

Figure 4-2. TAC5212 EVM Connectors and Supporting Circuitry Schematic

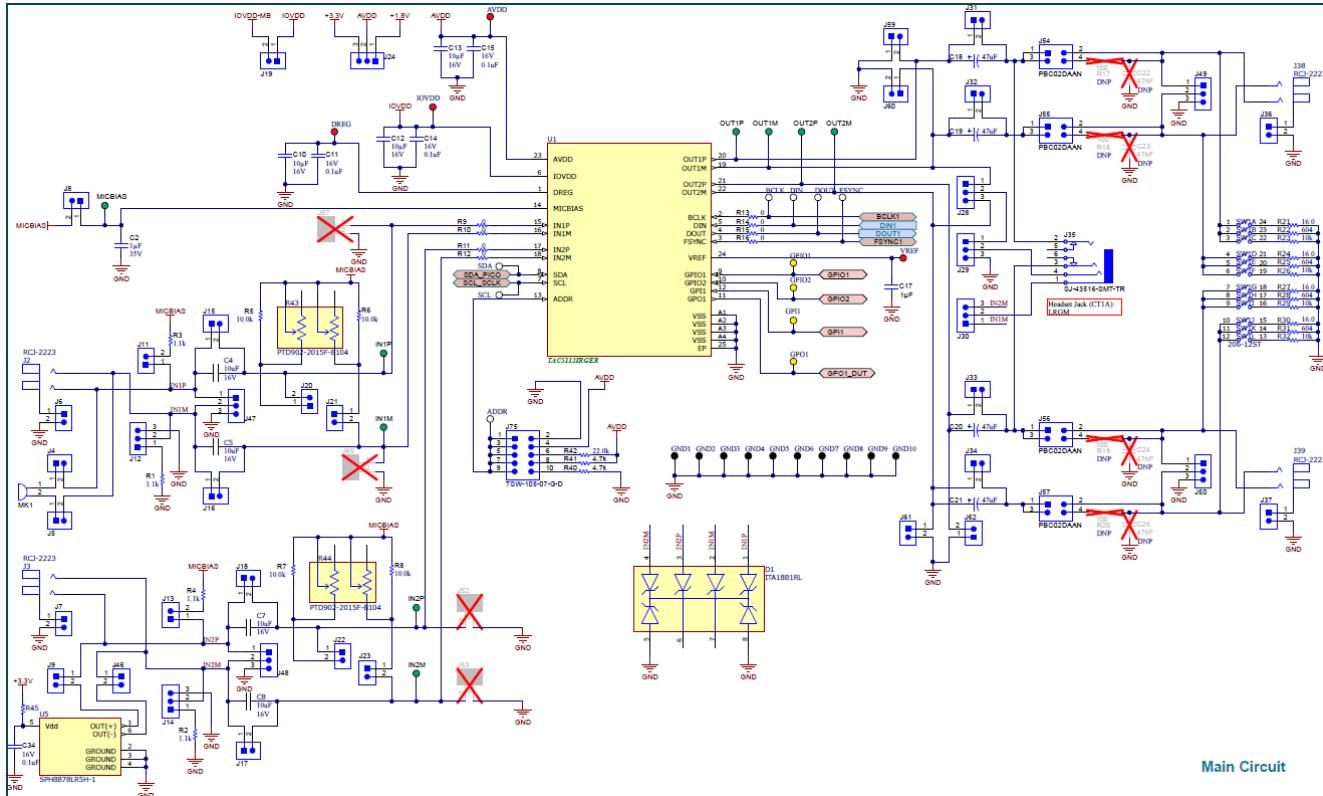


Figure 4-3. TAC5112 EVM Main DUT Schematic

4.3 Bill of Materials (BOM)

4.3.1 TAC5212 EVM Bill of Materials

Table 4-1. TAC5212 EVM Bill of Materials

Designator	Qty	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Part Number	Alternate Manufacturer
!PCB	1		Printed Circuit Board		LPA004	Any		
+1.8V, +3.3V, +5V, AVDD, DREG, IOVDD, IOVDD_MB, VREF	8		Test Point, Miniature, Red, TH	Red Miniature Testpoint	5000	Keystone Electronics		
ADDR, BCLK, DIN, DOUT, FSYNC, SCL, SDA	7		Test Point, Miniature, White, TH	White Miniature Testpoint	5002	Keystone Electronics		
C2	1	1uF	CAP, CERM, 1 uF, 35 V, +/- 10%, X7R, 0603	0603	C1608X7R1V105K080AC	TDK		
C4, C5, C7, C8	4		CAP CER 10UF 16 V X5R 0603	0603 (1608 Metric)	C1608X5R1C106M080AB	TDK Corporation		
C10, C12, C13	3	10uF	CAP, CERM, 10 µF, 16 V, +/- 10%, X7R, 0805	0805	EMK212BB7106KG-T	Taiyo Yuden		
C11, C14, C15, C26, C28, C32, C33, C34, C35, C36	10	0.1uF	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402	8.85012E+11	Wurth Elektronik		
C17, C27, C29, C30	4	1uF	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	0603	8.85012E+11	Wurth Elektronik		
C18, C19, C20, C21	4	47uF	CAP, TA, 47 uF, 10 V, +/- 10%, 0.5 ohm, SMD	3528-21	TPSB476K010R0500	AVX		
D1	1		28 V Clamp 25 A (8/20µs) Ipp Tvs Diode Surface Mount 8-SOIC	SOIC8	ITA18B1RL	STMicroelectronics		
D2	1	Green	LED, Green, SMD	LED_0805	LTST-C170KGKT	Lite-On		
GND1, GND2, GND3, GND4, GND5, GND6, GND7, GND8, GND9, GND10	10		Test Point, Miniature, Black, TH	Black Miniature Testpoint	5001	Keystone Electronics		
GPI1, GPIO1, GPIO2, GPO1	4		Test Point, Miniature, Yellow, TH	Yellow Miniature Testpoint	5004	Keystone Electronics		

Table 4-1. TAC5212 EVM Bill of Materials (continued)

Designator	Qty	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Part Number	Alternate Manufacturer
H1, H2	2		Small nylon hex nut, 0.10 thick with a 0.250 outside diameter and a 4-40 threading	Hex Nut,4-40 Thread, 250" Head Dia	9605	Keystone		
H3, H4	2		HEX STANDOFF 4-40 NYLON 3/4"	HEX STANDOFF 4-40 NYLON 3/4"	4804	Keystone		
IN1M, IN1P, IN2M, IN2P, MICBIAS, OUT1M, OUT1P, OUT2M, OUT2P	9		Test Point, Miniature, Green, TH	Green Miniature Testpoint	5116	Keystone		
J2, J3, J38, J39	4		3.20mm ID, 9.00mm OD (RCA) Phono (RCA) Jack Mono Connector Solder	CONN_RCA_DUAL	RCJ-2223	CUI Devices		
J4, J5, J6, J7, J8, J9, J11, J13, J15, J16, J17, J18, J19, J20, J21, J22, J23, J31, J32, J33, J34, J36, J37, J46, J58, J59, J60, J61, J62, J63, J74	31		Header, 100mil, 2x1, Gold, TH	2x1 Header	TSW-102-07-G-S	Samtec		
J12, J14, J24, J28, J29, J30, J47, J48, J49, J50, J70, J71, J72, J73	14		Header, 100mil, 3x1, Gold, TH	3x1 Header	TSW-103-07-G-S	Samtec		
J35	1		AUDIO JACK 3.5mm 4COND, SMT	AUDIO JACK 3.5mm 4COND, SMT	SJ-43516-SMT-TR	CUI Inc.		
J40	1		Connector, Header, High Speed, 20 pairs, SMT	QTE-020-01-X-D-A	QTE-020-01-L-D-A	Samtec		
J41	1		Header, 10x2, 2.54mm, Tin, TH	Header, 10x2, 2.54mm, Tin, TH	TSW-110-07-T-D	Samtec		

Table 4-1. TAC5212 EVM Bill of Materials (continued)

Designator	Qty	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Part Number	Alternate Manufacturer
J42	1		Header, 2.54mm, 9x2, Tin, TH	Header, 2.54mm, 9x2, TH	PEC09DAAN	Sullins Connector Solutions		
J44, J45	2		Header, 100mil, 7x2, Gold, TH	7x2 Header	TSW-107-07-G-D	Samtec		
J54, J55, J56, J57	4		Header, 2.54mm, 2x2, Gold, TH	Header, 2.54mm, 2x2, TH	PBC02DAAN	Sullins Connector Solutions		
J66	1		Header, 100mil, 4x2, Gold, TH	4x2 Header	TSW-104-07-G-D	Samtec		
J75	1		Header, 100mil, 5x2, Gold, TH	5x2 Header	TSW-105-07-G-D	Samtec		
LBL1	1		Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650 x 0.200 inch	THT-14-423-10	Brady		
MK1	1		Microphone, Condenser, Analog, Omnidirectional, -42DB, TH	6 mm DIA	POM-2242P-C33-R	PUI Audio		
R1, R2, R3, R4	4	1.1k	RES, 1.1 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603	CRCW06031K10JNEA	Vishay-Dale		
R5, R6, R7, R8	4	10.0k	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603	RMCF0603FT10K0	Stackpole Electronics Inc		
R9, R10, R11, R12	4	0	RES, 0, 5%, 0.05 W, 0201	0201	CRCW02010000Z0ED	Vishay-Dale		
R13, R14, R15, R16, R54, R55, R56	7	0	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	0603	PMR03EZPJ000	Rohm		
R21, R24, R27, R30	4	16	RES, 16.0, 1%, 0.5 W, 0805	0805	ERJ-P06F16R0V	Panasonic		
R22, R25, R28, R31	4	604	RES, 604, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805	CRCW0805604RFKEA	Vishay-Dale		
R23, R26, R29, R32	4		RES SMD 10K OHM 5% 0.4W 0805	0805	ESR10EZPJ103	Rohm Semiconductor		
R33	1	2.2k	RES, 2.2 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW04022K20JNED	Vishay-Dale		
R38	1	442	RES, 442, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603	CRCW0603442RFKEA	Vishay-Dale		
R40, R41	2	4.7k	RES, 4.7 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603	ERJ-3GEYJ472V	Panasonic		

Table 4-1. TAC5212 EVM Bill of Materials (continued)

Designator	Qty	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Part Number	Alternate Manufacturer
R42	1	22.0k	RES, 22.0 k, 0.1%, 0.1 W, 0603	0603	RG1608P-223-B-T5	Susumu Co Ltd		
R43, R44	2	100 kΩ	Res POT Carbon Element 100kOhm 20% 1/20W/1/40W PC Pins Thru-Hole	PTH_POT_9MM50_24MM65	PTD902-2015F-B104	Bourns		
R45	1	10k	10k ±5% 0.063W, 1/16W Chip Resistor 0402 (1005 Metric) Moisture Resistant Thick Film	0402	RC0402JR-1310KL	Yageo		
R53	1	20k	Trimmer Potentiometer, 20 k ohm, 0.25 W, SMD	Trimmer, 4.8,3.9x5.1mm	PVG5A203C03R00	Bourns		
SH1, SH2, SH3, SH4, SH5, SH6, SH7, SH8, SH9, SH10, SH11, SH12, SH13, SH14, SH15, SH16, SH17, SH18, SH19, SH20, SH21, SH22, SH23, SH24, SH25, SH26, SH27, SH28, SH29, SH30, SH31, SH32, SH33, SH34, SH35, SH36, SH37, SH38, SH39, SH40, SH41, SH42, SH43, SH44, SH45, SH46, SH51, SH52, SH53, SH54	50	1x2	Shunt, 100mil, Gold plated, Black	Shunt	SNT-100-BK-G	Samtec	969102-0000-DA	3M
SW1	1		Dip Switch SPST 12 Position Through Hole Slide (Standard) Actuator 50 mA 24VDC	DIP24	206-12ST	CTS		

Table 4-1. TAC5212 EVM Bill of Materials (continued)

Designator	Qty	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Part Number	Alternate Manufacturer
U1	1		Libra SW Controlled Low Voltage Stereo	VQFN24	TAC5212IRGER	Texas Instruments		
U2	1		EEPROM, 512KBIT, 400 KHZ, 8TSSOP	TSSOP-8	24LC512-I/ST	Microchip		
U3	1		500-mA, low-IQ, high-PSRR, dual-channel low-dropout (LDO) voltage regulator 10-WSON -40 to 125	WSON10	TLV751180330PDSQR	Texas Instruments		
U5	1		Approx. 7 Hz to 36 kHz Analog Microphone MEMS (Silicon). Approx. 2.3 V to 3.6 V Omnidirectional (-44dB ±0.5dB SPL) Solder Pads	LGA	SPH8878LR5H-1	Knowles	SPH1878LR5H-C	Knowles
U6	1		TCA9416DTM X2SON8	X2SON8	TCA9416DTM	Texas Instruments		
U7, U8	2		Digital, PDM Microphone MEMS (Silicon) Omnidirectional (-37dB ±1dB @ 94 dB SPL) Solder Pads	SMT_MIC_2MM65_3MM50	SPH0655LM4H-1	Knowles		
C22, C23, C24, C25	0	0.047uF	CAP, CERM, 0.047 uF, 50 V, +/- 10%, X7R, 0603	0603	C1608X7R1H473K080AA	TDK		
C37	0	1uF	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	0603	8.85012E+11	Wurth Elektronik		
FID1, FID2, FID3, FID4, FID5, FID6	0		Fiducial mark. There is nothing to buy or mount.	N/A	N/A	N/A		
J52, J53, J65, J67	0		Header, 100mil, 2x1, Gold, TH	2x1 Header	TSW-102-07-G-S	Samtec		
R17, R18, R19, R20	0	100	RES, 100, 1%, 0.1 W, 0603	0603	RC0603FR-07100RL	Yageo		
R34, R36	0	48.7k	RES, 48.7 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805	CRCW080548K7FKEA	Vishay-Dale		
R35	0	21.5k	RES, 21.5 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805	CRCW080521K5FKEA	Vishay-Dale		
R37	0	9.76k	RES, 9.76 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805	CRCW08059K76FKEA	Vishay-Dale		
R47, R48	0	1.50k	RES, 1.50 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	RMCF0402FT1K50	Stackpole Electronics Inc		

Table 4-1. TAC5212 EVM Bill of Materials (continued)

Designator	Qty	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Part Number	Alternate Manufacturer
SH47, SH48, SH49, SH50	0	1x2	Shunt, 100mil, Gold plated, Black	Shunt	SNT-100-BK-G	Samtec	969102-0000-DA	3M