Alex Katouzian Senior Vice-President, Product Management, Qualcomm Technologies, Inc.

## The Qualcomm difference





# Strategy for sustainable mobile technology leadership









System design approach

Execution at scale

## **Technology innovation**

Industry-driven technology roadmap Maintaining control of key technology blocks  $\sim$ 

Smartphones are changing consumer behavior

Result of immediacy, portability, and connectedness







Qualcomm Technologies, Incorporated. All Rights Reserved.

Smartphones are changing consumer behavior

Result of immediacy, portability, and connectedness





The Ultimate Stage





Internet access



Maps



Social networking

Smartphones are changing consumer behavior

Result of immediacy, portability, and connectedness

70+% Can't leave the home without it

**~80%** Play games on their phones

~90% Use their phones to search and shop

~80% Use phones to navigate

\* This stat is specific to India and the frequency of taking pictures is a few times a week Qualcomm Technologies, Incorporated. All Rights Reserved.



60+%

Access their Facebook site via mobile phone

**1B** 

Access social networks via mobile

Watch movies on their device at least monthly

~80%

Take pictures with mobile device instead of traditional camera\*

User consumption of mobile data continues to rise



## Investing in technology leadership

#### Enabling rich mobile experiences



### Maintaining control of key technology blocks



## System design approach



Custom designed mobile processors Mobile optimized system architecture Optimized software and broad OS support Comprehensive system level design for RF/modem System approach further differentiates our mobile solutions

High performance at low power and thermal



Power optimization throughout the system

Custom designed mobile processors

Innovation independence to enable superior mobile experience



## Mobile optimized system architecture

Right workload for the right processor, efficiently utilizing heterogeneous processors



Custom designed high end experience across all tiers

Bringing the latest technical innovations deeper into portfolio



Broad support for high level operating systems



## A recent example—new Facebook home optimization

System-level performance enhancements related to key Snapdragon technologies



New Facebook home optimized for Qualcomm Snapdragon

- Better overall performance
- Lower power usage
- Better data transfer

## Snapdragon **Quad** core CPUs outperform competitor **Quad** core CPUs





Source: Anandtech, Engadget April 2013

System approach for 3G/4GLTE/modem technologies

**Qualcomm**<sup>®</sup>

Technology leadership across the board

#### Modem technology leadership

- 3rd Gen LTE modem
- Multimode, multiband support
- Advanced features

#### **Superior performance**

- Throughput / voice quality
- Power / thermals
- Mobility / reliability

#### **Commercial maturity**

- Highly integrated
- Extensive IOT and optimization
- Large-scale deployments

### Our unique advantage

Hiding the complexity underneath the most seamless mobile connectivity



Redirection w/ measurements Qualcomm Technologies, Incorporated. All Rights Reserved.

CS fallback CSFB w/ SI tunneling

Single radio VCC



## LTE carrier aggregation (CA)

Designed to solve band fragmentation, addressing growing number of CA band combinations



WTR1625L world mode RF transceiver \*

Introducing the first truly global RF solution for 4G LTE devices

RF360 front end architectural solution

One solution Designed for: Multiband. Multimode all modes **Advantages** all bands Antenna Envelope matching power Processor tracker tuner Modem RFIC PMIC Power amp **RF POP** & antenna **Qualcomm** switch **RF360** Half the size\*

### Single SKU

Power

Performance

Size

Reduced development time

Comprehensive system-level solution

Modem, AP, sensors and RF work together to enable superior mobile experience



## **Execution at scale**

Quick design cycles Bringing leading technology to all tiers Technology leadership



## A history of mobile firsts

#### 2008

- 1st 1 GHz Scorpion CPU
- 1st Integrated 3G Multimode

#### 2010

- 1st 1.4 GHz Scorpion CPU
- 1st Integrated
  GPS + GLONASS

#### 2011

• 1st & Only aSMP Dual Core

#### 2012

- 1st Integrated 3G/4G Multimode
- 1st on 28nm
- Krait 200 CPU
- Krait 300 CPU









Snapdragon processors: a solution for every tier



#### Snapdragon 800

Premium mobile computing devices including: tablets, smartphones, and Smart TVs.

#### **Snapdragon 600**

. . .

Mid-high tier smartphones and tablets.



#### **Snapdragon 400**

High volume smartphones and tablets.



#### **Snapdragon 200**

Entry level smartphones and tablets.



## Snapdragon 800

#### A leap forward in performance and power



### Snapdragon 800 takes mobile entertainment to a whole new level

#### New user experiences

Ultra-HD capture and playback Picture-in-picture photos and videos HD simultaneous videos 3D imaging Natural UI/ gesture Content streaming to larger screens Rich Web experience





Custom designed high end experience across all tiers

Bringing the latest technical innovations deeper into portfolio



**QRD:** Comprehensive solution for OEMs

A pre-engineered solution that combines strong support, flexibility and scale



Reduced development time

Design flexibility and feature innovation



Broad portfolio enablement

### Qualcomm Reference Designs Double the device launches from 2012 to 2013



Source: Qualcomm data, as of Q2 2013 Qualcomm Technologies, Incorporated. All Rights Reserved Snapdragon processors

The heart of the latest devices

85+

manufacturers shipping with Snapdragon

## 850+

devices announced or commercially available



Qualcomm Gobi modem technology leadership

435+ computing (USB, embedded, tablets, routers) 260+ designs in development 210+ M2M modules and devices **900+** Gobi-enabled devices launched since 2009

120+ handsets





Number one in all the leading mobile technologies





Sources: Mobile AP Unit Shipment - Strategy Analytics; GPU Shipment - Jon Peddi Research; DSP shipment - Forward Concepts; 3G/4G/LTE - Strategy Analytics; RF iSuppli, Q1'12

## Mobile technology leadership – today and in future









System design approach

Execution at scale



For more information, visit us at: www.qualcomm.com & www.qualcomm.com/blog

© 2013 Qualcomm Technologies, Inc. All rights reserved. Qualcomm, Snapdragon, and Gobi are trademarks of Qualcomm Incorporated, registered in the United States and other countries. Trademarks of Qualcomm Incorporated are used with permission. Other products and brand names may be trademarks or registered trademarks of their respective owners.



QUALCOMM Technologies, Incorporated, 5775 Morehouse Drive, San Diego, CA 92121-1714