



RADIO  
FREQUENCY  
SYSTEMS

Wireless Indoor Solutions

# BREAKING BOUNDARIES

to protect lives



# What it Takes to Keep People Connected in Buildings and Tunnels

Keeping **people connected** with cellular and radio communications in buildings, in metro, rail and road tunnels, in mines, and on oil platforms is **essential to protect lives**. Mission-critical operations rely on wireless communications. And disasters can occur at any time. The Grenfell Tower fire in London in 2017 and the Deepwater Horizon oil platform explosion in the Gulf of Mexico in 2010 are just two dramatic examples that captured the world's attention.

**Bringing high-quality, uninterrupted communications to indoor and underground environments is extremely challenging.** Solutions must be as resilient and fireproof as possible. At the same time, they must be scalable and flexible to optimize use of spectrum and support all wireless applications — **today and tomorrow**. And they must deliver mission-critical and commercial communications at the **highest possible speeds**.

RFS has broken through technology boundaries in every area to deliver wireless indoor communications solutions that go **above and beyond other vendors' solutions to meet all of these criteria**.

resilient and  
fireproof  
**SOLUTIONS**  
today and  
tomorrow





## The ultimate fire-resistant communications cables



To keep people connected across a fire and minimize breathing problems, **communications cables must be able to withstand high heat, flames, and water** and they must meet low-smoke, zero-halogen (LSZH) emission standards.

Our indoor communications cables have achieved the **highest possible ratings** for fire resistance and LSZH. Here are just two examples:

- **RFS DragonSkin™** is the first and only in-building coaxial cable to receive UL 2196 certification with no metal conduit, extensive wrapping or fire-resistant enclosure. This half-inch cable is **thinner, safer, more flexible, and lighter weight than any other** in-building coax cable with this level of fire resistance.
- **RFS RADIAFLEX®** radiating cables and **CELLFLEX®** coaxial cables achieved the top Construction Products Regulation (CPR) rating of B2ca with a d0 droplets rating.

**1<sup>st</sup>**  
in-building coaxial cable  
**UL 2196 certified**

withstands up to  
**1000**°C  
(1850°F)  
high-heat condition





## Ultra-wideband, 5G-ready solutions

WE SIMPLIFY  
THE EVOLUTION TO **5G**

To **futureproof deployments and safeguard investments**, in-building and in-tunnel communications solutions must support new wireless technologies, applications and frequency bands as they become available with no need to rip and replace solution components.

Our **RADIAFLEX** radiating cables are the only radiating cables on the market to **support all frequencies between 610 MHz and 3.8 GHz with no stopbands**. The patented cables feature our exclusive mode suppression technology, which stops harmonics from creating interference in higher frequencies to optimize frequency use. As a result, they are **ideal to take advantage of 3.5 GHz and accelerate to 5G**. To further increase flexibility, the cables support all commercial and mission-critical services between 75 MHz and 3.8 GHz.

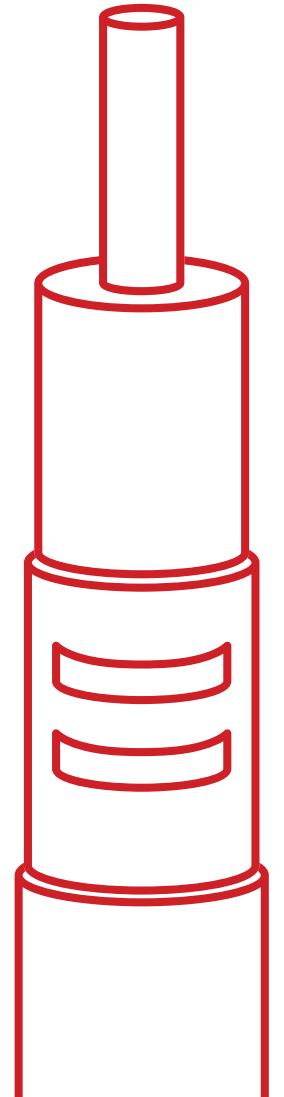
Our entire portfolio of coaxial cables is also **unconditionally 5G-ready**. The cables operate in all frequency ranges to support 5G wireless services globally. And our end-to-end passive distributed antenna system (DAS) solutions include ultra-wideband RF products from 555 MHz to 6 GHz to support any indoor application.

**RADIAFLEX radiating cables are the only ones on the market to support all frequencies from**

**610 MHz**  
to **3.8 GHz**

**FUTUREPROOF!**  
coax cables support all services

up to **6 GHz**





## The world's fastest MIMO solutions

To increase speed and capacity indoors, wireless communications solutions must support MIMO over the full length of the cable run. This is only possible with a **two-cable solution that combines a vertically polarized cable with a horizontally polarized cable to create optimal MIMO conditions along the entire cable.**

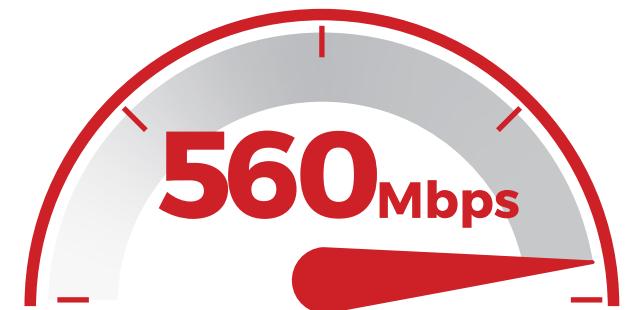
Our radiating cables feature a unique slot pattern and signal propagation capabilities that maximize the cross polarization characteristics between the two cables to **enable MIMO end-to-end** and reach speeds other vendors' MIMO solutions cannot match.

With our unique understanding of, and approach to, MIMO, we've achieved two world firsts:

- We developed the **world's first pair of ultra-broadband radiating cables** for cross-polarized 2x2, 4x4 and higher MIMO applications.
- In Norway, our 4x4 MIMO solution for the Follo Line high-speed railway project set a **new world record for download speeds in tunnels**, reaching 560 Mbps. That's approximately 95 percent of the theoretical maximum speed for 4x4 MIMO in the tunnel.

## WORLD'S FIRST

pair of ultra-broadband radiating cables for cross-polarized MIMO applications



**95 percent**  
of the theoretical maximum  
speed for 4x4 MIMO in the tunnel



## Trusted solutions proven in high-profile deployments

Our solutions have been trusted to bring fast and **reliable wireless communications** to some of the most iconic and challenging indoor environments for more than 40 years.

Here are just a few of our recent projects:

- Corcovado Visitor Center, Christ the Redeemer, Rio de Janeiro
- Eurotunnel
- Fréjus Road Tunnel
- Grand Paris Express rapid transit line
- Hong Kong metro
- London Crossrail railway network
- Louvre Abu Dhabi
- Maracanã Stadium, Rio de Janeiro
- Saint Petersburg metro
- Singapore metro





RADIO FREQUENCY SYSTEMS



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our newsletter

## CONTACT US TODAY

to learn how we can help you keep  
people connected indoors to protect lives.

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