TUSB7320/TUSB7340 EVM User's Guide

User's Guide

Literature Number: SLLU146
May 2011

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This guide is intended to describe the necessary information needed to operate either the TUSB7320 DEMO EVM REVB or TUSB7340 DEMO EVM REVB boards. In this document you will find how to setup and use the EVM boards. The schematics and bill of materials are also detailed at the end of the document.

Introduction

The TUSB7340 is a USB 3.0 xHCI 0.96 compliant host controller that supports up to four downstream ports. The TUSB7320 supports up to two downstream ports. The TUSB73x0 interfaces to the host system via a PCIe x1 Gen 2 interface and provides SuperSpeed, High-speed, Full-speed, or Low-speed connections on the downstream USB ports.

EVM Board

1 TUSB7320 and TUSB7340 DEMO Boards

The TUSB7320 and TUSB7340 DEMO boards are both PCI Express X1 Standard Height cards. The dimensions of both boards are 4.376 inches by 2.571 inches. The two figures below depict how the boards look.

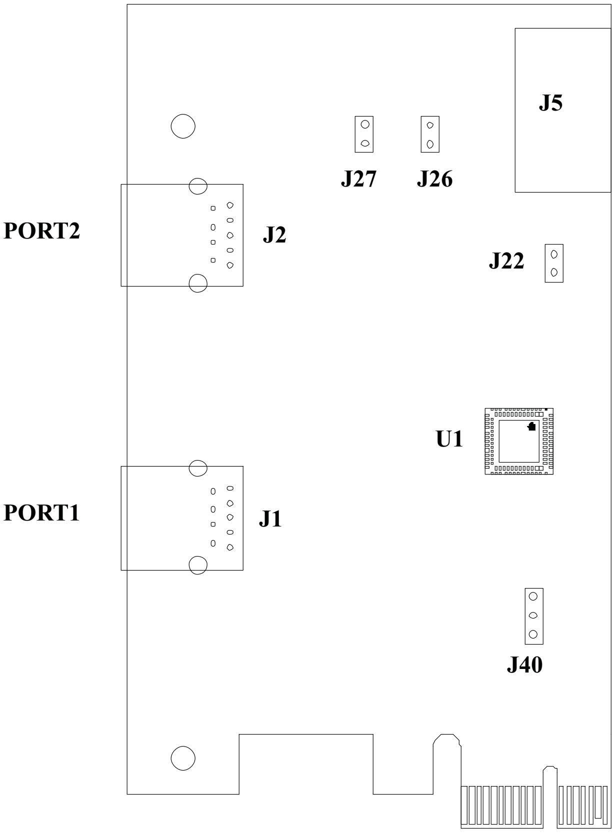


Figure 1. TUSB7320 DEMO EVM REVB

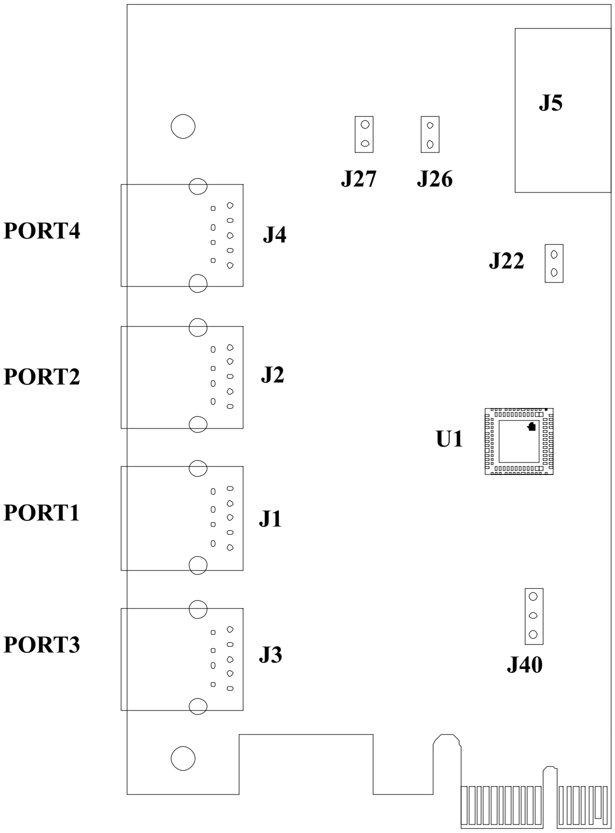


Figure 2. TUSB7340 DEMO EVM REVB

2 Hardware Setup

2.1 Headers

The EVM boards are populated with three headers: J22, J26, and J40.

J22 header is used to change the state of AUX_DET signal to the TUSB73XX. By default, this header is not shorted and therefore AUX_DET will be high. If a jumper shunt is placed over J22, the AUX_DET will be low.

The J26 header is used to route 5 V from the IDE Power Connector (J5) to the Texas Instruments TPS2560 USB power switch. This header should always have a Jumper Shunt populated. For more information on the Texas Instruments TPS2560, please visit www.ti.com.

J40 header is used to select the 3.3-V power source for the TUSB73X0. By default, a Jumper Shunt should be populated across pins 1 and 2 of J40. When in this position, the 3.3-V power from the PCI Express slot is routed to the TUSB73X0. If the Jumper Shunt is moved to pins 2 and 3, then the 3.3-V VAUX power from the PCI Express slot is routed to the TUSB73X0. The Jumper Shunt should only be moved to positions 2 and 3 if wake testing is required. Otherwise the jumper should be left in the default position of 1 and 2.

NOTE: The 3.3-V VAUX power supply has a limited current capability. According to the PCI Express Electromechanical Spec, the 3.3-V VAUX will have a maximum current of 375 mA. Because of the limited current of 3.3-V VAUX, it is recommended to plug only one device into the TUSB73X0. If the Jumper Shunt is left on pins 1 and 2 of J40, this current limitation does not exist and therefore all ports of the TUSB73X0 can be used.

2.2 VBUS

VBUS for all of the USB ports comes from the IDE Power Connector (J5).

2.3 PCI Express Slot Options

Because the TUSB73X0 EVM boards are PCI Express X1, they can be used in any PCI Express Slot (X1, X4, X8, or X16) on a typical motherboard. The boards can be used in either a PCI Express Gen1 (2.5 Gbps) or Gen2 (5 Gbps) slot. Because of the speed of USB3 (5 Gbps), if used in a PCI Express Gen1 slot, the performance of the TUSB7320 or TUSB7340 will be negatively impacted. For this reason, it is recommended to always insert the EVM board into a PCI Express Gen2 slot.

Bringup

Below are the steps to bring up the EVM board in a typical system:

1. Remove the power plug from the PC power supply.
2. Make sure the Jumper Shunts are populated on J26 and J40.
3. Insert the EVM board into a PCI Express slot. It is recommended to use a PCI Express Gen2 slot if one is available.
4. Insert an IDE Power Connector into J5 of the EVM board.
5. Insert the power plug into the PC power supply.
6. Turn the PC on. Once the PC is turned on, all of the green LEDs should be ON. If LED D5 is not active, please check to make sure the jumper shunt on J40 is populated. If none of the green LEDs (D1 thru D4) for each USB Port are active, please check to make sure the Jumper Shunt on J26 is populated and an IDE Power connector is plugged into J5.
7. Once the PC has booted into Windows 7, you will need to install the TI xHCI driver. If the driver has already been installed on your PC, then you can proceed step 8. Otherwise, you will need to install the xHCI driver by running the TI xHCI driver setup utility.
8. You can now insert devices into the USB ports.

WAKE Testing Setup

The EVM board can be used to test the WAKE functionality of the TUSB73X0. By default, the EVM is not configured to support wake testing. Please configure the EVM according to the following if WAKE is required:

1. Move the Jumper Shunt on J40 to pins 2 and 3.
2. Make sure there is no Jumper Shunt on J22.
3. Use a dedicated 5-V power supply for VBUS. Do NOT use the IDE Power connector provided from the system power supply. The reason for not using the IDE power from system power supply is when the system is put in a sleep or hibernate state, the power on the IDE Power connector will be turned off.

NOTE: For some motherboards, WAKE from a PCIe slot is not supported or is only supported on PCIE X1 slots. Please make sure to use a motherboard that supports WAKE from any PCIe slot.

SMI Support

The SMI pin from the TUSB7320 is brought out to a header labeled SMI. This header is located to the left of J22.

The SMI pin from the TUSB7340 is brought out to a via located on the bottom of board near U1. The via is located between C10 and C34 and just above C31.

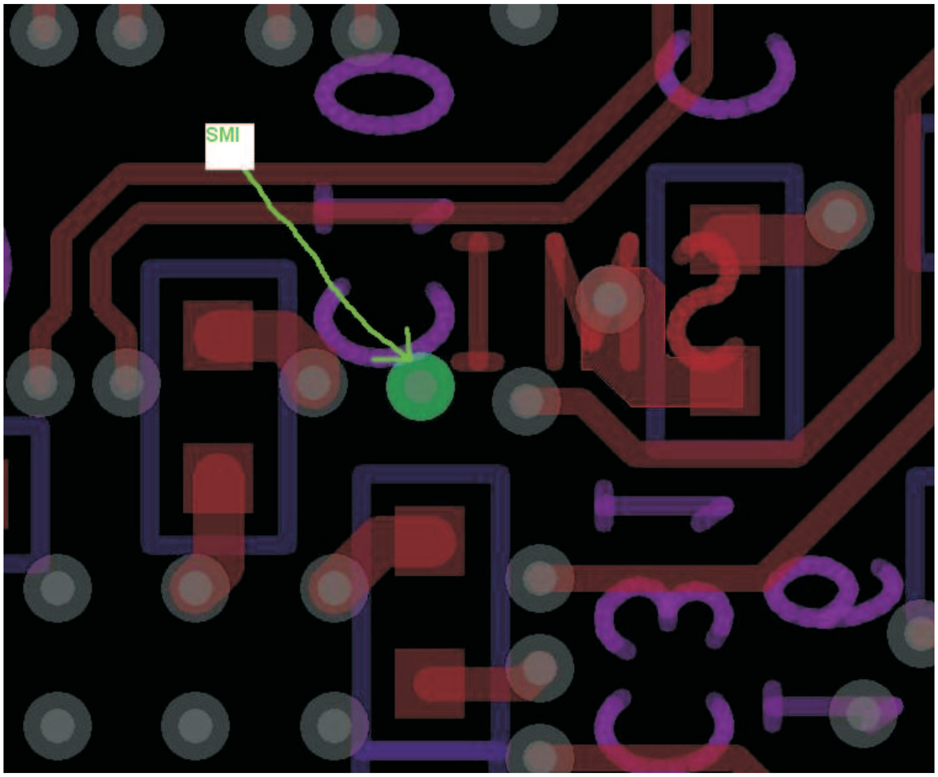
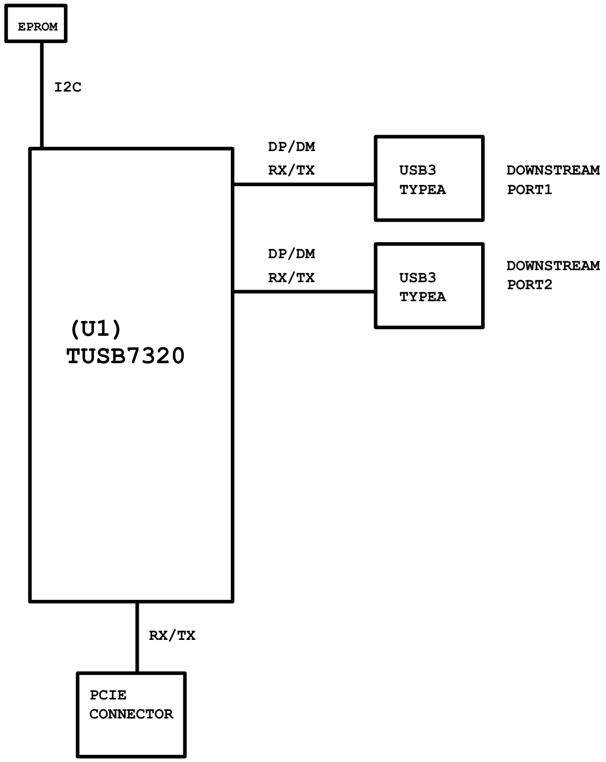


Figure 3. SMI via Location for TUSB7340 DEMO EVM REVB

Schematics

The following pages contain schematics for the TUSB7320 and TUSB7340.

1 TUSB7320 DEMO EVM REVB Schematics



VIA AND TRACE REQUIREMENTS:
- MIN VIA PAD SIZE 20mils
- MIN spacing between trace and pad is 5mils
- MIN spacing between VIA and pad is 5mils
- MIN width of trace is 4mils

IMPEDANCE REQUIREMENTS:
- USB_DP/M must be 90-ohm differential (+/-15%)
- USB_SSTXP/N must be 90-ohms differential (+/-15%)
- USB_SSRXP/N must be 90-ohms differential (+/-15%)
- PCIE_TXP/N must be 100-ohms differential (+/-10%)
- PCIE_RXP/N must be 100-ohms differential (+/-10%)
- PCIE_REFCLKP/N must be 100-ohms differential (+/-10%)

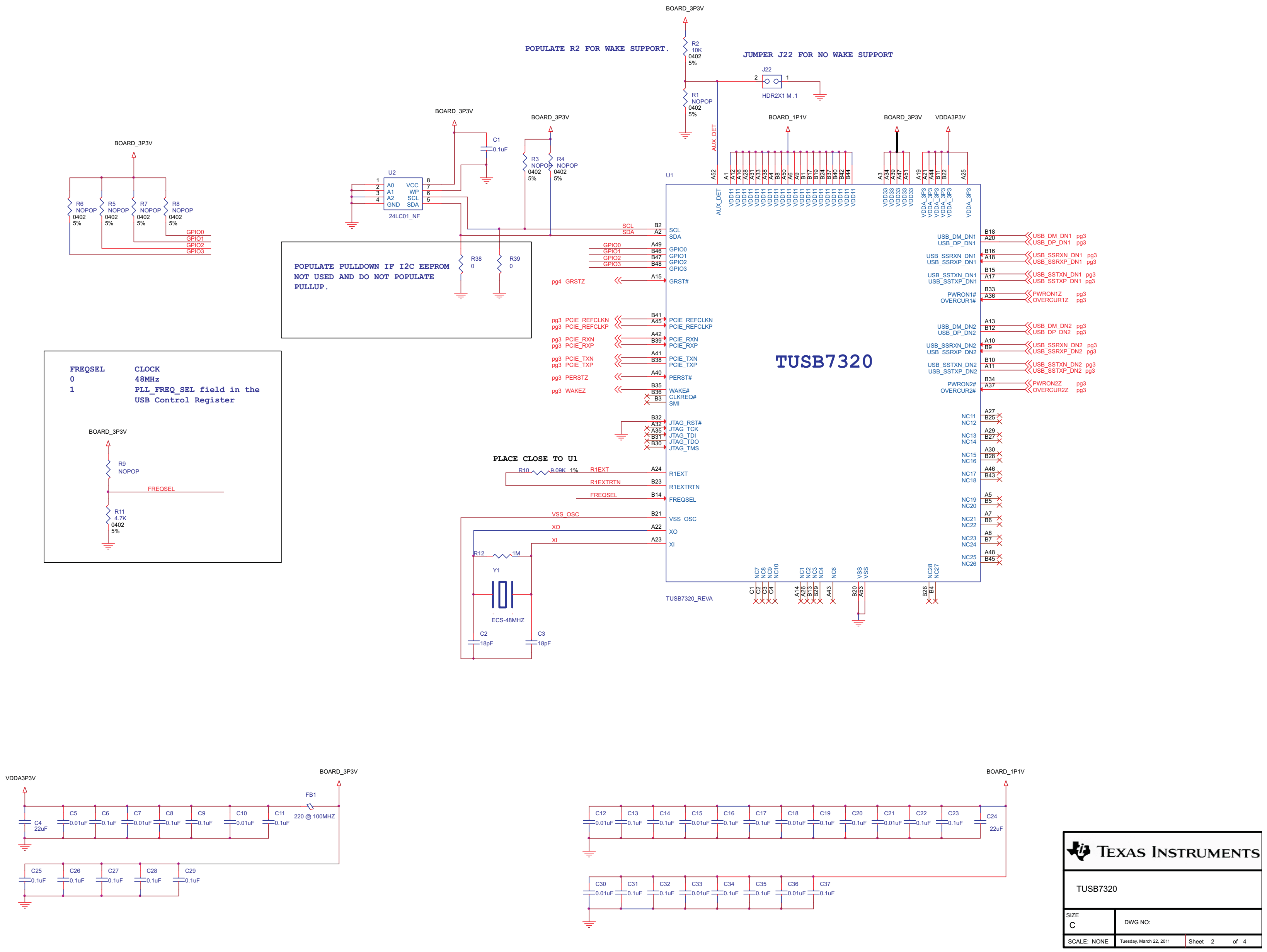
LENGTH MATCHING REQUIREMENTS:
- USB_DP/M within 25mils.
- USB_SSTXP/N within 5mils
- USB_SSRXP/N within 5mils
- PCIE_TXP/N within 5mils
- PCIE_RXP/N within 5mils
- PCIE_REFCLKP/N within 25mils.

TEXAS INSTRUMENTS

TUSB7320 DEMO REVB

SIZE B	DWG NO:

SCALE: NONE	Tuesday, March 08, 2011	Sheet 1 of 4

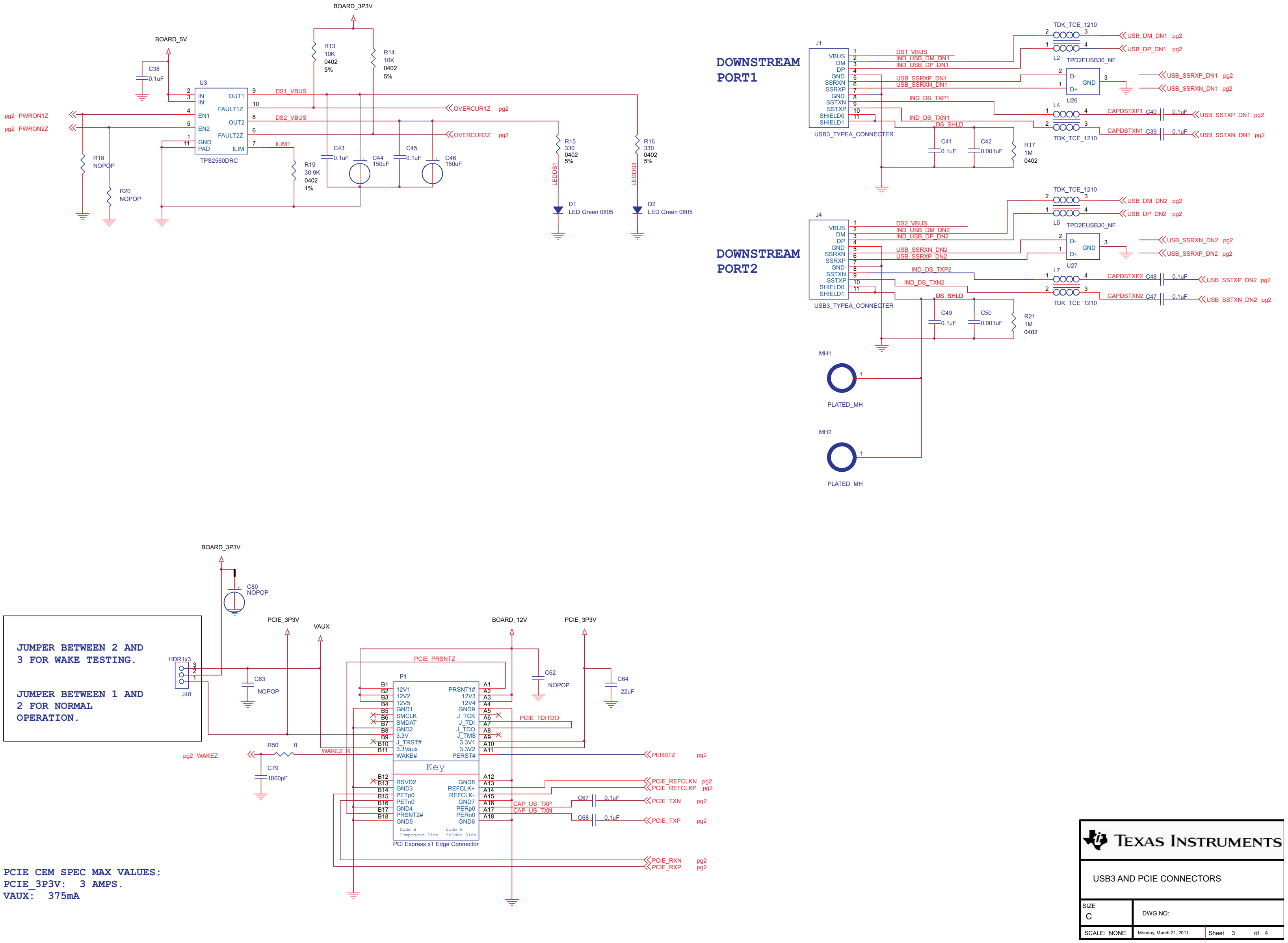

POPULATE R2 FOR WAKE SUPPORT.

JUMPER J22 FOR NO WAKE SUPPORT

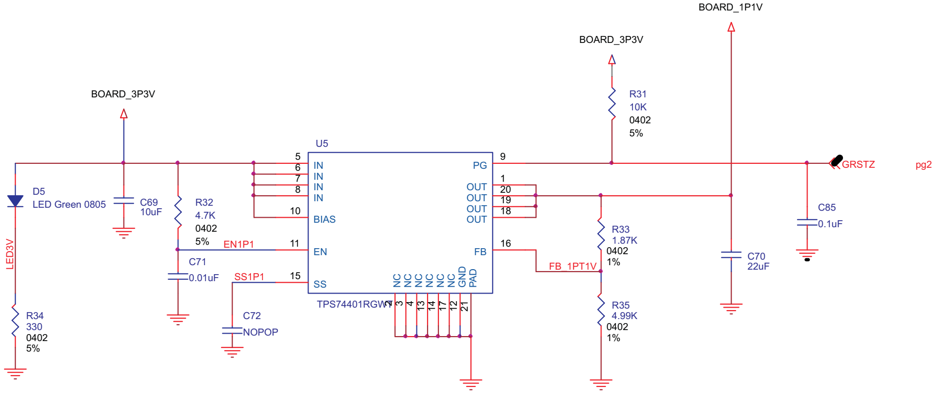
POPULATE PULLDOWN IF I2C EEPROM NOT USED AND DO NOT POPULATE PULLUP.

FREQSEL	CLOCK
0	48MHz
1	PLL_FREQ_SEL field in the USB Control Register

PLACE CLOSE TO U1


BOARD_3P3V
BOARD_5V
C38
0.1uF
U3
IN
IN
EN1
EN2
GND
PAD
OUT1
FAULT1Z
OUT2
FAULT2Z
ILIM
TPS2560DRC
DS1_VBUS
DS2_VBUS
ILIM1
pg2 PWRON1Z
pg2 PWRON2Z
R18
NOPOP
R20
NOPOP
R13
10K
0402
5%
R14
10K
0402
5%
R19
30.9K
0402
1%
C43
0.1uF
C44
150uF
C45
0.1uF
C46
150uF
OVERCUR1Z pg2
OVERCUR2Z pg2
R15
330
0402
5%
R16
330
0402
5%
LEDDS1
LEDDS3
D1
LED Green 0805
D2
LED Green 0805
DOWNSTREAM
PORT1
J1
VBUS
DM
DP
GND
SSRXN
SSRXP
GND
SSTXN
SSTXP
SHIELD0
SHIELD1
USB3_TYPEA_CONNECTER
DS1_VBUS
IND_USB_DM_DN1
IND_USB_DP_DN1
USB_SSRXP_DN1
USB_SSRXN_DN1
IND_DS_TXP1
IND_DS_TXN1
DS_SHLD
TDK_TCE_1210
L2
TPD2EUSB30_NF
U26
D-
D+
GND
L4
USB_DM_DN1 pg2
USB_DP_DN1 pg2
USB_SSRXP_DN1 pg2
USB_SSRXN_DN1 pg2
CAPDSTXP1
C40
0.1uF
USB_SSTXP_DN1 pg2
CAPDSTXN1
C39
0.1uF
USB_SSTXN_DN1 pg2
C41
0.1uF
C42
0.001uF
R17
1M
0402
DOWNSTREAM
PORT2
J4
DS2_VBUS
IND_USB_DM_DN2
IND_USB_DP_DN2
USB_SSRXN_DN2
USB_SSRXP_DN2
IND_DS_TXP2
IND_DS_TXN2
DS_SHLD
L5
TPD2EUSB30_NF
U27
L7
USB_DM_DN2 pg2
USB_DP_DN2 pg2
USB_SSRXN_DN2 pg2
USB_SSRXP_DN2 pg2
CAPDSTXP2
C48
0.1uF
USB_SSTXP_DN2 pg2
CAPDSTXN2
C47
0.1uF
USB_SSTXN_DN2 pg2
C49
0.1uF
C50
0.001uF
R21
1M
0402
MH1
PLATED_MH
MH2
PLATED_MH
BOARD_3P3V
C80
NOPOP
JUMPER BETWEEN 2 AND 3 FOR WAKE TESTING.
JUMPER BETWEEN 1 AND 2 FOR NORMAL OPERATION.
HDR1x3
J40
C63
NOPOP
PCIE_3P3V
VAUX
BOARD_12V
PCIE_3P3V
PCIE_PRSNTZ
C62
NOPOP
C64
22uF
P1
12V1
12V2
12V5
GND1
SMCLK
SMDAT
GND2
3.3V
J_TRST#
3.3Vaux
WAKE#
PRSNT1#
12V3
12V4
GND9
J_TCK
J_TDI
J_TDO
J_TMS
3.3V1
3.3V2
PERST#
PCIE_TDITDO
R50
0
WAKEZ_R
pg2 WAKEZ
C79
1000pF
PERSTZ pg2
Key
RSVD2
GND3
PETp0
PETn0
GND4
PRSNT2#
GND5
GND8
REFCLK+
REFCLK-
GND7
PERp0
PERn0
GND6
Side B Component Side
Side A Solder Side
PCI Express x1 Edge Connector
PCIE_REFCLKN pg2
PCIE_REFCLKP pg2
CAP_US_TXP
CAP_US_TXN
C67
0.1uF
C68
0.1uF
PCIE_TXN pg2
PCIE_TXP pg2
PCIE_RXN pg2
PCIE_RXP pg2
PCIE CEM SPEC MAX VALUES:
PCIE_3P3V: 3 AMPS.
VAUX: 375mA
TEXAS INSTRUMENTS
USB3 AND PCIE CONNECTORS
SIZE
C
DWG NO:
SCALE: NONE
Monday, March 21, 2011
Sheet 3 of 4

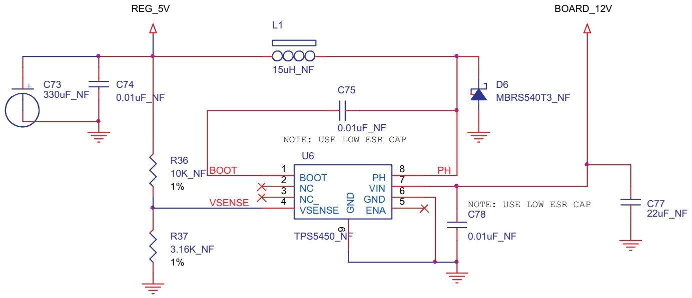
1.1V REGULATOR



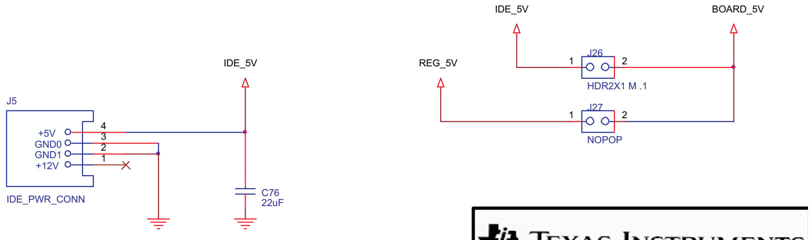
R33	R35	OUTPUT
1.13K	4.53K	1.0V
1.37K	4.42K	1.05V
1.87K	4.99K	1.1V (DEFAULT)
2.49K	4.99K	1.2V

5V VBUS OPTIONS

OPTION 1: 5V REGULATOR



OPTION 2: 5V FROM IDE CONNECTOR



NOTE: ONLY POPULATE ONE OPTION

TEXAS INSTRUMENTS

POWER

SIZE B

DWG NO:

SCALE: NONE

Tuesday, March 22, 2011

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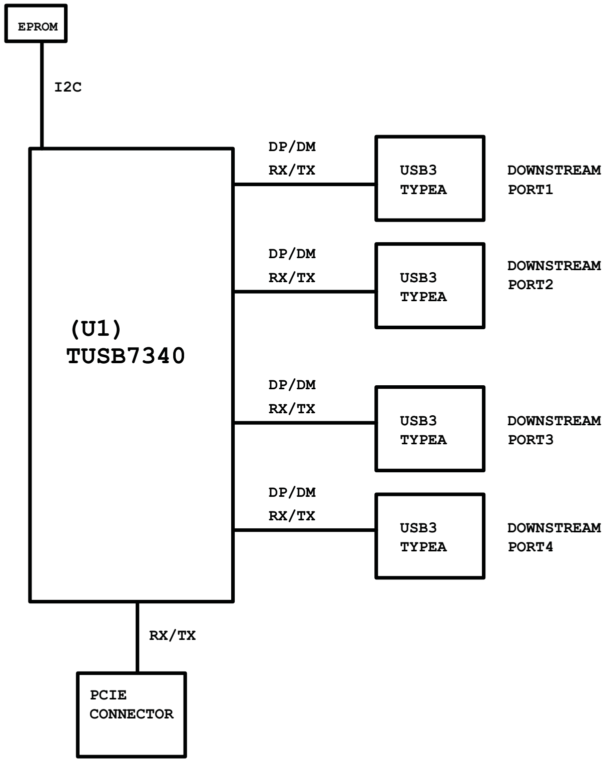
2 TUSB7340 DEMO EVM REVB Schematics

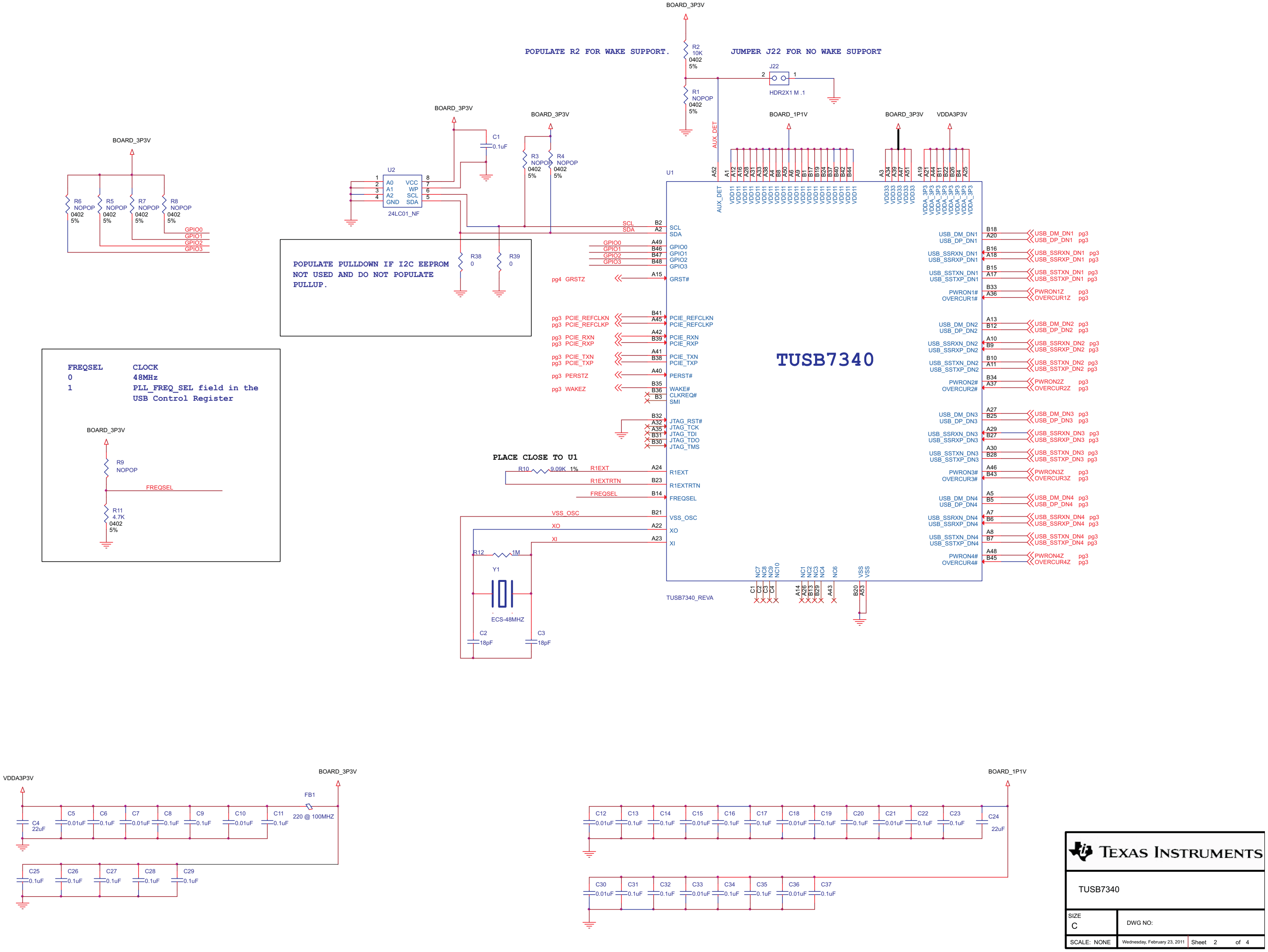


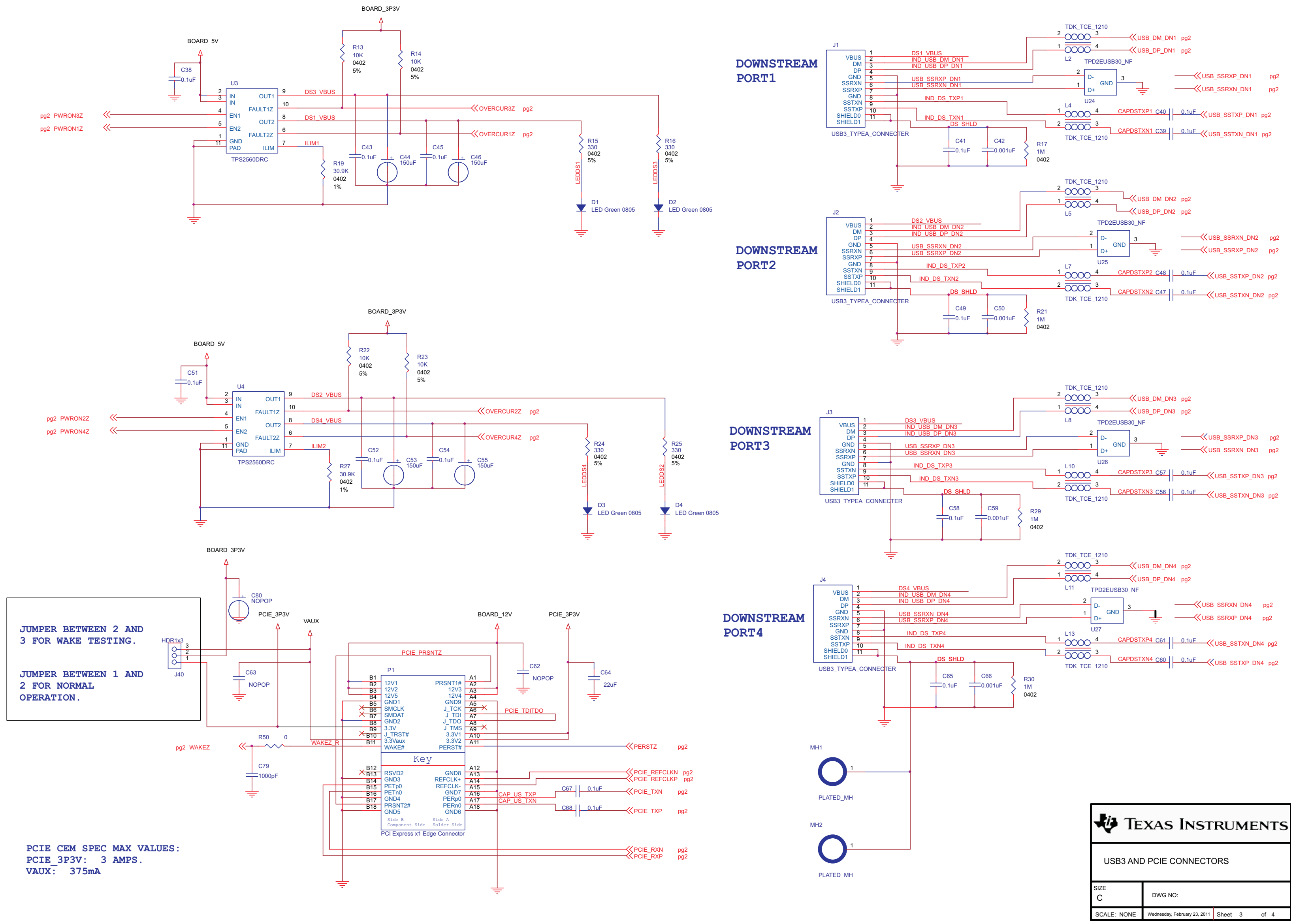
VIA AND TRACE REQUIREMENTS:
- MIN VIA PAD SIZE 20mils
- MIN spacing between trace and pad is 5mils
- MIN spacing between VIA and pad is 5mils
- MIN width of trace is 4mils

IMPEDANCE REQUIREMENTS:
- USB_DP/M must be 90-ohm differential (+/-15%)
- USB_SSTXP/N must be 90-ohms differential (+/-15%)
- USB_SSRXP/N must be 90-ohms differential (+/-15%)
- PCIE_TXP/N must be 100-ohms differential (+/-10%)
- PCIE_RXP/N must be 100-ohms differential (+/-10%)
- PCIE_REFCLKP/N must be 100-ohms differential (+/-10%)

LENGTH MATCHING REQUIREMENTS:
- USB_DP/M within 25mils.
- USB_SSTXP/N within 5mils
- USB_SSRXP/N within 5mils
- PCIE_TXP/N within 5mils
- PCIE_RXP/N within 5mils
- PCIE_REFCLKP/N within 25mils.

TEXAS INSTRUMENTS		
TUSB7340_DEMO_REVB		
SIZE B	DWG NO:	
SCALE: NONE	Tuesday, March 08, 2011	Sheet 1 of 4


BOARD_3P3V
POPULATE R2 FOR WAKE SUPPORT.
JUMPER J22 FOR NO WAKE SUPPORT
R2 10K 0402 5%
R1 NOPOP 0402 5%
J22
HDR2X1 M .1
AUX_DET
BOARD_1P1V
VDDA3P3V
U1
U2
24LC01_NF
A0
A1
A2
GND
VCC
WP
SCL
SDA
C1 0.1uF
R3 NOPOP 0402 5%
R4 NOPOP 0402 5%
R6 NOPOP 0402 5%
R5 NOPOP 0402 5%
R7 NOPOP 0402 5%
R8 NOPOP 0402 5%
GPIO0
GPIO1
GPIO2
GPIO3
R38 0
R39 0
POPULATE PULLDOWN IF I2C EEPROM NOT USED AND DO NOT POPULATE PULLUP.
FREQSEL CLOCK
0 48MHz
1 PLL_FREQ_SEL field in the USB Control Register
R9 NOPOP
FREQSEL
R11 4.7K 0402 5%
TUSB7340
SCL
SDA
GRST#
pg4 GRSTZ
PCIE_REFCLKN
PCIE_REFCLKP
PCIE_RXN
PCIE_RXP
PCIE_TXN
PCIE_TXP
PERST#
WAKE#
CLKREQ#
SMI
JTAG_RST#
JTAG_TCK
JTAG_TDI
JTAG_TDO
JTAG_TMS
PLACE CLOSE TO U1
R10 9.09K 1%
R1EXT
R1EXTRTN
FREQSEL
VSS_OSC
XO
XI
R12 1M
Y1
ECS-48MHZ
C2 18pF
C3 18pF
TUSB7340_REVA
USB_DM_DN1
USB_DP_DN1
USB_SSRXN_DN1
USB_SSRXP_DN1
USB_SSTXN_DN1
USB_SSTXP_DN1
PWRON1#
OVERCUR1#
USB_DM_DN2
USB_DP_DN2
USB_SSRXN_DN2
USB_SSRXP_DN2
USB_SSTXN_DN2
USB_SSTXP_DN2
PWRON2#
OVERCUR2#
USB_DM_DN3
USB_DP_DN3
USB_SSRXN_DN3
USB_SSRXP_DN3
USB_SSTXN_DN3
USB_SSTXP_DN3
PWRON3#
OVERCUR3#
USB_DM_DN4
USB_DP_DN4
USB_SSRXN_DN4
USB_SSRXP_DN4
USB_SSTXN_DN4
USB_SSTXP_DN4
PWRON4#
OVERCUR4#
VDD11
VDD33
VDDA_3P3
VSS
NC
C4 22uF
C5 0.01uF
C6 0.1uF
C7 0.01uF
C8 0.1uF
C9 0.1uF
C10 0.01uF
C11 0.1uF
FB1 220 @ 100MHZ
C25 0.1uF
C26 0.1uF
C27 0.1uF
C28 0.1uF
C29 0.1uF
C12 0.01uF
C13 0.1uF
C14 0.1uF
C15 0.01uF
C16 0.1uF
C17 0.1uF
C18 0.01uF
C19 0.1uF
C20 0.1uF
C21 0.01uF
C22 0.1uF
C23 0.1uF
C24 22uF
C30 0.01uF
C31 0.1uF
C32 0.1uF
C33 0.01uF
C34 0.1uF
C35 0.1uF
C36 0.01uF
C37 0.1uF
TEXAS INSTRUMENTS
TUSB7340
SIZE C
DWG NO:
SCALE: NONE
Wednesday, February 23, 2011
Sheet 2 of 4


BOARD_5V
BOARD_3P3V
U3
TPS2560DRC
IN
EN1
EN2
GND
PAD
OUT1
FAULT1Z
OUT2
FAULT2Z
ILIM
DS3_VBUS
DS1_VBUS
OVERCUR3Z pg2
OVERCUR1Z pg2
pg2 PWRON3Z
pg2 PWRON1Z
C38 0.1uF
R13 10K 0402 5%
R14 10K 0402 5%
R19 30.9K 0402 1%
C43 0.1uF
C44 150uF
C45 0.1uF
C46 150uF
R15 330 0402 5%
R16 330 0402 5%
LEDDS1
LEDDS3
D1 LED Green 0805
D2 LED Green 0805
U4
TPS2560DRC
DS2_VBUS
DS4_VBUS
OVERCUR2Z pg2
OVERCUR4Z pg2
pg2 PWRON2Z
pg2 PWRON4Z
C51 0.1uF
R22 10K 0402 5%
R23 10K 0402 5%
R27 30.9K 0402 1%
C52 0.1uF
C53 150uF
C54 0.1uF
C55 150uF
R24 330 0402 5%
R25 330 0402 5%
LEDDS4
LEDDS2
D3 LED Green 0805
D4 LED Green 0805
DOWNSTREAM PORT1
DOWNSTREAM PORT2
DOWNSTREAM PORT3
DOWNSTREAM PORT4
J1
J2
J3
J4
USB3_TYPEA_CONNECTOR
VBUS
DM
DP
SSRXN
SSRXP
SSTXN
SSTXP
SHIELD0
SHIELD1
TDK_TCE_1210
TPD2EUSB30_NF
U24
U25
U26
U27
L2
L4
L5
L7
L8
L10
L11
L13
USB_DM_DN1 pg2
USB_DP_DN1 pg2
USB_SSRXP_DN1 pg2
USB_SSRXN_DN1 pg2
USB_SSTXP_DN1 pg2
USB_SSTXN_DN1 pg2
USB_DM_DN2 pg2
USB_DP_DN2 pg2
USB_SSRXN_DN2 pg2
USB_SSRXP_DN2 pg2
USB_SSTXP_DN2 pg2
USB_SSTXN_DN2 pg2
USB_DM_DN3 pg2
USB_DP_DN3 pg2
USB_SSRXP_DN3 pg2
USB_SSRXN_DN3 pg2
USB_SSTXP_DN3 pg2
USB_SSTXN_DN3 pg2
USB_DM_DN4 pg2
USB_DP_DN4 pg2
USB_SSRXN_DN4 pg2
USB_SSRXP_DN4 pg2
USB_SSTXN_DN4 pg2
USB_SSTXP_DN4 pg2
CAPDSTXP1
CAPDSTXN1
CAPDSTXP2
CAPDSTXN2
CAPDSTXP3
CAPDSTXN3
CAPDSTXP4
CAPDSTXN4
DS_SHLD
C41 0.1uF
C42 0.001uF
R17 1M 0402
C49 0.1uF
C50 0.001uF
R21 1M 0402
C58 0.1uF
C59 0.001uF
R29 1M 0402
C65 0.1uF
C66 0.001uF
R30 1M 0402
JUMPER BETWEEN 2 AND 3 FOR WAKE TESTING.
JUMPER BETWEEN 1 AND 2 FOR NORMAL OPERATION.
HDR1x3
J40
C80 NOPOP
C63 NOPOP
PCIE_3P3V
VAUX
BOARD_12V
C62 NOPOP
C64 22uF
R50 0
C79 1000pF
pg2 WAKEZ
WAKEZ_R
PCIE_PRSNTZ
PCIE_TDITDO
P1
PCI Express x1 Edge Connector
Key
PERSTZ pg2
PCIE_REFCLKN pg2
PCIE_REFCLKP pg2
PCIE_TXN pg2
PCIE_TXP pg2
PCIE_RXN pg2
PCIE_RXP pg2
CAP_US_TXP
CAP_US_TXN
C67 0.1uF
C68 0.1uF
PCIE CEM SPEC MAX VALUES:
PCIE_3P3V: 3 AMPS.
VAUX: 375mA
MH1
MH2
PLATED_MH
TEXAS INSTRUMENTS
USB3 AND PCIE CONNECTORS
SIZE C
DWG NO:
SCALE: NONE
Wednesday, February 23, 2011
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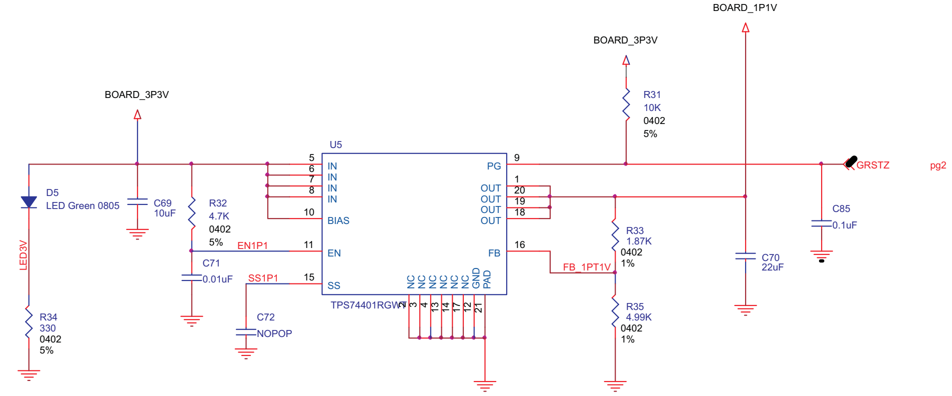
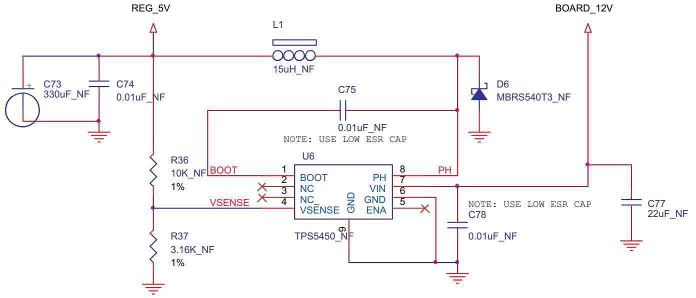
1.1V REGULATOR



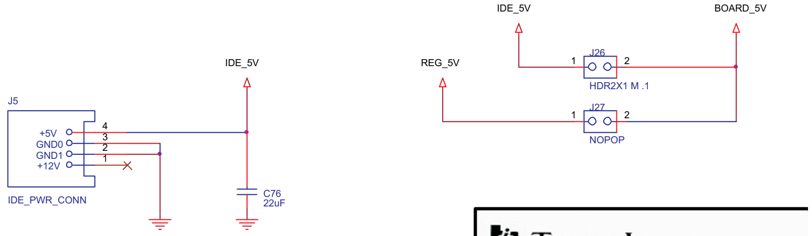
R33	R35	OUTPUT
1.13K	4.53K	1.0V
1.37K	4.42K	1.05V
1.87K	4.99K	1.1V (DEFAULT)
2.49K	4.99K	1.2V

5V VBUS OPTIONS

OPTION 1: 5V REGULATOR



OPTION 2: 5V FROM IDE CONNECTOR



NOTE: ONLY POPULATE ONE OPTION

Texas Instruments
POWER
SIZE B
DWG NO:
SCALE: NONE
Friday, December 03, 2010
Sheet 4 of 4

Appendix A Bill of Materials

The below table is the bill of materials for the TUSB7320 DEMO EVM REVB board. The rows marked in yellow are components that are not populated on the EVM board.

Table 1. TUSB7320 DEMO REVB BOM

Item	Quantity	Reference	Part	Footprint	Tolerance	Manufacturer	Manufacturer PN
1	35	C1,C6,C8,C9,C11,C13, C14,C16,C17,C19,C20, C22,C23,C25,C26,C27, C28,C29,C31,C32,C34, C35,C37,C38,C39,C40, C41,C43,C45,C47,C48, C49,C67,C68,C85	0.1µF	402			
2	2	C2,C3	18pF	402			
3	3	C4,C24,C70	22µF	805			
4	11	C5,C7,C10,C12,C15, C18,C21,C30,C33,C36, C71	0.01µF	402			
5	2	C42,C50	0.001µF	402			
6	2	C44,C46	150µF	CASE_D		Panasonic	EEEFP1A151AP
7	1	C62	NOPOP	1210			
8	1	C63	NOPOP	805			
9	2	C64,C76	22µF	1210			
10	1	C69	10µF	805			
11	1	C72	NOPOP	402			
12	1	C73	330µF_NF	THCAP_2P5MM		Panasonic	ECA-1CM331
13	3	C74,C75,C78	0.01µF_NF	402			
14	1	C77	22µF_NF	1210			
15	1	C79	1000pF	402			
16	1	C80	NOPOP	7343			
17	3	D1,D2,D5	LED Green 0805	805		Lumex	SML-LX0805GC-TR
18	1	D6	MBRS540T3_NF	DIODE_SMC		On Semiconductor	MBRS540T3G
19	1	FB1	220 @ 100MHZ	603		MuRata	BLM18EG221SN1D
20	2	J1,J4	USB3_TYPEA	USB3_TYPEA		MainSuper	AK2SA009K1
21	1	J5	IDE_PWR_CONN	IDEPWR		Molex	15-24-4441
22	2	J22,J26	HDR2X1 M .1	HDR_2X1			
23	1	J27	NOPOP	HDR_2X1			
24	1	J40	HDR1x3	berg1x3			
25	1	L1	15µH_NF	DR127		Coiltronics	DR127-150-R
26	4	L2,L4,L5,L7	TDK_TCE_1210	TDK_TCE_1210		TDK	TCE_1210_900_2P_T
27	2	MH1,MH2	PLATED_MH	MH_125mil			
28	1	P1	PCIe x1 Edge	PCIe_X1			
29	10	R1,R3,R4,R5,R6,R7, R8,R9, R18,R20	NOPOP	402	5%		
30	4	R2,R13,R14,R31	10K	402	5%		
31	1	R10	9.09K	402	1%		
32	2	R11,R32	4.7K	402	5%		
33	3	R12,R17,R21	1M	402	5%		
34	3	R15,R16,R34	330	402	5%		
35	1	R19	30.9K	402	1%		
36	1	R33	1.87K	402	1%		
37	1	R35	4.99K	402	1%		
38	1	R36	10K_NF	402	1%		
39	1	R37	3.16K_NF	402	1%		

Table 1. TUSB7320 DEMO REVB BOM (continued)

Item	Quantity	Reference	Part	Footprint	Tolerance	Manufacturer	Manufacturer PN
40	3	R38,R39,R50	0	402	5%		
41	1	U1	TUSB7320QFN	100_QFN		TI	TUSB7320QFN
42	1	U2	24LC01_NF	8_SOIC		MicroChip Tech	24LC01BT-I/SN
43	1	U3	TPS2560DRC	10_DRC		TI	TPS2560DRC
44	1	U5	TPS74401RGWT	20_RGW		TI	TPS74401RGWT
45	1	U6	TPS5450_NF	DDA		TI	TPS5450DDAR
46	2	U26,U27	TPD2EUSB30	DRT_sot23		TI	TPD2EUSB30DRT
47	1	Y1	ECS-48MHZ	ECX-53B		Abracon	ABM3B-48.000MHZ-B2-T
48	2		4-40x1/4 Machine Screw Phillips			Digikey	H342-ND
49	1		PCI Bracket			General Stamping & Manufacturing Corp.	ME-440-2AT-BB
50	1	J26,J40	Jump Shunt			Tyco	881545-2

The below table is the bill of materials for the TUSB7340 DEMO EVM REVB board. The rows marked in yellow are components that are not populated on the EVM board.

Table 2. TUSB7340 DEMO REVB BOM

Item	Quantity	Reference	Part	Footprint	Tolerance	Manufacturer	Manufacturer PN
1	44	C1,C6,C8,C9,C11,C13, C14,C16,C17,C19,C20, C22,C23,C25,C26,C27, C28,C29,C31,C32,C34, C35,C37,C38,C39,C40, C41,C43,C45,C47,C48, C49,C51,C52,C54,C56, C57,C58,C60,C61,C65, C67,C68, C85	0.1µF	402			
2	2	C2,C3	18pF	402			
3	3	C4,C24,C70	22µF	805			
4	11	C5,C7,C10,C12,C15, C18,C21,C30,C33,C36, C71	0.01µF	402			
5	4	C42,C50,C59,C66	0.001µF	402			
6	4	C44,C46,C53,C55	150µF	CASE_D		Panasonic	EEEFP1A151AP
7	1	C62	NOPOP	1210			
8	1	C63	NOPOP	805			
9	2	C64,C76	22µF	1210			
10	1	C69	10µF	805			
11	1	C72	NOPOP	402			
12	1	C73	330µF_NF	THCAP_2P5MM		Panasonic	ECA-1CM331
13	3	C74,C75,C78	0.01µF_NF	402			
14	1	C77	22µF_NF	1210			
15	1	C79	1000pF	402			
16	1	C80	NOPOP	7343		XX	XX
17	5	D1,D2,D3,D4,D5	LED Green 0805	805		Lumex	SML-LX0805GC-TR
18	1	D6	MBRS540T3_NF	DIODE_SMC		On Semiconductor	MBRS540T3G
19	1	FB1	220 @ 100MHZ	603		MuRata	BLM18EG221SN1D
20	4	J1,J2,J3,J4	USB3_TYPEA	USB3_TYPEA		MainSuper	AK2SA009K1
21	1	J5	IDE_PWR_CONN	IDEPWR		Molex	15-24-4441
22	2	J22,J26	HDR2X1 M .1	HDR_2X1			
23	1	J27	NOPOP	HDR_2X1			
24	1	J40	HDR1x3	berg1x3			

Table 2. TUSB7340 DEMO REVB BOM (continued)

Item	Quantity	Reference	Part	Footprint	Tolerance	Manufacturer	Manufacturer PN
25	1	L1	15µH_NF	DR127		Coiltronics	DR127-150-R
26	8	L2,L4,L5,L7,L8,L10, L11, L13	TDK_TCE_1210	TDK_TCE_1210		TDK	TCE_1210_900_2P_T
27	2	MH1,MH2	PLATED_MH	MH_125mil			
28	1	P1	PCI Express x1 Edge	PCIe_X1			
29	8	R1,R3,R4,R5,R6,R7, R8,R9	NOPOP	402	5%		
30	6	R2,R13,R14,R22,R23, R31	10K	402	5%		
31	1	R10	9.09K	402	1%		
32	2	R11,R32	4.7K	402	5%		
33	5	R12,R17,R21,R29,R30	1M	402	5%		
34	5	R15,R16,R24,R25,R34	330	402	5%		
35	2	R19,R27	30.9K	402	1%		
36	1	R33	1.87K	402	1%		
37	1	R35	4.99K	402	1%		
38	1	R36	10K_NF	402	1%		
39	1	R37	3.16K_NF	402	1%		
40	3	R38,R39,R50	0	402	5%		
41	1	U1	TUSB7340QFN	100_QFN		TI	TUSB7340QFN
42	1	U2	24LC01_NF	8_SOIC		MicroChip Tech	24LC01BT-I/SN
43	2	U3,U4	TPS2560DRC	10_DRC		TI	TPS2560DRC
44	1	U5	TPS74401RGWT	20_RGW		TI	TPS74401RGWT
45	1	U6	TPS5450_NF	DDA		TI	TPS5450DDAR
46	4	U24,U25,U26,U27	TPD2EUSB30	DRT_sot23		TI	TPD2EUSB30DRT
47	1	Y1	ECS-48MHZ	ECX-53B		Abracon	ABM3B-48.000MHZ-B2-T
48	2		4-40x1/4 Machine Screw Phillips			Digikey	H342-ND
49	1		PCI Bracket			General Stamping & Manufacturing Corp.	ME-440-2AT-BB
50	2	J26,J40	Jump Shunt			Tyco	881545-2

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