

# SibFU scientists upgraded antenna reflectors for satellites

The scientists of Siberian Federal University have developed a combined antenna reflectors feeder for prospective satellite communication stations, which will significantly increase the speed of the subscriber connection.



The feeder is a part of a satellite communication station. It is installed in a regular place of attachment on the satellite antenna and is used to transmit and receive radio waves in multiple frequency bands. Receiving and transmitting modules are connected to the feeder that allows boosting the signal and registering it by measuring devices.

According to the researchers, compared with the counterparts, imported parts will not be used in the feeders, the entire cycle of the production will be mastered at the premises of the Krasnoyarsk company "NPP Radiosvyaz" JSC. In addition, the creators have developed a wide-band polarizer of a new type, which will significantly reduce the size of the feeder.

*"The feeder to be used on Ka / Q ranges satellite stations, the advantages of which are the small weight and size parameters and the ability to work in the millimeter wavelength range. Thus, the development involves the use of an additional frequency resource, which will increase the number of subscribers and increase the speed of satellite communication", — said **Konstantin Lemberg**, the project manager, Candidate of Physical and Mathematical Sciences, Associate Professor of the Department of Radio Engineering of SibFU.*

As of today, the product testing is successfully completed. The prototype showed that the feeder could be optimized for the single-dish parabolic antenna, transmitting a signal to a satellite with a gain of more than 30 decibels. The future plans of the developers — the launch of serial production. The first batch of products will be produced by the end of 2017.

The project received the support of Krasnoyarsk Regional Science Foundation in the contest of scientific and technical projects aimed at the cooperation of institutions and organizations of the scientific and educational complex of Krasnoyarsk Krai commissioned by the industrial enterprises. The product customer is "NPP Radiosvyaz" JSC.

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