



The Radio Spectrum Impact of the Digital TV Transition

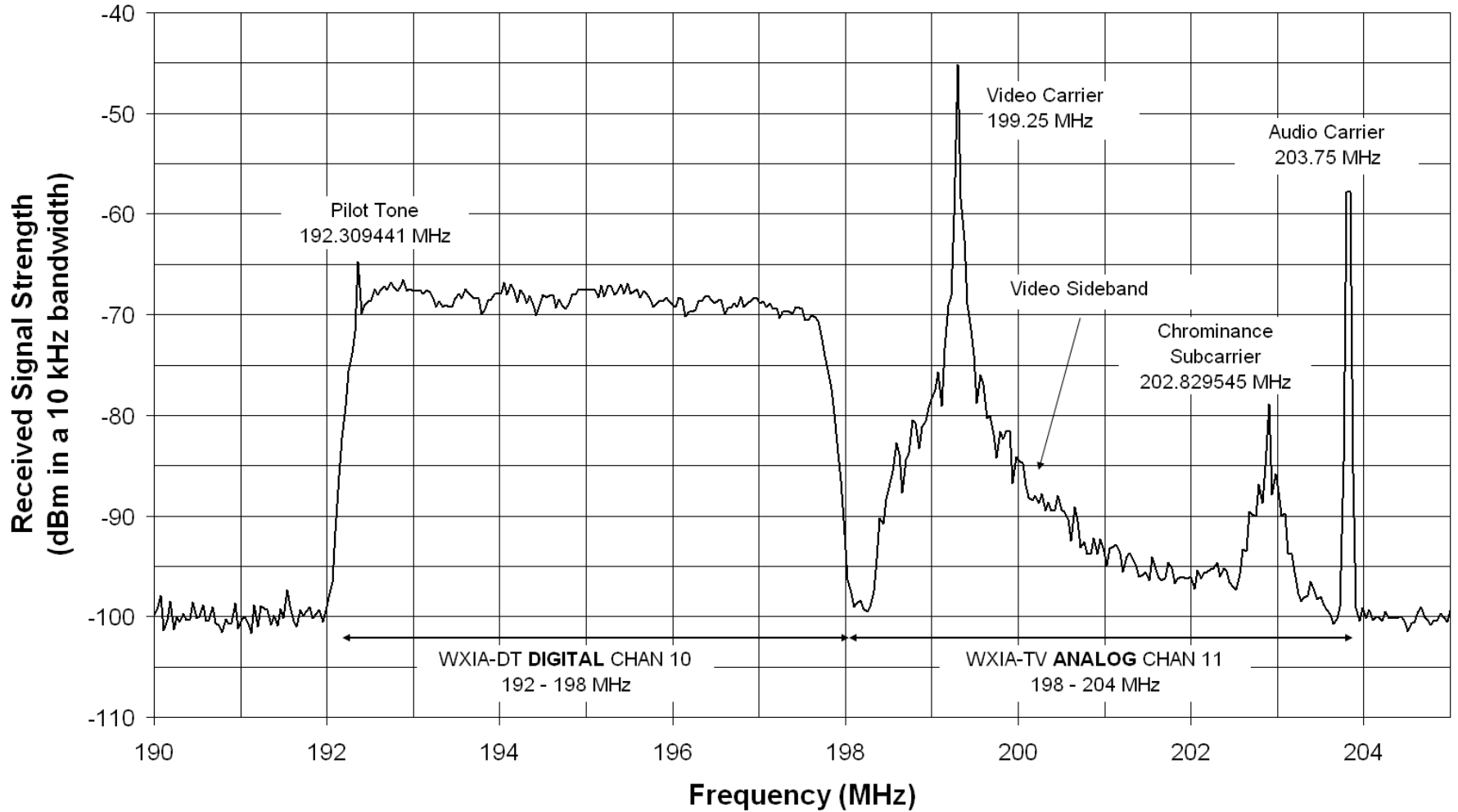
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Spectrum Management 2009
National Spectrum Management Association

Summary of Transition

- The FCC mandated that all full-service analog TV stations convert to digital-only broadcasting
 - Proceeding began in 1987
 - Mass Media Bureau Docket 87-268
 - Rules mandating switchover adopted in 1997
 - 5th R&O, FCC 97-116, following requirements set by the Telecom Act of 1996
 - After years of indecision regarding the drop-dead date for the switchover, Congress stepped in and set a deadline of February 17, 2009
 - Title III of the Deficit Reduction Act of 2005, Public Law 109-171, Feb 8, 2006 (Title III is commonly referred to separately as the “Digital Television Transition and Public Safety Act of 2005”)
- Due to last-minute concerns over public readiness, Congress extended the deadline to June 12, 2009
 - DTV Delay Act, implemented as Public Law 111-4, Feb 11, 2009
- Assuming no further delays, when we wake up 25 days from now, on Saturday, June 13, 2009, all full-service over-the-air TV broadcasts will be digital
 - This will have no direct TV-viewing impact on the vast majority of us who receive television by cable or satellite
 - Those that receive TV signals over the air will either have to upgrade to a digital-capable TV set, or acquire a digital-to-analog converter box for each analog TV
 - The transition will have significant impact on the spectrum landscape between 54 – 72, 76 – 88, 174 – 216, 470 – 608, and 614 – 806 MHz.

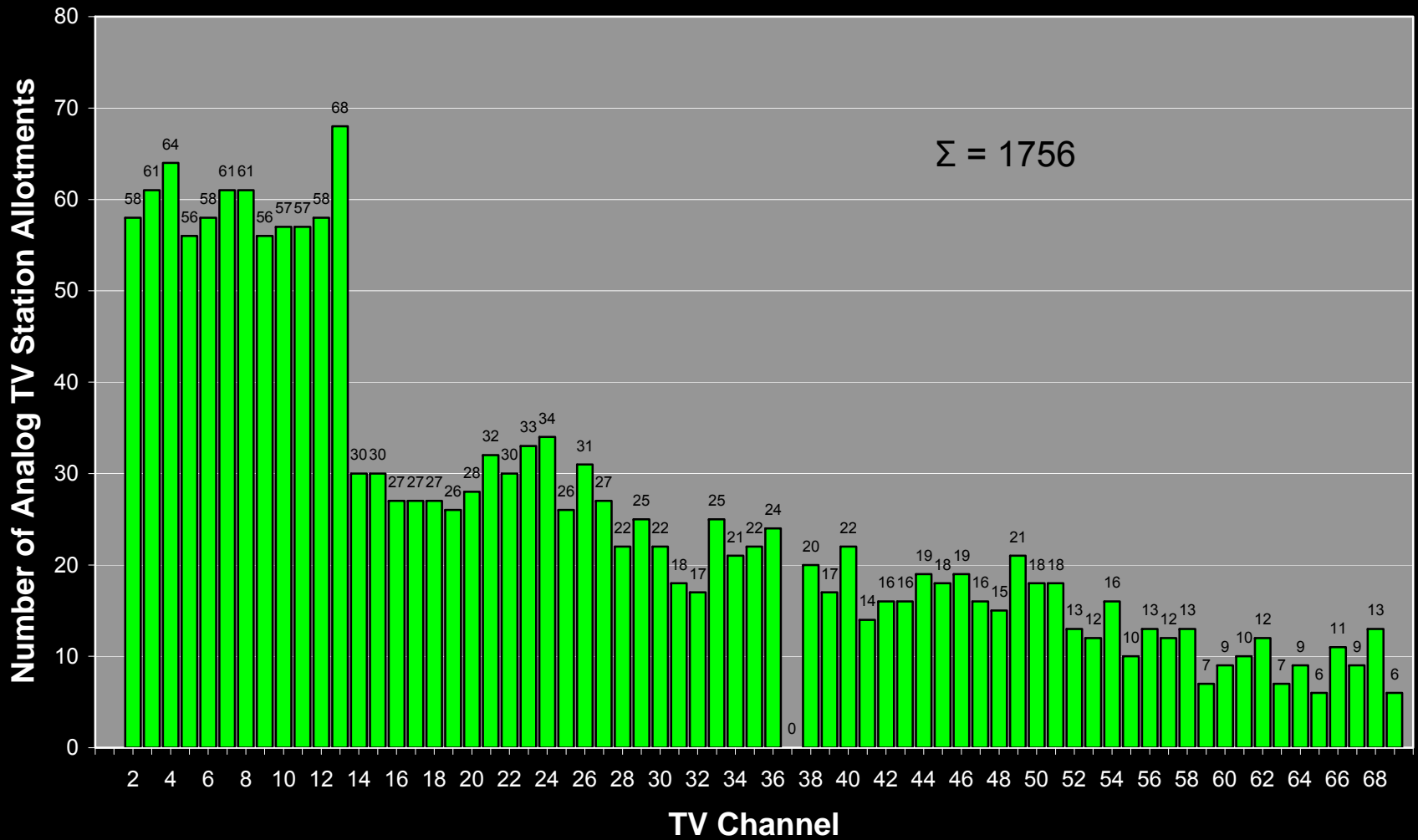
Digital and Analog TV Spectra



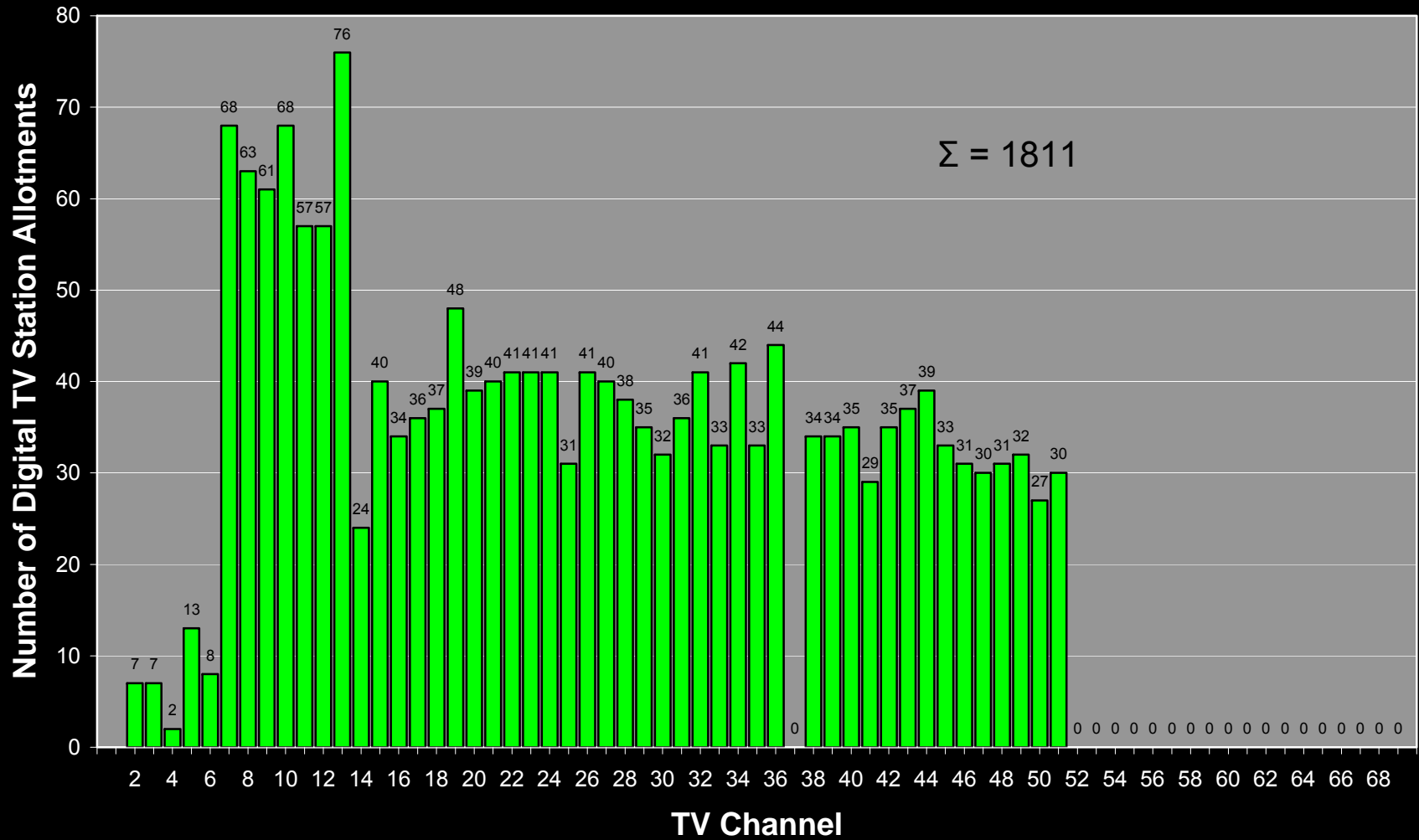
Comparison of Analog and DTV Channel Allotments

- Allotments specify which channels are available for use in each city or market area
 - Allotments are based on market size, co- and adjacent-channel interference criteria, geography, frequency, and other considerations
- Given the lucrative nature of a TV license, virtually all allotted channels are spoken for
- There are significant differences between the DTV allotments after the transition and the analog allotments prior to the transition
- A comparison of the allotment tables provides a quick snapshot of the imminent changes in the spectrum landscape.

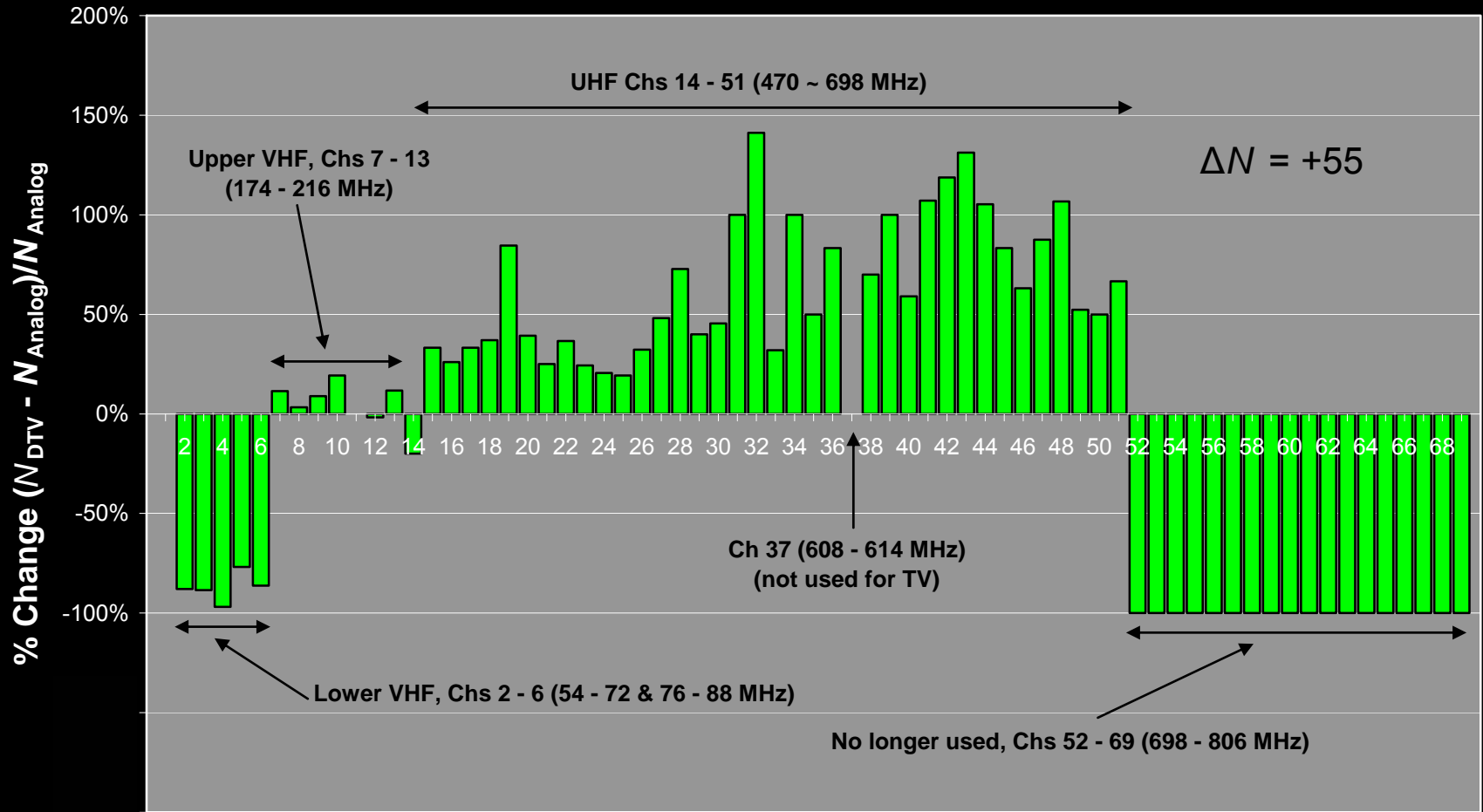
Number of Analog TV Allotments Per Channel Prior to DTV Transition



Number of Digital TV Allotments Per Channel After DTV Transition



Change in TV Allotments Per Channel After DTV Transition

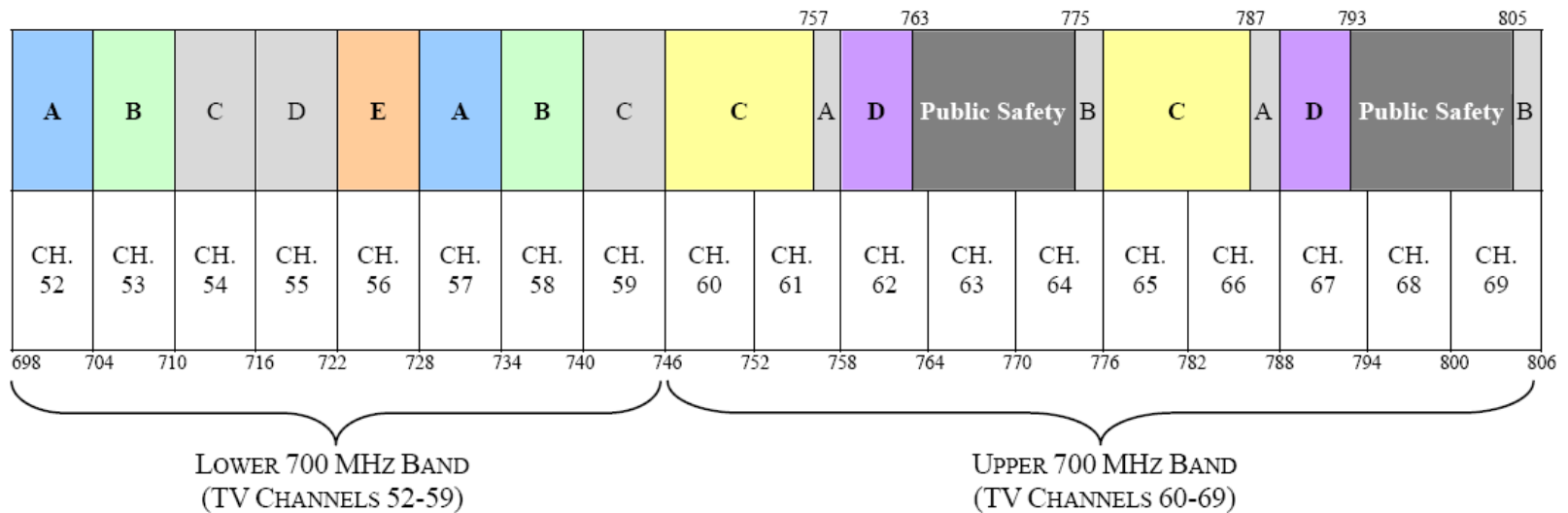


Status of Other TV Broadcast Categories

- The following categories of television stations are not required to convert to digital by the June 12, 2009 deadline:
 - Low Power Television (LPTV) stations
 - Community/school-based television (either re-broadcast or original programming)
 - Class A stations
 - LPTV-type stations that have agreed to certain minimum technical and programming requirements, and in return have a higher protection status than LPTV stations
 - Television Translators
 - Low-power facility that rebroadcasts the signal of a full-service station to fill in coverage gaps. Can be a D/A converter after June 12.
- Policies governing the transition of these station classes are in the works

Channels No Longer Used for Full-Service Broadcast TV After June 12

Revised 700 MHz Band Plan for Commercial Services



White Space

- Formally effective Feb 18, 2009, use of white space devices authorized by FCC
 - Channels 21 – 51 usable by portable devices; all channels 2 – 51 usable by fixed devices
 - Channels 3, 4, & 37 exempted
 - Channel 36 & 38 have OOB constraints
 - Many other ifs, ands, and buts
- How to ensure protection of TV channels?
- How to protect Dolly Parton?
- Will regulations to protect TV kill the business model?
- Will devices work as advertised, in terms of protecting TV?
- Will an underground “hamfest” of devices negate any attempts to mitigate interference (data equivalent of CB radio)?
- Will they be the next killer app (neighborhood Wi-Fi)?
- Many issues to be resolved. White space panel follows...