

COMPAL CONFIDENTIAL

MODEL NAME : CDP81
PCB NO : LA-E153P
BOM P/N :
GPIO MAP: Dell GPIO map EC16 062416 Compal Only

Breckenridge 15 DSC (non-TBT)

Kabylake H


2016-07-01

REV : 0.2 (X01)

- @ : Nopop Component
- EMI@ : EMI Component
- @EMI@ : EMI Nopop Component
- ESD@ : ESD Component
- @ESD@ : ESD Nopop Component
- RF@ : RF Component
- @RF@ : RF Nopop Component
- XDP@ : XDP Component
- CONN@ : Connector Component

MB PCB	
Part Number	Description
DAA000CN000	PCB 1SE LA-E153P REV0 MB DSC 1

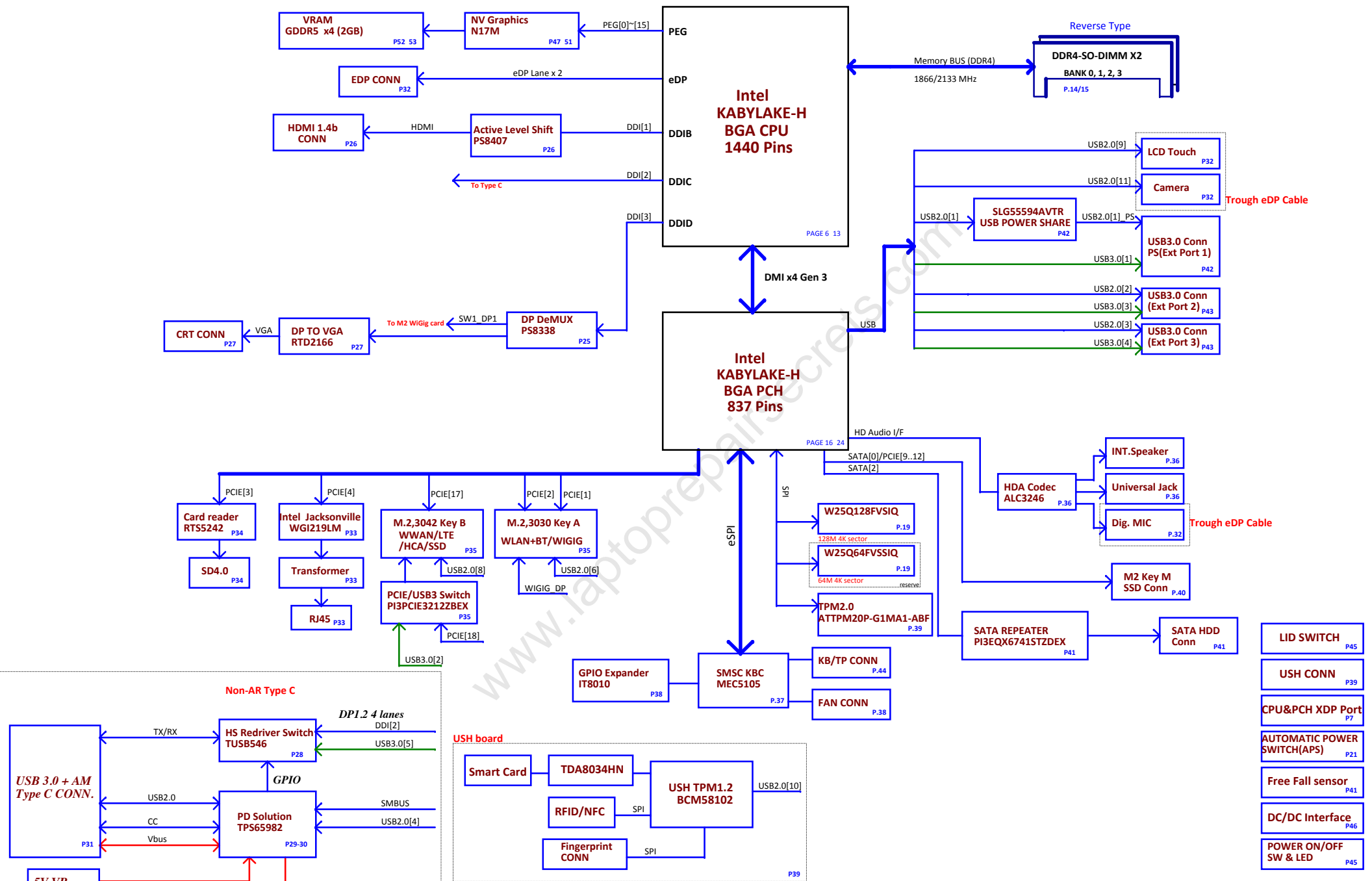
Layout Dell logo



COPYRIGHT 2016
ALL RIGHT RESERVED
REV: X01
PWB: NJWXY

Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		2016/01/01		Title	
Deciphered Date		2017/01/01		Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Size		Rev	
		A		0.2	
		Date		Sheet	
		Friday, July 01, 2016		1 of 74	

Breckenridge 15 DSC non-TBT Block Diagram



WWW.AliSaler.Com

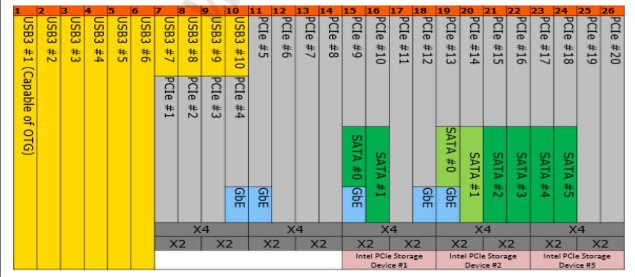
POWER STATES

Signal State	SLP S3#	SLP S4#	SLP S5#	SLP A#	ALWAYS PLANE	M PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON
S3 (Suspend to RAM) / M3	LOW	HIGH	HIGH	HIGH	ON	ON	ON	OFF	OFF
S4 (Suspend to DISK) / M3	LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF	OFF
S5 (SOFT OFF) / M3	LOW	LOW	LOW	HIGH	ON	ON	OFF	OFF	OFF
S3 (Suspend to RAM) / M-OFF	LOW	HIGH	HIGH	LOW	ON	OFF	ON	OFF	OFF
S4 (Suspend to DISK) / M-OFF	LOW	LOW	HIGH	LOW	ON	OFF	OFF	OFF	OFF
S5 (SOFT OFF) / M-OFF	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF	OFF

PM TABLE

power plane State	+5V_ALW +3.3V_ALW +3.3V_ALW_DSW +3.3V_ALW_PCH +RTC_CELL +1.8V_PRIM +1.0V_PRIM +1.0V_PRIM_CORE +5V_ALW2 +3.3V_ALW2 +3.3V_RTC_LDO +1.0V_MPHYGT	+3.3V_SUS +1.2V_MEM +1.0V_VCCST +2.5V_MEM	+5V_RUN +3.3V_RUN +0.6V_DDR_VTT +1.2V_RUN +VCC_CORE +VCC_GT +1.0VS_VCCIO +VCC_SA +1.8V_RUN
S0	ON	ON	ON
S3	ON	ON	OFF
S5 S4/AC	ON	OFF	OFF
S5 S4/AC doesn't exist	OFF	OFF	OFF

Layer No.	Name	Er	Material	Thickness (Material SPEC.) Unit : mil	Thickness (Actuality) Unit : mil
			SolderMask	IT-158	0.5
			Add Plating		
1	Top		Copper foil	0.5oz+plating	1.5
		3.8	Prepreg	1080	2.6
2	GND		Copper foil	1oz	1.25
		3.7	Core	4mil	3.87
3	IN 1		Copper foil	1oz	1.25
		3.7	Prepreg	2116H	4.3
4	GND/PWR		Copper foil	1oz	1.25
		3.7	Core	4mil	3.87
5	IN 2		Copper foil	1oz	1.25
		3.6	Prepreg	1080H x2 or PP2116HRC	4.2
6	IN 3		Copper foil	1oz	1.25
		3.7	Core	4mil	3.87
7	GND/PWR		Copper foil	1oz	1.25
		3.8	Prepreg	2116H	4.3
8	IN 4		Copper foil	1oz	1.25
		3.7	Core	4mil	3.87
9	GND		Copper foil	1oz	1.25
		3.8	Prepreg	1080	2.6
10	Bottom		Copper foil	0.5oz+plating	1.5
			Add Plating		
			SolderMask	IT-158	0.5
Overall Thickness (1.2mm ± 10%)					47.68000 1.211072



USB3.0	SSIC	PCIE	SATA	DESTINATION
USB3.0-1				JUSB3-->Rear
USB3.0-2	SSIC-1			JNGFF2-->M2 3042(LTE)
USB3.0-3	SSIC-2			JUSB1-->Right
USB3.0-4				JUSB2-->Left
USB3.0-5				NA
USB3.0-6				NA
USB3.0-7		PCIE-1		JNGFF1-->M.2 3030(WIGIG)
USB3.0-8		PCIE-2		JNGFF1-->M.2 3030(WLAN)
USB3.0-9		PCIE-3		Card Reader
USB3.0-10		PCIE-4		LOM
		PCIE-5		NA
		PCIE-6		
		PCIE-7		
		PCIE-8		
		PCIE-9	SATA-0A	M.2 Socket 3 (Key M) M.2 2280 SSD (PCIex4 or SATA)
		PCIE-10	SATA-1A	
		PCIE-11		
		PCIE-12		
		PCIE-13	SATA-0B	NA
		PCIE-14	SATA-1B	NA
		PCIE-15	SATA-2	JSATA1-->HDD SATA
		PCIE-16	SATA-3	NA
		PCIE-17	SATA-4	M.2 3042 (HCA or QCA LTE) SSD Cache
		PCIE-18	SATA-5	M.2 3042 (HCA or QCA LTE) SSD Cache
		PCIE-19		NA
		PCIE-20		NA

USB PORT#	DESTINATION
1	JUSB3-->Rear
2	JUSB1-->Right
3	JUSB2-->Left
4	Type C
5	NA
6	JNGFF1--> M.2 3030(BT)
7	NA
8	JNGFF2-->M2 3042(WWAN)
9	JEDP1-->Touch Screen
10	JUSH1-->USH
11	JEDP1-->Camera
12	NA

USH	H	BIO
-----	---	-----

VIDEO		DESTINATION
eDP		LCD
DDI-B		JHDMI1
DDI-C		Type-C
DDI-D	DeMux 1	M.2 3030 (WiGig)
		MB VGA

DELL CONFIDENTIAL/PROPRIETARY

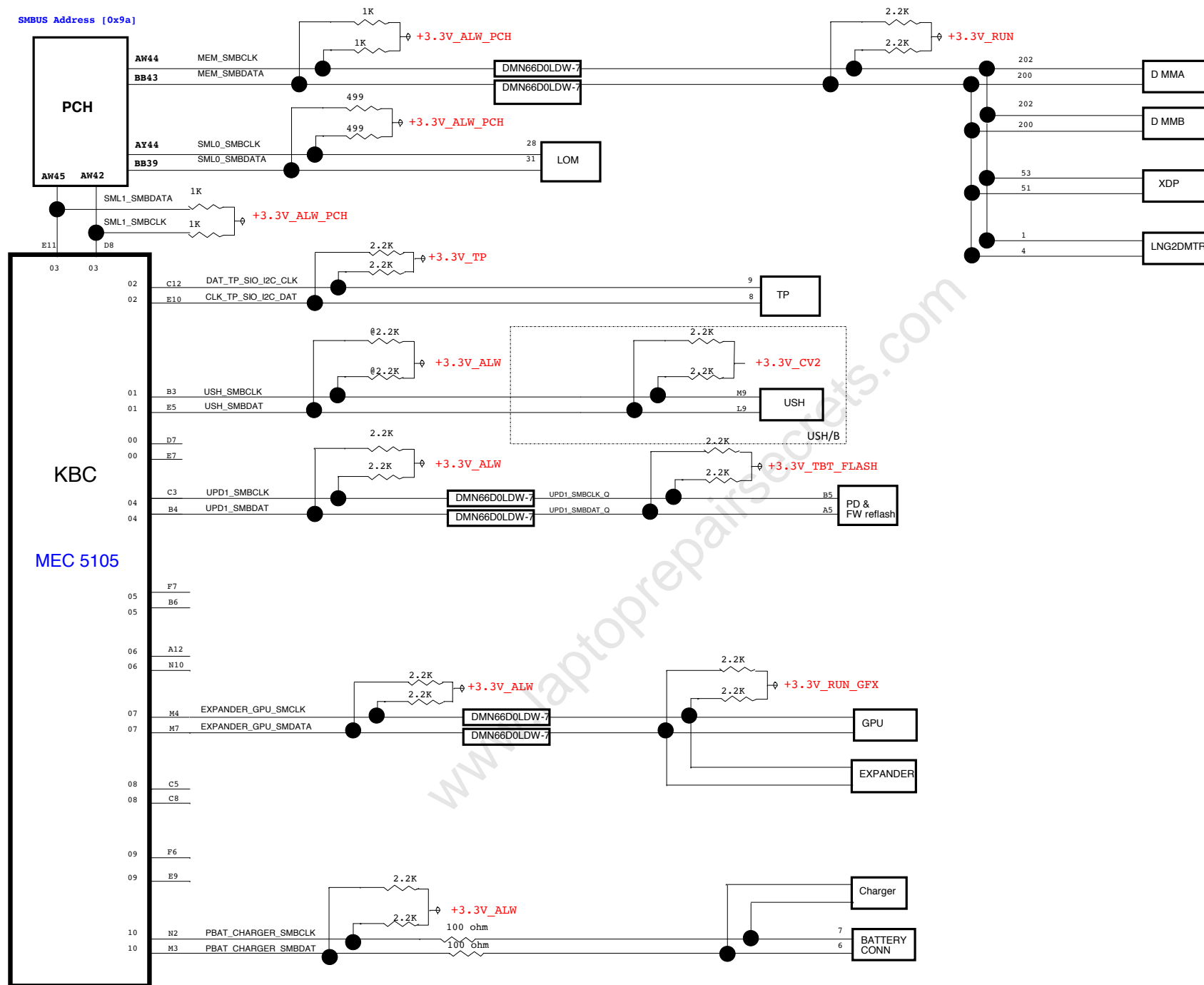
Compal Electronics, Inc.

Port Assignment

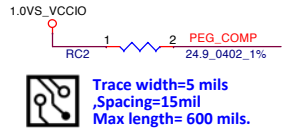
Title	Document Number	Rev
LA-E153P		0.2
Date	Tuesday, June 28, 2016	Sheet 3 of 74

Security Classification		Compal Secret Data	
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			

SMBUS Address [0x9a]



PEG_CRX_GTX_P[0..15] << PEG_CRX_GTX_P[0..15] <47>
PEG_CRX_GTX_N[0..15] << PEG_CRX_GTX_N[0..15] <47>
PEG_CTX_C_GRX_P[0..15] >> PEG_CTX_C_GRX_P[0..15] <47>
PEG_CTX_C_GRX_N[0..15] >> PEG_CTX_C_GRX_N[0..15] <47>



Security Classification				Compal Secret Data				DELL CONFIDENTIAL/PROPRIETARY	
Issued Date				2016/01/01		Deciphered Date		2017/01/01	
Title				2016/01/01		Deciphered Date		2017/01/01	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				2016/01/01		Deciphered Date		2017/01/01	
Title				2016/01/01		Deciphered Date		2017/01/01	
Size A				2016/01/01		Deciphered Date		2017/01/01	
Date				2016/01/01		Deciphered Date		2017/01/01	
Sheet				2016/01/01		Deciphered Date		2017/01/01	
6				2016/01/01		Deciphered Date		2017/01/01	
of				2016/01/01		Deciphered Date		2017/01/01	
74				2016/01/01		Deciphered Date		2017/01/01	
Rev				2016/01/01		Deciphered Date		2017/01/01	
0.2				2016/01/01		Deciphered Date		2017/01/01	

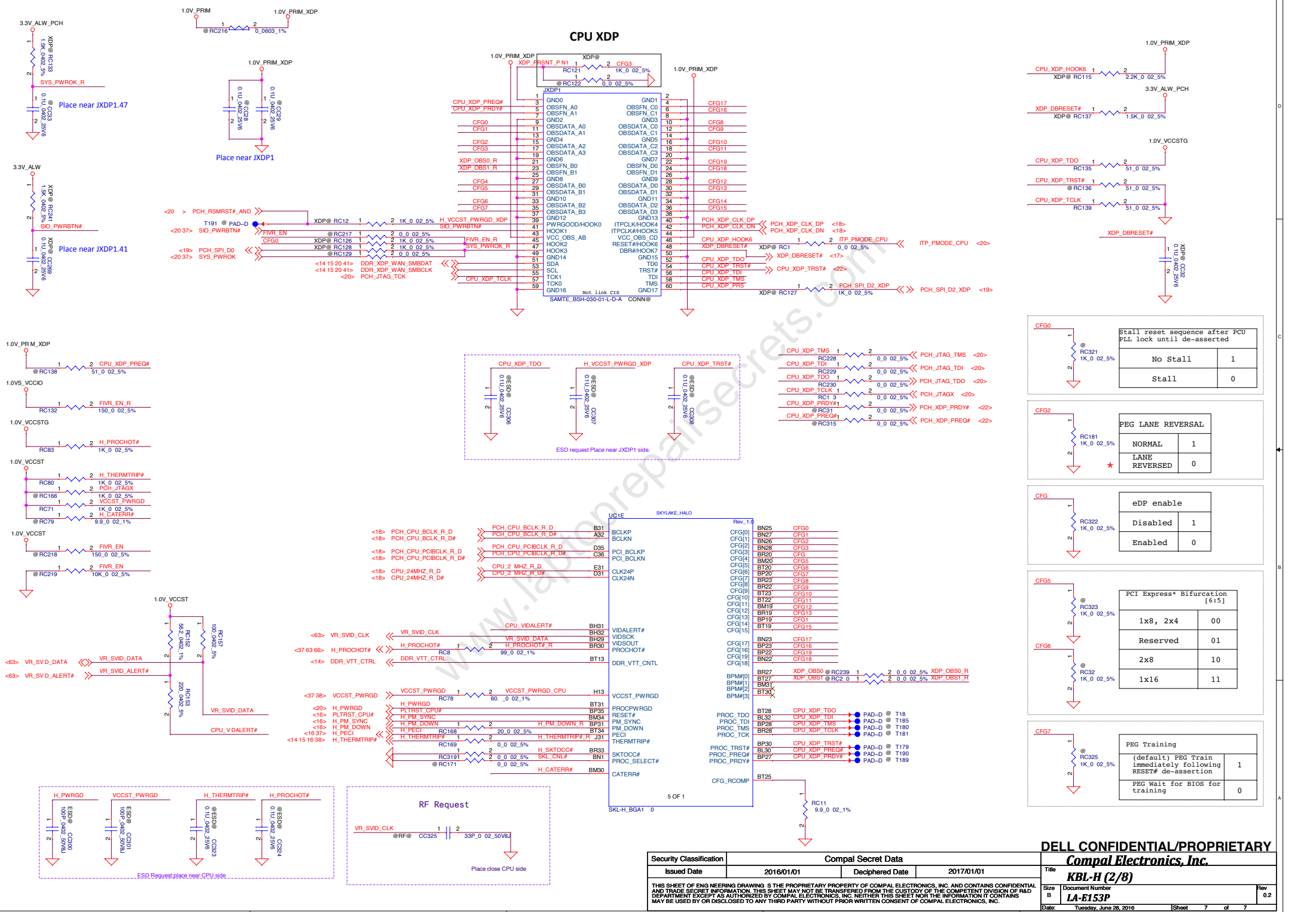
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

KBL-H (1/8)

Size A Document Number LA-E153P Rev 0.2

Date Tuesday, June 28, 2016 Sheet 6 of 74



CPU XDP

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

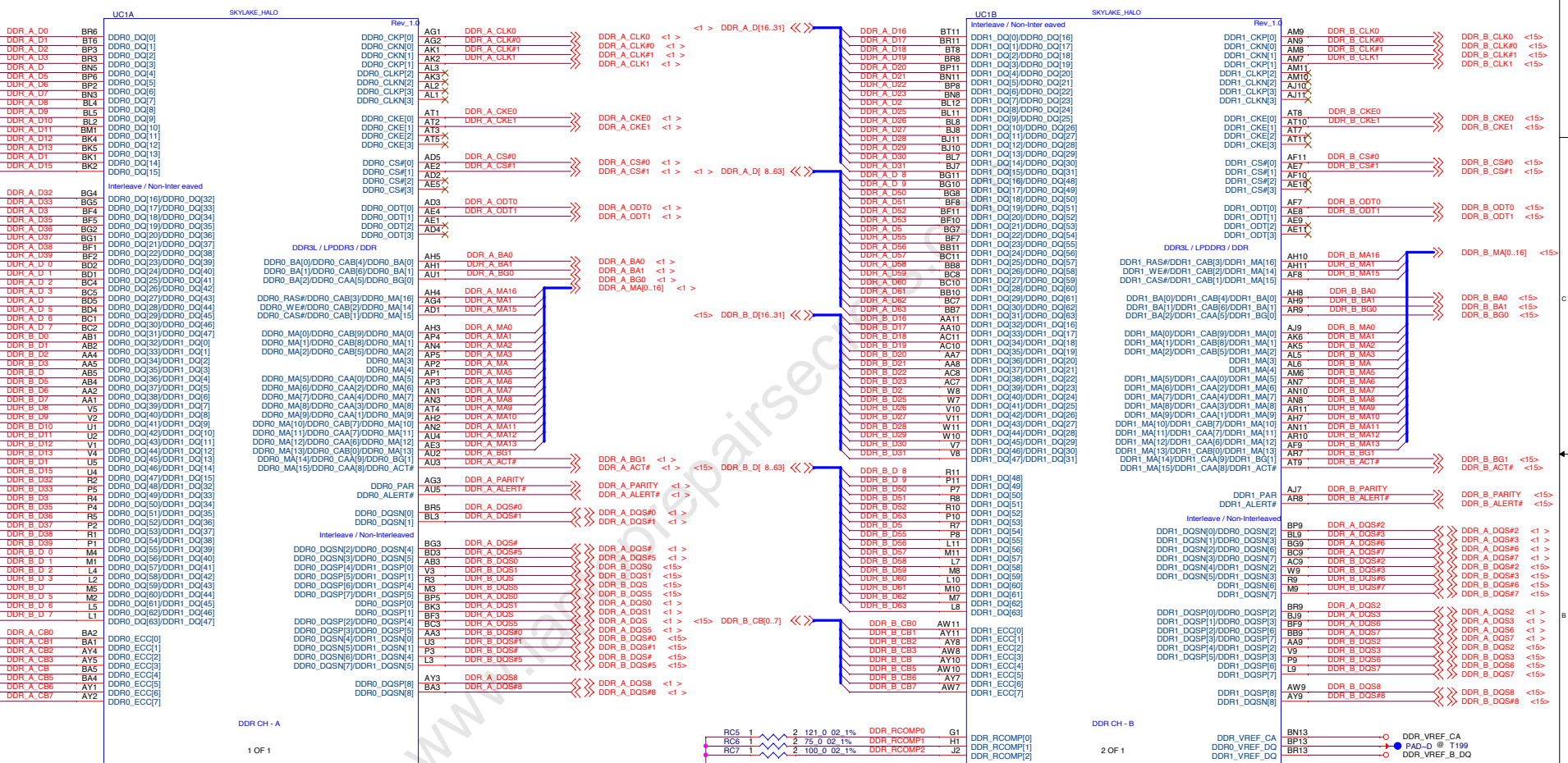
KBL-H (2/8)

Document Number
LA-E153P

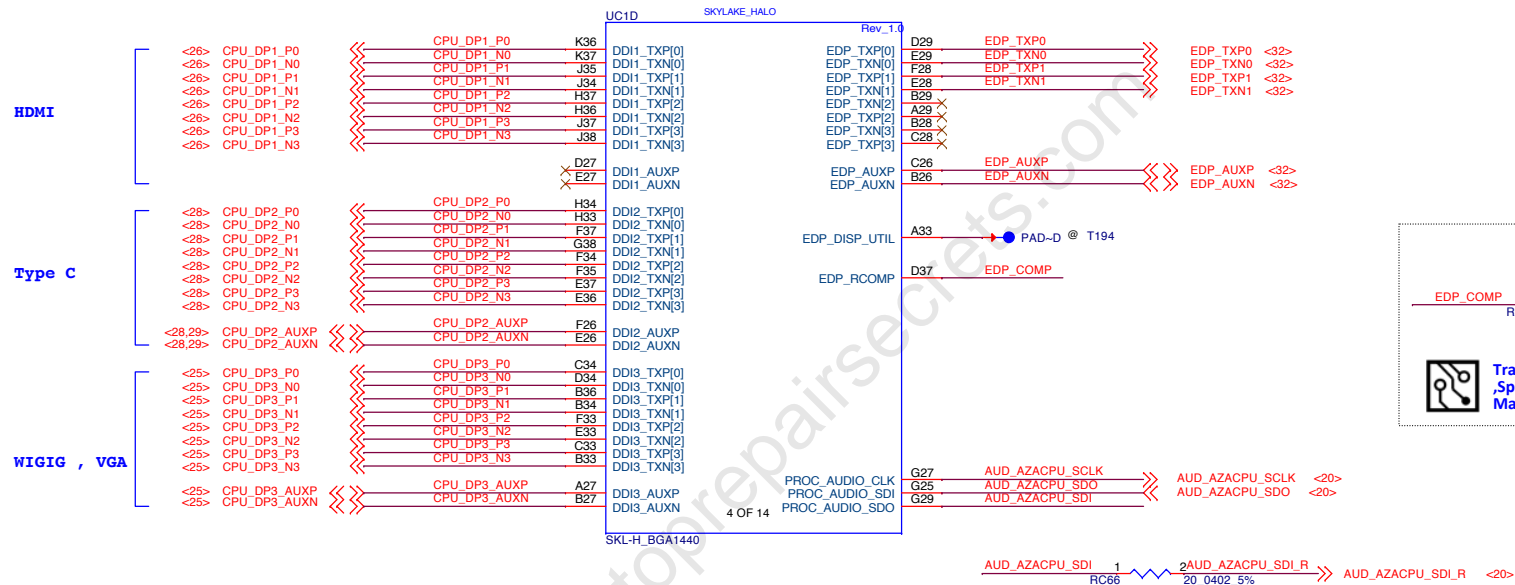
Date: Tuesday, June 28, 2016

Sheet 7 of 7

Security Classification		Compal Secret Data	
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			



Trace width 12-15 mils
Spacing 20mil
Max length 500 mils.

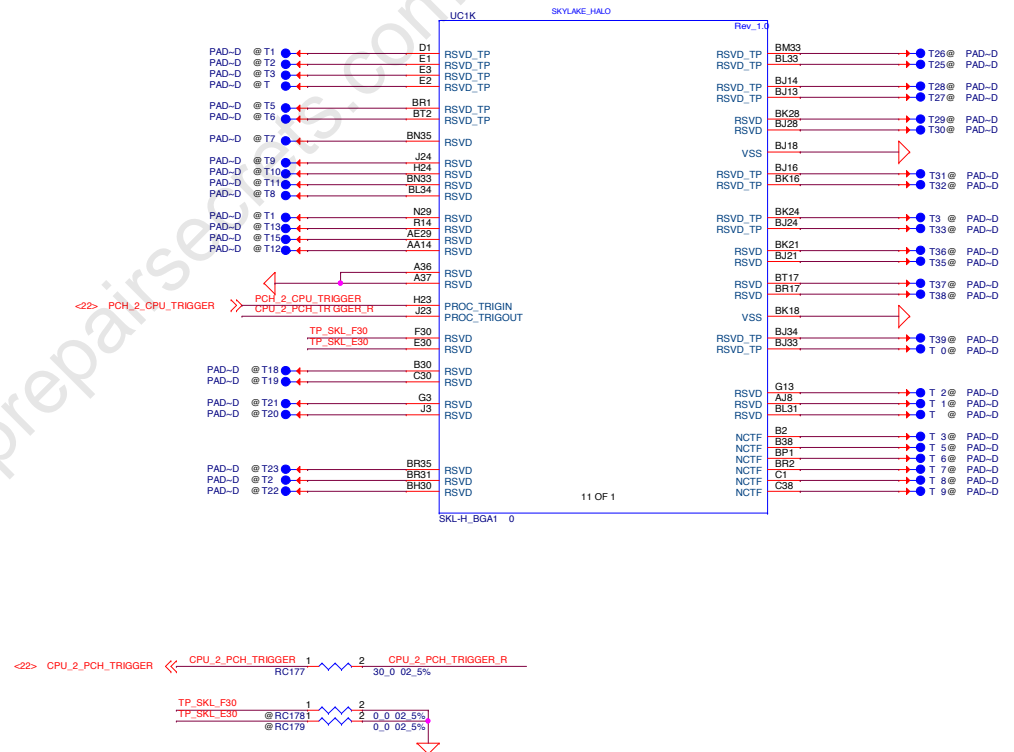
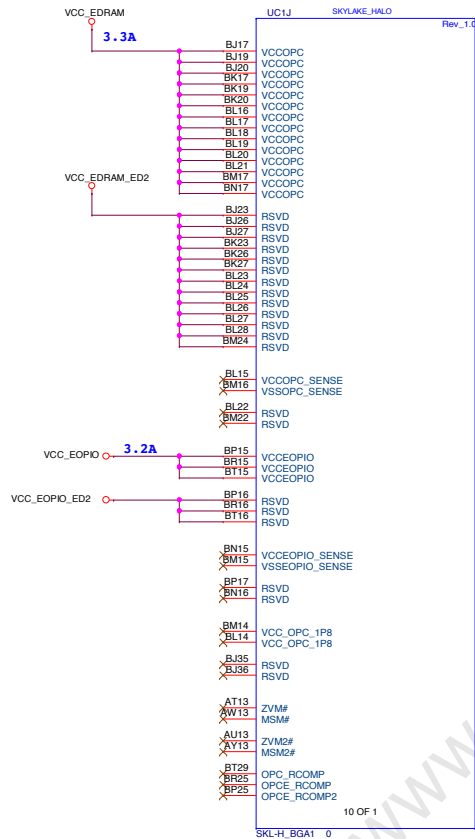


DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

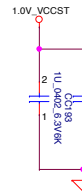
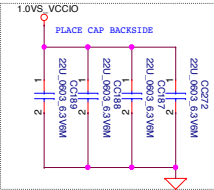
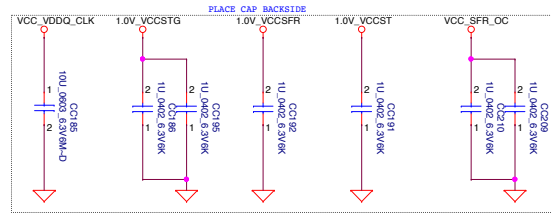
KBL-H (4/8)

Security Classification		Compal Secret Data		Title	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	KBL-H (4/8)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size A	Document Number LA-E153P
Date		Tuesday, June 26, 2016		Sheet	9 of 74
				Rev	0.2

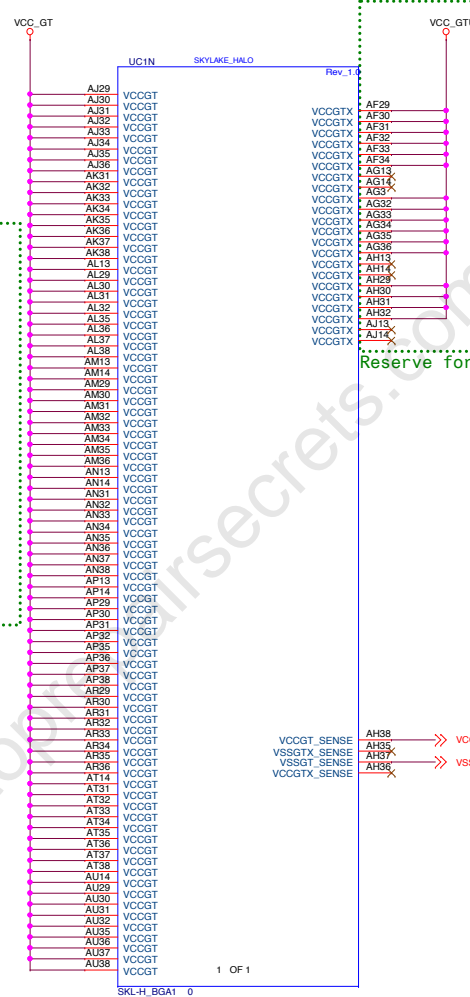
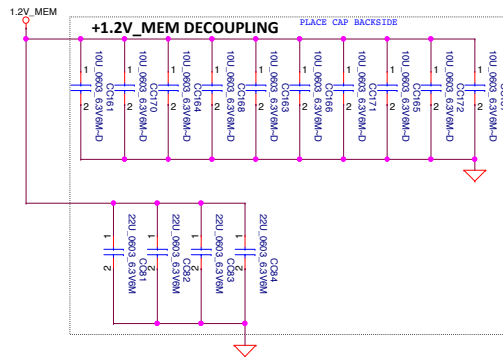


Security Classification				Compal Secret Data				DELL CONFIDENTIAL/PROPRIETARY			
Issued Date				Deciphered Date				Compal Electronics, Inc.			
2016/01/01				2017/01/01				KBL-H (5/8)			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number				LA-E153P			
Date: Tuesday, June 28, 2016				Sheet				10 of 7			
Rev				0.2							

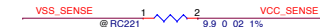
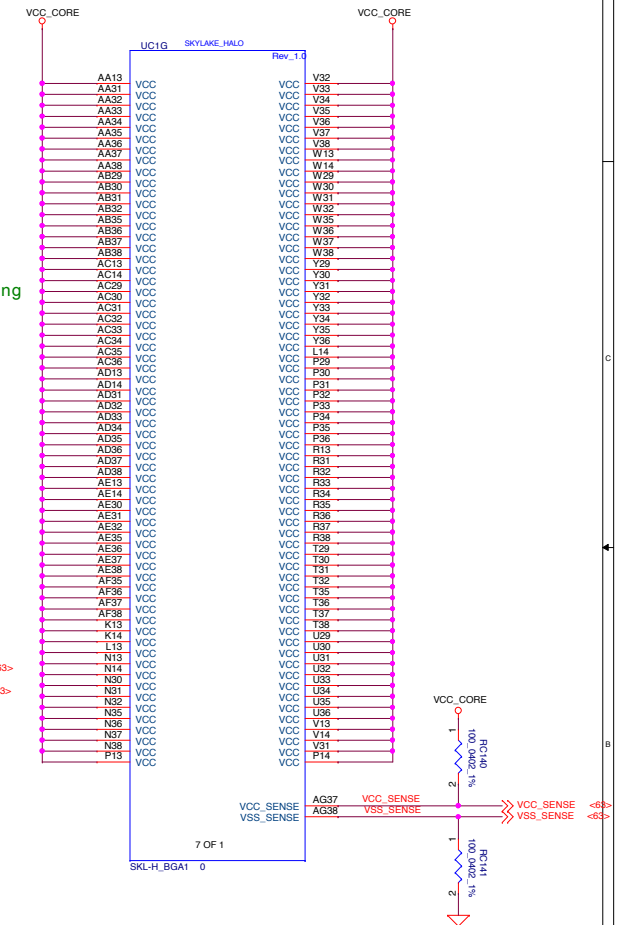
For SKL-H 4+2
Remove VCCOPC/VCCEPIO/
VCCOPC_1P8 Cap



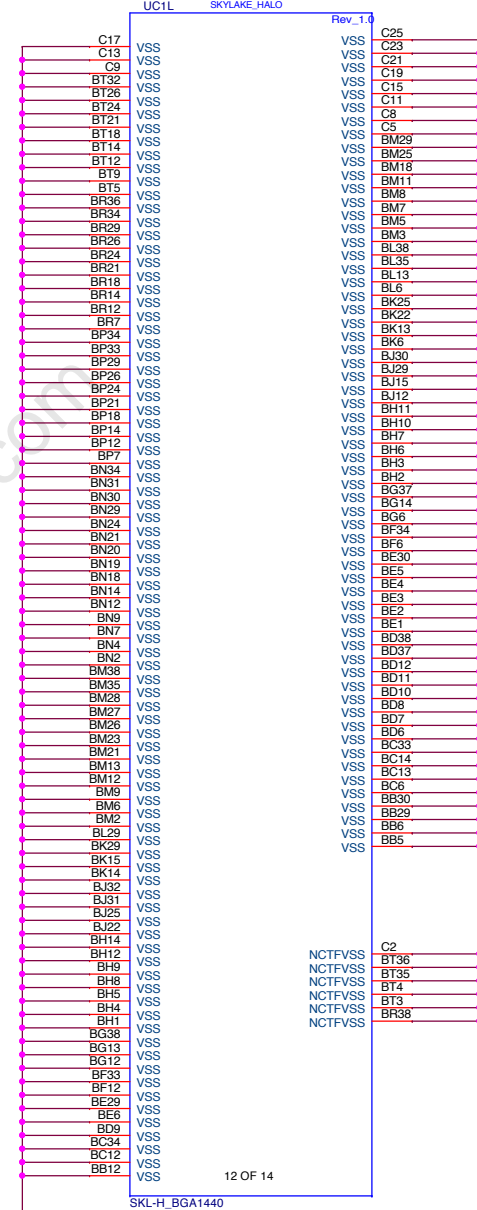
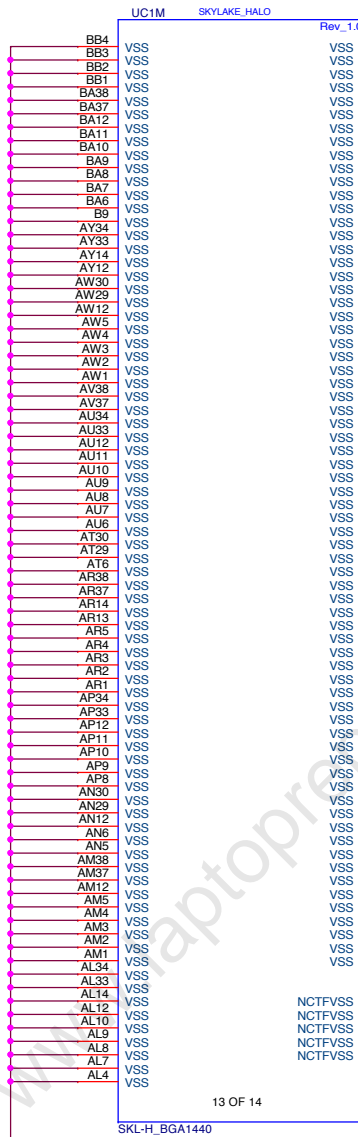
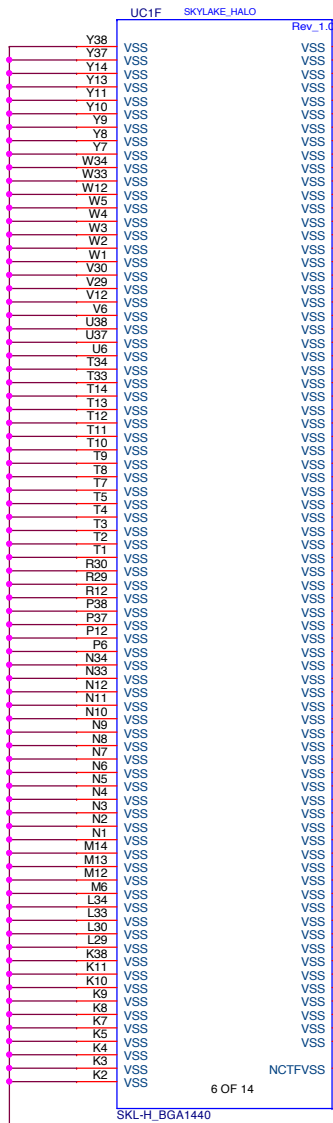
Remove to Power (+VCC_SA cap)



Reserve for Soldering

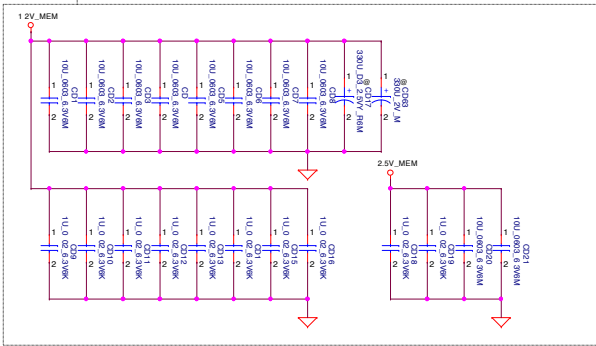


Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY			
Issued Date		2016/01/01		Deciphered Date		2017/01/01	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title			
				KBL-H (7/8)			
Size		Document Number		Rev			
B		LA-E153P		0.2			
Date:				Tuesday, June 28, 2016		Sheet 12 of 7	

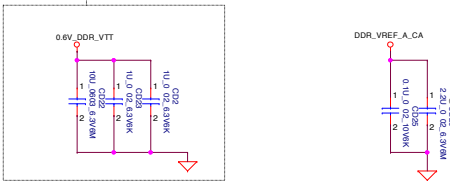


 DDR_A_CB0..7
 DDR_A_DQS0..8
 DDR_A_DQS0..8
 DDR_A_DQ15..31
 DDR_A_DQ32..47
 DDR_A_DQ48..63
 DDR_A_MA0..16

Layout Note:
Place near JDIMM1



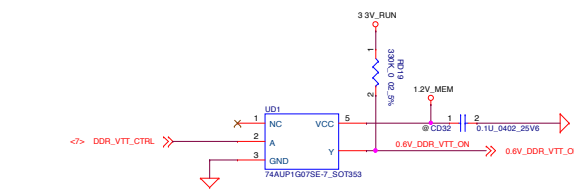
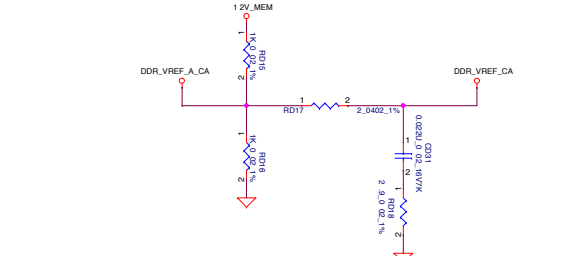
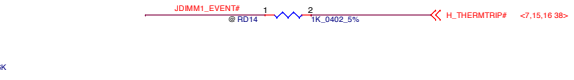
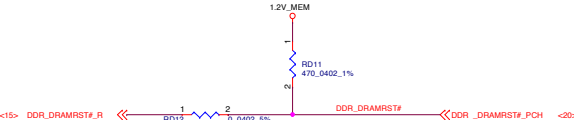
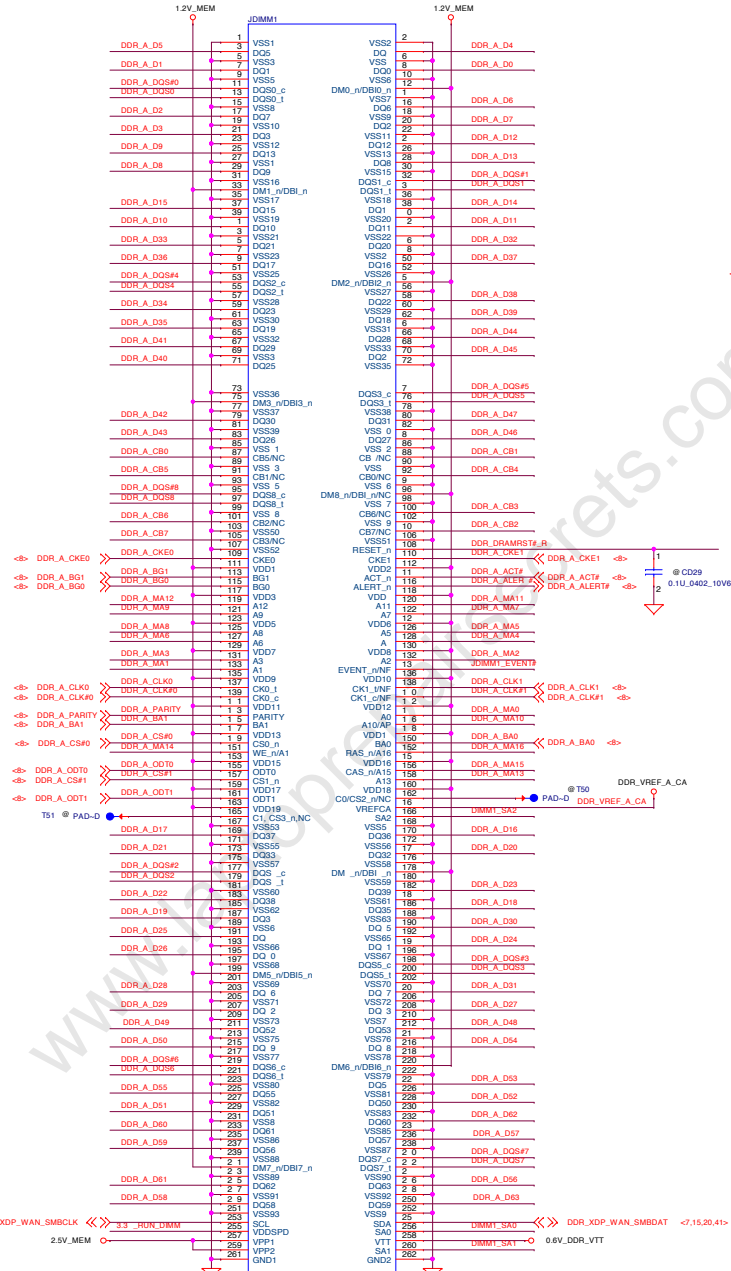
Layout Note:
Place near JDIMM1.258



DIMM Select

	SA0	SA1	SA2
* DIMM1	0	0	0
DIMM2	1	0	0
DIMM3	0	1	0
DIMM4	1	1	0

Byte[0]	DQ[7:0]	DQS/DQS#[0]
Byte[1]	DQ[15:8]	DQS/DQS#[1]
Byte[2]	DQ[23:16]	DQS/DQS#[2]
* Byte[3]	DQ[31:24]	DQS/DQS#[3]
Byte[4]	DQ[39:32]	DQS/DQS#[4]
* Byte[5]	DQ[47:40]	DQS/DQS#[5]
Byte[6]	DQ[55:48]	DQS/DQS#[6]
Byte[7]	DQ[63:56]	DQS/DQS#[7]

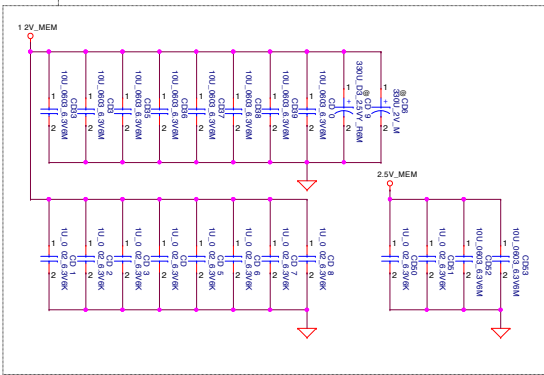


DELL CONFIDENTIAL/PROPRIETARY
 Compal Electronics, Inc.
 DDR4-SODIMM SLOT1

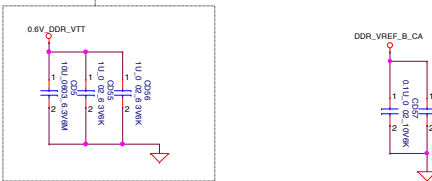
Security Classification	Compal Secret Data	
Issued Date	2016/01/01	Deciphered Date
2017/01/01		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS CO., LTD. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS CO., LTD.		
Size	Document Number	Rev
C	LA-E153P	0.2
Date:	Tuesday, June 28, 2016	Sheet 14 of 74

<> DDR_B_CB0[7]
 <> DDR_B_DQS#0[8]
 <> DDR_B_DQS#0[8]
 <> DDR_B_DQ[15]
 <> DDR_B_DQ[16:31]
 <> DDR_B_DQS#4[7]
 <> DDR_B_DQ[48]
 <> DDR_B_MA0[16]

Layout Note:
Place near J1MM2

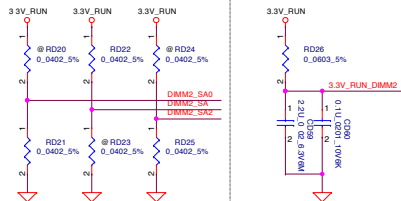


Layout Note:
Place near J1MM2.258

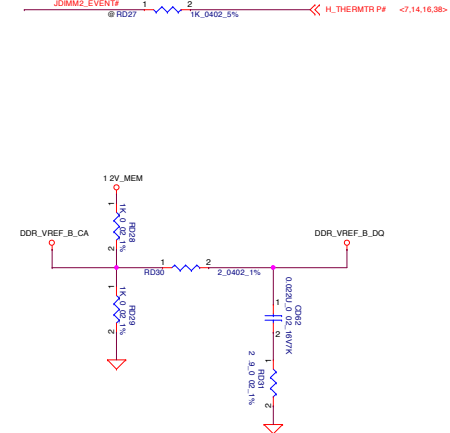
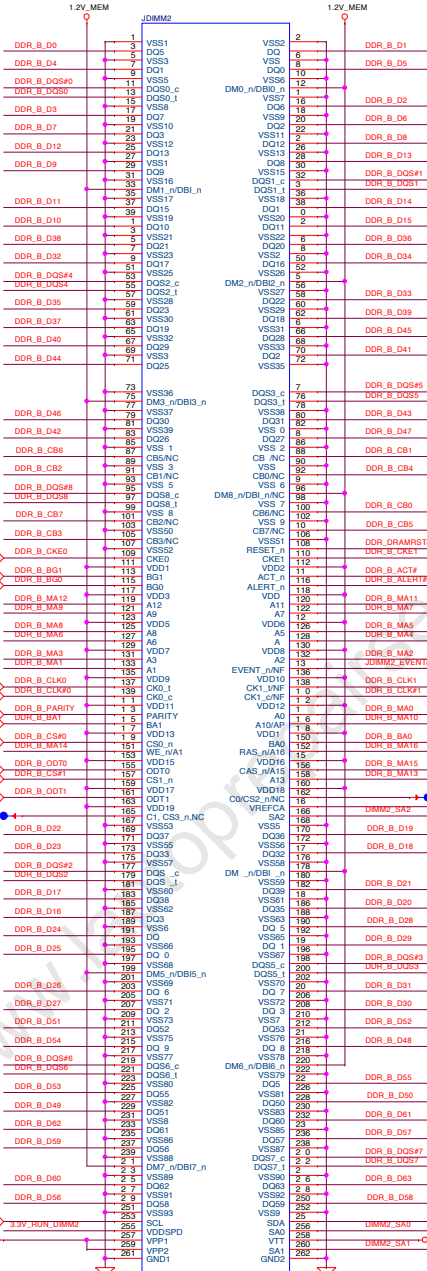


DIMM Select

	SA0	SA1	SA2
DIMM1	0	0	0
DIMM2	1	0	0
DIMM3	0	1	0
DIMM4	1	1	0



<7,14,20,41> DDR_XDP_WAN_SMBCLK <3> 3.3V_RUN_DIMM2
 2.5V_MEM <255> 2.5V_RUN_DIMM2



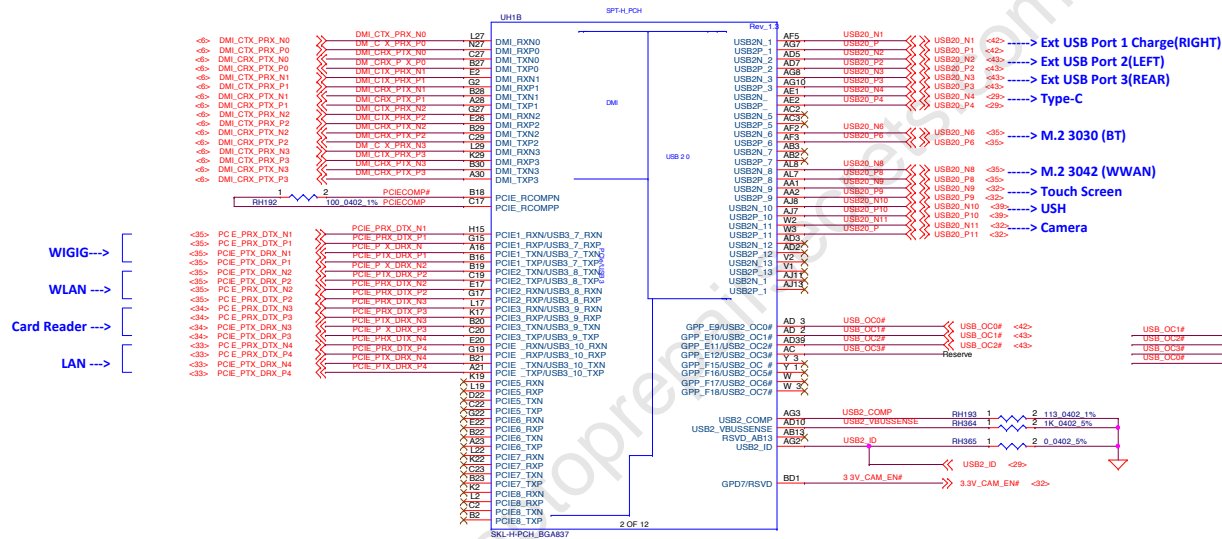
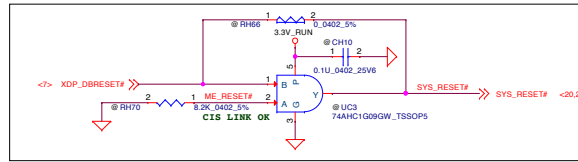
Byte[0]	DQ[7:0]	DQS/DQS#[0]
Byte[1]	DQ[15:8]	DQS/DQS#[1]
Byte[2]	DQ[23:16]	DQS/DQS#[2]
Byte[3]	DQ[31:24]	DQS/DQS#[3]
Byte[4]	DQ[39:32]	DQS/DQS#[4]
Byte[5]	DQ[47:40]	DQS/DQS#[5]
Byte[6]	DQ[55:48]	DQS/DQS#[6]
Byte[7]	DQ[63:56]	DQS/DQS#[7]

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

DDR4-SODIMM SLOT2

Security Classification	Compal Secret Data	2017/01/01
Issued Date	2016/01/01	Deciphered Date
THIS SHEET OF ENGINEERING DRAWING IS THE PROPERTY OF COMPAL ELECTRONICS CO., LTD. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS CO., LTD.		
Sheet	Document Number	Rev
C	LA-E153P	0.2
Date:	Tuesday, June 28, 2016	Sheet 15 of 74



WLAN

WLAN

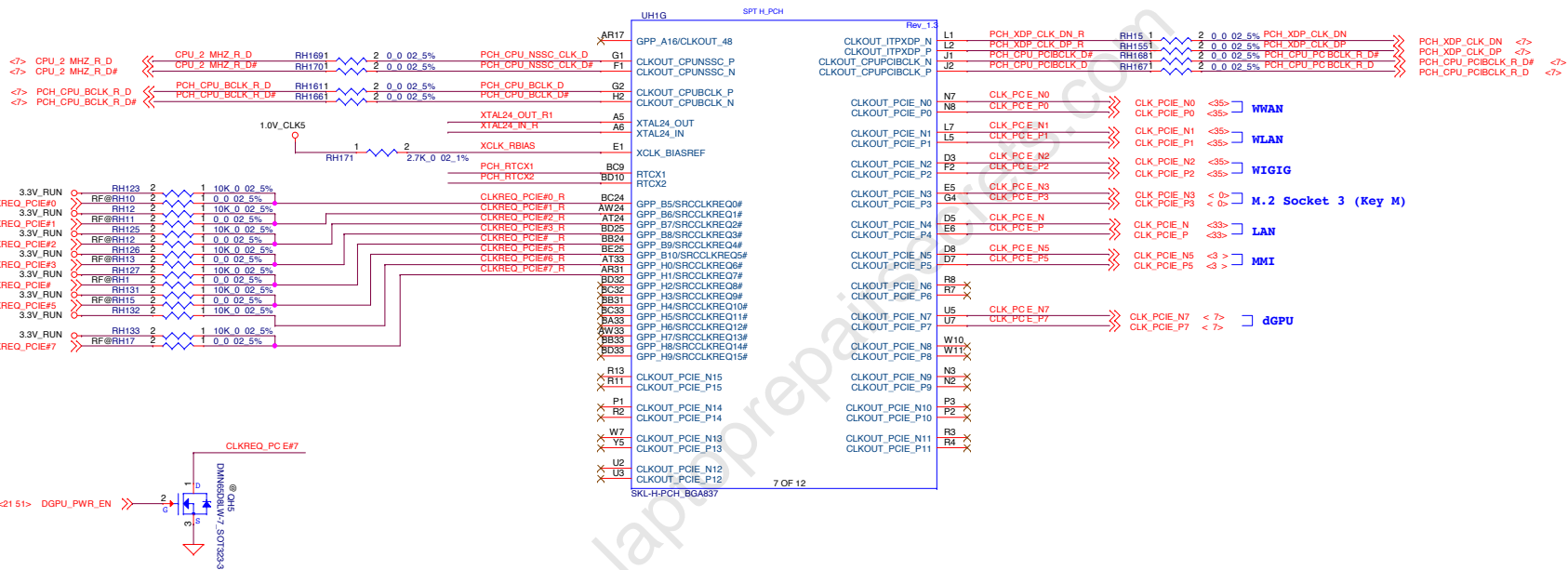
WIGIG

M.2 Socket 3

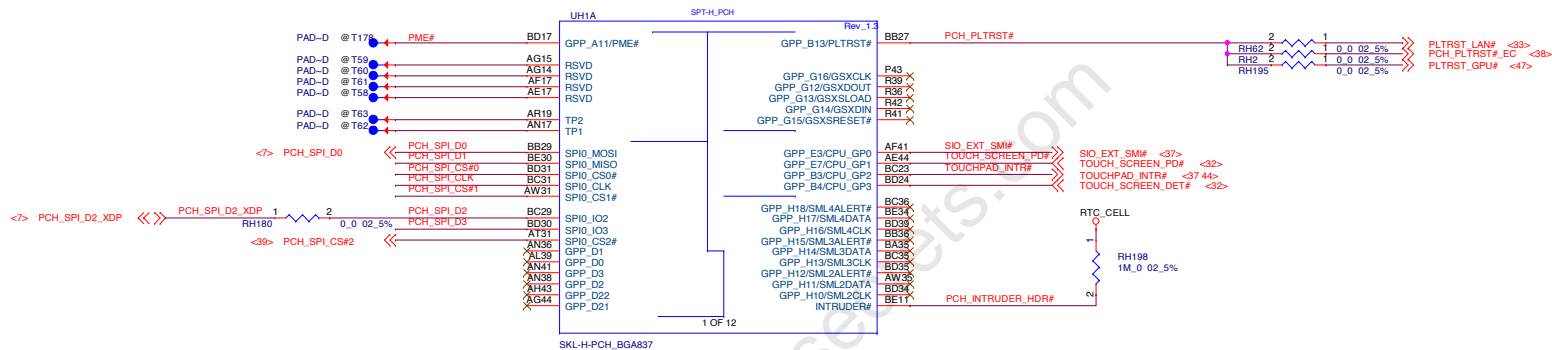
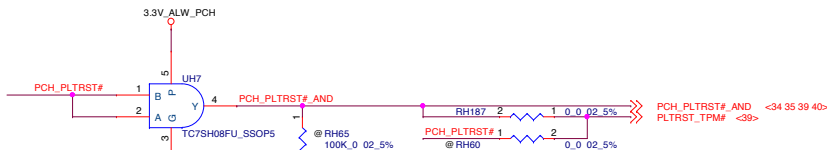
LAN

MMI

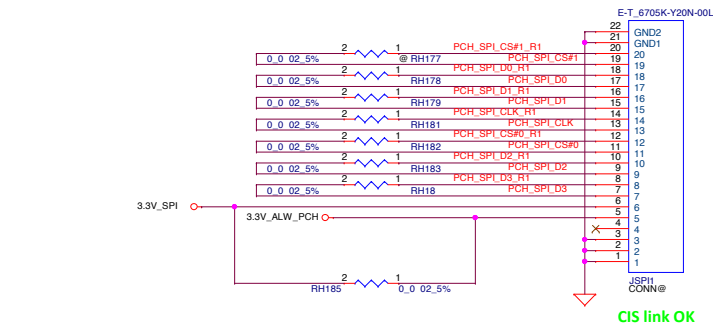
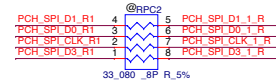
dGPU

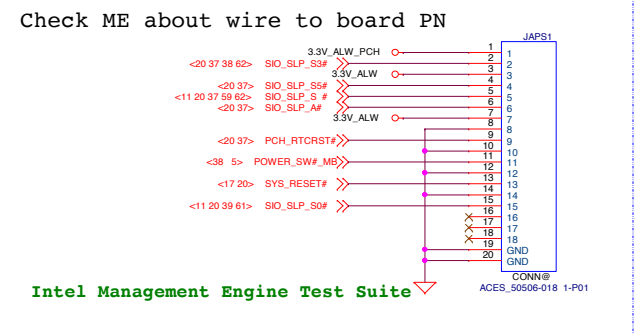
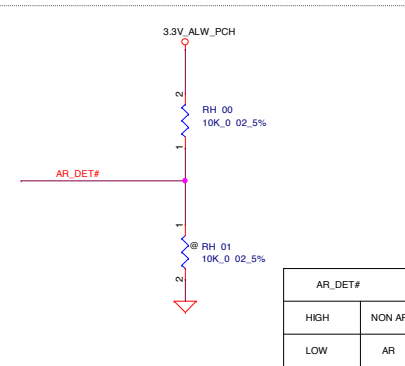
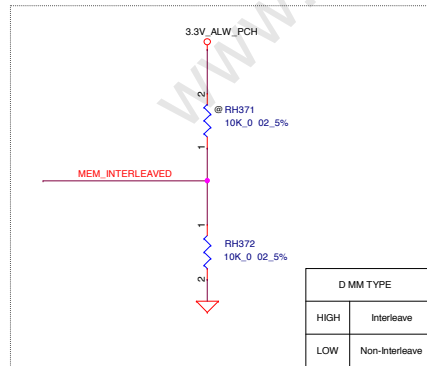
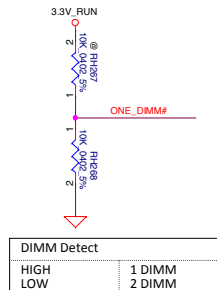
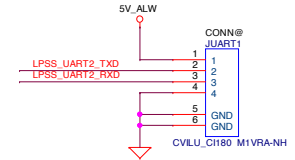
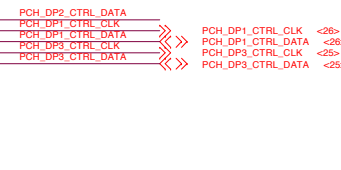
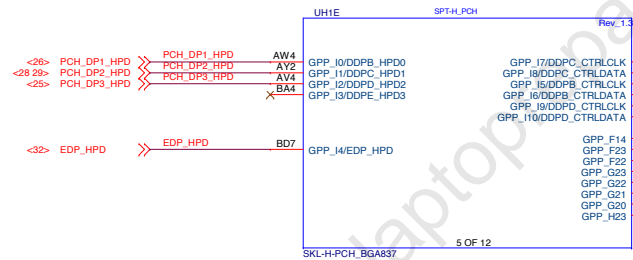
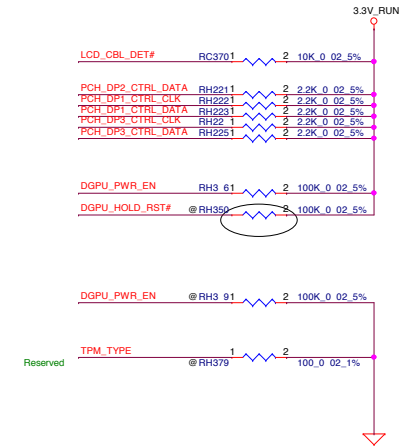
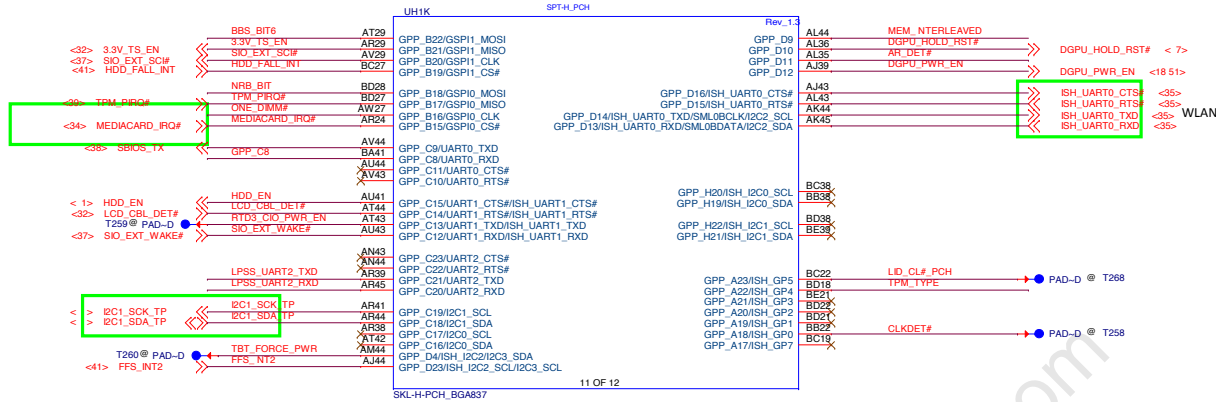
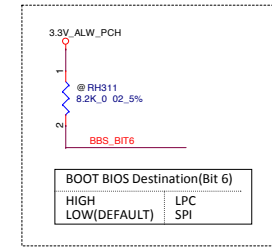
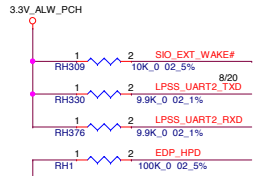
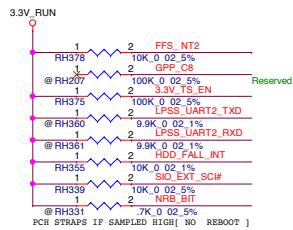


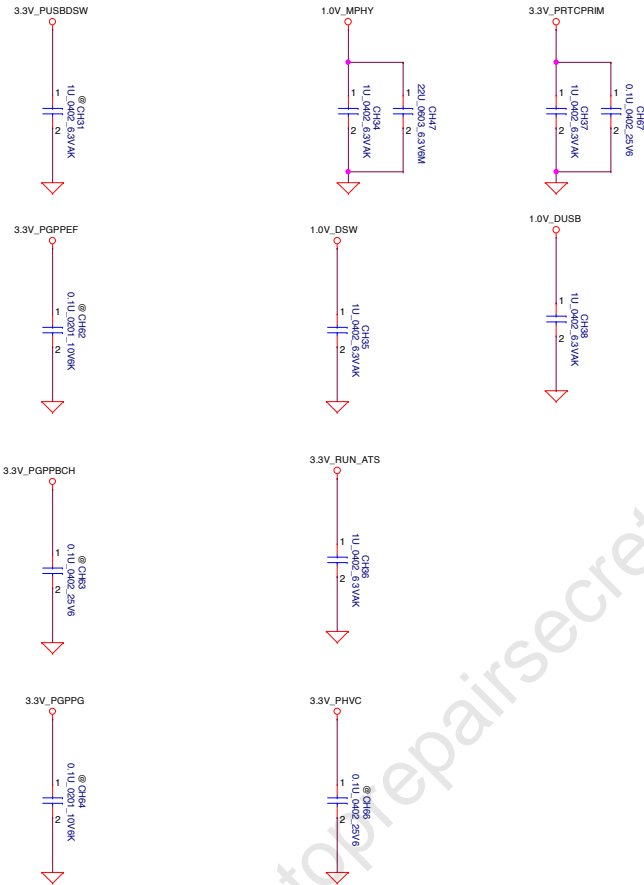
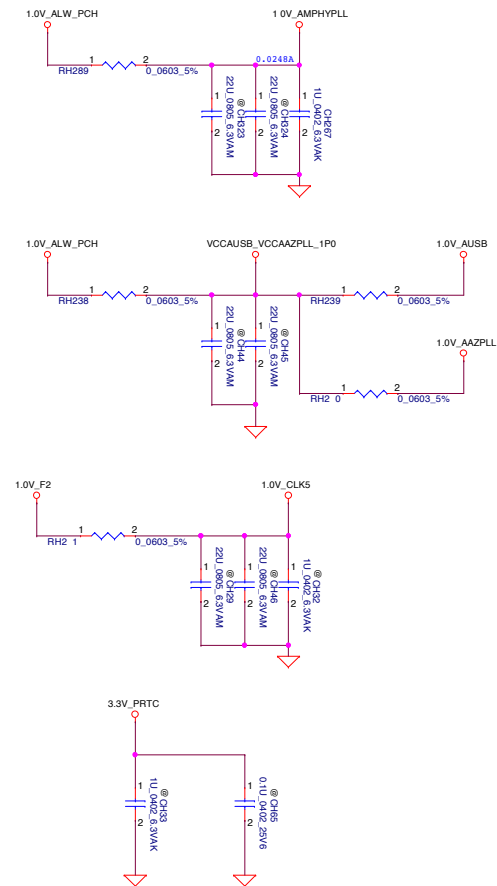
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2016/01/01		Deciphered Date	
2017/01/01		2017/01/01		2017/01/01	
THIS SHEET OF ENG NEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Title		Document Number		Rev	
KABYLAK PCH-H (3/9)		LA-E153P		0.2	
Date		Thursday, June 30, 2016		Sheet	
18		of		7	



Note that the pull down resistor on SPI0_IO3 is only needed for SKL U/Y platforms with ES and SKL S/H platforms with pre-ES1/ES1 samples.







Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY Compal Electronics, Inc.									
Issued Date		2016/01/01		Deciphered Date		2017/01/01		Title					
								KABYLAKE PCH-H (8/9)					
THIS SHEET OF ENG NEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.								Size B		Document Number		Rev	
								LA-E153P				0.2	
								Date:		Tuesday, June 28, 2016		Sheet 23 of 7	

UH11 SPT-H_PCH Rev. 1.3

AC18	VSS	AR5
AN4	VSS	AR7
AN10	VSS	U15
BE14	VSS	AL4
BE18	VSS	AE29
BE23	VSS	AE4
BE28	VSS	AE42
BE32	VSS	AF18
BE37	VSS	AF20
BE40	VSS	AF21
BE9	VSS	AF23
C10	VSS	AF25
C2	VSS	AF26
C28	VSS	AF28
C37	VSS	AF29
J7	VSS	AG11
K10	VSS	AG13
K27	VSS	AG31
K33	VSS	AG32
K36	VSS	AG33
K4	VSS	AG38
K42	VSS	AG4
K43	VSS	AH1
L12	VSS	AH17
L13	VSS	AH18
L15	VSS	AH20
L4	VSS	AH21
L41	VSS	AH23
L8	VSS	AH25
M35	VSS	AH26
M42	VSS	AH28
N10	VSS	AH29
N15	VSS	AH45
N19	VSS	AJ10
N22	VSS	AJ14
N24	VSS	AJ15
N35	VSS	AJ17
N36	VSS	AJ18
N4	VSS	AJ26
N41	VSS	AJ28
N5	VSS	AJ29
P17	VSS	AJ31
P19	VSS	AJ32
P22	VSS	AJ36
P45	VSS	AK4
R10	VSS	AK42
R14	VSS	AL7
R22	VSS	AV17
R29	VSS	AV24
R33	VSS	AV27
R38	VSS	AV21
R5	VSS	AV33
T1	VSS	AV6
T2	VSS	AW13
T4	VSS	AW19
Y18	VSS	AW29
Y20	VSS	AW37
Y21	VSS	AW9
Y26	VSS	AY38
Y28	VSS	A145
Y29	VSS	B25
A18	VSS	B3
A25	VSS	B37
A32	VSS	B40
A37	VSS	B6
AA17	VSS	BAT
AA18	VSS	BB11
AA20	VSS	BB18
AA21	VSS	BB21
AA25	VSS	BB25
AA29	VSS	BB30
AA4	VSS	BB34
AA42	VSS	Bc2
AB10	VSS	BD43
	VSS	

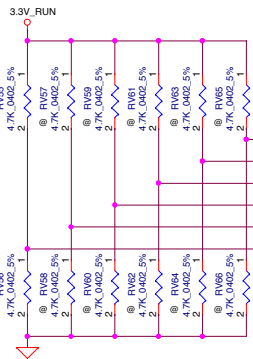
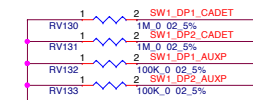
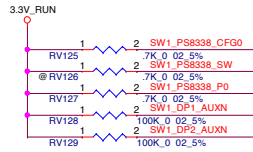
9 OF 12
SKL-H-PCH_BGA837

UH1L SPT-H_PCH Rev. 1.3

C42	VSS	AB11
D10	VSS	AB7
D12	VSS	AB14
D15	VSS	AB31
D16	VSS	AB32
D17	VSS	AB38
D19	VSS	AB4
D21	VSS	AB5
D24	VSS	AC1
D25	VSS	AC20
D27	VSS	AC21
D29	VSS	AC25
D30	VSS	AC29
D31	VSS	AC45
D33	VSS	AB8
D35	VSS	AD11
D36	VSS	AD14
E13	VSS	AB15
E15	VSS	AD32
E31	VSS	AD33
E33	VSS	AD36
F44	VSS	AD4
F8	VSS	AD8
G42	VSS	AE18
G9	VSS	AE20
H17	VSS	AE21
H19	VSS	AE25
H22	VSS	AE28
H24	VSS	AL10
H27	VSS	AL11
H29	VSS	AL13
H3	VSS	AL17
H35	VSS	AL19
J10	VSS	AL24
J11	VSS	AL29
J3	VSS	AL32
J39	VSS	AL33
J5	VSS	AL38
T42	VSS	AM15
U10	VSS	AM17
U11	VSS	AM19
U14	VSS	AM22
U17	VSS	AM24
U18	VSS	AM27
U28	VSS	AM29
U29	VSS	AM45
U31	VSS	AN11
U32	VSS	AN22
U33	VSS	AN27
U38	VSS	AN31
U4	VSS	AN39
U8	VSS	AN7
V18	VSS	AN8
V20	VSS	AP11
V21	VSS	AP4
V23	VSS	AR33
V25	VSS	AR34
V29	VSS	AR42
V3	VSS	AR9
V45	VSS	AT10
W14	VSS	AT15
W31	VSS	AT36
W32	VSS	A19
W33	VSS	AU1
W38	VSS	AU35
W4	VSS	AU36
W8	VSS	AU39
Y17	VSS	AU45
	VSS	C4

12 OF 12
SKL-H-PCH_BGA837

Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Title Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size B	
				Document Number LA-E153P	
				Rev 0.2	
Date: Tuesday, June 28, 2016				Sheet 2 of 7	

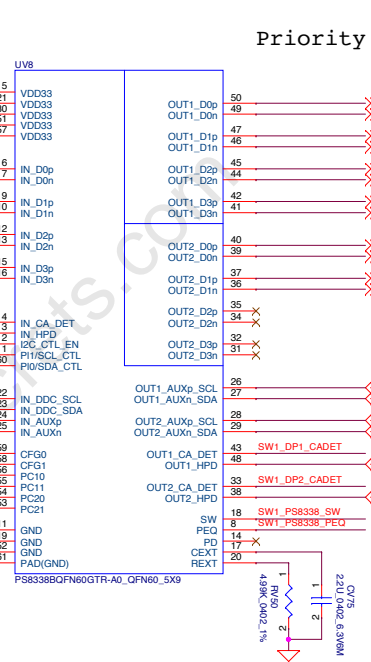
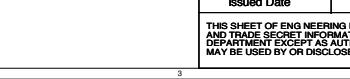
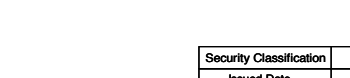
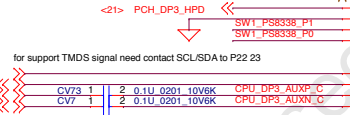
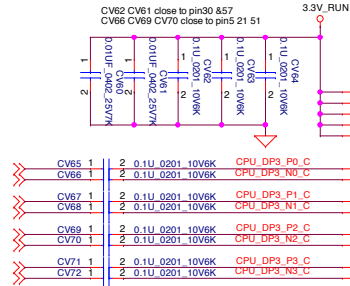


Port switching control or priority configuration Internal pull down -150K(), 3.3V I/O
For Control Switching Mode (CFG0 = L)
SW = L Port1 is selected (default)
SW = H Port2 is selected
For Automatic Switching Mode (CFG0 = H)
SW = L Port1 has higher priority when both ports are plugged (default)
SW = H Port2 has higher priority when both ports are plugged

Vendor suggest MUX use LLEQ PEQ=M and P0=H !!

Programmable input equalization levels, Internal pull down at -150Kohm, 3.3V I/O
PEQ =
L default, LEQ, compensate channel loss up to 11.5dB @HBR2
H HEQ, compensate channel loss up to 14.5dB @HBR2
M LLEQ, compensate channel loss up to 8.5dB @HBR2

P0: Automatic EQ disable Internal pull down -150K ohm 3.3V I/O
P0 = L: Automatic EQ enable (default)
H: Automatic EQ disable



Priority : WIGI -> VGA

WIGI

VGA

DELL CONFIDENTIAL/PROPRIETARY

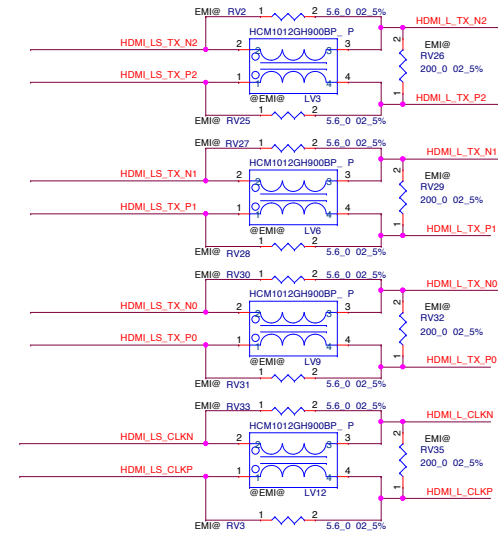
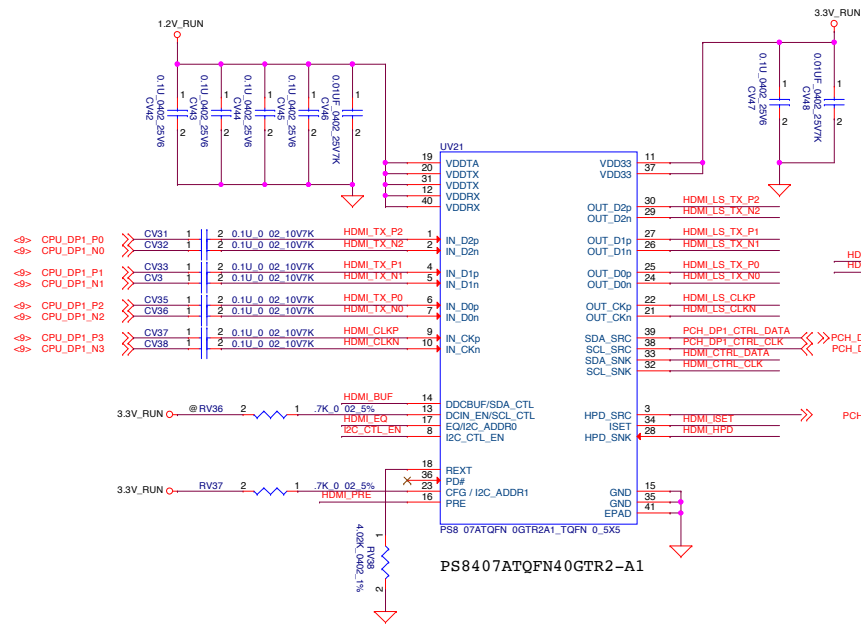
Compal Electronics, Inc.

DP SW2 P58338

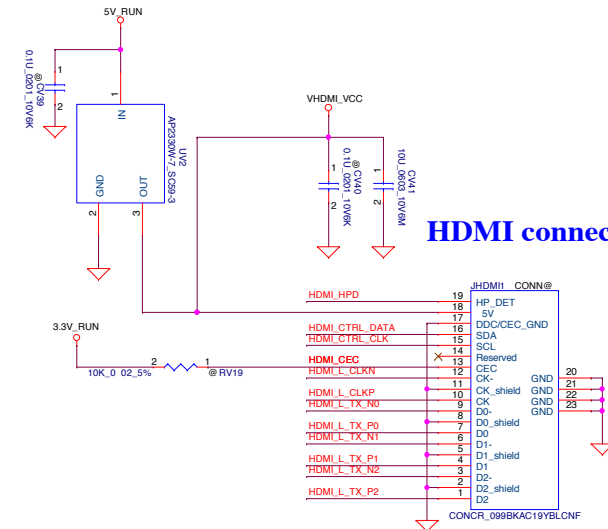
Document Number LA-E153P

Date: Tuesday, June 28, 2016 Sheet 25 of 7

Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			



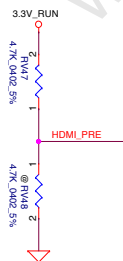
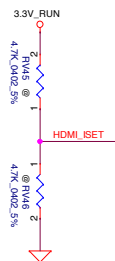
HDMI connector



Enable active DDC buffer, internal pull down at ~150kΩ, 3.3V I/O
 L passive DDC pass-through (default)
 H active DDC buffer with default threshold
 M active DDC buffer without internal pull up resistor

Receiver equalization setting; internal pull down at ~150kΩ, 3.3V I/O.
 L programmable EQ for channel loss up to 12.4dB (default)
 H programmable EQ for channel loss up to 4.3dB
 M programmable EQ for channel loss up to 8.6dB

I2C Control enable; internal pull down at 150kΩ, 3.3V I/O
 L Pin control is selected with auto jitter cleaning (default)
 H I2C control is selected with default I2C address
 M Pin control is selected with full jitter cleaning



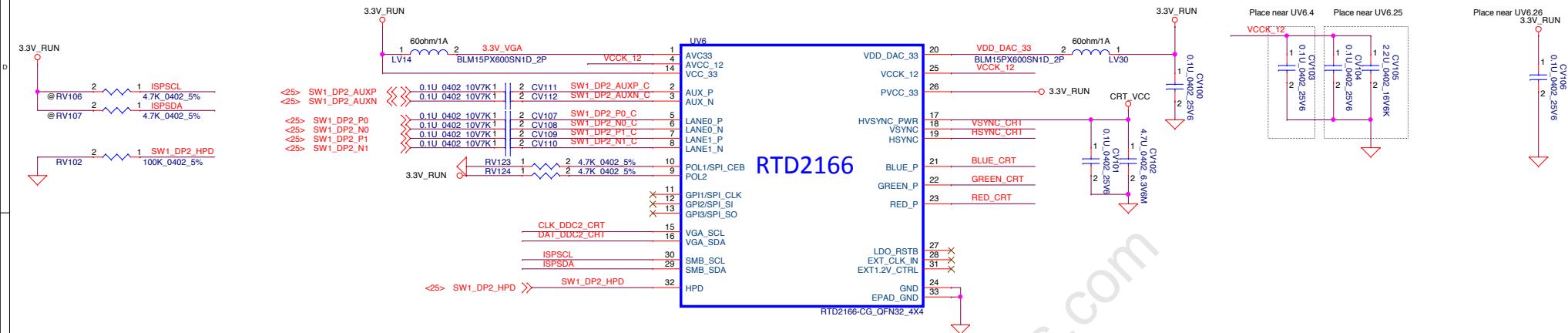
TMDs output swing adjustment; internal pull down at ~150kΩ, 3.3V I/O
 L default, 1000mV
 H increase +13%
 M reduce -13%

Output pre-emphasis setting; internal pull down at ~150kΩ, 3.3V I/O
 L no pre-emphasis (default)
 H 1.6dB pre-emphasis
 M 2.5dB pre-emphasis

Security Classification		Compal Secret Data	
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			
DELL CONFIDENTIAL/PROPRIETARY Compal Electronics, Inc.			
HDMI CONN			
Size B	Document Number LA-E153P	Rev 0.2	
Date: Tuesday, June 28, 2016	Sheet 26	of 7	

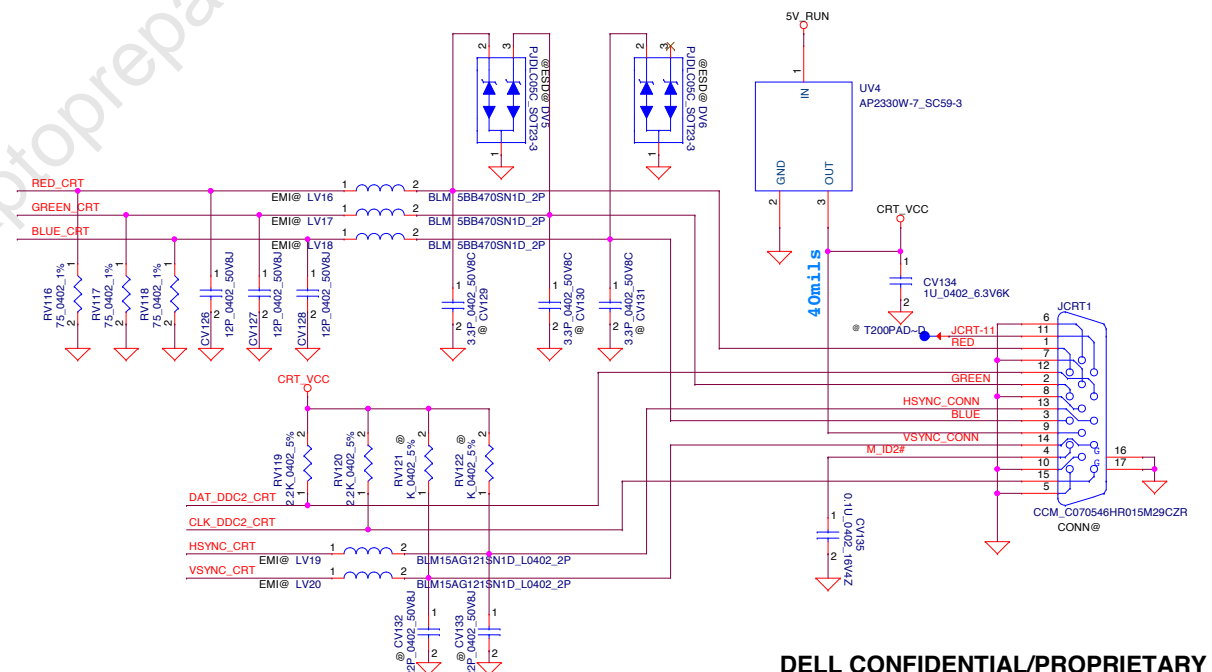
For TBT SW2_DP2
For non-TBT SW1_DP2

For Realtek Solution



Operation Mode Table

		POL1(P10)	
		0	1
POL2 (P9)	0	X	X
	1	ROM	EEPROM



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

DP to VGA & VGA Conn

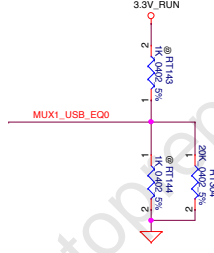
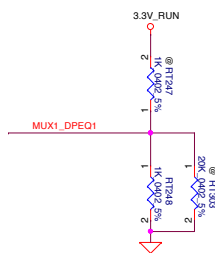
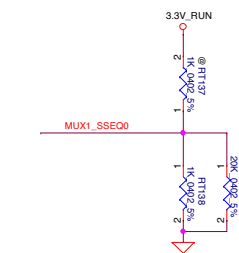
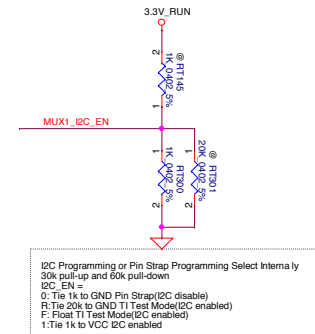
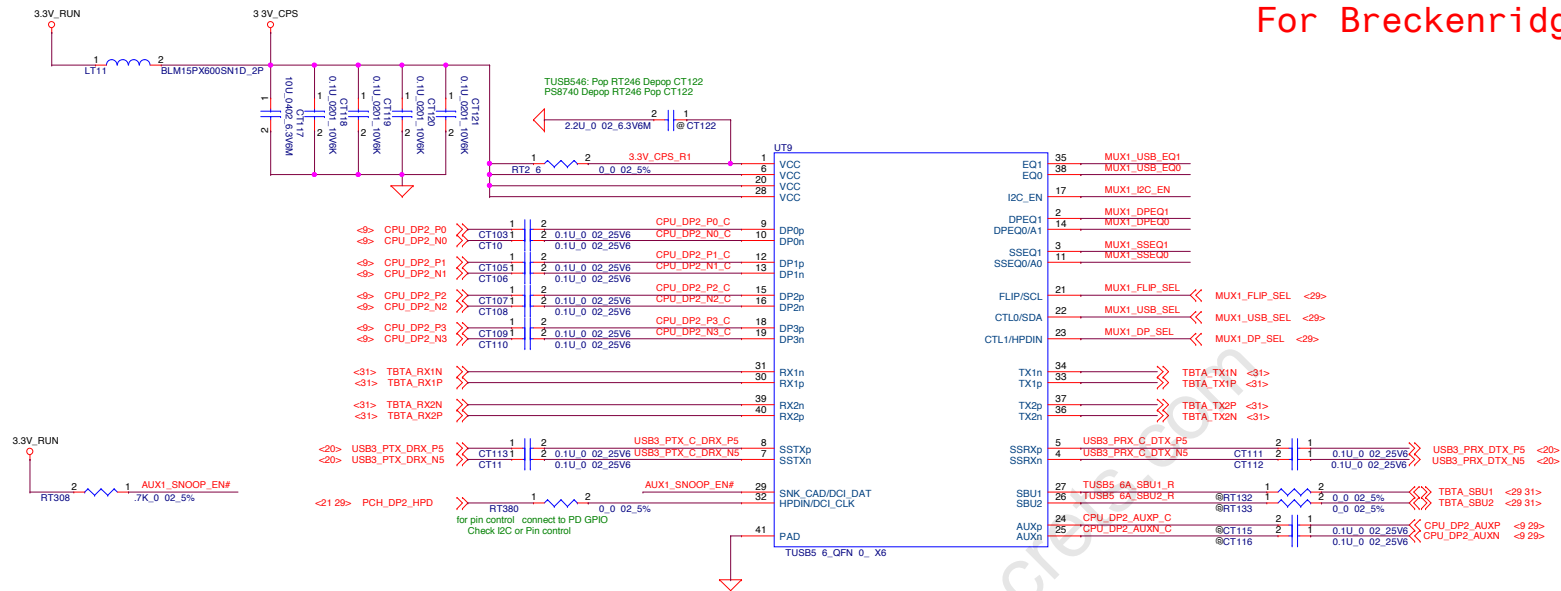
Document Number
LA-E153P

Rev	0.2
-----	-----

Date	Tuesday June 28 2016	Sheet	27	of	74
------	----------------------	-------	----	----	----

Security Classification	<div style="text-align: center;"> SECRET Compal Secret Data </div>		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. NO PART OF THIS DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			

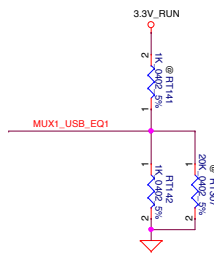
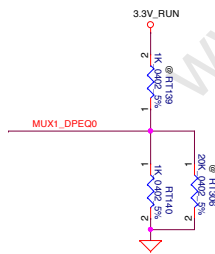
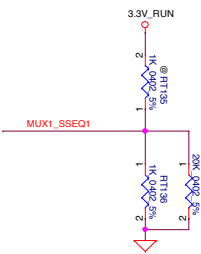
For Breckenridge 12/14/15 NON AR



Set the USB receiver equalizer gain for upstream facing
SSTXP/N Internally 30k pull-up and 60k pull-down
SSEQ =
0: Tie 1k to GND
R: Tie 20k to GND
F: Float
1: Tie 1k to VCC

Select the DisplayPort receiver equalizer gain Internally
30k pull-up and 60k pull-down
DPEQ =
0: Tie 1k to GND
R: Tie 20k to GND
F: Float
1: Tie 1k to VCC

Set the USB receiver equalizer gain for downstream facing RX1 and RX2 when USB utilized Internally 30k pull-up and 60k pu l-down
 USB_EQ =
 0: Tie 1k to GND
 R: Tie 20k to GND
 F: Float

**Table 8-7 TUSB546 Receiver Equalization GPIO Control**

USB3.1 Downstream Facing Ports			USB 3.1 Upstream Facing Port			All DisplayPort Lanes		
EQ1 pin Level	EQ0 pin Level	EQ GAIN @5GHz (dB)	SSEQ1 pin Level	SSEQ0 pin Level	EQ GAIN @5GHz (dB)	DPEQ1 pin Level	DPEQ0 pin Level	EQ GAIN @5GHz (dB)
0	0	0	0	0	0	0	0	0
0	R	1	0	R	1	0	R	1
0	F	2	0	F	2	0	F	2
0	1	3	0	1	3	0	1	3
R	0	4	R	0	4	R	0	4
R	R	5	R	R	5	R	R	5
R	F	6	R	F	6	R	F	6
R	1	7	R	1	7	R	1	7
F	0	8	F	0	8	F	0	8
F	R	9	F	R	9	F	R	9
F	F	10	F	F	10	F	F	10
F	1	11	F	1	11	F	1	11
1	0	12	1	0	12	1	0	12
1	R	13	1	R	13	1	R	13
1	F	14	1	F	14	1	F	14
1	1	15	1	1	15	1	1	15

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

DP/USB3 Repeater SW2 TUSB546

Size B	Document Number LA-E153P
-----------	------------------------------------

Date:	Tuesday, June 28, 2016	Sheet	28	of	7
-------	------------------------	-------	----	----	---

Security Classification

Compal Secret Data

Issued Date	
-------------	--

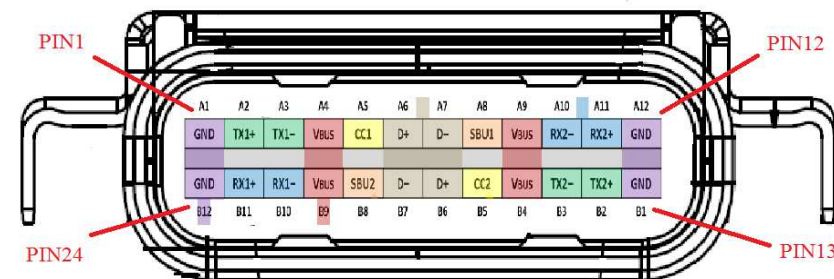
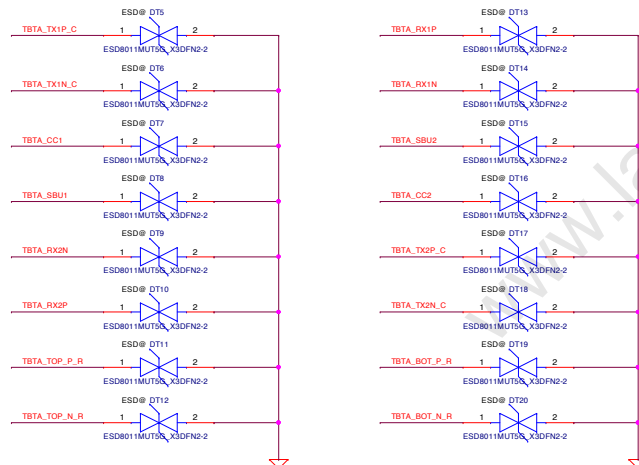
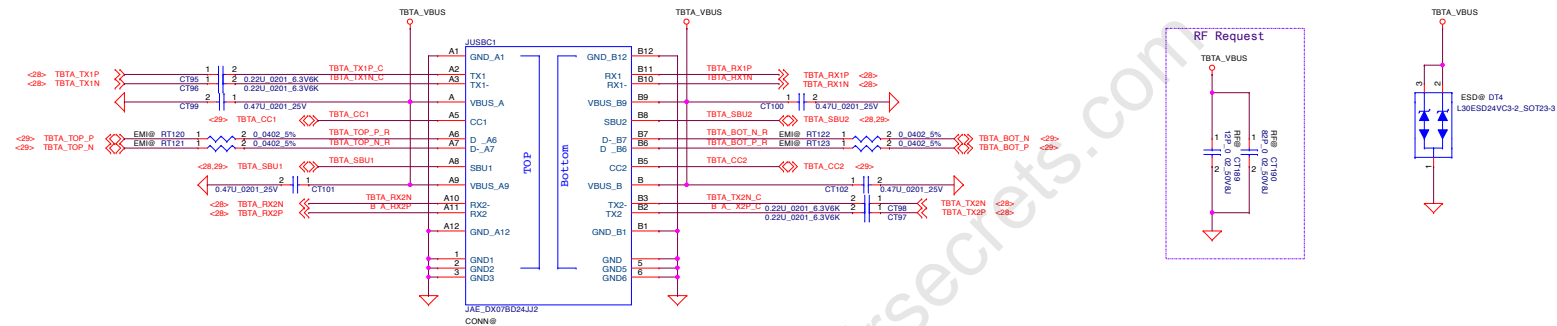
2016/01/01

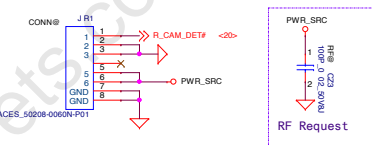
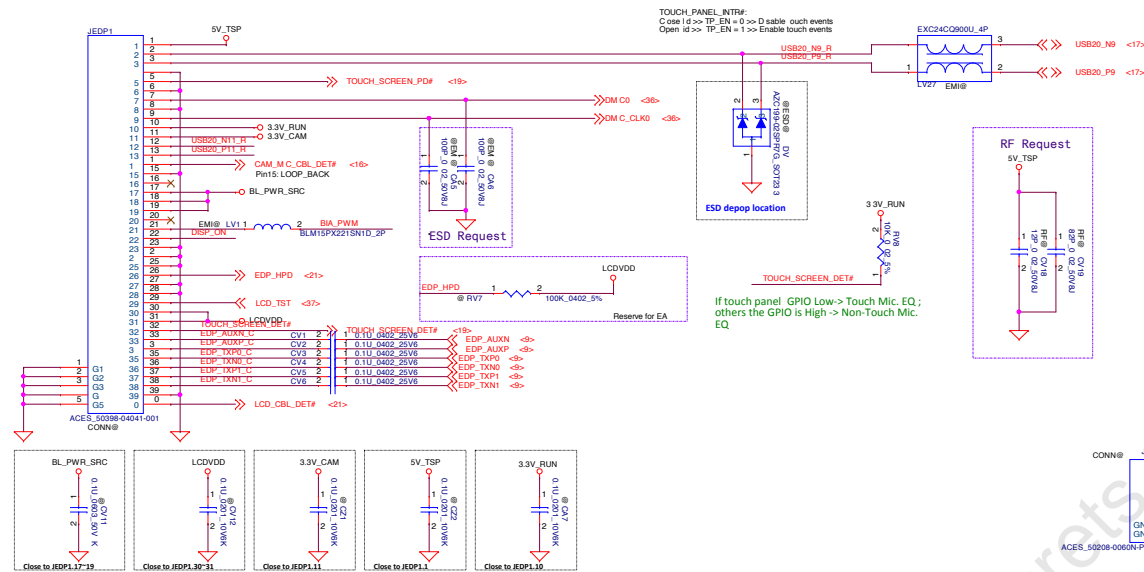
Deciphered Date

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

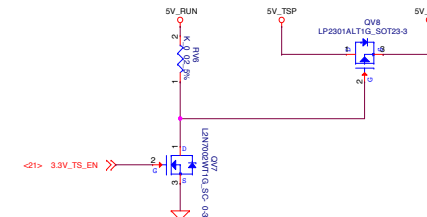
Size B	Document Number LA-E153P	Rev 0.2
Date:	Tuesday, June 28, 2016	Sheet 28 of 7

For NON AR Config

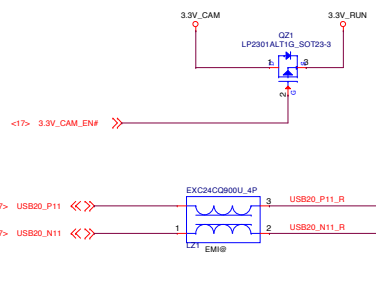




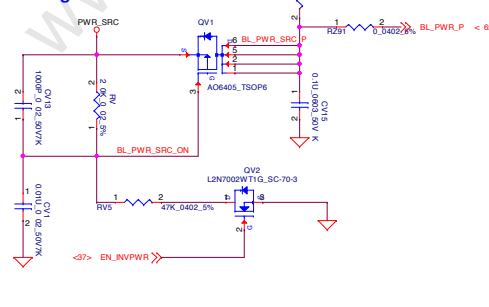
For Touchscreen



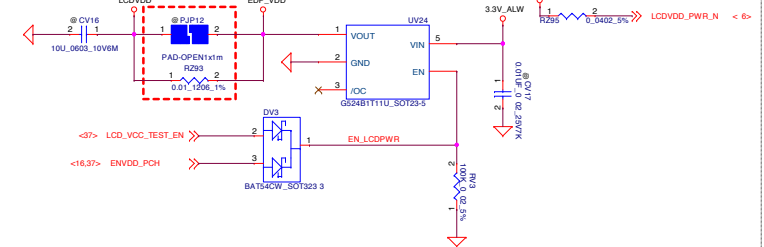
WebCAM



Backlight POWER



LCDVDD POWER



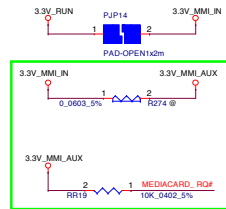
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

eDP CONN & Touch screen

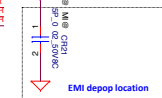
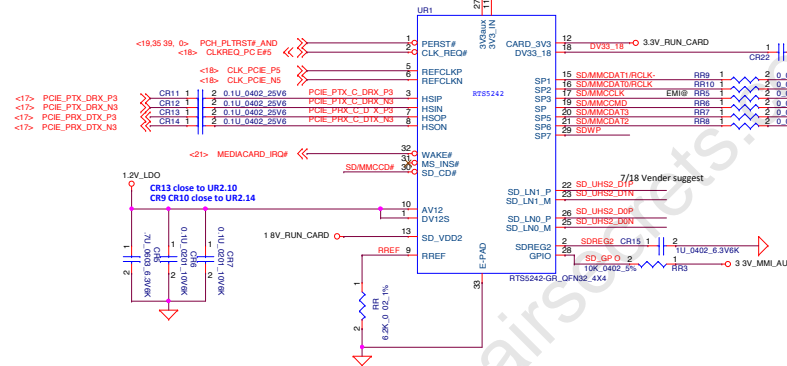
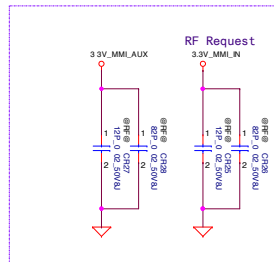
Security Classification	Compal Secret Data		T#
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS CO., INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Rev 0.2
Document Number	LA-E153P		Date
Yusuf, June 25, 2016	Sheet 32 of 74		

For PCIe Interface

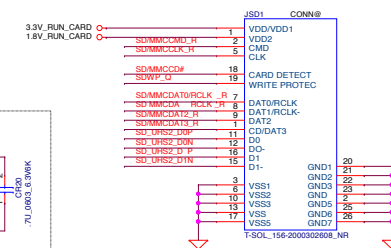
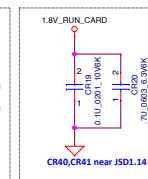
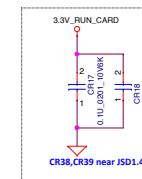
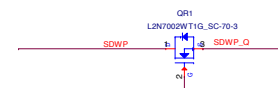


support D3 Hot(if D3 cold PIN11,PIN27 need Add MOS on/off 3V3AUX)

7/18 Vender suggest.



HOST_SD_WP#	SDWP_Q	SDWP	STATUS
High	H gh	High	Write Protect(SD LOCK)
	Low	Low	Write Enable
Low	H gh	High	Write Protect(SD& FW LOCK)
	Low	High	Write Protect(FW LOCK)


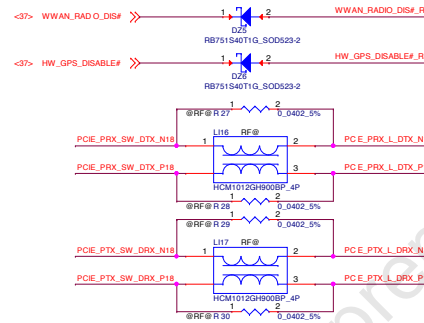
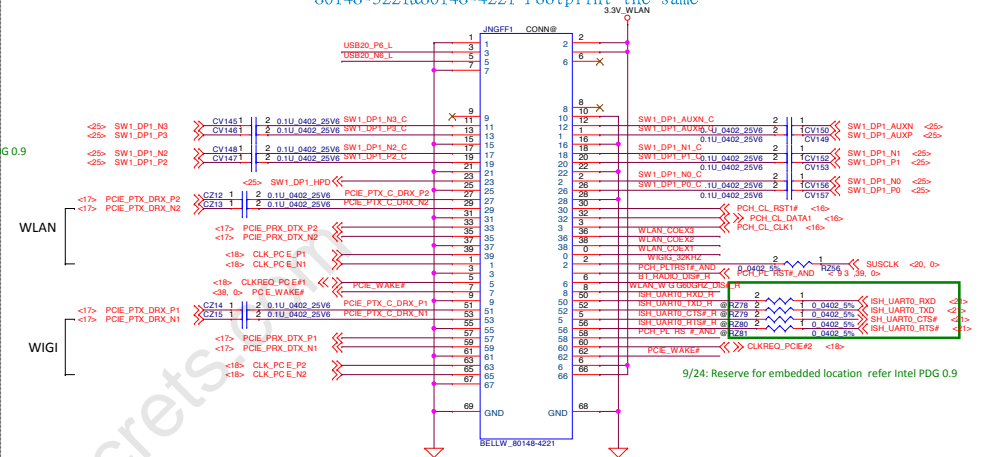


LINK SP070011U00 DONE



NGFF slot A Key A

80148-3221&80148-4221 Footprint the same



The diagram shows an RF Request circuit. It features a central component labeled "MCM1012B900F06B_p_4P" with four pins. Pin 1 is connected to a red signal line labeled "<17> USB20_P8" with a double arrow indicating a bidirectional connection. Pin 2 is connected to a red signal line labeled "USB20_P8_I". Pin 3 is connected to a red signal line labeled "<17> USB20_N8" with a double arrow. Pin 4 is connected to a red signal line labeled "USB20_N8_I". Above the component, there is a blue zigzag line representing an RF inductor, labeled "RF @ R44", with a value of "0.0402 5%". The circuit is enclosed in a dashed purple box.

3.3V_WWAN

10.0 02.167K

C156

15K 02.5%

33P 02.20VU

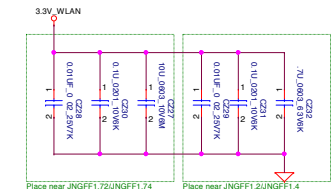
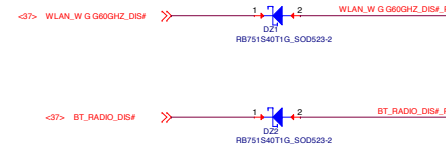
UIM_CLK

UIM_DATA

SIM_PWR

02.1

RF Request



PWR Rail	Voltage Tolerance	Primary Power		Aux Power
		Peak	Normal	Normal
+3.3V				

Function	SEL	OEn
B to A	L	L
C to A	H	L
All ports Hi-Z, IC power down	X	H

DELL CONFIDENTIAL/PROPRIETARY

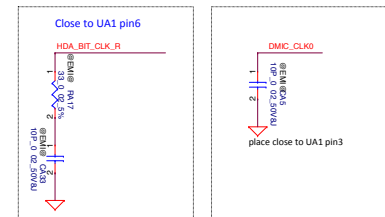
Compal Electronics, Inc.

Title	NGFF Card
-------	------------------

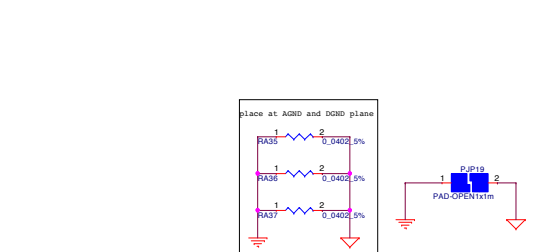
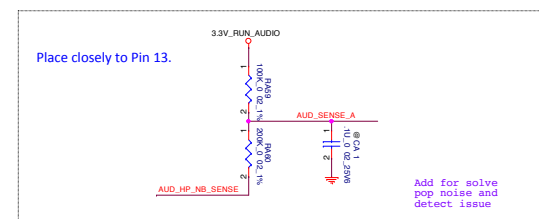
Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF THE DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

INITIAL &D	NGFF Card		
	Size Custom	Document Number LA-E153P	Rev 0.2
	Date: Tuesday, June 28, 2016		Sheet 35 of 74

[illegible]

Place closely to Pin 13.



<37> AUDIO_MUTE#

RA48 0.402k_5%

@DAB 1 2

RS751S4011G_S00S023-2

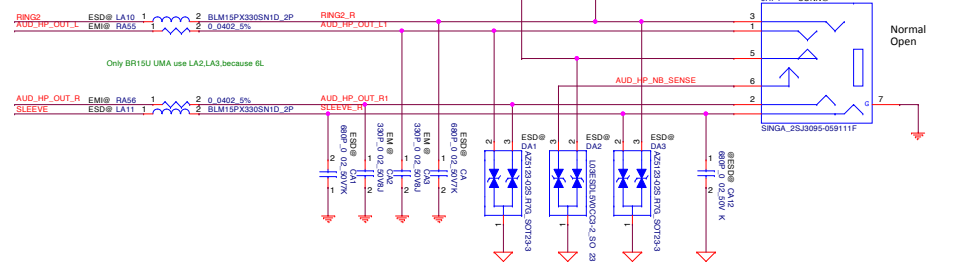
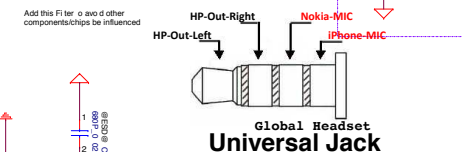
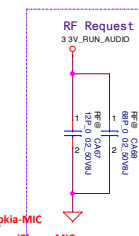
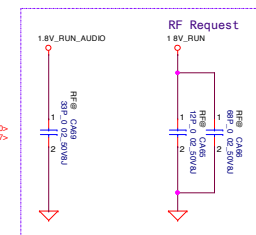
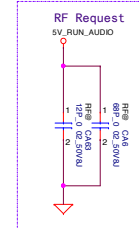
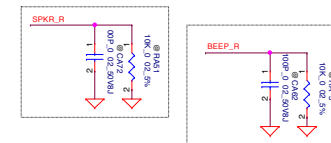
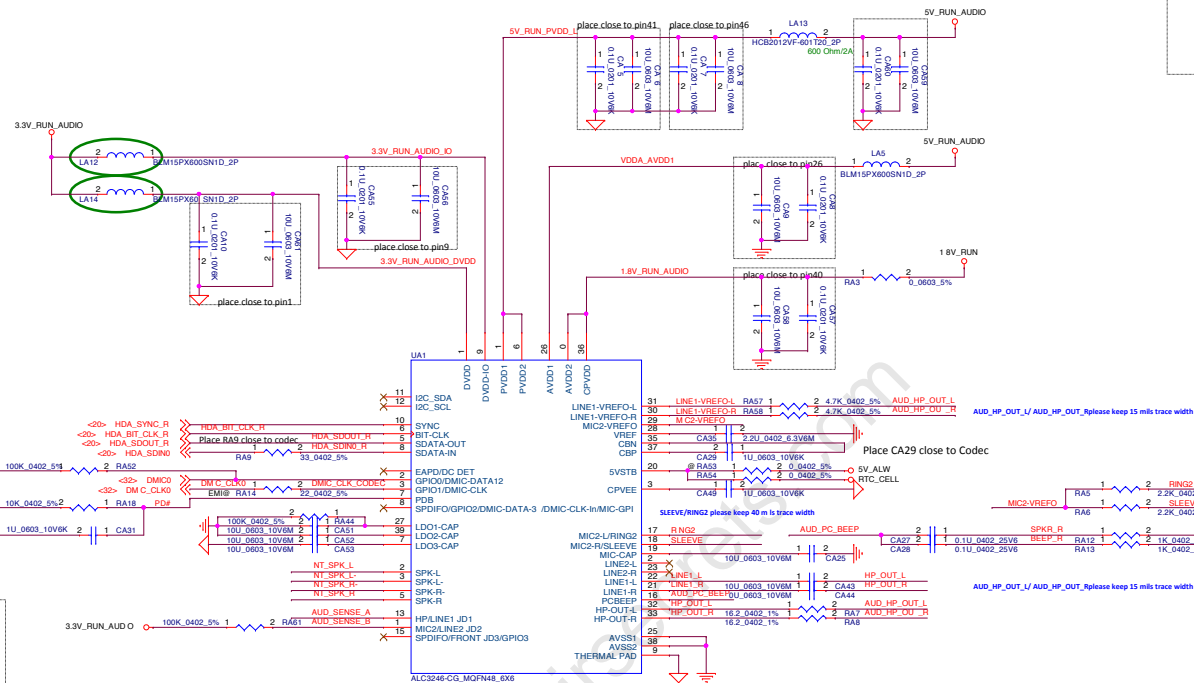
PDIF

<38> HDA_RST#_R1

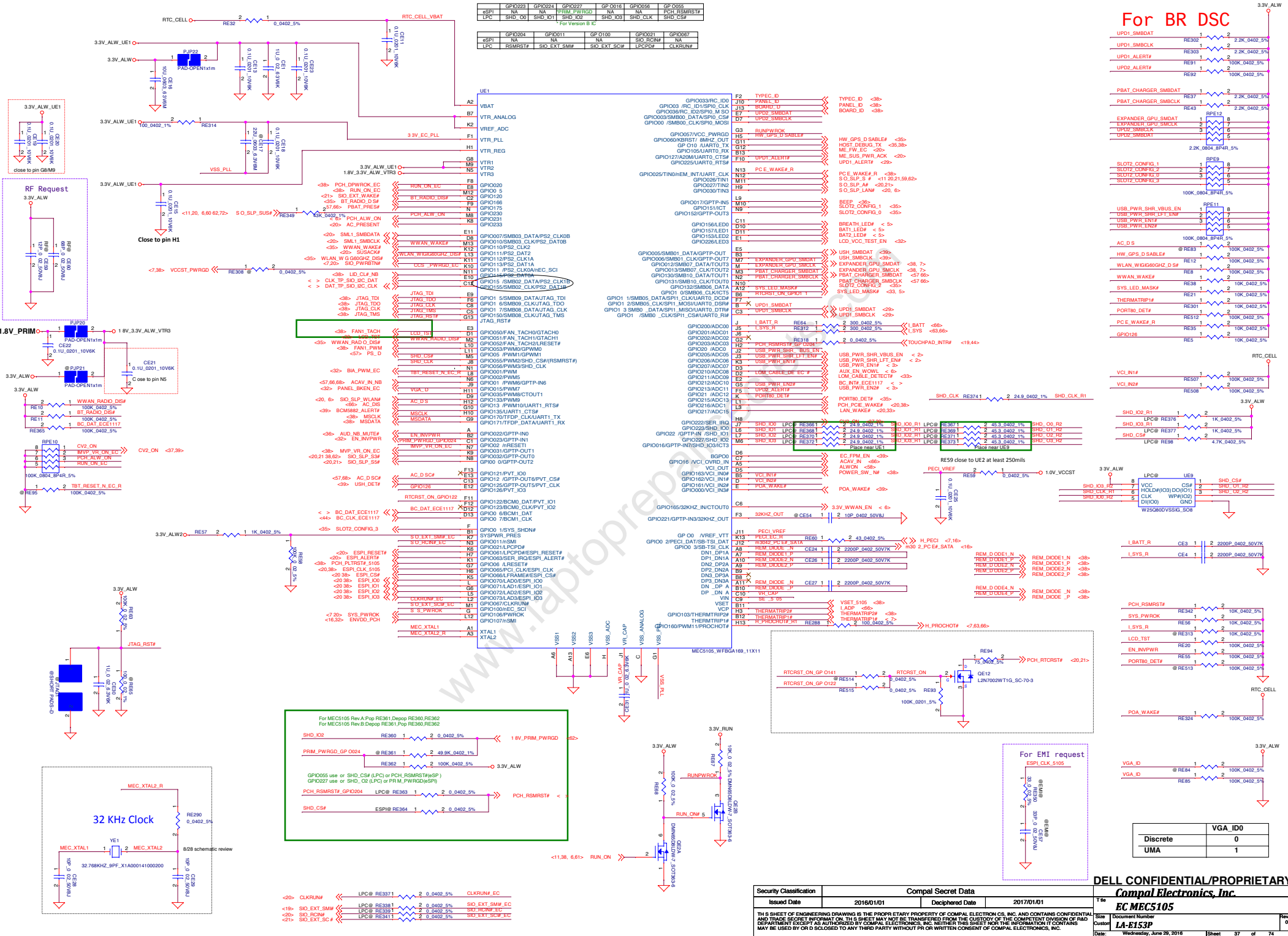
RASO 0.402k_5%

HDA_Link 3.3V, no need level sh ft circuit

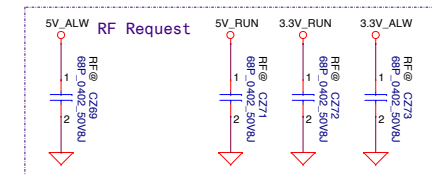
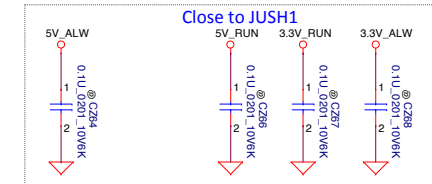
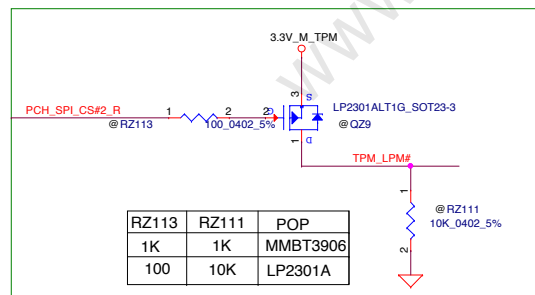
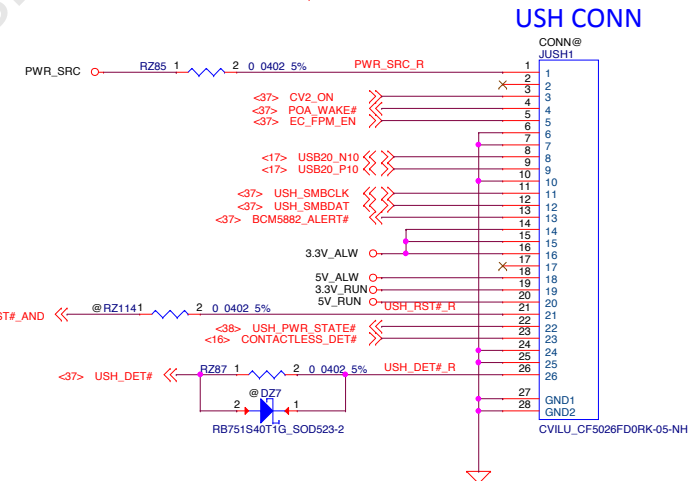
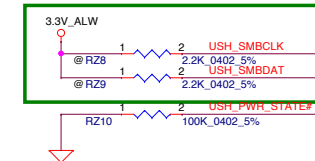
RE1313@one control line 1 DVD0 is 3.3V
DE2@two control lines1

[illegible]

Security Classification		Compel Secret Data		<div>DECLASSIFIED/CONFIDENTIAL PROPRIETARY</div> <div> Compel Electronics, Inc. Codec ALC3246 </div>	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	File	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION ON THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT WITHOUT THE WRITTEN AUTHORIZATION BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINED MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number LA-E153P



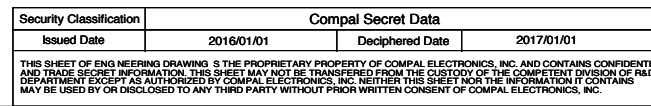
Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS INC.</p>			



Date	Thursday June 30 2016	Sheet	39	of	74
------	-----------------------	-------	----	----	----

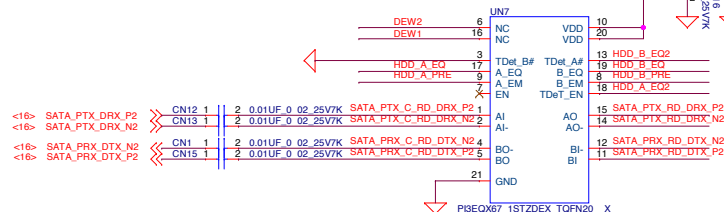
Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS INC.</p>			

WWW.AliSaler.Com



	pin 3	pin 6	pin 13	pin 16	pin 18
Pericom	TDeT_B#	NC	TDeT_A#	NC	TDeT_EN
TI	GND	DEW2	GND	DEW1	GND
Parade	GND	REXT	B_EQ2	DEW	A_EQ2

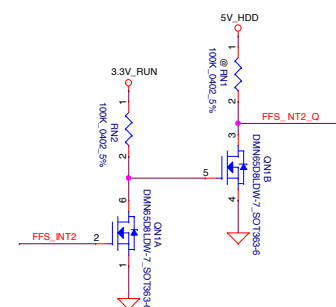
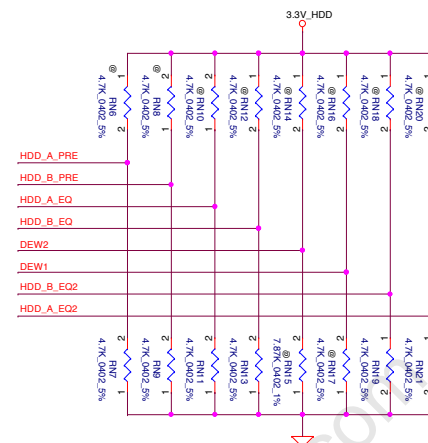
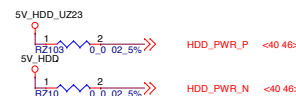
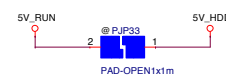
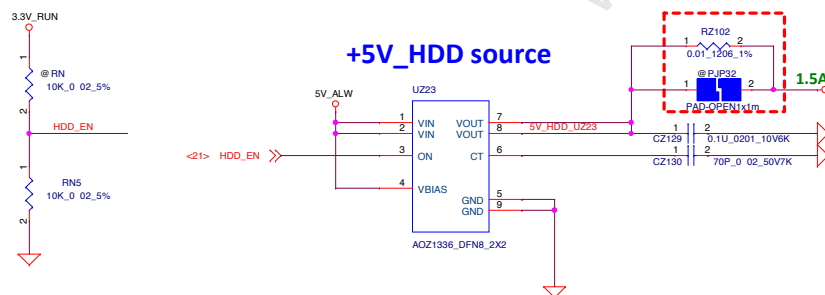
SATA Repeater



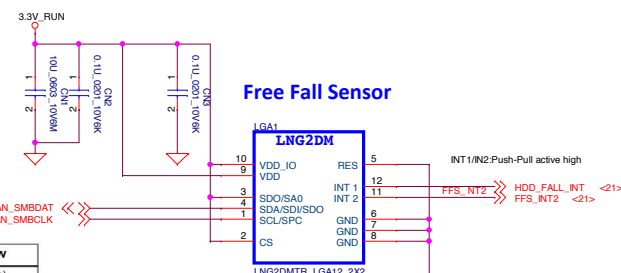
	HDD_A_EQ PIN17	HDD_B_EQ PIN19	HDD_A_EQ2 PIN18	HDD_B_EQ2 PIN13	DEW1 PIN16	DEW2 PIN6	HDD_A_PRE PIN9	HDD_B_PRE PIN8
Pericom PI3EQX6741ST	PD (RN13)	PD (RN16)	PD (RN83)	PD (RN23)	NC	NC	PD (RN5)	PD (RN11)
TI SN75LVCP601	PD (RN13)	NC	PD (RN83)	PD (RN23)	NC (IPU)	NC (IPU)	PH (RN8)	PH (RN10)
Parade PS8527C	PD (RN13)	PD (RN16)	PD (RN83)	PD (RN23)	NC (1/2 VDD)	PD (RN19)	NC (1/2 VDD)	NC (1/2 VDD)

			A_EQ	B_EQ		A_EM	B_EM
Main	Pericom	0 1	3dB 6dB 9dB	3dB 6dB 9dB	0 1	0dB 1.5dB	0dB 1.5dB
2nd	TI	0 1	7dB 9dB 14dB	7dB 9dB 14dB	0 1	0dB -4dB -2dB	0dB -4dB -2dB
3rd	Parade	EQ2 EQ1 (M = VDD/2) 0 0 0 0 0 1 M M M 0 M 1 1 M 1 0 1 1	2.4dB 7.4dB 14.4dB 12.2dB 9.4dB 13.3dB 6.2dB 11.2dB 5dB	2.4dB 7.4dB 14.4dB 12.2dB 9.4dB 13.3dB 6.2dB 11.2dB 5dB	0 1	0dB -3.5dB -1.5dB	0dB -3.5dB -1.5dB

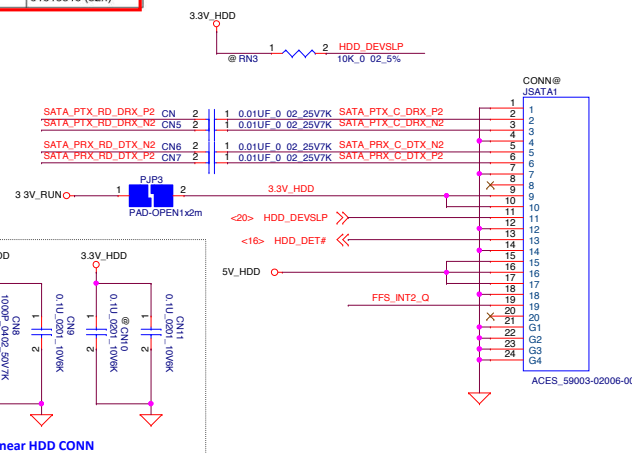
* red color is current setting



Free Fall Sensor



Command	SAD[6:1]	SAD[0] = SA0	R/W	SAD+R/W
Read	010100	0	1	01010001 (51h)
Write	010100	0	0	01010000 (50h)
Read	010100	1	1	01010011 (53h)
Write	010100	1	0	01010010 (52h)

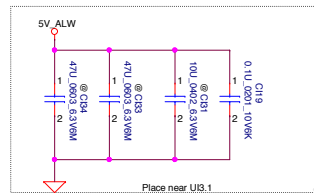
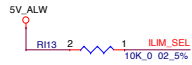
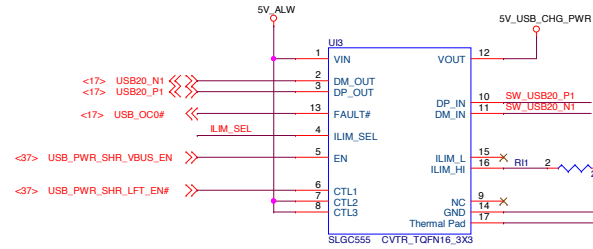
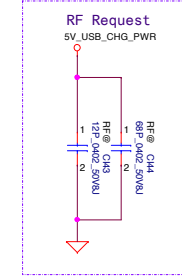
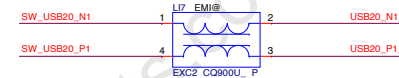
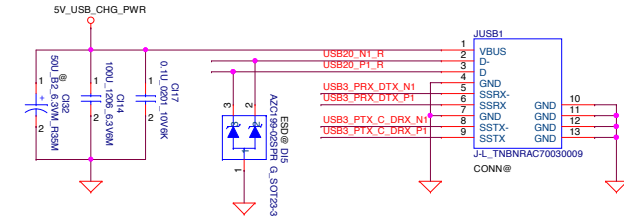
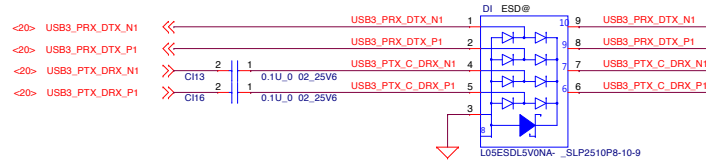


DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

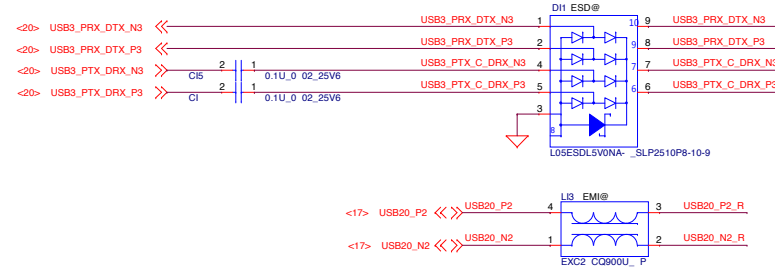
Security Classification	Compal Secret Data		Title
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Document Number LA-E153P
Date	Tuesday, June 28, 2016	Sheet	1 of 7

For PWR SW + Charger combine IC

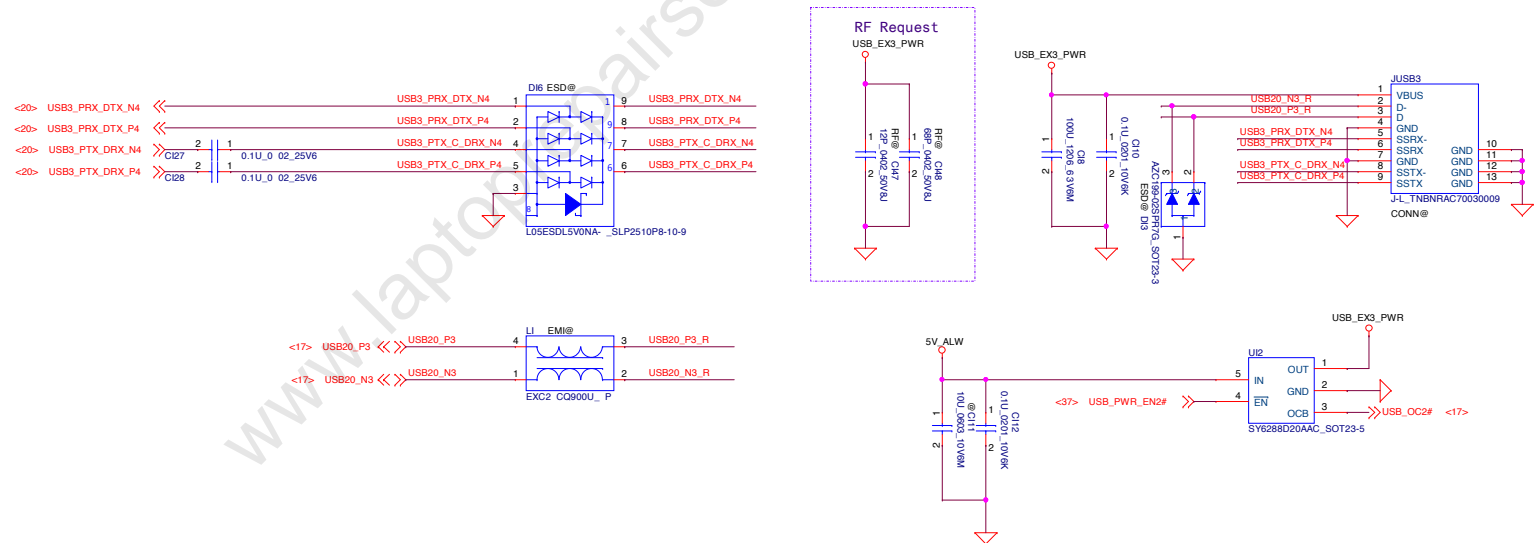
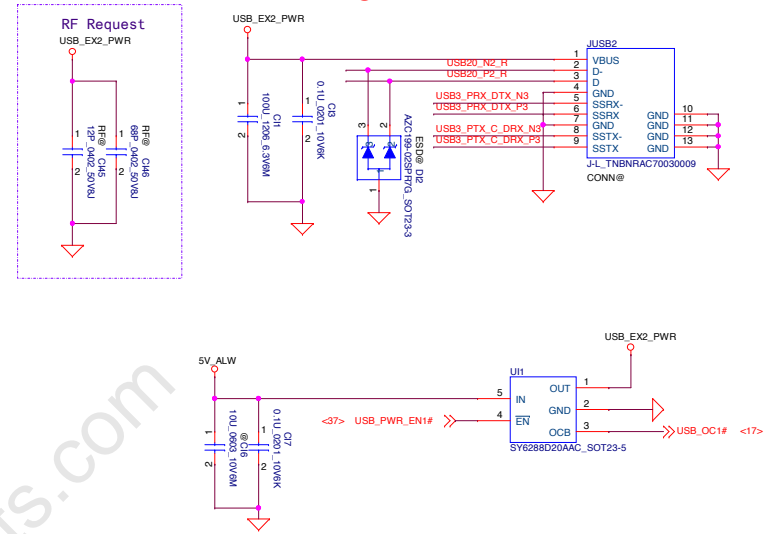


Security Classification				Compal Secret Data				DELL CONFIDENTIAL/PROPRIETARY			
Issued Date				Deciphered Date				Compal Electronics, Inc.			
2016/01/01				2017/01/01				USB SW			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number				Rev 0.2			
LA-E153P				Date: Tuesday, June 28, 2016				Sheet 2 of 7			

For Breckenridge 14&15/Steamboat 14

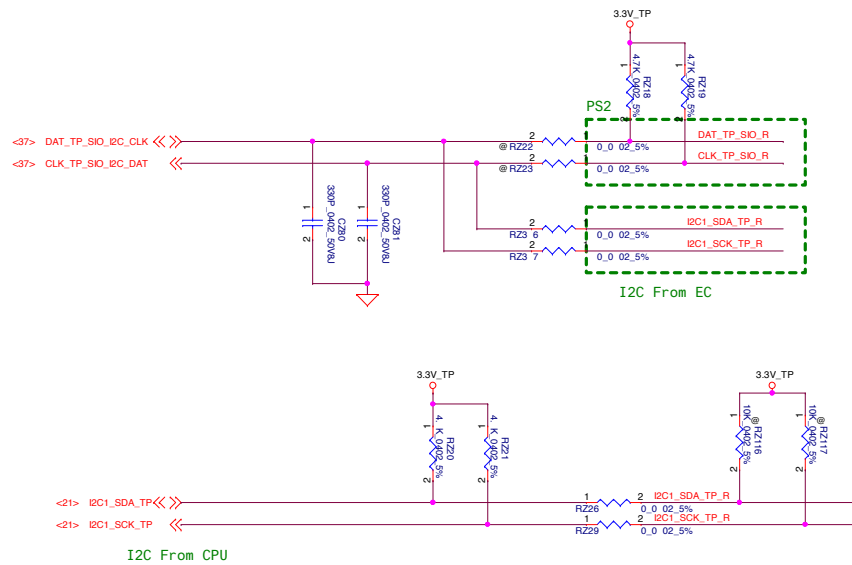


DFB request:
main SM070003Z00 (INPAQ_MCM1012B900F06BP_4P)
Footprint use 2nd source SM070004400 (PANAS_EXC24CQ900U_4P)
Pitch change from 0.5mm to 0.55mm

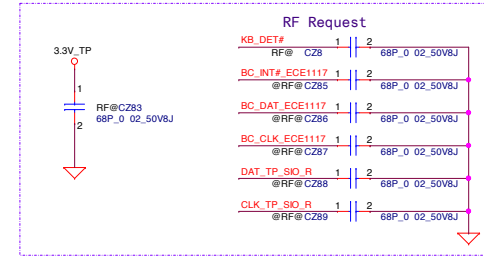
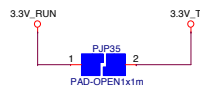


Security Classification		Compal Secret Data		ALL CONFIDENTIAL/PROPRIETARY Compal Electronics, Inc.	
Issued Date 2016/01/01		Deciphered Date 2017/01/01		Title JUSB2&JUSB3	
THIS SHEET OF ENGINEERING DRAWING \$ THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Document Number LA-E153P	Rev 0.2
				Date: Tuesday, June 28, 2016	Sheet 3 of 7

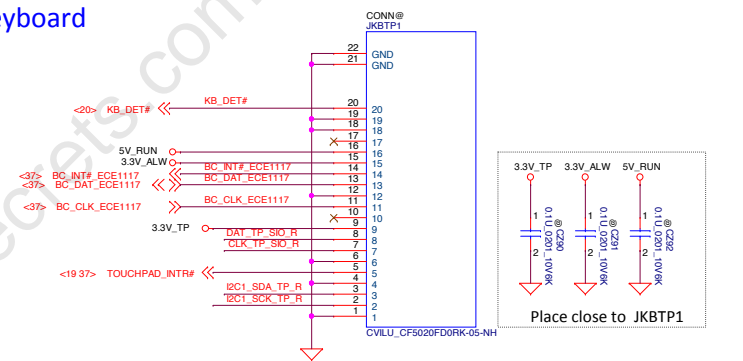
Touch Pad



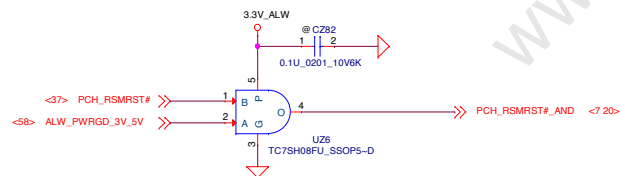
Plan is for I2C to be driven by the EC for Win7 and Pre-OS (will utilize Intel I2C drivers for Win7)
For Win8.1 and 10 the EC will control TP over I2C Pre-OS and then the PCH will drive I2C when in Windows
Route PS2 from EC to the touch pad also for contingency plan if I2C has issues



Keyboard



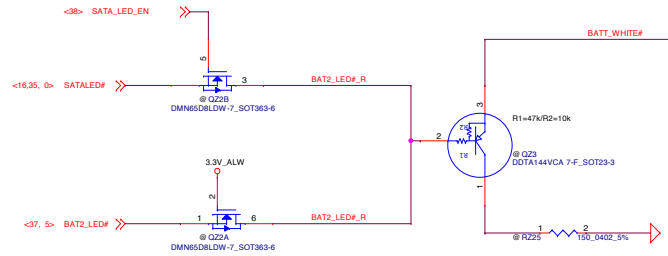
RSMRST circuit



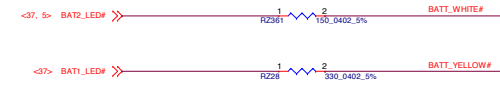
Security Classification				Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date				2016/01/01	Deciphered Date	2017/01/01	Title
							Keyboard
							Document Number
							LA-E153P
							Rev
							0.2
							Date
							Tuesday, June 28, 2016
							Sheet
							of
							7

HDD LED MUX

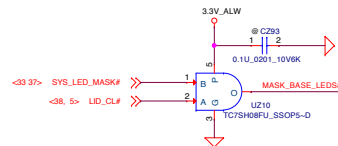
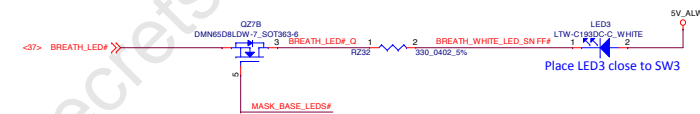
means EC can switch battery white led and HDD LED by hot key Fn H



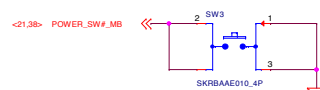
Battery LED



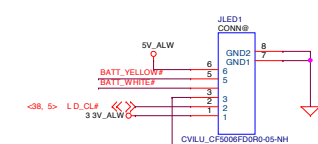
Breath LED



POWER & INSTANT ON SWITCH



LED board CONN

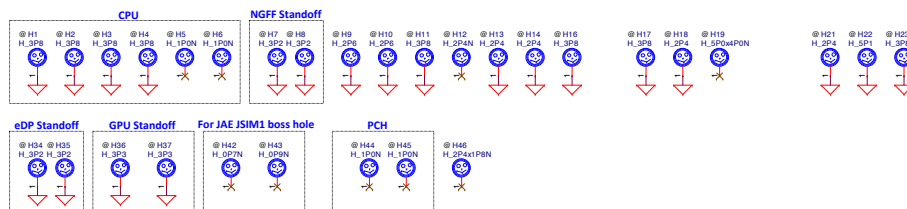


Fiducial Mark

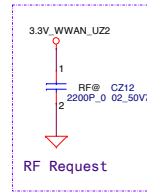
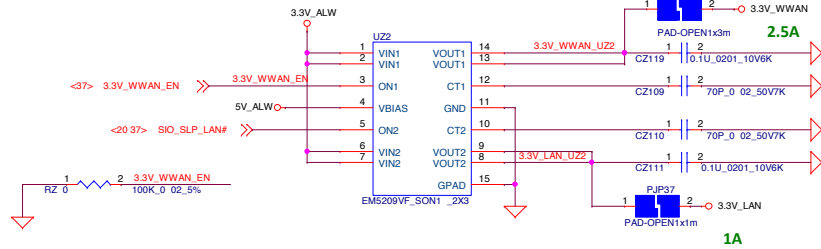


LED Circuit Control Table

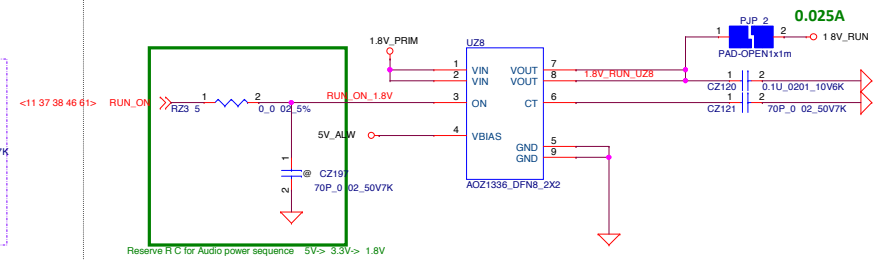
	SYS_LED_MASK#	LID_CL#
Mask All LEDs (Unobtrusive mode)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1



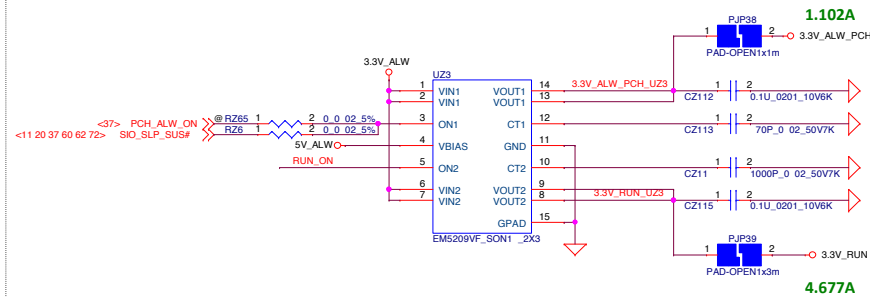
+3.3V_WWAN/+3.3V_LAN source



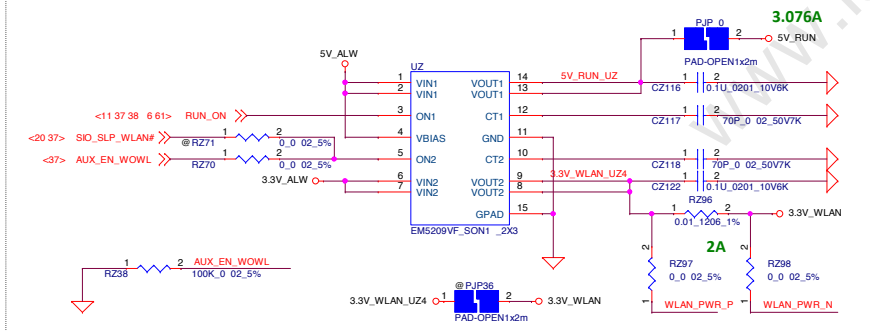
+1.8V_RUN source



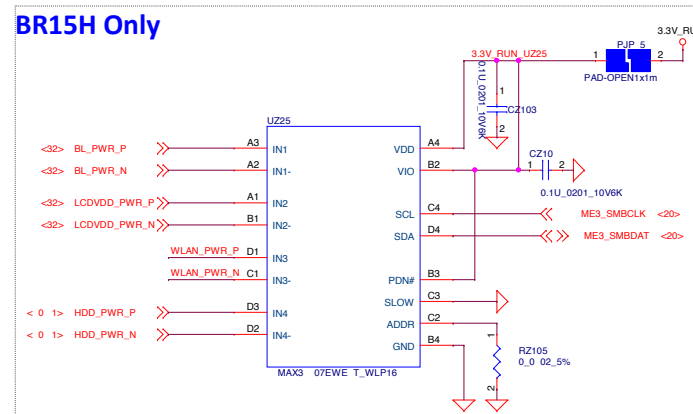
+3.3V_ALW_PCH/+3.3V_RUN source



+5V_RUN/+3.3V_WLAN source



BR15H Only



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Power control

Security Classification	Compal Secret Data		Title
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Size B
			Document Number LA-E153P
			Rev 0.2
			Date: Tuesday, June 28, 2016
			Sheet 6 of 7

I2CS Slave Address

SMBUS_ALT_ADDR	Description
0	0x9E(Default)
1	0x9C(Multi-GPU usage)

VGA_DEVICE Setting

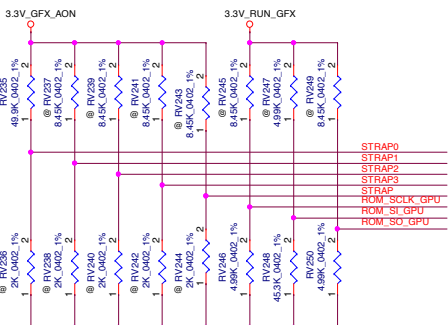
VGA_DEVICE	Description
0	Non-Primary 3D Acceleration Device(Class Code 302h)
1	Primary Display or VGA Device(Class Code 300h)

Resistance Mapping to Hex Values

Resistor Value	Pull-up to VDD33	Pull-down to GND
4.99K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
24.9K	1100	0100
30.1K	1101	0101
34.8K	1110	0110
45.3K	1111	0111

Memory Density	Allowed Memory Configuration	FBVDDQ	Vendor	Manufacturer Part Number	Die Revision	Strap	Memory Speed Grade	Date Code Alert	Qual Plan	Status
4 Gb	128Mx32	1.35V	Samsung	K4G41325FE-HC28	E-die	0x7	5 Gbps	N/A	Full	Production candidate
			Micron	EDW4032BAG-60-F	A-die	0x4	5 Gbps	N/A	Full	Production candidate

Decive ID change to 0x1056



Strap Pin Name	Logical Strapping Bit 3	Logical Strapping Bit 2	Logical Strapping Bit 1	Logical Strapping Bit 0	Note
ROM_SCLK	SOR3_EXPOSED->0	SOR2_EXPOSED->0	SOR1_EXPOSED->0	SOR0_EXPOSED->0	ROM_SCLK pull-down RV246 4.99k to GND
ROM_SI	RAM_CFG[3]	RAM_CFG[2]	RAM_CFG[1]	RAM_CFG[0]	ROM_SI pull-down RV248 24.9k to GND
ROM_SO	DEVID_SEL->0(default)	PCIE_CFG->0(default)	SMB_ALT_ADDR->0(default)	VGA_DEVICE->0	ROM_SO pull-down RV250 4.99k to GND
STRAP0	Keep pull up to 3V3_AON and pull-down to GND footprint and stuff 50k ohm pull up			STRAP0 pull up RV235 50k to 3.3V_GFX_AON	
STRAP1 STRAP2 STRAP3 STRAP4	Reserve				

DEVID_SEL/PCIE_CFG default set 0 need refer Platform Update Notification for the latest configuration

For N17M-Q3 [2GB - GDDR5 4Gbit technology 4pins x 32]

VENDER	STRAP	Part Number	Note(ROM_Si)
Samsung	0x7	K4G41325FE-HC28 SA000097T0L	RV248 45.3k PD
Micron	0x4	EDW4032BAG-60-F SA00009530L	RV248 24.9k PD

Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF ROAD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			

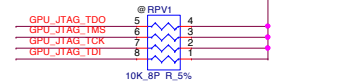
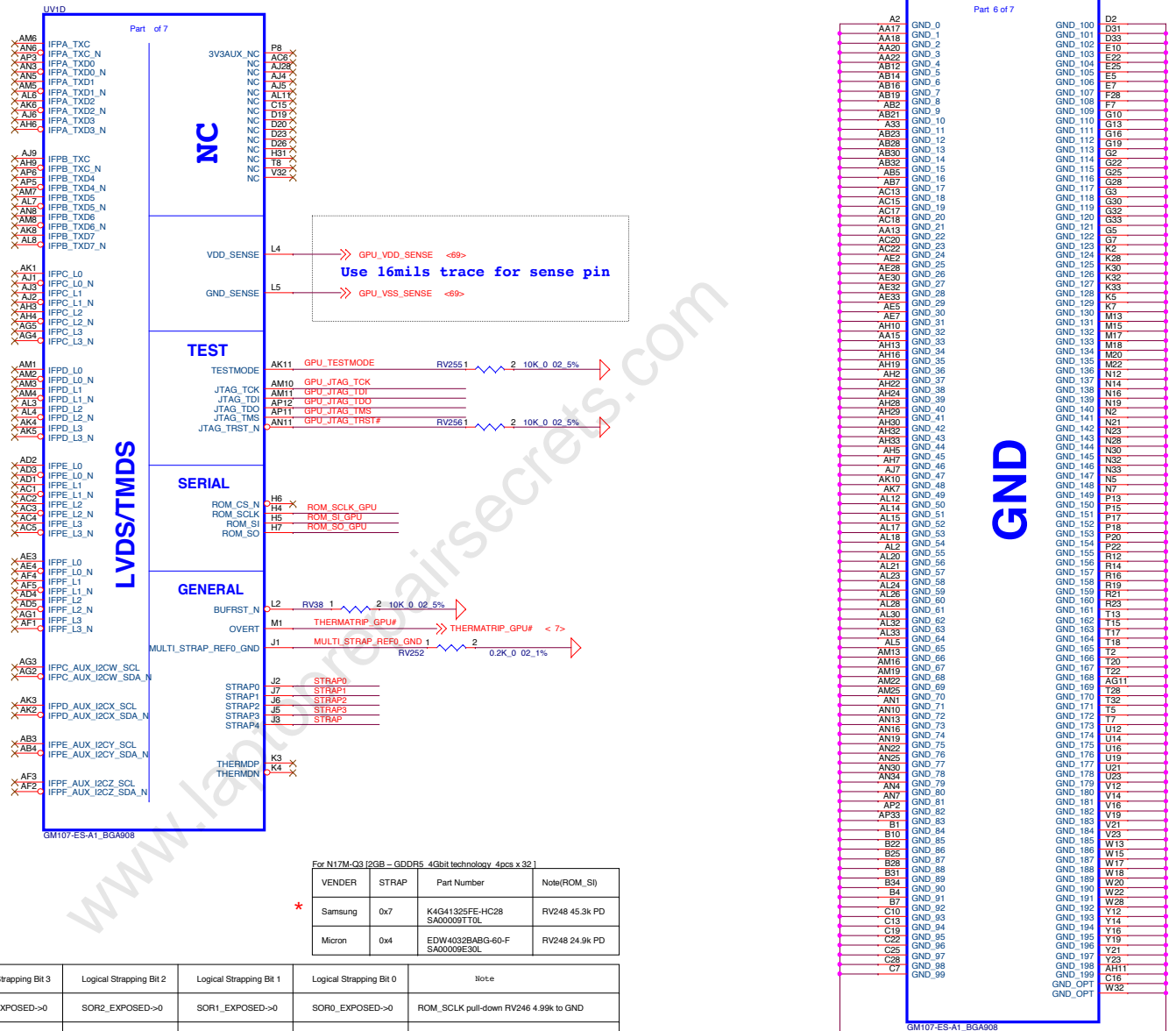
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

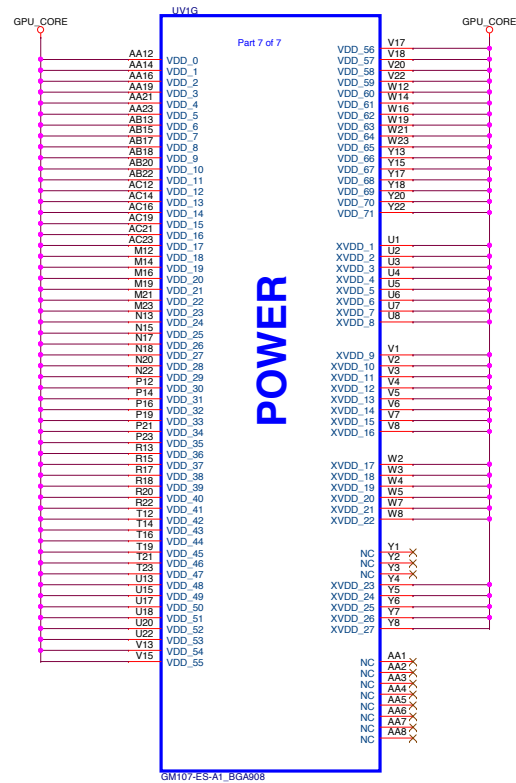
N17M DP, STRAP, GND

Document Number
LA-E153P

Date: Tuesday, June 28, 2016 Sheet 8 of 7

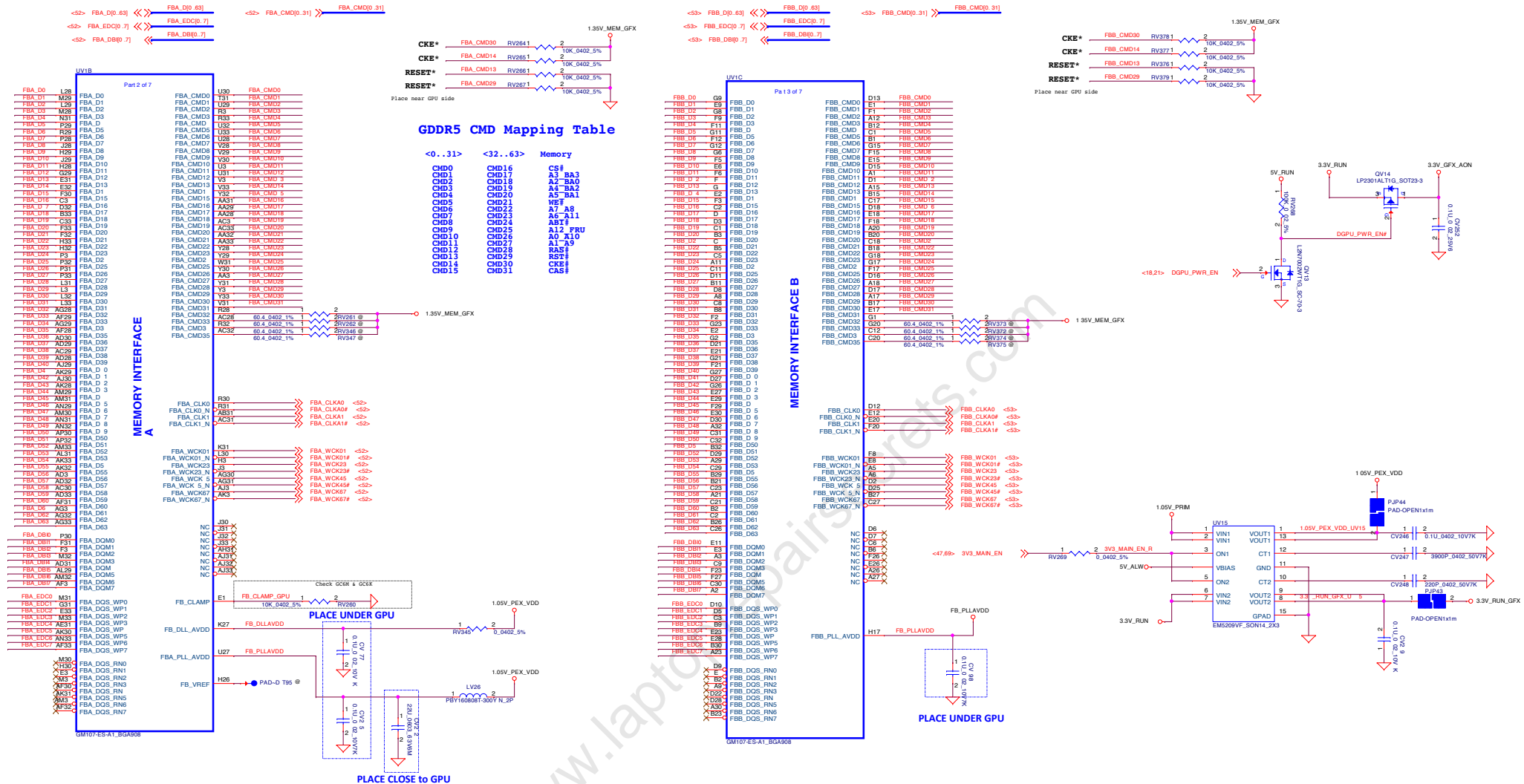


Caps on Power Side
 1UX8 4.7UX15 under GPU
 4.7UX5 22UX7 330UX1 near GPU



www.laptoprepairsecrets.com

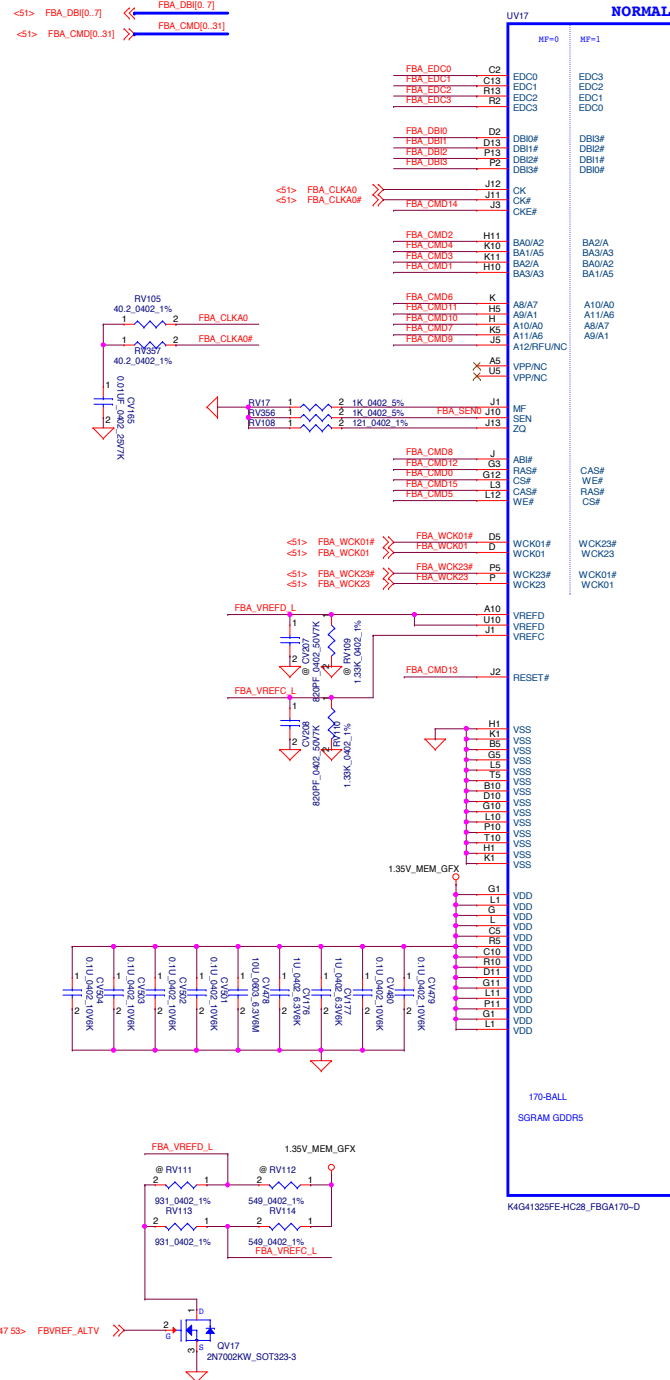
Security Classification				Compal Secret Data				DELL CONFIDENTIAL/PROPRIETARY			
Issued Date				2016/01/01				2017/01/01			
Deciphered Date				2017/01/01				2017/01/01			
Title				Compal Electronics, Inc.				N17M Power GFX Core			
Document Number				LA-E153P				Rev 0.2			
Date				Tuesday, June 28, 2016				Sheet 50 of 7			



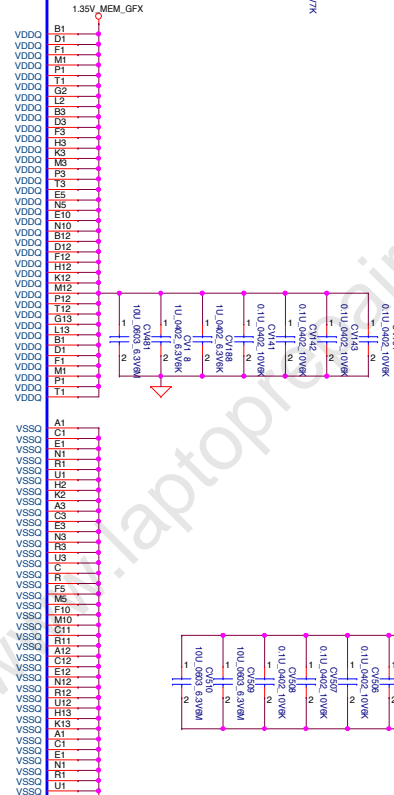
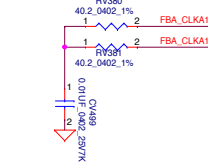
+1.35V_MEM_GFX

Diagram illustrating the connections between the FBA registers and the FBA_CMD register:

- FBA_D[0..63] is connected to FBA_EDC[0..7] via a bidirectional connection.
- FBA_EDC[0..7] is connected to FBA_CMD[0..31] via a bidirectional connection.
- FBA_CMD[0..31] is connected to FBA_D[0..63] via a bidirectional connection.
- FBA_CMD[0..31] is connected to FBA_EDC[0..7] via a bidirectional connection.

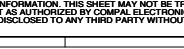
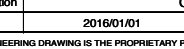
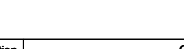
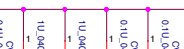
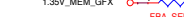


```
<0..31>      <32..63>
CMD0          CMD16
CMD1          CMD17
CMD2          CMD18
CMD3          CMD19
CMD4          CMD20
CMD5          CMD21
CMD6          CMD22
CMD7          CMD23
CMD8          CMD24
CMD9          CMD25
CMD10         CMD26
CMD11         CMD27
CMD12         CMD28
CMD13         CMD29
CMD14         CMD30
CMD15         CMD31
```

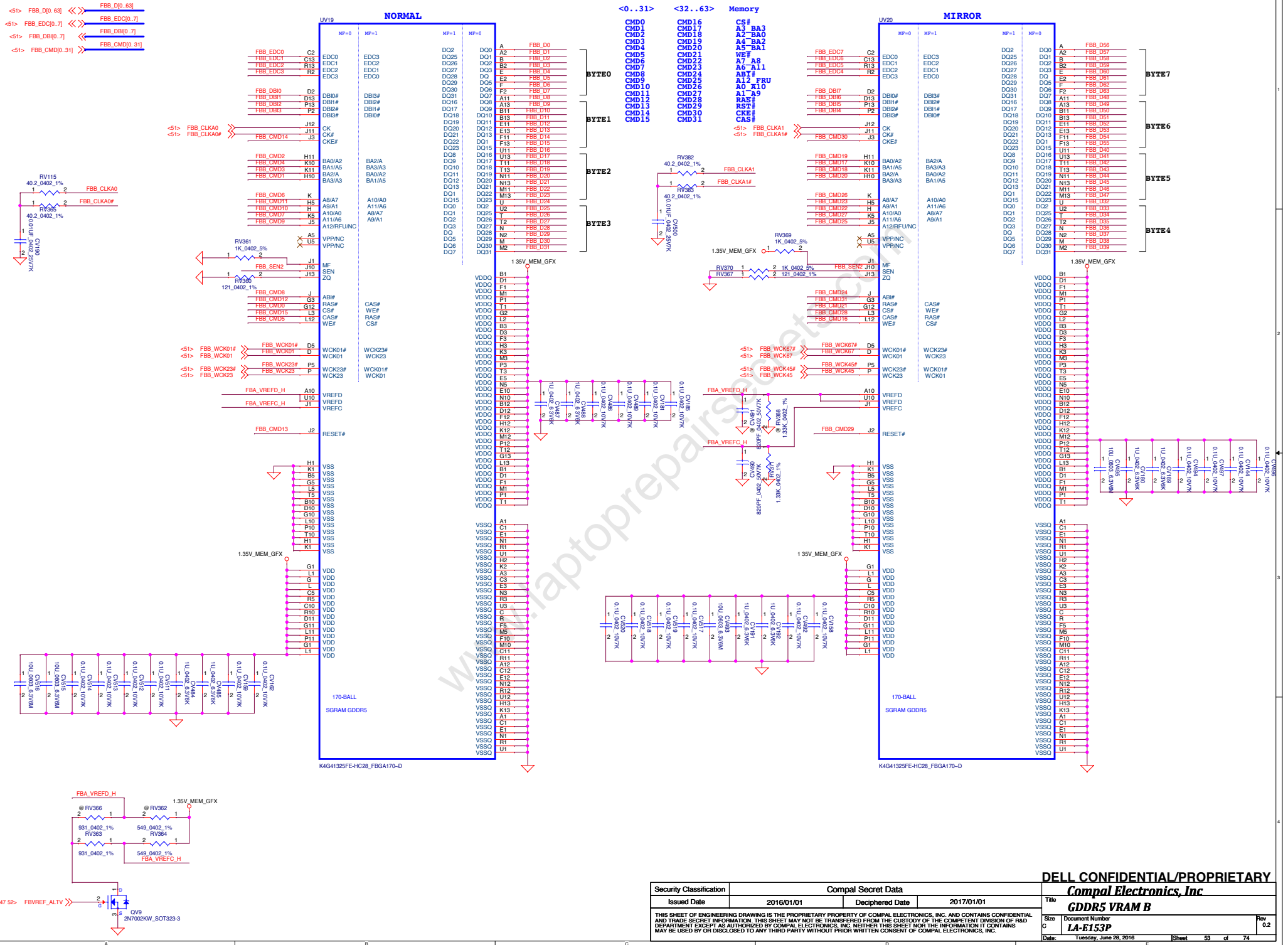


Memory

CS#
A3 BA3
A2 BA0
A4 BA2
A5 BA1
WE#
A7 A8
A6 A11
ABT#
A12 FRU
A0 A10
A1 A9
RAS#
RST#
CKE#
CAS#



GDDR5 CMD Mapping Table



WWW.AliSaler.Com



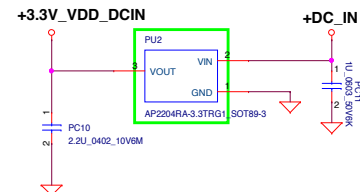
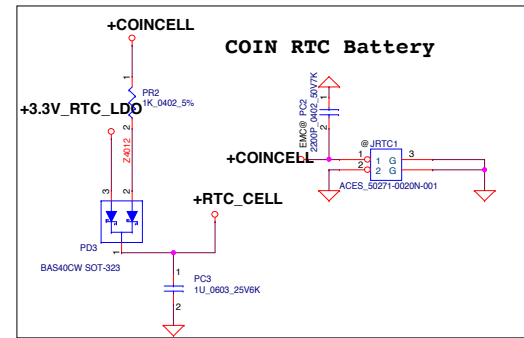
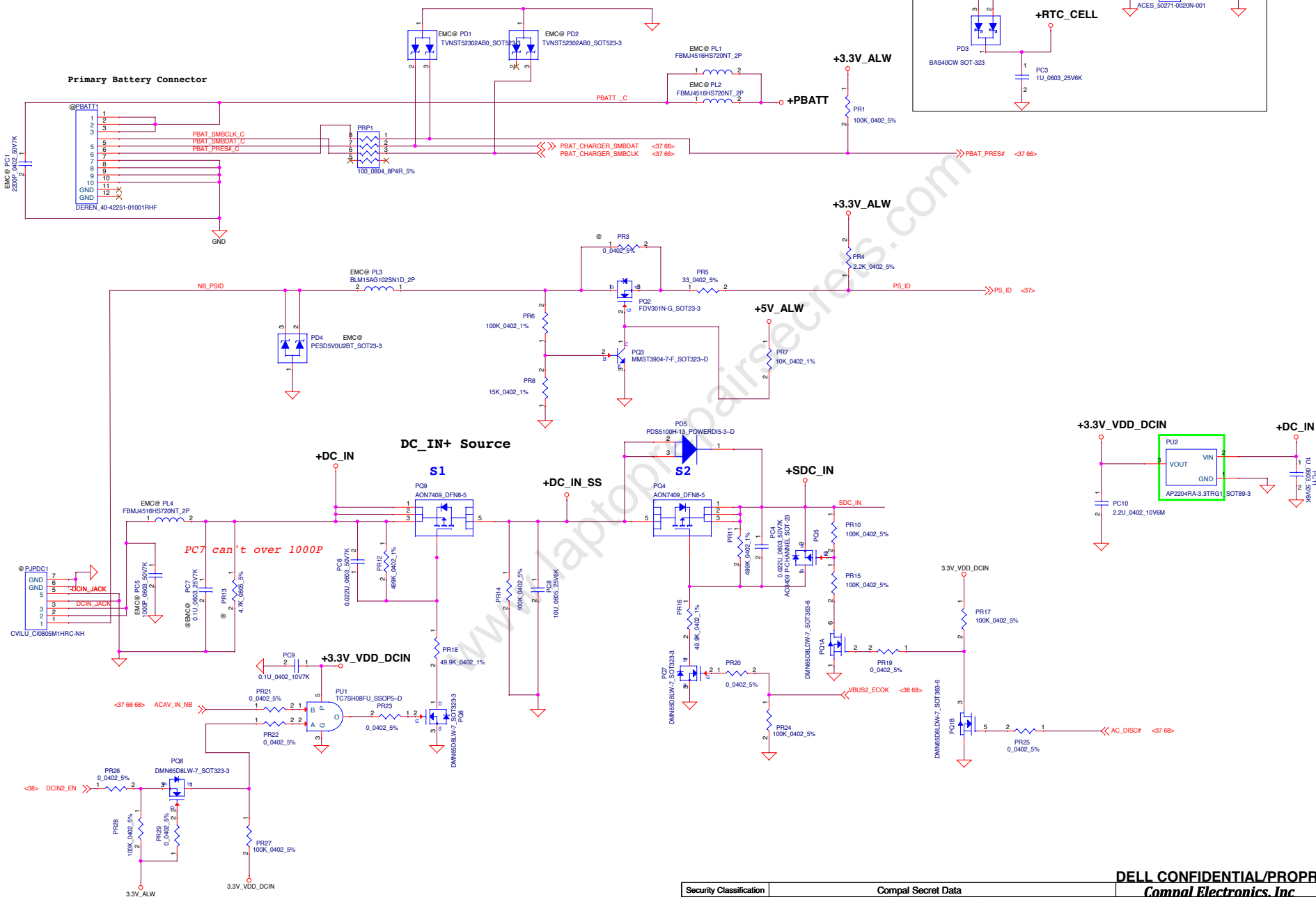
For power common schemati

Security Classification		Compal Secret Data		Title	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Compal Electronics, Inc. Power common schematic	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size A	Document Number LA-E153P
				Date Tuesday, June 28, 2016	Rev 0.2
				Sheet	55 of 74

For power common schemati

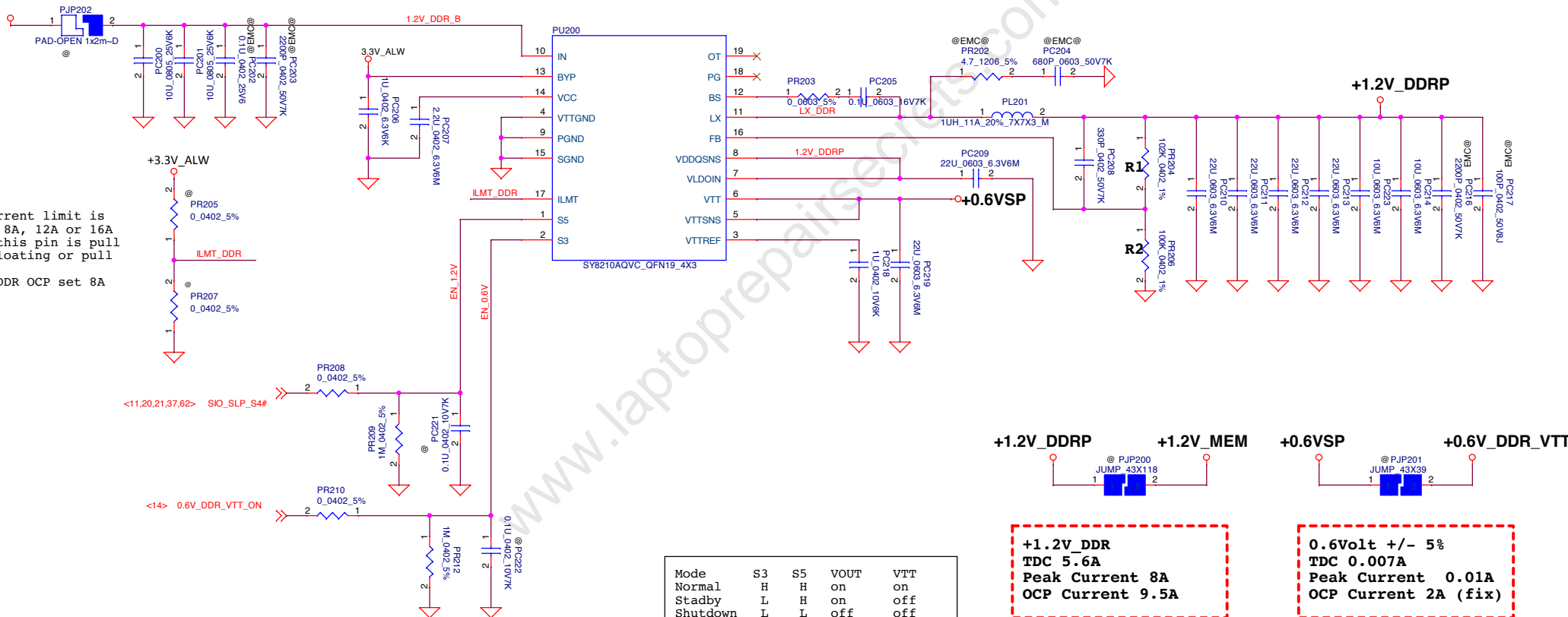
www.laptoprepairsecrets.com

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Title	Power common schematic
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size A	Document Number LA-E153P
				Date	Tuesday, June 28, 2016
				Sheet	56 of 74
				Rev	0.2



Security Classification		Compal Secret Data	
Issued Date		Deciphered Date	
2016/01/01		2017/01/01	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Title	
		+DCIN	
Size		Document Number	
C		LA-E153P	
Date		Tuesday, June 28, 2016	
Sheet		57 of 74	
Rev		0.2	

+PWR_SRC



The current limit is set to 8A, 12A or 16A when this pin is pull low, floating or pull high
+1.2V_DDR OCP set 8A

Mode	S3	S5	VOUT	VTT
Normal	H	H	on	on
Stadby	L	H	on	off
Shutdown	L	L	off	off

Note: S3 - sleep ; S5 - power off

+1.2V_DDR
TDC 5.6A
Peak Current 8A
OCP Current 9.5A

0.6Volt +/- 5%
TDC 0.007A
Peak Current 0.01A
OCP Current 2A (fix)

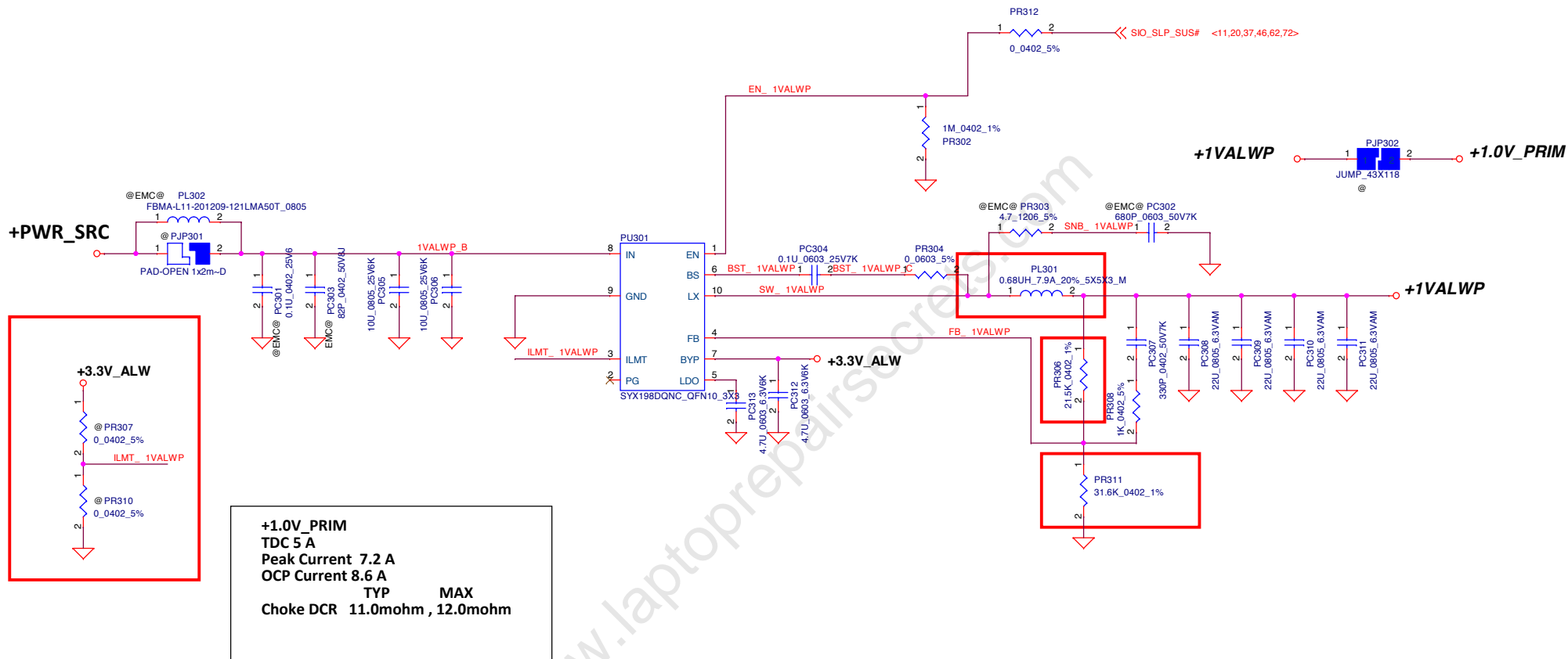
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

+1.2V_MEN/+0.6V_DDR_VTT

Size	Document Number	Rev
Custom	LA-E153P	0.2
Date	Sheet	of
Tuesday, June 28, 2016	59	74

Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			



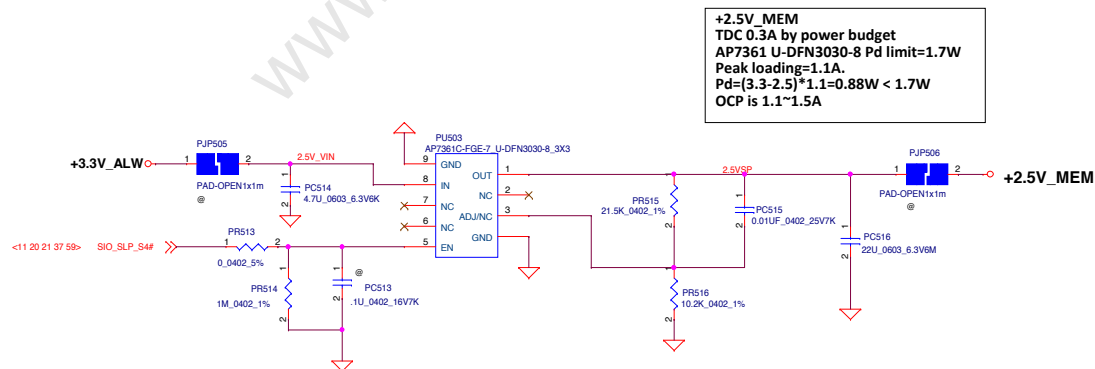
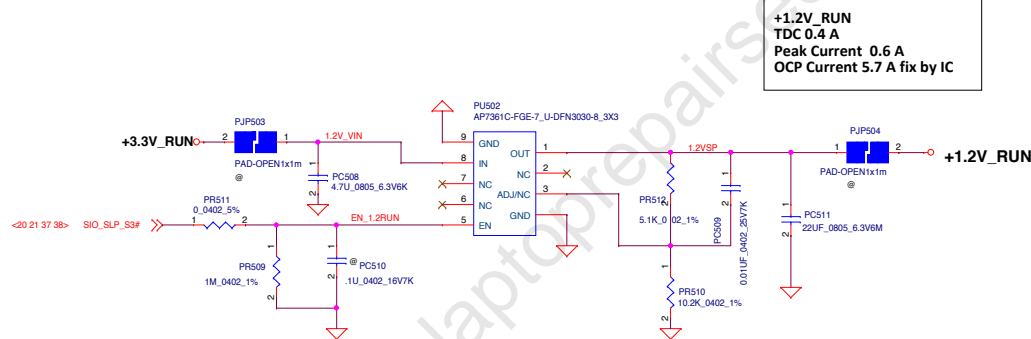
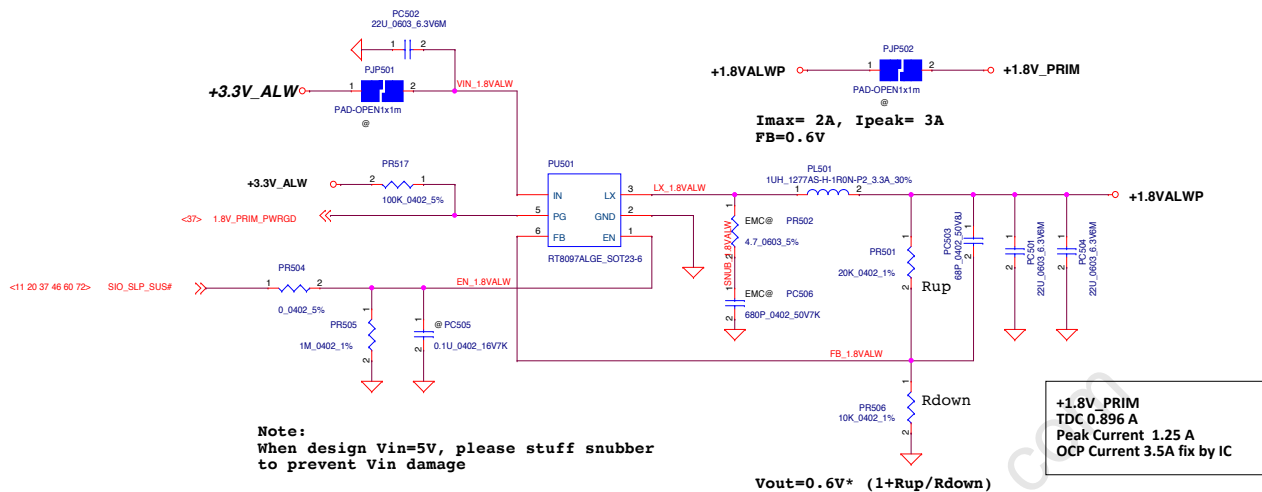
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title
+1VALWP

Size	Document Number	Rev
Custom	LA-E153P	0.2
Date	Tuesday, June 28, 2016	Sheet 60 of 74

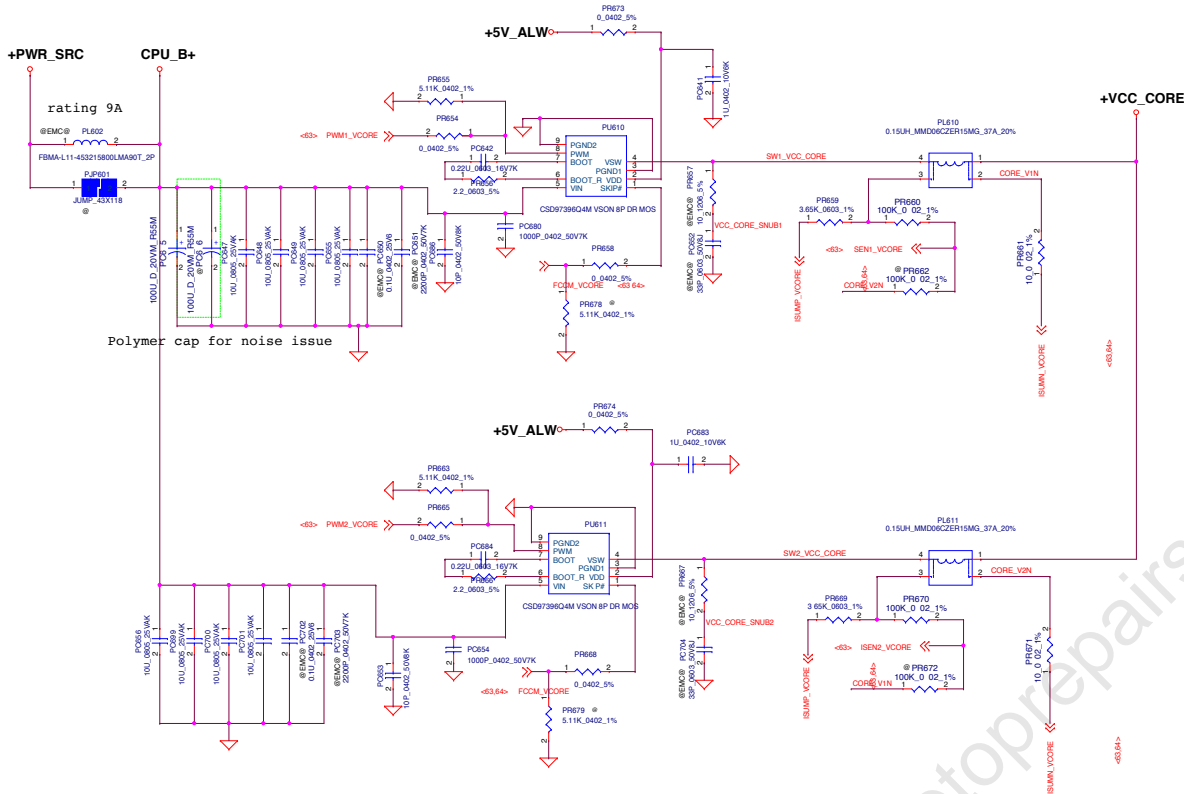
Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			



Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			

DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title	+1.8VALWP/+1.5VSP/2.5V_MEN		
Size	Document Number	Rev	
C	LA-E153P	0.2	
Date:	Tuesday, June 28, 2016	Sheet	62 of 74

VCC_core
TDC 50A
Peak Current 68A
OCP current 81.6A
Choke DCR 0.9 +-7% ohm

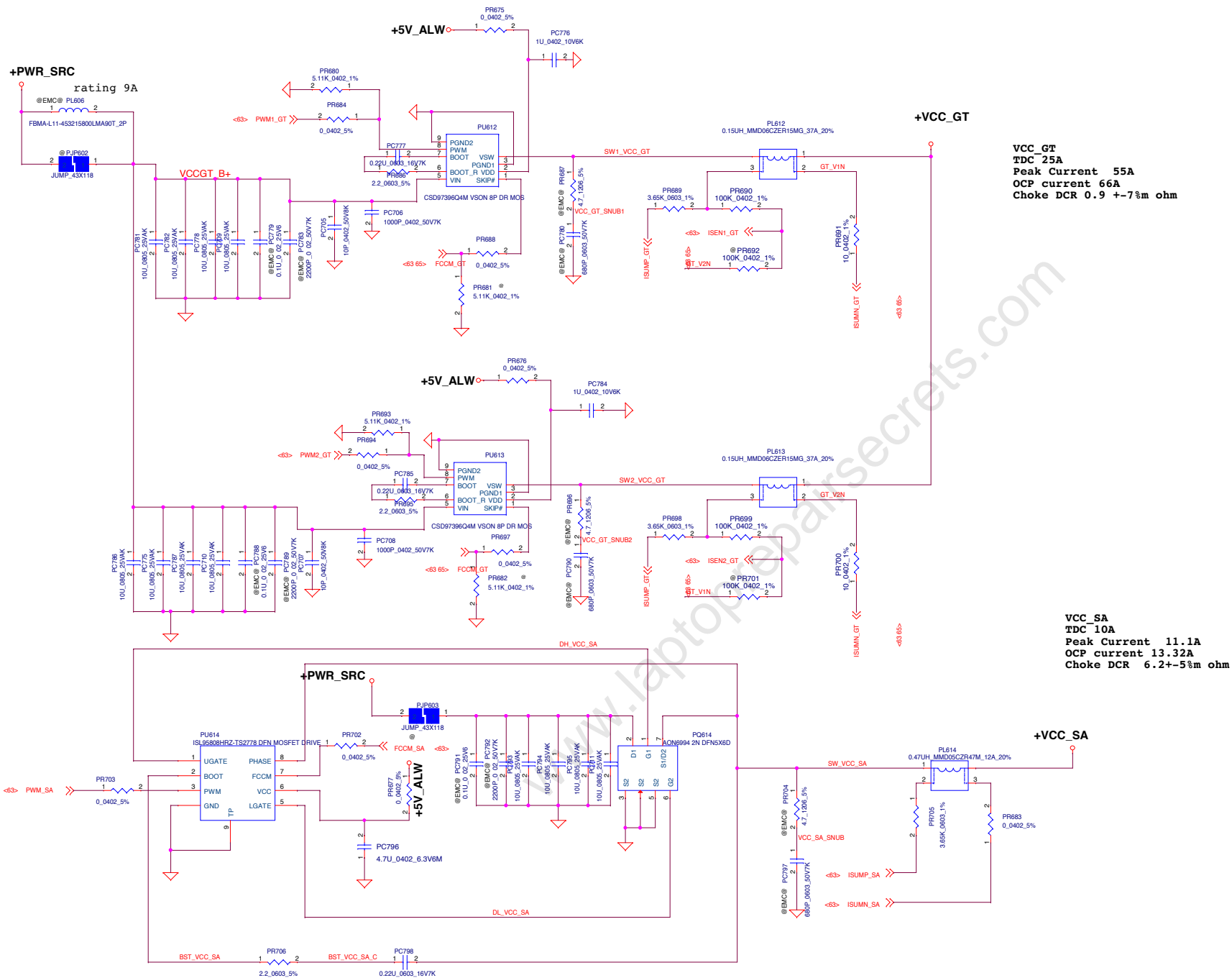


www.laptoprepairsecrets.com

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

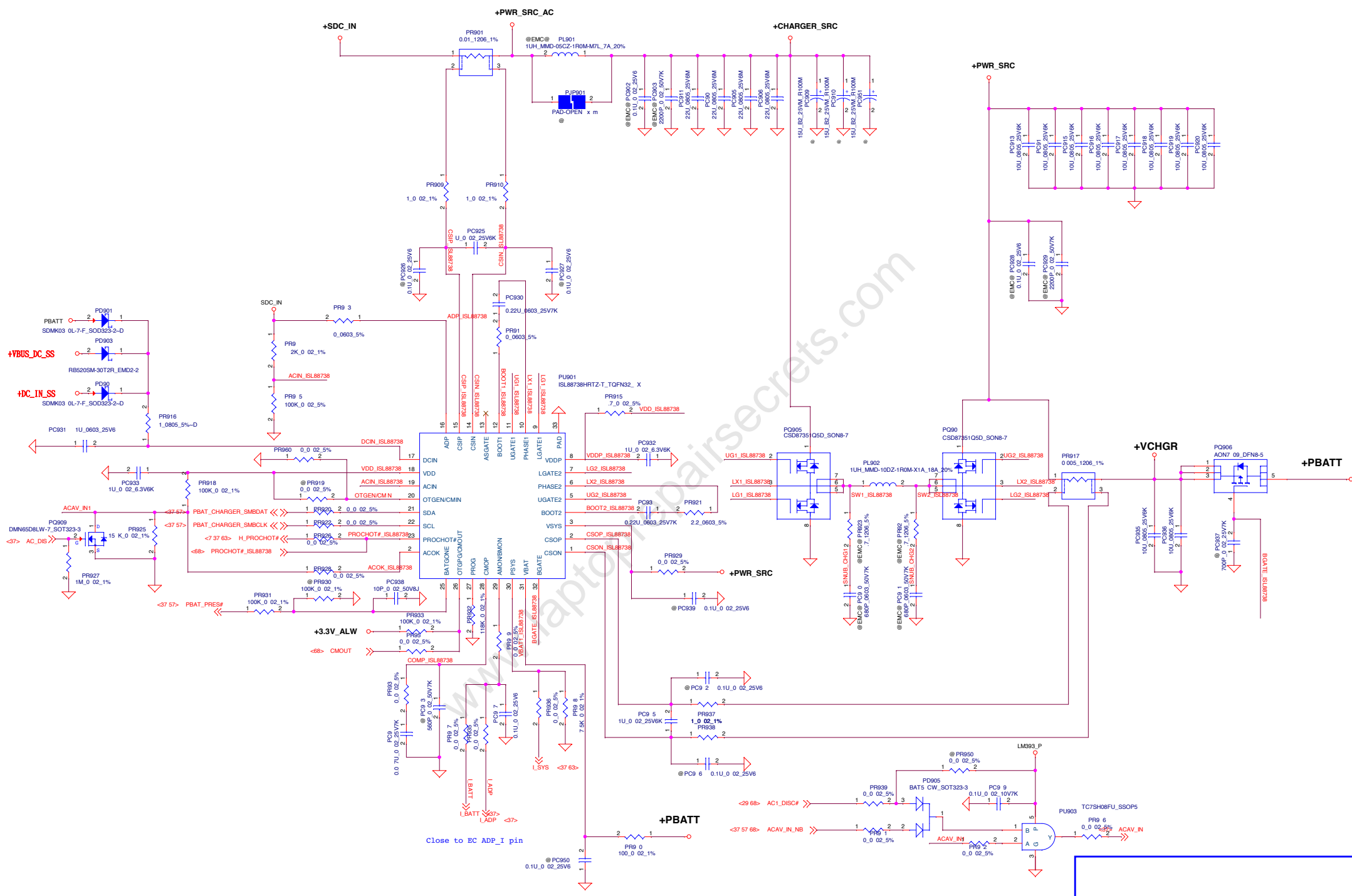
Security Classification	Compal Secret Data		Title	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	VCC_CORE
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev 0.2
Size	Document Number	Date		Rev
Custom	LA-E153P	Tuesday, June 28, 2016		0.2
Sheet		64 of 74		



VCC_GT
TDC 25A
Peak Current 55A
OCP current 66A
Choke DCR 0.9 +-7% ohm

VCC_SA
TDC 10A
Peak Current 11.1A
OCP current 13.32A
Choke DCR 6.2+-5% ohm

Security Classification	Compal Secret Data			DELL CONFIDENTIAL/PROPRIETARY
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Compal Electronics, Inc
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title VGT_VSA
Size C	Document Number LA-E153P	Rev 0.2	Date: Tuesday, June 28, 2016 Sheet 65 of 74	

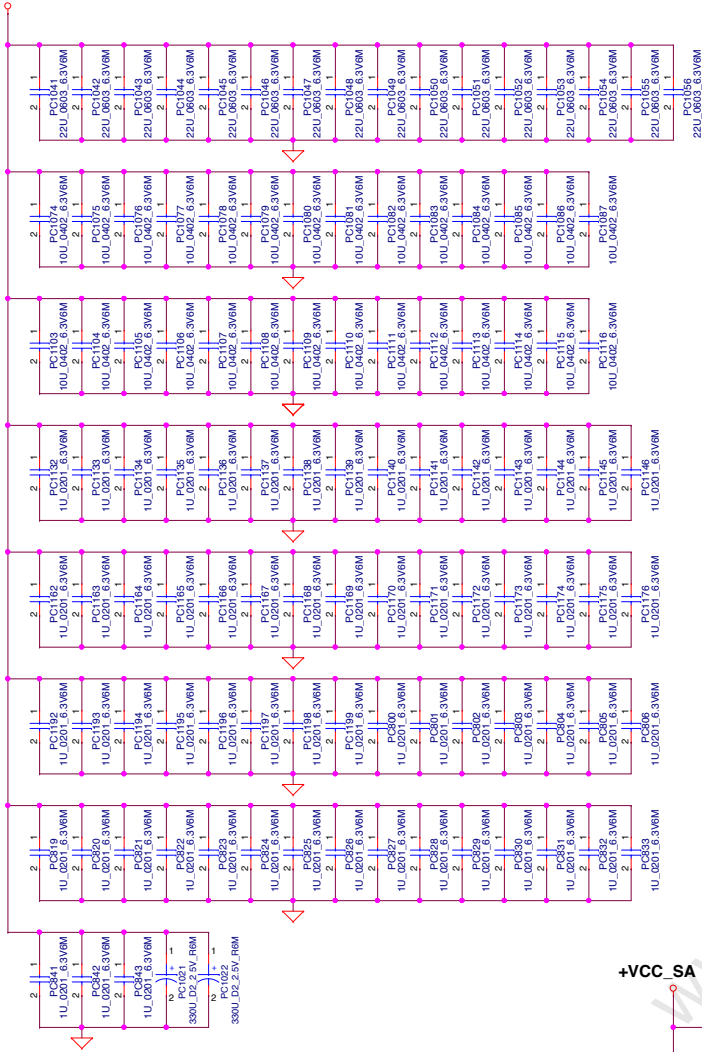


WWW.AliSaler.Com

Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		Deciphered Date		Title	
2016/01/01		2017/01/01		Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RAJESH DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Customer		Document Number	
				LA-E153P	
Date		Sheet		Rev	
Tuesday, June 28, 2016		66 of 7		0.2	

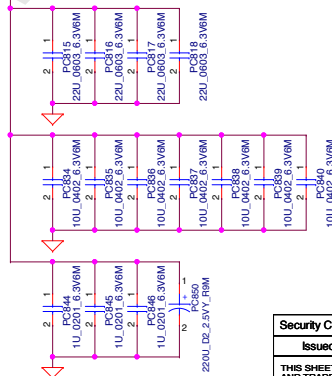
VCC_CORE Place on CPU
Back Side.
22U_0603 * 8 pcs + 10U_0402*28 pcs + 1U_0201*35 pcs
Primary Side.
22U_0603 * 8 pcs+330u_D2*2 pcs

+VCC_CORE



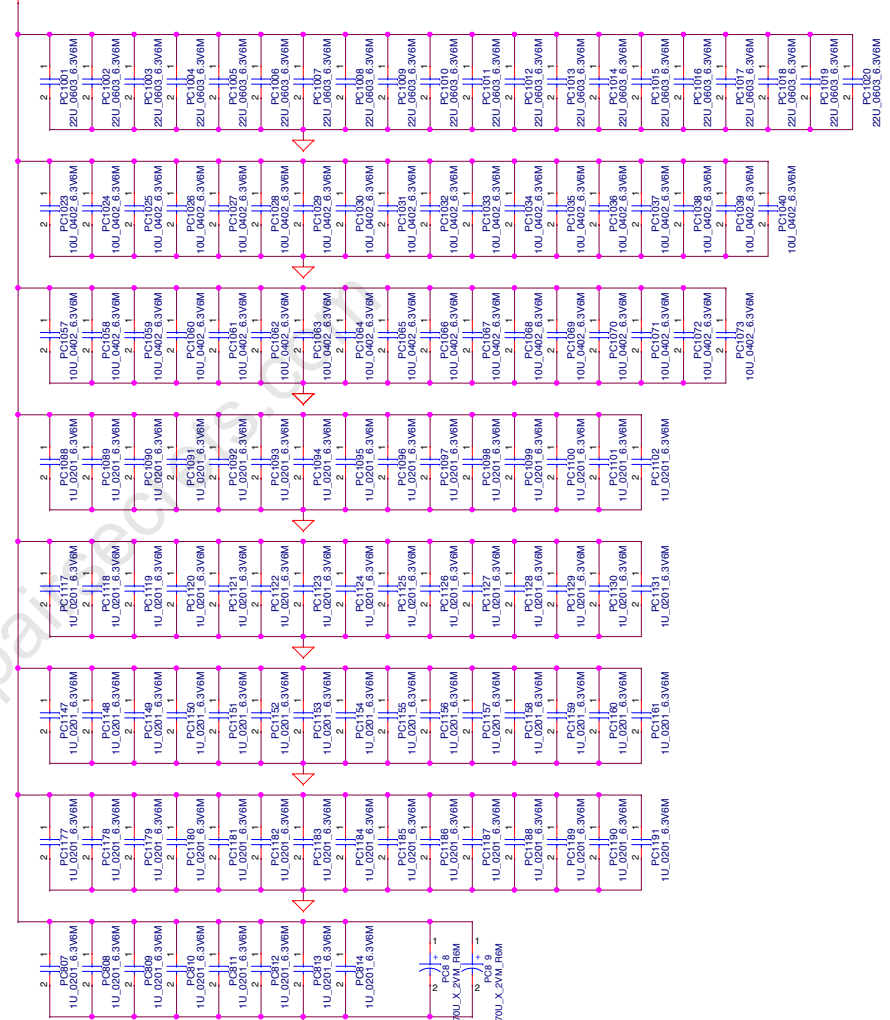
VCC_SA Place on CPU
Back Side.
22U_0603 * 2 pcs + 10U_0402*7 pcs + 1U_0201*3 pcs
Primary Side.
22U_0603 * 2 pcs + 220u_D2*1 pcs

+VCC_SA



VCC_GT Place on CPU
Back Side.
22U_0603 * 8 pcs +10U_0402*35 pcs +1U_0201*68 pcs
Primary Side.
22U_0603 * 12 pcs +470u_D2*2 pcs

+VCC_GT

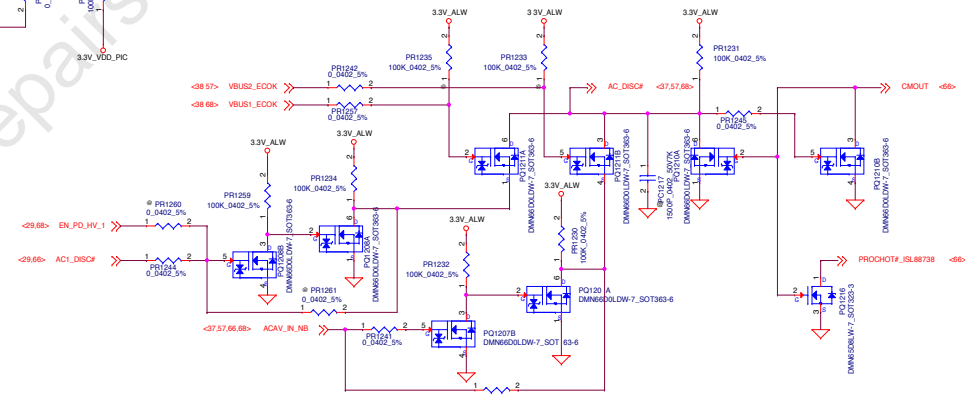
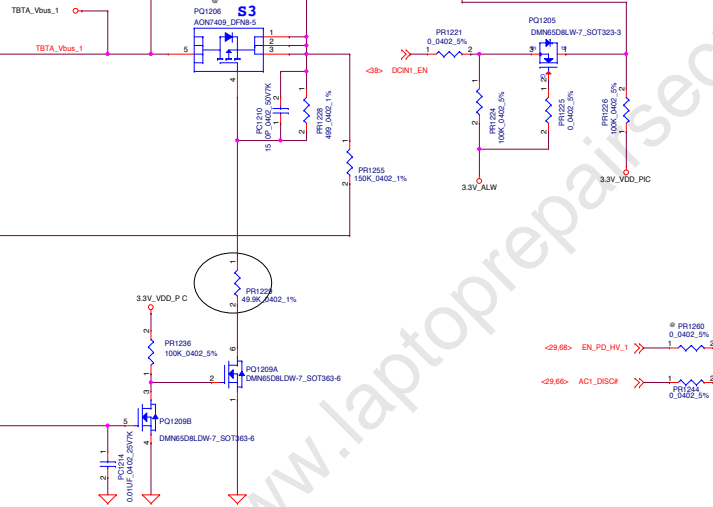
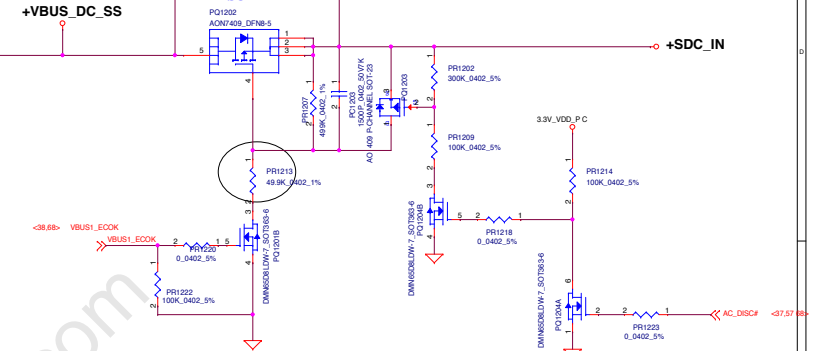
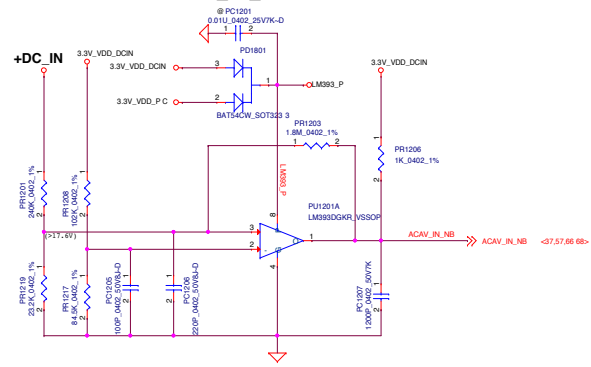


Security Classification			
Compal Secret Data			
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			

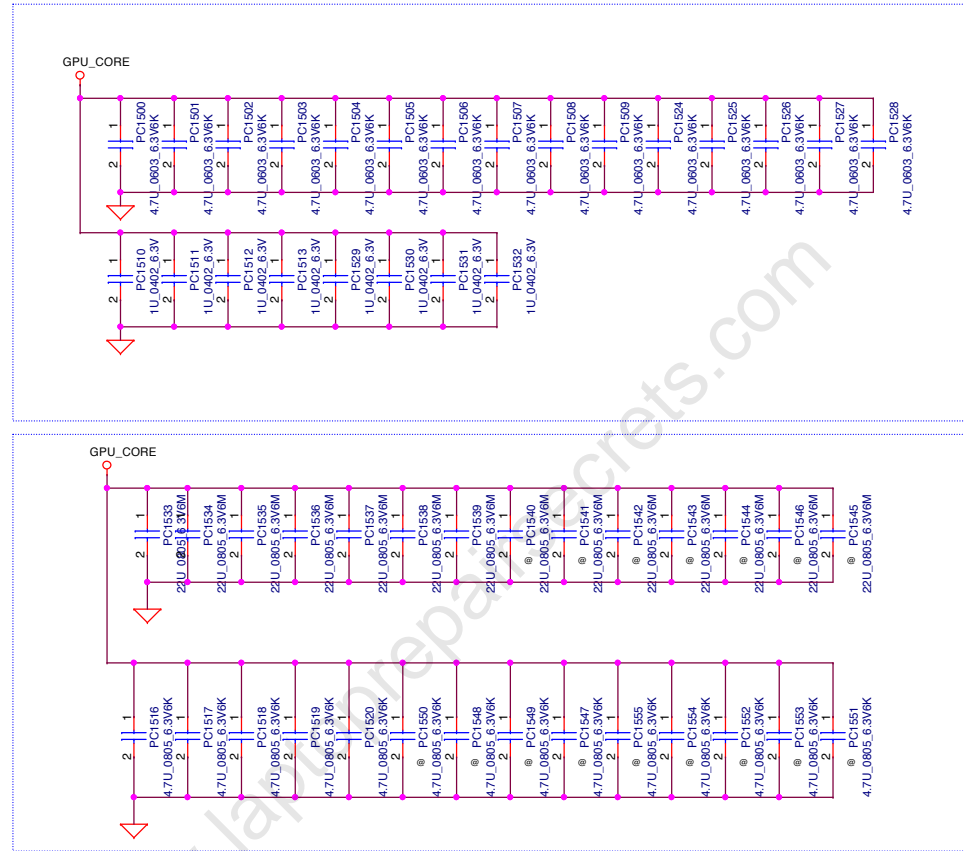
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.
PROCESSOR DECOUPLING

Title	Document Number	Rev
LA-E153P		02
Date	Tuesday, June 28, 2016	Sheet 67 of 7



Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			



nVidia GB4B-128 package
Under GPU
4.7uF 0603 * 15
1uF 0402 * 8

nVidia GB4B-128 package
Near GPU
22uF 0805 * 7
4.7uF 0805 * 5

Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		2016/01/01		Title	
		Deciphered Date		2017/01/01	
				Compal Electronics, Inc.	
				PROCESSOR DECOUPLING	
Size	Document Number			Rev	
Custom	LA-E153P			0.2	
Date	Tuesday, June 28, 2016	Sheet	71	of	74

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Version Change List (P. I. R. List)

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

Security Classification		Compal Secret Data		DELL CONFIDENTIAL/ PROPRIETARY	
Issued Date		2016/01/01		Title	
		Deciphered Date		2017/01/01	
				Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF H&B DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS INC.		Customer		Document Number	
		Date		Tuesday June 28 2016	
		Sheet		73 of 74	
				Rev	
				0.2	

Version Change List (P. I. R. List)

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.		
D	1	11	HW	2016/5/27	COMPAL	S0ix(modern standby) support for VCCPLL_OC	Pop RZ120 and Depop UZ34 Add net name VCCSTG_EN(UZ19.4) and connect to RZ120.1	0.2(X01)	D
	2	37	HW	2016/5/27	COMPAL	Reserve PORT80_DET# PD resistance	Reserve RE513 100k (SD028100380) to GND	0.2(X01)	
	3	35	HW	2016/6/1	COMPAL	Intel schematics reivew modify item	CZ28,CZ29 change from 0.047uF to 0.01uF CZ27 change from 0.1uF(@)_0201 to 10uF_0603	0.2(X01)	
	4	45	HW	2016/6/1	COMPAL	JLED1 pin define error	JLED1 pin definition change	0.2(X01)	
	5	39	HW	2016/6/1	COMPAL	TPM change to NUVOTON	Change TPM from Atmel to NUVOTON.	0.2(X01)	
	6	35	HW	2016/6/1	COMPAL	Intel reviwie result (WWAN Coex feature support)	Add RZ128 0 ohm connect WWAN_COEX3 and WLAN_COEX3 Add RZ129 0 ohm connect WWAN_COEX2 and WLAN_COEX2 Add RZ130 0 ohm connect WWAN_COEX1 and WLAN_COEX1	0.2(X01)	
	7	35	HW	2016/6/7	COMPAL	Debug card reserve	Add RZ131, RZ132 for PORT80_DET# and HOST_DEBUG_TX	0.2(X01)	
C	8	37	HW	2016/6/7	COMPAL	For MEC5105K-D1-TN setting	1. Change UE1 to SA00009GL00 2. POP RE360,RE362 3. De-POP RE361	0.2(X01)	C
	9	35,32	HW	2016/6/16	COMPAL	For EMC request	De-pop RZ131, RZ132. CL22 change to 10pf , POP CA7,CZ1 (100P),CH268 modify from 22p to 47p and POP,Change LV1 to SM01000NY00	0.2(X01)	
	10	41	HW	2016/6/16	COMPAL	BITS284924-HDD is still working after press power button into S5 during POST.	POP RN5	0.2(X01)	
	11	39	ME	2016/6/17	COMPAL	Connector change	1. JKBTP1 change to CVILU_CF5020FD0RK-05-NH 2. JUSH1 change to CVILU_CF5026FD0RK-05-NH 3. JIR1 change to ACES_50208-0060N-P01	0.2(X01)	
	12	36	HW	2016/6/20	COMPAL	Vender suggest	RA7,RA8 change to 16.2ohm	0.2(X01)	
	13	37	HW	2016/6/22	COMPAL	The possibility of GPIO map update	Add RE514,RE515 for RTCRST_ON	0.2(X01)	
B	14	41	HW	2016/6/22	COMPAL	BITS283552 - [BR_CSLP] FFS AP no function when execute FF generator or shake SU	FFS VDD_IO change to +3.3V_RUN	0.2(X01)	B
	15	28	HW	2016/6/22	COMPAL	TypeC USB Rx EQ change 1dB can PASS USB RSG test	depop RT144, pop RT304	0.2(X01)	
A									A

DELL CONFIDENTIAL/PROPRIETARY

Security Classification		Compal Secret Data		DECLASSIFIED Compal Electronics, Inc.	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Title	EE P.I.R (1/6)
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS INC.				Doc Number	Rev 0.2
				Date	Tuesday June 28 2016