

General Description

The Maxim Audio Interface 1 (AUDINT1) board provides both an I²C and I²S interface to facilitate the evaluation of compatible Maxim Development (DEV) boards. Maxim DEV boards that are evaluated with the AUDINT1 interface board can require custom GUI software, which is available as a download from Maxim's [evkit-software](#) web page.

The AUDINT1 board and a compatible DEV board are ordered together as an evaluation system (EV system). Ordering information for EV systems is located in the EV system data sheet.

Refer to the appropriate EV system data sheet for quick start and detailed operating instructions.

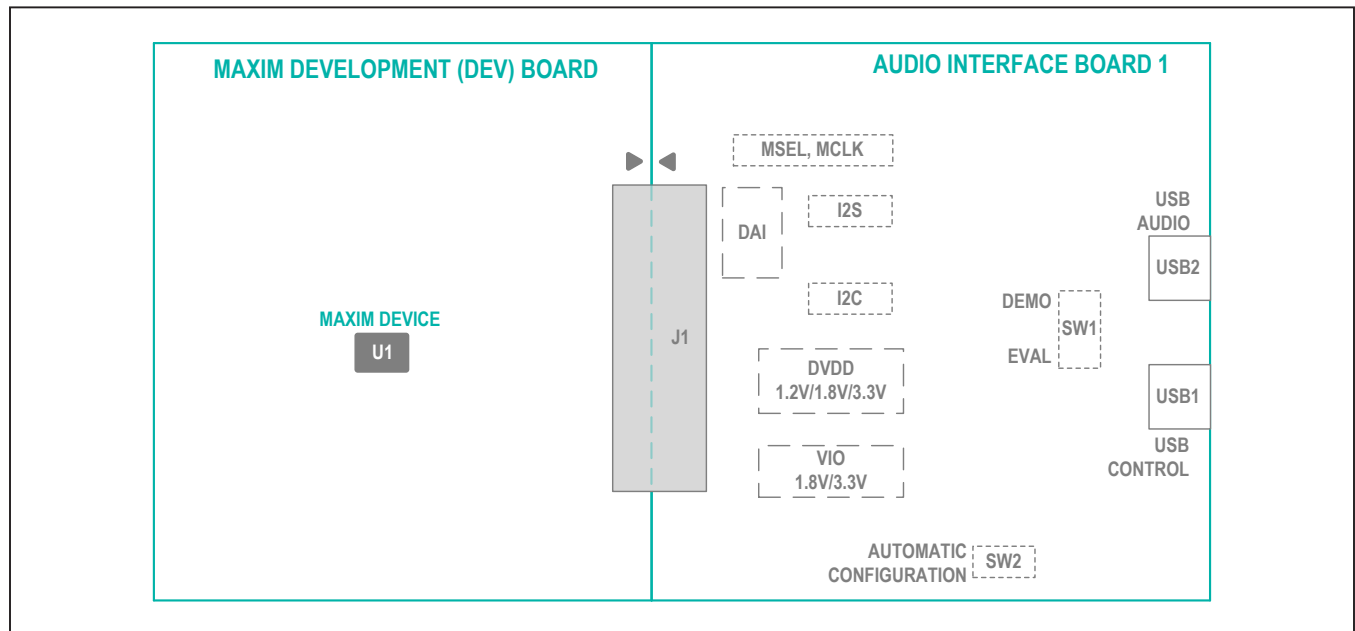
The AUDINT1 board is provided as part of selected Maxim evaluation systems (EV system) to evaluate Maxim parts only. The use of the AUDINT1 board as a development target is not supported. Refer to the MAXQ2000 evaluation kit data sheet for this purpose.

Benefits and Features

- USB Powered (+5V)
- USB-to-I²C (USB CONTROL)
- USB-to-I²S (USB AUDIO)
- On-Board Master Clock Sources
- On-Board LDOs (+1.2V, +1.8V, +3.3V)
- Compatible with Standard FTDI VCP Drivers
- Fully Assembled and Tested

Ordering Information appears at end of data sheet.

Simplified EV System Block Diagram



Quick Start

Required Equipment

- Device-specific DEV board
- Two A-to-mini B USB cables (provided)
- Windows XP®, Windows® 7, or Windows 8 computer with two available USB ports

Note: In the following sections, software-related items are identified by bolding. Text in **bold** refers to items directly from the evaluation software. Text in **bold and underlined** refers to items from the Windows operating system.

Procedure

The AUDINT1 board is fully assembled and tested. Follow these steps to setup the AUDINT1 board for the evaluation of a compatible DEV board:

- 1) Configure the AUDINT1 jumpers and switches based on the needs of the companion DEV board. See [Table 2](#) and [3](#) for jumper configuration options and refer to the DEV board's data sheet for device configuration requirements.
- 2) Before connecting the PC to the AUDINT1 board, install the evaluation software for the device-specific DEV board. This is to ensure that the USB device driver, which is packaged with the evaluation software, gets installed on the host PC. To download the device's evaluation software, go to www.maximintegrated.com/evkitsoftware. Refer to the EV system data sheet for additional details.
- 3) Do not proceed until the evaluation software installation is completed. This ensures that the required virtual COM port (VCP) driver is installed and the PC recognizes the AUDINT1 board as a USB device. If needed, the USB driver can be manually installed by downloading and installing the VCP driver package (release 2.10.00 or newer) directly from the FTDI website.
- 4) Connect a USB cable between the PC and the USB1 port (USB CONTROL) on the AUDINT1 board. Once Windows reports the device is ready to use then the USB driver has been installed successfully. The status of the USB connection can be manually checked by opening Windows' **Device Manager** and expanding the **Universal Serial Bus controllers** item. Right click on the **USB Serial Converter** item and select **Properties**. On the **Details** tab select **Hardware Ids** from the **Property** field and verify that VID_0403 and PID_6001 are shown in the **Value** field.
- 5) Connect a USB cable between the PC and the USB2 port (USB AUDIO) on the AUDINT1 board.
- 6) Open Windows' **Sound** dialog and select the **Playback** tab. A **USB Audio** item should be listed as one of the available playback devices. All audio played through this device is streamed through the AUDINT1 module to the DEV board.
- 7) Connect the AUDINT1 board to the DEV board. Refer to the EV system data sheet for additional quick start steps that might be needed to prepare the EV system for evaluation.

Detailed Description of Software

The AUDINT1 board is a tool that is designed to be used with compatible DEV boards, and as such, does not have its own dedicated GUI software. Refer to the appropriate EV system data sheet for further evaluation details. The EV system data sheet provides details about the associated DEV board and its use with the AUDINT1 board.

Note: A DEV board may not require PC GUI software, as would be the case for a DEV board that only utilizes the audio streaming capability of the AUDINT1 board.

Detailed Description of Hardware

The AUDINT1 board provides both an I2C and I2S interface to facilitate the evaluation of compatible Maxim development (DEV) boards. The AUDINT1 interface board comprises two microcontroller circuits, one for each of the available interfaces.

The multicore microcontroller (U200) provides the USB-to-I2S interface, allowing for audio streaming onto Maxim's I2S-compatible DEV boards. The Maxim MAXQ2000 microcontroller (U100) and the FTDI (U101) device provide the USB-to-I2C interface, providing the communication link between an I2C capable DEV board and its associated PC GUI software. The MAXQ2000 microcontroller provides the I2C interface and the FTDI device provides the USB to serial interface, which is supported by standard FTDI drivers.

The AUDINT1 module operates from USB power (+5V) and does not require any external power supplies. Each of the USB ports (USB1 and USB2) is capable of powering the on-board LDOs that provide power to the connected DEV board. The available LDO output voltages are +1.2V, +1.8V, and +3.3V.

The 26-pin (2x 13) female connector (J1) on the AUDINT1 board connects to its male counterpart on a compatible DEV board. This connector includes connections for I2S, I2C, logic rail voltages, and ground. This connector also provides connections for six of the MAXQ2000's GPIO pins, two of which are used for interrupt (IRQ) monitoring.

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Table 1. USB Power Distribution

I2S CAPABLE DEV BOARD	I2C CAPABLE DEV BOARD	USING EVALUATION SOFTWARE	MODE (SW1)	USB CONNECTIONS	FUNCTIONALITY
Yes	Yes	Yes	EVAL*, DEMO	USB1 + USB2	USB audio streaming + I2C device configuration using evaluation software
Yes	Yes	No	DEMO*	USB2	Automatic I2C device configuration + USB audio streaming
			EVAL	USB1 + USB2	
No	Yes	Yes	EVAL	USB1	I2C device configuration using evaluation software
No	Yes	No	EVAL	USB1	Automatic I2C device configuration
Yes	No	—	EVAL*, DEMO	USB2	USB audio streaming

*Recommended mode of operation.

Table 2. Mode Of Operation

MODE	LOGIC RAILS (+1.8V, +3.3V, +1.2V, 3V3, 2V5)	USB-TO-I2C CIRCUIT	LOGIC RAILS (VDD18, VDD33, +1.0V)	USB-TO-I2S CIRCUIT	CLOCK CIRCUITS
EVAL*	USB1		USB2		
DEMO	USB2				

*Default position.

Mode of Operation

The AUDINT1 board can be evaluated in either demonstration (DEMO) mode or evaluation (EVAL) mode. The mode of operation is set by switch SW1, which is located between the two USB ports.

DEMO mode is for situations when a PC is not available or does not have the required evaluation software. EVAL mode is for all other situations, as listed in [Table 1](#). For cases where the DEV board is not I2C capable, either mode can be used with a single USB connection (USB2).

DEMO Mode

In demonstration (DEMO) mode, the AUDINT1 board is intended to be evaluated with one USB connection (USB2). This mode of operation is intended for on-the-fly evaluations, where a PC may not be available or has not been setup with the required evaluation software. To utilize this mode for I2C device configuration, the MAXQ2000 requires customized firmware. The customized firmware contains device-specific instructions that automatically configure the device on power-up and/or on the pressing of the SW2 pushbutton.

Although DEMO mode is only recommended for one specific case (I2S and I2C without software), it can be set for other cases as listed in [Table 1](#). For these other cases, custom MAXQ2000 firmware is not required.

EVAL Mode

In evaluation (EVAL) mode, the AUDINT1 board can be evaluated with one or two USB connections, depending on the needs of the companion DEV board ([Table 1](#)). The main use case for EVAL mode is when the EV system (AUDINT1 board + DEV board) is evaluated with a PC that has been setup with the appropriate device-specific evaluation software.

As shown in [Table 1](#), there are other situations in which the EVAL mode can be utilized. It can be used, and is recommended, when only USB audio streaming is needed. This reduces the load placed on the USB2 port by isolating the unused I2C interface from the USB2 power rail. It can also be used in cases where USB audio streaming is not needed and a PC is not available or has not been setup with the device-specific evaluation software. As in DEMO mode, this case would require customized MAXQ2000 firmware to perform the automatic I2C device configuration (on power-up and/or on the pressing of the SW2 pushbutton).

Power Supply

The AUDINT1 board is powered by a host PC's USB power (+5V) and does not require any external supplies. The power distribution across the board is determined by the mode of operation, which is set by the SW1 switch ([Table 1](#)). In the recommended DEMO mode, only one

Table 3. Connector J1 Pinout

SIGNAL	PIN	PIN	SIGNAL
GND	2	1	MCLK
GPIO3	4	3	BCLK
GPIO4	6	5	LRCLK
GPIO5	8	7	DOUT
GPIO6	10	9	DIN
+3.3V	12	11	Reserved
GND	14	13	DVDD
GND	16	15	VIO
+5V	18	17	SDA
+5V	20	19	SCL
GPIO2	22	21	GPIO1
Reserved	24	23	Reserved
Reserved	26	25	Reserved

USB connection (USB2) is needed to supply the board. In the recommended EVAL modes, one or both of the USB connections (USB1 and USB2) may be needed to power the board. See [Table 2](#) for the USB power distribution in each mode of operation.

MAXAUDINT001 Connector J1

Connector J1 is a 2-pin dual row right-angle header that connects to a compatible development (DEV) type EV kit. Although, it can be used to connect to other board types that have a compatible male connector and appropriate pin mapping. All signal and power nets intended for the device(s) on the DEV board are routed to the J1 connector. See [Table 3](#) for a list of signals and logic-rail voltages available on the J1 connector.

Hardware Configuration

The AUDINT1 board is configured by adjusting the provided jumpers and slide switches. [Table 4](#) and [Table 5](#) describe the jumper and switch configuration options.

Master Clock (MCLK) Selection

The MCLK and MSEL switches are used to route one of the on-board clocks to the master clock output (MCLK) available at connector J1. An external clock can be used by setting the MCLK switch to DISCONNECTED and connecting the external clock to pin 2 of header J3 or pin 1 of connector J1.

See [Table 6](#) to configure the master clock output to one of the available on-board clocks: 11.2896MHz, 12MHz, or 12.288MHz. In order for the on-board clock circuits to work, power needs to be supplied to the USB2 port.

I²S Audio

The AUDINT1 board provides two methods for driving a DEV board's I²S Interface. The first method is through the I²S header (J3) and this provides the most direct connection to the DEV board. The other method involves streaming audio through the USB AUDIO (USB2) port. In both cases, the I²S signal are connected to the DEV board by connecting to the J1 header.

Digital Audio Interface Header J3

Header J3 provides direct access to the I²S interface present on the J1 connector. See [Table 7](#) for individual pin descriptions. This header also allows for the use of an external audio source to drive the DEV board's I²S interface. When using an external audio source, configure the I²S switch with its actuator in the DISCONNECT position to prevent the multicore microcontroller (U200) from also driving the I²S bus.

USB Audio (USB2)

The multicore microcontroller (U200) and USB PHY interface (U202) make up the USB audio circuit that allows audio to be streamed from a PC connected to the USB2 port, onto a connected DEV board. The USB audio circuit

appears as a sound card to the PC and shows up as a **USB Audio** playback device in Windows' **Sound** dialog. Configure the **USB Audio** device as the default playback device (by pressing **Set Default**) to have audio from the PC streamed onto the AUDINT1 board. When audio is being streamed onto the AUDINT1 board, LEDB (located to the left of the XMOS device) turns on.

In order for the audio stream to be routed onto the connected DEV board, the I²S switch needs to be configured in the CONNECTED position (Table 5).

Note: The PCM digital audio signals are routed through a level-translator/buffer (U5 and U7) and a switch (U3) before routing to the J1 connector.

Table 4. Jumper Configuration

HEADER	SHUNT POSITION	DESCRIPTION
DVDD	+1.2V	Provides +1.2V to the digital logic rail on the J1 connector (pin 13)
	+1.8V*	Provides +1.8V to the digital logic rail on the J1 connector (pin 13)
	+3.3V	Provides +3.3V to the digital logic rail on the J1 connector (pin 13)
	GND	Grounds the digital logic rail on the J1 connector (pin 13)
VIO	+1.8V*	Provides +1.8V to the I/O logic rail on the J1 connector (pin 15)
	+3.3V	Provides +3.3V to the I/O logic rail on the J1 connector (pin 15)

*Default position.

Table 5. Switch Configuration

SWITCH	ACTUATOR POSITION	DESCRIPTION
I ² C	DISCONNECT	Disconnects the I ² C interface from the J1 connector
	CONNECT*	Connects the I ² C interface to the J1 connector
I ² S	DISCONNECT	Disconnects the I ² S interface from the J1 connector
	CONNECT*	Connects the I ² S interface to the J1 connector
MCLK	DISCONNECT	Disconnects the MCLK clock output from the J1 connector
	CONNECT*	Connects the MCLK clock output to the J1 connector
MSEL	SEL *	Master clock output connected to one of the three on-board clocks (11.2896MHz, 12MHz, 12.288MHz).
	12MHz	Master clock output connected to the on-board 12MHz oscillator
SW1	DEMO	Interface board evaluated in demonstration mode
	EVAL*	Interface board evaluated in evaluation mode

*Default position.

Table 6. Master Clock Configuration

MCLK SWITCH	MSEL SWITCH	CLOCK SOURCE
DISCONNECTED	X	On-board clock is not provided to DEV board. Use this setting if the DEV board does not require a master clock or if an external master clock is used. Connect the external master clock to pin 2 of header J3 or pin 1 of connector J1.
CONNECTED*	SEL	The on-board clock selected by the evaluation software (11.2896MHz, 12MHz, or 12.288MHz).
CONNECTED	12MHz	On-board 12MHz oscillator

*Default position.

X = Don't care

Table 7. DAI Header (J3)

PIN*	DESIGNATOR	SIGNAL
2	M	Master Clock (MCLK)
4	B	Bit Clock (BCLK)
6	L	Left right clock (LRCLK)
8	OUT	Data Out (DOUT)
10	IN	Data In (DIN)

*All odd pins are tied to ground.

USB Control (USB1)

The MAXQ2000 (U100) microcontroller and FTDI USB interface (U101) form the bridge between a DEV board's I²C-capable devices and its associated evaluation software, running on a Windows XP/Windows 7/Windows 8 computer. The AUDINT1 board exposes the MAXQ2000's I²C and GPIO peripherals.

SMBus/I²C/2-Wire Interface

The MAXQ2000 portion of the AUDINT001 board offers bit-banged I²C at 400kHz (fast mode, default) or 100kHz (standard mode). SCL/SDA pullup resistors are provided on-board. Attainable throughput is limited by the PC and its software. The SMBus/I²C bus runs in bursts at rated speed, but there is some variable dead time between transfers, due to communication overhead. Properly written PC software can minimize this dead time, but cannot completely eliminate it.

GPIO Interface and Pushbutton Programmer

Six of the MAXQ2000's general-purpose inputs/outputs (GPIOs) are routed to the J1 header, for use by the connected DEV board. Four of the GPIOs (GPIO3–GPIO6) are routed directly to the J1 header through an on-board level translator and can be used as needed. The other two GPIOs (GPIO1 and GPIO2) are also routed through an on-board level translator, but have additional LED and pullup circuitry to facilitate their use for interrupt (IRQ) monitoring.



Figure 2. Playback Device—USB Audio

An additional MAXQ2000 GPIO is connected to a pushbutton (SW2) and is used to implement a future feature: pushbutton programming. When enabled, the pushbutton allows the MAXQ2000 microcontroller to configure the main device on the DEV board without the need for the device's evaluation software. The pushbutton instructs the microcontroller to write a preprogrammed sequence of data to the device, providing a quick method for configuring the DEV board for evaluation.

Detailed Description of Firmware

The MAXQ2000 firmware was developed using the MAX-IDE assembly language development environment. At this time, the standard MAXQ2000 firmware does not support the pushbutton programming feature.

Component List, Schematics, PCB Layout Diagrams

See the following links for component list, schematics, and PCB layout:

- [MAXAUDINT001 BOM](#)
- [MAXAUDINT001 schematic](#)
- [MAXAUDINT001 PCB](#)

MAXAUDINT001 Required Driver

FILE	DESCRIPTION
2.10.00 WHQL-certified (or newer)	FTDI virtual COM port (VCP) driver package

Ordering Information

PART	TYPE
MAXAUDINT001#	Audio Interface Board

#Denotes RoHS compliant.

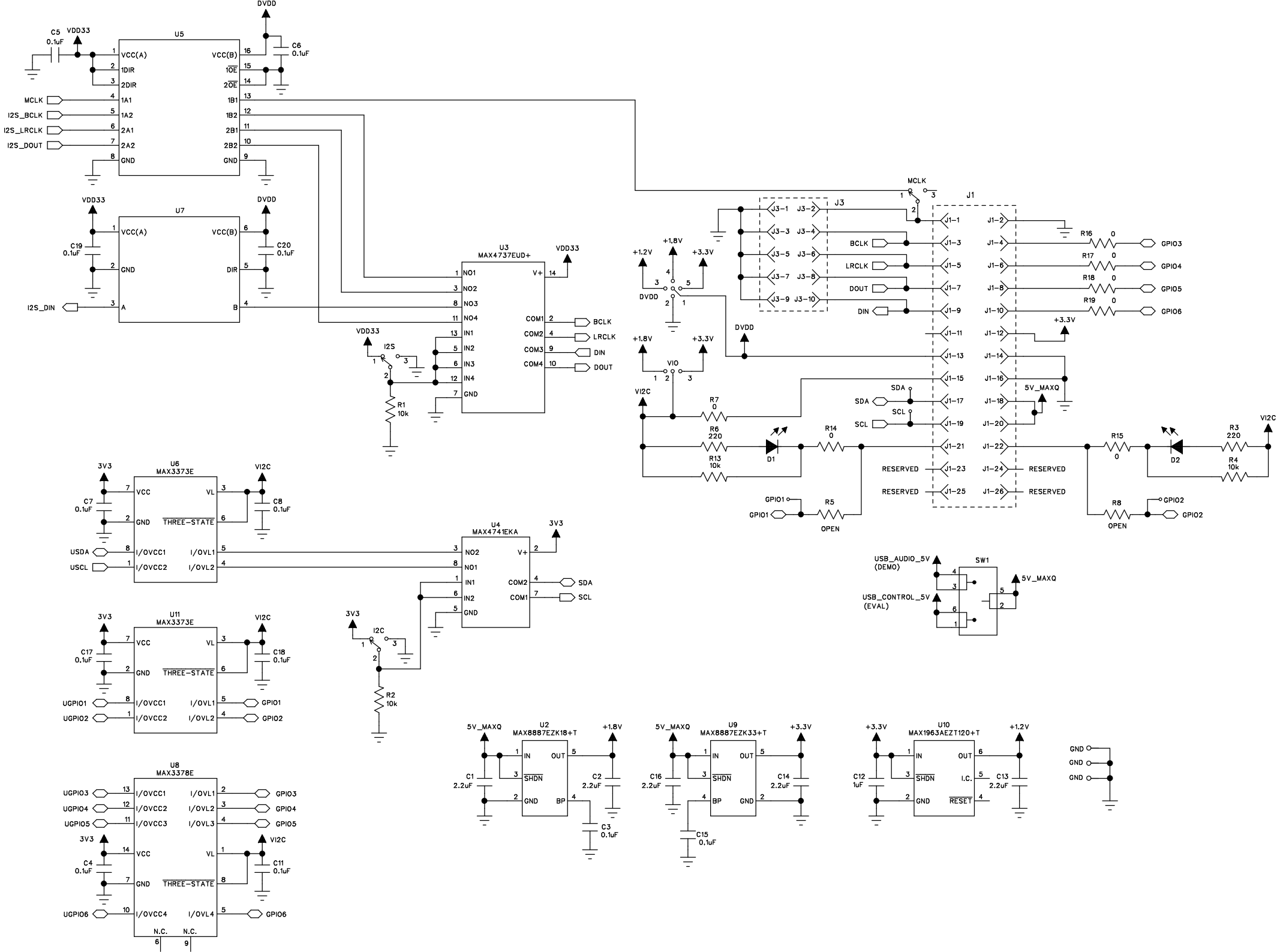
Revision History

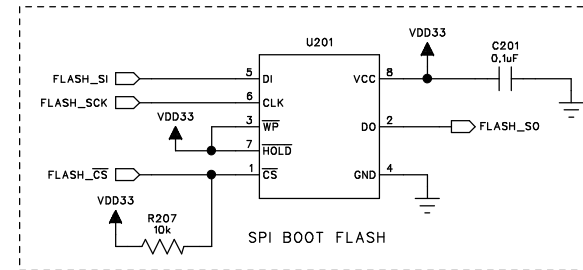
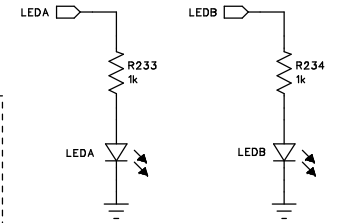
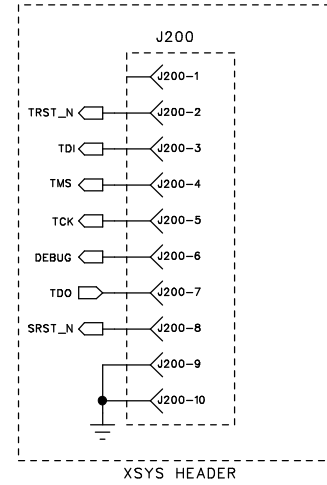
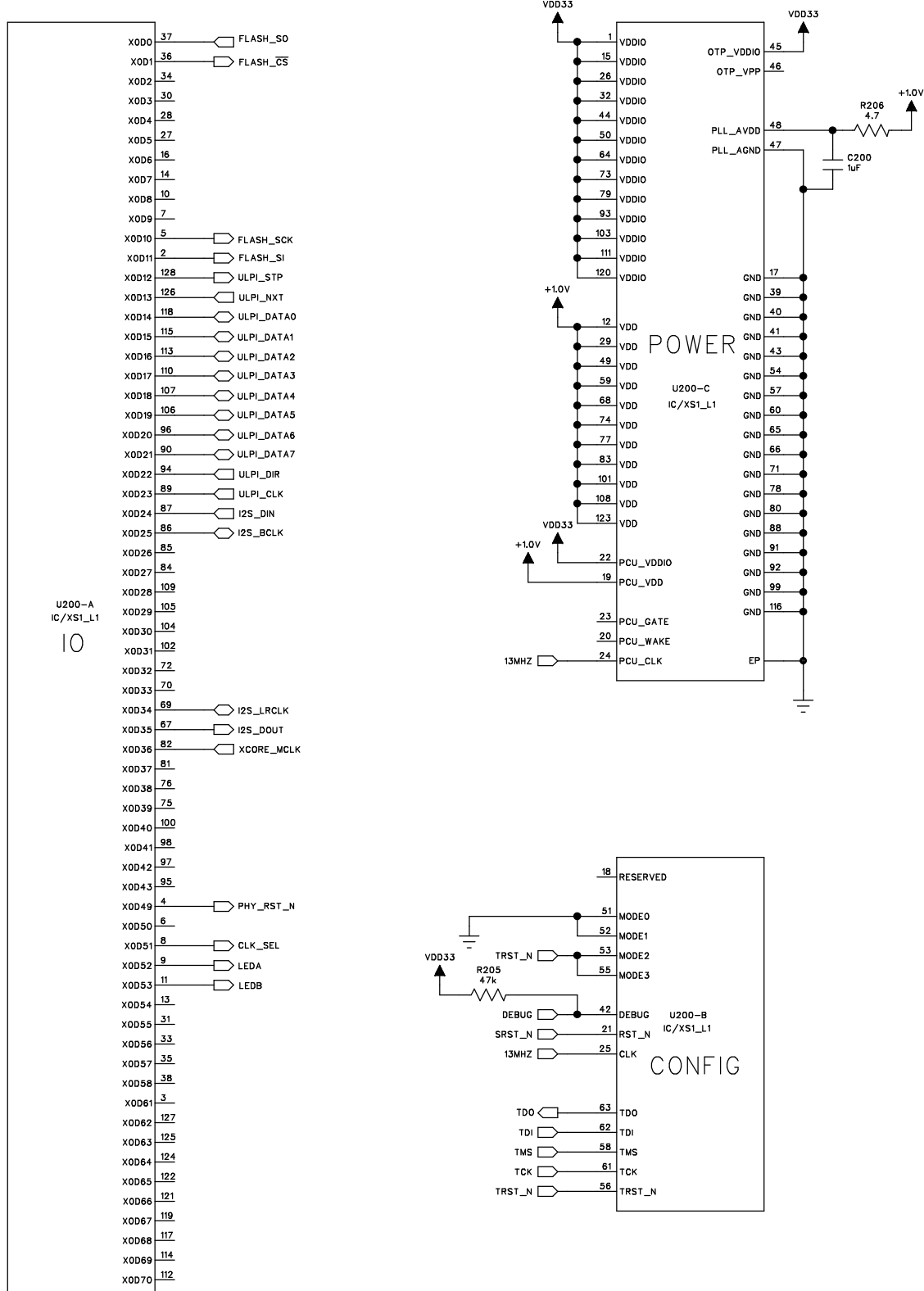
REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	8/15	Initial release	—

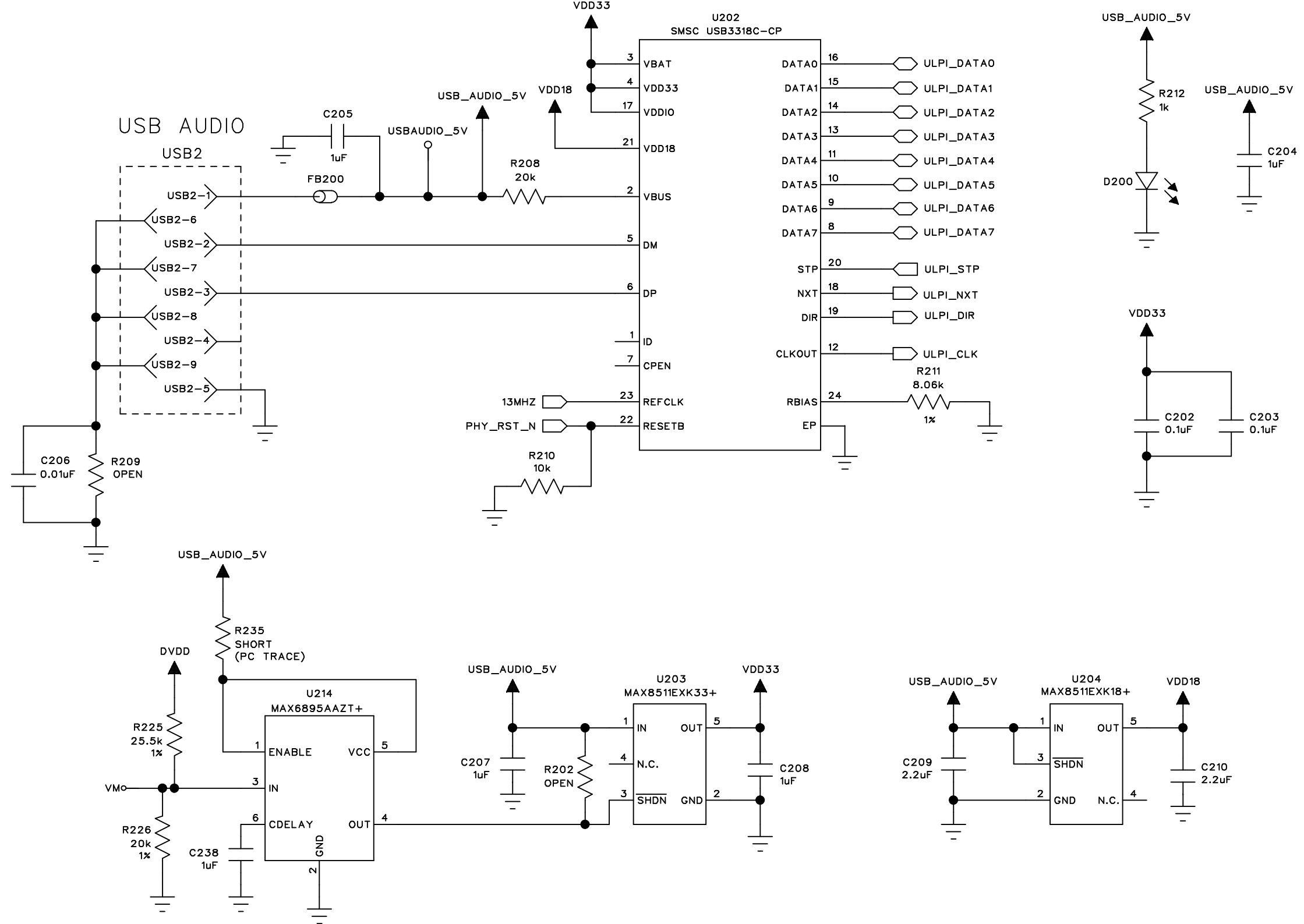
For pricing, delivery, and ordering information, please contact Maxim Direct at 1-888-629-4642, or visit Maxim Integrated's website at www.maximintegrated.com.

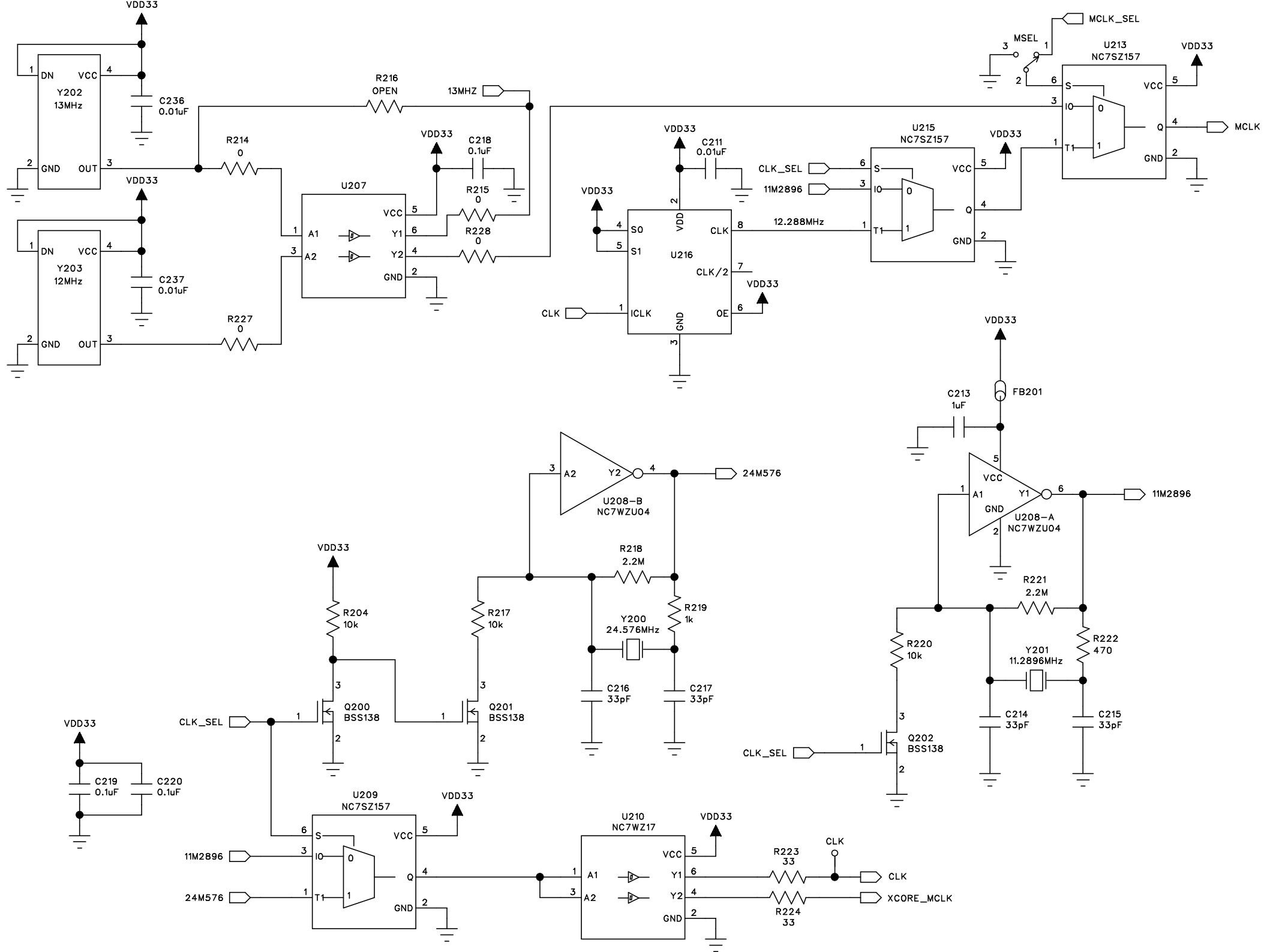
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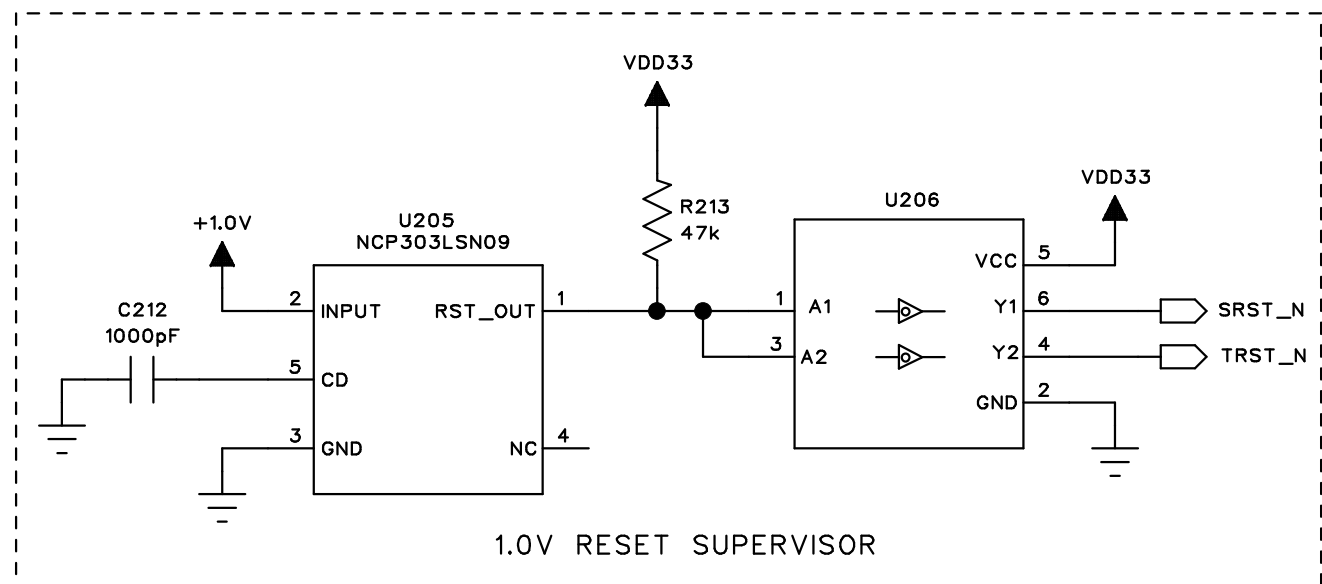
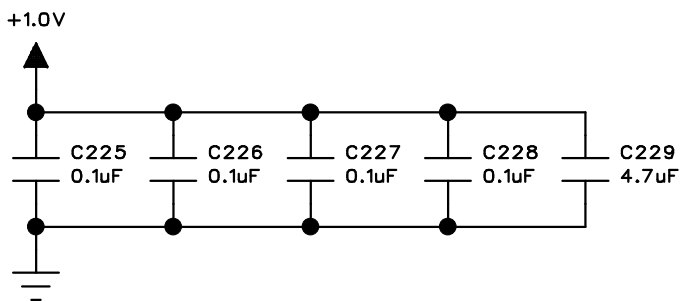
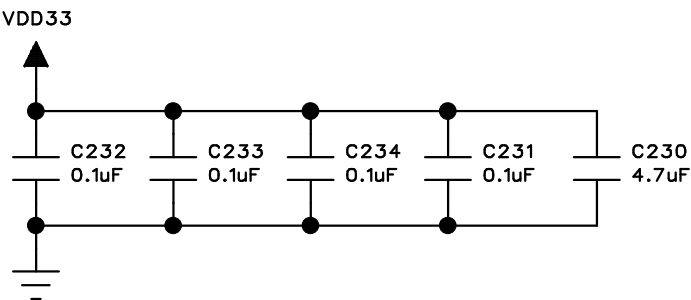
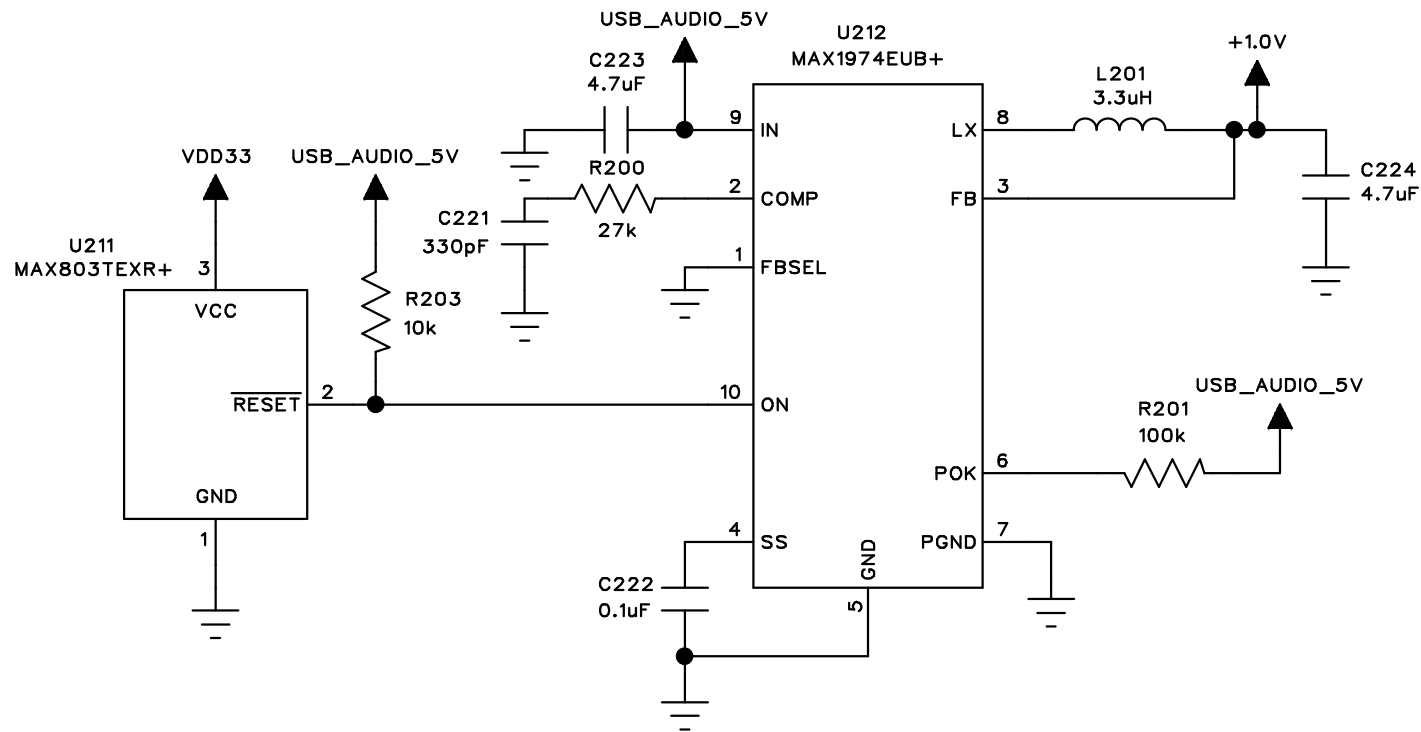
Bill of Materials (BOM) Rev 0: 8/15										
Parent	Item	Component Description	Qty	Primary Part	Alternate Part	Assembly DNI = Do Not Install	Reference Designator	Manufacturer	Manufacturer Part Number	Assembly Comments
#REF1	1	2.2uF ±10%, 6.3V X5R ceramic capacitor (0603)	7				C1, C2, C13, C14, C16, C209, C210	Murata	GRM188R60J225K	
	2	0.1uF ±10%, 16V X7R ceramic capacitor (0402)	35				C3-C8, C11, C15, C17-C20, C100, C101, C105, C107-C110, C119, C201-C203, C218-C220, C222, C225-C228, C231-C234	Murata	GRM155R71C104K	
	3	1uF ±10%, 10V X7R ceramic capacitor (0603)	5				C12, C207, C208, C213, C238	TDK	C1608X7R1A105K	
	4	8pF ±0.5pF, 50V COH ceramic capacitor (0402)	2				C102, C103	Taiyo Yuden	UMK105CH080DV	
	5	10uF ±20%, 6.3V X5R ceramic capacitor (0805)	1				C104	TDK	C2012X5R0J106M	
	6	0.033uF ±10%, 25V X7R ceramic capacitor (0603)	1				C106	Murata	GRM188R71E333K	
	7	18pF ±5%, 50V COG ceramic capacitor (0603)	2				C111, C112	TDK	C1608C0G1H180J	
	8	Capacitor (0402)	1			DNI	C113			
	9	1uF ±10%, 6.3V X5R ceramic capacitor (0402)	7				C115-C118, C200, C204, C205	TDK	C1005X5R0J105K	
	10	0.1uF ±10%, 25V X7R ceramic capacitor (0603)	1				C120	TDK	C1608X7R1E104K	
	11	0.01uF ±10%, 50V X7R ceramic capacitor (0603)	4				C206, C211, C236, C237	Murata	GRM188R71H103K	
	12	1000pF±10%, 50V X7R ceramic capacitor (0603)	1				C212	Murata	GRM188R71H102K	
	13	33pF ±5%, 50V COG ceramic capacitor (0603)	4				C214-C217	Murata	GRM1885C1H330J	
	14	330pF ±5% 50V COG ceramic capacitor (0603)	1				C221	Murata	GRM1885C1H331J	
	15	4.7uF ±10%, 10V X5R ceramic capacitor (0805)	2				C223, C224	Murata	GRM219R61A475K	
	16	4.7uF ±10%, 6.3V X5R ceramic capacitor (0603)	2				C229, C230	Murata	GRM188R60J475K	
	17	Multipurpose test point, 63mil drill (Red)	1			DNI	CLK	Keystone	5010	
	18	LED, red, 1.7V, 20mA (0603)	2				D1, D2	Stanley Electric	BR1111C-TR	
	19	LED, yellow (0603)	1				D100	Lite-On	LTST-C190YKT	
	20	LED, green (0603)	4				D101, D200, LEDA, LEDB	Lite-On	LTST-C190GKT	
	21	4-way (5-pin) header (0.1in centers)	1				DVDD	Sullins	PEC36SAAN	cut-to-fit
	22	Ferrite bead (0603)	1				FB100	Murata	BLM18PG221SN1	
	23	Ferrite bead (0603)	2				FB200, FB201	Murata	BLM18KG331SN1	
	24	Multipurpose test point, 63mil drill (Black)	3				GND (x3)	Keystone	5011	
	25	Jumper-switch, SPDT, 0.1in centers	4				I25, I2C, MCLK, MSEL	ITW Pancon	JSC416G0	
	26	26-pin (2x13) dual row receptacle, 0.1in centers	1				J1	Samtec	SSW-113-02-S-D-RA	
	27	10-pin (2x5) dual row header, 0.1in centers	1				J3	Sullins	PEC36DAAN	cut-to-fit
	28	10-pin header 0.1in centers	1				J200	Sullins	PEC36SAAN	cut-to-fit
	29	3.3uH, 1.1A power inductor	1				L201	Sumida	CDRH3D16NP-3R3NC	
	30	N-channel enhancement mode FET (SOT-23)	3				Q200-Q202	Fairchild	BSS138	
	31	10k ohms ±5% resistor (0402)	2				R1, R2			
	32	220 ohms ±5% resistor (0603)	4				R3, R6, R108, R110			
	33	10k ohms ±5% resistor (0402)	2				R4, R13			
	34	Resistor (0402)	6			DNI	R5, R8, R16-R19			
	35	0 ohms ±5% resistor (0402)	8				R7, R14, R15, R111, R214, R215, R227, R228			
	36	1.5k ohms ±5% resistor (0402)	2				R100, R101			
	37	27 ohms ±5% resistor (0603)	2				R102, R103			
	38	1.5k ohms ±5% resistor (0603)	1				R104			
	39	470 ohms ±5% resistor (0603)	2				R105, R222			
	40	Resistor (0603)	5			DNI	R106, R107, R202, R209, R216			
	41	3.3k ohms ±1% resistor (0603)	1				R109			
	42	10k ohms ±1% resistor (0603)	2				R112			
	43	15k ohms ±1% resistor (0603)	1				R113			
	44	27k ohm ±5% resistor (0603)	1				R200			
	45	100k ohm ±5% resistor (0603)	1				R201			
	46	10k ohms ±5% resistor (0603)	6				R203, R204, R207, R210, R217, R220			
	47	47k ohms ±5% resistor (0603)	2				R205, R213			
	48	4.7 ohms ±5% resistor (0603)	1				R206			
	49	20k ohms ±5% resistor (0603)	1				R208			
	50	8.06k ohms ±1% resistor (0603)	1				R211			
	51	1k ohms ±5% resistor (0603)	4				R212, R219, R233, R234			
	52	2.2M ohms ±5% resistor (0603)	2				R218, R221			
	53	33 ohm ±5% resistor (0603)	2				R223, R224			
	54	25.5k ohm ±1% resistor (0603)	1				R225			
	55	20k ohm ±1% resistor (0603)	1				R226			
	56	Resistor (0402)	1			DNI	R235		PC-SHORT	
	57	Miniature test point (Yellow)	4			DNI	SCL, SDA, GPIO1, GPIO2	Keystone	5004	
	58	DPDT, Slide Switch	1				SW1	C&K Components	SS-22D2005-G2	
	59	Tactile Switch	1				SW2	E-Switch	TL3302AF260QJ	
	60	1.8V Low Noise Linear Regulator (5 SOT23)	1				U2	MAXIM	MAX8887EZK18+	Topmark: ADPX
	61	Low-Voltage Quad SPST Analog Switches (14 TSSOP)	1				U3	MAXIM	MAX4737EUD+	
	62	Low-Voltage Dual SPST Analog Switches (8 SOT23-8)	1				U4	MAXIM	MAX4741EKA+	
	63	4-bit dual supply translating transceiver (TSSOP16)	1				U5	NXP	74AVC4T245PW	
	64	Dual Low-Voltage Level Translator (8 SOT23-8)	2				U6, U11	MAXIM	MAX3373EEKA+	
	65	Single-bit dual-supply voltage level translator (SOT363)	1				U7	NXP	74AVC1T45GW	
	66	Quad Low-Voltage Level Translator (14 TSSOP)	1				U8	MAXIM	MAX3378EEUD+	
	67	+3.3V Low-Dropout, 300mA linear regulator (SOT23)	1				U9	MAXIM	MAX8887EZK33+	
	68	+1.2V, 300mA LDO Regulator (SOT23-6)	1				U10	MAXIM	MAX1963AEZT120+	
	69	MICROCONTROLLER (56 TQFN)	1				U100	MAXIM	MAXQ2000-RBX+	
	70	USB to serial UART interface (TQFN5x5-32L)	1				U101	FTDI	FT232BQ	
	71	EEPROM, 93C46 Type 3-Wire (SOIC-8)	1			DNI	U102	Atmel	AT93C46EN-SH-B	
	72	2.5V Low Noise Linear Regulator (5 SC70)	1				U103	MAXIM	MAX8511EXK25+	Topmark: ADV
	73	3.3V Low Noise Linear Regulator (5 SC70)	2				U104, U203	MAXIM	MAX8511EXK33+	Topmark: AEI
	74	Single CMOS Switch Debouncer (4 SOT143)	1				U105	MAXIM	MAX6816EUS+	
	75	Single Low-Power uP Reset Circuit (6 uDFN)	1				U106	MAXIM	MAX6389LT31D3+	
	76	XMOS Processor (128 TQFP)	1				U200	XMOS	X51-L01A-TQ128-C5	
	77	SPI flash memory, 2Mb (SOIC-8)	1				U201	Winbond	W25X20CLSNIG	
	78	USB 2.0 Transceiver, ULPI (QFN 24)	1				U202	SMSC	USB3318C-CP	
	79	1.8V Low Noise Linear Regulator (5 SC70)	1				U204	MAXIM	MAX8511EXK18+	
	80	Voltage detector (SOT23-5)	1				U205	On Semiconductor	NCP303LSN09T1G	
	81	TinyLogic UHS dual buffer (SC70-6)	1				U206	Fairchild	NC7W207P6X	
	82	Dual logic buffer (SC70-6)	2				U207, U210	Fairchild	NC7W217P6X	
	83	Dual unbuffered inverter (SC70-6)	1				U208	Fairchild	NC7W2U04P6X	
	84	2-input multiplexer (SC70-6)	3				U209, U213, U215	Fairchild	NC7SZ157P6X	
	85	Microprocessor reset circuit (SC70-3)	1				U211	MAXIM	MAX803TEXR+	
	86	1A, Step-Down Regulator (uMAX)	1				U212	MAXIM	MAX1974EUB+	
	87	Low-power sequencing/supervisory circuit (6 SOT23)	1				U214	MAXIM	MAX6895AAZT+	
	88	Clock Divider (8-pin SOIC)	1				U216	Integrated Device Technology	ICSS42MLFT	
	89	Multipurpose test point (Red)	2				USB CONTROL 5V, USBAUDIO 5V	Keystone	5010	
	90	USB Mini AB Receptacle	2				USB1, USB2	Hirose Electric	UX60A-MB-5ST	
	91	3-pin header (0.1in centers)	1				VIO	Sullins	PEC36SAAN	
	92	Miniature test point (Red)	1			DNI	VM	Keystone	5000	
	93	6MHz crystal	1				Y100	Hong Kong X'tals	SSL60000N1HK188F0-0	
	94	CRYSTAL, 16MHz (3.2mm x 2.5mm)	1				Y101	Kyocera	CX3225SB16000D0FLJZZ	
	95	Crystal, 24.576MHz (6.0mm x 3.3mm)	1				Y200	Abracon Corp.	ABM7-24.576MHZ-D-2-Y-T	
	96	Crystal, 11.2896MHz (6.0mm x 3.3mm)	1				Y201	Abracon Corp.	ABM7-11.2896MHZ-D-2-Y-T	
	97	13Mhz Clock Oscillator (2.5mm x 2.0mm)	1				Y202	ECS Inc	ECS-2033-130-BN	
	98	12Mhz Clock Oscillator (2.5mm x 2.0mm)	1				Y203	ECS Inc	ECS-2033-120-AU	
	99	Shunt, 2 position, 0.1 center	2					Kycon	SK1100-B	See Assembly Notes Tab
	100	PCB	1				AUDIO INTERFACE BOARD 1		EPCBAUDINT1	
	101	Aluminum standoff, hex, 4-40 thread, 0.187" OD, 0.5"L	4					Keystone	2203	
	102	Machine screw, philips, 4-40, 3/8" length	4					B&F Fastener Supply	PMSSS4400038PH	
PACK-OUT	1	CABLE, USB high-speed A-to-mini B	2					Assmann Electric	AK672M/2-R	
			1							



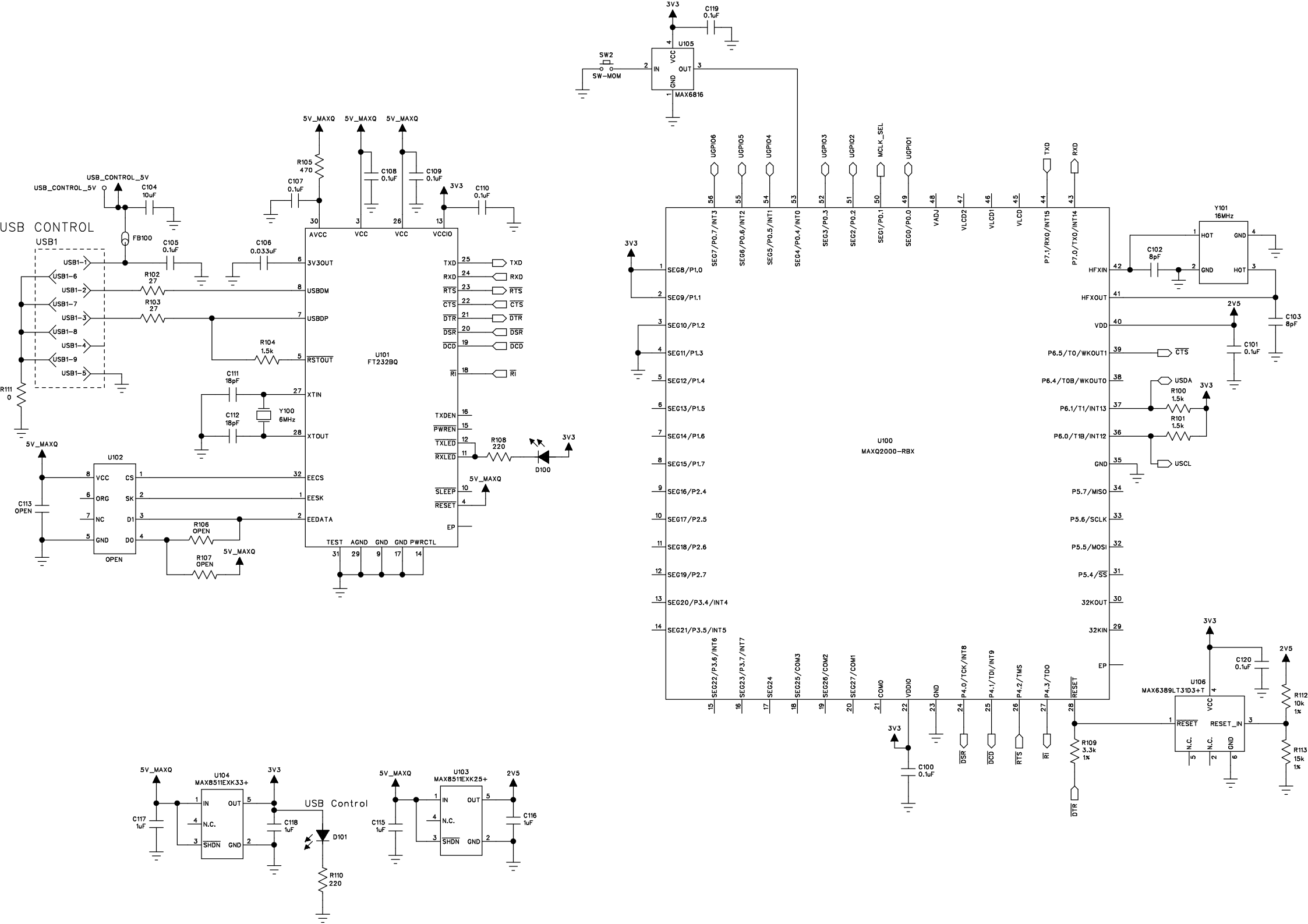




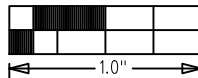
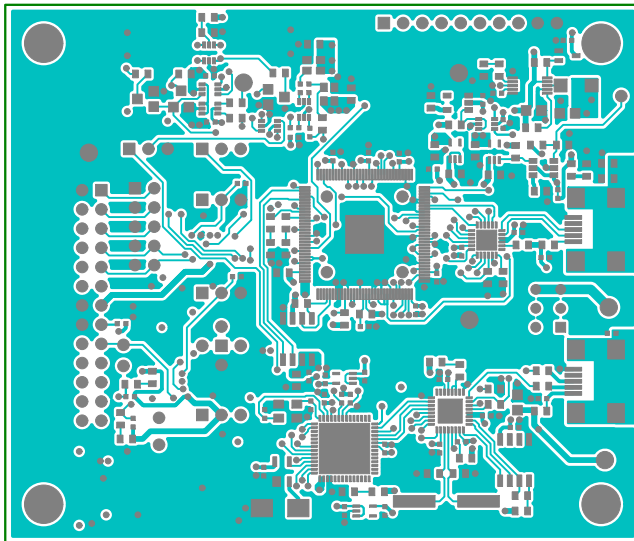




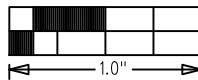
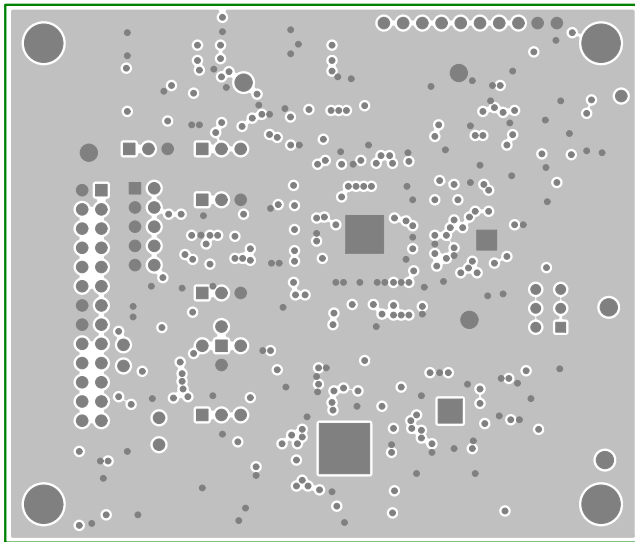
USB CONTROL



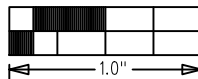
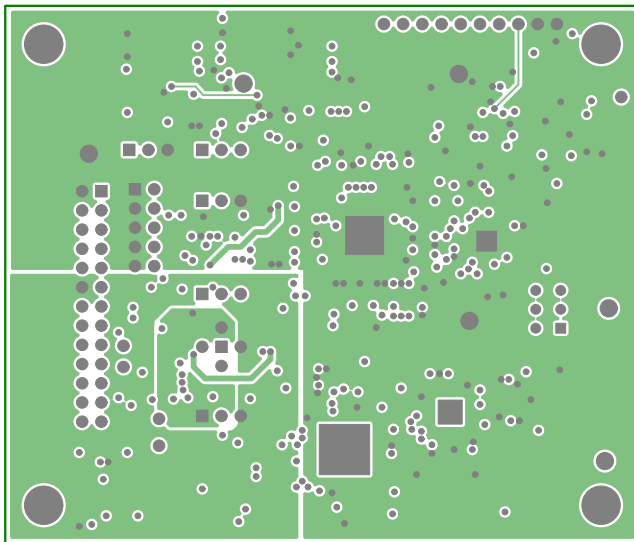
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P/N: EPCBAUDINT1	REV C
PROPERTY OF  maxim integrated™	
LAYER COMPONENT SIDE	
DATE:	ALL UNITS ARE IN 0.001"



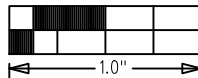
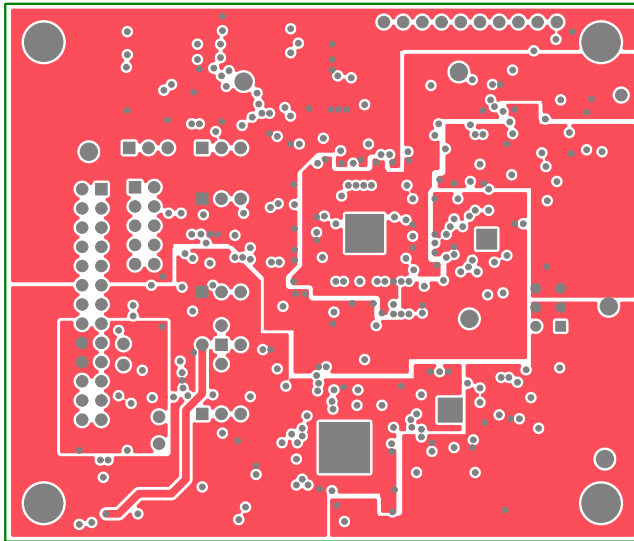
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P/N: EPCBAUDINT1	REV C
PROPERTY OF  maxim integrated™	
LAYER LAYER 2 GND	
DATE:	ALL UNITS ARE IN 0.001"



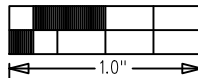
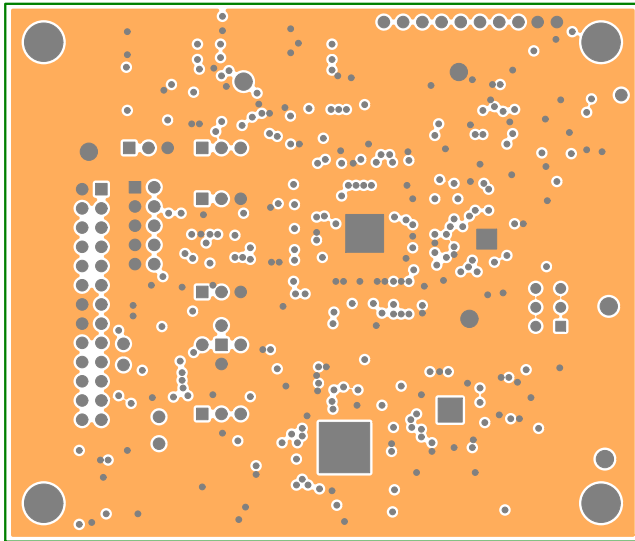
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PROPERTY OF  maxim integrated™	
LAYER LAYER 3 PWR	
DATE:	ALL UNITS ARE IN 0.001"



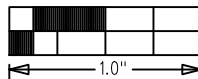
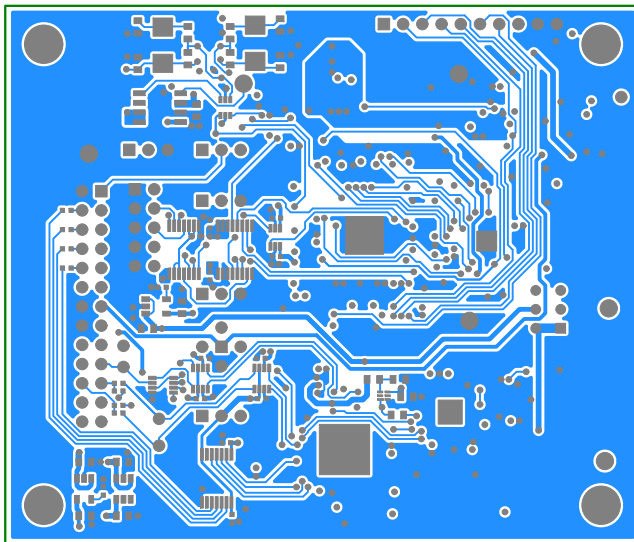
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P/N: EPCBAUDINT1	REV C
PROPERTY OF  maxim integrated™	
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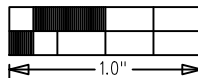
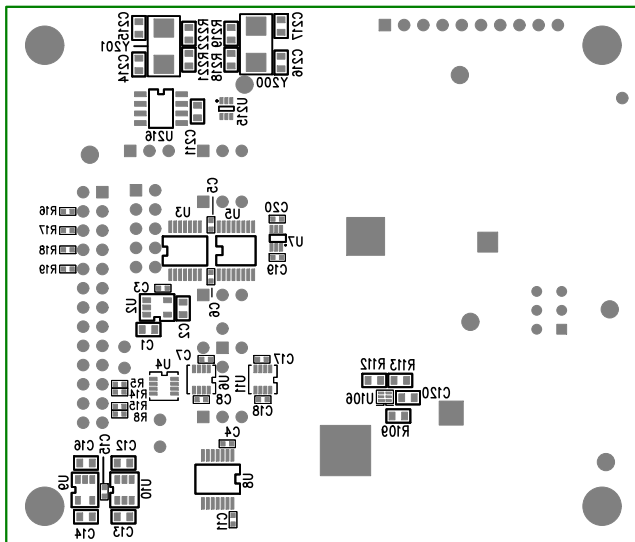
AUDIO INTERFACE BOARD 1	
P/N: EPCBAUDINT1	REV C
PROPERTY OF  maxim integrated™	
LAYER LAYER 5 GND	
DATE:	ALL UNITS ARE IN 0.001"



AUDIO INTERFACE BOARD 1	
P/N: EPCBAUDINT1	REV C
PROPERTY OF  maxim integrated™	
LAYER SOLDER SIDE	
DATE:	ALL UNITS ARE IN 0.001"



AUDIO INTERFACE BOARD 1	
P/N: EPCBAUDINT1	REV C
PROPERTY OF  maxim integrated™	
LAYER BOTTOM SILKSCREEN	
DATE:	ALL UNITS ARE IN 0.001"



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