Click here for production status of specific part numbers.

MAX9979 Evaluation Kit

Evaluates: MAX9979

General Description

The MAX9979 evaluation kit (EV kit) is a fully assembled and tested PCB that evaluates the MAX9979 dual-channel pin electronic driver, comparator, load, and PMU with integrated level-setting DACs. It includes SMA connections for the high-speed digital I/Os and the MAX9979 pin driver outputs. It is connected to the computer through the universal serial bus (USB) port. It also includes Windows® 10-compatible software that provides a simple graphical user interface (GUI) for exercising the features of the MAX9979.

Ordering Information

PART	TYPE
MAX9979EVKIT#	EV Kit

#Denotes RoHS compliance.

Windows is a registered trademark and registered service mark of Microsoft Corporation.

Features

- High Speed: 1.1Gbps at $1V_{P-P}$
- Extremely Low Power Dissipation: 1.2W/Channel (Active Load Disabled)
- Wide Voltage Range: -1.5V to +6.5V and Up to 13V VHH
- Low-Leak Mode: 10nA (max)
- Integrated 16–Bit, Level-Setting DACs
- Programmable Cable-Droop Compensation
- Programmable Driver Output Impedance
- Programmable Slew-Rate Control for Driver Output
- Integrated Voltage Clamps
- Integrated 20mA Active Load
- Integrated Per-Pin PMU
- Heatsink Included for Safe Operation
- Windows 10 Compatible
- USB-PC Connection (Cable Included)
- Lead (Pb)-Free and RoHS Compliant
- Proven PCB Layout
- Fully Assembled and Tested

Component List

DESIGNATION	QTY	DESCRIPTION
C1–C7, C9–C14, C16, C17, C18	16	10nF ±10%, 25V X7R ceramic capacitors (0402) Murata GRM155R71E103K
C19	1	10µF ±10%, 25V X5R ceramic capacitor (1206) Murata GRM31CR61E106K
C20, C23, C24, C27, C28, C30, C31	7	0.1µF ±10%, 25V X7R ceramic capacitors (0603) Murata GRM188R71E104K
C21, C22, C25, C26, C29	5	1µF ±10%, 25V X7R ceramic capacitors (0805) Murata GRM21BR71E105K
C43, C54, C56	3	10µF ±20%, 16V X5R ceramic capacitors (1206) Murata GRM31CR61C106M
C44, C45	2	22pF ±5%, 50V C0G ceramic capacitors (0603) Murata GRM1885C1H220J
C46	1	0.033µF ±10%, 16V X5R ceramic capacitor (0603) Taiyo Yuden EMK107BJ333KA
C47–C52, C59, C60	8	0.1µF ±10%, 16V X7R ceramic capacitors (0603) Murata GRM188R71C104K
C53, C55, C61–C72	14	1µF ±10%, 16V X5R ceramic capacitors (0603) Murata GRM188R61C105K
C57, C58	2	10pF ±5%, 50V C0G ceramic capacitors (0603) Murata GRM1885C1H100J

maxim integrated™

Component List (continued)

DESIGNATION	QTY	DESCRIPTION
D1	1	Red LED (0603) Panasonic LNJ208RARA
J1–J18	18	SMA connectors
J19, J20	2	75Ω BNC female jacks
J21	1	Dual-row (2 x 12) 24-pin header
J22, J23, J24	3	Banana jacks, uninsulated panel jacks
J31	1	USB type-B, right-angle PC-mount receptacle
JU1–JU12	12	3-pin headers
JU14–JU22	9	2-pin headers
L1	1	Ferrite bead TDK MMZ1608R301A (0603)
L7, L8	2	10µH ±10%, 340mΩ inductors (1210) Panasonic ELJ-EA100KF
R1	1	100Ω SMT cermet trimmer
R2	1	220Ω ±5% resistor (0603)
R3–R7	5	1kΩ ±5% resistors (0603)
R9	1	0Ω ±5% resistor (0603)
R10, R11	2	27Ω ±5% resistors (0603)
R12	1	1.5kΩ ±5% resistor (0603)
R13	1	470Ω ±5% resistor (0603)
R14	1	2.2kΩ ±5% resistor (0603)
R15	1	10kΩ ±5% resistor (0603)
R16	1	169kΩ ±1% resistor (0603)
R17	1	100kΩ ±1% resistor (0603)
R18–R22	0	Not installed, resistors—short (PC trace) (0603)
R23	1	500Ω SMT cermet trimmer
R24, R28, R30	3	243Ω ±1% resistors (0603)
R25	1	147Ω ±1% resistor (0603)
R26	1	301Ω ±1% resistor (0603)
R27	1	475Ω ±1% resistor (0603)
R29	1	301Ω ±1% resistor (0603)
R31	1	1.5kΩ ±1% resistor (0603)
TP1–TP23	23	Test points
U1	1	Dual PEIC with PMU (68 TQFN-EP-IDP*) Maxim MAX9979KCTK+
U2	1	2.5V voltage reference (8 SO) Maxim MAX6126AASA25+
U3	1	LDO regulator (5 SC70) Maxim MAX8511EXK25+T
U4	1	UART-to-USB converter (32 TQFP)
U5	1	93C46 type 3-wire EEPROM 16-bit architecture (8 SO)
U6	1	Microcontroller (68 QFN-EP**) Maxim MAXQ2000-RAX+
U7	1	Adjustable output LDO regulator (5 SC70) Maxim MAX8512EXK+T
U8–U13	6	Level translator (10 µMAX®) Maxim MAX1840EUB+
U14, U15, U16	3	LDOs (TO-263)
Y1	1	16MHz crystal (HCM49) Hong Kong X'tals SSM1600000E18FAF
Y2	1	6MHz crystal (HCM49) Hong Kong X'tals SSL6000000E18FAF
Y3	0	Not installed, crystal
—	1	Heat pad
—	1	Heatsink
—	21	Shunts
—	1	PCB: MAX9979 Evaluation Kit+

**EP-IDP = Exposed pad, inverted die pad.*
***EP = Exposed pad.*
µMAX is a registered trademark of Maxim Integrated Products, Inc.

Quick Start

Required Equipment

Before beginning, the following equipment is needed:

- MAX9979 EV kit (USB cable included)
- A user-supplied Windows 10 compatible PC with a spare USB port
- +17.5V/0.5A DC power supply (VHH)
- -4.75V/0.5A DC power supply (VEE)
- Differential output pulse generator
- High-speed oscilloscope
- Digital multimeter

Note: In the following sections, software-related items are identified by bolding. Text in **bold** refers to items directly from the EV kit software.

Procedure

The MAX9979 EV kit is fully assembled and tested. Follow the steps below to verify board operation. **Caution: Do not turn on the power supplies until all connections are completed.**

1) Visit **www.maximintegrated.com/evkitsoftware** to download the latest version of the EV kit software, MAX9979EVKIT Software. Save the EV kit software to a temporary folder.
2) Connect the EV kit to computer using USB cable.
3) Install the EV kit software on your computer by running the MAX9979 EVKit Setup.exe program inside the temporary folder. The program files are copied and icons are created in the Windows.
4) Make sure the shunts of all jumpers are in the default positions, as shown in Table 2 and Table 3.
5) Verify that the heatsink is installed and flush on the top of the MAX9979 IC.
6) Verify the correct polarity, voltage, and current limit of all power supplies. Ensure all power supplies are disabled.
7) Set the differential pulse generator to output ±100mV centered at +1.2V common-mode voltage. Ensure that the outputs are disabled (high impedance). Set the pulse frequency to 20MHz, 50% duty cycle.
8) Connect the power supplies to the banana jacks of the MAX9979 EV kit. Connect all power-supply grounds to a single ground terminal.
9) Connect the digital multimeter positive input to TP10, and the negative input to ground. Ensure that the multimeter is in DC-voltage measurement mode, either on auto range or a fixed range greater than 5V.
10) Connect the differential pulse generator to the DATA0 and NDATA0 SMA connectors on the MAX9979 EV kit with SMA cables of equal length.
11) Set the RCV0/NRCV0 to a differential logic-low (i.e., $V_{RCV0} < V_{NRCV0}$) to disable the high-impedance output mode.
12) Connect the DUT0 SMA connector of the MAX9979 EV kit with a short SMA cable to the high-speed oscilloscope. Set the scope input impedance to 50Ω.
13) Turn on the power supplies in the following order: VHH, VEE.
14) Enable the differential pulse generator.
15) Connect the USB cable from the PC to the EV kit board.
16) Start the MAX9979 EV kit software by double clicking the icon on the desktop. The EV kit software main window appears, as shown in Figure 1.
17) Put the EV kit into drive mode by clicking the **Quick Start** on the menu bar of the GUI, as shown in Figure 2. This is a quick start option and places both channel 0 and channel 1 into the drive-high mode. In this mode, VDH is set to 3V and VDL to 0V for both channels.
18) TP10 monitors the MAX9979 junction temperature. Verify that the multimeter does not read higher than +4.2V (T_J < +150°C).
19) Set the oscilloscope to 50Ω input-impedance mode.
20) Set the oscilloscope to trigger on the DUT0 channel, with the trigger level set to 0.5V. Set the time base to 20ns per division. A 0 to 3V square wave of 20MHz should appear on the oscilloscope.

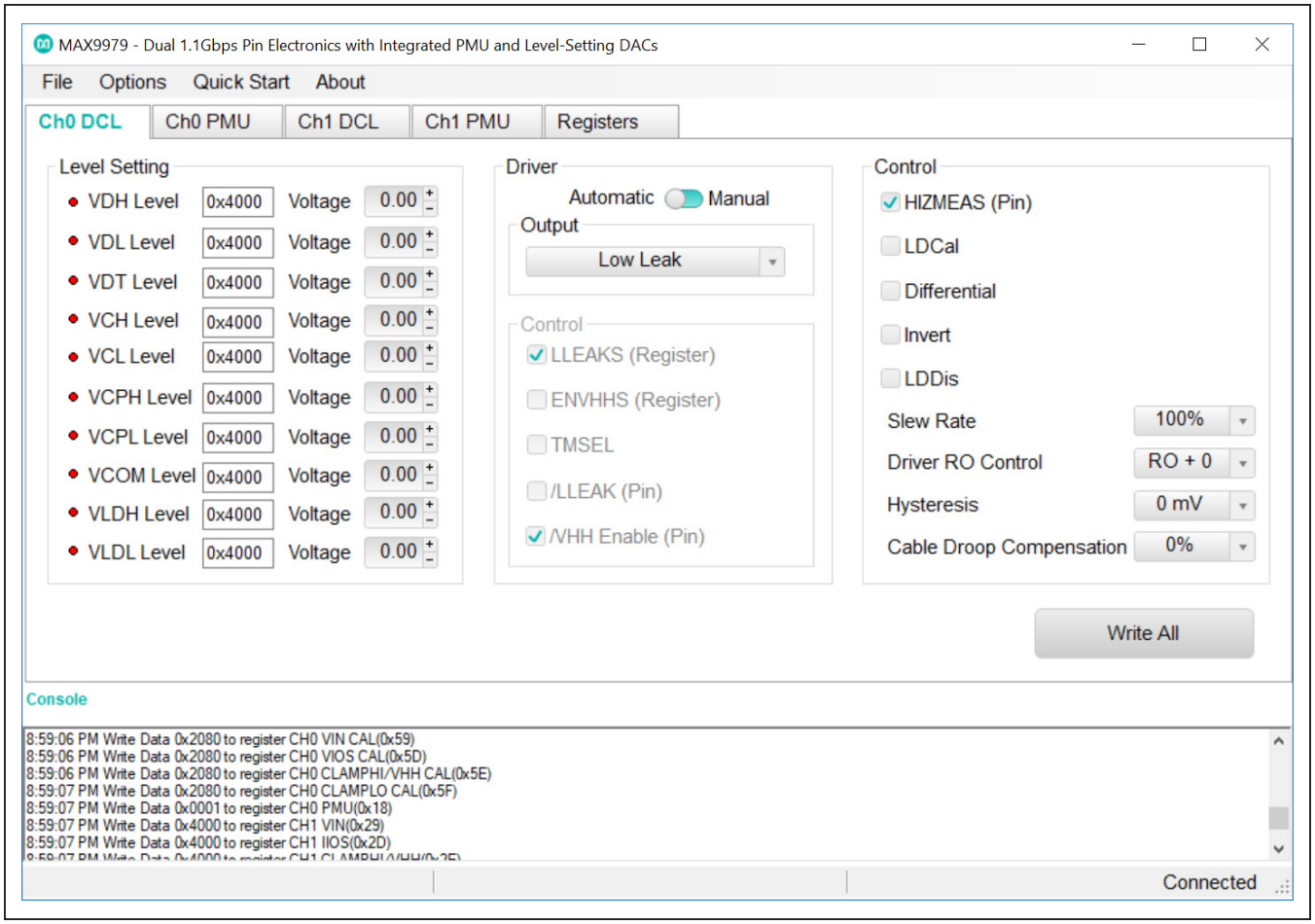


Figure 1. MAX9979 EV Kit Software Main Window (Ch0 DCL Tab)

Detailed Description of Software

User-Interface Panel

The GUI is organized into five-tab sheets for all level, register, and control signal settings, plus the **File** menu to save and load all these settings. There are identical DCL and PMU tab sheets for channels 0 and 1, respectively. **Registers** tab consists of all the user registers in the MAX9979.

Driver/Comparator/Load (DCL) Settings

Ch0 DCL and **Ch1 DCL** tab sheets (Figure 1 and Figure 3) are identical and are for channels 0 and 1, respectively. These tab sheets contain **Level Setting**, **Driver**, and **Control** group boxes. Click on **Write All** button to load the data into the MAX9979 through SPI interface.

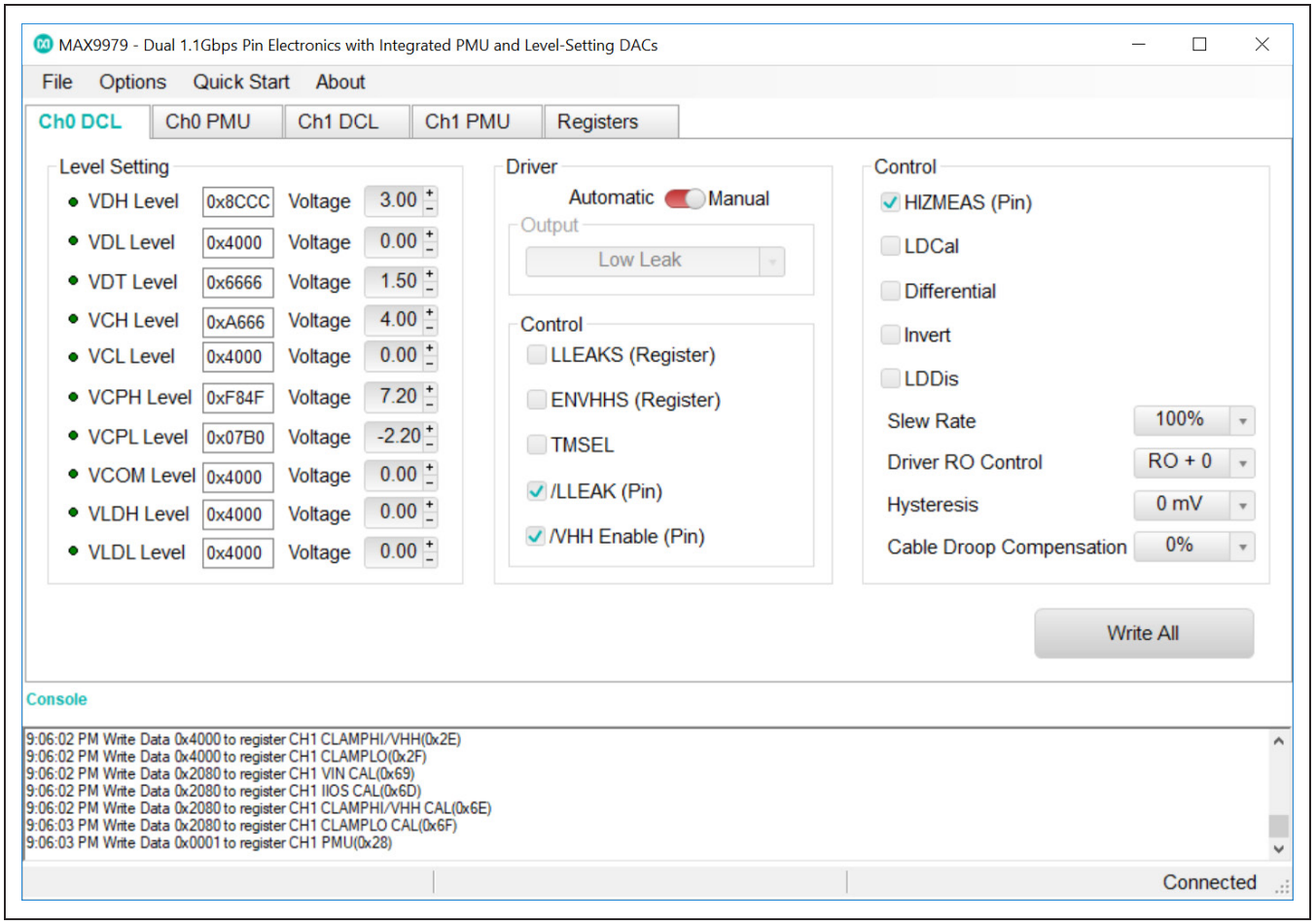


Figure 2. Quickstart Setup—Drive High Mode for Channels 0 and 1

Level Setting DACs

The **Level Setting** group box contains registers for signal level for **VDH**, **VDL**, **VDT**, **VCH**, **VCL**, **VCPH**, **VCPL**, **VCOM**, **VLDH**, and **VLDL** level settings. Each voltage level can be set by entering value either in Voltage box or hexadecimal box. Finer adjustment can be made by clicking on the +/- sign of the **Voltage** box, which has 65,536 steps corresponding to 16 bits. The value can also be typed into the edit boxes inside the **Voltage** group box. Click on **Write All** to load the data into the MAX9979. For all DACs, the calibration window is available in the **Options** menu. Select **Change Calibration (Advance Users)**. The offset code is an integer value between 0 and 255, and the gain code is an integer value between 0 and 63, as shown in Figure 6.

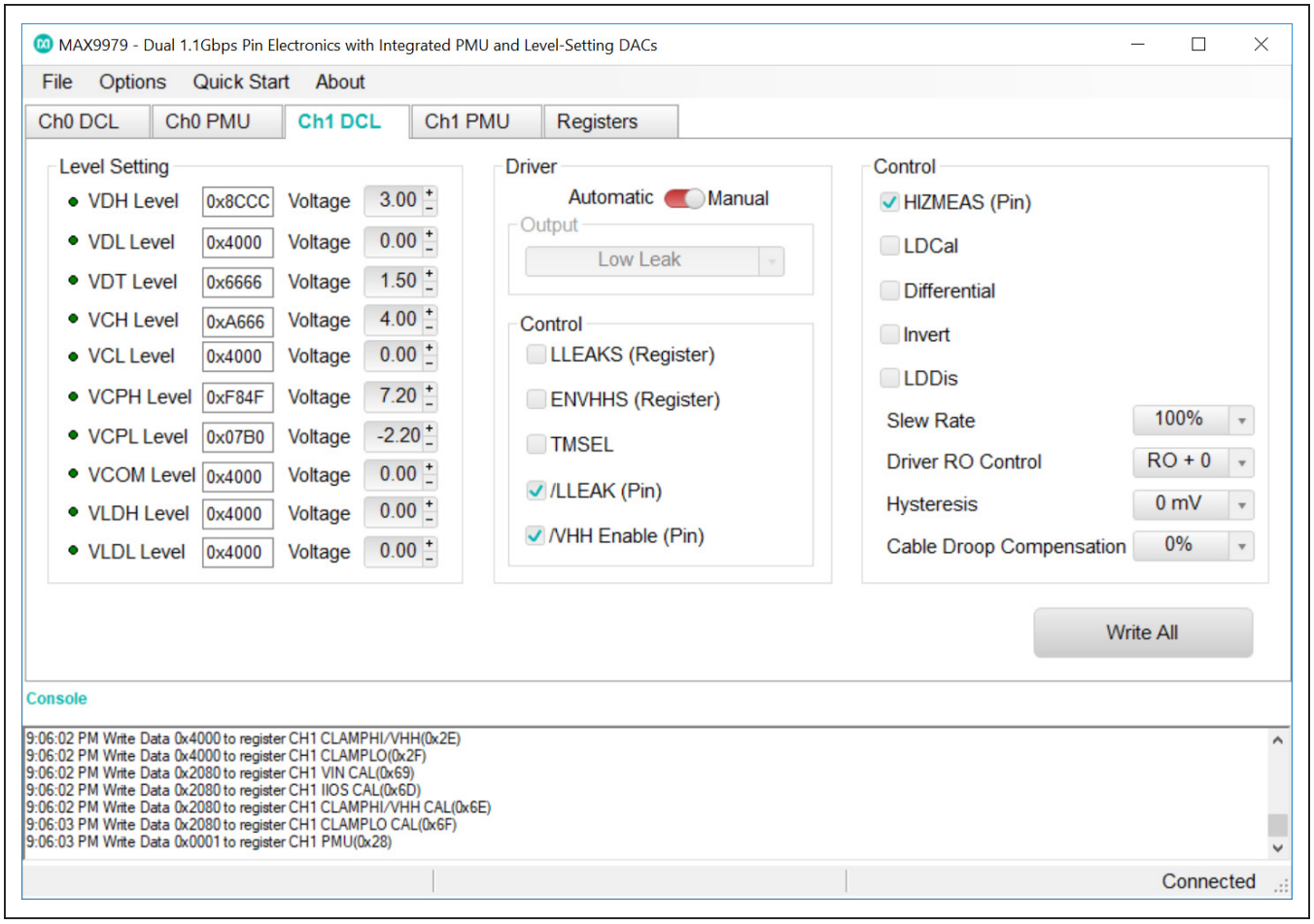


Figure 3. MAX9979 EV Kit Software Main Window (Ch1 DCL Tab)

Driver and Control Settings

Driver and Control group boxes are combination of Driver, Slew Rate Control, Cable Droop Compensation, Comparator Hysteresis, Adjustable Output Impedance and Load Control Settings. Driver output is chosen either automatically or manually by the slide bar in the **Driver** group box. In automatic mode, Driver output is selected from the **Output** drop-down box. In manual mode, Driver output is selected based on the control group box settings. Adjustable Driver Output Resistance is controlled by the **Driver RO Control** drop-down box. Driver output slew rate and CDRP is controlled by the **Slew Rate** and the **Cable Droop Compensation** drop-down boxes respectively.

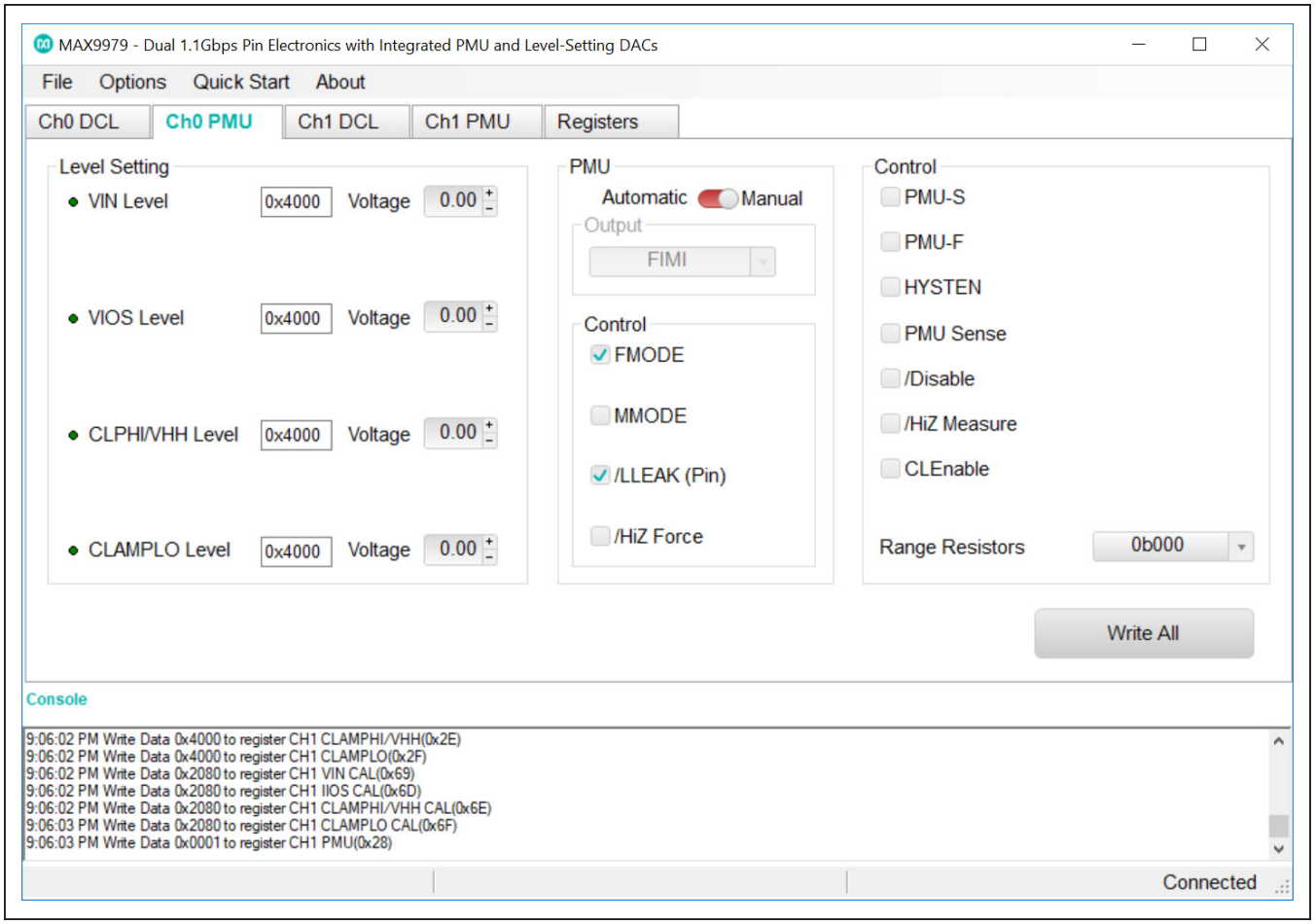


Figure 4. MAX9979 EV Kit Software Main Window (Ch0 PMU Tab)

Parametric Measurement Unit (PMU) Settings

Ch0 PMU and **Ch1 PMU** tab sheets (Figure 4 and Figure 5) are identical for Channels 0 and 1 respectively. Both tab sheets contain **Level Setting**, **PMU**, and **Control** group boxes.

Level Setting DACs

The **Level Setting** group box contains registers for signal level **VIN**, **VIOS** (channel 0)/IIOS (channel 1), **CLPHI/VHH**, and **CLAMPLO** level settings. Each voltage level can be set by entering value either in **Voltage** box or hexadecimal box. Finer adjustment can be made by clicking on the +/- sign of the **Voltage** box, which has 65,536 steps corresponding to 16 bits. The value can also be typed into the edit boxes inside the **Voltage** group box. Click on **Write All** to load the data into the MAX9979. For all DACs, the calibration window is available in the **Options** menu. Select **Change Calibration (Advance Users)**. The offset code is an integer value between 0 and 255, and the gain code is an integer value between 0 and 63, as shown in Figure 6.

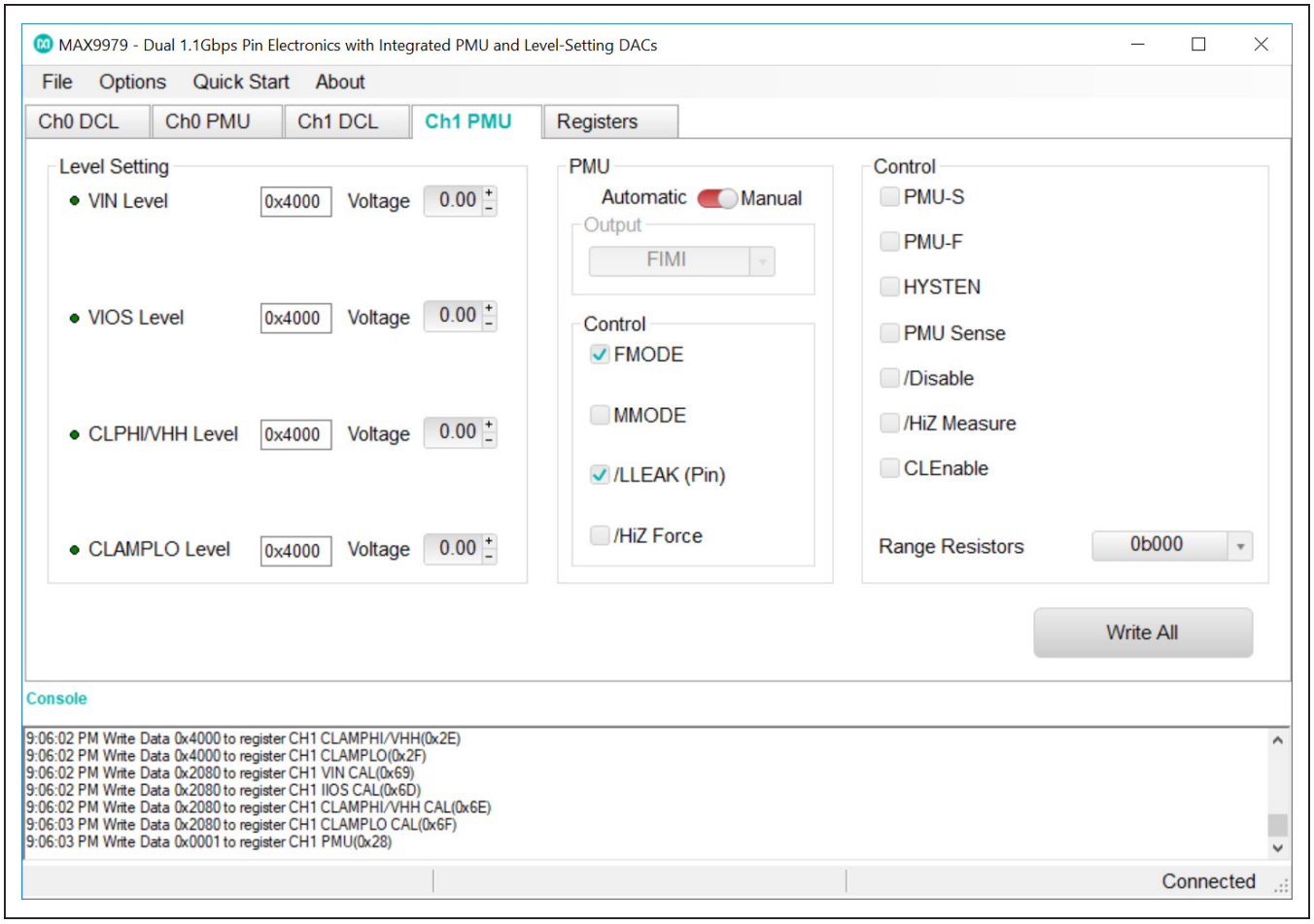


Figure 5. MAX9979 EV Kit Software Main Window (Ch1 PMU Tab)

PMU and Control Settings

PMU and Control group boxes are combination of PMU control, Force and Sense switches and Range Selection Resistor Settings. PMU mode of operation is chosen either automatically or manually by the slide bar in the PMU group box. In automatic mode, PMU output is selected from the **Output** drop-down box. In manual mode, PMU output is selected based on the control group box settings. PMU output current range is selected by **Range Resistor** drop-down box.

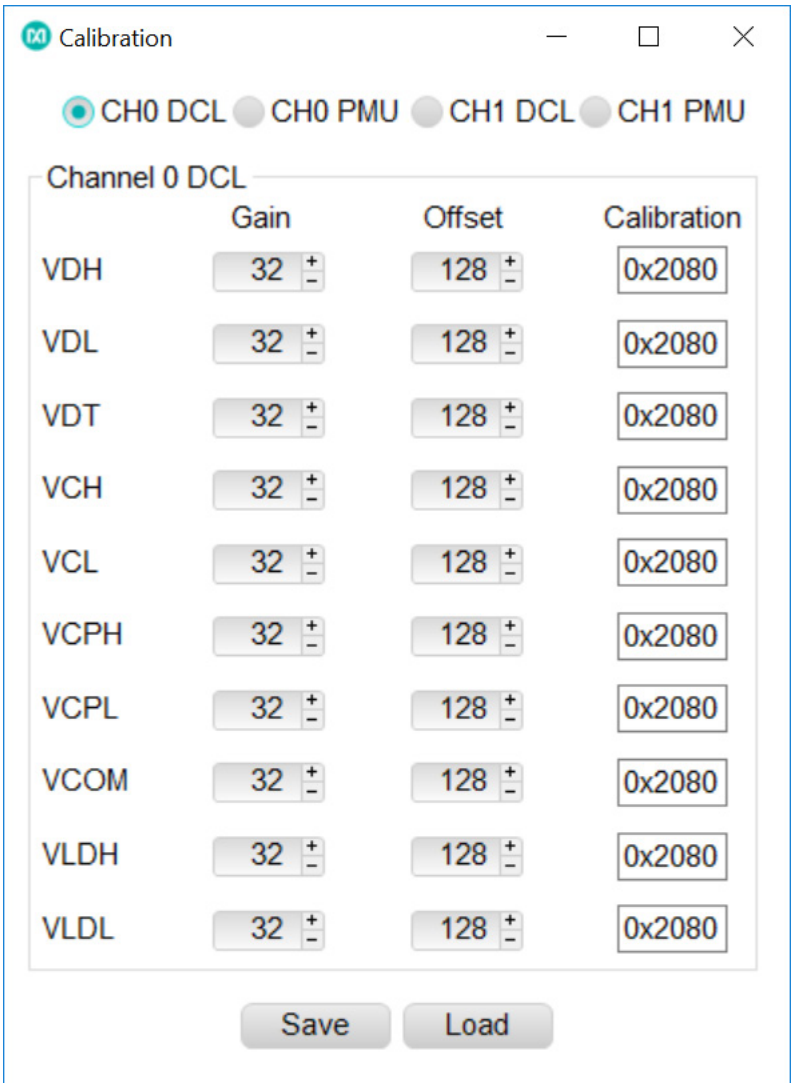


Figure 6. Advanced User Interface Window (DAC Calibration Tab)

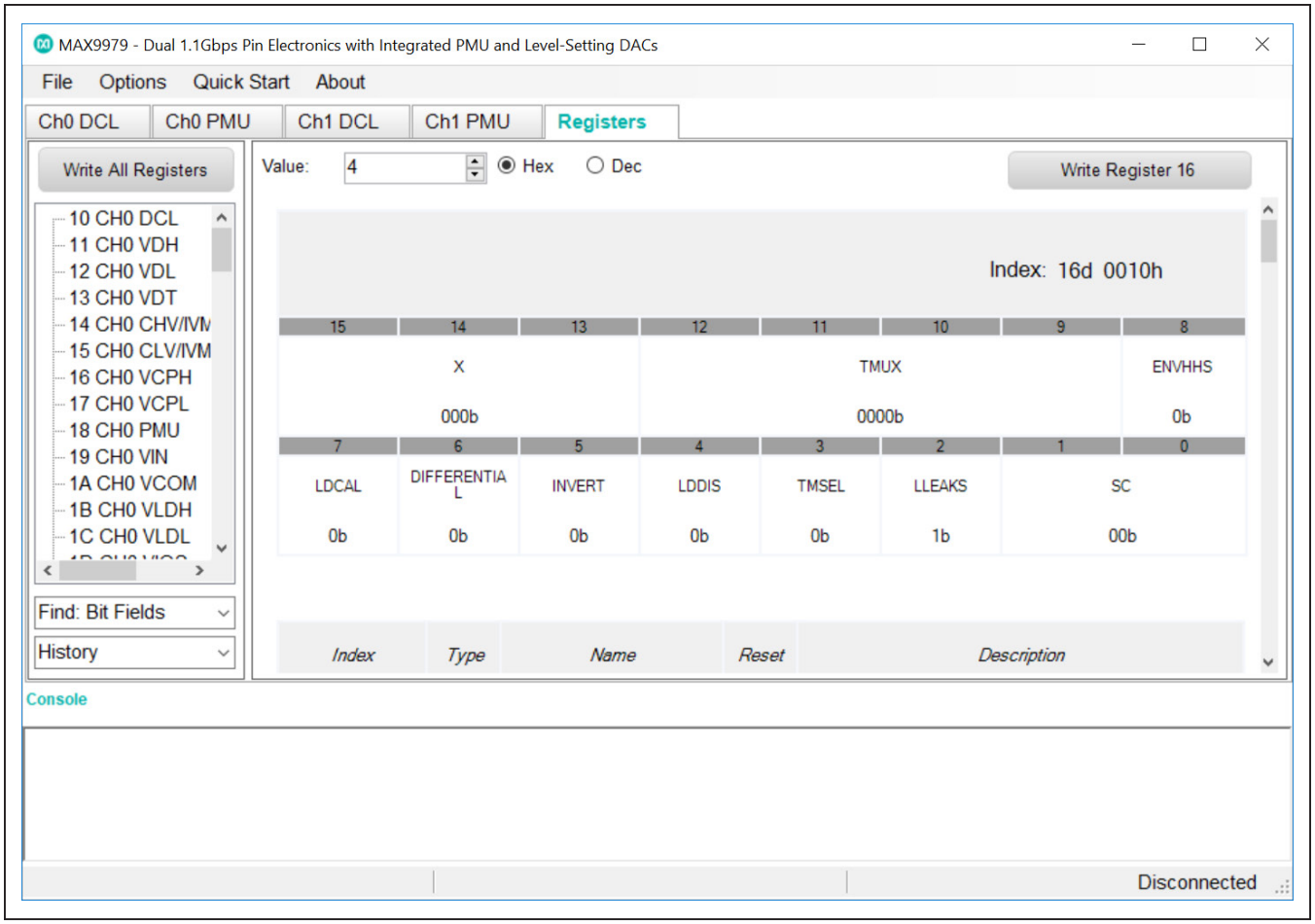


Figure 7. MAX9979 EV Kit Software Main Window (Registers Tab)

Registers Tab

There are two methods for configuring the MAX9979 device. The first method is through the graphical user interface as shown in Figure 2. The second method is through the **Registers** tab as shown in Figure 7. The **Registers** tab allows execution of serial commands manually. It can also be used as a debug tool because it is capable of writing to every register of the MAX9979.

Driver/Comparator/Load (DCL) Settings

Tab sheets (Figure 1 and Figure 3) are identical and are for channels 0 and 1, respectively. These tab sheets contain group boxes. The value can also be typed into the edit boxes inside the **Voltage** group box.

Detailed Description of Hardware

The MAX9979 evaluation kit (EV kit) is a fully assembled and tested PCB that evaluates the MAX9979 dual-channel pin electronic driver, comparator, load, and PMU with integrated level-setting DACs. It includes SMA connections for the high-speed digital I/Os and the MAX9979 pin driver outputs. It is connected to the computer through the universal serial bus (USB) port.

Power Supplies

Connect the power supplies using the high-current banana jacks, J22 (-4.75V), and J23 (17.5V). Common for all the power supplies should be the GND banana jack on the MAX9979 EV kit. All power supplies should be within the range specified in the MAX9979 IC data sheet. The MAX9979 needs only two supplies to be attached to the board; all other supplies are generated through regulators on the EV kit board.

High-Speed Digital I/Os

The top edge and the bottom edge of the PCB are populated with end-launch SMA connectors, and are the high-speed digital I/Os of the MAX9979. The inputs are terminated internally to the MAX9979 IC. The outputs require termination (nominally 50Ω) at the end of the attached cable.

The board power supply (VTRM) is the voltage used to terminate the comparator outputs on the MAX9979 IC. Setting VTRM to +1.2V makes the high-speed digital I/Os compatible with LVDS levels.

The high-speed digital inputs (DATA0/NDATA0, RCV0/NRCV0, DATA1/NDATA1, and RCV1/NRCV1) are intended for use with a high-speed differential signal source such as LVDS, LVPECL, ECL, etc. If only a single-ended stimulus source is available, a converter consisting of a 1:1 ratio transformer (balun) can be used to produce a differential pair of inputs for DATA0/NDATA0 or DATA1/NDATA1. A three-resistor network can be used to produce a differential logic level for RCV0/NRCV0 or RCV1/NRCV1 inputs.

The high-speed digital outputs (CL0/NCL0, CH0/NCH0, CL1/NCL1, and CH1/NCH1) are intended for use with a high-speed differential logic analyzer. These outputs are internally pulled up to the VTRM voltage through internal 50Ω resistors. These outputs can be double terminated at the measurement source by external 50Ω resistors.

Pin Driver Outputs

The dual-pin driver outputs or DCLP IO pins (DUT0 and DUT1) are through end-launch SMA connectors on the right edge of the PCB. The outputs have a typical output impedance of 50Ω, which can be adjusted by software.

Test Points

There are 23 test points on the EV kit to facilitate performance analysis and circuit modification. The test points are listed in Table 1.

Table 1. Test Points and Their Functions

TEST POINT	SIGNAL	FUNCTION
TP1	MEAS0	PMU analog output for channel 0
TP2	DUTHI0	PMU comparator high output for channel 0
TP3	DUTLO0	PMU comparator low output for channel 0
TP4	REF	Reference for the MAX9979, +2.5V nominal
TP5	DGS	Device ground sense
TP6	DUTLO1	PMU comparator low output for channel 1
TP7	DUTHI1	PMU comparator high output for channel 1
TP8	MEAS1	PMU analog output for channel 1
TP9	SENSE0	PMU remote sense for channel 0
TP10	TEMPSNS	MAX9979 die temperature indicator
TP11	SENSE1	PMU remote sense for channel 1
TP12	DOUT	Serial data output
TP13	DIN	Serial data input
TP14	SCLK	Serial clock
TP15	CS	Chip select
TP16	$\overline{\text{LOAD}}$	Load
TP17	$\overline{\text{VHHEN0}}$	High-voltage enable, channel 0
TP18	$\overline{\text{VHHEN1}}$	High-voltage enable, channel 1
TP19	$\overline{\text{LLEAKP0}}$	Low-leakage enable, channel 0
TP20	$\overline{\text{LLEAKP1}}$	Low-leakage enable, channel 1
TP21	$\overline{\text{HIZMEASP0}}$	High-impedance enable, channel 0
TP22	$\overline{\text{HIZMEASP1}}$	High-impedance enable, channel 1
TP23	$\overline{\text{RST}}$	Serial reset

Device Ground Sense

The MAX9979 IC has the ability to sense the ground potential at the device under test (DUT). The MAX9979 EV kit is preconfigured to have the device ground sense pin (DGS) connected to the ground plane through a 0Ω resistor (R9). If remote sensing is desired, remove R9 and connect TP5 to the remote DUT ground.

Temperature Sensing

The MAX9979 EV kit provides the means to determine the MAX9979 IC's die temperature through TP10. During operation, TP10 should be continuously monitored to ensure that the junction temperature does not exceed +150°C, which corresponds with +4.2V. During normal operation, a voltage of 3V to 3.6V is typical.

Jumper Settings

Table 2 and Table 3 provide a list for jumper settings.

Table 2. Digital Interface Jumper Settings (JU1–JU12)

JUMPER	SHUNT POSITION	DESCRIPTION
JU1	1-2*	Connects the DOUT pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external DOUT signal to the J21-1 pin of the J21 connector
JU2	1-2*	Connects the DIN pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external DIN signal to the J21-3 pin of the J21 connector
JU3	1-2*	Connects the SCLK pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external SCLK signal to the J21-5 pin of the J21 connector
JU4	1-2*	Connects the $\overline{CS}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{CS}$ signal to the J21-7 pin of the J21 connector
JU5	1-2*	Connects the $\overline{LOAD}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{LOAD}$ signal to the J21-9 pin of the J21 connector
JU6	1-2*	Connects the $\overline{VHHEN0}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{VHHEN0}$ signal to the J21-11 pin of the J21 connector
JU7	1-2*	Connects the $\overline{VHHEN1}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{VHHEN1}$ signal to the J21-13 pin of the J21 connector
JU8	1-2*	Connects the $\overline{LLEAKP0}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{LLEAKP0}$ signal to the J21-15 pin of the J21 connector

Table 2. Digital Interface Jumper Settings (JU1–JU12) (continued)

JUMPER	SHUNT POSITION	DESCRIPTION
JU9	1-2*	Connects the $\overline{\text{LLEAKP1}}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{\text{LLEAKP1}}$ signal to the J21-17 pin of the J21 connector
JU10	1-2*	Connects the $\overline{\text{HIZMEASP0}}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{\text{HIZMEASP0}}$ signal to the J21-19 pin of the J21 connector
JU11	1-2*	Connects the $\overline{\text{HIZMEASP1}}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{\text{HIZMEASP1}}$ signal to the J21-21 pin of the J21 connector
JU12	1-2*	Connects the $\overline{\text{RST}}$ pin of the MAX9979 to the on-board MAXQ2000 microcontroller through a level translator
	2-3	Connects the external $\overline{\text{RST}}$ signal to the J21-23 pin of the J21 connector

**Default position.*

Table 3. Power Supplies Jumper Settings (JU14–JU22)

JUMPER	SHUNT POSITION	DESCRIPTION
JU14	1-2*	Connects the ADJ pin of the regulator (U16) to ground
	Open	Disconnects the ADJ pin of the regulator from ground
JU15	1-2	Connects the ADJ pin of the regulator (U16) to ground through a 147Ω resistor (R25)
	Open*	Disconnects the ADJ pin of the regulator from R25
JU16	1-2	Connects the ADJ pin of the regulator (U16) to ground through a 301Ω resistor (R26)
	Open*	Disconnects the ADJ pin of the regulator from R26
JU17	1-2*	Jumper shorted by trace and connects the ADJ pin of the regulator (U16) to ground through a 475Ω resistor
	Open	Jumper shorted by trace and connects the ADJ pin of the regulator (U16) to ground through a 475Ω resistor
JU18	1-2*	Connects VHH to the positive power-supply input jack
	Open	Disconnect VHH from the positive input power supply
JU19	1-2*	Connects VCC to the on-board regulator (U14)
	Open	Disconnects VCC from the on-board regulator (U14)
JU20	1-2*	Connects VDD to the on-board regulator (U15)
	Open	Disconnects VDD from the on-board regulator (U15)
JU21	1-2*	Connects VTRM to the on-board regulator (U16)
	Open	Disconnects VTRM from the on-board regulator (U16)
JU22	1-2*	Connects VEE to the negative power-supply input jack
	Open	Disconnect VEE from the negative input power supply

**Default position.*

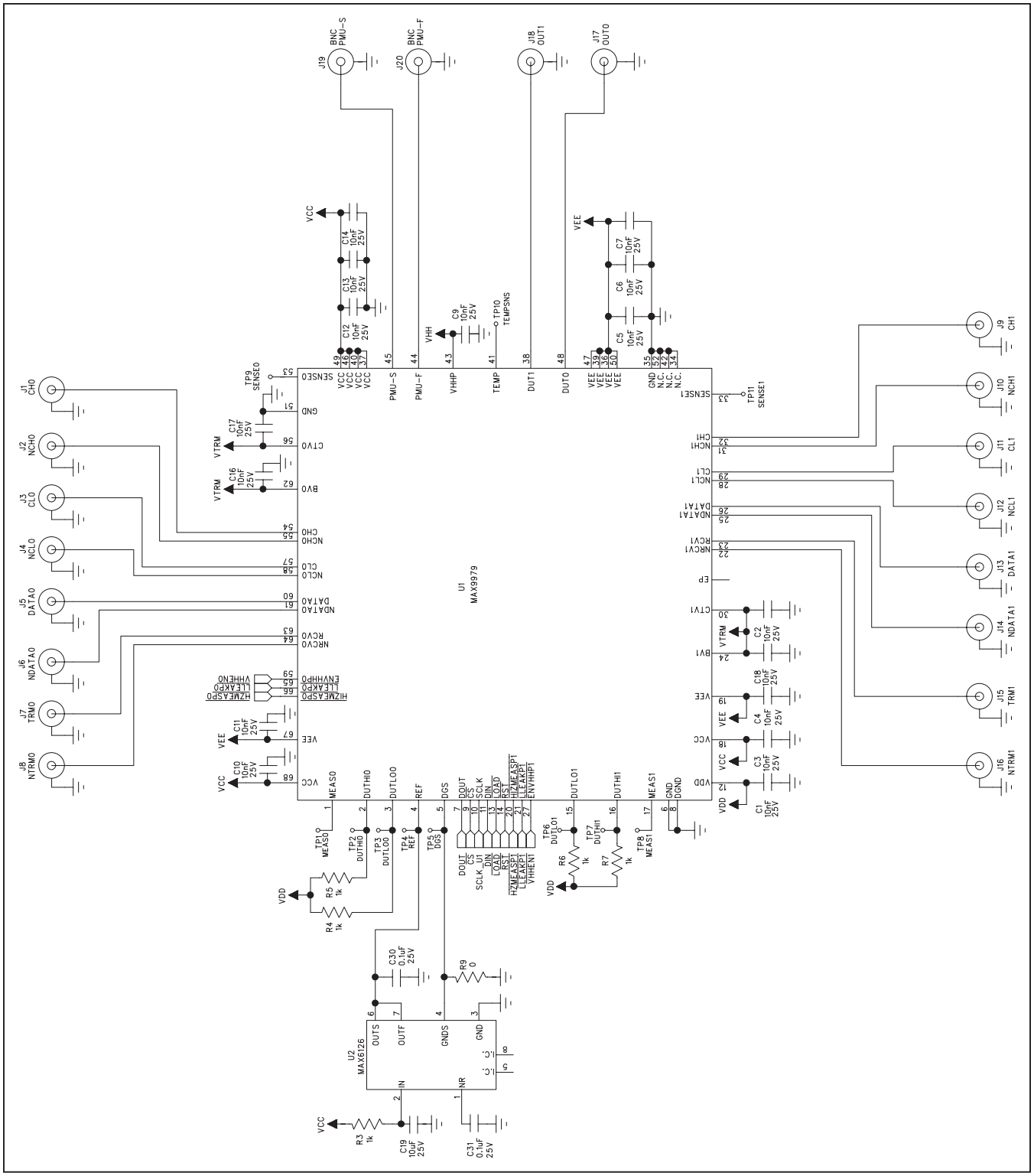


Figure 8a. MAX9979 EV Kit Schematic—Sheet 1 of 4

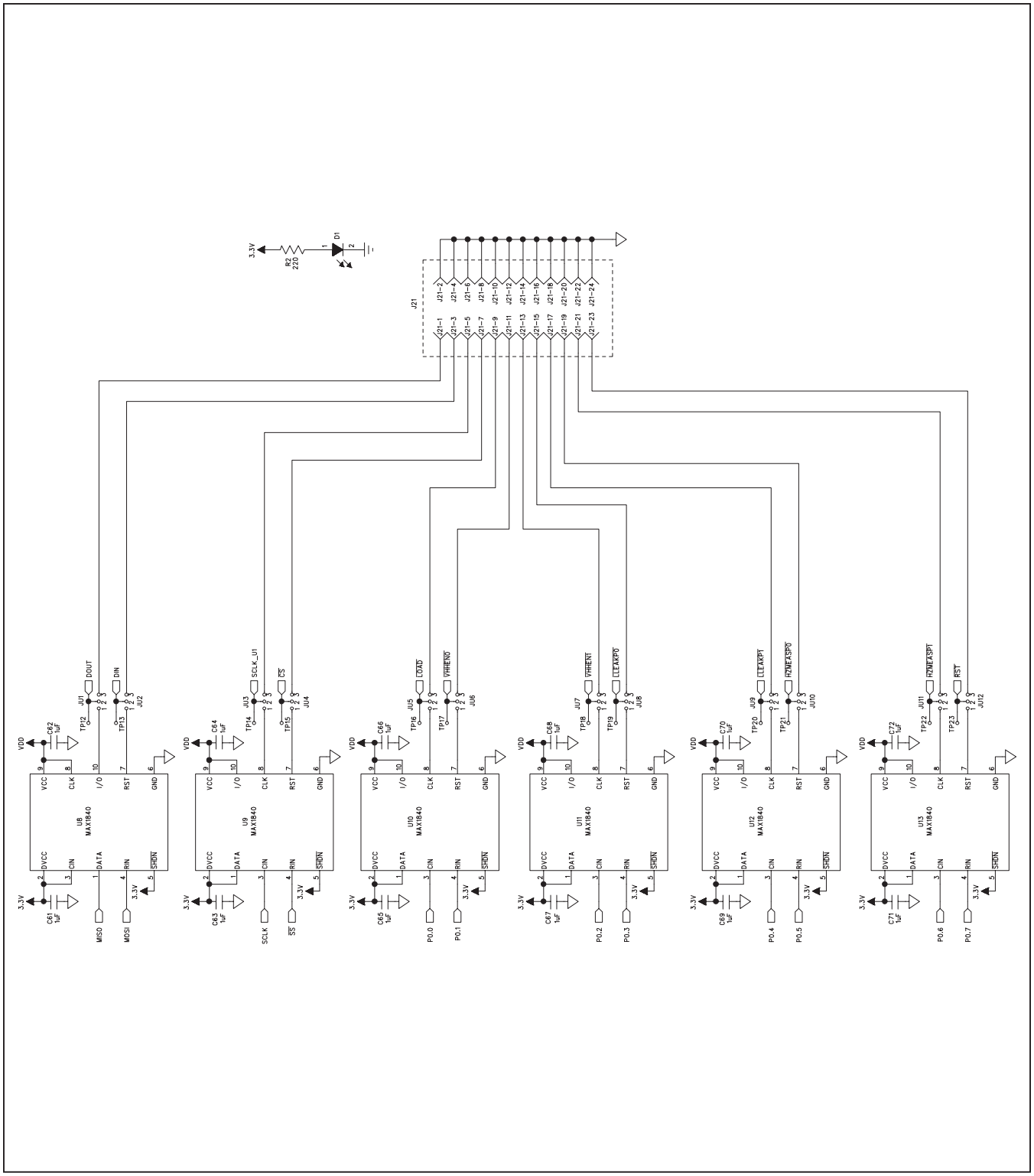


Figure 8b. MAX9979 EV Kit Schematic—Sheet 2 of 4

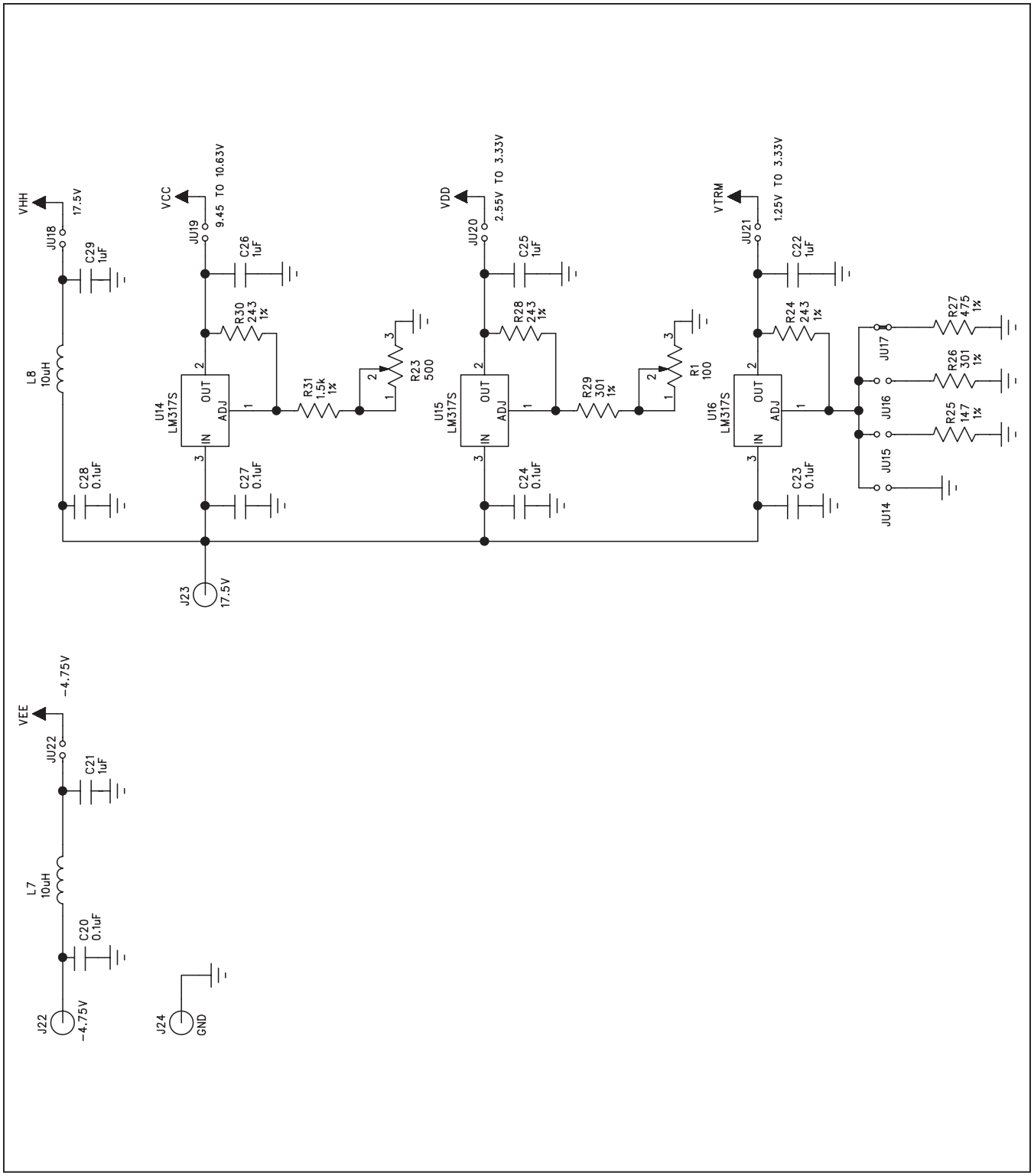


Figure 8c. MAX9979 EV Kit Schematic—Sheet 3 of 4

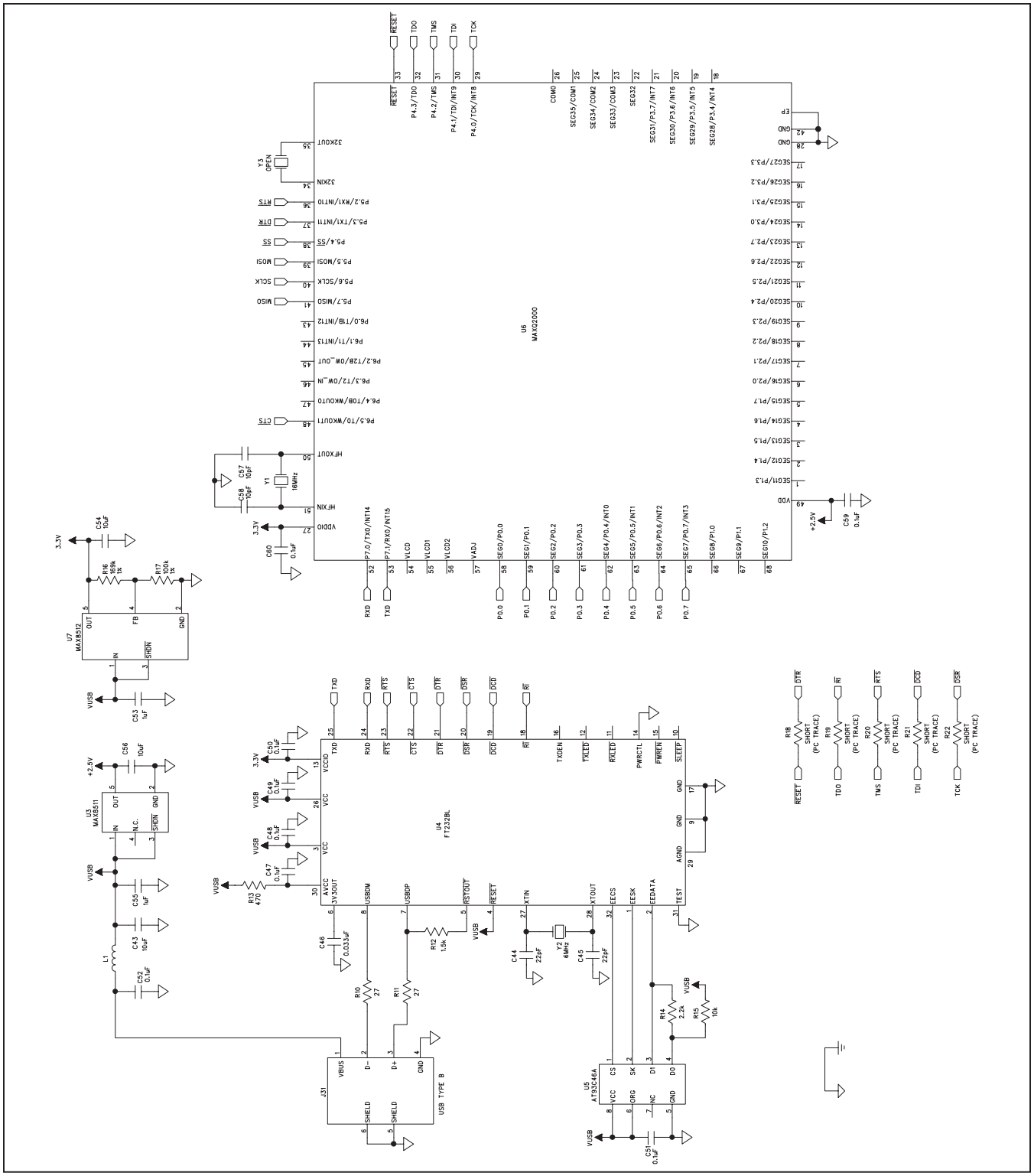


Figure 8d. MAX9979 EV Kit Schematic—Sheet 4 of 4

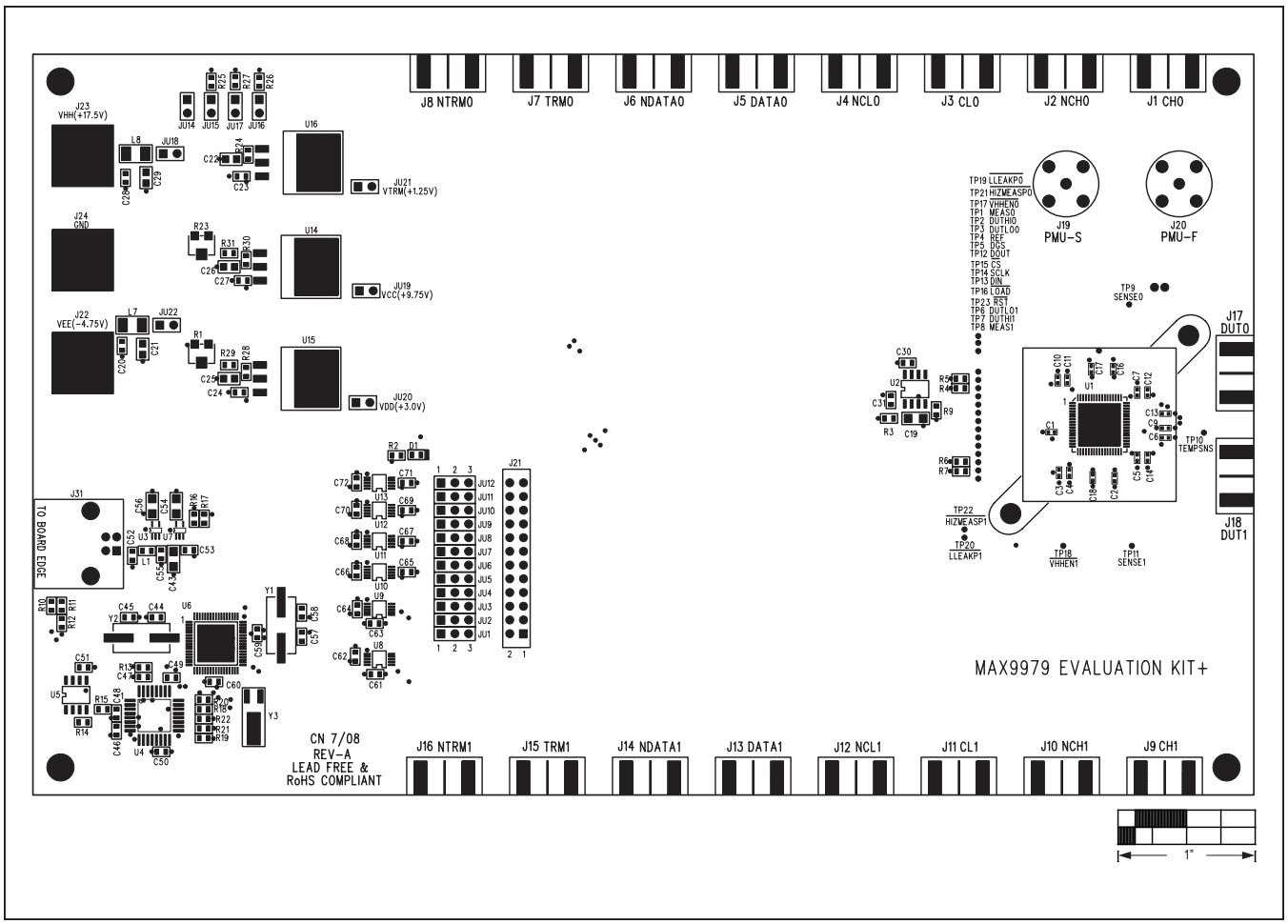


Figure 9. MAX9979 EV Kit Component Placement Guide—Top

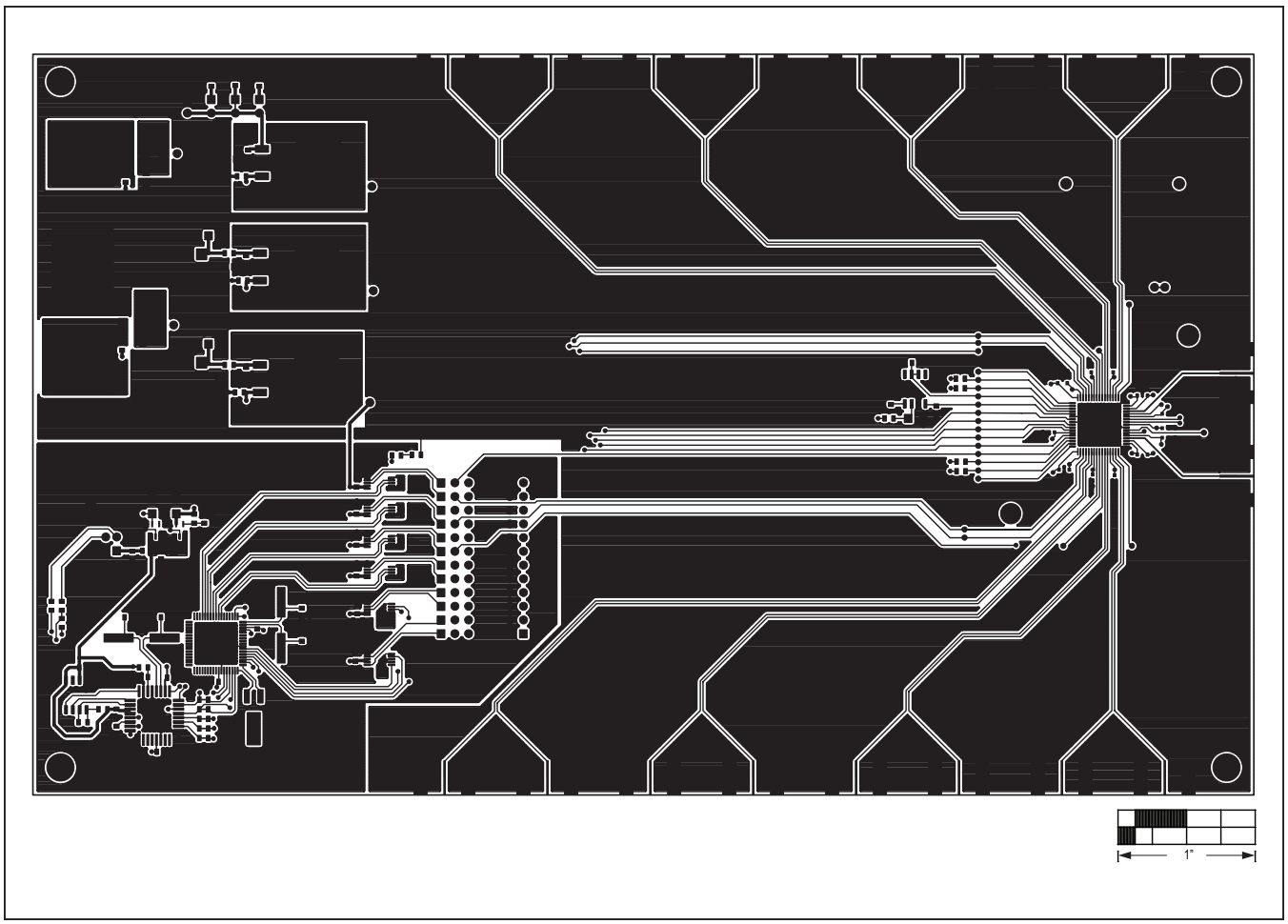


Figure 10. MAX9979 EV Kit PCB Layout—Component Side

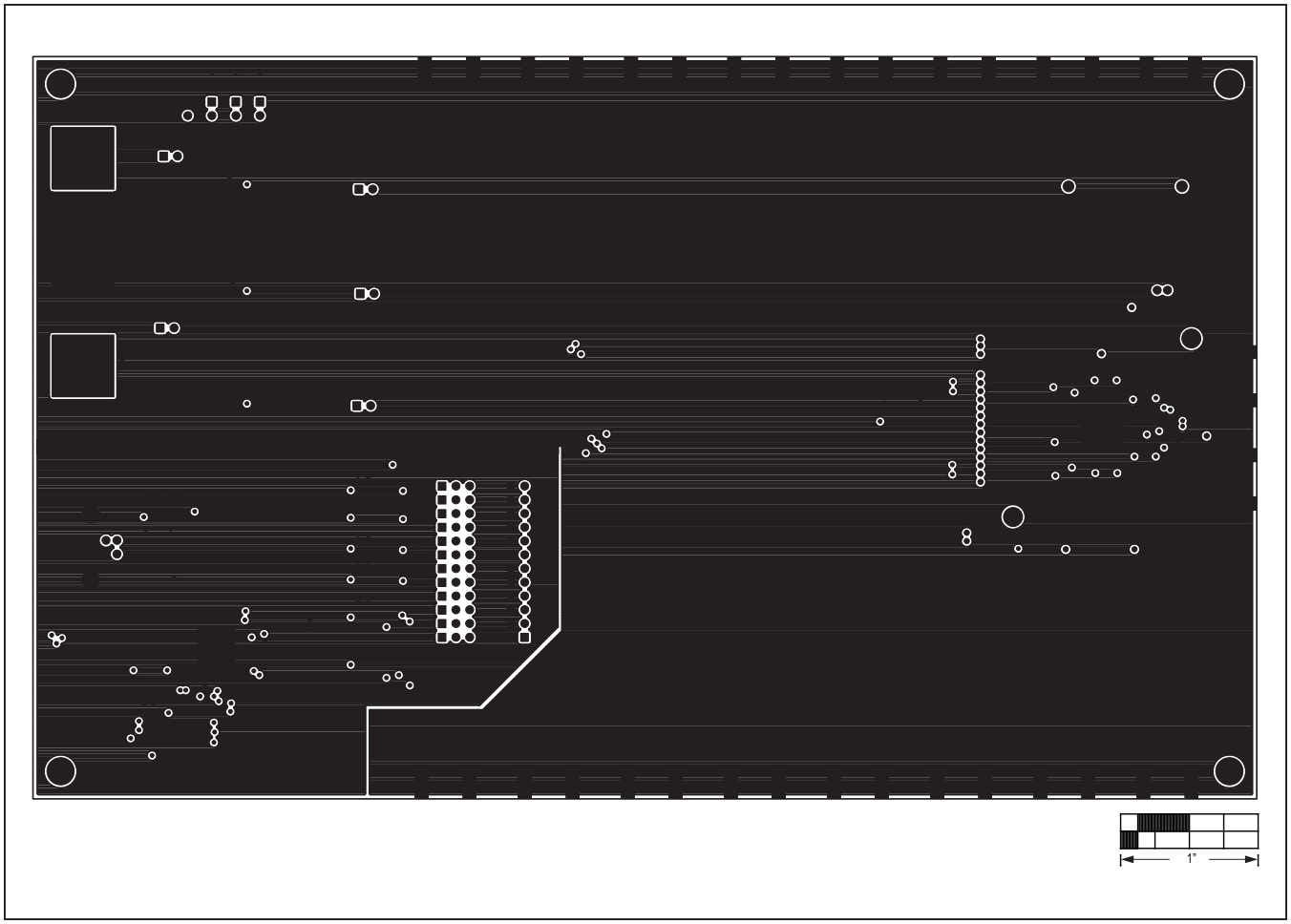


Figure 11. MAX9979 EV Kit PCB Layout—Layer 2

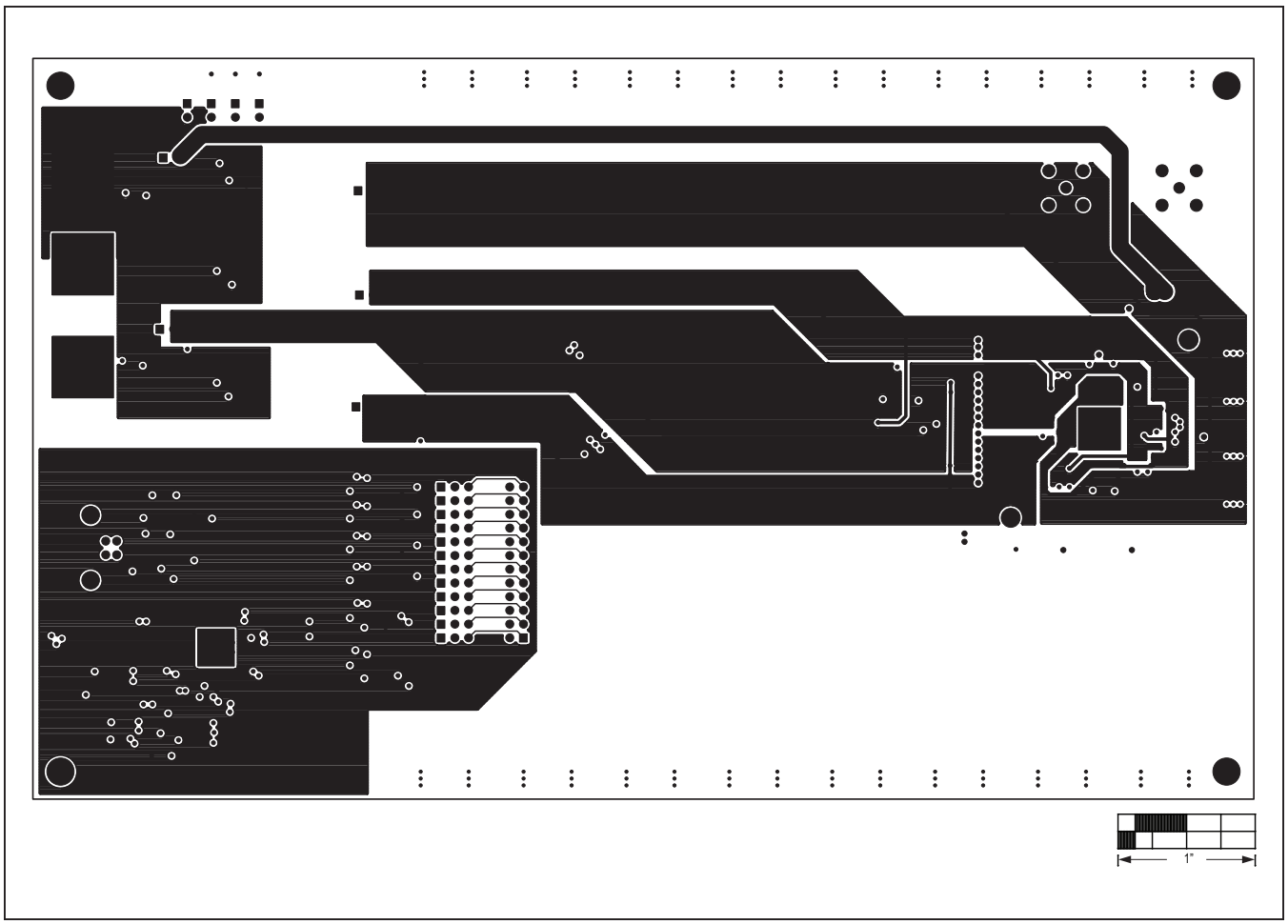


Figure 12. MAX9979 EV Kit PCB Layout—Layer 3

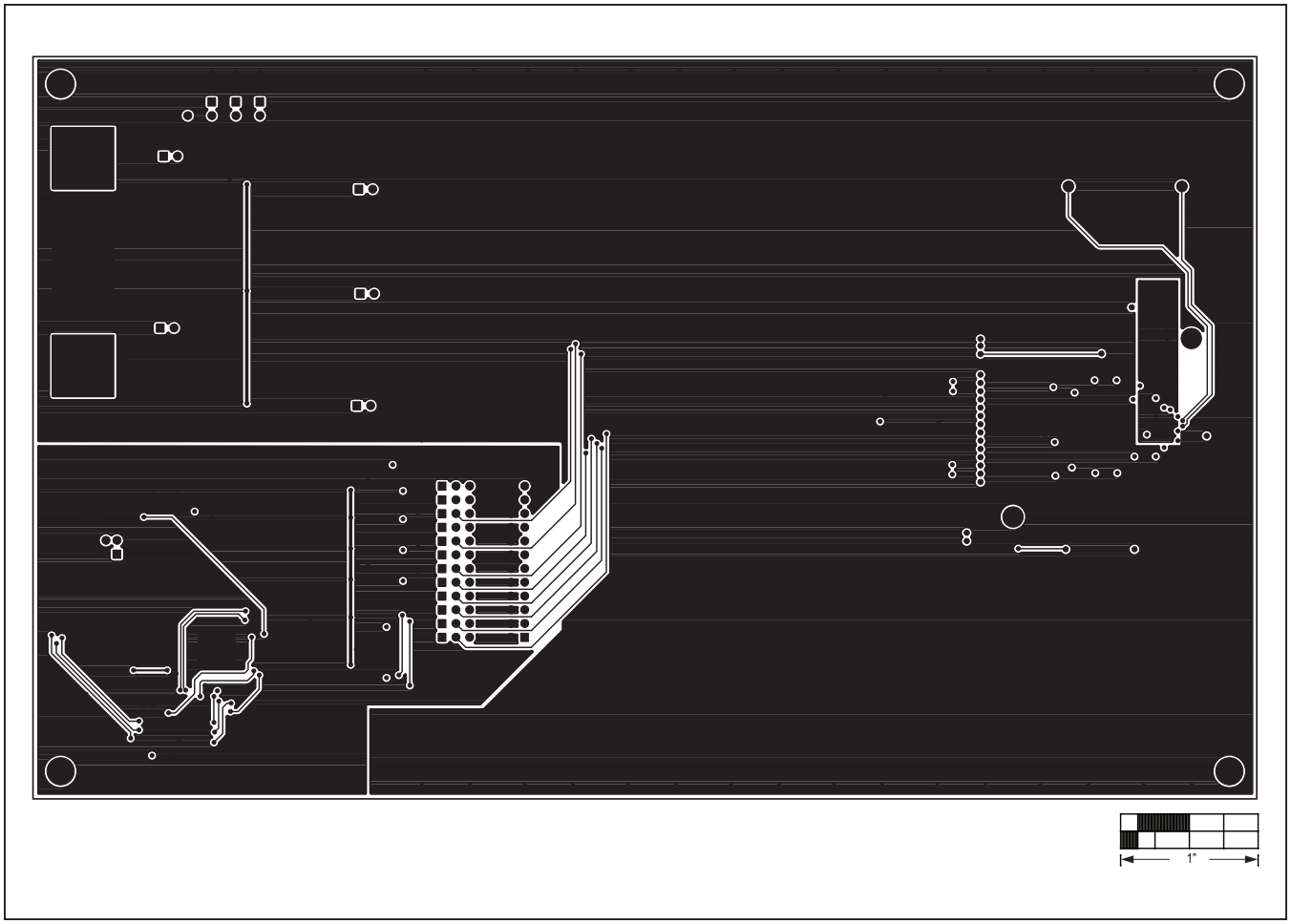


Figure 12. MAX9979 EV Kit PCB Layout—Bottom Side

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	12/08	Initial release	—
1	1/20	Updated *General Description* and *Features* section, removed *Component Suppliers* table and *MAX9979 EV Kit files* table, updated *Required Equipment* under *Quick Start* section, added a new number list and updated *Procedure* section, replaced figures 1 through 6, updated *Detailed Description of Software* section	1—9

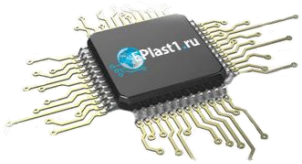
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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