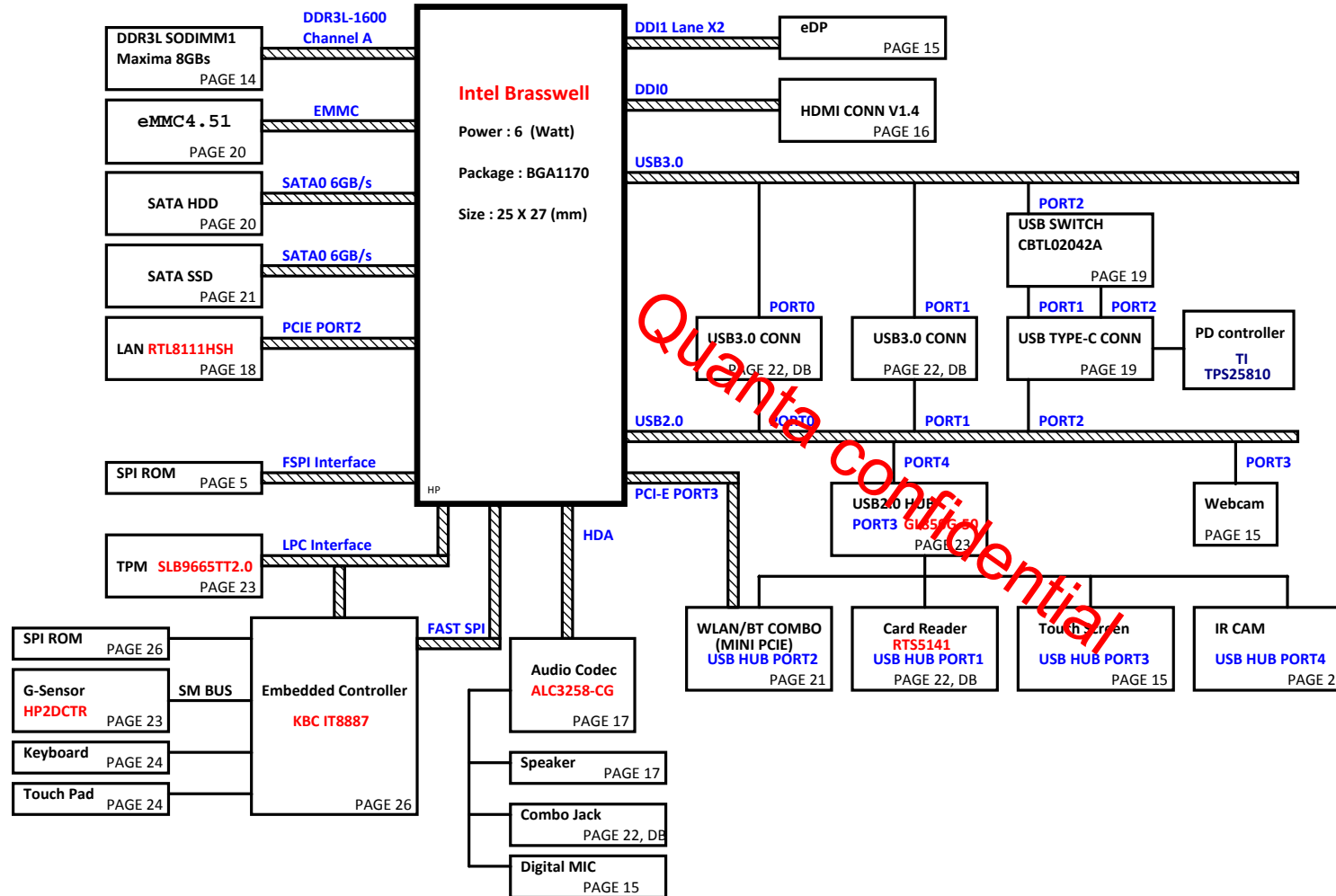


NFL-P G72D BSW UMA (14"/15.6")

Intel Braswell-M Platform Block Diagram



PCB 6L STACK UP

LAYER 1 : TOP
 LAYER 2 : SVCC
 LAYER 3 : IN1(LOW)
 LAYER 4 : IN2(HIGH)
 LAYER 5 : SGND
 LAYER 6 : BOT

Charger

PG.27

+3VS5/+5VS5

PG.28

DDR3L

PG.29

MOIC

PG.30

VGG & VCC CORE

PG.31, 32

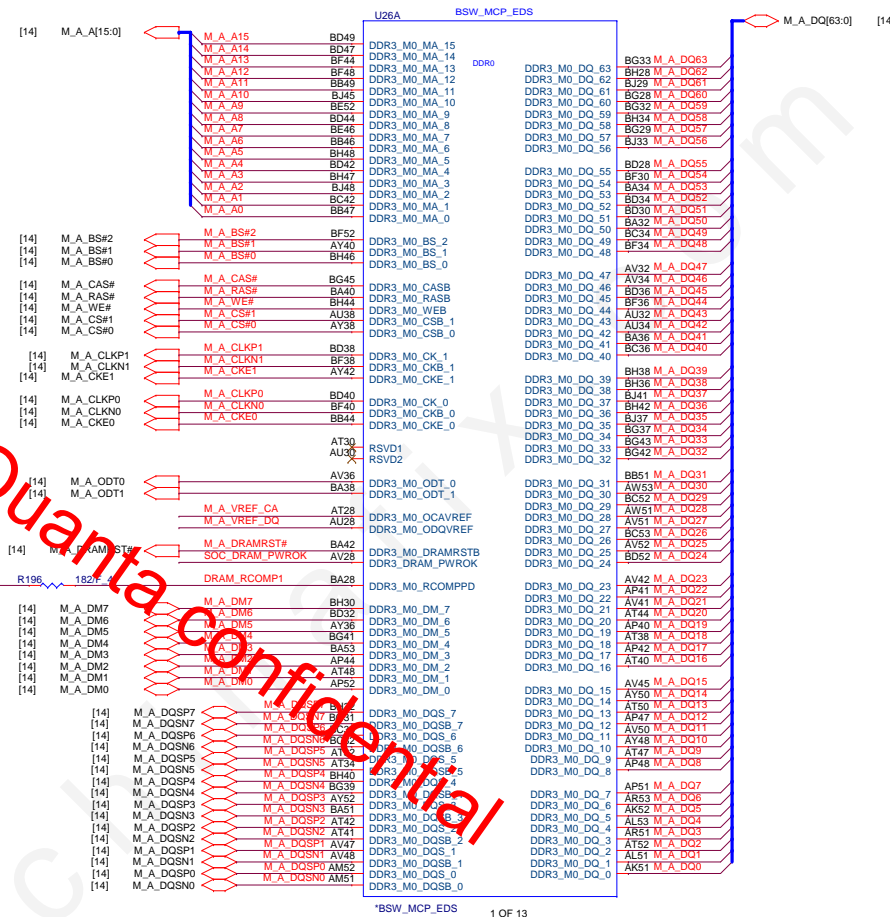
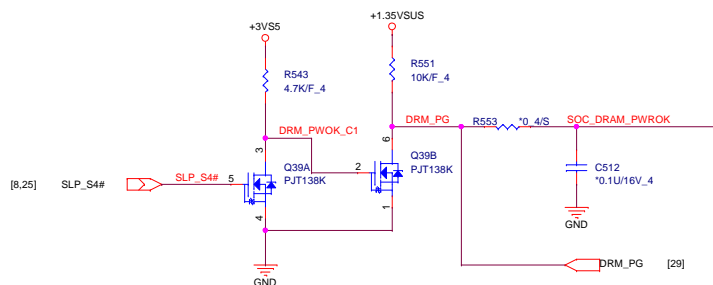
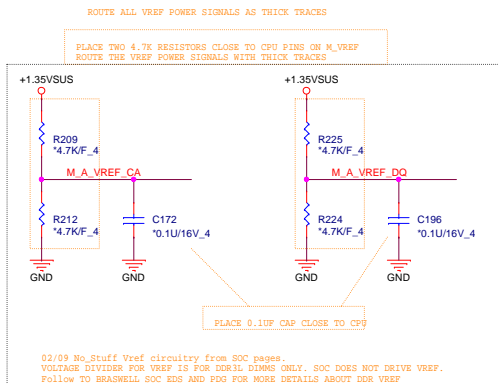
SYS Power

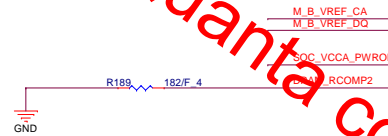
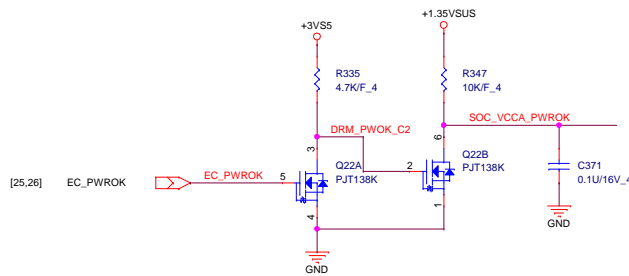
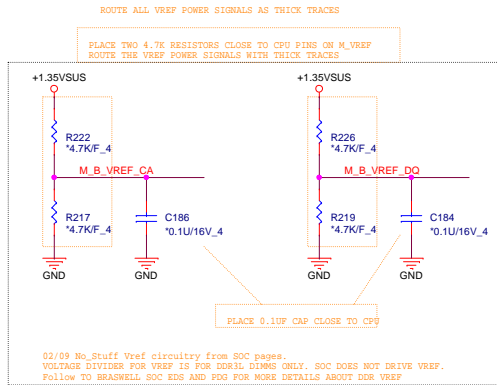
PG.33



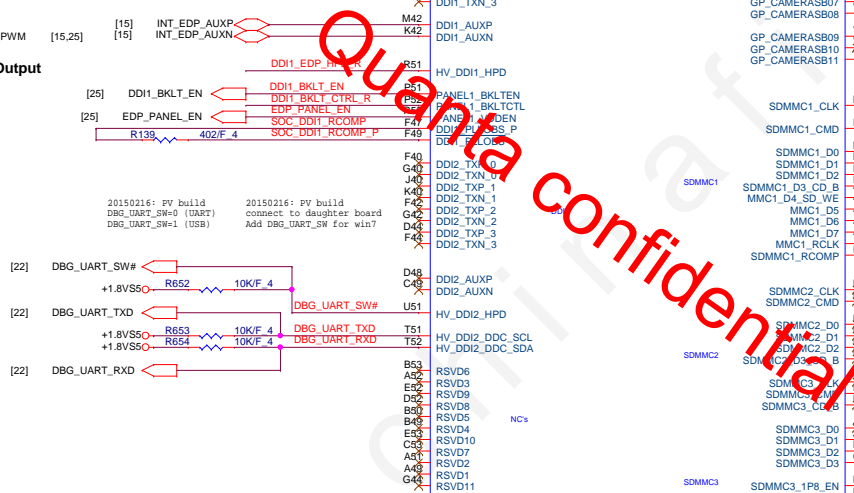
PROJECT : G72D
 Quanta Computer Inc.

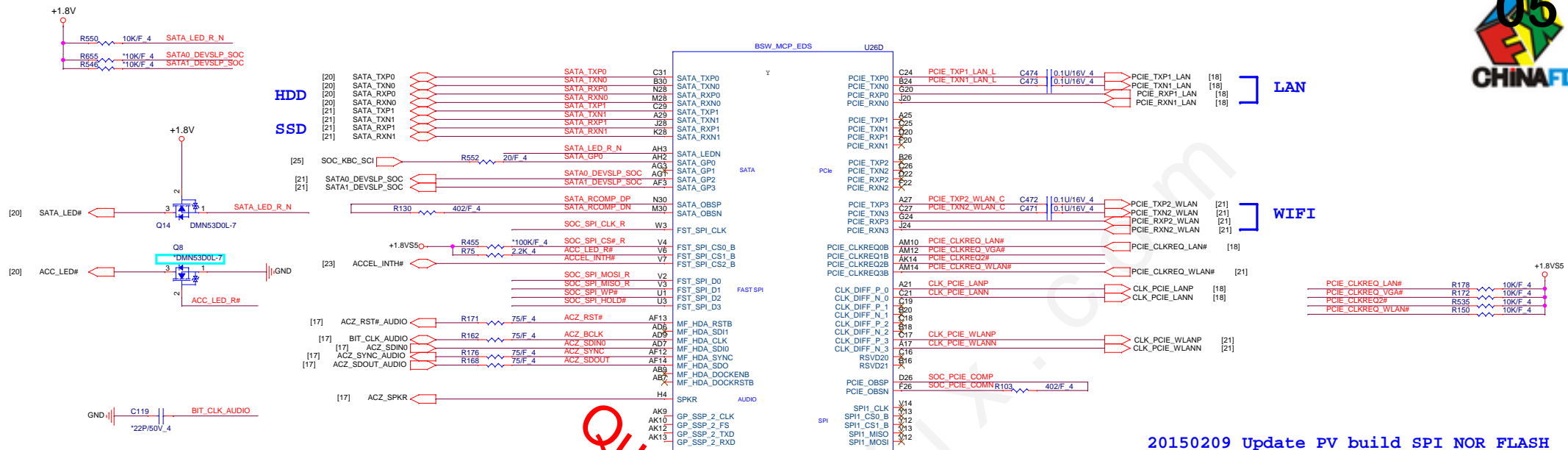
Size	Document Number	Rev
Custom	Braswell Block Diagram	1A
Date:	Tuesday, January 24, 2017	Sheet 1 of 35





U26B BSW_MCP_EDS	
BD5	DDR3_M1_MA_15
BD7	DDR3_M1_MA_14
BF10	DDR3_M1_MA_13
BF4	DDR3_M1_MA_12
BB5	DDR3_M1_MA_11
BJ9	DDR3_M1_MA_10
BE2	DDR3_M1_MA_9
BD10	DDR3_M1_MA_8
BE8	DDR3_M1_MA_7
BB8	DDR3_M1_MA_6
BH6	DDR3_M1_MA_5
BD12	DDR3_M1_MA_4
BH7	DDR3_M1_MA_3
BJ6	DDR3_M1_MA_2
BC12	DDR3_M1_MA_1
BB7	DDR3_M1_MA_0
BF2	DDR3_M1_BS_2
AY14	DDR3_M1_BS_1
BH8	DDR3_M1_BS_0
BG9	DDR3_M1_CASB
BA14	DDR3_M1_RASB
BH10	DDR3_M1_WEB
AU16	DDR3_M1_CSB_1
AY16	DDR3_M1_CSB_0
BD16	DDR3_M1_CK_1
BF16	DDR3_M1_CKB_1
AY12	DDR3_M1_CKE_1
BD14	DDR3_M1_CK_0
BF14	DDR3_M1_CKB_0
BB10	DDR3_M1_CKE_0
AT24	RSVD1
AU28	RSVD2
AV18	DDR3_M1_ODT_0
BA16	DDR3_M1_ODT_1
AT26	DDR3_M1_OCAVREF
AU26	DDR3_M1_ODQVREF
BA12	DDR3_M1_DRAMRSTB
AV26	DDR3_VCCA_PWROK
BA26	DDR3_M1_RCOMP2
BH24	DDR3_M1_DM_7
BD22	DDR3_M1_DM_6
AY18	DDR3_M1_DM_5
BG13	DDR3_M1_DM_4
AP17	DDR3_M1_DM_3
AP16	DDR3_M1_DM_2
AP15	DDR3_M1_DM_1
AP14	DDR3_M1_DM_0
BH22	DDR3_M1_DS_7
BG23	DDR3_M1_DS_6
BC24	DDR3_M1_DS_5
BC22	DDR3_M1_DS_4
AT22	DDR3_M1_DS_3
AT20	DDR3_M1_DS_2
BH14	DDR3_M1_DS_1
BG15	DDR3_M1_DS_0
AY2	DDR3_M1_DQ_7
BA3	DDR3_M1_DQ_6
AT12	DDR3_M1_DQ_5
AT13	DDR3_M1_DQ_4
AV7	DDR3_M1_DQ_3
AV6	DDR3_M1_DQ_2
AM2	DDR3_M1_DQ_1
AM3	DDR3_M1_DQ_0
BD21	DDR3_M1_DQ_63
BH26	DDR3_M1_DQ_62
BJ25	DDR3_M1_DQ_61
BC26	DDR3_M1_DQ_60
BG22	DDR3_M1_DQ_59
BH20	DDR3_M1_DQ_58
BG25	DDR3_M1_DQ_57
BJ21	DDR3_M1_DQ_56
BD26	DDR3_M1_DQ_55
BF24	DDR3_M1_DQ_54
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BD20	DDR3_M1_DQ_52
BD24	DDR3_M1_DQ_51
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BF20	DDR3_M1_DQ_49
AV22	DDR3_M1_DQ_48
AV20	DDR3_M1_DQ_47
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BF18	DDR3_M1_DQ_45
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AU20	DDR3_M1_DQ_43
BA18	DDR3_M1_DQ_42
BC18	DDR3_M1_DQ_41
BH16	DDR3_M1_DQ_40
BH18	DDR3_M1_DQ_39
BJ13	DDR3_M1_DQ_38
BH12	DDR3_M1_DQ_37
BJ17	DDR3_M1_DQ_36
BG17	DDR3_M1_DQ_35
BG11	DDR3_M1_DQ_34
BG12	DDR3_M1_DQ_33
BB3	DDR3_M1_DQ_32
AW1	DDR3_M1_DQ_31
BC2	DDR3_M1_DQ_30
AW3	DDR3_M1_DQ_29
AV3	DDR3_M1_DQ_28
BC1	DDR3_M1_DQ_27
AV2	DDR3_M1_DQ_26
BD2	DDR3_M1_DQ_25
AV12	DDR3_M1_DQ_24
AP13	DDR3_M1_DQ_23
AV13	DDR3_M1_DQ_22
AT10	DDR3_M1_DQ_21
AP14	DDR3_M1_DQ_20
AT16	DDR3_M1_DQ_19
AP12	DDR3_M1_DQ_18
AT14	DDR3_M1_DQ_17
AV9	DDR3_M1_DQ_16
AV4	DDR3_M1_DQ_15
AT4	DDR3_M1_DQ_14
AP7	DDR3_M1_DQ_13
AV4	DDR3_M1_DQ_12
AV6	DDR3_M1_DQ_11
AT7	DDR3_M1_DQ_10
AP6	DDR3_M1_DQ_9
AP3	DDR3_M1_DQ_8
AR1	DDR3_M1_DQ_7
AK2	DDR3_M1_DQ_6
AL1	DDR3_M1_DQ_5
AR3	DDR3_M1_DQ_4
AT2	DDR3_M1_DQ_3
AL3	DDR3_M1_DQ_2
AK3	DDR3_M1_DQ_1
AK3	DDR3_M1_DQ_0

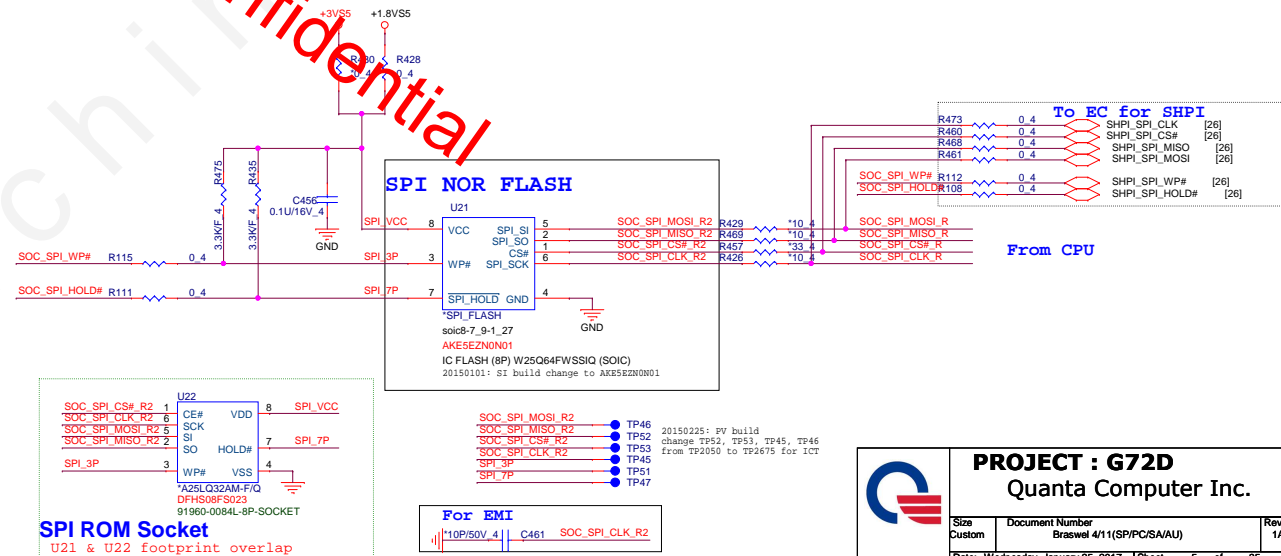




20150209 Update PV build SPI NOR FLASH

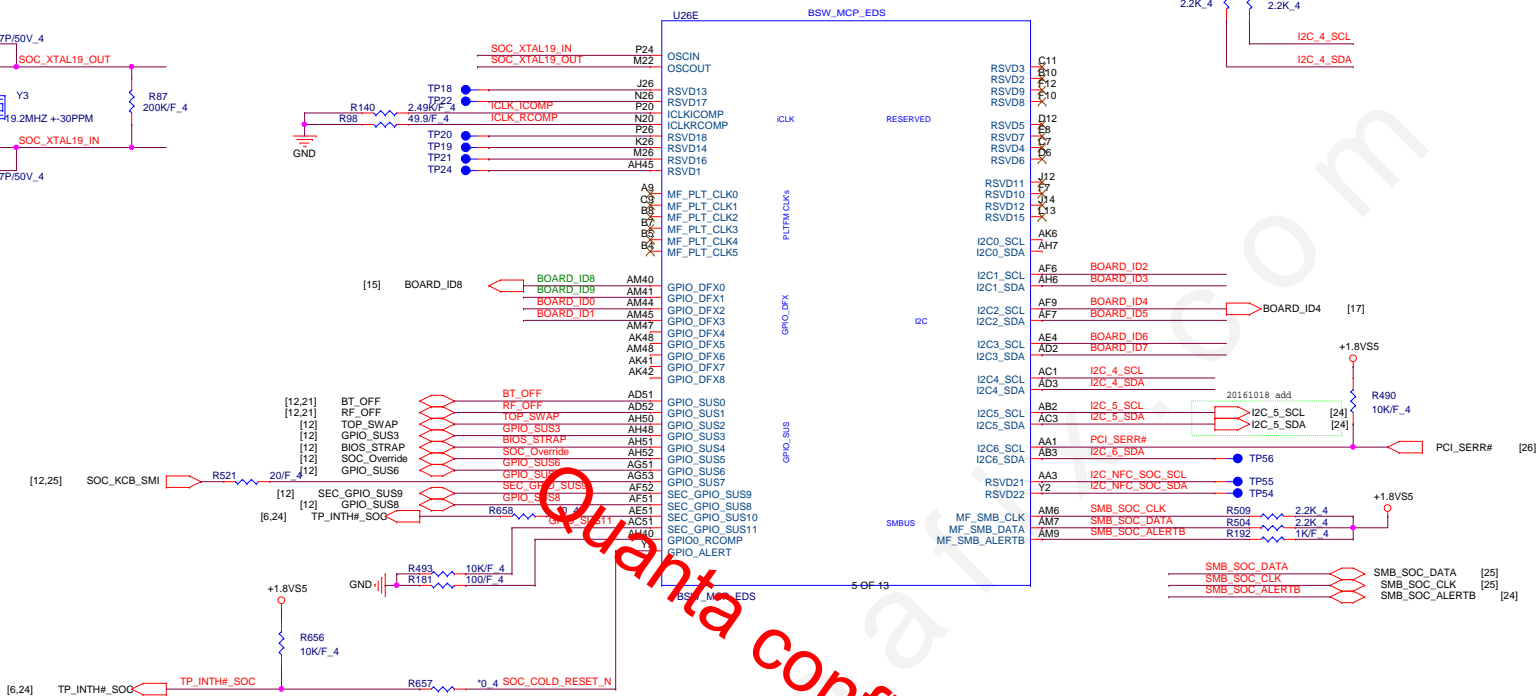
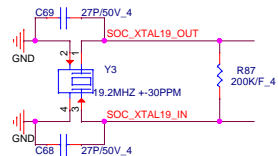
Vender	Size	P/N
Winbond	8MB	AKE5EZN0N01 (W25Q64FWSSIQ)
GigaDevice	8MB	AKE5EG-0Q01 (GD25LB64CSIGR)
EON	8MB	AKE5EFN0Q00 (EN25S64-104HIP)
Socket (208mil)		DFHS08F5023 (Firstly Stuff)

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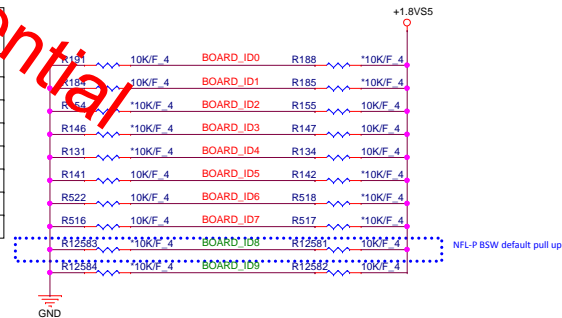
Size Custom	Document Number Braswel 4/11(SPP/PC/SA/AU)	Rev 1A
Date: Wednesday, January 25, 2017		Sheet 5 of 35

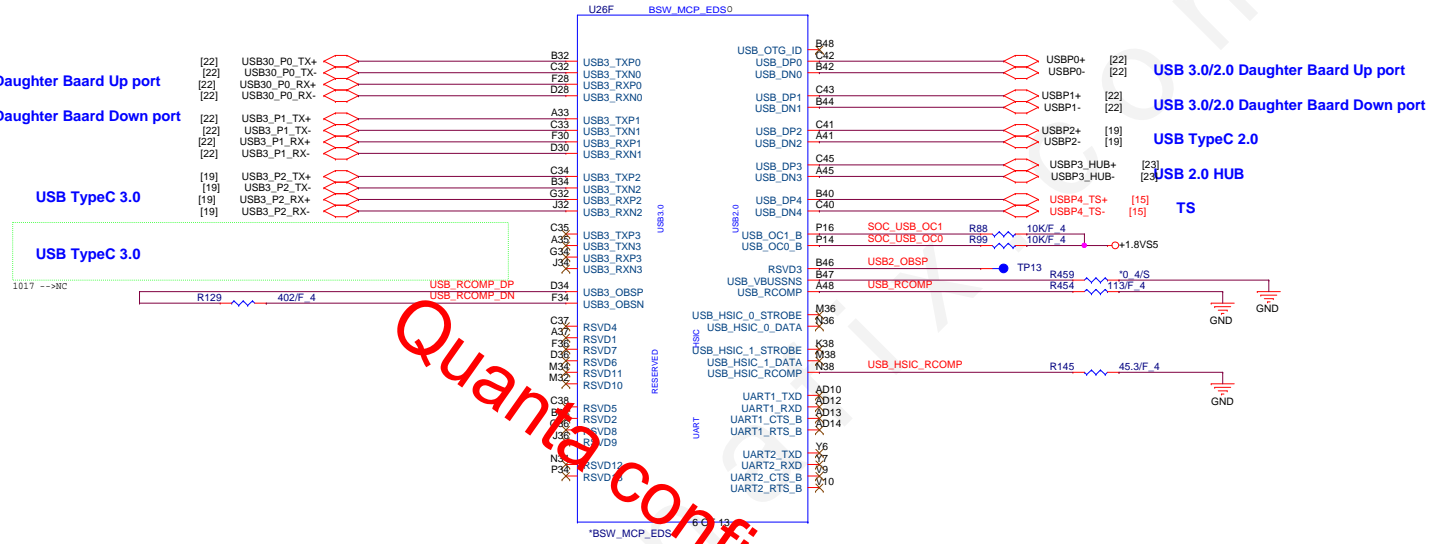


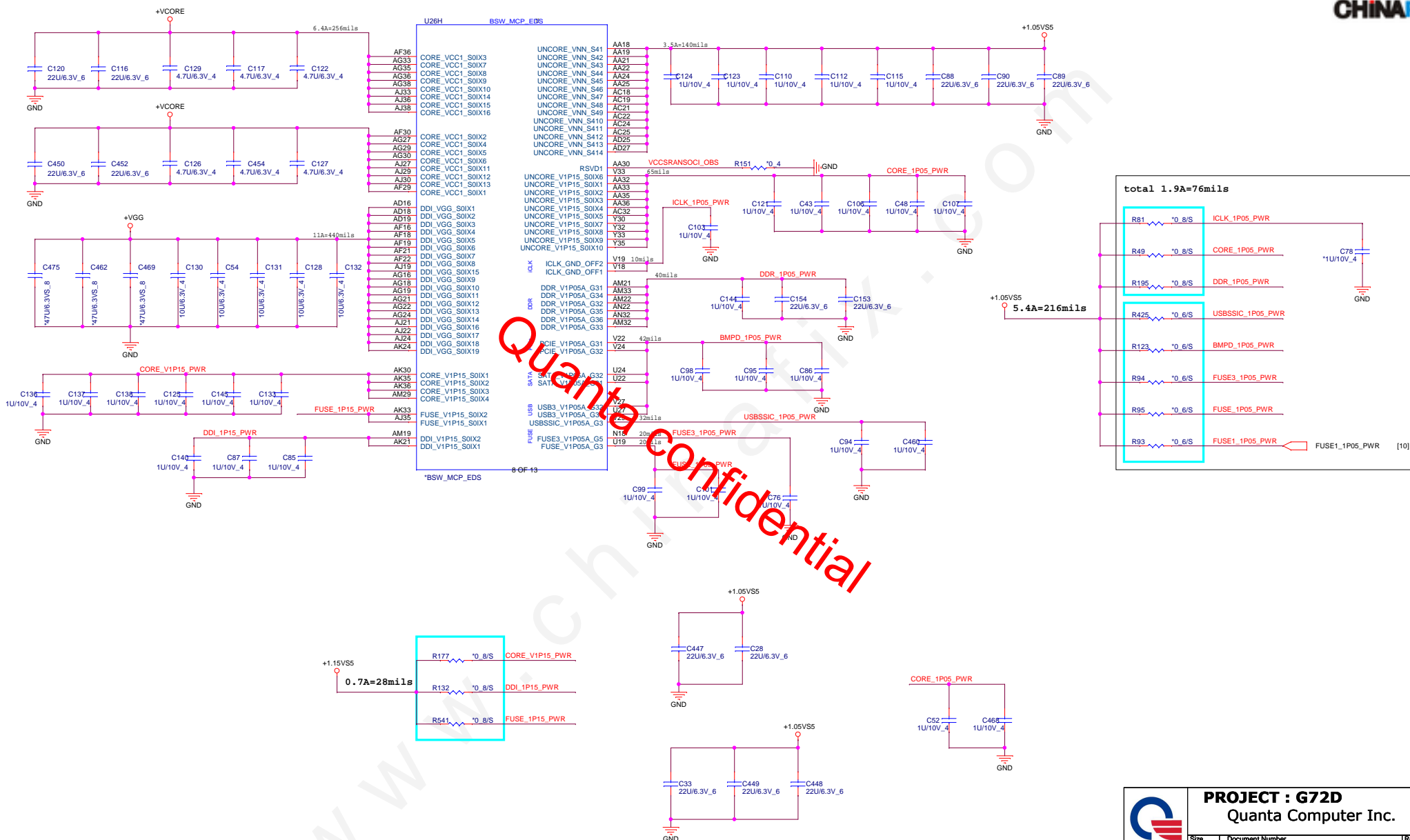
Board ID	BIOS Strap Description
BOARD_ID0	(Reserve)
BOARD_ID1	SATA/EMMC SELECT
BOARD_ID2	
BOARD_ID3	1 = TPM 0 = Non-TPM
BOARD_ID4	SPK_ID (Reserve)
BOARD_ID5	
BOARD_ID6	Memory Vendor for MD USE
BOARD_ID7	
BOARD_ID8	0 = ELAN Touchpad 1 = Synaptics Touchpad
BOARD_ID9	1 = SO-DIMM 0 = Memory Down

BOARD_ID7	BOARD_ID6	BOARD_ID5	Vender	Quanta PN	Description
0	0	0			
0	0	1			
0	1	0			
0	1	1			
1	0	0			
1	0	1			
1	1	0			
1	1	1			

BOARD_ID1	BOARD_ID2	
0	0	EMMC only
0	1	EMMC +SATA
1	0	SATA only
1	1	(Reserve)



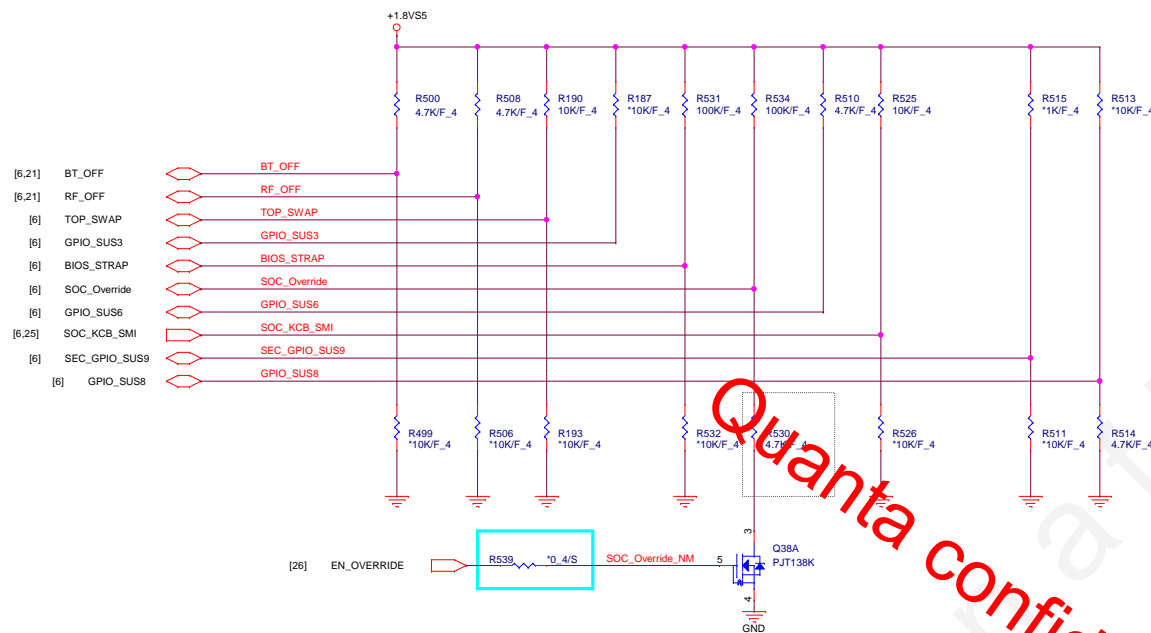




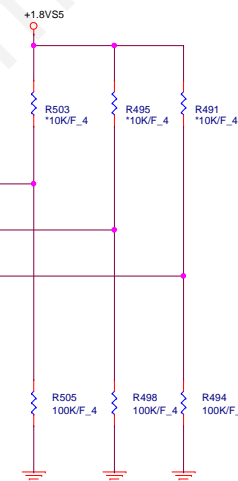


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Date	uesday, January 24, 2017	Sheet 11 of 35



[4] CAM08
[4] CAM09
[4] CAM11



REQUIRED STRAPS

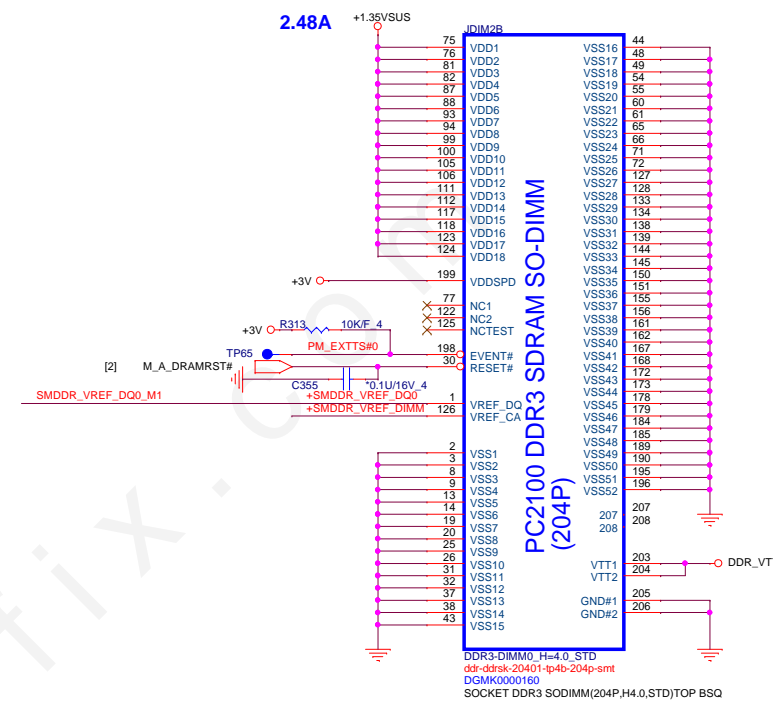
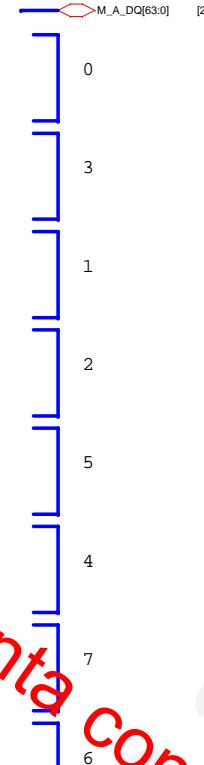
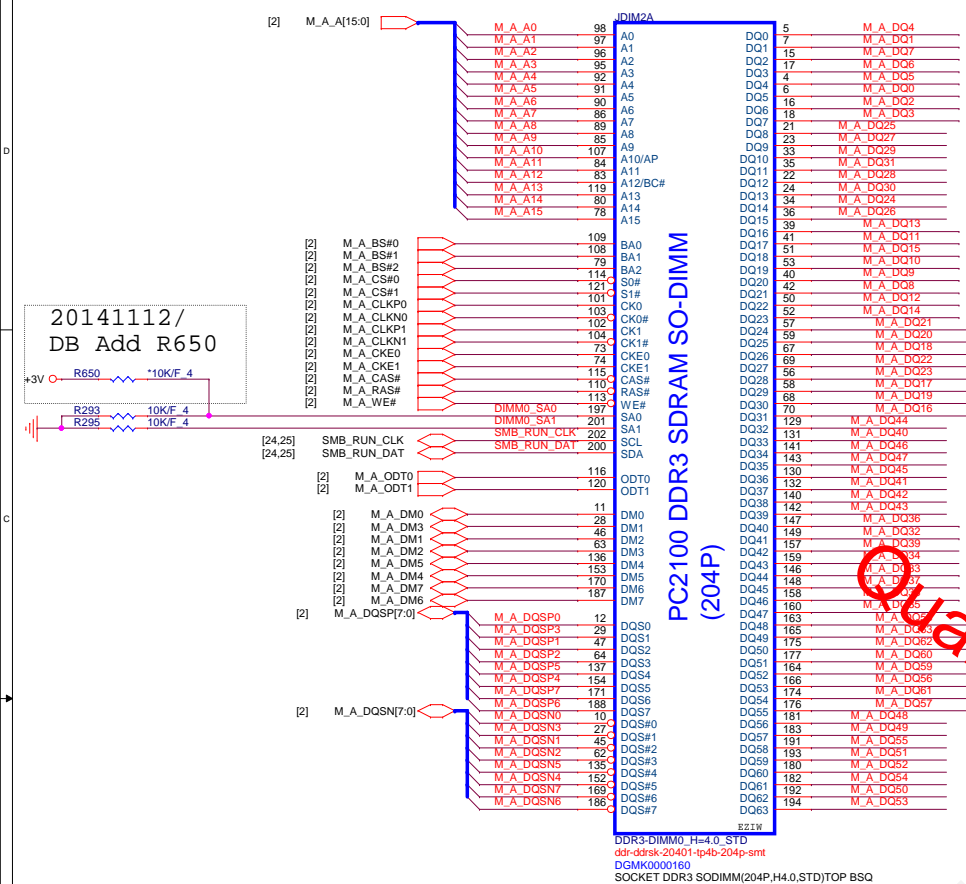
	GPIO_SUS0	GPIO_SUS1	TOP_SWAP	GPIO_SUS3	BIOS_STRAP	SOC_Override	GPIO_SUS6	SOC_KCB_SMI	GPIO_SUS8
PULL HIGH	DDI0 detected DEFAULT	DDI1 detected DEFAULT	Normal Operation DEFAULT	Reserve 10 KΩ PU DEFAULT	SPI DEFAULT	Normal Operation DEFAULT 20150209 PV change	10 KΩ PU to 1.8V DEFAULT	Reserve 10 KΩ PU DEFAULT	Supply is 1.35V
PULL LOW	DDI0 not detected	DDI1 not detected	Change Boot Loader address		LPC	Override			Supply is 1.25V DEFAULT

	CAM08	CAM09	CAM11
PULL HIGH	ICLK Xtal OSC Bypass	CCU SUS RO Bypass	RTC OSC Bypass
PULL LOW	ICLK Xtal OSC No Bypass DEFAULT	CCU SUS RO No Bypass DEFAULT	RTC OSC No Bypass DEFAULT

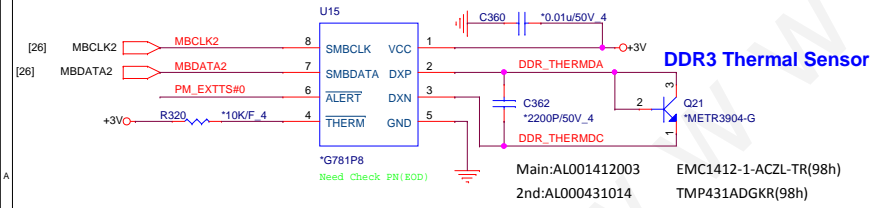


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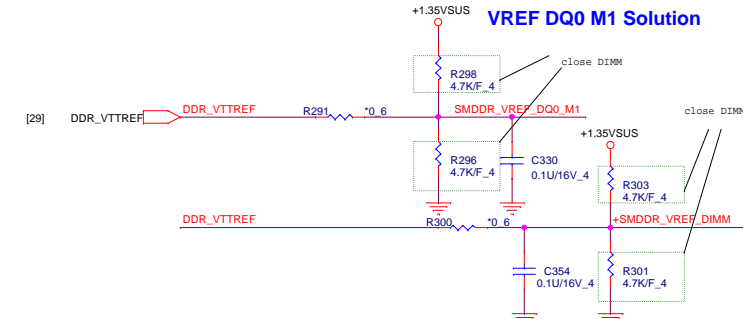
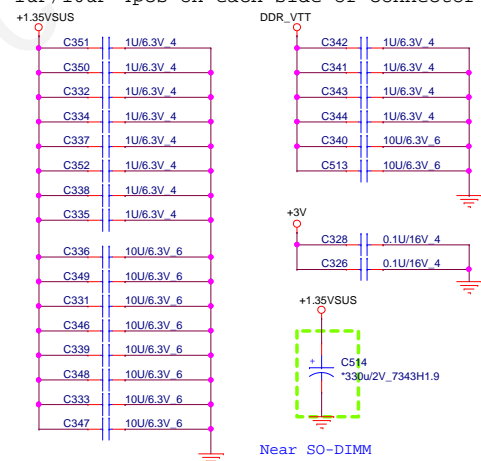
www.chinafix.com



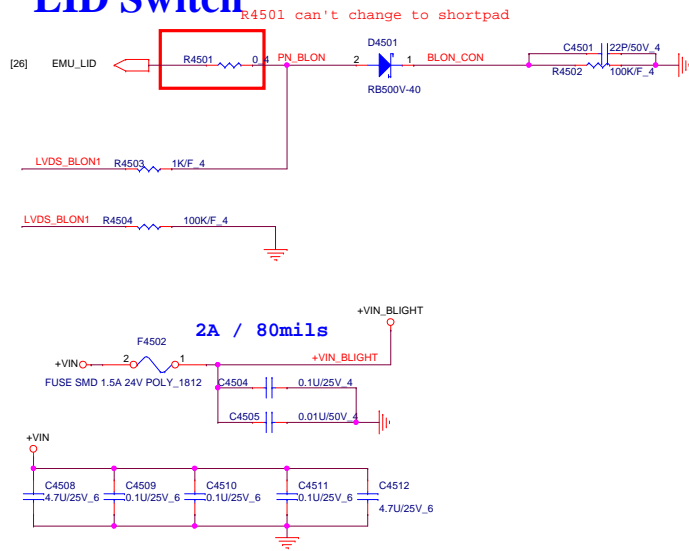
Local Thermal Sensor



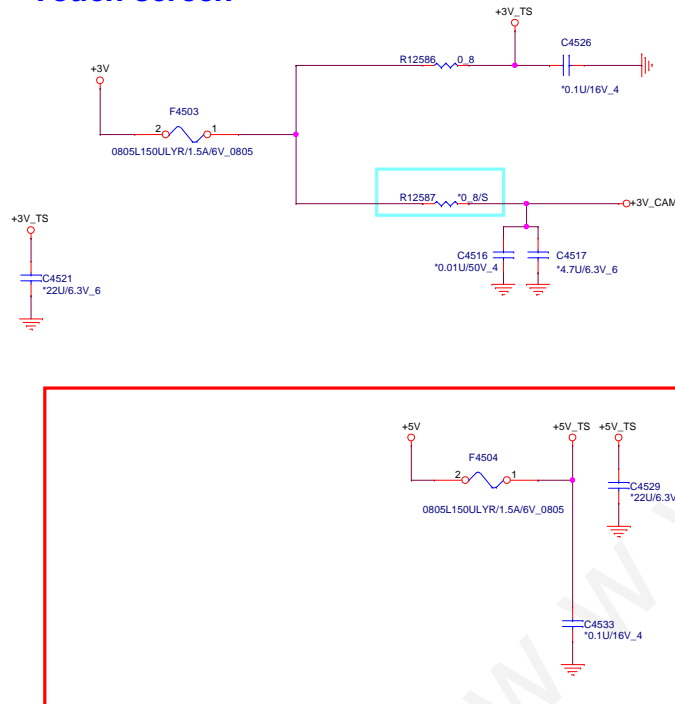
Place these Caps near So-Dimm0.



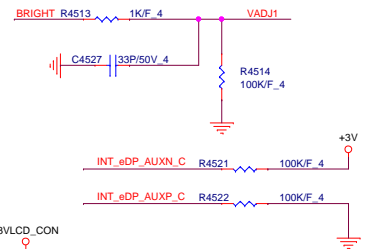
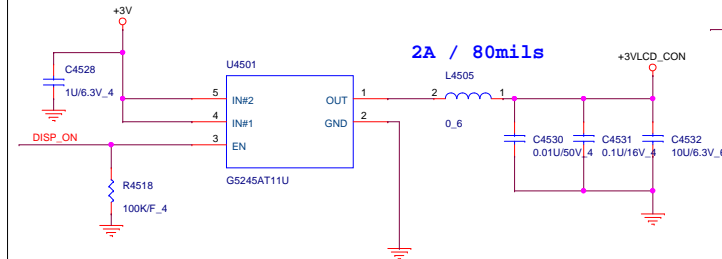
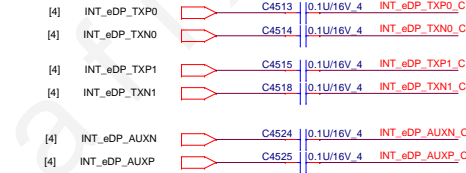
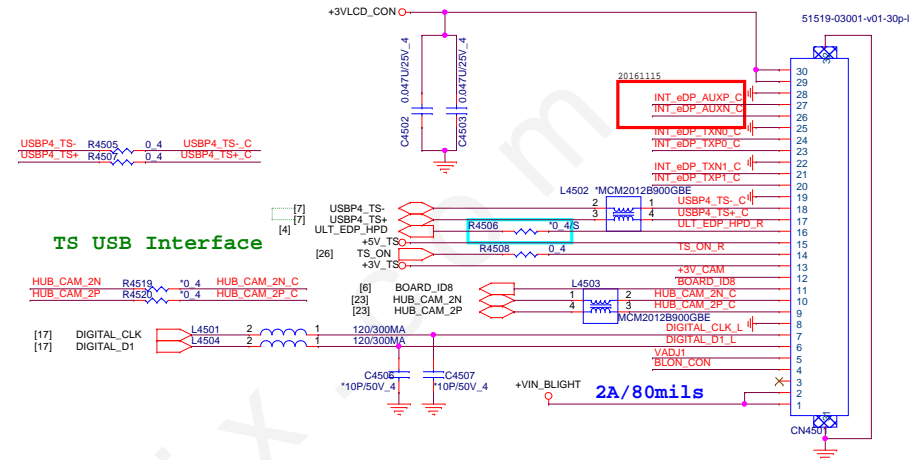
LID Switch



Touch screen

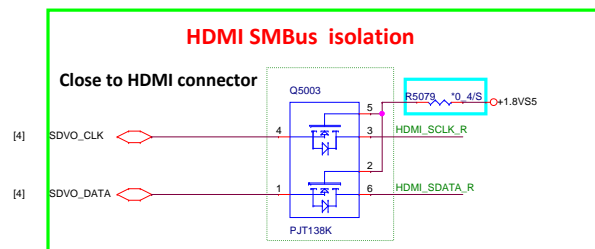


eDP Conn.

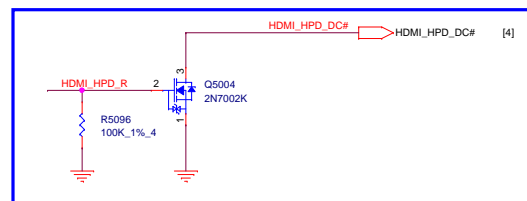


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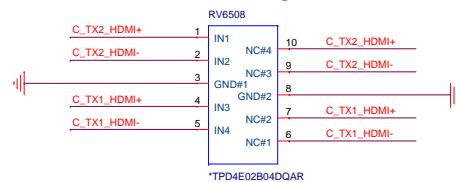
Size	Document Number	Rev
Custom	eDP_CONN/LID/CAM/D-MIC/TS	1A
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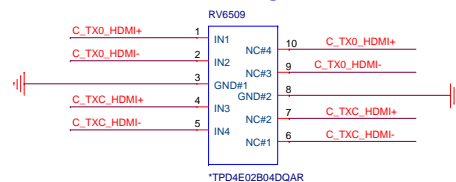
For From CPU use



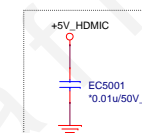
HDMI ESD



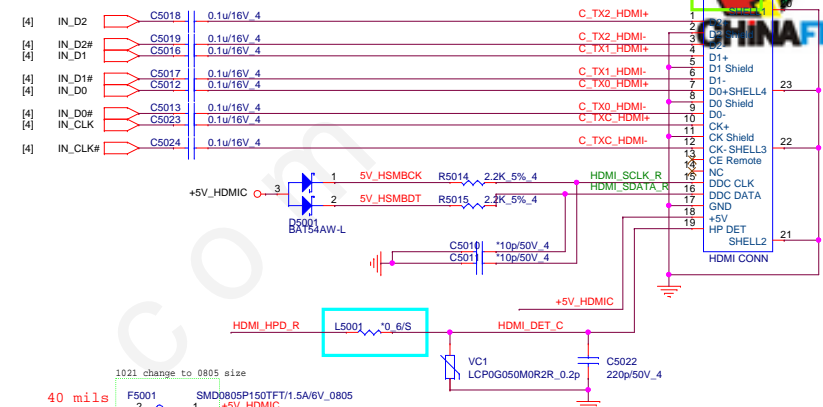
HDMI ESD



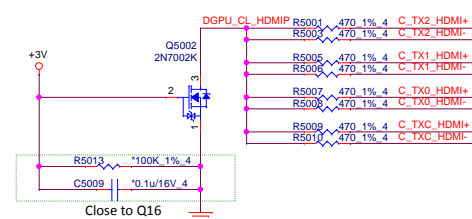
Intel EMI Solution



for EMI request

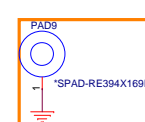
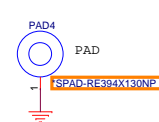
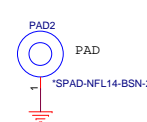
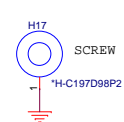
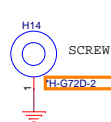
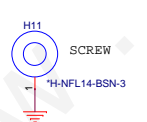
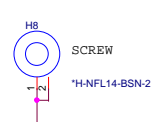
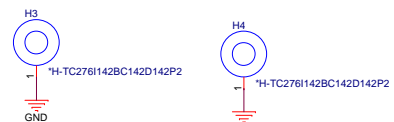
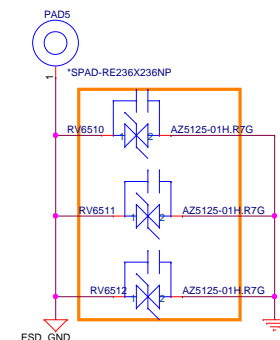
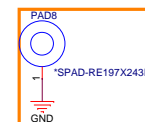
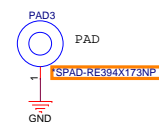
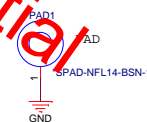
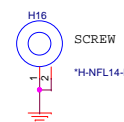
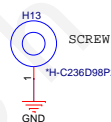
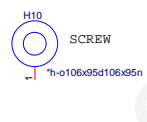
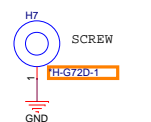
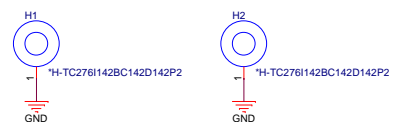


Close to HDMI connector

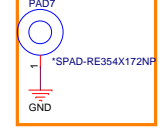
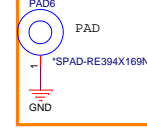
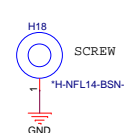
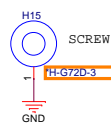
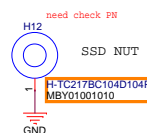
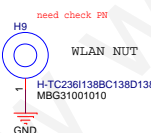
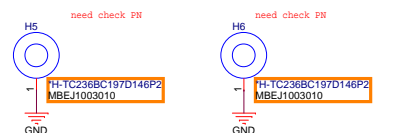


HOLE

CPU BKT

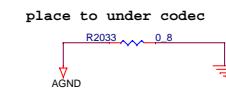
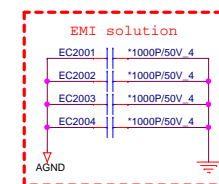
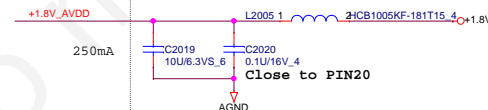
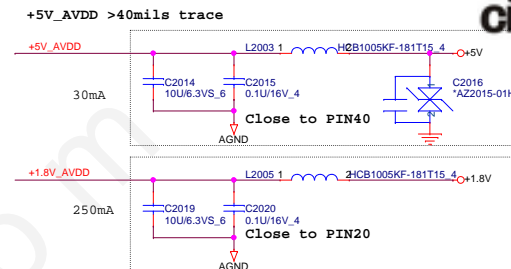
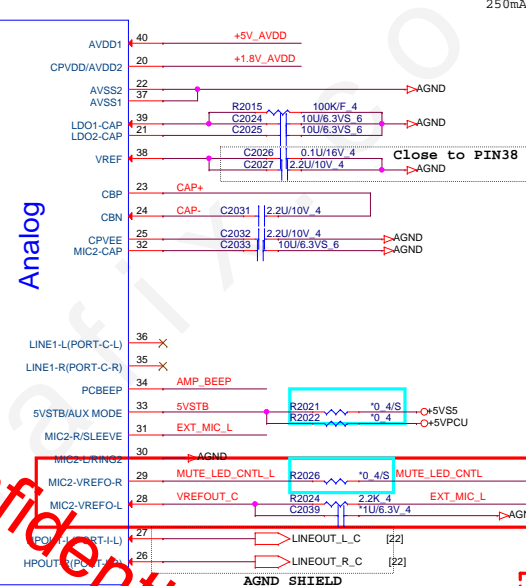
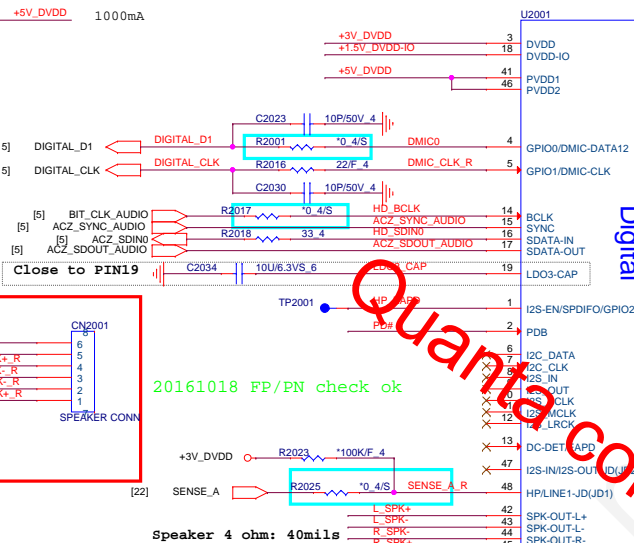
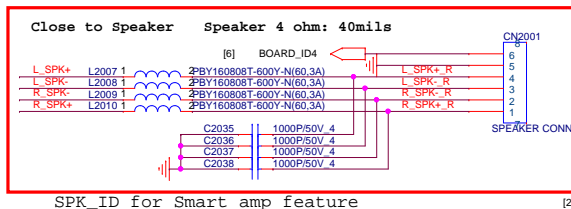
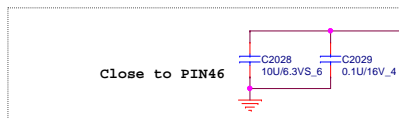
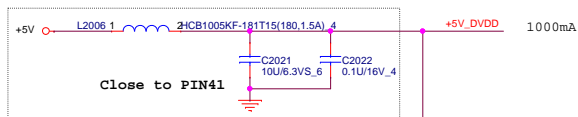
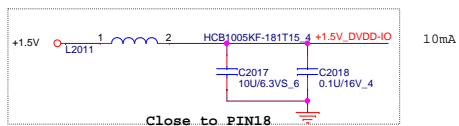
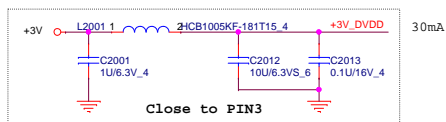


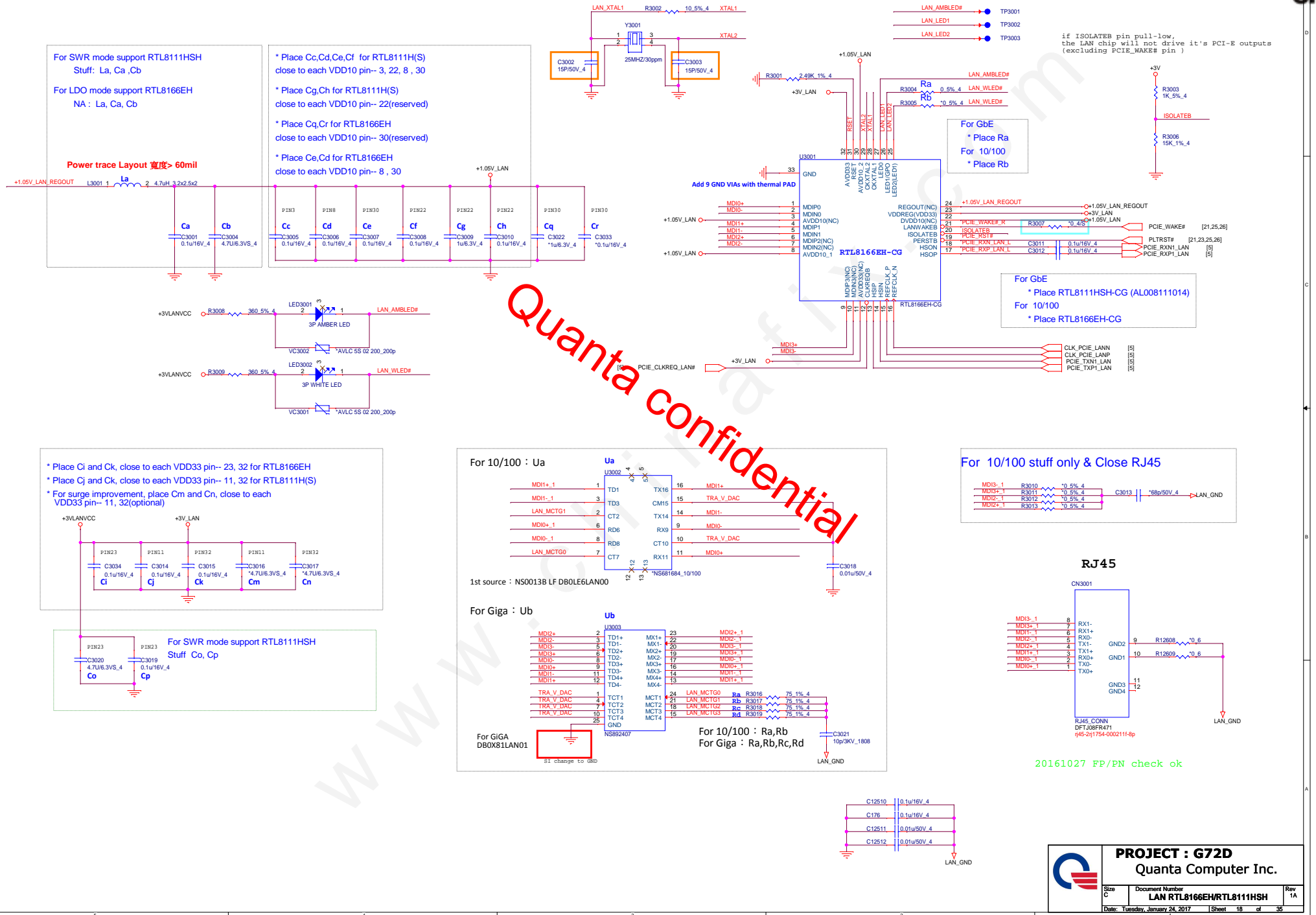
VGA NUT



PROJECT : G72D
Quanta Computer Inc.

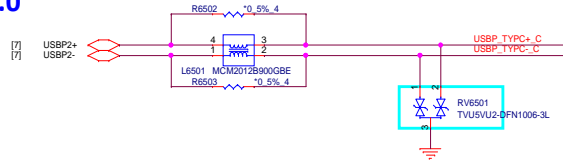
Size Custom	Document Number HDMI/CONN	Rev 1A
Date: Wednesday, January 25, 2017 Sheet 16 of 35		





USB TYPE-C - TPS25810

USB2.0



PV add To judge the usb typeC port for factory

USB Type-C re driver

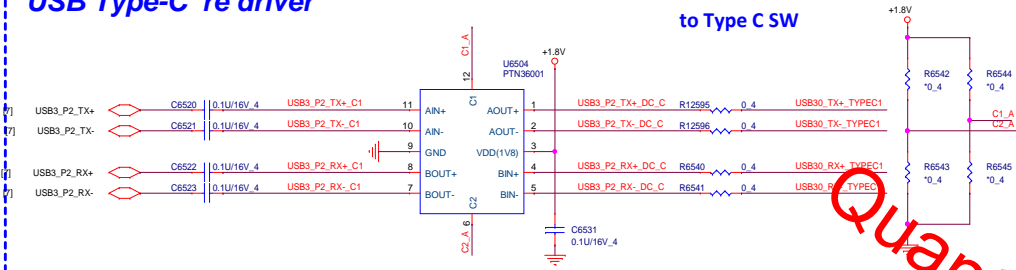


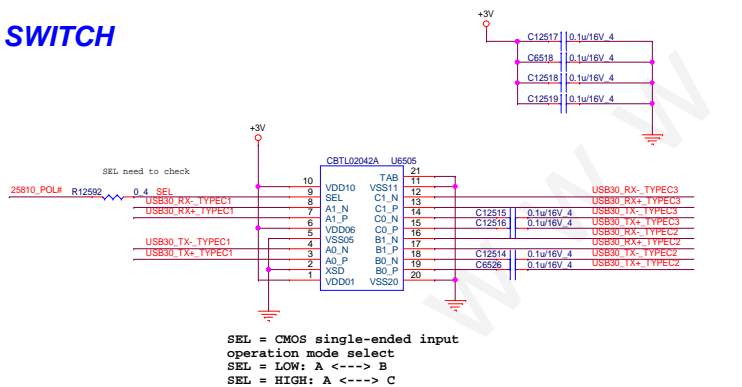
Table 4. C1 pin controls long/medium/short traces

State	Channel type	Pin C1 state	Channel B	Channel A	
			EQ[1]	DE[2]	OS[3]
H	Long	H	9 dB	-5.3 dB	1.1 V
high-Z	Medium	high-Z	6 dB	-3.1 dB	1.0 V
L	Short	L	3 dB	0 dB	0.9 V

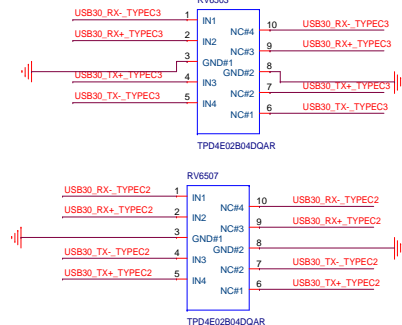
Table 5. C2 pin controls long/medium/short traces

State	Channel type	Pin C2 state	Channel A	Channel B	
			EQ[U]	DE[Z]	OS[S]
H	Long	H	9 dB	-5.3 dB	1.1 V
high-Z	Medium	high-Z	6 dB	-3.1 dB	1.0 V
L	Short	L	3 dB	0 dB	0.9 V

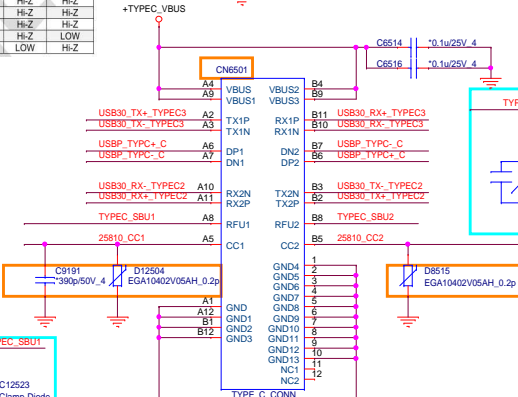
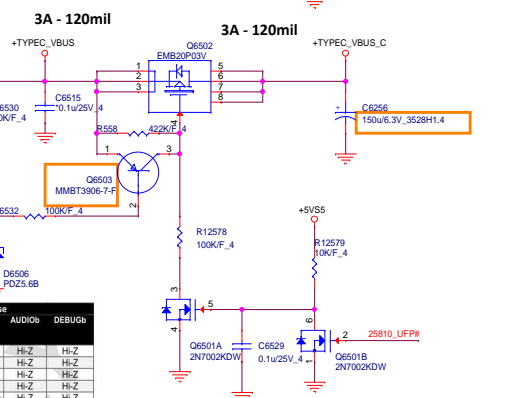
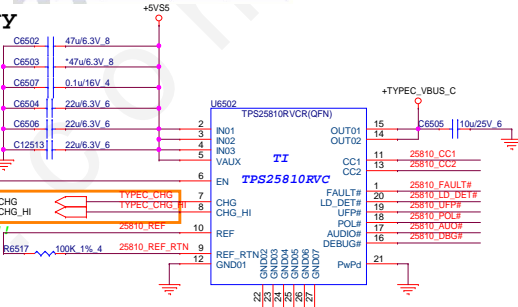
USB SWITCH



TYPE C USB3.0 ESD



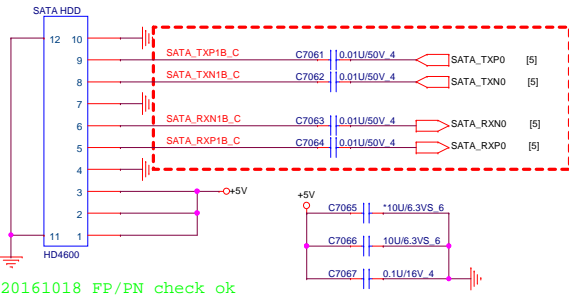
CHG	CHG_H	CC Capability Broadcast	Current Limit	Load Detect Threshold
0	0	STD	1.67 A	NA
0	1	STD	1.67 A	NA
1	0	1.5 A	1.67 A	NA
1	1	3.0 A	3.34 A	1.77 A



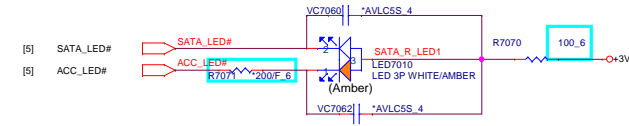
PROJECT : G72D
Quanta Computer Inc.

HDD

SATA HDD

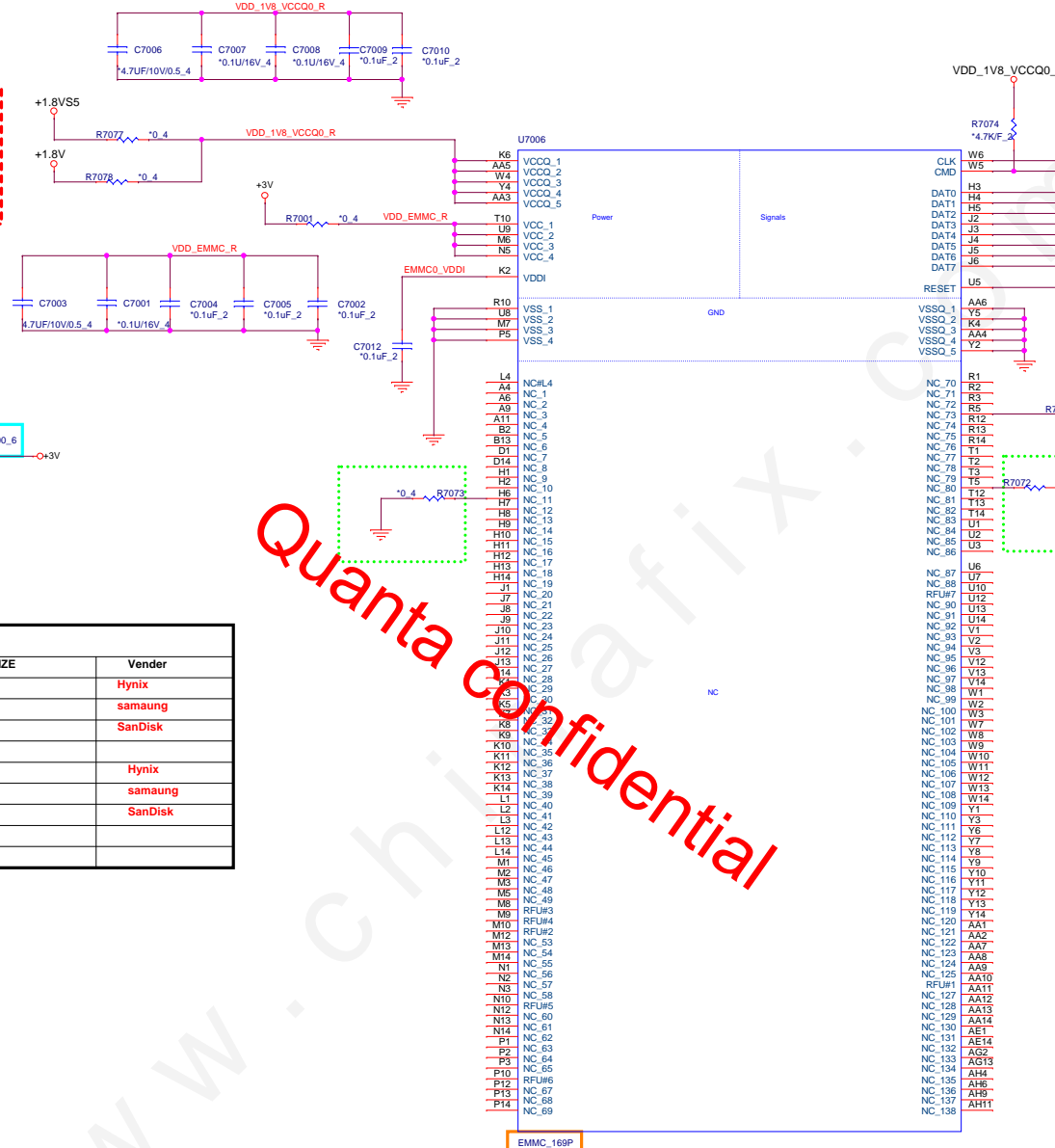


SATA LED



iNAND (eMMC) V4.51				
TOPBSQ	QBCON	Description	SIZE	Vender
AKE3SZ-TW01	AKE3SZ-TW02	IC FLASH(153P)H26M64103EMR(FBGA)	32G	Hynix
AKE5SZ0T511	AKE5SZ0T512	IC FLASH(153P)KLMG4GEND-B031(FBGA)	32G	samaung
AKE3SFUT000	AKE3SFUT001	IC FLASH(153P)SDIN9DW4-32G(FBGA)	32G	SanDisk
AKE3TG-TW01	AKE3TG-TW02	IC FLASH(153P)H26M78103CCR(FBGA)	64G	Hynix
AKE3TZPT521	AKE3TZPT520	IC FLASH(153P)KLMG8GEND-B031(FBGA)	64G	samaung
AKE3TFUT101	AKE3TFUT102	IC FLASH(153P)SDIN9DW4-64G(FBGA)	64G	SanDisk

eMMC

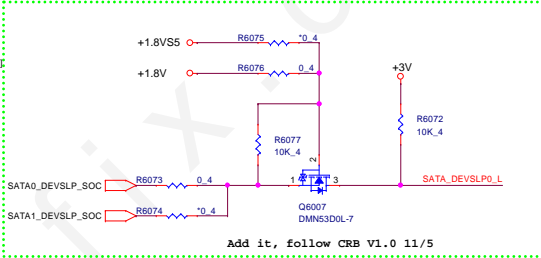
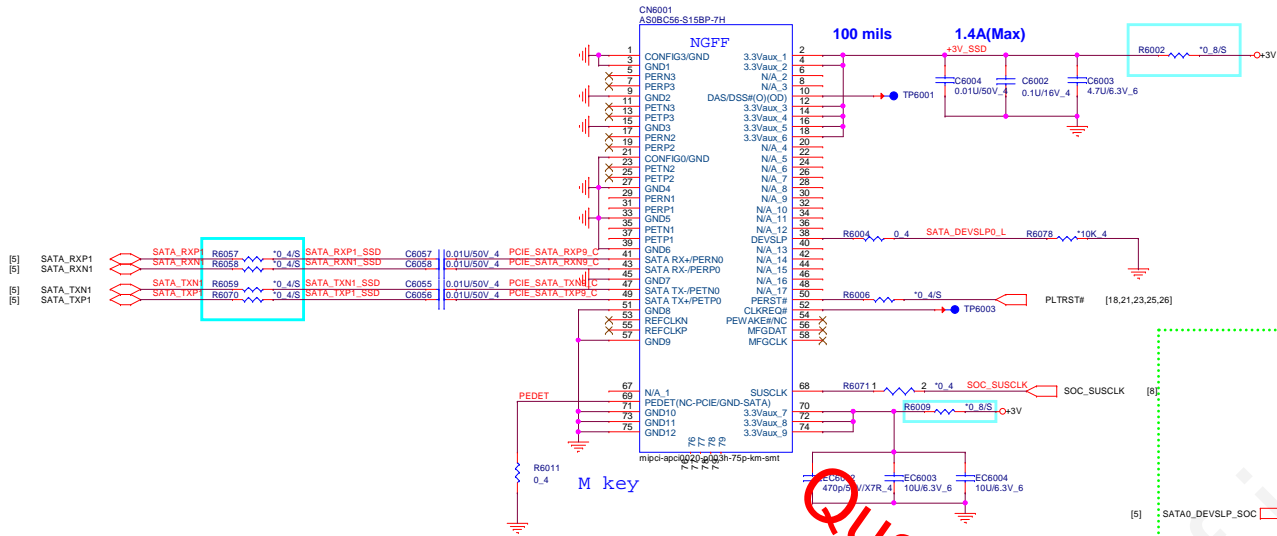


footprint : BGA 169
BGA 169 PIN : 14mmX18mm
BGA 169 PIN : 12mmX16mm
BGA 153 PIN : 11.5mmX13mm

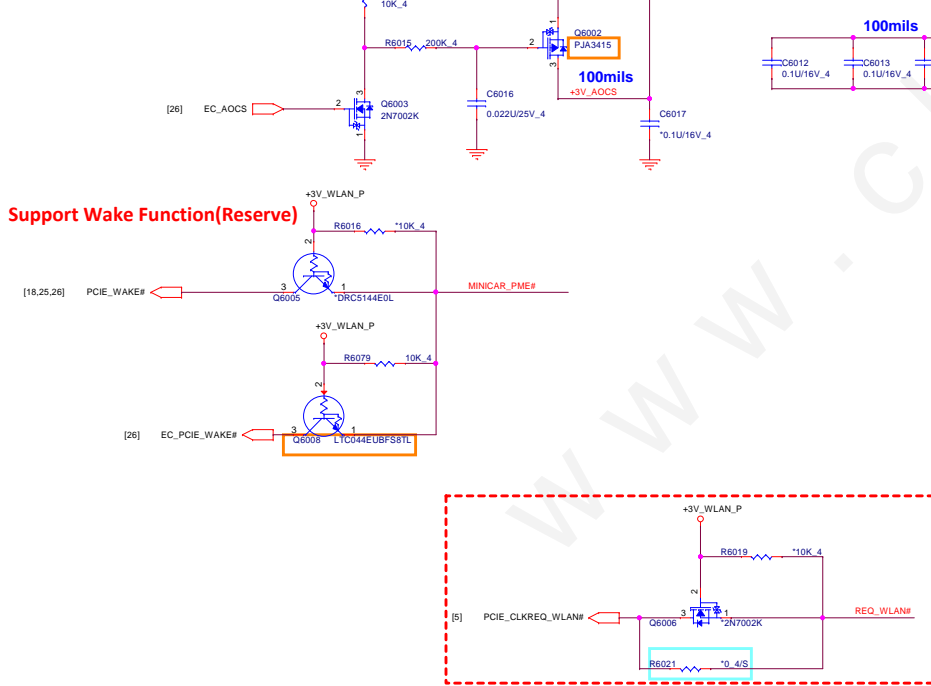
PROJECT : G72D		
Quanta Computer Inc.		
Size	Document Number	Rev
Custom	HDD/EMMC	1A
Date: Wednesday, January 25, 2017 Sheet 20 of 35		

SATA SSD

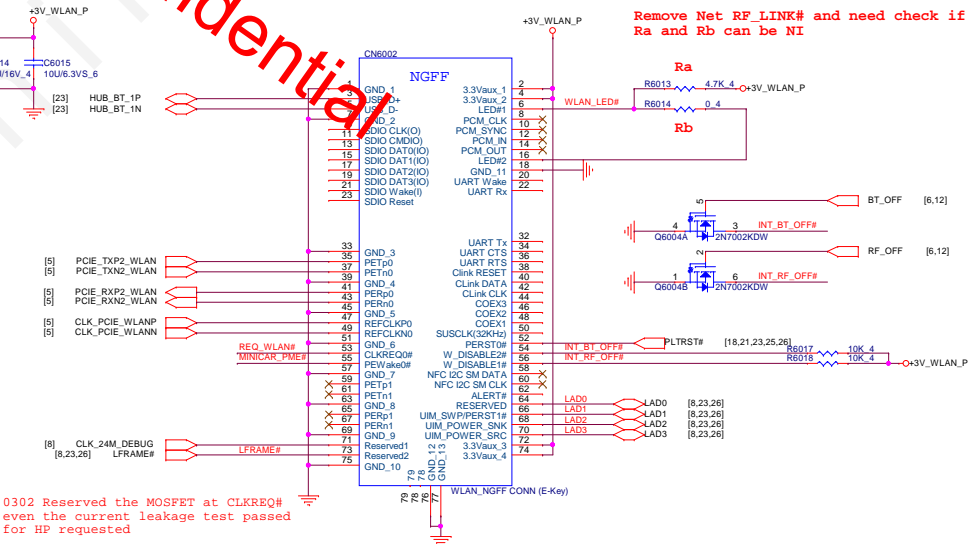
20161018 FP/PN check ok



WLAN Mini Card WLAN/BT(Optional)

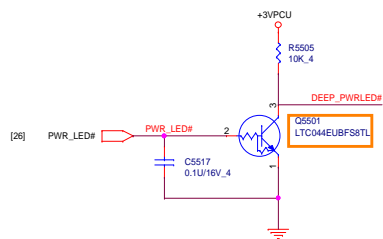
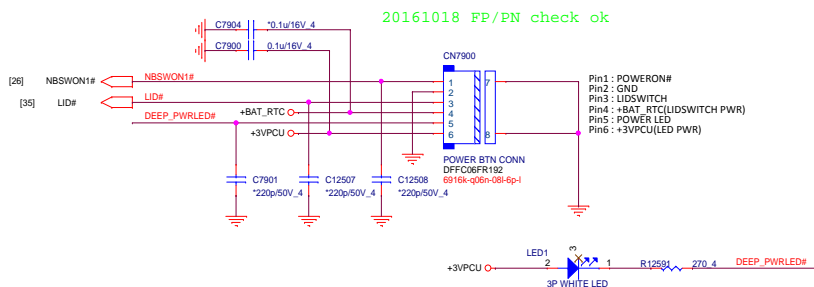


20161018 FP/PN check ok

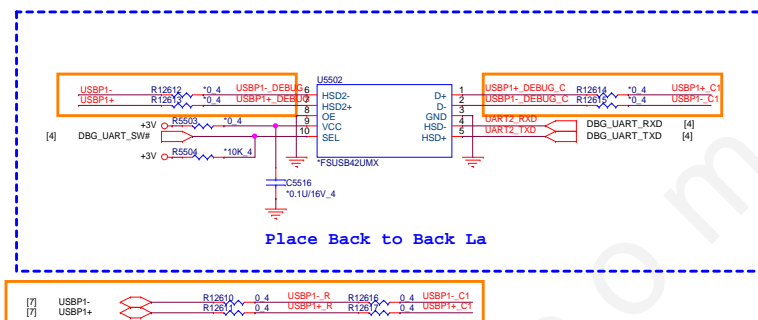


For EMI Suggestion
CLK_24M_DEBUG EC6001 33p/50V_4
PCIE_WAKE# EC6005 220p/50V_4

Power Botton Connector



UART for Win7 WHQL DEBUG

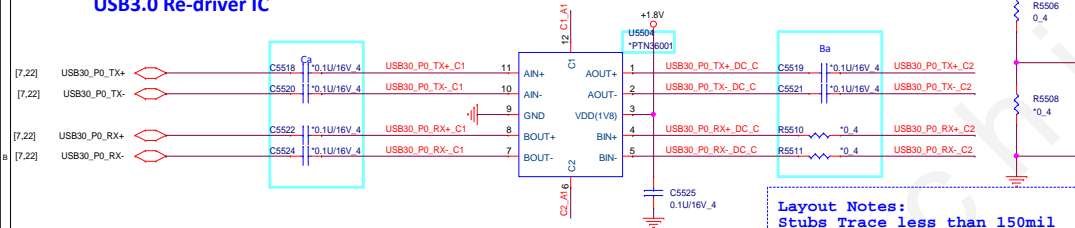


Place Back to Back La

USB3.0

USB3.0 Re-driver IC

USB3.0 re-driver IC



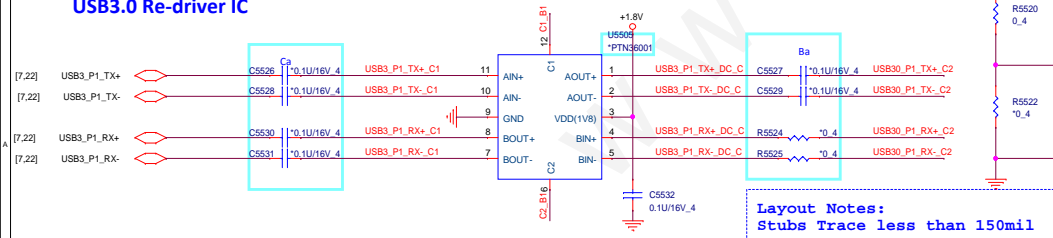
Layout Notes:
Stubs Trace less than 150mil

SOC to CON--> Stuff Ra, remove Ca,Ba
SOC to re-driver to conn--> Stuff Ca,Ba, remove Ra

USB3.0

USB3.0 Re-driver IC

USB3.0 re-driver IC

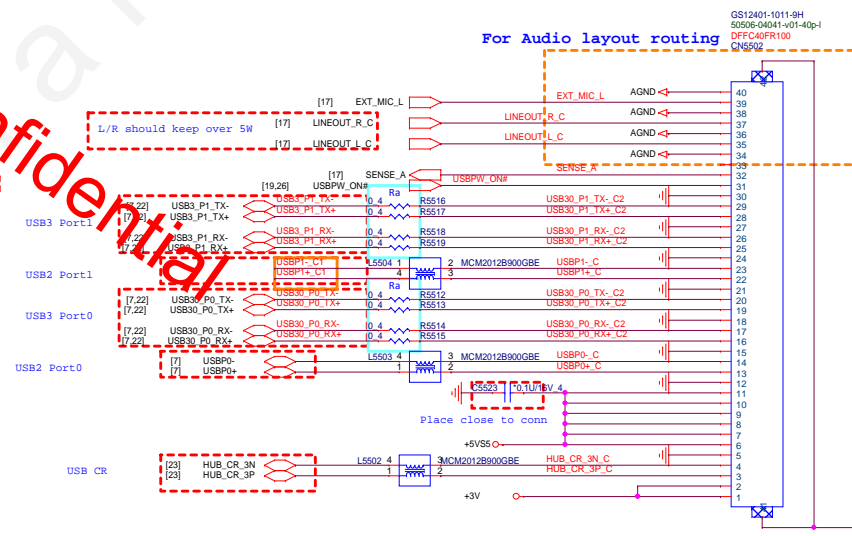


Layout Notes:
Stubs Trace less than 150mil

Daughter Board

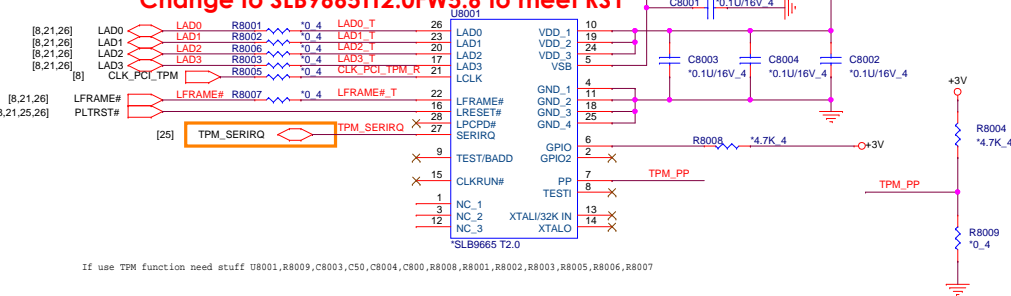
20161026 FP/PN check ok

For Audio layout routing

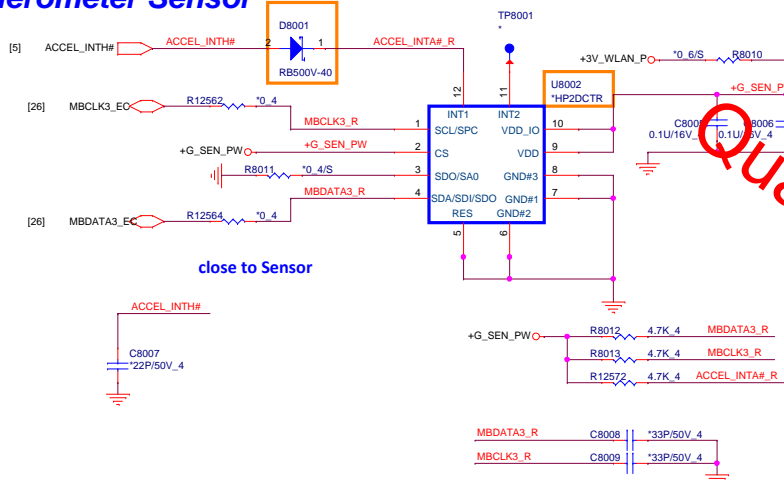


Place close to conn

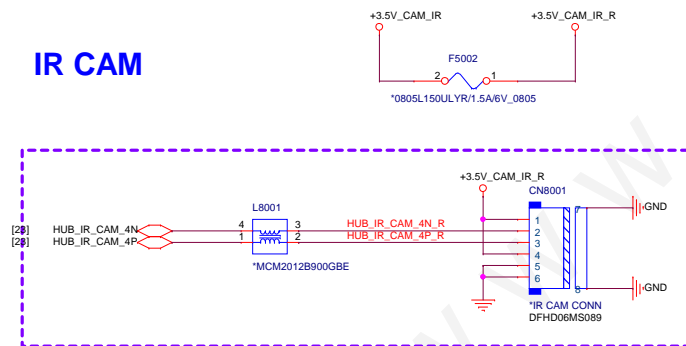
TPM (2.0)



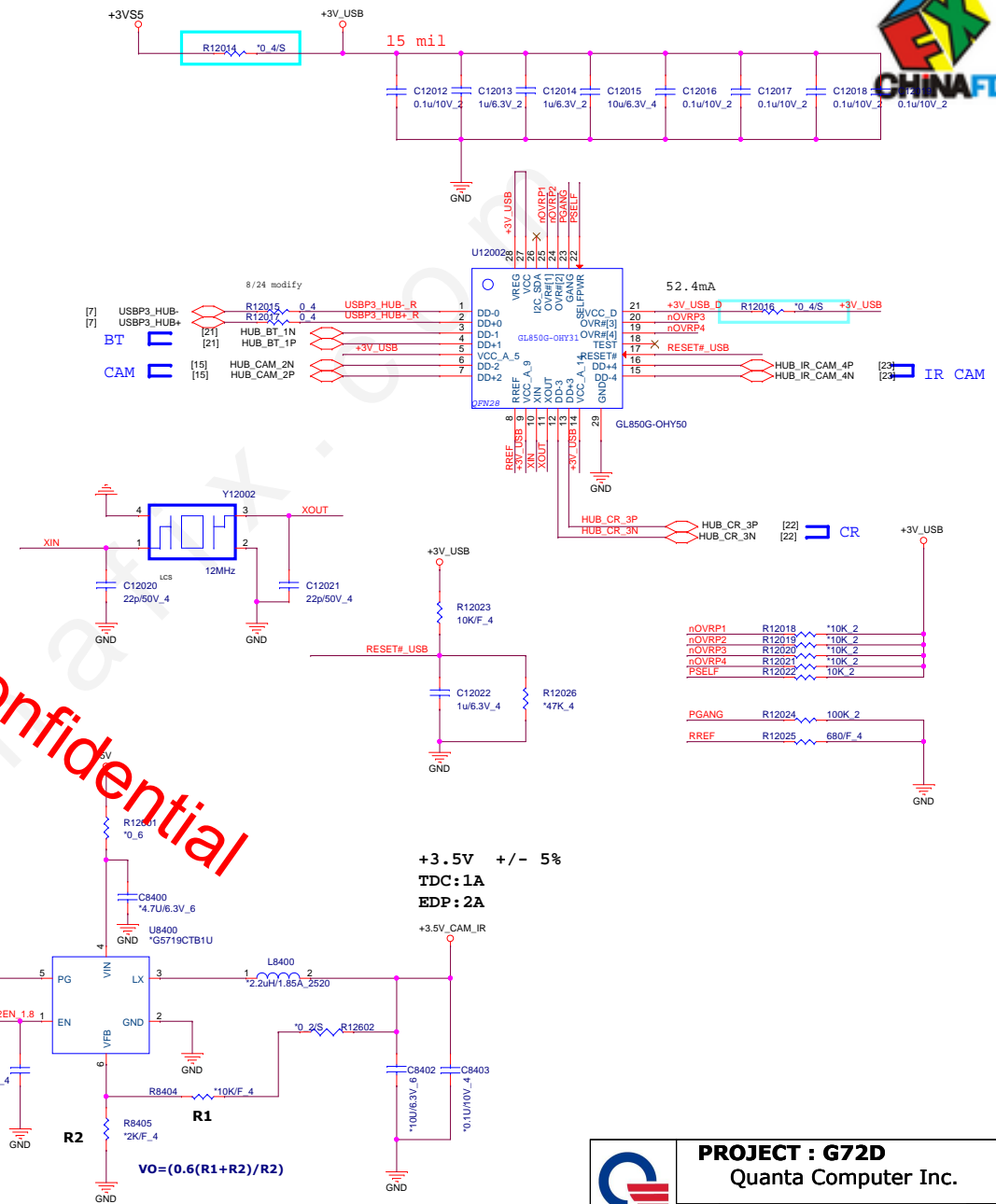
Accelerometer Sensor



IR CAM



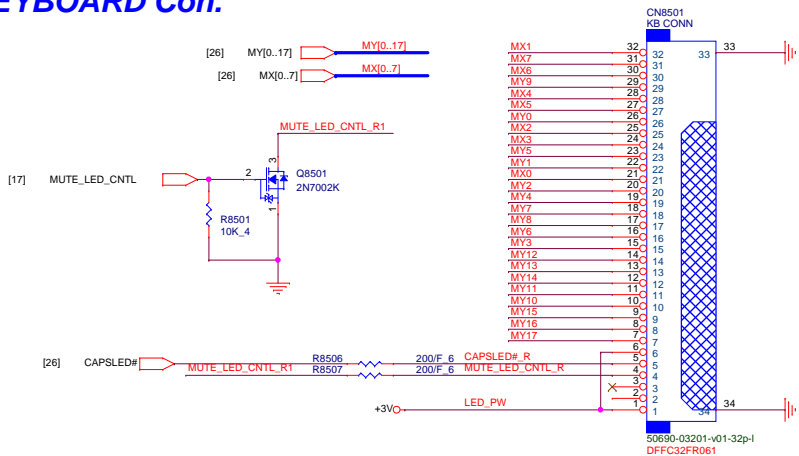
USB HUB



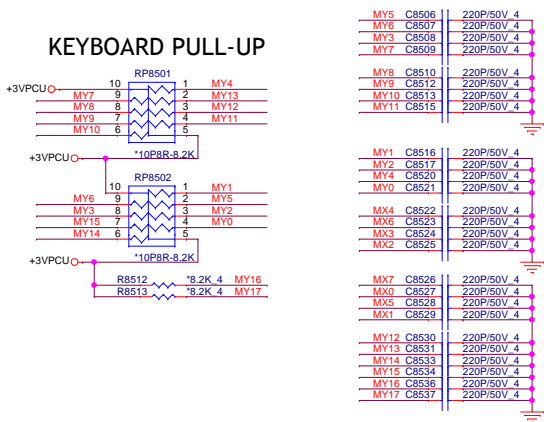
PROJECT : G72D
Quanta Computer Inc.

Size	Document Number	Rev
Custom	TPM/G-Sensor/IR CAM/HUB	1A
Date: Tuesday, January 24, 2017	Sheet 23 of 35	

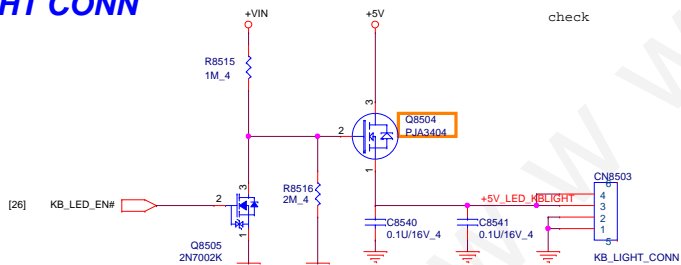
KEYBOARD Con.



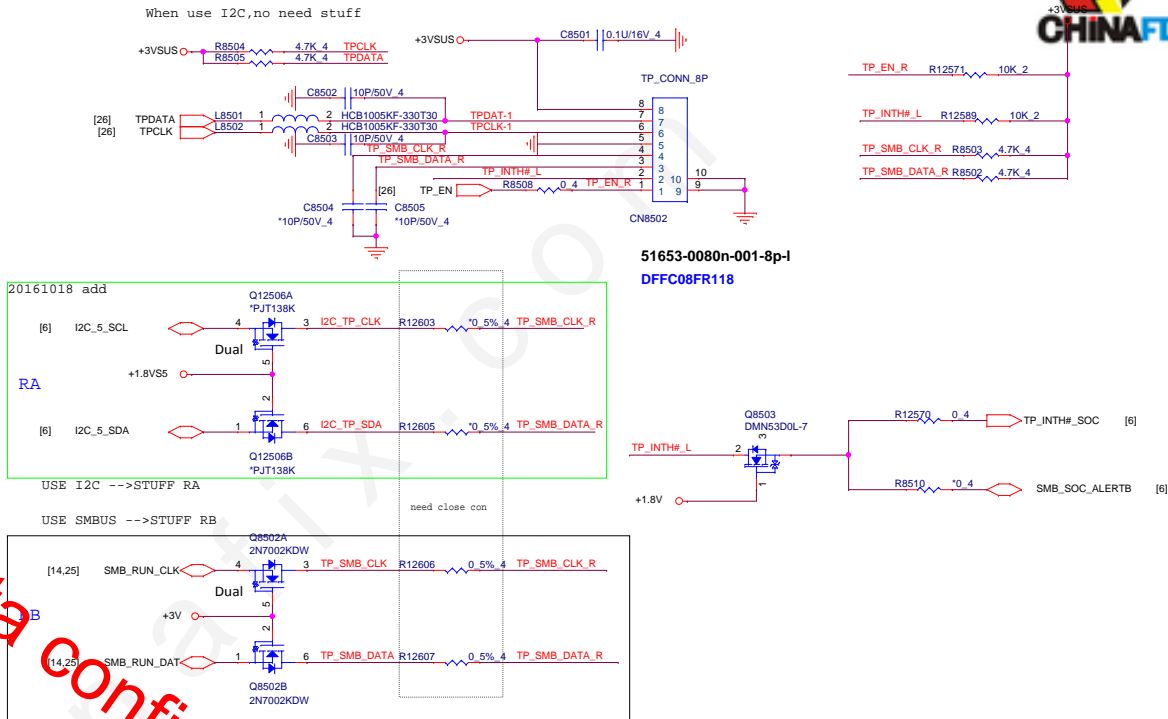
KEYBOARD PULL-UP



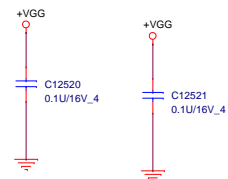
KB LIGHT CONN

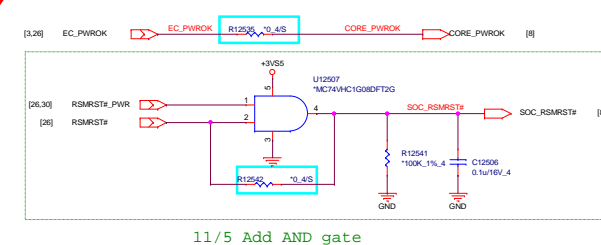
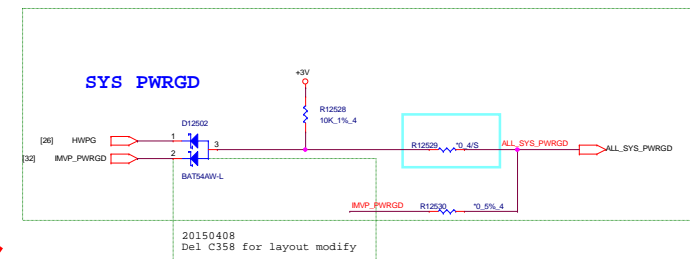
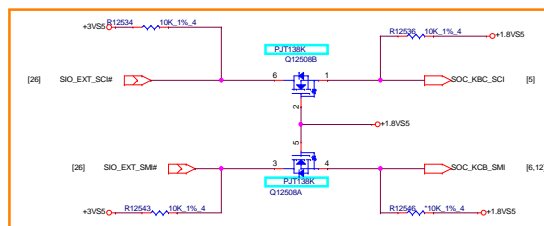
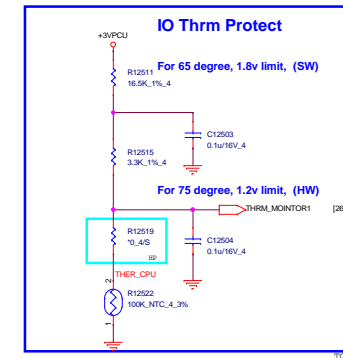
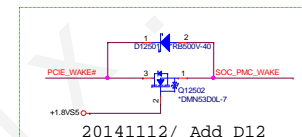
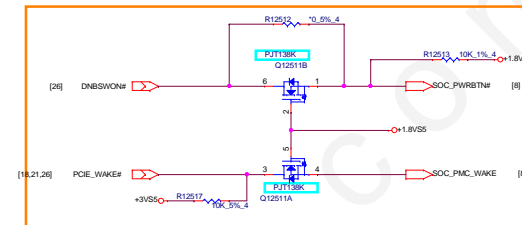
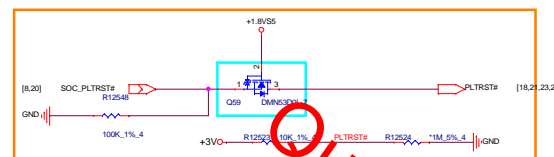
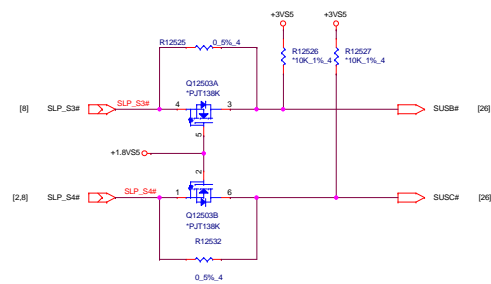
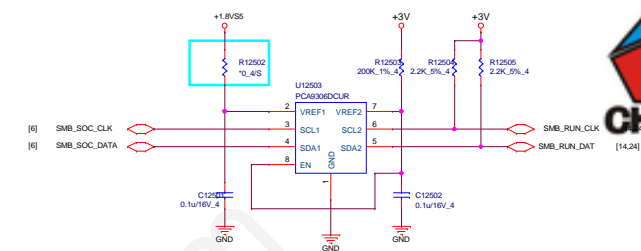
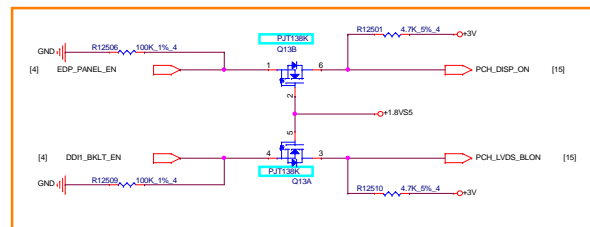
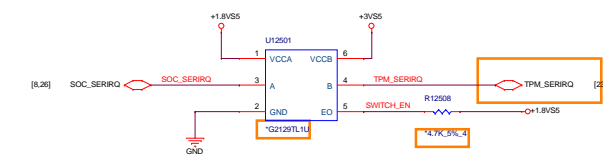


Touch Pad Connector

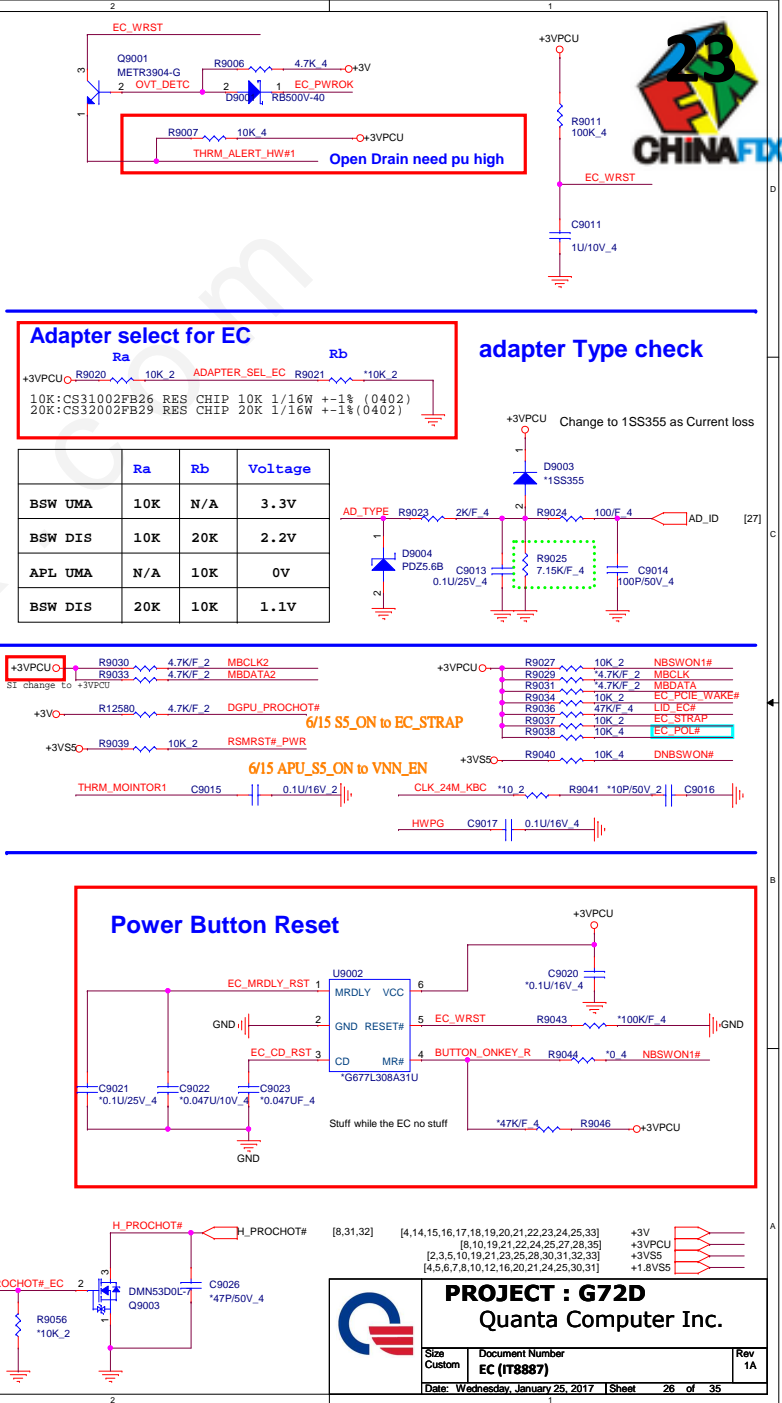


Cap



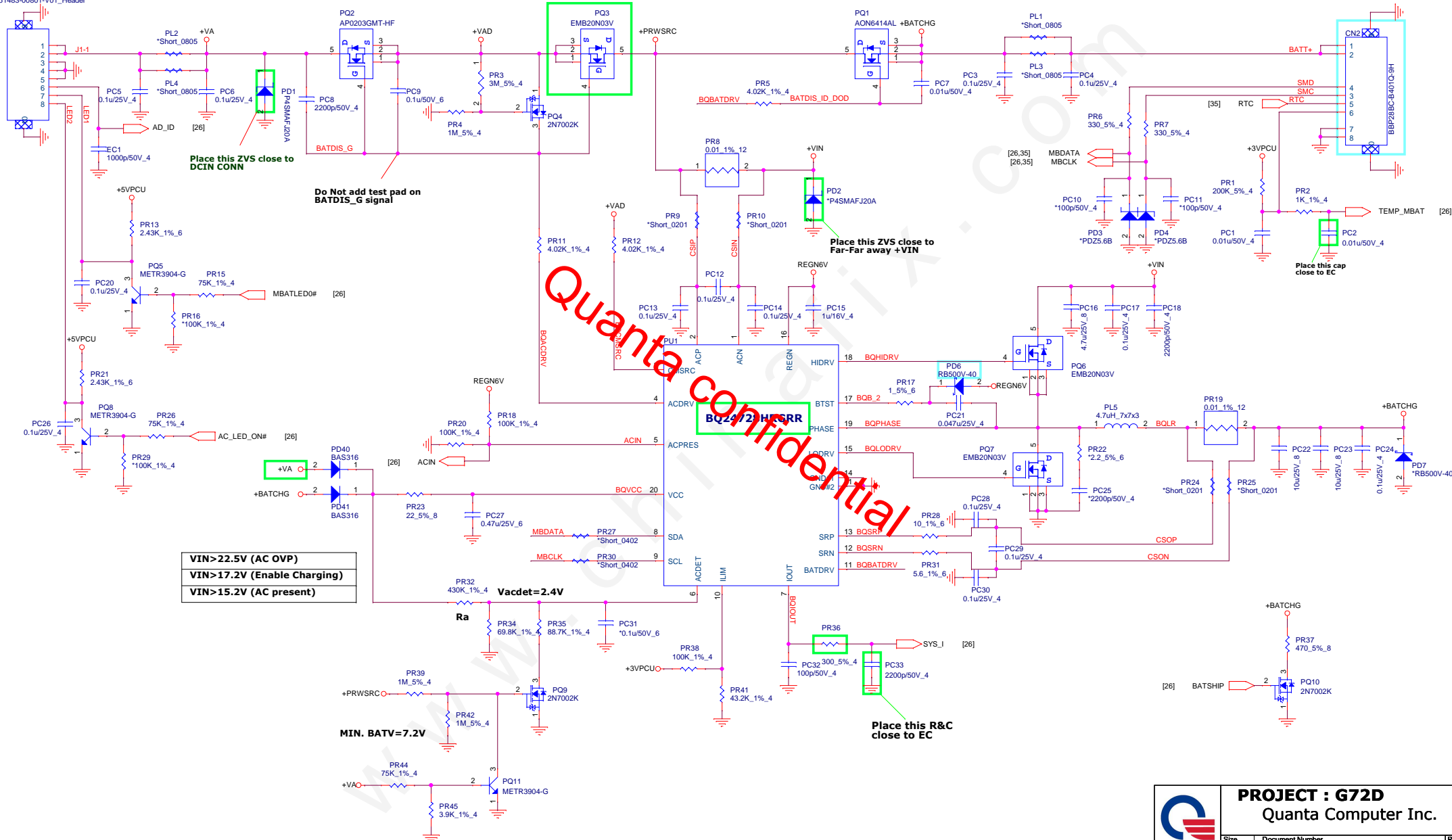


11/5 Add AND gate



CN1
51483-00801-V01_Header

N-channel



Place this R&C close to EC



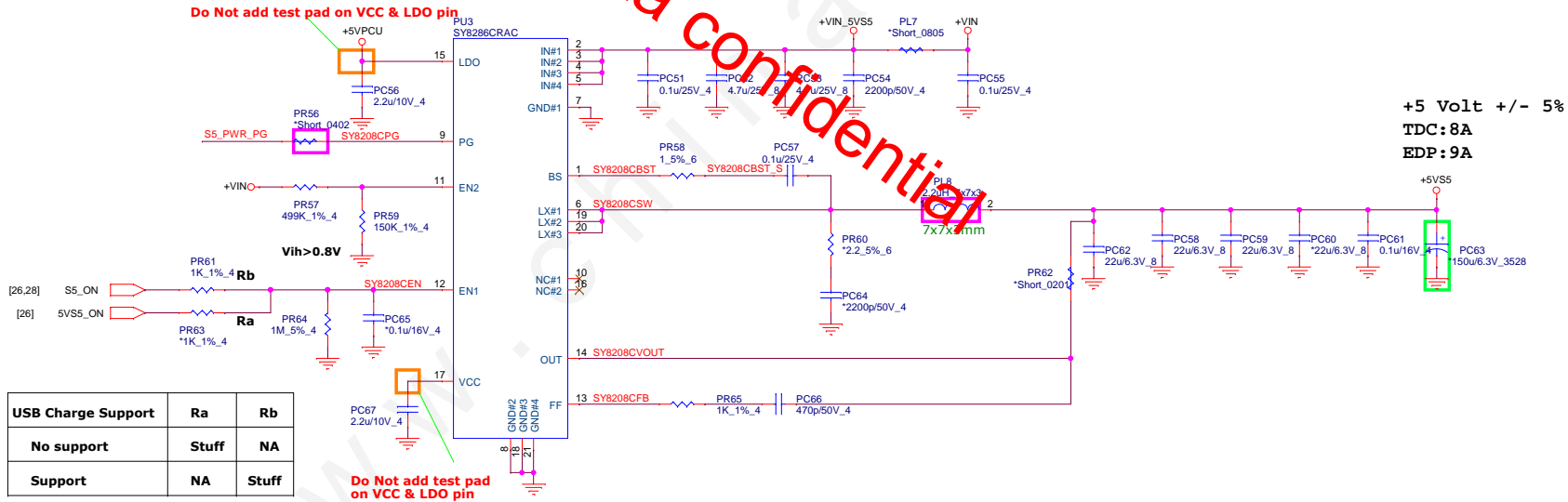
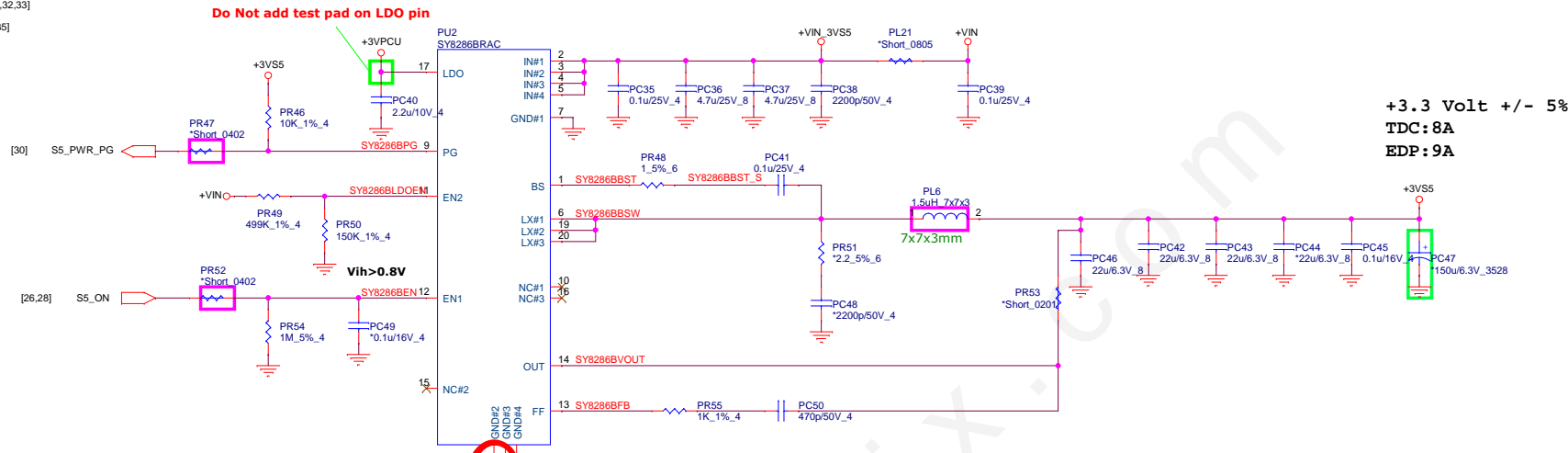
PROJECT : G72D
Quanta Computer Inc.

Size Custom	Document Number Charger (BQ24738H)	Rev 1A
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DC/DC +3VS5/+5VS5



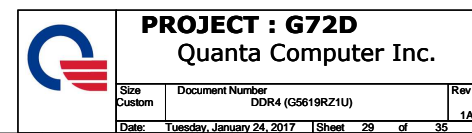
- +VIN [15,24,27,29,30,31,32,34]
- +3VS5 [2,3,5,10,19,21,23,25,26,30,31,32,33]
- +5VS5 [17,19,22,29,30,31,32,33]
- +3VPCU [8,10,19,21,22,24,25,26,27,35]
- +5VPCU [17,27,30,33]

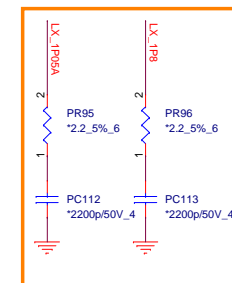
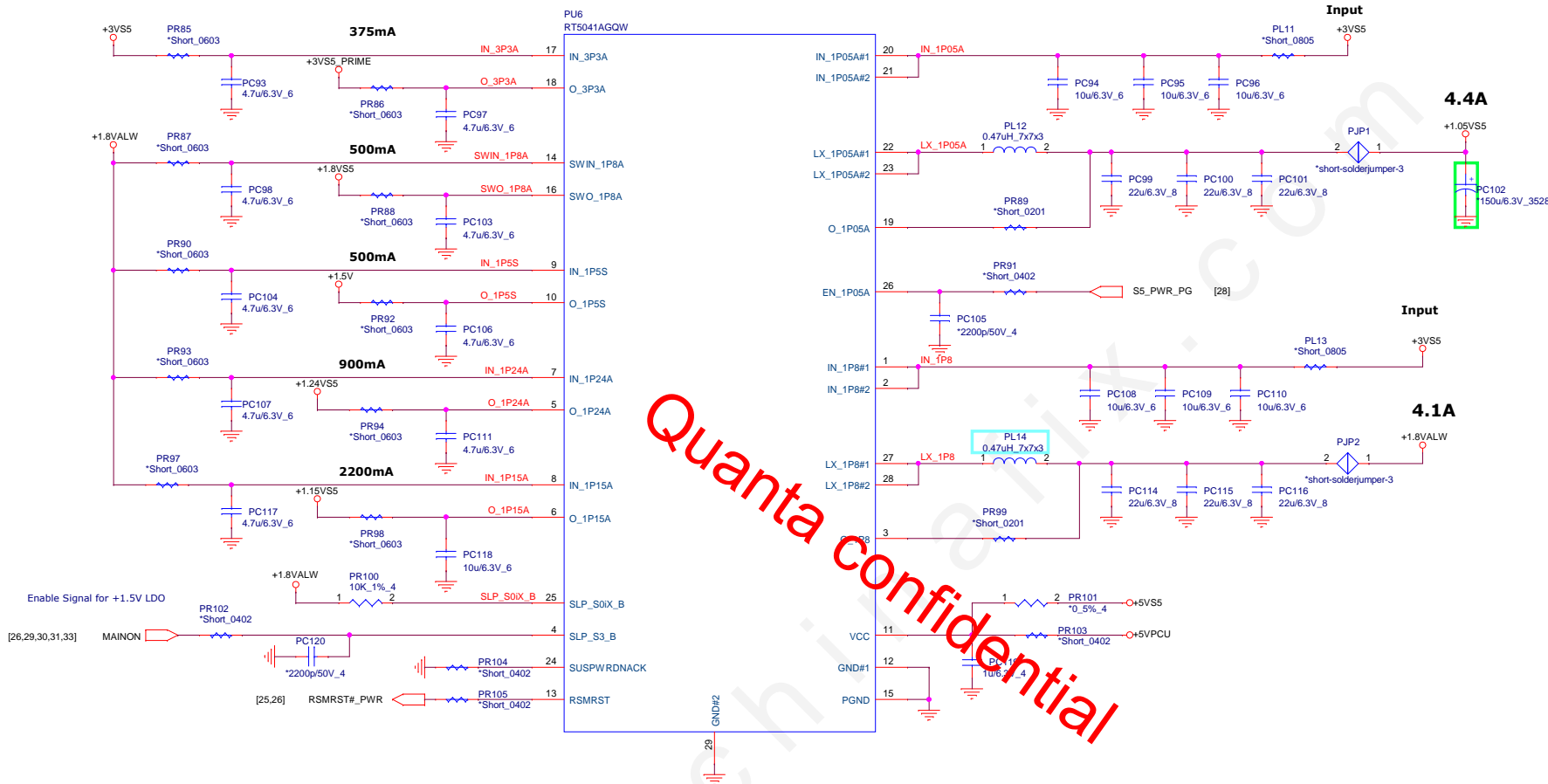


USB Charge Support	Ra	Rb
No support	Stuff	NA
Support	NA	Stuff

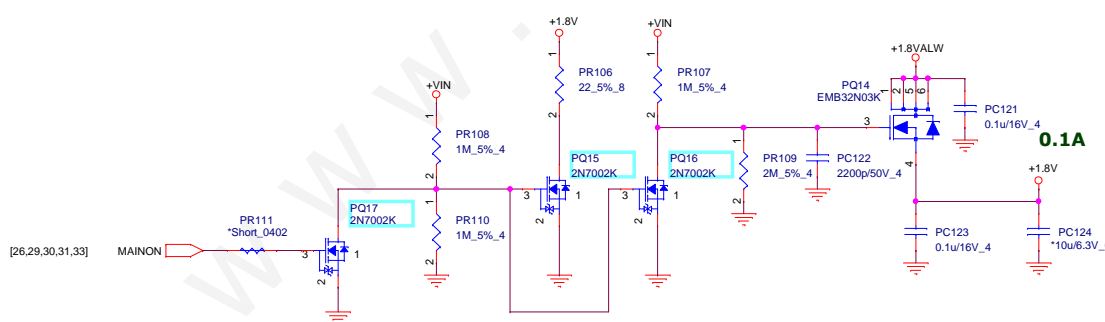
PROJECT : G72D
Quanta Computer Inc.

Size Custom	Document Number 3/5VS5 (SY8208B/SY8208C)	Rev 1A
Date: Tuesday, January 24, 2017	Sheet 26	of 35

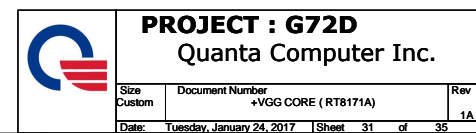
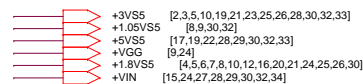


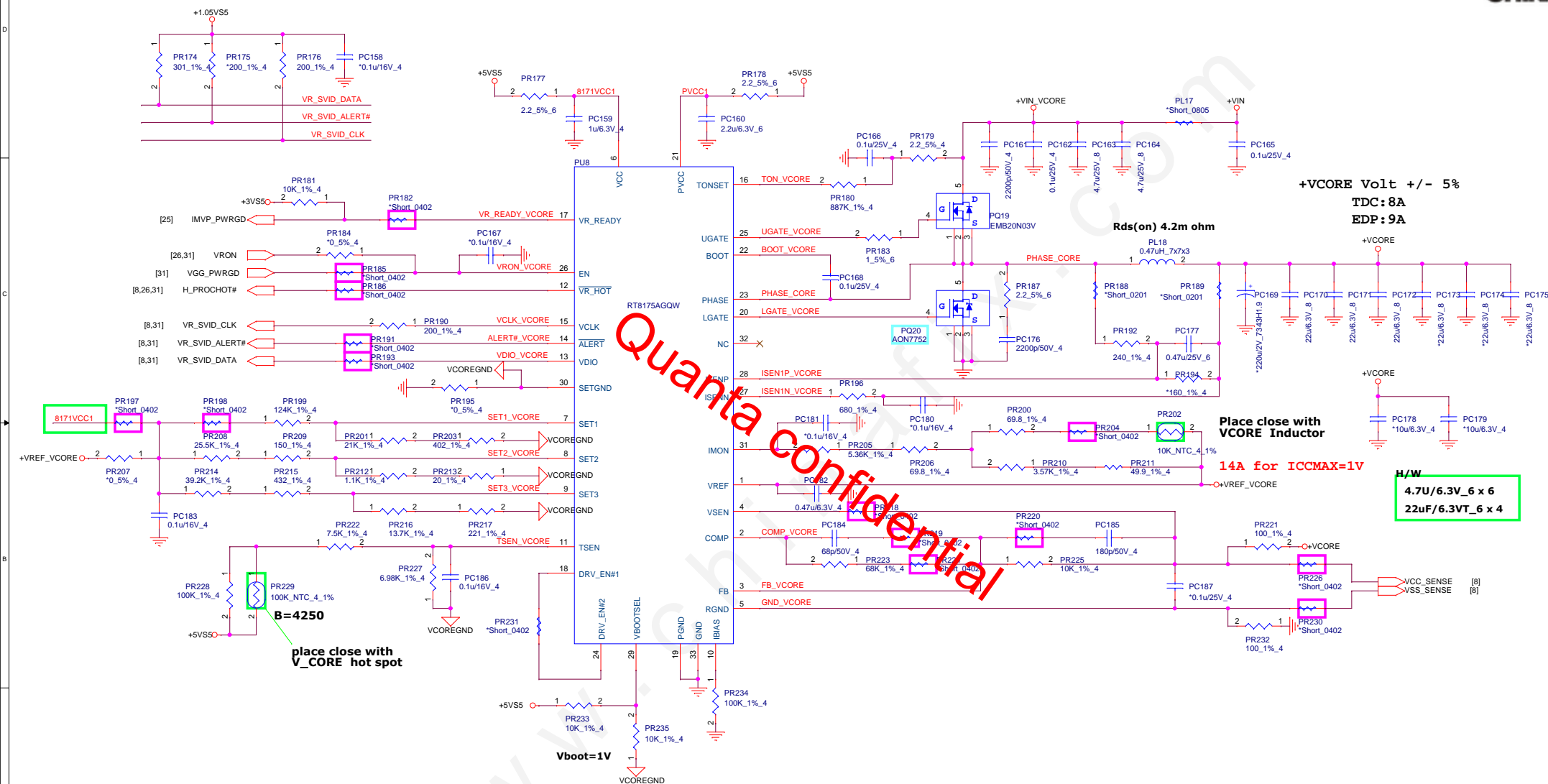


Snubber

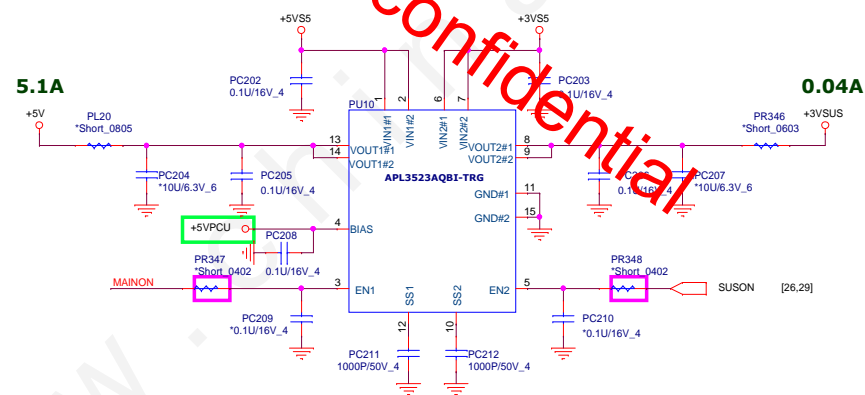
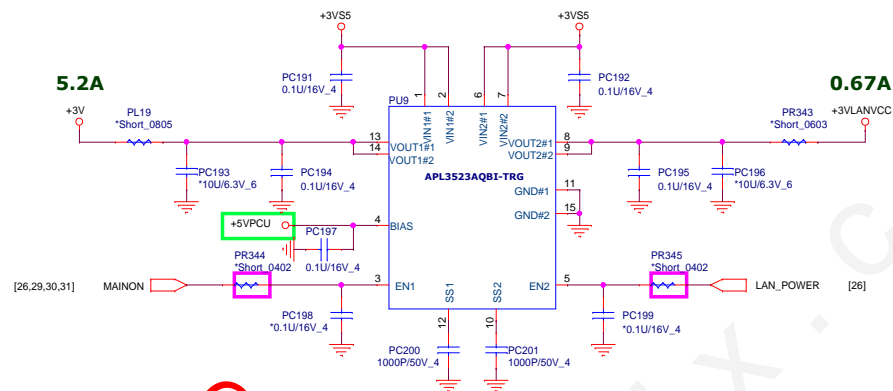


+3VSS	[2,3,5,10,19,21,23,25,26,28,31,32,33]
+1.8VALW	[4,5,6,7,8,10,12,16,20,21,24,25,26,31]
+3VSS_PRIME	[10,26]
+1.5V	[10,17]
+1.24VSS	[10]
+1.15VSS	[9,30]
+5VPCU	[17,27,28,30,33]
+1.05VSS	[8,9,31,32]
+1.15VSS	[9,30]
+5VPCU	[17,27,28,30,33]
+1.8V	[4,5,17,19,20,21,22,24,25]

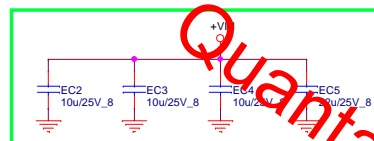




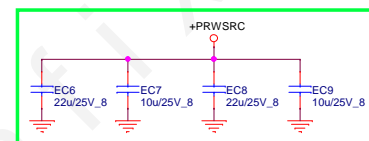
+3V [4,14,15,16,17,18,19,20,21,22,23,24,25,26]
 +5V [15,16,17,20,23,24]
 +VIN [15,24,27,28,29,30,31,32,34]
 +3VS5 [2,3,5,10,19,21,23,25,26,28,30,31,32]
 +5VS5 [17,19,22,28,29,30,31,32]
 +3VSUS [24]
 +5VPCU [17,27,28,30]
 +3VLAVCC [18]



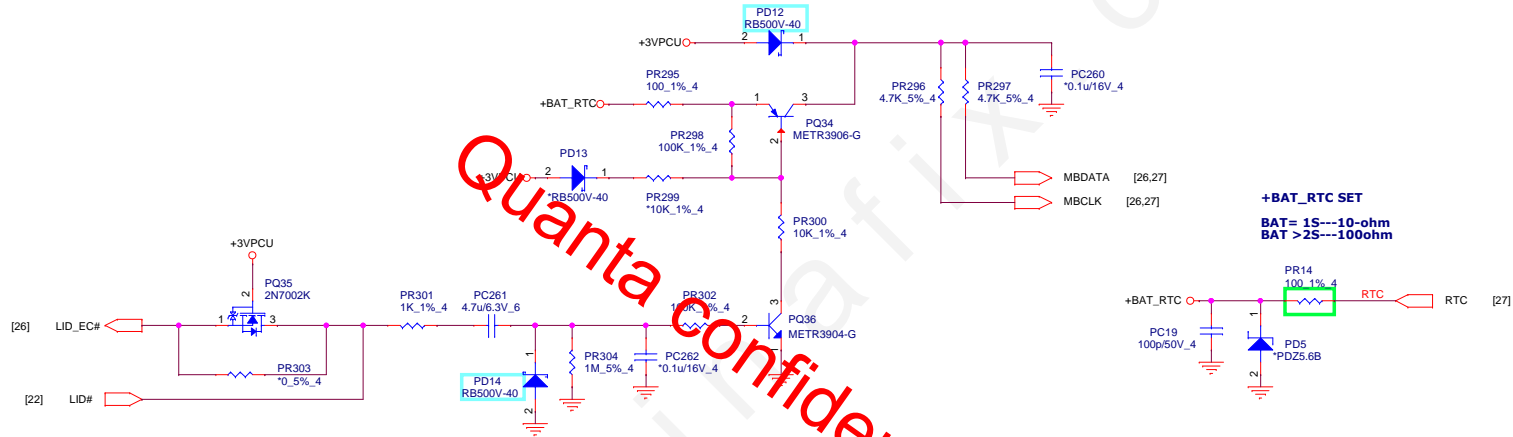
EMI request for ISN



EMI request for ISN



+3VPCU [8,10,19,21,22,24,25,26,27,28]
+BAT_RTC [8,22]



	PROJECT : G72D Quanta Computer Inc.	Rev 1A
Size Custom	Document Number LID SW for storage mode	
Date: Tuesday, January 24, 2017	Sheet 35 of 35	