

Abstracts

A novel high frequency single-sideband transmitter using constant-envelope modulation

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A technique for single-sideband generation has been developed that obtains the desired output as the sum of three or more constant envelope signals. The summation may be performed by a passive summing network, or in space as the output of an antenna array in a particular direction. This paper describes a practical implementation of the technique, with lower sideband output at 7.2 MHz. Four constant-envelope signals from hard-limiting differential amplifiers drive a passive combiner to obtain +16 dBm peak-envelope-power lower-sideband. All undesired outputs are suppressed more than 30 dB. System requirements for high-power high-efficiency operation are discussed.

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