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Data Sheet

August 14, 2026

AMPLIFIER RESEARCH

Amplifier Research 50S1G4A

Amplifier Research 50S1G4A Solid State Microwave Amplifier The Amplifier Research 50S1G4A is a solid-state air-cooled broadband amplifier providing 50 W CW minimum from 0.8 GHz to 4.2 GHz. OEM product data list 47 dB minimum gain, remote gain adjustment, and IEEE-488/RS-232 control for wireless and EMC applications. Multi-band wireless component testing and EMC radiated immunity drive requiring linear envelopes through 4.2 GHz. Solid state Class A broadband microwave design The Amplifier Research 50S1G4A is a solid-state air-cooled broadband amplifier providing 50 W CW minimum from 0.8 GHz to 4.2 GHz. OEM product data list 47 dB minimum gain, remote gain adjustment, and IEEE-488/RS-232 control for wireless and EMC applications. Multi-band wireless component testing and EMC radiated immunity drive requiring linear envelopes through 4.2 GHz. Solid state Class A broadband microwave design Digital local and remote amplifier control



MODEL

**Amplifier Research
50S1G4A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

50S1G4A

LISTING

<https://aumictechlabs.com/products/50s1g4a-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Amplifier Research 50S1G4A is a solid-state, air-cooled broadband RF amplifier delivering 50 watts minimum CW output across 0.8 GHz to 4.2 GHz. Built for driver applications in wireless, communications, and EMC testing, it combines high gain with linear performance and instantaneous bandwidth to faithfully reproduce AM, FM, and pulse modulation without distortion.

The unit features automatic RF input leveling protection, mismatch tolerance across any load impedance, and over-temperature safeguards. Front-panel gain control provides approximately 10 dB adjustment range, while IEEE-488 and RS-232 interfaces enable remote operation. A digital display monitors operational status and fault conditions. The amplifier mounts to a benchtop cabinet or fits standard equipment racks.

Technical Specifications

Output Power: 50 W minimum CW; 70 W nominal at 1 dB compression; 60 W at 1 dB compression point

Frequency Range: 0.8 GHz to 4.2 GHz

Gain: 47 dB maximum; 10 dB adjustment range

Small Signal Flatness: ± 1.5 dB typical, ± 2.0 dB maximum

Input for Rated Output: 0 dBm maximum (1.0 milliwatt)

Output Impedance: 50 ohms

Modulation: AM, FM, pulse (linear reproduction)

Spurious Signals: Low level

Power Requirements: 100/240 VAC, 850 VA, single phase

Dimensions: 50.3 × 24.9 × 54.6 cm

Weight: 32 kg (100 lbs)

Key Features

- RF input leveling circuit - automatically controls input to first stage when input exceeds 0 dBm
- Full mismatch tolerance - operates without damage or oscillation at 100% rated power under any load impedance condition
- Over-temperature protection - removes DC voltage to amplifier stages on cooling failure or blockage
- Type N female RF connectors (rear panel)
- Low spurious signal output

Typical Applications

- Driver amplifier for wireless and communications component testing
- EMC testing with undistorted modulation envelopes
- Multi-frequency laboratory measurements

Compatibility & Integration

Local Control: Front panel gain potentiometer

Remote Control: IEEE-488 (GPIB), RS-232

Status Monitoring: Digital display for operate status and fault indication

50S1G4A Characteristics / Specifications

PARAMETER	VALUE
Rated Output Power	50 watts minimum
Input For Rated Output	1.0 milliwatt maximum
Power Output At 3 dB Compression Nominal	70 watts
Power Output At 3 dB Compression Minimum	50 watts
Power Output At 1 dB Compression Nominal	60 watts
Power Output At 1 dB Compression Minimum	40 watts
Flatness Typical	plus or minus 1.5 dB
Flatness Maximum	plus or minus 2.0 dB
Frequency Response	0.8 to 4.2 GHz instantaneously
Gain At Maximum Setting	47 dB minimum
Gain Adjustment Range	10 dB minimum (4096 remote steps)
Input Impedance	50 ohms, VSWR 2.0:1 maximum
Output Impedance	50 ohms nominal
Mismatch Tolerance	100 percent of rated power without foldback
Harmonic Distortion	minus 20 dBc maximum at 50 watts
Spurious Typical	minus 73 dBc
Phase Linearity Typical	plus or minus 1.0 deg per 100 MHz
Primary Power	90 to 132 or 180 to 264 VAC, 50/60 Hz, 600 W maximum
Weight Standard Config	45 kg (100 lb)
Size Standard Config WxHxD	50.3 × 24.9 × 54.6 cm
Remote Interfaces	IEEE 488 and RS 232
RF Connectors Standard	TypeNfemale front panel
Cooling	Forced air self contained fans

50S1G4A Specifications

PARAMETER	VALUE
Applications	Multi-band wireless component testing and EMC radiated immunity drive requiring linear envelopes through 4.2 GHz.
Key Features	Solid state Class A broadband microwave design
Digital local and remote amplifier control	RF input leveling above 0 dBm
Technical Specifications	Rated Output Power: 50 watts minimum
Notes	From Amplifier Research Model 50S1G4A OEM datasheet (M1 through M4). User queue model 50S1G4A maps directly to this sheet.

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	
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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

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