Instrumentation Amplifiers Evaluation Board User Guide

General Description

This user guide describes generic evaluation boards that can be used to evaluate several Analog Devices, Inc., instrumentation amplifiers. For information on the performance of a specific instrumentation amplifier, see the data sheet for that instrumentation amplifier.

EVAL-INAMP-RZ

The EVAL-INAMP-RZ is designed for evaluating instrumentation amplifiers in the legacy pinout. This board can be used to evaluate the AD8421, AD8422, AD8428, AD8429, AD8229, AD8227, AD8226, AD8228, and AD8221 instrumentation amplifiers. In addition to the basic in-amp connection, circuit options enable the user to adjust the offset voltage, apply an output reference, or provide shield drivers with user-supplied components.

EVAL-INAMP-RMZ

The EVAL-INAMP-RMZ board is identical to the EVAL-INAMP-RZ board, except that it features the MSOP pinout. This board can be used to evaluate the AD8422, AD8421, AD8227, AD8226, AD8228, AD8220, AD8222, and AD8236 in MSOP packages.

EVAL-AD8422ACPZ

The EVAL-AD8422ACPZ board is similar to the EVAL-INAMP-RZ and EVAL-INAMP-RMZ boards in terms of schematic functionality. EVAL-AD8422ACPZ, however, is explicitly designed for the AD8422ACPZ or the LFCSP package pinout. Features like on-board supply and on-board reference circuit are also available in the EVAL-AD8422ACPZ.

Features and Benefits

- Plug-and-play evaluation board using USB power source
- Flexible power options – USB or external DC source
- Edge-mounted Banana connectors provisions
- On-board Reference Buffer

Applicable Boards to this UG

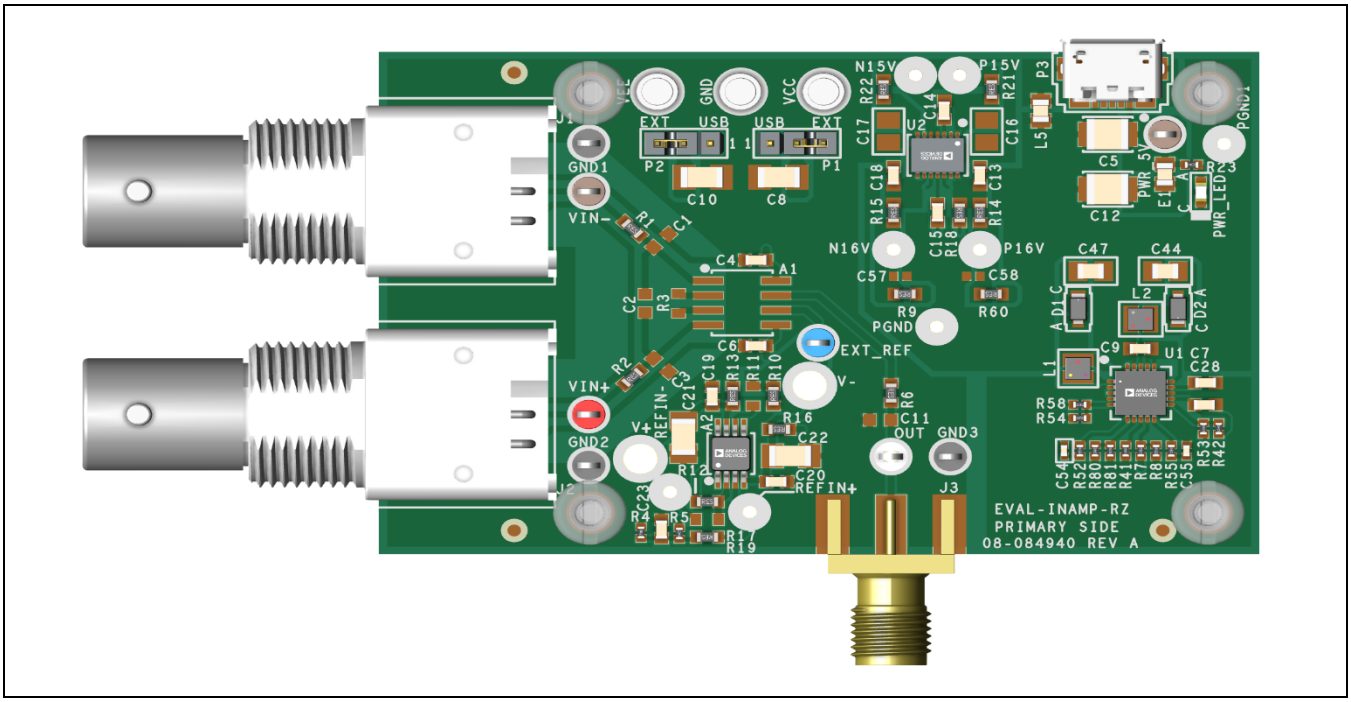
MODEL NAME	PACKAGE
EVAL-INAMP-RZ	8-SOIC
EVAL-INAMP-RMZ	8-MSOP
EVAL-AD8422ACPZ	8-LFCSP

***Ordering Information* appears at end of data sheet.**

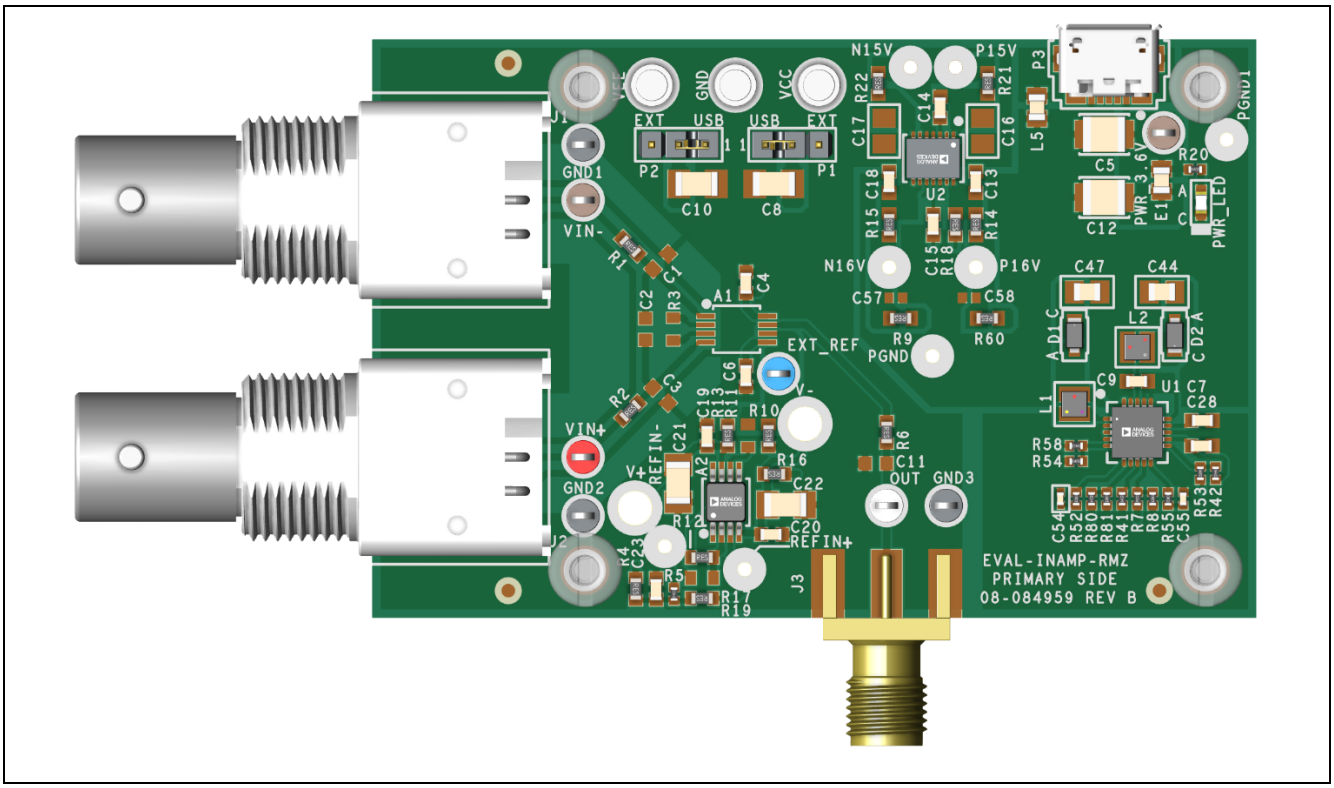
One Analog Way, Wilmington, MA 01887-2356, U.S.A. | Tel: 781.329.4700

EV Kit Photo

EVAL-INAMP-RZ



EVAL-INAMP-RMZ



EVAL-AD8422ACPZ

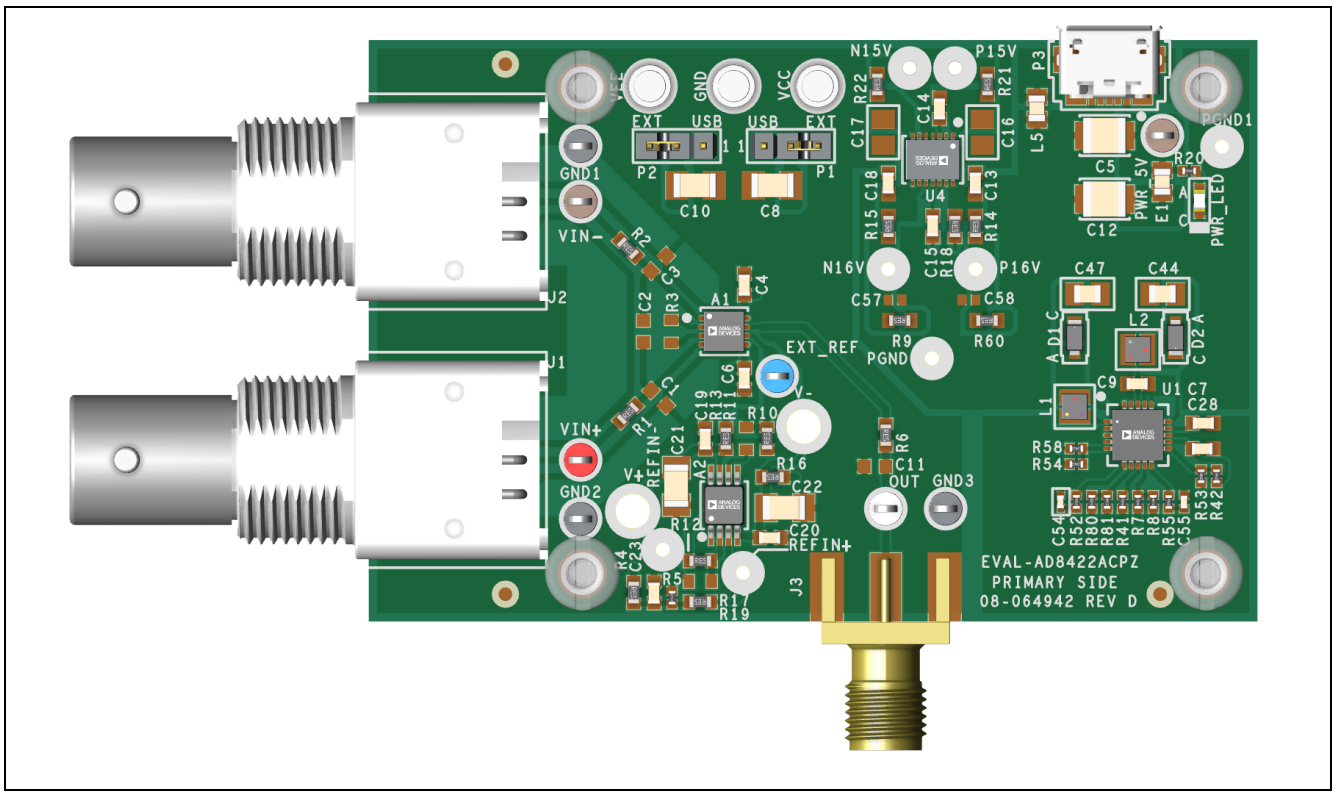


Table 1. Jumper Connection Guide

JUMPER	DEFAULT CONNECTION	FEATURE
P1	1-2	Connects +V_S to on-board power P15V
P2	1-2	Connects -V_S to on-board power N15V

Setup and Operation

EVAL-INAMP-RZ, EVAL-INAMP-RMZ, and EVAL-AD8422ACPZ Circuit Options

On Board Supply using USB connection

By default, EVAL-INAMP-RZ, EVAL-INAMP-RMZ, and EVAL-AD8422ACPZ's power supply is connected to the on-board ±15V supply. The micro-USB provides a 5V supply for the board, and with the board's power system, the +5V is then boosted to ±16V using ADP5070 (U1) and regulated to ±15V using LT3032. To utilise the on-board supply, ensure jumpers P1 and P2 are positioned to 1 and 2. The board also features a red LED indicator (PWR_LED) that indicates when the micro-USB power is connected.

External Power Supply

EVAL-INAMP-RZ, EVAL-INAMP-RMZ, and EVAL-AD8422ACPZ also provide test points for external supply connections: V_{CC} (for positive rail supply) and V_{EE} (for negative rail supply). After connecting the external supplies to the test points, position jumpers P1 and P2 at positions two and three. Test points V_{CC} and V_{EE} can also be converted to a single-supply configuration by connecting V_{CC} to the positive supply rail and V_{EE} to GND. To determine the appropriate external voltage level, refer to the part's data sheet to avoid operating beyond the limits and damaging the amplifier.

On Board Reference Amplifier

The EVAL-INAMP-RZ, EVAL-INAMP-RMZ, and EVAL-AD8422ACPZ also feature an on-board reference amplifier OP1177. By default, the reference path of the instrumentation amplifier is connected to GND. To use the OP1177, solder down a 0Ω resistor to R11 and remove R10. By default, the output of OP1177 is configured at the midpoint of $+V_S$ and $-V_S$ to optimize the maximum dynamic range of the instrumentation amplifier.

For EVAL-AD8422ACPZ, the default output of the reference amplifier is configured at +2.5V. To modify this voltage level, the user can adjust the resistor combinations R4 and R5. Please see *Table 2* below for suggested resistor combinations.

Table 2. Sample Resistor Combinations

OP1177 Output	R4	R5
+2.5V (default)	5kΩ	1kΩ
+10V	1kΩ	2kΩ
+7.5V	1kΩ	1kΩ
+5V	2kΩ	1kΩ

Aside from the additional reference amplifier, users can also utilise an external supply to adjust the reference voltage to meet their specific requirements, using the test point EXT_REF.

Gain Adjustment

Traditional instrumentation amplifiers modify their gain using an external resistor. Using R3, users can modify the instrumentation amplifier's gain setting. If an external resistor is not installed, the default gain of the instrumentation amplifier will apply. For the gain resistor values, please refer to the respective data sheet of the instrumentation amplifier.

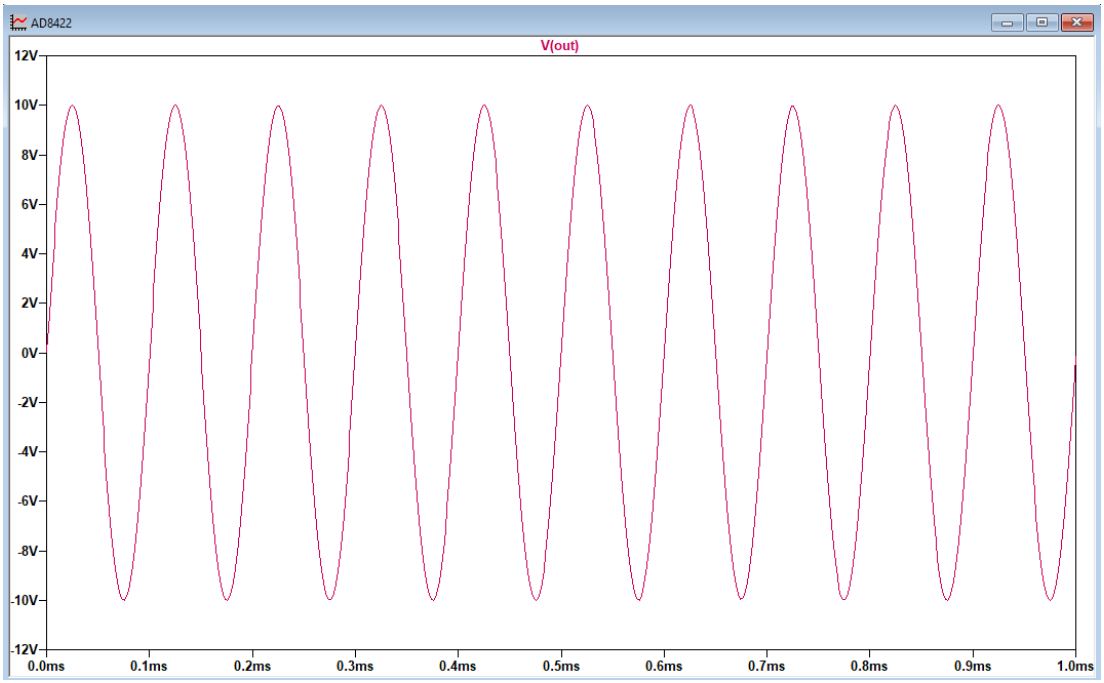
EVAL-AD8422ACPZ Quick Start

Hardware Needed

1. EVAL-AD8422ACPZ kit
   a) EVAL-AD8422ACPZ board
   b) Micro-USB connector
2. 2-channel waveform generator
3. DC power supply
4. Oscilloscope
5. Grabber-to-grabber connectors

On-board Supply Using Micro-USB Power

1. Verify if the jumpers are placed in their default positions. Refer to *Table 1* for default jumper positions.
2. Using a 2-channel waveform generator, connect channel A to V_{IN+} and channel B to V_{IN-}.
3. Configure channel A to a +5Vpk, f = 1kHz, and channel B to +5Vpk 180 phase shift.
4. Connect the micro-USB to the board and to a USB-A port. Ensure the USB-A port is connected to a laptop/computer or any DC adaptor that has a rating of 5V. Check if LED_PWR is ON.
5. Turn on the waveform generator and observe the OUT test point using an oscilloscope.



AD8422 Transfer Function

$$V_{OUT} = G\ x\ (V_{IN+} - V_{IN-}) + V_{REF}$$

For a +5Vpk input signal, G = 1, and V_{REF} = 0, AD8422's V_{OUT} will be as follows:

$$V_{OUT} = G\ x\ (V_{IN+} - V_{IN-}) + V_{REF}$$
$$V_{OUT} = 1\ x\ (+5Vpk - -5Vpk) + 0V$$
$$V_{OUT} = 10\ Vpk$$

EVAL-AD8422ACPZ is by default configured to a gain of 1. To modify the gain setting, install a gain resistor at R3. To calculate the gain resistor for the AD8422, use the following formula for RG. For sample resistor values and their corresponding gain, refer to *Table 3*. For boards EVAL-INAMP-RZ and EVAL-INAMP-RMZ, refer to the respective product data sheet.

AD8422 Gain Resistor Computation

$$R_G = \frac{19.8\ k\Omega}{G - 1}$$

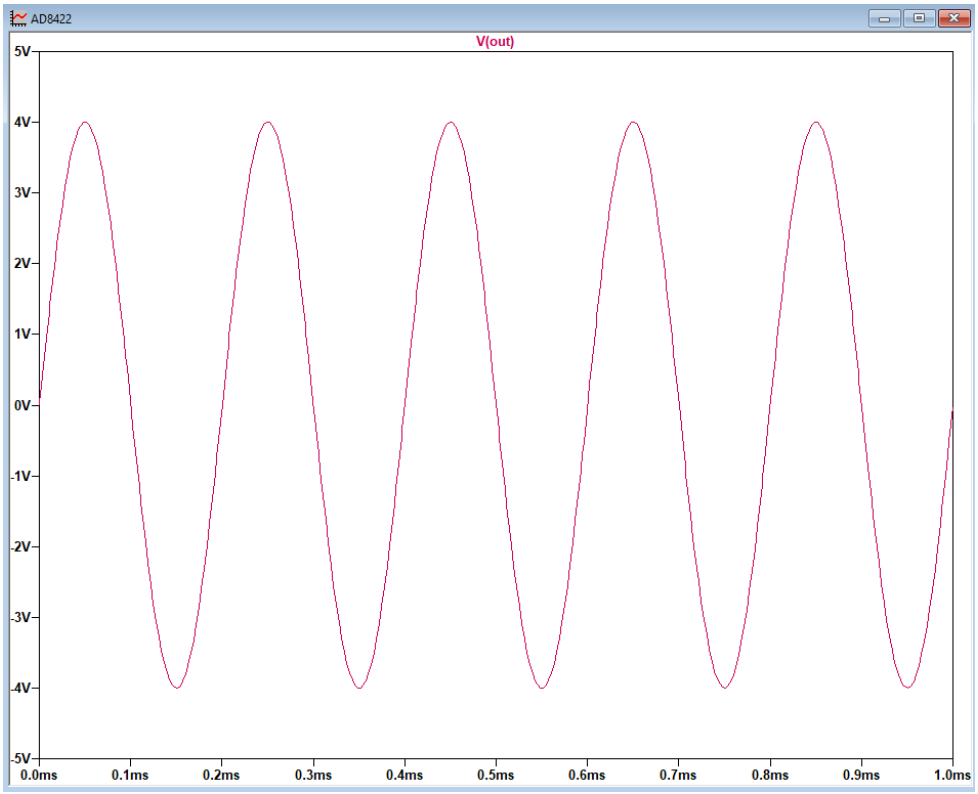
6. Turn off the waveform generator, then unplug the micro-USB connector.

Table 3. Example Gain Resistor Value

R_G	GAIN
19.6kΩ	2.010
4.99kΩ	4.968
2.21kΩ	9.959
1.05kΩ	19.86
402Ω	50.25
200Ω	100.0
100Ω	199.0
39.2Ω	506.1
20Ω	991.0

External Power Supply

7. To use an external power supply, position jumpers P1 and P2 to 2 and 3.
8. Connect the positive terminal of a DC power supply to test point V_{CC} and the negative terminal to test point V_{EE}. Configure the DC power supply to +5V and -5V.
9. Using a 2-channel waveform generator, connect channel A to V_{IN+} and channel B to V_{IN-}.
10. Configure channel A to a +2.5Vpk, f = 1kHz and channel B to +2.5Vpk, 180 phase shift.
11. Turn on the DC power supply.
12. Turn on the waveform generator and observe the OUT test point using an oscilloscope.



AD8422 Transfer Function

$$V_{OUT} = G\ x\ (V_{IN+} - V_{IN-}) + V_{REF}$$

For a +2Vpk input signal, G = 1, and V_{REF} = 0, AD8422's V_{OUT} will be as follows:

$$V_{OUT} = G\ x\ (V_{IN+} - V_{IN-}) + V_{REF}$$

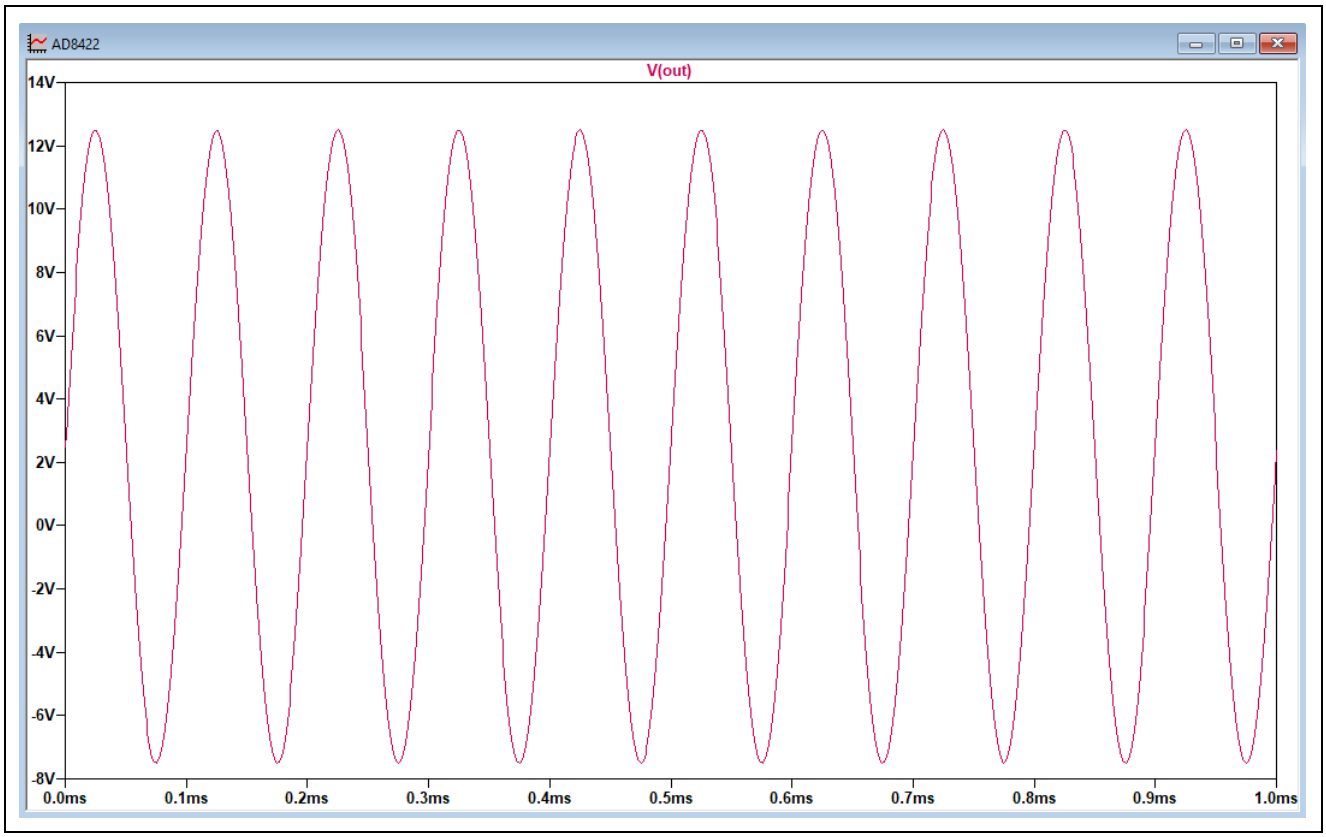
$$V_{OUT} = 1\ x\ (+2Vpk - -2Vpk) + 0V$$

$$V_{OUT} = 4\ Vpk$$

13. Turn off the waveform generator and DC power supply.

On-board Reference Buffer Amplifier

14. Ensure default JP positions – P1 and P2 in positions 1 and 2.
15. To use the on-board reference buffer, uninstall R10 and install a 0Ω resistor in place of R11.
16. Using a 2-channel waveform generator, connect channel A to V_{IN+} and channel B to V_{IN-}.
17. Configure channel A to a +5Vpk, f = 1kHz and channel B to +5Vpk, 180 phase shift.
18. Connect the micro-USB to the board and to a USB-A port. Ensure the USB-A port is connected to a laptop/computer or any DC adaptor that has a rating of 5V. Check if LED_PWR is ON.
19. Turn on the waveform generator and observe the OUT test point using an oscilloscope.



AD8422 Transfer Function

$$V_{OUT} = G\ x\ (V_{IN+} - V_{IN-}) + V_{REF}$$

For a +5Vpk input signal, G = 1, and V_{REF} = 2.5, AD8422's V_{OUT} will be as follows:

$$V_{OUT} = G\ x\ (V_{IN+} - V_{IN-}) + V_{REF}$$

$$V_{OUT} = 1\ x\ (+5Vpk - -5Vpk) + 2.5V$$

$$V_{OUT} = 10\ Vpk;\ V_{REF} = 2.5V_{DC}$$

20. To modify the gain setting, install a gain resistor at R3. For EVAL-AD8422ACPZ, refer to *Table 3*. For boards EVAL-INAMP-RZ and EVAL-INAMP-RMZ, refer to the respective product data sheet.
21. Turn off the waveform generator, then unplug the micro-USB connector.

EVAL-INAMP-RZ and EVAL-INAMP-RMZ

For a quick start to EVAL-INAMP-RZ and EVAL-INAMP-RMZ, refer to the *EVAL-AD8422ACPZ Quick Start* section. Refer to the section below for an overview of the differences in the default settings of the board.

Table 4. Default Settings (Differences)

	EVAL-AD8422ACPZ	EVAL-INAMP-RZ	EVAL-INAMP-RMZ
V_{IN+}	J1	J2	J2
V_{IN-}	J2	J1	J1
A1	AD8422ACPZ	Not installed	Not installed
R4	5kΩ	1kΩ	1kΩ
R5	1kΩ	1kΩ	1kΩ

Ordering Information

MODEL	TYPE
EVAL-INAMP-RZ	SOIC package EV Kit
EVAL-INAMP-RMZ	MSOP package EV Kit
EVAL-AD8422ACPZ	LFCSP package EV Kit

Bill of Materials

EVAL-INAMP-RZ

PART	QTY	DESCRIPTION
PCB	1	PCB
A2	1	OP1177ARMZ PREC SINGLE LNOISE LOW IN BIAS CUR OP AMP
C8, C10, C21, C22	4	CAP CER 10µF 50V 10% X5R 1206 LOW ESR
C5, C12	2	CAP CER 22µF 25V 20% X7R 1210
C13, C18	2	CAP CER 1µF 25V 10% X7R 0603 AEC-Q200
C14, C15	2	CAP CER 0.01µF 25V 5% C0G 0603 EXTREME LOW ESR
C4, C6, C19, C20, C23	5	CAP CER 0.1µF 50V 10% X7R 0603 AEC-Q200 LOW ESR
C7, C28	2	CAP CER 1µF 10V 10% X7R 0603
C44, C47	2	CAP CER 10µF 25V 10% X7S 0805
C54	1	CAP CER 1000pF 50V 10% X7R 0402 AEC-Q200 LOW ESR
C55	1	CAP CER 4700pF 50V 10% X7R 0402
C9	1	CAP CER 10µF 6.3V 20% X7R 0603
D1, D2	2	DIODE SCHOTTKY BARRIER RECTIFIER
E1	1	IND FERRITE BD
EXT_REF	1	CONN-PCB TEST POINT BLUE
GND, V_{CC}, V_{EE}	3	CONN-PCB SOLDER TERMINAL TEST POINT TURRET 0.094" MTG. HOLE PCB 0.062” THK
GND1, GND2, GND3	3	CONN-PCB TST PNT BLK
J1, J2	2	CONN-PCB JACK BNC R/A 50Ω
J3	1	CONN-PCB COAX SMA END LAUNCH
L1	1	IND SMT POWER
L2	1	IND POWER SHIELDED WIREWOUND 8.2UH 20% 1MHZ 0.849A 0.416Ω AEC-Q200
L5	1	IND POWER COIL
OUT	1	CONN-PCB TST PNT WHITE
P1, P2	2	CONN-PCB 3POS MALE HDR UNSHROUDED SINGLE ROW, 2MM PITCH, 3MM SOLDER TAIL
P3	1	CONN-PCB MICROUSB RECEPTACLE
PWR_5V, V_{IN-}	2	CONN-PCB TEST POINT BROWN
PWR_LED	1	LED GREEN SURFACE MOUNT
R1, R2, R6, R10, R12, R13, R16, R19	8	RES SMD 0Ω JUMPER 1/10W 0603 AEC-Q200
R9, R14, R15, R18, R21, R22, R60	7	RES SMD 0Ω JUMPER 1/10W 0603
R23	1	RES SMD 140Ω 1% 1/10W 0402 AEC-Q200
R4, R5	2	RES SMD 1KΩ 1% 1/10W 0402 AEC-Q200
R41	1	RES SMD 249KΩ 1% 1/16W 0402
R42	1	RES SMD 3.09KΩ 1% 1/10W 0402 AEC-Q200
R52	1	RES SMD 18.2KΩ 1% 1/10W 0402 AEC-Q200
R53	1	RES SMD 64.9KΩ 1% 1/10W 0402 AEC-Q200
R54	1	RES SMD 3.57KΩ 1% 1/10W 0402 AEC-Q200
R55	1	RES SMD 10KΩ 1% 1/10W 0402 AEC-Q200
R58	1	RES SMD 68.1KΩ 1% 1/10W 0402 AEC-Q200
R7, R80	2	RES SMD 30.1KΩ 1% 1/10W 0402 AEC-Q200
R8, R81	2	RES SMD 18.7KΩ 1% 1/10W 0402 AEC-Q200
U1	1	ADP5070ACPZ DC-DC SWITCH REG WITH INDEPENDENT POSITIVE AND NEGATIVE OUTPUTS
U2	1	LT3032EDE-15 POS/NEG LOW NOISE LDO REG, 15V_{OUT}
V_{IN+}	1	CONN-PCB TEST POINT RED

EVAL-INAMP-RMZ

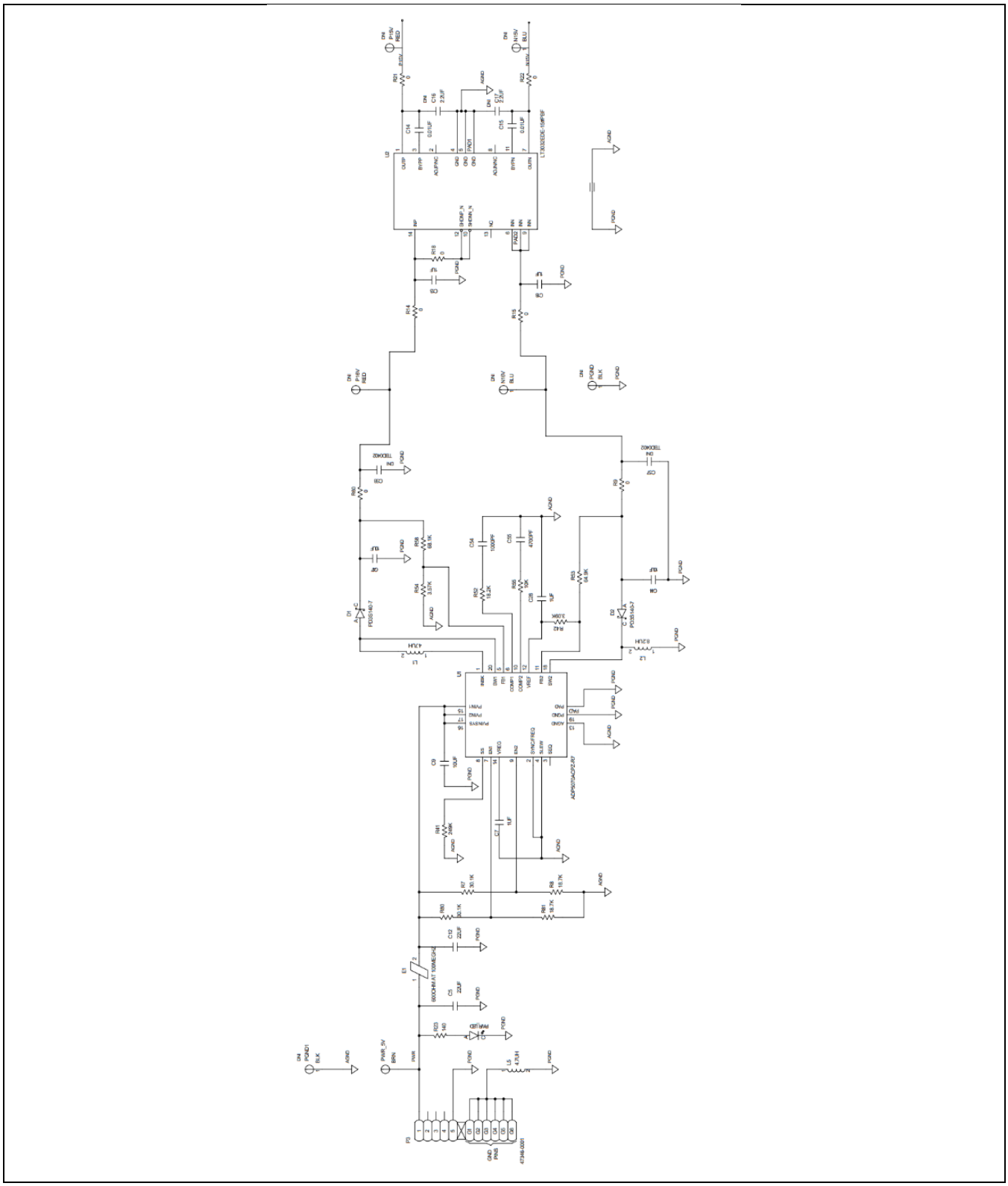
PART	QTY	DESCRIPTION
PCB	1	PCB
A2	1	OP1177ARMZ PREC SINGLE LNOISE LOW IN BIAS CUR OP AMP
C8, C10, C21, C22	4	CAP CER 10µF 50V 10% X5R 1206 LOW ESR
C5, C12	2	CAP CER 22µF 25V 20% X7R 1210
C13, C18	2	CAP CER 1µF 25V 10% X7R 0603 AEC-Q200
C14, C15	2	CAP CER 0.01µF 25V 5% C0G 0603 EXTREME LOW ESR
C4, C6, C19, C20, C23	5	CAP CER 0.1µF 50V 10% X7R 0603 AEC-Q200 LOW ESR
C7, C28	2	CAP CER 1µF 10V 10% X7R 0603
C44, C47	2	CAP CER 10µF 25V 10% X7S 0805
C54	1	CAP CER 1000pF 50V 10% X7R 0402 AEC-Q200 LOW ESR
C55	1	CAP CER 4700pF 50V 10% X7R 0402
C9	1	CAP CER 10µF 6.3V 20% X7R 0603
D1, D2	2	DIODE SCHOTTKY BARRIER RECTIFIER
E1	1	IND FERRITE BD
EXT_REF	1	CONN-PCB TEST POINT BLUE
GND, V_{CC}, V_{EE}	3	CONN-PCB SOLDER TERMINAL TEST POINT TURRET 0.094" MTG. HOLE PCB 0.062” THK
GND1, GND2, GND3	3	CONN-PCB TST PNT BLK
J1, J2	2	CONN-PCB JACK BNC R/A 50Ω
J3	1	CONN-PCB COAX SMA END LAUNCH
L1	1	IND SMT POWER
L2	1	IND POWER SHIELDED WIREWOUND 8.2µH 20% 1MHZ 0.849A 0.416Ω AEC-Q200
L5	1	IND POWER COIL
OUT	1	CONN-PCB TST PNT WHITE
P1, P2	2	CONN-PCB 3POS MALE HDR UNSHROUDED SINGLE ROW, 2MM PITCH, 3MM SOLDER TAIL
P3	1	CONN-PCB MICROUSB RECEPTACLE
PWR_3.6V, V_{IN-}	2	CONN-PCB TEST POINT BROWN
PWR_LED	1	LED GREEN SURFACE MOUNT
R1, R2, R6, R10, R12, R13, R16, R19	8	RES SMD 0Ω JUMPER 1/10W 0603 AEC-Q200
R9, R14, R15, R18, R21, R22, R60	7	RES SMD 0Ω JUMPER 1/10W 0603
R20	1	RES SMD 140Ω 1% 1/10W 0402 AEC-Q200
R4	1	RES SMD 1KΩ 1% 1/10W 0603 AEC-Q200
R41	1	RES SMD 249KΩ 1% 1/16W 0402
R42	1	RES SMD 3.09KΩ 1% 1/10W 0402 AEC-Q200
R5	1	RES SMD 1KΩ 1% 1/10W 0402 AEC-Q200
R52	1	RES SMD 18.2KΩ 1% 1/10W 0402 AEC-Q200
R53	1	RES SMD 64.9KΩ 1% 1/10W 0402 AEC-Q200
R54	1	RES SMD 3.57KΩ 1% 1/10W 0402 AEC-Q200
R55	1	RES SMD 10KΩ 1% 1/10W 0402 AEC-Q200
R58	1	RES SMD 68.1KΩ 1% 1/10W 0402 AEC-Q200
R7, R80	2	RES SMD 30.1KΩ 1% 1/10W 0402 AEC-Q200
R8, R81	2	RES SMD 18.7KΩ 1% 1/10W 0402 AEC-Q200
U1	1	ADP5070ACPZ DC-DC SWITCH REG WITH INDEPENDENT POSITIVE AND NEGATIVE OUTPUTS
U2	1	LT3032EDE-15 POS/NEG LOW NOISE LDO REG, $15V_{OUT}$

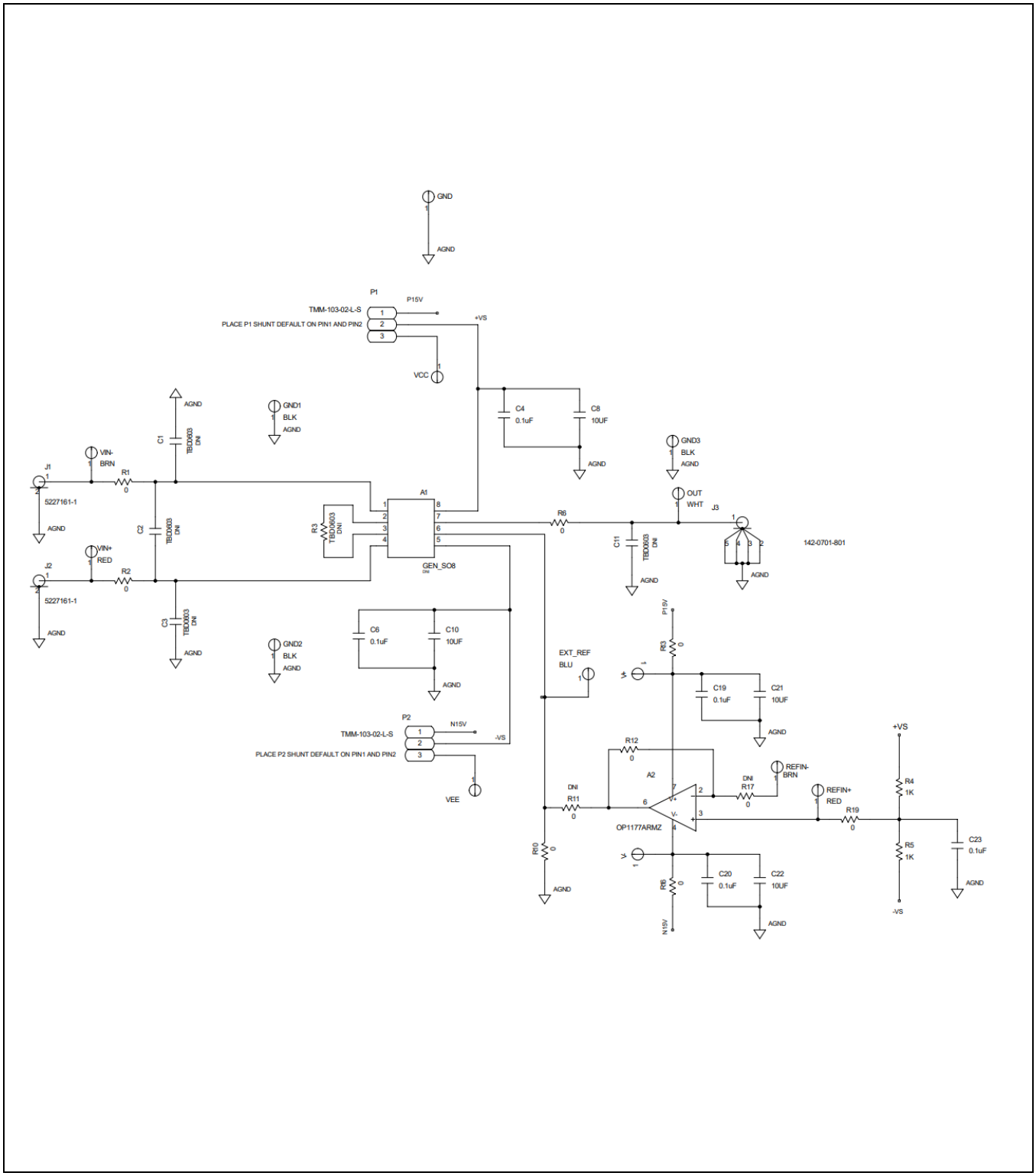
EVAL-AD8422ACPZ

PART	QTY	DESCRIPTION
PCB	1	PCB
A1	1	AD8422ACPZ HI- PERF LOW POWER RAIL-RAIL PREC INSTRUMENTATION AMP
A2	1	OP1177ARMZ PREC SINGLE LNOISE LOW IN BIAS CUR OP AMP
C8, C10, C21, C22	4	CAP CER 10µF 50V 10% X5R 1206 LOW ESR
C5, C12	2	CAP CER 22µF 25V 20% X7R 1210
C13, C18	2	CAP CER 1µF 25V 10% X7R 0603 AEC-Q200
C14, C15	2	CAP CER 0.01µF 25V 5% C0G 0603 EXTREME LOW ESR
C4, C6, C19, C20, C23	5	CAP CER 0.1µF 50V 10% X7R 0603 AEC-Q200
C7, C28	2	CAP CER 1uF 10V 10% X7R 0603
C44, C47	2	CAP CER 10µF 25V 10% X7S 0805
C54	1	CAP CER 1000pF 50V 10% X7R 0402 AEC-Q200 LOW ESR
C55	1	CAP CER 4700pF 50V 10% X7R 0402
C9	1	CAP CER 10µF 6.3V 20% X7R 0603
D1, D2	2	DIODE SCHOTTKY BARRIER RECTIFIER
E1	1	IND FERRITE BD
EXT_REF	1	CONN-PCB TEST POINT BLUE
GND, V_{CC}, V_{EE}	3	CONN-PCB SOLDER TERMINAL TEST POINT TURRET 0.094" MTG. HOLE PCB 0.062” THK
GND1, GND2, GND3	3	CONN-PCB TST PNT BLK
J1, J2	2	CONN-PCB JACK BNC R/A 50Ω
J3	1	CONN-PCB COAX SMA END LAUNCH
L1	1	IND SMT POWER
L2	1	IND POWER SHIELDED WIREWOUND 8.2µH 20% 1MHZ 0.849A 0.416Ω AEC-Q200
L5	1	IND POWER COIL
OUT	1	CONN-PCB TST PNT WHITE
P1, P2	2	CONN-PCB 3POS MALE HDR UNSHROUDED SINGLE ROW, 2MM PITCH, 3MM SOLDER TAIL
P3	1	CONN-PCB MICROUSB RECEPTACLE
PWR_5V, V_{IN-}	2	CONN-PCB TEST POINT BROWN
PWR_LED	1	LED GREEN SURFACE MOUNT
R1, R2, R6, R10, R12, R13, R16, R19	8	RES SMD 0Ω JUMPER 1/10W 0603 AEC-Q200
R9, R14, R15, R18, R21, R22, R60	7	RES SMD 0Ω JUMPER 1/10W 0603
R20	1	RES SMD 140Ω 1% 1/10W 0402 AEC-Q200
R4	1	RES SMD 5KΩ 0.1% 1/10W 0603
R41	1	RES SMD 249KΩ 1% 1/16W 0402
R42	1	RES SMD 3.09KΩ 1% 1/10W 0402 AEC-Q200
R5	1	RES SMD 1KΩ 1% 1/10W 0402 AEC-Q200
R52	1	RES SMD 18.2KΩ 1% 1/10W 0402 AEC-Q200
R53	1	RES SMD 64.9KΩ 1% 1/10W 0402 AEC-Q200
R54	1	RES SMD 3.57KΩ 1% 1/10W 0402 AEC-Q200
R55	1	RES SMD 10KΩ 1% 1/10W 0402 AEC-Q200
R58	1	RES SMD 68.1KΩ 1% 1/10W 0402 AEC-Q200
R7, R80	2	RES SMD 30.1KΩ 1% 1/10W 0402 AEC-Q200
R8, R81	2	RES SMD 18.7KΩ 1% 1/10W 0402 AEC-Q200
U1	1	ADP5070ACPZ DC-DC SWITCH REG WITH INDEPENDENT POSITIVE AND NEGATIVE OUTPUTS
U4	1	LT3032EDE-15 POS/NEG LOW NOISE LDO REG, 15VOUT
V_{IN+}	1	CONN-PCB TEST POINT RED

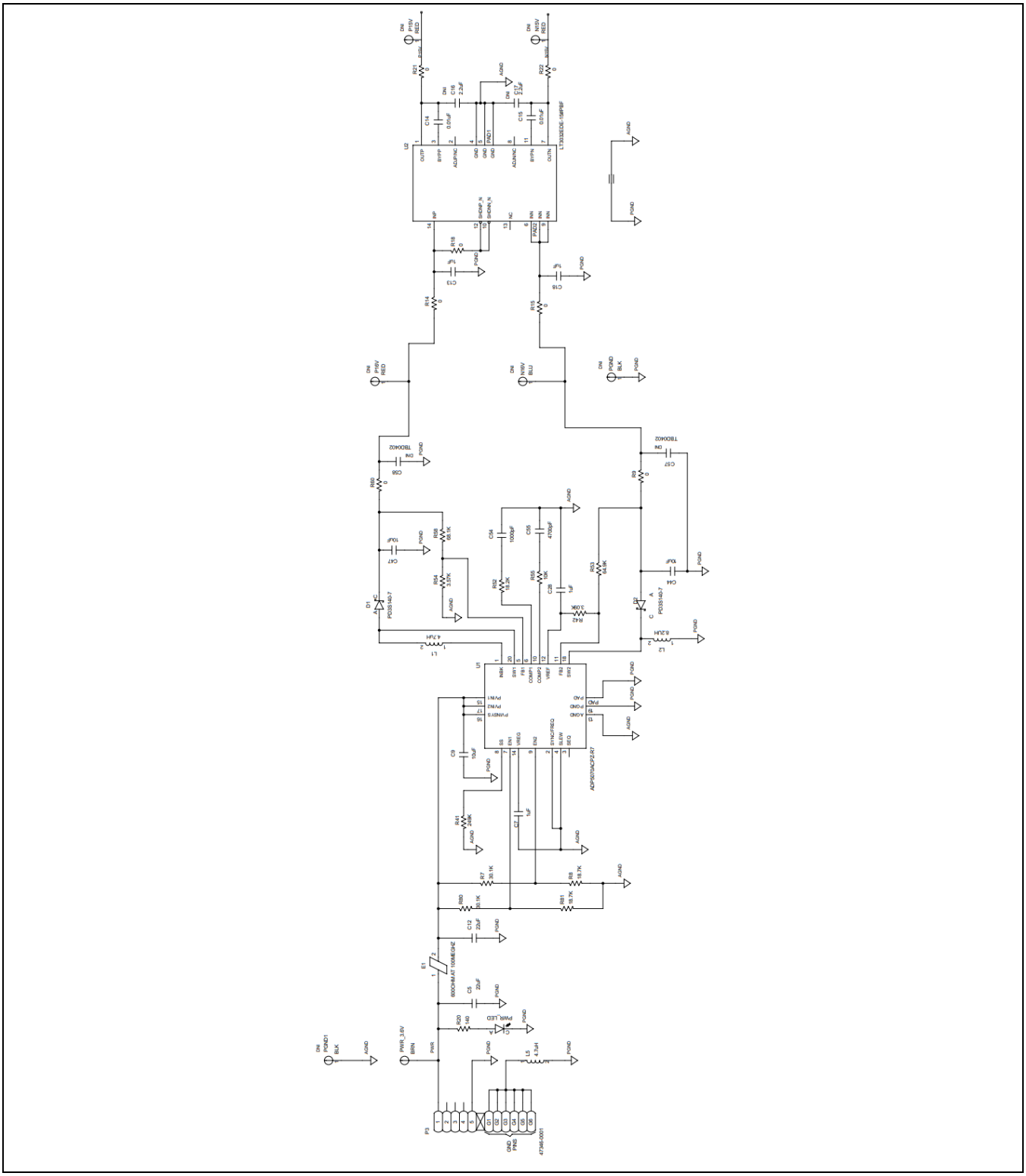
EV Kit Schematic

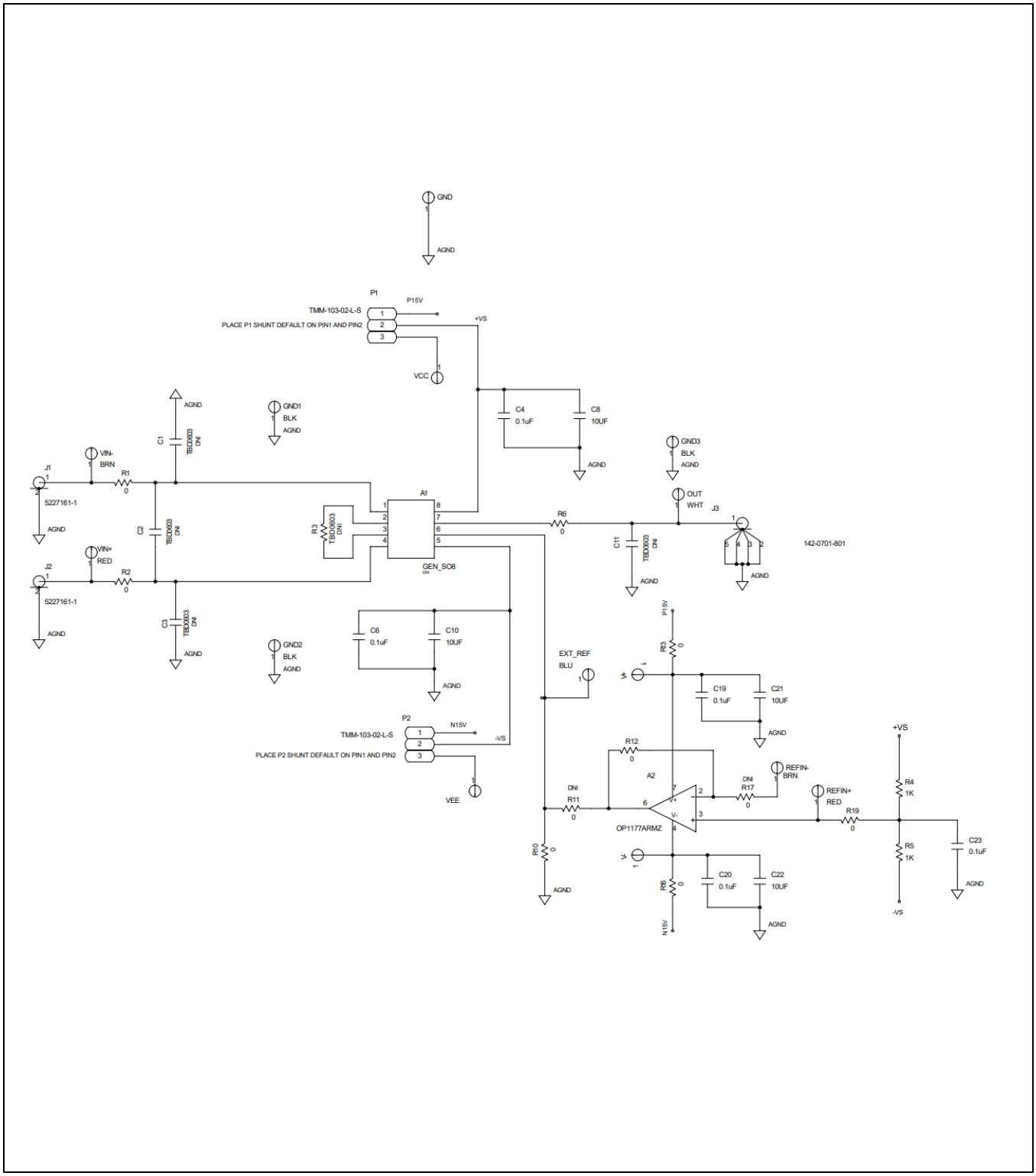
EVAL-INAMP-RZ



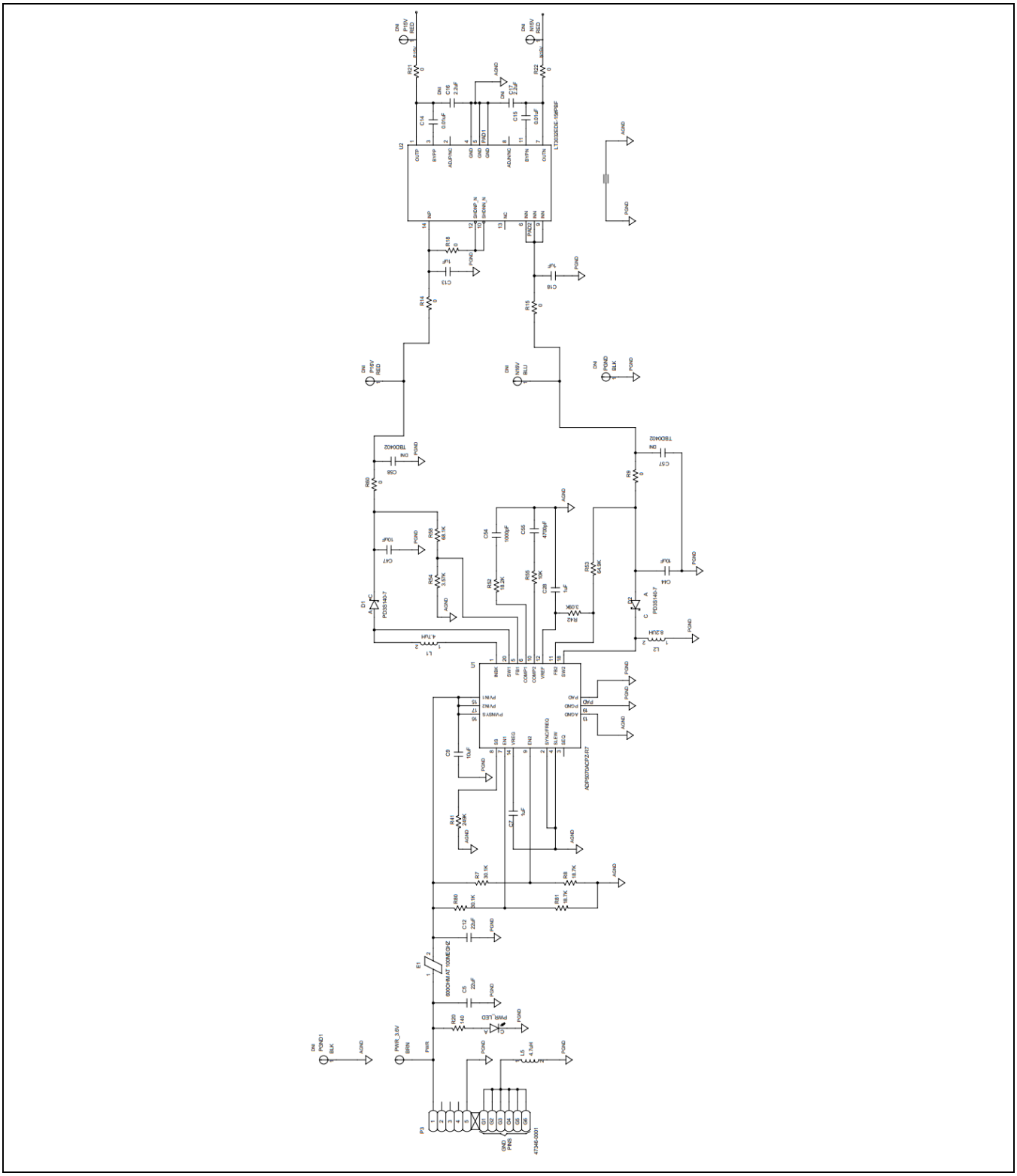

GND
AGND
P1
TMM-103-02-L-S
P15V
PLACE P1 SHUNT DEFAULT ON PIN1 AND PIN2
+VS
VCC
C4
0.1uF
C8
10UF
GND1
BLK
GND3
J1
VIN-
BRN
R1
C1
TBD0603
DNI
5227161-1
A1
OUT
WHT
J3
142-0701-801
R6
C11
J2
VIN+
RED
R2
C2
R3
GEN_SO8
C6
C10
GND2
EXT_REF
BLU
P2
N15V
-VS
TMM-103-02-L-S
PLACE P2 SHUNT DEFAULT ON PIN1 AND PIN2
VEE
C19
C21
R12
A2
REFIN-
BRN
REFIN+
RED
DNI
R11
R17
R19
R4
1K
R5
1K
R10
OP1177ARMZ
C20
C22
R8
C23
0.1uF

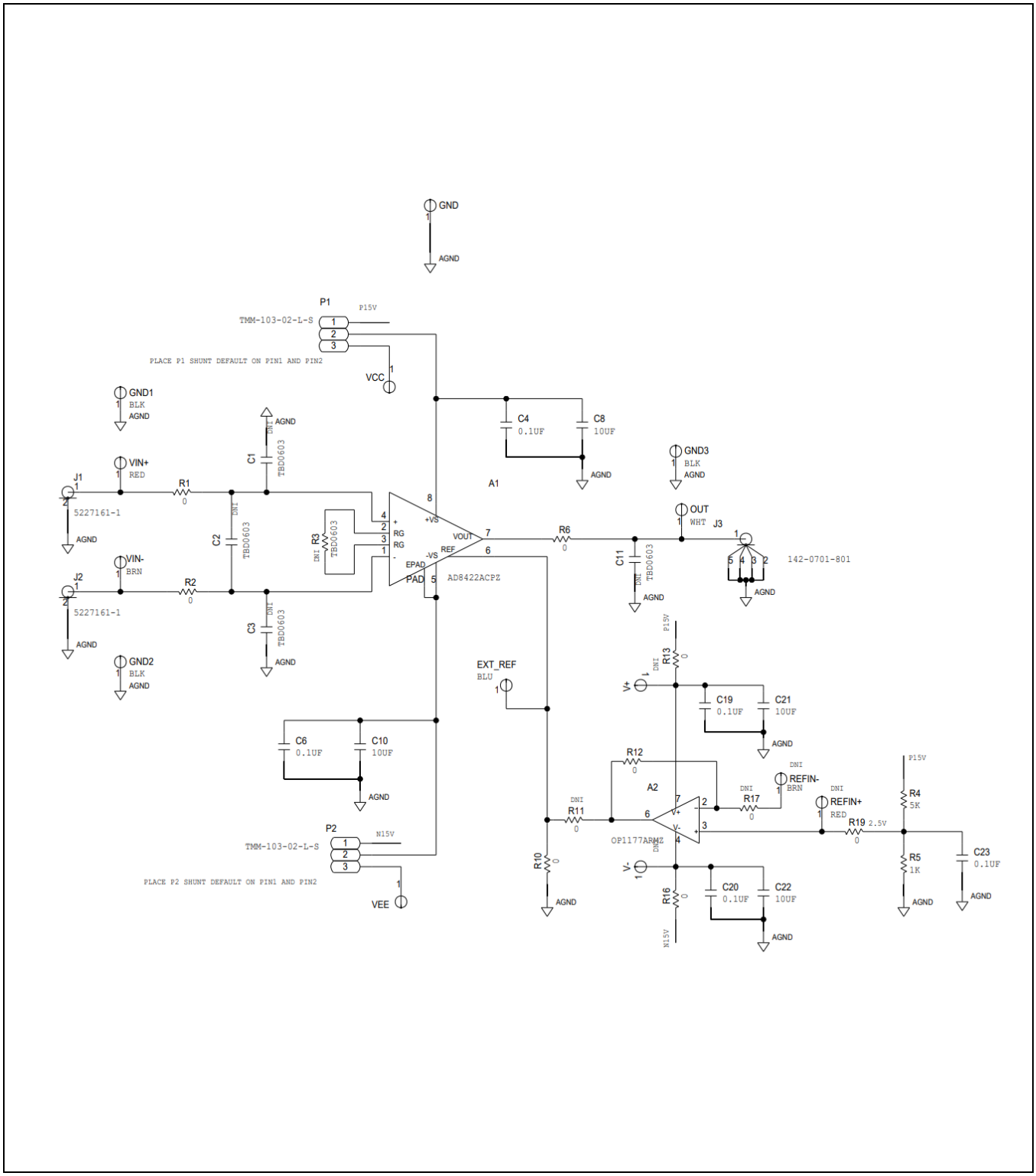
EVAL-INAMP-RMZ




GND
AGND
P1
TMM-103-02-L-S
PLACE P1 SHUNT DEFAULT ON PIN1 AND PIN2
P15V
+VS
VCC
C4
0.1uF
C8
10UF
GND1
BLK
AGND
GND3
BLK
AGND
C1
TBD0603
DNI
VIN-
BRN
J1
5227161-1
R1
0
C2
TBD0603
DNI
VIN+
RED
J2
5227161-1
R2
0
C3
TBD0603
DNI
R3
TBD0603
DNI
A1
GEN_SO8
R6
0
C11
TBD0603
DNI
OUT
WHT
J3
142-0701-801
GND2
BLK
AGND
C6
0.1uF
C10
10UF
EXT_REF
BLU
P2
TMM-103-02-L-S
PLACE P2 SHUNT DEFAULT ON PIN1 AND PIN2
N15V
-VS
VEE
R3
0
C19
0.1uF
C21
10UF
R12
0
A2
OP1177ARMZ
DNI
R11
0
DNI
R17
0
REFIN-
BRN
REFIN+
RED
R19
0
R10
0
R8
0
C20
0.1uF
C22
10UF
+VS
R4
1K
R5
1K
-VS
C23
0.1uF

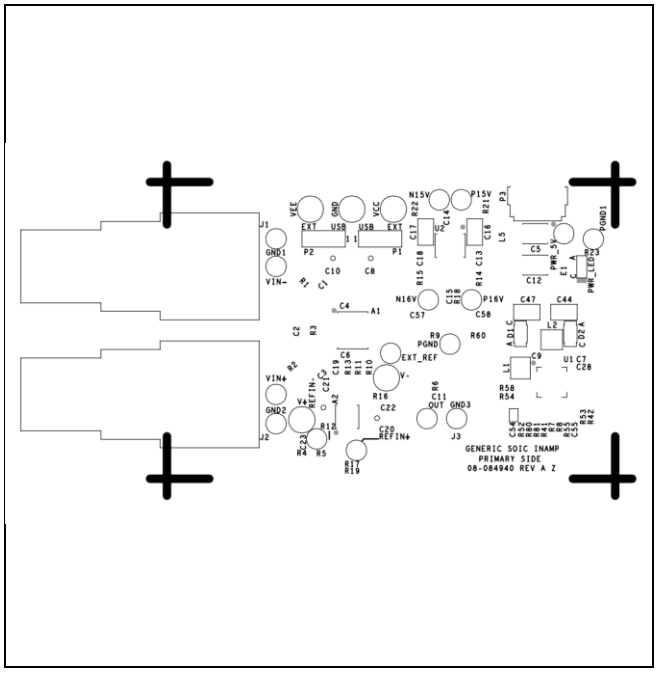
EVAL-AD8422ACPZ



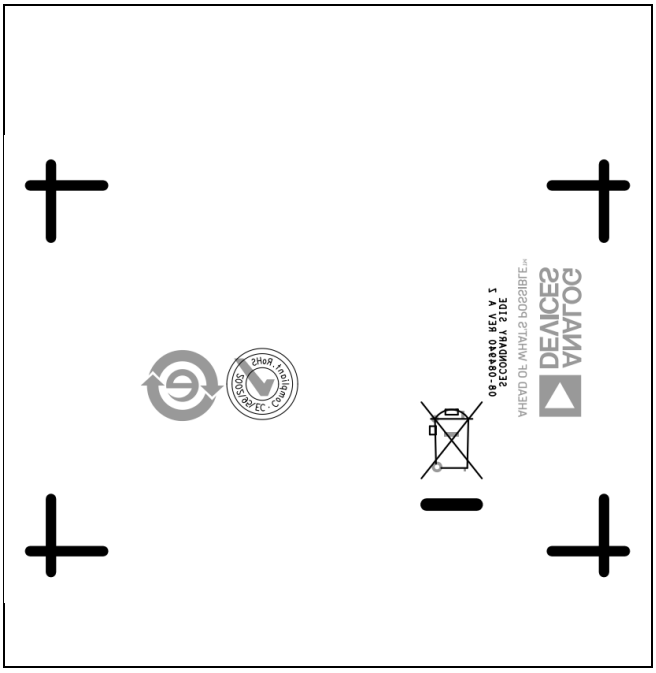

GND
AGND
P1
TMM-103-02-L-S
P15V
PLACE P1 SHUNT DEFAULT ON PIN1 AND PIN2
VCC
GND1
BLK
AGND
VIN+
RED
J1
5227161-1
R1
0
C1
DNI
TBD0603
C2
R3
C3
VIN-
BRN
J2
R2
GND2
C4
0.1UF
C8
10UF
A1
AD8422ACPZ
+VS
VOUT
REF
-VS
RG
EPAD
PAD
R6
GND3
OUT
WHT
J3
142-0701-801
C11
EXT_REF
BLU
C6
C10
P2
N15V
VEE
R13
V+
C19
C21
R12
A2
OP1177ARMZ
R11
R17
REFIN-
REFIN+
R19
2.5V
R4
5K
R5
1K
C23
R10
R16
V-
C20
C22

EV Kit PCB Layout

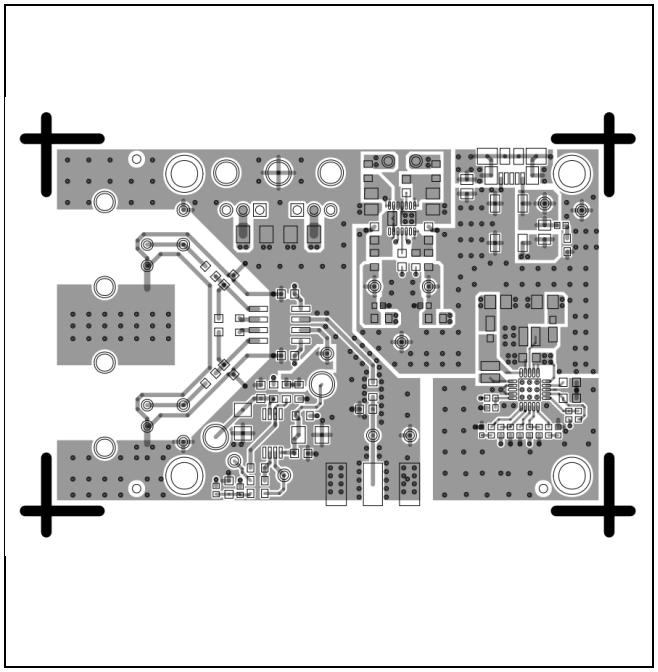
EVAL-INAMP-RZ



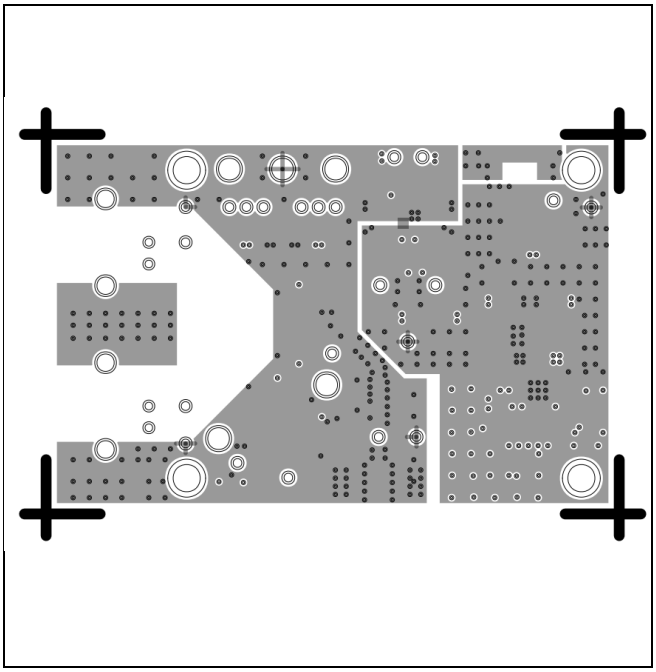
EVAL-INAMP-RZ —Top Silkscreen



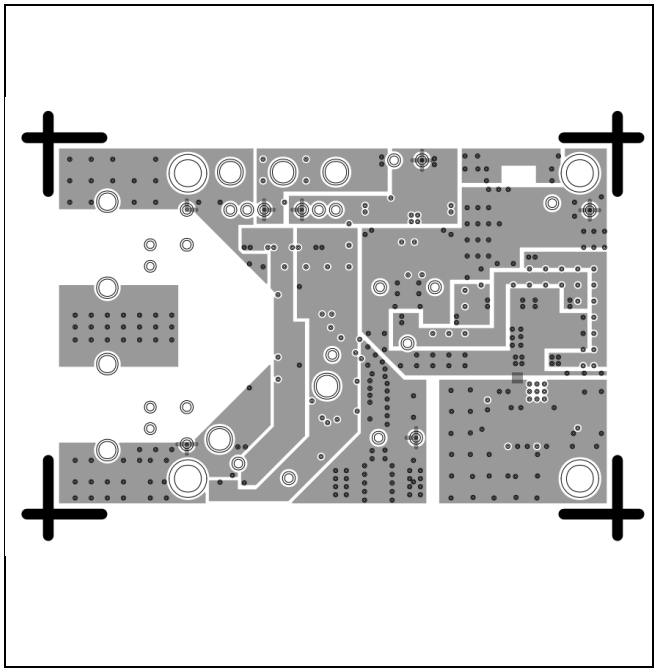
EVAL-INAMP-RZ – Bottom Silkscreen



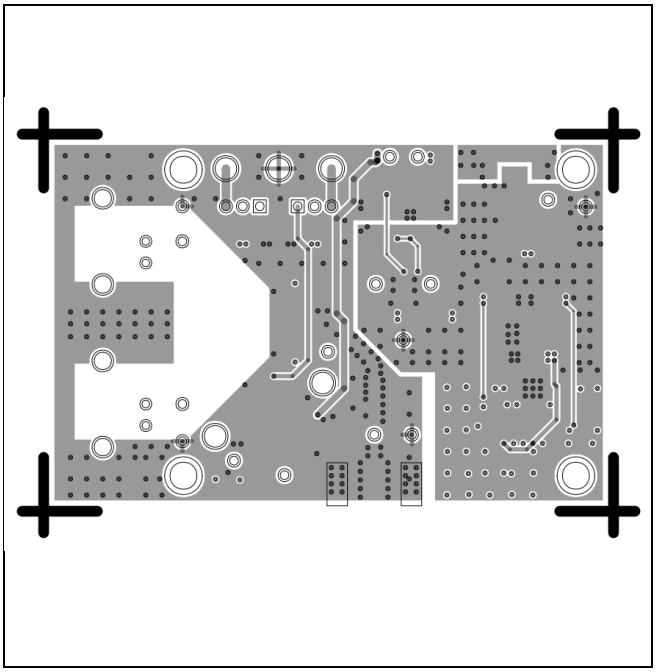
EVAL-INAMP-RZ PCB Layout – Layer 1



EVAL-INAMP-RZ PCB Layout—Layer 2 GND

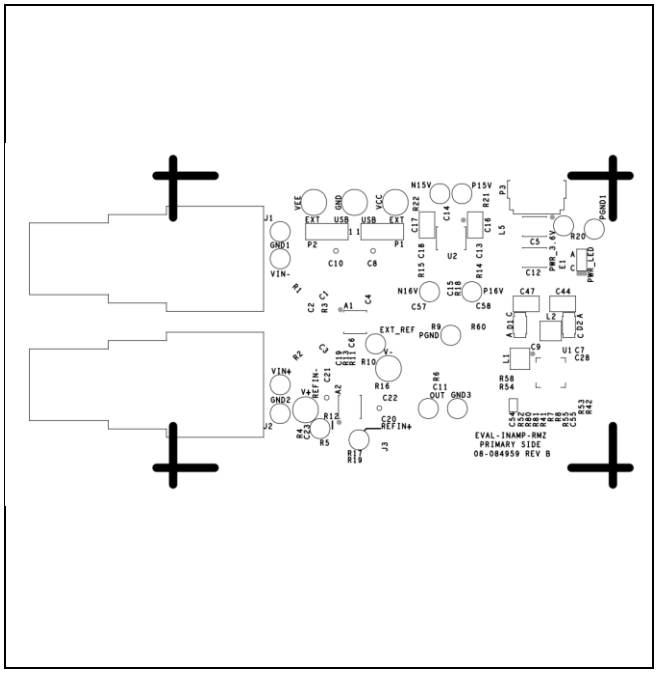


EVAL-INAMP-RZ PCB Layout – Layer 3 PWR

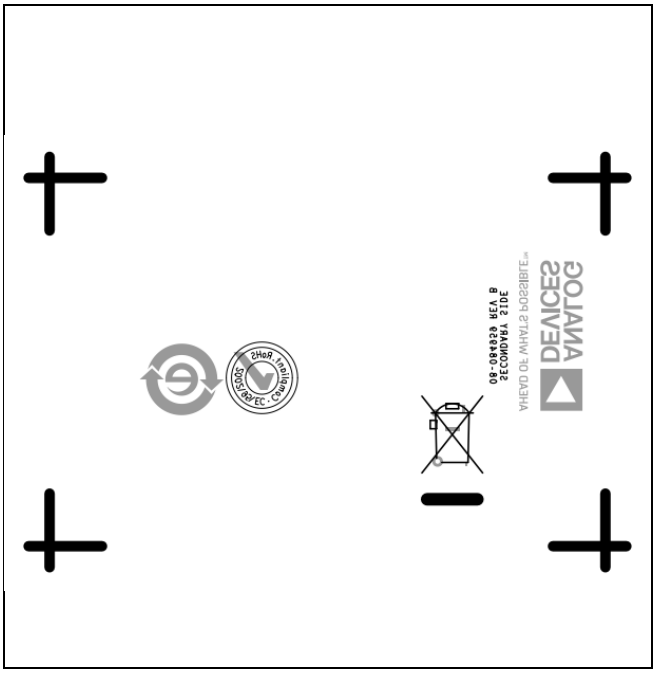


EVAL-INAMP-RZ PCB Layout – Layer 4

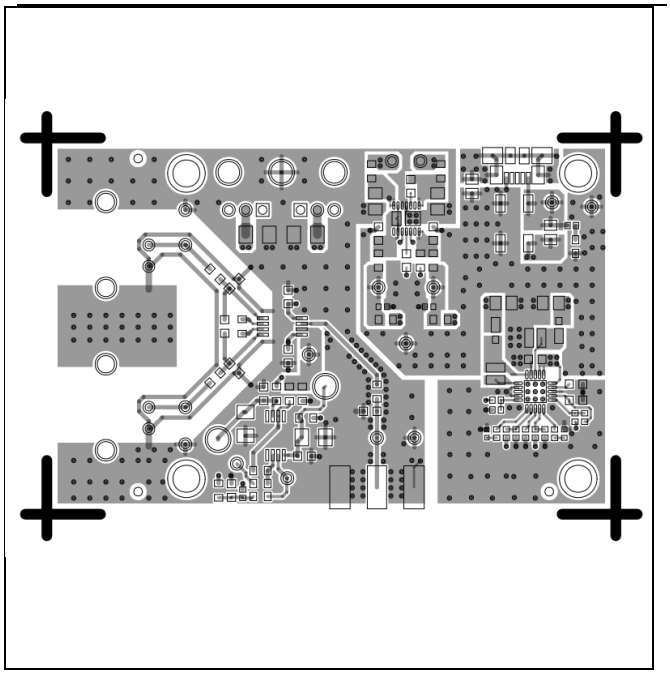
EVAL-INAMP-RMZ



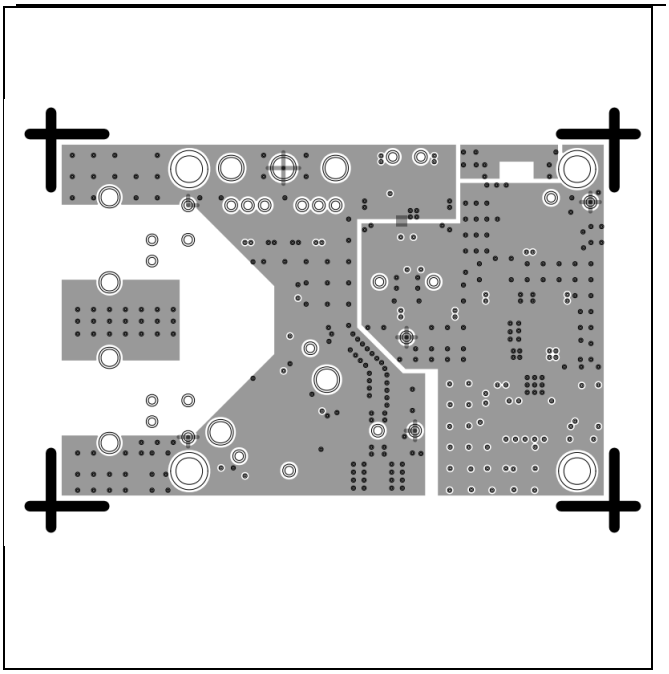
EVAL-INAMP-RMZ —Top Silkscreen



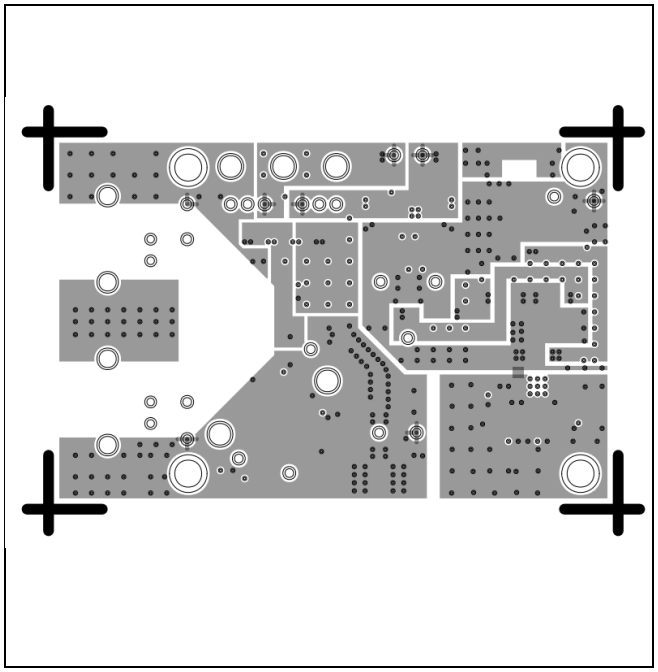
EVAL-INAMP-RMZ – Bottom Silkscreen



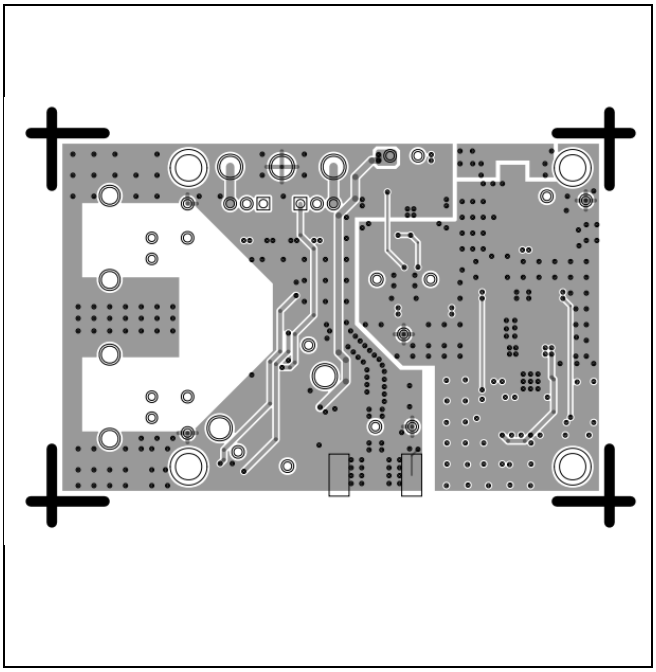
EVAL-INAMP-RMZ PCB Layout – Layer 1



EVAL-INAMP-RMZ PCB Layout—Layer 2 GND

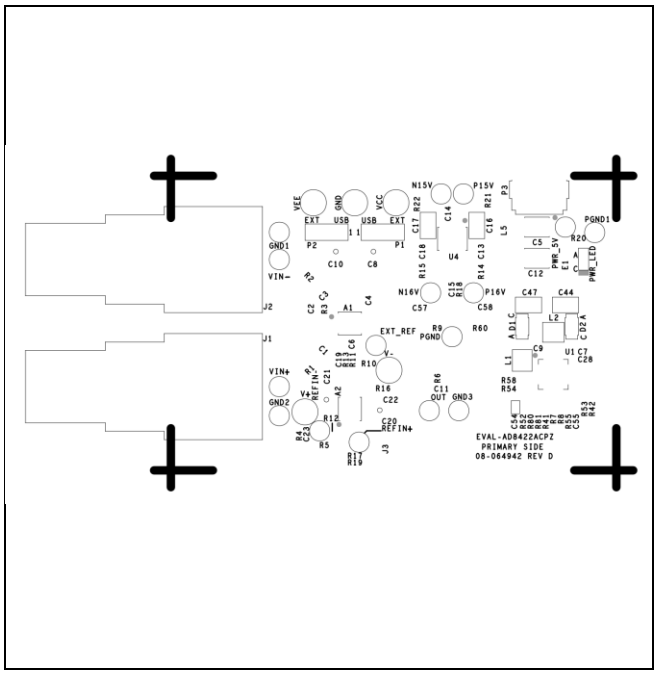


EVAL-INAMP-RMZ PCB Layout – Layer 3 PWR

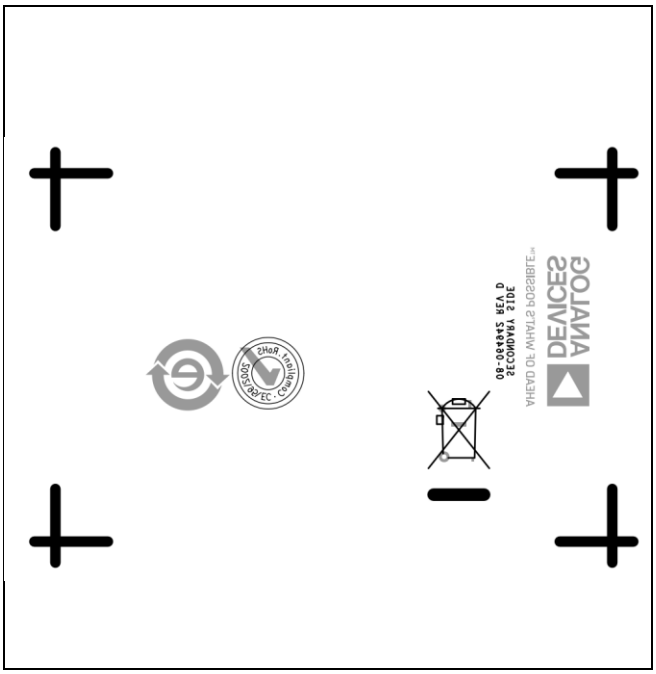


EVAL-INAMP-RMZ PCB Layout – Layer 4

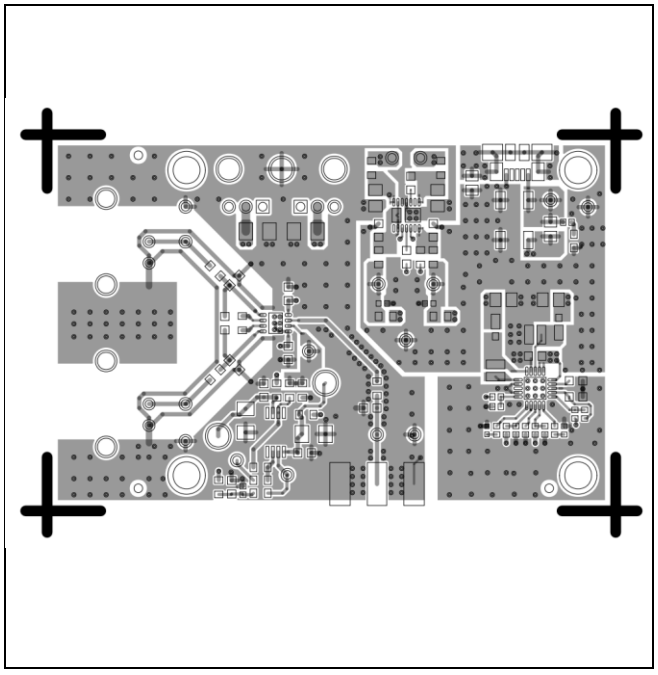
EVAL-AD8422ACPZ



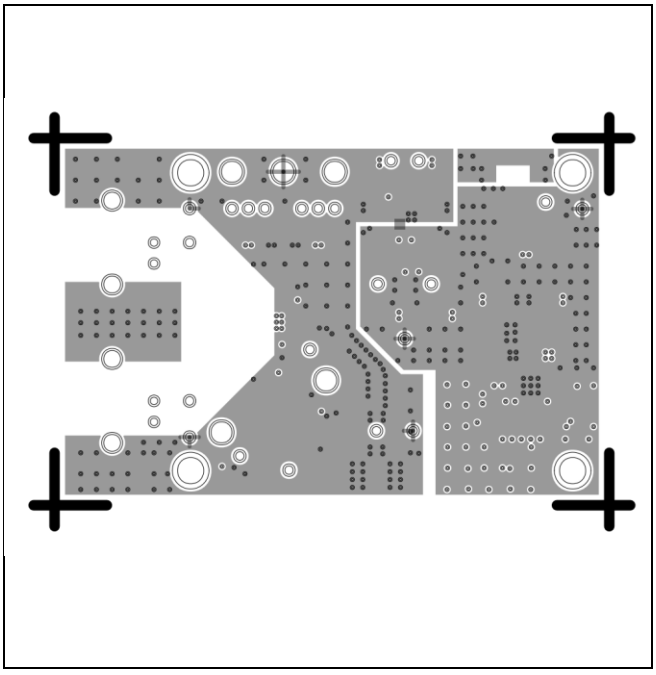
EVAL-AD8422ACPZ —Top Silkscreen



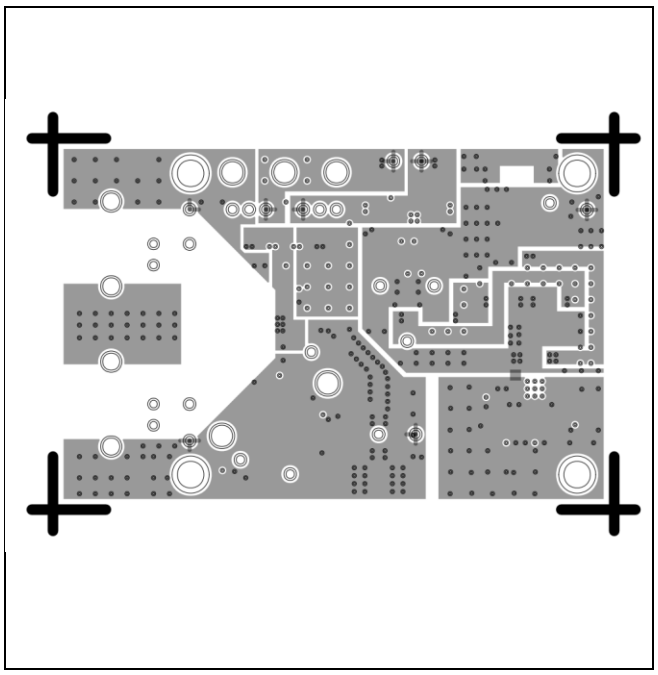
EVAL-AD8422ACPZ – Bottom Silkscreen



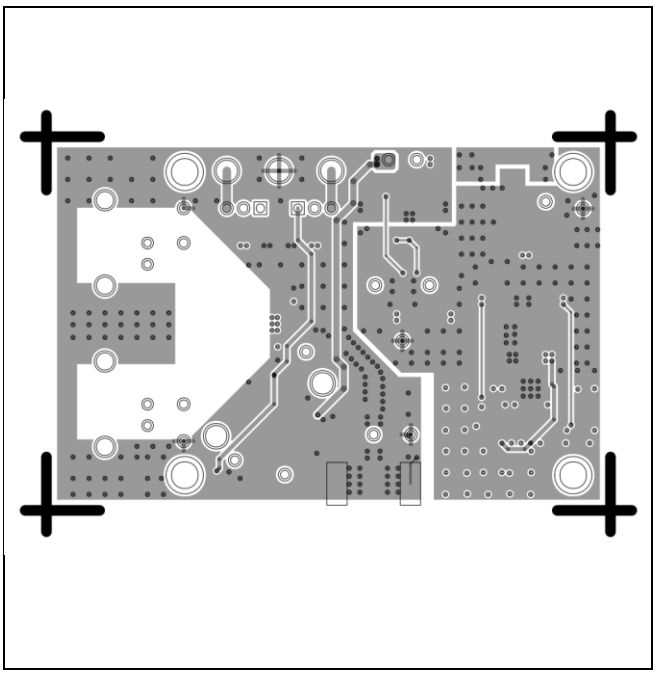
EVAL-AD8422ACPZ PCB Layout – Layer 1



EVAL-AD8422ACPZ PCB Layout—Layer 2 GND



EVAL-AD8422ACPZ PCB Layout – Layer 3 PWR



EVAL-AD8422ACPZ PCB Layout – Layer 4

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	10/25	Initial release	—

Notes