



**RADIO
FREQUENCY
SYSTEMS**

Case Study Hong Kong 5G

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**Hong Kong International Airport
2020-2022**

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Case Study OVERVIEW

Hong Kong is one of the absolute world leaders when it comes to 5G coverage, with it already exceeding 90% of the population.

Hong Kong Communications Authorities held spectrum auctions in 2019, with operators acquiring the 3.3 GHz, 3.5 GHz, 4.9 GHz, 26 GHz, and 28 GHz spectrum bands. In addition, 700MHz has been available for 5G deployments since June 2022. Government initiatives and subsidies allowed MNOs to deliver rapid 5G rollouts and it is being embraced by industry and consumers alike.

RFS's work with China Mobile Hong Kong Company Limited (CMHK) began in 2020 as an initial trial deployment at Hong Kong international airport. They needed a partner to deliver 5G infrastructure for the deployment, overcoming the challenges of rollout that were impacting them along with all operators in the region.

The challenges

Given the speed of 5G rollouts in Hong Kong, equipment selection is key for MNOs. The spectrum bands used for 5G mean operators now need to address a wide variety of frequencies, each with specific challenges that need to be overcome to ensure smooth and successful deployments.

Alongside this complexity, operators are also feeling time pressure, with Hong Kong Communications Authorities requiring them to provide committed coverage 5 years after the 'start of use date' for each spectrum band. This puts deadlines for the complete installation of networks between 2024 and 2027 depending on spectrum bands.

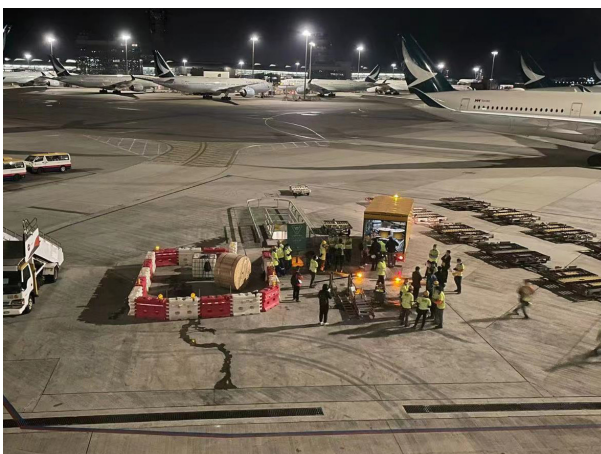
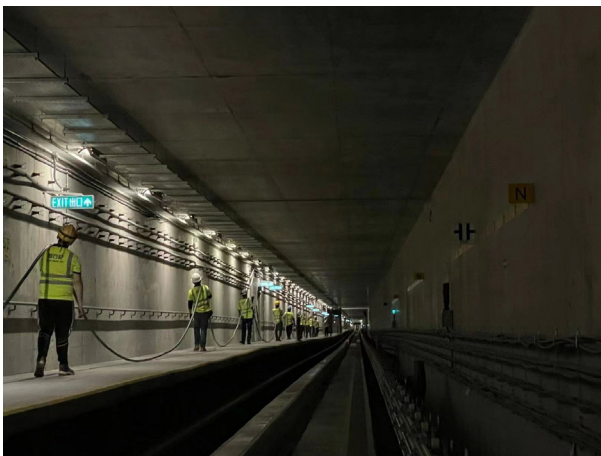


The solution

RFS was invited to coordinate with HUAWEI and local System Integrator BAI Communication for the first 5G radiating cable trial test in HK in 2020. This was based on RFS's reputation as the world's leading provider of radiating cable and previous successful deployments with both companies. For the project RFS took care of the cable requirements, providing CELLFLEX® and RADIAFLEX® series cable with additional factory-fit jumpers and connectors. It also supplied broadband antennas for outdoor and in-building and in-tunnel 5G network systems.

As the Hong Kong market was one of the first to fully commit to 5G rollouts, much of the equipment for the project was specifically designed to meet the particular needs of the Hong Kong market. RFS developed new broadband radiating cable RLKX114 which is a 1-1/4" size cable operational up to 3.8 GHz. Along with tailoring multiple indoor devices to address a wide variety of frequencies ranging from 617MHz up to 6000 MHz as required.

Following initial testing in 2020, the cable was installed in the APM tunnel at HK international airport in 21/22 to deliver the world's first successful deployment of 5G radiating cable in-tunnel to support 3800 MHz.



The result

The results met all the required KPIs set out at the start of the project. The 5G coverage available at HK International Airport has been recognized by the communications industry. **The Airport Authority HK (AAHK) received the Gold Award in the “Best Innovation for Future Enterprise”** category at the Star Awards 2021 organized by the Communications Association of Hong Kong (CAHK) for its commitment to both private-enterprise and public 5G services.

In addition, **CMHK won the «Fastest 5G Network in Hong Kong - 2021» award from Ookla®**, plus CMHK's 5G Network Reach and 5G Video Experience were No. 1 in Hong Kong in the first half of 2022.

The 5G radiating cable in-tunnel project here is the starting point for RFS's work on 5G in

Hong Kong with significant infrastructure projects in the pipeline. We are continuing to develop more 5G-specific products that marry outstanding performance and cost efficiency for operators looking to optimize their 5G networks. This includes developing solutions for and supporting AAHK in the deployment of a 5G network across its new third runway at HK international airport.

Beyond airports, RFS is poised to collaborate on the multiple rail infrastructure initiatives that will build out the 5G coverage in the region. With projects planned to provide 5G mobile service coverage to tens of rail stations and connecting tunnels over the next 5 years, plus plans to deliver 5G for several service line extensions we look forward to hopefully continuing our work in the Hong Kong market.

“We are very proud at RFS to have worked on projects that are setting the worldwide standard for 5G. We have a long heritage in the communications space but have always innovated at the cutting edge of the industry and the projects in Hong Kong are a great example of this in practice.”

Cherry Chen, Sales Manager at RFS

“When it comes to radiating cable RFS is the foremost expert and has been a trusted partner for RFE for many years. The projects in Hong Kong have delivered exactly what our end customer required, and we look forward to continuing to work with them on upcoming projects.”

Paul Chan,
Managing Director at BAI Communications HK





Lifetime Connectivity

At RFS we specialize in the design and manufacture of premium, future-ready cable solutions for customers across the globe. With over 120 years of heritage in the industry, we build reliable and long service life connectivity systems. **Because we care about our collective future.**

- We design innovative cable solutions that deliver best-in-class connectivity while tackling network pain points and offering a lower Total Cost of Ownership.
- We bring passion and expertise at every stage, from R&D to installation, to meet our business partners' expectations.
- We deliver the communications foundation for digital transformation across a range of industries including oil & gas, mining, and rail.
- We are changing the perception that all cable is created equal and demonstrating the potential of premium solutions.
- We offer a dynamic and stimulating working environment that promotes diversity and fosters personal and collective accomplishments.
- We are committed to sustainability with greener manufacturing processes and designing long-life equipment with low-energy consumption to support our customers' climate goals.

