

Clearing the air in Europe

Region

Europe

Challenges

A mobile operator with a large subscriber base in multiple European countries was experiencing significant interference problems with one of their networks.

CommScope solution

CommScope engineers developed a variety of design proposals, each including associated costs, predicted results and projected lead times. The customer then selected the proposal they felt best met their needs.



CommScope develops a ready-to-install IMF solution to reduce significant interference problems for a European customer.

A mobile operator with a large subscriber base in multiple European countries was experiencing significant interference problems with one of their networks. The network's 900 MHz service, which begins at 880 MHz, was suffering adjacent channel interference from a competitor's 850 MHz CDMA service. The impact on the victim operator's network was -60 to -70 dBm interference levels—an overwhelming amount of noise considering a target interference level is typically -105 dBm.

The interference level that many subscribers on the victim's network were experiencing resulted in a complete loss of service. The operator had invested significantly in infrastructure and spectrum, but was unable to provide reliable service. Faced with dissatisfied customers and declining revenue, the carrier knew the problem needed to be resolved quickly. They engaged CommScope to provide a solution.

CommScope engineers wasted no time. The interference problem dictated the use of two separate filters. The first filter—to be installed in the victim's receive path—needed to prevent desensitization of the receiver by providing attenuation of the adjacent high-power carrier signals transmitted by the interfering CDMA network. The second filter—also designed to protect the victim's receiver—would be installed in the interferer's transmit path to prevent spurious out-of-band signals from falling within the victim's receive band. Using this two-filter design, CommScope engineers developed a variety of design proposals, each including associated costs, predicted results and projected lead times. The customer then selected the proposal they felt best met their needs.

The prototype filters were installed in the victim's receive path and the interferer's transmit path and performed as expected. The received total wideband power (RTWP), a reliable indicator of system interference, dropped significantly and interference levels returned to an acceptable -105 dBm.

Shortly thereafter, the operator received the first shipment of ready-to-install IMF solutions and continues to successfully deploy the custom-designed filters as the need arises.

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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