Schematic modified for
CYW9P62S1-43012EVB-01 PSoC 62S1 Wi-Fi BT Pioneer Kit

CYW9-BASE-01 Pioneer Baseboard

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Drawing Numbers	
PCBA	121-60565-01
PCB	600-60552-01
FAB DRW	610-60552-01
ASSY DRW	620-60552-01
SCH DRW	630-60552-01

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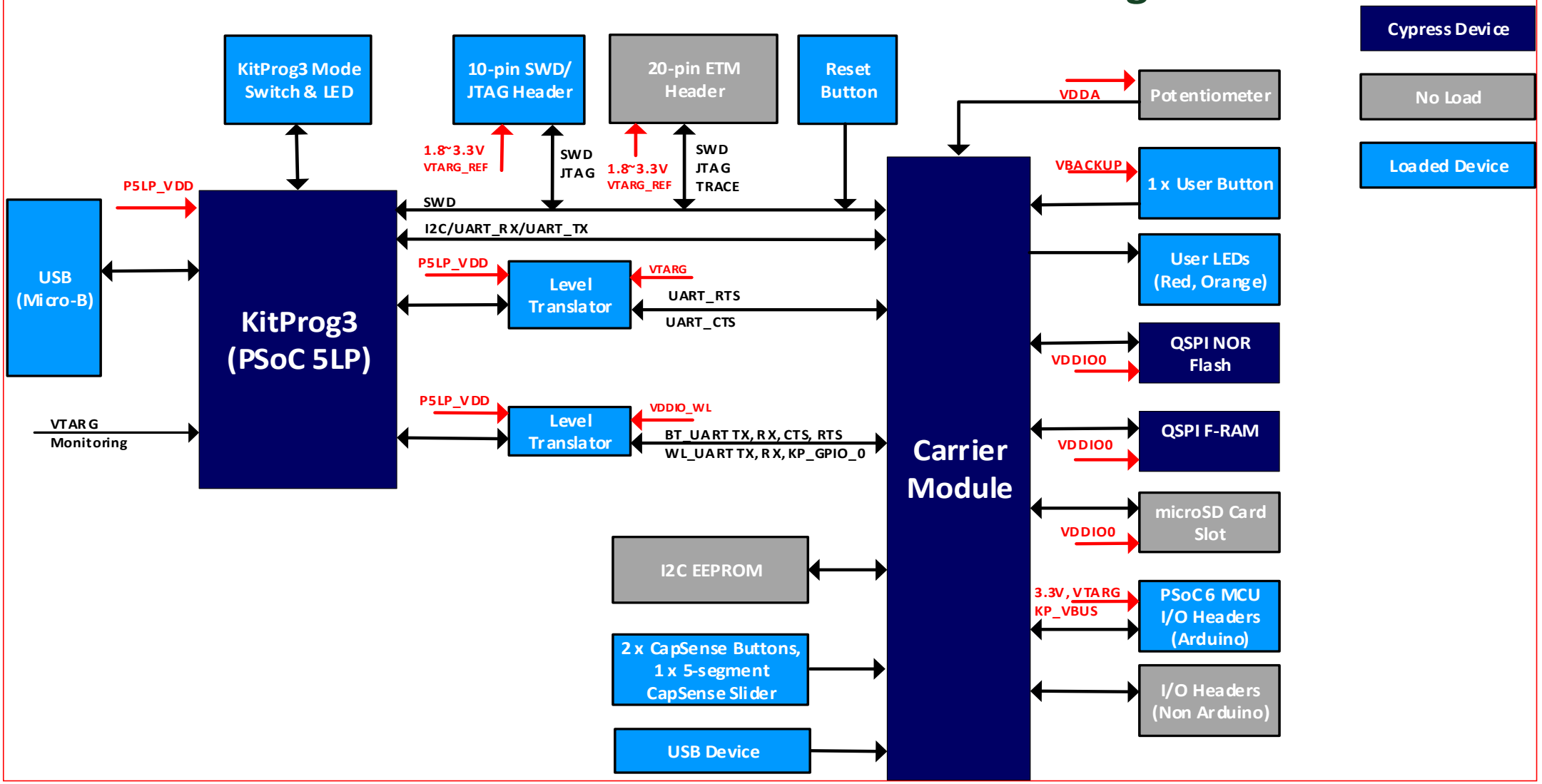
SCH Title : CYW9-BASE-01 Pioneer Baseboard

Page Title : Title Page

Size	Document Number	Drawn By	Approved By	Rev
A4	630-60552-01	TARE	RKAD	05

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CYW9-BASE-01 Architecture Block Diagram



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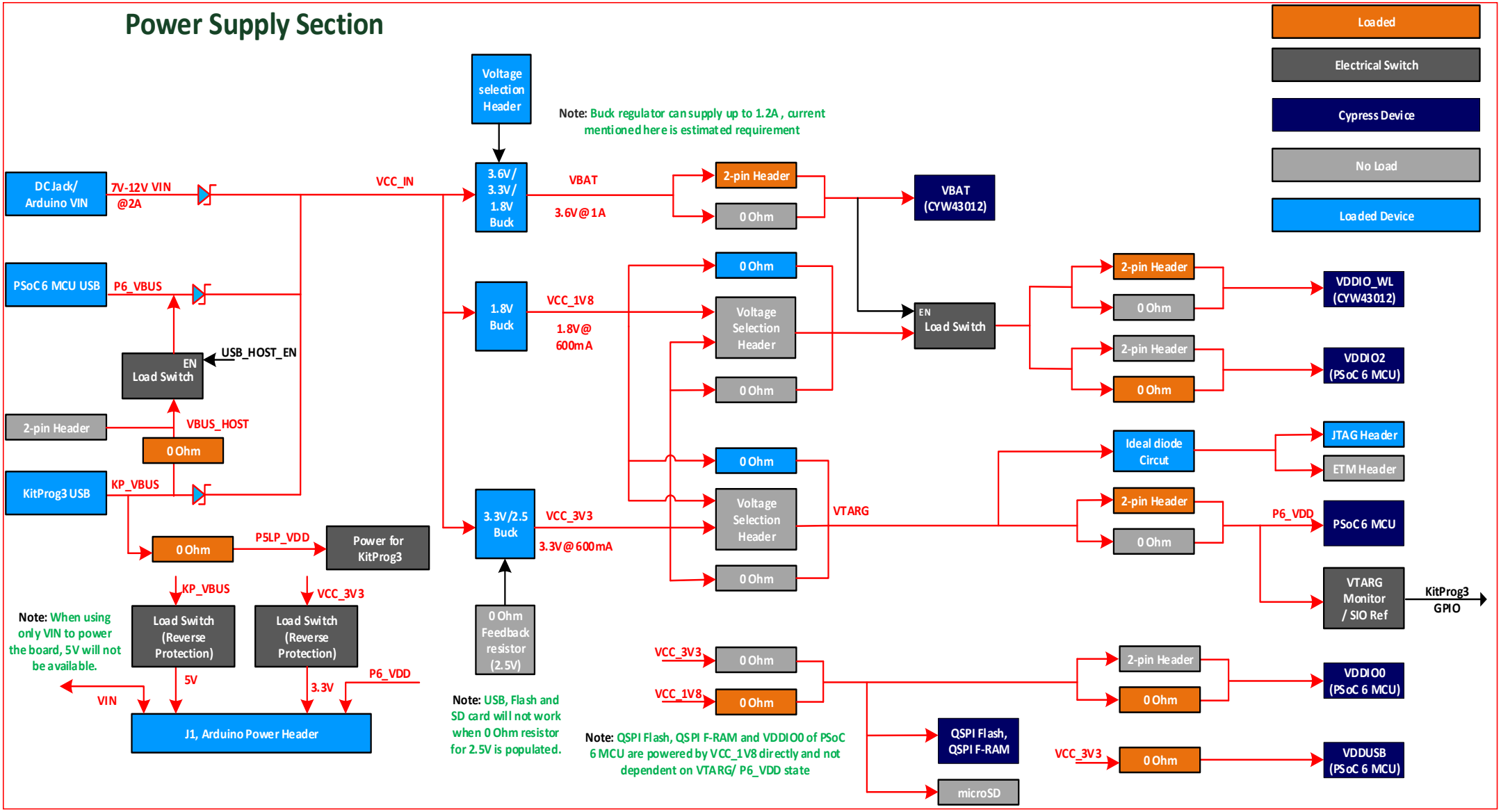
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Page Title : Functional Block Diagram

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Power Supply Section



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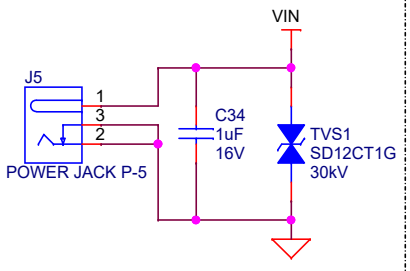
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SCH Title :	CYW9-BASE-01 Pioneer Baseboard
Page Title :	Power Supply Block Diagram

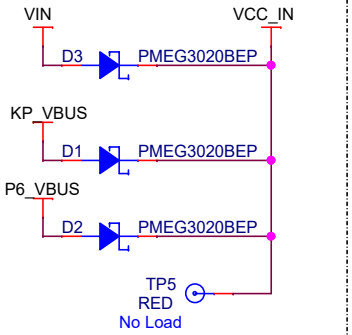
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Date: Thursday, October 10, 2019 Sheet 3 of 13

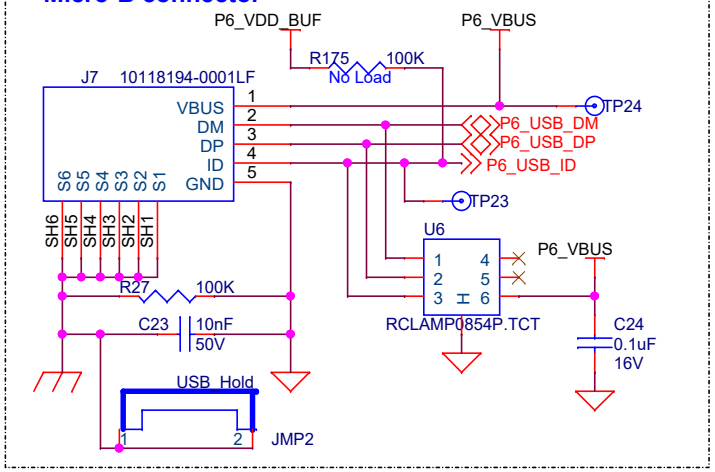
VIN Header



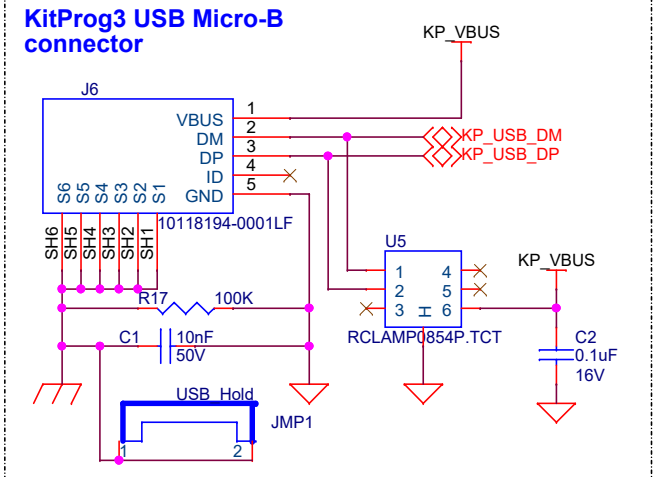
Power Supply 'OR'ing

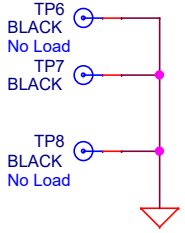


PSoC 6 MCU USB Host/Device Micro-B connector

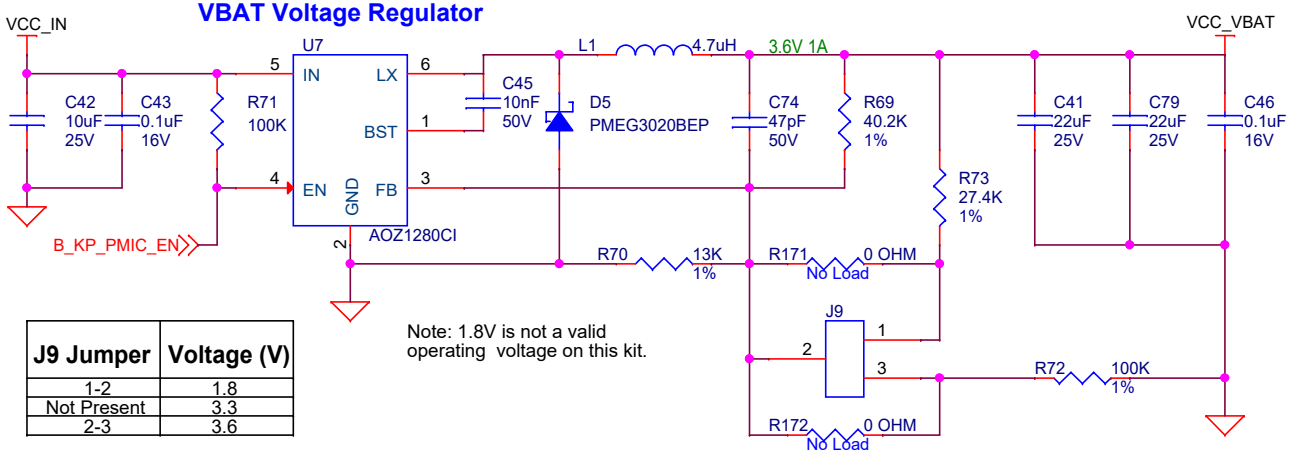


KitProg3 USB Micro-B connector





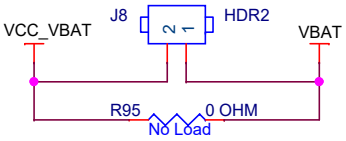
VBAT Voltage Regulator



J9 Jumper	Voltage (V)
1-2	1.8
Not Present	3.3
2-3	3.6

Note: 1.8V is not a valid operating voltage on this kit.

Current Measurement



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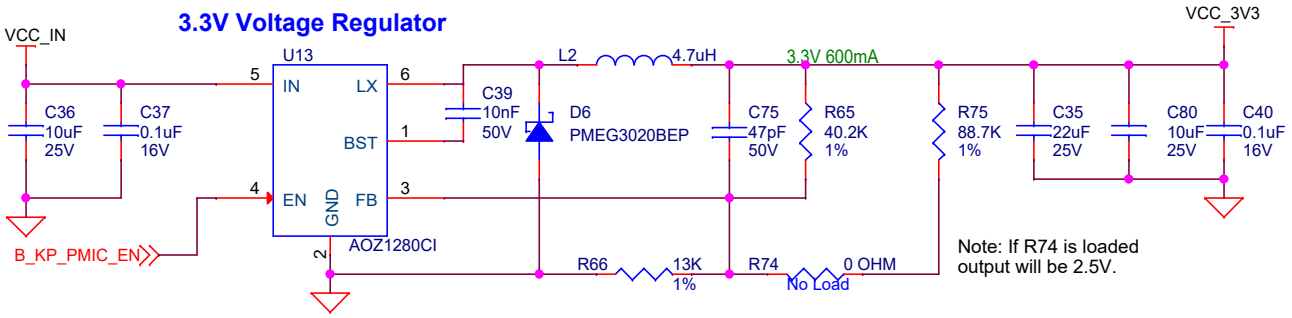
SCH Title : CYW9-BASE-01 Pioneer Baseboard

Page Title : Power Supply (1)

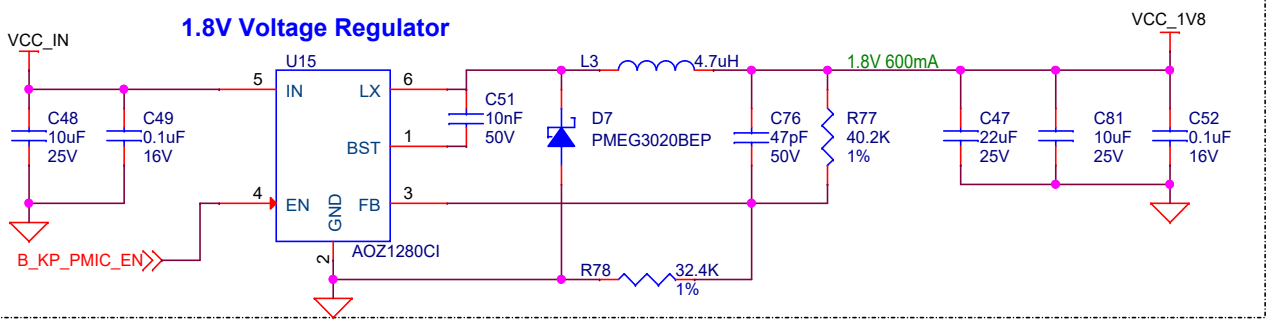
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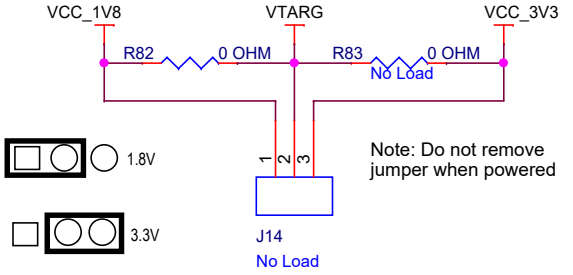
3.3V Voltage Regulator



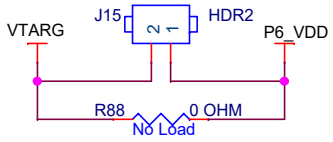
1.8V Voltage Regulator



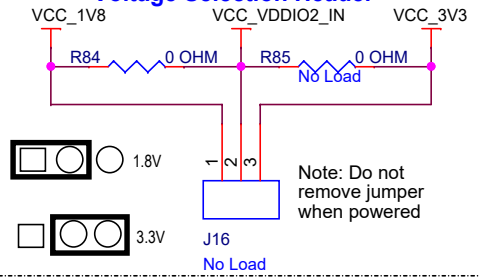
VTARG Voltage Selection Header



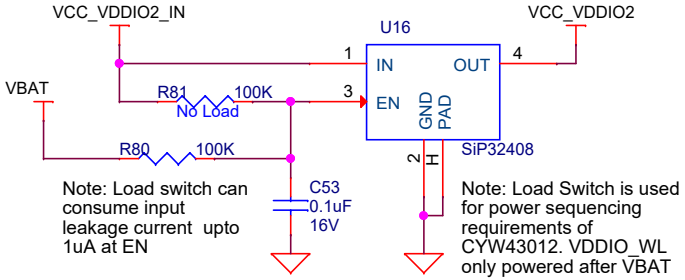
P6_VDD Current Measurement



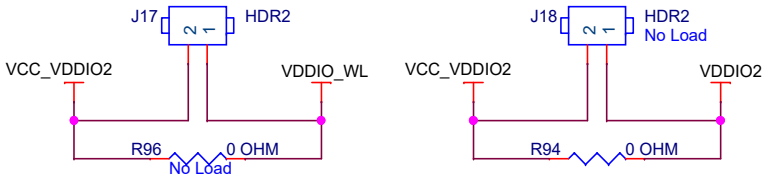
VCC_VDDIO2_IN Voltage Selection Header



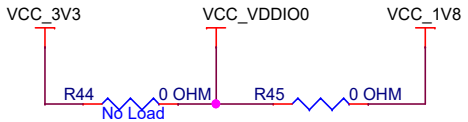
VCC_VDDIO2 Load Switch



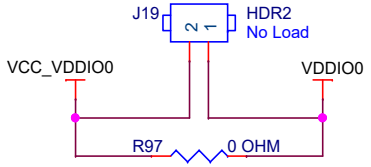
VDDIO_WL & VDDIO2 Current Measurement



VDDIO0 Voltage Selection



VDDIO0 Current Measurement

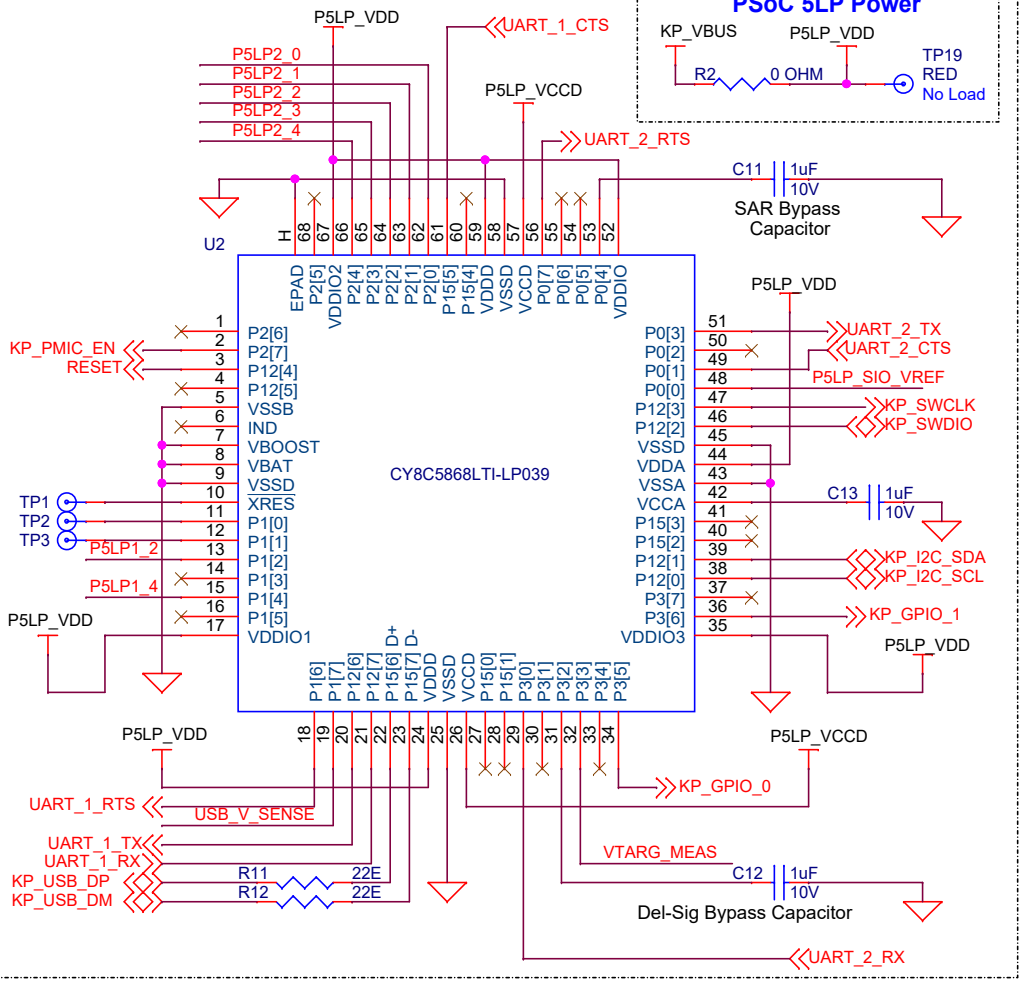


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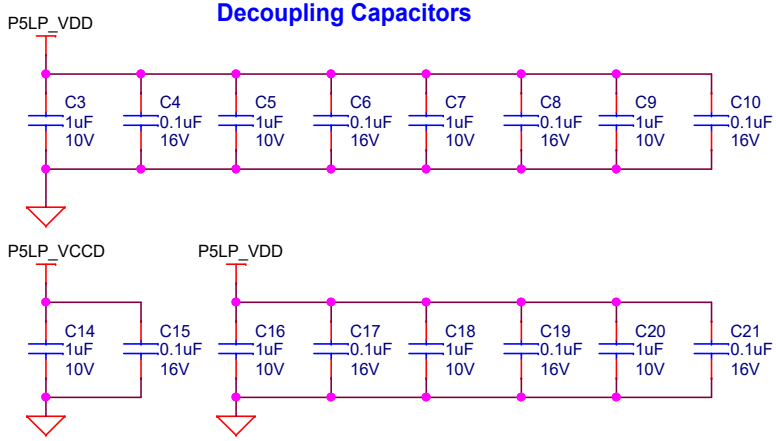
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Page Title : Power Supply (2)				
Size: A4	Document Number: 630-60552-01	Drawn By: TARE	Approved By: RKAD	Rev: 05
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PSoC 5LP based KitProg3

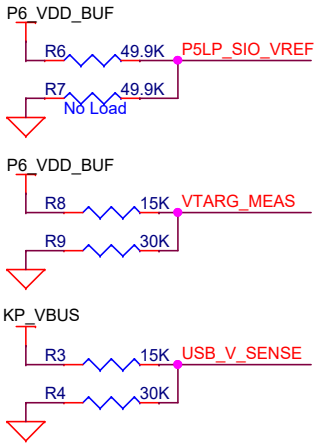


PSoC 5LP Power

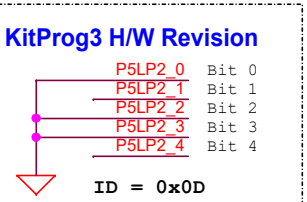
Decoupling Capacitors



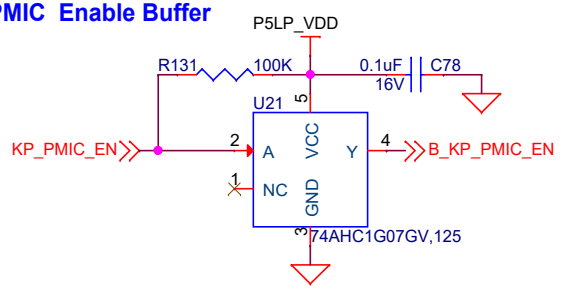
Voltage Monitoring



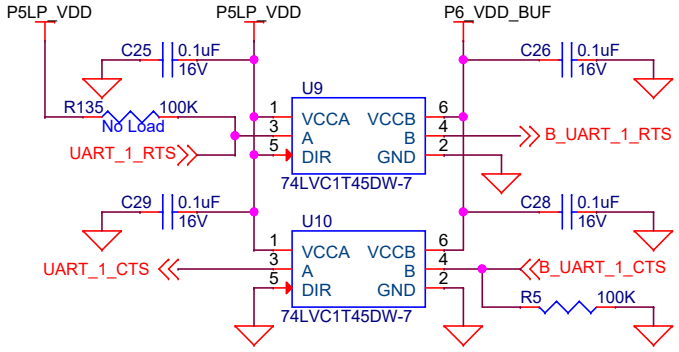
KitProg3 H/W Revision



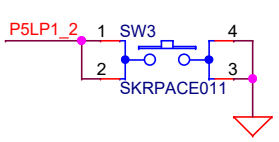
PMIC Enable Buffer



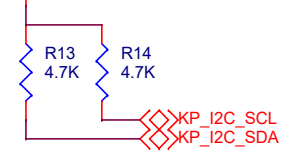
Primary UART H/W Flow Control Level Translator



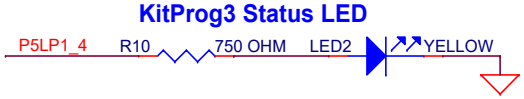
Mode Switch



I2C Pull-ups



KitProg3 Status LED

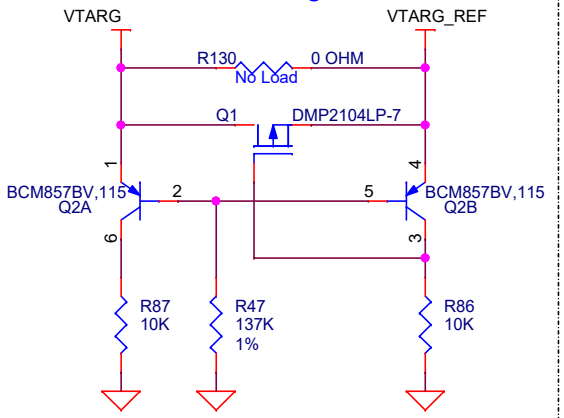


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Page Title : KitProg3 Controller				
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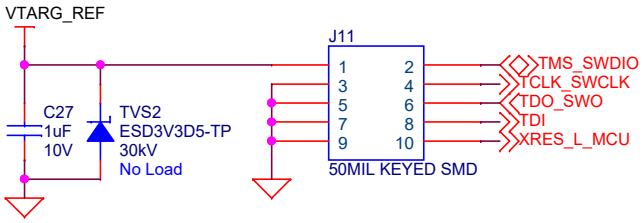
VTARG Reverse Voltage Protection



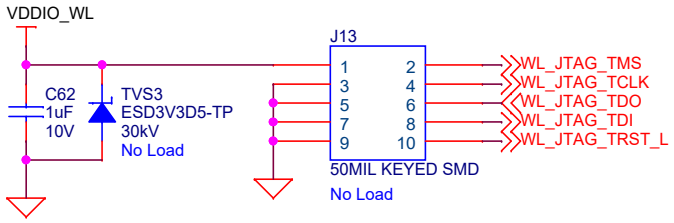
Note: VTARG_REF is only output voltage sense line for external debuggers. PSoC 6 can't be powered using external debugging headers J11 and J12

Note: If R130 is loaded and external power is used, make sure to remove 0 ohm R82 to prevent reverse voltage to on-board regulator

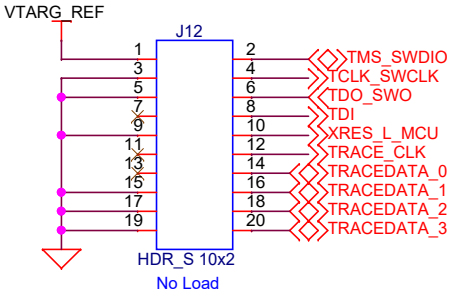
MCU 10-pin SWD/JTAG Header



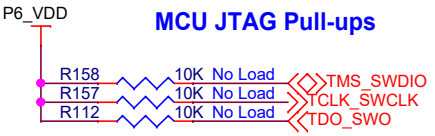
CYW43012 10-pin SWD/JTAG Header



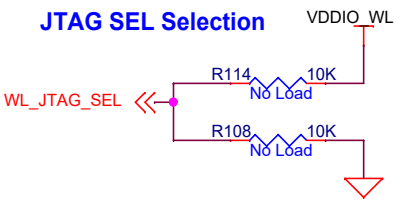
MCU 20-pin ETM Header



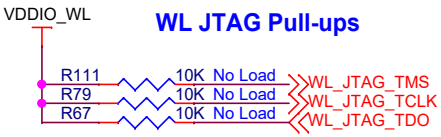
MCU JTAG Pull-ups



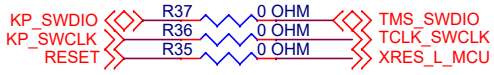
JTAG SEL Selection



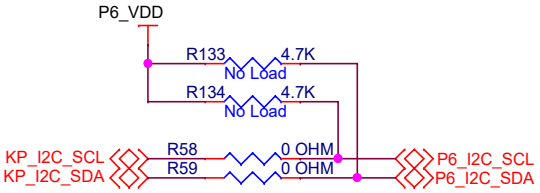
WL JTAG Pull-ups



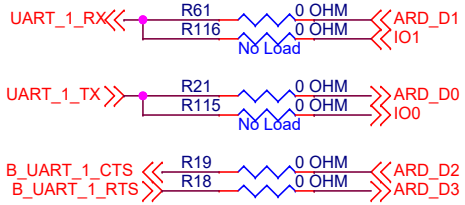
MCU SWD KitProg3 Interface



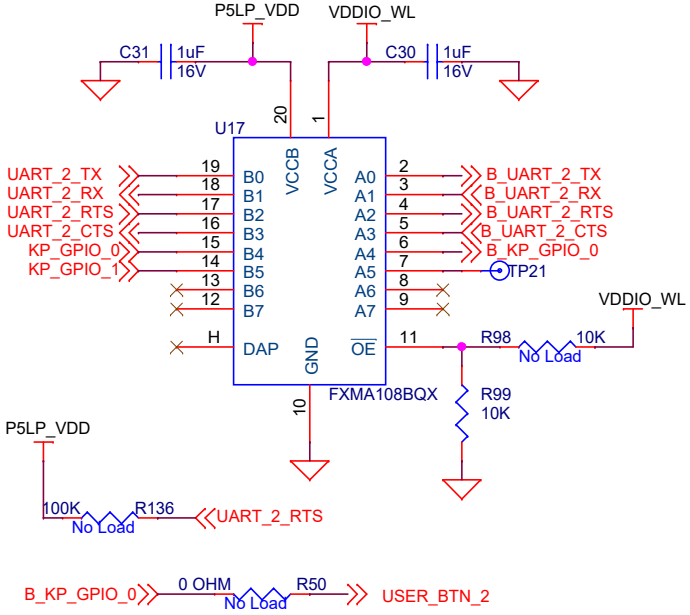
KitProg3 I2C Interface



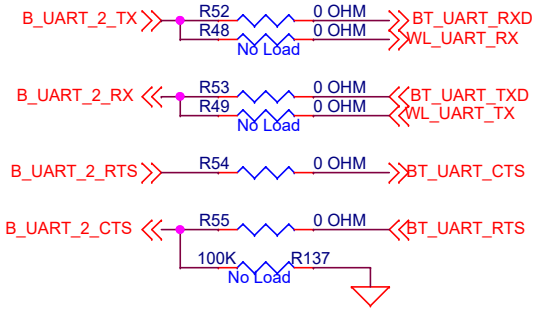
KitProg3 UART Interface



KitProg3 Level Translator for Secondary UART and GPIO



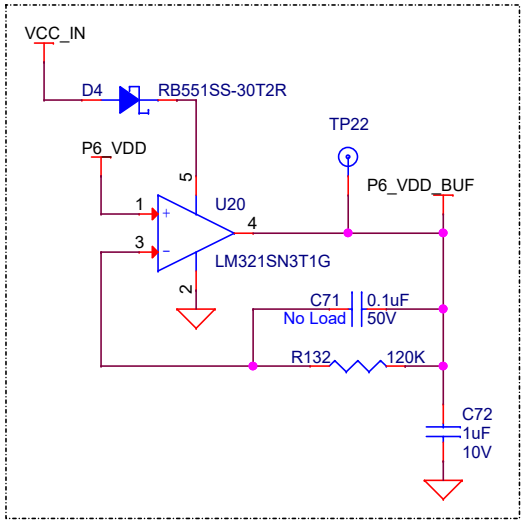
KitProg3 Secondary UART Multiplexing

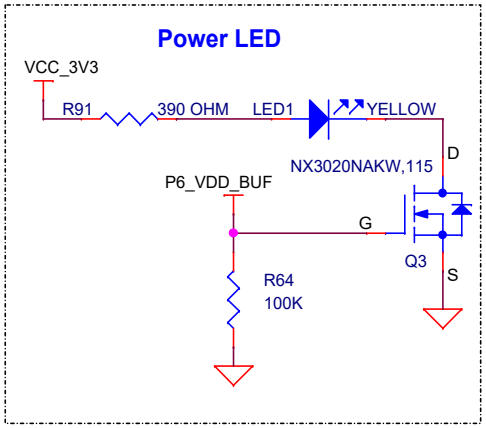


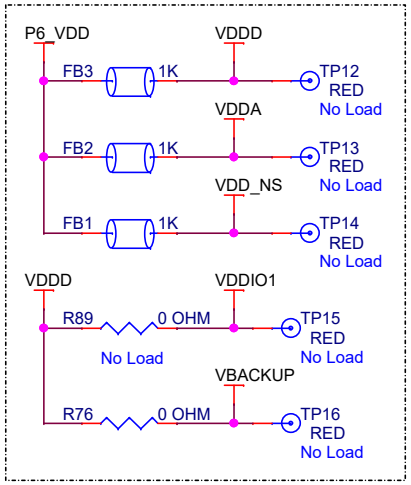
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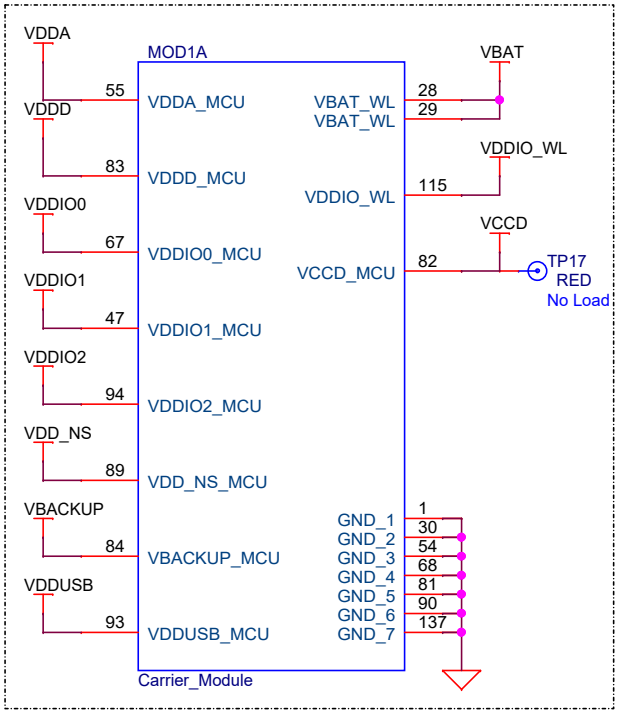
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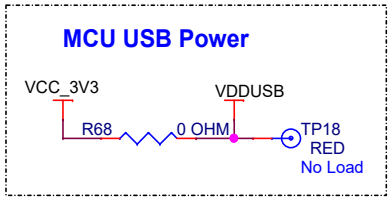
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Page Title : KitProg3 Power and Headers				
Size: A4	Document Number: 630-60552-01	Drawn By: TARE	Approved By: RKAD	Rev: 05
Date: Friday, October 25, 2019		Sheet 7 of 13		

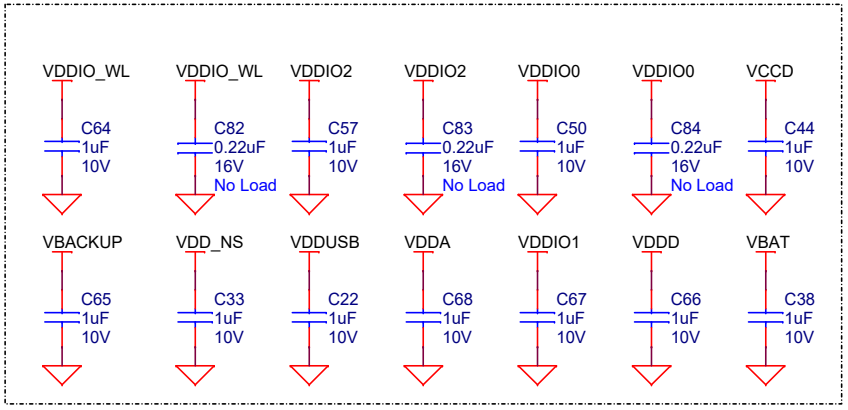












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Page Title : Carrier Module Power				
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Carrier Module Signals

MOD1B

VREF

P6_I2C_SCL 136 I2C_SCL
P6_I2C_SDA 133 I2C_SDA
53 ARD_AREF

ARD_A0 52 ARD_A0
ARD_A1 60 ARD_A1
ARD_A2 59 ARD_A2
ARD_A3 58 ARD_A3
ARD_A4 62 ARD_A4
ARD_A5 63 ARD_A5
ARD_A6 61 ARD_A6
ARD_A7 64 ARD_A7

TRACE_CLK 44 ETM_CLK

PAD_A8 46 ARD_A8
PAD_A9 48 ARD_A9
PAD_A10 49 ARD_A10
PAD_A11 45 ARD_A11
A12 50 ARD_A12
A13 56 ARD_A13
A14 57 ARD_A14
A15 51 ARD_A15

ARD_D0 2 ARD_D0
ARD_D1 3 ARD_D1
ARD_D2 4 ARD_D2
ARD_D3 6 ARD_D3
ARD_D4 5 ARD_D4
ARD_D5 9 ARD_D5
ARD_D6 7 ARD_D6
ARD_D7 8 ARD_D7

ARD_D8 23 ARD_D8
ARD_D9 25 ARD_D9
ARD_D10 78 ARD_D10
ARD_D11 76 ARD_D11
ARD_D12 75 ARD_D12
ARD_D13 77 ARD_D13

USER_BTN_1 130 BUTTON_1
USER_BTN_2 125 BUTTON_2

XRES_L_MCU 39 MCU_XRES_L
TDO_SWO 40 MCU_TDO
TDI 43 MCU_TDI
TMS_SWDIO 41 MCU_TMS_SWDIO
TCLK_SWCLK 42 MCU_TCLK_SWCLK

CSX_TX 124 PAD_CS_TX
CSB_0 33 PAD_CSB0
CSB_1 31 PAD_CSB1
CSS_0 36 PAD_CSS0
CSS_1 34 PAD_CSS1
CSS_2 32 PAD_CSS2
CSS_3 38 PAD_CSS3
CSS_4 37 PAD_CSS4
CSD_SHIELD 98 PAD_CAP_SH

FRAM_SSEL 71 FRAM_SS_L
FLASH_SSEL 72 FLASH_SS_L
QSPI_CLK 66 R119 22E QSPI_SCK
QSPI_DATA0 70 R118 22E QSPI_IO0
QSPI_DATA1 74 R121 22E QSPI_IO1
QSPI_DATA2 65 R120 22E QSPI_IO2
QSPI_DATA3 73 R122 22E QSPI_IO3

SD_CMD 79 SD_CMD
SD_CLK 80 SD_CLK
SD_DATA0 88 SD_DAT0
SD_DATA1 86 SD_DAT1
SD_DATA2 85 SD_DAT2
SD_DATA3 87 SD_DAT3
SD_CD_L 97 PAD_SD_CD_L

MCU_USBDP 92 P6_USB_DP
MCU_USBDM 91 P6_USB_DM

USB_VBUS_DET 134 USB_VBUS_DET
USB_INT 135 USB_INT_L
USB_HOST_EN 127 USB_HOST_EN

RGB_R 123 RGB_R_LED_L
RGB_G 132 RGB_G_LED_L
RGB_B 26 RGB_B_LED_L

LED_1 126 O_LED_L
LED_2 69 R_LED_L

MCU_IO_0 129 IO0
MCU_IO_1 131 IO1
MCU_IO_2 128 IO2
MCU_IO_3 24 IO3
MCU_IO_4 35 IO4
MCU_IO_5 95 IO5
MCU_IO_6 96 IO6

Carrier_Module

Reset Button

XRES_L_MCU SW1 EVQ-PE105K

Carrier Module Signals

MOD1C

Note: Not all nets connected to Carrier_Module are actually connected to a Pin. Please refer module schematic for pinout details

100 WL_SDIO_DATA0
101 WL_SDIO_DATA1
102 WL_SDIO_DATA2
104 WL_SDIO_DATA3
103 WL_SDIO_CMD
99 WL_SDIO_CLK

14 WL_HOST_WAKE
15 WL_DEV_WAKE
16 WL_REG_ON

11 WL_UART_TX
12 WL_UART_RX
13 WL_IO_1
10 WL_IO_2

20 WL_JTAG_TCK
19 WL_JTAG_TMS
21 WL_JTAG_TRST_L
18 WL_JTAG_TDI
17 WL_JTAG_TDO
22 WL_JTAG_SEL

WL_UART_TX 11
WL_UART_RX 12
WL_GPIO_1 13
WL_GPIO_2 10

WL_JTAG_TCLK 20
WL_JTAG_TMS 19
WL_JTAG_TRST_L 21
WL_JTAG_TDI 18
WL_JTAG_TDO 17
WL_JTAG_SEL 22

BT_UART_TXD 108 BT_UART_TXD
BT_UART_RXD 106 BT_UART_RXD
BT_UART_CTS 107 BT_UART_CTS
BT_UART_RTS 109 BT_UART_RTS

BT_HOST_WAKE 122
BT_DEV_WAKE 120
BT_REG_ON 121

BT_I2S_CLK 112 BT_I2S_CLK
BT_I2S_WS 111 BT_I2S_WS
BT_I2S_DO 114 BT_I2S_DO
BT_I2S_DI 113 BT_I2S_DI

BT_IO_2 116 BT_GPIO_2
BT_IO_3 117 BT_GPIO_3
BT_IO_4 119 BT_GPIO_4
BT_IO_5 118 BT_GPIO_5

RFU_1 27
RFU_2 105

LPO_IN 110

Carrier_Module

CapSense Multiplexed Pins

PAD_CS_TX R33 2K R145 0 OHM No Load CS_RX_TX IO7
PAD_CSB0 R24 2K R144 0 OHM No Load CS_BTN_0 IO8
PAD_CSB1 R25 2K R143 0 OHM No Load CS_BTN_1 IO9
PAD_CSS0 R28 560 OHM R142 0 OHM No Load CS_SLD_0 IO10
PAD_CSS1 R29 560 OHM R152 0 OHM No Load CS_SLD_1 IO11
PAD_CSS2 R30 560 OHM R153 0 OHM No Load CS_SLD_2 IO12
PAD_CSS3 R31 560 OHM R151 0 OHM No Load CS_SLD_3 IO13
PAD_CSS4 R32 560 OHM R149 0 OHM No Load CS_SLD_4 IO14
PAD_CAP_SH No Load R38 0 OHM R155 0 OHM No Load CS_CAP_SH IO15

TRACE Multiplexed Pins

PAD_A11 No Load R117 0 OHM R129 0 OHM No Load A11 TRACEDATA_0
PAD_A10 No Load R123 0 OHM R128 0 OHM No Load A10 TRACEDATA_1
PAD_A9 No Load R124 0 OHM R127 0 OHM No Load A9 TRACEDATA_2
PAD_A8 No Load R125 0 OHM R126 0 OHM No Load A8 TRACEDATA_3

P6_USB_ID

IO2 R174 0 OHM No Load P6_USB_ID

Card Detect Multiplexing

ARD_D12 R159 0 OHM No Load
PAD_SD_CD_L R161 0 OHM No Load
R160 0 OHM No Load
SD_CD_L IO16

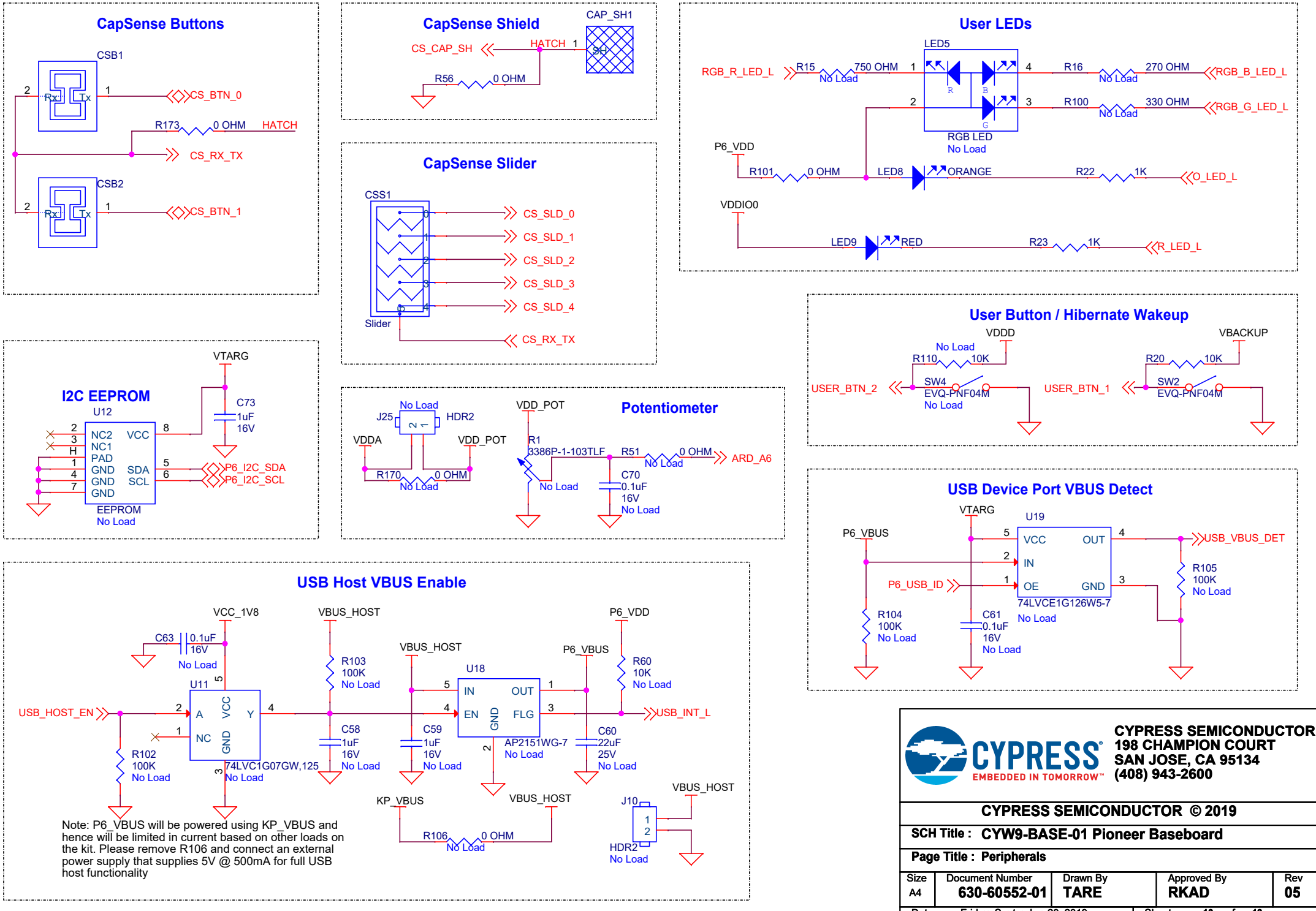
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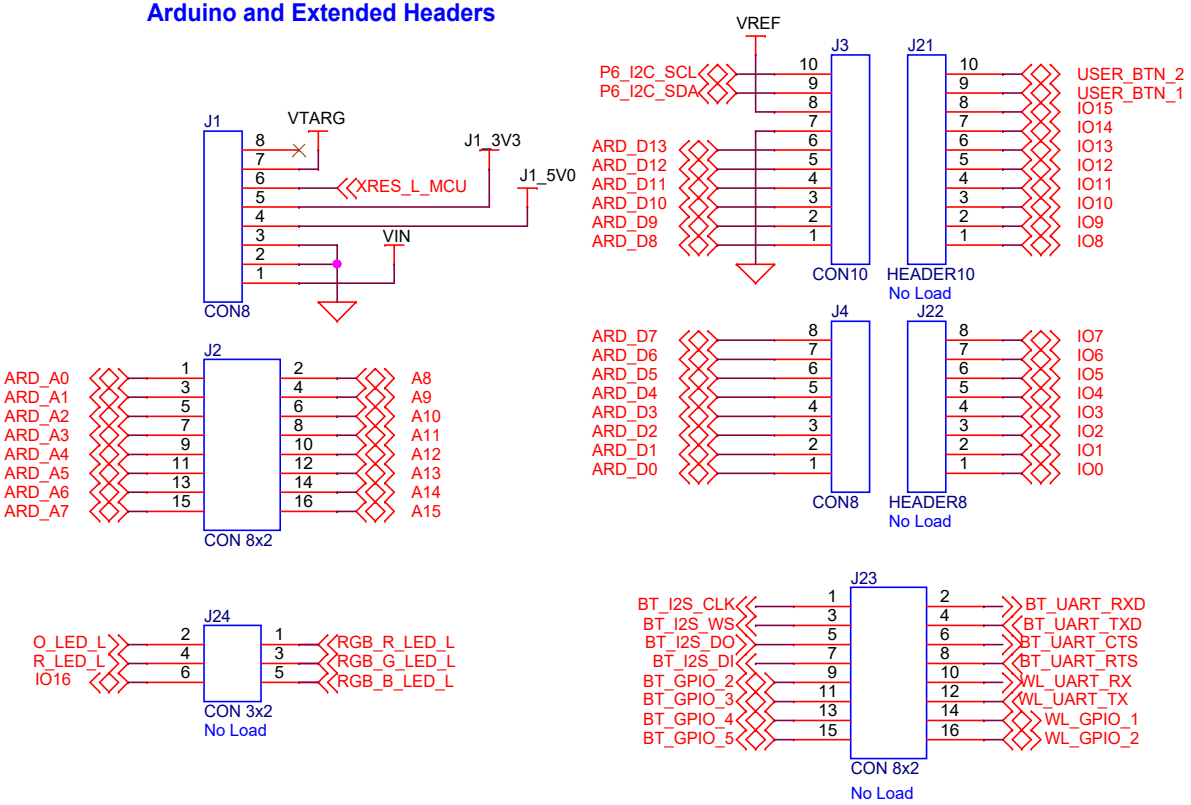
SCH Title : CYW9-BASE-01 Pioneer Baseboard
Page Title : Carrier Module Signals

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A4	630-60552-01	TARE	RKAD	05

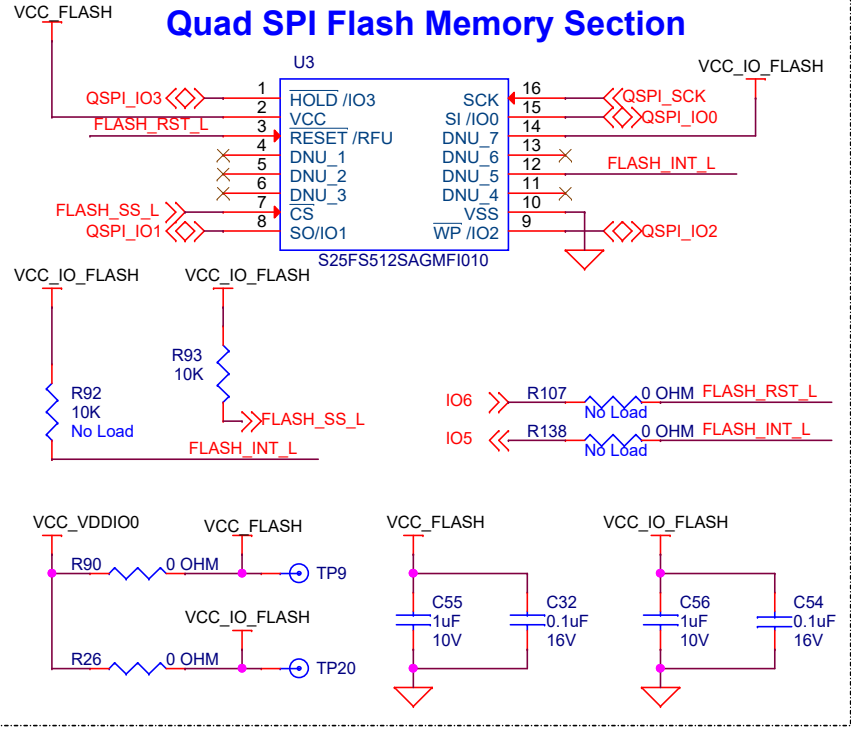
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CapSense Buttons
CSB1
CS_BTN_0
R173
0 OHM
HATCH
CS_RX_TX
CSB2
CS_BTN_1
CapSense Shield
CAP_SH1
CS_CAP_SH
HATCH
R56
0 OHM
CapSense Slider
CSS1
CS_SLD_0
CS_SLD_1
CS_SLD_2
CS_SLD_3
CS_SLD_4
CS_RX_TX
Slider
User LEDs
LED5
RGB_R_LED_L
R15
750 OHM
No Load
R16
270 OHM
RGB_B_LED_L
R100
330 OHM
RGB_G_LED_L
RGB LED
No Load
P6_VDD
R101
0 OHM
LED8
ORANGE
R22
1K
O_LED_L
VDDIO0
LED9
RED
R23
1K
R_LED_L
User Button / Hibernate Wakeup
VDDD
VBACKUP
R110
10K
R20
10K
USER_BTN_2
SW4
EVQ-PNF04M
USER_BTN_1
SW2
I2C EEPROM
VTARG
U12
C73
1uF
16V
NC2
NC1
PAD
GND
VCC
SDA
SCL
P6_I2C_SDA
P6_I2C_SCL
EEPROM
Potentiometer
J25
HDR2
VDDA
VDD_POT
R170
R1
3386P-1-103TLF
R51
ARD_A6
C70
0.1uF
USB Device Port VBUS Detect
P6_VBUS
U19
74LVCE1G126W5-7
P6_USB_ID
R104
100K
R105
USB_VBUS_DET
C61
USB Host VBUS Enable
VCC_1V8
VBUS_HOST
C63
R103
U11
U18
R60
USB_HOST_EN
R102
C58
C59
AP2151WG-7
C60
22uF
25V
USB_INT_L
74LVC1G07GW,125
KP_VBUS
R106
J10
HDR2
Note: P6_VBUS will be powered using KP_VBUS and hence will be limited in current based on other loads on the kit. Please remove R106 and connect an external power supply that supplies 5V @ 500mA for full USB host functionality
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SCH Title : CYW9-BASE-01 Pioneer Baseboard
Page Title : Peripherals
Size A4
Document Number 630-60552-01
Drawn By TARE
Approved By RKAD
Rev 05
Date: Friday, September 20, 2019
Sheet 10 of 13

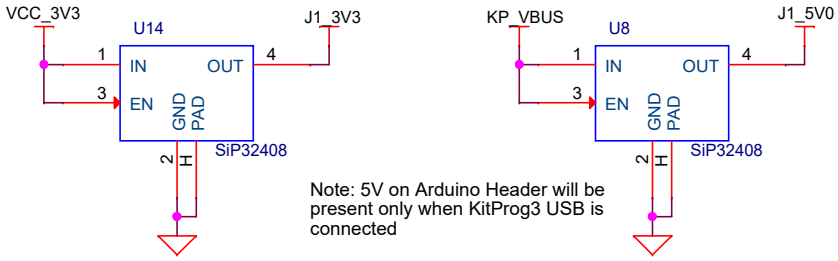
Arduino and Extended Headers



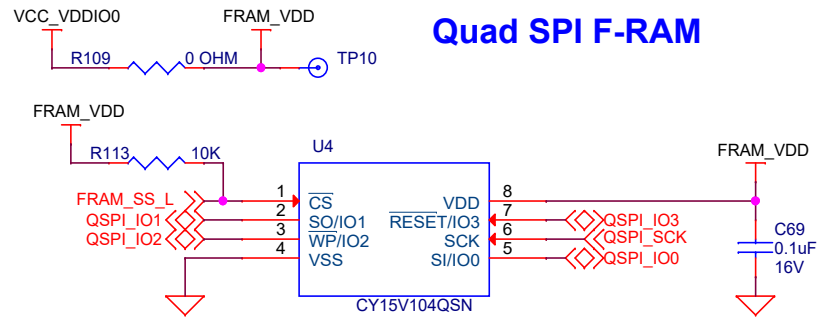
Quad SPI Flash Memory Section



Arduino Header O/P



Quad SPI F-RAM

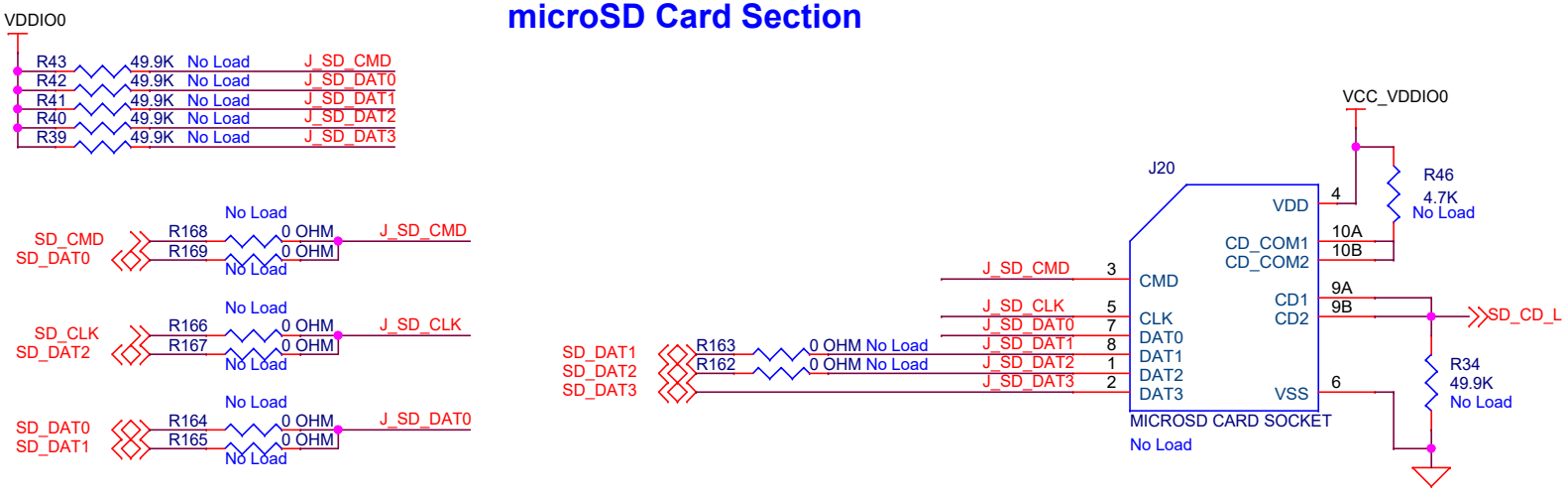


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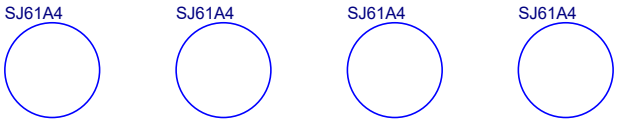
microSD Card Section

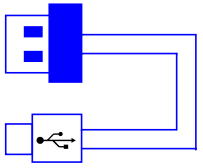


Note: Load R165, R167 and R169 and remove R162, R163, R164, R166 and R168 to change from SDHC to SPI interface for microSD card

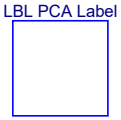
Accessories

Cylindrical Bump-ons

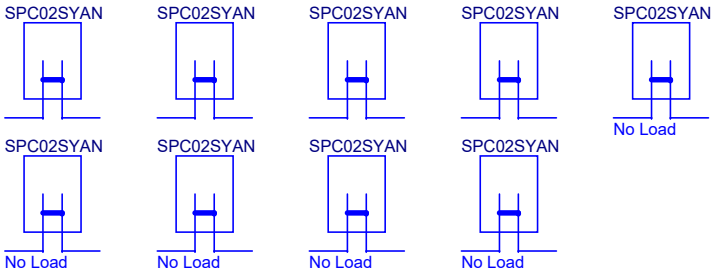




PCBA label



Jumper Shunts



Acrylic Overlay

Overlay

Color: Clear, Transparent
Finish: Matt

Dimensions:
45.21mm - length
36.93mm - height
1mm - thickness

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REVISION HISTORY

REV	DESCRIPTION OF CHANGE	DATE
01	Initial Internal Release	2019/05/13
02	Internal Release	2019/05/21
03	Internal Release	2019/07/23
04	Internal Release	2019/08/08
05	Initial Release	2019/09/18

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