Model Name : B5/B7W1A
File Name : LA-D641P

Compal Confidential

B5/B7W1A M/B Schematics Document

Intel Apollo lake
UMA

2016-07-22

REV:1.A

For 1A PCB

PCB15A@
ZZZ2

Part Number	Description
DA6001K401A	PCB 1NU LA-D641P REV1A MB 1

PCB17A@
ZZZ3

Part Number	Description
DA6001K411A	PCB 1NU LA-D641P REV1A MB 2

PCB15@
ZZZ

Part Number	Description
DA6001K4000	PCB 1NU LA-D641P REV0 MB 1

PCB17@
ZZZ

Part Number	Description
DA6001K4100	PCB 1NU LA-D641P REV0 MB 2

Security Classification	Compal Secret Data		
Issued Date	2014/03/19	Deciphered Date	2015/03/18

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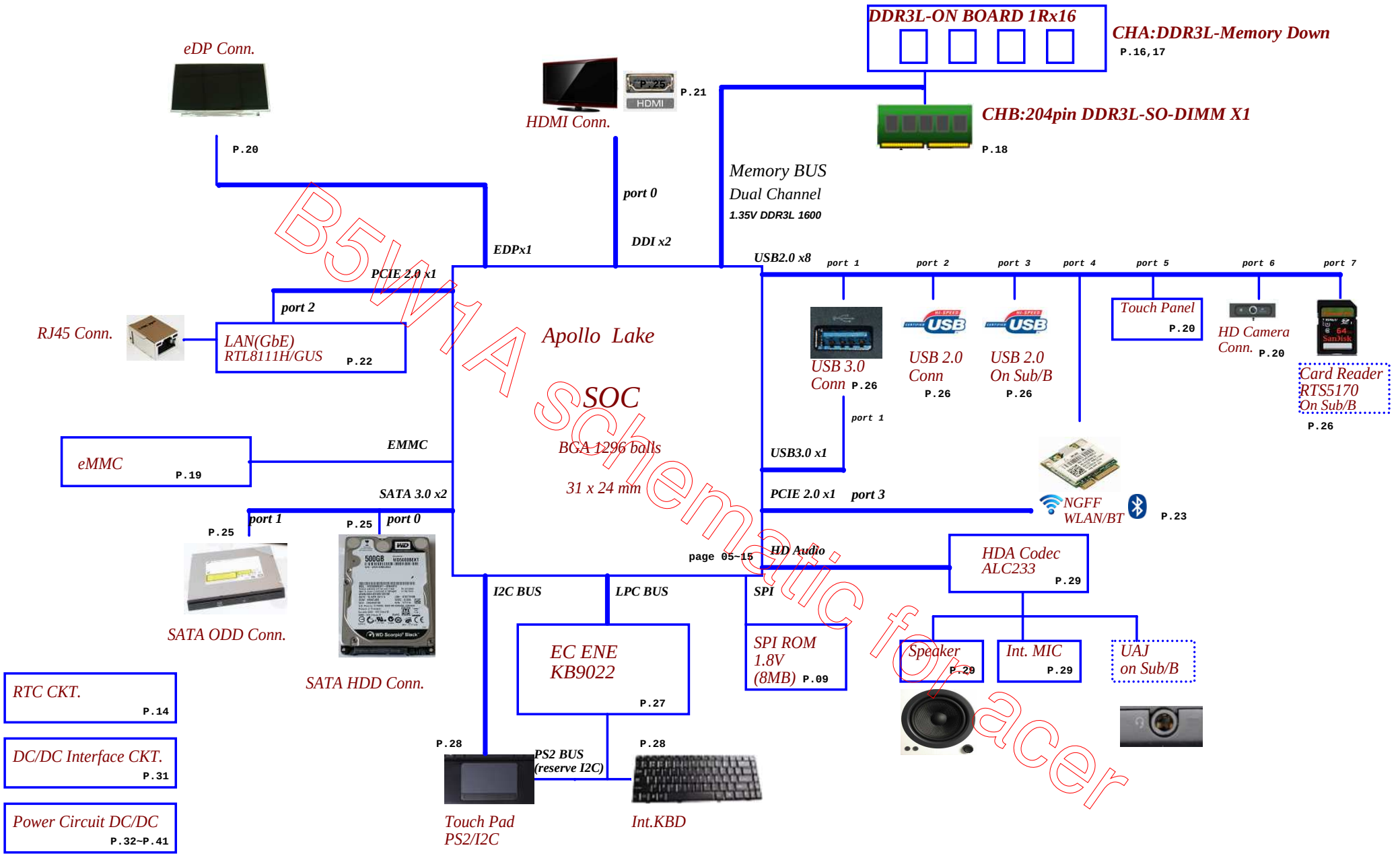
Title: *Cover Page*

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 1 of 45



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Title: **Block Diagrams**

Size: Custom | Document Number: **B5W1A_LA-D641PR1A** | Rev: 1.A

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Voltage Rails

Power Plane	Description	S0	S3	S4/S5
+19V_VIN	19V Adapter power supply	ON	ON	ON
BATT+	12V Battery power supply	ON	ON	ON
+19VB	AC or battery power rail for power circuit. (19V/12V)	ON	ON	ON
+RTCVCC	RTC Battery Power	ON	ON	ON
+1.24VALW	+1.24v Always power rail	ON	ON	OFF
+1.8VALW	+1.8v Always power rail	ON	ON	OFF
+3V_SOC	+3v Always power rail for SOC	ON	ON	OFF
+3VALW	+3.3v Always power rail	ON	ON	ON
+5VALW	+5.0v Always power rail	ON	ON	ON
+1.35V	+1.35V power rail for DDR3L	ON	ON	ON
+3V_PTP	+3.3V power rail for PTP	ON	ON	OFF
+VNN	other (non core) logic voltage for SOC	ON	OFF	OFF
+VCC_VCGI	Core & GFX voltage for SOC	ON	OFF	OFF
+0.675VS	+0.675V power rail for DDR3L Terminator	ON	OFF	OFF
+1.05VS	+1.05v System power rail	ON	OFF	OFF
+1.8VS	+1.8v system power rail	ON	OFF	OFF
+3VS	+3.3v system power rail	ON	OFF	OFF
+5VS	+5.0v system power rail	ON	OFF	OFF

Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.

Note : ON** dGPU optimus on

Board ID / SKU ID Table for AD channel

Vcc	3.3V				
Ra	100K +/- 1%				
Board ID	Rb	V min	V typ	V max	EC AD
0	0		0.000V	0.300V	0x00-0x13
1	12K +/- 1%	0.347V	0.354V	0.360V	0x14-0x1E
2	15K +/- 1%	0.423V	0.430V	0.438V	0x1F-0x25
3	20K +/- 1%	0.541V	0.550V	0.559V	0x26-0x30
4	27K +/- 1%	0.691V	0.702V	0.713V	0x31-0x3A
5	33K +/- 1%	0.807V	0.819V	0.831V	0x3B-0x45
6	43K +/- 1%	0.978V	0.992V	1.006V	0x46-0x54
7	56K +/- 1%	1.169V	1.185V	1.200V	0x55-0x64
8	75K +/- 1%	1.398V	1.414V	1.430V	0x65-0x76
9	100K +/- 1%	1.634V	1.650V	1.667V	0x77-0x87
10	130K +/- 1%	1.849V	1.865V	1.881V	0x88-0x96
11	160K +/- 1%	2.015V	2.031V	2.046V	0x97-0xA4
12	200K +/- 1%	2.185V	2.200V	2.215V	0xA5-0xAF
13	240K +/- 1%	2.316V	2.329V	2.343V	0xB0-0xB7
14	270K +/- 1%	2.395V	2.408V	2.421V	0xB8-0xBF
15	330K +/- 1%	2.521V	2.533V	2.544V	0xC0-0xC9
16	430K +/- 1%	2.667V	2.677V	2.687V	0xCA-0xD4
17	560K +/- 1%	2.791V	2.800V	2.808V	0xD5-0xDD
18	750K +/- 1%	2.905V	2.912V	2.919V	0xDE-0xF0
19	NC	3.000V	3.000V		0xF1-0xFF

BOARD ID Table_LA-D641P

Board ID	PCB Revision
01	EVT_LA-D641PR01
02	DVT_LA-D641PR02
03	PVT(DVT2)_LA-D641PR03
04	Pre MP_LA-D641PR10
05	Pre MP_LA-D641PR1A

43 level BOM table

43 Level	Description	BOM Structure
431A2BB0L07	SMT MB AD641 B5W1A QKT4 HDMI	233@/8111H@/NBYOC@/CMC@/PCB15@/QKT4@
431A2BB0L08	SMT MB AD641 B5W1A QKTY 2G HDMI	233@/8111H@/NBYOC@/CMC@/PCB15@/QKTY@/MD@
431A2BB0L09	SMT MB AD641 B5W1A QKTW 2G HDMI	233@/8111H@/NBYOC@/CMC@/PCB15@/QKTW@/MD@
431A2BB0L60	SMT MB AD641 B7W1A QKT4 HDMI	233@/8111H@/NBYOC@/CMC@/PCB17@/QKT4@
431A2BB0L61	SMT MB AD641 B7W1A QKT4 2G HDMI	233@/8111H@/NBYOC@/CMC@/PCB17@/QKT4@/MD@
431A2BB0L62	SMT MB AD641 B7W1A QKTY 2G HDMI	233@/8111H@/NBYOC@/CMC@/PCB17@/QKTY@/MD@
431A2BB0L63	SMT MB AD641 B7W1A QKTW 2G HDMI	233@/8111H@/NBYOC@/CMC@/PCB17@/QKTW@/MD@

EC SMBUS Routing Table

EC	Power	BAT	CHGR	NGFF
EC_SMB_CK1 EC_SMB_DA1	+3VALW	V	V	X
EC_SMB_CK2 EC_SMB_DA2	+3VS	X	X	V

SOC SMBUS Routing Table

SOC	Power	DIMM1	DIMM2
SMB Address			
SOC_SMBCLK SOC_SMBDATA	+3VS	V	V

I2C Map

	Power	Touch PAD	Touch Panel
I2C Address		0xXX	0xXX
I2C Port3	+1.8VALW to +TS_PWR	X	V
I2C Port4	+1.8VALW to +3V_PTP	V	X

BOM Option Table

Item	BOM Structure	Item	BOM Structure
Unpop	@	with BYOC	BYOC@
Connector	CONN@	without BYOC	NBYOC@
EMC requirement	EMC@	EMMC	EMMC@
EMC requirement depop	@EMC@	EMMC V5.0	EMMCV5@
Touch Screen I2C	TSI@	A0 Step need to stuff	A0S@
TPM	TPM@	Kingston 32G EMMC	KINGSTON32G@
NTPM	NTPM@	PRE QS CPU QLB5	QLB5@
Power Button	DBG@	PRE QS CPU QLB6	QLB6@
CODEC(ALC233)	233@	PRE QS CPU QLB8	QLB8@
CODEC(ALC255)	255@	15" PCB 1.0	PCB15@
RTL 8111H	8111H@	17" PCB 1.0	PCB17@
RTL8111GUS	8111GUS@	Memory down	MD@
Hynix DRAM on board	HYN@	15" PCB 1.A	PCB15A@
Samsung DRAM on board	SAM@	17" PCB 1.A	PCB17A@
intel CMC	CMC@	Micron DRAM on board	MCN@

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Title: **Notes List**

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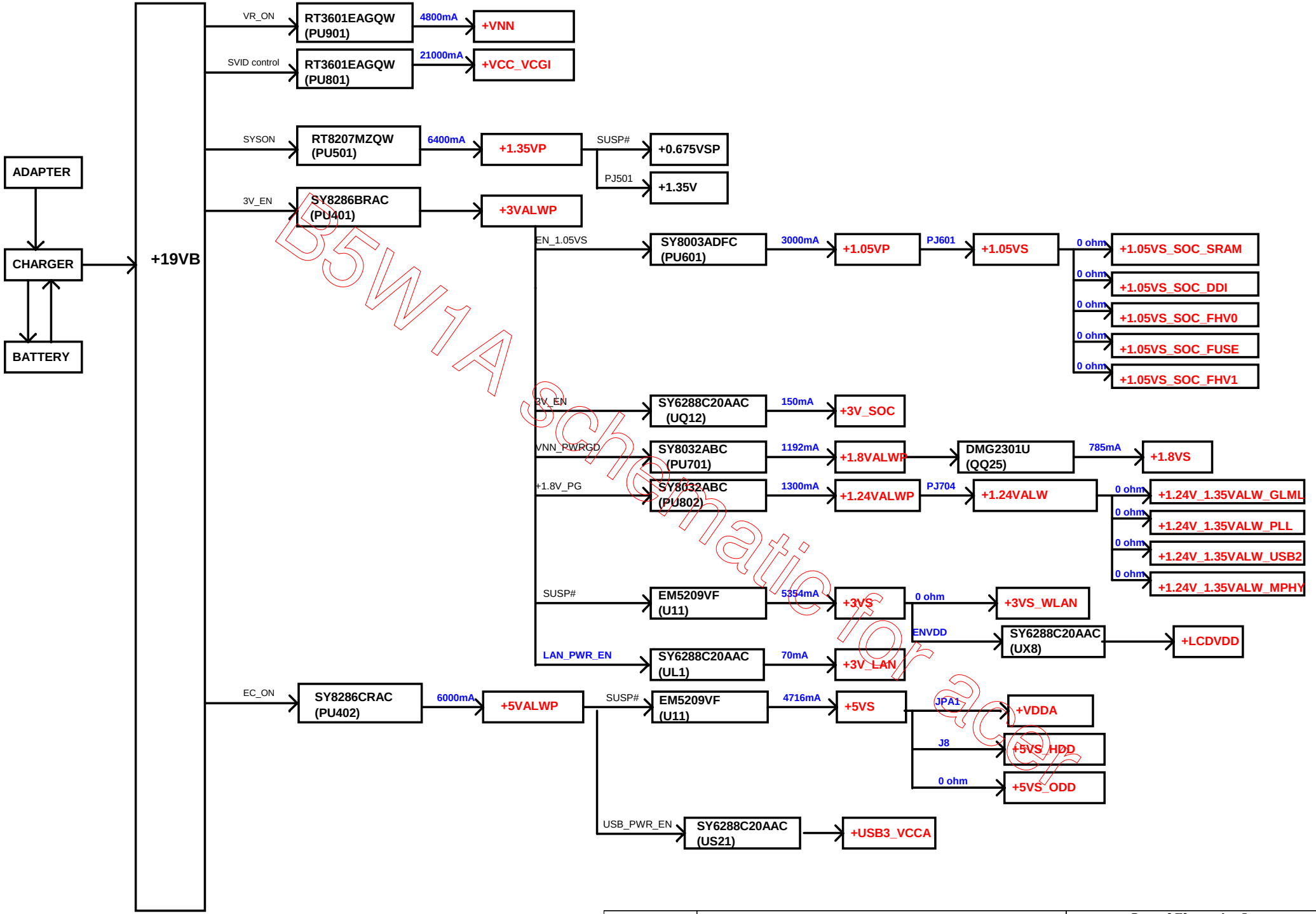

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Compal Electronics, Inc.

Title: Power Rail

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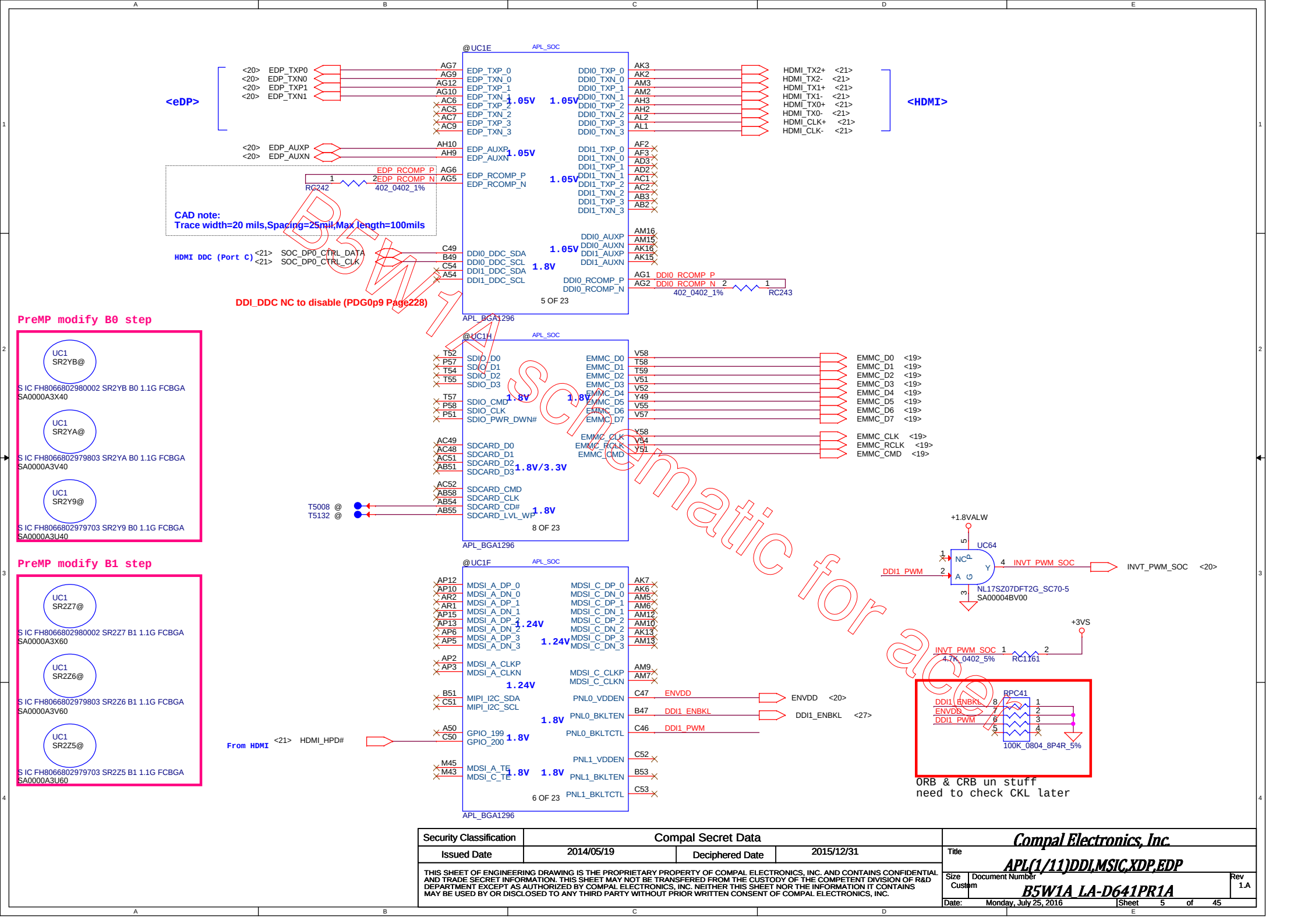

Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: APL(1/11)DDI,MSIC,XDP,EDP

Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

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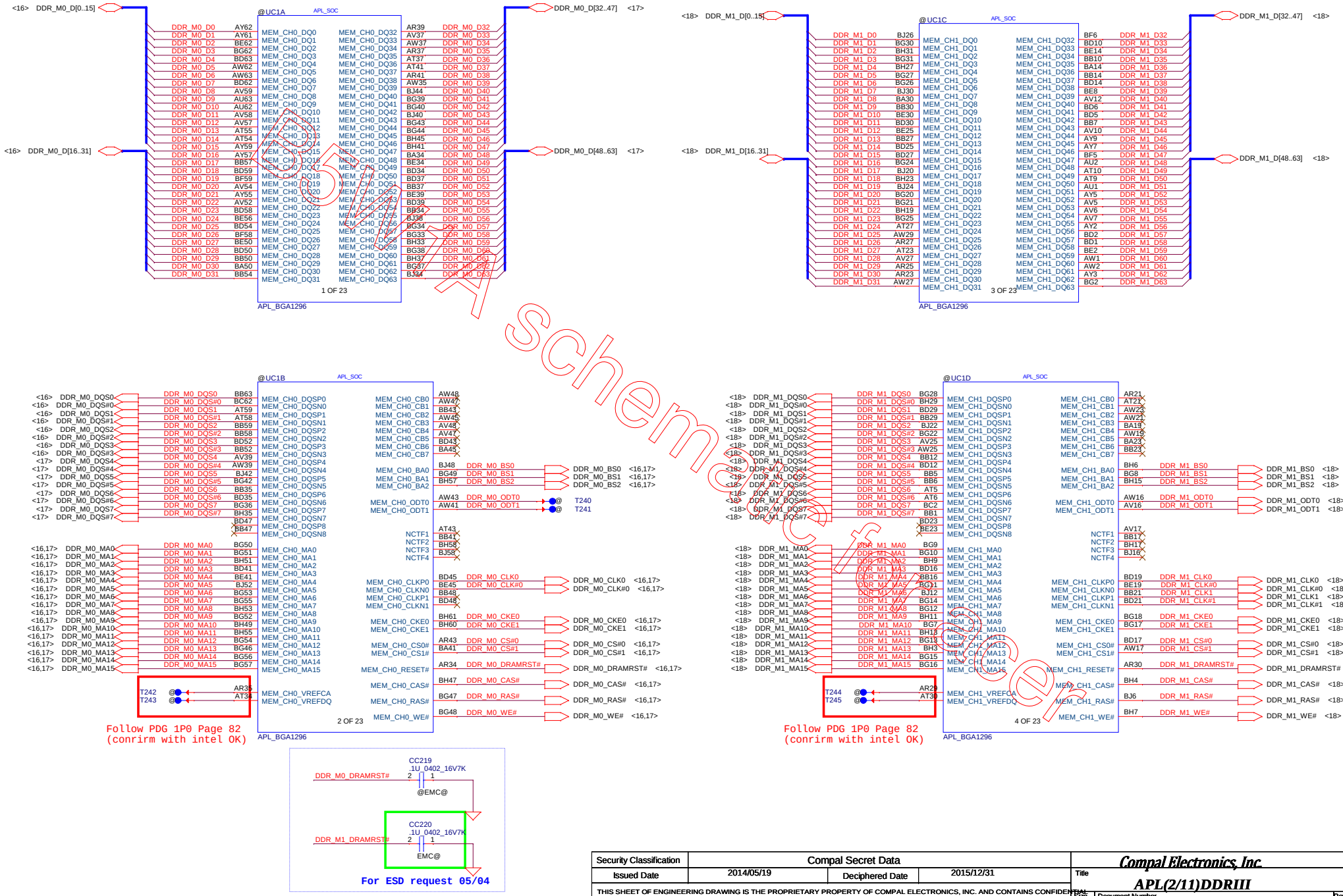
Non-Interleaved Memory



Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: APL(2/11)DDRIII

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

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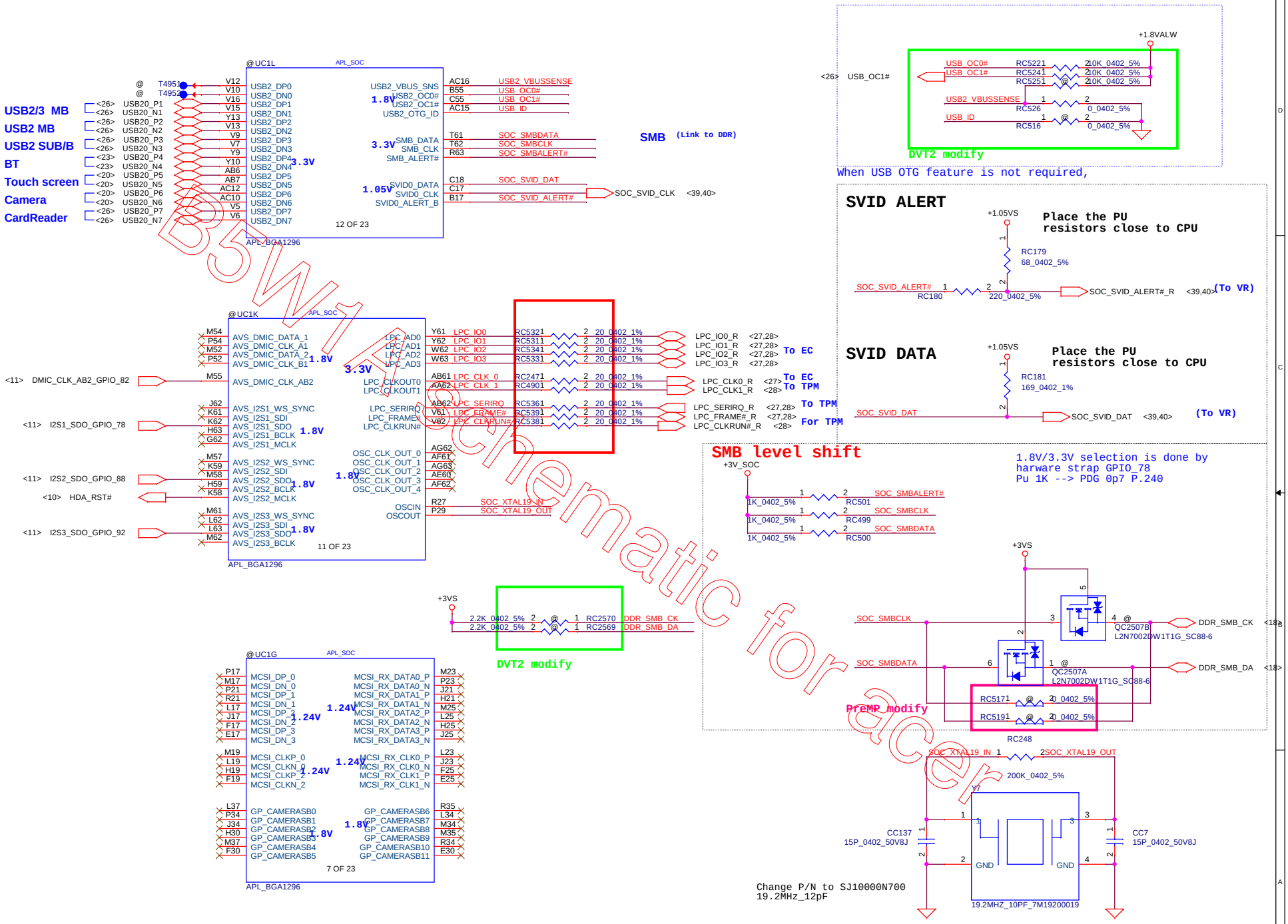

Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: APL(3/11)SPI,ESPI,SMB,LPC

Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

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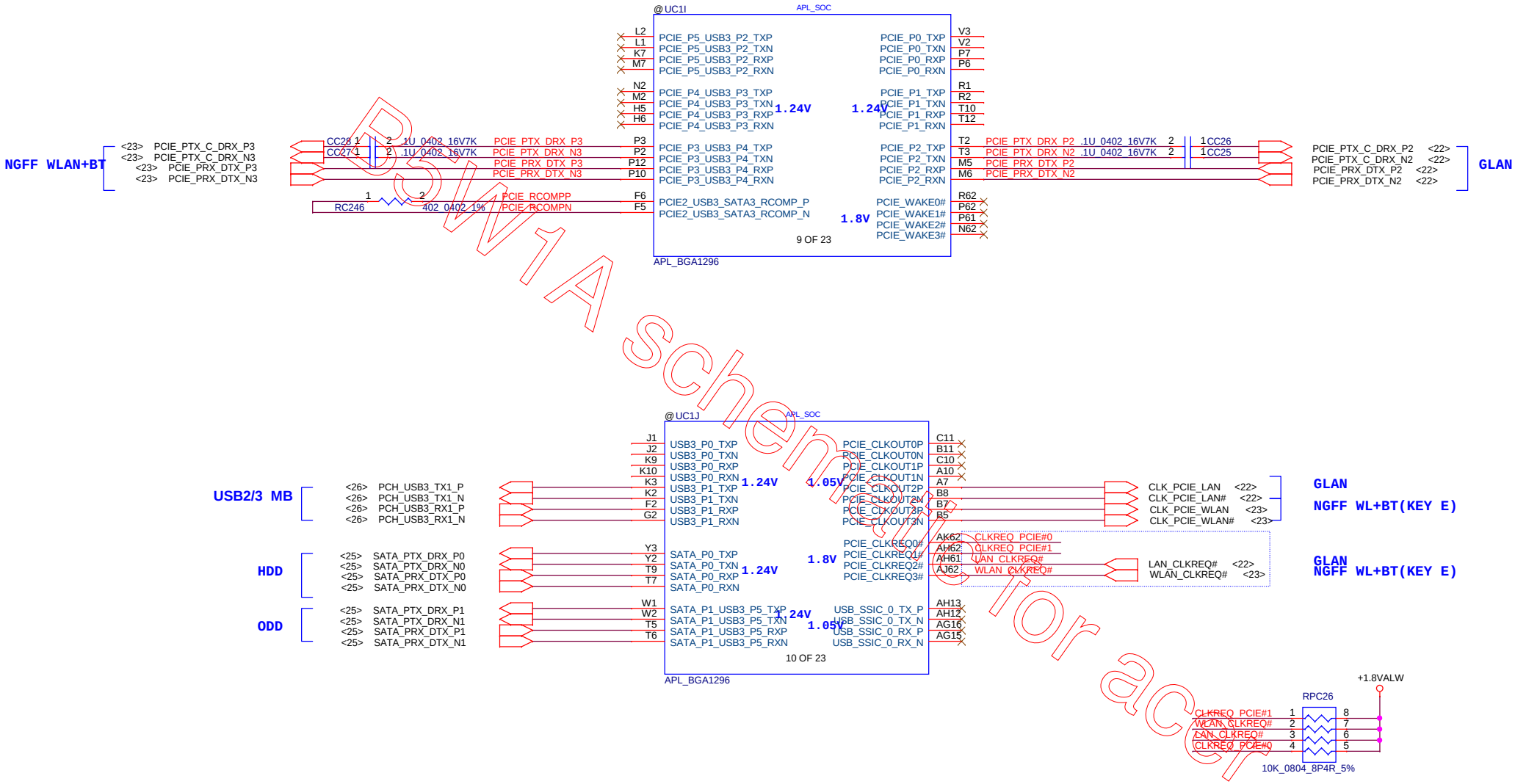

Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: APL(4/11)HDA,EMMC,CSI2

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

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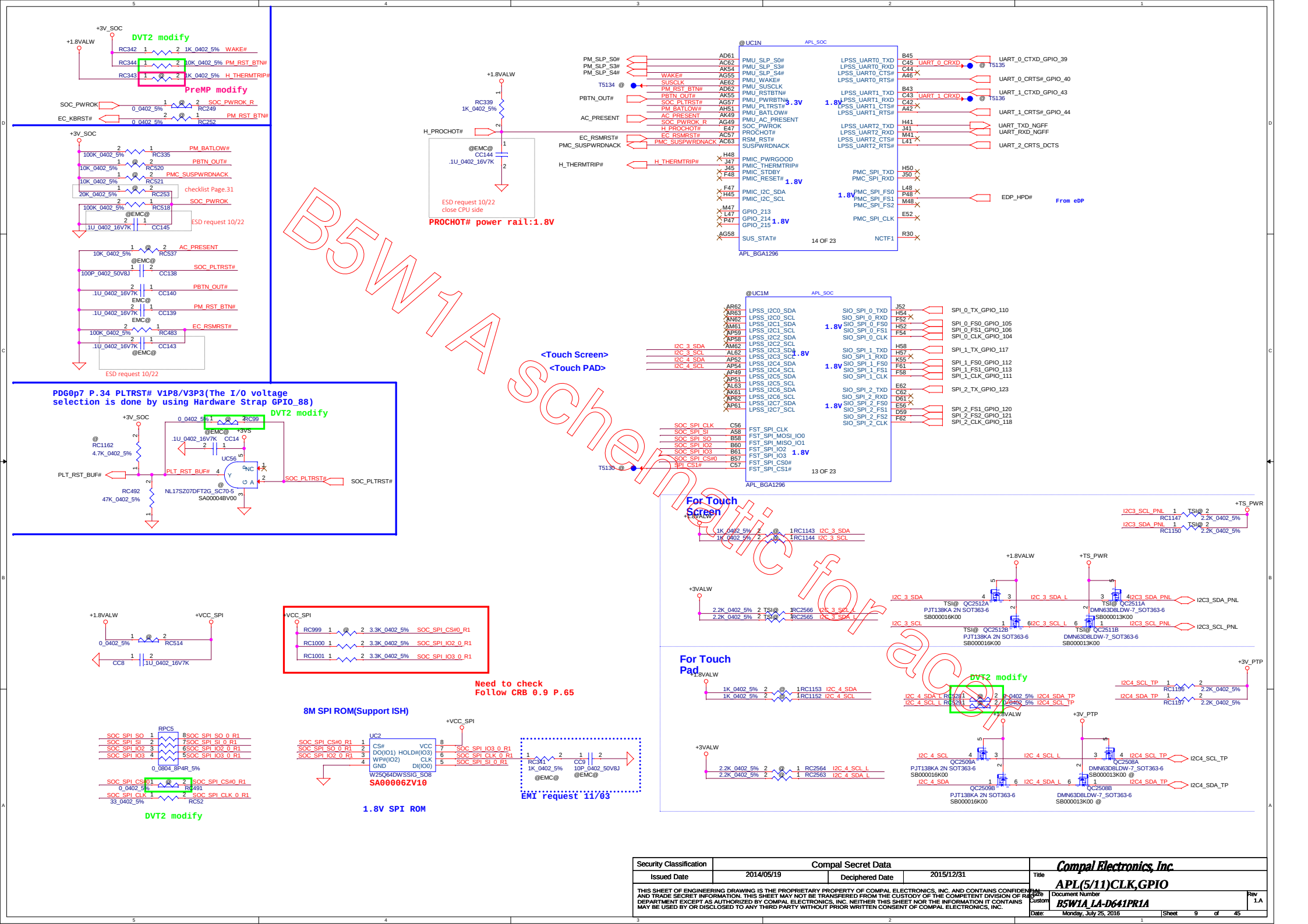

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Compal Electronics, Inc.	
Title	APL(5/11)CLK,GPIO
Size: Custom	Document Number: B5W1A_LA-D641PR1A
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Intel HDA issue, Fix on QS sample 09/01

DVT2 modify

<29> HDA_SDIN0_AUDIO

RC4983 1 @ 2 HDA_SYNC 249_0402_1%

RC79 1 @ 2 680_0402_1%

For Intel 560733 Sighting Alert,2016 WW04
Audio SDI Pin Issue.
Customers can remove (un-stuffed)
the workaround when this issue is fixed in QS sample.

HDA for AUDIO

<29> HDA_BITCLK_AUDIO
<29> HDA_SYNC_AUDIO
<29> HDA_SDOUT_AUDIO
<29> HDA_RST_AUDIO#

RPC9 33_0804_8P4R_5%

1 8 HDA_BIT_CLK
2 7 HDA_SYNC
3 6 HDA_SDOUT
4 5 HDA_RST# <7>

<29> HDA_SDIN0 HDA_SDIN0

PreMP modify

+1.8VALW

RC78 1K_0402_1%

RC1052 0_0402_5%

<9> SPI_2_CLK_GPIO_118

QC63 @ L2N7002LT1G_SOT23-3

ME_EN <27>

Circuit follow A4WAL
EC need modify code

+1.8VALW

RC551 RC553 RC552 RC550 10K_0402_5%

GPIO30
GPIO31

@UC1O APL_SOC

T5137 @

<12> DBG_PTI_DATA_0
<12> DBG_PTI_DATA_1
<12> DBG_PTI_DATA_2
<12> DBG_PTI_DATA_3
<12> DBG_PTI_DATA_4
<12> DBG_PTI_DATA_5
<12> DBG_PTI_DATA_6
<12> DBG_PTI_DATA_7
<12> DBG_PTI_CLK_3

A38 B33 C39 B39 B35 A34 B31 H39 B29 A30 L39

GPIO_0 GPIO_1 GPIO_2 GPIO_3 GPIO_4 GPIO_5 GPIO_6 GPIO_7 GPIO_8 GPIO_9 GPIO_10 GPIO_11 GPIO_12 GPIO_13 GPIO_14 GPIO_15 GPIO_16 GPIO_17 GPIO_18 GPIO_19 GPIO_20 GPIO_21 GPIO_22 GPIO_23 GPIO_24

1.8V

C34 E39 C30 C38 F39 C36 C35 J39 C33 B27 C26 A26 B25 C25

GPIO_25 GPIO_26 GPIO_27 GPIO_28 GPIO_29 GPIO_30 GPIO_31 GPIO_32 GPIO_33

C27 C31 C29 B37 H35 C37 H34 F35 F34

EC_SCI# SOC internal PU

EC_SCI# <27>
EC_LID_OUT# <27>

GPIO30
GPIO31

<24> TP_INT#
<24> TS_INT_R#

T5131 @ SATA_GP0
T5133 @ SATA_GP1

ISH_GPIO_0 ISH_GPIO_1 ISH_GPIO_2 ISH_GPIO_3 ISH_GPIO_4 ISH_GPIO_5 ISH_GPIO_6 ISH_GPIO_7 ISH_GPIO_8 ISH_GPIO_9

AM48 HDA_BIT_CLK
AK58 HDA_SYNC
AK51 HDA_SDIN0
AM54 HDA_SDOUT
AM51
AM49
AM57
AM55
AM52
AK57

MEMORY_STRAP_0 <11>
MEMORY_STRAP_1 <11>
MEMORY_STRAP_2 <11>
MEMORY_STRAP_3 <11>
SOC_SPKR <29>

15 OF 23

APL_BGA1296

@UC1Q APL_SOC

AP57 C63 E16 E63 F12 F14 F16 H12 H14 H16 J16 L16 M10 M12 M16

NCTF1 NCTF2 NCTF3 NCTF4 NCTF5 NCTF6 NCTF7 NCTF8 NCTF9 NCTF10 NCTF11 NCTF12 NCTF13 NCTF14 NCTF15

1.8V

PWM0 PWM1 PWM2 PWM3

B41 C41 F41 E41

PWM0_GPIO_34 <11>
PWM1_GPIO_35 <11>
VCC1P24_1P35_SEL <11>

1.8V

GPIO_216 GPIO_217 GPIO_218 GPIO_219

P30 M29 M30 L30

1.8V

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APL_BGA1296

SW request 1104

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Compal Electronics, Inc.

Title: APL(6/11)GPIO

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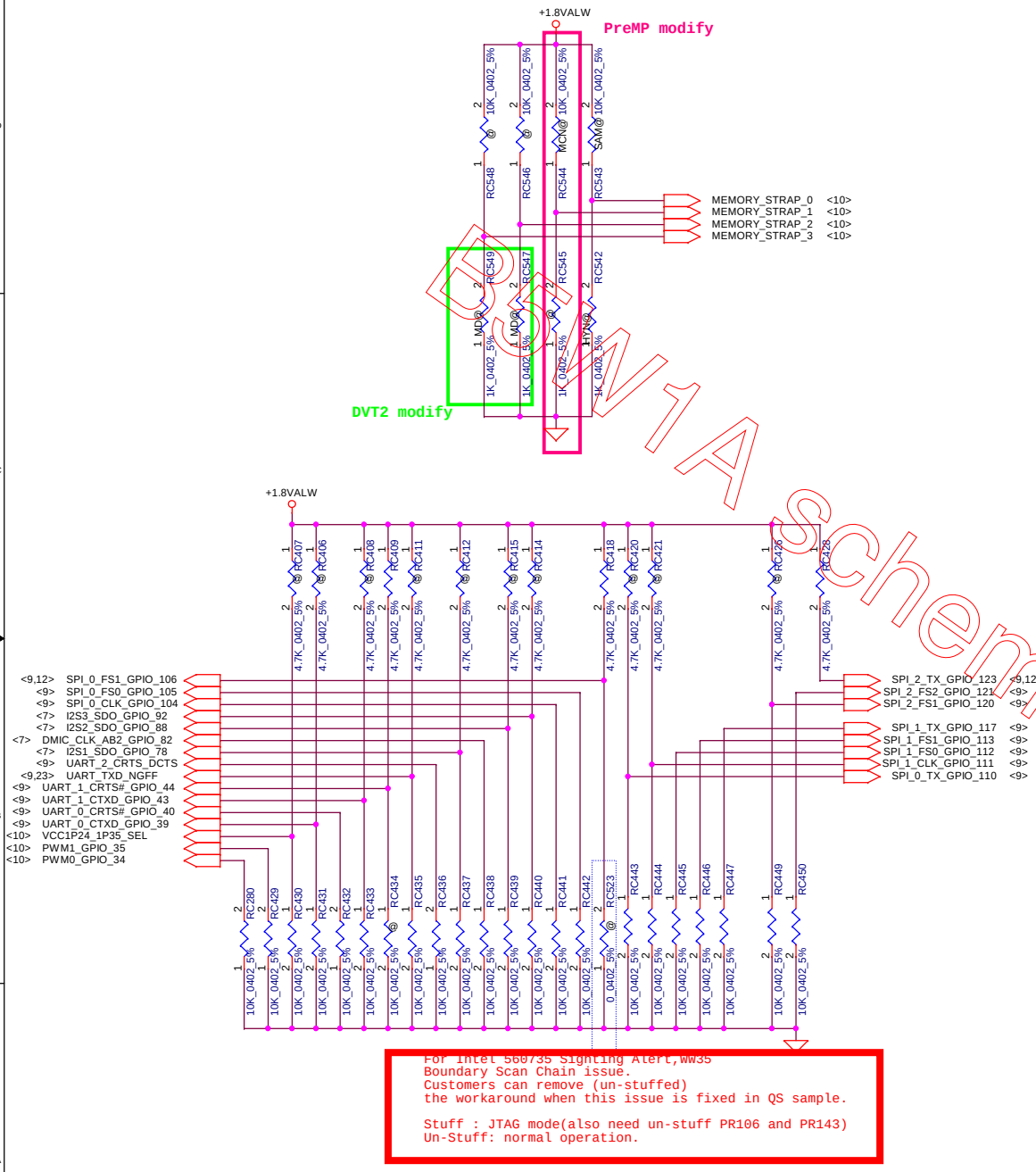

On Board Memory Strap Pin

On Board RAM Configuration	RAM_ID3	RAM_ID2	RAM_ID1	RAM_ID0
DDR3L Hynix 256MX16/1600 H5TC4G63CFR-PBA (SA00005AVD0)	0	0	0	0
DDR3L Samsung 256MX16/1600 K4B4G1646E-BYK0 (SA000099X20)	0	0	0	1
DDR3L Micron 256MX16/1600 MT41K256M16TW(SA00009KQ30)	0	0	1	0
SODIMM only	1	1	1	1

*** stand for default value**

Pin Name	PU/PD Function	External Termination	Strap pin Description
GPIO34		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO35		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO36	0: 1.24V* 1: 1.35V	10KPD	VCC_1P24V_1P35V_A voltage selection
GPIO39	0: Disable* 1: Enable	10KPD	Enable CSE ROM Bypass
GPIO40		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO43	0: Disable* 1: Enable	4.7KPU	Allow eMMC as a boot source
GPIO44	0: Disable 1: Enable*	4.7KPU	Allow SPI as a boot source
GPIO47	0: No Force* 1: Force	10KPD	Force DNX FW Load
GPIO48		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO78	0: 3.3V* 1: 1.8V	10KPD	SMBus 1.8V/3.3V mode select
GPIO82		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO88	0: 3.3V* 1: 1.8V	10KPD	PMU 1.8V/3.3V mode select
GPIO92	0: Disable* 1: Enable	10KPD	SMBus No Re-Boot
GPIO104		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO105		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO106		4.7KPU	Pulled HIGH when RSM_RST_N de-asserts
GPIO110	0: 3.3V* 1: 1.8V	10KPD	LPC 1.8V/3.3V mode select
GPIO111	0: From SPI* 1: Don't	10KPD	Boot BIOS from SPI select
GPIO112		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO113		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO117		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO118	0: Don't* 1: Override	10KPD	Flash Descriptor Override
GPIO120	0: Enable* 1: Disable	10KPD	Top swap override
GPIO121		10KPD	Pulled LOW when RSM_RST_N de-asserts
GPIO123		4.7KPU	Pulled HIGH when RSM_RST_N de-asserts

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Compal Electronics, Inc.

Title: APL(7/11)GPIO

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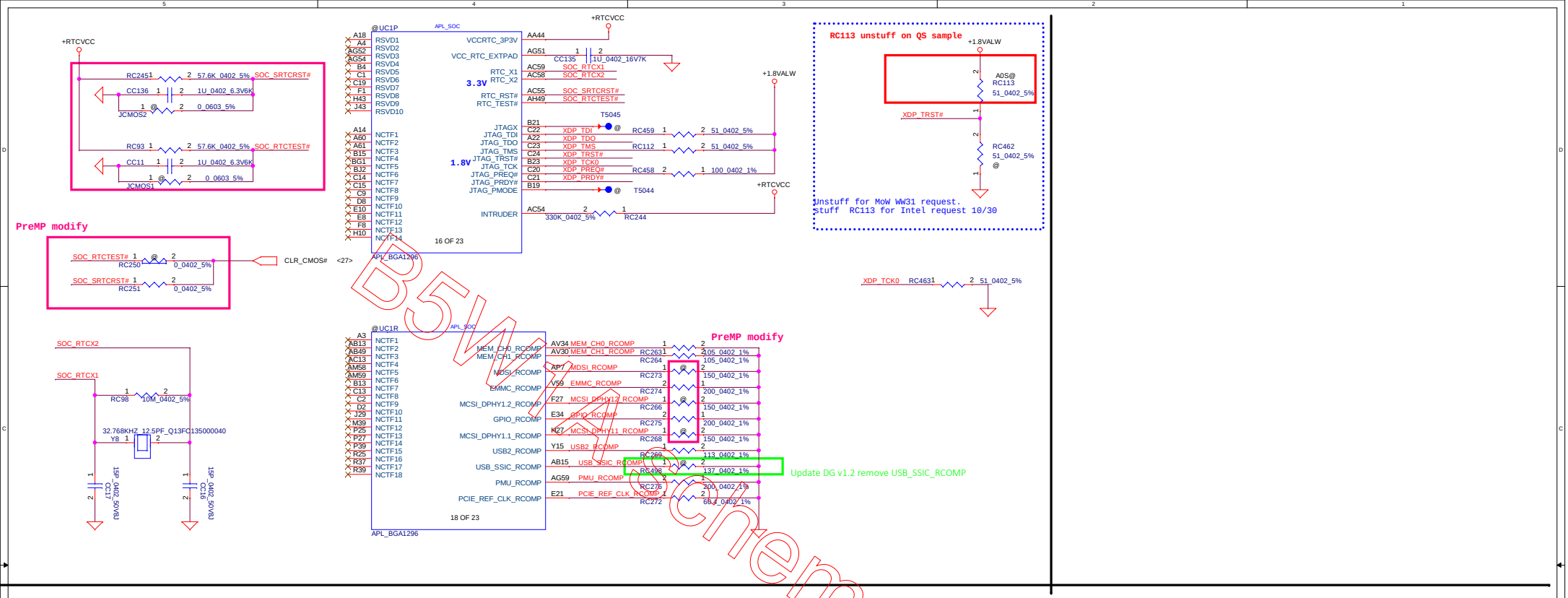
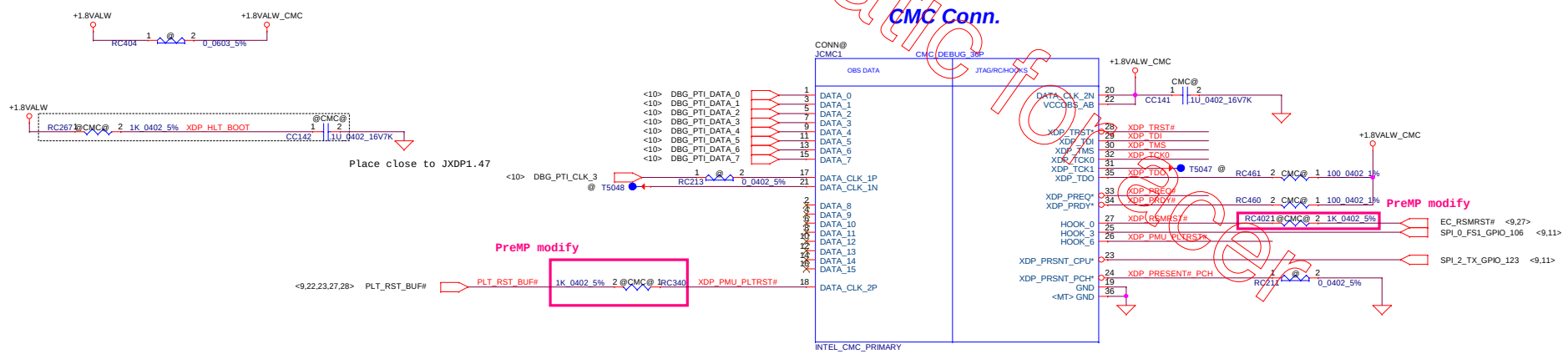


XDP



Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: APL(8/11)PCIE,USB,SATA

Size	Document Number	Rev
Custom	B5W1A_LA-D641P1A	1.A

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PreMP modify

+1.8VALW → RC4802 @ 1 0_0603_5% → +1.8VALW_SOC

+1.24VALW → RC4771 @ 2 0_0402_5% → +1.24VALW_DSI_CSI

+VNN → RC4761 2 0_0603_5% → +VCCIOA

+1.24VALW → RC495 1 2 0_0603_5% → +1.24V_1.35VALW_SOC

+1.35V_VDDQ → RC496 1 @ 2 0_0603_5%

A-Step only support +1.24V.

+1.24V_1.35VALW_SOC → RC4641 @ 2 0_0402_5% → +1.24V_1.35VALW_GLML

+1.24V_1.35VALW_SOC → RC4782 @ 1 0_0603_5% → +1.24V_1.35VALW_PLL

+1.24V_1.35VALW_SOC → RC4661 @ 2 0_0402_5% → +1.24V_1.35VALW_USB2

+1.24V_1.35VALW_SOC → RC4671 @ 2 0_0402_5% → +1.24V_1.35VALW_MPHY

+1.05VS → RC481 1 2 0_0603_5% → +1.05VS_SOC

+1.05VS_SOC → RC4822 @ 1 0_0603_5% → +1.05VS_SOC_SRAM

+1.05VS_SOC → RC4721 @ 2 0_0402_5% → +1.05VS_SOC_DDI

+1.05VS_SOC → RC4731 @ 2 0_0402_5% → +1.05VS_SOC_FHV0

+1.05VS_SOC → RC4741 @ 2 0_0402_5% → +1.05VS_SOC_FUSE

+1.05VS_SOC → RC4751 @ 2 0_0402_5% → +1.05VS_SOC_FHV1

+1.24VALW_DSI_CSI is only for MIPI-CSI or MIPI-DSI function.

@UC1V APL_SOC

+VNN	AJ37 VNN1	VCC_VCGI1 AA28	+VCC_VCGI
	AJ39 VNN2	VCC_VCGI2 AA30	
	AJ41 VNN3	VCC_VCGI3 AA32	
	AJ42 VNN4	VCC_VCGI4 AC28	
	AJ46 VNN5	VCC_VCGI5 AC30	
	AK37 VNN6	VCC_VCGI6 AC32	
	AK39 VNN7	VCC_VCGI7 AE28	
	AK41 VNN8	VCC_VCGI8 AE30	
	AK42 VNN9	VCC_VCGI9 AE32	
	AK44 VNN10	VCC_VCGI10 AG28	
	AK46 VNN11	VCC_VCGI11 AG30	
	AM44 VNN16	VCC_VCGI12 AG32	
+VCCIOA	AM23 VNN12	VCC_VCGI13 AJ28	
	AM25 VNN13	VCC_VCGI14 AJ30	
	AM41 VNN14	VCC_VCGI15 AJ32	
	AM42 VNN15	VCC_VCGI16 AK28	
		VCC_VCGI17 AK30	
		VCC_VCGI18 AK32	
		VCC_VCGI19 AM30	
		VCC_VCGI20 E29	
		VCC_VCGI21 E37	
		VCC_VCGI22 E50	
		VCC_VCGI23 U28	
		VCC_VCGI24 U30	
		VCC_VCGI25 U32	
		VCC_VCGI26 V28	
		VCC_VCGI27 V30	
		VCC_VCGI28 V32	
		VCC_VCGI29 Y28	
		VCC_VCGI30 Y30	
		VCC_VCGI31 Y32	
+1.05VS_SOC_DDI	AA22 VCC_1P05V1		
	AA23 VCC_1P05V2		
	AC23 VCC_1P05V3		
	V18 VCC_1P05V7		
+1.05VS_SOC_FUSE	Y18 VCC_1P05V8		
+1.05VS_SOC_FHV0	Y20 VCC_1P05V9		
+1.05VS_SOC_FHV1	P16 VCC_1P05V4		
	T13 VCC_1P05V5		
+1.24VALW_DSI_CSI	T15 VCC_1P05V6		
	AA18 VCC_1P24V_A1		
	AA20 VCC_1P24V_A2		
+1.24V_1.35VALW_MPHY	AE18 VCC_1P24V_1P35V_A1	VCC_3P3V_A1 AA42	+3V_SOC
	AE20 VCC_1P24V_1P35V_A2	VCC_3P3V_A2 AC41	
+1.24V_1.35VALW_USB2	AE22 VCC_1P24V_1P35V_A3	VCC_3P3V_A3 AJ25	
	AG22 VCC_1P24V_1P35V_A5	VCC_3P3V_A4 AK25	
+1.24V_1.35VALW_PLL	AG20 VCC_1P24V_1P35V_A4	VCC_3P3V_A5 V44	
		VCC_3P3V_A6 V46	
+1.24V_1.35VALW_GLML	AJ20 VCC_1P24V_1P35V_A6	VCC_3P3V_A7 Y44	
	AJ22 VCC_1P24V_1P35V_A7	RSVD1 AC20	
	AK22 VCC_1P24V_1P35V_A9	RSVD2 AC22	
		RSVD3 AJ44	
	AK20 VCC_1P24V_1P35V_A8	RSVD4 BJ61	
	AM20 VCC_1P24V_1P35V_A10	RSVD5 BJ62	
	AM28 VCC_1P24V_1P35V_A11	RSVD6 V49	
	AM37 VCC_1P24V_1P35V_A12		
	D4 NCTF1		
	E3 NCTF2		
	L14 NCTF3		
	R19 NCTF4		
	T51 NCTF5		

22 OF 23

APL_BGA1296

+1.24VALW_DSI_CSI: CC158 1U_0402_6.3V6K; CC159 1U_0402_6.3V6K @; CC160 @ 22U_0603_6.3V6M — BSC Side / PSC Side

+VCCIOA: CC211 1U_0402_6.3V6K; CC210 1U_0402_6.3V6K; CC212 22U_0603_6.3V6M; CC213 220_0603_6.3V6M — PSC Side

+1.05VS_SOC_DDI: CC153 1U_0402_6.3V6K; CC154 1U_0402_6.3V6K; CC155 1U_0402_6.3V6K; CC156 1U_0402_6.3V6K; CC157 220_0603_6.3V6M — BSC Side / PSC Side

+1.24V_1.35VALW_MPHY: CC172 1U_0402_6.3V6K; CC173 1U_0402_6.3V6K; CC170 1U_0402_6.3V6K; CC171 220_0603_6.3V6M — BSC Side / PSC Side

+1.24V_1.35VALW_USB2: CC176 1U_0402_6.3V6K — BSC Side

+1.24V_1.35VALW_GLML: CC165 1U_0402_6.3V6K; CC162 1U_0402_6.3V6K; CC163 1U_0402_6.3V6K; CC164 22U_0603_6.3V6M — BSC Side / PSC Side

+1.24V_1.35VALW_PLL: CC166 1U_0402_6.3V6K; CC167 1U_0402_6.3V6K; CC168 220_0603_6.3V6M — BSC Side / PSC Side

Close Soc pin AM28

+3V_SOC: CC178 1U_0402_6.3V6K; CC179 1U_0402_6.3V6K; CC180 1U_0402_6.3V6K; CC181 1U_0402_6.3V6K; CC182 220_0603_6.3V6M — BSC Side / PSC Side

Close Soc pin AK25,AJ25

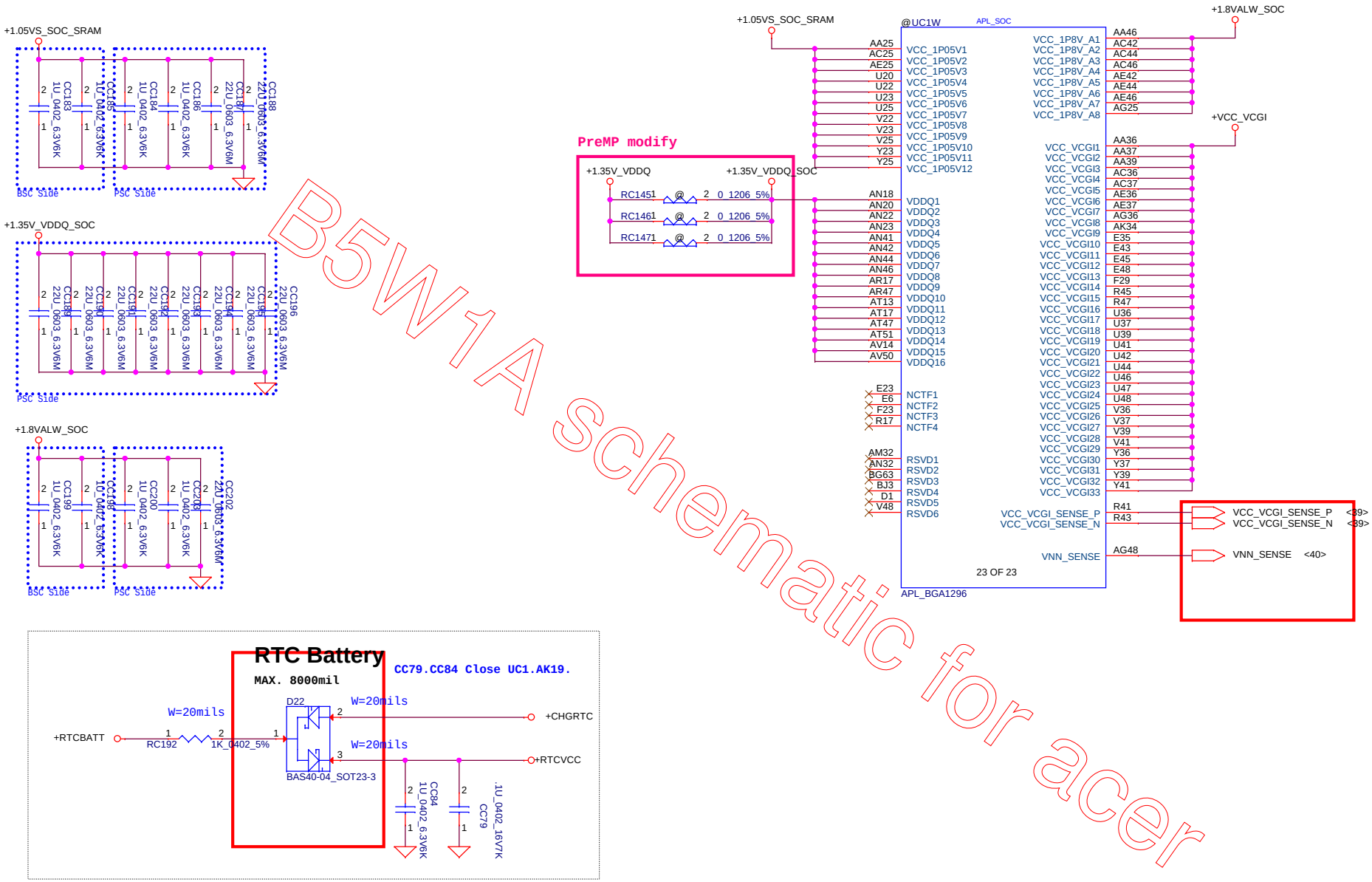
Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: APL(9/11)Power

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 13 of 45



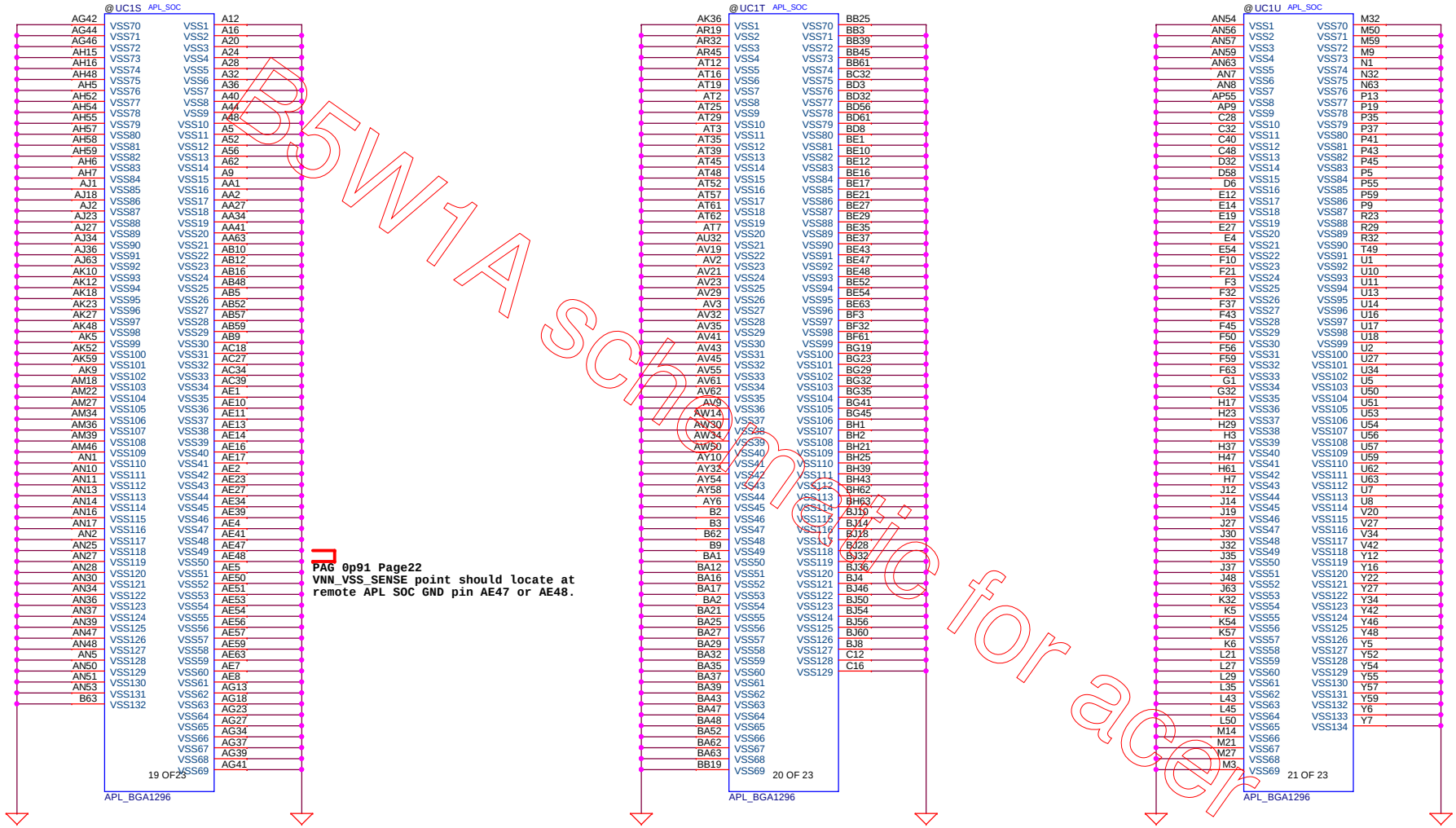
Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: APL(10/11)Power

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 14 of 45



Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

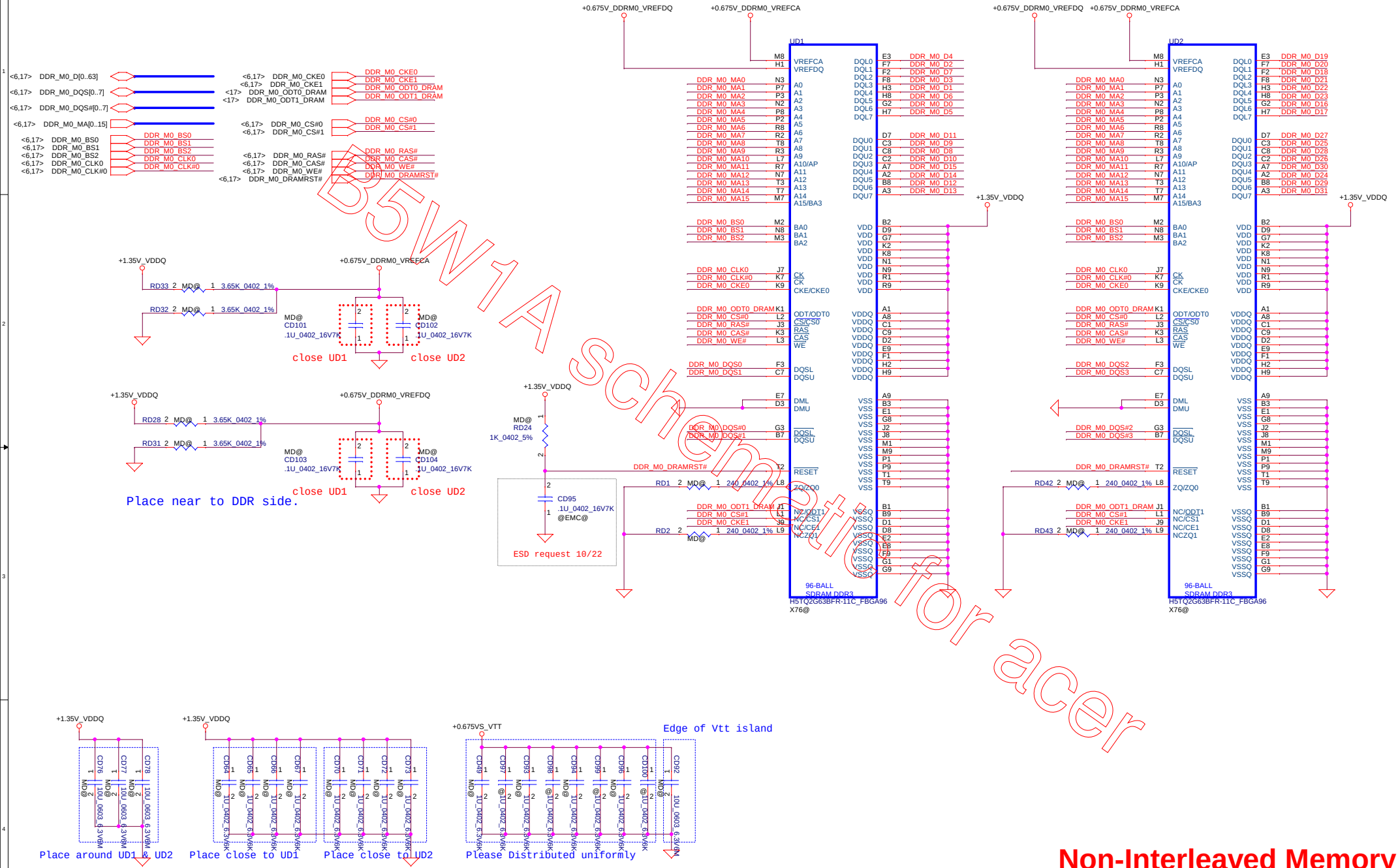
Compal Electronics, Inc.

Title: APL(11/11)GND

Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

Date: Monday, July 25, 2016 Sheet 15 of 45

CH0 DDR3L Memory Down Lower Bits



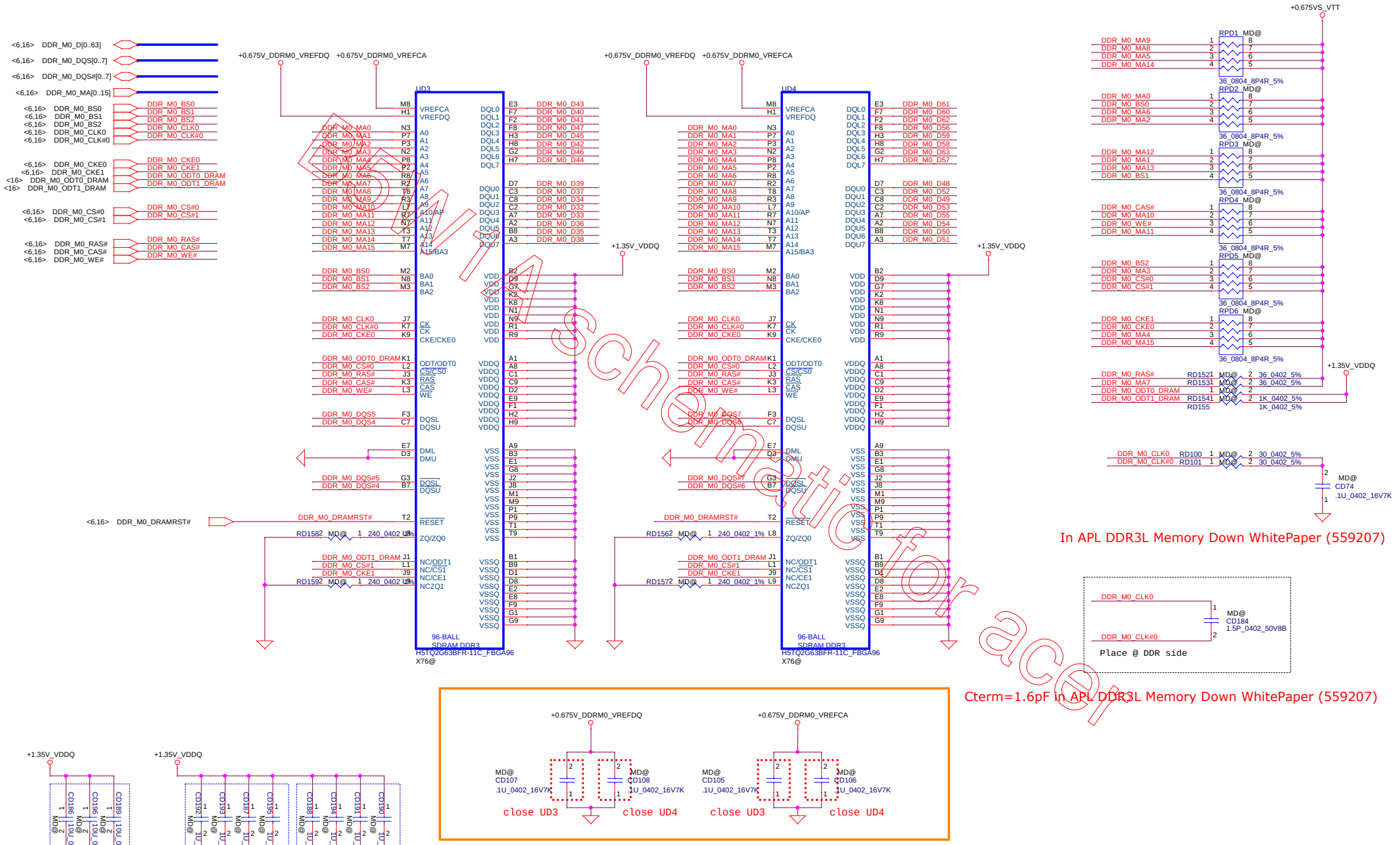
Non-Interleaved Memory

Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.			
Title: DDR3L Memory down-1			
Size: Custom	Document Number: B5W1A_LA-D641PR1A		Rev: 1.A
Date: Monday, July 25, 2016	Sheet 16 of 45		

CH0 DDR3L Memory Down Upper Bits

Non-Interleaved Memory



In APL DDR3L Memory Down WhitePaper (559207)

Cterm=1.6pF in APL DDR3L Memory Down WhitePaper (559207)

Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

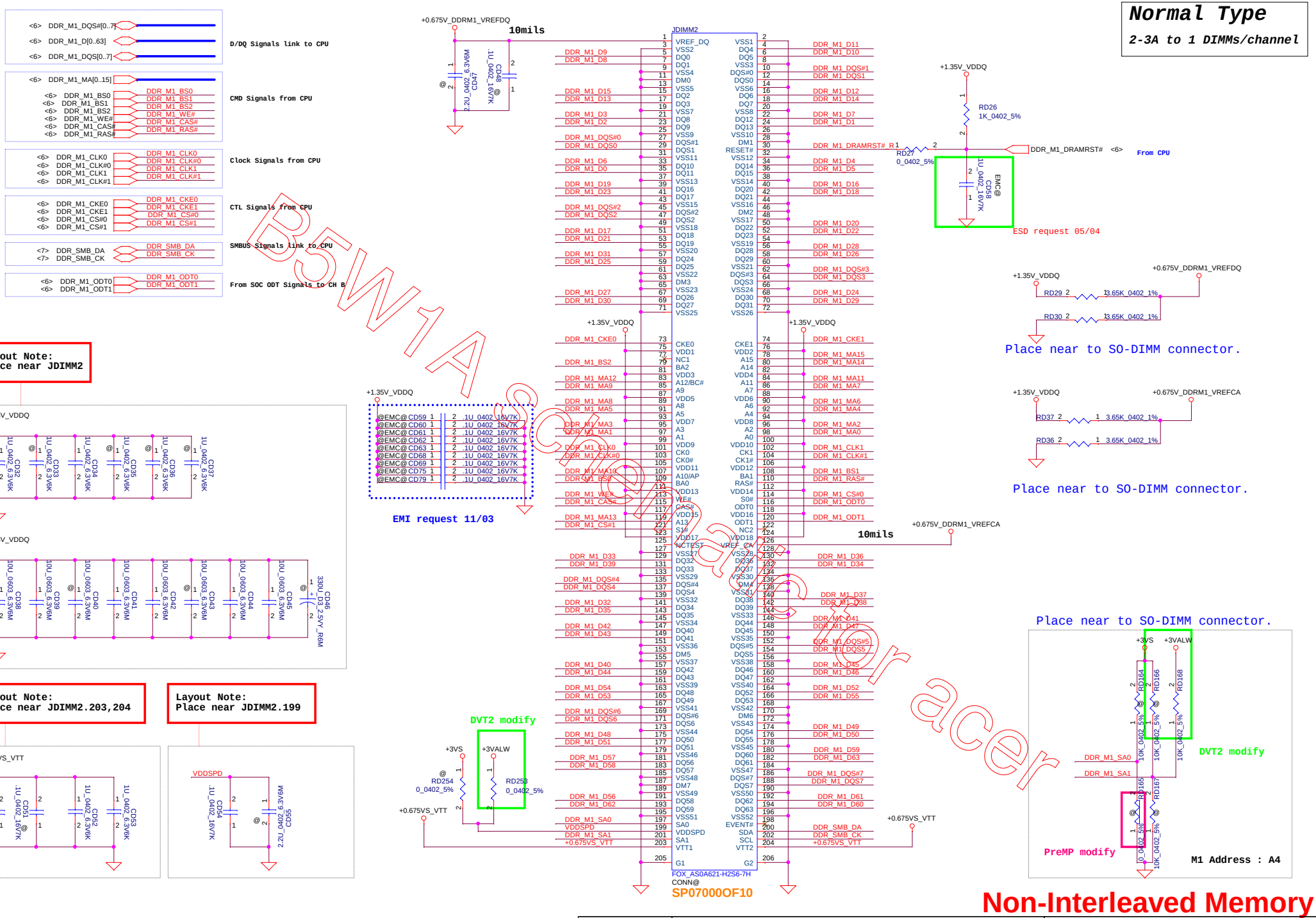
Title: DDR3L Memorydown-2

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 17 of 45

Normal Type

2-3A to 1 DIMMs/channel



Non-Interleaved Memory

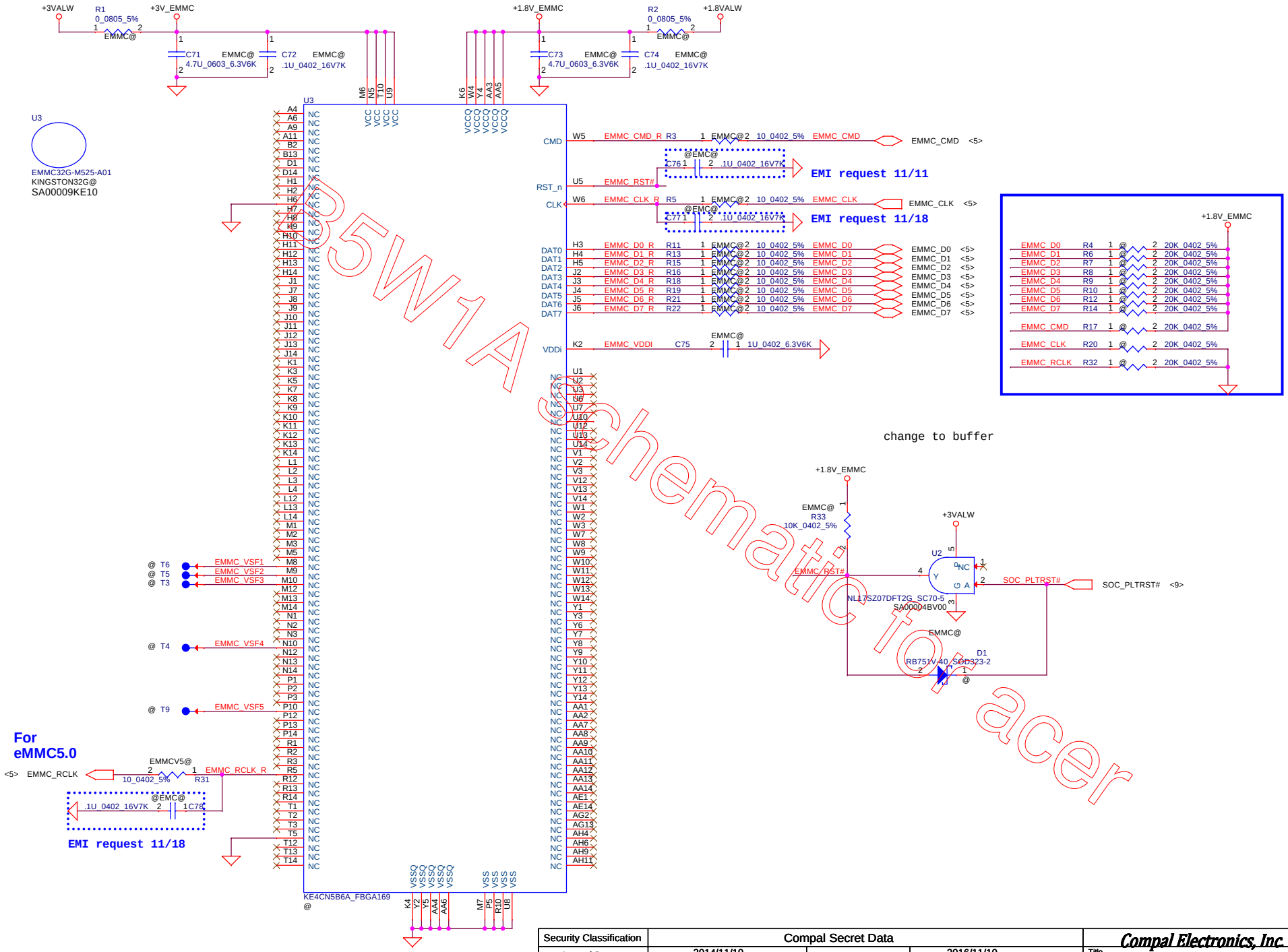
Security Classification	Compal Secret Data		
Issued Date	2014/05/19	Deciphered Date	2015/12/31

Compal Electronics, Inc.

Title: DDR3L DIMMB

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 18 of 45



Security Classification	Compal Secret Data		
Issued Date	2014/11/10	Deciphered Date	2016/11/10

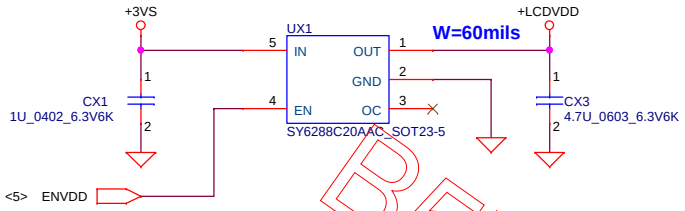
Compal Electronics, Inc.

Title: EMMC STORAGE

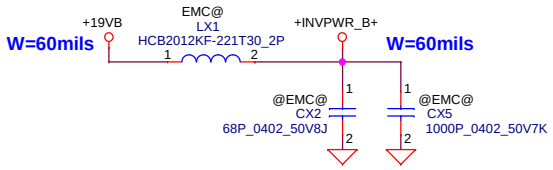
Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

Date: Monday, July 25, 2016 Sheet 19 of 45

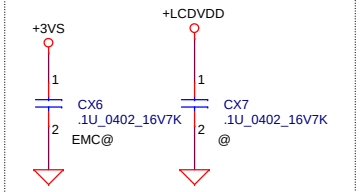
LCD POWER CIRCUIT



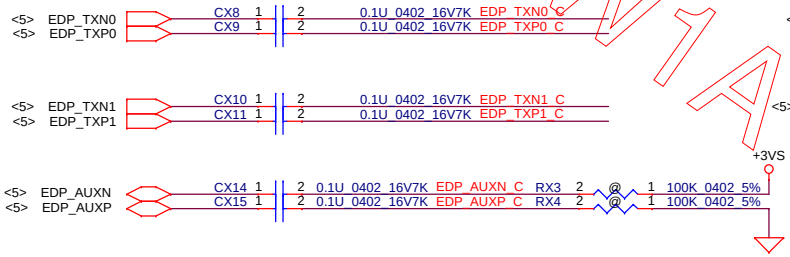
SM010014520 3000ma
220ohm@100mhz
DCR 0.04

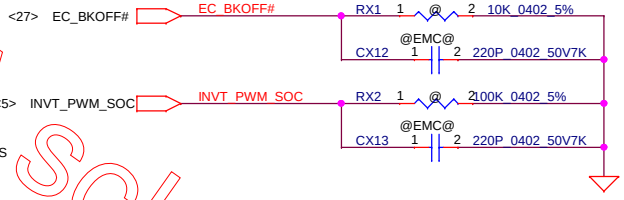


Place closed to JEDP1

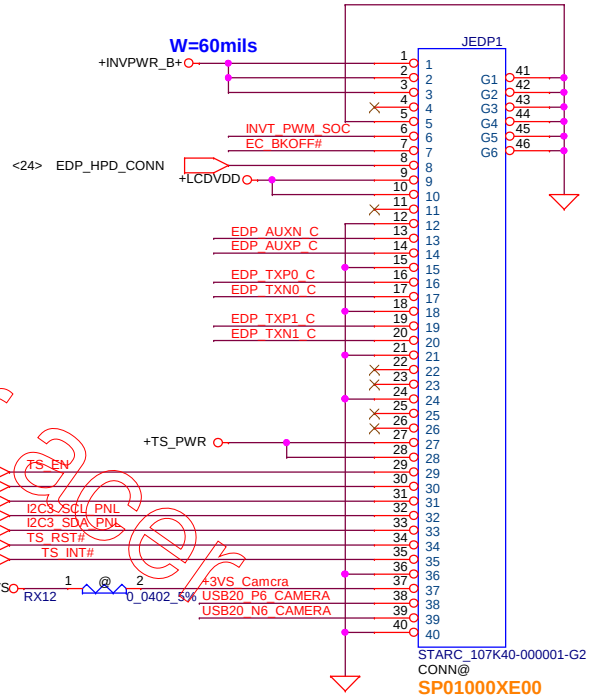


eDP

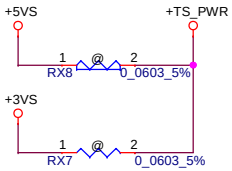




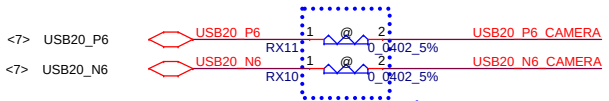
LCD/ LED PANEL Conn.



For Touch Panel

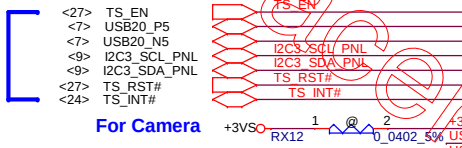


For Camera



EMI request 11/03

Touch Screen



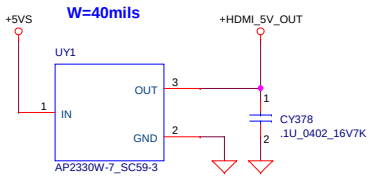
Security Classification	Compal Secret Data		
Issued Date	2014/03/19	Deciphered Date	2015/03/18

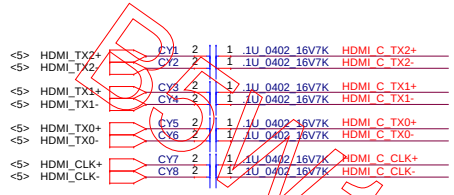
Compal Electronics, Inc.

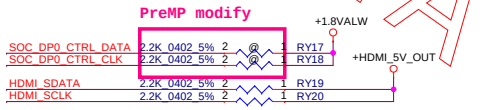
Title: eDP CONN.

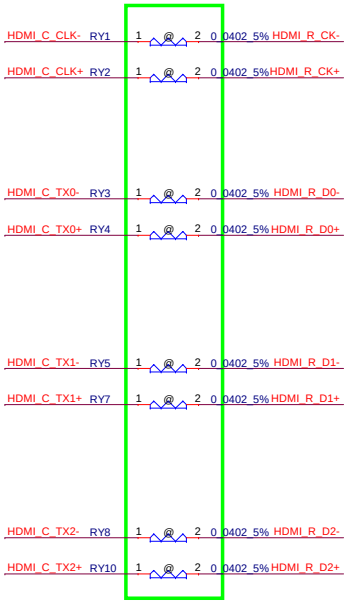
Size: Custom | Document Number: B5W1A LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 20 of 45



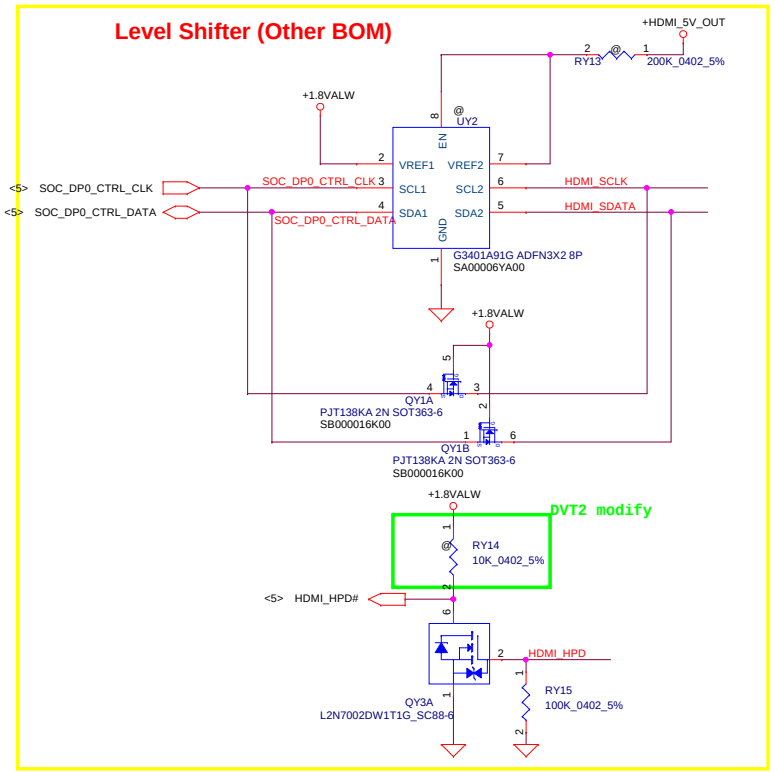


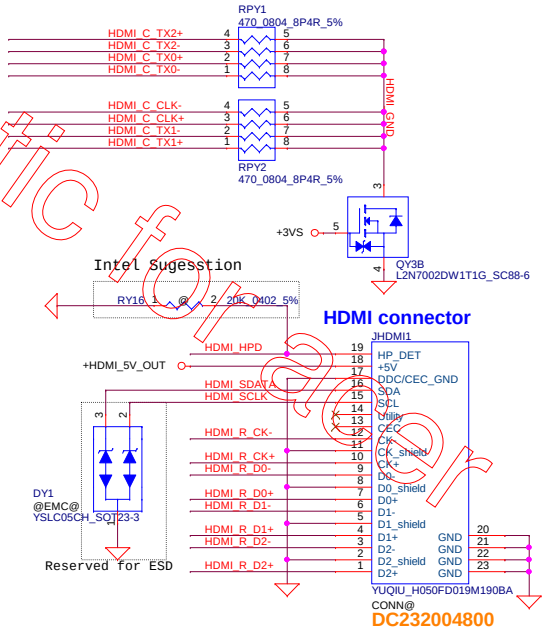




EMI 4/25 confirm OK

DVT2 modify





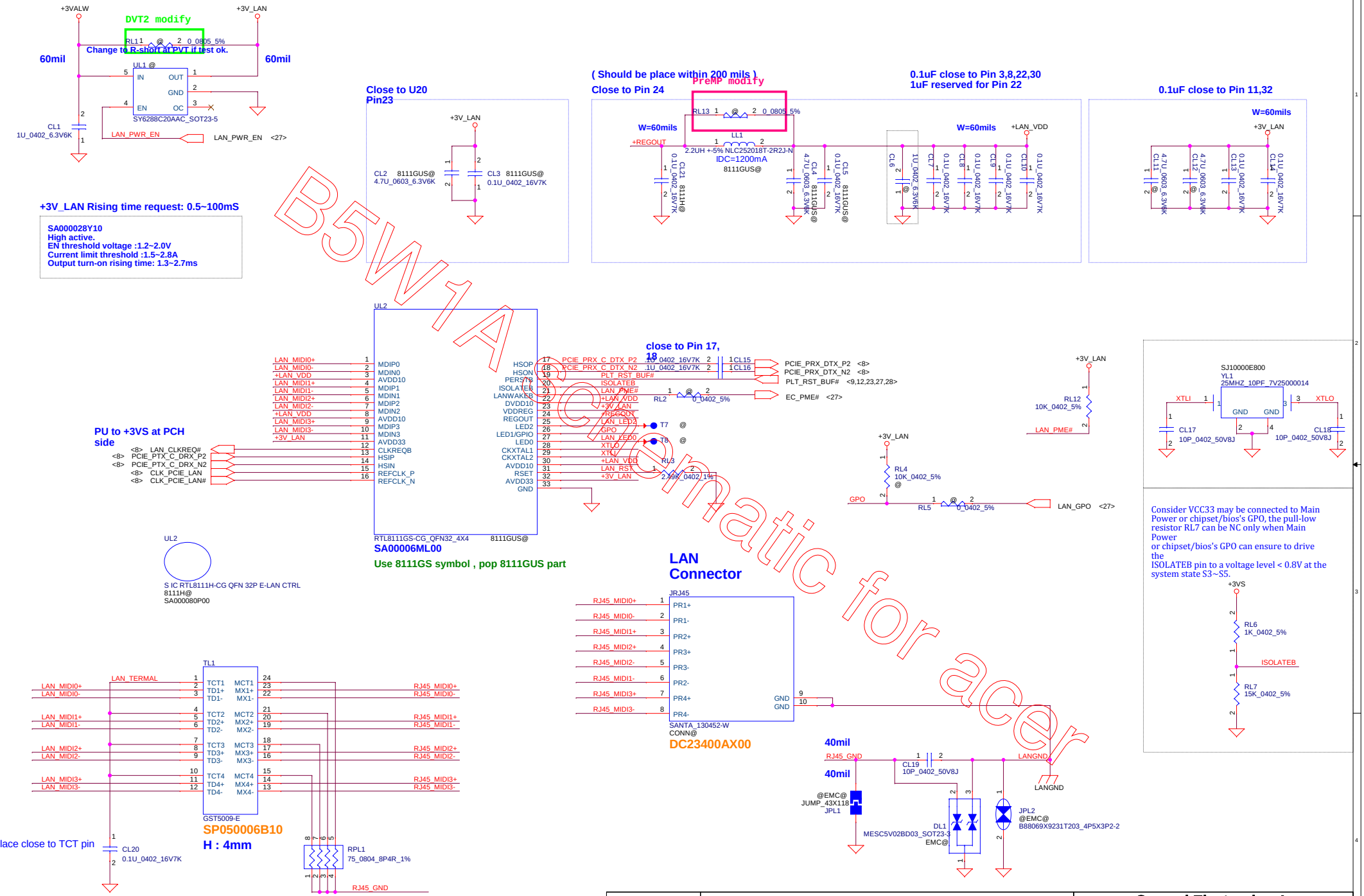
Security Classification	Compal Secret Data		
Issued Date	2014/03/19	Deciphered Date	2015/03/18

Compal Electronics, Inc.

Title: HDMI CONN.

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 21 of 45



Security Classification	Compal Secret Data		
Issued Date	2015/10/02	Deciphered Date	2014/10/28

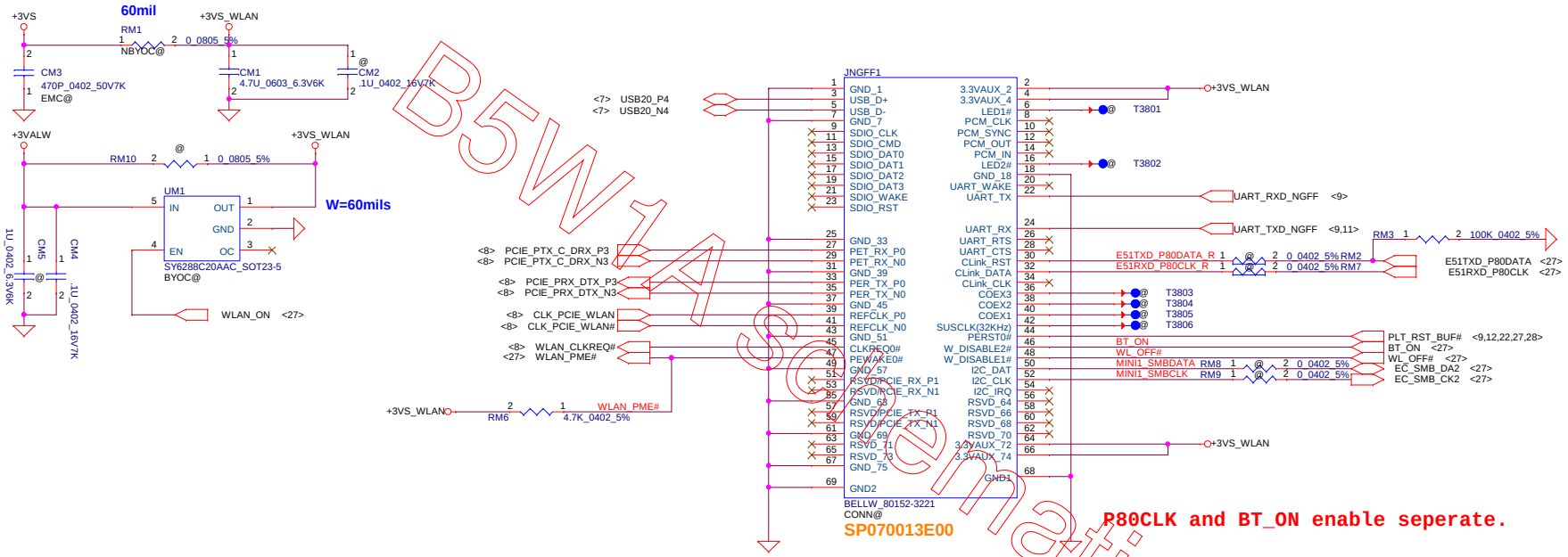
Compal Electronics, Inc.

Title: LAN_RTL8111GUS-CG

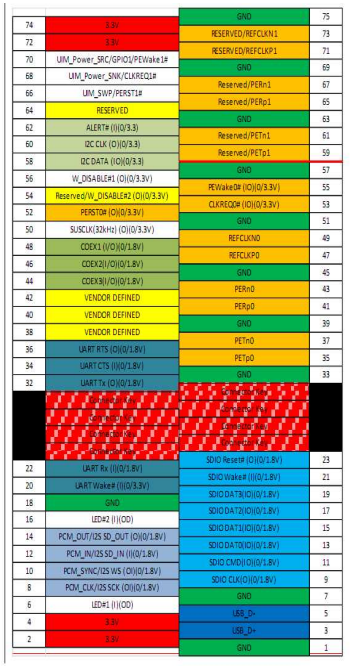
Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 22 of 45

For Wireless LAN



NGFF WL+BT (KEY E)



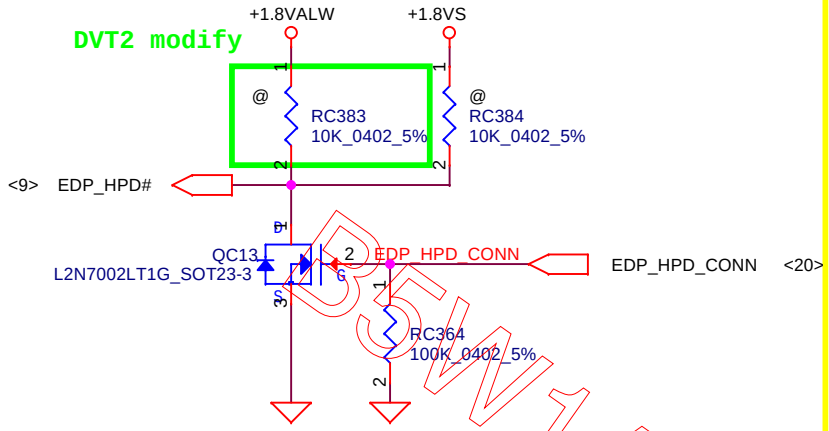
Security Classification	Compal Secret Data		
Issued Date	2014/03/19	Deciphered Date	2015/03/18

Compal Electronics, Inc.

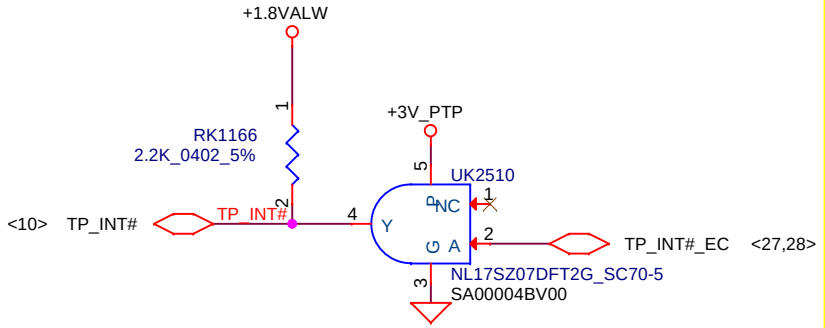
Title: **NGFF WLAN**

Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A
Date: Monday, July 25, 2016	Sheet 23 of 45	

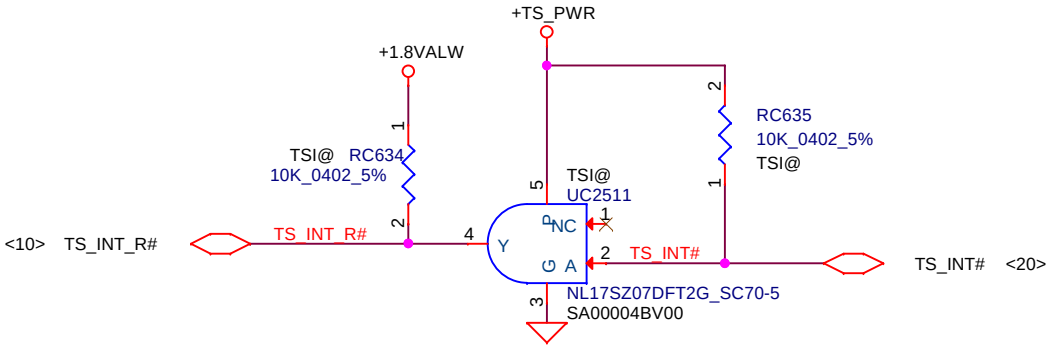
eDP Level Shifter (Other for BOM)



TP_INT Level Shifter



TS Level Shifter (Other for BOM)



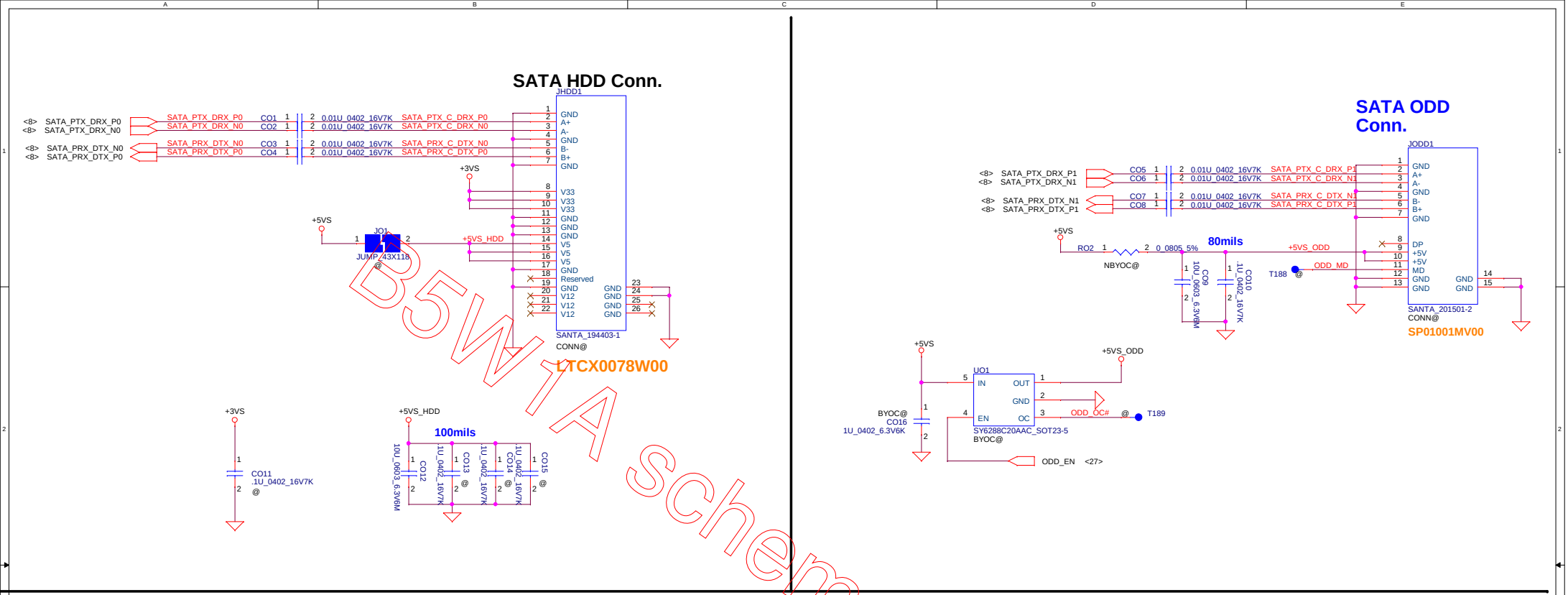
Security Classification	Compal Secret Data		
Issued Date	2013./02/04	Deciphered Date	2015/03/18

Compal Electronics, Inc.

Title: **Level shift**

Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

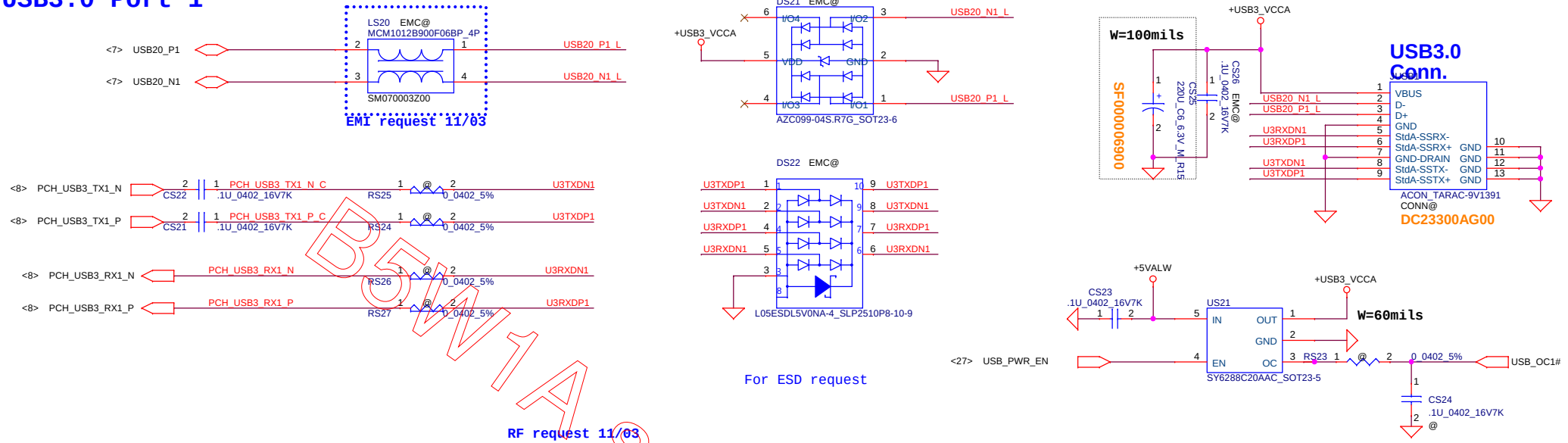
Date: Monday, July 25, 2016 Sheet 24 of 45



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2014/03/19	Deciphered Date 2015/03/18	Title HDD/ODD

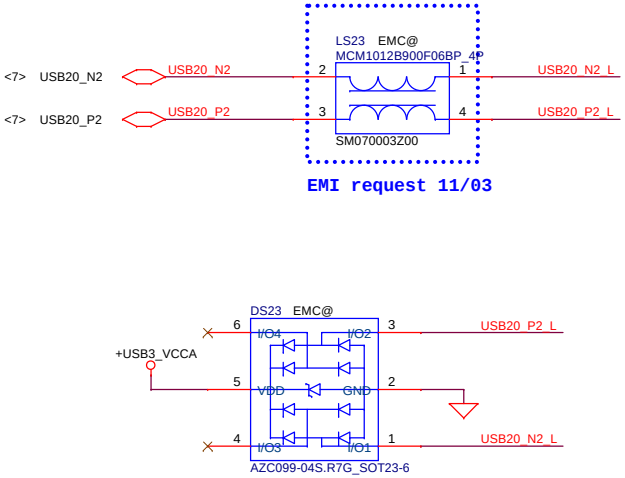
Size Custom	Document Number B5W1A_LA-D641PR1A		Rev 1.A
Date: Monday, July 25, 2016	Sheet 25 of 45		

USB3.0 Port 1



RF request 11/03

USB2.0 Port 2



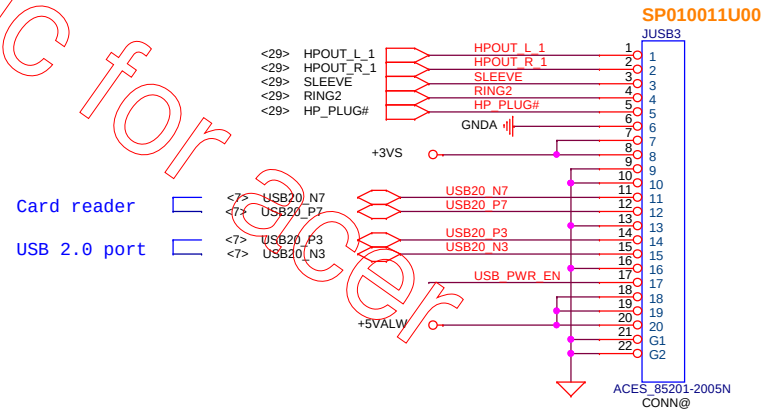
pin define need to update

USB/B (USB, AUDIO, CR)

SP010011U00

Card reader

USB 2.0 port



Security Classification	Compal Secret Data		
Issued Date	2014/08/28	Deciphered Date	2016/08/28

Compal Electronics, Inc.

Title: USB Conn

Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

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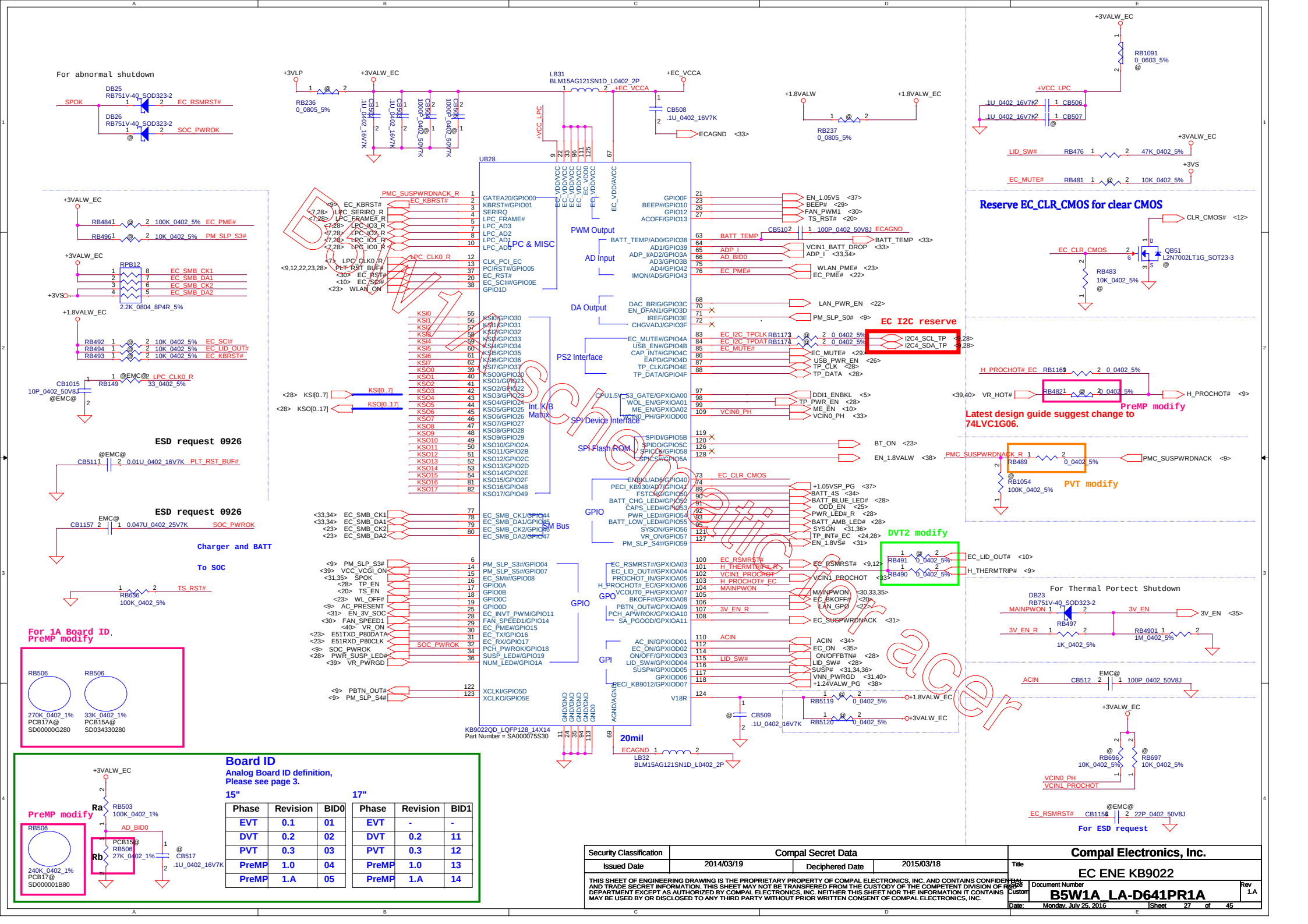
For abnormal shutdown
DB25
RB751V-40_SOD323-2
SPOK
EC_RSMRST#
DB26
RB751V-40_SOD323-2
SOC_PWROK
+3VLP
+3VALW_EC
RB236
0_0805_5%
LB31
BLM15AG121SN1D_L0402_2P
+EC_VCCA
CB508
.1U_0402_16V7K
ECAGND
+1.8VALW
+1.8VALW_EC
RB237
0_0805_5%
+VCC_LPC
RB1091
0_0603_5%
CB506
CB507
1U_0402_16V7K
+3VALW_EC
LID_SW#
RB476
47K_0402_5%
+3VS
EC_MUTE#
RB481
10K_0402_5%
UB28
KB9022QD_LQFP128_14X14
Part Number = SA000075S30
LPC & MISC
PWM Output
AD Input
DA Output
PS2 Interface
Int. KB Matrix
SPI Device Interface
SPI Flash ROM
SM Bus
GPIO
GPO
GPI
20mil
Reserve EC_CLR_CMOS for clear CMOS
CLR_CMOS#
EC_CLR_CMOS
QB51
L2N7002LT1G_SOT23-3
RB483
10K_0402_5%
EC I2C reserve
I2C4_SCL_TP
I2C4_SDA_TP
H_PROCHOT# EC
H_PROCHOT#
VR_HOT#
RB4821
PreMP modify
Latest design guide suggest change to 74LVC1G06.
PMC_SUSPWRDNACK
RB489
RB1054
100K_0402_5%
PVT modify
DVT2 modify
RB491
RB490
EC_LID_OUT#
H_THERMTRIP#
For Thermal Portect Shutdown
DB23
RB751V-40_SOD323-2
MAINPWON
3V_EN
RB497
1K_0402_5%
RB4901
1M_0402_5%
ACIN
CB512
100P_0402_50V8J
RB696
10K_0402_5%
RB697
10K_0402_5%
VCIN0_PH
VCIN1_PROCHOT
EC_RSMRST#
CB1154
22P_0402_50V8J
For ESD request
+3VALW_EC
RPB12
2.2K_0804_8P4R_5%
EC_SMB_CK1
EC_SMB_DA1
EC_SMB_CK2
EC_SMB_DA2
RB4841
RB4961
100K_0402_5%
10K_0402_5%
EC_PME#
PM_SLP_S3#
RB492
RB494
RB493
EC_SCI#
EC_LID_OUT#
EC_KBRST#
CB1015
10P_0402_50V8J
@EMC@
RB149
33_0402_5%
LPC_CLK0_R
ESD request 0926
CB5111
0.01U_0402_16V7K
PLT_RST_BUF#
CB1157
0.047U_0402_25V7K
SOC_PWROK
Charger and BATT
To SOC
RB636
100K_0402_5%
TS_RST#
For 1A Board ID
PreMP modify
RB506
270K_0402_1%
PCB17A@
SD00000G280
33K_0402_1%
PCB15A@
SD034330280
Board ID
Analog Board ID definition,
Please see page 3.
15"
17"
Phase
Revision
BID0
BID1
EVT
0.1
01
-
DVT
0.2
02
11
PVT
0.3
03
12
PreMP
1.0
04
13
PreMP
1.A
05
14
Ra
RB503
100K_0402_1%
Rb
RB506
27K_0402_1%
AD_BID0
PCB15@
CB517
.1U_0402_16V7K
240K_0402_1%
PCB17@
SD000001B80
Security Classification
Compal Secret Data
Issued Date
2014/03/19
Deciphered Date
2015/03/18
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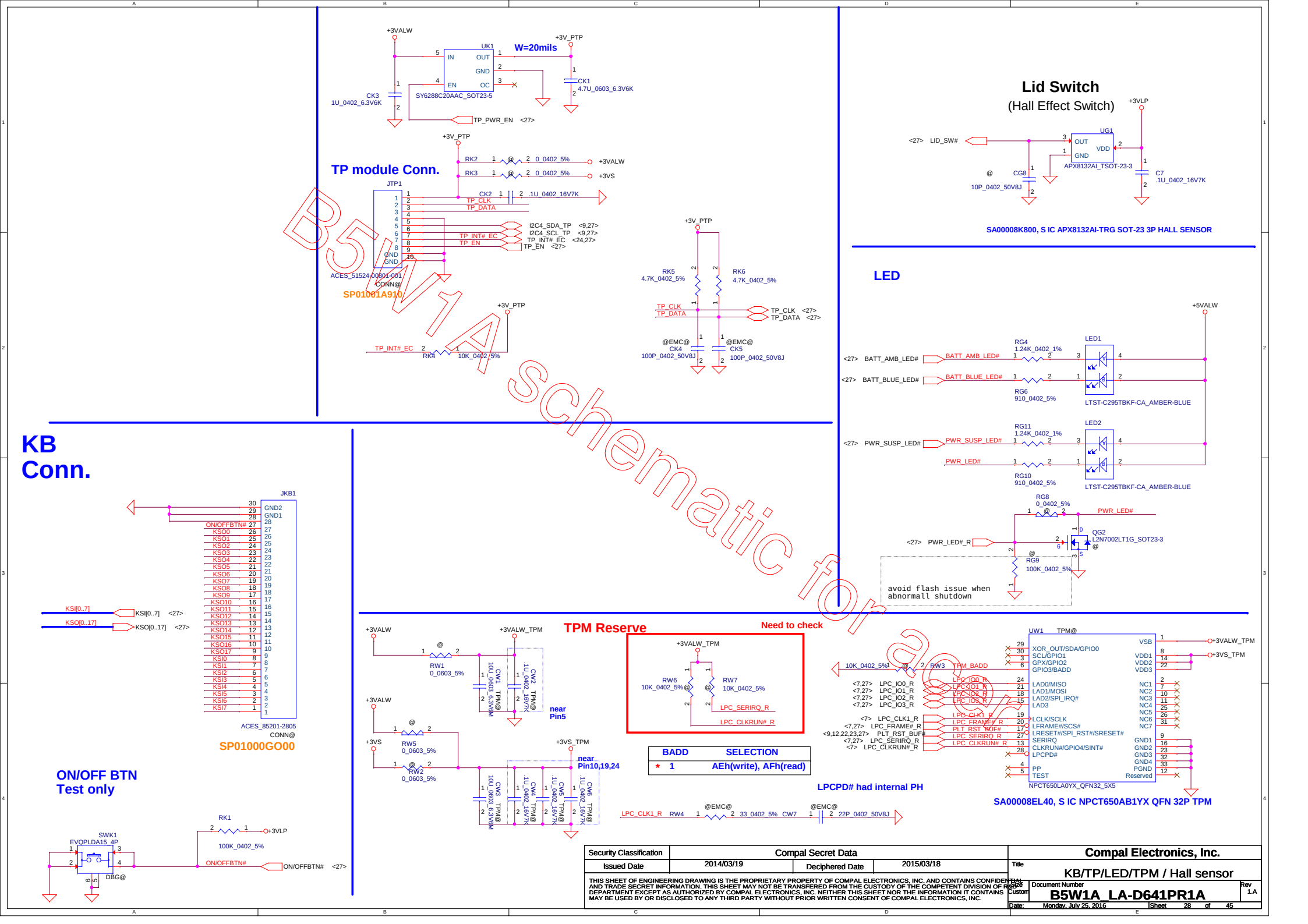
Compal Electronics, Inc.
Title
EC ENE KB9022
Size
Custom
Document Number
B5W1A_LA-D641PR1A
Rev
1.A
Date:
Monday, July 25, 2016
Sheet
27
of
45



Security Classification	Compal Secret Data		
Issued Date	2014/03/19	Deciphered Date	2015/03/18

Compal Electronics, Inc.

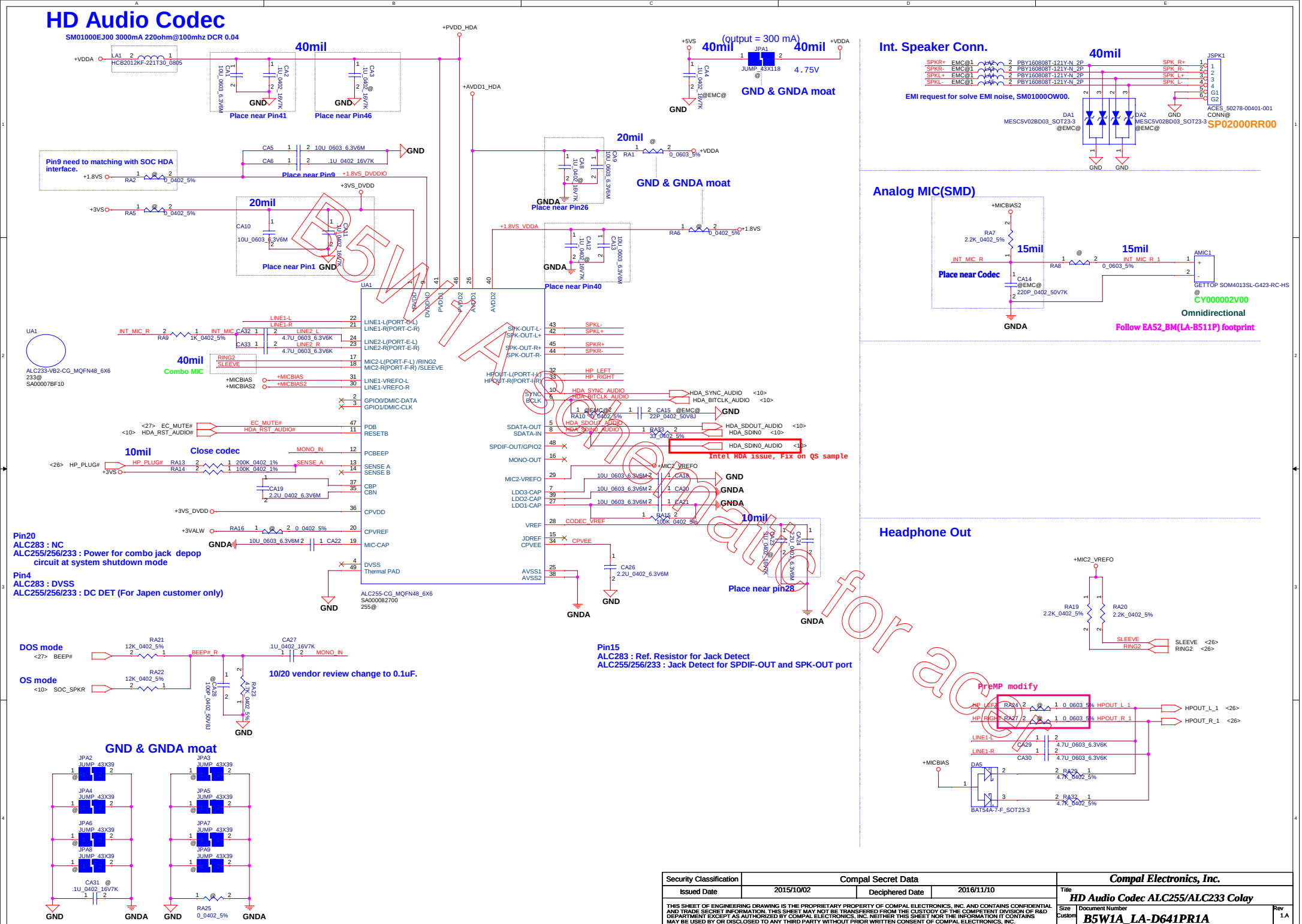
Title: KB/TP/LED/TPM / Hall sensor

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 28 of 45

HD Audio Codec

SM01000EJ00 3000mA 220ohm@100mhz DCR 0.04



Security Classification	Compal Secret Data		
Issued Date	2015/10/02	Deciphered Date	2016/11/10

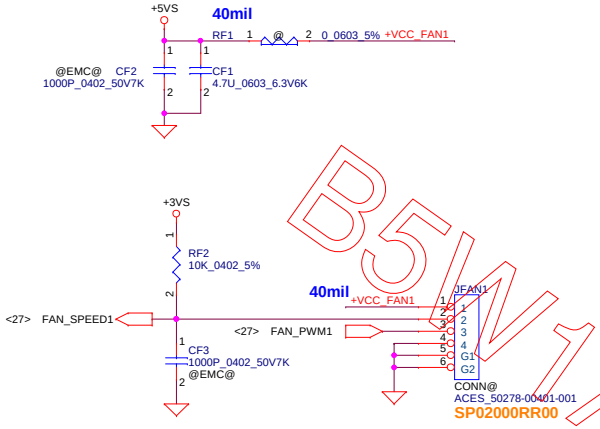
Compal Electronics, Inc.

Title: HD Audio Codec ALC255/ALC233 Colay

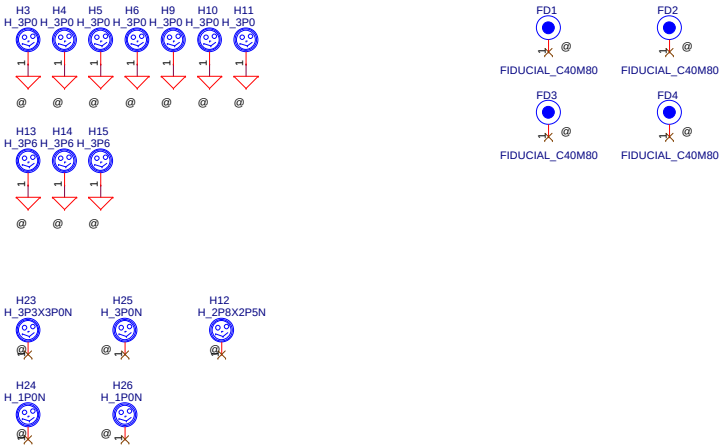
Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

Date: Monday, July 25, 2016 Sheet 29 of 45

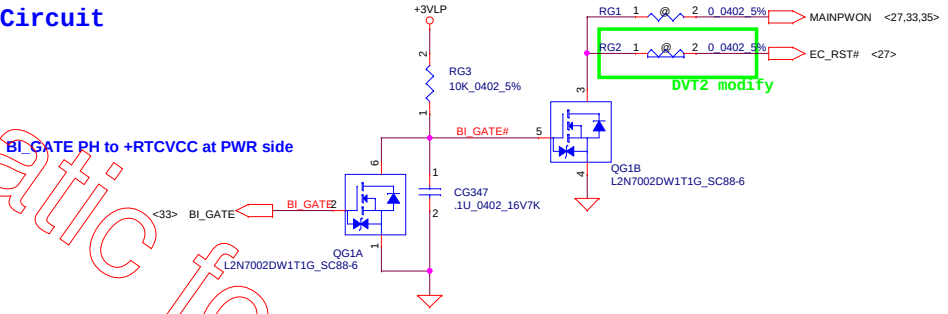
FAN1 Conn



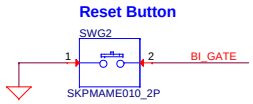
Screw Hole



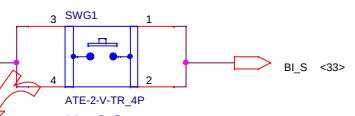
Reset Circuit



Reset Button



BI SW



H : 3.8mm

Release : Battery Off
Push : Battery ON

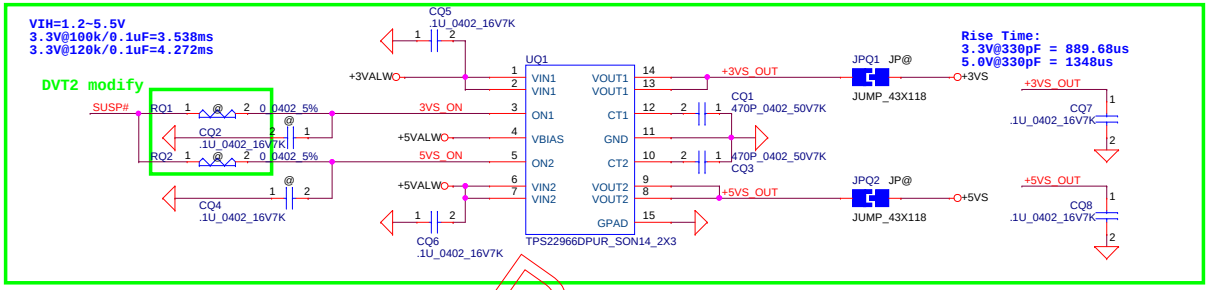
Security Classification	Compal Secret Data		
Issued Date	2014/08/28	Deciphered Date	2016/08/28

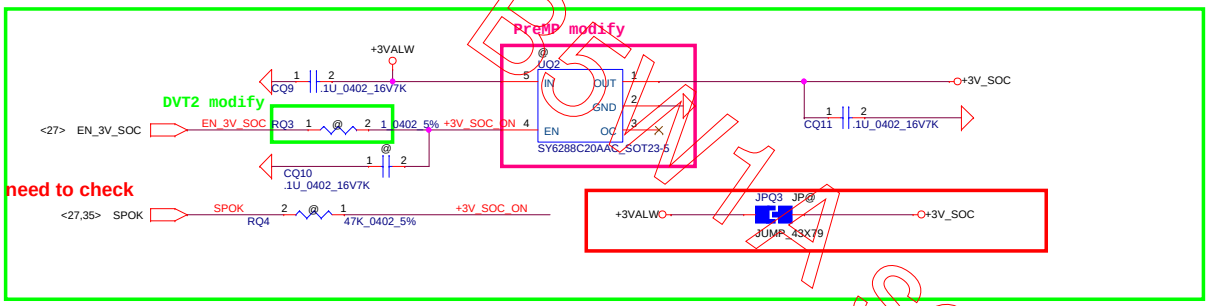
Compal Electronics, Inc.

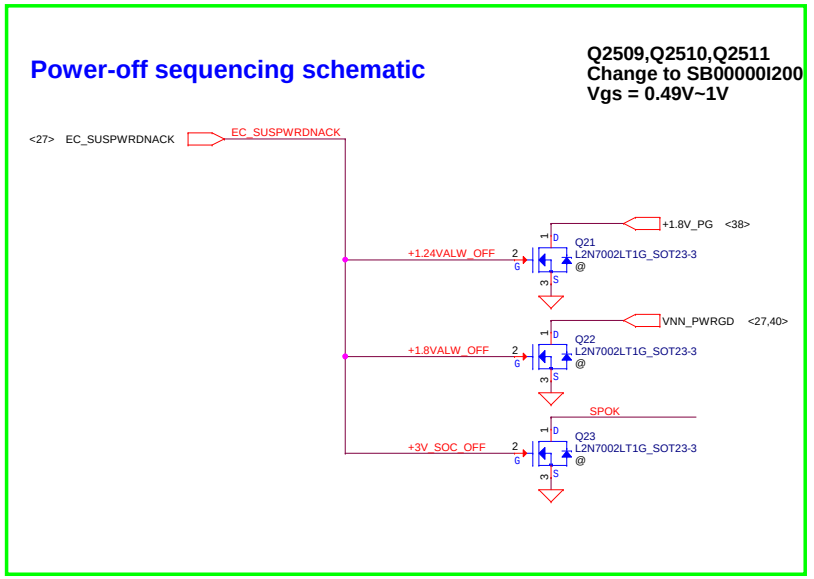
Title: FAN & Screw Hole & Reset Button

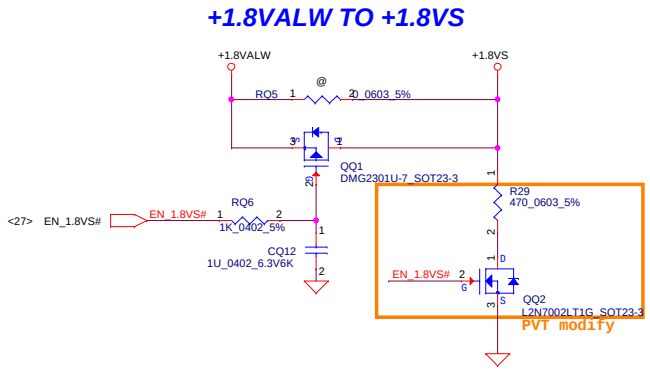
Size	Document Number	Rev
Custom	B5W1A_LA-D641PR1A	1.A

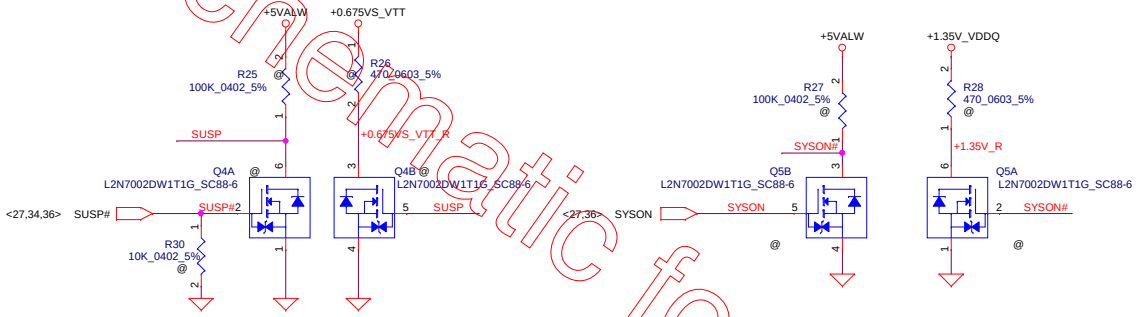
Date: Monday, July 25, 2016 Sheet 30 of 45











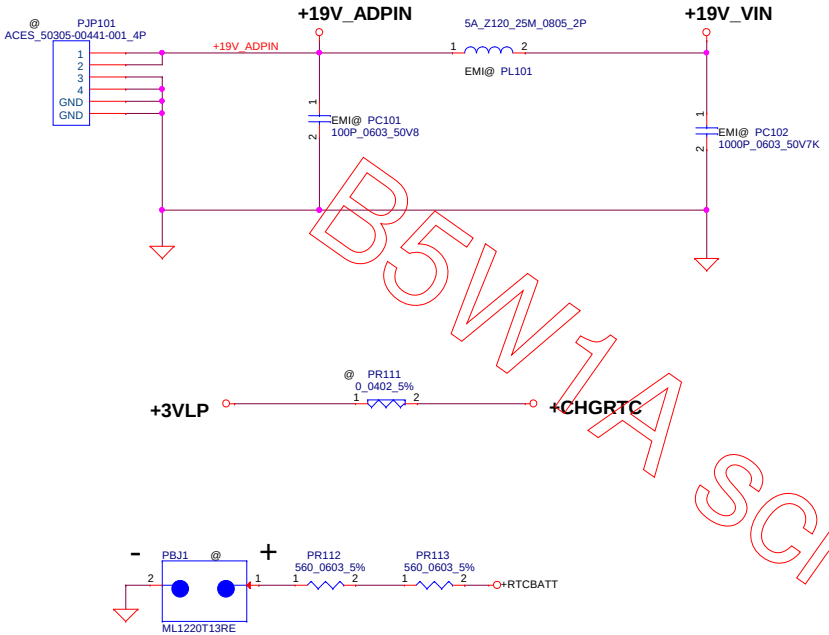
Security Classification	Compal Secret Data		
Issued Date	2014/03/19	Deciphered Date	2015/03/18

Compal Electronics, Inc.

Title: DC INTERFACE

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 31 of 45



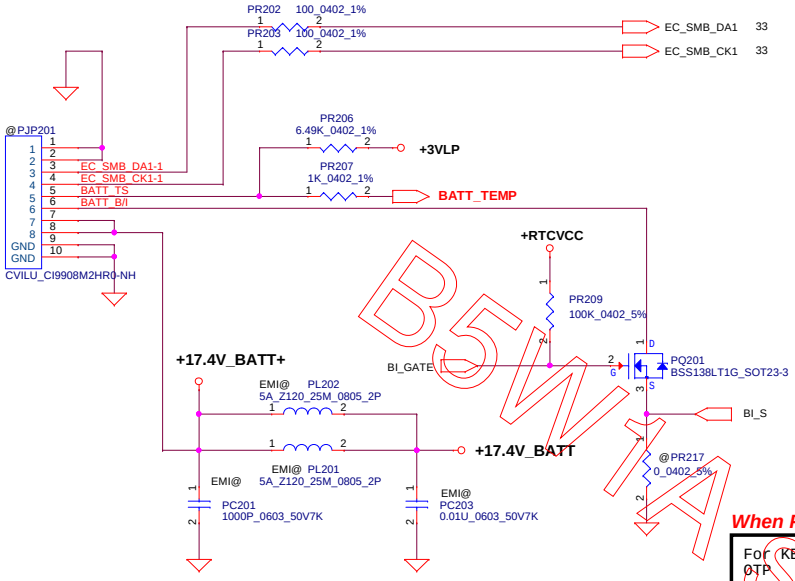
Security Classification	Compal Secret Data		
Issued Date	2011/07/08	Deciphered Date	2015/07/08

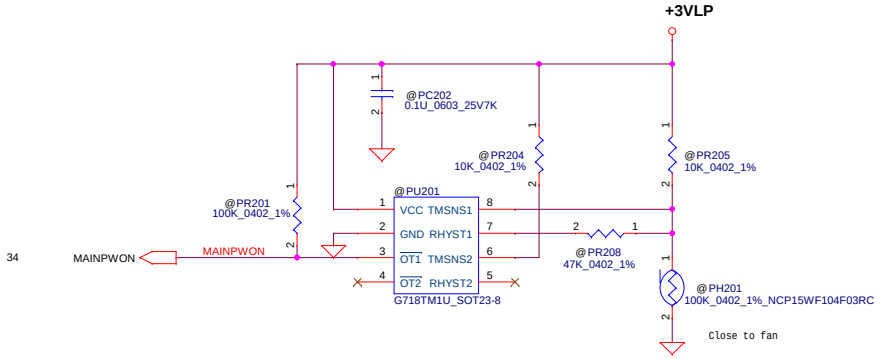
Compal Electronics, Inc.

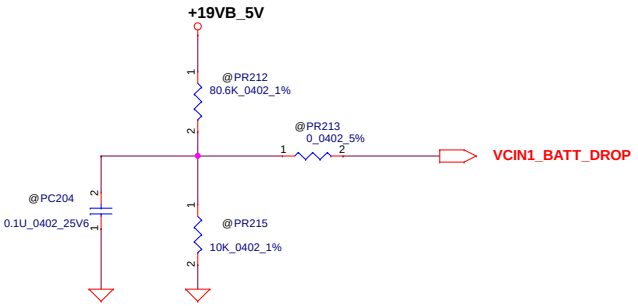
Title: PWR DCIN / Pre-charge

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 32 of 45







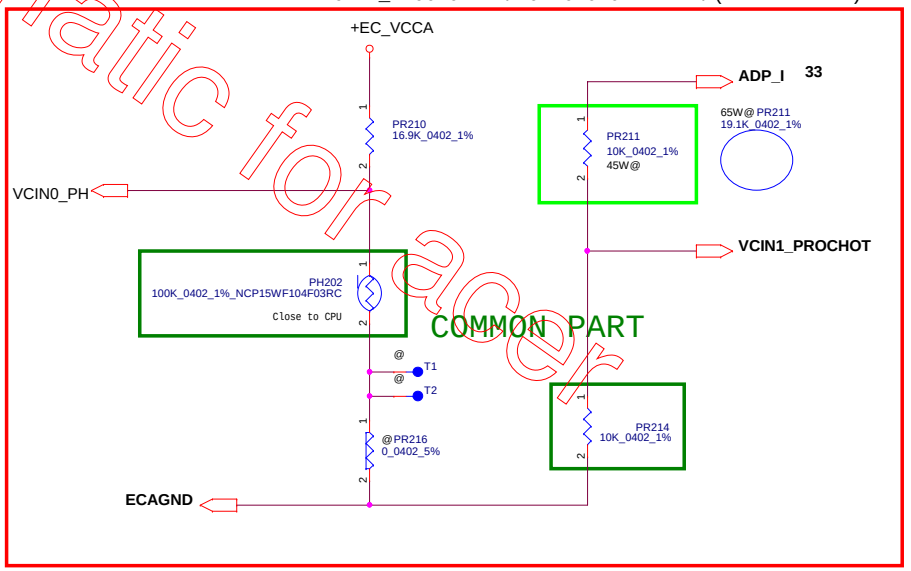
When PR210=16.9K

For KB9022 OTP	Active	Recovery
VCIN0_PH(V)	92'C, 1V	56'C, 2V
PH202(ohm)	7.3092K	26.11K

2015/09/30 update

VCIN1_PROCHOT For KB9022 sense 20mΩ	Active	Recovery	PR211
65W	84.5W,0.61V	84.5W,0.61V	19.1KΩ SD034191280
45W	58.5W,0.61V	58.5W,0.61V	10KΩ SD034100280
	130%	130%	

VCIN1_PROCHOT=PW/19*20*0.02*PR214/(PR211+PR214)



Security Classification	Compal Secret Data		
Issued Date	2011/07/08	Deciphered Date	2015/07/08

Compal Electronics, Inc.

Title: PWR-BATTERY CONN/OTP

Size: Custom | Document Number: B5W1A_LA-D641PR1A | Rev: 1.A

Date: Monday, July 25, 2016 | Sheet 33 of 45

Protection for reverse input

Vgs = 20V
Vds = 60V
Id = 250mA

PQ301 2N7002KW_SOT323-3

PR301 1M_0402_5%

PR302 3M_0402_5%

RBFET AON7506 SB000010A00
Rds(on):13~15.8mohm
Vgs=20V
Vds=30V
ID= 10.5A (Ta=70C)

Need check the SOA for inrush

2014/01/21 update PL301 change
Common part SH00000YG00

BATFET AON7506 SB000010A00
Rds(on):13~15.8mohm
Vgs=20V
Vds=30V
ID= 10.5A (Ta=70C)

+19V_VIN

+19V_P1

PQ302 MDU1512RH_POWERDFN56-8-5

PC301 2200P_0402_50V7K

PR304 @ 0_0402_5%

PC302 0.1U_0402_25V6

BQ24725A_ACDRV_1

ACFET MDU1512 SB00000SY00
Rds(on):4.2~5mohm
Vgs=20V
Vds=30V
ID= 24.2A (Ta=70C)

PQ303 AON7506_DFN33-8-5

+19V_P2

PR303 0.02_1206_1%

EMI@ PL301 1UH +-30% 2.8A
Isat: 4A
DCR: 27mohm

+19VB

+19VB_CHG

PC303 10U_0805_25V6K

PC304 10U_0805_25V6K

PC305 @EMI@ 2200P_0402_25V7K

PC306 @EMI@ 0.1U_0402_25V6

PQ304 AON7506_DFN33-8-5

PC307 0.01U_0402_50V7K

BQ24725A_BATDRV

PR305 4.12K_0603_1%

PD301 BAS40CW_SOT323-3

VF = 0.5V

PC308 0.1U_0402_25V6

PC309 0.1U_0402_25V6

PC310 0.1U_0402_25V6

PC311 0.047U_0402_25V7K

PR306 10_1206_1%

PD302 RB751V-40_SOD323-2

VF = 0.37V

PR307 2.2_0603_5%

Choke 4.7uH SH00000YC00 (Common Part)
(Size:6.6 x 7.3 x 3 mm)
(DCR:28m~33m)

Support max charge 3.5A
Power loss: 0.245W
CSR rating: 1W
VSRP-VSRN spec < 81.28mV

@PR308 0_0603_5%

PQ305 AON7506_DFN33-8-5

PQ306 AON7506_DFN33-8-5

PR309 4.12K_0603_1%

PR310 4.12K_0603_1%

PC312 1U_0603_25V6K

PC313 1U_0603_25V6K

PL302 4.7UH_5.5A_20%_7X7X3_M

PR311 0.01_1206_1%

+17.4V_BATT

PR312 4.7_1206_5% @EMI@

PC316 0.1U_0402_25V6

PC317 0.1U_0402_25V6

PC318 680P_0402_50V7K @EMI@

PC314 10U_0805_25V6K

PC315 10U_0805_25V6K

PU301 BQ24735RGRR_QFN20_3P5X3P5

PAD ACN ACP CMSRC ACDRV ACOK VCC PHASE HIDRV BOOT REGN LODRV GND SRP SRN BATDRV ACDET IOUT SDA SCL ILIM

BQ24725A_CMSRC
BQ24725A_ACDRV
BQ24725A_VCC2
BQ24725A_LX
BQ24725A_BST2
BQ24725A_REG2
DH_CHG
DL_CHG
BQ24725A_ACN
BQ24725A_ACP
BQ24725A_LX
CSOP1
CSON1
BQ24725A_BATDRV

PR313 10_0603_1%

PR314 6.8_0603_1%

PC319 0.1U_0603_16V7K

+3VLP

PR315 100K_0402_1%

ACIN

PR324 316K_0402_1%

+3VALW

@PR316 316K_0402_1%

BQ24725A_ILIM

H/L Side AON7506 SB000010A00
Rds(on):13~15.8mohm
Vgs=20V
Vds=30V
ID= 10.5A (Ta=70C)

PR317 100K_0402_1%

PC320 0.01U_0402_25V7K

PR318 422K_0402_1%

+19V_VIN

PC321 2200P_0402_50V7K

PR319 66.5K_0402_1%

PC322 100P_0402_50V8J

EC_SMB_CK1 32

EC_SMB_DA1 32

PR320 0_0402_5%

ADP_I 32

PC323 100P_0402_50V8J

Close EC chip

For 4S per cell 4.35V battery

BQ24725A_ACDET

4S_BATT@ PR321 2M_0402_1%

@PR322 0_0402_5%

4S_BATT@ PQ307 LTC015EUBFS8TL_UMT3F

4S_BATT@ PR323 100K_0402_1%

BATT_4S

4S_BATT@ PQ308 2N7002KW_SOT323-3

SUSP#

Vin Dectector

	Min.	Typ	Max.
L-->H	17.16V	17.63V	18.12V
H-->L	16.76V	17.22V	17.70V

VILIM = 20*ILIM*Rsr
ILIM = 3.3*100/(100+316)/20/0.01
= 3.966 A

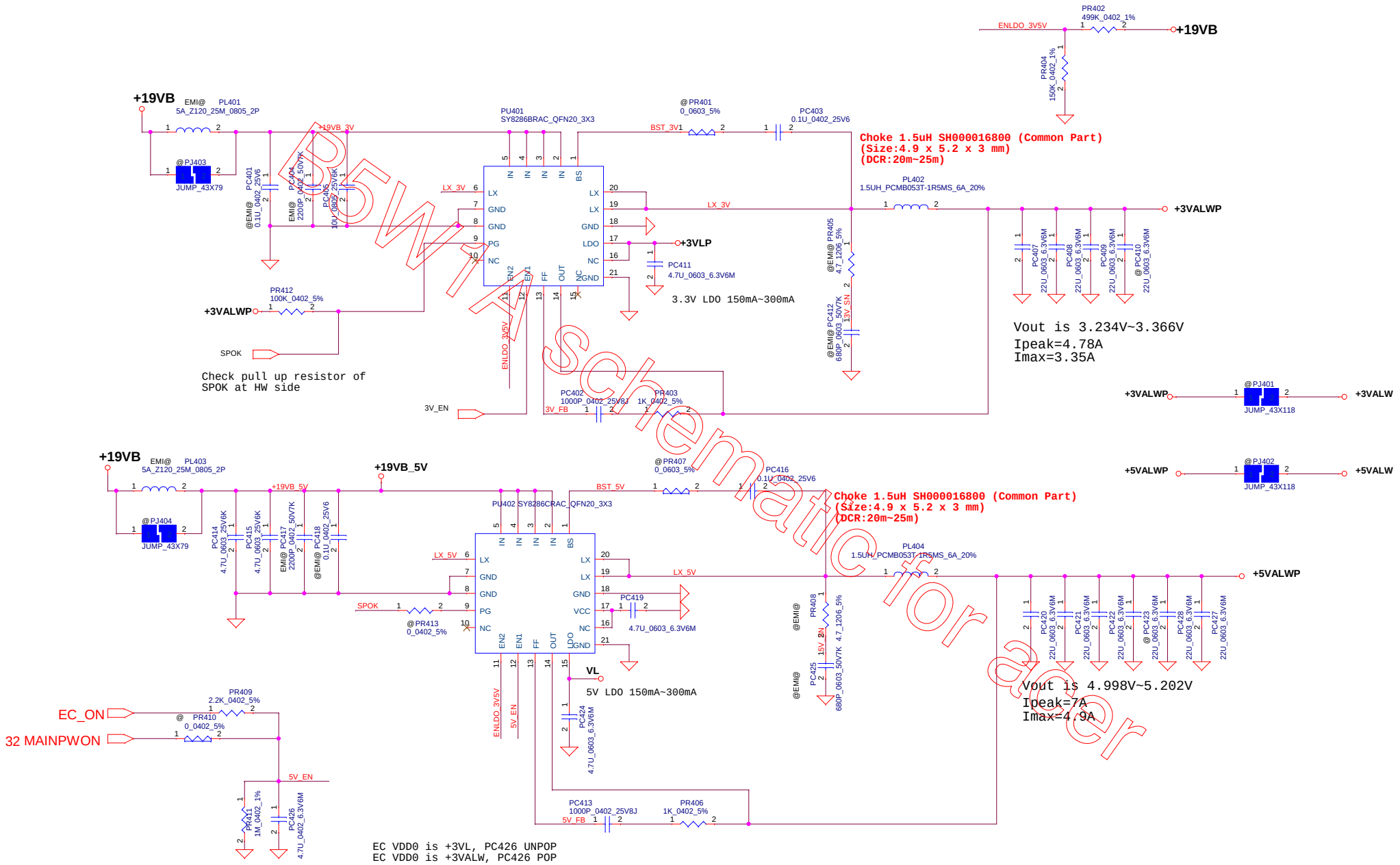
Security Classification	Compal Secret Data		
Issued Date	2013/10/01	Deciphered Date	2014/05/24

Compal Electronics, Inc.

Title: CHARGER

Size: | Document Number: Common Circuit | Rev: 1.A

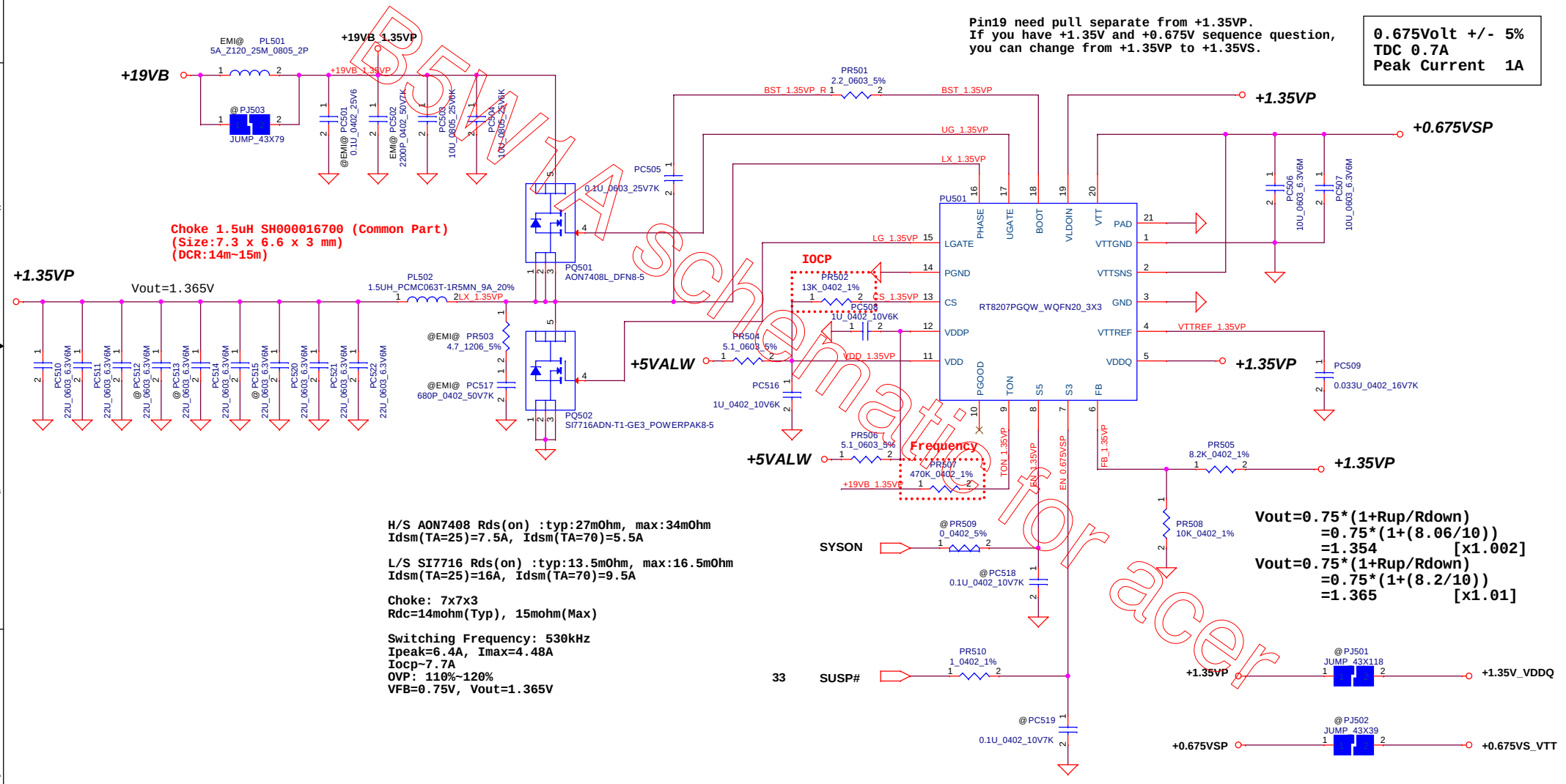
Date: Monday, July 25, 2016 | Sheet 34 of 45



Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

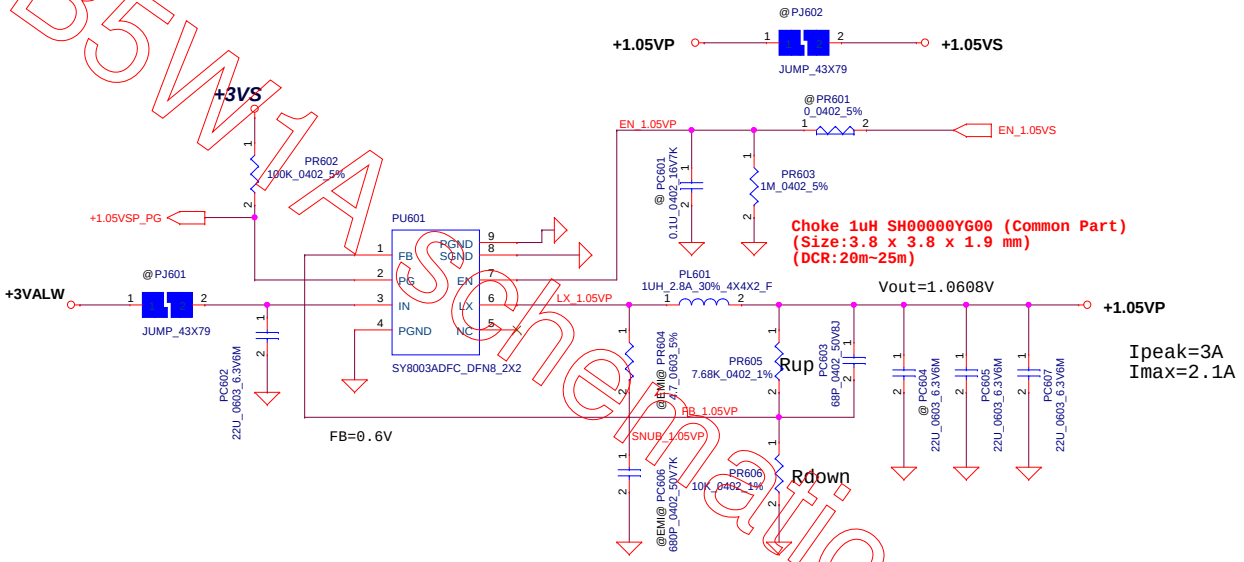
Compal Electronics, Inc.

Title	3VALW/5VALW	
Size: Custom	Document Number: B5W1A_LA-D641P	Rev: 1.A
Date: Monday, July 25, 2016	Sheet 35 of 45	



Security Classification	Compal Secret Data		
Issued Date	2014/07/31	Deciphered Date	2015/12/31

Compal Electronics, Inc.			
Title: RT8207K			
Size: Custom	Document Number: B5W1A_LA-D641P		Rev: 1.A
Date: Monday, July 25, 2016	Sheet 36 of 45		

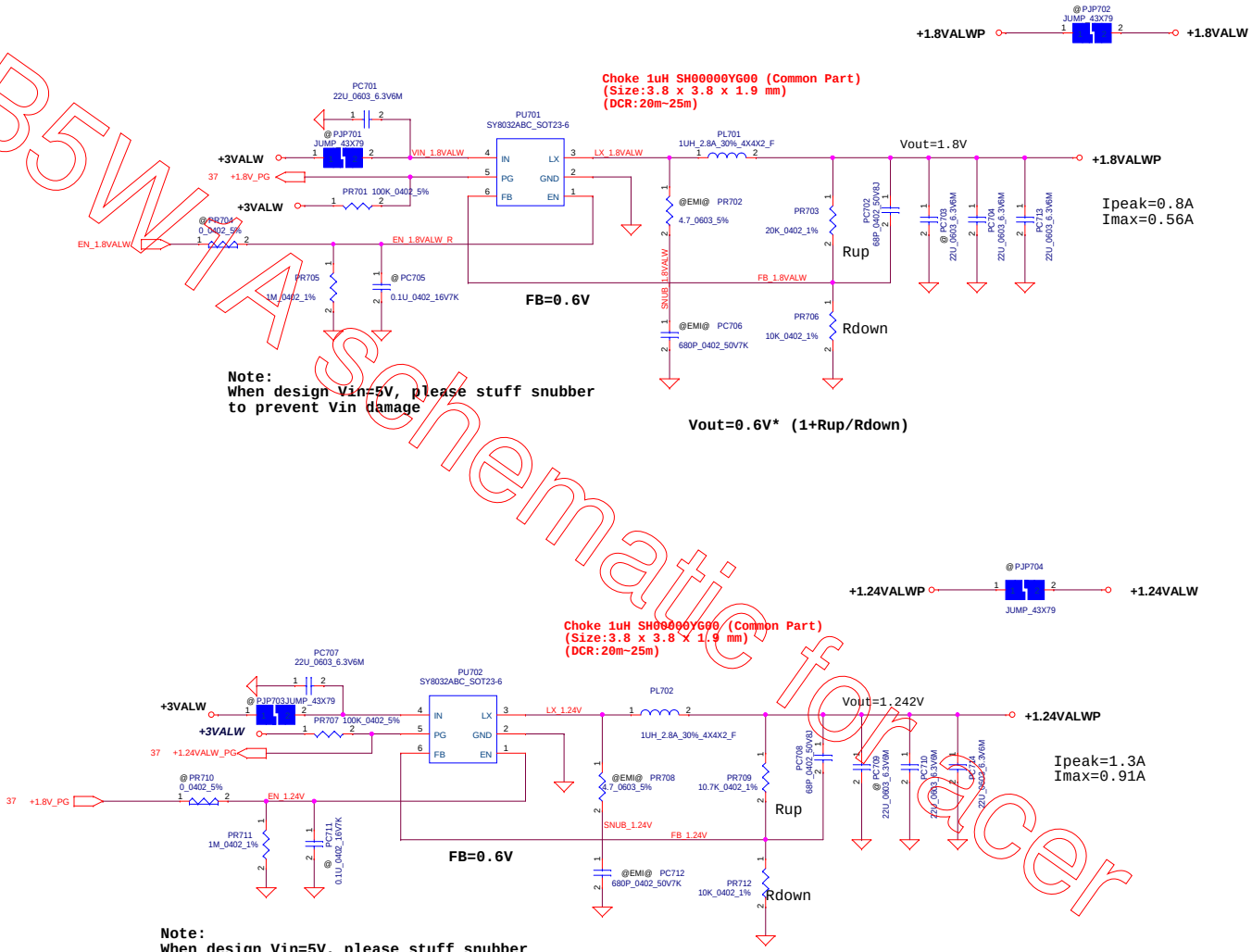


Security Classification	Compal Secret Data		
Issued Date	2011/06/13	Deciphered Date	2012/06/13

Title: **SY8003A**

Size	Document Number	Rev
Custom	B5W1A_LA-D641P	1.A

Date: Monday, July 25, 2016 | Sheet 37 of 45



Security Classification	Compal Secret Data		
Issued Date	2011/06/13	Deciphered Date	2012/06/13

Compal Electronics, Inc.

Title: SY8032

Size	Document Number	Rev
C	B5W1A_LA-D641P	1.A

Date: Monday, July 25, 2016 Sheet 38 of 45

0.68uH Choke Size and DCR	7x7x4 0.67m +-5%	7x7x3 0.9m +-5%	Note
PH802	10K(3370K)	1K(3650K)	ISEN
PR831	10K	1K	
PR830	243	549	
PR828	604	665	
PR833	40.2K	37.4K	COMP
PR813	68.1K	73.2K	IMON
PR841	0	1.11K	

PR802 and PR804 pull high resistor are pop at the end of VR SVID.
Other VR is unpop.

SVID_ALERT# pull high resistor is at HW side.

+1.05VS — confirm with power sequence, it need behind +5VS.

VR_HOT# 90 degreeC
ALERT# 87.3 degreeC

Close to PQ801

Vboot=0V

SET1 connect to 5V is into test mode.
The output is 1.05V.

Local sense, for debug only.
Close output cap that near choke.

Local sense, for debug only.
Close output cap that near choke.

PU801 RT3601EAGQW_WQFN28_4X4

EN: high > 0.7V, Low < 0.3V

Choke 0.15uH SH00001EE00 (Common Part)
(Size:6.8 x 7.3 x 3.8 mm)
(DCR:0.67m +-5%)

Close to PL802

VCC_VCGI (LL=6m)
ESW = 600kHz
DCR = 0.67 mohm +/- 5%

	TYP	MAX
H/S_AON6428 Rds(on) =	11.3 mohm ,	14.5 mohm
L/S_AON6794 Rds(on) =	2.8 mohm ,	3.5 mohm

2pcs close choke, others close CPU.

close CPU solder ball pin.

Height 8 mm
100u_SF000000I80

Height 6 mm
68u_SF000000W00

Height 4.5 mm
33u_SF000007200

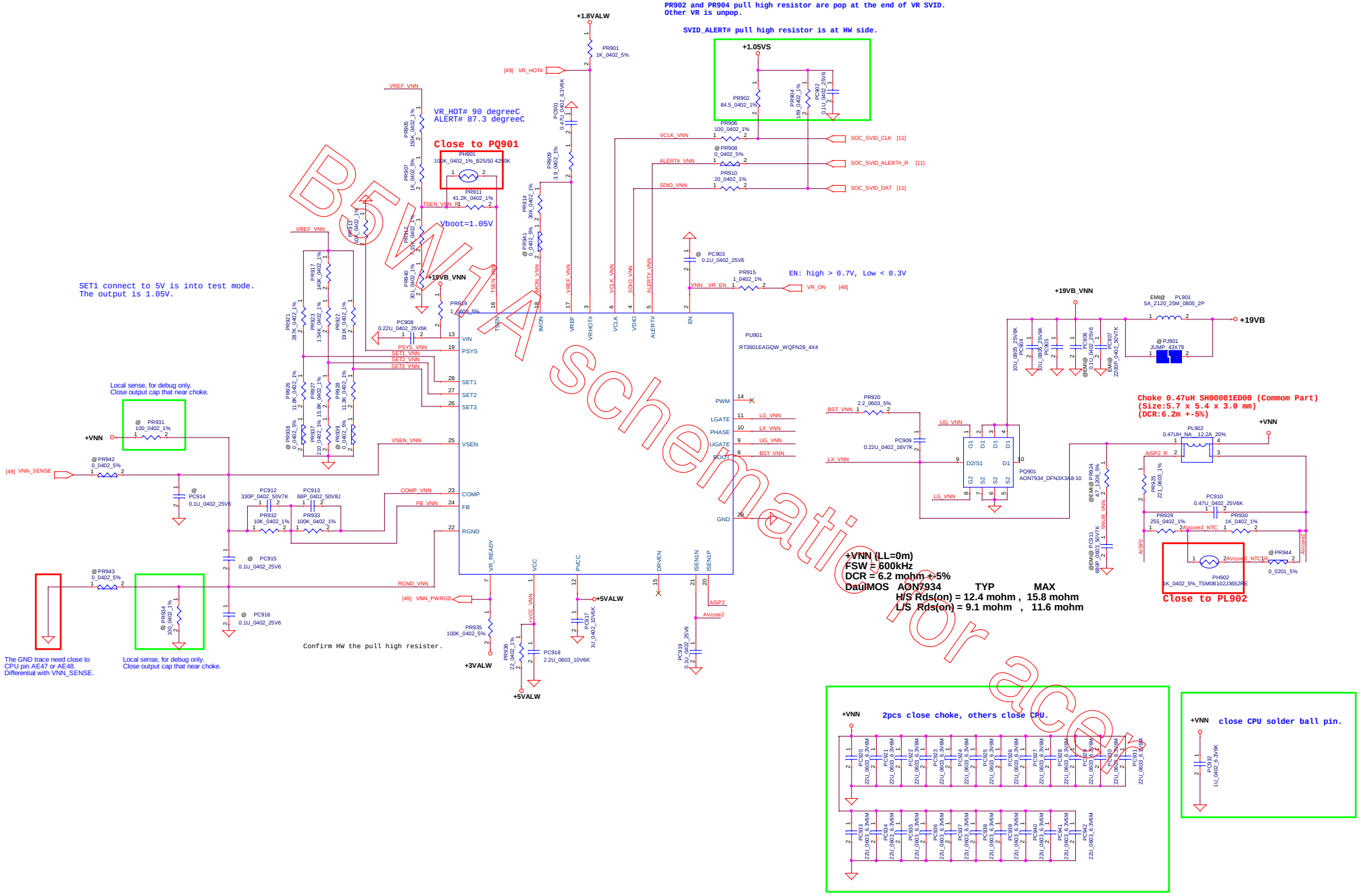
POS CAP (D2)
Height 1.9 mm
330u_SGA00009S00

Security Classification	Compal Secret Data		
Issued Date	2011/06/13	Deciphered Date	2012/06/13

Title: RT3601EA VCCGI

Size	Document Number	Rev
Custom	B5W1A_LA-D641P	1.A

Date: Monday, July 25, 2016 Sheet 39 of 45

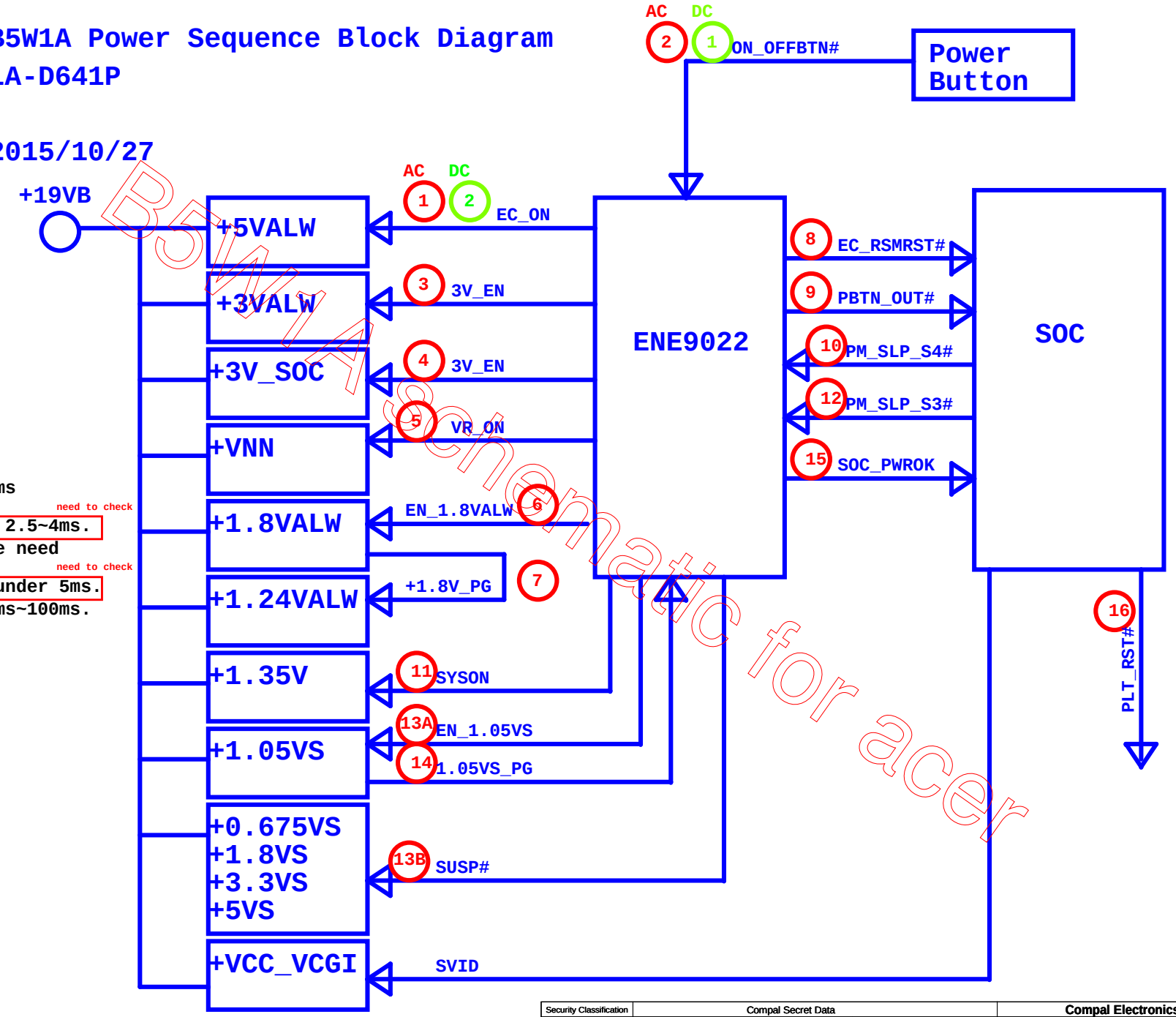


Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	Design update	Solution Change	01	34	Change the PQ305 from MDV1528 to AON7506. Change the PQ306 from MDV1527 to AON7506.	12/01	EVT
2	Design update	Power Sequence Modify	02	40	Change the PR935.2 from connect +1.8VALW to +3VALW.	12/11	DVT
3	Design update	Solution Change	02	34	Change the PL302 from 10uF to 4.7uF.	12/15	DVT
4	Design update	Solution Change	02	39	Change the PC803, PC804, PC805, PC806 from 4.7uF_0603 *4 to 10uF_0805 *3.	12/15	DVT
5	Design update	Power Sequence Modify	02	38	Change the PR704.2 net name from VNN_PWRGD to EN_1.8VALW. Add the PR707.2 page symbol +1.24VALW_PG.	12/28	DVT
6	Design update	CPU transient test result	02	39	Change the PC814 from 270pF to 470pF. Change the PR833 from 40.2k Ohm to 45.3k Ohm. Change the PR828 from 604 Ohm to 750 Ohm. Change the PR830 from 243 Ohm to 300 Ohm. Change the PR813 from 68.1k Ohm to 57.6k Ohm. Change the PC856 to un-pop.	12/31	DVT
7	Design update	Solution Change	02	39	Delete the jump PJ801.	12/31	DVT
8	Design update	Change the P/N to comment part	02	39	Change the PL802 P/N from SH00001D900 to SH00001EE00.	01/05	DVT
9	Design update	Solution Change	02	35	Change the PR401 from 0 Ohm to R-short. Change the PR407 from 0 Ohm to R-short.	01/28	DVT
10	Design update	Cancel Co-lay	03	34,39	Delete the jump PJ301 and capacitance PC857.	04/25	DVT-2
11	Design update	Solution Change	03	36,37 38,39	Change the PR509, PR601, PR704, PR710, PR815 from 1 Ohm to R-short.	04/25	DVT-2
12	Design update	Solution Change	03	39,40	Change the PR842, PR843, PR807, PR942, PR943, PR908 from 0 Ohm to R-short.	04/28	DVT-2
13	Design update	Solution Change	03	40	Change the PC930, PC931 from 0402 1uF to 0603 22uF.	04/28	DVT-2
14	Design update	Solution Change	03	40	Change the PC924, PC929, PC931, PC933, PC939 from un-pop to pop for PVT test.	04/28	DVT-2
15	Design update	CPU transient test result	03	40	Change the PC913 from 39pF to 68pF. Change the PR933 from 100k Ohm to 60.4k Ohm. Change the PR925 from 191 Ohm to 221 Ohm. Change the PR929 from 232 Ohm to 255 Ohm. Change the PR914 from 21.5k Ohm to 35.7k Ohm. Change the PL902 from 0.68uH to 0.47uH.	05/04	DVT-2
16	Design update	Solution Change	1.0	40	Change the PR942 from R-short to 0 Ohm .	05/17	Pre MP
17	Design update	ME red ink result	1.0	36	Add PC520、PC521、PC522 to on-pup, and change PC512、PC513、PC515 to un-pop.	06/20	Pre MP
18	Design update	CPU transient test result	1.0	40	Change the PR914 from 35.7k Ohm to 30k Ohm. Change the PR933 from 60.4k Ohm to 100k Ohm.	07/07	Pre MP
19	Design update	Solution Change	1.0	39,40	Change the PR841, PR938, PR939, PR941, PR942 from 0 Ohm to R-short.	07/07	Pre MP

COMPAL CONFIDENTIAL

MODEL NAME: B5W1A Power Sequence Block Diagram
PCB NAME: LA-D641P
REVISION:
DATE: 2015/10/27



Note:
1.7 to 8 need over 10ms (compal setting 30ms) need to check
2.10 to 11 need under 2.5~4ms.
3.+0.675VS rising time need under 100us. need to check
4.12 to +1.05VS need under 5ms.
5.14 to 15 need set 5ms~100ms. (compal setting 20ms)

Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2014/08/21	Deciphered Date 2015/08/21	Title: Power Sequence
Size: C	Document Number: B5W1A_LA-D641PR1A		Rev: 1.A
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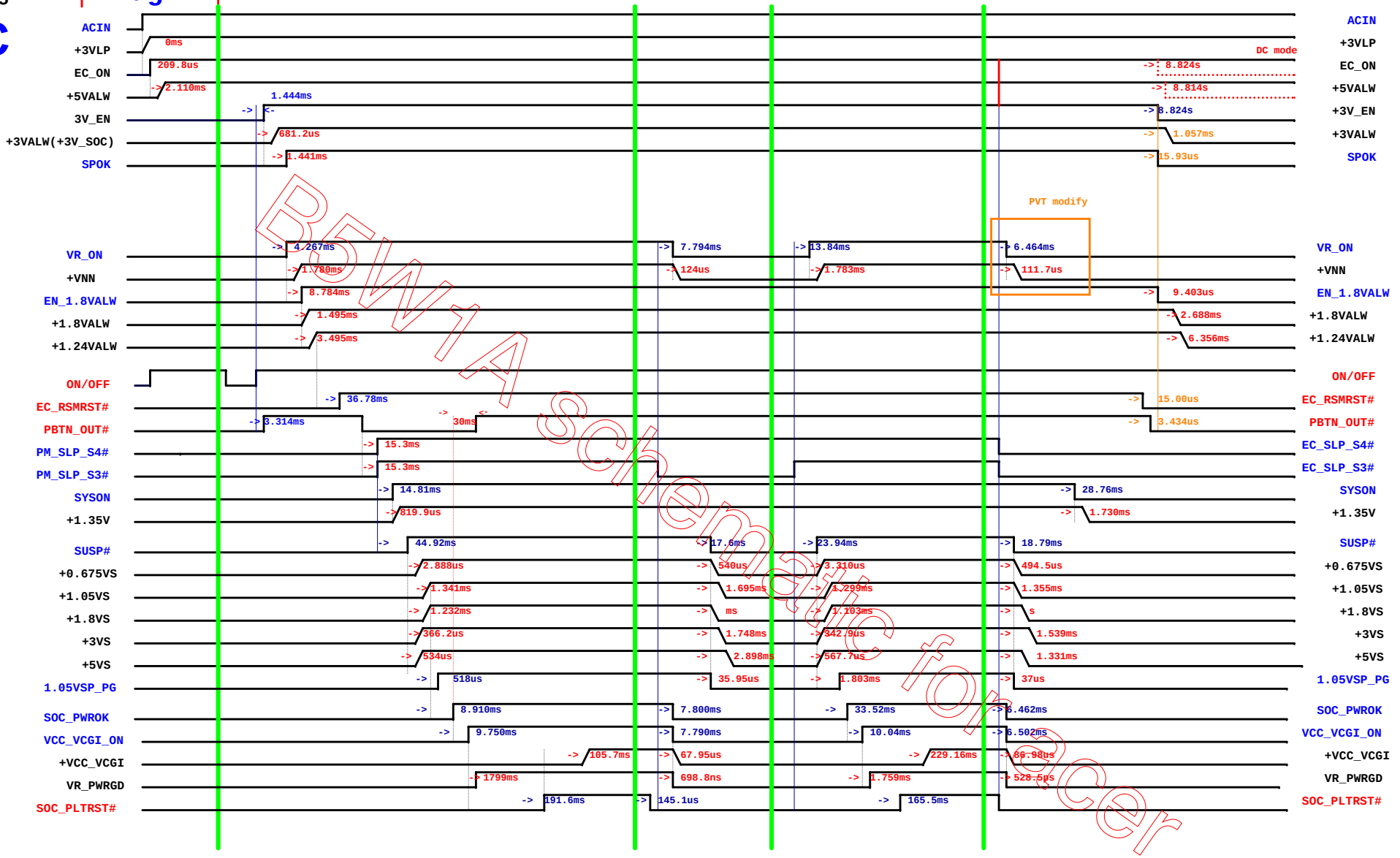
B5W1A Power UP Sequence
2016-04-12
EC V0.15

SOC



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Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	Design update	Remove SOC side ODD_EN	0.2	P.09	only need reserve EC side ODD_EN	12/28	DVT
2	Design update	UC56 need PU to +3VS	0.2	P.09	Remove RC492 and add RC1162	12/28	DVT
3	Design update	GPIO43 need to PD	0.2	P.11	RC408 un-stuff, pop RC433	12/28	DVT
4	Design update	Diode may cause leakage	0.2	P.19	D1 un-stuff, pop U2	12/28	DVT
5	Design update	reserve VNN_PWRGD(Pin117) & +1.24VALW_PG(Pin118)	0.2	P.27	reserve only	12/28	DVT
6	Design update	for power sequence control +1.8VALW	0.2	P.27	add EC pin EN_1.8VALW	12/28	DVT
7	Design update	for EC Board ID	0.2	P.27	change RB506 to 15K	12/28	DVT
8	Design update	Change speaker bead PN by sourcer request.	0.2	P.29	Change LA2,LA3,LA4,LA5 PN from SM01000CC00 to SM01000OW00.	12/28	DVT
9	Design update	for 1.8VS discharge	0.2	P.31	add R29,QQ2	12/28	DVT
10	Design update	for 1.8VS soft start	0.2	P.31	pop CQ12	12/28	DVT
11	Design update	Reserve PD and follow EVT SMT BOM	0.2	P.09	Reserve RC492 and pop RC99	12/29	DVT
12	Design update	For cost reivew	0.2	P.21	Remove RY11,RY12,QY2	12/29	DVT
13	Design update	DFX highlight EM5209VF_DFN14_3X2 footprint symbol dosen't release	0.2	P.31	change UQ1 footprint to TPS22966DPUR_SON14_2X3	12/29	DVT
14	Design update	For enlarge H13~15 Screw GND pad to avoid thermal module scrape to PCB	0.2	P.30	change Screw hole from 4.2mm to 3.6mm	01/05	DVT
15	Design update	follow memory down white paper	0.2	P.17	change RD154,RD155 to 1K	01/08	DVT
16	Design update	follow vendor's suggestion	0.2	P.07	change CC7,CC137 to 15pF	01/08	DVT
17	Design update	follow vendor's suggestion	0.2	P.12	change CC15,CC16 to 15pF	01/08	DVT
18	Design update	For part count	0.2	P.20	RX10,RX11 change to R short	01/22	DVT
19	Design update	For cost down experiment	0.2	P.09	change RC524,RC525,RC528,RC529 location for QC2511 & QC2508 cost down	01/22	DVT
20	Design update	For HDMI part count	0.2	P.21	change RY1~5,RY7,RY8,RY10 to 1ohm	01/22	DVT
21	Design update	Follow intel checklist	0.2	P.09	Remove RPC27,add RC342~344 for PM_RST_BTN# need to PU 2.7K	01/22	DVT
22	Design update	For 0 ohm part count	0.2	P.09, P.28	RG8,RC213,RC211 change to R short	01/22	DVT
23	Design update	For common component	0.2	P.07,21 30,31	SB00000DH00 change to SB00000PV00	01/22	DVT
24	Design update	For common component	0.2	P.18	change SE00000G880 to SE076104K80(CD48,50,51,54,58)	01/22	DVT
25	Design update	For intel suggestion	0.2	P09,27	H_THERMTRIP# connect to EC pin 126	01/22	DVT
26	Design update	For I2C cost down	0.2	P.09	unpop QC2508,pop RC528,RC529	01/28	DVT
27	Design update	For DVT phase part count reduce	0.2	P.26	USB3 CMC change to R short (Del LS21~LS22,add RS24~27)	01/28	DVT
28	Design update	For common part	0.2	P.30	change CF1 SE00000MA00 to SE107475K80 (10V change to 6.3V)	01/29	DVT
29	Design update	for H_THERMTRIP# reserve	0.2	P.27	reserve RB490	01/29	DVT
30	Design update	For correct to ABO material	0.2	P.12	change 105_0402_1% from SD00000FY8L to SD00000FY00	01/29	DVT
31	Design update	For DVT phase	0.2	P.05	change CPU PN for ES2 QKKW(SA00009S800),QKKX@(SA00009S900), QKKY@(SA00009SA00)	02/02	DVT
32	Design update	For Intel 2016 WW04 Sightings Report update(560733)	0.2	P.10	Change RC79 from 1K_0402_1% to 680_0402_1%	02/02	DVT

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Compal Electronics, Inc.

Title: PWR_PIR

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Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
33	Design update	For different Fan table	0.2	P.27	Add 17" EC board ID	02/02	DVT
34	Design update	for 1.8VS discharge	0.3	P.31	QQ2 change to Q4B,and stuff Q4 & R25, un stuff QQ2	04/12	DVT2
35	Design update	verify +3V_SOC for cost down	0.3	P.31	Un stuff RQ3 as DVT memo	04/12	DVT2
36	Design update	For intel request	0.3	P.27	change H_THERMTRIP# to EC pin 101	04/12	DVT2
37	Design update	follow CRB	0.3	P.9	SOC_PLTRST# reserve PU +3VS change to +3V_SOC	04/12	DVT2
38	Design update	for BOM structure option	0.3	P.16	change memory down BOM structure to MD@	04/12	DVT2
39	Design update	for part count reduce.	0.3	P.21	HDMI RY1~RY5,RY7~RY8,RY10 change to R short	04/25	DVT2
						04/25	DVT2
40	Design update	Intel HDA issue, Fix on QS sample.	0.3	P.10	RC4983&RC779 un-stuff	04/25	DVT2
41	Design update	Follow APL PDG v1.2 suggestion	0.3	P.7	Del RPC28, add RC522,RC524,RC525,RC516	04/25	DVT2
42	Design update	Follow APL Checklist v1.2 suggestion	0.3	P.24	un stuff RC383,and BIOS internal PU	04/25	DVT2
43	Design update	Follow APL Checklist v1.2 suggestion	0.3	P.21	un stuff RY14,and BIOS internal PU	04/25	DVT2
44	Design update	For 0 ohm part count reduce	0.3	P9 10 22 23	RL1,RC99,RC528,RC529,RC1052,RG2	04/25	DVT2
45	Design update	For part count reduce	0.3	P.31	RQ1,RQ2 change from 1ohm to RShort	04/25	DVT2
46	Design update	for option SM Bus	0.3	P.18	reserve RD168 to PU +3VALW	04/26	DVT2
47	Design update	for part count reduce	0.3	P.18	RD165 change to 0ohm	04/26	DVT2
48	Design update	intel checklist v1.2 update	0.3	P.9	RC344 change from 2.7K to 10K	04/26	DVT2
49	Design update	Update DVT2 Board ID	0.3	P.27	RB506 change to 20K(15") and 200K(17")	04/26	DVT2
50	Design update	Connect PMC_SUSPWRDNACK from SOC to EC	0.3	P.27	Stuff RB489	05/12	PVT
51	Design update	Update circuit	0.3	P.5	Update QS CPU in circuit	05/24	PVT
52	Design update	add +1.8VS discharge circuit	0.3	P.31	stuff R29 & QQ2	05/24	PVT
53	Design update	Update Pre MP Board ID	1.0	P.27	change EC board ID 15" to 27K,17" to 240K	06/27	PreMP
54	Design update	PDG 1.5 update	1.0	P.21	RY17&RY18 un stuff	06/27	PreMP
55	Design update	RC517,RC519,RC480,RC481,RC476,RC145, RC146,RD165,RL13,RB482 chagne to RS	1.0	P.7,13,14 18,22,24	for 0 ohm part count reduce	06/27	PreMP
56	Design update	For ME EN	1.0	P.10	RC1052 change to 0ohm	06/27	PreMP
57	Design update	For part count reduce	1.0	P.31	UQ2 un stuff	06/27	PreMP
58	Design update	For intel PDG update	1.0	P.12	swap JCMOS1 & JCMOS2,SOC_SRTCRST# & SOC_RTCTEST#	07/04	PreMP
59	Design update	For part count reduce	1.0	P.13	RC476 & RC481 change to 0_0603	07/04	PreMP
60	Design update	For +1.35V power	1.0	P.14	add RC147 for +1.35V R short	07/05	PreMP
61	Design update	For 0 ohm part count reduce	1.0	P.29	change RA24,RA27 to R short	07/05	PreMP
62	Design update	For part count reduce	1.0	P.12	RC340 & RC402 change to @CMC@	07/05	PreMP
63	Design update	For MP BOM	1.A	P.05	Update B0 & B1 CPU	07/22	PreMP
64	Design update	For intel spec udpate	1.A	P.12	un stuff RC273,RC266,RC268	07/22	PreMP
65	Design update	For intel spec udpate	1.A	P.12	change RC245,RC93 to 57.6K stuff RC251	07/22	PreMP
66	Design update	For PCB update	1.A	P.27	Add 1A board ID	07/22	PreMP
67	Design update	For Acer request	1.A	P.11	Add Micron on board RAM	07/22	PreMP
68	Design update	For intel signting	1.A	P.9	Un stuff RC343	07/22	PreMP