

August 13, 2013

Ex Parte

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268

Dear Ms. Dortch:

On Monday, August 12, 2013, James Warden, Paul Frew, David Steer, and the undersigned of BlackBerry Corporation, along with Chris Parandian of Tin Can Communications, met with Louis Peraertz, Dave Grimaldi, and Sarah Whitesell of Chairwoman Clyburn's office. The discussion focused on the topics set forth in the attached slide presentation.

During the meeting, we discussed the practicalities around the technical implementation of the proposed band plans. Consistent with our comments and our response to the Commission's May 17th Public Notice, we reiterated our support for the Commission's "Down from 51" approach and answered questions about market variation.

We also discussed the technical constraints presented by antenna design and filter requirements, including size and performance constraints. BlackBerry emphasized that it is important for the Commission to recognize the limitations of technology in designing a path forward to achieving our shared objectives of maximizing spectrum, increasing flexibility, and creating an environment that supports ubiquitous and sustainable mobile handsets. As well, we repeated our support for an internationally harmonized band as the best way to achieve a competitive and healthy handset ecosystem.

Sincerely,

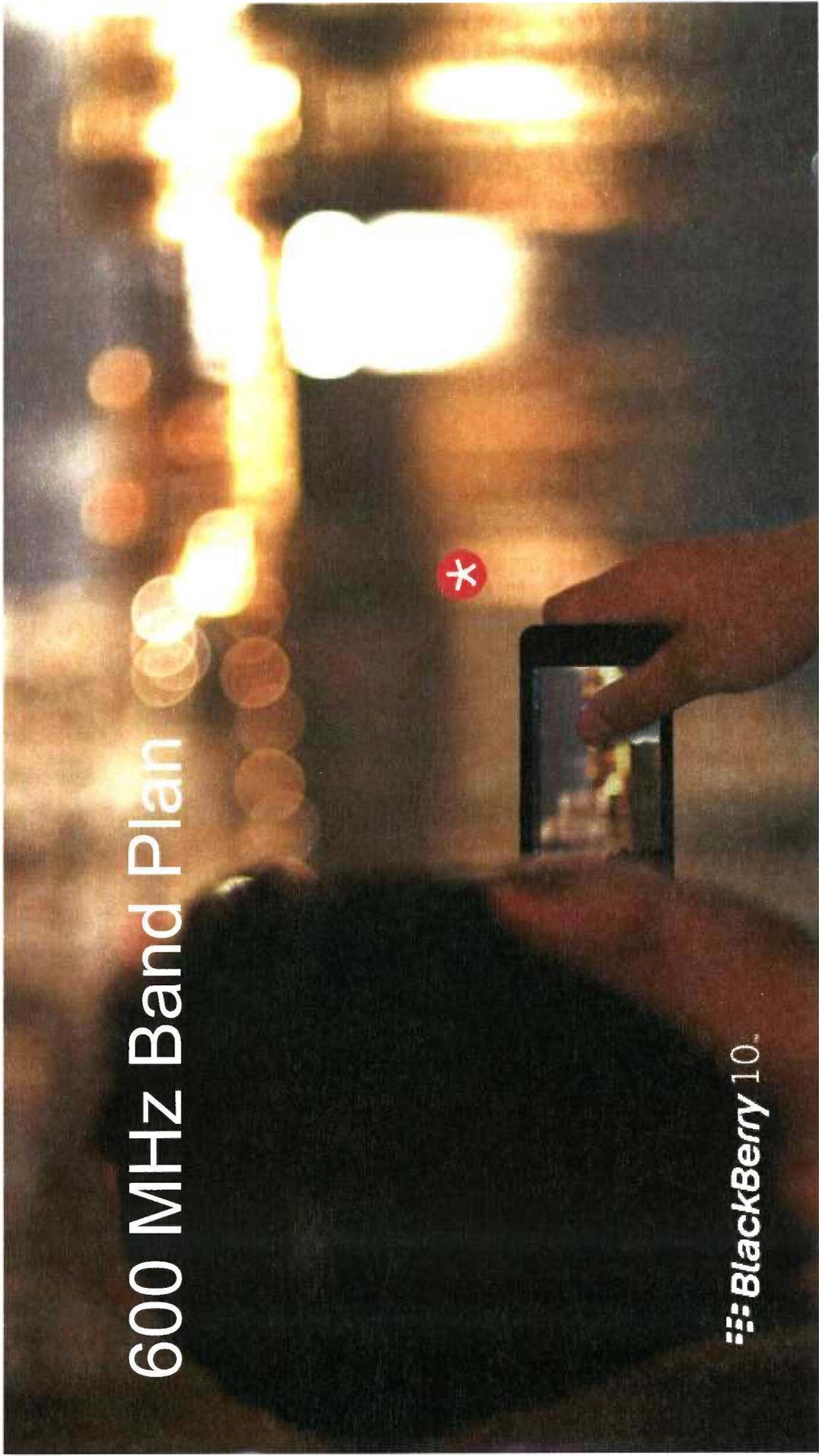


Müge Ayşe (Aya) Kiy

Attachment

600 MHz Band Plan

 BlackBerry 10™



Contents

- A band plan for 600 MHz
- Antenna design
- Filter requirements
- Harmonization

BlackBerry® Z10 smartphone



A Realizable Band Plan for 600 MHz

Balance among practical technical limitations

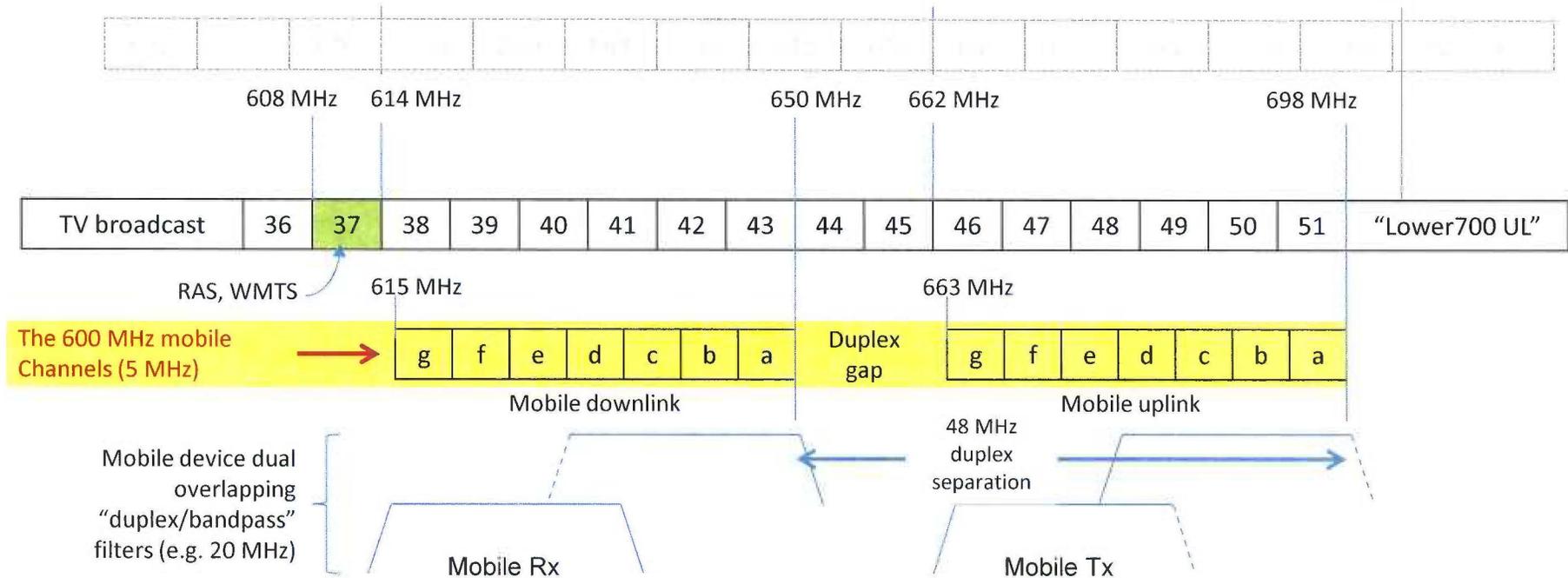
Alignment uplink and downlink aligned with adjacent services
→ minimize “guard bands” & interference

Antenna ~10% bandwidth
614-698 is 13% (84/656) → developing technology dynamic antenna tuning
efficiency → low efficiency - significant loss

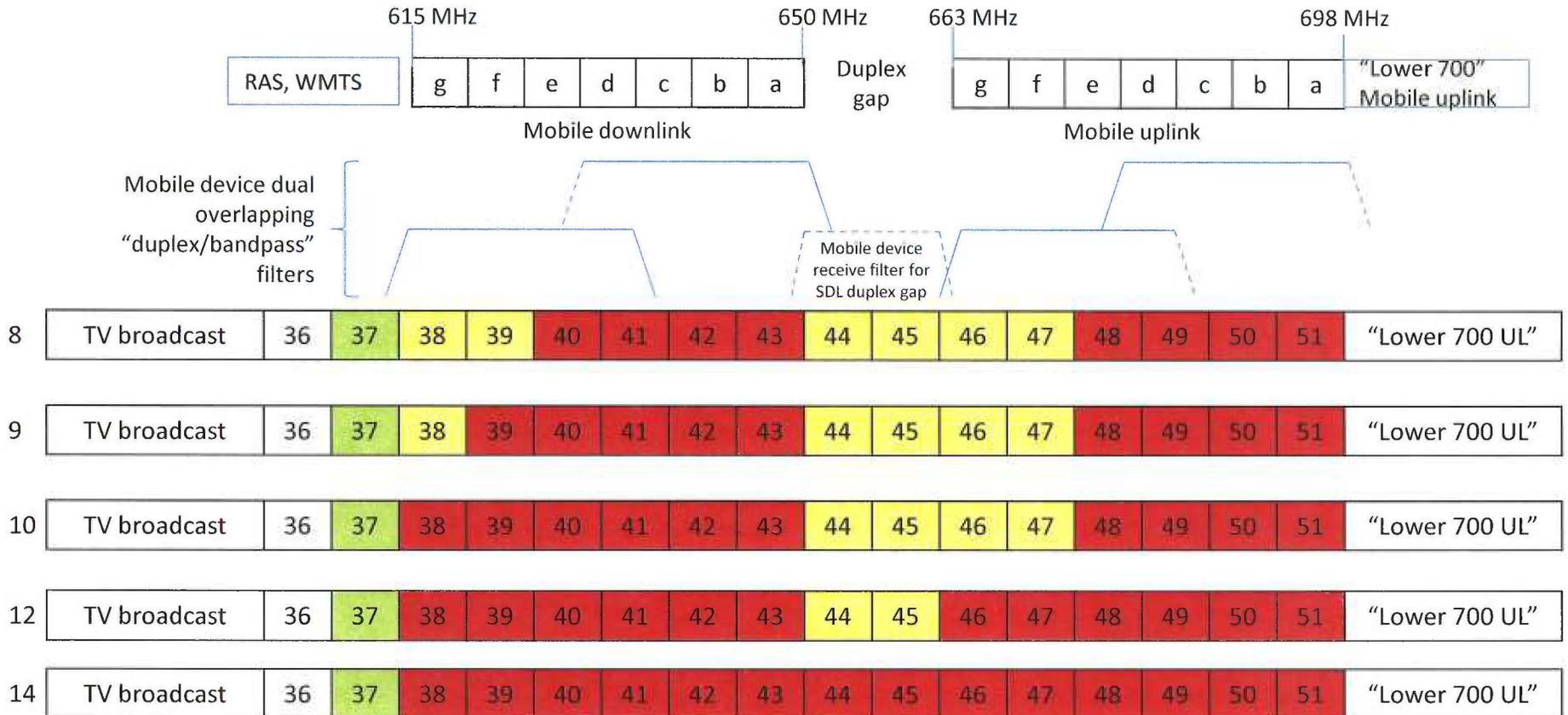
Filters ~4% bandwidth (25/656)
space for only one set (large chip at 600 MHz band)
dual overlapping duplex filters
→ developing technology for APT 700 MHz band plan

Signal strength compatibility
mobile services need signals in range ~ -90 to -25 dBm
repacking to match coverage areas
→ enable some plan flexibility

A Realizable Band Plan for 600 MHz



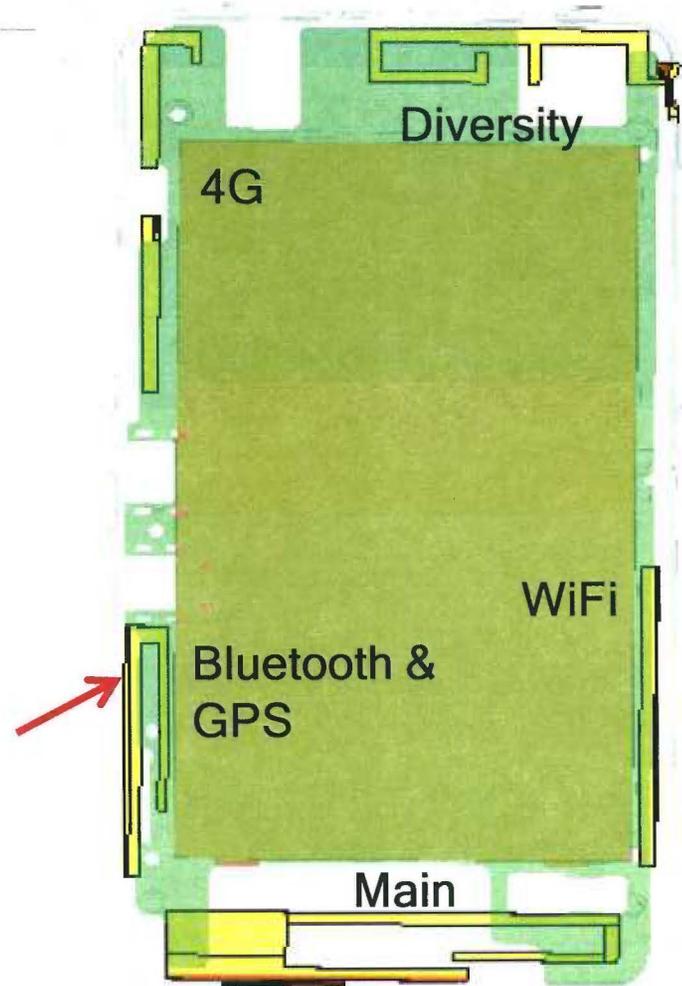
A Realizable Band Plan for 600 MHz



Antenna Design

- Size constraints
- Bandwidth
- Efficiency
- Number of antennas
- Regulatory requirements

There are many antennas in the devices already



Band-Pass Filters / Duplexers

The 600 MHz frequencies add challenges to filters and duplexers

- Size constraints of components

- Performance

- Band-pass filters

 - bandwidth

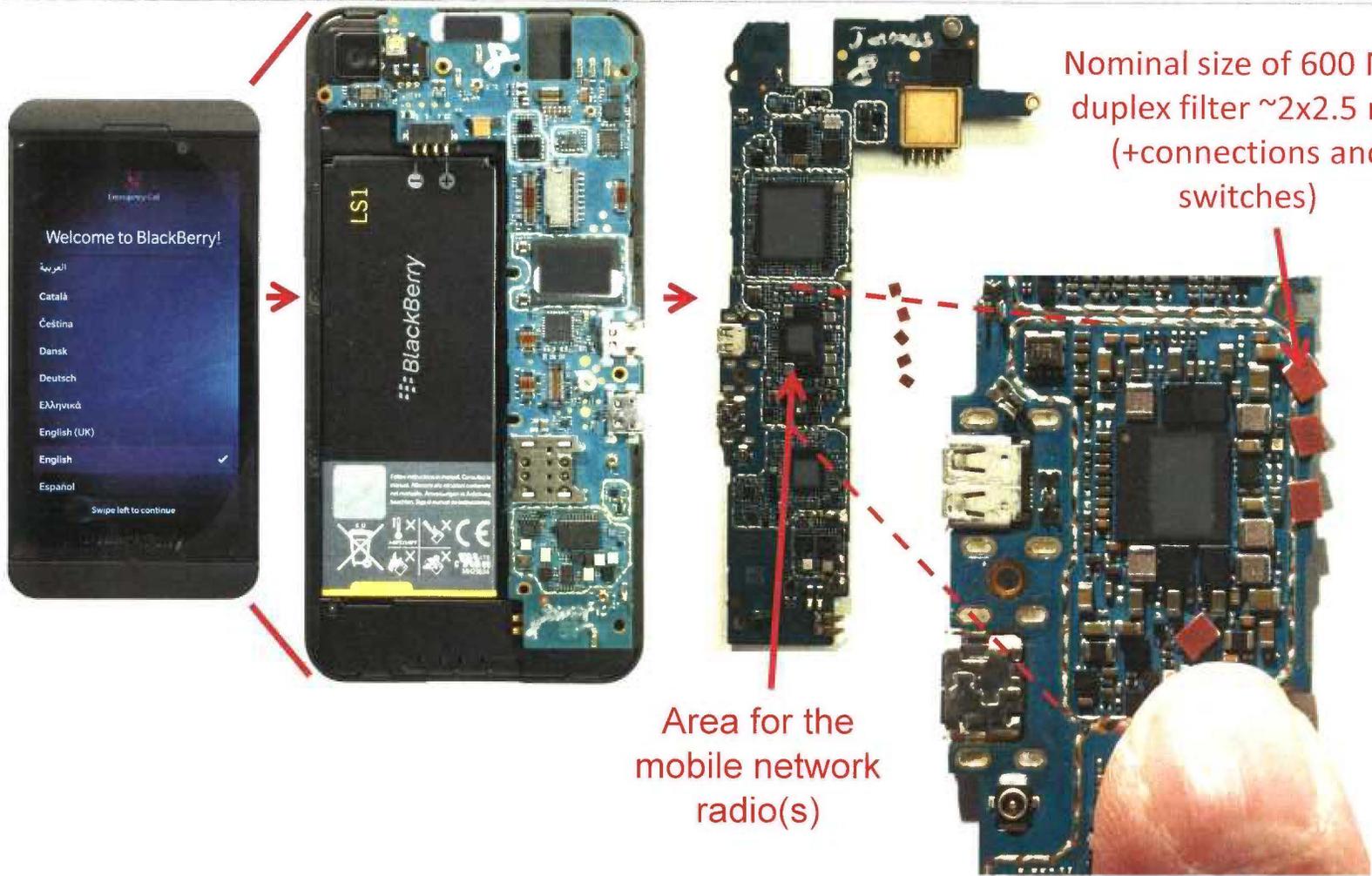
- Duplexers

 - gap size

Number of filters/duplexers for fully flexible handset

BlackBerry® Q10 smartphone





Handset Constraints

It's not just the 600 MHz band

Mobile Network bands

Quad band LTE 2, 5, 4, 13, 17 ** (700/850/1700/1900 MHz)

Quad band HSPA+ 1, 2, 4, 5/6 * (850/1700/1900/2100 MHz)

Quad band EDGE (850/900/1800/1900 MHz)

*Note: HSPA+ Band 4 (AWS) is carrier dependent

**Note: LTE Band 13/17 is carrier dependent

Wi-Fi® (2.4 GHz / 5 GHz)

802.11 a/b/g/n

Bluetooth® (2.4 GHz)

Bluetooth 4.0 Low Energy (LE)

GPS (1.57542 , 1.2276 GHz, 1.598-1.605 GHz)

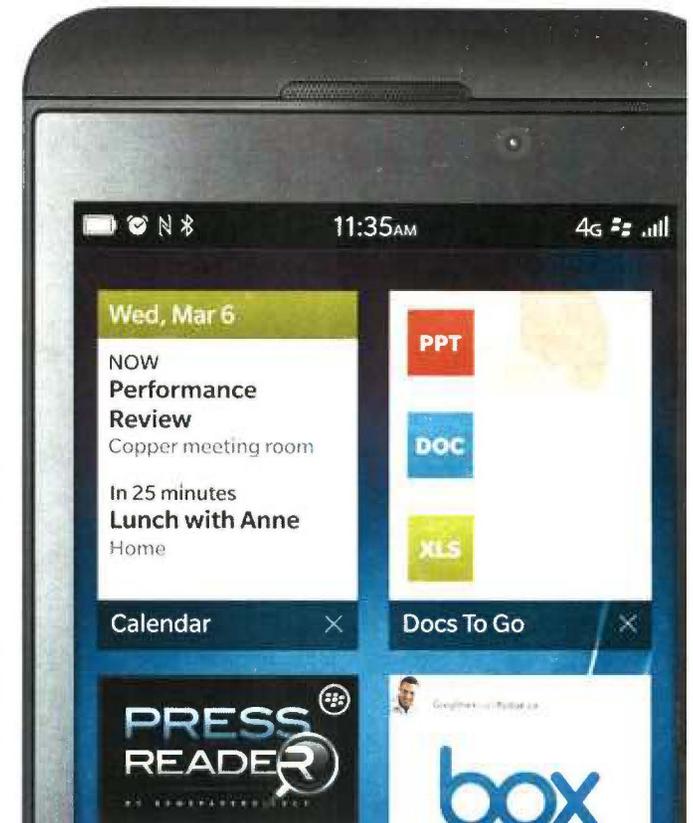
Assisted, Autonomous and Simultaneous GPS

GLONASS Support

NFC (13.56 MHz)

communication between NFC-enabled devices

BlackBerry® Z10 smartphone





Harmonization

700 MHz serves as an example

Best opportunity to support competition and healthy handset ecosystem

Critical if more bands are to be accommodated
7 IMT bands have over 30 band plans today

Q & A