RH90-SMA-20



20 dBi Gain, 8.2-12.5 GHz, WR90 Standard Gain Horn with SMA Female Port

Rev 2

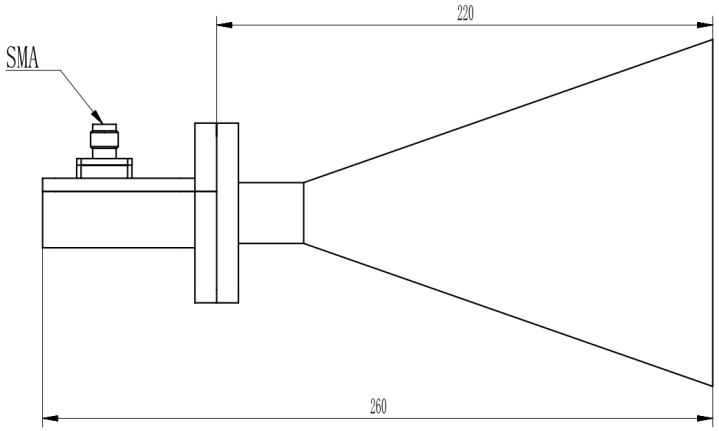
Electrical

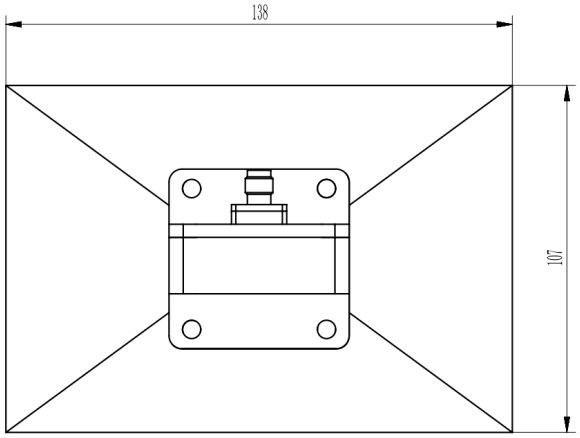
Frequency Range	8.2-12.5 GHz
Norminal Gain	20 dBi
Polarization	Linear
VSWR	1.3 max
3dB Beamwidth	E-Plane: 13.5~19.2 deg, H-Plane: 12.8~19.9 deg
Operating Temperature	-40℃~+70℃

Mechanical

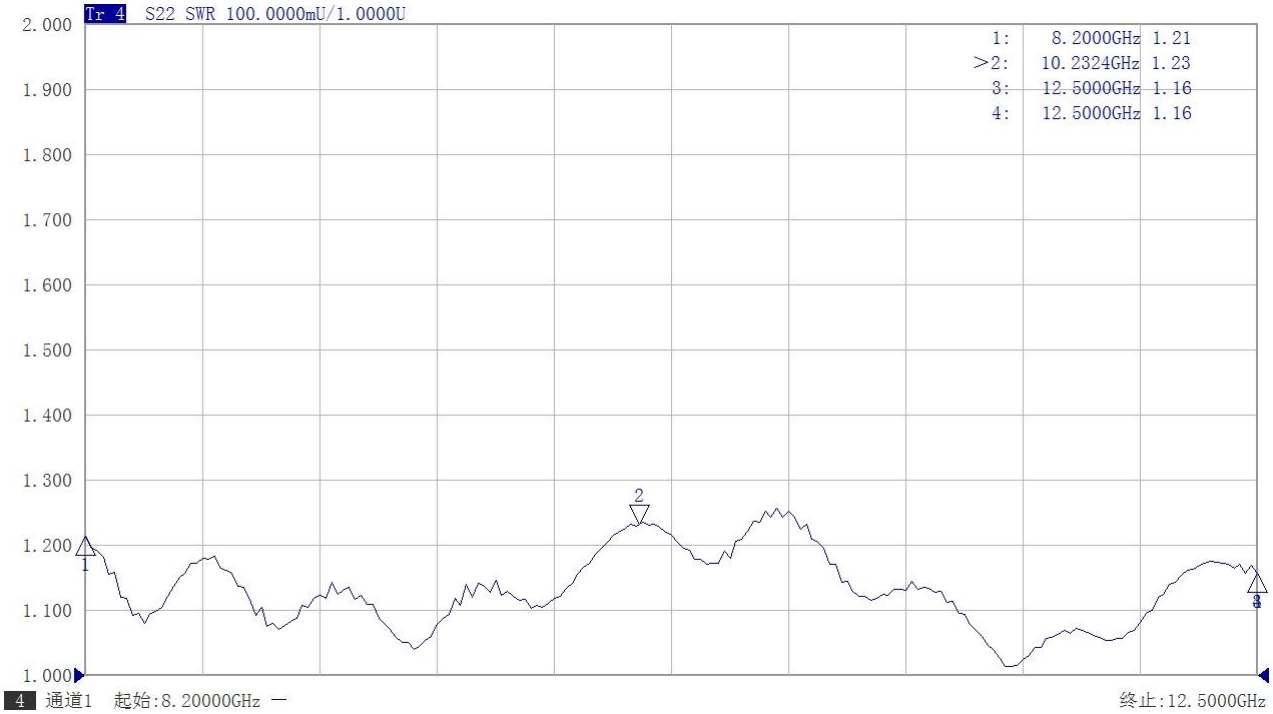
Waveguide Size	WR90
Flange Type	UBR100 Square Cover Flange
Body Material and Finish	Aluminum, Painted
RF Connector	SMA Female
Net Weight	390g

Dimensions(mm)



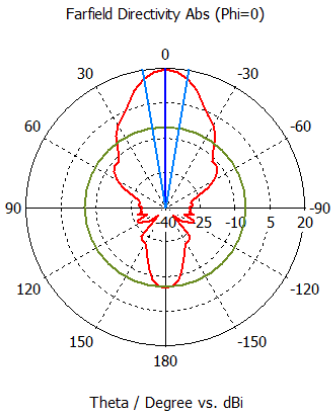


Typical Test Data



Simulated Antenna Patterns

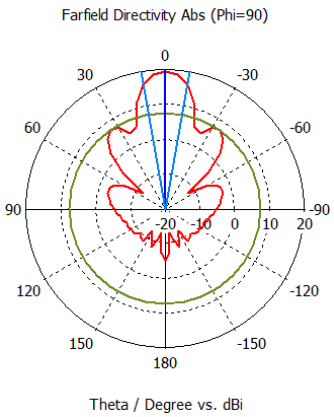
8.2GHz E-Plane



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

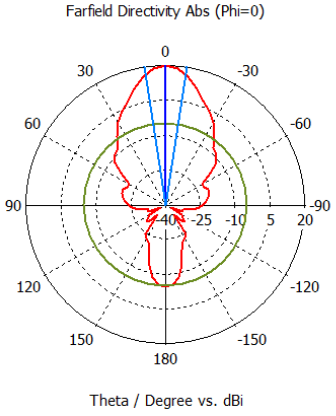
H-Plane



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

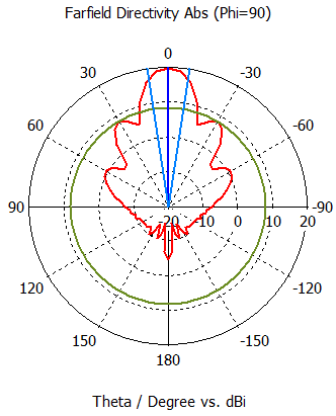
9GHz E-Plane



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

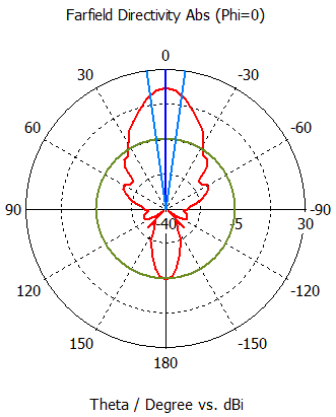
H-Plane



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

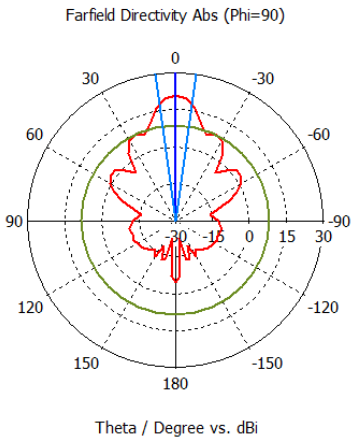
10GHz E-Plane



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

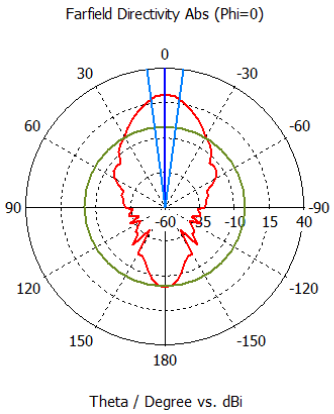
H-Plane



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

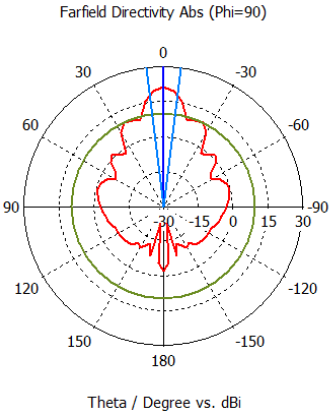
11GHz E-Plane



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

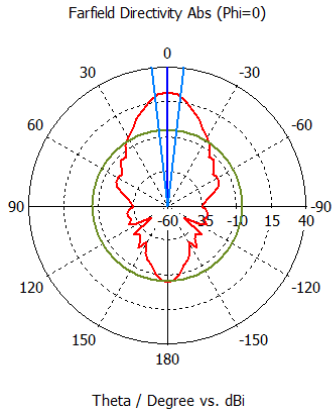
H-Plane



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

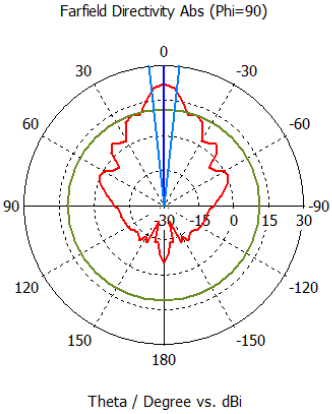
12.4GHz E-Plane



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

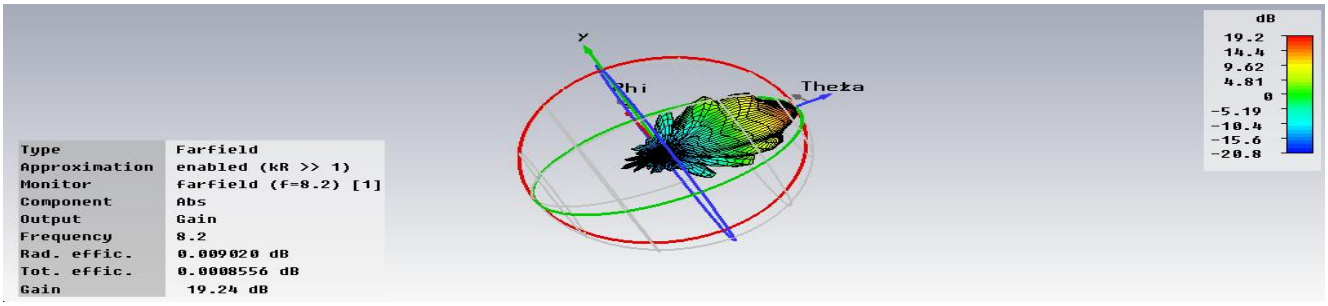


farfield (f=12.4) [1]

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

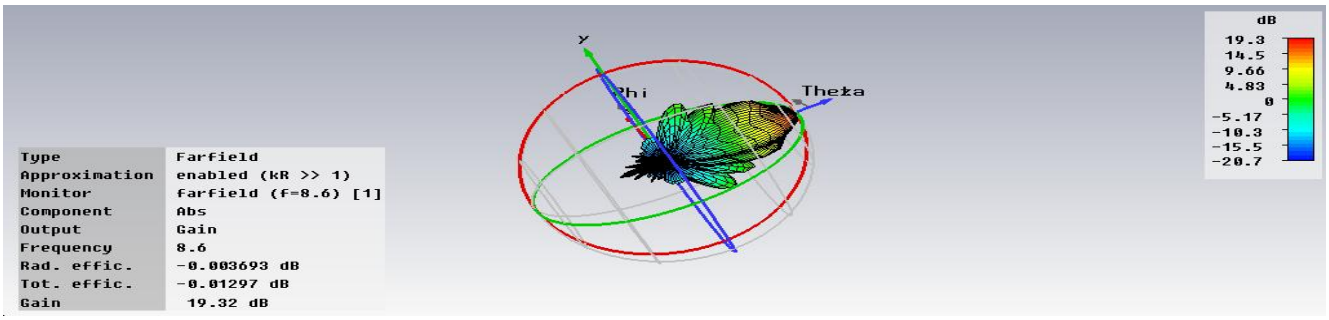
Gain

8.2GHz



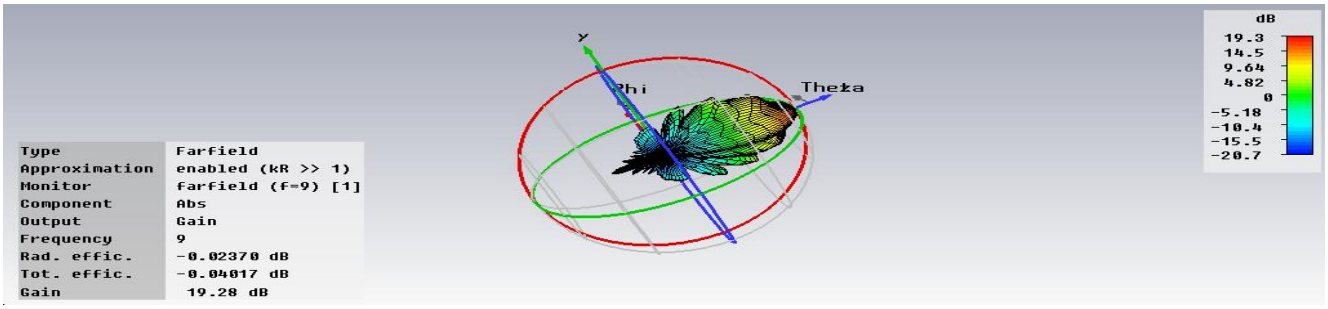
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=8.2) [1]
Component	Abs
Output	Gain
Frequency	8.2
Rad. effic.	0.009020 dB
Tot. effic.	0.0008556 dB
Gain	19.24 dB

8.6GHz



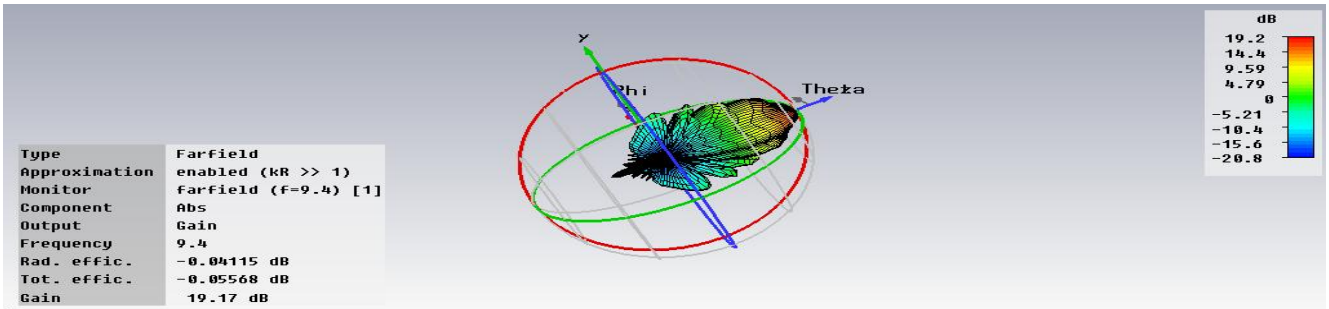
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=8.6) [1]
Component	Abs
Output	Gain
Frequency	8.6
Rad. effic.	-0.003693 dB
Tot. effic.	-0.01297 dB
Gain	19.32 dB

9GHz



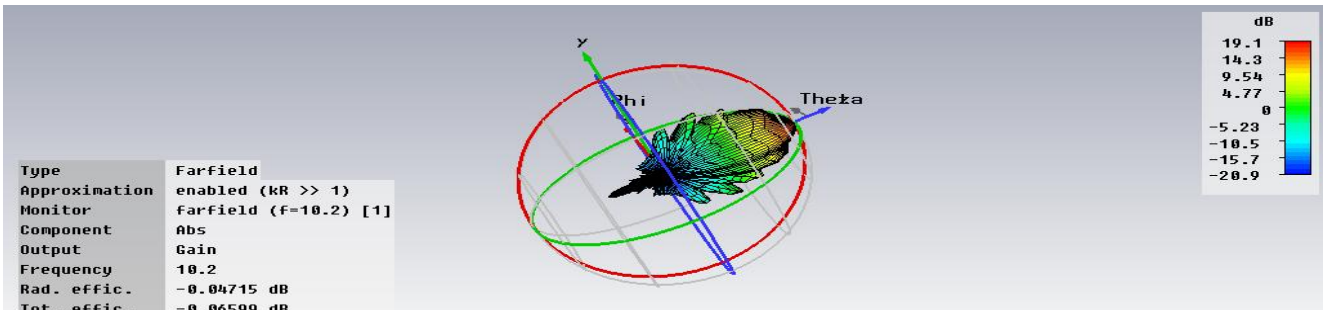
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=9) [1]
Component	Abs
Output	Gain
Frequency	9
Rad. effic.	-0.02370 dB
Tot. effic.	-0.04017 dB
Gain	19.28 dB

9.4GHz



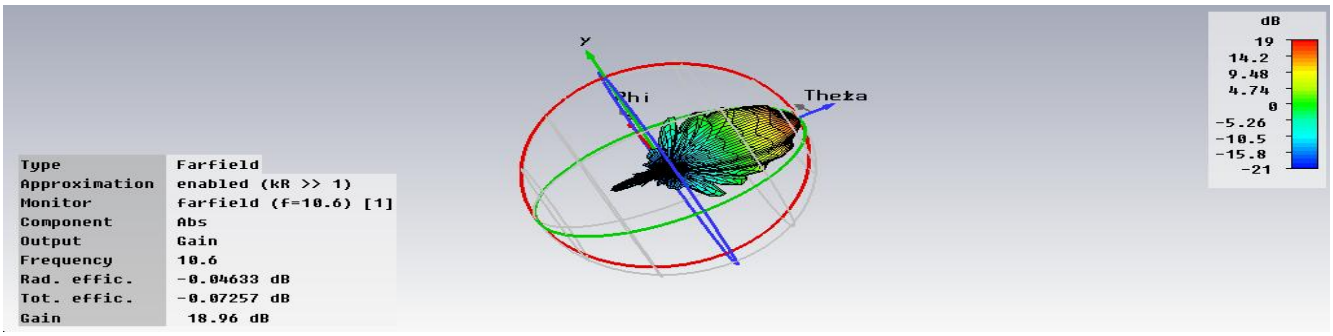
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=9.4) [1]
Component	Abs
Output	Gain
Frequency	9.4
Rad. effic.	-0.04115 dB
Tot. effic.	-0.05568 dB
Gain	19.17 dB

10.2GHz



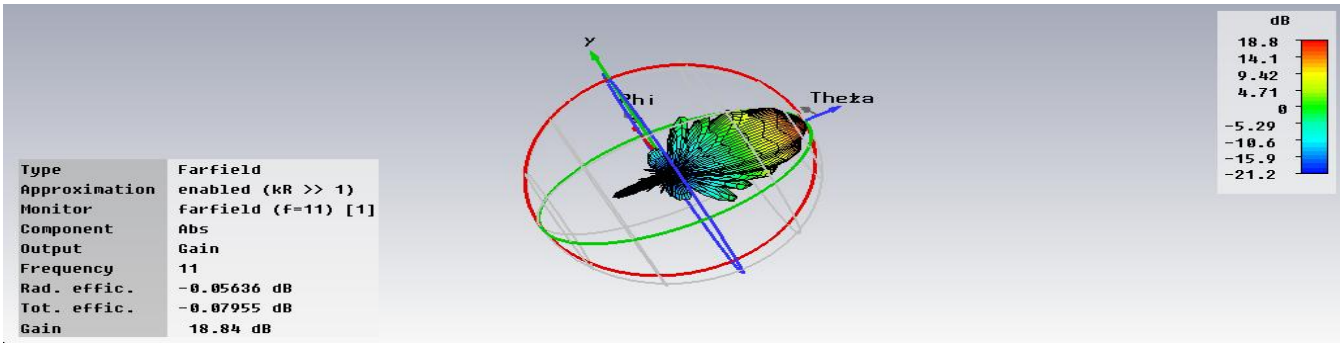
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=10.2) [1]
Component	Abs
Output	Gain
Frequency	10.2
Rad. effic.	-0.04715 dB
Tot. effic.	-0.06599 dB
Gain	19.08 dB

10.6GHz



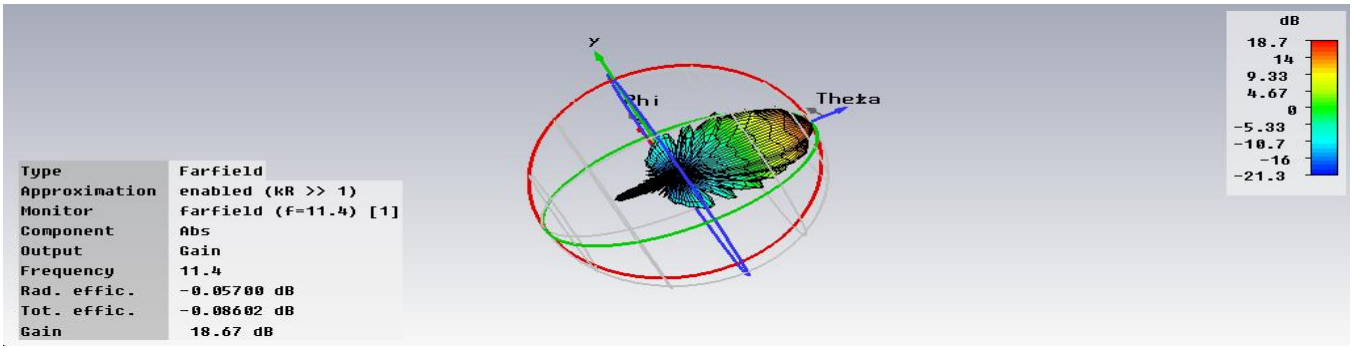
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=10.6) [1]
Component	Abs
Output	Gain
Frequency	10.6
Rad. effic.	-0.04633 dB
Tot. effic.	-0.07257 dB
Gain	18.96 dB

11GHz



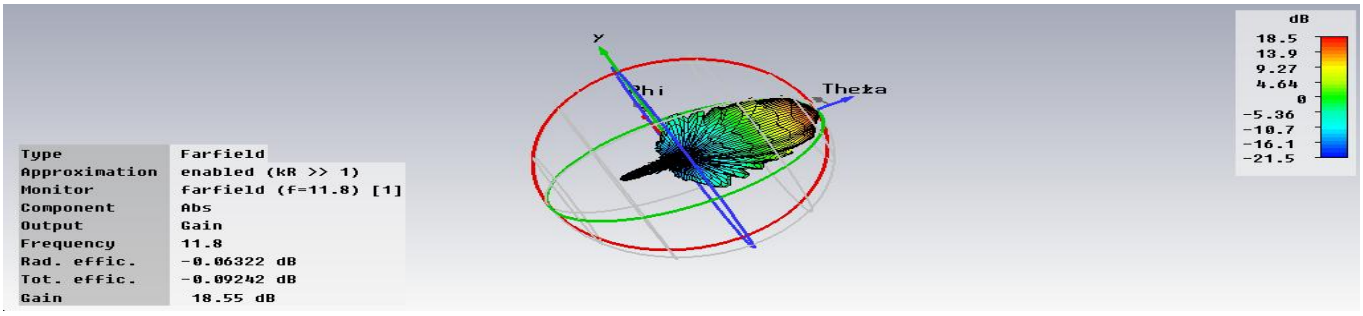
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=11) [1]
Component	Abs
Output	Gain
Frequency	11
Rad. effic.	-0.05636 dB
Tot. effic.	-0.07955 dB
Gain	18.84 dB

11.4GHz



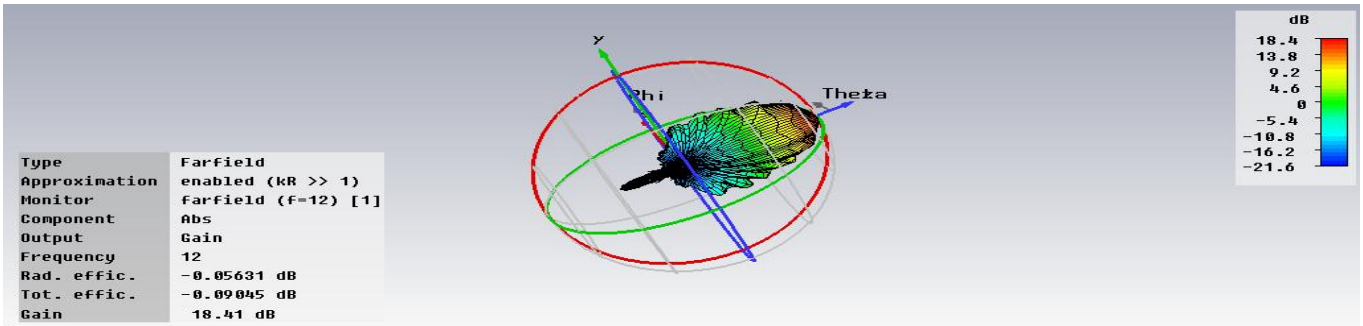
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=11.4) [1]
Component	Abs
Output	Gain
Frequency	11.4
Rad. effic.	-0.05700 dB
Tot. effic.	-0.08602 dB
Gain	18.67 dB

11.8GHz



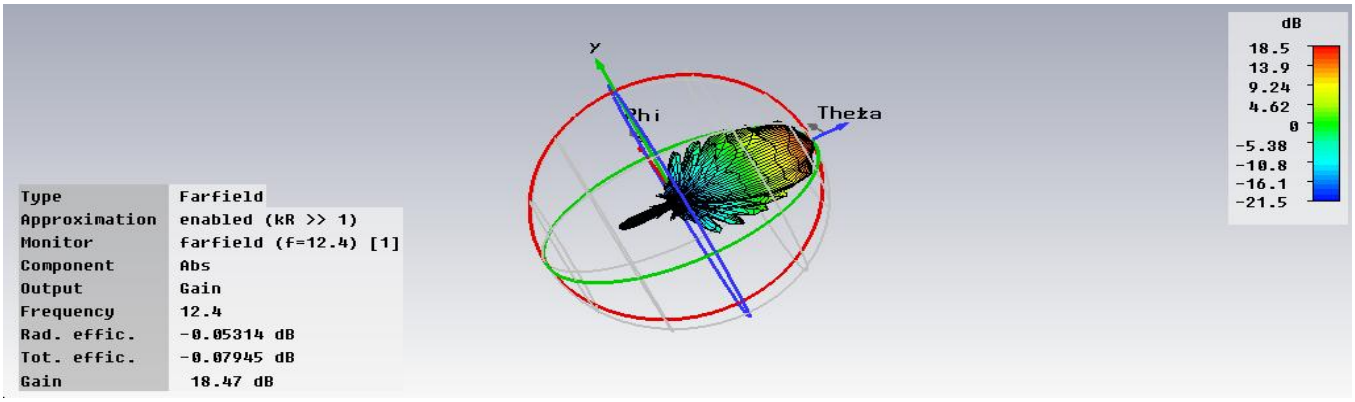
Type	Farfield
Approximation	enabled (kR >> 1)
Monitor	farfield (f=11.8) [1]
Component	Abs
Output	Gain
Frequency	11.8
Rad. effic.	-0.06322 dB
Tot. effic.	-0.09242 dB
Gain	18.55 dB

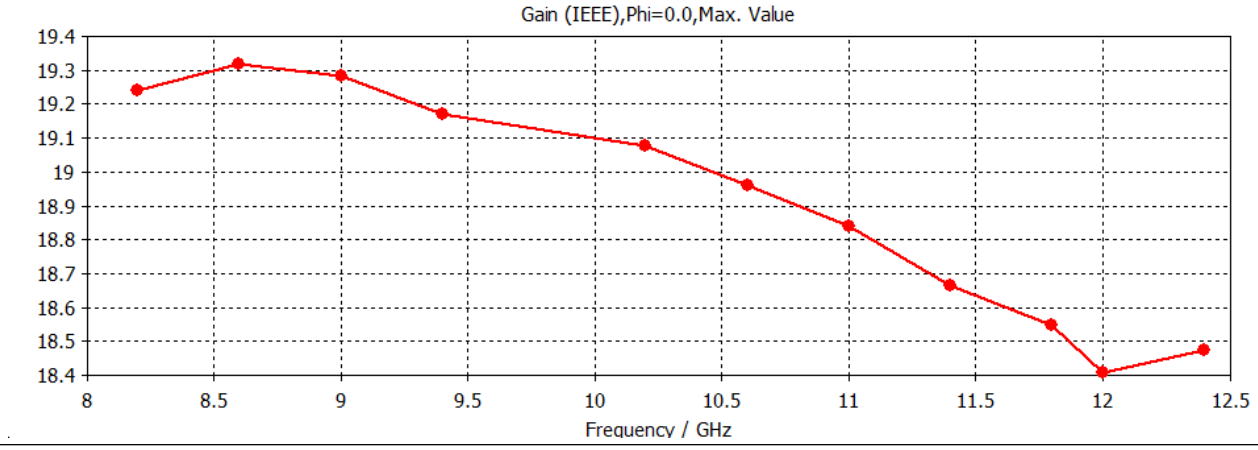
12GHz



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