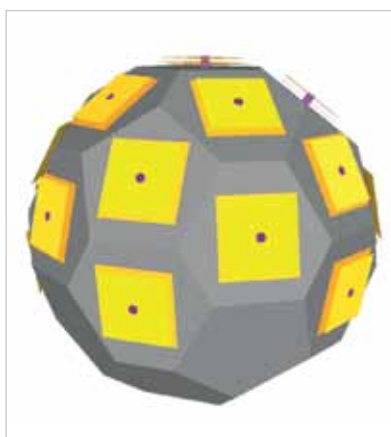
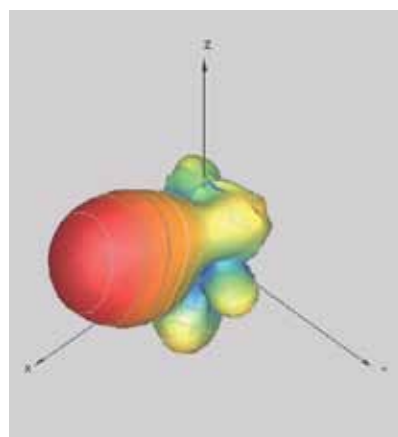


# IRIS

## SATCOM TX/RX TERMINAL FOR L-BAND



Simulation model



Measured far field pattern

### OVERVIEW

IRIS stands for “Innovative Array with Intelligent Steering”. It is a German-funded project under research contract 50YB0707. The IRIS terminal is dedicated to mobile satellite communication and provides a circularly polarised, full-duplex satellite connection in L-band.

The requirements for this antenna are quite challenging: the gain shall be equally distributed over more than the upper half hemisphere, and must always be better than 12 dBic, also for an elevation of 15° below the horizon, while still maintaining a good axial ratio.

The required scan coverage determines the spherical shape of the antenna aperture. The gain variance over the scanning range has to be as small as possible in order to achieve a stable EIRP-level.

The antenna aperture is a conformal array of stacked patches, specially designed for mobile maritime platforms. Rx and Tx are combined in one and the same antenna aperture. Each patch is equipped with its own Tx/Rx module. All Tx/Rx modules are manufactured using low-cost PCB material and standard manufacturing processes. Also most RF-components are off-the-shelf, hence the buildup can be realised very costeffectively.

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