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## SIGNALPLUS 5G 4G LTE WiFi 2x2 MIMO Antenna

# SIGNALPLUS 5G/4G/LTE 2x2 MIMO Outdoor Directional Panel Antenna User Manual

Model: 5G 4G LTE WiFi 2x2 MIMO Antenna

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your SIGNALPLUS 5G/4G/LTE 2x2 MIMO Outdoor Directional Panel Antenna. This antenna is designed to enhance signal reception for 3G, 4G, 5G, LTE, and WiFi networks, supporting various routers with detachable antennas and major US & Canadian carriers.





Image 1.1: SIGNALPLUS 5G/4G/LTE 2x2 MIMO Outdoor Directional Panel Antenna. This image displays the main antenna unit, two coaxial cables with N-female connectors, and two TS9 adapters.

## 2. PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- 1x SIGNALPLUS 2x2 MIMO Directional Panel Antenna
- 1x J-Mount Pole
- 1x Set of Mounting Brackets and Hardware
- 2x 10-meter RG58/50-3 Coaxial Cables (with SMA connectors)
- 2x TS9 Adapters

# Package Listing



Image 2.1: Package Contents. This image illustrates all components included in the antenna kit: the antenna, pole, bracket set, two 10-meter RG58/50-3 cables with SMA connectors, and two TS9 adapters.

## 3. SPECIFICATIONS

Feature	Specification
Frequency Range	698-960 / 1700-2700 MHz
Polarization	$\pm 45^\circ$
Gain	2x14 dBi
VSWR	$\leq 1.5$

Input Connector Type	2 x N Female
Dimensions (L x W x D)	260 x 170 x 60 mm (10.24 x 6.69 x 2.36 inches)
Antenna Weight	0.72 kg (1.59 lbs)
Radome Material	ABS (Waterproof)
Reflector Material	Aluminum Alloy
Operating Temperature	-40°C to 60°C (-40°F to 140°F)
Waterproof Standard	IP67
Mounting Hardware	Ø35mm ~ Ø50mm pole or wall mounting

## DIMENSIONS



Image 3.1: Antenna Dimensions and Materials. This image provides a visual representation of the antenna's dimensions (10.0" x 6.5" x 2.5") and lists the reflector material as Aluminum Alloy and radome material as waterproof ABS.

## 4. SAFETY INFORMATION

- Always exercise caution when working at heights.
- Ensure the mounting location is structurally sound and can support the antenna's weight and wind

load.

- Avoid installing the antenna near power lines or other electrical hazards.
- Properly ground the antenna system according to local electrical codes to protect against lightning.
- Do not open the antenna housing; it is factory-sealed to maintain its IP67 waterproof rating.

## 5. SETUP AND INSTALLATION

### 5.1. Mounting Hardware Overview

The kit includes various hardware for mounting. Familiarize yourself with the components:

- **M6x50mm wall screw (A):** For concrete or brick wall mounting.
- **M6 nut (B):** Used with bolts for securing the pole to the bracket.
- **M6x40mm bolt (C):** Used with nuts to secure the pole to the bracket.
- **M6x40mm wood screw (D):** For wood surface mounting.

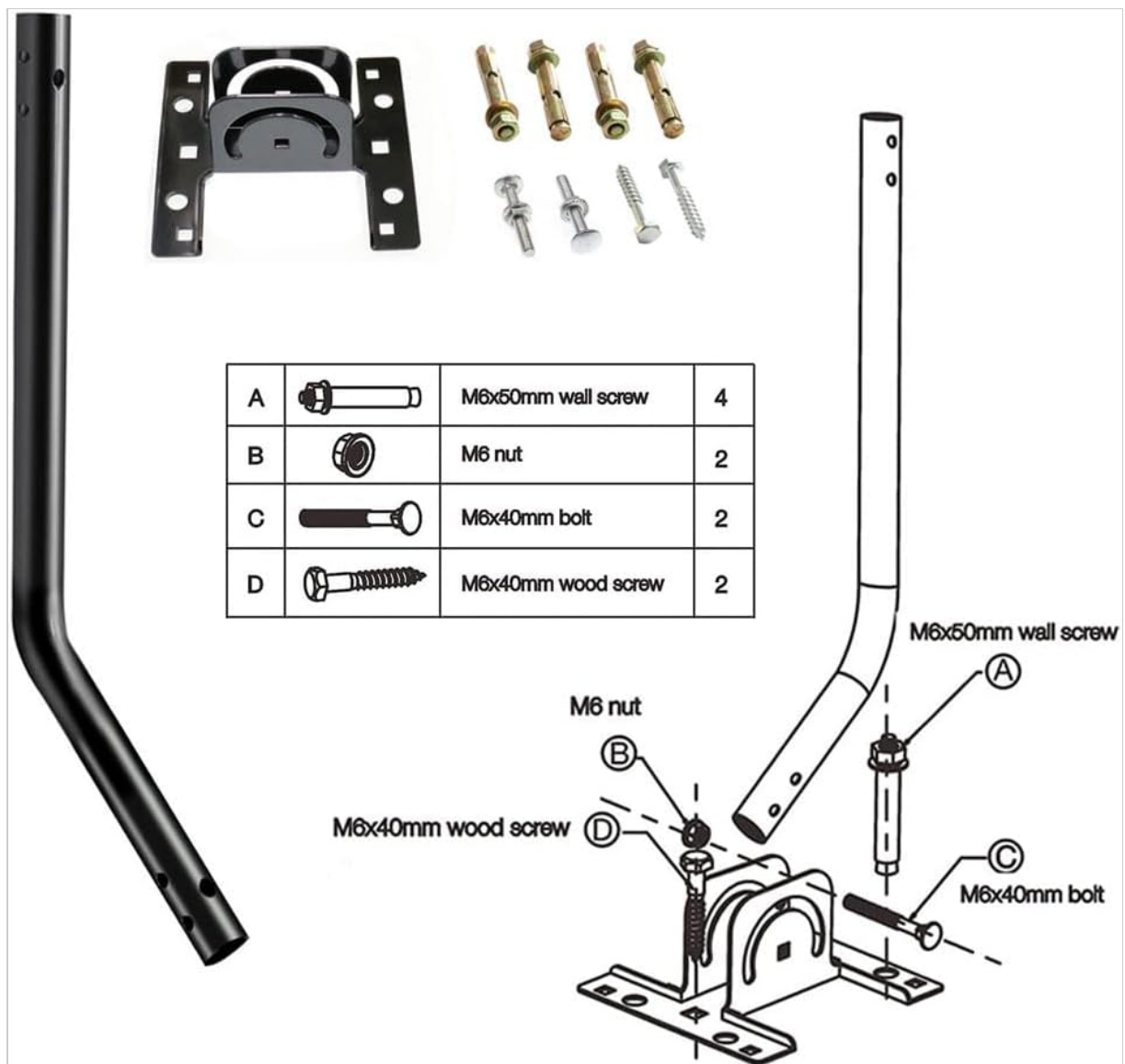


Image 5.1: Mounting Hardware Diagram. This image details the individual mounting components (wall screws, nuts, bolts, wood screws) and provides an exploded view of how the J-mount pole attaches to the bracket.

### 5.2. Assembling the J-Mount Pole and Bracket

1. Attach the J-Mount pole to the mounting bracket using the M6x40mm bolts (C) and M6 nuts (B). Ensure all connections are tight and secure.

2. The bracket allows for angle adjustment. Loosen the bolts, set the desired angle, and re-tighten firmly.

### 5.3. Mounting the Antenna

Choose a mounting location that provides a clear line of sight to the cellular tower and is free from obstructions. The antenna can be mounted on a wall, pole, or other suitable structure.

#### Wall Mounting (Concrete/Brick):

1. Mark the drilling points for the bracket on the wall.
2. Drill pilot holes using an appropriate drill bit for the M6x50mm wall screws (A).
3. Insert wall anchors (if required for your wall type, not explicitly included but recommended for concrete/brick).
4. Secure the bracket to the wall using the M6x50mm wall screws (A).



Image 5.2: Wall Mounting Example. This image demonstrates the process of drilling holes and securing the mounting bracket to a wall using wall screws.

#### Wood Surface Mounting:

1. Mark the drilling points for the bracket on the wood surface.
2. Secure the bracket using the M6x40mm wood screws (D).



Image 5.3: Wood Surface Mounting Example. This image shows the mounting bracket being attached to a tree trunk using wood screws, illustrating a typical wood surface installation.

#### **Pole Mounting:**

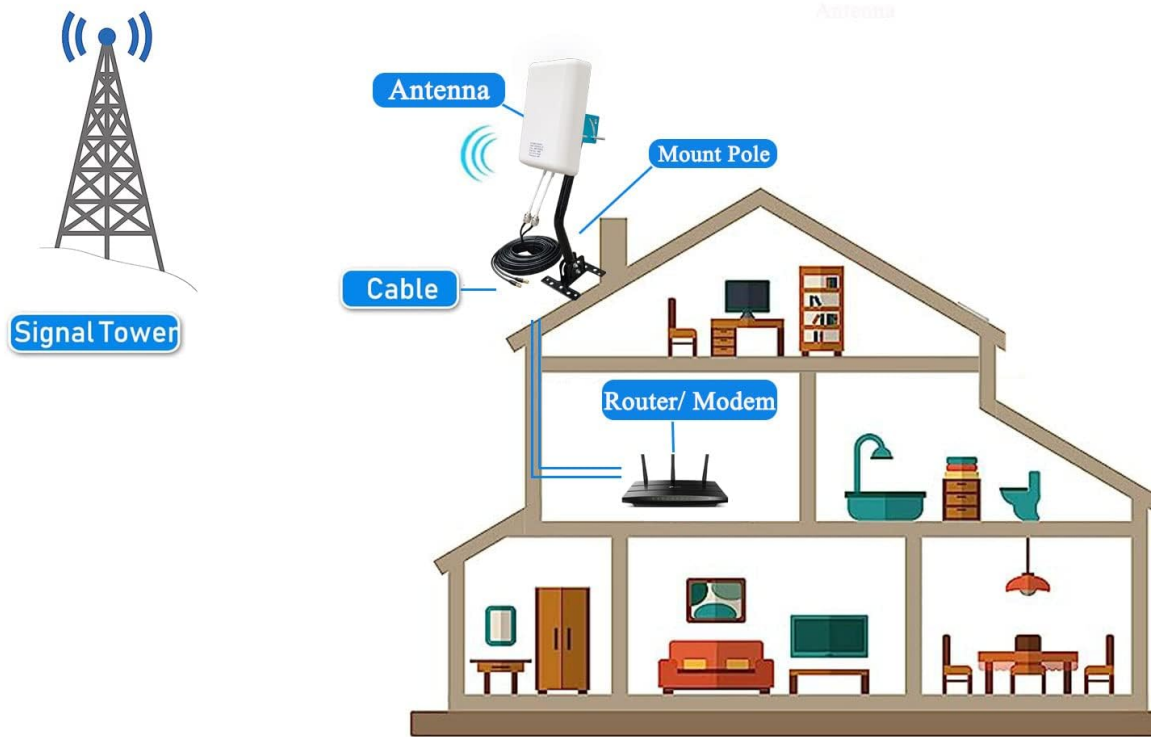
The J-Mount pole can be attached to an existing pole (Ø35mm ~ Ø50mm) using U-bolts (not explicitly shown in provided images but typically part of a pole mounting kit or the bracket itself). Ensure the U-bolts are tightened securely.

#### **5.4. Connecting the Cables**

The antenna features two N-female connectors. The included 10-meter RG58/50-3 coaxial cables have SMA connectors. Use the provided TS9 adapters if your router requires TS9 connections.

1. Connect one end of each 10-meter coaxial cable to the N-female ports on the antenna. Hand-tighten first, then use a wrench to ensure a snug, weather-tight connection.
2. Route the cables to your router, ensuring they are protected from damage and moisture.
3. Connect the SMA ends of the cables to your router's external antenna ports. If your router uses TS9 connectors, attach the TS9 adapters to the SMA connectors first, then connect to the router.

## Multi-Application: Router/ Modem



**Multi-compatible for Routers:**  
CalAmp, Cisco, Cradlepoint, Digi,  
MoFi, Netgear, Novatel, Pepwave,  
Proxicast, Sierra, ZTE & more.

Image 5.4: Multi-Application Diagram. This image illustrates the typical setup, showing the outdoor antenna connected via cables to a router/modem inside a house, receiving signal from a signal tower.

### 5.5. Router Compatibility

This antenna is compatible with a wide range of routers and modems that feature detachable external antenna ports. This includes devices from brands such as CalAmp, Cisco, Cradlepoint, Digi, MoFi, Netgear, Novatel, Pepwave, Proxicast, Sierra, ZTE, Huawei, and TP-Link.

# Support

★ Works for any WIFI 4G LTE device with external antenna ports .as routers from CalAmp, Cisco, Cradlepoint, Digi, MoFi, Netgear, Novatel, Pepwave, Proxicast, Sierra, ZTE, HUAWEI ,etc .



## Support All Carrier

Verizon, AT&T, T-Mobile, Telus, Bell Canada, Rogers, DigiCel



Image 5.5: Router and Carrier Compatibility. This image displays logos of various compatible router brands and supported cellular carriers including Verizon, AT&T, T-Mobile, Telus, Bell Canada, Rogers, and DigiCel.

## 6. OPERATION

Once installed and connected, the antenna operates passively to receive and transmit cellular signals. Optimal performance is achieved by correctly aiming the antenna.

### 6.1. Aiming the Antenna

1. Identify the location of the nearest cellular tower for your service provider. Online tools or mobile apps can assist with this.
2. Point the flat face of the directional antenna towards the identified cellular tower.
3. Monitor your router's signal strength indicators (RSSI, RSRP, RSRQ, SINR) or perform speed tests while making small adjustments to the antenna's direction.
4. Secure the antenna firmly in the position that yields the best signal strength and data speeds.



Image 6.1: Signal Improvement. This image visually represents how a directional antenna can improve signal strength, showing an increase in signal bars.

## 7. MAINTENANCE

- Periodically inspect the antenna, cables, and mounting hardware for any signs of wear, corrosion, or damage.
- Ensure all connections remain tight and secure to maintain weatherproofing and optimal performance.
- Clean the antenna's surface with a soft, damp cloth if it becomes dirty to prevent signal degradation. Do not use harsh chemicals.
- Verify that the antenna's IP67 rating is maintained by ensuring all cable connections are properly sealed and the housing remains intact.

## 8. TROUBLESHOOTING

## 8.1. No Signal or Poor Performance

- **Check Connections:** Ensure all coaxial cables are securely connected to both the antenna and the router. Verify that the correct adapters (SMA to TS9) are used if necessary.
- **Antenna Aiming:** Re-verify that the antenna is aimed directly at the nearest cellular tower. Small adjustments can significantly impact performance.
- **Router Settings:** Confirm that your router's settings are configured to use external antennas. Consult your router's manual for specific instructions.
- **Obstructions:** Ensure there are no new physical obstructions (e.g., trees, buildings) blocking the line of sight between the antenna and the cellular tower.
- **Cable Integrity:** Inspect the coaxial cables for any kinks, cuts, or damage that could impede signal flow.

## 8.2. Water Inside Antenna Housing

The antenna is designed with an IP67 waterproof rating. If water is found inside, it indicates a breach in the seal, likely due to improper installation or physical damage.

- **Inspect Cable Connections:** The most common point of water entry is through improperly tightened or unsealed cable connections. Ensure N-female connectors are fully tightened and consider using weatherproofing tape around outdoor connections.
- **Physical Damage:** Check the antenna radome for any cracks or damage that could compromise the seal.
- **Manufacturer Contact:** If the antenna housing itself is compromised despite proper installation, contact SIGNALPLUS support for assistance.

## 8.3. Hardware Issues (e.g., Stripped Bolts)

While the kit provides necessary hardware, ensure careful handling during installation.

- **Tightening:** Do not overtighten bolts and screws, as this can strip threads or damage components. Tighten until snug and secure.
- **Replacement:** If any bolts or screws are stripped or damaged, replace them with equivalent stainless steel hardware for durability and corrosion resistance.

## 9. WARRANTY AND SUPPORT

For warranty information, technical support, or replacement parts, please contact SIGNALPLUS customer service through the retailer where the product was purchased or visit the official SIGNALPLUS website. Keep your purchase receipt as proof of purchase.