Abstracts

Distributed broadband frequency translator

P. Akkaraekthalin, S. Kee and D.W. Van Der Weide. "Distributed broadband frequency translator." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1431-1434.

We present the first frequency translator based on a nonlinear transmission line (NLTL) phase shifter. Rather than excite shock waves on the NLTL in large signal mode, we use its voltage-variable delay to modulate the phase of a 0.5-3.0 GHz microwave signal, incorporating both amplitude and phase linearization. This enables coherent heterodyning with 42 dBc carrier and spurious suppression. The technique has significant applications in both instrumentation and sensing.

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