Abstracts

Comparison of Two Architectures for Fiber Optic Distribution Inside Ka-Band Communication Satellites

D.M. Polifko and A.S. Daryoush. "Comparison of Two Architectures for Fiber Optic Distribution Inside Ka-Band Communication Satellites." 1991 MTT-S International Microwave Symposium Digest 91.1 (1991 Vol. I [MWSYM]): 317-320.

A comparison between two high speed fiber optic (FO) link architectures is presented. Experiments were performed on two reactively matched links, one operating from 18.5 to 19.0 GHz and the other at 0.5 to 1 GHz and then subsequently unconverted to 18.0 GHz. Both links were fully characterized analytically and experimentally. It will be demonstrated that for high frequency operation, the best configuration occurs from the separation of the data and carrier signals. When these signals are sent over separate links, this architecture is called T/R level data mixing. Improvements are seen in gain (>30dB), noise figure (>30dB) and dynamic range (>40dB) when this architecture implemented.

❑ Return to main document.