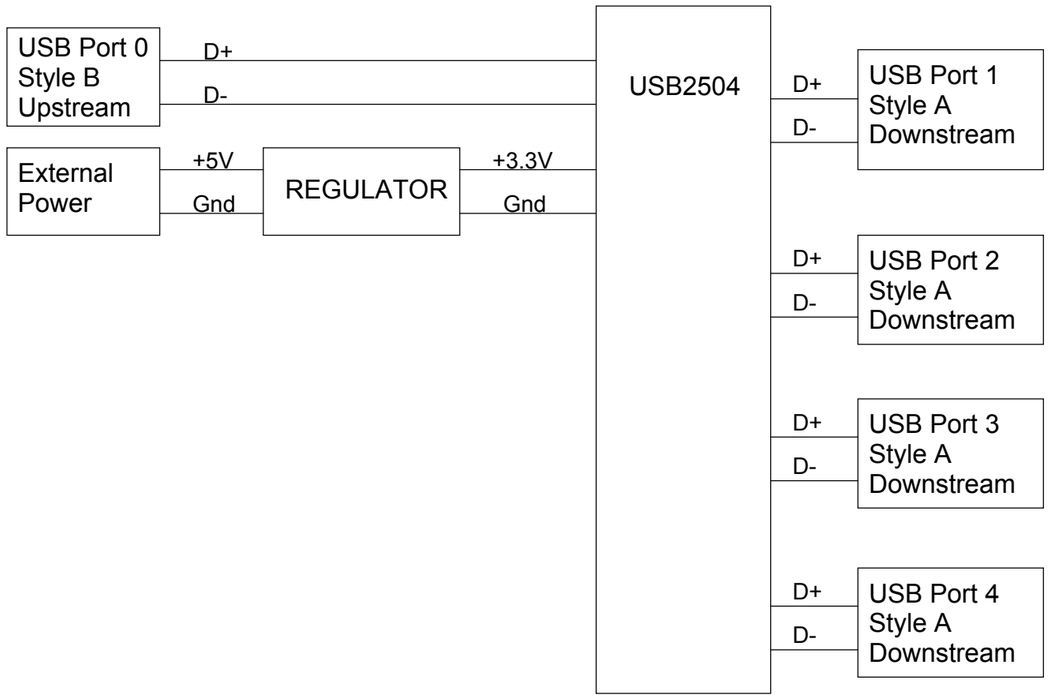
EVB-USB2504

Evaluation Board for USB2504, 64-pin QFP, 2 Layers

Revision History

Revision	Date	Revision Summary	Author
A	05/22/2004	Initial schematic	Edward Tatum
A1	09/09/2004	Documentation changes to name EVB-USB2504 PCB retains AUS2004-05-23 identification	Edward Tatum
A1	11/09/2004	Changed C5 and C14 from 18pF to 33pF for 18pF load capacitance on crystal. Changed R2 from 470 to 100k to prevent VBUS_DET backdriving power. Added notes to page 2 schematic.	Hans Magnusson



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Title	EVB-USB2504 - USB2504 Customer Evaluation Board	
Size C	Document Number EVB-USB2504 (Guava)	Rev A2
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J1 +5.0V U3 PQ1L331M2ZP IN OUT SHDn NR GND +3.3V
C18 1.0uF 16V X5R
C21 0.01uF
C17 10uF 6.3V X5R

U4 MIC2026-1BM ENA OUTA ENB OUTB FLAGA FLAGB IN GND
U5 MIC2026-1BM ENA OUTA ENB OUTB FLAGA FLAGB IN GND
PRTPWR1 PRTPWR2 PRTPWR3 PRTPWR4
PWR1 PWR2 PWR3 PWR4
C24 150uF 10V C25 150uF 10V C26 150uF 10V C27 150uF 10V

nOCS4 nOCS3 nOCS2 nOCS1 VBUS_DET

R2 changed from 470 to 100K.

R2 100K

U1 USB2504
Upstream: VBUS_DET, USBDP0, USBDN0
C2 1.0uF 16V X5R
R7 330K

Downstream 1: USBDP1, USBDN1, OCS1_N, PRTPWR1, GR1/NON_REM0, AM1/GANG_EN
Downstream 2: USBDP2, USBDN2, OCS2_N, PRTPWR2, GR2/NON_REM1, AM2/MTT_DIS
Downstream 3: USBDP3, USBDN3, OCS3_N, PRTPWR3, GR3/PRT_DIS0, AM3
Downstream 4: USBDP4, USBDN4, OCS4_N, PRTPWR4, GR4/PRT_DIS1, AM4/LED_EN
EEPROM: SDA/SMBDATA, SCL/SMBCLK
Common: RESET_N, SELF_PWR, CLKIN_EN, PRTPWR_POL, ATEST/REG_EN, CFG_SEL0, CFG_SEL1, CFG_SEL2, TEST0, TEST1, NC1, NC2, NC3, NC4, NC5, XTAL1/CLKIN, XTAL2, RBIAS, VDD18, VDD18PLL, VDD33PLL, VDD33, VDDA, VSS

USBDP0 USBDN0 USBDP1 USBDN1 USBDP2 USBDN2 USBDP3 USBDN3 USBDP4 USBDN4

L1 DLW21SN900SQ2
L2 DLW21SN900SQ2
L3 DLW21SN900SQ2
L4 DLW21SN900SQ2
L5 DLW21SN900SQ2

Optional EMI Protection (Note 1)
Optional ESD Protection (Note 2)

D2 PGB002ST23
D11 PGB002ST23
D5 PGB002ST23
D8 PGB002ST23
D14 PGB002ST23

FB1 FB2 FB4 FB5 FB6 FB7 FB8 FB9 FB10 FB11
BLM21PG221SN1D

D3 V5.5MLA0603H
D1 V5.5MLA0603H
D4 V5.5MLA0603H
D6 V5.5MLA0603H
D7 V5.5MLA0603H
D9 V5.5MLA0603H
D10 V5.5MLA0603H
D12 V5.5MLA0603H
D13 V5.5MLA0603H
D15 V5.5MLA0603H

J2 J3 J4 J5 J6
VCC D+ D- GND SHLD SHLD

LED1 GRN R13 GR1
LED2 YEL R14 220 AM1
LED3 YEL R15 220 AM2
LED4 GRN R16 GR2
LED5 GRN R17 GR3
LED6 YEL R18 220 AM3
LED7 YEL R19 220 AM4
LED8 GRN R20 GR4
220

R5 10K SDA SCL
R6 10K
U2 AT24C02A A0 A1 A2 WP SCL SDA VCC GND
C8 0.1uF

R8 10K nRESET
R4 DNP
R11 10K
C3 1.0uF 16V X5R
R3 ZERO
CLKIN_EN
R12 12.0K 1%

VDD18 VDDA18 VDDA
C6 0.1uF C4 0.1uF C7 0.1uF C9 10uF 6.3V X5R
C12 10uF 6.3V X5R
FB3 500mA/0.10DCR
C23 0.1uF C19 0.1uF C13 0.1uF C15 0.1uF
C22 0.01uF C20 10uF 6.3V X5R C10 10uF 6.3V X5R C16 0.1uF

OSC1 DNP OSCILLATOR OE VCC GND OUT
C11 DNP
R10 DNP
C14 33pF C5 33pF
Y1 24.000MHz 50ppm
R9 1Meg
XTAL1 XTAL2

C5 and C14 changed to 33pF.

R1 DNP C1 DNP
MT1 MT2

Note 1: Footprint present on PCB; however, terminals have been shorted to allow normal operation without part. Exposed traces in footprint must be cut prior to installation of part.
Note 2: Part normally absent. Populate if ESD concern is present.

SKT1

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