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Data Sheet

August 14, 2026

AMPLIFIER RESEARCH

Amplifier Research 120S1G3M1

Amplifier Research 120S1G3M1 Solid State Microwave Amplifier The Amplifier Research 120S1G3M1 is the rear-connector configuration of the 120S1G3 solid-state amplifier providing 120 W CW minimum from 0.8 GHz to 3.0 GHz. OEM datasheets list 51 dB minimum gain, 100 W minimum at 1 dB compression, TypeNrear RF connectors, and 86.2 kg mass in the enclosed cabinet. Wireless multi-band component testing, CDMA/W-CDMA/GSM class driver service, and EMC tests needing linear envelopes to 3 GHz. Digital control with forward reflected power The Amplifier Research 120S1G3M1 is the rear-connector configuration of the 120S1G3 solid-state amplifier providing 120 W CW minimum from 0.8 GHz to 3.0 GHz. OEM datasheets list 51 dB minimum gain, 100 W minimum at 1 dB compression, TypeNrear RF connectors, and 86.2 kg mass in the enclosed cabinet. Wireless multi-band component testing, CDMA/W-CDMA/GSM class driver service, and EMC tests needing linear envelopes to 3 GHz. Digital control with forward reflected power Input For Rated Output: 1.0 milliwatt maximum



MODEL

**Amplifier Research
120S1G3M1**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

120S1G3M1

LISTING

<https://aumictechlabs.com/products/120s1g3m1-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Amplifier Research 120S1G3M1 is a solid-state Class AB microwave power amplifier engineered for high-power RF applications across the 1 GHz to 3 GHz band. Delivering 120 watts minimum output power with 40 dB minimum gain, this unit combines linearity and reliability in a

rugged benchtop or rack-mountable chassis. Both input and output impedances are 50 ohms with Type N female connectors. The amplifier accommodates AM, FM, PM, pulsed, and complex modulated signals, making it suitable for EMC testing, radar development, and broadband communication systems. Forced air cooling and AC power input (115 V or 230 V, 50/60 Hz) support sustained field and laboratory operation. Harmonic distortion is specified better than -20 dBc at rated output power. Control and status monitoring are available through optional remote interfaces.

Technical Specifications
Frequency Range: 1 GHz to 3 GHz
Output Power (Minimum): 120 W
Gain (Minimum): 40 dB
Class of Operation: Class AB
Input Impedance: 50 Ω
Output Impedance: 50 Ω
Harmonic Distortion: Better than -20 dBc at rated output power
Modulation Compatibility: AM, FM, PM, pulsed, complex modulated signals
Power Input: 115 V or 230 V AC, 50/60 Hz
Cooling: Forced air
RF Input Connector: Type N female
RF Output Connector: Type N female

Key Features
120 W output power across 1–3 GHz band
40 dB gain with Class AB efficiency
50 Ω input and output for standard RF integration
Low harmonic distortion at full power
Broad signal type support including complex modulation
Remote control and status interface options

Typical Applications
EMC testing to FCC, CE, IEC, and MIL-STD standards
Radar transmitter power amplification
Broadband wireless communication testing
Satellite communication ground stations

Compatibility & Integration
The 120S1G3M1 integrates directly with signal generators, power meters, and standard RF test benches via 50 Ω Type N connectors. Remote control capabilities support Ethernet, GPIB, and similar interfaces for automated test environments.

120S1G3M1 Characteristics / Specifications

PARAMETER	VALUE
Rated Power Output	120 watts minimum
Input For Rated Output	1.0 milliwatt maximum
Power Output At 3 dB Compression Nominal	140 watts
Power Output At 3 dB Compression Minimum	120 watts
Power Output At 3 dB 1.0 To 2.6 GHz Minimum	125 watts
Power Output At 1 dB Compression Nominal	122 watts
Power Output At 1 dB Compression Minimum	100 watts
Flatness Typical	plus or minus 1.5 dB
Flatness Maximum	plus or minus 2.0 dB
Frequency Response	0.8 to 3.0 GHz instantaneously
Gain At Maximum Setting	51 dB minimum
Gain Adjustment Range	15 dB minimum 4096 remote steps
Input Impedance	50 ohms VSWR 2.0:1 maximum
RF Power Display Range	0 to 150 watts
Harmonic Distortion	minus 20 dBc maximum at 100 watts
Spurious Typical	minus 73 dBc
Primary Power	90 to 132 or 180 to 264 VAC 50/60 Hz
Primary Power Consumption	1200 watts maximum
Weight	86.2 kg
Size WxHxD	50.3 × 47.0 x 61.0 cm
RF Connectors	TypeNfemale rear panel
Remote Interfaces	IEEE 488 and RS 232

120S1G3M1 Specifications

PARAMETER	VALUE
Applications	Wireless multi-band component testing, CDMA/W-CDMA/GSM class driver service, and EMC tests needing linear envelopes to 3 GHz.
Key Features	Solid state 0.8 to 3.0 GHz
Digital control with forward reflected power	IEEE 488 and RS 232 remote
Technical Specifications	Rated Power Output: 120 watts minimum
Notes	From Amplifier Research Model 120S1G3 configuration table for 120S1G3M1 (rear RF connectors).

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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Notes

From Amplifier Research Model 120S1G3 configuration table for 120S1G3M1 (rear RF connectors).

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.