

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

*Handwritten signature*

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

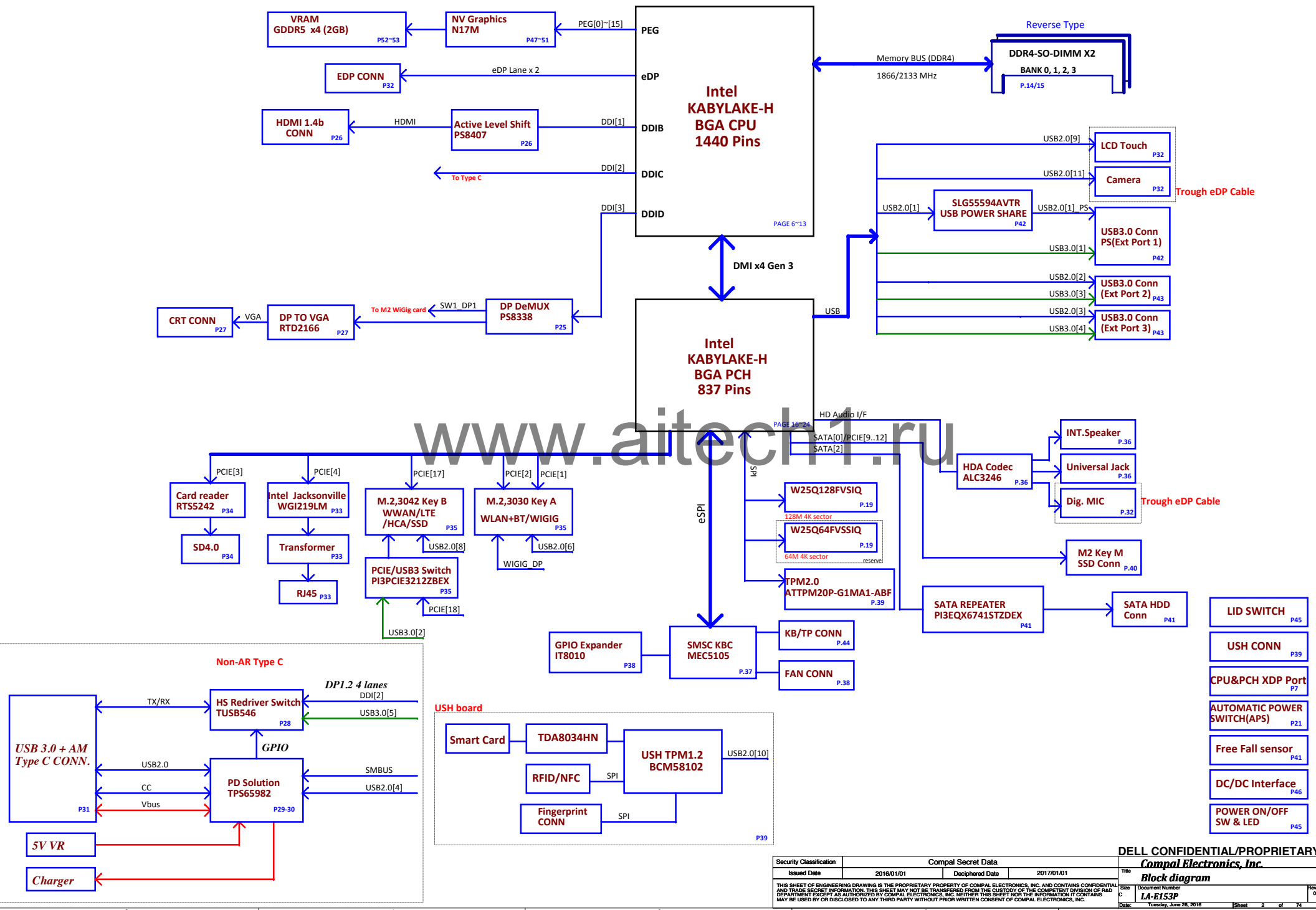
Layout Dell logo



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 A		Document Number	
				LA-E153P	
				Date: Friday, July 01, 2016	
				Sheet 1 of 74	
				Rev 0.2	

Breckenridge 15 DSC non-TBT Block Diagram



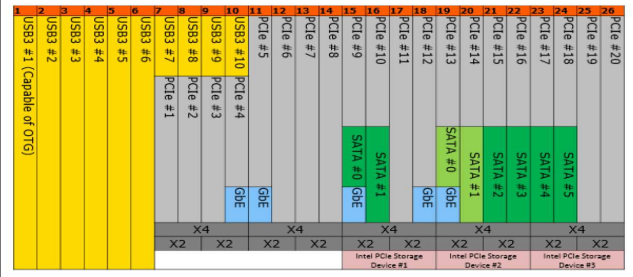
POWER STATES

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		NA
		PCIE-13	SATA-0B	
		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

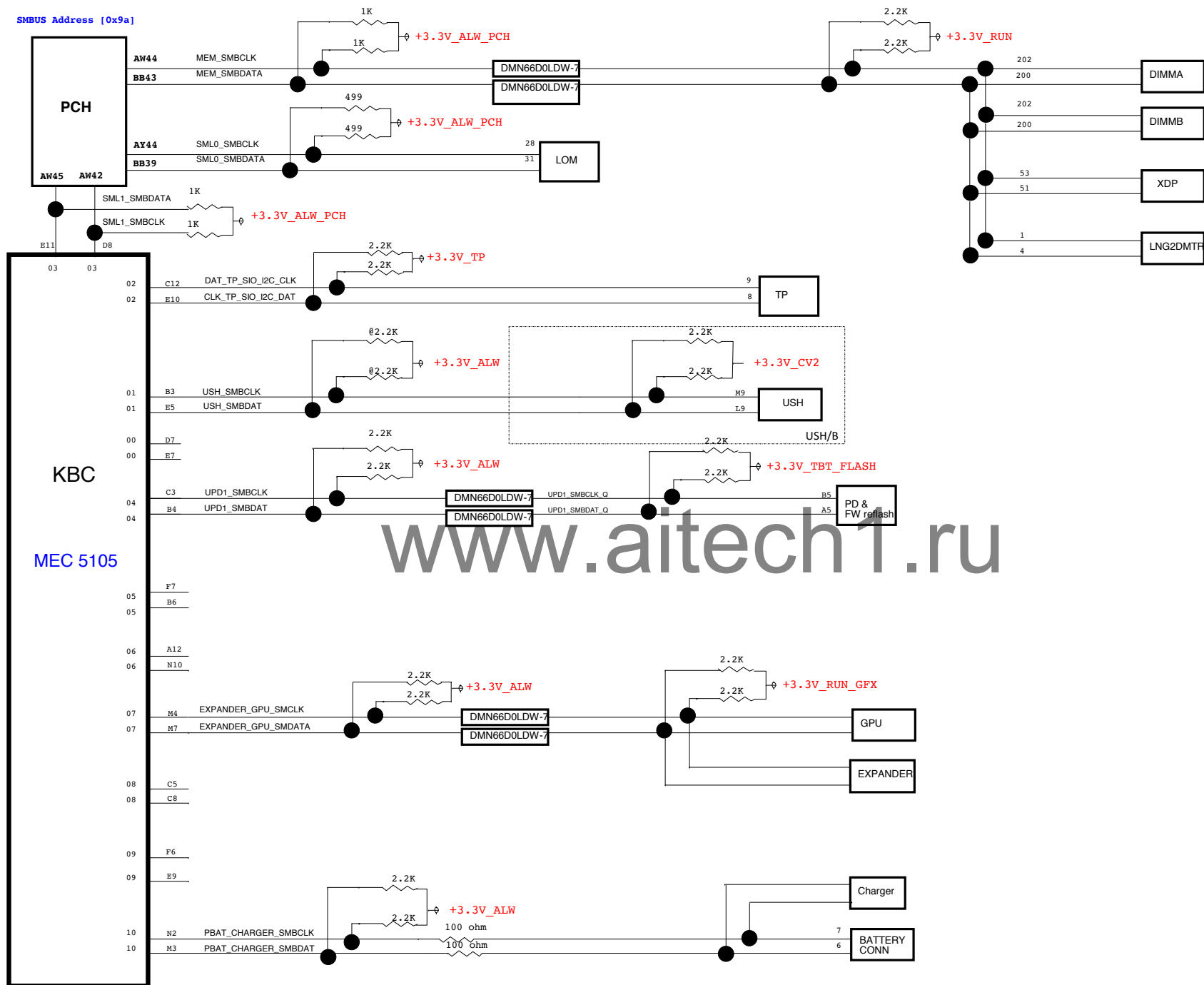
Title	Document Number	Rev
	LA-E153P	0.2
Date:	Tuesday, June 28, 2016	Sheet 3 of 74

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.			

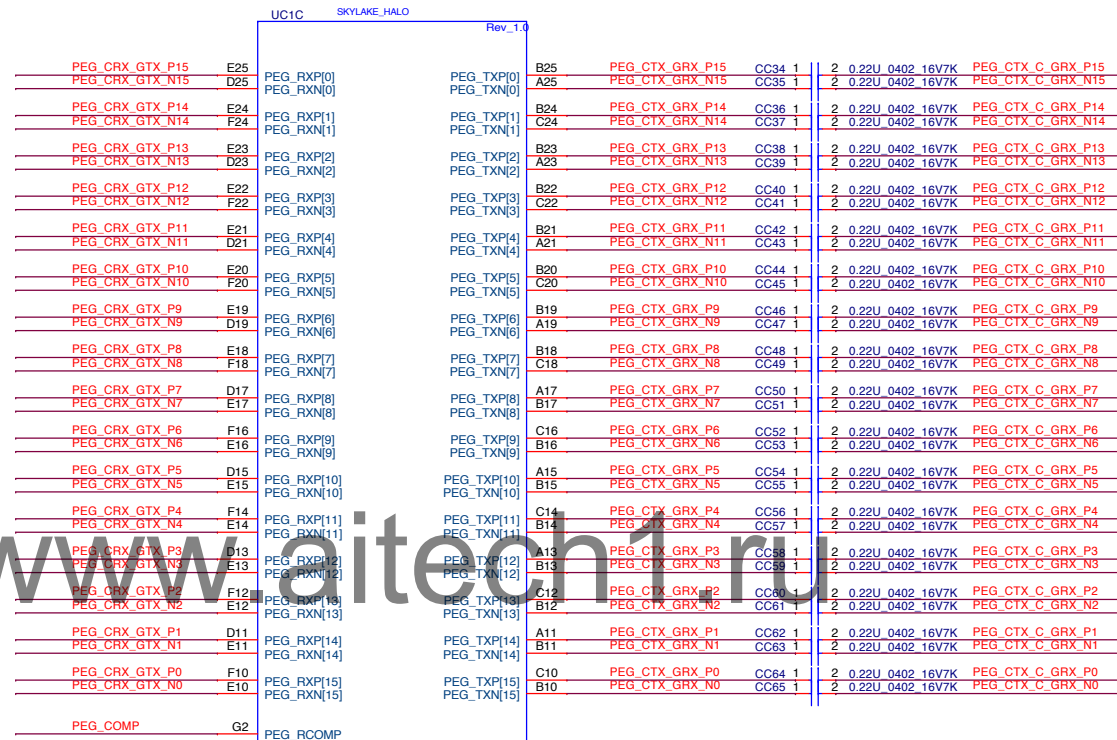


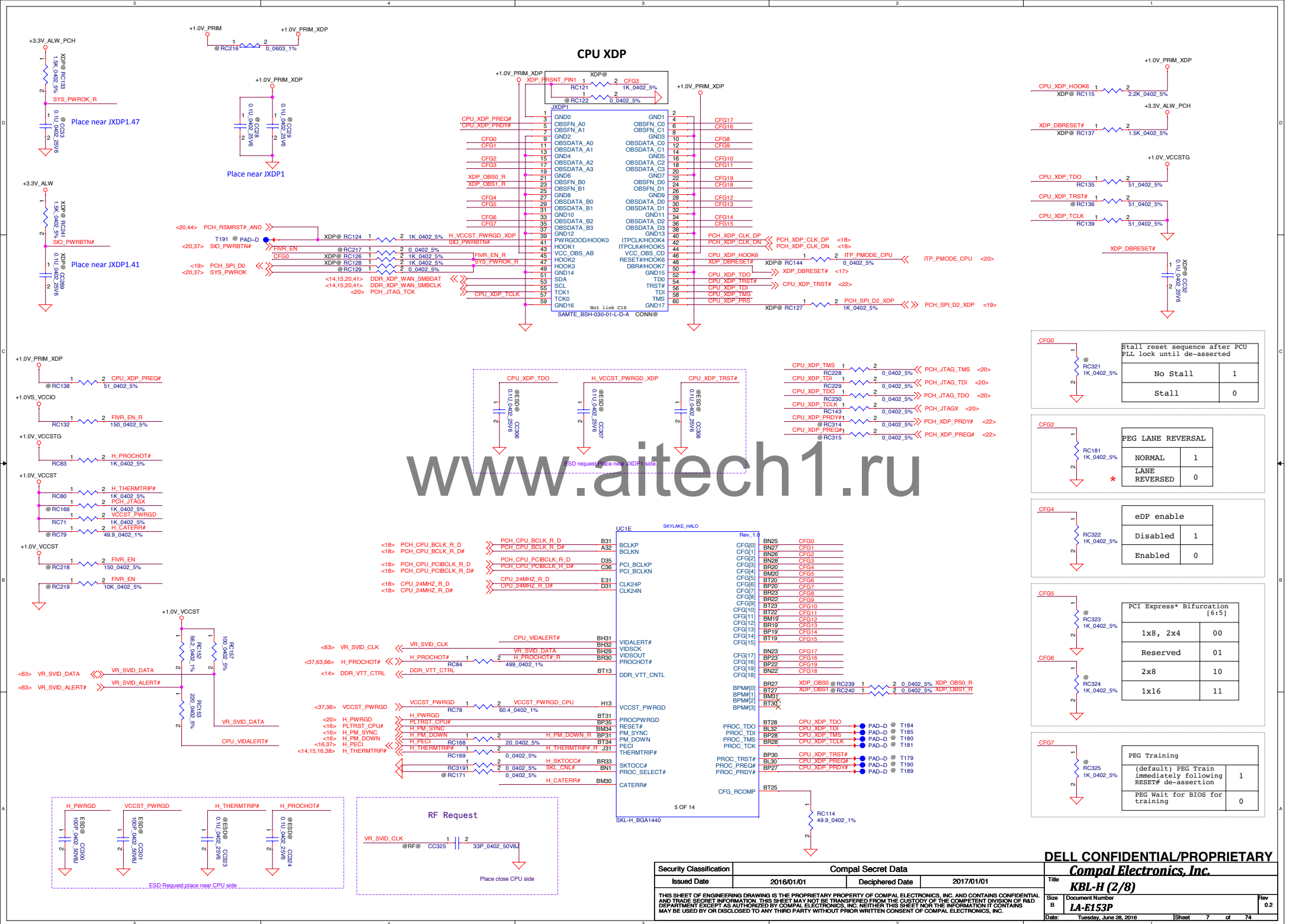


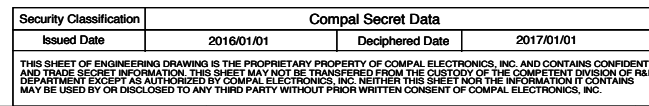
SMBUS Address [0x9a]

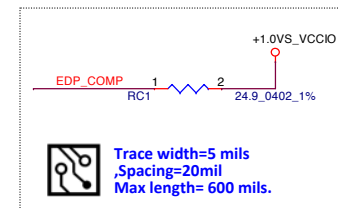
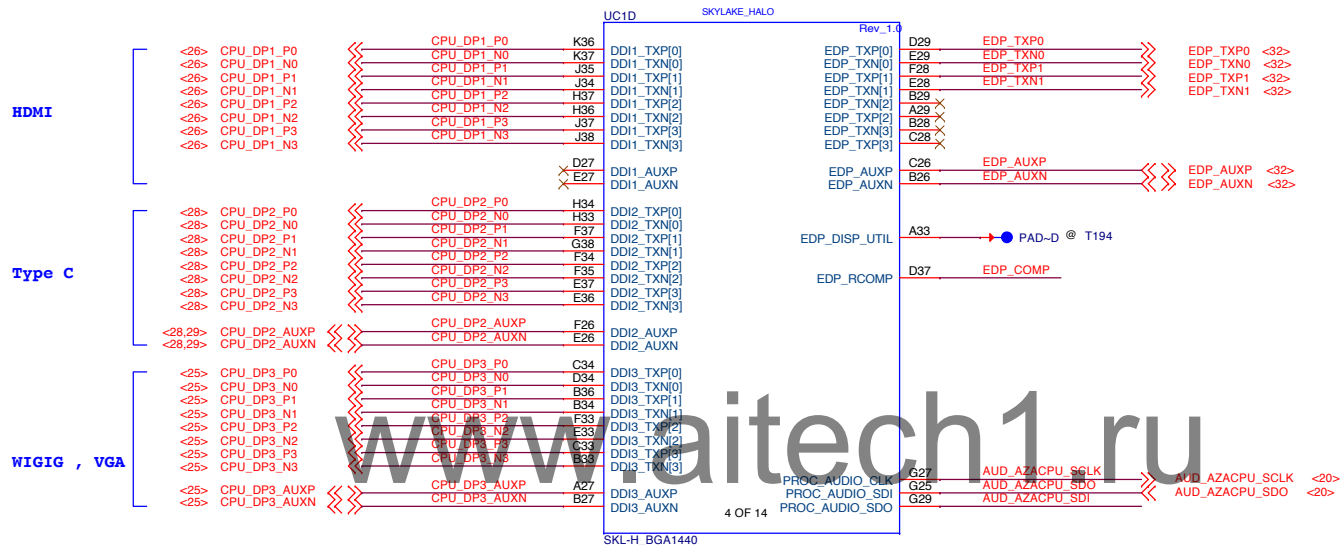


Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Title	
				Compal Electronics, Inc.	
				SMBus Block Diagram	
				Size	Rev
				B	0.2
				Date:	Tuesday, June 28, 2016
				Sheet	5 of 74

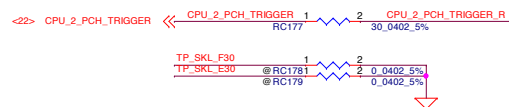
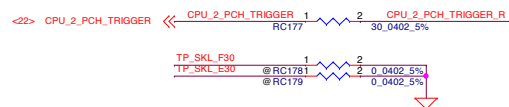


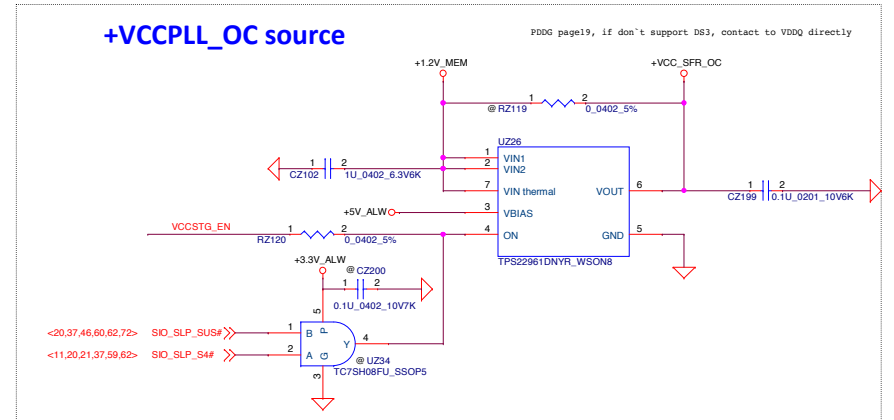
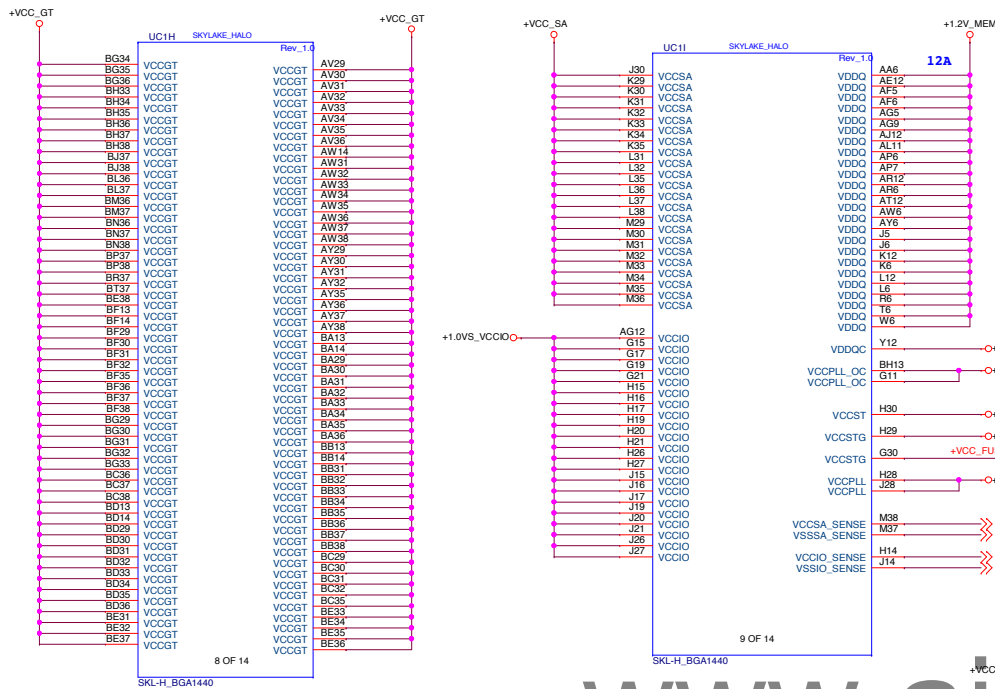




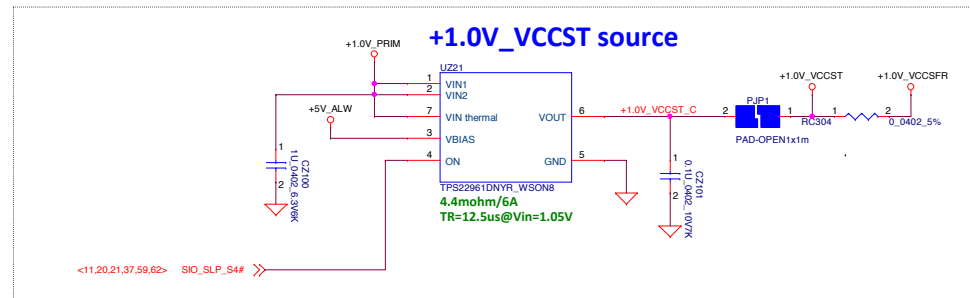
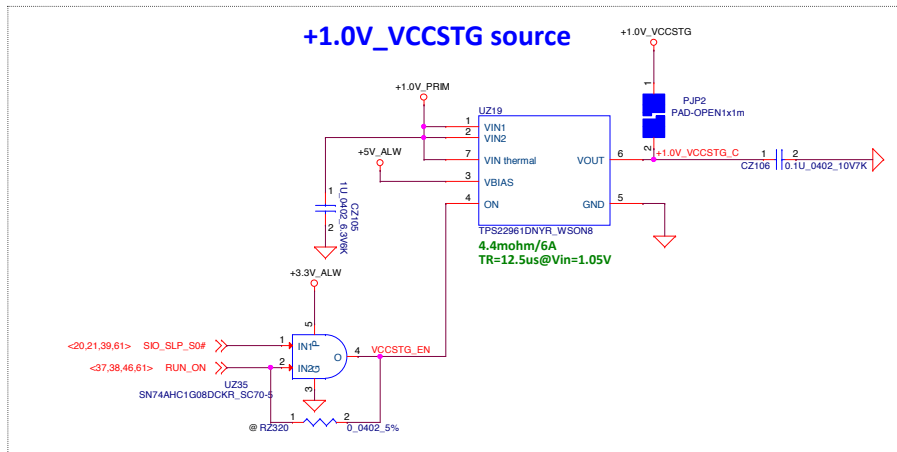


Security Classification				Compal Secret Data				DELL CONFIDENTIAL/PROPRIETARY			
Issued Date				2016/01/01		Deciphered Date		2017/01/01		Title	
										KBL-H (4/8)	
										Document Number	
										LA-E153P	
										Date	
										Tuesday, June 28, 2016	
										Sheet	
										9	
										of	
										74	
										Rev	
										0.2	





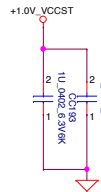
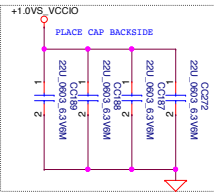
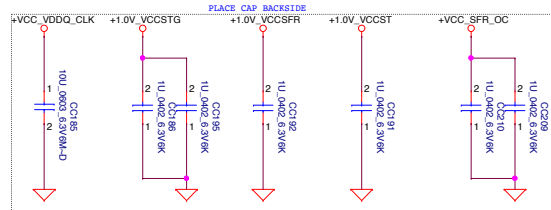
www.aitech1.ru



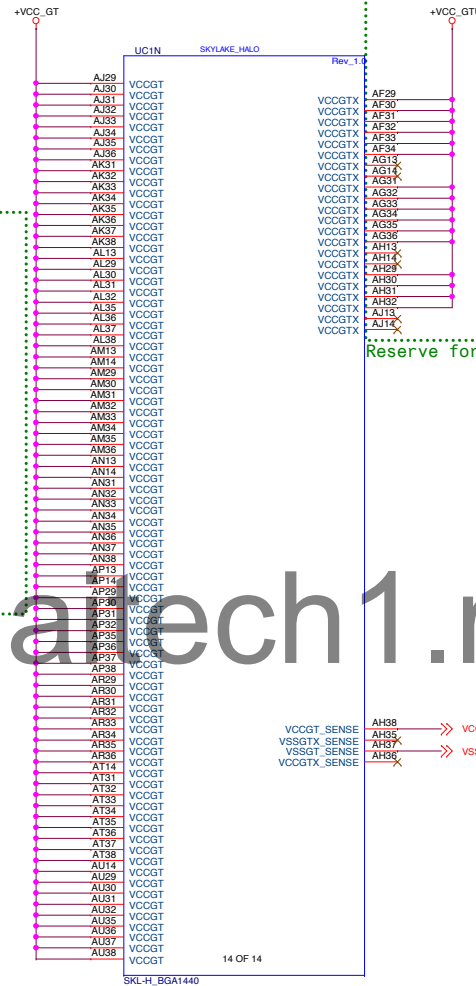
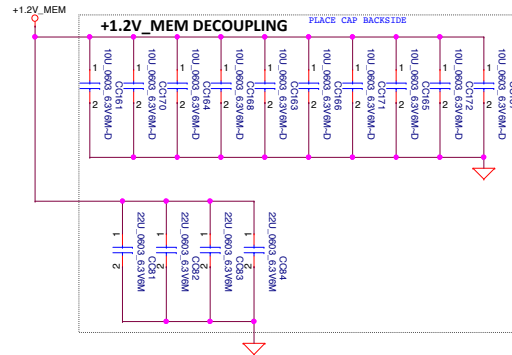
Security Classification				Compal Secret Data				DELL CONFIDENTIAL/PROPRIETARY			
Issued Date				Deciphered Date				Compal Electronics, Inc.			
2016/01/01				2017/01/01				KBL-H (6/8)			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL 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				11 of 74			



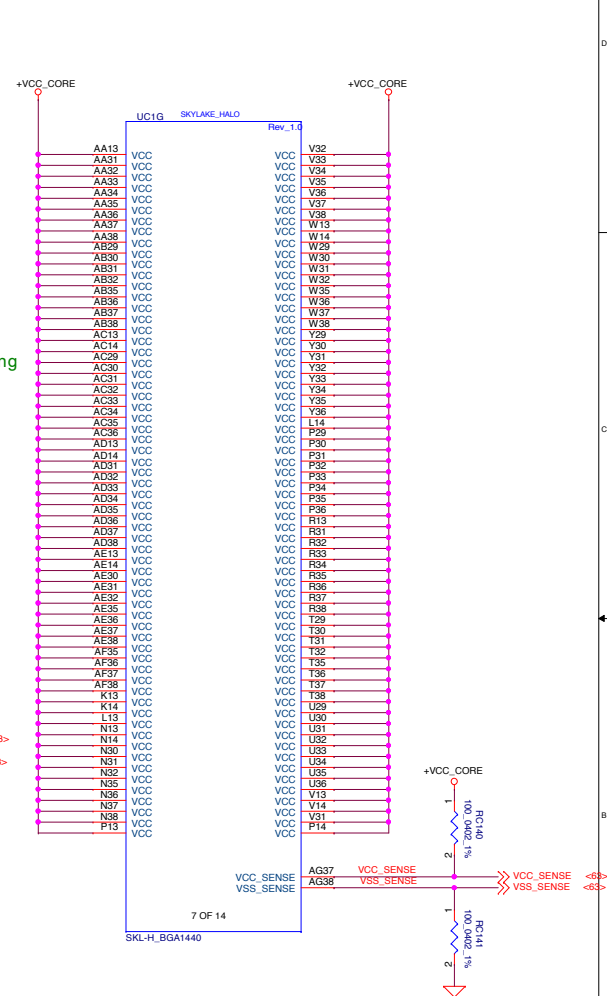
For SKL-H 4+2  
Remove VCCOPC/VCCEPIO/  
VCCOPC\_1P8 Cap



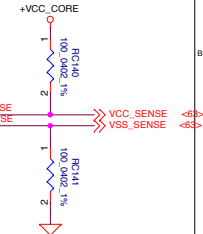
Remove to Power (+VCC\_SA cap)



VCCGT\_SENSE AH38 >>> VCC\_GT\_SENSE <<<3  
VSSGT\_SENSE AH35 >>> VSS\_GT\_SENSE <<<3  
VCCGT\_SENSE AH36 >>> VSS\_GT\_SENSE <<<3



VSS\_SENSE 1 2 49.9\_0402\_1%



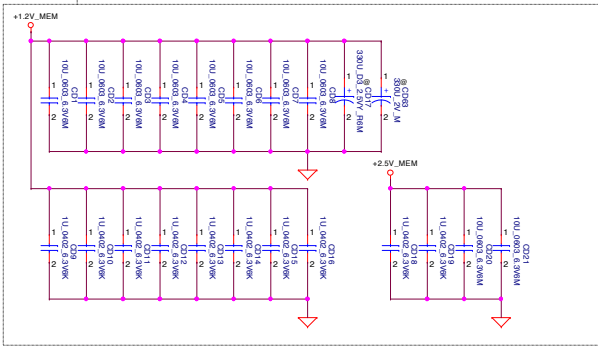
Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		Deciphered Date		Title	
2016/01/01		2017/01/01		KBL-H (7/8)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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		Rev	
LA-E153P		0.2		Date: Tuesday, June 28, 2016	
Sheet		12		of 74	



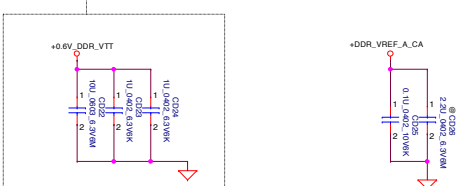


<-> DDR\_A\_CB0..7  
<-> DDR\_A\_DQS#0..8  
<-> DDR\_A\_DQS#5..8  
<-> DDR\_A\_DQ0..15  
<-> DDR\_A\_DQ16..31  
<-> DDR\_A\_DQ32..47  
<-> DDR\_A\_DQ48..63  
<-> DDR\_A\_MA0..16

Layout Note:  
Place near J1MM1



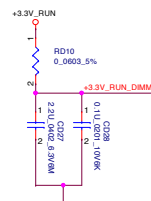
Layout Note:  
Place near J1MM1.258



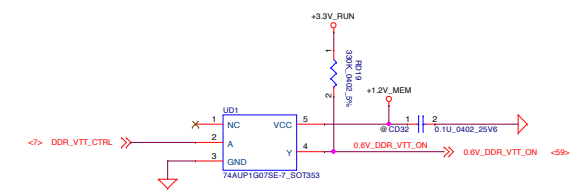
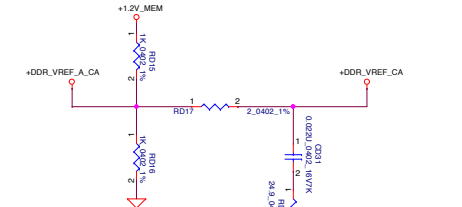
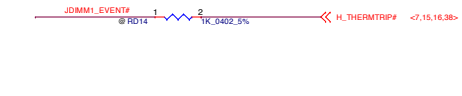
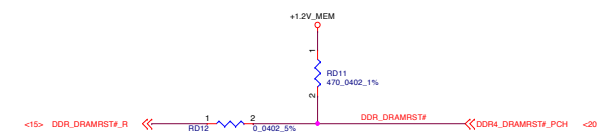
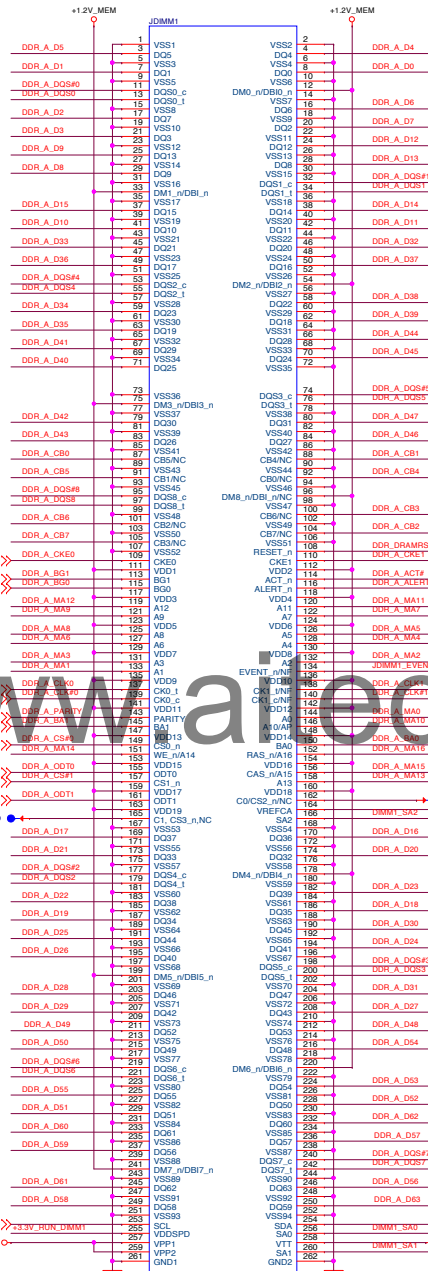
## DIMM Select

	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]



www.altech1.ru

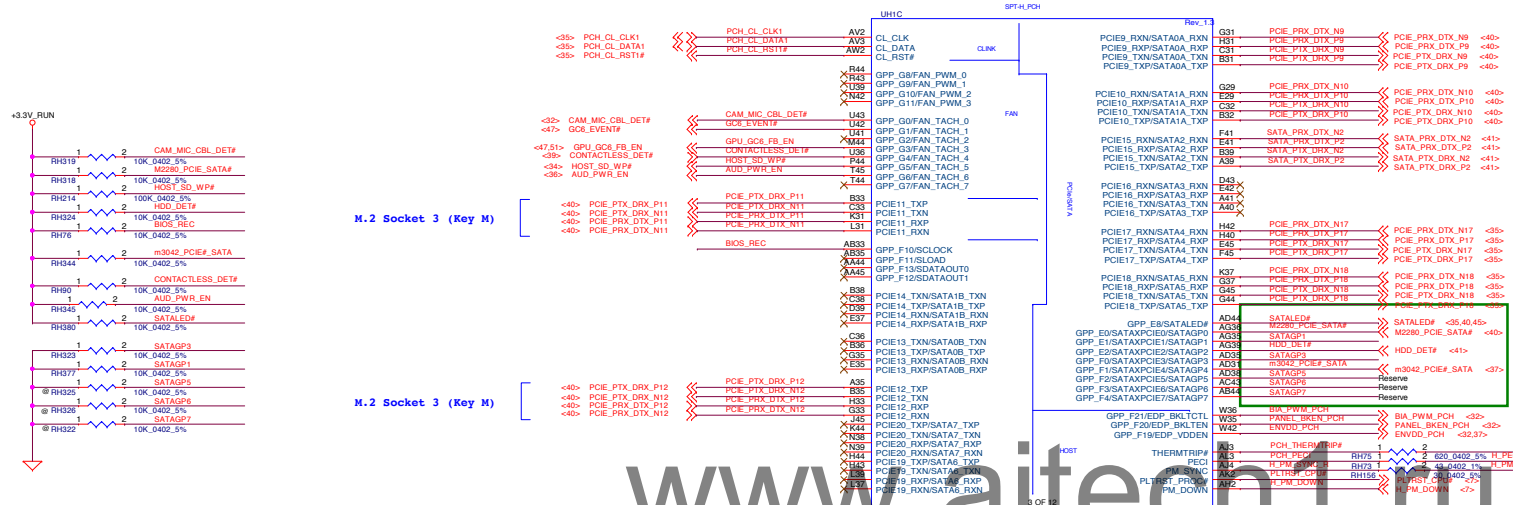


DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.  
DDR4-SODIMM SLOT1

Security Classification	Compal Secret Data	Document Number
Issued Date	2016/01/01	LA-E153P
Deciphered Date	2017/01/01	Document Number
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
Date:	Tuesday, June 28, 2016	Sheet 14 of 74





M.2 Socket 3 (Key M)

SATA HDD

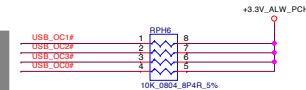
M.2 3042 HCA or QCA LTE SSD Cache

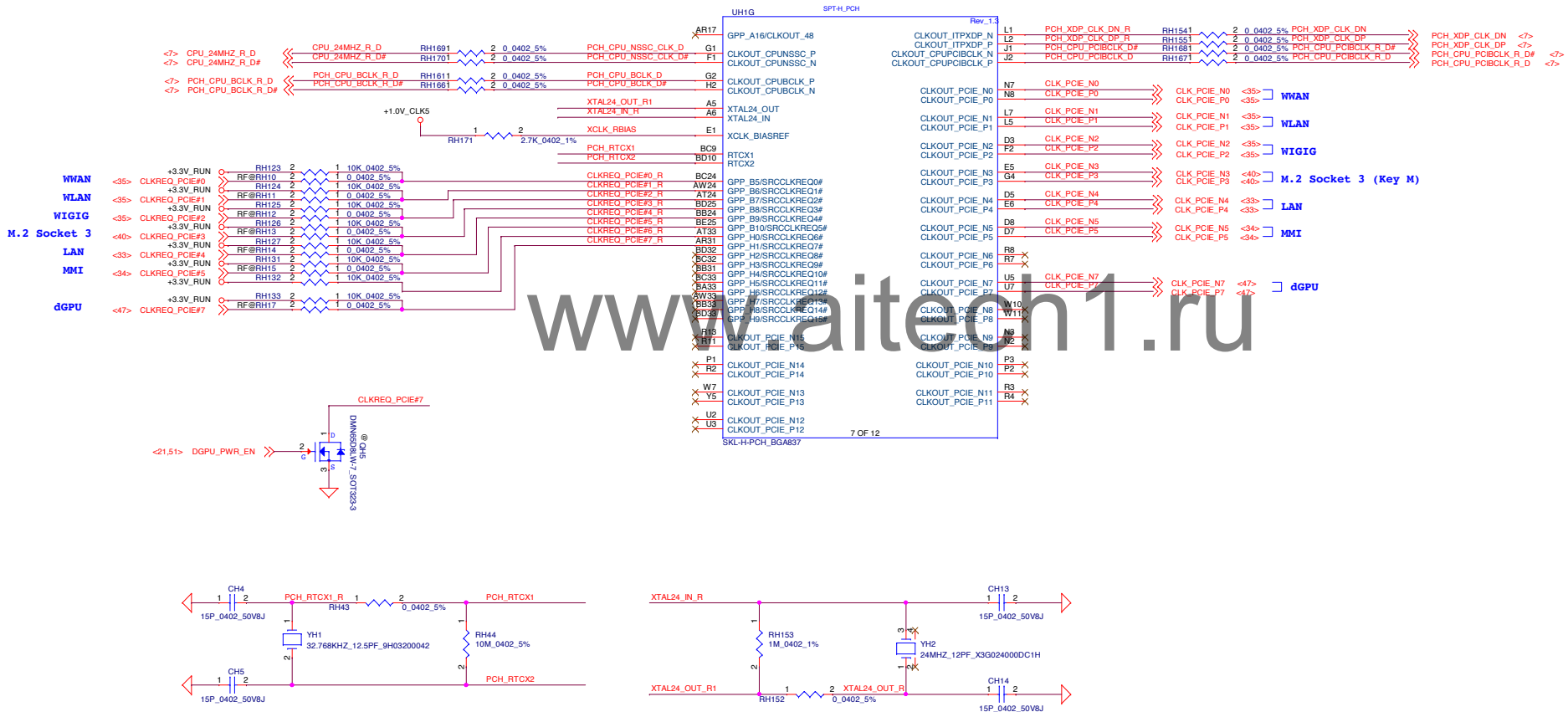
M.2 3042 HCA or QCA LTE SSD Cache

SP5GP0	1	2280_PCIE_SATA#	0=SATA	1=PCIE
SP5GP1	0	SATAGP1	1=SATA	0=PCIE
SP5GP2	1	HDD_DET#	0=SATA	1=PCIE
SP5GP3	0	SATAGP3	1=SATA	0=PCIE
SP5GP4	1	3042_PCIE#_SATA	1=SATA	0=PCIE

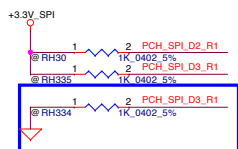
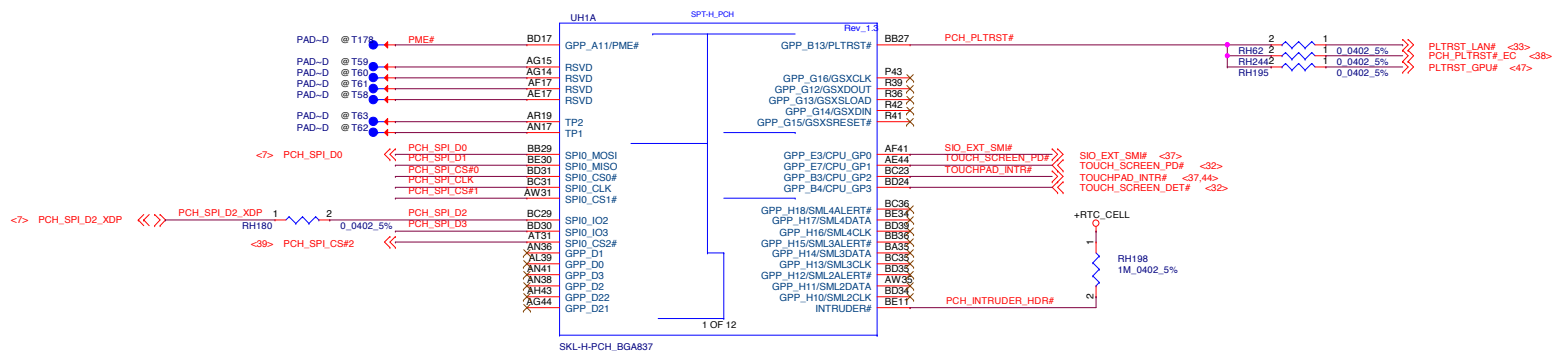
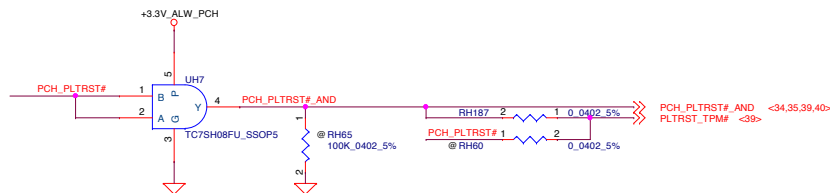
H_THERMTRIP#	1	2	40	0402 5% H_PECI
H_PECI	1	2	40	0402 5% H_PECI
H_PECI_SYNC	1	2	40	0402 5% H_PECI_SYNC
H_PECI_SYNC	1	2	40	0402 5% H_PECI_SYNC

www.aitechn1.ru



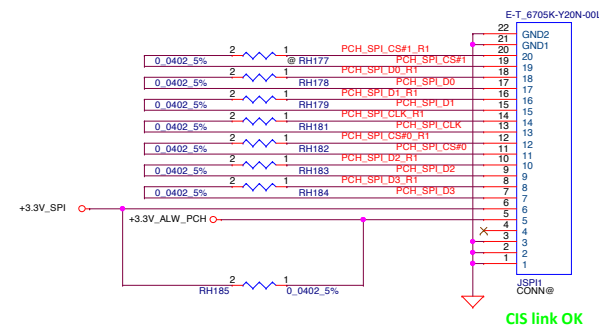
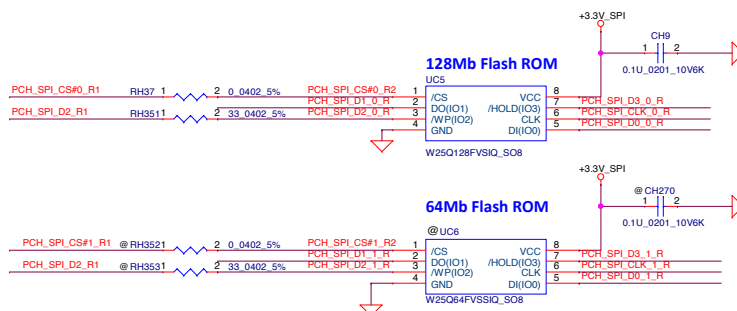
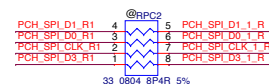
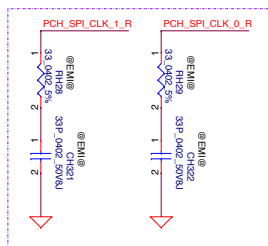


Security Classification				Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date				2016/01/01	Deciphered Date	2017/01/01	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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	
				LA-E153P		0.2	
Date: Thursday, June 30, 2016				Sheet		18 of 74	

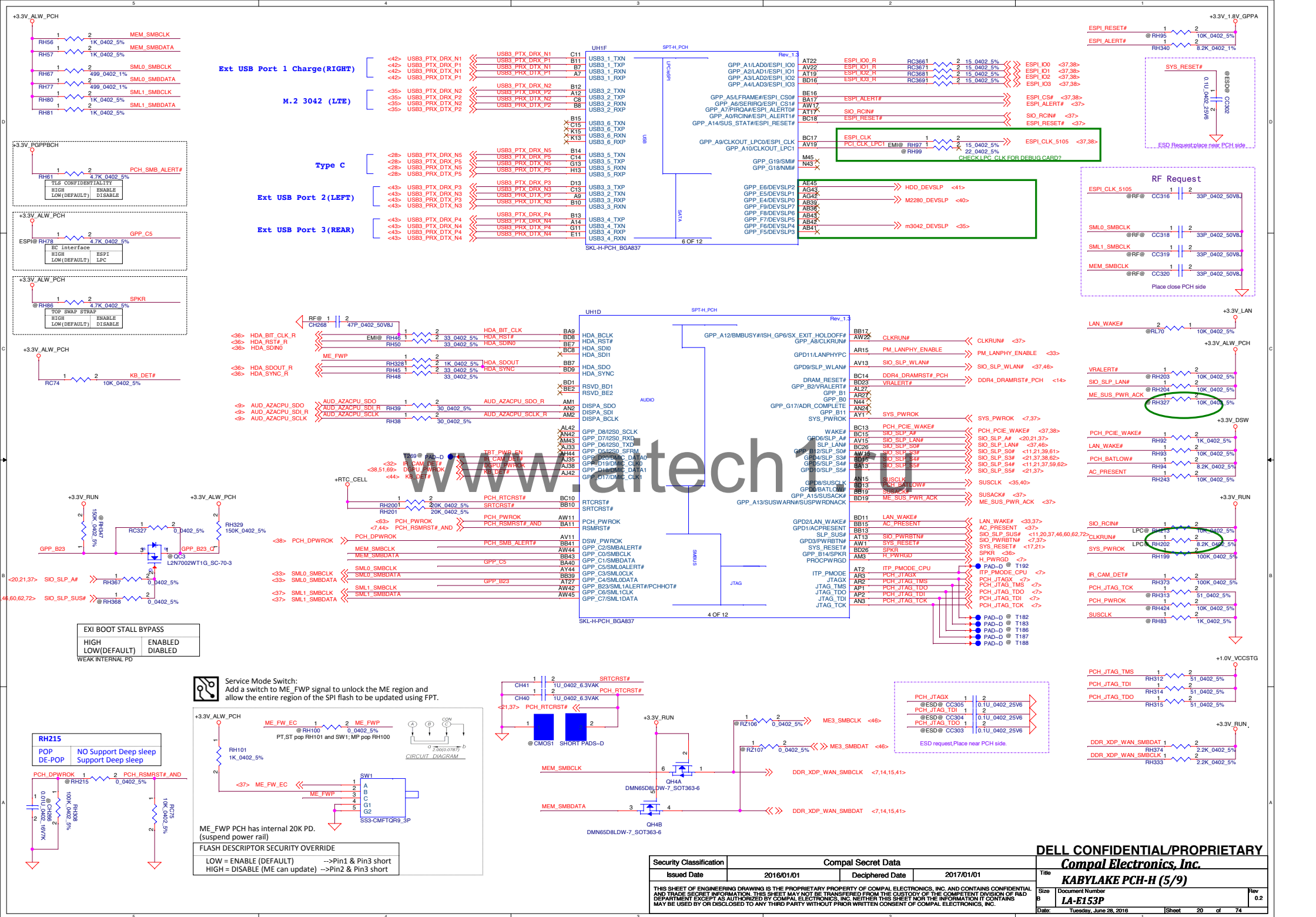


Option 1: Implement a 1 kOhm pull-down resistor on the signal and de-populate the required 1 kOhm pull-up resistor. In this case, customers must ensure that the SPI flash device on the platform has HOLD functionality disabled by default.

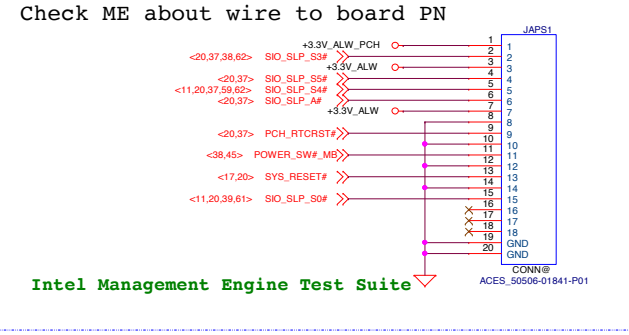
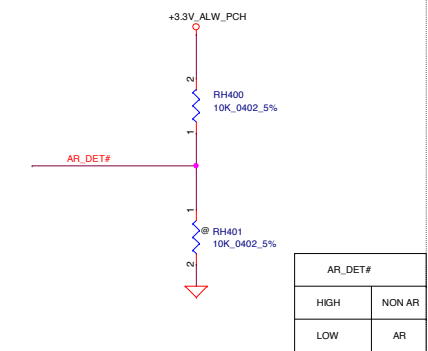
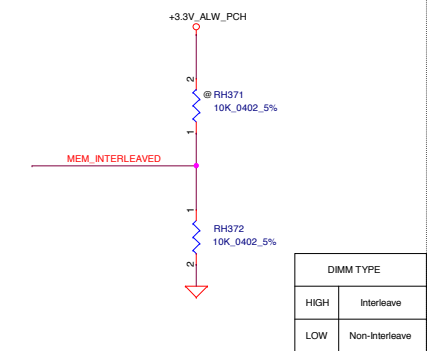
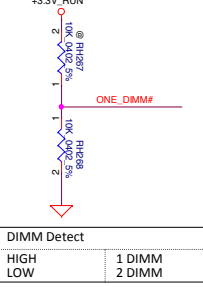
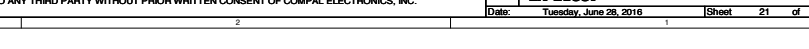
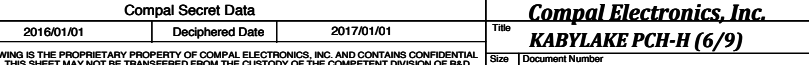
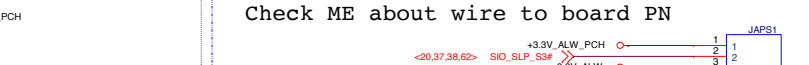
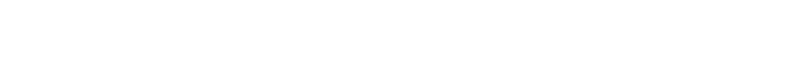
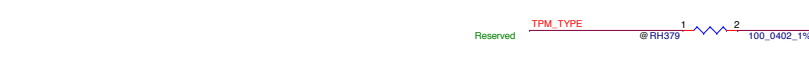
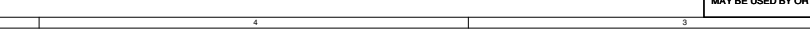
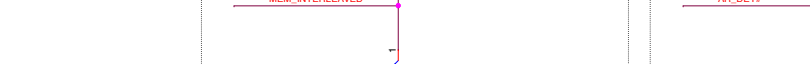
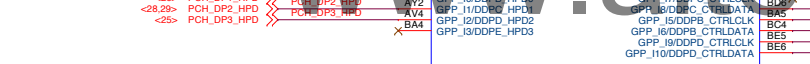
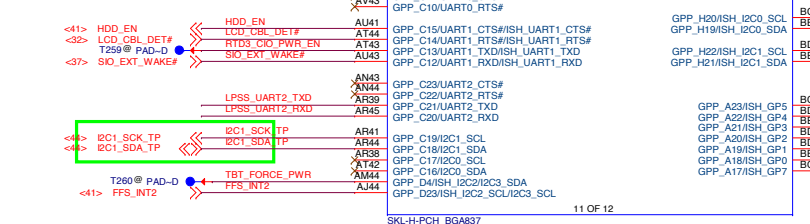
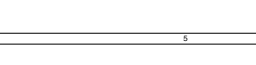
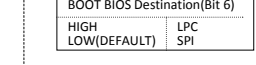
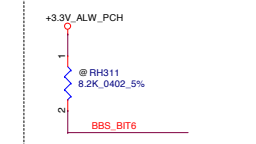
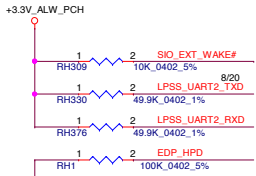
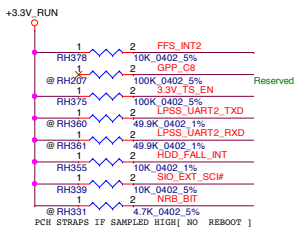
Note that the pull down resistor on SPI0\_IO3 is only needed for SKL U/Y platforms with FS and SKL S/H platforms with pre-FS1/FS1 samples.

Need check





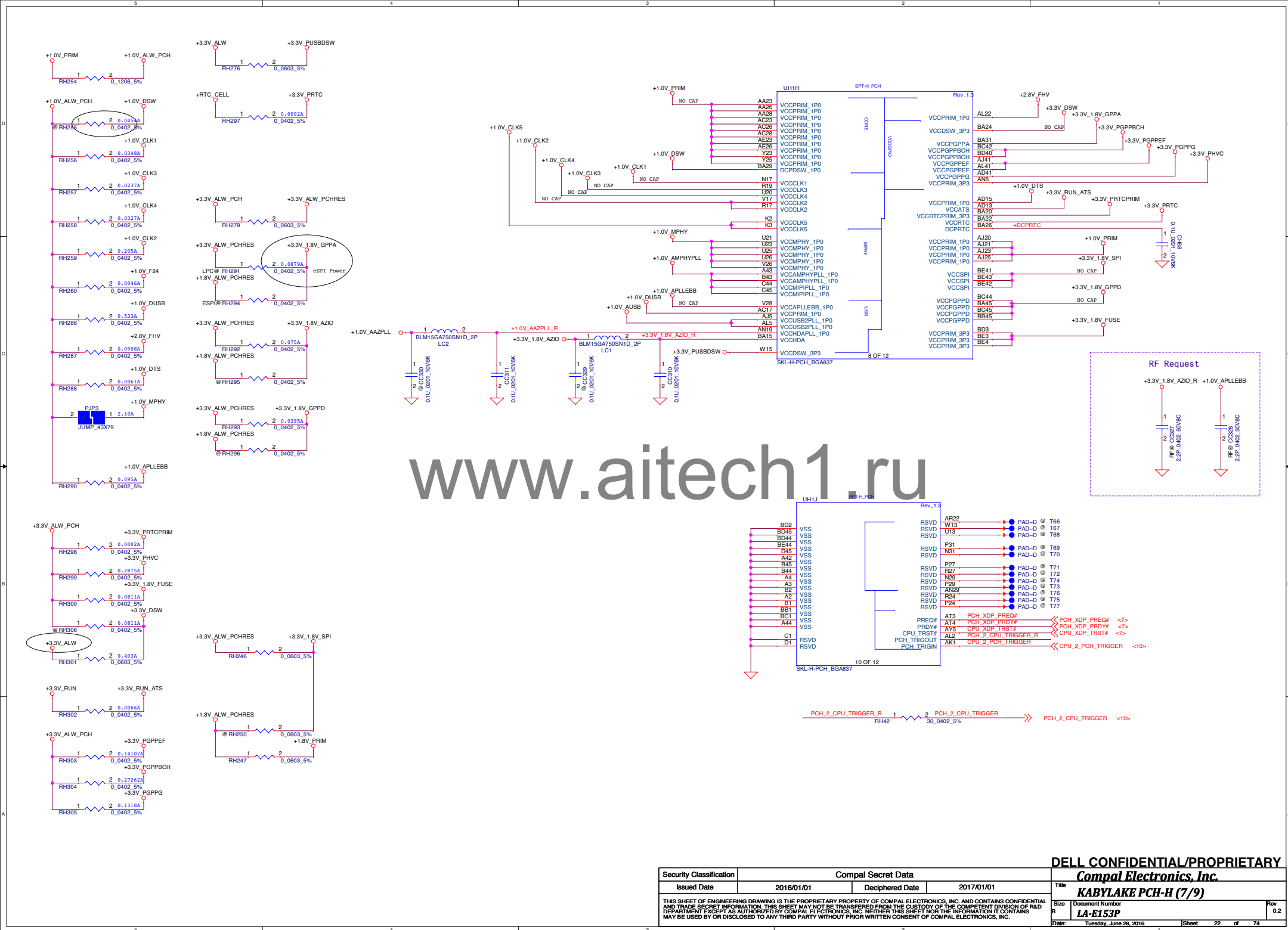




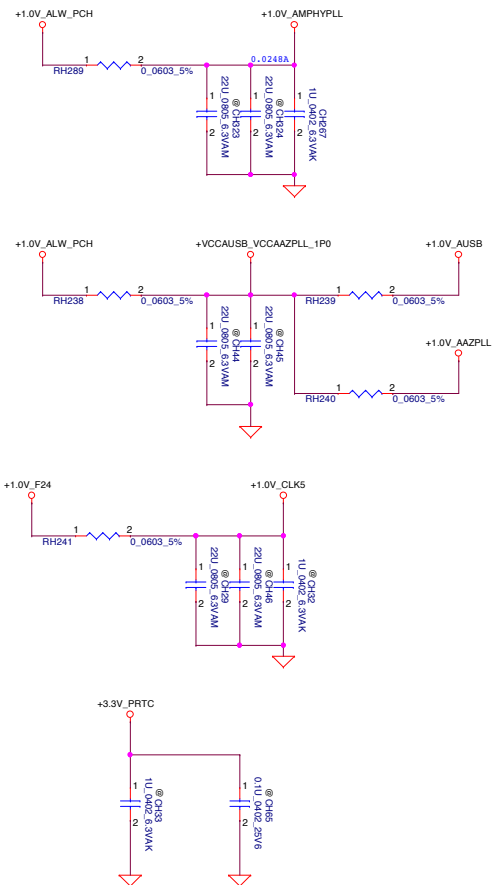
DIMM Detect	
HIGH	1 DIMM
LOW	2 DIMM

DIMM TYPE	
HIGH	Interleave
LOW	Non-Interleave

AR_DET#	
HIGH	NON AR
LOW	AR



www.aitech1.ru



Security Classification		Compal Secret Data		DEE <del>CONFIDENTIAL</del> PROPRIETARY <b>Compal Electronics, Inc.</b>											
Issued Date		2016/01/01		Deciphered Date		2017/01/01		Title							
								<b>KABYLAKE PCH-H (8/9)</b>							
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		Document Number		Rev			
								B		LA-E153P		0.2			
								Date:		Tuesday, June 28, 2016		Sheet		23 of 74	

DELL CONFIDENTIAL/PROPRIETARY  
**Compal Electronics, Inc.**  
**KABYLAKE PCH-H (8/9)**

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
NM1	VSS	AJ28
N5	VSS	AJ29
P17	VSS	AJ31
P19	VSS	AJ32
P22	VSS	AJ35
P45	VSS	AK4
R10	VSS	AK42
R14	VSS	AL7
R22	VSS	AV7
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	

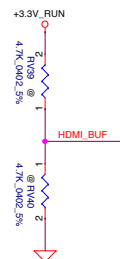
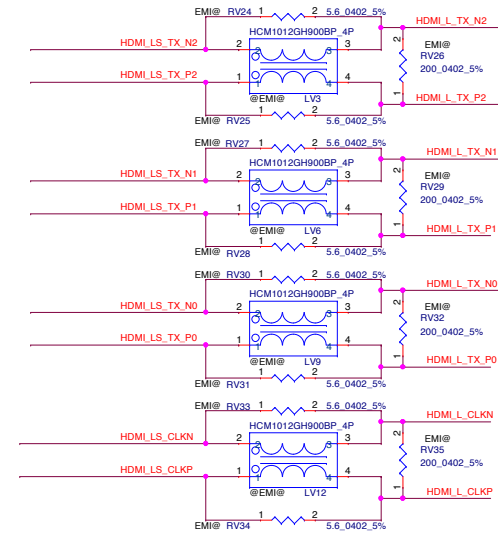
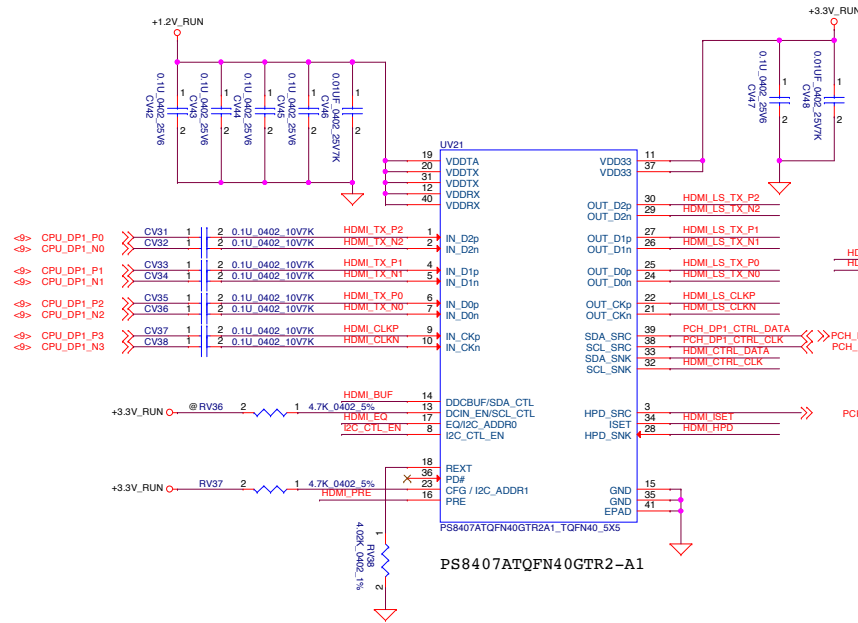
9 OF 12  
SKL-H-PCH\_BGA837

UH1L SPT-H\_PCH Rev. 1.3

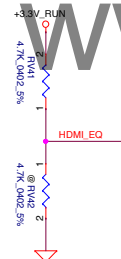
C42	VSS	AB11
D10	VSS	AB7
D12	VSS	AB14
D15	VSS	AB31
D16	VSS	AB32
D17	VSS	AB38
D19	VSS	AB4
D21	VSS	AB5
D24	VSS	AC1
D25	VSS	AC20
D27	VSS	AC21
D29	VSS	AC25
D30	VSS	AC29
D31	VSS	AC45
D33	VSS	AB8
D35	VSS	AD11
D36	VSS	AD14
E13	VSS	AB15
E15	VSS	AD32
E31	VSS	AD33
E33	VSS	AD36
F44	VSS	AD4
F8	VSS	AD8
G42	VSS	AE18
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
U14	VSS	AM19
U15	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	AR6
V45	VSS	AT10
W14	VSS	AT15
W31	VSS	AT36
W32	VSS	AT9
W33	VSS	AU1
W38	VSS	AU35
W4	VSS	AU36
W8	VSS	AU39
Y17	VSS	AU45
	VSS	C4
	VSS	

12 OF 12  
SKL-H-PCH\_BGA837

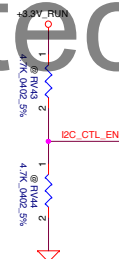




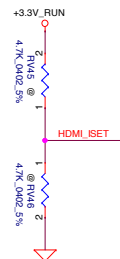
Enable active DDC buffer; internal pull down at ~150kΩ, 3.3V I/O.  
L: passive DDC pass-through (default)  
H: active DDC buffer with default threshold  
M: active DDC buffer without internal pull up resistor



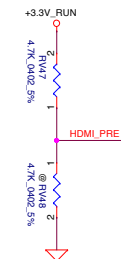
Receiver equalization setting; internal pull down at ~150kΩ, 3.3V I/O.  
L: programmable EQ for channel loss up to 12.4dB (default)  
H: programmable EQ for channel loss up to 4.3dB  
M: programmable EQ for channel loss up to 8.6dB



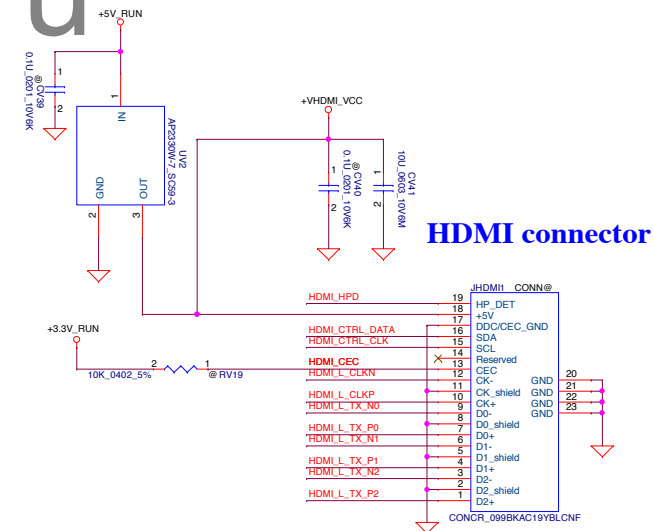
I2C Control enable; internal pull down at ~150kΩ, 3.3V I/O.  
L: Pin control is selected with auto jitter cleaning (default)  
H: I2C control is selected with default I2C address  
M: Pin control is selected with full jitter cleaning



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



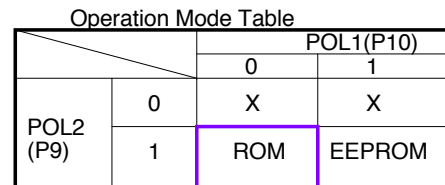
Output pre-emphasis setting; internal pull down at ~150kΩ, 3.3V I/O.  
L: no pre-emphasis (default)  
H: 1.6dB pre-emphasis  
M: 2.5dB pre-emphasis



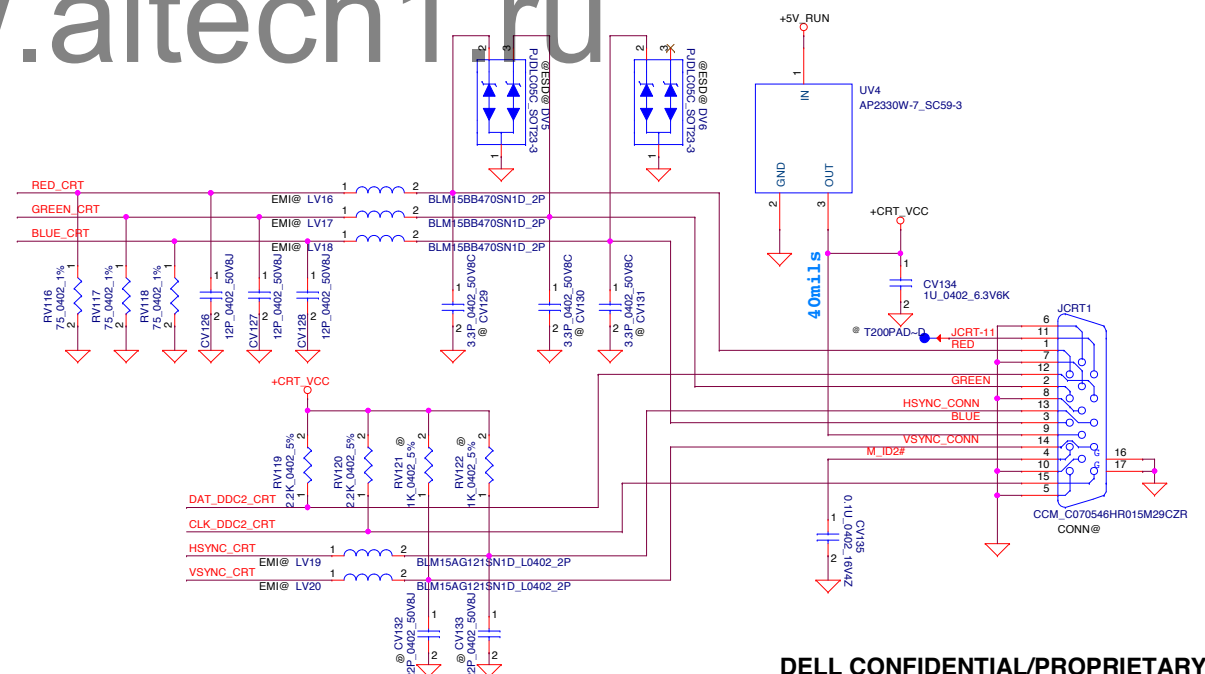
HDMI connector

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				
Title	Document Number	Rev		
Size B	LA-E153P	0.2		
Date	Tuesday, June 28, 2016	Sheet	26	of 74

## For Realtek Solution



www.aitech1.ru



DELL CONFIDENTIAL/PROPRIETARY

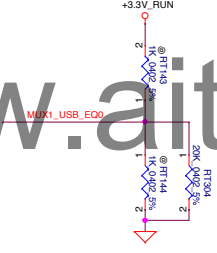
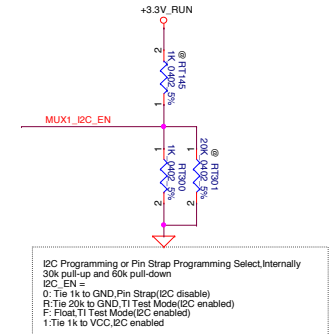
***Compal Electronics, Inc.***

### ***DP to VGA & VGA Conn***

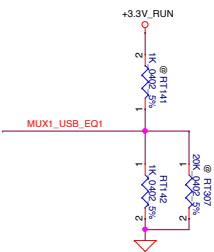
IDENTICAL OF FILE INS	Document Number <b>LA-E153P</b>	Rev 0.2
Custom	Date: Tuesday, June 28, 2016	Sheet 27 of 74

Security Classification	<div style="text-align: center;"> <del>SECRET</del>  <b>Compal Secret Data</b> </div>		
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 COMPAL ELECTRONICS, INC. TO ANY OTHER 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.			

u



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



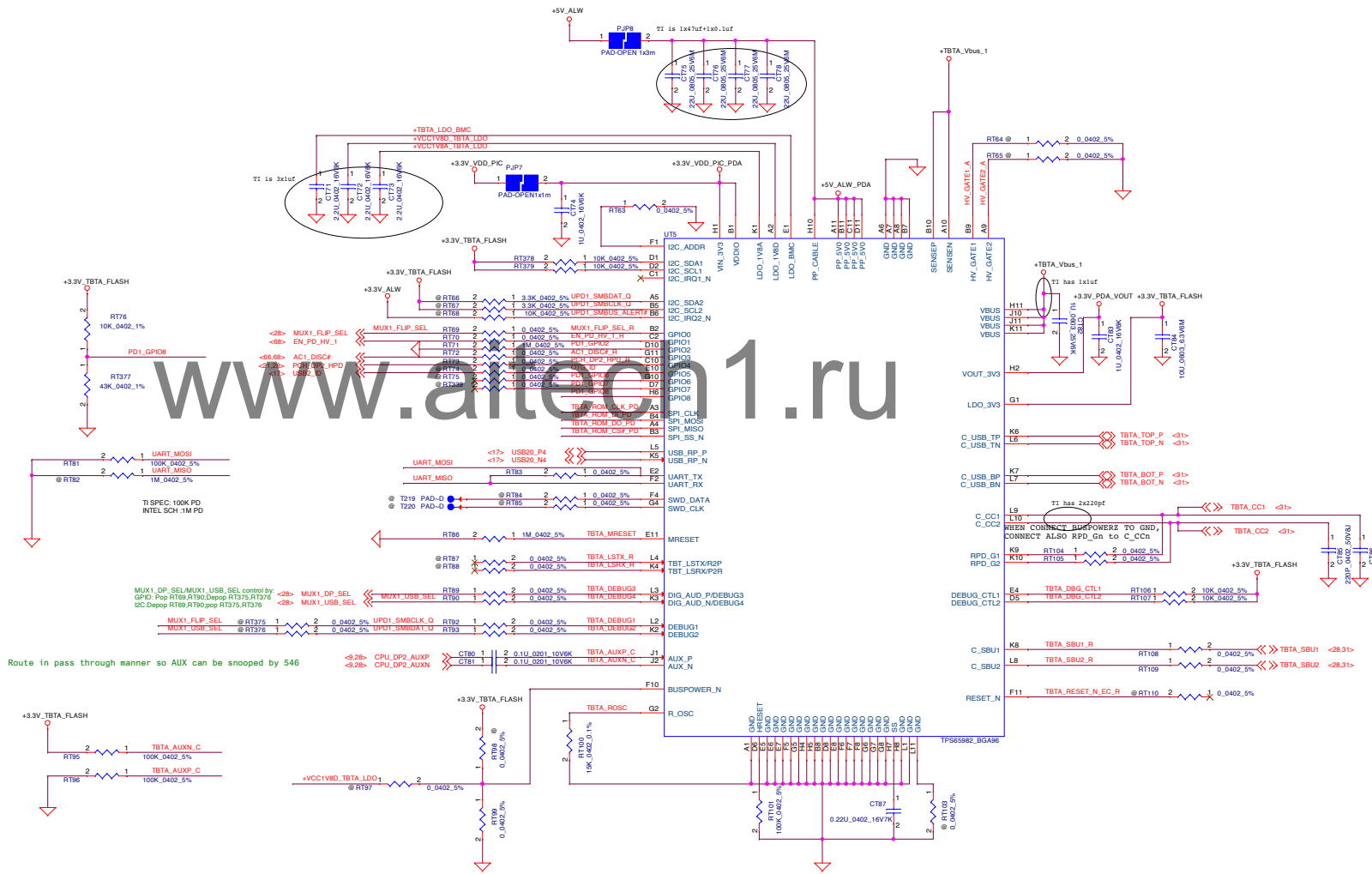
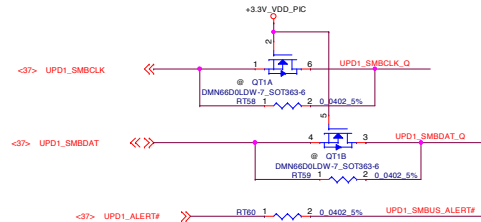
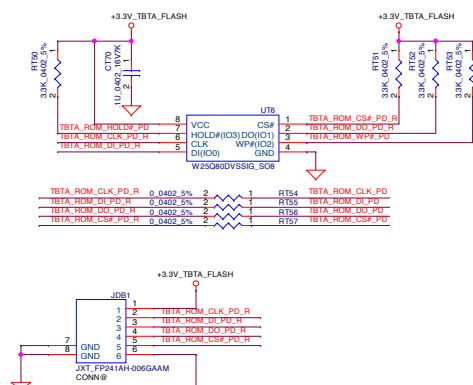
USB3.1 Downstream Facing Ports			USB 3.1 Upstream Facing Port			All DisplayPort Lanes		
EQ1 pin Level	EQ0 pin Level	EQ GAIN @5GHz (dB)	SSEQ1 pin Level	SSEQ0 pin Level	EQ GAIN @5GHz (dB)	DPEQ1 pin Level	DPEQ0 pin Level	EQ GAIN @5GHz (dB)
0	0	0	0	0	0	0	0	0
0	R	1	0	R	1	0	R	1
0	F	2	0	F	2	0	F	2
0	1	3	0	1	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

Date:	Tuesday, June 28, 2016	Sheet	28	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 RESEARCH AND DEVELOPMENT 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>			



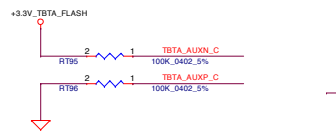
For Non-AR config

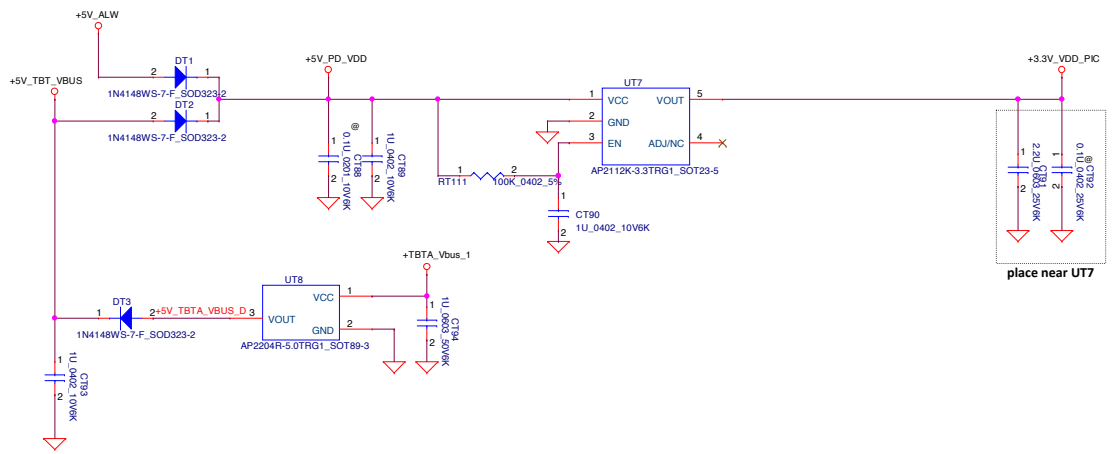


Need Link TPS65982D

DIV = R2 / (R1+R2)		Factory Device Configuration	Description
DIV_min	DIV_max		
0.00	0.08	0	<p>UFP only</p> <p>5V @0.9A Sink capability with "Ask for Max" for anything from 0.9-3.0A</p> <p>TBT Alternate Modes not supported</p> <p>DisplayPort Alternate Modes not supported</p> <p>TI VID supported</p>
0.10	0.18	1	<p>UFP only</p> <p>5V @0.9A Sink capability with "Ask for Max" for anything from 0.9-3.0A</p> <p>TBT Alternate Modes not supported</p> <p>DisplayPort Alternate Modes -Sink, C and D pin configuration</p> <p>TI VID supported</p>
0.20	0.28	2	<p>UFP only</p> <p>5V @3.0A Source capability</p> <p>TBT Alternate Modes not supported</p> <p>DisplayPort Alternate Modes not supported</p> <p>TI VID supported</p>
0.30	0.38	3	<p>UFP only</p> <p>5V @3.0A Source capability</p> <p>TBT Alternate Modes not supported</p> <p>DisplayPort Alternate Modes -Sink, C and D pin configuration</p> <p>TI VID supported</p>
0.40	0.48	4	<p>DWP</p> <p>5V @0.9-3.0A Sink capability</p> <p>5V @3.0A Source capability</p> <p>TBT Alternate Modes not supported</p> <p>DisplayPort Alternate Modes not supported</p> <p>TI VID supported</p> <p>Accepts data and power role swaps, but does not initiate</p>
0.50	0.58	5	<p>DWP</p> <p>5V @0.9-3.0A Sink capability</p> <p>5V @3.0A Source capability</p> <p>TBT Alternate Modes not supported</p> <p>DisplayPort Alternate Modes - Source, C, D, and E pin configurations.</p> <p>TI VID supported</p> <p>Accepts power role swaps but will not initiate.</p> <p>Accepts data role swaps to UFP and can initiate</p>
0.60	0.68	6	<p>DWP</p> <p>5V @0.9-3.0A Sink capability</p> <p>5V @3.0A Source capability</p> <p>TBT Alternate Modes not supported</p> <p>DisplayPort Alternate Modes - Source, C, D, and E pin configurations</p> <p>TI VID supported</p> <p>Accepts power role swaps but will not initiate.</p> <p>Accepts data role swaps to DFP and can initiate</p>
0.70	1.00	7	Infinite boot retry from Flash to Host V fcyies.

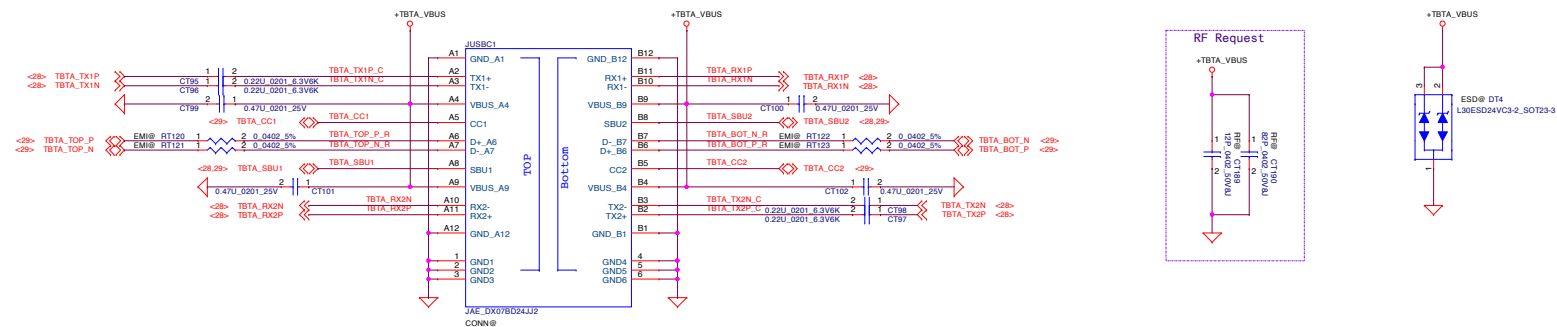
Route in pass through manner so AUX can be snooped by 546



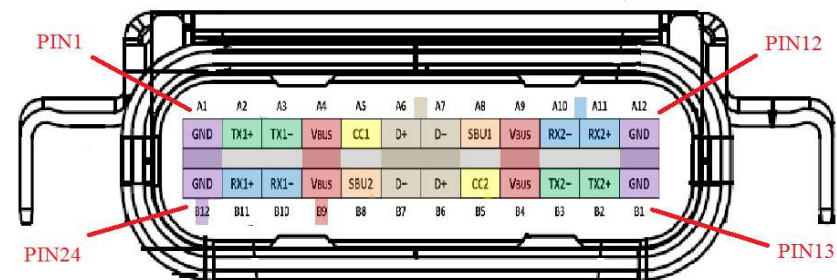
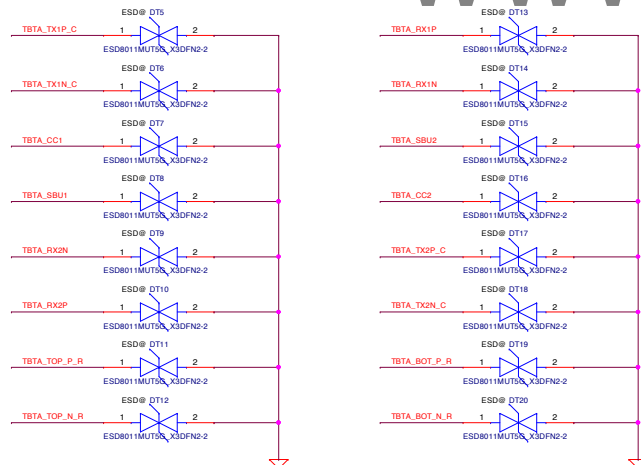


www.aitech1.ru

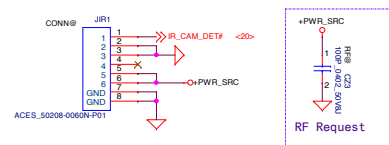
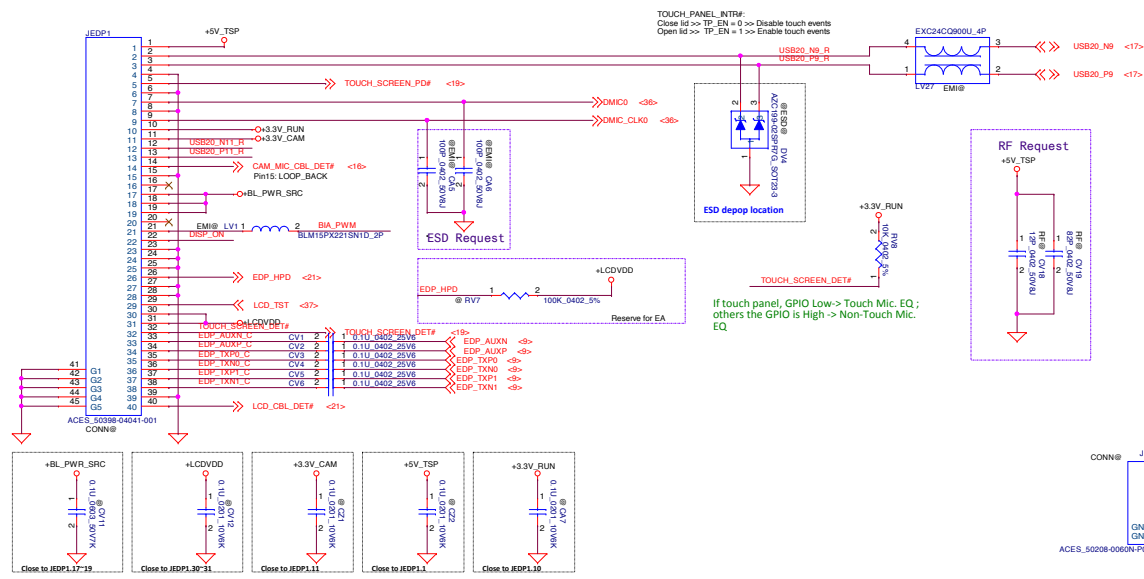
Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		2016/01/01		Deciphered Date	
2017/01/01		Title		Compal Electronics, Inc.	
Size		Document Number		[Type C]PD Power	
B		LA-E153P		Rev	
Date		Tuesday, June 28, 2016		Sheet	
1		30		of	
74		0.2			



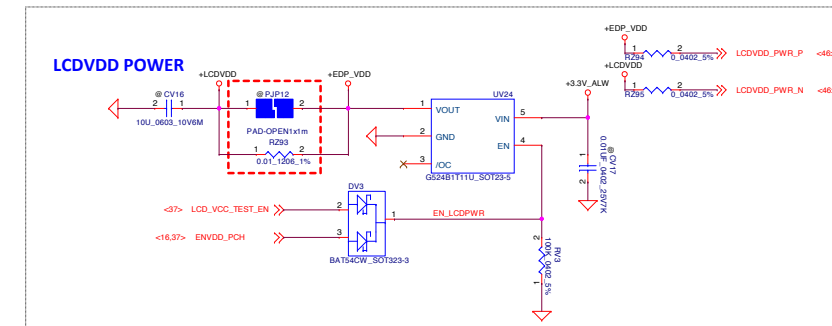
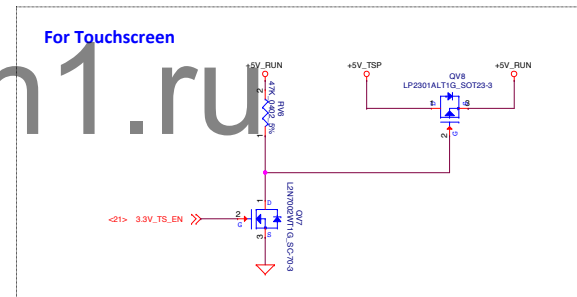
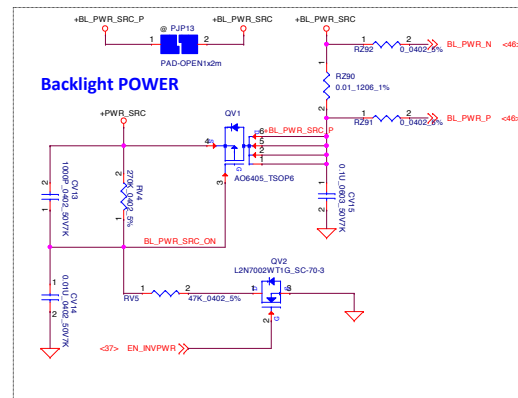
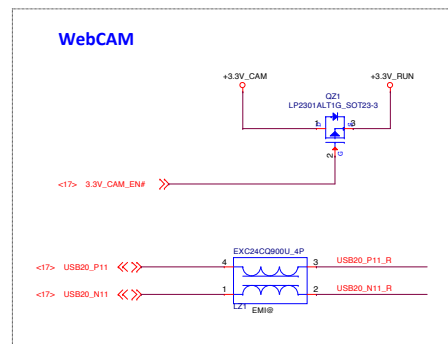
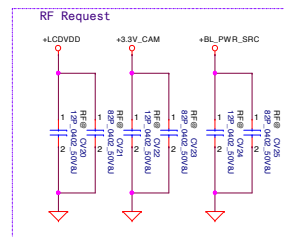
www.aitech1.ru



For Breckenridge 14



www.aitech1.ru



DELL CONFIDENTIAL/PROPRIETARY

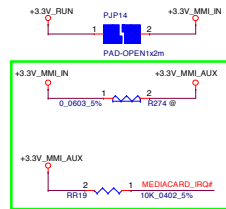
**Compal Electronics, Inc.**

**eDP CONN & Touch screen**

Security Classification	Compal Secret Data			Title	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Size	Number
<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 COMPLETE DIVISION OF R&amp;D TO ANY OTHER DIVISION OR DEPARTMENT WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR ITS CONTENTS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>				File Name	Rev
				Date: <u>Thursday, June 28, 2016</u>	0.2
				Sheet	32 of 74

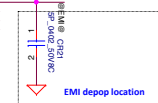
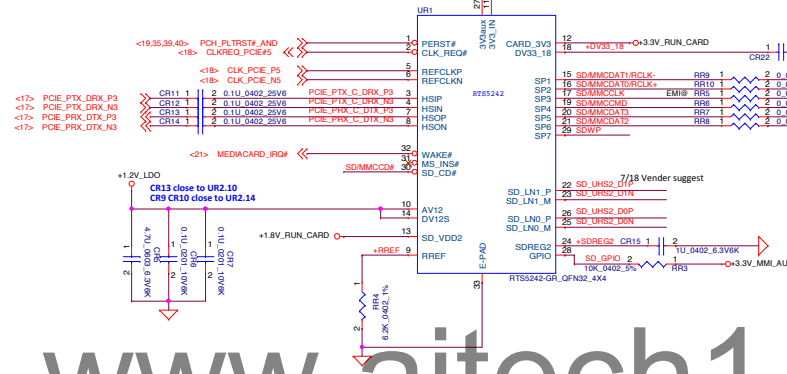
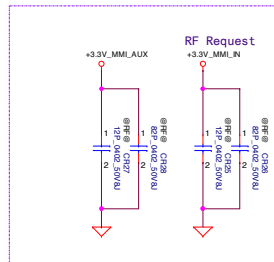


### For PCIe Interface



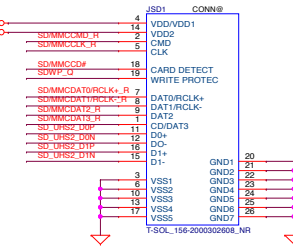
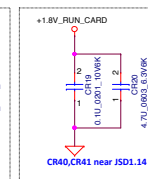
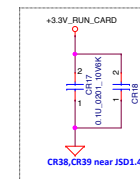
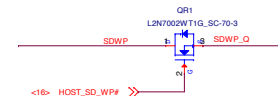
support D3 Hot(if D3 cold PIN11,PIN27 need Add MOS on/off 3V3AUX)

7/18 Vender suggest.



www.aitech1.ru

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



LINK SP070011U00 DONE

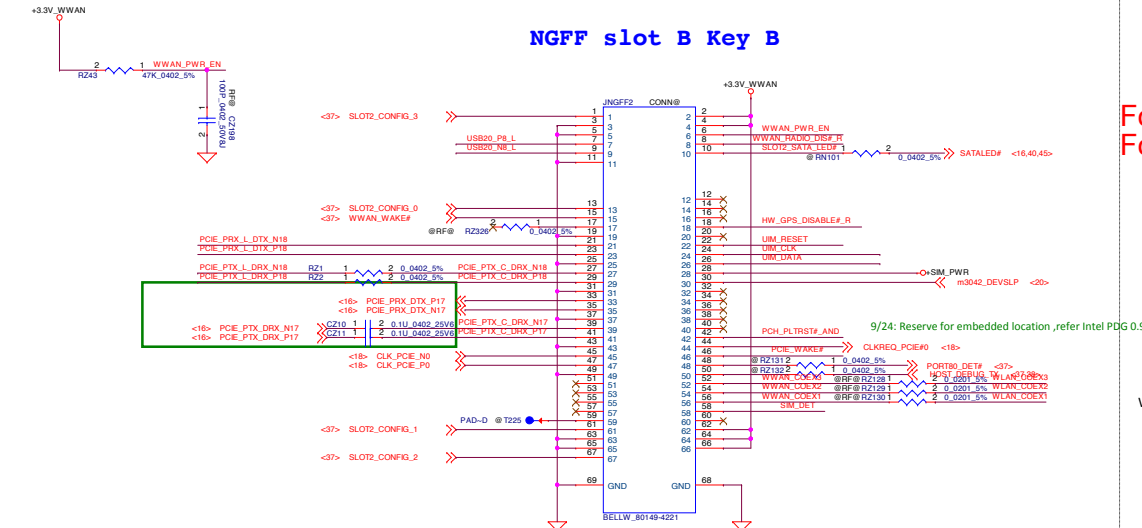
## NGFF slot B Key B

for Brekenridge 12/14/15 UMA

For TBT SW2\_DP1  
For non-TBT SW1\_DP1

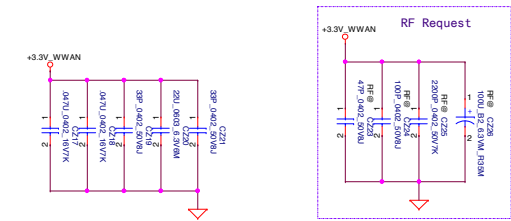
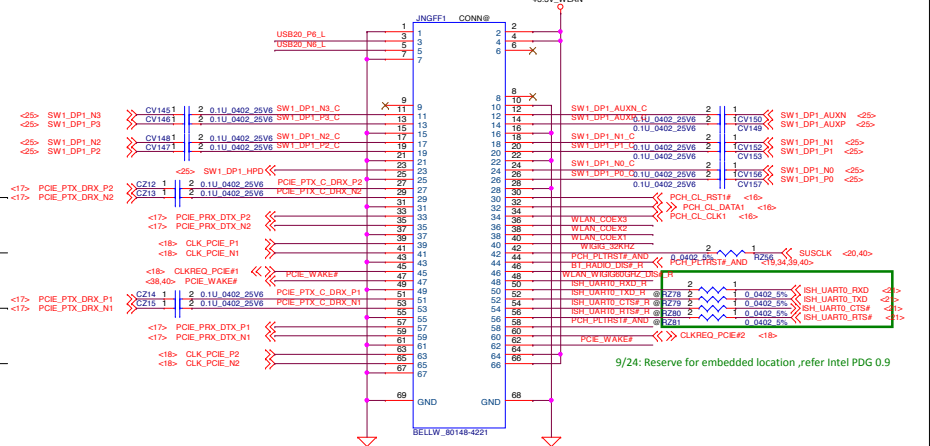
## NGFF slot A Key A

80148-3221&80148-4221 Footprint the same



WLAN

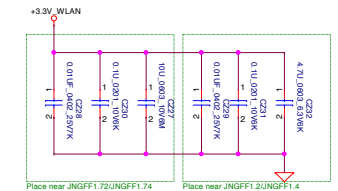
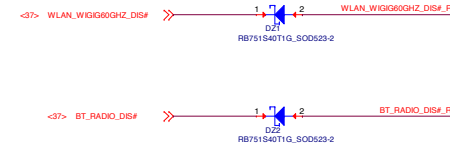
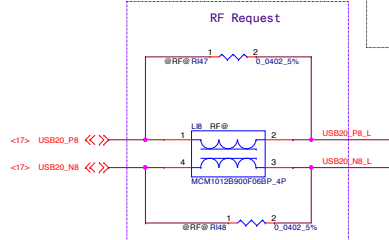
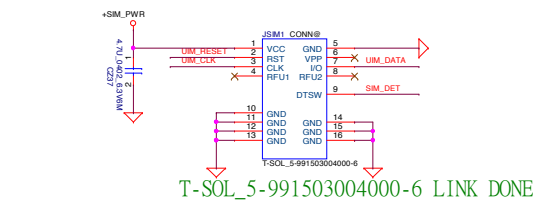
WIFI



www.aitech1.ru

STATE #	CONFIG_0	CONFIG_1	CONFIG_2	CONFIG_3	Module Type	m3042_PCFE#.SATA
0	GND	GND	GND	GND	SSD-SATA	High
1	GND	HIGH	GND	GND	SSD-PCIE(2 lane)	Low
8	HIGH	GND	GND	GND	WWAN	Low
14	HIGH	GND	HIGH	HIGH	HCA-PCIE(1 lane)	Low
15	HIGH	HIGH	HIGH	HIGH	NA	Low

## SIM Card Push-Push



## Power Rating TBD

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

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

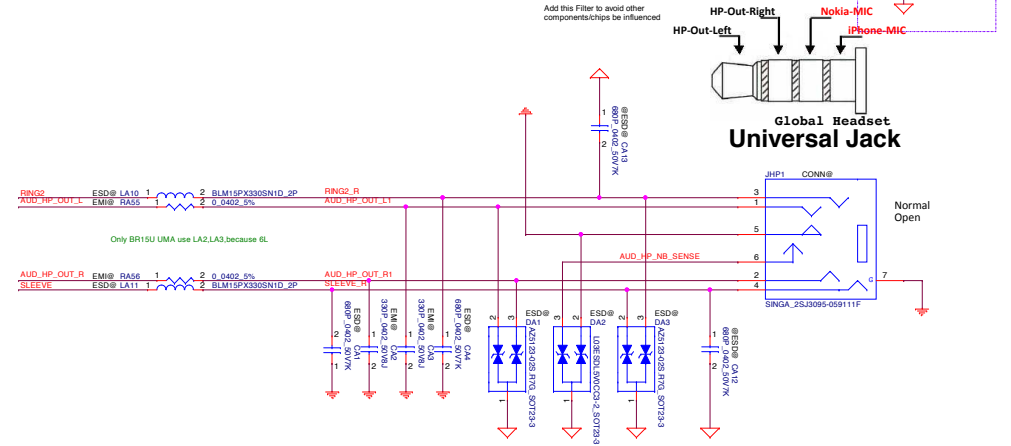
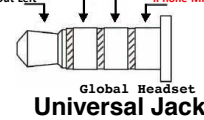
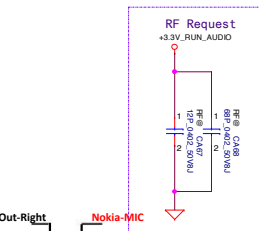
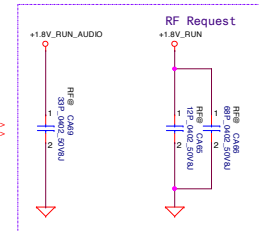
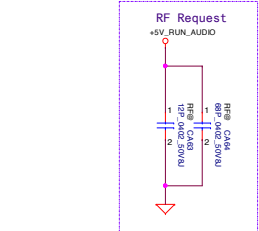
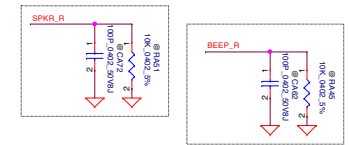
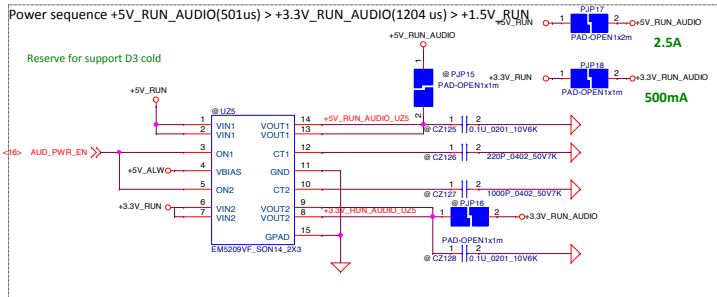
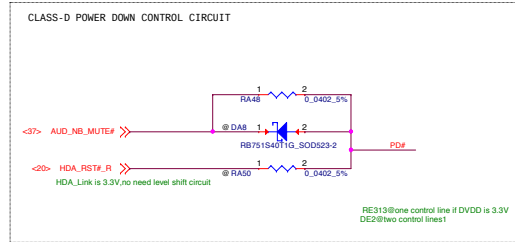
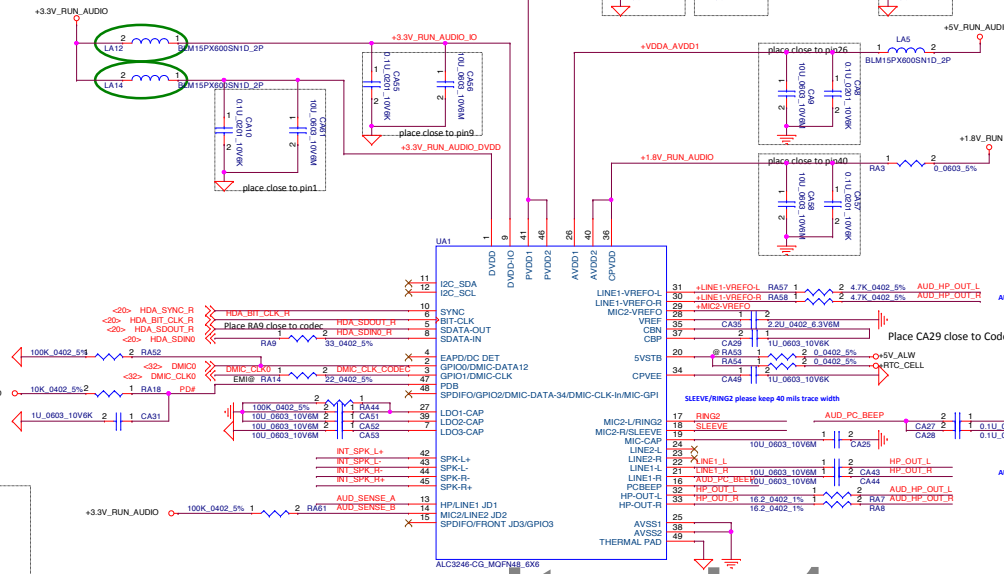
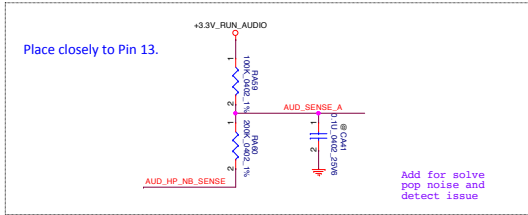
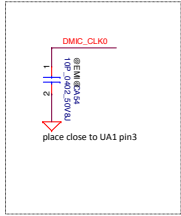
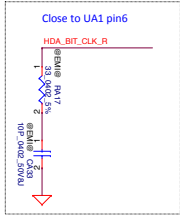
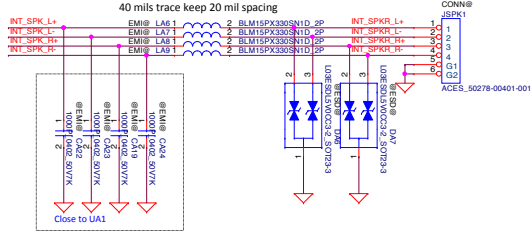
Security Classification	Compal Secret Data	Document Number
Issued Date	2016/01/01	Deciphered Date
2017/01/01		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY 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.		
Rev	0.2	Rev
Date	Tuesday, June 28, 2016	Sheet 35 of 74

DELL CONFIDENTIAL/PROPRIETARY  
Compal Electronics, Inc.  
NGFF Card

1W x 1oh, 4ohm (Transducer spec is 8Ohm/0.5Watt per unit, there are two transducer units in one speaker box)

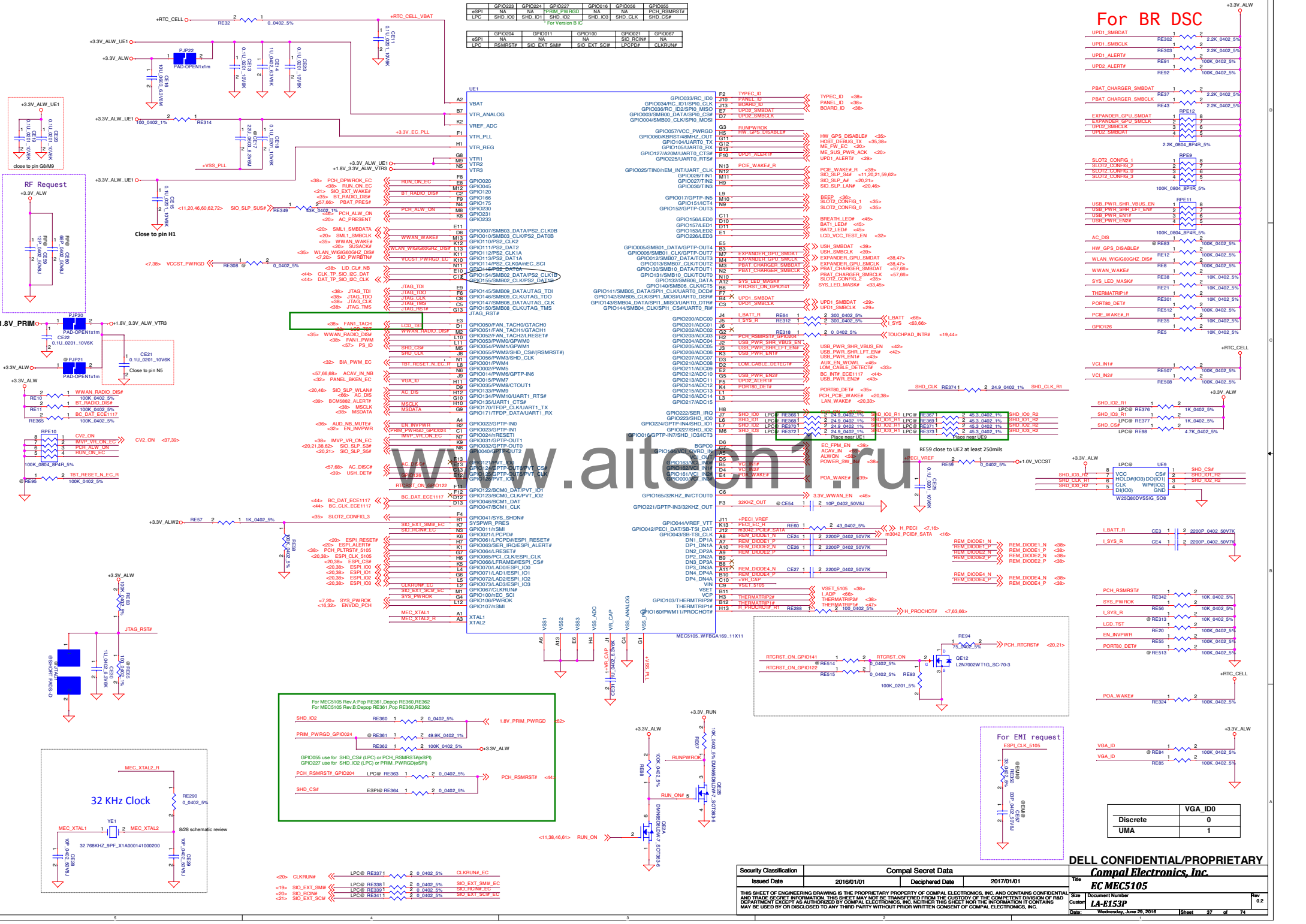
## Internal Speakers Header

40 mils trace keep 20 mil spacing

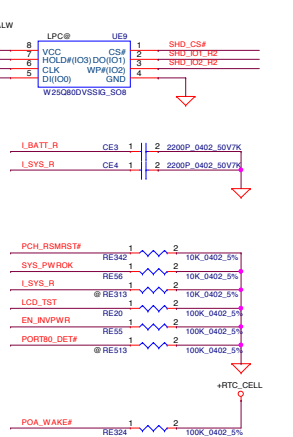
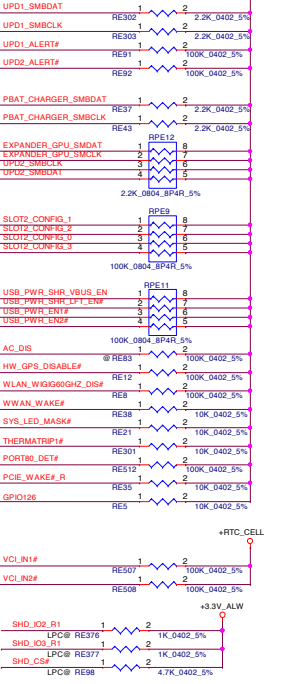


Security Classification				Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		2016/01/01		Deciphered Date		2017/01/01	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 <b>Compal Electronics, Inc. Codec ALC3246</b>	
Size						New	
LA-E153P						0.2	
Date: Tuesday, June 28, 2016						Sheet 36 of 74	





For BR DSC



Discrete	VGA_ID0
UMA	1

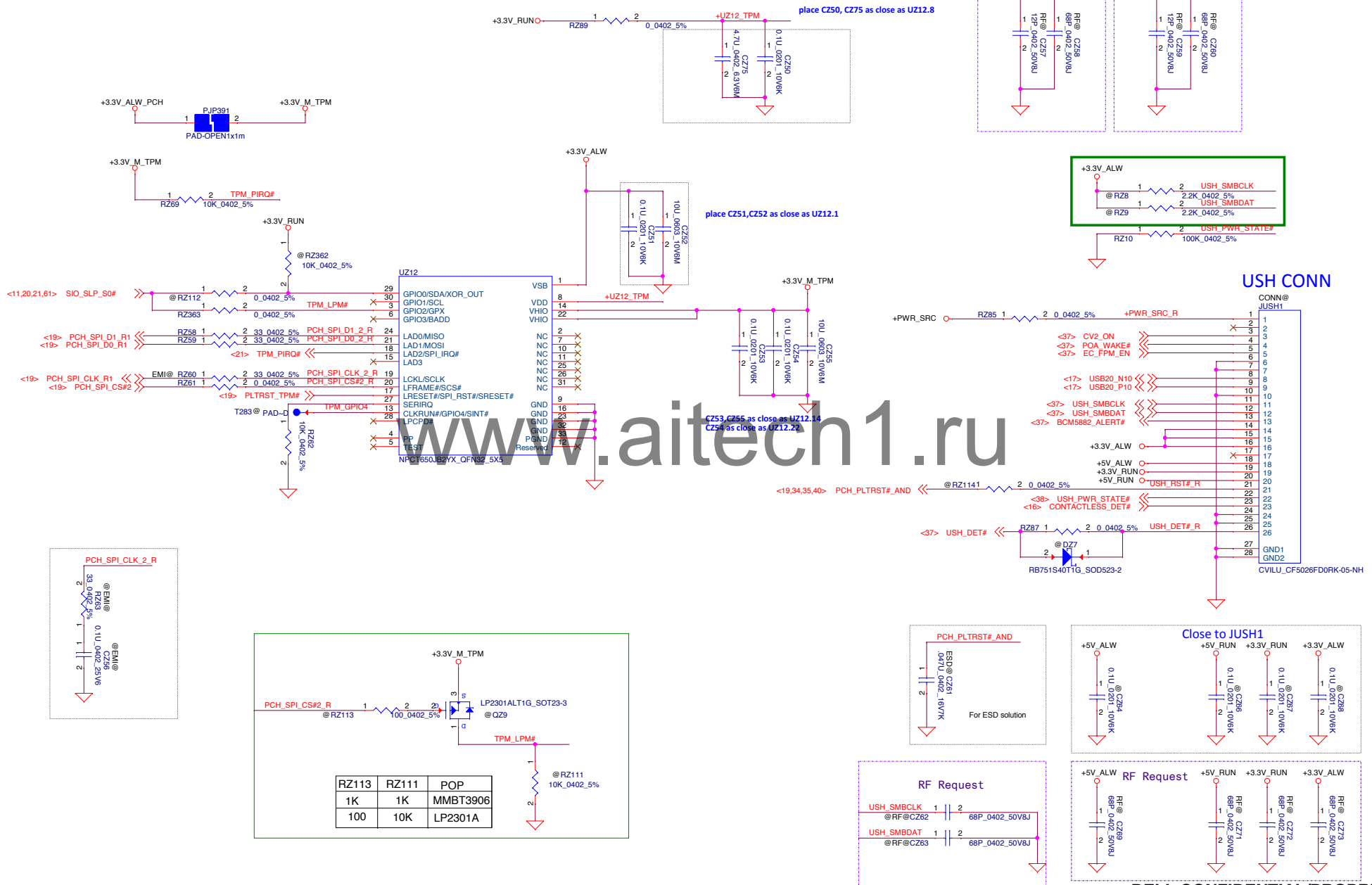
DELL CONFIDENTIAL/PROPRIETARY  
Compal Electronics, Inc.  
EC MEC5105

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 COMPARTMENT DIVISION OF THE MAIN 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.



## For NUVOTON TPM



DELL CONFIDENTIAL/PROPRIETARY

**Compal Electronics, Inc.**

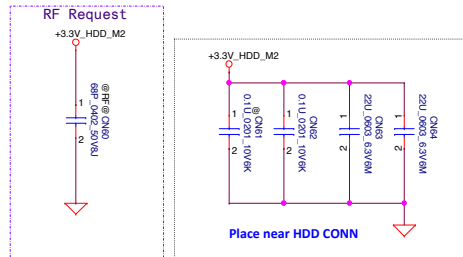
## USH & TPM

Document Number  
**LA-E153P**

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

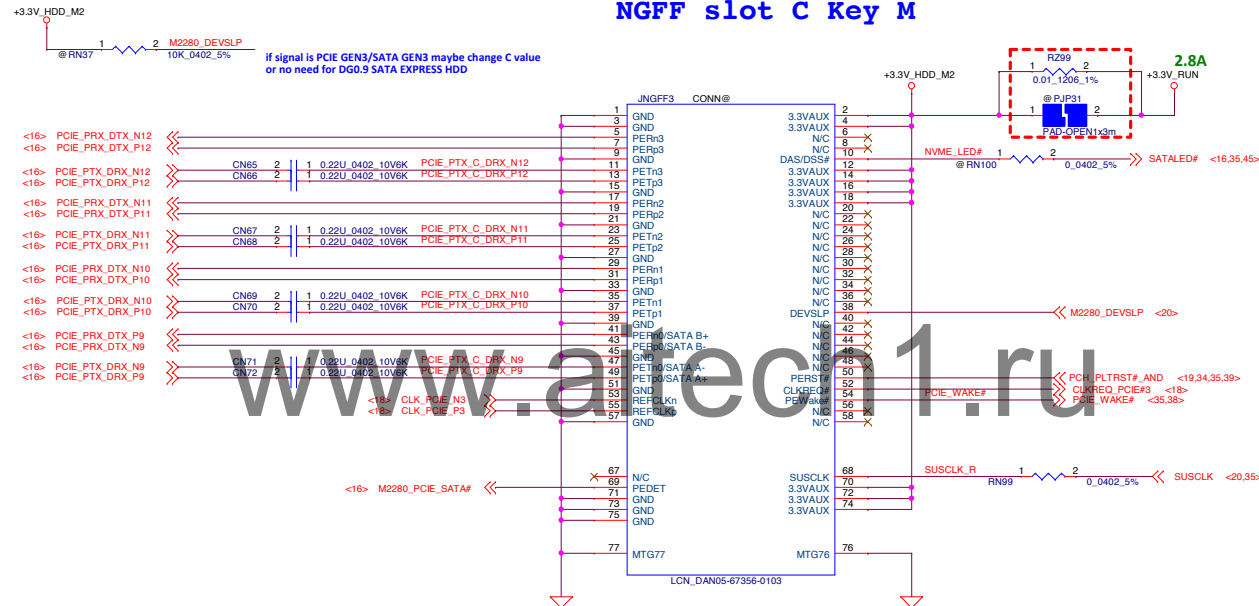
Date:	Thursday, June 30, 2016	Sheet	39	of	74
-------	-------------------------	-------	----	----	----

For Breckenridge 15



2280 SSD

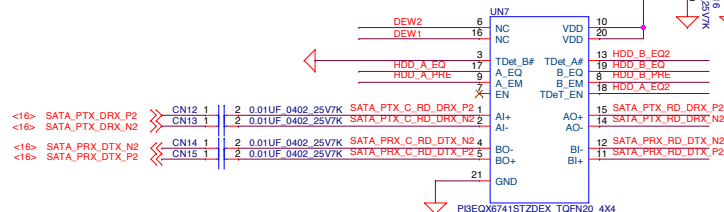
NGFF slot C Key M



Security Classification		Compal Secret Data		<del>SELL CONFIDENTIAL/PROPRIETARY</del>	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Title	<b>Compal Electronics, Inc.</b> <b>M2 2280 Socket</b>
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
				Document Number <b>LA-E153P</b>	0.2
Date	Tuesday, June 28, 2016	Sheet	40	of	74

	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

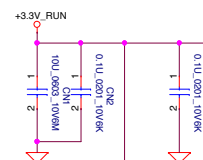
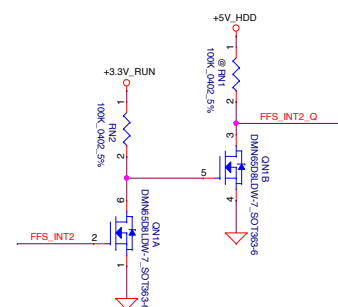
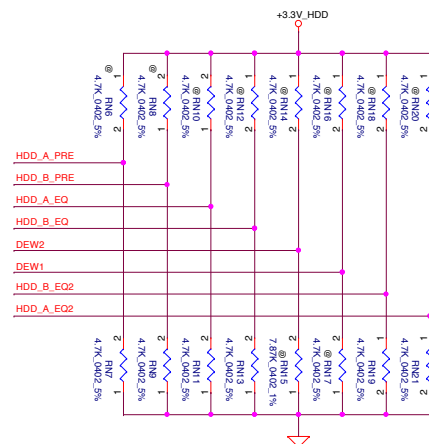
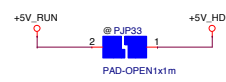
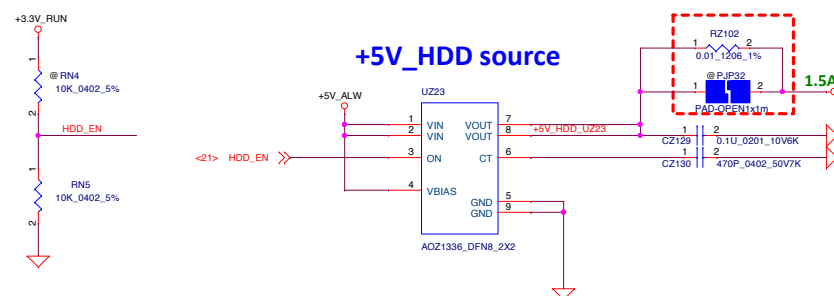
## SATA Repeater



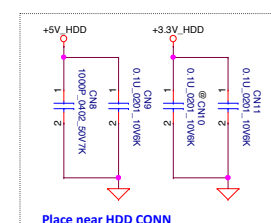
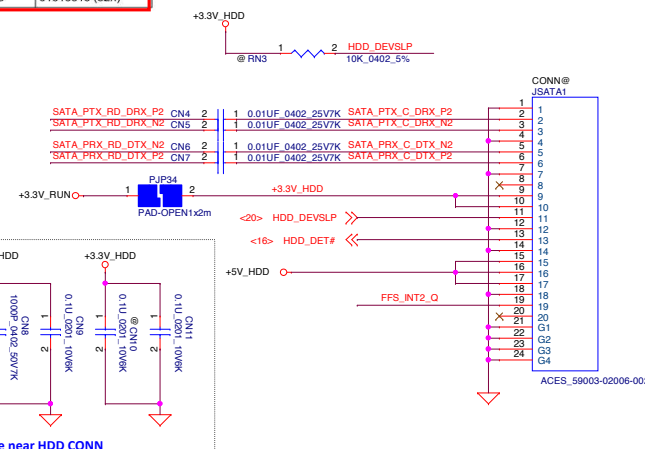
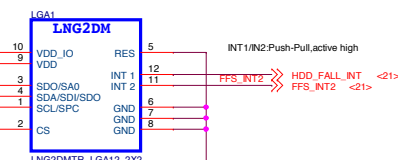
	HDD_A_EQ PIN17	HDD_B_EQ PIN19	HDD_A_EQ2 PIN18	HDD_B_EQ2 PIN13	DEW1 PIN16	DEW2 PIN6	HDD_A_PRE PIN9	HDD_B_PRE PIN8
Pericom PI3EQX6741ST	PD (RN13)	PD (RN16)	PD (RN83)	PD (RN23)	NC	NC	PD (RN5)	PD (RN11)
TI SN75LVCP601	PD (RN13)	NC	PD (RN83)	PD (RN23)	NC (IPU)	NC (IPU)	PH (RN8)	PH (RN10)
Parade PS8527C	PD (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 NC 1	3dB 6dB 9dB	3dB 6dB 9dB	0 NC 1	0dB 1.5dB	0dB 1.5dB
2nd	TI	0 NC 1	7dB 9dB 14dB	7dB 9dB 14dB	0 NC 1	0dB -4dB -2dB	0dB -4dB -2dB
3rd	Parade	EQ2 EQ1 (M = VDD/2) 0 M 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 M 1	0dB -3.5dB -1.5dB	0dB -3.5dB -1.5dB

\* red color is current setting

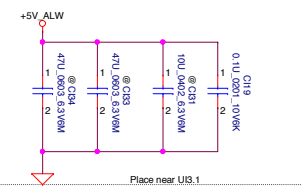
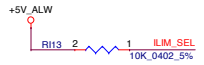
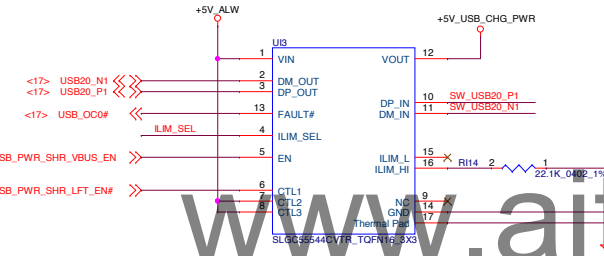
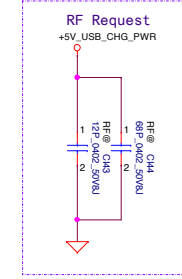
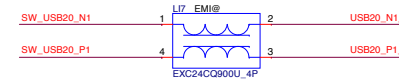
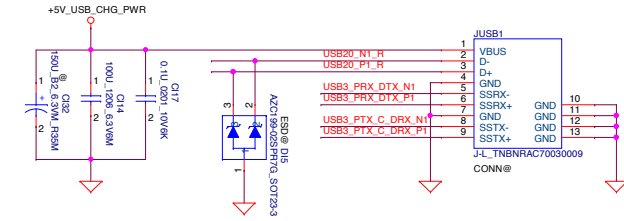
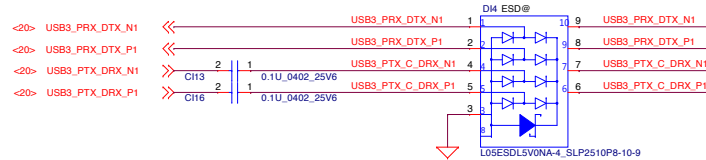


## Free Fall Sensor



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.		
HDD CONN		
Document Number	LA-E153P	Rev 0.2
Date	Tuesday, June 28, 2016	Sheet 41 of 74

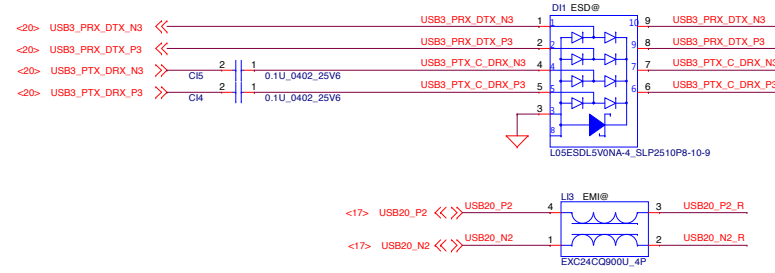
For PWR SW + Charger combine IC



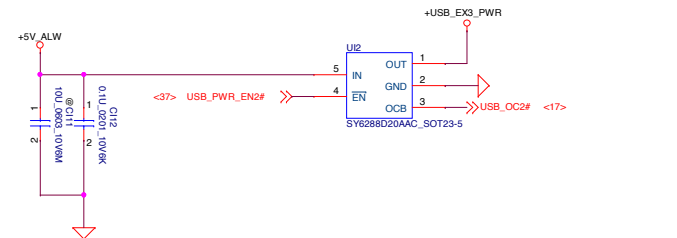
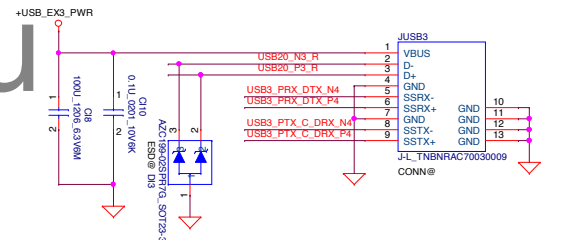
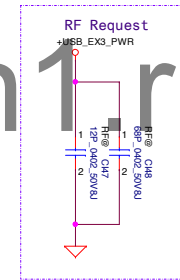
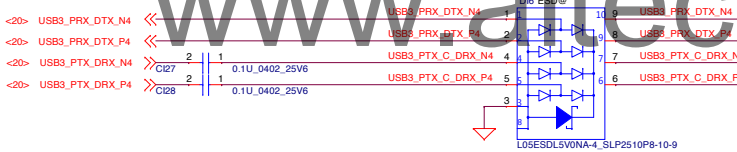
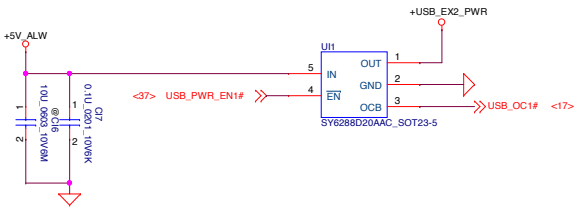
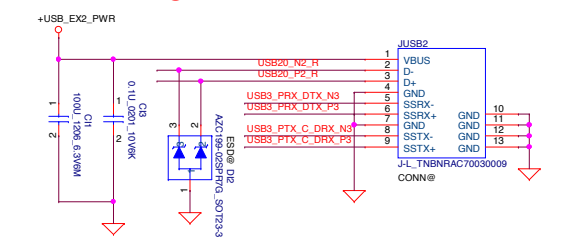
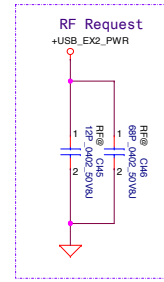
www.aitech1.ru

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				LA-E153P			
Date: Tuesday, June 28, 2016				Sheet				42 of 74			
								Rev 0.2			

# For Breckenridge 14&15/Steamboat 14



DfB request:  
main SM070003200 (INPAQ\_MCM1012B900F06BP\_4P)  
Footprint use 2nd source SM070004400 (PANAS\_EXC24CQ900U\_4P)  
Pitch change from 0.5mm to 0.55mm

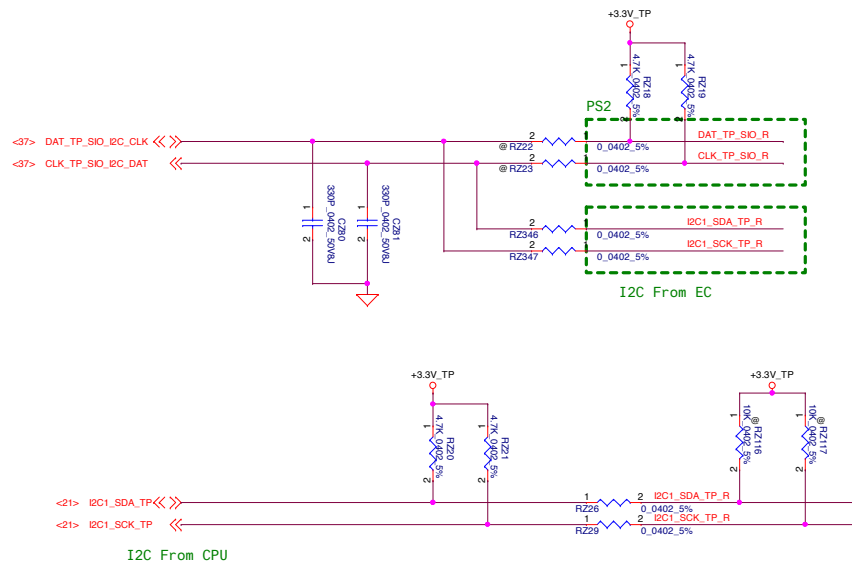


Security Classification		Compal Secret Data		ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE	
Issued Date		2016/01/01		Deciphered Date	
				2017/01/01	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND 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	
				Compal Electronics, Inc.	
				JUSB2&JUSB3	
				Size	
				Document Number	
				Rev	
				0.2	
				LA-E153P	
Date:				Tuesday, June 28, 2016	
Sheet				43 of 74	

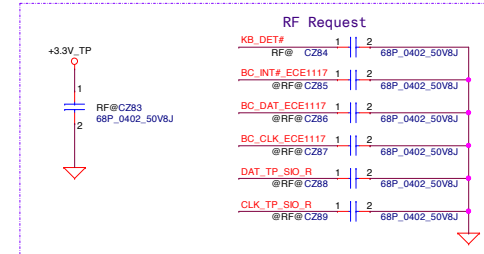
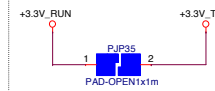
DELL CONFIDENTIAL/PROPRIETARY  
Compal Electronics, Inc.

LA-E153P

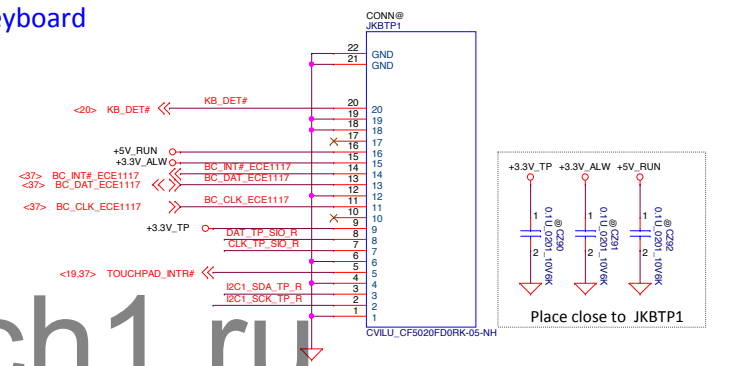
## Touch Pad



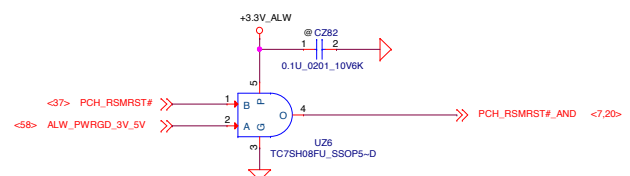
Plan is for I2C to be driven by the EC for Win7 and Pre-OS (will utilize Intel I2C drivers for Win7). For Win8.1 and 10 the EC will control TP over I2C Pre-OS and then the PCH will drive I2C when in Windows. Route PS2 from EC to the touch pad also for contingency plan if I2C has issues



## Keyboard



## RSMRST circuit

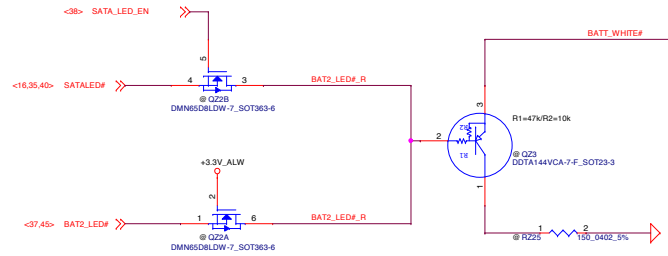


Security Classification				Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date				2016/01/01	Deciphered Date	2017/01/01	Title
							Keyboard
							Document Number
							LA-E153P
							Rev
							0.2
							Date
							Tuesday, June 28, 2016
							Sheet
							44 of 74

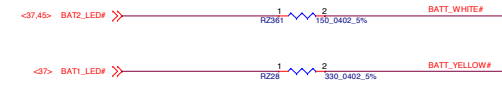


## HDD LED MUX

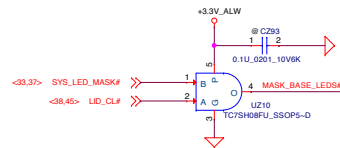
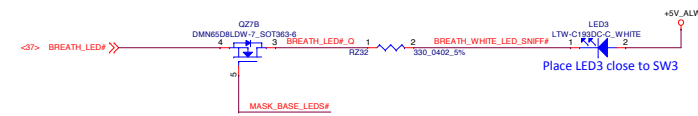
means EC can switch battery white led and HDD LED by hot key 'Fn+H'



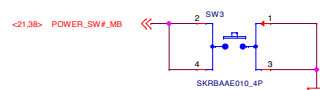
## Battery LED



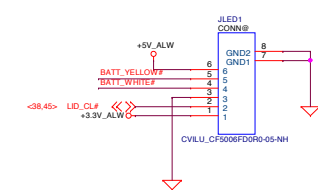
## Breath LED



## POWER & INSTANT ON SWITCH



## LED board CONN

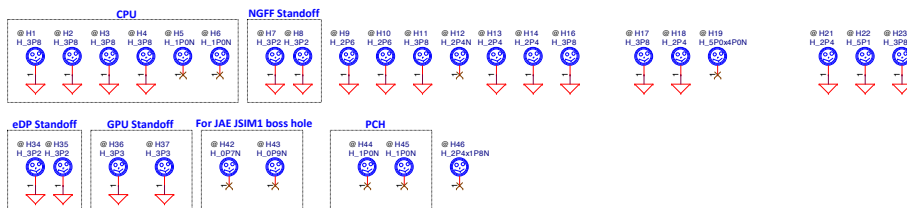


## Fiducial Mark

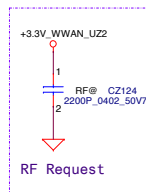
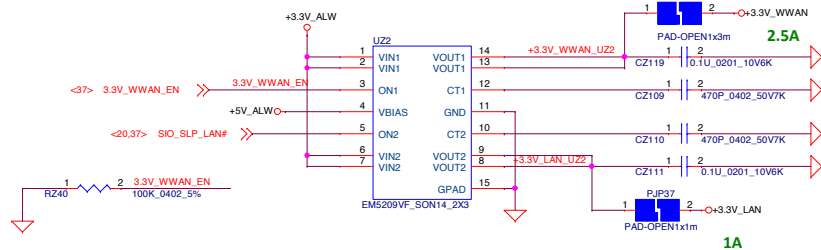


## LED Circuit Control Table

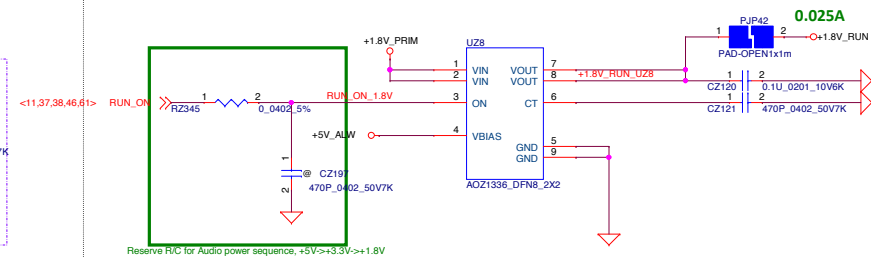
	SYS_LED_MASK#	LID_CL#
Mask All LEDs (Unobtrusive mode)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1



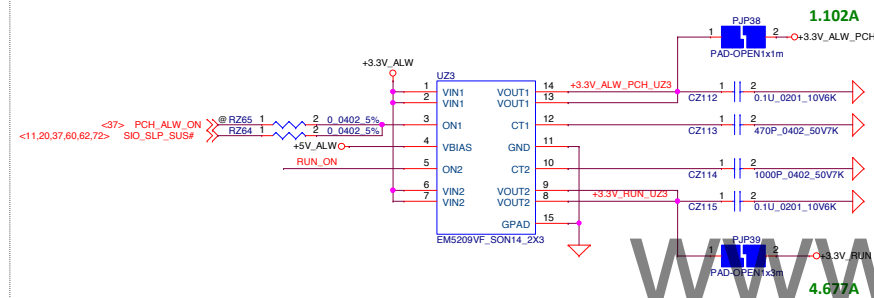
### +3.3V\_WWAN/+3.3V\_LAN source



### +1.8V\_RUN source

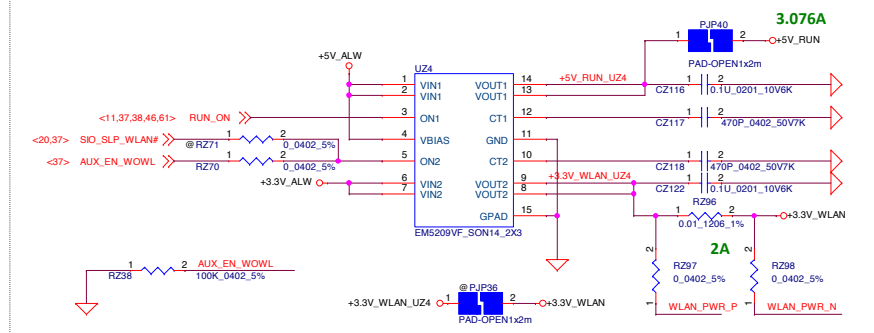


### +3.3V\_ALW\_PCH/+3.3V\_RUN source

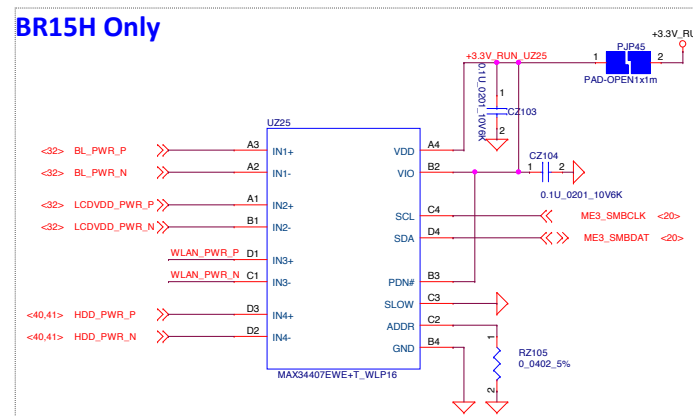


www.aitech1.ru

### +5V\_RUN/+3.3V\_WLAN source



### BR15H Only



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Power control

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.		

Title	LA-E153P	
Size	Document Number	Rev
B	LA-E153P	0.2
Date:	Tuesday, June 28, 2016	Sheet 46 of 74



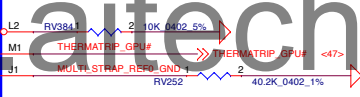
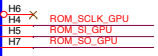
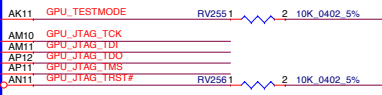
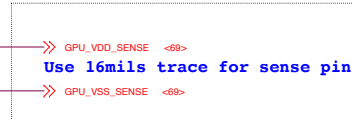
SMBUS_ALT_ADDR	Description
0	0x9E(Default)
1	0x9C(Multi-GPU usage)

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

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

Speed Grade	Alert
5 Gbps	N/A
5 Gbps	N/A

The diagram illustrates the GPU memory controller for the NVIDIA Tegra 250. It shows a 16-bit data bus connecting the GPU to 16 memory banks (RV205 to RV250). Each bank is connected to a 43.3K 0.002 1% resistor. The banks are organized into four groups of four, each connected to a different power supply: +3.3V\_GFX\_AON, +3.3V\_RUN\_GFX, and two others. The diagram also shows the connection of the STRAP0 to STRAP5 pins to the GPU.



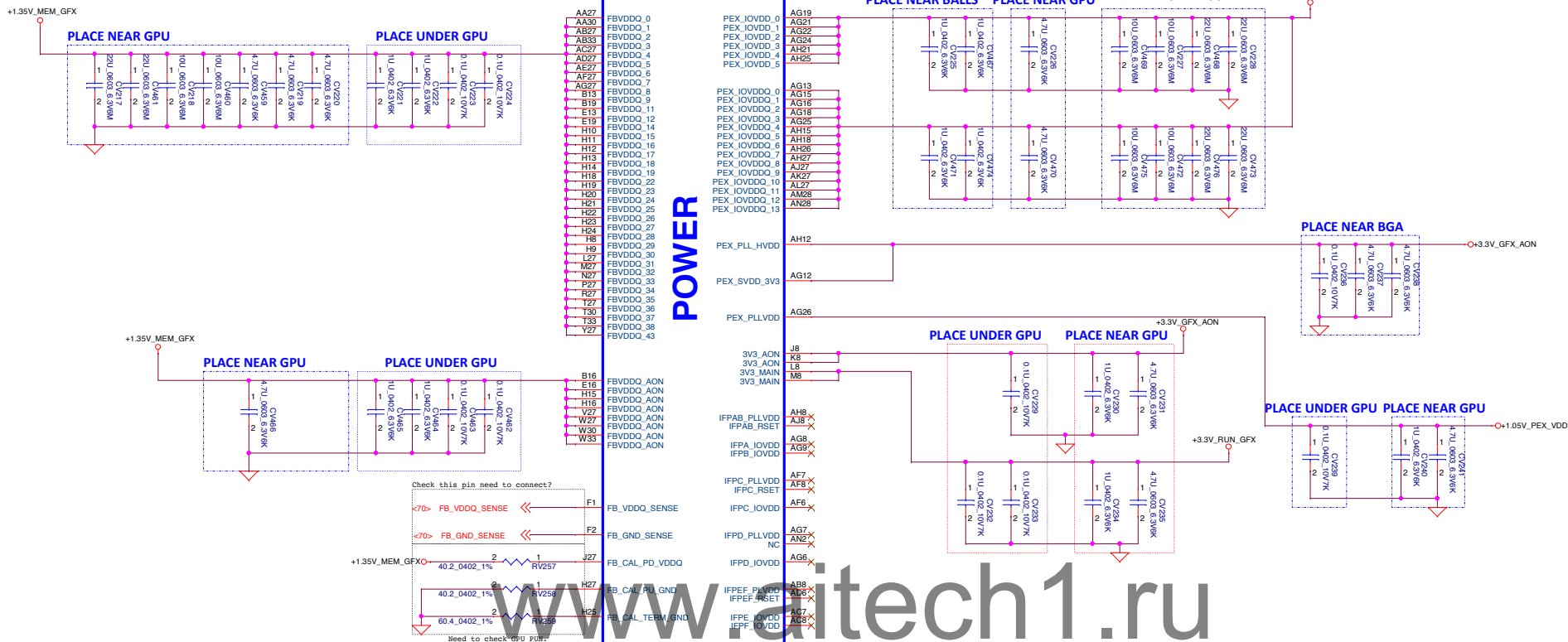
For N17M-Q3 [2GB ~ GDDR5, 4Gbit technology, 4pcs x 32]			
VENDER	STRAP	Part Number	Note(ROM_Sl)
Samsung	0x7	K4G41325FE-HC28 SA00009TT0L	RV248 45.3K PD
Micron	0x4	EDW40323BAG-60-F SA00009E30L	RV248 24.9K PD

DEVID\_SEL\_PCIE\_CFG default set 0, need refer Platform Update Notification for the latest configuration



LA-E153P		0.2
Date:	Tuesday, June 28, 2016	Sheet 48 of 74

Security Classification		Compal Secret Data		<del>ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE</del>	
Issued Date		2016/01/01	Deciphered Date		2017/01/01
				Title	<b>Compal Electronics, Inc.</b> <b>N17M DP, STRAP, GND</b>
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	Document Number
				B	LA-E153P
Date:		Tuesday, June 28, 2016	Sheet		46 of 74



GDDR5 GPU side FBVDDQ Combined Decoupling		
Capacitor Type	Population	
0.1uF 0402	2	
1.0uF 0603	2	
4.7uF 0603	3	
10uF 0805	2	
22uF 0805	2	

GDDR5 GPU side FBVDDQ_AON Combined Decoupling		
Capacitor Type	Population	
0.1uF 0402	2	
1.0uF 0603	2	
4.7uF 0603	1	

Power Supply Rail		N17M-Q3	
	(V)	(A)	
GPU_Core	-	26	
GPU_FBIO	1.5/1.35	TBD	
PEX_IOVDD/Q	1.05	TBD	
PEX_PLLVDD	1.05	TBD	
FBA_PLL_AVDD	1.05	TBD	
FBA_DLL_AVDD	1.05	TBD	
PLL_VDD	1.05	TBD	
SP_PLLVDD	1.05	TBD	
<b>1.05V Total</b>	<b>1.05</b>	<b>TBD</b>	
VDD33+3V3AON	3.3	TBD	
PEX_SVDD_3V3	3.3	TBD	
PEX_PLL_HVDD	3.3	TBD	
<b>3.3V Total</b>	<b>3.3</b>	<b>TBD</b>	

PEX_PLLVDD Decoupling		
Capacitor Type	Population	
0.1uF 0402	1	
1uF 0603	1	
4.7uF 0805	1	

PEX_SVDD/PEX_PLL_HVDD Decoupling		
Capacitor Type	Population	
0.1uF 0402	1	
4.7uF 0603	2	

3V3_MAIN Decoupling		
Capacitor Type	Population	
0.1uF 0402	2	
1uF 0603	1	
4.7uF 0603	1	

3V3_AON Decoupling		
Capacitor Type	Population	
0.1uF 0402	1	
1uF 0603	1	
4.7uF 0603	1	

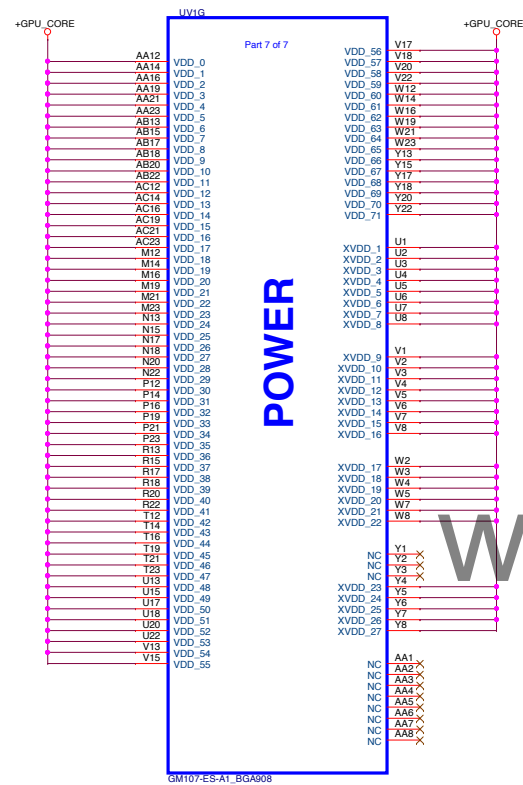
Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		N17M Power	
2016/01/01		2017/01/01		Document Number	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE 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.				LA-E153P	
				Date	
				Tuesday, June 28, 2016	
				Sheet 49 of 74	

**DELL CONFIDENTIAL/PROPRIETARY**  
**Compal Electronics, Inc.**

**N17M Power**  
 Document Number  
**LA-E153P**

Date: Tuesday, June 28, 2016 Sheet 49 of 74

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

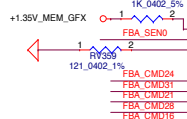
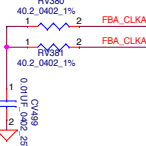
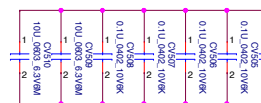


www.aitech1.ru

Security Classification				Compal Secret Data				DELL CONFIDENTIAL/PROPRIETARY			
Issued Date				2016/01/01				Compal Electronics, Inc.			
Deciphered Date				2017/01/01				N17M Power GFX 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.				Size B				Rev 0.2			
Date: Tuesday, June 28, 2016				Sheet 50 of 74							

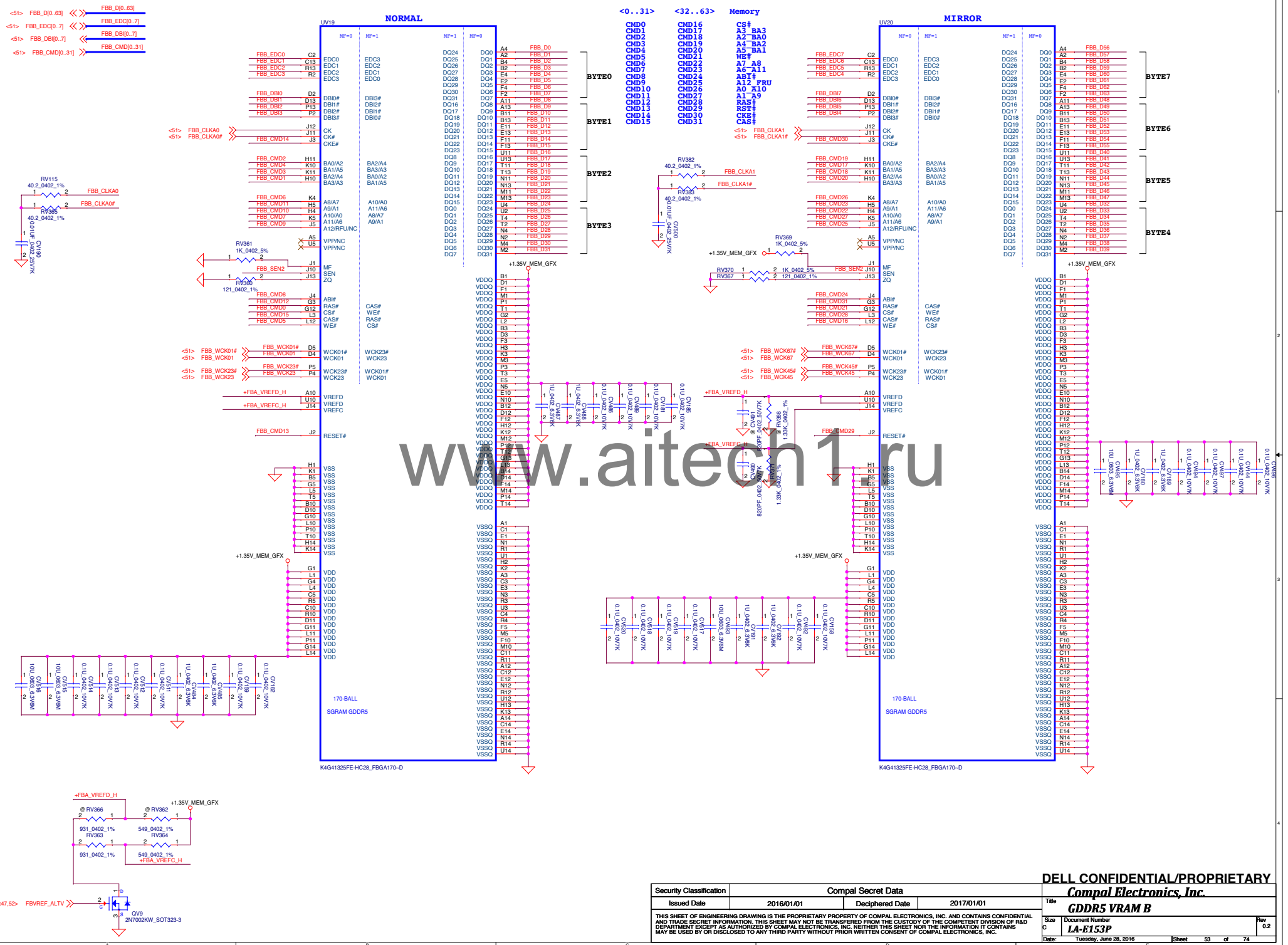




[illegible]



## GDDR5 CMD Mapping Table



DELL CONFIDENTIAL/PROPRIETARY

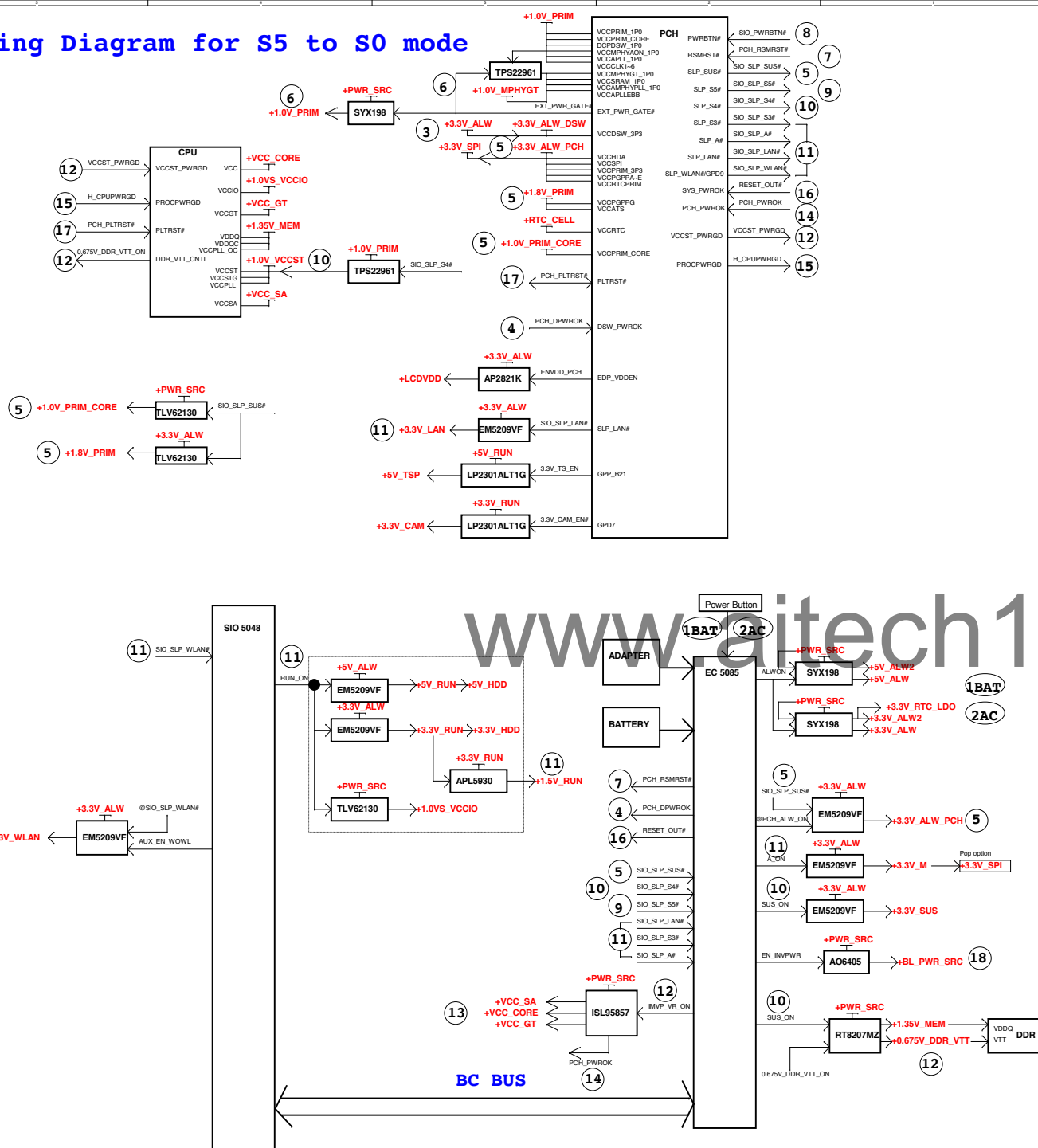
**Compal Electronics, Inc.**

**GDDR5 VRAM B**

Size	Document Number	Rev
C	<b>LA-E153P</b>	0.2

Date:	Tuesday, June 28, 2016	Sheet	53	of	74
-------	------------------------	-------	----	----	----

### Timing Diagram for S5 to S0 mode



Security Classification	Compul Secret Data		DECLASSIFIED/PROHIBITED	
	2016/01/01	Declassified Date	2017/01/01	
THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINING CONFIDENTIAL INFORMATION. THIS SHEET OF ENGINEERING DRAWINGS IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. WITHIN THE SHEET OF THE INFORMATION IT CONTAINS MAY BE USED BY COUNTERPARTY TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Title <b>Power Sequence</b>	
Issue Number	Date		Rev. of	
1	14-6153P		1	
Date: Sunday, June 19, 2016			Sheet	54 of 74

For power common schemati  
www.aitech1.ru

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
				Sheet	55 of 74
				Rev	0.2

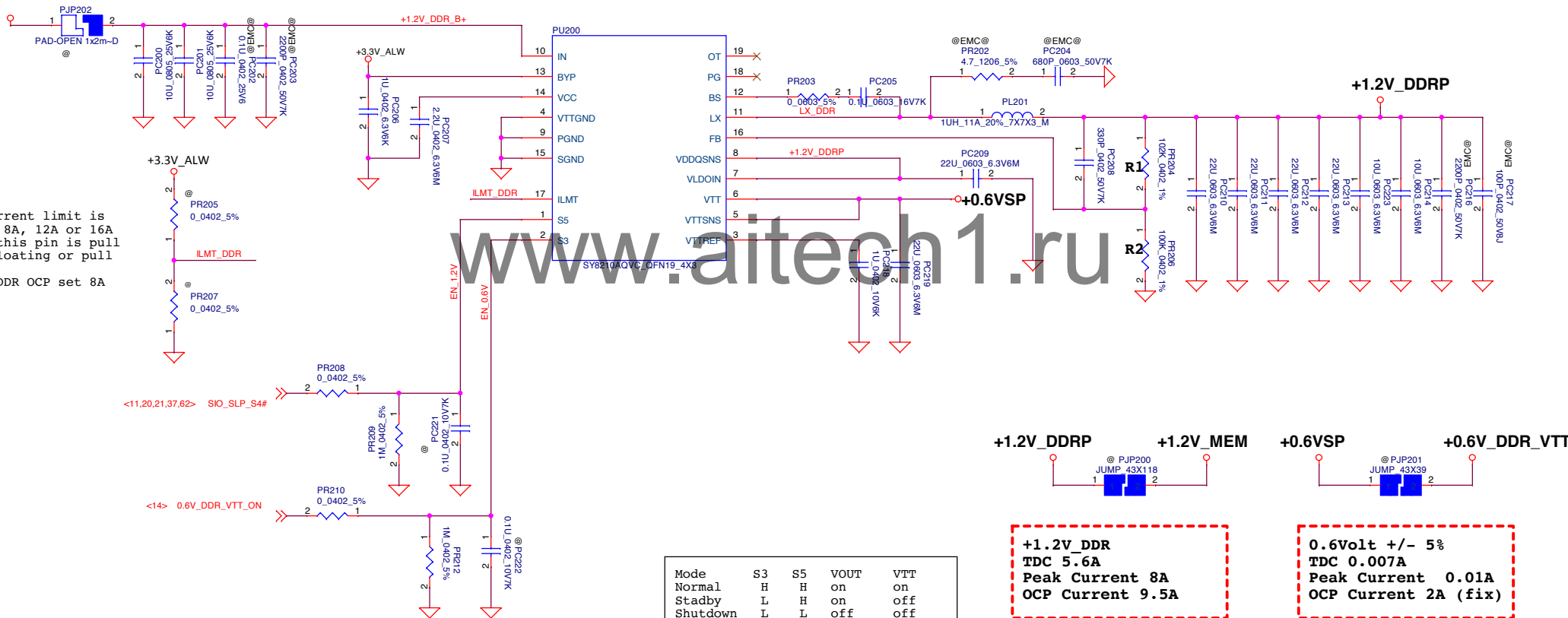
For power common schemati  
www.aitech1.ru

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	Rev 0.2
				Sheet 56 of 74	





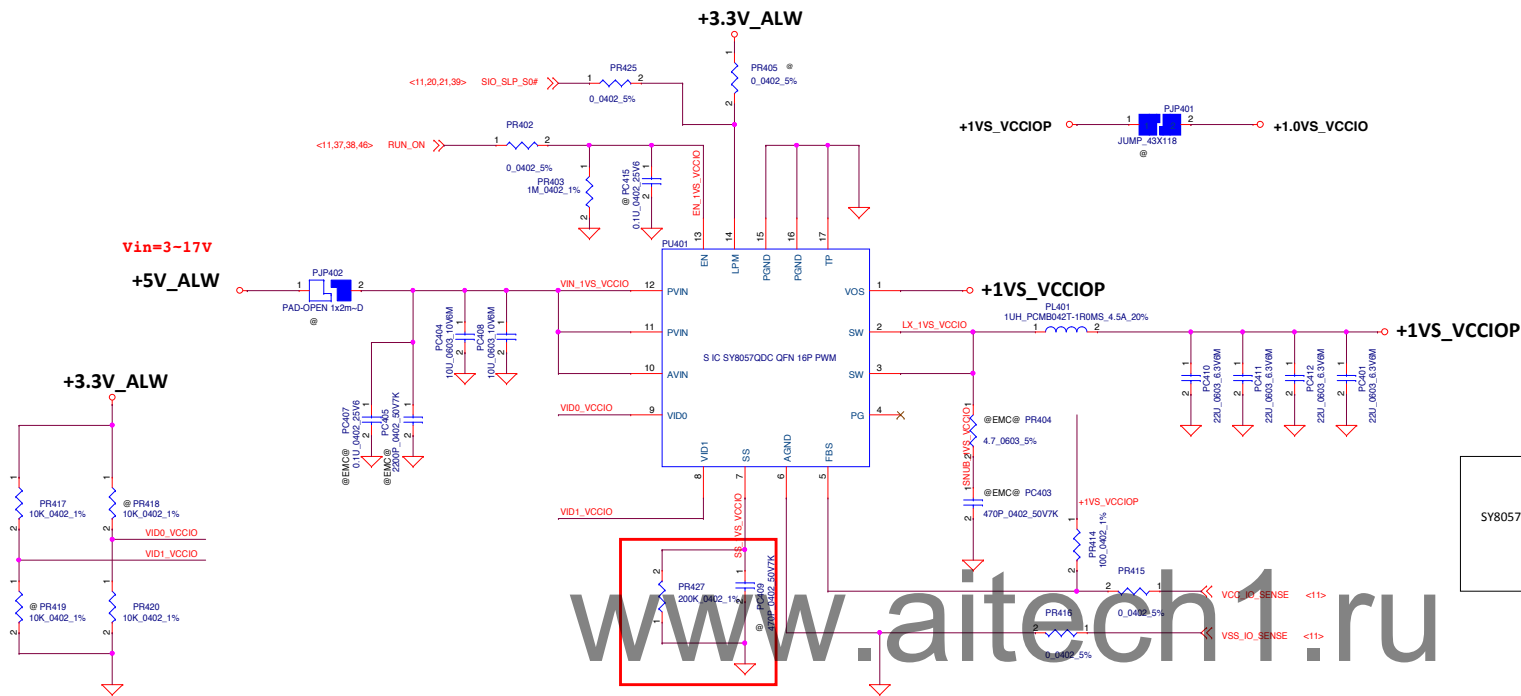
# +PWR\_SRC



Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		2016/01/01		Compal Electronics, Inc.	
Deciphered Date		2017/01/01		+1.2V_MEN/+0.6V_DDR_VTT	
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	
		Document Number		0.2	
		Custom		LA-E153P	
		Date:		Tuesday, June 28, 2016	
		Sheet		59 of 74	





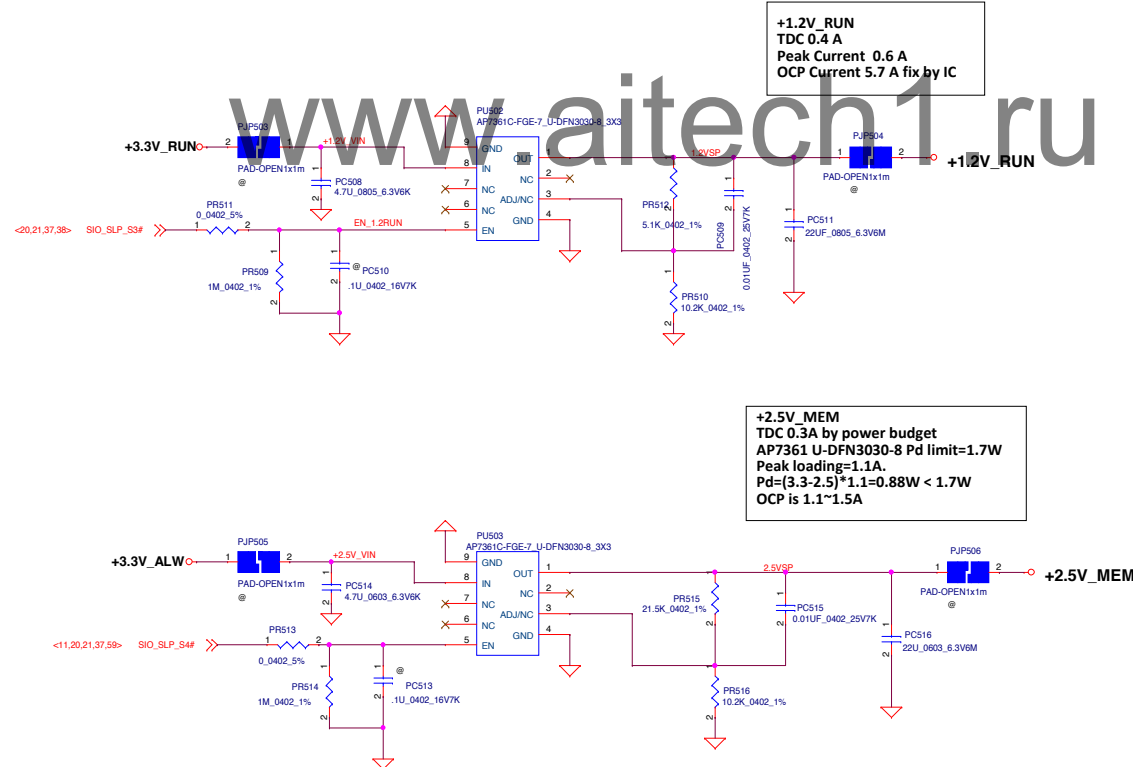
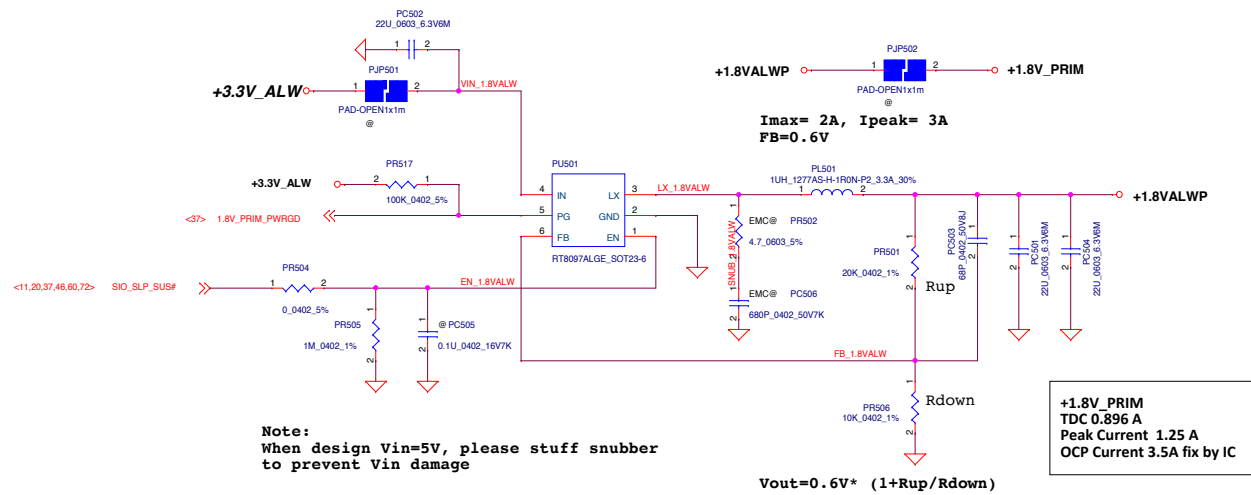


**+1.0VS\_VCCIO**  
TDC 3.9A  
Peak Current 5.5 A  
OCP Current 6.6 A Fix by IC  
TYP MAX

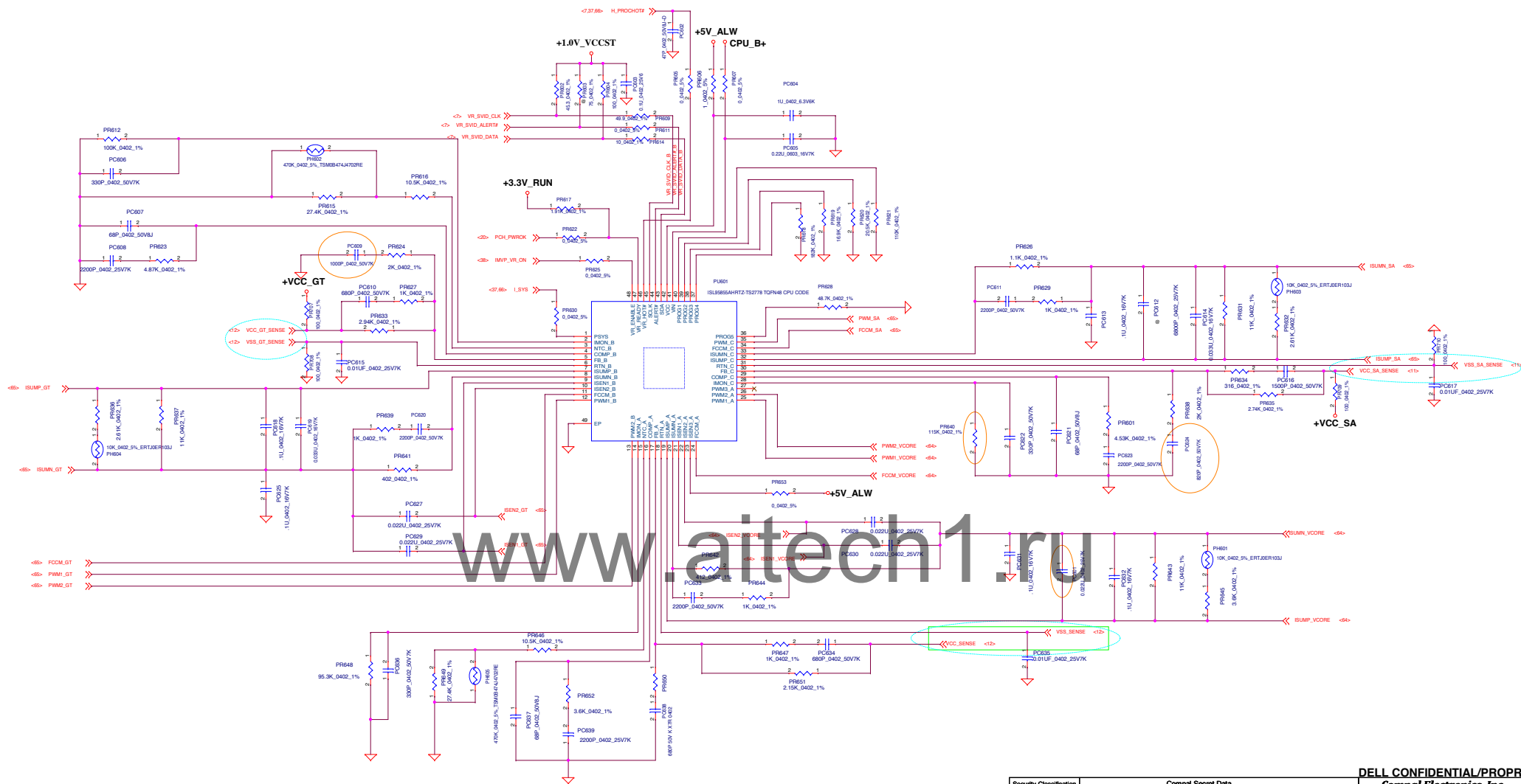
	LPM LOGIC	VID1 LOGIC	VID0 LOGIC	OUTPUT VOLTAGE
SY8057	0	X	X	0(LPM)
	1	0	0	0.85
	1	0	1	0.875
	1	1	0	0.95
	1	1	1	0.975

Preset the different pull down resistor to choose the required power rail

(VCCIO/PCH/EDRAM/EOPIO applications.)  
RMODE>500k Vcc\_PRIM\_CORE.  
RMODE=200k Vcc\_IO.  
RMODE=0 Vcc\_EDRAM.

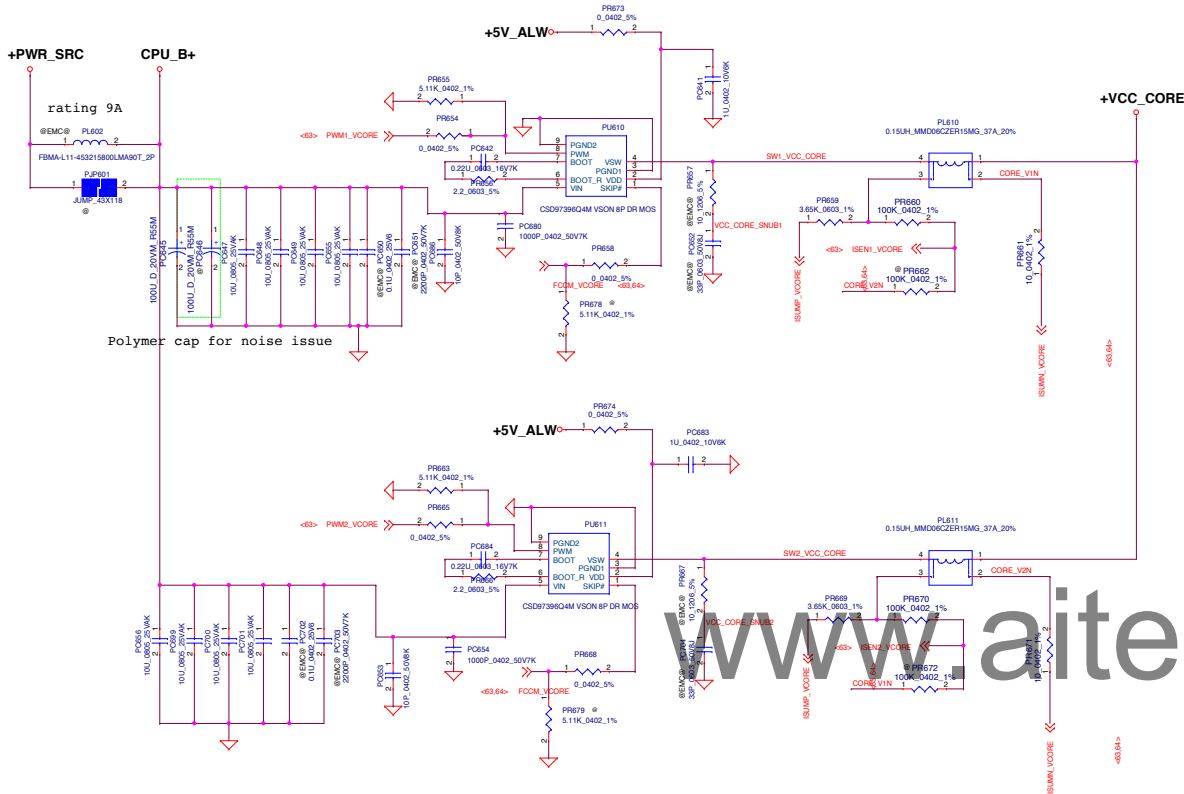


Security Classification		Compal Secret Data	
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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.			
Title		DELL CONFIDENTIAL/PROPRIETARY Compal Electronics, Inc. <b>+1.8VALWP/+1.5VSP/2.5V_MEN</b>	
Size	Document Number	Rev	
C	LA-E153P	0.2	
Date:	Tuesday, June 28, 2016	Sheet	62 of 74



Security Classification		Compal Secret Data	
Issued Date	2016/01/01	Designated 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		Dell Confidential/Proprietary Compal Electronics, Inc. VCORE ISL9585	
Doc No	Doc No	Doc No	Doc No
1A-E153P	1A-E153P	1A-E153P	1A-E153P
Date	2016/01/01	2016/01/01	2016/01/01
1	1	1	1

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

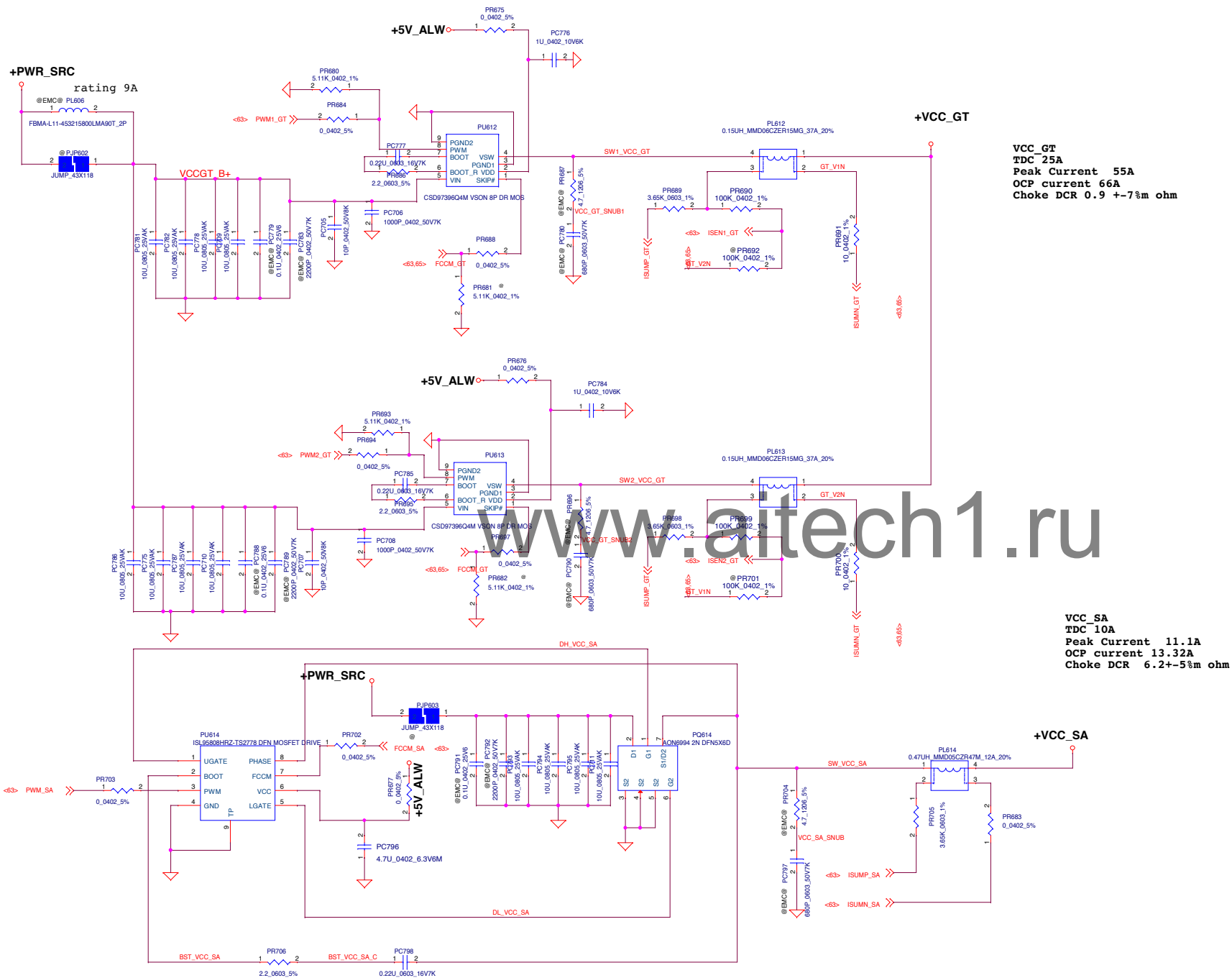


www.aitech1.ru

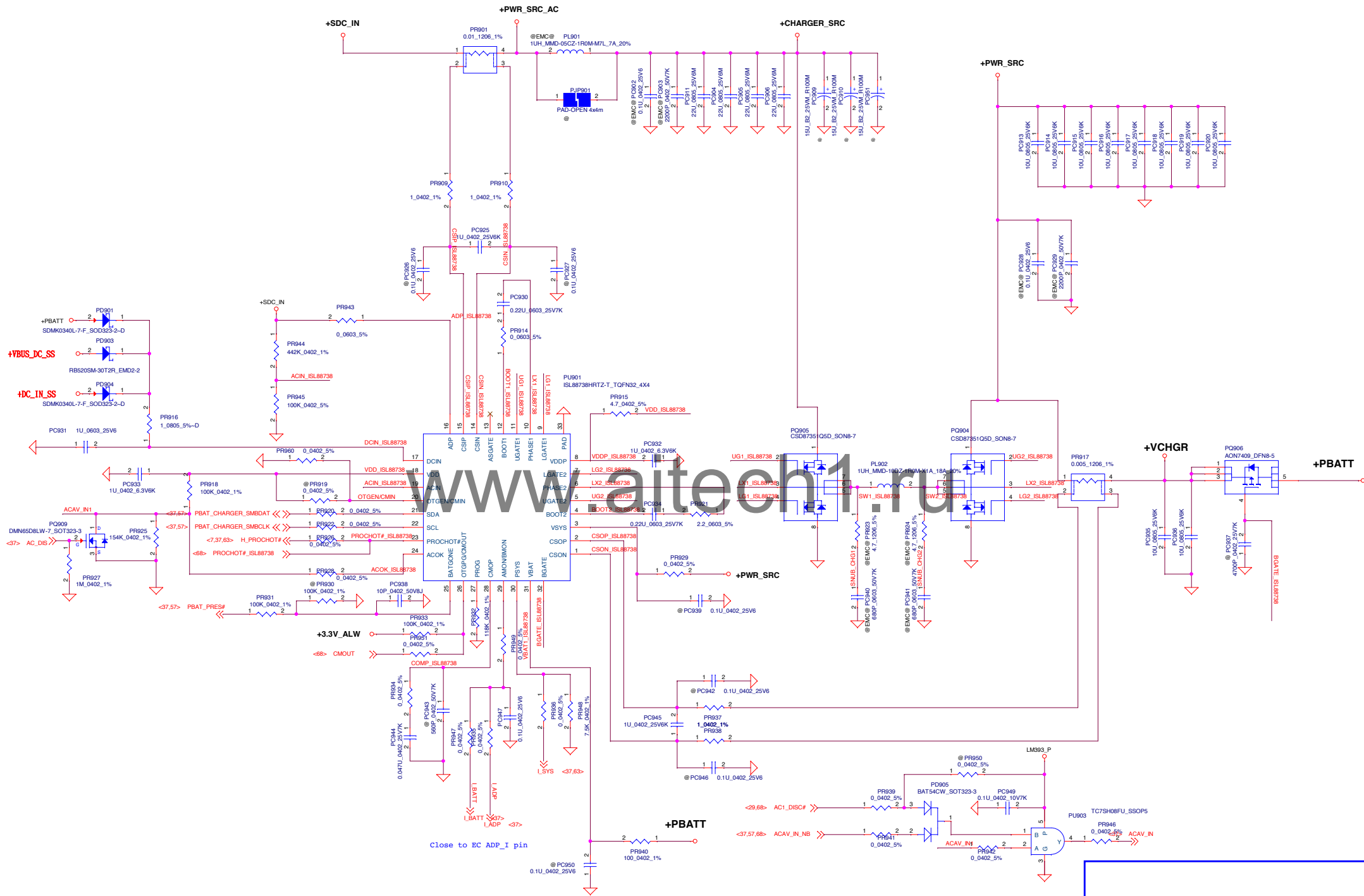
DELL CONFIDENTIAL/PROPRIETARY

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
			Rev
			0.2
			Date
			Tuesday, June 28, 2016
			Sheet 64 of 74



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 <b>VGT_VSA</b>
Size C	Document Number <b>LA-E153P</b>	Sheet 65	of 74	Rev 0.2
Date:	Tuesday, June 28, 2016	Sheet	65	of 74



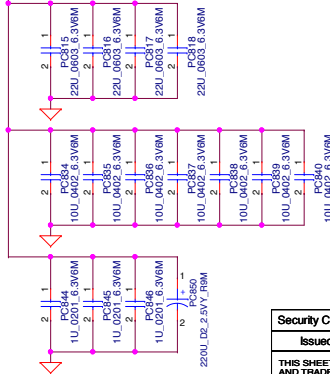
VCC\_CORE Place on CPU  
Back Side.  
22U\_0603 \* 8 pcs + 10U\_0402\*28 pcs + 1U\_0201\*35 pcs  
Primary Side.  
22U\_0603 \* 8 pcs+330u\_D2\*2 pcs

+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

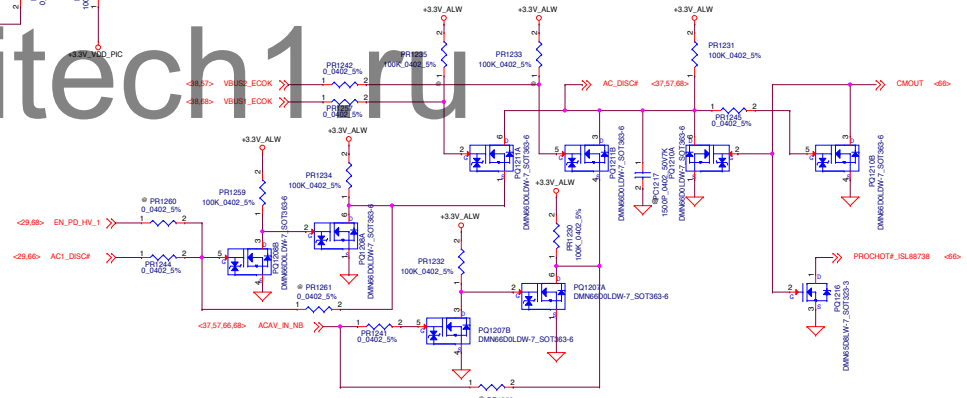
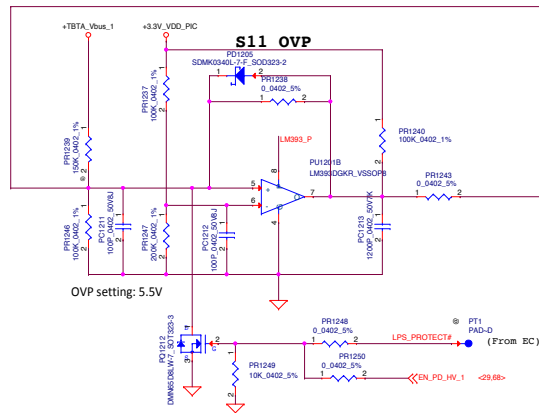
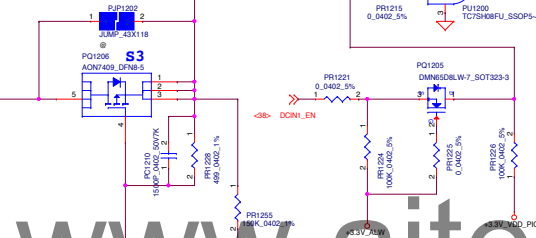
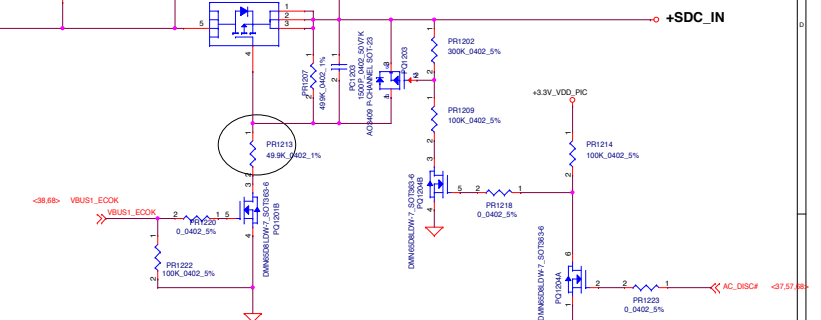
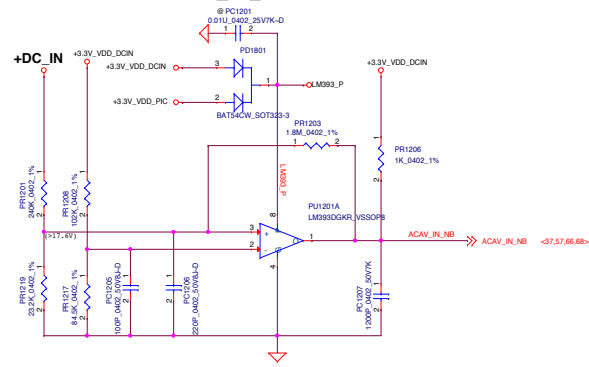


Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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

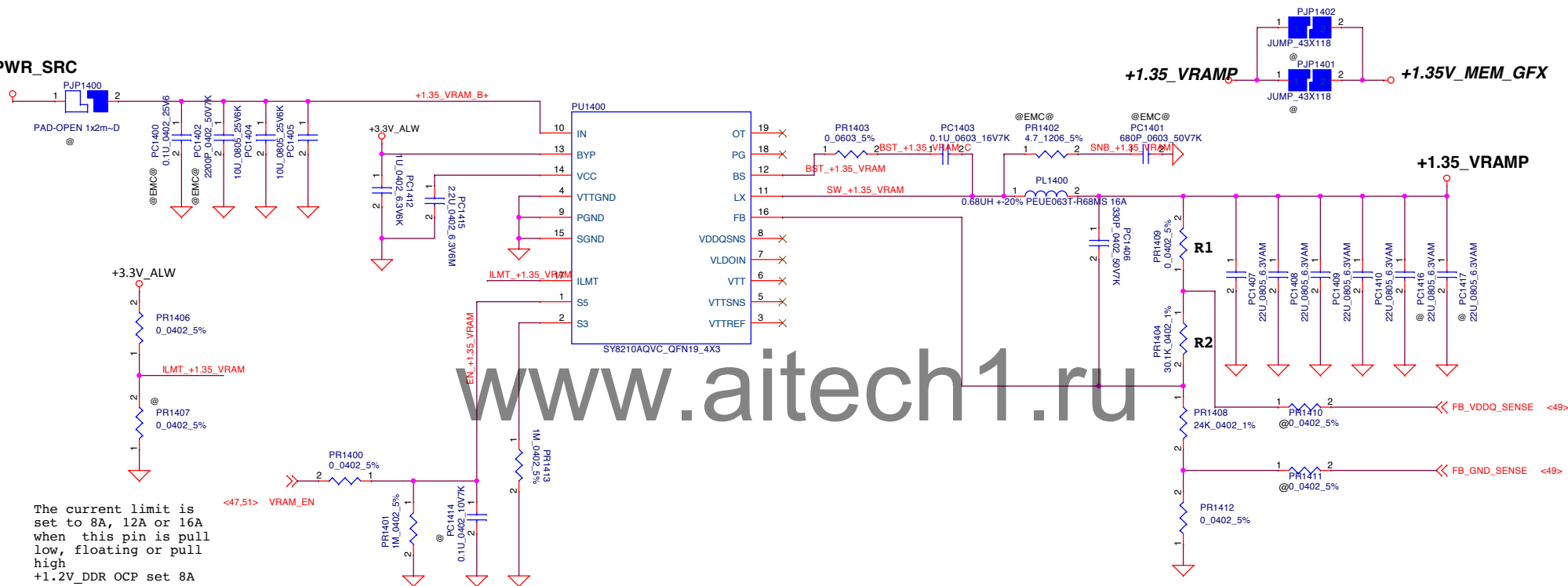
Title	Document Number	Rev
LA-E153P		02
Date	Tuesday, June 28, 2016	Sheet 67 of 74



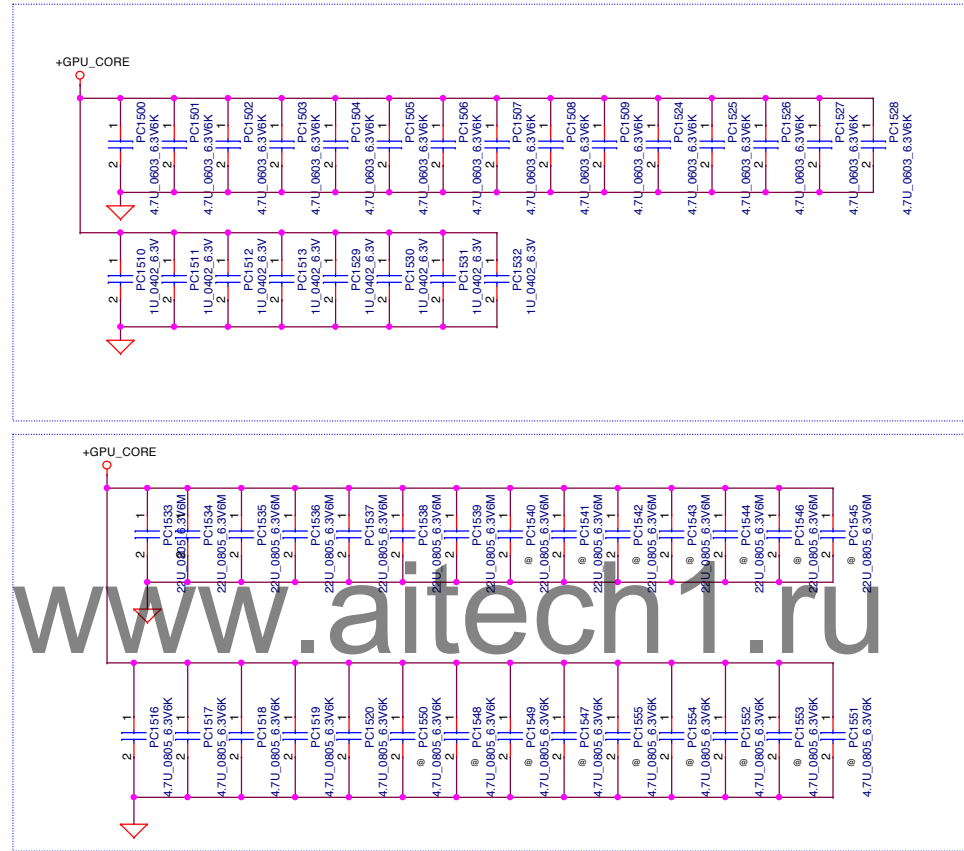


Security Classification		Compal Secret Data		Title	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	<b>Compal Electronics, Inc.</b> <b>+GPU_CORE</b>	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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	Document Number <b>LA-E153P</b>
				Rev	0.2
Date:		Tuesday, June 28, 2016		Sheet	69 of 74

+PWR\_SRC



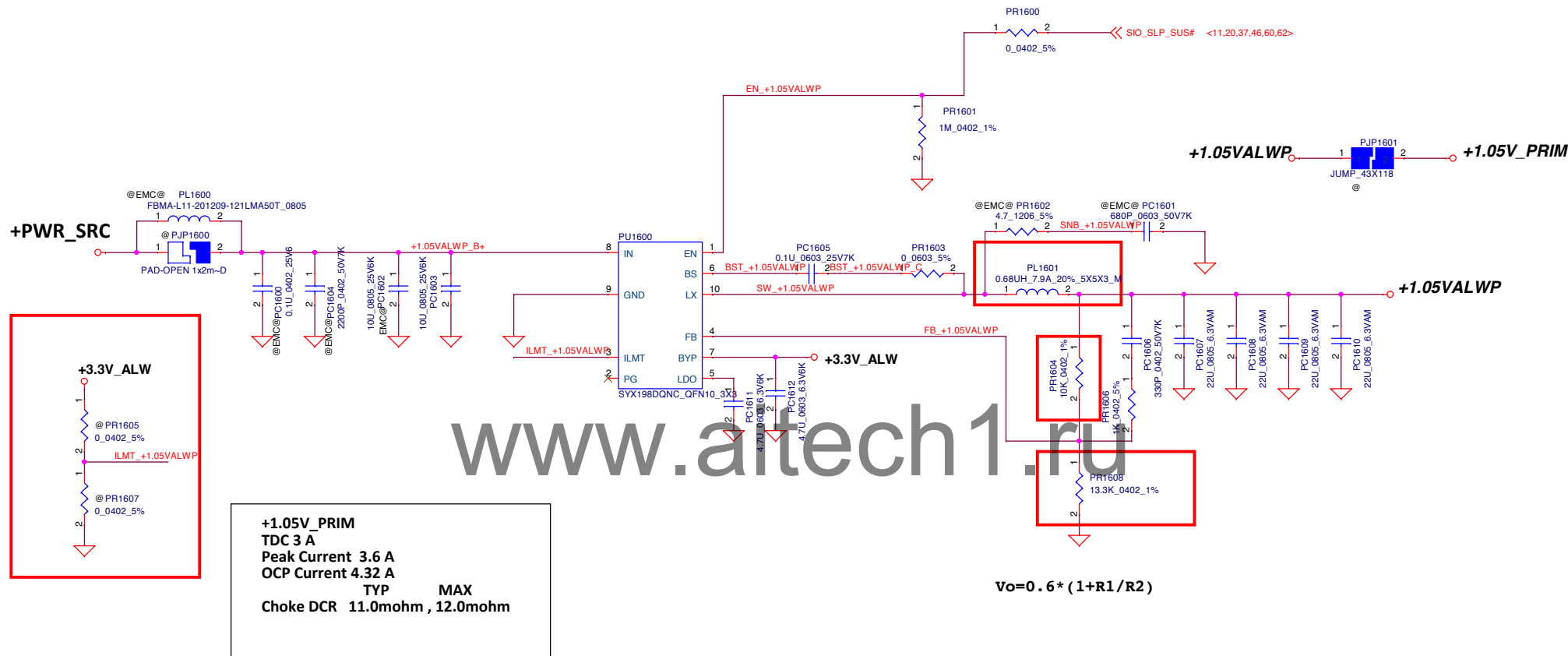
Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date		2016/01/01		Compal Electronics, Inc.	
Deciphered Date		2017/01/01		GPU_VRAM(SYX198D)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE 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	
		Custom		0.2	
Date:		Tuesday, June 28, 2016		Sheet 70 of 74	



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		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		Compal Electronics, Inc.		PROCESSOR DECOUPLING	
Size		Document Number		Date		Tuesday, June 28, 2016		Sheet 71 of 74	
Custom		LA-E153P		Rev		0.2			



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

Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY		
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Title		
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.				Compal Electronics, Inc.		
				+1VALWP		
				Size	Document Number	Rev
				Custom	LA-E153P	0.2
				Date:	Tuesday, June 28, 2016	Sheet 72 of 74

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							

www.aitech1.ru

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	11	HW	2016/5/27	COMPAL	S0ix(modern standy) support for VCCPLL_OC	Pop RZ120 and Depop UZ34 Add net name VCCSTG_EN(UZ19.4) and connect to RZ120.1	0.2(X01)
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(0)_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)
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)
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_CPF5020FDORK-05-NH 2. JUSH1 change to CVILU_CPF5026FDORK-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 posibility of GPIO map update	Add RE514,RE515 for RTCRST_ON	0.2(X01)
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)
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)

Security Classification		Compal Secret Data		DELL CONFIDENTIAL/PROPRIETARY	
Issued Date	2016/01/01	Deciphered Date	2017/01/01	Title <b>Compal Electronics, Inc.</b>	
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 PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number <b>EE P.I.R (1/6)</b>	
MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev 0.2	
				Date: Tuesday, June 28, 2016 Sheet 74 of 74	