Reference Design

Application Report

Literature Number: SWCA221
February 2013

Schematics

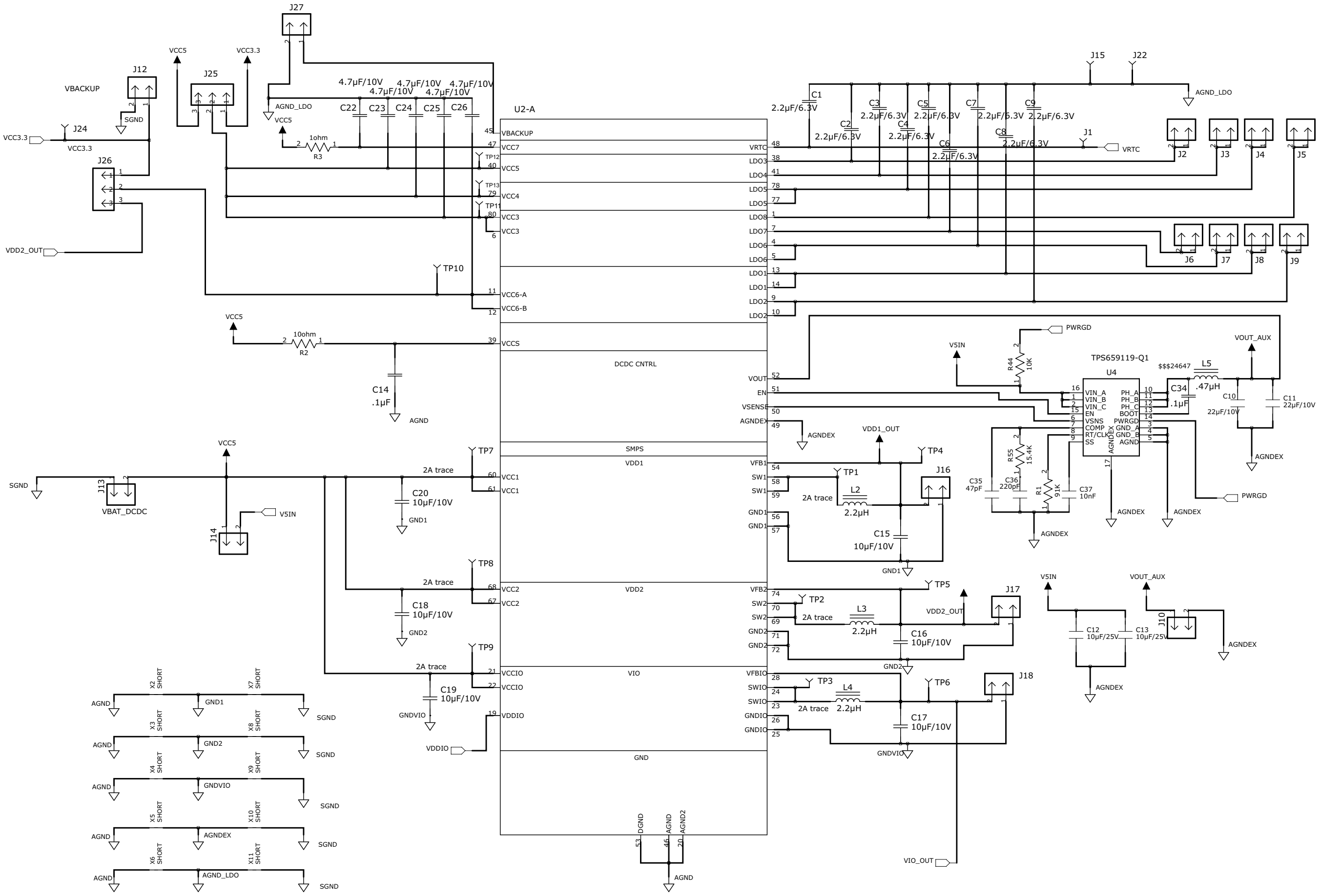

Figure 1. Power Resources Schematic

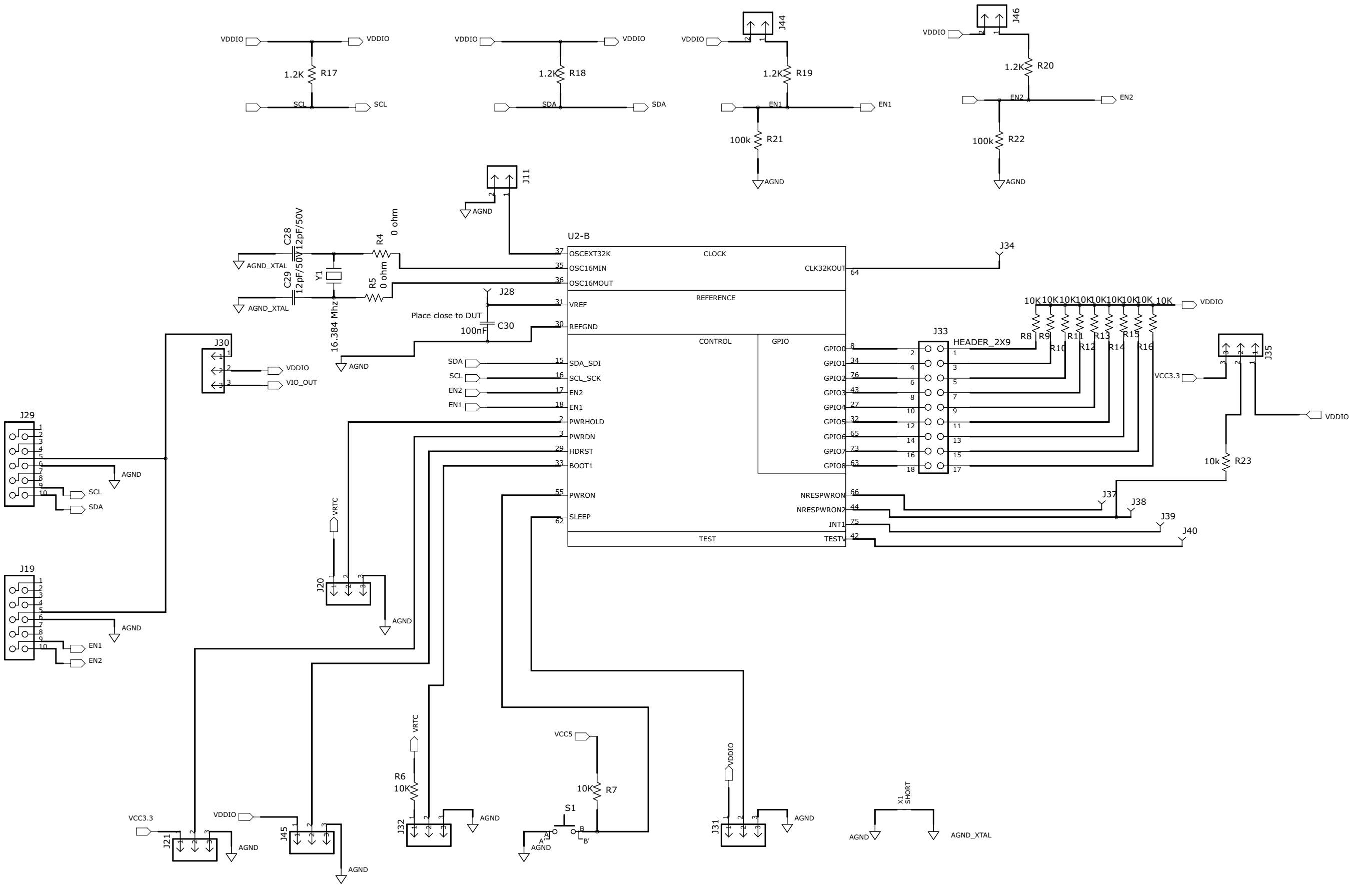

Figure 2. Control and Communication Schematic

Bill of Materials

Item	Qty	Reference	Value	Description	Size	Part Number	Part Name	MFR	Decal
1	2	C14 C34	.1uF	Capacitor, Ceramic, vvV, [temp], [tol]	805		C0402,.1uF	{MFR}	805
2	1	C30	100nF	Capacitor, Ceramic, vvV, [temp], [tol]	805		C0402,100nF	Murata	805
3	2	C28-29	12pF/50V	Capacitor, Ceramic, vvV, [temp], [tol]	805		C0402,12pF/50V	{MFR}	805
4	9	C1-9	2.2uF/6.3V	Capacitor, Ceramic, vvV, [temp], [tol]	805		C0402,2.2uF/6.3V	{MFR}	805
5	5	C22-26	4.7uF/10V	Capacitor, Ceramic, vvV, [temp], [tol]	1206		C0402,4.7uF/10V	{MFR}	1206
6	5	C15-16 C18-20	10uF/10V	Capacitor, Ceramic, Low Inductance, vvV, [temp], [tol]	1206		C0603,10uF/10V	Murata	1206
7	1	C17	10uF/10V	Capacitor, Ceramic, Low Inductance, vvV, [temp], [tol]	805		C0603,10uF/10V	Murata	1206
8	1	C37	10nF	Capacitor, Ceramic, vvV, [temp], [tol]	805		CAP0603,10nF	{MFR}	805
9	1	C36	220pF	Capacitor, Ceramic, vvV, [temp], [tol]	805		CAP0603,220pF	{MFR}	805
10	1	C35	47pF	Capacitor, Ceramic, vvV, [temp], [tol]	805		CAP0603,47pF	{MFR}	805
11	2	C12-13	10uF/25V	cns_0805	805		CAP0805,10uF/25V	{MFR}	805
12	2	C10-11	22uF/10V	SURFACE MOUNT CAPACITOR 0.062 X 0.126 INCHES	1206		CAP1206,22uF/10V		1206
13	2	J19 J29	2510-5002UB	Connector, Male Right Angle 2x5 pin, 100mil spacing, 4 Wall	0.100 inch x 2X5	2510-5002UB	CONN_2510-5002UB,2510-5002UB	3M	CONN2x5-2500_3M
14	1	Y1	16.384 Mhz	Crystal,	2.50 x 3.20 mm	NX3225GA-16.384M-EXS00A-CG03040	CRYSTAL_NX3225GA,16.384 Mhz	NDK	CRY4-3225GA_NDK
15	10	J1 J15 J22 J24 J28 J34 J37-40	PEC01SAAN	Through Hole, O.040 Dia		PEC01SAAN	HEADER_1X1,PEC01SAAN	Sullins	HDR1
16	13	TP1-13	Test Point	Test Point			HEADER_1X1,Test Point		
17	13	J2-9 J11 J14 J27 J44 J46	PEC02SAAN	Header, Male 2-pin, 100mil spacing,	0.100 inch x 2	PEC02SAAN	HEADER_1X2,PEC02SAAN	Sullins	HDR2

Item	Qty	Reference	Value	Description	Size	Part Number	Part Name	MFR	Decal
18	6	J16-18 J12-13 J10	PEC02SAAN	Header, Male 2-pin, 100mil spacing,	0.100 inch x 2	ED555/2DS	HEADER_1X2,PEC02SAAN	Sullins	HDR2
19	9	J20-21 J25-26 J30-32 J35 J45	PEC03SAAN	Header, Male 3-pin, 100mil spacing,	0.100 inch x 3	PEC03SAAN	HEADER_1X3,PEC03SAAN	Sullins	hdr3
20	1	J33	PEC09DAAN	Header, Male 2x9 pin, 100mil spacing	0.100 x 2 X 9 inch	PEC09DAAN	HEADER_2X9,PEC09DAAN	Sullins	hdr2x9
21	1	L5	.47uH	RC0603_LK1608	IND-LPS4414_COIL	LPS4414-501MLB	IND_VLCF5020T-SERIES,.47uH	Coilcraft	IND-VLCF-5020_TDK
22	3	L2-4	2.2uH	Inductor, SMT, yyA, zzmilliohm	0.197 x 0.197 inch	VLCF5020T-2R2N2R6-3	IND_VLCF5020T-SERIES,2.2uH	TDK	IND-VLCF-5020_TDK
23	2	R4-5	0 ohm	Resistor, Chip, 1/16W, x%	805		R0402,0 ohm	Std	805
24	4	R17-20	1.2K	Resistor, Chip, 1/16W, 5%	805		R0603_5%,1.2K	Vishay	805
25	2	R21-22	100k	Resistor, Chip, 1/16W, 5%	805		R0603_5%,100k	Vishay	805
26	11	R6-16	10K	Resistor, Chip, 1/16W, 5%	805		R0603_5%,10K	Vishay	805
27	1	R23	10k	Resistor, Chip, 1/16W, 5%	805		R0603_5%,10k	Vishay	805
28	1	R44	10K	RES BODY:060 CENTERS:400	805		RES-1/8W,10K		805
29	1	R2	10ohm	RES BODY:060 CENTERS:400	805		RES-1/8W,10ohm		805
30	1	R55	15.4K	RES BODY:060 CENTERS:400	805		RES-1/8W,15.4K		805
31	1	R3	1ohm	RES BODY:060 CENTERS:400	805		RES-1/8W,1ohm		805
32	1	R1	91K	RES BODY:060 CENTERS:400	805		RES-1/8W,91K		805
33	11	X1-11		Short jumper			SHORT		
34	1	S1	EVQ-PLHA15	Switch, 1P1T, 50-mA, 12-V, 160g	0.200 x 0.200 inch	EVQ-PLHA15	SW_EVQ-PLHA15,EVQ-PLHA15	Panasonic	SW-EVQPLH_PAN
35	1	U4		IC, Integrated Power Management Unit		TPS57114QRTERQ1	TPS57114-Q1		PQFP16-QFN_SEM
36	1	U2		IC, Integrated Power Management Unit Top Specification	BGA	TPS659119	TPS65911XZRC	TI	PQFP80-PFP-S-G80_TI

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