

Lucent Technologies
Bell Labs Innovations



Radio Frequency (RF) Engineering Design Service



Optimizing RF Design to Enhance
Network Performance and Control Costs

TOTAL RF SERVICES FOR WIRELESS NETWORKS

Whether you are developing a new wireless network or expanding your existing network, RF engineering is a critical task.

The requirements of the new technologies (Microcells, CMI/HIC, CDMA/TDMA overlays) make this task extremely complex. For PCS license holders, spectrum clearing further complicates the RF work.

Achieving a successful RF design for today's new technologies requires field experienced and skilled RF engineers. At Lucent Technologies, we can create an RF design that optimizes coverage and enhances performance while minimizing costs and meeting your tightest deployment schedules.

Take Advantage of Lucent Technologies' RF Expertise

Lucent Technologies is uniquely qualified to support your RF engineering needs. Our vast experience and expertise enable us to complete your work quickly, cost-effectively, flexibly, and reliably. In-depth knowledge of all areas of network design and deployment allows us to provide world-class service and give you a competitive edge in the market.

A Single Source for All Your RF Engineering Requirements

Lucent Technologies' RF engineers can perform all of the tasks required for new or established wireless carriers, including:

- **Predicted coverage analysis** — Through propagation modeling using Lucent Technologies software tools, we perform an analysis of site coverage, area coverage, in-vehicle and in-building coverage, hand-off boundaries, interference levels, and search rings for prospective sites. Our software tools are continually updated to stay current with ongoing changes in wireless technology.

- **New cell site evaluation** — We can survey and evaluate prospective candidate sites for coverage and fit with the overall system to aid in site selection.
- **Drive testing and data analyses** — Using the latest equipment and software, our RF engineers analyze the coverage of your prospective sites. The information provides an additional data point in the evaluation of sites under consideration.
- **Frequency planning** — Our software tools help us analyze your existing radio and channel assignments to determine the optimum configuration. Your system is re-tuned to reduce dropped call rates and improve hand-off performance. This activity also supports system growth and the clearing of frequencies for digital planned overlays.
- **Traffic studies** — The results of this work, which includes analysis of population densities, target segments, and busy hour calling patterns, are used to validate RF design.

Lucent Technologies' RF Engineering Design Service Gives You These Advantages

- **More Rapid Project Completion** – Our large staff of RF engineers provides the resources you need to help ensure that your wireless network is operational as soon as possible to meet business plans.
- **Quality Assurance** – Lucent Technologies' experienced RF engineers perform work under formal design process guidelines helping to ensure world-class quality.
- **Lower Costs** – RF Design Service is performed under a strict program management process to help ensure that work is on time and within budget.
- **Reduced Risk** – Our staff of RF engineers, supported by Bell Labs systems engineering experts, helps minimize risks associated with designing and building new cell sites.
- **Flexibility For Growth** – Our RF engineering designs provide the flexibility to accommodate your growth and expansion requirements.