



## **CBA 1G-150** **80 MHz TO 1 GHz 150 WATT** **CLASS A BROADBAND AMPLIFIER**



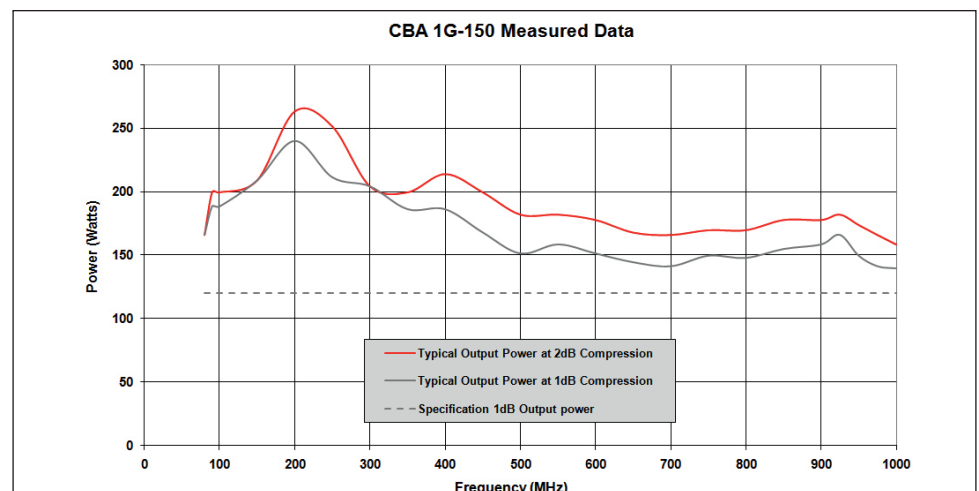
- **Class A linear and low distortion design**
- **High reliability gallium arsenide technology**
- **Mismatch tolerant and unconditionally stable**
- **Wide instantaneous bandwidth**
- **Typical 2 dB compression data (as described in IEC 61000-4-3) provided**
- **Three year parts and labour warranty**

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 and low efficiency.

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.



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#### **Key RF Parameters**

Frequency range (instantaneous)	80 to 1000 MHz
Rated output power	150 W minimum (175 W typical 80 MHz to 500 MHz)
Output power at 1 dB gain compression	120 W minimum (150 W typical 80 MHz to 500 MHz)
Harmonics at 120 W output power	Better than -20 dBc
Gain	52 dB
Gain variation with frequency	±2 dB
Maximum input power (no damage)	+10 dBm

#### **Impedance / VSWR**

Output VSWR tolerance <sup>1</sup>	Infinite any phase
Stability	Unconditional
Output impedance	50 Ohms
Input VSWR	2:1

#### **Additional RF Data**

Third order intercept point <sup>2</sup>	61 dBm
RF connector style	Type N female

#### **Electrical and Interfaces**

USB interface	Optional
Safety interlock	BNC female, s/c to mute
Supply voltage (single phase)	85 to 264 Vac
Supply frequency range	45 to 63 Hz
Supply power	<1 kVA (typical 750 VA )

#### **Physical / Environmental**

Case dimensions	19 inch, 4U case, 400 mm deep
Weight	23 kg
Operating temperature range	0 to 40°C

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#### **Notes:**

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

# **T ESEQ**

Advanced Test Solutions for EMC