Compal Confidential

STORM3 M/B Schematic

LA-F421P

Rev: 1.0_ B

2017.10.23

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Title: COVER PAGE		
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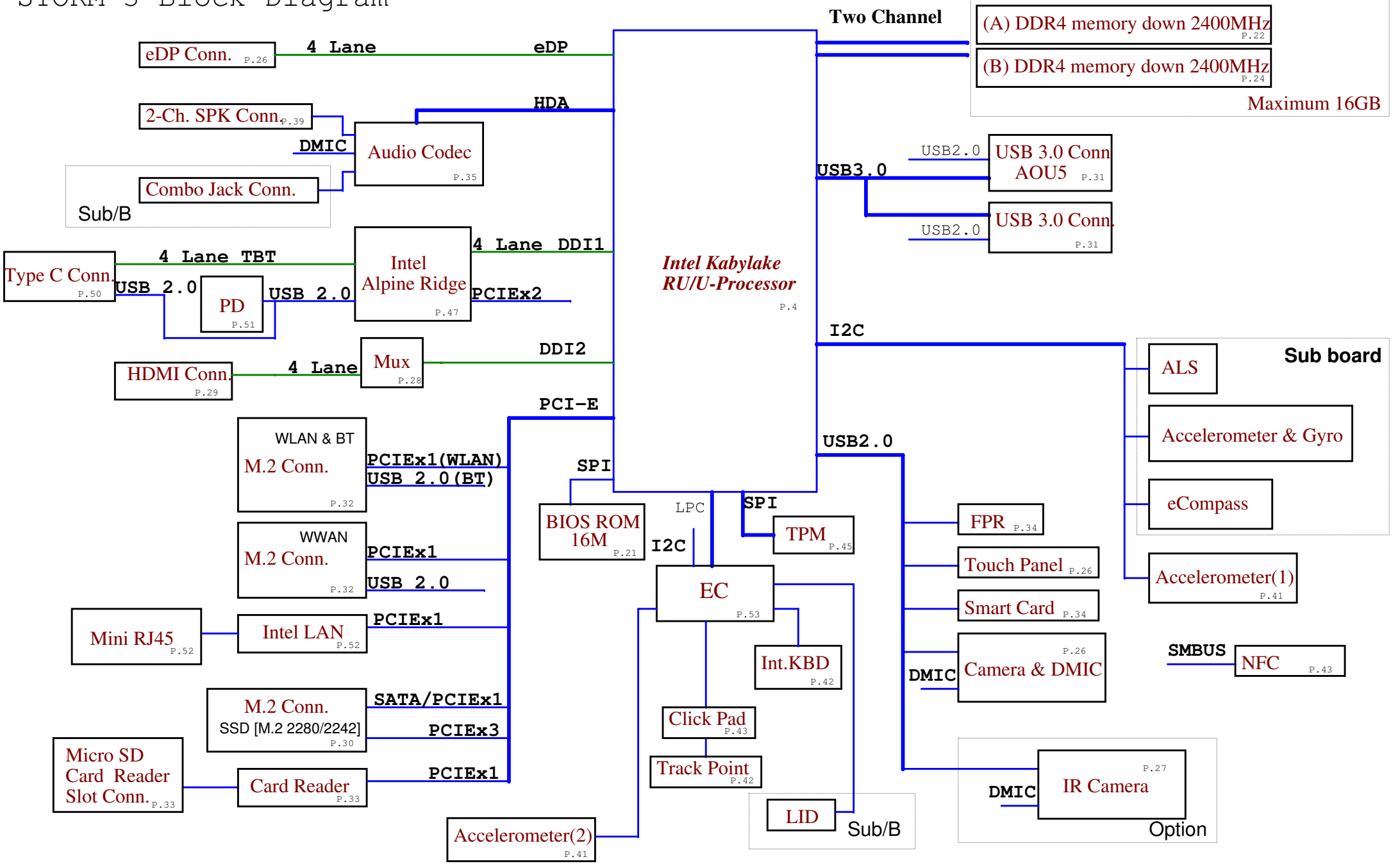
STORM 3 Block-Diagram



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Title	BLOCK DIAGRAM		
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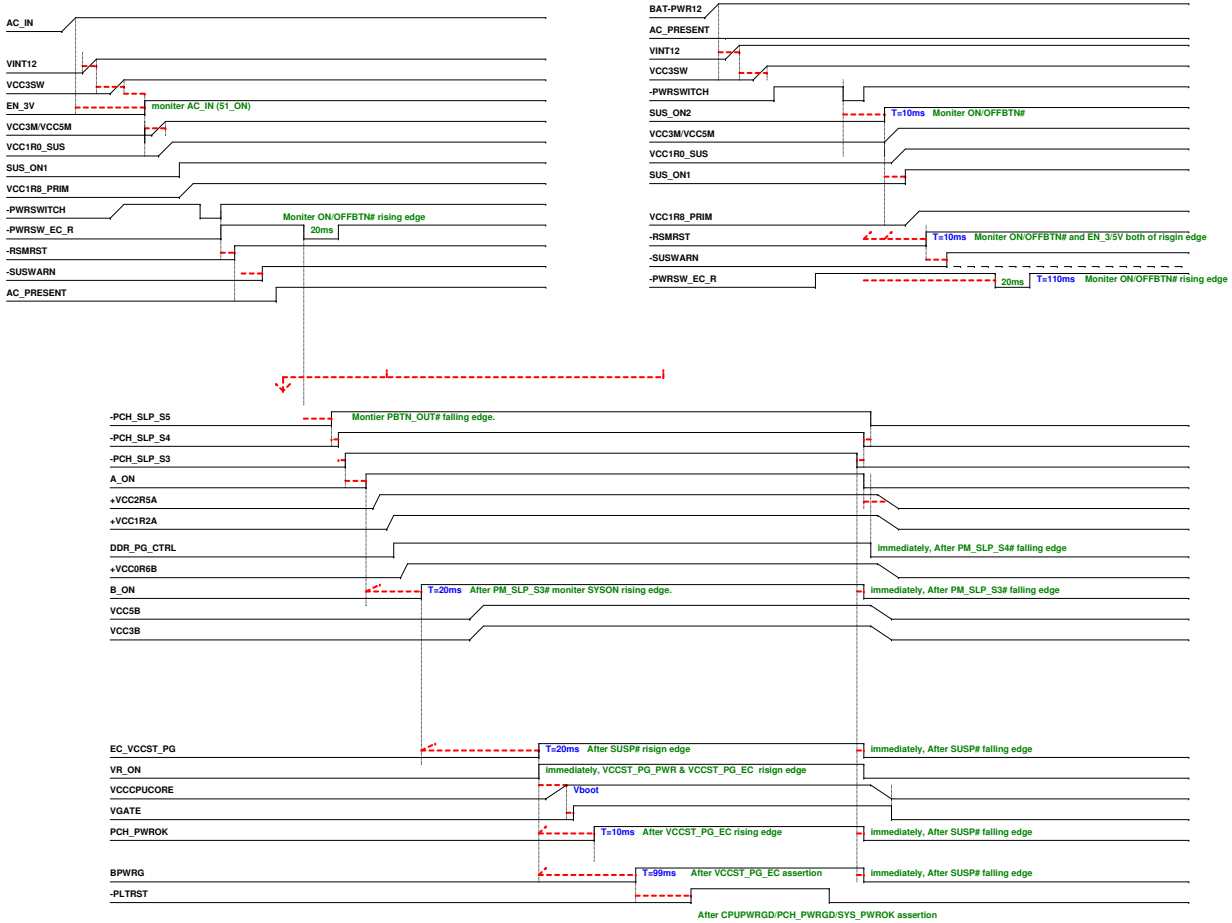
[Storm3 PWR Sequence_KBL-RU_DDR4_Non-Deep Sx]

[AC Mode]



[DC Mode]

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Compal Electronics, Inc.			
Title: Power Sequence			
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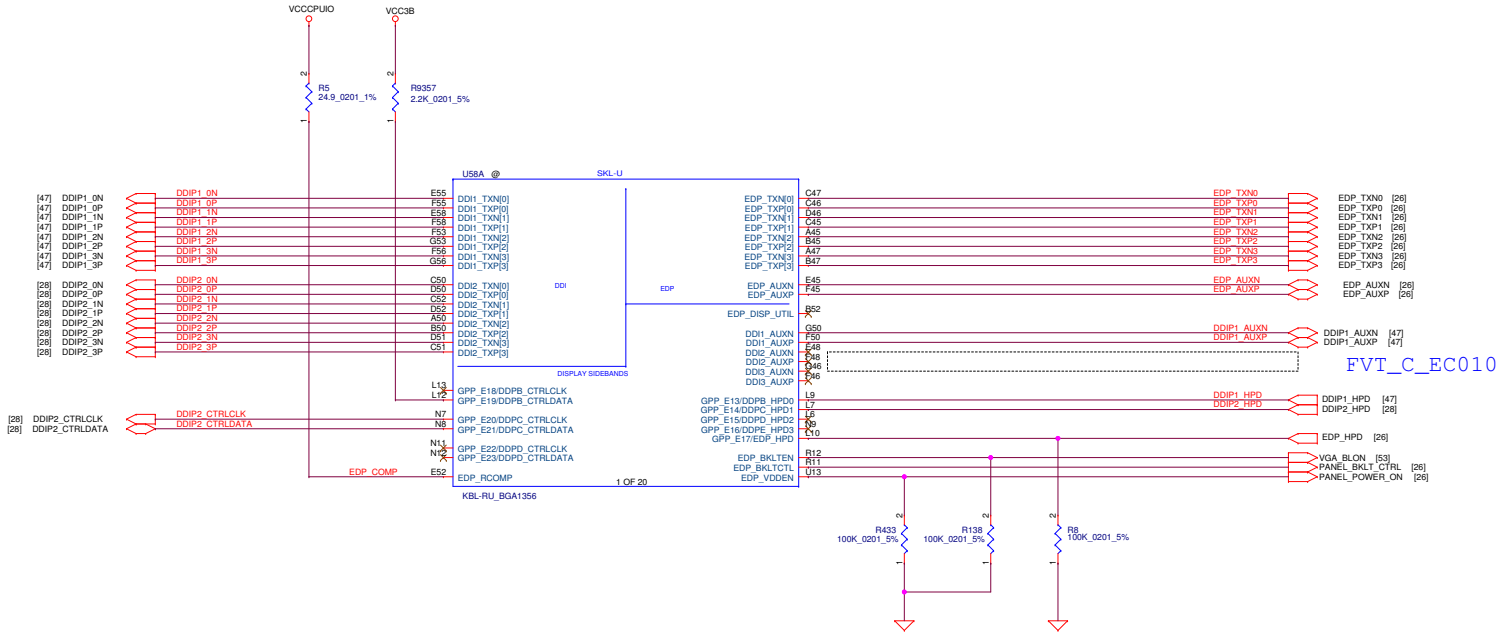

FVT_C_EC010

TABLE : Functional Strap

DDPB_CTRLDATA	
HIGH	**Port B is detected.**
LOW	**Port B is not detected.**
DDPC_CTRLDATA	
HIGH	**Port C is detected.**
LOW	**Port C is not detected.**

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Title: **CPU(1/16) : DDI/EDP**

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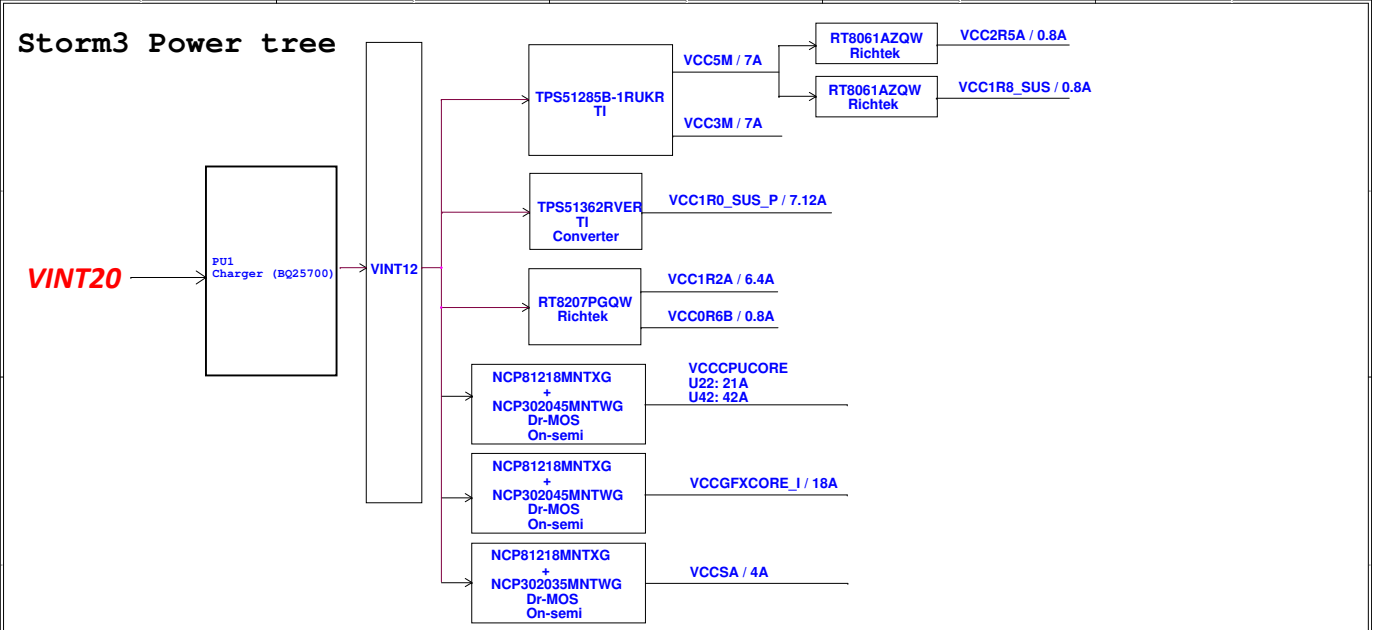
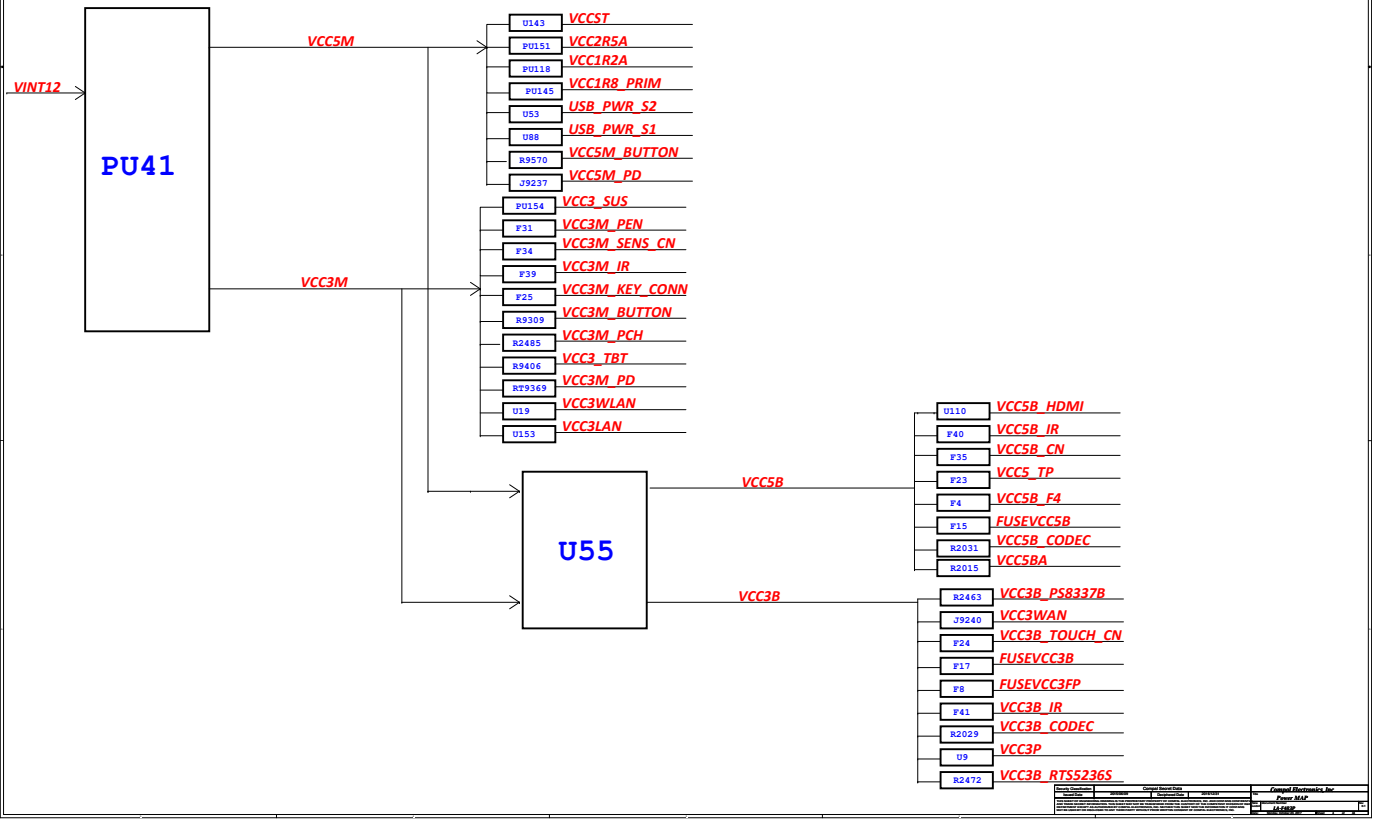
Storm3 Power tree





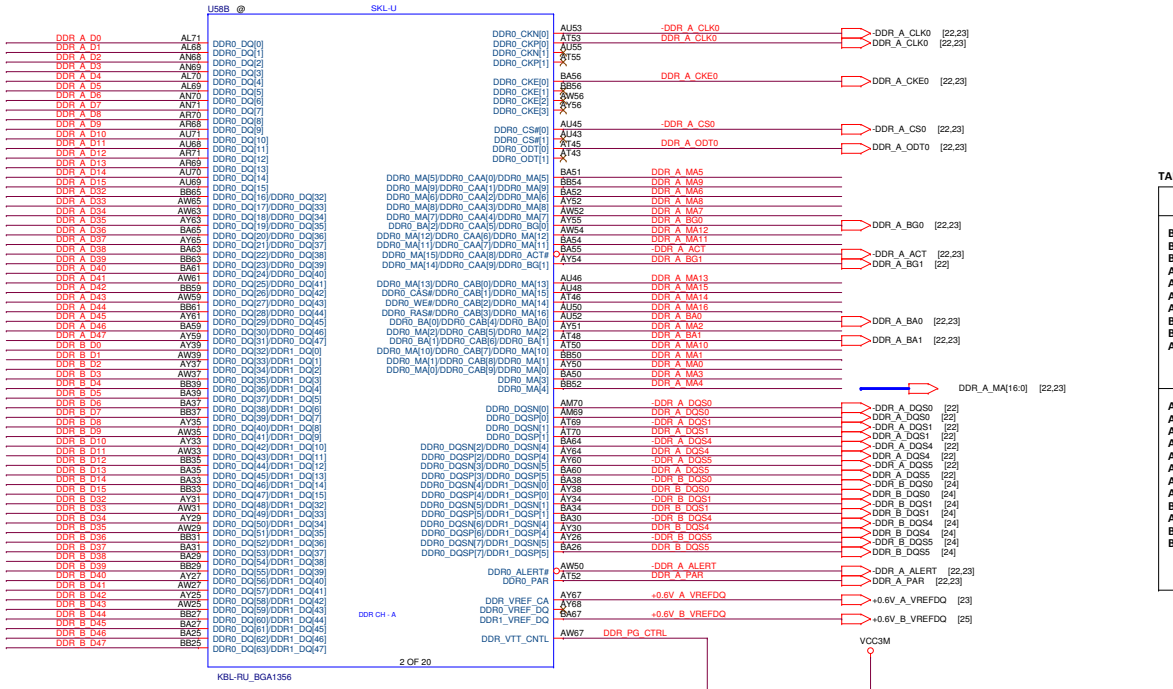
[6,22] DDR_A_D[63:0]

[6,24] DDR_B_D[63:0]

TABLE

	Pin	Interleave	Non-Interleave
Block 0	AL71 AL68 AN68 AN69 AL70 AL69 AN70 AN71 AR70 AR68 AU71 AU68 AR71 AR69 AU70 AU69	DDR0_DQ[0] DDR0_DQ[1] DDR0_DQ[2] DDR0_DQ[3] DDR0_DQ[4] DDR0_DQ[5] DDR0_DQ[6] DDR0_DQ[7] DDR0_DQ[8] DDR0_DQ[9] DDR0_DQ[10] DDR0_DQ[11] DDR0_DQ[12] DDR0_DQ[13] DDR0_DQ[14] DDR0_DQ[15]	DDR0_DQ[0] DDR0_DQ[1] DDR0_DQ[2] DDR0_DQ[3] DDR0_DQ[4] DDR0_DQ[5] DDR0_DQ[6] DDR0_DQ[7] DDR0_DQ[8] DDR0_DQ[9] DDR0_DQ[10] DDR0_DQ[11] DDR0_DQ[12] DDR0_DQ[13] DDR0_DQ[14] DDR0_DQ[15]
Block 2	BB65 AW65 AW63 AY63 BA65 AY65 BA63 BB63 BA61 AW61 BB59 AW59 BB61 BA59 AY59	DDR0_DQ[16] DDR0_DQ[17] DDR0_DQ[18] DDR0_DQ[19] DDR0_DQ[20] DDR0_DQ[21] DDR0_DQ[22] DDR0_DQ[23] DDR0_DQ[24] DDR0_DQ[25] DDR0_DQ[26] DDR0_DQ[27] DDR0_DQ[28] DDR0_DQ[29] DDR0_DQ[30] DDR0_DQ[31]	DDR0_DQ[32] DDR0_DQ[33] DDR0_DQ[34] DDR0_DQ[35] DDR0_DQ[36] DDR0_DQ[37] DDR0_DQ[38] DDR0_DQ[39] DDR0_DQ[40] DDR0_DQ[41] DDR0_DQ[42] DDR0_DQ[43] DDR0_DQ[44] DDR0_DQ[45] DDR0_DQ[46] DDR0_DQ[47]
Block 4	AY39 AW39 AY37 AW37 BB39 BA39 BA37 BB37 AY35 AW35 AY33 AW33 BB35 BA35 BA33 BB33	DDR0_DQ[32] DDR0_DQ[33] DDR0_DQ[34] DDR0_DQ[35] DDR0_DQ[36] DDR0_DQ[37] DDR0_DQ[38] DDR0_DQ[39] DDR0_DQ[40] DDR0_DQ[41] DDR0_DQ[42] DDR0_DQ[43] DDR0_DQ[44] DDR0_DQ[45] DDR0_DQ[46] DDR0_DQ[47]	DDR1_DQ[0] DDR1_DQ[1] DDR1_DQ[2] DDR1_DQ[3] DDR1_DQ[4] DDR1_DQ[5] DDR1_DQ[6] DDR1_DQ[7] DDR1_DQ[8] DDR1_DQ[9] DDR1_DQ[10] DDR1_DQ[11] DDR1_DQ[12] DDR1_DQ[13] DDR1_DQ[14] DDR1_DQ[15]
Block 6	AY31 AW31 AY29 AW29 BB31 BA31 BA29 BB29 AY27 AW27 AY25 AW25 BB27 BA27 BA25 BB25	DDR0_DQ[48] DDR0_DQ[49] DDR0_DQ[50] DDR0_DQ[51] DDR0_DQ[52] DDR0_DQ[53] DDR0_DQ[54] DDR0_DQ[55] DDR0_DQ[56] DDR0_DQ[57] DDR0_DQ[58] DDR0_DQ[59] DDR0_DQ[60] DDR0_DQ[61] DDR0_DQ[62] DDR0_DQ[63]	DDR1_DQ[32] DDR1_DQ[33] DDR1_DQ[34] DDR1_DQ[35] DDR1_DQ[36] DDR1_DQ[37] DDR1_DQ[38] DDR1_DQ[39] DDR1_DQ[40] DDR1_DQ[41] DDR1_DQ[42] DDR1_DQ[43] DDR1_DQ[44] DDR1_DQ[45] DDR1_DQ[46] DDR1_DQ[47]

LOGIC LOGIC



TABLE

	Pin	Interleave	Non-Interleave
Block 0	AM70 AM69 AT69 AT70	DDR0_DQSN[0] DDR0_DQSP[0] DDR0_DQSN[1] DDR0_DQSP[1]	DDR0_DQSN[0] DDR0_DQSP[0] DDR0_DQSN[1] DDR0_DQSP[1]
Block 2	BA64 AY64 AY60 BA60	DDR0_DQSN[2] DDR0_DQSP[2] DDR0_DQSN[3] DDR0_DQSP[3]	DDR0_DQSN[4] DDR0_DQSP[4] DDR0_DQSN[5] DDR0_DQSP[5]
Block 4	BA38 AY38 AY34 BA34	DDR0_DQSN[4] DDR0_DQSP[4] DDR0_DQSN[5] DDR0_DQSP[5]	DDR1_DQSN[0] DDR1_DQSP[0] DDR1_DQSN[1] DDR1_DQSP[1]
Block 6	BA30 AY30 AY26 BA26	DDR0_DQSN[6] DDR0_DQSP[6] DDR0_DQSN[7] DDR0_DQSP[7]	DDR1_DQSN[4] DDR1_DQSP[4] DDR1_DQSN[5] DDR1_DQSP[5]

LOGIC LOGIC

TABLE

Pin	DDR3L	LPDDR3	DDR4
BA51	DDR0_MA[5]	DDR0_CAA[0]	DDR0_MA[5]
BB54	DDR0_MA[9]	DDR0_CAA[1]	DDR0_MA[9]
BA52	DDR0_MA[6]	DDR0_CAA[2]	DDR0_MA[6]
AY52	DDR0_MA[8]	DDR0_CAA[3]	DDR0_MA[8]
AW52	DDR0_MA[7]	DDR0_CAA[4]	DDR0_MA[7]
AY55	DDR0_BA[2]	DDR0_CAA[5]	DDR0_BG[0]
AW54	DDR0_MA[12]	DDR0_CAA[6]	DDR0_MA[12]
BA54	DDR0_MA[11]	DDR0_CAA[7]	DDR0_MA[11]
BA55	DDR0_MA[15]	DDR0_CAA[8]	DDR0_ACT#
AY54	DDR0_MA[14]	DDR0_CAA[9]	DDR0_BG[1]
AU46	DDR0_MA[13]	DDR0_CAB[0]	DDR0_MA[13]
AU48	DDR0_CAS#	DDR0_CAB[1]	DDR0_MA[15]
AT46	DDR0_WE#	DDR0_CAB[2]	DDR0_MA[14]
AU50	DDR0_RAS#	DDR0_CAB[3]	DDR0_MA[16]
AU52	DDR0_BA[0]	DDR0_CAB[4]	DDR0_BA[0]
AY51	DDR0_MA[2]	DDR0_CAB[5]	DDR0_MA[2]
AT48	DDR0_BA[1]	DDR0_CAB[6]	DDR0_BA[1]
AT50	DDR0_MA[10]	DDR0_CAB[7]	DDR0_MA[10]
BB50	DDR0_MA[1]	DDR0_CAB[8]	DDR0_MA[1]
AY50	DDR0_MA[0]	DDR0_CAB[9]	DDR0_MA[0]
BA50	DDR0_MA[3]	Not Used	DDR0_MA[3]
BB52	DDR0_MA[4]	Not Used	DDR0_MA[4]

LOGIC

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Compal Electronics, Inc.

Title: CPU(2/16) : DDR CHANNEL-A

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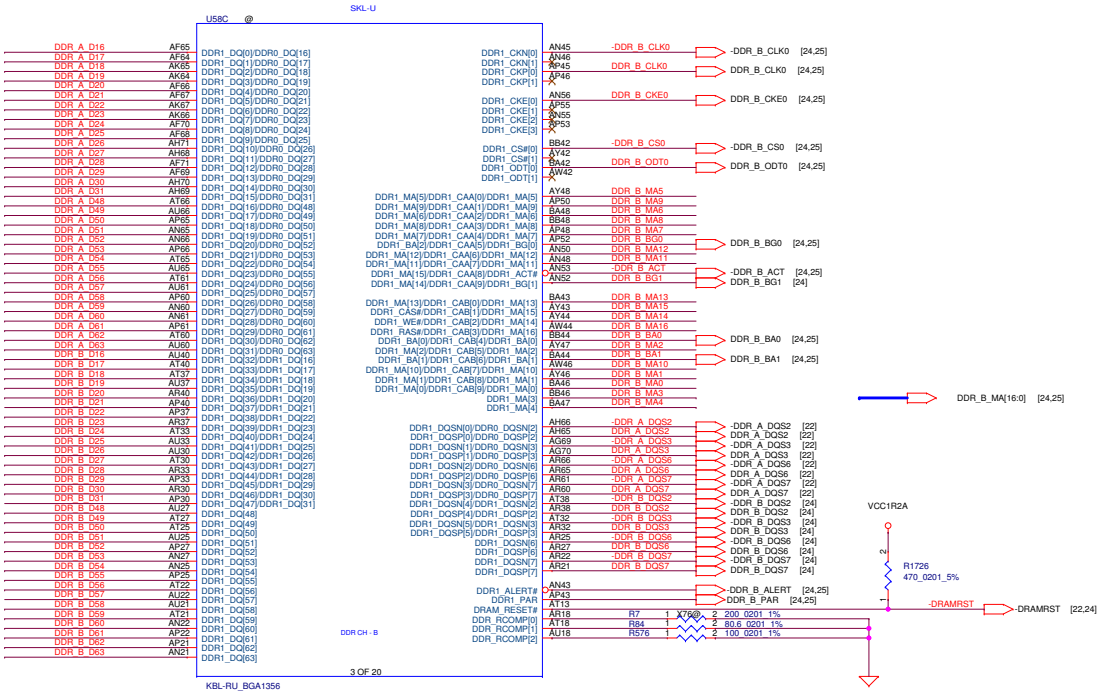
[5,22] DDR_A_D[63:0]

[5,24] DDR_B_D[63:0]

TABLE

	Pin	Interleave	Non-Interleave
Block 1	AF65 AF64 AK65 AK64 AF66 AF67 AK67 AK66 AF70 AF68 AH71 AH68 AF71 AF69 AH70 AH69	DDR1_DQ[0] DDR1_DQ[1] DDR1_DQ[2] DDR1_DQ[3] DDR1_DQ[4] DDR1_DQ[5] DDR1_DQ[6] DDR1_DQ[7] DDR1_DQ[8] DDR1_DQ[9] DDR1_DQ[10] DDR1_DQ[11] DDR1_DQ[12] DDR1_DQ[13] DDR1_DQ[14] DDR1_DQ[15]	DDR0_DQ[16] DDR0_DQ[17] DDR0_DQ[18] DDR0_DQ[19] DDR0_DQ[20] DDR0_DQ[21] DDR0_DQ[22] DDR0_DQ[23] DDR0_DQ[24] DDR0_DQ[25] DDR0_DQ[26] DDR0_DQ[27] DDR0_DQ[28] DDR0_DQ[29] DDR0_DQ[30] DDR0_DQ[31]
Block 3	AT66 AU66 AP65 AN65 AN66 AP66 AT65 AU65 AT61 AU61 AP60 AN60 AN61 AP61 AT60 AU60	DDR1_DQ[16] DDR1_DQ[17] DDR1_DQ[18] DDR1_DQ[19] DDR1_DQ[20] DDR1_DQ[21] DDR1_DQ[22] DDR1_DQ[23] DDR1_DQ[24] DDR1_DQ[25] DDR1_DQ[26] DDR1_DQ[27] DDR1_DQ[28] DDR1_DQ[29] DDR1_DQ[30] DDR1_DQ[31]	DDR0_DQ[48] DDR0_DQ[49] DDR0_DQ[50] DDR0_DQ[51] DDR0_DQ[52] DDR0_DQ[53] DDR0_DQ[54] DDR0_DQ[55] DDR0_DQ[56] DDR0_DQ[57] DDR0_DQ[58] DDR0_DQ[59] DDR0_DQ[60] DDR0_DQ[61] DDR0_DQ[62] DDR0_DQ[63]
Block 5	AU40 AT40 AT37 AU37 AR40 AP40 AP37 AR37 AT33 AU33 AU30 AT30 AR33 AP33 AR30 AP30	DDR1_DQ[32] DDR1_DQ[33] DDR1_DQ[34] DDR1_DQ[35] DDR1_DQ[36] DDR1_DQ[37] DDR1_DQ[38] DDR1_DQ[39] DDR1_DQ[40] DDR1_DQ[41] DDR1_DQ[42] DDR1_DQ[43] DDR1_DQ[44] DDR1_DQ[45] DDR1_DQ[46] DDR1_DQ[47]	DDR1_DQ[16] DDR1_DQ[17] DDR1_DQ[18] DDR1_DQ[19] DDR1_DQ[20] DDR1_DQ[21] DDR1_DQ[22] DDR1_DQ[23] DDR1_DQ[24] DDR1_DQ[25] DDR1_DQ[26] DDR1_DQ[27] DDR1_DQ[28] DDR1_DQ[29] DDR1_DQ[30] DDR1_DQ[31]
Block 7	AU27 AT27 AT25 AU25 AP27 AN27 AN25 AP25 AT22 AU22 AU21 AT21 AN22 AP22 AP21 AN21	DDR1_DQ[48] DDR1_DQ[49] DDR1_DQ[50] DDR1_DQ[51] DDR1_DQ[52] DDR1_DQ[53] DDR1_DQ[54] DDR1_DQ[55] DDR1_DQ[56] DDR1_DQ[57] DDR1_DQ[58] DDR1_DQ[59] DDR1_DQ[60] DDR1_DQ[61] DDR1_DQ[62] DDR1_DQ[63]	DDR1_DQ[48] DDR1_DQ[49] DDR1_DQ[50] DDR1_DQ[51] DDR1_DQ[52] DDR1_DQ[53] DDR1_DQ[54] DDR1_DQ[55] DDR1_DQ[56] DDR1_DQ[57] DDR1_DQ[58] DDR1_DQ[59] DDR1_DQ[60] DDR1_DQ[61] DDR1_DQ[62] DDR1_DQ[63]

LOGIC LOGIC



TABLE

	Pin	Interleave	Non-Interleave
Block 1	AH66 AH65 AG69 AG70	DDR1_DQSN[0] DDR1_DQSP[0] DDR1_DQSN[1] DDR1_DQSP[1]	DDR0_DQSN[2] DDR0_DQSP[2] DDR0_DQSN[3] DDR0_DQSP[3]
Block 3	AR66 AR65 AR61 AR60	DDR1_DQSN[2] DDR1_DQSP[2] DDR1_DQSN[3] DDR1_DQSP[3]	DDR0_DQSN[6] DDR0_DQSP[6] DDR0_DQSN[7] DDR0_DQSP[7]
Block 5	AT38 AR38 AT32 AR32	DDR1_DQSN[4] DDR1_DQSP[4] DDR1_DQSN[5] DDR1_DQSP[5]	DDR1_DQSN[2] DDR1_DQSP[2] DDR1_DQSN[3] DDR1_DQSP[3]
Block 7	AR25 AR27 AR22 AR21	DDR1_DQSN[6] DDR1_DQSP[6] DDR1_DQSN[7] DDR1_DQSP[7]	DDR1_DQSN[6] DDR1_DQSP[6] DDR1_DQSN[7] DDR1_DQSP[7]

LOGIC LOGIC

	SDP	DDP
R7	200 1%	121 1%

TABLE

Pin	DDR3L	LPDDR3	DDR4
AY48 AP50 BA48 BB48 AP48 AP52 AN50 AN48 AN53 AN52	DDR1_MA[5] DDR1_MA[9] DDR1_MA[6] DDR1_MA[8] DDR1_MA[7] DDR1_BA[2] DDR1_MA[12] DDR1_MA[11] DDR1_MA[15] DDR1_MA[14]	DDR1_CAA[0] DDR1_CAA[1] DDR1_CAA[2] DDR1_CAA[3] DDR1_CAA[4] DDR1_CAA[5] DDR1_CAA[6] DDR1_CAA[7] DDR1_CAA[8] DDR1_CAA[9]	DDR1_MA[5] DDR1_MA[9] DDR1_MA[6] DDR1_MA[8] DDR1_MA[7] DDR1_BG[0] DDR1_MA[12] DDR1_MA[11] DDR1_ACT# DDR1_BG[1]
BA43 AY43 AY44 AW44 BB44 AY47 BA44 AW46 AY46 BA46 BB46 BA47	DDR1_MA[13] DDR1_CAS# DDR1_WE# DDR1_RAS# DDR1_BA[0] DDR1_MA[2] DDR1_BA[1] DDR1_MA[10] DDR1_MA[1] DDR1_MA[0] DDR1_MA[3] DDR1_MA[4]	DDR1_CAB[0] DDR1_CAB[1] DDR1_CAB[2] DDR1_CAB[3] DDR1_CAB[4] DDR1_CAB[5] DDR1_CAB[6] DDR1_CAB[7] DDR1_CAB[8] DDR1_CAB[9] Not Used Not Used	DDR1_MA[13] DDR1_MA[15] DDR1_MA[14] DDR1_MA[16] DDR1_BA[0] DDR1_MA[2] DDR1_BA[1] DDR1_MA[10] DDR1_MA[1] DDR1_MA[0] DDR1_MA[3] DDR1_MA[4]

LOGIC LOGIC

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Title: CPU(3/16) : DDR CHANNEL-B

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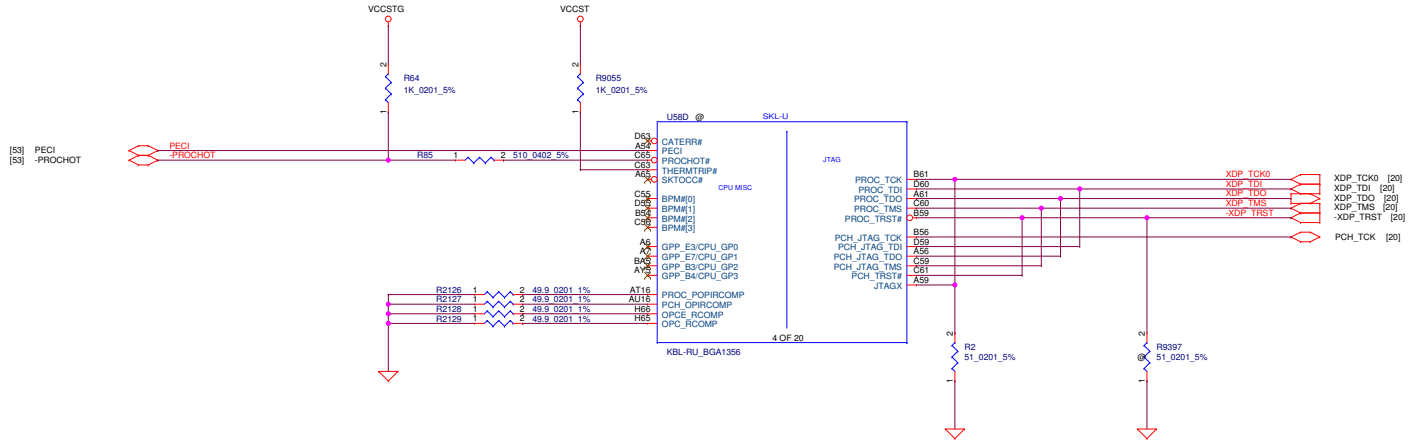

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Compal Electronics, Inc.

Title: CPU(4/16) : MISC/JTAG

Size: Custom | Document Number: LA-F421P | Rev: 1.0

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TABLE : Functional Strap

SPI0_MOSI (Boot Halt)	
HIGH	Disabled (Default)
LOW	Enabled

TABLE : Functional Strap

SPI0_MISO (JTAG ODT Diable)	
HIGH	Enabled (Default)
LOW	Disabled

TABLE : Functional Strap

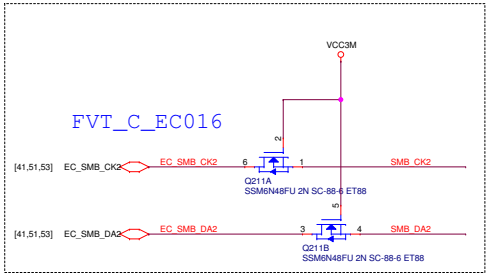
GPP_C5/SML0ALERT # (LPC or eSPI)	
HIGH	eSPI is selected
LOW	LPC is selected (Default)

LOGIC

TABLE : Functional Strap

GPP_C2/SMBALERT# (TLS Confidentiality)	
HIGH	Enable ME Crypto TLS with Confidentiality
LOW	Disable ME Crypto TLS (Default)

LOGIC



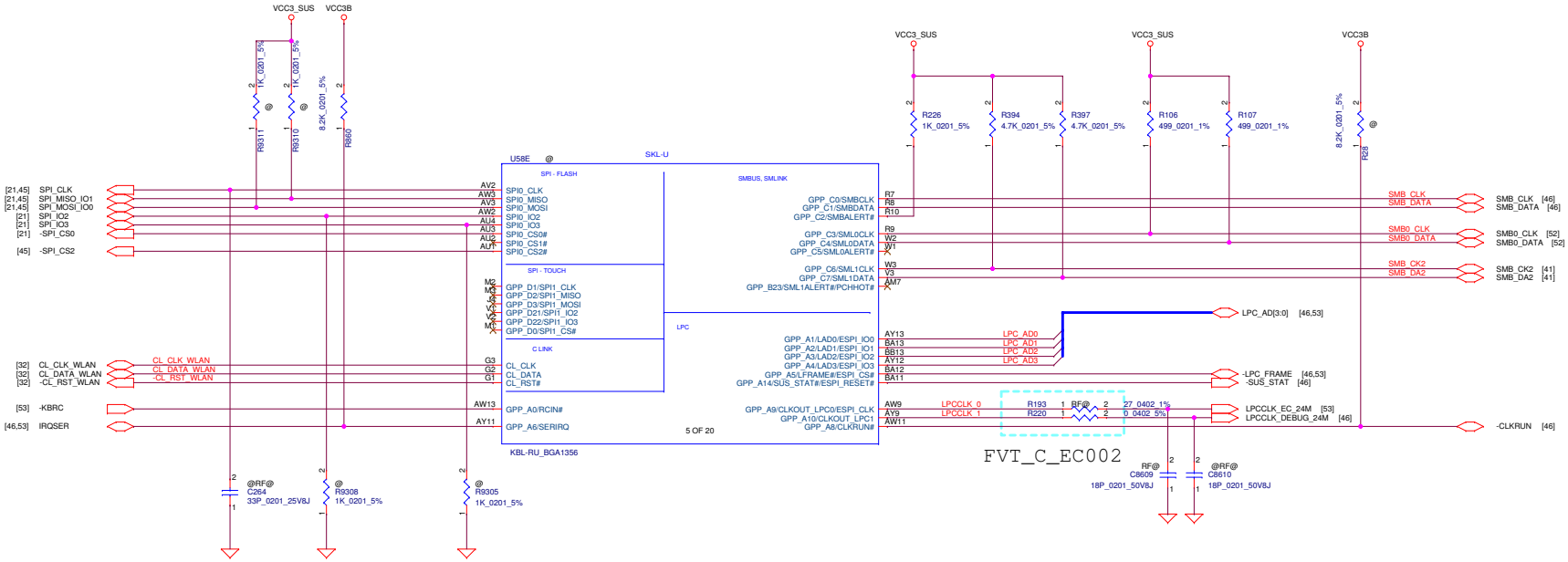


TABLE : Functional Strap

SPI0_IO2 (Consent Strap)	
HIGH	Enabled (Default)
LOW	Disabled

TABLE : Functional Strap

SPI0_IO3 (A0 Personality Strap)	
HIGH	Disabled (Default)
LOW	Enabled

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: CPU(5/16) : LPC/SPI/SMBUS/C-LINK

Size: Custom | Document Number: LA-F421P | Rev: 1.0

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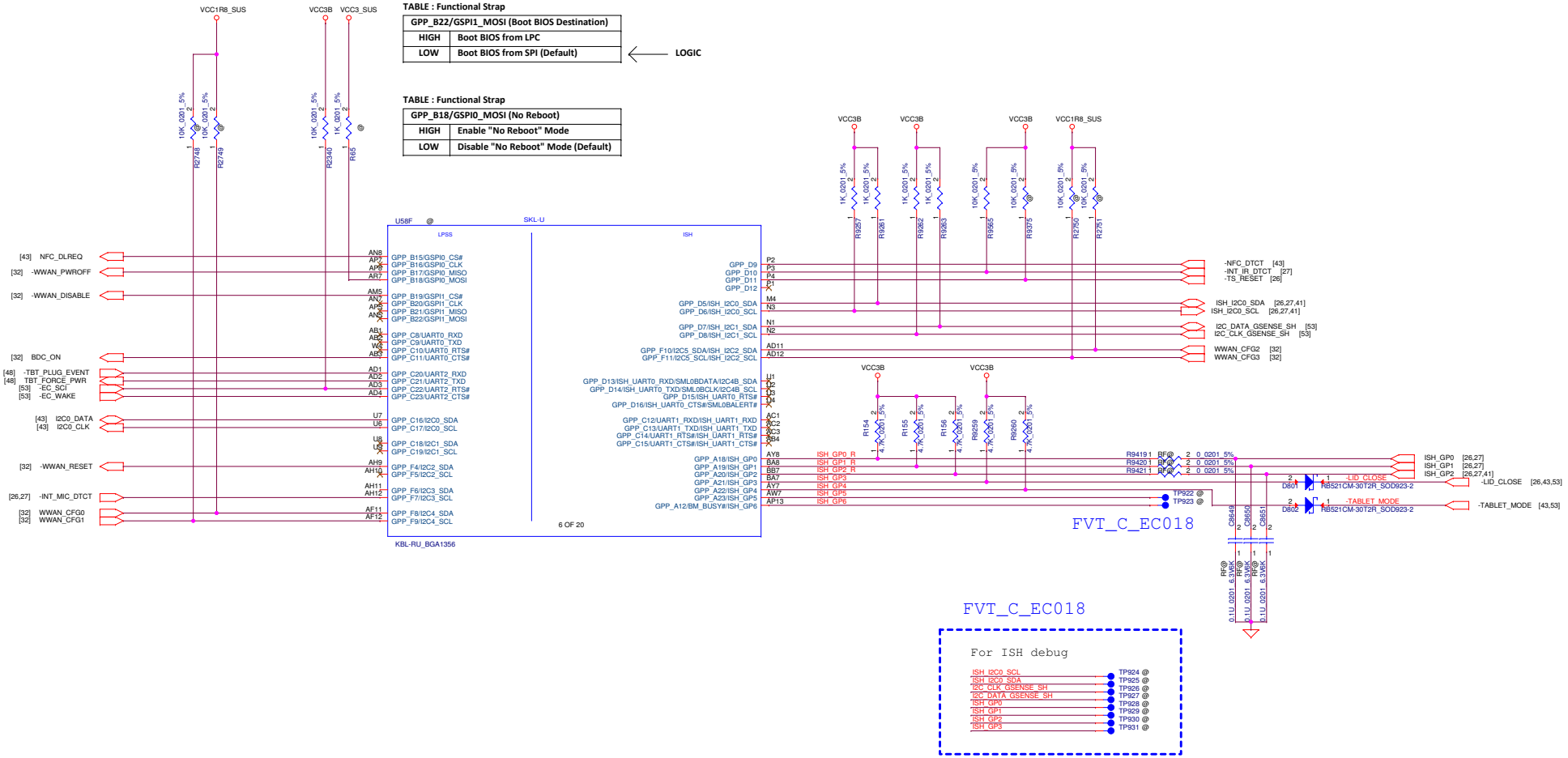
TABLE : Functional Strap

GPP_B22/GSPI1_MOSI (Boot BIOS Destination)	
HIGH	Boot BIOS from LPC
LOW	Boot BIOS from SPI (Default)

LOGIC

TABLE : Functional Strap

GPP_B18/GSPI0_MOSI (No Reboot)	
HIGH	Enable "No Reboot" Mode
LOW	Disable "No Reboot" Mode (Default)



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Compal Electronics, Inc.

Title: CPU(6/16) : LPSS/ISH

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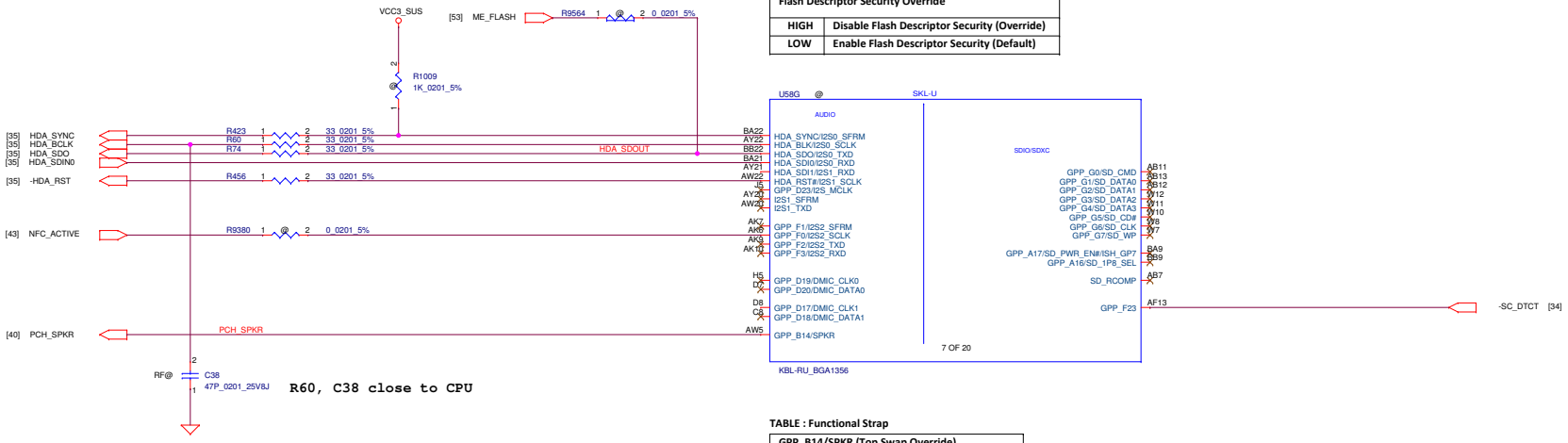


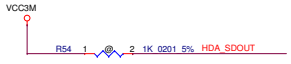
TABLE : Functional Strap

HDA_SDO/I2S0_TXD Flash Descriptor Security Override	
HIGH	Disable Flash Descriptor Security (Override)
LOW	Enable Flash Descriptor Security (Default)

TABLE : Functional Strap

GPP_B14/SPKR (Top Swap Override)	
HIGH	Enable "Top Swap" Mode
LOW	Disable "Top Swap" Mode (Default)

LOGIC



HDA_SDOUT

ME debug mode,this signal has a weak internal PD
★ Low = Disabled (Default)
High = Enabled [Flash Descriptor Security Overide]

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Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: CPU : AUDIO/SDXC

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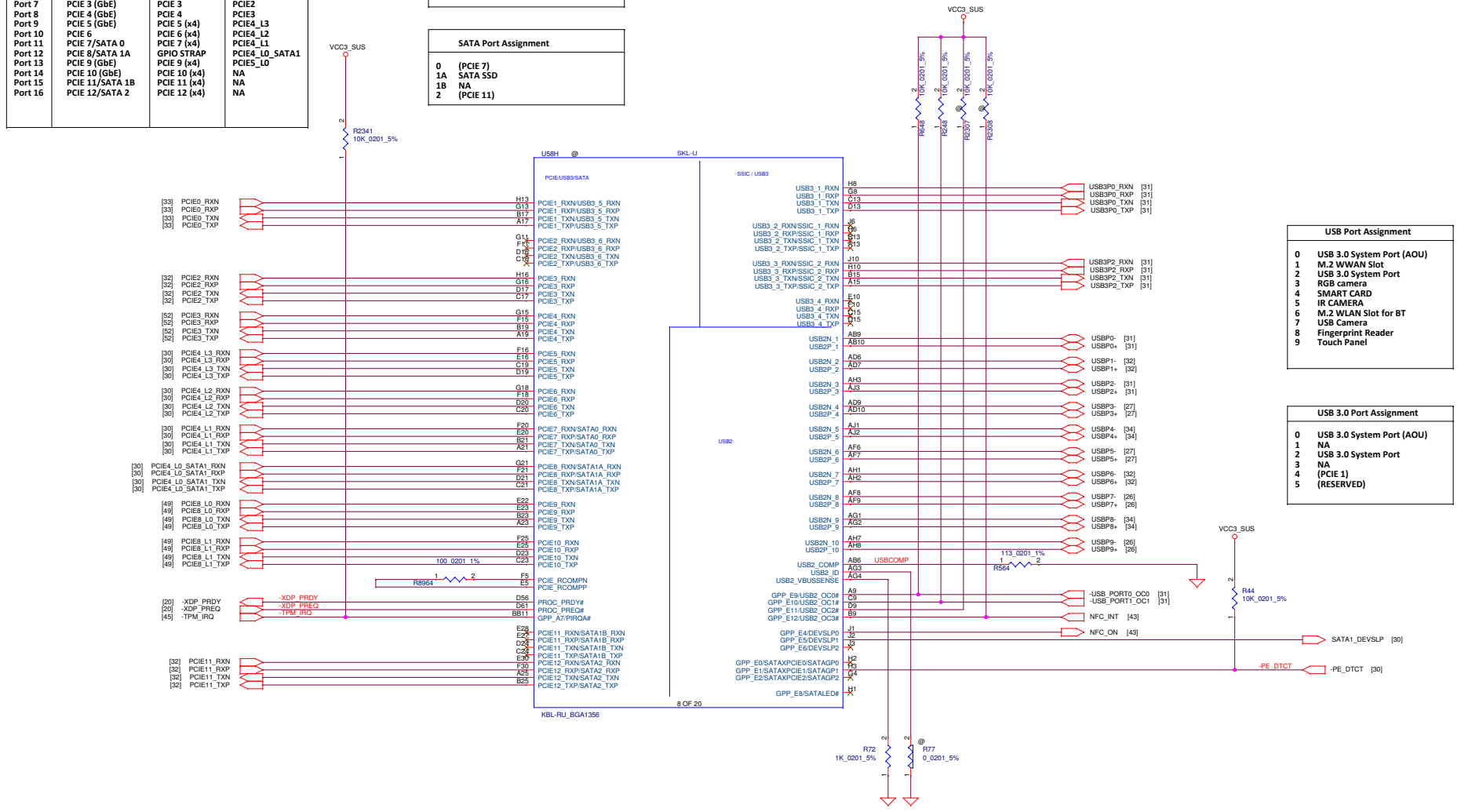
Flexible I/O Configuration			
I/O	High Speed Signals	Configuration	Net Name
Port 1	USB3 1	USB3 1	USB3P0
Port 2	USB3 2/SSIC	SSIC	SSIC
Port 3	USB3 3	USB3 3	USB3P2
Port 4	USB3 4	USB3 4	USB3P3
Port 5	USB3 5/PCIE 1	PCIE 1	PCIE0
Port 6	USB3 6/PCIE 2	USB3 6	USB3P5
Port 7	PCIE 3 (GbE)	PCIE 3	PCIE2
Port 8	PCIE 4 (GbE)	PCIE 4	PCIE3
Port 9	PCIE 5 (GbE)	PCIE 5 (x4)	PCIE4_L3
Port 10	PCIE 6	PCIE 6 (x4)	PCIE4_L2
Port 11	PCIE 7/SATA 0	PCIE 7 (x4)	PCIE4_L1
Port 12	PCIE 8/SATA 1A	GPIO STRAP	PCIE4_L0_SATA1
Port 13	PCIE 9 (GbE)	PCIE 9 (x4)	PCIE5_L0
Port 14	PCIE 10 (GbE)	PCIE 10 (x4)	NA
Port 15	PCIE 11/SATA 1B	PCIE 11 (x4)	NA
Port 16	PCIE 12/SATA 2	PCIE 12 (x4)	NA

PCIe Port Assignment	
0	MEDIA CARD
2	M.2 WLAN Slot Port 0 for WLAN
3	GbE PHY
4 (x4)	PCIe SSD
8	Thunder bolt
11	WWAN

SATA Port Assignment	
0	(PCIE 7)
1A	SATA SSD
1B	NA
2	(PCIE 11)

USB Port Assignment	
0	USB 3.0 System Port (AOU)
1	M.2 WWAN Slot
2	USB 3.0 System Port
3	RGB camera
4	SMART CARD
5	IR CAMERA
6	M.2 WLAN Slot for BT
7	USB Camera
8	Fingerprint Reader
9	Touch Panel

USB 3.0 Port Assignment	
0	USB 3.0 System Port (AOU)
1	NA
2	USB 3.0 System Port
3	NA
4	(PCIE 1)
5	(RESERVED)



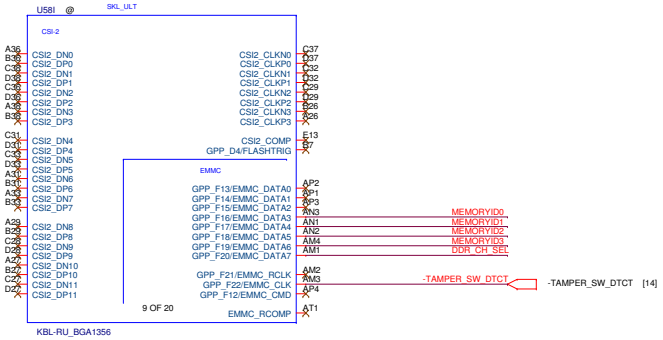
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: CPU : PCIE/USB/SATA

Size: Custom | Document Number: LA-F421P | Rev: 1.0

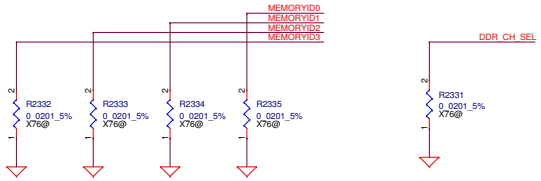
Date: Monday, October 23, 2017 | Sheet 11 of 73



TABLE

MEMORY[3..0]	U125, U126, U127, U128, U129, U130, U131, U132			R7 (Rcomp)
1111B	Samsung	K4A8G165WC-BCRC	8Gbit SDP 4GB	200 1%
1110B	Samsung	K4AAG165WB-MCRC	16Gbit DDP 8GB	121 1%
1101B	Hynix	H5AN8G6NAFR-UHC	8Gbit SDP 4GB	200 1%
1011B	Hynix	H5ANAG6NAMR-UHC	16Gbit DDP 8GB	121 1%
0111B	Micron	MT40A512M16JY-083E:B	8Gbit SDP 4GB	200 1%
1100B	Micron	MT40A1G16WBU-083E:B	16Gbit DDP 8GB	121 1%

	2CH	1CH
R2331	NC	Mount



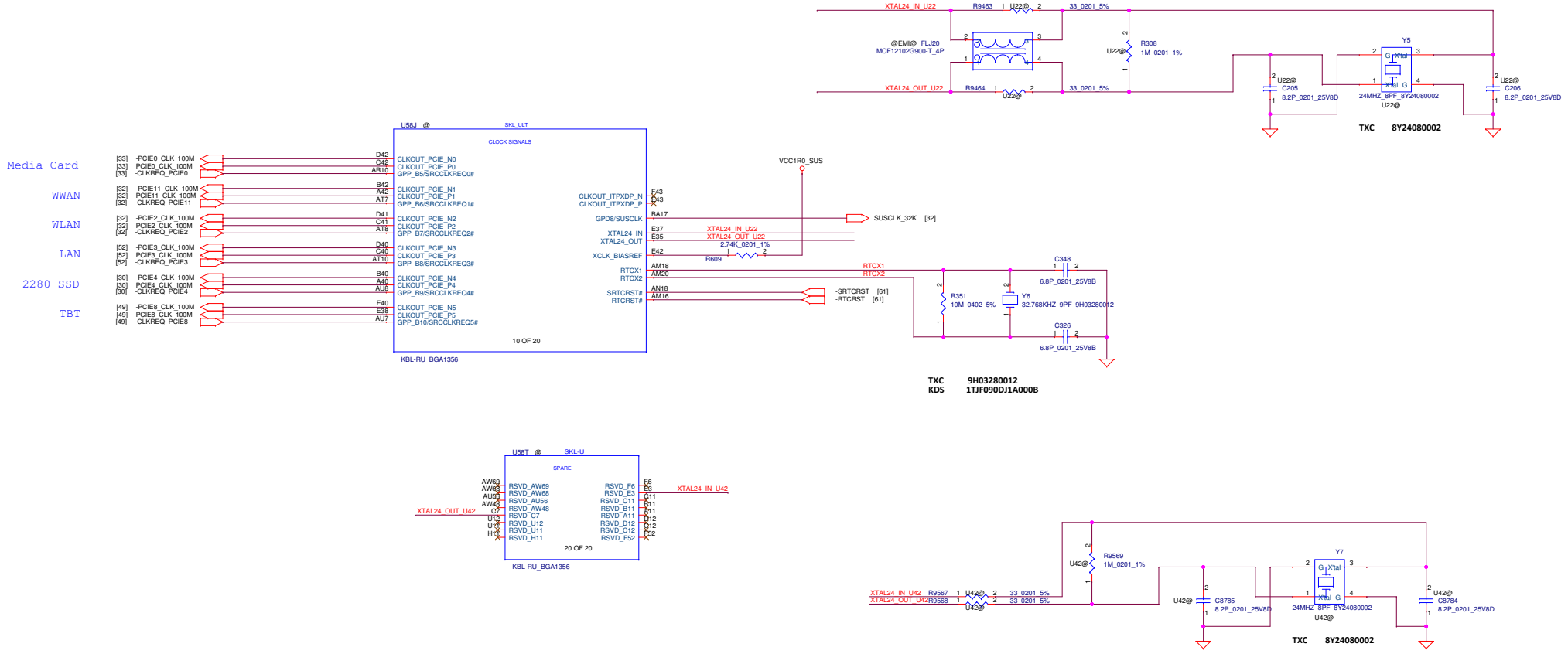
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: CPU : CSI-2/EMMC

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 12 of 73



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

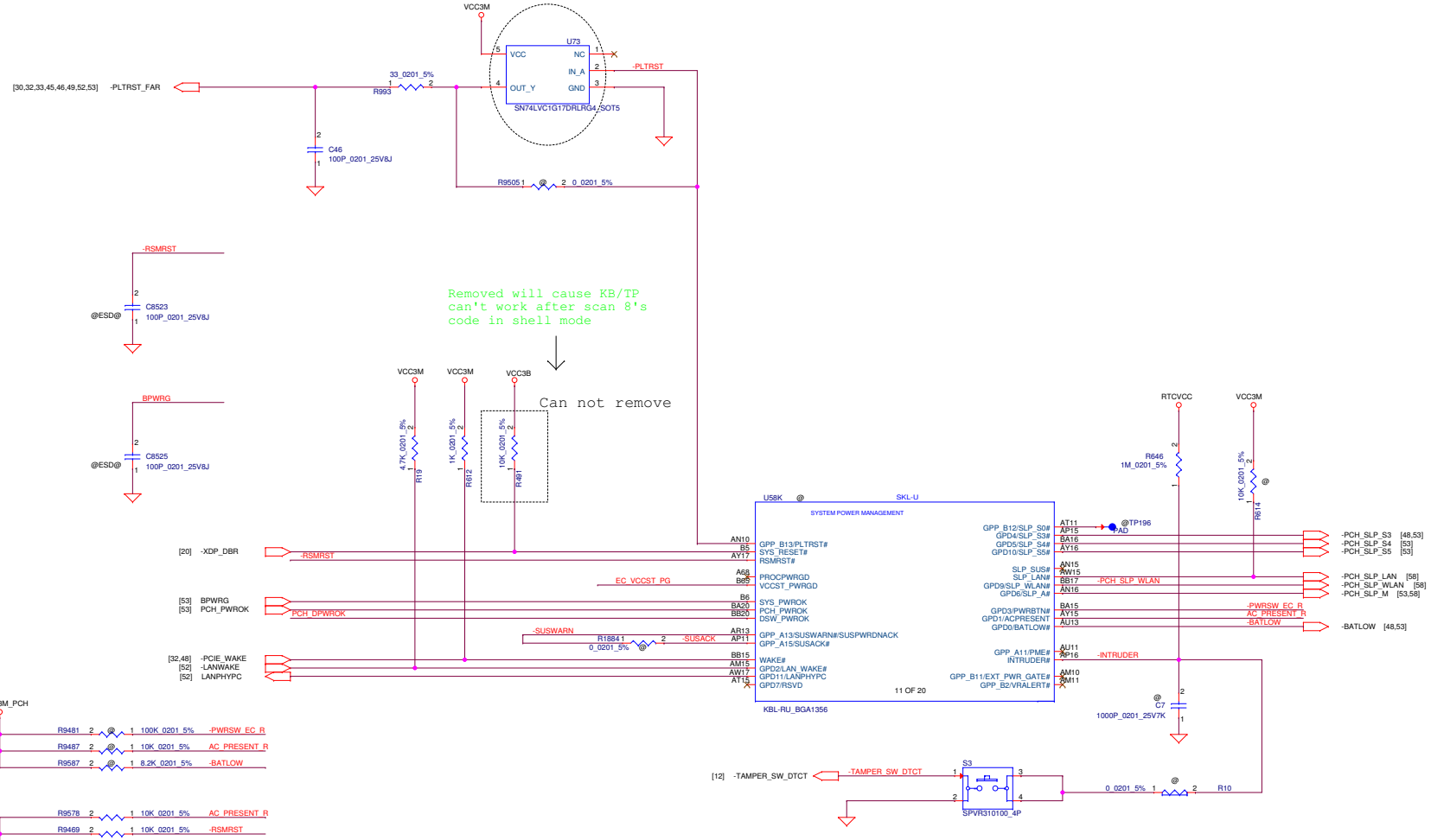
Compal Electronics, Inc.

Title: CPU : CLOCK SIGNALS

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 13 of 73

Change to SN74LVC1G17DRLRG4 (SA00006DR00)



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

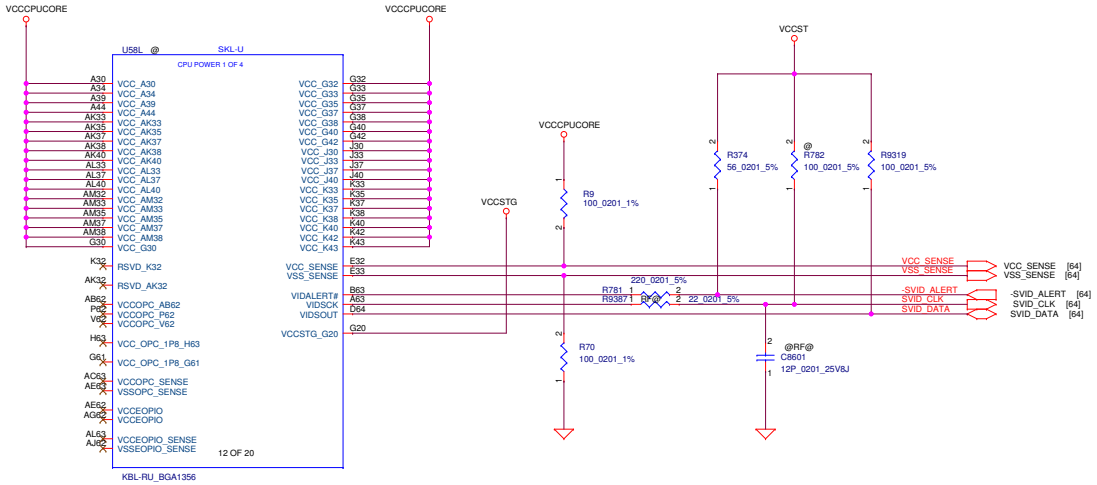
Compal Electronics, Inc.

Title: CPU : SYSTEM PM

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 14 of 73

VCC I (Max) : 32A (Dual Core)
64A (Qual Core)



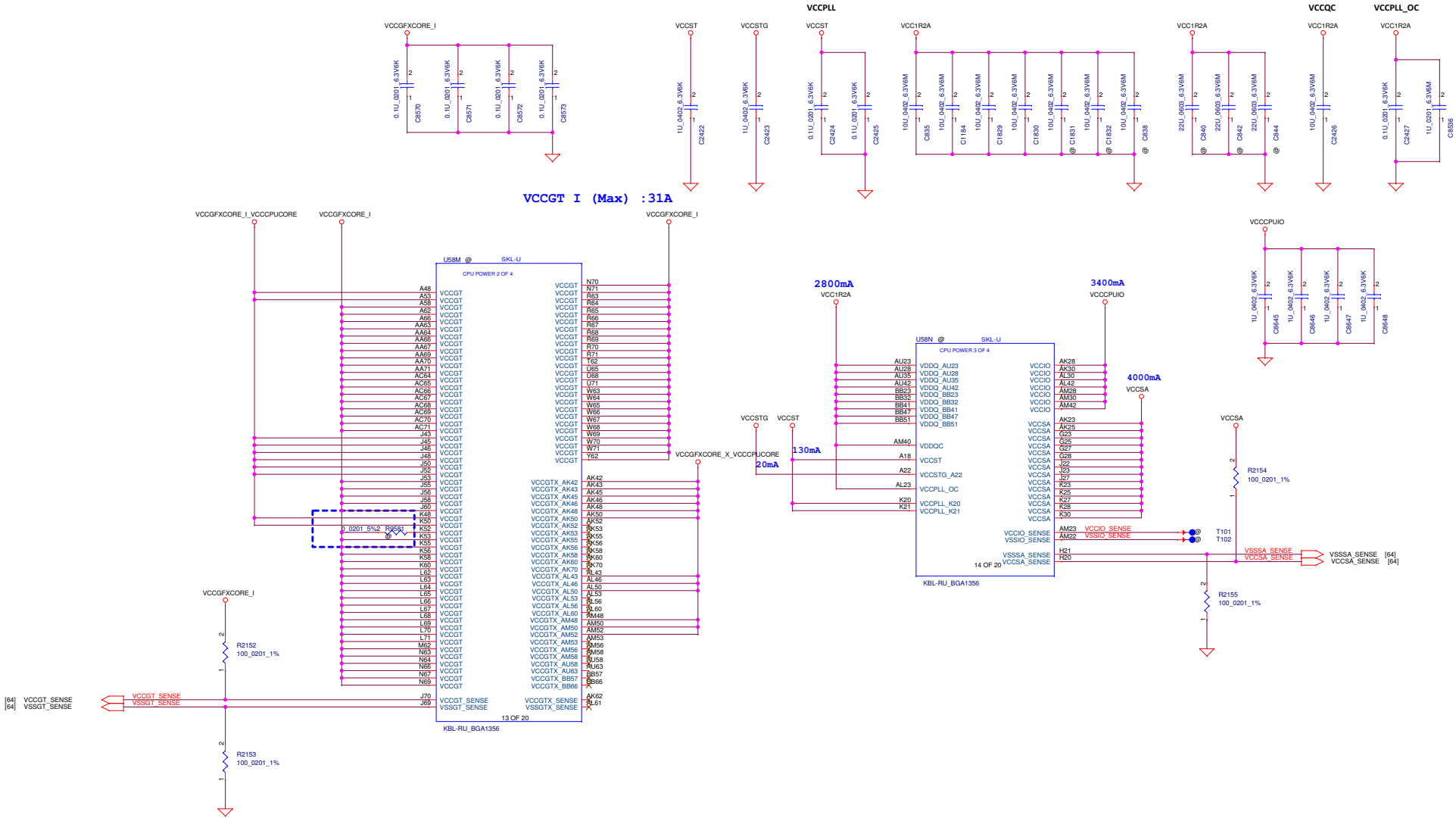
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: **CPU : CPU POWER (1/2)**

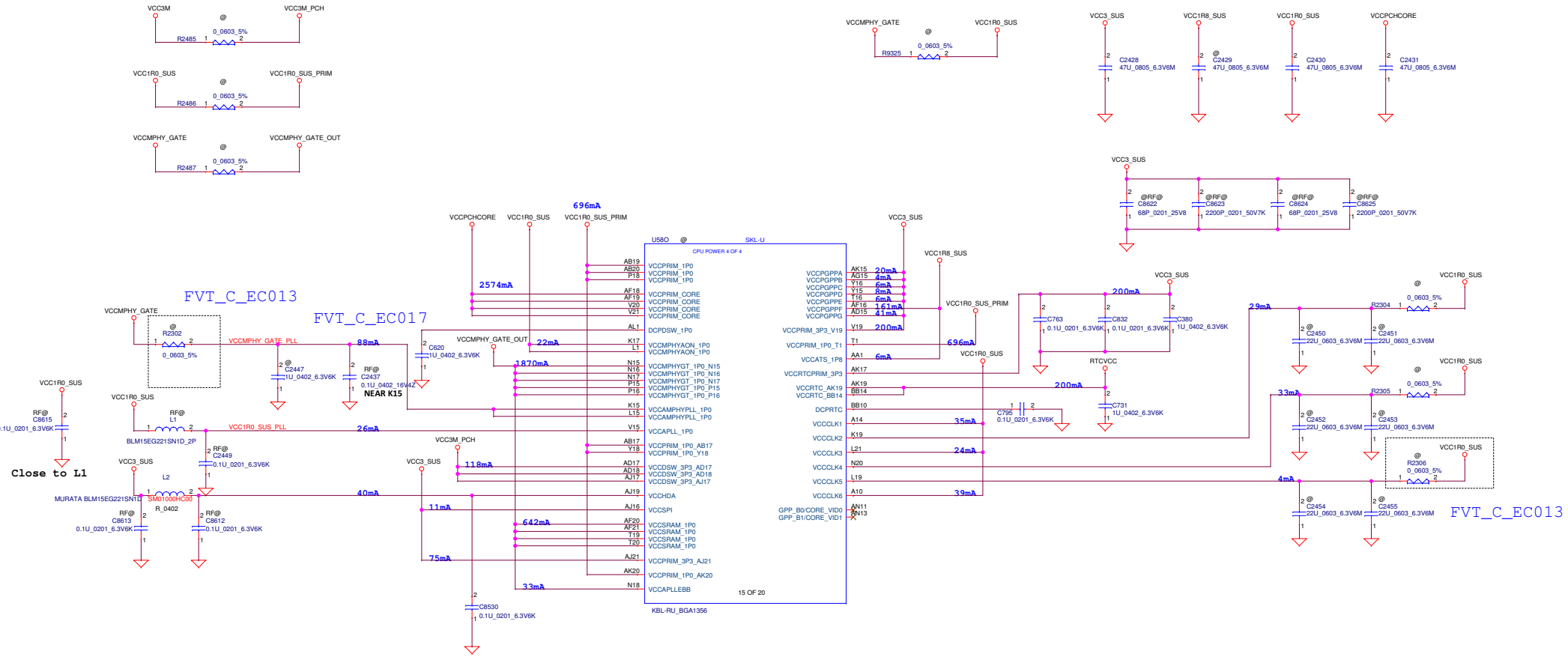
Size: Custom | Document Number: **LA-F421P** | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 15 of 73



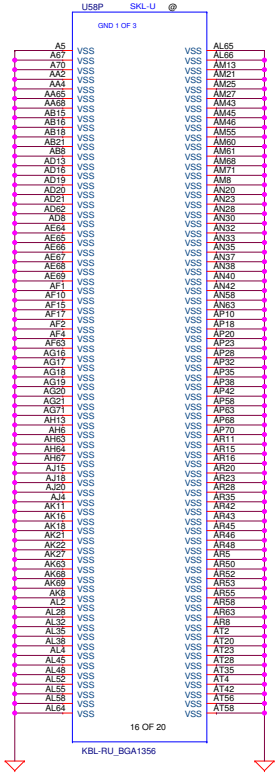
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

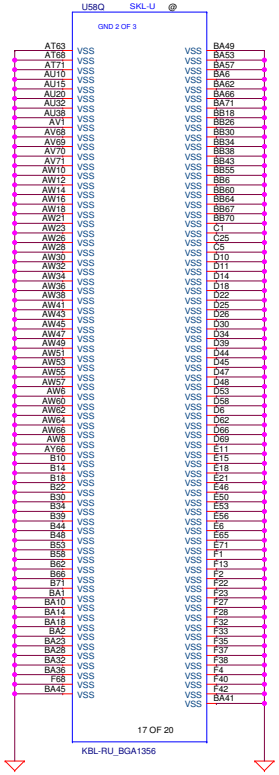
Compal Electronics, Inc.			
Title: CPU : CPU POWER (2/2)			
Size: Custom	Document Number: LA-F421P		Rev: 1.0
Date: Monday, October 23, 2017	Sheet 16 of 73		

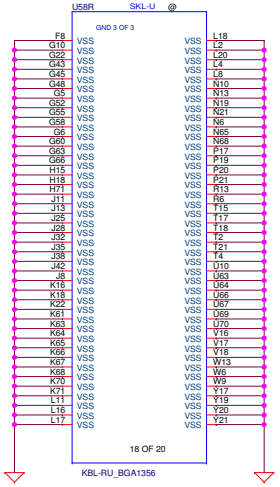


Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.	
Title	CPU : PCH POWER
Size: Custom	Document Number: LA-F421P
Rev	1.0
Date: Monday, October 23, 2017	Sheet 17 of 73







Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

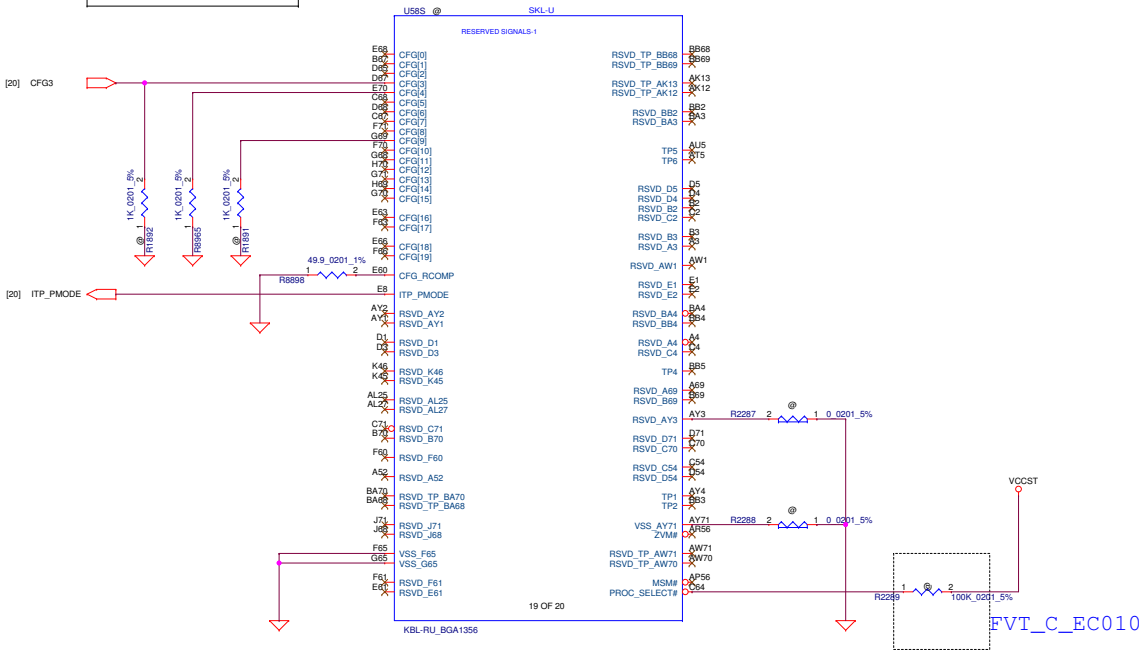
Title: CPU : GND

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 18 of 73

TABLE

CFG0 : Stall Reset Sequence after PCU PLL Lock until de-asserted **1 : No Stall** **0 : Stall**
CFG3 : MSR Privacy Bit Feature **1 : MSR (C80h) bit[0] setting** **0 : MSR (C80h) bit[0] overridden**
CFG4 : eDP Enable **1 : Disabled** **0 : Enabled**
CFG9 : SVID Bus Communication **1 : Enabled** **0 : Disabled**

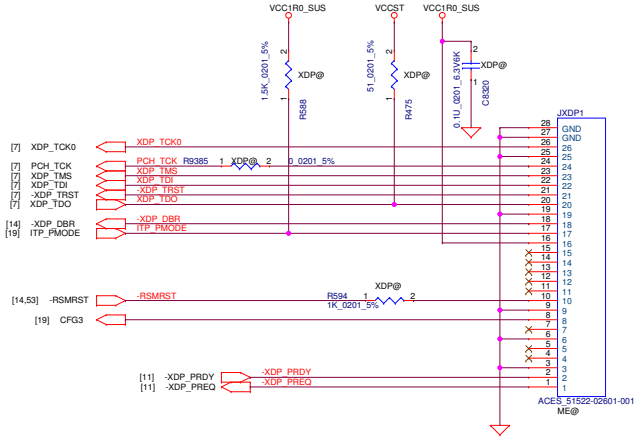


Compal Electronics, Inc.

Title: CPU : CFG/RESERVED

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 19 of 73



TABLE

Logic	Ref Des	Merged	DCI 2.0
Page 7	R2559	ASM	NO_ASM
Page 18	R1982	ASM	NO_ASM
Page 19	J8	ASM	NO_ASM
	C8320	ASM	NO_ASM
	R475	ASM	ASM
	R491	ASM	ASM
	R588	ASM	NO_ASM
	R594	ASM	NO_ASM
	R2494	ASM	NO_ASM

Compal Electronics, Inc.

Title: XDP CONNECTOR

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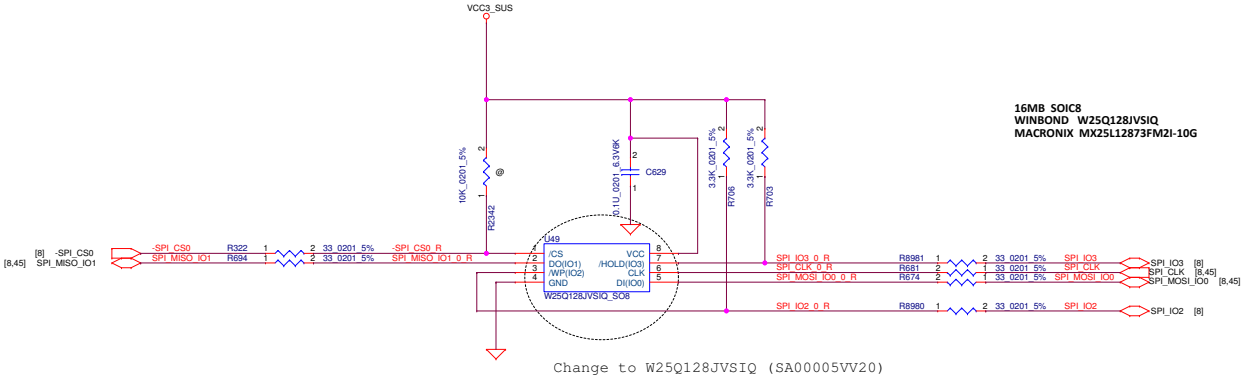

Change to W25Q128JVSIQ (SA00005VV20)

TABLE

SF100 PIN HEADER INTERFACE (TOP VIEW)			
1 VCC D12.1		GND GND 2	
3 CS# R322.2		R681.2 CLK 4	
5 MISO R694.2		R674.2 MOSI 6	
7 (KEY) N/A		N/A (RESET) 8	

Compal Electronics, Inc.

Title: SPI FLASH

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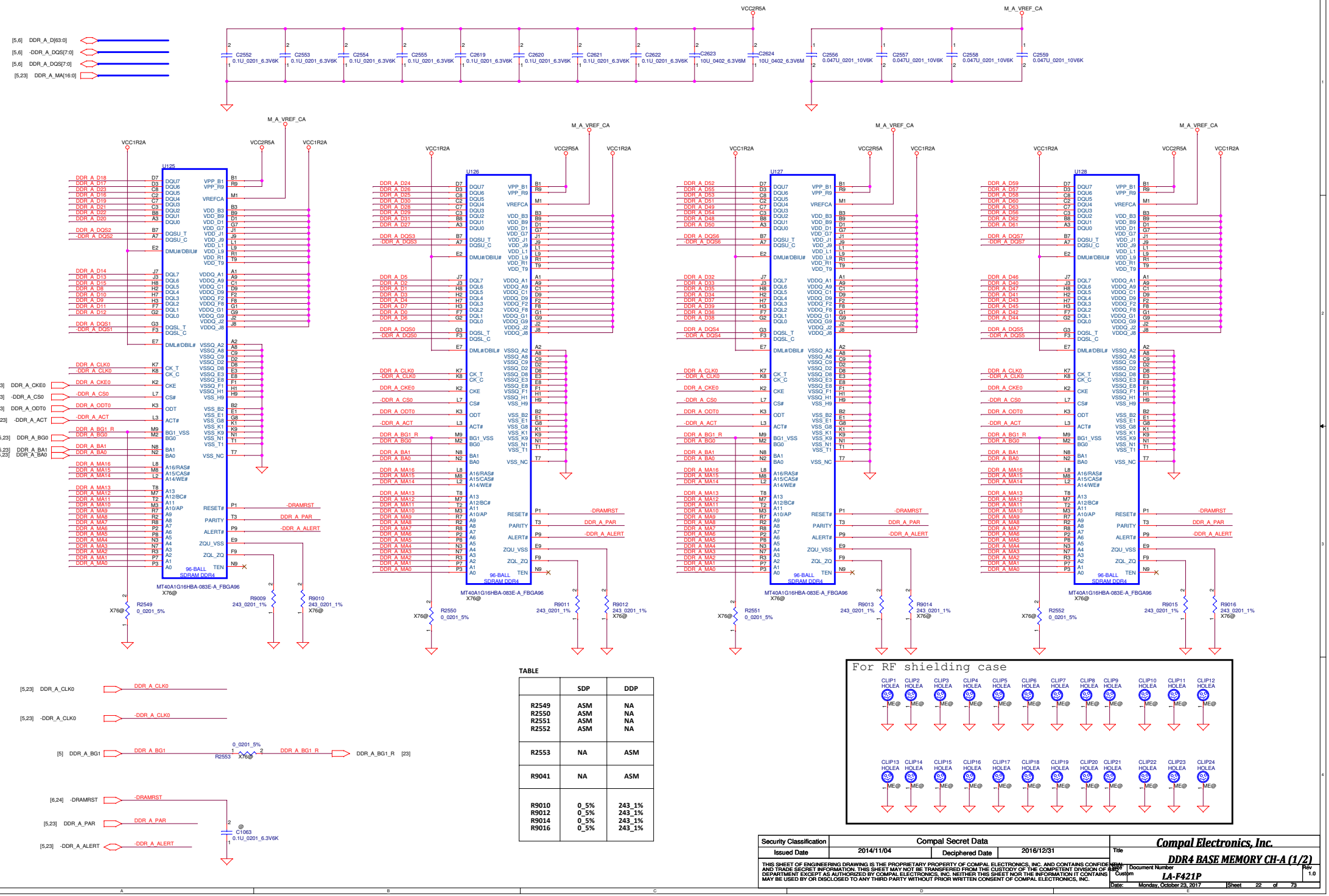
Date: Monday, October 23, 2017 | Sheet 21 of 73



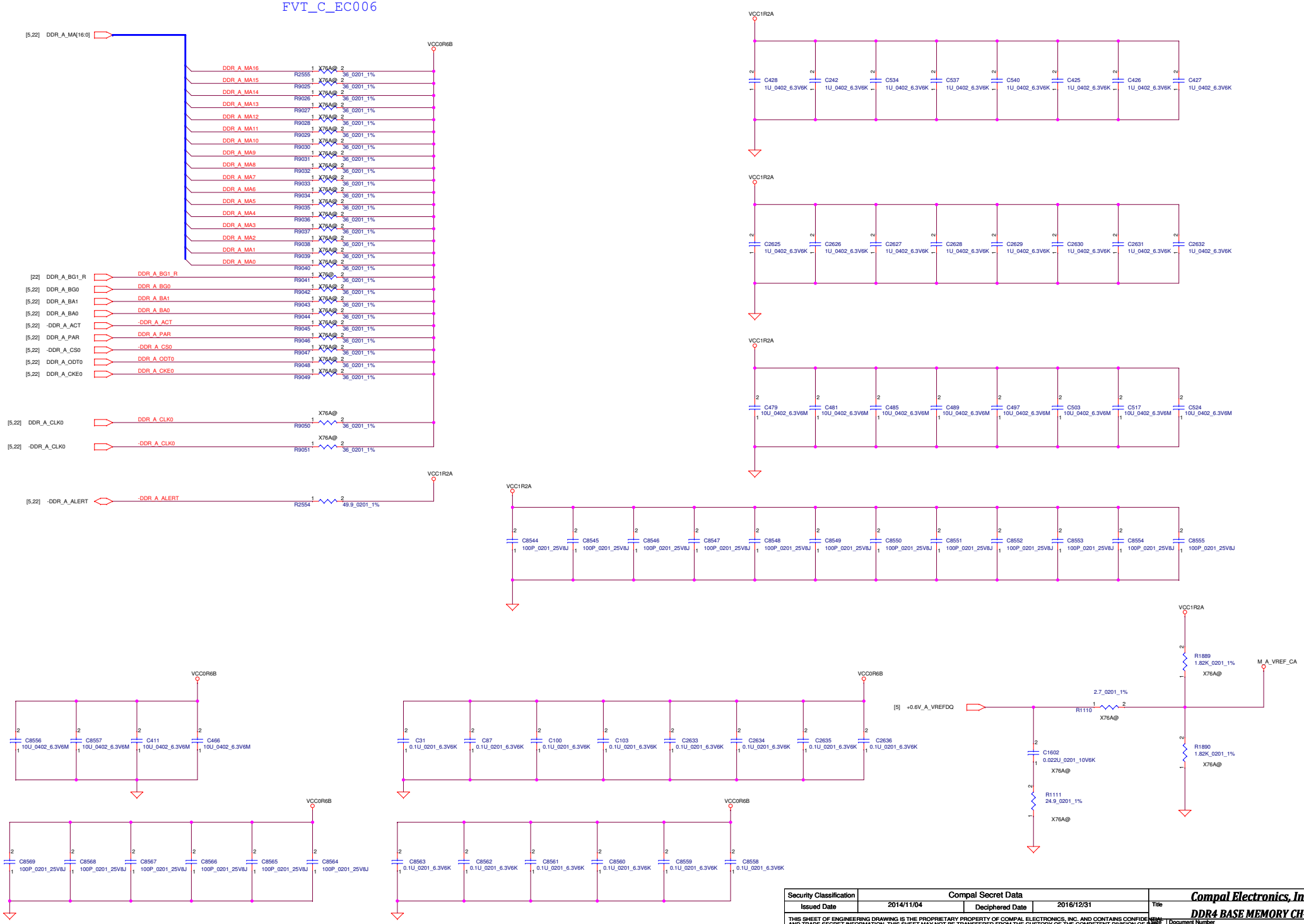
TABLE

	SDP	DDP
R2549 R2550 R2551 R2552	ASM ASM ASM ASM	NA NA NA NA
R2553	NA	ASM
R9041	NA	ASM
R9010 R9012 R9014 R9016	0_5% 0_5% 0_5% 0_5%	243_1% 243_1% 243_1% 243_1%

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title: DDR4 BASE MEMORY CH-A (1/2)			
Size: Custom	Document Number: LA-F421P		Rev: 1.0
Date: Monday, October 23, 2017	Sheet 22 of 73		

FVT_C_EC006



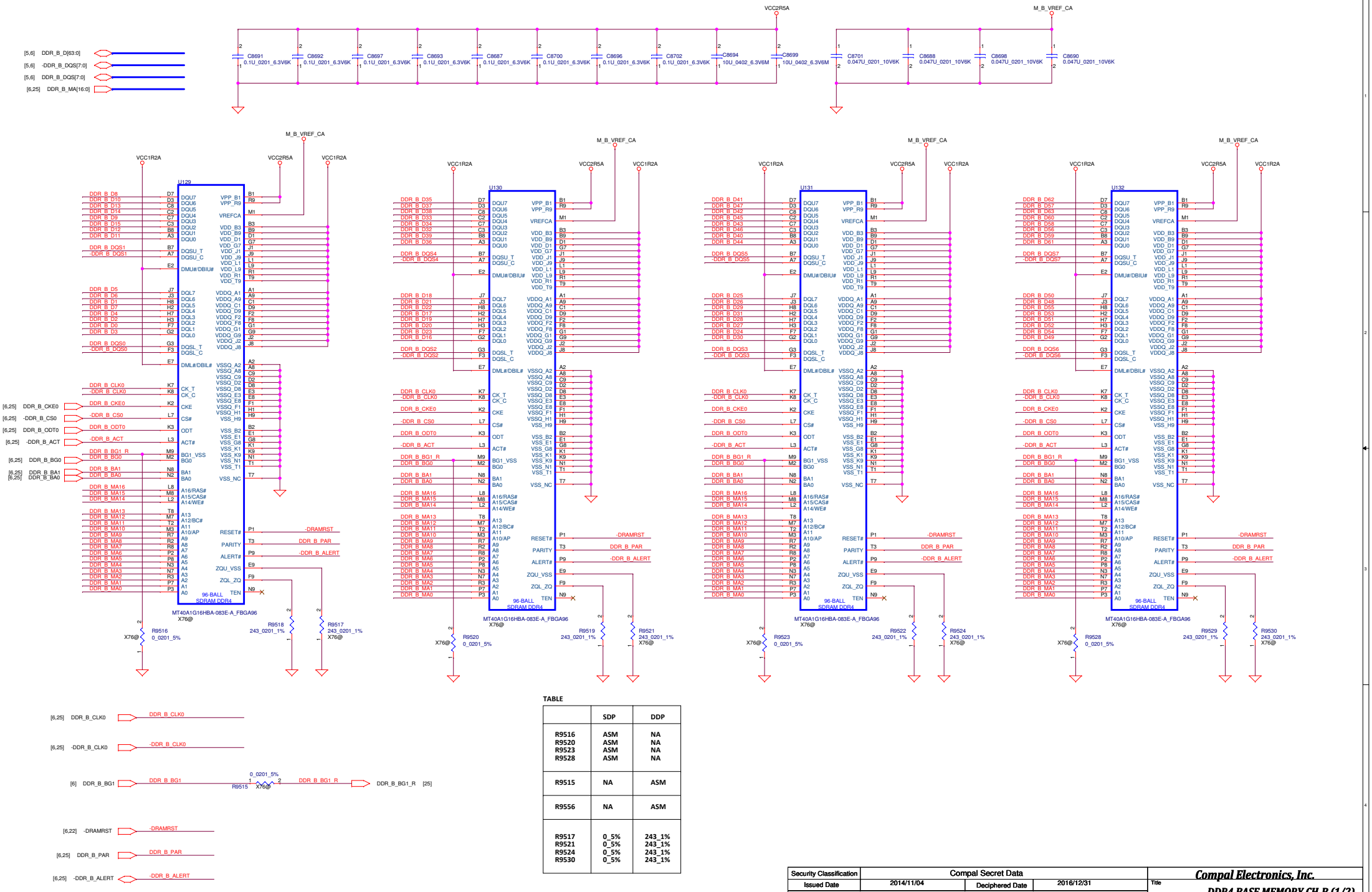
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DDR4 BASE MEMORY CH-A (2/2)

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 23 of 73



TABLE

	SDP	DDP
R9516 R9520 R9523 R9528	ASM ASM ASM ASM	NA NA NA NA
R9515	NA	ASM
R9556	NA	ASM
R9517 R9521 R9524 R9530	0_5% 0_5% 0_5% 0_5%	243_1% 243_1% 243_1% 243_1%

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

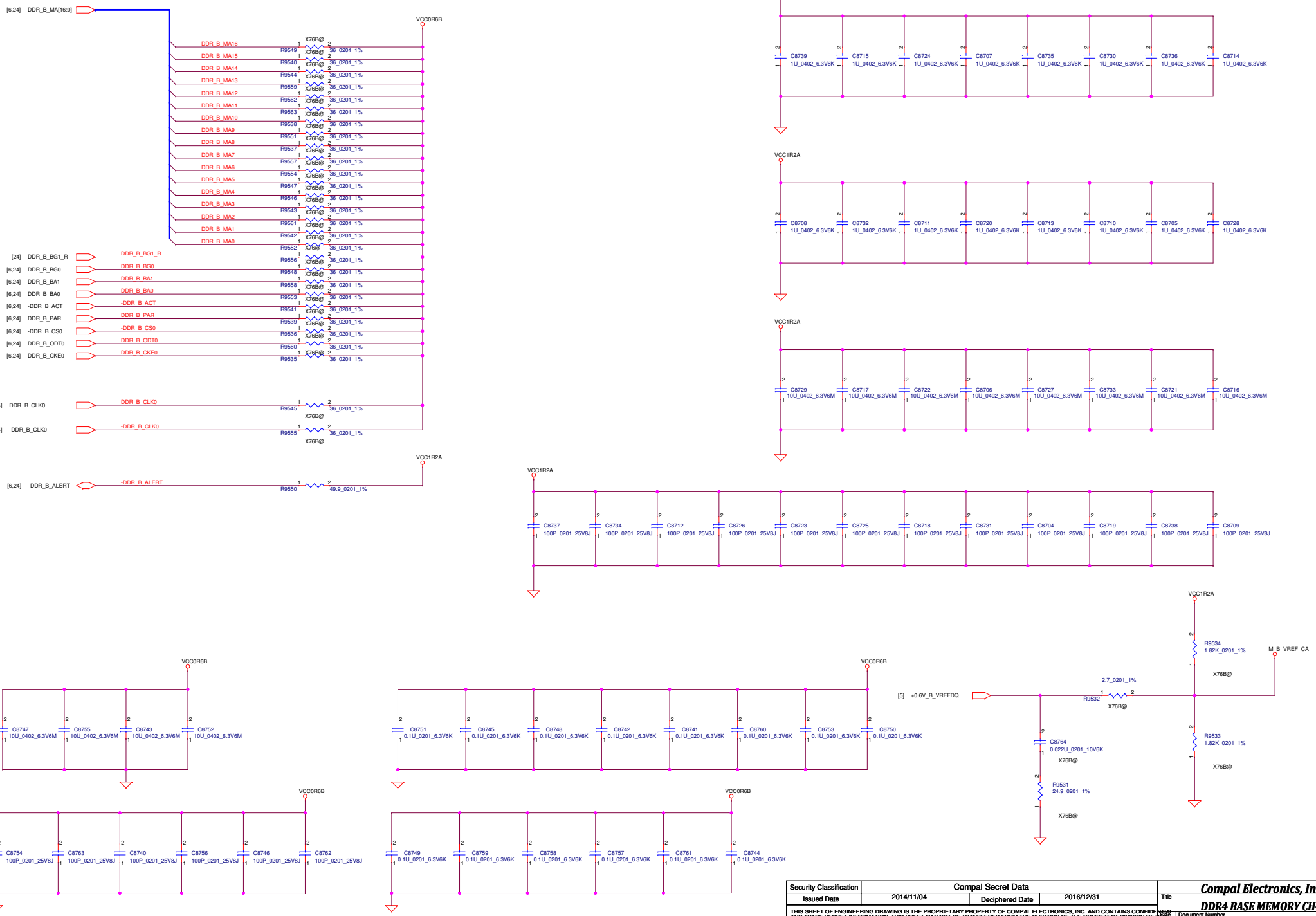
Compal Electronics, Inc.

Title: DDR4 BASE MEMORY CH-B (1/2)

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 24 of 73

FVT_C_EC006



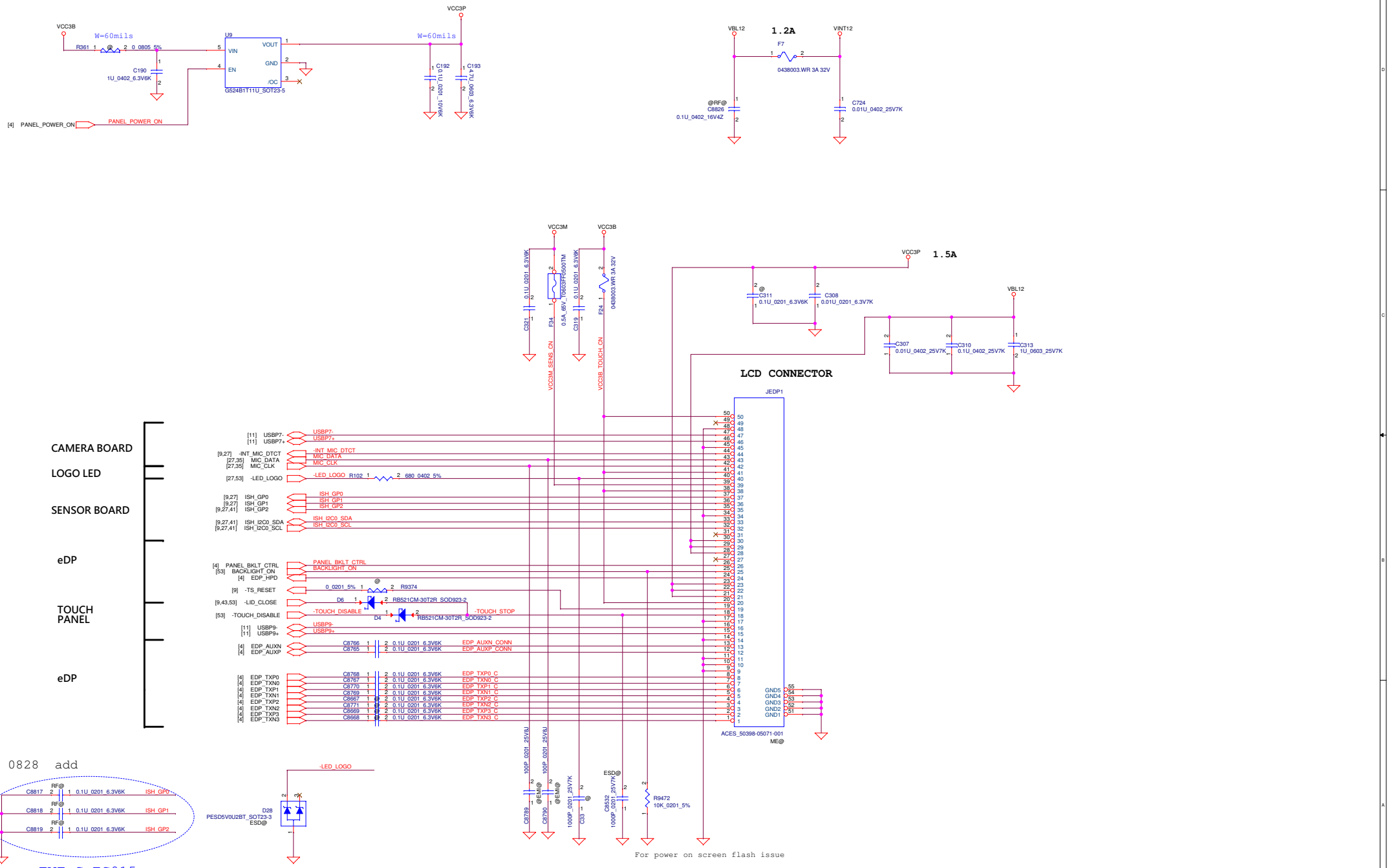
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DDR4 BASE MEMORY CH-B (2/2)

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 25 of 73



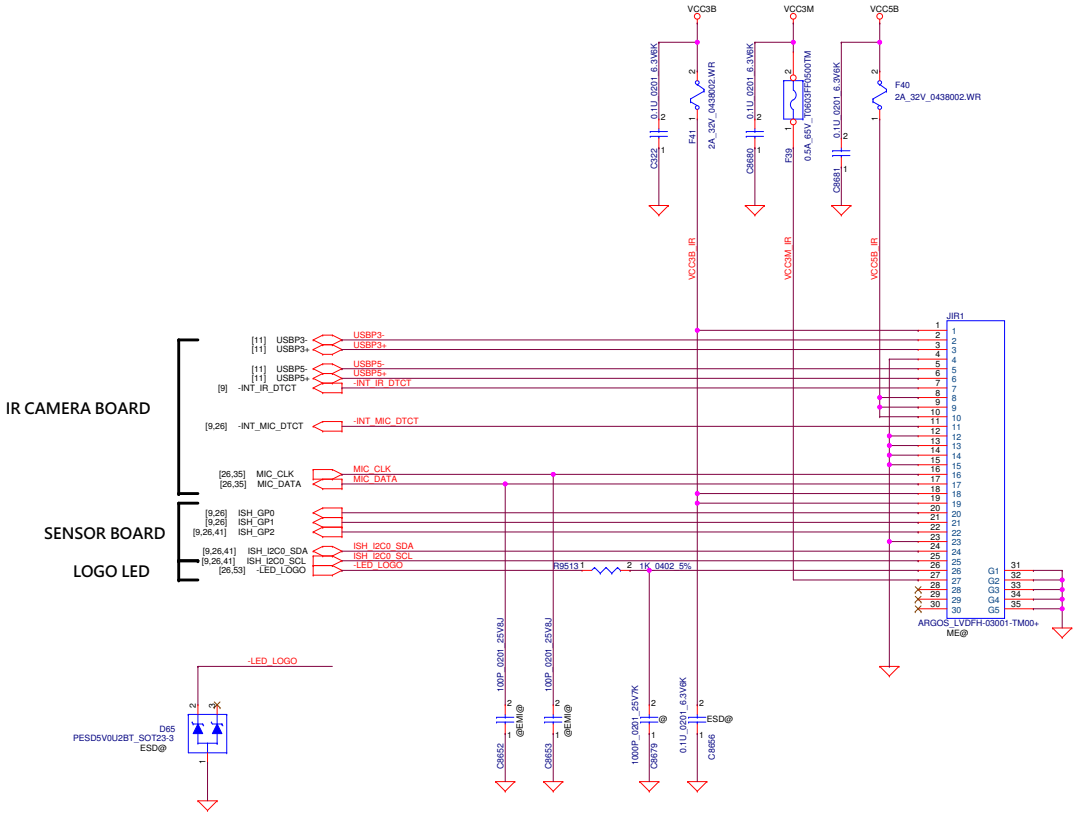
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: LCD/LID/MIC/CAMERA

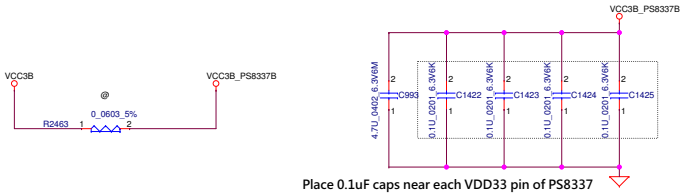
Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 26 of 73



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title: IR Camera conn			
Size: Custom	Document Number: LA-F421P		Rev: 1.0
Date: Monday, October 23, 2017	Sheet 27 of 73		



Place 0.1uF caps near each VDD33 pin of PS8337

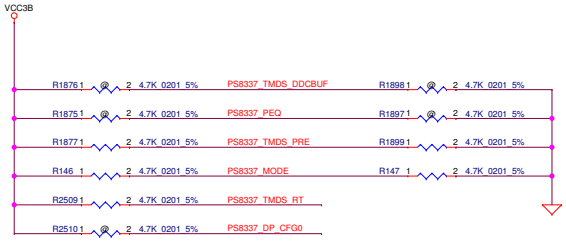
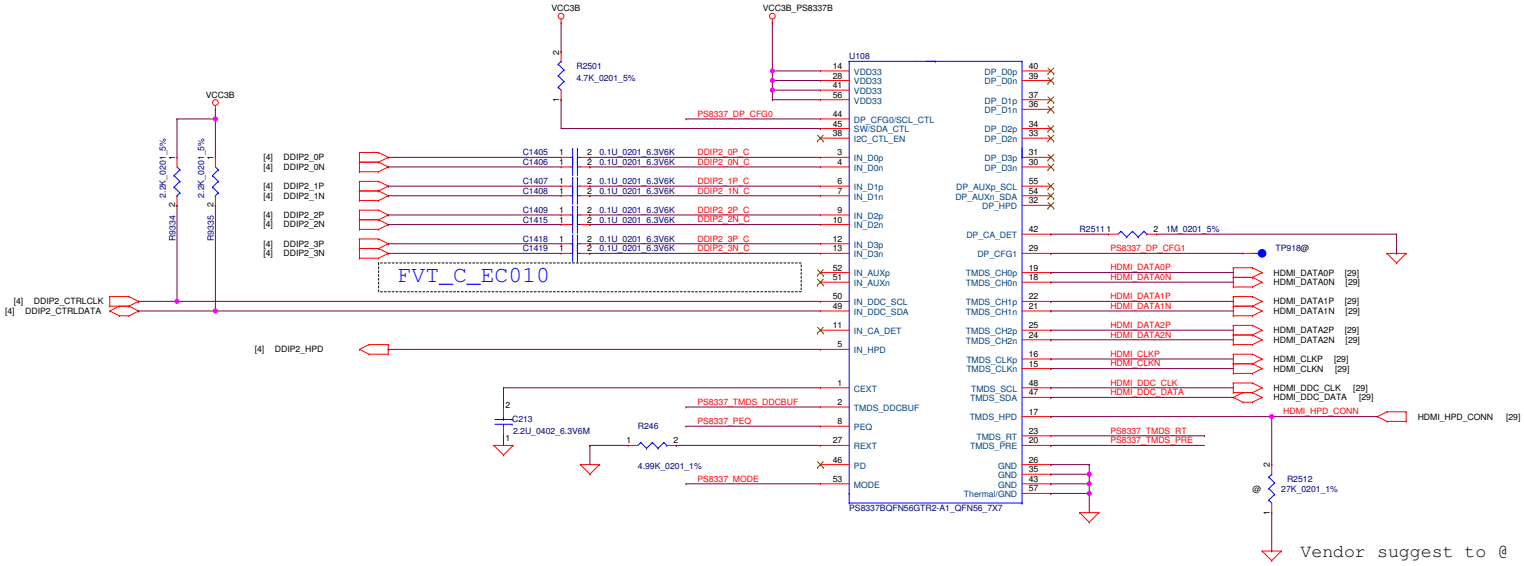


TABLE : Automatic Switching Mode (MODE = H, M)

SW (DDI_PRIORITY1)
L DP Port has higher priority when both ports are plugged H TMDS Port has higher priority when both ports are plugged



TMDS DDCBUF (INT PD)	R1876	R1898	
DDC Ative Buffer	ASM	NO_ASM	
DDC Pass Through w/ PU	ASM	ASM	
DDC Pass Through w/o PU	NO_ASM	NO_ASM	LOGIC

PEQ (INT PD)	R1875	R1897	
HEQ 15dB	ASM	NO_ASM	
LLEQ 5dB	ASM	ASM	
LEQ 12dB	NO_ASM	NO_ASM	LOGIC

TMDS PRE (INT PD)	R1877	R1899	
1.5dB	ASM	NO_ASM	
3.0dB	ASM	ASM	LOGIC
0dB	NO_ASM	NO_ASM	

MODE (INT PD)	R146	R147	
Auto HDMI ID disable	ASM	NO_ASM	
Auto HDMI ID enable	ASM	ASM	
Control HDMI ID disable	NO_ASM	NO_ASM	LOGIC

TMDS RT (INT PD)	R2509	
OD w/ termination	ASM	
OD	NO_ASM	LOGIC

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DDI DEMUX/HDMI LEVEL SHIFT

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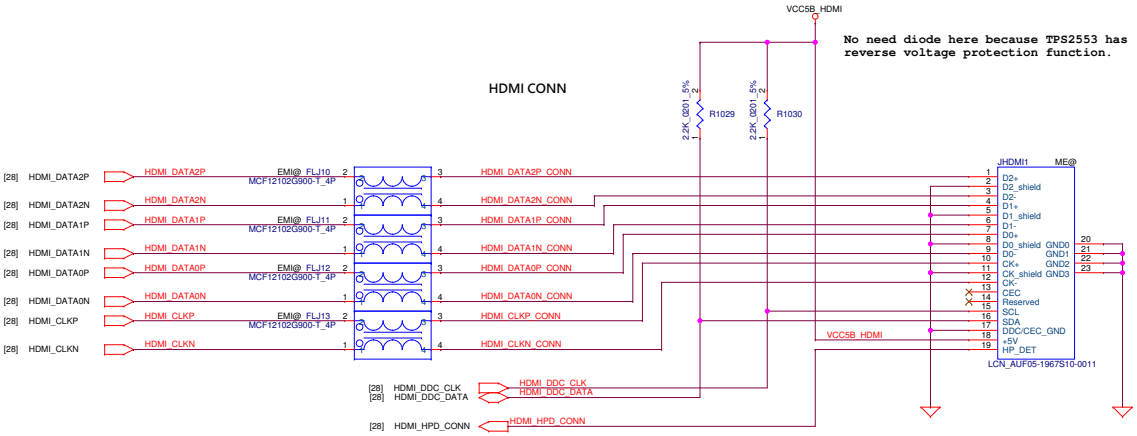
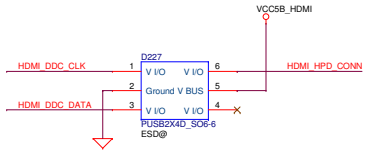
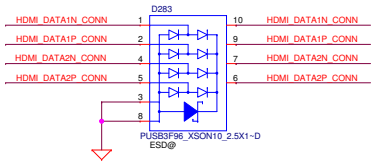
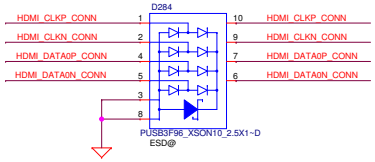
Date: Monday, October 23, 2017 | Sheet 28 of 73



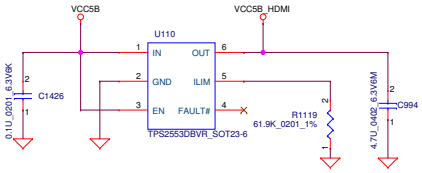


NEAR HDMI CONN





Current Limit Target : 400mA
Requirement : 300mA
HDMI Spec : 50mA ~ 500mA



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: HDMI CONNECTOR

Size: Custom | Document Number: LA-F421P | Rev: 1.0

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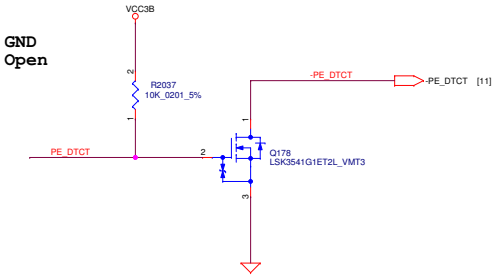
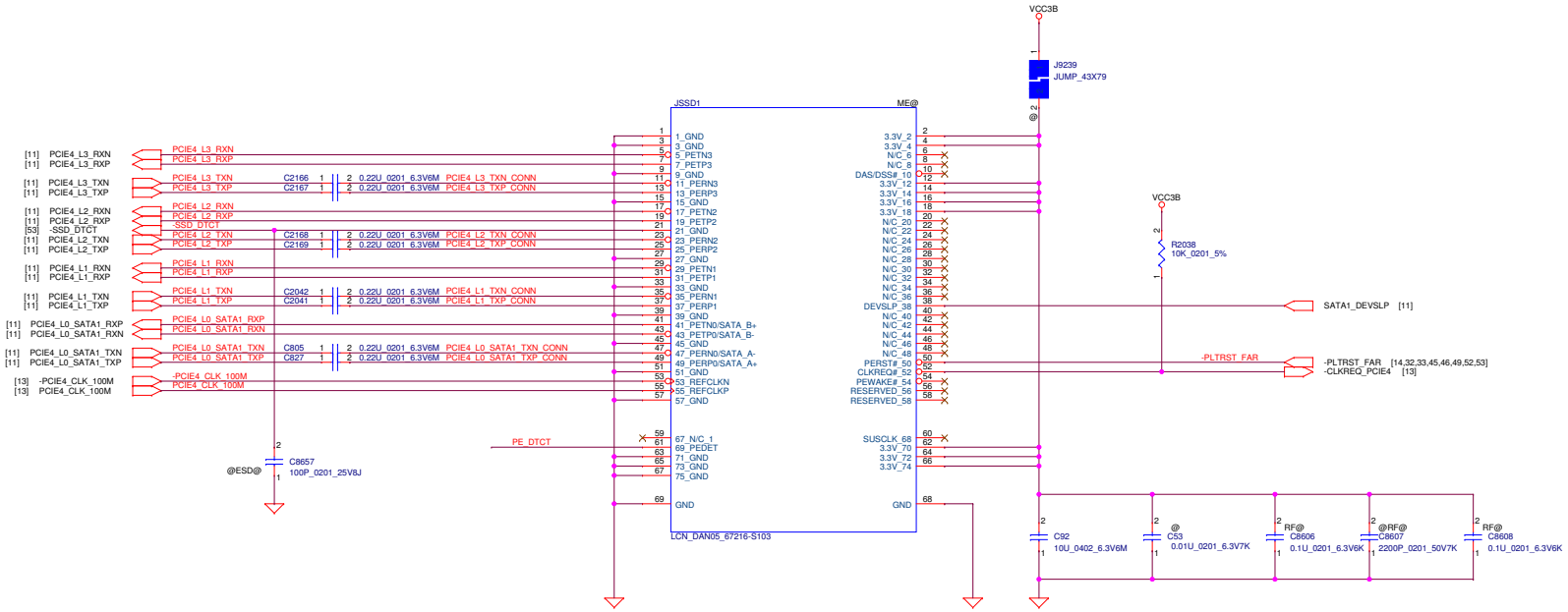
PEDET (PE_DTCT)
SATA Device GND
PCIe Device Open





Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: **M.2 SSD SLOT**

Size: Custom | Document Number: **LA-F421P** | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 30 of 73

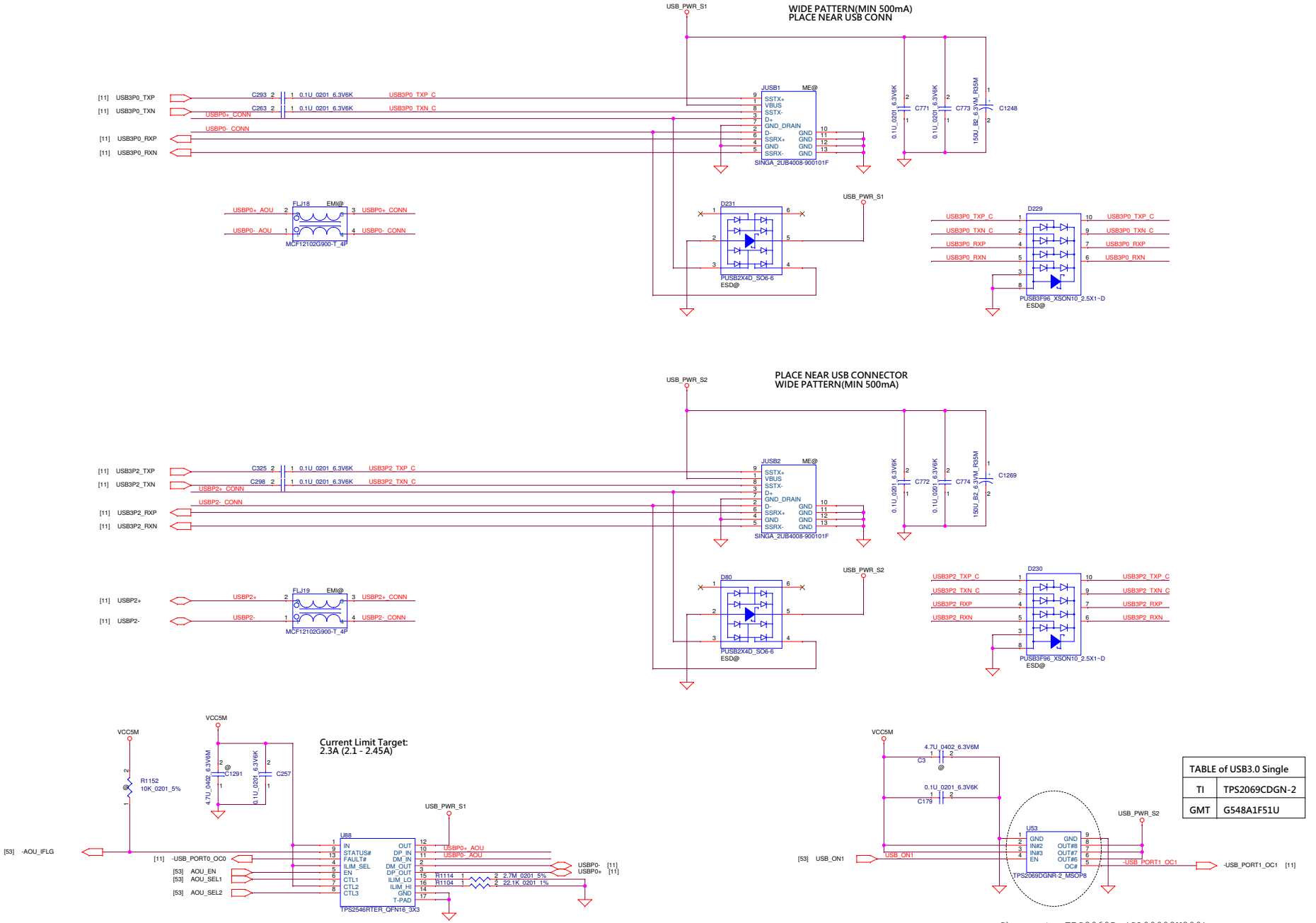


TABLE of USB3.0 Single	
TI	TPS2069CDGN-2
GMT	G548A1F51U

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

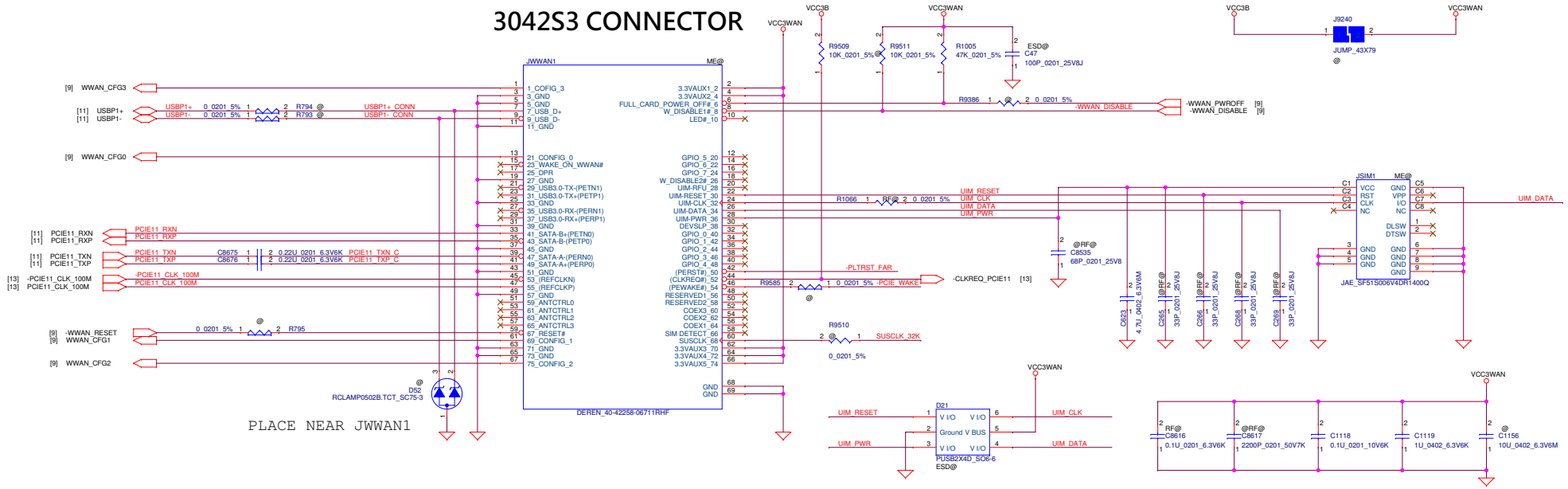
Title: USB POWER/CONN

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 31 of 73

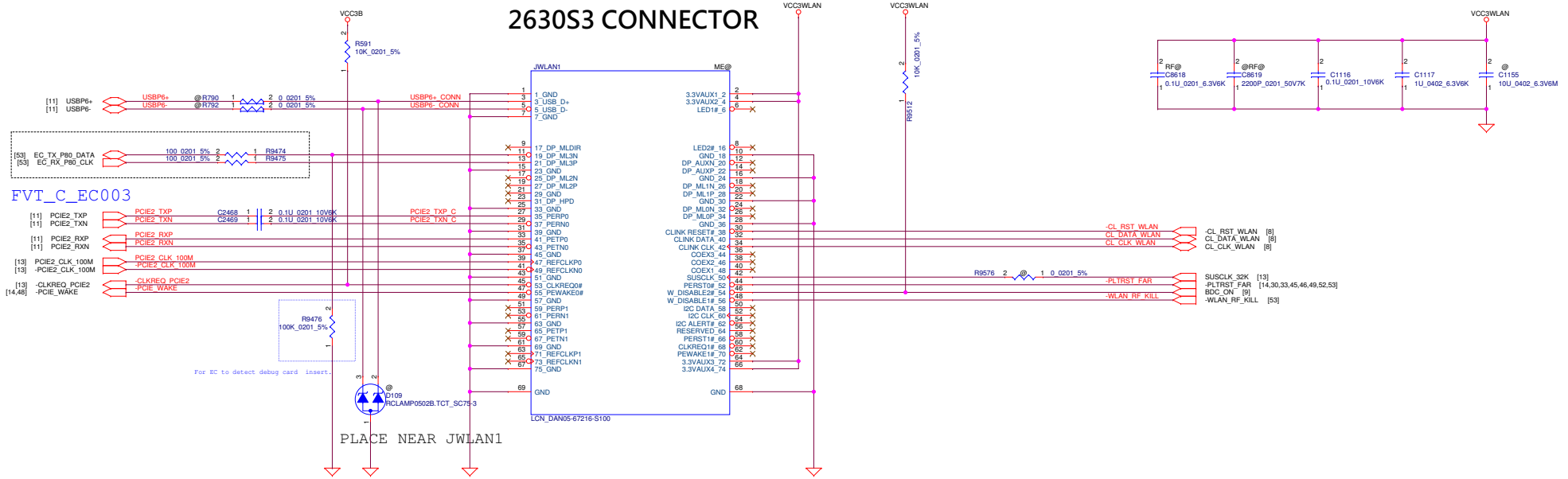
TYPE-B M.2 CARD FOR WWAN

3042S3 CONNECTOR



TYPE-A M.2 CARD FOR WLAN / Bluetooth

2630S3 CONNECTOR

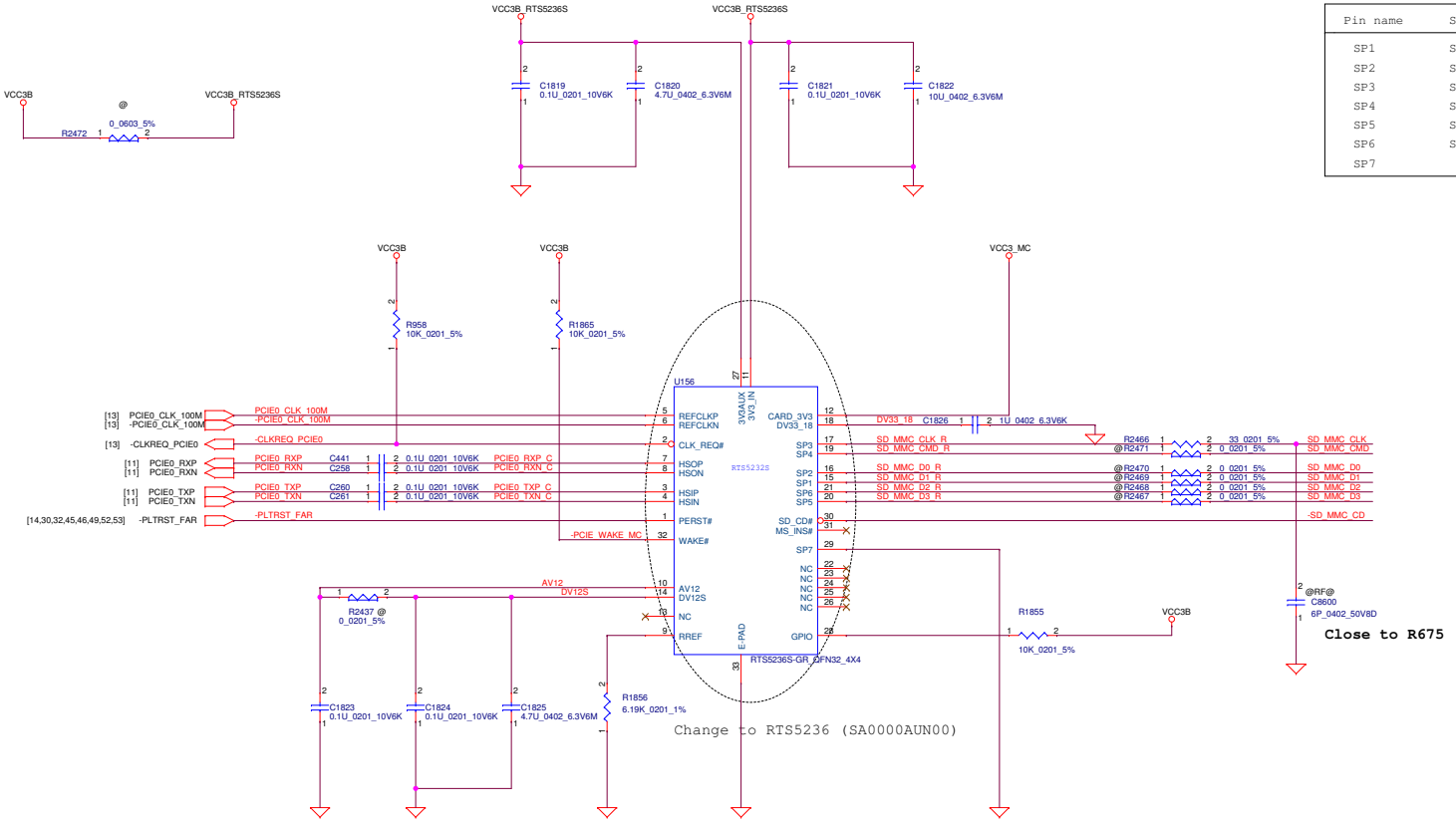


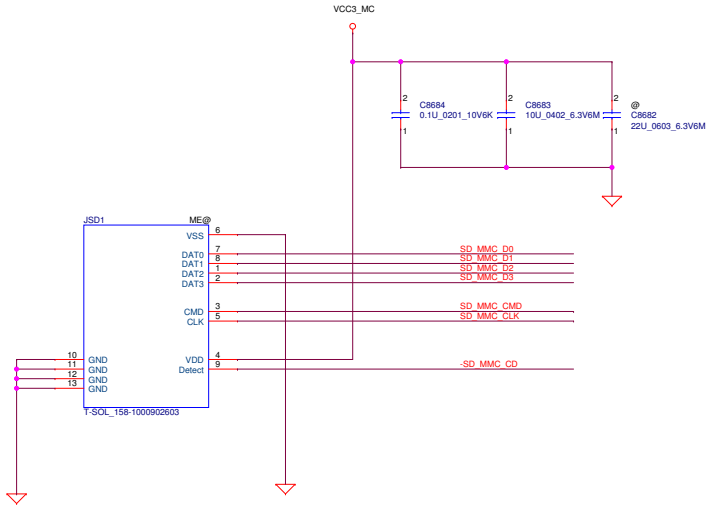
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title: PCIE M.2 CARD SLOT			
Size: Custom	Document Number: LA-F421P		Rev: 1.0
Date: Monday, October 23, 2017	Sheet 32 of 73		

TABLE

Pin name	SD/MMC	MEMORSTICK
SP1	SD_D1	
SP2	SD_D0	MS_D1
SP3	SD_CLK	MS_D0
SP4	SD_CMD	MS_D2
SP5	SD_D3	MS_D3
SP6	SD_D2	MS_CLK
SP7		





Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: MEDIA CARD CONTROLLER

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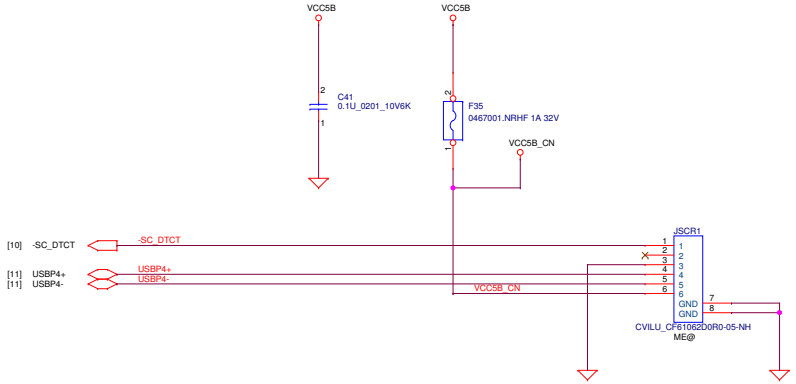
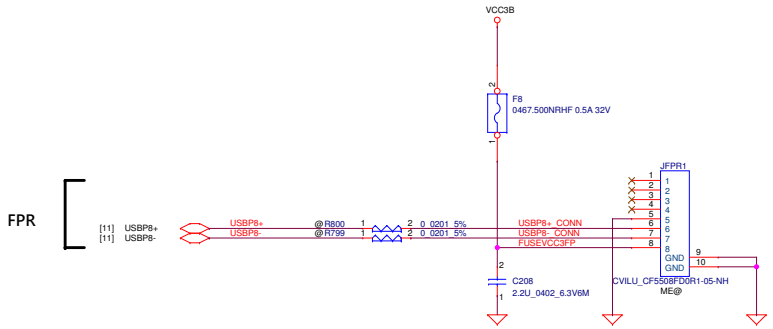
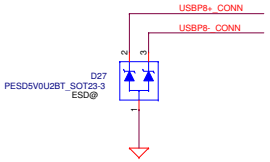
Date: Monday, October 23, 2017 | Sheet 33 of 73







Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: SMART CARD/FPR

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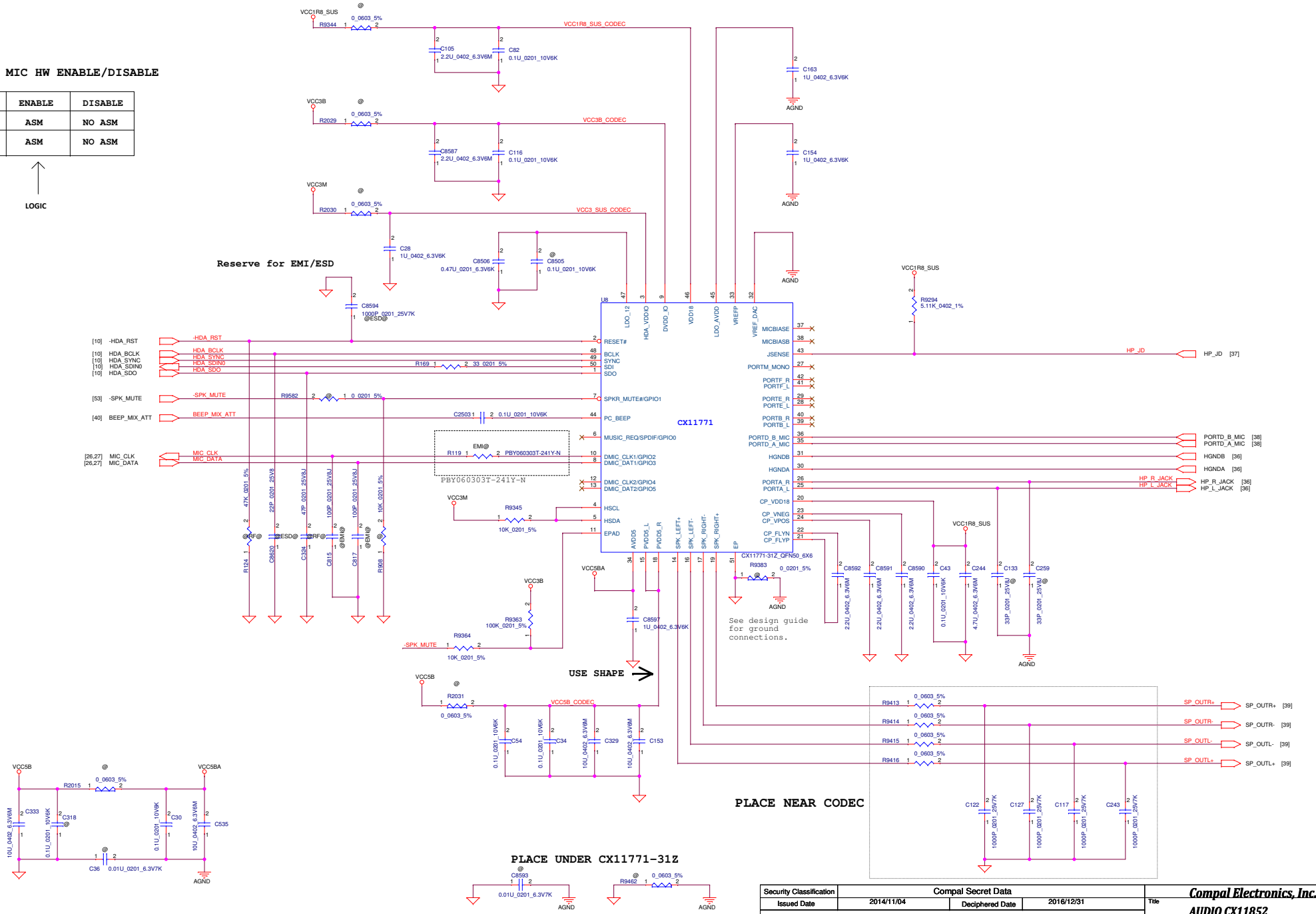
TABLE MIC HW ENABLE/DISABLE

	ENABLE	DISABLE
R961	ASM	NO ASM
R119	ASM	NO ASM

LOGIC



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title: AUDIO CX11852			
Size: Custom	Document Number: LA-F421P		Rev: 1.0
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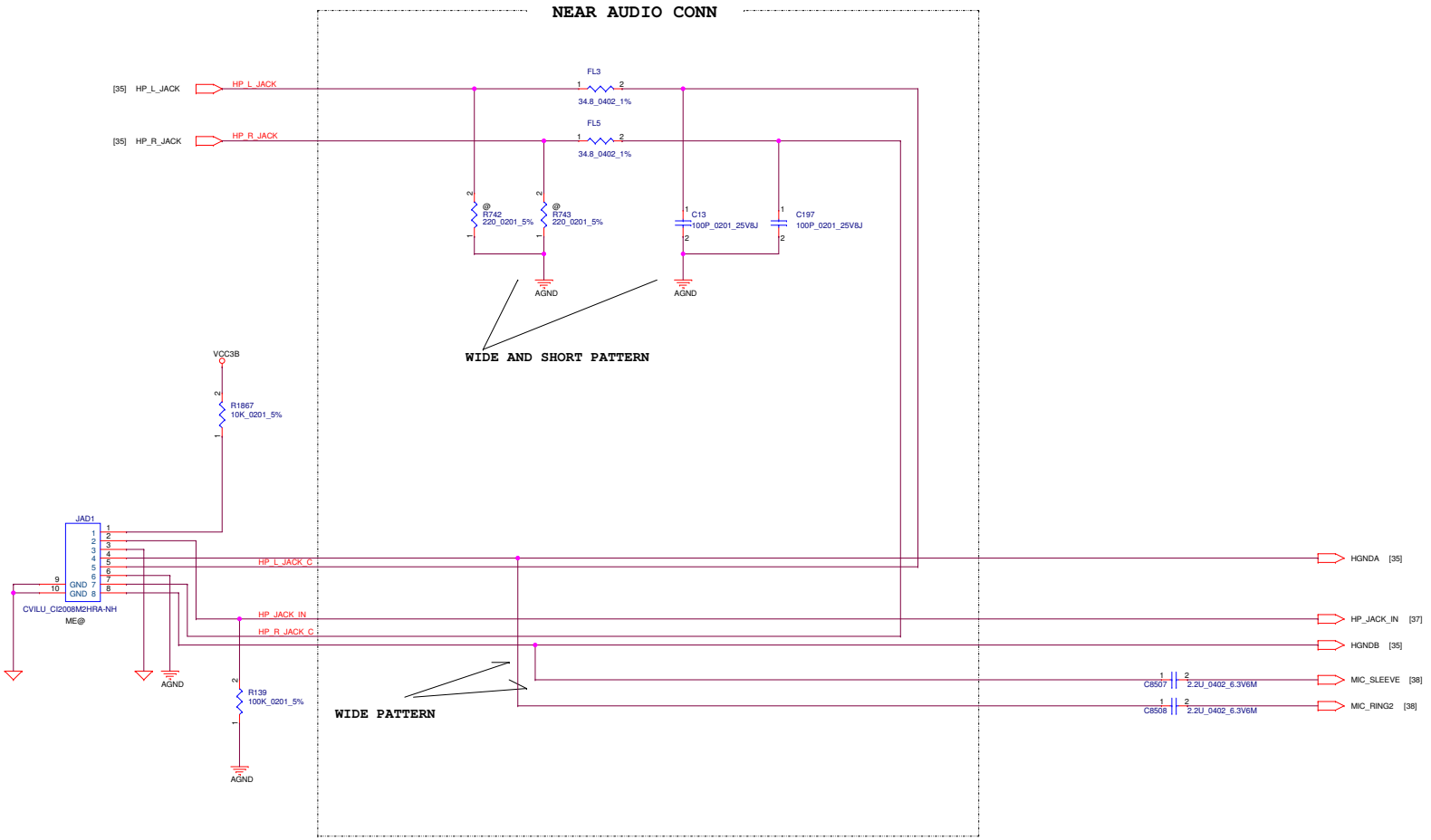

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: AUDIO CONNECTOR

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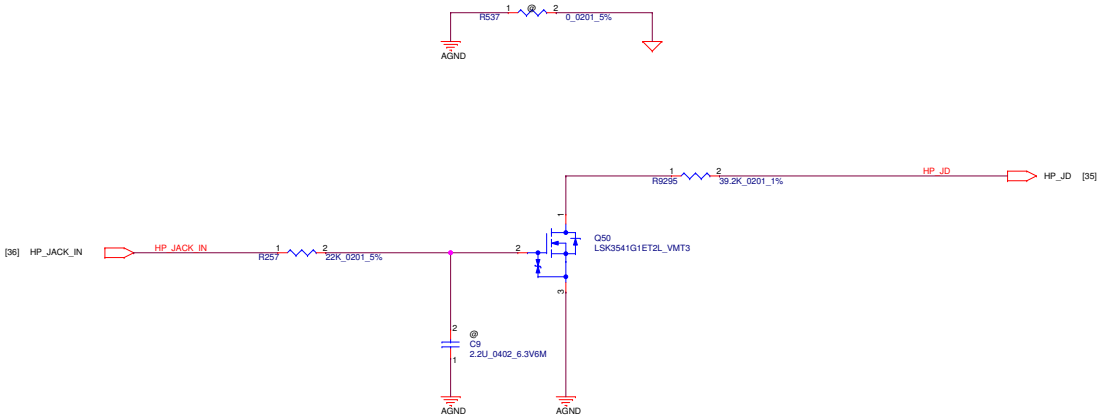

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: **AUDIO JACK SENSE**

Size: Custom | Document Number: **LA-F421P** | Rev: 1.0

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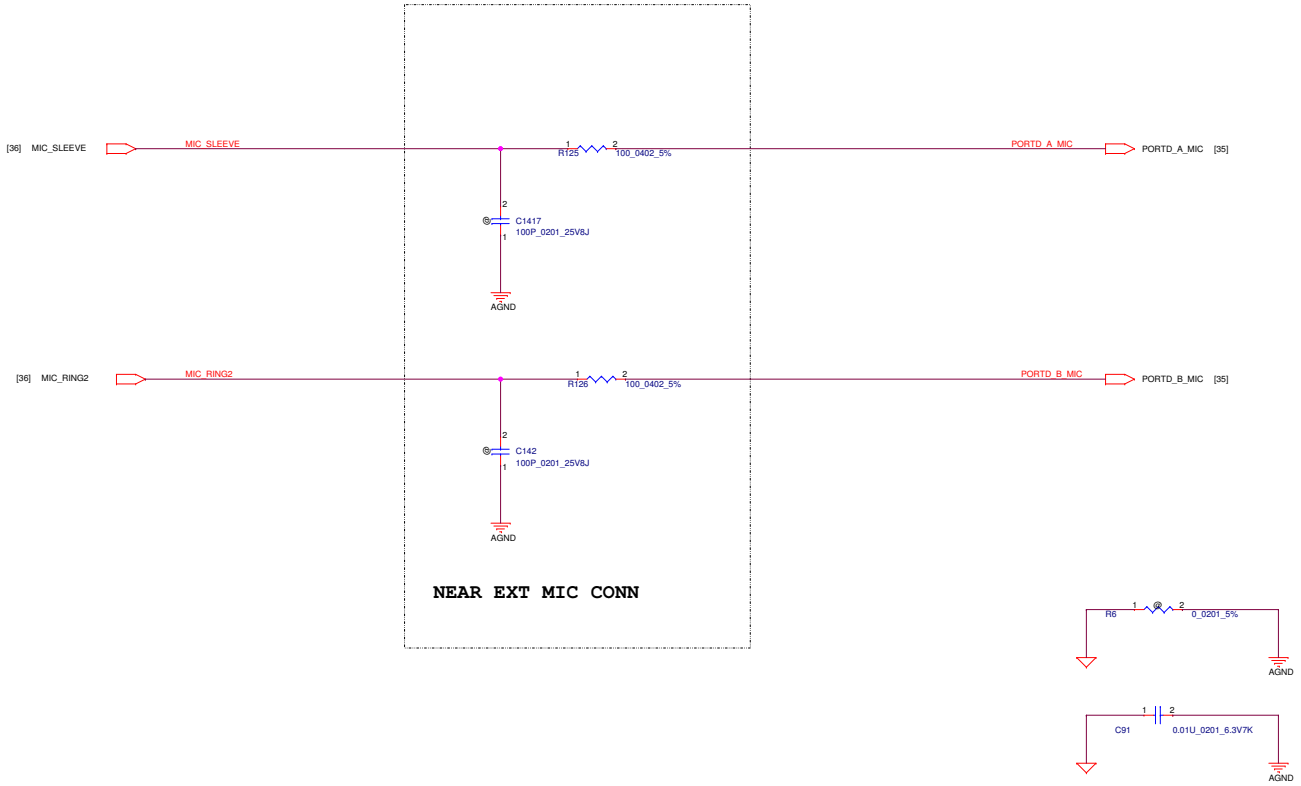

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: AUDIO EXT MIC I/F

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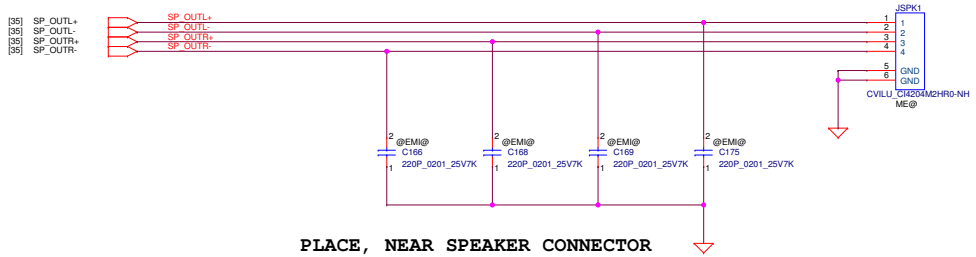
Date: Monday, October 23, 2017 | Sheet 38 of 73



PLACE, NEAR SPEAKER CONNECTOR

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: AUDIO SPEAKER

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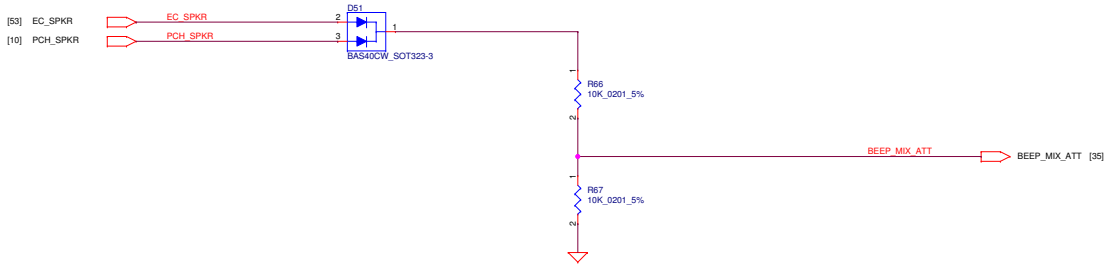

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: AUDIO BEEP/DAUGHTER CARD

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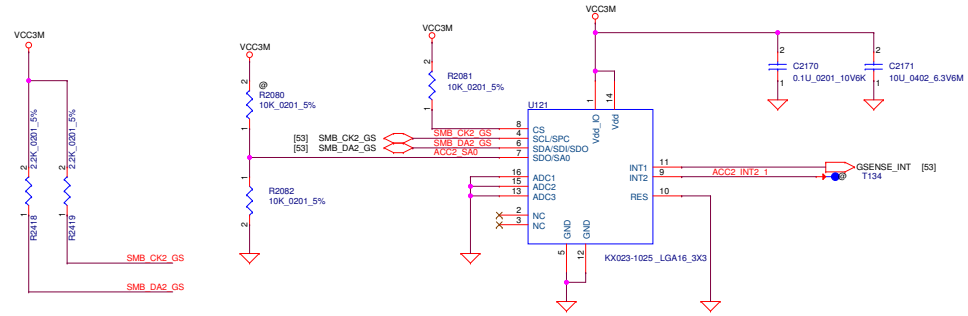
Intelligent Cooling G-Sensor

TABLE

ACC2_SA0	Address Selection
H	32h (W) & 33h (R)
L	30h (W) & 31h (R)

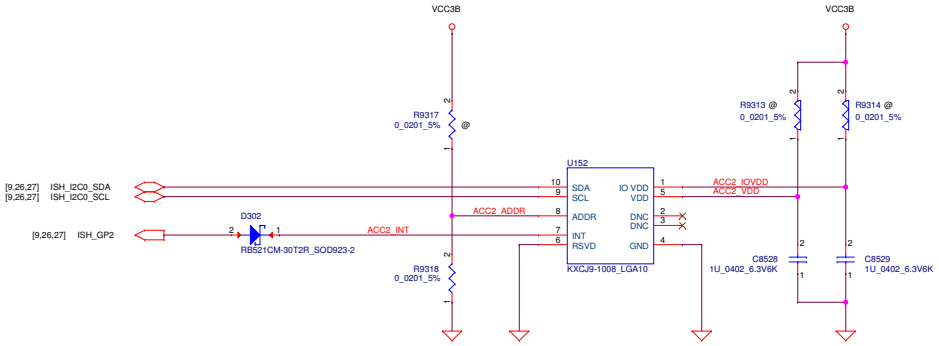
TABLE

CS	Mode Selection
H	I2C Mode
L	SPI Mode



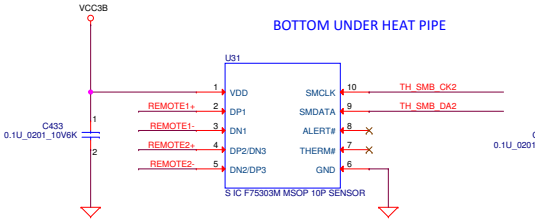
KX023-1025 Address: 0x1Eh

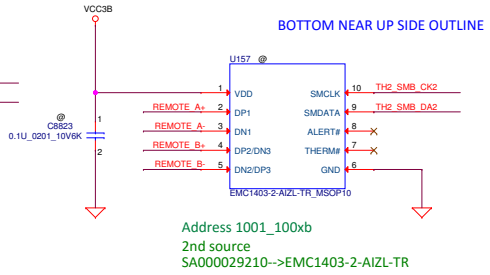
G-Sensor



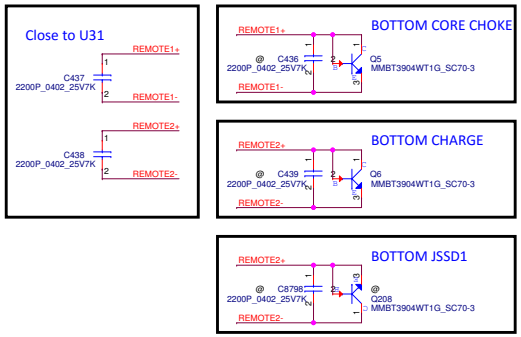
KXCJ9 Address: 0x1Ch

Thermal Sensor

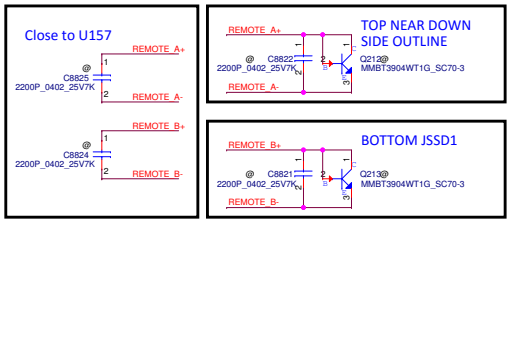


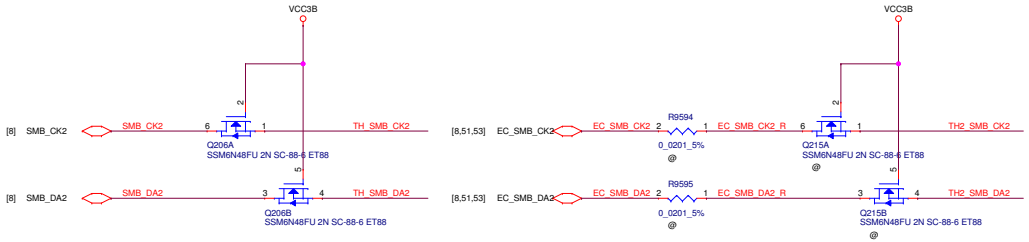


REMOTE1,2 (+/-) :
Trace width/space:10/10 mil
Trace length:<8"



REMOTEA,B (+/-) :
Trace width/space:10/10 mil
Trace length:<8"





Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: SENSOR INTERFACE

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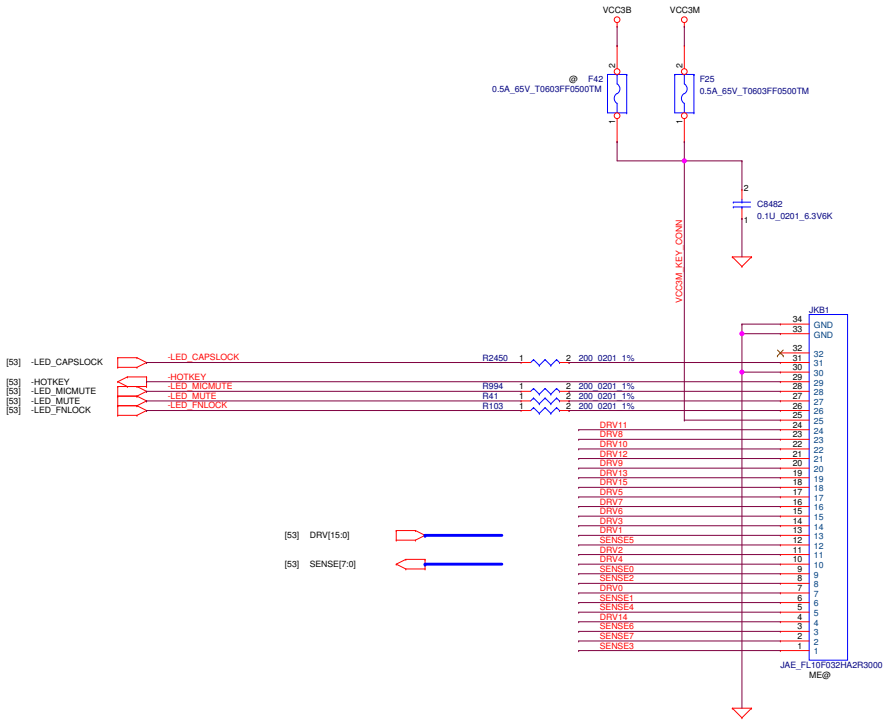

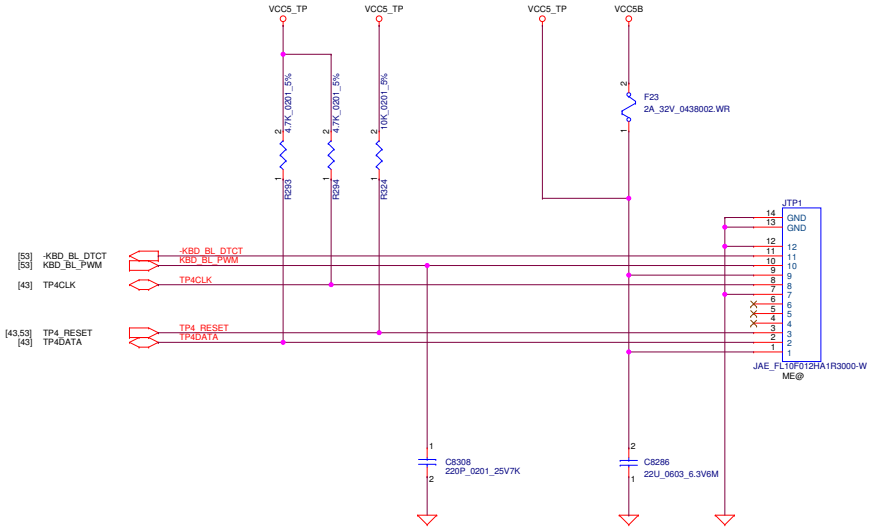

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title: KEYBOARD/TRACK POINT			
Size: Custom	Document Number: LA-F421P		Rev: 1.0
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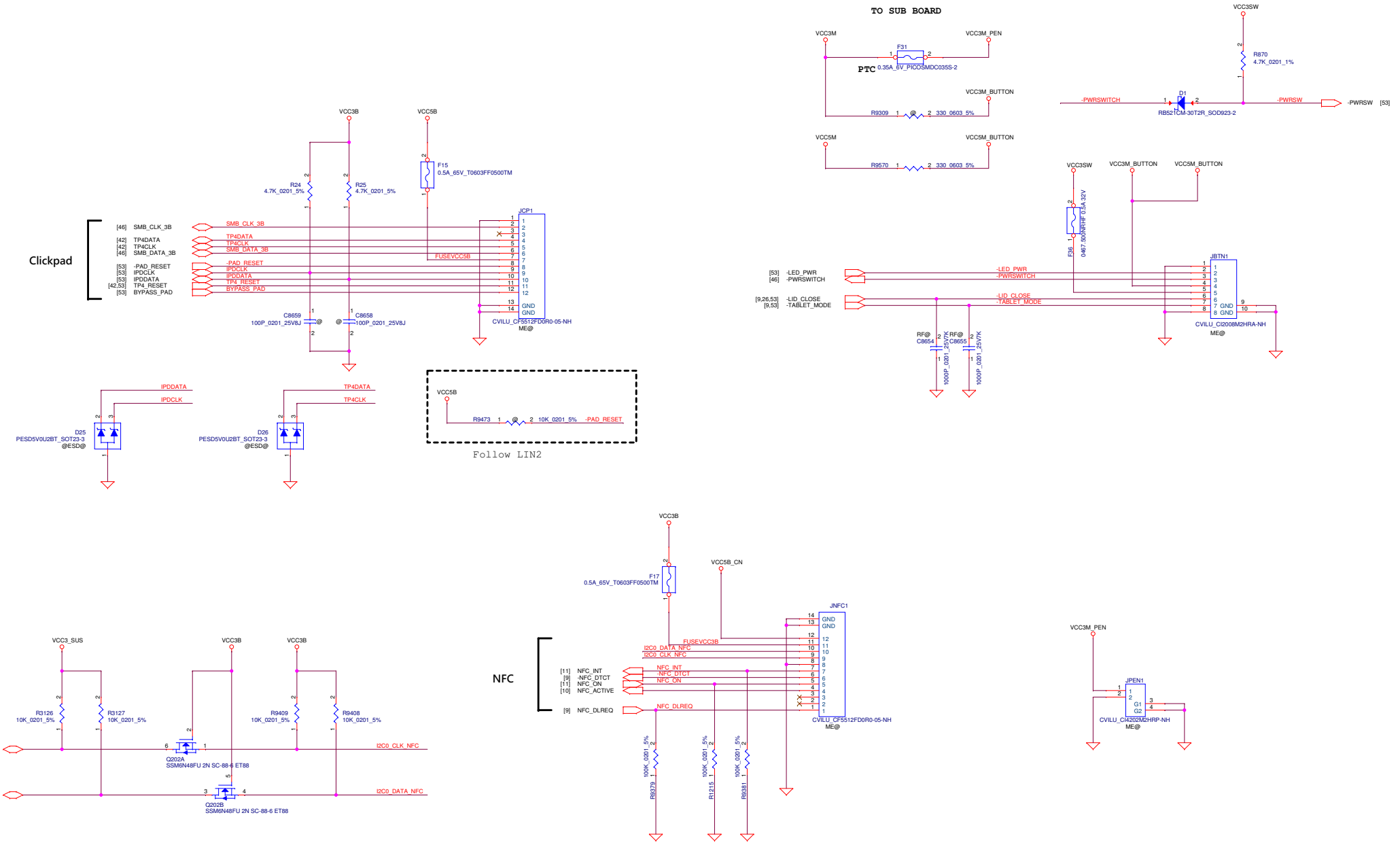

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: **TOUCH PAD/NFC/BUTTON/PEN]**

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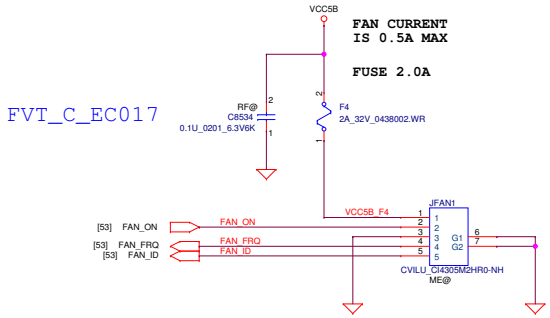

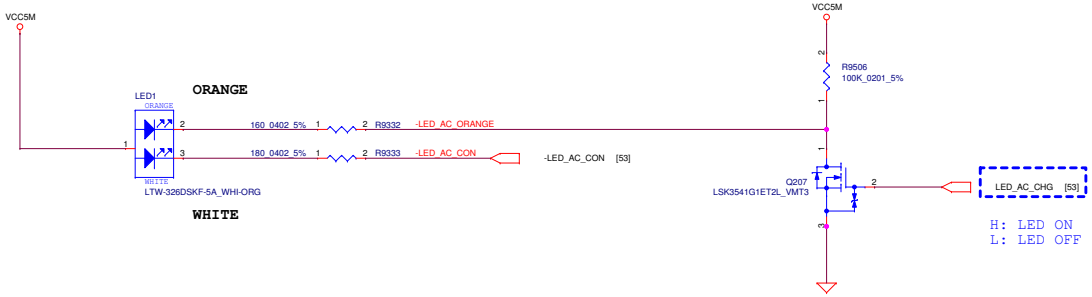

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: FAN CONNECTOR

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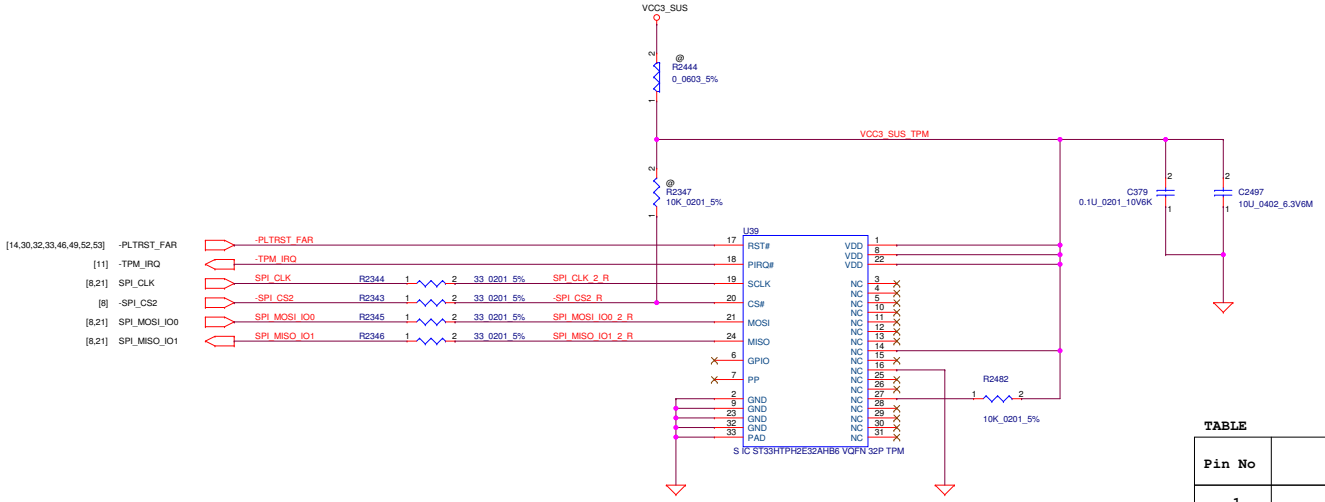

-Change TPM1.2 to TPM2.0
-Infineon SLB9670VQ2.0 part number SA00009N230
-ST ST33HTPH2E32AHB6 part number SA00009SO40

FVT_C_EC001

TABLE

Pin No	ST ST33HTPH2E32AHB6	Infineon SLB9670VQ2.0 FW7.61
1	NC	VDD
2	GND	GND
3	NC	NC
4	NC	NC
5	NC	NC
6	NC	GPIO
7	PP	PP
8	NC	VDD
9	NC	GND
10	NC	NC
11	NC	NC
12	NC	NC
13	NC	NC
14	NC	VDD
15	NC	NC
16	NC	GND
17	SPI_RST#	RST#
18	SPI_PIRQ#	PIRQ#
19	SPI_CLK	SCLK
20	SPI_CS#	CS#
21	MOSI	MOSI
22	VDD	VDD
23	NC	GND
24	MISO	MISO
25	NC	NC
26	NC	NC
27	NC	NC
28	NC	NC
29	NC	NC
30	NC	NC
31	NC	NC
32	NC	GND

Compal Electronics, Inc.

Title: DISCRETE TPM 1.2

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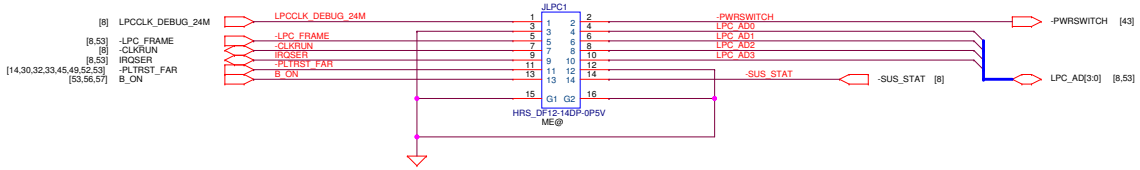
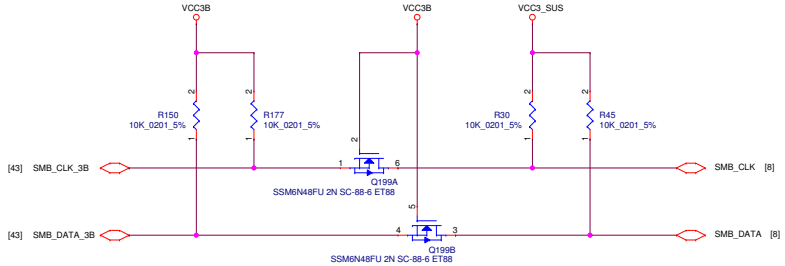
TABLE

REF DES	ENABLE	DISABLE
JLPC1	ASM	NO_ASM
R220	ASM	NO_ASM

LOGIC





Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: SMBUS SWITCH/LPC DEBUG POR

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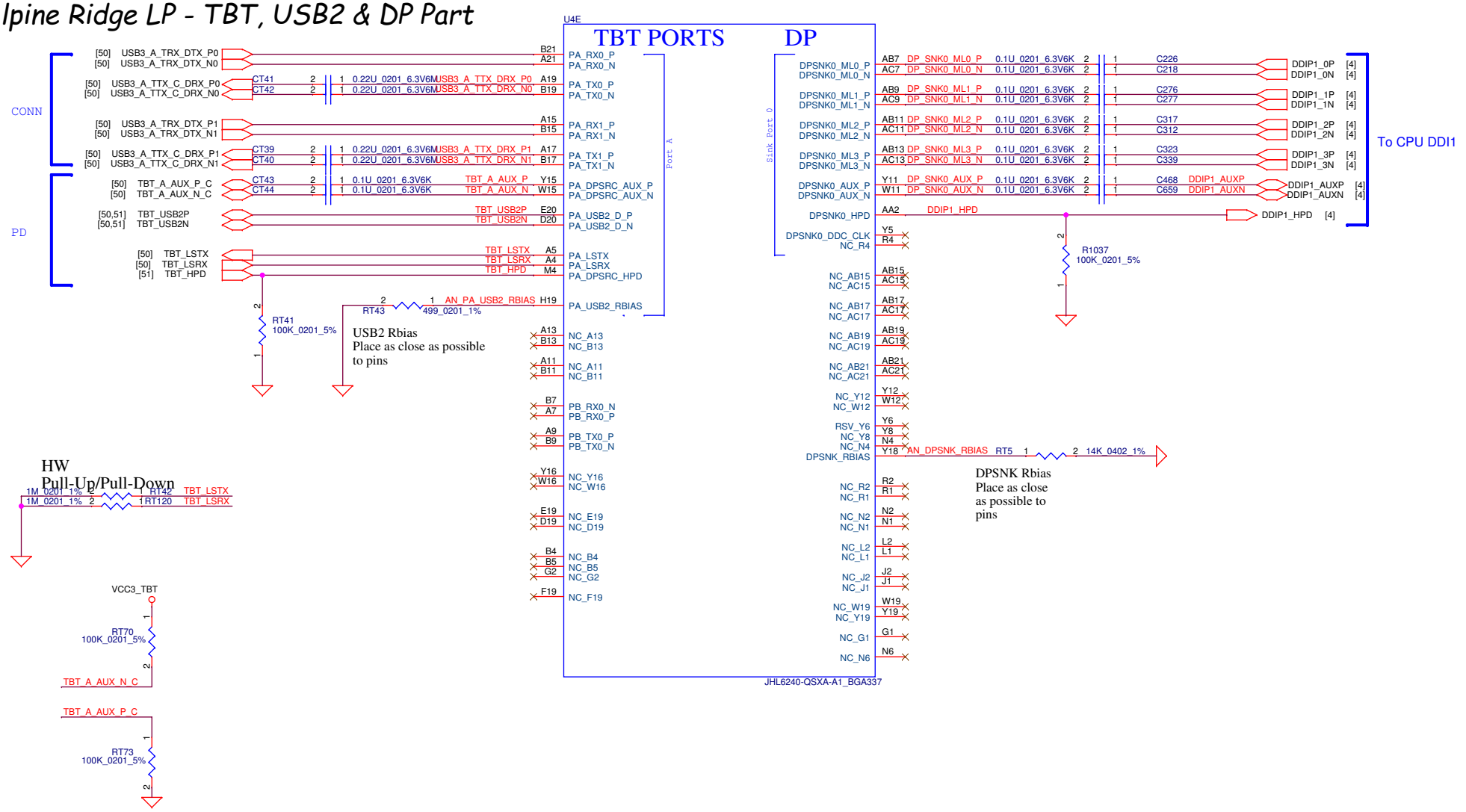
Alpine Ridge LP - TBT, USB2 & DP Part



Security Classification	Compal Secret Data		
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Compal Electronics, Inc.

Title: **AR : CIO/DP**

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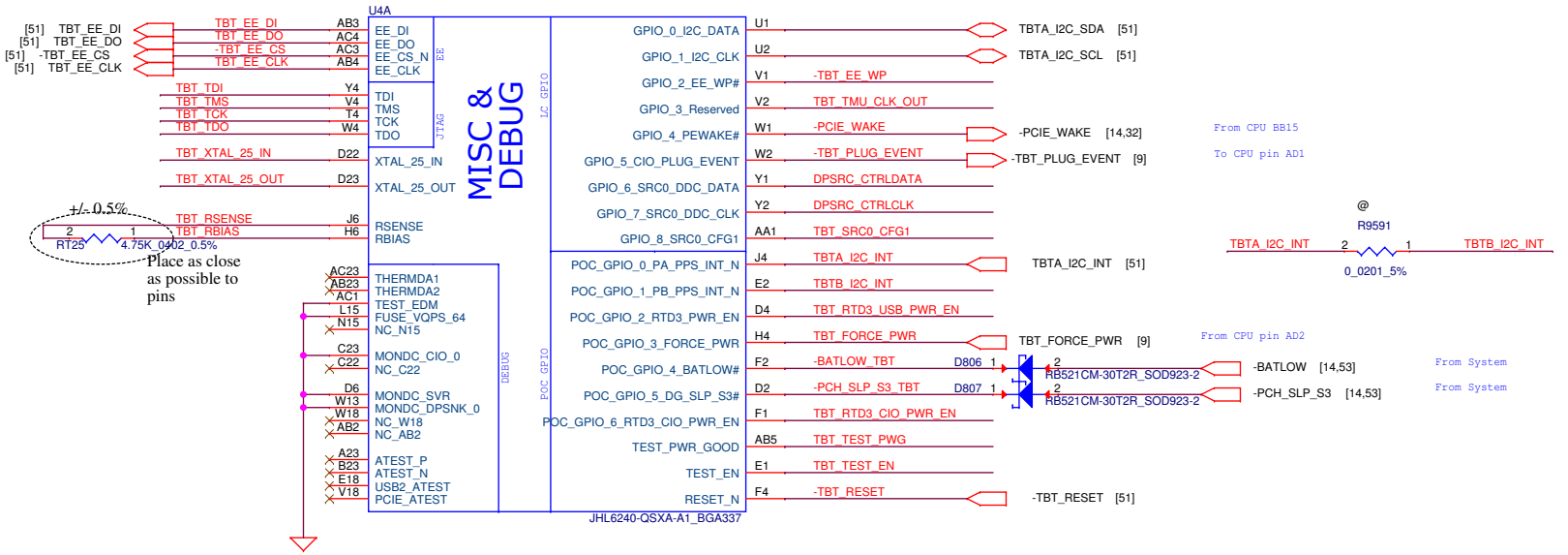
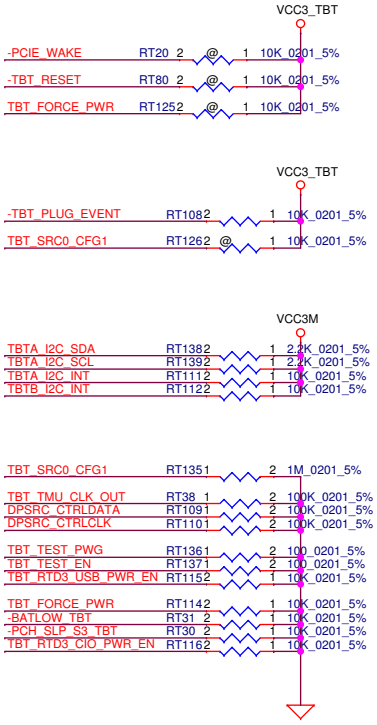
Alpine Ridge LP - Misc Part

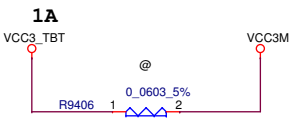
Alpine Ridge LP - Misc
Symbol

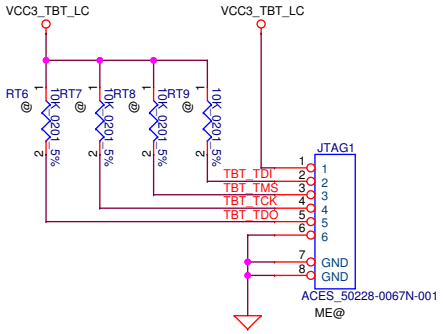


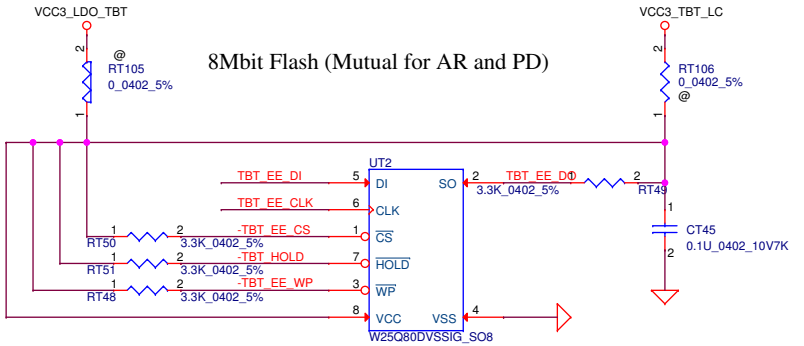
HW Pull-Up/Pull-Down

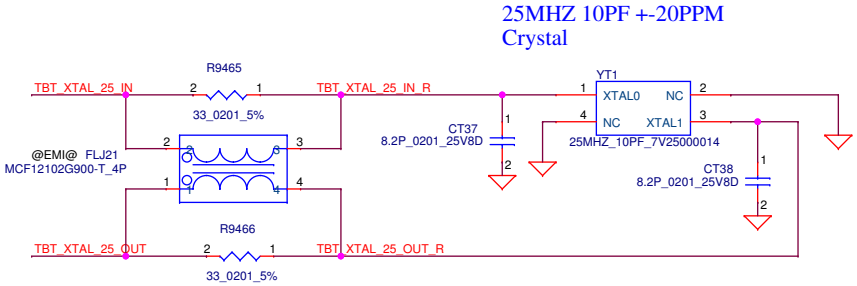
DG_SLP_S3#: PU shuold be on the Host side
DG_BATLOW#: PU shuold be on the Host side











Security Classification	Compal Secret Data		
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Compal Electronics, Inc.

Title: **AR : MISC**

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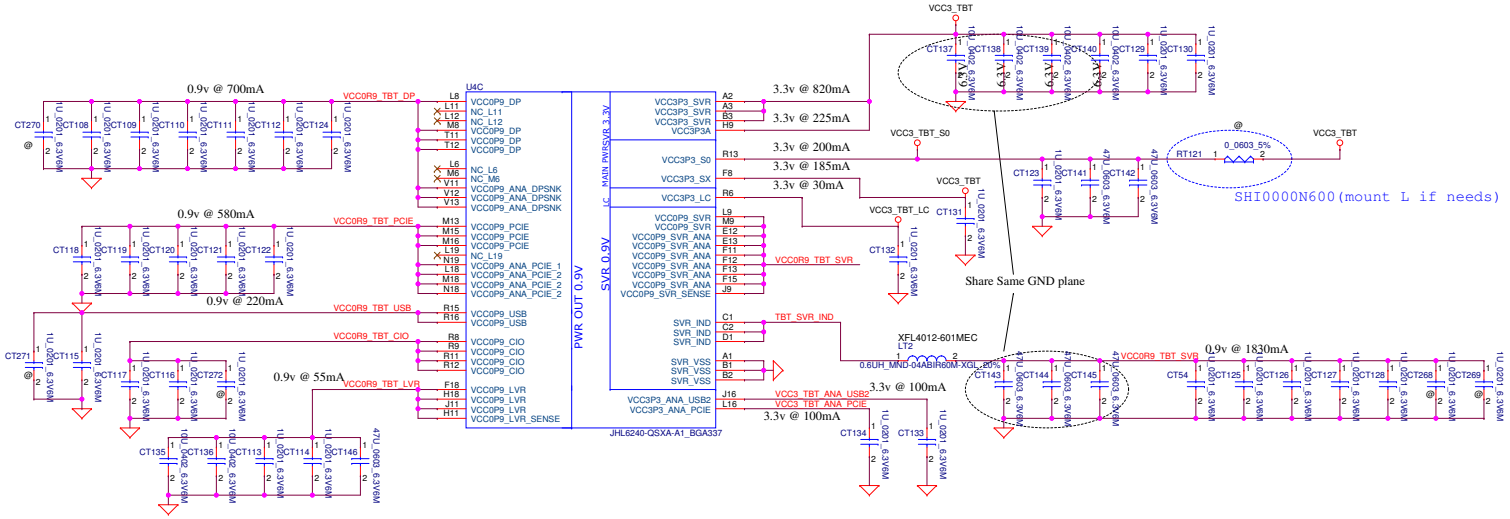
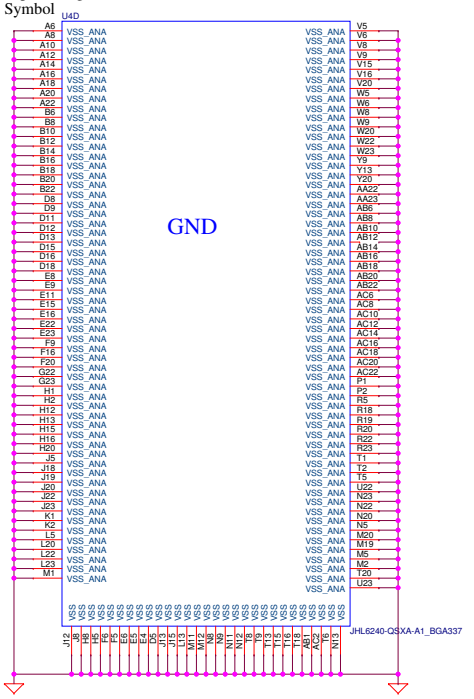
Alpine Ridge LP - Power Supply

Alpine Ridge SP - VCC
Symbol



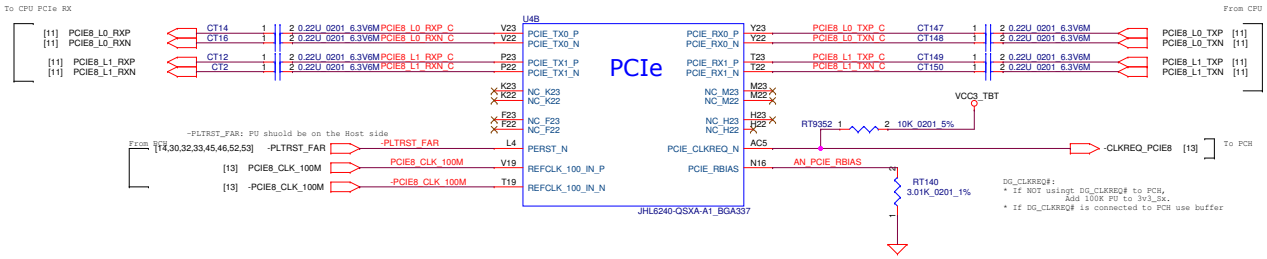
Alpine Ridge SP - GND
Symbol



AR-LP Power & GND

AR-LP PCIE

Alpine Ridge LP - PCIe
Symbol



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title	AR : POWER/ GND		
Size	Document Number		Rev
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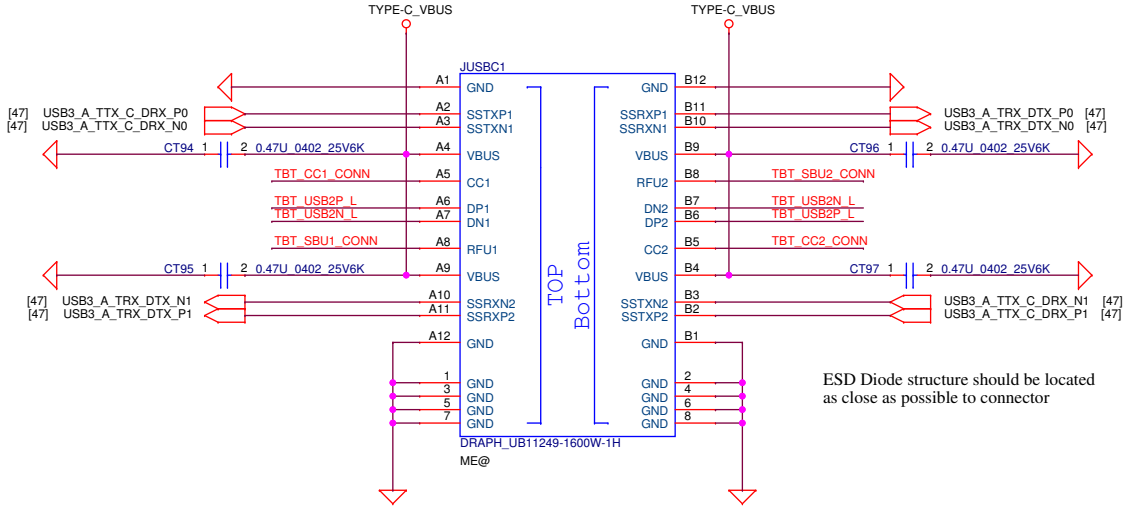
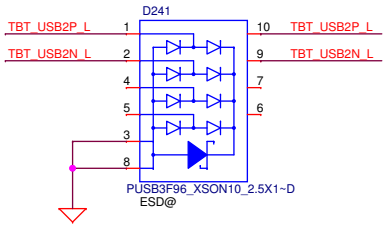
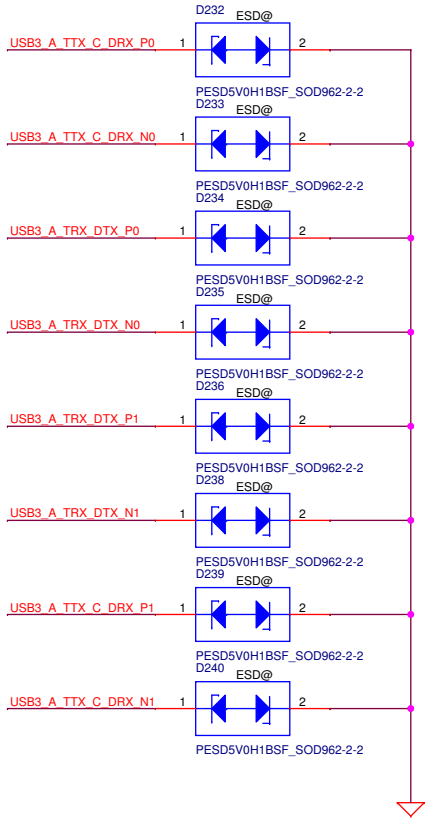
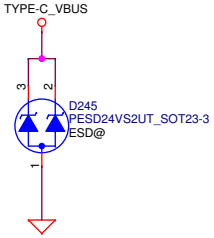


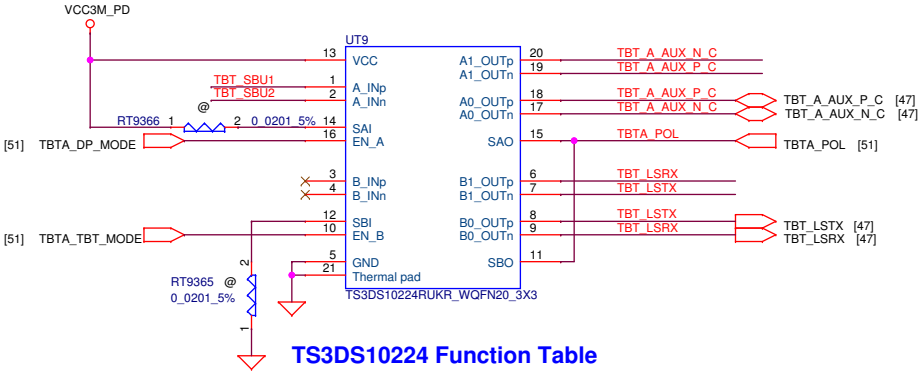
ESD Diode structure should be located as close as possible to connector

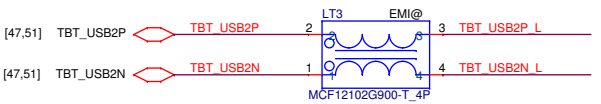
ESD for USB2 Lines and Control lines









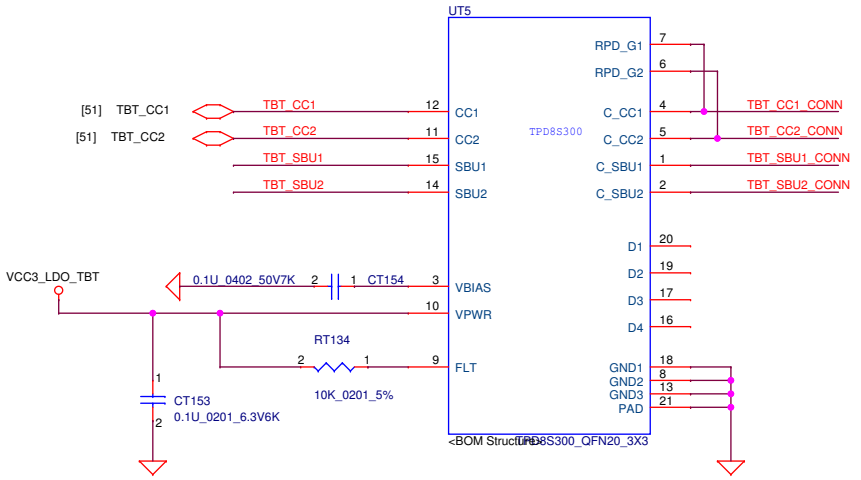


TS3DS10224 Function Table

SBU1	SBU2	(ENA) PA_DP_Mode	(ENB) PA_TBT_Mode	(SAO/SBO) PA_POL	OUTA0	OUTA1	OUTB0	OUTB1
Hi-Z	Hi-Z	0	0	X	Hi-Z	Hi-Z	Hi-Z	Hi-Z
AUX_P	AUX_N	1	0	0	INA	Hi-Z	Hi-Z	Hi-Z
AUX_N	AUX_P	1	0	1	Hi-Z	INA	Hi-Z	Hi-Z
LSTX	LSRX	0	1	0	Hi-Z	Hi-Z	INA	Hi-Z
LSRX	LSTX	0	1	1	Hi-Z	Hi-Z	Hi-Z	INA

ENA	ENB	OUTA0	OUTA1	OUTB0	OUTB1
0	0	Hi-Z	Hi-Z	Hi-Z	Hi-Z
0	1	Hi-Z	Hi-Z	EN	EN
1	0	EN	EN	Hi-Z	Hi-Z
1	1	EN	EN	EN	EN

SAI/SAO/SBI/SBO	OUTA0	OUTA1	OUTB0	OUTB1
1 0 0 0	INA	Hi-Z	INA	Hi-Z
1 1 0 1	Hi-Z	INA	Hi-Z	INA



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: **TYPE-C CONNECTOR/PCIE**

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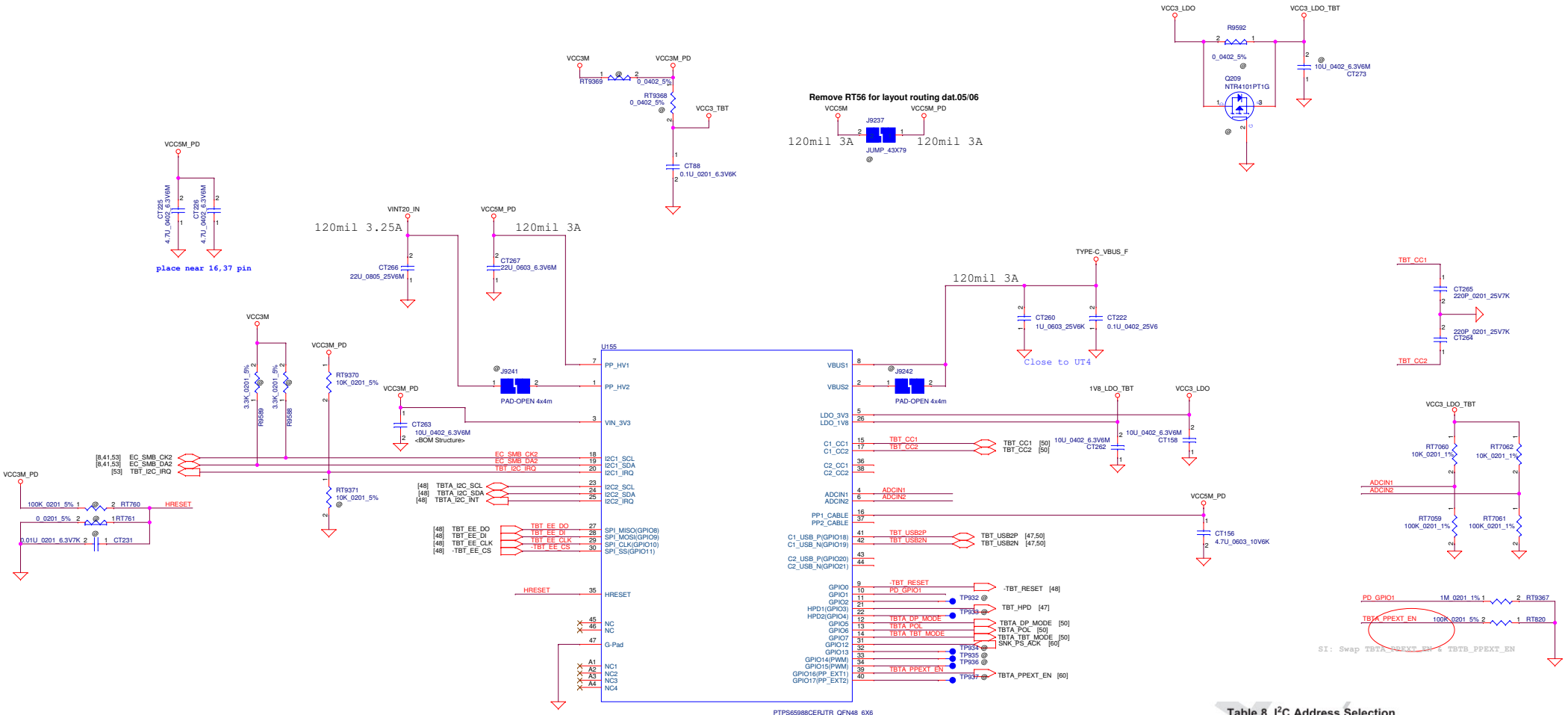


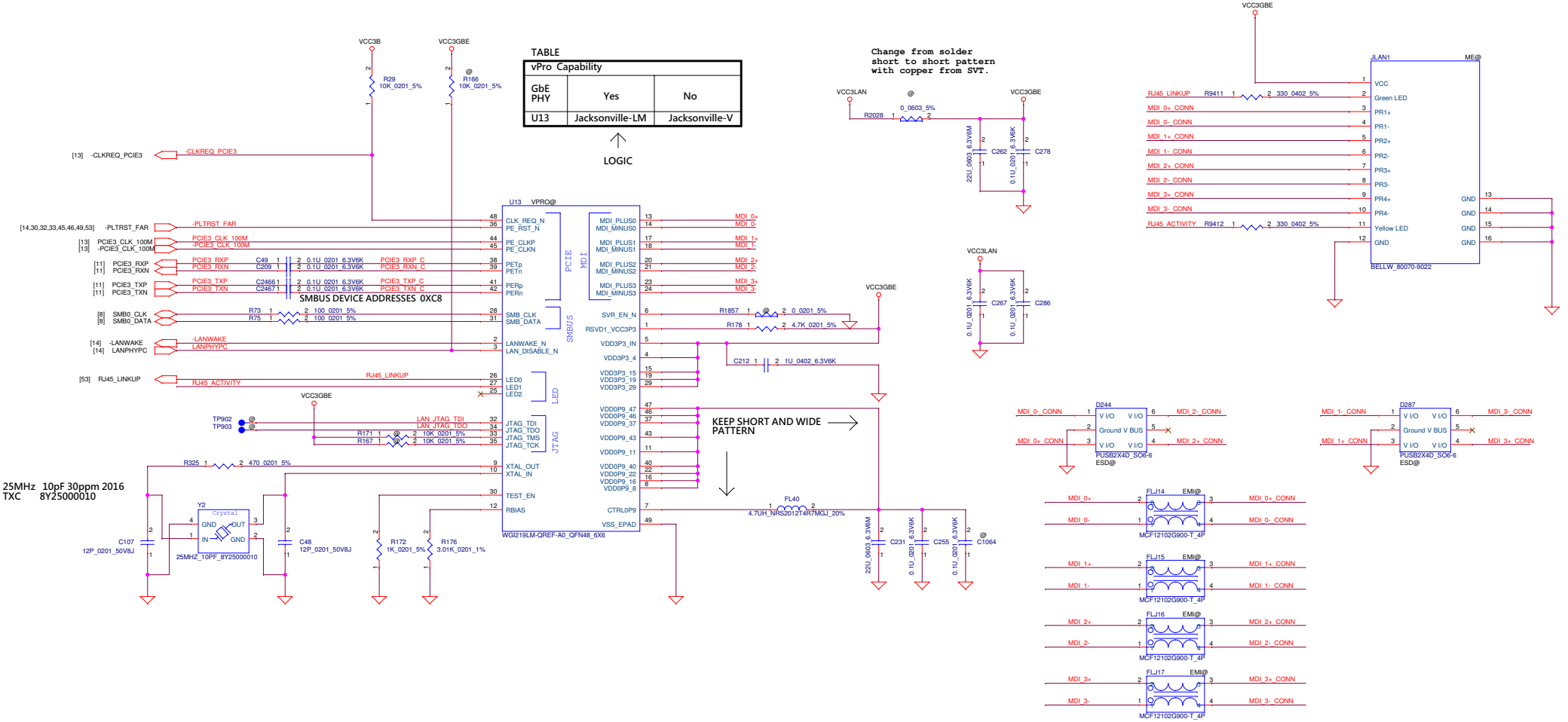
Table 8. I²C Address Selection

DIV = R2/(R1+R2)(1)		I²C UNIQUE ADDRESS [3:1]	
DIV_min	DIV_max	I2C_ADDR_DECODE_C1	I2C_ADDR_DECODE_C2
0.00	0.18	000b	100b
0.20	0.38	001b	101b
0.40	0.58	010b	110b
0.60	1.00	011b	111b

(1) External resistor tolerance of 1% is required. Resistor values must be chosen to yield a DIV value centered nominally between listed MIN and MAX values.

Security Classification	Compal Secret Data		
Issued Date	2015/01/06	Deciphered Date	2016/01/06

Compal Electronics, Inc.			
Title: PD TPS65988			
Size: A3	Document Number: LA-F421P		Rev: 1.0
Date: Monday, October 23, 2017	Sheet 51 of 73		



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: GBE JACKSONVILLE

Size: Custom | Document Number: LA-F421P | Rev: 1.0

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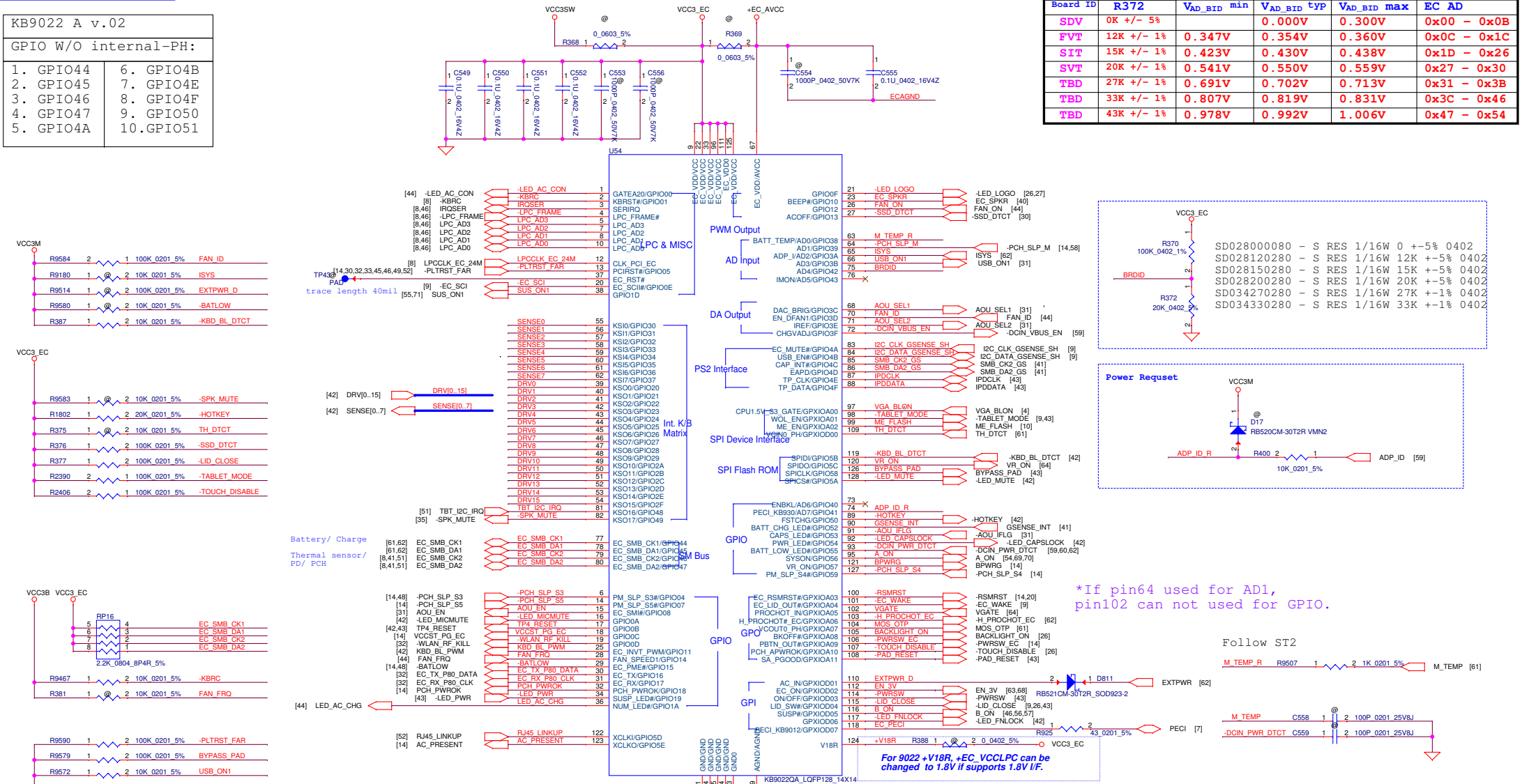
EC KB9022

KB9022 A v.02	
GPIO W/O internal-PH:	
1. GPIO44	6. GPIO4B
2. GPIO45	7. GPIO4E
3. GPIO46	8. GPIO4F
4. GPIO47	9. GPIO50
5. GPIO4A	10.GPIO51

Vcc	3.3V +/- 5%				
R370	100K +/- 1%				
Board ID	R372	V_{AD_BID} min	V_{AD_BID} typ	V_{AD_BID} max	EC AD
SDV	0K +/- 5%		0.000V	0.300V	0x00 ~ 0x0B
FVT	12K +/- 1%	0.347V	0.354V	0.360V	0x0C ~ 0x1C
SIT	15K +/- 1%	0.423V	0.430V	0.438V	0x1D ~ 0x26
SVT	20K +/- 1%	0.541V	0.550V	0.559V	0x27 ~ 0x30
TBD	27K +/- 1%	0.691V	0.702V	0.713V	0x31 ~ 0x3B
TBD	33K +/- 1%	0.807V	0.819V	0.831V	0x3C ~ 0x46
TBD	43K +/- 1%	0.978V	0.992V	1.006V	0x47 ~ 0x54



EC SM Bus1 address

Device	Address
Battery	0X0b
Charger	0X12

EC SM Bus2 address

Device	Address
Thermal Sensor Fintek F75303M	0x9A
Intelligent Cooling G-Sensor Kionix KX023-1025	0x1E
Intel TBT	0x38
Intel KBL-RU PCH	0x4B

SD028000080 - S RES 1/16W 0 +-5% 0402
SD028120280 - S RES 1/16W 12K +-5% 0402
SD028150280 - S RES 1/16W 15K +-5% 0402
SD028200280 - S RES 1/16W 20K +-5% 0402
SD034270280 - S RES 1/16W 27K +-1% 0402
SD034330280 - S RES 1/16W 33K +-1% 0402

Power Requset

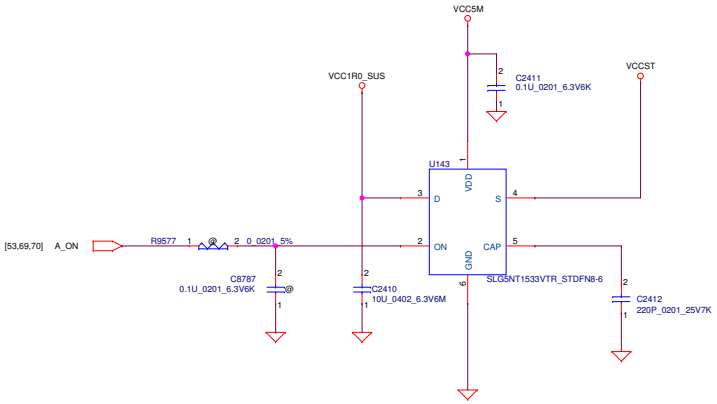
Security Classification	Compal Secret Data		
Issued Date	2015/03/06	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: EC ENE-KB9022

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 53 of 73

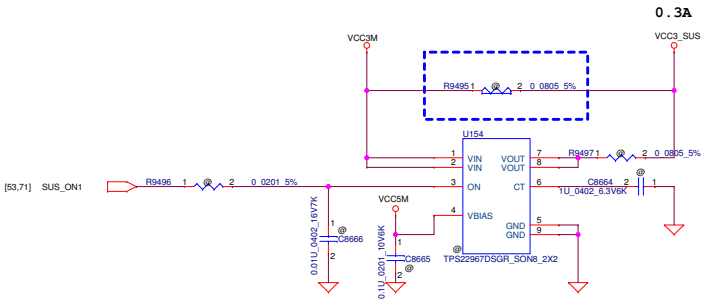


Compal Electronics, Inc.

Title: LOAD SW VCCST

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 54 of 73



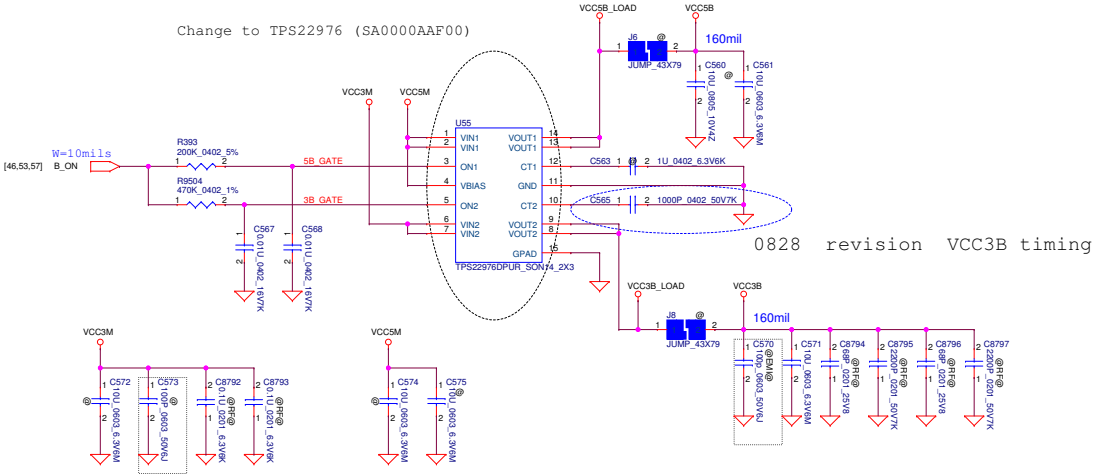
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: LOAD SW PCH SUS/TRACK POIN

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 55 of 73



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: LOAD SW B

Size: Custom | Document Number: LA-F421P | Rev: 1.0

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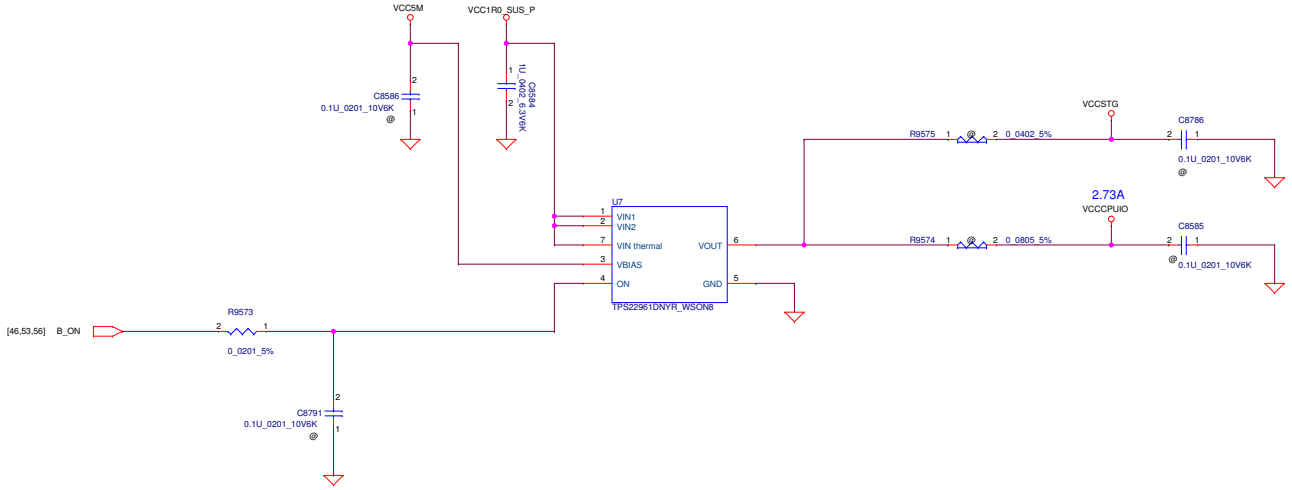
Imax : 3.6 A

VCC1R0_SUS_P — VCC1R0_SUS

Imax : 2.57 A

VCC1R0_SUS_P — VCCPCHCORE



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

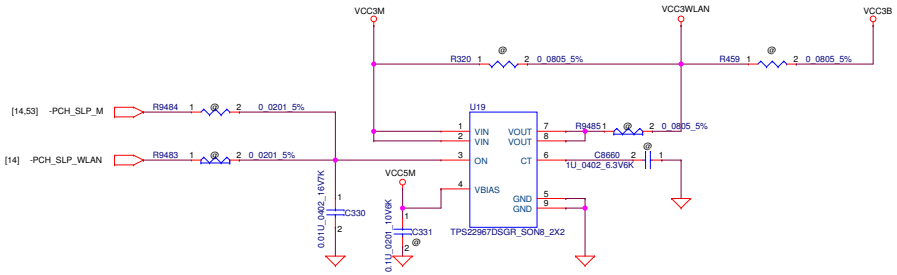
Compal Electronics, Inc.

Title: LOAD SW VCCCPUIO

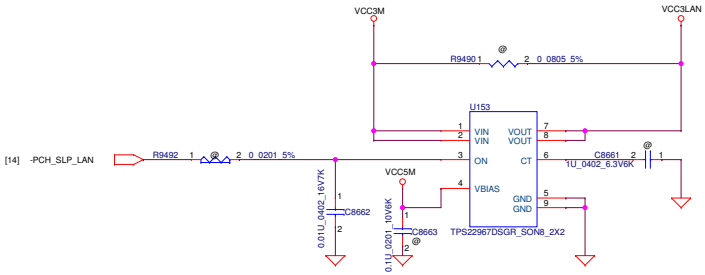
Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 57 of 73

2.7A



0.5A



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: LOAD SW WWAN & WLAN

Size: Custom | Document Number: LA-F421P | Rev: 1.0

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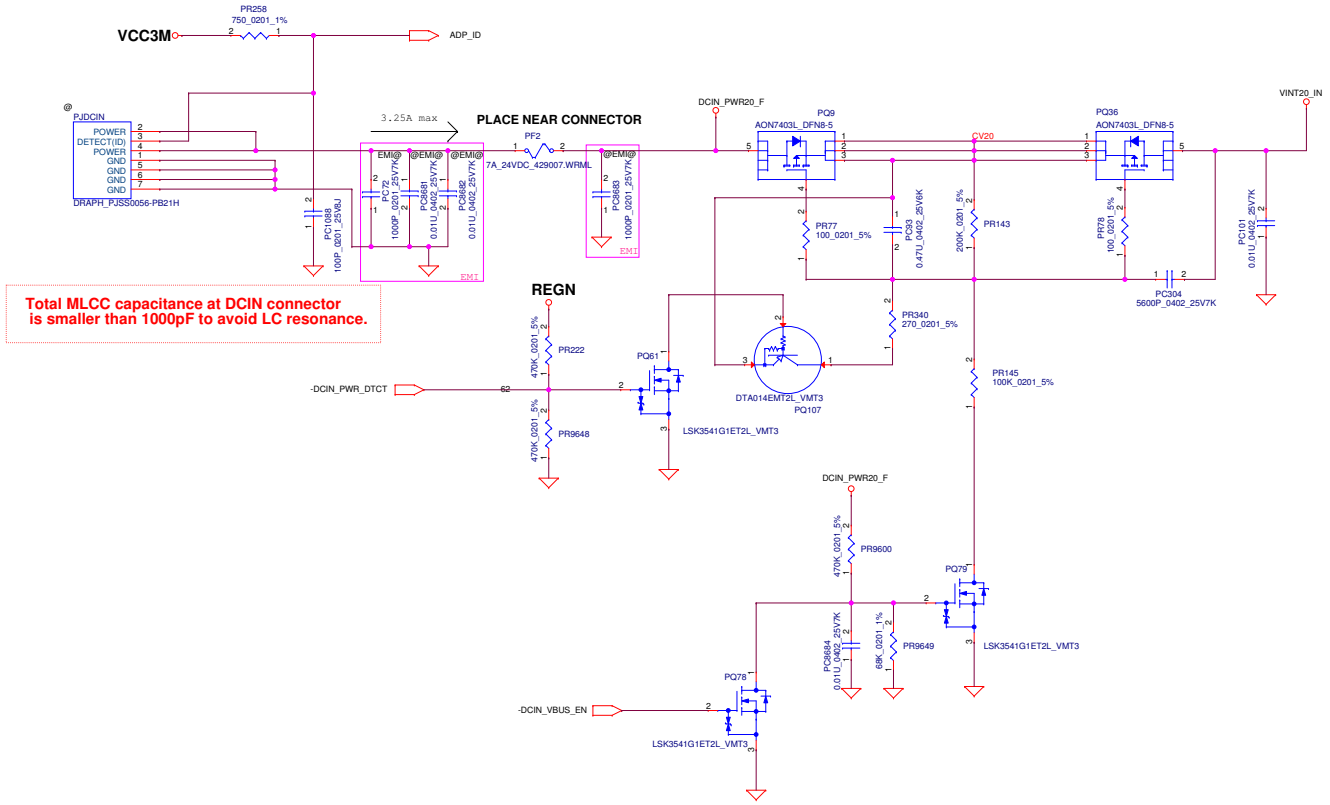
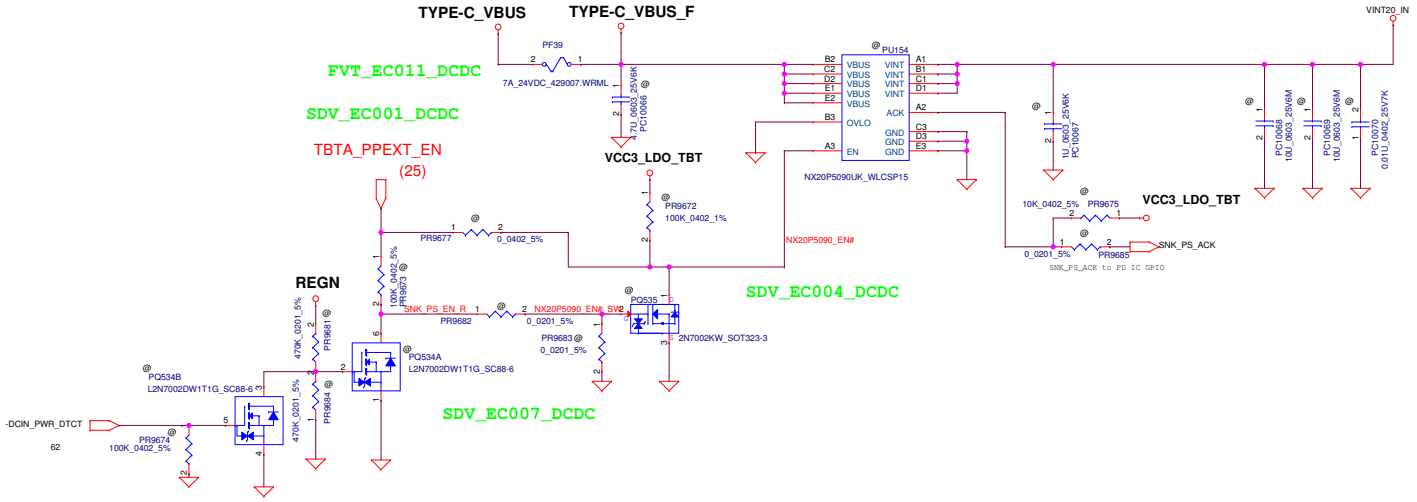
PR258: 750_1% for New AC Adapter



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title: DC-IN			
Size: Custom	Document Number: LA-E291P		Rev: 1.0
Date: Monday, October 23, 2017	Sheet 59 of 102		



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: TYPE-C IN

Size: Custom | Document Number: LA-E291P | Rev: 1.0

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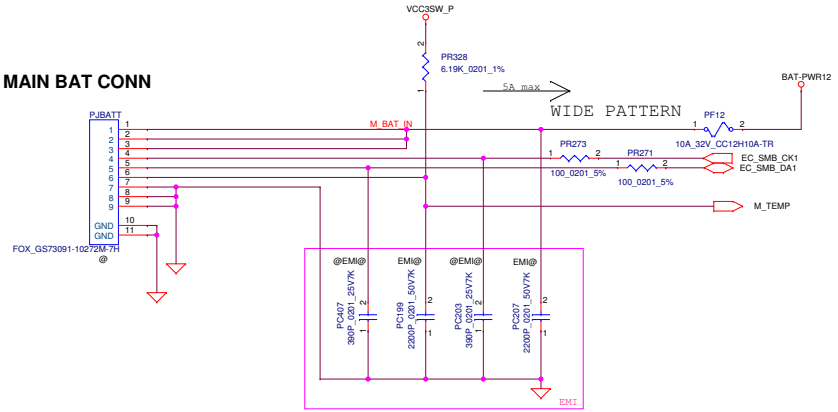
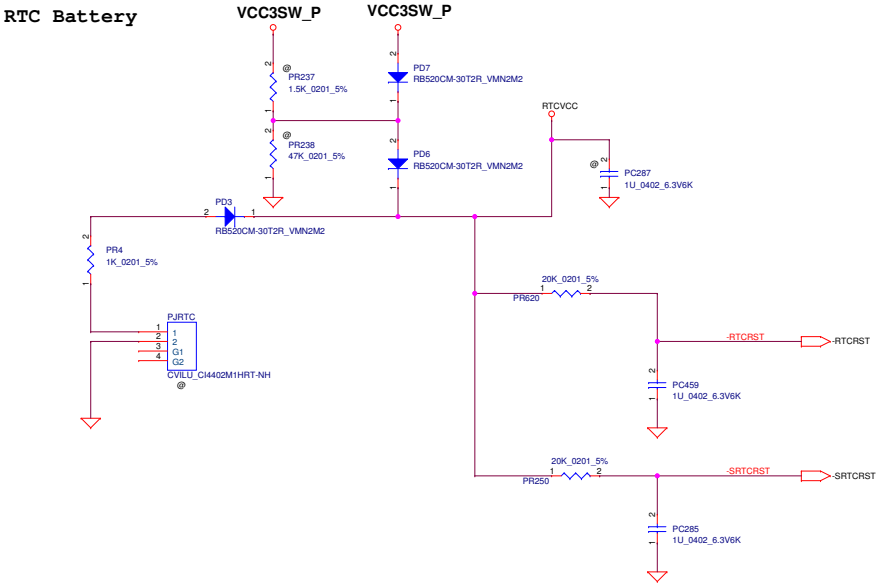
MAIN BAT CONN

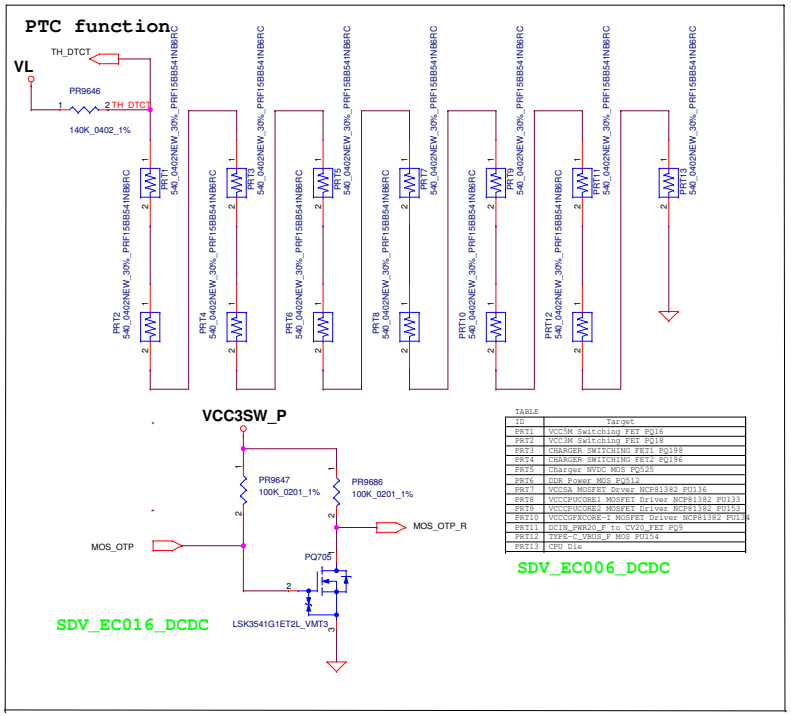


RTC Battery



SDV_EC008_DCDC

PTC function



SDV_EC016_DCDC

TABLE

ID	Target
PRT1	VCC5M Switching FET PQ16
PRT2	VCC3M Switching FET PQ18
PRT3	CHARGER SWITCHING FET1 PQ198
PRT4	CHARGER SWITCHING FET2 PQ196
PRT5	Charger NVDC MOS PQ525
PRT6	DDR Power MOS PQ512
PRT7	VCC3A MOSFET Driver NCP81382 PU136
PRT8	VCCCPUCORE1 MOSFET Driver NCP81382 PU133
PRT9	VCCCPUCORE2 MOSFET Driver NCP81382 PU133
PRT10	VCCCGFXCORE-1 MOSFET Driver NCP81382 PU134
PRT11	DCIN_PWR20_F to CV20_FET PQ9
PRT12	TYPE-C_VBUS_F MOS PU154
PRT13	CPU Die

SDV_EC006_DCDC

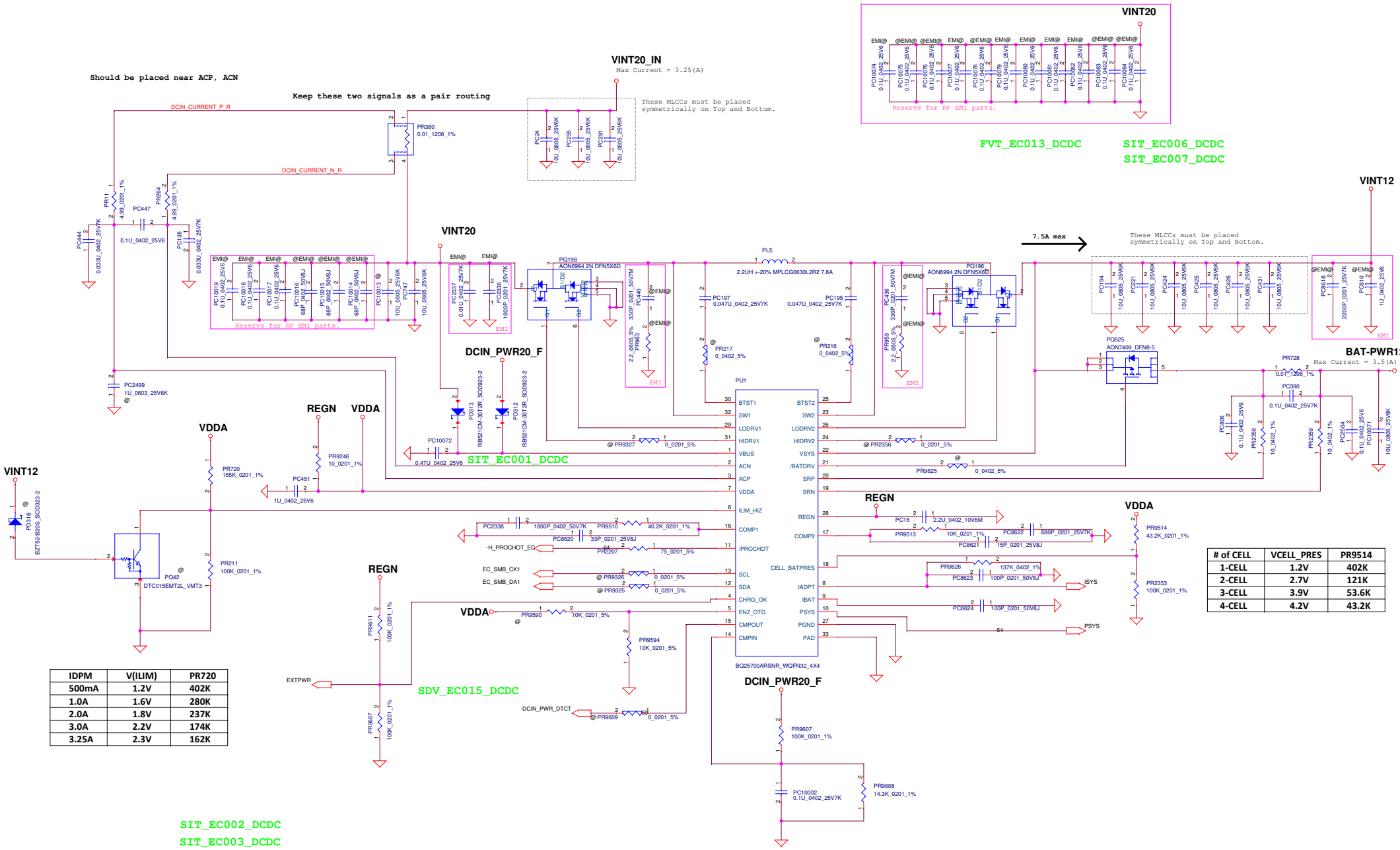
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: BATTERY INPUT / RTC Battery

Size: Custom | Document Number: LA-E291P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 61 of 102

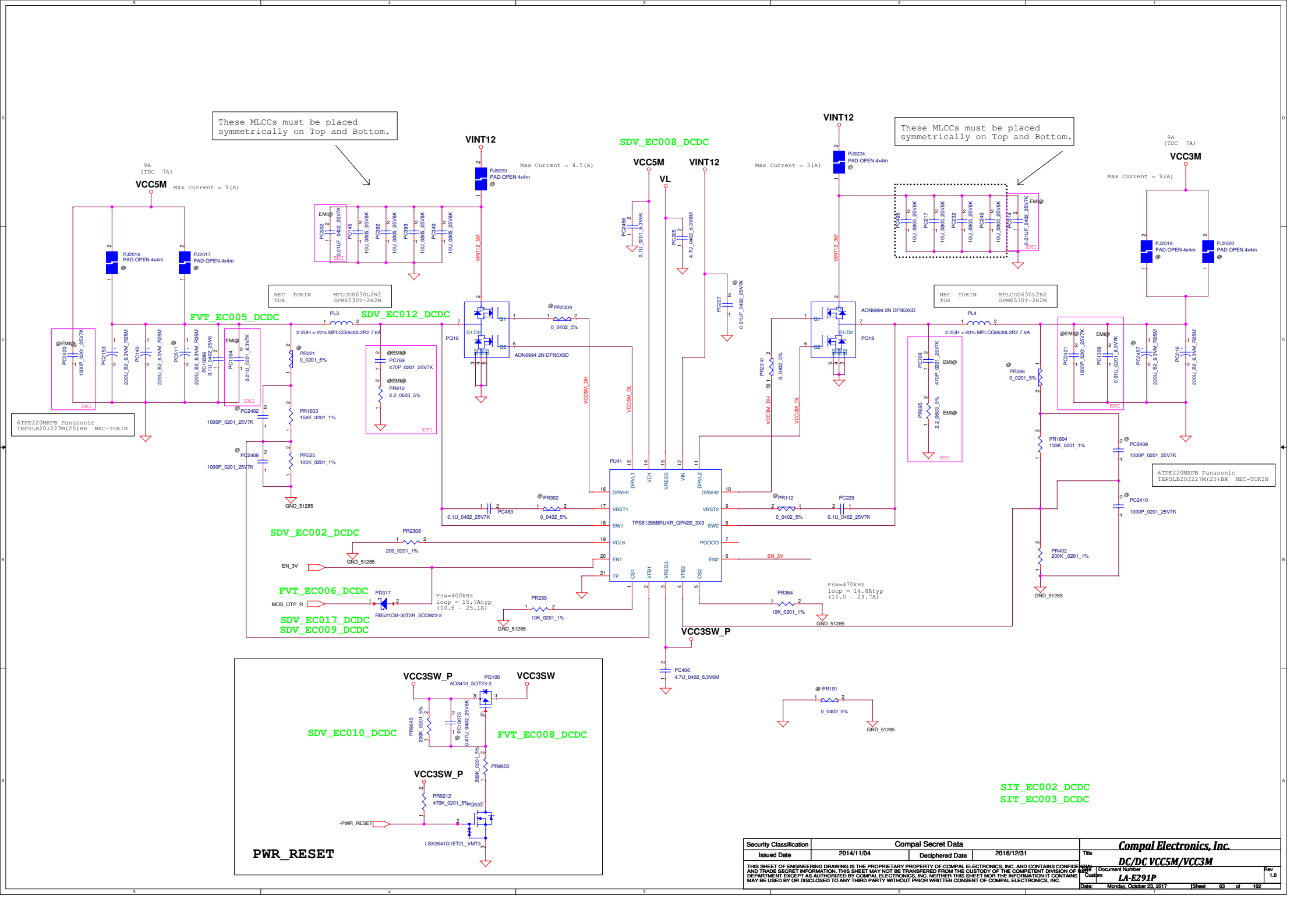


IDPM	V(ILIM)	PR720
500mA	1.2V	402K
1.0A	1.6V	280K
2.0A	1.8V	237K
3.0A	2.2V	174K
3.25A	2.3V	162K

# of CELL	VCELL_PRES	PR9514
1-CELL	1.2V	402K
2-CELL	2.7V	121K
3-CELL	3.9V	53.6K
4-CELL	4.2V	43.2K

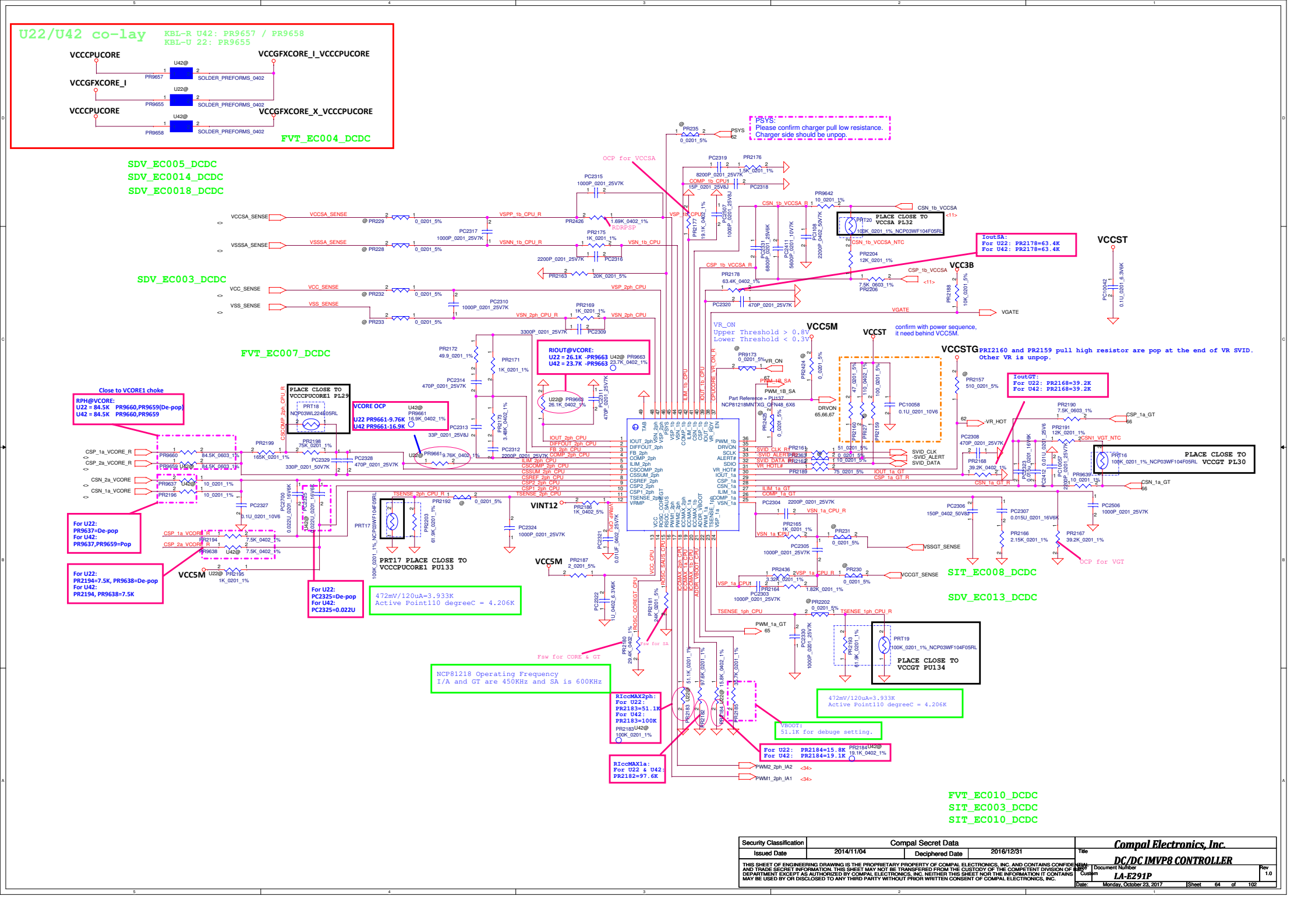
Security Classification	Compal Secret Data		
Issued Date	2016/01/	Deciphered Date	2016/12/31

Compal Electronics, Inc.	
Title	BATTERY CHARGER(BQ25700)
Size: Custom	Document Number: LA-E291P
Rev	1.0
Date: Monday, October 23, 2017	Sheet 62 of 102



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.			
Title	DC/DC VCC5M/VCC3M		
Size	Document Number		Rev
Custom	LA-E291P		1.0
Date: Monday, October 23, 2017	Sheet 63 of 102		



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

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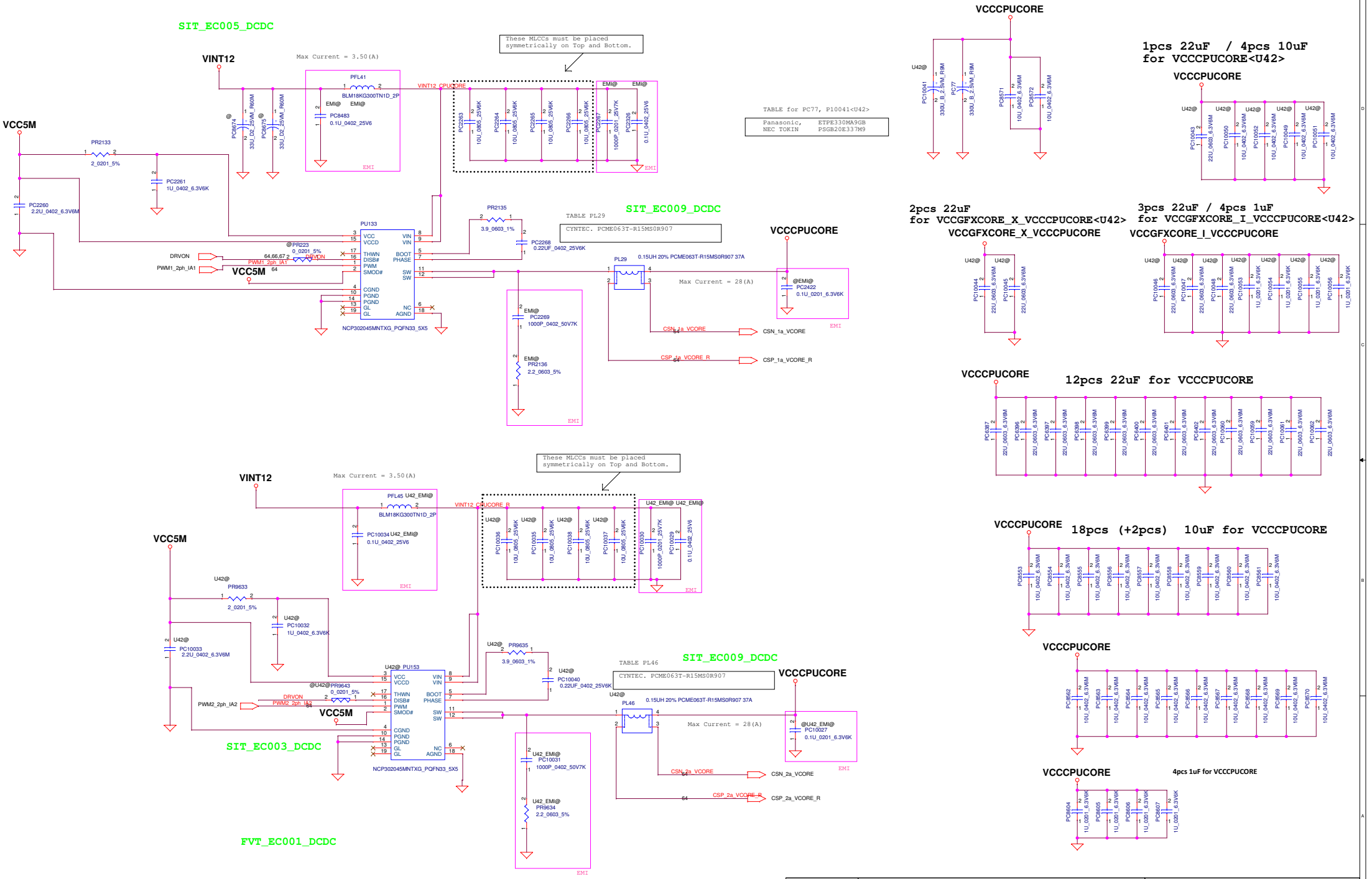
Compal Electronics, Inc.

Title: DC/DC IMVP8 CONTROLLER

Size	Document Number	Rev
Custom	LA-E291P	1.0

Date: Monday, October 23, 2017 Sheet 64 of 102



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DC/DC VCCCPUCORE

Size: Custom | Document Number: LA-E291P | Rev: 1.0

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Main Func = CPUcore IA/GT/SA

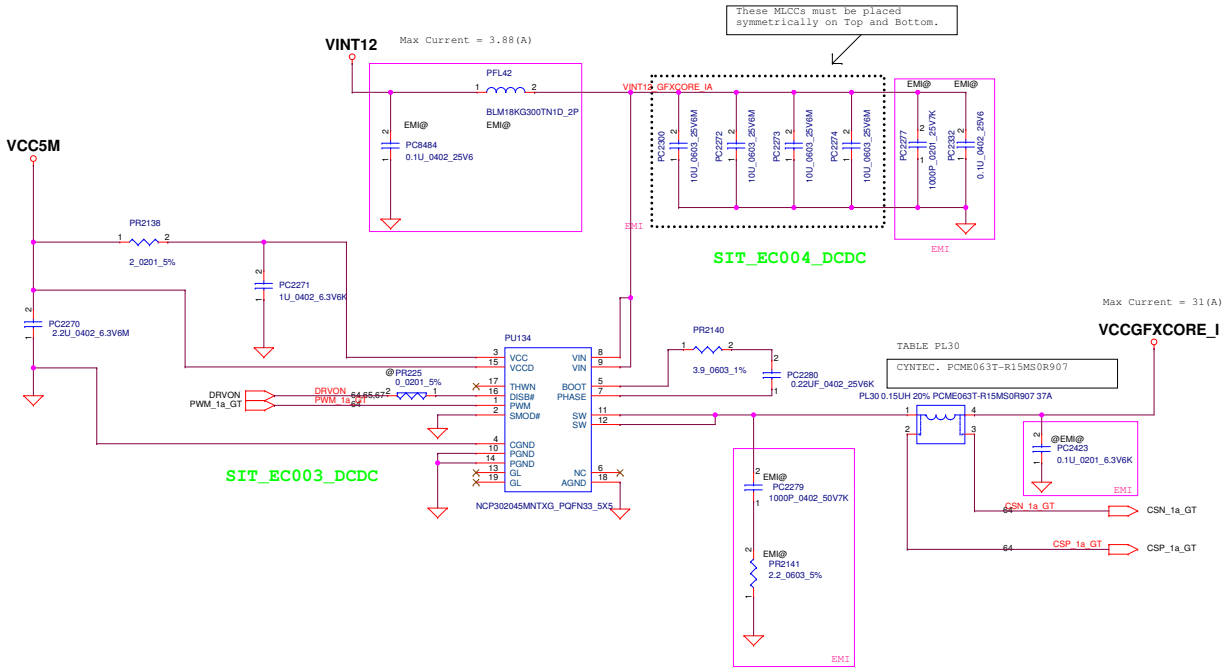


TABLE for PC2508, PC2516

Panasonic,	ETPE330MA9GB
NEC TOKIN	PSGB20E337M9

VCCGFXCORE_I 9pcs 22uF for VCCGFXCORE_I

PC2516 330U_B_2.5VM_R6M
PC2508 330U_B_2.5VM_R6M
PC2107 PC2108 PC2509 PC2510 PC2511 PC2512 PC2513 PC2514 PC2515
22U_0603_6.3V6M

20pcs (+3pcs) 10uF for VCCGFXCORE_I

VCCGFXCORE_I
PC8573 PC8574 PC8575 PC8576 PC8577 PC8578 PC8579 PC8580 PC8581 PC8582
10U_0402_6.3V6M

VCCGFXCORE_I
PC8583 PC8584 PC8585 PC8586 PC8587 PC8588 PC8589 PC8590 PC8591 PC8592
10U_0402_6.3V6M

VCCGFXCORE_I
PC8593 PC8594 PC8596 PC8597
10U_0402_6.3V6K

VCCGFXCORE_I
6pcs 1uF for VCCGFXCORE-I
PC8598 PC8599 PC8600 PC8601 PC8602 PC8603
1U_0201_6.3V6K

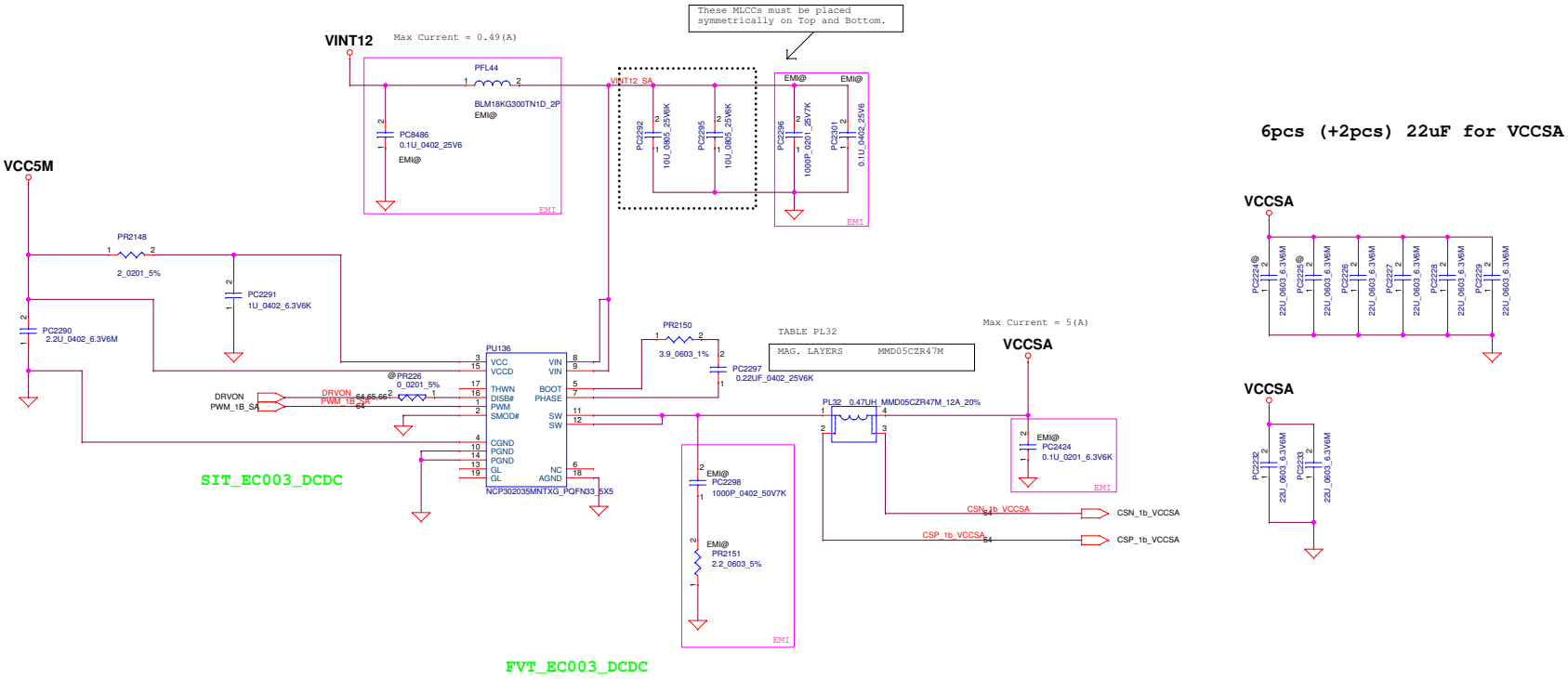
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DC/DC VCCGFXCORE I

Size: Custom | Document Number: LA-E291P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 66 of 102



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DC/DC VCCSA(NCP81382)

Size: Custom | Document Number: LA-E291P | Rev: 1.0

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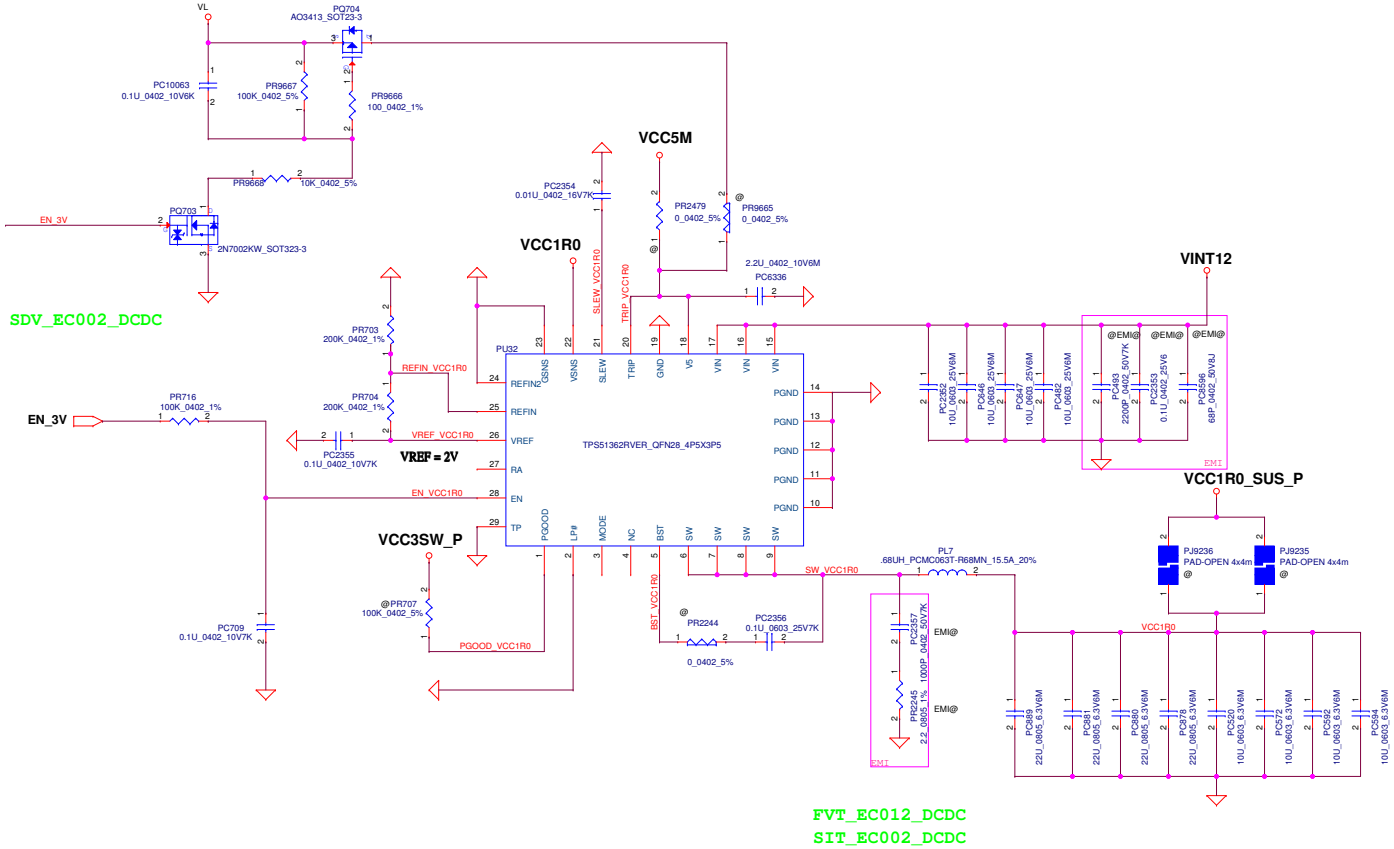


1.0VS OCL = 8A (Trip = GND)
1.0VS OCL = 12A (Trip = 5V)

+1.0 V +/- 5%
TDC:7.12 A
Peak Current:8.9 A
OCP Current:12 A

Output Voltage = 1.05V (REFIN Voltage = GND)
Output Voltage = 1.2V (REFIN Voltage = FLOAT)
Output Voltage Adj between = 0.6V~2V (REFIN Voltage = Resistor divider)

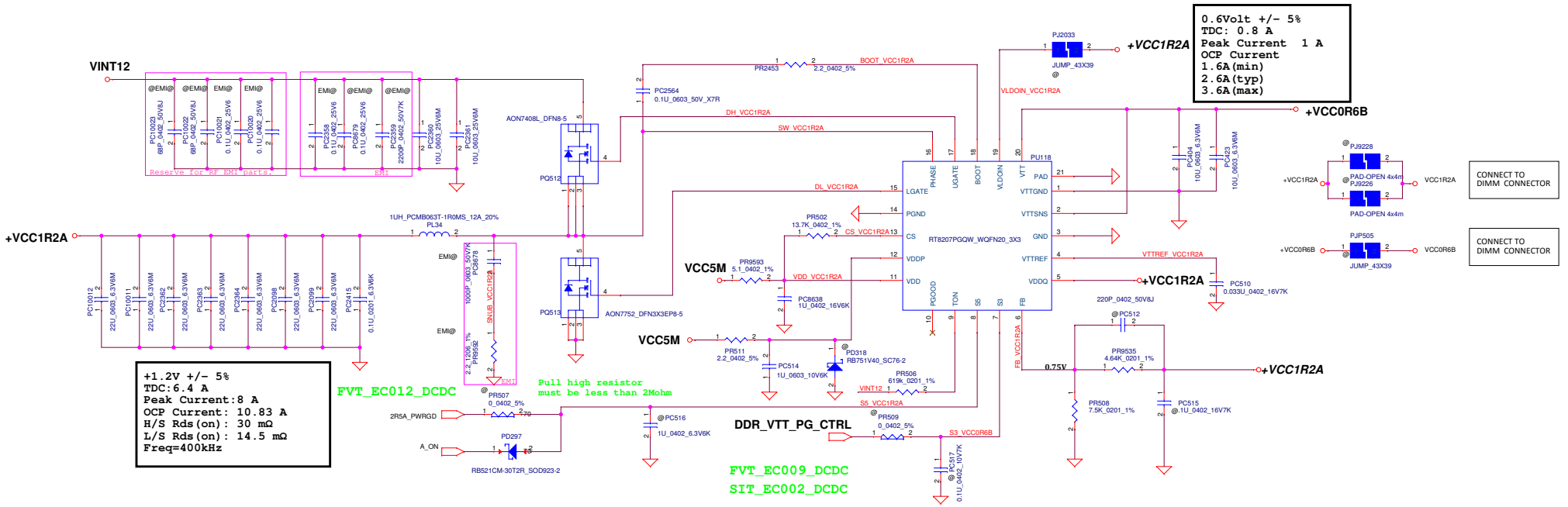
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DC/DC VCC1R0_SUS_P(TPS51362)

Size: Custom | Document Number: LA-E291P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 68 of 102



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

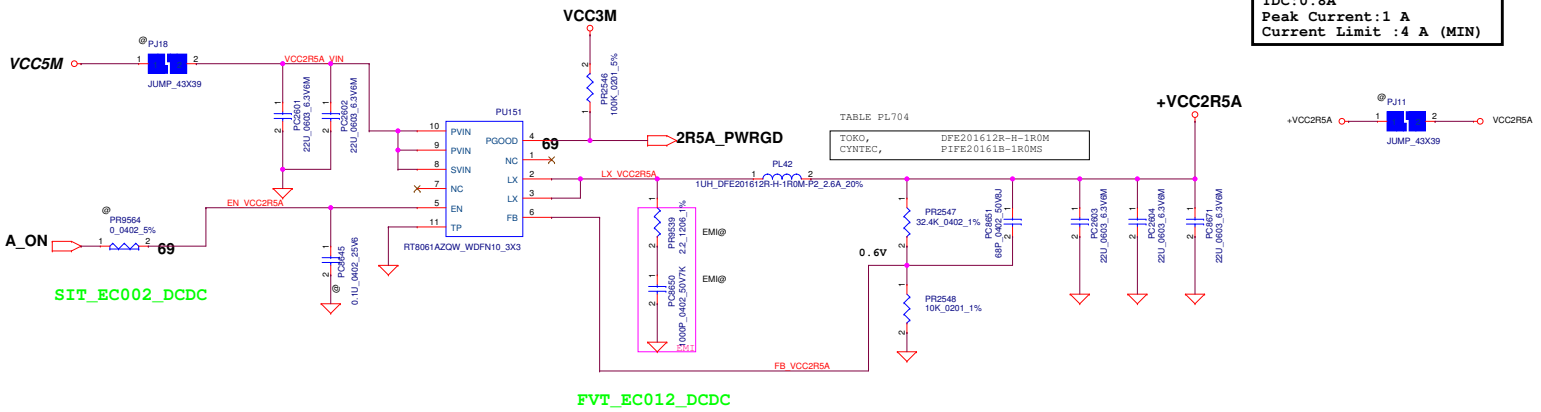
Compal Electronics, Inc.

Title: DC/DC VCC1R2A(RT8207P)

Size: Custom | Document Number: LA-E291P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 69 of 102

+2.5V +/- 5%
TDC:0.8A
Peak Current:1 A
Current Limit :4 A (MIN)



SIT_EC002_DCDC

FVT_EC012_DCDC

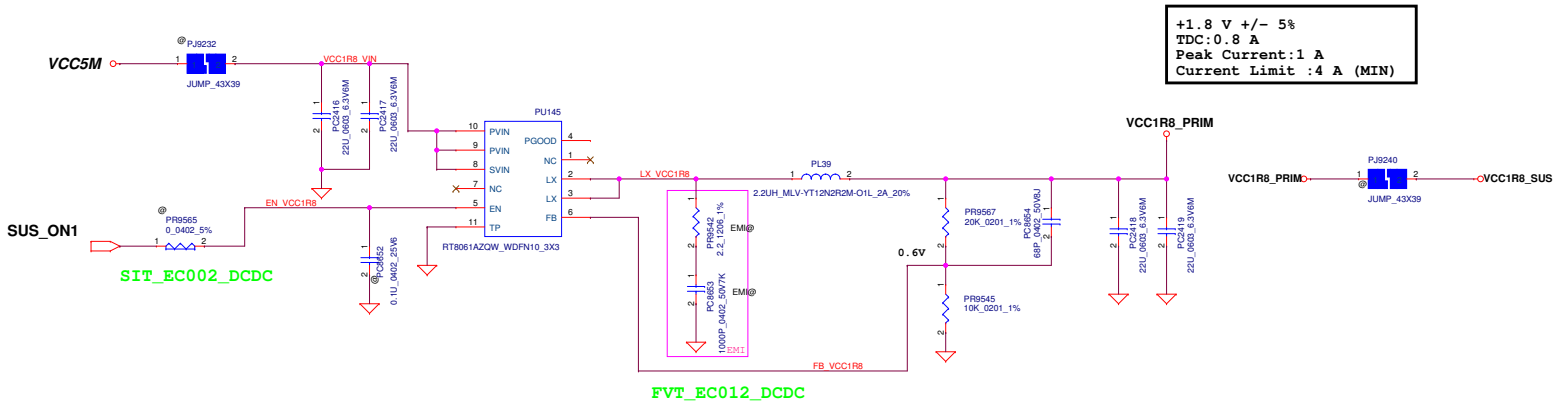
Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: DC/DC VCC2R5A(RT8061)

Size: Custom | Document Number: LA-E291P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 70 of 102



Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

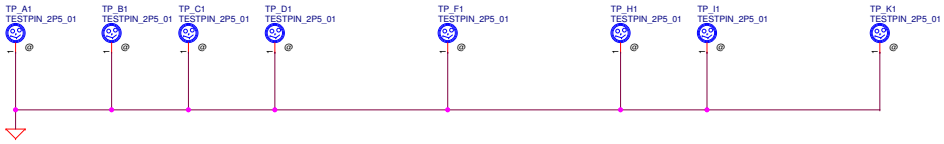
Title: DC/DC VCC1R8_SUS(RT8061)

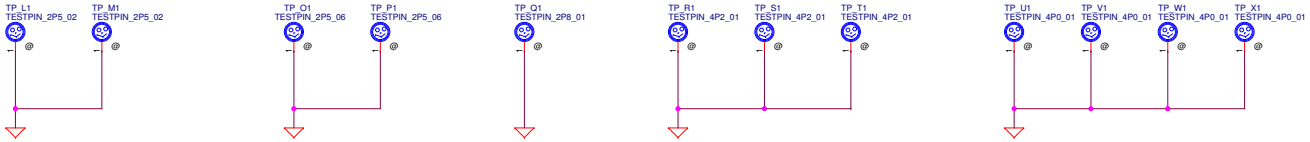
Size: Custom | Document Number: LA-E291P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 71 of 102

PTH FOR SCREW HOLE

Value	Hola Dia	Pad Dia		QTY
		TOP	BOTTOM	
TESTPIN_2P5_01	2.5	6	6	10
TESTPIN_2P5_02	2.5	7.4	7.4	2
TESTPIN_2P5_03	2.5	Square	0	1
TESTPIN_2P5_06	2.5	5	5	2
TESTPIN_2P8_01	2.8	0	Square	1
TESTPIN_4P3_01	4.3	6.5	6.5	3
TESTPIN_4P0_01	4.0	6.1	6.1	4





FID
Board Area

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: PTH FOR SCREW HOLES

Size: Custom | Document Number: LA-F421P | Rev: 1.0

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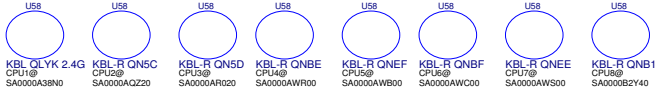

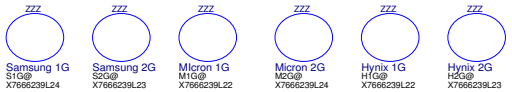

BOM Structure Table

BTO Item	BOM Structure	Remark
vPRO LAN chip	VPRO@	WGI219LM
non vPRO LAN chip	NVPRO@	WGI219V
Thunderbolt requirement	TBT@	
Thunderbolt reserve	@TBT@	
ESD requirement	ESD@	
ESD reserve	@ESD@	
EMI requirement	EMI@	
EMI reserve	@EMI@	
RF requirement	RF@	
RF reserve	@RF@	
XDP	XDP@	
On board RAM	X76@	
2+2 CPU	U22@	
4+2 CPU	U42@	

Security Classification	Compal Secret Data		
Issued Date	2014/11/04	Deciphered Date	2016/12/31

Compal Electronics, Inc.

Title: PCB CPU PN

Size: Custom | Document Number: LA-F421P | Rev: 1.0

Date: Monday, October 23, 2017 | Sheet 73 of 73