PCIE BRIDGE

2.5G SGMII - MDI PHY

P7
QSE-040-01-L-D-A-K-TR

Capacitor specified in I226 Reference schemat ic .
May need to be jumped instead.

DATA
PCIE_I226_TX_P
PCIE_I226_TX_N
PCIE_I226_RX_C_P
PCIE_I226_RX_C_N
C40 0.1uF ±10%
C236 0.1uF ±10%
PCIE_I226_RX_P
PCIE_I226_RX_N
DATA
PCIE_RXP6
PCIE_RXN6
PCIE_RXP9
PCIE_RXN9
PCIE_RXP10
PCIE_RXN10
PCIE_TXP6
PCIE_TXN6
PCIE_TXP9
PCIE_TXN9
PCIE_TXP10
PCIE_TXN10
PCIE_CLK_100MHz_P
PCIE_CLK_100MHz_N
SMB_SCL
SMB_SDA
PCIE_WAKE_N
PCIE_RST_N
IET_DB_TYPE0
IET_DB_TYPE1
IET_PWRON
GND
+V12A from CPU BRD not connected
+V5A from CPU BRD not connected

VDD3.3
VDD3.3_I226
VDD0.95
VDD0.95_FILT
VDD1.8
VDD3.3_GPY215
VDD1.0
FB7 FB8 FB17 FB3 390@100MHz 1.20 A 120 mΩ
L25 1.0uH ±20% 2.4 A 14.8 mΩ
C41 10uF±10% 6.3VDC X5R 0603
C42 1uF±10% 16VDC X6S 0402
C43 1uF±10% 16VDC X6S 0402
C240 22uF±20% 25VDC X7S 1206
C241 22uF±20% 25VDC X7S 1206
C242 22uF±20% 25VDC X7S 1206
C44 0.1uF±10% 50VDC X7R 0402
C45 0.1uF±10% 16VDC X7R 0402
C46 0.1uF±10% 16VDC X7R 0402
C47 0.1uF±10% 16VDC X7R 0402
C391 0.1uF±10% 16VDC X7R 0402
C392 0.1uF±10% 16VDC X7R 0402
C393 0.1uF±10% 16VDC X7R 0402
C394 0.1uF±10% 16VDC X7R 0402
C237 22uF±20% 25VDC X7S 1206
C238 22uF±20% 25VDC X7S 1206
C239 22uF±20% 25VDC X7S 1206
C400 0.1uF±10% 16VDC X7R 0402
C401 0.1uF±10% 16VDC X7R 0402
C402 0.1uF±10% 16VDC X7R 0402
C404 0.1uF±10% 16VDC X7R 0402
C405 0.1uF±10% 16VDC X7R 0402
C406 0.1uF±10% 16VDC X7R 0402
C48 10uF±10% 6.3VDC X5R 0603
C49 1uF±10% 16VDC X6S 0402
C174 1uF±10% 16VDC X6S 0402
C175 0.1uF±10% 50VDC X7R 0402
C176 0.1uF±10% 16VDC X7R 0402
C177 0.1uF±10% 16VDC X7R 0402
C179 0.1uF±10% 16VDC X7R 0402
C180 0.1uF±10% 50VDC X7R 0402
C181 0.1uF±10% 16VDC X7R 0402
C182 0.1uF±10% 16VDC X7R 0402
C183 0.1uF±10% 16VDC X7R 0402
C184 0.1uF±10% 16VDC X7R 0402
C178 0.1uF±10% 16VDC X7R 0402
C167 0.1uF±10% 16VDC X7R 0402
C387 0.1uF±10% 16VDC X7R 0402
C388 0.1uF±10% 16VDC X7R 0402
C389 0.1uF±10% 16VDC X7R 0402
C390 0.1uF±10% 16VDC X7R 0402
C172 1uF±10% 16VDC X6S 0402
C173 1uF±10% 16VDC X6S 0402
C171 10uF±10% 6.3VDC X5R 0603
C395 1uF±10% 16VDC X6S 0402
C396 0.1uF±10% 50VDC X7R 0402
C397 1uF±10% 16VDC X6S 0402
VDD_CLK
U4 VCC CLKO OE GND
R43 10.0K ±1%
RST_SYS_N
REFCLK_25MHz_T
R42 33.2 ±1% REFCLK_25MHz
U6 GPY215C0VI
MDC
MDIO
R44 33.2 ±1% MDC_T
R45 33.2 ±1% MDIO_T
STRAP_MDINT
MDIO PROXY
HRST_N
XTAL1/CLK
XTAL2
GPC1/GPIO11
MDC
MDIO
MDINT/EXINT1/GPIO14
EXINT0/GPIO13
TPI_A_P
TPI_A_N
TPI_B_P
TPI_B_N
TPI_C_P
TPI_C_N
TPI_D_P
TPI_D_N
ETHERNET MEDIA INTF.
RESREF
RCAL
R46 200 ±1% 1/8W ±100ppm/°C 0603
R47 22.0K ±1% 1/10W ±100ppm/°C 0603
GND_CHPS
GND
EPAD
SGMII INTF.
RX0_P
RX0_M
TX0_P
TX0_M
I226_RX_C_P
I226_RX_C_N
C403 0.1uF ±10% 50VDC X7R 0402
C410 0.1uF ±10% 50VDC X7R 0402
2.5G_SGMII_I226
2.5G_SGMII_I226_RX_P
2.5G_SGMII_I226_RX_N
2.5G_SGMII_I226_TX_P
2.5G_SGMII_I226_TX_N
2.5G_SGMII_I226_TX_P
2.5G_SGMII_I226_RX_N
2.5G_SGMII_I226_TX_N
TCK/GPHY_LED3
TRSTN
TDI/GPIO15
TMS/GPIO16
TDO/GPIO17
GPC2/GPIO12
GPIO18
STRAP_GPIO15
LAN_DISABLE_N
STRAP_GPIO17
STRAP_GPIO12
STRAP_GPIO18
SPI/HOST INTF.
SCLK
MCS
MOSI
MISO/GPIO6
STRAP_SCLK
STRAP_MCS
STRAP_MOSI
GPHY_LED0
GPHY_LED1
GPHY_LED2
GPY215_LED0_T
GPY215_LED1_T
GPY215_LED2_T
R227 1/10W 33.2 ±1% 0402
R228 1/10W 33.2 ±1% 0402
R229 1/10W 33.2 ±1% 0402
GPY215_LED0
GPY215_LED1
GPY215_LED2
D55 Vf=2V
D56 Vf=2V
D57 Vf=2V

Y1
25.000 MHz ±30ppm
20MHz, Cload = 18pF, 30ppm
C399 20pF±1% 50VDC C0G/NP0 0402
C398 20pF±1% 50VDC C0G/NP0 0402
XTAL_IN
XTAL_OUT
SMB_SCL
SMB_SDA
IET_PWRON
R50 50mW Jumper 0603
R222 50mW Jumper 0603
R221 50mW Jumper 0603
DNI
SMB_SCL_J
SMB_SDA_J
R347 50mW Jumper 0 0603
SMB_CLK
SMB_DATA
ULP_WAKE_N
SMBus INTF.
RST_SYS_N
LAN_DISABLE_N
R348 50mW Jumper 0603
LAN_PWR_GOOD
LAN_DISABLE_N_J
PCIE_WAKE_N
PCIE_RST_N
PE_WAKE_N
PE_RST_N
PE_CLKREQ_N
PE_CLK_P
PE_CLK_N
PE_RX_P
PE_RX_N
PE_TX_P
PE_TX_N
PCIe x1 GEN 2 ENTERFACE
C26 10uF±10% 6.3VDC X5R 0603
DNI R35 1.00K ±1% 1/8W ±100ppm/°C 0603
DNI R349 1.00K ±1% 1/8W ±100ppm/°C 0603
PCIE_CLK_100MHz_P
PCIE_CLK_100MHz_N
PCIE_I226_RX_P
PCIE_I226_RX_N
PCIE_I226_TX_P
PCIE_I226_TX_N
C411 50VDC 0.1uF ±10% X7R 0402
C412 50VDC 0.1uF ±10% X7R 0402
PCIE_I226_TX_C_P
PCIE_I226_TX_C_N
JTAG_CLK
JTAG_TRSTN
JTAG_TMS_SDP2
JTAG_TDO/MDI_LANE_SWAP
JTAG_TDI_SDP1
R36 10.0K ±1% 1/10W ±100ppm/°C 0603
R37 10.0K ±1% 1/10W ±100ppm/°C 0603
R230 10.0K ±1% 1/10W ±100ppm/°C 0603
R38 10.0K ±1% 1/10W ±100ppm/°C 0603
JTAG_I226_TCK
JTAG_I226_TRSTN
JTAG_I226_TMS
JTAG_I226_TDO
JTAG_I226_TDI
R226 1/10W 33.2 ±1% 0402
TP5 JTAG_TCK
TP1 JTAG_TRSTN
TP7 JTAG_TMS
TP8 JTAG_TDO
TP6 JTAG_TDI
SDP0
LED0
LED1
LED2
I226_LED0_T
I226_LED1_T
I226_LED2_T
R52 1/10W 330 ±1% 0402
R53 1/10W 330 ±1% 0402
R54 1/10W 330 ±1% 0402
I226_LED0
I226_LED1
I226_LED2
D59 Vf=2V
D60 Vf=2V
D61 Vf=2V
SPI/HOST INTERFACE
SPI_CLK
SPI_CS_N/PCIE_ENA
SPI_DIN/AUX_PWR
SPI_DOUT/SEC_ENA
RBIAS
PHY_CAL
R66 200 ±1% 1/8W ±100ppm/°C 0603
R65 22.0K ±1% 1/10W ±100ppm/°C 0603
EPAD
RSVRVD_GND
SPI_I226_CLK
SPI_I226_CS_N
SPI_I226_DIN
SPI_I226_DOUT
R223 33.2 ±1% SPI_I226_CLK_T
R224 33.2 ±1% SPI_I226_CS_N_T
R225 33.2 ±1% SPI_I226_DOUT_T
R39 10.0K ±1% 1/10W ±100ppm/°C 0603
R32 30.0K ±1% 1/10W ±100ppm/°C 0603
R33 10.0K ±1% 1/10W ±100ppm/°C 0603
R34 10.0K ±1% 1/10W ±100ppm/°C 0603
R346 10.0K ±1% 1/10W ±100ppm/°C 0603
R55 499 ±1% 1/8W ±100ppm/°C 0603
R56 499 ±1% 1/8W ±100ppm/°C 0603
U20 I226-IT
MDI_A_P
MDI_A_N
MDI_B_P
MDI_B_N
MDI_C_P
MDI_C_N
MDI_D_P
MDI_D_N
ETHERNET MEDIA INTERFACE
R360 10.0K ±1% 1/10W ±100ppm/°C 0402
R234 10.0K ±1% 1/10W ±100ppm/°C 0402
U21 MX25L8006EM1I-12G
CS SO WP GND VCC HOLD SCLK SI
R232 33.2 ±1% 1/10W 0402
SPI_I226_DIN_T
MASTER SPI FLASH INTERFACE
C188 2.2uF±10% 16VDC X7R 0603
R231 10.0K ±1% 1/10W ±100ppm/°C 0402
R351 10.0K ±1% 1/10W ±100ppm/°C 0402
R352 10.0K ±1% 1/10W ±100ppm/°C 0402
PICOBLADE PROGRAMMING HEADER
P2 53047-0610
C189 1uF ±10% 16VDC X7R 0603
SPI_I226_DIN
SPI_I226_CLK
SPI_I226_CS_N
SPI_I226_DOUT
R233 499 ±1% SPI_PICO_MISO
R235 499 ±1% SPI_PICO_SCLK
R236 499 ±1% SPI_PICO_CS_N
R237 499 ±1% SPI_PICO_MOSI

STRAPPING SIGNAL
Strapped Value = Setting
MDIO ADDR - [6,5,1,0:0]
PS_PHY_MADDR(6) STRAP_MCS
PS_PHY_MADDR(1) STRAP_SCLK
PS_PHY_MADDR(2) STRAP_MOSI
PS_PHY_MADDR(3) STRAP_GPIO12
PS_PHY_MADDR(4) STRAP_GPIO18
PS_MINT_POL 1b = MDINT is active low STRAP_MDINT
PS_RJ45_TAP 1b = TAB DOWN STRAP_GPIO17
PS_MDIO_VOLTAGE 1b = MDIO INTF is 3.3V STRAP_GPIO15
DNI R57 1.00K ±1% 1/10W ±100ppm/°C 0603
DNI R58 1.00K ±1% 1/10W ±100ppm/°C 0603
R59 1.00K ±1% 1/10W ±100ppm/°C 0603
DNI R60 1.00K ±1% 1/10W ±100ppm/°C 0603
DNI R61 1.00K ±1% 1/10W ±100ppm/°C 0603
R62 1.00K ±1% 1/10W ±100ppm/°C 0603
R63 1.00K ±1% 1/10W ±100ppm/°C 0603
R64 1.00K ±1% 1/10W ±100ppm/°C 0603
R67 1.00K ±1% 1/10W ±100ppm/°C 0603
R68 1.00K ±1% 1/10W ±100ppm/°C 0603
DNI R69 1.00K ±1% 1/10W ±100ppm/°C 0603
R70 1.00K ±1% 1/10W ±100ppm/°C 0603
R71 1.00K ±1% 1/10W ±100ppm/°C 0603
DNI R72 1.00K ±1% 1/10W ±100ppm/°C 0603
DNI R73 1.00K ±1% 1/10W ±100ppm/°C 0603
DNI R74 1.00K ±1% 1/10W ±100ppm/°C 0603

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D-1442_Rugged_Mango
BOARD-TO-BOARD CONNECTOR

Size	FCSM No.	DWG No.	Rev
B		D-1442 Schematic	1
Scale		11/25/2024	Sheet - of -