RH90-20



20 dBi Gain, 8.2-12.5 GHz, WR90 Standard Gain Horn with UBR100 Flange

Rev 2

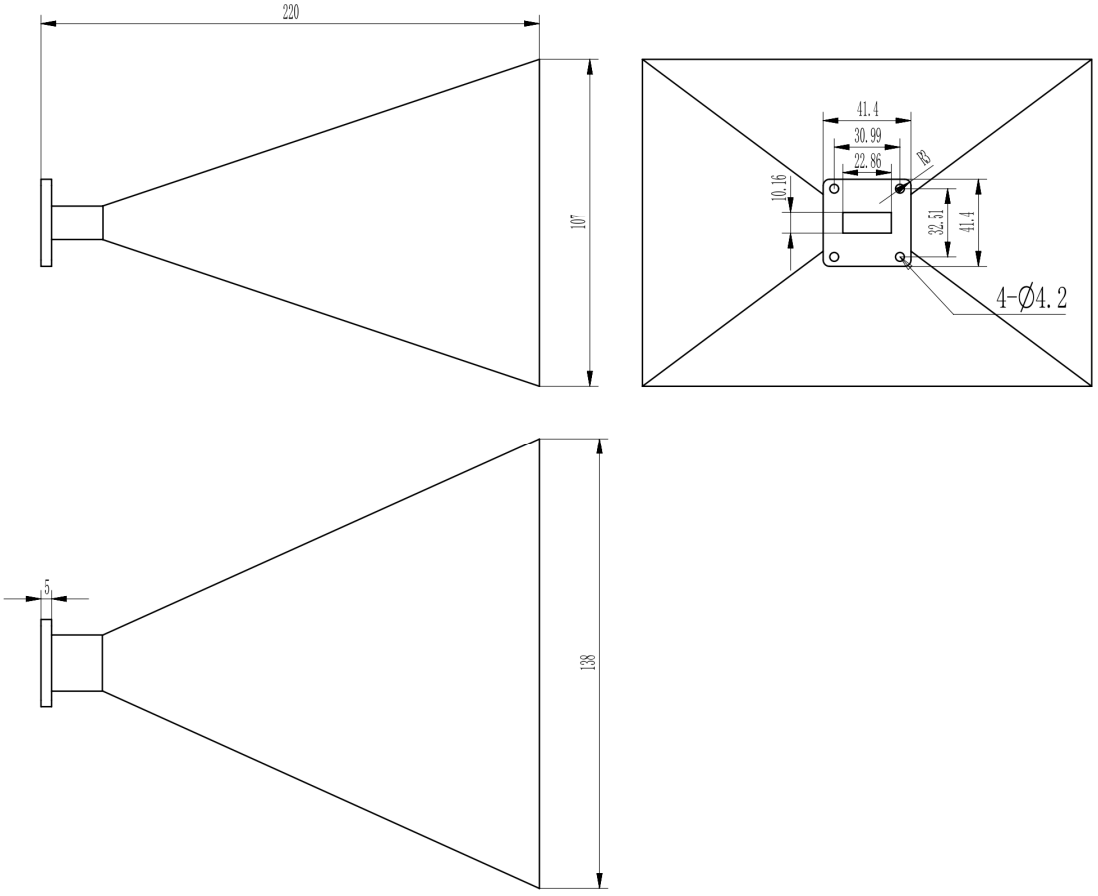
Electrical

Frequency Range	8.2-12.5 GHz
Norminal Gain	20 dBi
Polarization	Linear
VSWR	1.2 max
3dB Beamwidth	E-Plane: 13.5~19.2 deg, H-Plane: 12.8~19.9 deg
Operating Temperature	-40℃~+70℃

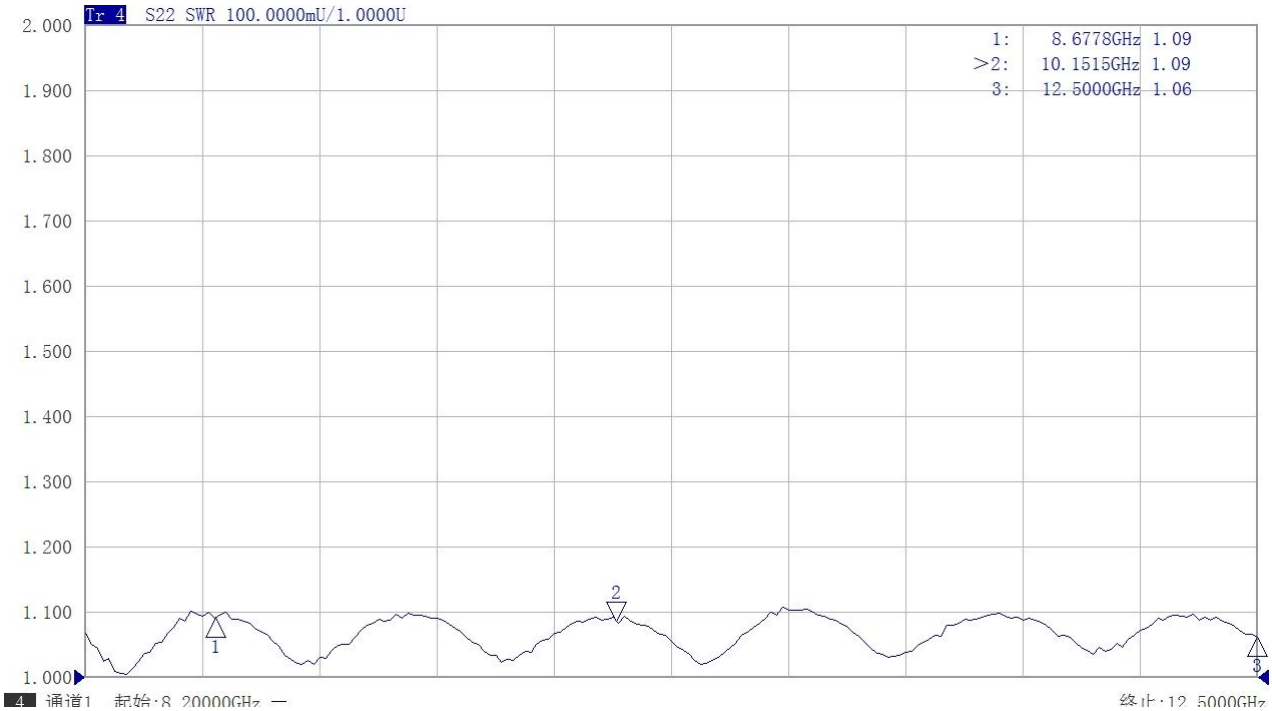
Mechanical

Waveguide Size	WR90
Flange Type	UBR100 Square Cover Flange
Body Material and Finish	Aluminum, Painted
Net Weight	320g

Dimensions(mm)

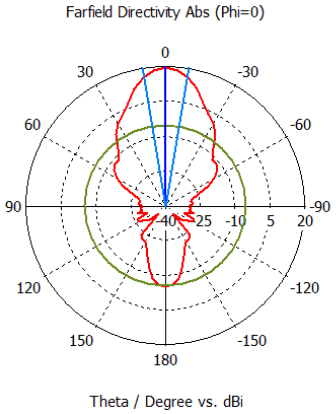


Typical Test Data



Simulated Antenna Patterns

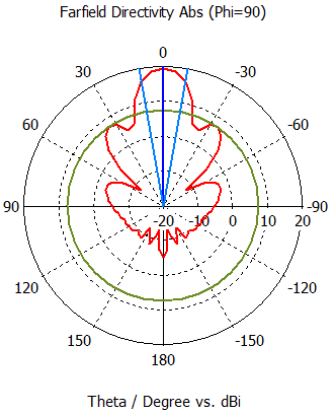
8.2GHz E-Plane



farfield (f=8.2) [1]

Frequency = 8.2
Main lobe magnitude = 19.2 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 19.2 deg.
Side lobe level = -24.6 dB

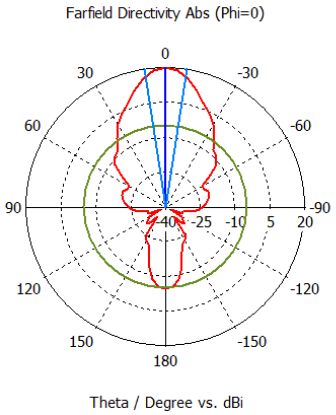
H-Plane



farfield (f=8.2) [1]

Frequency = 8.2
Main lobe magnitude = 19.2 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 19.9 deg.
Side lobe level = -11.7 dB

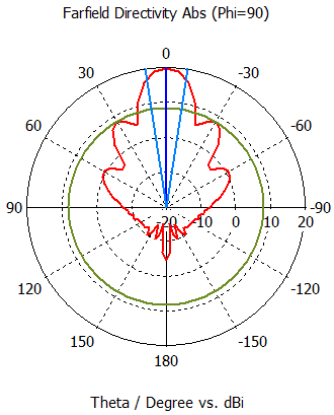
9GHz E-Plane



farfield (f=9) [1]

Frequency = 9
Main lobe magnitude = 19.7 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 17.6 deg.
Side lobe level = -24.6 dB

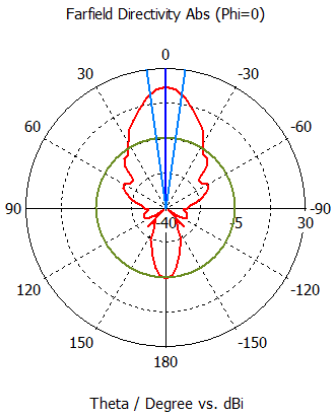
H-Plane



farfield (f=9) [1]

Frequency = 9
Main lobe magnitude = 19.7 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 17.9 deg
Side lobe level = -11.5 dB

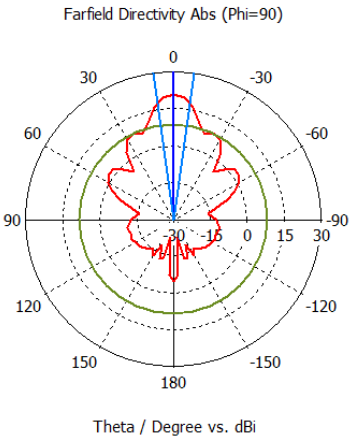
10GHz E-Plane



farfield (f=10) [1]

Frequency = 10
Main lobe magnitude = 20.5 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 15.6 deg.
Side lobe level = -25.4 dB

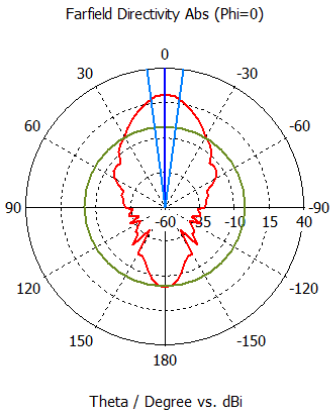
H-Plane



farfield (f=10) [1]

Frequency = 10
Main lobe magnitude = 20.5 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 16.2 deg.
Side lobe level = -12.1 dB

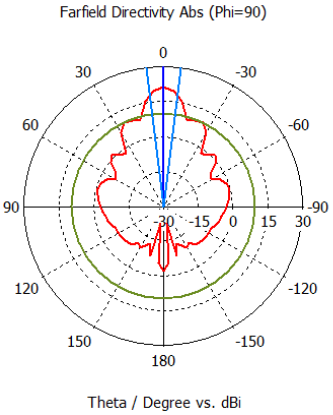
11GHz E-Plane



farfield (f=11) [1]

Frequency = 11
Main lobe magnitude = 21.0 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 15.0 deg.
Side lobe level = -23.2 dB

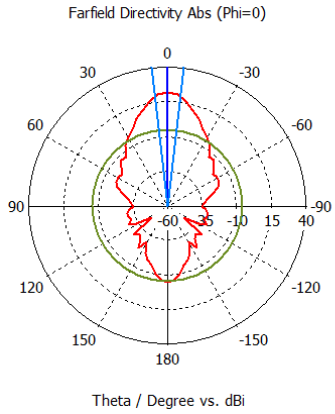
H-Plane



farfield (f=11) [1]

Frequency = 11
Main lobe magnitude = 21.0 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 14.1 deg.
Side lobe level = -11.3 dB

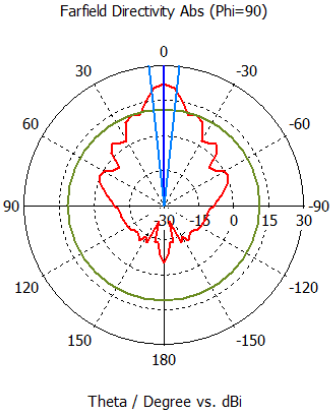
12.4GHz E-Plane



farfield (f=12.4) [1]

Frequency = 12.4
Main lobe magnitude = 21.8 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 13.5 deg.
Side lobe level = -27.3 dB

H-Plane

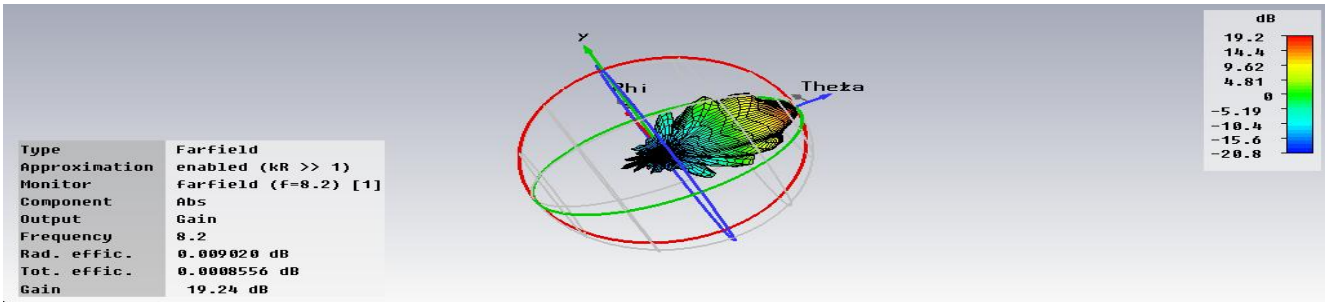


farfield (f=12.4) [1]

Frequency = 12.4
Main lobe magnitude = 21.8 dBi
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 12.8 deg
Side lobe level = -10.6 dB

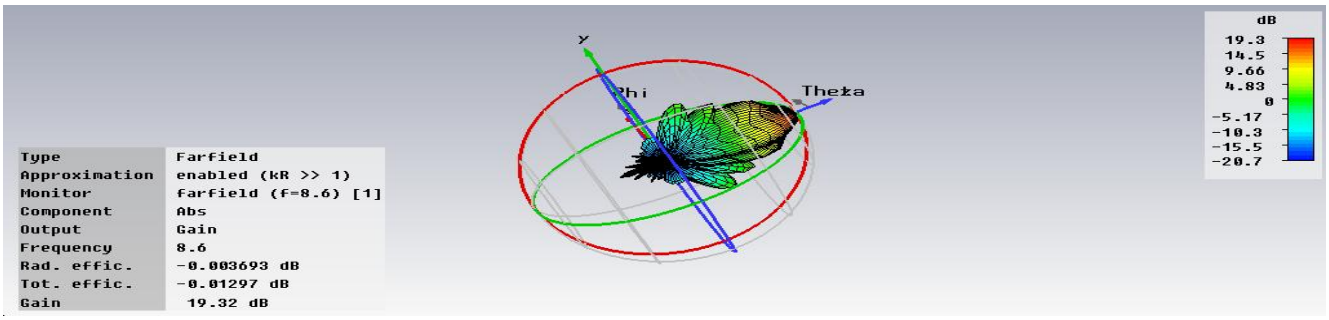
Gain

8.2GHz



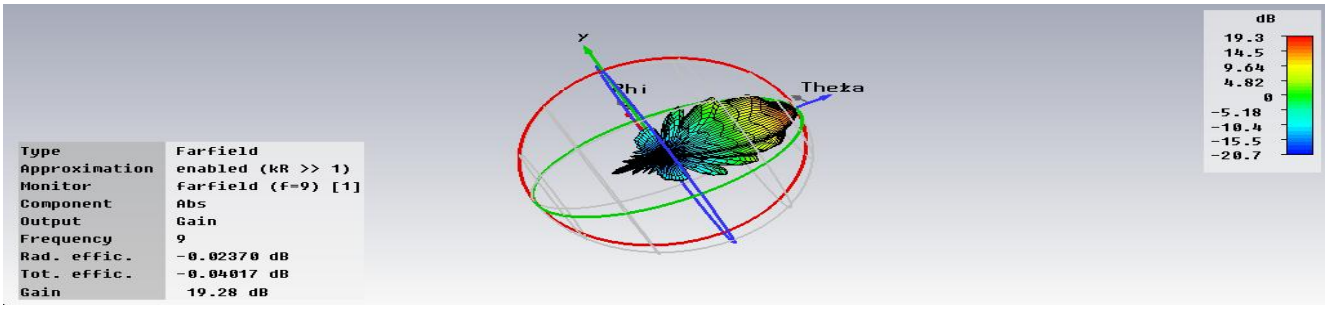
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=8.2) [1]
Component	Abs
Output	Gain
Frequency	8.2
Rad. effic.	0.009020 dB
Tot. effic.	0.0008556 dB
Gain	19.24 dB

8.6GHz



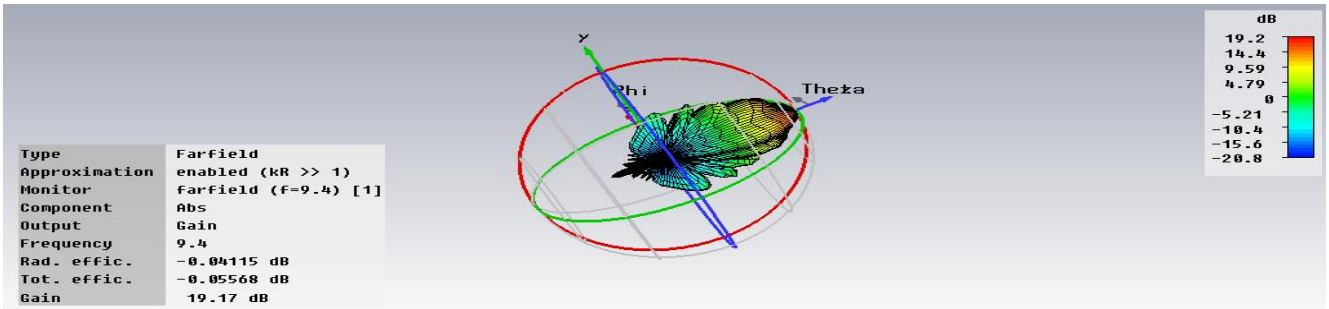
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=8.6) [1]
Component	Abs
Output	Gain
Frequency	8.6
Rad. effic.	-0.003693 dB
Tot. effic.	-0.01297 dB
Gain	19.32 dB

9GHz



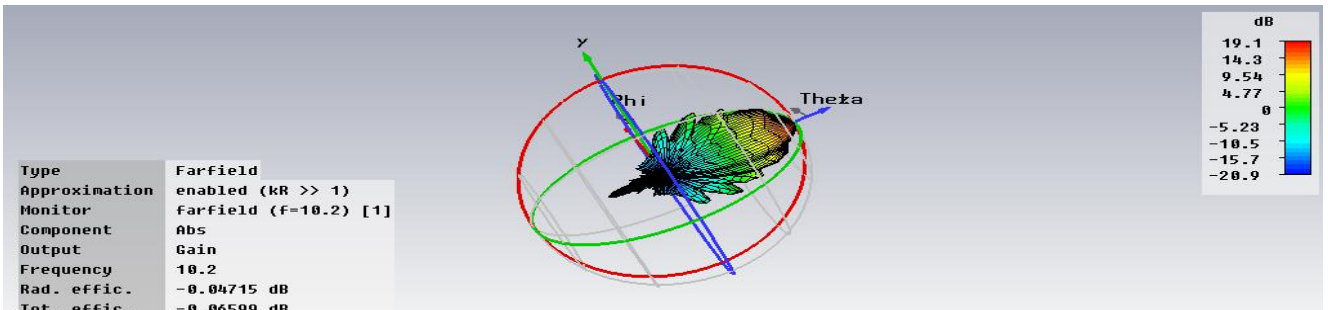
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=9) [1]
Component	Abs
Output	Gain
Frequency	9
Rad. effic.	-0.02370 dB
Tot. effic.	-0.04017 dB
Gain	19.28 dB

9.4GHz



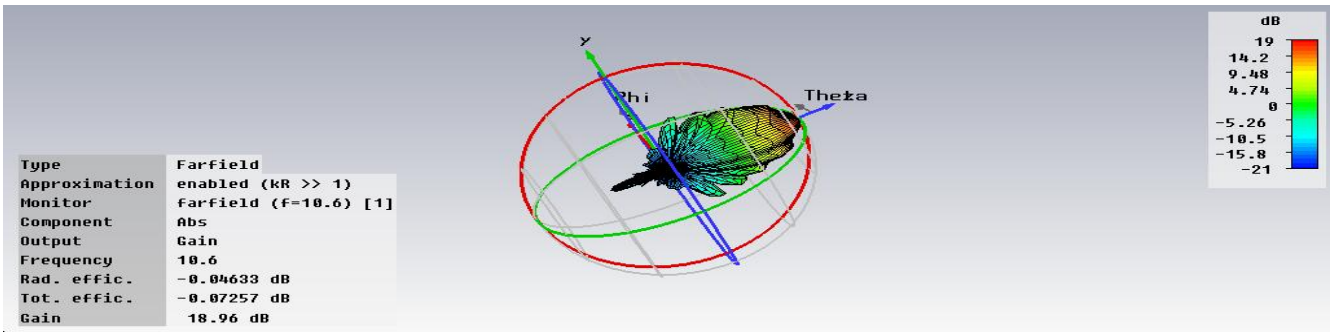
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=9.4) [1]
Component	Abs
Output	Gain
Frequency	9.4
Rad. effic.	-0.04115 dB
Tot. effic.	-0.05568 dB
Gain	19.17 dB

10.2GHz



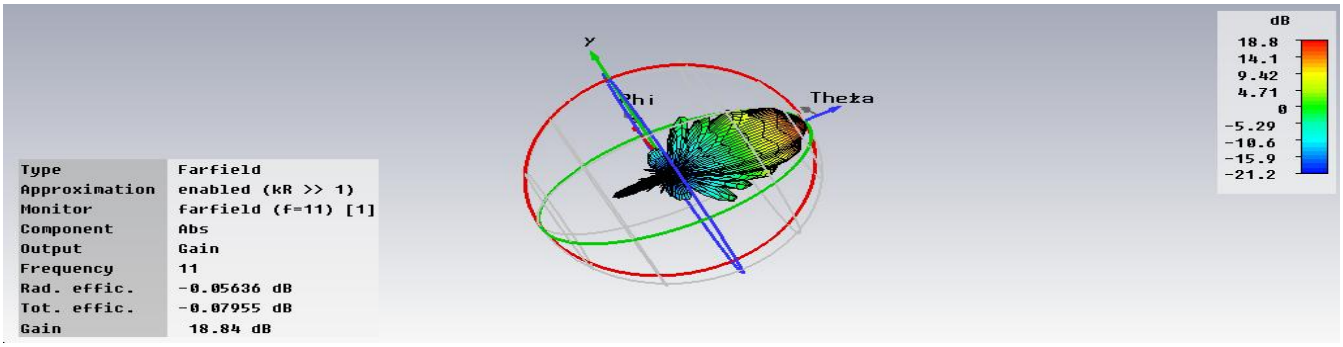
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=10.2) [1]
Component	Abs
Output	Gain
Frequency	10.2
Rad. effic.	-0.04715 dB
Tot. effic.	-0.06599 dB
Gain	19.08 dB

10.6GHz



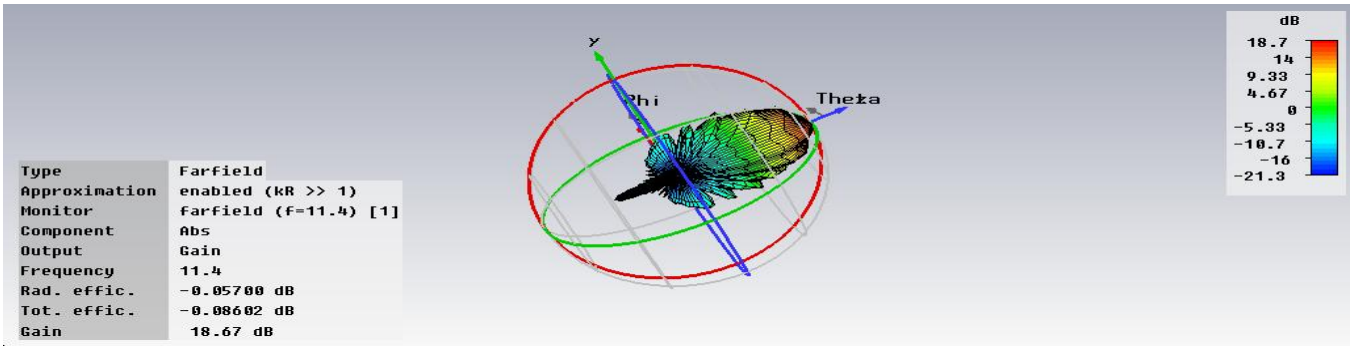
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=10.6) [1]
Component	Abs
Output	Gain
Frequency	10.6
Rad. effic.	-0.04633 dB
Tot. effic.	-0.07257 dB
Gain	18.96 dB

11GHz



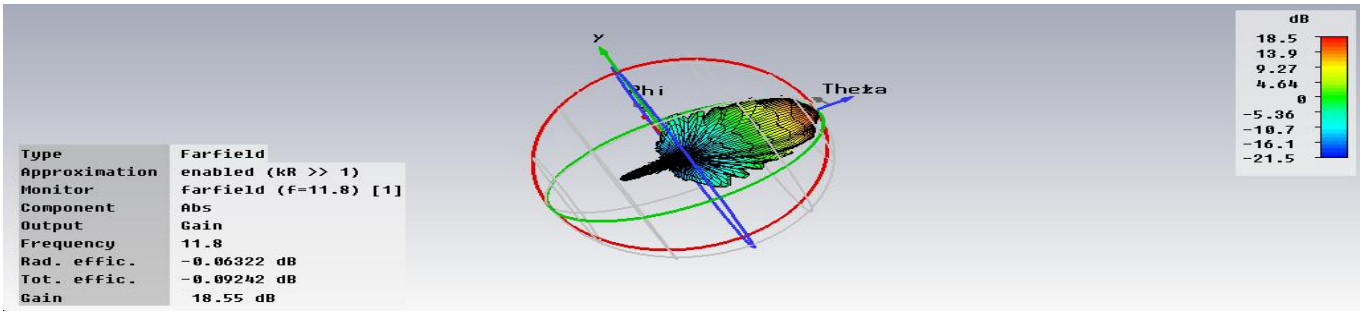
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=11) [1]
Component	Abs
Output	Gain
Frequency	11
Rad. effic.	-0.05636 dB
Tot. effic.	-0.07955 dB
Gain	18.84 dB

11.4GHz



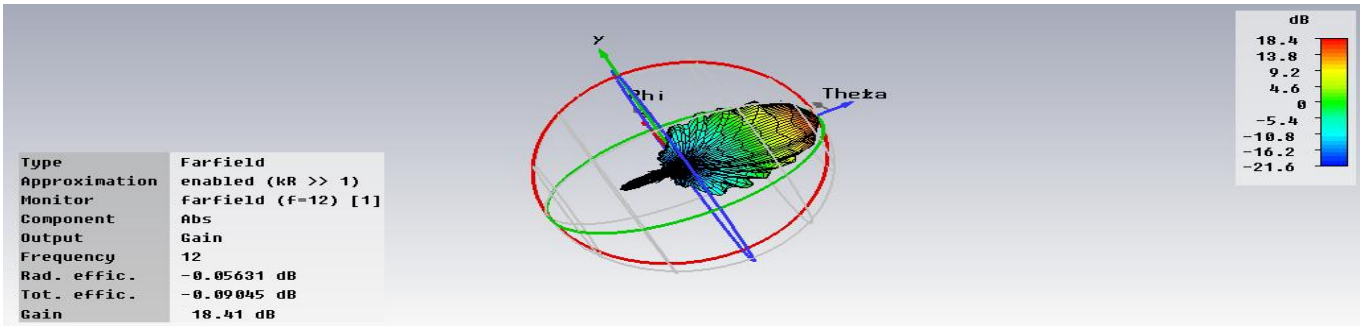
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=11.4) [1]
Component	Abs
Output	Gain
Frequency	11.4
Rad. effic.	-0.05700 dB
Tot. effic.	-0.08602 dB
Gain	18.67 dB

11.8GHz



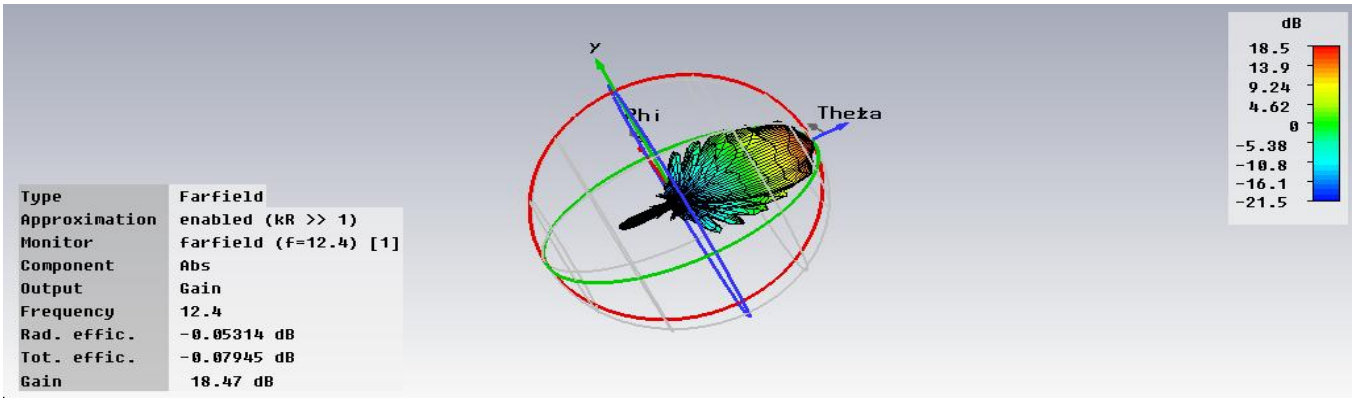
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=11.8) [1]
Component	Abs
Output	Gain
Frequency	11.8
Rad. effic.	-0.06322 dB
Tot. effic.	-0.09242 dB
Gain	18.55 dB

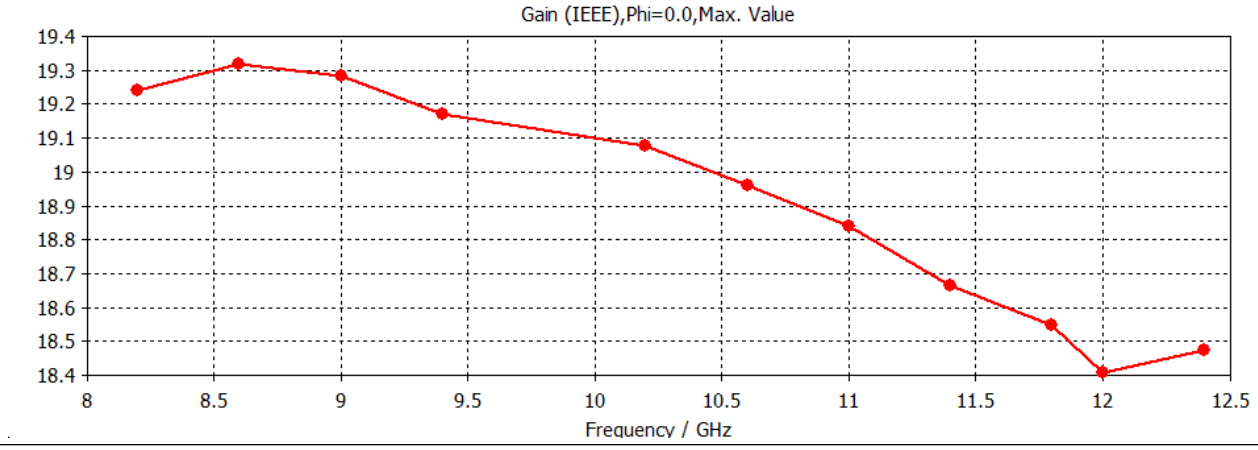
12GHz



Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=12) [1]
Component	Abs
Output	Gain
Frequency	12
Rad. effic.	-0.05631 dB
Tot. effic.	-0.09045 dB
Gain	18.41 dB

12.4GHz


Type Farfield
Approximation enabled (kR >> 1)
Monitor farfield (f=12.4) [1]
Component Abs
Output Gain
Frequency 12.4
Rad. effic. -0.05314 dB
Tot. effic. -0.07945 dB
Gain 18.47 dB
dB
18.5
13.9
9.24
4.62
0
-5.38
-10.8
-16.1
-21.5
Phi
Theta


Gain (IEEE),Phi=0.0,Max. Value
19.4
19.3
19.2
19.1
19
18.9
18.8
18.7
18.6
18.5
18.4
8
8.5
9
9.5
10
10.5
11
11.5
12
12.5
Frequency / GHz