

Ref	Qty	Scem	Description	Val&Device	Manufacturer	Part Number	Case
C1 C5 C43, C44	4		±20% 16V ESR 0R200 Tantalum Solid Electrolytic Chip Capacitor with Conductive Polymer Electrode	10uF	AVX	TCJA106M016R0200	A
C2 > C4 C9 C14, C15 C17 C19, C20 C23 C31, C32 C38 C40 C42 C45 > C48 C50 C52 > C55 C57 > C61 C65	30		±10% 16V X7R SMD Multilayer Chip Ceramic Capacitor	100nF	GENERIC	CC0402_100NF_16V_10%_X7R	0402
C6 C33 C36, C37	4		±1% 50V C0G/NP0 SMD Multilayer Chip Ceramic Capacitor	100pF	GENERIC	CC0603_100PF_50V_1%_NP0	0603
C8 C18 C24 C39 C49	5		±10% 16V X5R SMD Multilayer Chip Ceramic Capacitor	1uF	GENERIC	CC0402_1UF_16V_10%_X5R	0402
C10 C34, C35 C41 C62	5		±20% 16V Plastic Film Chip Capacitor	1uF	PANASONIC	ECPU1C105MA5	1210
C13 C28, C29	3		±20% 6.3V 4A EMI Filter Capacitor Type, NFM21PC Series (0805 Size)	2.2uF	MURATA	NFM21PC225B0J3D	0805
C21 C51 C56 C63	4		±5% 50V C0G/NP0 SMD Multilayer Chip Ceramic Capacitor	1nF	GENERIC	CC0805_1NF_50V_5%_C0G	0805
C22 C25 C27 C30 C64	5		±5% 50V C0G/NP0 SMD Multilayer Chip Ceramic Capacitor	10nF	GENERIC	CC0603_10NF_50V_5%_C0G	0603
D1	1		12V 400W Surface Mount Bi-directional Transient Voltage Suppressor Diode	SMAJ12CA	BOURNS	SMAJ12CA	DO-214AC
D2	1		5V1 500mW Voltage Regulator Diode	BZV55-B5V1	NEXPERIA	BZV55-B5V1	SOD-80C



Project HPM High-Resolution ADC Tester
 Title **AD7177-2 Daughterboard Connectors and decoupling**
 EDA Number **EDA-03803-V2-0**
 Designer N. BEEV
 File EDA-03803-V2-0_pcb-mat.xls
 Date 18 September 2018

Rev.
 Drawn by C. Lesguillier
 EDMS URL <https://edms.cern.ch/item/EDA-03803-V2-0>

Ref	Qty	Scem	Description	Val&Device	Manufacturer	Part Number	Case
IC1	1		Dual 20V 150mA Positive/Negative Low Noise Low Dropout Linear Regulator	LT3032EDE#PBF	LINEAR TECHNOLOGY	LT3032EDE#PBF	DFN14
IC2	2		Precision, Zero-Drift, Zero-Crossover, True Rail-to-Rail Input/Output, Operational Amplifier	OPA388IDGKT	TEXAS INSTRUMENTS	OPA388IDGKT	MSOP8
IC3	4		High Performance, 145 MHz FastFET Operational Amplifier	AD8065ART-R2	ANALOG DEVICES	AD8065ART-R2	SOT23-5
IC6							
IC9							
IC11							
IC4	1		32-Bit, 10 kSPS, Sigma-Delta ADC with 100us Settling and True Rail-to-Rail Buffers	AD7177-2BRUZ	ANALOG DEVICES	AD7177-2BRUZ	TSSOP24
IC5	1		Dual 4-Channel $\pm 15V/\pm 12V/\pm 5V$ iCMOS Multiplexer	ADG1409YRUZ	ANALOG DEVICES	ADG1409YRUZ	TSSOP16
IC8	5		55V, EMI Enhanced, Zero Drift, Ultralow Noise, Rail-to-Rail Output Operational Amplifier	ADA4522-1ARMZ	ANALOG DEVICES	ADA4522-1ARMZ	MSOP8
IC10							
IC12 > IC14							
J1	1	09.31.28.070.5	Size 0B, Elbow Receptacle (90°) With 2 Female Contacts and Alignment Key (G)		LEMO	EPG.0B.302.HLN	
J2, J3	2		50 Contacts, Pitch 1.27mm, Dual Row Surface Mount Straight Strip Header		SAMTEC	FTS-125-02-F-DV	
L2	1		$\pm 30\%$ 1.6A Common Mode SMD Line Filter (WE-SL2 Series)	2x10uH	WURTH ELEKTRONIK	744226	
Q1	1		Tolerance: ± 10 ppm, Stability: ± 12 ppm, -20°C to $+75^{\circ}\text{C}$, 9pF, SMD Crystal, FA-20H Series	16MHz	EPSON SEIKO	Q24FA20H00044	
R1	6		$\pm 0.1\%$ 0.1W ± 10 ppm Thin Film Chip Resistor	10k	GENERIC	R0805_10K_0.1%_0.1W_10PPM	0805
R8							
R10							
R21							
R23, R24							
R2	2		$\pm 0.1\%$ 0.063W ± 10 ppm Thin Film Chip Resistor	2k	GENERIC	R0603_2K_0.1%_0.063W_10PPM	0603
R5							
R3	2		-50°C to $+150^{\circ}\text{C}$, 1000 Ohm at 0°C Platinum Temperature Sensor	PT1000 SMD 1206 fd F 0,3	UMWELTSENORTECHNIK GmbH (UST)	PT1000 SMD 1206 fd F 0,3	DFN2
R19							
R4	1		$\pm 0.1\%$ 0.063W ± 10 ppm Thin Film Chip Resistor	2k1	GENERIC	R0603_2K1_0.1%_0.063W_10PPM	0603
R6	2		$\pm 1\%$ 0.0625W ± 100 ppm/ $^{\circ}\text{C}$ General Purpose Thick Film Chip Resistor	1k	GENERIC	R0402_1K_1%_0.0625W_100PPM	0402
R17							
R7	4		$\pm 0.1\%$ 0.063W ± 10 ppm Thin Film Chip Resistor	100	GENERIC	R0603_100R_0.1%_0.063W_10PPM	0603
R20							
R22							
R26							
R9	2		$\pm 0.1\%$ 0.1W ± 25 ppm/ $^{\circ}\text{C}$ Precision Surface Mount Resistor	1M	GENERIC	R0805_1M_0.1%_0.1W_25PPM	0805
R15							
R11 > R14	4		$\pm 1\%$ 0.125W ± 50 ppm/ $^{\circ}\text{C}$ Professional Thin Film Chip Resistor	1	VISHAY BEYSCHLAG	MCT06030C1008FP500	0603
R16	2		$\pm 0.1\%$ 0.063W ± 10 ppm Thin Film Chip Resistor	10	GENERIC	R0603_10R_0.1%_0.063W_10PPM	0603
R25							
R18	1		1A (0.05R Max DC Resistance) Zero Ohm Jumper	0	GENERIC	R0402_OR_JUMPER	0402
RN2	1		0.01% 4x0.1W ± 2 ppm/ $^{\circ}\text{C}$ Bulk Metal® Foil Technology High Precision 4 Resistors Network - SMN Series	10k	VISHAY FOIL RESISTOR	Y1365V0008QT9R	SOIC8
TP1 > TP16	16		1608 Metric (0603 Imperial) Surface Mount PCB Test Point		HARWIN	S2761-46R	

Not Mounted

C7	2		$\pm 5\%$ 50V C0G/NP0 SMD Multilayer Chip Ceramic Capacitor	10pF	GENERIC	CC0402_10PF_50V_5%_C0G	0402
C12							
C11	1		$\pm 10\%$ 16V X7R SMD Multilayer Chip Ceramic Capacitor	100nF	GENERIC	CC0402_100NF_16V_10%_X7R	0402
C16	2		$\pm 5\%$ 50V C0G/NP0 SMD Multilayer Chip Ceramic Capacitor	270pF	GENERIC	CC0603_270PF_50V_5%_NP0	0603
C26							
L1	1		$\pm 20\%$ 1A Chip Inductor (Chip Coil) for Choke Wire Wound Type	1uH	MURATA	LQH32CN1R0M33L	
OSC1	1		3.3V, ± 25 ppm, 15pF, $-40..85^{\circ}\text{C}$ Tristate 2.5x2mm Surface Mount HCMOS Clock Oscillator (QX2 Series)	16MHz	QANTEK TECHNOLOGY	QX233A16.00000B15M	
R27	1		1A (0.05R Max DC Resistance) Zero Ohm Jumper	0	GENERIC	R0402_OR_JUMPER	0402
RN1	1		$\pm 0.01\%$ 0.1W ± 5 ppm/ $^{\circ}\text{C}$ 8 Isolated Resistors Through-Hole Resistor Array	20k 3k5	VISHAY	1446 Model, Custom Number: 321806	DIP16-300

Dimensions: 90 x 50mm	Through Pins	6
	SMD pins on Top	282
	SMD pins on Bottom	164
	Total number of pins	452