Abstracts

A microwave frequency generation unit for space applications

L. Dayaratna, L.G. Ramos and M. Hirokawa. "A microwave frequency generation unit for space applications." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 949-952 vol.2.

Spacecraft systems designed to provide communications require the necessity to generate multiple, redundant local oscillator frequencies for various up/down converters in the payload. The design requirements are low noise, low power, small size and mass. They are also required to be SEU hard and total dose tolerant and reliable. The reliability is increased by having a design with built in redundancy. The FGU is powered from the spacecraft bus with dedicated EPCs, which are redundant. The FGU is phase locked to a stable reference, which is also redundant. Several test points in the form of telemetry are provided for checking unit functionality and operational characteristics.

❑ Return to main document.