Abstracts

Outdoor units for Ka/Ku-band satellite interactive terminals

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This paper describes the main features and components of a class of OutDoor Units (ODUs) for user terminals for interactive data communications as well as for TV reception via the new 12/30 GHz ASTRA satellite launched last year, and future satellites with similar parameters. The first prototypes of these units were first reported at the 5/sup th/ Ka-band Utilisation Conference in Taormina, Italy (1999). Since then, the units underwent further redesign and are now in regular production. The ODUs use block conversion from S-band (2.5-3 GHz) for the transmitter and to standard L-band (0.95-2.15 GHz) for the receiver, and interface with an Indoor Unit (IDU) with the the corresponding S/L modem. Their EIRP, G/T and purity allow transmitting at data rates from 144 kb/s to about 2 Mb/s using the above satellites, with sufficient margin, and reception of signals with high data rates (such as 40 Mb/s or even higher). Three ODUs with different Tx power levels and antenna sizes have been designed to cover the above range of data rates. The configuration, main characteristics and technology of the ODUs are described and their performance data reported in this paper.

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