

## 6 Schematic, PCB Layout, and Bill of Materials

This chapter provides the electrical schematic and physical PCB layout information for the PGA2505EVM. The Bill of Materials is included for component reference.

### 6.1 Schematic

The complete electrical schematic for the PGA2505EVM is shown in [Figure 13](#). Refer to the Bill of Materials in [Table 3](#) for descriptions of components shown in the schematic.

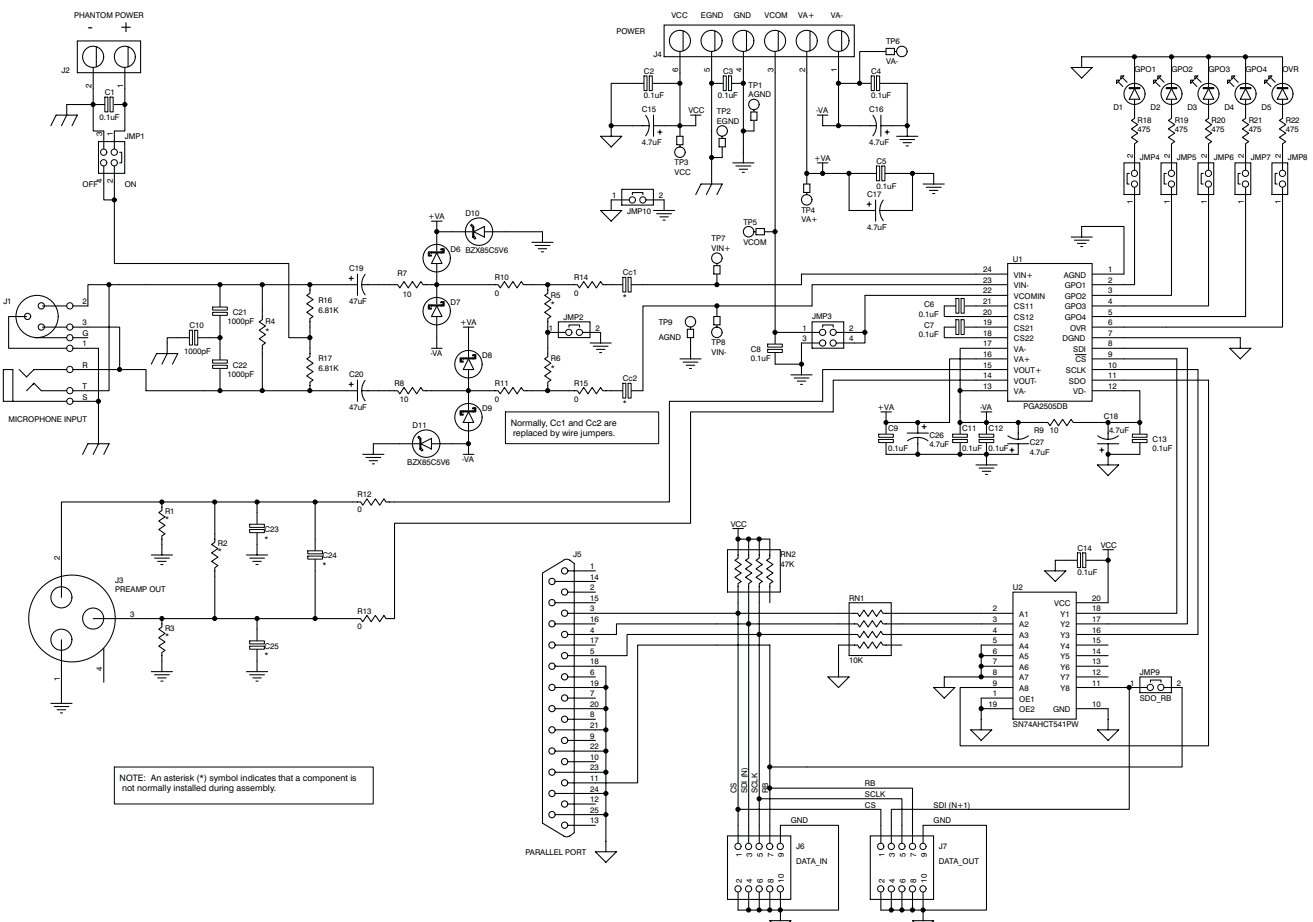


Figure 13. Schematic

## 6.2 PCB Layout

The PGA2505EVM is a two-layer printed circuit board using both through-hole and surface-mount components. The silkscreen, top, and bottom layer plots are shown in Figure 14 through Figure 16, respectively.

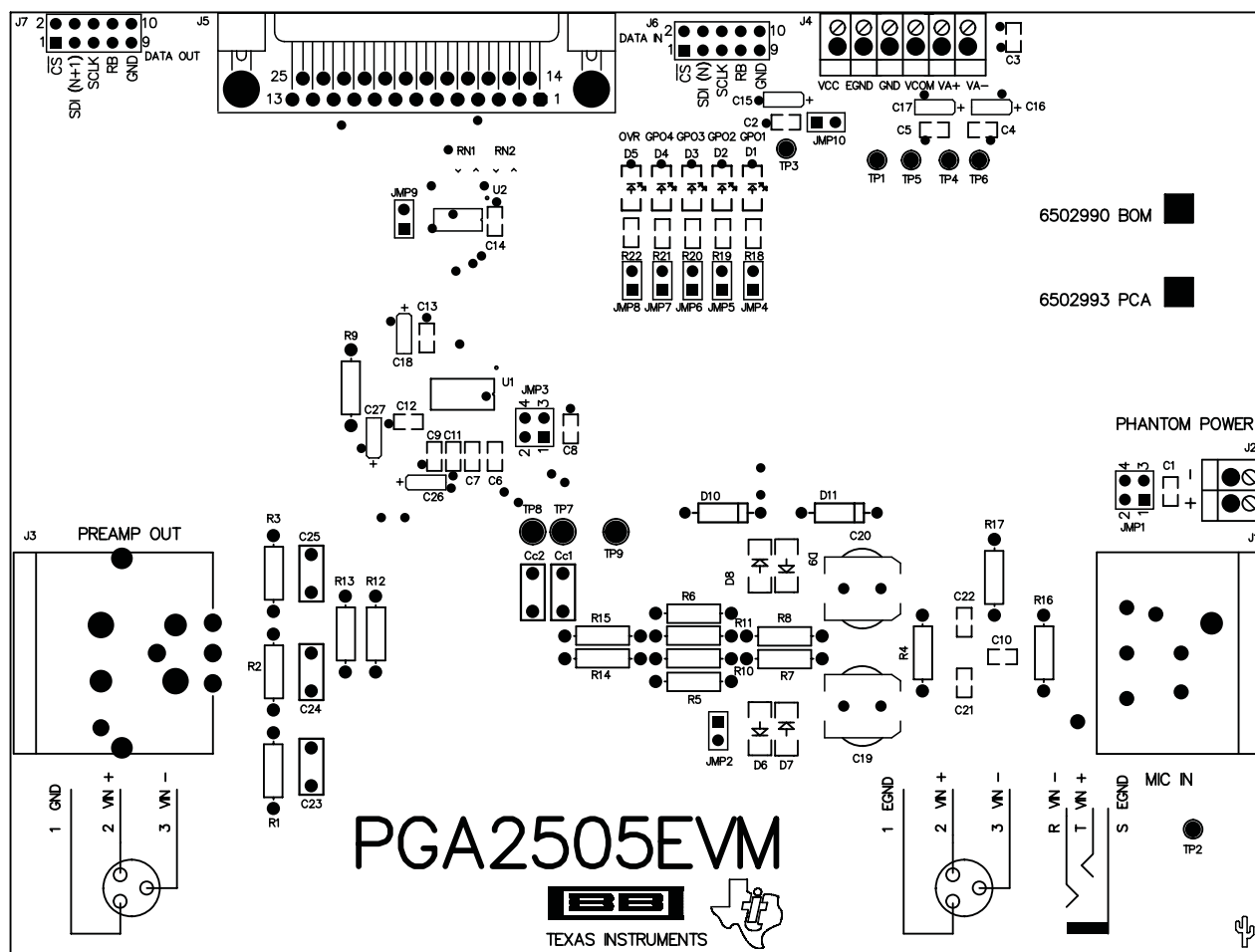
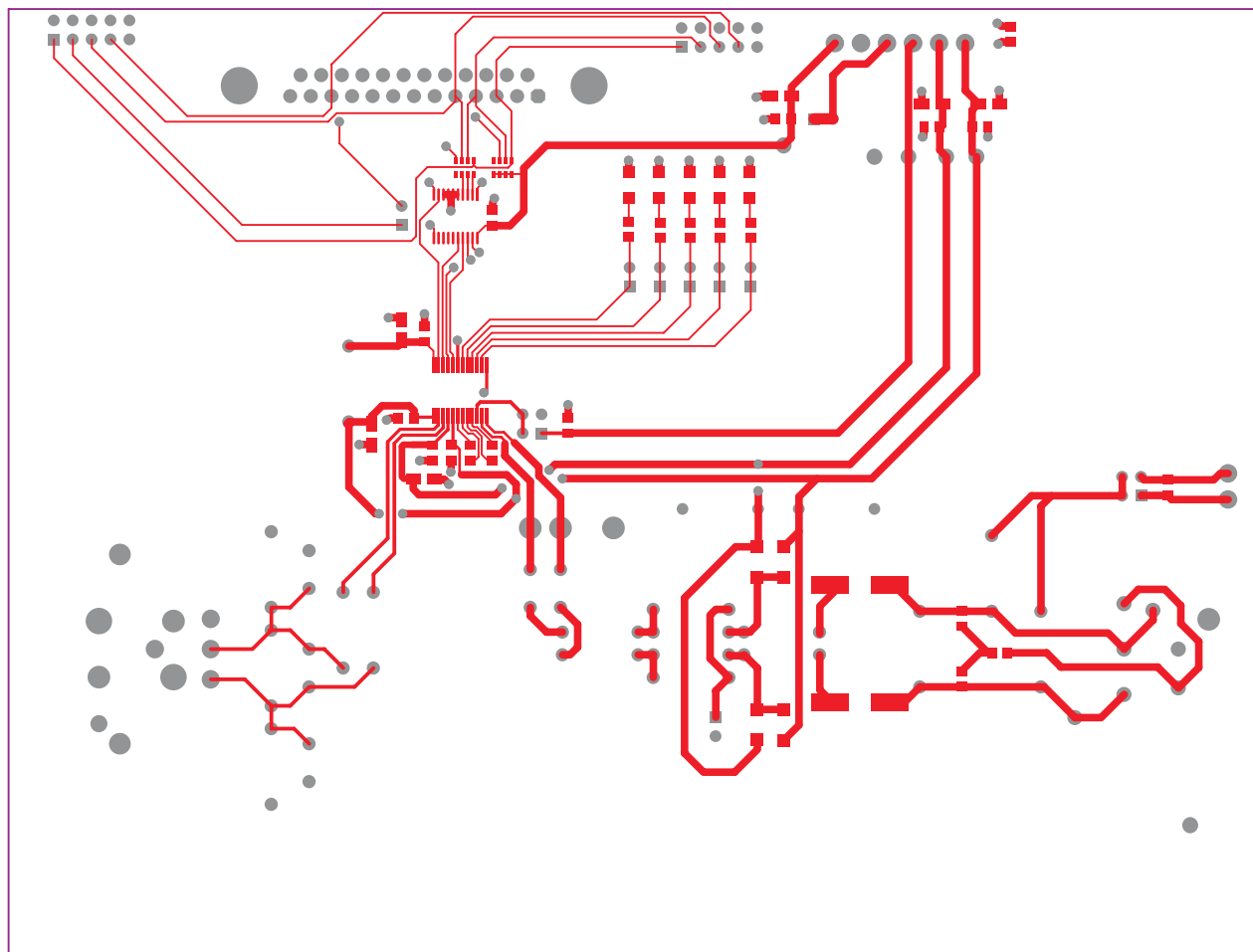


Figure 14. PGA2505EVM PCB Silkscreen



**Figure 15. PGA2505EVM PCB Top Layer (Component Side)**

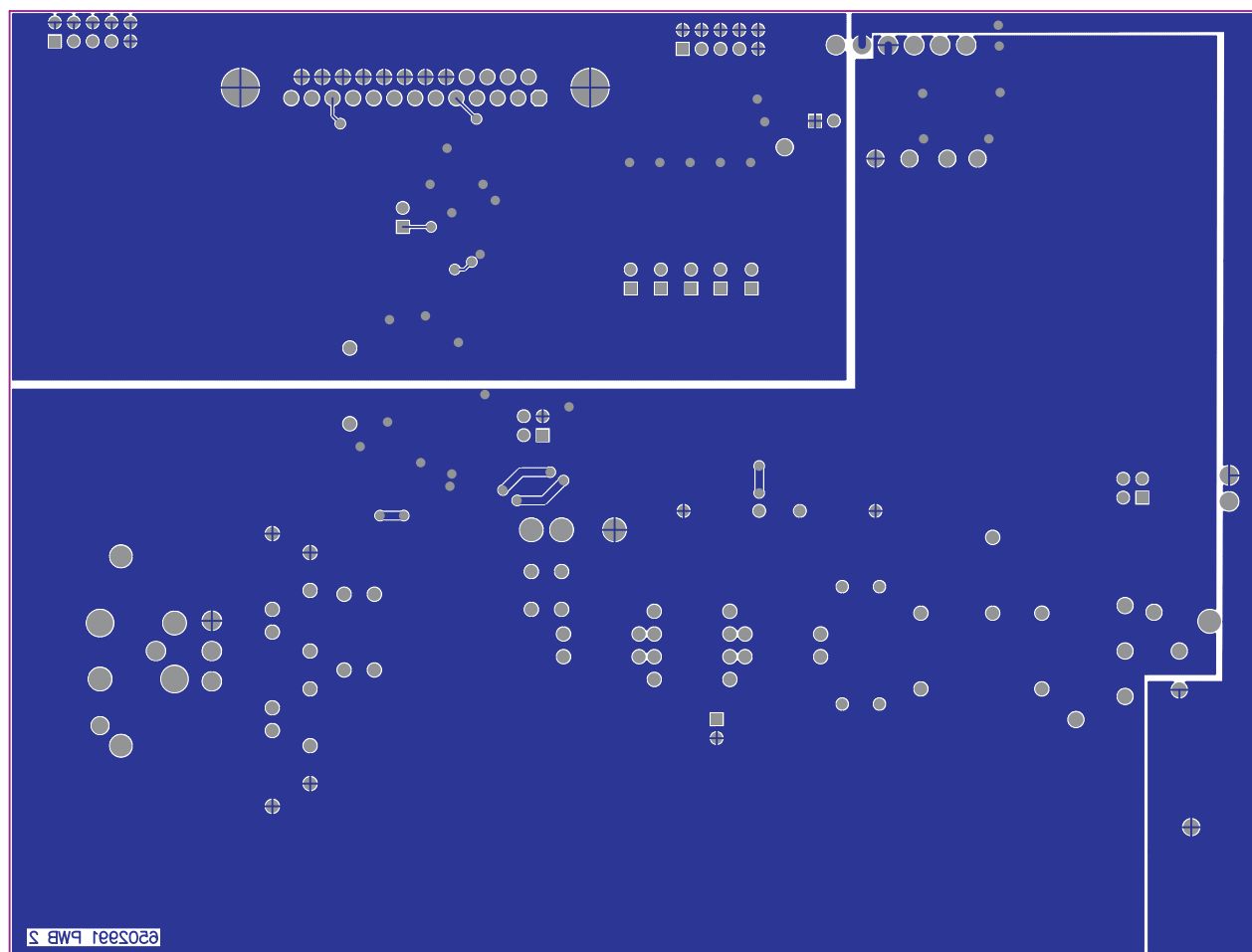


Figure 16. PGA2505EVM PCB Bottom Layer (Solder Side)

## 6.3 Bill of Materials

**Table 3. PGA2505EVM Bill of Materials**

Item	Value	Reference Designator	Qty Per Board	Manufacturer	Mfg Part Number	Description
1	10	R7 – R9	3	Vishay Dale or Equivalent	CMF5510R000BEEK	1/4W .1% Metal Film Axial Resistor
2	475	R18 – R22	5	Panasonic or Equivalent	ERJ-6ENF4750V	1/10W 1% Chip Resistor
3	6.81k	R16, R17	2	Vishay Dale or Equivalent	CMF556K8100BEEK	1/4W .1% Metal Film Axial Resistor
4	10k	RN1	1	CTS	742C083103JPTR	1/16W 5% Isolated Resistor Array
5	47k	RN2	1	CTS	742C083473JPTR	1/16W 5% Isolated Resistor Array
6	0	R10 – R15, C <sub>C1</sub> , C <sub>C2</sub>	8	Yaego	ZOR-25-B-52	0Ω Jumper, 1/4W Carbon Film, Axial, ±100ppm/°C
7	1000pf	C10, C21, C22	3	TDK	C2012C0G1H102JT	50V Ceramic Chip Capacitor, ±5%,NPO
8	0.1μF	C1 – C9, C11 – C14	13	TDK	C2012X7R2A104KT	100V Ceramic Chip Capacitor, ±10%, X7R
9	4.7μF	C15 – C18, C26, C27	6	Kemet	T494A475M025AT	25V Low ESR Tantalum Chip Capacitor, ±10%
10	47μF	C19, C20	2	Panasonic	EEE-FK1J470P	63V Aluminum Electrolytic Capacitor, ±20%
11		D1 – D5	5	Lumex	SML-LX1206IC-TR	Red LED, SMT
12		D6 – D9	4	ON Semiconductor	MBRA120ET3G	Schottky Power Rectifier Diode, SMT
13		D10, D11	2	Fairchild	BZX85C5V6	DIODE ZENER 1W 5.6V 5% DO-41
14		U1	1	Texas Instruments	PGA2505IDB	Digitally Controlled Microphone Preamplifier
15		U2	1	Texas Instruments	SN74AHCT541PW	Octal Buffer/Driver
16		J1	1	Neutrik	NCJ6FI-H	Combo Connector, Female XLR + TRS
17		J2	1	Weidmuller	1699670000	3.5mm, 2 Position Terminal Block
18		J3	1	ITT Cannon	XLB-3-32PCV-M01	XLB Male Connector, w/ Ground Lug
19		J4	1	Weidmuller	996772	3.5mm, 6 Position Terminal Block
20		J5	1	AMP/Tyco	5747842-6	DB25 RA Male Connector, w/ Boardlocks
21		J6, J7	2	Samtec	TSW-105-07-G-D	5x2 Header , 0 .1" spacing
22		JMP2, JMP9	2	Samtec	TSW-102-07-G-S	2 Position Jumper , 0 .1" spacing
23		JMP1, JMP3	2	Samtec	TSW-102-07-G-D	2x2 Header , 0 .1" spacing
24		TP7 – TP9	3	Keystone Electronics	5006	Compact Test Point Terminal
25			4	Samtec	SNT-100-BK-G-H	Shorting Jumper
26			4	3M Bump-on	SJ-5003	Rubber Feet, Adhesive Backed