



DUPLEX SPACING

Bill Alberth
July 2012



Motorola Mobility Internal

MOTOROLA and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC. All other trademarks are the property of their respective owners. © 2011 Motorola Mobility, Inc. All rights reserved.

Rules of Thumb for Duplex Filters

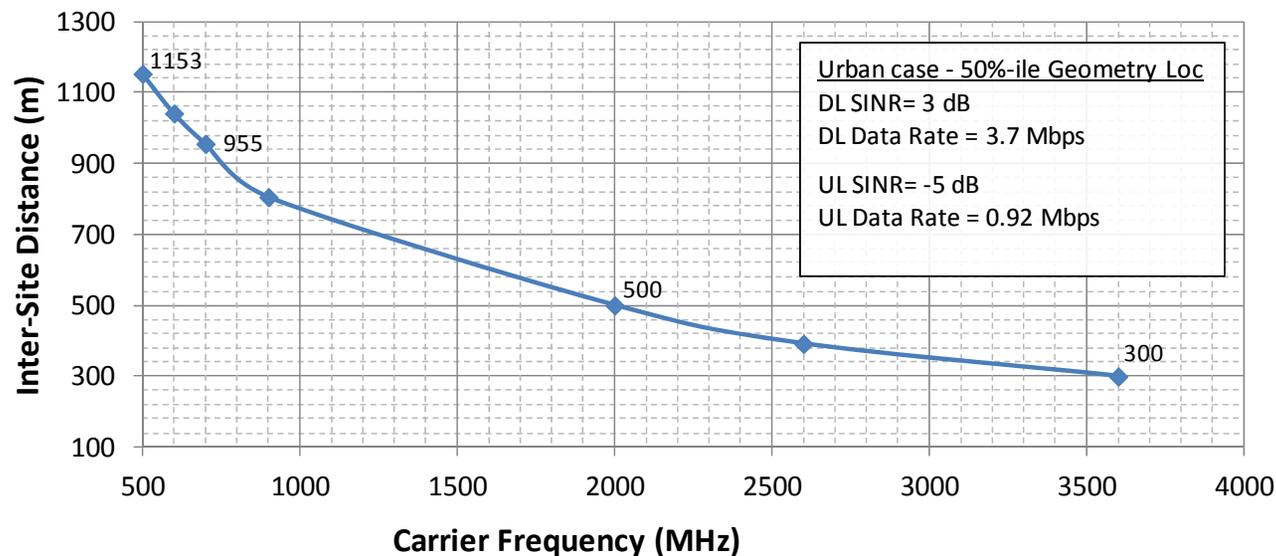
- Avoid Bandwidth $> 4\%$ of center frequency
 - At 600MHz, like to keep filter bandwidth $< 24\text{MHz}$
- Avoid Duplex gap $< 1\%$
 - 7MHz gap at 700MHz, 26MHz gap at 2.6GHz
- Figure of Merit (bandwidth/duplex gap) < 4
- Distance to nearest interferer
 - We need 6MHz to drop a filter skirt at 700MHz
 - We need 12MHz to drop a filter skirt at 2.6GHz



AVOID LARGE DUPLEX GAPS

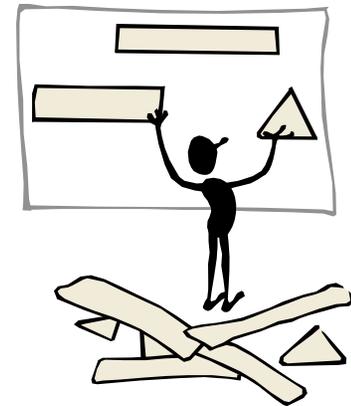
- Large gaps in uplink/downlink frequency result in large differences in uplink/downlink effective cell sizes.
- Consider TDD allocations instead of pairing widely disparate frequencies.

3GPP Path loss Model - NLOS



AVOID VARIABLE DUPLEX GAPS

- We recommend avoiding variable duplex gaps.
- The explosion of bands supported in our products is creating a rapid increase in test time required to validate and certify compliance to existing criteria.
- Variable duplex gaps would force testing at all possible combinations of operation.



THANK YOU

