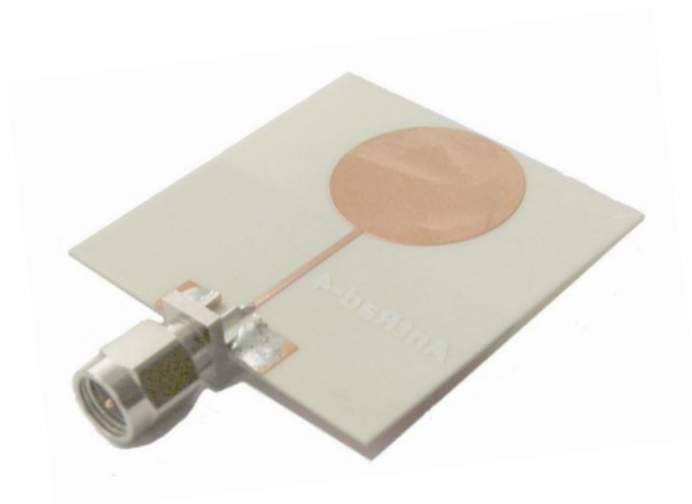
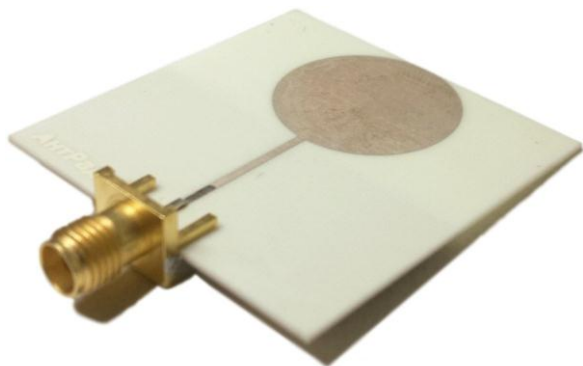


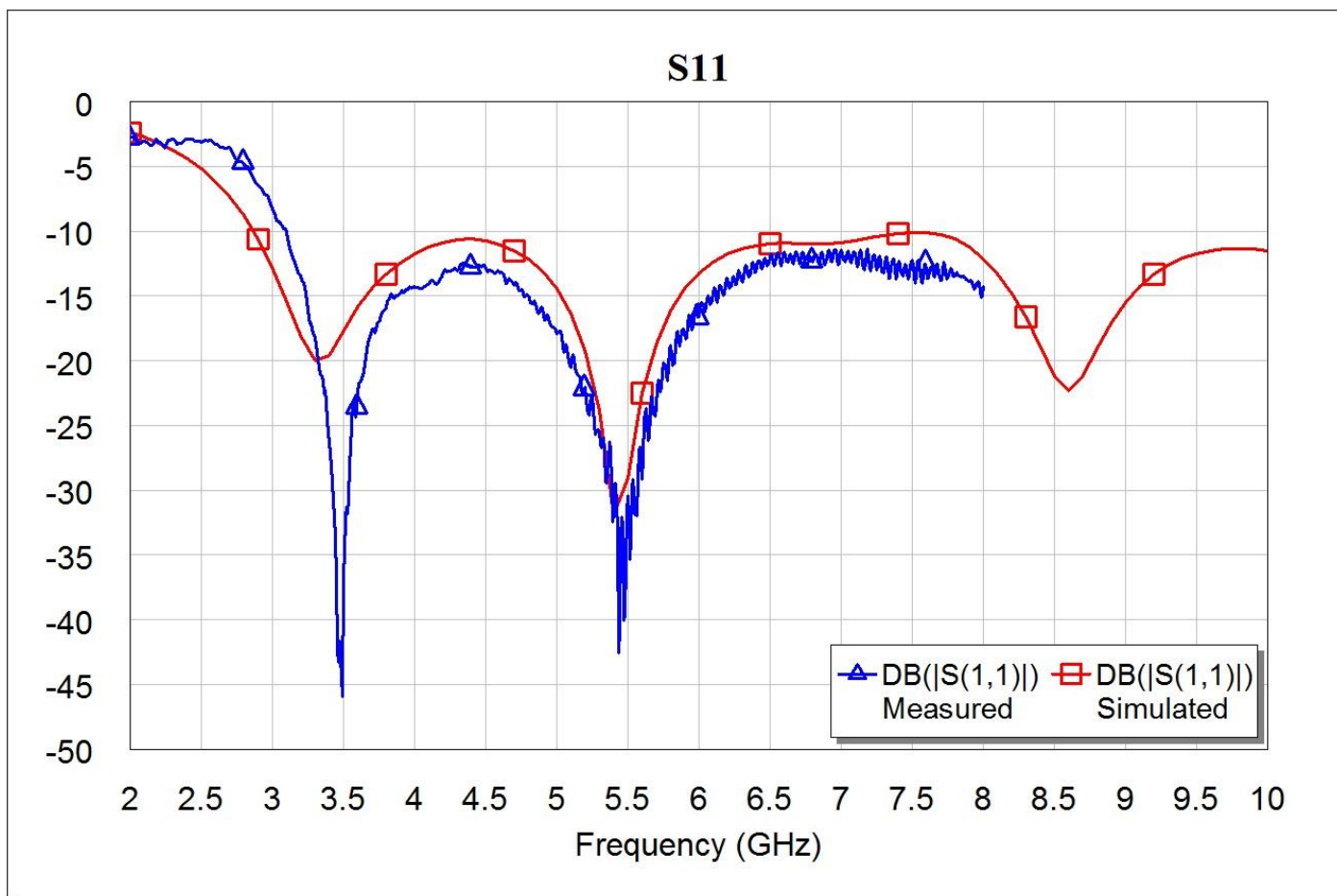
Technical Data

Antenna Type:	elliptical monopole
Frequency Range:	3 – 10 GHz
Gain:	up to 1.2 dBi (at a frequency of 6 GHz)
Impedance:	50 Ω
VSWR:	< 2.0:1
Size:	42 × 43 × 0.83 mm without connector
Connector:	SMA (MALE, FEMALE)
Material:	Rogers



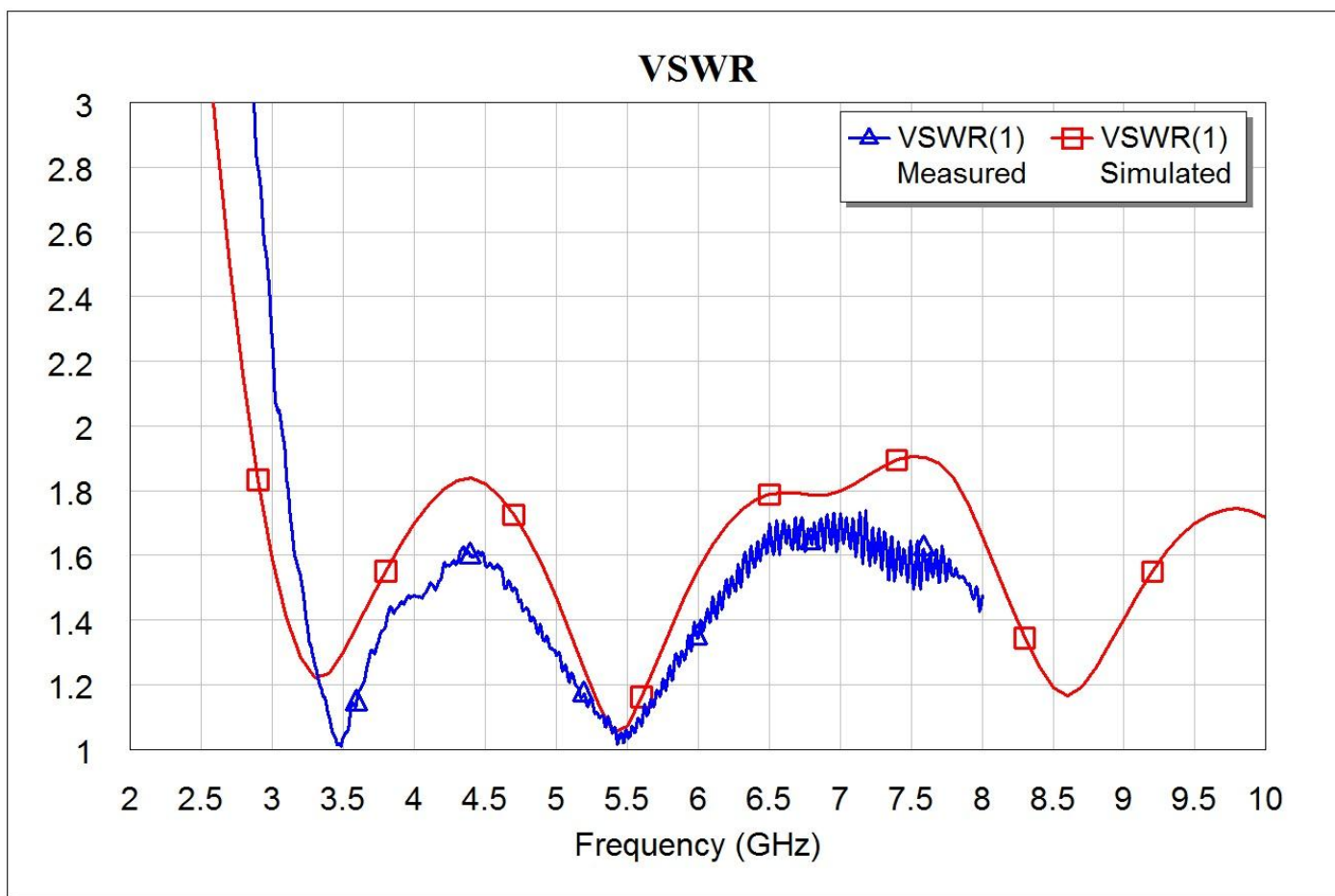
Reflection coefficient

The following picture shows Reflection coefficient S11 in dB, results of simulation (red) and measurement (blue).



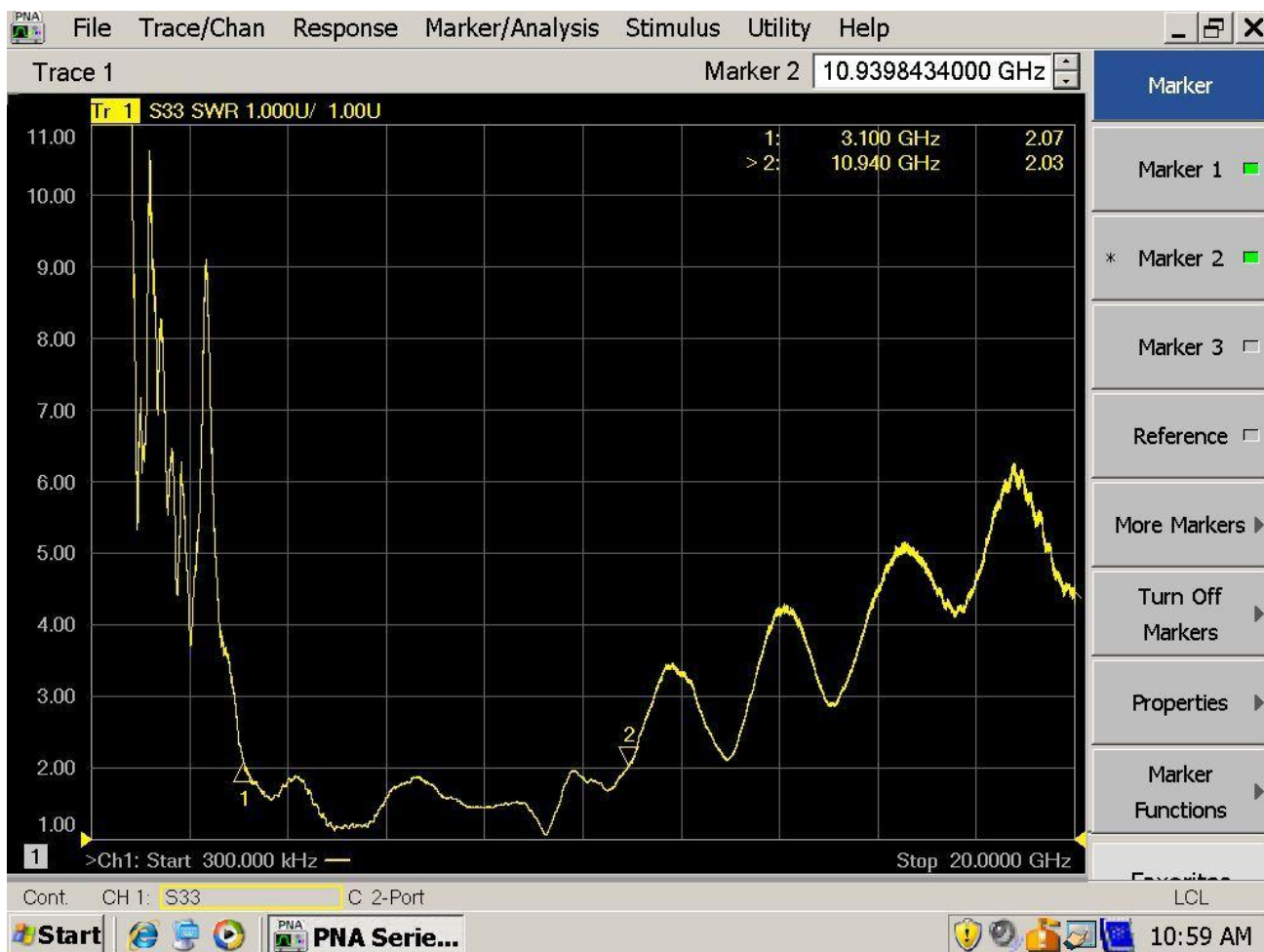
VSWR

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



VSWR

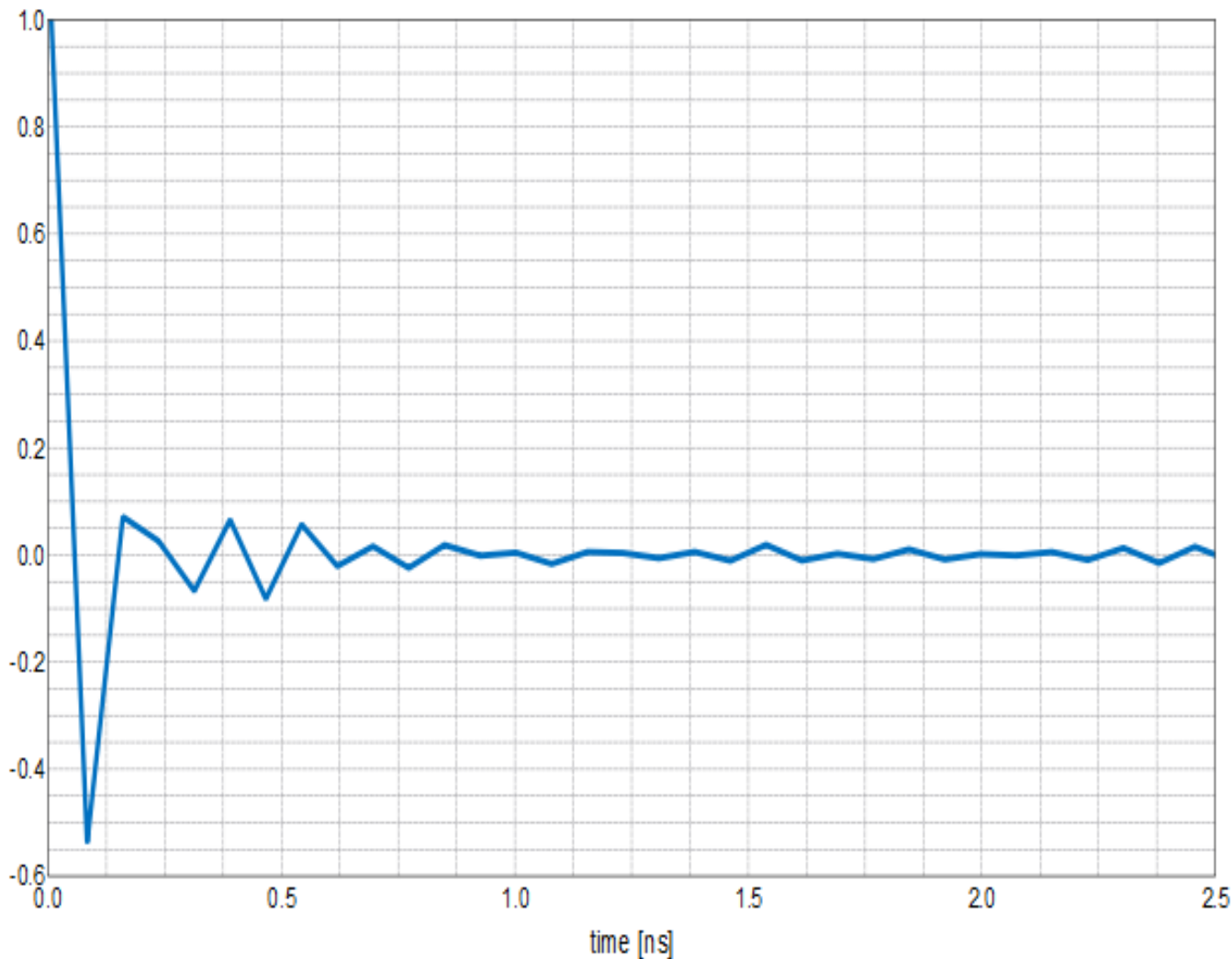
The following picture shows VSWR in the frequency range 300 kHz - 20 GHz. The picture shows that antenna has VSWR lower than 2.1 in the frequency range 3.1 - 10.9 GHz.



Pulse response

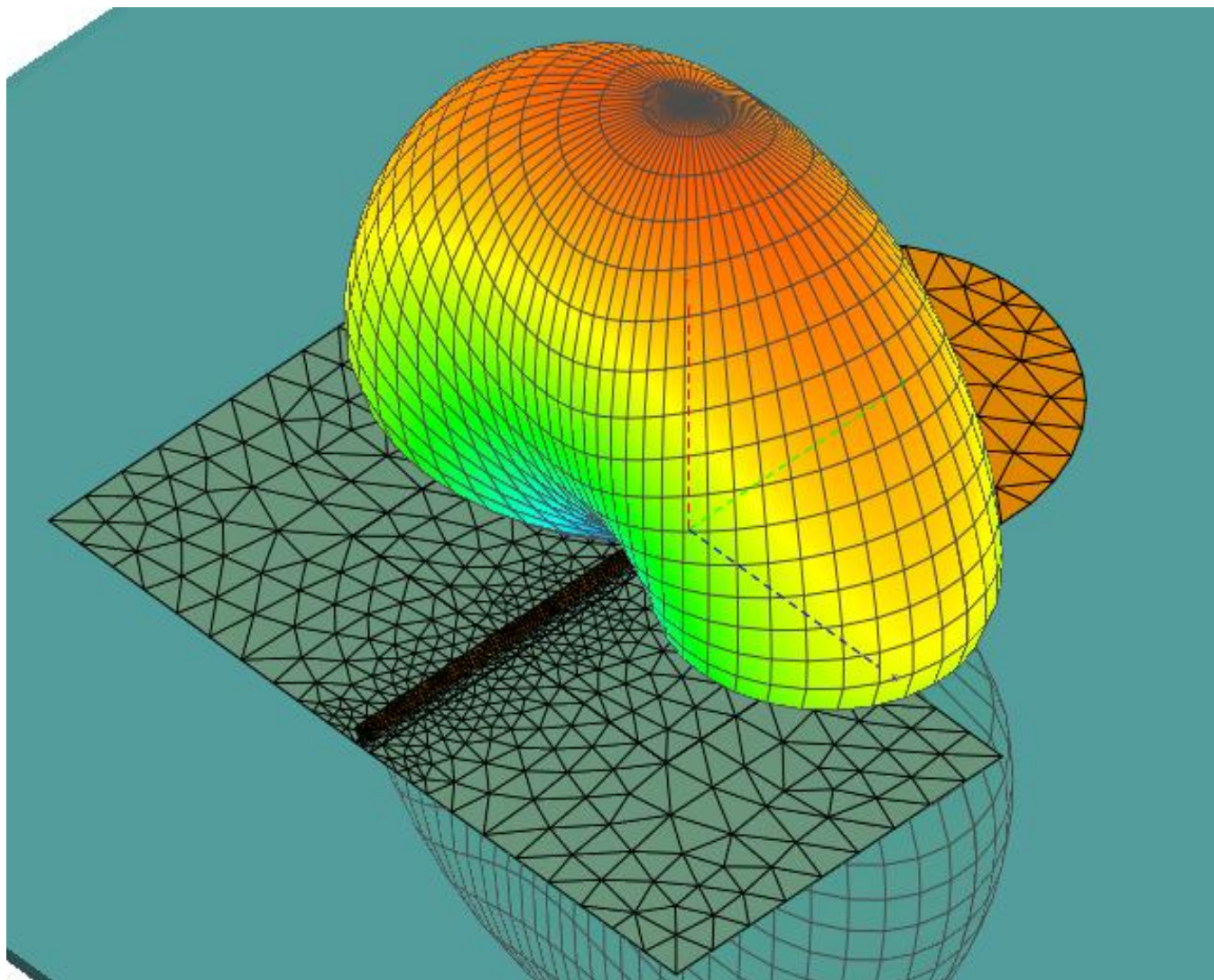
The following picture shows the graph of mutual pulse response of the system which consists of two identical antennas, depending on the time.

Pulse response



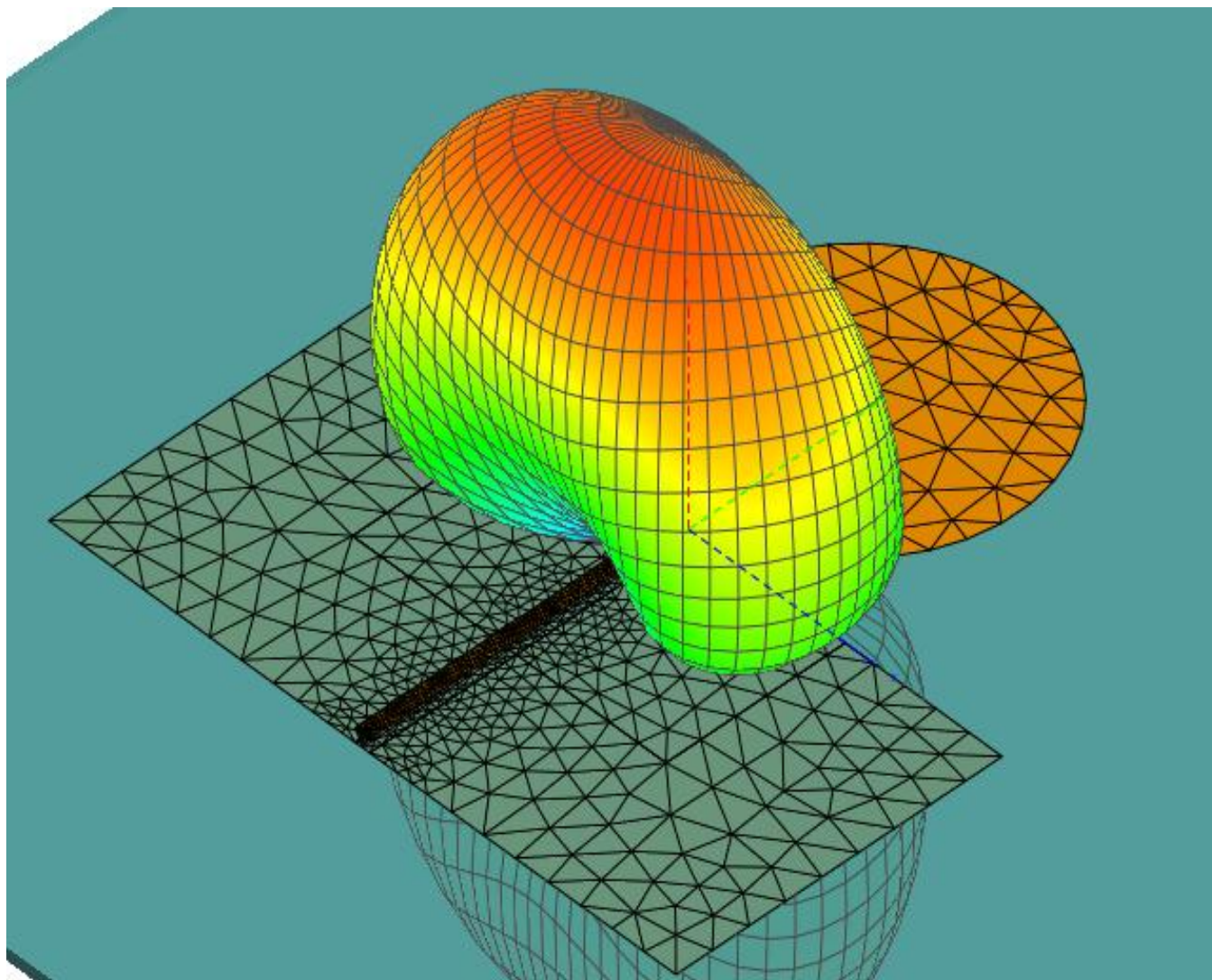
Radiation pattern

The following picture shows radiation pattern in 3D at a frequency of 2.5 GHz.



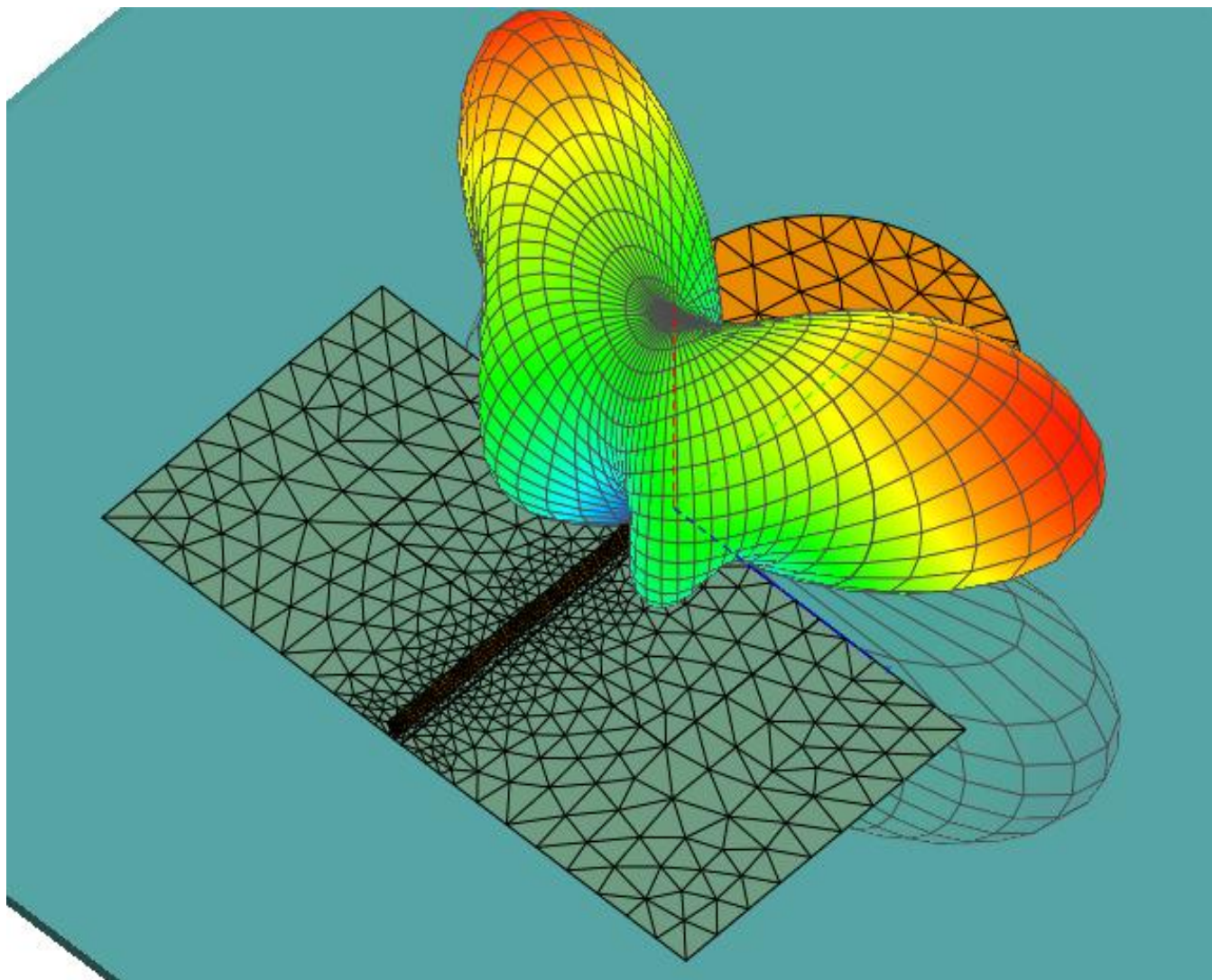
Radiation pattern

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



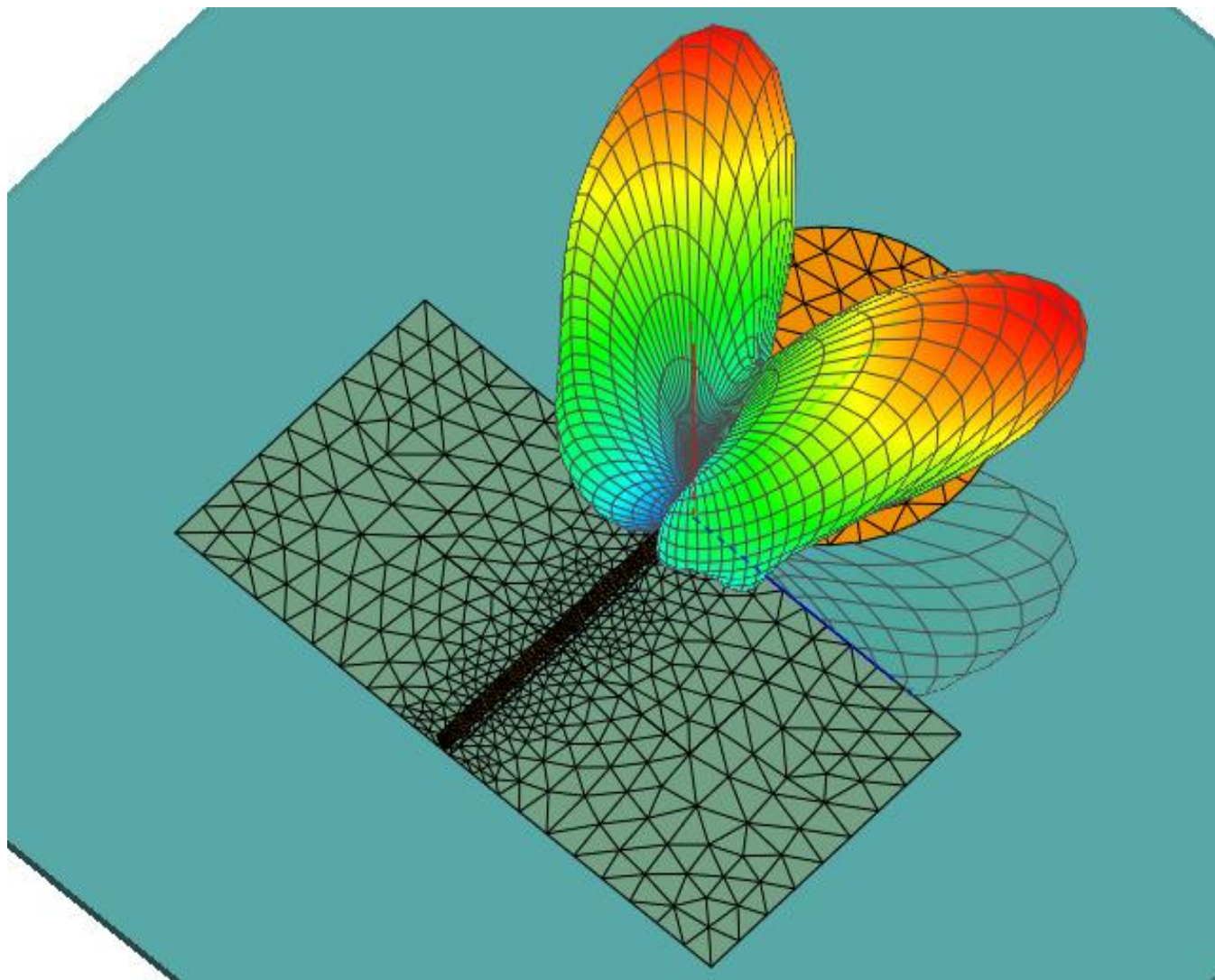
Radiation pattern

The following picture shows radiation pattern in 3D at a frequency of 6 GHz.



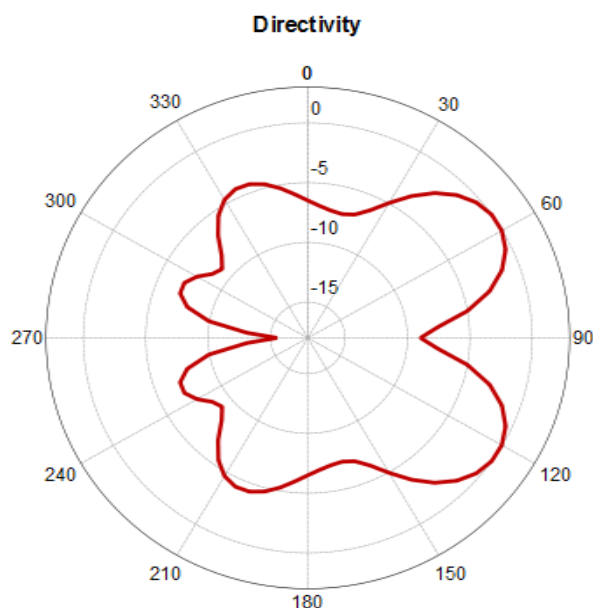
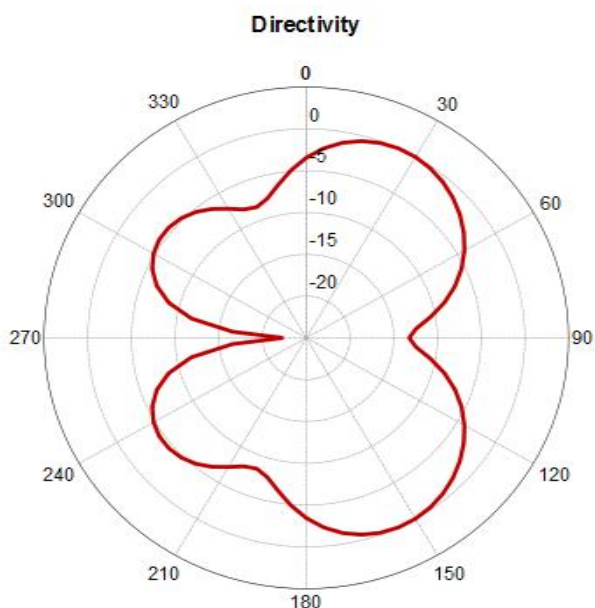
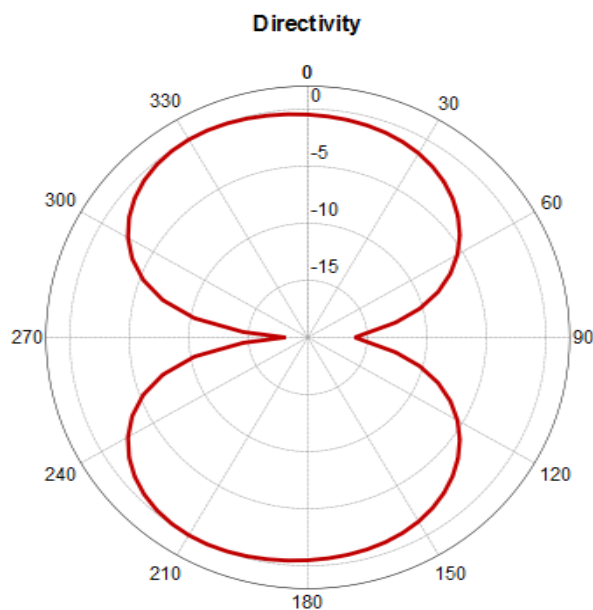
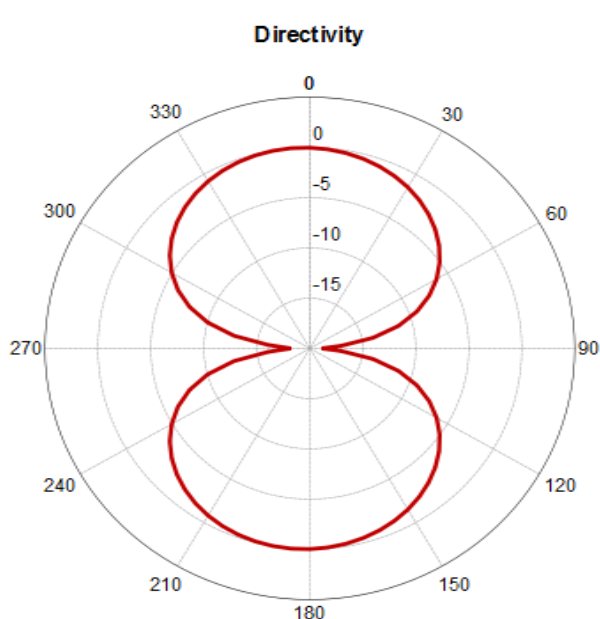
Radiation pattern

The following picture shows radiation pattern in 3D at a frequency of 8 GHz.



Radiation pattern

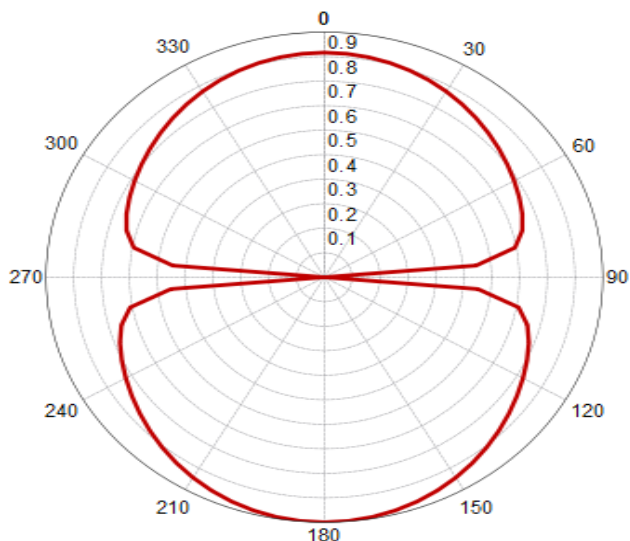
The following picture shows normalized radiation pattern in the horizontal plane in dB with the shift of 5 ° at the frequencies of 2.5, 4, 6, 8 GHz accordingly.



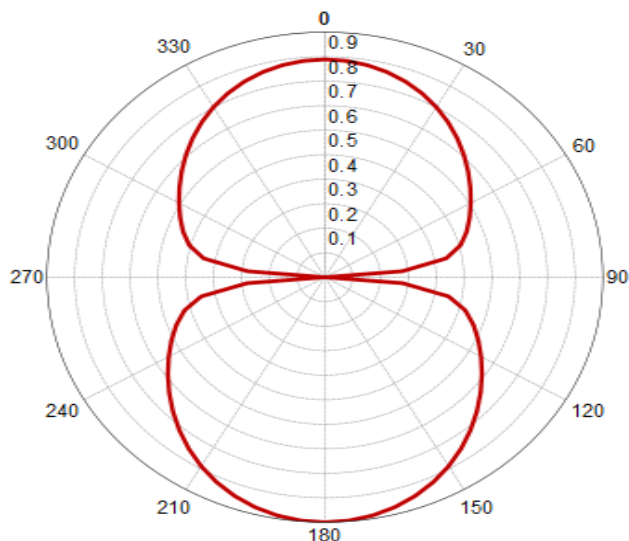
Radiation pattern

The following picture shows normalized radiation pattern in the vertical plane in dB at the frequencies of 2.5, 4, 6, 8 GHz accordingly.

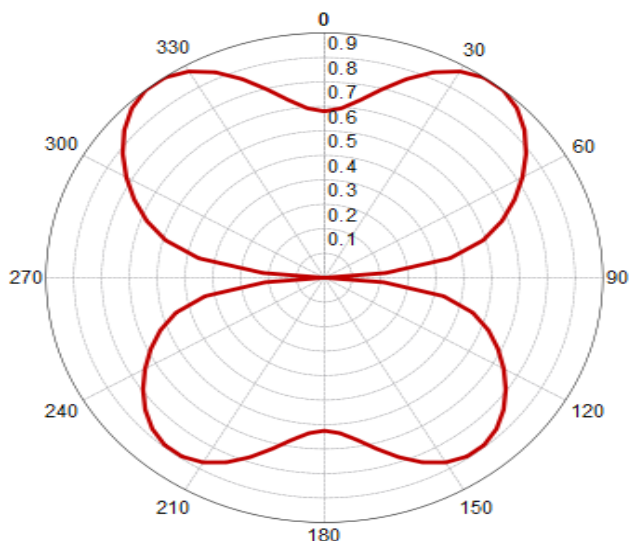
Directivity



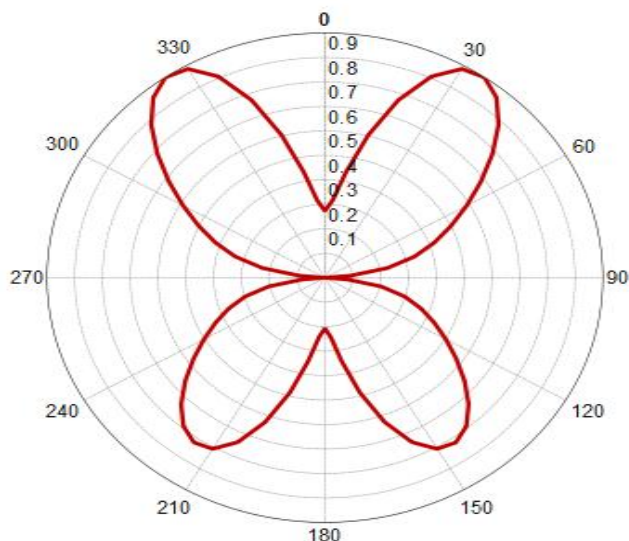
Directivity



Directivity



Directivity



Application note

The omnidirectional and compact ultra-wideband antenna **Antrad-4** can be used for radio communication systems and radar systems operating in different frequency bands from 2.4 to 10.9 GHz:

- for radio and radar systems on the basis of ultra short pulses without a carrier;
- for ultra wideband wireless short-range devices in the frequency range 2.85-10.6 GHz;
- for the following data transmission systems:
 - IEEE 802.11 Wi-Fi (including the frequency bands 2.4 GHz and 5.0 GHz),
 - IEEE 802.16 WiMAX,
 - IEEE 802.15.4 ZigBee.

History

Author:	Gregory Seregin, «KBOR», Moscow
Date:	August 13, 2012
Revision:	2.0
Changes:	added section VSWR in the frequency range 300 kHz - 20 GHz added connector SMA (MALE)