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XLINK – A 0.3 U SIZED X-BAND TRANSCEIVER FOR NANOSATS

Abstract

Advancing miniaturization of satellite components and satellite systems has recently led to increased data volume demands in the field of small satellites. By enabling this data transfer X-band communication systems have risen in popularity among small satellite manufacturers.

XLink is a novel X-band transceiver for nanosatellites and is being developed in cooperation between IQ wireless and the Technische Universität Berlin. Its bandwidth capabilities will cover the Earth exploration band (8025-8400 MHz) as well as the space research band (8450-8500 MHz). The integrated receiver shall make use of the newly assigned X-band uplink frequency band (7190-7250 MHz) and alternatively S-band radio frequencies (2025-2110 MHz) for TTC. Its size of 0.3U and maximum power consumption of 15 Watts enable XLink to redundantly transmit with an overall output power of 30dB.