



Service Provider Buyer's Guide for Wireless HD Home Networks



Value proposition

IPTV business viability and subscriber take-up are hampered by the time and costs involved in wire-based home networking installations. Celeno offers service providers a robust, self installable Wi-Fi based solution for HD IPTV home networking, enabling flexible and cost-effective deployment.

Technology purchase criteria

Service providers seeking to offer a wireless home networking solution for HD IPTV home networking require a technology that:

- delivers a high-quality, flicker-free viewing experience with whole home coverage
- provides interference resiliency with minimal impact on neighboring systems
- enables cost-effective scalability

Celeno Meets Your Business Requirements

As compared to other solutions, Celeno's technology is uniquely suitable to meeting service providers' requirements:

Service Provider Requirement	"Plain vanilla" Wi-Fi	"Directional Antenna" Wi-Fi	"Celeno" Wi-Fi
Performance	○	◐	●
Multi client	○	◐	●
Cost of video home network	●	○	●
Future proof	●	○	●
Interference immunity	○	◐	●
Eco-friendly	◐	○	●

Real time delivery of HD video is a must: Sustaining enough throughput for multiple IPTV streams without losing a single packet over long distances, across multiple walls and floors (e.g., in town houses) - is an immense challenge using Wi-Fi technology. Celeno's ground-breaking OptimizAIR™ cross-layer optimization technology achieves throughput supporting four HD streams with measured 10E-8 packet error rate or better in extremely challenging apartment layouts and multi-floor town houses.

Supporting concurrent, multi-client scenarios is mandatory:

Your subscribers need several concurrent HD streams to support multiple TV's in different rooms with different channels on each. Easy installation and addition of STBs, without service interruption with one-button Wireless Protected Setup, is critical. Deployment flexibility to support different relative positions of the receiving clients with respect to the Access Point is also key. Celeno's real time, electronic beam forming and Channel aware TDM-scheduled MAC allows for packet-by-packet switching between clients while guaranteeing quality of service and fair treatment to each.

Cost of a multi-client home network can ramp up very quickly:

The Celeno solution is optimized to ensure an effective cost structure in a multi-client scenario. Celeno offers the industry's first implicit transmit beam forming access point technology with complete client agnostic operation, delivering future-proof HD performance when paired with any 3rd party Wi-Fi client chipset (even low end single stream, single antenna designs). Service providers enjoy a high end video solution which reflects the Wi-Fi mass market price curve.

Future proof solution for peace of mind: As set top box technology advances, IPTV offerings will evolve from external adaptor kits to Wi-Fi enabled STBs. Choosing one access point technology that guarantees HD performance using client adaptors today and with any Wi-Fi enabled STBs in the future preserves your investment and reduces dependence on STB Wi-Fi technology.

Interference immunity becomes more important as the 5GHz spectrum fills up:

The unlicensed 5GHz spectrum is the clear choice of service providers for video streaming. Not only is it less prone to home appliance interference, it offers more channels to choose from than the 2.4GHz spectrum. Nevertheless, future mass deployments may face a saturated 5GHz spectrum, especially in condominiums or other densely populated areas. Celeno achieves HD performance utilizing a single 20MHz channel (compared to 40MHz implementations), which ensures excellent interference resiliency. The combination of efficient spectrum utilization, channel selection and hopping techniques enables avoidance of polluted channels in even the most saturated environments.

Be environmentally responsible: Celeno's unique transmit technology employs phased-array beam forming with adaptive power control which keeps the radiated energy to a bare minimum across the home as well as in neighboring apartments – in fact, radiation is only a small percentage of that induced by other WiFi solutions. Celeno-enabled solutions meet the European CoC (Code of Conduct) for energy savings in broadband equipment and interfere less with neighboring devices and systems.

Vendor selection

Celeno is the smart choice of IPTV service providers wishing to deploy cost-effective Wi-Fi based home networking solutions:

- Best HD viewing experience
- Cost-effective multi-client scalability
- Carrier grade, Self installed, plug and play installation
- Partnerships with industry leading manufacturers
- Available today

For more information:

info@celeno.com | www.celeno.com | Tel: +972 9 745 4646 | Fax: +972 9 745 1941

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