

Antenna Type : PCB loop antenna

Model Name : SMIT_VAS_045_21_F_1.0

Operating Frequency : 315MHz

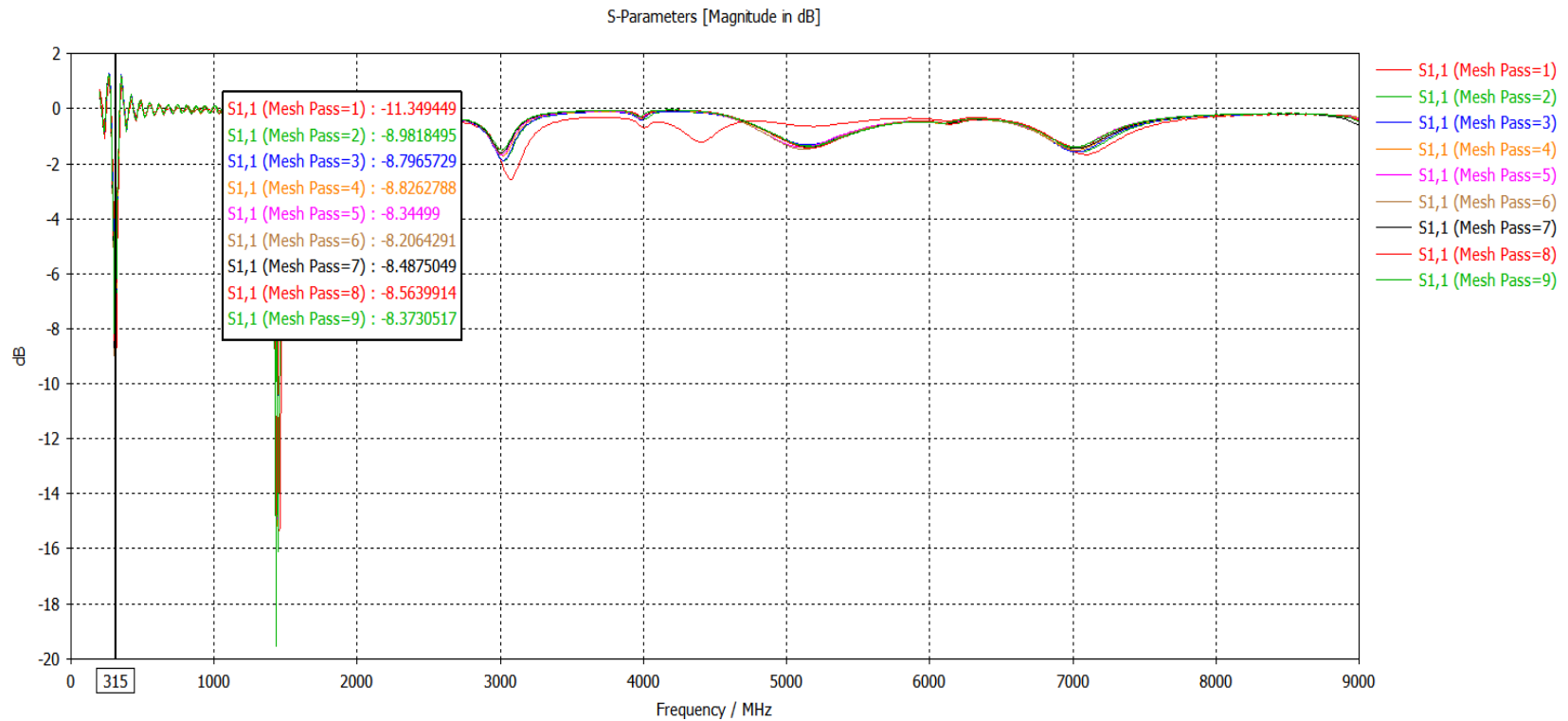
The fundamental emissions are tested using radiated method with antenna gain involved

PCB Antenna with matching components

Matching Circuit components used for simulation :

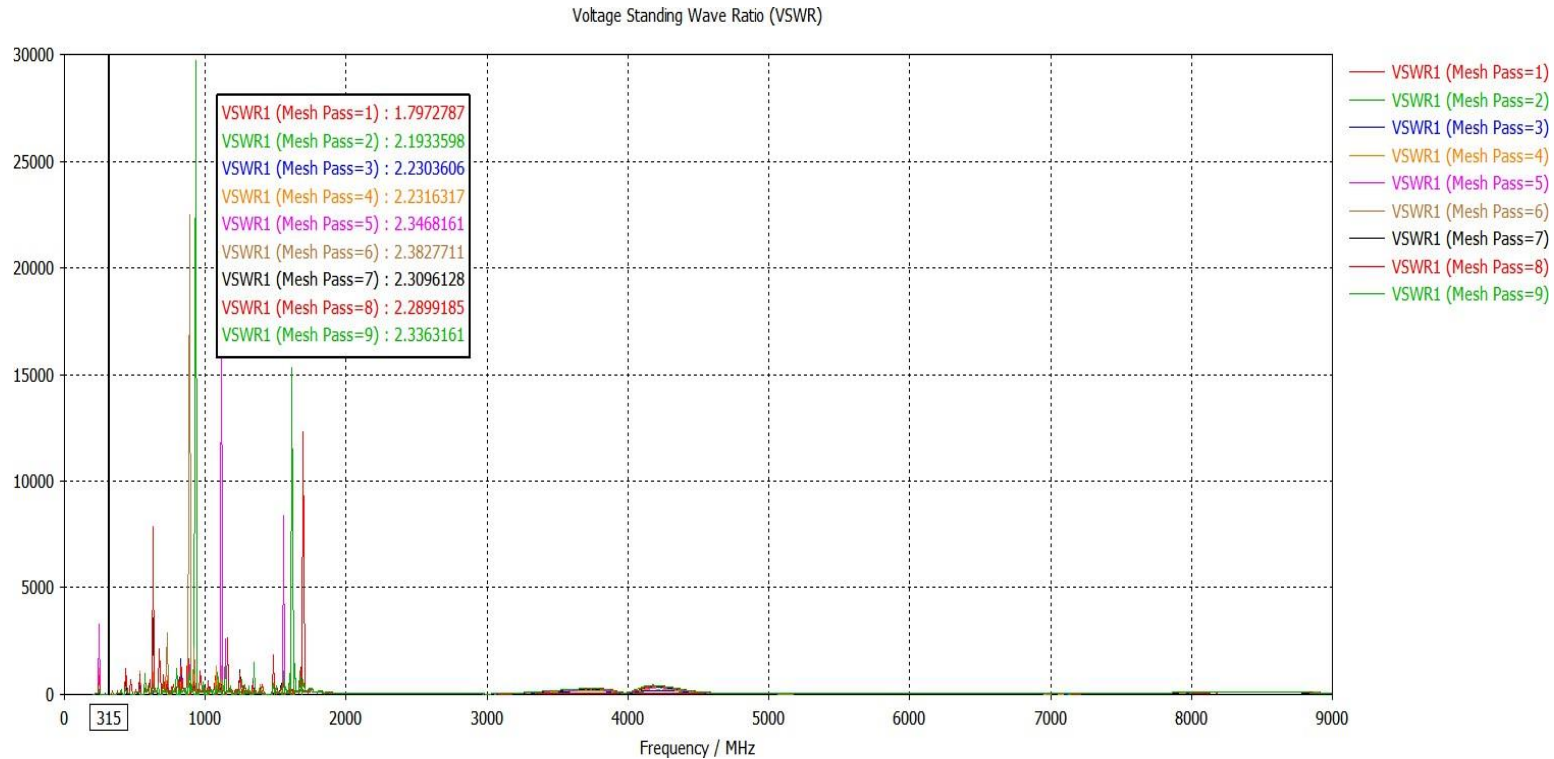
- $L4 = 1.8 \text{ pF}$
- $C7 = 2.4 \text{ pF}$

Reflection coefficient



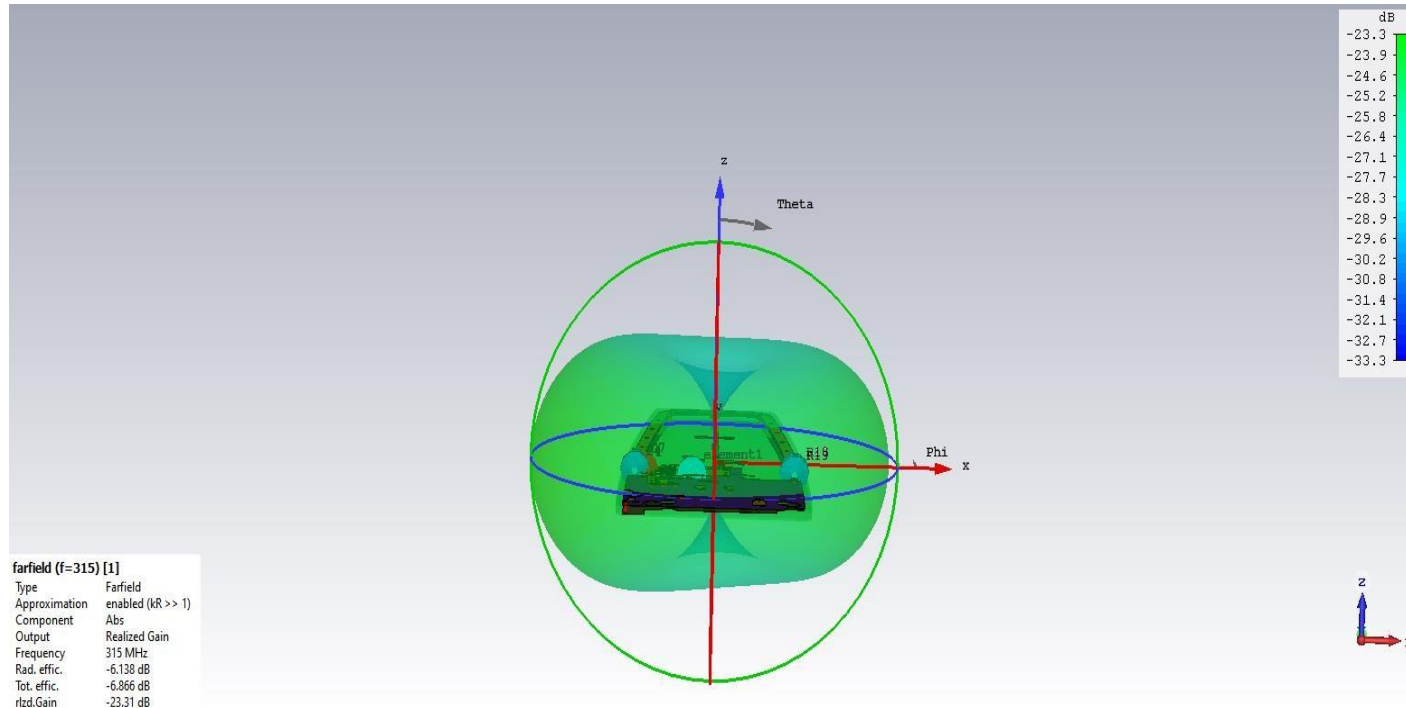
- Antenna is resonating at 315 MHz frequency
- Minimum return loss at 315 MHz is **- 11.34 dB**

VSWR Plot



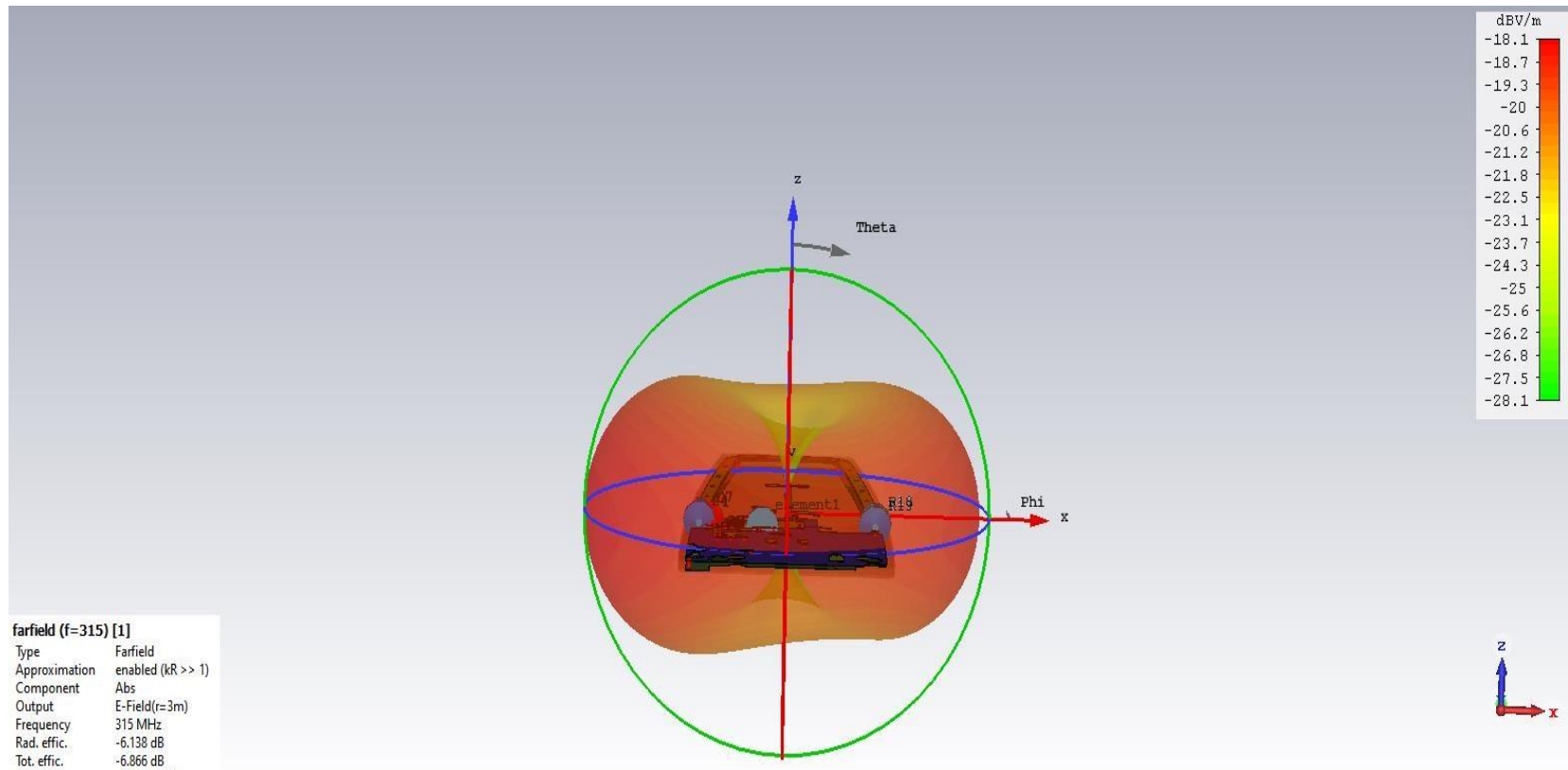
➤ VSWR at 315 MHz is **1.79**

3D Gain

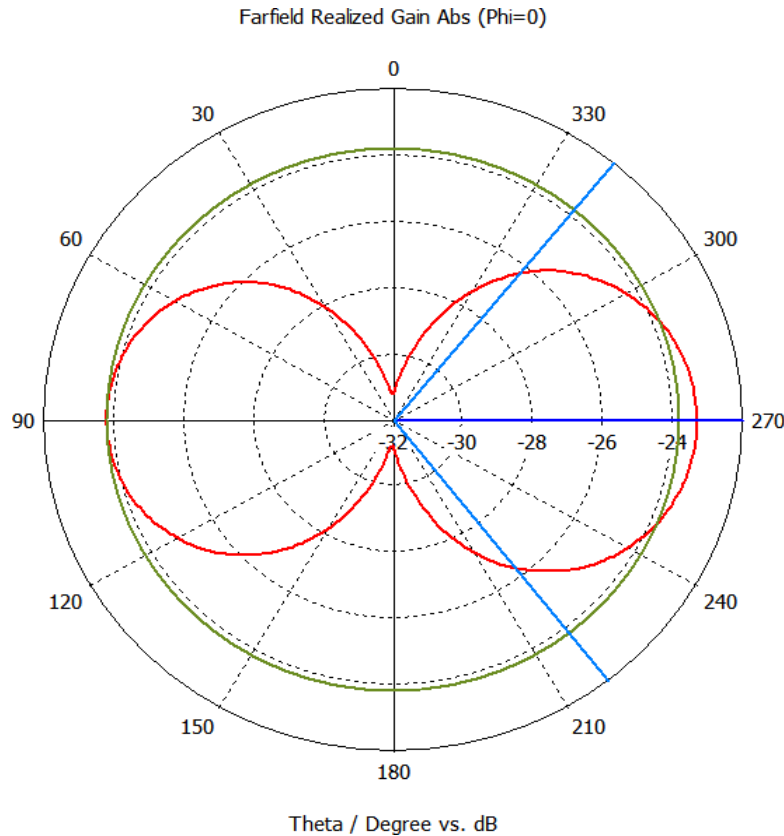


- Realized Gain at 315 MHz is **-23.3 dB**

E Field pattern 3D



Radiation pattern radiation pattern when Phi = 0 and Theta vary from 0 to 360 degree

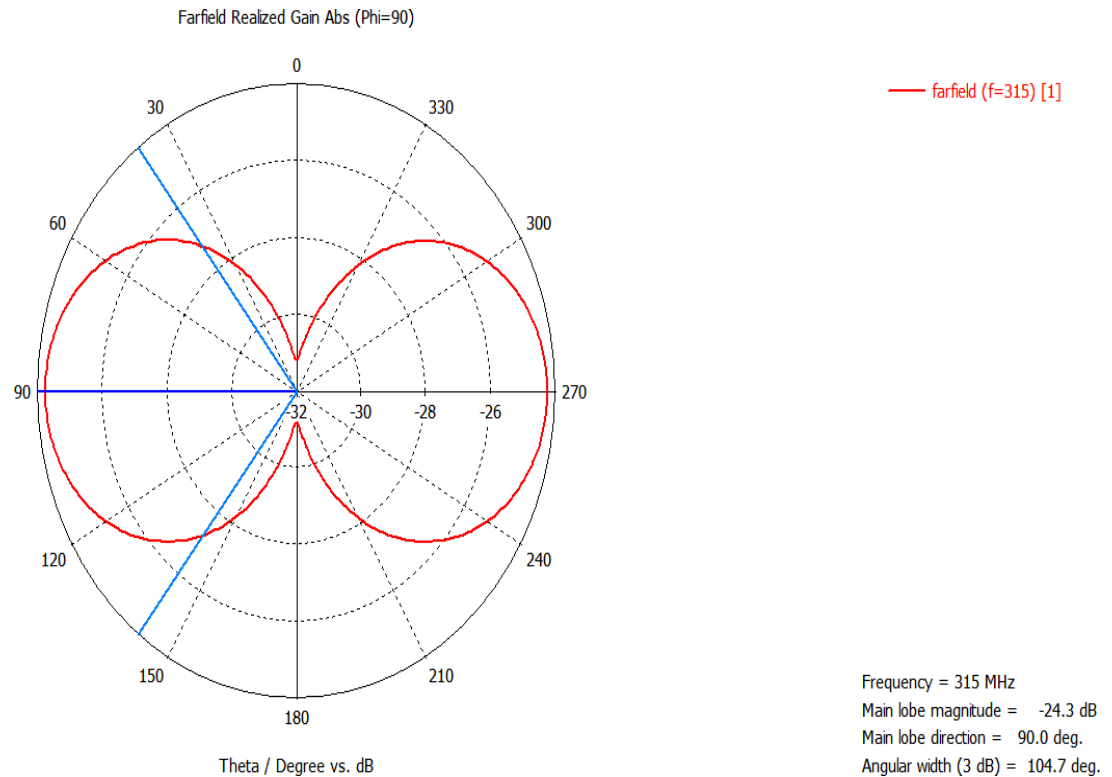


— farfield (f=315) [1]

Frequency = 315 MHz
Main lobe magnitude = -23.3 dB
Main lobe direction = 270.0 deg.
Angular width (3 dB) = 102.9 deg.
Side lobe level = -0.5 dB

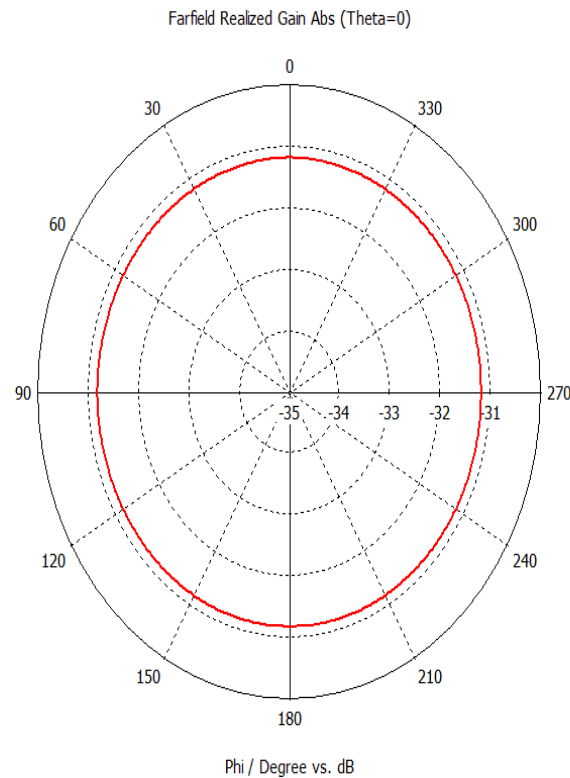
Frequency (MHz)	Peak Gain (Phi=0)
315 MHz	-23.3 dB

Radiation pattern - radiation pattern when $\phi = 90$ and θ vary from 0 to 360 degree



Frequency (MHz)	Peak Gain (Phi=90)
315 MHz	-24.3 dB

Radiation pattern radiation pattern when Theta = 0 and phi vary from 0 to 360 degree



— farfield (f=315) [1]

Frequency = 315 MHz
Main lobe magnitude = -31.2 dB

Frequency (MHz)	Peak Gain (Theta=0)
315 MHz	-31.2 dB

Thank You