

MAXIM

MAX477 Evaluation Kit

Evaluates: MAX477

General Description

The MAX477 evaluation kit (EV kit) simplifies evaluation of the MAX477, a 300MHz high-speed amplifier. Its circuit includes the MAX477 in the noninverting configuration set to unity gain. RF-style connectors (SMA) and 75 Ω terminating resistors are included for compatibility with video test equipment.

Component List

DESIGNATION	QTY	DESCRIPTION
U1	1	MAX477ESA
C1, C6	2	10 μ F, 10V, 20% tantalum capacitors AVX TAJB106M010 Sprague 293D106X0010B
C3, C4	2	1000pF, 10% ceramic capacitors Vitramon VJ1206Y102KXX
C2, C5	2	0.1 μ F, 10% ceramic capacitors Vitramon VJ1206Y104KXX
R1, R2	2	75 Ω , 5% resistors
RF	1	0 Ω resistor
IN, OUT	2	SMA connectors
None	1	High-frequency amplifier PC board

Component Suppliers

SUPPLIER	PHONE	FAX
AVX	(803) 946-0690	(803) 626-3123
Sprague	(603) 224-1961	(603) 224-1430
Vishay/Vitramon	(203) 268-6261	(203) 452-5670

Quick Start

The MAX477 EV kit is fully assembled and tested. Follow these steps to verify board operation. **Do not turn on the power supply until all connections are completed.**

- 1) The circuit requires supply voltages of $\pm 5V$. Connect the +5V supply to the V+ pad, and the -5V supply to the V- pad. Connect power-supply ground to the pad marked GND.
- 2) Apply a signal of $\pm 2.0V$ maximum to the SMA connector marked IN.
- 3) Connect the output marked OUT to an oscilloscope through a terminated 75 Ω cable.
- 4) Turn on the power supply and verify the output signal on the oscilloscope.

Features

- ♦ 300MHz -3dB Bandwidth
- ♦ Optional Adjustable Gain
- ♦ Fully Assembled and Tested

Ordering Information

PART	TEMP. RANGE	BOARD TYPE
MAX477EVKIT-SO	+25 $^{\circ}$ C	Surface Mount

Detailed Description

Shutdown Control

Although the EV kit provides shutdown-control circuitry (J1) for other amplifiers, the MAX477 does not have a shutdown feature.

Voltage-Gain Adjustment

The MAX477's gain can be adjusted with minor modifications to the evaluation board.

- 1) Select feedback (R_F) and gain set (R_G) resistors from Table 1.
- 2) Install R_F and R_G .

Table 1. Gain-Set Resistors

Gain	R_F (Ω)	R_G (Ω)	Small-Signal Bandwidth (MHz)
1	0	Open	300
2	500	500	120
5	125	500	25
10	50	450	12



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Layout Considerations

The MAX477 EV kit layout is optimized for high-speed signals. Careful attention was given to grounding, power-supply bypassing, and signal-path layout. Small surface-mount ceramic capacitors are placed as close

to the MAX477 supply pins as possible. No-Connect pins 1 and 5 are grounded to prevent unwanted noise from coupling into the circuit. Refer to the *Grounding, Bypassing, and PC Board Layout* section of the MAX477 data sheet for further details.

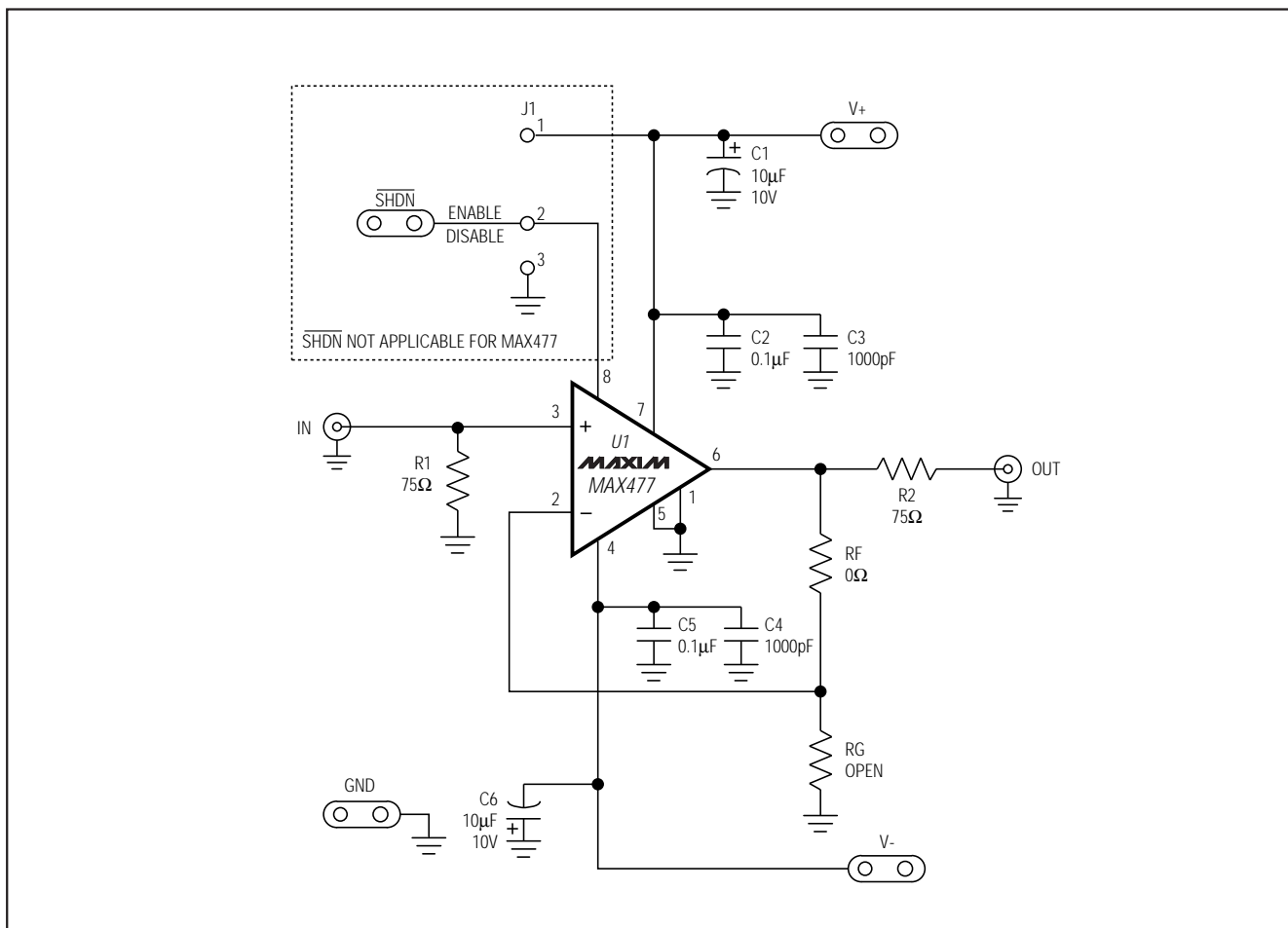


Figure 1. MAX477 EV Kit Schematic

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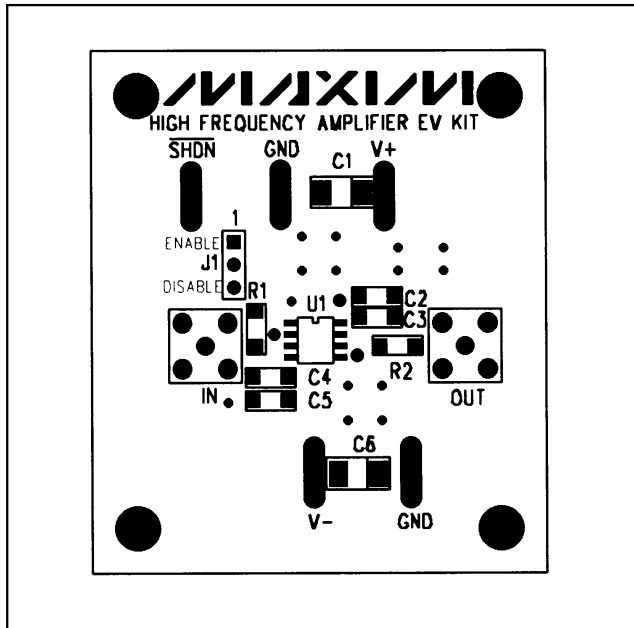


Figure 2. MAX477 EV Kit Component Placement Guide—Component Side

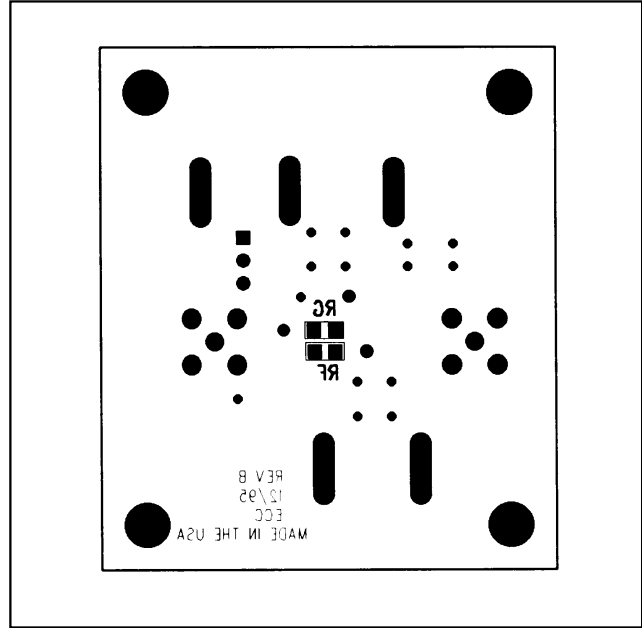


Figure 3. MAX477 EV Kit Component Placement Guide—Solder Side

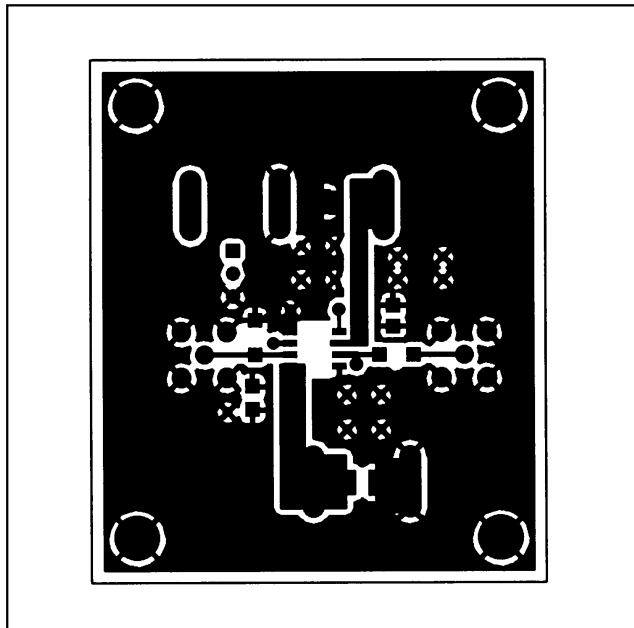


Figure 4. MAX477 EV Kit PC Board Layout—Component Side

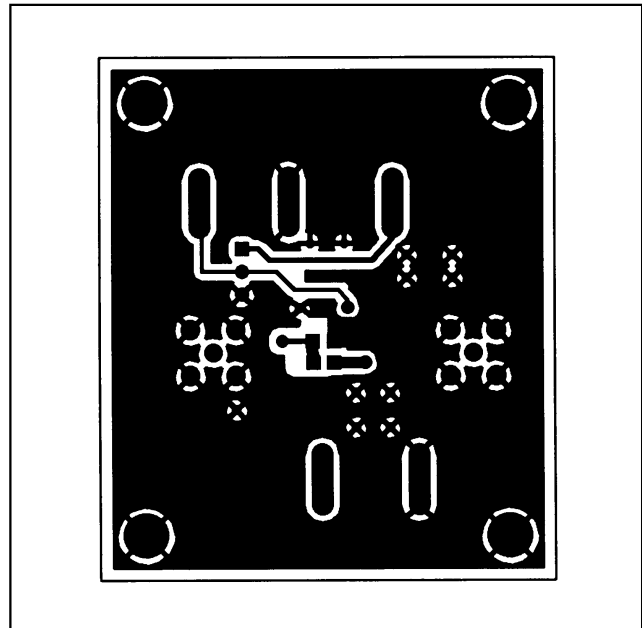


Figure 5. MAX477 EV Kit PC Board Layout—Solder Side

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