Abstracts

Wide dynamic range RF mixers using wide-bandgap semiconductors

C. Fazi and P.G. Neudeck. "Wide dynamic range RF mixers using wide-bandgap semiconductors." 1997 MTT-S International Microwave Symposium Digest 1. (1997 Vol. I [MWSYM]): 49-51.

This paper describes how wide-bandgap semiconductors, such as silicon carbide or gallium nitride, can be useful in developing a wide dynamic range RF mixer with low intermodulation distortion products, instead of using conventional narrow bandgap semiconductors, such as silicon and gallium arsenide junctions, which have limited dynamic range. A wider dynamic range mixer allows for the reception of weak RF signals, even in the presence of strong undesired signals. This feature also permits closer location of RF sources and receivers with less severe interference. Using an improved high-level mixer can lead to better communications, radar, and navigational equipment for aircraft, maritime, and other applications that share an overcrowded RF spectrum.

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