



Commission for
Communications Regulation



Harmonising the 700 MHz Band for Mobile Services

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Agenda

- **Digital Dividend and Mobile Broadband**
- **700 MHz Band**
- **Relationship between 700 MHz and 800 MHz band**
- **Key factors in harmonising 700 MHz band**
- **Current 700 MHz band plan options under consideration in Europe**
- **Other demands for spectrum in 700 MHz band**
- **Indications from some EU Member States on plans for 700 MHz band**
- **Conclusions**



Digital Dividend and Mobile Broadband

- **Digital dividend in the 800 MHz (790-862 MHz) band now available in most EU countries for Mobile Broadband**
 - **LTE (4G) networks being rolled out across EU**
- **Analogue TV switched off and Digital terrestrial TV rolled out in UHF band 470-790 MHz**
- **700 MHz band (694*-790 MHz) co-primary allocation to Mobile in ITU Region 1 effective immediately after WRC-15**
- **The 700 MHz and 800 MHz bands are ideal for coverage**



700 MHz Band

- **CEPT studying options for 700 MHz band plan**
- **Technical, economic and social benefits in finding a globally harmonised solution for MBB in the band, e.g:**
 - **Ease of cross-border frequency coordination**
 - **Wide portfolio of user devices and lower cost to consumers**
 - **Ease of roaming**
- **Also need compatibility with 800 MHz MBB above and DTT below 700 MHz band**

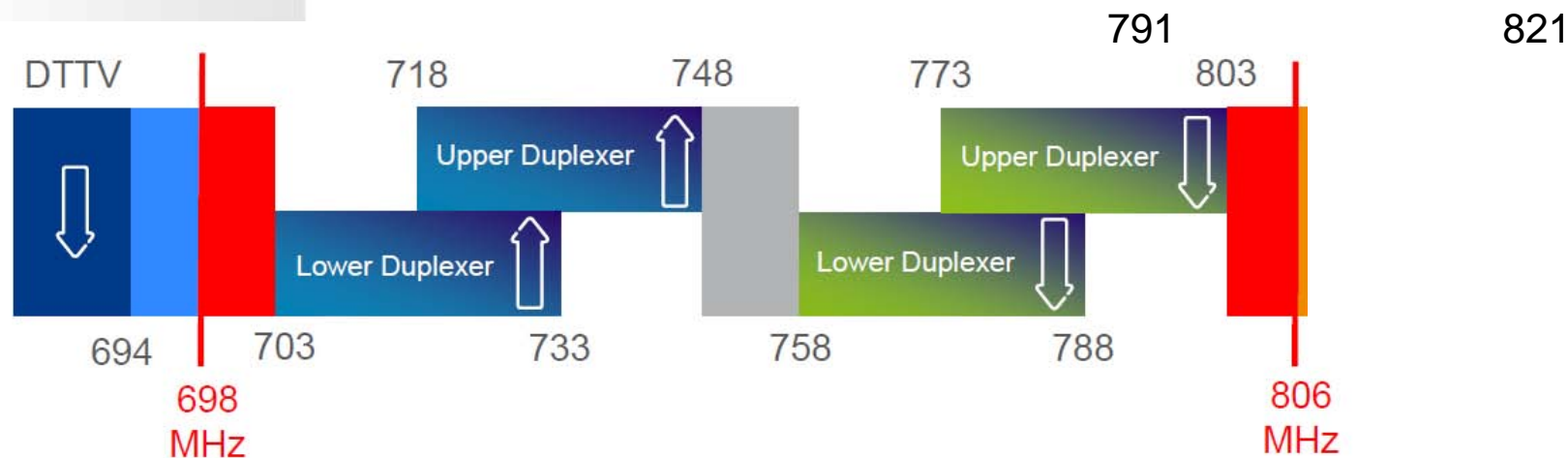


800 MHz band adjacent to APT 700 MHz band

EU 800 MHz band plan

790-791	791-796	796-801	801-806	806-811	811-816	816-821	821 – 832	832-837	837-842	842-847	847-852	852-857	857-862
Guard band	Downlink						Duplex gap	Uplink					
1MHz	30 MHz (6 blocks of 5 MHz)						11 MHz	30 MHz (6 blocks of 5 MHz)					

APT 700 MHz Band plan



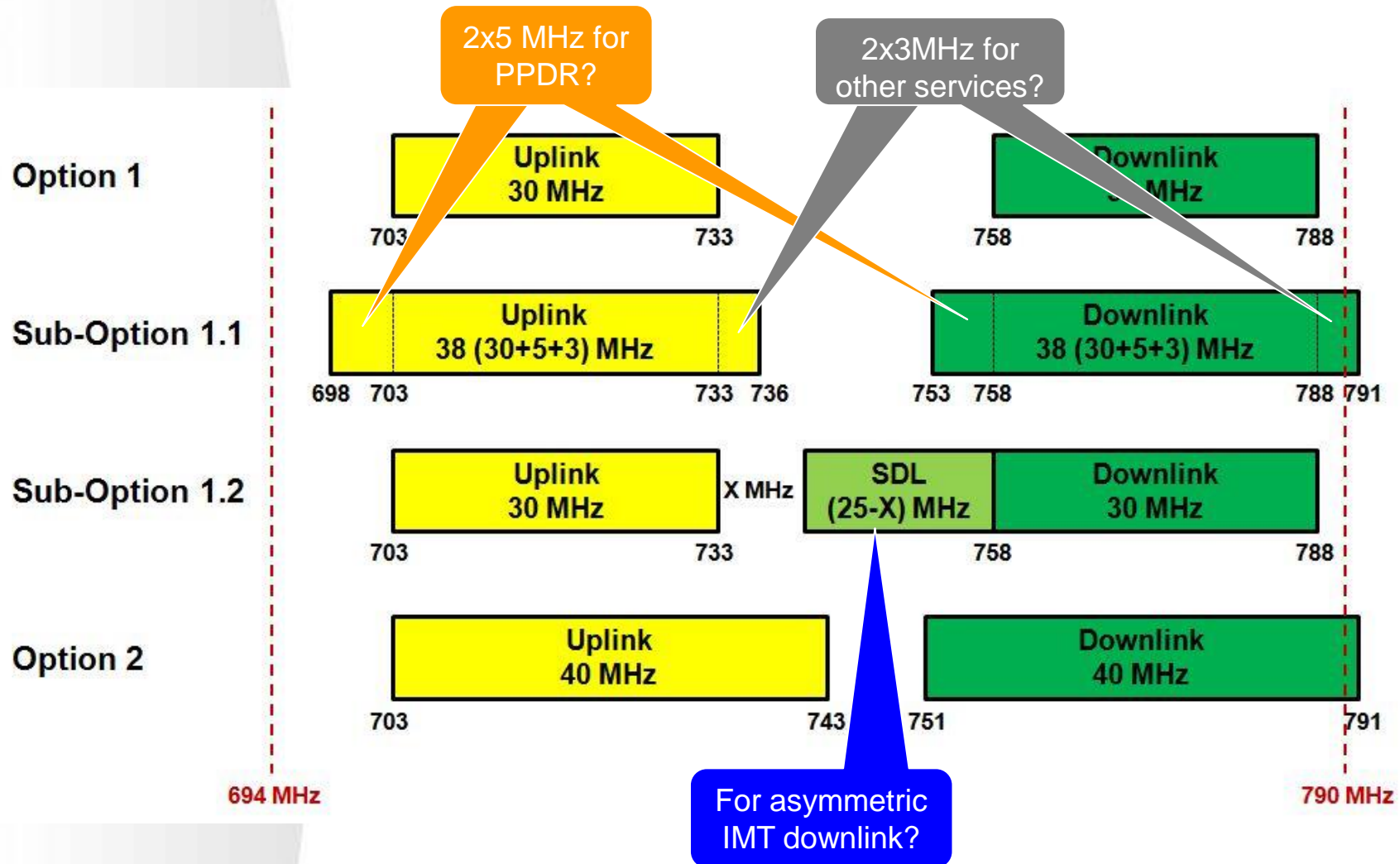


Key factors in harmonising 700 MHz

- **Optimising the amount of spectrum for IMT**
- **Finding duplexer arrangements that facilitate roaming across all regions**
- **Out-of-band emissions of IMT mobile terminals (to avoid interference to DTT):**
 - **for compatibility between regions these need to be same or similar**
 - **otherwise need different version of device for each region or common device with stringent filtering (= > cost)**
 - **CEPT proposing ITU-R recommendation on OOB limits**



Current 700 MHz band plan options under consideration

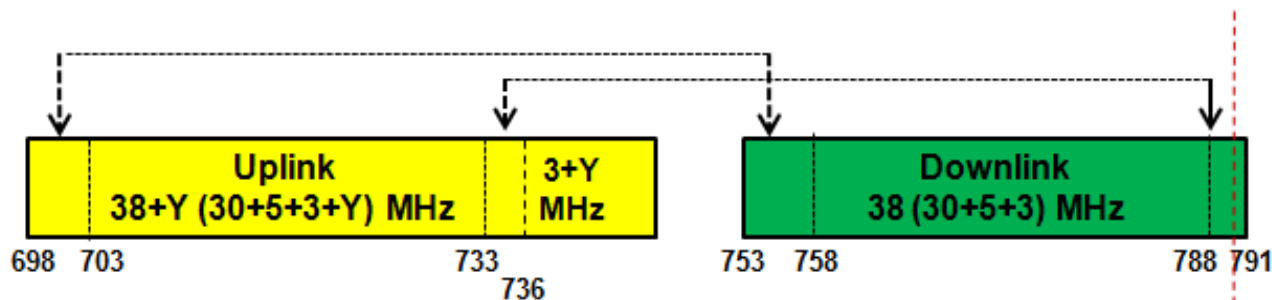




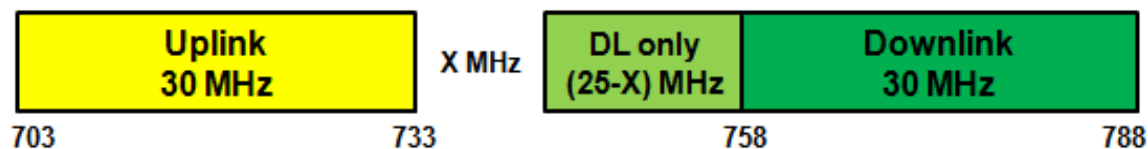
From CPG-PTD(14)094 Anx 19

...and some possible variations

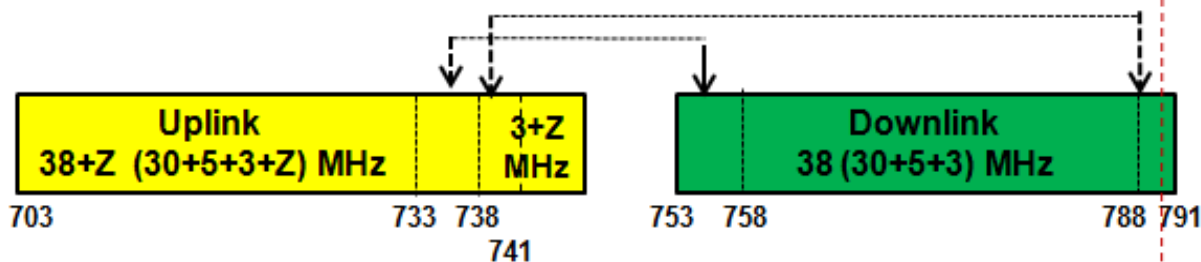
Proposed
variant of
Sub-Option 1.1



Proposed
variant of
Sub-Option 1.2



Proposed new
Sub-Option 1.3



694 MHz

790 MHz

[Editor's note: the following new proposals for refinement of sub-options or new sub-options were received at CPG PTD#5. They have not been reviewed in CPG PTD] [see CPG-PTD(14)094 Anx 19 for more details on each option



Other demands for spectrum in 700 MHz band

- **PMSE**
 - **CEPT is studying possible usage of PMSE in Guard Band and centre gap of the above band plans**
- **PPDR**
 - **CEPT is studying possibilities**
 - **Option 1.1 [earlier slide] could provide 2x5 MHz of spectrum for PPDR**
 - **Alternatively PPDR could be supported by commercial or hybrid solutions (mix of dedicated and commercial networks) – depending on national decision**



Member State plans for 700 MHz

- **Germany** initially planned to auction band in 2014/15 but postponed due to potential merger between 2 mobile network operators
- **France** announced plans to auction 700 MHz in 2016
- **United Kingdom** has indicated plans to make band available for mobile (possibly from 2018, but no verification as yet)
- **Netherlands**: DTT licences expire in 2017 – no indication of service continuing beyond that date



Conclusions

- **Harmonisation of band plans across regions essential to growth**
 - **Reduces interference across borders**
 - **Range and price of devices and services benefits consumers**
 - **Facilitates international roaming**
- **EU and ASEAN co-operation on band plans would benefit all**
- **Alignment of 700 MHz and 800 MHz band plans would create a global eco-system for mobile broadband**



Thank You!

QUESTIONS?