

LOW COST +10dBm (LO) I&Q MODULATOR SERVES 1800 TO 2000MHz



Mini-Circuits IQBG-2000 is a passive in-phase and quadrature (I&Q) modulator designed and manufactured using the patented Blue Cell™ process. The unit is designed for use in wireless communication systems in the 1800 to 2000MHz personal communications service (PCS) band.

This patent Blue Cell™ modulator responds to the demands of equipment manufacturers to supply a low cost, highly repeatable I&Q modulator with carrier suppression previously unavailable in a small surface mount package. The design goals of 7.5dB conversion loss, -30dBc carrier/-34dBc sideband rejection, and third harmonic suppression of -50dBc (all typ) were attained using Blue Cell™ design techniques for multilayer thick film, planar technology. The Blue Cell™ process allows higher operating frequencies than core and wire based modulators, with a more compact size (0.575"x0.460"x0.130") than typical microwave designs. The size requires no more space than an active part with its associated bias circuitry and filter requirements, and the low noise floor is superior to active designs for excellent performance in poor signal to noise conditions. Maximum operating temperature range is -40°C to +85°C.

Thick film planar circuit designs are laid out and constructed using design and simulation software. The components are manufactured using automated production techniques for high unit-to-unit performance repeatability, excellent temperature stability, and reduced labor costs. In turn, time consuming tuning/trimming is eliminated in automated mass production, so cost savings and shorter time to market is realized.

The IQBG-2000 I&Q modulator is competitively priced at only \$39.95 each in low 1 to 9 quantities, and availability is off-the-shelf.