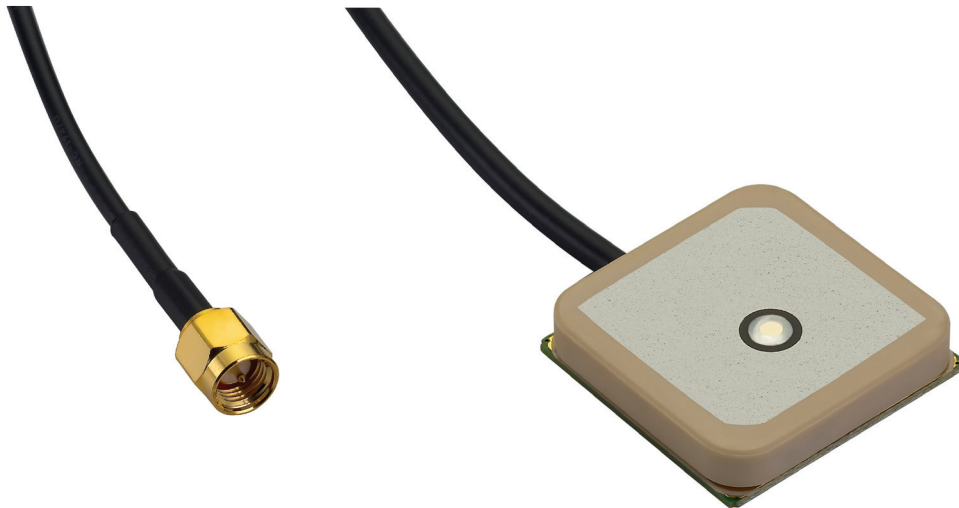




AP.25J.01.10000D

Specification

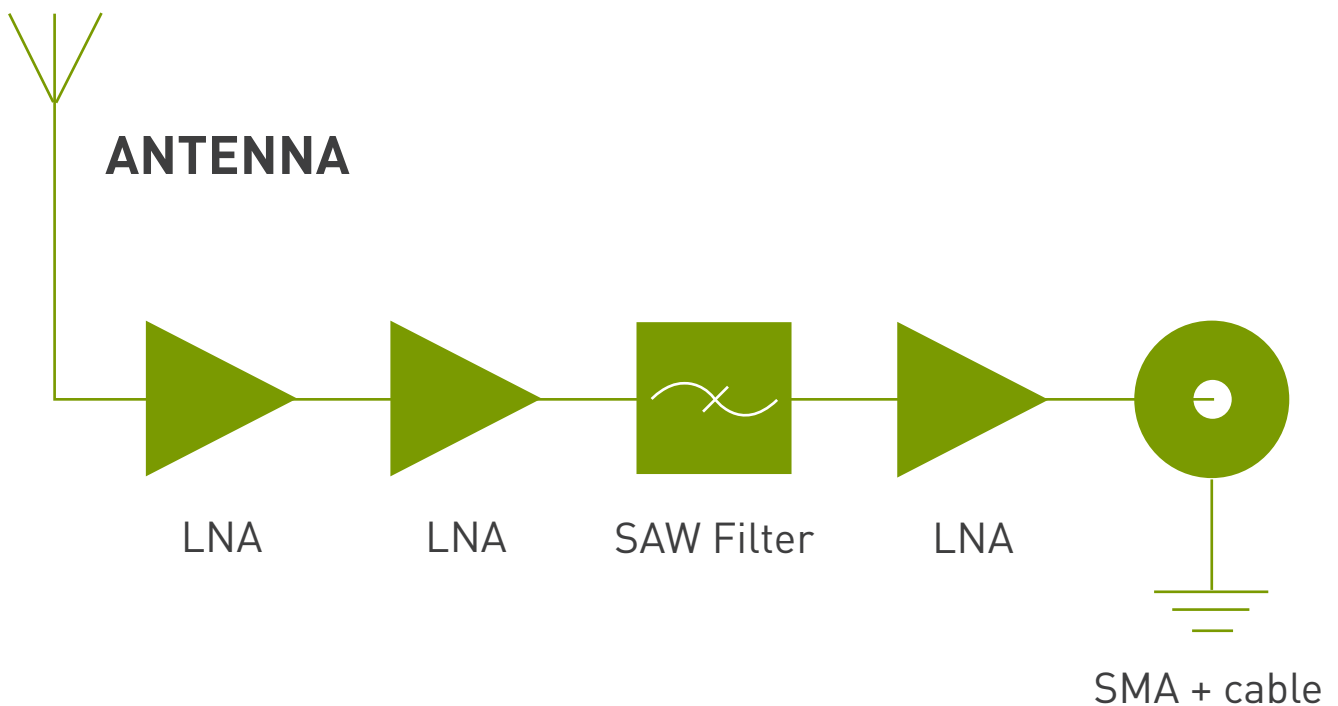
Part No.	AP.25J.01.10000D
Product Name	25mm Three Stage Active GPS Patch Antenna
Feature	Highest Gain 40dB GPS active patch High performance 1.8-5V Low power consumption RoHS compliant

1. Introduction

The AP.25J active GPS patch antenna is the highest gain GPS high performance antenna currently available in the world. A 25mm GPS patch antenna with three

stage LNA delivers 40dB of gain. This product is suited for applications such as timing applications for base stations or out-building installations which need long

cable lengths to the receiver, typically over lengths exceeding 5M at RG174 and over 30M using low loss cable as CFD200 or LMR200.



2. Specification

2.1 Patch Antenna

Parameter	Specification
Frequency	1575.42 $\pm$ 4MHz
Gain @ Zenith	Typ. 4dBic @ Zenith (for 70mm*70mm ground) Typ. 1.5dBic @ Zenith (for 25mm*25mm ground)
Impedance	50 Ω
Polarization	RHCP
Axial Ratio	Max 3.0dB @ Zenith (for 70mm*70mm ground)
Patch Dimension	25*25*4mm

2.2 LNA

Parameter	Specification
Frequency	1575.42 $\pm$ 10MHz
Outer Band Attenuation	F0=1575.42MHz F0 $\pm$ 50MHz 20dB min. F0 $\pm$ 100MHz 25dB min.
Noise Figure	Max. 1.5dB @ 25°C $\pm$ 5°C
Output Impedance	50 Ω
Output VSWR	2.0 Max
Gain	Typ. 34dB (at 1.8V) Min. 38dB, Typ. 40dB (at 3.0V) Min. 38dB, Typ. 40dB (at 5.0V)

2.3 Cable* & Connector

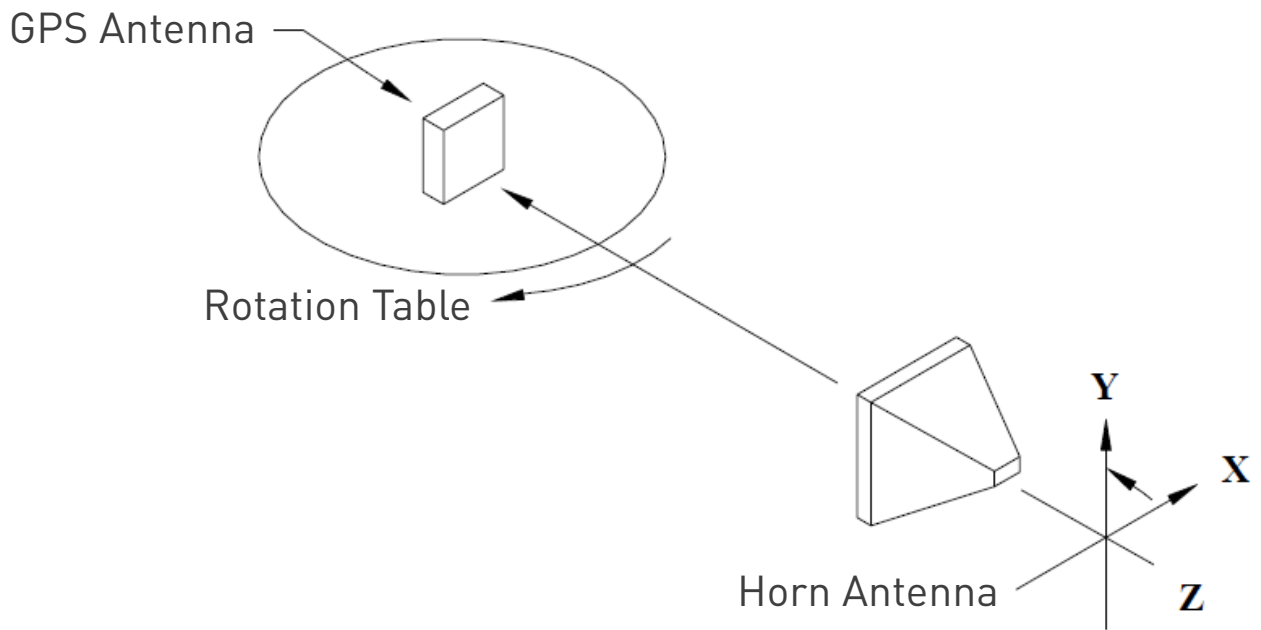
Parameter	Specification
RF Cable	RG174 , $\varnothing$ 2.7 $\pm$ 0.2mm , Black, Cable Length 10M $\pm$ 5cm
Connector	SMA(M)

Note 1: Cable Loss = -1.3 dB/M

3. Total Specification (through Antenna, LNA, Cable and Connector)

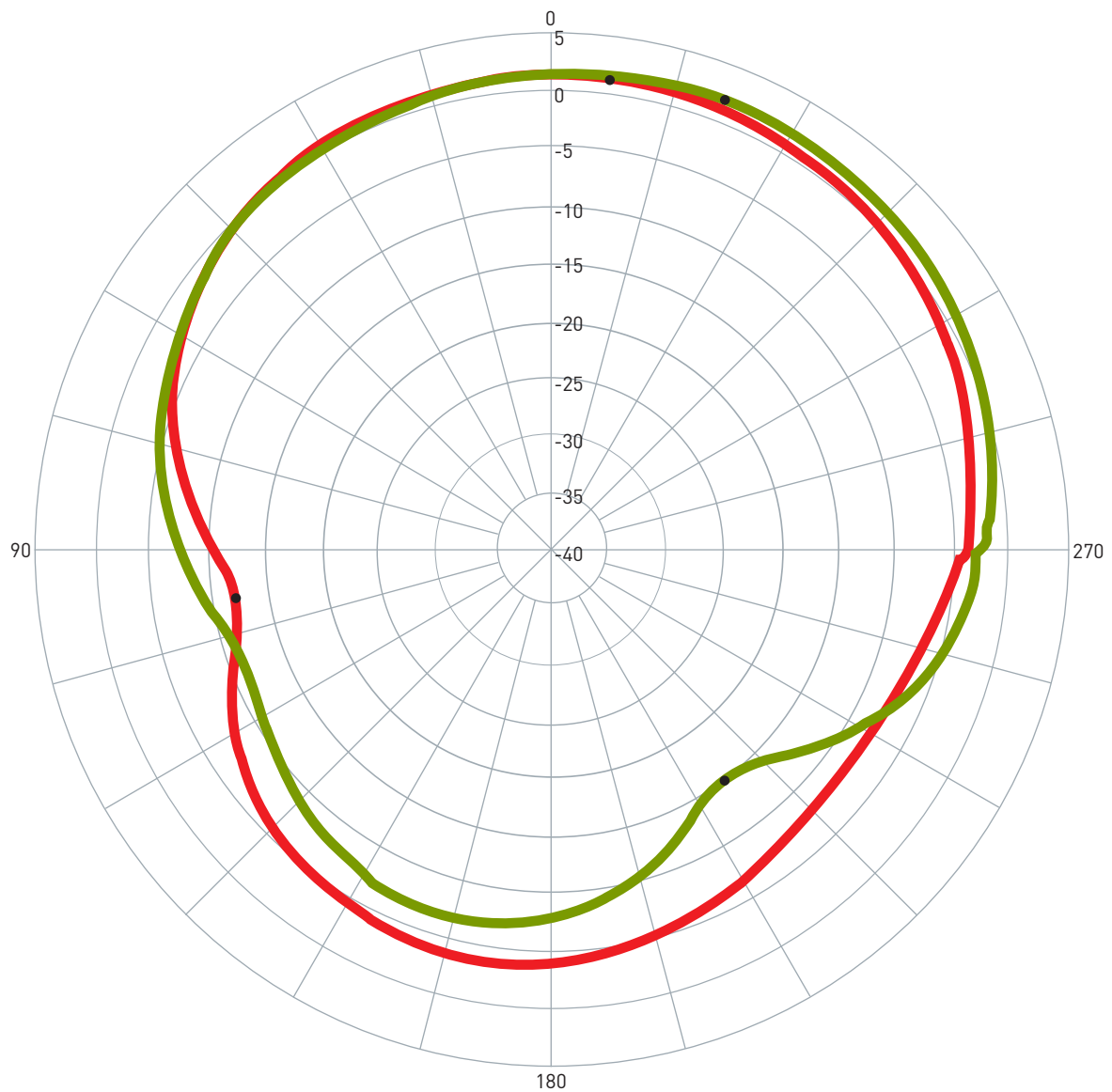
Parameter	Specification
Frequency	1575.42 ± 1.023MHz
Gain	44 ± 3dBic @ 90°
Output Impedance	50Ω
Polarization	RHCP
Output VSWR	Max 2.0
Operation Temperature	-40°C to + 85°C
Storage Temperature	-40°C to + 85°C
Relative Humidity	40% to 95%
Input Voltage	Min. 1.8V, Typ. 3.0V, Max. 5V
Current	At 1.8V Max. 8mA
	At 3.0V Max. 10mA
	At 5.0V Max. 12mA

4. Performance Measurements



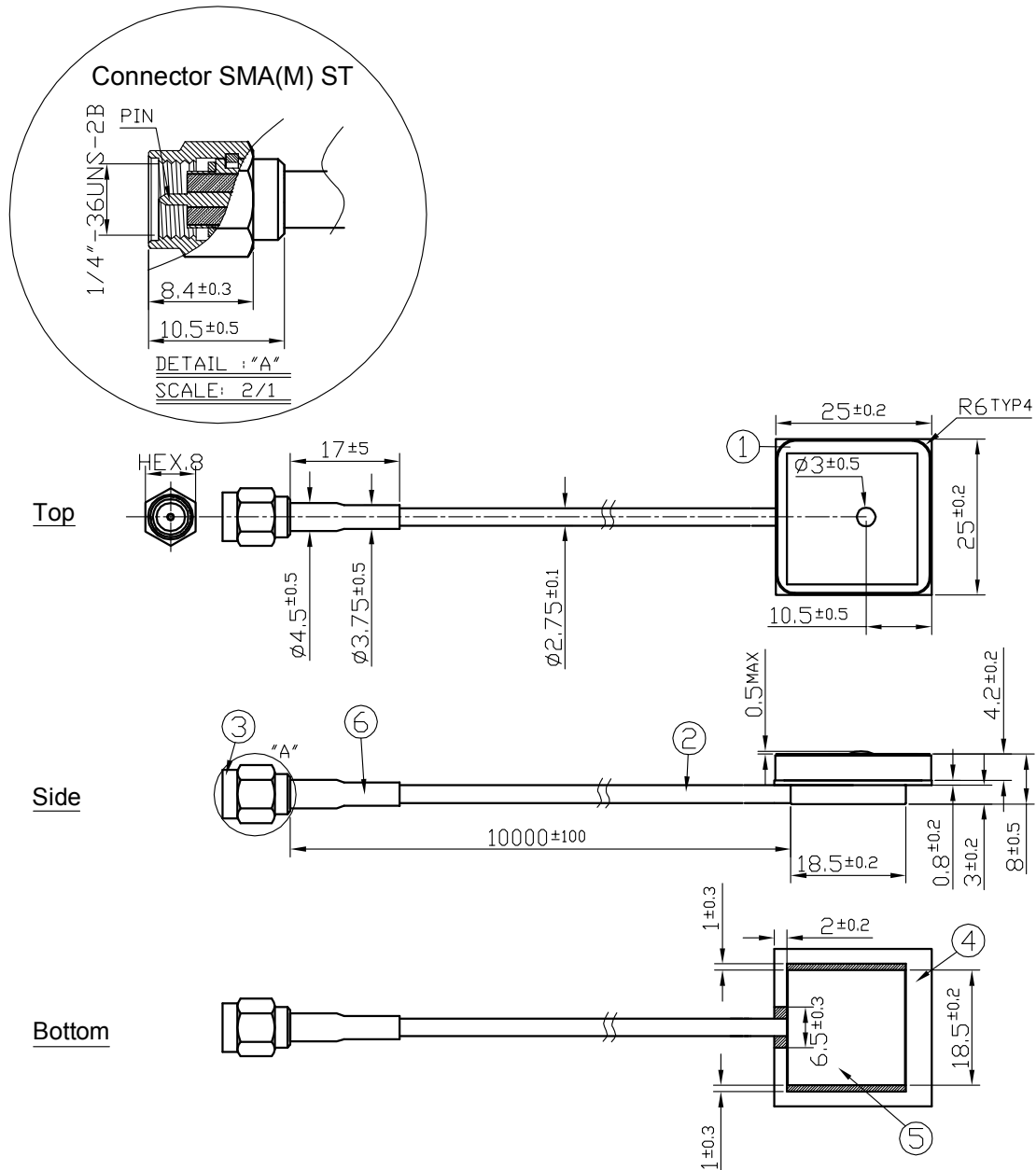
5. Radiation Patterns

5.1 XY Plane Radiation



Pattern	Model No.	Test Mode	Freq (MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	AP.25J.01.10000D	XZ	1575.42	1.36 / 353.00	-12.30 / 99.00	-2.46	RHCP	2009/11/2
2	AP.25J.01.10000D	YZ	1575.42	1.81 / 339.00	-14.85 / 217.00	-2.35	RHCP	2009/11/2

6. Technical Drawing



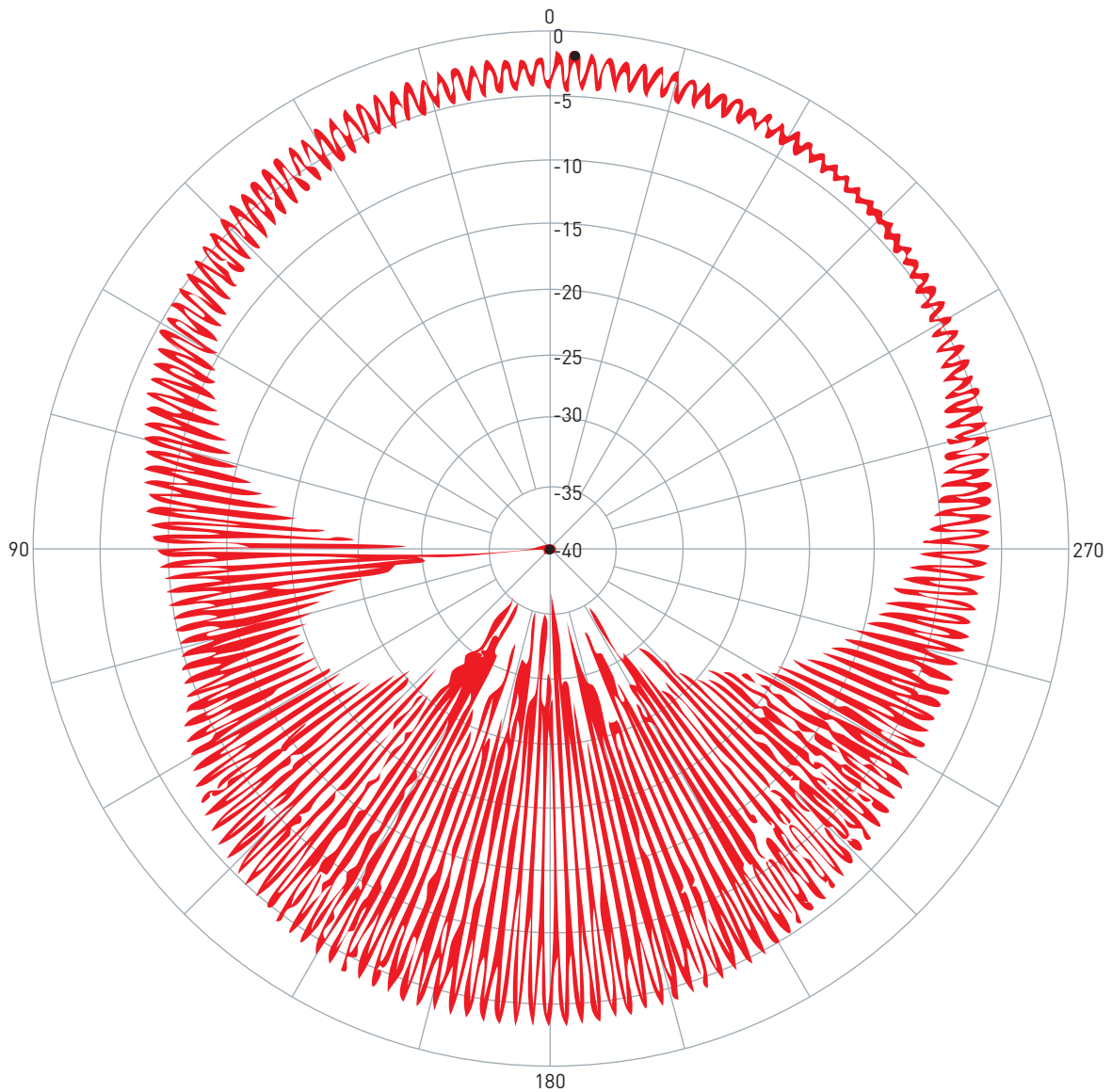
	Name	Material	Finish	QTY
1	Patch(25*25*4mm)	Ceramic	Clear	1
2	RG174 Coaxial Cable	PVC	Black	1
3	SMA(M) ST	Brass	Gold Plated	1
4	PCB	FR4 0.8t	Green	1
5	Shielding Case	(Tin)SPTE	Tin Plated	1
6	Heat Shrink Tube	PE	Black	1

NOTE:

1. Soldered area. 

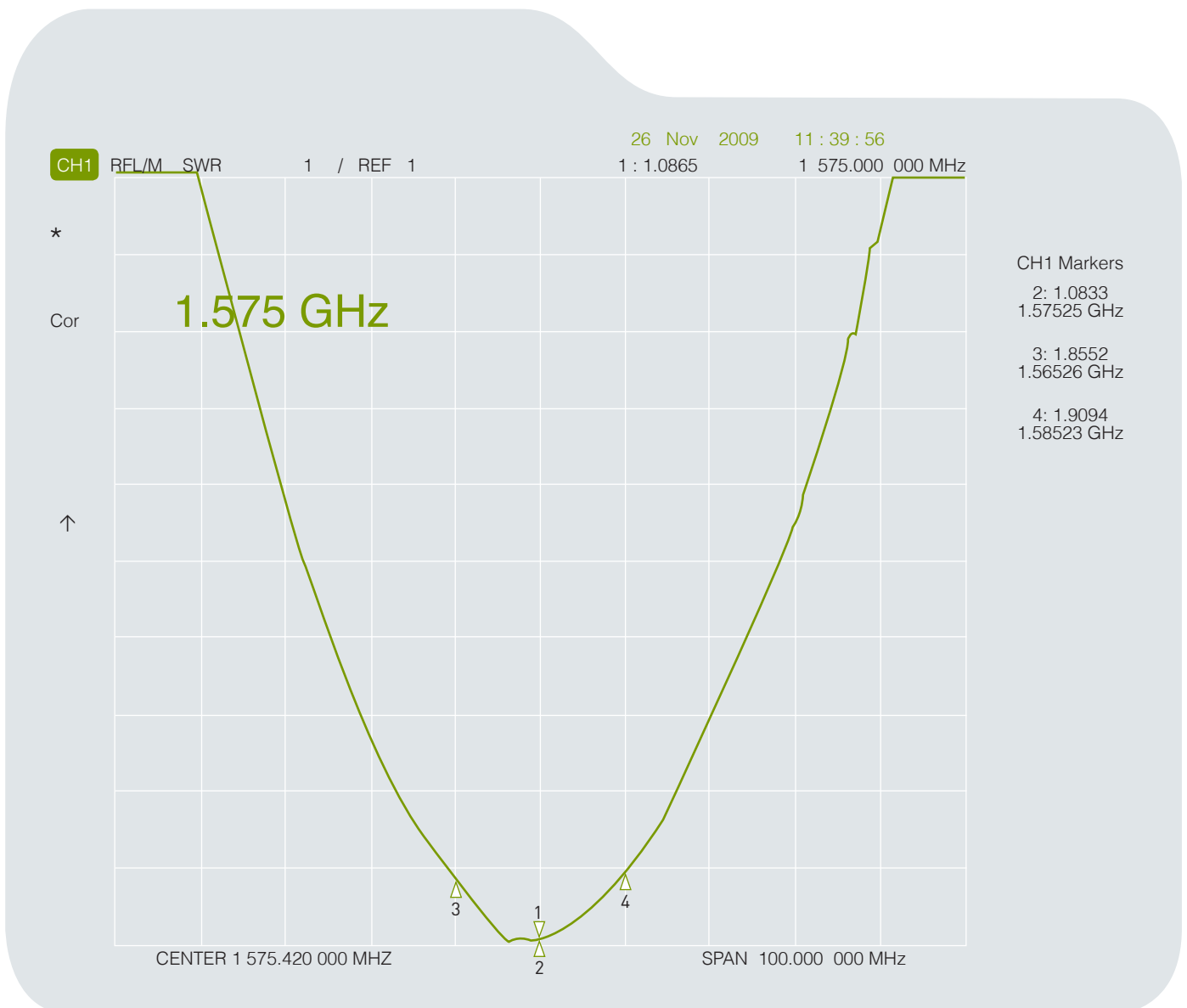
2. All material must be RoHS compliant.

7. Axial Ratio



Pattern	Model No.	Test Mode	Freq (MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	AP.25J.01.10000D	Axial Ratio	1575.42	-1.80 / 357.09	-43.93 / 93.46	-6.27	CP	2009/11/2

8. VSWR



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