

Project Name :

Platform : Bay trail(For Valleyview-D/I/M System On Chip)

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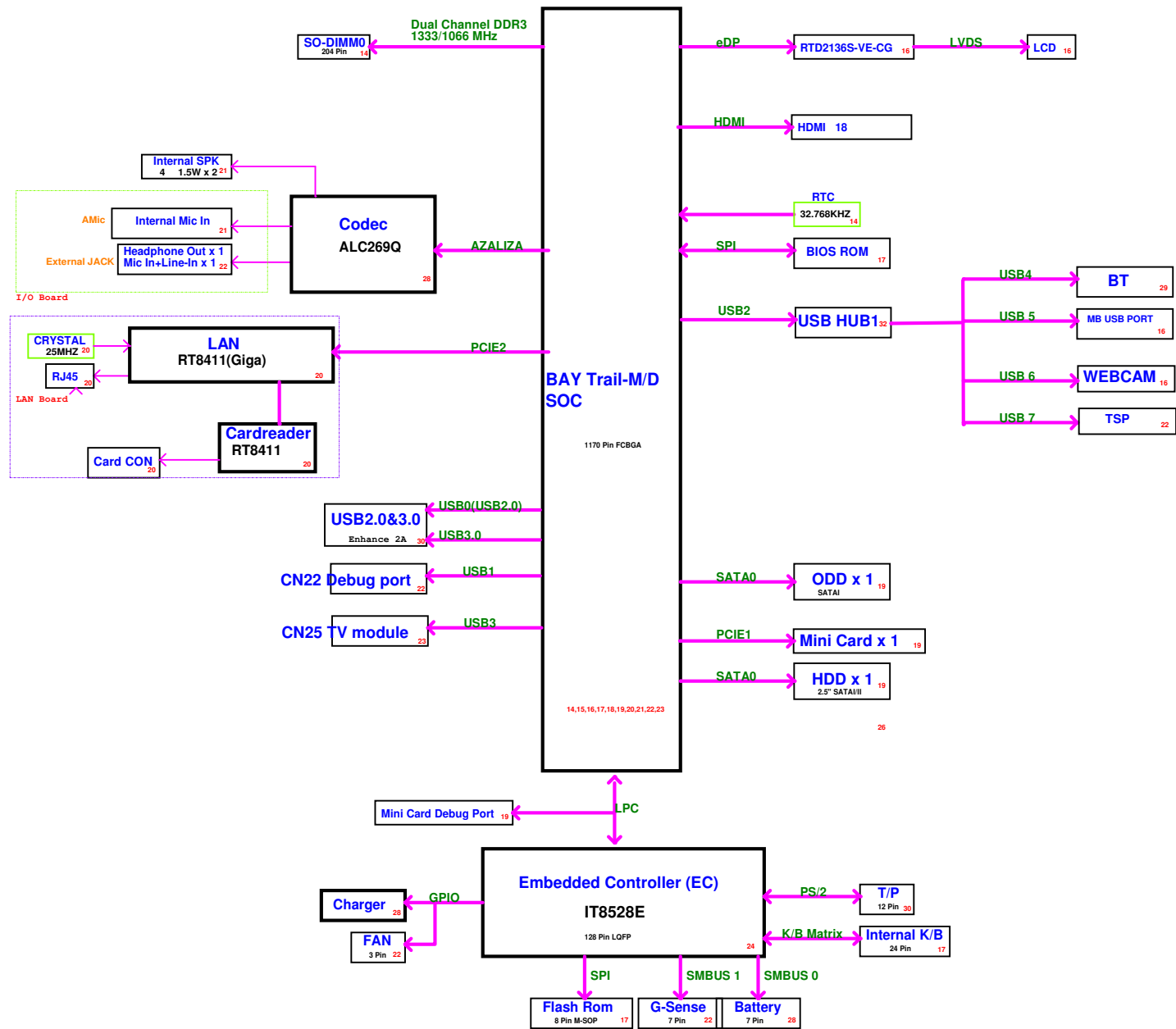
M/B Schematic Version Change List

Release Date	Version	PCB P/N	PCB Description	PCBA P/N	Note
2013-5-23	A	71R-H14BT4-T8A1			
2013-7-23	B	71R-H14BT4-T8B0			
2013-8-22	B1	71R-H14BT4-T8B1			

Daughter Board Schematic Version Change List

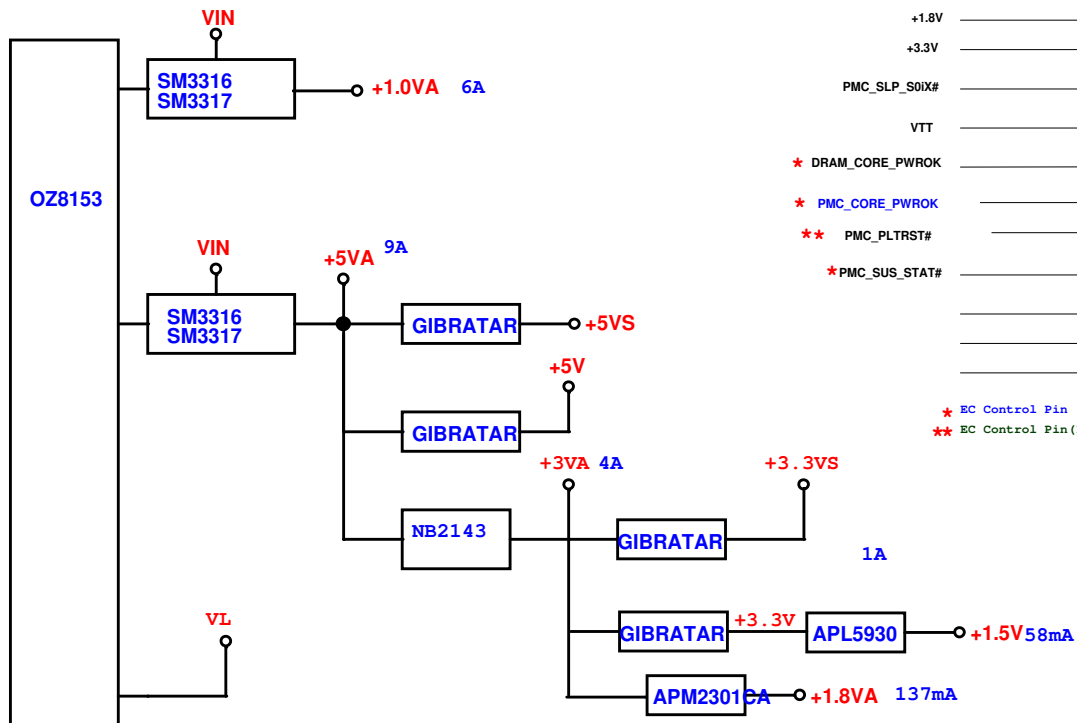
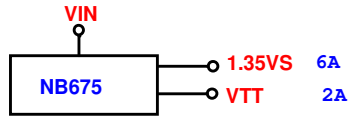
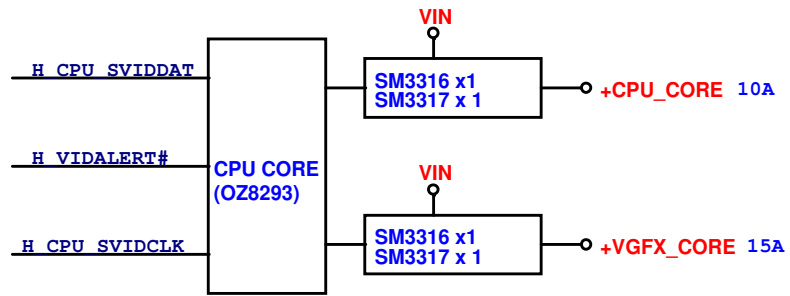
Release Date	Version	PCB P/N	PCB Description	PCBA P/N	Note

SYSTEM BLOCK DIAGRAM

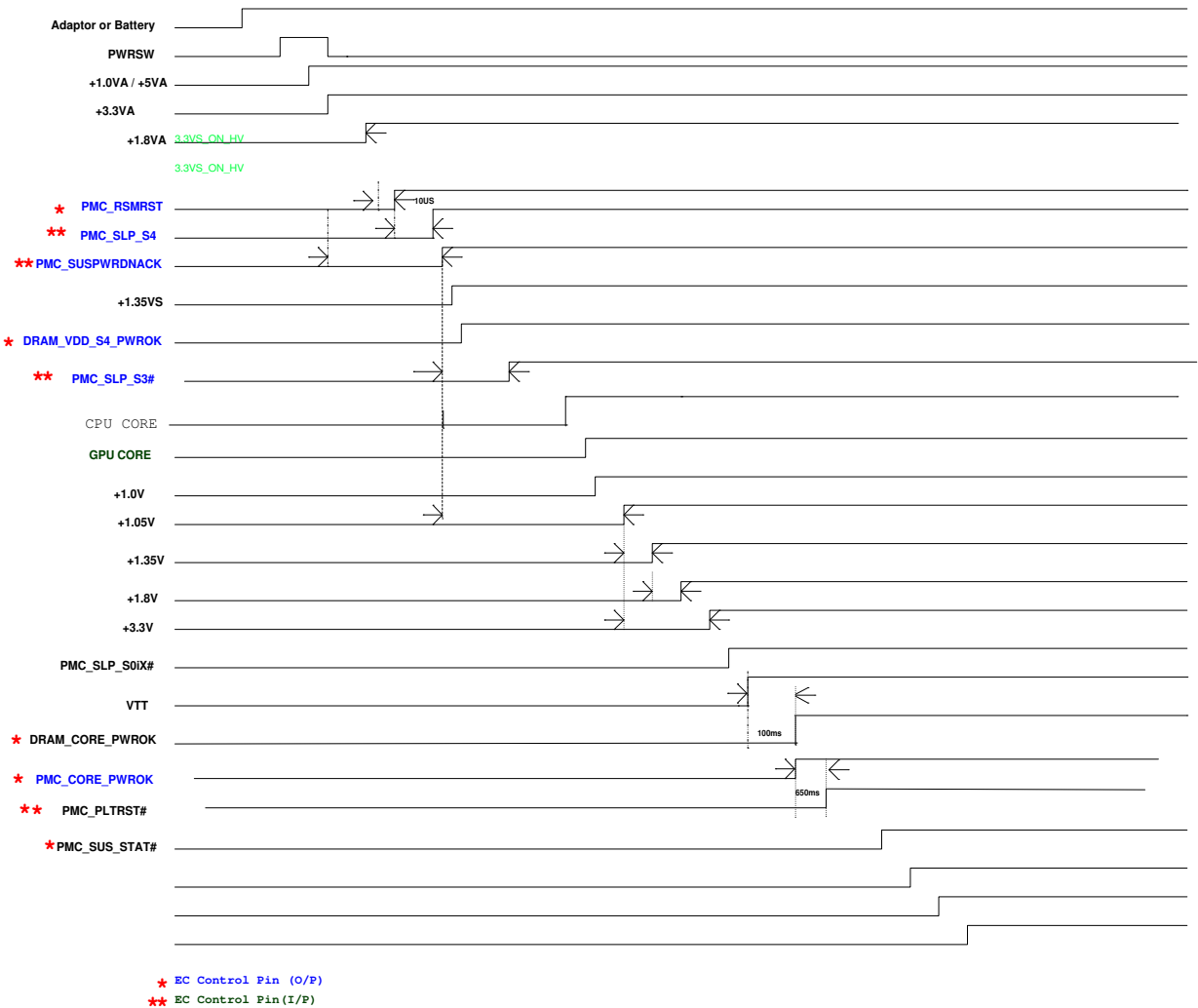


USB0	USB3.0/2.0 ENHANCE
USB1	CN22 Debug port
USB2	USB HUB1
USB3	CN25 TV module
USB4	BT
USB5	MB USB PORT
USB6	webcam
USB7	TSP

POWER BLOCK DIAGRAM



System Poewr On Sequence



SOC GPIO	
GPIO0	PM_BM_BUSY#
GPIO1	EC_EXTSMI#
GPIO2	INT_PIRQE#
GPIO3	INT_PIRQF#
GPIO4	INT_PIRQG#
GPIO5	INT_PIRQH#
GPIO6	BIOS_REC
GPIO7	N.C (TACH3)
GPIO8	N.C
GPIO9	N.C (WOL_EN)
GPIO10	N.C (ALERT#)
GPIO11	SMB_ALERT#
GPIO12	LAN_PHYPC
GPIO13	N.C (GLAN_DOCK#)
GPIO14	N.C (NETDETECT)
GPIO15	PM_STPPCI#
GPIO17	N.C (TACH0)
GPIO18	N.C
GPIO19	SATA1GP
GPIO21	SATA0GP
GPIO22	N.C (SCLOCK)
GPIO23	LDRQ1#
GPIO24	CRB_SV_DET
GPIO25	PM_STPCPU#
GPIO26	PM_SLP_S4_STATE#
GPIO27	QRT_STATE0
GPIO28	QRT_STATE1
GPIO29	USB_OC#5
GPIO30	USB_OC#6
GPIO31	USB_OC#7
GPIO32	PM_CLKRUN#
GPIO33	HDA_DOCK_EN
GPIO34	N.C (HDA_DOCK_RST#)
GPIO35	CLK_SATA_OE#
GPIO36	SATA2GP
GPIO37	SATA3GP
GPIO38	ODD_DET
GPIO39	ICH_GPIO39
GPIO40	USB_OC#1
GPIO41	USB_OC#2
GPIO42	USB_OC#3
GPIO43	USB_OC#4
GPIO48	MFG_MODE
GPIO49	H_PWRGD
GPIO50	PCI_REQ#1
GPIO51	PCI_GNT#1
GPIO52	PCI_REQ#2
GPIO53	PCI_GNT#2
GPIO54	PCI_REQ#3
GPIO55	PCI_GNT#3

ITE8528 GPIO		Default Pull/Mode
GPA0	PID_3_RF_LED_ON#	UP / GPI
GPA1	BATT_VA_OFF#	UP / GPI
GPA2	BTL_BEEP	UP / GPI
GPA3	WLAN_PWR#	UP / GPI
GPA4	+1.05V_ON	UP / GPI
GPA5	SENBAT_V	UP / GPI
GPA6	PM_RSMRST#	UP / GPI
GPA7	EC_BL_PWM	UP / GPI
GPB0	PM_SLP_S4#	UP / GPI
GPB1	PM_SLP_S3#	UP / GPI
GPB2	3G_PWR#	Dn / GPI
GPB3	SMBCLK	/ GPI
GPB4	SMBDAT	/ GPI
GPB5	H_A20GATE	/ GPO
GPB6	H_RCIN#	UP / Func1
GPB7	SAFTY_PROTECT	Dn / GPI
GPC0	+1.5V_ON	Dn / GPI
GPC1	SMB_CLK_EC	/ GPI
GPC2	SMB_DAT_EC	/ GPI
GPC3	PID_0_CHG_B_LED	Dn / GPI
GPC4	PWRBTN3#	Dn / GPI
GPC5	PANEL_DETECT_2	Dn / GPI
GPC6	VCCSA_ON	Dn / GPI
GPC7	+1.5VS_ON	UP / GPI
GPD0	ADAP_IN	UP / GPI
GPD1	PWRBTN#	UP / GPI
GPD2	PLT_RST#	UP / Func1
GPD3	PM_SUS_STAT#	UP / GPI
GPD4	EC_EXTSMI#	UP / GPI
GPD5	Fastcharge_EN	UP / GPI
GPD6	+5V_ON	Dn / GPI
GPD7	SET_V	Dn / GPI
GPE0	LID#	Dn / GPI
GPE1	PWR_USB_LED	Dn / GPI
GPE2	ALL_SYS_PGD	Dn / GPI
GPE3	Vcore_ON	Dn / GPI
GPE4	PWRSW	UP / GPI
GPE5	LVDS_VIN	Dn / GPI
GPE6	WLAN_ON	Dn / GPI
GPE7	AMP_MUTE#	UP / GPI
GPF0	PCH_BL_EN	UP / GPI
GPF1	+1.8V_ON	UP / GPI
GPF2	BT_ON	UP / GPI
GPF3	N.C	UP / GPI
GPF4	TP_CLK	UP / GPI
GPF5	TP_DATA	UP / GPI
GPF6	EC PECI	UP / GPI
GPF7	CHG_HI_VOLT#	UP / GPI
GPG0	PWRBTN2#	Dn/GPO/TM
GPG1	+3.3VS_ON	Dn/GPO/ID7
GPG2	EC PORST	
GPG6	WEBCAN_ON	Dn / GPI
GPH0	PM_CLKRUN#	Dn/GPI/ID0
GPH1	PID_1_CHG_R_LED	Dn/GPI/ID1
GPH2	PID_2_PWR_LED	Dn/GPI/ID2
GPH3	EC_HSCS0#	Dn/GPI/ID3
GPH4	EC_HSCK	Dn/GPI/ID4
GPH5	EC_HMISO	Dn/GPI/ID5
GPH6	EC_HMOSI	Dn/GPI/ID6

ITE8528 GPIO		Default Pull/Mode
GPI0	CRT_DETECT	/GPI/ADC
GPI1	PANEL_DETECT	/GPI/ADC
GPI2	PLATFORM_ID	/GPI/ADC
GPI3	CPPE#	/GPI/ADC
GPI4	BAT_I	/GPI/ADC
GPI5	BATT_TEMP	/GPI/ADC
GPI6	ADAPTOR_1	/GPI/ADC
GPI7	BAT_V	/GPI/ADC
GPJ0	EC_BL_ON	/GPI/DAC
GPJ1	EC_PROCHOT	/GPI/DAC
GPJ2	FAN_CTRL0	/GPI/DAC
GPJ3	CHG_REF	/GPI/DAC
GPJ4	CHG_I	/GPI/DAC
GPJ5	PWR_USB#	/GPI/DAC

BAY TRAIL CPU				
	CPU CORE (V)	ICC (A)	W	TEMP ()
Bay trail D-D1750	1.05	12	10	
Bay trail M-N2805	1.05	12	4.5	

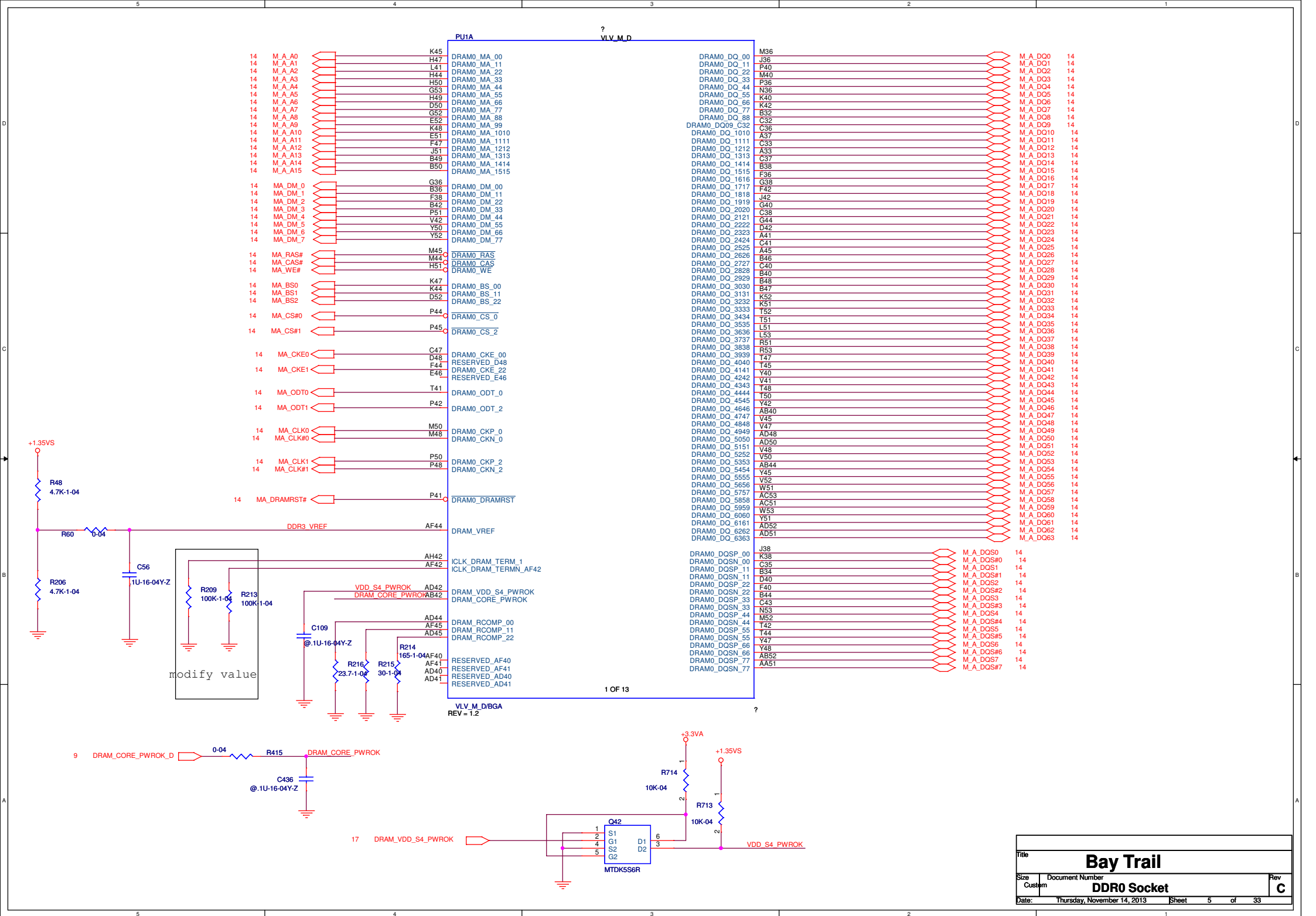
SOC				
VCC	ICC (mA)	W	TEMP ()	
+1.0VA	202	0.2	105	
+1.05V	720	0.756		
+1.0V	5487	5.487		
+1.2A	35	0.04		
+1.35VS	10000	1.43	TEMP ()	
+1.8VA	53	0.1		
+1.8V	84	0.15		
+1.5V_1.8V	58	0.09		
+3.3VA	10	0.033		
+3.3V	13	0.04		
CPU CORE1.1	12000	16.5		
GPU CORE1.0	14000	10		
RTC3.3	0.0016			

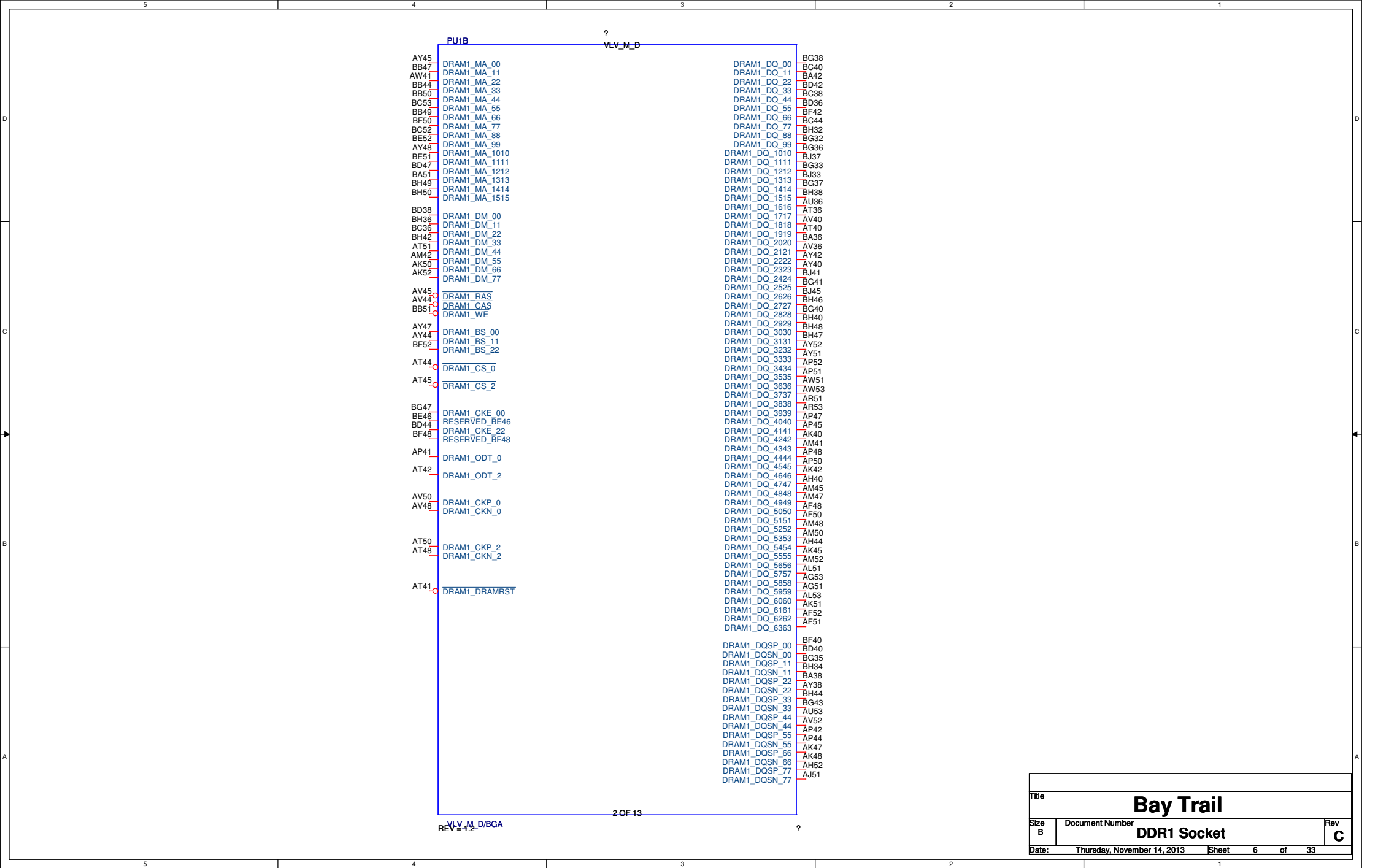
ITE8528			
VCC	ICC (mA)	mW	TEMP ()
+3.3V	100	330	70

ALC269			
VCC	ICC (mA)	mW	TEMP ()
+3.3V (DVDD)	200	660	70
+5V (AVDD)	1000	5000	

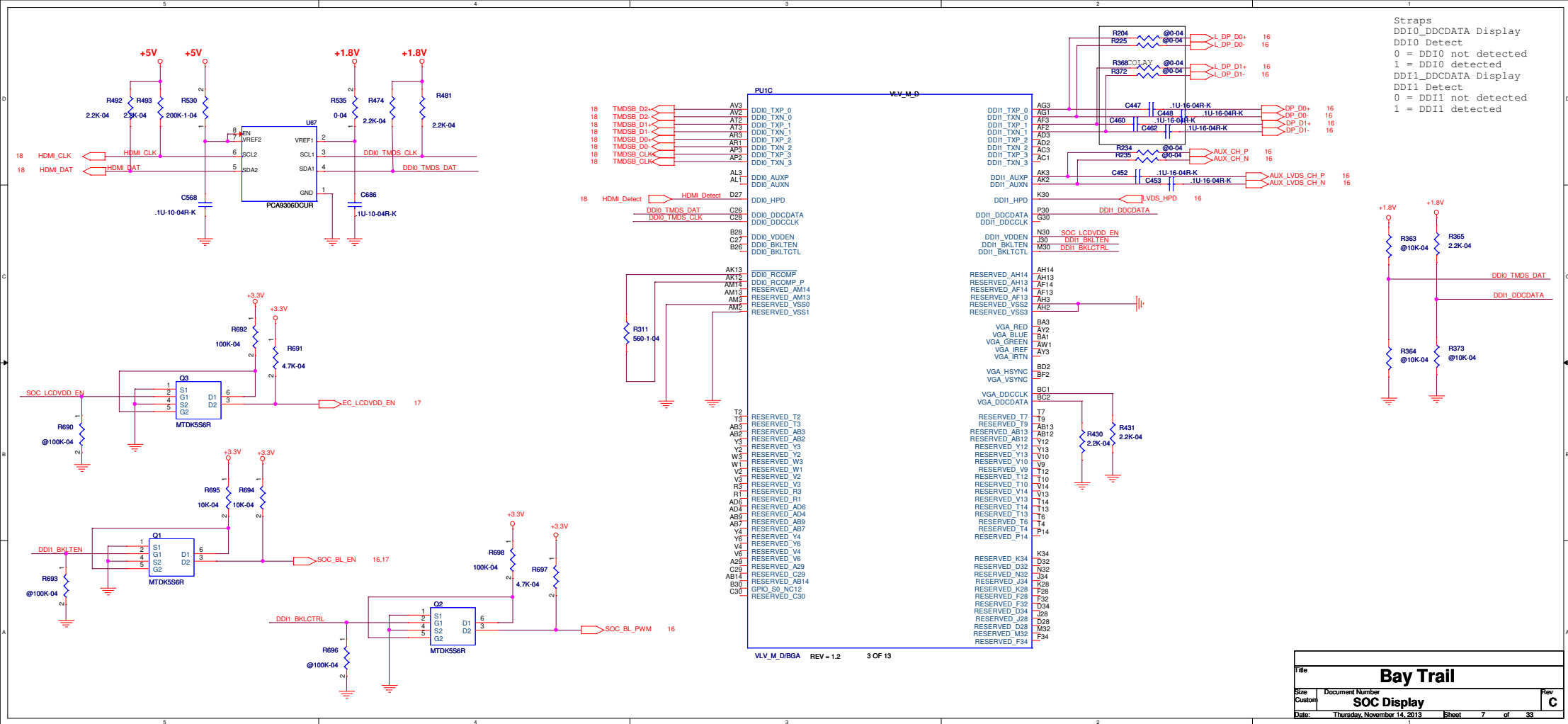
ADM1032			
VCC	ICC	mW	TEMP ()
+3.3V	170uA	0.56	150

RT8411			
VCC	ICC (mA)	mW	TEMP ()
+3.3VS	300	990	70
+1.2VS	150	180	

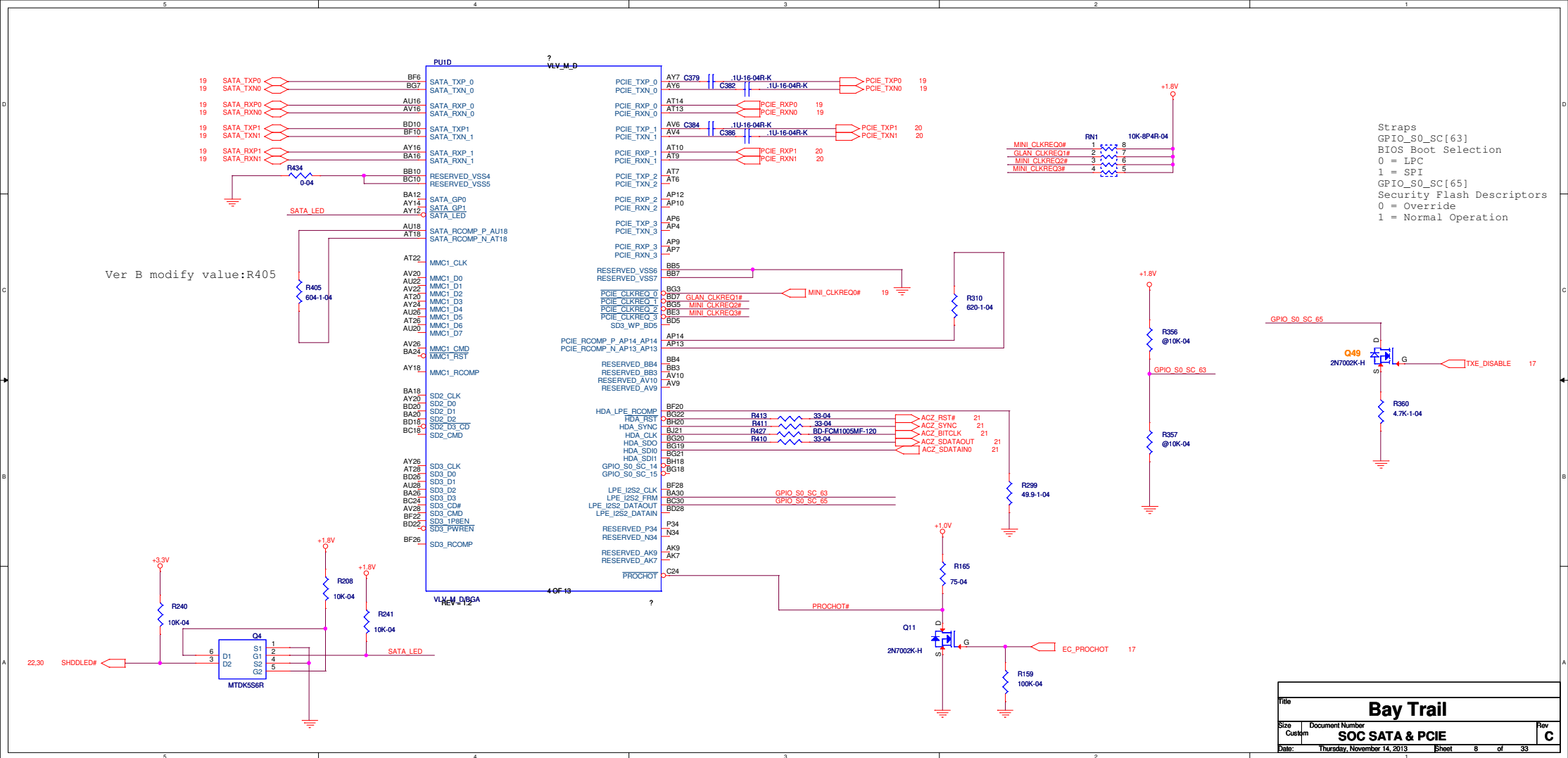


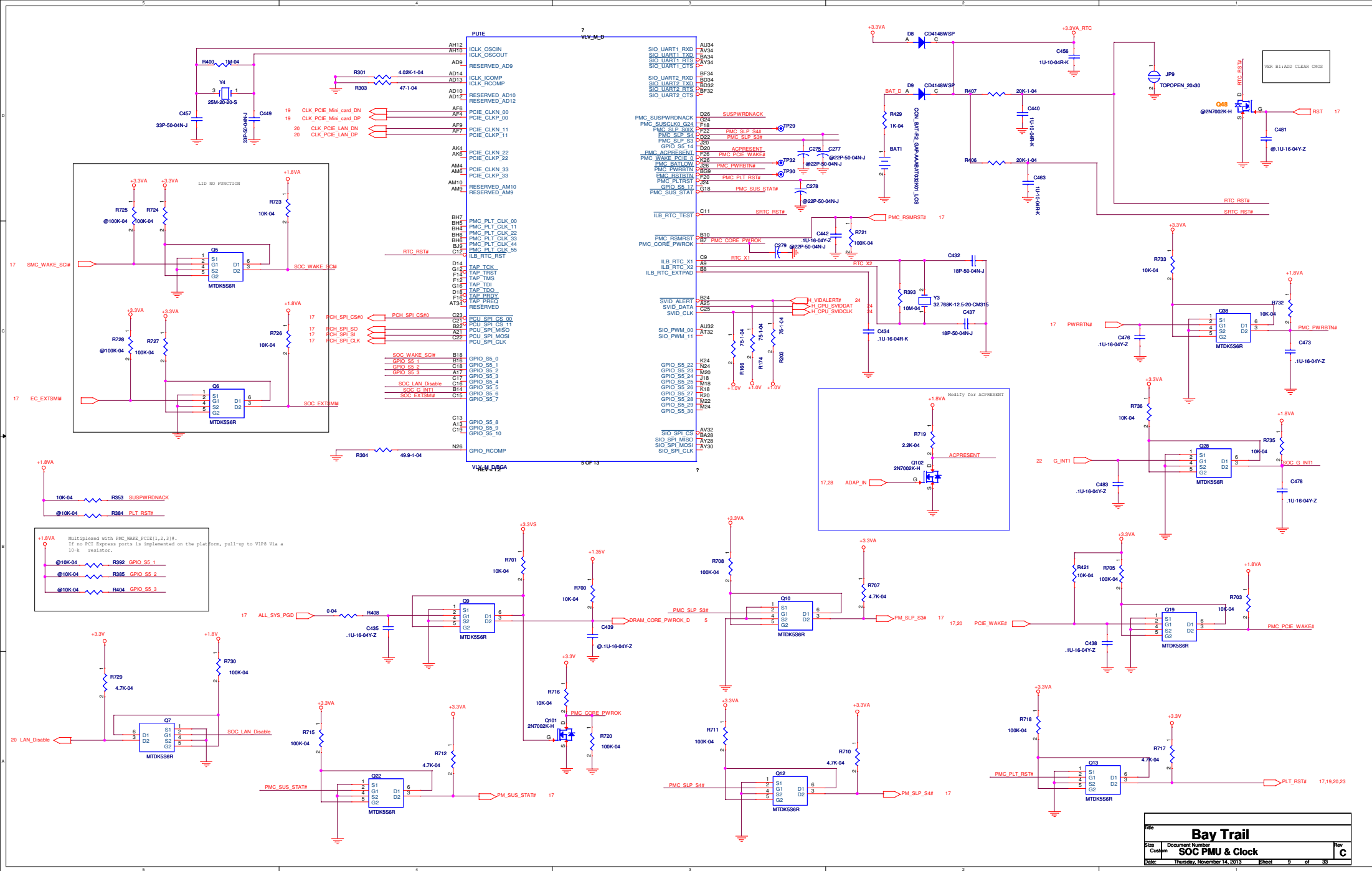


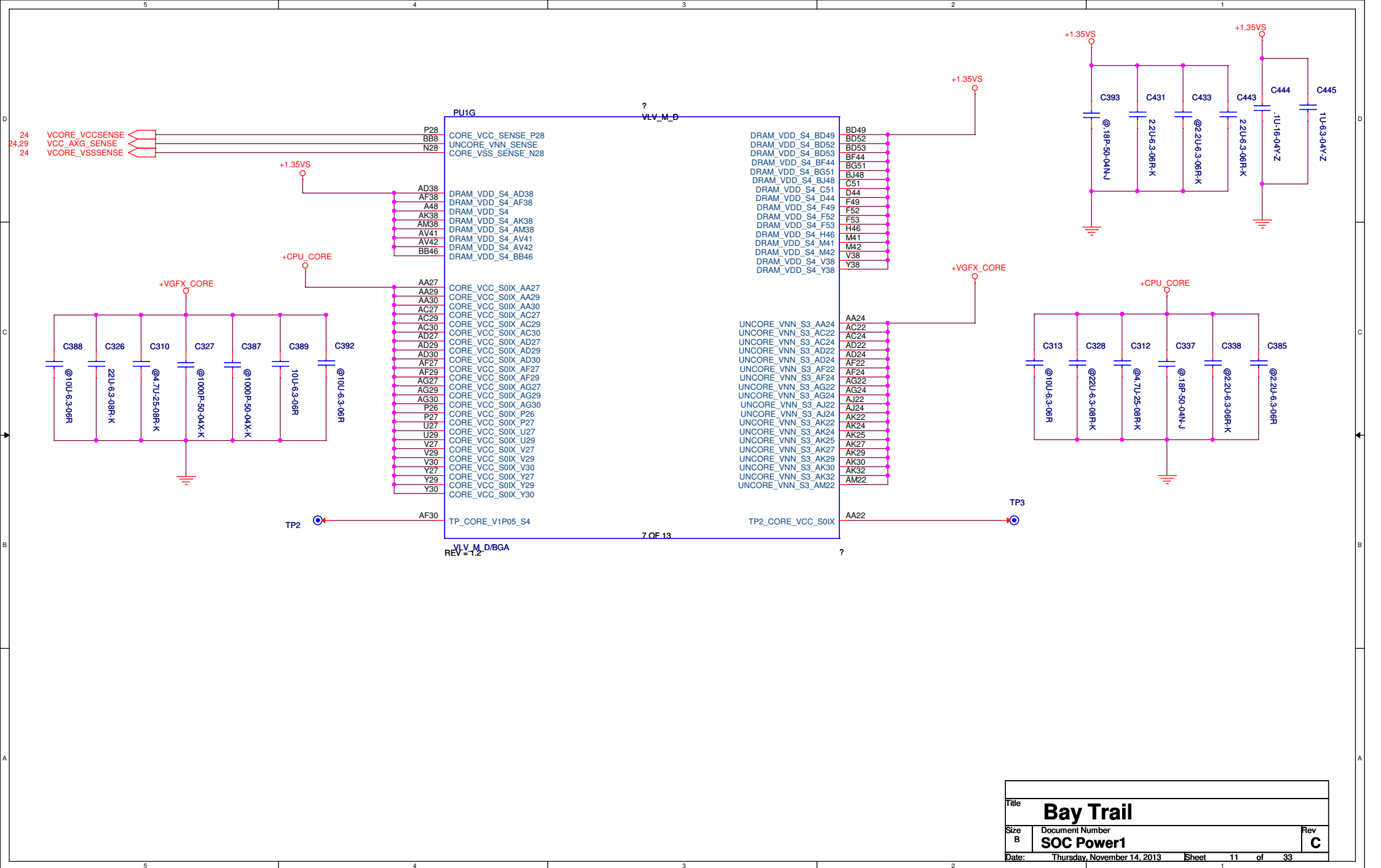
Title			
Bay Trail			
Size	Document Number		Rev
B	DDR1 Socket		C
Date:	Thursday, November 14, 2013	Sheet	6 of 33



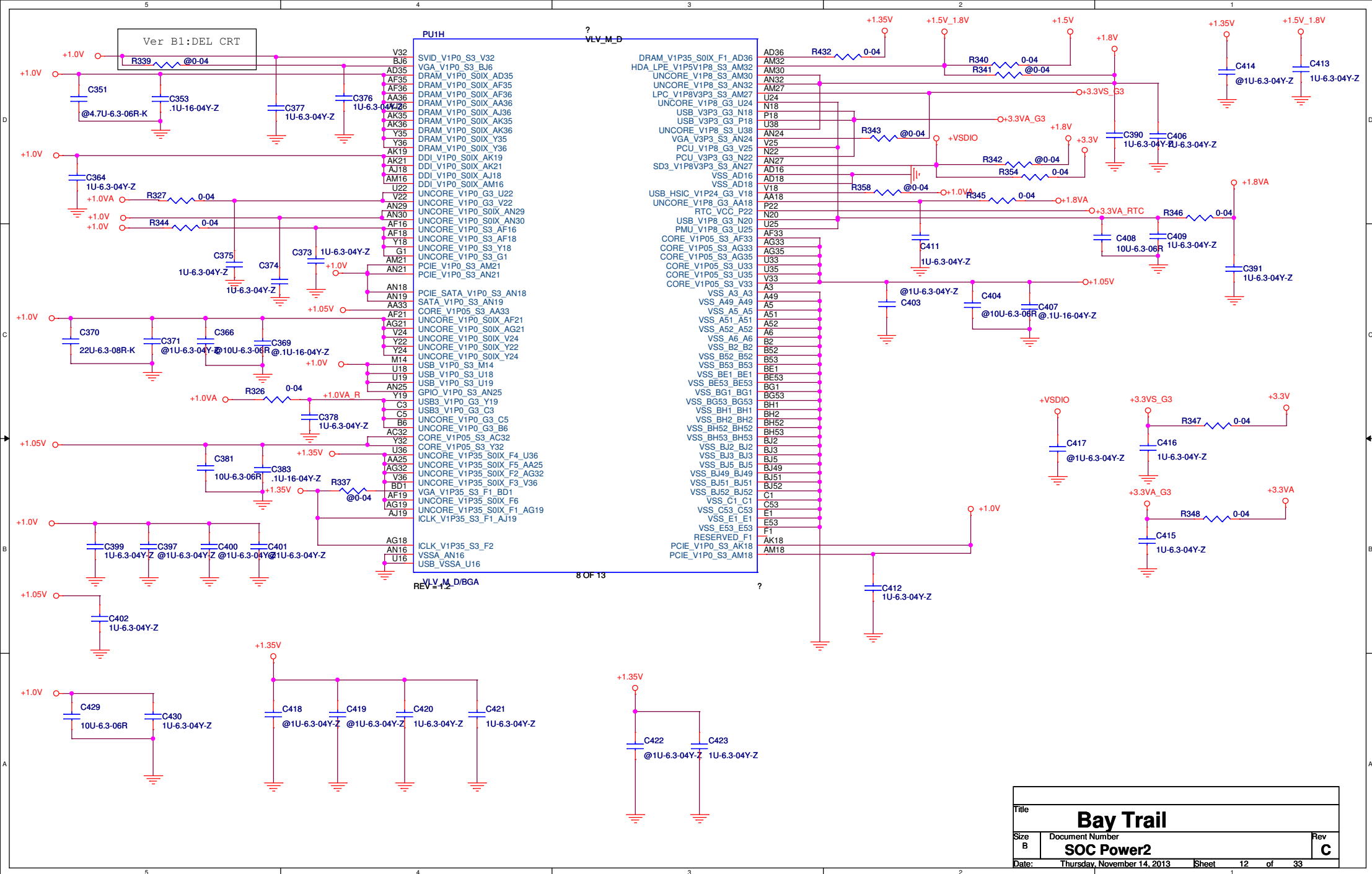
Title Bay Trail				
Size Custom	Document Number SOC Display			Rev C
Date:	Thursday, November 14, 2013	Sheet	7 of	33

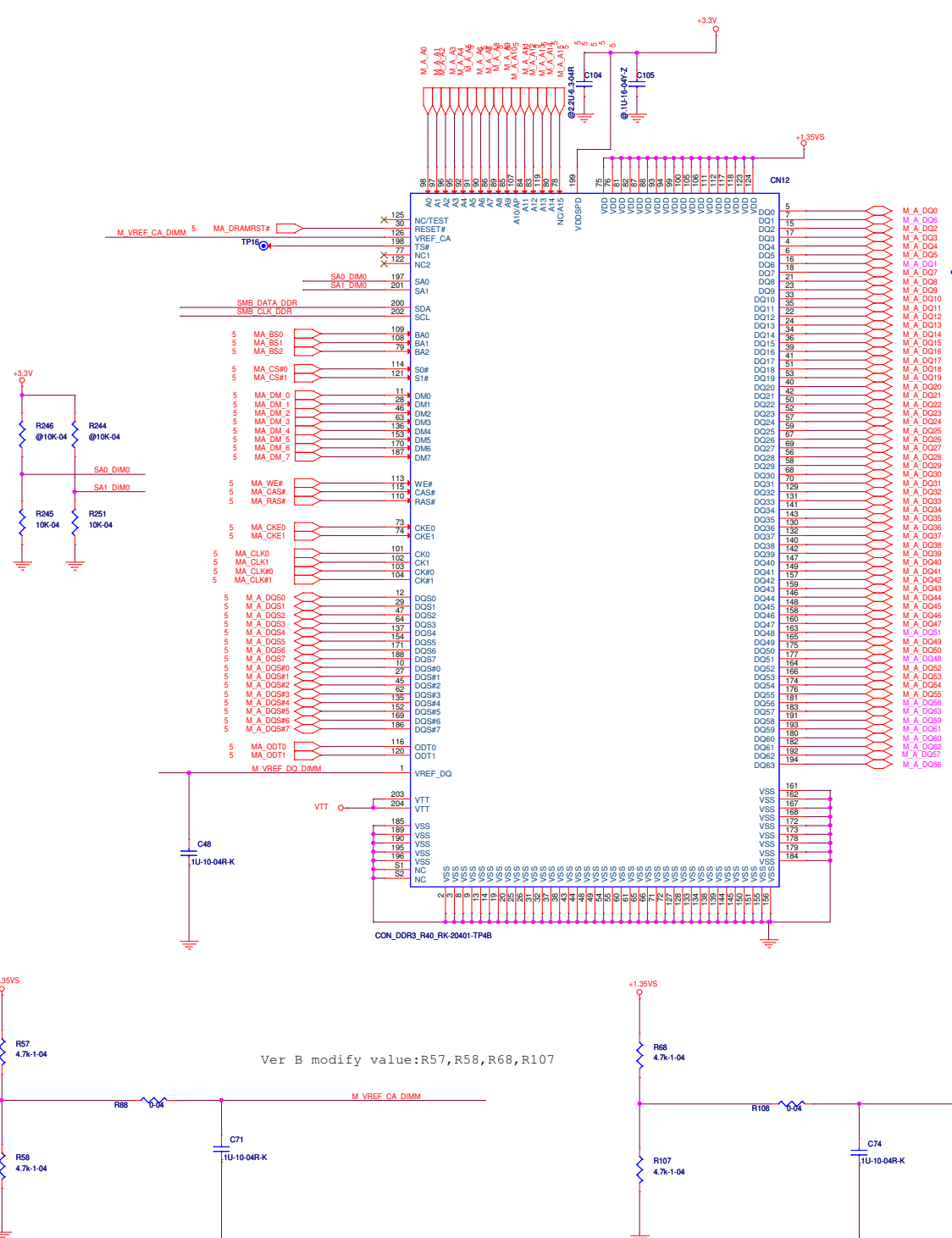




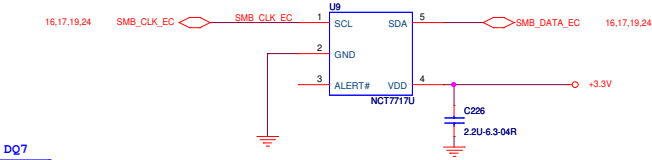


Title		
Bay Trail		
Size B	Document Number	Rev
	SOC Power1	C
Date:	Thursday, November 14, 2013	Sheet 11 of 33

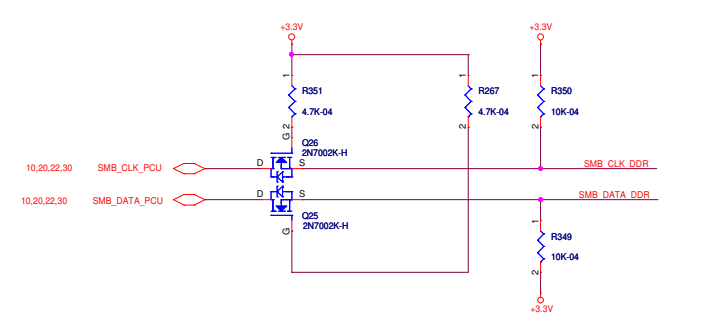
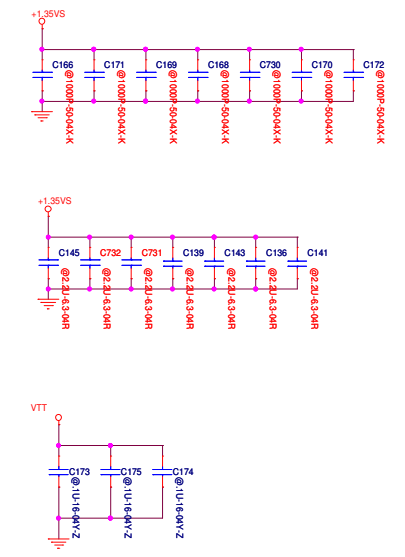


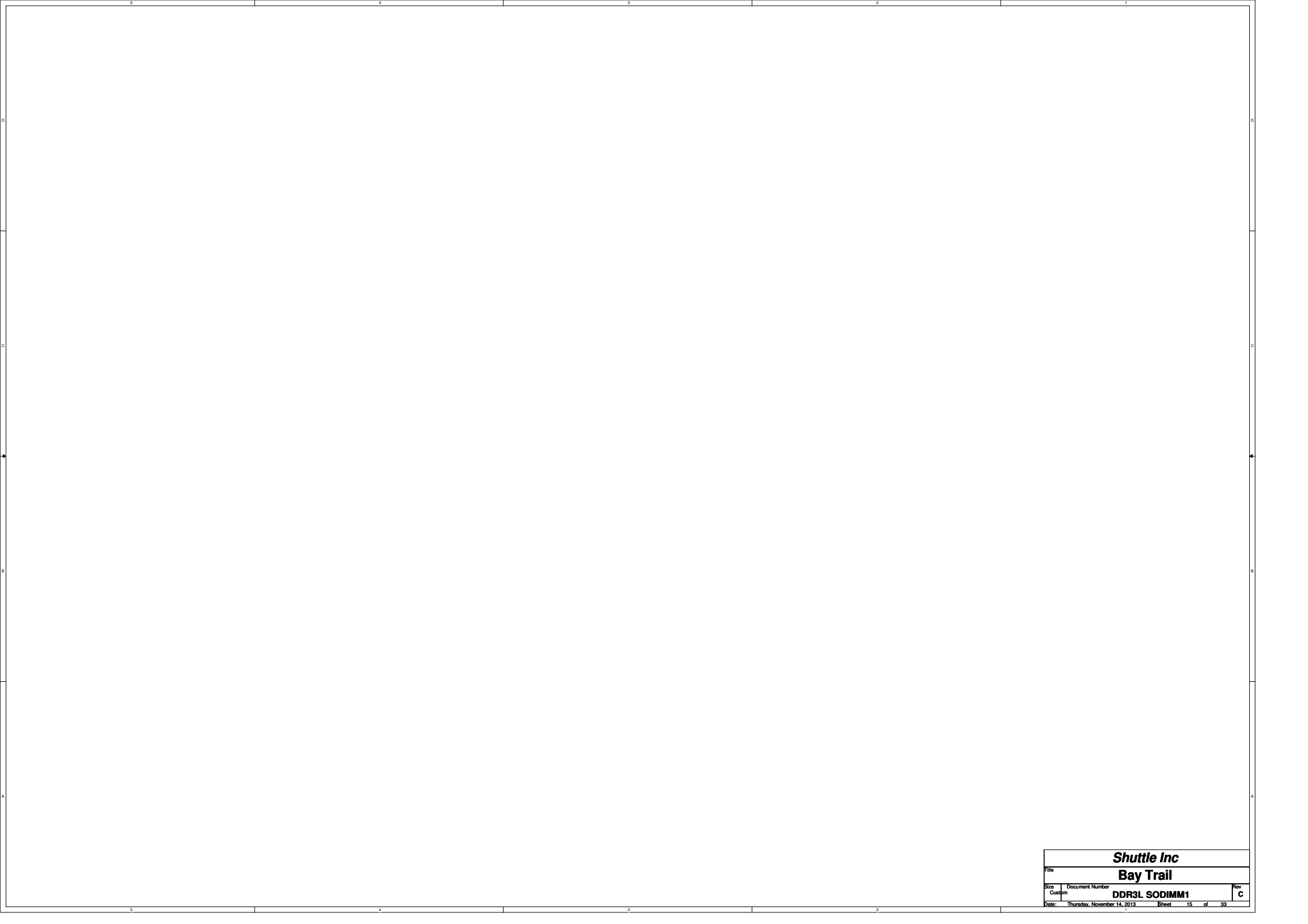


CPU Thermal Sensor

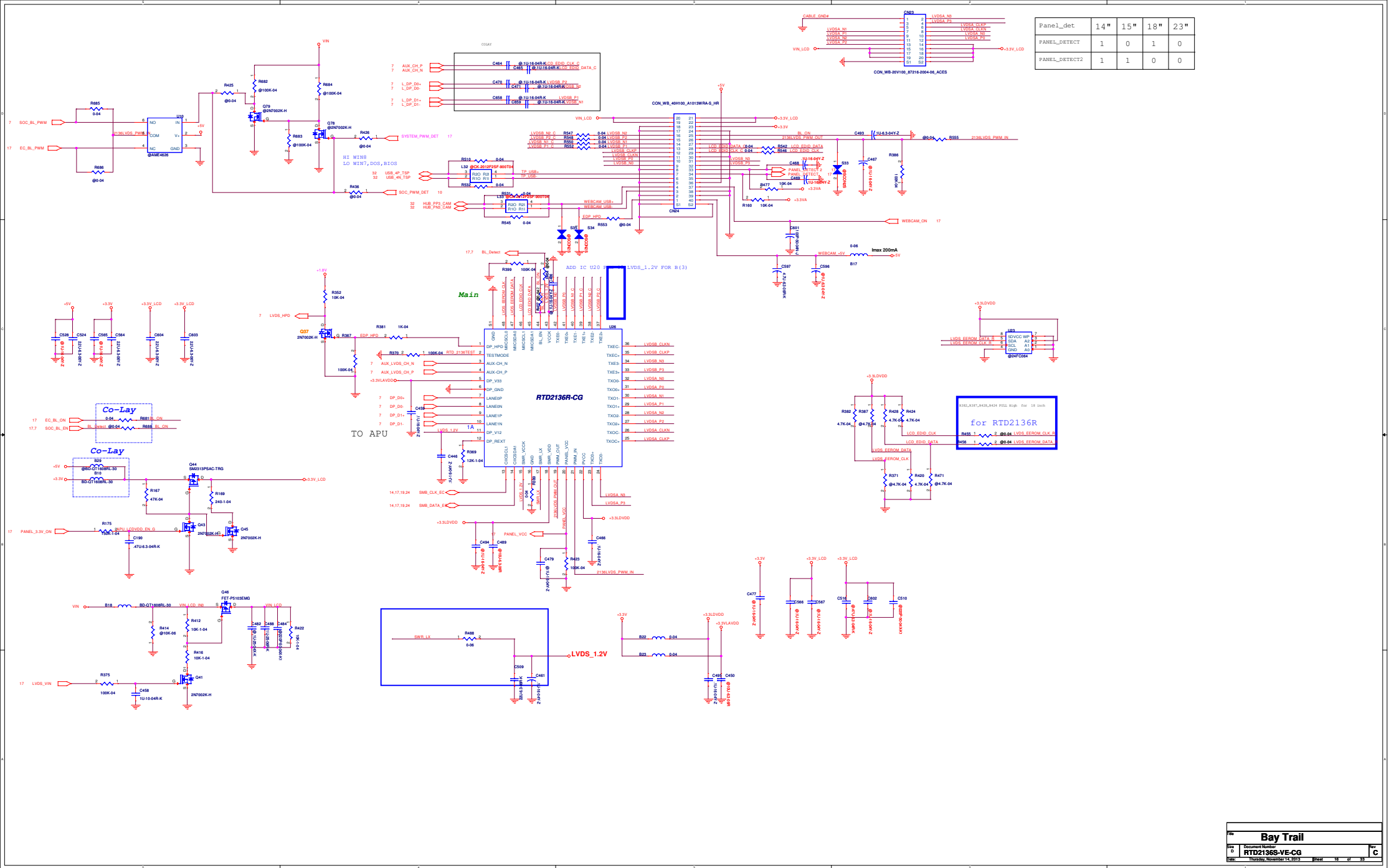


- DQ0 - DQ7
- DQ8 - DQ15
- DQ16 - DQ23
- DQ24 - DQ31
- DQ32 - DQ39
- DQ40 - DQ47
- DQ48 - DQ55
- DQ56 - DQ63

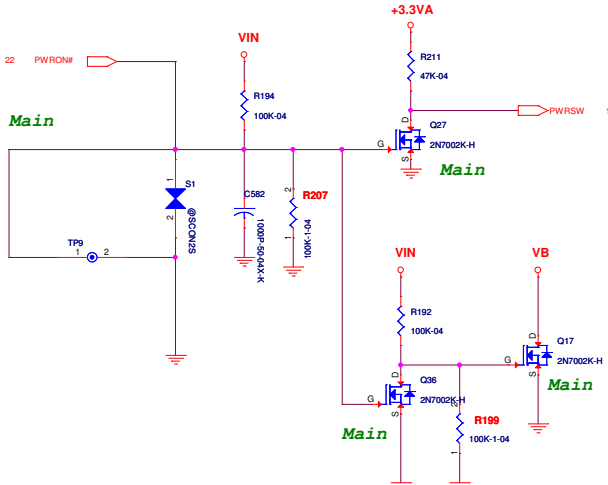




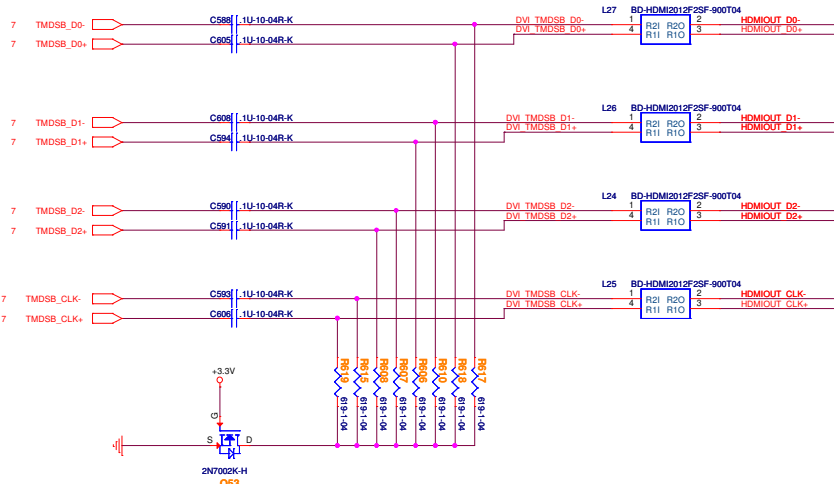
Title			
Shuttle Inc			
Bay Trail			
Size	Document Number		Rev
Custom	DDR3L SODIMM1		C
Date	Thursday, November 14, 2013		Sheet 15 of 33



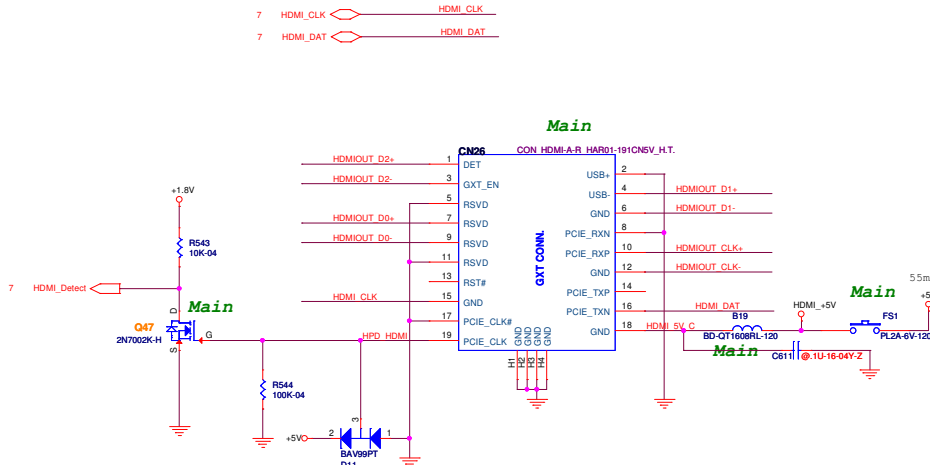
PWR SW



HDMI CONN



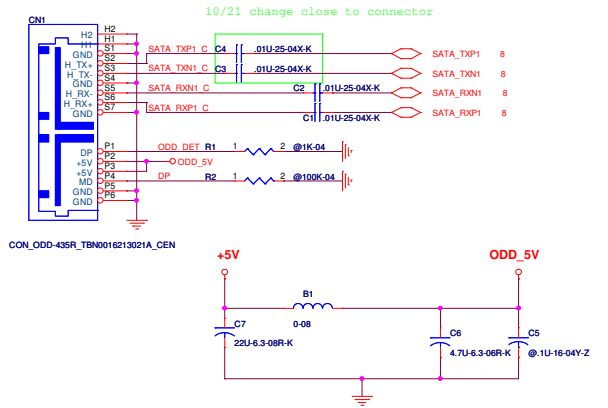
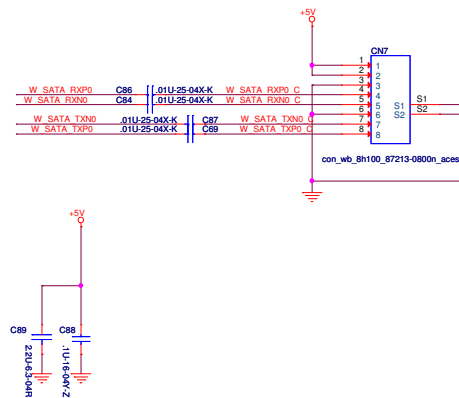
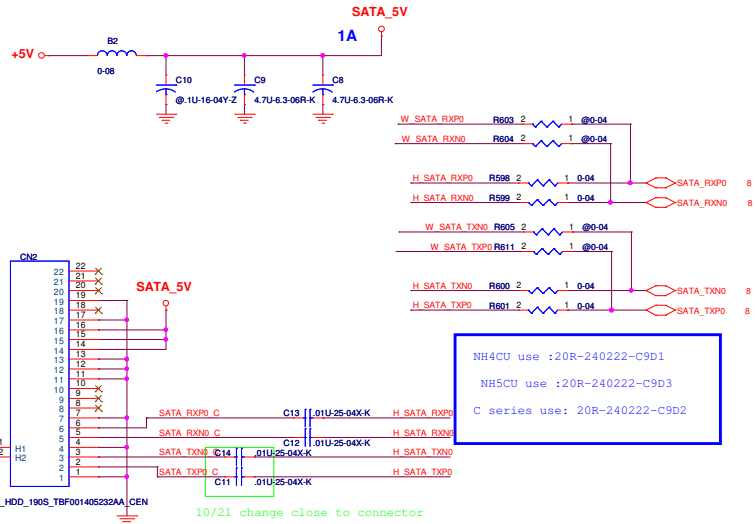
change HDMI Ver B1



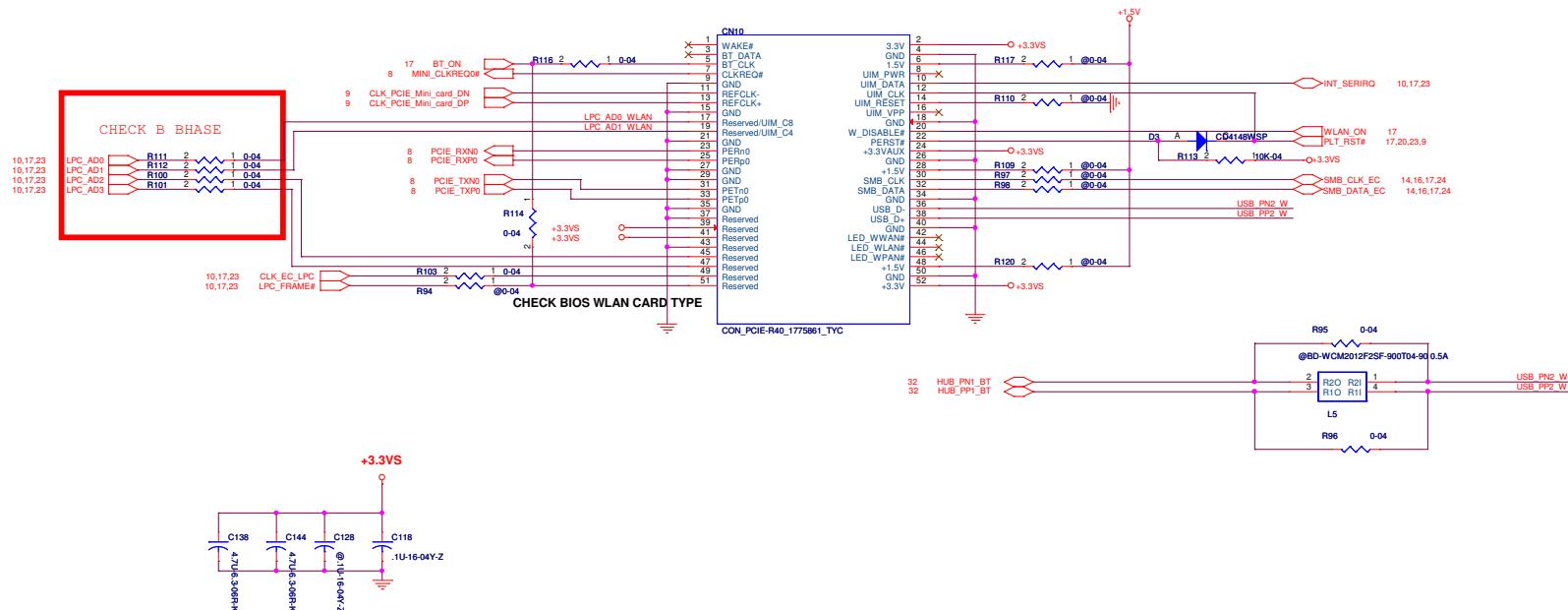
SATA-HDD

HDD-CABLE

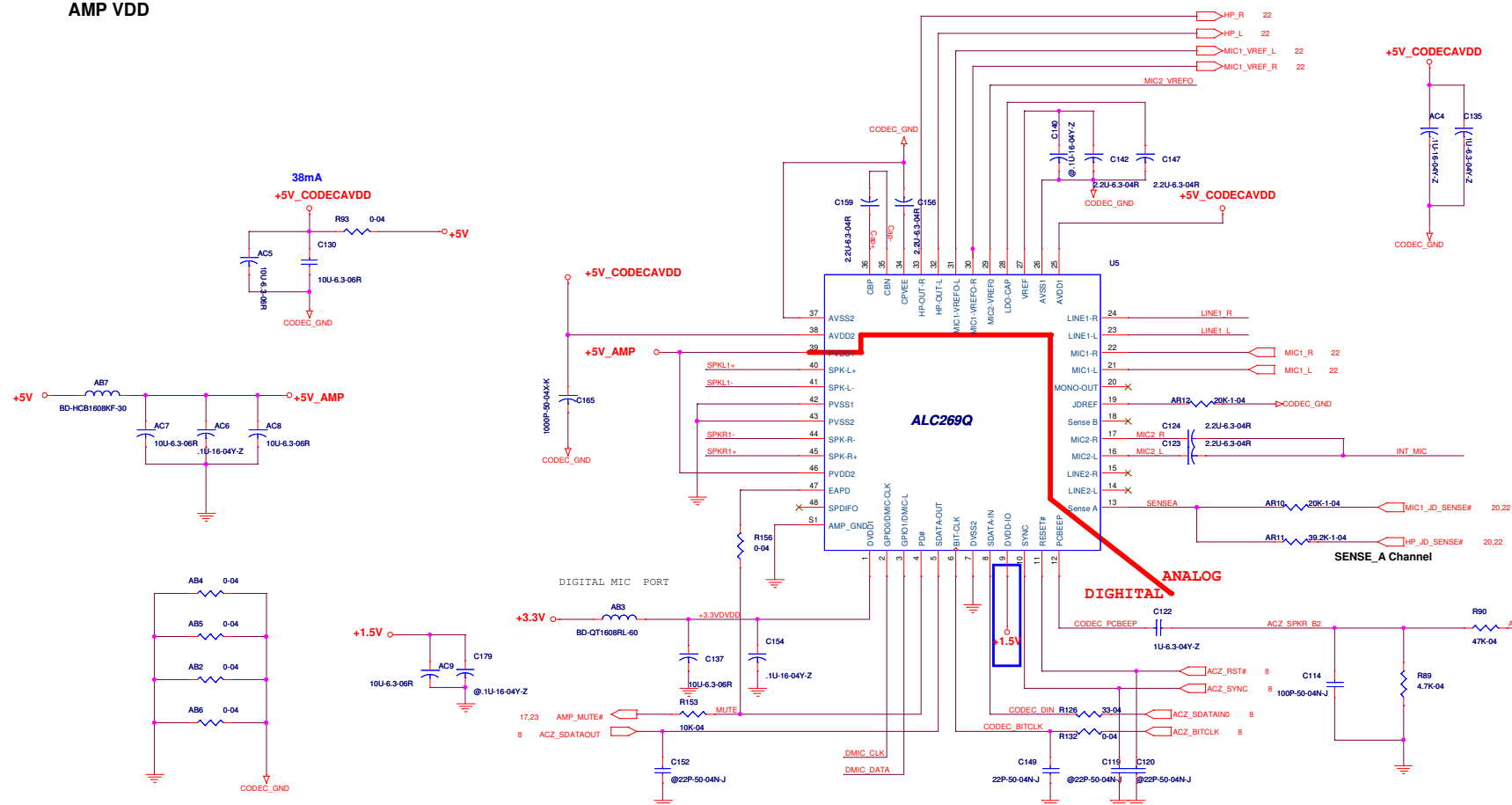
CD-ROM



MINI CARD CONN

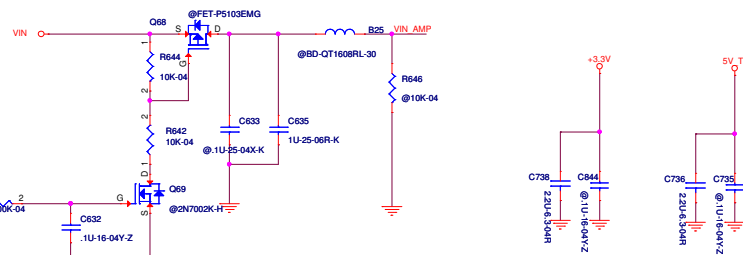
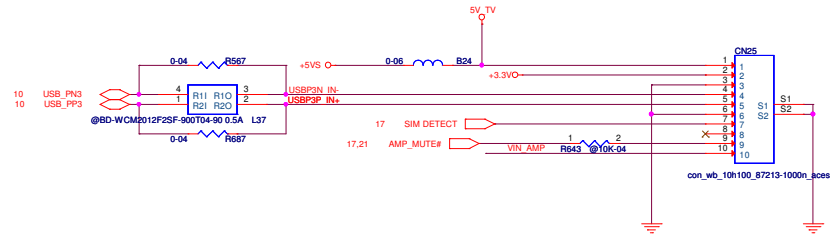
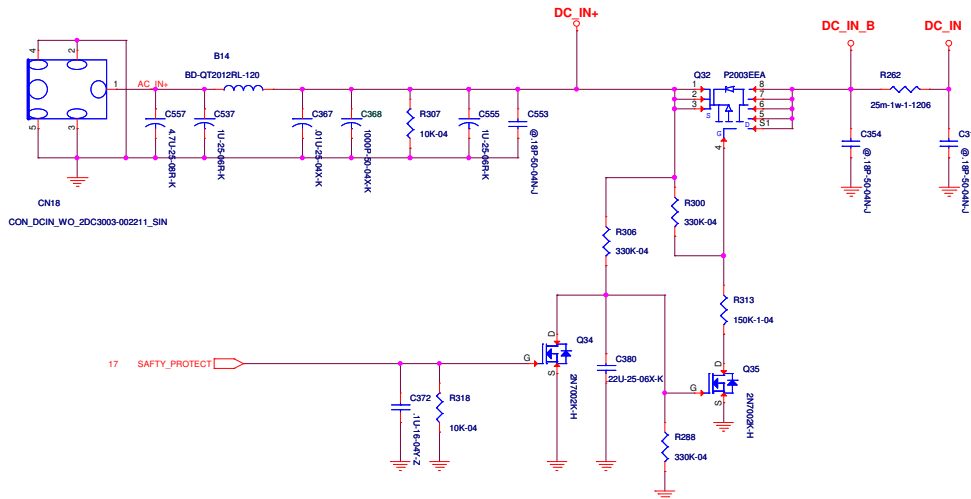


AMP VDD

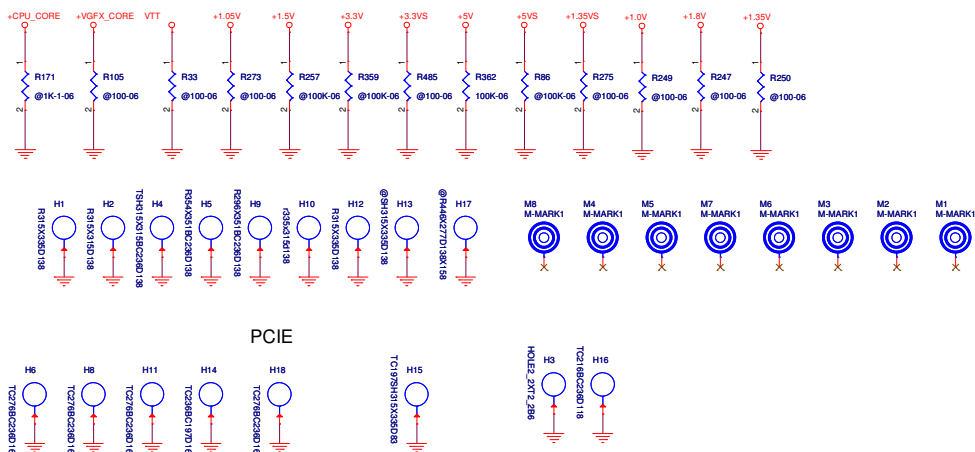
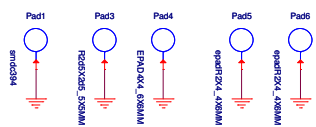
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DC IN

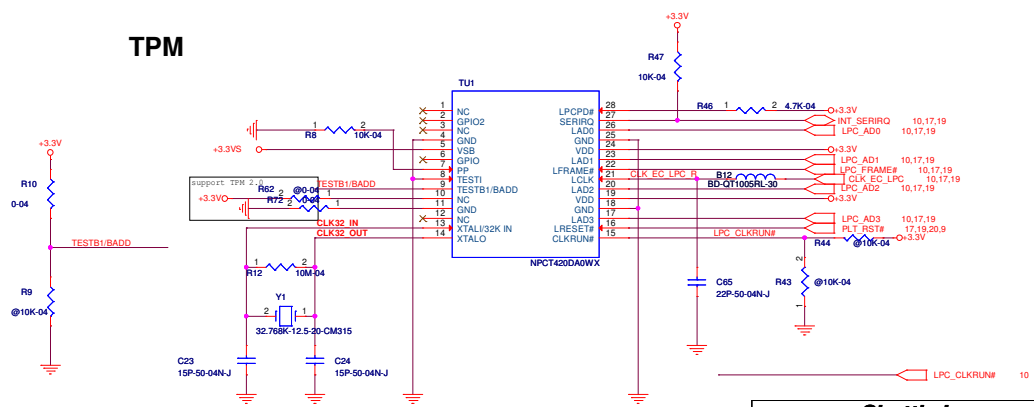
PROJECT	NH4CU		
Adaptor	40W		
Rsense	25m Ohm		
Stop Charger			



Discharge Resistor

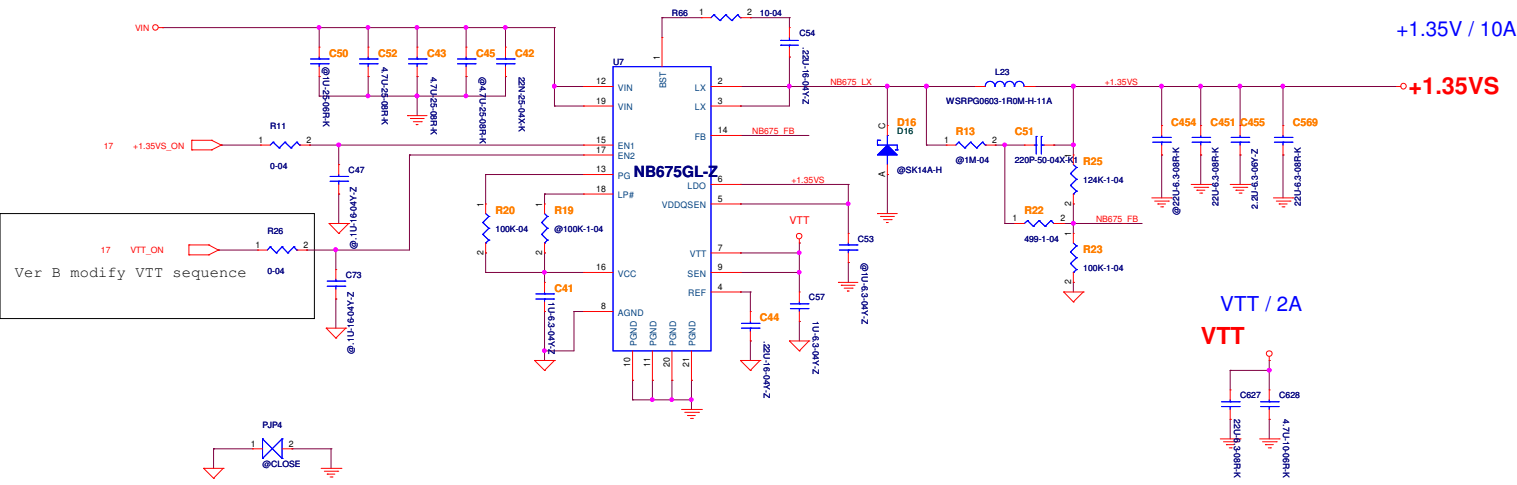


TPM



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Size	Document Number	Rev
Custom	DC IN/MDC/BT/D-Resistor	C
Date	Thursday, November 14, 2013	Sheet 23 of 33

EXT MIC / EXT LINE IN / EXT USB JACK

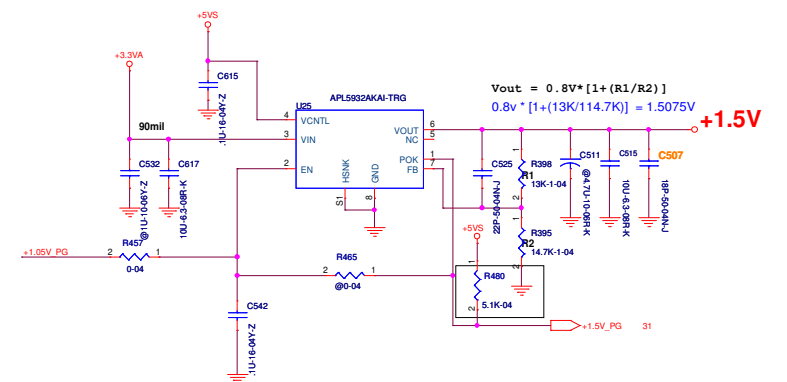


+1.35V / 10A

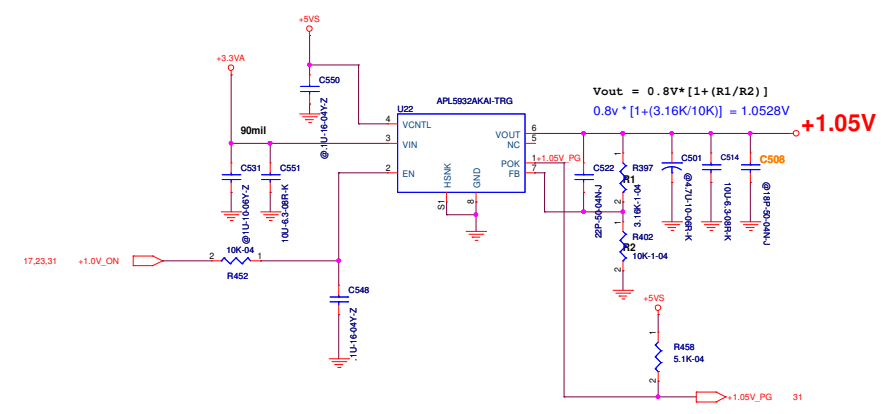
+1.35VS

VTT / 2A
VTT

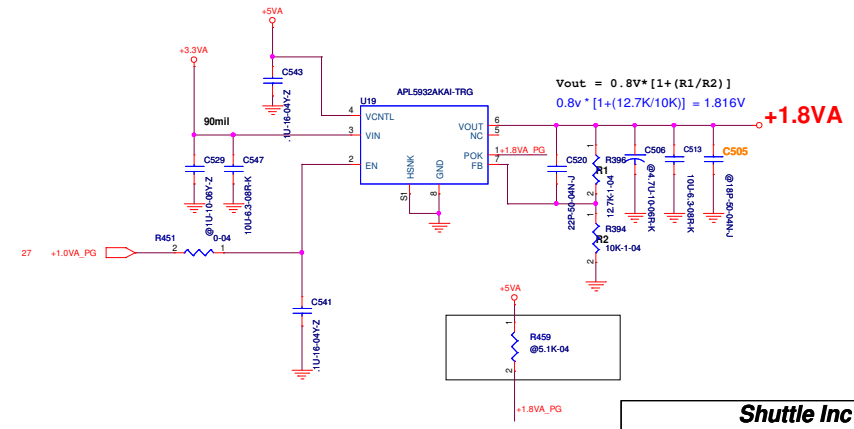
Ver B:DEL 1.2VA



+1.5V

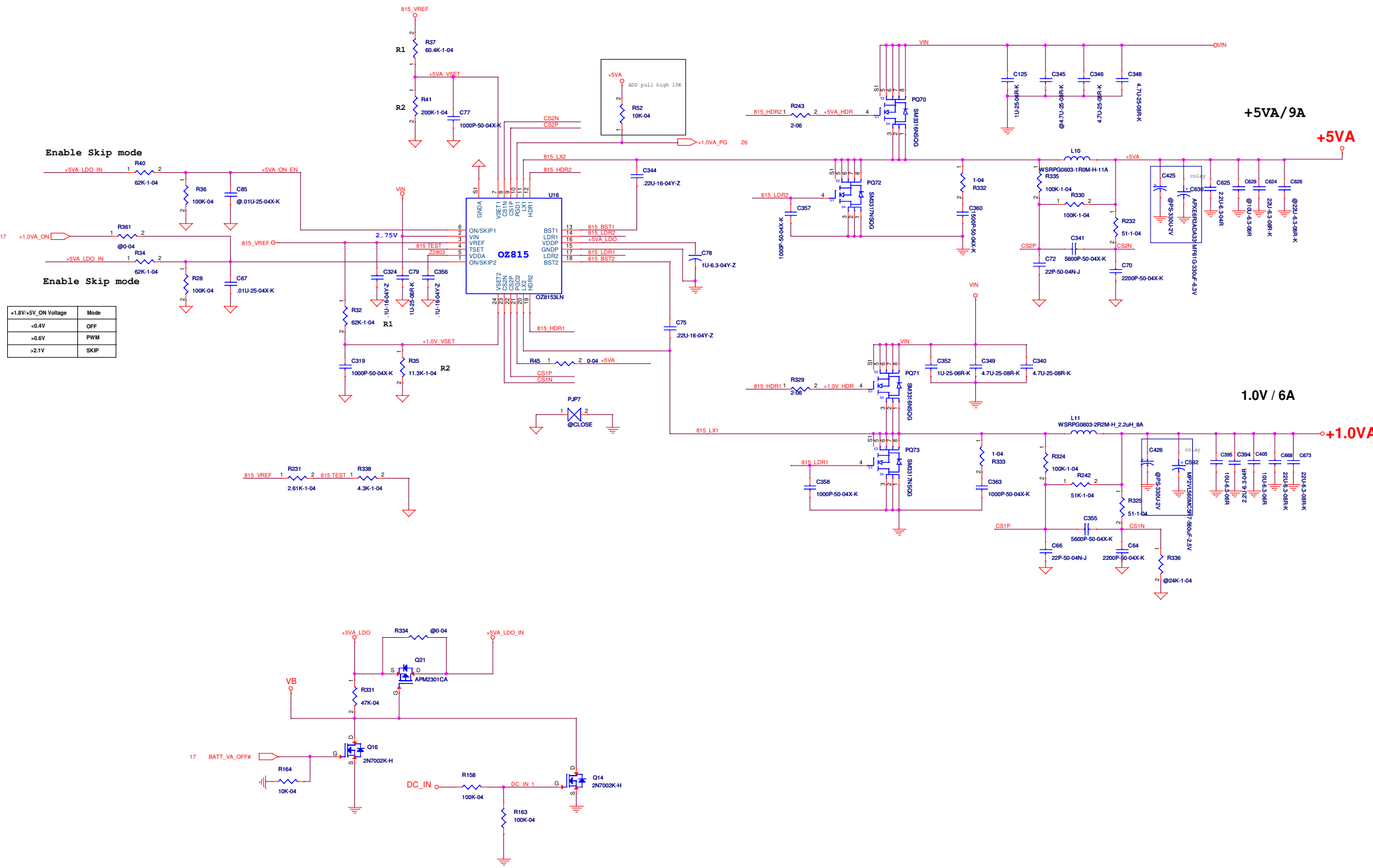


+1.05V

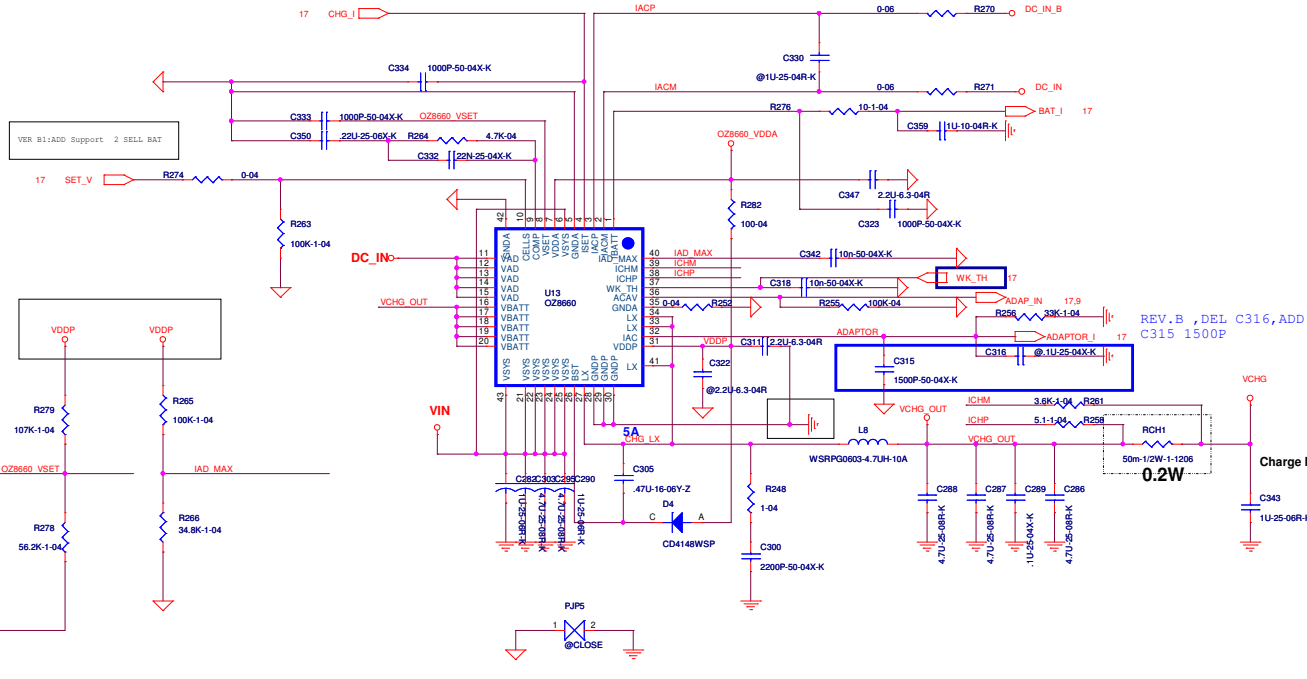


+1.8VA

$$\text{Output Voltage} = [\text{Vref} \times R2 / (R1 + R2)] \times 2$$



IAD MAX
40W=>R266=34.8K
65W=>R266=71.5K


$$V_{ch} = N \times (4.1 + V_{set}/10)$$

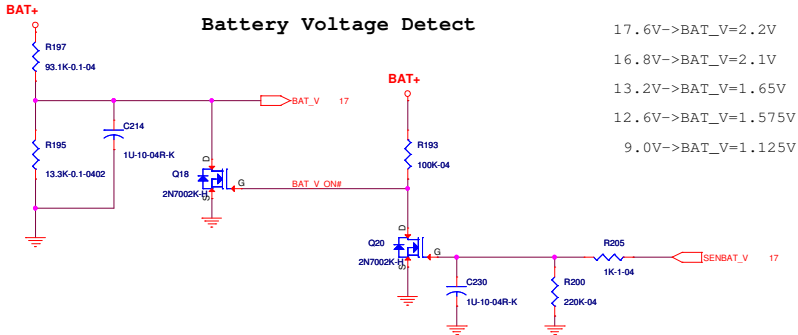
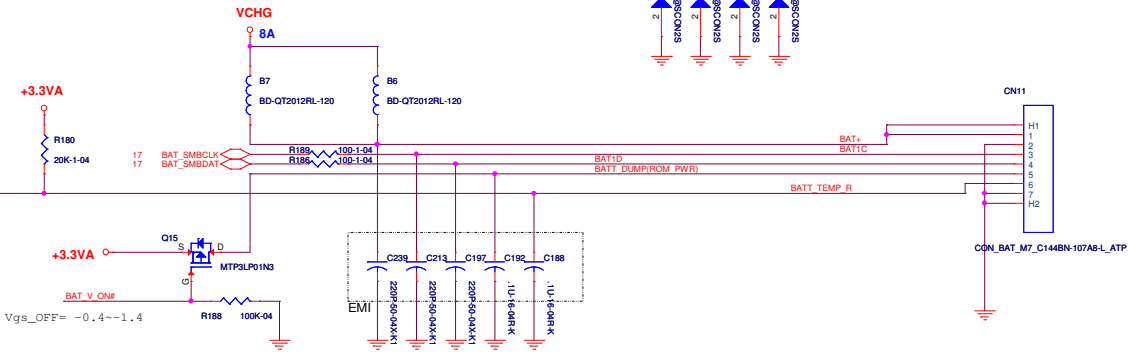
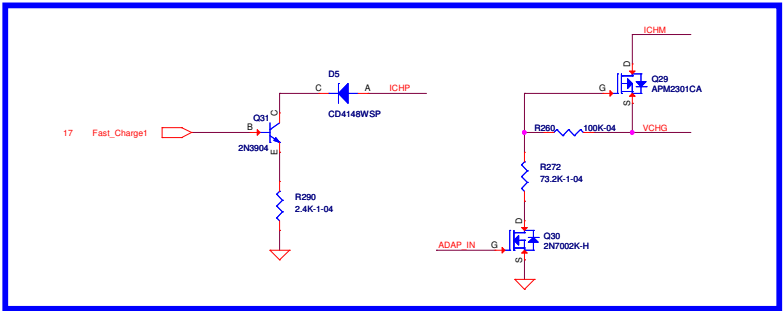
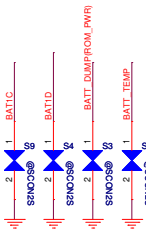
$$N = \text{Cell (pin2 = hing} \rightarrow 4, \text{ low} \rightarrow 3)$$

Vch = Nx(4.1 + Vset/10)
N=Cell (pin2 =hing -->4, low -->3)

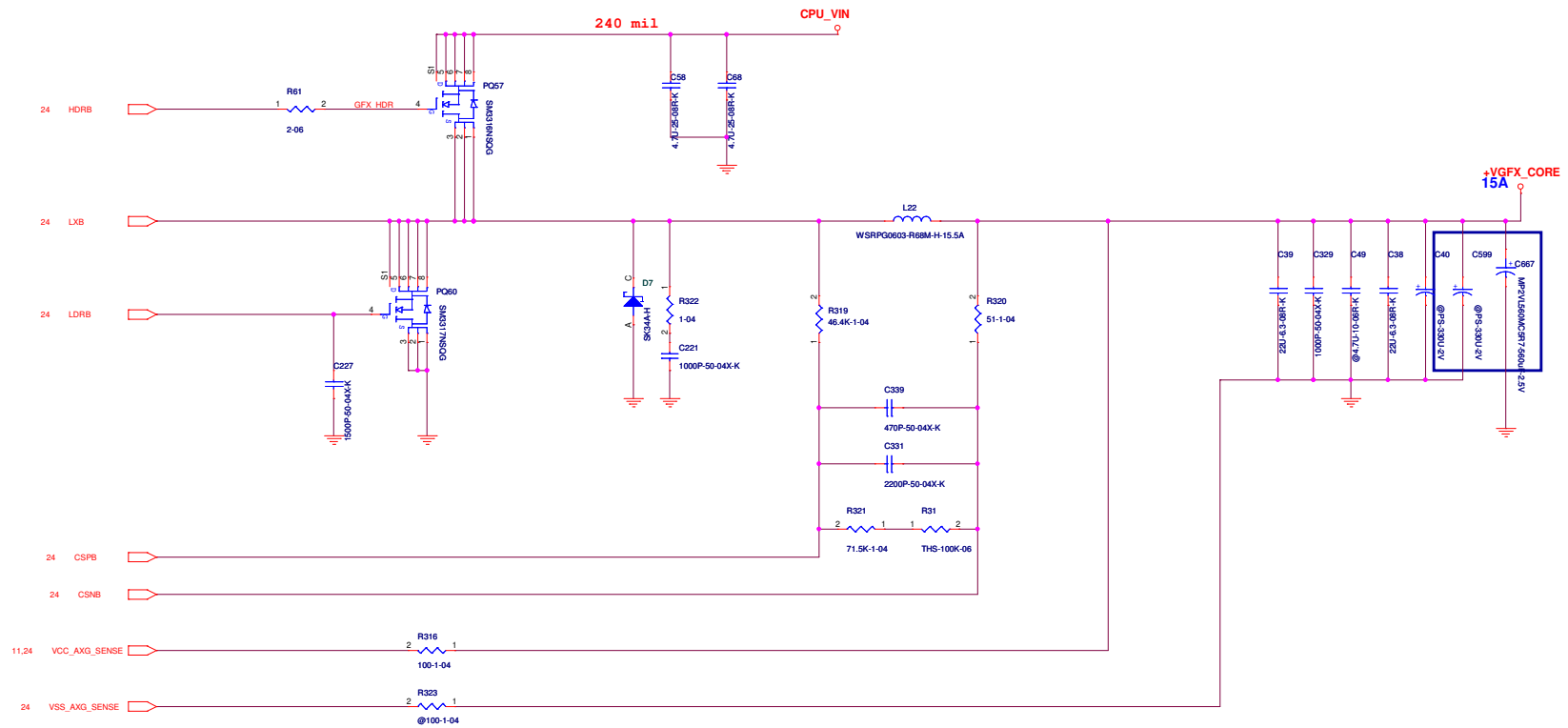
CHARGER CURRENT =V(CGH_I)/(Rch*30)

Charge I limit =2.5A

ADAPTOR_I	
Voltage	W
330mV	20W
660mV	40W
990mV	60W
1320mV	80W
1650mV	100W

$$\text{Vichg} = \text{RAD1} * \text{Irsense} * 10$$


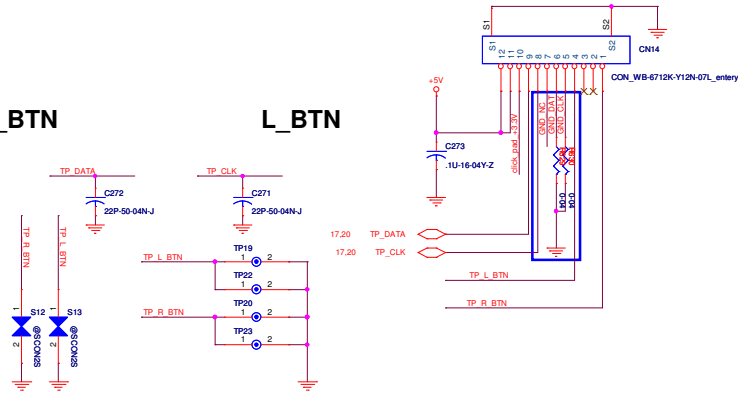
```
17.6V->BAT_V=2.2V
16.8V->BAT_V=2.1V
13.2V->BAT_V=1.65V
12.6V->BAT_V=1.575V
9.0V->BAT_V=1.125V
```



Touch Pad

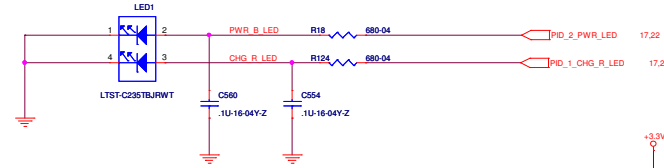
R_BTN

L_BTN



H-LED

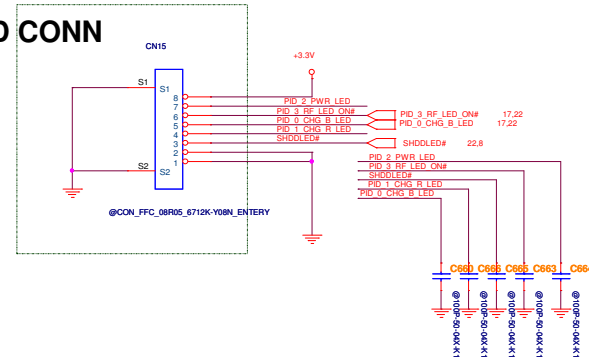
Charge LED



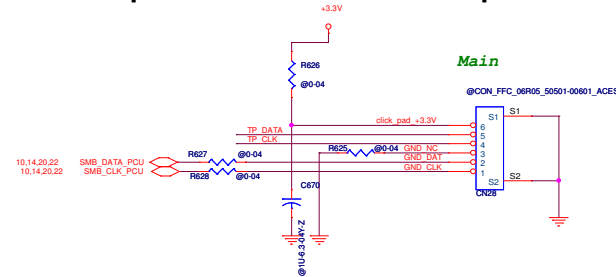
WLAN LED



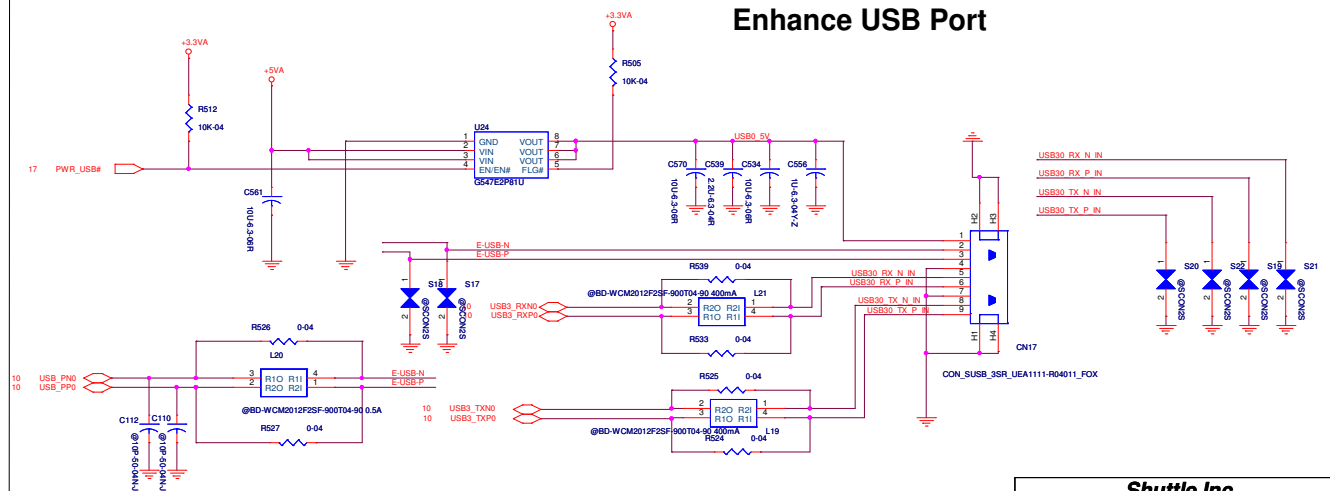
LED CONN



Click-pad / Co-LAY with Touch-pad



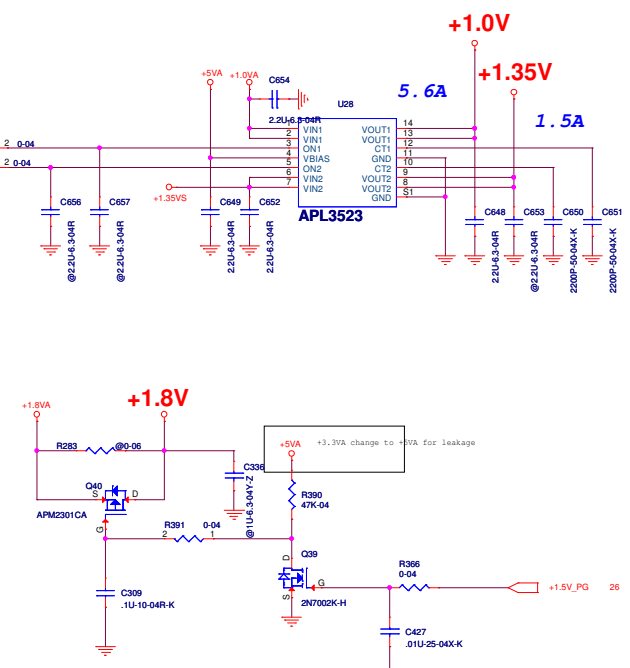
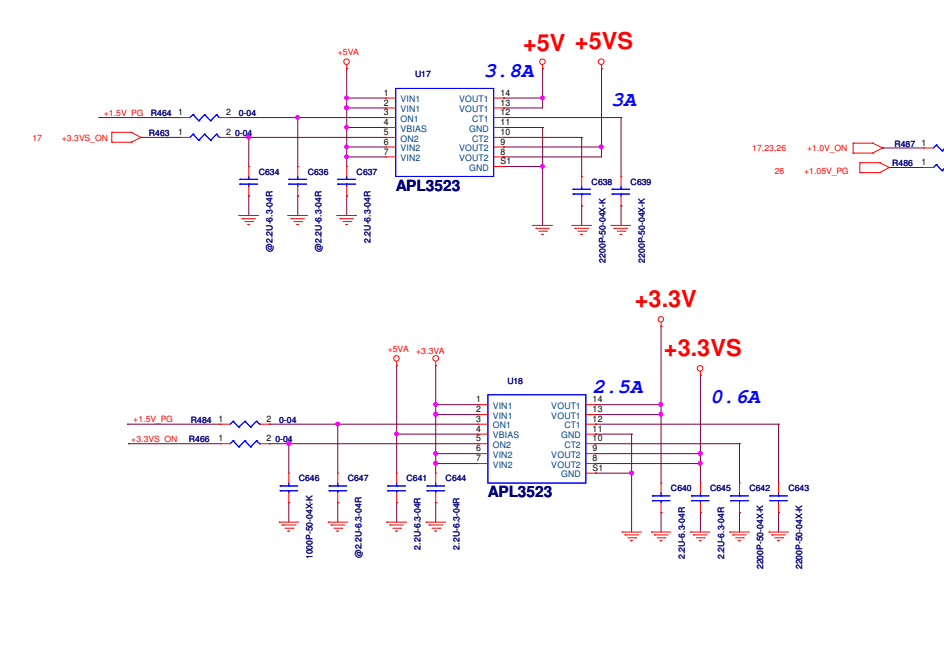
Enhance USB Port



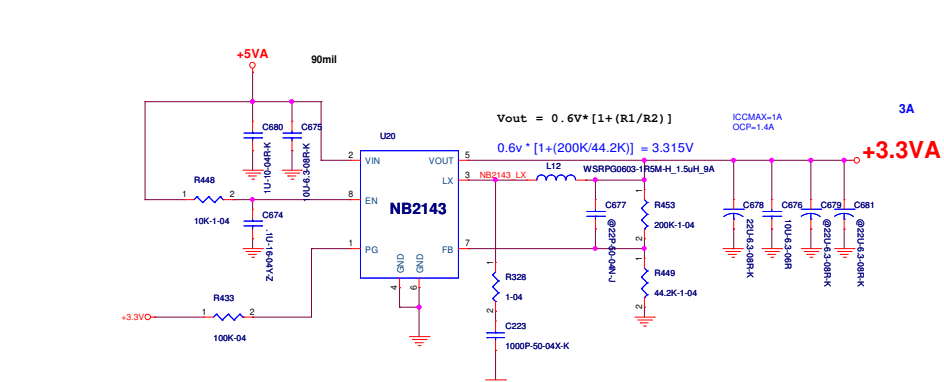
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Bay Trail

File	
Size	Document Number
Custom	TP/LED/WEBCAM/USB CHARGER
Date	Thursday, November 14, 2013
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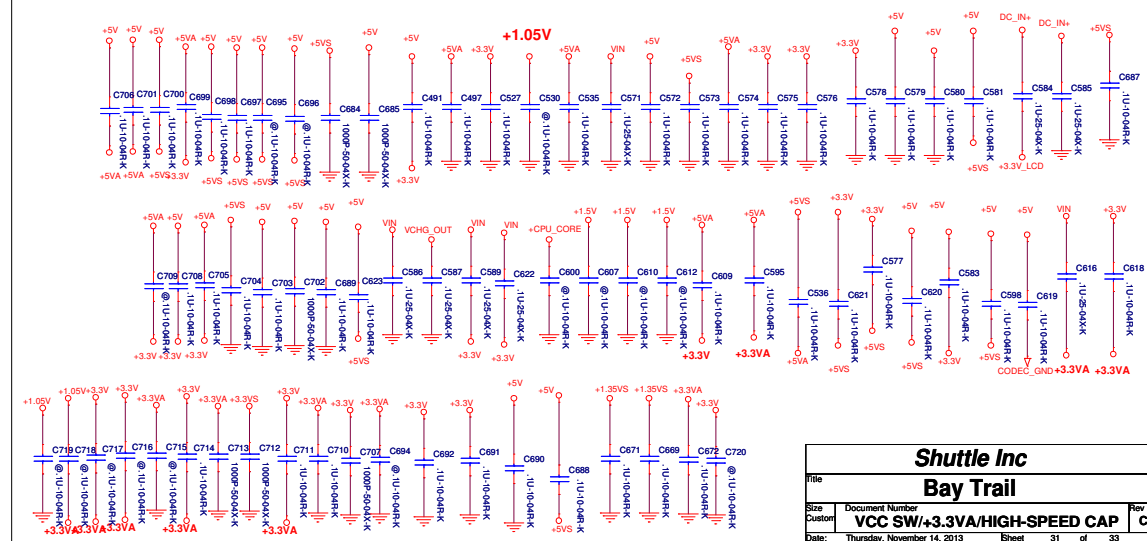
VCCSW



3.3VA Converter

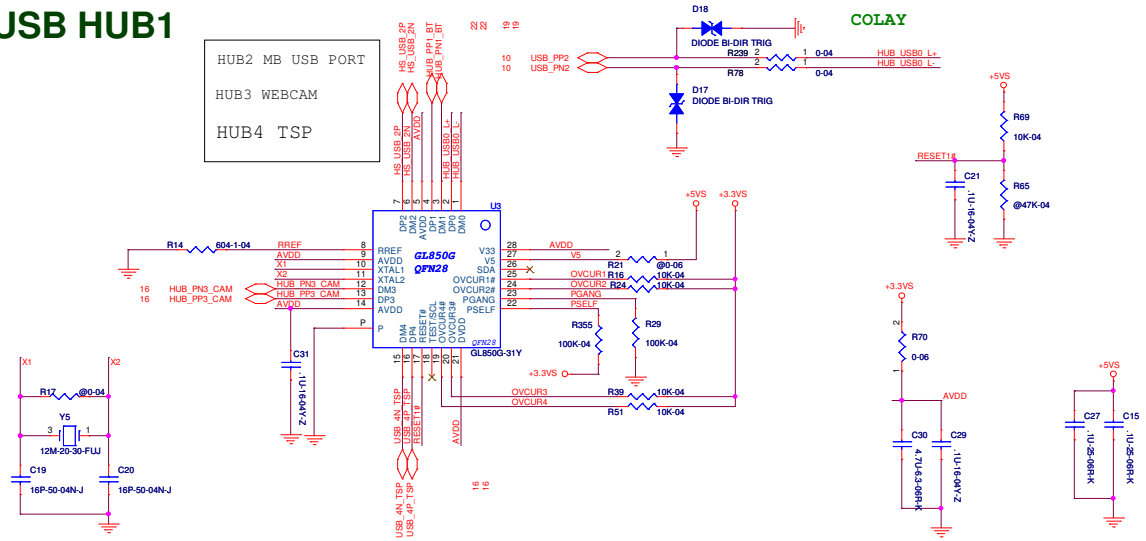


HIGH-SPEED CAP



USB HUB1

HUB2 MB USB PORT
HUB3 WEBCAM
HUB4 TSP



A PHASE

MA1:Change R379 stuff for no boot issue
MA2:Change R469,R470 stuff for SMBus power plane
MA3:Change 3.3VS_G3 to +3.3VS_G3,change 3.3VA_G3 to +3.3VA_G3
MA4:Change ACPRESENT to EC pin 88
MA5:ADD 0R FOR 25MHZ CLK(R534)
MA6:ADD 0R FOR PCH SATA POWER(B6)
MA7:Sharing System BIOS ROM for KB & EC Codes(Del U7)
MA8:ADD EC_HSCK path for sharing ROM(ADD R540)
MA9:ADD EC_HSCS0# path for sharing ROM(ADD R484)
MA10:ADD EC_HMOSI path for sharing ROM(ADD R212)
MA11:ADD EC_HMISO path for sharing ROM(ADD R482)
MA12:ADD 0R FOR AMP_GND(ADD AB12)
MA13:Change CN16 PIN DEFINE
MA14:DEL R147 for PROCHOT issue
MA15:ADD ISEN1 Pull Hi +5V(ADD R356)
MA16:Change C203 SMD CAP TO DIP CAP
MA17:ADD ASM1042_SMI# path(ADD R683)
MA18:Change CN19 PIN DEFINE
MA19:ADD EMI solution(ADD C251,C257,C357,C341,C684,C686,C25,C660,C677 DEL C99,C430)

B PHASE

MA1:U25,U19,U22 PIN S1&Pin3 OPEN,Change GND
MA2:DEL CRT ADD HDMI
MA3:HUB2 Change ;HS_USB_2P, HUB3 Change : HUB_PN3_CAM, HUB4Change: USB_4N_TSP
MA4:ADD CLEAR CMOS Circuit
MA5:ADD WLAN LED
MA6:U66 U68 Change 3.3V for leakage
MA7:EC #81 ADD Support 2 cell BAT
MA8:ADD EMI Soutlion:C223, R427, C707, C684, C702, C27,C15, C260,C703,C704, C712,C713
MA9:EC #86 ADD TXE_DISABLE
MA10:PCIE_WAKE# pull high 3.3VA
MA11:ADD thermal solution move U9 close to Q101
MA12:ADD sopput 18 inch LCD ADD U23,R455,R456,R403,R374,R471
MA13:ADD Platform R221,R219
MA14:GPU core add C39,C389