ANALOG FRONTEND FOR LOW COST ULTRASOUND **DEVICE BOM REV V1.3**

DATE **COMMENT 2 COMPANY** COMMENT 1

2017-06-16 Columbia University - Creative **Machines Lab**

COMMENT 3 COMMENT 4 TOTAL PARTS

63 (Unique 34)

C3	Ref	Qty	Value	Footprint
C21				[C] - Capacitors
C20	C5	1	1n	Capacitors_SMD:C_0603
C8 C9 2 1u Capacitors_SMD:C_0603 C14 C13 C16 C11 C12 14 0.1 µF Capacitors_SMD:C_0603 C15 C17 C23 C4 C2 C1MD1 C1NH1 C7 C6 C18 C19 2 1nF Capacitors_SMD:C_0603 C3 1 0.33 µF Capacitors_SMD:C_0603 C1 1 10µF Capacitors_SMD:C_0603 C1 1 10µF Capacitors_SMD:C_0603 C22 1 470pF Capacitors_SMD:C_0603 CFB] - CFB] - CFB] 1 18nF Capacitors_SMD:C_0603 [CFB] - CSHI 1 22pF Capacitors_SMD:C_0603 [D] - Diodes D1 1 BAV99T custom:SOT-523 [J] - J3 J1 J4 J2 4 CONN_COAXIAL custom:SMA_uxcell J5 1 CONN_02X06 Pin_Header_Straight_2x06_Pitch2.54mm [L] - Inductors L1 1 Iu Capacitors_THT:C_Radial_D5_L6_P2.5	C21	1	2.2nF	Capacitors_SMD:C_0603
C14 C13 C16 C11 C12	C20	1	6.8nF	Capacitors_SMD:C_0603
C1S C17 C23 C4 C2 CLMD1 CINH C7 C6 C18 C19	C8 C9	2	1u	Capacitors_SMD:C_0603
C3 1 0.33µF Capacitors_SMD:C_0603 C1 1 10µF Capacitors_Tantalum_SMD:CP_Tantalum_Case- A_EIA-3216- 18_Reflow C22 1 470pF Capacitors_SMD:C_0603 [CFB] - CFB1 1 18nF Capacitors_SMD:C_0603 [CSH] - CSHI 1 22pF Capacitors_SMD:C_0603 [D] - Diodes D1 1 BAV99T custom:SOT-523 [J] - J3 J1 J4 J2 4 CONN_COAXIAL custom:SMA_uxcell J5 1 CONN_02X06 Pin_Headers:Pin_Header_Straight_2x06_Pitch2.54mm [L] - Inductors [L] - Inductors	C15 C17 C23 C4 C2	14	$0.1 {\rm \hat{A}} \mu { m F}$	Capacitors_SMD:C_0603
C1	C18 C19	2	1nF	Capacitors_SMD:C_0603
A_EIA-3216- 18_Reflow C22	C3	1	$0.33 \hat{A} \mu F$	Capacitors_SMD:C_0603
[CFB] - CFB1	C1	1	$10 {\hat{A}} \mu { m F}$	A_EIA-3216-
CFB1	C22	1	470pF	Capacitors_SMD:C_0603
CSH 1 22pF Capacitors_SMD:C_0603				[CFB] -
CSH1	CFB1	1	18nF	Capacitors_SMD:C_0603
D				[CSH] -
D1	CSH1	1	22pF	Capacitors_SMD:C_0603
[J] - J3 J1 J4 J2				[D] - Diodes
J3 J1 J4 J2 4 CONN_COAXIAL custom:SMA_uxcell J5 1 CONN_02X06 Pin_Header_Straight_2x06_Pitch2.54mm [L] - Inductors L1 1 1u Capacitors_THT:C_Radial_D5_L6_P2.5	D1	1	BAV99T	custom:SOT-523
J5				[J] -
[L] - Inductors L1 1 1u Capacitors_THT:C_Radial_D5_L6_P2.5	J3 J1 J4 J2	4	CONN_COAXIAL	custom:SMA_uxcell
L1 1 1u Capacitors_THT:C_Radial_D5_L6_P2.5	J5	1	CONN_02X06	Pin_Headers:Pin_Header_Straight_2x06_Pitch2.54mm
				[L] - Inductors
L6 L3 L2 L4 L5 5 120nH FB Resistors SMD:R 0603	L1	1	1u	Capacitors_THT:C_Radial_D5_L6_P2.5
	L6 L3 L2 L4 L5	5	120nH FB	Resistors_SMD:R_0603

[LS] -

			[LS] -
LS1	1	Piezo	Pin_Headers:Pin_Header_Straight_1x02_Pitch2.54mm
			[P] - Connectors
P2 P1 P3	3	CONN_01X02	Pin_Headers:Pin_Header_Straight_1x02_Pitch2.54mm
			[Q] - Transistors
Q1	1	IRF510N	TO_SOT_Packages_THT:TO- 220_Vertical
Q2	1	IRF9510N	TO_SOT_Packages_THT:TO- 220_Vertical
			[R] - Resistors
R2	1	15	Resistors_THT:R_Axial_DIN0411_L9.9mm_D3.6mm_P12.70mm_Horizontal
R1 R5	2	100	Resistors_SMD:R_0805
R4 R7	2	200k	Resistors_SMD:R_0805
R3	1	1k	Resistors_SMD:R_0805
R8 R9	2	100	Resistors_SMD:R_0603
R6 R10	2	237	Resistors_SMD:R_0603
R11	1	68	Resistors_SMD:R_0805
			[RFB] -
RFB1	1	274	Resistors_SMD:R_0603
			[T] -
T1	1	CX2041NLT	custom:CX2041NLT
			[U] - Semiconductors
U6	1	LTC5507	custom:TSOT-23- 6_MK06A
U5	1	AD8331	custom:QSOP- 20_3.9x8.6mm_Pitch0.64mm
U1	1	LM7805CT	TO_SOT_Packages_THT:TO- 220_Vertical
U3 U4	2	LM7171	Housings_DIP:DIP- 8_W7.62mm
U2	1	MD0100N8	TO_SOT_Packages_SMD:SOT89- 3_Housing_Handsoldering

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