



MIMO

Tunnel Connectivity

Combine two “perfect match” radiating cables from RFS to create a MIMO solution that takes in-tunnel data rates to higher levels

When Two Cables are Better than One

RFS’ direct comparison of SISO and MIMO test cases reveals the clear advantage of using a MIMO solution based on two radiating cables with different dominant main polarizations to provide higher data throughput in tunnels. While the entire RFS RADIAFLEX® family supports a single-cable MIMO design, combining RFS’ RAYA and RLKU product families optimizes MIMO conditions in tunnel environments by taking advantage of cross-polarization.

Together, RFS’ RAYA and RLKU cables are the perfect match. The two series of cables achieve a very leveled frequency response in any in-tunnel scenario, allowing for easy system planning. RFS customers benefit from a well-balanced solution for dual-cable MIMO scenarios that will help them address the challenges of today – and the future.

For the full story on our test case results, read the RFS white paper.

Key Advantages of Dual-Cable MIMO

- Enables infrastructure sharing: Multi-band, multi-technology and multi-operator support
- Supports all bands: Commercial wireless and mission-critical
- Supports future wireless services: No stop bands
- Delivers higher quality signal strength: Data throughput is maximized
- Ensures a long solution life-cycle: Robust and reliable design
- Minimizes total cost of ownership (TCO): Well-balanced RF performance enables longer cable lengths, reduces active equipment requirements and simplifies system planning

Increase Network Bandwidth, Range and Reliability with MIMO

CABLES

RADIAFLEX®

RFS' industry-leading radiating cable just got better by adding the world's first ultra RF-broadband vertically polarized cable

The Best MIMO Solution the Industry Has to Offer

RLKU Series

Dominant Horizontal Polarization

Ideal for direct cellular service, metro applications, or where space in tunnels is limited

RAYA Series

Dominant Vertical Polarization

Ideal for a variety of in-tunnel applications, particularly railway installations supporting a train antenna

An Unbeatable Feature Set

Optimized for Performance

Coupling loss is continuously improved over frequency, compensating for increases in longitudinal loss

Unique Radiating Cable Design

The only cable available with no stop bands across the full spectrum

A Solution for any MIMO Application

Supports all single, dual, and multiple MIMO design approaches

Ultra-broadband RF Bandwidth

Simultaneously supports all 2G, 3G, 4G and 5G commercial wireless bands and all mission-critical bands

Ready for the Future

Supports additional wireless services up to 2700 MHz, or allows for spectrum re-banding/re-farming

Case Study: Bringing Dual-Cable MIMO to a Massive New Railway Project

Challenge: Enable wireless communications in tunnels and stations along a new 117 km (73 mile) railway line – one of the most significant infrastructure projects ever undertaken in the UK and currently Europe's largest civil engineering project.

Solution: RFS put its dual-cable MIMO solution into action, equipping new tunnel sections and 10 new stations with 42 km (26 miles) of radiating cables and antennas to enable wireless coverage and capacity in some of the most challenging locations along the new railway line.

Benefits: When the new railway line opens in 2018, passengers and railway operators will be able to take advantage of high quality and reliable wireless communications no matter where they are along the railway line. Passengers will enjoy a better experience, and railway operators will be in a better position to increase operational efficiency and maintain the safety of passengers and staff.



RADIO FREQUENCY SYSTEMS

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