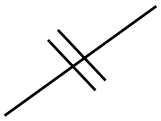
Product Specification

CUSTOMER	:	**Pantech & Curltel**
ITEM	:	**L1**
MODEL NAME	:	**DANT-T3-PC03**
CUSTOMER P/NO	:	
DATE	:	**2006-12-07**

		Check	Check	Check	Approval
DYKTX	**JH, LEE**				
		12/07	12/07		12/07

#680-9, JAKJEUN-DONG, KYEYANG-GU, INCHON, KOREA

TEL : 82-32-676-9224 FAX : 82-32-546-4797

KTX DAEYOUNG KTX

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B. Document Change Record

Rev.No	Rev. Date	Page	History	Drafter
1	2006-12-07		Initial release	JH,LEE

C. List of Material

	Raw Material	Material Supplier	Tooling & Injection	Finishing & Spec.	Remark
Carrier	PC HF-1023IM	Cheil Industies	Mpla	-	-
Radiator	STS 304 (t=0.15)	Pung-San Metal	Deayoung KTX	-	-
Assembly	Tolerance of heat staking height should not bk over 0.6mm the surface of pattern				

D. Electrical & Mechanical Specifications

1. Electrical Specifications

Frequency Range	**CDMA (824 ~ 894MHz)**	**GPS (1575.42MHz)**	**PCS (1850 ~ 1990MHz)**
Peak gain (E2 Plane)	-0.5dBi over	-3.5dBi over	-2.0dBi over
VSWR	3.5:1 below	2.0:1 below	4.0:1 below
Impedance	50Ω		
Polarization	Linear		
Radiation pattern	Omni-directional		
Power Handling	2 Watt		

2, Mechanical Specifications

Connector	Contact Type
Dimension	35.0(W) x 10.0(H) x 7.0(D)
Operating Temperature	-30℃ ~ +80℃
Weight	2.0g

3, Package

Name	**Quantity**	**Material**	**Remark**
Tray	50EA	P.S(0.5t)	N/A
Carton BOX	1,000EA	DW 2(AB)	N/A

E. Electrical properties

1. Test equipment

The equipment for the antenna measurement we used is as follows.

A. Agilent 8720 Series Network Analyzer to measure the V.S.W.R and input impedance.

B. Three-dimensional anechoic chamber to measure the gain

(Standard dipole and horn were used to calibrate the chamber)

C. Digital caliper to measure the dimensions.

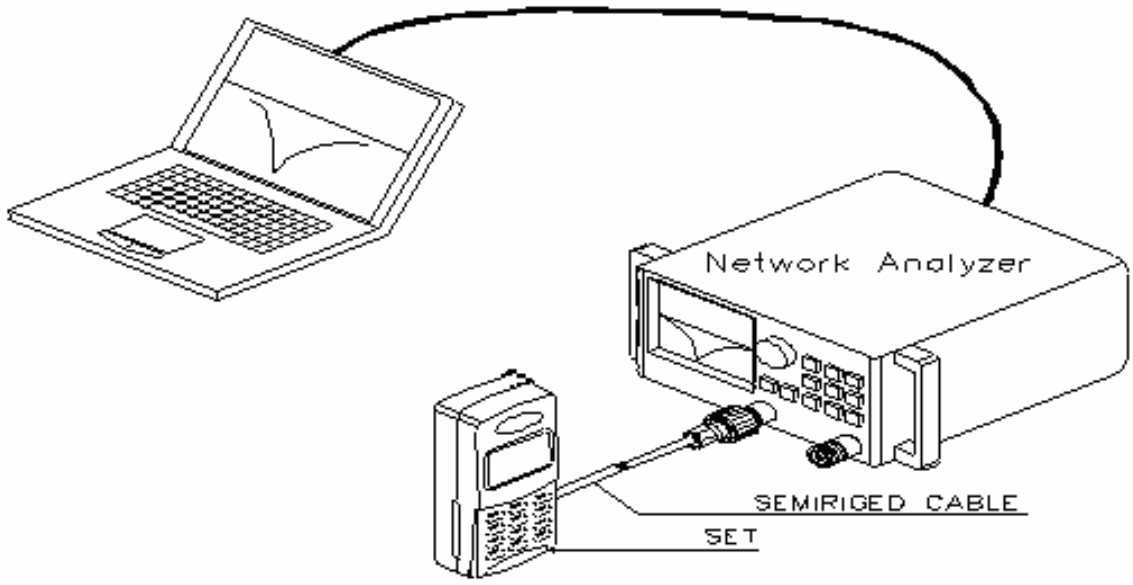
D. Climatic chamber for mechanical tests.

2. V.S.W.R

The VSWR characteristics must satisfy the electrical demands.

The VSWR is measured with Agilent 8720 Series network analyzer.

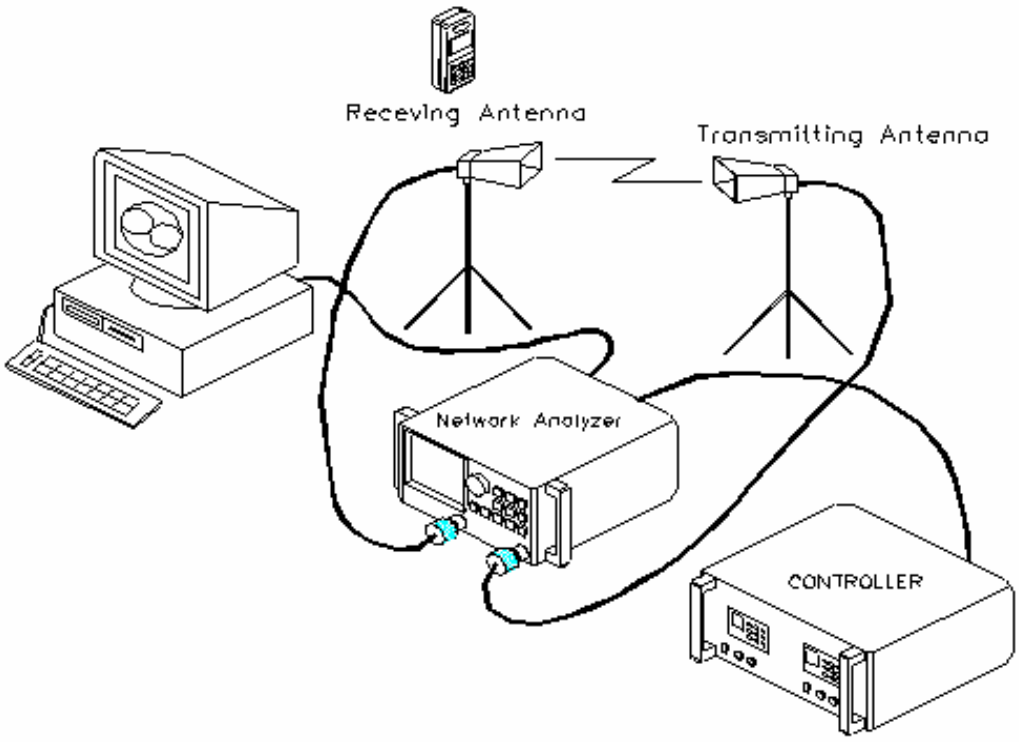
All the measurements are performed with the customer provided fixture.



3. Radiation pattern and gain

Radiation pattern of this antenna has Omni-directional specification in H-Plane.

Antenna gain is satisfied with customer demand based on folder-open as dBi after calibration with standard horn antenna.



F. Environmental resistance properties

1. Operational temperature

1.1 Low and high operational temperature

TLO = -20°C

THO = +85°C

1.2 Measuring method

The antenna is kept at +20°C at least 1 hour and placed at TLO. The antenna 1 hour and placed at THO. The antenna is taken out and the VSWR is measured.

2. Temperature cycling

2.1 Low and high cycling temperature

TLC = -40°C

THC = +85°C

2.2 Measuring method

The antenna is placed in the climatic chamber. The temperature is cycled as follows; the temperature is kept constant at TLC for 1 hour, increased to THC during 1 hour, kept constant at THC for 1 hour, and then decreased to TLC during 1 hour. This procedure is repeated 24 times ending at room temperature.

3. Humidity

3.1 Relative humidity : 90%

3.2 Temperature : +70°C

3.3 Measuring method

The antenna is placed in a climatic chamber for 48 hours. The antenna is taken out from the chamber and measured after another 24 hours in +20°C.

4. Sinusoidal vibration

4.1 Vibration frequency : F = 5 - 55 - 5Hz (1cycle)

4.2 Sweep rate : 0.5octave/min (logarithm)

4.3 Maximum amplitude : A = 1.5mm

4.4 Maximum acceleration : 2g

4.5 Crossover frequency : 18.2Hz

4.6 Measuring method

The antenna is assembled to the test equipment. The vibration test is done both in X- and Z-direction.

5. Corrosion

5.1 Demands

No permanent mechanical damage after the test.

5.2 Measuring method

The antenna is placed in an atmosphere saturated with 5% sodium chloride solution for 96 hours at +35°C.

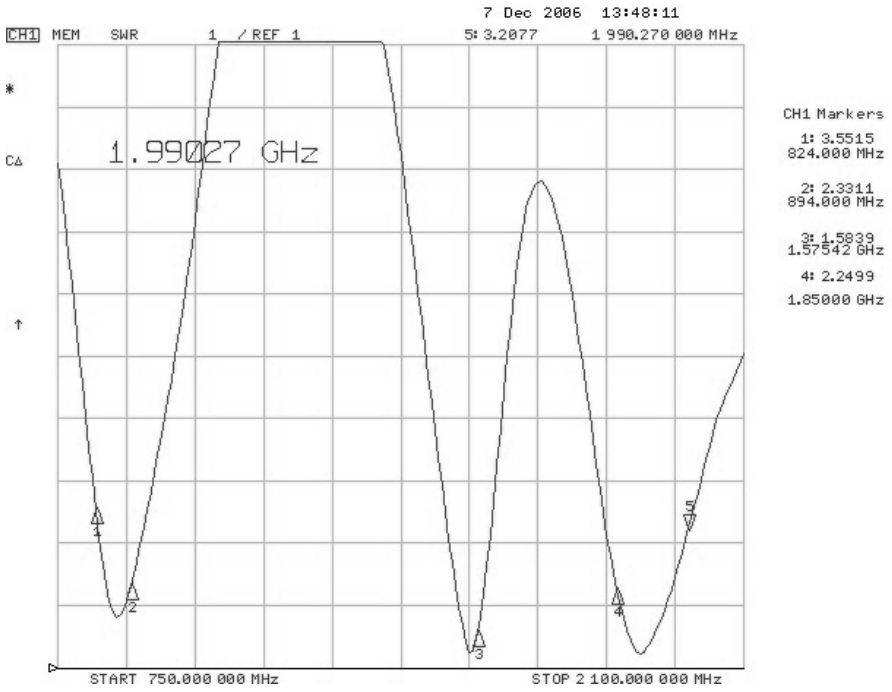
6. Aging

No permanent mechanical damage after equivalent of 3 years dark storage.

G. Measurement Data

1. V.S.W.R

Folder Close



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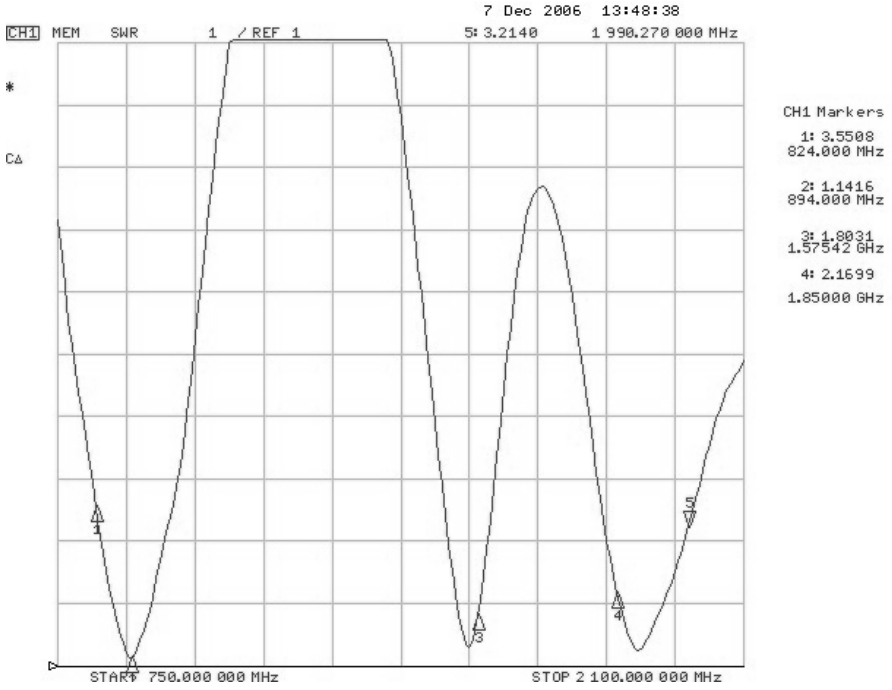
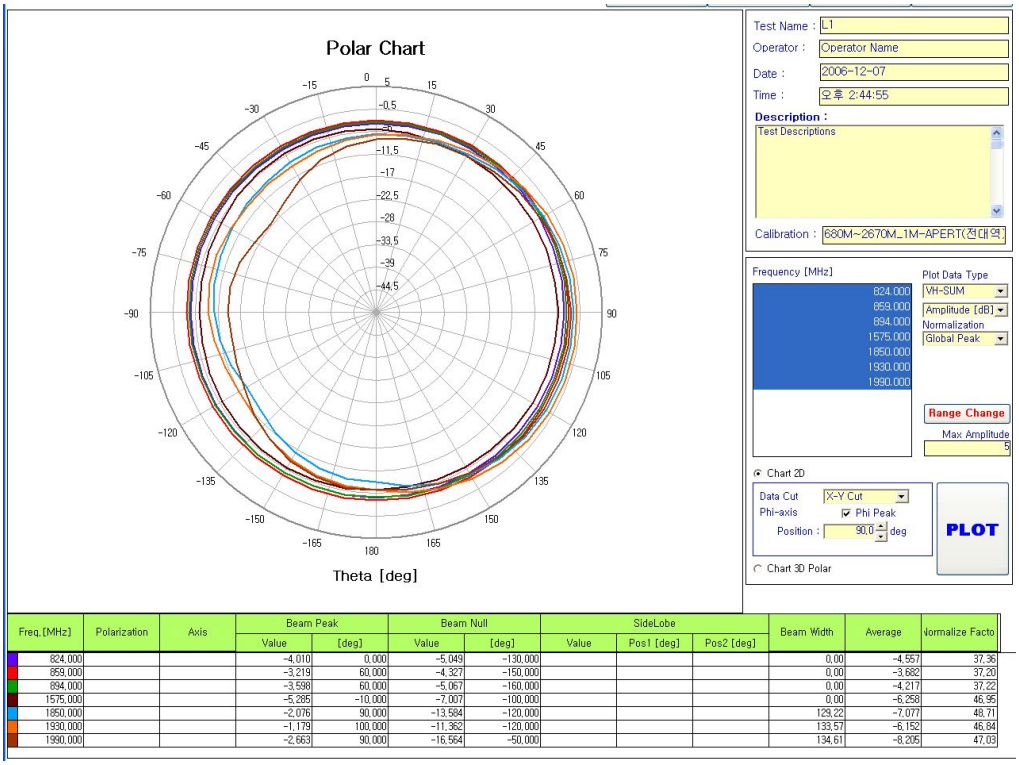


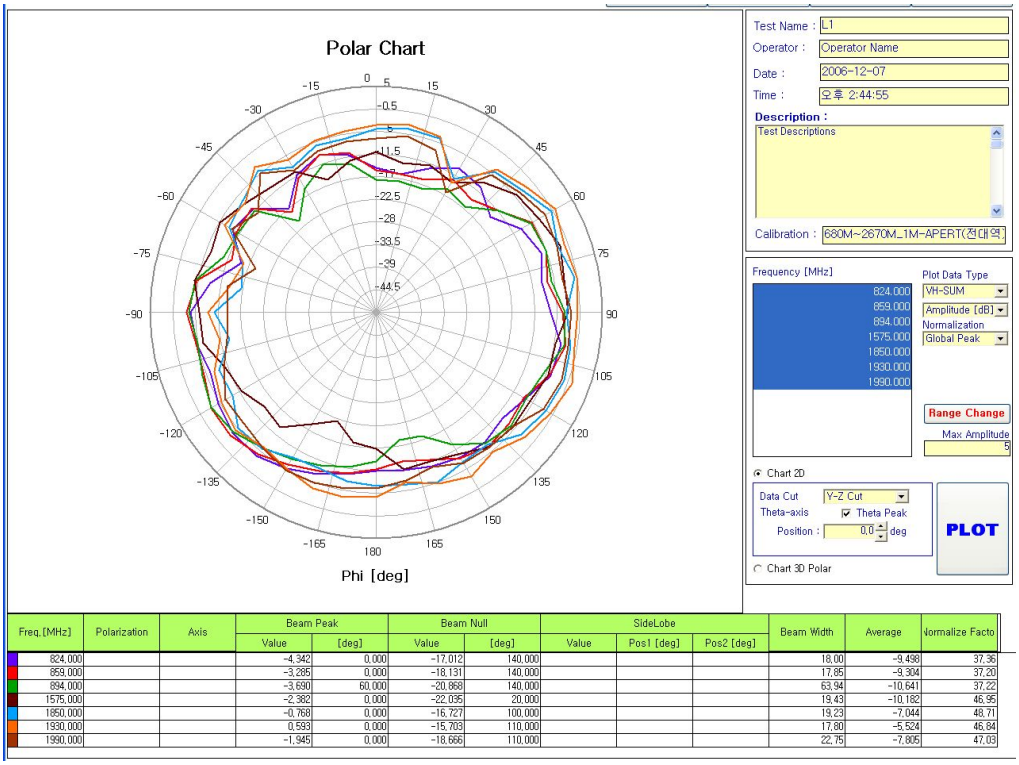
2. Radiation pattern

Folder Close H plane



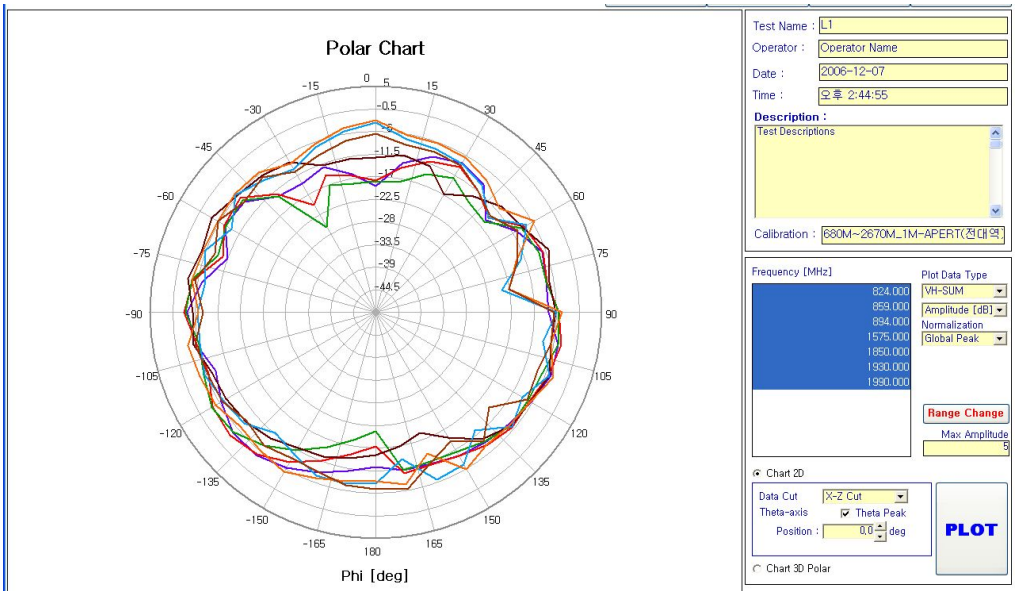
Freq.[MHz]	Polarization	Axis	Beam Peak		Beam Null		SideLobe			Beam Width	Average	Normalize Facto
			Value	[deg]	Value	[deg]	Value	Pos1 [deg]	Pos2 [deg]			
824.000			-4.010	0.000	-5.049	-130.000				0.00	-4.557	37.36
859.000			-3.219	60.000	-4.327	-150.000				0.00	-3.682	37.20
894.000			-3.598	60.000	-5.067	-160.000				0.00	-4.217	37.22
1575.000			-5.285	-10.000	-7.007	-100.000				0.00	-6.258	46.95
1850.000			-2.076	90.000	-13.584	-120.000				129.22	-7.077	48.71
1930.000			-1.179	100.000	-11.362	-120.000				133.57	-6.152	46.84
1990.000			-2.663	90.000	-16.564	-50.000				134.61	-8.205	47.03

Folder Close E1



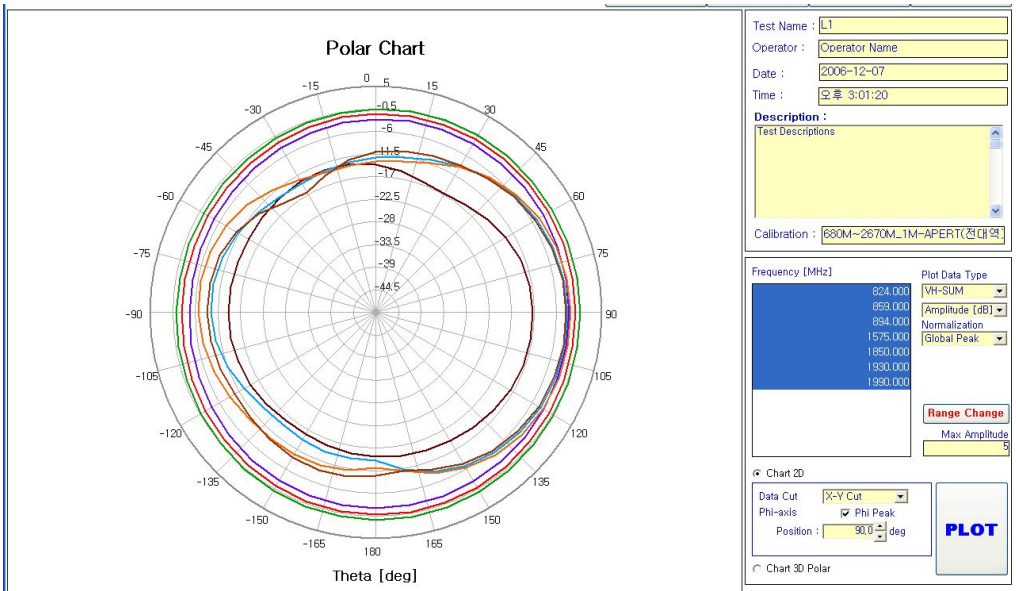
Freq.[MHz]	Polarization	Axis	Beam Peak		Beam Null		SideLobe			Beam Width	Average	Normalize Facto
			Value	[deg]	Value	[deg]	Value	Pos1 [deg]	Pos2 [deg]			
824.000			-4.342	0.000	-17.012	140.000				18.00	-9.498	37.36
859.000			-3.285	0.000	-18.131	140.000				17.85	-9.304	37.20
894.000			-3.690	60.000	-20.868	140.000				63.94	-10.641	37.22
1575.000			-2.382	0.000	-22.095	20.000				19.43	-10.182	46.95
1850.000			-0.768	0.000	-16.727	100.000				19.23	-7.044	48.71
1930.000			0.593	0.000	-15.703	110.000				17.80	-5.524	46.84
1990.000			-1.945	0.000	-18.666	110.000				22.75	-7.805	47.03

Folder Close E2



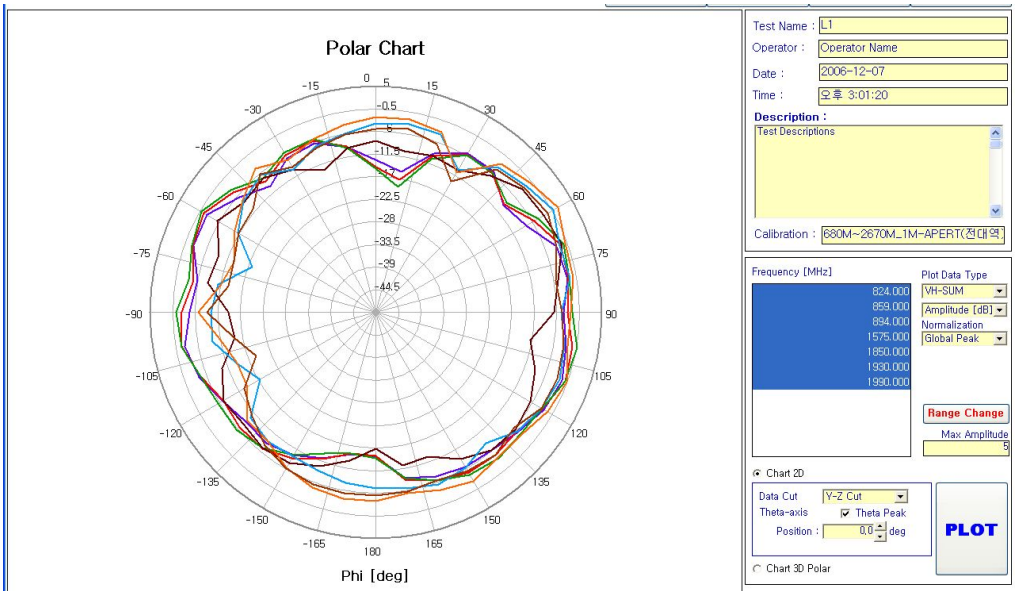
Freq.[MHz]	Polarization	Axis	Beam Peak		Beam Null		SideLobe			Beam Width	Average	Normalize Facto
			Value	[deg]	Value	[deg]	Value	Pos1 [deg]	Pos2 [deg]			
824.000			-4.010	90.000	-19.330	180.000				34.62	-9.361	37.36
859.000			-3.294	90.000	-19.868	150.000				36.71	-9.669	37.20
894.000			-3.745	90.000	-26.168	150.000				68.15	-11.192	37.22
1575.000			-3.512	100.000	-18.789	0.000				73.22	-9.740	46.95
1850.000			-3.939	180.000	-18.993	0.000				30.62	-8.477	48.71
1930.000			-3.256	180.000	-17.222	0.000				31.08	-7.025	46.84
1990.000			-5.214	80.000	-17.070	0.000				96.87	-8.819	47.03

Folder Open H plane



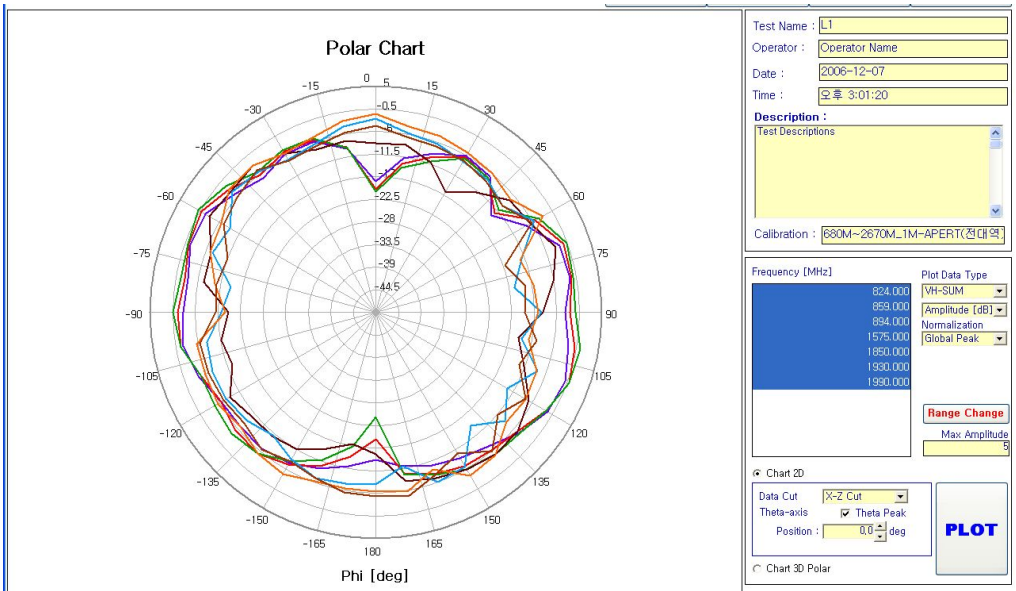
Freq.[MHz]	Polarization	Axis	Beam Peak		Beam Null		SideLobe			Beam Width	Average	Normalize Facto
			Value	[deg]	Value	[deg]	Value	Pos1 [deg]	Pos2 [deg]			
824.000			-2.405	-180.000	-4.671	-80.000				0.00	-3.229	37.36
859.000			-0.778	170.000	-2.873	-70.000				0.00	-1.644	37.20
894.000			0.447	170.000	-1.529	-70.000				0.00	-0.450	37.22
1575.000			-11.640	90.000	-16.729	30.000				147.11	-14.112	46.95
1850.000			-3.425	100.000	-14.522	-140.000				112.66	-9.759	48.71
1930.000			-2.589	100.000	-13.763	-20.000				114.38	-8.218	46.84
1990.000			-3.683	90.000	-16.247	-30.000				110.54	-8.860	47.03

Folder Open H E1



Freq.[MHz]	Polarization	Axis	Beam Peak		Beam Null		SideLobe			Beam Width	Average	Normalize Facto
			Value	[deg]	Value	[deg]	Value	Pos1 [deg]	Pos2 [deg]			
824.000			-1.850	0.000	-15.285	0.000				26.02	-7.297	37.36
859.000			-0.959	0.000	-17.281	0.000				18.60	-6.788	37.20
894.000			-0.317	0.000	-19.015	0.000				23.25	-6.468	37.22
1575.000			-1.861	0.000	-16.878	0.000				25.16	-9.076	46.95
1850.000			-0.220	0.000	-17.834	110.000				18.36	-7.211	48.71
1930.000			1.109	0.000	-14.110	70.000				19.41	-5.486	46.84
1990.000			-1.826	0.000	-18.894	70.000				26.57	-7.363	47.03

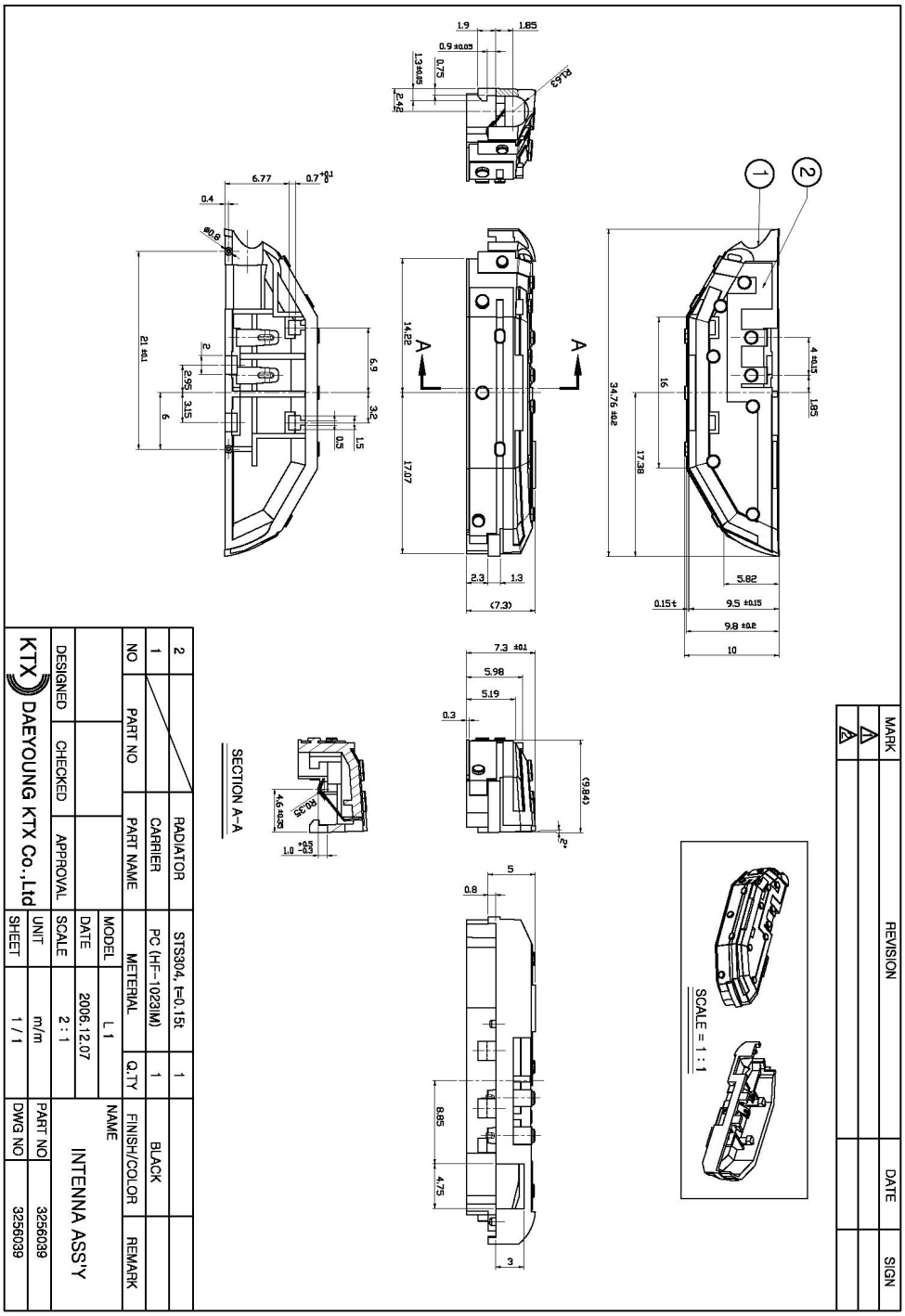
Folder Open H E2



Freq.[MHz]	Polarization	Axis	Beam Peak		Beam Null		SideLobe			Beam Width	Average	Normalize Facto
			Value	[deg]	Value	[deg]	Value	Pos1 [deg]	Pos2 [deg]			
824.000			-0.976	0.000	-18.210	180.000				18.25	-7.008	37.36
859.000			-0.074	0.000	-20.101	180.000				18.91	-6.766	37.20
894.000			0.426	0.000	-24.616	0.000				16.31	-6.790	37.22
1575.000			-3.258	120.000	-17.491	10.000				45.92	-9.369	46.95
1850.000			-2.805	180.000	-15.794	0.000				156.58	-8.682	48.71
1930.000			-1.644	180.000	-13.343	90.000				156.52	-6.593	46.84
1990.000			-4.609	180.000	-16.650	0.000				99.24	-8.213	47.03

H. Mechanical Drawing

1. Assembly



2. Package