

RFID Antenna Data Sheet

Model:AQUA920S_8012_Series

OCT.06.2023(Rev 1.0)

This datasheet is made and issued by Actenna Co.,Ltd.,the developer and manufacturer located at # 2Dong –M603,(Byeolnae Station Paragon Square),249 Sunhwagung-ro, Namyangju-si, Gyeonggi-do,Republic of Korea

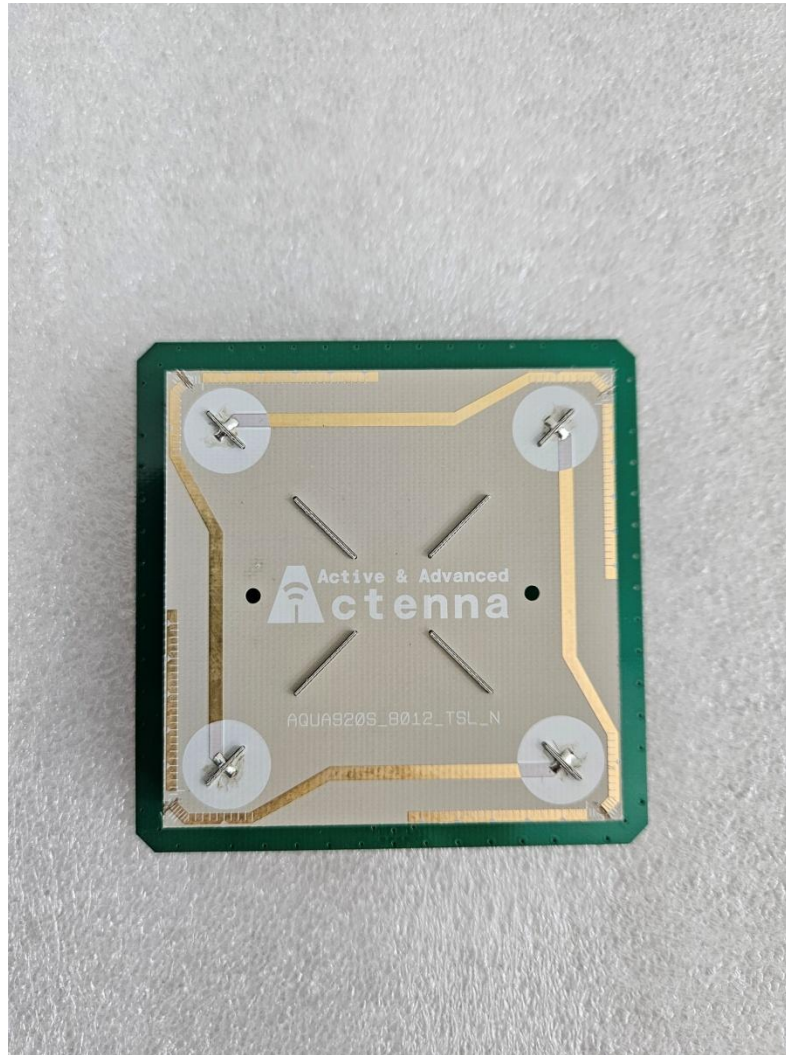
Features

- ◆ UHF RFID Reader Circular Polarization Antenna
- ◆ Square Quadrifilar Spiral Antenna with RHCP
(*Patent Registration)
- ◆ Small antenna element
- ◆ Low Weight, Compact Size
- ◆ Low interaction with platform
- ◆ Wide beamwidth
- ◆ Negligible detuning close to users
- ◆ Easy application and Save development time
- ◆ OEM/ODM

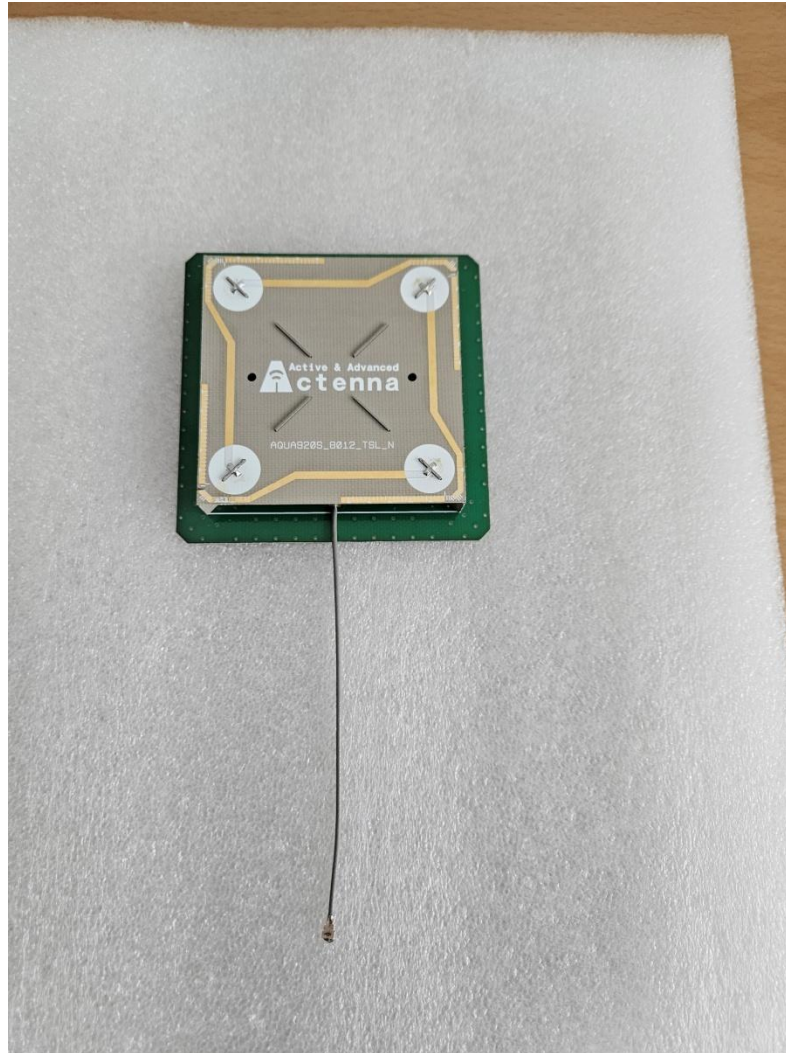
Electric Specification

No		Min	Typ	Max	Unit
1	Model Number	AQUA920S_8012_TSL_N			
2	Type	QSA			
3	Operating Frequency	902~928			MHz
4	Polarization	Right-Hand Circular Polarization			
5	Gain		4.5	5.5	dBic
6	Beamwidth	110	120	130	Degrees
7	Bandwidth(-13dB R.L.)		60		MHz
8	Axial Ratio		<1.5		

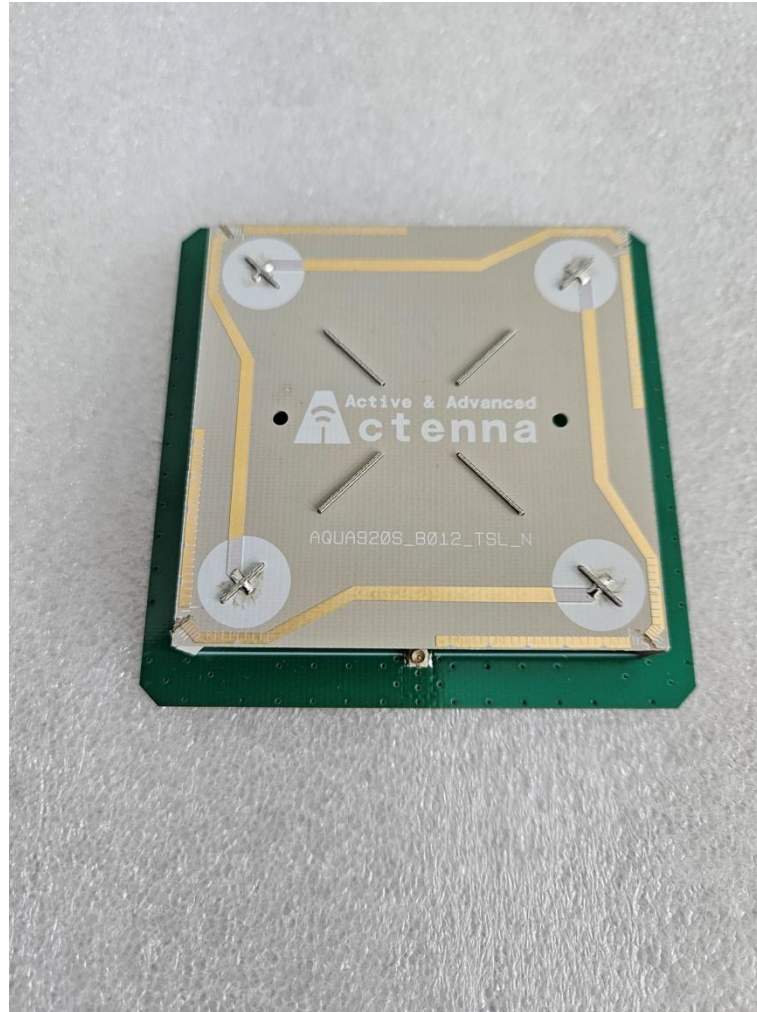
Mechanical Dimension($L*W*H=80*80*12.6$ (mm))



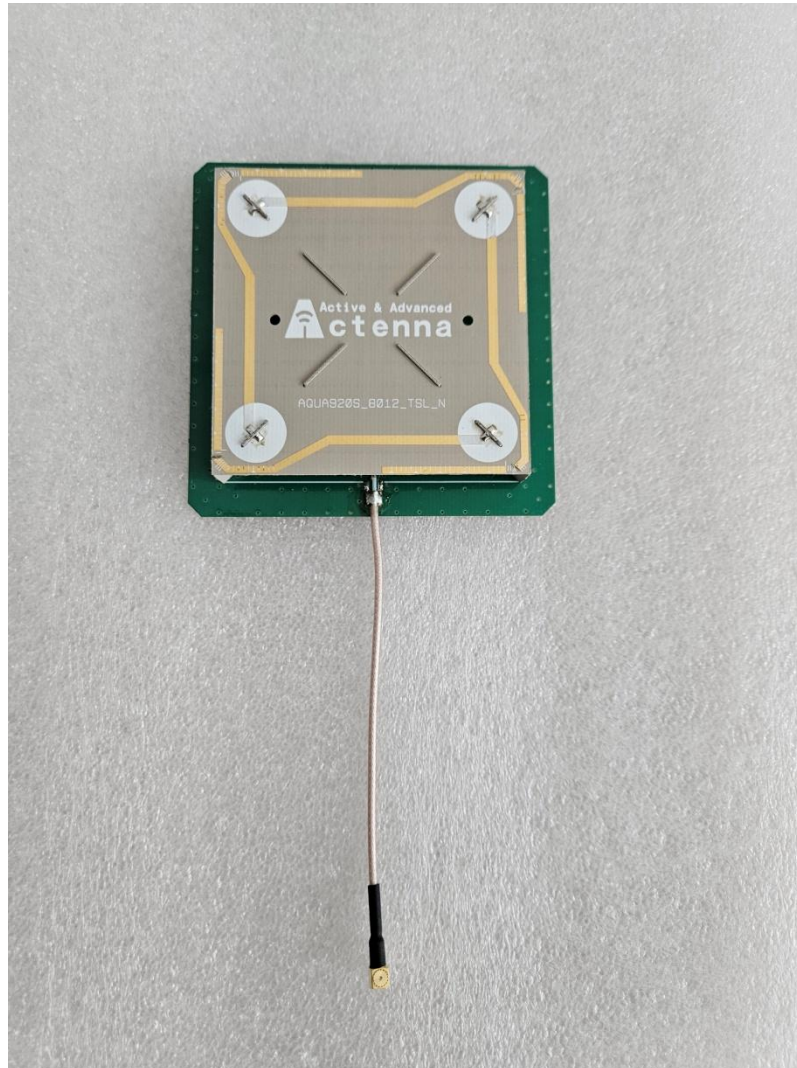
Mechanical Dimension($L*W*H=80*80*12.6$ (mm))



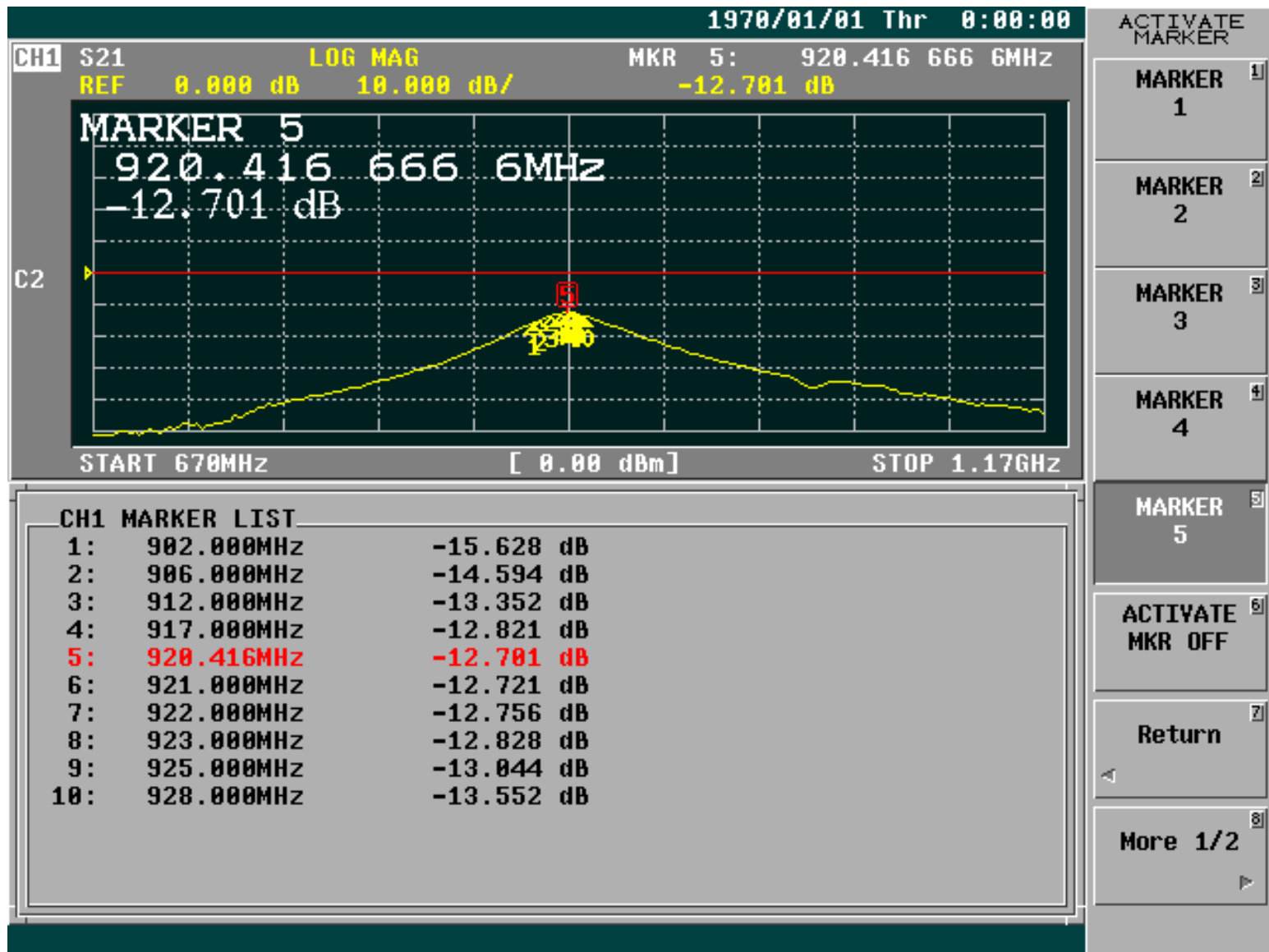
Mechanical Dimension($L*W*H=80*80*12.6$ (mm))



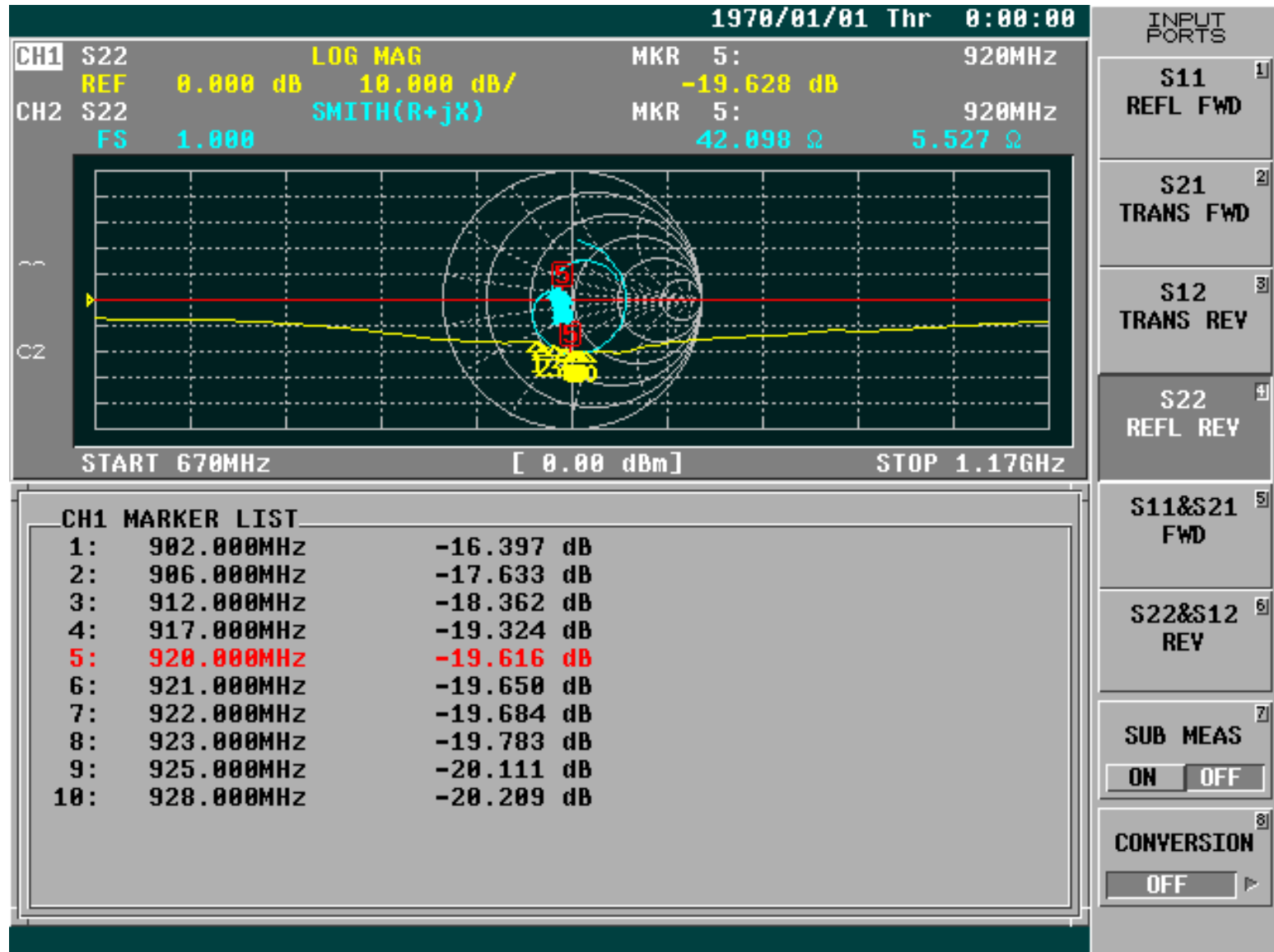
Mechanical Dimension($L*W*H=80*80*12.6$ (mm))



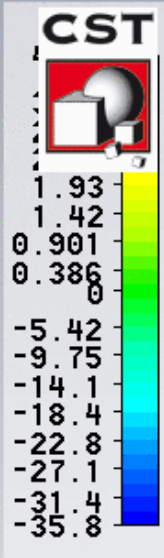
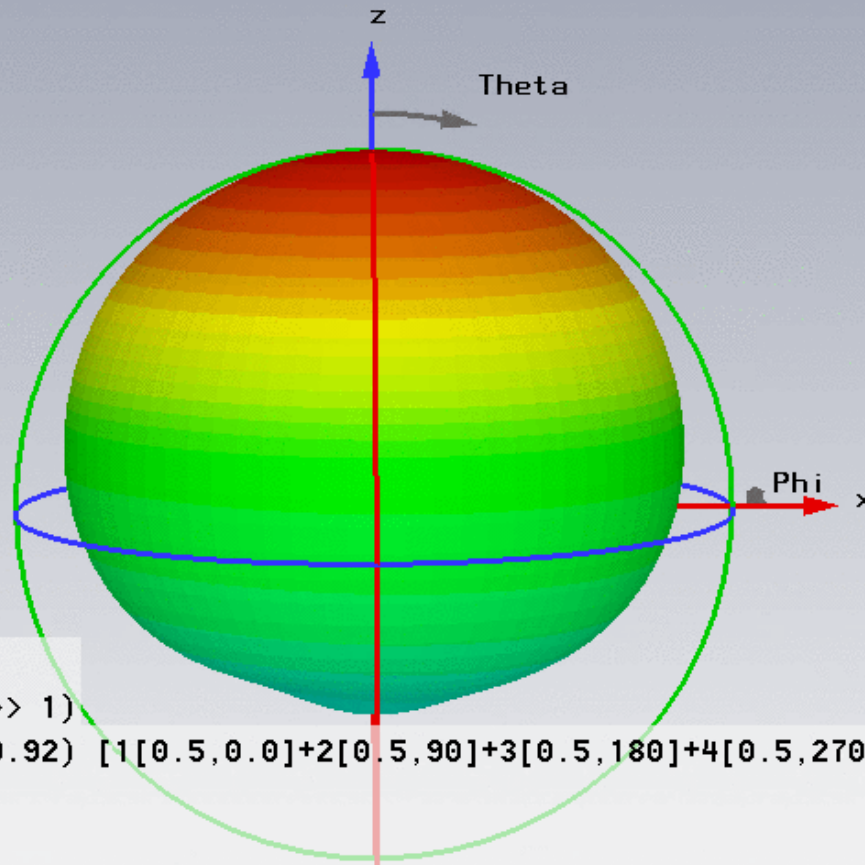
Max Gain ($S_{21} = -12.7\text{dB} = 5.26\text{dBic}$ at 920MHz)



Input Matching ($S_{11}=S_{22}$)

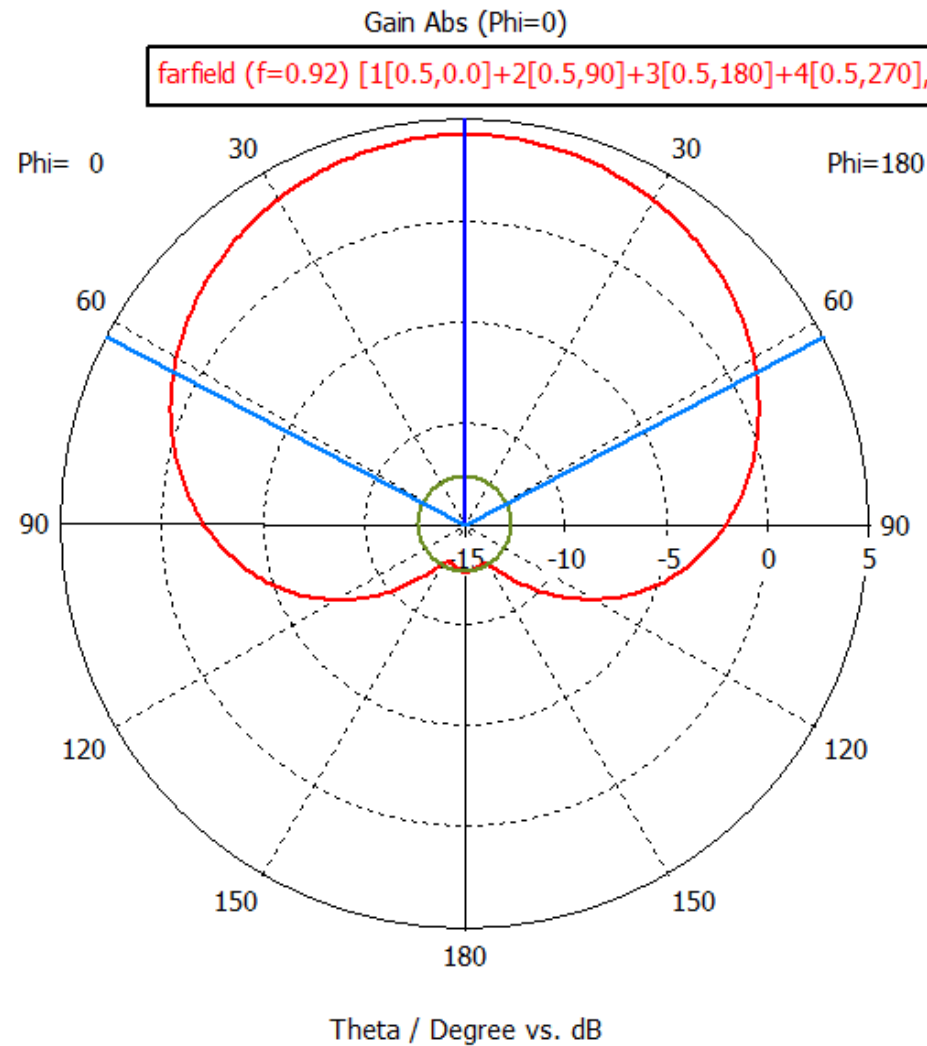


Radiation Pattern(3D)



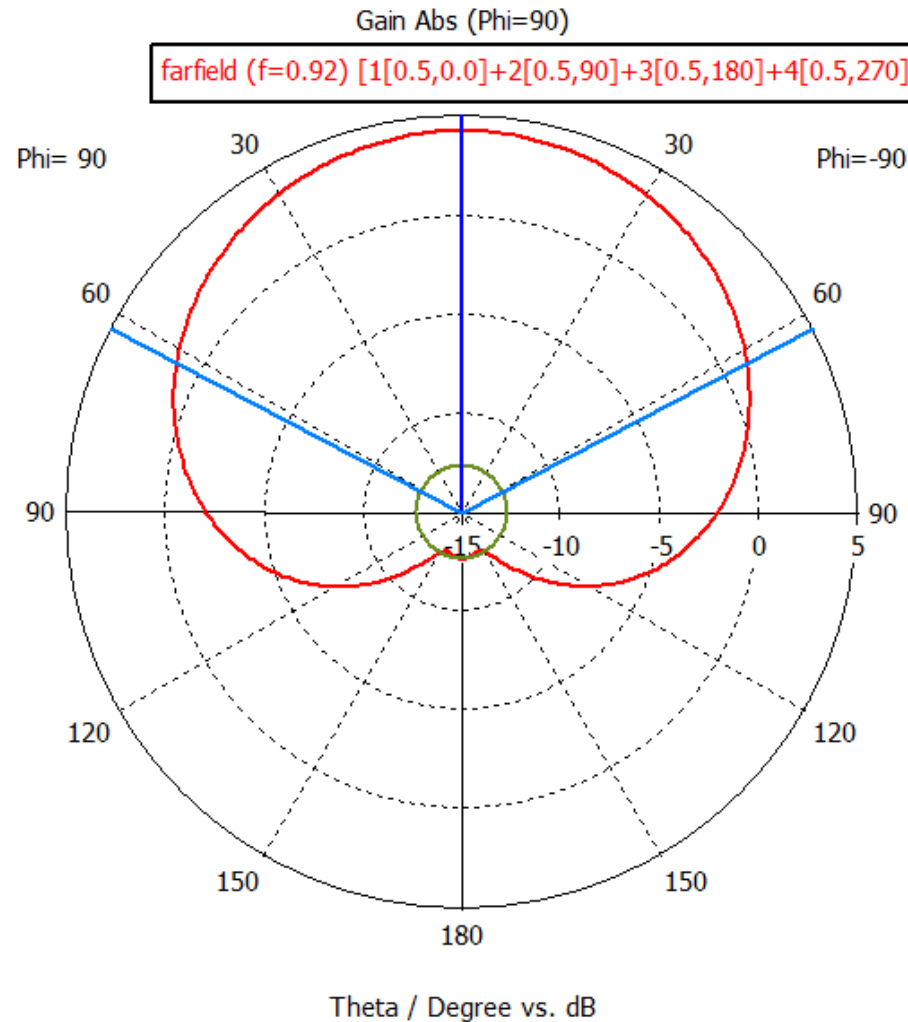
Type	Farfield
Approximation	enabled ($kR \gg 1$)
Monitor	farfield (f=0.92) [1[0.5,0.0]+2[0.5,90]+3[0.5,180]+4[0.5,270],[0.91]]
Component	Abs
Output	Gain
Frequency	0.92
Rad. effic.	-0.6941 dB
Tot. effic.	-11.19 dB
Gain	4.248 dB

Radiation Pattern(2D)



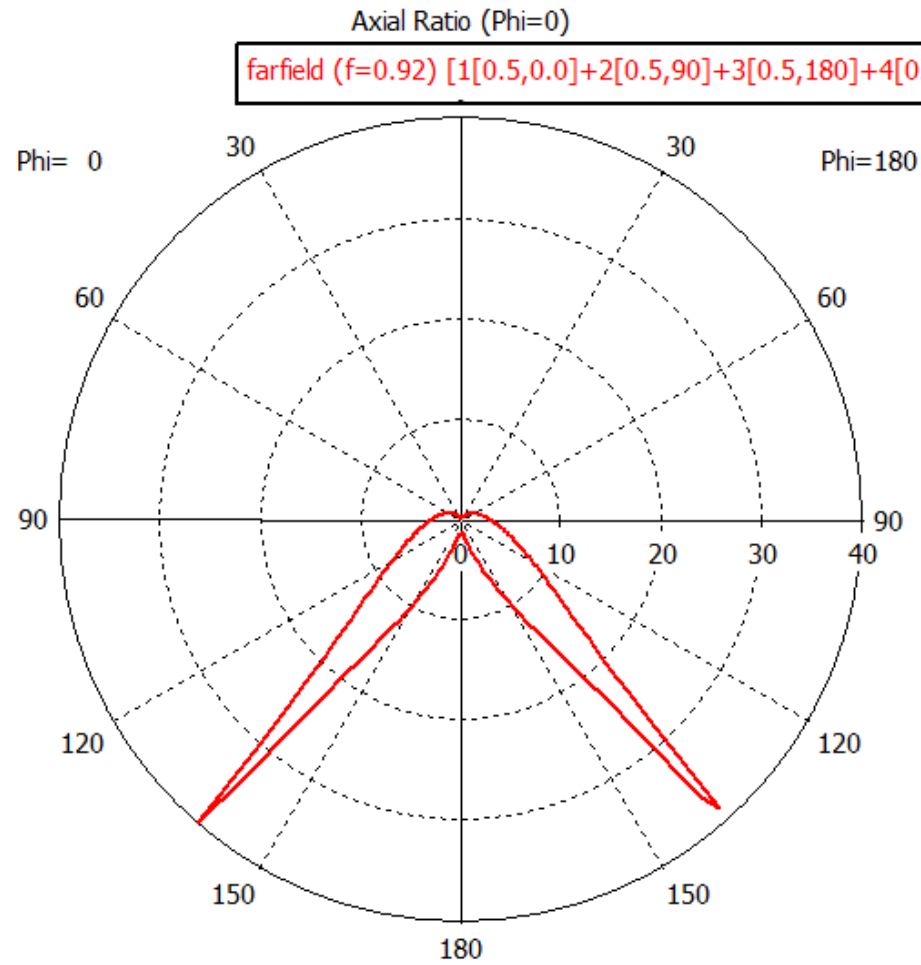
Frequency = 0.92
Main lobe magnitude = 4.2 dB
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 124.5 deg.
Side lobe level = -16.9 dB

Radiation Pattern(2D)



Frequency = 0.92
Main lobe magnitude = 4.2 dB
Main lobe direction = 0.0 deg.
Angular width (3 dB) = 124.7 deg.
Side lobe level = -16.9 dB

Axial Ratio



Theta / Degree vs. dB

Frequency = 0.92

Main lobe magnitude = 40.0 dB