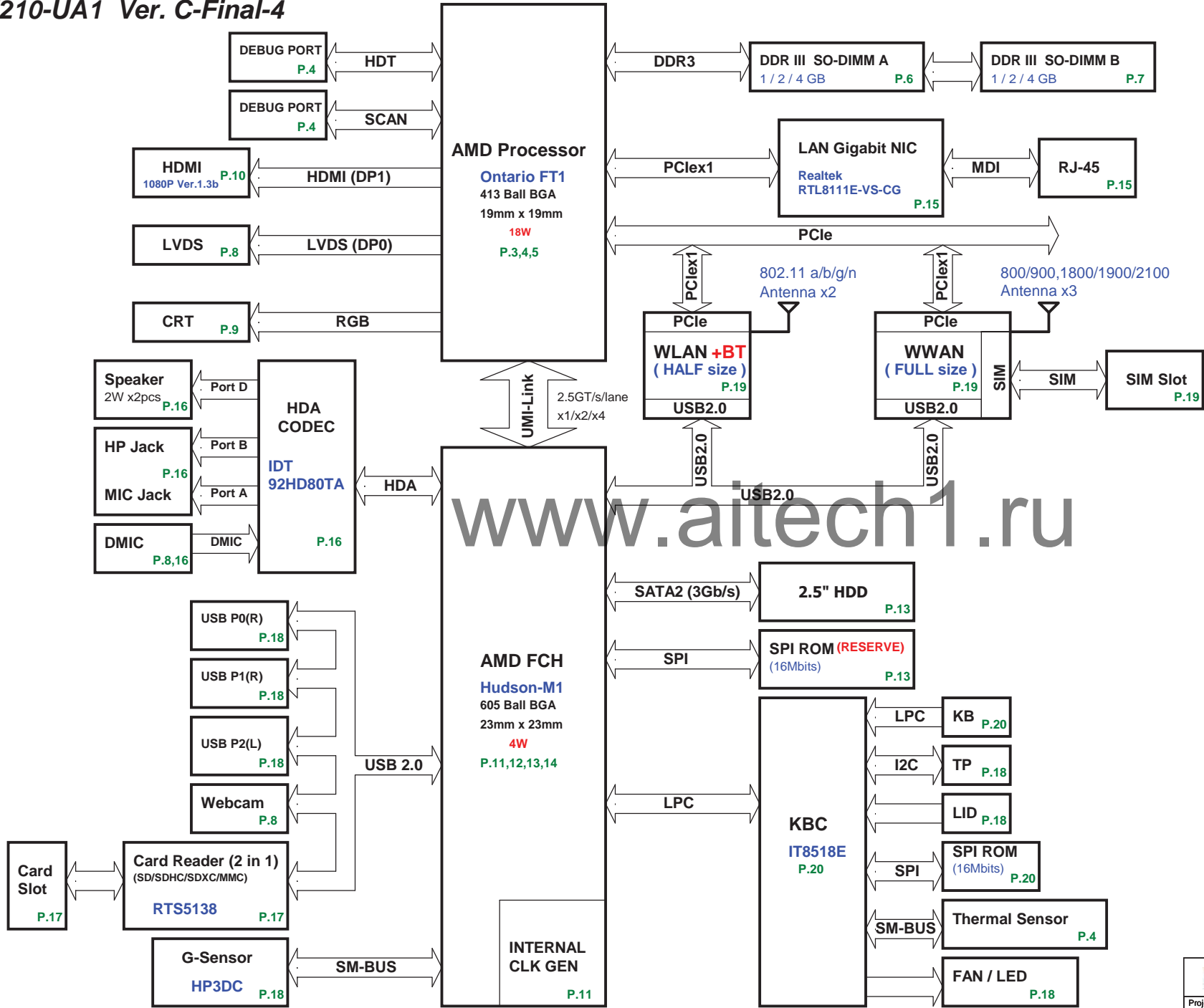


Garbo-Brazos Platform  
H210-UA1 Ver. C-Final-4



Charger / B+ BQ24745	P.21
APU-CORE APU-VDDNB ISL6265C	P.22
1.1VS 1.0VS RT8015BGQW*2	P.24
1.5V 0.75VS-VTT RT8209AGQW G2997BF61U	P.23
5V 3.3VSTBY RT8205EGQW(2)	P.25
5VS / 3.3VS / 1.5VS 3.3V-LAN 3.3V-DUAL 1.1V-DUAL/1.1V-USB 3.3-USB 1.8VS	P.26

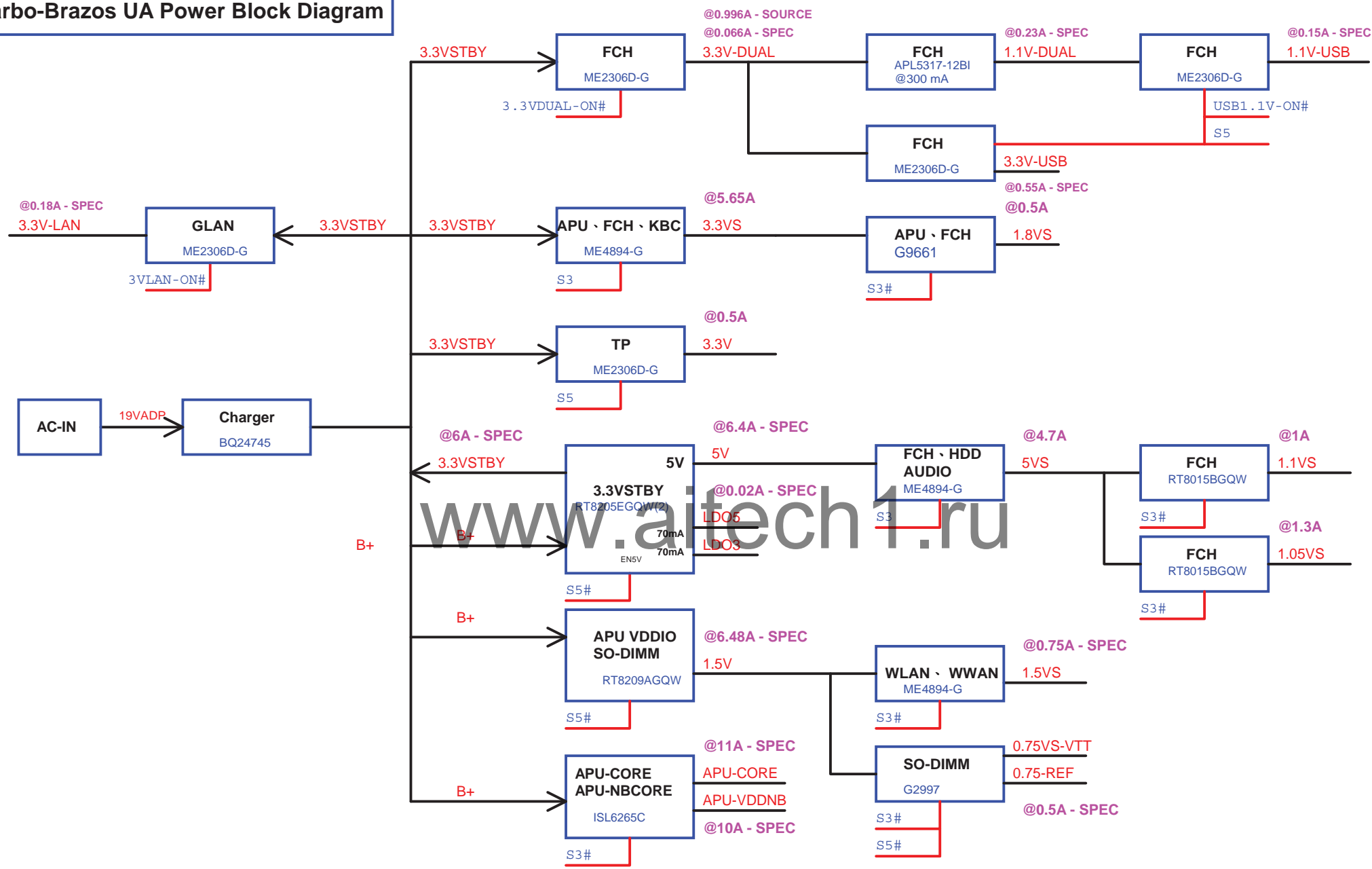
SMBus BLOCK

SMBCLK SMBDAT	SO-DIMM G-SENSOR	WLAN WWAN
KBC-BATCLK KBC-BATDAT	CHARGE	
KBC-TMCLK KBC-TMDAT	CPU ON-DIE THERMAL SENSOR CPU THERMAL SENSOR (G786)	

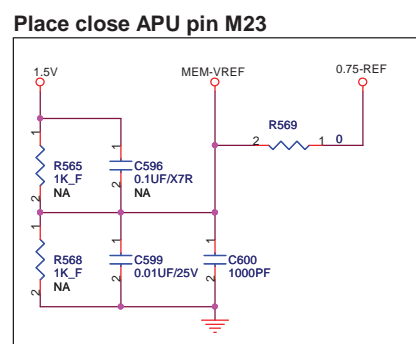
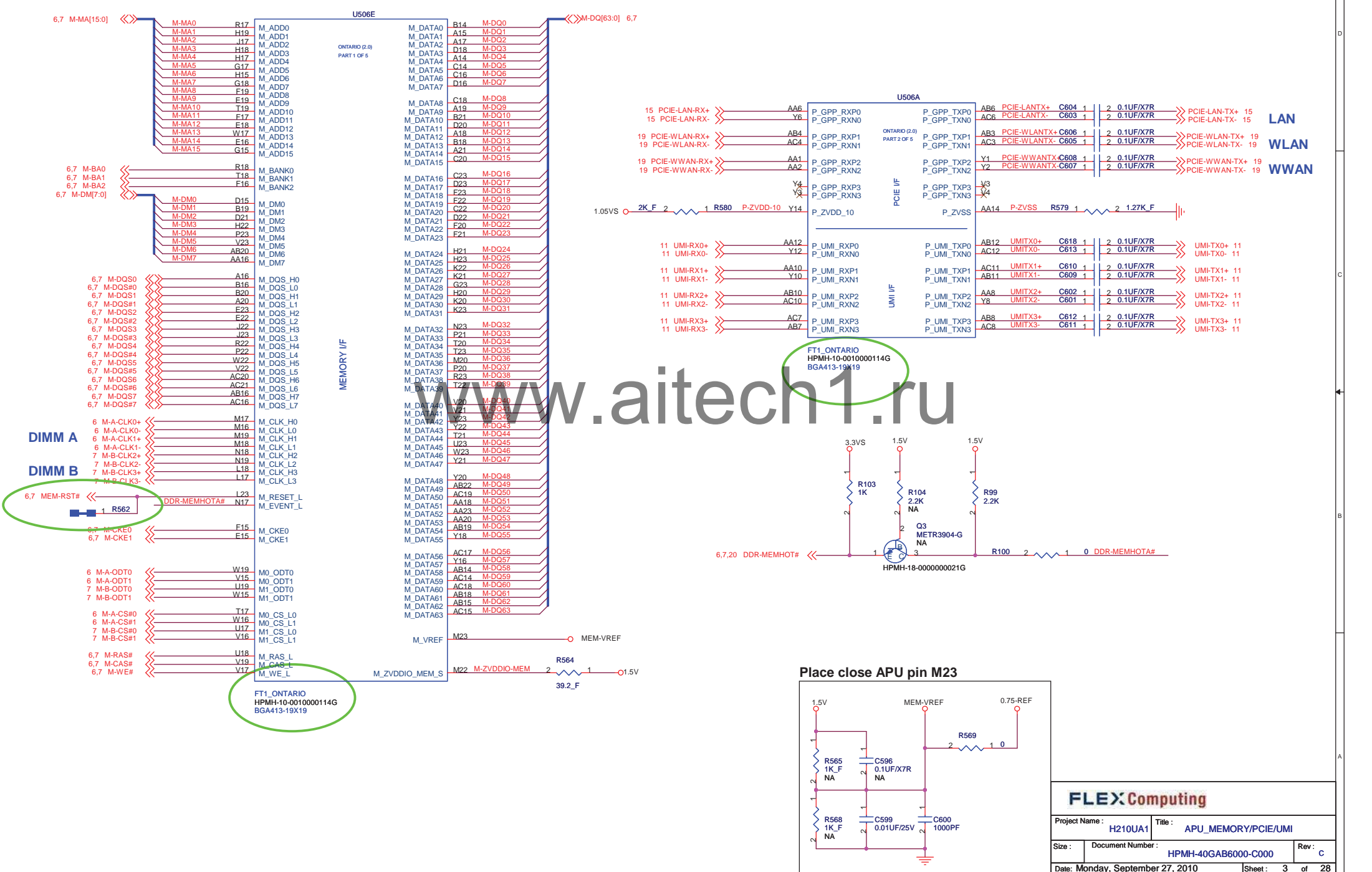
LED STATUS

(1) TP ( Dual Color ) :	Amber: Off
(1) RF ( Dual Color ) :	White: enable Amber: disable
(2) Power on :	White: Power on Blink white: Standby
(1) Battery Charging :	Amber
(2) AC plugged and not charging :	White
(3) HDD (Dual Color) :	White : Active Amber: Park
(1) Mute LED :	Amber
(2) Caps Lock :	White
(1) Webcam :	White : Active

Garbo-Brazos UA Power Block Diagram

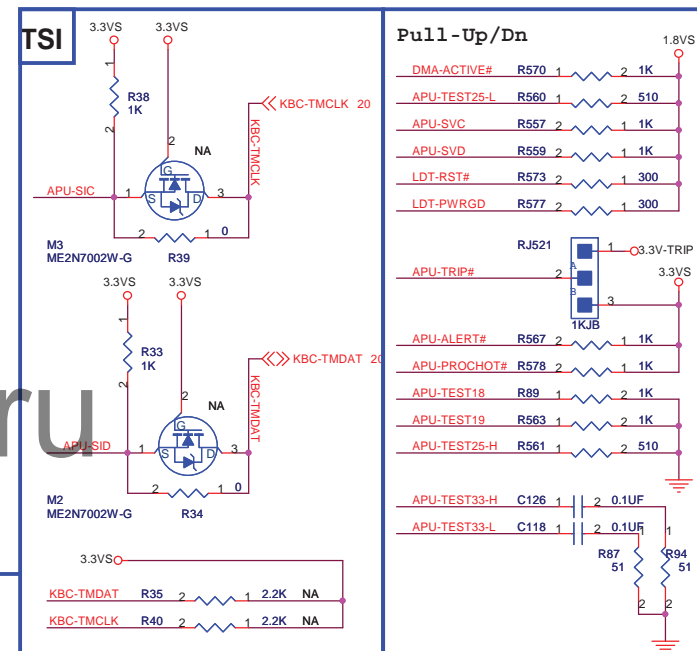
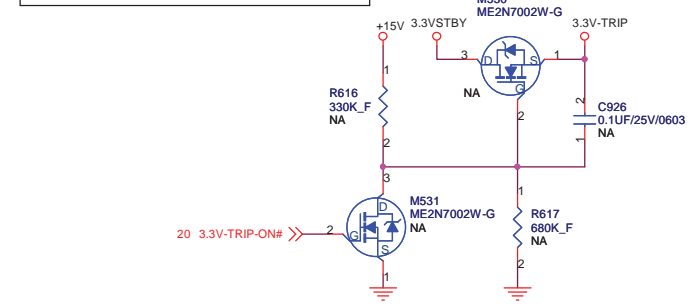
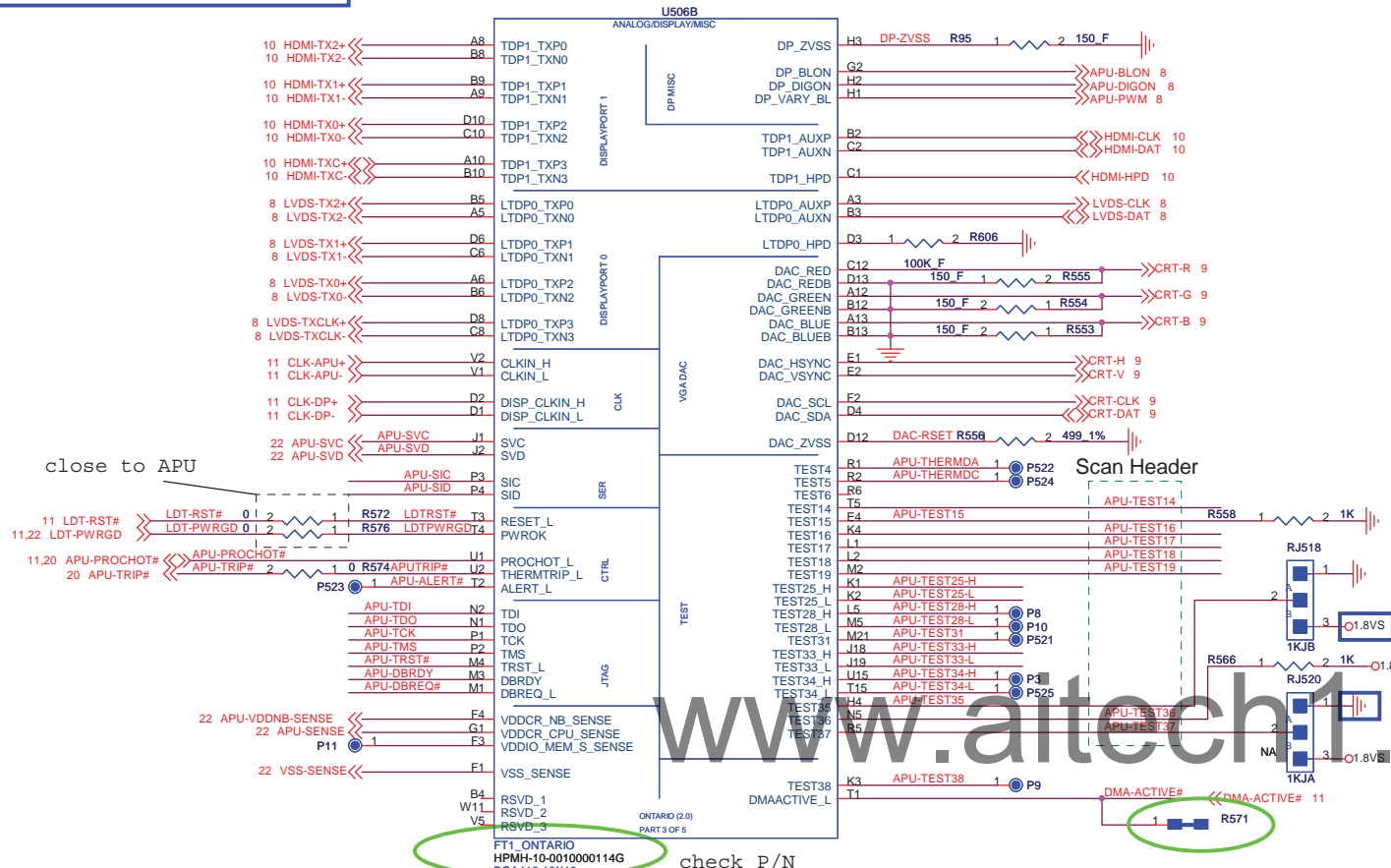


APU\_MEMORY/PCIE/UMI

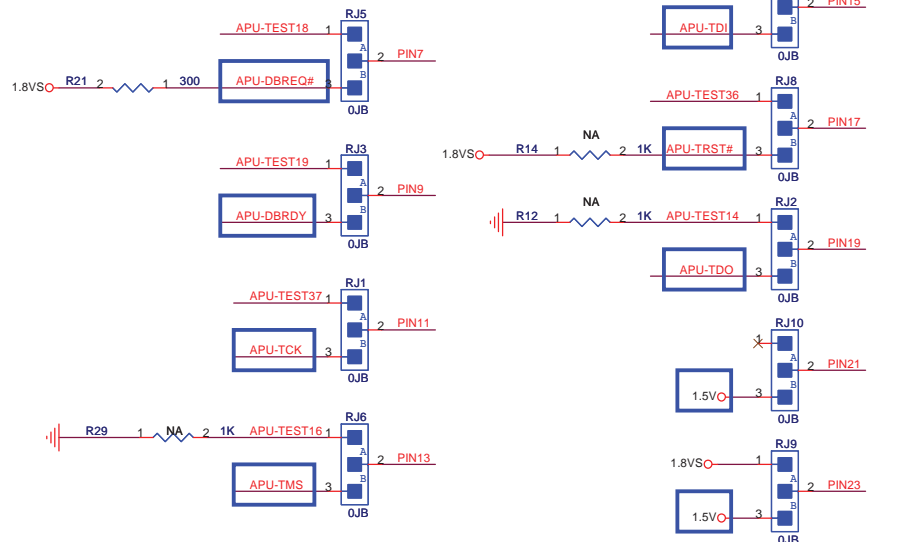


# APU\_DISPLAY/CLK/MISC

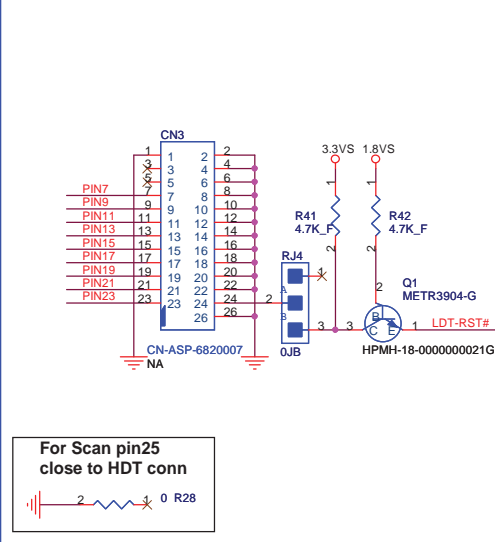
ME2N7002W-G VGS=1(min) ~ 2.5(max)  
+15= 11.8V ,VG=7.94V +15= 14.6V ,VG=9.82V  
VGS=7.94V-3.3V=4.64V VGS=9.82V-3.3V=6.52V



## Scan/HDT Option



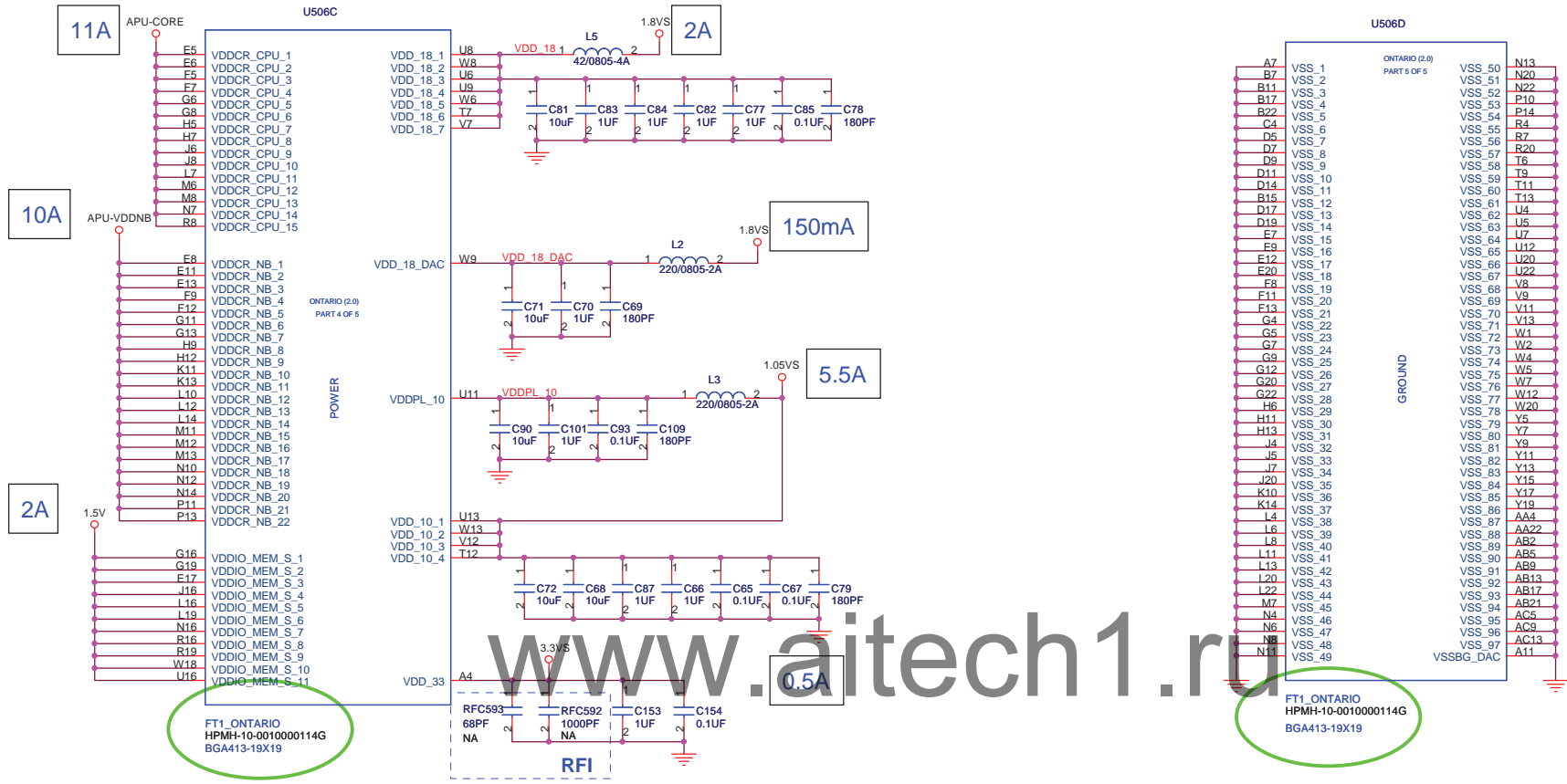
## Scan/HDT Header



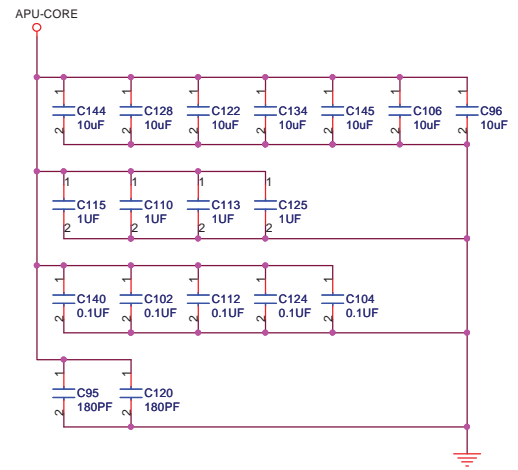
FLEX Computing

Project Name :	H210UA1	Title :	APU_DISPLAY/CLK/MISC
Size :	Document Number :	HPMH-40GAB6000-C000	Rev : C
Date :	Monday, September 27, 2010	Sheet :	4 of 28

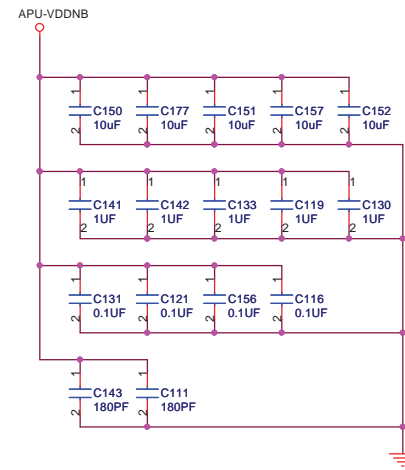
# APU\_POWER & GND



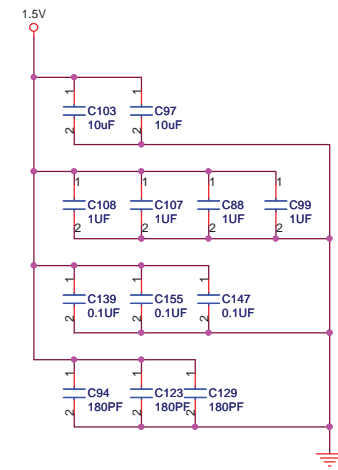
## For APU-CORE



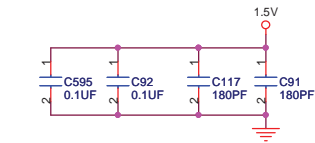
## For APU-VDDNB



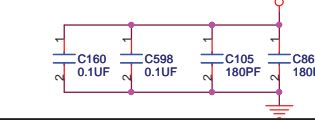
## For 1.5V



If the VSS plane is cut to create a VDDIO\_MEM\_S plane, ceramic capacitors are connected across the VDDIO\_MEM\_S and VSS plane split.



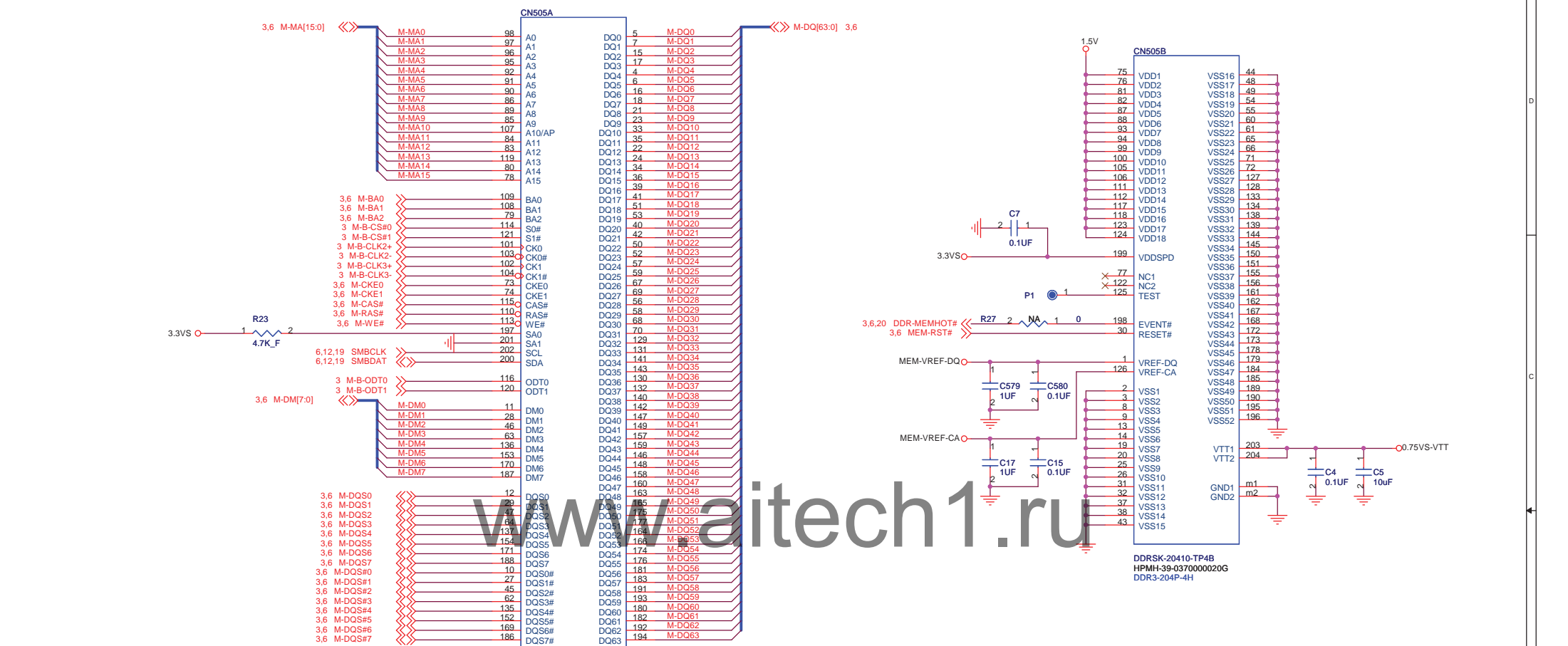
If the VSS plane is longer than 63.5 mm an additional two capacitors are required across the VDDIO\_MEM\_S and VSS plane split.



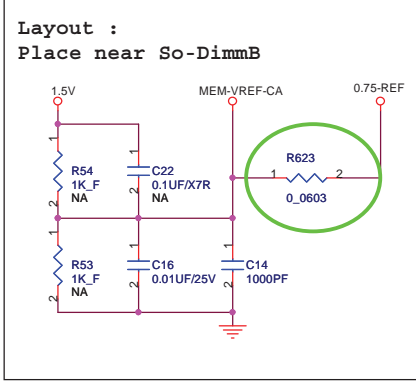
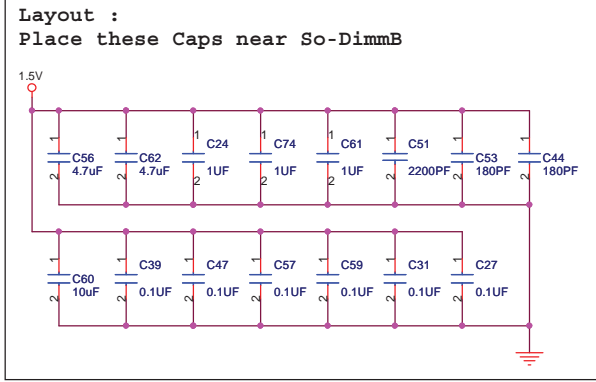




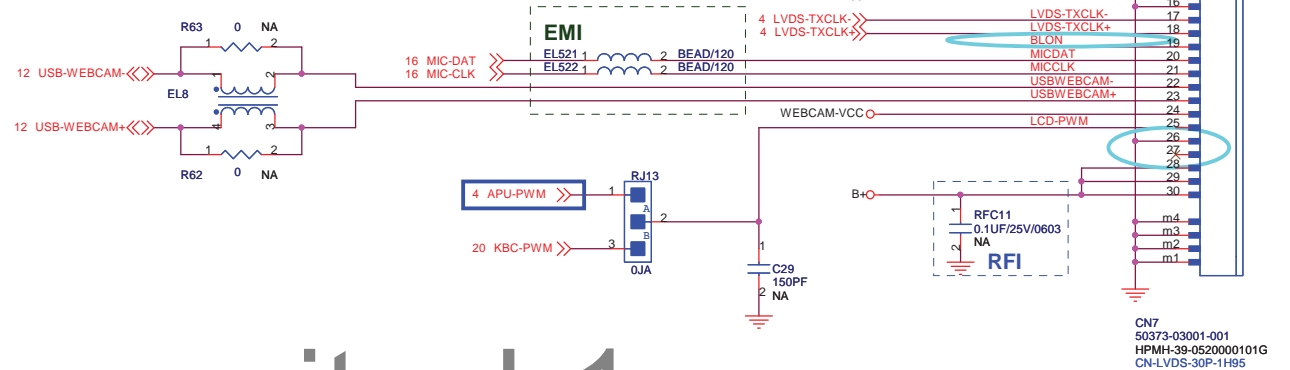
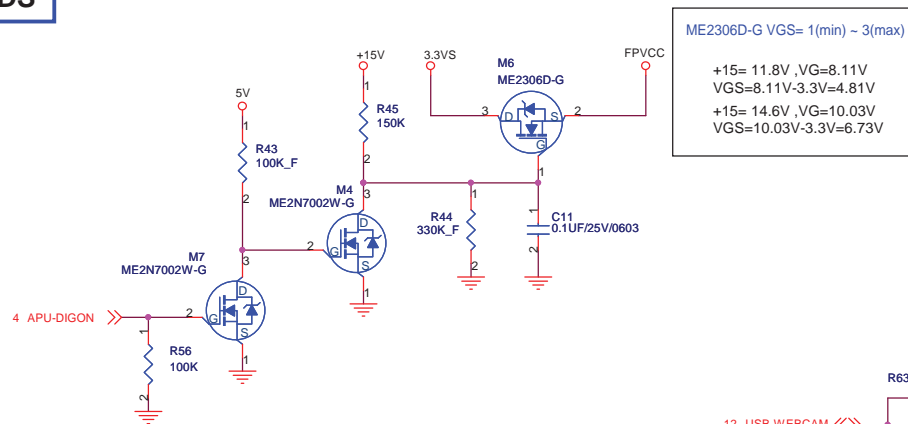
# DDR3 DIMM B



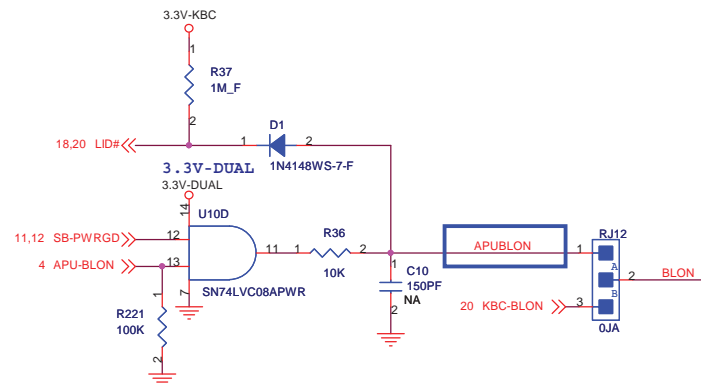
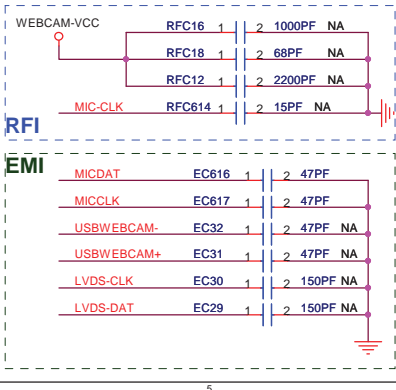
SA0	SA1	Address
0	0	A0
1	0	A2



## LVDS

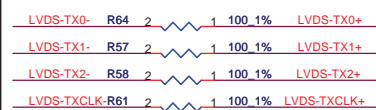


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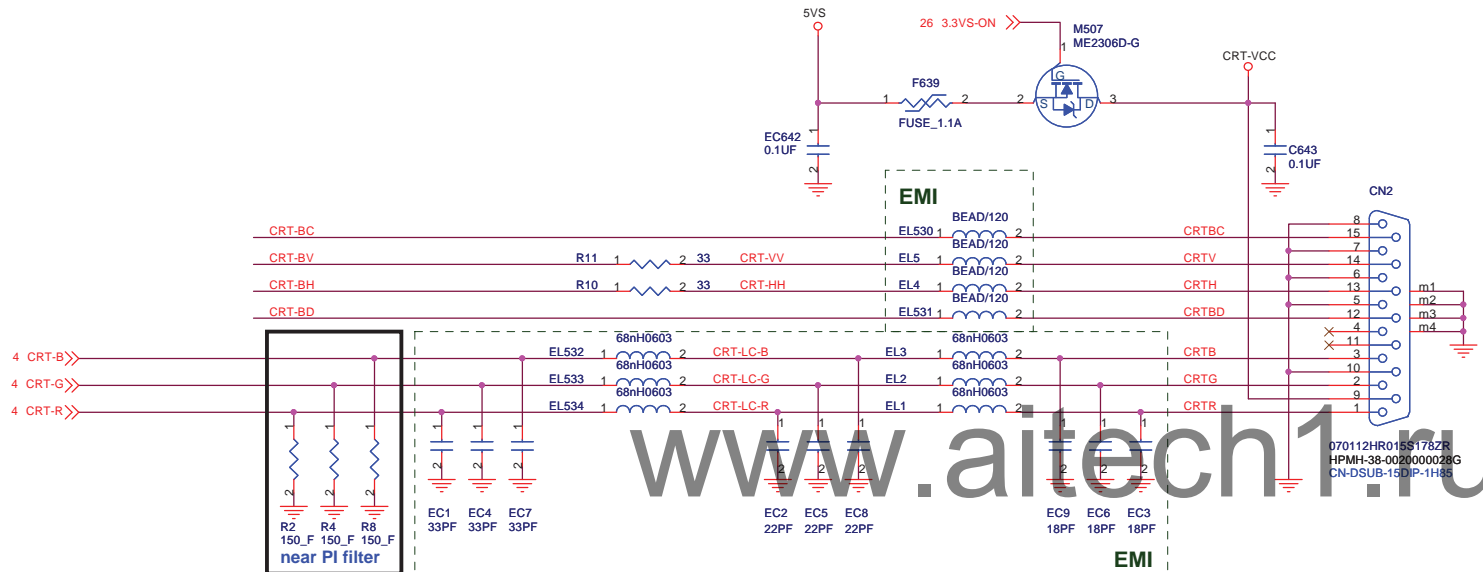


Mounted for AUO panel

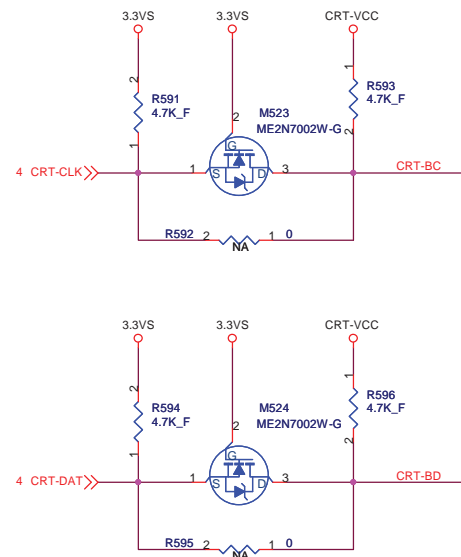
**For DP to LVDS termination resistor**



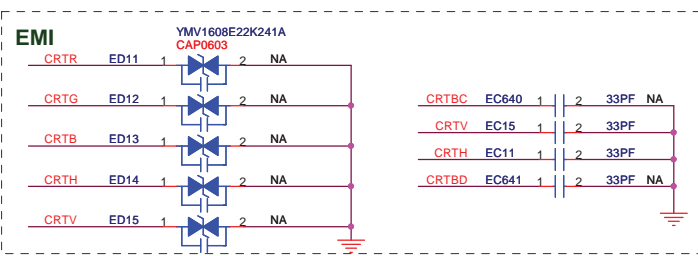
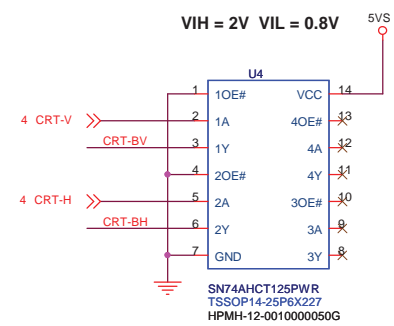




CRT LEVEL SHIFT



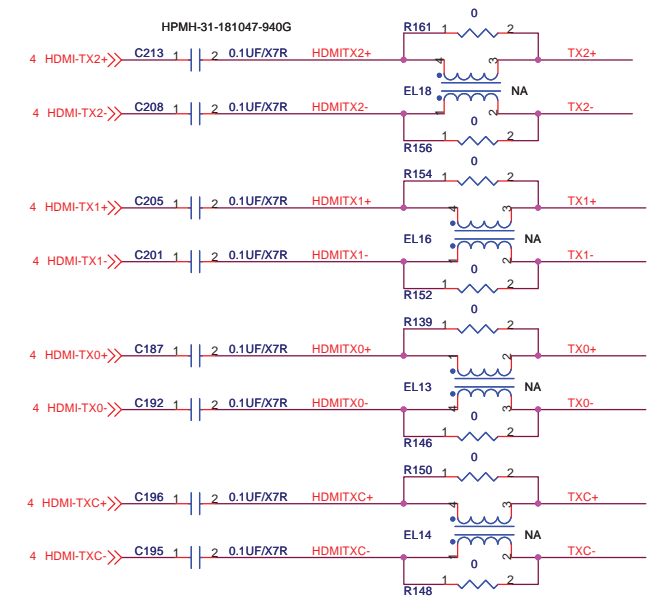
H / V SYNC BUFFER



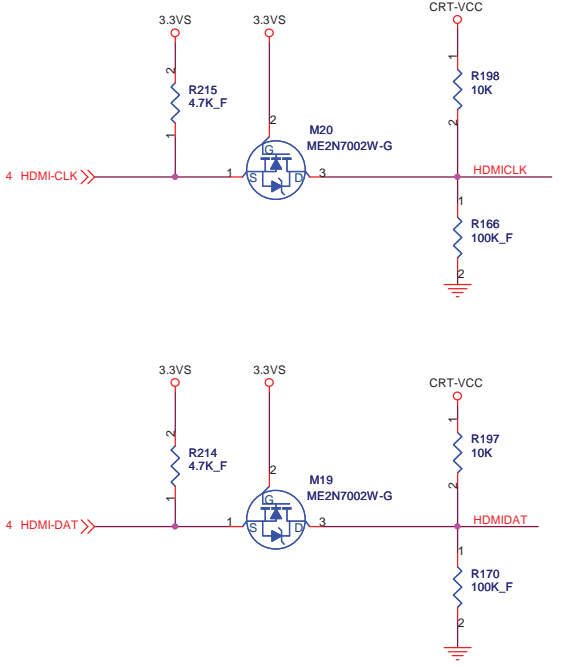
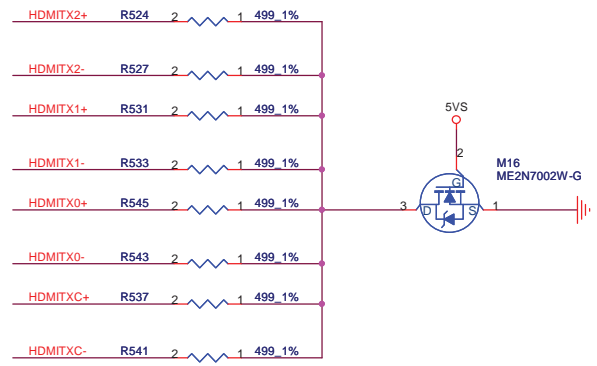
INPUT		OUTPUT	
nOE	nA	nY	
L	L	L	
L	H	H	
H	X	Z	

FLEX Computing			
Project Name : H210UA1		Title : CRT Connector	
Size : Custom	Document Number : HPMH-40GAB6000-C000	Rev : C	
Date: Monday, September 27, 2010		Sheet : 9	of 28

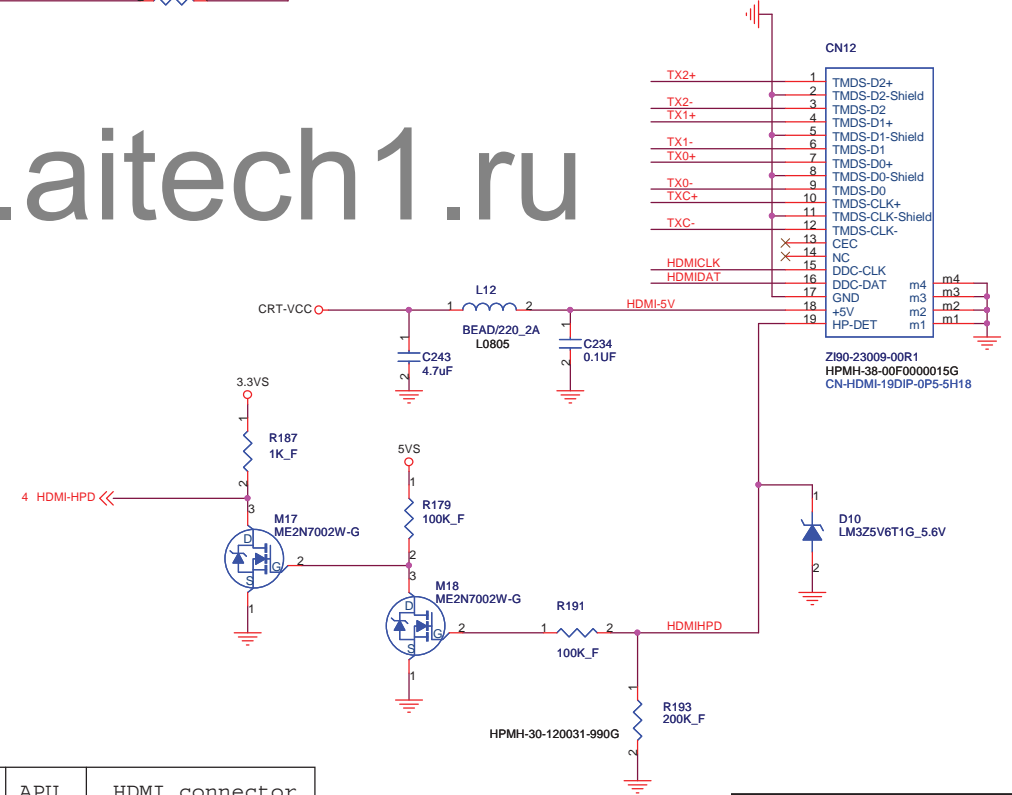
CLOSE CN514



Connected a 499-Ω 5% resistor on each signal connected with a FET to GND (one FET per pair) located on the TMDS connector side of the series capacitors.

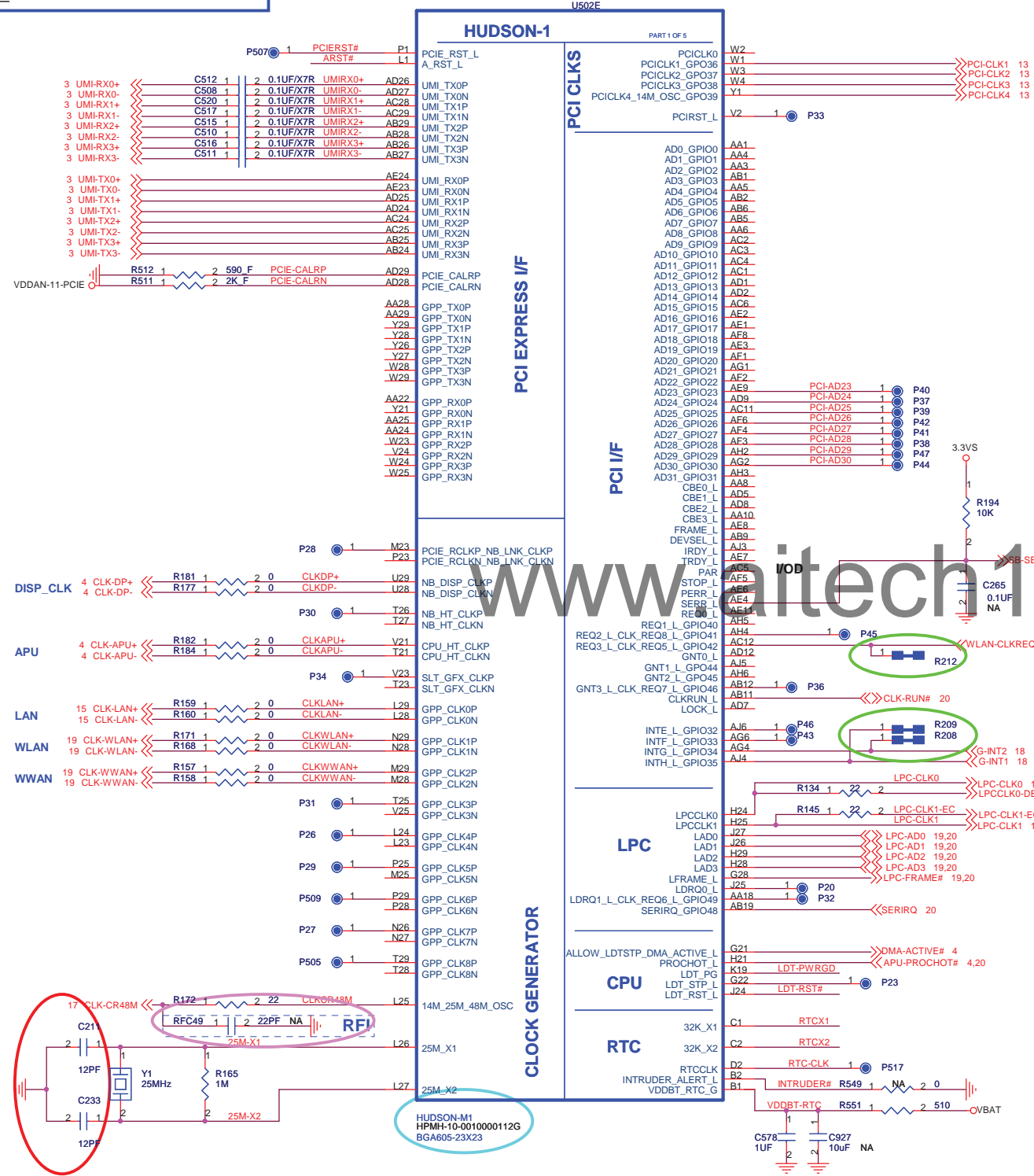


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PLUG IN/OUT	APU	HDMI connector
IN	H	H
OUT	L	L

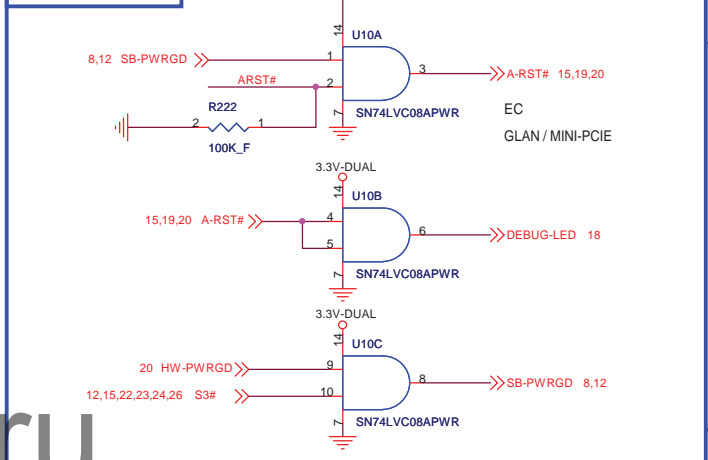
FCH\_UMI/PCIE/CLK/LPC/RTC



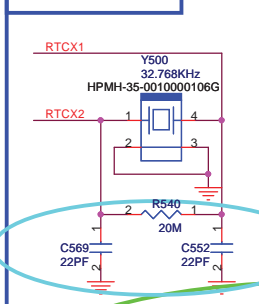
HUDSON-M1 DEBUG STRAPS

	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL DEFAULT	DISABLE ILA AUTORUN DEFAULT	USE FC PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
PULL LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

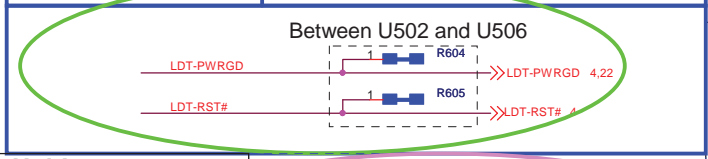
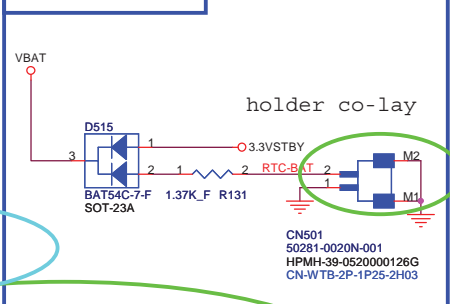
RESET# SB-PWRGD



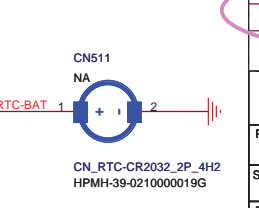
RTC CLOCK



RTC BATTERY



RTC Holder



**Between U502 and U506**

LPCCLK0-DEBUG RFC639 1 2 22PF NA

LPCCLK1-EC RFC640 1 2 22PF NA

**RFI**

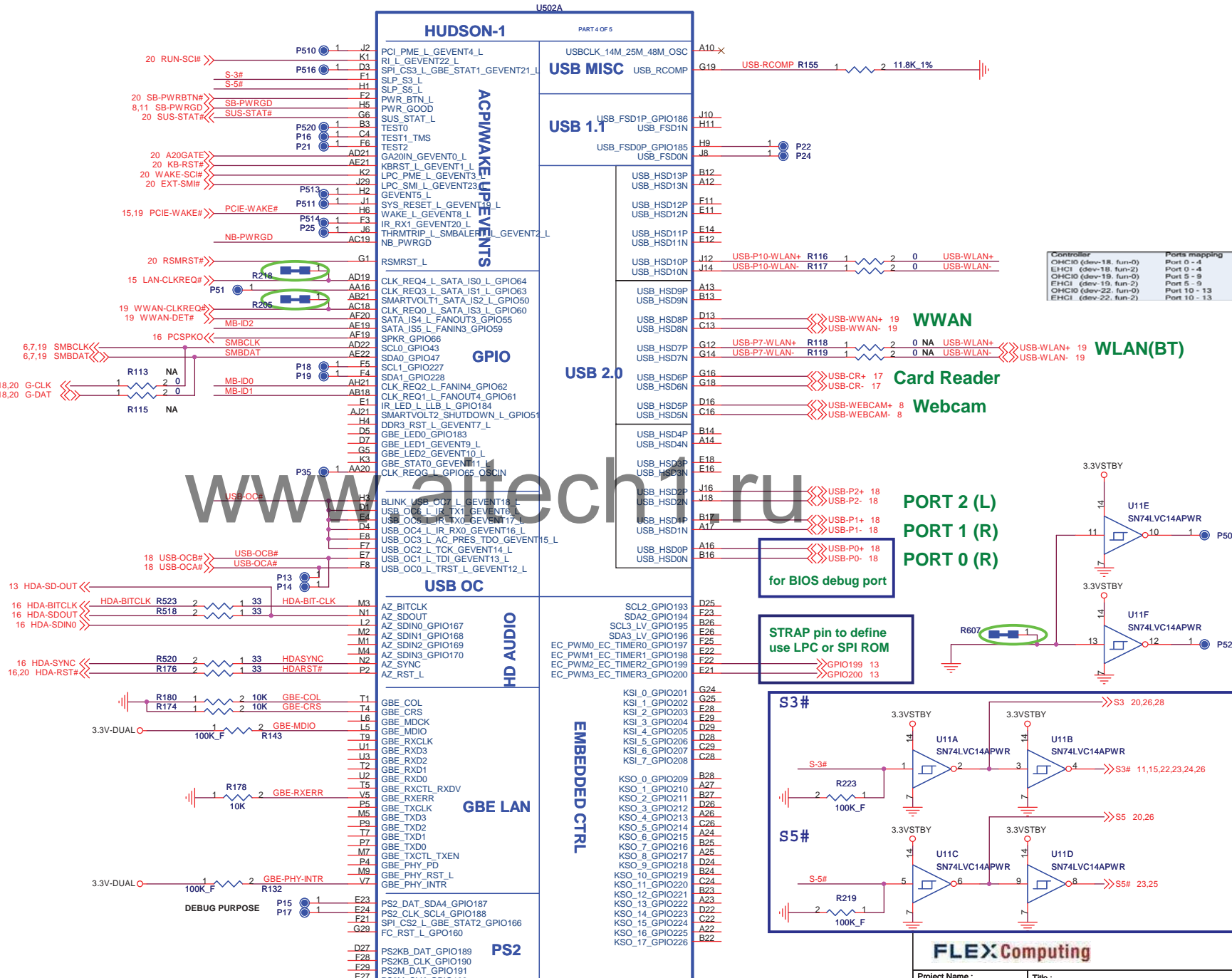
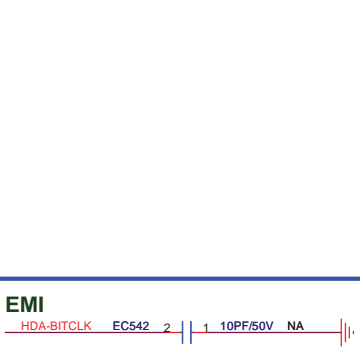
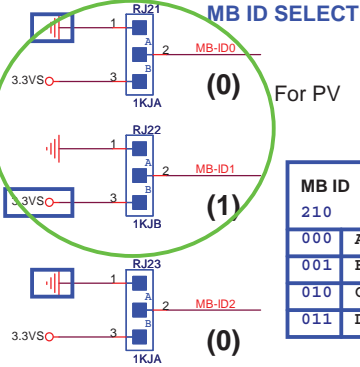
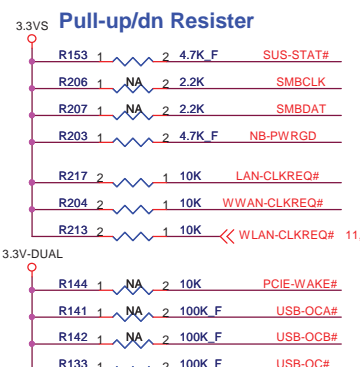
**FLEX Computing**

Project Name: H210UA1 Title: FCH\_UMI/PCIE/CLK/LPC/RTC

Size: Document Number: HPMH-40GAB6000-C000 Rev: C

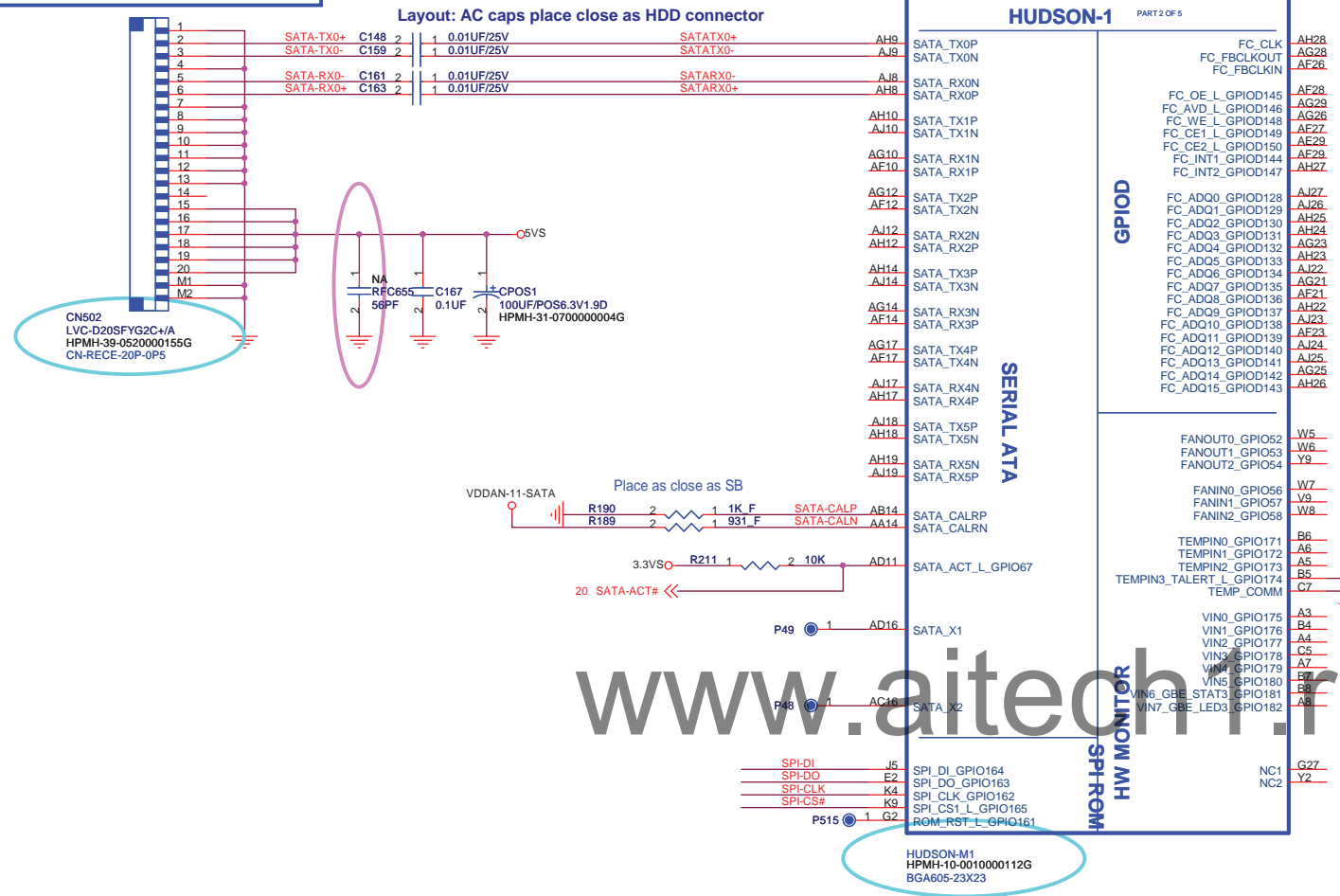
Date: Monday, October 04, 2010 Sheet: 11 of 28

## FCH ACPI/GPIO/USB/AUDIO

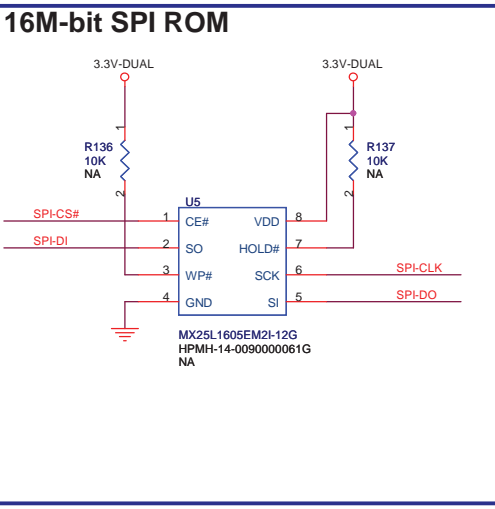


HUDSON-M1  
HPMH-10-0010000112G  
BGA605-23X23

FCH\_SATA/IDE/SPI/STRAPS

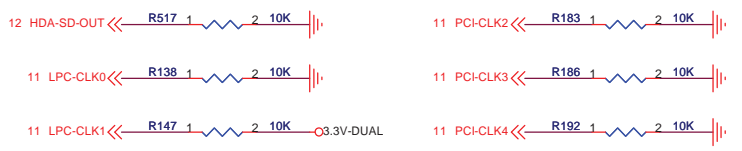


SATA / IDE / SPI / STRAPS

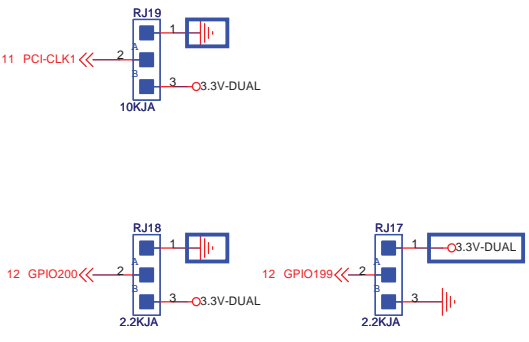


Temperature Monitor Not Implemented:  
Connected to GND.

HUDSON-M1 H/W STRAPS



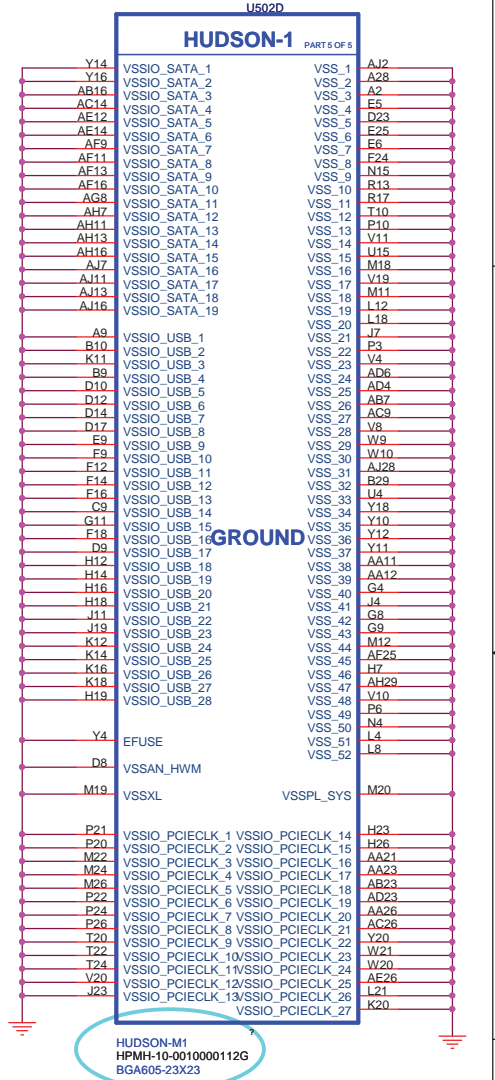
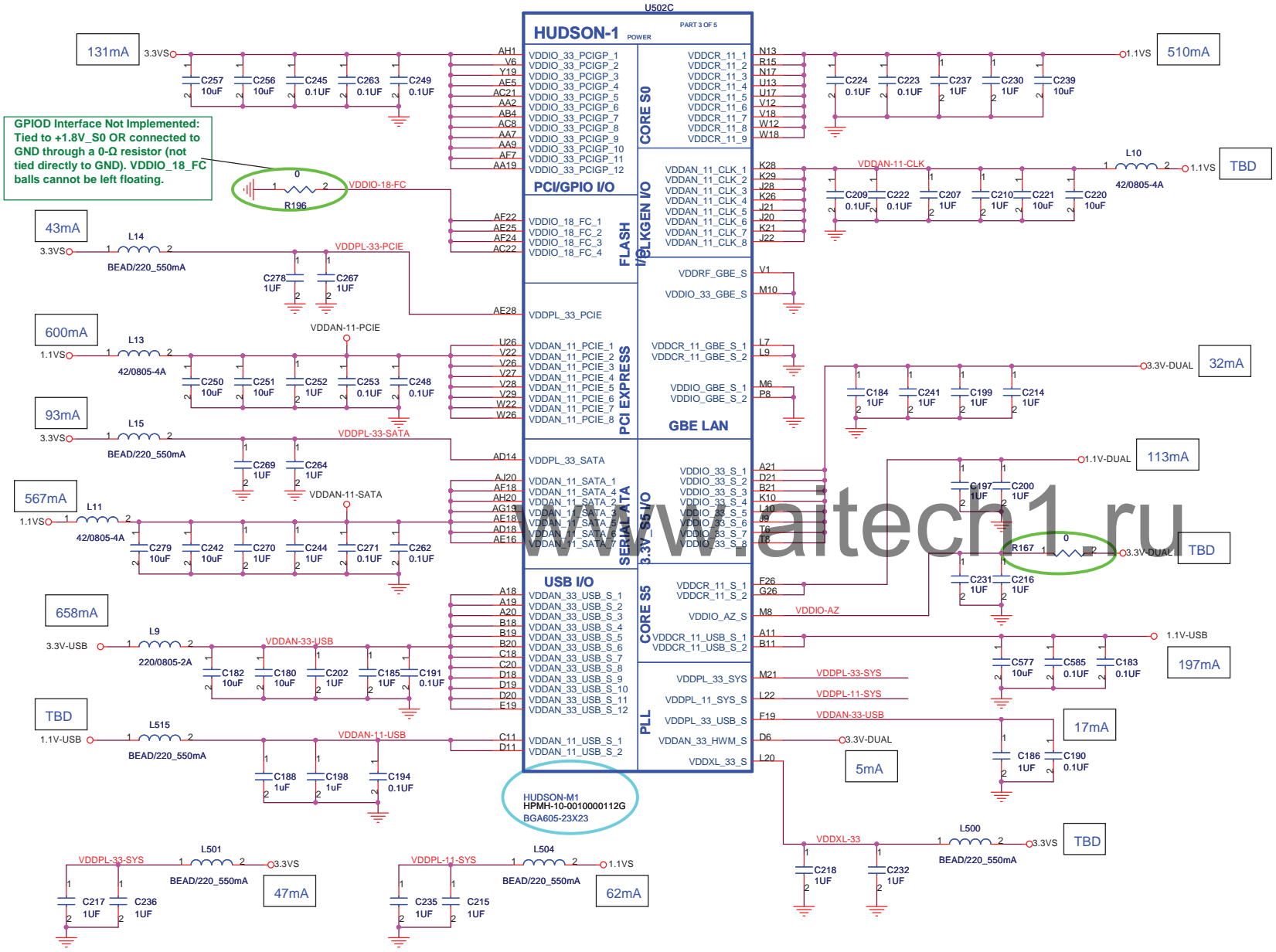
	AZ_SDOUT	PCI_CLK1	PCI_CLK2	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	GPIO200	GPIO199
PULL HIGH	LOW POWER MODE	ALLOW PCIE Gen2	Watchdog Timer Enabled	USE DEBUG STRAP	non_Fusion CLOCK MODE	EC ENABLED	CLKGEN ENABLED	H,H = Reserved	H,L = SPI ROM
PULL LOW	PERFORMANCE MODE	FORCE PCIE Gen1	Watchdog Timer Disabled	IGNORE DEBUG STRAP	FUSION CLOCK MODE	EC DISABLED	CLKGEN DISABLED	L,H = LPC ROM (Default)	L,L = FWH ROM
	DEFAULT	DEFAULT	DEFAULT	DEFAULT	DEFAULT	DEFAULT	DEFAULT		



FLEX Computing

Project Name :	H210UA1	Title :	FCH_SATA/IDE/SPI/STRAPS
Size :	Document Number :	HPMH-40GAB6000-C000	Rev : C
Date :	Monday, September 27, 2010	Sheet :	13 of 28

GPIO Interface Not Implemented:  
Tied to +1.8V\_S0 OR connected to  
GND through a 0-Ω resistor (not  
tied directly to GND). VDDIO\_18\_FC  
balls cannot be left floating.



3.3V-USB / 1.1V-USB	S3	S4	S5
AC mode	ON	OFF	OFF
DC mode	OFF	OFF	OFF

**FLEXComputing**

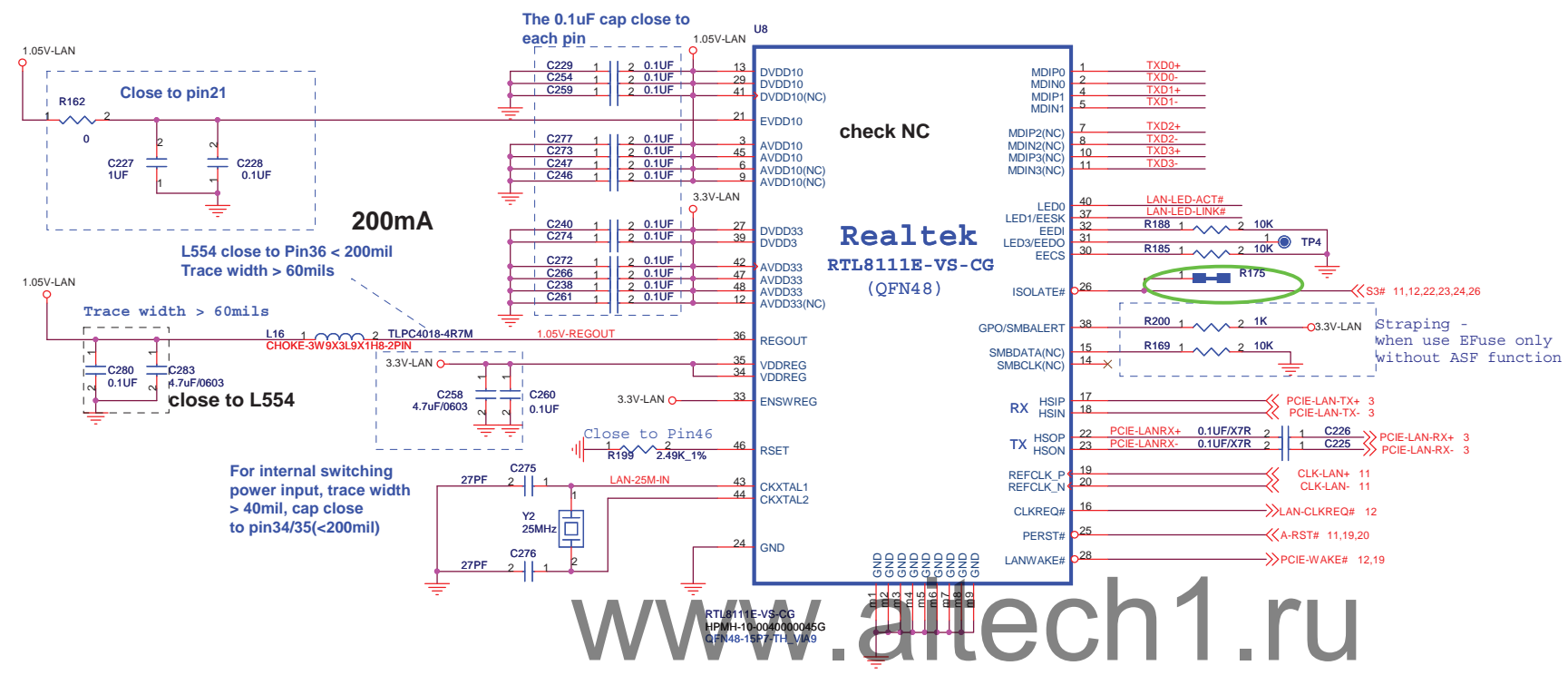
Project Name : H210UA1Title : FCH\_PWR/GND

Size : Document Number : HPMH-40GAB6000-C000Rev : c

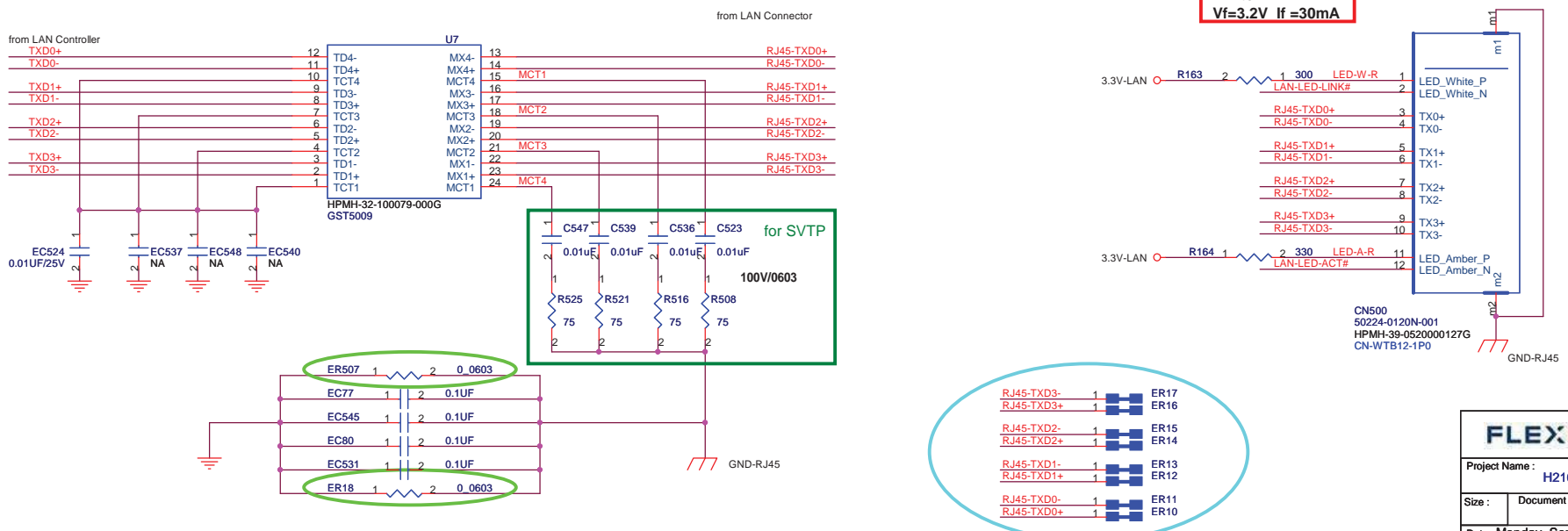
Date: Thursday, September 23, 2010Sheet : 14 of 28



# GLAN Controller



# RJ45 connector

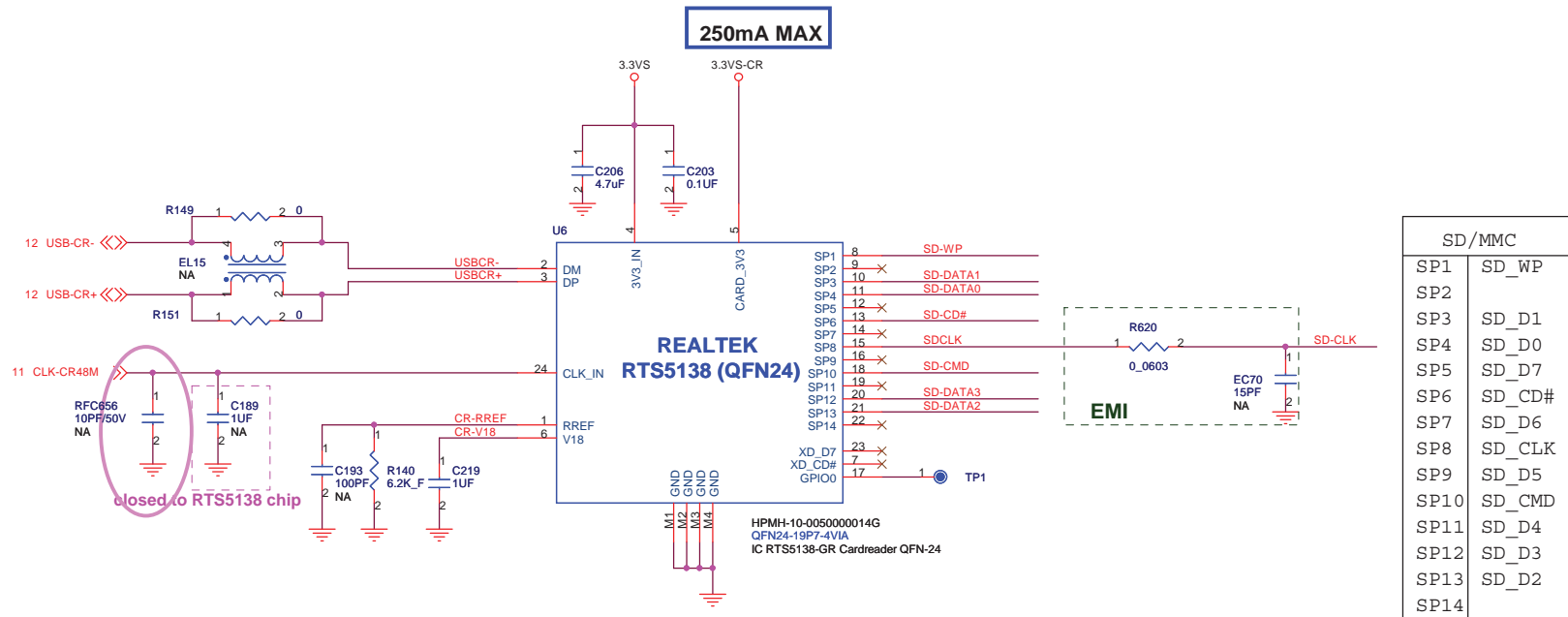


FLEX Computing



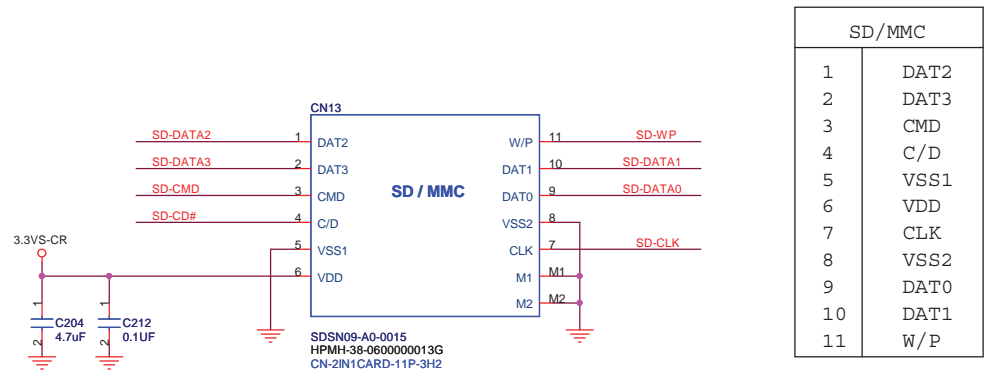


Card Reader



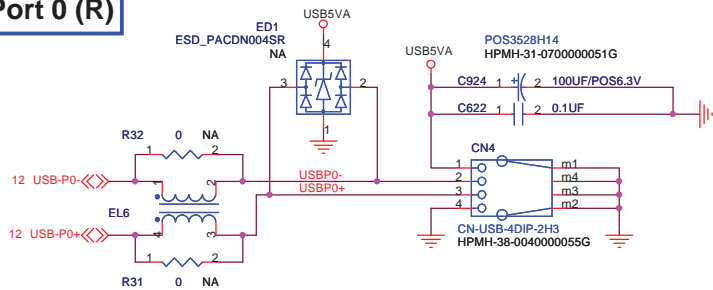
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Memory Card Socket



FLEX Computing

## USB Port 0 (R)

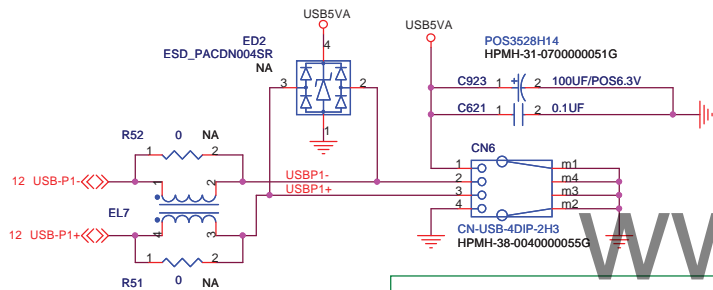


### Note 1

For USB ports that have trace length of  $\leq 10''$ , the rise and fall time parameters may not meet the specification of  $> 450$  ps.



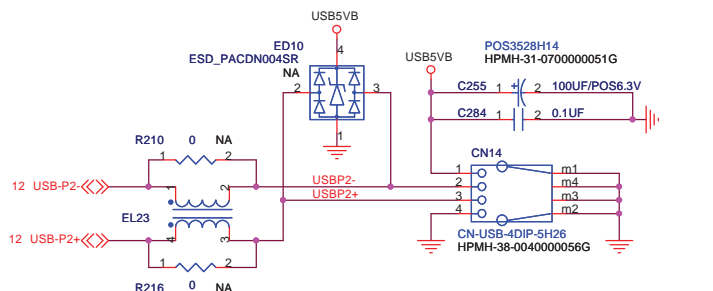
## USB Port 1 (R)



### Note 1



## USB Port 2 (L)



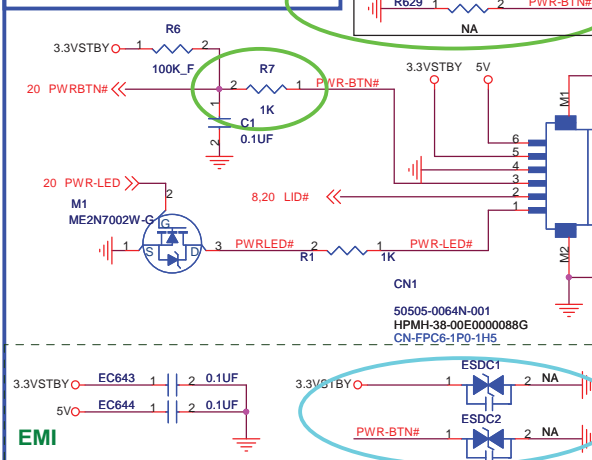
### Note 1

For USB ports that have trace length of  $\leq 10''$ , the rise and fall time parameters may not meet the specification of  $> 450$  ps.

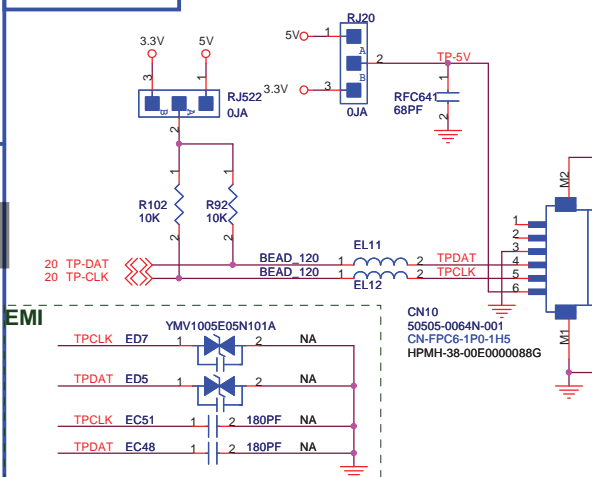


## Power Button DB CONN

### RESERVE FOR DEBUG

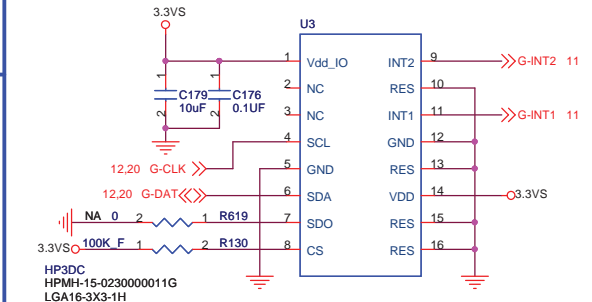


## Touch Pad



## G-Sensor

Pin 7 = High : I2C  
LOW : SPI



## HP3DC

Address: 0011 0010 : 0x32

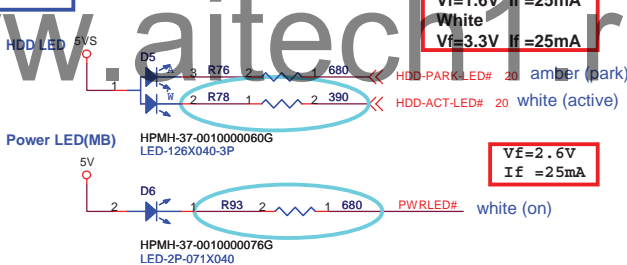
## FLEX Computing

Project Name: H210UA1 Title: USB CONN/LED/WEBCAM/TP/G-SENSOR

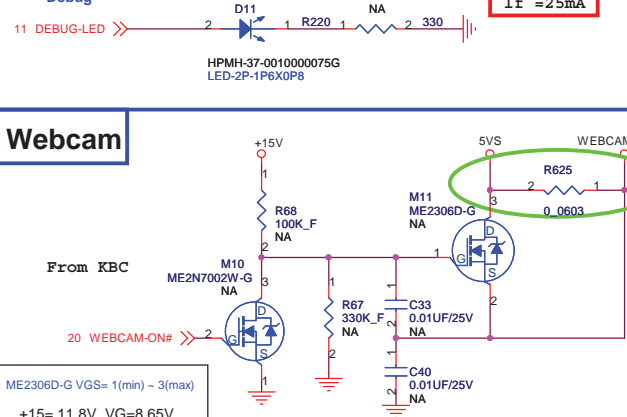
Size: Custom Document Number: HPMH-40GAB6000-C000 Rev: C

Date: Monday, September 27, 2010 Sheet: 18 of 28

## LED



## Webcam

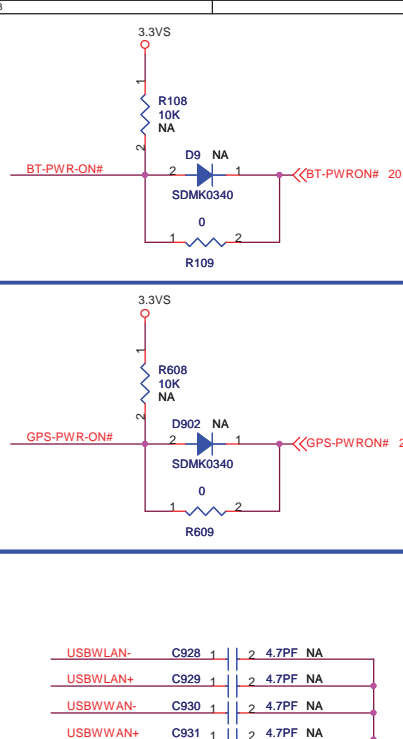
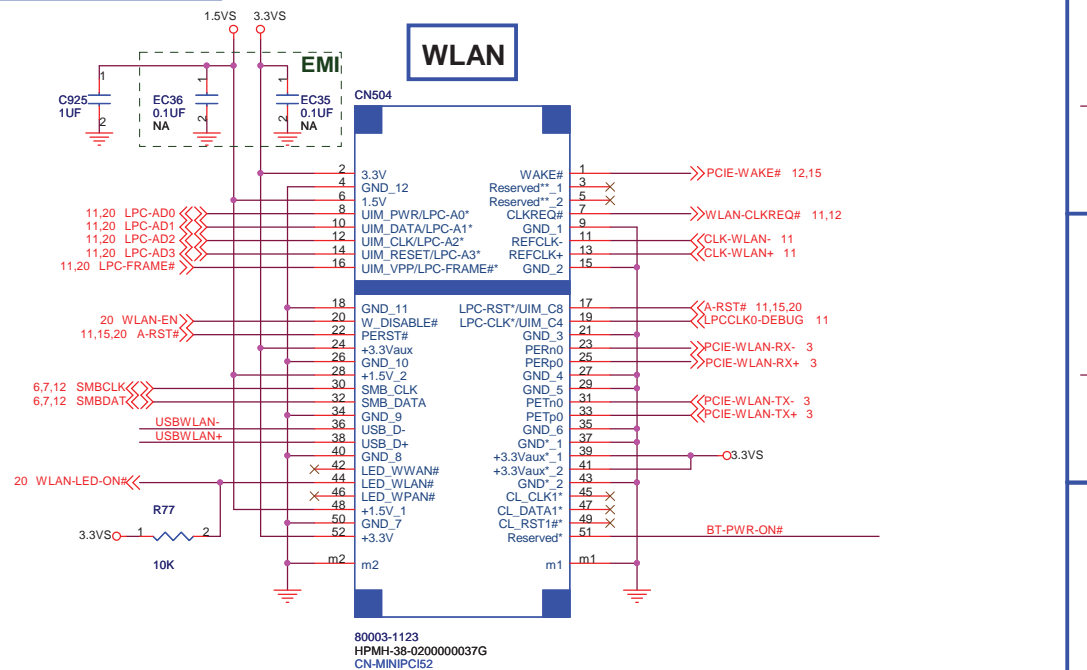


ME2306D-G VGS= 1(min) ~ 3(max)

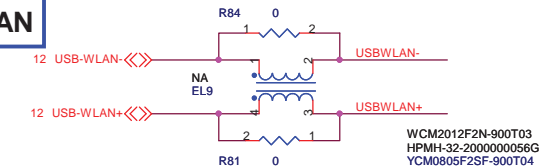
+15= 11.8V ,VG=8.65V  
VGS=8.65V-5V=3.65V  
+15= 14.6V ,VG=10.7V  
VGS=10.7V-5V=5.7V

WEBCAM MODULE PIN DEFINE

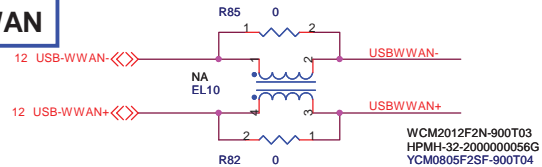
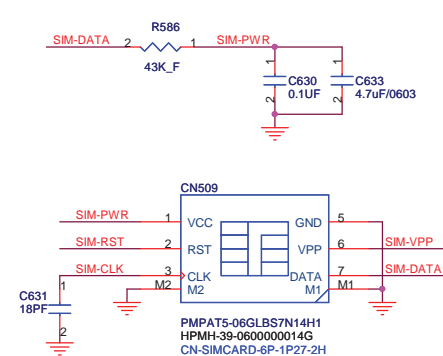
## WLAN / WWAN



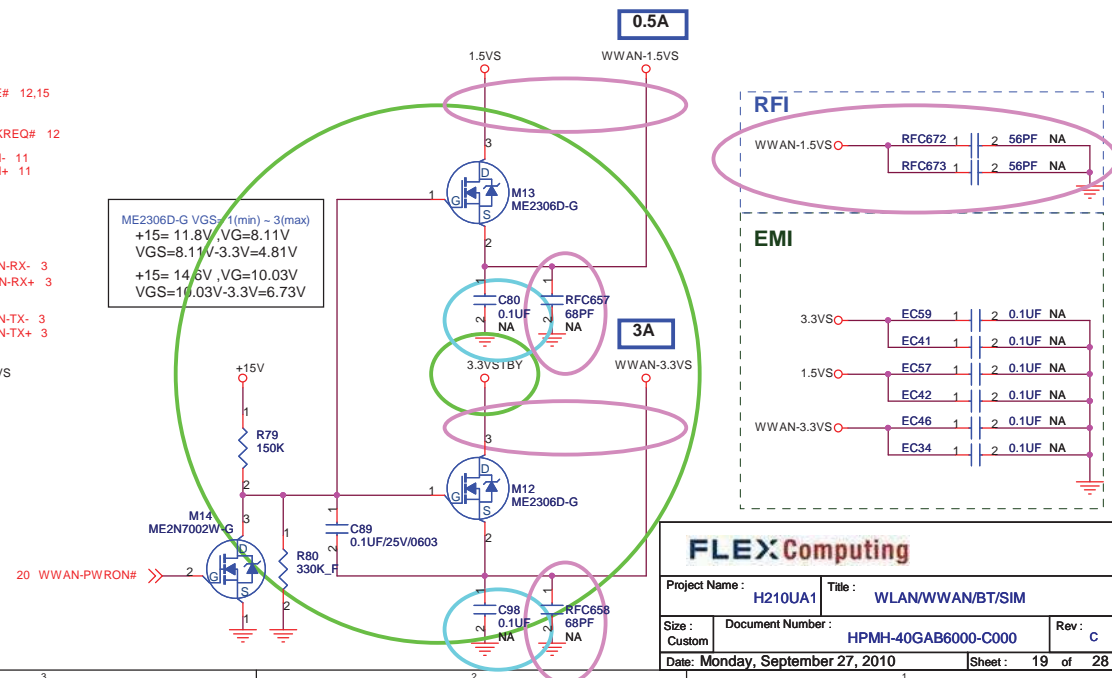
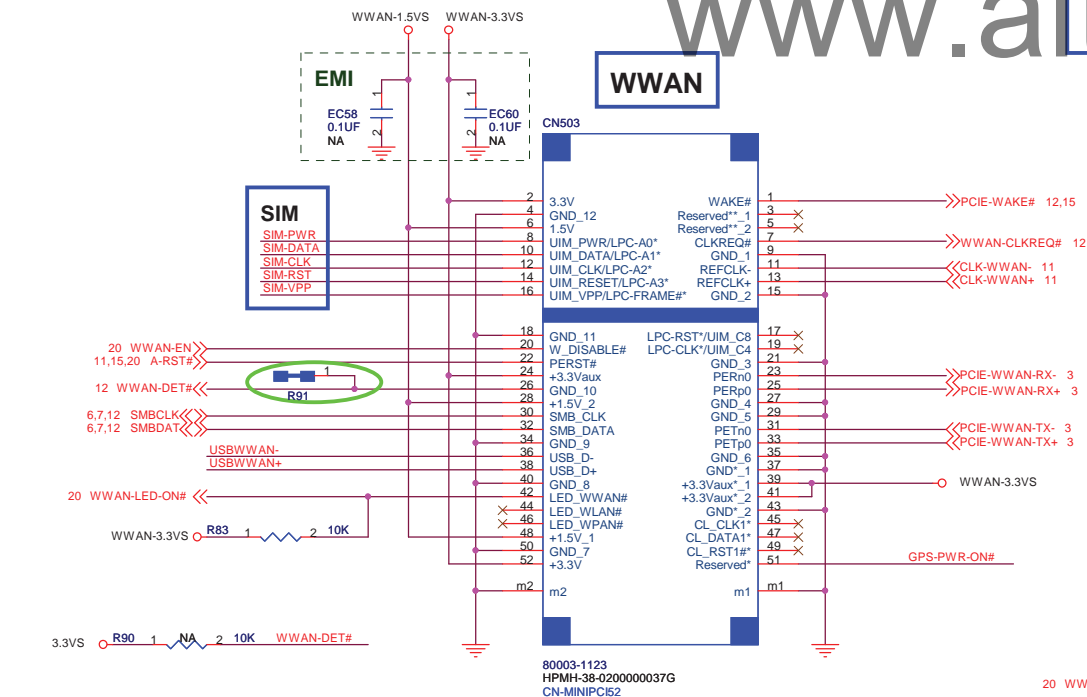
## WLAN

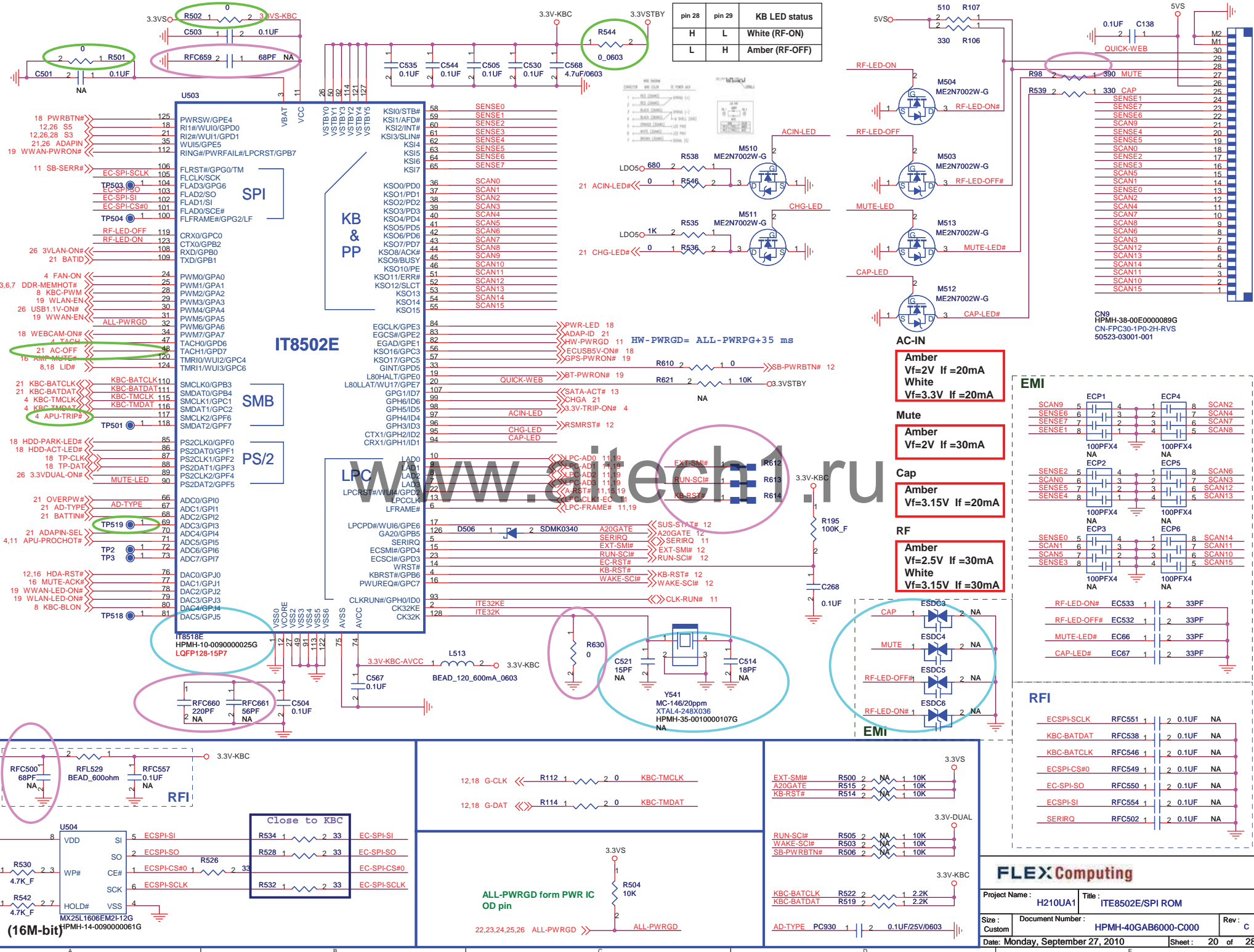


## WWAN

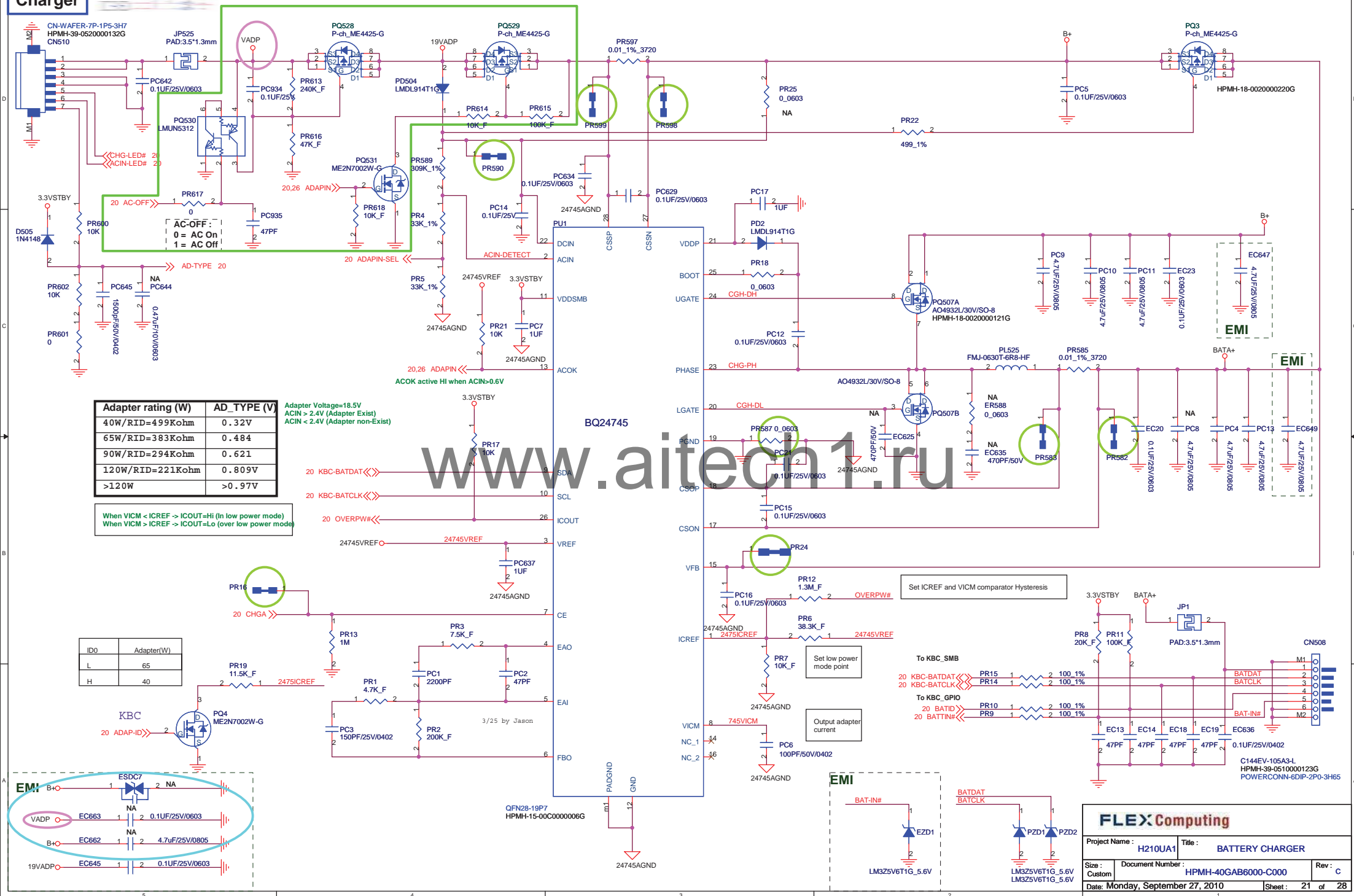
**SIM**

## WWAN





## Charger

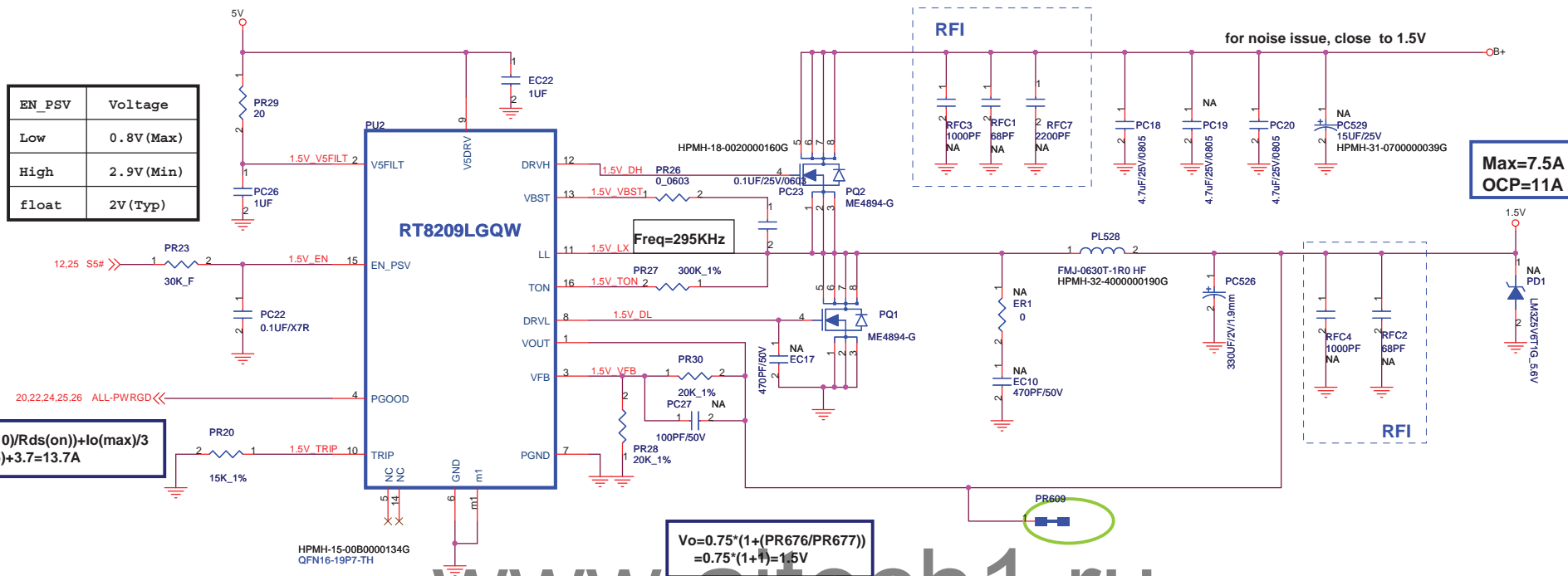








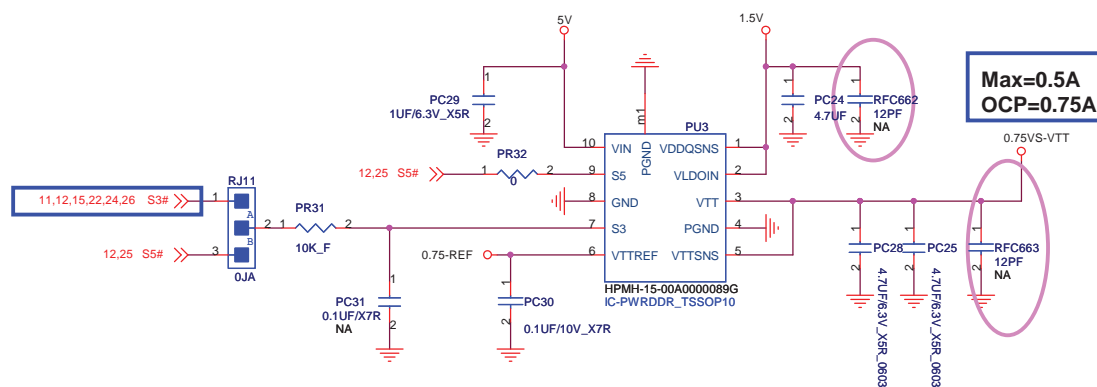
## 1.5VDDR



$V_0 = 0.75 \cdot (1 + (R_{07}/R_{077}))$   
 $= 0.75 \cdot (1 + 1) = 1.5V$

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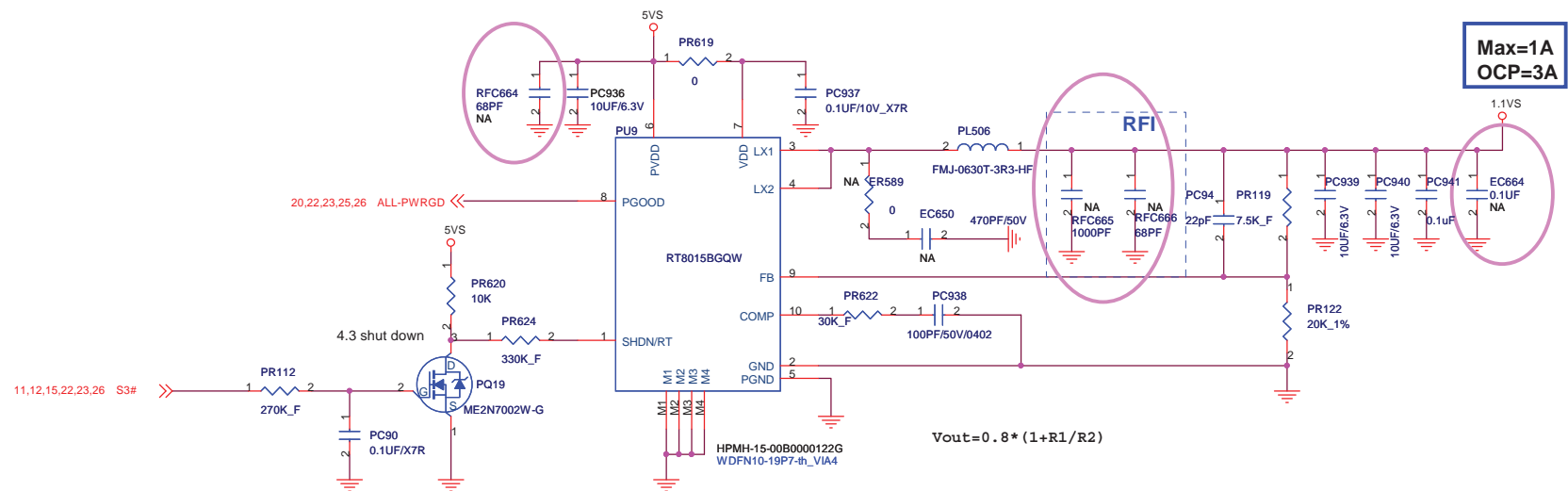
**0.75VS**



**Table 1. S3 and S5 Control Table**

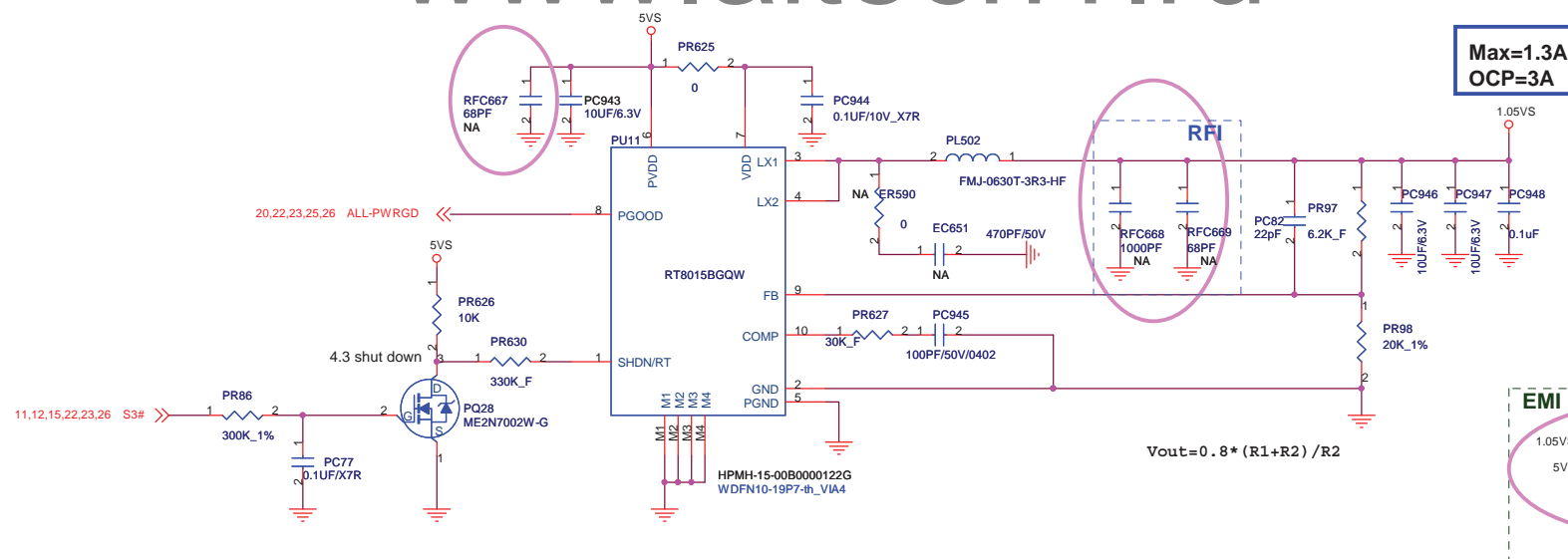
STATE	S3	S5	VTT	VREF
Normal	Hi	Hi	1.25V/0.9V	1.25V/0.9V
Standby	Lo	Hi	12mV/6mV (High-Z)	1.25V/0.9V
Shutdown	Lo	Lo	0V (Discharge)	0V (Discharge)
Shutdown	Hi	Lo	0V (Discharge)	0V (Discharge)

## 1.1VS



**1.05VS**

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**FLEX** Computing

Project Name : <b>H210UA1</b>		Title : <b>1.1VS / 1.0VS</b>	
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S4/S3 OFF

5VS

Control HDMI CONN 5V

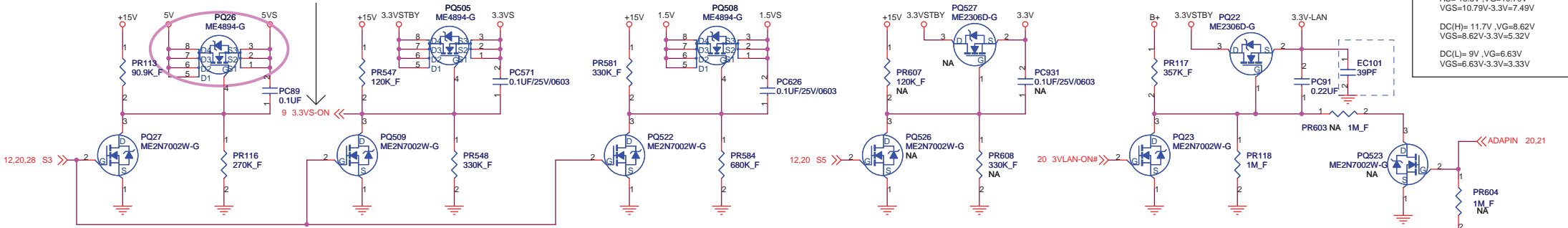
3.3VS

1.5VS

3.3V

3.3V-LAN

rise time 1 ~100ms  
AC= 18.5V ,VG=10.79V  
VGS=10.79V-3.3V=7.49V  
DC(H)= 11.7V ,VG=8.62V  
VGS=8.62V-3.3V=5.32V  
DC(L)= 9V ,VG=6.63V  
VGS=6.63V-3.3V=3.33V

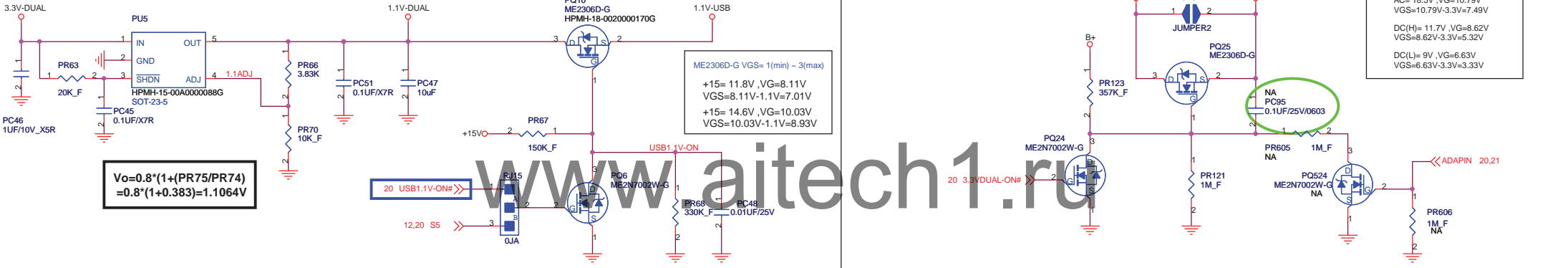


1.1VSTBY / 1.1V\_USB

200mA

150mA

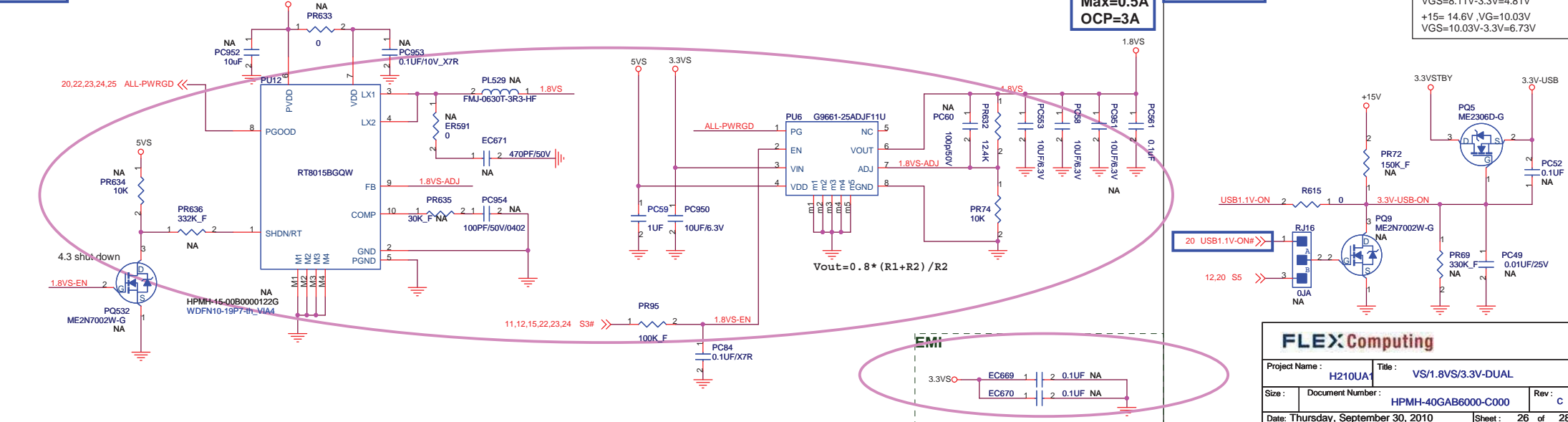
3.3V-DUAL

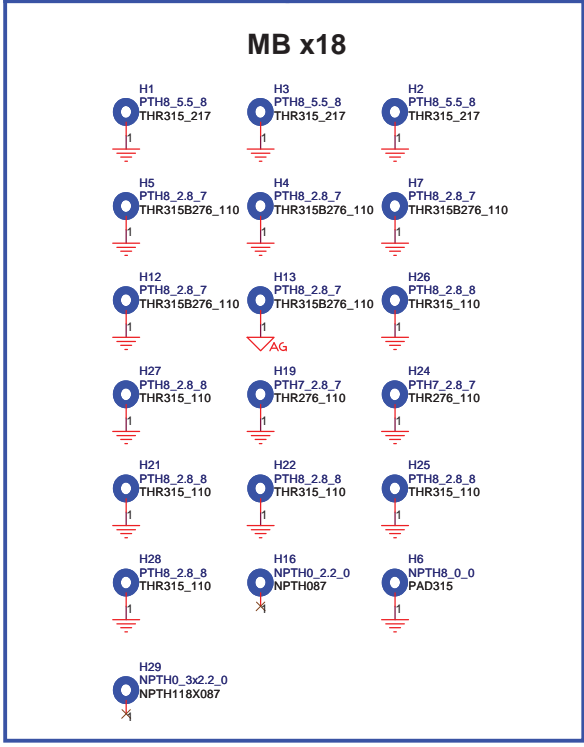
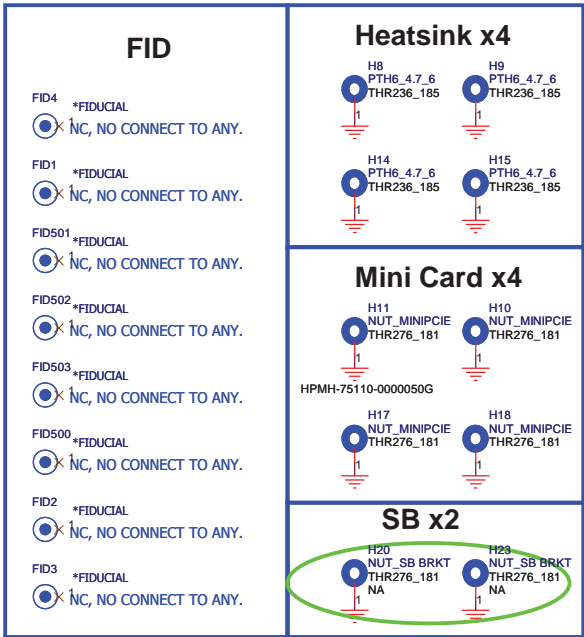


1.8VS

Max=0.5A  
OCP=3A

3.3V-USB





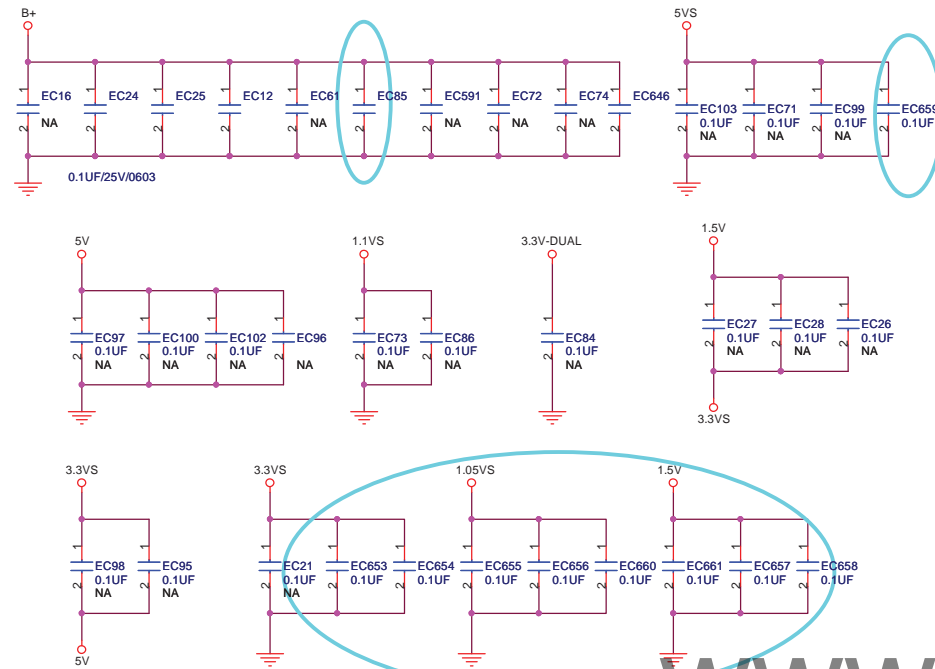
030 list

Type	Q'ty	P/N	Description
CPU Support	1	HPMH-B2985120G00001	BRKT CPU SUPPORT G AB600
SCREW	2	HPMH-7030730000069G	SCREW PH M1.6*0.35 L3 D3.6 T0.8 G AB600
RTC BATTERY CABLE	1	HPMH-B2985050G00001	CABLE ASSY RTC BATTERY G AB600
MYLAR	1	HPMH-B2985111G00001	MYLAR CPU MB TOP G AB600
MYLAR	1	HPMH-B2985111G00003	MYLAR FAN MB BOT G AB600
MYLAR	1	HPMH-B2985111G00004	MYLAR IO L MB BOT G AB600
MYLAR	1	HPMH-B2985111G00005	MYLAR IO R MB TOP G AB600
MYLAR	1	HPMH-B2985111G00006	MYLAR KB MB TOP G AB600
MYLAR	1	HPMH-B2985111G00008	MYLAR SB MB BOT G AB600
MYLAR	1	HPMH-B2985111G00010	MYLAR WWAN MB BOT G AB600
KAPTON	1	HPMH-B2985111G00035	KAPTON CPU AMD G AB600
KAPTON	1	HPMH-B2985111G00044	KAPTON FOR SB G AB600
SPONGE	2	HPMH-B2985111G00037	SPONGE L5.5W4H3 G AB600
SPONGE	4	HPMH-B2985111G00045	SPONGE L4.8*W4*H2.55 G AB600
GASKET	1	HPMH-B2985111G00048	GASKET W8*H1*L30 G AB600
GASKET	1	HPMH-B2985111G00049	GASKET W5*H0.7*L25 G AB600
GASKET	1	HPMH-B2985111G00050	GASKET W3*H1*L25 G AB600
CONDUCTIVE TAPE	1	HPMH-B2985111G00039	CONDUCTIVE TAPE FOR HDMI G AB600
CONDUCTIVE TAPE	1	HPMH-B2985111G00040	CONDUCTIVE TAPE W7*L12 G AB600
CONDUCTIVE FABRIC	2	HPMH-B2985111G00041	CONDUCTIVE FABRIC W7*T0.25*L10 G AB600
CONDUCTIVE TAPE	1	HPMH-B2985111G00042	CONDUCTIVE TAPE W6*L26 G AB600
RUBBER	2	HPMH-B2985111G00055	RUBBER FOR MB TOP G AB600

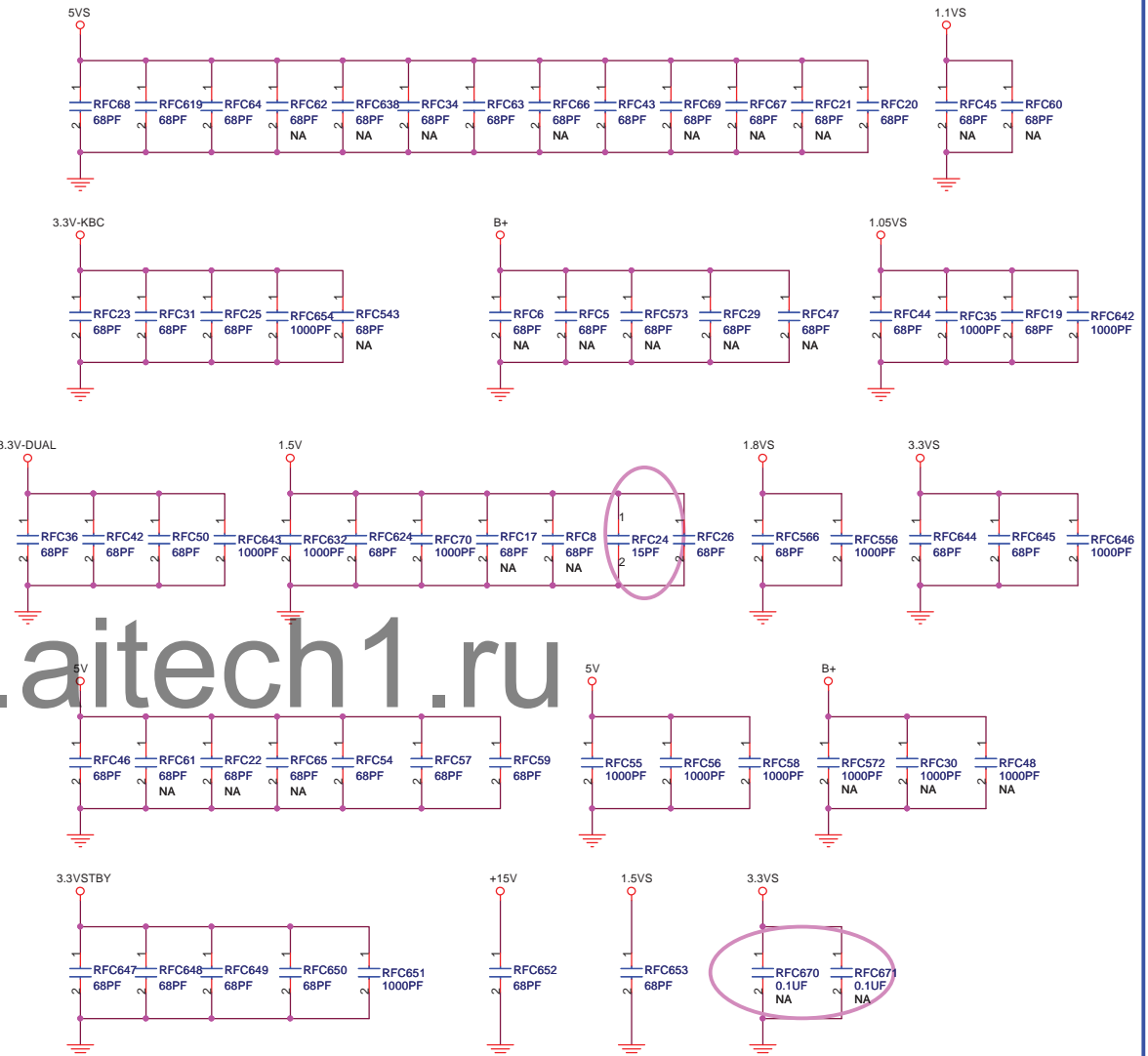
Normal short list

Location	Footprint
ER10	PAD0402-SHORT5
ER11	
ER12	
ER13	
ER14	
ER15	
ER16	
ER17	
PR16	
PR62	
PR64	
PR582	PAD0402-SHORT
PR583	
PR590	
PR598	
PR599	
PR609	
R91	
R175	
R205	
R208	
R209	PAD-JUMPER-SHORT
R212	
R218	
R562	
R571	
R604	
R605	
R607	
R612	
R613	
R614	

## EMI Caps

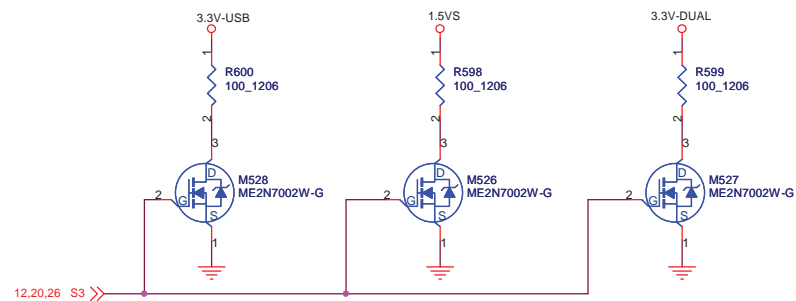


## RFI Caps



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## Discharge



**FLEX Computing**

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