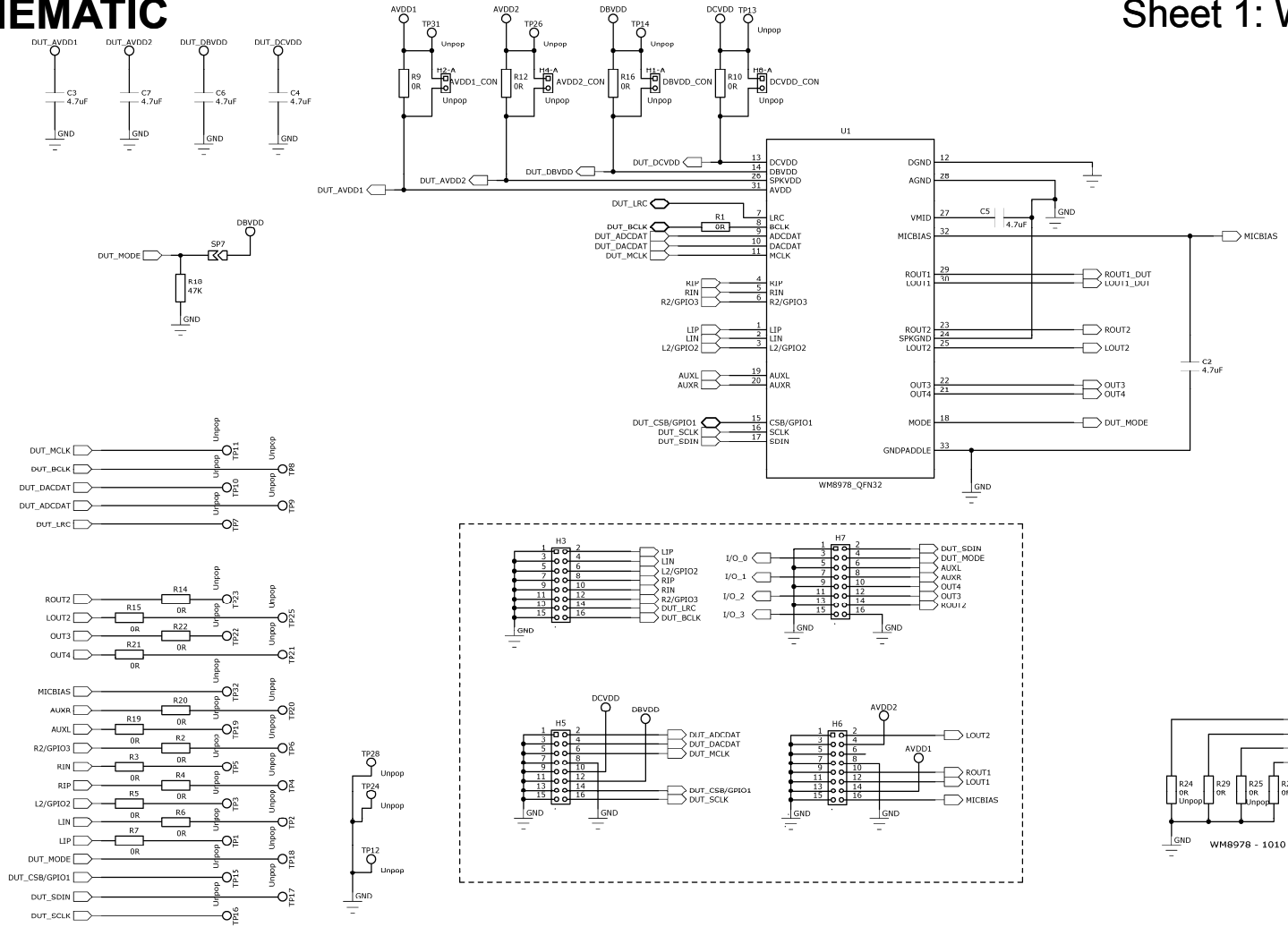
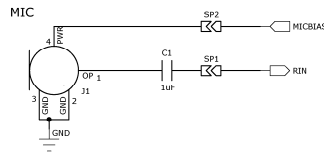


DOC TYPE:	SCHEMATIC AND LAYOUT
BOARD REFERENCE:	WM8978-6160-FL32-M-REV1
BOARD TYPE:	Customer Mini Board
WOLFSON DEVICE(S):	WM8978
DATE:	October 2009
DOC REVISION:	Rev 1.1

SCHEMATIC

Sheet 1: WM8978

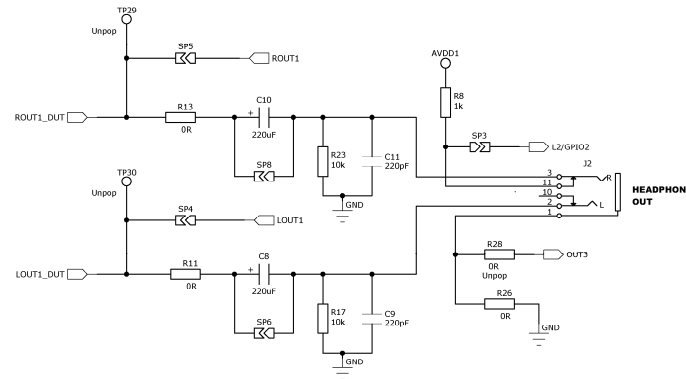




User Note:
When MIC is not in use MICBIAS should be disabled in the register settings

REFERENCE TABLES

	Short	Open	
H2-B	AVDD to DUT	No AVDD to DUT	No Fit
PCB Ref: AVDD1_CON			
	Short	Open	
H4-H	HPVDD to DUT	No HPVDD to DUT	No Fit
PCB Ref: AVDD2_CON			
	Short	Open	
H1-B	DBVDD to DUT	No DBVDD to DUT	No Fit
PCB Ref: DBVDD_CON			
	Short	Open	
H8-B	DCVDD to DUT	No DCVDD to DUT	No Fit
PCB Ref: DCVDD_CON			



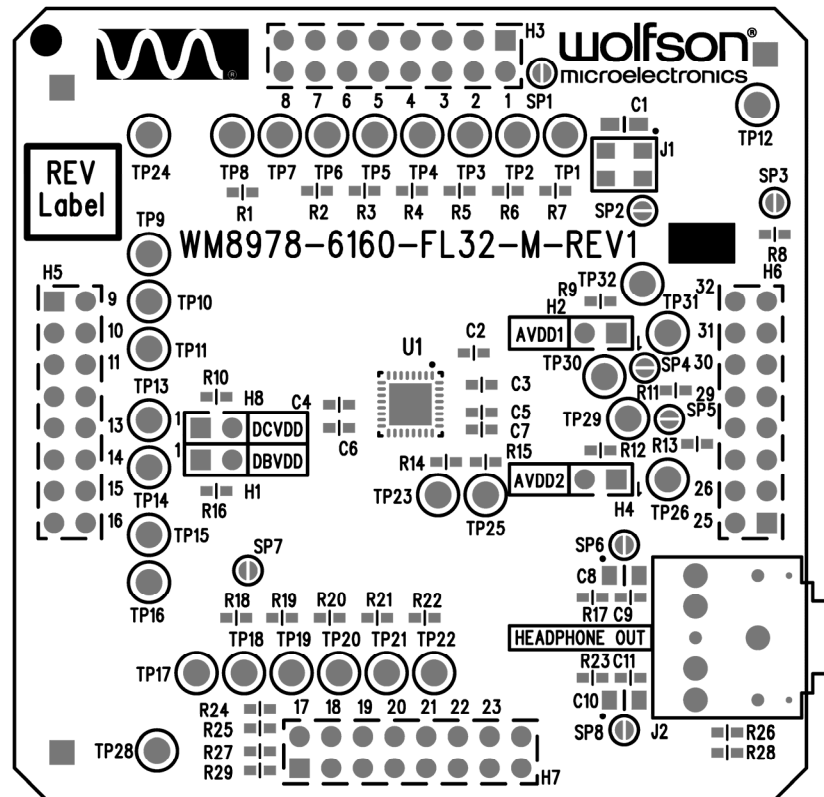
User Note:

- Short SP8 & SP6 remove R26 and pop R28 when using capless mode.
- Short SP3 for headphone detect
- Short SP5 & SP4, remove R9 & R10 if using the Phono Connections on the main board.

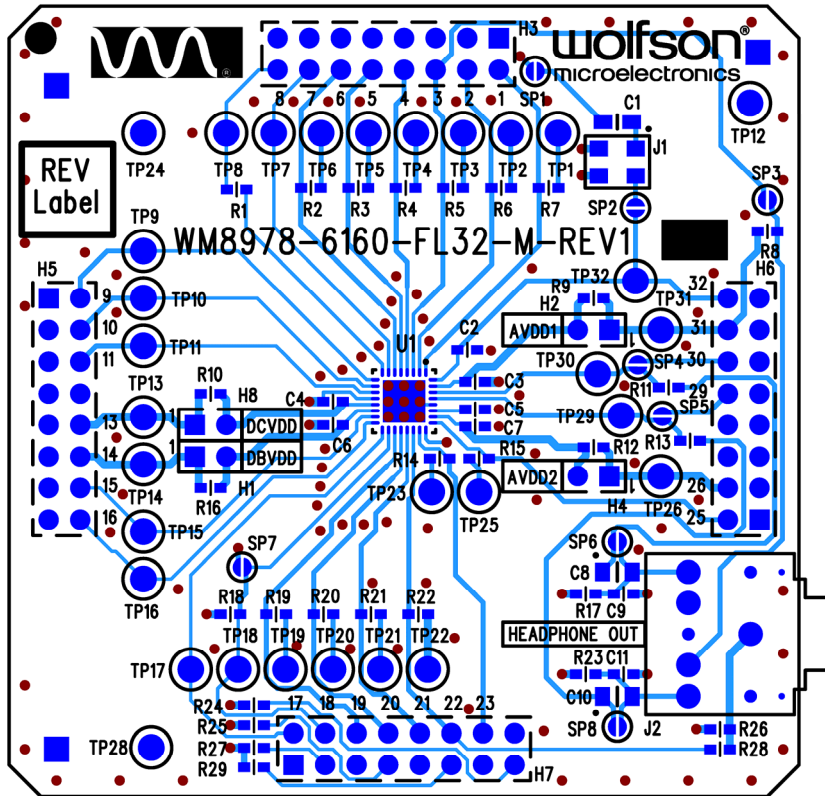
BILL OF MATERIALS (BOM)

<i>Item</i>	<i>RefDes</i>	<i>Description</i>	<i>Manufacturer</i>	<i>Manufacturer's Part Number</i>
1	J2	3.5mm Jack Socket 6.5mm Centre Height	Technik Industrial	TSH-3565-PBT-TIC-T
2	J1	Mini Surface Mount Silicon Microphone with RF Protection	Knowles Acoustics	SPM0204HE5
3	C2 C3 C4 C5 C6 C7	4.7uF 0603 SMD Ceramic Capacitor 6.3V X5R	Murata	GRM188R60J475KE19D
4	MISC2	Lead-free label, 15mm round	Brady	805794
5	C8 C10	220uF 4V SMD Tantalum Capacitor case P	Vishay	298D227X0004P2T
6	C9 C11	220pF 0603 SMD Ceramic Capacitor 50V NPO	AVX	06035A221JAT2A
7	R8	1k 0603 SMD chip resistor 1% 0.063W	Multicomp	MC 0.063W 0603 1% 1K
8	R17 R23	10k 0603 SMD chip resistor 1% 0.063W	Multicomp	MC 0.063W 0603 1% 10K
9	R18	47K 0603 SMD chip resistor 1% 0.063W	Multicomp	MC 0.063W 0603 1% 47K
10	R1 R9 R10 R11 R12 R13 R16 R26 R27 R29	0R 0603 SMD chip resistor 1% 0.063W	Multicomp	MC 0.063W 0603 0R
11	C1	1uF 0805 SMD Ceramic Capacitor 10V X7R	Multicomp	N0805R105KCT
12	H3 H5 H6 H7	2x8 2.54mm pitch PCB Socket Strip VERTICAL	SAMTEC	SSQ-108-02-G-D
13	PCB1	PCB	Kelan Circuits Ltd	WM8978-6160-FL32-M-REV1
14	U1	Stereo CODEC with speaker driver	Wolfson Microelectronics	WM8978EFL
Unpop				
15	H1 H2 H4 H8	1x2 PCB Pin Header 0.1" VERTICAL	Harwin	M20-9990245
16	R2 R3 R4 R5 R6 R7 R14 R15 R19 R20 R21 R22 R24 R25 R28	0R 0603 SMD chip resistor 1% 0.063W	Multicomp	MC 0.063W 0603 0R
17	SP1 SP2 SP3 SP4 SP5 SP6 SP7 SP8	Surface mount shorting point	N/A	N/A
18	TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 TP16 TP17 TP18 TP19 TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP28 TP29 TP30 TP31 TP32	1.32mm off-board connection point	N/A	N/A

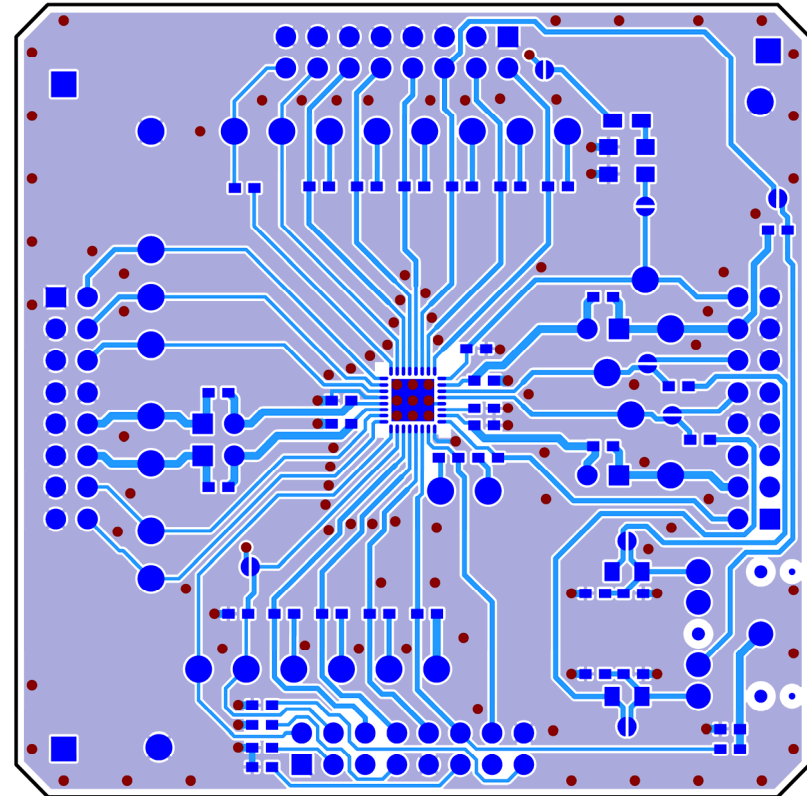
PCB LAYOUT



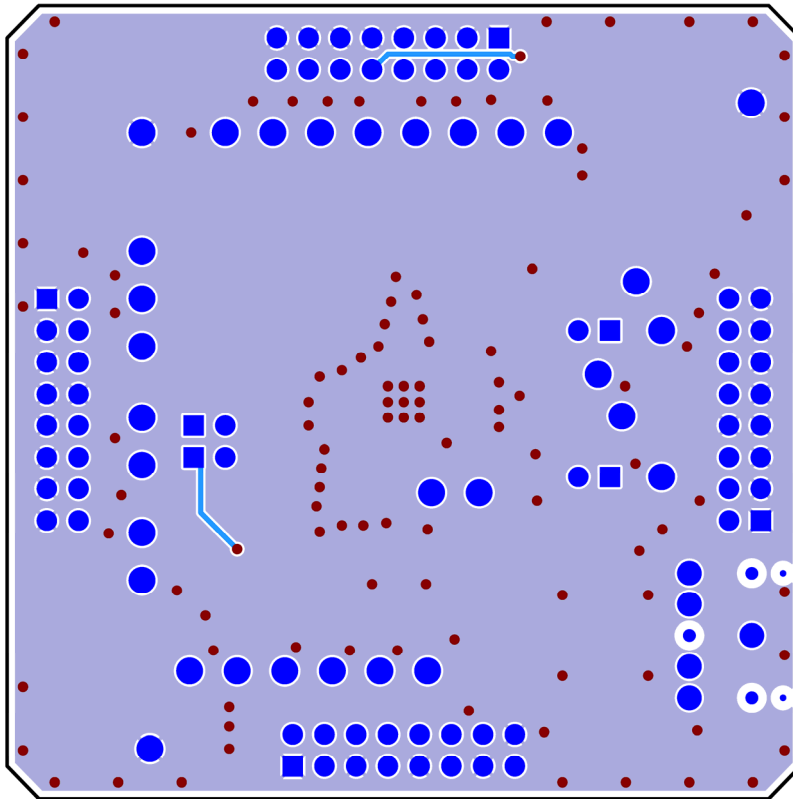
Top Layer: Overview



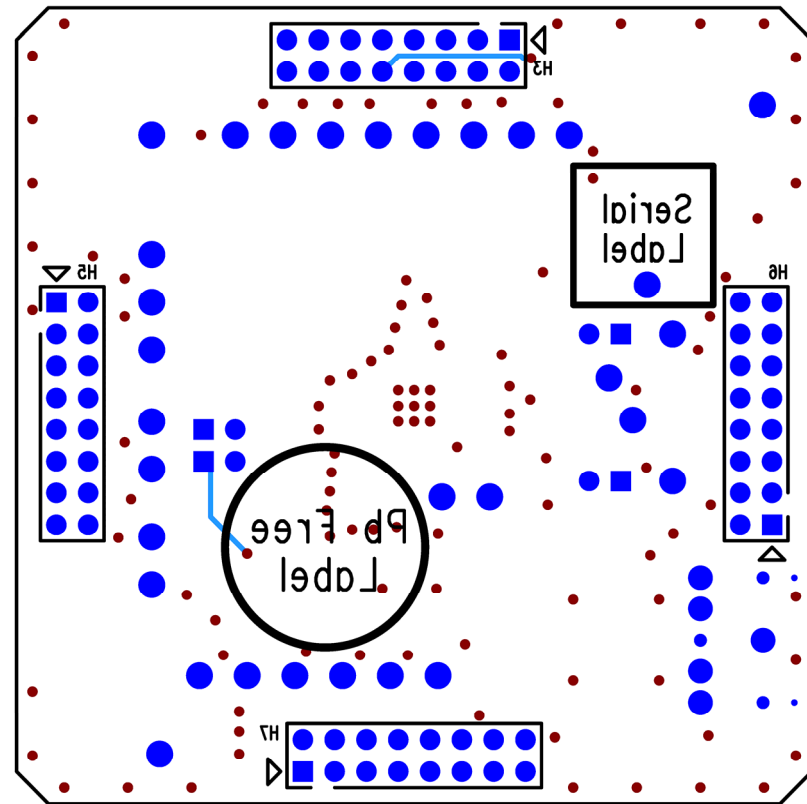
Top Layer: Silkscreen + Copper



Top Layer: Copper



Bottom Layer: Copper



Bottom Layer: Silkscreen + Copper

APPLICATION SUPPORT

If you require more information or require technical support, please contact the Wolfson Microelectronics Applications group through the following channels:

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