



Snapdragon 820 - Technology and Traction

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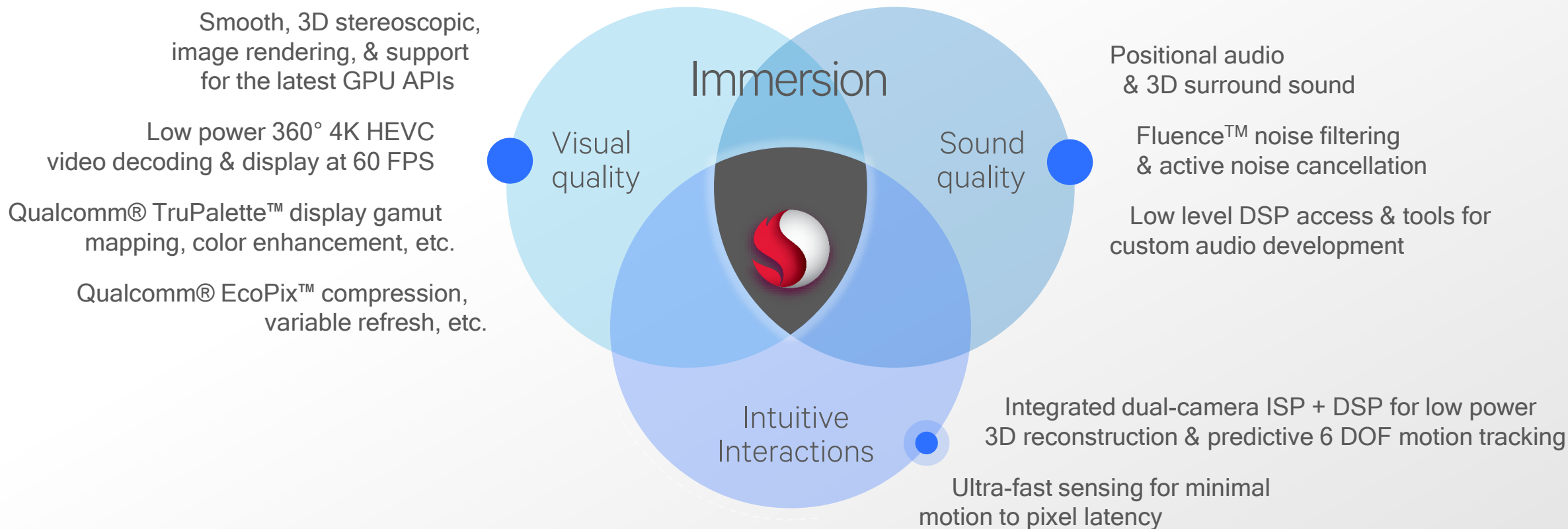


Snapdragon roadmap drives new experiences



Snapdragon 820 is ideal for mobile VR

Designed to meet the VR processing demands within the thermal and power constraints



Adreno Visual Processing

Qualcomm Spectra ISP

Hexagon DSP

Zeroth

Qualcomm Aqstic™ audio

FastCV™ SDK

Snapdragon tools

MWVC 2016

Recap

Snapdragon 820 Momentum

Snapdragon 820 in virtually every flagship device



HP
Elite X3



Xiaomi
Mi5



LeEco
Le Max Pro



Samsung
Galaxy S7 and
Galaxy S7 Edge



LG
G5



Sony
Xperia X
Performance



Vivo
Xplay 5S



100+ designs
in development

*“Qualcomm back inside Samsung’s
flagship phones”*
The San Diego
Union-Tribune.

*“Xiaomi’s Mi 5 Launch Event a Giant
Qualcomm Lovefest”*

<re/code>

*“Qualcomm is back with a vengeance.
Welcome to Snapdragon World Congress”*

THE VERGE

*“Xiaomi's 'most beautiful' flagship
rocks a Snapdragon 820”*

engadget

“5 Reasons To Buy The LG G5”

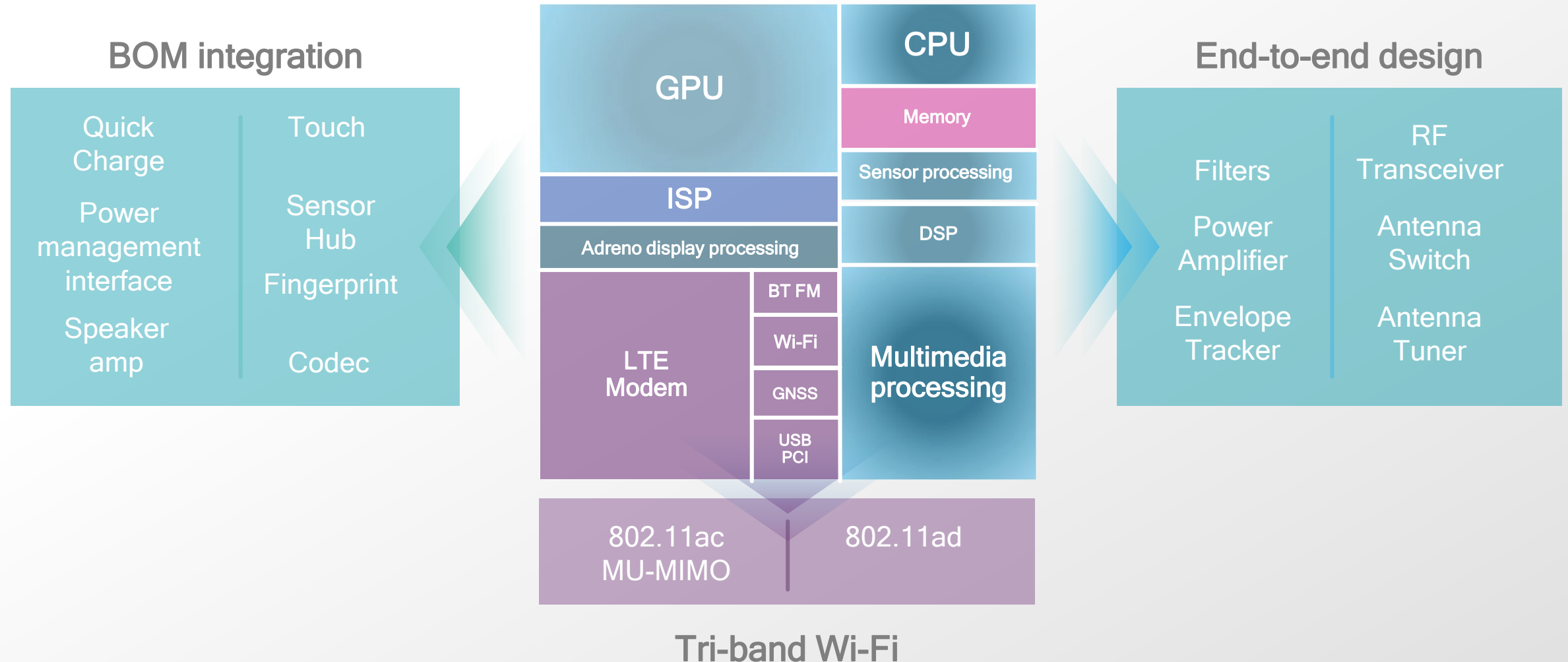
Forbes

*“Qualcomm: The Biggest Winner
Of MWC 2016”*

BFN **BUSINESS
FINANCE** **NEWS**

Expanding the Snapdragon platform

Increases differentiation and revenue opportunities



Snapdragon X12 LTE Modem

Up to 600 Mbps - Cat 12 DL

via 3x20MHz CA and 256-QAM, support for 4x4 MIMO

Up to 150 Mbps - Cat 13 UL

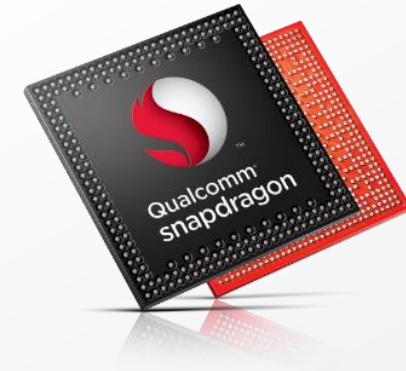
via 2x20MHz CA and 64-QAM

Multi-gigabit, Tri-Band Wi-Fi (2.4, 5 and 60GHz)

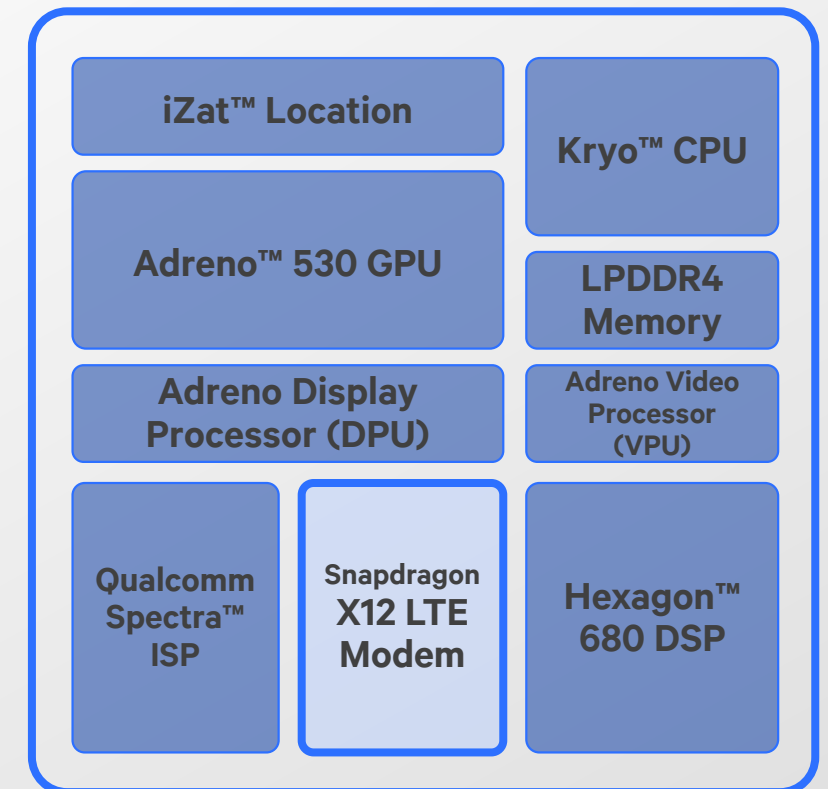
With 802.11ac 2x2 MU-MIMO and 802.11ad

Next-gen Calling – Enhanced mobility + quality

Smart Wi-Fi calling, Ultra HD voice

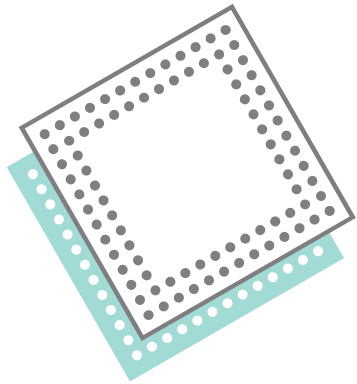


Qualcomm® Snapdragon™ 820 Processor

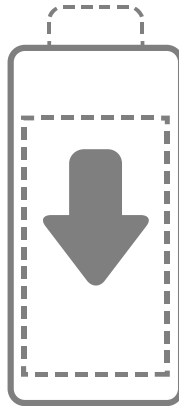


Kryo CPU

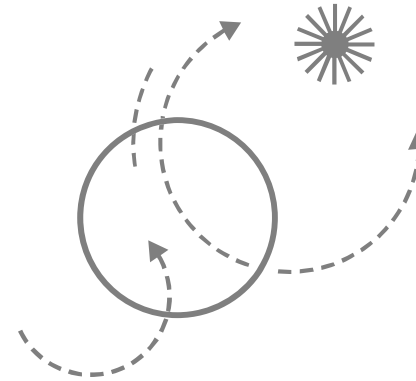
**Custom 64-bit
CPU architecture**



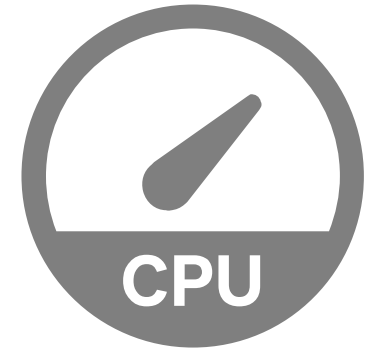
**Up to 2x Better
performance***
2X Lower power*



**14nm FinFET
process technology**



**Quad core CPU
up to 2.2GHz**



Adreno 530 GPU

Leading the way in mobile visual processing

Up to 40% better
performance*

Up to 40% lower power*



Designed for
mobile UIs, games,
web and VR

Latest in graphics and
compute APIs

*compared to Snapdragon 810

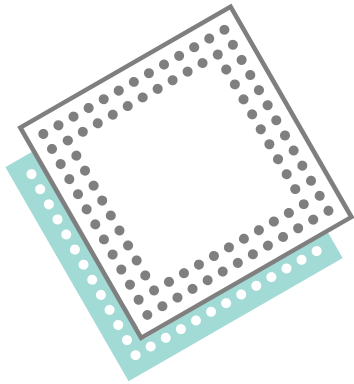


Hexagon 680 DSP

Core technical benefits

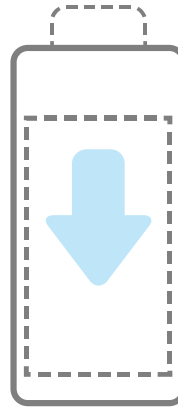
New Hexagon

Media coprocessing
and computer vision



3x better performance*

10X lower power



Integrated Sensor Core

Low power island
for always-on processing



*compared to our quad core Krait on imaging use case

Before



After

Qualcomm Spectra ISP
With Heterogeneous Signal Processing





Introducing



- 4X faster than conventional charging
- > 35% more efficient than Quick Charge 2.0
- #1 fast charging solution
- Connector agnostic

Snapdragon Sense ID fingerprint technology

Mobile Industry's FIRST ultrasonic fingerprint technology

Easier & More Reliable User Experience

Scans through:

- Common contaminants
- Glass (up to 400 μm)
- Metal (up to 400 μm)
- Plastic



3D ultrasonic imaging



Sweat pores and incipient ridges

More Secure

- Detailed 3D map
- Liveness detection
- Based in hardware
- On-device processing

End-to-end solution

- Custom ultrasonic ASIC
- Integrated with FIDO UAF biometric protocol
- Algorithms managed by SecureMSM technology



Expected in commercial devices 2H 2015

Snapdragon Sense ID

Accuracy and consistency



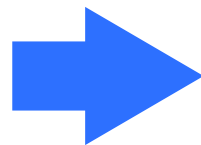
Improved user experience by consistently scanning
through various contaminants



Snapdragon

810Processor

Cortex A53/A57	Custom Kryo CPU
Adreno 430	Adreno 530
Hexagon v56	Hexagon 680
4K30 8-bit	4K60 10-bit
X10 LTE Cat 10	X12 LTE Cat 12/13
Dual-ISP 20MP ZSL	Spectra ISP 28MP ZSL
802.11ac	802.11ad 60GHz
Display Compression	Intra-core compression with UBWC
	Low Power Island (NEW)



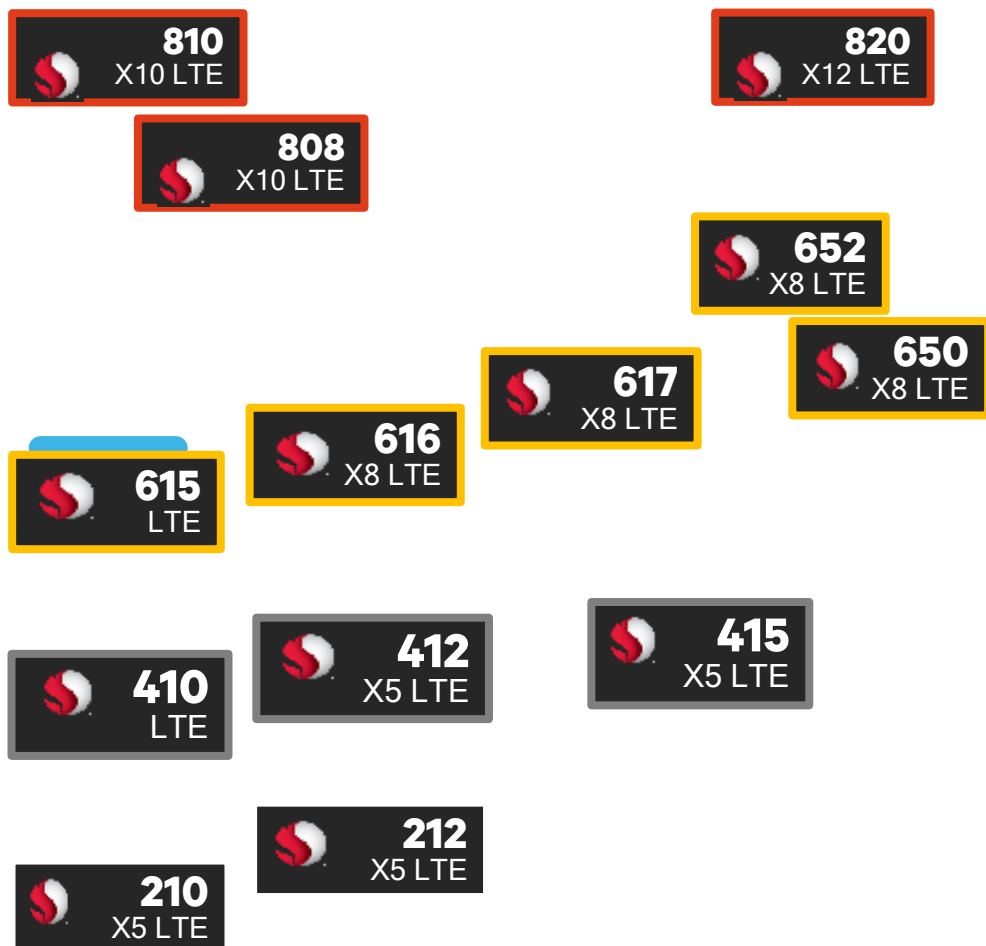
Snapdragon

820Processor

Roadmap

Snapdragon Announcements

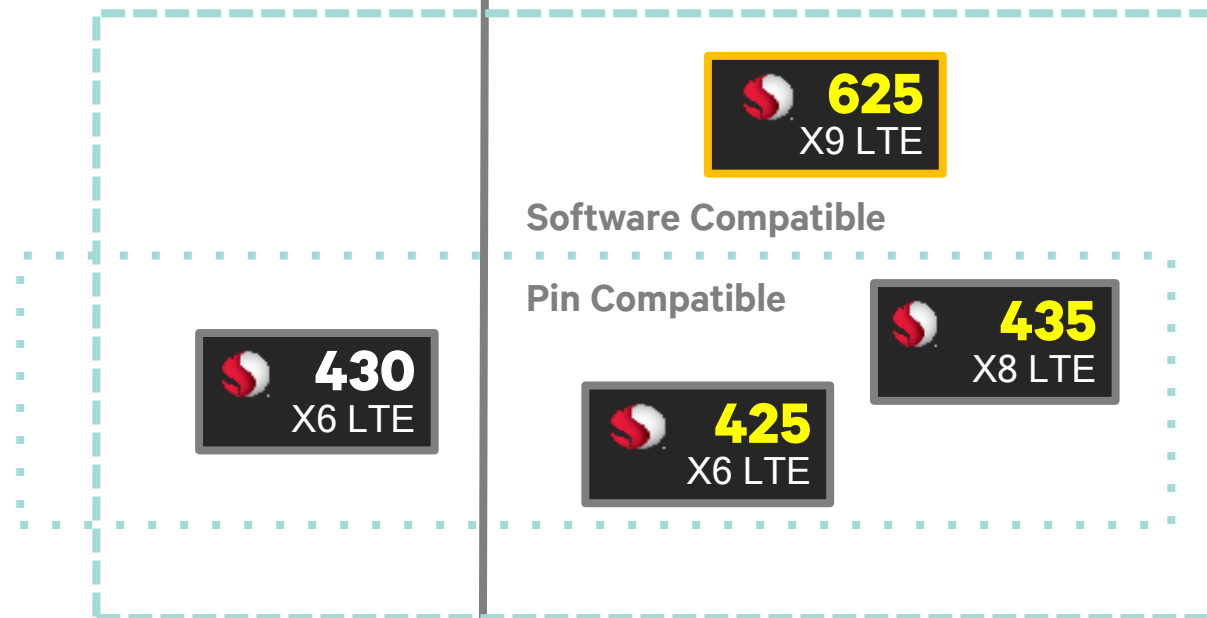
Production



Previously Announced



New Announcements



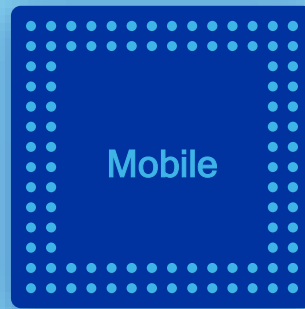
Adjacent opportunities transformed by mobile



Mobile compute



Networking



Adjacent opportunities transformed by mobile

Auto

Mobile experiences
on car displays

Vehicle-2-Cloud connectivity



Mobile compute

Smartphone
changing productivity

Cloud experience driving
always on connectivity

All-day computing



IoT

Connectivity everywhere
and smart processing

Mobile ecosystem scale

Smartphone as IoT remote control

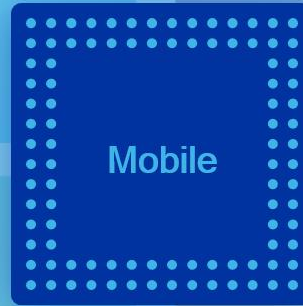


Networking

Integrated gateway hub
for the home or enterprise

Wireless video defining use cases

LTE and Wi-Fi convergence



Thank you

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