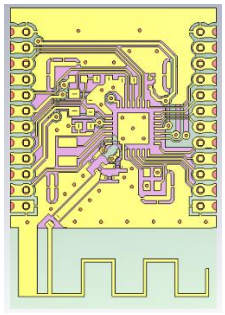
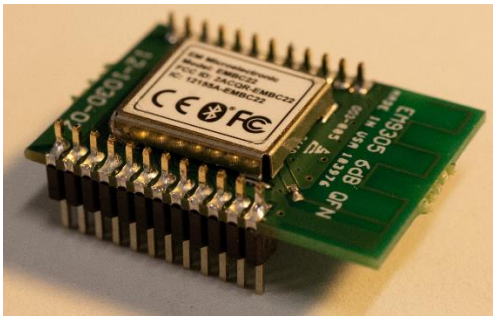
EM9305V1
Antenna Specification

1. GENERAL

The EM9305V1 is a 2.44 GHz RF electronic beacon with a PCB MIFA. This document specifies the performance and design of this antenna. The antenna impedance is 46 ohm single ended and is connected to the EM9305 XX ohm single ended output using an RF pi filter. Simulations are done with CST Studio Suite 2021.





2. DESIGN

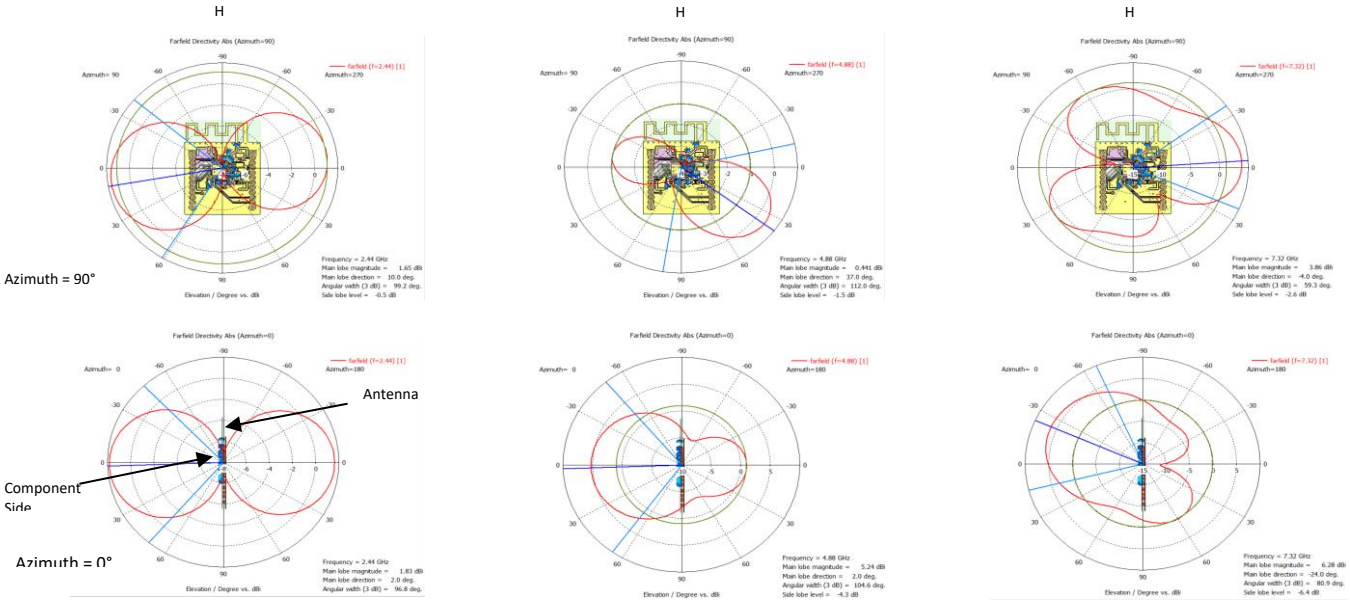


Table 1: Simulation Summary

ANTENNA TYPE	Meandering IFA
IMPEDANCE AT 2440MHz (SIMULATED)	42.9 – j15.8
ANTENNA RADIATED EFFICIENCY (SIMULATED)	76.5%
RADIATION PATTERN (SIMULATED)	Toroidal
ABSOLUTE ANTENNA GAIN (SIMULATED)	1.7dBi

3. SUMMARY

PCB dielectric constant and thickness variation can account for differences between measurements and simulations. The maximum absolute antenna gain based on simulations is 1.7dBi with a radiation efficiency of 76.5%.