



Picocell Base Stations and Femtocell Access Points

Mobile-over-IP for the Mobile Network Operator

In our portfolio of software-controlled RF technology solutions, RadioFrame Networks provides the mobile-network operator (MNO) a clear path to commercial deployment of customer-premise equipment (CPE) to improve coverage in homes and businesses, large and small. Inexpensive IP backhaul to the operator's network reduces costs by replacing long-haul E1/T1 circuits.

The Products

The OmniCell@Home™ and OmniCell@Work™ GSM picocell base stations offer a single-board, 1-TRX transceiver that connects to a DSL or cable modem box. On the MNO network side, the picocell integrates seamlessly with the BSC/PCU over the Nokia Siemens Networks (NSN) Abis interface. With SMA connectors, the OmniCell@Work™ picocell can be connected to a DAS or antennas and can be daisy-chained to support 2-TRX of capacity.

The Femtocell Access Point provides a small form-factor UMTS residential solution that is the first product based on RadioFrame Networks' OmniRadio™ single-chip solution. The collapsed-RAN design incorporates the functions of the RNC, allowing the femtocell to integrate with the NSN Femtocell Gateway, which communicates over the existing IuP interface to MSS/MGW and SGSN elements.

In partnership with NSN, the RadioFrame Networks product strategy is based on a carefully planned phased deployment to help the MNO achieve a large share of voice and data traffic, while enhancing service quality, throughput and customer loyalty. CPE deployment is zero-touch for the operator and plug and play for the subscriber.

Secure and Reliable Network Integration

IP backhaul saves money, but at what cost? RadioFrame Networks has accumulated experience installing and refining backhaul over shared and dedicated IP in both Europe and North America. Reliable connectivity from the customer premise to the ISP, and from the ISP to the MNO infrastructure, is critical for acceptable quality—especially for voice. Only consistently good performance will keep operating expenses low. RadioFrame Networks design stresses stable, secure IP, with separate optimized stacks for voice, data and signalling.

OmniCell picocells and femtocells are built for the mission-critical and complex environment of the live carrier network, with access-rights controls, authentication and encryption functions. Firewall security and web services provide for robust remote fault management and configuration capabilities. All infrastructure network elements support monitoring for faults, status and performance from the OMC. An optimized network element availability scheme includes the option to build in redundancy for critical elements.



OmniCell@Home™ for Residence



OmniCell@Work™ for Business



*Femtocell Access Point (FAP)
for the Home and Home Office*

- LEVERAGE YOUR NETWORK
- EXPAND YOUR BUSINESS MODEL
- INCREASE YOUR COMPETITIVE ADVANTAGE

PicoCell Base Stations and Femtocell Access Points

Standard services that subscribers expect, such as SMS, WAP, HTTP and MMS, are transparent.

OmniRadio™ Platform Keeps Cost Low

Recognizing the critical importance of keeping cost of goods at a minimum in the CPE space, RadioFrame Networks is the first equipment supplier to develop chip-based femtocell solutions.

Because of the unique software-controlled, tiered architecture, the same radio can be used for GSM/GPRS/EDGE and UMTS as well as WiMAX and LTE as these technologies come on stream. Software control means that features can be switched-on over the air without requiring a truck roll or new hardware. OmniCell products will migrate to the OmniRadio platform to keep costs low as deployments ramp to commercial volumes. An OmniRadio™-based GSM femtocell is also in development.

Opportunities for New Customer Offers

The RadioFrame Networks picocells and femtocells are drivers for new services. The MNO may sell or lease the CPE to the cellular subscriber or retain ownership, bundling localized service with a special offer. With carefully planned offers, the MNO can find new sweet spots in the product mix. This is because the CPE can add value to other features and services. A few possible examples: new femtocell-only class of subscriber (wireline replacement), dual-class (differential billing) and flexible treatment options for roaming customers or more dedicated bandwidth for certain heavy data users (where coverage or capacity is a problem).

RadioFrame Networks is at the Forefront of the Rapidly Developing CPE Capacity/Coverage Market

RadioFrame Networks pioneered localized cellular coverage and capacity enhancement for customer premises for mobile networks. Before RadioFrame Networks entered the market in 1989, the only way to extend coverage was to thin out capacity using signal-repeating techniques. RadioFrame Networks created small-scale localized base stations to increase capacity while improving coverage and has continued innovating, providing imaginative and cost-effective cellular-service solutions for campuses, hospitals, sports venues and crowded city cores.

Having shipped systems to over twenty-five countries, RadioFrame Networks is an established worldwide technology provider to Tier 1 carriers and OEMs.

Thanks to the new advanced chip-set solution developed by RadioFrame Networks, our partners can enjoy the lowest costs for building out and operating CPE radio-access solutions.



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