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HIGH THROUGHPUT OPTICAL COMMUNICATION NETWORK SYSTEM FOR LEO CONSTELLATION SYSTEM USING TERRESTRIAL COMMUNICATION TECHNOLOGIES

Abstract

NEC has a long history and extensive technology in the satellite business and the telecommunications/network equipment business that supports both non-terrestrial and terrestrial communications infrastructure. NEC is applying the terrestrial optical communications technology, router technology, and 5G base station technology to the satellite systems, and is promoting a project to deploy optical communications networks in space. With the financial support of the Japanese government, we are developing a regenerative relay function based on the 5G NTN standard, an IPv6 router with a throughput of over 200 Gbps, and 100 Gbps optical communication terminals for the LEO satellites. This paper introduces the communication payload that realizes the optical communication network and the outline of the satellite system.