

KEYSIGHT TECHNOLOGIES (AGILENT HP)

3335A

The Keysight (Agilent HP) 3335A is a high-precision Synthesizer/Level Generator designed for telecommunications testing, calibration, and precise R&D applications. Operating across a frequency range of 200 Hz to 81 MHz, it is celebrated for its unmatched level flatness of ± 0.05 dB, superb frequency resolution, and standard HP-IB system compatibility.

SPECIFICATIONS

General

Interfaces	HP-IB (IEEE-488)
Display	7-segment red LED digital display for frequency, amplitude, and parameters
Warm-up Time	20 minutes (standard), 24 hours (Option 001)

Physical

Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	425.5 mm × 132.6 mm × 497.8 mm mm
Weight	19 kg kg

Frequency Specifications

Frequency Range	200 Hz to 80.999 999 999 MHz
Frequency Resolution	0.001 Hz (1 mHz)
Frequency Reference Aging Rate	$< 1 \times 10^{-8}$ per day (standard); $< 5 \times 10^{-10}$ per day (with high-stability Option 001)
Phase Offset Adjustability	Adjustable in 0.1° increments

Amplitude and Level Control

Output Level Range (50 Ω)	-86.98 dBm to +13.01 dBm
Output Level Range (75 Ω)	-86.96 dBm to +13.01 dBm
Amplitude Resolution	0.01 dB
Output Impedance	Dual front panel outputs: 50 Ω and 75 Ω (individually selectable)

Spectral Purity

Harmonics	< -40 dBc (10 MHz to 80 MHz); < -45 dBc (200 Hz to 10 MHz)
Non-Harmonic Spurious	< -70 dBc
SSB Phase Noise (10 kHz offset, 80 MHz carrier)	< -105 dBc/Hz
SSB Phase Noise (10 kHz offset, 10 MHz carrier)	< -112 dBc/Hz

Sweep and List Modes

Sweep Types

Single, Auto, and Manual step sweep

Inputs and Outputs

RF Output Connector Type

Dual BNC (one 50 Ω , one 75 Ω) on front panel

External Reference Input Frequency

Accepts 1, 2, 5, or 10 MHz references (internal system locks to 40 MHz)

Internal Reference Output Frequency

10 MHz

Physical Characteristics

Form Factor

Standard HP full-width benchtop instrument with rackmount capability

Rack Unit Height

3U

Performance

Amplitude Flatness (50 Ω)

± 0.15 dB (10 kHz to 80 MHz, relative to 100 kHz)

Amplitude Flatness (75 Ω)

± 0.15 dB (10 kHz to 80 MHz, relative to 100 kHz)

Phase Increment

0.1°

Option 002 Balanced Output Impedances

124 Ω , 135 Ω , 150 Ω , 600 Ω

Option 002 Balanced Output Frequency Ranges

124 Ω : 10 kHz to 10 MHz; 135 Ω & 150 Ω : 10 kHz to 2 MHz; 600 Ω : 10 kHz to 150 kHz

Frequency Reference Temperature Stability (Standard)

$< \pm 1 \times 10^{-6}/^{\circ}\text{C}$

Frequency Reference Temperature Stability (Option 001)

$\pm 2 \times 10^{-10}/^{\circ}\text{C}$ (0 °C to 55 °C)

Environmental

Storage Temperature Range

-40 °C to +75 °C

Inputs & Outputs

Rear Panel Analog Sweep Outputs

X-Drive (0 to 10 V) and Z-Blanking/Pen Lift

Frequency Reference

Option 001 Reference Aging Rate

$< 5 \times 10^{-10}$ per day (after 10 days warm-up)

External Reference Input Level

0 dBm to +15 dBm

External Reference Input Impedance

50 Ω

Internal Reference Output Level (1 MHz / 10 MHz)

≥ 0 dBm into 50 Ω

RF Output Characteristics

Return Loss (50/75 Ω Unbalanced, 200 Hz - 10 MHz)	≥ 30 dB
Return Loss (50/75 Ω Unbalanced, 10 MHz - 50 MHz)	≥ 26 dB
Return Loss (50/75 Ω Unbalanced, 50 MHz - 80 MHz)	≥ 23 dB (50 MHz - 81 MHz)

Sweep Characteristics

Sweep Steps Range	10 to 999 steps
Sweep Time per Step Range	10 ms to 99.9 s

Option 002 Balanced Output

Option 002 Balanced Output Level Range (124/135/150 Ω)	-86.98 dBm to +13.01 dBm
Option 002 Balanced Output Level Range (600 Ω)	-83.98 dBm to +16.01 dBm
Option 002 Balanced Output Flatness (124/135/150 Ω)	± 0.15 dB (10 kHz to 2 MHz)
Option 002 Balanced Output Flatness (600 Ω)	± 0.15 dB (50 Hz to 50 kHz)
Option 002 Balance (124/135/150 Ω)	> 40 dB (10 kHz to 2 MHz)
Option 002 Balance (600 Ω)	> 40 dB (50 Hz to 50 kHz)

TECHNOLOGY

Fractional-N Synthesis

APPLICATIONS

Telecommunications testing, calibration, precise level-selective measurements

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.