



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	≥ +20 dBm	—	—
Output power leveling range	(≥ 300 kHz): +2 to +20 dBm	—	—
Gain (mean, per channel)	≥ 25 dB	20 dB ± 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 unleveled below 2 GHz 3.0: 1 output unleveled 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 BNC (f) connectors Option 010: Single-channel amp Type-N (f) connectors Option 011: Dual-channel amp Type-N (f) connectors

