



# CBA 1G-250

## 80 MHz TO 1 GHz 250 WATT CLASS A BROADBAND AMPLIFIER



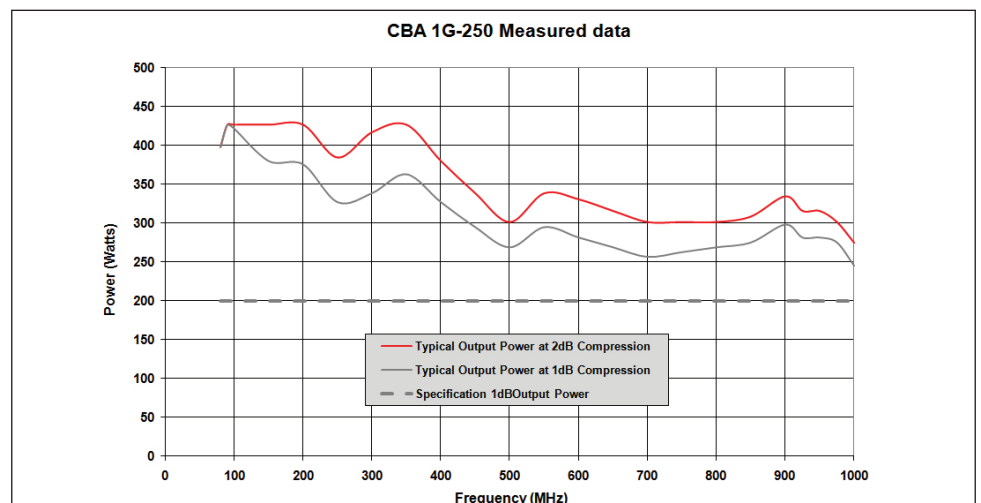
Designed specifically for radiated EMC testing, this mismatch tolerant Class A amplifier delivers power continuously into the very poor match typically associated with broadband EMC antennas when used at low frequency.

Since antennas typically exhibit their lowest gain at the lowest frequency, more power is required here than at the higher frequencies. Unlike other amplifiers designed for general purpose applications, this EMC specific amplifier maximises the linear power at the lowest frequency, making it ideal for use in this very specialised application.

The GaAs Class A design ensures a high reliability, low distortion linear performance across the frequency range. This design also ensures that the amplifier will continue to operate at full power even when presented with an open or short circuit at its output. The use of gallium arsenide technology represents a breakthrough in amplifier design for this frequency range and output power. Previous designs based on silicon technology suffer from relatively poor compression characteristics, low efficiency and sometimes poor reliability.

The unit is powered from a switched mode power supply for high efficiency, high power factor and wide voltage range operation. The unit is air-cooled with integral fans, and is protected against faulty cooling by excess temperature sensing. A safety interlock connector is provided, which the user can short circuit to ground, to put the amplifier into standby mode. Front panel indicators are provided to indicate over-temperature and rf interlock operation.

- **Class A linear and low distortion design**
- **High reliability gallium arsenide technology**
- **Mismatch tolerant and unconditionally stable**
- **Wide instantaneous bandwidth**
- **Typical 2 dB compression data (as described in IEC 61000-4-3) provided**
- **Harmonics remain below 20 dBc at actual 1 dB compression point**
- **Three year parts and labour warranty**



Advanced Test Solutions for EMC

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### **CLASS A BROADBAND AMPLIFIER**

#### **Technical specifications**

Frequency range (instantaneous)	80 to 1000 MHz
Rated output power	250 W minimum (350 W typical 80 MHz to 500 MHz)
Output power at 1 dB gain compression	200 W minimum (300 W typical 80 MHz to 500 MHz)
Gain	55 dB
Third order intercept point (see note 1)	64 dBm
Gain variation with frequency	±3 dB
Harmonics at 200 W output	Better than -20 dBc
Output impedance	50 Ohms
Stability	Unconditional
Output VSWR tolerance (see note 2)	Infinite any phase
Input VSWR	2:1
RF connector style	Type N female
Safety interlock	BNC female, s/c to mute
USB interface	Optional
Supply voltage (single phase)	184 to 264 Vac
(Floating input allows operation across 2 phases)	
Supply frequency range	45 to 63 Hz
Supply power	<2 kVA (nominal 1.6 kVA)
Mains connector	IEC320
Conducted and radiated emissions	EN61326 Class A
Conducted and radiated immunity	EN61326: 1997 Table 1
Mains harmonic currents	EN61000-3-2
Voltage fluctuations and flicker	EN61000-3-3
Safety	EN61010-1
Case dimensions	19 inch, 6U case, 550 mm deep
Delivered ready for inclusion into a standard rack	
Mass	25 kg
Operating temperature range	0 to 40°C
Options (select at time of ordering)	
341-731	Rack mountable with rear panel mounted input/output connectors
341-831	Rack mountable with front panel mounted input/output connectors

#### **Teseq AG**

Nordstrasse 11F 4542 Luterbach Switzerland  
T +41 32 681 40 40 F +41 32 681 40 48  
sales@teseq.com [www.teseq.com](http://www.teseq.com)

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#### **Notes:**

1. The third order intercept point is a nominal value, as its calculation depends upon the power level at which distortion measurements are made.
2. Output VSWR tolerance is specified for excitation within the permitted levels and frequency range.