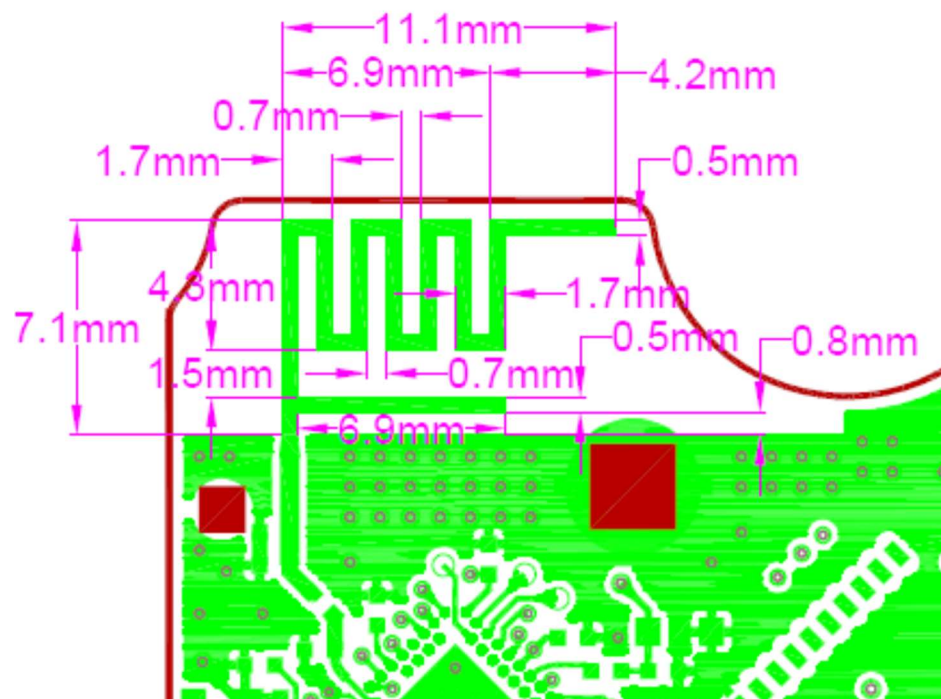
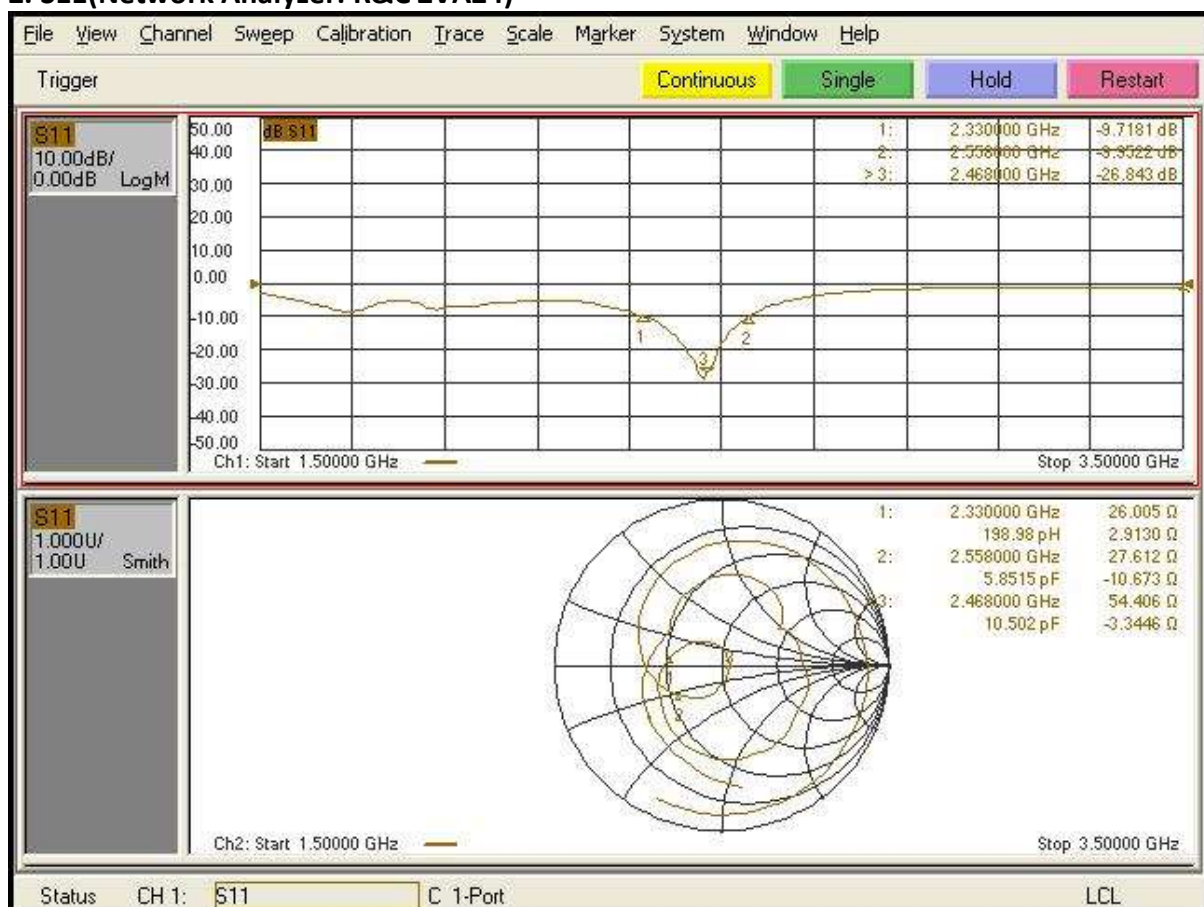


EM-SC03 PCB Antenna

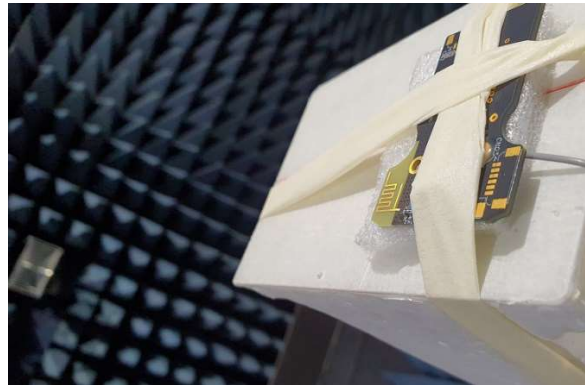
1. Layout and Implementation



2. S11(Network Analyzer: R&C ZVA24)



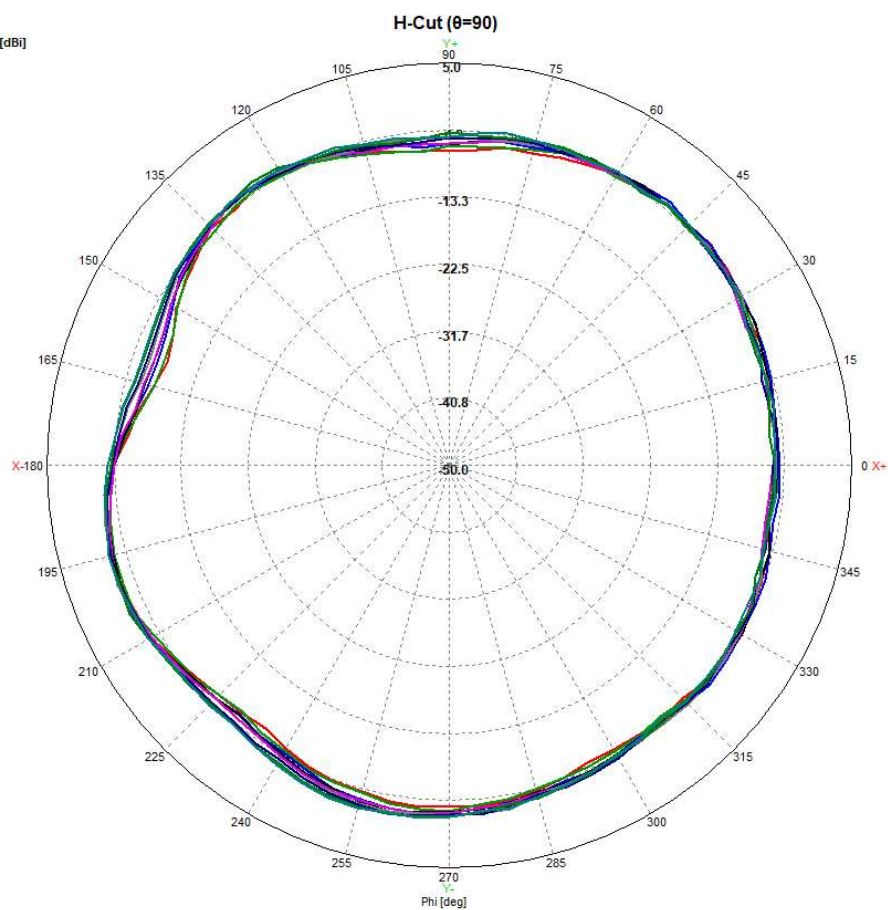
3. Test Setup – Antenna on Evaluation Board



4. 2D Radiation Pattern 4-1 H-Cut

No.	Freq.
1	2.400
2	2.410
3	2.420
4	2.430
5	2.440
6	2.450
7	2.460
8	2.470
9	2.480

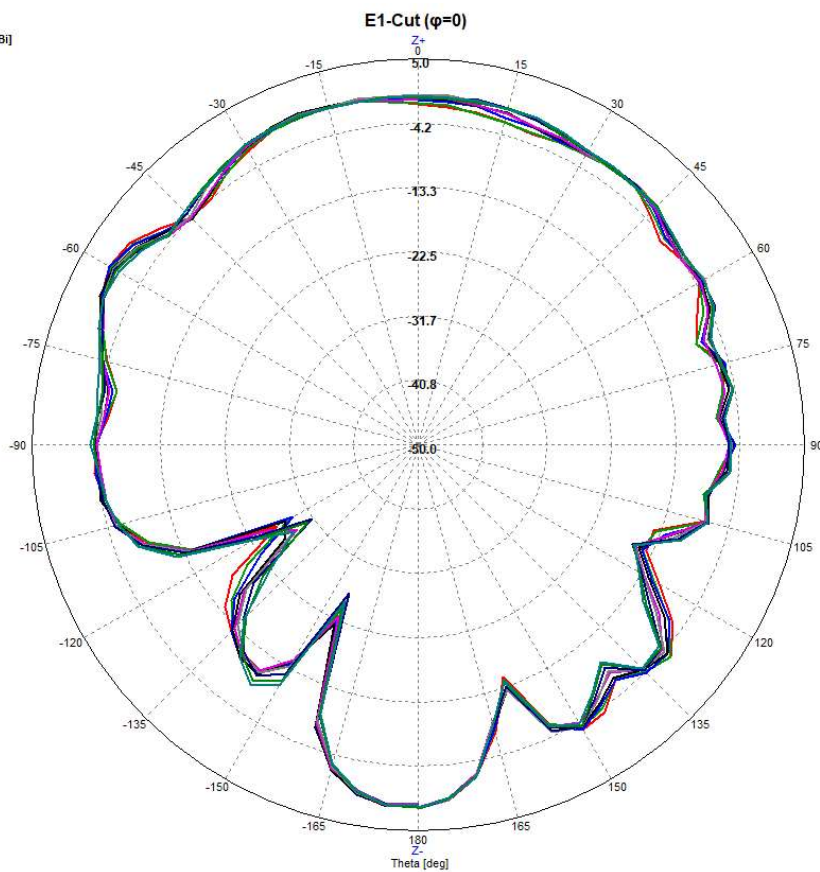
Gain [dBi]



4-2 E1-Cut

No.	Freq.
1	2.400
2	2.410
3	2.420
4	2.430
5	2.440
6	2.450
7	2.460
8	2.470
9	2.480

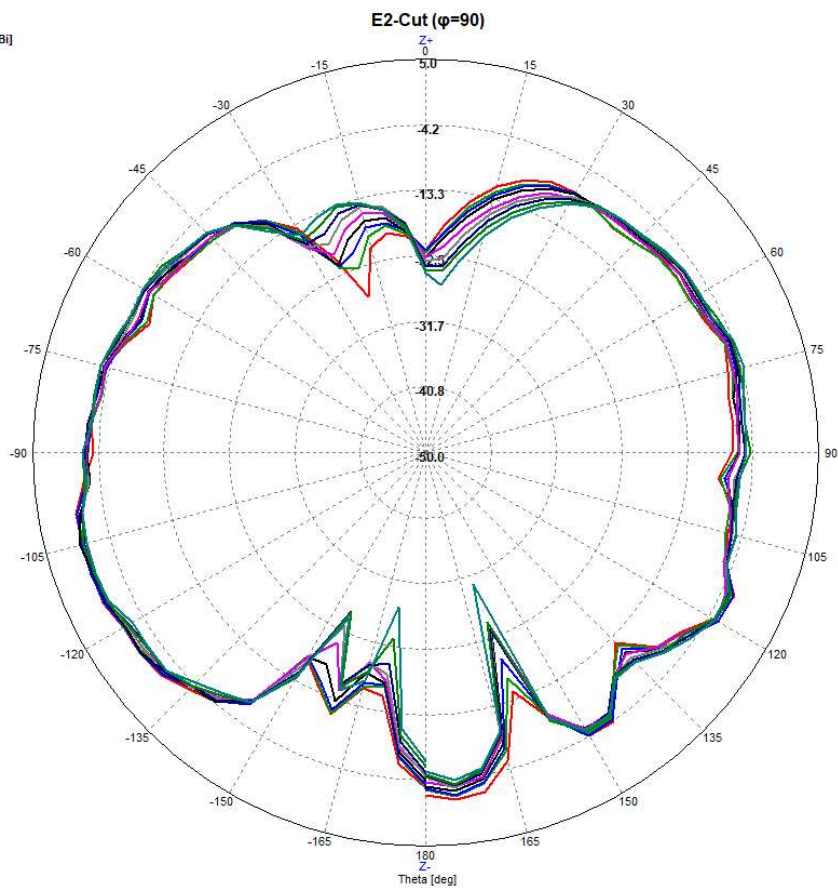
Gain [dBi]



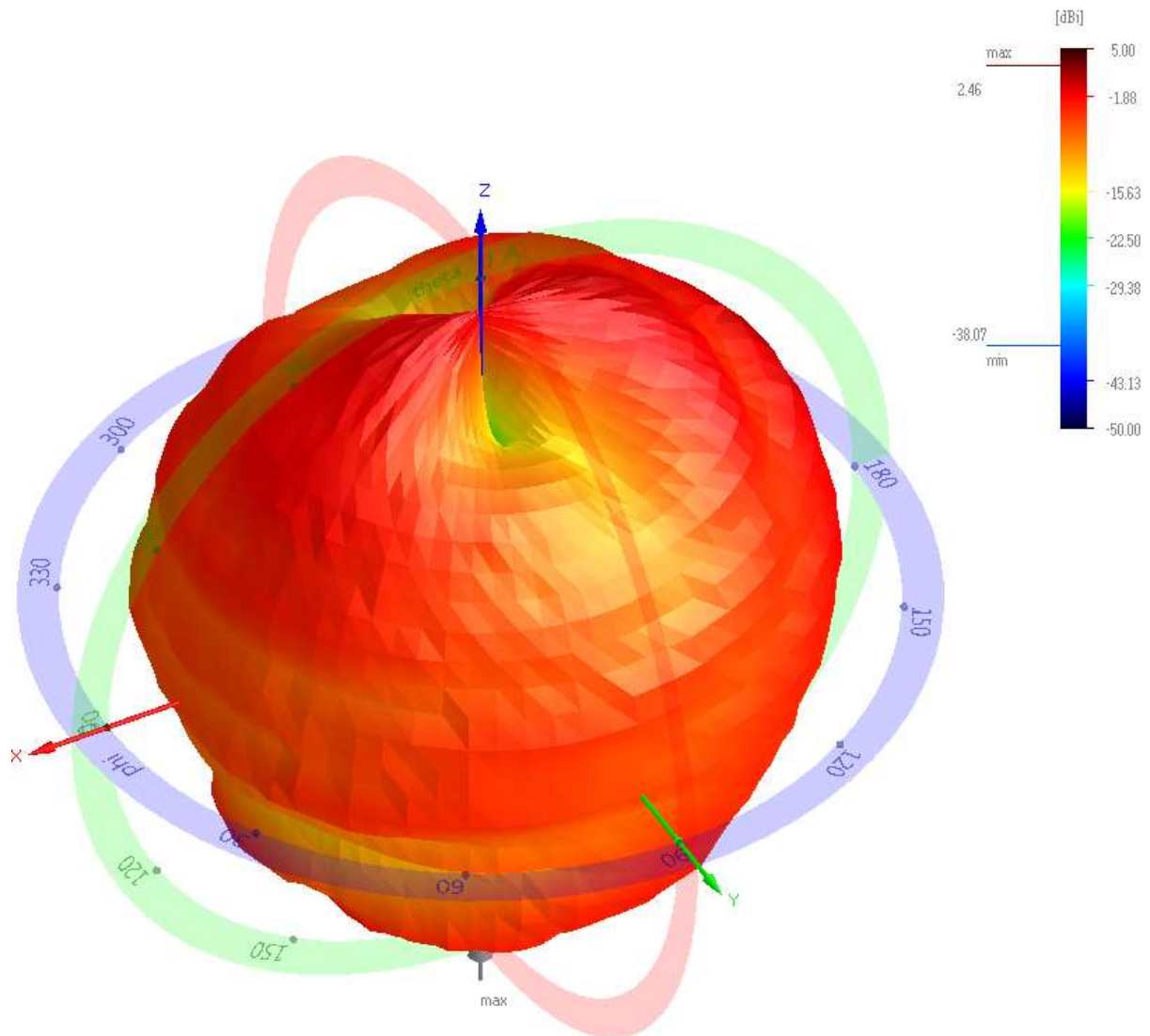
4-3 E2-Cut

No.	Freq.
1	2.400
2	2.410
3	2.420
4	2.430
5	2.440
6	2.450
7	2.460
8	2.470
9	2.480

Gain [dBi]



5. 3D Radiation Pattern



6. Summary

No.	Freq.[GHz]	θ-Pol(H)					φ-Pol(V)					PwrSum				
		Eff.[%]	Avg.[dBi]	Peak[dBi]	θ[deg]	φ[deg]	Eff.[%]	Avg.[dBi]	Peak[dBi]	θ[deg]	φ[deg]	Eff.[%]	Avg.[dBi]	Peak[dBi]	θ[deg]	φ[deg]
1	2.4	39.45	-4.04	0.77	60	180	38.51	-4.14	0.98	70	90	77.96	-1.08	2.18	75	265
2	2.41	38.59	-4.13	0.48	60	180	36.75	-4.35	0.84	65	95	75.34	-1.23	2.02	75	265
3	2.42	41.72	-3.8	0.71	60	180	38.54	-4.14	0.88	80	270	80.26	-0.96	2.32	80	270
4	2.43	41.63	-3.81	0.33	60	190	37.19	-4.3	0.69	70	95	78.82	-1.03	2.12	75	265
5	2.44	39.78	-4	-0.07	60	185	34.25	-4.65	0.37	80	270	74.03	-1.31	1.78	75	260
6	2.45	43.22	-3.64	0.26	20	185	35.93	-4.45	0.48	35	265	79.15	-1.02	1.99	75	270
7	2.46	43.22	-3.64	0.04	60	185	34.77	-4.59	0.59	35	275	77.99	-1.08	2.05	80	265
8	2.47	44.05	-3.56	-0.03	20	185	34.07	-4.68	0.56	80	270	78.12	-1.07	2.17	80	270
9	2.48	44.07	-3.56	-0.07	20	185	32.89	-4.83	0.45	35	270	76.96	-1.14	1.91	80	270