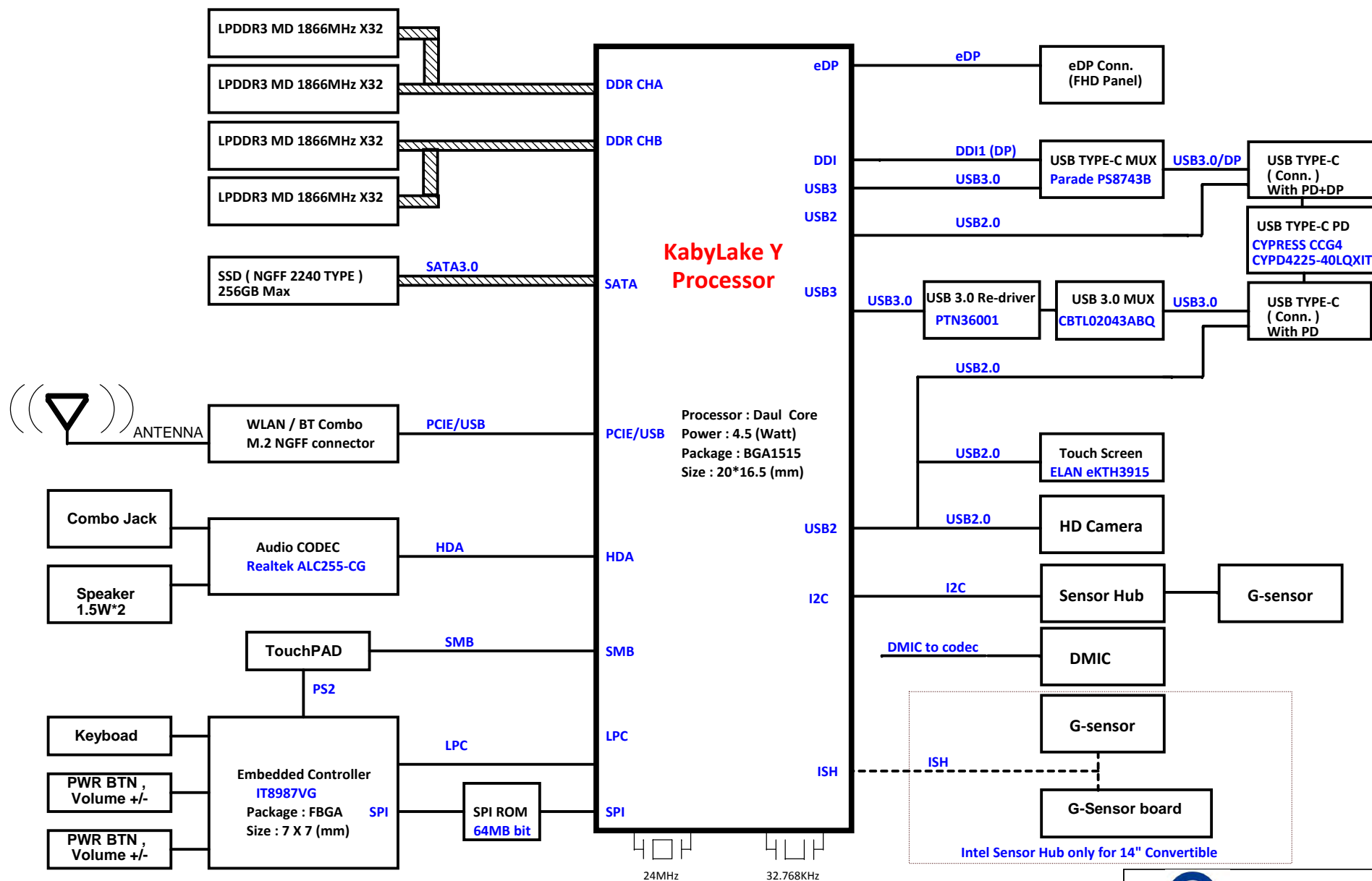
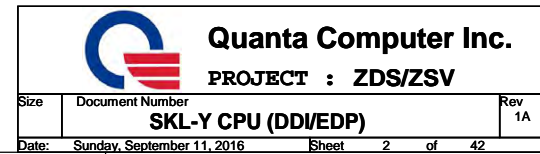
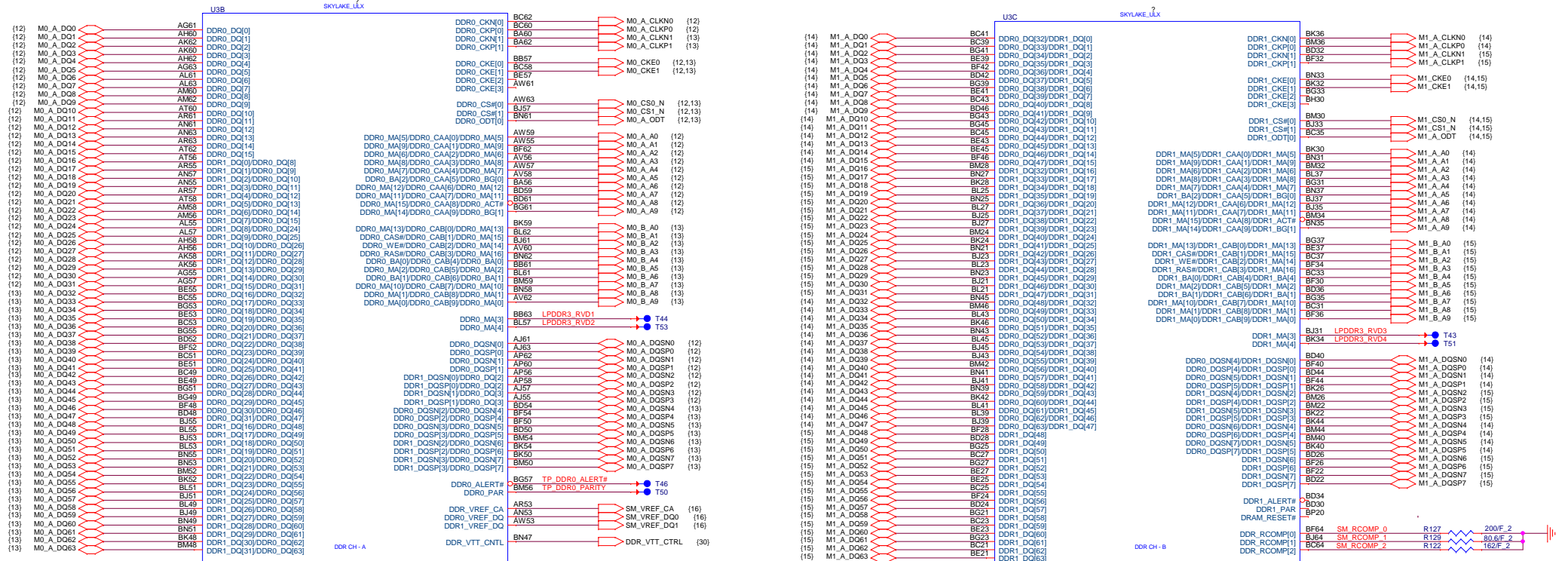
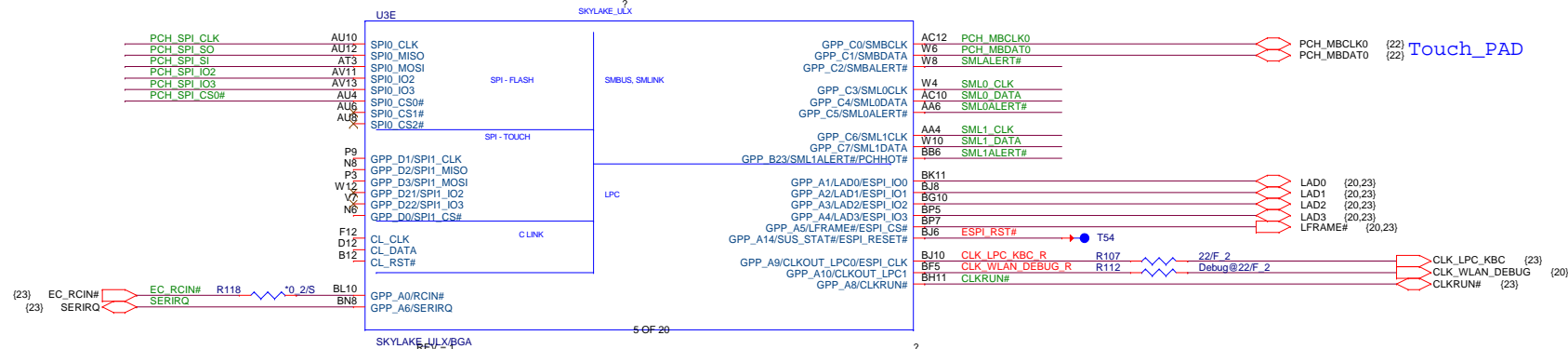
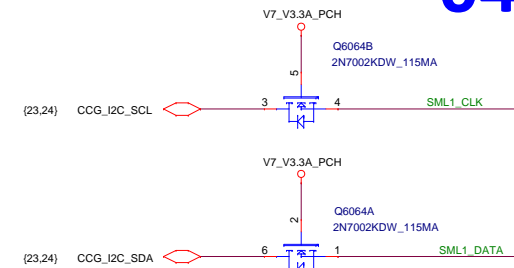
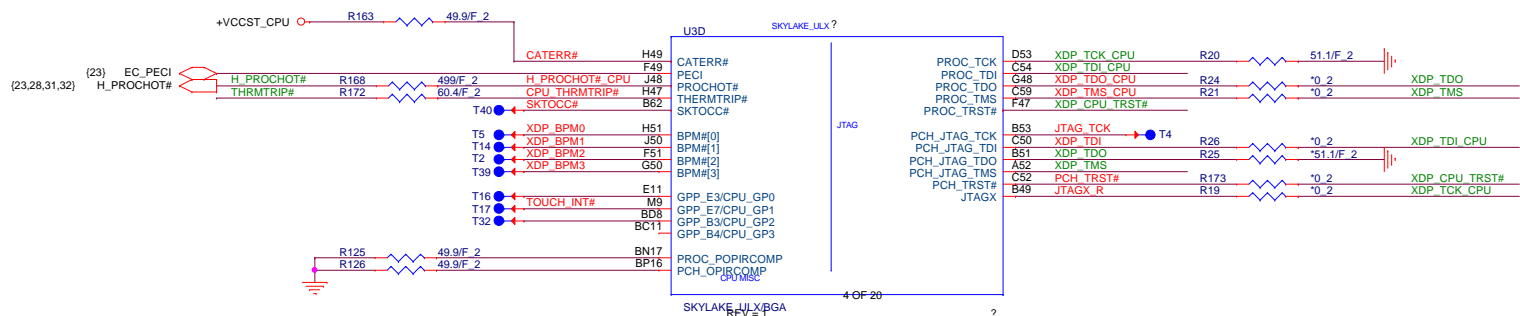


Block Diagram



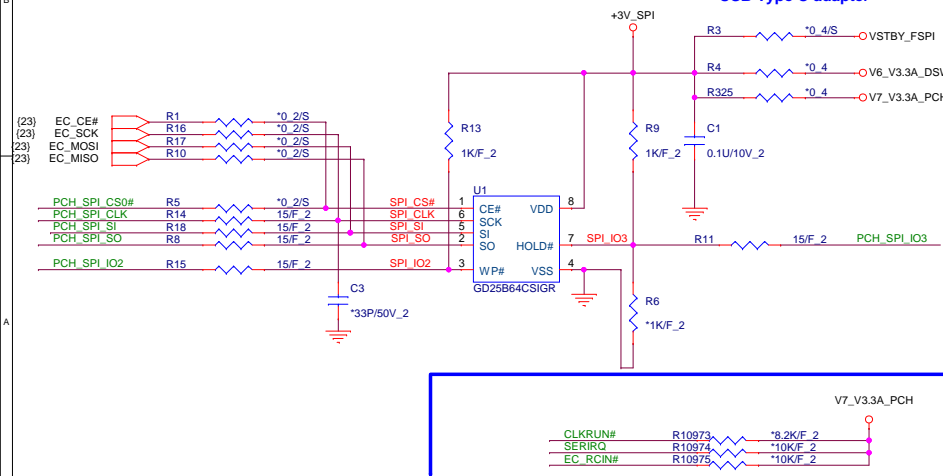




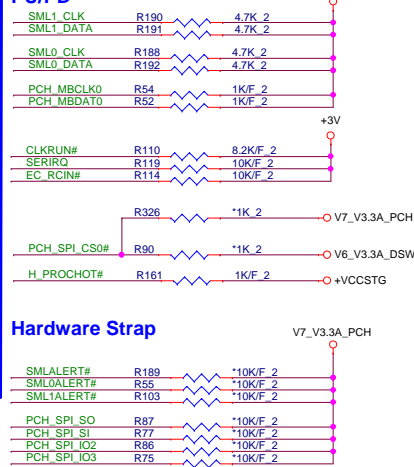


SPI ROM for EC & BIOS

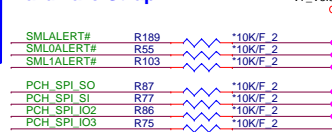
USB Type C adapter



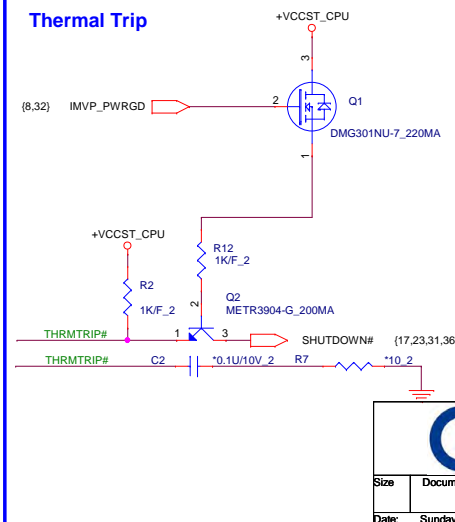
PU/PD

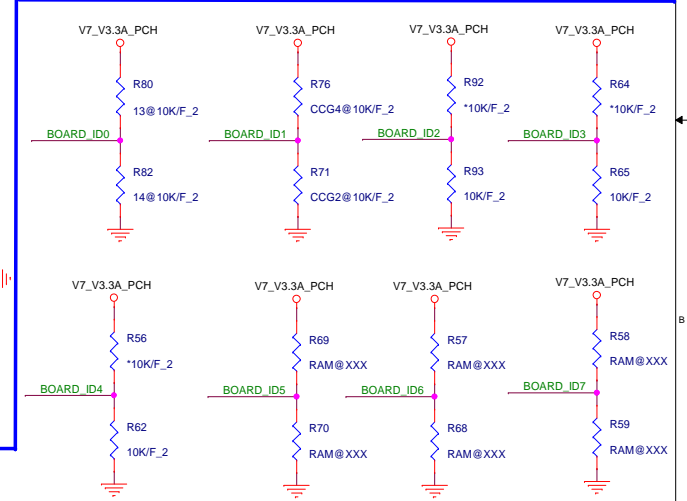
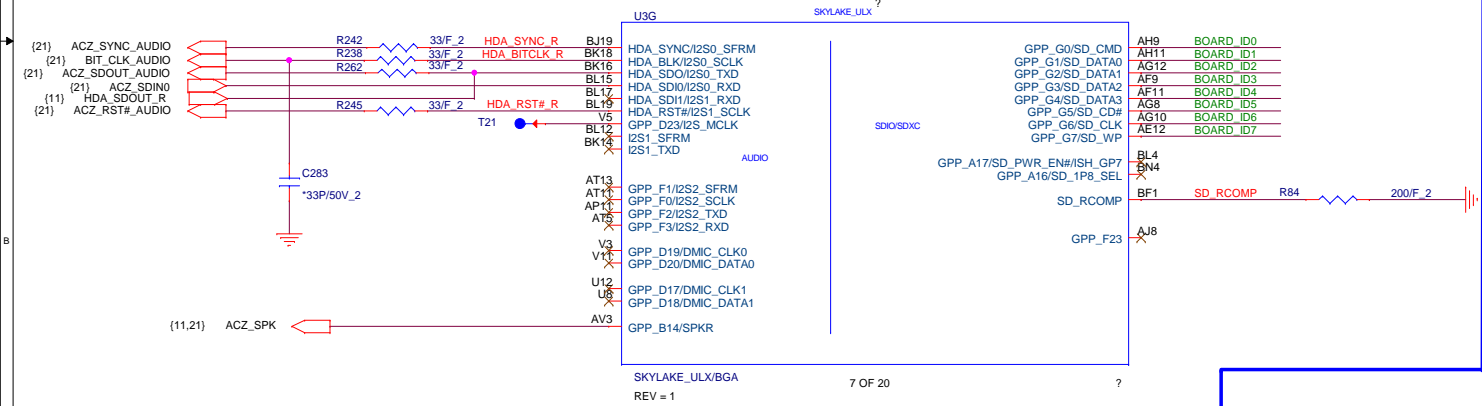
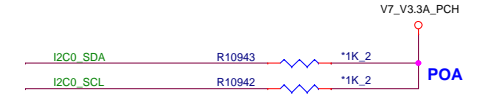
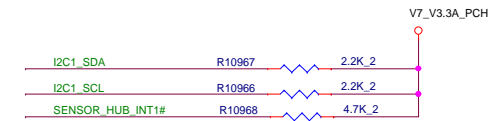
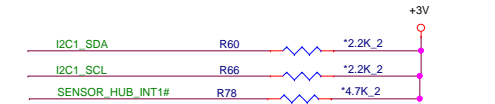
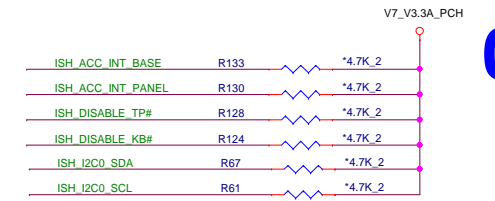
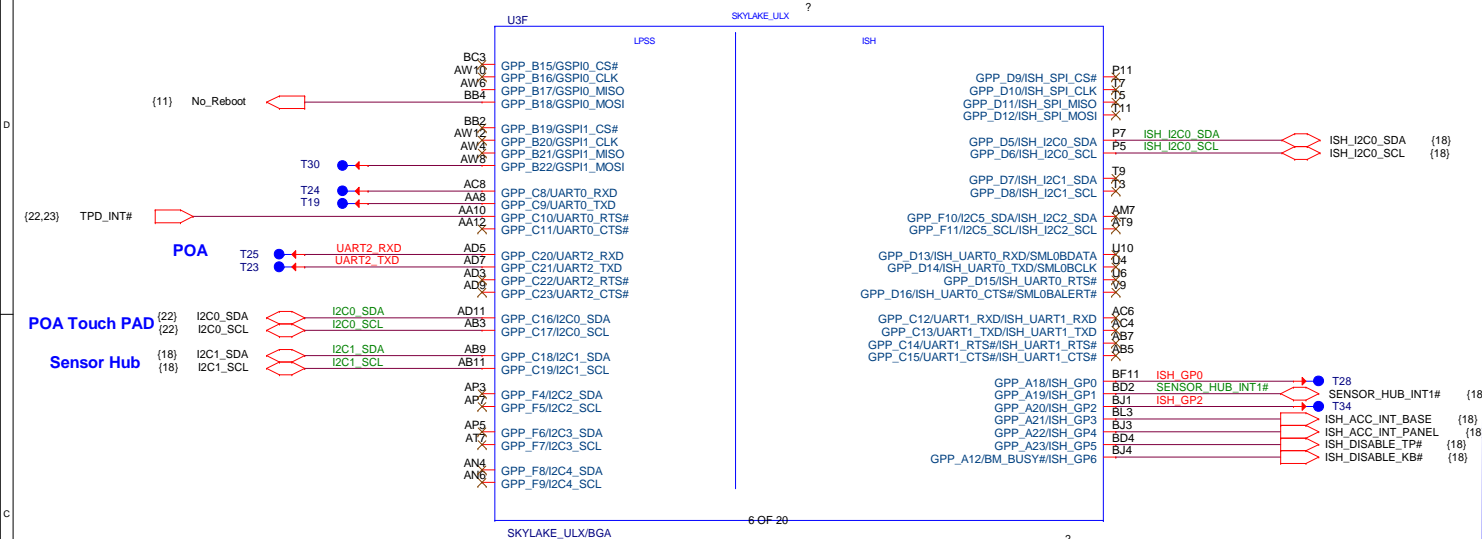


Hardware Strap



Thermal Trip

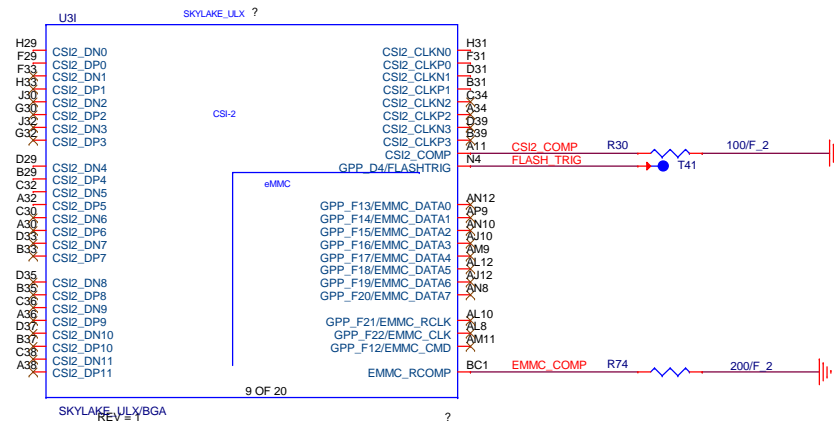




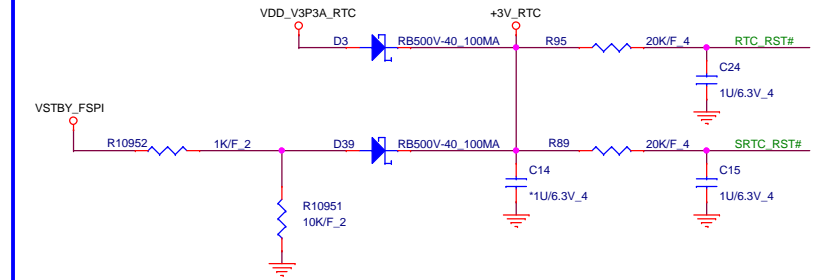
Board ID Reserve			
ZDS	H	L	ID0
ZDV	H	L	ID1
SKL-Y	H	L	ID2
KBL-Y	H	L	ID3
Reserve	H	L	ID4

Board ID Reserve	ID5	ID6	ID7
HYNIX _H9CCNNNBLTBLAR-NUD_8GB	0	0	0
HYNIX _H9CCNNN8JTBLAR-NUD_4GB	0	0	1
SAMSUNG_K4E6E304EB-EGCF_8GB	0	1	0
SAMSUNG_K4E8E324EB-EGCF_4GB	0	1	1
HYNIX _H9CCNNNBJTMLAR-NUD_8GB	1	0	0

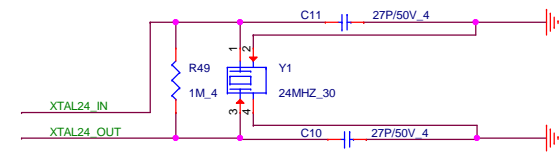




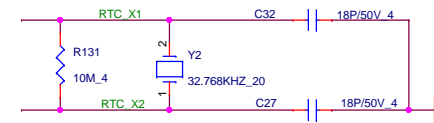
RTC Circuitry(RTC)



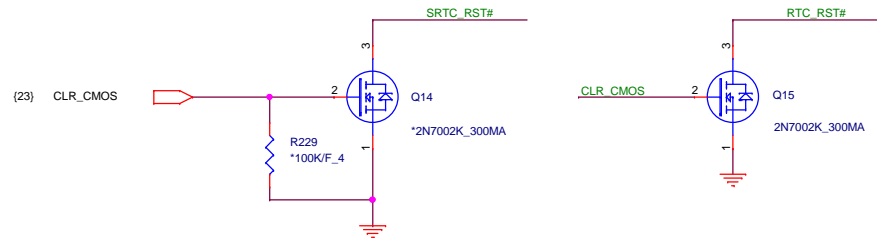
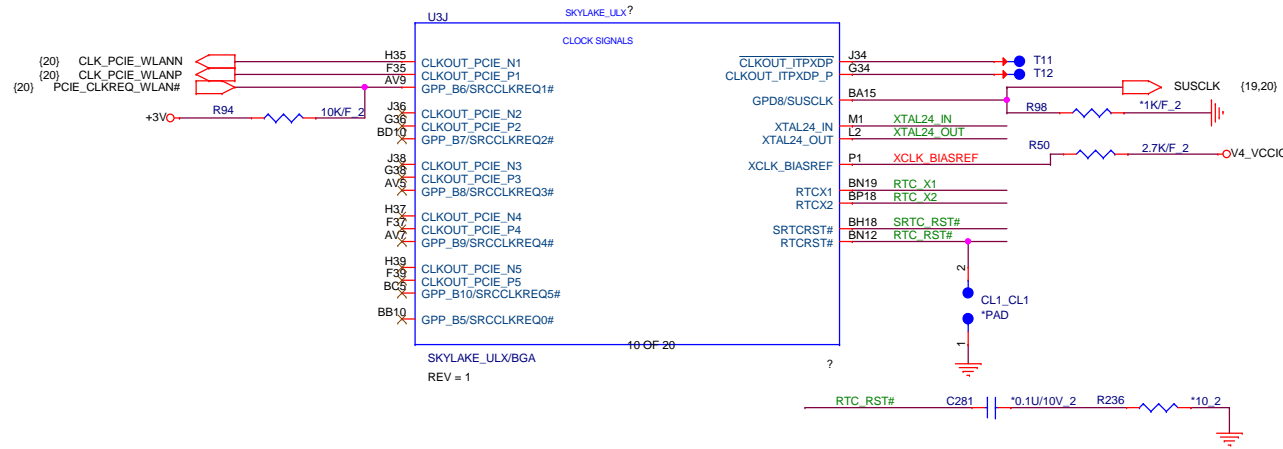
PCH Crystal (CLG)

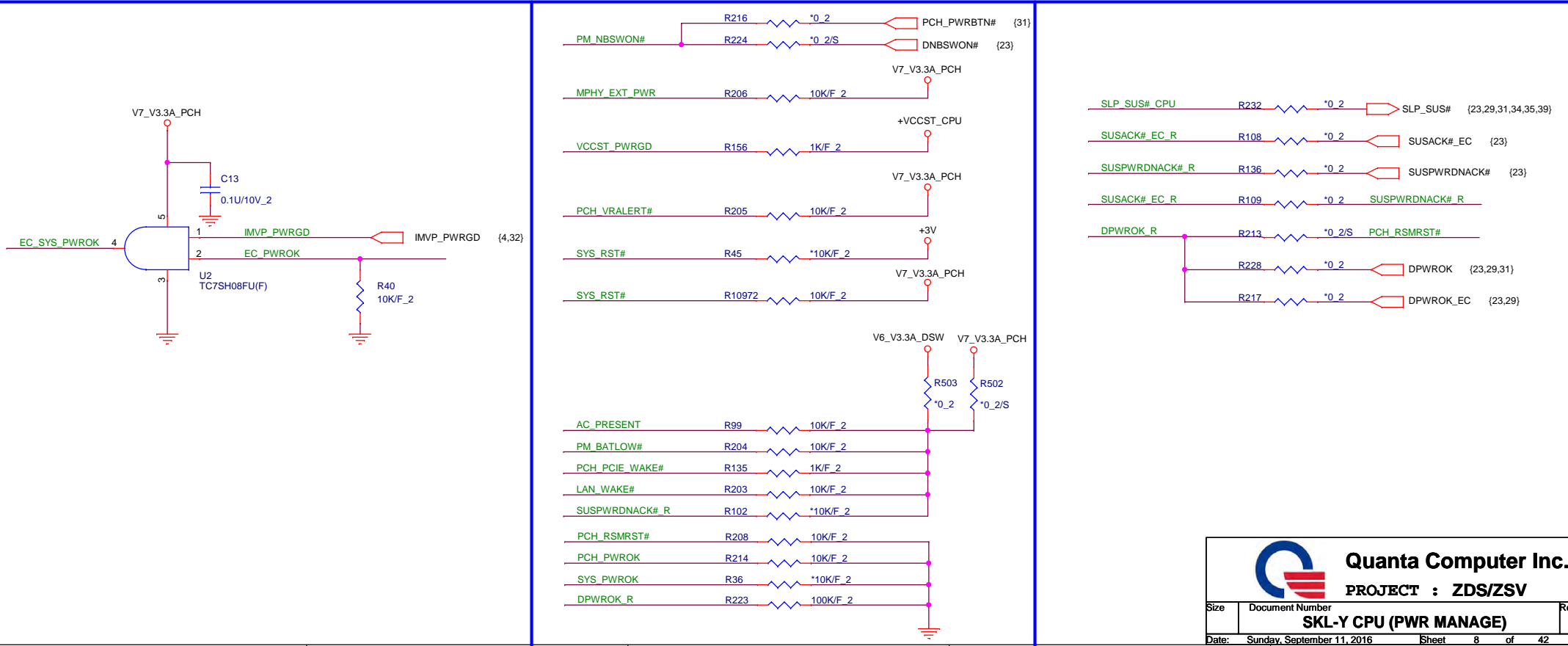
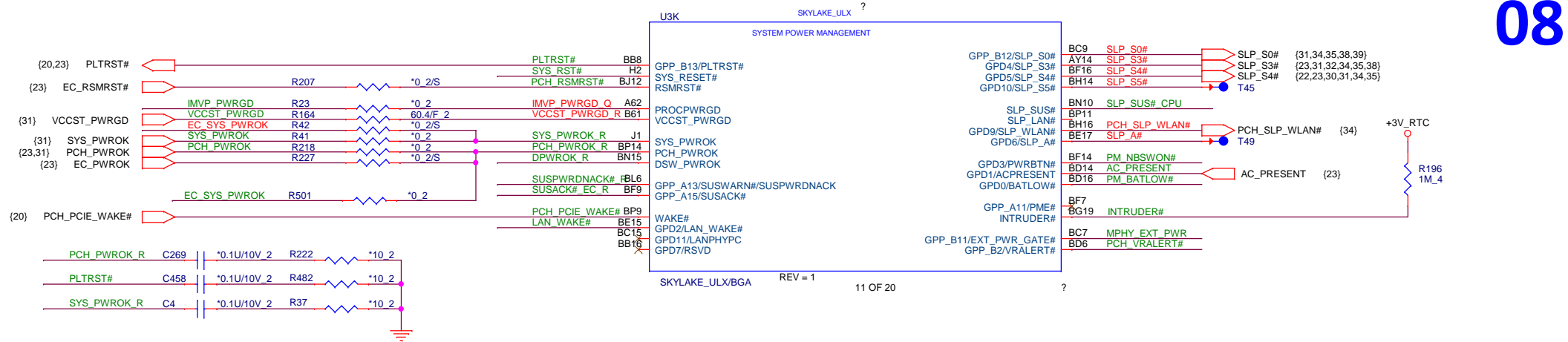


RTC Crystal (CLG)



WLAN





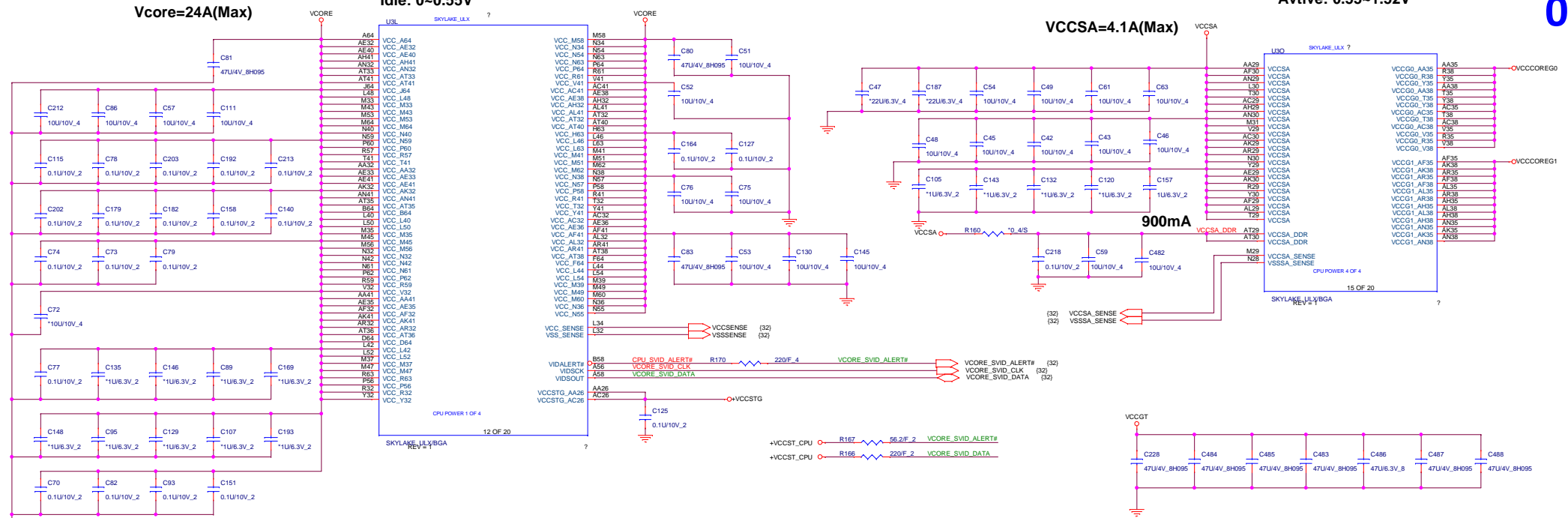
Quanta Computer Inc.

PROJECT : ZDS/ZSV

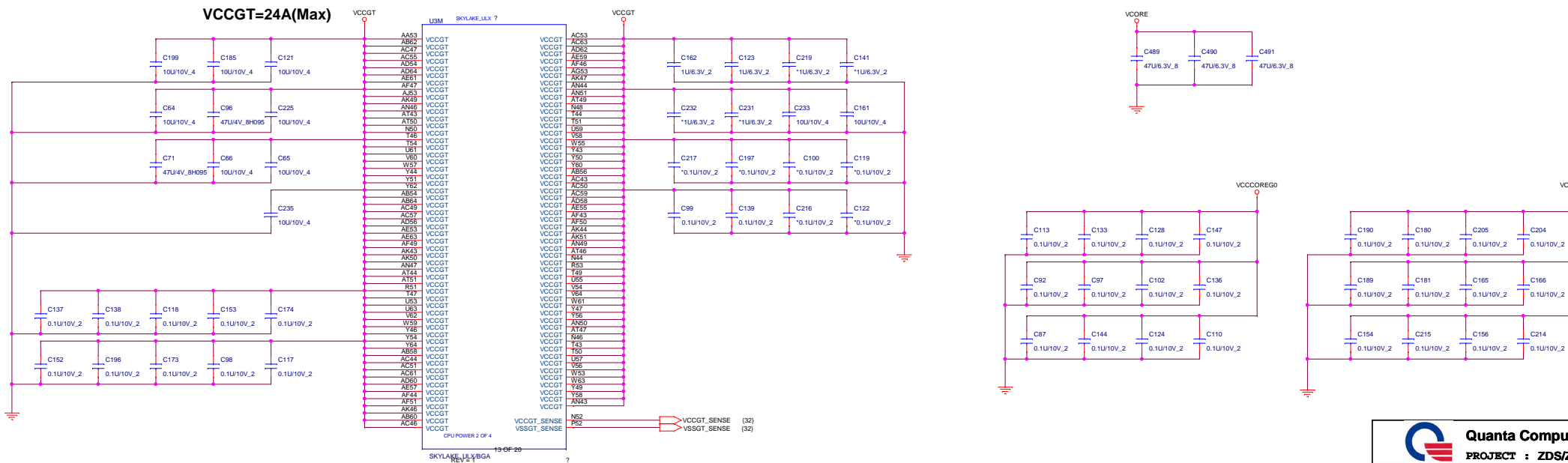
Size	Document Number	Rev
	SKL-Y CPU (PWR MANAGE)	1A
Date:	Sunday, September 11, 2016	Sheet 8 of 42

Active: 0.55~1.52V
Idle: 0~0.55V

Active: 0.55~1.52V

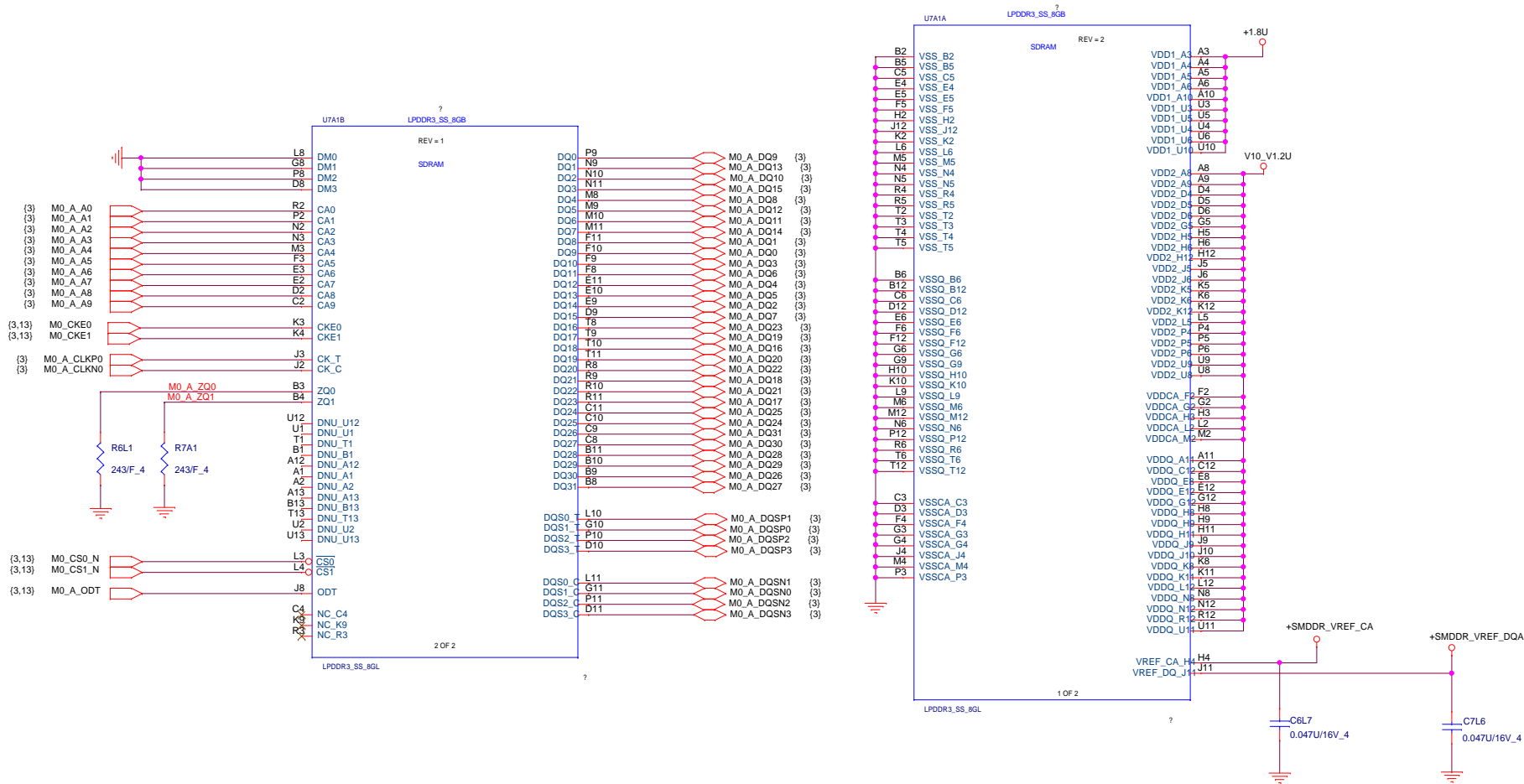


Active: 0.55~1.52V
Idle: 0~0.55V





LPDDR3 MEMORY CHANNEL A-1

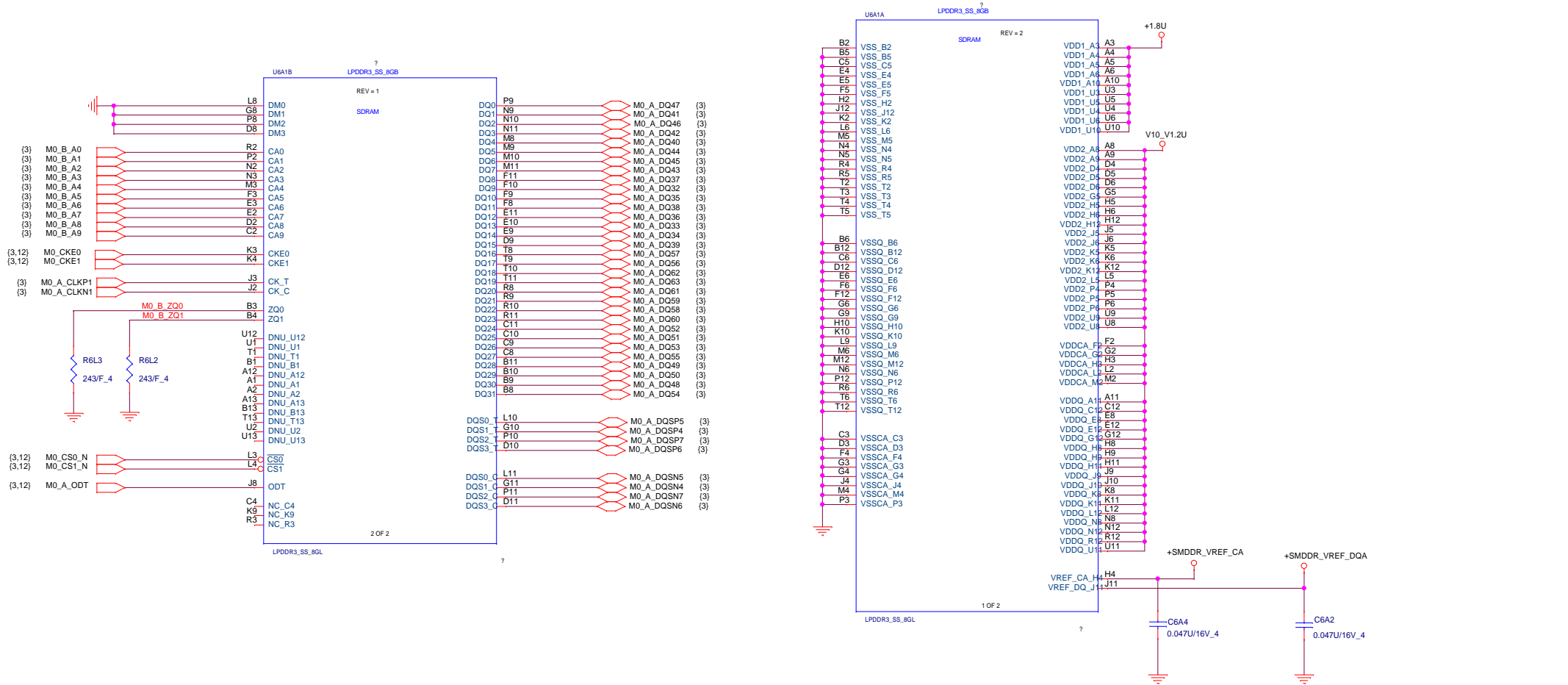


Quanta Computer Inc.

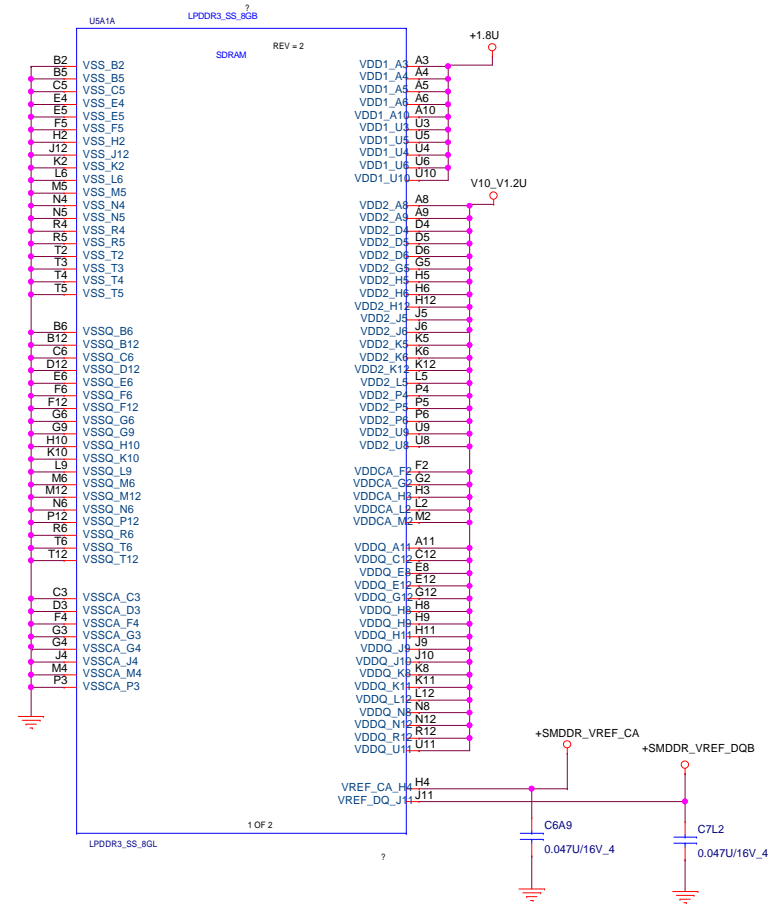
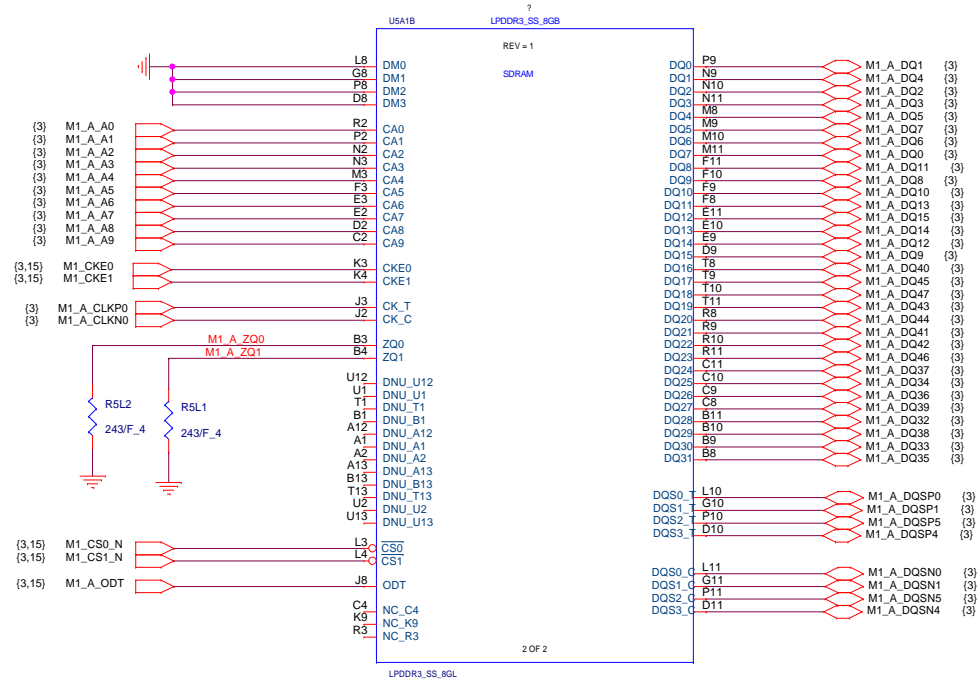
PROJECT : ZDS/ZSV

Size	Document Number	Rev
	LPDDR3 (CHA)	1A
Date:	Sunday, September 11, 2016	Sheet 12 of 42

LPDDR3 MEMORY CHANNEL A-2



LPDDR3 MEMORY CHANNEL B-1



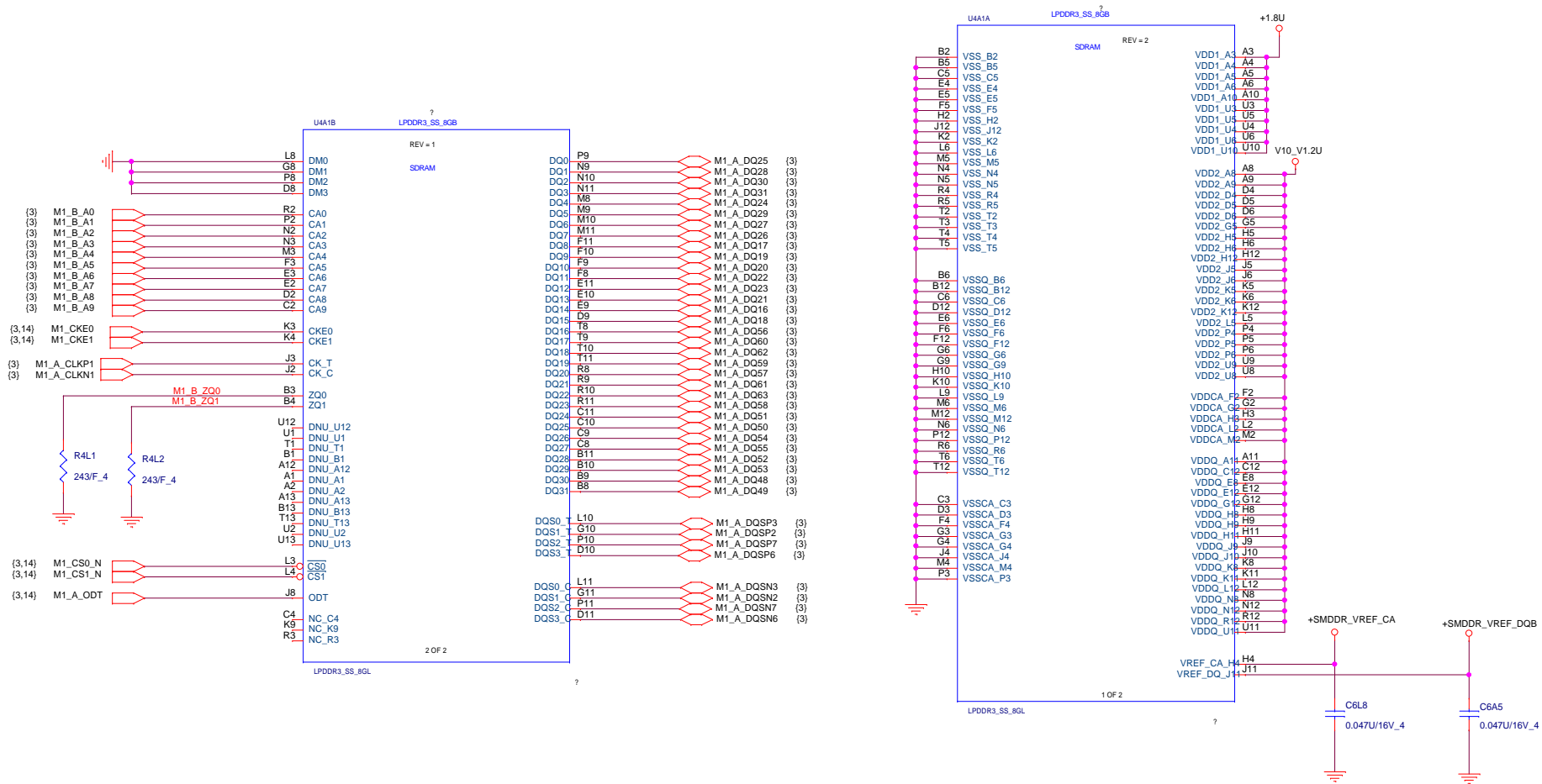
Quanta Computer Inc.

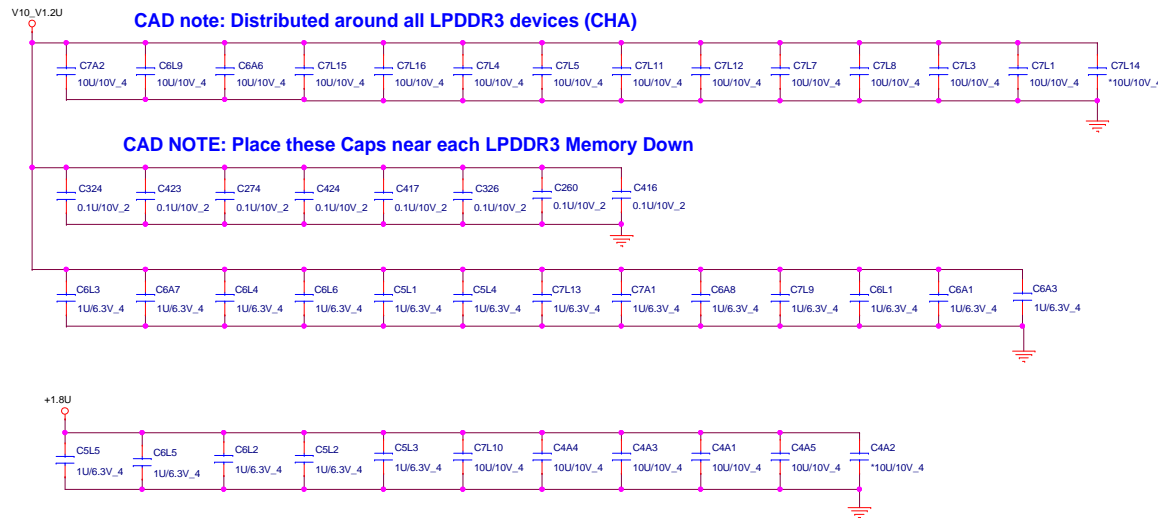
PROJECT : ZDS/ZSV

Size	Document Number	Rev
	LPDDR3 (CHB)-1	1A
Date:	Sunday, September 11, 2016	Sheet 14 of 42

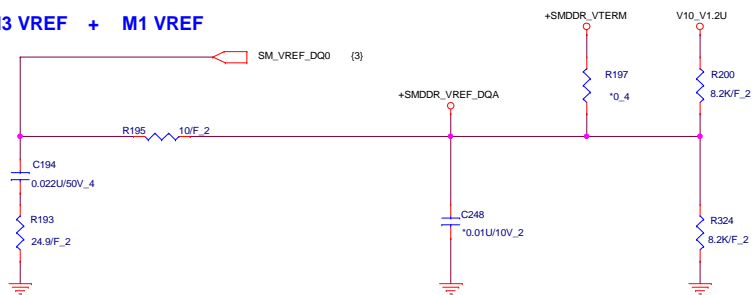
LPDDR3 MEMORY CHANNEL B-1

15

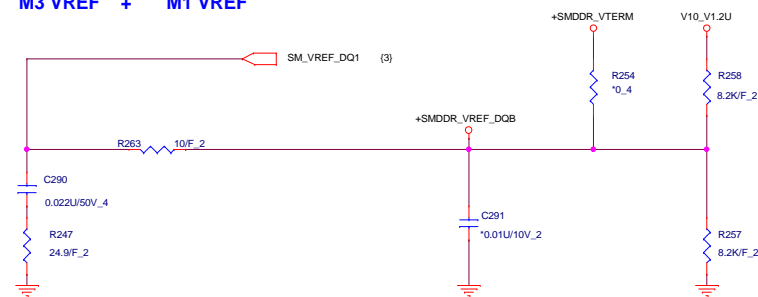




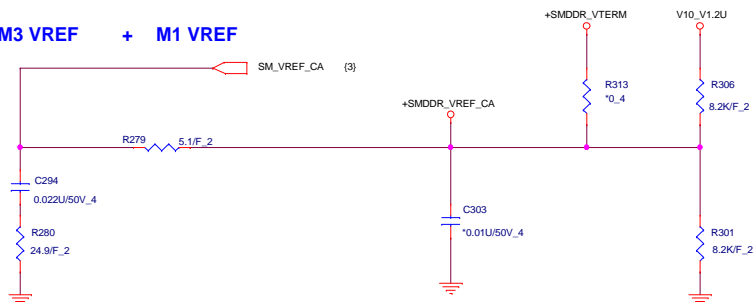
M3 VREF + M1 VREF



M3 VREF + M1 VREF

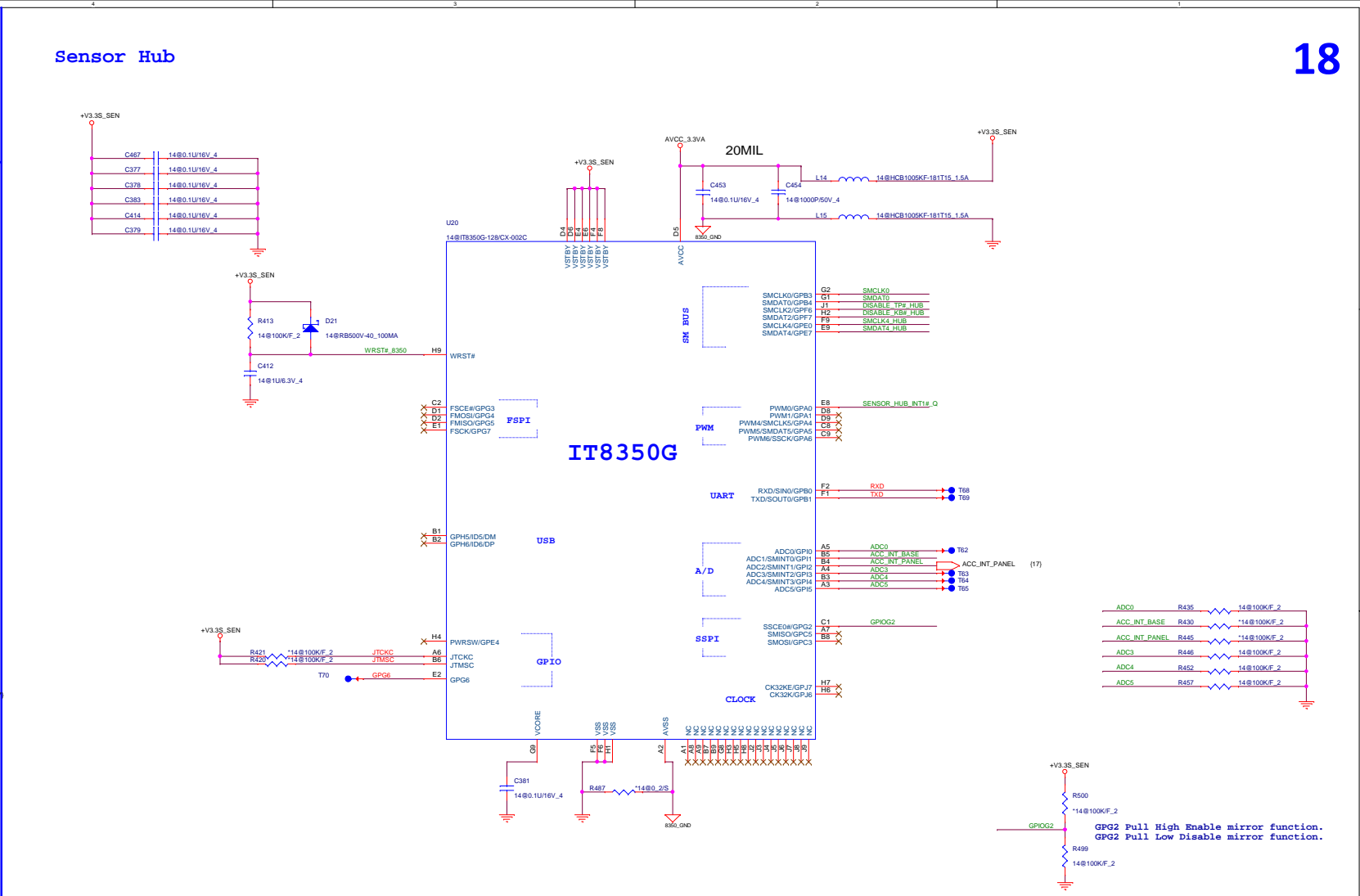
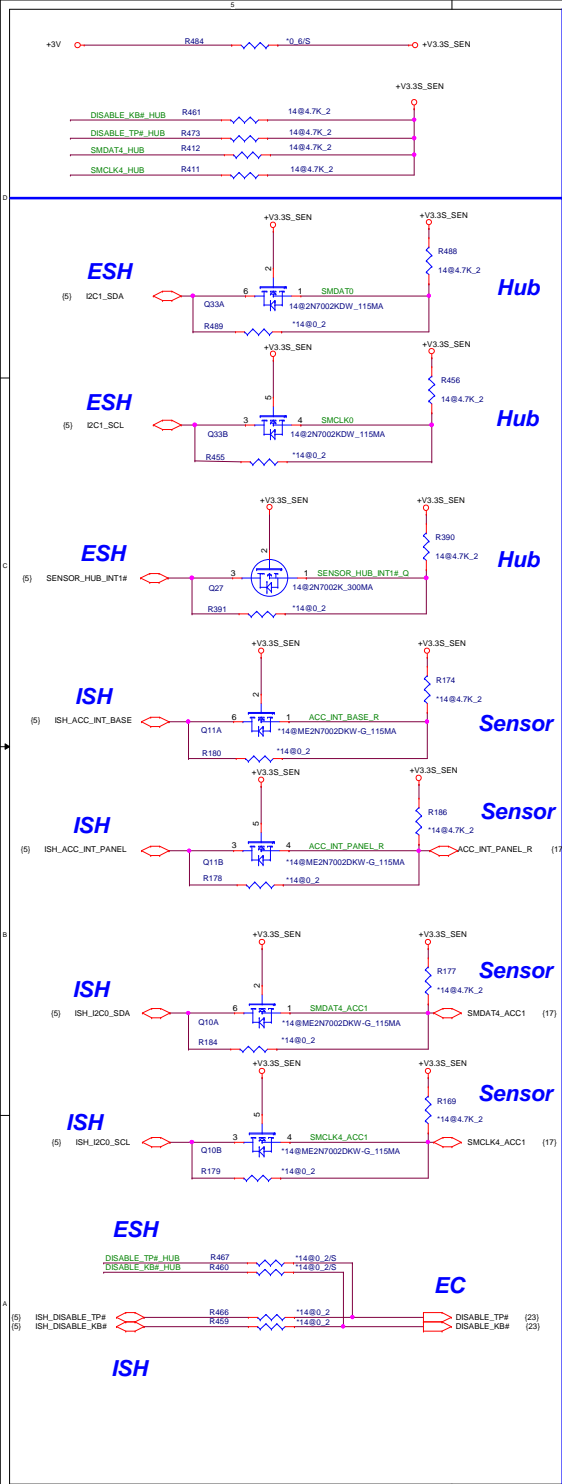


M3 VREF + M1 VREF



17

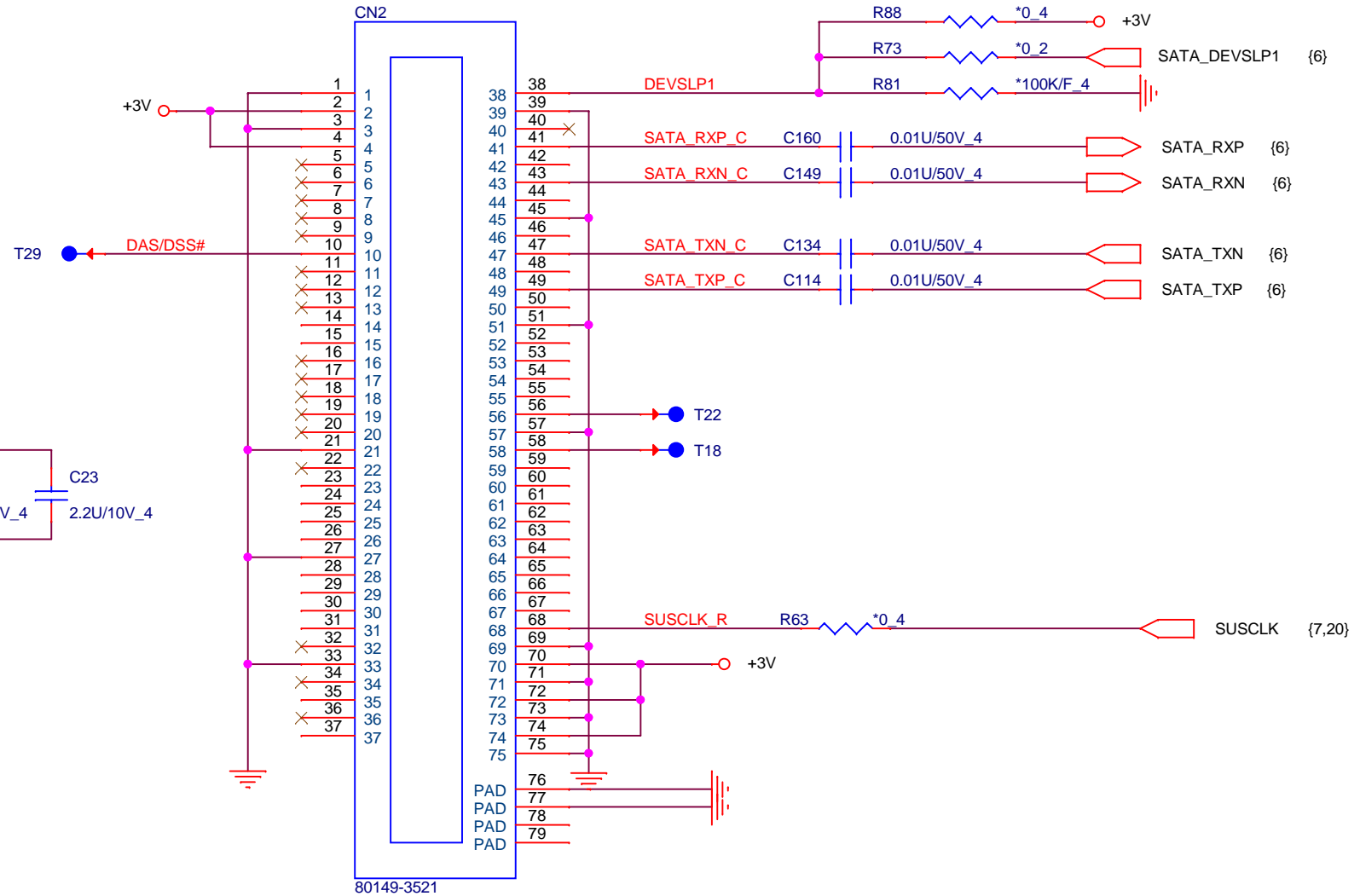
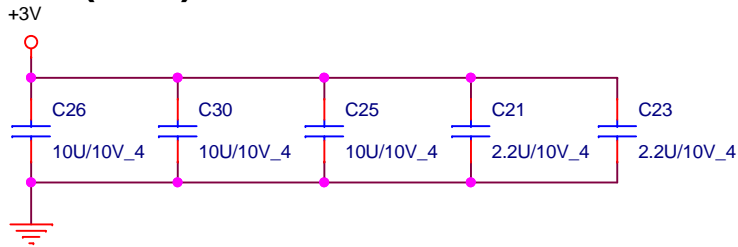




CONN: B KEY MODULE: B KEY

Func.	CPU TX	CPU RX
PCIE2	0.1uF	0ohm
PCIE3	0.22uF	0ohm
SATA	0.01uF	0.01uF
PCIE2/SATA	0.1uF	0ohm
PCIE3/SATA	0.22uF	0ohm

2.8A(Max)



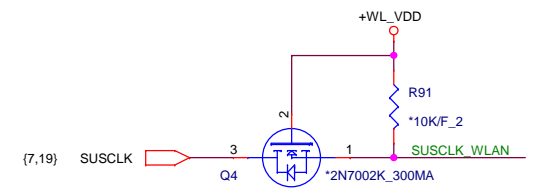
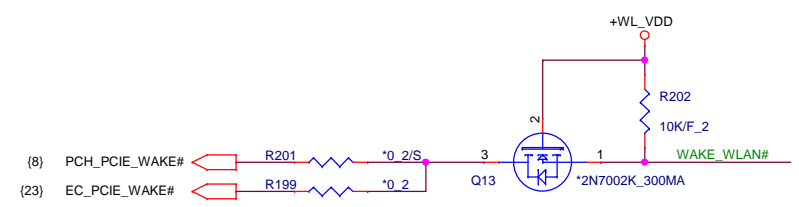
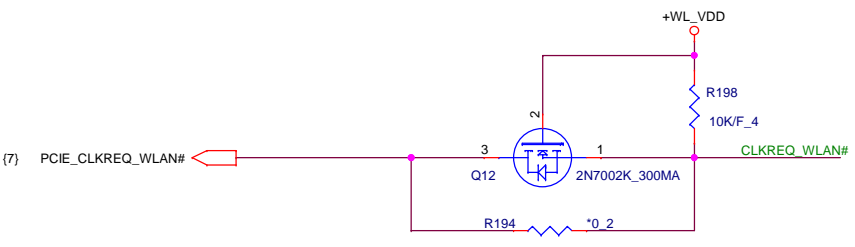
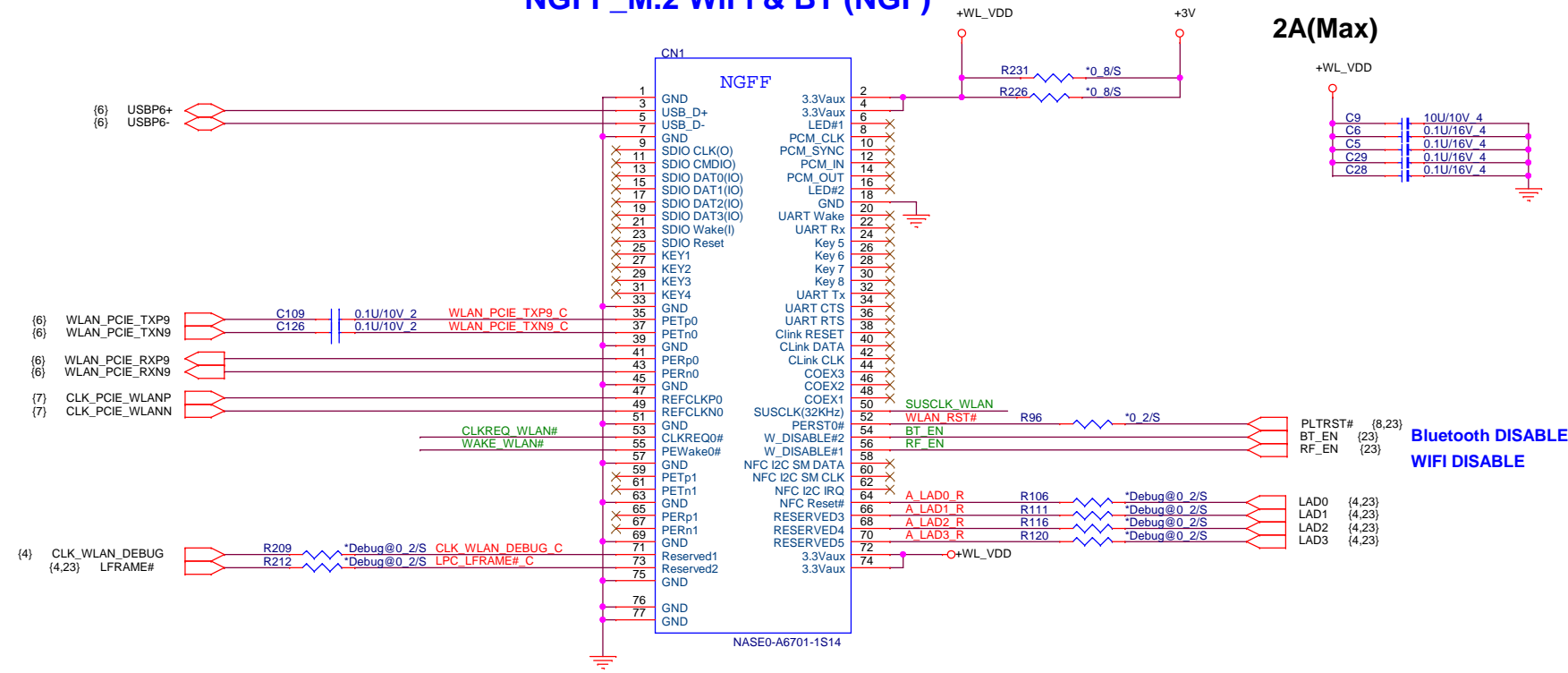
Quanta Computer Inc.

PROJECT : ZDS/ZSV

Size	Document Number	Rev
	SSD (NGFF CONN)	1A
Date:	Sunday, September 11, 2016	Sheet 19 of 42

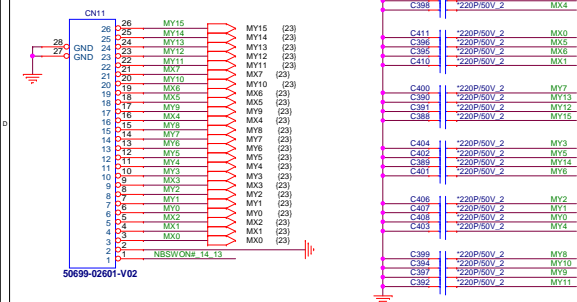
NGFF_M.2 WiFi & BT (NGF)

20

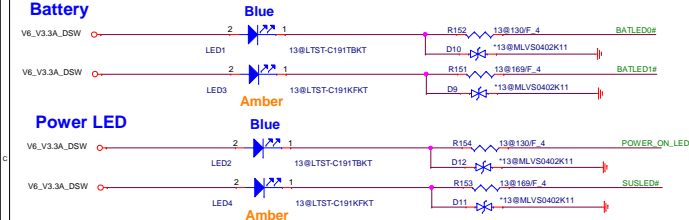


Quanta Computer Inc. PROJECT : ZDS/ZSV		Rev
		1A
Size	Document Number	
WIFI/BT		
Date:	Sunday, September 11, 2016	Sheet 20 of 42

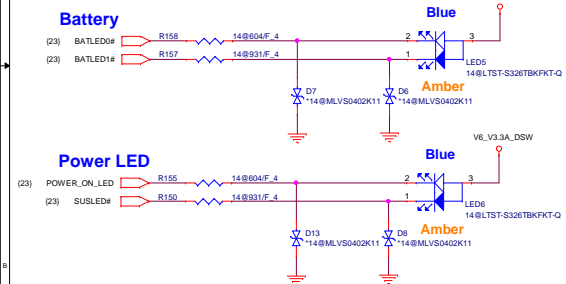
Close to KB conn



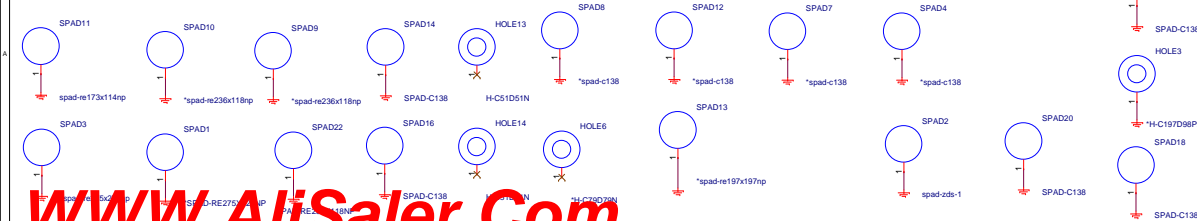
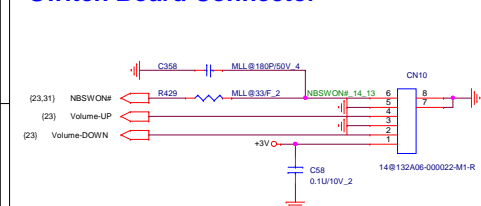
Battery



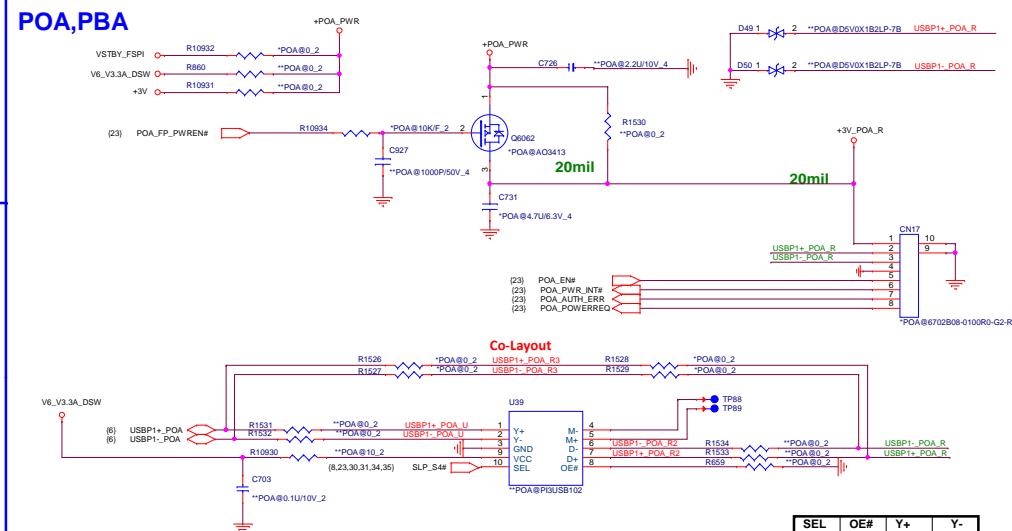
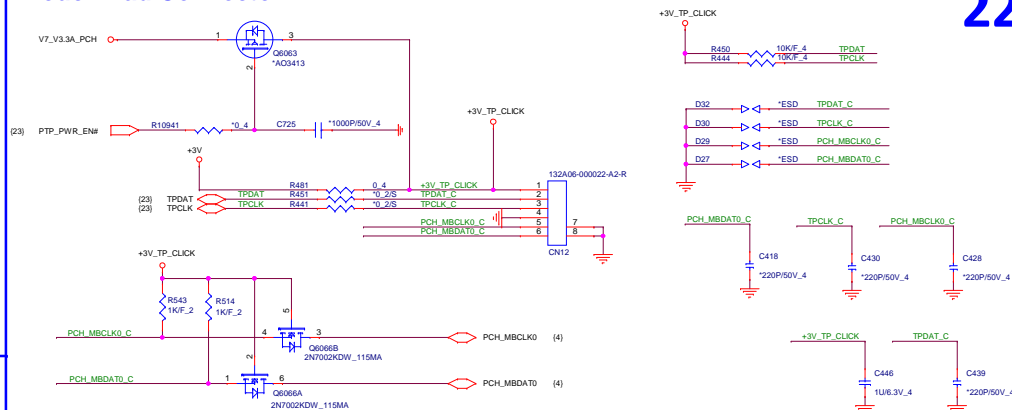
Battery



HOLE

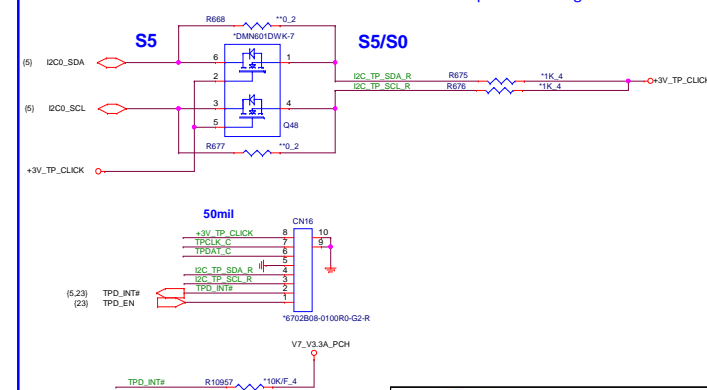


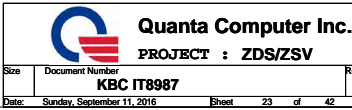
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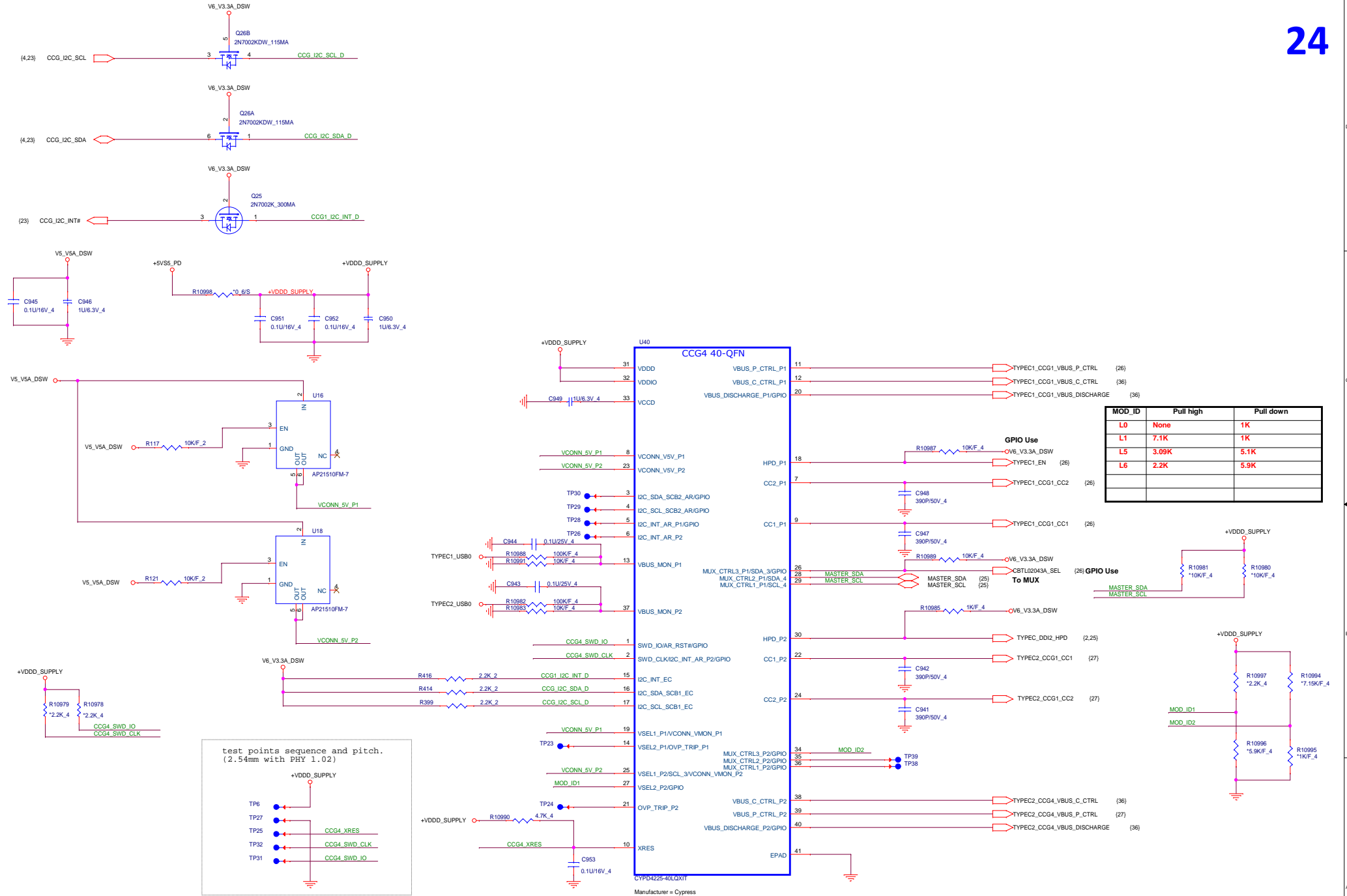


SEL	OE#	Y+	Y-
X	H	Hi-Z	Hi-Z
L	L	M+	M-
H	L	D+	D-

Spec define: High Active





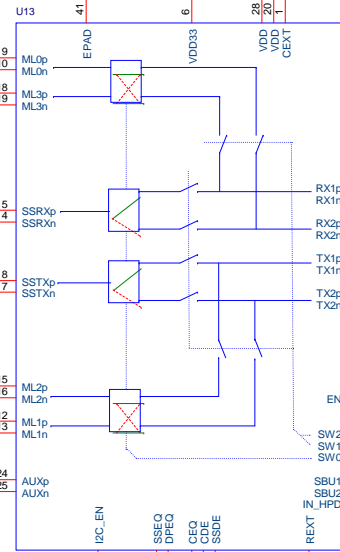


3 Level Input:
L: LOW, internal pull down
H: HIGH, external pull up
M: VDD33/2, both external pull-up and pull-down

DP Source

USB3.0 HOST

DP Source

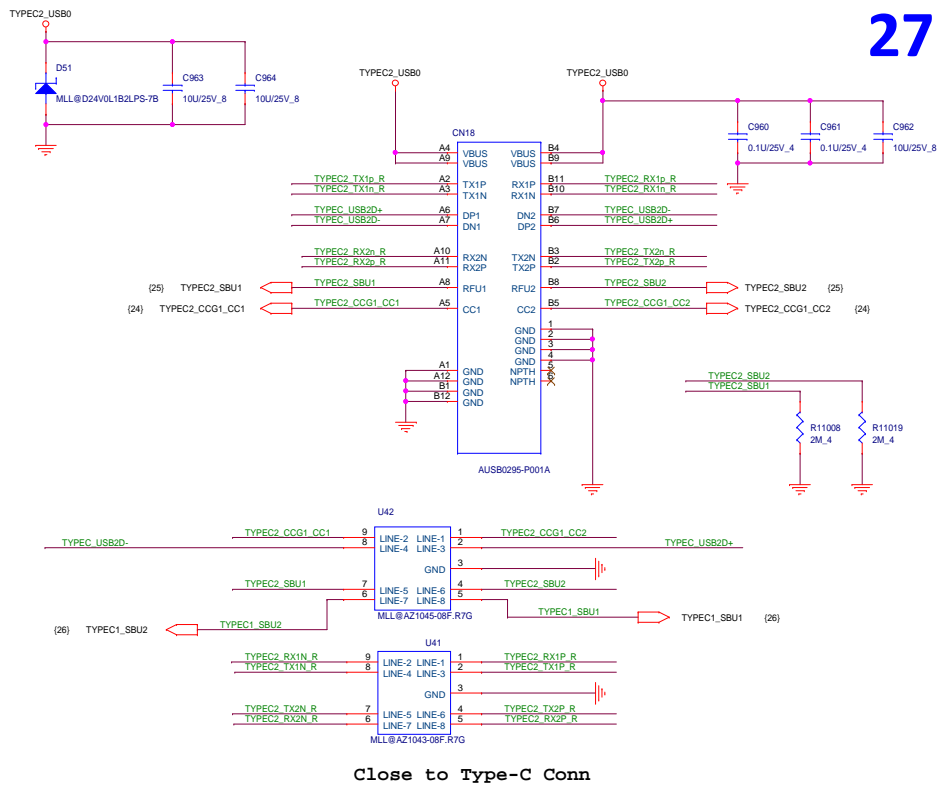


PS8743BQFN40GTR-B0

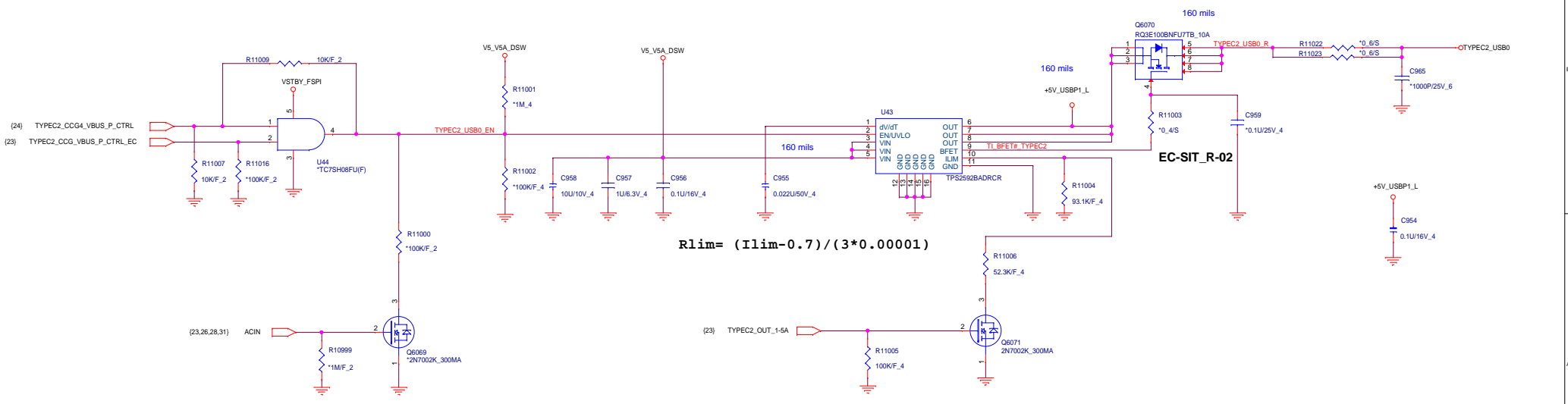
USB2.0 ESD



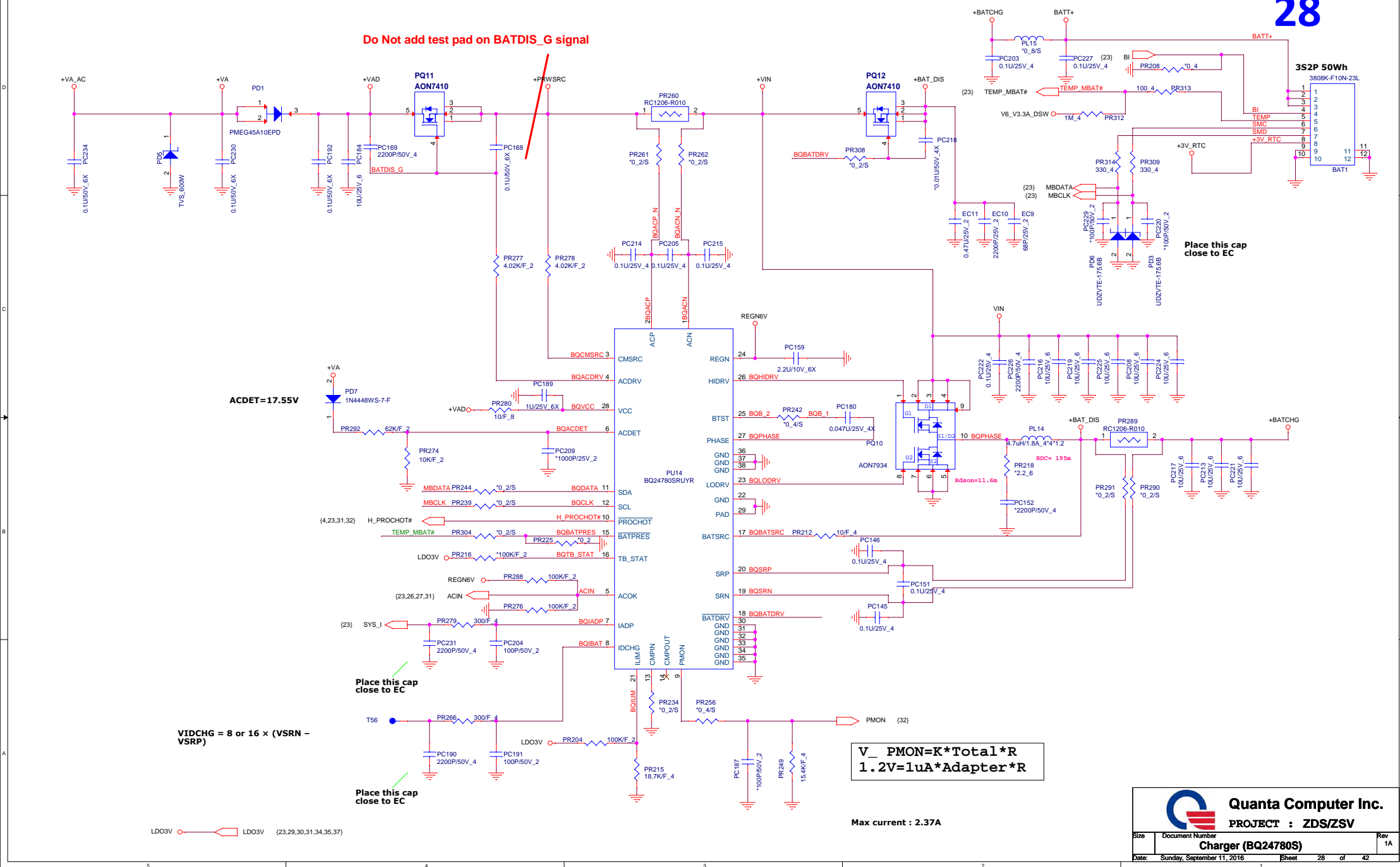
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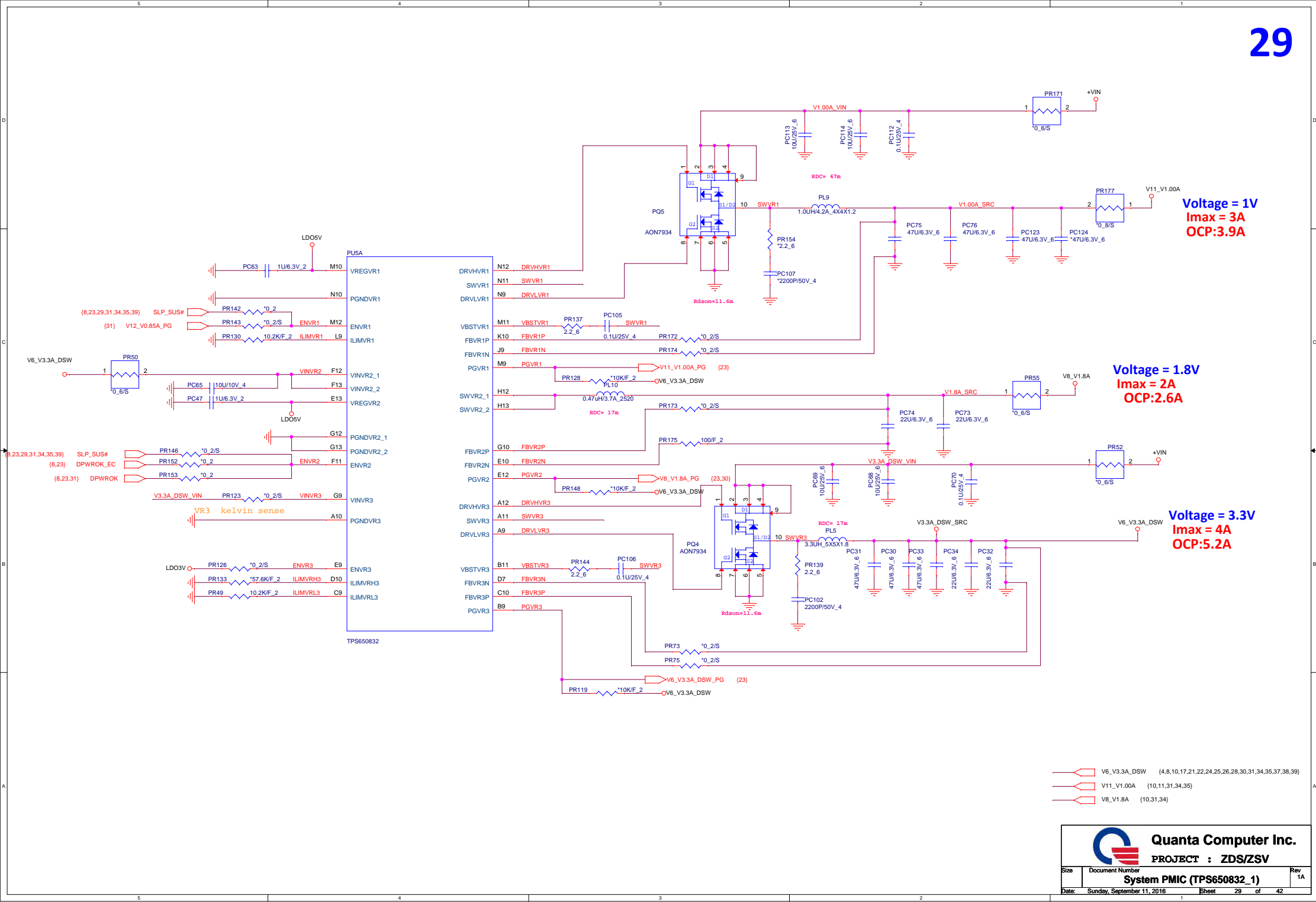


Close to Type-C Conn



$$R_{lim} = (I_{lim} - 0.7) / (3 * 0.00001)$$





DDRID	LPDDR3 1.2V
	GND

LPDDR3 1.2V

GND

(3) DDR_VTT_CTRL
(8,22,23,31,34,35) SLP_S4#

V5A_DS3_VIN PR90 0.2/S VINVR5 L7
VR5 kelvin sense N3

(23,29) V8_V1.8A_PG PR340 0.2
(23,28,29,31,34,35,37) LDO3V PR96 0.2/S ENVR5 M2
PR107 62K/F 2 ILIMVRH5 K5
PR42 16.5K/F 2 ILIMVRL5 L5

V10_V1.2U PR29 0.4/S
PC43 10U/10V_4

VOUTLDO1_1 A6
VOUTLDO1_2 B6
VOUTLDO1S F9
PGNDLDO1_1 A7
PGNDLDO1_2 B7

TPS65082

DRVHV4 A2 DRVHV4
SWVR4 A3 SWVR4
DRVL4 A5 DRVL4

VBST4 B3 VBST4 PR66 2.2_6 PC86 0.1U/25V_4
FBVR4 C3 FBVR4P
FBVR4N D5 FBVR4N

B5 PGVR4 PR95 0.2/S V10_V1.2U_PG (31)
PR104 10K/F 2 OV6_V3.3A_DS

DRVHV5 M1 DRVHV5
SWVR5 N2 SWVR5
DRVL5 N4 DRVL5

VBST5 M3 VBST5 PR106 2.2_6 PC92 0.1U/25V_4
FBVR5P G4 FBVR5P
FBVR5N L4 FBVR5N

M4 PGVR5 PR109 0.2/S
PR117 10K/F 2

VOUTLDO1_1 A8 VOUTLDO
VOUTLDO1_2 B8
FBLO1 D8 FBLO1 PR125 0.2

PC52 22U/6.3V_6

V5A_DS3_VIN PR90 0.2/S VINVR5 L7
VR5 kelvin sense N3

(23,29) V8_V1.8A_PG PR340 0.2
(23,28,29,31,34,35,37) LDO3V PR96 0.2/S ENVR5 M2
PR107 62K/F 2 ILIMVRH5 K5
PR42 16.5K/F 2 ILIMVRL5 L5

V10_V1.2U PR29 0.4/S
PC43 10U/10V_4

VOUTLDO1_1 A6
VOUTLDO1_2 B6
VOUTLDO1S F9
PGNDLDO1_1 A7
PGNDLDO1_2 B7

TPS65082

DRVHV4 A2 DRVHV4
SWVR4 A3 SWVR4
DRVL4 A5 DRVL4

VBST4 B3 VBST4 PR66 2.2_6 PC86 0.1U/25V_4
FBVR4 C3 FBVR4P
FBVR4N D5 FBVR4N

B5 PGVR4 PR95 0.2/S V10_V1.2U_PG (31)
PR104 10K/F 2 OV6_V3.3A_DS

DRVHV5 M1 DRVHV5
SWVR5 N2 SWVR5
DRVL5 N4 DRVL5

VBST5 M3 VBST5 PR106 2.2_6 PC92 0.1U/25V_4
FBVR5P G4 FBVR5P
FBVR5N L4 FBVR5N

M4 PGVR5 PR109 0.2/S
PR117 10K/F 2

VOUTLDO1_1 A8 VOUTLDO
VOUTLDO1_2 B8
FBLO1 D8 FBLO1 PR125 0.2

PC52 22U/6.3V_6

V5A_DS3_VIN PR90 0.2/S VINVR5 L7
VR5 kelvin sense N3

(23,29) V8_V1.8A_PG PR340 0.2
(23,28,29,31,34,35,37) LDO3V PR96 0.2/S ENVR5 M2
PR107 62K/F 2 ILIMVRH5 K5
PR42 16.5K/F 2 ILIMVRL5 L5

V10_V1.2U PR29 0.4/S
PC43 10U/10V_4

VOUTLDO1_1 A6
VOUTLDO1_2 B6
VOUTLDO1S F9
PGNDLDO1_1 A7
PGNDLDO1_2 B7

TPS65082

DRVHV4 A2 DRVHV4
SWVR4 A3 SWVR4
DRVL4 A5 DRVL4

VBST4 B3 VBST4 PR66 2.2_6 PC86 0.1U/25V_4
FBVR4 C3 FBVR4P
FBVR4N D5 FBVR4N

B5 PGVR4 PR95 0.2/S V10_V1.2U_PG (31)
PR104 10K/F 2 OV6_V3.3A_DS

DRVHV5 M1 DRVHV5
SWVR5 N2 SWVR5
DRVL5 N4 DRVL5

VBST5 M3 VBST5 PR106 2.2_6 PC92 0.1U/25V_4
FBVR5P G4 FBVR5P
FBVR5N L4 FBVR5N

M4 PGVR5 PR109 0.2/S
PR117 10K/F 2

VOUTLDO1_1 A8 VOUTLDO
VOUTLDO1_2 B8
FBLO1 D8 FBLO1 PR125 0.2

PC52 22U/6.3V_6

V5A_DS3_VIN PR90 0.2/S VINVR5 L7
VR5 kelvin sense N3

(23,29) V8_V1.8A_PG PR340 0.2
(23,28,29,31,34,35,37) LDO3V PR96 0.2/S ENVR5 M2
PR107 62K/F 2 ILIMVRH5 K5
PR42 16.5K/F 2 ILIMVRL5 L5

V10_V1.2U PR29 0.4/S
PC43 10U/10V_4

VOUTLDO1_1 A6
VOUTLDO1_2 B6
VOUTLDO1S F9
PGNDLDO1_1 A7
PGNDLDO1_2 B7

TPS65082

DRVHV4 A2 DRVHV4
SWVR4 A3 SWVR4
DRVL4 A5 DRVL4

VBST4 B3 VBST4 PR66 2.2_6 PC86 0.1U/25V_4
FBVR4 C3 FBVR4P
FBVR4N D5 FBVR4N

B5 PGVR4 PR95 0.2/S V10_V1.2U_PG (31)
PR104 10K/F 2 OV6_V3.3A_DS

DRVHV5 M1 DRVHV5
SWVR5 N2 SWVR5
DRVL5 N4 DRVL5

VBST5 M3 VBST5 PR106 2.2_6 PC92 0.1U/25V_4
FBVR5P G4 FBVR5P
FBVR5N L4 FBVR5N

M4 PGVR5 PR109 0.2/S
PR117 10K/F 2

VOUTLDO1_1 A8 VOUTLDO
VOUTLDO1_2 B8
FBLO1 D8 FBLO1 PR125 0.2

PC52 22U/6.3V_6

V5A_DS3_VIN PR90 0.2/S VINVR5 L7
VR5 kelvin sense N3

(23,29) V8_V1.8A_PG PR340 0.2
(23,28,29,31,34,35,37) LDO3V PR96 0.2/S ENVR5 M2
PR107 62K/F 2 ILIMVRH5 K5
PR42 16.5K/F 2 ILIMVRL5 L5

V10_V1.2U PR29 0.4/S
PC43 10U/10V_4

VOUTLDO1_1 A6
VOUTLDO1_2 B6
VOUTLDO1S F9
PGNDLDO1_1 A7
PGNDLDO1_2 B7

TPS65082

DRVHV4 A2 DRVHV4
SWVR4 A3 SWVR4
DRVL4 A5 DRVL4

VBST4 B3 VBST4 PR66 2.2_6 PC86 0.1U/25V_4
FBVR4 C3 FBVR4P
FBVR4N D5 FBVR4N

B5 PGVR4 PR95 0.2/S V10_V1.2U_PG (31)
PR104 10K/F 2 OV6_V3.3A_DS

DRVHV5 M1 DRVHV5
SWVR5 N2 SWVR5
DRVL5 N4 DRVL5

VBST5 M3 VBST5 PR106 2.2_6 PC92 0.1U/25V_4
FBVR5P G4 FBVR5P
FBVR5N L4 FBVR5N

M4 PGVR5 PR109 0.2/S
PR117 10K/F 2

VOUTLDO1_1 A8 VOUTLDO
VOUTLDO1_2 B8
FBLO1 D8 FBLO1 PR125 0.2

PC52 22U/6.3V_6

V5A_DS3_VIN PR90 0.2/S VINVR5 L7
VR5 kelvin sense N3

(23,29) V8_V1.8A_PG PR340 0.2
(23,28,29,31,34,35,37) LDO3V PR96 0.2/S ENVR5 M2
PR107 62K/F 2 ILIMVRH5 K5
PR42 16.5K/F 2 ILIMVRL5 L5

V10_V1.2U PR29 0.4/S
PC43 10U/10V_4

VOUTLDO1_1 A6
VOUTLDO1_2 B6
VOUTLDO1S F9
PGNDLDO1_1 A7
PGNDLDO1_2 B7

TPS65082

DRVHV4 A2 DRVHV4
SWVR4 A3 SWVR4
DRVL4 A5 DRVL4

VBST4 B3 VBST4 PR66 2.2_6 PC86 0.1U/25V_4
FBVR4 C3 FBVR4P
FBVR4N D5 FBVR4N

B5 PGVR4 PR95 0.2/S V10_V1.2U_PG (31)
PR104 10K/F 2 OV6_V3.3A_DS

DRVHV5 M1 DRVHV5
SWVR5 N2 SWVR5
DRVL5 N4 DRVL5

VBST5 M3 VBST5 PR106 2.2_6 PC92 0.1U/25V_4
FBVR5P G4 FBVR5P
FBVR5N L4 FBVR5N

M4 PGVR5 PR109 0.2/S
PR117 10K/F 2

VOUTLDO1_1 A8 VOUTLDO
VOUTLDO1_2 B8
FBLO1 D8 FBLO1 PR125 0.2

PC52 22U/6.3V_6

V5A_DS3_VIN PR90 0.2/S VINVR5 L7
VR5 kelvin sense N3

(23,29) V8_V1.8A_PG PR340 0.2
(23,28,29,31,34,35,37) LDO3V PR96 0.2/S ENVR5 M2
PR107 62K/F 2 ILIMVRH5 K5
PR42 16.5K/F 2 ILIMVRL5 L5

V10_V1.2U PR29 0.4/S
PC43 10U/10V_4

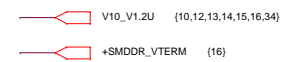
VOUTLDO1_1 A6
VOUTLDO1_2 B6
VOUTLDO1S F9
PGNDLDO1_1 A7
PGNDLDO1_2 B7

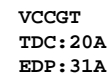
TPS65082

DRVHV4 A2 DRVHV4
SWVR4 A3 SWVR4
DRVL4 A5 DRVL4

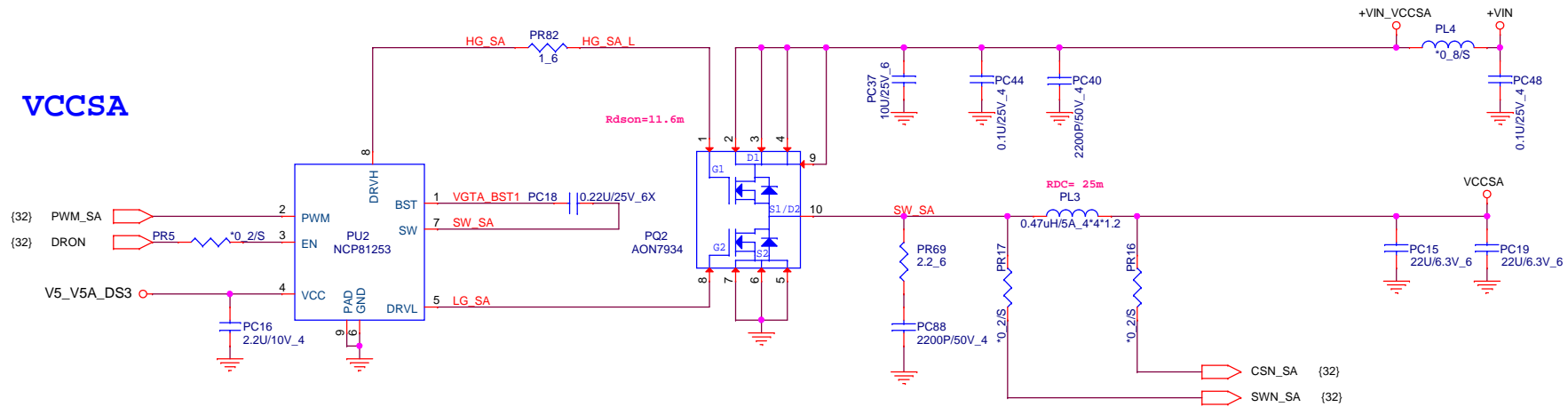
VBST4 B3 VBST4 PR66 2.2_6 PC86 0.1U/25V_4
FBVR4 C3 FBVR4P
FBVR4N D5 FBVR4N

B5 PGVR4 PR95 0.2/S V10_V1.2U_PG (31)





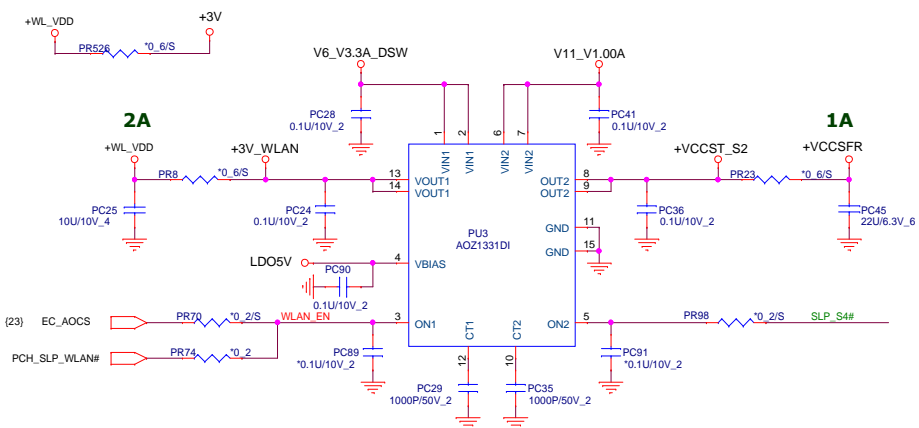
VCCSA

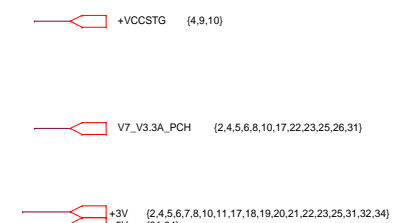


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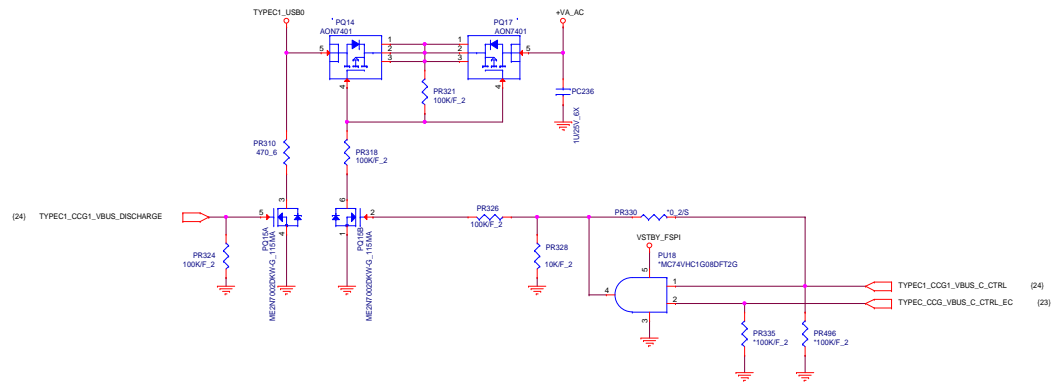
PROJECT : ZDS/ZSV

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	+VCCSA (NCP81253)	1A
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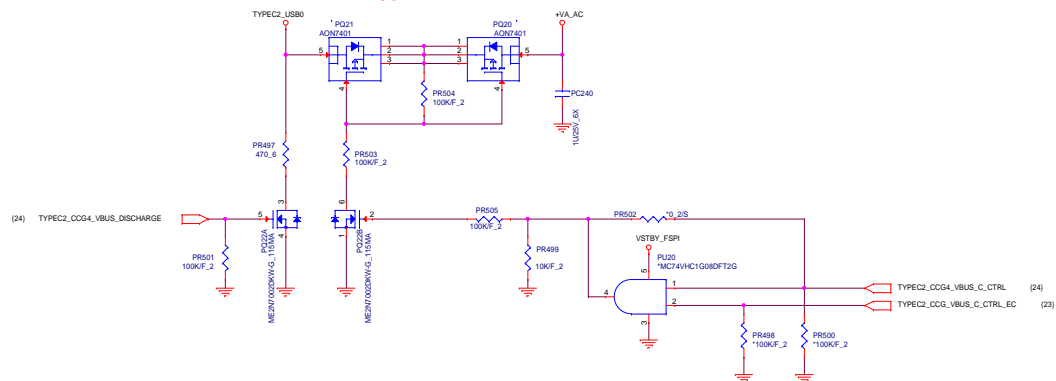




For TypeC PORT1



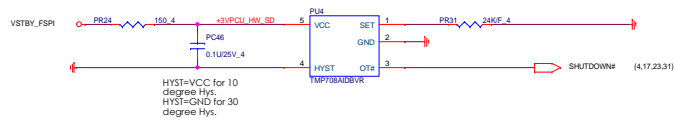
For TypeC PORT2

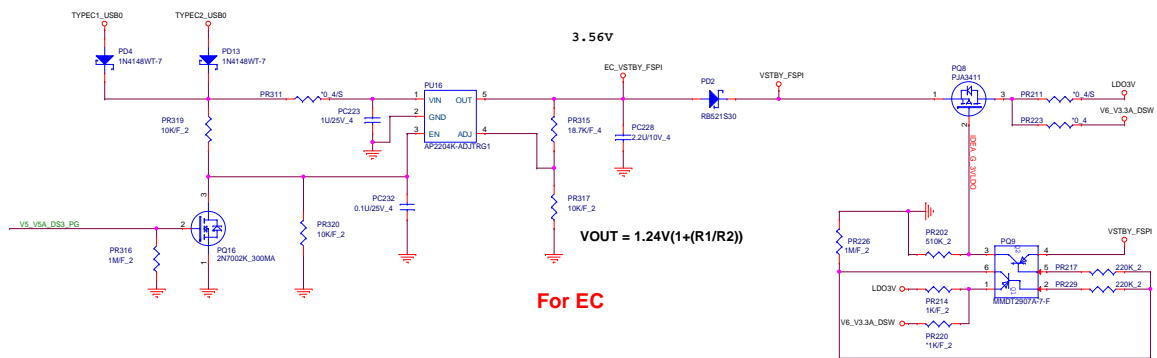
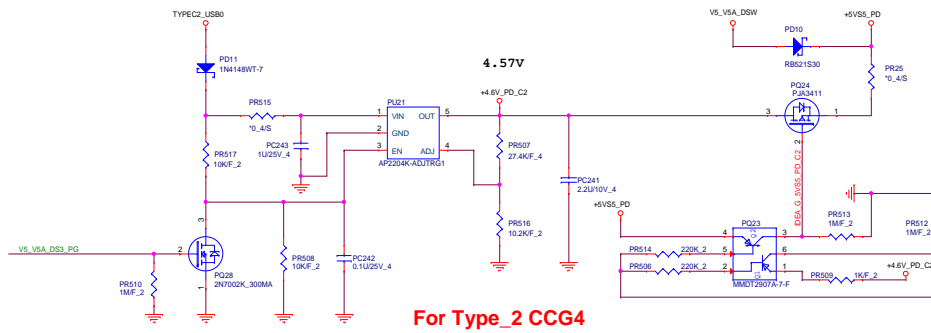
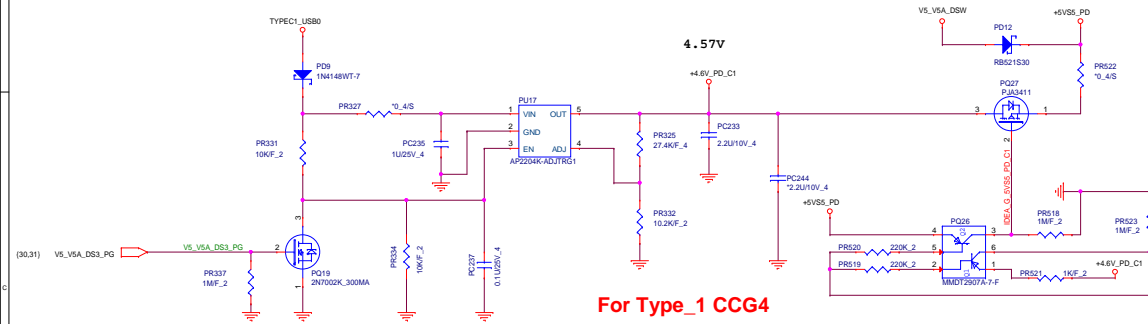
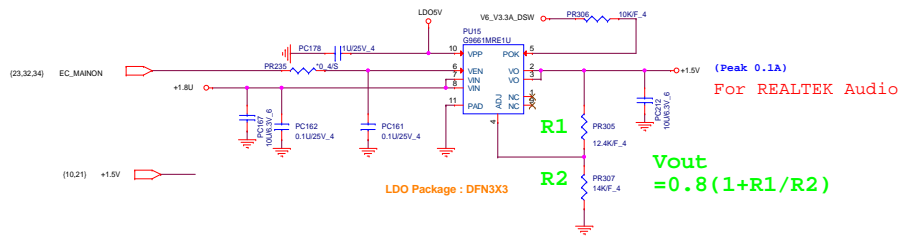


Thermal protection

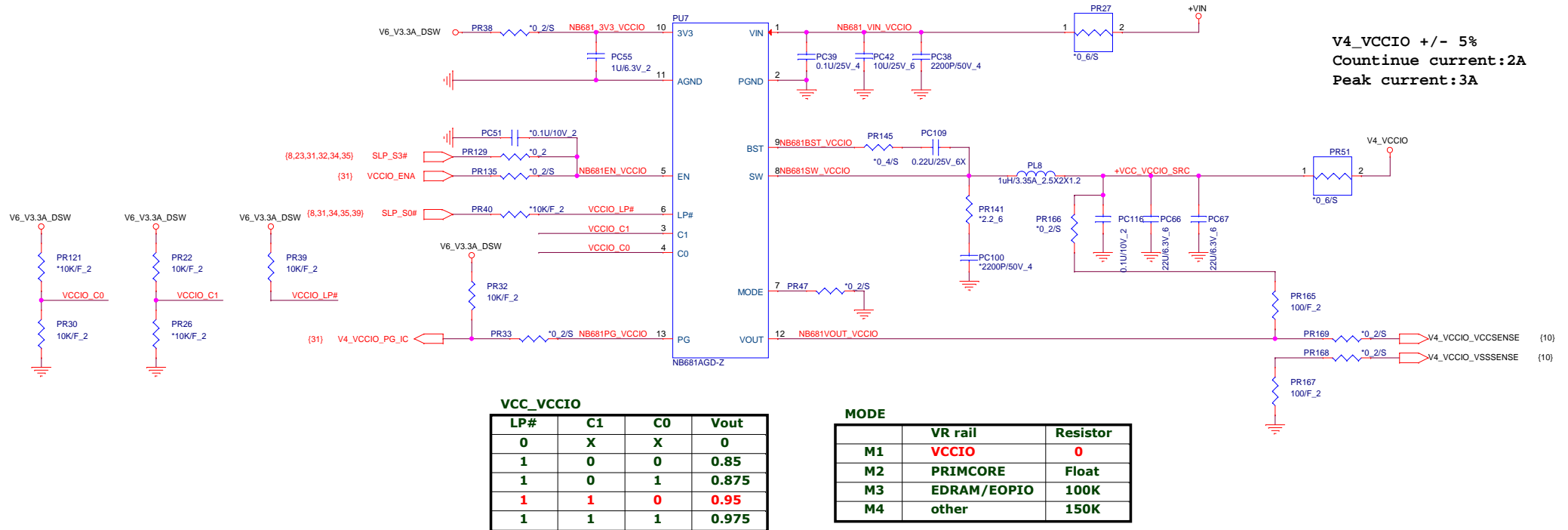
For thermal protect point
Note placement position
TEMP=85C

$$R_{set}(Kohm)=0.0012T^2-0.9308T+96.147$$





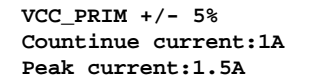
{17,21,28,29,30,31,32,33,39} +VIN
{2,7,10,31} V4_VCCIO



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	+VCC_VCCIO (NB681)	1A
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LP#	C1	C0	Vout
0	X	X	0.7
1	0	0	0.85
1	0	1	0.9
1	1	0	0.95
1	1	1	1.00

	VR rail	Resistor
M1	VCCIO	0
M2	PRIMCORE	Float
M3	EDRAM/EOPIO	100K
M4	other	150K

Power up sequence

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