

## AnD8400EB

### Features

- Demonstrates AnD8400 Adaptable PMIC:
  - Four 6A Synchronous Buck Regulators
  - Four 0.2A auxiliary LDOs: 1.2V, 1.8V, 2.5V, 3.3V
  - Sequencing
- WebAdapter™ or WebAmP™ Tool Downloads Configuration Files:
  - .HAX file to configure the device directly
  - .HEX file (Intel HEX) to program on-board flash

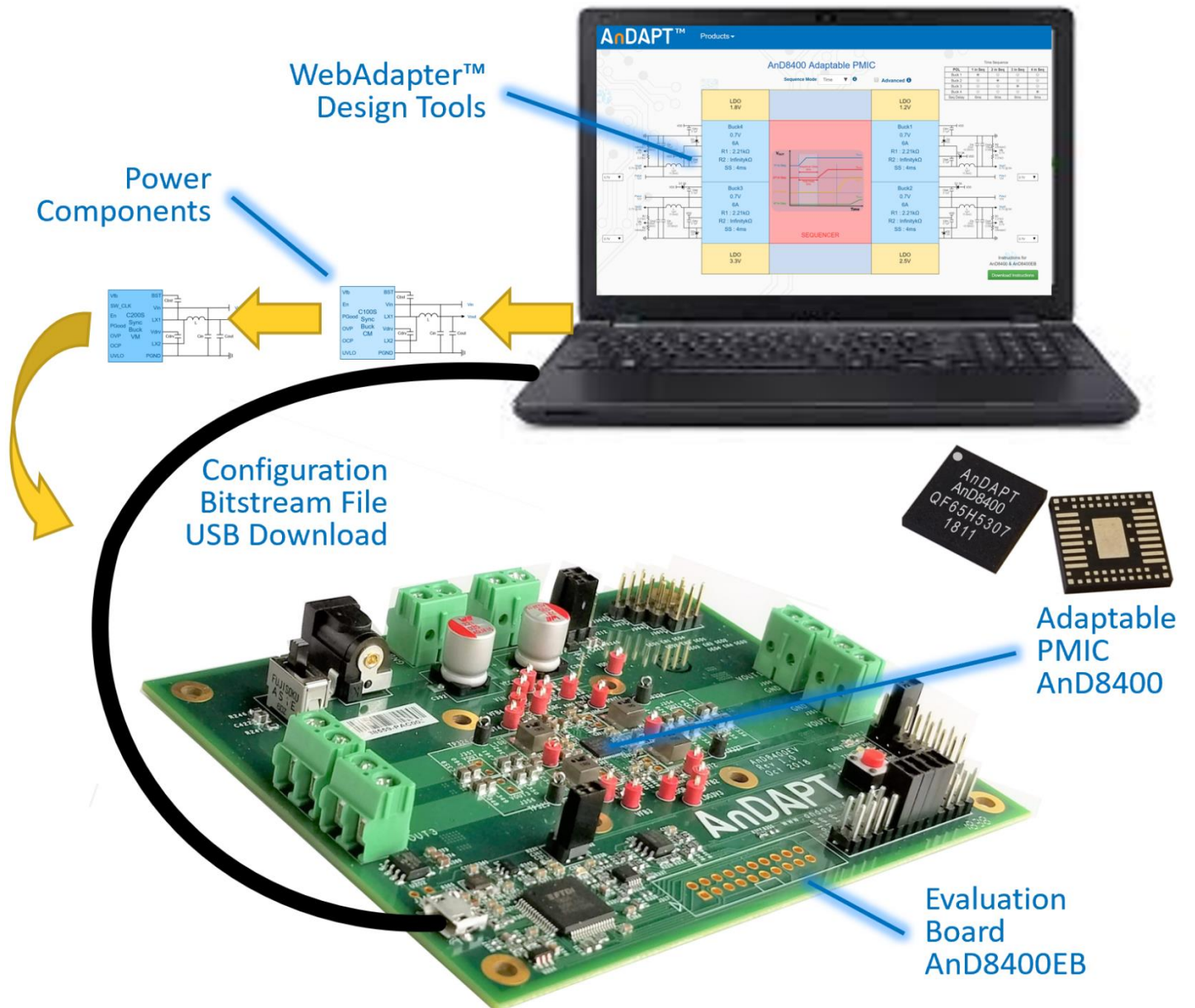
### Description

The AnD8400EB is a ready to use Evaluation Board to evaluate the Quad-Buck AnD8400 PMIC. Simply apply

$PV_{IN}$ , then measure default settings of 0.7V on the 4  $V_{OUT}$  terminals. To change  $V_{OUT}$ , adjust the resistor divider ratio according to:  $R2 = V_{fb} * R1 / (V_{OUT} - V_{fb})$  k $\Omega$ , or use the WebAdapter tool and select your desired  $V_{OUT}$ . The tool reports will provide the resistor required location and value. To access the WebAdapter tool, please use the following link: <https://webadaptor.andapt.com/apmic>

Optionally, the Bucks may be modified as needed by the WebAdapter design tool and downloaded over the USB cable. The .HAX file downloads to the AnD8400 Adaptable PMIC while the .HEX file downloads to the flash memory. Functionality may be extended using On-Demand WebAmP tools. For additional information, please check the following link: <https://www.andapt.com/docs>

### Application of Evaluation Board





### Getting Started: Power Up

Step 1. Set jumpers to the default **Load PMIC from FLASH** as shown in the Jumper Selection Table. Set switch SW1 UP (off) as shown below.

Step 2. Connect 12V power supply to PV<sub>IN</sub> Plug J308 or J353/J352.

Step 3. Turn ON board by switching SW1 DOWN (on).

Step 4. Measure buck output voltages on V<sub>OUT1</sub>, V<sub>OUT2</sub>, V<sub>OUT3</sub> and V<sub>OUT4</sub> (0.7V default).

To change parameters:

Step 5. Open [WebAdapter](#) tool from AnDAPT web site

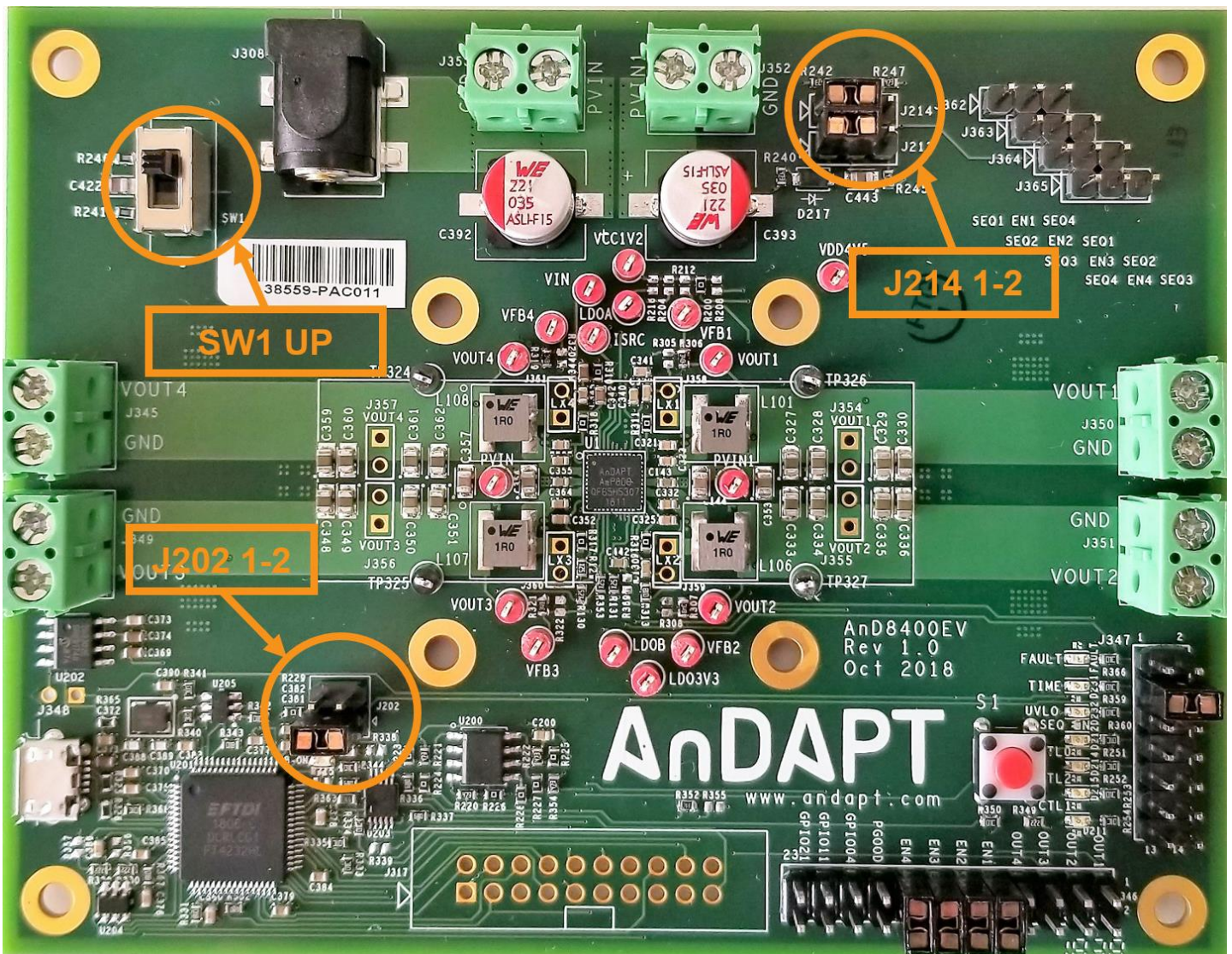
Step 6 Modify buck output voltages on V<sub>OUT1</sub>, V<sub>OUT2</sub>, V<sub>OUT3</sub> and V<sub>OUT4</sub> using WebAdapter Download Instructions (see WebAdapter™ View, page3)

Step 7 Modify buck sequences using using WebAdapter Download Instructions (see WebAdapter™ View, page3)

### Jumper Selection Table for J202 and J214

Function	Header	Load PMIC from FLASH	Load PMIC from USB	Program FLASH from USB
Chip Select	J202 	1-2 AUTO 	2-4 AmP 	1-3 FLASH 
Mode	J214 	1-2 AUTO 	2-3 CLIENT 	2-3 CLIENT 

### PMIC Power Up Jumper and Switch Settings



WebAdapter™ View, AnD8400 Web Design

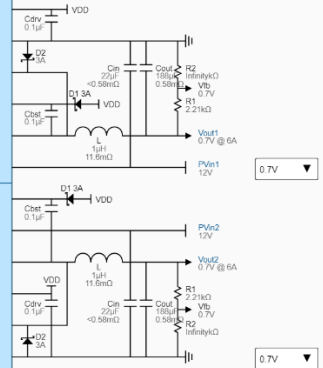
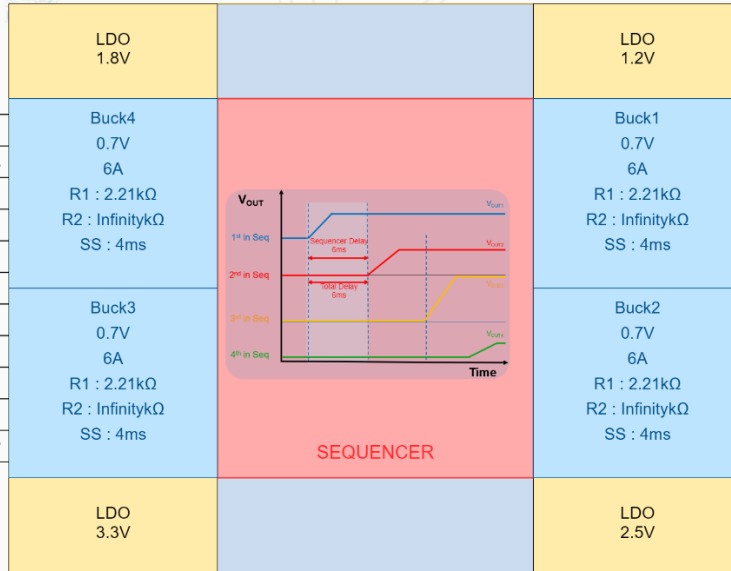


AnD8400 Adaptable PMIC

Sequence Mode Time 1 Advanced

Time Sequence

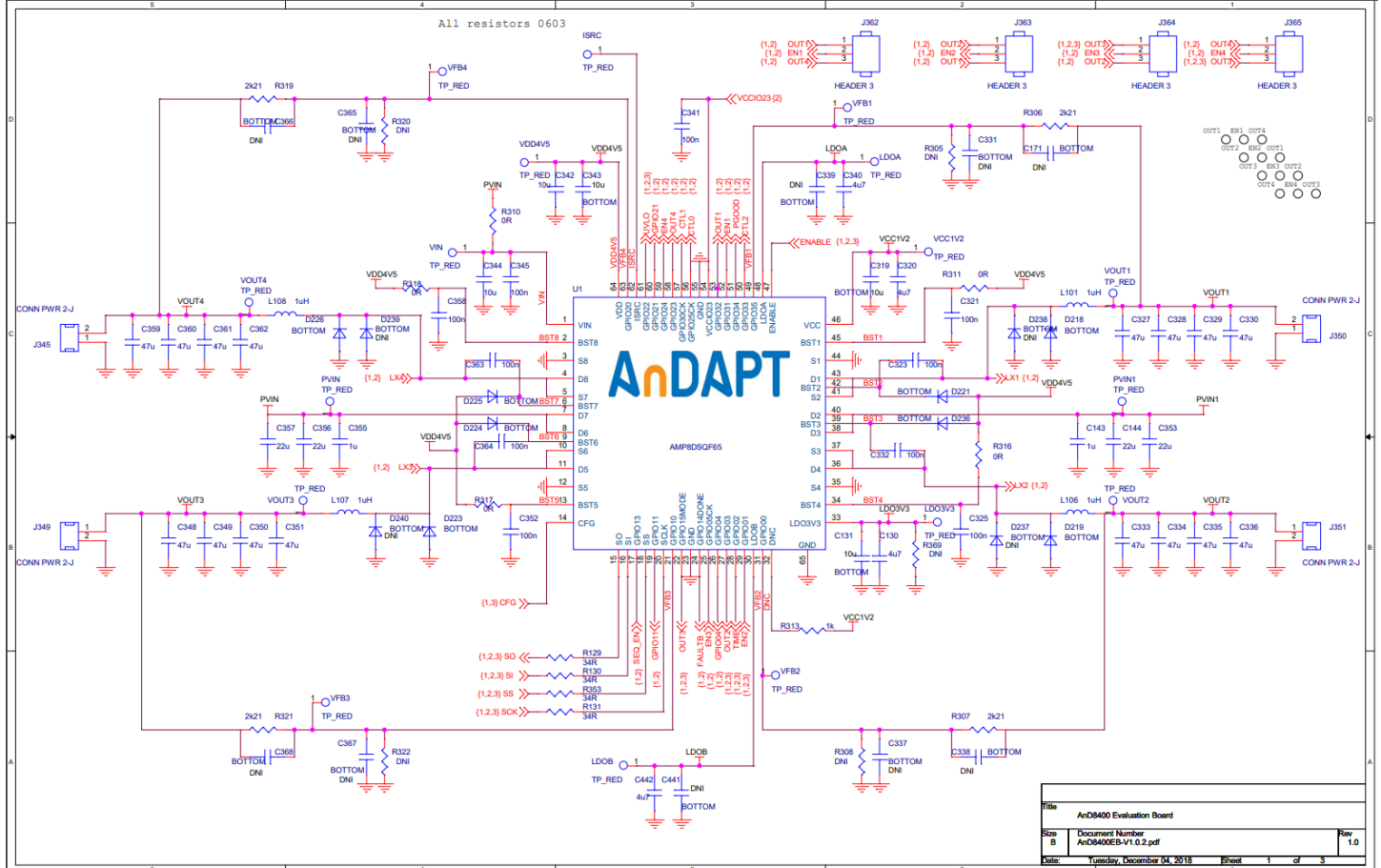
POL	1 in Seq	2 in Seq	3 in Seq	4 in Seq
Buck 1	●	○	○	○
Buck 2	○	●	○	○
Buck 3	○	○	●	○
Buck 4	○	○	○	●
Seq Delay	6ms	6ms	6ms	6ms



Instructions for AnD8400 & AnD8400EB

Download Instructions

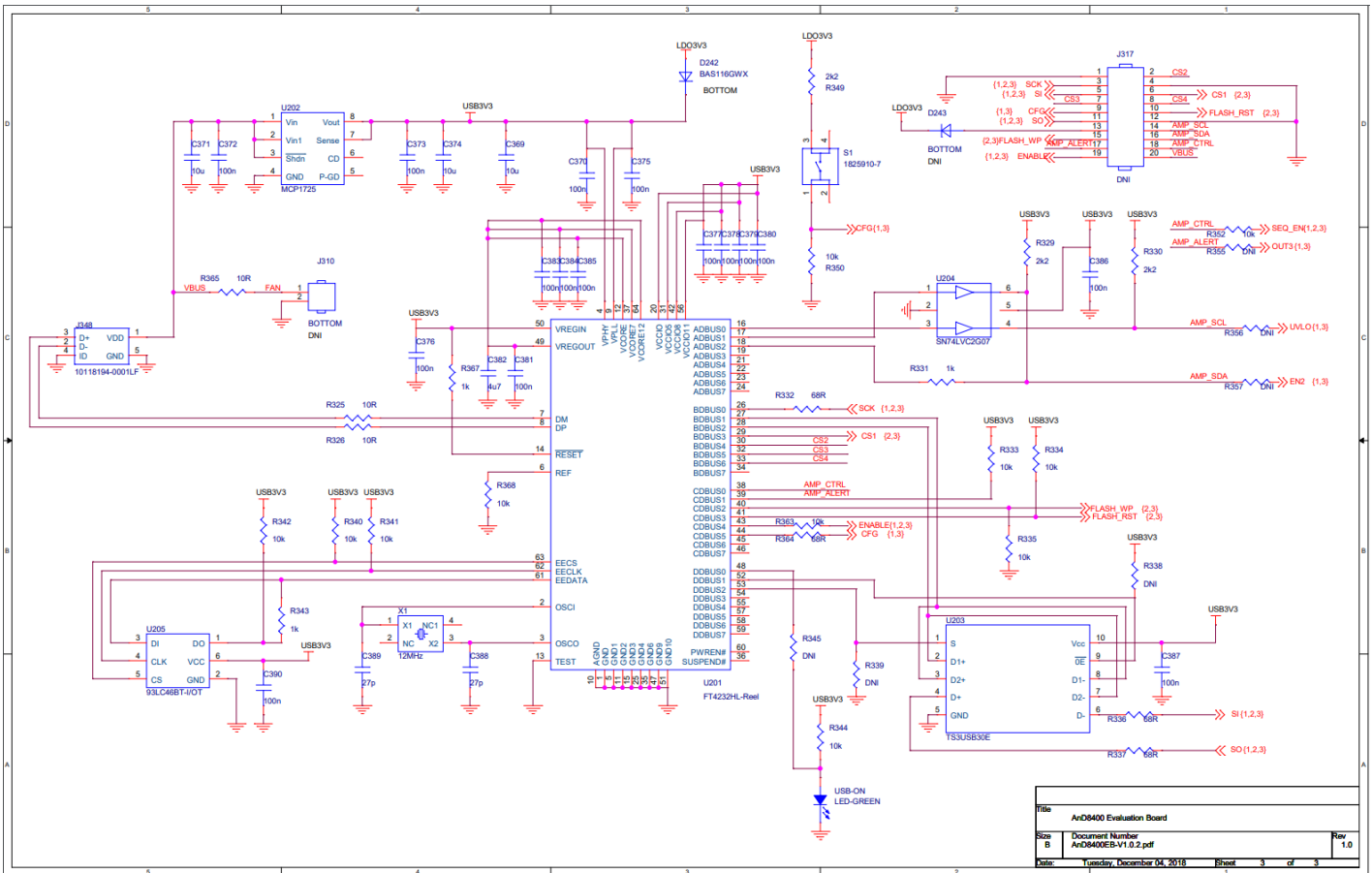
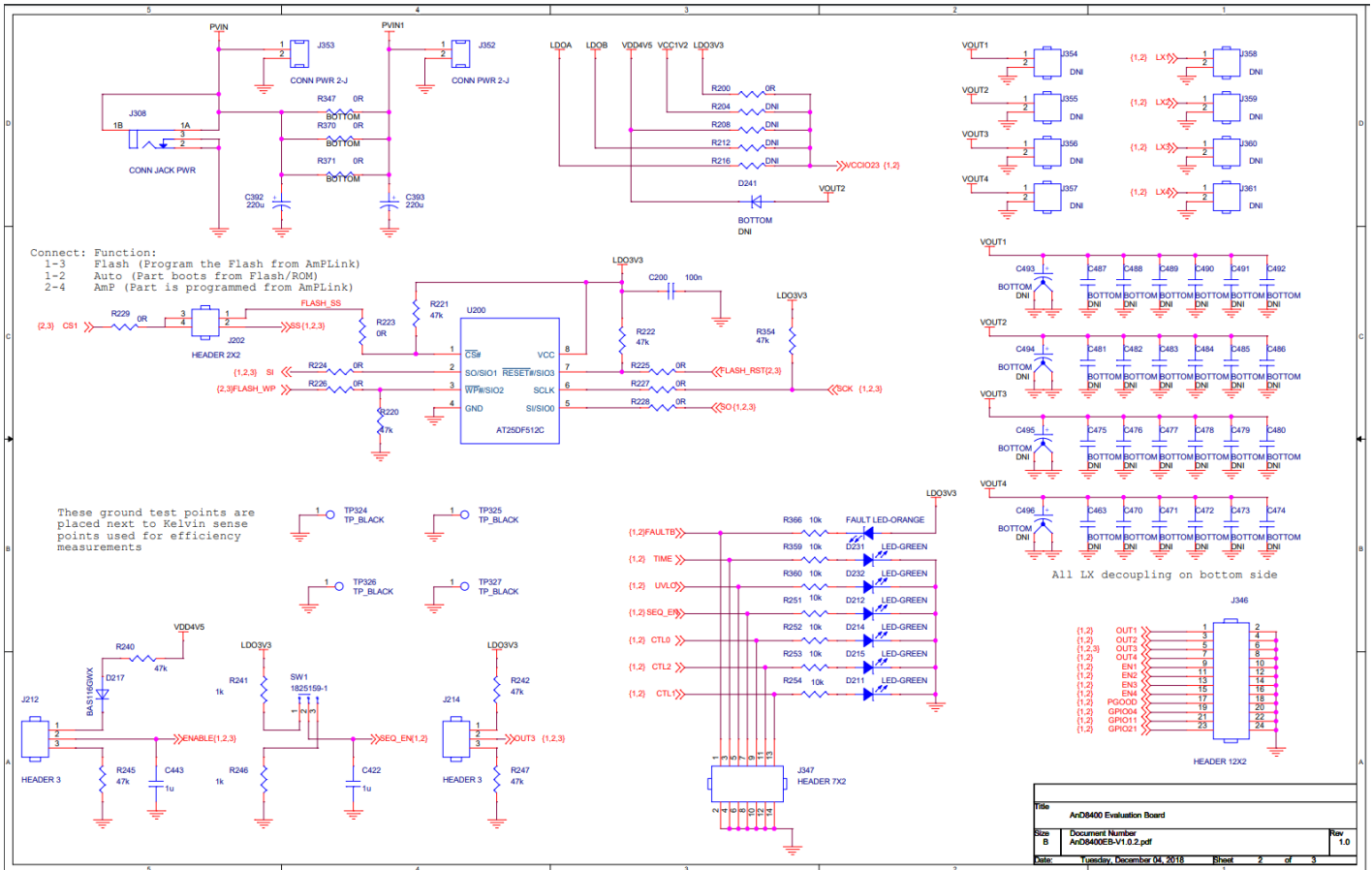
Schematics



Title	AnD8400 Evaluation Board	
Size	Document Number	Rev
B	AnD8400EB-V1.0.2.pdf	1.0
Date:	Tuesday, December 04, 2018	Sheet 1 of 3

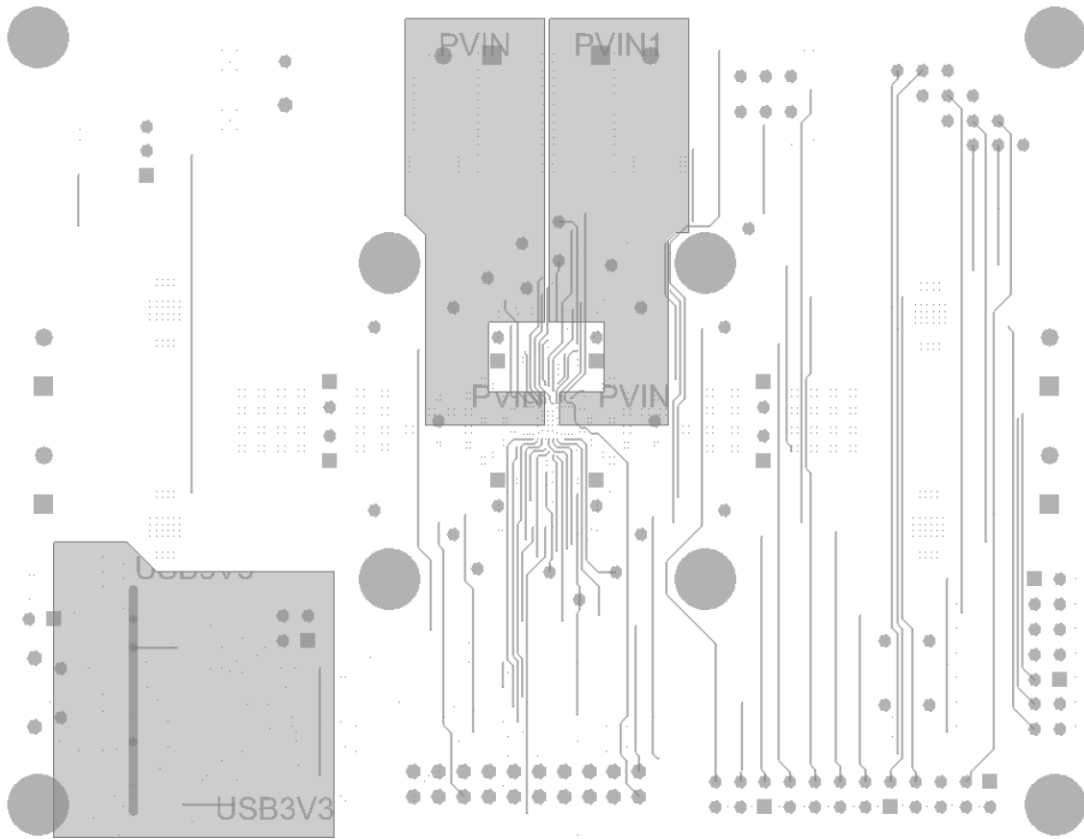


Schematics

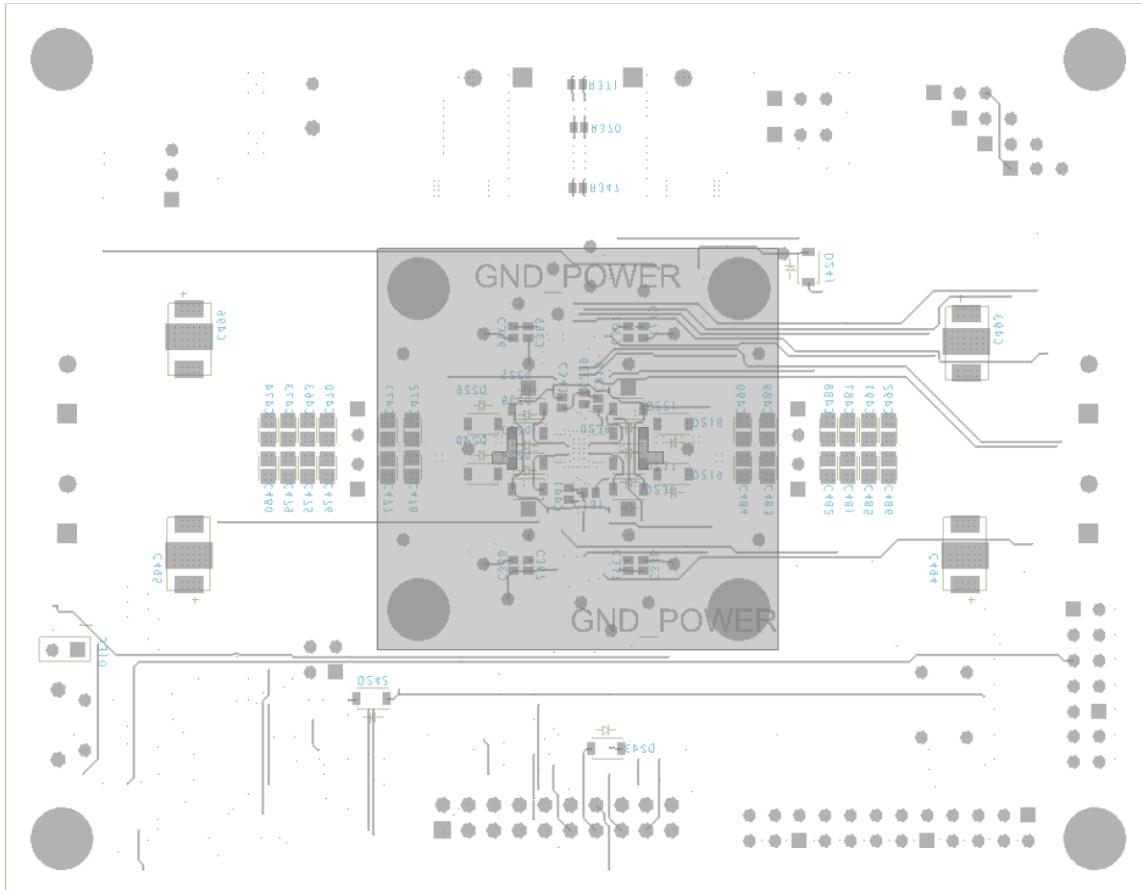




PCB Layer 3 PVIN



PCB Bottom Layer with Silk Screen



## Bill of Materials

Item	Qty	Reference	Value	Manufacturer	Description
1	5	C130,C320,C340,C382,C442	4u7	self supplied - 885012106012	CAP CER 4.7UF 10V X5R 0603
2	39	C171,J310,C331,C337,C338,C339,C365,C366,C367,C368,C441,C463,C470,C471,C472,C473,C474,C475,C476,C477,C478,C479,C480,C481,C482,C483,C484,C485,C486,C487,C488,C489,C490,C491,C492,C493,C494,C495,C496	BOTTOM	DNI	
3	2	C143,C355,	1u	1276-1860-1-ND	CAP CER 1UF 50V X5R 0603
3.1	2	C422,C443	1u	311-1872-1-ND or 1276-3010-1-ND or equivalent	CAP CER 1UF 50V X5R 0805
4	4	C144,C353,C356,C357	22u	490-10749-1-ND	CAP CER 22UF 25V X5R 0805
5	27	C200,C321,C323,C325,C332,C341,C345,C352,C358,C363,C364,C370,C372,C373,C375,C376,C377,C378,C379,C380,C381,C383,C384,C385,C386,C387,C390	100n	Würth P/N: 885012206095	CAP CER 0.1UF 50V X7R 0603
6	16	C327,C328,C329,C330,C333,C334,C335,C336,C348,C349,C350,C351,C359,C360,C361,C362	47u	Würth P/N: 885012107006	CAP CER 47UF 6.3V X5R 0805
7	5	C342,C344,C369,C371,C374	10u	490-12737-1-ND	CAP CER 10UF 25V X5R 0603 - Alternatives : 16V caps, 10uF or 25V, 6.8uF caps
8	2	C388,C389	27p	399-1054-6-ND	50V 0603
9	2	C392,C393	220u	self supplied - 865080553014	CAP 220 UF 20% 35 V
10	8	D211,D212,D214,D215,D231,D232,USB-ON	LED-GREEN	self supplied - 150060GS75000	LED GREEN CLEAR 0603 SMD
11	16	R204,R208,R212,R216,J317,R338,R339,J354,J355,J356,J357,J358,J359,J360,J361,R369	DNI	DNI	
11a	1	D217		1727-7321-1-ND	Low Leakage Si Diode BAS116GWX (SOD123)
12	8	D218,D219,D221,D223,D224,D225,D226,D236	BOTTOM	DB2W40300LDK R-ND	DIODE SCHOTTKY 40V 3A MINI2
	7	D237,D238,D239,D240,D241,D242,D243	BOTTOM	DNI	
13	1	FAULT	LED-ORANGE	self supplied - 150060RS75000	LED RED CLEAR 0603 SMD
14	8	VOUT1,VFB1,PVIN1,VOUT2,VFB2,VOUT3,VFB3,VOUT4,VFB4,VCC1V2,LDO3V3,VDD4V5,VIN,PVIN,LDOB,LDOA,ISRC	TP_RED	36-5000-ND	
15	1	J202	HEADER 2X2	self supplied - 61300421121	CONN HEADER VERT DUAL 4POS 2.54

Item	Qty	Reference	Value	Manufacturer	Description
16	6	J212,J214,J362,J363,J364,J365	HEADER 3	self supplied - 61300311121	CONN HEADER 3 POS 2.54
17	1	J308	CONN JACK PWR	self supplied - 694108106102	CONN PWR JACK 2.5X5.5MM SOLDER
18	6	J345,J349,J350,J351,J352,J353	CONN PWR 2-J	277-1667-ND	
19	1	J346	HEADER 12X2	S2012EC-20-ND	
20	1	J347	HEADER 7X2	combined with other header	
21	1	J348	10118194- 0001LF	609-4618-6-ND	
22	4	L101,L106,L107,L108	1UH 7.4A 13.5 MOHM SMD	self supplied - 74438357010	FIXED IND 1UH 7.4A 13.5 MOHM SMD
23	4	R129,R130,R131,R353	34R	0603 1%	
24	17	R200,R223,R224,R225,R226,R227,R228,R 229,R347,R370,R371 R241, R310, R311,R316,R317,R318	0R		
25	9	R220,R221,R222,R240,R242,R245,R246,R 247,R354	47k	0603 1%	
26	17	R251,R252,R253,R254,R305,R333,R334,R 335,R340,R341,R342,R344,R350,R359,R3 60,R366,R368	10k	0603 1%	R305 DNI
27	3	R329,R330,R349	2k2	0603 1%	2.21KΩ 1%
27a	4	R306,R307,R319,R321			
28	1	R308	22k	DNI	
29	3	R325,R326,R365	10R	0603 1%	
30	5	R313,R331,R343,R345,R367	1k	0603 1%	R345 DNI
31	1	R320	6k8	DNI	
32	1	R322	3k3	DNI	
33	9	R332,R336,R337,R352,R355,R356,R357,R 363,R364	68R	0603 1%	R355,R356,R357,R36 3 DNI
34	1	SW1		Self supplied 563-1582-ND	SWITCH SLIDE SPDT 50MA 48V
35	1	S1	1825910-7	450-1804-ND	
36	4	TP324,TP325,TP326,TP327	TP_BLACK	36-5001-ND	
37	1	U1	AMP8DSQF65	self supplied	
38	1	U200	AT25DF512C	1265-1114-6-ND	
39	1	U201	FT4232HL- Reel	768-1026-6-ND	
40	1	U202	MCP1725	MCP1725- 3302E/SN-ND	
41	1	U203	TS3USB30E	296-25495-6-ND	
42	1	U204	SN74LVC2G07	296-13494-1-ND	
43	1	U205	93LC46BT- I/OT	93LC46BT- I/OTCT-ND	
44	1	X1	12MHz	1253-1168-6-ND	



## Additional Resources

- [AnD8400 Platform Datasheet](#)
- [AmP Platform Datasheet](#)
- [AmPLink Configuration and Control](#)

## Revision History

Date	Revision
08/19/2019	Updated Jumper Selection Table for J202 and J214
01/29/2019	Initial



<https://www.andapt.com>

## Trademarks

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