

Accelerate 5G deployment with customizable 700 MHz RF combiners

CommScope's Indeep Sidhu explains a smart, economical approach to leveraging the 700 MHz band

As network operators push hard to be the first to bring 5G to their customers, they have found a valuable resource in the 700 MHz band to help them achieve the coverage target set by the Telco Authority. Not only can it provide effective coverage over wide swaths of suburban and rural customers, but it can also help mobile operators provide coverage indoors—thanks to the band's excellent in-building penetration.

However, one potential downside to adding 700 MHz to new and existing sites is the additional equipment involved. With tower space becoming hard to find and expensive to secure, there is real demand for a better way to deploy 700 MHz in support of 5G rollouts.

CommScope's Indeep Sidhu recently answered some questions about how CommScope's customised 700 MHz combiners—part of a comprehensive family of multi-band combiners and tower-mounted amplifiers—can help speed up (and slim down) 5G rollouts in rural and suburban environments.



Q. So, why are combiners particularly useful for the 700 MHz band in rural and suburban areas?

A. Adding 5G means adding more bands. There's no avoiding that. But each new band comes with new equipment (particularly base station antennas) that adds cost and tower load. Combiners are relatively inexpensive, light and easily-installed devices that aggregate frequencies—eliminating the need for an additional antenna. So, if you're adding frequencies in the 700 MHz band to carry new 5G traffic, combiners can effectively let you expand the utility of the antenna you already have.

Also, while it's true that there's a great deal of interest in combiners to enable 5G in rural and suburban spaces, they can also enable in-building networks to use 700 MHz bands, which is ideal because of the band's impressive indoor penetration characteristics.

Q. So, if combiners are the answer, what makes CommScope's combiner solutions special?

A. Combiners are passive components that are simply inserted into the RF path. However, using a fully-banded, off-the-shelf combiner can be inefficient and result in the largest, heaviest and costliest solution. This is why mobile network operators look to customised combiners for the cost-effective, best-fit solution.

The importance of customisation goes beyond the combiner's RF performance. For example, in combining a 700 MHz band with an 800 MHz band, the combiner's overall dimensions, weight and cost are dictated by the 3 MHz guard band. The challenge is customising a solution that maximises the combiner's performance, physical dimensions and cost. This is where CommScope excels.

Upon request, we customise the filter's mechanical dimensions and electrical performance for the operator's specific frequency blocks. CommScope has more than 80 engineers devoted to combiner design so we can quickly deliver the smallest, lightest, best-performing combiners available anywhere. Our portfolio of 700 MHz combiners and tower-mounted amplifiers supports band combinations involving other low bands besides 800 MHz.

Q. Does CommScope have an established track record with your 700 MHz combiners?

A. Indeed we do. We've already supplied customised 700 MHz combiners to several major operators, which, used together with various tower-mounted amplifiers in that band, have demonstrated an immediate benefit in terms of deployment time and economics. We are currently supporting some of the biggest 700 MHz deployments in the EMEA region, and we're coordinating with operators still in the process of acquiring spectrum in the band. We're more than a solutions provider—we're a consultative partner. We help operators build a winning 700 MHz strategy even before they commit to acquiring the spectrum. Once they have it, we work with them to develop an optimally customised, cost-effective combiner solution to help them get to positive revenue quickly.



Indeep Sidhu

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In his 20 years of international experience, Indeep has been driven by his passion and insight into the technologies and trends transforming the mobile landscape. Knowing that there's no single approach to 5G, he has used his telecom knowledge and a customer-focused approach to guide the development of innovative base station antennas and filter solutions that help customers build and operate networks that are agile, successful and future-ready.

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