

## 3D printed 20/30-GHz dual-band offset stepped-reflector antenna - DTU Orbit (08/11/2017)

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This paper documents the manufacturing by selective laser sintering of a 20/30 GHz dual-band circularly polarized offset stepped-reflector antenna for K- and Ka-band satellite communication. The manufactured antenna has been measured at the DTU-ESA Spherical Near-Field Antenna Test Facility with a peak directivity of 36.7 dB and 40.4 dB at 20 and 30 GHz, respectively; this corresponds to an aperture efficiency of 61 % and 64 %, respectively. These results demonstrate that 3D printing is a viable manufacturing technology for medium-sized high-frequency antennas.

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Organisations: Department of Electrical Engineering, Electromagnetic Systems, Technical University of Denmark

Authors: Menendez, L. G. (Ekstern), Kim, O. S. (Intern), Persson, F. (Intern), Nielsen, M. (Intern), Breinbjerg, O. (Intern)

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