



CBA 3G-050

800 MHz TO 3.1 GHz 50 WATT CLASS A BROADBAND AMPLIFIER



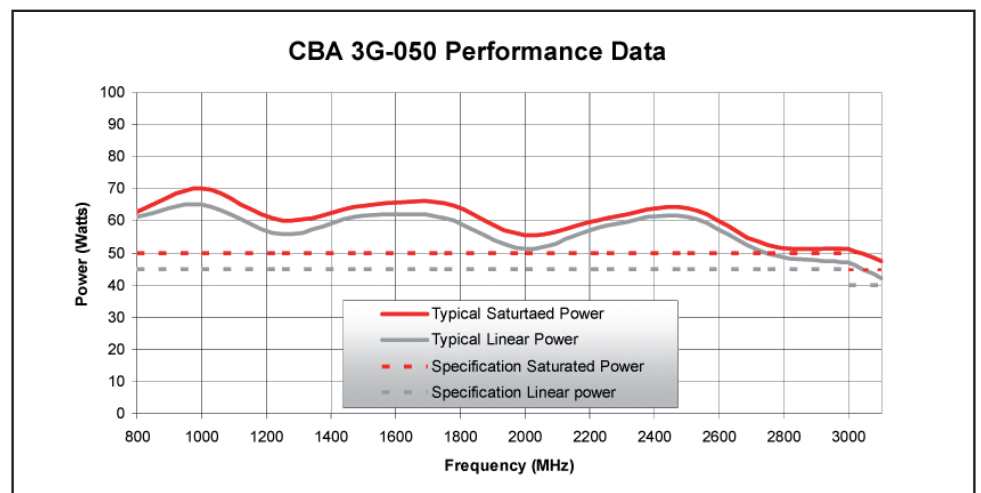
- **Class A linear and low distortion design**
- **High reliability gallium arsenide technology**
- **Mismatch tolerant and unconditionally stable**
- **Wide instantaneous bandwidth**
- **Three year parts and labour warranty**

Designed specifically for Radiated EMC testing, this mismatch tolerant Class A amplifier delivers power continuously into the poor and variable match typically associated with testing above 1 GHz. Although antennas are usually well matched at these high frequencies, the presence of the EUT in the path of the antenna causes high levels of reflected power which only full Class A amplifiers can tolerate.

Whilst antenna gain is relatively constant, increasing cable losses at the higher frequencies demand increasing power with increasing frequency. Teseq amplifiers are therefore designed to maintain their high linear output power right up to and beyond the defined frequency range.

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 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 condition.



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Key RF Parameters

Frequency range (instantaneous)	800 to 3100 MHz	
Rated output power	50 W minimum (55 W typical)	800 MHz to 3 GHz
	45 W minimum (50 W typical)	3.0 GHz to 3.1 GHz
Output power at 1 dB gain compression	45 W minimum (50 W typical)	800 MHz to 3 GHz
	40 W minimum (45 W typical)	3.0 GHz to 3.1 GHz
Harmonics at 45 W output (800 MHz to 3 GHz)	-20 dBc	
Gain	48 dB	
Gain variation with frequency	±2.5 dB	
Maximum input power (no damage)	+10 dBm	

Impedance / VSWR

Output VSWR tolerance ¹	Infinity:1
Stability	Unconditional
Output impedance	50 Ohms
Input VSWR	2:1

Additional RF Data

Third order intercept point ²	57 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	47 to 63 Hz
Supply power	<500 VA

Physical / Environmental

Case dimensions	19 inch, 4U case, 550 mm deep
Weight	20 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.