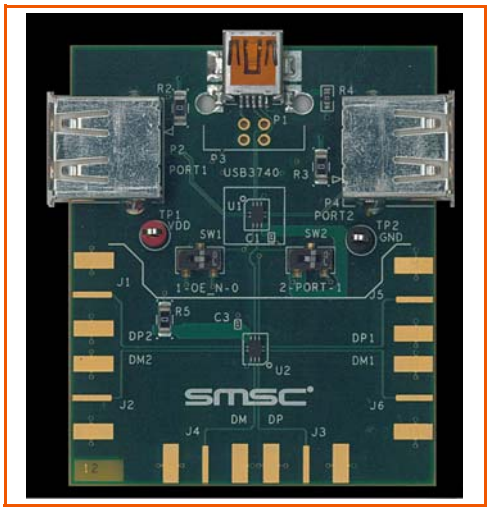
USB3740 Evaluation Board User Manual



1 Introduction

The USB3740 EVB demonstrates the capabilities of the USB3740. The board consists of the upstream and downstream ports, manual switches to control the OE_N and S pins, and a second USB3740 that can be evaluated with SMA connectors instead of USB (SMA connectors not installed).

2 Hardware

2.1 USB Ports

The USB ports are mounted on the edges of the USB3740 EVB. The downstream ports use the standard USB Type A receptacle. The label for the port is located next to the receptacle. The upstream port can be a standard USB Type B, mini-B or micro-B receptacle, the default connector is a USB mini-B connector.

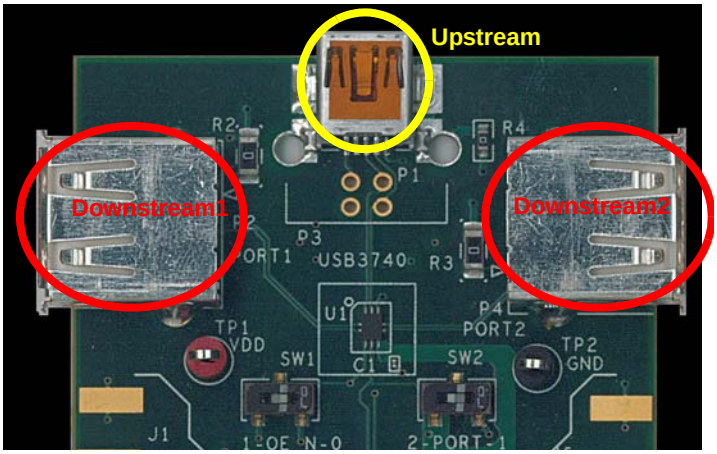


Figure 2.1 Upstream and Downstream Ports

2.2 Test Points and Resistors

The USB3740 EVB provides access to the OE_N, S, VDD and GND pins. **TP2** connects to GND, **TP1** connects to the VDD pin. **R1** (On the back of the PCB) connects the upstream VBUS to the VDD of the USB3740. **R2** and **R3** connect the upstream VBUS to the VBUS pins of the dowstream ports. SW1 and SW2 control the operation of the switch. SW1 controls the Output Enable (OE_N) pin. To enable the switch, OE_N should be set to 0. SW2 selects which downstream port is connected to the upstream port.

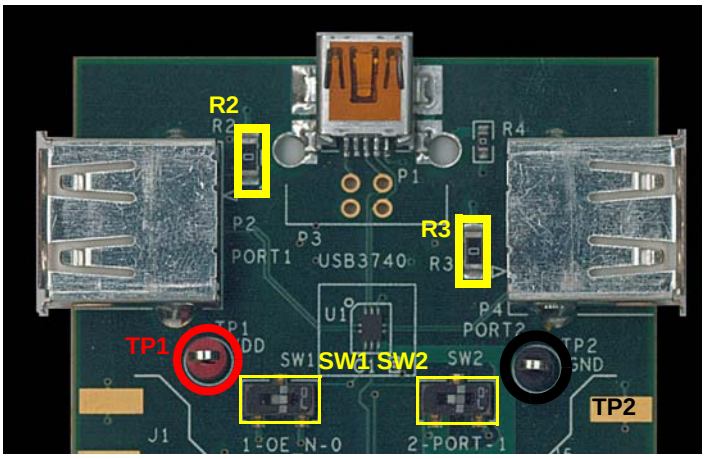


Figure 2.2 Test points, Resistors and Switches

2.3 SMA Evaluation (Not Installed)

The USB3740 EVB also contains a section to evaluate the USB3740 without the standard USB connectors. Because the switch can be used in many different applications, a second USB3740 is placed on the board with the pins routed out to right angle SMA connectors. The connectors are not populated by default. **R5** is used to supply VDD to the second USB3740.

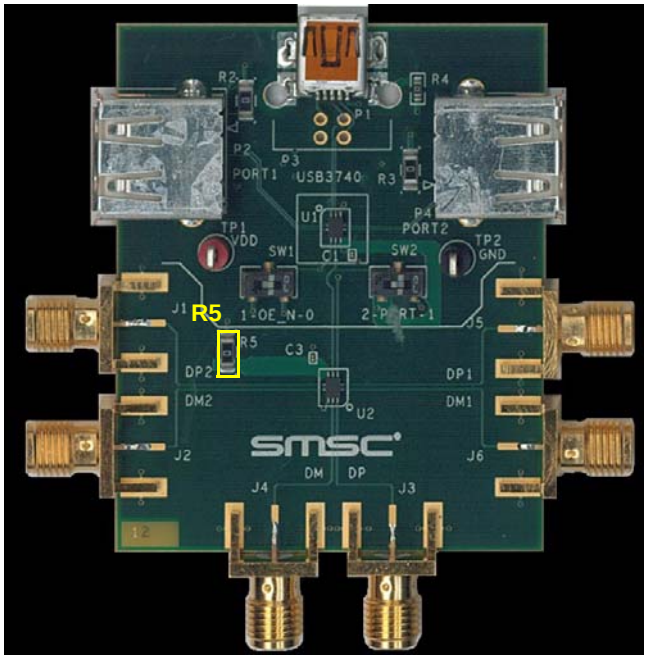


Figure 2.3 USB3740 EVB with the SMAs populated

3 USB3740 EVB Schematic

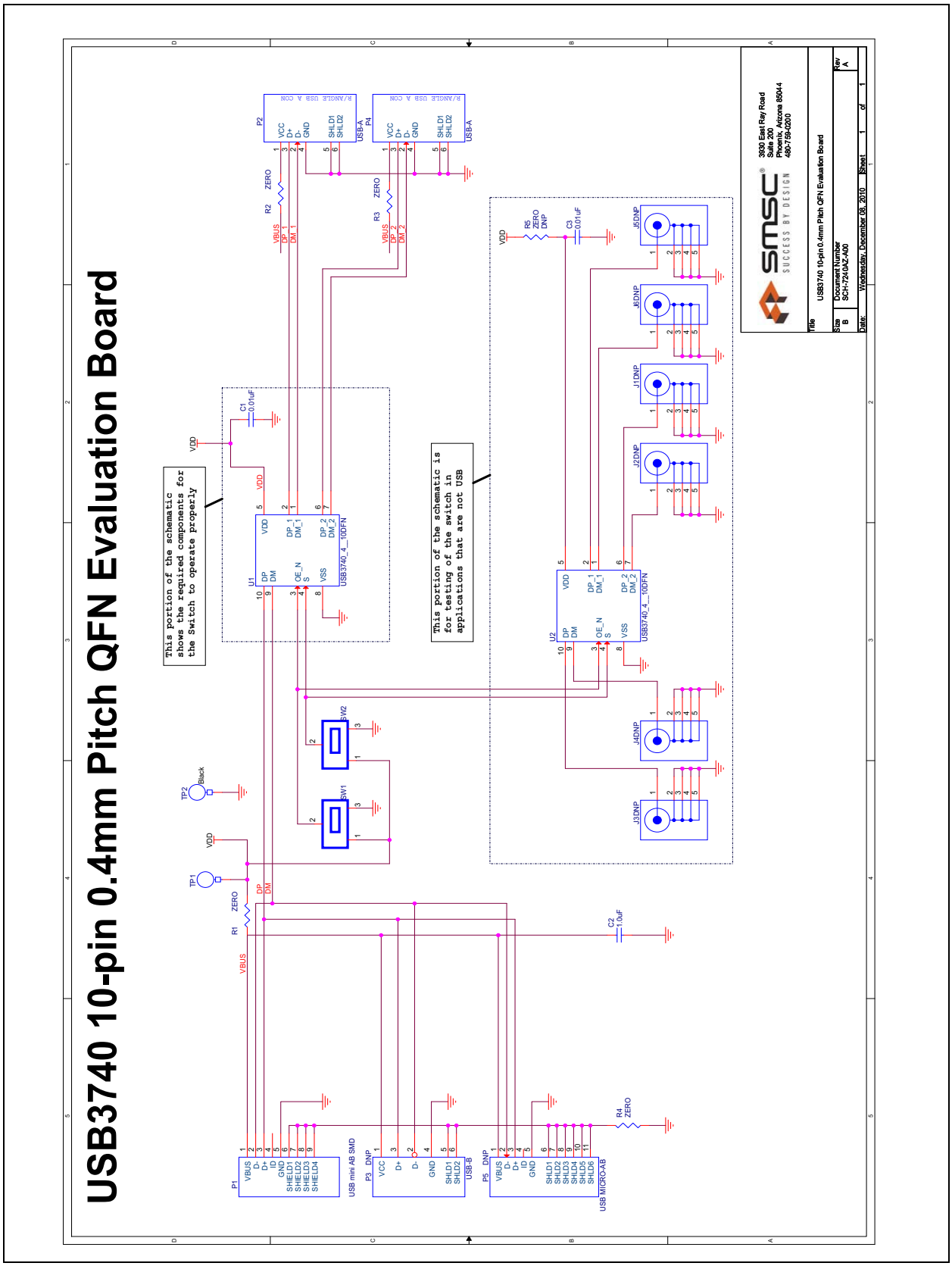


Figure 3.1 USB3740 EVB Schematic

4 USB3740 EVB Bill of Materials

Part Number	Quantity	Part Reference	Description	Digikey_Number	Manuf	Manuf_PN	RoHS	DNP
1	2	C1 C3	CAPACITOR CERAMIC 0.01UF 6.3V X5R 0201	PCC2136CT-ND	PANASONIC	ECJ-ZEB0J103K	Yes	
2	1	C2	CAPACITOR CERAMIC 1.0UF 50V Y5V 0805	445-1364-1-ND	TDK	C2012Y5V1H105Z	Yes	
3	6	J1 J2 J3 J4 J5 J6	RECEPTACLE, SMA, END_LAUNCH	J658-ND	EMERSON	142-0701-851	Yes	J1 J2 J3 J4 J5 J6
4	1	P1	CONNECTOR RECEPT USB MINI AB 5POS RT ANG	WM17122CT-ND	MOLEX	56579-0576	Yes	
5	2	P2 P4	RECEPTACLE, USB, STYLE A, RIGHT ANGLE	609-1045-ND	FCI	87520-0010BLF	Yes	
6	1	P3	RECEPTACLE, USB, STYLE B, RIGHT ANGLE	A31725-ND	TYCO ELECTRONICS	292304-1	Yes	P3
7	1	P5	CONNECTOR RECEPT MICRO USB TYPE AB SMT	A97799CT-ND	TYCO ELECTRONICS	1981584-1	Yes	P5
8	4	R1 R2 R3 R5	RESISTOR ZERO OHM 1/4W 5% 1206	311-0.0ERCT-ND	YAGEO	RC1206JR-070RL	Yes	
9	1	R4	RESISTOR ZERO OHM 1/10W 5% 0603	311-0.0GRCT-ND	YAGEO	RC0603JR-070RL	Yes	
10	2	SW1 SW2	SWITCH SLIDE SPDT SMD GULL	563-1022-1-ND	COPAL ELECTRONICS	CJS-1200TB	Yes	
11	1	TP1	TEST POINT LOOP COMPACT RED	5005K-ND	KEYSTONE	5005	Yes	
12	1	TP2	TEST POINT LOOP COMPACT BLACK	5006K-ND	KEYSTONE	5006	Yes	
13	1	U1	USB3740		SMSC		Yes	
14	1	U2	USB3740		SMSC		Yes	

Figure 4.1 USB3740 EVB Bill of Materials

5 Revision History

Table 5.1 Customer Revision History

REVISION LEVEL & DATE	SECTION/FIGURE/ENTRY	CORRECTION
Rev. 1.1 (05-23-13)	■ Figure 2.2	Corrected red designator text from “TP2” to “TP1”
Rev. 1.1 (12-07-12)	■ Modified Section 2.2, Section 2.3. ■ Document co-branded: Microchip logo added, modification to legal disclaimer.	
Rev. 1.0 (12-09-11)	Initial Release	