

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8714ES

The Keysight Agilent 8714ES is an RF S-parameter Vector Network Analyzer operating from 300 kHz to 3 GHz. It features a built-in S-parameter test set with full two-port vector-error correction, a synthesized source, narrowband and broadband receivers, and a standard 60-dB source attenuator, making it a high-performance, cost-effective solution for active and passive RF component characterization.

SPECIFICATIONS

General

Interfaces	GPIB, LAN, RS-232, Parallel, VGA-out, Keyboard (6-pin mini-DIN)
Display	9-inch diagonal monochrome CRT

Physical

Operating Temperature	0 to 55 °C °C
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Stimulus (Source)

Frequency Range	300 kHz to 3.0 GHz
Frequency Resolution	1 Hz
Frequency Accuracy	±5 ppm (at 25 °C ±5 °C)

Receiver

Receiver Frequency Range	300 kHz to 3.0 GHz
Input Impedance	50 Ω (standard) / 75 Ω (Option 1EC)

Test Port Characteristics

Number of Ports	2
Connector Type	Type-N female

Measurement Functions & Features

Measurement Channels	2 independent channels
Measurement Parameters	S11, S21, S12, S22 (ES models)
Display Formats	Log magnitude, Phase, Group delay, Smith chart, Polar, Linear magnitude, SWR, Real, Imaginary
Calibration Types Supported	Full 2-port, 1-port, Response, Response/Isolation
Internal Storage	3.5-inch floppy drive (LIF and MS-DOS formats)
Programming Language	Instrument BASIC (IBASIC)
Limit Line Testing	Upper, lower, flat, sloping, and single point limit lines

Connectivity & Interfaces

GPIB Interface	IEEE-488.2, SCPI compatible
LAN Interface	RJ-45 (10Base-T)
Parallel Port	25-pin D-sub, Centronics-compatible
Serial Port	9-pin D-sub, RS-232
External VGA Port	15-pin D-sub (VGA compatible)

Hardware Options & Accessories

Option 1EC	75 Ohm impedance version
Option 1D5	High stability frequency reference
Option 100	Fault location and structural return loss measurement

System Features

Built-in Disk Drive	3.5-inch floppy drive, MS-DOS and LIF formats, 1.44 MB
Real-Time Clock	Time and date stamps for saved files

Options

Option 1E1	Adds a 60 dB step attenuator to extend power range down to -85 dBm (50 Ω) or -80 dBm (75 Ω)
Option 1C2	Adds IBASIC (Instrument BASIC) capability
Option 1CM	Rack mount kit without handles
Option 1CP	Rack mount kit with handles

Storage

Floppy Disk Format	3.5-inch 1.44 MB (MS-DOS and LIF formats)
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Display Capabilities

Magnitude Display Resolution	0.01 dB/division
Phase Display Resolution	0.01°/division

TECHNOLOGY

Vector Network Analysis

APPLICATIONS

RF component characterization, S-parameter testing, filter tuning, amplifier test, CATV tap testing

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