

FET Mixers for Communication Satellite Transponders

P. Bura and R. Dikshit. "FET Mixers for Communication Satellite Transponders." 1976 MTT-S International Microwave Symposium Digest of Technical Papers 76.1 (1976 [MWSYM]): 90-92.

Two different types of FET mixer circuits have been developed for 6/4 GHz frequency translation for communications satellite transponder. Gate mixer uses non-linear I_{ds}/V_{gs} characteristic, with LO being injected into the gate circuit, while in the drain mixer the LO is injected into the drain circuit and non-linear I_{ds}/V_{ds} characteristic is utilized. Both circuits yielded conversion gains up to 3 dB over 500 MHz bandwidth. However, the noise figure of the drain mixer as low as 4 dB was measured compared with 5.7 dB for the gate mixer.

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