

Amplifiers

Model AR08M4-100

Features:

- 100 W CW, 0.8 – 4.0 GHz
- Class A design
- 100% mismatch tolerant
- Built-in fault monitoring and protection
- Remote control: Ethernet, USB, GPIB, fiber-optic serial, RS-232
- Modular design for easy maintenance and service
- Low acoustical noise
- 3 Year Warranty

Applications:

- EMC (military, aviation, automotive, commercial)
- Radiated and conducted EMC testing
- General purpose, antenna, and component testing
- 4G LTE, 5G NR (FR1/FR2), OFDM, PSK/QAM, Wi-Fi etc.

To view our full amplifier portfolio visit: www.ar.ametek-cts.com

AR RF/Microwave Instrumentation
160 Schoolhouse Rd
Souderton, PA 18964
215.723.8181
ISO 9001: 2015 Certified
ISO 17025 :2017 Accredited

The Model AR08M4-100 is a self-contained, air-cooled, solid-state Class A broadband power amplifier designed for applications demanding wide bandwidth coverage, high gain, and linear performance. It delivers a minimum 100 W over a frequency range of 0.8 to 4.0 GHz. The unit includes safeguards against input overdrive beyond 10 dBm, as well as various fault conditions such as excessive temperature and power supply issues.



A front panel display shows both operational status and any detected faults. All control functions and status indicators can also be accessed remotely via GPIB/IEEE-488, RS-232, USB, or Ethernet, with interface connectors situated on the rear panel. The touchscreen on the front panel manages local and remote operation.

This versatile amplifier features low spurious emissions and strong linearity, making it ideal for use as a driver when testing wireless and communication components and subsystems. Its extensive bandwidth makes it suitable for 5G test applications, and its Class A architecture is advantageous for EMC testing, especially under challenging load conditions such as high VSWR, open, or short circuits.

Export classification for this device is 3A001. These goods, technologies, or software are regulated under U.S. Export Administration Regulations, and unauthorized diversion is prohibited by U.S. law.

Model AR08M4-100

- **100** W
- **0.8 – 4.0** GHz

Electrical Specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output	PSAT	160	170	>180	W
Input for Rated Output	Pin			1	mW
				0	dBm
Power Output @ 3 dB Compression	P3dB	160	170	>180	W
Power Output @ 1 dB Compression	P1dB	100	130	>140	W
Operating Frequency	BW	0.8		4.0	GHz
Gain (Small Signal)		50			dB
Gain Reduction Adjustment (when below gain compression)		30			dB
Flatness @ small signal (-20 dBm input)	ΔG		±2.0	±3.0	dB
Input Impedance	Z in		50		Ohm
			1.5:1	2.0:1	VSWR
Output Impedance	Z out		50		Ohm
3rd Order Intercept	IP3		+61		dBm
Noise Figure	NF		12		dB
Harmonic Distortion @ 100 W	H2, H3		-25	-20	dBc
Spurious			-65		dBc
Power Consumption	PD			680	W

Absolute Maximum Rating

Exceeding any of the limits listed here may result in permanent damage to the device.

Parameter	Minimum	Typical	Maximum	Unit
RF Drive		0	+10	dBm
RF Load		1:1	∞	VSWR
RF Load Reflected Will operate without damage or oscillation when connected to any load impedance without the aid of foldback circuitry.			100	%
AC Power (single phase)	90		264	VAC
AC Power	47	60	63	Hz
Ambient Temperature	+5	+25	+40	°C
Storage Temperature	-20		+50	°C
Altitude			2000	m
Shock/Vibration	MIL-STD-810G Method 514 and 516			

Mechanical Specifications		
Parameters	**Typical**	**Unit**
Dimensions (W x H x D), 4U Rack	48.3 x 17.8 x 61.5	cm
	19.0 x 7.0 x 24.2	in
Weight	27	kg
	60	lb
Cooling	Forced air (self-contained fans)	
Acoustic Noise Measured @ 1 Meter	62	dBA

Connector Interfaces	
Function	**Type**
RF Input	N, female, (50 Ω)
RF Output	N, female, (50 Ω)
RF Sample	N, female, (50 Ω) (40dB typical)
IEEE-488	24-pin
RS-232	9 pin subminiature D
Ethernet	RJ-45
USB 2.0	Type B
Interlock	Via rear panel mounted BNC-female

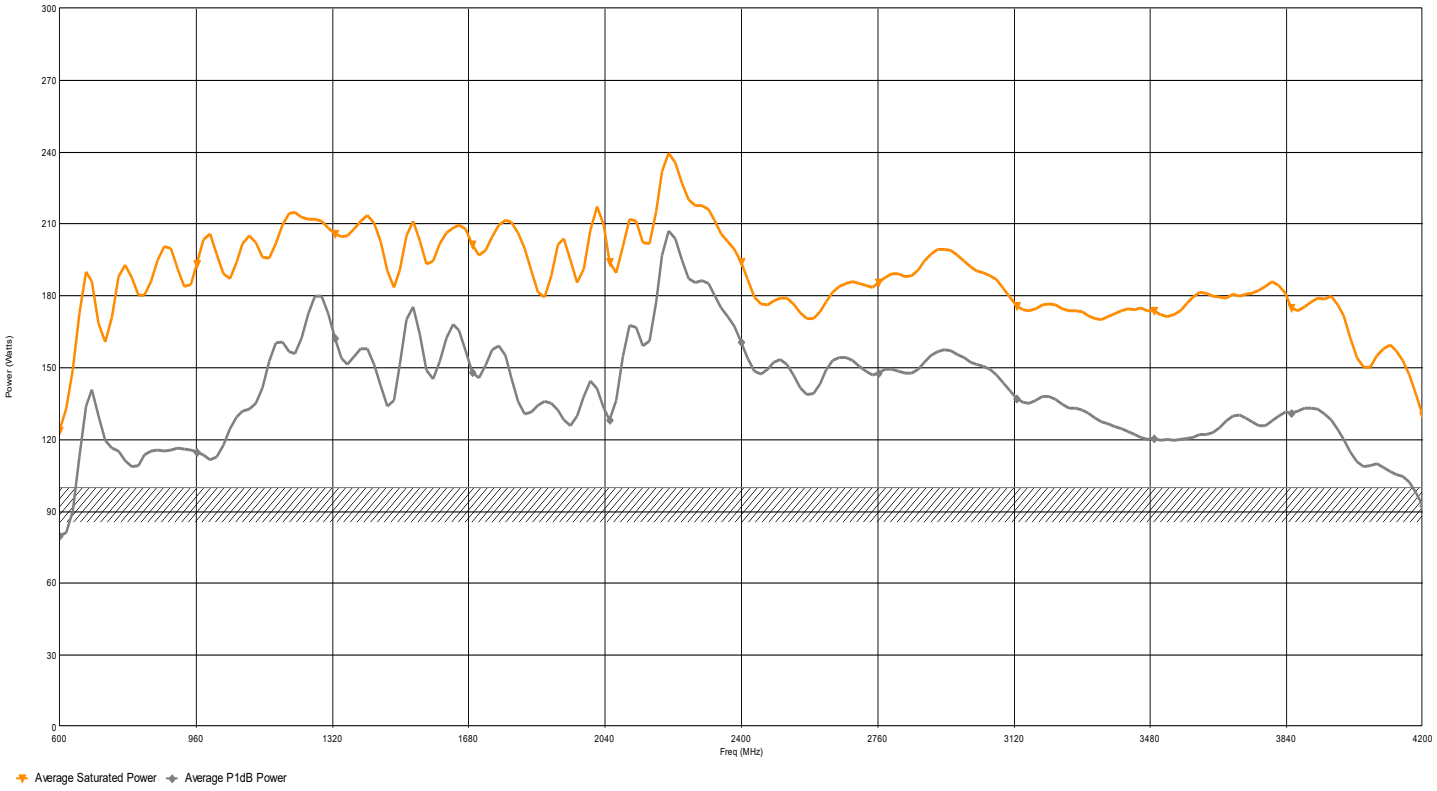
Regulatory Compliance	
Type	**Standard**
EMC	EN 61326-1
Safety	UL 61010-1
	CAN/CSA C22.2 #61010-1
	CENELEC EN 61010-1
RoHS	Directive 2011/65/EU
Export	3A001

Available Configurations		
Product	**Configuration**	**Item #**
AR08M4-100-001	Front Panel RF Connectors	4-342016
AR08M4-100-002	Rear Panel RF Connectors	4-342017

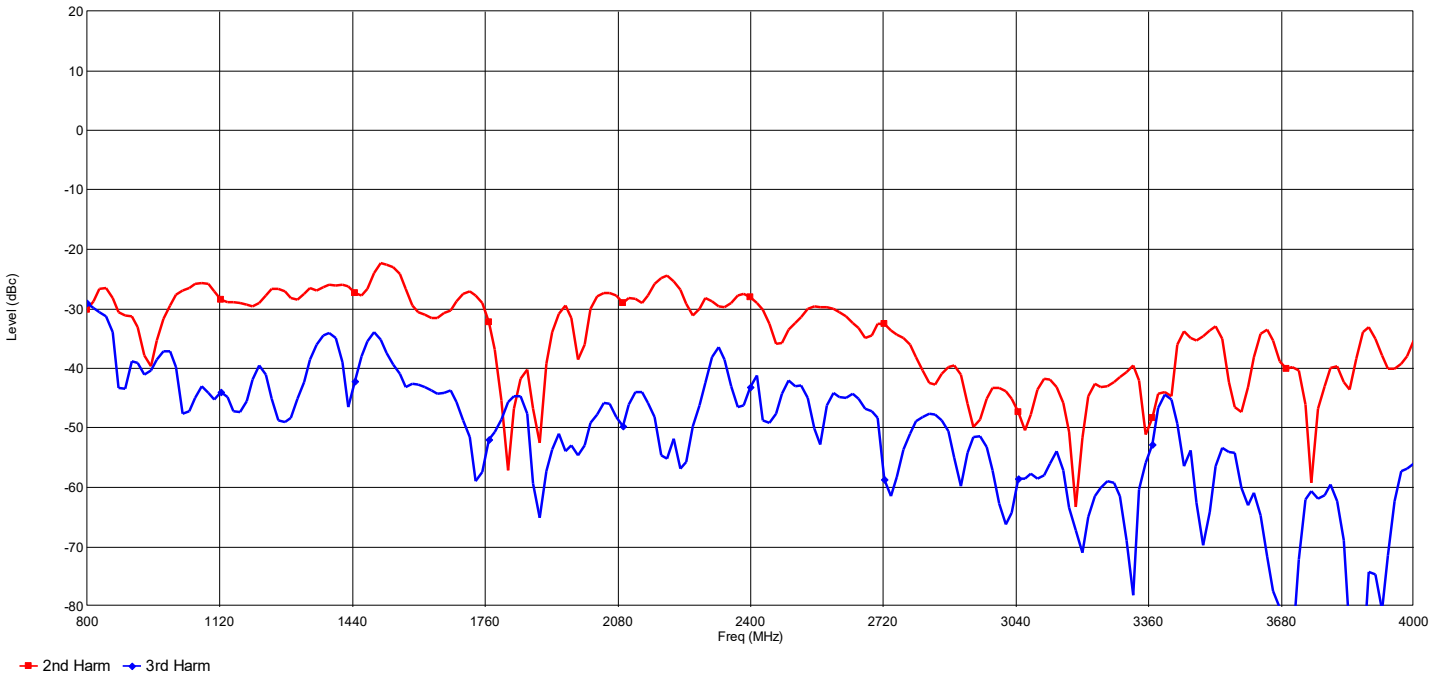
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Typical Output Power



Harmonics



Small Signal Gain

