

DESCRIPTION

The TEV1000-50 is a Laboratory-quality, RF Vector Modulator with 50dB dynamic range and only 10dB insertion loss.

The TEV1000-50 is the smallest USB microwave Vector Modulator available and is priced significantly below the current market offerings.

Applications include dynamically setting gain and phase of one or more RF signal paths. This can be used to drive phase array antennas or to cancel two signals in a control loop. Use of the optional HUB allows the Vector Modulator to remain in a given state even after the host PC is removed from the system.

The modulator contains 0.5GB of flash memory used for installation files, calibration files, test data and other supporting documentation.

CALIBRATION

Each unit is calibrated at three frequencies for optimum performance. Additional calibration points can be added by the user.



RF DESIGN SERVICES

# TEV1000-50 Rev A Aug 2010

BENEFITS

50dB Dynamic Range

USB 2.0 Interface

700MHz to 1000MHz

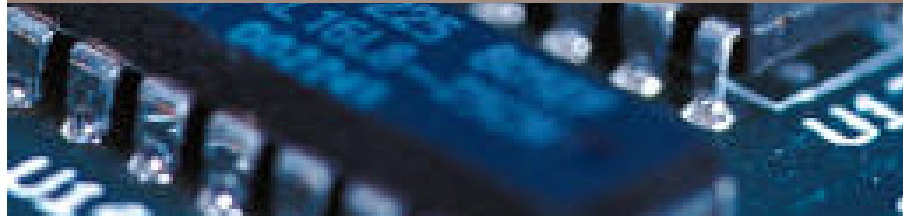
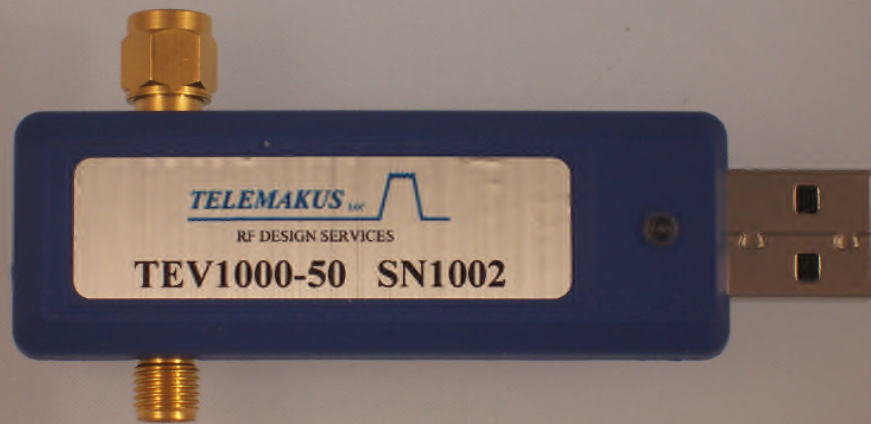
FEATURES

Low Insertion Loss

PC Software Supported

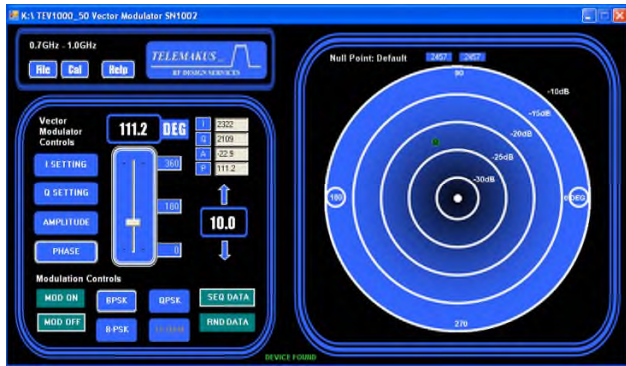
12 BIT, 360° Phase Range

Max Input +23dBm



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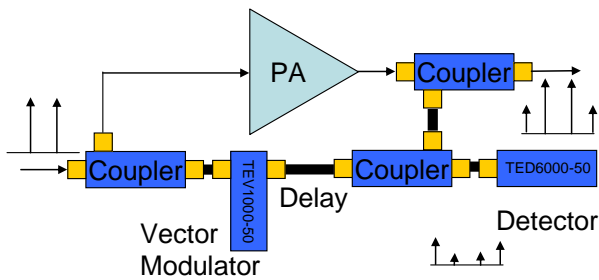


# TEV1000-50 Rev A Aug2010

## Ordering information

Model	Frequency	Max Input	Min Loss
TEV1000-50	700MHz to 1GHz	+23dBm	-10dB
TEV2700-45	1.8GHz to 2.7GHz	+23dBm	-10dB

Easy to use graphical interface with both numeric entry or slider controls. Hold down left mouse button to change gain and phase and then release to lock in new values. The GUI has additional controls for demonstrating carrier modulation in BPSK, QPSK and 8PSK at a fixed symbol rate of 500Hz.



## Signal Cancellation loop

Adjusting the vector modulator IQ set point until power at the detector is minimized. This cancels the input signal and leaves the IM products. This circuit could be used as a dynamic range extender for spectrum measurements or the carrier cancellation loop in a feedforward amplifier.



RF DESIGN SERVICES

## Specifications

Parameter	Specification
Freq Range	700MHz to 1GHz
Dynamic Range	50dB
Phase Control	360°
Interface	USB 2.0
Current	150mA @5V (from USB port)
Resolution	12bit
High Linearity	+33dBm IIP3
Input P1dB	+14dBm
Min Insertion Loss	-10dB
Return Loss	-9dB typ
RF Connectors	SMA Male Input /Female Output
USB Connector	Mini A

## Environmental

Temperature Range	-40 to +55 degC		
Not Environmentally Sealed			

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