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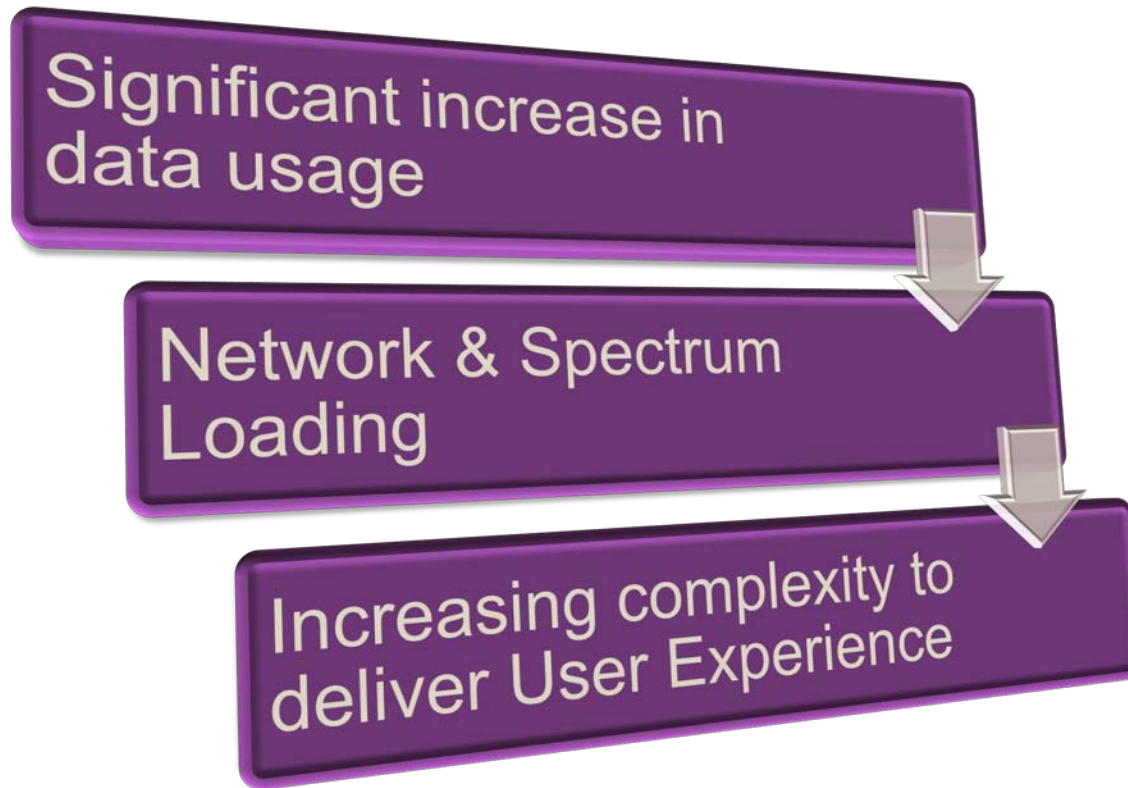
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Modem Leadership

Serge Willenegger, VP Technology, Qualcomm
Head of Cellular Technology Portfolio Management

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Industry Challenges for Radio Access



DELIVERING GREAT CONNECTED MOBILE EXPERIENCES
REQUIRES A SMART APPROACH

Qualcomm Modems Are Complete Solutions That Adapt to Network Conditions

DELIVERING FASTER, SMOOTHER REAL-TIME CONNECTIONS



SMOOTHEST VOICE AND DATA

- Dynamic optimization
- Seamless handoffs
- HD Voice
- Noise cancellation
- Pre-designed to work best with apps processors

ALWAYS CONNECTED

- 3G/4G, WLAN, BT, FM
- Multimode/Multiband
- Strong reliable connection in more places
- Smart power management and savings
- Support for connected applications

FASTEST CONNECTIONS

- Industry leading technologies
- Real-time connection choices
- Smart signal clean-up

Modem Leadership

Only complete multimode
modem solution with
integrated 4G LTE/3G

World #1 supplier
of 3G modems

#1 in integrated
multimode LTE+3G
modems



Source: iSupply Q2 2011, QCT

Qualcomm: Cellular Modem Leadership

ADDRESSING ALL
TIERS

SYSTEM
SOLUTIONS

GLOBAL
MULTIMODE

LEADING EDGE
TECHNOLOGY

Roadmap Leadership: Breadth and Depth

Dongles/Data Cards/Hotspots



Entry Level Devices



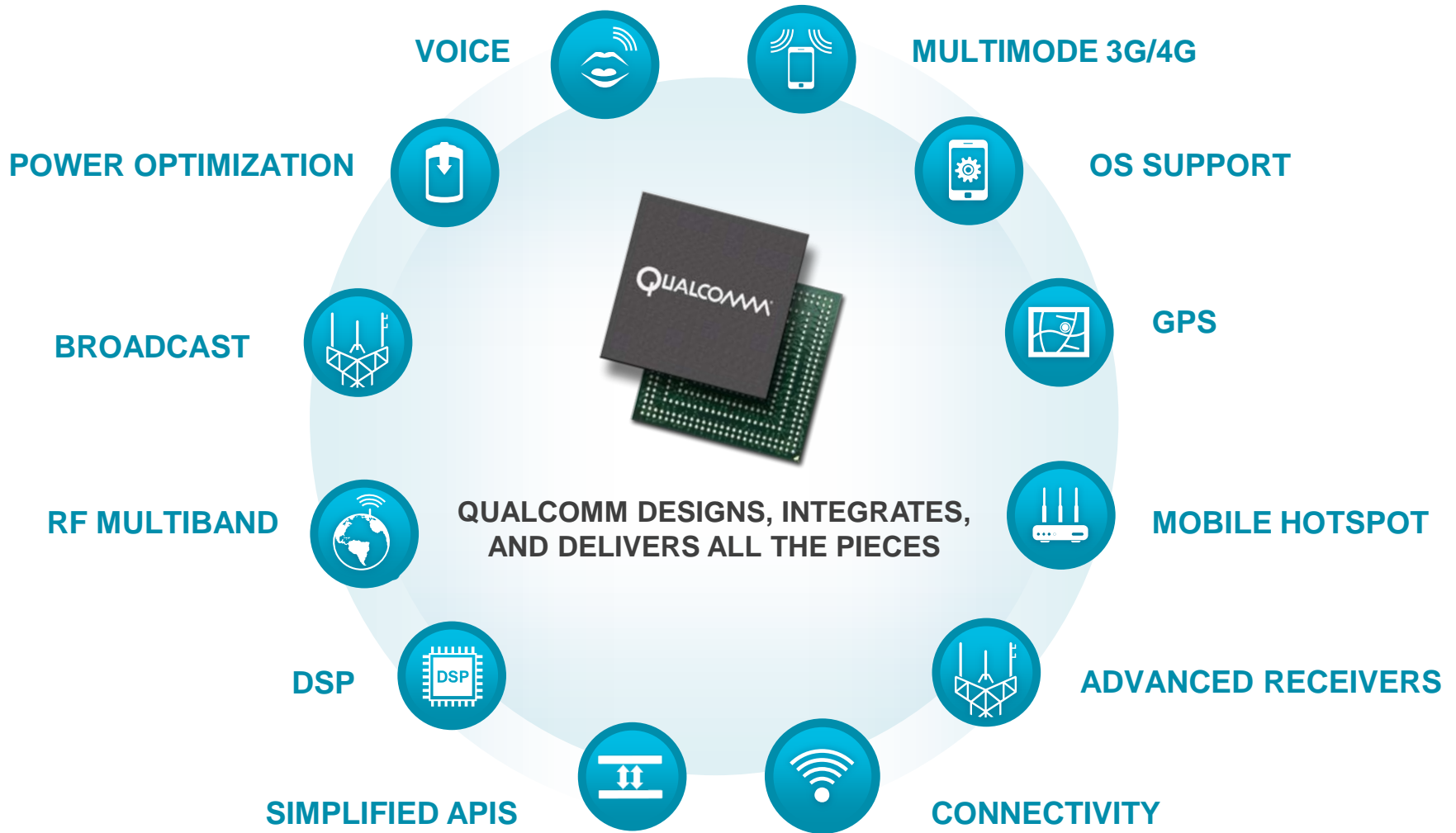
Smartphones and Tablets



MODEMS ARE THE FOUNDATION

System Solution

A KEY TO MEETING COMPLEX CONNECTIVITY REQUIREMENTS



Introducing Next-Gen Integrated LTE/3G Multimode Solutions

Integrated Connectivity

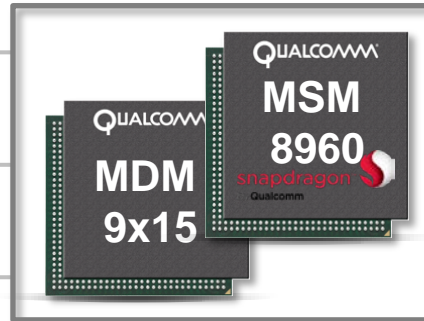
Bluetooth, GPS, GNSS, WLAN

Voice

(3G/LTE CS Fallback Now and VoLTE later)

Advanced Receivers

(QICE, QLIC, IC, Rx Diversity)



LTE FDD (100 Mbps DL / 50 Mbps UL)

LTE TDD (68 Mbps DL / 17 Mbps UL)*

DC-HSPA+ (42 Mbps UL / 11 Mbps DL)

Rev. B(14.7 Mbps DL / 5.4 Mbps UL)

1X Advanced

TD-SCDMA

GSM/GPRS/EDGE

CDMA2000 1X

*Data rates depend on TDD partitioning.

Qualcomm Supporting LTE Launches Globally

US/CANADA

700, 850 MHz
1.7/2.1, 1.9, 2.5 GHz



EUROPE

800, 900 MHz
1.8, 1.9/2.1, 2.5 GHz



ASIA-PACIFIC

450, 700, 850, 900 MHz
1.7, 1.8, 1.9/2.1, 2.3, 2.5 GHz



AFRICA & MIDDLE E.

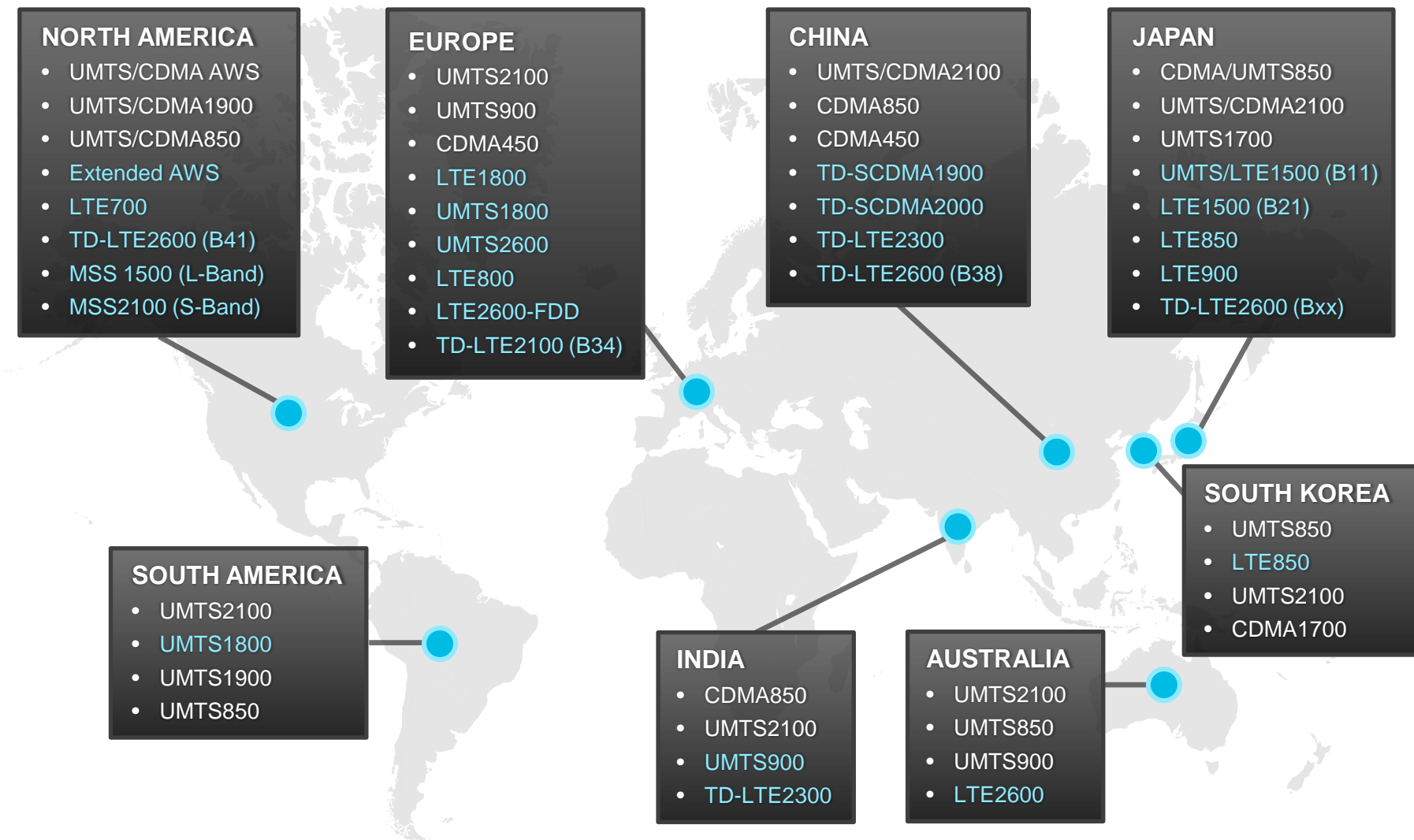
450, 800, 850, 900 MHz
1.8, 1.9/2.1, 2.5 GHz

LATIN AMERICA

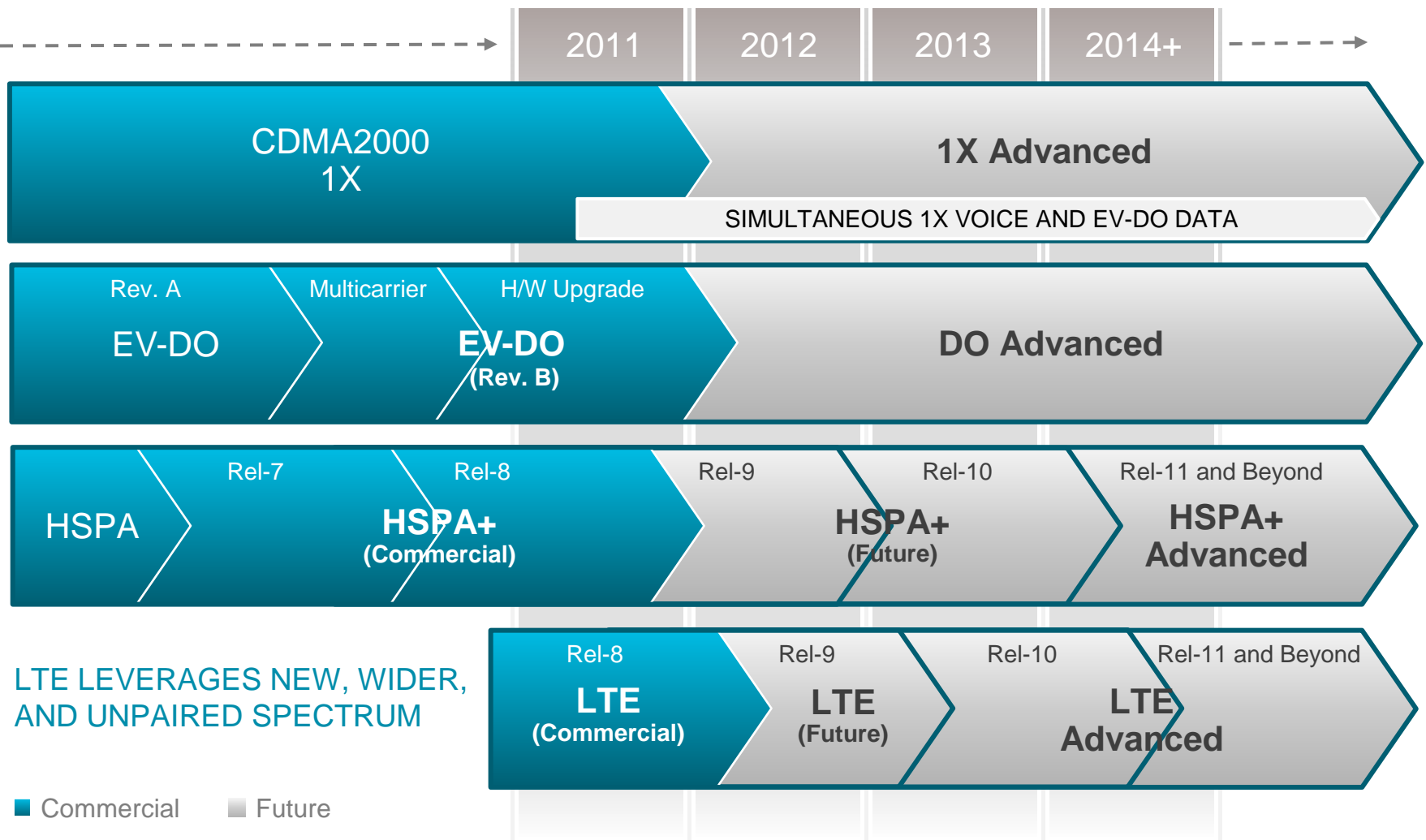
450, 700, 850, 900 MHz
1.7/2.1, 1.8, 1.9, 2.5 GHz

Telstra

Over 40 RF Bands Required & More to Come!



Technology Leadership across 3G and 4G



Note: Estimated commercial dates. Created February 8, 2011.

Femto Cells Evolve To Small Cell Networks

RESIDENTIAL

SMALL ENTERPRISE

LARGER SCALE ENTERPRISE / RESIDENTIAL

Initially: Indoor Hot-Spots

- Deployed by user—"unplanned"
- Supports restricted access
- User's broadband connection
- Scalable Femto network architecture

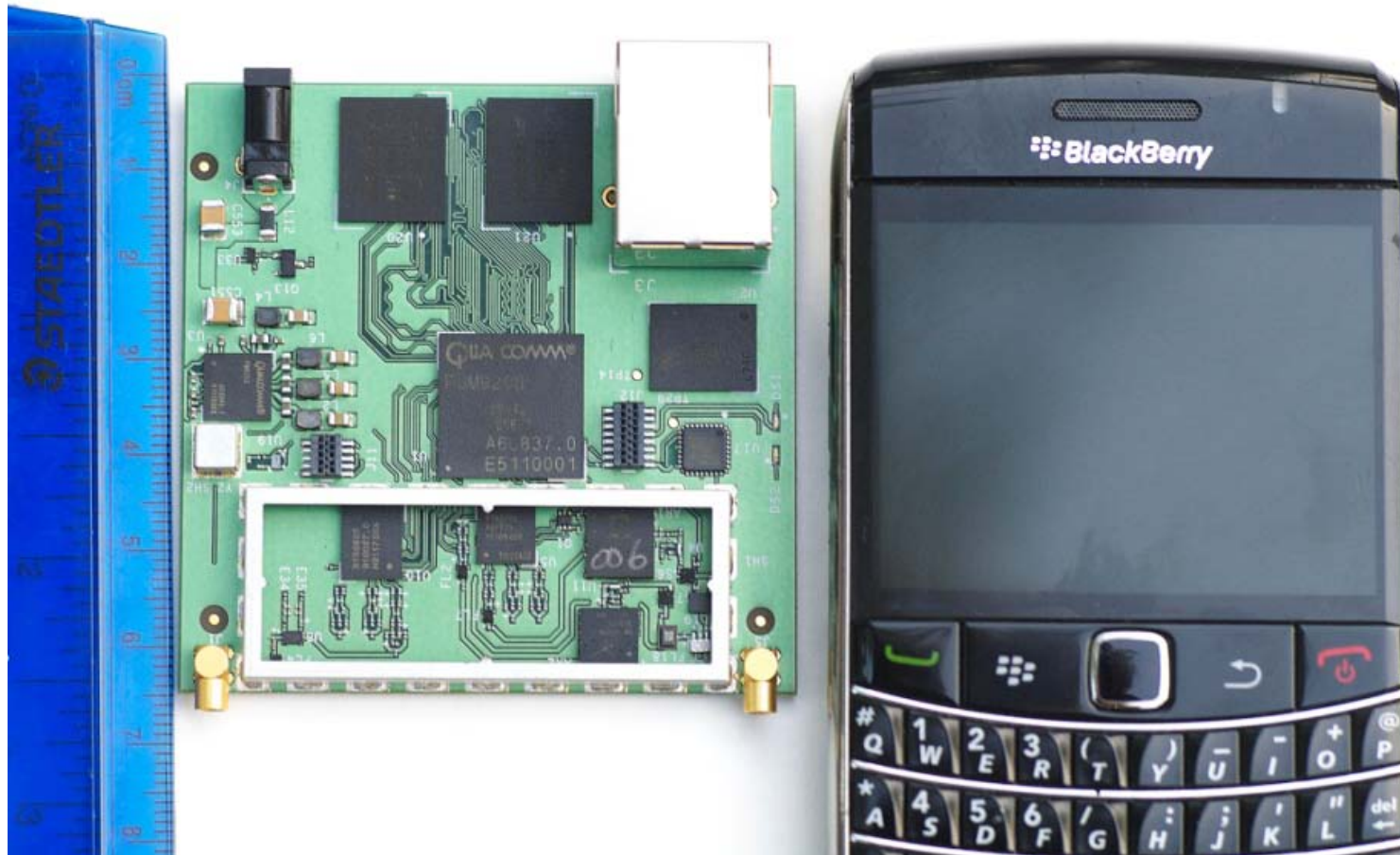
FEMTOCELLS
USED AS
TRADITIONAL
PICOCELLS

Next: Denser Indoor And Even
Outdoor Deployments

- Also deployed by operator
- More enterprise and open access
- Service continuity (Active Handoff)
- Interference coordination

Qualcomm's FSM Solution

Small PCB, Low Power, Ultra-SON – Plug & Play Smart Interference Management





Thank You

