Abstracts

High Performance 30/20 GHz Transponder System Using Suspended Substrate MIC Down and Upconverters

A.G. Cardiasmenos and R.H. Swartley. "High Performance 30/20 GHz Transponder System Using Suspended Substrate MIC Down and Upconverters." 1979 MTT-S International Microwave Symposium Digest 79.1 (1979 [MWSYM]): 131-133.

In order to fully realize the operating potential of millimeter-wave communications systems, a 20/30 GHz spacecraft transponder system has been designed around the use of subharmonically pumped down and up converters. These converters, exhibiting the lowest commercially available system noise figures, provide a reliable nucleus for use in multichannel transponder architecture. SSB receiver noise temperatures of less than 1250°K including the 250°K contribution from an 8 GHz IF amplifier have been achieved for the subharmonically pumped down-converter operating between 30.2 and 31.2 GHz.

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