Paul Torres
Applications Processor Product Management
Qualcomm Technologies, Inc.

MPEG

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Deploying mobile technology at global scale

>1 Billion

3G/4G based devices shipped in 2013 enabled by Qualcomm® technology*

*Est. as of January 29, 2014, based on information reported by licensees.
Users turn to mobile devices for everything

- **Time spent per day using smartphones**: 147 minutes (compared with 113 minutes watching TV)
- **Simultaneous use of both tablet and Smartphone**: 41%
- **Personalized data streams transforming the user interaction paradigm**: 100+ APPS & SERVICES

*Source: Nielson, Jul. '14, Analysis Mason, May '14, Gartner, Jan. '14*
UHD 4K on Mobile
Higher Resolutions driving the need for better compression efficiencies

Continuous desire to capture image & video at higher fidelity

**Camera:** 2MP $>$ 5MP $>$ 8MP $>$ 13MP $>$ 16MP

**Camcorder:** 480p $>$ 720p $>$ 1080p $>$ 2160p

Hundreds of millions of mobile devices capable of capturing 4K video
Ecosystem and technology drivers are aligning for the rise of 4K

**Ecosystem Drivers**
- Content availability
- Content distribution
- 4K component cost
- 4K device availability

**Technology Advancements**
- Network speed
- Video compression
- Processing horsepower
- Display technologies
4K content is becoming rapidly available

The transition to 4K will be faster than 1080p due to user generated content and over-the-top (OTT)

**YouTube uploads**
More video is uploaded to YouTube in one month than the 3 major US networks created in 60 years

**4K TV shows and movies**
A growing number of movies and TV shows have been digitally captured and mastered in 4K (or higher) resolution

**4K streaming**
Netflix, Amazon, M-GO and YouTube, the 4 biggest streaming platforms, plan to stream 4K content in 2014

**4K broadcast**
Standards for distribution are being ratified and intended for services beginning in 2014 and beyond

Source: Time magazine 2012 (http://content.time.com/time/magazine/article/0,9171,2106815,00.html)
Improving user experiences across all product tiers

- **210 (8909)**
  - 3G/LTE Cat 4
  - 1280x720
  - 8Mpix

- **410 (8916)**
  - 3G/LTE Cat 4
  - 1920x1080
  - 13.5Mpix

- **610/615 (8936/39)**
  - 3G/LTE Cat 4
  - 2560x1440
  - 16Mpix

- **808/810 (8992/8994)**
  - 3G/LTE-A Cat 6
  - 4096x2160
  - 55Mpix

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*As compared to the previous Qualcomm RF solution

1. Average of top Graphics Benchmarks performance, normalized to Adreno 306

2. qualcomm.com/chipsets/quick-charge
### Snapdragon Video Codec Support and Performance

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Thank you

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