Antenna Gain (Peak Value)

	Extended (Whip)	**Retracted (Helical)**
AMPS	+2.2	+0.7
PCS	+1.6	+1.0

(Unit: **dBi**)

Retractable Antenna Performance(Proposal)

1. Description : Retractable whip type hand portable Cellular antenna

2. Your Part Number :

3. Model Name : AMPS/PCS

4. Appearance and Architecture : As on drawing.
There should be no damage on outside appearance such as scratch, dirt or plating at the beginning.

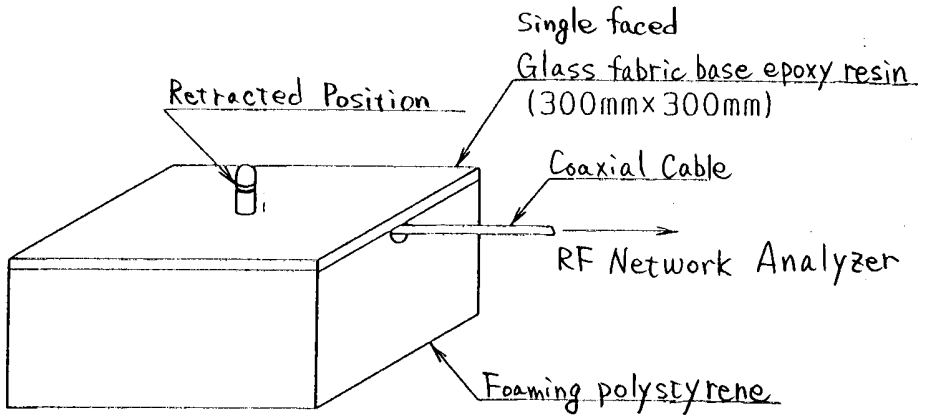
5. Electrical Characteristics

5-1. Contact Resistance :
Extended position, Holder-Stopper : MAX. 1Ω
Retracted position, Holder-Top plug: MAX. 1Ω

5-2. Operating Frequency Range : 824 - 894 MHz(Fre. 1)
1850 - 1990 MHz(Fre. 2)

5-3. VSWR : Within operating frequency, fixed to requested body.
Within Fre. 1
Extended position MAX. *. *
Retracted position MAX. *. *
Within Fre. 2
Extended position MAX. *. *
Retracted position MAX. *. *

Dispatch inspection will be as following.
Resonant frequency to be within **± ** MHz and return loss should be MIN. *dB in resonant frequency when the antenna is retracted and mounted to 300×300 mm earth plate.



MS9806D-M00E

APPROVED	INSPECTED	DESIGN
Y. Izumi	T. Tokunaga	M. Shimabara
12/6/'98	12, Jun. '98	12, Jun, '98

NIPPON ANTENNA

5-4. Maximum Gain : Within operating frequency, fixed to requested body.
Within Fre. 1
Extended position *.* dBi
Retracted position *.* dBi
Within Fre. 2
Extended position *.* dBi
Retracted position *.* dBi

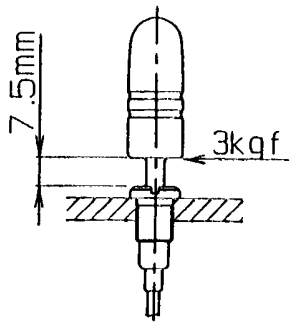
6. Mechanical Characteristics

6-1. Extension and Retraction Initial Force :
Holder-Top plug:200-620 gf
Holder-Stopper :200-620 gf
It will be 200-600 gf at dispatch inspection.
It will be 100-620 gf after the test.

6-2. Extension and Retraction Force of Antenna Element :
After 10,000 cycles at 30 times/min : MIN. 100gf

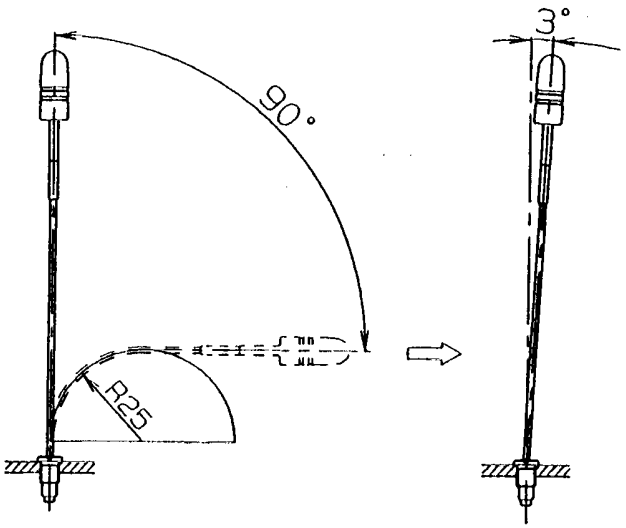
6-3. Pulling Force :
10 kgf of pulling force to be added for 10 seconds for the direction of axial under condition of antenna element fully extended.
After the test, 5-2 and 6-1 to be satisfied.

6-4. Break Strength :
Fix the holder and pull out the top part of the antenna 7.5 mm from the holder surface.
On this condition put 3 kgf force against the antenna element vertical axis for 5 seconds.
Top part and Top plug must not break. But bending to be allowed.



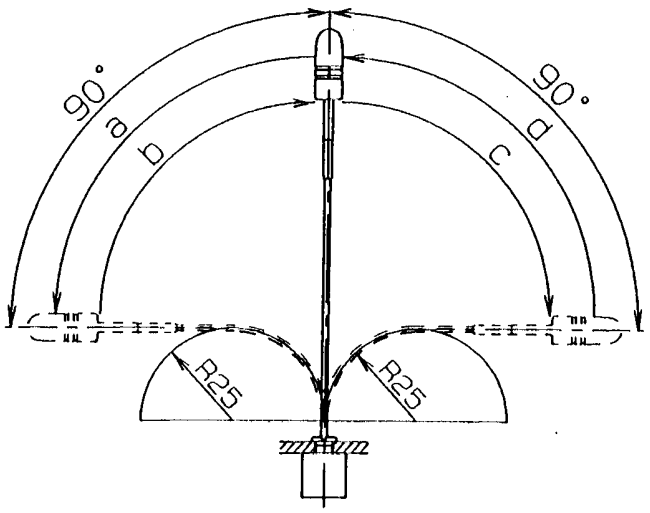
6-5. Bending Force :

MAX. 3 degree of bending deformation is accepted when antenna element is rolled on 25 mm radial of cylinder and bent to direction of 90 degrees, and return by itself
under condition of antenna element fully extended as following.



6-6. Anti-Cleep Age Performance :

No creep to be found after 1,000 cycles of bending test under condition of following.
But bending deformation is accepted. Roll the antenna element on 25 mm radial cylinder
and bend the antenna to direction of 90 degrees each of right and left.
One cycle is a-b-c-d,
and operation cycle is 20 cycles/min.



6-7. Shock Resistance :
5-2 and 6-1 to be satisfied after spontaneous drop from 150 cm hight to plastic tile floor under the
condition of antenna element fully retracted with upside down position.
Top part scratch, whitening,
deformation and bending of top plug to be acceped.
This is on the assumption that your body is Max. 100g and has the same antenna protection as PDC on your body.

6-8. Holder Strength :
Not to break after putting 8kgfcm of fixing force to your body.

6-9. Rotary Holding Power of Collet Spring :
Insert stopper at the holder and rotate, collet spring must not rotate against the holder.

7. Environmental Resistance

7-1. Vibration Resistane :
5-2 and 6-1 to be satisfied after 5-150 Hz of vibration test to three directions under the condition of
antenna element fully retracted also the following.
Acceleration : 3G constant.
Sweep : 20 minutes.

7-2. Humidity Resistance :
5-2 and 6-1 to be satisfied after humidity test under condition of antenna element fully retracted
also the following.
Leave for 96 HRS. under condition of 40±2℃, 90-95% then leave for 2HRS. at room temperature
after removing moisture.

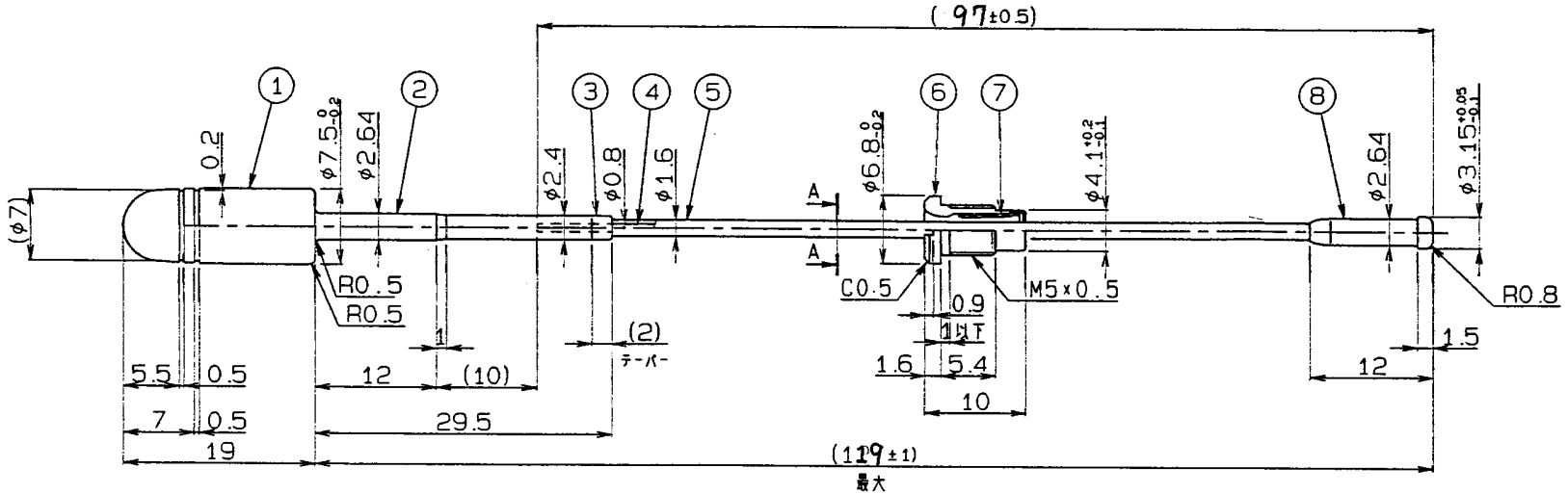
7-3. Working Temperature :
No fault is required at 5-2 and 6-1 under -20 - +60℃.

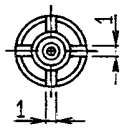
7-4 Survival Temperature :
No parmanent deformation is required under -40 - +85℃.
Bending of element to be allowed on storage condition of element retracted to your body.

図面を実測しない事

DO NOT SCALE DRAWING

形式	AMPS/PCS





A-A

指示なき公差 ±0.2

ねじ部は 3級ねじゲージ合格のこと

アンテナ長は実験結果により変更の場合あり。

ITEM	部番 名称 DESCRIPTION	QUANTITY 個数	MATERIAL TREATMENT 材質・処理	PART DRAWING NO. 部品図番	NOTE 備考
9	ストッパー	1	C3602B · MBCr		
7	コレットスプリング	1	C5191-1/2H·MBNi		
6	ホルダー	1	ZDC · MZNi		
5	チューブ	1	PBT		黒
4	エレメント	1	Ni-Ti		
3	ジョイント	1	ナイロン		黒
2	トッププラグ	1	C3602B · 黒Cr		
1	トップ	1	ABS		黒

RANGE	寸法の区分 COMMON TOLERANCE			
≦ 10	±0.1	±0.2	±0.4	±
≦ 25	±0.15	±0.3	±0.6	±
≦ 80	±0.25	±0.5	±1.0	±
≦ 250	±0.4	±0.8	±1.5	±
≦1000	±1.0	±2.0	±6.0	±

SYM 符号	DATE 日付	REVISION RECORD 変更記事	DESIGNED 担当	APPROVED 承認
△				
△				
△				
△				
△				

SCALE 尺度	DESIGNED 担当	DRAWN 製図	INSPECTED 検図	APPROVED 承認	DESCRIPTION 品名
R 2:1	嶋原 H10.6.15	嶋原 H10.6.10	徳永 H10.6.10	H10.6.10	外観図（案）

DIM 単位	WEIGHT 重量
m·m	

日本アンテナ株式会社
NIPPON ANTENNA CO., LTD.

DRAWING NO. 図番 MS9806C-H00

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