

## MAX32520FTHR Evaluation Kit

Evaluates: MAX32520

### General Description

The MAX32520FTHR evaluation kit provides an inexpensive and convenient platform for evaluating the MAX32520 secure Arm® Cortex®-M4 processor with FPU that incorporates Maxim's patented ChipDNA™ PUF technology and other security features. The featherwing form factor and USB connectivity enable rapid prototyping and firmware development.

### EV Kit Contents

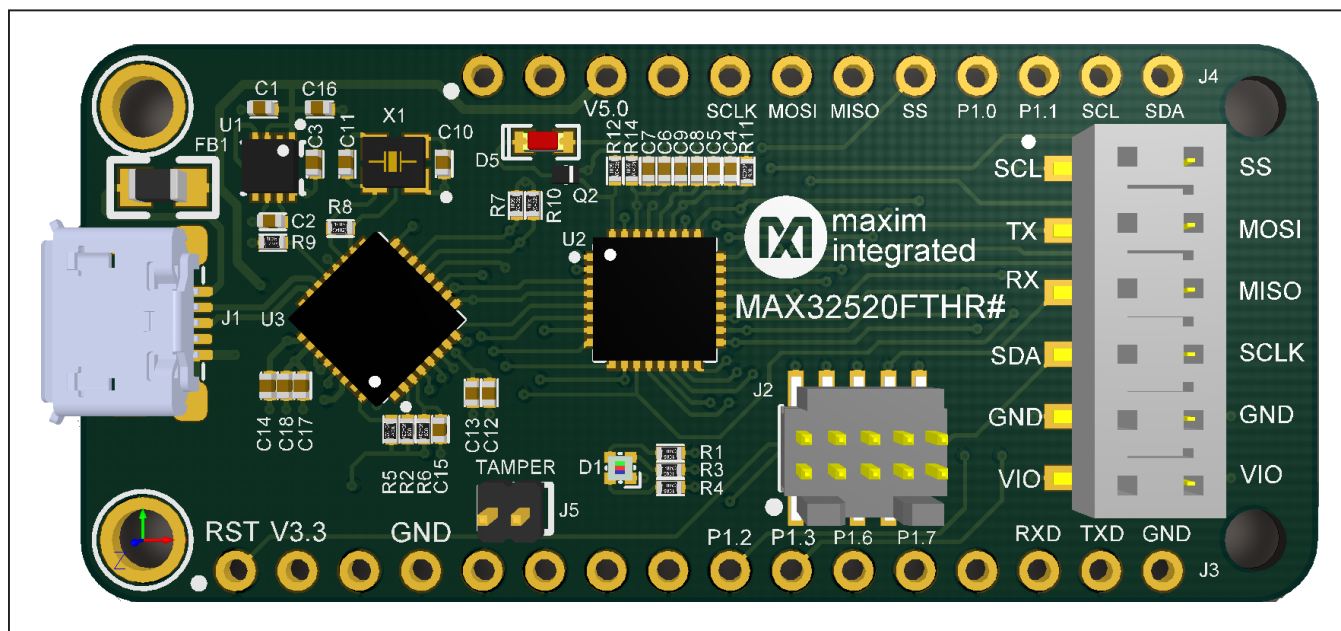
- MAX32520FTHR circuit board
- MAX326325PICO JTAG debugger/programmer
- USB cable

### Features

- Featherwing Form Factor for General Hardware Prototyping
- PMOD Connector for Interface with PMOD-Compatible Peripherals
- USB Controller for High-Speed Data Transfer with a PC Host
- SWD Port for Programming and Debugging

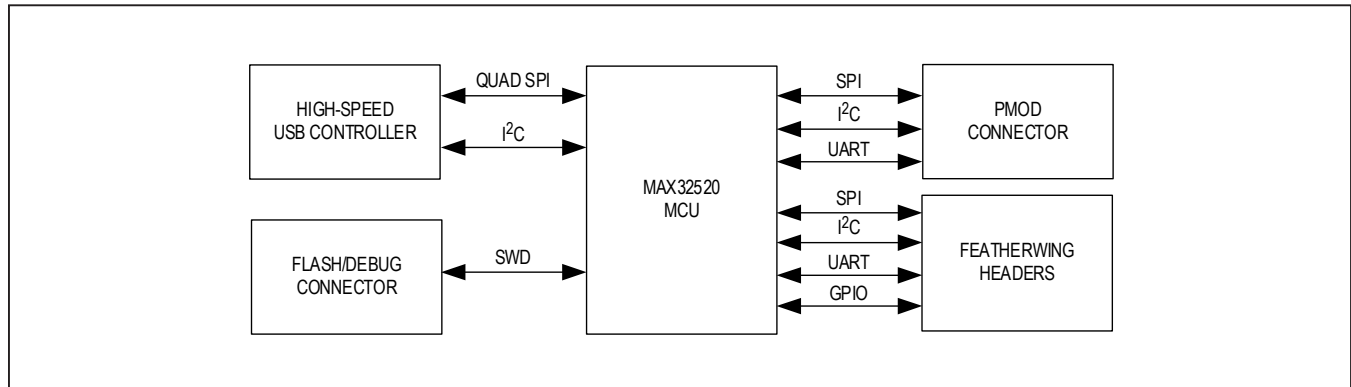
[Ordering Information](#) appears at end of data sheet.

### MAX32520FTHR EV Kit Board Top View



Arm and Cortex are registered trademarks of Arm Limited (or its subsidiaries) in the US and/or elsewhere.  
ChipDNA is a trademark of Maxim Integrated Products, Inc.

### MAX32520FTHR EV Block Diagram



### Detailed Description

The MAX32520FTHR EV kit is designed to support low-cost rapid prototyping with the MAX32520 DeepCover® ChipDNA™ secure Arm Cortex-M4 processor with FPU. For a full-featured evaluation platform, refer to the MAX32520 evaluation kit.

A quad-SPI (QSPI) bus connects the MCU to the host through a high-speed USB-to-QSPI bridge chip, the FTDI DT4222H. This facilitates easy experimentation with the high-speed QSPI and I<sup>2</sup>C busses on the MAX32520 and

support applications such as secure boot, hardware-accelerated cryptography, and secure dongle applications. The kit also features a 10-pin SWD Arm JTAG header that can be used with the included debugger, the MAX32625PICO, to flash and debug firmware.

Example firmware is available on the design resources tab of the MAX32520FTHR product page on the Maxim website. Maxim’s Low-Power Arm Micro Toolchain is required to develop and flash firmware.

### Ordering Information

PART	TYPE
MAX32520FTHR#	Evaluation Kit

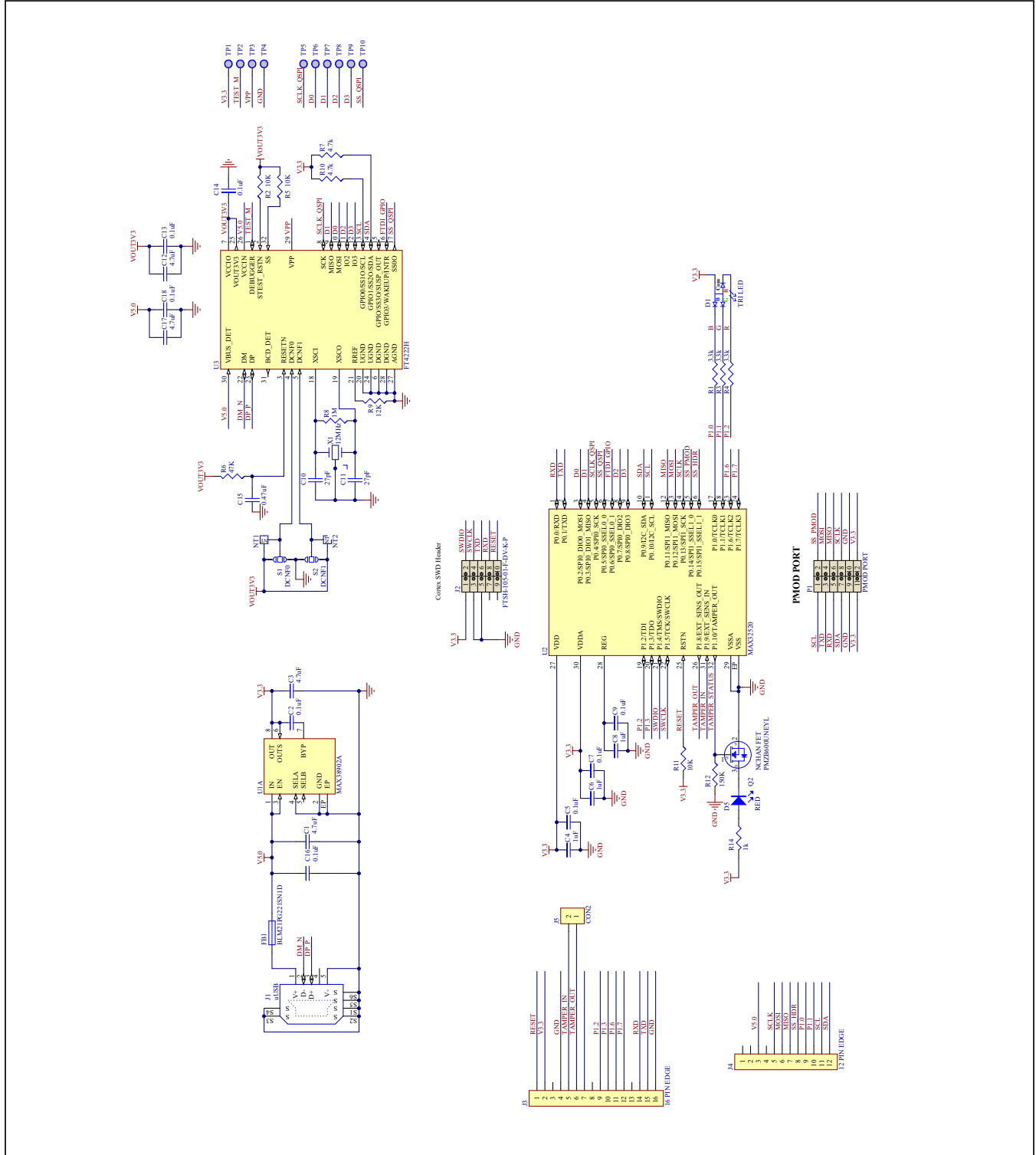
#Denotes RoHS compliance.

DeepCover is a registered trademark of Maxim Integrated Products, Inc.

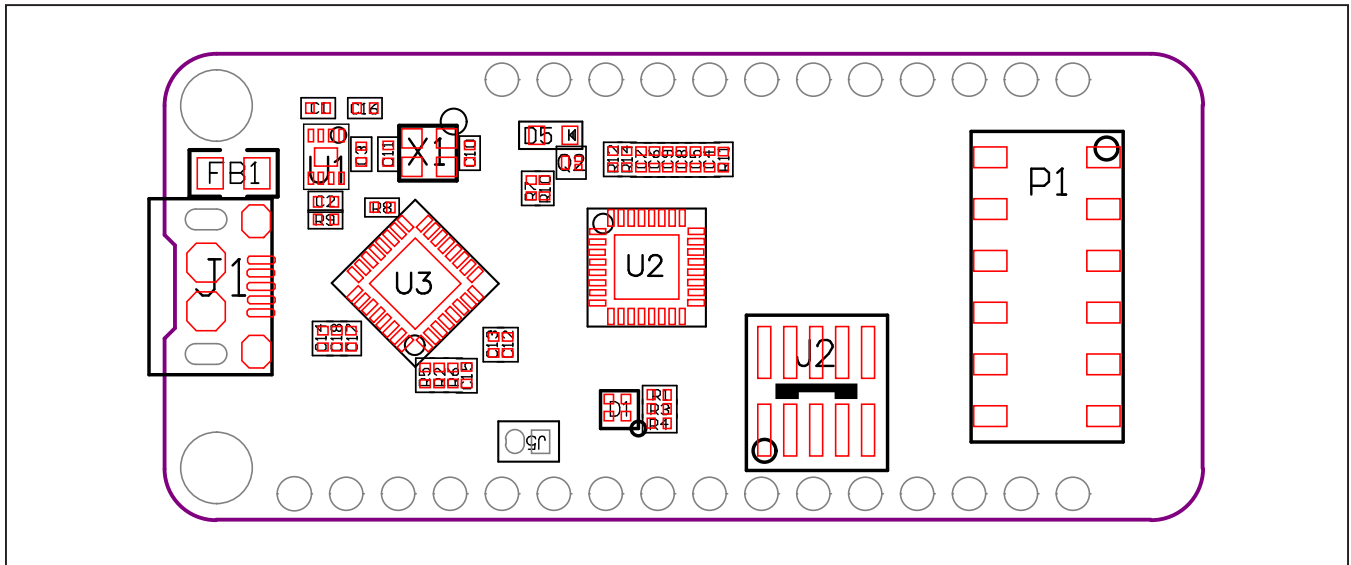
## MAX32520FTHR EV Kit Bill of Materials

REFDES	MANUFACTURER	PART NUMBER	DESCRIPTION
C1, C3, C12, C17	Murata Electronics	ZRB15XR61A475KE01D	CAP CER 4.7 $\mu$ F 10V X5R 0402
C2, C5, C7, C9, C13, C14, C16, C18	Samsung Electro-Mechanics	CL05A104KQ5NNNC	CAP+,0.1 $\mu$ F,10%,6.3V,X5R,0402
C4, C6, C8	Samsung Electro-Mechanics	CL05A105KQ5NNNC	CAP CER 1 $\mu$ F 6.3V X5R 0402
C10, C11	Murata Electronics	GRM1555C1H270JA01D	CAP CER 27PF 50V C0G/NP0 0402
C15	TDK Corporation	C1005X5R1E474K050BE	CAP CER 0.47 $\mu$ F 25V X5R 0402
D1	Lumex Opto/Components Inc.	SML-LX0404SIUPGUSB	LED RGB CLEAR 0404 SMD
D5	OSRAM Opto Semiconductors	LS L29K-G1J2-1-Z	SMD Super Red, 630nm 17mcd, 2mA
FB1	Murata Electronics North America	BLM21PG221SN1D	FERRITE CHIP 220 $\Omega$ 0805
J1	FCI	10118193-0001LF	CONN USB MICRO B RECPT SMT R/A
J2	Samtec Inc	FTSH-105-01-F-DV-K-P	CONN HEADER 10POS DUAL .05" SMD
J5	Sullins Connector Solutions	GRP021VWVN-RC	CONN HEADER VERT 2POS 1.27MM
P1	Samtec Inc.	HLE-106-02-F-DV-BE-K-TR	.100 TIGER BEAM SOCKET ASSEMBLY
Q2	Nexperia USA Inc.	PMZB600UNEYL	MOSFET N-CH 20V XQFN3
R1, R3, R4	Panasonic Electronic Components	ERJ-2RKF3301X	RES SMD 3.3K $\Omega$ 1% 1/10W 0402
R2, R5, R7, R10, R11	Panasonic Electronic Components	ERJ-2RKF1002X	RES SMD 10K $\Omega$ 1% 1/10W 0402
R7, R10	Stackpole Electronics Inc	RMCF0402FT4K70	RES 4.7K $\Omega$ 1% 1/16W 0402
R12	TE Connectivity Passive Product	CRGCQ0402F150K	RES 150k $\Omega$ 1% 0402
R6	Yageo	RC0402FR-0747KL	RES SMD 47K $\Omega$ 1% 1/16W 0402
R8	Yageo	RC0402FR-071ML	RES SMD 1M $\Omega$ 1% 1/16W 0402
R9	TE Connectivity Passive Product	CRGCQ0402F12K	CRGCQ 0402 12K 1%
R14	Yageo	RC0402FR-071KL	RES SMD 1K $\Omega$ 1% 1/16W 0402
U1	Maxim Integrated	MAX38902AATA+	12 $\mu$ VRMS Low Noise 500mALDO Linear Regulator
U2	Maxim Integrated	MAX32520-BNJ+	ChipDNA Secure Arm CortexM4 Microcontroller
U3	FTDI	FT4222HQ-D-R	USB to QuadSPI/I2C Bridge
X1	Diodes Incorporated	FH1200001	CRYSTAL 12MHZ 20PF SMD
R12	TE Connectivity Passive Product	CRGCQ0402F150K	RES 150k $\Omega$ 1% 0402

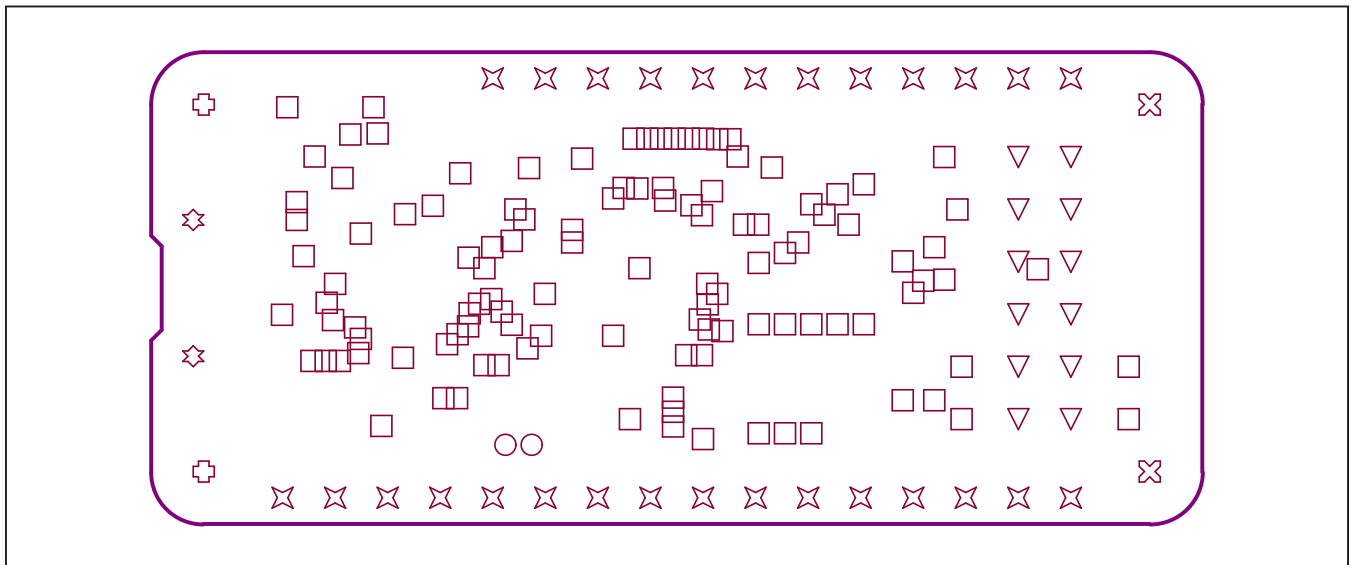
MAX32520FTHR EV Kit Schematic Diagram



MAX32520FTHR EV Kit PCB Layout

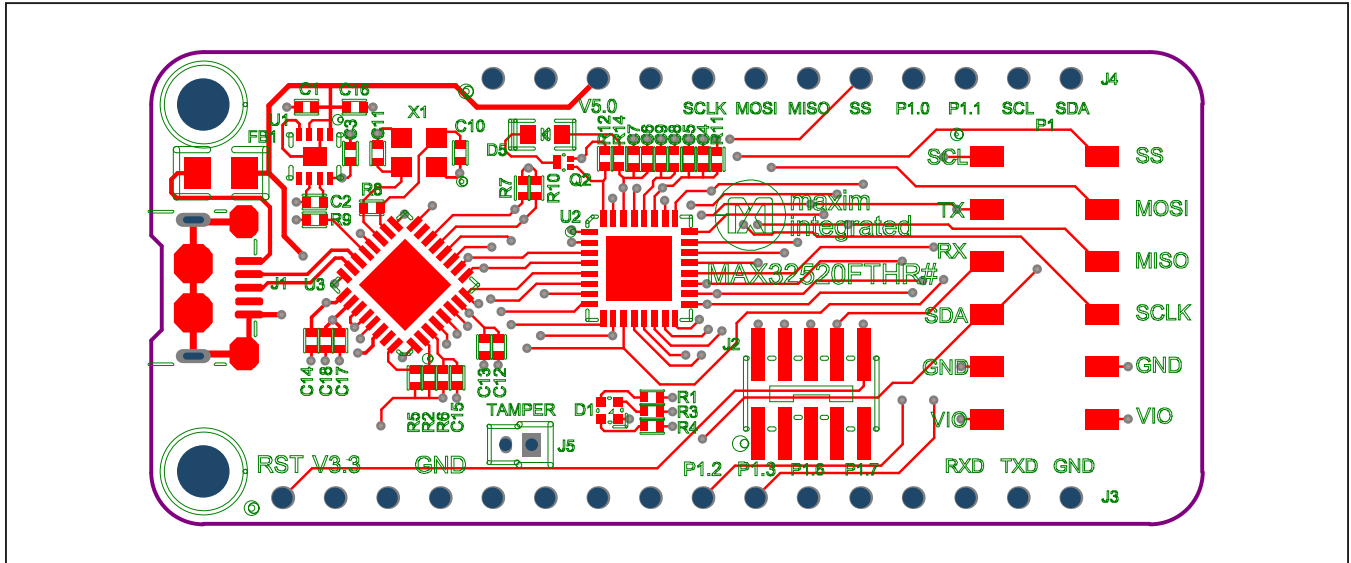


MAX32520FTHR PCB Layout—Top View

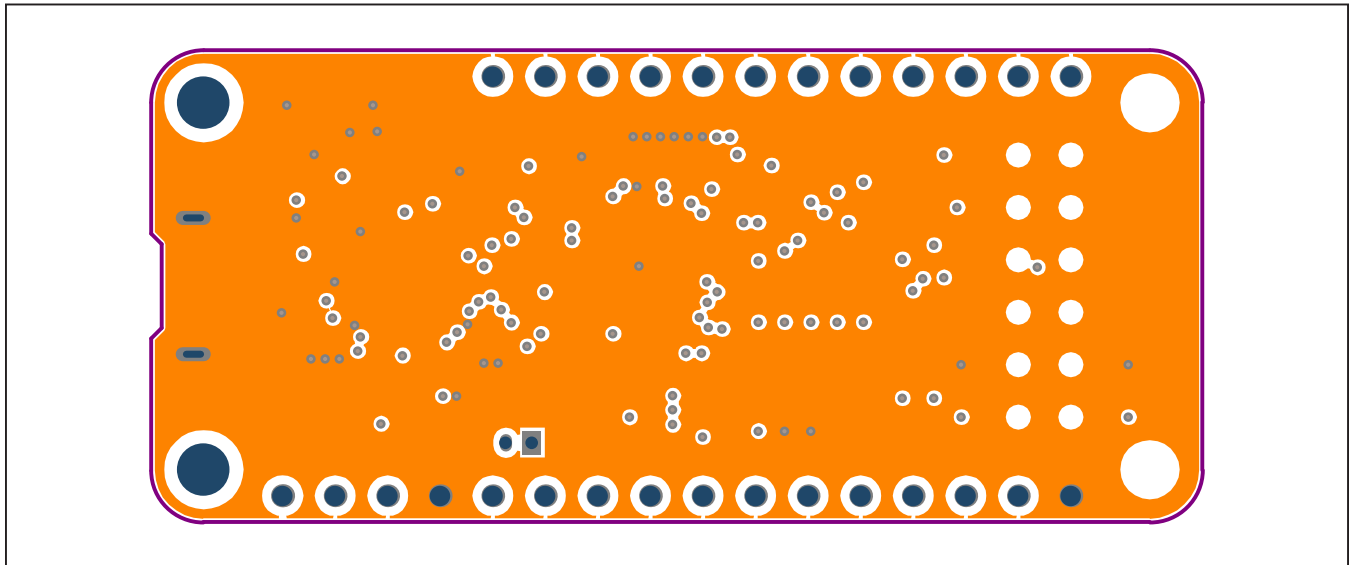


MAX32520FTHR PCB Layout—Board Outline

MAX32520FTHR EV Kit PCB Layout (continued)

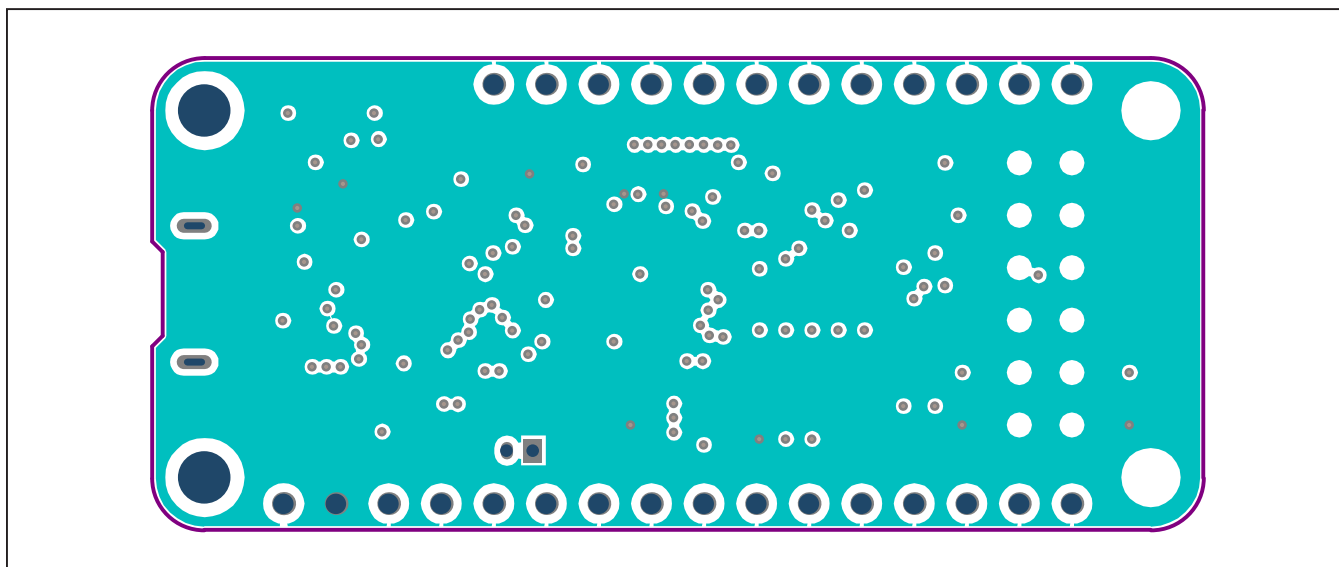


MAX32520FTHR PCB Layout—Top Silkscreen



MAX32520FTHR PCB Layout—Ground Plane

MAX32520FTHR EV Kit PCB Layout (continued)



MAX32520FTHR PCB Layout—Power Plane