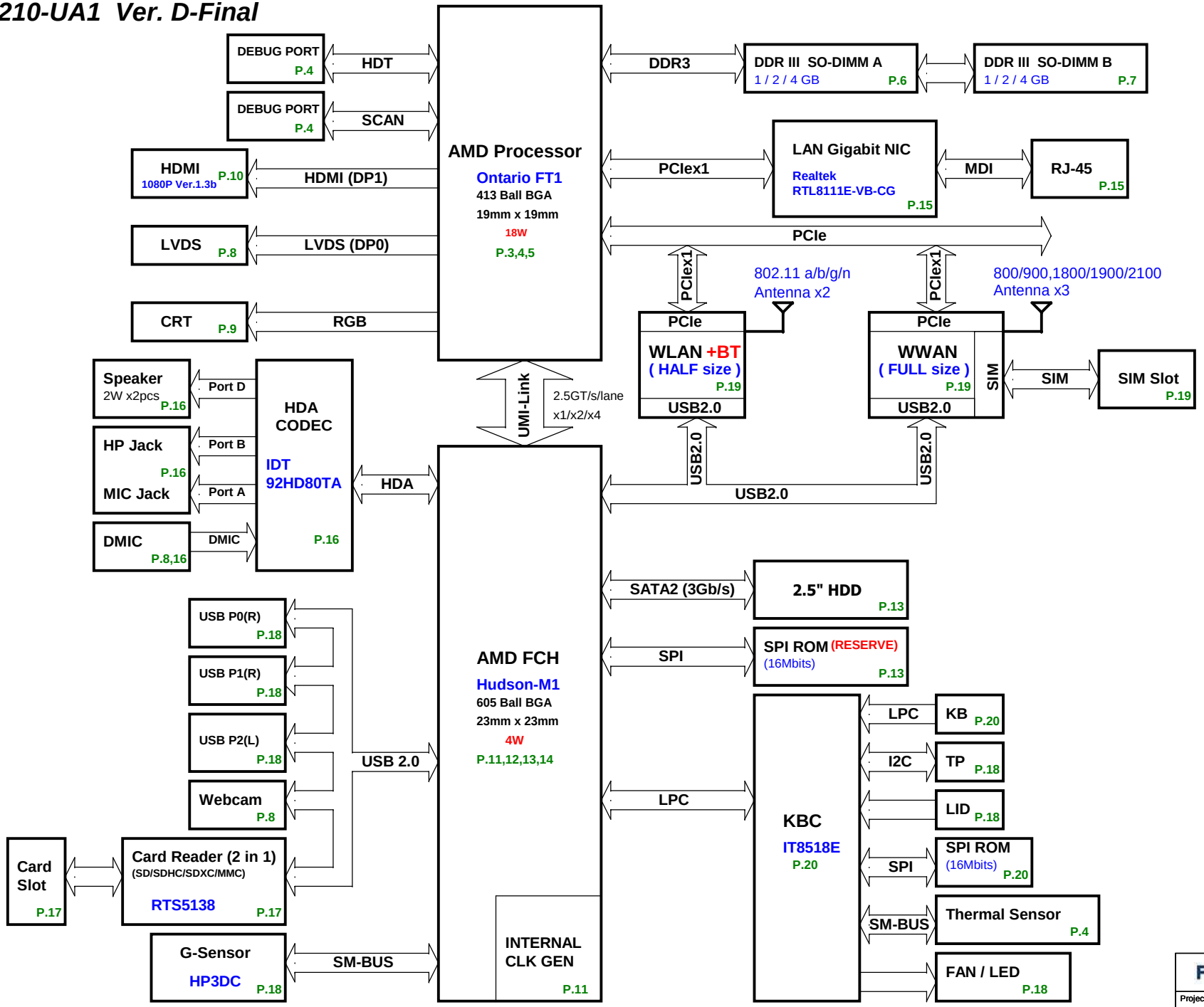
Garbo-Brazos Platform
H210-UA1 Ver. D-Final



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: Stanby

(1) Battery Charging : Amber

(2) AC plugged and not charging : White

(3) HDD (Dual Color): White : Active / Amber: Park

(1) Mute LED : Amber

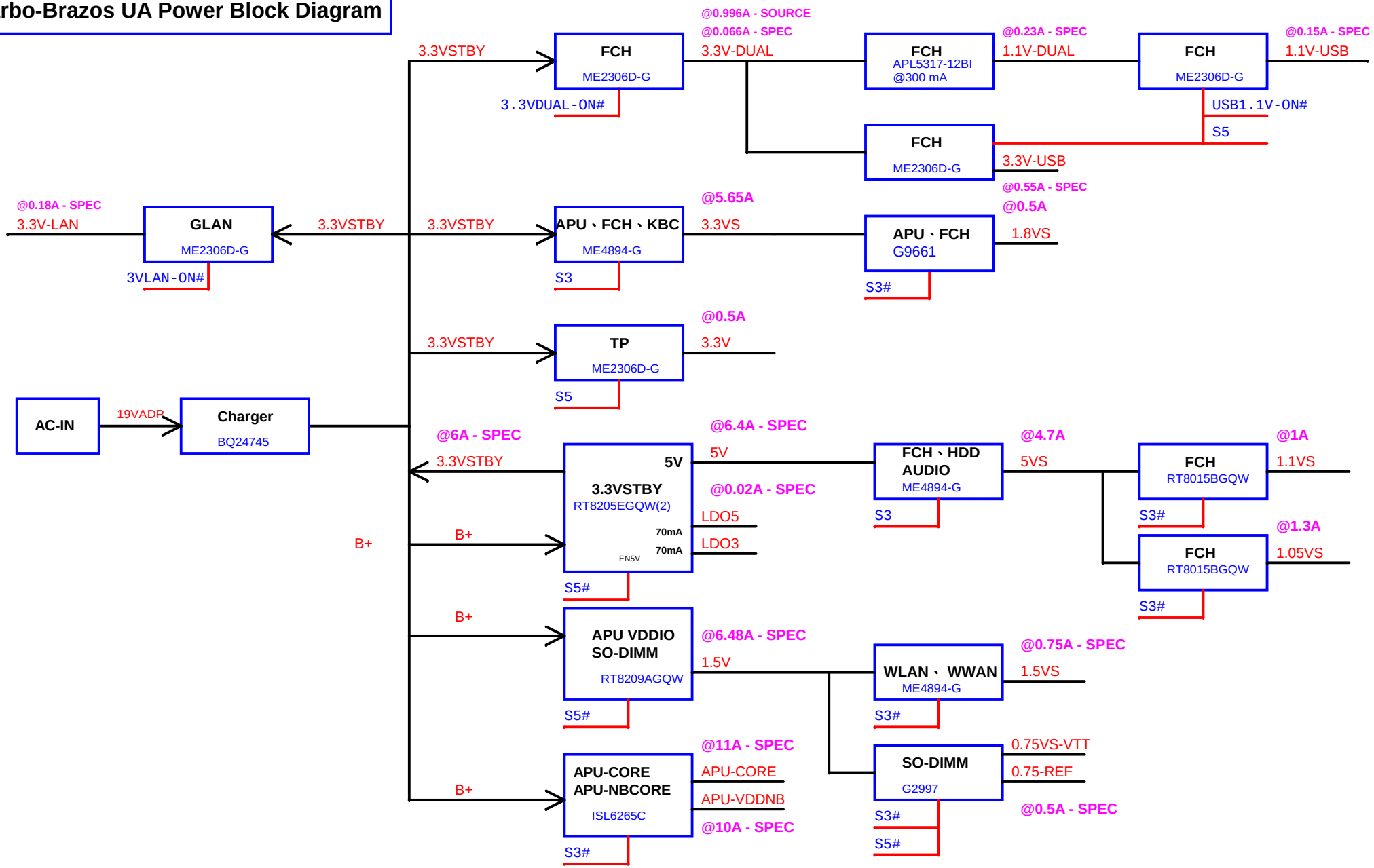
(2) Caps Lock : White

(1) Webcam : White : Active

FLEXComputing

Project Name : H210UA1	Title : System Block Diagram	
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 1 of 28	

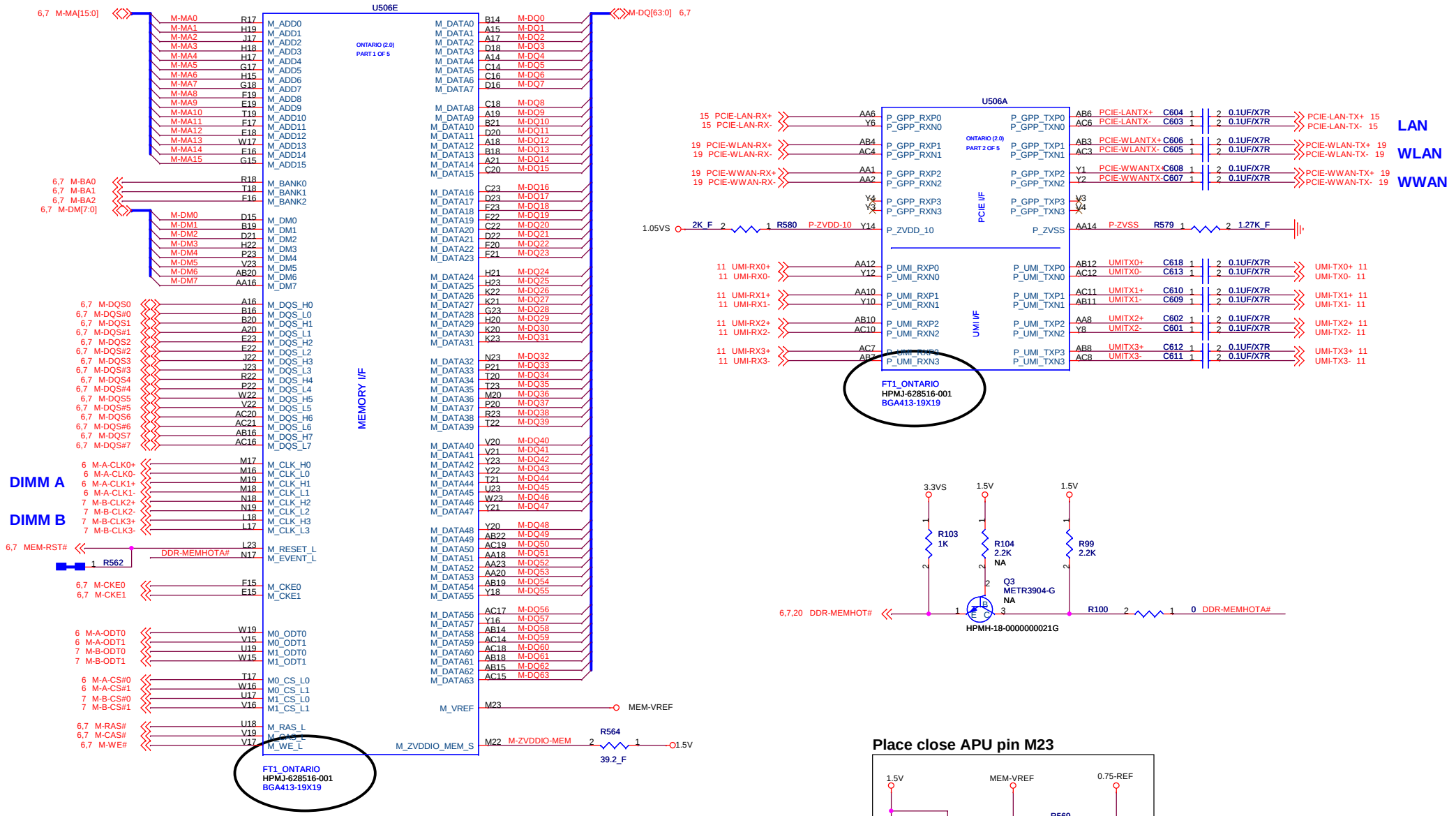
Garbo-Brazos UA Power Block Diagram



FLEXComputing

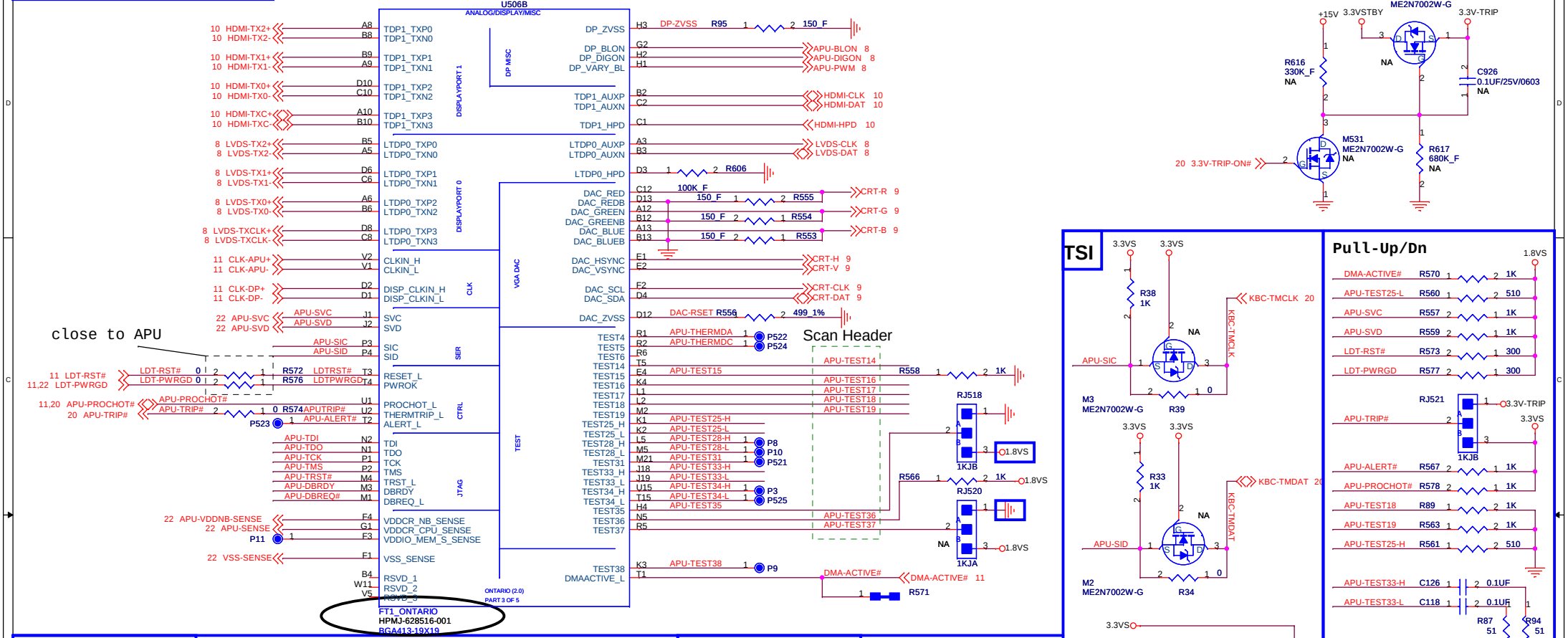
Project Name : H210UA1	Title : Power Block Diagram	
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Friday, November 19, 2010	Sheet : 2 of 28	

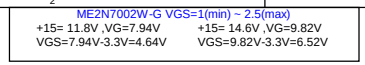
APU_MEMORY/PCIE/UMI



FLEXComputing			
Project Name : H210UA1	Title : APU_MEMORY/PCIE/UMI		
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D	
Date: Monday, November 22, 2010	Sheet : 3 of 28		

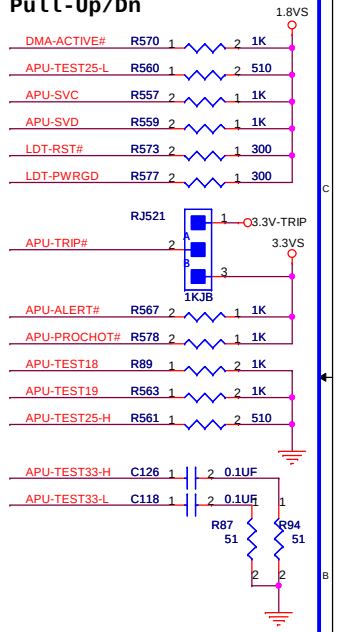
APU_DISPLAY/CLK/MISC



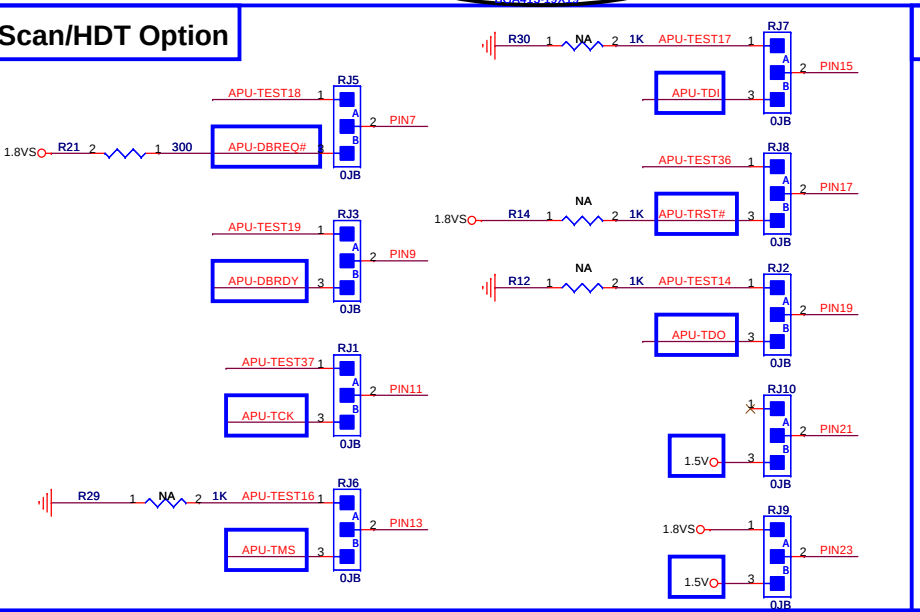


TSI

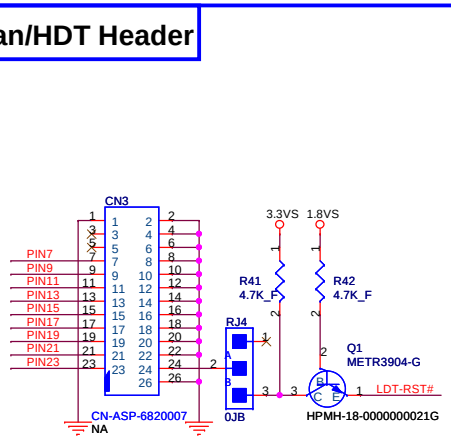
Pull-Up/Dn



Scan/HDT Option

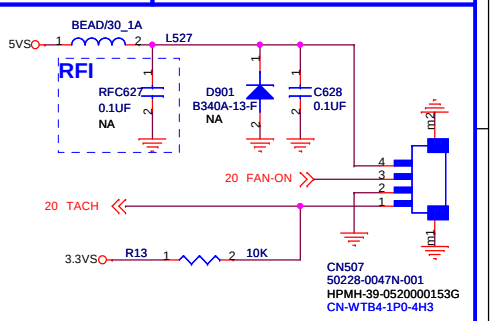


Scan/HDT Header



For Scan pin25
close to HDT conn

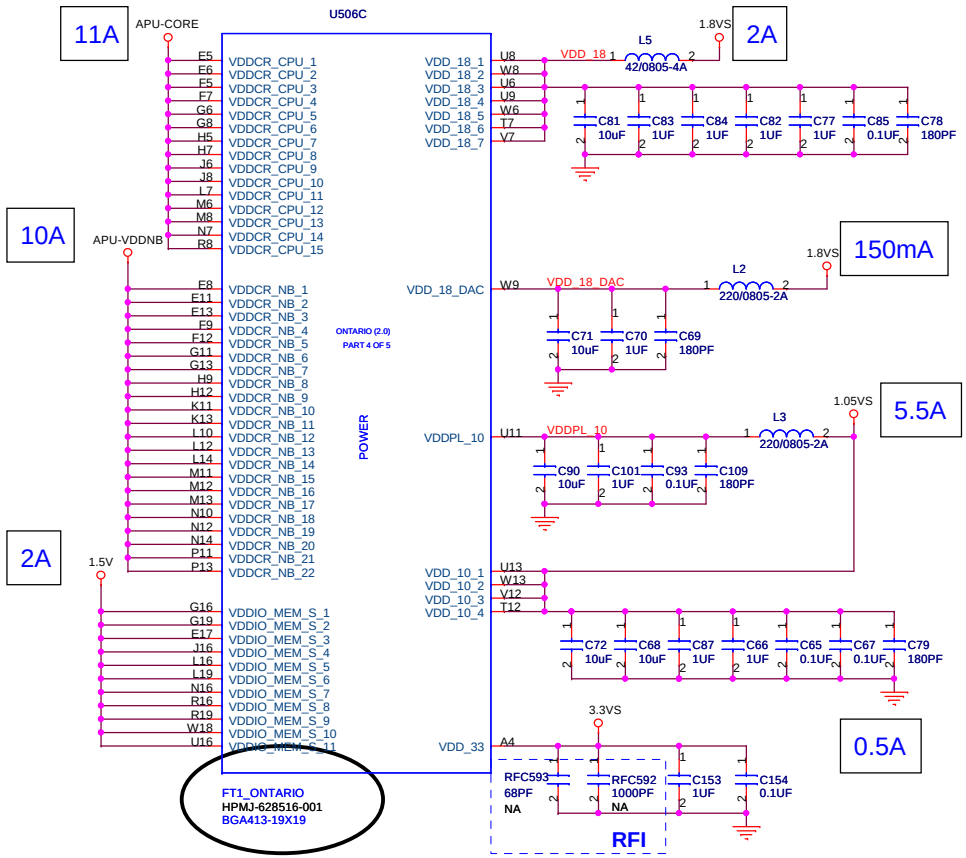
FAN

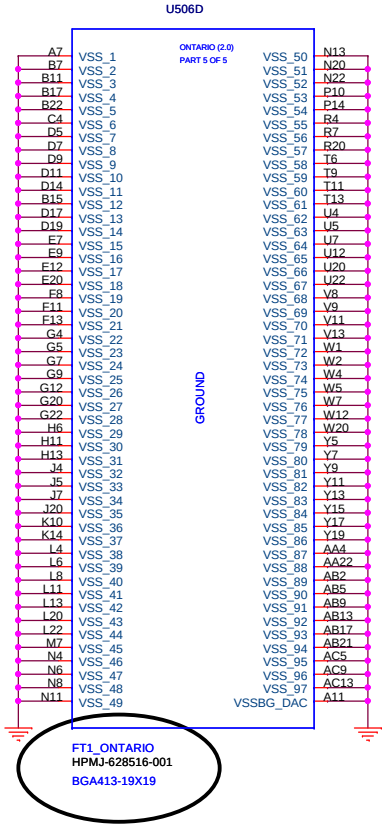


FLEXComputing

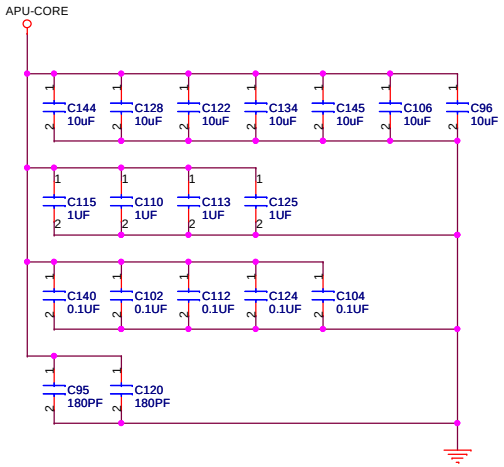
Project Name : H210UA1		Title : APU_DISPLAY/CLK/MISC	
Size :	Document Number : HPMH-40GAB6000-D000		Rev : D
Date: Monday, November 22, 2010		Sheet : 4	of 28

APU_POWER & GND

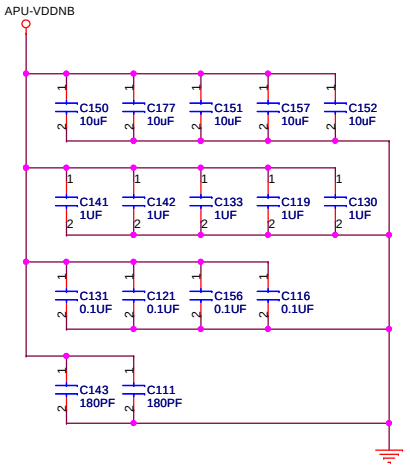




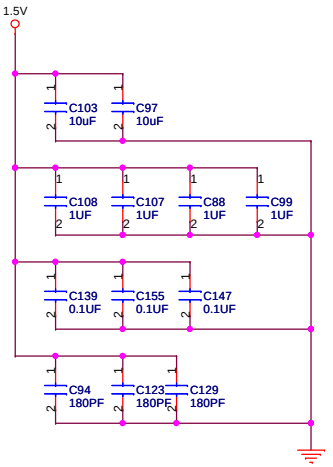
For APU-CORE



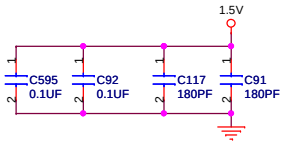
For APU-VDDNB



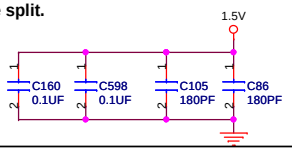
For 1.5V



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.



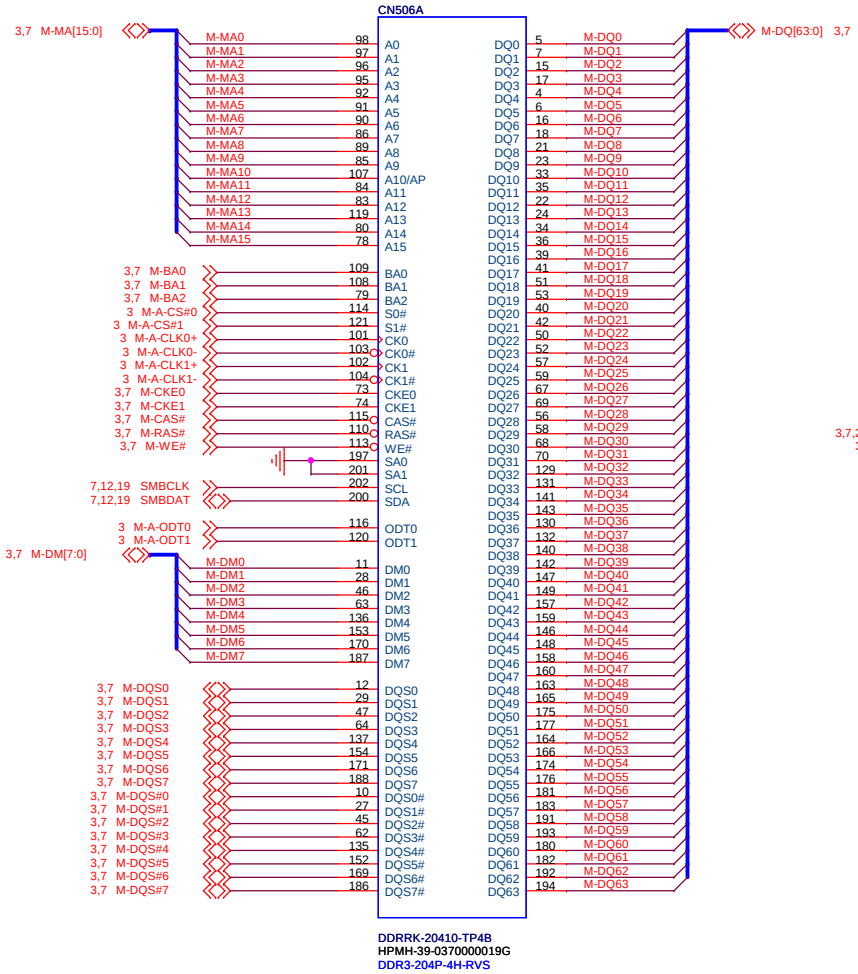
If the VSS plane is longer than 63.5 mm an additional two capacitors are required across the VDDIO_MEM_S and VSS plane split.

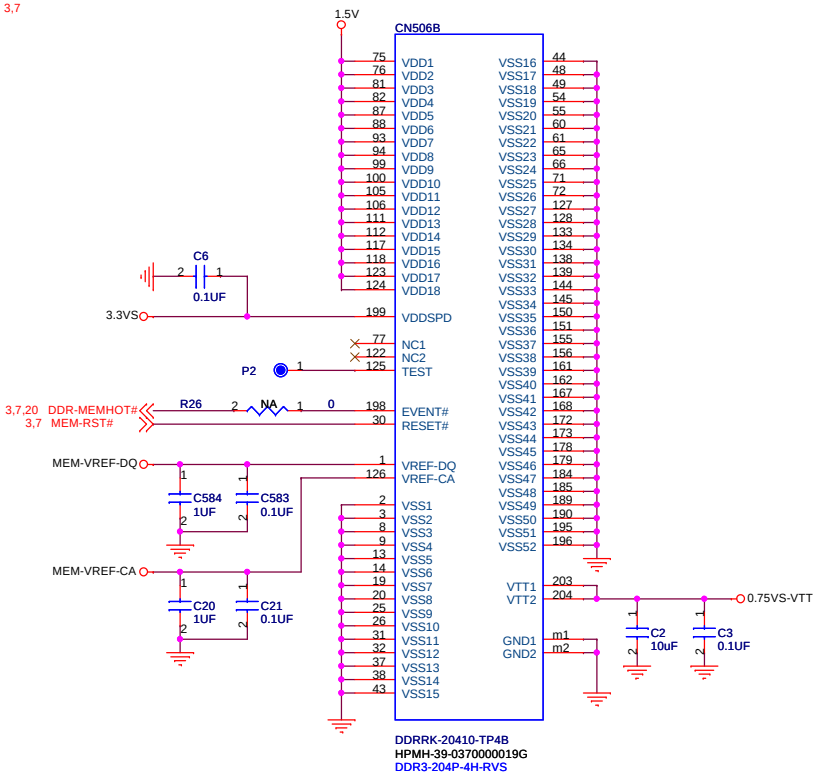


FLEXComputing

Project Name : H210UA1	Title : APU_POWER / GND	
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Friday, November 19, 2010	Sheet : 5 of 28	

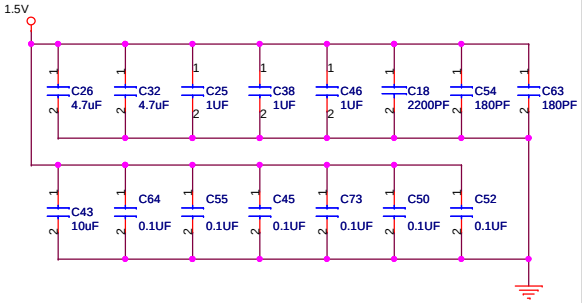
DDR3 DIMM A



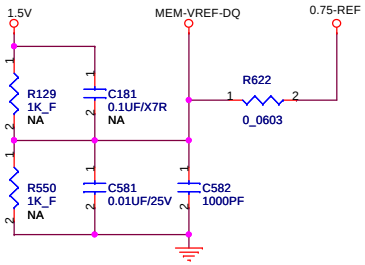


SA0	SA1	Address
0	0	A0
1	0	A2

Layout :
Place these Caps near So-DimmA



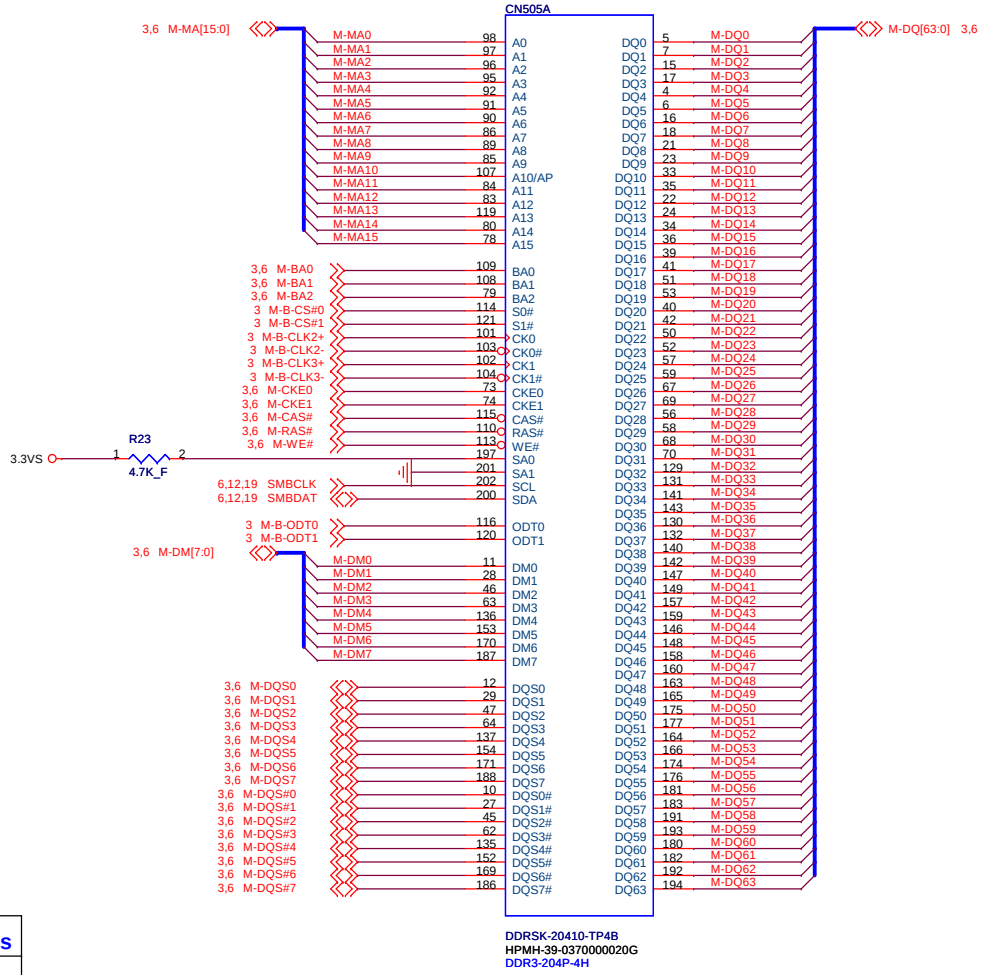
Layout :
Place near So-DimmA

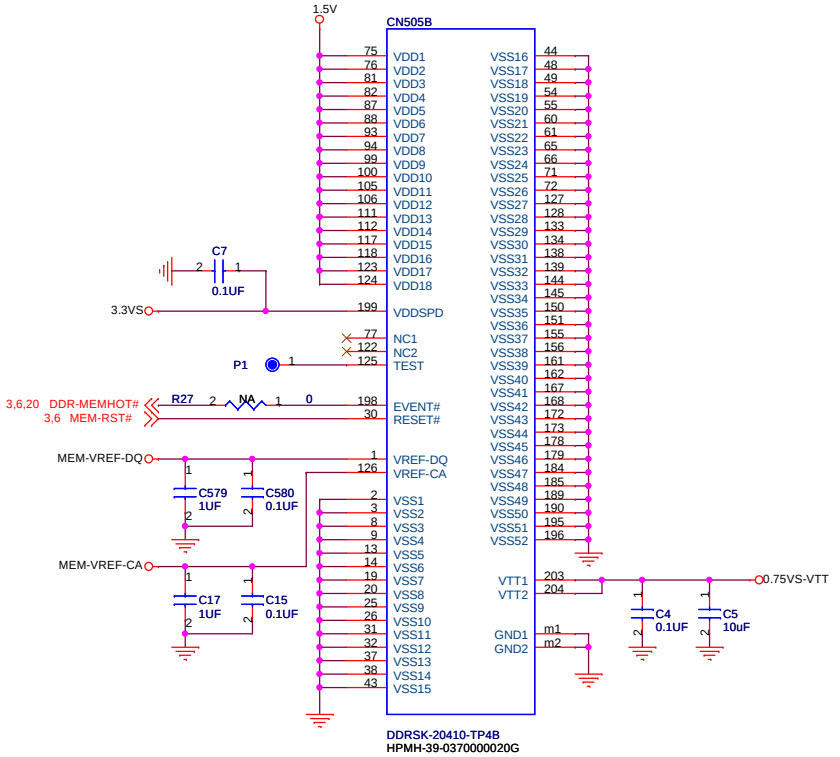


FLEXComputing

Project Name : H210UA1	Title : DDR3 SO-DIMM A	
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 6 of 28	

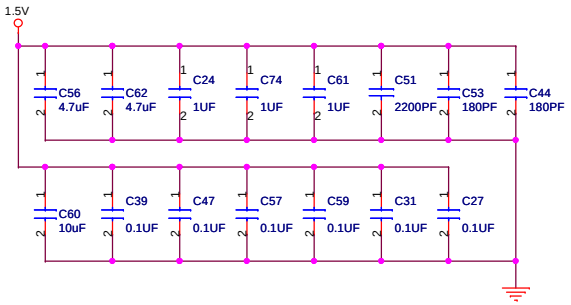
DDR3 DIMM B



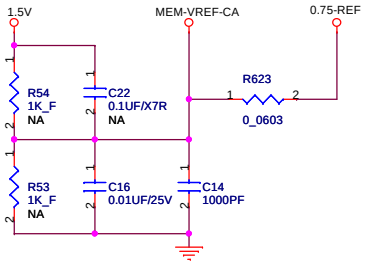


SA0	SA1	Address
0	0	A0
1	0	A2

Layout :
Place these Caps near So-DimmB



Layout :
Place near So-DimmB



FLEXComputing

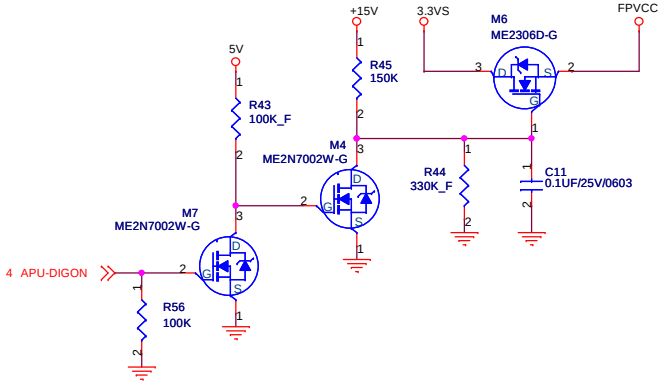
Project Name : H210UA1	Title : DDR3 SO-DIMM B	
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 7 of 28	

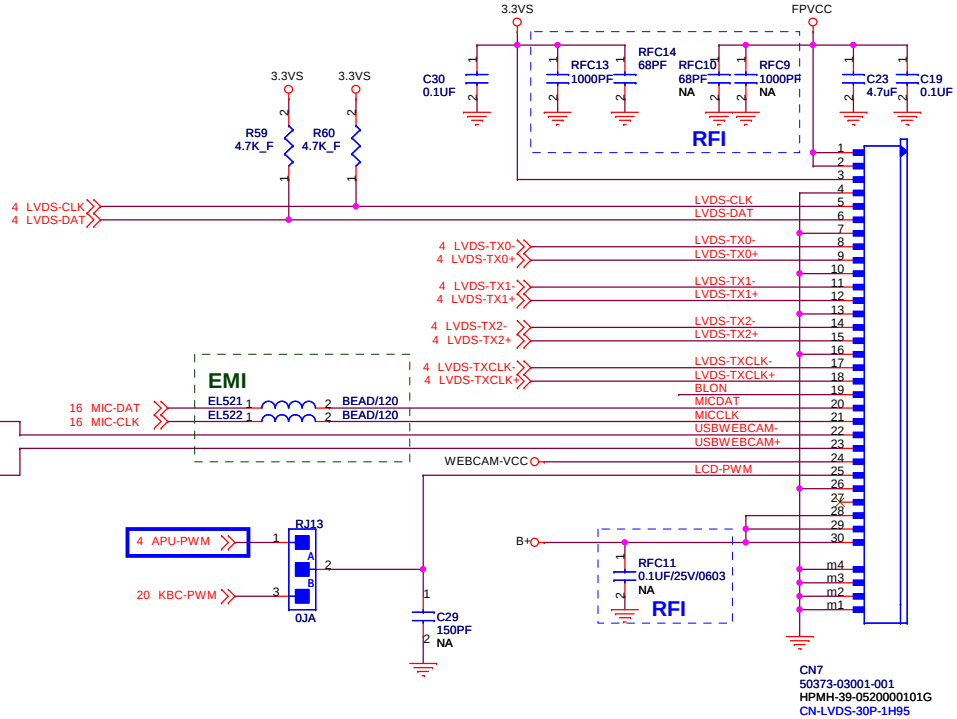
LVDS

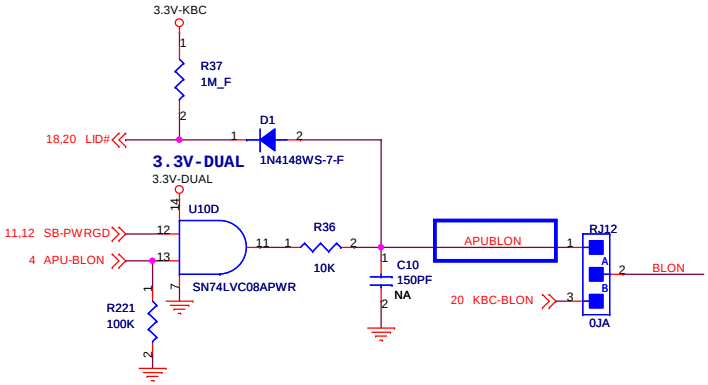
ME2306D-G VGS= 1(min) ~ 3(max)

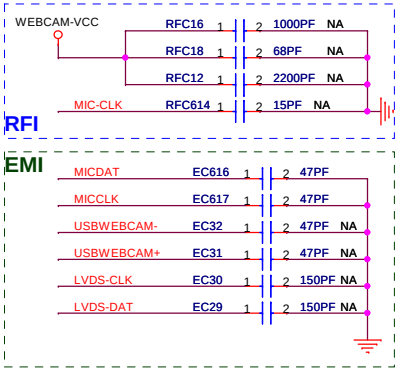
+15= 11.8V ,VG=8.11V
VGS=8.11V-3.3V=4.81V

+15= 14.6V ,VG=10.03V
VGS=10.03V-3.3V=6.73V









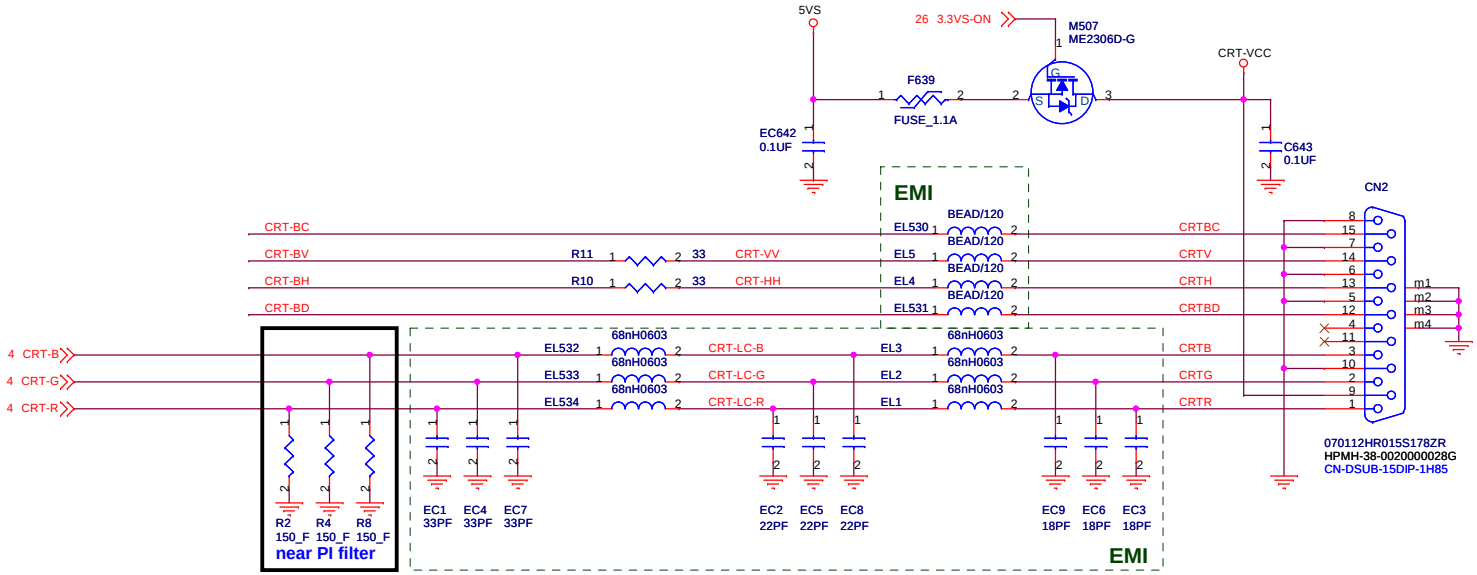
For DP to LVDS termination resistor

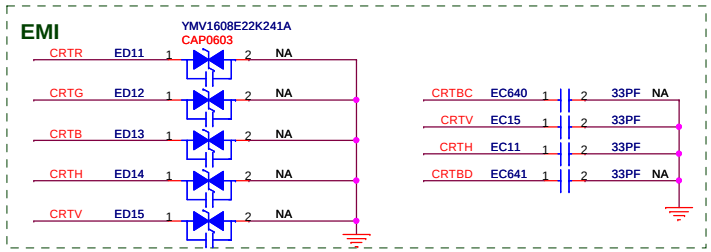
LVDS-TX0-	R64	100_1%		LVDS-TX0+
LVDS-TX1-	R57	100_1%		LVDS-TX1+
LVDS-TX2-	R58	100_1%		LVDS-TX2+
LVDS-TXCLK-	R61	100_1%		LVDS-TXCLK+

FLEXComputing

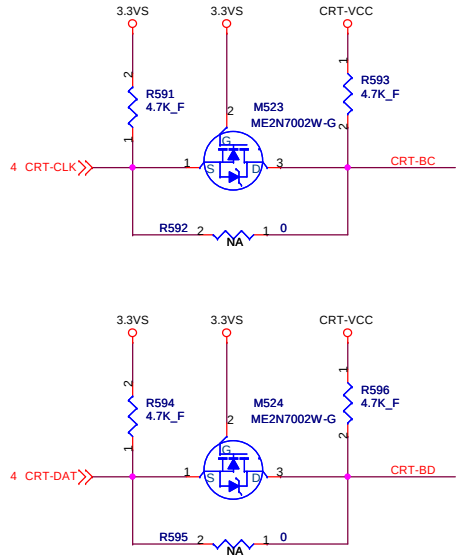
Project Name : H210UA1	Title : LVDS / eDP Connector		
Size : Custom	Document Number : HPMH-40GAB6000-D000		Rev : D
Date: Monday, November 22, 2010		Sheet : 8	of 28

CRT

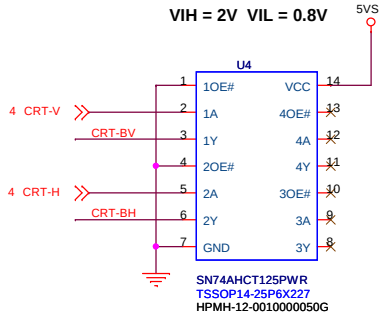




CRT LEVEL SHIFT



H / V SYNC BUFFER



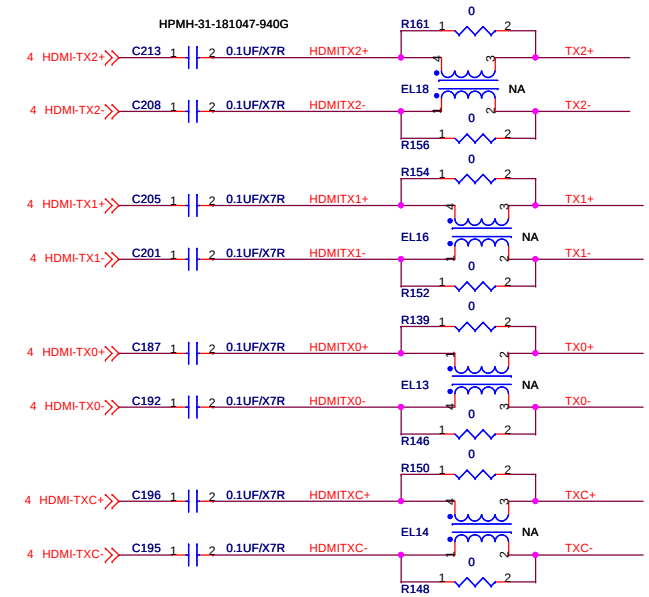
INPUT		OUTPUT
nOE	nA	nY
L	L	L
L	H	H
H	X	Z

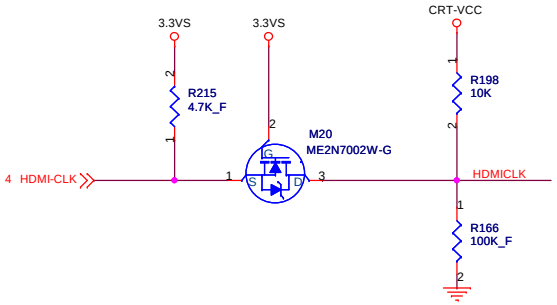
FLEXComputing

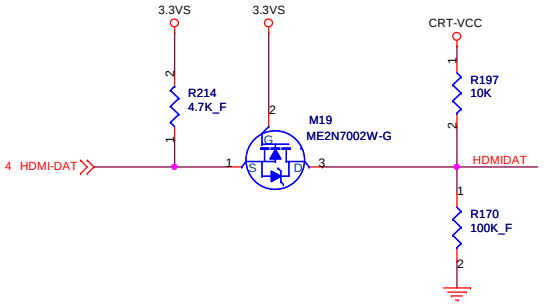
Project Name : H210UA1	Title : CRT Connector	
Size : Custom	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 9 of 28	

HDMI

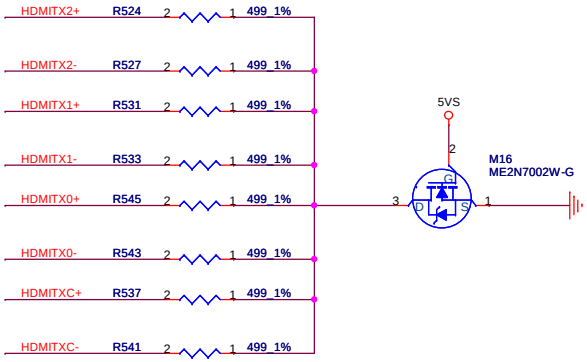
CLOSE CN514

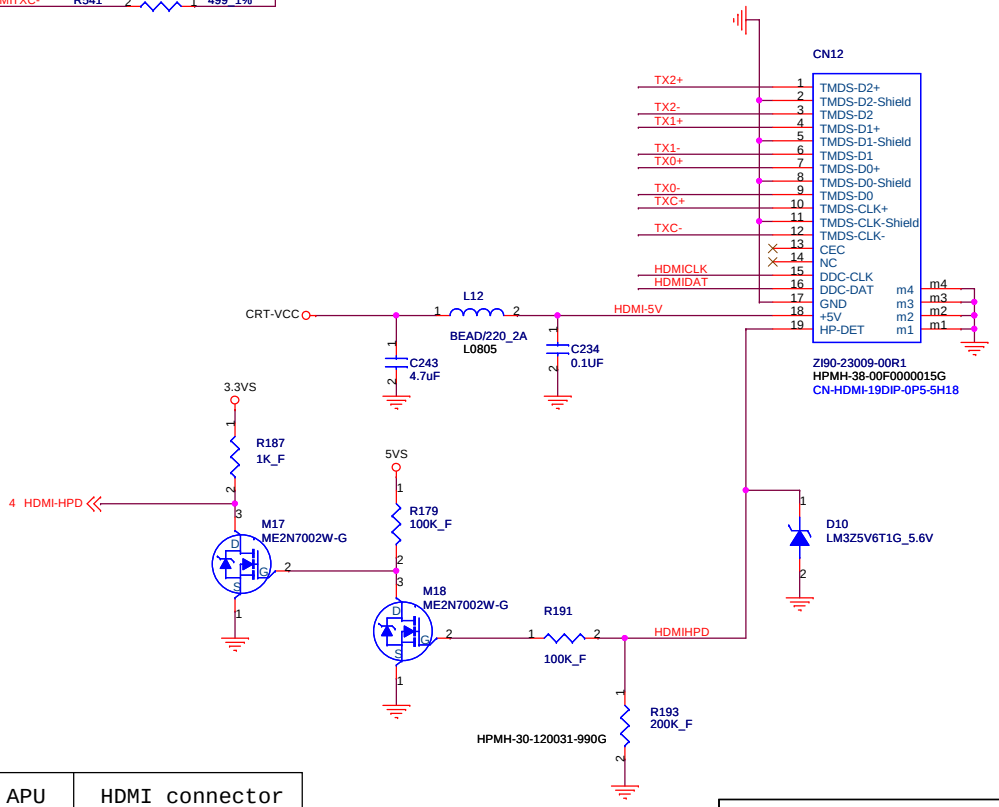






Connected a 499-Ω 5% resistor on each signal connected with a FET to GND (one FET per pair) located on the TMDS connector side of the series capacitors.





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

FLEXComputing

Project Name : H210UA1	Title : HDMI Connector	
Size : Custom	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 10 of 28	

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

FCH_ACPI/GPIO/USB/AUDIO

Pull-up/dn Resister

3.3VS

R153	1	2	4.7K_F	SUS-STAT#
R206	1	NA	2.2K	SMBCLK
R207	1	NA	2.2K	SMBDAT
R203	1	2	4.7K_F	NB-PWRGD
R217	2	1	10K	LAN-CLKREQ#
R204	2	1	10K	WWAN-CLKREQ#
R213	2	1	10K	WLAN-CLKREQ# 11,19

3.3V-DUAL

R144	1	NA	10K	PCIE-WAKE#
R141	1	NA	100K_F	USB-OCA#
R142	1	NA	100K_F	USB-OCB#
R133	1	2	100K_F	USB-OC#

MB ID SELECT

RJ21 — MB-ID0 — 3.3VS — 1KJB — (1)

RJ22 — MB-ID1 — 3.3VS — 1KJB — (1)

RJ23 — MB-ID2 — 3.3VS — 1KJA — (0)

MB ID 210	
000	A
001	B
010	C
011	D

EMI

HDA-BITCLK — EC542 — 10PF/50V — NA

U502A

HUDSON-1

PART 4 OF 5

ACPI/MAKE_UP/EVENTS

PCI_PME_L_GEVENT4_L
RI_L_GEVENT22_L
SPI_CS3_L_GBE_STAT1_GEVENT21_L
SLP_S3_L
SLP_S5_L
PWR_BTN_L
PWR_GOOD
SUS_STAT_L
TEST0
TEST1_TMS
TEST2
GA20IN_GEVENT0_L
KBRST_L_GEVENT1_L
LPC_PME_L_GEVENT3_L
LPC_SMI_L_GEVENT23
GEVENT5_L
SYS_RESET_L_GEVENT19_L
WAKE_L_GEVENT8_L
IR_RX1_GEVENT20_L
THRMTRIP_L_SMBALERT_L_GEVENT2_L
NB_PWRGD
RSMRST_L

20 RUN-SCI#
S-3#
S-5#
20 SB-PWRBTN#
8,11 SB-PWRGD
20 SUS-STAT#
20 A20GATE
20 KB-RST#
20 WAKE-SCI#
20 EXT-SMI#
15,19 PCIE-WAKE#
NB-PWRGD
20 RSMRST#
15 LAN-CLKREQ#
19 WWAN-CLKREQ#
19 WWAN-DET#
16 PCSPKO

P510 P516 P520 P16 P21 P513 P511 P514 P25

R218 R205

GPIO

CLK_REQ4_L_SATA_IS0_L_GPIO64
CLK_REQ3_L_SATA_IS1_L_GPIO63
SMARTVOLT1_SATA_IS2_L_GPIO50
CLK_REQ0_L_SATA_IS3_L_GPIO60
SATA_IS4_L_FANOUT3_GPIO55
SATA_IS5_L_FANIN3_GPIO59
SPKR_GPIO66
SCL0_GPIO43
SDA0_GPIO47
SCL1_GPIO227
SDA1_GPIO228
CLK_REQ2_L_FANIN4_GPIO62
CLK_REQ1_L_FANOUT4_GPIO61
IR_LED_L_LLB_L_GPIO184
SMARTVOLT2_SHUTDOWN_L_GPIO51
DDR3_RST_L_GEVENT7_L
GBE_LED0_GPIO183
GBE_LED1_GEVENT9_L
GBE_LED2_GEVENT10_L
GBE_STAT0_GEVENT11_L
CLK_REQG_L_GPIO65_OSCIN

6,7,19 SMBCLK
6,7,19 SMBDAT
18,20 G-CLK
18,20 G-DAT
R113 NA
R115 NA
MB-ID0
MB-ID1
SMBCLK
SMBDAT
P18 P19 P35

BLINK_USB_OC7_L_GEVENT18_L
USB_OC6_L_IR_TX1_GEVENT6_L
USB_OC5_L_IR_TX0_GEVENT17_L
USB_OC4_L_IR_RX0_GEVENT16_L
USB_OC3_L_AC_PRES_TDO_GEVENT15_L
USB_OC2_L_TCK_GEVENT14_L
USB_OC1_L_TDI_GEVENT13_L
USB_OC0_L_TRST_L_GEVENT12_L

USB OC

USB-OC#
18 USB-OCB#
18 USB-OCA#
USB-OCB#
USB-OCA#
P13 P14
13 HDA-SD-OUT

HD AUDIO

AZ_BITCLK
AZ_SDOUT
AZ_SDIN0_GPIO167
AZ_SDIN1_GPIO168
AZ_SDIN2_GPIO169
AZ_SDIN3_GPIO170
AZ_SYNC
AZ_RST_L

16 HDA-BITCLK
16 HDA-SDOUT
16 HDA-SDIN0
HDA-BITCLK R523 R518 33
HDA-BIT-CLK
16 HDA-SYNC
16,20 HDA-RST#
R520 R176 33
HDASYNC
HDARST#

GBE LAN

GBE_COL
GBE_CRS
GBE_MDCK
GBE_MDIO
GBE_RXCLK
GBE_RXD3
GBE_RXD2
GBE_RXD1
GBE_RXD0
GBE_RXCTL_RXDV
GBE_RXERR
GBE_TXCLK
GBE_TXD3
GBE_TXD2
GBE_TXD1
GBE_TXD0
GBE_TXCTL_TXEN
GBE_PHY_PD
GBE_PHY_RST_L
GBE_PHY_INTR

R180 R174 10K
GBE-COL
GBE-CRS
3.3V-DUAL
100K_F R143
GBE-MDIO
R178 10K
GBE-RXERR
3.3V-DUAL
100K_F R132
GBE-PHY-INTR

DEBUG PURPOSE
13 FCHROM-WP#
R634 NA
P15 P17

PS2

PS2_DAT_SDA4_GPIO187
PS2_CLK_SCL4_GPIO188
SPI_CS2_L_GBE_STAT2_GPIO166
FC_RST_L_GPO160
PS2KB_DAT_GPIO189
PS2KB_CLK_GPIO190
PS2M_DAT_GPIO191
PS2M_CLK_GPIO192

HUDSON-M1
HPMJ-628524-001
BGA605-23X23

USB MISC

USBCLK_14M_25M_48M_OSC
USB_RCOMP
USB-RCOMP R155 11.8K_1%

USB 1.1

USB_FSD1P_GPIO186
USB_FSD1N
USB_FSD0P_GPIO185
USB_FSD0N
P22 P24

USB 2.0

USB_HSD13P
USB_HSD13N
USB_HSD12P
USB_HSD12N
USB_HSD11P
USB_HSD11N
USB_HSD10P
USB_HSD10N
USB_HSD9P
USB_HSD9N
USB_HSD8P
USB_HSD8N
USB_HSD7P
USB_HSD7N
USB_HSD6P
USB_HSD6N
USB_HSD5P
USB_HSD5N
USB_HSD4P
USB_HSD4N
USB_HSD3P
USB_HSD3N
USB_HSD2P
USB_HSD2N
USB_HSD1P
USB_HSD1N
USB_HSD0P
USB_HSD0N

USB-P10-WLAN+ R116 0
USB-P10-WLAN- R117 0
USB-WLAN+
USB-WLAN-

Controller	Ports mapping
OHCI0 (dev-18, fun-0)	Port 0 - 4
EHCI (dev-18, fun-2)	Port 0 - 4
OHCI0 (dev-19, fun-0)	Port 5 - 9
EHCI (dev-19, fun-2)	Port 5 - 9
OHCI0 (dev-22, fun-0)	Port 10 - 13
EHCI (dev-22, fun-2)	Port 10 - 13

USB-WWAN+ 19
USB-WWAN- 19
WWAN

USB-P7-WLAN+ R118 0 NA
USB-P7-WLAN- R119 0 NA
USB-WLAN+ 19
USB-WLAN- 19
WLAN(BT)

USB-CR+ 17
USB-CR- 17
Card Reader

USB-WEBCAM+ 8
USB-WEBCAM- 8
Webcam

USB-P2+ 18
USB-P2- 18
PORT 2 (L)

USB-P1+ 18
USB-P1- 18
PORT 1 (R)

USB-P0+ 18
USB-P0- 18
PORT 0 (R)

for BIOS debug port

EMBEDDED CTRL

SCL2_GPIO193
SDA2_GPIO194
SCL3_LV_GPIO195
SDA3_LV_GPIO196
EC_PWM0_EC_TIMER0_GPIO197
EC_PWM1_EC_TIMER1_GPIO198
EC_PWM2_EC_TIMER2_GPIO199
EC_PWM3_EC_TIMER3_GPIO200

KSI_0_GPIO201
KSI_1_GPIO202
KSI_2_GPIO203
KSI_3_GPIO204
KSI_4_GPIO205
KSI_5_GPIO206
KSI_6_GPIO207
KSI_7_GPIO208

KSO_0_GPIO209
KSO_1_GPIO210
KSO_2_GPIO211
KSO_3_GPIO212
KSO_4_GPIO213
KSO_5_GPIO214
KSO_6_GPIO215
KSO_7_GPIO216
KSO_8_GPIO217
KSO_9_GPIO218
KSO_10_GPIO219
KSO_11_GPIO220
KSO_12_GPIO221
KSO_13_GPIO222
KSO_14_GPIO223
KSO_15_GPIO224
KSO_16_GPIO225
KSO_17_GPIO226

STRAP pin to define use LPC or SPI ROM

GPIO199 13
GPIO200 13

R607

U11E SN74LVC14APWR — 3.3VSTBY — P50
U11F SN74LVC14APWR — 3.3VSTBY — P52

S3#

U11A SN74LVC14APWR — 3.3VSTBY
U11B SN74LVC14APWR — 3.3VSTBY
S-3# R223 100K_F
S3 20,26,28
S3# 11,15,22,23,24,26

S5#

U11C SN74LVC14APWR — 3.3VSTBY
U11D SN74LVC14APWR — 3.3VSTBY
S-5# R219 100K_F
S5 20,26
S5# 23,25

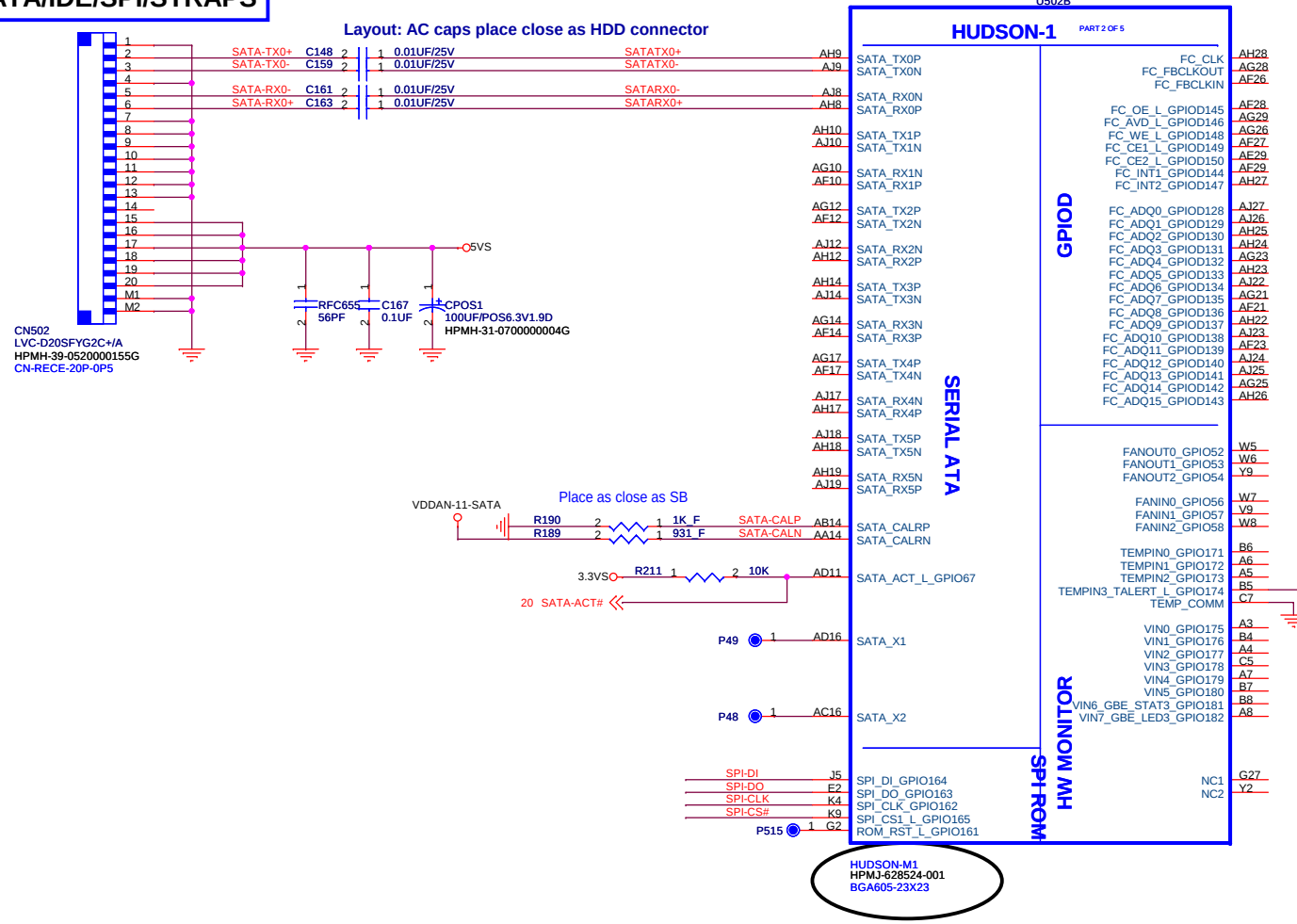
FLEXComputing

Project Name : H210UA1	Title : FCH_ACPI/GPIO/USB/AUDIO		
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D	
Date: Monday, November 22, 2010	Sheet : 12 of 28		

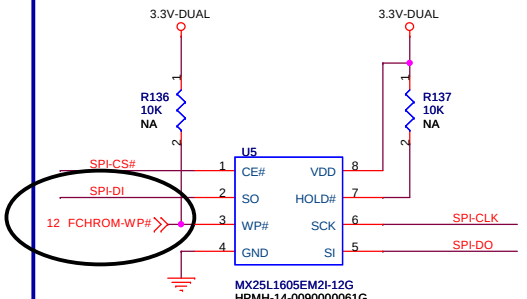
FCH_SATA/IDE/SPI/STRAPS

SATA / IDE / SPI / STRAPS

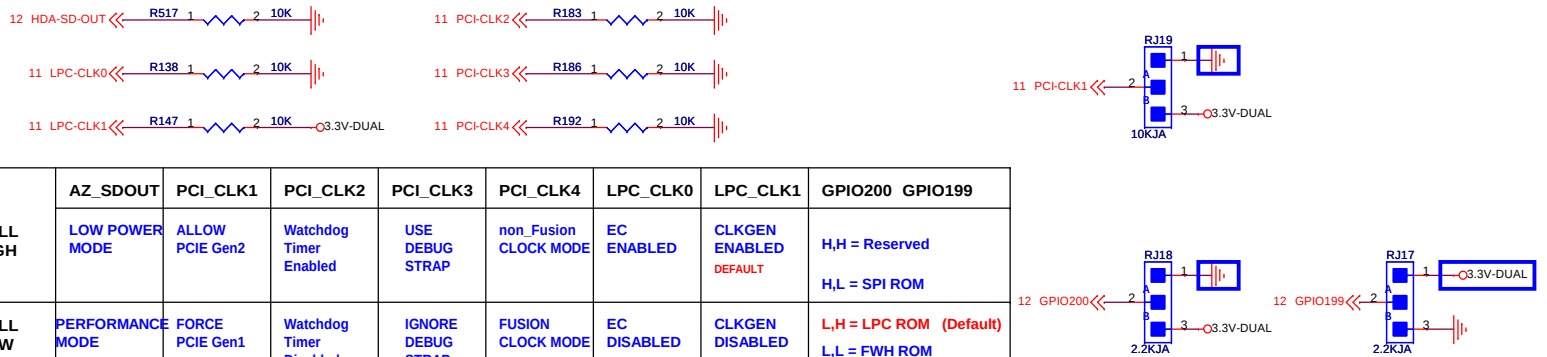
Layout: AC caps place close as HDD connector



16M-bit SPI ROM



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 DEFAULT	H,H = Reserved H,L = SPI ROM
PULL LOW	PERFORMANCE MODE DEFAULT	FORCE PCIE Gen1 DEFAULT	Watchdog Timer Disabled DEFAULT	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE DEFAULT	EC DISABLED DEFAULT	CLKGEN DISABLED	L,H = LPC ROM (Default) L,L = FWH ROM

FLEXComputing

Project Name : H210UA1		Title : FCH_SATA/IDE/SPI/STRAPS	
Size :	Document Number : HPMH-40GAB6000-D000		Rev : D
Date: Monday, November 22, 2010		Sheet : 13 of 28	

FCH_PWR/GND

U502C

HUDSON-1 POWER PART 3 OF 5

131mA

3.3VS

C257 10uF, C256 10uF, C245 0.1UF, C263 0.1UF, C249 0.1UF

GPIOD 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.

0 R196 VDDIO-18-FC

43mA

3.3VS L14 BEAD/220_550mA VDDPL-33-PCIE

C278 1UF, C267 1UF

600mA

1.1VS L13 42/0805-4A VDDAN-11-PCIE

C250 10uF, C251 10uF, C252 1UF, C253 0.1UF, C248 0.1UF

93mA

3.3VS L15 BEAD/220_550mA VDDPL-33-SATA

C269 1UF, C264 1UF

567mA

1.1VS L11 42/0805-4A VDDAN-11-SATA

C279 10uF, C242 10uF, C270 1UF, C244 1UF, C271 0.1UF, C262 0.1UF

658mA

3.3V-USB L9 220/0805-2A VDDAN-33-USB

C182 10uF, C180 10uF, C202 1UF, C185 1UF, C191 0.1UF

TBD

1.1V-USB L515 BEAD/220_550mA VDDAN-11-USB

C188 1uF, C198 1uF, C194 0.1UF

HUDSON-1 POWER

PCI/GPIO I/O	VDDIO_33_PCIGP_1..12	CORE S0
FLASH I/F	VDDIO_18_FC_1..4	CLKGEN I/O
PCI EXPRESS	VDDPL_33_PCIE, VDDAN_11_PCIE_1..8	GBE LAN
SERIAL ATA	VDDPL_33_SATA, VDDAN_11_SATA_1..8	3.3V_S5 I/O
USB I/O	VDDAN_33_USB_S_1..12, VDDAN_11_USB_S_1..2	CORE S5
		PLL

VDDCR_11_1..9, VDDRF_GBE_S, VDDIO_33_GBE_S, VDDCR_11_GBE_S_1..2, VDDIO_GBE_S_1..2, VDDIO_33_S_1..8, VDDCR_11_S_1..2, VDDIO_AZ_S, VDDCR_11_USB_S_1..2, VDDPL_33_SYS, VDDPL_11_SYS_S, VDDPL_33_USB_S, VDDAN_33_HWM_S, VDDXL_33_S

HUDSON-M1 HPMJ-628524-001 BGA605-23X23

510mA

1.1VS C224 0.1UF, C223 0.1UF, C237 1UF, C230 1UF, C239 10UF

TBD

VDDAN-11-CLK L10 42/0805-4A 1.1VS

C209 0.1UF, C222 0.1UF, C207 1UF, C210 1UF, C221 10UF, C220 10UF

32mA

3.3V-DUAL C184 1UF, C241 1UF, C199 1UF, C214 1UF

113mA

1.1V-DUAL C197 1UF, C200 1UF

TBD

R167 0 3.3V-DUAL C231 1UF, C216 1UF

197mA

1.1V-USB C577 10UF, C585 0.1UF, C183 0.1UF

17mA

3.3V-DUAL C186 1UF, C190 0.1UF

5mA

TBD

VDDXL-33 L500 BEAD/220_550mA 3.3VS C218 1UF, C232 1UF

47mA

VDDPL-33-SYS L501 BEAD/220_550mA 3.3VS C217 1UF, C236 1UF

62mA

VDDPL-11-SYS L504 BEAD/220_550mA 1.1VS C235 1UF, C215 1UF

U502D

HUDSON-1 PART 5 OF 5

GROUND

VSSIO_SATA_1..19, VSSIO_USB_1..28, EFUSE, VSSAN_HWM, VSSXL, VSSPL_SYS, VSSIO_PCIECLK_1..27, VSS_1..52

HUDSON-M1 HPMJ-628524-001 BGA605-23X23

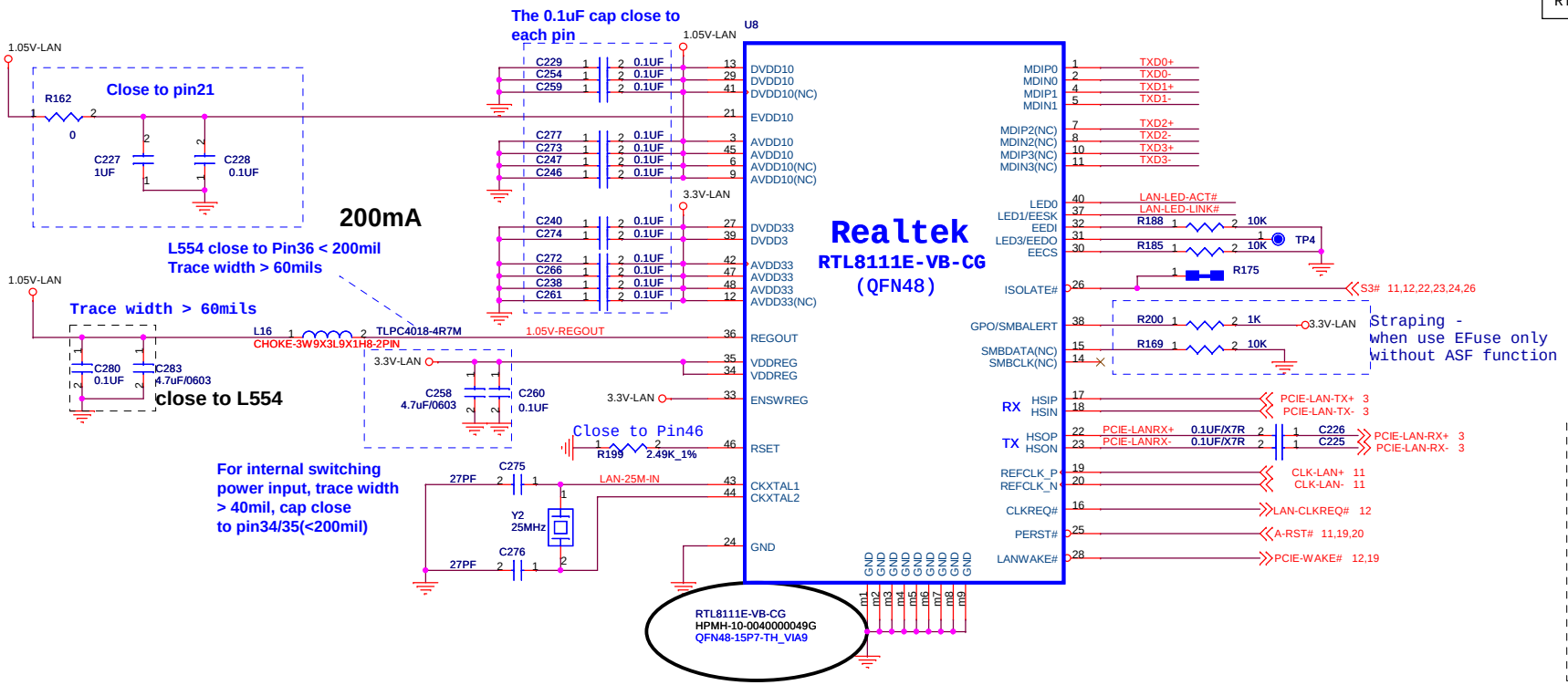
3.3V-USB / 1.1V-USB	S3	S4	S5
AC mode	ON	OFF	OFF
DC mode	OFF	OFF	OFF

FLEXComputing

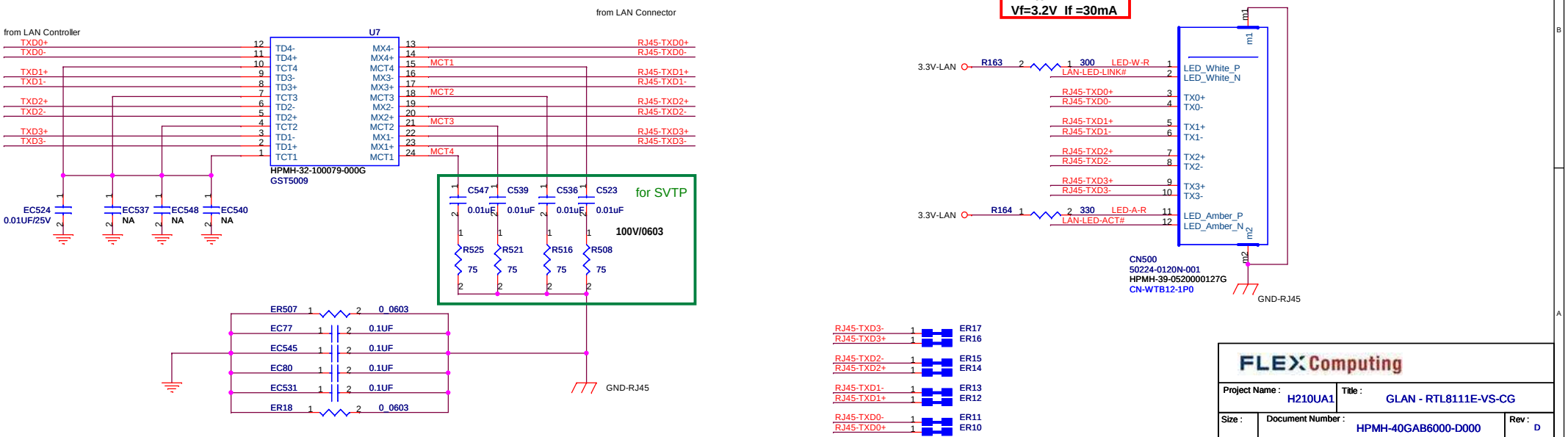
Project Name : H210UA1	Title : FCH_PWR/GND	
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Friday, November 19, 2010	Sheet : 14 of 28	

GLAN Controller

P/N	IEEE support	Process
RTL8111E-VS-CG	Non-IEEE	Copper
RTL8111E-VB-CG	IEEE	Copper
RTL8111E-VB-GR	IEEE	Gold



RJ45 connector



FLEXComputing			
Project Name : H210UA1	Title : GLAN - RTL8111E-VS-CG		
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D	
Date: Monday, November 22, 2010	Sheet : 15 of 28		

Audio CODEC

25mA

60mA

1A

L8 BEAD_120_600mA_0603

U2 92HD80B1X5NLGXTA68 HPMH-15-0100000032G QFN48-19P7-TH_VIA12

U1 TPS793475DBVR HPMH-15-00A0000097G SOT23-5

to WebCAM Module

M15 ME2N7002W-G

M9 ME2N7002W-G

Q2 METR3904-G

D8 LMDL914T1G

D7 LMDL914T1G

CN11 50281-0040N-001 CN-WTB-4P-1P25-2H03 HPMH-39-0520000125G

CN8 2SJ2326-000111 HPMH-38-00D0000011G PHONEJACK-6P-4H8

EMI

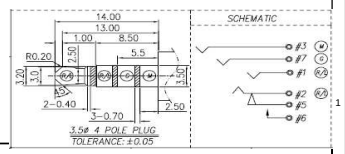
EMI

EMI

RFI

Jumper Trace width >= 80mil

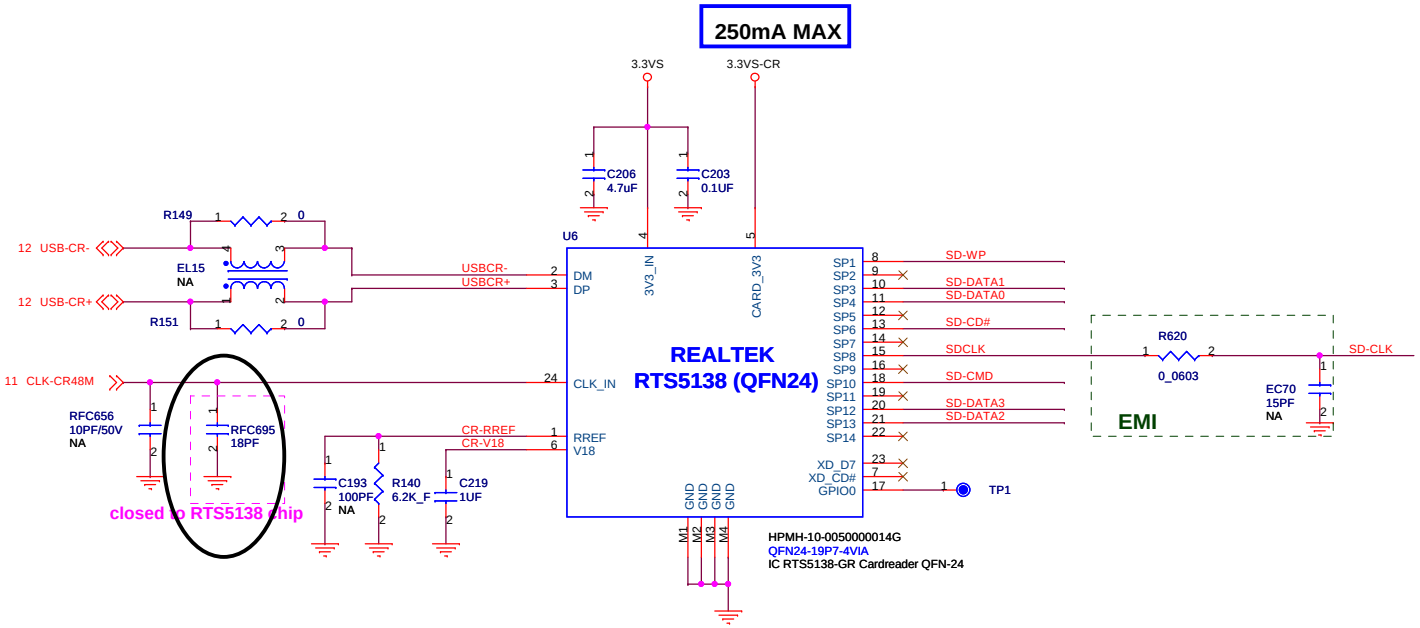
change source



FLEX Computing

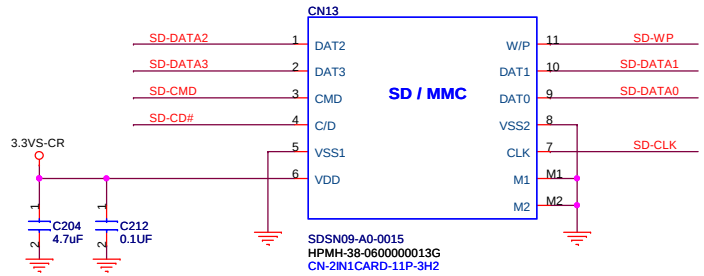
Project Name : H210UA1	Title : AUDIO - IDT 92HD80TA	
Size : Custom	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 16 of 28	

Card Reader



SD/MMC	
SP1	SD_WP
SP2	
SP3	SD_D1
SP4	SD_D0
SP5	SD_D7
SP6	SD_CD#
SP7	SD_D6
SP8	SD_CLK
SP9	SD_D5
SP10	SD_CMD
SP11	SD_D4
SP12	SD_D3
SP13	SD_D2
SP14	

Memory Card Socket

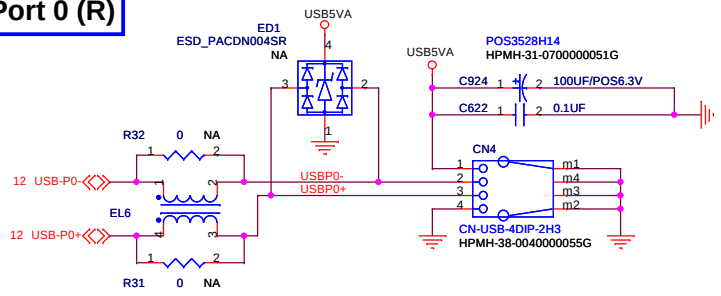


SD/MMC	
1	DAT2
2	DAT3
3	CMD
4	C/D
5	VSS1
6	VDD
7	CLK
8	VSS2
9	DAT0
10	DAT1
11	W/P

FLEXComputing

Project Name : H210UA1	Title : RTS5138 CardReader	
Size : Custom	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 17 of 28	

USB Port 0 (R)

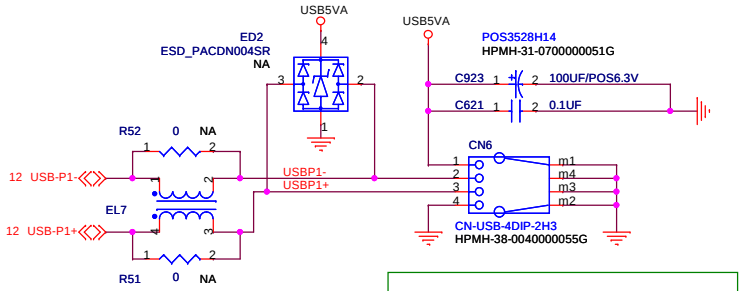


Note 1

For USB ports that have trace length of <=10", the rise and fall time parameters may not meet the specification of > 450 ps.

USBP0- C9 15PF NA
USBP0+ C8 15PF NA

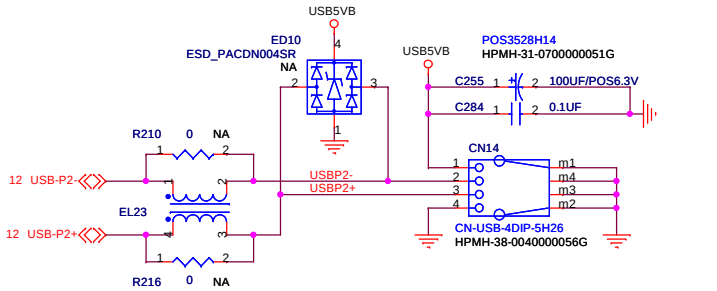
USB Port 1 (R)



Note 1

USBP1- C13 15PF NA
USBP1+ C12 15PF NA

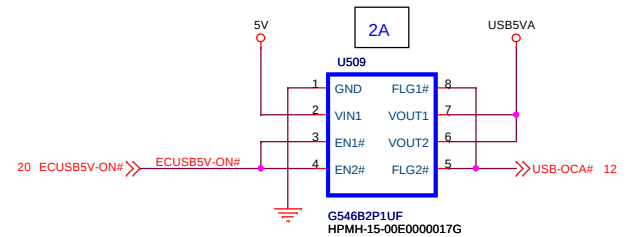
USB Port 2 (L)

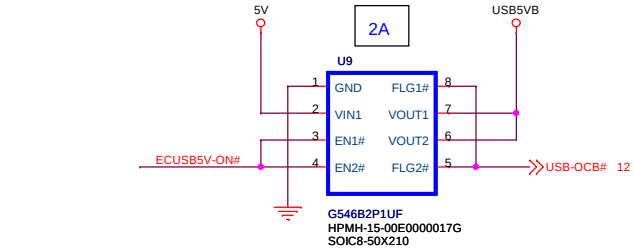


Note 1

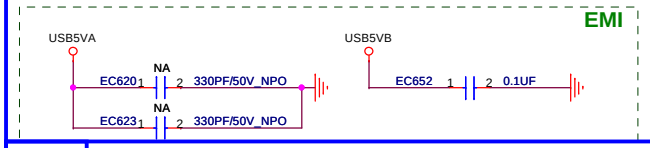
For USB ports that have trace length of <=10", the rise and fall time parameters may not meet the specification of > 450 ps.

USBP2- C281 15PF NA
USBP2+ C282 15PF NA

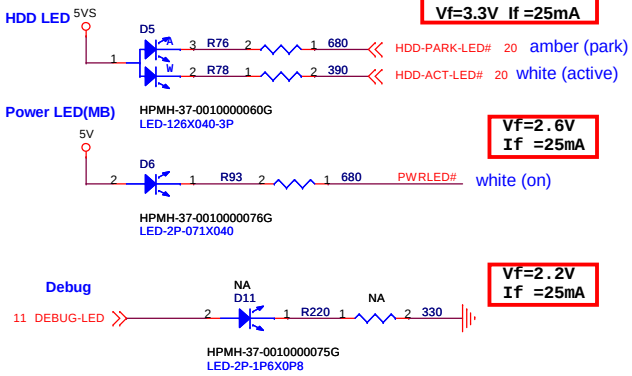




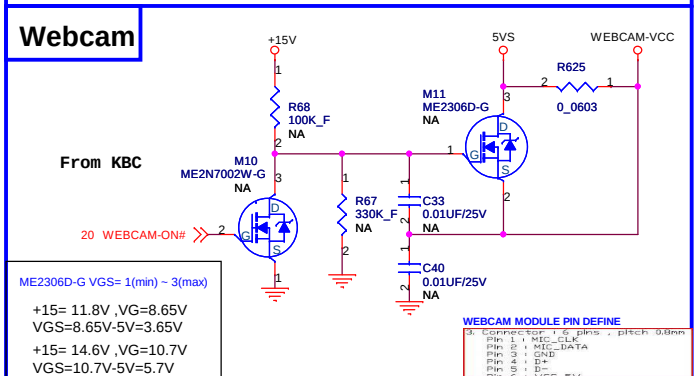
EMI



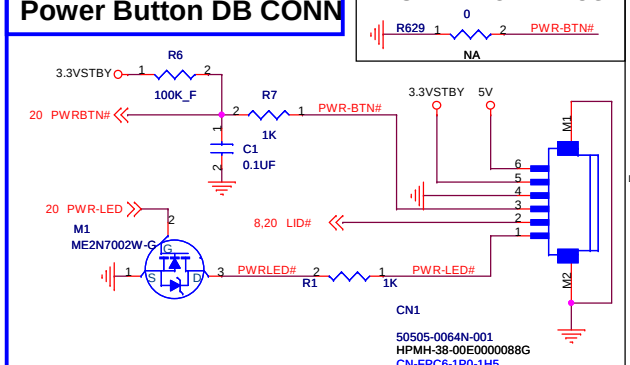
LED

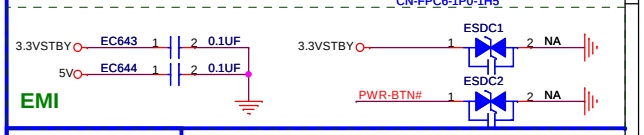


Webcam

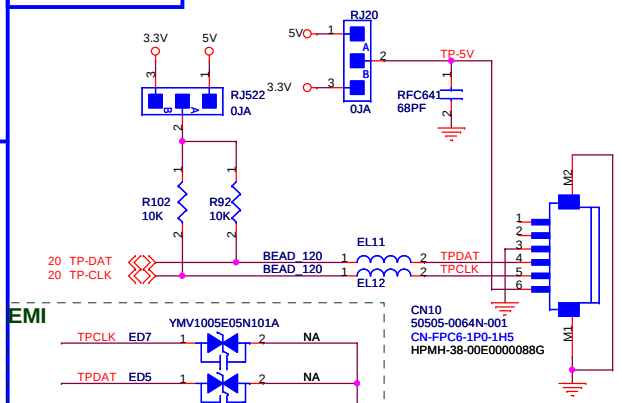


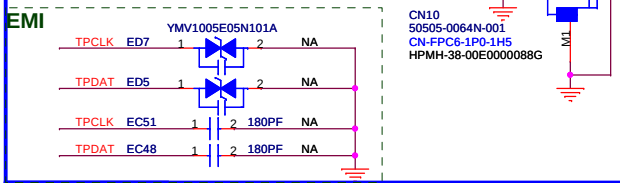
Power Button DB CONN





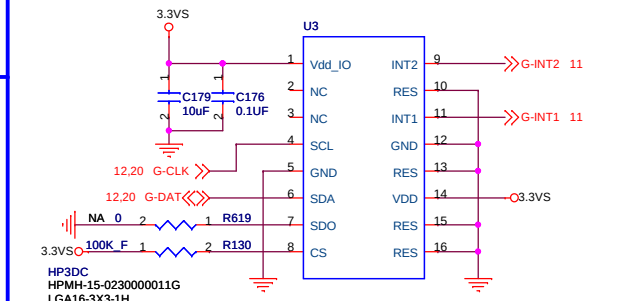
Touch Pad





G-Sensor

Pin 7 = High : I2C
LOW : SPI



HP3DC Address:
0011 0010 : 0x32

FLEXComputing

Project Name : H210UA1	Title : USB CONN/LED/WEBCAM/TP/G-SENSOR
Size : Custom	Document Number : HPMH-40GAB6000-D000 Rev : D
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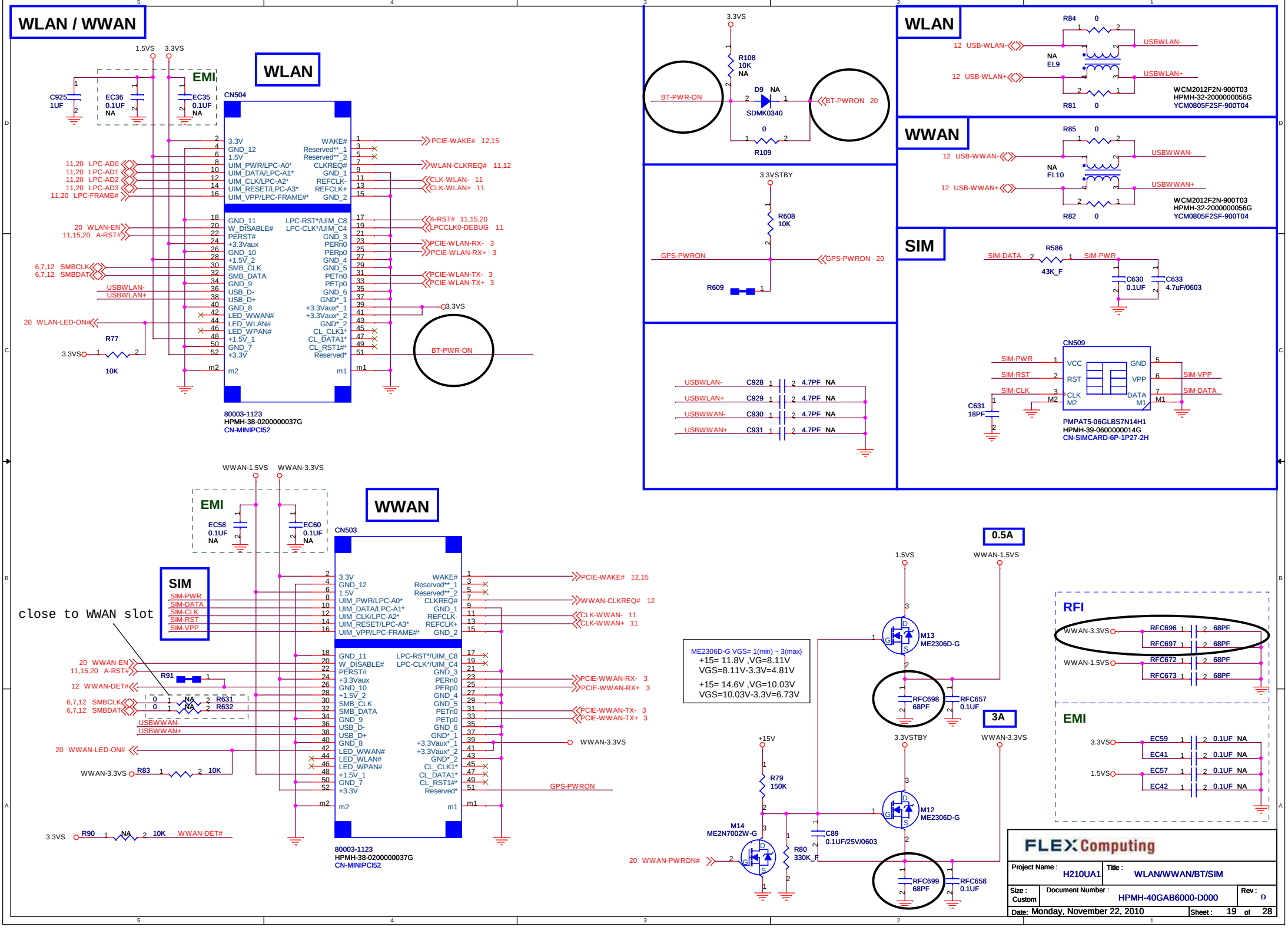
RESERVE FOR DEBUG

WLAN / WWAN


WLAN
EMI
CN504
1.5VS
3.3VS
C925 1UF
EC36 0.1UF NA
EC35 0.1UF NA
3.3V
GND_12
1.5V
UIM_PWR/LPC-A0*
UIM_DATA/LPC-A1*
UIM_CLK/LPC-A2*
UIM_RESET/LPC-A3*
UIM_VPP/LPC-FRAME#*
WAKE#
Reserved**_1
Reserved**_2
CLKREQ#
GND_1
REFCLK-
REFCLK+
GND_2
PCIE-WAKE# 12,15
WLAN-CLKREQ# 11,12
CLK-WLAN- 11
CLK-WLAN+ 11
11,20 LPC-AD0
11,20 LPC-AD1
11,20 LPC-AD2
11,20 LPC-AD3
11,20 LPC-FRAME#
GND_11
W_DISABLE#
PERST#
+3.3Vaux
GND_10
+1.5V_2
SMB_CLK
SMB_DATA
GND_9
USB_D-
USB_D+
GND_8
LED_WWAN#
LED_WLAN#
LED_WPAN#
+1.5V_1
GND_7
+3.3V
LPC-RST*/UIM_C8
LPC-CLK*/UIM_C4
GND_3
PERn0
PERp0
GND_4
GND_5
PETn0
PETp0
GND_6
GND*_1
+3.3Vaux*_1
+3.3Vaux*_2
GND*_2
CL_CLK1*
CL_DATA1*
CL_RST1#*
Reserved*
20 WLAN-EN
11,15,20 A-RST#
6,7,12 SMBCLK
6,7,12 SMBDAT
USBWLAN-
USBWLAN+
20 WLAN-LED-ON#
R77
10K
A-RST# 11,15,20
LPCCLK0-DEBUG 11
PCIE-WLAN-RX- 3
PCIE-WLAN-RX+ 3
PCIE-WLAN-TX- 3
PCIE-WLAN-TX+ 3
3.3VS
BT-PWR-ON
80003-1123
HPMH-38-0200000037G
CN-MINIPCI52
3.3VS
R108 10K NA
BT-PWR-ON
D9 NA
SDMK0340
BT-PWRON 20
R109
3.3VSTBY
R608 10K
GPS-PWRON
GPS-PWRON 20
R609
USBWLAN- C928 4.7PF NA
USBWLAN+ C929 4.7PF NA
USBWWAN- C930 4.7PF NA
USBWWAN+ C931 4.7PF NA
WLAN
12 USB-WLAN-
12 USB-WLAN+
R84 0
R81 0
NA EL9
USBWLAN-
USBWLAN+
WCM2012F2N-900T03
HPMH-32-2000000056G
YCM0805F2SF-900T04
WWAN
12 USB-WWAN-
12 USB-WWAN+
R85 0
R82 0
NA EL10
USBWWAN-
USBWWAN+
WCM2012F2N-900T03
HPMH-32-2000000056G
YCM0805F2SF-900T04
SIM
SIM-DATA
R586
43K_F
SIM-PWR
C630 0.1UF
C633 4.7uF/0603
CN509
SIM-PWR
SIM-RST
SIM-CLK
VCC
RST
CLK
GND
VPP
DATA
M1
M2
SIM-VPP
SIM-DATA
C631 18PF
PMPAT5-06GLBS7N14H1
HPMH-39-0600000014G
CN-SIMCARD-6P-1P27-2H
WWAN
EMI
CN503
WWAN-1.5VS
WWAN-3.3VS
EC58 0.1UF NA
EC60 0.1UF NA
SIM
SIM-PWR
SIM-DATA
SIM-CLK
SIM-RST
SIM-VPP
close to WWAN slot
3.3V
GND_12
1.5V
UIM_PWR/LPC-A0*
UIM_DATA/LPC-A1*
UIM_CLK/LPC-A2*
UIM_RESET/LPC-A3*
UIM_VPP/LPC-FRAME#*
WAKE#
Reserved**_1
Reserved**_2
CLKREQ#
GND_1
REFCLK-
REFCLK+
GND_2
PCIE-WAKE# 12,15
WWAN-CLKREQ# 12
CLK-WWAN- 11
CLK-WWAN+ 11
GND_11
W_DISABLE#
PERST#
+3.3Vaux
GND_10
+1.5V_2
SMB_CLK
SMB_DATA
GND_9
USB_D-
USB_D+
GND_8
LED_WWAN#
LED_WLAN#
LED_WPAN#
+1.5V_1
GND_7
+3.3V
LPC-RST*/UIM_C8
LPC-CLK*/UIM_C4
GND_3
PERn0
PERp0
GND_4
GND_5
PETn0
PETp0
GND_6
GND*_1
+3.3Vaux*_1
+3.3Vaux*_2
GND*_2
CL_CLK1*
CL_DATA1*
CL_RST1#*
Reserved*
20 WWAN-EN
11,15,20 A-RST#
12 WWAN-DET#
R91
6,7,12 SMBCLK
6,7,12 SMBDAT
R631
R632
USBWWAN-
USBWWAN+
20 WWAN-LED-ON#
WWAN-3.3VS
R83 10K
3.3VS
R90 NA 10K
WWAN-DET#
PCIE-WWAN-RX- 3
PCIE-WWAN-RX+ 3
PCIE-WWAN-TX- 3
PCIE-WWAN-TX+ 3
WWAN-3.3VS
GPS-PWRON
80003-1123
HPMH-38-0200000037G
CN-MINIPCI52
0.5A
1.5VS
WWAN-1.5VS
M13 ME2306D-G
RFC698 68PF
RFC657 0.1UF
ME2306D-G VGS= 1(min) ~ 3(max)
+15= 11.8V ,VG=8.11V
VGS=8.11V-3.3V=4.81V
+15= 14.6V ,VG=10.03V
VGS=10.03V-3.3V=6.73V
3A
+15V
3.3VSTBY
WWAN-3.3VS
R79 150K
M14 ME2N7002W-G
M12 ME2306D-G
C89 0.1UF/25V/0603
R80 330K_F
20 WWAN-PWRON#
RFC699 68PF
RFC658 0.1UF
RFI
WWAN-3.3VS
WWAN-1.5VS
RFC696 68PF
RFC697 68PF
RFC672 68PF
RFC673 68PF
EMI
3.3VS
1.5VS
EC59 0.1UF NA
EC41 0.1UF NA
EC57 0.1UF NA
EC42 0.1UF NA
FLEXComputing
Project Name : H210UA1
Title : WLAN/WWAN/BT/SIM
Size : Custom
Document Number : HPMH-40GAB6000-D000
Rev : D
Date: Monday, November 22, 2010
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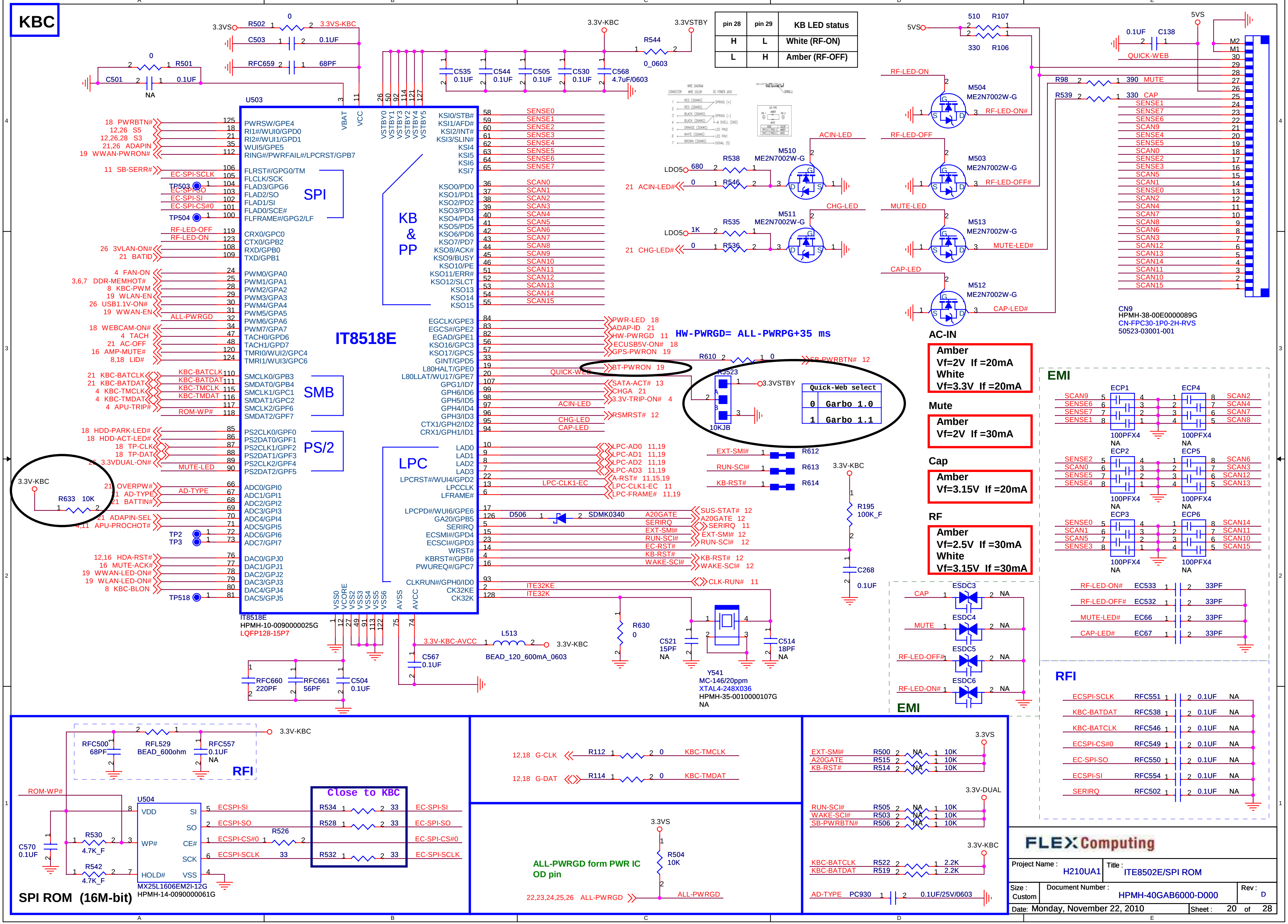

KBC
IT8518E
U503
HPMH-10-0090000025G
LQFP128-15P7
SPI
KB & PP
SMB
PS/2
LPC
HW-PWRGD= ALL-PWRPG+35 ms
Quick-Web select
0 Garbo 1.0
1 Garbo 1.1
AC-IN
Amber Vf=2V If =20mA
White Vf=3.3V If =20mA
Mute
Amber Vf=2V If =30mA
Cap
Amber Vf=3.15V If =20mA
RF
Amber Vf=2.5V If =30mA
White Vf=3.15V If =30mA
EMI
RFI
CN9
HPMH-38-00E0000089G
CN-FPC30-1P0-2H-RVS
50523-03001-001
Y541
MC-146/20ppm
XTAL4-248X036
HPMH-35-0010000107G
SPI ROM (16M-bit)
U504
MX25L1606EM2I-12G
HPMH-14-0090000061G
Close to KBC
ALL-PWRGD form PWR IC OD pin

pin 28	pin 29	KB LED status
H	L	White (RF-ON)
L	H	Amber (RF-OFF)

FLEXComputing

Project Name : H210UA1

Title : ITE8502E/SPI ROM

Size : Custom

Document Number : HPMH-40GAB6000-D000

Rev : D

Date: Monday, November 22, 2010

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Charger

CN-WAFER-7P-1P5-3H7
HPMH-39-0520000132G
CN510

JP525
PAD:3.5*1.3mm

VADP

PQ528
P-ch_ME4425-G

PQ529
P-ch_ME4425-G

19VADP

PD504
LMDL914T1G

PC642
0.1UF/25V/0603

PC934
0.1UF/25V

PR613
240K_F

PR614
10K_F

PR615
100K_F

PR616
47K_F

PQ530
LMUN5312

CHG-LED# 20
ACIN-LED# 20

PR597
0.01_1%_3720

PR599
0

PR598
0

PR25
0_0603

NA

PR22
499_1%

B+

PQ3
P-ch_ME4425-G

PC5
0.1UF/25V/0603

HPMH-18-0020000220G

PQ531
ME2N7002W-G

PR589
309K_1%

PR590

20,26 ADAPIN

PC634
0.1UF/25V/0603

CSSP

CSSN

PC629
0.1UF/25V/0603

24745AGND

PC14
0.1UF/25V

3.3VSTBY

PR617
0

28 AC-OFF

AC-OFF :
0 = AC On
1 = AC Off

PC935
47PF

PR618
10K_F

PR4
33K_1%

PR600
10K

D505
1N4148

AD-TYPE 20

PR602
10K

PC645
1500PF/50V/0402

NA
PC644
0.47UF/50V/0603

PR601
0

28 ADAPIN-SEL

ACIN-DETECT

PR5
33K_1%

24745VREF

3.3VSTBY

PR21
10K

PC7
1UF

24745AGND

20,26 ADAPIN

ACOK active HI when ACIN>0.6V

PU1

BQ24745

DCIN
ACIN
VDDSMB
ACOK
SDA
SCL
ICOUT
VREF
CE
EAO
EAI
FBO
VDDP
BOOT
UGATE
PHASE
LGATE
PGND
CSOP
CSON
VFB
ICREF
VICM
NC_1
NC_2
PADGND
GND

QFN28-19P7
HPMH-15-00C0000006G

PC17
1UF

PD2
LMDL914T1G

PR18
0_0603

CGH-DH

PQ507A
AO4932L/30V/SO-8
HPMH-18-0020000121G

PC12
0.1UF/25V/0603

CHG-PH

AO4932L/30V/SO-8

CGH-DL

PQ507B

PR587 0_0603

PC21
0.1UF/25V/0603

470PF/50V

EC625

PC15
0.1UF/25V/0603

CSON

PR582
0

PL525
FMJ-0630T-6R8-HF

PR585
0.01_1%_3720

NA
ER588
0_0603

NA
EC635
470PF/50V

PR583
0

PC9
4.7UF/25V/0805

PC10
4.7UF/25V/0805

PC11
4.7UF/25V/0805

EC23
0.1UF/25V/0603

EC647
4.7UF/25V/0805

EMI

BATA+

EC20
0.1UF/25V/0603

NA
PC8
4.7UF/25V/0805

PC4
4.7UF/25V/0805

PC13
4.7UF/25V/0805

EC649
4.7UF/25V/0805

EMI

PR24
0

charger-VFB

Adapter rating (W)	AD_TYPE (V)
40W/RID=499Kohm	0.32V
65W/RID=383Kohm	0.484
90W/RID=294Kohm	0.621
120W/RID=221Kohm	0.809V
>120W	>0.97V

Adapter Voltage=18.5V
ACIN > 2.4V (Adapter Exist)
ACIN < 2.4V (Adapter non-Exist)

When VICM < ICREF -> ICOUT=Hi (In low power mode)
When VICM > ICREF -> ICOUT=Lo (over low power mode)

20 KBC-BATDAT
20 KBC-BATCLK
20 OVERPW#

24745VREF

PC637
1UF

PR16

20 CHGA

PR17
10K

PR13
1M

PR19
11.5K_F

2475ICREF

PR3
7.5K_F

PR1
4.7K_F

PC1
2200PF

PC2
47PF

PC3
150PF/25V/0402

PR2
200K_F

3/25 by Jason

KBC
20 ADAP-ID

PQ4
ME2N7002W-G

ID0	Adapter(W)
L	65
H	40

PC16
0.1UF/25V/0603

PR12
1.3M_F

OVERPW#

PR6
38.3K_F

24745ICREF

24745VREF

PR7
10K_F

Set low power mode point

745VICM

PC6
100PF/50V/0402

Output adapter current

Set ICREF and VICM comparator Hysteresis

To KBC_SMB
20 KBC-BATDAT
20 KBC-BATCLK
PR15
PR14
100_1%
100_1%

To KBC_GPIO
20 BATID
20 BATTIN#
PR10
PR9
100_1%
100_1%

3.3VSTBY
BATA+

JP1
PAD:3.5*1.3mm

PR8
20K_F

PR11
100K_F

CN508
BATDAT
BATCLK
BAT-IN#

EC13
EC14
EC18
EC19
47PF

EC636
0.1UF/25V/0402

C144EV-105A3-L
HPMH-39-0510000123G
POWERCONN-6DIP-2P0-3H65

EMI

ESDC7

B+
VADP
19VADP

EC663
0.1UF/25V/0603

EC662
4.7uF/25V/0805

EC645
0.1UF/25V/0603

NA

EMI

BAT-IN#

EZD1

LM3Z5V6T1G_5.6V

BATDAT
BATCLK

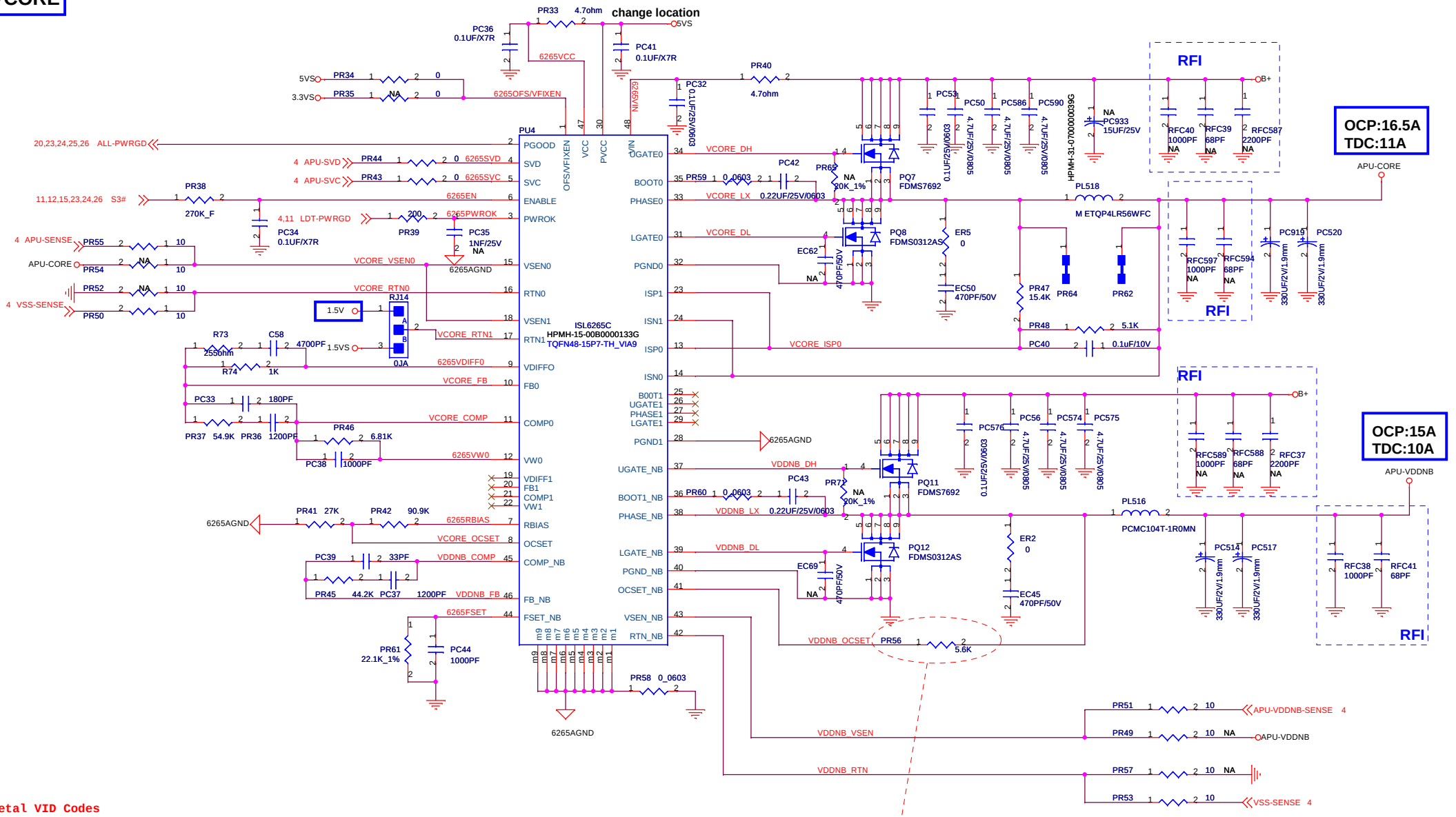
PZD1
PZD2

LM3Z5V6T1G_5.6V
LM3Z5V6T1G_5.6V

FLEX Computing

Project Name : H210UA1	Title : BATTERY CHARGER		
Size : Custom	Document Number : HPMH-40GAB6000-D000		Rev : D
Date: Monday, November 22, 2010		Sheet : 21 of 28	

VCORE



Metal VID Codes

SVC	SVD	Output
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8

VFIXEN VID Codes

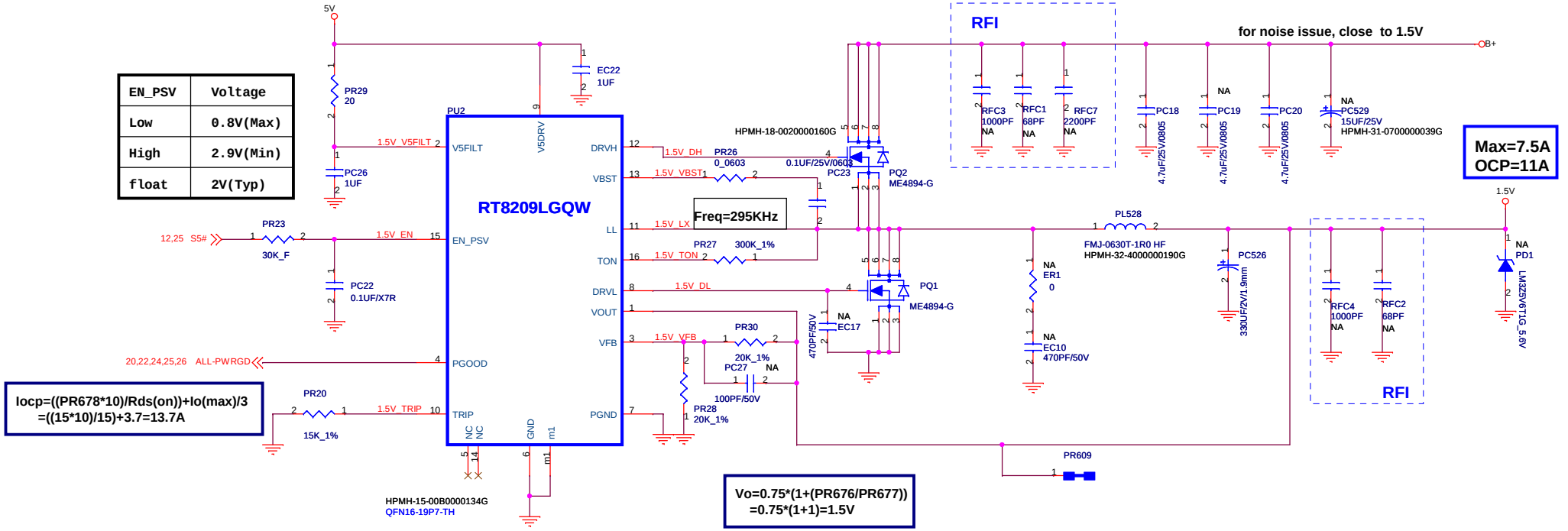
SVC	SVD	Output
0	0	1.4
0	1	1.2
1	0	1.0
1	1	0.8

OFS/VFIXEN	Offset & Droop	SVI	VFIX
GND	O	O	X
+3.3V	X	X	O
+5V	X	O	X

FLEXComputing

Project Name : H210UA1	Title : APU-CORE/APU-VDDNB		
Size :	Document Number : HPMH-40GAB6000-D000		Rev : D
Date: Monday, November 22, 2010		Sheet : 22 of 28	

1.5VDDR



0.75VS

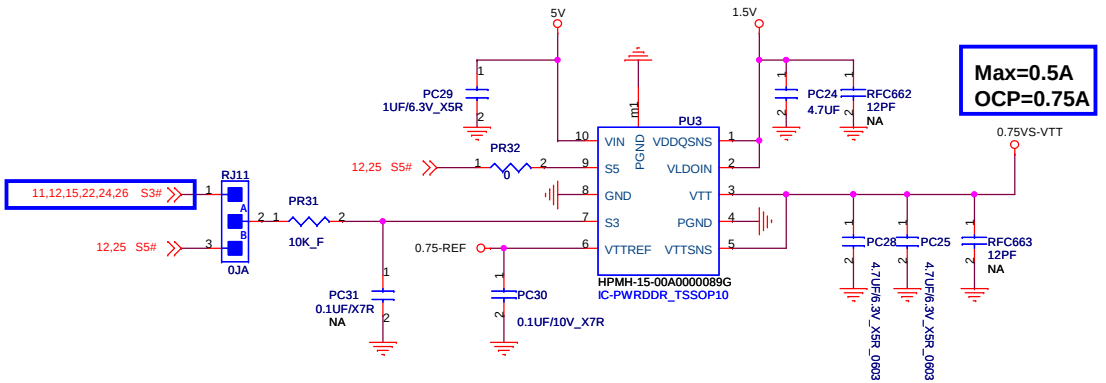


Table 1. S3 and S5 Control Table

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)

FLEXComputing

Project Name : H210UA1	Title : 1.5V / 0.75VS-VTT	
Size : Custom	Document Number : HPMH-40GAB6000-D000	Rev : D
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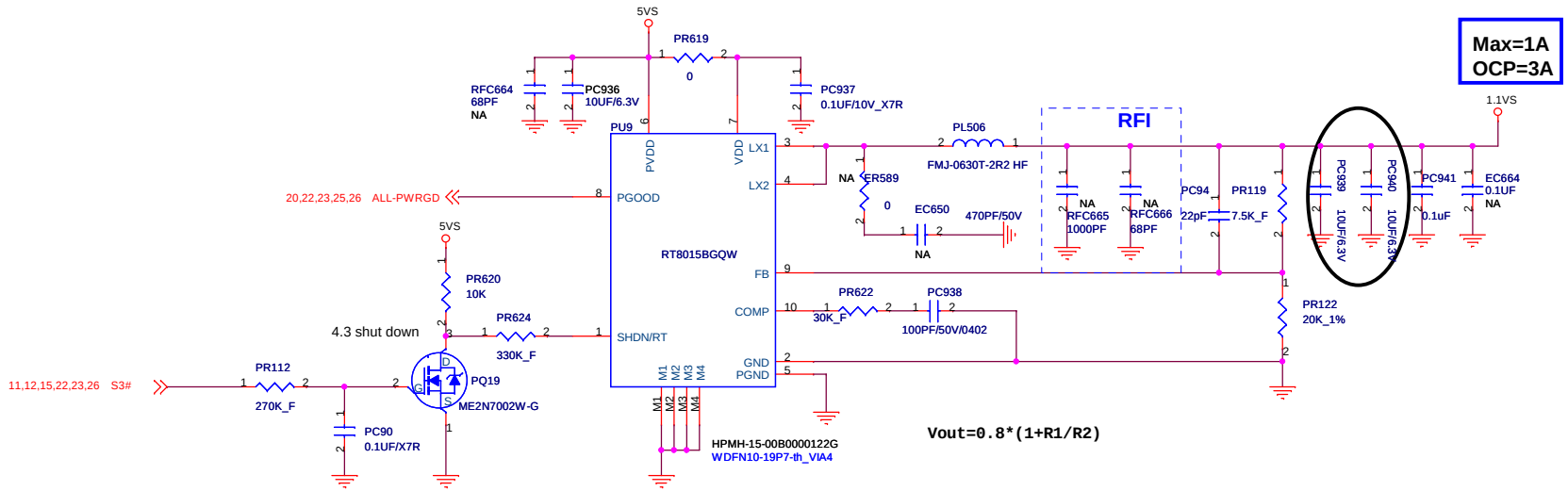
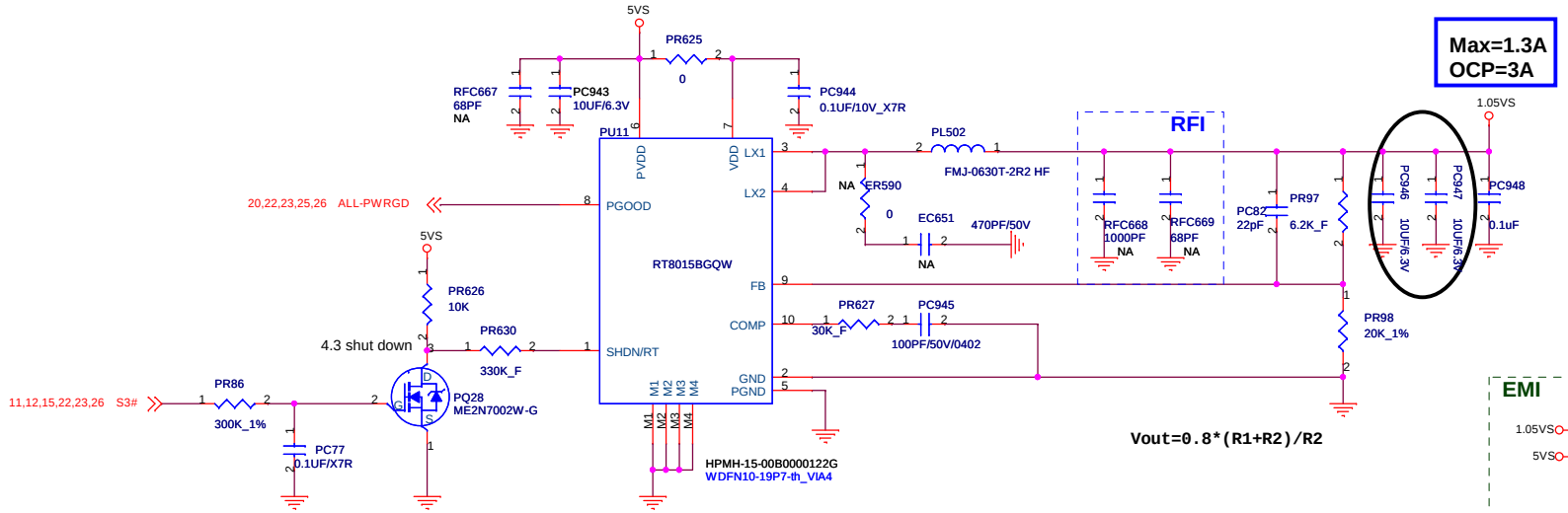
1.1VS



1.05VS



FLEXComputing

Project Name : H210UA1	Title : 1.1VS / 1.0VS	
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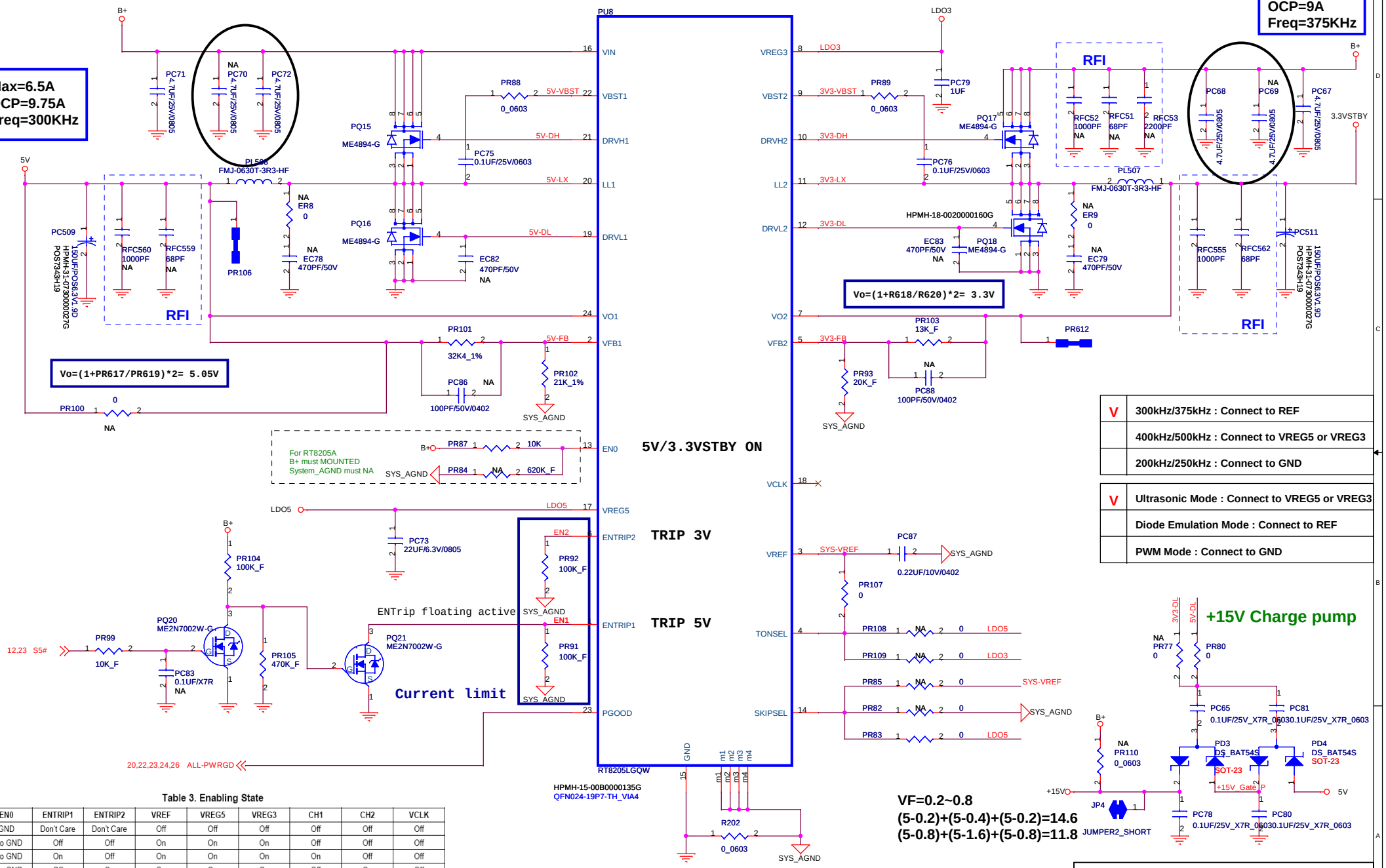
5V / 3.3VSTBY

Max=6.5A
OCP=9.75A
Freq=300KHz

Max=6A
OCP=9A
Freq=375KHz



V	300kHz/375kHz : Connect to REF
	400kHz/500kHz : Connect to VREG5 or VREG3
	200kHz/250kHz : Connect to GND

V	Ultrasonic Mode : Connect to VREG5 or VREG3
	Diode Emulation Mode : Connect to REF
	PWM Mode : Connect to GND

Table 3. Enabling State

EN0	ENTRIP1	ENTRIP2	VREF	VREG5	VREG3	CH1	CH2	VCLK
GND	Don't Care	Don't Care	Off	Off	Off	Off	Off	Off
R to GND	Off	Off	On	On	On	Off	Off	Off
R to GND	On	Off	On	On	On	On	Off	Off
R to GND	Off	On	On	On	On	Off	On	Off
R to GND	On	On	On	On	On	On	On	Off
Open	Off	Off	On	On	On	Off	Off	Off
Open	On	Off	On	On	On	On	Off	On
Open	Off	On	On	On	On	Off	On	Off
Open	On	On	On	On	On	On	On	On

FLEXComputing

Project Name : H210UA1		Title : 5V / 3.3VSTBY	
Size :	Document Number : HPMH-40GAB6000-D000		Rev : D
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S4/S3 OFF

5VS

Control HDMI CONN 5V

PQ26 ME4894-G
PR113 90.9K_F
PC89 0.1UF
PQ27 ME2N7002W-G
PR116 270K_F
12,20,28 S3
9 3.3VS-ON

ME2306D-G VGS= 1(min) ~ 3(max)
+15= 11.8V ,VG=8.82V VGS=8.82V-5V=3.82V
+15= 14.6V ,VG=10.92V VGS=10.92V-5V=5.92V

3.3VS

PQ505 ME4894-G
PR547 120K_F
PC571 0.1UF/25V/0603
PQ509 ME2N7002W-G
PR548 330K_F

ME4894-G VGS=1(min) ~ 3(max)
+15= 11.8V ,VG=8.65V VGS=8.65V-3.3V=5.35V
+15= 14.6V ,VG=10.7V VGS=10.7V-3.3V=7.4V

1.5VS

PQ508 ME4894-G
PR581 330K_F
PC626 0.1UF/25V/0603
PQ522 ME2N7002W-G
PR584 680K_F

ME4894-G VGS=1(min) ~ 3(max)
+15= 11.8V ,VG=7.94V VGS=7.94V-1.5V=6.44V
+15= 14.6V ,VG=9.82V VGS=9.82V-1.5V=8.32V

3.3V

PQ527 ME2306D-G
PR607 120K_F NA
PC931 0.1UF/25V/0603 NA
PQ526 ME2N7002W-G NA
PR608 330K_F NA
12,20 S5
20 3VLAN-ON#

3.3V-LAN

rise time 1 ~100ms

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

PQ22 ME2306D-G
PR117 357K_F
EC101 39PF
PC91 0.22UF
PR603 NA 1M_F
PQ23 ME2N7002W-G
PR118 1M_F
PQ523 ME2N7002W-G NA
PR604 1M_F NA
ADAPIN 20,21

1.1VSTBY / 1.1V_USB

200mA

PU5 HPMH-15-00A0000088G SOT-23-5
PR63 20K_F
PC45 0.1UF/X7R
PC46 1UF/10V_X5R
PR66 3.83K
PR70 10K_F
PC51 0.1UF/X7R
PC47 10uF

Vo=0.8*(1+(PR75/PR74)
=0.8*(1+0.383)=1.1064V

150mA

PQ10 ME2306D-G HPMH-18-0020000170G
PR67 150K_F
PQ6 ME2N7002W-G
PR68 330K_F
PC48 0.01UF/25V
RJ15 0JA
20 USB1.1V-ON#
12,20 S5

ME2306D-G VGS= 1(min) ~ 3(max)
+15= 11.8V ,VG=8.11V VGS=8.11V-1.1V=7.01V
+15= 14.6V ,VG=10.03V VGS=10.03V-1.1V=8.93V

3.3V-DUAL

JP514 JUMPER2
PQ25 ME2306D-G
PR123 357K_F
PC95 NA 0.1UF/25V/0603
PQ24 ME2N7002W-G
PR121 1M_F
PR605 NA 1M_F
PQ524 ME2N7002W-G NA
PR606 1M_F NA
20 3.3VDUAL-ON#
ADAPIN 20,21

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

1.8VS

PU12 RT8015BGQW
PR633 0
PC952 10uF
PC953 0.1UF/10V_X7R
PL529 NA FMJ-0630T-3R3-HF
ER591 0
EC671 470PF/50V
PR634 10K
PR636 332K_F
PR635 30K_F
PC954 100PF/50V/0402
PQ532 ME2N7002W-G NA
HPMH-15-00B0000122G WDFN10-19P7-th_VIA4
20,22,23,24,25 ALL-PWRGD
1.8VS-EN
1.8VS-ADJ
4.3 shut down

PC60 setting

PWM	Mounte
LDO	NA

Max=0.5A
OCP=3A

PU6 G9661-25ADJF11U
PC59 1UF
PC950 10UF/6.3V
PR632 12.4K
PC60 22pF
PC553 10UF/6.3V
PC58 NA
PC951 10UF/6.3V
PC561 0.1UF
PR74 10K
Vout=0.8*(R1+R2)/R2
PR95 100K_F
PC84 0.1UF/X7R
11,12,15,22,23,24 S3#

EMI

EC669 0.1UF NA
EC670 0.1UF NA

3.3V-USB

ME2306D-G VGS= 1(min) ~ 3(max)
+15= 11.8V ,VG=8.11V VGS=8.11V-3.3V=4.81V
+15= 14.6V ,VG=10.03V VGS=10.03V-3.3V=6.73V

PQ5 ME2306D-G
PR72 150K_F NA
PC52 0.1UF NA
R615 0
3.3V-USB-ON
PQ9 ME2N7002W-G NA
RJ16 0JA NA
20 USB1.1V-ON#
12,20 S5
PR69 330K_F NA
PC49 0.01UF/25V NA

FLEX Computing

Project Name : H210UA1		Title : VS/1.8VS/3.3V-DUAL	
Size :	Document Number : HPMH-40GAB6000-D000		Rev : D
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FID

FID4 *FIDUCIAL
NC, NO CONNECT TO ANY.

FID1 *FIDUCIAL
NC, NO CONNECT TO ANY.

FID501 *FIDUCIAL
NC, NO CONNECT TO ANY.

FID502 *FIDUCIAL
NC, NO CONNECT TO ANY.

FID503 *FIDUCIAL
NC, NO CONNECT TO ANY.

FID500 *FIDUCIAL
NC, NO CONNECT TO ANY.

FID2 *FIDUCIAL
NC, NO CONNECT TO ANY.

FID3 *FIDUCIAL
NC, NO CONNECT TO ANY.

Heatsink x4

H8 PTH6_4.7_6 THR236_185
H9 PTH6_4.7_6 THR236_185
H14 PTH6_4.7_6 THR236_185
H15 PTH6_4.7_6 THR236_185

Mini Card x4

H11 NUT_MINIPCIE THR276_181
H10 NUT_MINIPCIE THR276_181
HPMH-75110-0000050G
H17 NUT_MINIPCIE THR276_181
H18 NUT_MINIPCIE THR276_181

SB x2

H20 NUT_SB BRKT THR276_181 NA
H23 NUT_SB BRKT THR276_181 NA

MB x18

H1 PTH8_5.5_8 THR315_217
H3 PTH8_5.5_8 THR315_217
H2 PTH8_5.5_8 THR315_217
H5 PTH8_2.8_7 THR315B276_110
H4 PTH8_2.8_7 THR315B276_110
H7 PTH8_2.8_7 THR315B276_110
H12 PTH8_2.8_7 THR315B276_110
H13 PTH8_2.8_7 THR315B276_110
AG
H26 PTH8_2.8_8 THR315_110
H27 PTH8_2.8_8 THR315_110
H19 PTH7_2.8_7 THR276_110
H24 PTH7_2.8_7 THR276_110
H21 PTH8_2.8_8 THR315_110
H22 PTH8_2.8_8 THR315_110
H25 PTH8_2.8_8 THR315_110
H28 PTH8_2.8_8 THR315_110
H16 NPTH0_2.2_0 NPTH087
H6 NPTH8_0_0 PAD315
H29 NPTH0_3x2.2_0 NPTH118X087

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

Location	Footprint
PR24 PR106 PR612	PAD0402-SHORT
ER3 ER4 ER6 ER7	PAD0603-SHORT
JP4	PAD-JUMPER-SHORT

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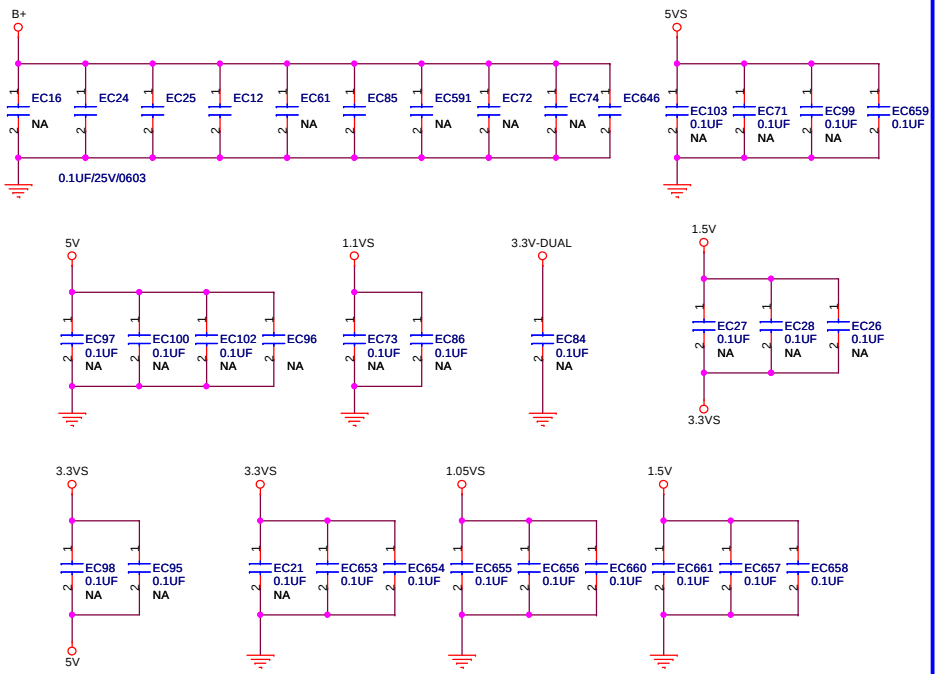
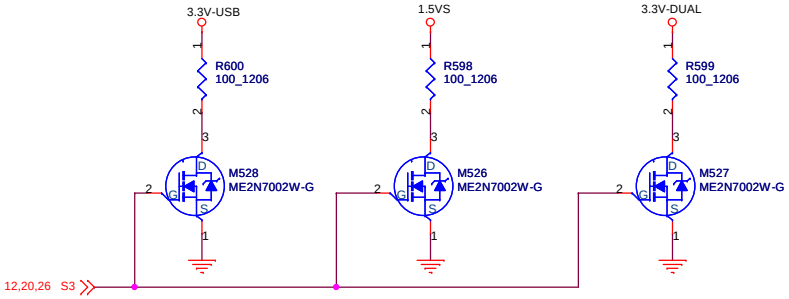
EMI Caps



Discharge



RFI Caps

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Project Name : H210UA1	Title : EMI/RFI/DISCHARGE	
Size :	Document Number : HPMH-40GAB6000-D000	Rev : D
Date: Monday, November 22, 2010	Sheet : 28 of 28	