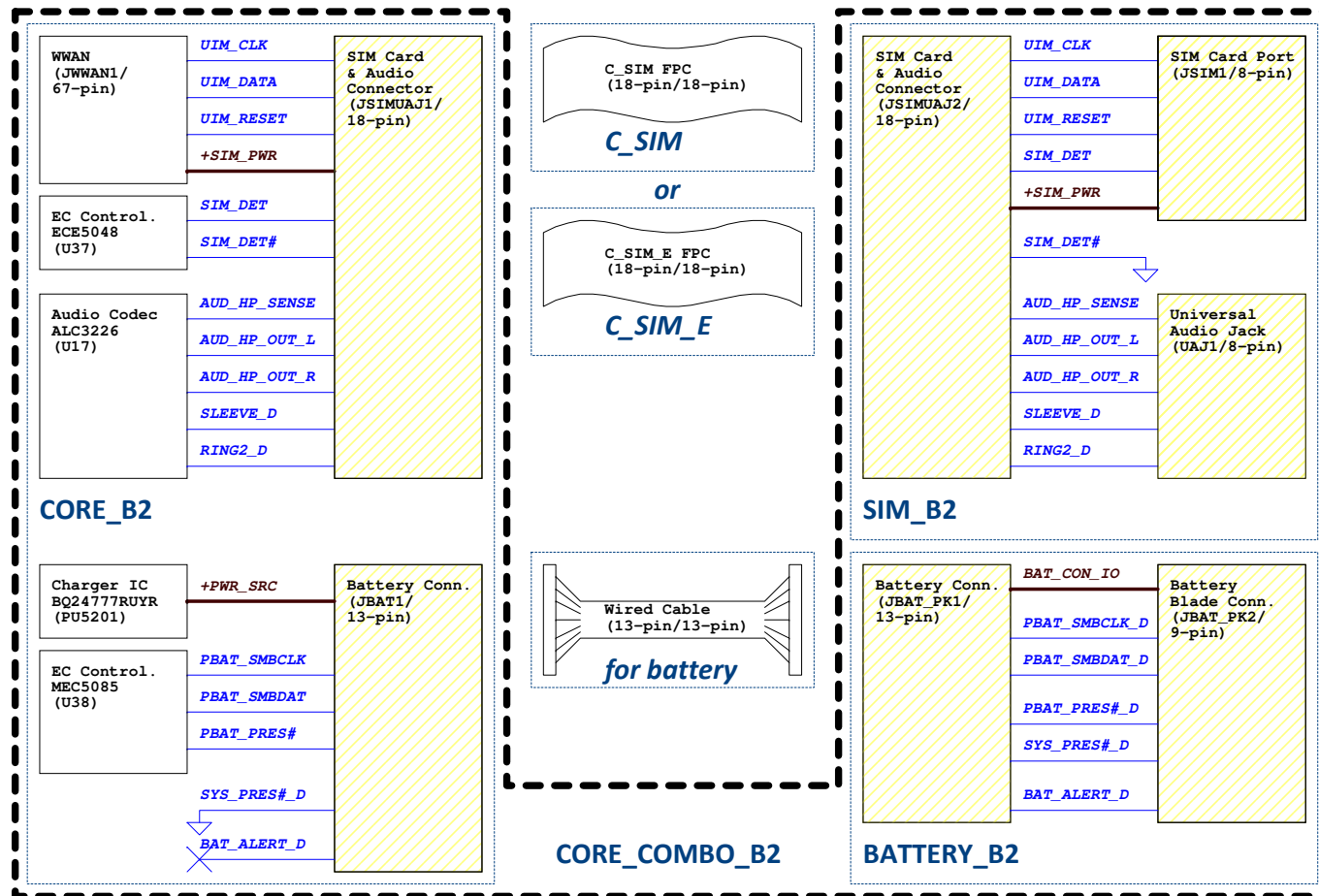


## MCE2 A00 Reference Schematic

### CORE\_COMBO\_B2 for Magellan / Columbus / Eriksson Gen2

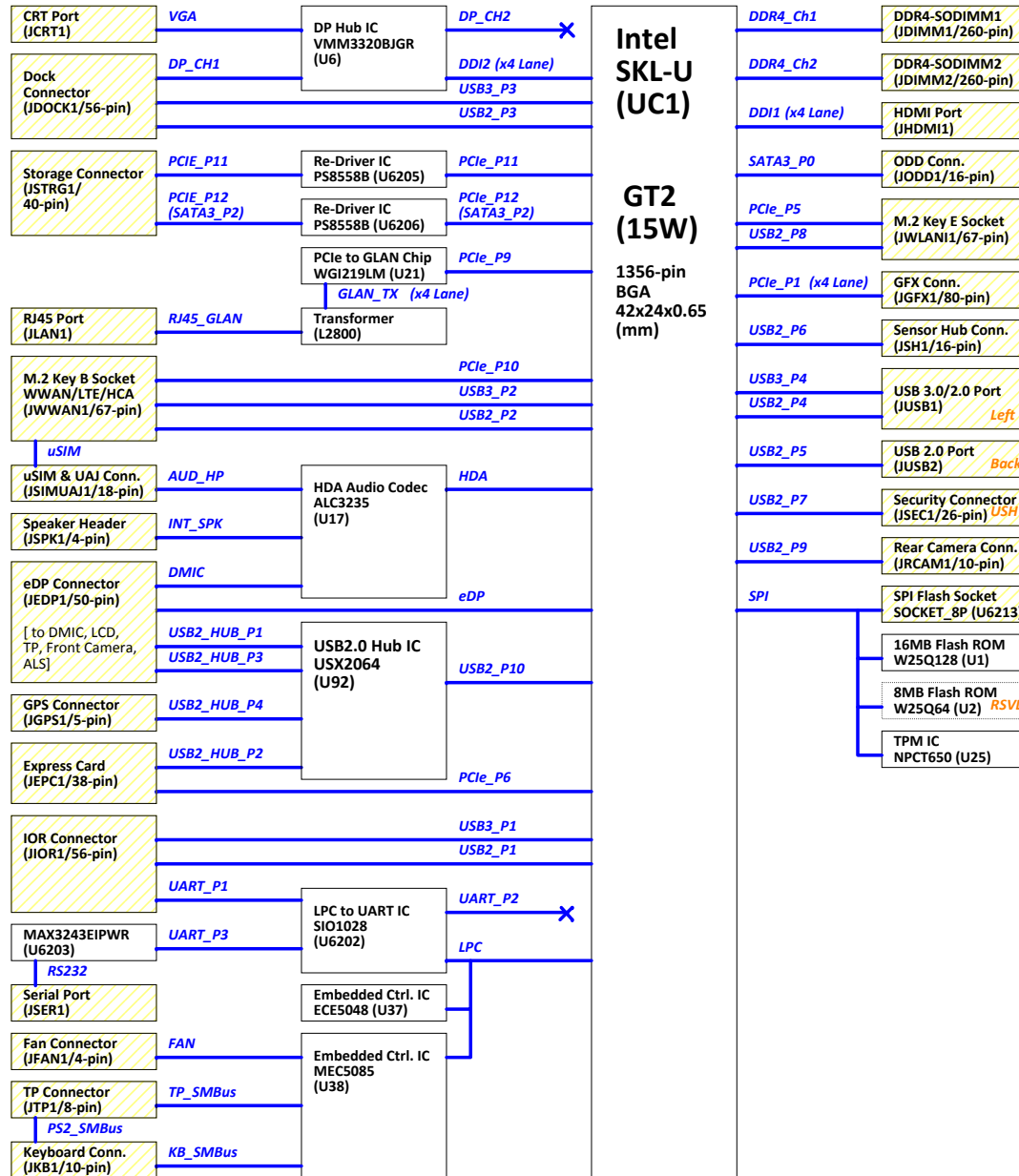


PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

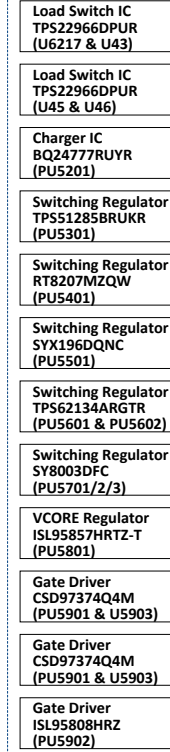
*Note: Net names here may not be consistent with real net names in the schematic.*

<b>PROPRIETARY NOTE:</b> THIS DOCUMENT IS THE PROPERTY OF DELL EMC. IT IS TO BE USED FOR THE PURPOSES OF THE PROJECT ONLY. 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 DELL EMC.		<b>TITLE</b> Cover Page	
<b>DWG NO.</b> CORE_COMBO_B2		<b>REV.</b> 2.0	
<b>DATE</b> Friday, March 18, 2016		<b>SHEET</b> 1 of 81	

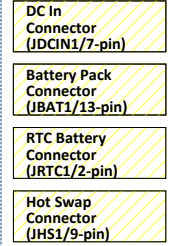
# CORE\_B2 System Block Diagram (A00)



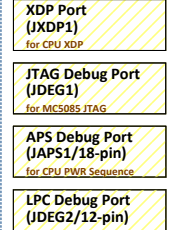
## Power IC



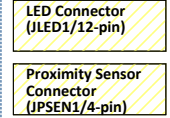
## PWR Conn.



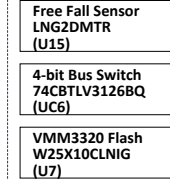
## Debug Port



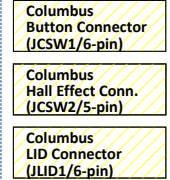
## Misc. Conn.



## Misc. IC



## Col. Conn.



Note: Net names here may not be consistent with real net names in the schematic.

PEGATRON CONFIDENTIAL/PROPRIETARY  
 DELL CONFIDENTIAL/PROPRIETARY

<small>PROPRIETARY NOTE: This document is the property of DELL INC. and contains confidential and trade secret information. This document may be transferred, copied, or otherwise disclosed to third parties without the written consent of DELL INC. All information contained herein is for internal use only and is not to be distributed outside of DELL INC. without the written consent of DELL INC. This document is for informational purposes only and does not constitute an offer of any product or service. DELL INC. is not responsible for any errors or omissions in this document. The information contained herein is subject to change without notice. The information contained herein is for informational purposes only and does not constitute an offer of any product or service. DELL INC. is not responsible for any errors or omissions in this document. The information contained herein is subject to change without notice.</small>		<b>TITLE</b> System Block Diagram	
<b>DWG NO.</b>	CORE_B2	<b>REV.</b>	2.0
<b>DATE</b>	Friday, March 18, 2016	<b>SHEET</b>	2 of 81



# CORE\_B2 Index and Configuraton (A00)

USB2.0 Port Map Configuration

SKL ULT	USB2.0	SCH Conf.	Destination	
	1	USB2_P1	IOR	(JIOR1)
	2	USB2_P2	WWAN	(JWWAN1)
	3	USB2_P3	DOCK	(JDOCK1)
	4	USB2_P4	USB3.0 Port	(JUSB1)
	5	USB2_P5	USB2.0 Port	(JUSB2)
	6	USB2_P6	Sensor Hub	(JSH1)
	7	USB2_P7	USH	(JSEC1)
	8	USB2_P8	Bluetooth	(JWLAN1)
	9	USB2_P9	Rear Cam	(JRCAM1)
	10	USB2_P10	USB Hub	(TS, FCam, EC/PC, GPS)

USH Configuration

USH		
0		BIO
1		NA

POWER STATES

Signal	SLP S3#	SLP S4#	SLP S5#	SLP A#	ALW PLANE	M PLANE	SUS PLANE	RUN PLANE	CLK
S0 (Full ON) with M0	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON
S3 (Suspend to RAM) with M3	LOW	HIGH	HIGH	HIGH	ON	ON	ON	OFF	OFF
S4 (Suspend to DISK) with M3	LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF	OFF
S5 (SOFT OFF) with M3	LOW	LOW	LOW	HIGH	ON	ON	OFF	OFF	OFF
S3 (Suspend to RAM) with M-OFF	LOW	HIGH	HIGH	LOW	ON	OFF	ON	OFF	OFF
S4 (Suspend to DISK) with M-OFF	LOW	LOW	HIGH	LOW	ON	OFF	OFF	OFF	OFF
S5 (SOFT OFF) with M-OFF	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF	OFF

PCIe/USB3.0/SATA Port Map Configuration

USB3.0	SSIC	PCIE	SATA	SCH Conf.	Destination	
USB3.0 1				USB3_P1	IOR	(JIOR1)
USB3.0 2	SSIC 1			USB3_P2	WWAN	(JWWAN1)
USB3.0 3	SSIC 2			USB3_P3	DOCK	(JDOCK1)
USB3.0 4				USB3_P4	USB3.0 Port	(JUSB1)
USB3.0 5		PCIE 1		PCle_P1	GFX	(JGFX1)
USB3.0 6		PCIE 2				
		PCIE 3				
		PCIE 4				
		PCIE 5		PCle_P5	WLAN	(JWLAN1)
		PCIE 6		PCle_P6	Express/PC Card	(JEPC1)
		PCIE 7	SATA 0	SATA3_P0	ODD	(JODD1)
		PCIE 8	SATA 1	PCle_P8	N/A	(N/A)
		PCIE 9		PCle_P9	LOM	(U21)
		PCIE 10		PCle_P10	WWAN	(JWWAN1)
		PCIE 11	SATA 1*	PCle_P11&P12	SATA Express HDD	(JSTRG1)
		PCIE 12	SATA 2	SATA_P2		

PM TABLE

power plane	+5V_ALW +3.3V_ALW +3.3V_ALW_PCH +3.3V_RTC_LDO +1.0V_PRIM_CORE +1.0V_PRIM	+3.3V_SUS +1.2V_MEM +2.5V_MEM +1.0V_VCCST	+5V_RUN +3.3V_RUN +0.6V_DDR_VTT +VCC_CORE +VCC_GT	+3.3V_M	(M-OFF) +3.3V_M
S0	ON	ON	ON	ON	ON
S3	ON	ON	OFF	ON	OFF
S5 S4/AC	ON	OFF	OFF	ON	OFF
S5 S4/No AC	OFF	OFF	OFF	OFF	OFF

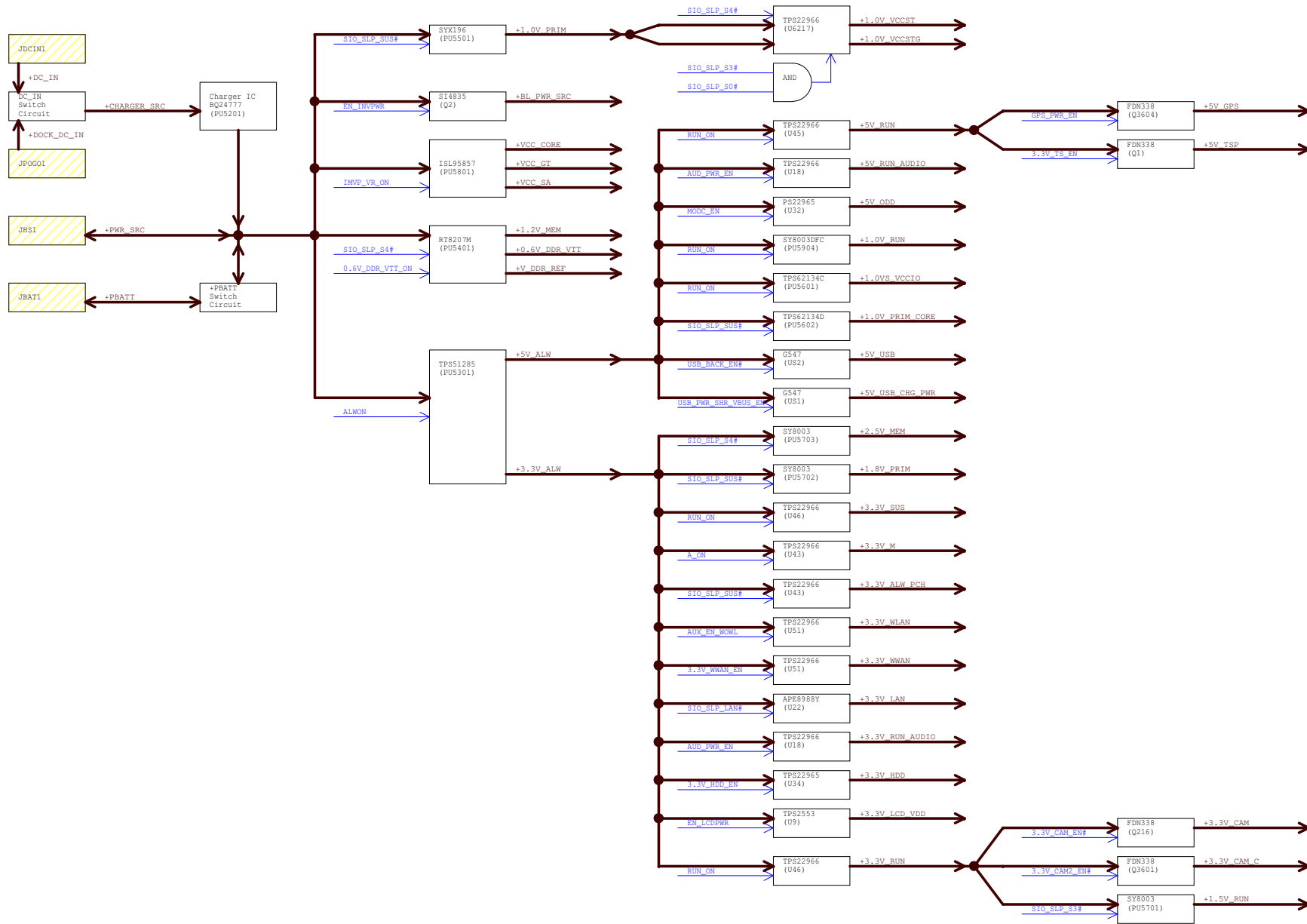
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: THIS IS THE PROPERTY OF DELL INC. BOARD BOOK, TOOLS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS MAY NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ANY UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THIS INFORMATION IS STRICTLY PROHIBITED. ANY PERSON OR ENTITY THAT VIOLATES THIS NOTICE SHALL BE LIABLE TO DELL INC. FOR ALL DAMAGES, INCLUDING REASONABLE ATTORNEY'S FEES AND COSTS. THIS NOTICE IS NOT A WARRANTY OR A LIMITATION OF REMEDY. IT IS THE POLICY OF DELL INC. TO PROVIDE THE BEST QUALITY PRODUCTS AND SERVICES. ANY DEFECTS OR DAMAGES TO THE PRODUCTS OR SERVICES SHALL BE REMEDIED BY DELL INC. AT ITS SOLE DISCRETION. ANY PERSON OR ENTITY THAT VIOLATES THIS NOTICE SHALL BE LIABLE TO DELL INC. FOR ALL DAMAGES, INCLUDING REASONABLE ATTORNEY'S FEES AND COSTS. THIS NOTICE IS NOT A WARRANTY OR A LIMITATION OF REMEDY. IT IS THE POLICY OF DELL INC. TO PROVIDE THE BEST QUALITY PRODUCTS AND SERVICES. ANY DEFECTS OR DAMAGES TO THE PRODUCTS OR SERVICES SHALL BE REMEDIED BY DELL INC. AT ITS SOLE DISCRETION.

TITLE Port Map  
DWG NO. CORE\_B2 REV. 2.0  
DATE Friday, March 18, 2016 SHEET 3 of 81




## CORE\_B2 Power Rail (A00)




**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

**PROPRIETARY NOTE:** This item is the property of Dell Inc., Round Rock, Texas and contains confidential and trade secret information. This item may not be transferred from the custody of Dell Inc. except as authorized by Dell Inc. and then only by way of loan for limited purposes. It must not be reproduced in whole or in part and must be returned to Dell Inc. upon request and in all events upon completion of the purpose of the loan. Neither this document nor the information it contains may be used or disclosed to persons not having a need for such use or disclosure consistent with the purpose of the loan without the prior written consent of Dell Inc.

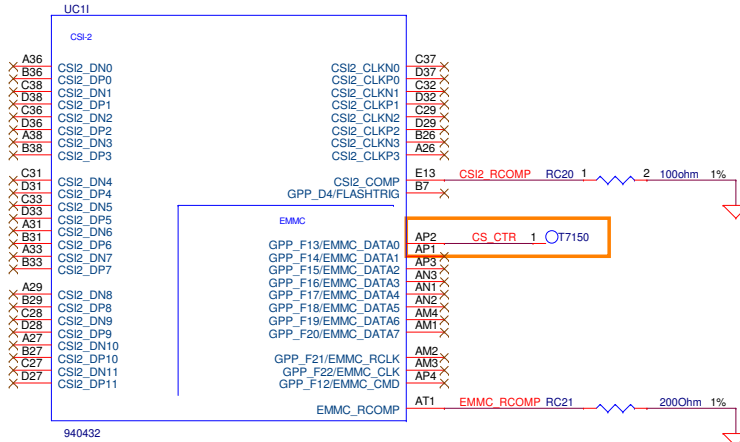
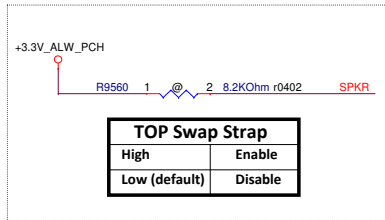
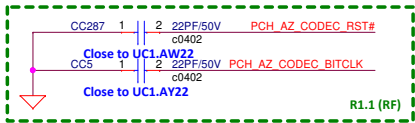
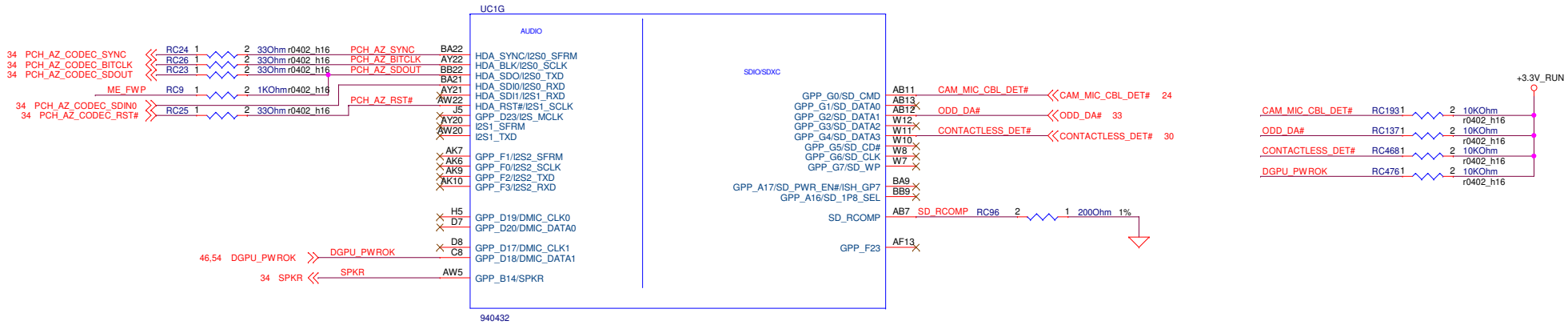
TITLE Power Rail		
DWG NO. CORE_B2	REV. 2.0	
DATE Friday, March 18, 2016	SHEET 4 of 81	

**KBC**  
**MEC 5085**



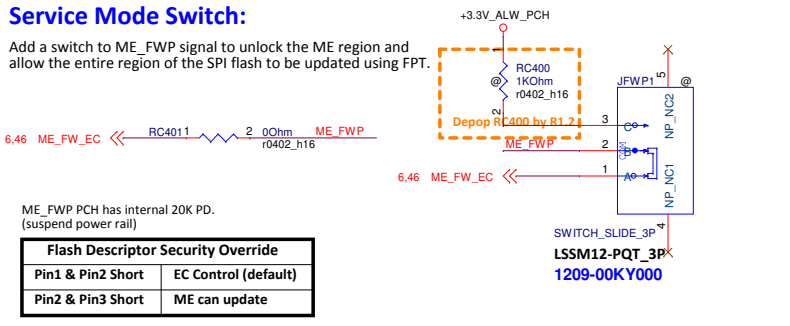
TITLE		SMBus Block Diagram		
DWG NO.		CORE_B2	REV. 2.0	
DATE		Friday, March 12, 2010	SHEET 5 of 21	





## Service Mode Switch:

Add a switch to ME\_FWP signal to unlock the ME region and allow the entire region of the SPI flash to be updated using FPT.

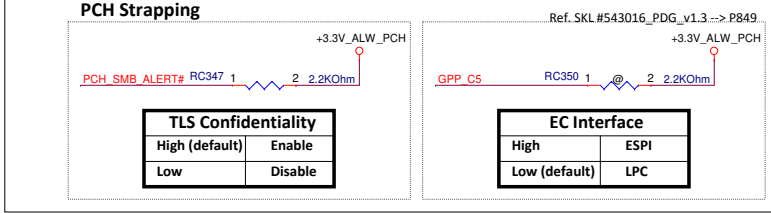
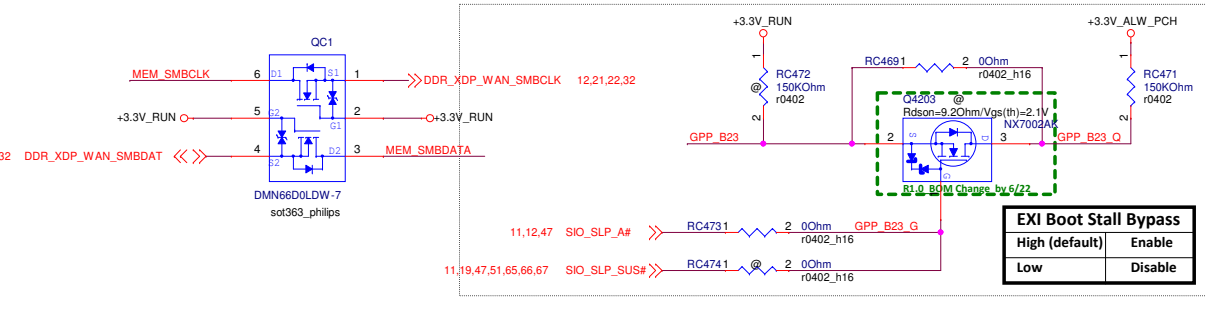
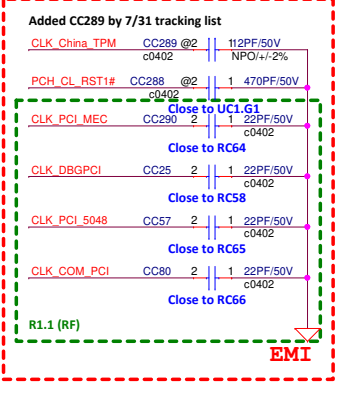
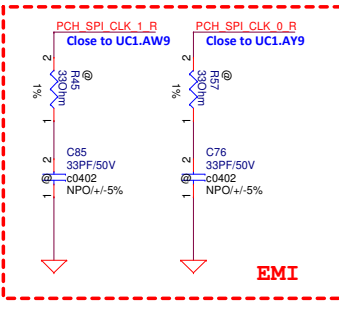
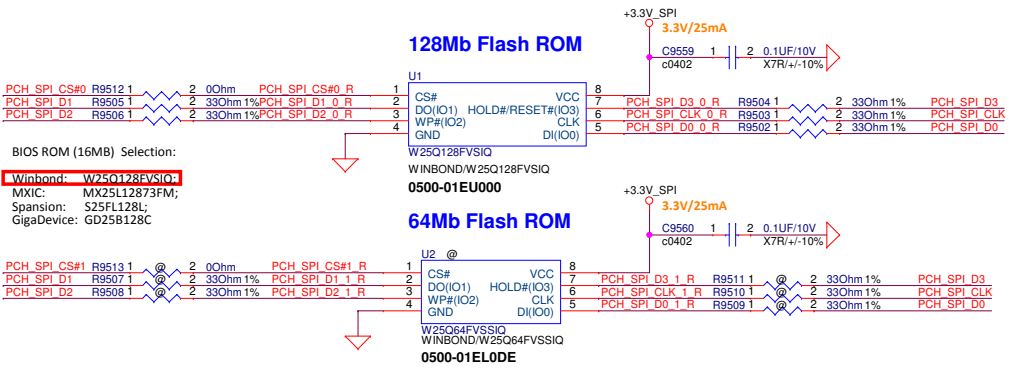
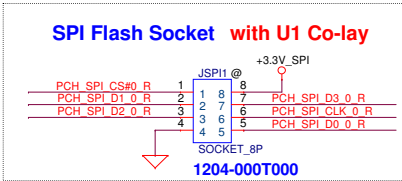
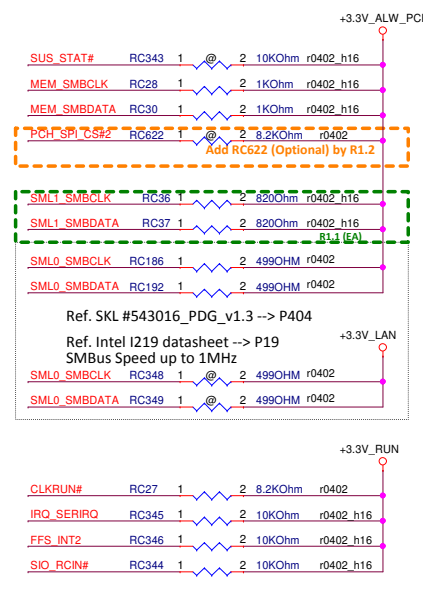
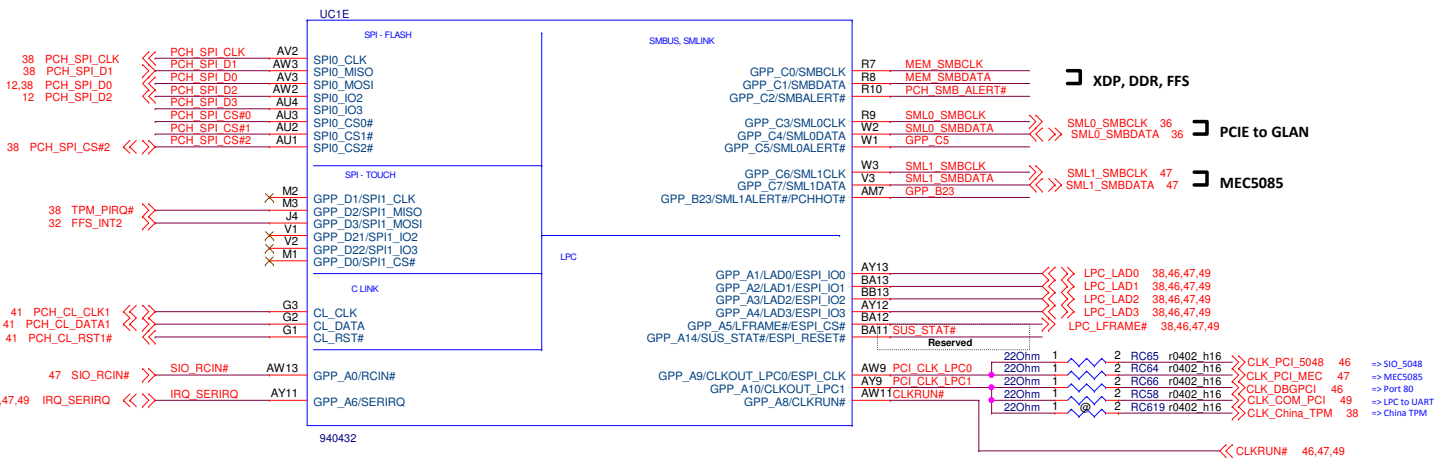


**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be transferred outside the company of Dell Inc. only upon request and approval of Dell Inc. and may not be used for any other purpose. It must not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written consent of Dell Inc.

TITLE	CPU_01 HDA/SD/eMMC/JFWP1
DWG NO.	CORE_B2
REV.	2.0
DATE	Friday, March 18, 2016
SHEET	6 of 81





PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be transferred, copied, or otherwise disclosed to third parties without the prior written consent of Dell Inc. If you are a Dell employee, you are prohibited from disclosing this information to any third party without the prior written consent of Dell Inc. If you are a third party, you are prohibited from disclosing this information to any third party without the prior written consent of Dell Inc.

TITLE CPU_02 SP/LPC/SMBus		
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 7 of 81

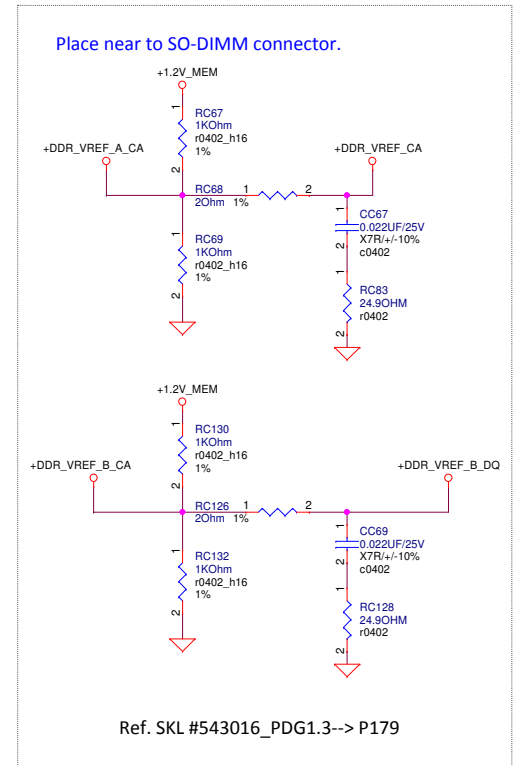
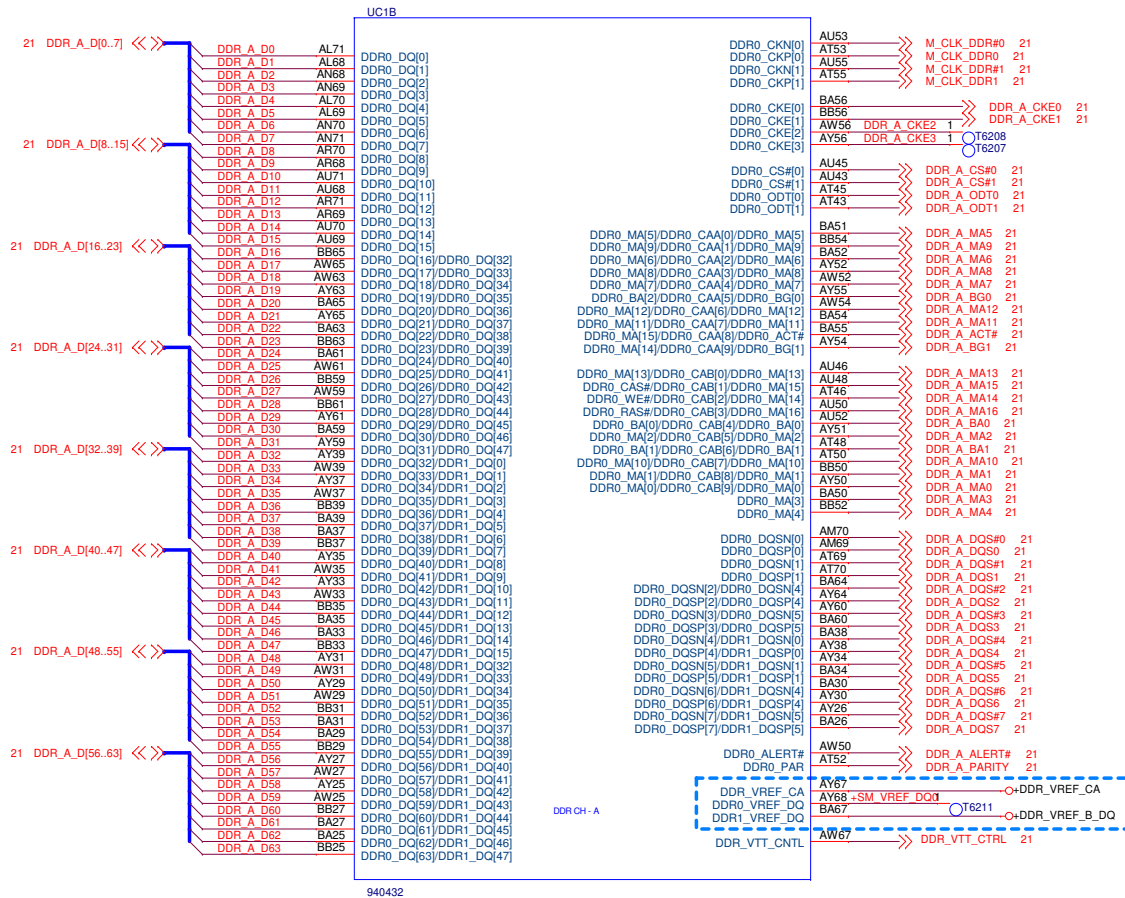








## DDR interleave routing



Ref. SKL #543016\_PDG1.3--> P179

**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

**PROPRIETARY NOTE:** THIS ITEM IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY WAY OF A PROPERLY SIGNED AND DATED INSTRUMENT THAT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. UPON REQUEST AND WITHOUT DELAY. ANY ATTEMPT TO REPRODUCE OR THE PURPOSE OF THE LOAN. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.

TITLE	CPU_04 DDR4 Channel 0
-------	-----------------------

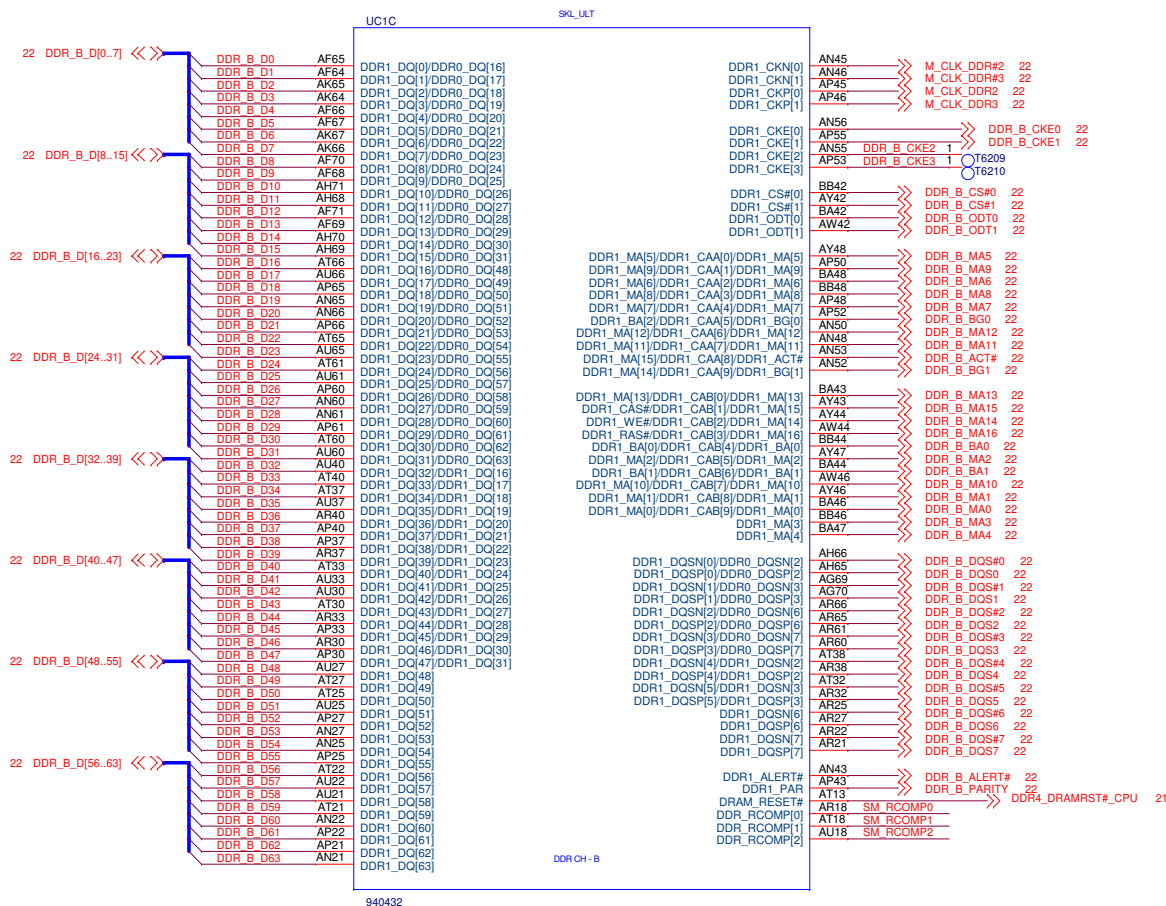
DWG NO.	CORE_B2	REV.	2.0
---------	---------	------	-----

DATE Friday, March 18, 2016

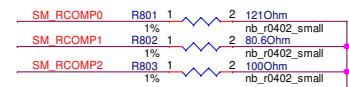
SHEET 9 of 81



## DDR interleave routing



## DDR4 COMPENSATION SIGNALS



Layout Note:  
Trace width=12~15 mil, Spcing=20 mils  
Max trace length= 500 mil

Ref. SKL #543016\_PDG1.3--&gt; P151

## Interleaved Memory


Ref. SKL #544924\_EDS\_v0.95--&gt; P32

IL		IL	
Channel	Byte	Channel	Byte
DDR0	Byte0	DDR1	Byte0
DDR0	Byte1	DDR1	Byte1
DDR0	Byte2	DDR1	Byte2
DDR0	Byte3	DDR1	Byte3
DDR0	Byte4	DDR1	Byte4
DDR0	Byte5	DDR1	Byte5
DDR0	Byte6	DDR1	Byte6
DDR0	Byte7	DDR1	Byte7

NIL		NIL	
Channel	Byte	Channel	Byte
DDR0	Byte0	DDR0	Byte2
DDR0	Byte1	DDR0	Byte3
DDR0	Byte4	DDR0	Byte6
DDR0	Byte5	DDR0	Byte7
DDR1	Byte0	DDR1	Byte2
DDR1	Byte1	DDR1	Byte3
DDR1	Byte4	DDR1	Byte6
DDR1	Byte5	DDR1	Byte7

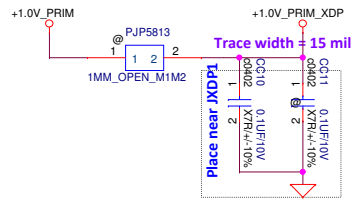
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

**PROPRIETARY NOTE:** This item is the property of Dell Inc., Round Rock, Texas and contains confidential and trade secret information. This item may not be transferred from the custody of Dell Inc. except as authorized by Dell Inc. and then only by way of loan for limited purposes. It must not be reproduced in whole or in part and must be returned to Dell Inc. upon request and in all events upon completion of the purpose of the loan. Neither this document nor the information it contains may be used or disclosed to persons not having a need for such use or disclosure consistent with the purpose of the loan without the prior written consent of Dell Inc.

TITLE CPU_05 DDR4 Channel 1		
DWG NO. CORE_B2	REV. 2.0	
DATE Friday, March 18, 2016	SHEET 10 of 81	

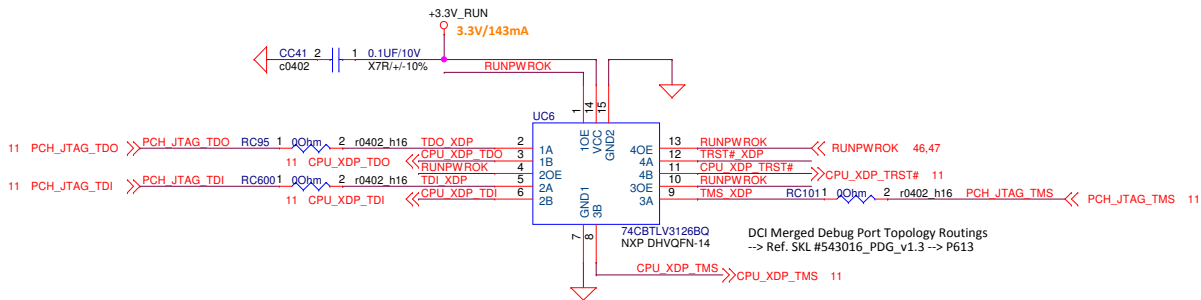
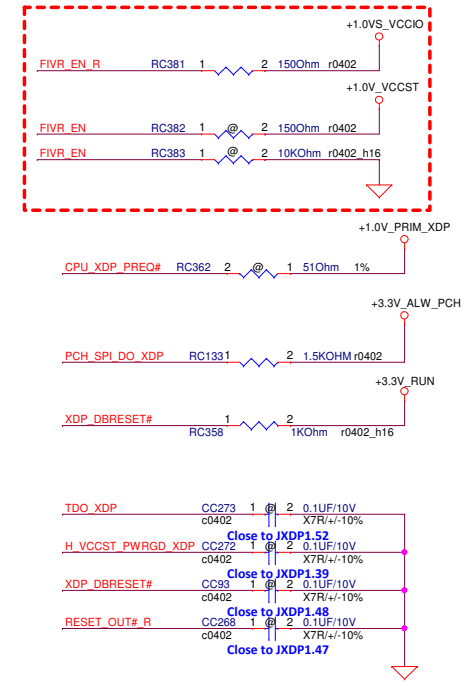
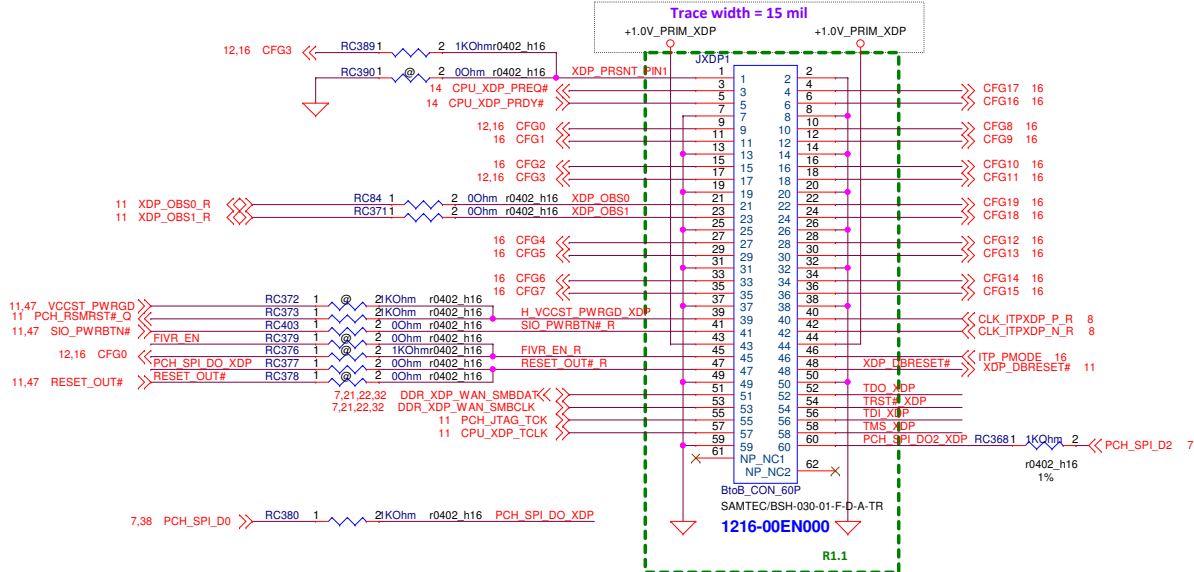


## CPU XDP Power

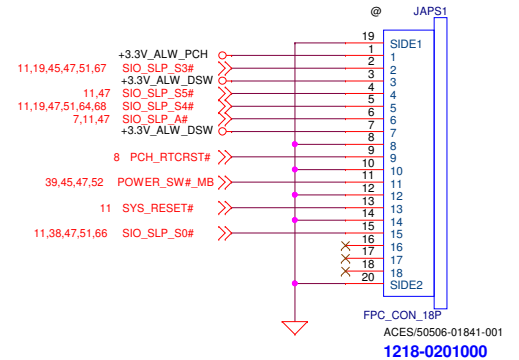


## CPU XDP Connector

Ref. SKL #543016\_PDG\_v1.3 --> P627



## CPU APS Connector



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written consent of Dell Inc. For limited purposes, it may not be reproduced or stored in a retrieval system for the purpose of returning to Dell Inc. upon request. All rights are reserved. Dell Inc. and its subsidiaries are not responsible for any damage or loss resulting from the use of this document.

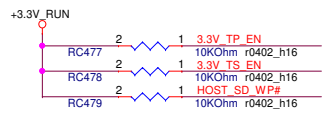
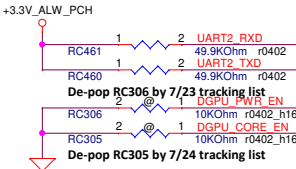
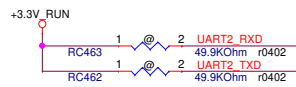
TITLE	CPU_07 JAPS1/JXDP1	REV.	2.0
DWG NO.	CORE_B2	DATE	Friday, March 18, 2016
SHEET	12	of	81



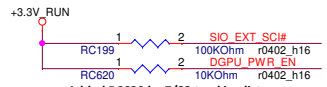




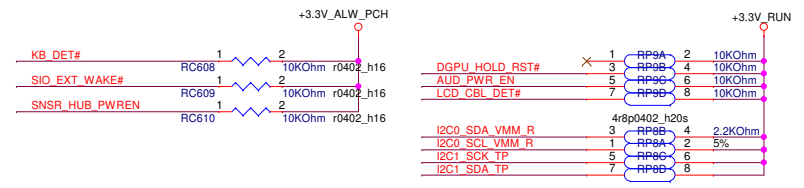
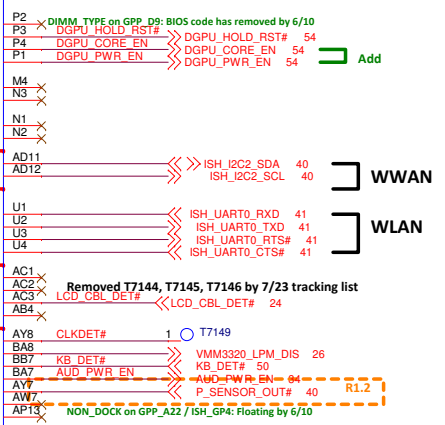
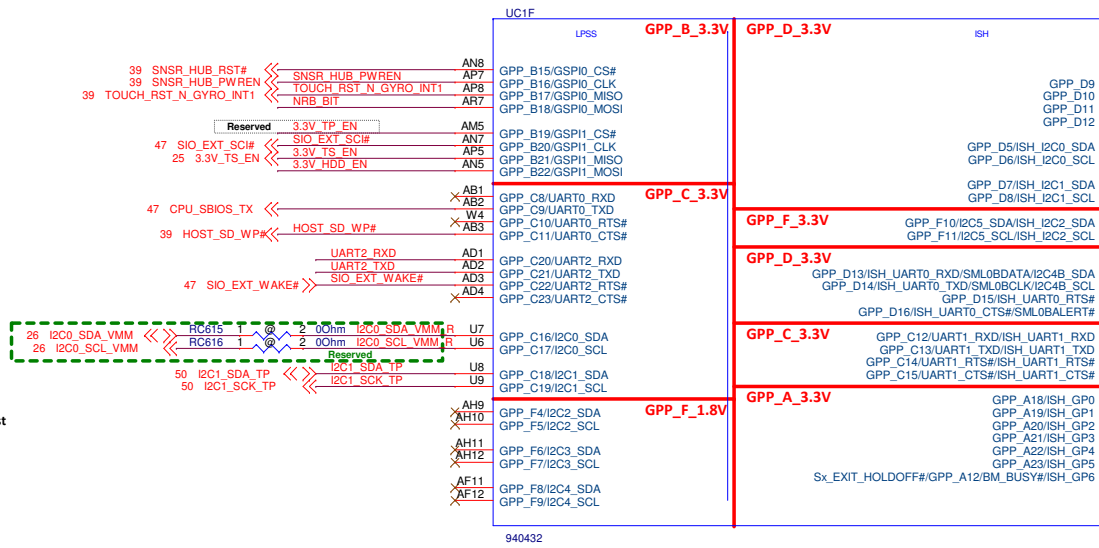
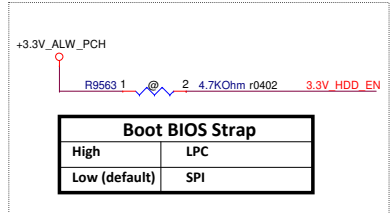
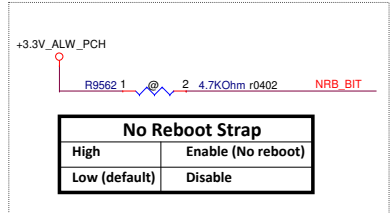




Removed RC482 ~ RC485 by 7/27 tracking list




RC620 change to 10kohm from 100kohm by 7/24 tracking list



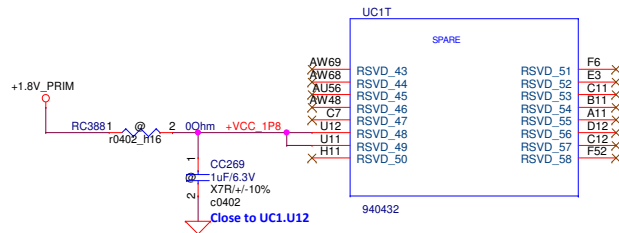
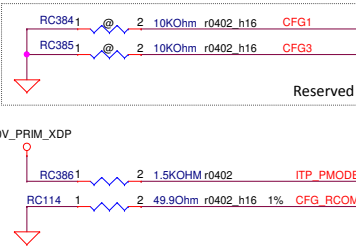
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

<b>PROPRIETARY NOTE:</b> This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be transferred, printed, copied, or otherwise disclosed to third parties without the prior written consent of Dell Inc.		<b>TITLE</b> CPU_10 GPIO/I2C/ISH	
<b>DWG NO.</b> CORE_B2		<b>REV.</b> 2.0	
<b>DATE</b> Friday, March 18, 2016		<b>SHEET</b> 15 of 81	

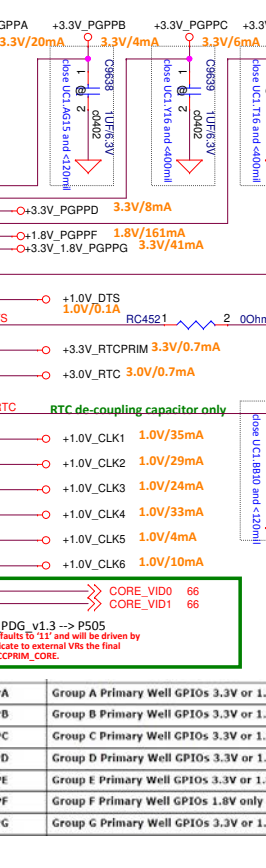
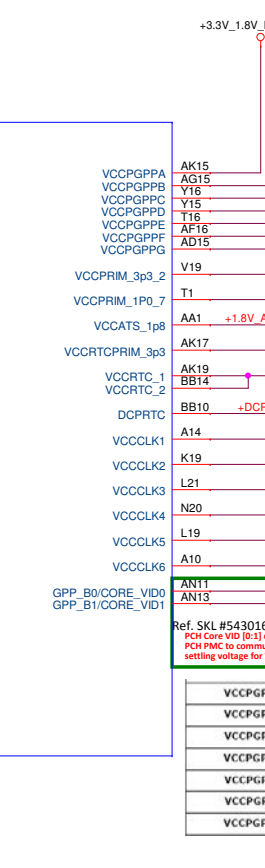
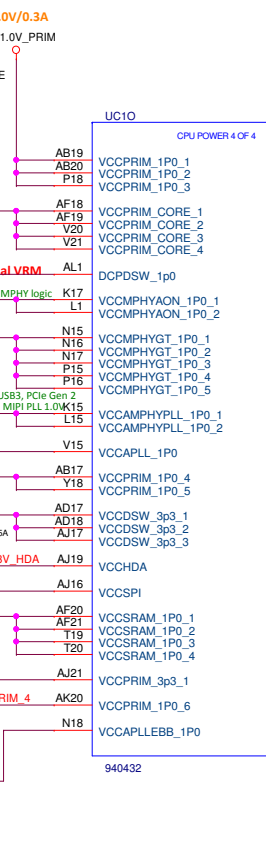
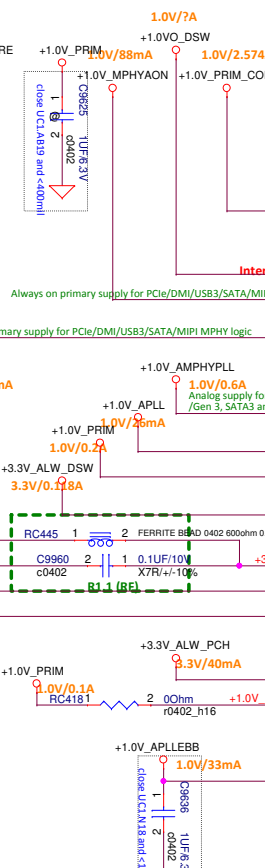
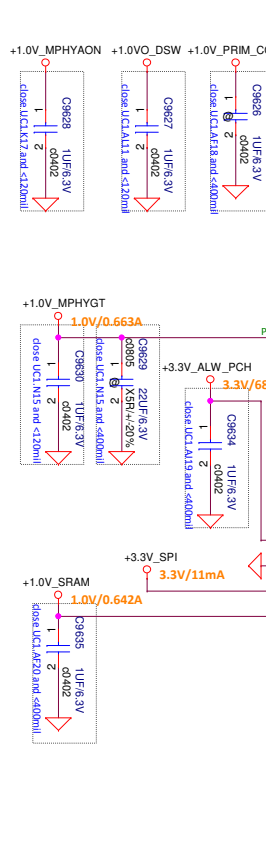
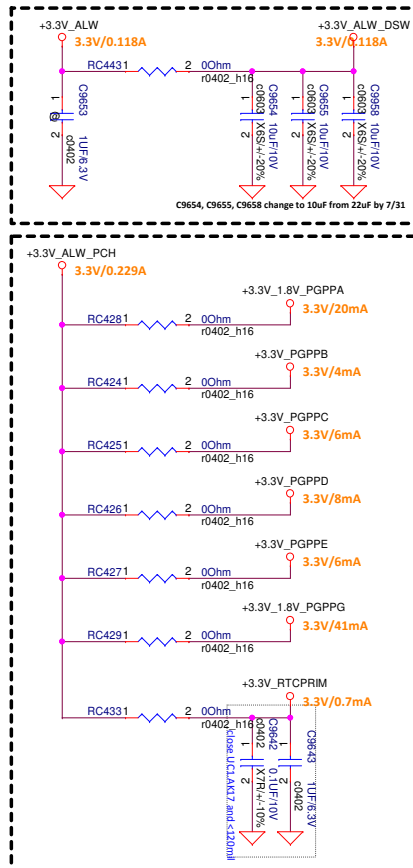


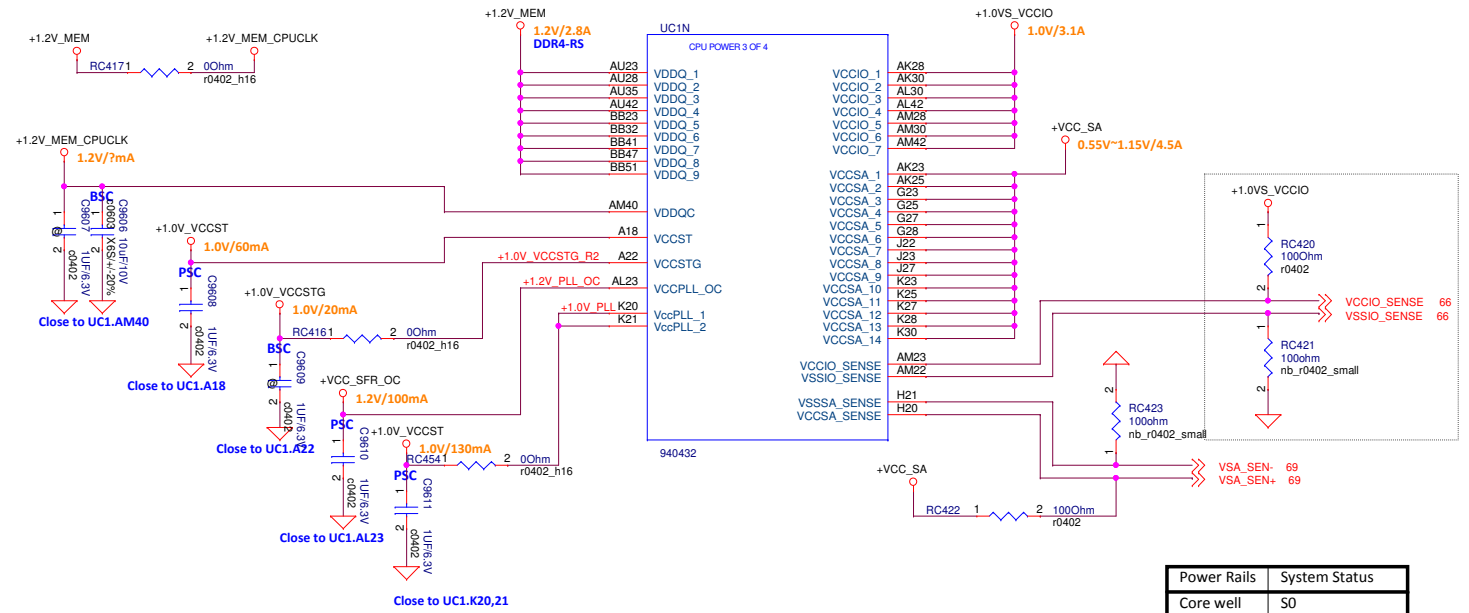
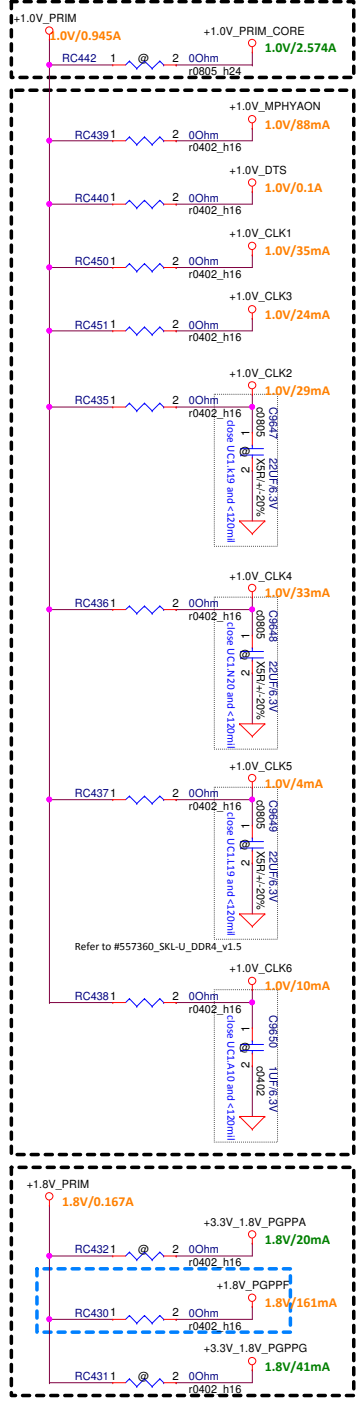


PEG Training	
CFG7	<b>1 : PEG train immediately following RESET# de assertion. (default)</b> <b>0 : PEG wait BIOS for training.</b>

[illegible]

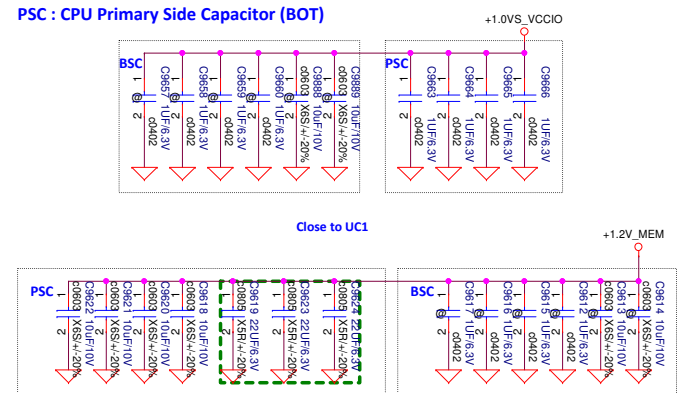






Power Rails	System Status
Core well	S0
ASW well	S0/M0, S3/Mx
Primary well	S0, S3, S4, S5

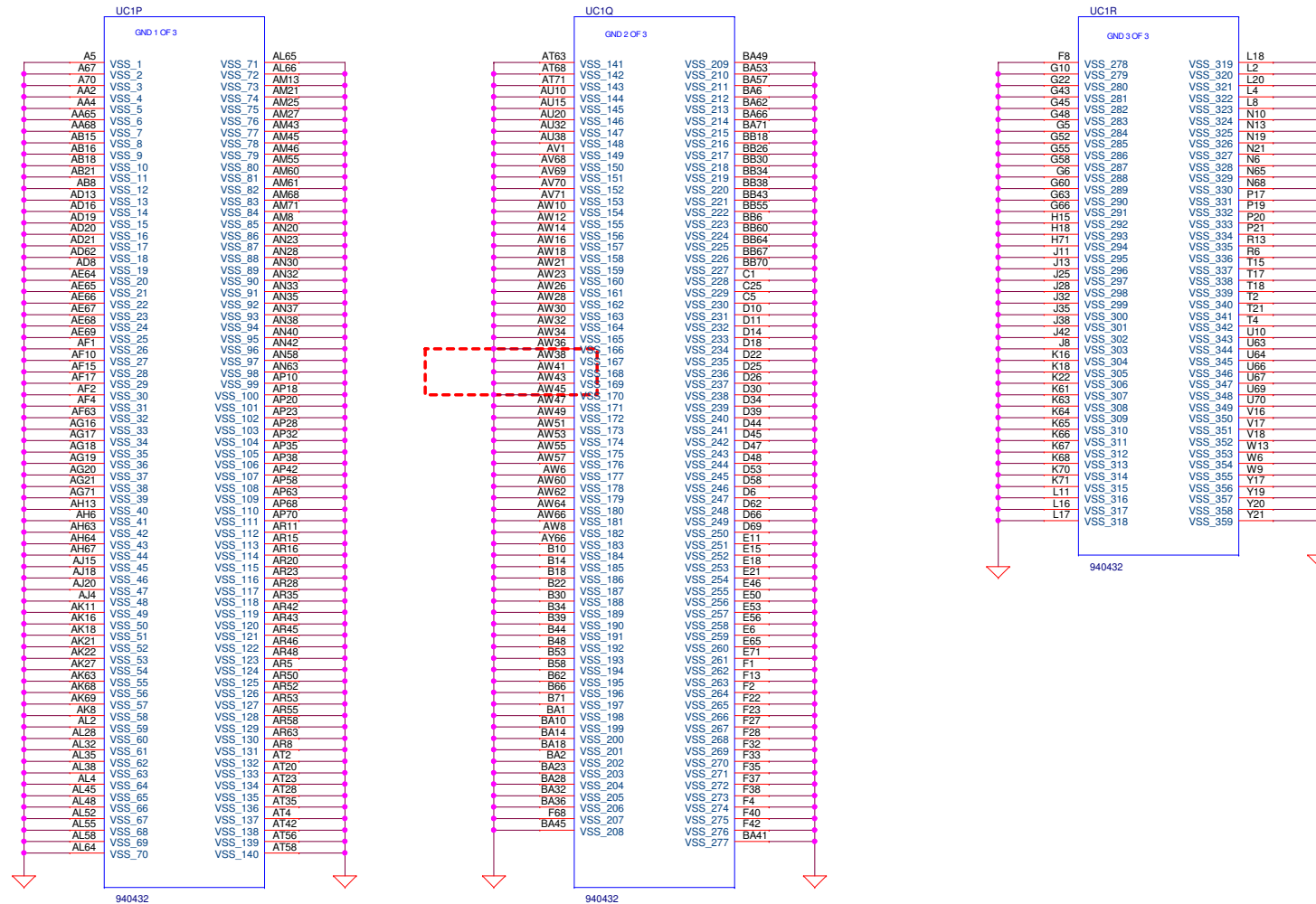
**BSC** : CPU Backside Capacitor (TOP)  
**PSC** : CPU Primary Side Capacitor (BOT)



Power Rail	Description	Control	Availability
V <sub>CC</sub>	Processor IA Cores Power Rail	SVID	All processor lines
V <sub>CCGR</sub>	Processor Graphics Power Rails	SVID	All processor lines
V <sub>CCGR</sub> Note 2.4	Processor Graphics Extended Power Rail	SVID	Processors w/ GT3/4
V <sub>CCSA</sub>	System Agent Power Rail	SVID/Fixed (SKU dependent)	All processor lines

**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

<b>PROPRIETARY NOTE:</b> This document is the property of Dell and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Dell. If you are a Dell customer, you may not use this document for any purpose other than the intended use. If you are not a Dell customer, you may not use this document for any purpose other than the intended use. If you are a Dell customer, you may not use this document for any purpose other than the intended use. If you are not a Dell customer, you may not use this document for any purpose other than the intended use.		<b>TITLE</b> CPU_14 Power Group 3	
<b>DWG NO.</b> CORE_B2	<b>REV.</b> 2.0	<b>DELL</b>	
<b>DATE</b> Friday, March 18, 2016	<b>SHEET</b> 19 of 81		



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be transferred, reproduced, or disclosed in any form without the prior written consent of Dell Inc. All rights reserved. This document is for internal use only and is not to be distributed outside of Dell Inc. without the prior written consent of Dell Inc.

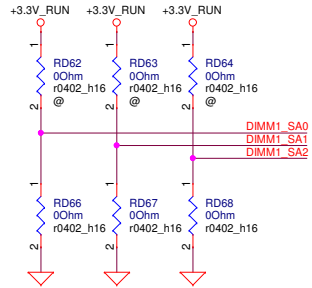
TITLE CPU_15 VSS (GND)		
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 20 of 81



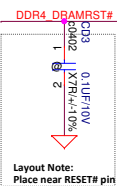
## DIMM Select

(I2C slave address select for SPD)

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



11,22,47 H\_THERMTRIP# RD61 2 @ 1 1KOhm \_JDIMM1\_EVENT#



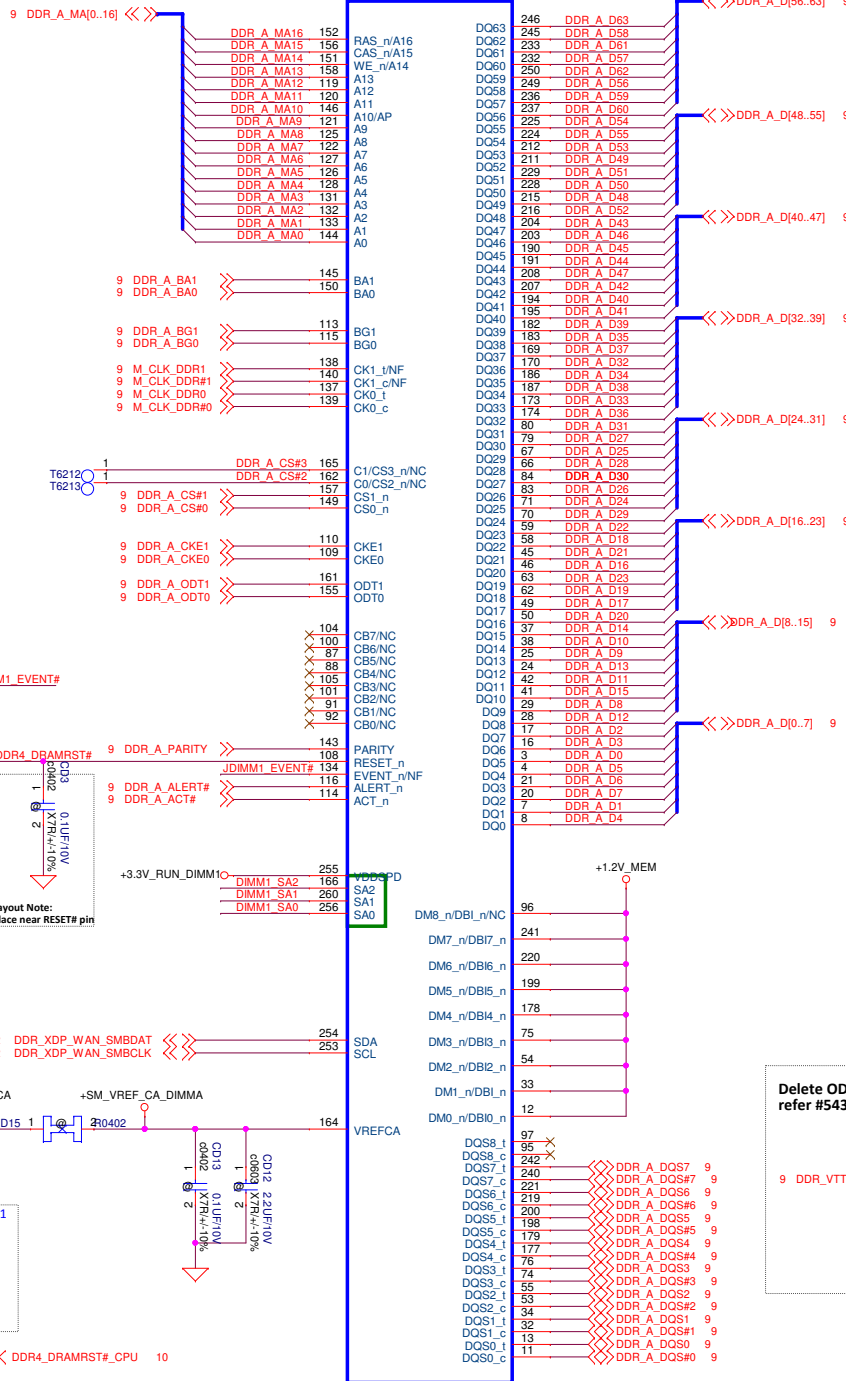
7,12,22,32 DDR\_XDP\_WAN\_SMBDAT  
7,12,22,32 DDR\_XDP\_WAN\_SMBCLK

+DDR\_VREF\_A\_CA 0.6V/3mA RD15 1 @ 2R0402 +SM\_VREF\_CA\_DIMMA

Ref. SKL #543016\_PDG1.3-->P151

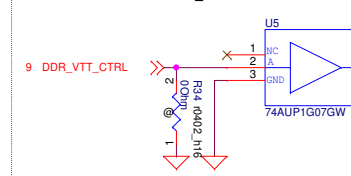


22 DDR4\_DRAMRST# RC189 1 @ 2 R0402 <<< DDR4\_DRAMRST#\_CPU 10



DDR4\_SO\_260P  
1202-0107000

Delete ODT Generation, connect directly to CPU  
refer #543016 SKL-U PDG\_v1.3 --> P174



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be used for internal purposes only and is not to be distributed outside of Dell Inc. without the prior written consent of Dell Inc. All rights are reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, or otherwise, without the prior written consent of Dell Inc. This document is provided for informational purposes only and is not to be used for any other purpose.

TITLE	DDR4 JDIMM1
DWG NO.	CORE_B2
DATE	Friday, March 18, 2016
SHEET	21 of 81

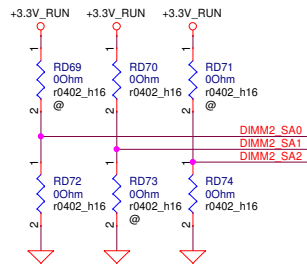




## DIMM Select

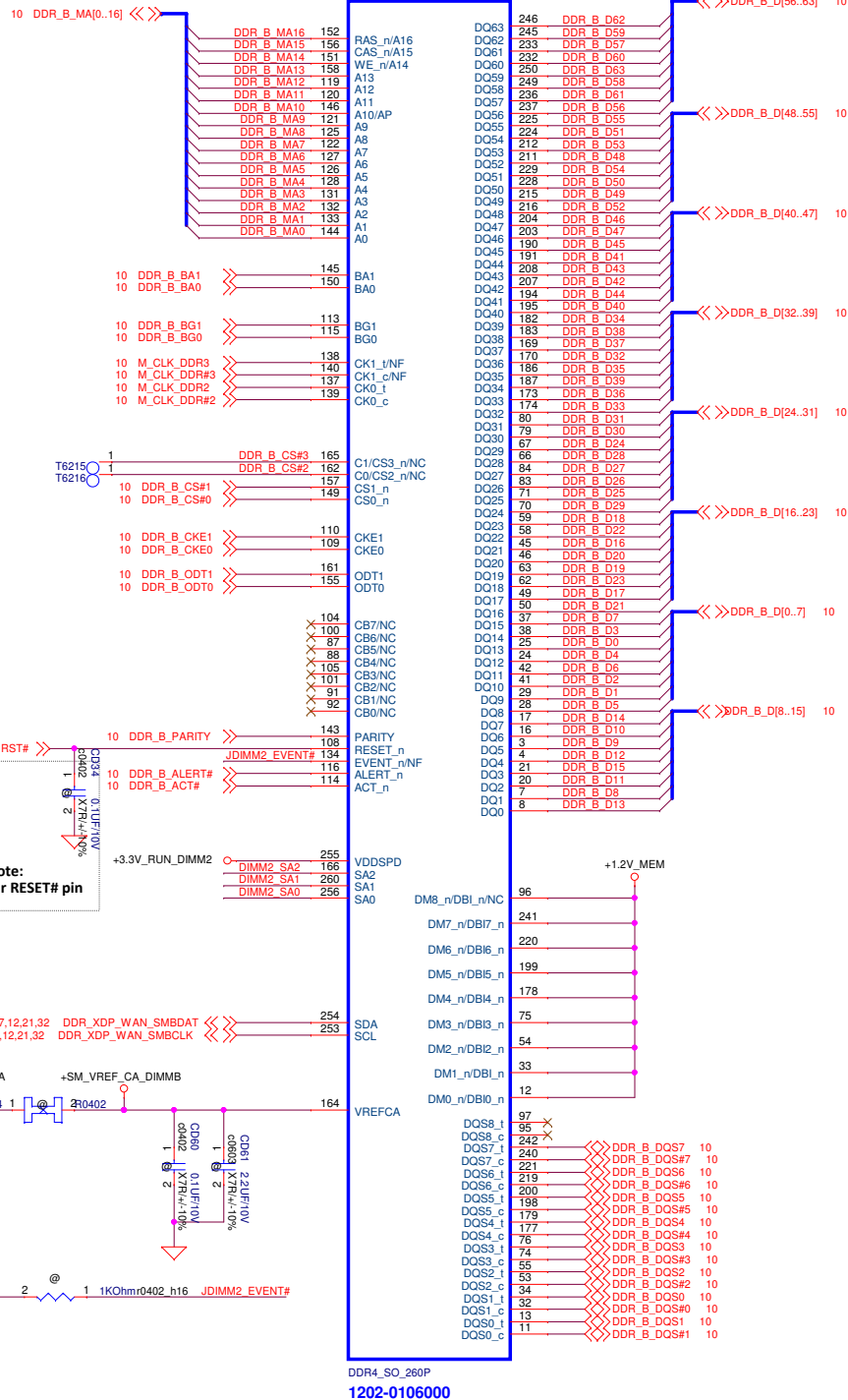
( I2C slave address select for SPD )

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



Layout Note:  
Place near RESET# pin

11,21,47 H\_THERMTRIP# >>> RD4 2 @ 1 1KOhm r402\_h16 JDIMM2\_EVENT#



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be used for internal purposes only. It may not be reproduced, stored, or transmitted in any form or by any means, electronic, mechanical, or otherwise, without the prior written permission of Dell Inc. All rights reserved. This document is provided for informational purposes only. It may not be used for any other purpose. The information contained herein is confidential and may be subject to change without notice. The information contained herein is provided for informational purposes only. It may not be used for any other purpose. The information contained herein is confidential and may be subject to change without notice.

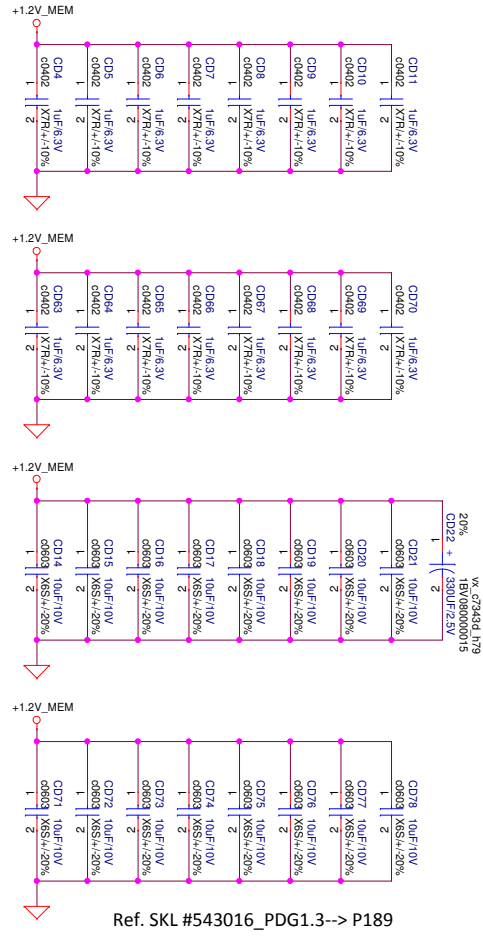
TITLE	DDR4 JDIMM2
DWG NO.	CORE_B2
REV.	2.0
DATE	Friday, March 18, 2016
SHEET	22 of 81



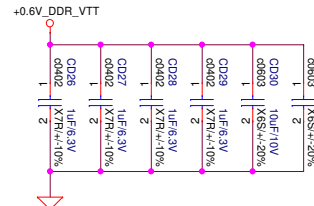


## DDR4 DIMM1

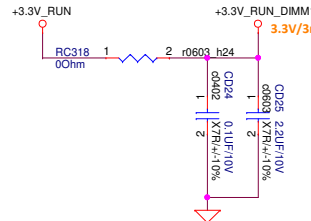
**Layout Note:**  
Place near JDIMM1



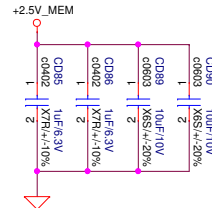
**Layout Note:**  
Place near JDIMM1.258



**Layout Note:**  
Place near JDIMM1.255



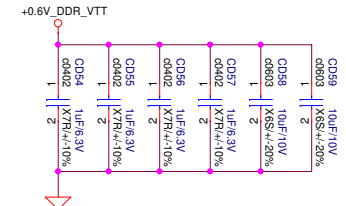
**Layout Note:**  
Place near JDIMM1.257,259



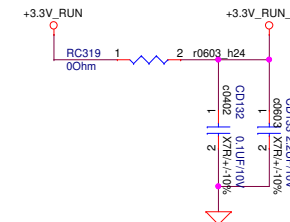
Ref. SKL #543016\_PDG1.3--&gt; P189

## DDR4 DIMM2

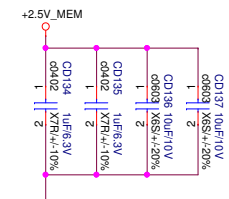
**Layout Note:**  
Place near JDIMM2.258



**Layout Note:**  
Place near JDIMM2.255

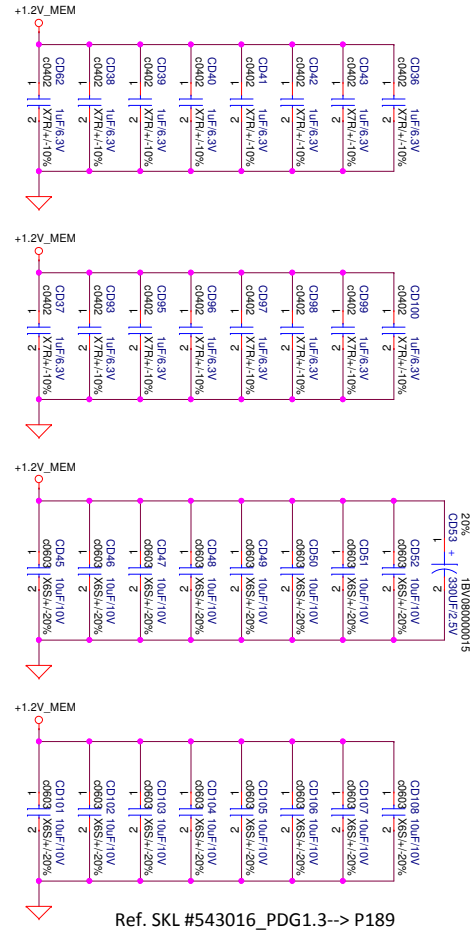


**Layout Note:**  
Place near JDIMM2.257,259




Ref. SKL #543016\_PDG1.3--&gt; P189

**Layout Note:**  
Place near JDIMM2



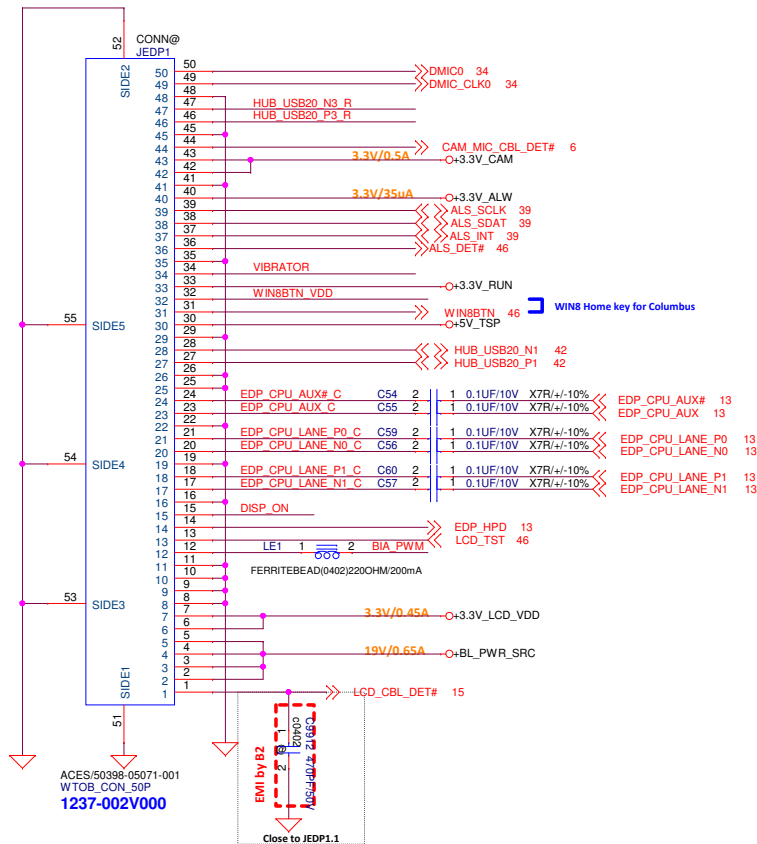
**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

**PROPRIETARY NOTE:** THIS ITEM IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC., EXCEPT AS AUTHORIZED BY DELL INC., AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES, IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED BY ANY PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.

TITLE		DDR4 JDIMM Decoupling		
DWG NO.		CORE_B2	REV. 2.0	
DATE		Friday, March 18, 2016	SHEET 23 of 81	



## eDP Connector



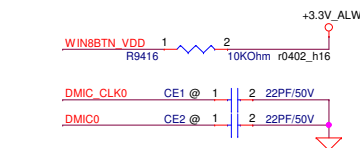
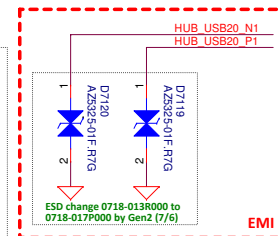
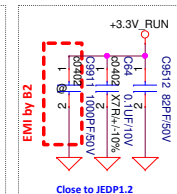
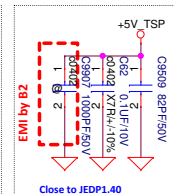
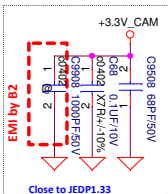
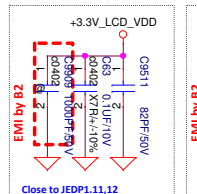
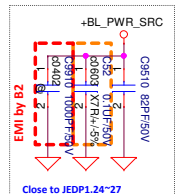
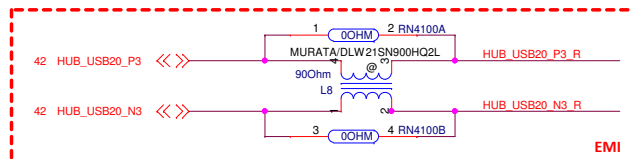
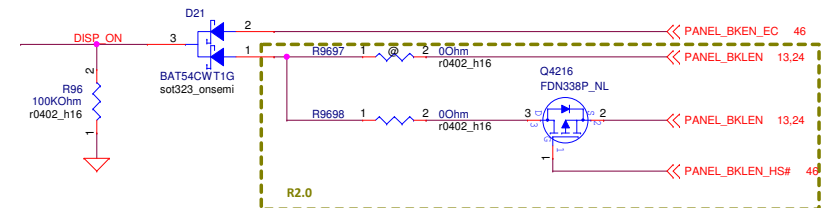
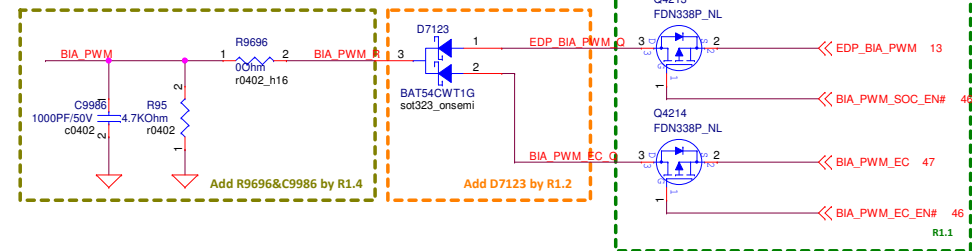
**--> CAM+DMIC**

--> ALS

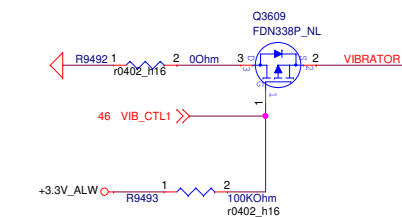
**--> Vibrator**

**--> Touch Screen**


--> eDP Panel



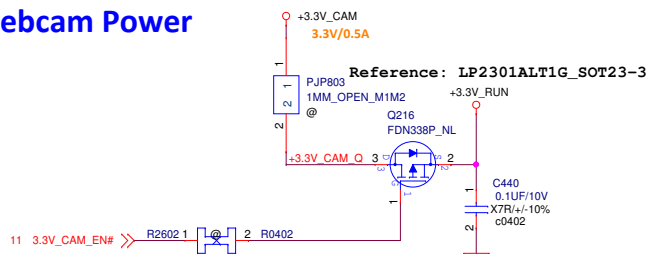
## Vibrator Control



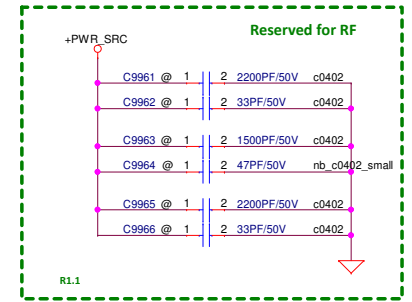
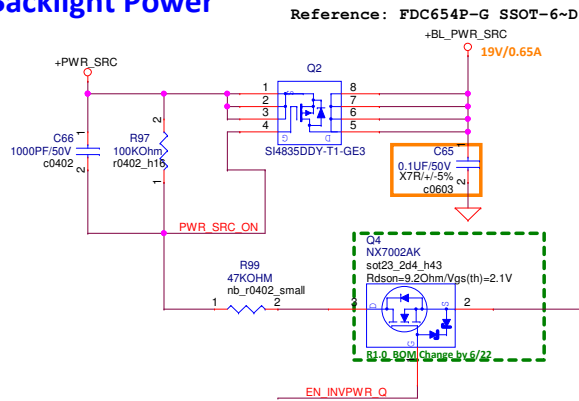
**PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY**

<b>PROPRIETARY NOTE:</b> THIS ITEM IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS INFORMATION NOT BE TRANSFERRED FROM THE CUSTOMER OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY A WRITTEN DELTA PURCHASE ORDER. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO RETURN ALL ITEMS TO DELL INC. UNLESS REQUESTED AND ALL DELTA PURCHASE ORDERS. THE PURPOSE OF THE DELTA PURCHASE ORDER IS TO IDENTIFY THE CUSTOMER'S PROPERTY AND TO IDENTIFY THE CUSTOMER'S PROPERTY. PERSONS NOT HAVING A DELTA PURCHASE ORDER OR DELTA ORDER NUMBER WILL NOT BE ALLOWED TO RETURN ANY ITEMS TO DELL INC. WITHOUT THE PROPER WRITTEN CONSENT OF DELL INC.		<b>TITLE</b> JEDP1		
<b>DWG NO.</b> CORE B2		<b>REV.</b> 2.0		
<b>DATE</b> Friday, March 18, 2016		<b>SHEET</b> 24 of 81		

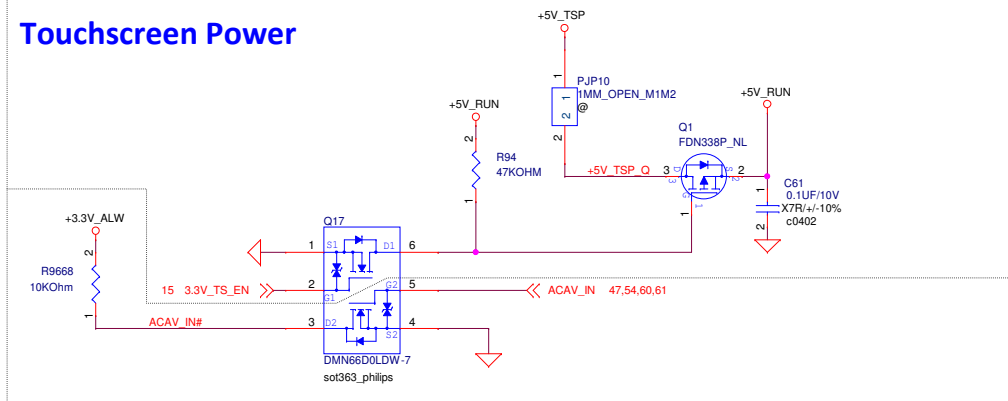
## Webcam Power



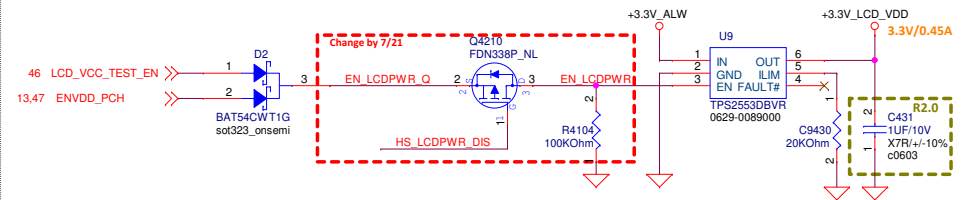
## Backlight Power



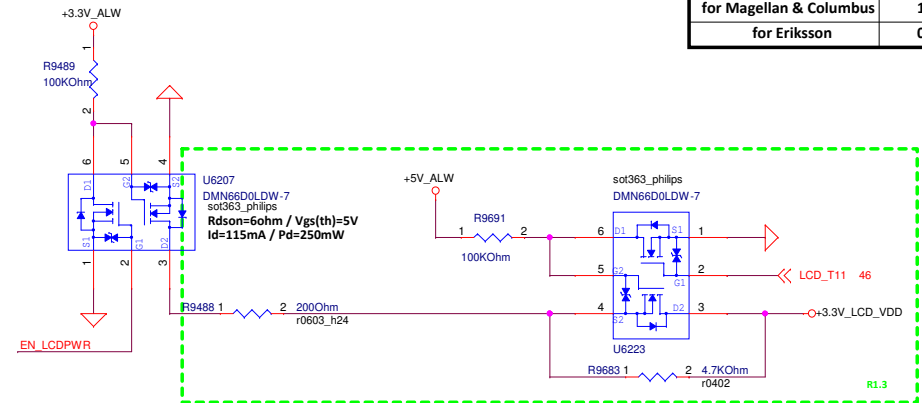
## Touchscreen Power



## LCDVDD Power

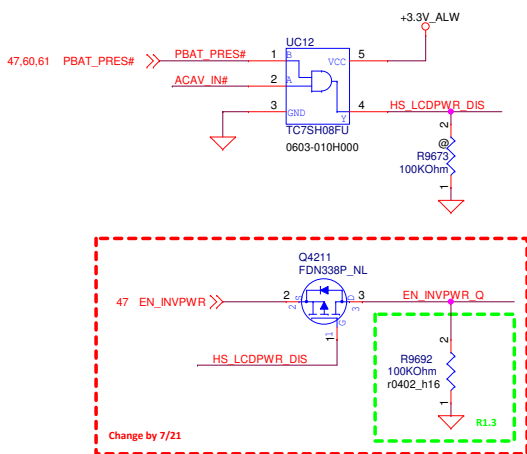


## LCDVDD Discharge



eDP power down timing at T11		
Function	LCD_T11	
for Magellan & Columbus	1	
for Eriksosn	0	

## LCD Turn Off for Hotswap



Battery (PBAT_PRES#)	AC IN (ACAV_IN#)	AND logic HS_LCDPWR_DIS	Panel Power
L	L	L	ON
L	H	L	ON
H	L	L	ON
H	H	H	OFF

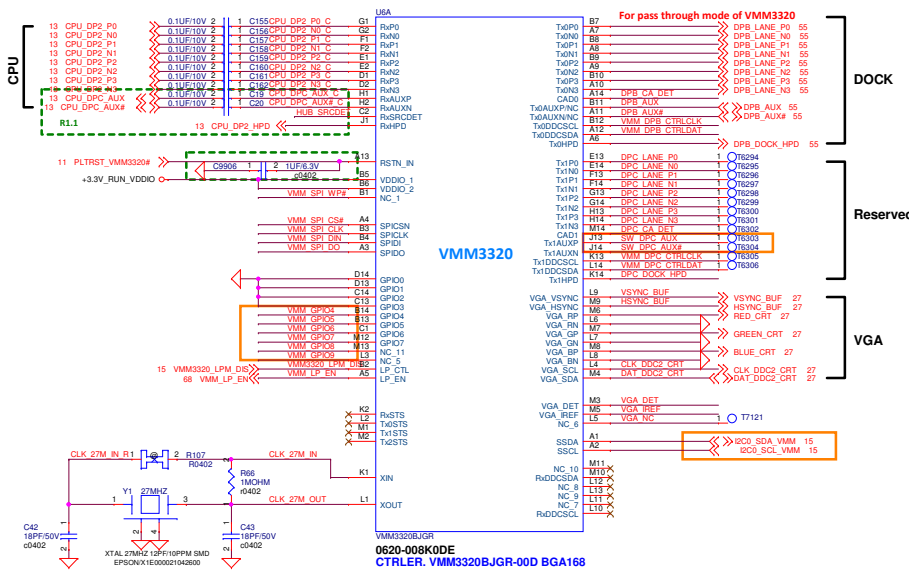
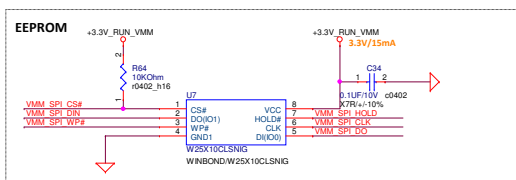
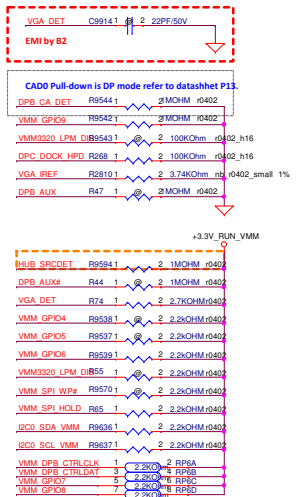
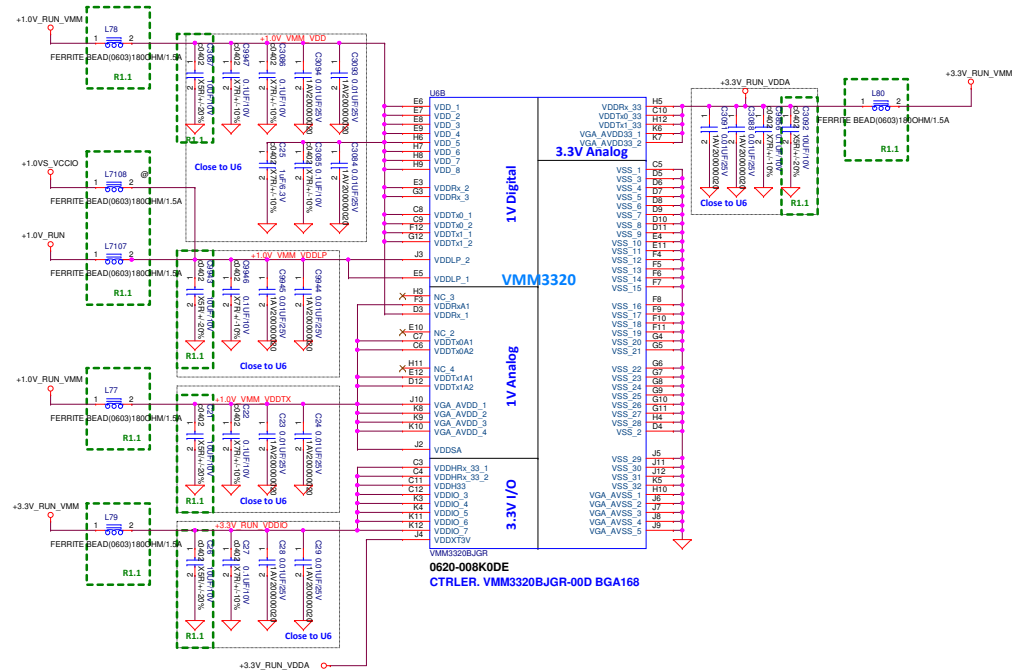
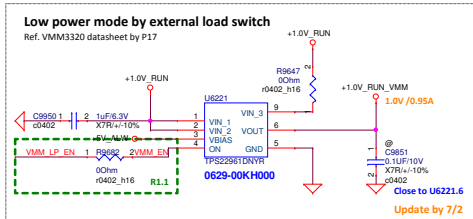
Note: Battery(PBAT\_PRES#),ACIN(ACAV\_IN#)  
H= un-plug, L= plug

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Dell Inc. For limited purposes, it may not be reproduced or stored in a retrieval system for the purpose of personal or internal use only. The information contained herein is for the use of the customer only and is not to be distributed outside the customer's organization. The information contained herein is for the use of the customer only and is not to be distributed outside the customer's organization. The information contained herein is for the use of the customer only and is not to be distributed outside the customer's organization.

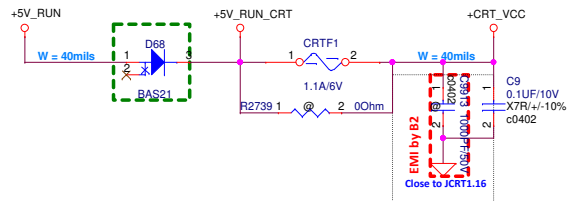
JEDP1 Power		
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 25 of 81



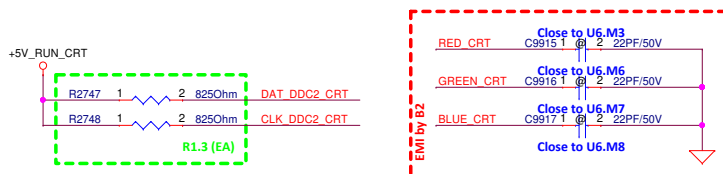
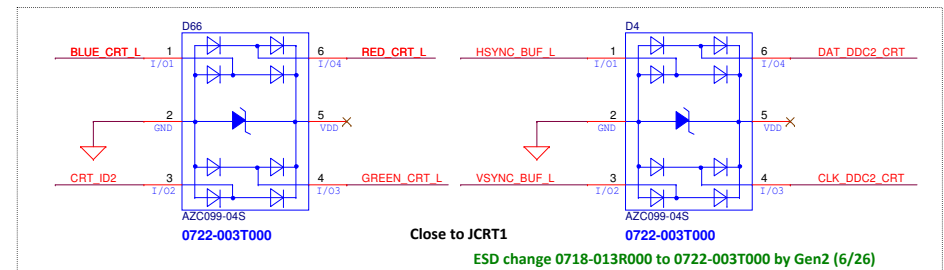
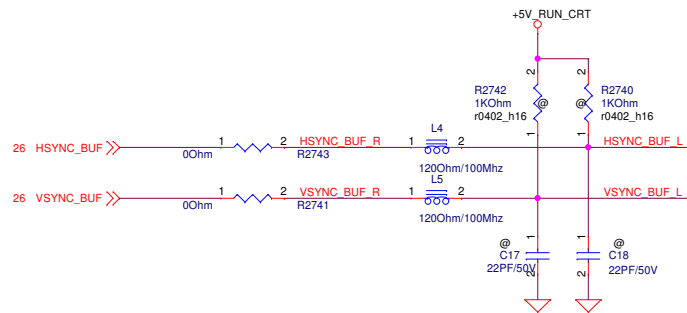
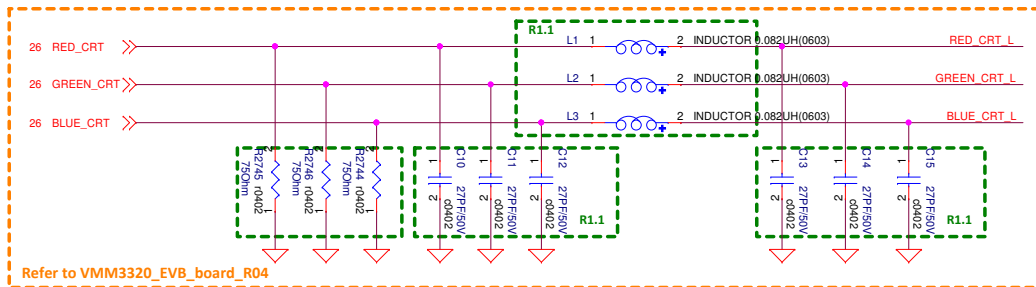
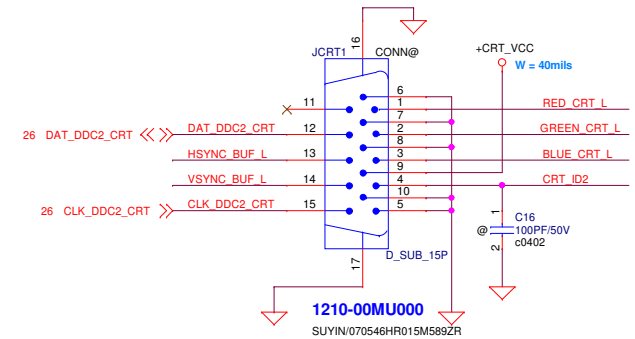


**PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY**

[illegible]



## VGA Connector



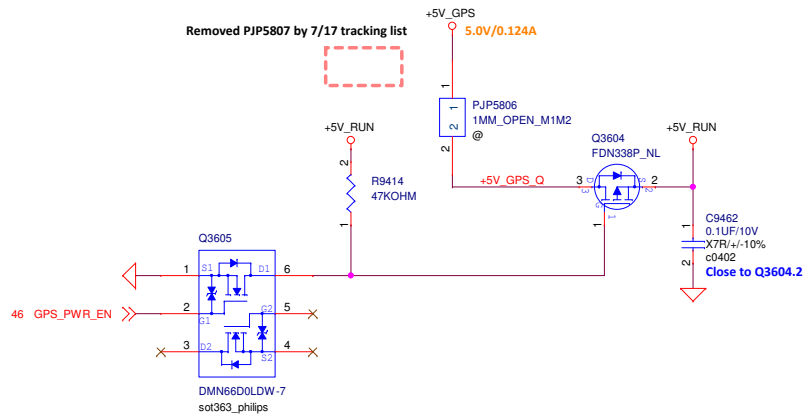
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be transferred, copied, or otherwise used by Dell Inc. or its subsidiaries, affiliates, or agents for internal use only. It may not be reproduced, stored, or otherwise used for any other purpose without the prior written consent of Dell Inc.

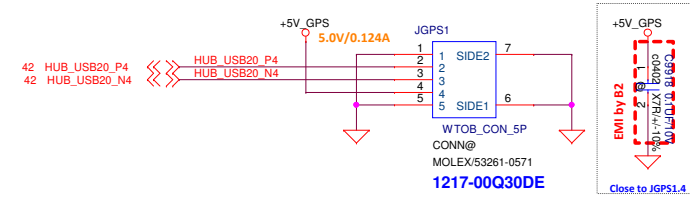
TITLE	JCR1
DWG NO.	CORE_B2
REV.	2.0
DATE	Friday, March 18, 2016
SHEET	27 of 81




## GPS Power



## GPS Connector



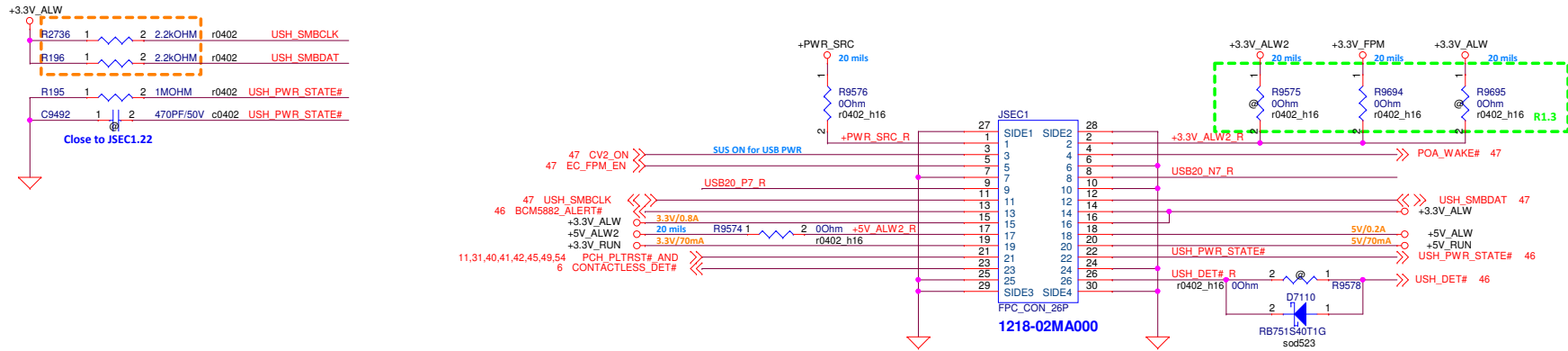
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

<b>PROPRIETARY NOTE:</b> THIS ITEM IS THE PROPERTY OF DELL INC. HEADQUARTERS, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY BE TRANSFERRED FROM THE CUSTOMER OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY WAY OF A WRITTEN INSTRUMENT. ANY OTHER DISPOSITION, INCLUDING ANY DISPOSITION THAT MAY BE RETURNED TO DELL INC. WITHOUT REASON, IS PROHIBITED. ANY DISPOSITION OF THIS ITEM WITHOUT THE WRITTEN AUTHORIZATION OF DELL INC. MAY BE A VIOLATION OF APPLICABLE LAWS AND MAY SUBJECT THE PERSONS NOT HAVING A NEED FOR SUCH INFORMATION OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LAW AND/OR THE PROHIBITION OF DELL INC.		<b>TITLE</b> JGPS1		
<b>DWG NO</b> CORE_B2		<b>REV.</b> 2.0		
<b>DATE</b> Friday, March 18, 2016		<b>SHEET</b> 28 of 81		

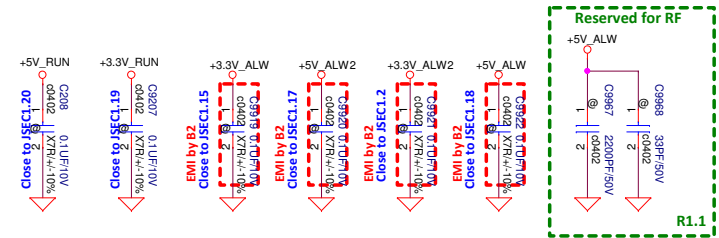
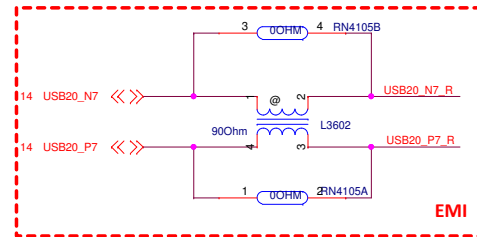





## Security Connector



**JSEC1 change 20P to 26P by Gen2**



**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

<b>PROPRIETARY NOTE:</b> THIS ITEM IS THE PROPERTY OF DELL EMC. IT IS TO BE USED FOR THE PURPOSES SPECIFIED IN THIS ORDER ONLY. 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 PERMISSION IN WRITING FROM DELL EMC. IT IS TO BE RETURNED TO DELL EMC UPON COMPLETION OF THE PROJECT FOR WHICH IT WAS PURCHASED. IT IS NOT TO BE LOANED OUT TO OTHER PERSONS WITHOUT PERMISSION IN WRITING FROM DELL EMC.		<b>TITLE</b> JSEC1		
<b>DWG NO.</b> CORE B2		<b>REV.</b> 2.0		
<b>DATE</b> Friday, March 18, 2016		<b>SHEET</b> 30 of 81		

# SATA Express Re-Driver

## PS8558B Note:

Equalizer control and program for channel A  
A\_EQ0, A\_EQ1 and A\_EQ2: internally pulled down at ~150K  
[A\_EQ0,A\_EQ1,A\_EQ2] ==

L/L/L : for channel loss up to 17.3dB (default)  
L/H/L : for channel loss up to 14.1dB  
H/L/L : for channel loss up to 18.7dB  
H/H/L : for channel loss up to 20.5dB  
L/L/H : for channel loss up to 18dB  
L/H/H : for channel loss up to 10dB  
H/L/H : for channel loss up to 15.9dB  
H/H/H : for channel loss up to 19.6dB

Equalizer control and program for channel B  
B\_EQ0, B\_EQ1 and B\_EQ2: internally pulled down at ~150K  
[B\_EQ0,B\_EQ1,B\_EQ2] ==

L/L/L : for channel loss up to 17.3dB (default)  
L/H/L : for channel loss up to 14.1dB  
H/L/L : for channel loss up to 18.7dB  
H/H/L : for channel loss up to 20.5dB  
L/L/H : for channel loss up to 18dB  
L/H/H : for channel loss up to 10dB  
H/L/H : for channel loss up to 15.9dB  
H/H/H : for channel loss up to 19.6dB

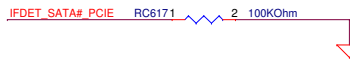
Programmable output de-emphasis level setting for channel A.  
A\_DE0: internally pulled up at ~150K  
A\_DE1 internally pulled down at ~150K  
[A\_DE1,A\_DE0] ==

L/L -2 dB  
H/L -7.5dB  
L/H -3.5dB (default)  
H/H -6 dB

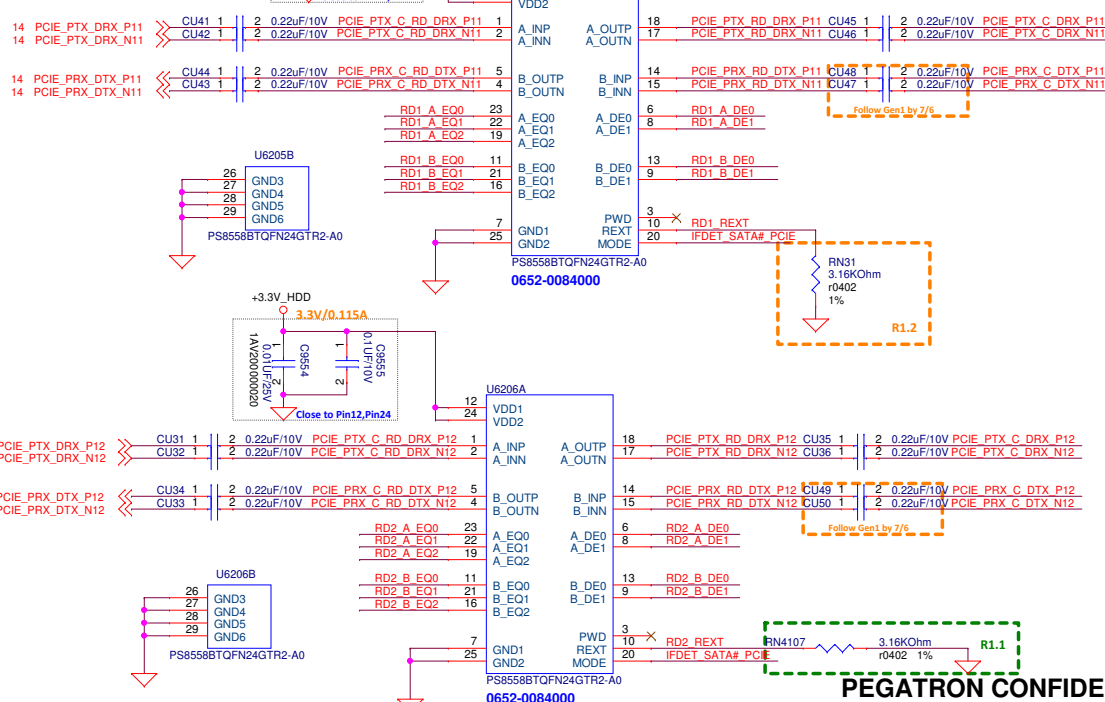
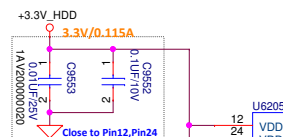
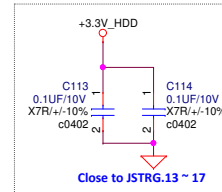
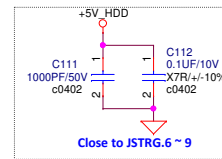
Programmable output de-emphasis level setting for channel B.  
B\_DE0: internally pulled up at ~150K  
B\_DE1 internally pulled down at ~150K  
[B\_DE1,B\_DE0] ==

L/L -2 dB  
H/L -7.5dB  
L/H -3.5dB (default)  
H/H -6 dB

IFDET_SATA#_PCIE	Device Interface
0 (default)	SATA
1	PCIE

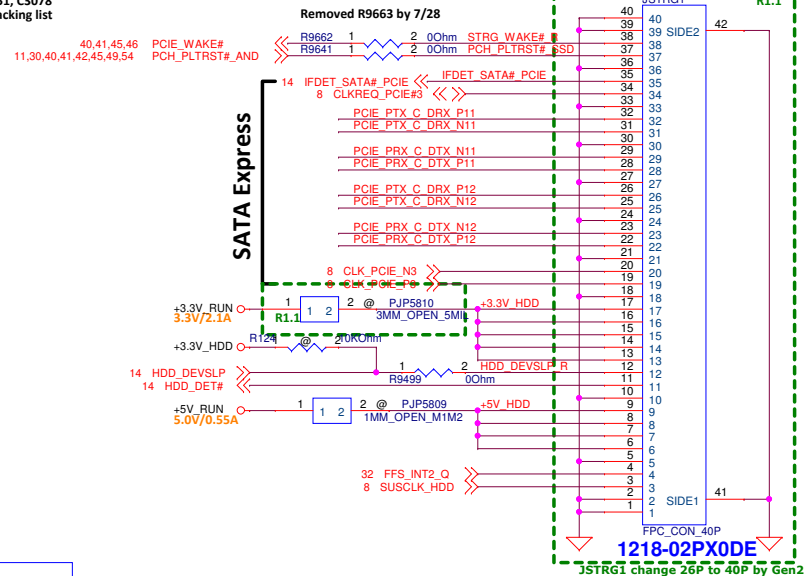


Removed U34, R9565, R9566, C462, C9951, C3078  
on +3.3V\_HDD power control by 7/24 tracking list



CU31~CU36,CU49,CU50 change to 0.01uF from 0.22uF for SATA device by 7/31  
CU31~CU36,CU49,CU50 change to 0.22uF from 0.01uF for SATA device by 8/7

# Storage Connector



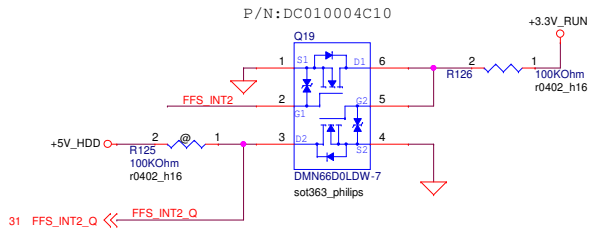
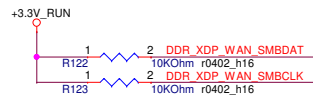
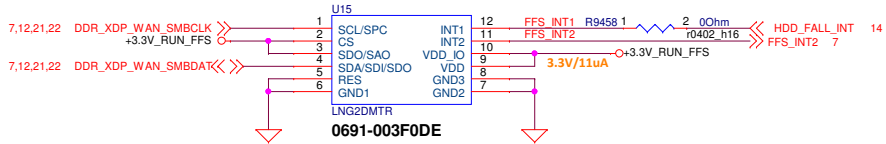
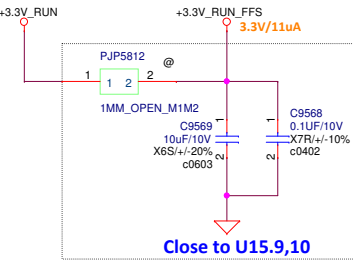
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of DELL INC. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of DELL INC. For limited purposes, this document may be reproduced in whole or in part for the purpose of providing technical support to customers. The reproduction of this document for any other purpose is strictly prohibited. The reproduction of this document for any other purpose is strictly prohibited. The reproduction of this document for any other purpose is strictly prohibited.

TITLE	JSTRG1/PCIE_SATA Re-Driver
DWG NO.	CORE_B2
DATE	Friday, March 18, 2016
SHEET	31 of 81



## Free Fall Sensor



**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

**PROPRIETARY NOTE.** THIS ITEM IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY WAY OF A WRITTEN INSTRUMENT THAT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.

TITLE	Free Fall Sensor (LNG2DMTR)
-------	-----------------------------

DWG NO.	CORE B2	REV.	2.0
---------	---------	------	-----

DATE	Friday, March 18, 2016	SHEET	32	of 81
------	------------------------	-------	----	-------



[illegible]

**CONN@ J0DD1**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

**SIDE1**

**SIDE2**

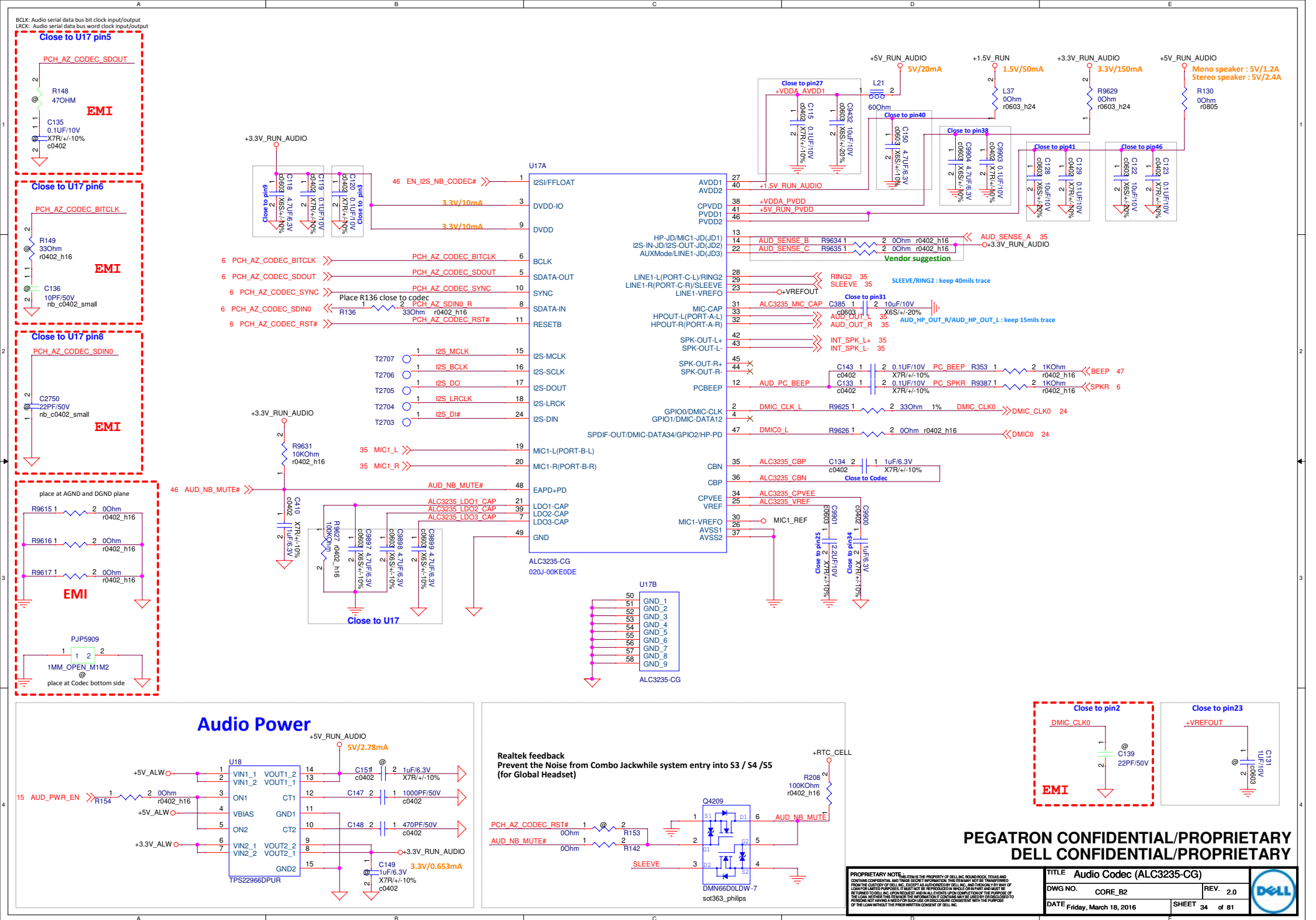
**FPC\_CON\_16P**  
ACES/50501-01601-001  
P/N: SFP01.0.0.0WZ.00  
**1218-0203000**

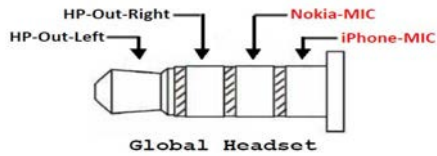
**Reference: TYCO\_1759838-1**

**Callout:**  
+5V\_ODD  
C3004 1000PF/50V  
C3005 0.1UF/10V X7R/+/-10% c0402  
Close to J0DD1.11\*13

<Variant Name>



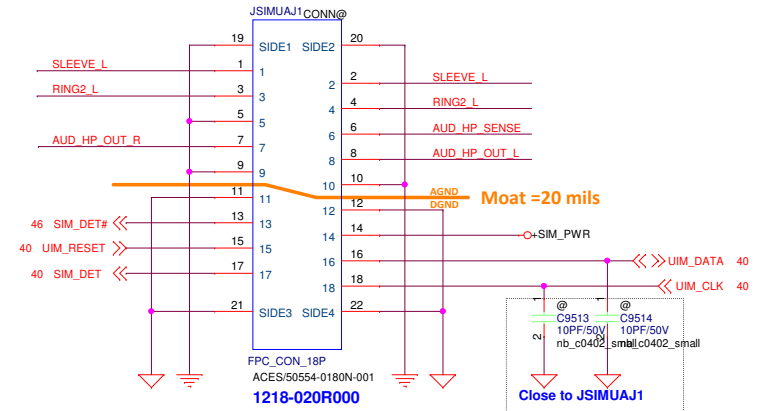
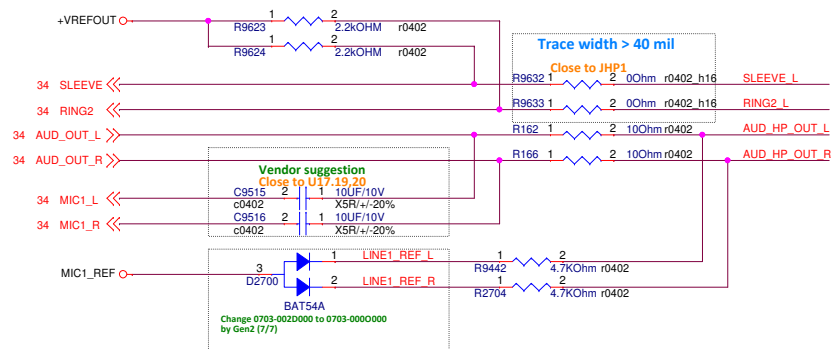
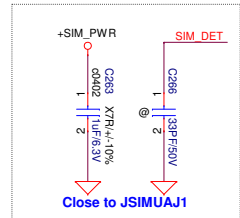




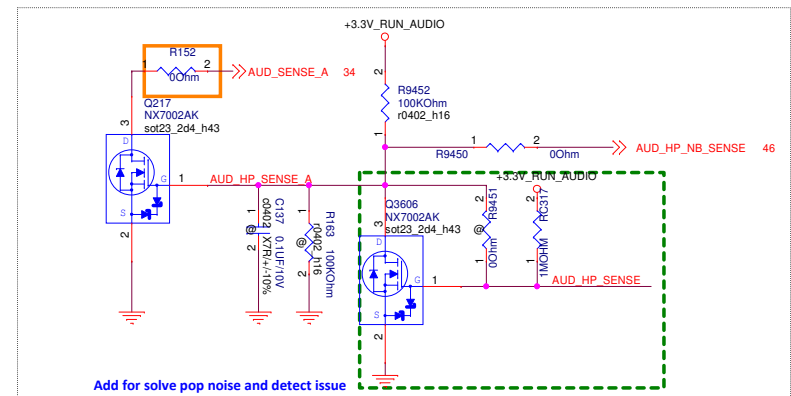
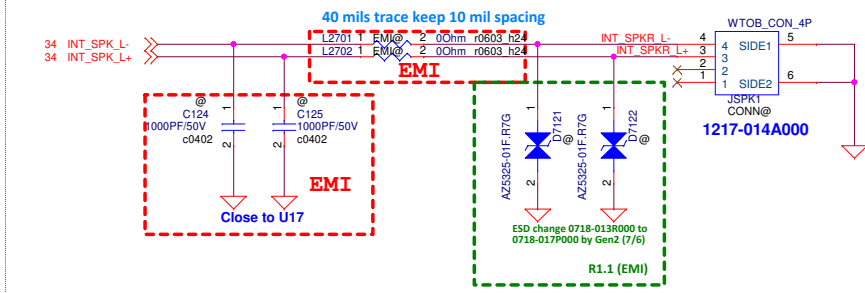
#### Dior Jack Requirements (Gen2):

1. Universal Audio jack (HP & mono mic).
2. Supports auto detect of both OMP and CTIA headsets.
3. 3.5 mm jack with detect pin on tip.
4. Re-taskable to standard Microphone or Stereo Line Input.
5. Inline control support = Yes.
6. HP Amp power > 20 mW into 32ohm 1% THD+N.

#### uSIM + UAJ Connector



#### Internal Speaker Header (Mono)



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document is not to be distributed outside of Dell Inc. without the prior written consent of Dell Inc. All information contained herein is for internal use only and is not to be used for any other purpose. If you are not an authorized Dell employee, you must not copy, reproduce, or otherwise use this information. If you are an authorized Dell employee, you must not copy, reproduce, or otherwise use this information for any purpose other than the one intended by Dell Inc. If you are not an authorized Dell employee, you must not copy, reproduce, or otherwise use this information for any purpose other than the one intended by Dell Inc. If you are an authorized Dell employee, you must not copy, reproduce, or otherwise use this information for any purpose other than the one intended by Dell Inc.

TITLE	JSIMUAJ1/JSPK1
DWG NO.	CORE_B2
REV.	2.0
DATE	Friday, March 18, 2016
SHEET	35 of 81











---



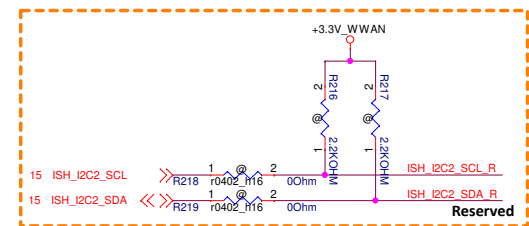
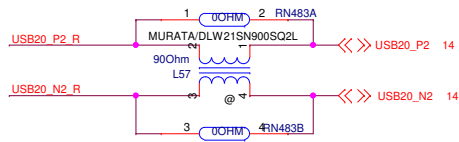
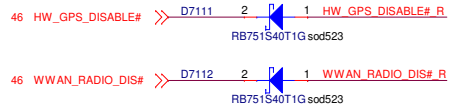
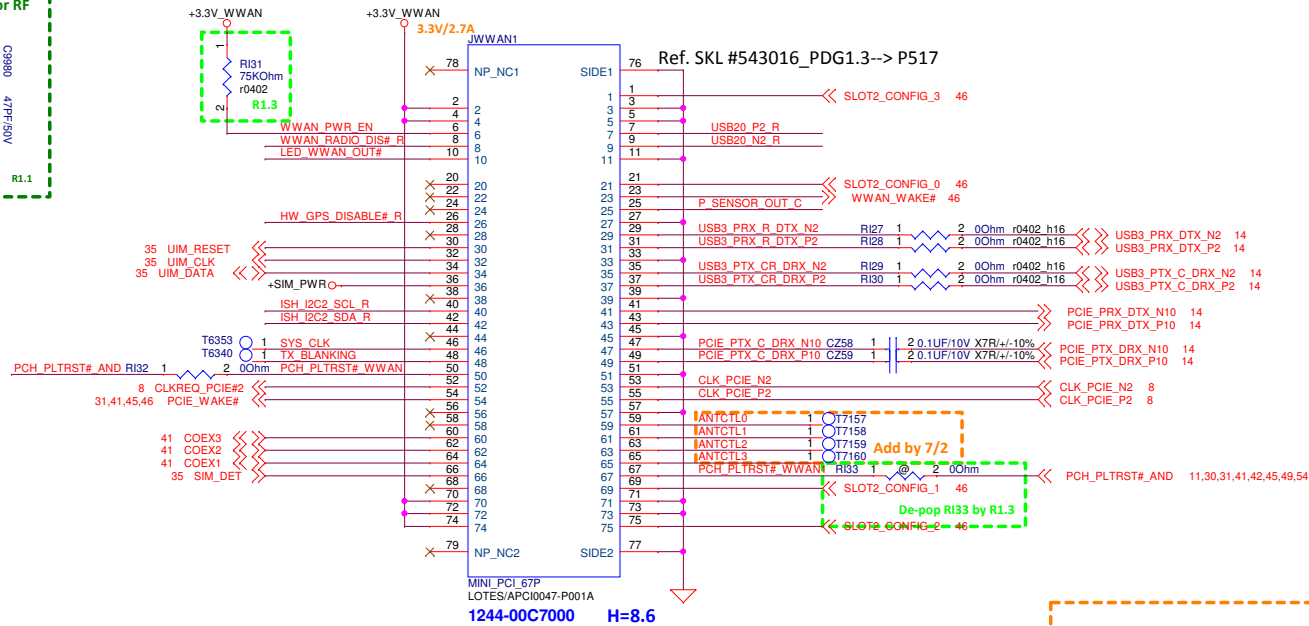
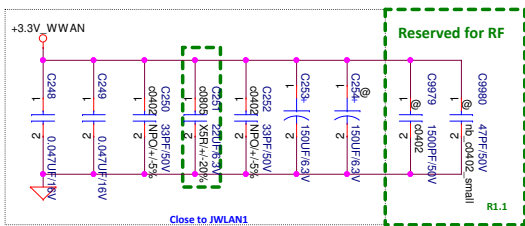
## 4



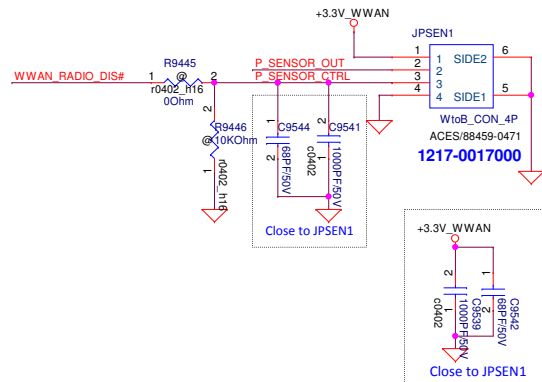
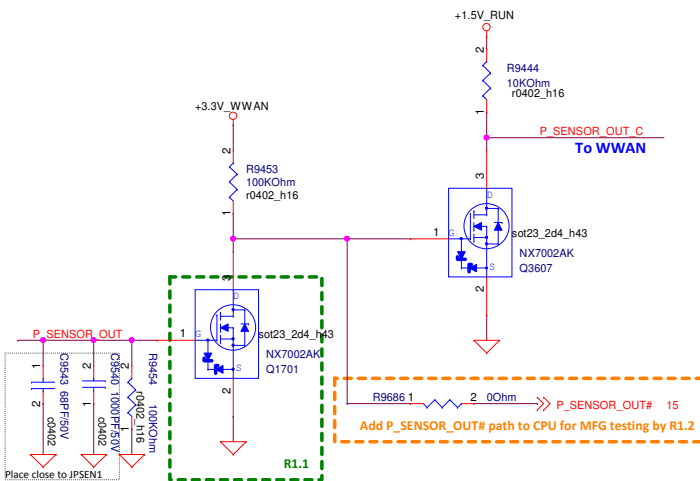
4

4

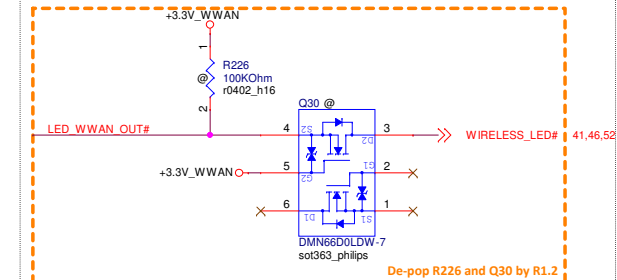
# NGFF KEY-B WWAN/LTE Connector



## P-Sensor Connector



## WWAN LED Control Circuit



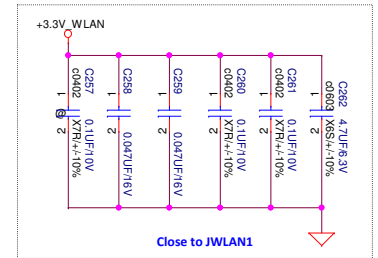
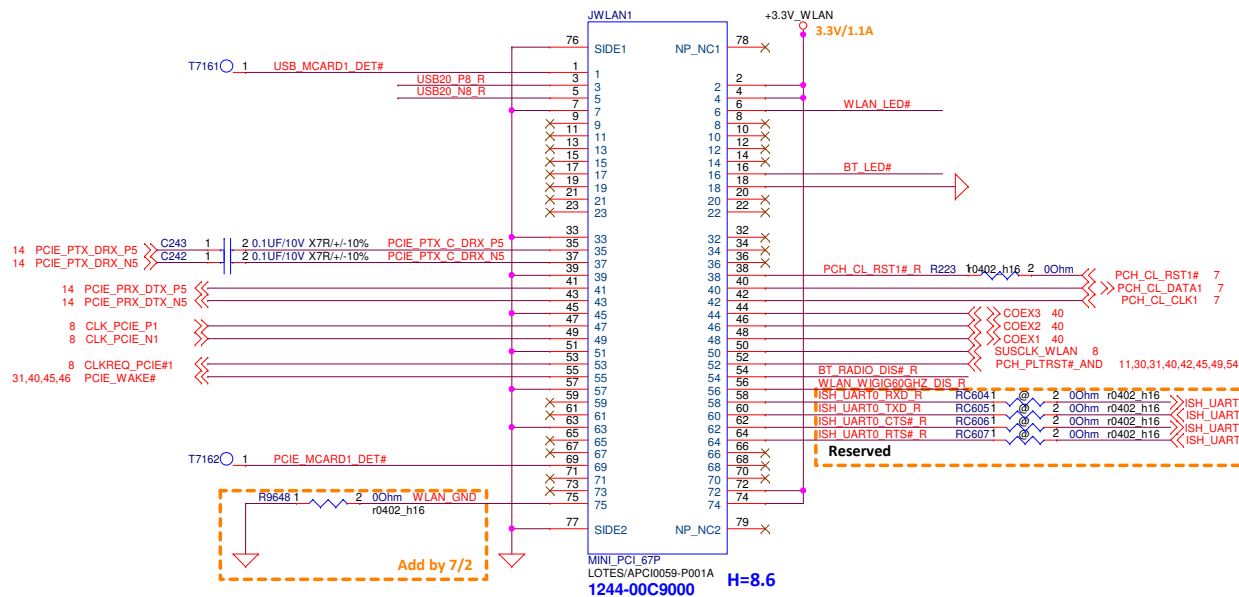
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This information may be disclosed to third parties for limited purposes. It must not be reproduced, stored, or used for any other purpose without the prior written consent of Dell Inc.

TITLE	J1WLAN1/J1SEN1
DWG NO.	CORE_B2
DATE	Friday, March 18, 2016
SHEET	40 of 81
REV.	2.0



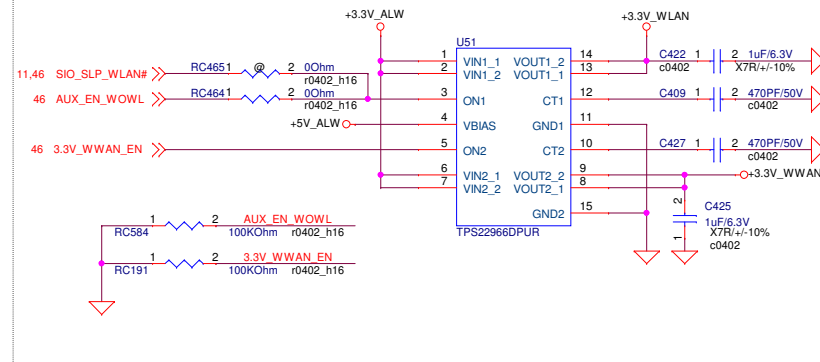
# NGFF KEY-E WLAN/BT Connector



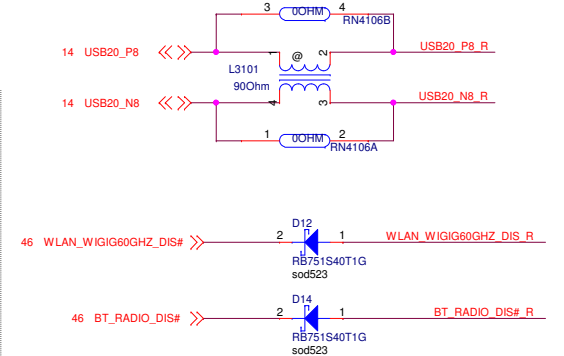
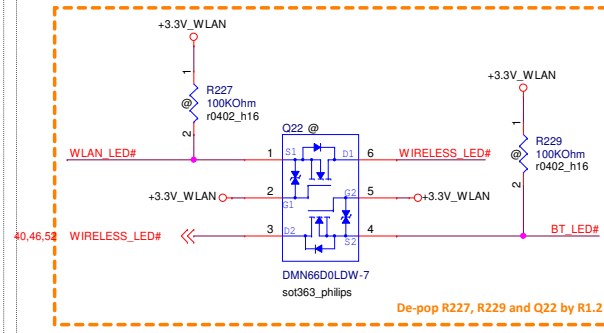
Reference: ACES\_51700-0520W-001

PWR Rail	Voltage Tolerance	Primary Power		Aux Power
		Peak	Normal	Normal
+3.3V	+~9%	1000	750	
+3.3Vaux	+~9%	330	250	250 (Wake enable) 5 (Not wake enable)

## WWAN/WLAN Power



## WLAN LED Control Circuit

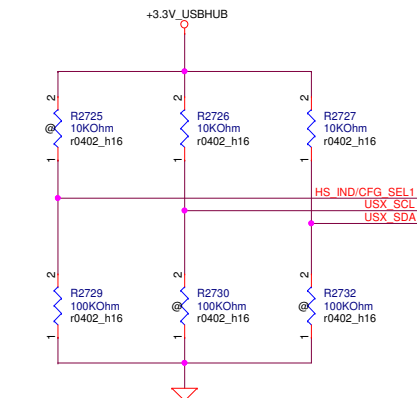
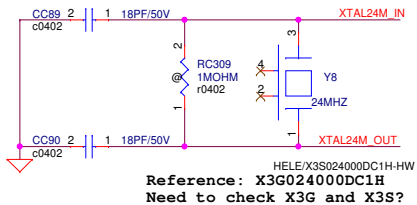
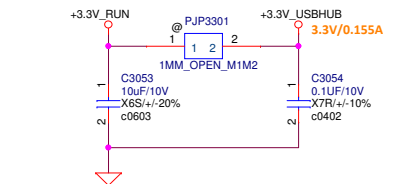


PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

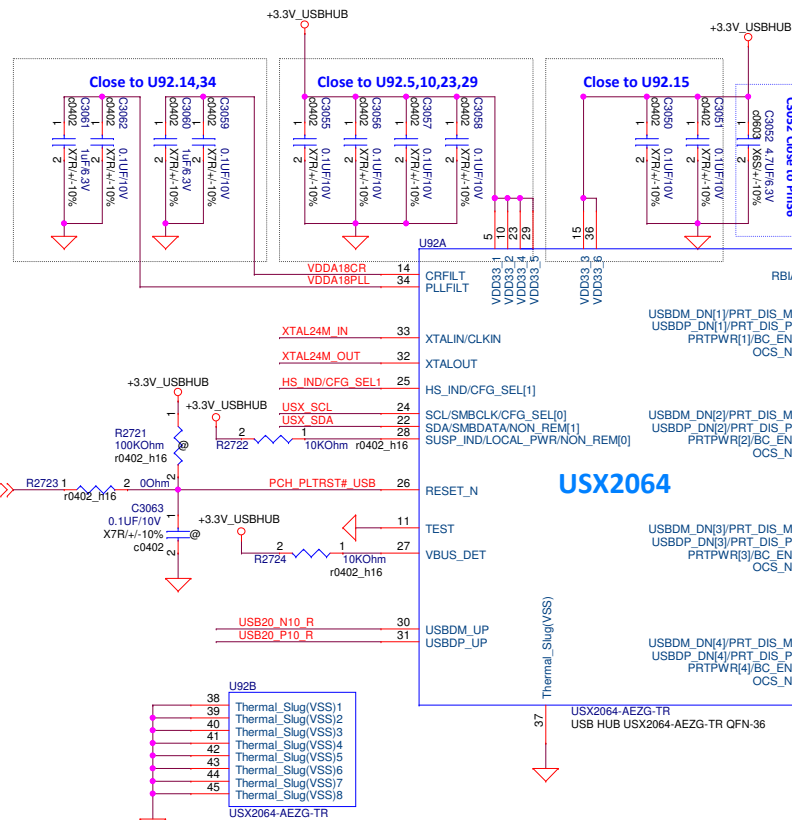
PROPRIETARY NOTE: This document contains the property of Dell Inc. and its subsidiaries. It is not to be distributed, copied, or otherwise used without the prior written consent of Dell Inc. All rights are reserved. This document is the property of Dell Inc. and its subsidiaries. It is not to be distributed, copied, or otherwise used without the prior written consent of Dell Inc. All rights are reserved.

TITLE	JWLAN1
DWG NO.	CORE_B2
REV.	2.0
DATE	Friday, March 18, 2016
SHEET	41 of 81





USX2064 CFG Selection Table		
CFG_SEL[0] \ CFG_SEL[1]	0	1
0	Default	SMBus slave device
1	Bus-powered operation	I2C EEPROM



1. Place R2720 close to Pin35 and trace width  
USX2064, RBIAS is 20 mils  
2. Kindly have R2720 a single via to GND plane.  
Don't share the GND via with caps R2720 12KOhm

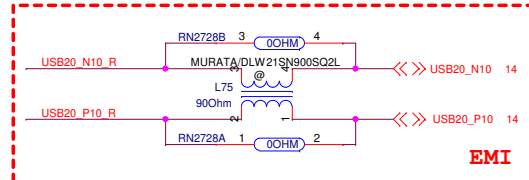
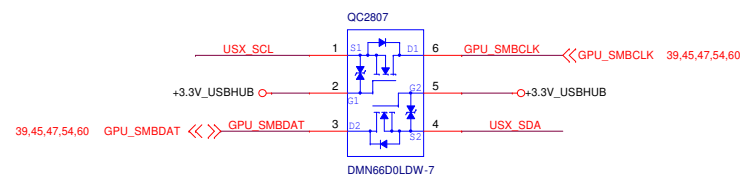
Touch Screen

EC/PC

FCam

GPS

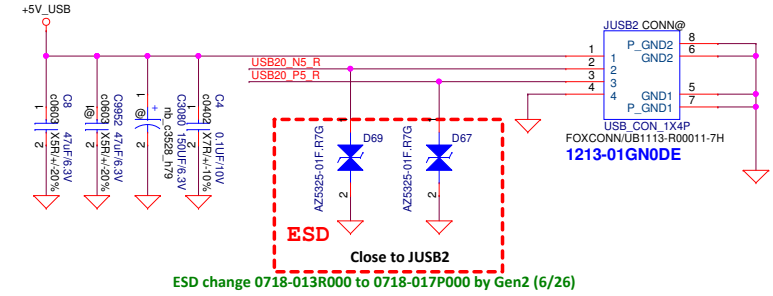
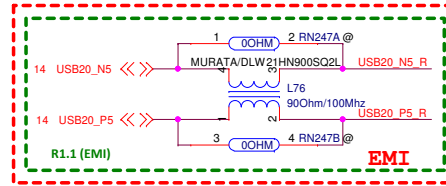
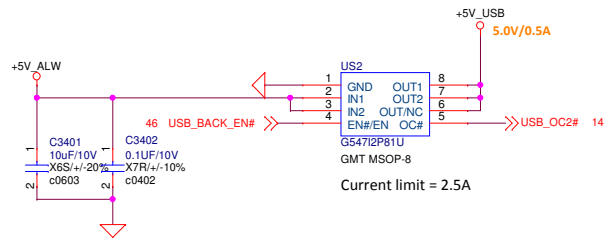
SMSC recommend:  
Add 10K pull-up (to +3.3V\_USB\_HUB) at the un-used port to disable downstream port if internal default is used. These 2 10K reserved resistors should be de-pop by default, since they select to use "Configured via SMBUS" by default.



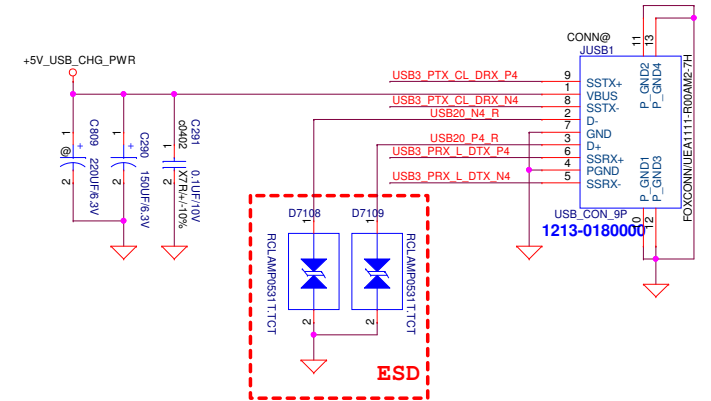
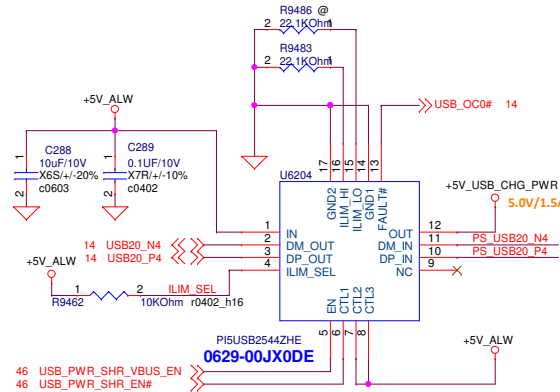
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document contains the property of DELL INC. and its subsidiaries. It is not to be distributed outside of DELL INC. without the prior written consent of DELL INC. All rights reserved. This document is for internal use only. It is not to be distributed outside of DELL INC. without the prior written consent of DELL INC. All rights reserved. This document is for internal use only.		
TITLE	USB2.0 Hub (USX2064)	
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 42 of 81

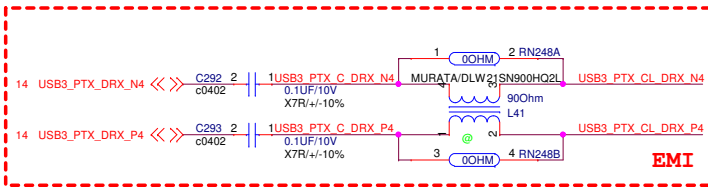
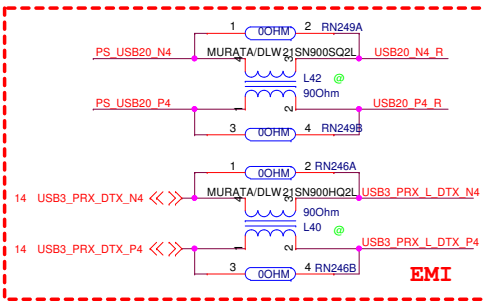
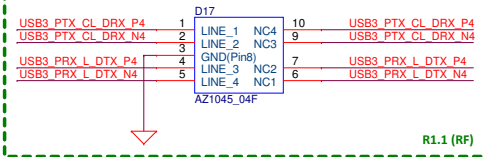




## USB Charger



Symbol	Description	Test Conditions	Min.	Typ.	Max.	Unit
<b>ILIM_SEL Current Limit</b>						
$I_{lim}$	OUT Current-Limit <sup>a</sup>	$V_{BUS\_US} = 0V, R_{DS(on)} = 210k\Omega$	205	240	275	mA
		$V_{BUS\_US} = 0V, R_{DS(on)} = 99.4k\Omega$	275	325	380	mA
		$V_{BUS\_US} = 0V, R_{DS(on)} = 21.4k\Omega$	3150	3750	4400	mA
$t_{res}$	Response time to OUT short circuit <sup>b</sup>	$V_{BUS\_US} = V_{in}, R_{DS(on)} = 210k\Omega$	2340	2510	2685	ns
		$V_{BUS\_US} = V_{in}, R_{DS(on)} = 99.4k\Omega$	2770	2970	3170	ns
		$V_{BUS} = 5.0V, R = 0.1\Omega, \text{load length} = 2"$	-	1.5	-	µs



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be transferred outside the company of Dell Inc. without the prior written consent of Dell Inc. For limited purposes, it may not be reproduced or used in any manner without the prior written consent of Dell Inc. upon completion of the purpose of the loan. Any other use of this document is strictly prohibited. The purpose of this document is to provide information for the design and development of the product. It is not intended to be used for any other purpose. The information in this document is confidential and proprietary to Dell Inc. and its subsidiaries. It is not to be distributed outside the company of Dell Inc. without the prior written consent of Dell Inc.

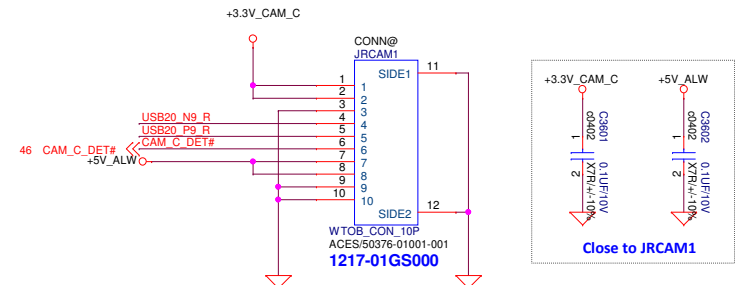
TITLE JUSB1/JUSB2/USB Charger		
DWG NO. CORE_B2	REV. 2.0	
DATE Friday, March 18, 2016	SHEET 43 of 81	





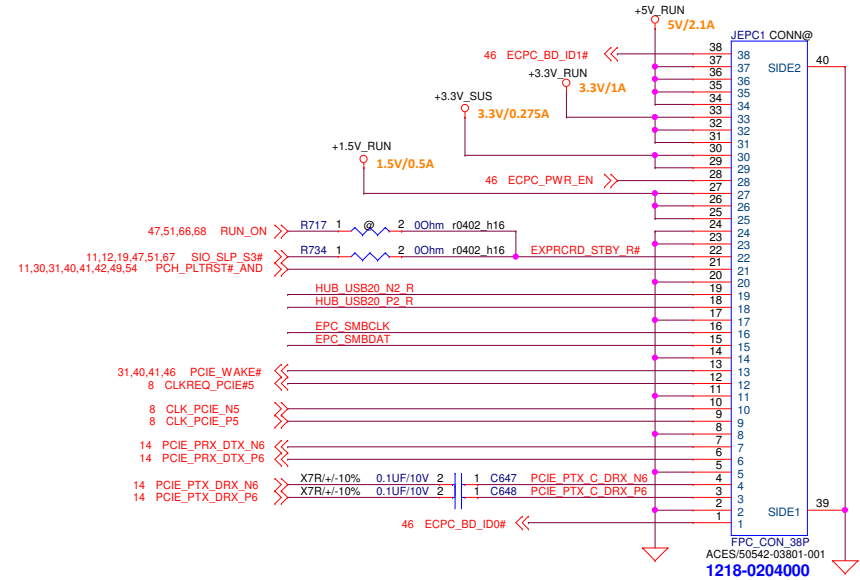
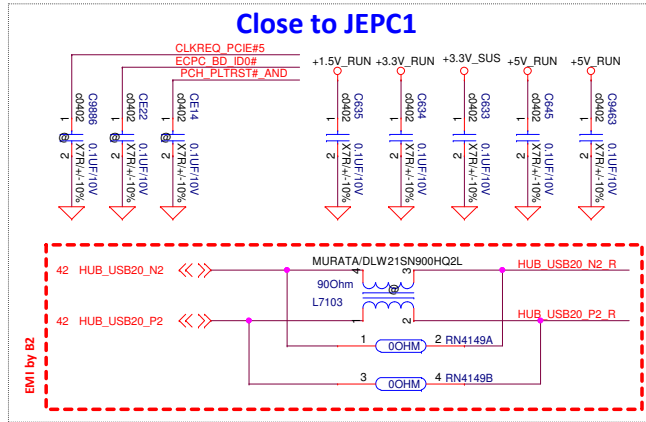
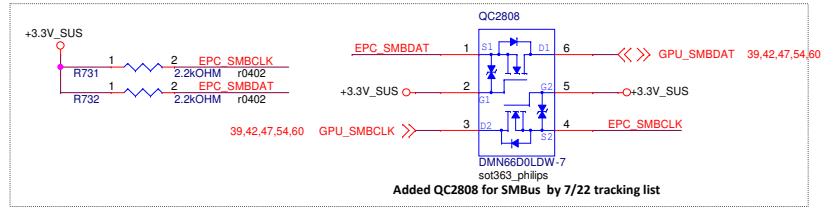
[illegible]

**1218-01YR000**  
**Connect to C\_Button\_C FPC**  
**Reference: ACES\_87151-14051**

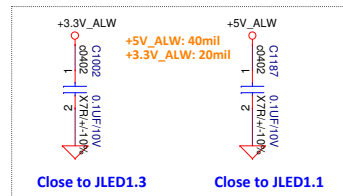
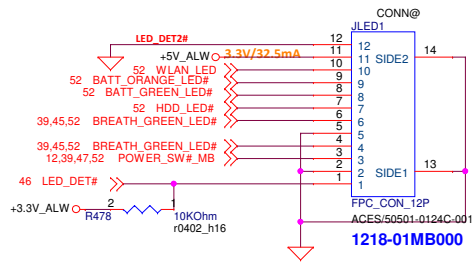


<p><b>PROPRIETARY NOTE:</b> THIS FORM IS THE PROPERTY OF DELL INC. BACKGROUND, TRADES AND CONTAINING CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY A QUALIFIED PERSON. IT IS TO BE KEPT IN A SECURE LOCATION AND NOT TO BE REPRODUCED OR RETAINED OUTSIDE DELL INC. WITHOUT THE WRITTEN CONSENT OF DELL INC. IT IS TO BE DESTROYED UPON REQUEST BY DELL INC. OR UPON COMPLETION OF THE PURPOSE OF THE FORM. THE RETURN OF THIS FORM TO DELL INC. IS A CONDITION OF RECEIVING OR USING THE INFORMATION CONTAINED HEREIN. IT IS THE RESPONSIBILITY OF THE USER OF THIS FORM TO NOTIFY DELL INC. OF ANY LOSS OR THEFT OF THIS FORM WITHOUT INcurring A FEE FOR SUCH LOSS OR THEFT CONSISTENT WITH THE PURPOSE OF THE LOSS/NOTIFICATION TO THE PROPER IT/SECURITY GROUP OF DELL INC.</p>	<table border="1"> <tr> <td data-bbox="1703 1445 1835 1446"><b>TITLE</b></td> <td colspan="3" data-bbox="1835 1445 1988 1446">JCSW1/JCSW2/JRCAM1</td> </tr> <tr> <td data-bbox="1703 1446 1835 1448"><b>DWG NO.</b></td> <td data-bbox="1835 1446 1908 1448">CORE 2B</td> <td data-bbox="1908 1446 1988 1448"><b>REV.</b></td> <td data-bbox="1988 1446 2055 1448">2.0</td> </tr> <tr> <td data-bbox="1703 1448 1835 1450"><b>DATE</b></td> <td colspan="3" data-bbox="1835 1448 1988 1450">Friday, March 18, 2016</td> </tr> <tr> <td data-bbox="1703 1450 1835 1451"></td> <td data-bbox="1835 1450 1908 1451"><b>SHEET</b></td> <td data-bbox="1908 1450 1988 1451">44</td> <td data-bbox="1988 1450 2055 1451">of 81</td> </tr> </table>	<b>TITLE</b>	JCSW1/JCSW2/JRCAM1			<b>DWG NO.</b>	CORE 2B	<b>REV.</b>	2.0	<b>DATE</b>	Friday, March 18, 2016				<b>SHEET</b>	44	of 81
<b>TITLE</b>	JCSW1/JCSW2/JRCAM1																
<b>DWG NO.</b>	CORE 2B	<b>REV.</b>	2.0														
<b>DATE</b>	Friday, March 18, 2016																
	<b>SHEET</b>	44	of 81														

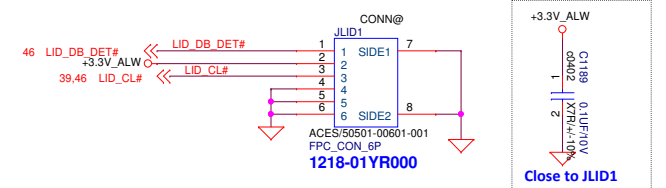
# Express Card/PCMCIA Connector



## LED Connector



## LID Connector

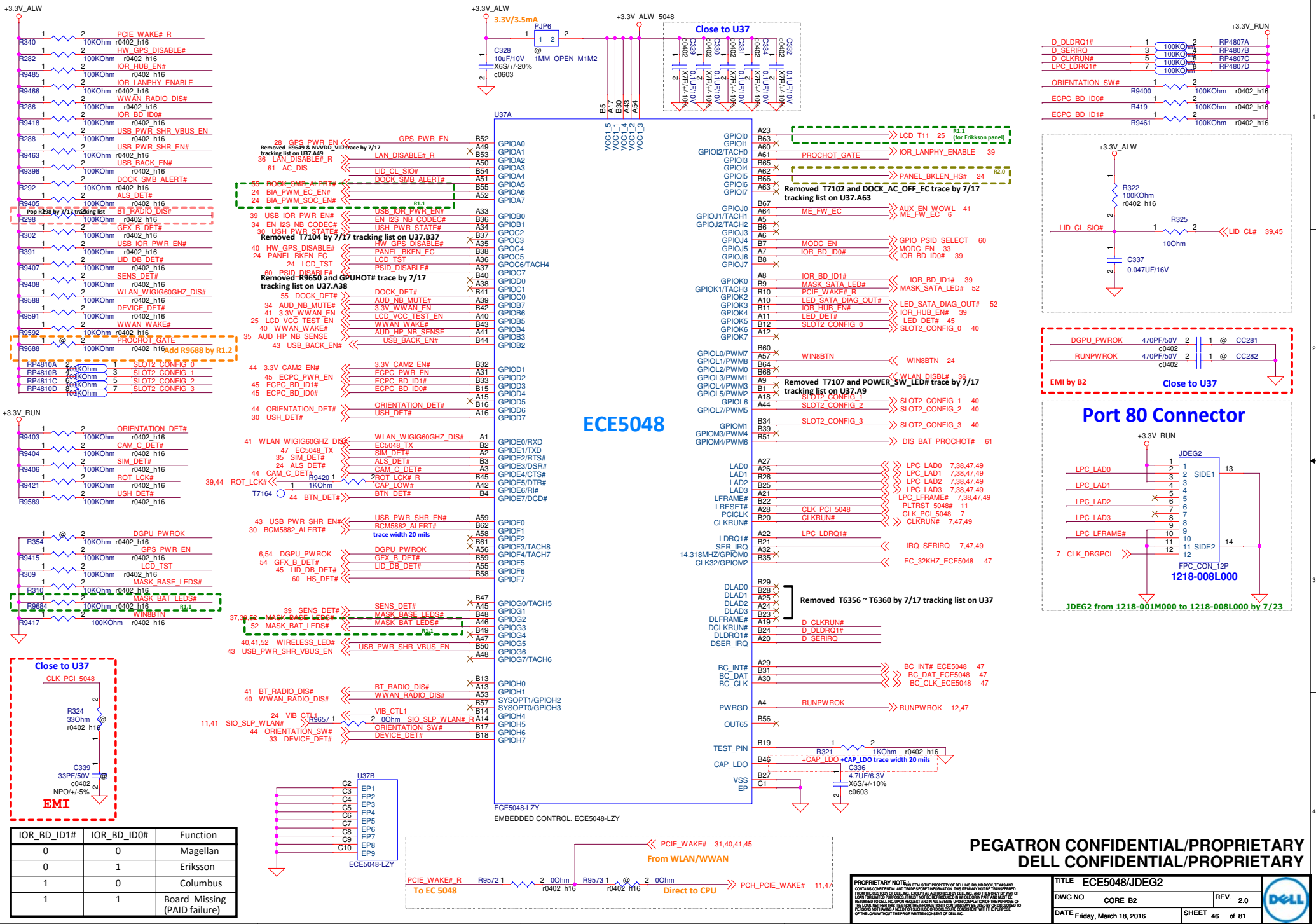


PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be transferred, copied, or otherwise disclosed to third parties without the prior written consent of Dell Inc. If you are a Dell employee, you are prohibited from disclosing this information to any third party without the prior written consent of Dell Inc. If you are a third party, you are prohibited from disclosing this information to any third party without the prior written consent of Dell Inc. If you are a third party, you are prohibited from disclosing this information to any third party without the prior written consent of Dell Inc.

TITLE	JEPC1/JLED1/JLID1
DWG NO.	CORE_B2
REV.	2.0
DATE	Friday, March 18, 2016
SHEET	45 of 81





IOR_BD_ID1#	IOR_BD_ID0#	Function
0	0	Magellan
0	1	Eriksson
1	0	Columbus
1	1	Board Missing (PAID failure)

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: THE INFORMATION IS THE PROPERTY OF DELL AND 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. ANY REUSE OR DISTRIBUTION OF THIS INFORMATION WITHOUT THE WRITTEN PERMISSION OF DELL IS PROHIBITED.

TITLE	ECE5048/JDEG2
DWG NO.	CORE_B2
DATE	Friday, March 18, 2016
SHEET	46 of 81
REV.	2.0




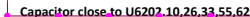


BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

<small>PROPRIETARY NOTE: This form is the property of DELL INC. SOUNDBOOK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART, NOR MAY IT BE RETURNED TO DELL INC. UPON REQUEST. ALL INFORMATION CONTAINED HEREIN IS THE PROPERTY OF DELL INC. AND IS NOT TO BE DISCLOSED OR USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF DELL INC.</small>		TITLE: Blank Page	
DWG NO.: CORE_B2		REV.: 2.0	
DATE: Friday, March 18, 2016		SHEET: 48 of 81	





<0506: Vendor suggestion>If UART2 set as input, need to mount



CONFIDENTIAL/81212A-8K4-09111

1210.000G0DE

REGATRON CONFIDENTIAL / PROPRIETARY

**PROPRIETARY NOTE:** THIS ITEM IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. AND ALL COPIES OF ANY INFORMATION CONTAINED HEREON MUST BE DESTROYED. THE LOAN, NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.

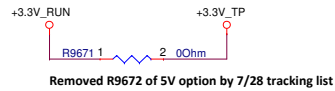
TITLE I PC2U ART IC (SIO1028)/ISER1

DWG NO.	CORE B2	REV.	20
---------	---------	------	----

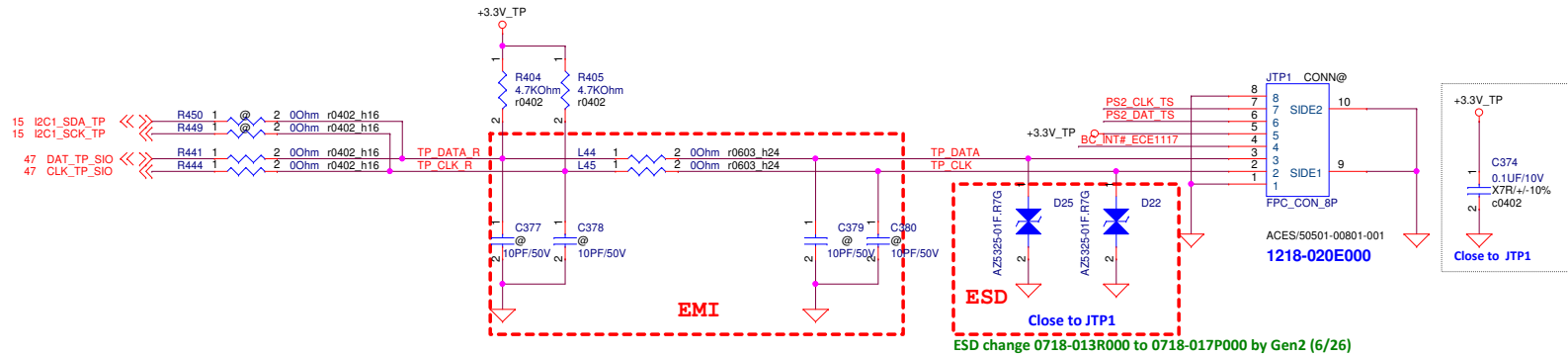
DATE Friday, March 18, 2016	SHEET 49 of 81
-----------------------------	----------------



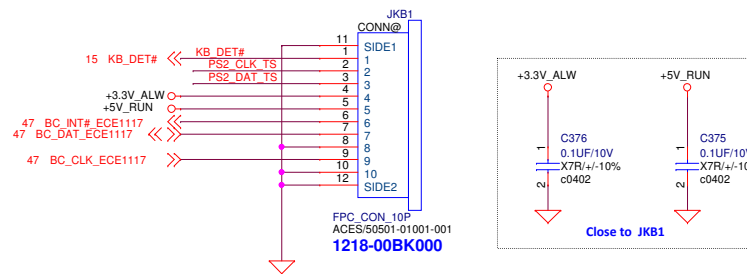
## Touch Pad Power



## Touch Pad Connector



## KB Module Connector



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be transferred, copied, or otherwise disclosed to third parties without the prior written consent of Dell Inc. All rights are reserved. This document is for internal use only and is not to be distributed outside of Dell Inc. without the prior written consent of Dell Inc.

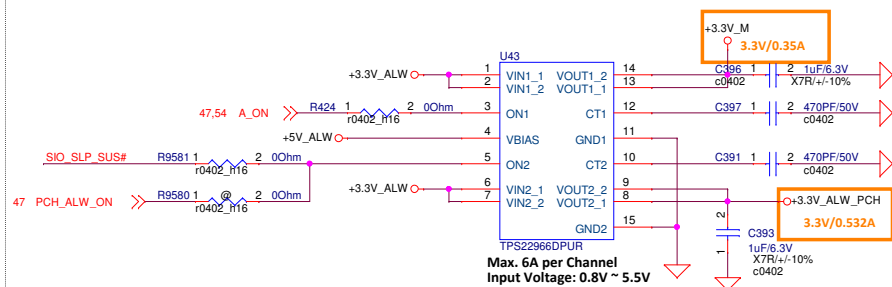
TITLE	JTP1/JKB1
DWG NO.	CORE_B2
REV.	2.0
DATE	Friday, March 18, 2016
SHEET	50 of 81



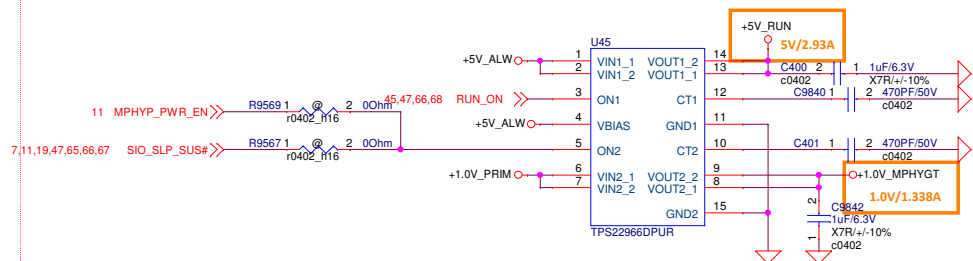


## DC/DC Interface

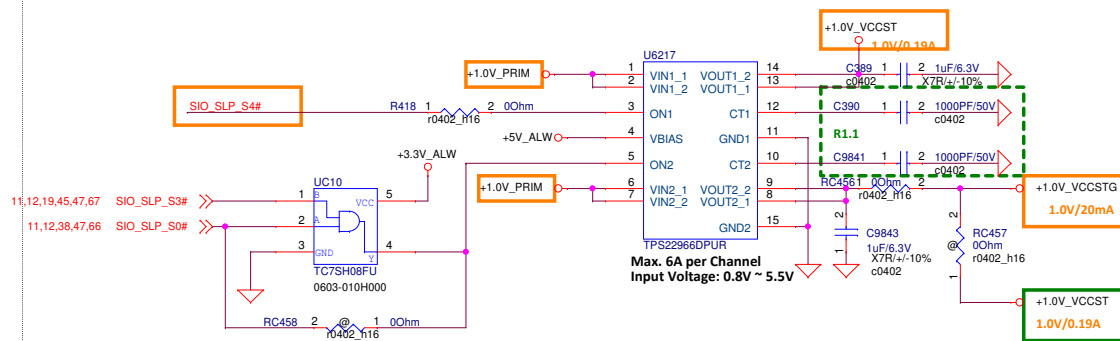
### +3.3V\_M / +3.3V\_ALW\_PCH Source



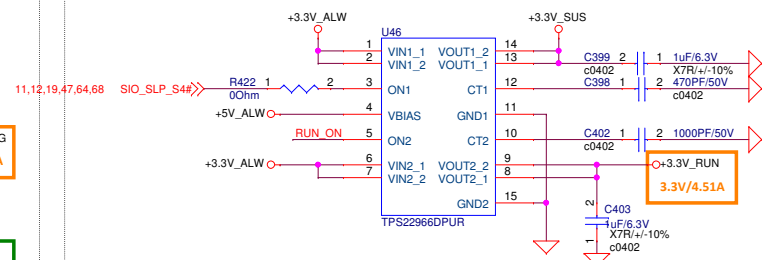
## +5V\_RUN / +1.0V\_MPHYGT Source



## +1.0V\_VCCST / +1.0V\_VCCSTG Source



### +3.3V\_RUN/+3.3V\_SUS Source



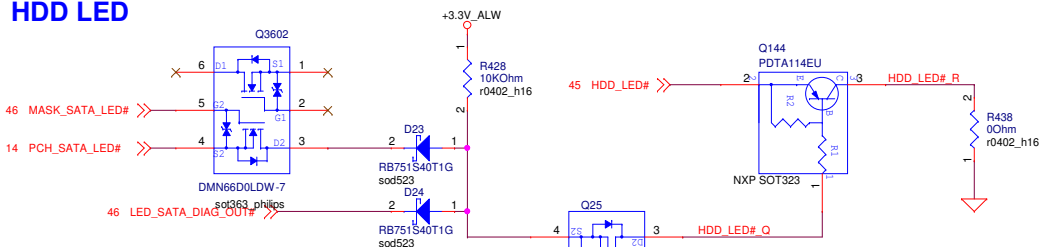
**PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY**

**PROPRIETARY NOTE:** THIS ITEM IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED BY ANY PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.

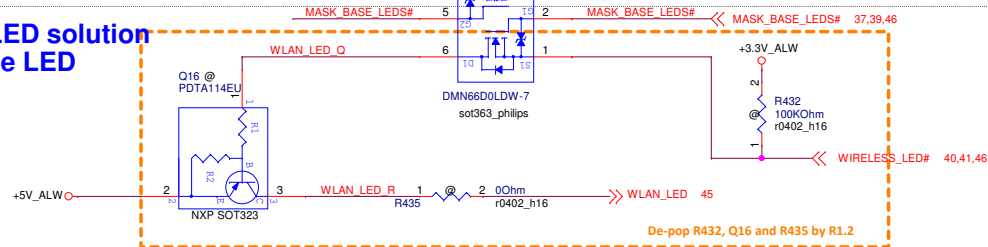
TITLE		Load Switch	
DWG NO.		CORE_B2	REV. 2.0
DATE		Friday, March 18, 2016	SHEET 51 of 81



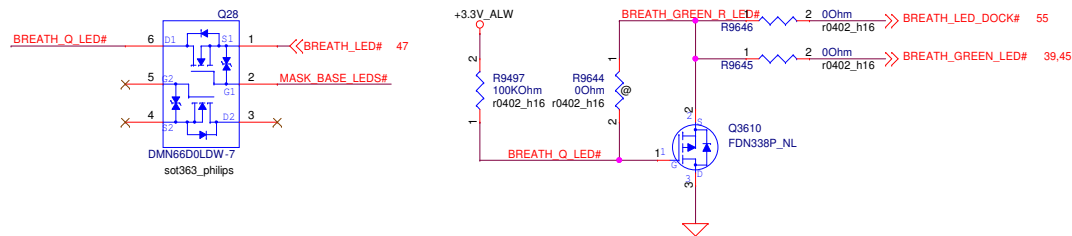
## HDD LED



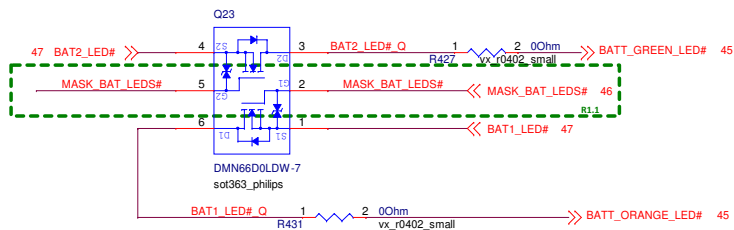
## WLAN LED solution for White LED



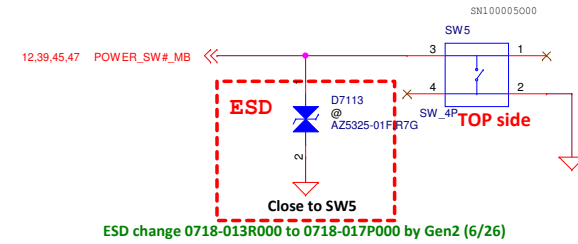
## Breath LED



## Battery LED



## POWER SWITCH



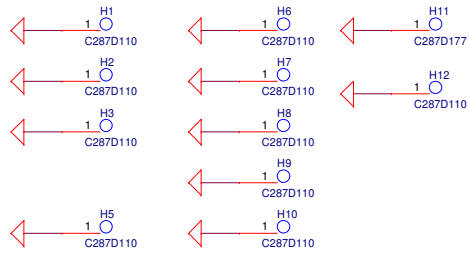
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of DELL INC. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of DELL INC. All rights reserved. This document is for internal use only and is not to be distributed outside of DELL INC. without the prior written permission of DELL INC.

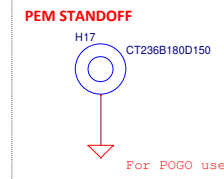
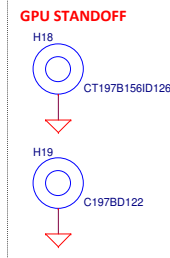
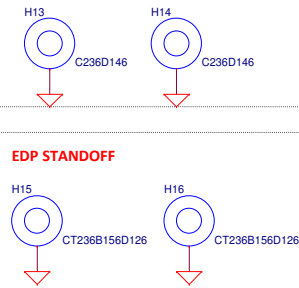
TITLE LED Control Circuit		
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 52 of 81



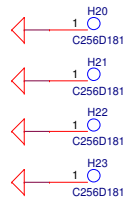
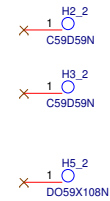
Screw Hole  $\Phi 2.8\text{mm}$  X7.3



## WWAN/WLAN STANDOFF



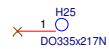
## Tooling Hole




NPTH hole



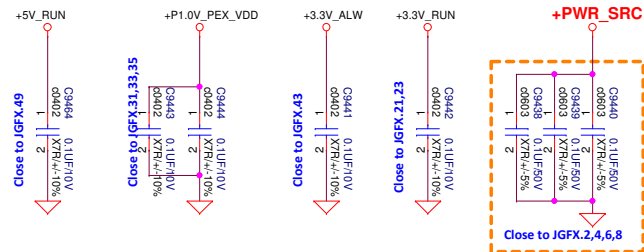
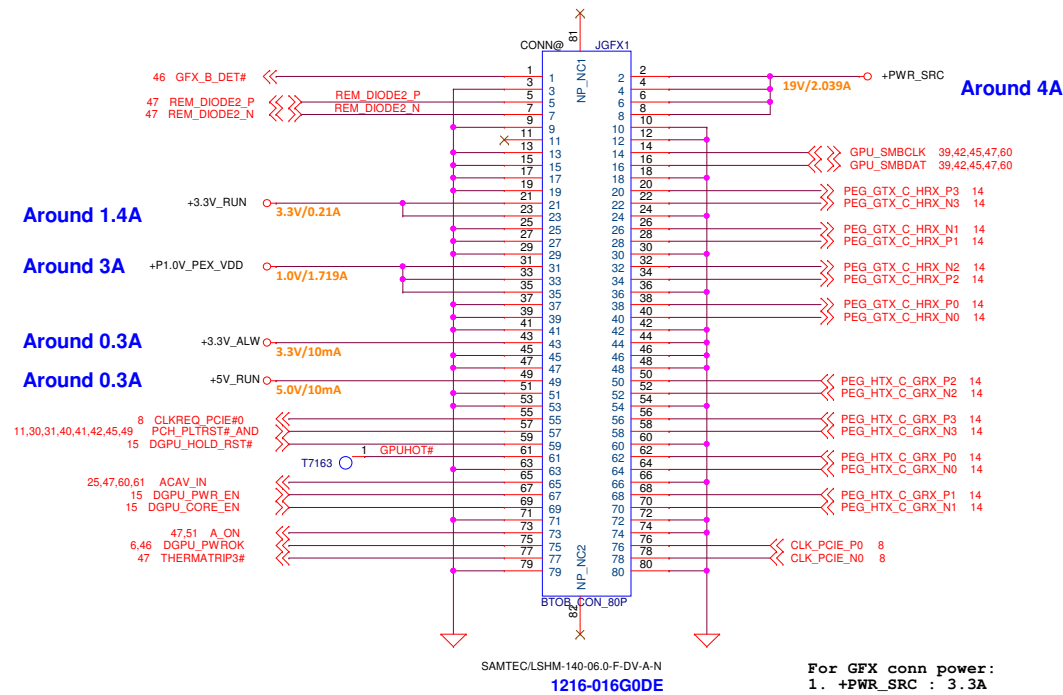
NPTH hole



**PROPRIETARY NOTE:** THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF DELL INC., ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS MATERIAL MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC., EXCEPT AS AUTHORIZED BY DELL INC., AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.


TITLE Mechanical Hole/Standoff		
DWG NO. CORE_B2	REV. 2.0	
DATE Friday, March 18, 2016	SHEET 53 of 81	



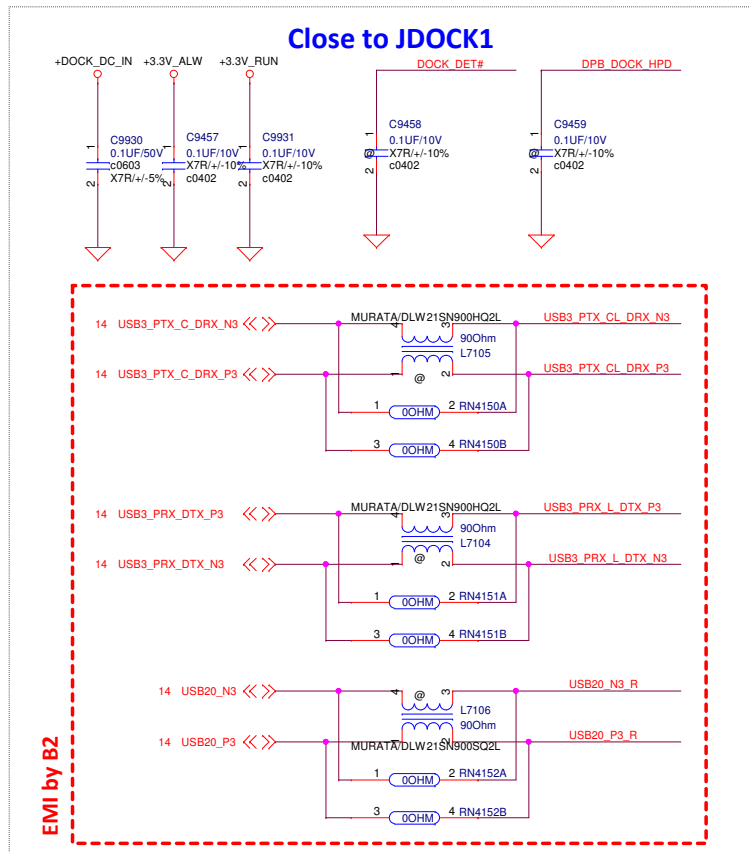


PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and/or proprietary information. It is to be used only for the purpose of providing information to Dell Inc. and is not to be distributed, copied, or otherwise used without the prior written consent of Dell Inc.

TITLE JGFX1		
DWG NO. CORE_B2	REV. 2.0	
DATE Friday, March 18, 2016	SHEET 54 of 81	

## Docking Connector

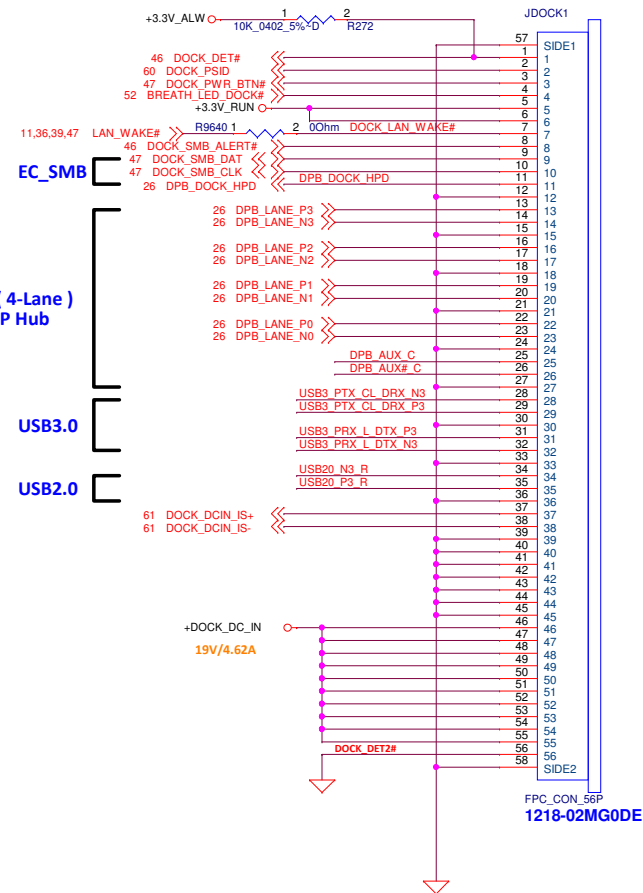


26 DPB\_AUX# X7R/+/-10% 0.1uF/10V 2 1 C9948 DPB\_AUX# C  
26 DPB\_AUX# X7R/+/-10% 0.1uF/10V 2 1 C9949 DPB\_AUX# C

DP1.2 (4-Lane)  
from DP Hub

USB3.0

USB2.0



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

<b>PROPRIETARY NOTE:</b> This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, or otherwise, without the prior written permission of Dell Inc.			
TITLE	JDOCK1	REV.	2.0
DWG NO.	CORE_B2	SHEET	55 of 81
DATE	Friday, March 18, 2016		



BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY


<small>PROPRIETARY NOTE: This form is the property of DELL INC. SOUND/BOOK TONES AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY THE BORROWER TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSED CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>			TITLE Blank Page	
DWG NO. CORE_B2		REV. 2.0		
DATE Friday, March 18, 2016		SHEET 56 of 81		



BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

<small>PROPRIETARY NOTE: This form is the property of DELL INC. SOUNDBOOK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY OTHERS WITHOUT PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSED CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		<small>TITLE</small> Blank Page	
<small>DWG NO.</small> CORE_B2		<small>REV.</small> 2.0	
<small>DATE</small> Friday, March 18, 2016		<small>SHEET</small> 57 of 81	






BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY


<small>PROPRIETARY NOTE: This form is the property of DELL INC. BOUNDARY, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY OTHERS WITHOUT PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSED CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		<small>TITLE</small> Blank Page	
<small>DWG NO.</small> CORE_B2		<small>REV.</small> 2.0	
<small>DATE</small> Friday, March 18, 2016		<small>SHEET</small> 58 of 81	



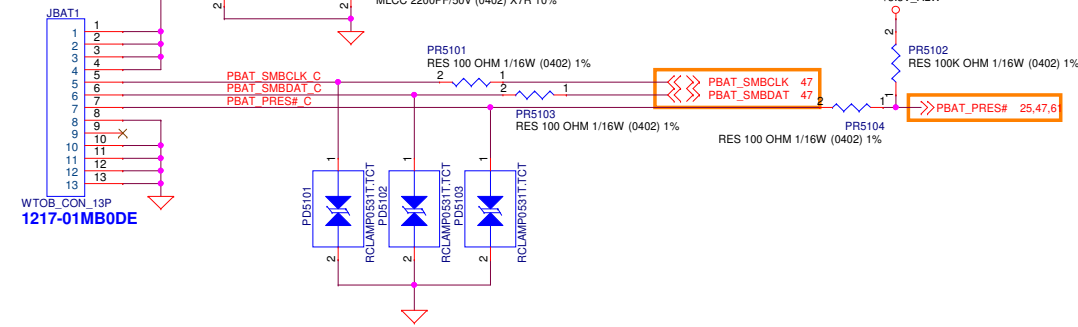
BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

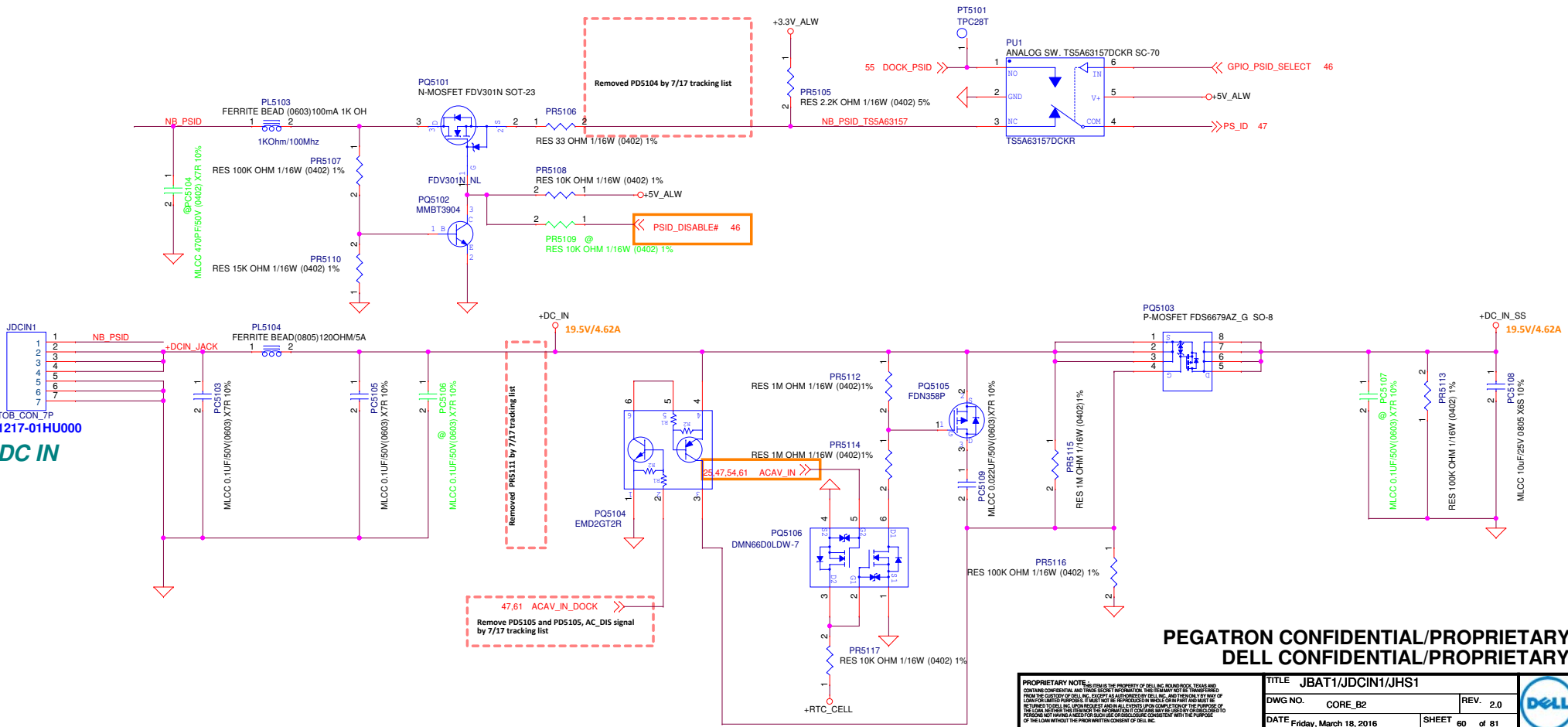
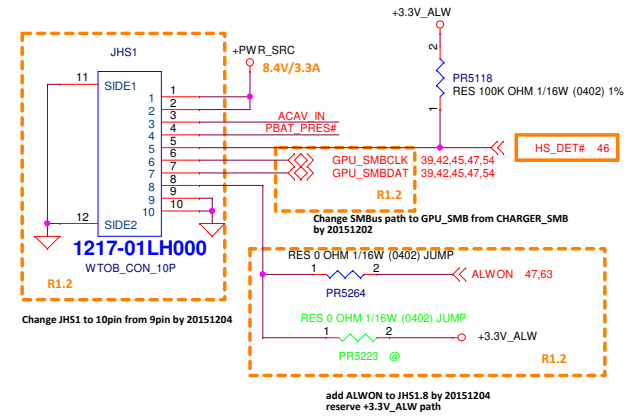
<small>PROPRIETARY NOTE: This form is the property of DELL INC. BOUNDARY, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY OTHERS WITHOUT PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		<small>TITLE</small> Blank Page	
<small>DWG NO.</small> CORE_B2		<small>REV.</small> 2.0	
<small>DATE</small> Friday, March 18, 2016		<small>SHEET</small> 59 of 81	



## Batt CON



## Hot Swap Conn.



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document contains the property of DELL INC. and its subsidiaries. It is not to be distributed outside of DELL INC. and its subsidiaries. It is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, or otherwise, without the prior written consent of DELL INC. All rights reserved.


TITLE JBAT1/JDCIN1/JHS1		
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 60 of 81





BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

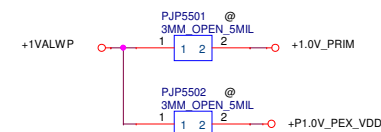
<small>PROPRIETARY NOTE: This form is the property of DELL INC. BOUNDARY, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY THE BORROWER TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSED CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>			TITLE <b>Blank Page</b>	
DWG NO. <b>CORE_B2</b>		REV. <b>2.0</b>		
DATE <b>Friday, March 18, 2016</b>		SHEET <b>62</b> of <b>81</b>		











```

+1VALWP
TDC  -->  5.12A
Peak -->  7.212 A
OCP  -->  8 A

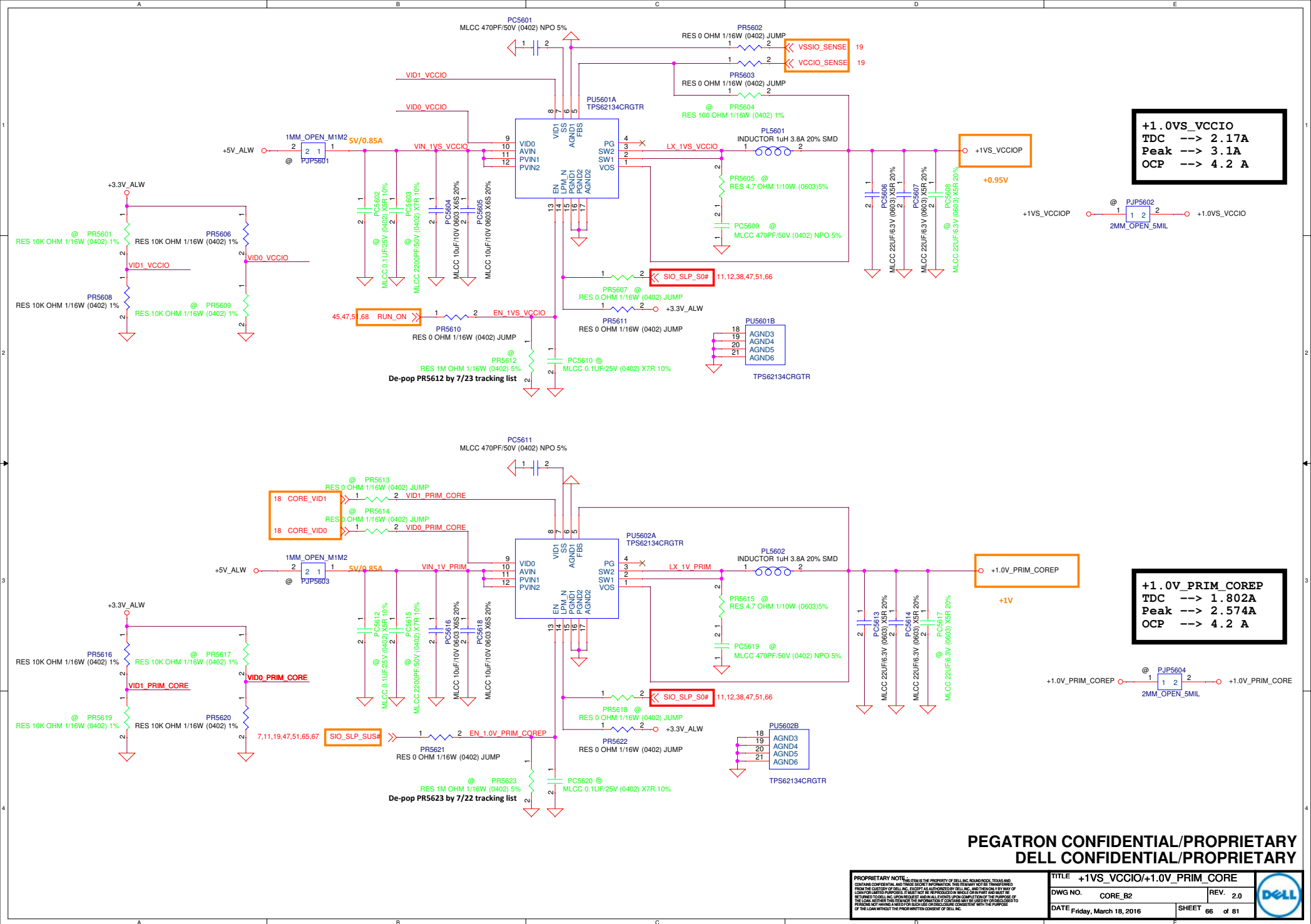
```

**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

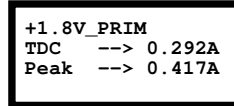
**PROPRIETARY NOTE:** THIS IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM IS NOT TO BE RELEASED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES, IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS TERM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR FOR OTHER PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.


TITLE +1.0V_PRIM	
DWG NO. CORE_B2	REV. 2.0
DATE Friday, March 18, 2016	SHEET 65 of 81





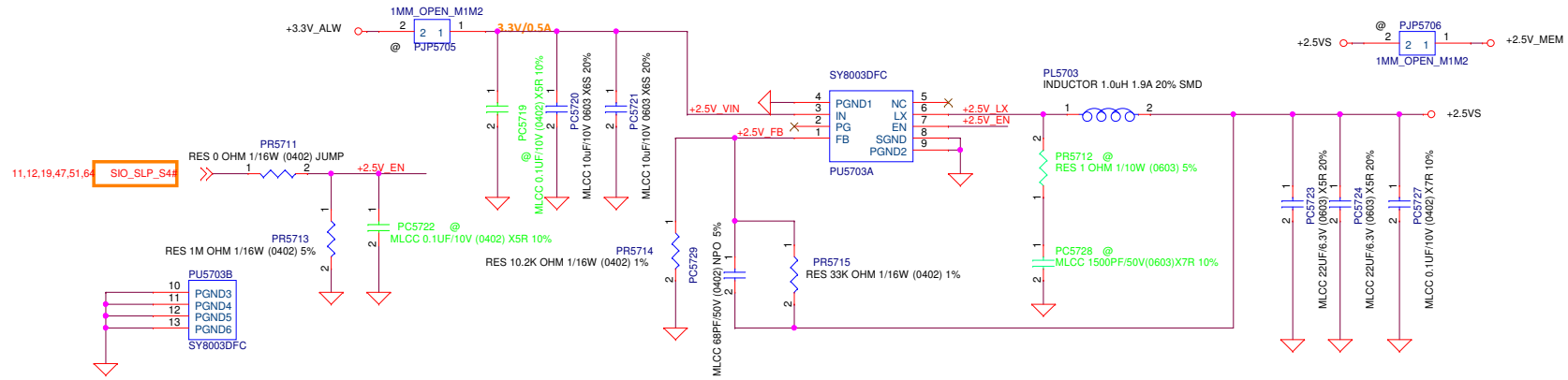
```
+1.5V_RUN
TDC    --> 0.47A
Peak   --> 0.671A
```



<p><b>PROPRIETARY NOTE:</b> THIS ITEM IS THE PROPERTY OF GELLING INDUSTRIES, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY BE TRANSFERRED FROM THE CUSTOMER OF GELL INC. EXCEPT AS AUTHORIZED BY GELLING, AND THEN ONLY BY THE CUSTOMER OF GELL INC. TO ANOTHER CUSTOMER OF GELL INC. ALL INFORMATION IS TO BE RETAINED TOP SECRET UNLESS OTHERWISE IN WRITING. NO INFORMATION IS TO BE RELEASED TO PERSONS NOT INVOLVED IN THE PROJECT WITHOUT THE WRITTEN CONSENT OF GELL INC.</p>		<p><b>TITLE</b> +1.5V_RUN/+1.8V_PRIM</p>	
<p><b>DWG NO.</b></p>	<p><b>CORE B2</b></p>	<p><b>REV</b> 2.0</p>	
<p><b>DATE</b> Friday, March 18, 2016</p>	<p><b>SHEET</b> 67</p>	<p><b>of</b> 81</p>	

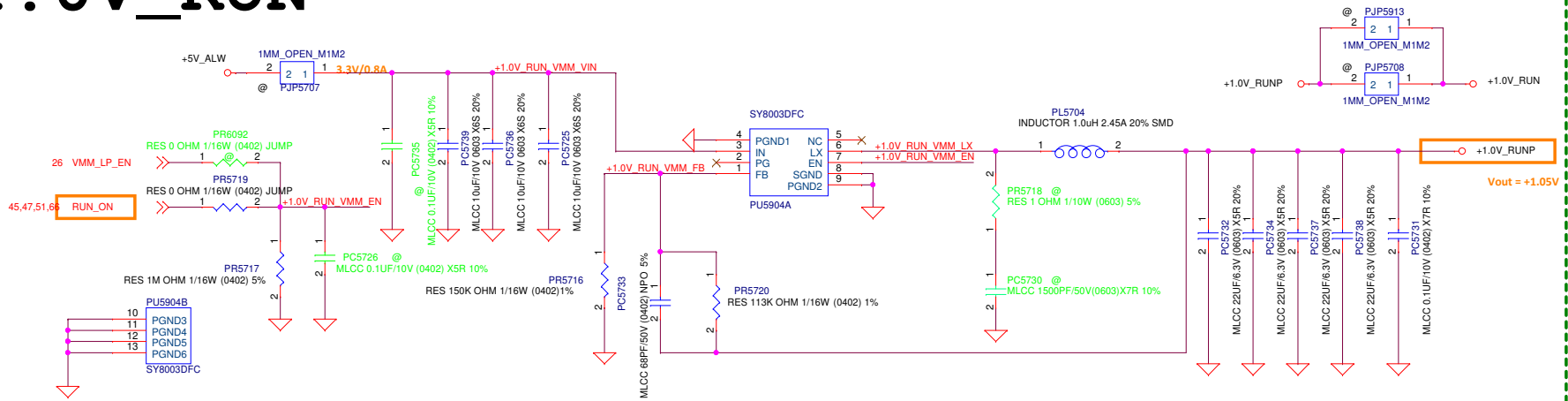
# +2.5V\_MEM

**+2.5V\_MEM**  
TDC --> 0.45A  
Peak --> 0.6A



# +1.0V\_RUN

**+1.0V\_RUN\_VMM**  
TDC --> 1A  
Peak --> 2.1A



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, or otherwise, without the prior written permission of Dell Inc. All rights reserved. This document is for internal use only and is not to be distributed outside the organization. Dell Inc. is not responsible for any damage or loss resulting from the use of this document. The information contained herein is subject to change without notice. Dell Inc. is not responsible for any damage or loss resulting from the use of this document. The information contained herein is subject to change without notice.

TITLE	+2.5V_MEM/+1.0V_RUN_VMM	
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 68 of 81






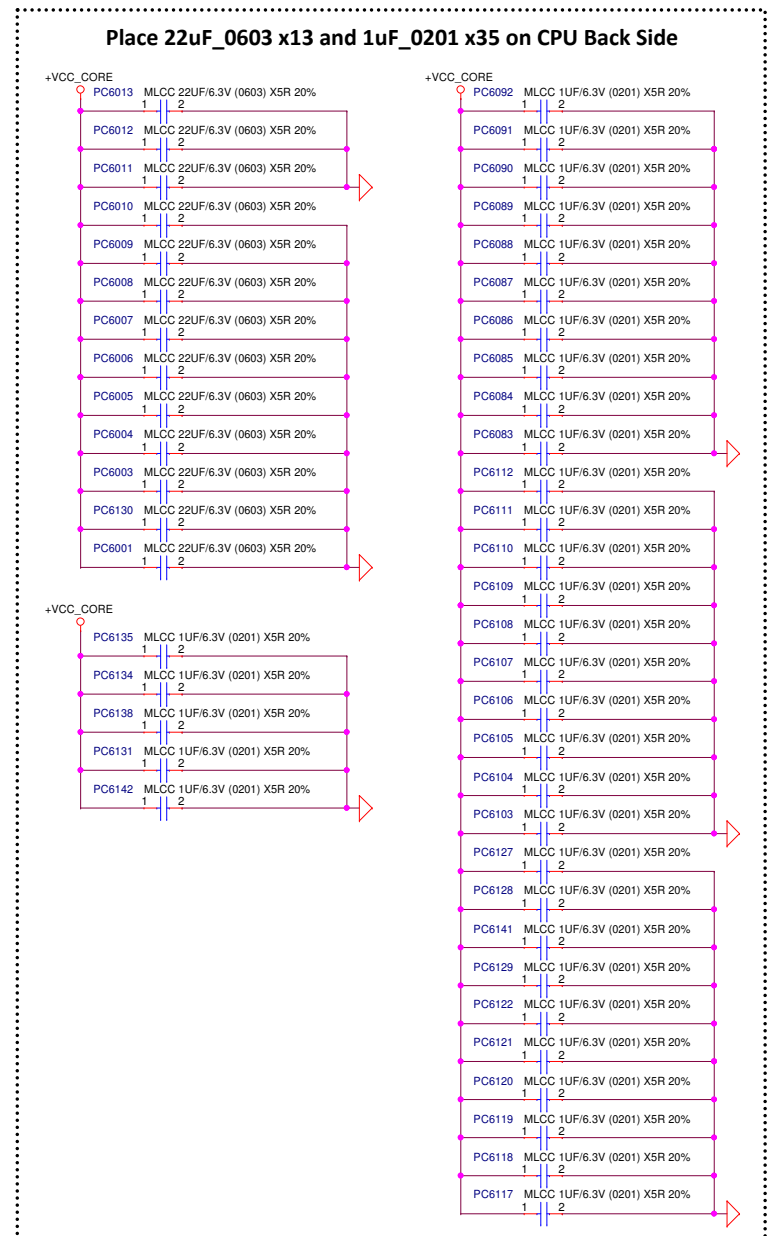
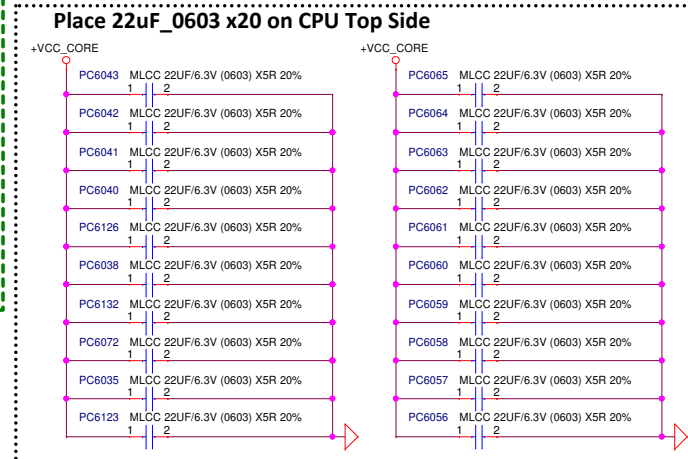
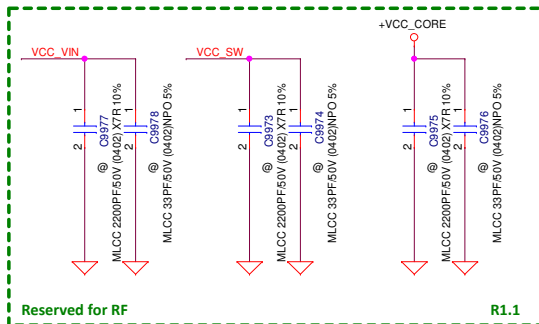
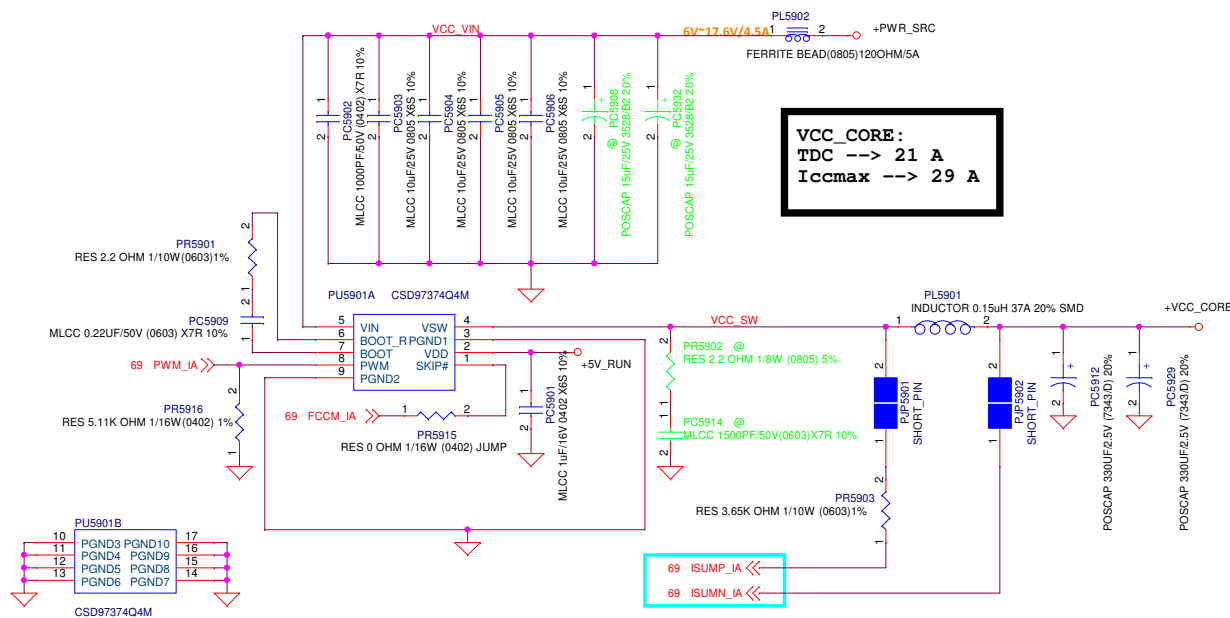
BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

<small>PROPRIETARY NOTE: This form is the property of DELL INC. SOUNDBOOK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY THE BORROWER TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		<small>TITLE</small> Blank Page	
<small>DWG NO.</small> CORE_B2		<small>REV.</small> 2.0	
<small>DATE</small> Friday, March 18, 2016		<small>SHEET</small> 70 of 81	



# +VCC\_CORE Gate Driver



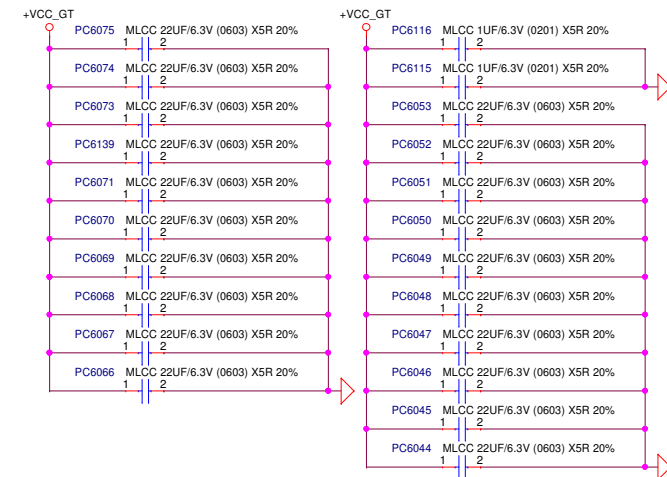
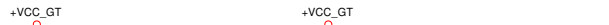
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may be used for internal purposes only. It may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, or otherwise, without the prior written permission of Dell Inc. All rights reserved.

TITLE +VCC\_CORE Gate Driver  
DWG NO. CORE\_B2  
DATE Friday, March 18, 2016  
REV. 2.0  
SHEET 71 of 81



**Place 22uF\_0603 x13 and 1uF\_0201 x12 on CPU Back Side**



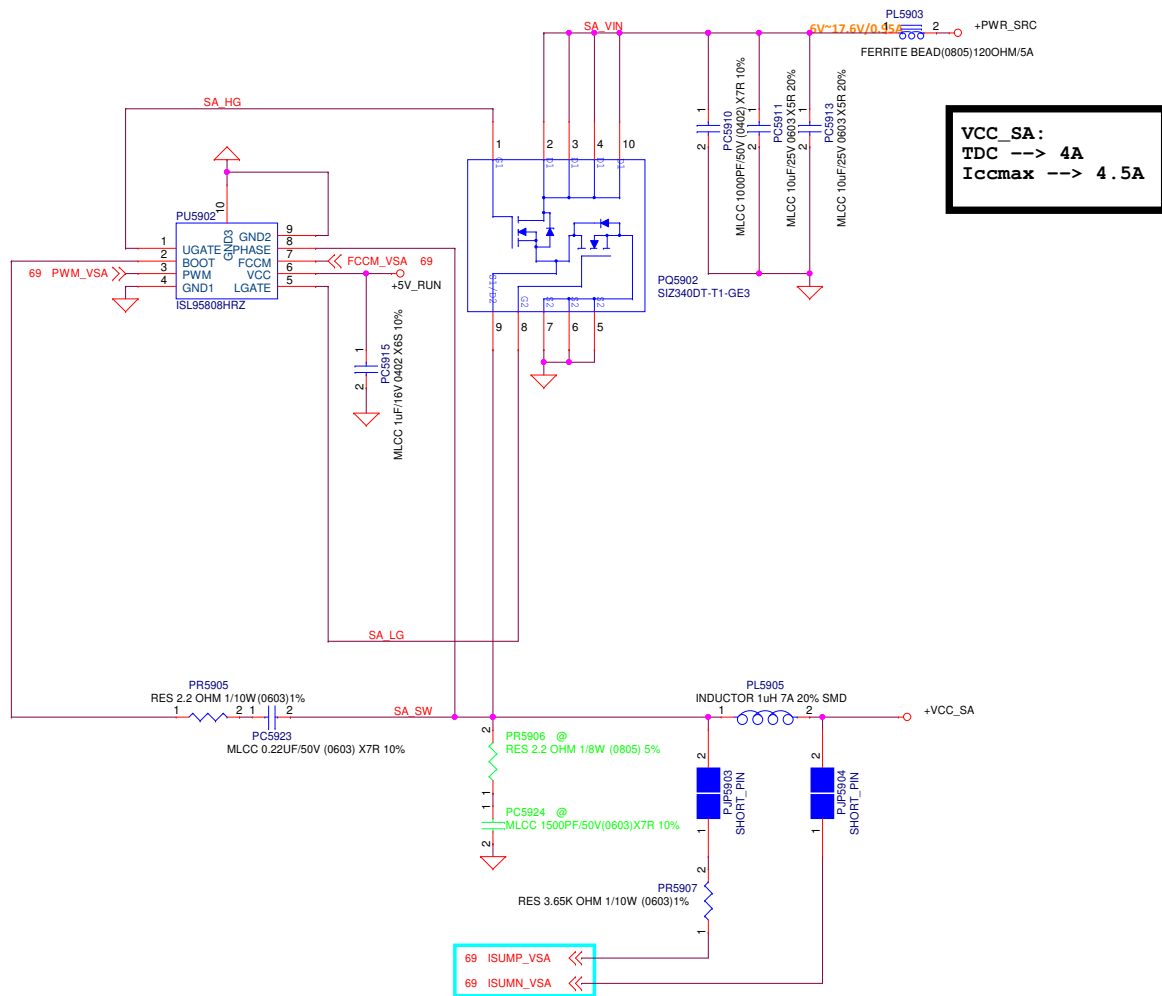
**PROPRIETARY NOTE:** THIS ITEM IS THE PROPERTY OF DELL INC. ROUND ROCK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC., EXCEPT AS AUTHORIZED BY DELL INC., AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES, IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL INC. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED BY ANY PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.

TITLE <b>+VCC_GT Gate Driver</b>		
DWG NO. <b>CORE_B2</b>	REV. <b>2.0</b>	
DATE <b>Friday, March 18, 2016</b>	SHEET <b>72</b> of <b>81</b>	

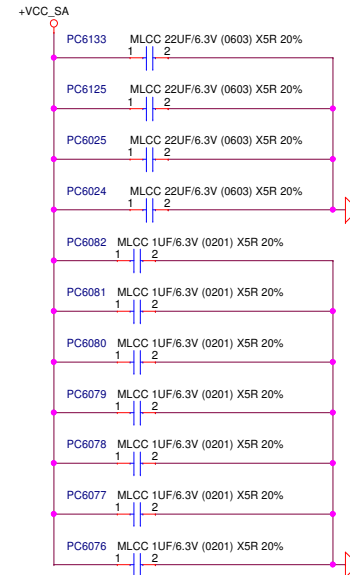




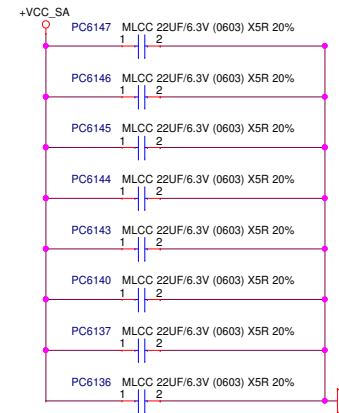
# +VCC\_SA Gate Driver



Place 22uF\_0603 x4 + 1uF\_0201 x7 on CPU Back Side



Place 22uF\_0603 x8 on CPU Top Side



PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of Dell Inc. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Dell Inc. All rights reserved. Dell Inc. and its subsidiaries are not responsible for any errors or omissions in this document. The information contained herein is for informational purposes only and does not constitute a contract or offer of any product or service. Dell Inc. and its subsidiaries are not responsible for any damages, including consequential damages, arising from the use of this document. The information contained herein is for informational purposes only and does not constitute a contract or offer of any product or service. Dell Inc. and its subsidiaries are not responsible for any damages, including consequential damages, arising from the use of this document.

TITLE +VCC_SA Gate Driver		
DWG NO.	CORE_B2	REV. 2.0
DATE	Friday, March 18, 2016	SHEET 73 of 81






BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY


<small>PROPRIETARY NOTE: This form is the property of DELL INC. BOUNDARY, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY OTHERS WITHOUT PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSED CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		<small>TITLE</small> Blank Page	
<small>DWG NO.</small> CORE_B2		<small>REV.</small> 2.0	
<small>DATE</small> Friday, March 18, 2016		<small>SHEET</small> 75 of 81	



BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY


<small>PROPRIETARY NOTE: This form is the property of DELL INC. SOUNDBOOK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY THE BORROWER TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		TITLE: Blank Page	
DWG NO.: CORE_B2		REV.: 2.0	
DATE: Friday, March 18, 2016		SHEET 76 of 81	



BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY


<small>PROPRIETARY NOTE: This form is the property of DELL INC. BOUNDARY, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY OTHERS WITHOUT PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		TITLE Blank Page	
DWG NO. CORE_B2		REV. 2.0	
DATE Friday, March 18, 2016		SHEET 77 of 81	



BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY


<small>PROPRIETARY NOTE: This form is the property of DELL INC. SOUNDBOOK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND RETURNED TO DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART. IT MUST BE RETURNED TO DELL INC. UPON REQUEST AND ALL RIGHTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. ALTHOUGH THIS FORM IS THE PROPERTY OF DELL INC. IT MAY BE USED BY OTHERS WITHOUT PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC.</small>		TITLE Blank Page	
DWG NO. CORE_B2		REV. 2.0	
DATE Friday, March 18, 2016		SHEET 78 of 81	



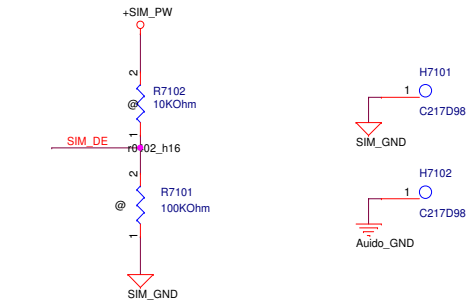
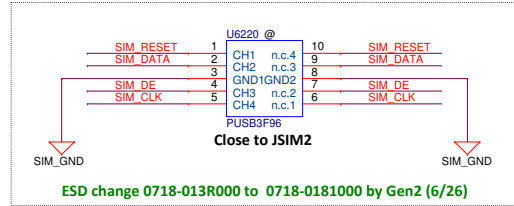
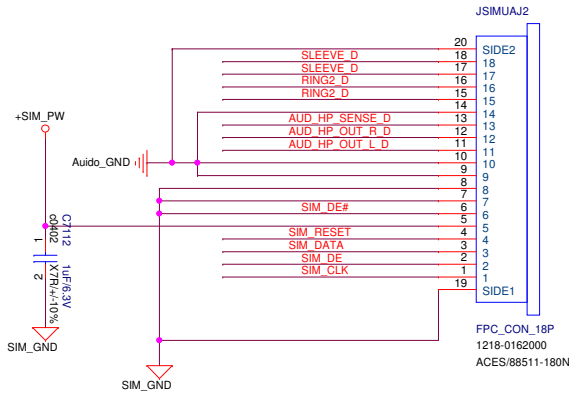
BLANK PAGE

PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

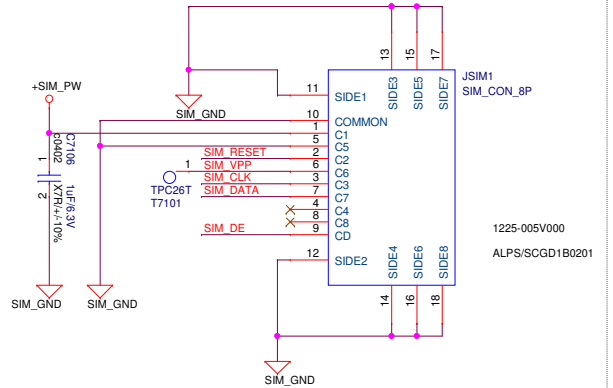
<small>PROPRIETARY NOTE: This form is the property of DELL INC. SOUNDBOOK, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS FORM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY FOR THE USE OF DELL INC. FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART, NOR MUST BE RETURNED TO DELL INC. UPON REQUEST. ALL INFORMATION CONTAINED HEREIN IS THE PROPERTY OF DELL INC. AND IS NOT TO BE DISCLOSED OR USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF DELL INC.</small>		TITLE Blank Page	
DWG NO. CORE_B2		REV. 2.0	
DATE Friday, March 18, 2016		SHEET 79 of 81	



## ZIF Connector to MLB

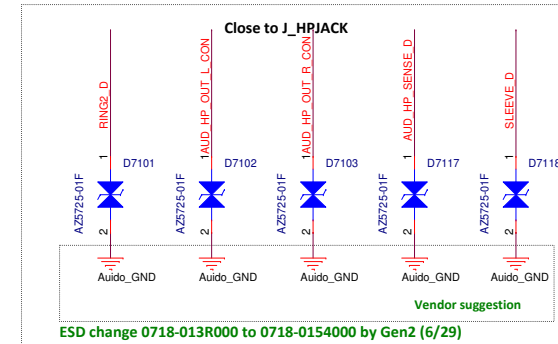
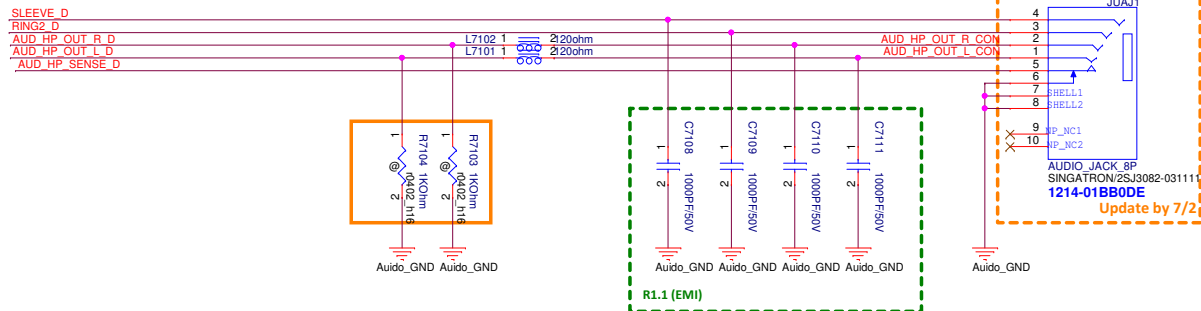


## uSIM Card Push-Push



## Audio Jack Connector

AUDIO COMBO PHONE JACK  
auto sense OMTP and CTIA headset / support MIC-IN / HP & mono mic  
SLEEVE\_D & RING2\_D LAYOUT TRACE WIDTH 80 mils



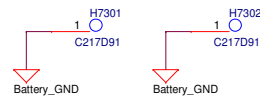
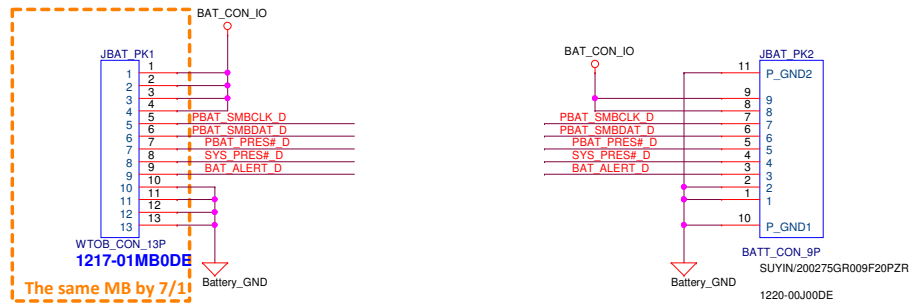
PEGATRON CONFIDENTIAL/PROPRIETARY  
DELL CONFIDENTIAL/PROPRIETARY

PROPRIETARY NOTE: This document is the property of DELL INC. and contains confidential and trade secret information. This document may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of DELL INC. All rights reserved. This document is for internal use only and is not to be distributed outside the organization. This document is for internal use only and is not to be distributed outside the organization. This document is for internal use only and is not to be distributed outside the organization.

TITLE JSIMUAJ2/JSIM1/JUAJ1  
DWG NO. SIM\_B2 REV. 2.0  
DATE Friday, March 18, 2016 SHEET 80 of 81







**PEGATRON CONFIDENTIAL/PROPRIETARY**  
**DELL CONFIDENTIAL/PROPRIETARY**

<b>PROPRIETARY NOTE:</b> THIS FORM IS THE PROPERTY OF DELL INC. BACKGROUND, TRADE AND CONFIDENTIAL INFORMATION, AND TRADE SECRET INFORMATION. THIS INFORMATION MAY BE TRANSFERRED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. AND MAY BE USED FOR LIMITED PURPOSES ONLY. IT SHALL NOT BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. EXCEPT AS AUTHORIZED BY DELL INC. AND THEN ONLY BY WAY OF LICENSE OR PURCHASE. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS ARE RESERVED. THIS INFORMATION IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DELL INC. ALL RIGHTS	
--	--

