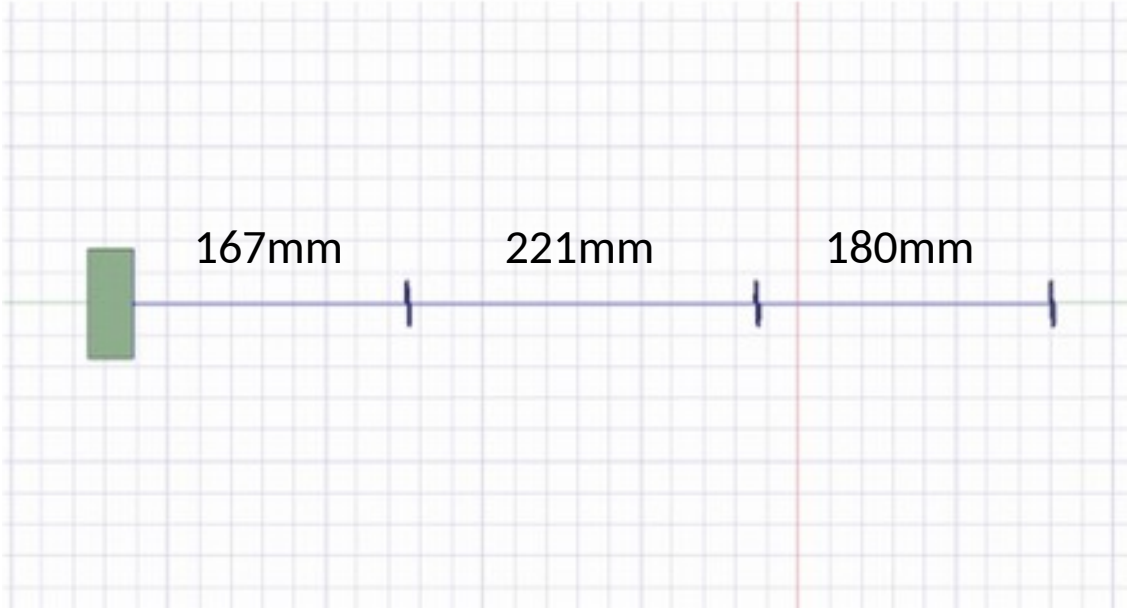
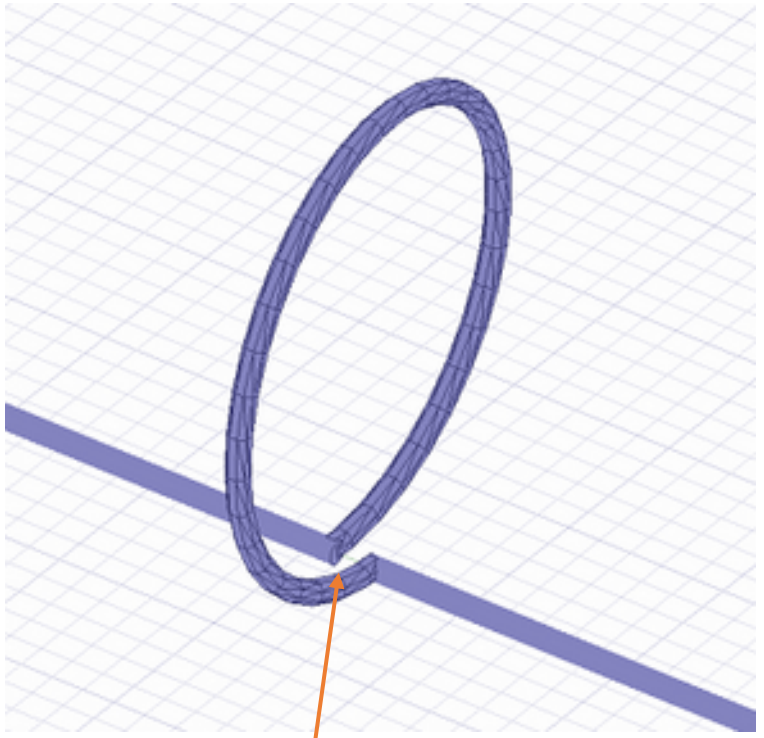
Co-linear antenna modeling 915MHz

F. Ferrero

New optimization

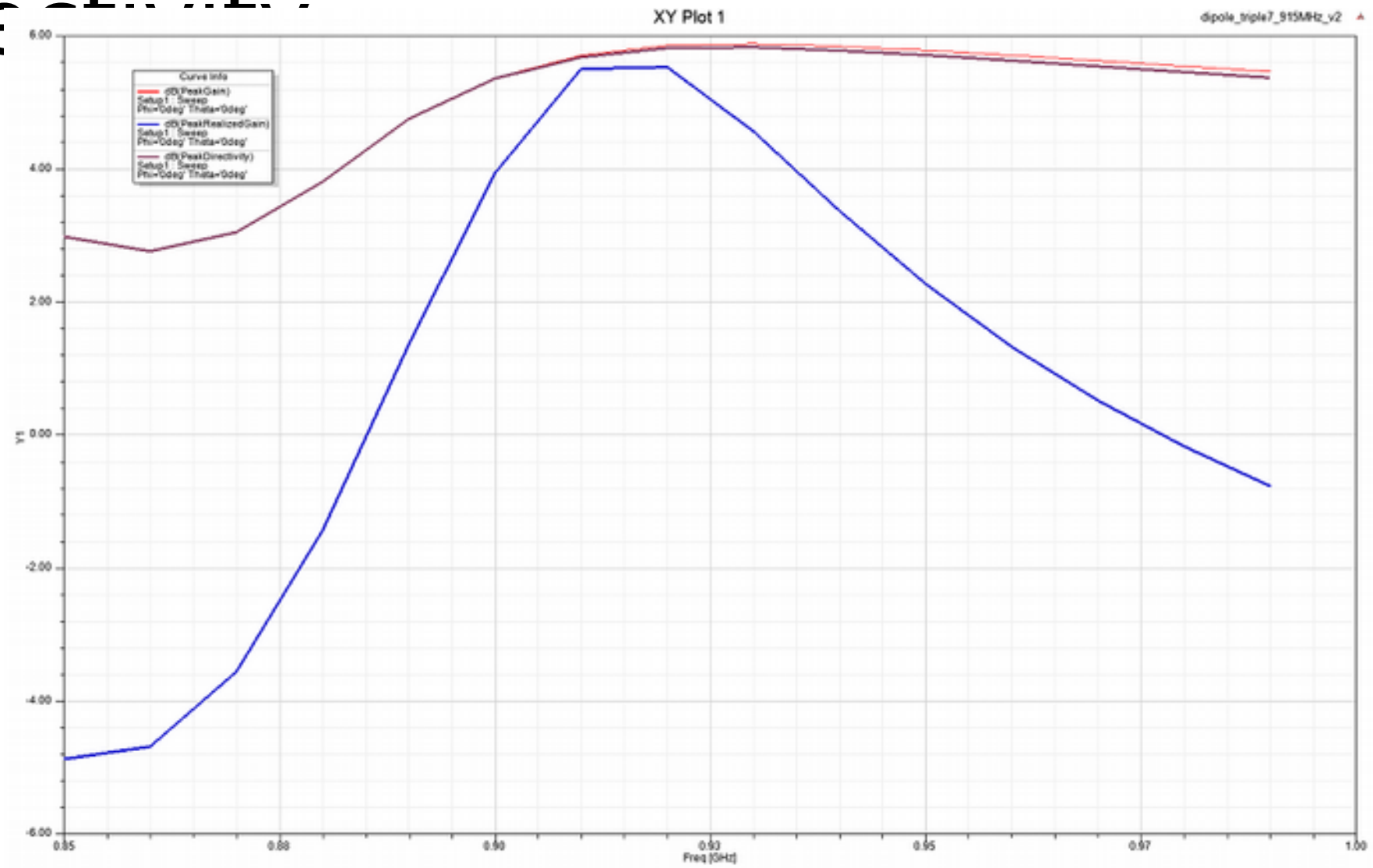
- Using a diameter of 13mm for the loop
- Diameter of 1.4mm for the wire
- 167mm – 221mm-180mm



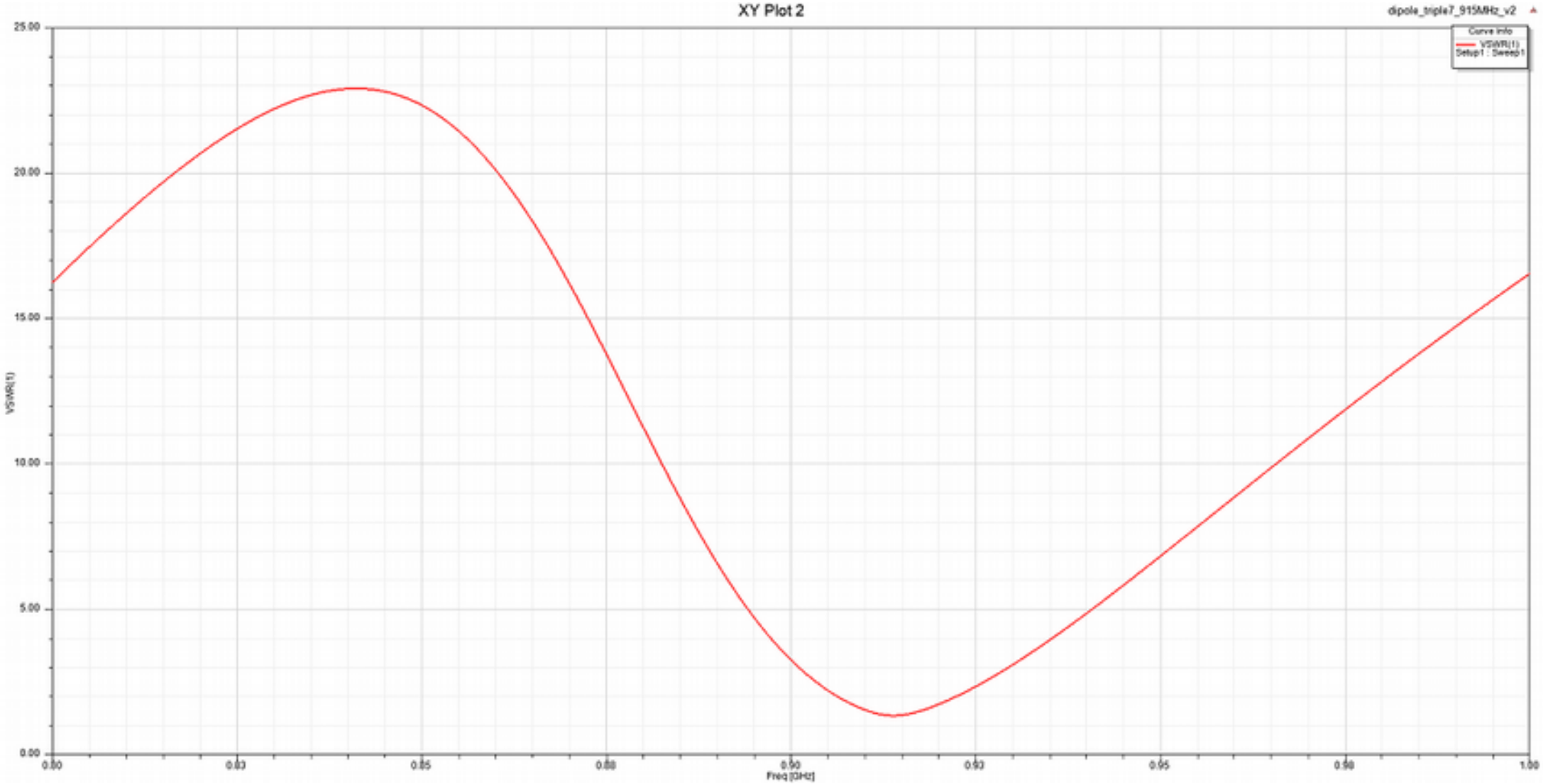


Spacing 1.5mm

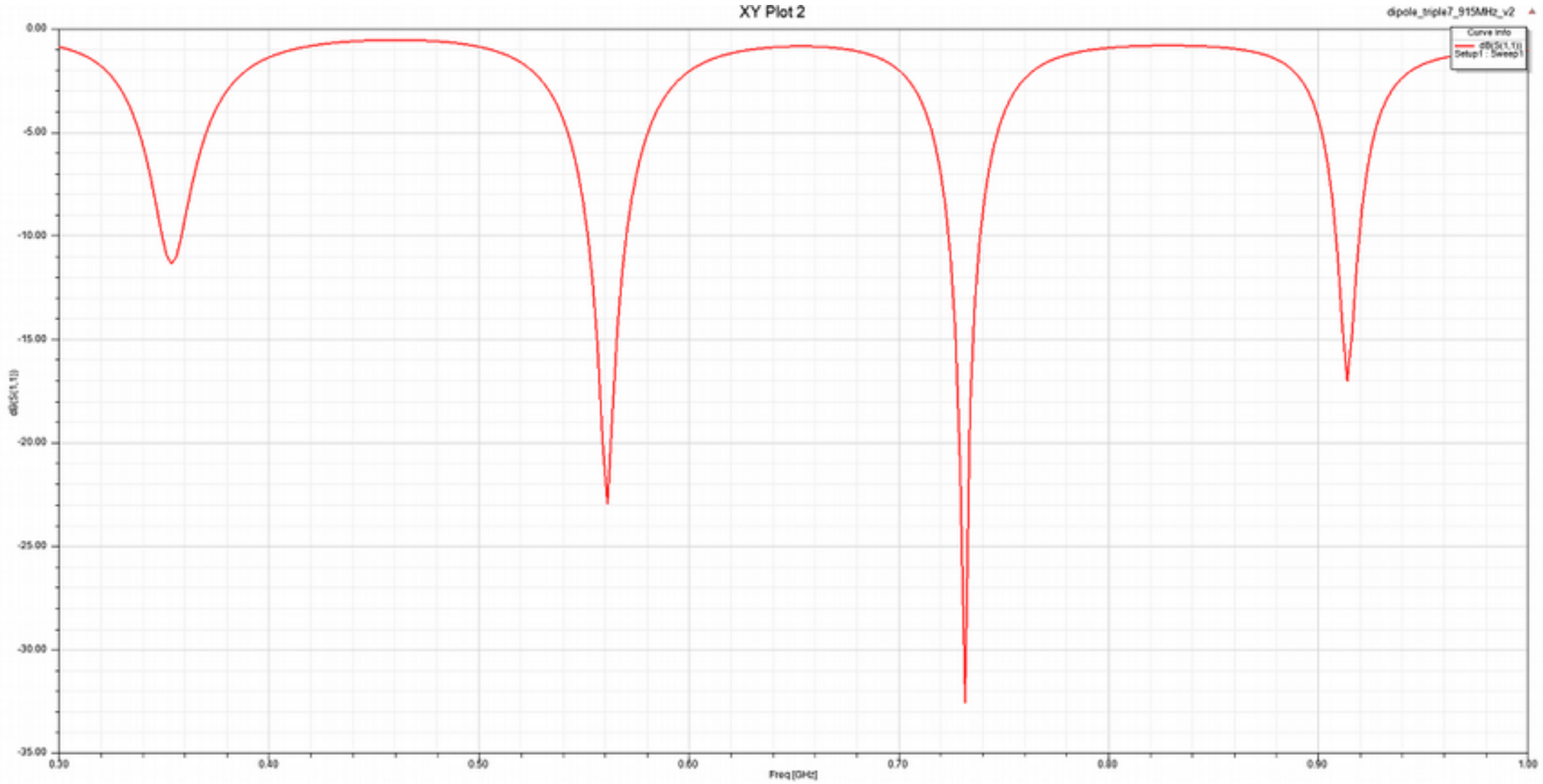
Simulation : Realized Gain, Gain, Directivity



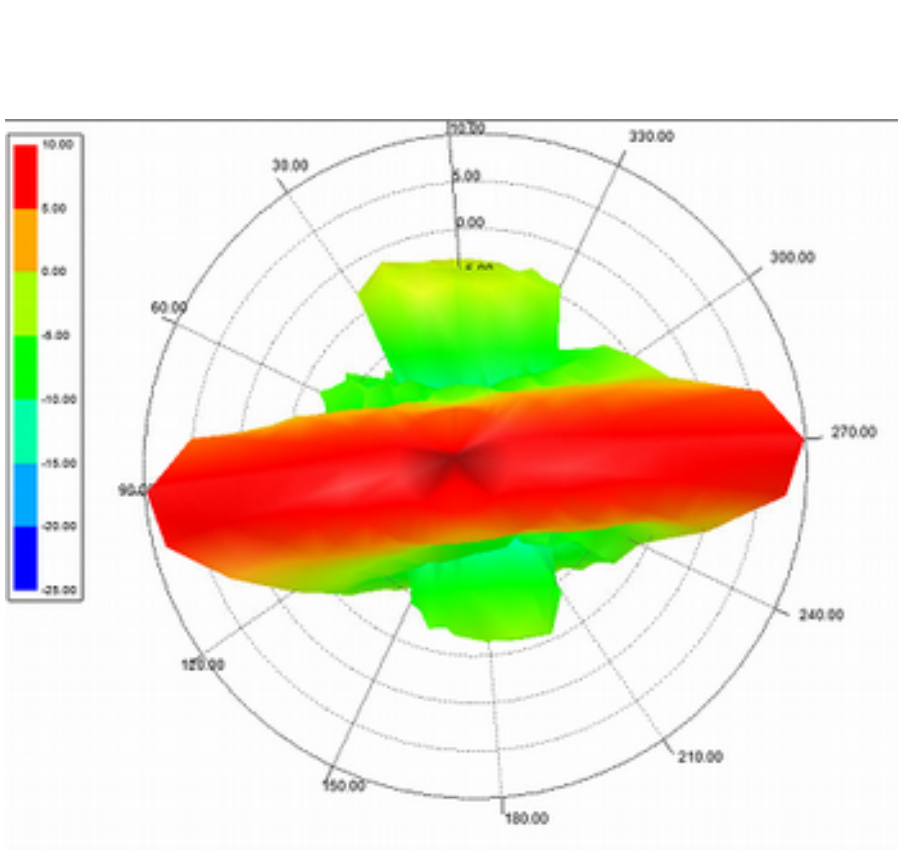
Simulation : VSWR

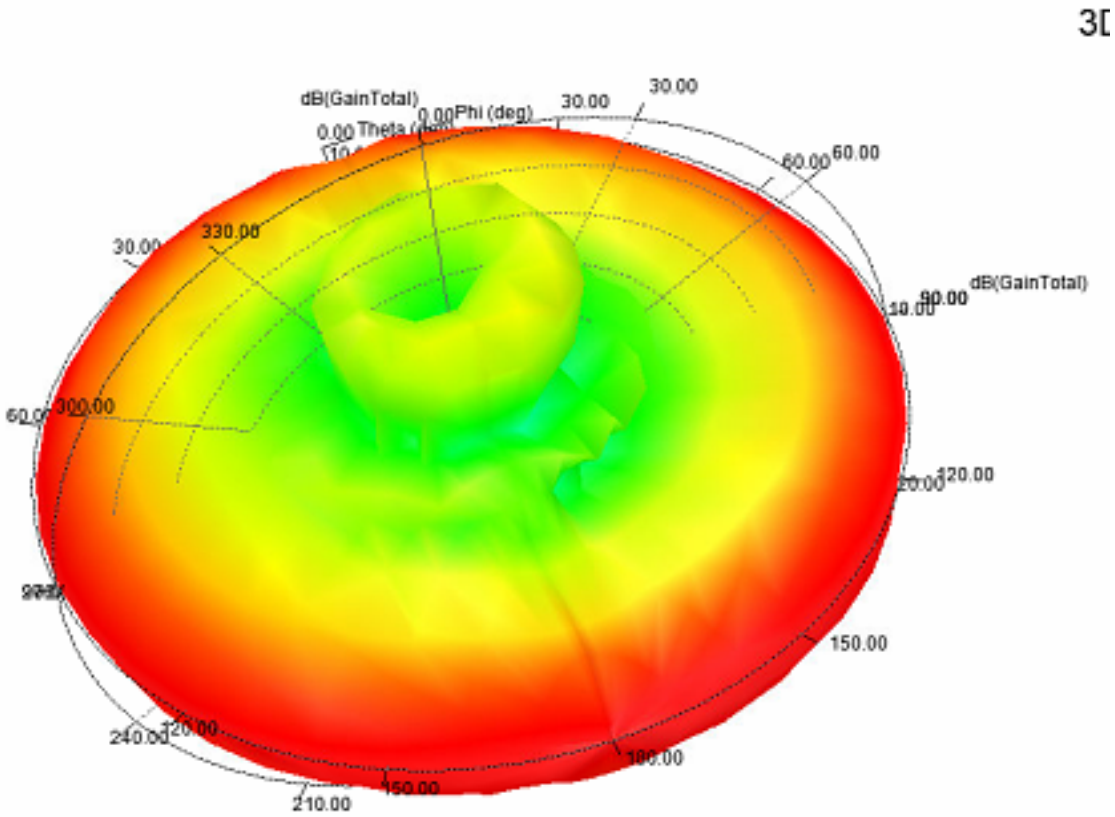


Simulation : S11



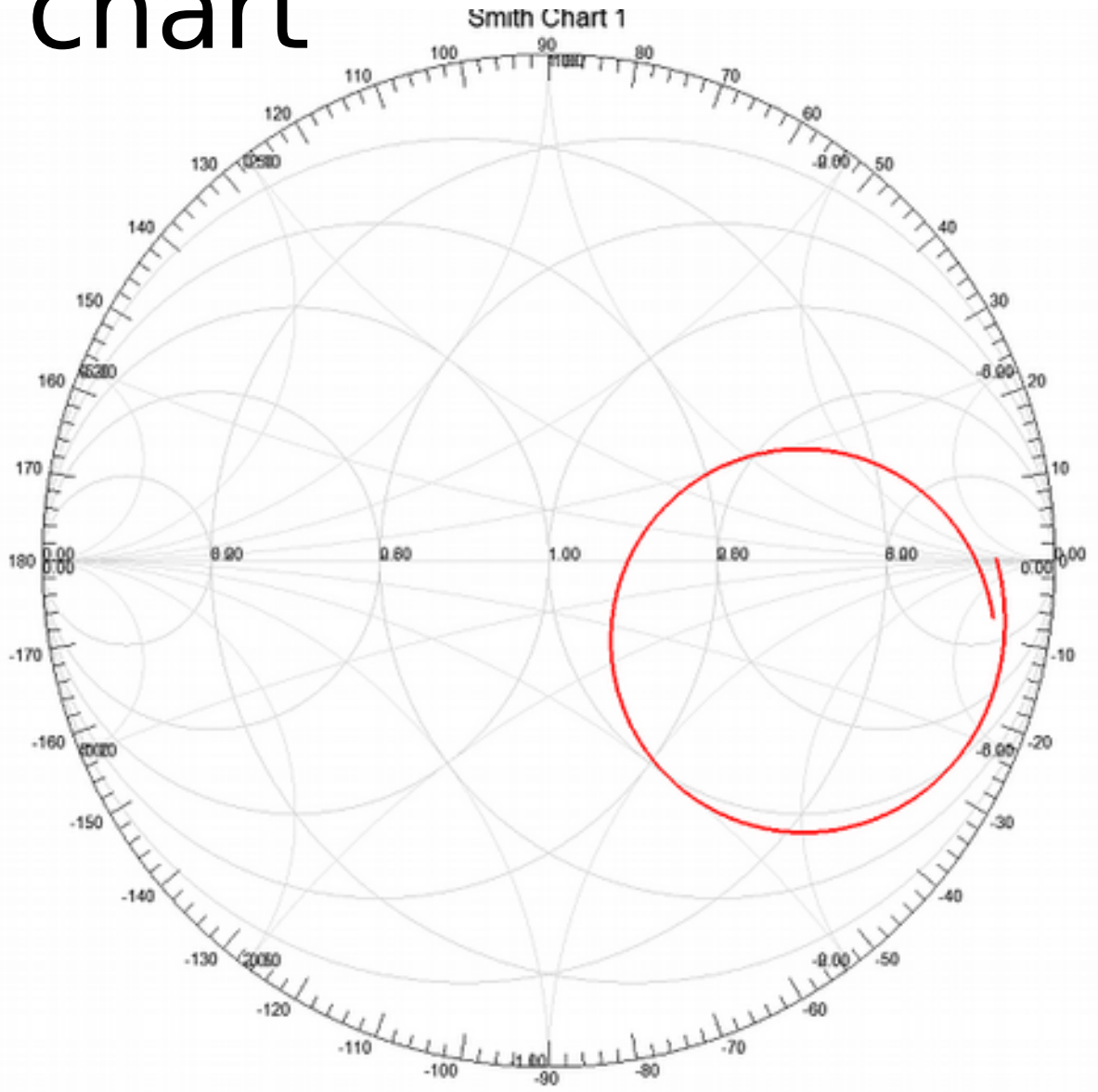
Simulation : Rad pattern





	Freq [MHz]	dB(PeakDirectivity) Setup1 : LastAdaptive Phi='0deg' Theta='0deg'	dB(PeakGain) Setup1 : LastAdaptive Phi='0deg' Theta='0deg'	dB(PeakRealizedGain) Setup1 : LastAdaptive Phi='0deg' Theta='0deg'	dB(RadiatedPower) Setup1 : LastAdaptive Phi='0deg' Theta='0deg'	dB(RadiationEfficiency) Setup1 : LastAdaptive Phi='0deg' Theta='0deg'
1	915.000000	5.763504	5.797892	5.694515	-0.068989	0.034388

Simulation : Smith chart



Tips

- By changing the size of the last loop, you can tune the resonance frequency (larger loop means lower frequency)
- The size of the loop is important
- If you want to use a radome, we might have to slightly retune the antenna but cutting the length of the last loop