

Log Periodic Yagi Antenna

Generic External Log Periodic Yagi Antenna User Manual

For Alcatel LINKHUB Routers HH41V, HH41CM, HH41NH

1. PRODUCT OVERVIEW

This manual provides instructions for the installation, operation, and maintenance of the Generic External Log Periodic Yagi Antenna. This antenna is designed to enhance 3G and 4G LTE signal reception for Alcatel LINKHUB Router models HH41V, HH41CM, and HH41NH. It is particularly effective in areas with weak signal strength, such as residential homes, workshops, basements, small office areas, and rural locations, by boosting signal and increasing data transfer speeds.



Image 1.1: The Log Periodic Yagi Antenna mounted on an external pole. The antenna is white and elongated, designed for outdoor use.

2. PACKAGE CONTENTS

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

- 1x Wide-Band Log Periodic Yagi Antenna
- 1x 30-foot LMR200 Low-Loss Cable with SMA Male connector
- 1x Mounting Bracket set (pole not included)



Image 2.1: The included 30-foot LMR200 Low-Loss Cable, coiled, showing the SMA Male connector at one end.

3. SETUP AND INSTALLATION

Follow these steps to properly install your Log Periodic Yagi Antenna:

- 1. Mounting Location Selection:** Choose an outdoor location with a clear line of sight towards the nearest cellular tower. Avoid obstructions such as buildings, trees, or large metallic structures.
- 2. Antenna Assembly:** Attach the mounting bracket to the antenna. The bracket allows for adjustment of the antenna's angle and polarization.
- 3. Pole Installation:** Securely mount the antenna assembly to a sturdy pole. The recommended diameter for the installation pole is between 30mm and 53mm. Ensure the U-bolts are tightened to prevent movement.
- 4. Directional Aiming:** Orient the antenna towards the cellular tower. The diagram below illustrates the adjustable components for fine-tuning direction and angle. The antenna's polarization (vertical or horizontal) can be changed by adjusting the screw on the bracket.
- 5. Cable Connection:** Connect the FME male connector from the antenna's short cable to the FME female end of the 30-foot extension cable. Then, connect the SMA male connector of the extension cable to the external antenna port on your Alcatel LINKHUB Router (HH41V, HH41CM, or HH41NH).
- 6. Obstruction Clearance:** Ensure that no metallic rods or other significant obstructions are within one antenna unit's length of the antenna's front or sides, as this can interfere with signal reception.

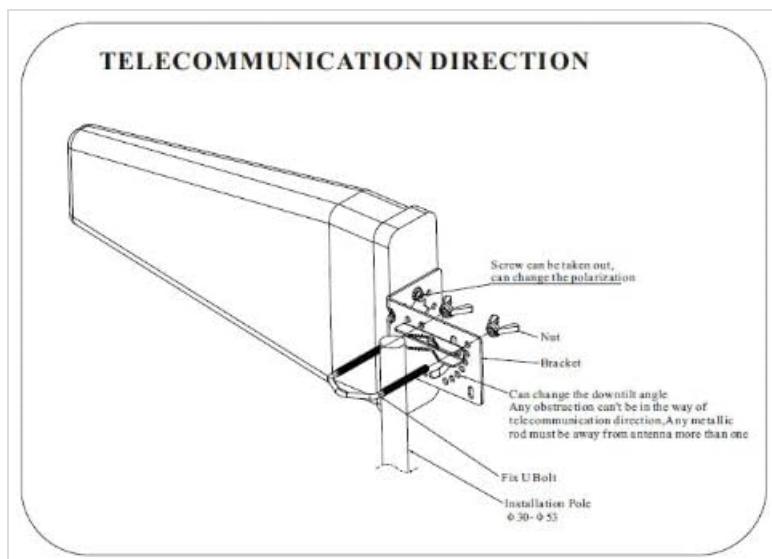


Image 3.1: An illustrative diagram detailing the antenna's mounting bracket, showing points for fixing U-bolts, adjusting the

downtilt angle, and changing polarization by adjusting a screw. It also indicates the 'Telecommunication Direction' for optimal signal.

4. OPERATING INSTRUCTIONS

Once the antenna is correctly installed and connected to your Alcatel LINKHUB Router, the system operates automatically. The antenna collects the cellular signal from the tower and transmits it through the cable to your router. When your router sends data, the signal is transferred back to the antenna and broadcast towards the cell tower. No further user interaction is typically required for basic operation.

5. MAINTENANCE

The Log Periodic Yagi Antenna is designed for outdoor use with a protected ABS radome material and a working temperature range of -40°C to +60°C. It also features DC ground lightning protection.

- **Periodic Inspection:** Periodically inspect the antenna and its mounting hardware for any signs of wear, corrosion, or loosening, especially after severe weather conditions.
- **Clearance:** Ensure the area around the antenna remains clear of new obstructions that could block the signal path.
- **Cleaning:** If necessary, gently clean the antenna's surface with a soft, damp cloth to remove dirt or debris that might accumulate over time. Avoid harsh chemicals.

6. TROUBLESHOOTING

If you experience issues with signal reception, consider the following troubleshooting steps:

- **Weak or No Signal:**
 - Verify the antenna is correctly aimed towards the nearest cellular tower. Slight adjustments may be necessary.
 - Check all cable connections to ensure they are secure and free from damage.
 - Ensure there are no new obstructions (e.g., trees, buildings) blocking the antenna's line of sight.
 - Confirm your Alcatel LINKHUB Router is powered on and configured to use the external antenna, if applicable.
- **Intermittent Signal:**
 - Inspect the mounting hardware for stability. High winds can cause the antenna to shift, affecting performance.
 - Check for any potential sources of interference in the vicinity.

7. SPECIFICATIONS

Parameter	Value
Frequency Range	698-960 MHz / 1710-2700 MHz
Gain	11 dBi
VSWR	<= 1.7
Input Impedance	50 ohms

Parameter	Value
Polarization	Vertical or Horizontal
Horizontal Beamwidth (half-power)	60°±8 / 55°±8
Vertical Beamwidth (half-power)	50°±5 / 45°±5
Front to Back Ratio	>= 21 dB
Max. Power	50 W
Antenna Connector Type	FME male
Lightning Protection	DC ground
Antenna Dimensions (L x W x H)	445 x 210 x 70 mm (approx. 18 x 8 x 3 inches)
Rated Wind Velocity	100 km/h
Radome Material	Protected ABS
Cable on Antenna Length	400 mm
Installation Pole Diameter	30 ~ 53 mm
Working Temperature	-40°C ~ +60°C
Extension Cable Type	LMR200 Low-Loss Cable
Extension Cable Length	30 feet
Extension Cable Connector	FME Female to SMA Male
Item Weight	3 pounds

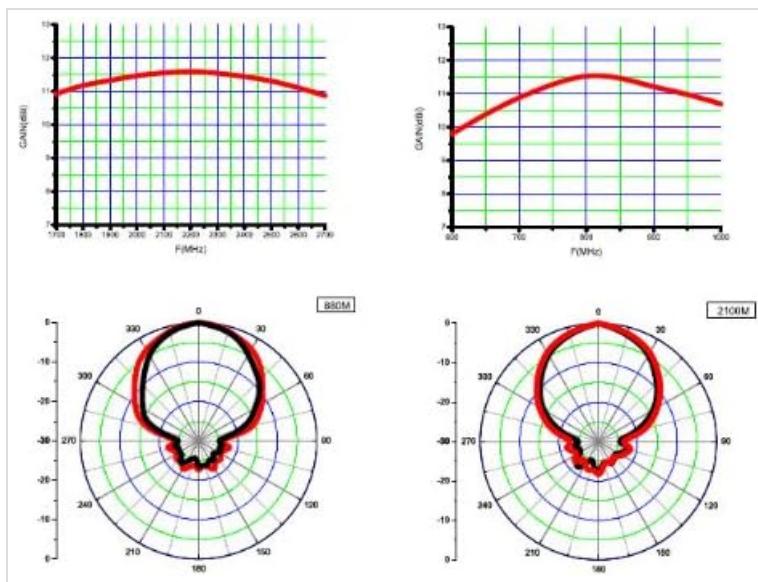


Image 7.1: Graphs illustrating the antenna's gain across different frequency ranges (698-960 MHz and 1710-2700 MHz) and polar plots showing the horizontal and vertical beamwidth patterns at 880 MHz and 2100 MHz.

8. WARRANTY AND SUPPORT

Specific warranty information for this product is not provided in the available documentation. For support or warranty inquiries, please refer to the retailer or manufacturer from whom the product was purchased.

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