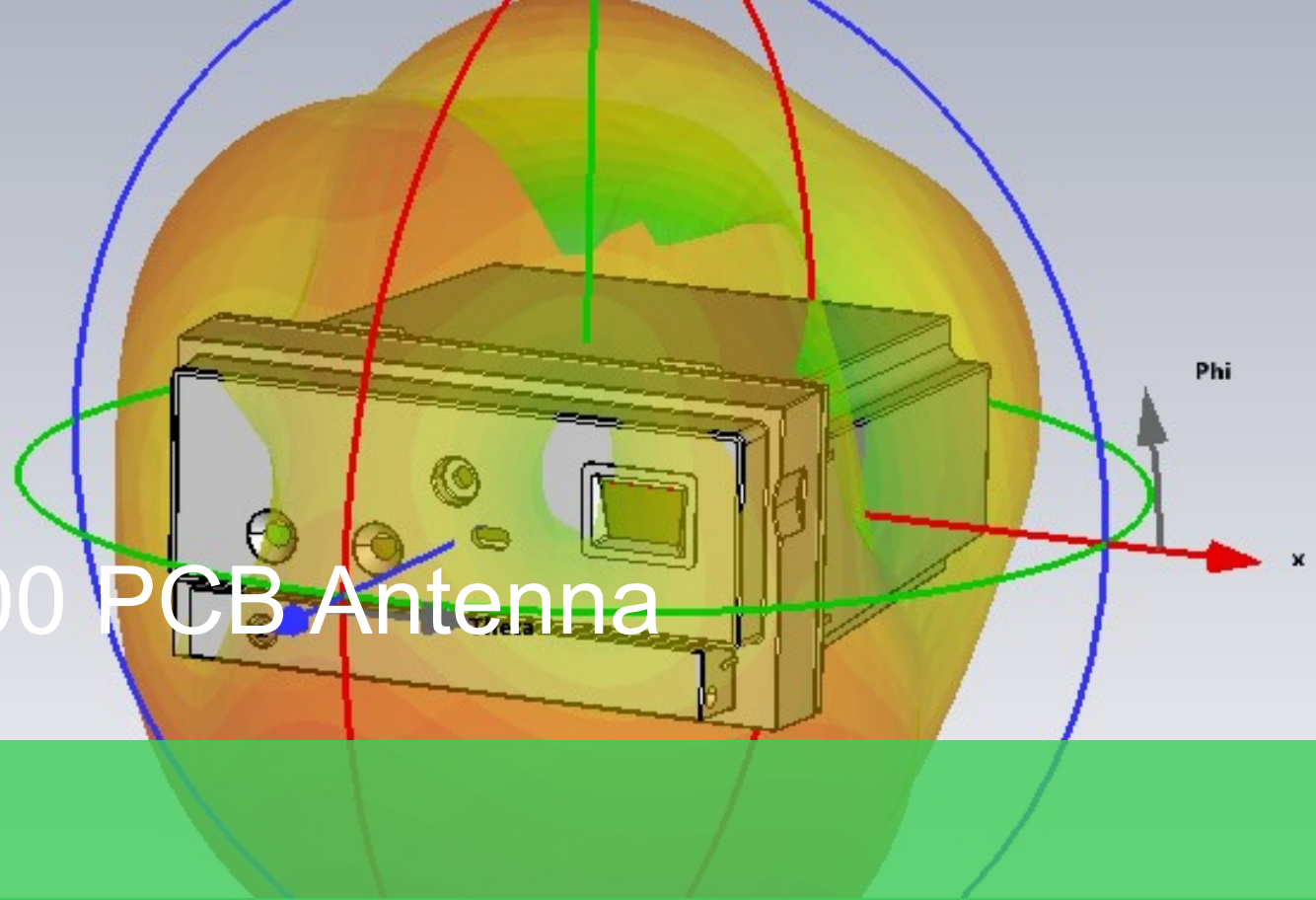
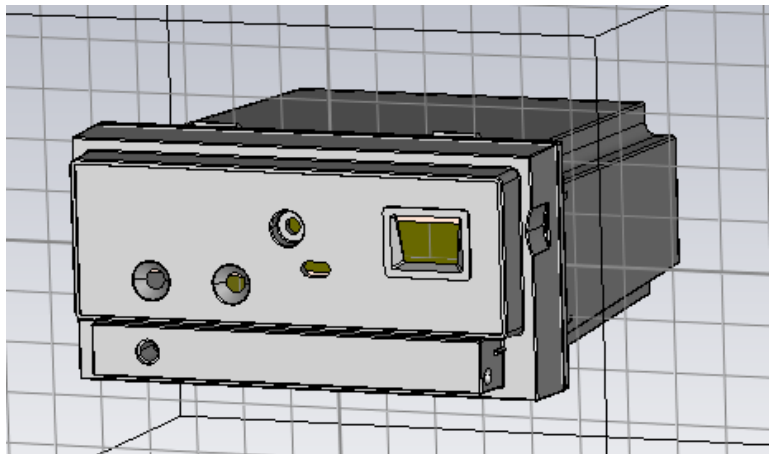


PD100 PCB Antenna

29/06/2021



Inputs

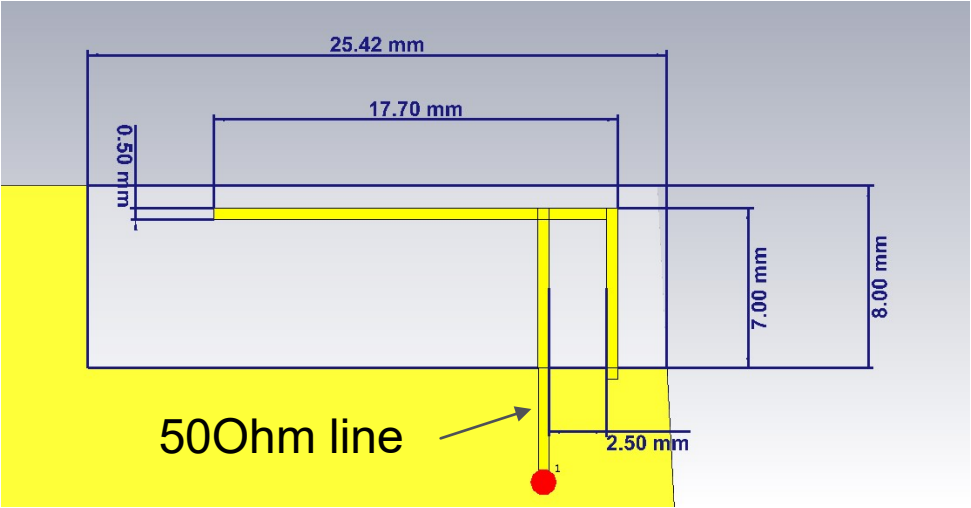
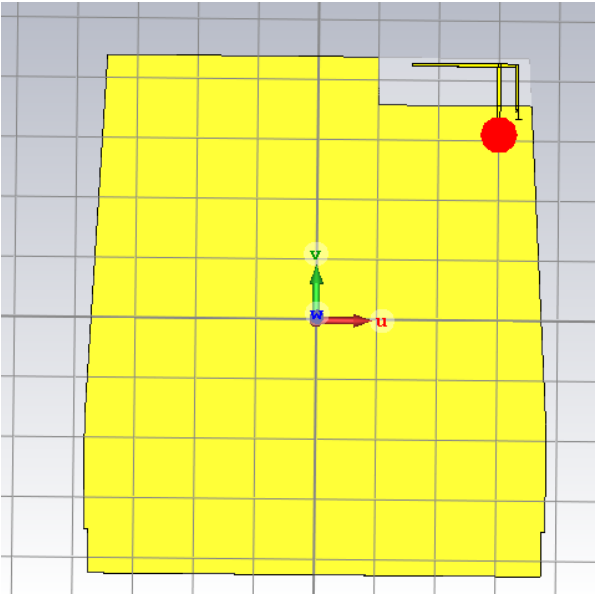


NUMBER OF LAYERS: 6
MATERIAL: VENTEC VT-47 OR IT180A OR EQUIVALENT
SURFACE FINISH: ENIG
SILKSCREEN: WHITE PHOTOIMAGEABLE
SOLDER MASK: SMOBC PHOTOIMAGEABLE, IPC-840-B, MATTE GREEN

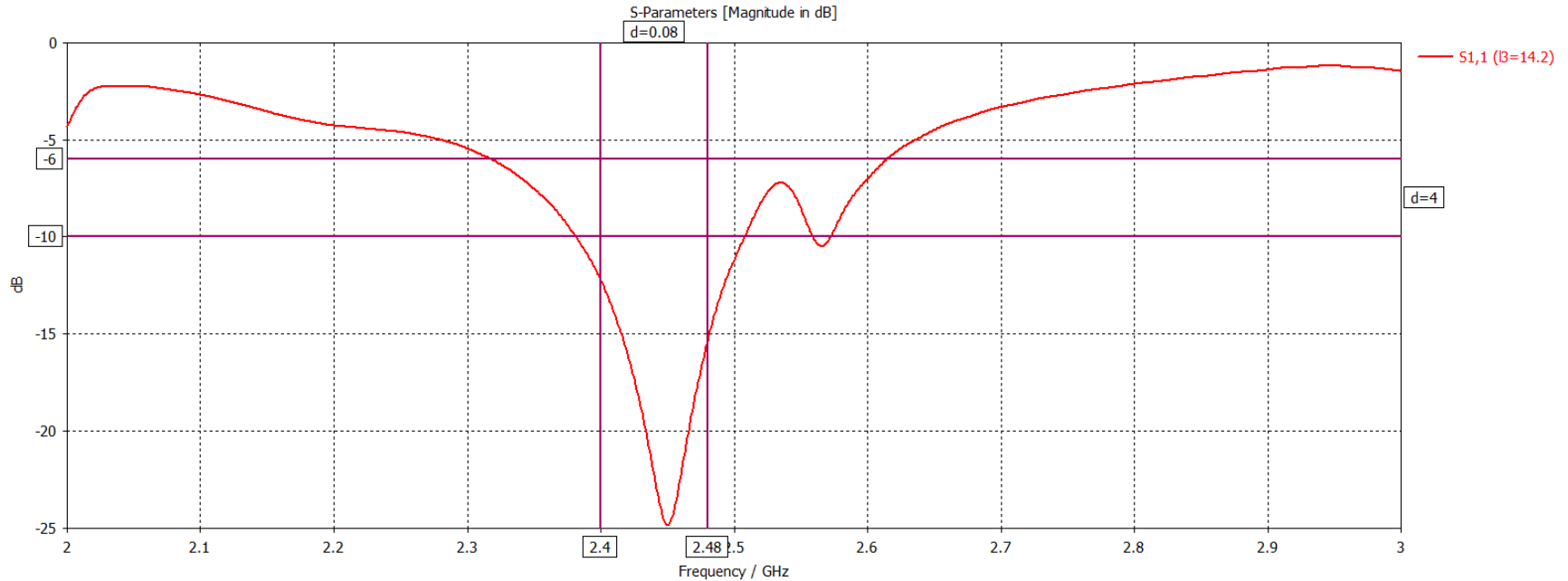
Layer Name	Gerber File Extension	Final Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Constant	Dielectric Type	Notes
Top Overlay	(.GTO)						Silkscreen
Top Solder Mask	(.GTS)		---	Solder Resist	3.50		Matte Green
Top Layer	(.GTL)	0.035mm (1oz)					
Dielectric1			0.16mm	IT180A	4.18	Prepreg	
Mid Layer 1	(.G1)	0.0125mm (0.5oz)					
Dielectric2			0.23mm	IT180A	4.2	Core	
Mid Layer 2	(.G2)	0.0125mm (0.5oz)					
Dielectric3			0.6mm	IT180A	4.27	Prepreg	
Mid Layer 3	(.G3)	0.0125mm (0.5oz)					
Dielectric4			0.23mm	IT180A	4.2	Core	
Mid Layer 4	(.G4)	0.0125mm (0.5oz)					
Dielectric5			0.16mm	IT180A	4.18	Prepreg	
Bottom Layer	(.GBL)	0.035mm (1oz)					
Bottom Solder Mask	(.GBS)		---	Solder Resist	3.50		Matte Green
Bottom Overlay	(.GBO)						Silkscreen

Final PCB thickness : 1.6mm ± 0.16mm

Antenna dimensions

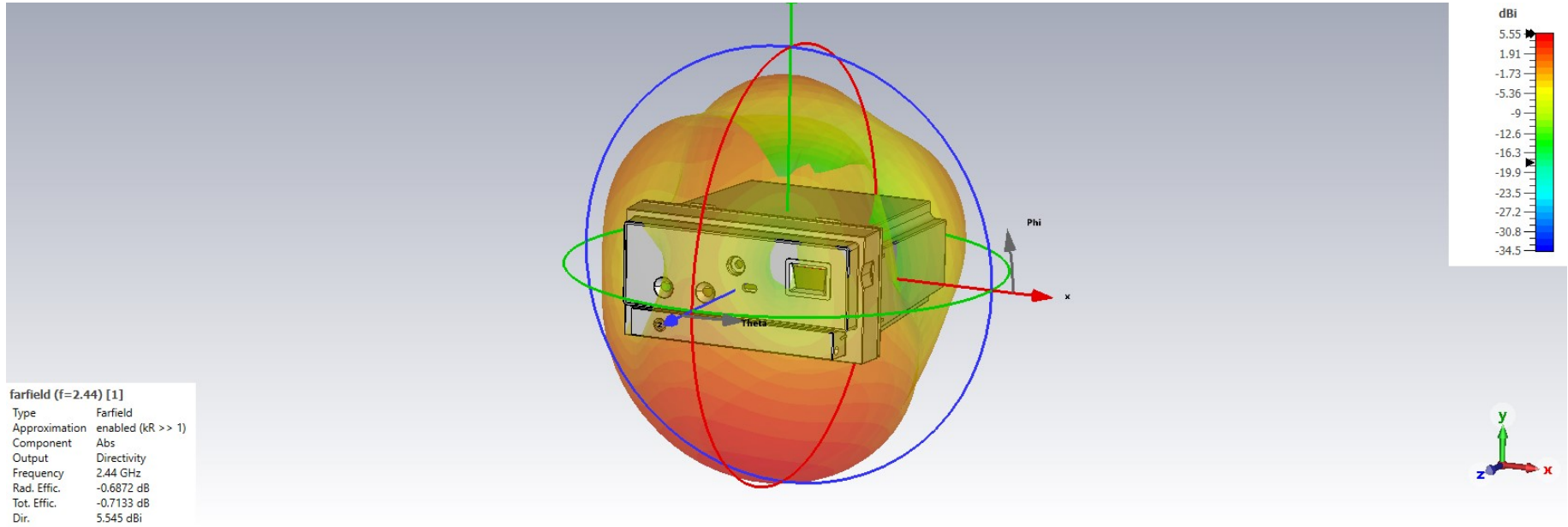


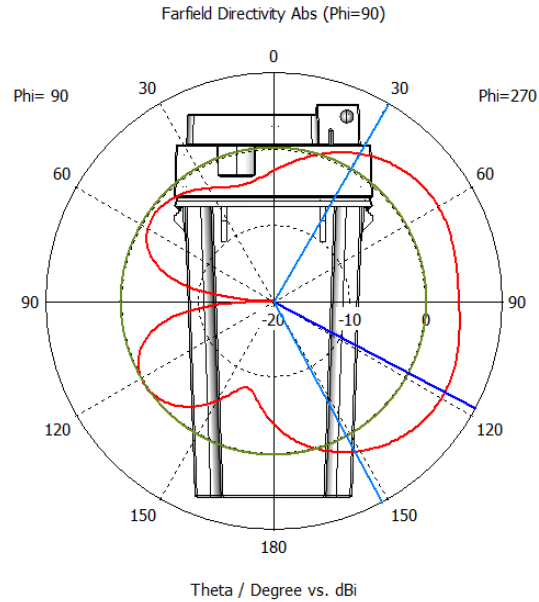
Reflection coefficient



S₁₁ better than -10dB in 2,4GHz ISM band

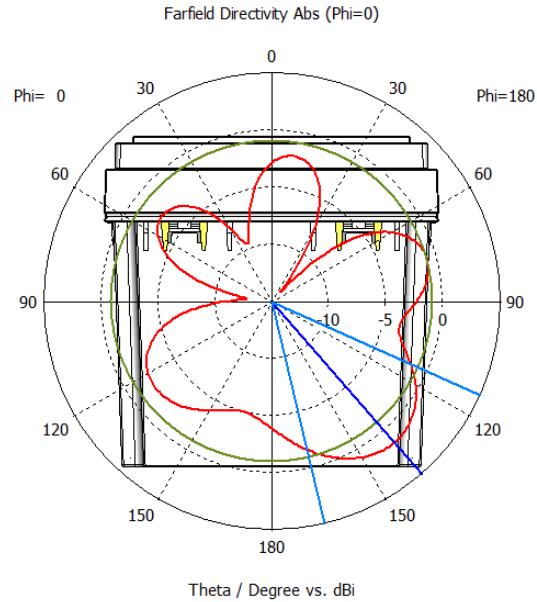
Radiation pattern





— farfield (f=2.44) [1]

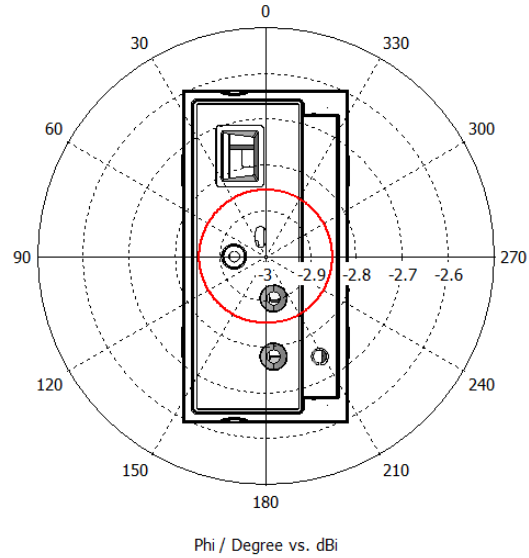
Frequency = 2.44 GHz
 Main lobe magnitude = 5.37 dBi
 Main lobe direction = 118.0 deg.
 Angular width (3 dB) = 121.6 deg.
 Side lobe level = -5.2 dB



— farfield (f=2.44) [1]

Frequency = 2.44 GHz
 Main lobe magnitude = 1.33 dBi
 Main lobe direction = 139.0 deg.
 Angular width (3 dB) = 52.4 deg.
 Side lobe level = -2.3 dB

Farfield Directivity Abs (Theta=0)



— farfield (f=2.44) [1]

Frequency = 2.44 GHz
Main lobe magnitude = -2.85 dBi