Schematic Review Form
TUSB1064 review

Pin #	Name	Info	Violations	*Description*
1	NC	NC		No connect pin. Leave open.
2	DPEQ1	1K pulldown with 1K pullup option		DisplayPort Receiver EQ. This along with DPEQ0 will select the DisplayPort receiver equalization gain.
3	SSEQ1	1K pulldown with 1K pullup option		Along with SSEQ0, sets the USB receiver equalizer gain for downstream facing SSTXP/N
4,5	SSRX	Routed to SSTX on LCD connector	Make sure this connects to SSRX on the USB3 device through 100nF capacitors	Differential output for USB3.1 downstream facing port.
6,20,28	VCC	3.3V rail with three 1uF and three 100nF capacitors to GND		3.3-V Power Supply
7,8	SSTX	Routed to SSRX on LCD connector	Make sure this connects to SSTX on the USB3 device through 100nF capacitors	Differential input for USB3.1 downstream facing port.
9,10	TX1	Routed to TX1 on type-C connector through 100nF capacitors	No ESD protection	Differential input for DisplayPort or differential output for USB3.1 upstream facing port.
11	EQ0	20K pulldown with 1K pullup option		This pin along with EQ1 sets the USB receiver equalizer gain for upstream facing RX1 and RX2 when USB used. Up to 11 dB of EQ available

12,13	RX1	Routed to RX1 on type-C connector	No ESD protection	Differential input for DisplayPort or USB3.1 upstream facing port
14	EQ1	1K pulldown with 1K pullup option		This pin along with EQ0 sets the USB receiver equalizer gain for upstream facing RX1 and RX2 when USB used.
15,16	RX2	Routed to RX2 on type-C connector	No ESD protection	Differential input for DisplayPort or USB 3.1 upstream facing port.
17	I2C_EN	10K pulldown with 10K pullup option (GPIO mode)		I2C Programming Mode or GPIO Programming Select. 0 = GPIO mode (I2C disabled) R = TI Test Mode (I2C enabled at 3.3 V) F = I2C enabled at 1.8 V 1 = I2C enabled at 3.3 V
18,19	TX2	Routed to TX2 on type-C connector through 100nF capacitors	No ESD protection	Differential input for DisplayPort or differential output for USB3.1 upstream facing port.
21	FLIP/SCL	Routed off page. Assumed to PD controller		When I2C_EN = '0' this is Flip control pin, otherwise this pin is I2C clock. When used for I2C clock pullup to I2C master's VCC I2C supply.
22	CTL0/SDA	Pulled to 3.3V, USB always enabled		When I2C_EN = '0' this is a USB3.1 Switch control pin, otherwise this pin is I2C data. When used for I2C data pullup to I2C master's VCC I2C supply
23	CTL1	Pulled to 3.3V, DP alt mode always enabled		DP Alt mode Switch Control Pin. When I2C_EN = '0', this pin will enable or disable DisplayPort functionality. Otherwise, when I2C_EN ≠ '0', DisplayPort functionality is enabled and disabled through I2C registers. L = DisplayPort Disabled. H = DisplayPort Enabled.

24	SBU1	Routed to SBU1 on type-C connector through 2M pulldown		SBU1. This pin should be DC coupled to the SBU1 pin on the Type-C receptacle. A 2-M ohm resistor to GND is also recommended.
25	SBU2	Routed to SBU2 on type-C connector through 2M pulldown		SBU2. This pin should be DC coupled to the SBU2 pin on the Type-C receptacle. A 2-M ohm resistor to GND is also recommended.
26	AUXp	1M pullup	Connect to AUXp on DP receiver	DisplayPort AUX positive I/O connected to the DisplayPort sink through a AC coupling capacitor. In addition to AC coupling capacitor, this pin also requires a 1M resistor to DP_PWR(3.3 V). This pin along with AUXN is used by the TUSB1064 for AUX snooping and is routed to SBU1/2 based on the orientation of the Type-C.
27	AUXn	1M pulldown	Connect to AUXn on DP receiver	DisplayPort AUX negative I/O connected to the DisplayPort sink through a AC coupling capacitor. In addition to AC coupling capacitor, this pin also requires a 1M resistor to GND. This pin along with AUXP is used by the TUSB1064 for AUX snooping and is routed to SBU1/2 based on the orientation of the Type-C.
29	EN	10K pullup		Device Enable, when I2C_EN = '0'. Device disable function not used when I2C_EN ≠ '0'. L = Device Disabled H = Device Enabled On rising edge of EN pin, the device will sample all 4-level inputs including the I2C_EN pin. EN pin will not reset the I2C registers
30,31	DP3	Routed off page through 100nF capacitors		DP Differential output for DisplayPort Lane 3
32	HPDIN	Routed off page	Connect to HPD output on PD controller	Hot Plug Detect. This pin is an input for Hot Plug Detect received from DisplayPort sink. When HPDIN is Low for greater than 2ms, all DisplayPort lanes are disabled while the AUX to SBU switch will remain closed

33,34	DP2	Routed off page through 100nF capacitors		DP Differential output for DisplayPort Lane 2.
35	DPEQ0/A1	20K pulldown with 1K pullup option		DisplayPort Receiver EQ. This along with DPEQ1 will select the DisplayPort receiver equalization gain. When I2C_EN ≠ '0', this pin will also set the TUSB1064 I2C address.
36,37	DP1	Routed off page through 100nF capacitors		DP Differential output for DisplayPort Lane 1
38	SSEQ0/A0	1K pullup with 1K pulldown option		Along with SSEQ1, sets the USB receiver equalizer gain for downstream facing SSTXP/N. When I2C_EN ≠ '0', this pin will also set the TUSB1064 I2C address. If I2C_EN = "F", then this pin must be set to "F" or "0".
39,40	DP0	Routed off page through 100nF capacitors		DP Differential output for DisplayPort Lane 0

Comments