Bring 5G-ready remote radio units to market with Flex

A major mobile communications vendor faced a big challenge – designing, developing and manufacturing a high volume of remote radio units (RRUs) for their customers. The RRUs needed to cover a variety of frequency bands and power levels, and they had to be **5G-ready**.

Here's how we partnered with our customer to turn their early design into a new, 5G-ready offering for their customers.

The challenge

The 5G market is exploding, with the 5G RAN market expected to grow to $12B in 2022 at a 92% compound annual growth rate, according to Dell'Oro Group.

We understand that the emergence of 5G will enable a host of new services and applications utilized by more people (and things) around the world. These services will demand more capacity, higher data rates and lower latencies from the mobile networks which in turn drives the demand for a wider variety of RRUs with different frequency and power level requirements.

Facing a new set of design and operational challenges, our customer needed a partner with strong design, new product development, test engineering and global manufacturing capabilities as well as scale.

The solution

We started by engaging with our customer to clearly understand their objectives and requirements for the new RRU, as well as their initial design. Then our engineers went to work, modifying our customer's existing reference design while maintaining the baseband and power supply elements. Our engineers also advised on the mechanical and thermal specifications for the RRUs.

Because we could accommodate all power levels and create a detailed architecture for complex products, our customer was confident in our ability to deliver on their requirements on time and with quality. We worked directly with our lead manufacturing

site to effectively test the prototype and drive all required industrialization activities to ensure complete process readiness for volume manufacturing.

All design and development activities at Flex are performed in accordance with the Flex Product Lifecyle Process, a series of validation milestones between initial concept and mass production that includes concept development, product approval, product readiness, factory approval and stable production. Leveraging our advanced engineering capabilities, we progressed through the development milestones quickly while maintaining high quality standards.

Given our customer's global presence, they also required a partner with manufacturing capabilities close to the regions that best served their customers. With our global manufacturing presence and capabilities, we were able to meet their needs, as well as provide key tax and trade knowledge to advise on cost effective region-specific build strategies.

As part of the supply chain solution, we also introduced our customer to our subsidiary, **Infinex™**, providing a wide variety of electronic components from basic resistors to more advanced semiconductors. With our global scale, we can purchase mass quantities of high-value Infinex™ components, then incorporate those into products during the design phase. This reduces manufacturing cost and increases margins for our customers.

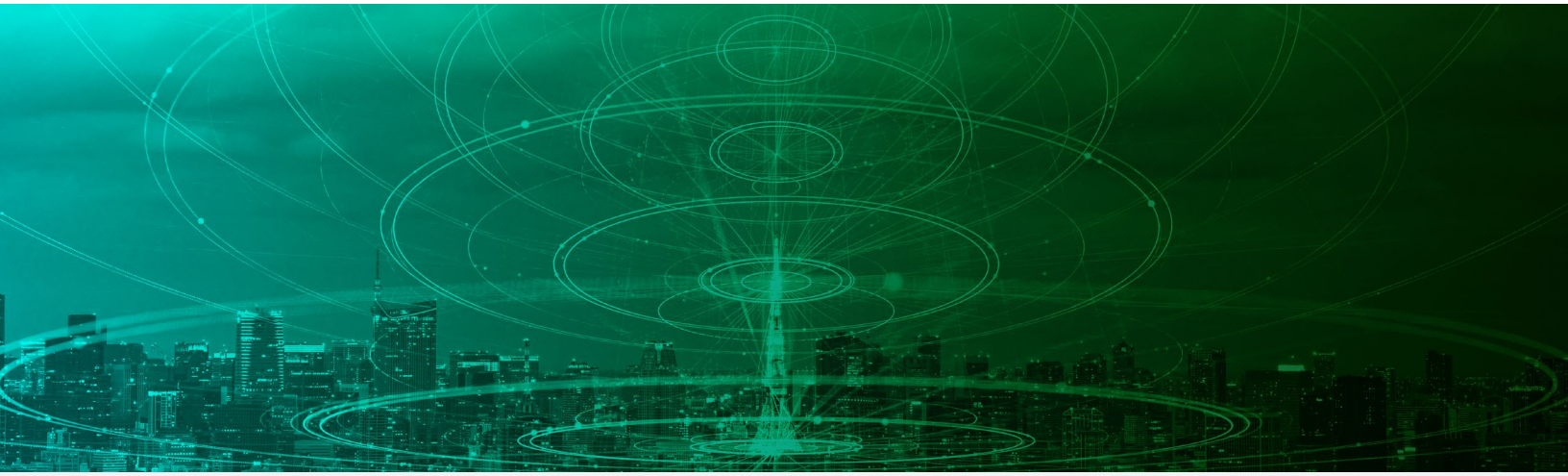
The outcome

Working together with our customer, we moved from designing the RRUs to factory approval within twelve months. And with the help of our Sketch-to-Scale™ services, our customer will be able to meet custom requests from operators, rather than offering a generalized RRU product.

As the new market for 5G creates greater ebb and flow in development demand, we continue to help our customers manage their workload effectively. We create efficiencies at every phase of the development cycle with our breadth of experience across concept design, system architecture and all the way to global production. And with our deep expertise in RAN infrastructure across the full range of frequency bands and power levels, we are helping them deliver high-quality products ready for mass production – and 5G.

In addition to providing design, development and volume manufacturing services for sub-6 GHz bands, we also cover **mmWave bands** as well as other wireless products such as massive MIMO active antennas, baseband units and microwave radios in all bands. We work as an extension of your team through every phase of the design and development process, to mass production and beyond.

Learn more about how we make your next 5G concept a reality.



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ENG-CST-1-017-00 V1