An RFS Guide to Common Public Interface Panels

As the demand for mobile services continues to grow at an explosive rate, operators must maximize capacity and utilize every kHz of frequency spectrum as efficiently as possible.

Project Overview

In 2016, with the demand for reliable 4G service growing across Pakistan’s major cities, a Tier 1 global operator won 10 MHz in the country’s 850 MHz spectrum auction. Using the newly acquired spectrum, the operator was able to improve its existing network, serving approximately 37 million subscribers, as well as rapidly begin rolling out 4G offerings in areas including Karachi, Lahore, Islamabad, Multan, Peshawar and Swat.

The deployment of the operator’s 4G network in the 850 MHz spectrum presented tremendous opportunities for them to win new business, as well as offer existing customers an even better experience. However, building a new network so close to its existing 3G network in the 900 MHz spectrum required special consideration in order to prevent interference, which can degrade system performance and increase the number of dropped calls in the network. Co-location filters (also known as interference mitigation filters) are valuable components that can be used to prevent this interference.

Having previously worked with Radio Frequency Systems (RFS), the operator submitted an RFP to the company for a number of custom designed interference mitigation filters. RFS is ideally positioned to address today’s highly sophisticated, tailor-made co-location filtering requirements with a wide range of RF conditioning products covering all bands, and offers dedicated engineering support on a product-by-product basis. RFS’ globally-recognized products are proven to be long-lasting, extremely reliable and able to withstand a variety of harsh environmental conditions.

RFS was quick to respond and not only offered the most competitive price, but was also able to present a way to successfully simplify the operator’s requirement. RFS reduced the quantity of products from an anticipated nine filter models to three models—two custom filters to be used in the new 850 MHz network and one adapted filter to be deployed in the existing 900 MHz network.

As the demand for mobile services continues to grow at an explosive rate, operators must maximize capacity and utilize every kHz of frequency spectrum as efficiently as possible.

RFS developed and shipped three custom Interference Mitigation Filters to accommodate customer’s specific needs and aggressive rollout targets.

RFS DELIVERS CUSTOM FILTERS
Quick development and fast deployment critical to 4G network efficiency

RFS Co-location Filters Support Buildout of 4G Network in Pakistan Following Operator’s 850 MHz Spectrum Win

Building a new network close to an existing 3G network in the 900 MHz spectrum required special consideration in order to prevent interference, which can degrade system performance.

Building a new network close to an existing 3G network in the 900 MHz spectrum required special consideration in order to prevent interference, which can degrade system performance.
“After considering multiple options, the operator decided RFS was the right choice to provide the interference mitigation filter products for this project,” said Rayan Hamze, regional manager, RFS. “Our esteemed standing in the global wireless infrastructure market, coupled with our attentiveness to specific customer needs and advanced technical know-how instilled confidence that RFS would deliver what they needed expediently and without any unwanted surprises.”

RFS’ existing and trusted technical platforms are ideal building blocks that can be efficiently modified and developed into tailored solutions, avoiding the need for a complete re-design that can be time- and resource-consuming and delay deployment. To further ensure successful deployments, all RFS filtering solutions are subject to hundreds of rigorous design verification tests, including those for shock, vibration, temperature extremes, salt, fog and other environmental hazards.

“We have made significant investments in our RF conditioning products portfolio – including adding a new manufacturing facility in Suzhou, China, utilizing automation, computer-assisted tuning and lean production methods. Additionally, RFS has increased regional sales support. This allows us to have quick turnaround on all products and to be more flexible and responsive to our customers around the world,” said Andrzei Stanek, global product line manager RF Filters, RFS. “We are excited for the opportunity to be a part of this significant 4G rollout in Pakistan. By engaging with the operator early in the process we were able to tailor custom solutions to best meet their needs.”

The opportunity was divided into three phases, with product deliveries starting in Q3 of 2016 for approximately 1,500 units across the three products, followed by 3,500 units for Q4 and another 2,700 units in Q1 2017. The production target date was 11 weeks after the project kickoff, an aggressive timeline for one filter, extremely tight for three. However, RFS closely managed all aspects of the program in order to develop and start production, providing the customer on-time delivery to start deployment of their network.

All Phase 1 orders were fabricated in RFS’ Meriden, CT, USA facility, while phases 2 and 3 were transitioned to the China factory to complete the effort. This approach allowed RFS to successfully meet the customer’s aggressive timeline.

Conclusion

As a global manufacturing leader with state-of-the-art equipment, optimized processes and multiple facilities around the world – backed by the support of its experts – RFS is able to deliver on the promise of better repeatability and quicker turnaround times on custom filter designs, like those required by the Pakistani operator for its 4G network rollout. As a result, the operator can maximize capacity and utilize every kHz of frequency spectrum that they have as efficiently as possible. This is absolutely essential as the demand for mobile services continues to grow at an explosive rate.

Filters for approximately 2,500 sites were successfully deployed in 2016, incorporating all three models of the RFS filters, and an additional 5,000 sites are expected in 2017. Orders continue to come in, with the entire rollout expected to be completed in 2018.

ABOUT RFS

RFS is a worldwide leading provider of innovative wireless and broadcast infrastructure products and solutions.

Radio Frequency Systems (RFS) is a global designer and manufacturer of cable, antenna and tower systems, plus active and passive RF conditioning modules, providing total-package solutions for wireless infrastructure.

RFS serves OEMs, distributors, system integrators, operators and installers in the broadcast, wireless communications, land-mobile and microwave market sectors. As an ISO compliant organization with manufacturing and customer service facilities that span the globe, RFS offers cutting-edge engineering capabilities, superior field support and innovative product design. RFS is a leader in wireless infrastructure.

For more information, visit www.rfsworld.com, or follow us on LinkedIn: www.linkedin.com/company/radio-frequency-systems.