Abstracts

Channel temperature measurement using pulse-gate method [power amplifier FET]

Shen-Whan Chen, Trung Duong and Min-Yih Luo. "Channel temperature measurement using pulse-gate method [power amplifier FET]." 1999 Transactions on Microwave Theory and Techniques 47.3 (Mar. 1999 [T-MTT]): 362-365.

In this paper, we report on an approach of measuring power amplifier field-effect transistor (FET) channel temperature under real-world operating conditions. The principle of this approach is to compare the magnitude of power amplifier gain at both DC and pulse bias conditions. By utilizing the temperature-dependent gain characteristic of the power amplifier FET and applying pulse-gate control, the gain would gradually decrease with the rising temperature of the hot plate. The channel temperature is then determined when the decreasing gain reaches the level of the base line, which is measured under the specified DC bias and radiofrequency conditions.

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