

**Aumictech**

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8780A Vector Signal Generator, 10 MHz to 3 GHz

HP Agilent Keysight 8780A Vector Signal Generator 10 MHz to 3 GHz The HP/Agilent 8780A is a vector signal generator covering 10 MHz to 3 GHz. OEM HP Journal and product descriptions list digital formats including pulse, BPSK, QPSK, 8PSK, 16QAM and 64QAM to 150 Mbaud, analog I/Q inputs with 350 MHz bandwidth per channel (700 MHz RF), FM to 100 MHz deviation, and pulsing with 1 ns to 1 ms transitions. Digital microwave communications and coherent radar simulation, wideband FM/FDM, and I/Q vector stimulus paired with the 8980A vector analyzer. The HP/Agilent 8780A is a vector signal generator covering 10 MHz to 3 GHz. OEM HP Journal and product descriptions list digital formats including pulse, BPSK, QPSK, 8PSK, 16QAM and 64QAM to 150 Mbaud, analog I/Q inputs with 350 MHz bandwidth per channel (700 MHz RF), FM to 100 MHz deviation, and pulsing with 1 ns to 1 ms transitions. Digital microwave communications and coherent radar simulation, wideband FM/FDM, and I/Q vector stimulus paired with the 8980A vector analyzer. Vector and analog inputs to 350 MHz baseband bandwidth



MODEL

**Agilent / Keysight
8780A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

8780A

LISTING

<https://aumictechlabs.com/products/8780a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 8780A is a synthesized vector signal generator covering 10 MHz to 3 GHz with 1 Hz tuning resolution. It generates complex modulated signals for communication system and electronic device testing through a vector (I/Q) modulator architecture that delivers modulation bandwidths exceeding conventional synthesizer technology.

Technical Specifications

Frequency Range: 10 MHz to 3 GHz (operational extension to approximately 4 MHz without guaranteed performance specifications)

Tuning Resolution: 1 Hz

Vector Modulation Bandwidth: Up to 700 MHz peak-to-peak

Scalar Input Sensitivity: 0 V to 1 V for 0 to full scale envelope modulation

Scalar DC Accuracy: < 2% of full scale input at 140 MHz carrier

Digital Modulation Formats: BPSK, QPSK, 8PSK, 16QAM, 64QAM

Direct-Sequence Spread Spectrum: Chip widths down to 7 ns

State DC Accuracy (at 140 MHz, $\leq +7$ dBm): $\pm 1\%$ full scale I/Q (BPSK, QPSK); $\pm 2\%$ full scale I/Q (16QAM)

Digital Data Clocking: Leading (positive) edge

FM Wideband Deviation: Over 200 MHz peak-to-peak

FM 3 dB Bandwidth: 10 kHz (for deviations up to 10 kHz peak-to-peak)

Deviation Range: 150 Hz to 150 kHz peak-to-peak; 3-digit resolution

FM Sensitivity: 1 V peak-to-peak for displayed deviation

FM Sensitivity Accuracy: < 10% for rates to 1 kHz and deviations of 150 kHz peak-to-peak

FM Distortion (1 kHz rate, 150 kHz deviation): < 5%

Residual FM (300 Hz–3 kHz BW, 150 kHz deviation): < 5 Hz rms

Wide FM Capability: Up to 250 MHz peak-to-peak with rapid frequency changes

Key Features

Four simultaneous modulation methods: Digital, Scalar, FM, and Vector

Vector modulator doubles baseband modulation bandwidths

Arbitrary phase and amplitude modulation control

Parallel interface for clockless digital vector modulation

Built-in mapping for common digital modulation formats

Typical Applications

Communication system development and validation

Electronic device testing and characterization

Research and manufacturing test environments

Spread spectrum signal generation

Wideband frequency and phase modulation testing

Compatibility & Integration

The 8780A accepts analog vector modulation inputs and includes a parallel digital interface for vector modulation, enabling integration with external baseband processing systems.

8780A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Vector signal generator
Series Family	HP Agilent 8780A/8782B
Frequency Range	10 MHz to 3 GHz
Digital Baud Rate	up to 150 Mbaud
Digital Formats	pulse, BPSK, QPSK, 8PSK, 16QAM, 64QAM and othersIChannel Baseband Bandwidth: 350 MHzQChannel Baseband Bandwidth: 350 MHz
RF Modulation Bandwidth fromIQ	700 MHz
FM Maximum Deviation	100 MHz
Pulse Transition Times	1 nanosecond to 1 millisecond
Vector Analog Inputs	I andQAM Path: vector modulation input (350 MHz bandwidth) or on top of digital formats
Coherent Carrier	unmodulated coherent carrier available
Modulation Families	digital, scalar, FM, and vector
Remote Interface	HP-IB
Form Factor	benchtop vector source
Intended Analyzer Companion	HP 8980A vector analyzer (350 MHz I-Q bandwidth)
Operating Context	digital communications and coherent radar
Architecture	I/Q vector modulator plus synthesized RF
Brand Lineage	HP / Agilent
Output Frequency Minimum	10 MHz
Output Frequency Maximum	3 GHz
Wideband FM Applications	FDM/FM and FM TV plus narrowband low-phase-noise FM
Scalar Modulation	AM class
Programming	HP-IB
Calibration Note	exact output power, EVM, and frequency resolution belong on the 8780A data sheet/certificate

PARAMETER	VALUE
Baseband Drive Class	analoglandQplus digital-data-stream inputs
Radar Chirp Class	wideband chirps over more than 100 MHz
Phase Mag Transitions Class	as fast as 8 ns in VAWS system literature using 8780A
Bandwidth	350 MHzQChannel Baseband Bandwidth: 350 MHz

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Instrument Type	Vector signal generator
Series Family	HP Agilent 8780A/8782B
Frequency Range	10 MHz to 3 GHz
Digital Baud Rate	up to 150 Mbaud
Digital Formats	pulse, BPSK, QPSK, 8PSK, 16QAM, 64QAM and othersIChannel Baseband Bandwidth: 350 MHzQChannel Baseband Bandwidth: 350 MHz
RF Modulation Bandwidth fromIQ	700 MHz
FM Maximum Deviation	100 MHz
Pulse Transition Times	1 nanosecond to 1 millisecond
Vector Analog Inputs	I andQAM Path: vector modulation input (350 MHz bandwidth) or on top of digital formats
Coherent Carrier	unmodulated coherent carrier available
Modulation Families	digital, scalar, FM, and vector
Remote Interface	HP-IB
Form Factor	benchtop vector source
Intended Analyzer Companion	HP 8980A vector analyzer (350 MHz I-Q bandwidth)
Operating Context	digital communications and coherent radar
Architecture	I/Q vector modulator plus synthesized RF
Brand Lineage	HP / Agilent
Output Frequency Minimum	10 MHz
Output Frequency Maximum	3 GHz
Wideband FM Applications	FDM/FM and FM TV plus narrowband low-phase-noise FM
Scalar Modulation	AM class
Programming	HP-IB
Calibration Note	exact output power, EVM, and frequency resolution belong on the 8780A data sheet/certificate
Baseband Drive Class	analogIandQplus digital-data-stream inputs

PARAMETER	VALUE
Radar Chirp Class	wideband chirps over more than 100 MHz
Phase Mag Transitions Class	as fast as 8 ns in VAWS system literature using 8780A

Notes

Numeric rows from HP Journal December 1987 8780A description and HP vector-simulation application notes (10 MHz to 3 GHz, 150 Mbaud, 350 MHz I/Q, 100 MHz FM, 1 ns to 1 ms pulse). Leveled dBm and SSB phase noise belong on the 8780A data sheet/calibration certificate.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 14, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.