COMMSCOPE®

CommScope Multiband Tower Mounted Amplifiers

The right multiband TMA begins with the right partner

As demand for mobile data increases, wireless operators are under greater pressure to deliver more bandwidth and better coverage while reducing the total cost of ownership across their networks. A multiband tower mounted amplifier (TMA) can be a valuable tool in addressing these challenges...assuming it's the right one.

Cell sites are growing more complex as operators increasingly turn to LTE and higher order MIMO systems, add new spectrum bands and aggressively pursue solutions for more efficient coverage and higher data throughput. The trade-offs are greater noise sensitivity that can degrade uplink signals and more loading on already top-heavy towers. Well designed and rigorously tested multiband TMAs can significantly improve uplink signal strength, support more efficient cell coverage and reduce tower loading. However, knowing what to look for in a multiband TMA isn't always obvious.

With the only five-band TMA in the industry, CommScope offers the highest degree of network simplification available.

CommScope makes it easy

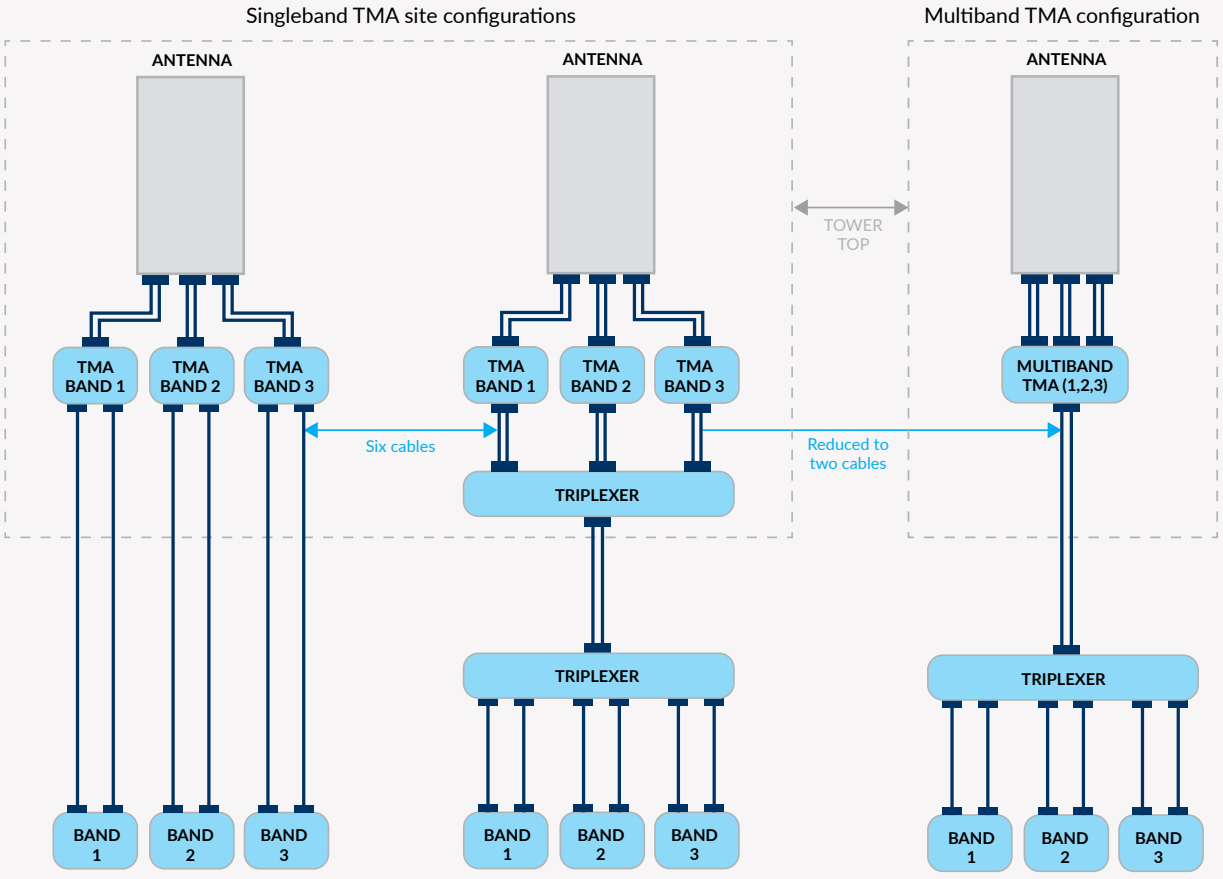
As a leading provider of end-to-end mobile infrastructure solutions, CommScope provides a unique combination of RF design experience and sub-system engineering. The result is a comprehensive portfolio of multiband TMAs specifically designed to improve signal strength, simplify ground-based radio systems and reduce tower loads and leasing costs.

Simplify the RF path

A multiband TMA is designed to consolidate and simplify the network, using one component to do the work of several. With the only five-band TMA in the industry, CommScope offers the highest degree of network simplification possible. Add our selection of dual-band, tri-band and quad-band TMAs and you have one partner with the proven expertise to satisfy your RF cell site requirements.

CommScope multiband TMAs support all major frequency bands and air interface technologies and a variety of mounting options. They include solutions that enable operators to manage AISG forwarding, RF bypass and variable gain.

By adding an integrated multiplexing solution, a single TMA configuration can support multiple bands, reducing network complexity even further. The examples shown here illustrate how six feeder cables can be reduced down to two, where three radios are supported.



Equipment selection

- **Choose components designed to minimize passive intermodulation (PIM) and test thoroughly for PIM after installation.**
- **Install multiband antennas to cover today's needs and plan ahead for tomorrow's additional spectrum.**
- **To minimize interference resulting from co-sited components, include combining and filtering solutions that prevent adjacent-channel interference.**

Control PIM

From the antenna to the ground-based radio, the RF path is becoming increasingly crowded; each component contributes to the overall creation of passive intermodulation (PIM). PIM control is critical, especially in applications such as LTE, which is highly sensitive to interference. Therefore, it is essential that any new component, including TMAs, be rigorously tested and optimized for PIM prevention.

When it comes to protecting wireless networks from PIM, CommScope is vigilant. We hold ourselves to a higher standard than the industry norm and ensure compliance by testing every multiband TMA for PIM performance before it is shipped. Testing includes measuring third-order levels and often fifth- and seventh-order levels as well. Watch this video to learn more about our testing practices.

Patent pending PIM test delivers twice the intensity of standard industry tests.

CommScope's Universal Band and Block PIM Calculator

Not sure how your existing band combinations will affect PIM performance? With CommScope's Universal Band and Block PIM Calculator, you'll know before you deploy! It's free and available online at Commscope.com/calculators/. Or email your frequency band requirements to mycombiner@commscope.com and let us help you block PIM at the source.

Reduce tower loading

The increasing amount of equipment and cabling at the top of the tower is pushing tower loads to the limit and, in some cases, preventing operators from expanding their wireless services. The ability to combine up to five bands using a single multiband TMA from CommScope enables operators to reduce both equipment costs and cable loading at the top of the tower. This design flexibility also frees up space that operators can use to deploy more revenue-positive equipment. All CommScope multiband TMAs feature integrated AISG capability to allow simple interconnection to AISG-based equipment at the top of the tower.

Doing more RF with technology

CommScope is already working on the next generation of multiband TMAs, which will take your ability to simplify, strengthen and save to a whole new level.

These multiband TMAs will use the DC-AISG forwarding capability to route RET signals directly to the antenna's RF port, enabling operators to eliminate the need for separate RET cabling altogether. Far from conceptual, this capability is already integrated into select CommScope multiband TMAs designed to support antennas with internal smart bias tees (SBTs).

Contact CommScope for more information.

Make your next project your best project

A well-engineered and rigorously tested multiband TMA can be a critical weapon in addressing the ongoing challenges of network modernization. Make no mistake: when it comes to performance, capability and impact on network costs there can be a big difference. To ensure the strongest uplink, lowest tower loads and best total cost of ownership, insist on CommScope.

If frequency mix complexity is proving difficult, give the experts at CommScope an opportunity to solve your site architecture challenges.

To learn more about reducing complexity with multiband TMAs, read Densifying with grace: The resurgence of RF conditioning devices. Visit our website for product details.

Everyone communicates. It's the essence of the human experience. *How* we communicate is evolving. Technology is reshaping the way we live, learn and thrive. The epicenter of this transformation is the network—our passion. Our experts are rethinking the purpose, role and usage of networks to help our customers increase bandwidth, expand capacity, enhance efficiency, speed deployment and simplify migration. From remote cell sites to massive sports arenas, from busy airports to state-of-the-art data centers— we provide the essential expertise and vital infrastructure your business needs to succeed. The world's most advanced networks rely on CommScope connectivity.

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Visit our website or contact your local CommScope representative for more information.

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