Abstracts

K-Band, Cryogenically Cooled, Wideband Nondegenerate Parametric Amplifier

S. Takahashi, M. Nojima, T. Fukuda and A. Yamada. "K-Band, Cryogenically Cooled, Wideband Nondegenerate Parametric Amplifier." 1970 G-MTT International Microwave Symposium Digest of Technical Papers 70.1 (1970 [MWSYM]): 100-103.

System design of satellite communications utilizing millimeter wavelength is being studied. It is most probable that the down link frequency will be between 15 and 20 GHz. That system will require wideband, low noise (around 100 °K) amplifiers at the earth stations. Only cooled nondegenerate parametric amplifiers are able to meet requirements. But bandwidths and noise temperatures of those amplifiers already reported on in this band were several tens of MHz and several hundred degrees Kelvin, respectively. This paper describes design and performance of a cryogenically cooled, wideband (600 MHz), low noise (100 °K) nondegenerate parametric amplifier.

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