

# Nobel UMA (11.6") Ultra Intel Shark Bay ULT Platform Block Diagram

PCB 10L STACK UP

**01**  
**Slate**

DDR3L Memory Down \*8pcs  
FBGA96 10\*14mm REV:E  
Maxima 8GBs  
PAGE 12,13,14,15

DDR3L

System BIOS  
SPI ROM  
PAGE 7

SPI Interface

Audio Codec  
**92HD95 40\_QFN**  
Package : QFN  
Size : 6 x 6 (mm)  
PAGE 21

Azalia

11.6" slate 299.3mm x 194.27mm x 11.6mm

Intel Shark Bay ULT

Y-series Processor

Power : 4.5 (Watt)

Package : BGA1168

Size : 40 X 24 (mm)

PAGE 2~10

eDP

11.6" eDP  
1980x1080 Full HD  
PAGE 16

SATA1 6GB/s

NGFF SLOT-B SSD  
22\*42 and 22\*80 (mm)  
PAGE 17

USB2.0 Interface

USB HUB  
GL850G-OHG31  
Port6  
PAGE 28

Front Camera  
SPCA2095A  
Port2  
PAGE 18

Rear Camera  
SPCA2095A  
Port7  
PAGE 18

Base Card reader  
USB HUB Port1

Mini Card  
WLAN / BT Combo  
PCIE3  
USB HUB Port2  
PAGE 20

PCIE Gen 1 x 1 Lane

Touch Screen  
I2C1  
PAGE 15

BASE TOUCH PAD  
I2C1  
PAGE 26

Card Reader  
**RTS5237-GR**  
Support CPPM  
Package : LQPF48  
Size : 7 x 7 (mm)  
PCIE2  
PAGE 19

SENSOR HUB  
STM32F103RBH6  
I2C0  
PAGE 24

Accelometer +  
Magnetometer  
HP303DLHCTR  
PAGE 24

Gyrometer  
HP3GD20HTR  
PAGE 24

ALS-Sensor  
**Capella CM32181**  
PAGE 24

Digital MIC  
SPK0415HM4H &  
STMP34DTE01  
PAGE 27

Daughter Board  
Speaker  
PAGE 21

Combo Jack  
PAGE 22

HeadPhone AMP  
**TPA6133A2RTJR**  
PAGE 22

USB2.0

EnE KB9010QF A1  
Embedded Controller  
Package : LQPF128  
Size : 14 x 14 (mm)  
PAGE 21

Touch Screen  
Port5  
PAGE 15

USB To I2C  
For Touch PA(reserve)  
Port3  
PAGE 29

Combo Jack

Docking Connector  
PAGE 26

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**Base**

Combo Jack

Combo Jack

Embedded Controller

ENE IO3730B  
Package : LQFP-64  
Size : 7 x 7 x 1.4

SMBUS

Keyboard

I2C

I2C1

Touch Pad

DDI

DDI1

HDMI Conn

USB3.0 Interface

USB 3.0 Port 1, 2

USB2.0 Interface

USB 2.0 Port 0, 1

USB3.0 Port x 2

USB HUB Port1

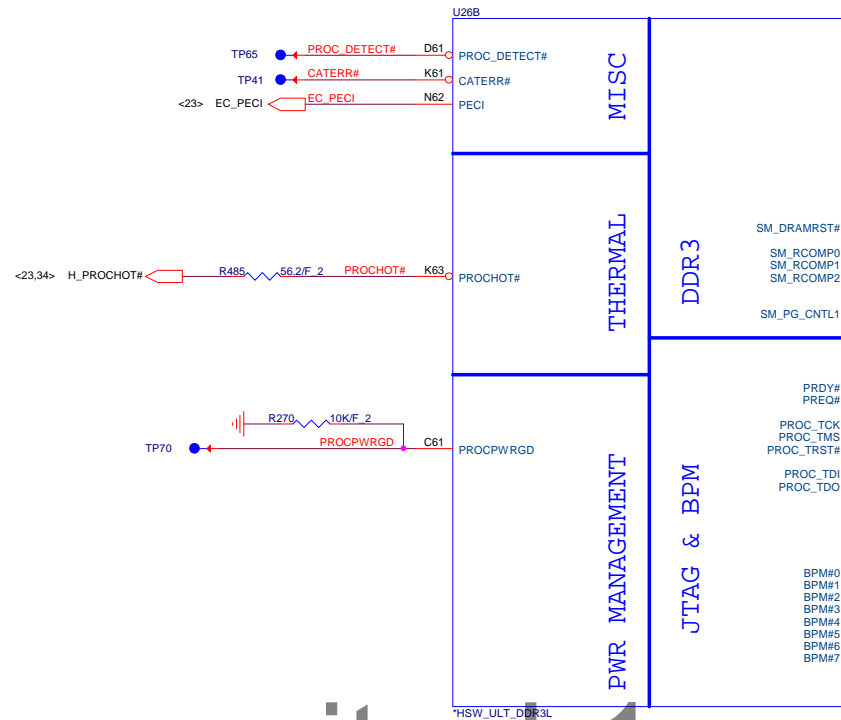
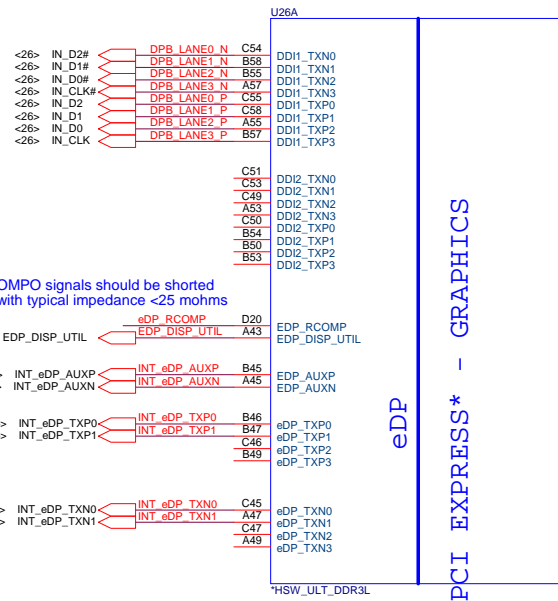
CardReader IC

Micro SD card slot

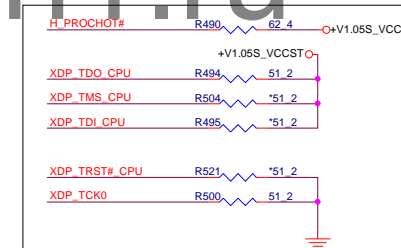
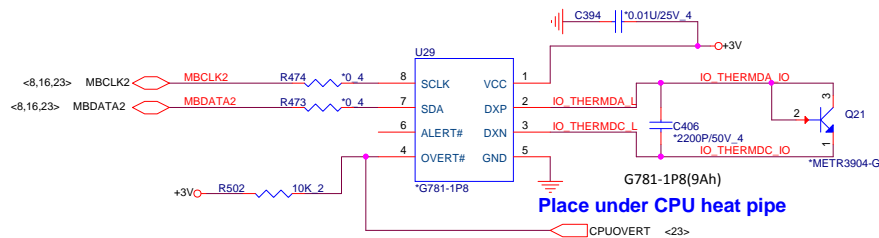


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Intel Shark Bay ULT  
**Quanta Computer Inc.**

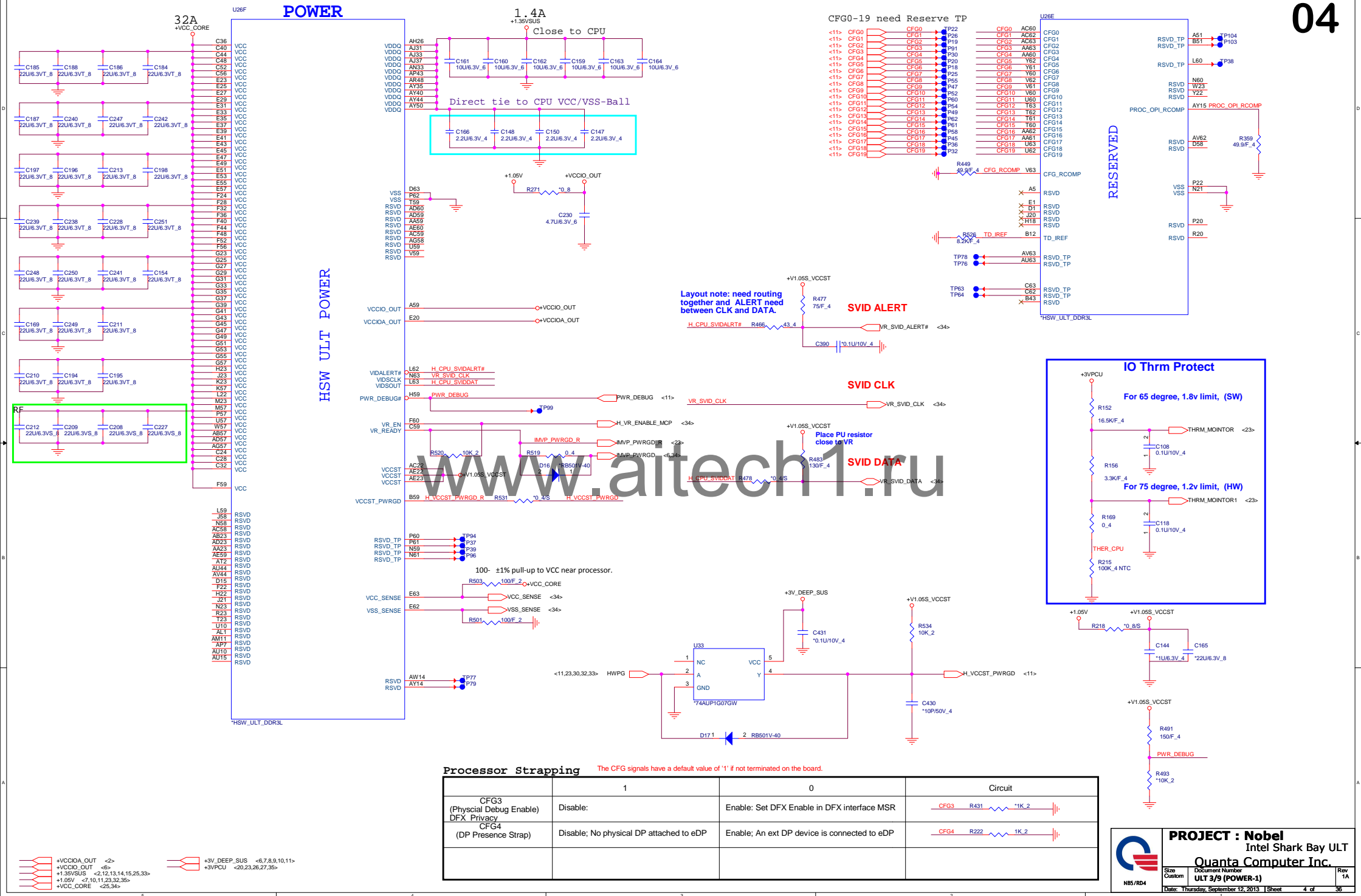
Size Custom	Document Number	Rev 1A
<b>Block Diagram</b>		
Date: Thursday, September 12, 2013	1 of 36	



### Local Thermal Sensor





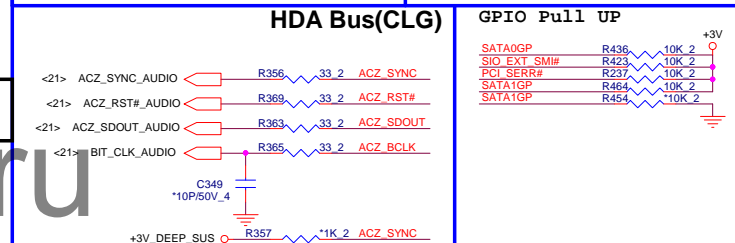






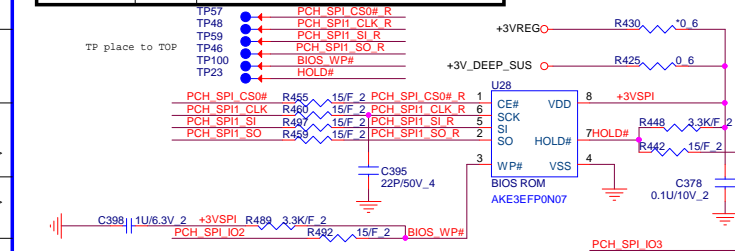


## 07



## PCH SPI ROM(CLG)

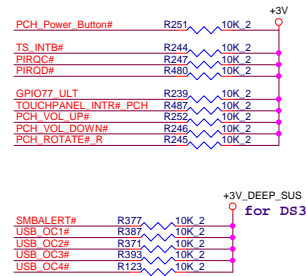
Vender	Size	P/N
Winbond		AKE3EFP0N07
GigaDevice		AKE3EGN0Q01
Socket		DFHS08FS023



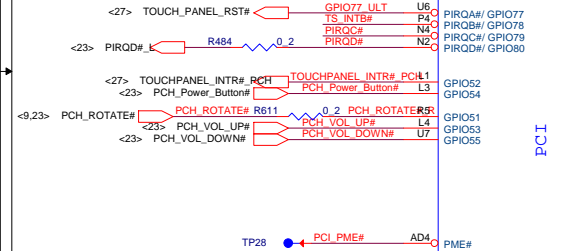
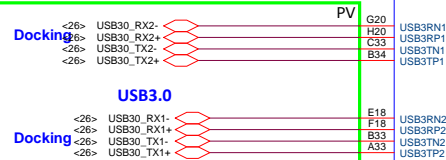
**PROJECT : Nobel**  
Intel Shark Bay ULT  
Quanta Computer Inc.

```
Lynx Point-LP Platform Controller Hub
(HDA,JTAG,SATA)
```

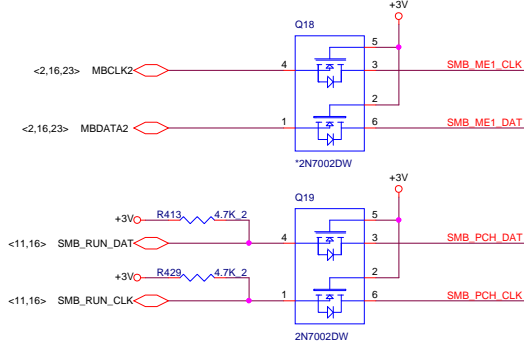
### PCI/USB OC# Pull-up (CLG)



## USB3.0 PORT1,2 SWAP



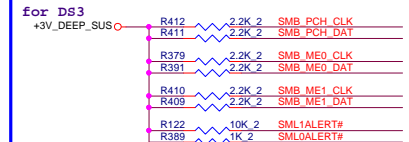
### SMBus/Pull-up(CLG)



### CLK\_REQ/Strap Pin(CLG)



### SMBus/Pull-up(CLG)



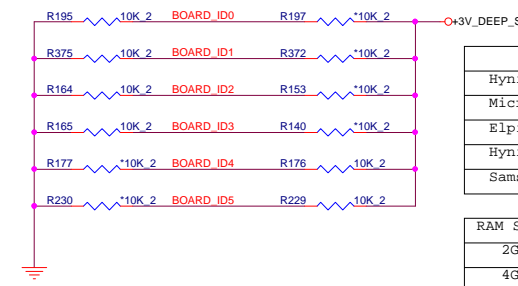
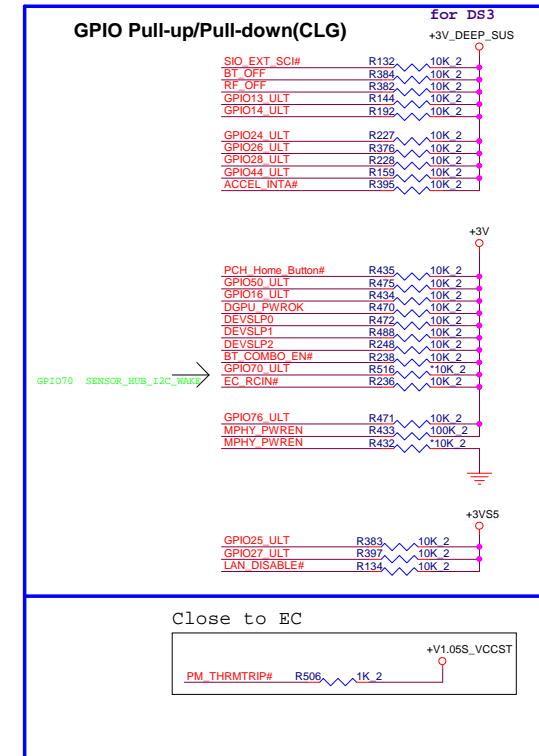
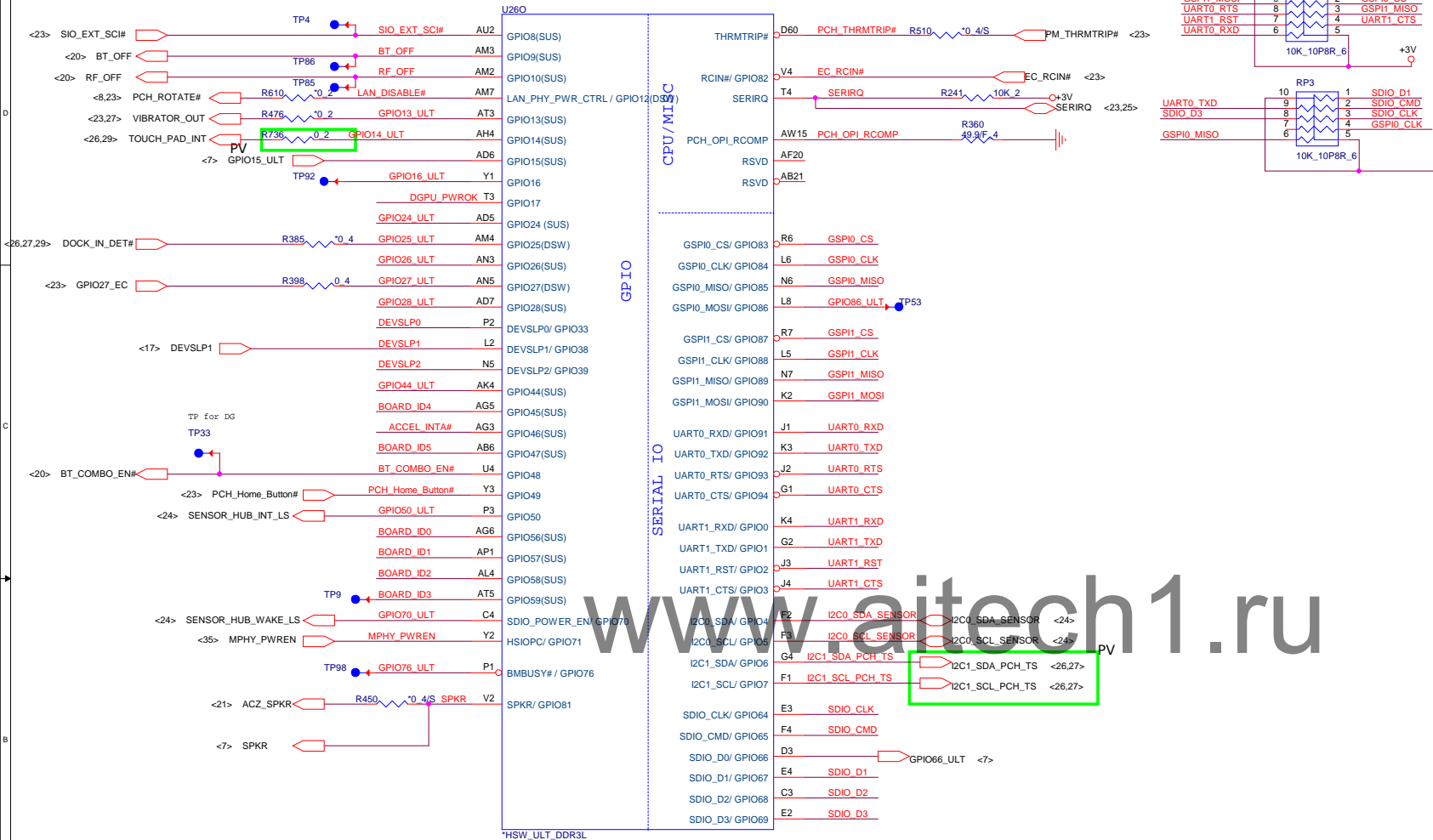
<b>PROJECT : Nobel</b>			
Intel Shark Bay ULT			
<b>Quanta Computer Inc.</b>			
Client	Contract Number	Rev.	

Size Custom	Document Number <b>ULT 7/9 (PCIe/USB/CLK)</b>	Rev 1A
Date: Thursday, September 12, 2013	Sheet 8 of	36



# Lynx Point-LP Platform Controller Hub (HDA,JTAG,SATA) Haswell (GPIO)

09



	BOARD_ID0	BOARD_ID1	BOARD_ID2
Hynix (TG) H5TC4G63AFR-PBA HUMA, A	0	0	0
Micron (TF) MT41K256M16HA-125:E V80A/E	0	0	1
Elpida (TN) EDJ4216EFBG-GN-F F	0	1	0
Hynix (TG) H5TC4G63MFR-PBA GEMMA, M	0	1	1
Samsung (TH) K4B4G1646B-HYK0 B	1	0	0

RAM SIZE	BOARD_ID5
2G	0
4G	1

TPM support	BOARD_ID4
NO	0
YES	1

<4,6,7,8,10,11> +3V\_DEEP\_SUS

<2,4,11,34> +V1.05S\_VCCST

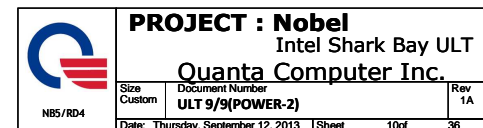
<2,6,7,8,10,11,16,17,18,19,20,21,23,24,25,26,27,28,31,34,35> +3V

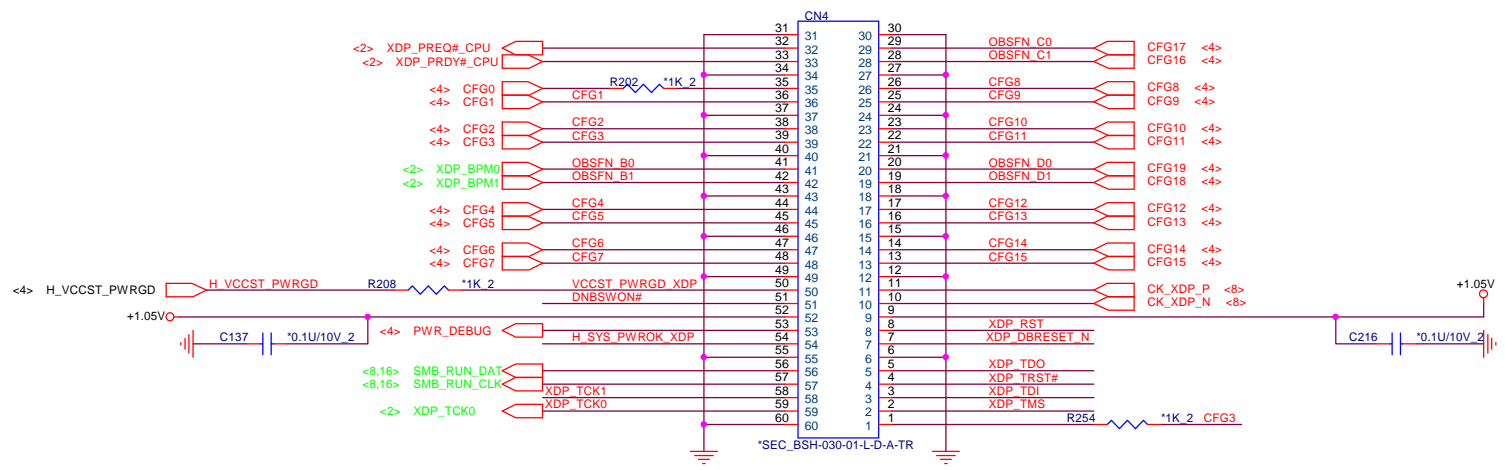
<6,10,11,20,26,27,29,30,35> +3VSS

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Quanta Computer Inc.

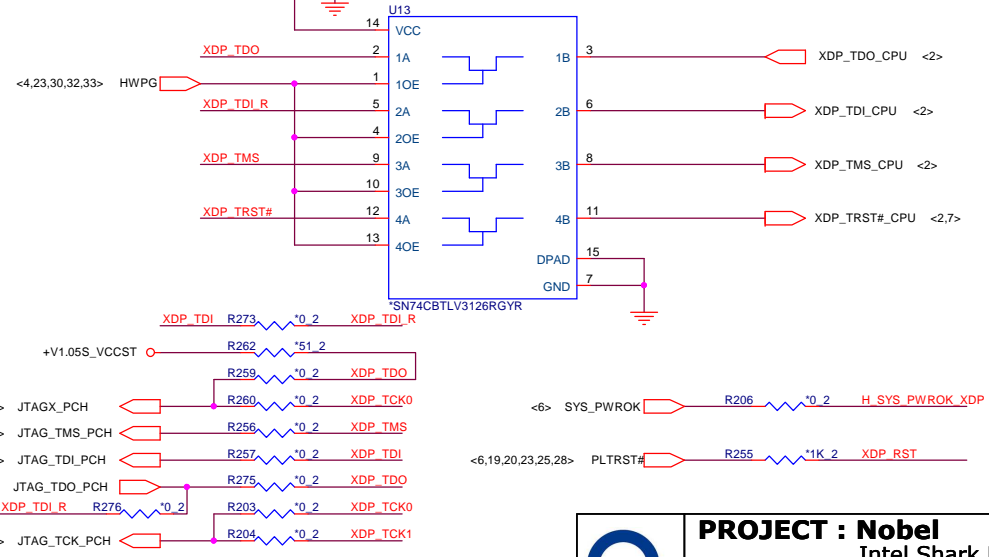
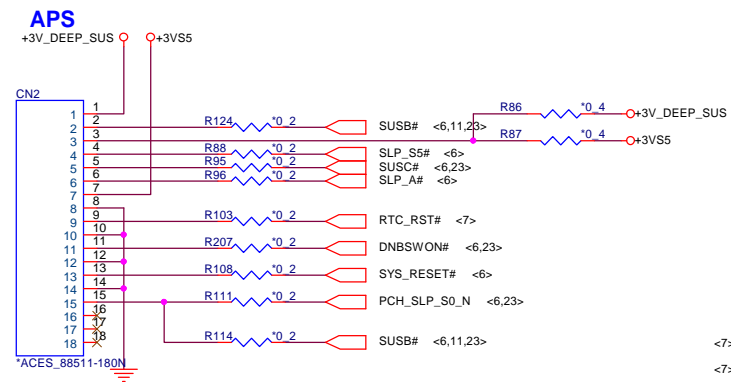
Size Custom Document Number **ULT 8/9 (GPIO/MISC)** Rev 1A

Date: Thursday, September 12, 2013 1 Sheet 9 of 36

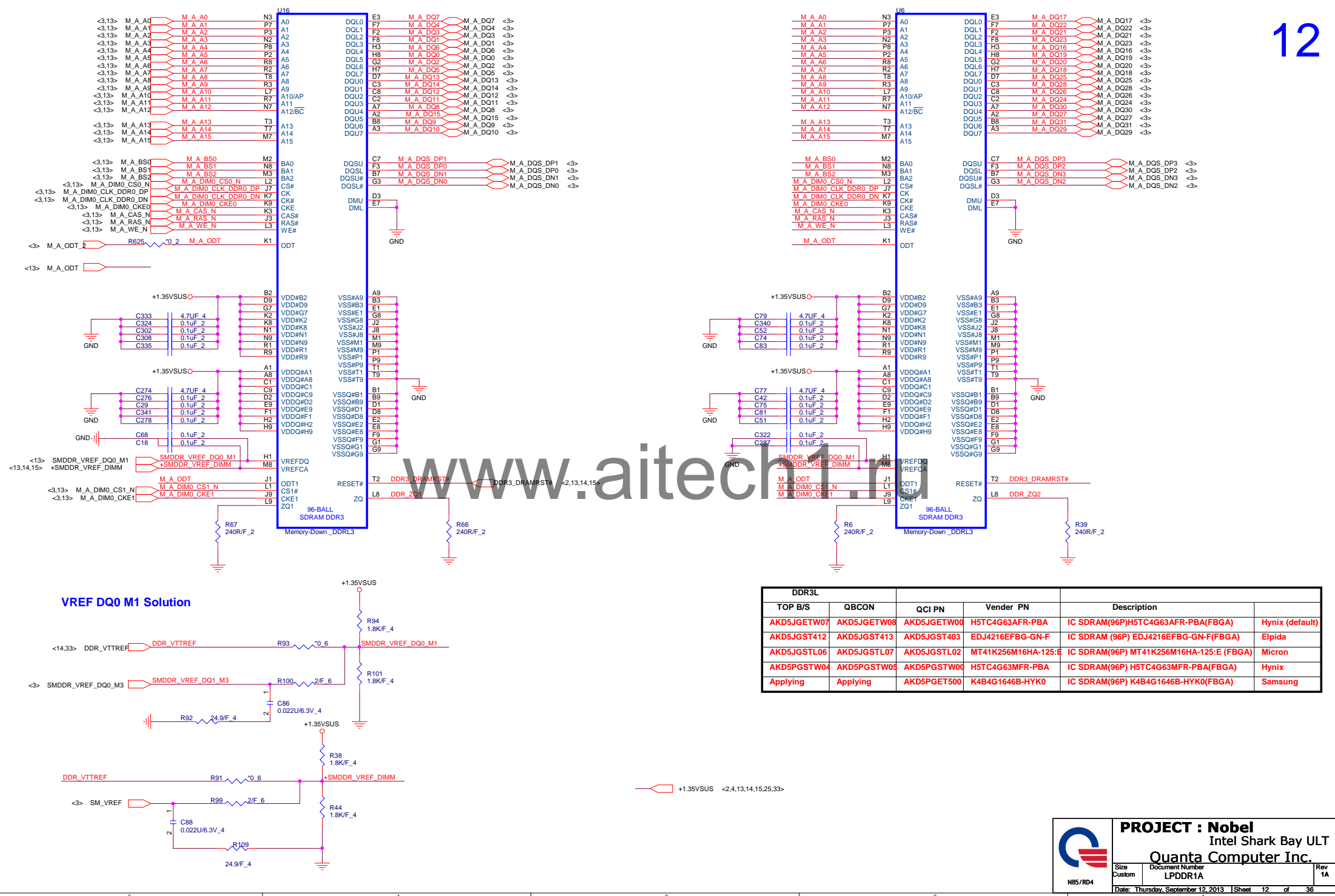




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- +3V\_DEEP\_SUS <4,6,7,8,9,10>
- +3V5S <6,9,10,20,26,27,29,30,35>
- +V1.05S\_VCCST <2,4,9,34>
- +3V <2,6,7,8,9,10,16,17,18,19,20,21,23,24,25,26,27,28,31,34,35>
- +1.05V <4,7,10,23,32,35>

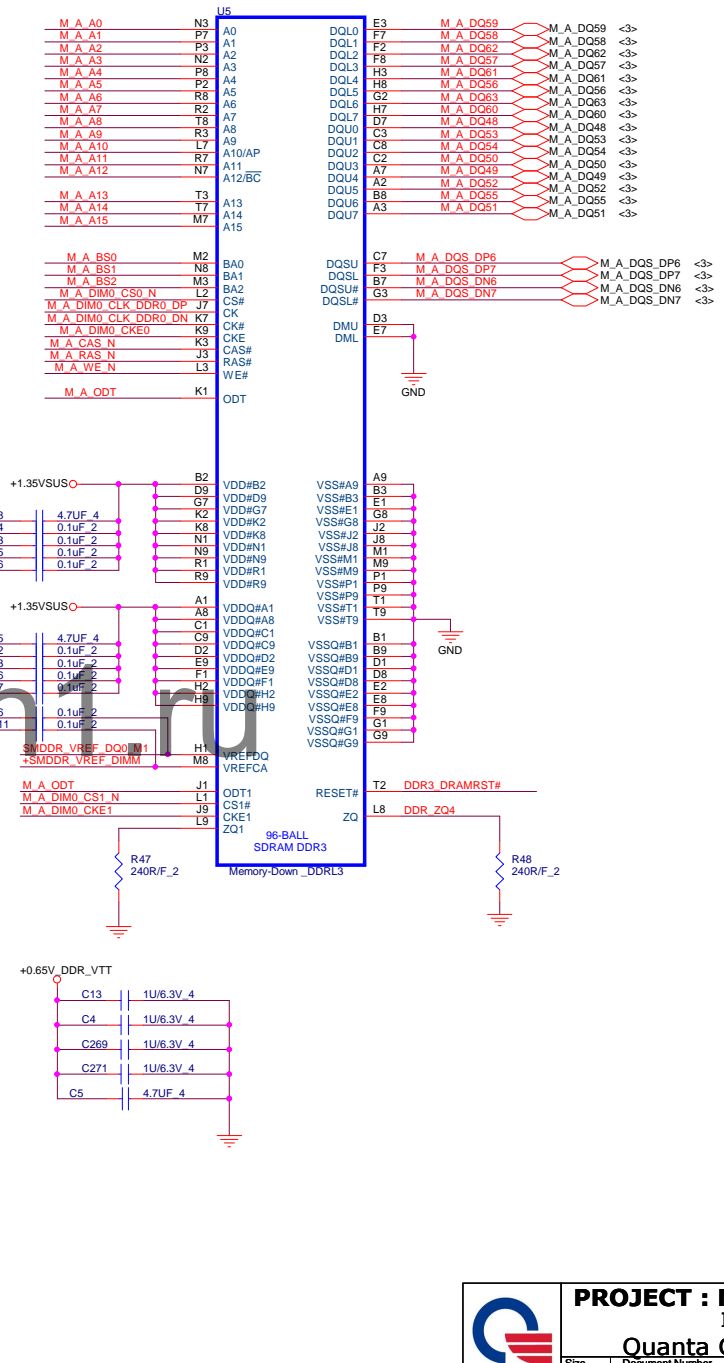
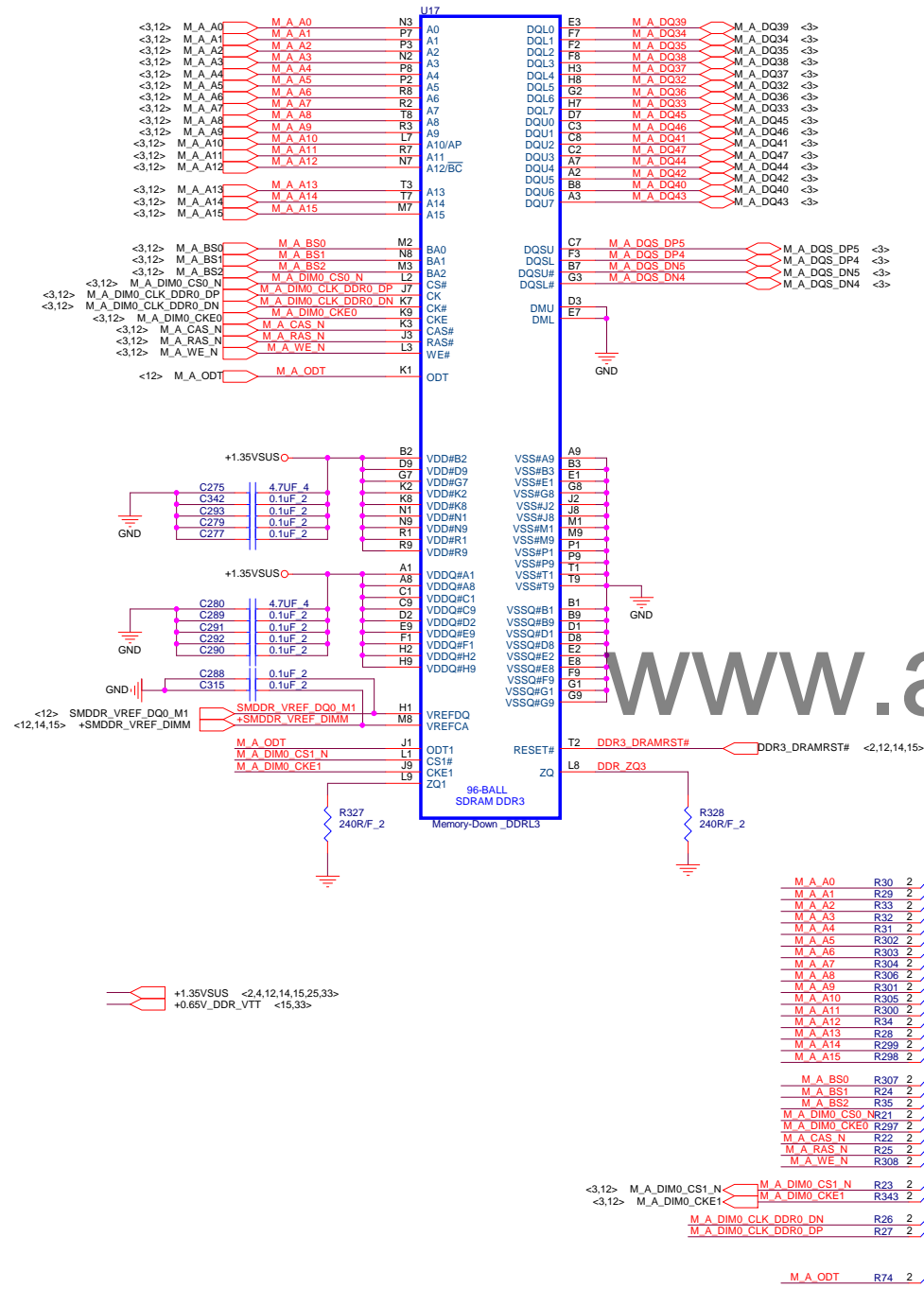


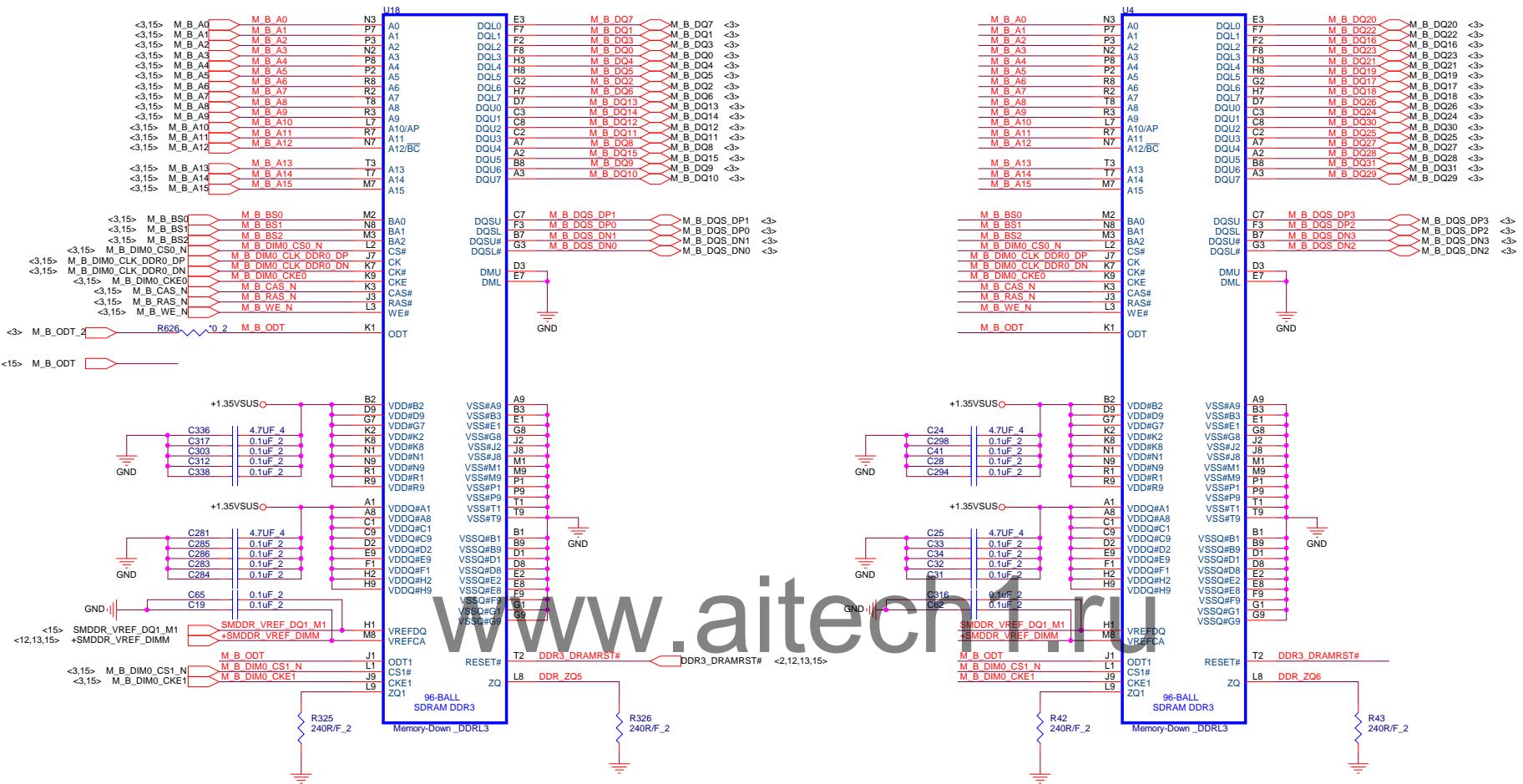
TOP B/S	QBCON	QCI PN	Vender PN	Description	
AKD5JGETW07	AKD5JGETW08	AKD5JGETW00	H5TC4G63AFR-PBA	IC SDRAM(96P)H5TC4G63AFR-PBA(FBGA)	Hynix (default)
AKD5JGST412	AKD5JGST413	AKD5JGST403	EDJ4216EFBG-GN-F	IC SDRAM (96P) EDJ4216EFBG-GN-F(FBGA)	Elpida
AKD5JGSTL06	AKD5JGSTL07	AKD5JGSTL02	MT41K256M16HA-125:E	IC SDRAM(96P) MT41K256M16HA-125:E (FBGA)	Micron
AKD5PGSTW04	AKD5PGSTW05	AKD5PGSTW00	H5TC4G63MFR-PBA	IC SDRAM(96P) H5TC4G63MFR-PBA(FBGA)	Hynix
Applying	Applying	AKD5PGET500	K4B4G1646B-HYK0	IC SDRAM(96P) K4B4G1646B-HYK0(FBGA)	Samsung

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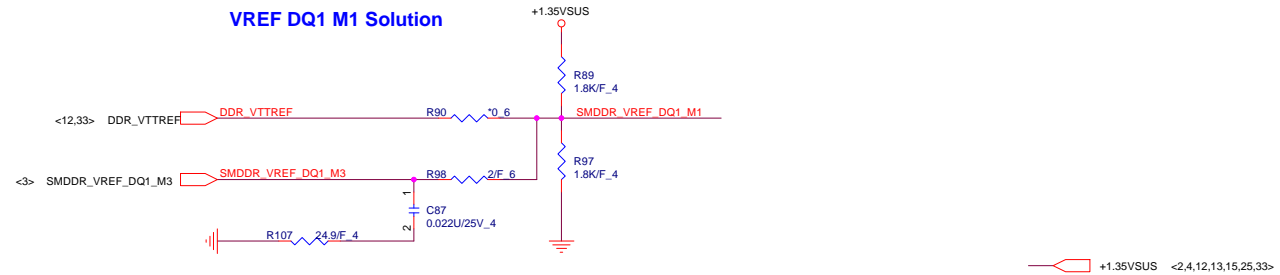
Size	Document Number	Rev
Custom	LPDDR1A	1A

Date: Thursday, September 12, 2013 | Sheet 12 of 36



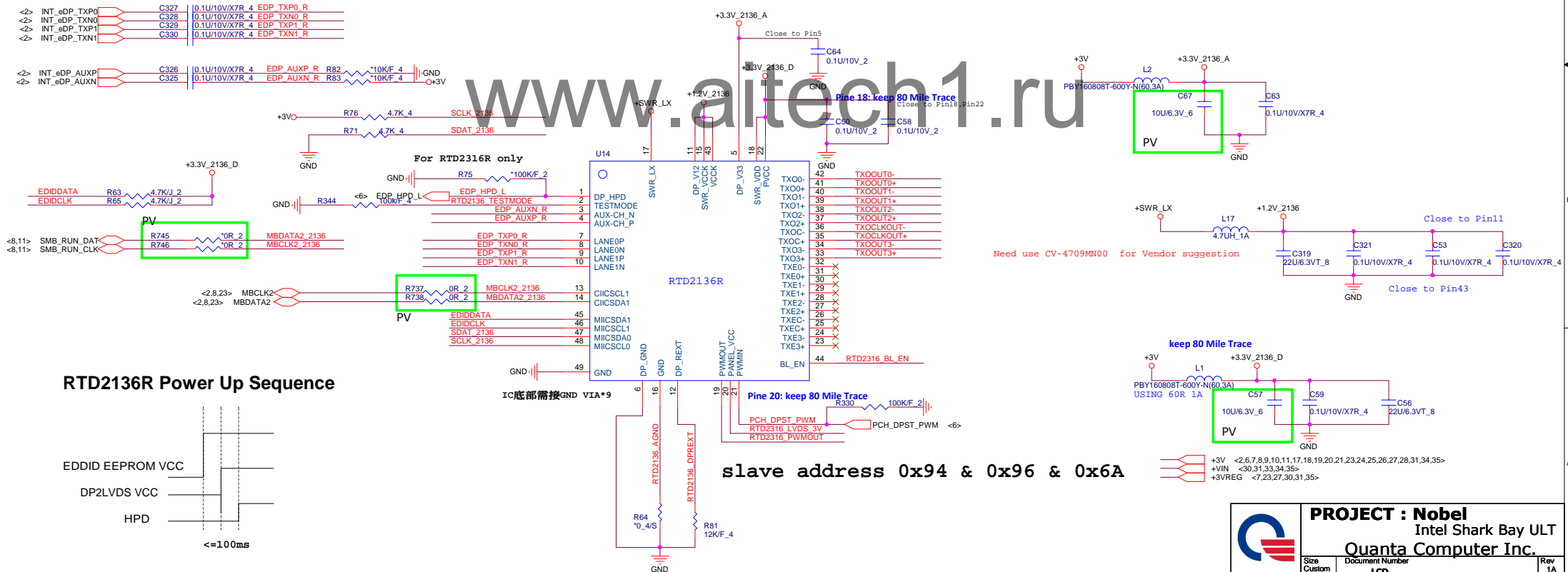
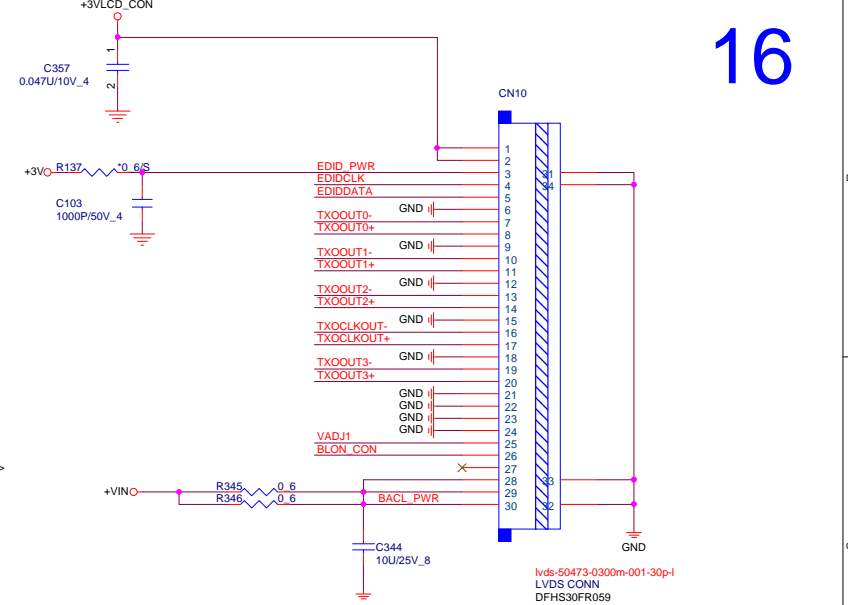
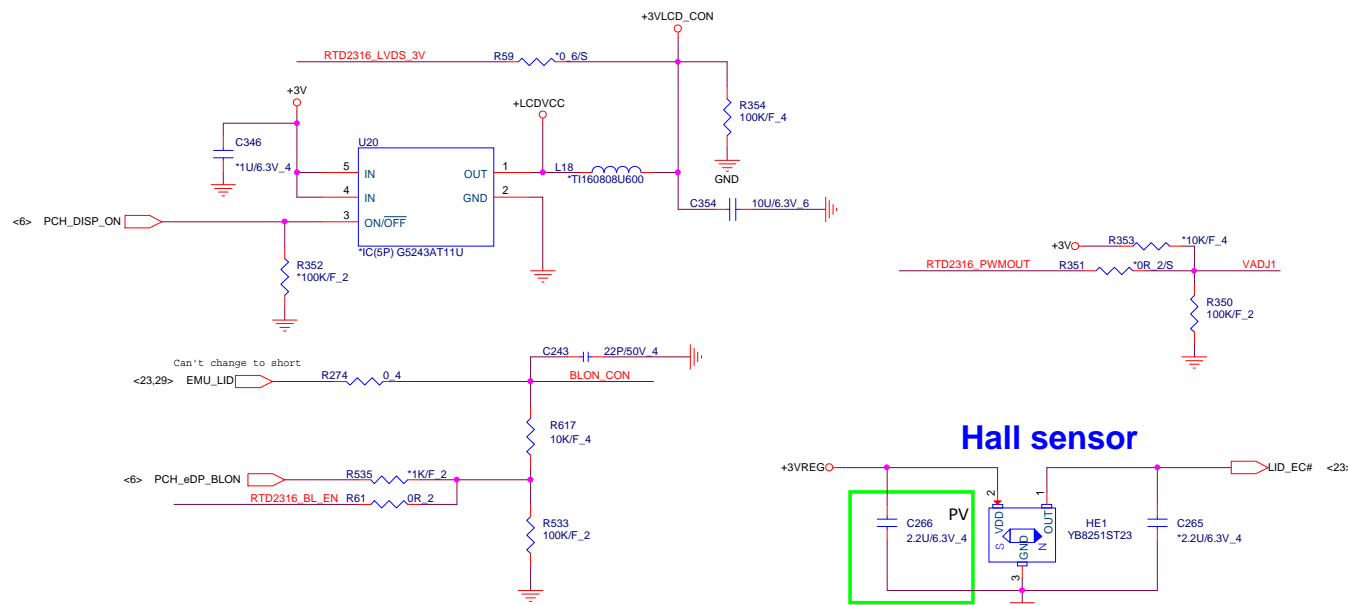


## VREF DQ1 M1 Solution

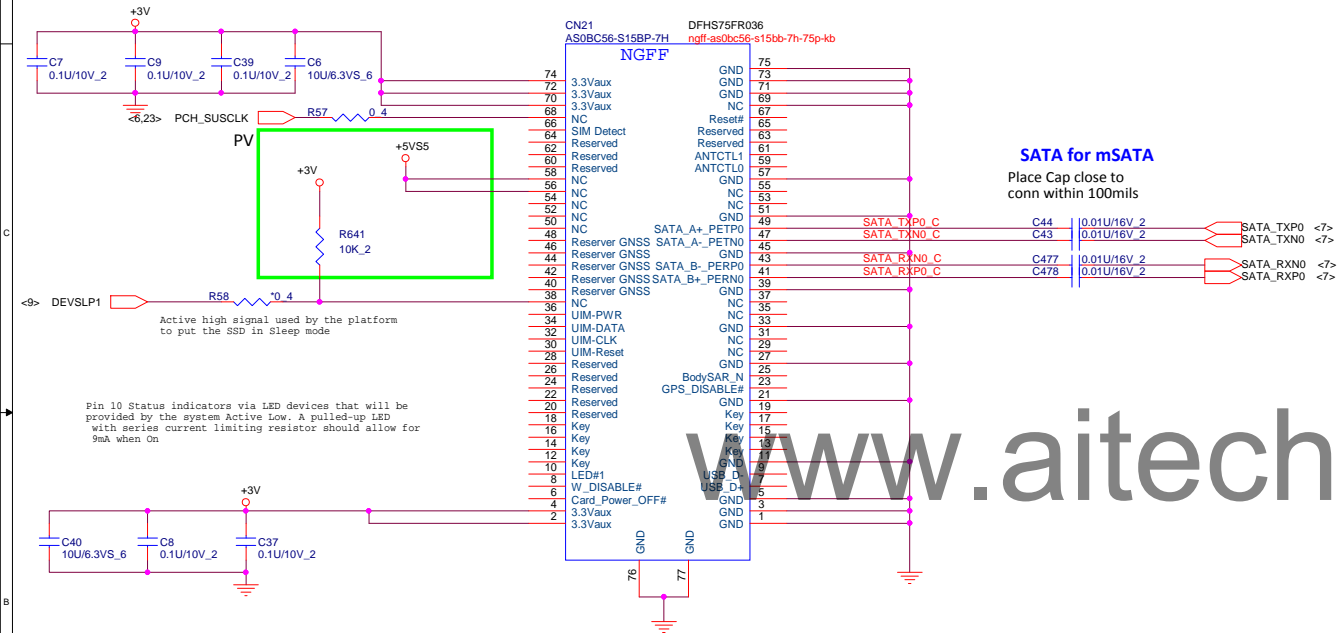








## SSD (NGFF Connector)

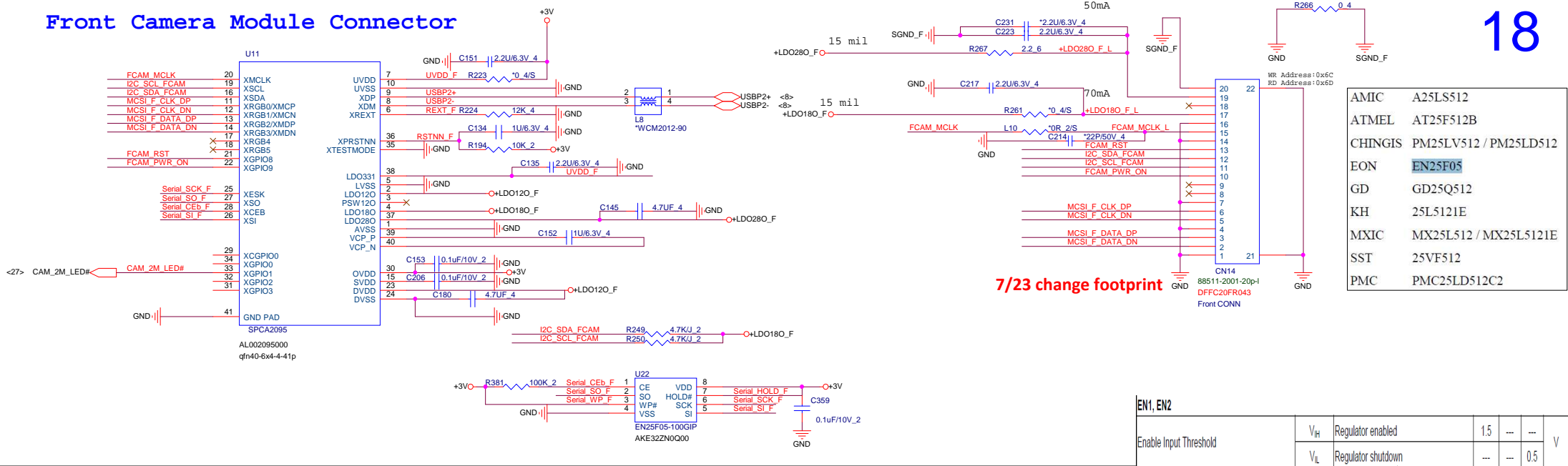


SSD (SATA)	SSD (PCIe x2 Lanes)	SSD (SATA)	SSD (PCIe x2 Lanes)	
74	3.3Vaux	1.8Vaux	GND	75
72	3.3Vaux	1.8Vaux	GND	73
70	3.3Vaux	1.8Vaux	GND	71
68	SUBCLK(32MHz) (I/O)(3.3V)	SUBCLK(32MHz) (I/O)(3.3V)	PEDET (GND-SATA)	69
66	Notch	Notch	N/C	67
64	Notch	Notch	Notch	65
62	Notch	Notch	Notch	63
60	Notch	Notch	Notch	61
58	Reserved/MFG Clock	Reserved/MFG Clock	Notch	59
56	Reserved/MFG Data	Reserved/MFG Data	GND	57
54	N/C	PEWake# (IO)(0/3.3V)	N/C	55
52	N/C	CLKREQ# (IO)(0/3.3V)	N/C	53
50	N/C	PERST# (I/O)(3.3V)	GND	51
48	N/C	N/C	SATA-A+	49
46	N/C	N/C	SATA-A-	47
44	N/C	N/C	GND	45
42	N/C	N/C	SATA-B+	43
40	N/C	N/C	SATA-B-	41
38	DEVSLP (I/O)(3.3V)	DEVSLP (I/O)(3.3V)	GND	39
36	N/C	N/C	N/C	37
34	N/C	N/C	N/C	35
32	N/C	N/C	GND	33
30	N/C	N/C	N/C	31
28	N/C	N/C	N/C	29
26	N/C	N/C	GND	27
24	N/C	N/C	N/C	25
22	N/C	N/C	N/C	23
20	N/C	N/C	OC-SSD	21
18	Notch	Notch	Notch	17
16	Notch	Notch	Notch	15
14	Notch	Notch	Notch	13
12	Notch	Notch	Notch	11
10	DAS/DSSH (O)(DD)	DAS/DSSH (O)(DD)	N/C	9
8	N/C	N/C	N/C	7
6	N/C	N/C	N/C	5
4	1.8Vaux	1.8Vaux	N/C	3
2	3.3Vaux	3.3Vaux	GND	1

Figure 6-9: Slot B SSD Module Dual Notch Pinout

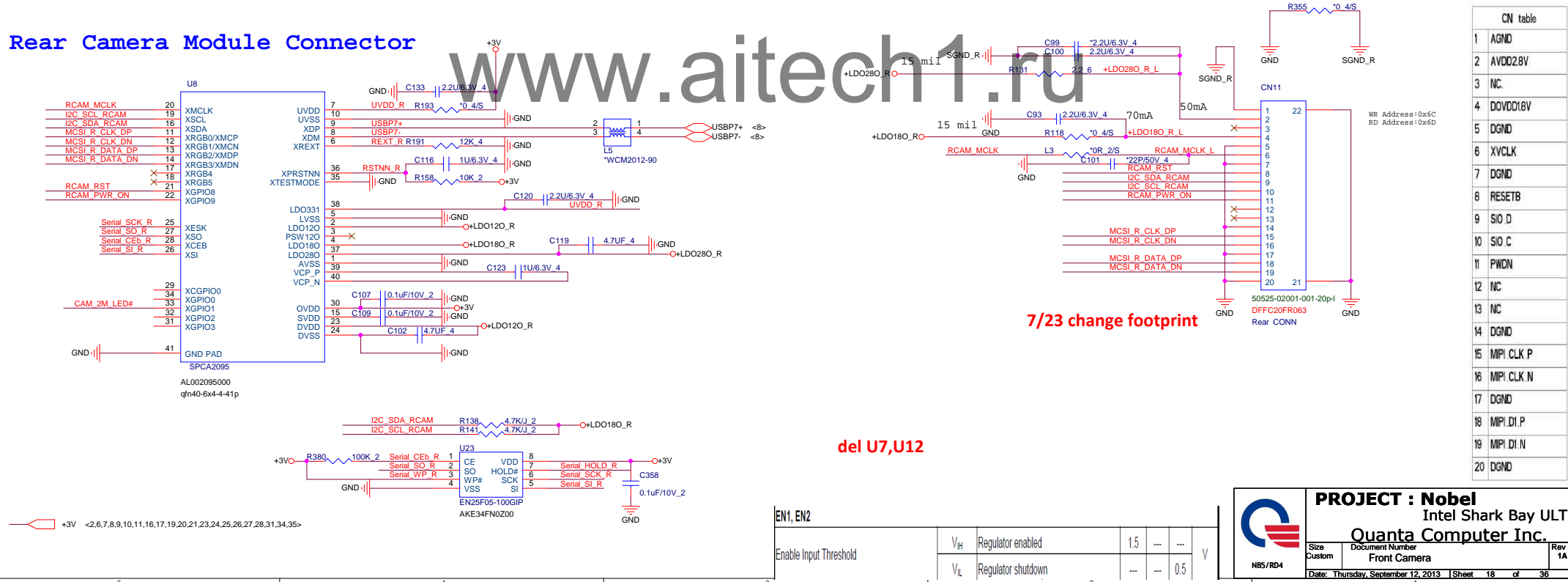
## Front Camera Module Connector

18



## Rear Camera Module Connector

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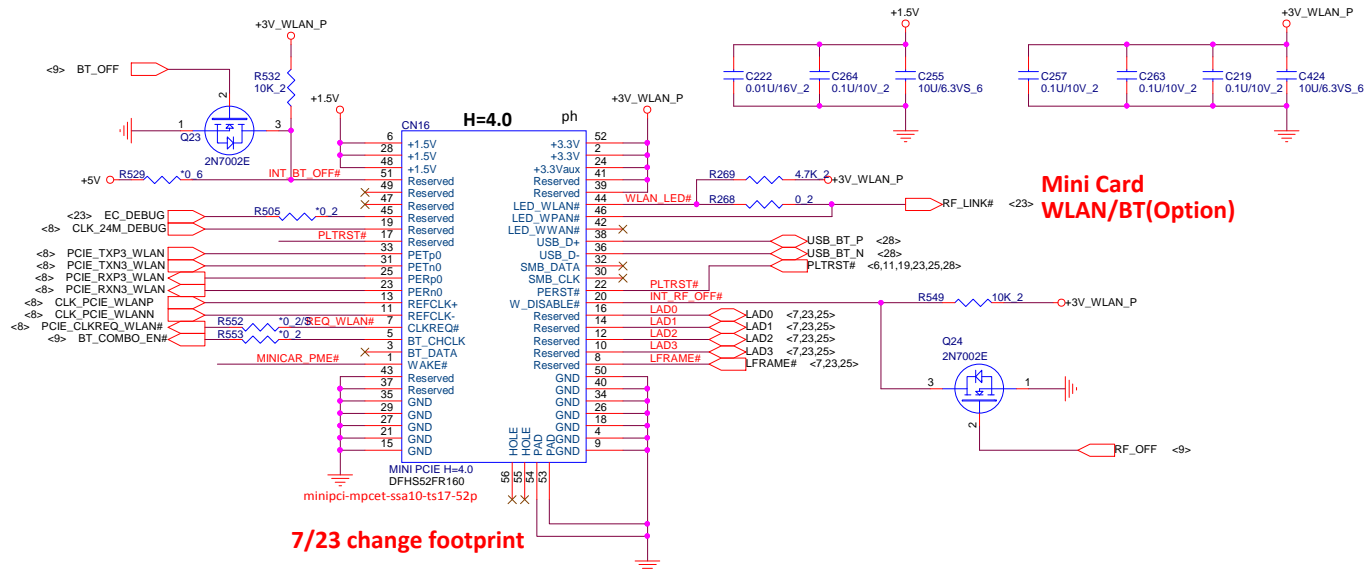
CN1 table	
1	AGND
2	AVDD2.8V
3	NC
4	DOVDD1.8V
5	DGND
6	XVCLK
7	DGND
8	RESETB
9	SIO D
10	SIO C
11	PWDN
12	NC
13	NC
14	DGND
15	MPI CLK P
16	MPI CLK N
17	DGND
18	MPI DI P
19	MPI DI N
20	DGND

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**Quanta Computer Inc.**

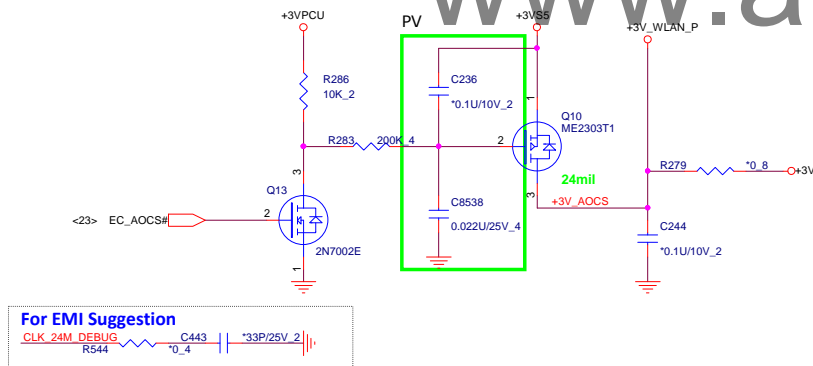
Size Custom Document Number Front Camera Rev 1A

Date: Thursday, September 12, 2013 | Sheet 18 of 36

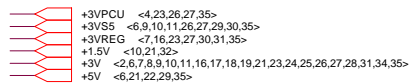
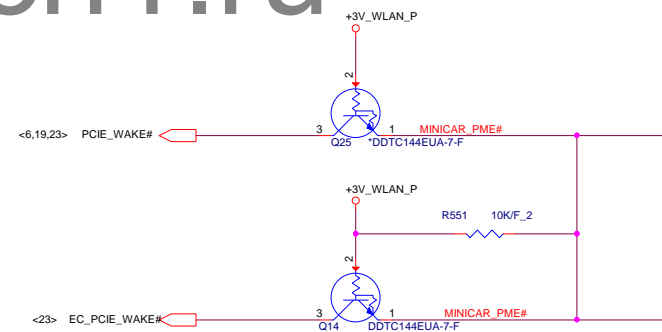


**WLAN**

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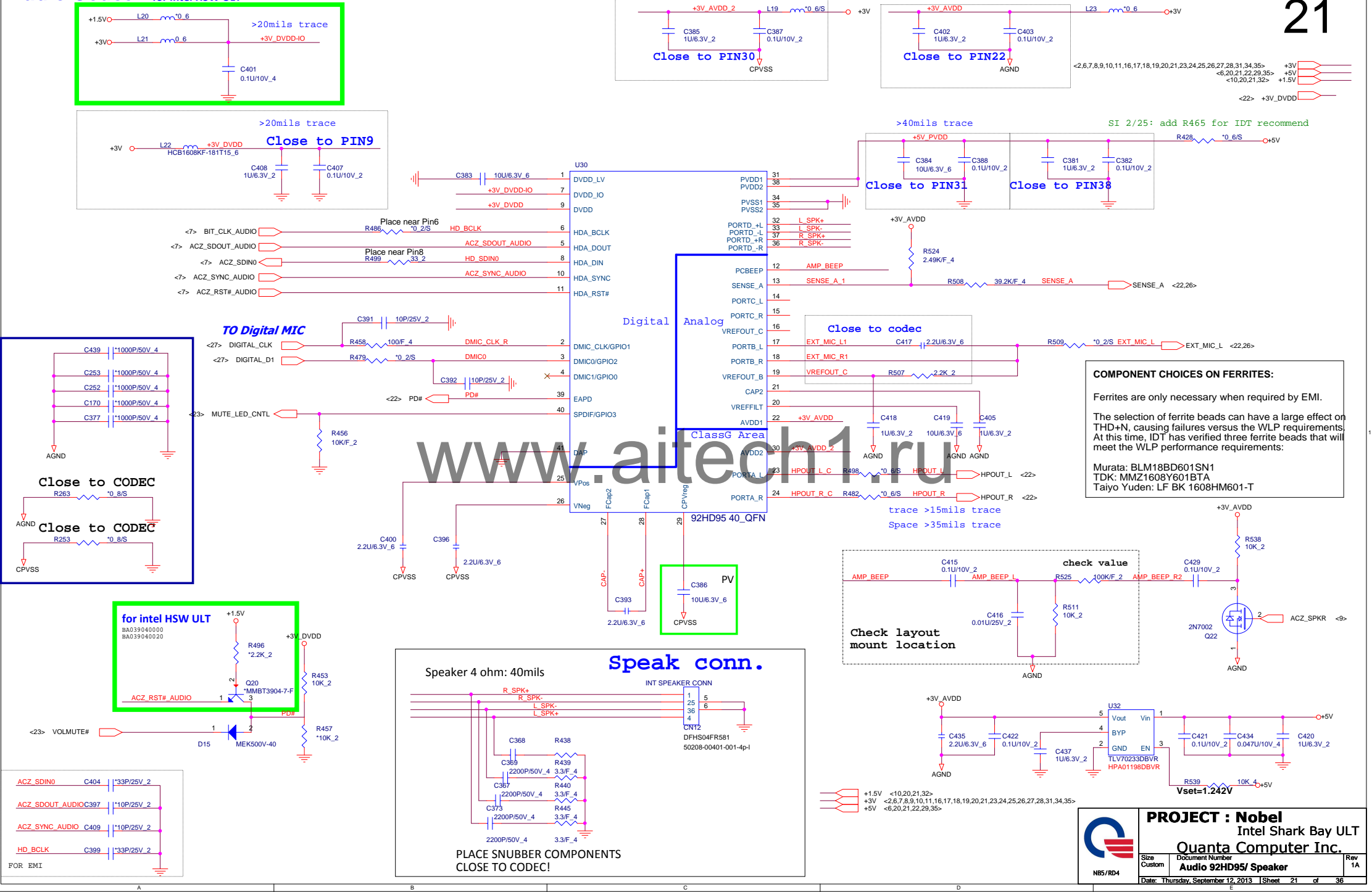


### Support Wake Function(Reserve)

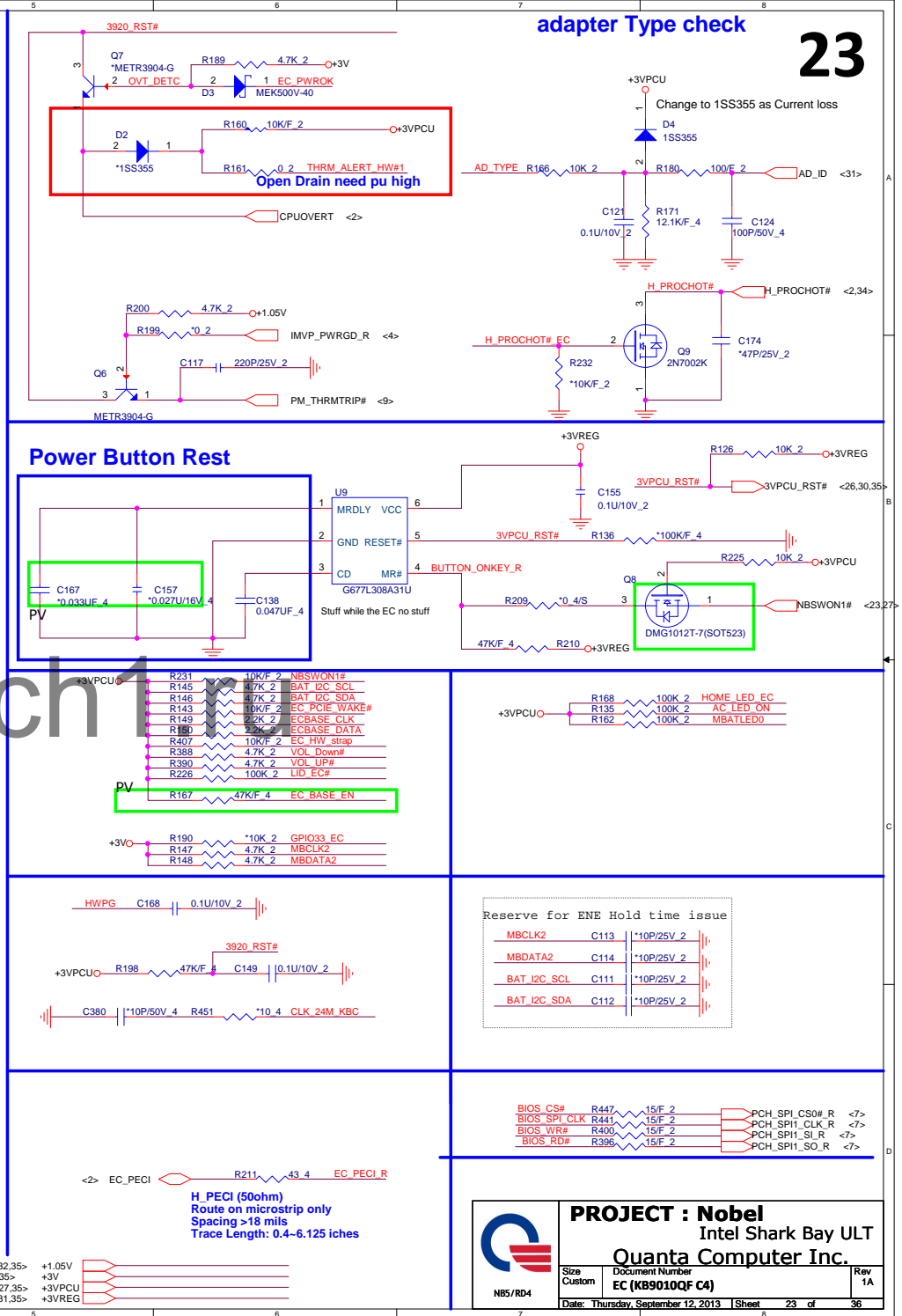




Audio Codec for intel HSW ULT

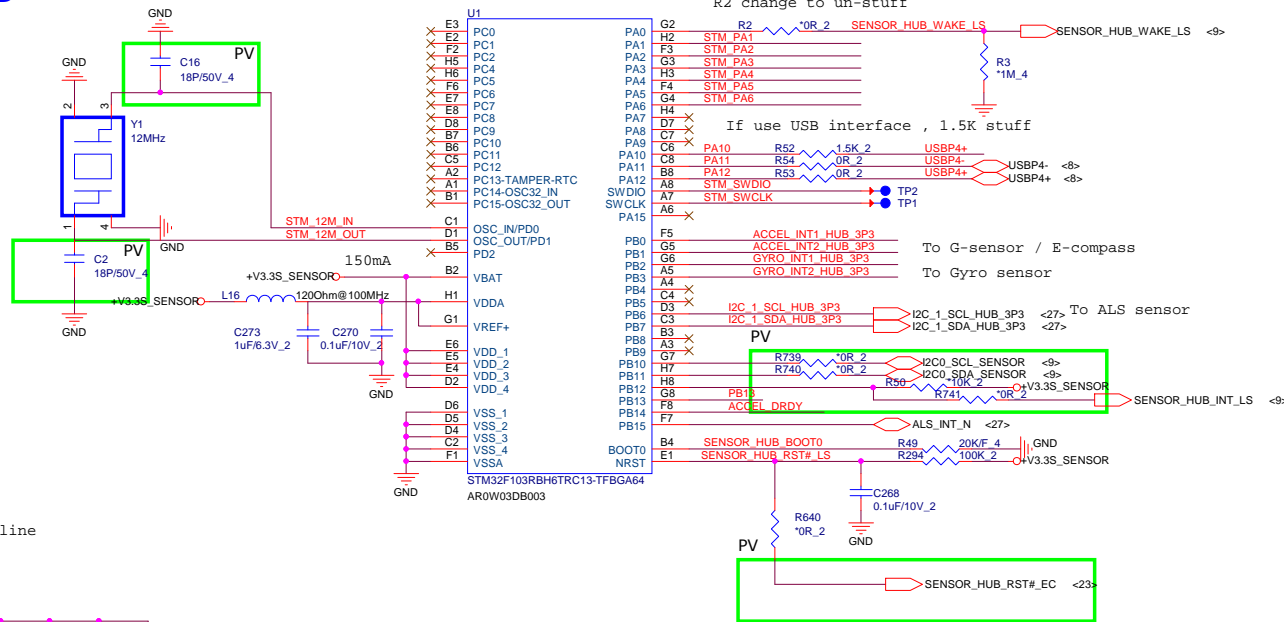


Murata: BLM18BD601SN1  
TDK: MMZ1608Y601BTA  
Taiyo Yuden: LF BK 1608HM601-T

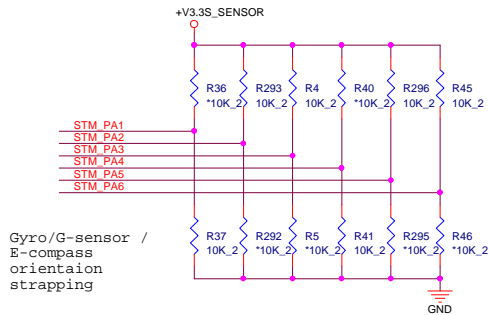


# Sensor HUB

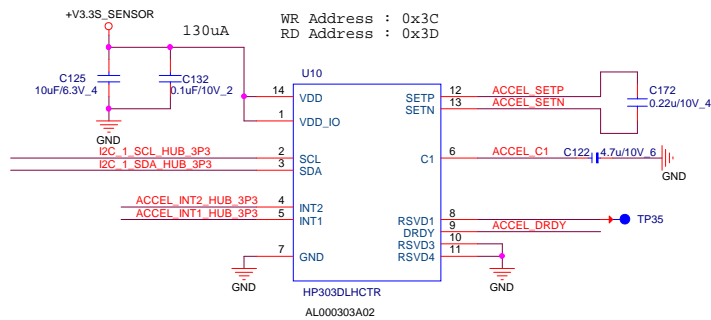
24



please ST strap setting guideline  
PA1 ~ PA3 --> G + E-compass  
PA4 ~ PA6--> Gyro

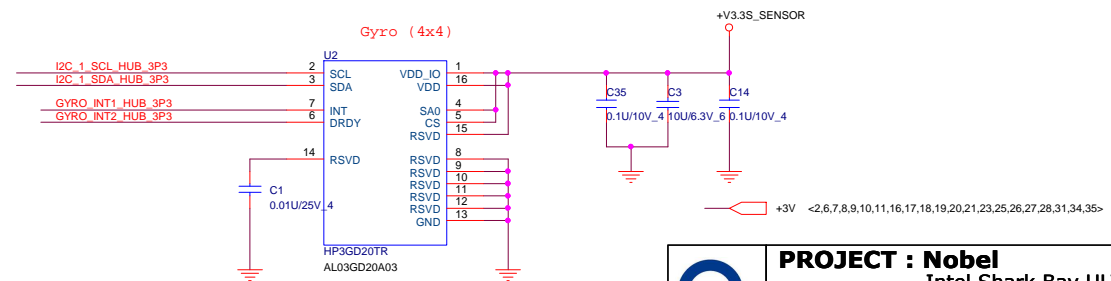


## G-sensor/E-compass



## Gyroscope

WR Address : 0xD2  
RD Address : 0xD3

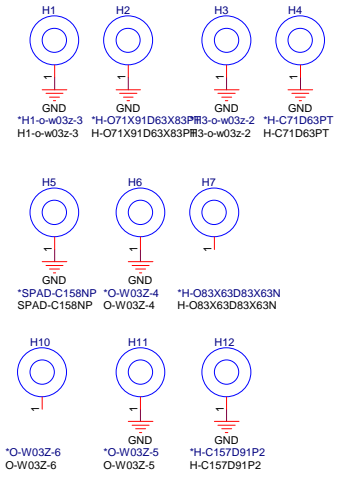


		<b>PROJECT : Nobel</b>	
		Intel Shark Bay ULT	
		<b>Quanta Computer Inc.</b>	
		Sensor Hub	
Size Custom	Document Number	Rev 1A	
Date: Thursday, September 12, 2013   Sheet 24 of 36			

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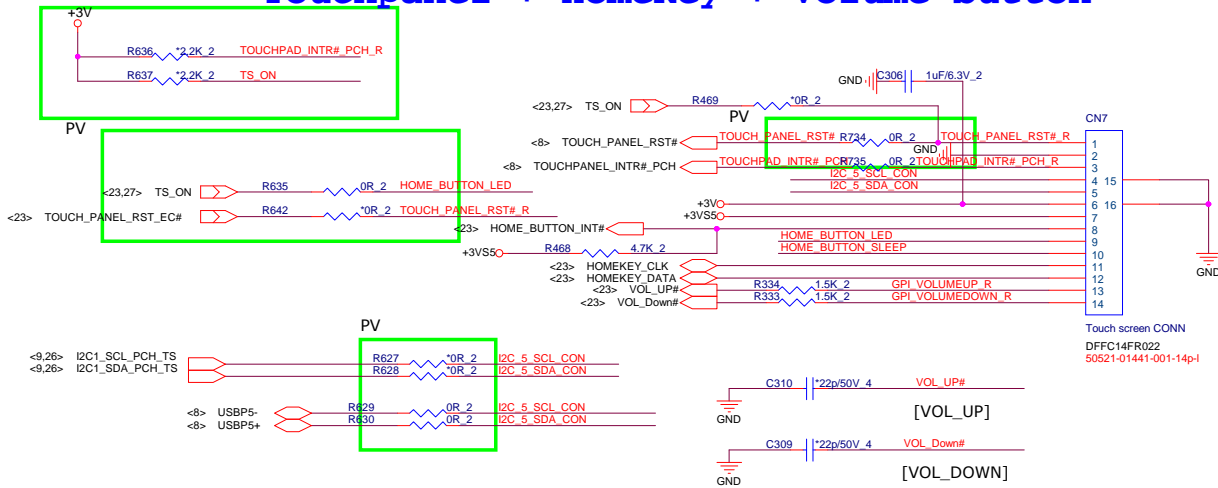
## RF cap







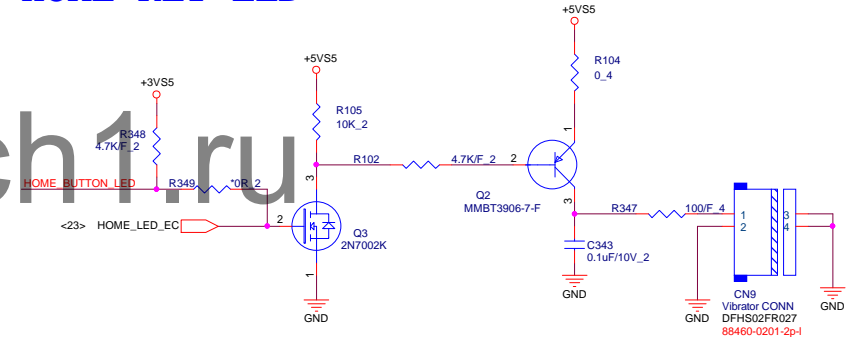
# Touchpanel + HomeKey + Volume button



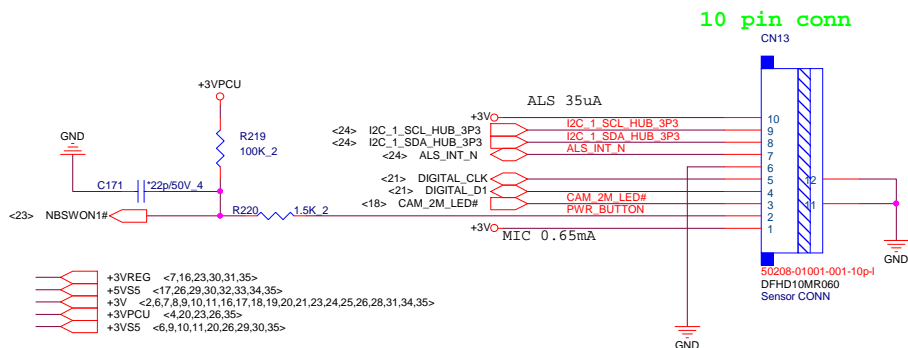
Pin Define Verion 0.1 3/19/2013

Pin	Define	Bay Trail -T Type	Haswell Type
1	Touch Reset	1.8V	3.3V
2	GND	GND	GND
3	Touch Int	1.8V	3.3V
4	Touch I2C Clock	1.8V	3.3V
5	Touch I2C data	1.8V	3.3V
6	3.3V	Power	Power
7	1.8V	Power (1.8V)	Power (3.3V)
8	Home Key GPIO	3.3V	3.3V
9	Home Key LED	3.3V	3.3V
10	Home Key Sleep Int	3.3V	3.3V
11	Home key I2C Clock	3.3V	3.3V
12	Home Key I2C Data	3.3V	3.3V
13	Volume Up	1.8V	3.3V
14	Volume down	1.8V	3.3V

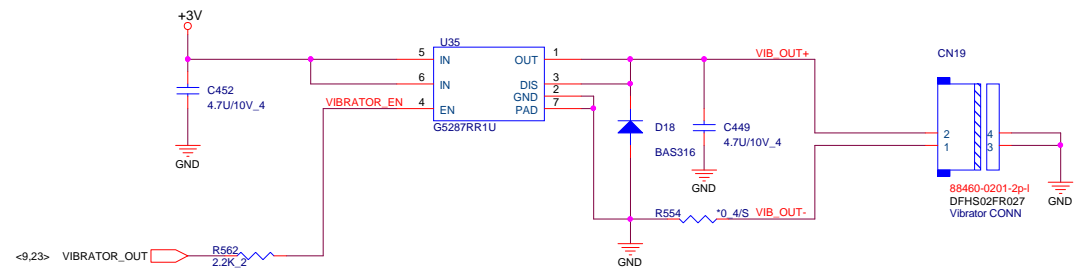
## HOME KEY LED

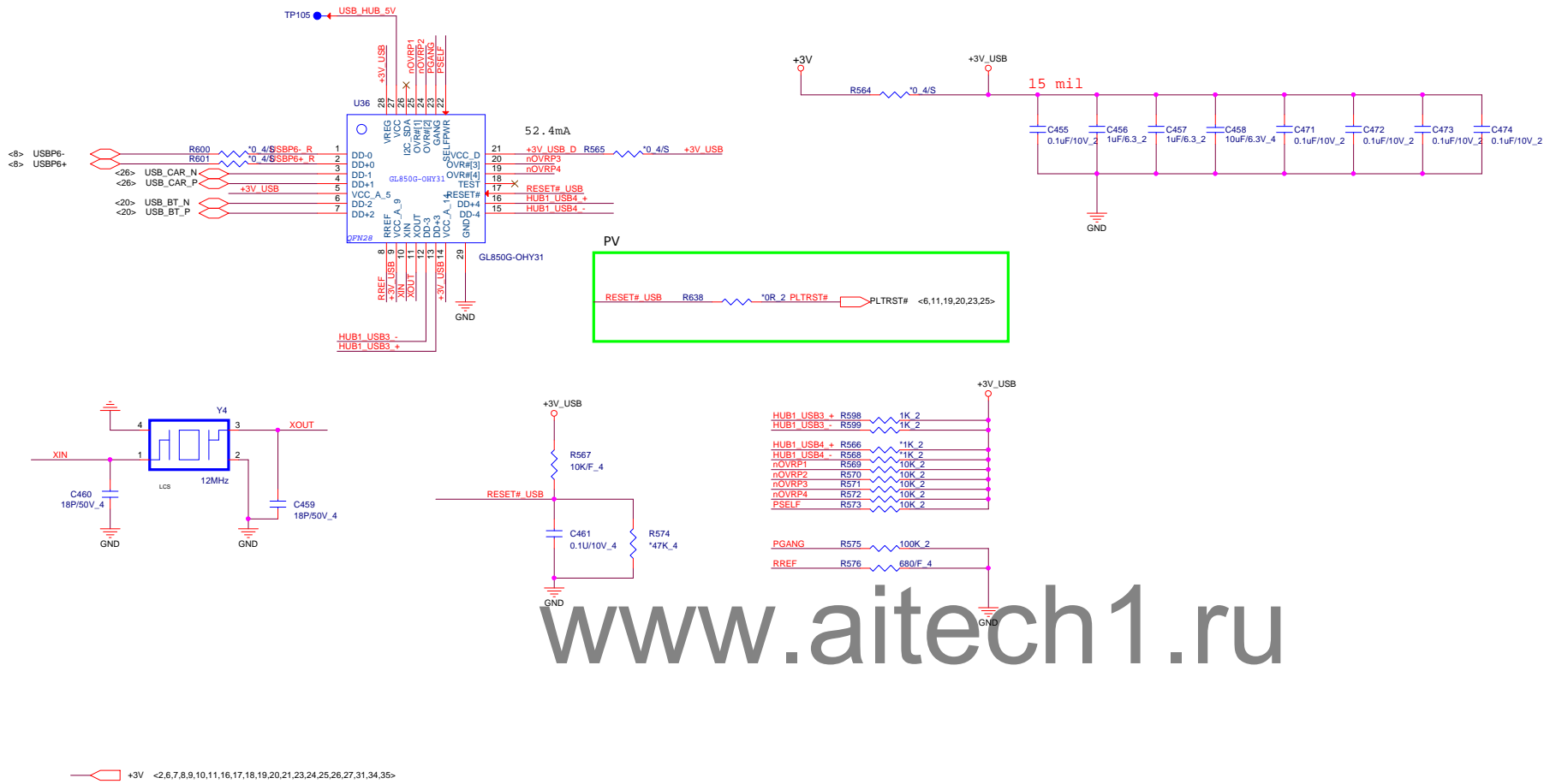


## PB + ALS + DMIC + WEBCAM LED CONNECTOR



## VIBRATOR





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+3VS5 <6,9,10,11,20,26,27,30,35>  
+5VS5 <17,26,27,30,32,33,34,35>

