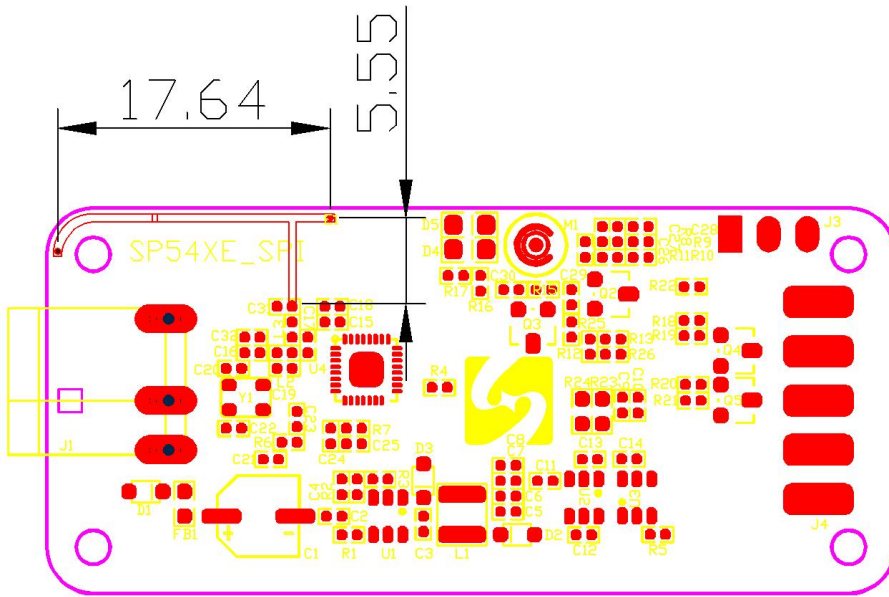


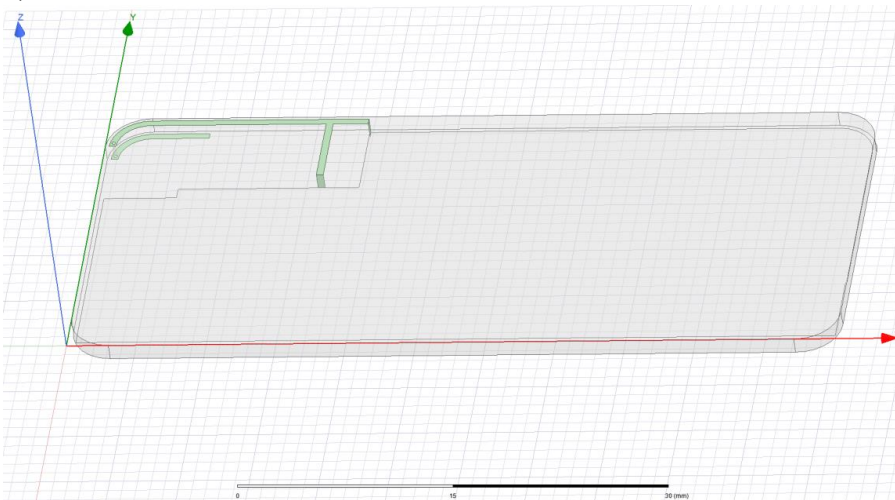
SP54XE Antenna Specifications

1. Antenna location and size (mm) :

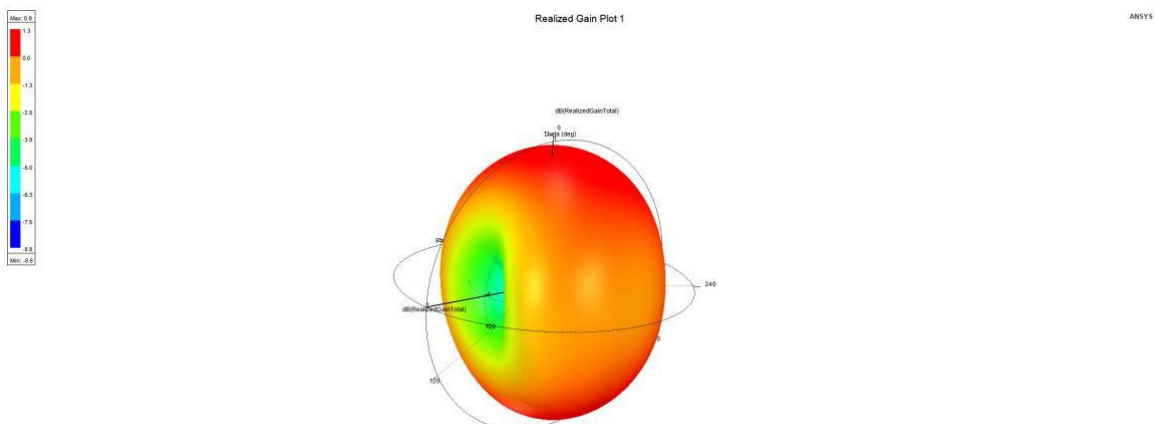


2. Antenna simulation Report:

1) Antenna Simulation Model :

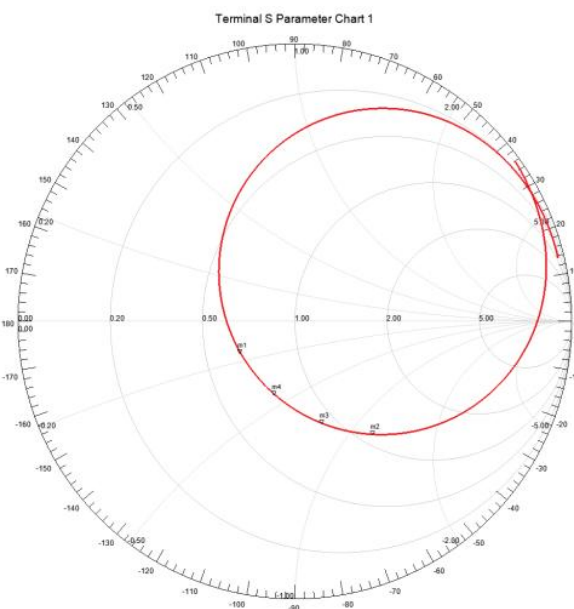


2) 3D Polar plot:

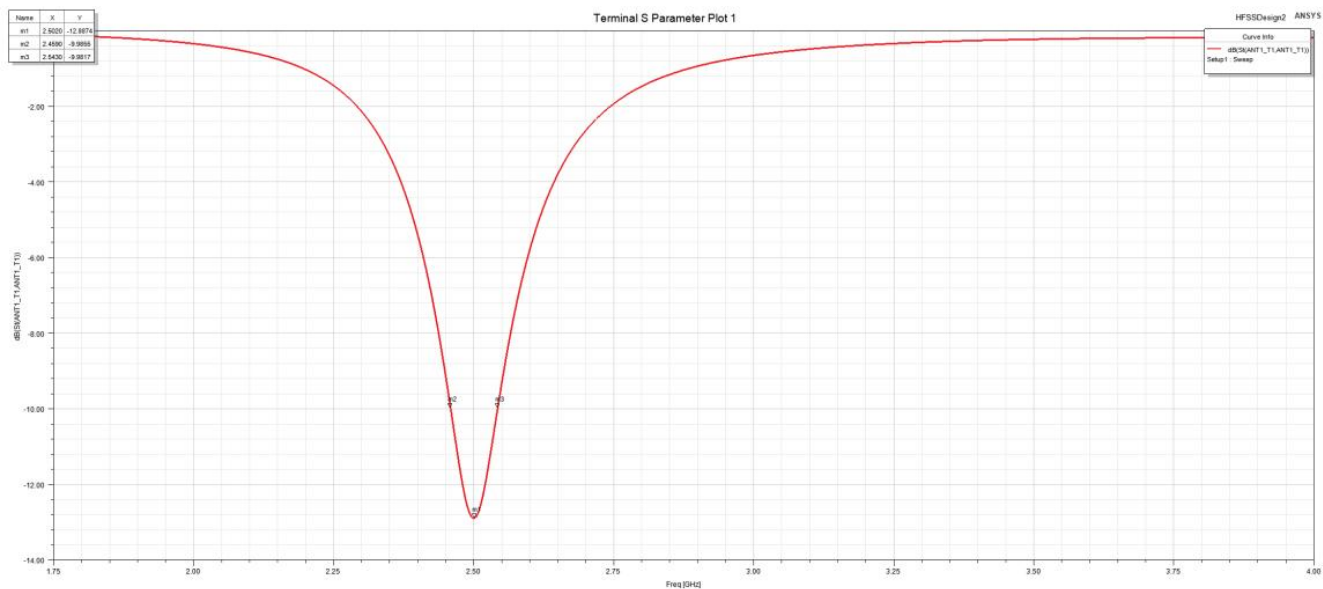


3)Smithchart:

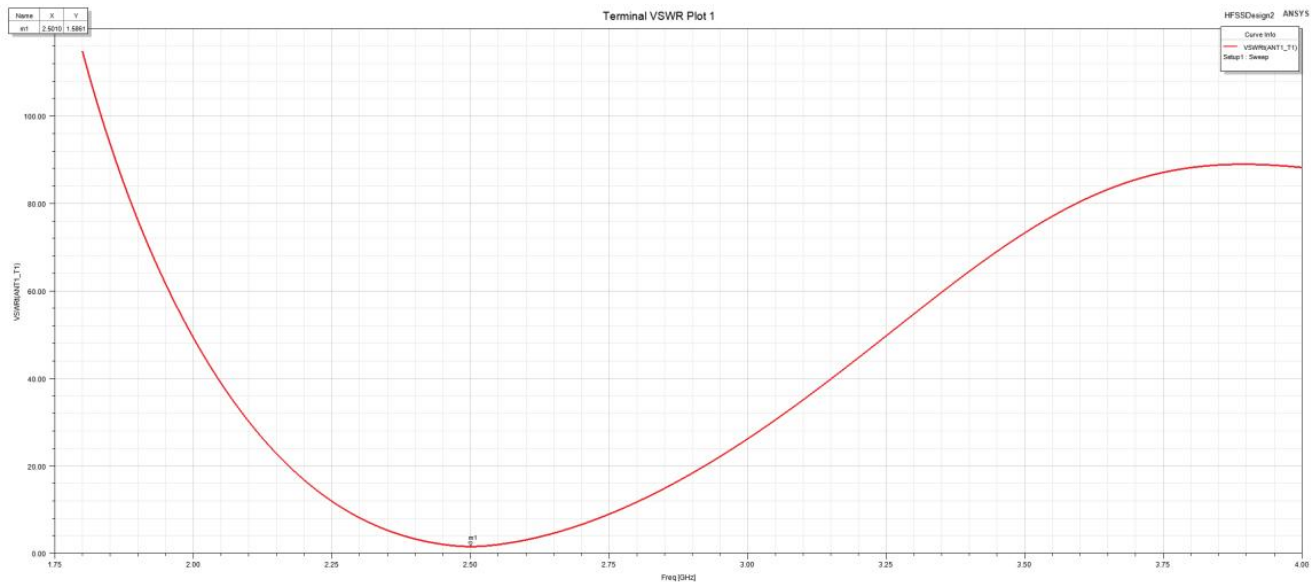
Name	Freq	Ang	Mag	RIX
s11	2.5000	-149.5288	0.2208	0.8679 - 0.1594
s12	2.4120	-85.2088	0.4954	1.1096 - 1.1963
s13	2.4420	-74.7891	0.3810	0.8042 - 0.7773
s14	2.4720	-106.3334	0.2736	0.7887 - 0.6326



4)S11:



5) VSWR:



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	1.5 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	1.41	1.12	1.2	0.98	1.23	1.5	1.42	1.3	1.23