MAX78000FTHR
Application Platform

Evaluates: MAX78000

General Description

The MAX78000FTHR is a rapid development platform to help engineers quickly implement ultra low-power, artificial intelligence (AI) solutions using the MAX78000 Arm® Cortex®-M4F processor with an integrated Convolutional Neural Network accelerator. The board also includes the MAX20303 PMIC for battery and power management. The form factor is 0.9in x 2.6in dual-row header footprint that is compatible with Adafruit Feather Wing peripheral expansion boards. The board includes a variety of peripherals, such as a CMOS VGA image sensor, digital microphone, low-power stereo audio CODEC, 1MB QSPI SRAM, micro SD card connector, RGB indicator LED, and pushbutton. The MAX78000FTHR provides a power-optimized flexible platform for quick proof-of-concepts and early software development to enhance time to market.

Go to **https://www.maximintegrated.com/en/products/ MAX78000FTHR** to get started developing with this board.

Ordering Information **appears at end of data sheet.**

Features

- MAX78000 Microcontroller
  - Dual Core: Arm Cortex-M4 Processor with FPU, 100MHz, RISC-V Coprocessor, 60MHz
  - 512KB Flash Memory
  - 128KB SRAM
  - 16KB Cache
  - Convolutional Neural Network Accelerator
  - 12-Bit Parallel Camera Interface
  - MAX20303 Wearable PMIC with Fuel Gauge
  - Charge from USB
  - On-Board DAPLink Debug and Programming Interface for Arm Cortex-M4 processor with FPU
  - Breadboard Compatible Headers
  - Micro USB Connector
  - Micro SD Card Connector

- Integrated Peripherals
  - RGB Indicator LED
  - User Pushbutton
  - CMOS VGA Image Sensor
  - Low-Power Stereo Audio CODEC
  - Digital Microphone
  - SWD Debugger
  - Virtual UART Console
  - 10-Pin Cortex Debug Header for RISC-V Coprocessor

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Quick Start

Apply power to the MAX78000FTHR using the USB cable. The pre-programmed 'Audio Keyword Spotting' demo will begin to execute.

The RGB LED (D2) will turn on green, indicating that the demo is running. The on-board microphone starts listening for the keyword GO. When the keyword GO is detected, RGB LED (D2) will turn on yellow. In this mode, when one of nine keywords is detected, the RGB LED (D1) starts to blink blue one to nine times based on the number detected by the convolutional neural network. The STOP command exits number keyword detection, and the RGB LED (D2) turns on green again, and RGB LED (D1) turns off.

PMIC and Battery Charger

The MAX20303 wearable PMIC powers the MAX78000FTHR board and is also capable of charging a Li-Ion battery (not included). The MAX20303 has an internal MOSFET that connects the battery to system output when no voltage source is available on the charge input (USB). When an external source is detected at the charge input (USB), this switch opens and the system output is powered from the input source through the input current limiter. The system output to battery switch also prevents the system output voltage from falling below battery voltage when the system load exceeds the input current limit. The smart power selector unit inside the PMIC seamlessly distributes power from the charge input (USB) to the battery and system output. With both the USB and battery connected, the smart power switch's basic functions are:

- When the system load requirements are less than the input current limit, the battery is charged with residual power from the input.

- When the system load requirements exceed the input current limit, the battery supplies supplemental current to the load.

- When the battery is connected, and there is no external power input (USB), the system is powered from the battery.

- When the MAX20303 thermal limits are reached, the charger does not shut down, but attempts to limit a temperature increase by reducing the input current from charge input. In this condition, the system load has priority over the charger current, so the input current is first reduced by lowering the charge current. If

the junction temperature continues to rise and reaches the maximum operating limit, no input current is drawn from the charge input and the battery powers the entire system load.

The USB charge current is set to 51mA. This allows charging from both powered and unpowered USB hubs with no port communication required. Refer to the MAX20303 data sheet and the data sheet for your battery to ensure compatibility.

Programming and Debugging

The MAX32625 microcontroller on the board is pre-programmed with DAPLink firmware. It allows debugging and programming of the MAX78000 Arm core over USB.

A standard 10-pin JTAG header J1 allows debugging and programming the RISC-V core of the MAX78000.

Pushbuttons

There are five pushbuttons on the MAX78000FTHR board:

SW1 User-programmable function button connected to the MAX78000 Port 0.2 through a debouncer IC.

SW2 User-programmable function button connected to the MAX78000 Port 1.7 through a debouncer IC.

SW3 PMIC Power Button
When the board is in a powered-on state, pressing this button for 12 seconds performs a hard power-down.
When the board is in a powered-off state, pressing this button powers on the board.
This button can also be read by the MAX78000 firmware, PMIC_PFN2 signal connected to the Port 3.1 is a buffered input of the button status. When the button is pressed, this signal goes to a logic-low state.

SW4 Resets the MAX78000 through RSTN input of the MAX78000.

SW5 DAPLink adapter button. Keep this button pressed while applying power to the board to put the MAX32625 DAPLink adapter on board to MAINTENANCE mode for DAPLink firmware updates.

LEDs

There are three RGB LEDs on the MAX78000FTHR board.

D1   Connected to the MAX78000 GPIO ports. This
      LED can be controlled by user firmware.
      Port 2.0 : Red color
      Port 2.1 : Green color
      Port 2.2 : Blue color

D2   Connected to MAX20303 PMIC LEDx outputs.
      These LEDs can be controlled through I2C com-
      mands. They also can be configured as charge
      status indicators by issuing I2C commands.

D3   DAPLink adapter MAX32625 status LED.
   Controlled by the DAPLink adapter and cannot be
   used as a user LED.
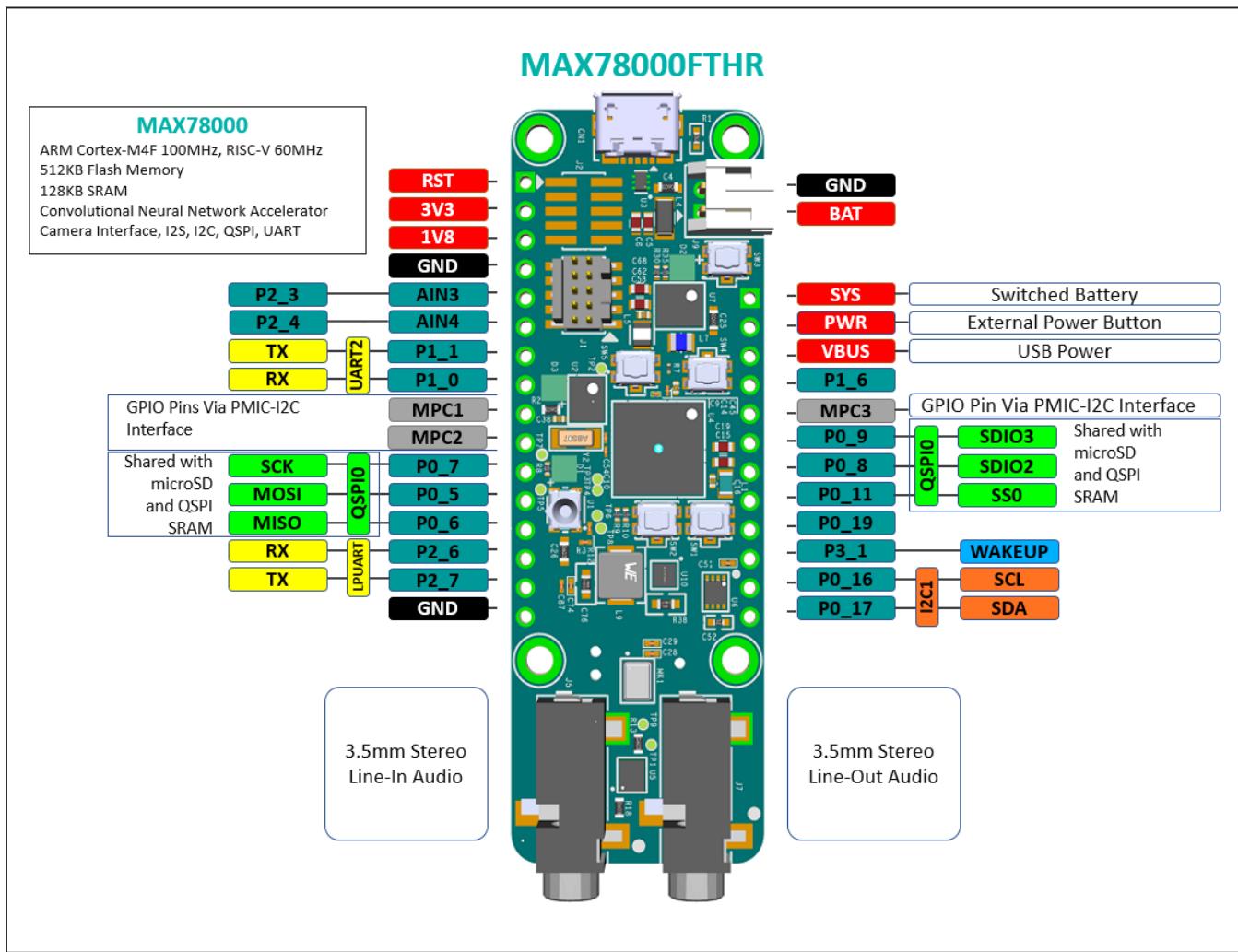
Figure 1. MAX78000FTHR Pinout Diagram

MAX78000FTHR

RISC-V JTAG

	GND
TDI	
TDO	GND
TCK	GND
TMS	1V8

Camera Module

P0_20	DATA0
P0_21	DATA1
P0_22	DATA2
P0_23	DATA3
P0_24	DATA4
P0_25	DATA5
P0_26	DATA6
P0_27	DATA7
P0_18	XVCLK
P1_8	HSYNC
P1_9	XCLK
P0_15	VSYNC
P0_3	PWR DOWN
P0_31	SCCB SDA
P0_30	SCCB SCL

PMIC

| P0_17 | I2C SDA |
| P0_16 | I2C_SCL |

Digital Microphone

P1_2	I2S SCK*
P1_3	I2S_WS*
P1_4	I2S_SDI

Audio CODEC

P0_14	CLOCK
P0_13	INT
P1_2	I2S SCK*
P1_3	I2S_WS*
P1_4	I2S_SDI
P1_5	I2S_SDO
P0_17	I2C SDA
P0_16	I2C_SCL

UART(CONSOLE/DAPLINK)

| P0_0 | UART0 RXD |
| P0_1 | UART0 TXD |

RGB LED

P2_0	RED
P2_1	GREEN
P2_2	BLUE

BUTTONS

P0_2	BUTTON1
P1_7	BUTTON2
P3_0	POWER BTN

*I2S_SCK and I2S_WS pins are shared with RISC-V JTAG interface

Figure 2. MAX78000FTHR Top Side Components

QSPI SRAM (3.3V)

P0_10	CS
P0_5	DAT0
P0_6	DAT1
P0_7	CLK
P0_8	DAT2
P0_9	DAT3

microSD Card*

P0_4	CS
P0_5	MOSI
P0_6	MISO
P0_7	CLK
P0_12	DETECT
MPC0**	VDD EN

- SD Card interface is configured to work in SPI mode.

** MPC0 is one of the GPIO pins of MAX20303 PMIC. It can be controlled via I2C interface to power-on SD Card
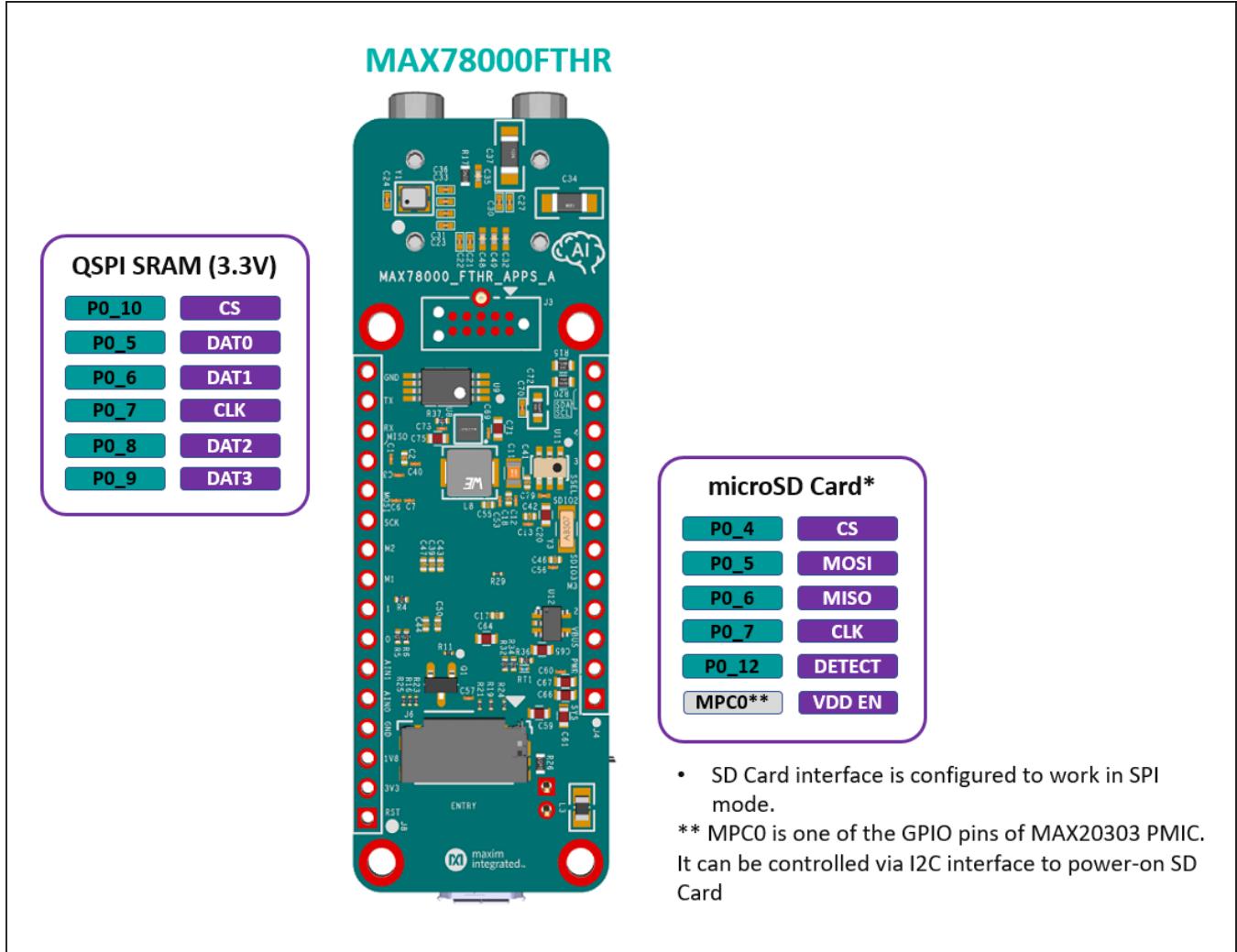
Figure 3. MAX78000FTHR Bottom Side Components

Expansion Headers

Table 1. J8 Pinout

PIN	NAME	DESCRIPTION
1	RST	Master Reset Signal
2	3V3	3.3V Output. Typically used to provide 3.3V to peripherals connected to the expansion headers
3	1V8	1.8V Output. Typically used to provide 1.8V to peripherals connected to the expansion headers
4	GND	Ground
5	P2_3	GPIO or Analog Input (AIN3 channel)
6	P2_4	GPIO or Analog Input (AIN4 channel)
7	P1_1	GPIO or UART2 Tx signal
8	P1_0	GPIO or UART2 Rx signal
9	MPC1	GPIO controlled by PMIC through I^{2}C interface. Open drain or push-pull programmable
10	MPC2	GPIO controlled by PMIC through I^{2}C interface. Open drain or push-pull programmable
11	P0_7	GPIO or QSPI0 clock signal. Shared with SD card and on-board QSPI SRAM
12	P0_5	GPIO or QSPI0 MOSI signal. Shared with SD card and on-board QSPI SRAM
13	P0_6	GPIO or QSPI0 MISO signal. Shared with SD card and on-board QSPI SRAM
14	P2_6	GPIO or LPUART Rx signal
15	P2_7	GPIO or LPUART Tx signal
16	GND	Ground

Table 2. J4 Pinout

PIN	NAME	DESCRIPTION
1	SYS	SYS Switched Connection to the Battery. This is the primary system power supply and automatically switches between the battery voltage and the USB supply when available.
2	PWR	Turns off the PMIC if shorted to Ground for 13 seconds. Hard power-down button.
3	VBUS	USB VBUS Signal. This can be used as a 5V supply when connected to USB. This pin can also be used as an input to power the board, but this should only be done when not using the USB connector since there is no circuitry to prevent current from flowing back into the USB connector.
4	P1_6	GPIO
5	MPC3	GPIO controlled by PMIC through the I^{2}C interface. Open drain or push-pull programmable.
6	P0_9	GPIO or QSPI0 SDIO3 signal. Shared with SD card and on-board QSPI SRAM.
7	P0_8	GPIO or QSPI0 SDIO2 signal. Shared with SD Card and on-board QSPI SRAM.
8	P0_11	GPIO or QSPI0 slave select signal.
9	P0_19	GPIO
10	P3_1	GPIO or Wake-up signal. This pin is 3.3V only.
11	P0_16	GPIO or I2C1 SCL signal. An on-board level shifter allows selecting 1.8V or 3.3V operation through R15 or R20 resistors. Do not populate both.
12	P0_17	GPIO or I2C1 SDA signal. An on-board level shifter allows selecting 1.8V or 3.3V operation through R15 or R20 resistors. Do not populate both.

MAX78000FTHR Bill of Materials

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION
1	C1, C3, C6, C7, C9, C10, C12-C14, C24, C28, C40, C51, C53, C54, C56, C60, C69, C70, C73, C74	-	21	GRM033R61C104K; C0603X5R1C104K030BC	MURATA;TDK	0.1UF	CAP; SMT (0201); 0.1UF; 10%; 16V; X5R; CERAMIC
2	C2, C17, C18, C32, C35, C38, C39, C41-C50, C52, C55, C58	-	20	C0402C105K8PAC; CC0402KRX5R6BB105	KEMET;YAGEO	1UF	CAP; SMT (0402); 1UF; 10%; 10V; X5R; CERAMIC
3	C4, C8	-	2	GMK107BJ105KA; C1608X5R1V105K080AB	TAIYO YUDEN;TDK	1.0UF	CAP; SMT (0603); 1.0UF; 10%; 35V; X5R; CERAMIC
4	C5	-	1	C1608X8R1E104K080AA	TDK	0.1UF	CAP; SMT (0603); 0.1UF; 10%; 25V; X8R; CERAMIC
5	C11	-	1	GRM21BR61A476ME15	MURATA	47UF	CAP; SMT (0805); 47UF; 20%; 10V; X5R; CERAMIC
6	C15, C19, C20	-	3	CL10A226MO7JZNC	SAMSUNG ELECTRONICS	22UF	CAP; SMT (0603); 22UF; 20%; 16V; X5R; CERAMIC
7	C16	-	1	GRM155R71H332KA01	MURATA	3300PF	CAP; SMT (0402); 3300PF; 10%; 50V; X7R; CERAMIC
8	C21	-	1	GRM033R61A225KE47	MURATA	2.2UF	CAP; SMT (0201); 2.2UF; 10%; 10V; X5R; CERAMIC
9	C22, C23, C27, C30, C31, C33, C36	-	7	GRM033R61A105ME15	MURATA	1UF	CAP; SMT (0201); 1UF; 20%; 10V; X5R; CERAMIC
10	C25, C26, C59, C61, C62, C64, C65, C71, C72, C75, C76	-	11	C1608X5R1A226M080AC; GRM188R61A226ME15	TDK;MURATA	22UF	CAP; SMT (0603); 22UF; 20%; 10V; X5R; CERAMIC
11	C29	-	1	ECJ-ZEB1E221K	PANASONIC	220PF	CAP; SMT (0201); 220PF; 10%; 25V; X7R; CERAMIC
12	C34, C37	-	2	GRM31CR60J227ME11	MURATA	220UF	CAP; SMT (1206); 220UF; 20%; 6.3V; X5R; CERAMIC
13	C57, C79, C87	-	3	C0603X5R1A104K030BC	TDK	0.1UF	CAP; SMT (0201); 0.1UF; 10%; 10V; X5R; CERAMIC
14	C66, C68	-	2	C1608X5R1E225K; TMK107ABJ225KA; TMK107BJ225KA; GRM188R61E225KA12	TDK;TAIYO YUDEN; TAIYO YUDEN; MURATA	2.2UF	CAP; SMT (0603); 2.2UF; 10%; 25V; X5R; CERAMIC
15	C67	-	1	C1608X5R1E475K080AC; GRM188R61E475KE11	TDK;MURATA	4.7UF	CAP; SMT (0603); 4.7UF; 10%; 25V; X5R; CERAMIC
16	CN1	-	1	47346-0001	MOLEX	47346-0001	CONNECTOR; FEMALE; SMT; 47346 SERIES; RIGHT ANGLE; 5PINS
17	D1-D3	-	3	SML-LX0404SIUPGUSB	LUMEX OPTOCOMPONENTS INC	SML-LX0404SIUPGUSB	DIODE; LED; SML; FULL COLOR; WATER CLEAR LENS; RED-GREEN-BLUE; SMT;VF=2.95V; IF=0.1A
18	J1	-	1	FTSH-105-01-L-DV-K	SAMTEC	FTSH-105-01-L-DV-K	CONNECTOR; MALE; SMT; 0.05 (1.27MM) SMT MICRO HEADER; STRAIGHT; 10PINS
19	J5, J7	-	2	SJ-3523-SMT	CUI INC.	SJ-3523-SMT	CONNECTOR; FEMALE; SMT; SJ-352X-SMT SERIES; BLACK; 3.5MM AUDIO JACK; RIGHT ANGLE; 3PINS
20	J6	-	1	475710001	MOLEX	475710001	CONNECTOR; FEMALE; SMT; MICRO-SD CARD HEADER WITH DETECT SWITCH; RIGHT ANGLE; 8PINS
21	J9	-	1	S2B-PH-K-S(LF)(SN)	JST MANUFACTURING	S2B-PH-K-S(LF)(SN)	CONNECTOR; MALE; THROUGH HOLE; 2.0MM PITCH; DISCONNECTABLE CRIMP STYLE CONNECTOR; SIDE ENTRY TYPE; RIGHT ANGLE; 2PINS
22	L1	-	1	MLP2012H2R2MT0S1	TDK	2.2UH	INDUCTOR; SMT (0805); FERRITE; 2.2UH; 20%; 1A
23	L3	-	1	BLM21PG221SN1	MURATA	220	INDUCTOR; SMT (0805); FERRITE-BEAD; 220; TOL=+/-25%; 0.2A

MAX78000FTHR Bill of Materials (continued)

| ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION
24	L4	-	1	HZ1206C202R-10	LAIRD TECHNOLOGIES	2000	INDUCTOR; SMT (1206); FERRITE-BEAD; 2000; TOL=+/-25%; 0.3A
25	L5, L7	-	2	DFE201612E-2R2M	MURATA	2.2UH	INDUCTOR; SMT (0806); WIREWOUND CHIP; 2.2UH; TOL=+/-20%; 1.8A
26	L8, L9	-	2	74437324022	WURTH ELECTRONICS INC	2.2UH	INDUCTOR; SMT; SHIELDED; 2.2UH; 20%; 3.25A
27	MK1	-	1	SPH0645LM4H-B	KNOWLES ACOUSTICS	SPH0645LM4H-B	IC; MICROPHONE; I2S; OUTPUT DIGITAL MICROPHONE; SMT
28	Q1	-	1	SSM3J327R,LF	TOSHIBA	SSM3J327R,LF	TRAN; PCH; FIELD-EFFECT TRANSISTOR SILICON P-CHANNEL MOS TYPE (U-MOS VI); SOT-23F; PD-(1W); I-(-3.9A); V-(-20V)
29	R1	-	1	ERJ-2RKF1004	PANASONIC	1M	RES; SMT (0402); 1M; 1%; +/-100PPM/DEGC; 0.1000W
30	R2, R7, R11, R13, R16, R19, R21, R23-R26	-	11	CRCW020110K0FK	VISHAY DALE	10K	RES; SMT (0201); 10K; 1%; +/-100PPM/DEGC; 0.0500W
31	R3, R12, R17, R18	-	4	ERJ-1GEF2201C	PANASONIC	2.2K	RES; SMT (0201); 2.2K; 1%; +/-100PPM/DEGC; 0.0500W
32	R4, R8	-	2	CRCW04022K70FK	VISHAY DALE	2.7K	RES; SMT (0402); 2.7K; 1%; +/-100PPM/DEGC; 0.0630W
33	R5, R9	-	2	CRCW04021K40FK; RC0402FR-071K4L	VISHAY DALE; YAGEO PHICOMP	1.4K	RES; SMT (0402); 1.4K; 1%; +/-100PPM/DEGC; 0.0630W
34	R6, R10	-	2	CRCW04021K00FK; RC0402FR-071KL; MCR01MZPF1001	VISHAY DALE; YAGEO PHICOMP; ROHM SEMI	1K	RES; SMT (0402); 1K; 1%; +/-100PPM/DEGC; 0.0630W
35	R15	-	1	RK73Z1JT	KOA SPEER ELECTRONICS INC	0	RES; SMT (0603); 0; JUMPER; JUMPER; JUMPER
36	R29	-	1	CRCW0201100KFK	VISHAY DALE	100K	RES; SMT (0201); 100K; 1%; +/-100PPM/DEGC; 0.0500W
37	R30, R32, R34, R36	-	4	ERJ-2RKF1002	PANASONIC	10K	RES; SMT (0402); 10K; 1%; +/-100PPM/DEGC; 0.1000W
38	R35	-	1	ERJ-2RKF3902X; CRCW040239K0FK	PANASONIC; VISHAY DALE	39K	RES; SMT (0402); 39K; 1%; +/-100PPM/DEGC; 0.0630W
39	R37	-	1	ERJ-2RKF3833	PANASONIC	383K	RES; SMT (0402); 383K; 1%; +/-100PPM/DEGC; 0.1000W
40	R38	-	1	CRCW060356K2FK; ERJ-3EKF5622	VISHAY; PANASONIC	56.2K	RES; SMT (0603); 56.2K; 1%; +/-100PPM/DEGC; 0.1000W
41	RT1	-	1	NCP03XH103J05	MURATA	10K	THERMISTOR; SMT (0201); 10K OHM; TOL=+/-5%
42	SW1-SW5	-	5	EVP-AA102K	PANASONIC	EVP-AA102K	SWITCH; SPST; SMT; 15V; 0.02A; EVPAA SERIES WITH GROUND TERMINAL; LIGHT TOUCH SWITCH; RCONTACT=0.1 OHM; RINSULATION=100M OHM
43	U1	-	1	OVM7692-RYAA	OMNIVISION	OVM7692-RYAA	IC; SNSR; COLOR CMOS VGA (640X480) CAMERACUBECHIP WITH OMNIPIXEL3-HS TECHNOLOGY; SMT ;
44	U2	-	1	MAX32625IWY+	MAXIM	MAX32625IWY+	IC; UCON; ULTRA-LOW POWER; HIGH-PERFORMANCE CORTEX-M4F MICROCONTROLLER FOR WEARABLES; FLASH=512KB; SRAM=160KB; WLP63
45	U3	-	1	MAX13202EALT+	MAXIM	MAX13202EALT+	IC; PROT; 2-CHANNEL; +/-30KV ESD PROTECTOR; UDFN6
46	U4	-	1	MAX78000EXG+	MAXIM	MAX78000EXG+	EVKIT PART - IC; MAX78000; AI85; ULTRA-LOW POWER ARM CORTEX-M4F WITH CONVOLUTIONAL NEURAL NETWORK ACCELERATOR; PACKAGE OUTLINE DRAWING: 21-0735; LAND PATTERN: 90-0460; WLP81
47	U5	-	1	MAX9867EWV+	MAXIM	MAX9867EWV+	IC; CODEC; ULTRA-LOW POWER STEREO AUDIO CODEC; WLP30

MAX78000FTHR Bill of Materials (continued)

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION
48	U6	-	1	MAX14595ETA+	MAXIM	MAX14595ETA+	IC; TRANS; LOW-POWER DUAL-CHANNEL LOGIC-LEVEL TRANSLATOR; TDFN8 2X2
49	U7	-	1	MAX20303BEWN+	MAXIM	MAX20303BEWN+	IC; PWRM; WEARABLE POWER MANAGEMENT SOLUTION; WLP56
50	U8	-	1	MAX38642AELT+	MAXIM	MAX38642AELT+	IC; CONV; TINY 1.8V-5.5V INPUT; 300NANO-AMP IQ; 700MILLI-AMP NANOPOWER BUCK CONVERTER; DFN6
51	U9	-	1	N01S830HAT22I	ON SEMICONDUCTOR	N01S830HAT22I	IC; MMRY; 1 MB ULTRA-LOW POWER SERIAL SRAM; TSSOP8
52	U10	-	1	MAX38643AELT+	MAXIM	MAX38643AELT+	IC; CONV; TINY 1.8V-5.5V INPUT; 300NANO-AMP IQ; 700MILLI-AMP NANOPOWER BUCK CONVERTER; DFN6
53	U11	-	1	MAX6817EUT+	MAXIM	MAX6817EUT+	IC; CMOS; +/-15KV ESD-PROTECTED DUAL CMOS SWITCH DEBOUNCERS; SOT23-6
54	U12	-	1	SN74LVC1G07DCK	TEXAS INSTRUMENTS	SN74LVC1G07DCK	IC; DRV; SINGLE BUFFER/DRIVER WITH OPEN DRAIN OUTPUT; SC70-5
55	Y1	-	1	SG-210STF 12.2880ML	EPSON	12.2880MHZ	CRYSTAL; SMT 2.5MMX2MM; 15PF; 12.2880MHZ; +/-50PPM
56	Y2, Y3	-	2	ABS07-32.768KHZ-6-T	ABRACON	32.768KHZ	CRYSTAL; SMT; 6PF; 32.768KHZ; +/-20PPM; -0.036PPM/T2
57	PCB	-	1	MAX78000_FTHR_APPS_A	MAXIM	PCB	PCB:MAX78000_FTHR_APPS_A
58	J4	DNI	1	PBC12SAAN	SULLINS ELECTRONICS CORP.	PBC12SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 12PINS; -65 DEGC TO +125 DEGC
59	J8	DNI	1	PBC16SAAN	SULLINS ELECTRONICS CORP.	PBC16SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 16PINS; -65 DEGC TO +125 DEGC
60	J2	DNP	0	FTSH-105-01-L-DV-K	SAMTEC	FTSH-105-01-L-DV-K	CONNECTOR; MALE; SMT; 0.05 (1.27MM) SMT MICRO HEADER; STRAIGHT; 10PINS
61	J3	DNP	0	TC2050-IDC-NL	TAG-CONNECT	TC2050-IDC-NL	CONNECTOR; MALE; BOARDMOUNT; 10-PIN NO-LEGS CABLE WITH RIBBON CONNECTOR; STRAIGHT; 10PINS
62	R20	DNP	0	RK73Z1JT	KOA SPEER ELECTRONICS INC	0	RES; SMT (0603); 0; JUMPER; JUMPER; JUMPER
TOTAL			150				

Ordering Information

PART	TYPE
MAX78000FTHR#	Application Platform

#Denotes RoHS compliance.

MAX78000FTHR Application Platform Diagram
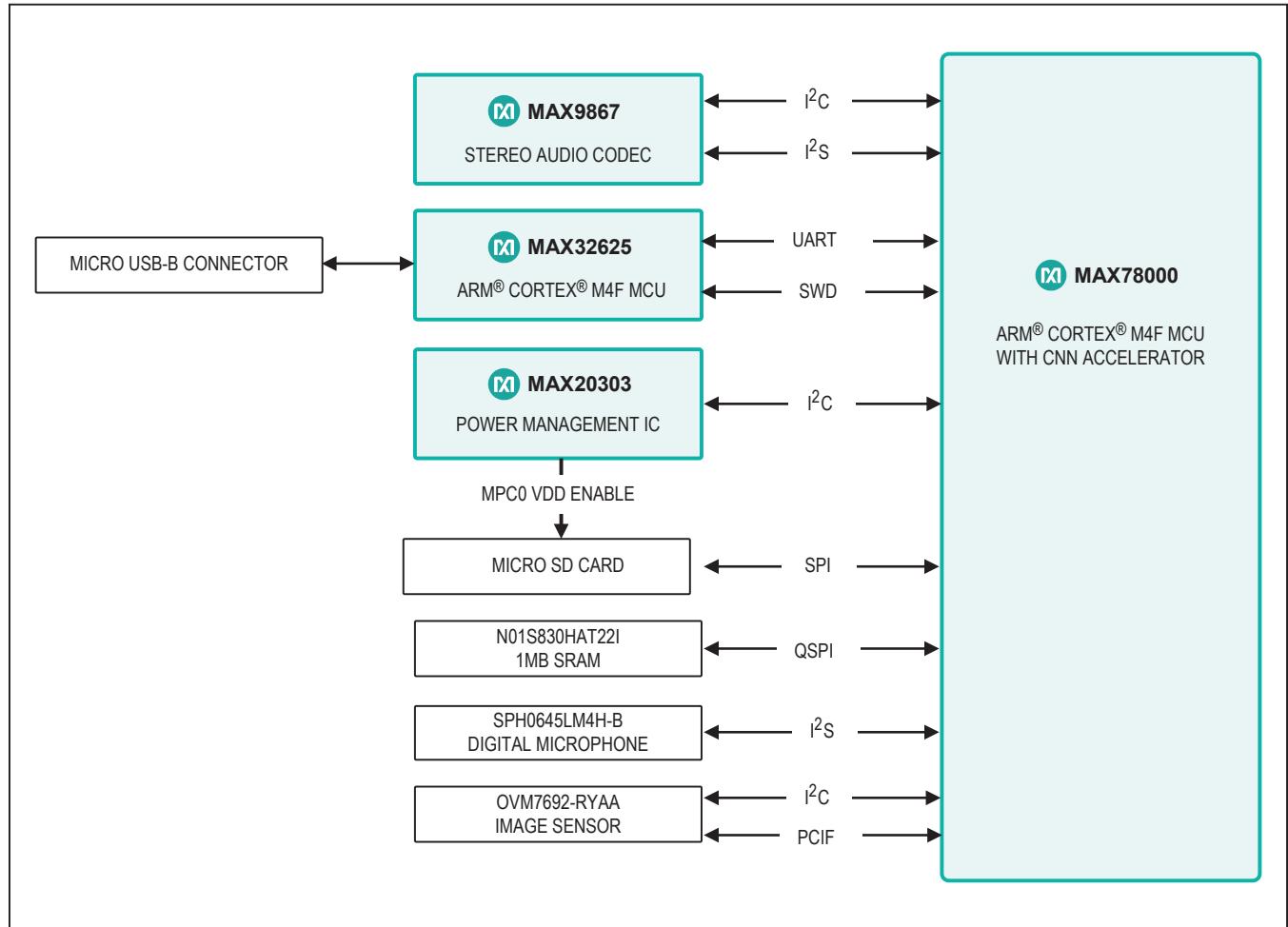
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MAX9867
STEREO AUDIO CODEC
                        I²C
                        I²S

MICRO USB-B CONNECTOR

MAX32625
ARM® CORTEX® M4F MCU
                        UART
                        SWD

MAX20303
POWER MANAGEMENT IC
                        I²C

MPC0 VDD ENABLE

MICRO SD CARD           SPI

N01S830HAT22I
1MB SRAM                QSPI

SPH0645LM4H-B
DIGITAL MICROPHONE      I²S

OVM7692-RYAA
IMAGE SENSOR            I²C
                        PCIF

MAX78000
ARM® CORTEX® M4F MCU
WITH CNN ACCELERATOR
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MAX78000FTHR Application Platform Schematics

MAX78000FTHR Application Platform Schematics (continued)
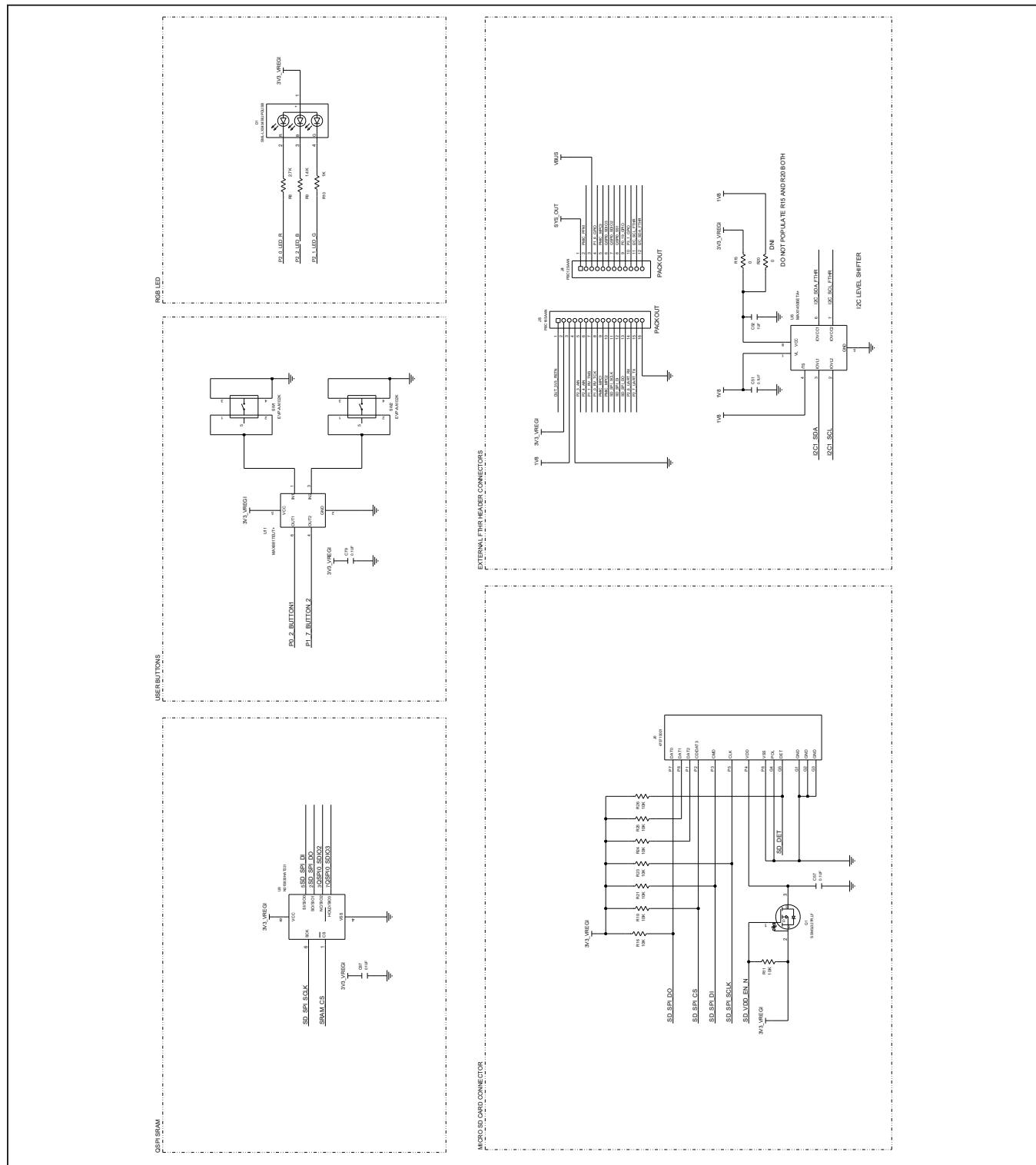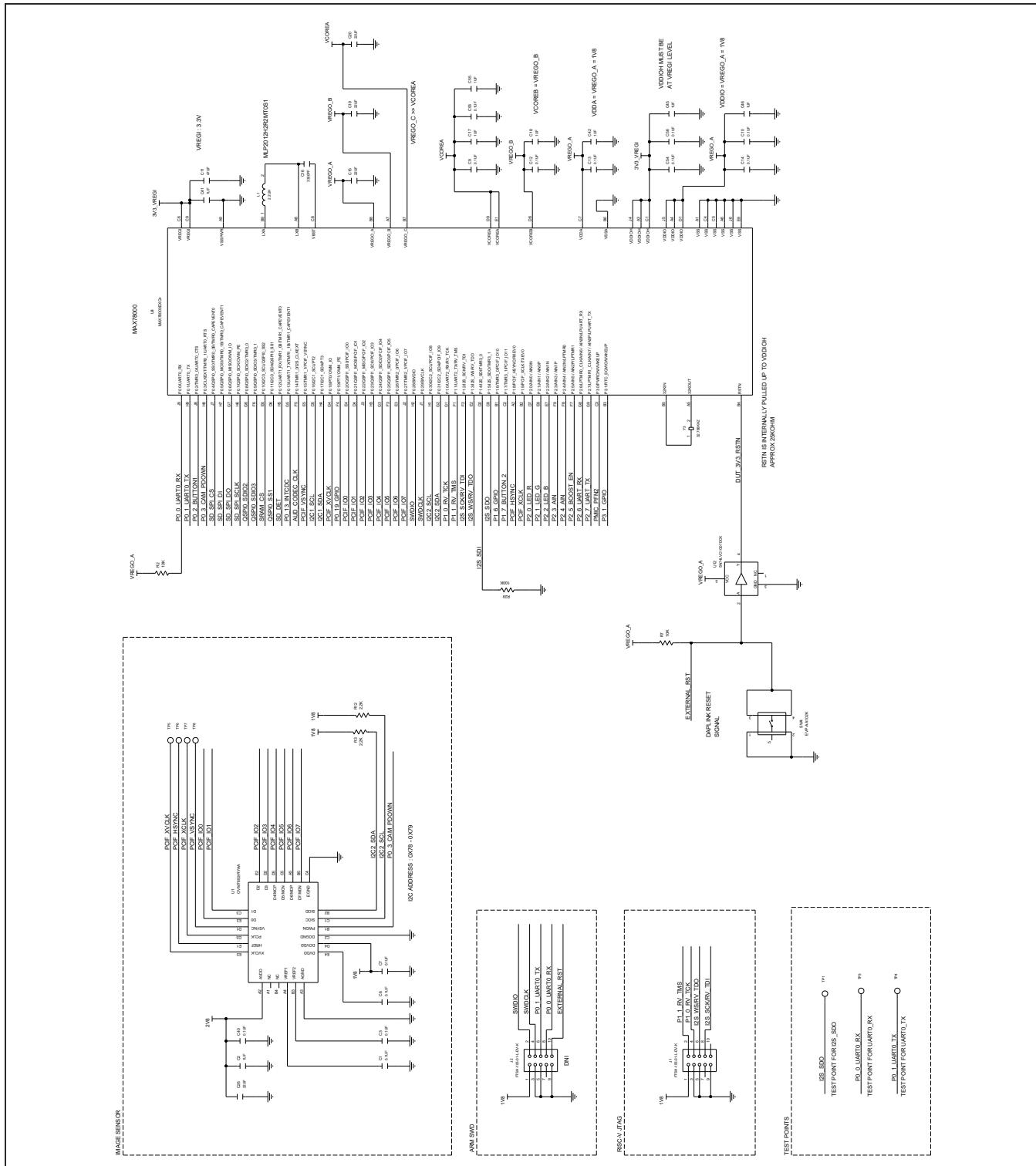
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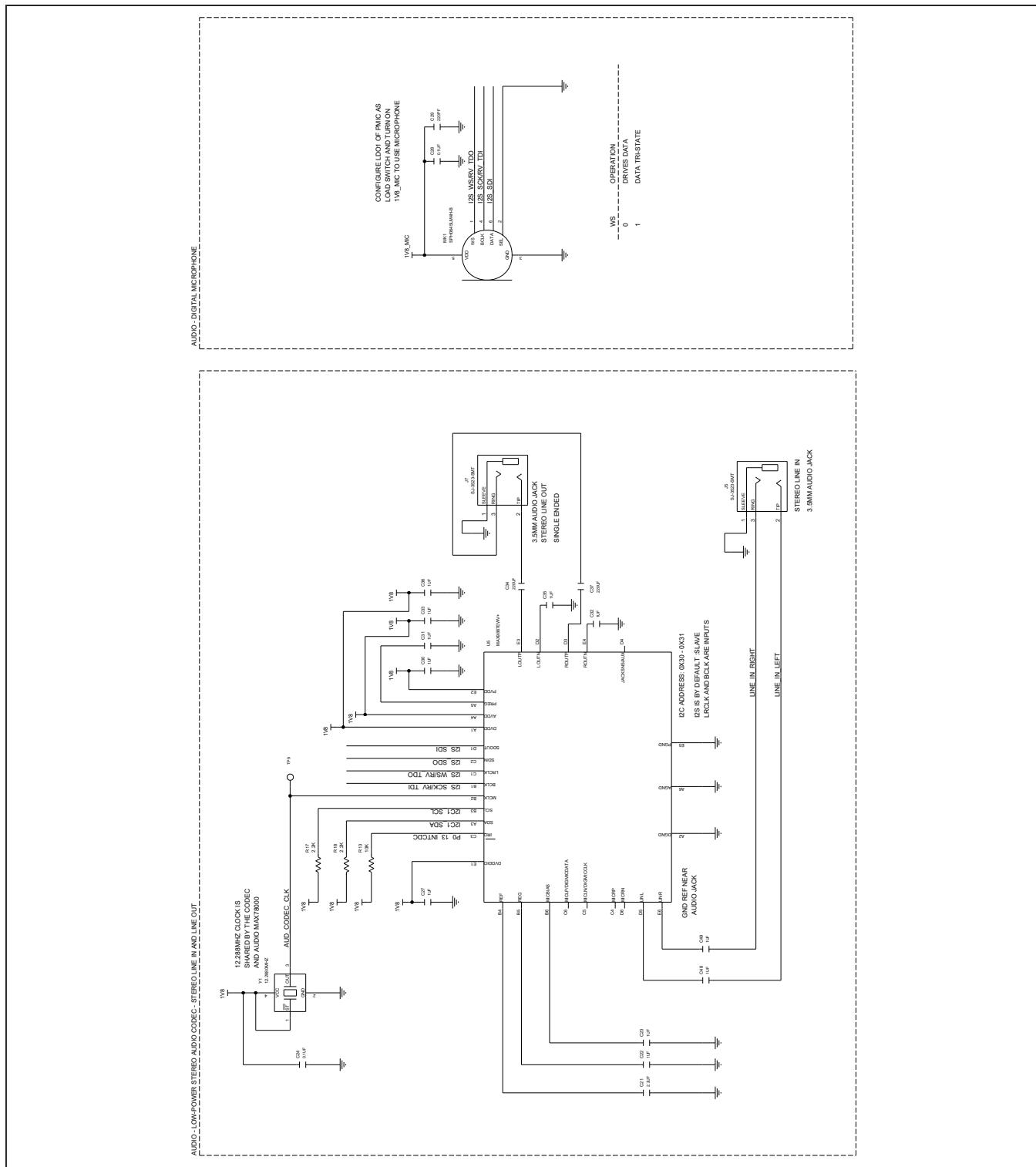
MAX78000FTHR Application Platform Schematics (continued)

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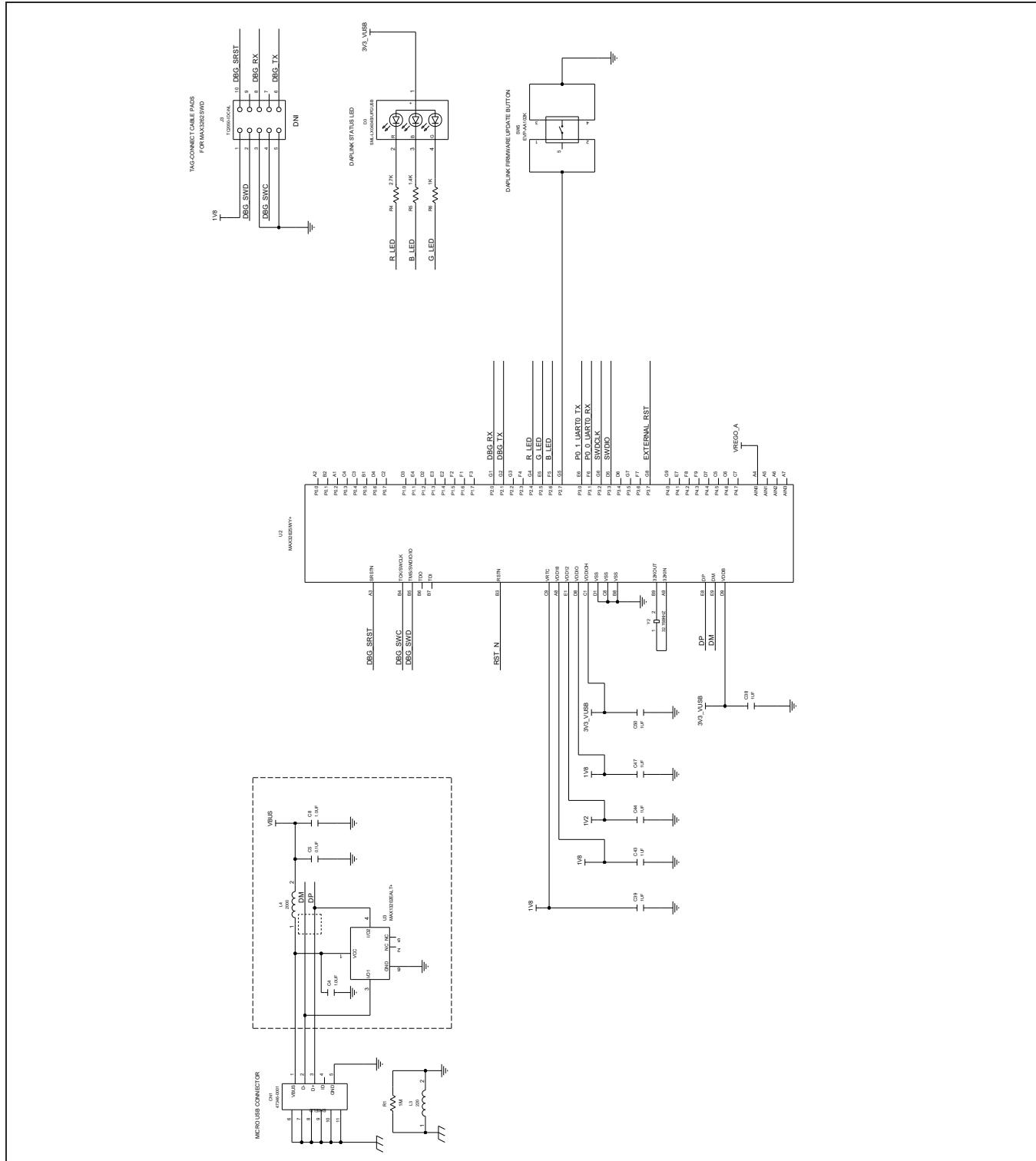
Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	11/20	Release for market intro	—

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