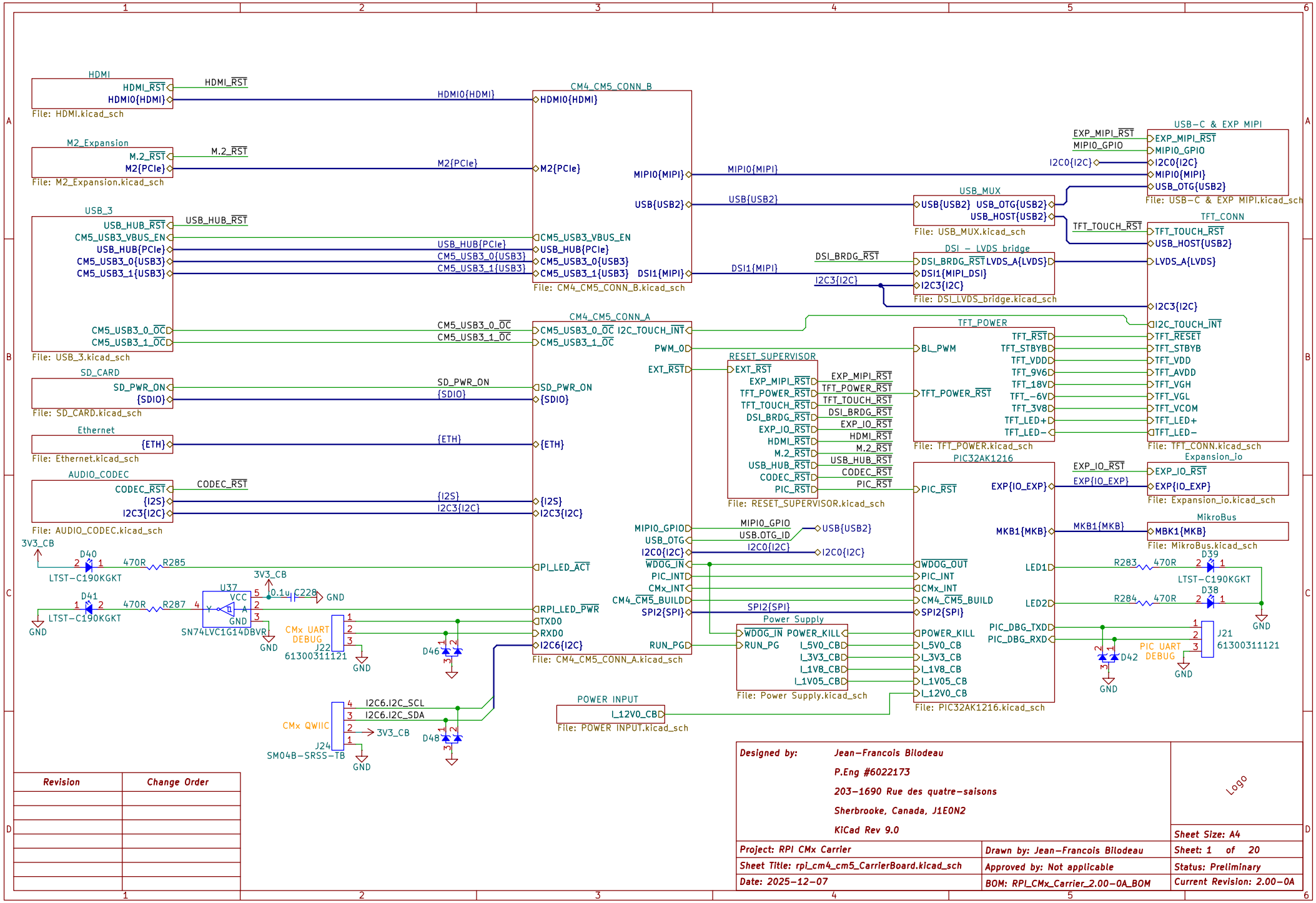
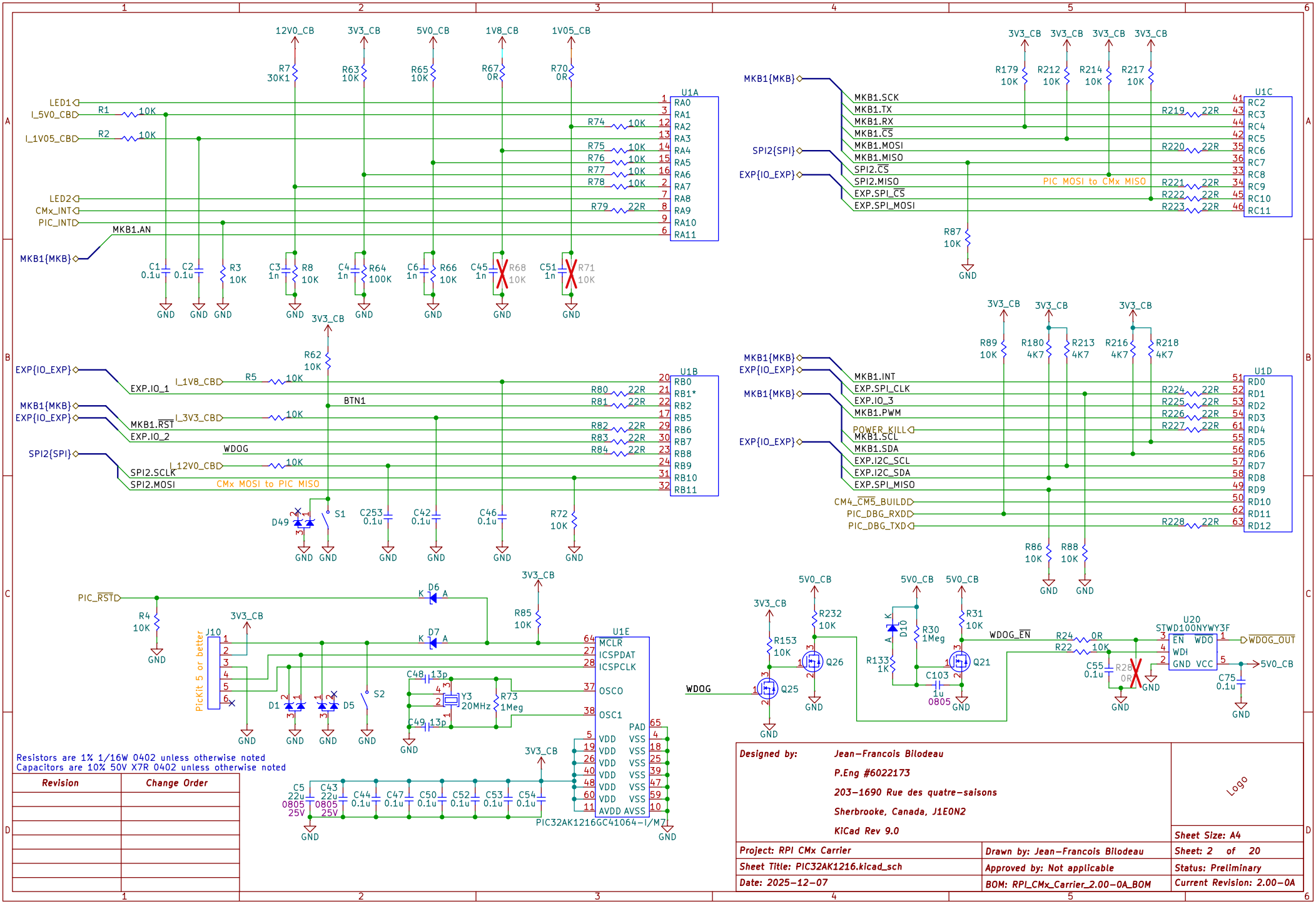


Revision	Change Order

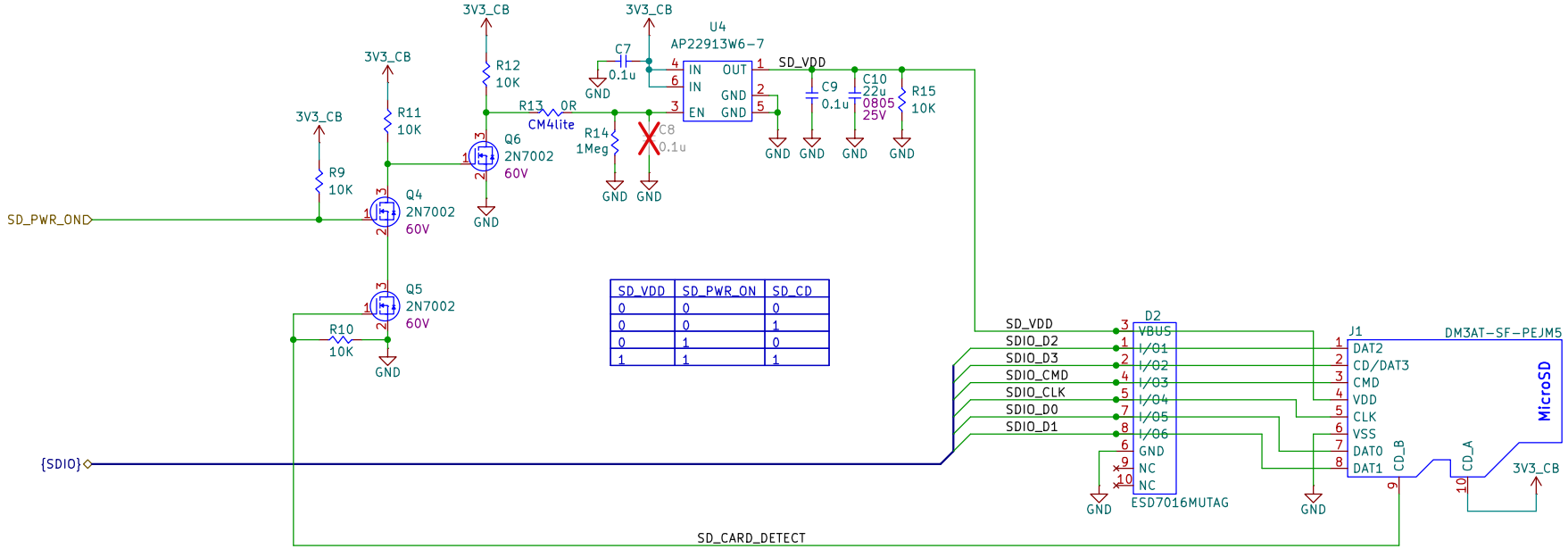
Designed by: Jean–Francois Bilodeau P.Eng #6022173 203–1690 Rue des quatre–saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean–Francois Bilodeau	Sheet Size: A4
Sheet Title: rpi_cm4_cm5_CarrierBoard.kicad_sch	Approved by: Not applicable	Sheet: 1 of 20
Date: 2025–12–07	BOM: RPI_CMx_Carrier_2.00–0A_BOM	Status: Preliminary
		Current Revision: 2.00–0A



Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: PIC32AK1216.kicad_sch	Approved by: Not applicable	Sheet: 2 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A

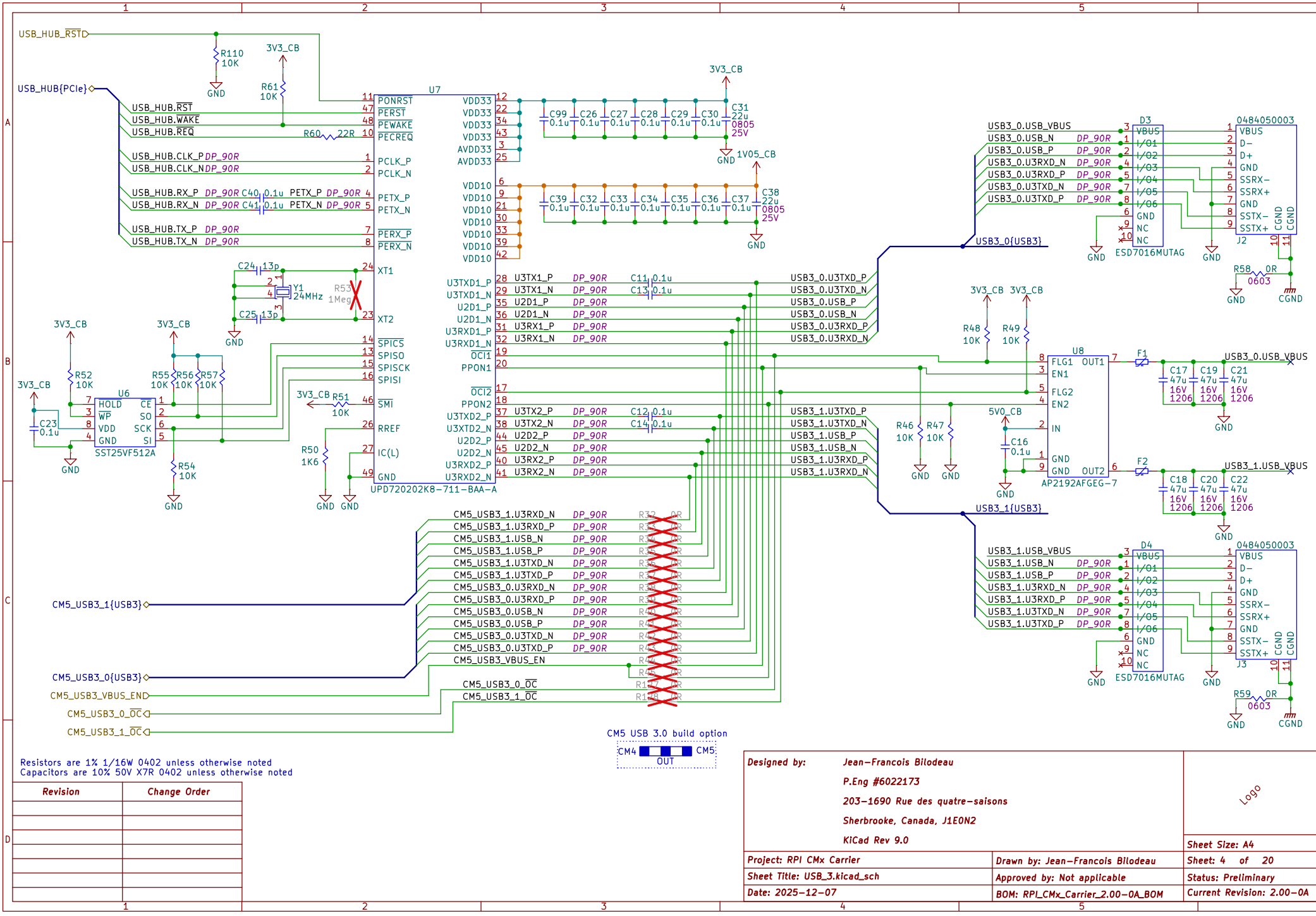


SD_VDD	SD_PWR_ON	SD_CD
0	0	0
0	0	1
0	1	0
1	1	1

Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

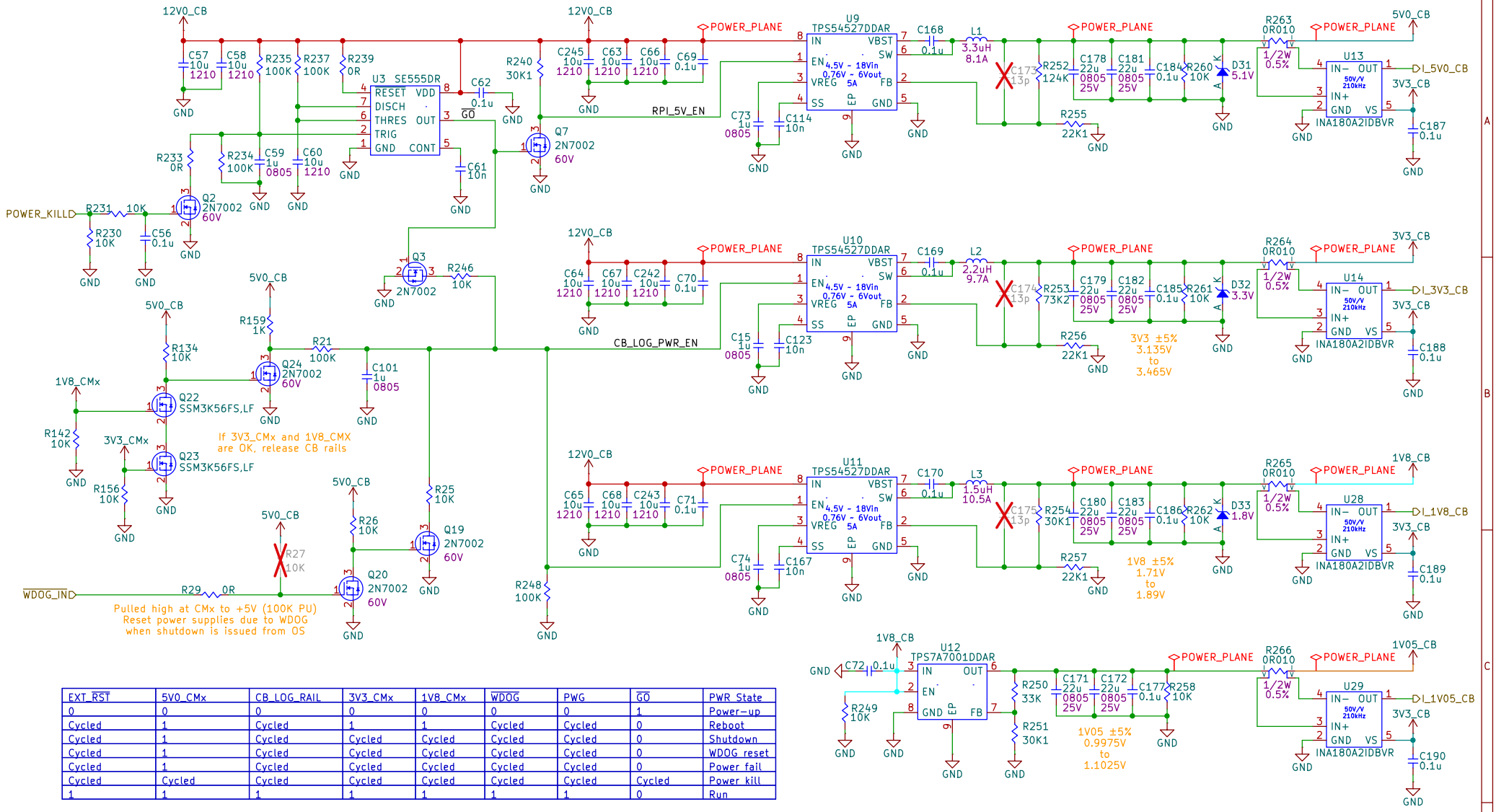
Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: SD_CARD.kicad_sch	Approved by: Not applicable	Sheet: 3 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A



Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
		Sheet Size: A4
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet: 4 of 20
Sheet Title: USB_3.kicad_sch	Approved by: Not applicable	Status: Preliminary
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Current Revision: 2.00-0A



EXT_RST	5V0_CMx	CB_LOG_RAIL	3V3_CMx	1V8_CMx	WDOG	PWG	GO	PWR State
0	0	0	0	0	0	0	1	Power-up
Cycled	1	Cycled	1	1	Cycled	Cycled	0	Reboot
Cycled	1	Cycled	Cycled	Cycled	Cycled	Cycled	0	Shutdown
Cycled	1	Cycled	Cycled	Cycled	Cycled	Cycled	0	WDOG reset
Cycled	1	Cycled	Cycled	Cycled	Cycled	Cycled	0	Power fail
Cycled	Cycled	Cycled	Cycled	Cycled	Cycled	Cycled	Cycled	Power kill
1	1	1	1	1	1	1	0	Run

Power rail	12V0_CB	5V0_CB	3V3_CB	1V8_CB	1V05_CB
V(min)	11.60V	4.75V	3.135V	1.71V	0.9975V
V(nom)	12.00V	5.00V	3.30V	1.80V	1.05V
V(max)	12.40V	5.25V	3.465V	1.89V	1.1025V
I(max)	2.7A	3A	3.5A	0.8A	0.6A
Efficiency	N/A	90%	90%	85%	58%

Power rail	Voltage monitor
12V0_CB	2.99V ± 5%
5V0_CB	2.50V ± 5%
3V3_CB	3.00V ± 5%
1V8_CB	1.80V ± 5%
1V05_CB	1.05V ± 5%

Current sense	Output voltage
1A	0.50V ± 5%
2A	1.00V ± 5%
3A	1.50V ± 5%
4A	2.00V ± 5%
5A	2.50V ± 5%

Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

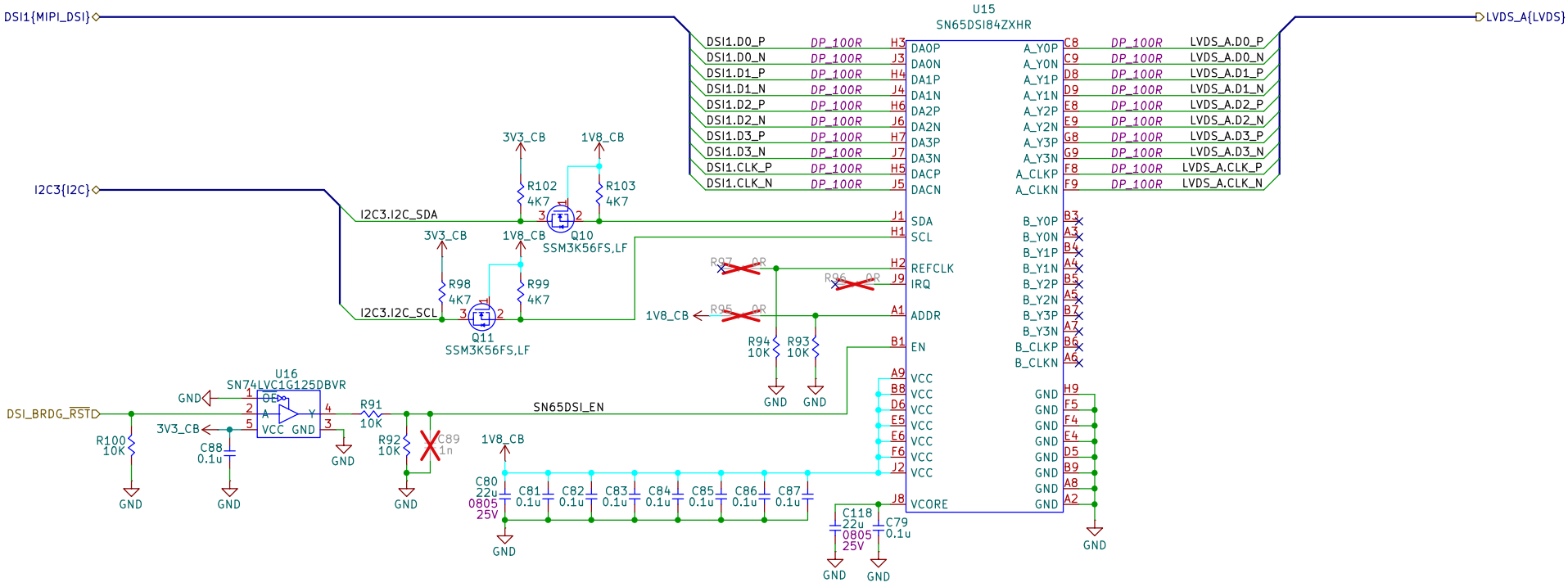
Revision	Change Order

Designed by: Jean-Francois Bilodeau
P.Eng #6022173
203-1690 Rue des quatre-saisons
Sherbrooke, Canada, J1E0N2

KiCad Rev 9.0

Logo

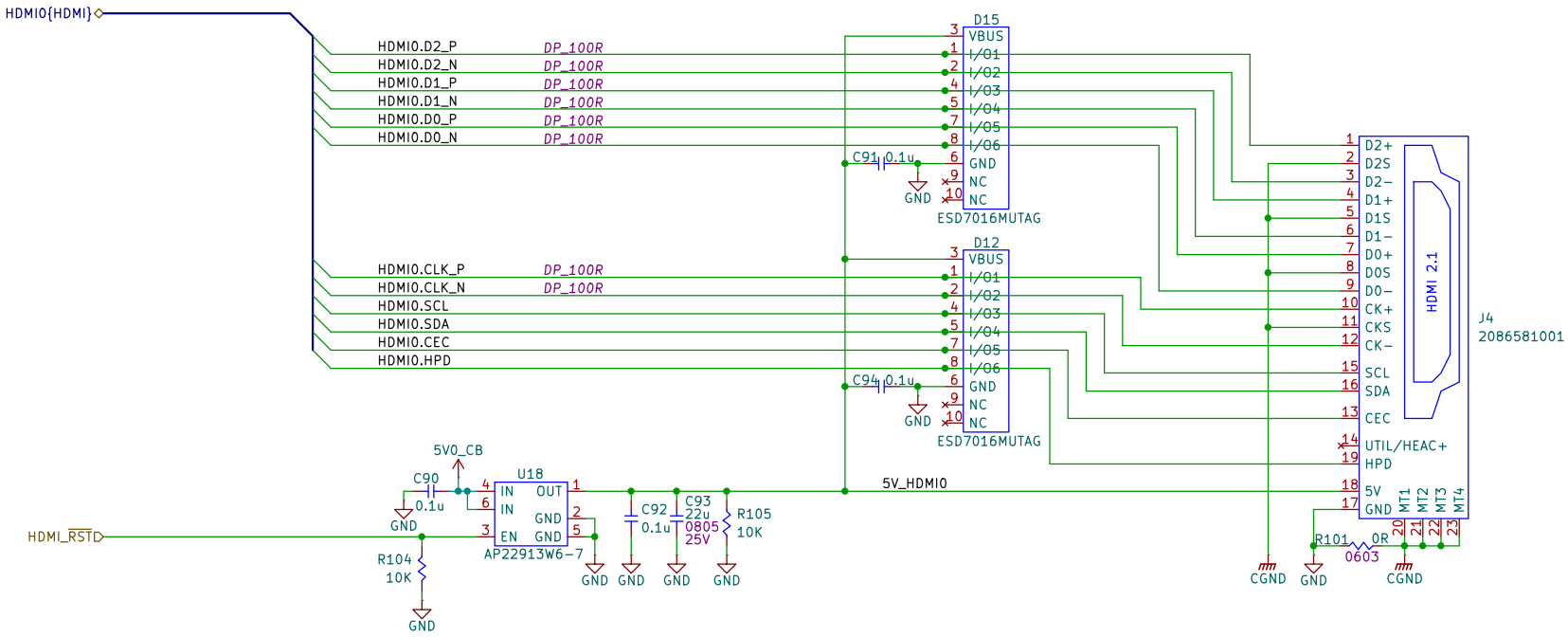
Project: RPI CMx Carrier
Drawn by: Jean-Francois Bilodeau
Sheet Size: A4
Sheet Title: Power Supply.kicad_sch
Approved by: Not applicable
Sheet: 5 of 20
Date: 2025-12-07
BOM: RPI_CMx_Carrier_2.00-0A_BOM
Status: Preliminary
Current Revision: 2.00-0A



Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

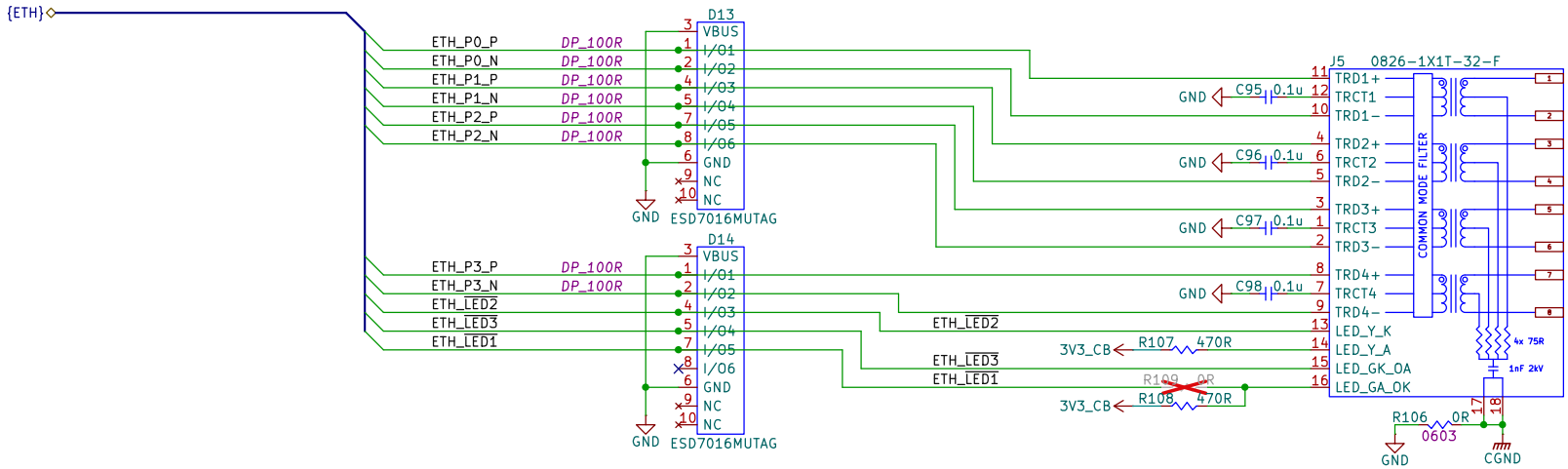
Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: DSI_LVDS_bridge.kicad_sch	Approved by: Not applicable	Sheet: 6 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A



Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

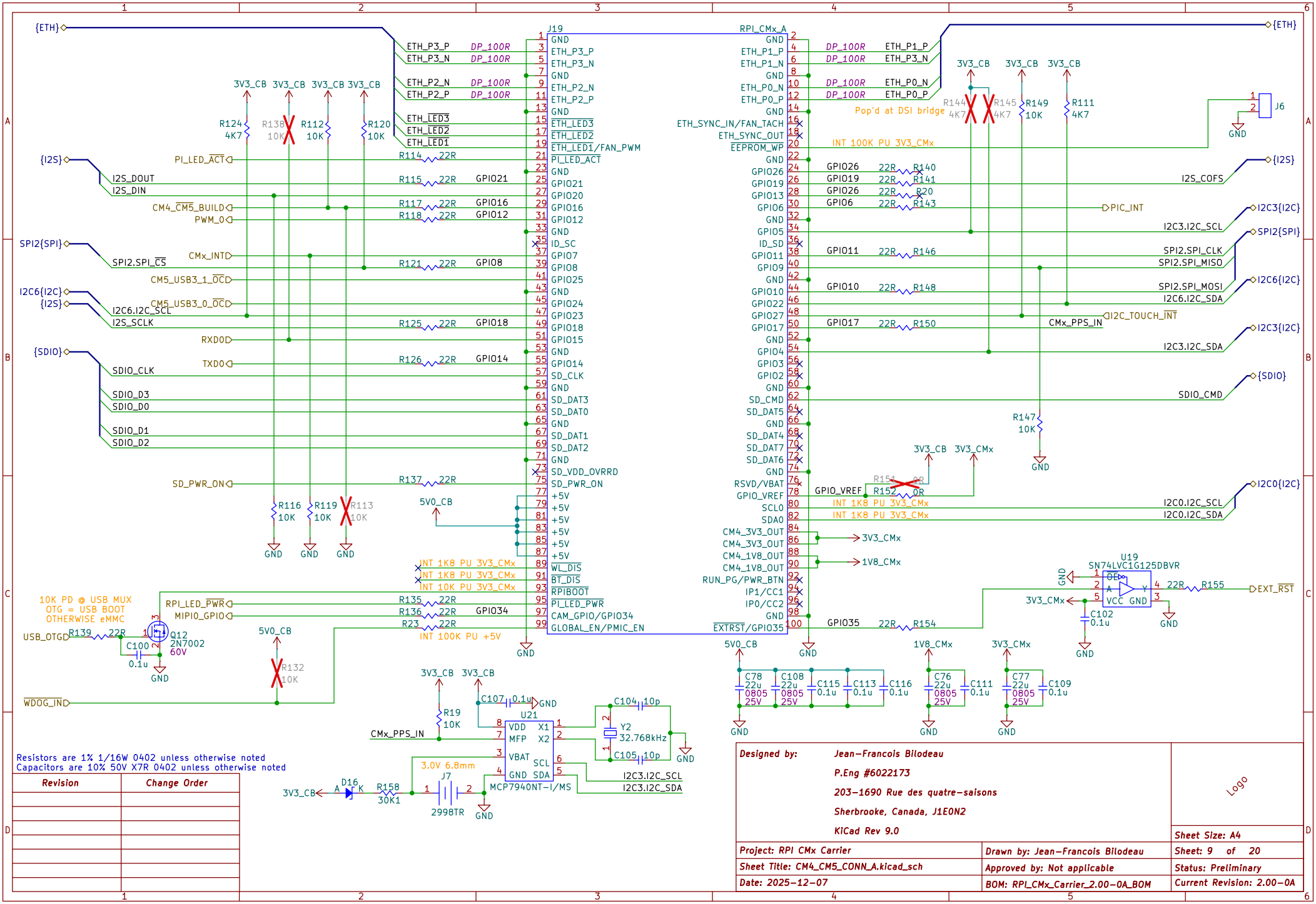
Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: HDMI.kicad_sch	Approved by: Not applicable	Sheet: 7 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A

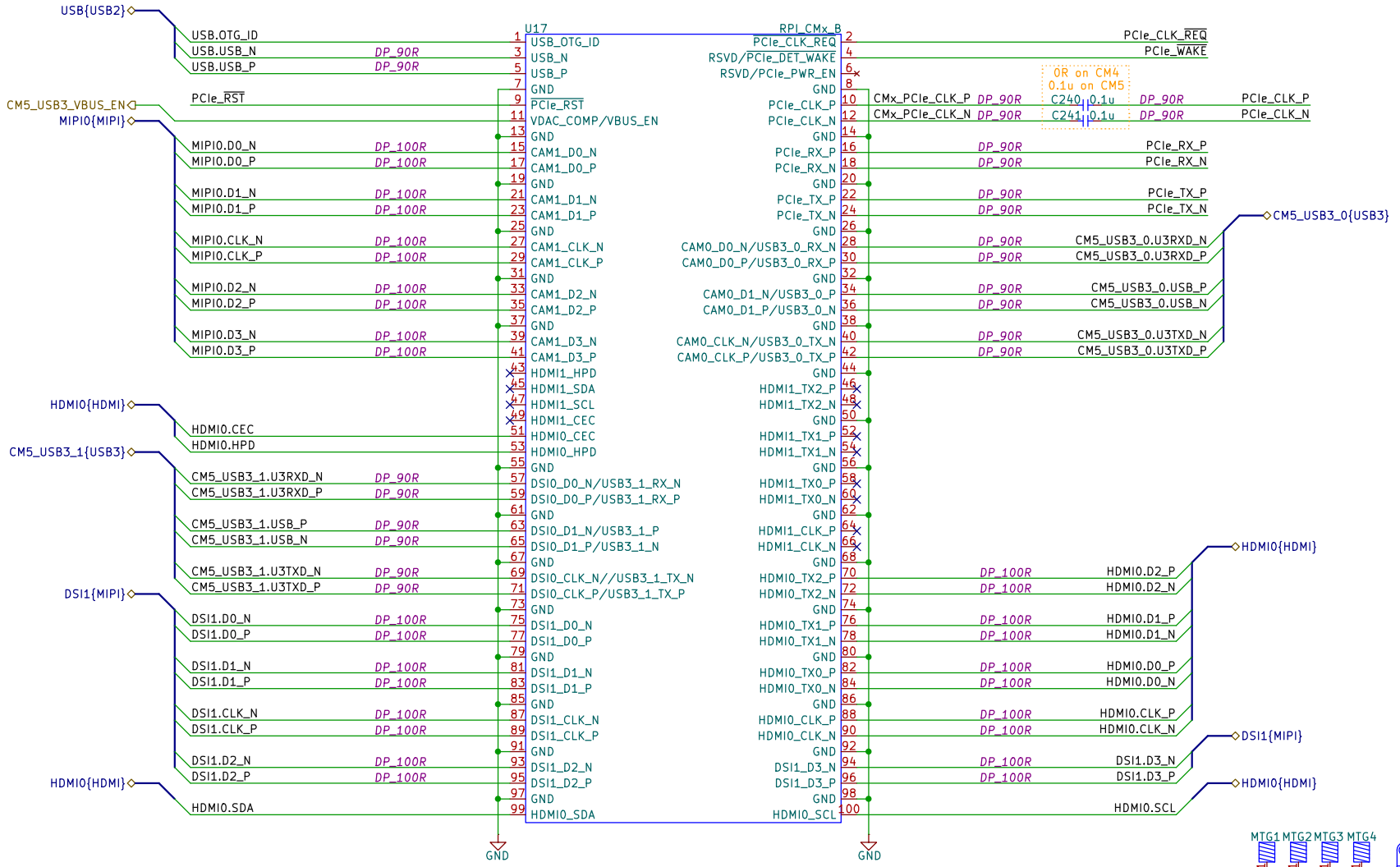


Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
		Sheet Size: A4
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet: 8 of 20
Sheet Title: Ethernet.kicad_sch	Approved by: Not applicable	Status: Preliminary
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Current Revision: 2.00-0A


{ETH}
J19
RPI_CMx_A
ETH_P3_P DP_100R
ETH_P3_N DP_100R
ETH_P2_N DP_100R
ETH_P2_P DP_100R
ETH_P1_P DP_100R
ETH_P1_N DP_100R
ETH_P0_N DP_100R
ETH_P0_P DP_100R
3V3_CB
R124 4K7
R138 10K
R112 10K
R120 10K
R144 4K7
R145 4K7
R149 10K
R111 4K7
Pop'd at DSI bridge
J6
{I2S}
PI_LED_ACT
I2S_DOUT
I2S_DIN
CM4_CM5_BUILD
PWM_0
SPI2{SPI}
SPI2.SPI_CS
CMx_INT
I2C6{I2C}
I2C6.I2C_SCL
I2S_SCLK
RXD0
{SDIO}
SDIO_CLK
SDIO_D3
SDIO_D0
SDIO_D1
SDIO_D2
TXD0
SD_PWR_ON
R114 22R
R115 22R GPIO21
R117 22R GPIO16
R118 22R GPIO12
R121 22R GPIO8
R125 22R GPIO18
R126 22R GPIO14
R137 22R
ETH_LED3
ETH_LED2
ETH_LED1/FAN_PWM
PI_LED_ACT
ID_SC
GPIO7
GPIO8
GPIO25
GPIO24
GPIO23
GPIO18
GPIO15
GPIO14
SD_CLK
SD_DAT3
SD_DAT0
SD_DAT1
SD_DAT2
SD_VDD_OVRRD
SD_PWR_ON
+5V
WL_DIS
BT_DIS
RPIBOOT
PI_LED_PWR
CAM_GPIO/GPIO34
GLOBAL_EN/PMIC_EN
ETH_SYNC_IN/FAN_TACH
ETH_SYNC_OUT
EEPROM_WP
GPIO26
GPIO19
GPIO13
GPIO6
GPIO5
ID_SD
GPIO11
GPIO9
GPIO10
GPIO22
GPIO27
GPIO17
GPIO4
GPIO3
GPIO2
SD_CMD
SD_DAT5
SD_DAT4
SD_DAT7
SD_DAT6
RSVD/VBAT
GPIO_VREF
SCL0
SDA0
CM4_3V3_OUT
CM4_1V8_OUT
RUN_PG/PWR_BTN
IP1/CC1
IP0/CC2
EXTRST/GPIO35
INT 100K PU 3V3_CMx
INT 1K8 PU 3V3_CMx
INT 10K PU 3V3_CMx
INT 100K PU +5V
GPIO26 22R R140
GPIO19 22R R141
GPIO26 22R R20
GPIO6 22R R143
GPIO11 22R R146
GPIO10 22R R148
GPIO17 22R R150
GPIO35 22R R154
R147 10K
R151 0R
R152 0R
I2S_COFS
PIC_INT
I2C3.I2C_SCL
SPI2.SPI_CLK
SPI2.SPI_MISO
SPI2.SPI_MOSI
I2C6.I2C_SDA
I2C_TOUCH_INT
CMx_PPS_IN
I2C3.I2C_SDA
SDIO_CMD
I2C0.I2C_SCL
I2C0.I2C_SDA
3V3_CMx
1V8_CMx
5V0_CB
GND
10K PD @ USB MUX
OTG = USB BOOT
OTHERWISE eMMC
USB_OTG
R139 22R
Q12
2N7002
60V
C100 0.1u
R132 10K
WDOG_IN
R135 22R
R136 22R GPIO34
R23 22R
RPI_LED_PWR
MIPI0_GPIO
U19
SN74LVC1G125DBVR
R155 22R
EXT_RST
C102 0.1u
C78 22u 0805 25V
C108 22u 0805 25V
C115 0.1u
C113 0.1u
C116 0.1u
C76 22u 0805 25V
C111 0.1u
C77 22u 0805 25V
C109 0.1u
U21
MCP7940NT-I/MS
VDD X1
MFP X2
VBAT SCL
GND SDA
R19 10K
C107 0.1u
C104 10p
C105 10p
Y2
32.768kHz
CMx_PPS_IN
I2C3.I2C_SCL
I2C3.I2C_SDA
3.0V 6.8mm
J7
2998TR
D16
R158 30K1
Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted
Revision
Change Order
Designed by: Jean-Francois Bilodeau
P.Eng #6022173
203-1690 Rue des quatre-saisons
Sherbrooke, Canada, J1E0N2
KiCad Rev 9.0
Logo
Project: RPI CMx Carrier
Drawn by: Jean-Francois Bilodeau
Sheet Title: CM4_CM5_CONN_A.kicad_sch
Approved by: Not applicable
Date: 2025-12-07
BOM: RPI_CMx_Carrier_2.00-0A_BOM
Sheet Size: A4
Sheet: 9 of 20
Status: Preliminary
Current Revision: 2.00-0A



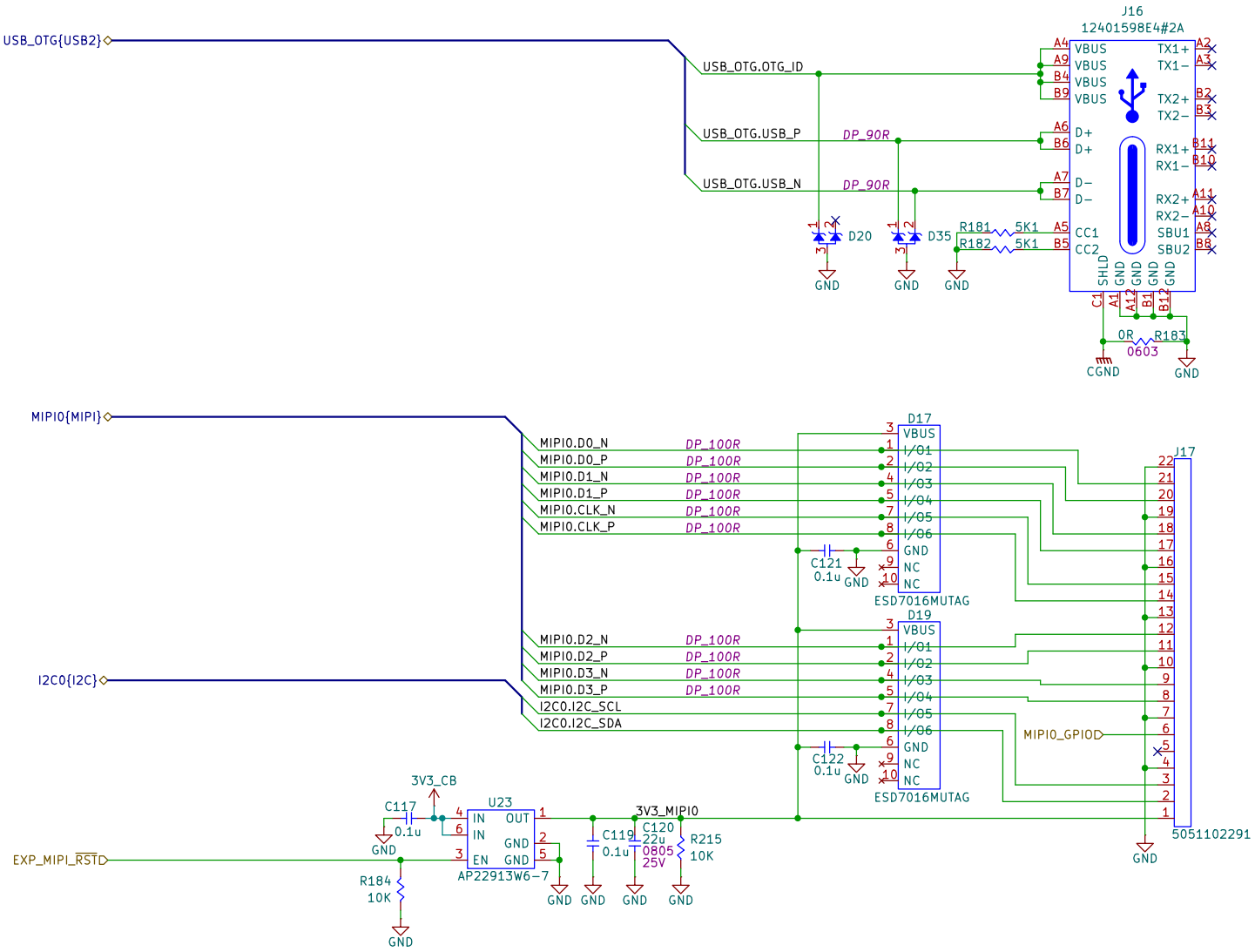
Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

Designed by:	Jean-Francois Bilodeau
	P.Eng #6022173
	203-1690 Rue des quatre-saisons
	Sherbrooke, Canada, J1E0N2
	KiCad Rev 9.0

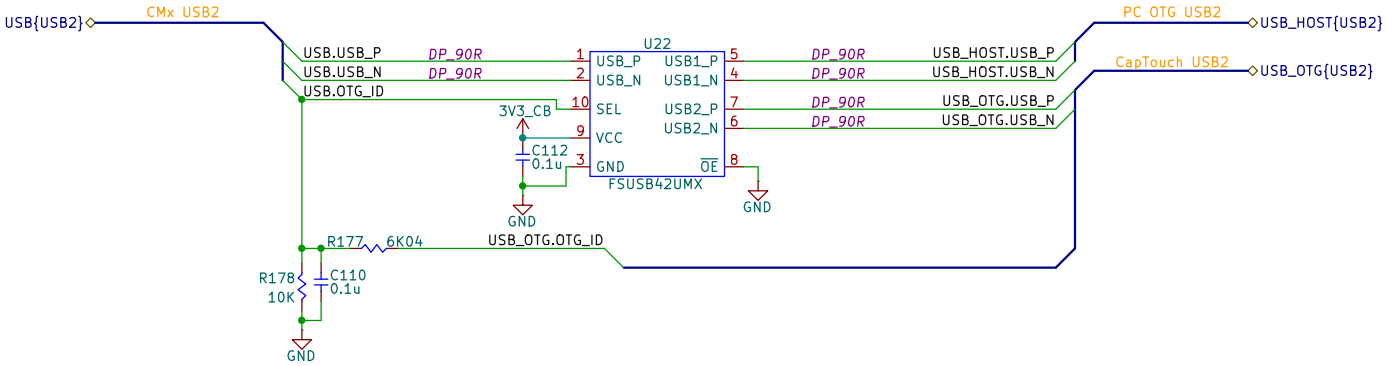
Logo

Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: CM4_CM5_CONN_B.kicad_sch	Approved by: Not applicable	Sheet: 10 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A



Revision	Change Order

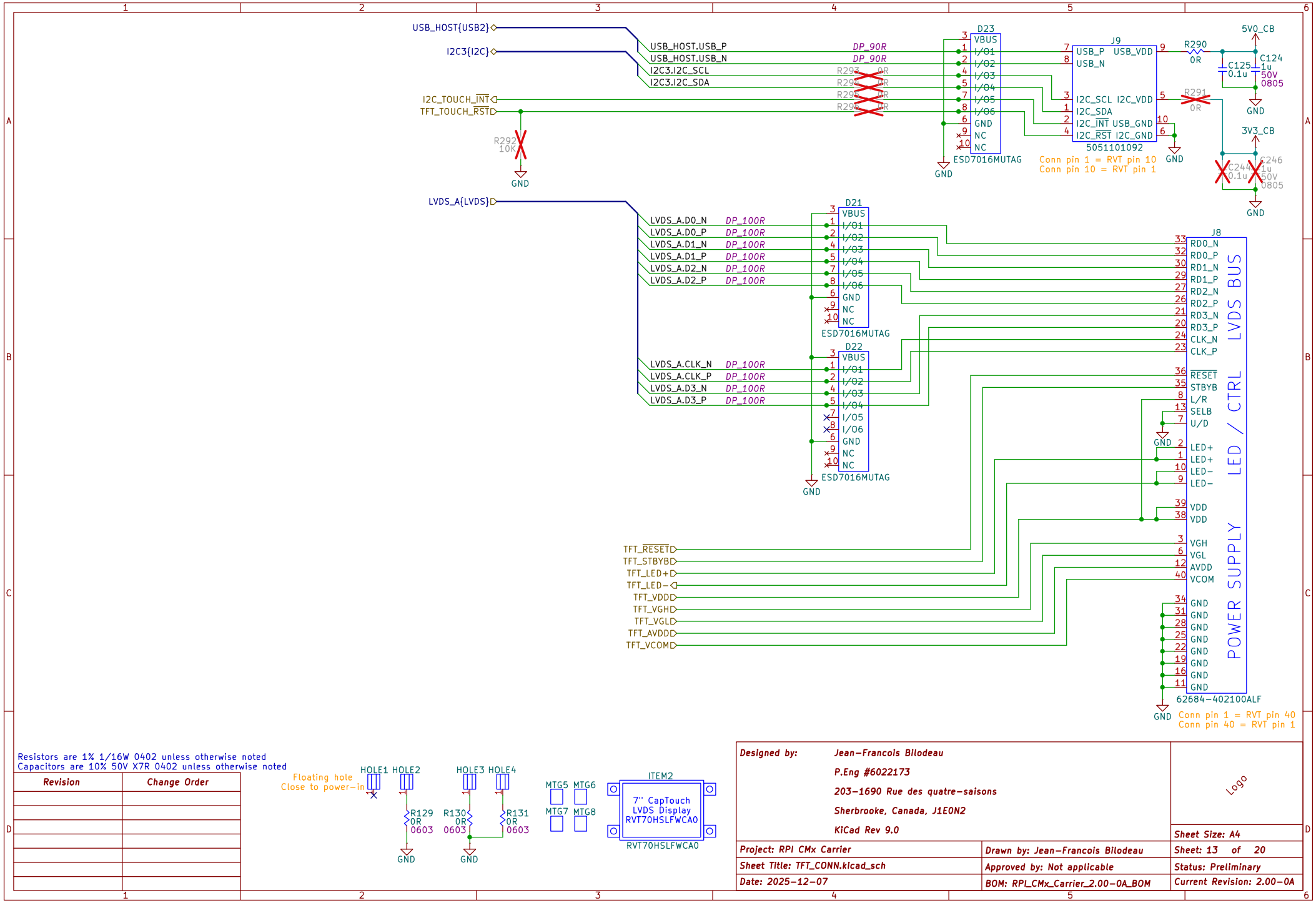
Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: USB-C & EXP MIPI.kicad_sch	Approved by: Not applicable	Sheet: 11 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A

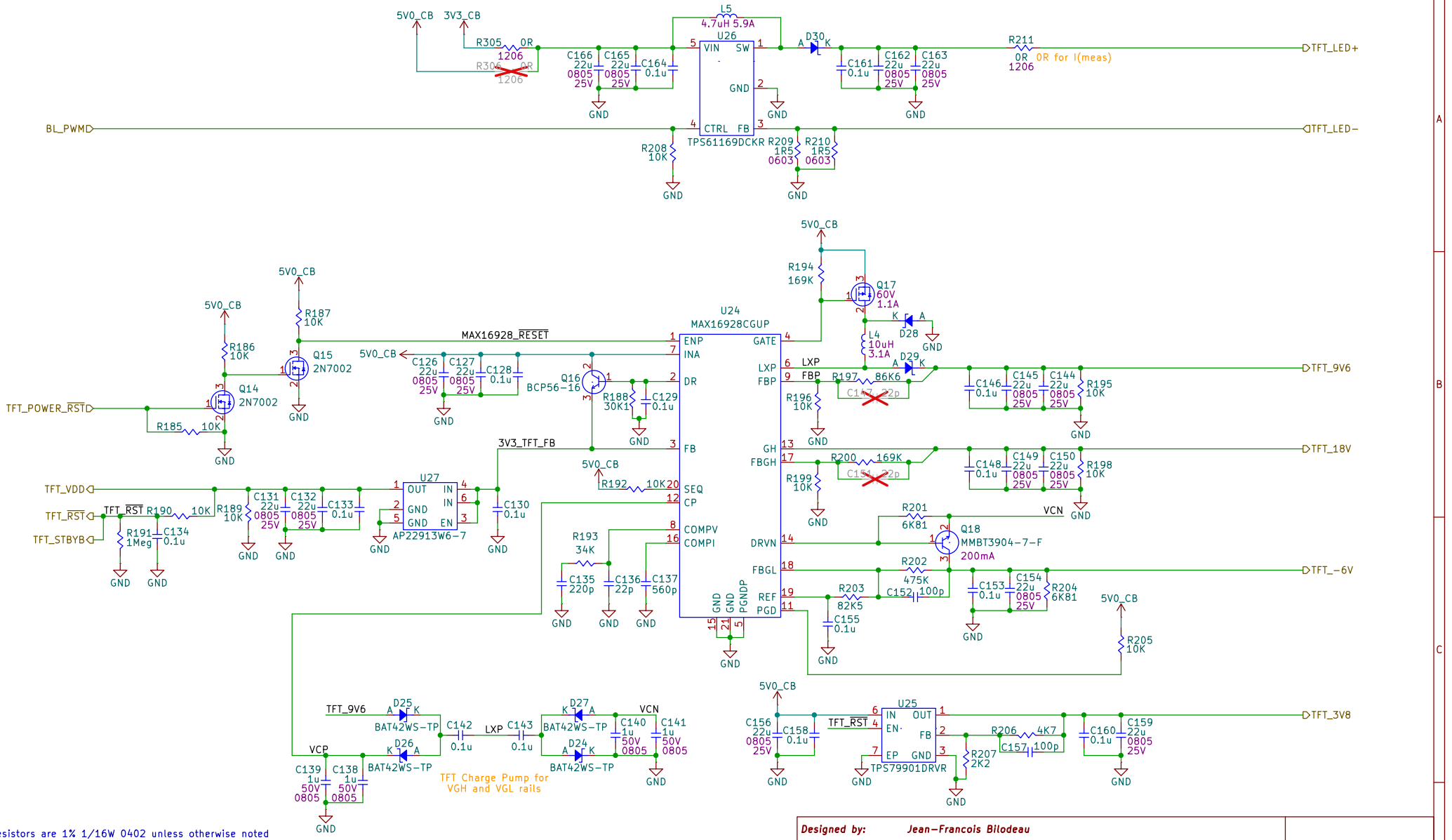


Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: USB_MUX.kicad_sch	Approved by: Not applicable	Sheet: 12 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A


USB_HOST{USB2}
I2C3{I2C}
I2C_TOUCH_INT
TFT_TOUCH_RST
R292 10K
GND
USB_HOST.USB_P
USB_HOST.USB_N
I2C3.I2C_SCL
I2C3.I2C_SDA
DP_90R
R293 0R
R294 0R
R295 0R
R296 0R
D23
VBUS
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
GND
NC
NC
ESD7016MUTAG
J9
USB_P USB_VDD
USB_N
I2C_SCL I2C_VDD
I2C_SDA
I2C_INT USB_GND
I2C_RST I2C_GND
5051101092
Conn pin 1 = RVT pin 10
Conn pin 10 = RVT pin 1
R290 0R
R291 0R
5V0_CB
C125 0.1u
C124 1u 50V 0805
3V3_CB
C244 0.1u
C246 1u 50V 0805
LVDS_A{LVDS}
LVDS_A.D0_N
LVDS_A.D0_P
LVDS_A.D1_N
LVDS_A.D1_P
LVDS_A.D2_N
LVDS_A.D2_P
LVDS_A.CLK_N
LVDS_A.CLK_P
LVDS_A.D3_N
LVDS_A.D3_P
DP_100R
D21
D22
J8
RD0_N
RD0_P
RD1_N
RD1_P
RD2_N
RD2_P
RD3_N
RD3_P
CLK_N
CLK_P
RESET
STBYB
L/R
SELB
U/D
LED+
LED-
VDD
VGH
VGL
AVDD
VCOM
POWER SUPPLY LED / CTRL LVDS BUS
62684-402100ALF
Conn pin 1 = RVT pin 40
Conn pin 40 = RVT pin 1
TFT_RESET
TFT_STBYB
TFT_LED+
TFT_LED-
TFT_VDDD
TFT_VGHD
TFT_VGLD
TFT_AVDDD
TFT_VCOMD
Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted
Floating hole
Close to power-in
HOLE1 HOLE2 HOLE3 HOLE4
R129 0R 0603
R130 0R 0603
R131 0R 0603
MTG5 MTG6 MTG7 MTG8
ITEM2
7" CapTouch LVDS Display RVT70HSLFWCA0
RVT70HSLFWCA0
Designed by: Jean-Francois Bilodeau
P.Eng #6022173
203-1690 Rue des quatre-saisons
Sherbrooke, Canada, J1E0N2
KiCad Rev 9.0
Logo
Project: RPI CMx Carrier
Drawn by: Jean-Francois Bilodeau
Sheet Size: A4
Sheet Title: TFT_CONN.kicad_sch
Approved by: Not applicable
Sheet: 13 of 20
Date: 2025-12-07
BOM: RPI_CMx_Carrier_2.00-0A_BOM
Status: Preliminary
Current Revision: 2.00-0A
Revision
Change Order



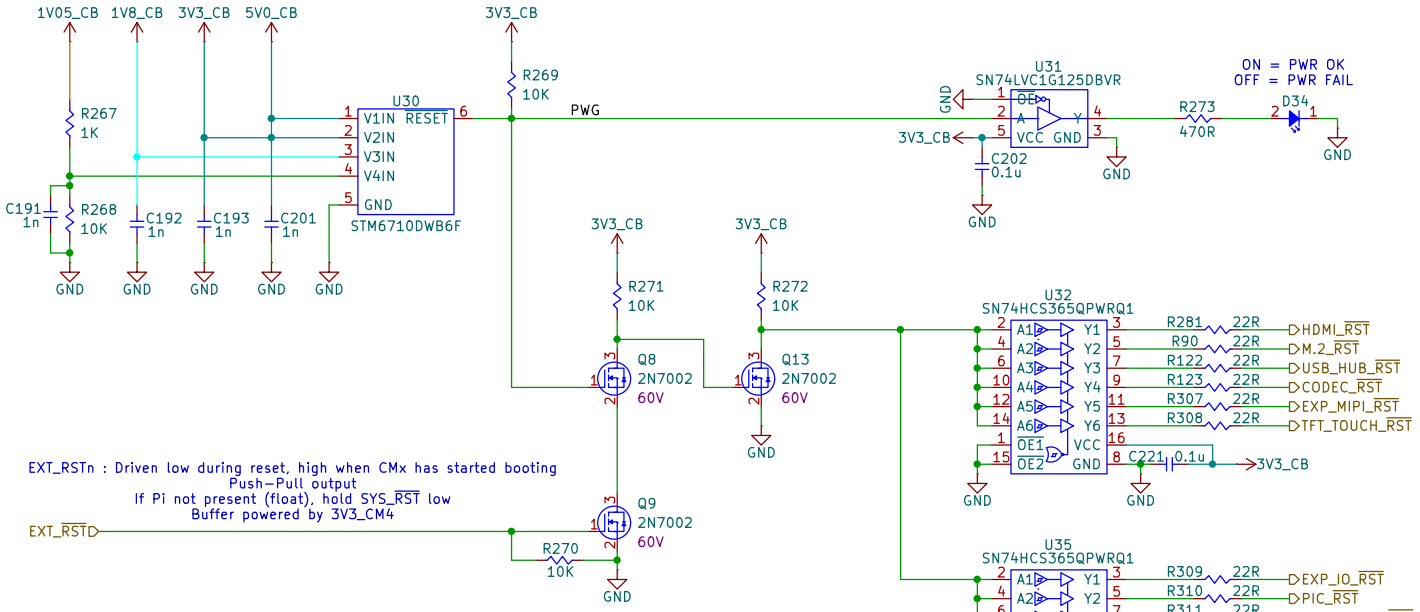
Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

Revision	Change Order

Designed by:	Jean-Francois Bilodeau
	P.Eng #6022173
	203-1690 Rue des quatre-saisons
	Sherbrooke, Canada, J1E0N2
	KiCad Rev 9.0

Logo

Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: TFT_POWER.kicad_sch	Approved by: Not applicable	Sheet: 14 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A

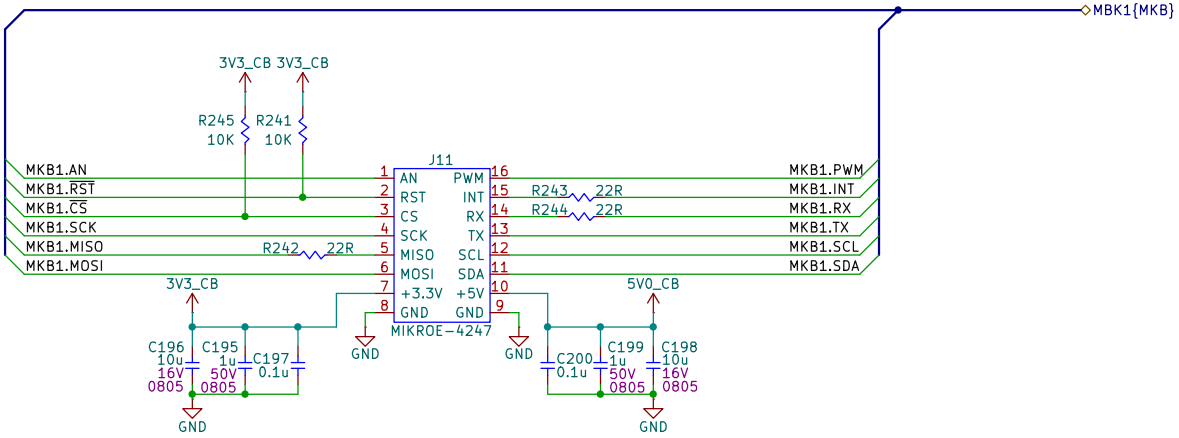


PER_RST	EXT_RST	PWG
0	0	0
0	0	1
0	1	0
1	1	1

Resistors are 1% 1/16W 0402 unless otherwise noted
Capacitors are 10% 50V X7R 0402 unless otherwise noted

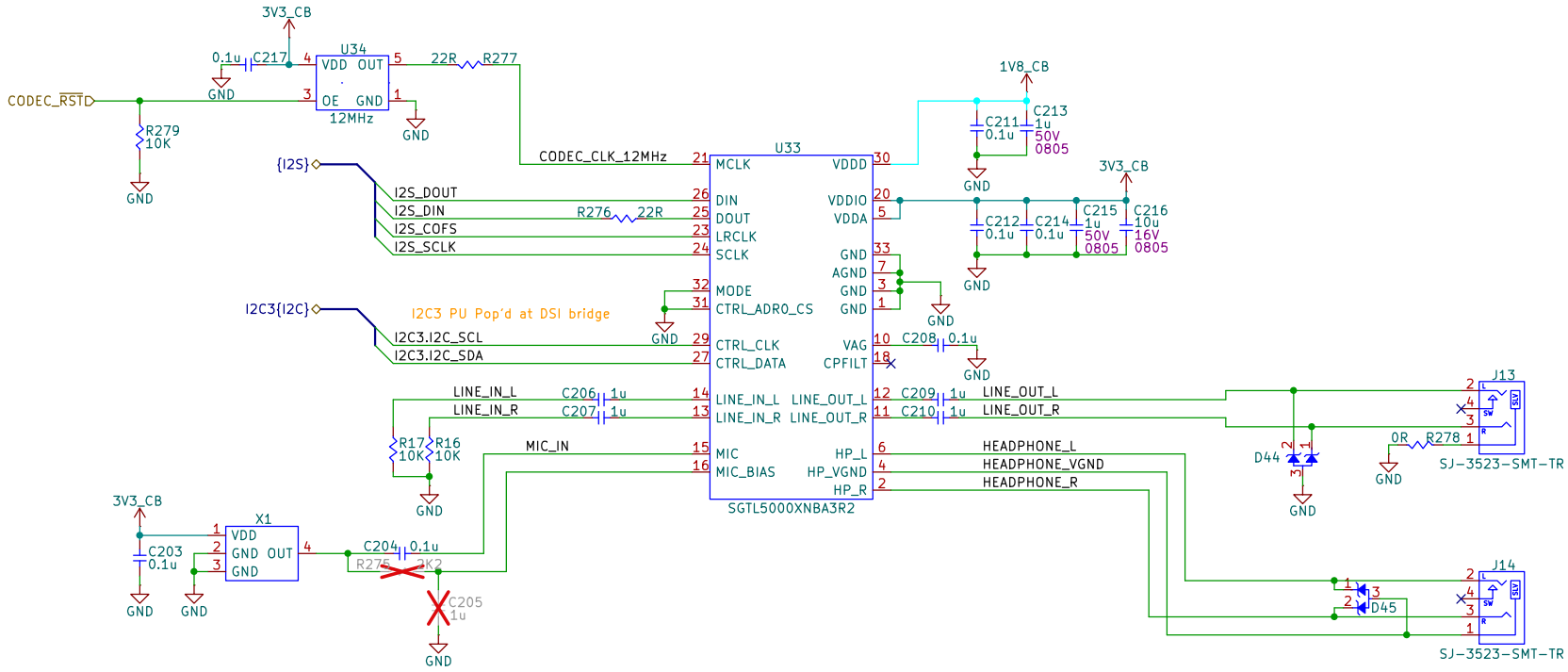
Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: RESET_SUPERVISOR.kicad_sch	Approved by: Not applicable	Sheet: 15 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A



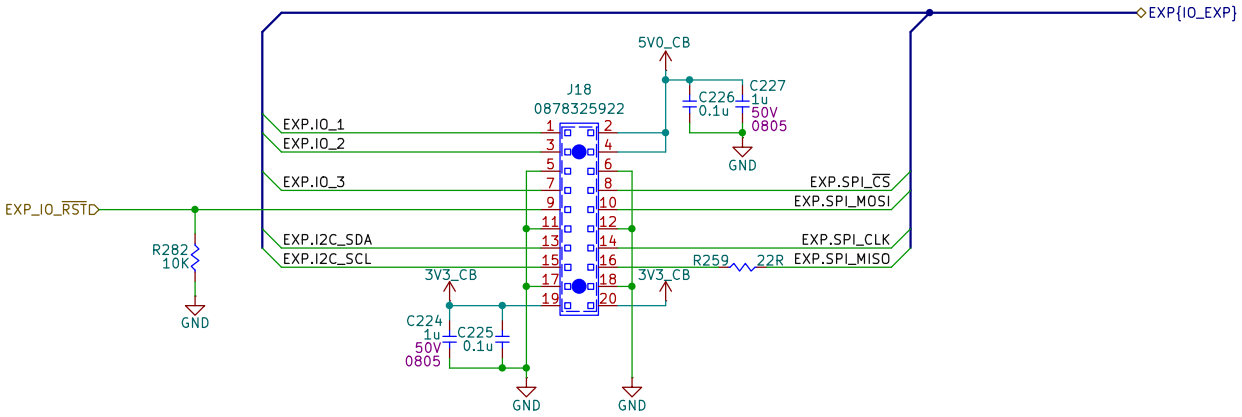
Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo Sheet Size: A4
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet: 16 of 20
Sheet Title: MikroBus.kicad_sch	Approved by: Not applicable	Status: Preliminary
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Current Revision: 2.00-0A



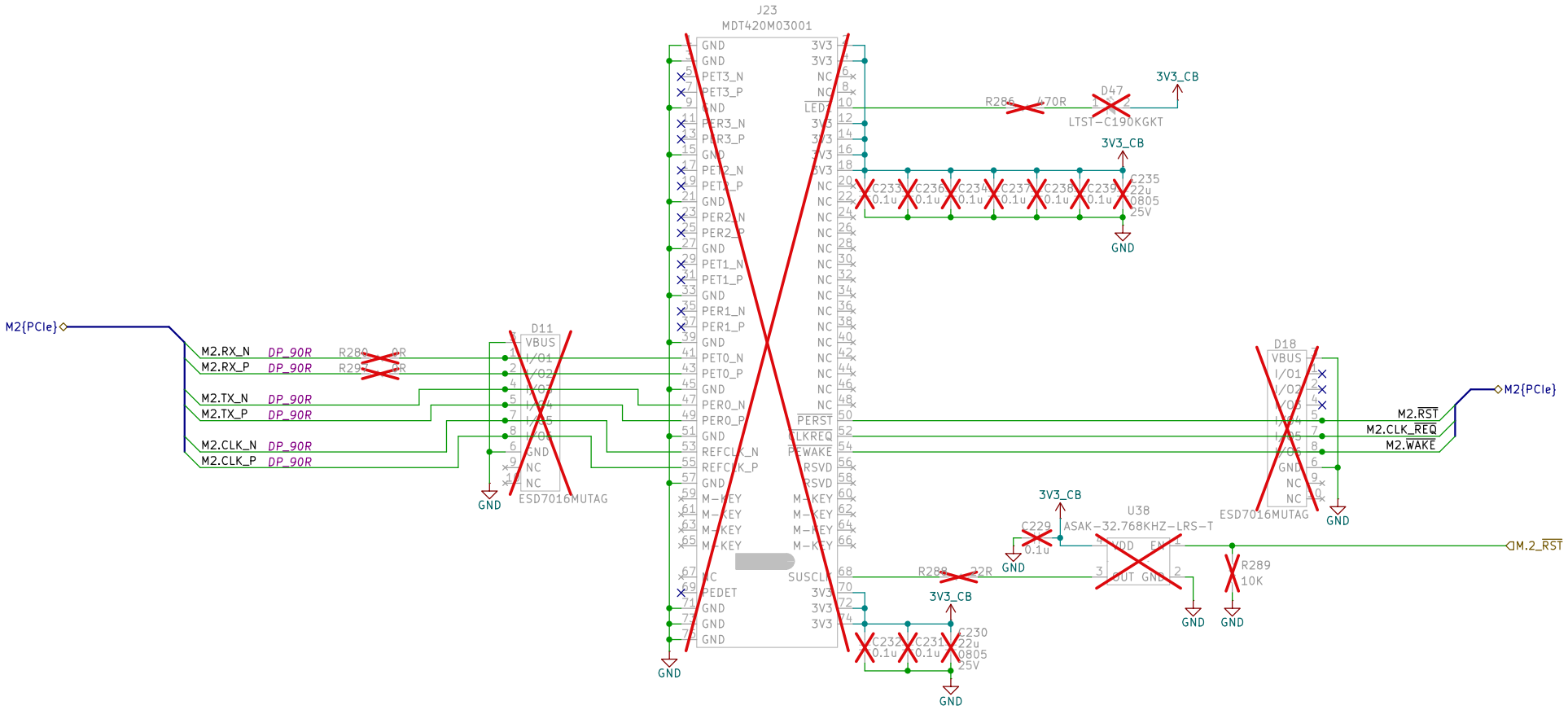
Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
		Sheet Size: A4
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet: 17 of 20
Sheet Title: AUDIO_CODEC.kicad_sch	Approved by: Not applicable	Status: Preliminary
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Current Revision: 2.00-0A



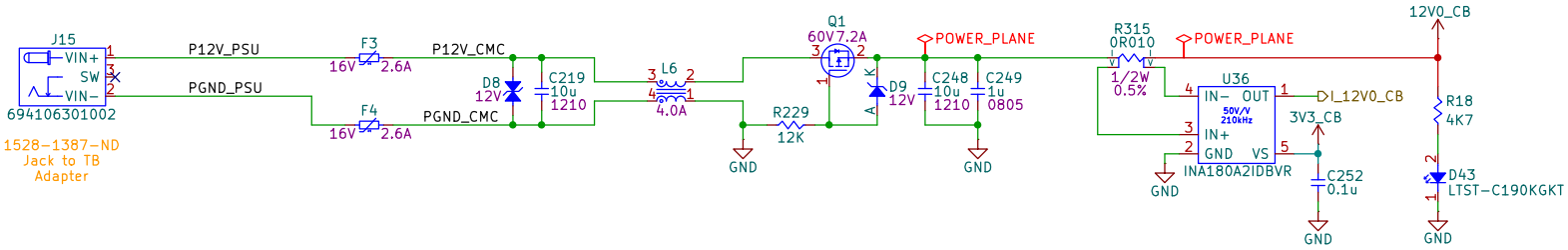
Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo Sheet Size: A4
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet: 18 of 20
Sheet Title: Expansion_io.kicad_sch	Approved by: Not applicable	Status: Preliminary
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Current Revision: 2.00-0A



Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: M2_Expansion.kicad_sch	Approved by: Not applicable	Sheet: 19 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A



Revision	Change Order

Designed by: Jean-Francois Bilodeau P.Eng #6022173 203-1690 Rue des quatre-saisons Sherbrooke, Canada, J1E0N2 KiCad Rev 9.0		Logo
Project: RPI CMx Carrier	Drawn by: Jean-Francois Bilodeau	Sheet Size: A4
Sheet Title: POWER INPUT.kicad_sch	Approved by: Not applicable	Sheet: 20 of 20
Date: 2025-12-07	BOM: RPI_CMx_Carrier_2.00-0A_BOM	Status: Preliminary
		Current Revision: 2.00-0A