



## CBA 3G-300

# 800 MHz TO 3.1 GHz 300 WATT CLASS A BROADBAND AMPLIFIER



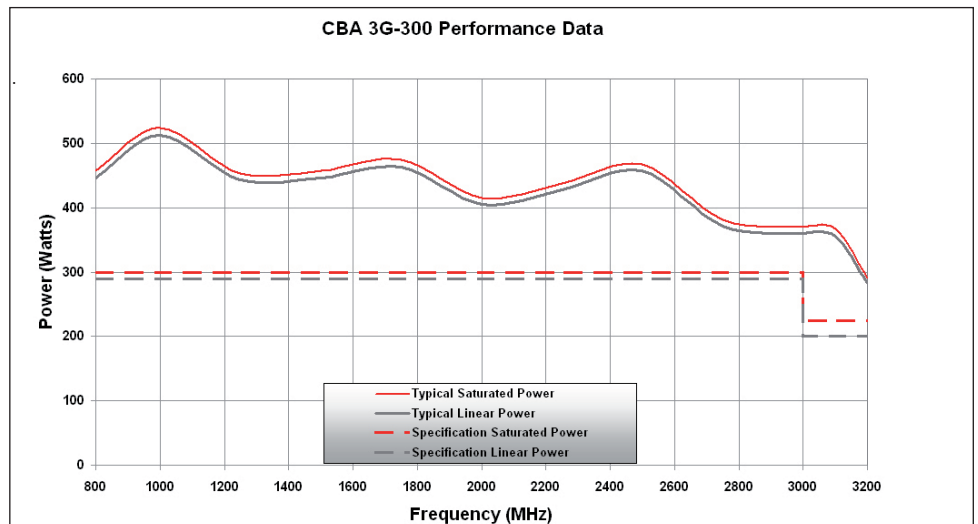
Designed specifically for radiated EMC testing, this mismatch tolerant class A amplifier delivers power continuously into the poor and variable match typically associated with testing above 1 GHz. Although antennas are usually well matched at these high frequencies, the presence of the EUT in the path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

Although 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. This amplifier will produce usable power up to 3.2 GHz, the power level is not defined but is typically around 200 Watts.

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.

- Class A linear and low distortion design
- High reliability gallium arsenide technology
- Mismatch tolerant and unconditionally stable
- Wide instantaneous bandwidth
- Remote control option





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### Technical specifications

|                                             |                                                                                                                                  |                   |         |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|
| Frequency range (instantaneous)             | 800 to 3000 MHz                                                                                                                  | >3000 to 3100 MHz |         |
| Rated output power                          | 300 W                                                                                                                            | 225 W             | minimum |
|                                             | 350 W                                                                                                                            | 250 W             | typical |
| Output power at 1 dB gain compression       | 290 W                                                                                                                            | 200 W             | minimum |
|                                             | 325 W                                                                                                                            | 225 W             | typical |
| Gain (nominal)                              | 56 dB                                                                                                                            |                   |         |
| Third order intercept point (see note 1)    | 65 dBm                                                                                                                           |                   |         |
| Gain variation with frequency               | ±4 dB                                                                                                                            |                   |         |
| Harmonics at 290 W output (80 MHz to 3 GHz) | Better than -20 dBc                                                                                                              |                   |         |
| Output impedance                            | 50 Ohms                                                                                                                          |                   |         |
| Stability                                   | Unconditional                                                                                                                    |                   |         |
| Output VSWR tolerance (see note 2)          | Infinite:1                                                                                                                       |                   |         |
| Input VSWR                                  | 2:1                                                                                                                              |                   |         |
| RF connector style                          |                                                                                                                                  |                   |         |
| Input                                       | Type N female                                                                                                                    |                   |         |
| Output                                      | Type N female                                                                                                                    |                   |         |
| Safety interlock                            | BNC female, s/c to mute                                                                                                          |                   |         |
| USB interface                               | Optional                                                                                                                         |                   |         |
| Supply voltage                              | 184 to 264 Vac<br>(phase to phase for Delta (Δ) or phase to neutral for star (Y))<br>(see options for three phase configuration) |                   |         |
| Supply frequency range                      | 45 to 63 Hz                                                                                                                      |                   |         |
| Supply power                                | <3 kVA                                                                                                                           |                   |         |
| Mains connector                             | Appropriate IEC 60309 plug (see options)                                                                                         |                   |         |
| Conducted and radiated emissions            | EN 61326 class A                                                                                                                 |                   |         |
| Conducted and radiated immunity             | EN 61326: 1997 table 1                                                                                                           |                   |         |
| Mains harmonic currents                     | EN 61000-3-2                                                                                                                     |                   |         |
| Voltage fluctuations and flicker            | EN 61000-3-3                                                                                                                     |                   |         |
| Safety                                      | EN 61010-1                                                                                                                       |                   |         |
| Case dimensions                             | 19 inch, 34U rack, 800 mm deep                                                                                                   |                   |         |
| Mass                                        | 150 kg                                                                                                                           |                   |         |
| Operating temperature range                 | 0 to 40°C                                                                                                                        |                   |         |
| Options (select at time of ordering)        |                                                                                                                                  |                   |         |
| 341-823                                     | Three phase plus P.E. delta connection no neutral (4 pin plug)                                                                   |                   |         |
| 341-923                                     | Three phase, neutral plus P.E. star connection (5 pin plug)                                                                      |                   |         |
| 341-999                                     | USB Interface (Remote control of standby/operate. Interlock and fault mode monitoring)                                           |                   |         |

#### 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.