



APPENDIX J

: ANTENNA SPECIFICATION



Antenna performance review

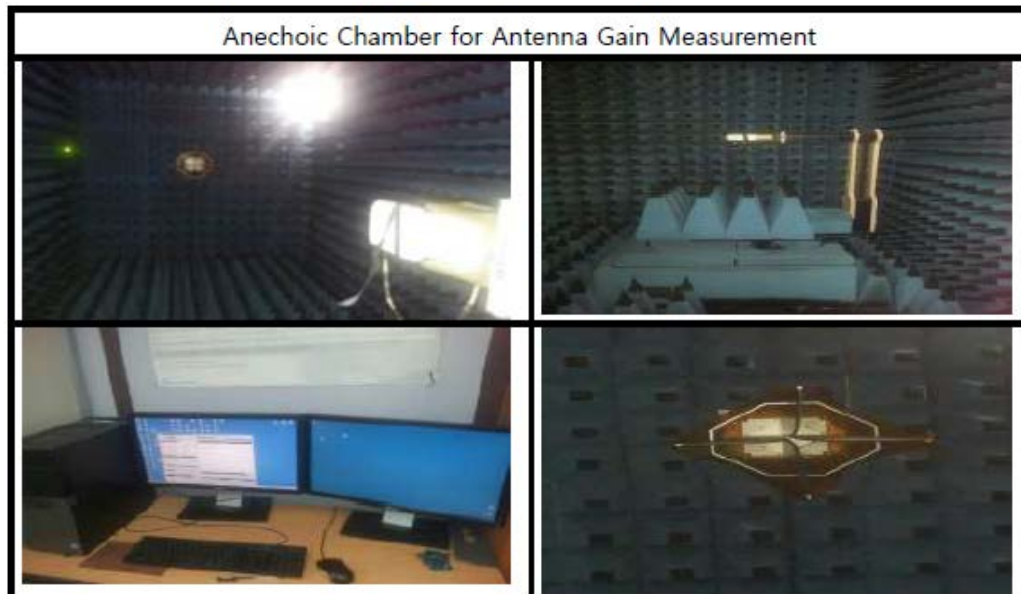
* Measurement Equipment

1) SWR / Return Loss

	Set Condition
Network Analyzer	Agilent 8753ES
Cable	Semi-rigid (40mm, 60mm)
Test condition	

2) Gain

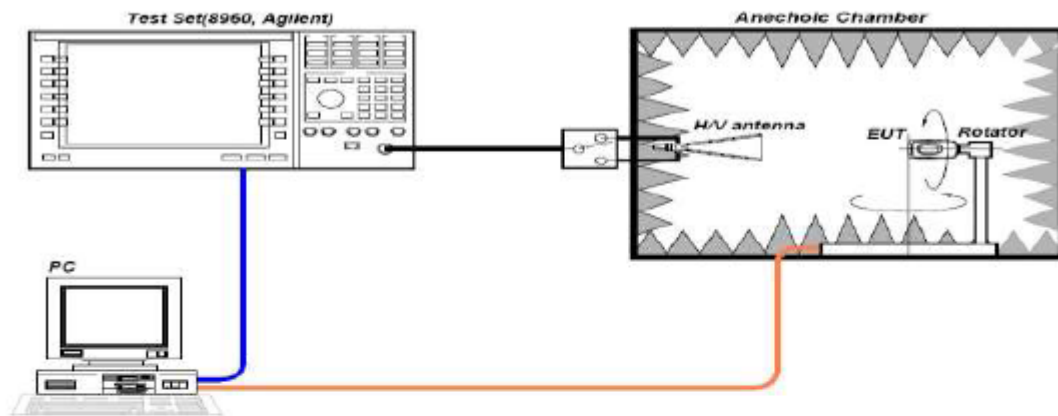
: Antenna gain is measured in the anechoic chamber of this company.



* Measurement Set-Up

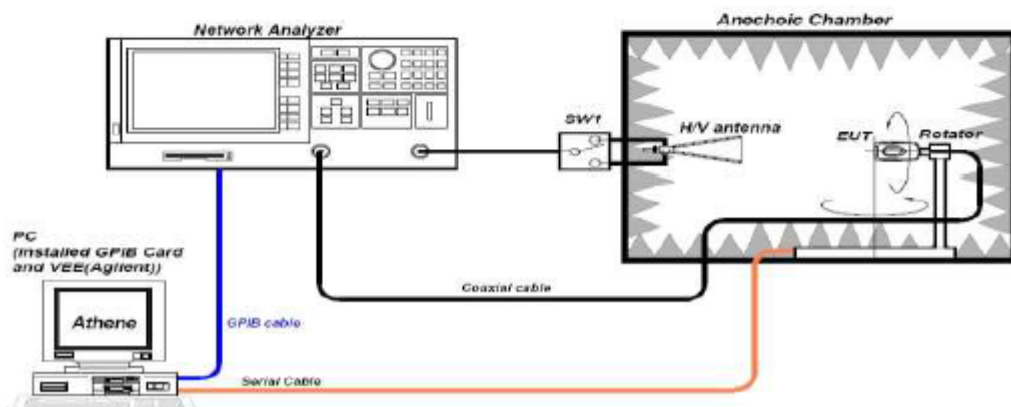
Active test Sysetm

- TRP, NHPRP,UHRP
- TIS, NHPIs, UHIS
- Relative Sensitivity



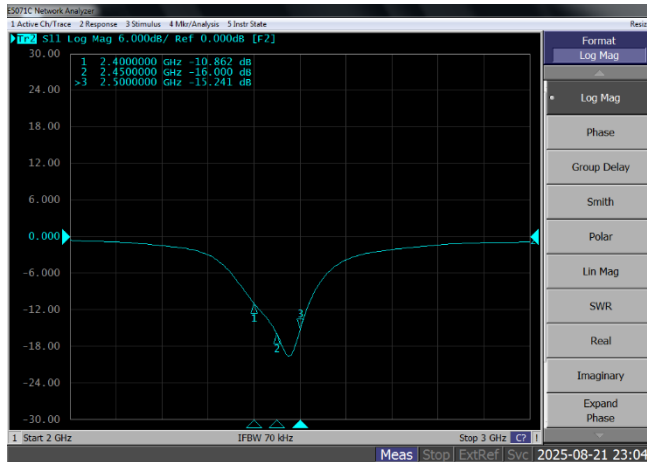
Passiver test Sysetm

- Efficiency
- Peak Gain, Avg, Gain
- Min, Max PWR

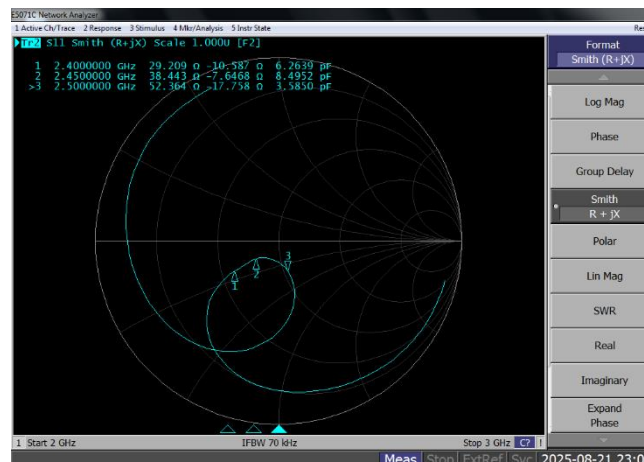


1. Tuned Antenna Passive Data

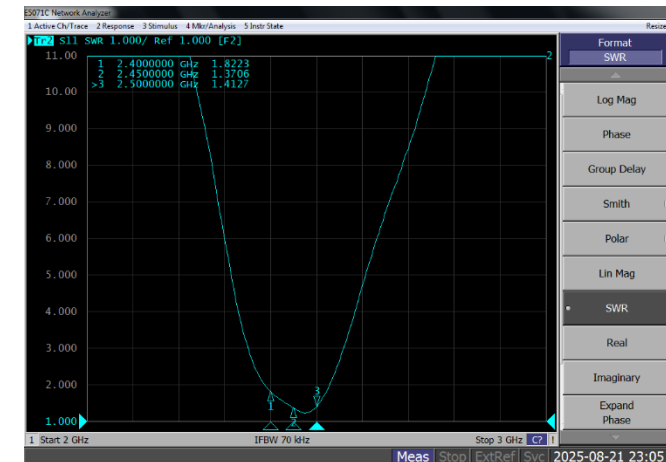
S11



SC



SWR

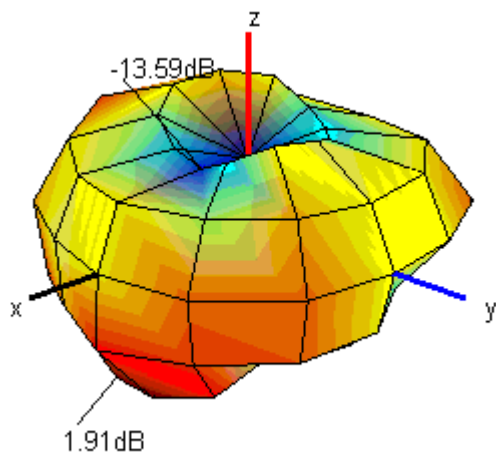


Efficiency

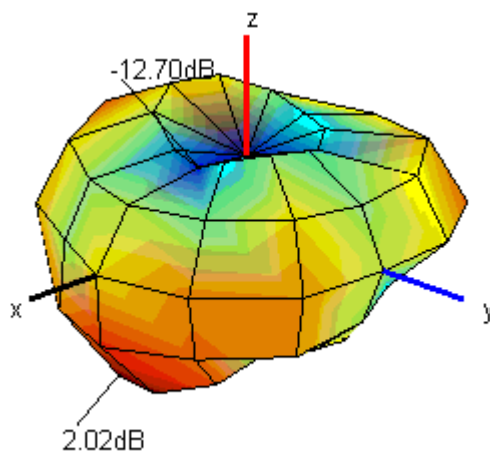
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Frequency [MHz]	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480	2485	2490	2497
Efficiency [dB]	-3.46	-3.49	-3.55	-3.51	-3.54	-3.46	-3.24	-3.27	-3.40	-3.49	-3.70	-3.70	-3.60	-3.69	-3.60	-3.79	-3.94	-4.56	-4.61	-4.55
Efficiency [%]	45.1	44.8	44.2	44.5	44.3	45.1	47.4	47.1	45.7	44.8	42.7	42.6	43.7	42.8	43.7	41.8	40.4	35.0	34.6	35.0
TRG _θ [dB]	-5.24	-5.25	-5.29	-5.25	-5.27	-5.24	-4.95	-4.99	-5.16	-5.17	-5.38	-5.34	-5.30	-5.32	-5.16	-5.31	-5.40	-6.02	-6.06	-5.94
Gain _{θ Peak} [dB]	0.26	-0.02	0.21	0.08	0.16	0.44	0.15	0.62	0.22	0.35	0.35	-0.10	-0.01	0.22	0.02	-0.45	-0.16	-0.72	-1.08	-0.81
Gain _{θ Min} [dB]	-23.91	-30.26	-24.62	-23.16	-21.03	-23.80	-20.58	-23.20	-26.82	-23.94	-21.93	-21.30	-24.24	-24.02	-21.23	-23.68	-26.47	-23.04	-22.29	-23.21
TRG _φ [dB]	-8.18	-8.27	-8.36	-8.33	-8.37	-8.18	-8.13	-8.14	-8.16	-8.42	-8.62	-8.73	-8.49	-8.72	-8.80	-9.07	-9.40	-10.01	-10.06	-10.19
Gain _{φ Peak} [dB]	-1.27	-1.32	-1.42	-1.63	-0.99	-0.73	-0.89	-1.23	-1.27	-1.18	-1.42	-2.00	-1.68	-2.01	-1.71	-1.67	-2.21	-2.84	-3.14	-2.90
Gain _{φ Min} [dB]	-27.09	-26.53	-28.43	-39.15	-26.89	-26.10	-37.73	-27.44	-32.25	-25.49	-31.95	-24.29	-23.20	-26.27	-26.92	-29.56	-23.11	-29.99	-29.31	-25.72
UHRG [dB]	-7.66	-7.63	-7.79	-7.76	-7.69	-7.77	-7.51	-7.57	-7.57	-7.68	-7.92	-7.83	-7.84	-7.88	-7.70	-7.90	-8.08	-8.68	-8.67	-8.59
UHRG/TRG [%]	38.0	38.6	37.7	37.6	38.4	37.0	37.4	37.2	38.2	38.1	37.8	38.6	37.7	38.1	38.9	38.8	38.5	38.7	39.2	39.5
H-Plane	-4.99	-4.78	-4.92	-4.82	-4.78	-4.75	-4.34	-4.43	-4.42	-4.48	-4.67	-4.62	-4.53	-4.58	-4.23	-4.39	-4.54	-5.12	-5.30	-5.26
E1-Plane, AVG [dB]	-5.00	-5.11	-5.00	-5.04	-5.09	-4.98	-4.89	-4.87	-5.15	-4.84	-4.79	-5.16	-4.99	-5.24	-4.96	-5.30	-5.09	-5.69	-6.09	-5.63
E2-Plane, AVG [dB]	-5.34	-5.35	-5.52	-5.28	-5.41	-5.32	-5.07	-5.03	-4.94	-5.25	-5.59	-5.47	-5.33	-5.35	-5.51	-5.30	-5.85	-6.35	-6.26	-6.24
Peak Gain [dB]	1.91	1.97	1.87	1.98	2.08	2.14	2.18	2.44	2.24	2.02	2.04	1.90	1.99	1.92	2.01	1.71	1.63	1.10	0.97	1.19
Directivity [dB]	5.36	5.46	5.42	5.49	5.61	5.60	5.43	5.71	5.64	5.51	5.74	5.61	5.59	5.61	5.61	5.50	5.57	5.66	5.57	5.75
Minimum Gain [dB]	-13.59	-11.99	-12.93	-12.88	-11.89	-13.69	-12.21	-11.37	-13.17	-12.70	-12.74	-12.44	-12.01	-10.61	-11.73	-13.07	-12.75	-11.51	-12.42	-12.07
Average Efficiency	-3.69 dB		42.76 %																	

3. 3D Plot Data

2400MHz



2445MHz



2485MHz

