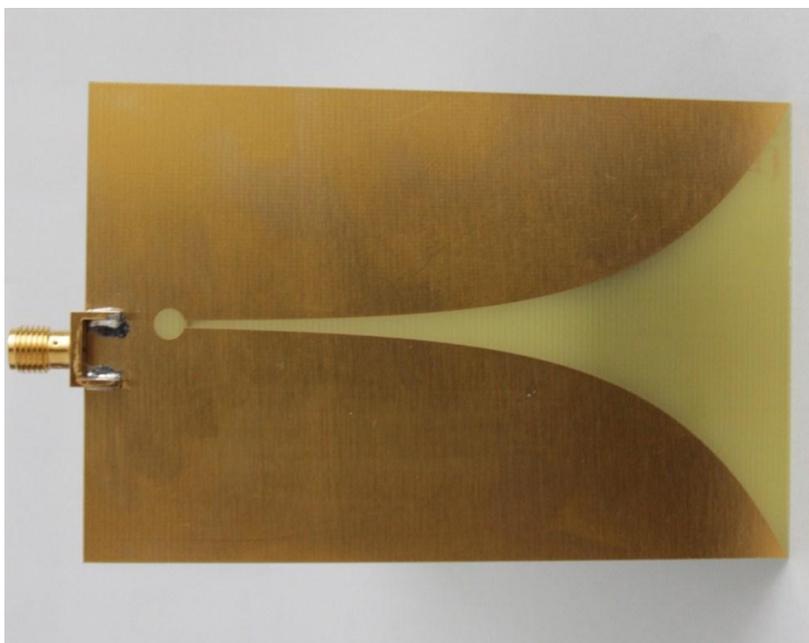




Ultra-wideband antenna Antrad-10

Technical Data

Antenna Type:	antenna Vivaldi, directional
Frequency Range:	3 – 8 GHz
Gain:	up to 9.5 dBi (at a frequency of 6 GHz)
Impedance:	50 Ω , unbalanced
VSWR:	< 2:1
Size without connector:	89 × 61 × 1.5 mm
Connector:	SMA (FEMALE, MALE)
Material:	FR4





Ultra-wideband antenna Antrad-10

VSWR

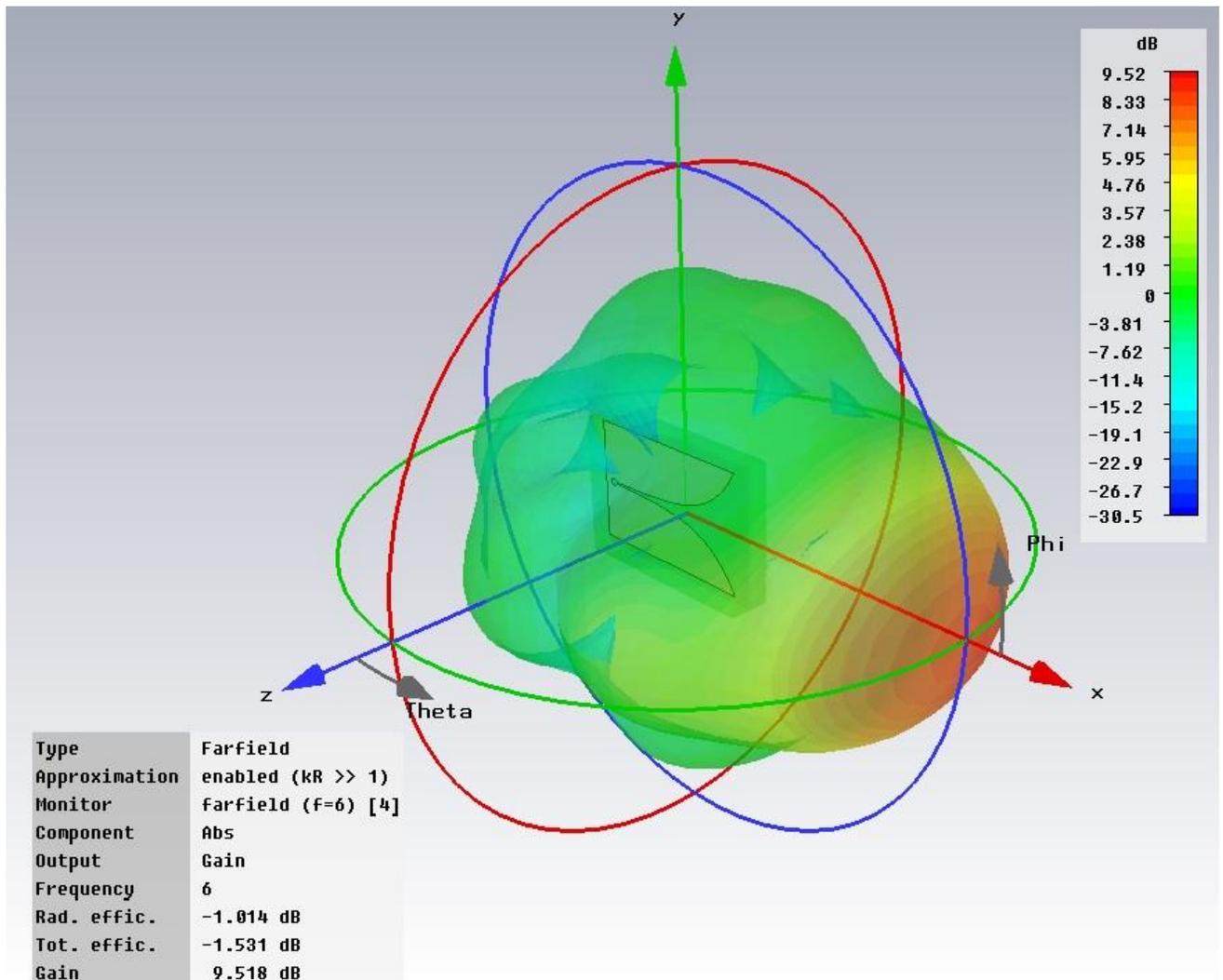
The following picture shows VSWR.





Radiation pattern

The following picture shows Radiation pattern in 3D according to the model at a frequency of 6 GHz. Gain is 9.52 dB.

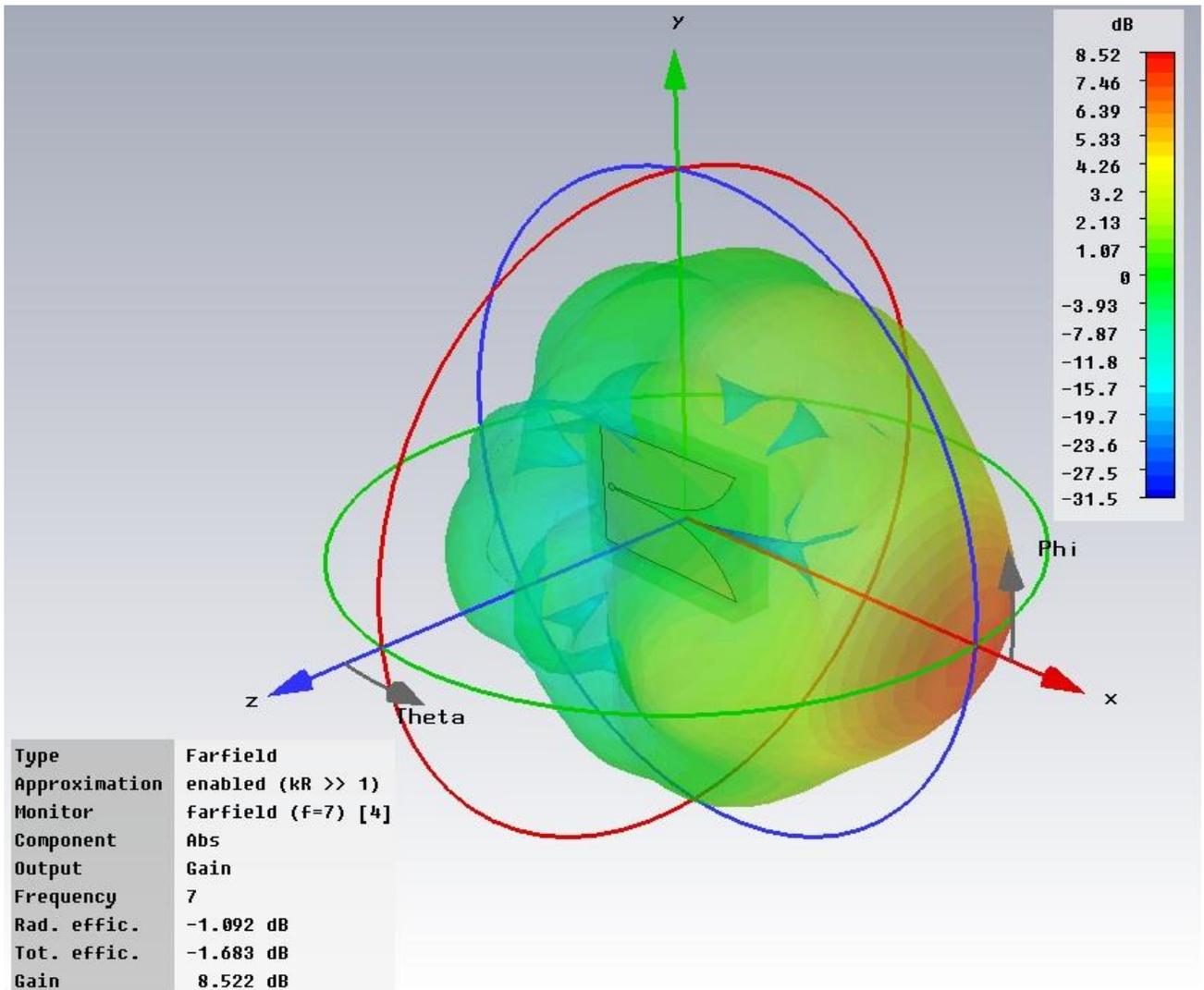




Ultra-wideband antenna Antrad-10

Radiation pattern

The following picture shows Radiation pattern in 3D according to the model at a frequency of 7 GHz. Gain is 8.52 dB.



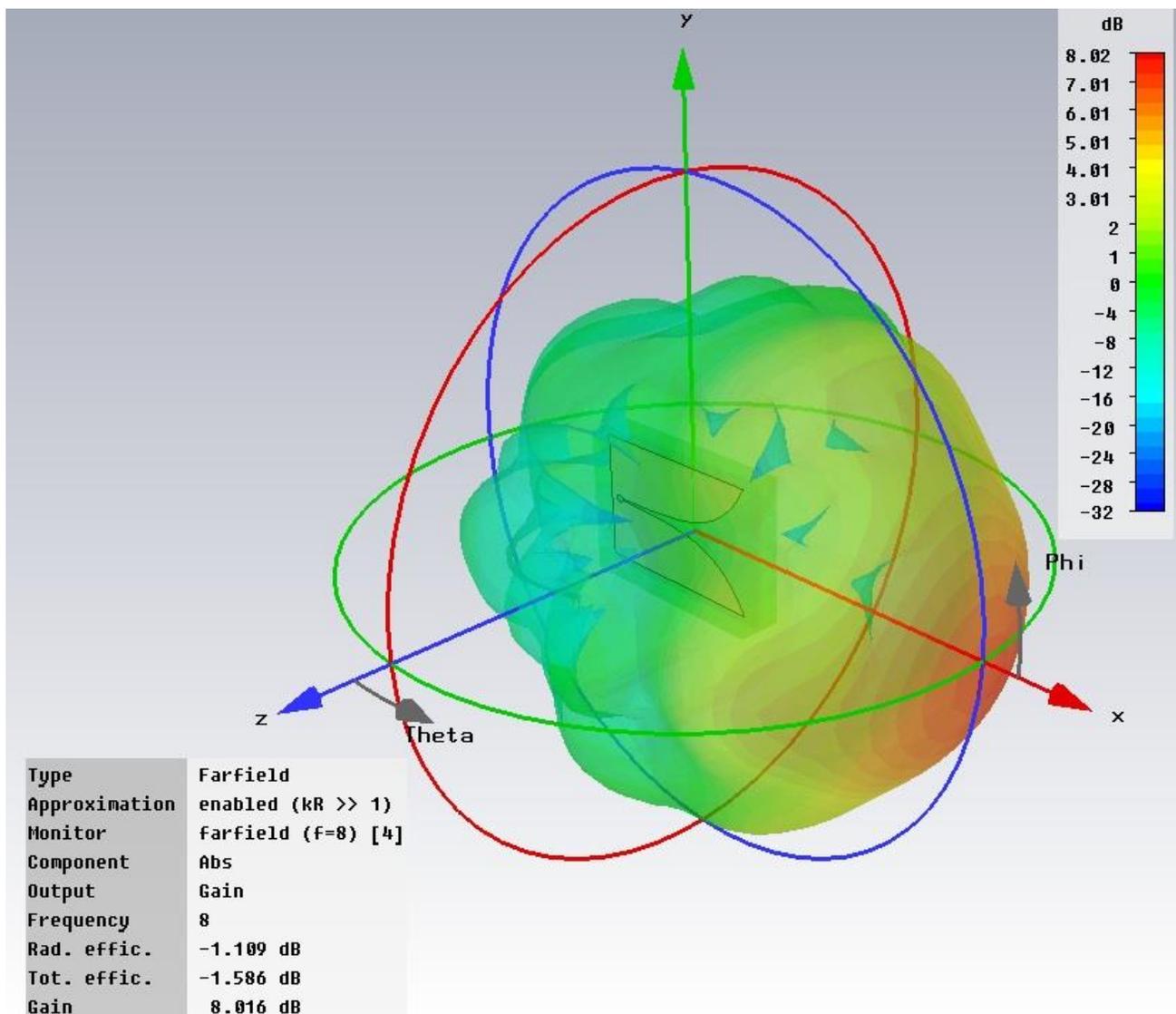


Ultra-wideband antenna Antrad-10

Radiation pattern

The following picture shows Radiation pattern in 3D according to the model at a frequency of 8 GHz.

Gain is 8 dB.





Ultra-wideband antenna Antrad-10

Radiation pattern

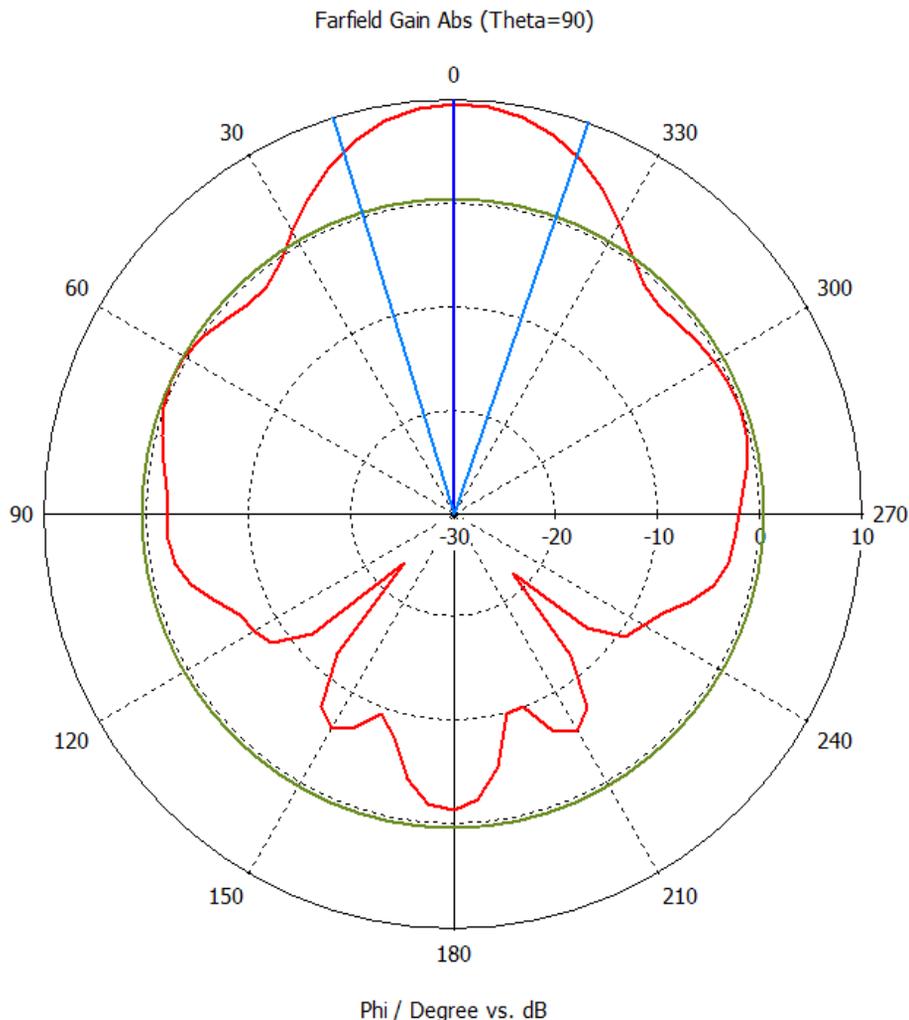
The following picture shows normalized radiation pattern in the horizontal plane in dB at a frequency of 6 GHz.

Main lobe magnitude = 9.5 dB.

Main lobe direction = 0 deg.

Angular width (3 dB) = 36.4 deg.

Side lobe level = -9.1 dB.





Ultra-wideband antenna Antrad-10

Radiation pattern

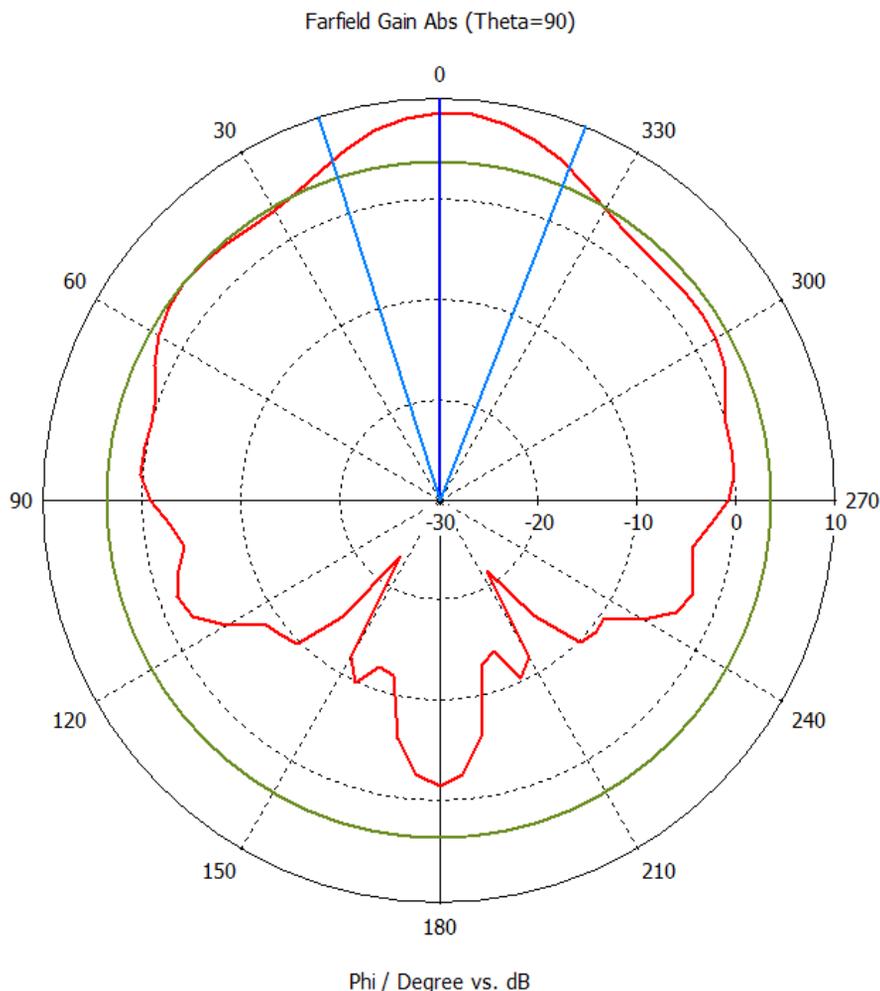
The following picture shows normalized radiation pattern in the horizontal plane in dB at a frequency of 7 GHz.

Main lobe magnitude = 8.5 dB.

Main lobe direction = 0 deg.

Angular width (3 dB) = 39.3 deg.

Side lobe level = -4.9 dB.





Ultra-wideband antenna Antrad-10

Radiation pattern

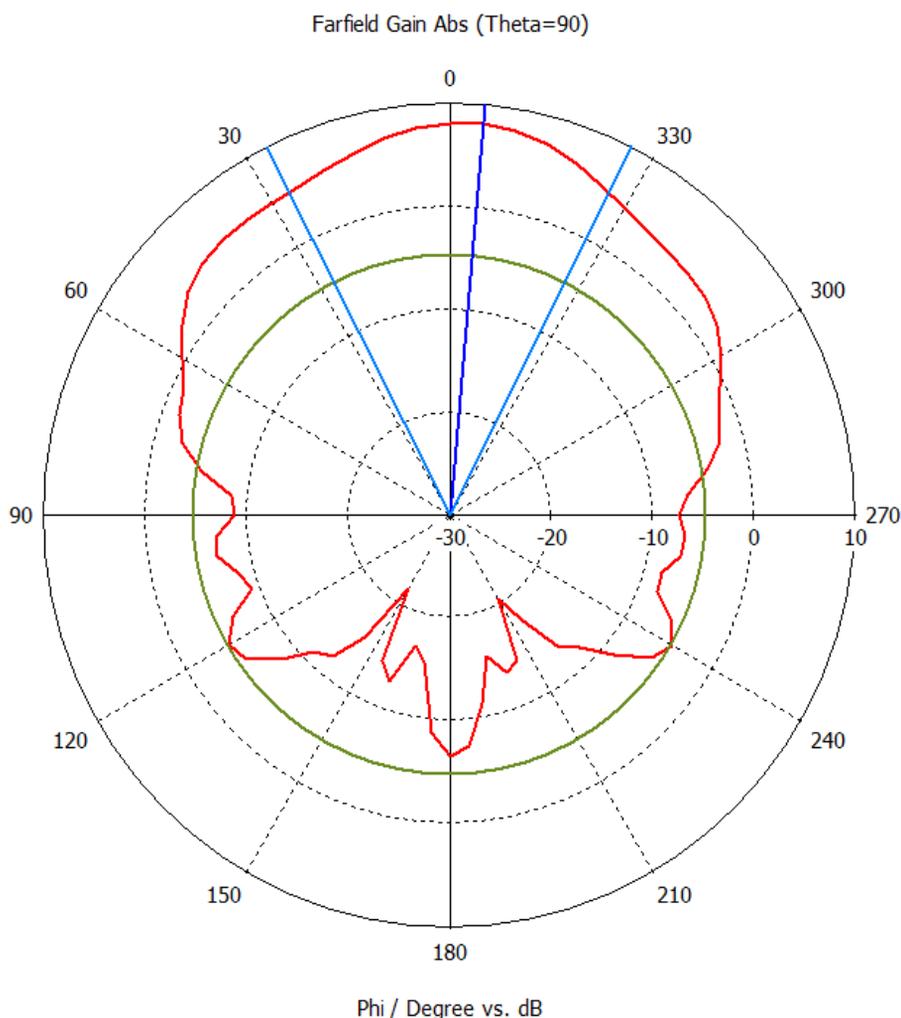
The following picture shows normalized radiation pattern in the horizontal plane in dB at a frequency of 8 GHz.

Main lobe magnitude = 8.0 dB.

Main lobe direction = 355 deg.

Angular width (3 dB) = 53.4 deg.

Side lobe level = -12.7 dB.





Ultra-wideband antenna Antrad-10

Radiation pattern

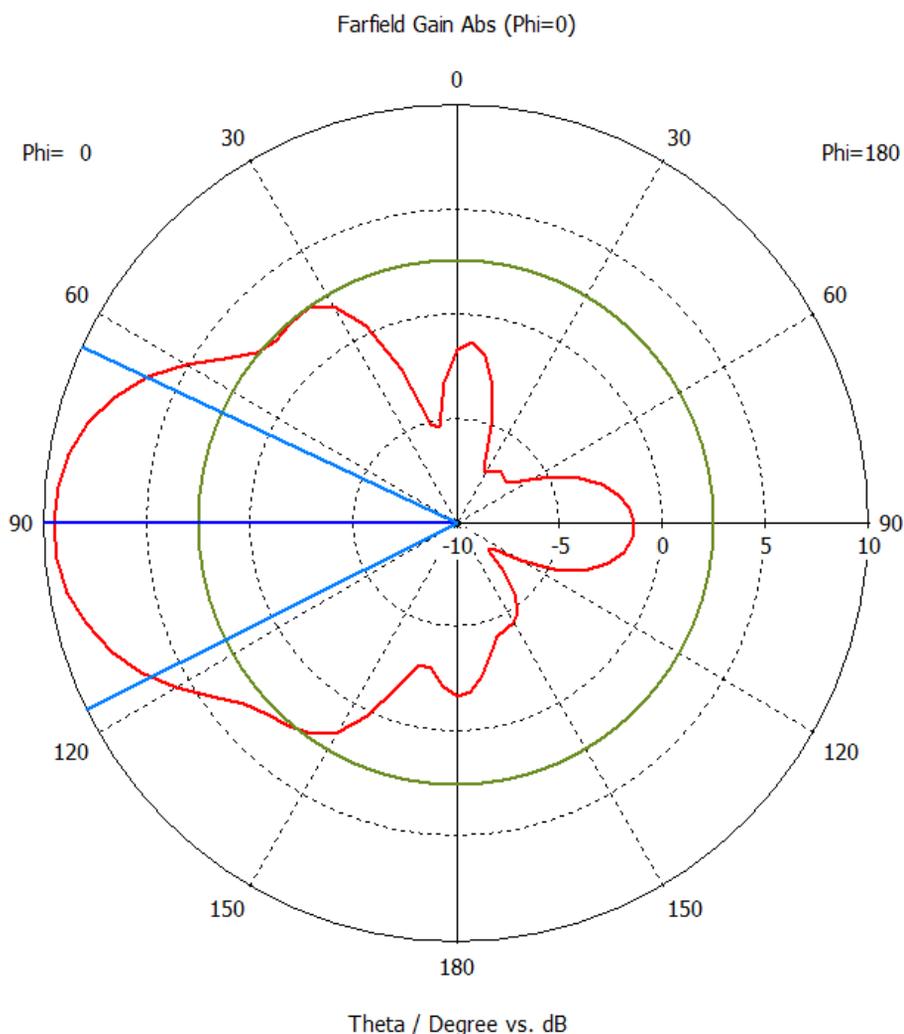
The following picture shows normalized radiation pattern in the vertical plane in dB at a frequency of 6 GHz.

Main lobe magnitude = 9.5 dB.

Main lobe direction = 90 deg.

Angular width (3 dB) = 51.1 deg.

Side lobe level = -7 dB.





Ultra-wideband antenna Antrad-10

Radiation pattern

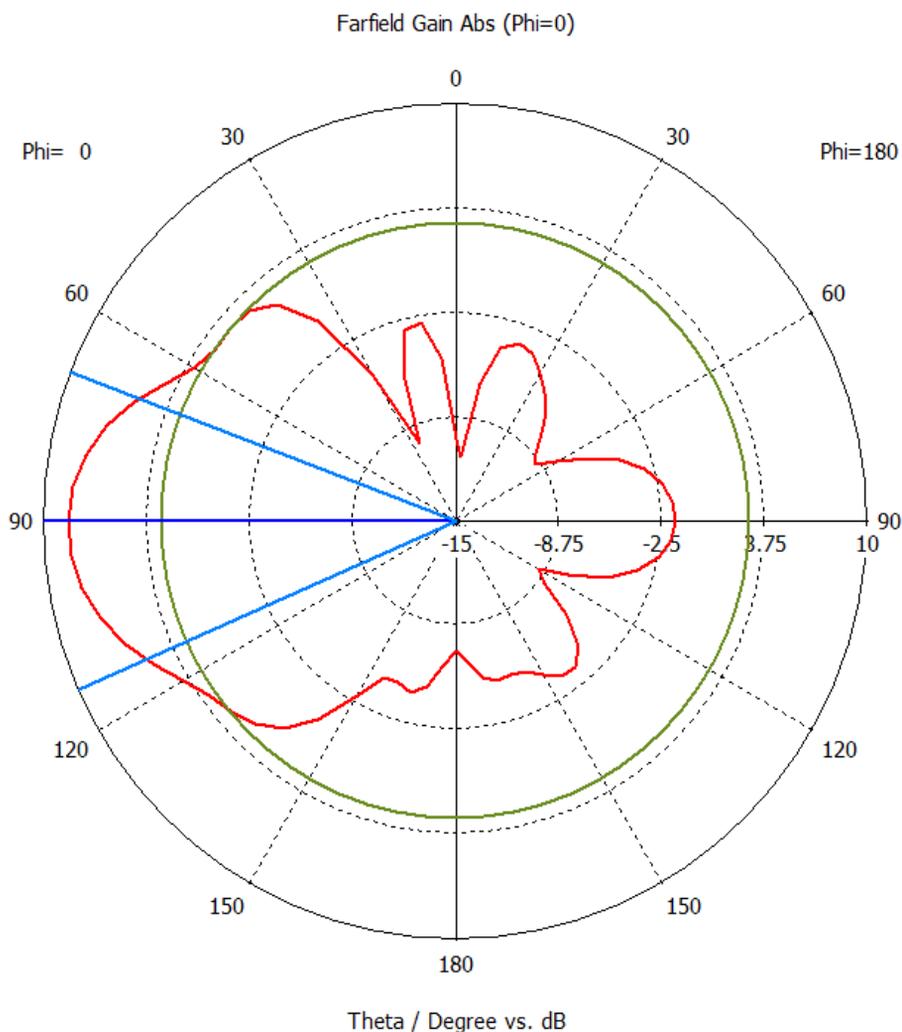
The following picture shows normalized radiation pattern in the vertical plane in dB at a frequency of 7 GHz.

Main lobe magnitude = 8.5 dB.

Main lobe direction = 90 deg.

Angular width (3 dB) = 44.5 deg.

Side lobe level = -5.7 dB.





Ultra-wideband antenna Antrad-10

Radiation pattern

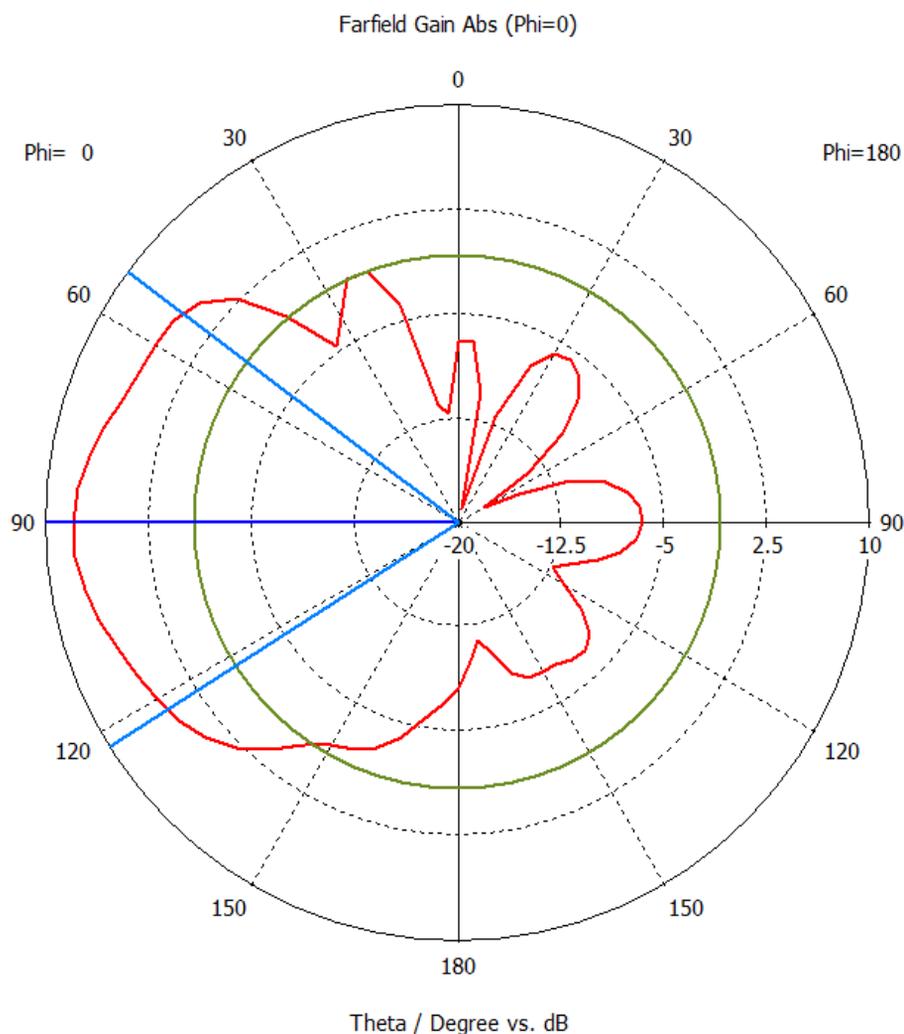
The following picture shows normalized radiation pattern in the vertical plane in dB at a frequency of 8 GHz.

Main lobe magnitude = 8.0 dB.

Main lobe direction = 90 deg.

Angular width (3 dB) = 69.2 deg.

Side lobe level = -8.8 dB.





Ultra-wideband antenna Antrad-10

Application note

The highly directional and compact ultra-wideband antenna Antrad-10 can be used for radar systems and radio communication systems operating in different frequency bands from 3 to 8 GHz.

One of the key areas of antenna application is compact ultra-wideband sensors operating at small distances of 0-20 m:

- protection intellectual sensors for people detection and distinguish them from interfering signals (animals, trees, etc.);
- sensors for determination of object coordinates and positioning;
- sensors for precise measurement of distances - level gauges, including those in optically opaque media;
- sensors for remote determination of person breathing and pulse frequency, etc.

The advantage of the PCB Antrad-10 antenna is its low cost for such class of antennas.

It is possible to use the antenna on the same PCB with microwave and digital parts of the sensor.