

A-120



1.0 CONFIGURATION

1.1	RF Cable	RG174 , $\psi 2.7 \pm 0.3\text{mm}$, Black	
		Cable Length	5m \pm 5cm
1.2	RF Connector	SMA (M)	

2.0 SYSTEM

This antenna system consists of two functional blocks, the LNA portion and the patch antenna.

3.0 GENERAL

1- ENVIRONMENTAL CONDITIONS

3.1.1	Operation Temperature	-40	to + 90
3.1.2	Storage Temperatur	-40	to + 100
3.1.3	Relative Humidity	10% to 95%	

2- ELECTRICAL SPECIFICATIONS

3.2.1	Input Voltage	Min:2.5V	Max:5.5V
3.2.2	Power Consumption	At 3.0 V	Typ.: 9.0mA. Max: 15mA.
		At 4.0 V	Typ.: 11mA. Max: 15mA.

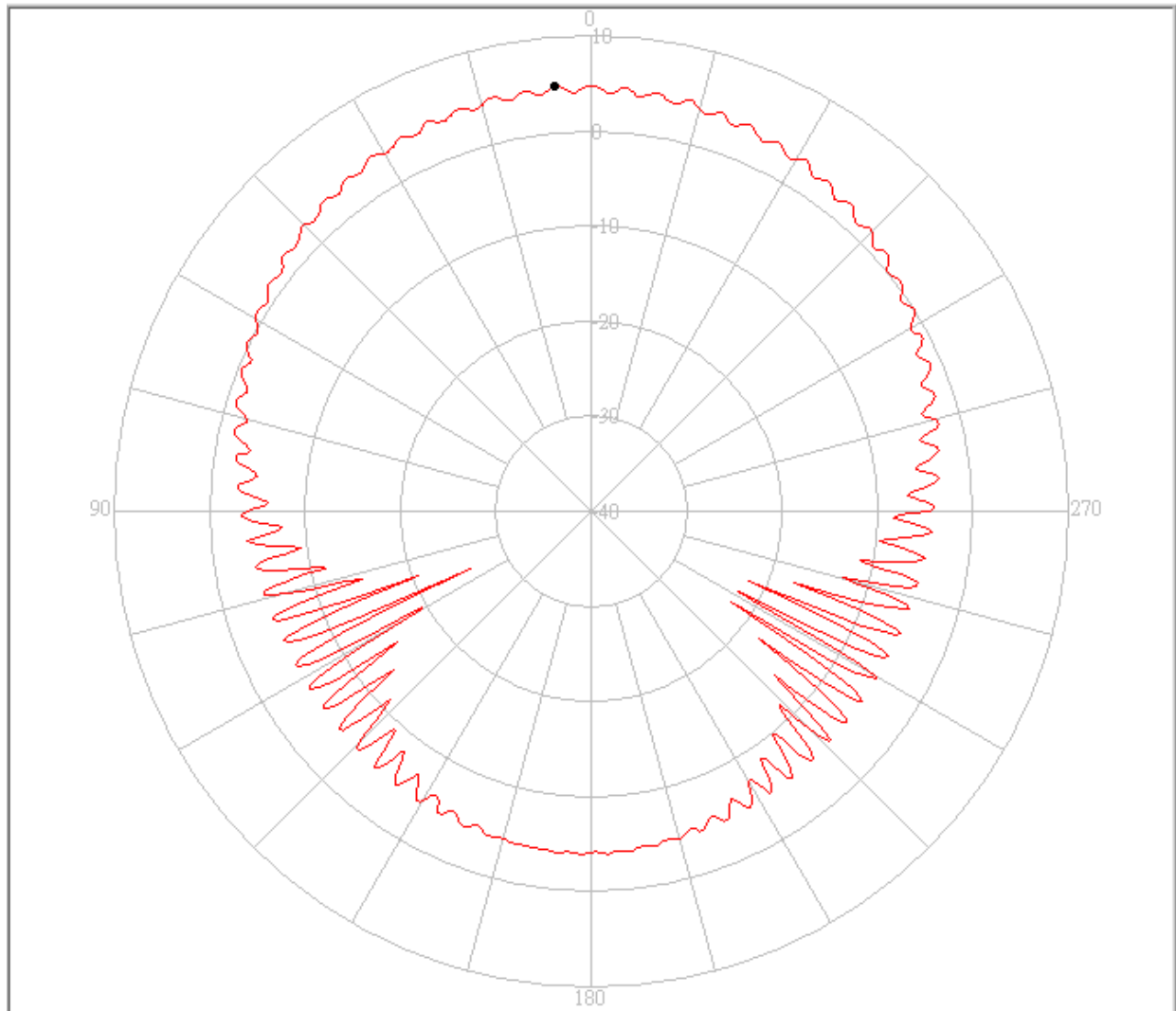
3- MECHANICAL SPECIFICATIONS

3.3.1	4- Mounting	Magnet mount.
3.3.2	Horizontal Pulling Force of Magnet	1.5 Kg Min.
3.3.3	Shock	10msec. Half sine wave.
3.3.4	Vibration	10~200Hz Log. Sweep 3.0G sweep time: 15 Minutes, 3 Axes.
3.3.5	Magnet Threshold	The antenna must stay attached to the vehicle, at a speed of 180 km/h.
3.3.6	Cable Pulling Off Force	5- Min At room temperature Min 7Kg /10sec. Apply 7Kg /10sec pulling force between the cable and the antenna unit, no visible damage shall appear on the cable and connector.
3.3.7	Bending Test	After bending 90° right and left for 1,000 cycles, no permanent damage were found.
3.3.8	Weight	105g Max.
3.3.9	Dimension	See Fig. 2

4.0 ANTENNA

4.1	Frequency Range	1575.42 ± 1.023 MHz.
4.2	Gain	90° : 5.0 dBi Min. 10° : -1.0 dBic Min. Mounted on the 60mm*60mm ground plane.
4.3	Polarization	RHCP
4.4	Axial Ratio	90° : Typ 1.0dB Mounted on the 60mm*60mm ground plane.

Antenna Gain Chart:



Pattern	Model No.	Test Mode	Freq(MHz)	Peak Gain(dBi)	Peak angle	Avg. Gain(dBi)	Source Polar.	Date
1	DA1575	Axial Ratio	1575.40	4.82	4.97	-0.48	CP	2005/4/2

5.0 LNA

5.1	Frequency Range	1575.42 ± 1.023 MHz
5.2	MMIC Gain	27 dB Typ
5.3	Noise Figure	1.5 dB Max. (+25 ± 5) 1.8 dB Max. (+85)

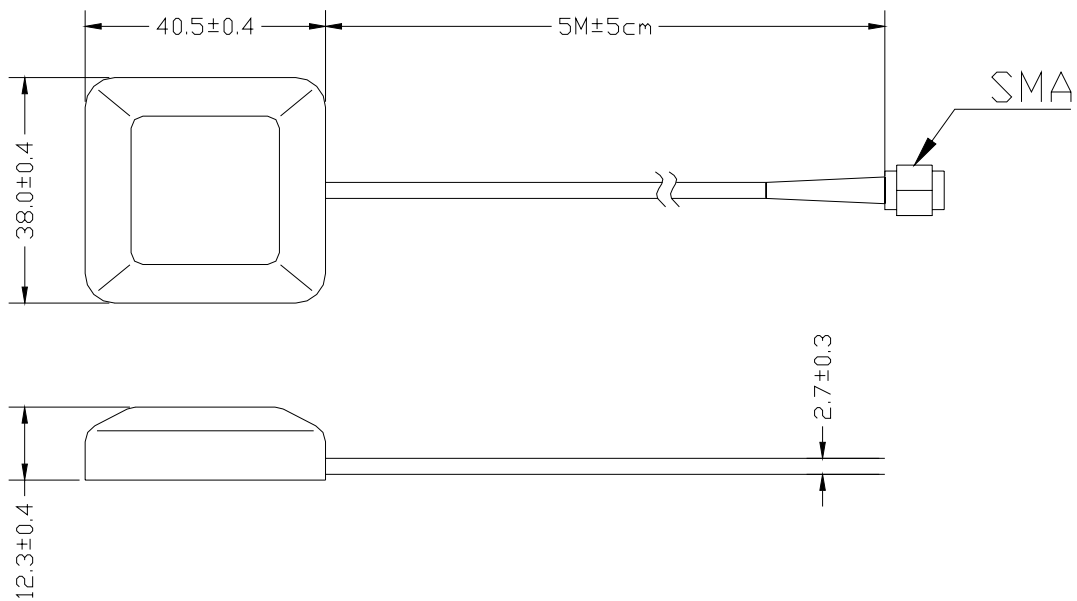
5.4	Out Band Rejection	$f_o = 1575.42\text{MHz}$ $f_o \pm 20\text{ MHz}$ 7dB MIN $f_o \pm 30\text{ MHz}$ 12dB MIN $f_o \pm 50\text{ MHz}$ 20dB MIN $f_o \pm 100\text{ MHz}$ 30dB MIN
5.5	Output Impedance	50Ω
5.6	Output VSWR	2.0 Max

6.0 TOTAL SPECIFICATIONS (Through Antenna, LNA, Cable and Connector)

6.1	Frequency Range	1575.42 ± 1.023MHz
6.2	Gain	At 90° 31 ± 3dBi – (cable loss) Note:1 mounted on the the 60mm*60m ground plane
6.3	Output Impedance	50Ω
6.4	VSWR	2.0 Max

Note 1: Cable Loss = Max.(-1.2dB / m)

7.0 OUTLINE



Unit:mm