RASPBERRY PI COMPUTE MODULE 4

U$1

GND
ETH_P3_P
ETH_P3_N
GND
ETH_P2_N
ETH_P2_P
GND
ETH_NLED3
ETH_NLED2
ETH_NLED1
PI_NLED_ACT
GND
GPIO21
GPIO20
GPIO16
GPIO12
ID_SC/GPIO1
GPIO7
GPIO8
GPIO25
GND
GPIO24
GPIO23
GPIO18
GPIO15
GND
GPIO14
SD_CLK
GND
SD_DAT3
SD_DAT0
GND
SD_DAT1
SD_DAT2
GND
SD_VDD_OVRD
SD_PWR_ON
5V
5V
5V
5V
5V
5V
WL_NDSBL
BT_NDSBL
NRPIBOOT
PI_NLED_PWR
CAM_GPIO
GLOBAL_EN

GND
ETH_P1_P
ETH_P1_N
GND
ETH_P0_N
ETH_P0_P
GND
ETH_SYNC_IN
ETH_SYNC_OUT
EEPROM_NWP
GND
GPIO26
GPIO19
GPIO13
GPIO6
GND
GPIO5
ID_SD/GPIO0
GPIO11
GPIO9
GPIO10
GPIO22
GPIO27
GPIO17
GND
GPIO4
GPIO3
GPIO2
GND
SD_CMD
SD_DAT5
GND
SD_DAT4
SD_DAT7
SD_DAT6
GND
GPIO_VREF
SCL0
SDA0
CM4_3V3_OUT
CM4_3V3_OUT
CM4_1V8_OUT
CM4_1V8_OUT
RUN_PG
AIN_P1
AIN_P0
GND
NEXTRST

USB_OTG_ID
USB_N
USB_P
GND
PCIE_NRST
VDAC_COMP
GND
CAM1_D0_N
CAM1_D0_P
GND
CAM1_D1_N
CAM1_D1_P
GND
CAM1_C_N
CAM1_C_P
GND
CAM1_D2_N
CAM1_D2_P
GND
CAM1_D3_N
CAM1_D3_P
HDMI1_HOTPLG
HDMI1_SDA
HDMI1_SCL
HDMI1_CEC
HDMI0_CEC
HDMI0_HOTPLG
GND
DSI0_D0_N
DSI0_D0_P
GND
DSI0_D1_N
DSI0_D1_P
GND
DSI0_C_N
DSI0_C_P
GND
DSI1_D0_N
DSI1_D0_P
GND
DSI1_D1_N
DSI1_D1_P
GND
DSI1_C_N
DSI1_C_P
GND
DSI1_D2_N
DSI1_D2_P
GND
HDMI0_SDA

PCIE_CLK_NREQ

GND
PCIE_CLK_P
PCIE_CLK_N
GND
PCIE_RX_P
PCIE_RX_N
GND
PCIE_TX_P
PCIE_TX_N
GND
CAM0_D0_N
CAM0_D0_P
GND
CAM0_D1_N
CAM0_D1_P
GND
CAM0_C_N
CAM0_C_P
GND
HDMI1_TX2_P
HDMI1_TX2_N
GND
HDMI1_TX1_P
HDMI1_TX1_N
GND
HDMI1_TX0_P
HDMI1_TX0_N
GND
HDMI1_CLK_P
HDMI1_CLK_N
GND
HDMI0_TX2_P
HDMI0_TX2_N
GND
HDMI0_TX1_P
HDMI0_TX1_N
GND
HDMI0_TX0_P
HDMI0_TX0_N
GND
HDMI0_CLK_P
HDMI0_CLK_N
GND
DSI1_D3_N
DSI1_D3_P
GND
HDMI0_SCL

PI_ETH_P3_P
PI_ETH_P3_N
PI_ETH_P2_N
PI_ETH_P2_P
PI_ETH_P1_P
PI_ETH_P1_N
PI_ETH_P0_N
PI_ETH_P0_P

RPI_3V3
RPI_3V3
RPI_3V3

LED1 R1 1K
LED2 R2 1K
LED3 R3 1K

SYS_ACT/4.??
SPI0_CE1
SPI0_CE0/5.??
UART_RXD
UART_TXD
SD_CLK
SD_DAT3
SD_DAT0
SD_DAT1
SD_DAT2
5V0/2.??

SPI0_CLK/5.??
SPI0_MISO/5.??
SPI0_MOSI/5.??
SD_CMD
GND

SJ2 RPI_3V3
SJ3 NC NO
RPI_SCL0/6.??
RPI_SDA0/6.??
RPI_3V3
RPI_1V8
RPI_1V8

SJ4 SJ5 SJ6 SJ7
NO NO NO

PI_EXTRST/5.??

T1

C38 0.1uF PI_ETH_P0_P
C39 0.1uF PI_ETH_P1_P
C40 0.1uF PI_ETH_P2_P
C41 0.1uF PI_ETH_P3_P

TD1 TCT1 MX1+ MCT1 MX1-
TD2 TCT2 MX2+ MCT2 MX2-
TD3 TCT3 MX3+ MCT3 MX3-
TD4 TCT4 MX4+ MCT4 MX4-

C42 0.1uF TXRX5P_A/5.??
C43 0.1uF TXRX5M_A/5.??
TXRX5P_B/5.??
C44 0.1uF TXRX5M_B/5.??
TXRX5P_C/5.??
C45 0.1uF TXRX5M_C/5.??
TXRX5P_D/5.??
TXRX5M_D/5.??

GND

SJ1 RPI_3V3 C1 0.1uF SD_3V3

microSD
DAT2
DAT3
CMD
VDD
CLK
VSS
DAT0
DAT1
CD
BODY

SD_DAT2
SD_DAT3
SD_CMD
SD_3V3
SD_CLK
SD_DAT0
SD_DAT1
GND

BODY01*4
GND

FT231XS
U4

USB
BODY
GND
VBUS
D-
D+

R13
R14 27

USBDM
USBDP
VCC
3V3OUT
VCCIO
RESET
GND

TXD 20
RXD 4
RTS
CTS
DTR
DSR
DCD
RI
TXLED 10
RXLED 17
TXDEN 18
SLEEP 19

UART_RXD
UART_TXD
VBUS 15
FT_3V3 13
3
14

GND
0.1uF C36
VBUS
0.1uF C35 6*2
GND

LED5 LED7 1K R41 1K R42 FT_3V3

FTDI USB UART

U6

5V0/2.?? — P$8 VIN VOUT P$1 — 3V3/5.??

C47 10uF
P$2 EN GND EP*2
C49 10uF

GND AP7361EA-33SP-13 GND GND

U5

5V0/2.?? — P$8 VIN VOUT P$1 — 2V5/5.??

C46 10uF
P$2 EN GND EP*2
C48 10uF

GND AP7361EA-25SP-13 GND GND

3V3/5.??   SYS_ACT/1.??

1K R40   1K R43

LED4   LED8

GND   GND

POWER_JACKPTH   Q1

J2   C32 0.1uF   Z1 12V   C34 0.1uF   C33 10uF — VIN/3.??

GND   GND   10K R12   GND

GND

U3
KSZ9477S

MII/RMII/RGMII

PHY 1
TXRX1P_A/6.?? P$1 TXRX1P_A
TXRX1M_A/6.?? P$2 TXRX1M_A
TXRX1P_B/6.?? P$4 TXRX1P_B
TXRX1M_B/6.?? P$5 TXRX1M_B
TXRX1P_C/6.?? P$6 TXRX1P_C
TXRX1M_C/6.?? P$7 TXRX1M_C
TXRX1P_D/6.?? P$8 TXRX1P_D
TXRX1M_D/6.?? P$9 TXRX1M_D

P1_LED0/6.?? P$105 LED1_0
P1_LED1/6.?? P$106 LED1_1

PHY 2
TXRX2P_A/6.?? P$12 TXRX2P_A
TXRX2M_A/6.?? P$13 TXRX2M_A
TXRX2P_B/6.?? P$15 TXRX2P_B
TXRX2M_B/6.?? P$16 TXRX2M_B
TXRX2P_C/6.?? P$17 TXRX2P_C
TXRX2M_C/6.?? P$18 TXRX2M_C
TXRX2P_D/6.?? P$20 TXRX2P_D
TXRX2M_D/6.?? P$21 TXRX2M_D

P2_LED0/6.?? P$91 LED2_0
P2_LED1/6.?? P$92 LED2_1

PHY 3
TXRX3P_A/6.?? P$24 TXRX3P_A
TXRX3M_A/6.?? P$25 TXRX3M_A
TXRX3P_B/6.?? P$26 TXRX3P_B
TXRX3M_B/6.?? P$27 TXRX3M_B
TXRX3P_C/6.?? P$28 TXRX3P_C
TXRX3M_C/6.?? P$29 TXRX3M_C
TXRX3P_D/6.?? P$31 TXRX3P_D
TXRX3M_D/6.?? P$32 TXRX3M_D

P3_LED0/6.?? P$88 LED3_0
P3_LED1/6.?? P$89 LED3_1

PHY 4
TXRX4P_A/6.?? P$34 TXRX4P_A
TXRX4M_A/6.?? P$35 TXRX4M_A
TXRX4P_B/6.?? P$37 TXRX4P_B
TXRX4M_B/6.?? P$38 TXRX4M_B
TXRX4P_C/6.?? P$39 TXRX4P_C
TXRX4M_C/6.?? P$40 TXRX4M_C
TXRX4P_D/6.?? P$42 TXRX4P_D
TXRX4M_D/6.?? P$43 TXRX4M_D

P4_LED0/6.?? P$85 LED4_0
P4_LED1/6.?? P$86 LED4_1

PHY 5
TXRX5P_A/1.?? P$112 TXRX5P_A
TXRX5M_A/1.?? P$113 TXRX5M_A
TXRX5P_B/1.?? P$115 TXRX5P_B
TXRX5M_B/1.?? P$116 TXRX5M_B
TXRX5P_C/1.?? P$117 TXRX5P_C
TXRX5M_C/1.?? P$118 TXRX5M_C
TXRX5P_D/1.?? P$120 TXRX5P_D
TXRX5M_D/1.?? P$121 TXRX5M_D

P$102 LED5_0
P$103 LED5_1

TX_CLK6/REFCLKI6 P$48
COL6 P$51
TX_EN6/TX_CTL6 P$49
TX_ER6 P$50
TXD6_3 P$52
TXD6_2 P$53
TXD6_1 P$54
TXD6_0 P$55

RX_CLK6/REFCLKO6 P$57
RX_DV6/CRS_DV6/RX_CTL6 P$58
RX_ER6 P$59

CRS6 P$60
RXD6_3 P$62
RXD6_2 P$63
RXD6_1 P$64
RXD6_0 P$65

R21 10K
R20
R19 10K
R18 10K
R18 10K
GND

SGMII
S_REFCLKP P$73
S_REFCLKM P$74
S_REXT P$76
S_IN7M P$78
S_IN7P P$79
S_OUT7M P$82
S_OUT7P P$81

R22 191R GND

S_TX7_N/6.??
S_TX7_P/6.??
S_RX7_N/6.??
S_RX7_P/6.??

CLK
X0 P$125
X1 P$126

Q2
C85 15pF
C86 15pF
15pF
GND

CONTROL
PME_N P$93
GPIO P$90
INTRP_N P$94
IBA P$67
RESET_N P$96

SPI
MISO P$97
MOSI P$98
SCS P$100
CLK P$101

ISET P$127
SYNCLKO P$95

SUPPLY
VDDIO P$61*3
VDDHS P$72*2
AVDDH P$10*7
VDDLS P$71*2
DUDDL P$11*9
AVDDL P$3*9
PAD EP*2
GND P$46*9

3U3/4.??
R24 10K
GND
C87 10uF
R44 10K
3U3/6.??
PI_EXTRST/1.??

SJ10
NO R23 DNP GND

R16 4.7K
R17 4.7K
3U3/6.??

SPI0_MISO/1.??
SPI0_MOSI/1.??
SPI0_CE0/1.??
SPI0_CLK/1.??

R15 6.04K GND
R25 10K 3U3/6.??

3U3/6.??

VDDHS_2V5
AVDDH_2V5
VDDLS_1V2
DUDDL_1V2
AVDDL_1V2

GND

FB1
1V2/3.?? VDDLS_1V2
C50 10uF C37 0.1uF C51 0.1uF
GND

FB2
1V2/3.?? AVDDL_1V2
C53 10uF C52 0.1uF C54 0.1uF C55 0.1uF C56 0.1uF C57 0.1uF C58 0.1uF C59 0.1uF C60 0.1uF C61 0.1uF
GND

FB3
1V2/3.?? DVDDL_1V2
C63 10uF C62 0.1uF C64 0.1uF C65 0.1uF C66 0.1uF C67 0.1uF C68 0.1uF C69 0.1uF C70 0.1uF C71 0.1uF
GND

FB4
2V5/4.?? VDDHS_2V5
C73 10uF C72 0.1uF C74 0.1uF
GND

FB5
2V5/4.?? AVDDH_2V5
C76 10uF C75 0.1uF C77 0.1uF C78 0.1uF C79 0.1uF C80 0.1uF C81 0.1uF C84 0.1uF
GND

3U3/4.??
C82 0.1uF C83 0.1uF
GND

RJ45

P1_TRD1+
P1_TRD1-
P1_TRD2+
P1_TRD2-
P1_TRD3+
P1_TRD3-
P1_TRD4+
P1_TRD4-

TXRX1P_A/5.?? P1_2
TXRX1M_A/5.?? P1_3
TXRX1P_B/5.?? P1_4
TXRX1M_B/5.?? P1_5
TXRX1P_C/5.?? P1_6
TXRX1M_C/5.?? P1_7
TXRX1P_D/5.?? P1_8
TXRX1M_D/5.?? P1_9

GND SHIELD$1*2 BDY

GND P1_1 P1_GT_CAP
P1_LED1/5.?? P1_GRN_C P1_GRN_C
3V3/5.?? R39 P1_GRN_A GRN P1_GRN_A
1K P1_LED0/5.?? P1_YLW_C P1_YLW_C
R38 P1_YLW_A YLW P1_YLW_A
1K

P2_TRD1+
P2_TRD1-
P2_TRD2+
P2_TRD2-
P2_TRD3+
P2_TRD3-
P2_TRD4+
P2_TRD4-

TXRX2P_A/5.?? P2_2
TXRX2M_A/5.?? P2_3
TXRX2P_B/5.?? P2_4
TXRX2M_B/5.?? P2_5
TXRX2P_C/5.?? P2_6
TXRX2M_C/5.?? P2_7
TXRX2P_D/5.?? P2_8
TXRX2M_D/5.?? P2_9

GND P2_1 P2_GT_CAP
P2_LED1/5.?? P2_GRN_C P2_GRN_C
3V3/5.?? R37 P2_GRN_A GRN P2_GRN_A
1K P2_LED0/5.?? P2_YLW_C P2_YLW_C
R36 P2_YLW_A YLW P2_YLW_A
1K

P3_TRD1+
P3_TRD1-
P3_TRD2+
P3_TRD2-
P3_TRD3+
P3_TRD3-
P3_TRD4+
P3_TRD4-

TXRX3P_A/5.?? P3_2
TXRX3M_A/5.?? P3_3
TXRX3P_B/5.?? P3_4
TXRX3M_B/5.?? P3_5
TXRX3P_C/5.?? P3_6
TXRX3M_C/5.?? P3_7
TXRX3P_D/5.?? P3_8
TXRX3M_D/5.?? P3_9

GND P3_1 P3_GT_CAP
P3_LED1/5.?? P3_GRN_C P3_GRN_C
3V3/5.?? R35 P3_GRN_A GRN P3_GRN_A
1K P3_LED0/5.?? P3_YLW_C P3_YLW_C
R34 P3_YLW_A YLW P3_YLW_A
1K

P4_TRD1+
P4_TRD1-
P4_TRD2+
P4_TRD2-
P4_TRD3+
P4_TRD3-
P4_TRD4+
P4_TRD4-

TXRX4P_A/5.?? P4_2
TXRX4M_A/5.?? P4_3
TXRX4P_B/5.?? P4_4
TXRX4M_B/5.?? P4_5
TXRX4P_C/5.?? P4_6
TXRX4M_C/5.?? P4_7
TXRX4P_D/5.?? P4_8
TXRX4M_D/5.?? P4_9

GND P4_1 P4_GT_CAP
P4_LED1/5.?? P4_GRN_C P4_GRN_C
3V3/5.?? R33 P4_GRN_A GRN P4_GRN_A
1K P4_LED0/5.?? P4_YLW_C P4_YLW_C
R32 P4_YLW_A YLW P4_YLW_A
1K

FB7
3V3/5.?? SFP_VCCRX
C90 0.1uF GND

FB6
3V3/5.?? SFP_VCCTX
C89 C88
10uF 0.1uF GND

3V3/5.??

Q3
S G
D

R29 10K
R28 10K

1K R45

LED6
GND

J3
16 VCCTX TX1P 18 S_RX7_P/5.??
15 VCCRX TX1N 19 S_RX7_N/5.??

SFP_VCCTX
SFP_VCCRX

8 RX_LOSS RX1P 13 S_TX7_P/5.??
6 MOD_ABS RX1N 12 S_TX7_N/5.??
GND R26 3 TX_DISABLE
1K 2 TX_FAULT

SJ11 R27
7 RS0
9 RS1 1K 3V3/5.??

RPI_SCL0/1.?? 5 SCL GND 1*6
RPI_SDA0/1.?? 4 SDA CHASSIS CGND$01*11

SFP+ GND

R31 R30
4.7K 4.7K
3V3/5.??

GND