

ZZZ
DAB@
DA80000QD00
PCB

ZZZ1
EL@
X76346BOL01

ZZZ2
HY@
X76346BOL02

S1
ME@
EC0NY000600

Compal Confidential

QCJ00(LA-8111P) Schematics Document

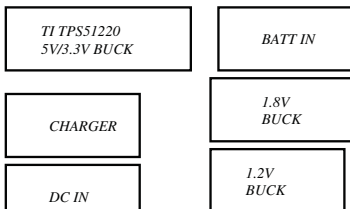
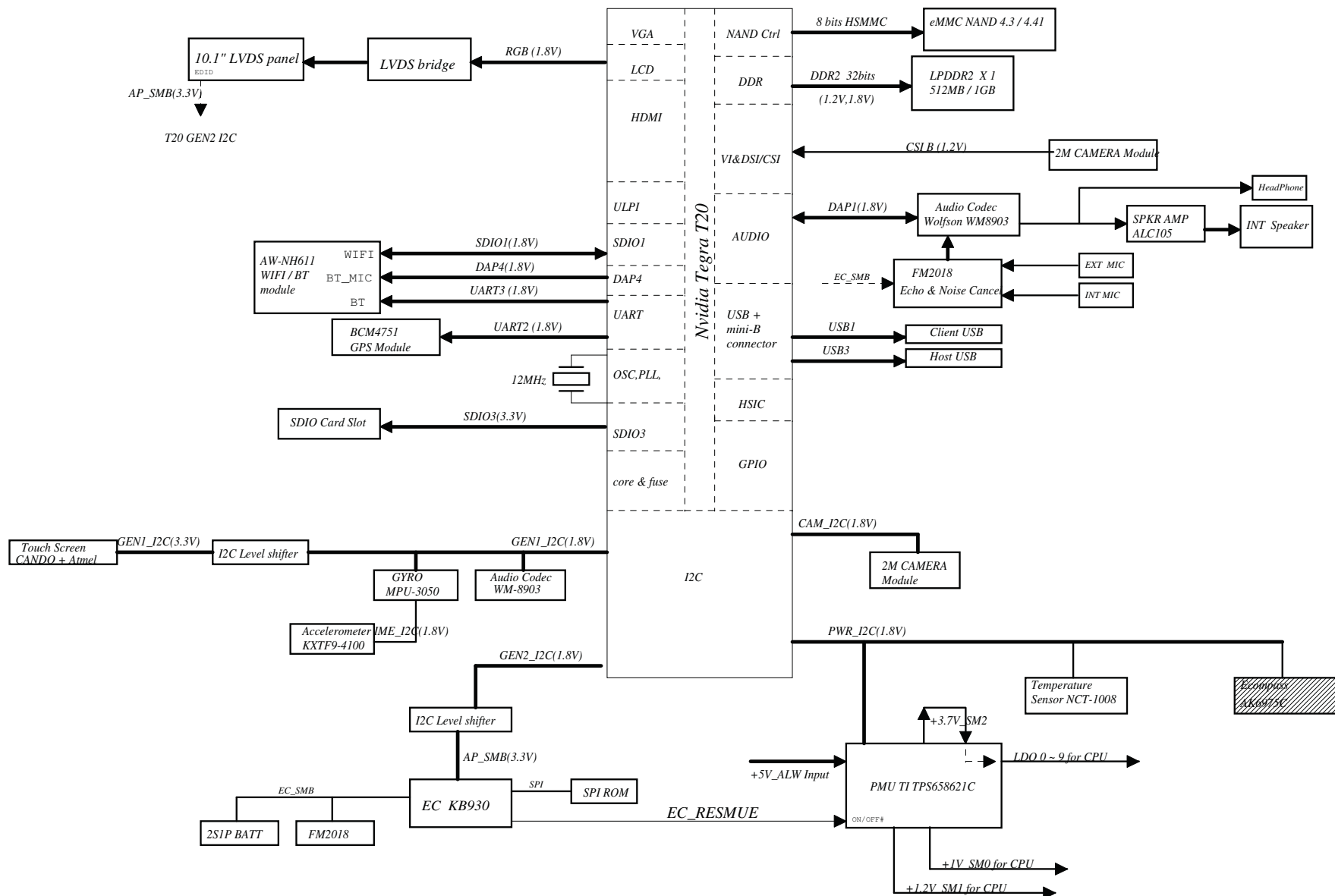
Nvdia(T20) + LPDDRII

2011-09-30

REV: 0.3

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QCJ00 (Picasso-E) system block diagram



Voltage Rails

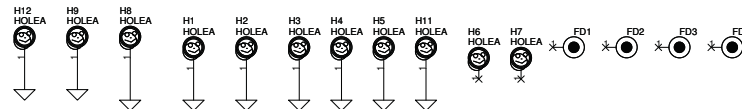
Power Plane	Description	IDLE	Standby
VIN	Adapter power supply (12V)	ON	ON
B+	AC or battery power rail for power circuit.	ON	ON
+1.2VS_SM0	Core voltage for CPU	ON	OFF
+1.0VS_SM1	CPU voltage for CPU	ON	OFF
+1.1VS_LDO1	AVDD_PLL power rail	ON	OFF
+1.2VS_LDO2	T20 RTC power rail	ON	OFF
+1.8VS_LDO4	T20 system power rail	ON	ON
+3.3VS_LDO3	T20 USB power rail	ON	OFF
+2.85VS_LDO5	Core voltage for EMMC	ON	OFF
+2.85VS_LDO6	Core voltage for CAMERA	ON	OFF
+3.3VS_LDO7	T20 HDMI power rail	ON	OFF
+1.8VS_LDO8	T20 HDMI PLL power rail	ON	OFF
+2.85VS_LDO9	T20 DDR RX power rail	ON	ON
+3VALW	3.3V always on power rail	ON	ON
+3VS	3.3V switched power rail for standby mode	ON	ON
+5VALW	5V always on power rail	ON	ON
+1.8V	1.8V always on power rail	ON	ON
+1.8VS	1.8V switched power rail for standby mode	ON	ON
+3.3VS_RTC	RTC power	ON	ON

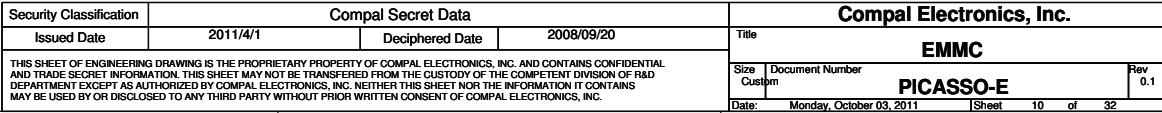
SIGNAL STATE	EC_SYS_STANDBY#	EN_VDD_+1.8VS_S3	EN_VDD_3V3	EN_VDD_1V8
Full ON	High	High	High	High
Standby	High	High	High	High

GEN1_I2C		TS_I2C	
Audio Codec	1001 010xb	Device	
G-sensor	0000 1111 b	Touch Panel	
Gyro	1101 000x b	0x4C or 0x4D	
GEN2_I2C		AP_SMB	
		Device	
		PANEL EDID	
EC_SMB		EC	
		Device	Address
Echo Cancellation		1011 111xb	
BATT			
CAM_I2C address			
		Device	Address
CAMERA 1.3M		1001 000X b	
PWR_I2C address			
		Device	Address
PMU		0110 100X b	
Temperature sensor		0101 110X b	
Ecompass			

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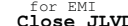


7/1 del D26

U10



Close to U10



LCD POWER CIRCUIT



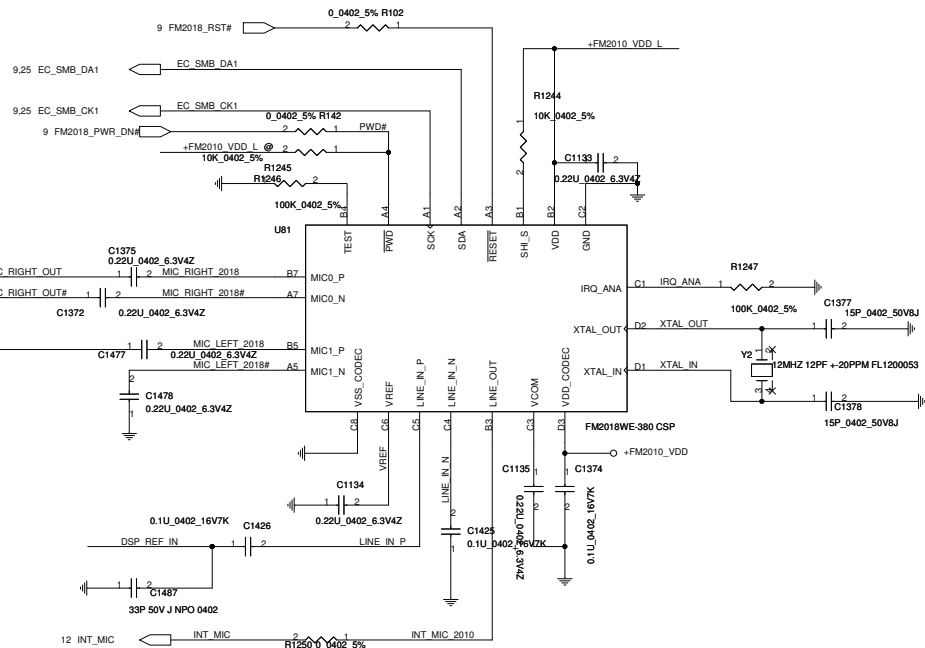
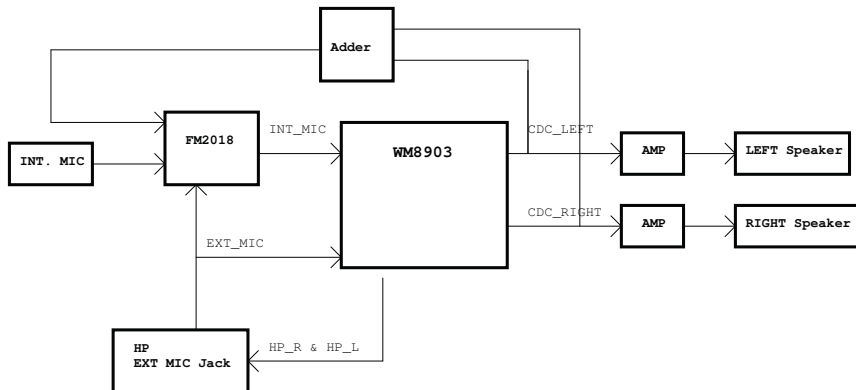
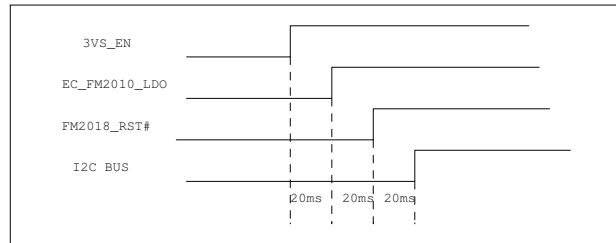
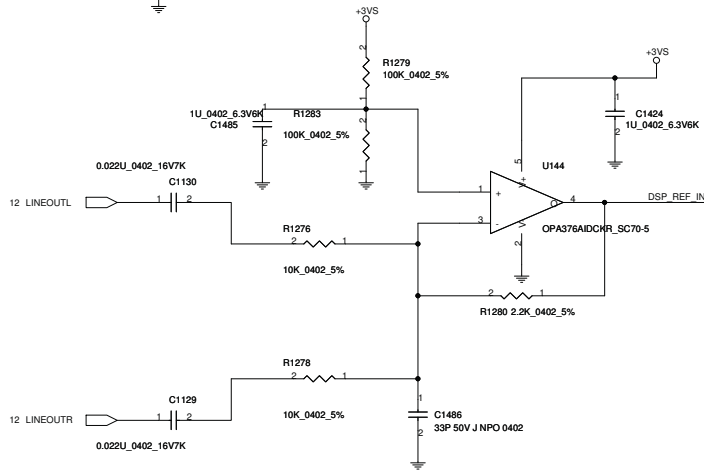
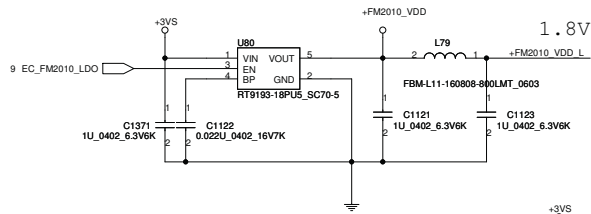
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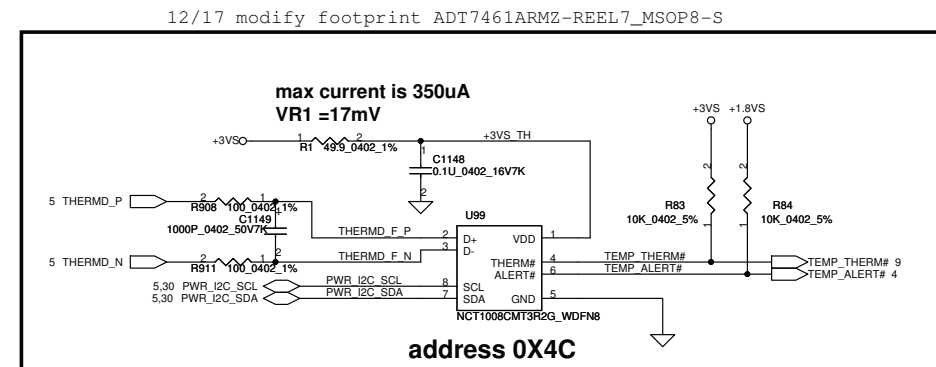
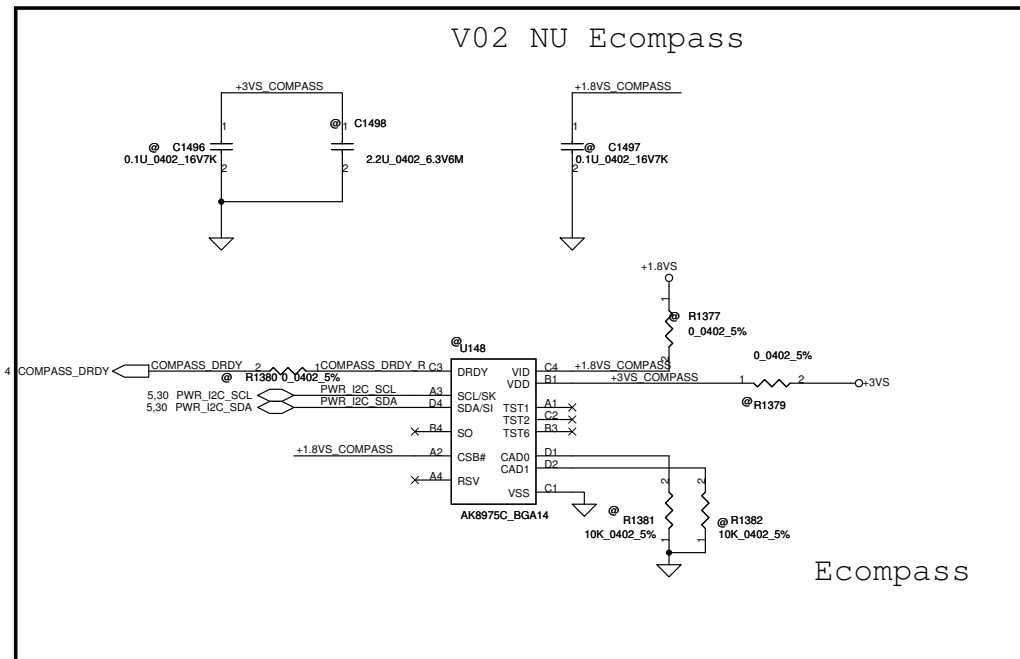
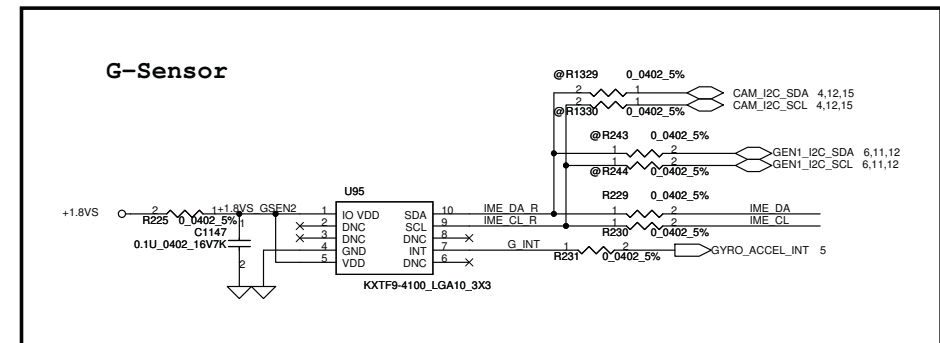
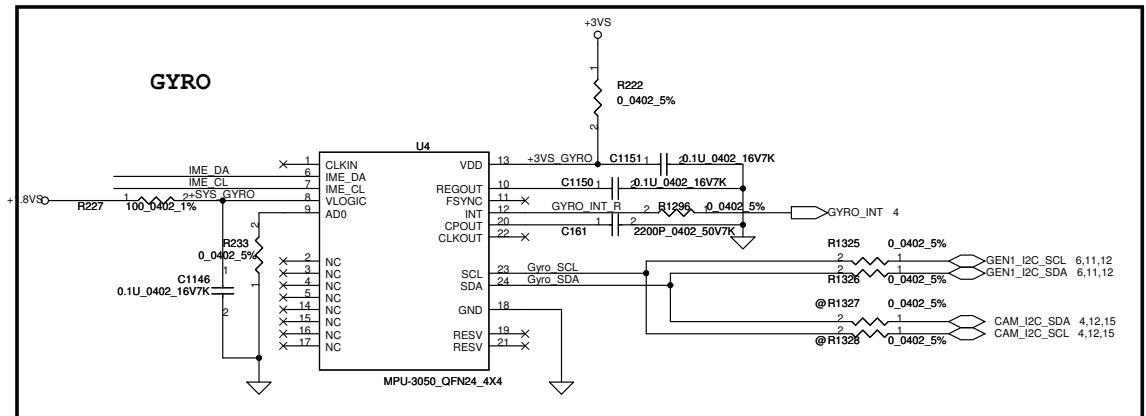
LCD PANEL

PICASSO-E

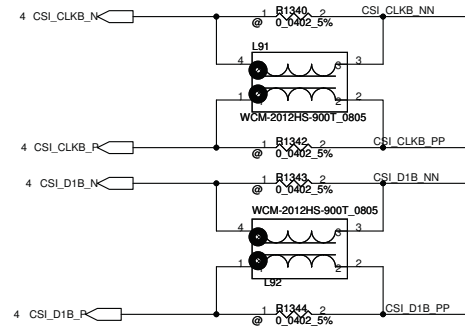
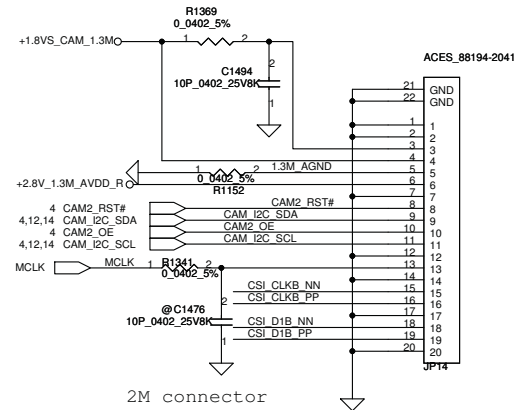
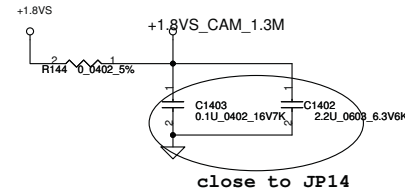
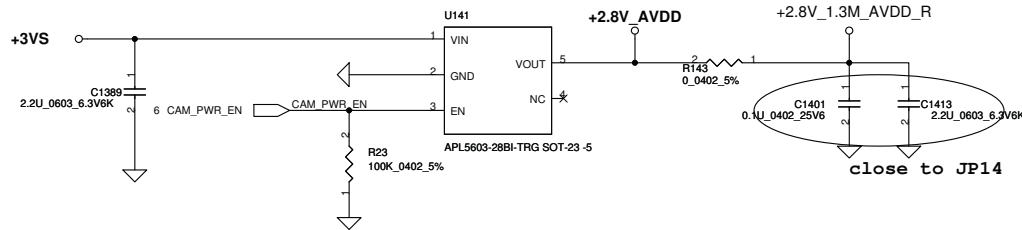
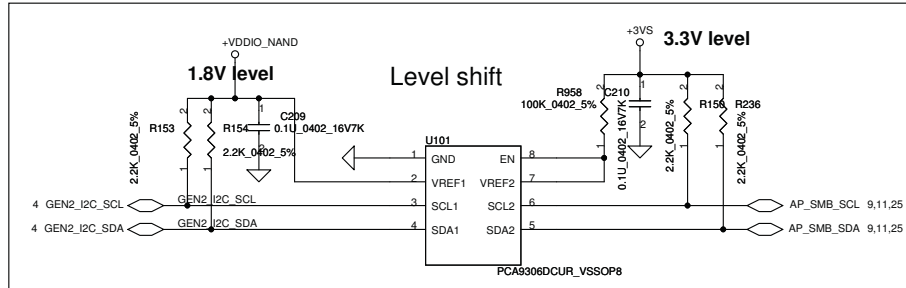
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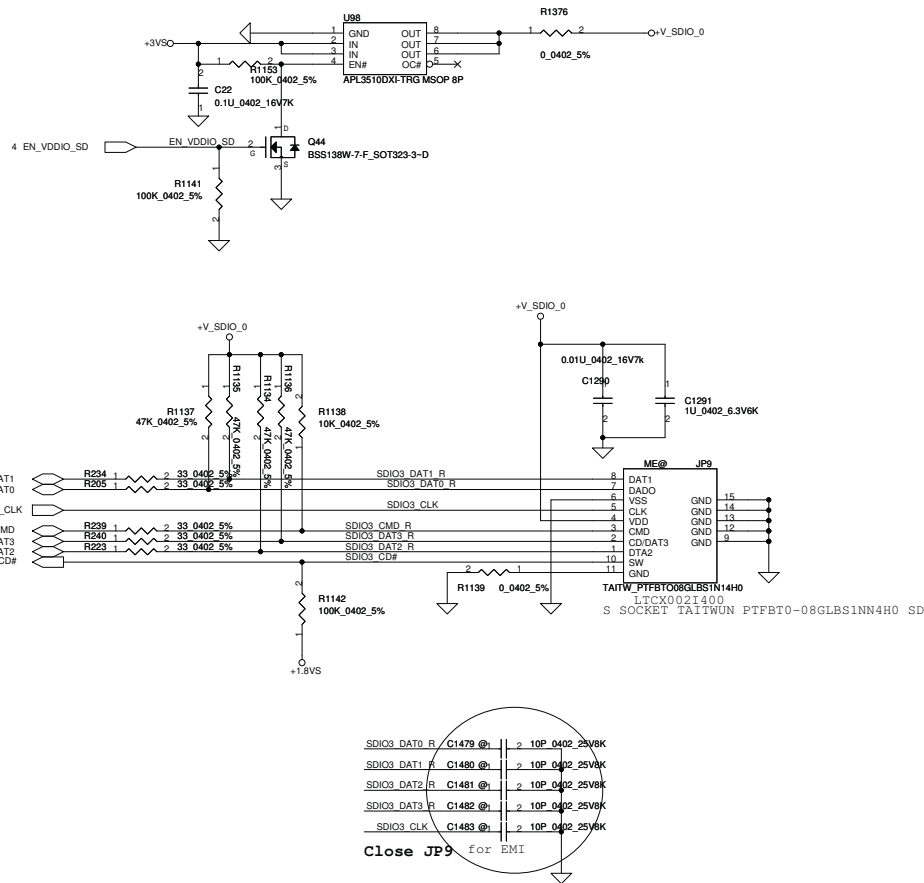




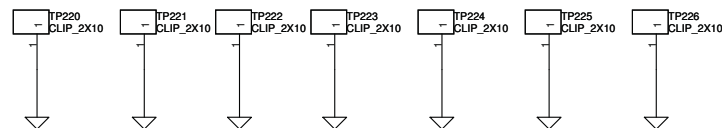
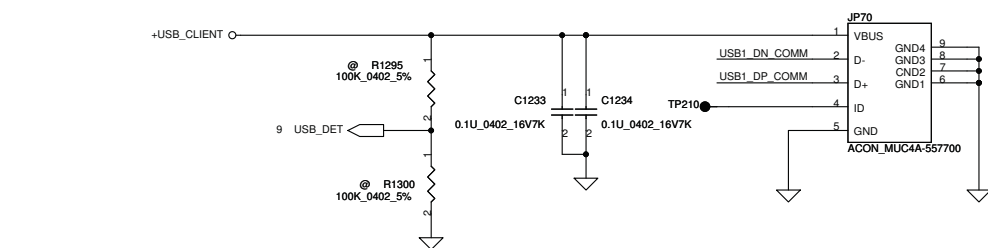
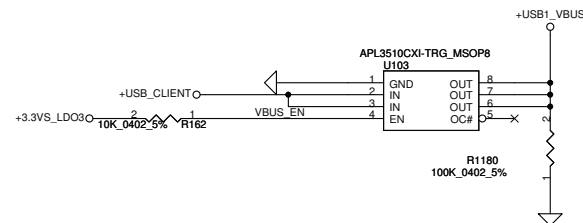
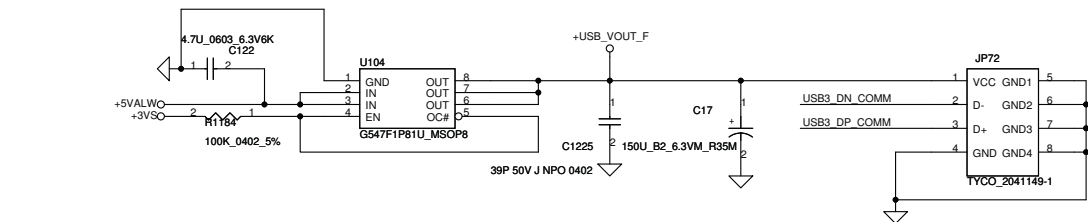
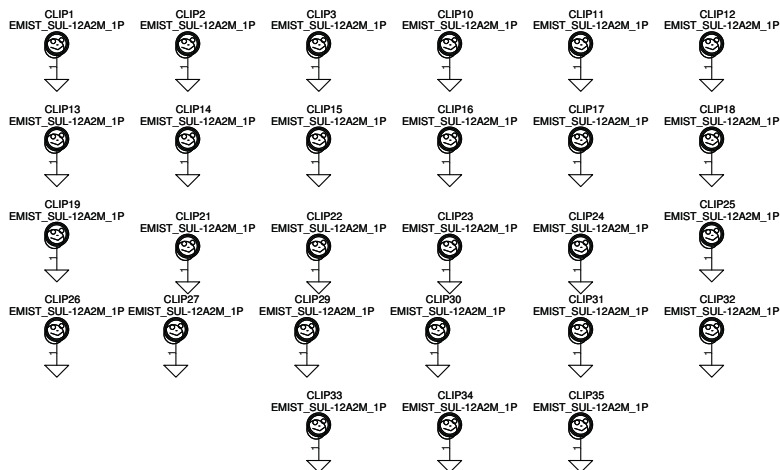
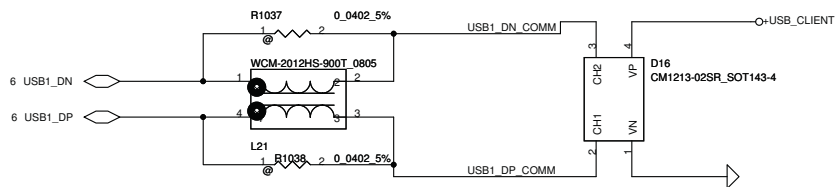
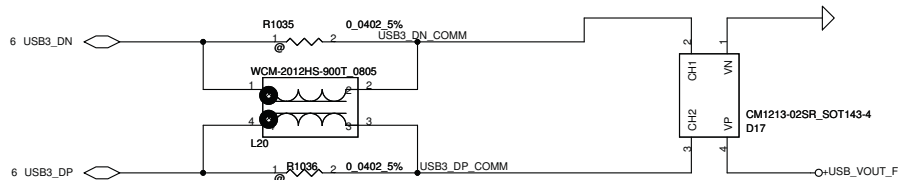
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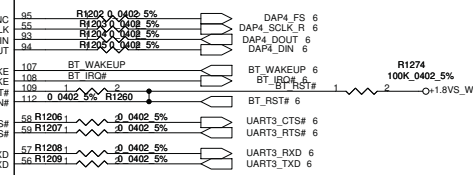
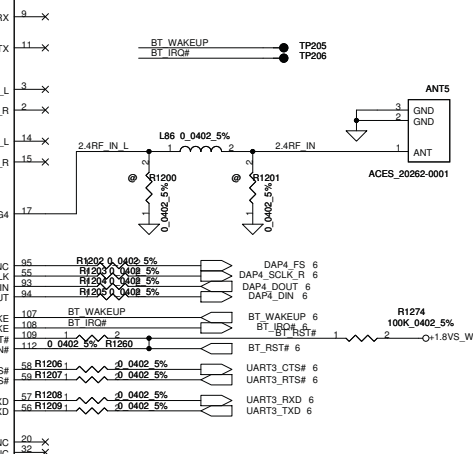
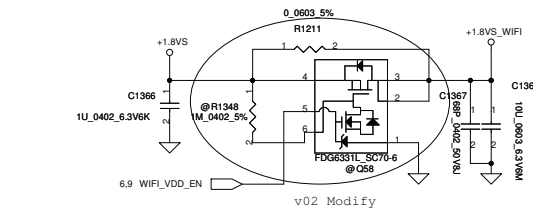
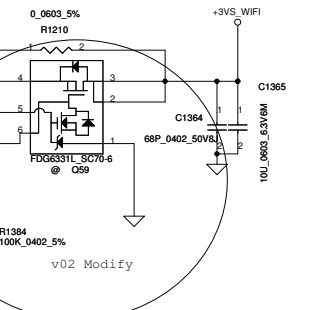
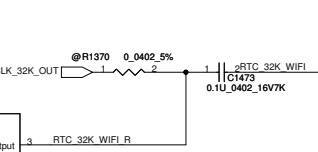
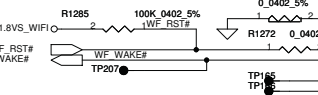
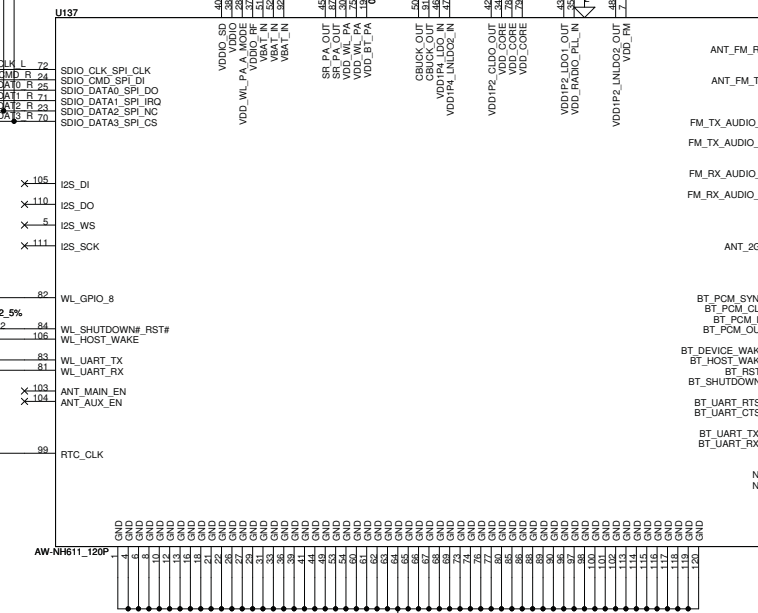
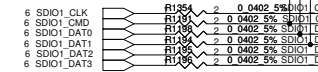
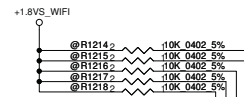
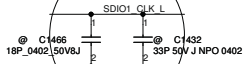


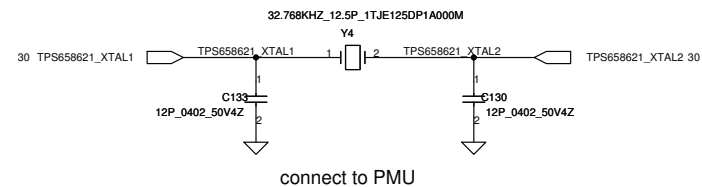
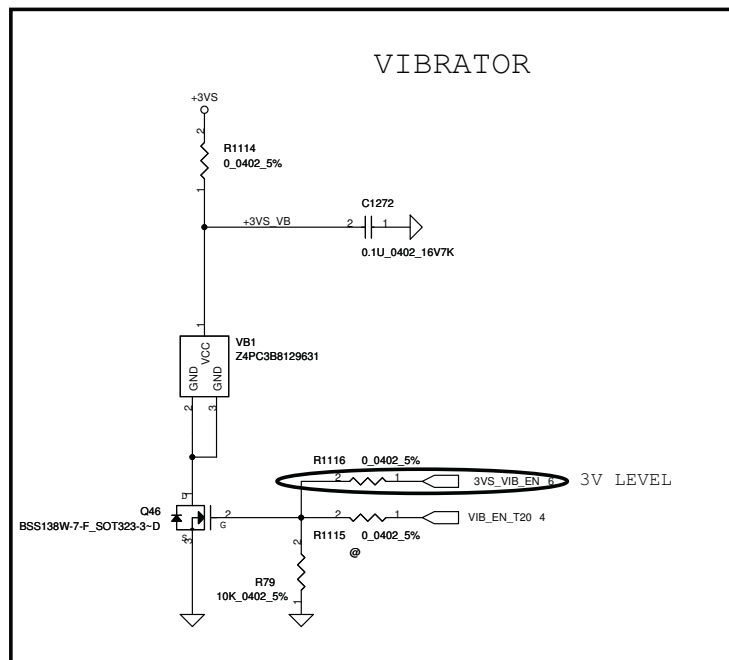
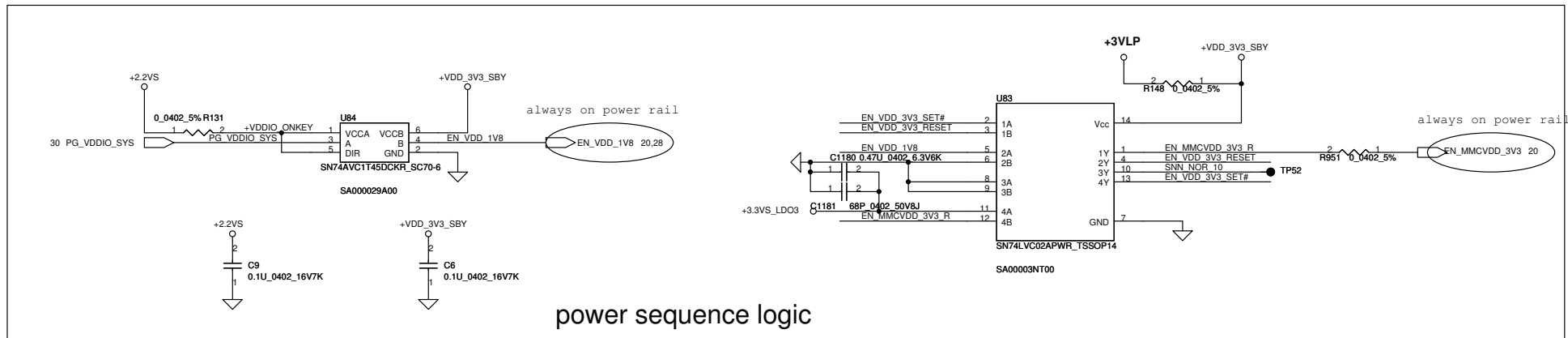
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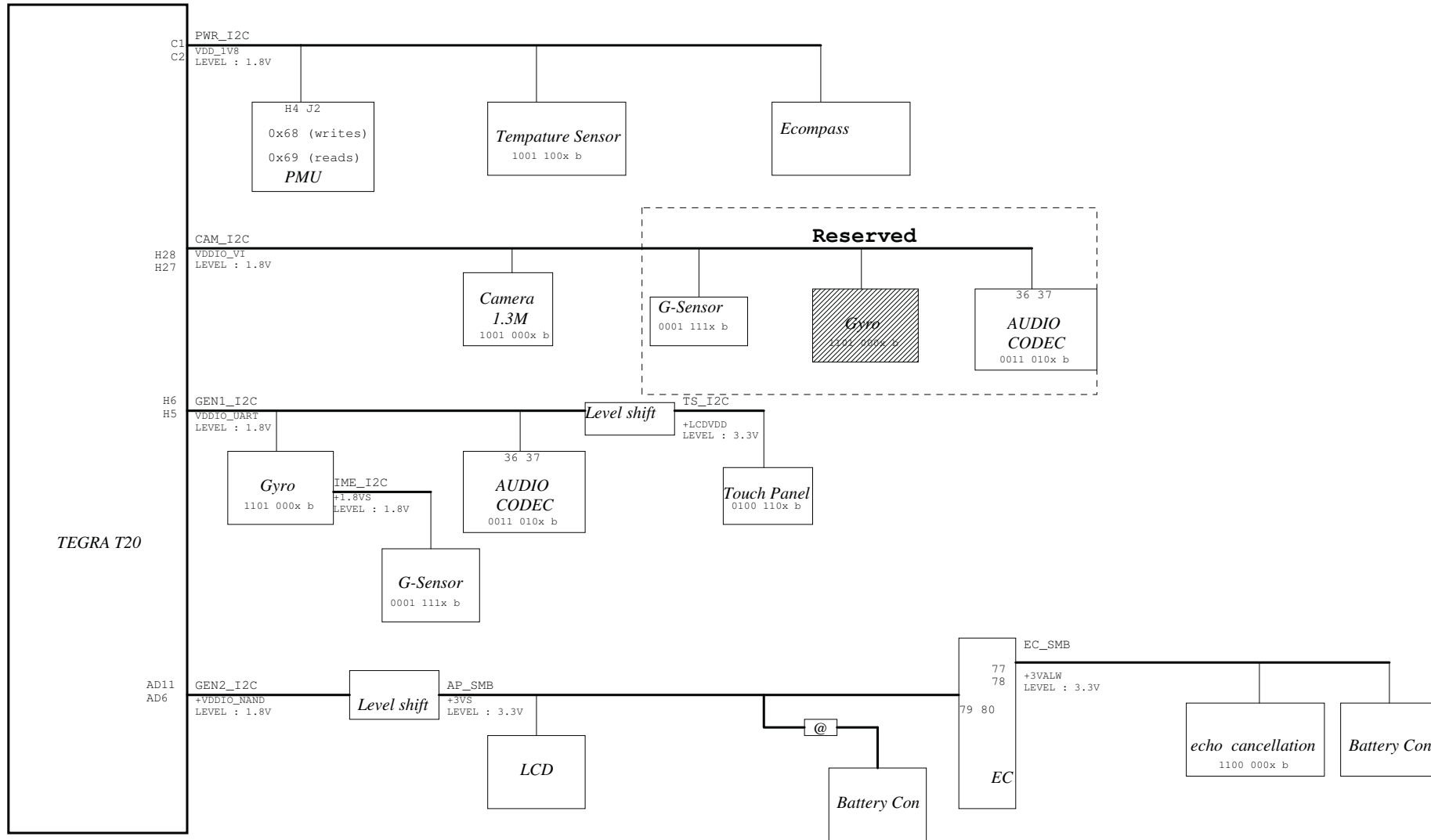
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RF request



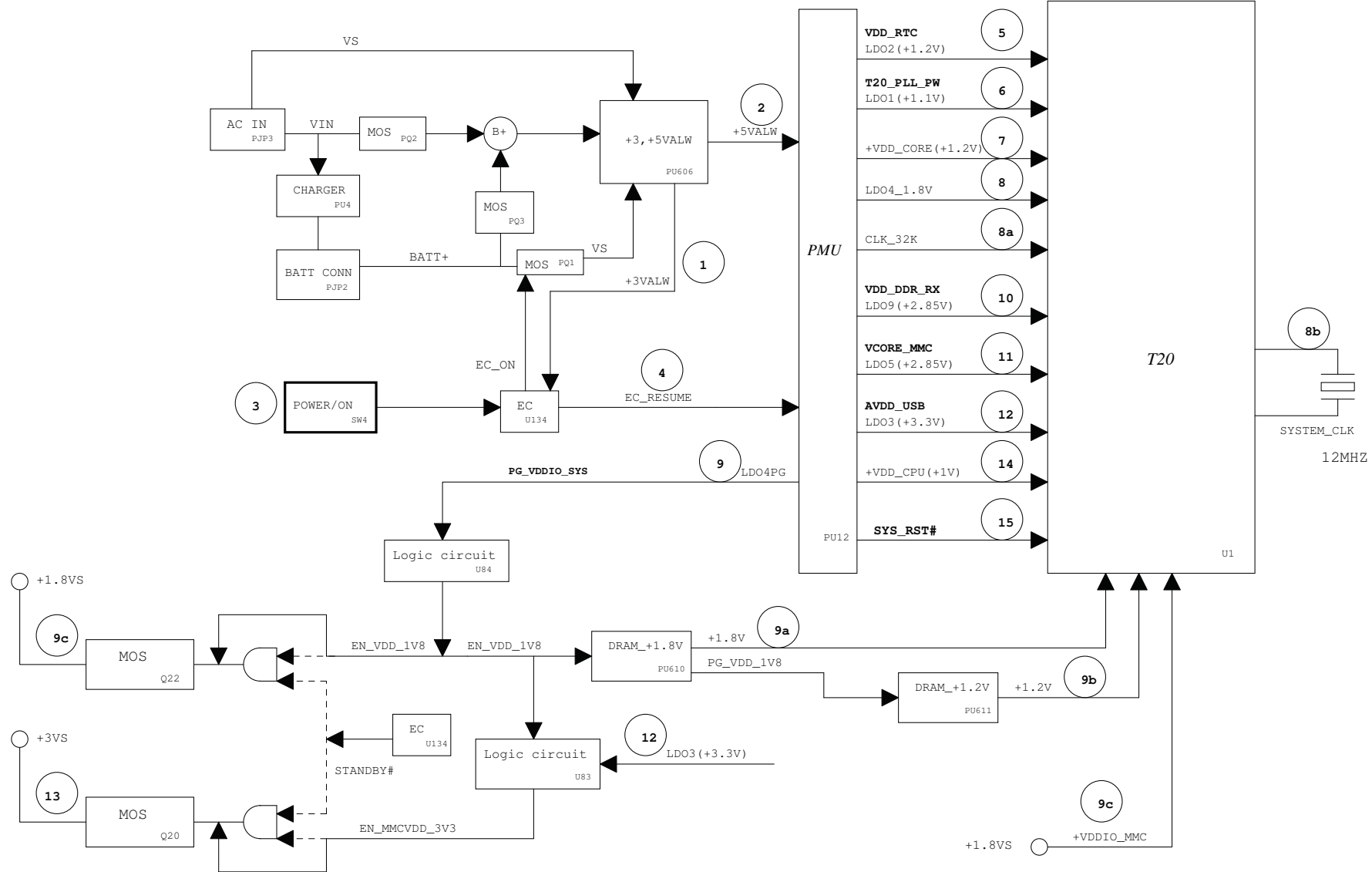


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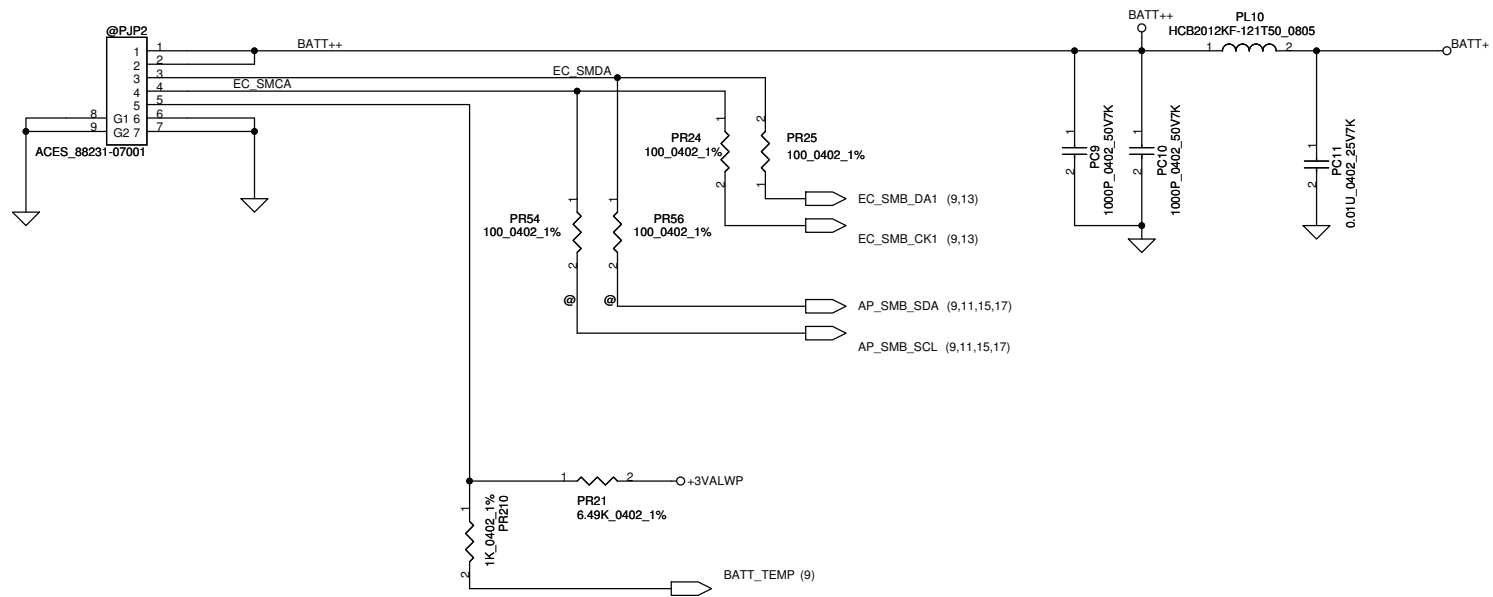


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QCJ00 Power Sequence Flow Chart



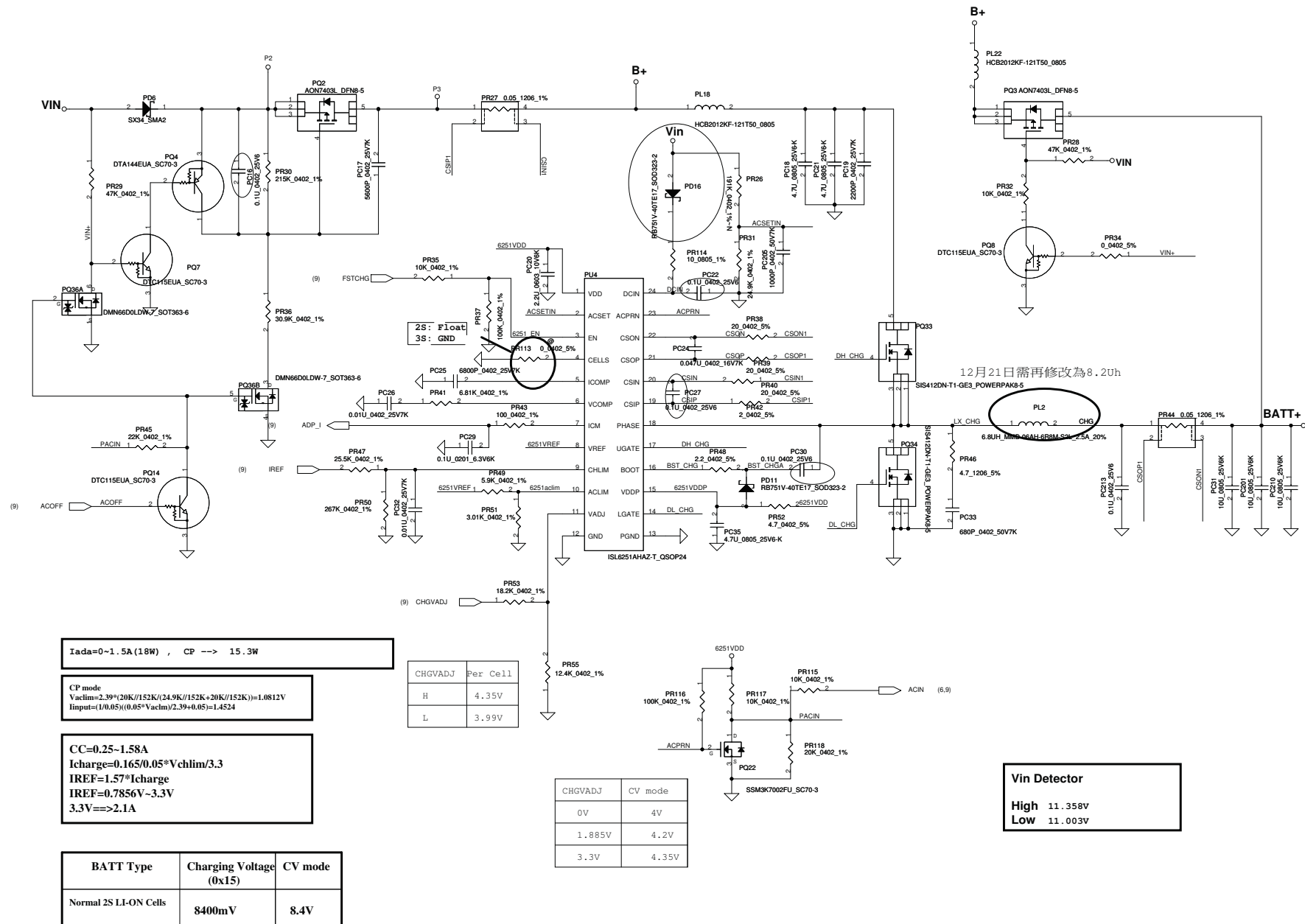
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BATTERY CONN.

Picasso-E



<Vo=3.3V> VFB=2V
Vo=VFB*(1+13K/20K)=3.3V
Fsw=305KHz

+3.3VALWP Ipeak=6 Imax=4.2A Iocp=7.2A Vo=3.3V
Rds(on)=17.9m ohm(max) ; Rds(on)=14.5m ohm(typical)
Vtrip=(10E-06 * 140K)/9-24mV=131.56mV
Ilimit=131.56mV/17.9m~131.56mV/14.5m
=7.35A~9.073A

Delta I=((12-3.3)*(3.3/12))/(2.2u*305 K)=3.5655A
=>1/2DeltaI=1.7828A (Freq=305KHz)

Iocp_peak=Ilimit+Delta I/2
=9.1328~10.8558A

<Vo=5V> VFB=2V
Vo=VFB*(1+30K/19.6K)=5V
Fsw=245KHz

+5VALWP Ipeak=6A Imax=4.2A Iocp=7.2A Vo=5V
Rds(on)=17.9m ohm(max) ; Rds(on)=14.5m ohm(typical)
Vtrip=(10E-06 * 140K)/9-24mV=131.56mV
Ilimit=131.56mV/17.9m~131.56mV/14.5m
=7.35A ~ 9.073A

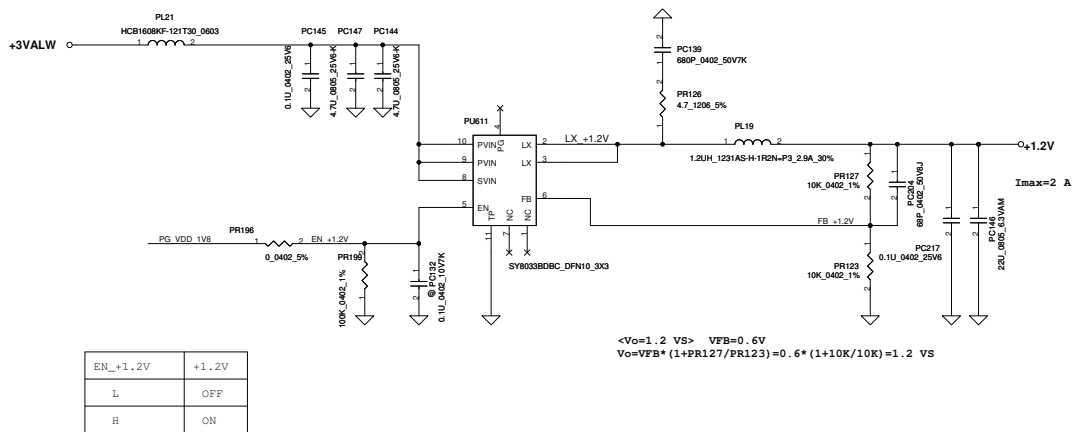
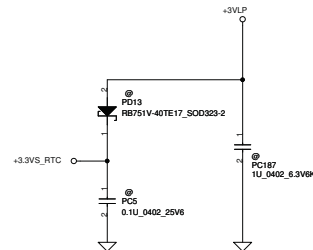
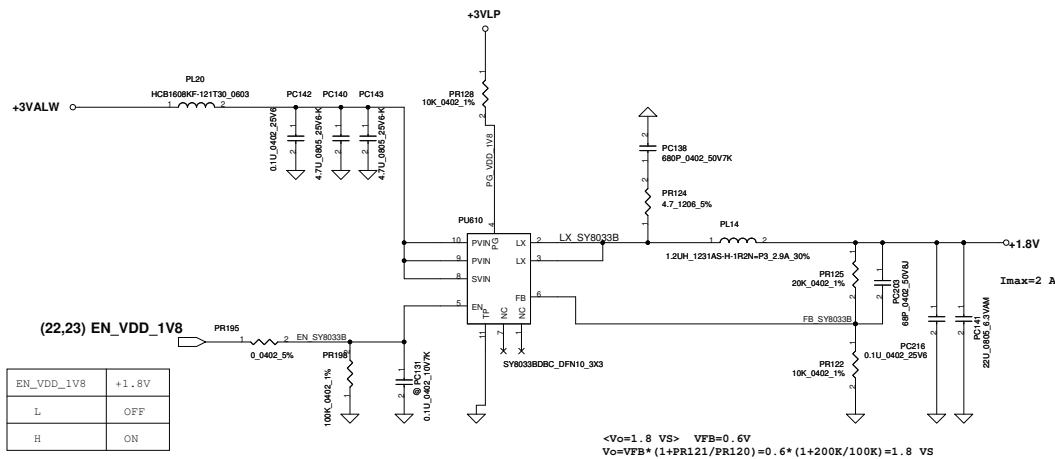
Delta I=((12-5)*(5/12))/(2.2u*245 K)=5.4112A
=>1/2DeltaI=2.7056A (Freq=245KHz)

Iocp=Ilimit+Delta I/2
=10.0556A ~ 11.7786A

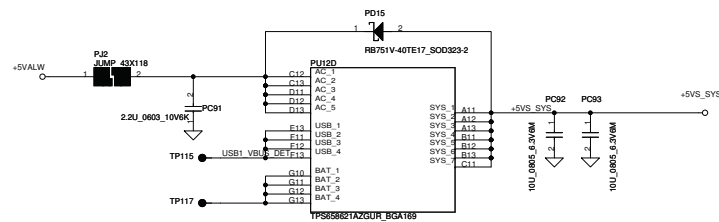
SKIP/OOA dynamic control

Mode	3V/5V_SKIPSEL
Suspend (Skip mode)	1
Others (OOA mode)	0

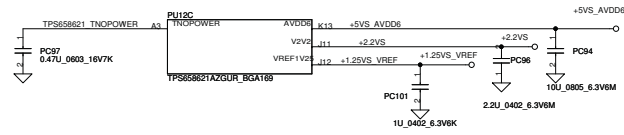
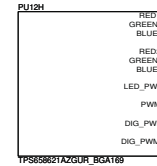
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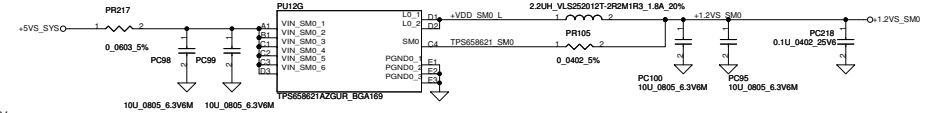
+VDD_SYS=5V
MAX current=1A



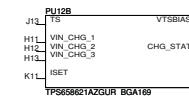
+VDD_AVDD6=5V
MAX current=0.01A

+VDD_V2V2=2.2V
MAX current=0.025A

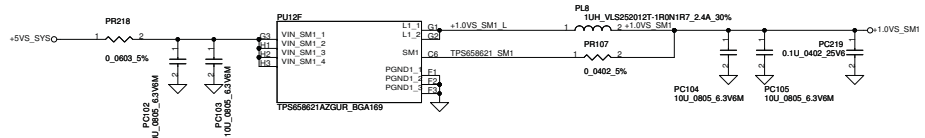
+VDD_VREF1V25=1.25V
MAX current=0.01A



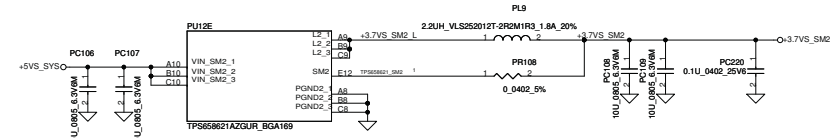
+VDD_SM0=1.2V
MAX current=0.6A



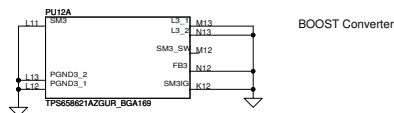
+VDD_SM1=1V
MAX current=1.5A



+VDD_SM2=3.7V
MAX current=0.75A

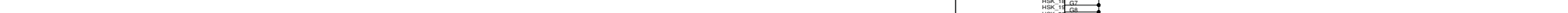


+VDD_SM3=3.7V
MAX current=0.75A

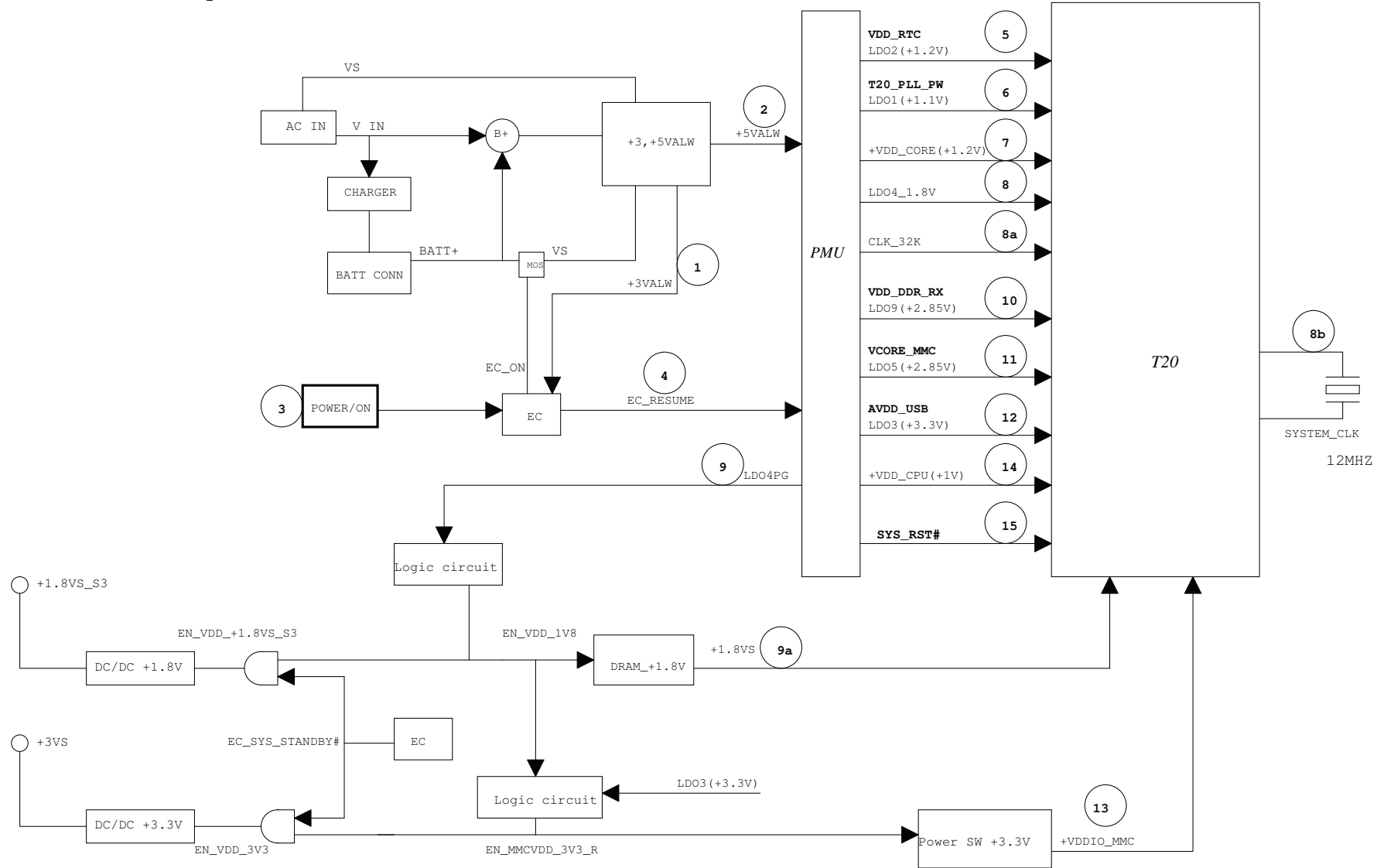


PMU #1

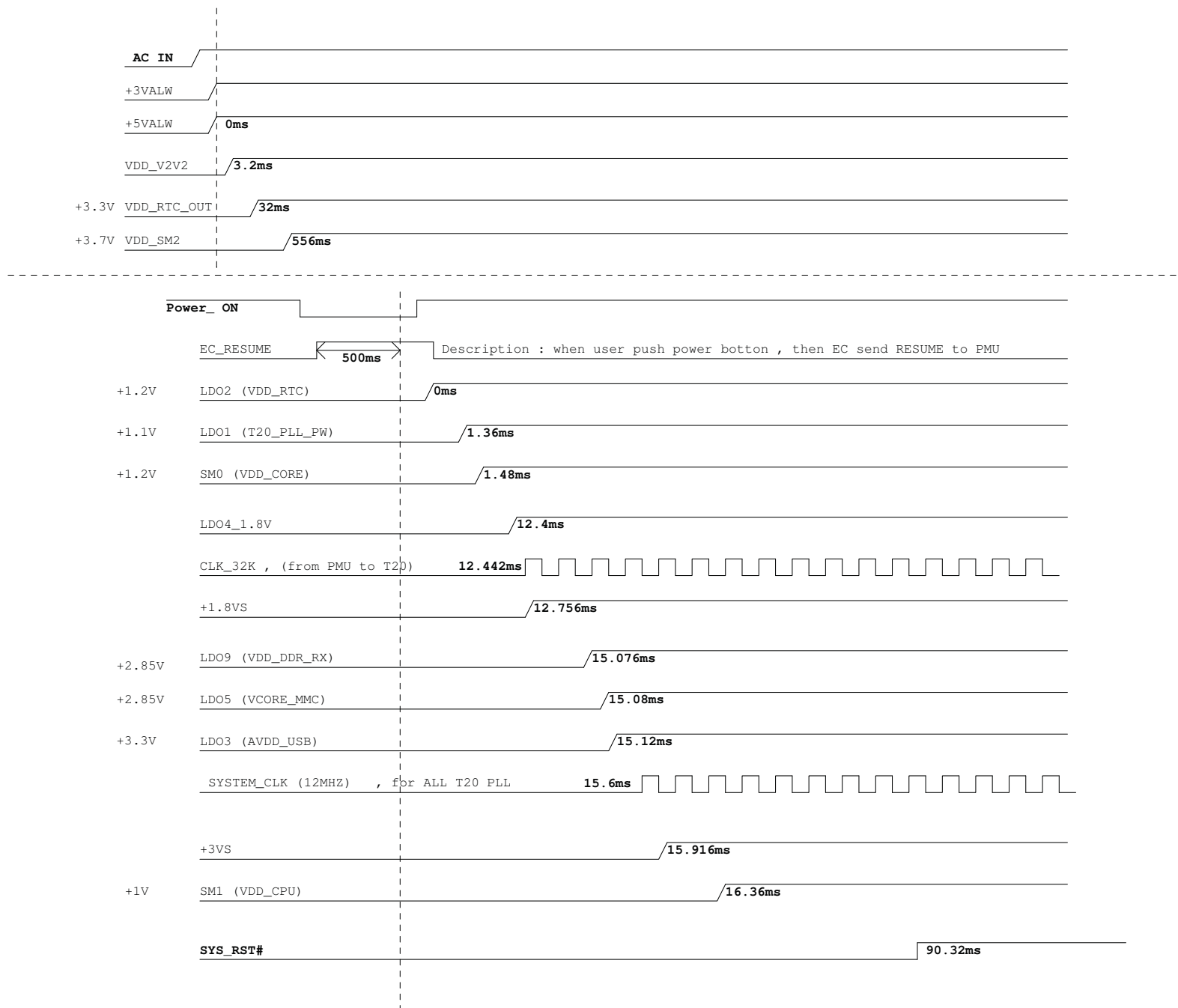
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Issued Date	2006/08/18	Deciphered Date	2008/09/20	Title
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Date	Monday, October 03, 2011	Sheet	29	of 38

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PBJ20 Power Sequence Flow Chart

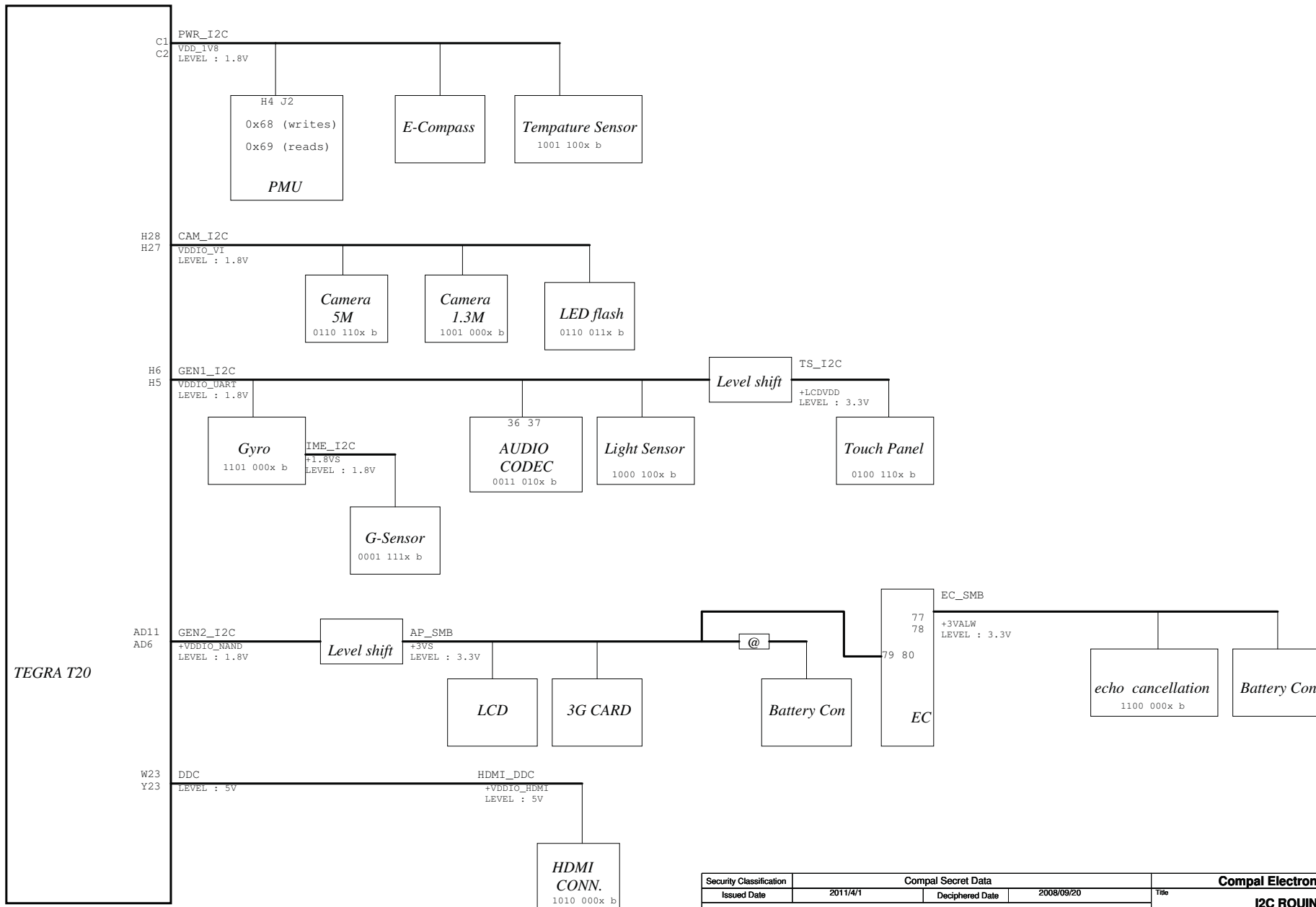


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					Size	Document Number	Rev
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					Date:	Monday, October 03, 2011	Sheet



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				Size	Document Number	Rev
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				Date:	Monday, October 03, 2011	Sheet 33 of 36

PBJ20 I2C Routing



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Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	RFQ	Remove Dockin function	NA	P24	Remove PR211, PD7	07/04	NA
2	RFQ	Height limitation	NA	P26	Change PL2 to SH00000MH00	07/04	NA
3	RFQ	Height limitation	NA	P27	Change PL16, PL17 to SH00000FK00	07/04	NA
4	RFQ	Remove LED flash function	NA	NA	Remove LED flash circuit	07/04	NA
5	Miss component update to ispd	Miss component update to ispd	NA	P28	ADD PL20,PL21	8/29	DVT
6	Emi test power noise	Solve power noise		P26	ADD PL18,PL22,PR46,PC33	9/28	PVT
7	Emi test power noise	Solve power noise		P27	ADD PR143,PR145,PC171,PC172	9/28	PVT
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