Abstracts

An Ultraminiature 2 to 18 GHz MMIC RF Converter for EW Applications

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Advances in gallium-arsenide (GsAs) monolithic microwave integrated circuits (MMIC's), miniature microwave filter technology, and planar microwave interconnection technology have made possible dramatic reductions in the size and weight of complex radio frequency (RF) modules. These technologies have been utilized in the design and implementation of a 2 to 18 GHz miniature, MMIC-based, RF converter line replaceable module (LRM) for EW applications. The converter, packaged in a etandard electronic module (SEM-E) housingmeasuring only 5.88 in. x 6.68 in. x 0.685 in., represents an approximate 5:1 reduction in size compared to an equivalent MIC version. A detailed discussion of the RF converter design is presented, along with measured performance data. The results are believed to be the first reported for a MMIC-based converter of this type, packaged in SEM-E format.

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