Abstracts

A novel broadband T/R module for phased array applications in wireless communications

Chunlei Wang, C.T. Rodenbeck, M.R. Coutant and Kai Chang. "A novel broadband T/R module for phased array applications in wireless communications." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1325-1328 vol.2.

A novel broadband T/R module with four channels used in a multi-frequency phased array transceiver for mobile satellite communications is presented in this paper. The T/R module is comprised of two receive channels at 12 and 21 GHz and two transmit channels at 10 and 19 GHz. Measured results indicate that the T/R module has excellent channel isolation of over 60 dB for the two low frequency channels and over 32 dB for the two high frequency channels, small gain and phase variations among the channels, good noise figures and 1 dB compression point output power. The module can be utilized as a building block for a multi-frequency phased array transceiver. A 4-element phased sub-array using 4 T/R modules has been demonstrated and shows that the T/R module works well.

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