Abstracts

Development of Ku-band Receiver/Downconverter for satellite transponders

Jin-Cheol Jeong, Yong Hei Lim, Byung-Jun Jang, In-Bok Yom and Seong-Pal Lee. "Development of Ku-band Receiver/Downconverter for satellite transponders." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1257-1260 vol.2.

This paper presents the development of a Ku-band Receiver/Downconverter with the Noise figure of 1.83 dBmax and the conversion gain of 55 dB at the frequency range from 14/spl sim/14.5 GHz to 12.252/spl sim/12.752 GHz for Ku-band Satellite transponders. This Ku-band Receiver/Downconverter consists of a LNA module, a 2-pole combline image rejection filter, a Downconverter module, a 7-pole IF filter, and an IFAMP module. All components except the cavity type filters were assembled using a hybrid technology with 15 mil thin-film substrates. Its other performances show the C/IM3 of 45.67 dBcmax, group delay of 0.6 ns/36 MHz, and gain variation of 1.68 dBmax at -15/spl deg/C/spl sim/+65/spl deg/C of operating temperature range.

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