

SCH-800 ANTENNA SPECIFICATION



ACE TECHNOLOGY

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1. Technical Items

1.1 Specifications

1.1.1 Electrical Spec.

Electrical Spec.			
Frequency Range		824 ~ 849MHz	869 ~ 894MHz
GAIN	EXTENDED	0 dBd	0 dBd
	RETRACTED	-3 dBd	-3 dBd
V.S.W.R	EXTENDED	less than 1.7:1	less than 1.7:1
	RETRACTED	less than 3.3:1	less than 1.7:1
IMPEDANCE(Nominal)		50 ohms	
POLARIZATION		VERTICAL	
RADIATION PATTERN		OMNI-DIRECTIONAL	
MAXIMUM POWER		2 W	

1.1.2 Mechanical Spec.

Mechanical Spec.	
CONNECTOR	SCREW(M5×P0.5)
OVERALL LENGTH	SEE DRAWING
OPERATING TEMPERATURE	-20 °C ~ +70 °C
WEIGHT	4.99g(including GUIDE TUBE)

1.1.3 Packing Spec.

Packing Spec.			
PRODUCT	QUANTITY	MATERIAL	NOTE
TRAY	50 EA	P.S	–
INNER BOX	350 EA	SW 2 type (A corrugated paper)	more than 17.4kgf/50mm (at vertical pressure)
CARTON BOX	700 EA	DW 2 type (AB corrugated paper)	more than 25.4kgf/50mm (at vertical pressure)

2. Test Equipments

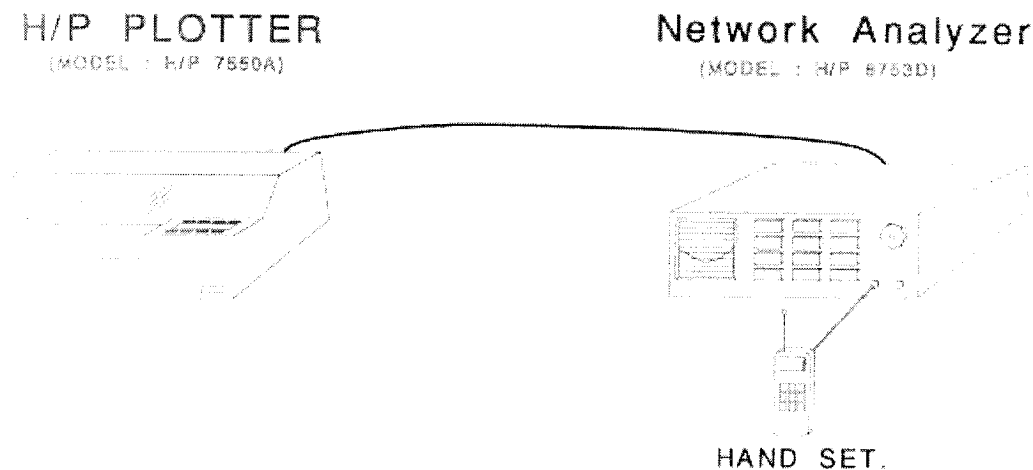
The equipments for antenna test are as follows

- Network Analyzer to measure the V.S.W.R and impedance of antenna
- Spectrum Analyzer to measure the receiving signal intensity
- Standard dipole antenna that is adjustable in the cellular band
- Anechoic Chamber installed the cables, connectors and equipments for measurement
- Digimatic Caliper to measure the dimensions
- Torque Driver to measure the torque force of the helix
- Push/Pull gauge to measure the pulling force
- Equipment to measure the retraction and extension force consistency
- Climatic Chamber for environmental test

3. Electrical Demands

3.1 V.S.W.R

The V.S.W.R characteristics must satisfy the electrical demands. When the antenna is extended, the V.S.W.R of antenna must be less than 1.7:1 in the Tx and Rx band in the free space. When the antenna is retracted, the V.S.W.R of antenna must be less than 3.3:1 in the Tx band and less than 1.7:1 in the Rx band in the free space.

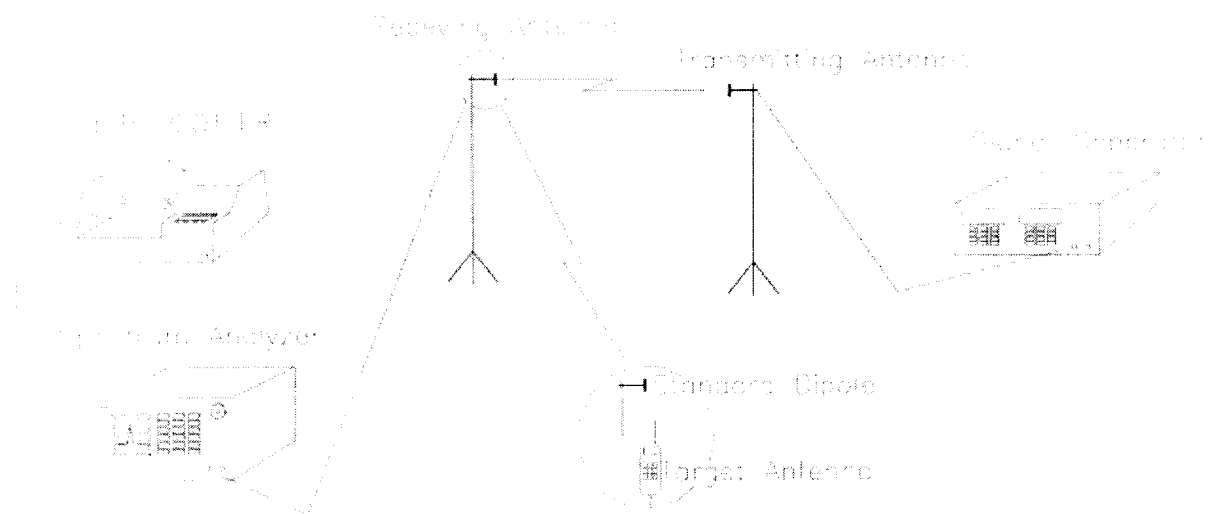


3.2 Radiation Pattern

The radiation pattern must have the omni-directional characteristic in the extended and retracted state.

3.3 Gain

The gain is expressed as dBd that standardizes the half-wavelength dipole antenna. The maximum gain must be 0 dBd in the extended state and -3 dBd in the retracted state.



4. Mechanical Demands

4.1 Dimensions

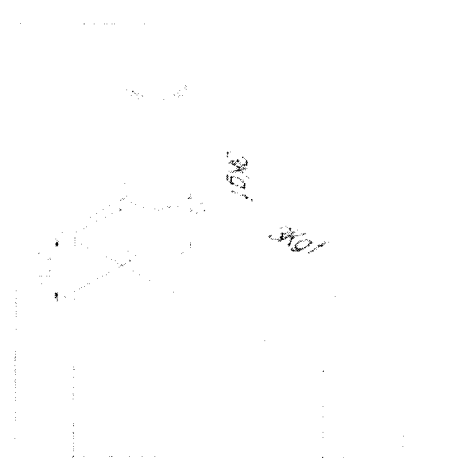
See the drawing.

4.2 HELIX deformation test

The antenna is assembled to the test equipment. A 3 kgf force is applied perpendicular and horizontal to the antenna 10 mm above the bottom of the HELIX.

After the test, no visual deterioration shall occur and the cover and frame shall remain mechanically bonded.

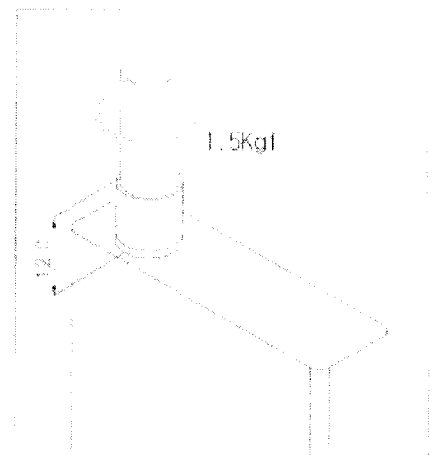
After the test, the antenna shall satisfy the electrical demands.



4.3 Torque Test

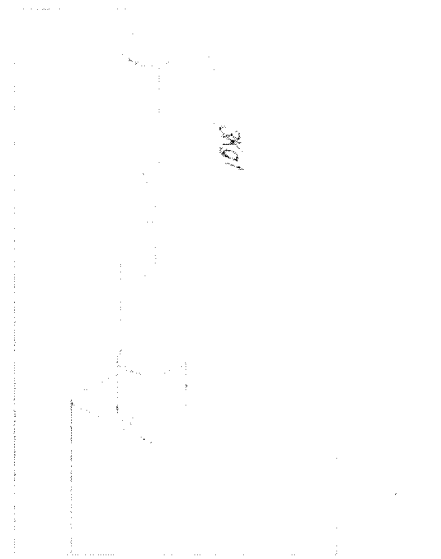
The antenna is assembled to the test equipment. A 1.5 kgf force is applied to the antenna 12 mm above the bottom of the HELIX in clockwise direction. After the test, no visual deterioration shall occur and the part of the cover and the frame shall remain mechanically bonded.

After the test, the antenna shall satisfy the electrical demands.



4.4 Pulling force test

The antenna is assembled to the test equipment. A 3 kgf force is applied to the antenna during 30 seconds. After the test, no visual deterioration shall occur and the knob and wire shall remain mechanically bonded. After the test, the antenna shall satisfy the electrical demands.

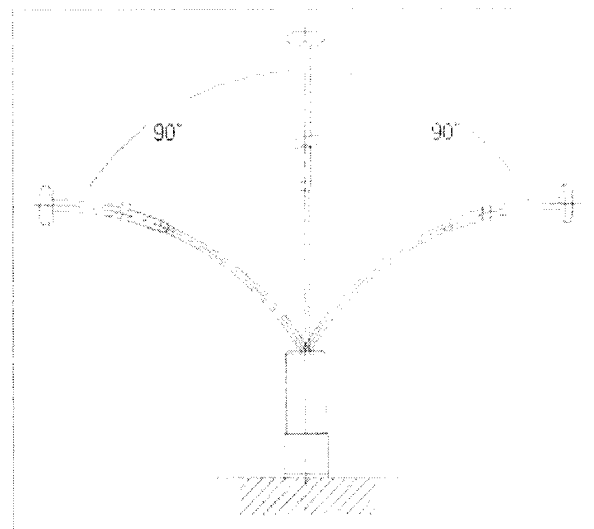


4.5 Drop test

The antenna is attached to the handset. In various directions, the handset is dropped with the antenna downwards onto the surface of an iron plate 19 times at 152 cm height and 12 times at 120 cm height. After the test, the original shape shall be possible to restore. The antenna shall satisfy the electrical demands.

4.6 Bending endurance

The antenna is assembled to the test equipment in vertical extended state. The antenna is bent 90° left and 90° right. This is repeated 400 times. No visual deterioration shall occur during the test. The antenna shall satisfy the electrical demands.



5.Environmental Demands

5.1 Operating Temperature

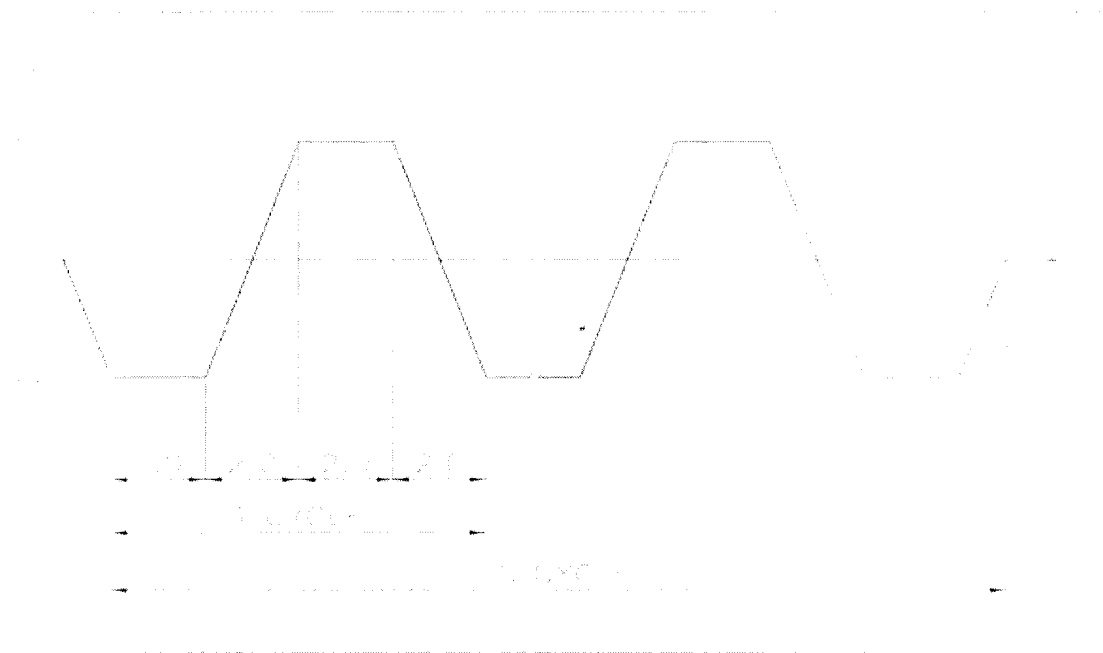
The antenna is placed in a climatic chamber at temperature -20°C . The antenna is taken out after 1 hours, and the V.S.W.R is immediately measured.

The antenna is placed in a climatic chamber at temperature $+70^{\circ}\text{C}$. The antenna is taken out after 1 hours, and the V.S.W.R is immediately measured. No visual deterioration shall occur and the antenna shall satisfy the electrical demands after the test.

5.2 Temperature cycling

The antenna is placed in a climatic chamber. The temperature is cycled as follows. The temperature is kept constantly at -40°C for 2 hours, increased to $+85^{\circ}\text{C}$ during 2 hours, kept constantly $+85^{\circ}\text{C}$ for 2 hours and then decreased to -40°C during 2 hours. This procedure is repeated 10 times, ending at 20°C (room temperature).

No visual deterioration shall occur and the antenna shall satisfy the electrical demands during the test. The antenna must satisfy the mechanical demands, according to 4.2, 4.3, 4.4, 4.5, after the test.



5.3 Humidity

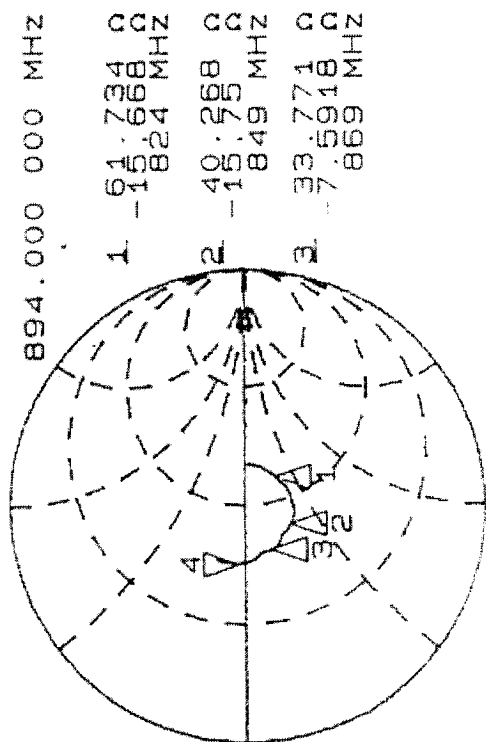
The antenna is placed in a climatic chamber that the humidity is 95% and temperature +55°C for 24 hours. The antenna is taken out from the chamber and measured after another 24 hours in room temperature. No visual deterioration shall occur. The antenna shall satisfy the electrical demands.

CH1	AFL	SWR	1 / REF	1	4311.6564

[illegible]

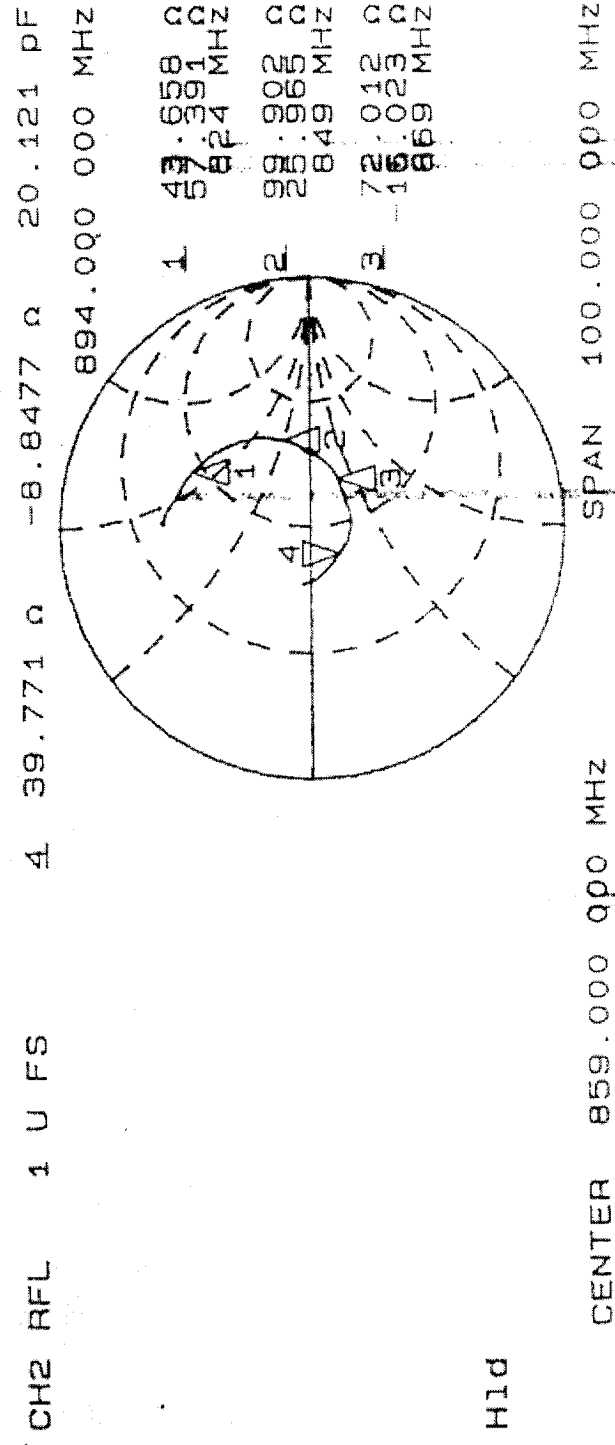
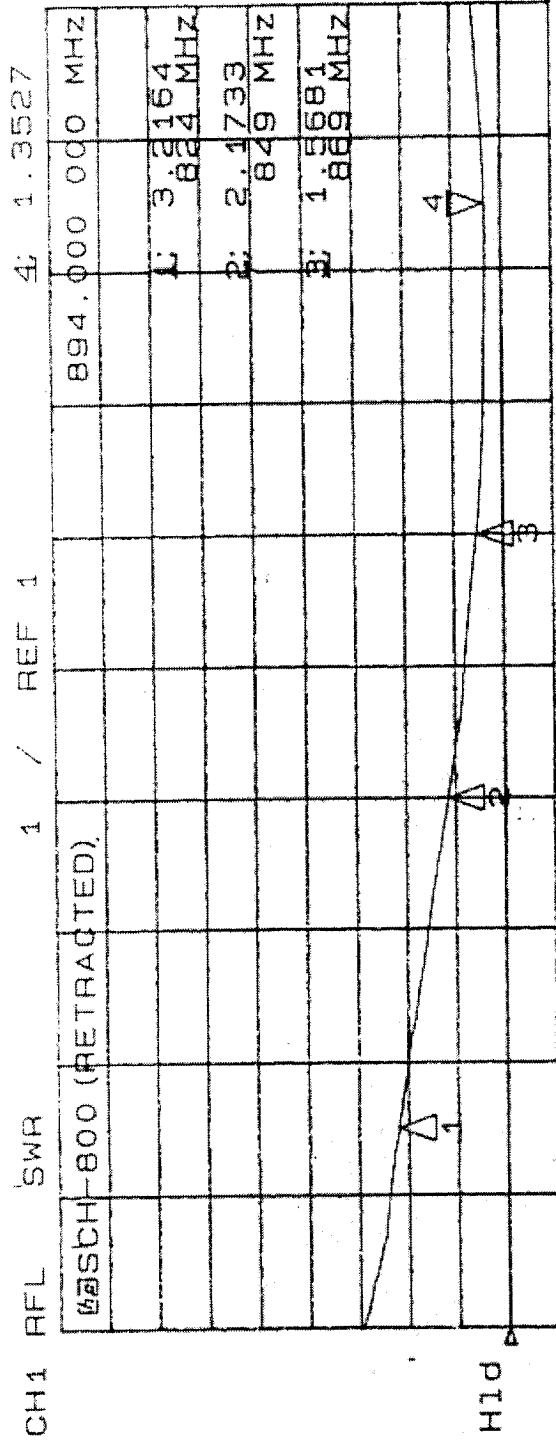
PTI

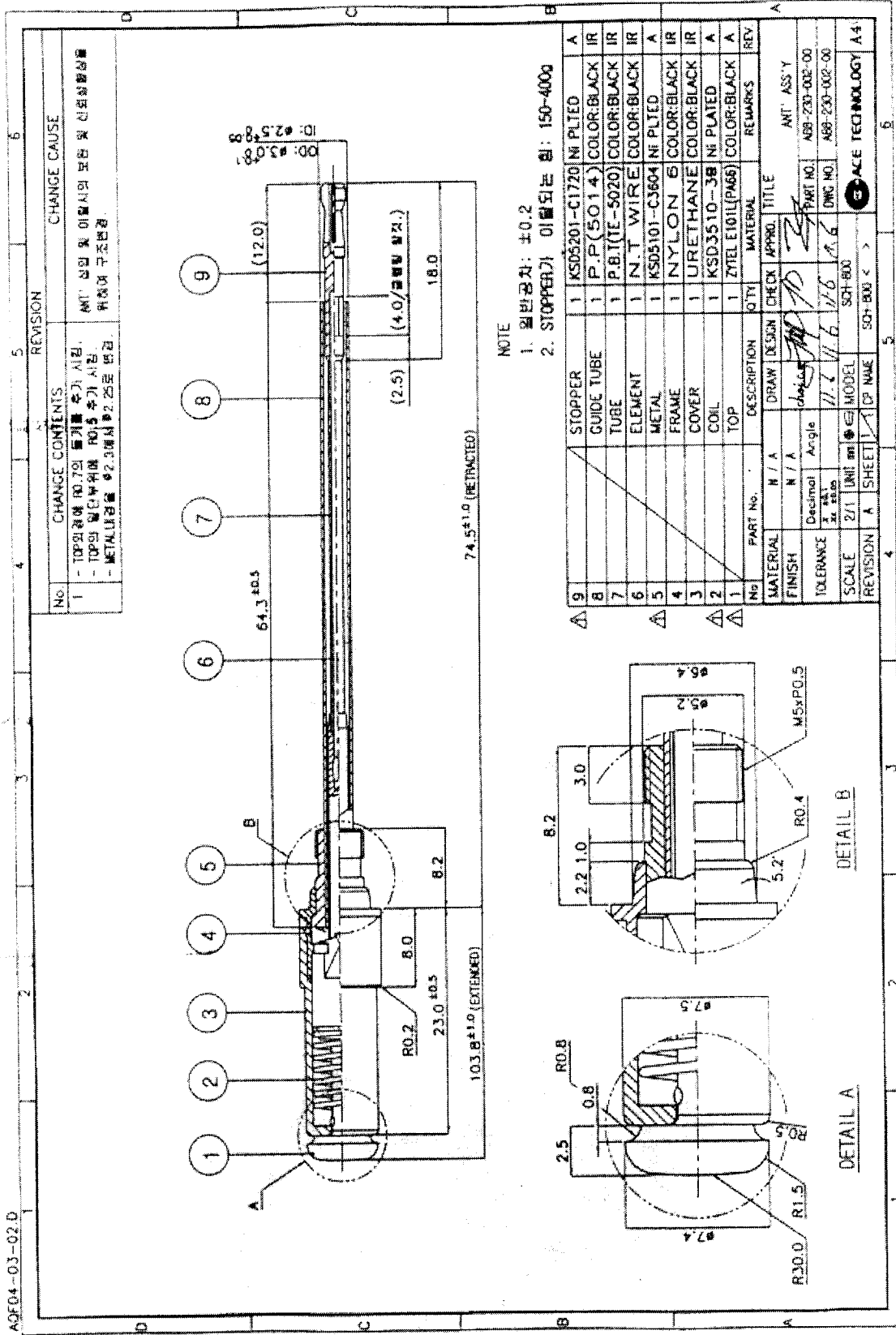
CH2 RFL 1 U FS 4 30.263 2.043 363.7 pH
894.000 000 MHz



DLH

CENTER 859.000 000 MHZ
SPAN 100.000 000 MHZ





NOTE

1. 일반공차: ± 0.2
2. STOPPER가 이탈되는 힘: 150-400g

CHANGE CAUSE

NO.	CHANGE CONTENTS	REVISION
1	- TOP외경에 10.7의 불거림 추가 시임. - TOP의 밑단부위에 R0.5 추가 시임. - METAL내경을 2.3에서 2.25로 변경.	5

DETAIL B

DETAIL A

REVISION	A	SHEET	1	OF	NAME	DATE	SCALE	UNIT	MODEL	QTY	NO.	REV

FINISH	MATERIAL	APPRO.	TITLE	ANT	ASS'Y

TOLERANCE	Decimal	Angle	Part No.	Part No.	Part No.

SCALE	2/1	UNIT	mm	mm	mm

REVISION	A	SHEET	1	OF	NAME	DATE	SCALE	UNIT	MODEL	QTY	NO.	REV

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