Abstracts

High-Performance HEMT Amplifiers with a Simple Low-Loss Matching Network (Short Papers)

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We report on the design and performance of a K-band HEMT amplifier whose passive circuit consists of low-loss suspended stripline elements. The single-stage amplifiers were built at 4 GHz and 22 GHz by using readily available commercial HEMT devices. In the desired frequency range from 21 to 23 GHz for the high-frequency design, the best spot noise temperatures were 150 K and 65 K at 21.5 GHz for room and liquid nitrogen temperatures, respectively.

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