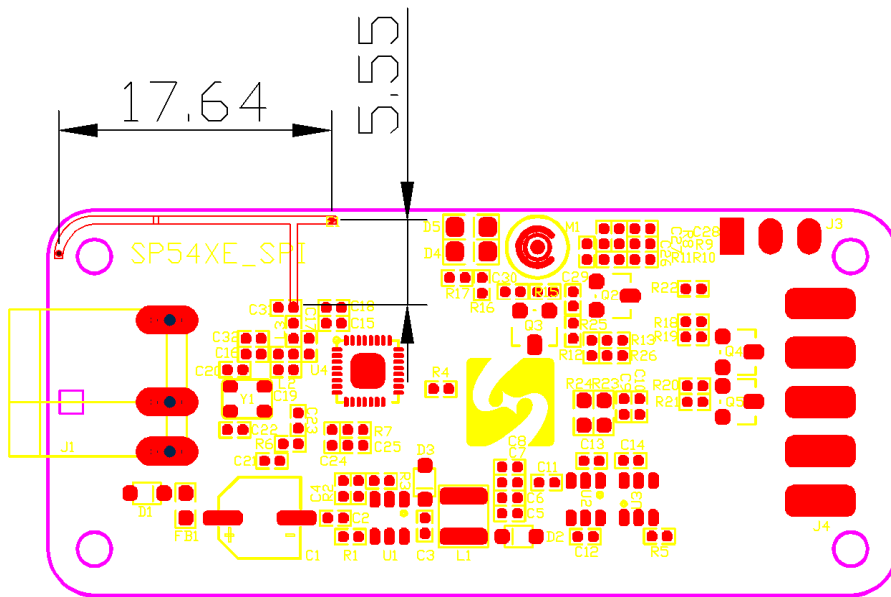


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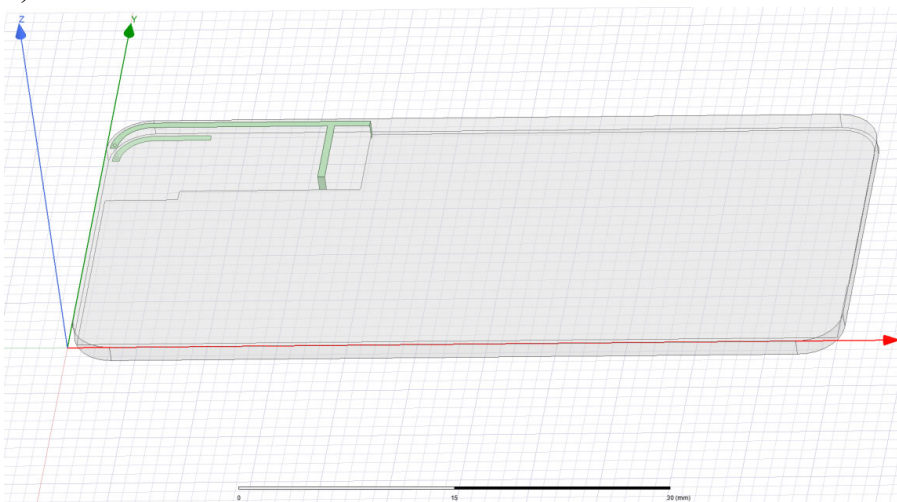
SP548E Antenna Specifications

1.Antenna location and size (mm) :

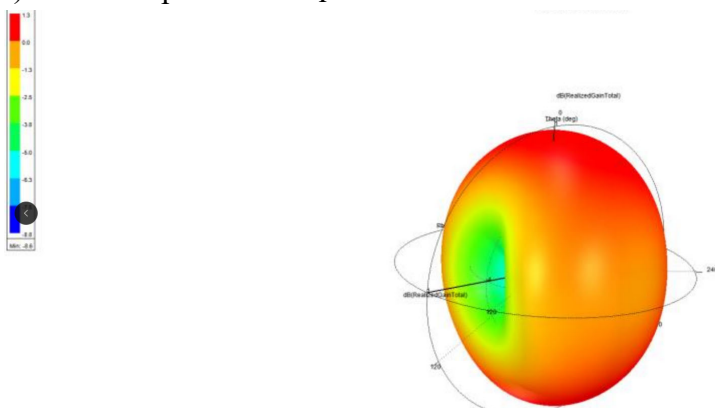


2.Antenna simulation Report:

1)Antenna Simulation Model :

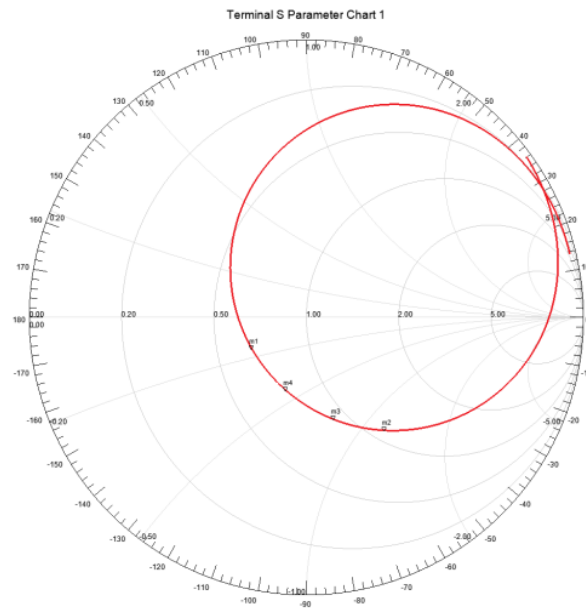


2) 3D Polar plot: Frq:2.42GHz



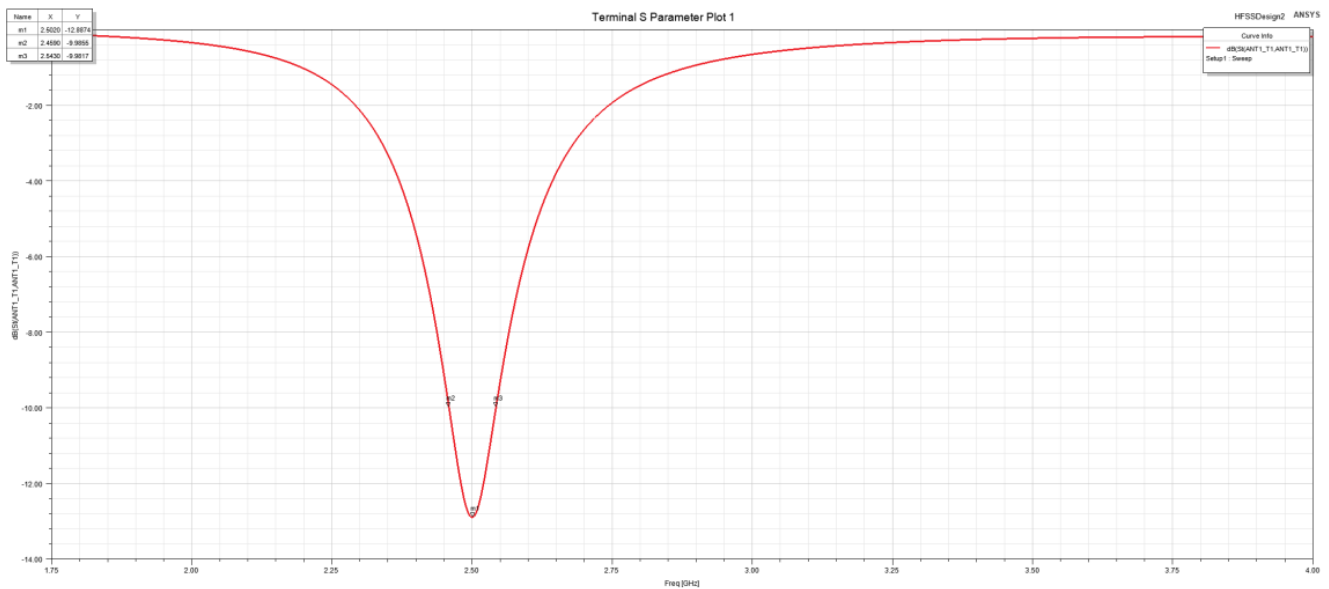
3) Smithchart:

Name	Freq	Ang	Mag	RL
m1	2.5000	-149.5288	0.2209	0.6079 - 0.1594
m2	2.4120	-65.5088	0.4954	1.1096 - 1.1963
m3	2.4420	-74.7991	0.3810	0.8042 - 0.7739
m4	2.4720	-106.3334	0.2736	0.7087 - 0.4206



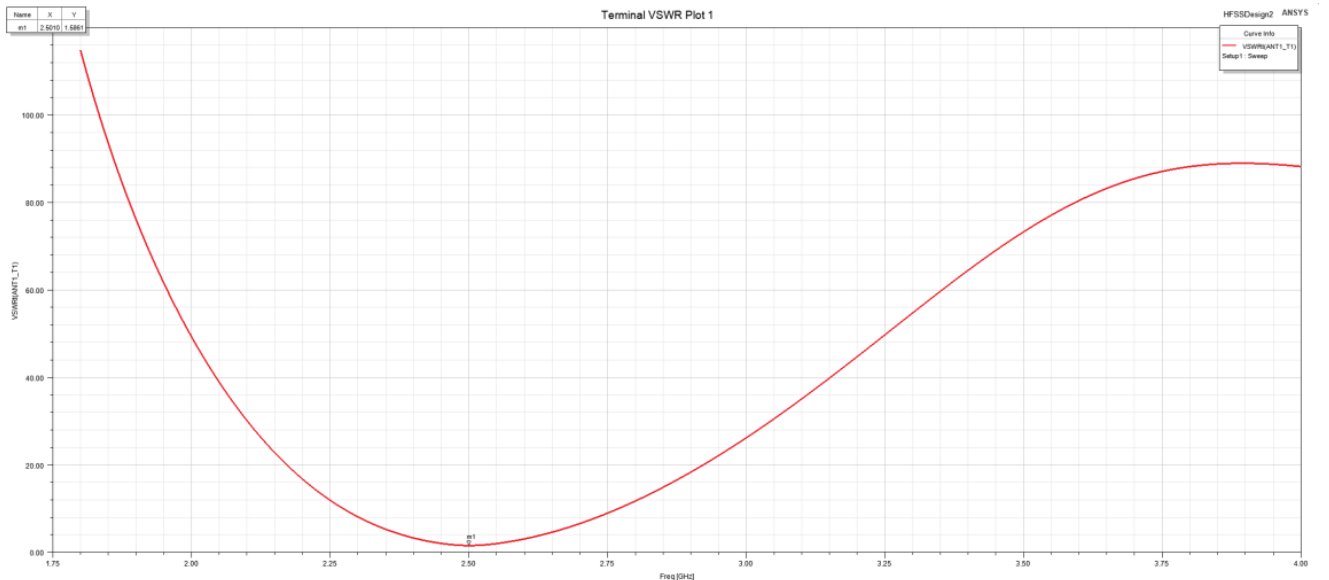
4) S11:

Name	X	Y
m1	2.5000	-12.8874
m2	2.4180	-9.9888
m3	2.5430	-9.9817



5) VSWR:

Name	X	Y
m1	2.5010	1.5861

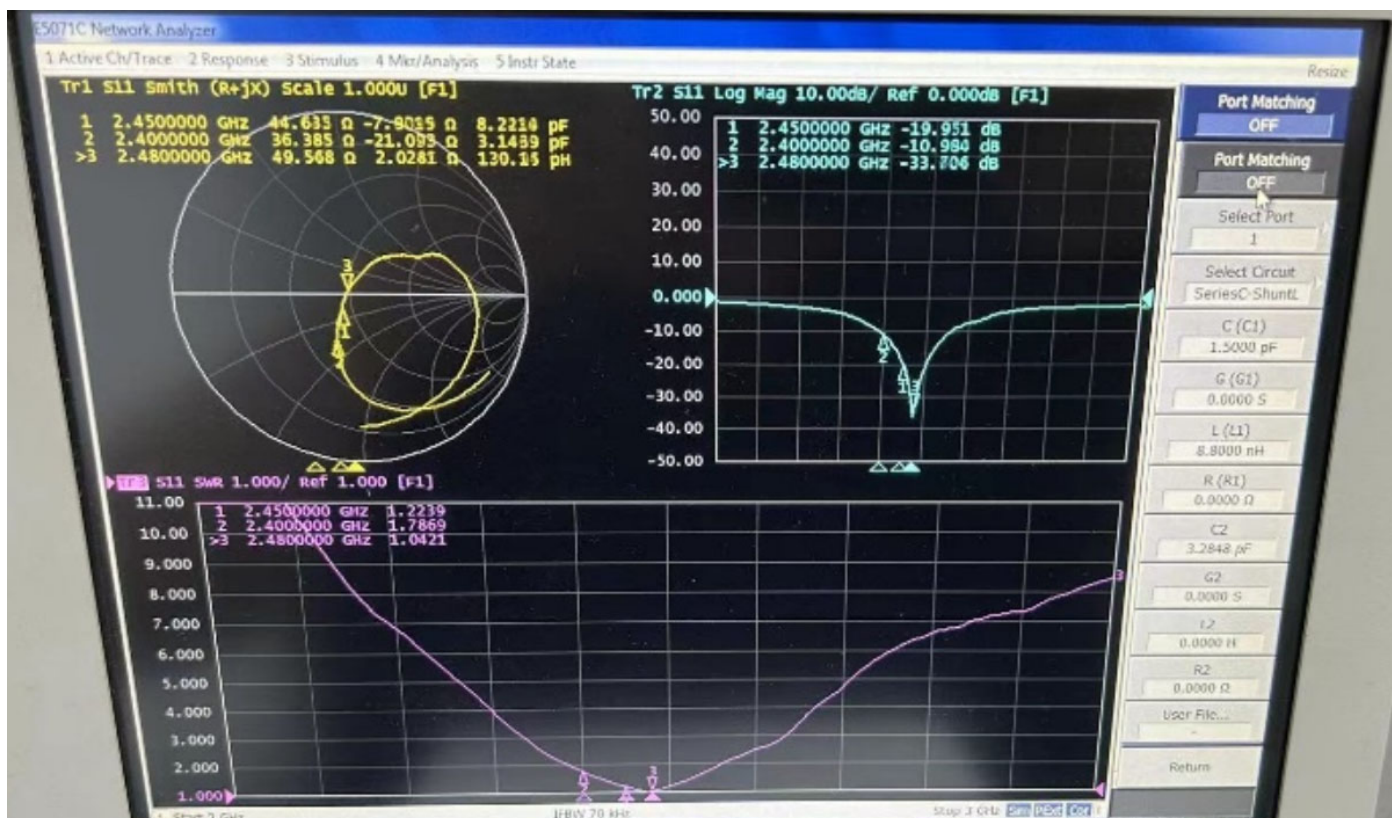


3. Test Report:

1) Appearance :



2) Antenna Smithchart , VSWR and Return Loss:



4. Basic Characteristics:

A. Electrical Characteristics:	
Frequency	2400~2500 MHz
S.W.R.	≤ 2.5 @2400~2500 MHz
Max. Gain	1.3 dBi @2400~2500 MHz
Efficiency	40~50% @2400~2500 MHz
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics:	
Material of Radiator	PCB
Cable Type	NONE
Connector Type	NONE

Pull Test	/
C.Environmental:	
Operation Temperature	-20℃~~+60℃
Storage Temperature	-40℃~~+80℃

5.Gain and Efficiency:

frequency（GHz）	2.4	2.41	2.42	2.43	2.44	2.45	2.46	2.47	2.48	2.49	2.5
efficiency（%）	35.10	36.12	36.68	38.46	39.61	38.9	42.24	44.12	43.00	41.21	39.98
Gain（dBi）	1.13	1.28	1.30	1.12	1.2	0.98	1.23	1.5	1.29	1.3	1.23