



Agilent 8347A, 8447A, and 8447D Amplifiers Data Sheet



RF & Microwave Amplifiers Specifications Summary for 8347A RF Amplifier (Discontinued) and 8447A/D Preamplifier

	8347A RF Amplifier (Discontinued)	8447A Preamplifier	8447D Preamplifier
Frequency range	100 kHz to 3 GHz	0.1 to 400 MHz	100 kHz to 1.3 GHz
Typical 3 dB bandwidth	—	50 kHz to 700 MHz	75 kHz to 1.7 GHz
Maximum leveled output power	$\geq +20$ dBm	—	—
Output power leveling range	(≥ 300 kHz): +2 to +20 dBm	—	—
Gain (mean, per channel)	≥ 25 dB	20 dB \pm 1.0 dB at 10 MHz (20° to 30 °C)	> 25 dB (20° to 30 °C)
Gain flatness across full frequency range	Internally leveled ± 300 kHz: ± 1.5 dB	± 1.8 dB (0° to 55 °C) ± 0.7 dB (20° to 30 °C) characteristic	± 1.5 dB
Noise figure	10 MHz to 3 GHz: 15 dB Below 10 MHz: 20 dB	< 7 dB	< 8.5 dB
Output power for 1 dB gain compression	+22 dBm	$> +6$ dBm	$> +7$ dBm typical
Third-order intercept	+30 dBm	—	—
Harmonic distortion	(at +20 dBm output) Internal level off (ALC off): ≤ -25 dBc	-32 dB for 0 dBm output Internal level on (ALC on): ≤ -20 dBc	-30 dB for 0 dBm output (typical)
Maximum input for minimum internally leveled output	-14 dBm	—	—
Output for < -60 dB harmonic distortion	—	-25 dBm (characteristic)	-30 dBm
VSWR	2.0: 1 input 1.5: 1 output internally leveled 2.0: 1 output unlevelled below 2 GHz 3.0: 1 output unlevelled 2 GHz to 3 GHz	< 1.7	< 2.0 input < 2.2 output 1 to 1300 MHz
Reverse isolation	60 dB	> 30 dB	> 40 dB
Maximum dc voltage output	—	± 10 V	± 10 V
Size	213 mm W x 102 mm H x 298 mm D (8.4 in x 4.0 in x 11.8 in)	130 mm W x 85.8 mm H x 261 mm D (5.1 in x 3.4 in x 8.5 in)	130 mm W x 85.8 mm H x 216 mm D (5.1 in x 3.4 in x 8.5 in)
Weight	Net, 4 kg (8 lb) Shipping, 5 kg (11 lb)	Net, 1.56 kg (3.4 lb) Shipping, 2.3 kg (5.1 lb)	Net, 1.56 kg (3.4 lb) Shipping, 2.3 kg (5.1 lb)
Power requirements	—	110 or 230 Vac + 10%, 48 to 440 Hz, 15 W	110 or 230 Vac + 10% 48 to 440 Hz, 15 W
Options available	—	Option 001: Dual-channel amp	Option 001: Dual-channel amp BNC (f) connectors Option 010: Single-channel amp Type-N (f) connectors Option 011: Dual-channel amp Type-N (f) connectors



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Phone or Fax

United States:

(tel) 800 829 4444
(fax) 800 829 4433

Canada:

(tel) 877 894 4414
(fax) 800 746 4866

China:

(tel) 800 810 0189
(fax) 800 820 2816

Europe:

(tel) 31 20 547 2111

Japan:

(tel) (81) 426 56 7832
(fax) (81) 426 56 7840

Korea:

(tel) (080) 769 0800
(fax) (080)769 0900

Latin America:

(tel) (305) 269 7500

Taiwan:

(tel) 0800 047 866
(fax) 0800 286 331

Other Asia Pacific Countries:

(tel) (65) 6375 8100
(fax) (65) 6755 0042

Email: tm_ap@agilent.com

Contacts revised: 9/17/04

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