MOBILE PHONE ANTENNA SPECIFICATION

(Cellular / USPCS Dual Band Coil Antenna)

Anydata Model No : AGT-100D

FLC Model No: FLC-DCP-001

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1. Specification

1.1 Electrical Specification

Frequency Range	Cellular: 824 ~ 894 MHz USPCS: 1.85 ~ 1.99 GHZ
V.S.W.R	Cellular : 3.0:1 max USPCS : 3.0:1 max
Gain	0 dBi typ.(Cellular) 0 dBi typ.(USPCS)
Impedance	50Ω
Radiation Pattern	Omni-directional
Polarization	Vertical
Max power	2W

1.2 Mechanical Specification

Length	See the drawing
Temperature	-40 °C - +70 °C
Connector type	-

2. Test Equipment

Description	Purpose
Network Analyzer	V.S.W.R, Impedance
Standard Dipole	Gain, Impedance
Digital Calipers	Dimension
Temp. Chamber	Temperature Test
Thermal Shock Chamber	Thermal Shock
Vibration Shaker	Vibration
Dummy Set	Drop Test

3. Electrical Specification

3.1 V.S.W.R

The performance of this antenna shall be in accordance with the best V.S.W.R requirements as followings; the maximum V.S.W.R shall be 3.0: 1 max in Cellular band and 3.0:1 max in USPCS band.

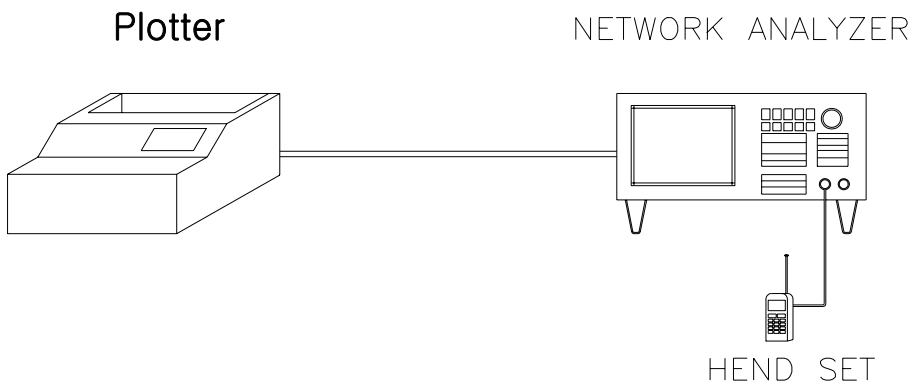


Figure 1 V.S.W.R Measurement System

3.2 Radiation Pattern

The radiation pattern of this antenna shall be omni-directional for the horizontal plane and bi-directional for the vertical plane.

3.3 Antenna Gain

Antenna gain shall be measured in decibels relative to a half wavelength dipole reference antenna and converted in unit of dBi . The maximum gain of Cellular and USPCS band, it shall be 0.96dBi peak max throughout the overall frequency

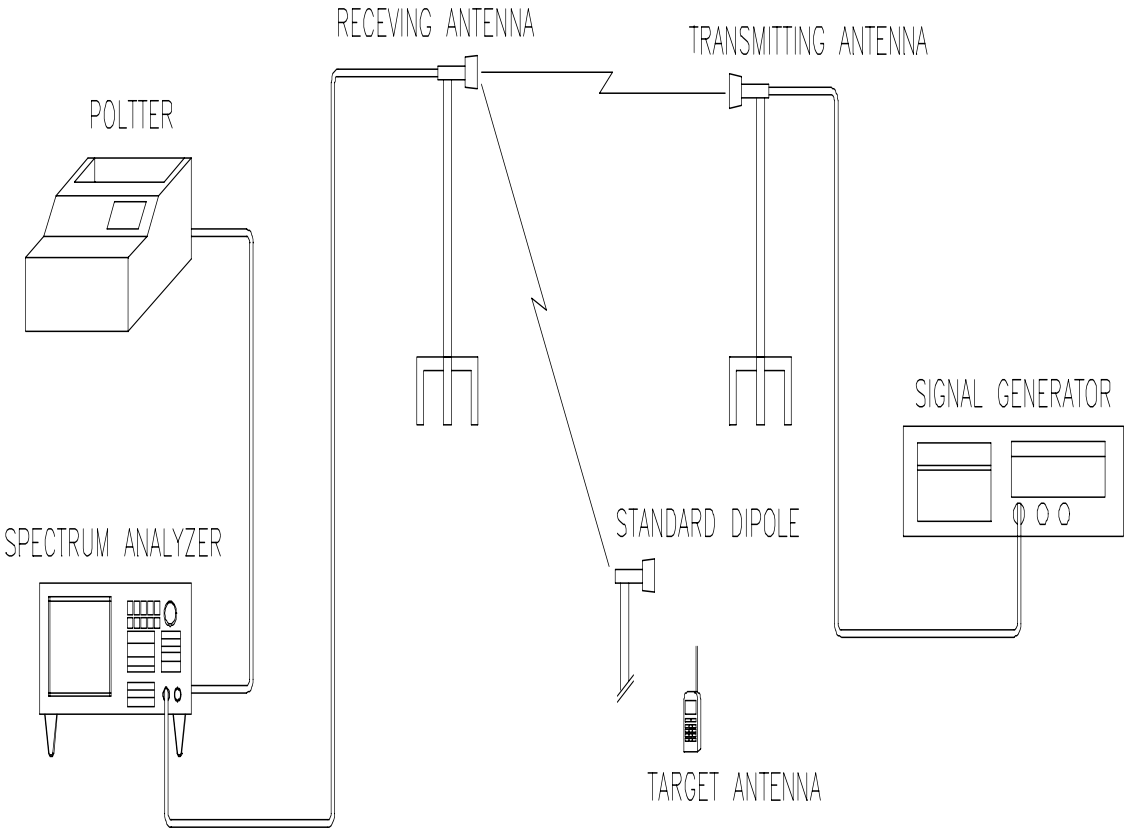


Figure. 2 Antenna Gain Measurement System

4. Mechanical Specification

4.1 Dimension

Refer to the attached drawing.

4.2 Drop Test

The handset installed with antenna is dropped from 1.5m onto the concrete bottom for 1 time at 45 degree.

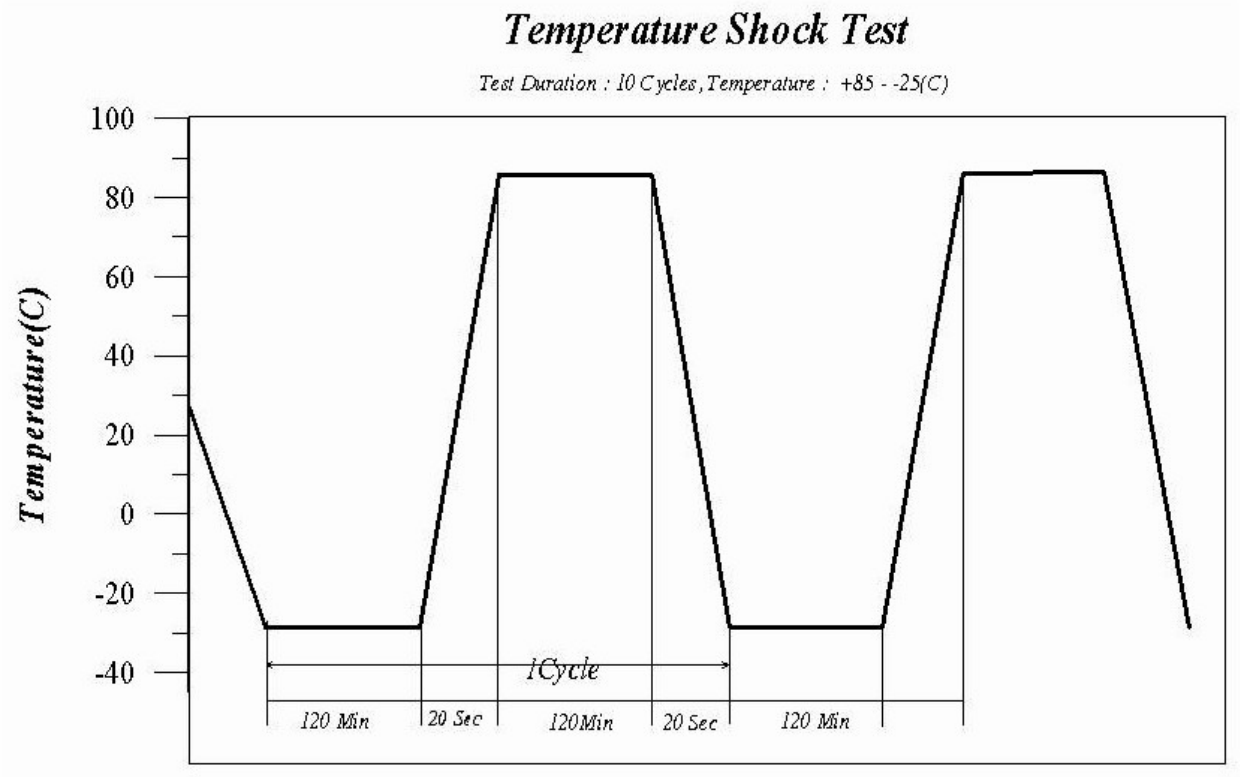
There shall not be any major visible damage and the antenna shall perform normally as defined in this specification after the test.

5. Environmental Specification

5.1 Thermal Shock

The antenna shall withstand 10 repeated cycles of 120 minutes at +25ºC and 120 minutes At +85ºC with a maximum transition time between temperature extremes of 20 seconds.

The antenna shall satisfy the electrical specification after the test. The antenna shall have no deterioration after the test.



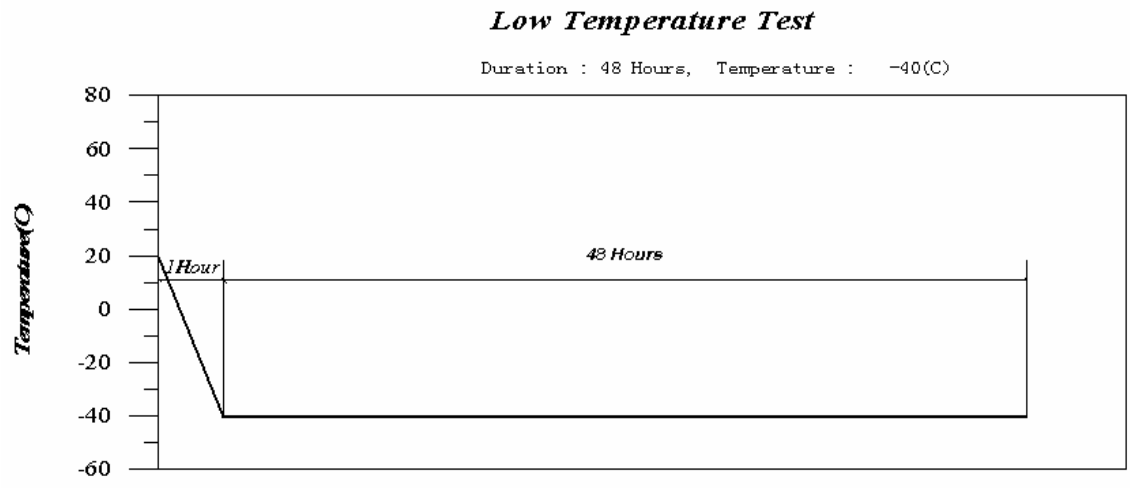
5.2 Temperature Cycling

The antenna is placed in the temperature chamber with -40 for 3 hours and measured after taking out of chamber. After that, the antenna is again placed in the temperature chamber with +70ºC for 3 hours and measured after taking out of chamber.

The antenna shall not be any visible damage and it shall meet electrical spec.

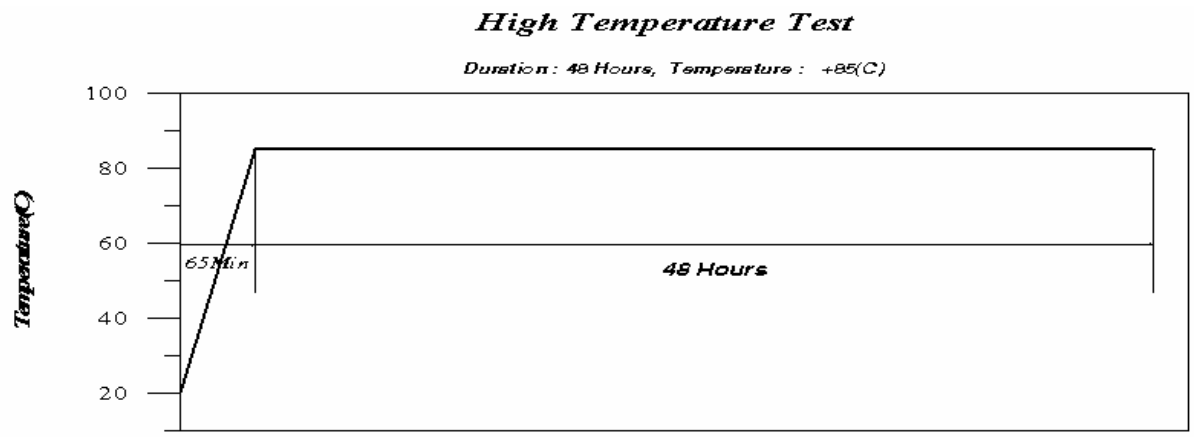
5.3 Low Temperature Test

The antenna is placed in the temperature chamber with -40ºC for 46 hours and measured after taking out of chamber. The antenna shall not be any visible damage and it shall meet electrical spec.



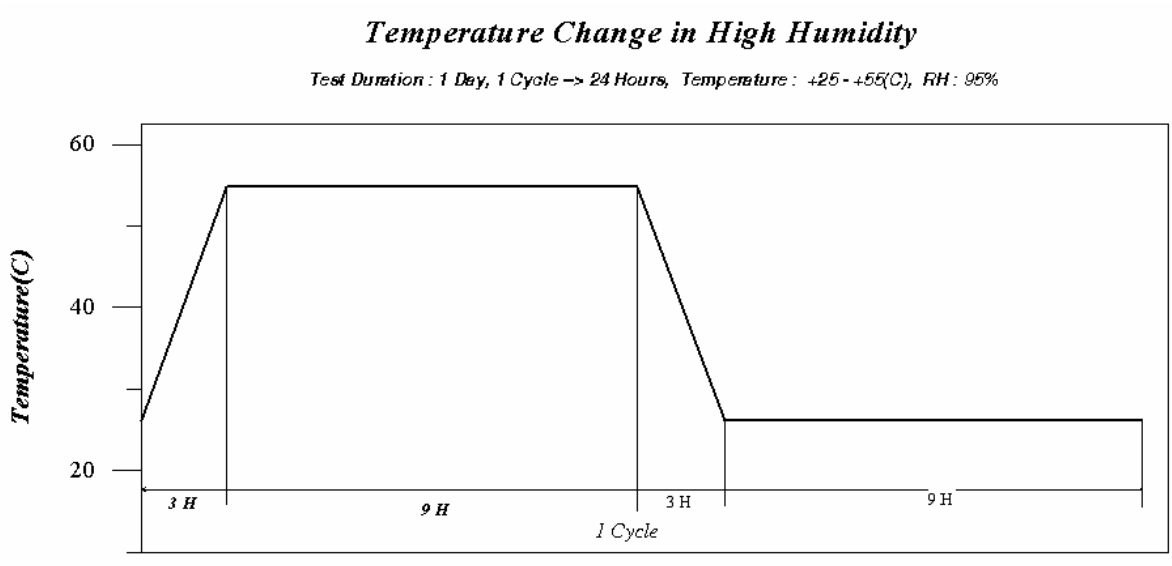
5.4 High Temperature Test

The antenna is placed in the temperature chamber and tests it under below condition and measured it after taking out of chamber. The antenna shall not be any visible damage and it shall meet electrical spec.



5.5 Humidity Test

The antenna is placed in the temperature chamber and tests it under below condition and measured it after taking out of chamber. The antenna shall not be any visible damage and it shall meet electrical spec.



5.6 Vibration Test

The antenna shall withstand 2G's RMS(10Hz - 150Hz - 10Hz / 1cycle) with 0.5 octave/min, 12cycles in X,Y,Z direction.

No appearance or function changes shall be found after the test.

5.7 Salt Spray Test

The antenna shall be exposed for 48 hours at +35ºC to a 5% Sodium Chloride fog and have no appearance or function changes after the test.

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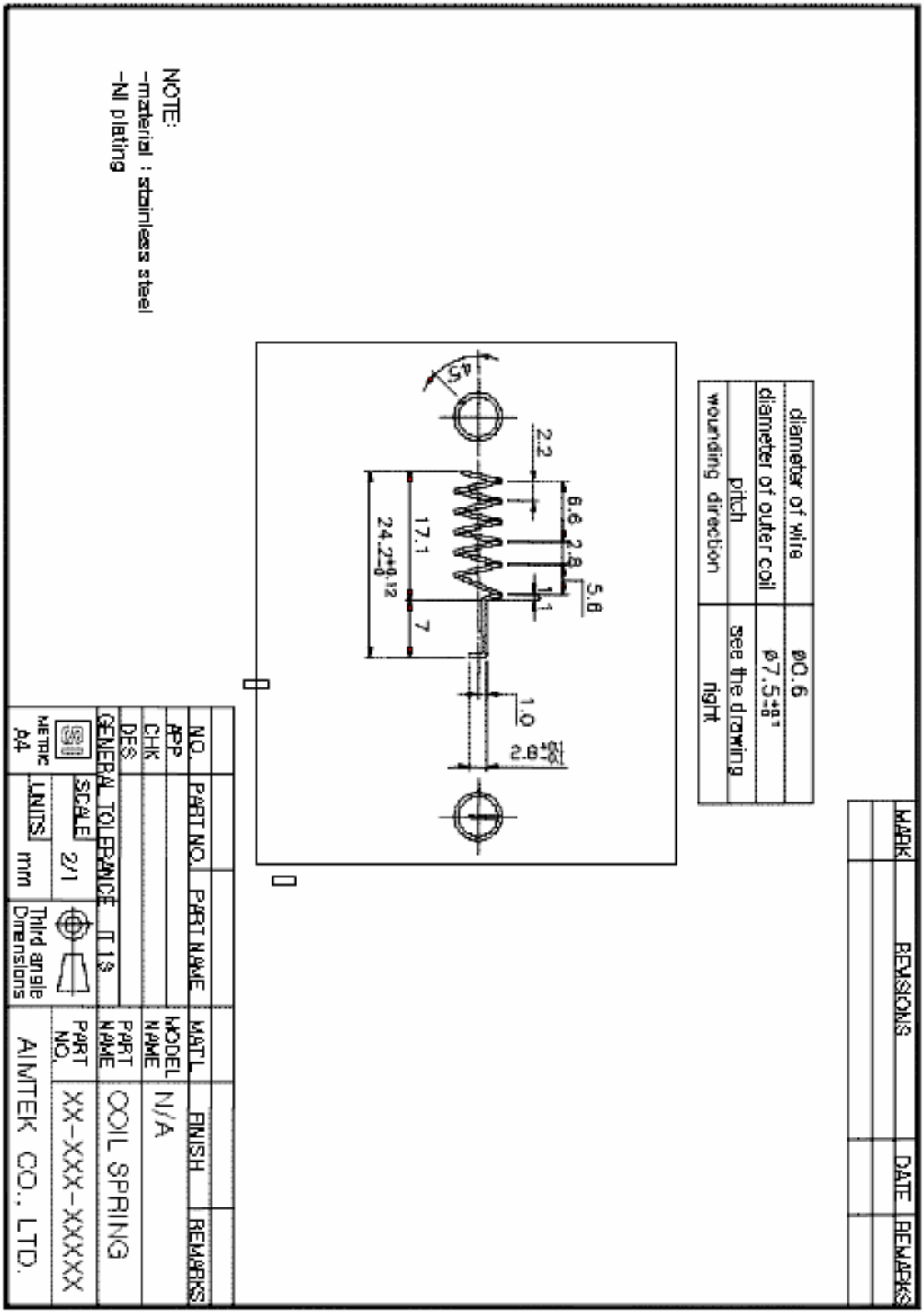
Ⅰ.Drawing



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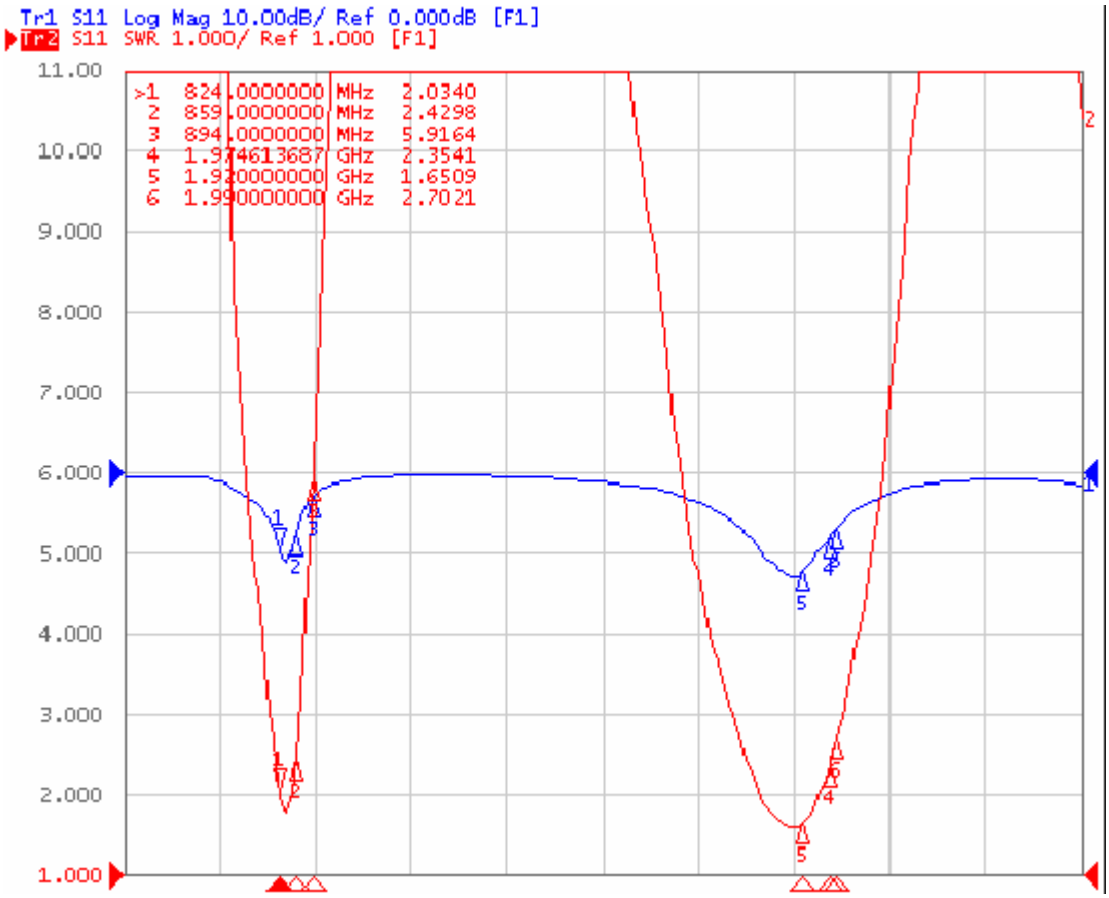
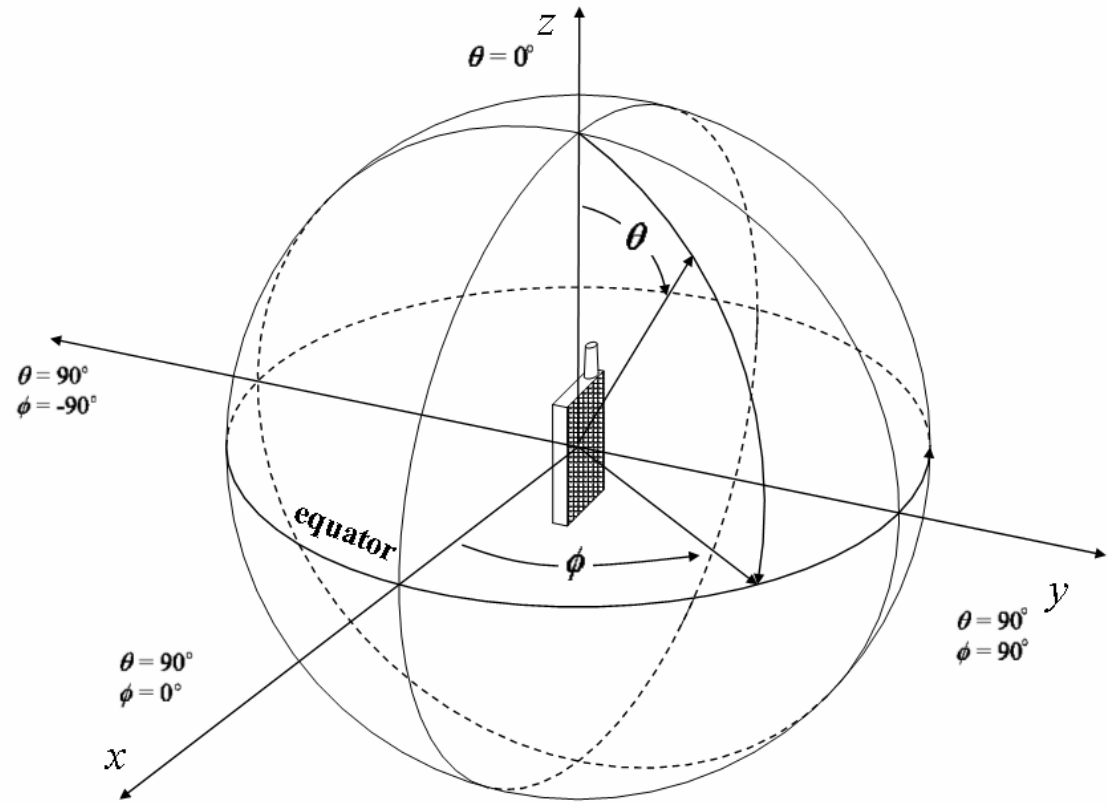
Ⅱ. V.S.W.R.



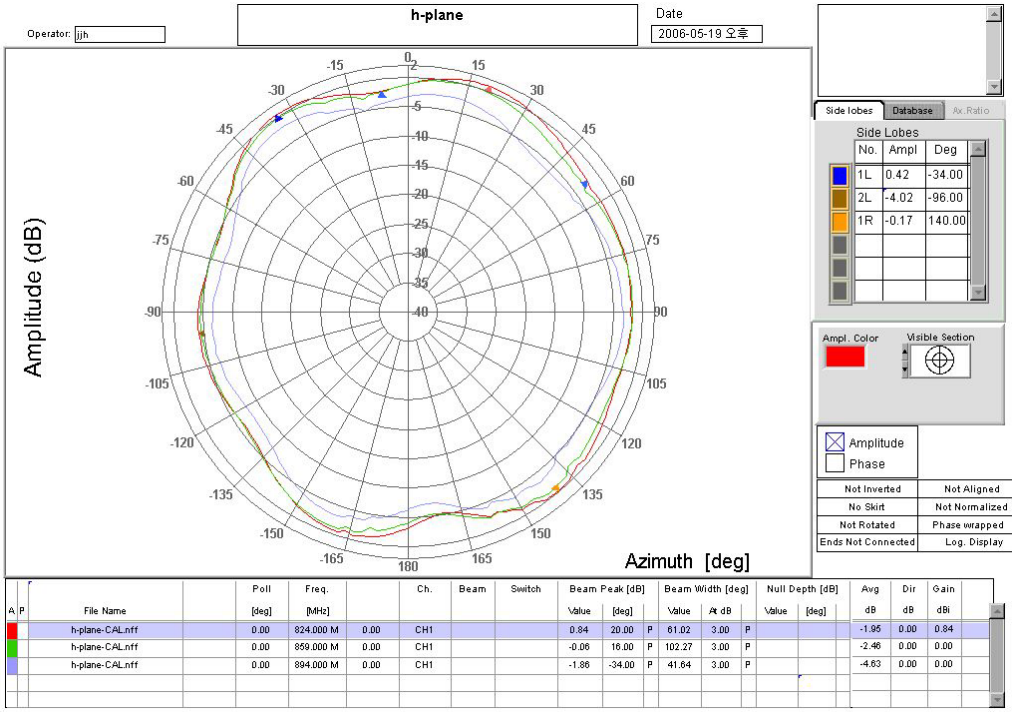
Ⅲ.Radiation pattern

Ⅲ-1. Standard spherical coordinate system used in measurement



Ⅲ-2. Radiation pattern of the antenna

a. Co-polarized pattern in cellular band



x-y plane

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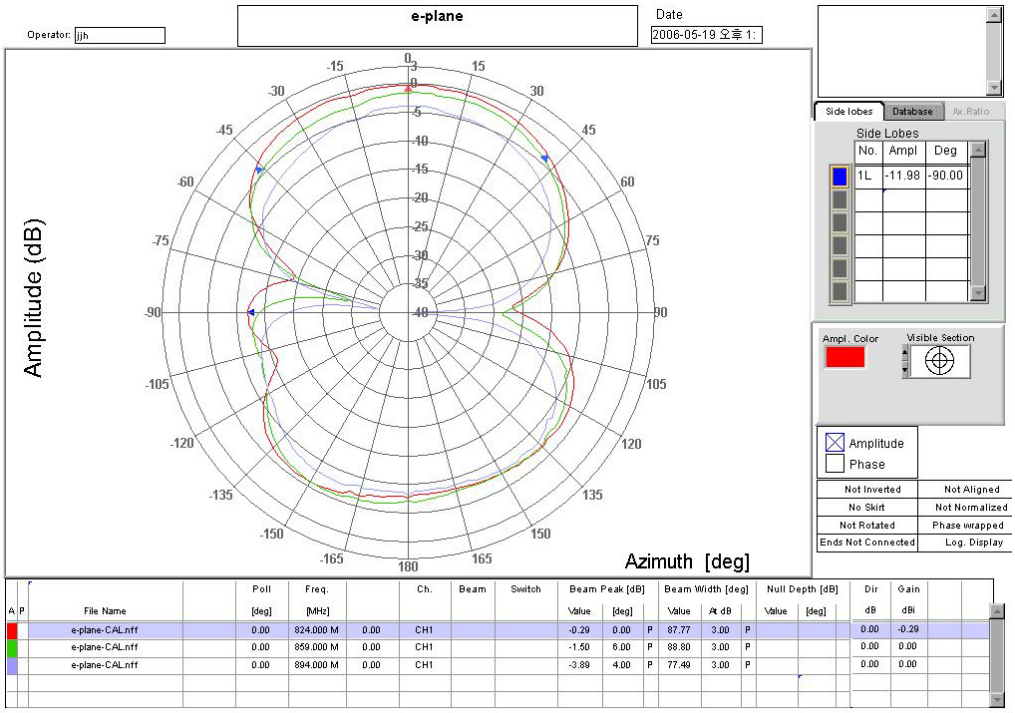
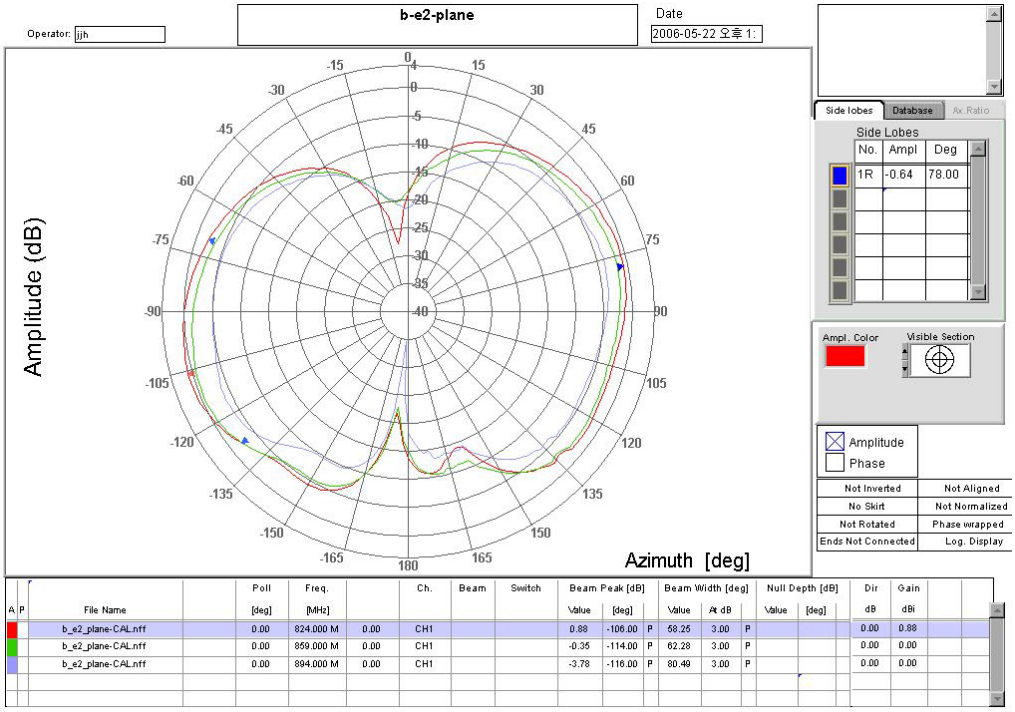
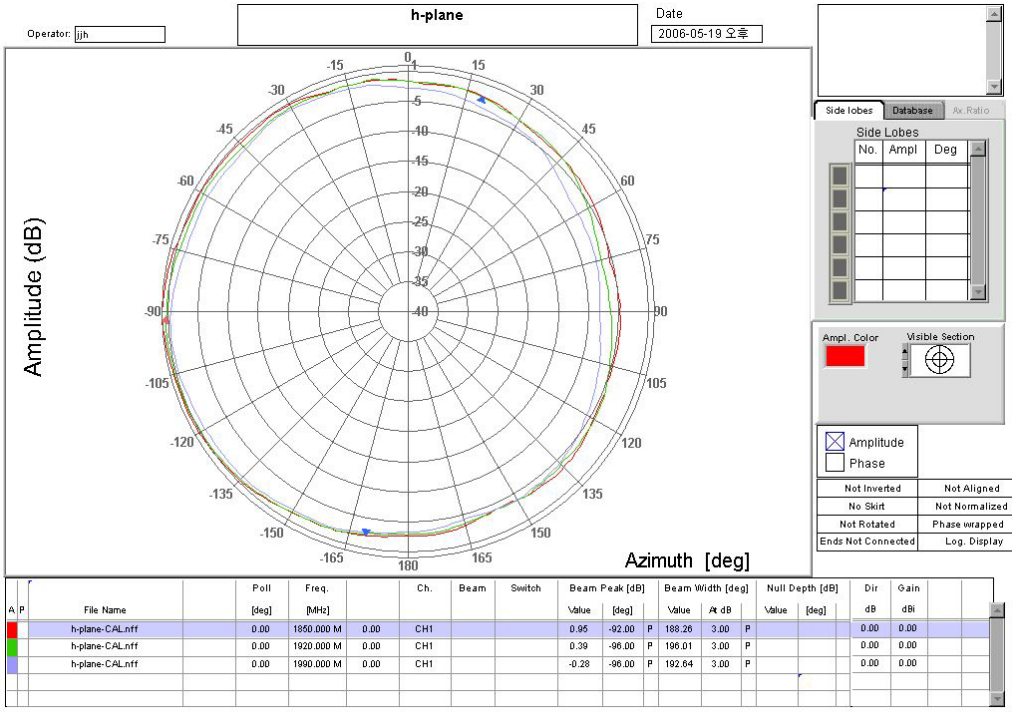


y-z plane

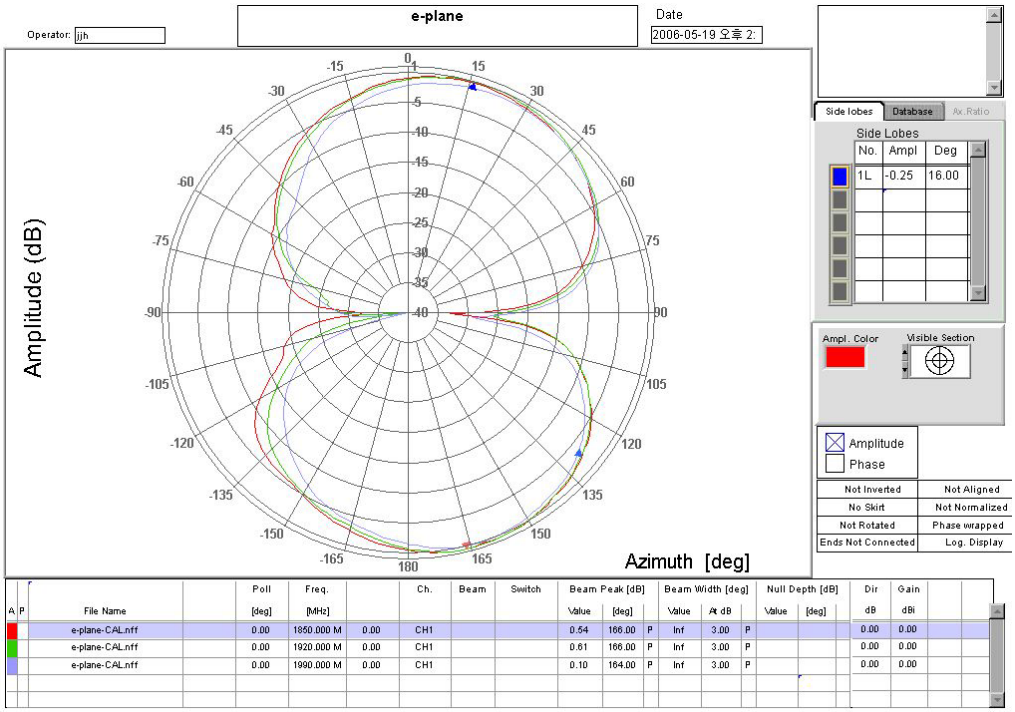


z-x plane

b. Co-polarized pattern in PCS band



x-y plane



y-z plane

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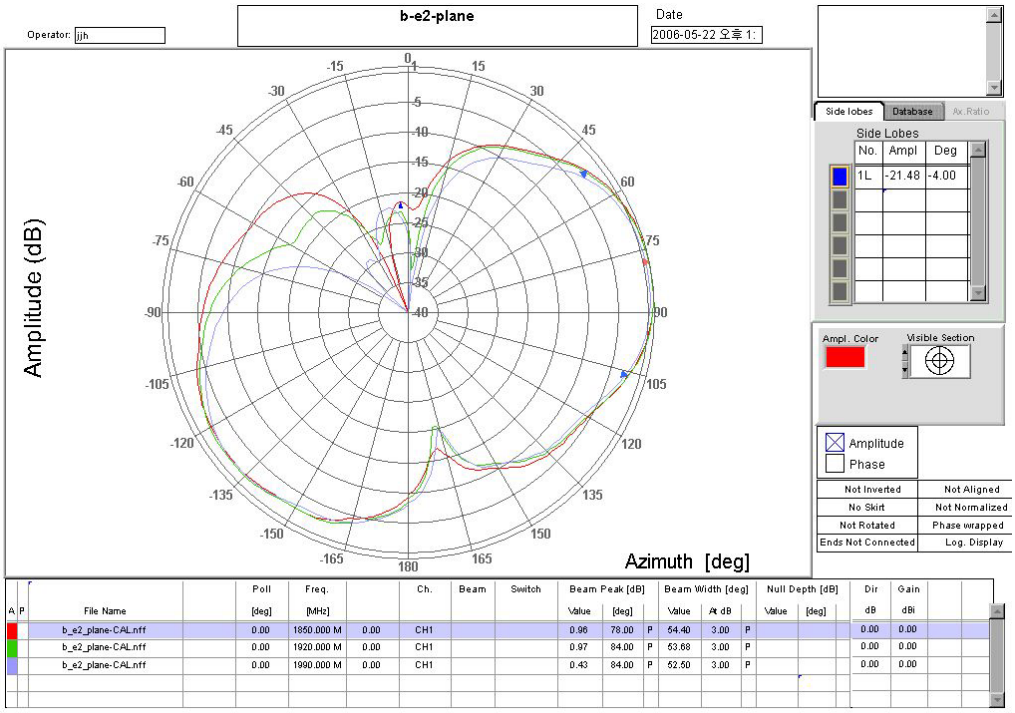

z-x plane