
PA_PE_G
TSSI
RST_N
SEL_EFUSE
SPISI
SPISCK
SPICSN
SPISO
UDP
UDM
DP_DM
TR_SW0
TR_SWN0
LED_LKACT#
LED_RDYG#
LED_RDY24G
40MX1
40MX2
3.3V
1.2V
GND





Date: Monday, October 06, 2008 Sheet 5 of 6


C8
10uF
C2
10uF
C1
104
VDD
X6
X7
X8
X9
X10
X11
R2
100K
C4
102
MOD0
X5
X4
X3
X2
X1
MOD1
Y1
Y2
Y3
Y4
Y5
Y6
Y7
CY8C21434
U1
J1
6
5
4
3
2
1
LEFT
CLOCK
GND
DATA
RIGHT
VDD
CON6