

L1 L5 GPS ANTENNA

Part Number: LK1850601

Description: L1 L5 GPS Antenna

Frequency: 1176MHz/1559-1610MHz

Size: 45 mm x 45 mm x 10 mm

Features:

- ✧ Support GPS L1 L5 dual bands, BEIDOU B1 and GLONASS L1
- ✧ Right-Hand Circular Polarization (RHCP)
- ✧ High Gain for optimal satellites reception
- ✧ Support high precision applications
- ✧ Easy integration

RoHS compliant



Revision: A

Dec 06, 2024

Contents

1.0 Product Description.....3

2.0 General Specification3

3.0 Mechanical and Environmental Specification4

 3.1 Product Dimension 4

 3.2 Environmental Specification 4

4.0 Electrical Characteristics5

5.0 Packaging6

6.0 Website and Company Address.....6

7.0 Revision History.....6

1.0 Product Description

The LK1850601 is a ceramic patch GPS antenna designed for simultaneous reception of GPS L1/L5, BEIDOU B1 and GLONASS L1 signals. Its high gain ensures rapid satellite acquisition, while Right-Hand Circular Polarization (RHCP) technology enhances positioning accuracy. This antenna is suitable for high-precision positioning applications.

Features:

- Support GPS L1 L5 dual band
- RHCP polarization
- High antenna Gain
- Easy integration
- High precision positioning

Applications:

- Tracker
- AGV/AMR
- Agriculture
- Navigation
- Satellite IoT

2.0 General Specification

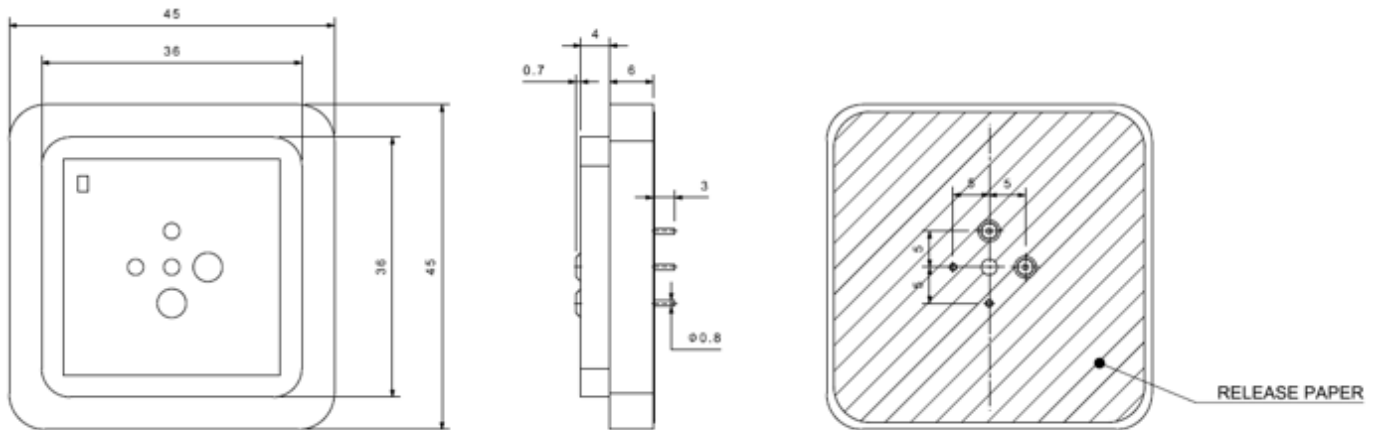
Part Number	LK1850601			
Protocol	GPS/GALILEO L1	BEIDOU B1	GLONASS L1	GPS L5
Frequency (MHz)	1575.42 ± 1.023	1561 ± 2	1602 ± 5	1176 ± 10
S11 (Return Loss) (dB)	< -10.0	< -10.0	< -10.0	< -10.0
VSWR	< 2.0	< 2.0	< 2.0	< 2.0
Average Efficiency	$> 70\%$	$> 70\%$	$> 70\%$	$> 70\%$
Peak Gain (dBi)	3.5	3.5	3.5	1.0
Axial Ratio (dB)	< 3	< 5	< 5	< 3
Polarization	RHCP			
Radiation Pattern	Directional			
Antenna Type	Patch			
Impedance	50 Ω			
Power Rating	5 Watts			
Operation Temperature	-40°C to $+125^{\circ}\text{C}$			
Storage Temperature	-40°C to $+85^{\circ}\text{C}$			

Note:

1. The above performances are the typical values measured on the Leankon evaluation board, which has dimensions of 70mm x 70mm x 1mm.

3.0 Mechanical and Environmental Specification

3.1 Product Dimension



Unit: mm

Tolerance: ± 0.2 mm

3.2 Environmental Specification

Item	Test item	Test condition	Specifications
1	Temperature Cycling Test	-40°C (30 minutes) to 125°C (30 minutes) 72 cycles	1. No apparent damage 2. Electrical properties within the test Spec.
2	Humidity test	95% RH for 96 hours	1. No apparent damage 2. Electrical properties within the test Spec.
3	High Temperature test	1000 hours at 125°C	1. No apparent damage 2. Electrical properties within the test Spec.

4.0 Electrical Characteristics

The electrical characteristics are measured on the Leankon evaluation board below.



Figure 4.1: The evaluation board (70mm x 70mm x 1mm)

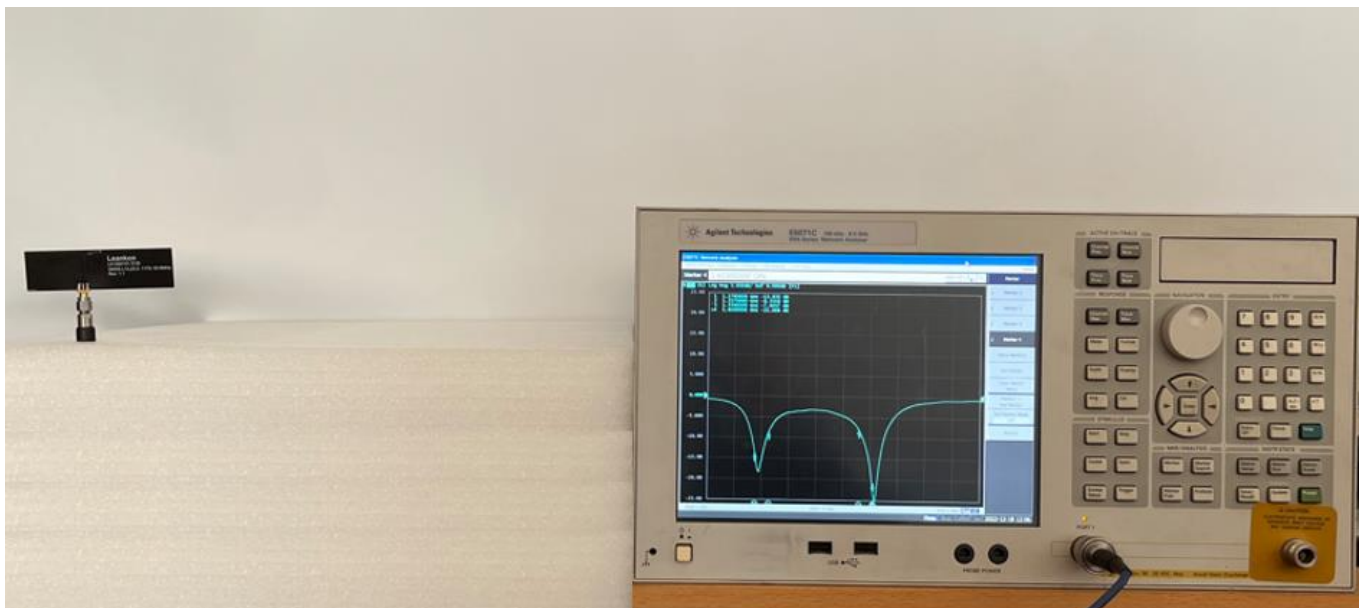
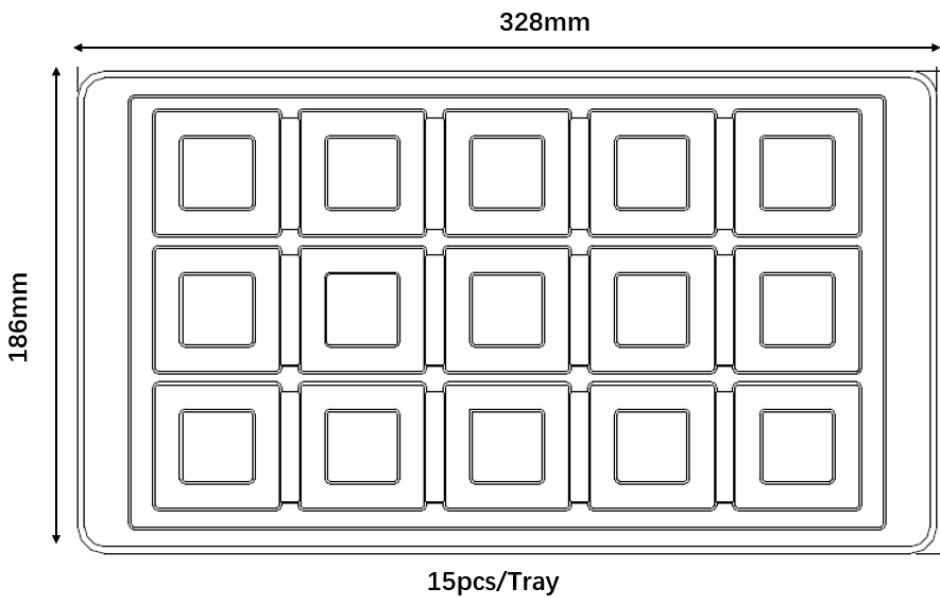


Figure 4.2: The free space test condition of Return Loss and VSWR

5.0 Packaging



Item	Quantity
Tray	15pcs
Internal Box	90 pcs
Outer Box	180 pcs

6.0 Website and Company Address

Website: www.leankon.com
Address: B1337 1F, Building 3, 5018 Hutai Road, Baoshan District, Shanghai China.

7.0 Revision History

Revision	Date	Description	Issued by:
A	2024-12-06	Initial release	Tony

NOTE:

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