

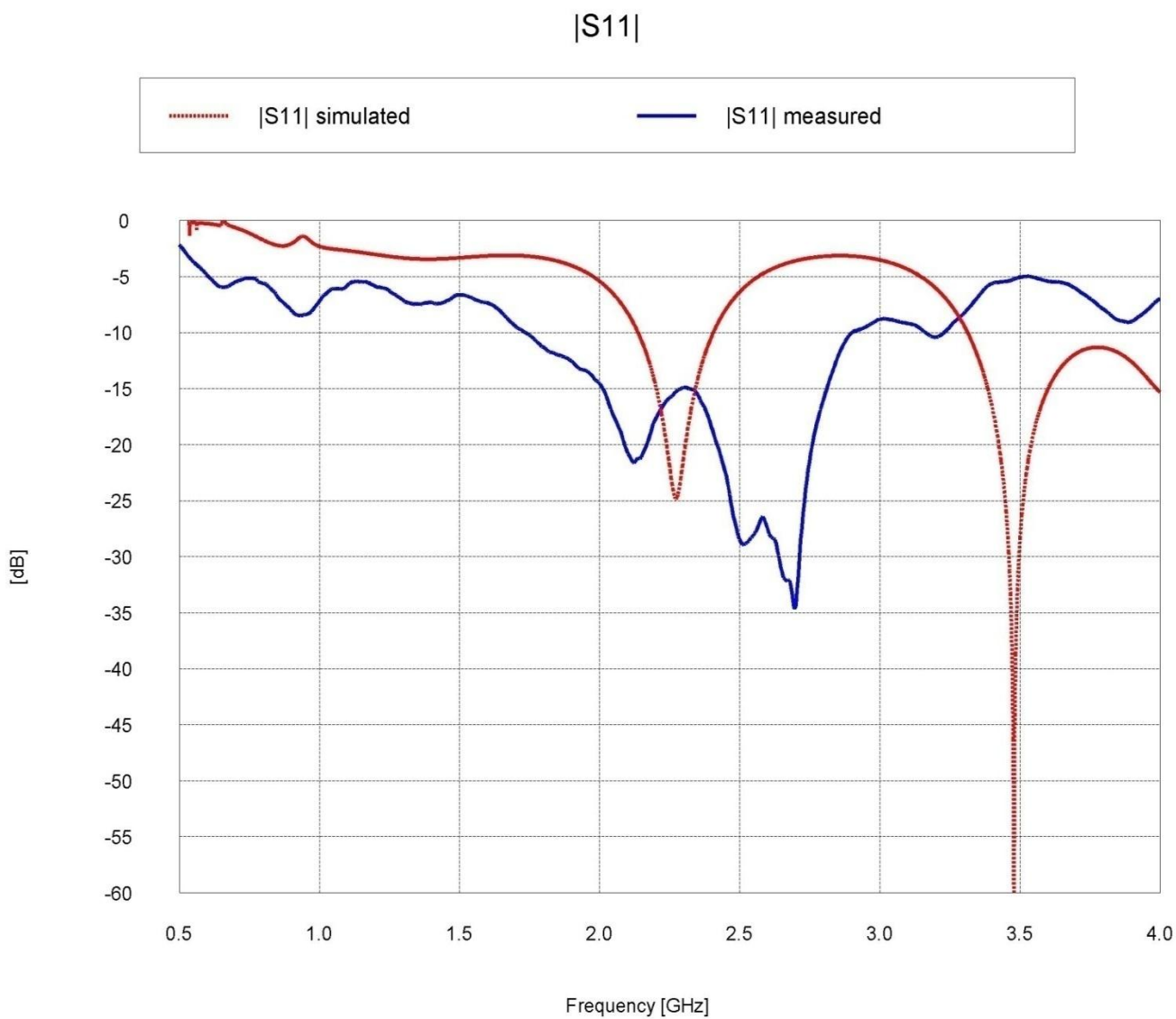
Technical Data

Antenna Type:	antenna Vivaldi
Frequency Range:	1.5 – 4 GHz
Gain:	up to 4 dBi (at a frequency of 4 GHz)
Impedance:	50 Ω
VSWR:	< 2.5:1
Size:	61 × 92 × 1.5 mm without connector
Connector:	SMA
Material:	FR4



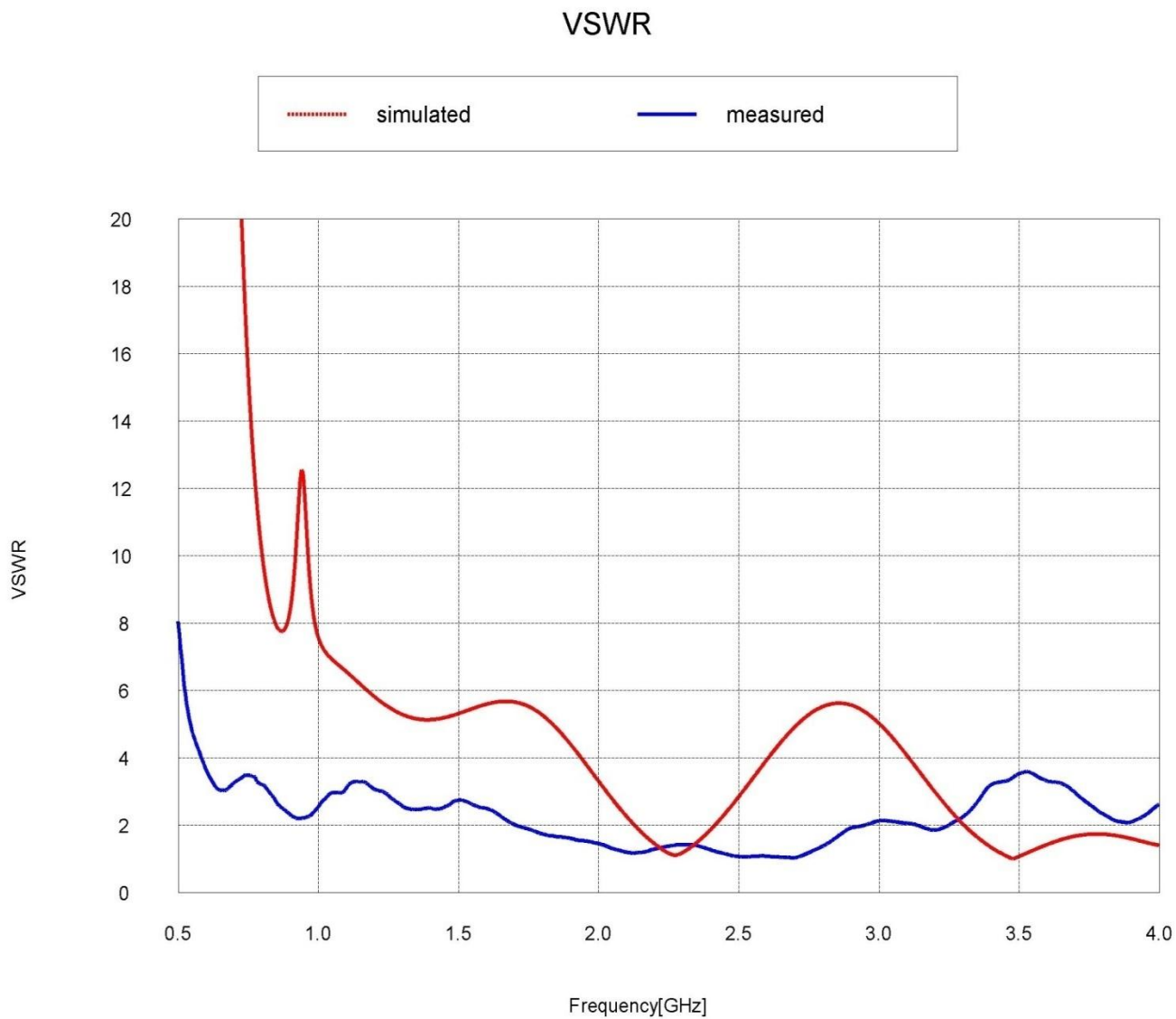
Reflection coefficient

The following picture shows reflection coefficient S_{11} in dB, results of simulation (red) and measurement (blue).



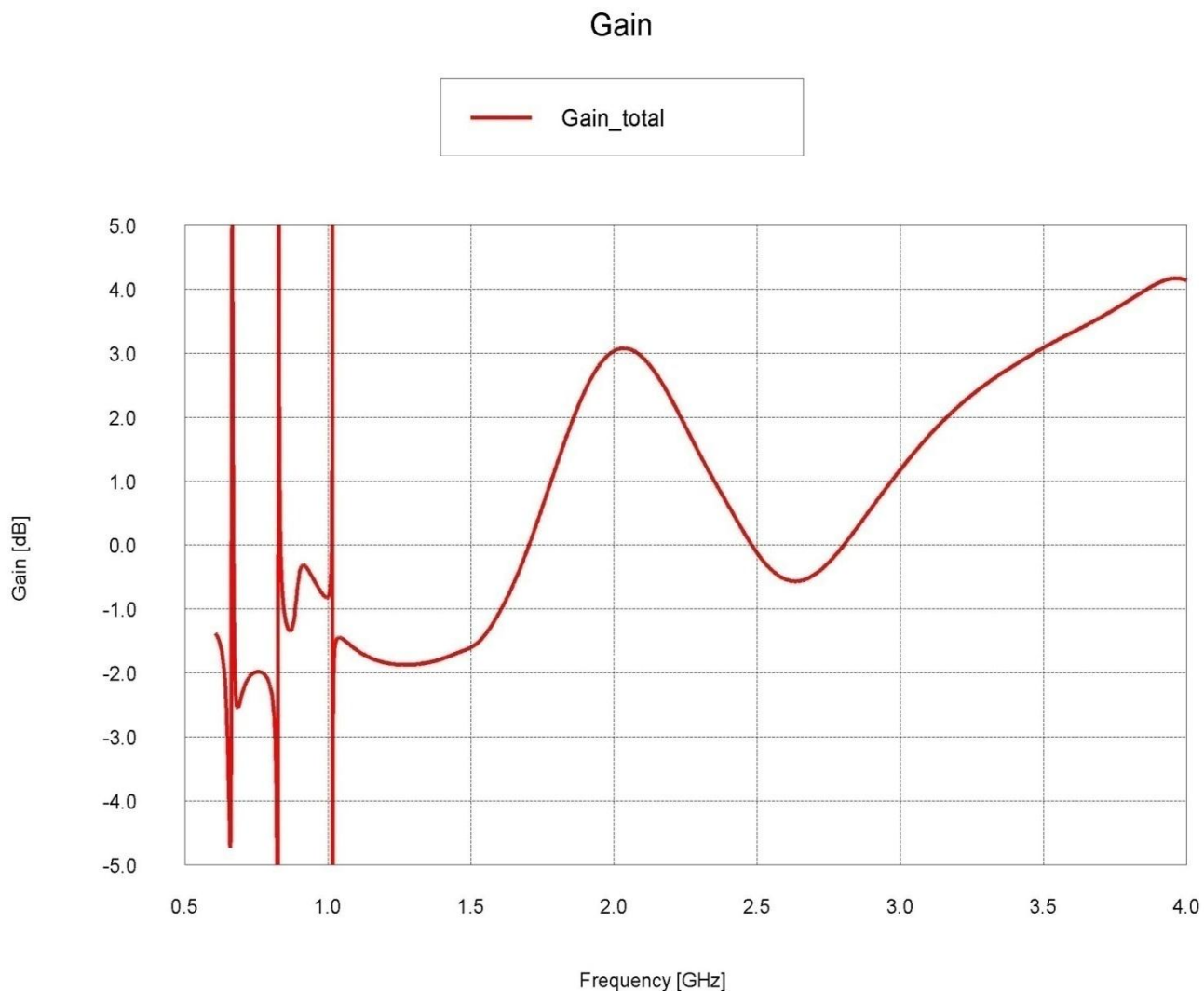
VSWR

The following picture shows VSWR, results of simulation (red) and measurement (blue).



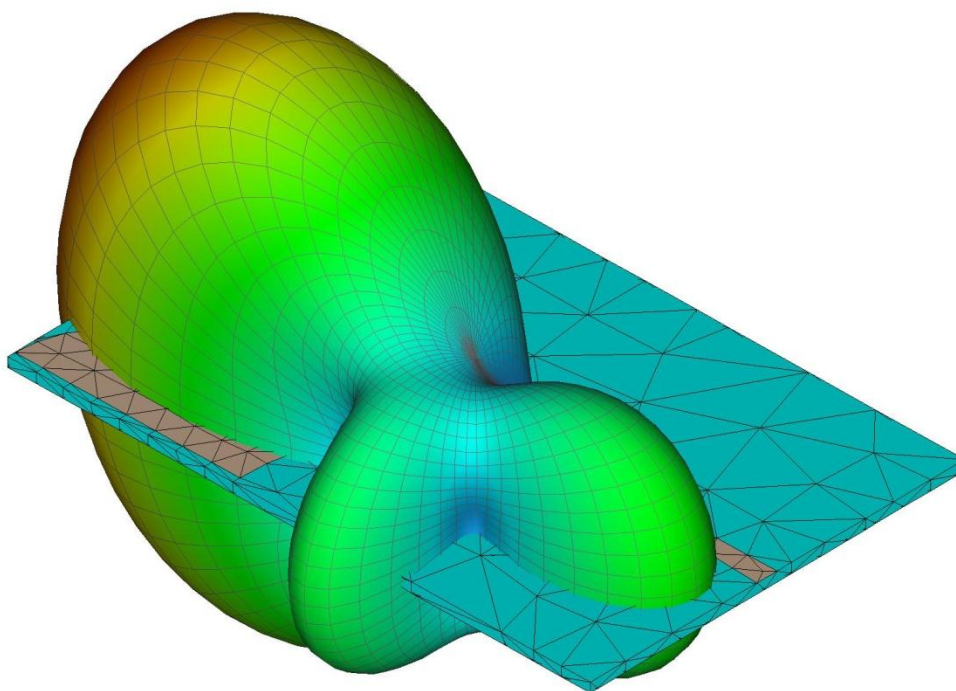
Gain

The following picture shows Gain factor.



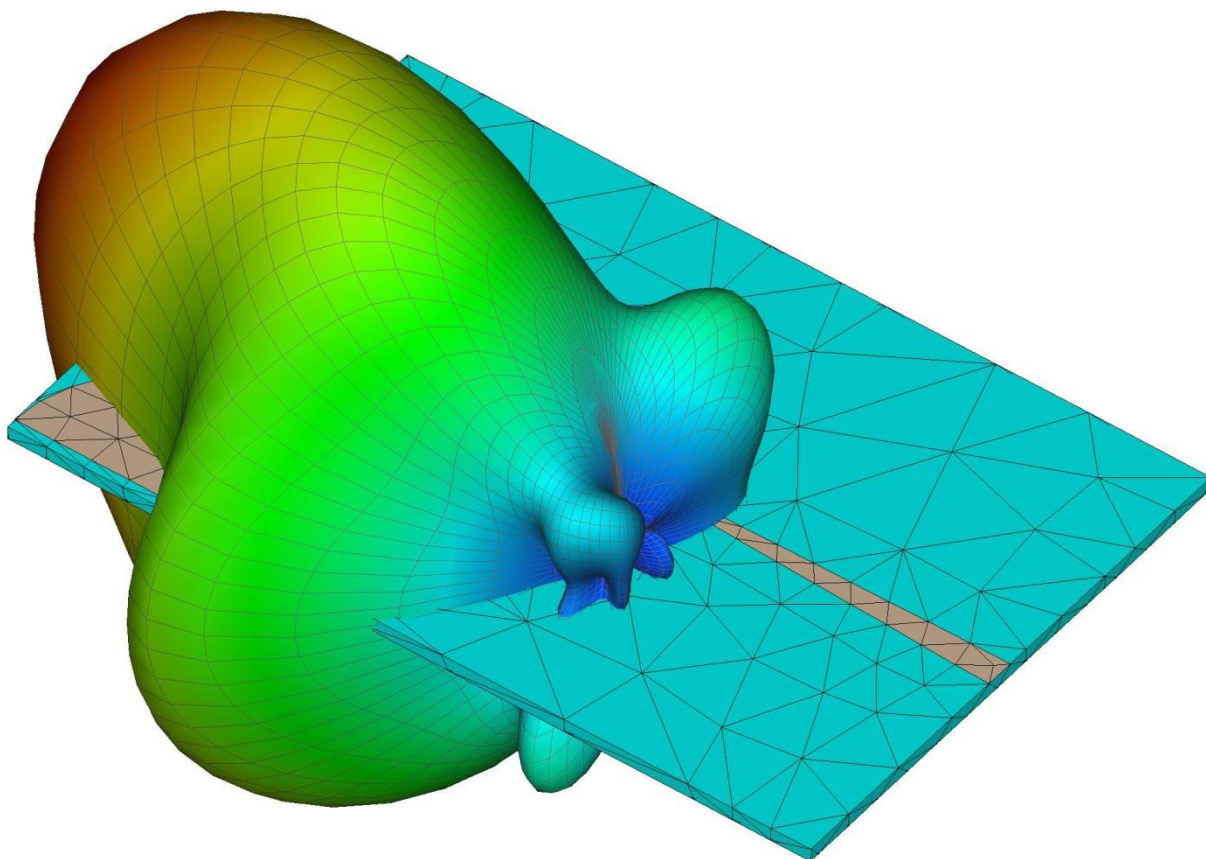
Radiation pattern

The following picture shows radiation pattern in 3D at a frequency of 2 GHz.



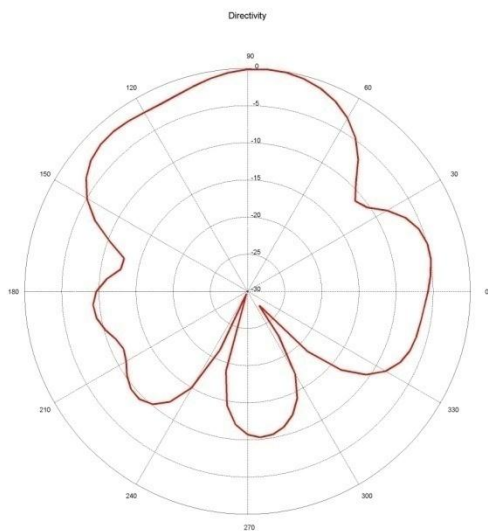
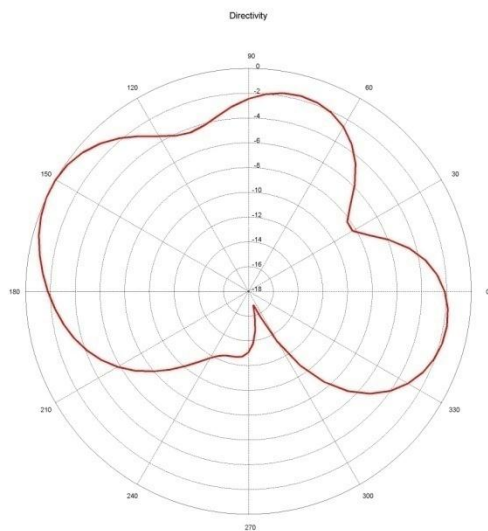
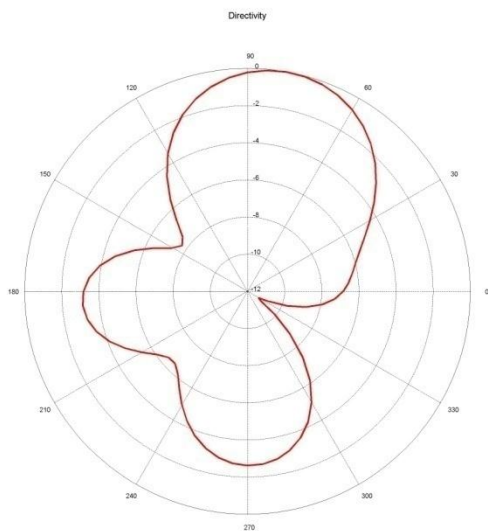
Radiation pattern

The following picture shows Radiation pattern in 3D at a frequency of 4 GHz.



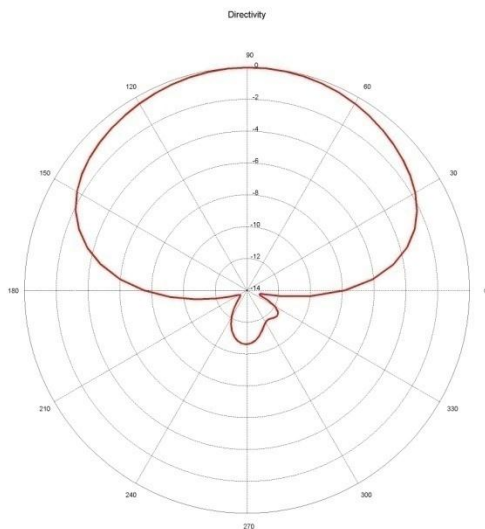
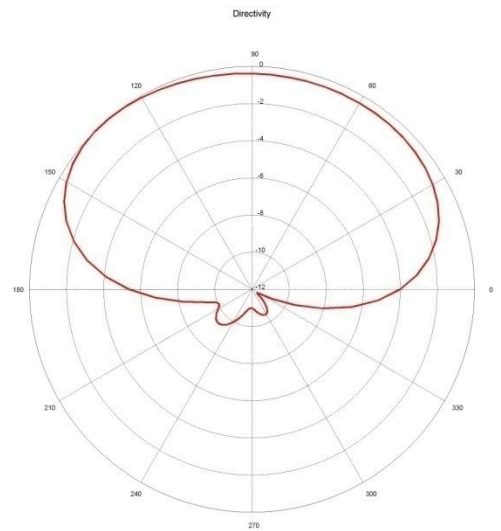
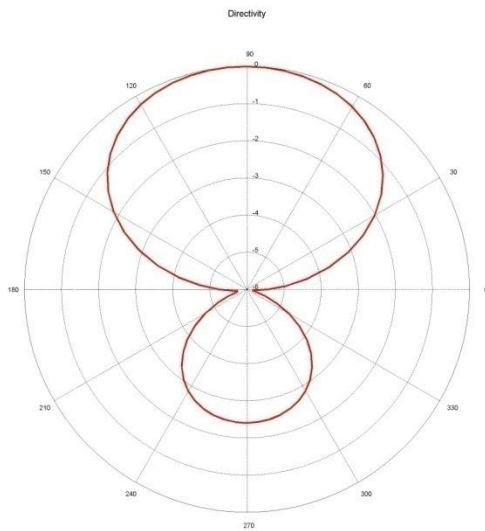
Radiation pattern

The following picture shows normalized radiation pattern in the horizontal plane in dB at the frequencies of 2, 3, 4 GHz accordingly.



Radiation pattern

The following picture shows normalized radiation pattern in the vertical plane in dB at the frequencies of 2, 3, 4 GHz accordingly.



Application note

The directional and compact ultra-wideband antenna Antrad-1 can be used for radio communication systems and radar systems operating in different frequency bands from 1.5 to 4 GHz:

- for radio and radar systems on the basis of ultra short pulses without a carrier;

- for the following data transmission systems:

 - IEEE 802.11 Wi-Fi,

 - IEEE 802.16 WiMAX,

 - IEEE 802.15.4 ZigBee.

History

Author: Gregory Seregin, «KBOR», Moscow

Date: October 1, 2010

Revision: 2.0

Changes: added material FR4,
added section Application Note