BACKHAUL TO THE FUTURE: LEVEL UP WITH THE NEW HX6-611-6WH/B DUAL-BAND/DUAL-POL ANTENNA

"As of January 2024, 261 operators in 101 countries globally had launched commercial 5G mobile services. More markets are expected to follow, with more than 90 operators from 64 markets making a commitment to launch 5G in the coming years."

That's *a lot* of data, and every bit and byte must be backhauled to the network core. For MNOs and their OEMs, that's a challenge.

According to market research company, IMARC Group, the global mobile and wireless backhaul market reached 39.4 billion (USD) in 2023 and is expected to reach 96.9 billion by 2032.* The largest portion of that business will be directed at microwave solutions, the industry's dominant backhaul technology. As mobile network operators (MNOs) look to increase their microwave backhaul capacity, they face familiar headwinds that continue to increase in intensity.

Available tower space: In deploying their 5G services, MNOs have invested heavily in technologies like massive MIMO (mMIMO), higher order modulation schemes and multiband capabilities. As a result, the amount of equipment has increased significantly over the last five years, pushing tower loads closer to capacity. Adding additional microwave backhaul antennas is becoming increasingly difficult, and not just from a space and weight perspective. More antennas and cabling on the tower creates more weight and wind loading, resulting in higher leasing costs and, often, the need for extra structural support.

Elevated PIM risks: As more passive and multi-frequency RF components are deployed atop the tower, the chance and severity of passive intermodulation interference increases. Therefore, in dimensioning their backhaul networks, MNOs must figure out how to increase backhaul capacity without necessarily increasing the number of antennas, cables and connectors on the tower.

Operational costs/Opportunity costs: Energy consumption rises as well, increasing fuel costs and expanding the network's carbon footprint. And finally, deploying more antennas now means there is less tower space for future expansion.

The backhaul dilemma for operators, then, is how to address the coming surge of backhaul capacity demand in the most efficient, streamlined way. ANDREW's new ValuLine® HX dual-band, dual-polarization microwave backhaul antenna can help.

Improve performance

- Boost capacity with dual-band/
- dual-polarization
- High gain, consistently accurate pattern performance
- Excellent XPD minimizes interference
- 6 GHz/11GHz delivers reliable long-haul connectivity
- Provides excellent backup for critical links

Reduce costs

- Replace up to four backhaul antennas with one
- Lower tower leasing cost and tower modifications

Simplify and speed deployment

- Uses the same mount as other ValuLine® antennas
- Deploy one antenna instead of multiple antennas
- Easier frequency planning and better spectral efficiency

* Mobile and Wireless Backhaul Market Report; May 11, 2024

A DUAL-BAND/DUAL-POL GAME CHANGER

ANDREW's new HX6-611-6WH/B new microwave antenna enables you to streamline your backhaul network and increase link performance. As a dual-band/dual-polarization solution with excellent cross-polarization discrimination (XPD) performance, one HX6-611-6WH/B antenna can replace two single-frequency/dual-pol antennas or four single-frequency/single-pol antennas. With 6 GHz and 11 GHz band support, HX6-611) antenna is ideal for high-capacity long-haul connectivity. This antenna complies with FCC Category A and ETSI 302 217 requirements.

The uniqueness of this new antenna is a dual-band/dual-polarization design that is rigorously tested and documented at ANDREW's state-of-the-art antenna testing facility. Here, every antenna is connected and tested under a variety of conditions, both electrical and mechanical testing. The results generated are the actual antenna pattern plots, not computer simulations. This is critical, as MNOs must be able to rely on the provided specs for gain, SINR, XPD, RPEs, etc. as they look to expand their backhaul capabilities. In this respect, the HX6-611-6WH/B antenna unlocks a variety of opportunities.

Improving the link performance and reducing antenna counts enable MNOs to reduce tower leasing and tower reinforcement costs, maintenance costs, energy consumption and infrastructure requirements.

In addition, this high performance antenna provides ease in frequency planning and better spectral efficiency (channel reuse). The antenna uses the same mount as existing six-foot antennas, further improving deployment ease and speed.

One of the most important long-term advantages of the new antenna is the ability to simplify and streamline the backhaul network. Reducing the number of antennas and cables, allows network planners to free up more tower space for future expansion. As 5G rollouts continue and MNOs deploy more spectrum to handle the growing traffic, tower space will become increasingly valuable.

To learn more about the new HX6-611-6WH/B dual-band/dual-pol microwave backhaul antenna **visit ANDREW.com today!**

Since 1937, ANDREW, an Amphenol company, has driven the evolution of wireless technology. Trusted by mobile network operators and enterprises globally, we work closely with our customers to deliver innovative solutions that enhance connectivity experiences both outdoors and indoors. Our dedicated global team is committed to advancing the industry, fueled by the vision that a better-connected future is possible.

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