Type-C DP Alt-mode EVB

Schematic Document

2025-02-20

REV: 0.2a

Sheet: /COVER/ File: cover.kicad_sch		
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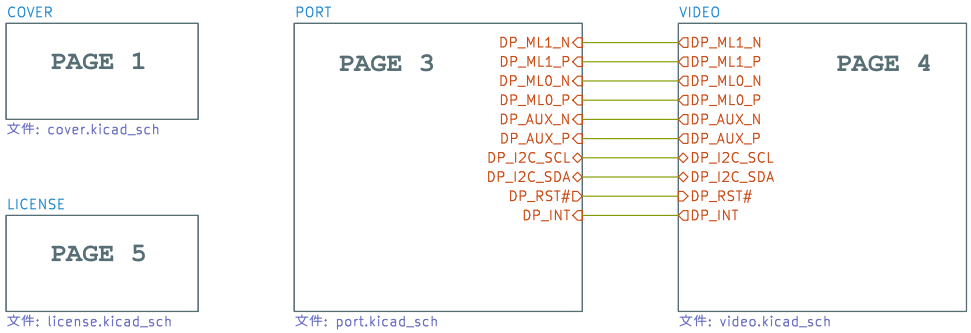
Revision History

DATE	REV	
25/02/20	0.1	The first edition of EVB
25/03/12	0.2	Change R9,R20 to 30kΩ; R19 to 180kΩ; Change USB-C footprint; Fix AUX channel orientation
25/03/21	0.2a	Change TXS0104E to LSF0204 and add IIC PU resistor;



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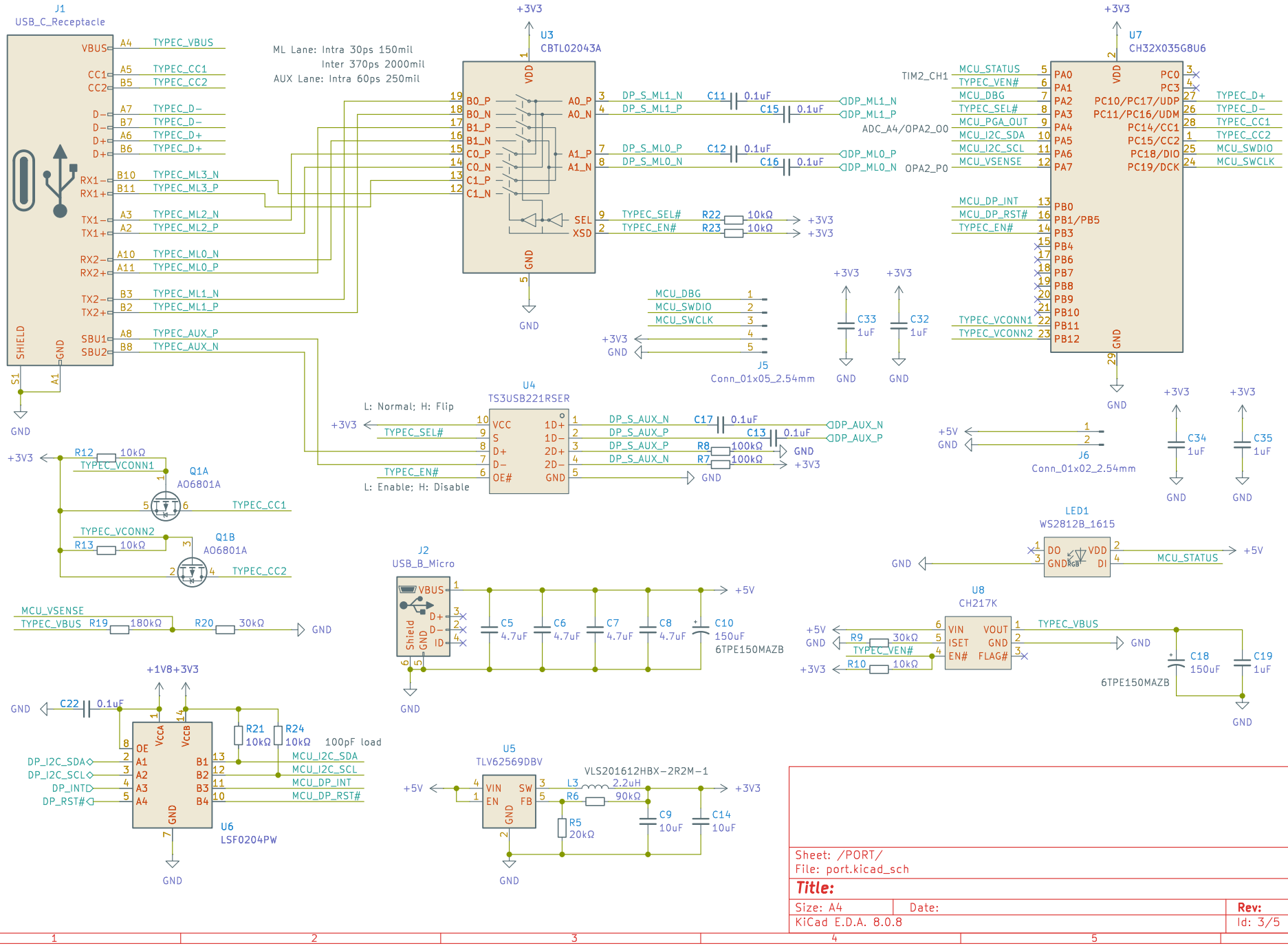
J1
USB_C_Receptacle
VBUS
CC1
CC2
D−
D−
D+
D+
RX1−
RX1+
TX1−
TX1+
RX2−
RX2+
TX2−
TX2+
SBU1
SBU2
SHIELD
GND
S1
A1
A4 TYPEC_VBUS
A5 TYPEC_CC1
B5 TYPEC_CC2
A7 TYPEC_D−
B7 TYPEC_D−
A6 TYPEC_D+
B6 TYPEC_D+
B10 TYPEC_ML3_N
B11 TYPEC_ML3_P
A3 TYPEC_ML2_N
A2 TYPEC_ML2_P
A10 TYPEC_ML0_N
A11 TYPEC_ML0_P
B3 TYPEC_ML1_N
B2 TYPEC_ML1_P
A8 TYPEC_AUX_P
B8 TYPEC_AUX_N
ML Lane: Intra 30ps 150mil
Inter 370ps 2000mil
AUX Lane: Intra 60ps 250mil
U3
CBTL02043A
+3V3
GND
VDD
B0_P
B0_N
B1_P
B1_N
C0_P
C0_N
C1_P
C1_N
A0_P
A0_N
A1_P
A1_N
SEL
XSD
DP_S_ML1_N
DP_S_ML1_P
DP_S_ML0_P
DP_S_ML0_N
C11 0.1uF
C15 0.1uF
C12 0.1uF
C16 0.1uF
DP_ML1_N
DP_ML1_P
DP_ML0_P
DP_ML0_N
TYPEC_SEL#
TYPEC_EN#
R22 10kΩ
R23 10kΩ
U7
CH32X035G8U6
TIM2_CH1
ADC_A4/OPA2_O0
OPA2_P0
MCU_STATUS
TYPEC_VEN#
MCU_DBG
TYPEC_SEL#
MCU_PGA_OUT
MCU_I2C_SDA
MCU_I2C_SCL
MCU_VSENSE
MCU_DP_INT
MCU_DP_RST#
TYPEC_EN#
TYPEC_VCONN1
TYPEC_VCONN2
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PB0
PB1/PB5
PB3
PB4
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PC0
PC3
PC10/PC17/UDP
PC11/PC16/UDM
PC14/CC1
PC15/CC2
PC18/DIO
PC19/DCK
TYPEC_D+
TYPEC_D−
TYPEC_CC1
TYPEC_CC2
MCU_SWDIO
MCU_SWCLK
J5
Conn_01x05_2.54mm
C33 1uF
C32 1uF
U4
TS3USB221RSER
L: Normal; H: Flip
L: Enable; H: Disable
VCC
S
D+
D−
OE#
1D+
1D−
2D+
2D−
C17 0.1uF
C13 0.1uF
R8 100kΩ
R7 100kΩ
DP_AUX_N
DP_AUX_P
J6
Conn_01x02_2.54mm
C34 1uF
C35 1uF
R12 10kΩ
TYPEC_VCONN1
Q1A
AO6801A
TYPEC_CC1
TYPEC_VCONN2
R13 10kΩ
Q1B
AO6801A
TYPEC_CC2
LED1
WS2812B_1615
DO
DI
VDD
GND
MCU_STATUS
J2
USB_B_Micro
VBUS
Shield
C5 4.7uF
C6 4.7uF
C7 4.7uF
C8 4.7uF
C10 150uF
6TPE150MAZB
U8
CH217K
VIN
VOUT
ISET
GND
EN#
FLAG#
R9 30kΩ
R10 10kΩ
C18 150uF
C19 1uF
MCU_VSENSE
TYPEC_VBUS
R19 180kΩ
R20 30kΩ
+1V8+3V3
C22 0.1uF
VCCA
VCCB
OE
A1
A2
A3
A4
B1
B2
B3
B4
R21 10kΩ
R24 10kΩ
100pF load
DP_I2C_SDA
DP_I2C_SCL
DP_INT
DP_RST#
MCU_I2C_SDA
MCU_I2C_SCL
MCU_DP_INT
MCU_DP_RST#
U6
LSF0204PW
U5
TLV62569DBV
VLS201612HBX−2R2M−1
VIN
EN
SW
FB
L3 2.2uH
R6 90kΩ
R5 20kΩ
C9 10uF
C14 10uF
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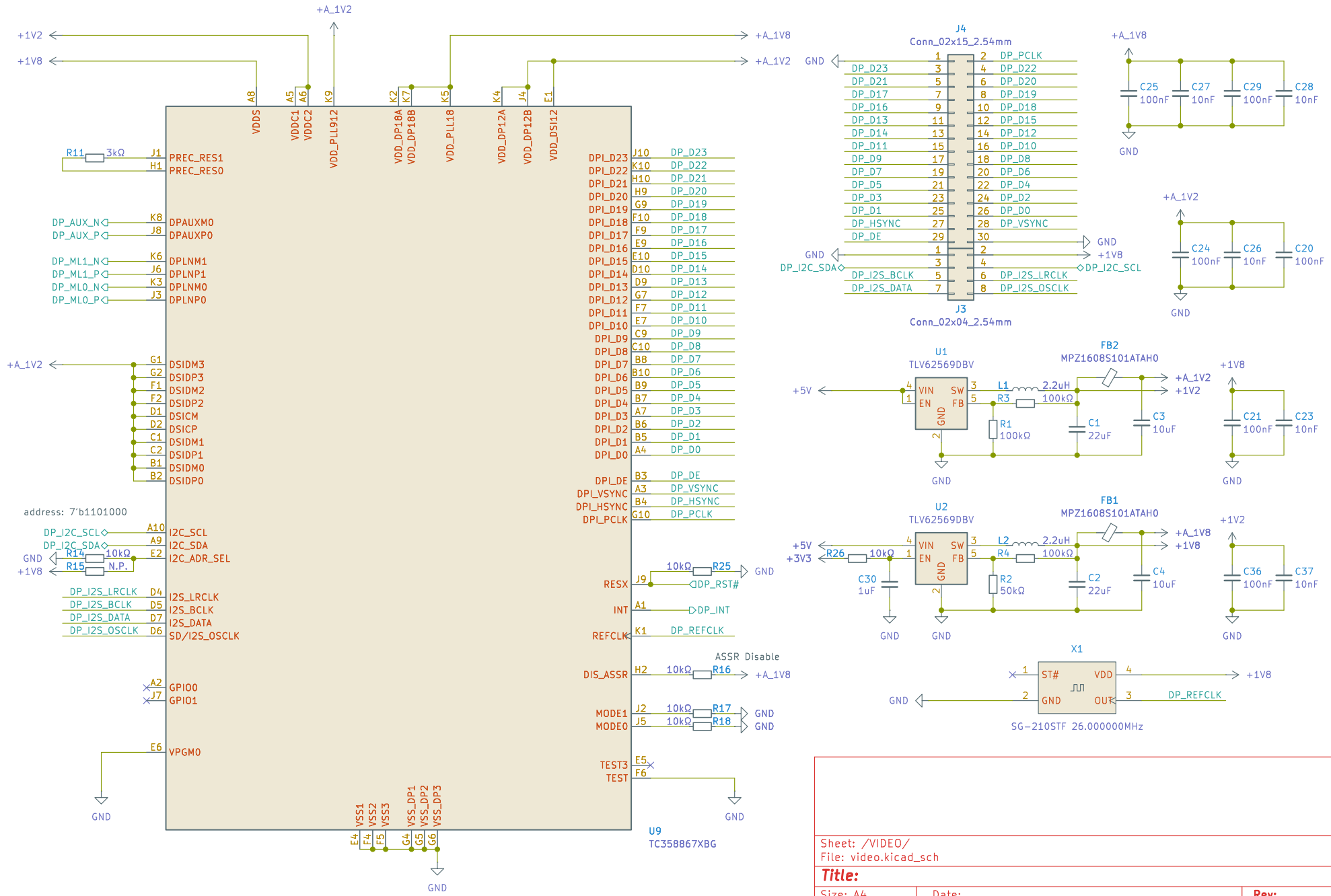

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