Abstracts

Active antenna using multi-layer ceramic-polyimide substrates for wireless communication systems

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This paper proposes an active antenna structure for high-speed wireless communication systems that is constructed with multi-layer alumina-ceramic and polyimide substrates. This antenna structure incorporates a transmitter/receiver amplifier and time division duplex switch circuits that are mounted on a Monolithic Microwave Integrated Circuit (MMIC) chip and a low-pass filter circuit. A prototype active antenna at 25 GHz is presented and the measured total gain for both transmission and reception of more than 21 dB is achieved with the directional gain of approximately 11 dBi.

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