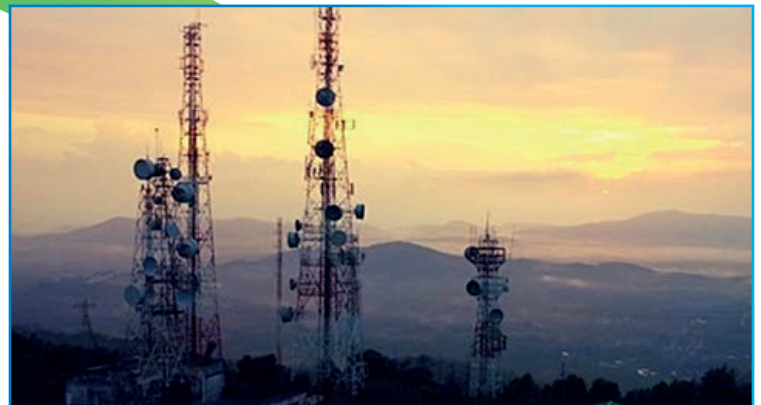


What you need to know about ValuLine® 80 GHz Microwave Antenna solutions

Driven by growing demand for 5G services, microwave radio OEMs and their MNO partners face a backhaul capacity crunch. The 80 GHz frequency band (E-band) provides a significant opportunity to increase backhaul capacity by using the large amounts of bandwidth available and addressing MNOs' future capacity needs. As cell densification intensifies, customers need a reliable supply of high-performance millimeter wave (mmWave) antenna solutions.



Q. What products does CommScope have to address customers' mmWave antenna needs?

A. CommScope has a full range of 80 GHz antennas. These antennas are available in 0.2 meter, 0.3 meter and 0.6 meter diameters. All antennas at this frequency are integrated—allowing direct attachment of the customers' radio equipment to the back of the antenna. With the drive for additional capacity, not only are these antennas available for single polarized links but are also available as dual-polarized models—allowing signals to be transmitted and/or received in both horizontal and vertical polarizations simultaneously.

Complementing the 80 GHz single band antennas is the new range of dual band antennas that combine 80 GHz and a lower microwave frequency band in one single antenna. This offers a variety of benefits to the customer, including increased capacity, reduced link degradation, increased link lengths for 80 GHz and reduced loading on infrastructure. These antennas are currently available in 0.6 m diameter at 23 GHz/80 GHz, 18 GHz/80 GHz and 15 GHz/80 GHz.

Q. Are dual band antennas restricted in terms of the polarization configurations that are available?

A. CommScope recognised early in the design process that different customers would have different needs in terms of polarization configurations.

By developing a generic antenna module for each frequency band combination, dual band antennas can be configured in any combination of polarization required through the addition of radio interfaces or ortho-mode transducers (OMTs). For example, single pol 80 GHz + dual pol low band, single pol 80 GHz + single pol low band, dual pol 80 GHz + dual pol low band.

Q. Does CommScope have plans to improve and expand the product offering at 80 GHz?

A. Market reports from recognized analysts all show that mmWave (and particularly 80 GHz) will be the largest single growth area in microwave backhaul for the next five years. CommScope continues to invest their microwave R&D resources to ensure we are not only ready to support the network deployments of today but also to support the developing needs as this market continues to evolve and expand.

CommScope has invested in a state-of-the-art mmWave test range to support ongoing development together with all the equipment necessary to make best use of this facility—not only in 80 GHz (e-band) for today’s requirements but also for W-band (92–114.25 GHz) and D-band (130–174.8 GHz) products that are already under development.

Short-term R&D projects include a new 0.2 m antenna and also a new 0.3 m 80 GHz antenna platform which will offer both FCC-compliant and high-gain solutions.

Further configurations and diameters of dual band antennas are also under development as well as an auto-alignment mechanism which will not only improve the performance and throughput of 0.6 m 80 GHz antennas but also open the door for the use of larger antennas such as 0.9 m and 1.2 m to extend the link lengths possible at 80 GHz.

Q. With spectrum at 80 GHz being either light-licensed or unlicensed in most countries, what are the advantages to a customer in deploying high-performance antennas over a product of lower cost, performance and quality?

A. While spectrum is indeed subject to less scrutiny than lower microwave bands in some countries, deployment of high-performance, high-quality antennas still offers huge advantages to customers.

In terms of radiation pattern performance, superior patterns with lower side lobes allow more links to be deployed in a given amount of spectrum and also allow radios to operate

at higher modulation rates for longer—thus increasing data throughput.

In terms of product quality, when an antenna is installed, ideally it would never need to be repaired or adjusted again during its lifetime. Deploying crews to repair, replace or realign antennas is not cheap—selecting a high-quality product on day 1 that has been designed and qualified to operate in all environments can minimize the situations where this may be required.

Q. The increasing costs of transportation have become an even larger contributor to the total cost of microwave backhaul deployments. How can CommScope help minimize this?

A. CommScope is one of the few microwave antenna manufacturers offering multiple supply points around the world to ensure fast delivery of antennas, at lower shipping cost, directly where the market needs them.

With supply points in India, Czech Republic and the United States, CommScope is well positioned to support customers in all major markets.

Customers need a reliable source of high-performance 80 GHz antennas close to their markets, and CommScope is well positioned to be that partner.



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