Abstracts

T/R Module Architecture Tradeoffs for Phased Array Antennas

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Active phased array radars typically require solid state T/R modules with high output power, low noise figure, high third order intercept (TOI), and sufficient gain in both transmit and receive. Since the T/R module cost is 40-60% of the antenna cost, it is imperative to use an architecture that meets all requirements with a minimum number of MMIC chips. In this paper we examine several T/R module architectures, analyze their performance, provide a tradeoff between different performance parameters, and recommend an architecture for a given set of requirements.

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