

POWDER-RENEW Spectrum

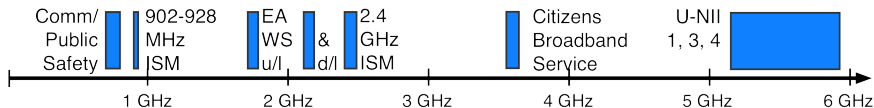
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1st Annual POWDER-RENEW Users Workshop

May 24th, 2018

Overview

- Testbed operators and experimenters work together to satisfy compliance
- Multiple licensing possibilities, CFR 47:
 - Part 5 (Conventional experimental, program experimental)
 - Part 18 (ISM)
 - Part 96 (CBSD)
 - ...
- Spectrum as a testbed resource
- Automatic transmitter monitoring and shutdown



698–806 MHz Commercial/Public Safety

- Operation likely to require specific experimental (Part 5) licensing
 - Conventional experimental
 - Program experimental
- Could “Innovation Zone” designation permit access to remote experimenters?

902–928 MHz Industrial, scientific and medical (ISM)
2400–2500 MHz Industrial, scientific and medical (ISM)

- Should be able to satisfy Part 18 non-consumer equipment regulations
 - e.g., operator of equipment causing harmful interference must promptly take necessary steps to eliminate it
- Can probably provide relatively permissive access

1710–1780 MHz Ext. Adv. Wireless Services (EAWS) uplink
2110–2180 MHz Ext. Adv. Wireless Services (EAWS) downlink

- Multiple commercial wireless licensees operate in these bands
- Co-ordination important
- Program experimental operation appears most appropriate
- 25 MHz introduced in AWS-3 attractive (less commercial activity; less COTS equipment support).

3550–3650 MHz Citizens Broadband Service

- Part 96 regulations apply
- Eligibility and authorisation are relatively straightforward
- Incumbent protection and Spectrum Access System compliance critical
- Federated Wireless advertise Spectrum Controller
- Testbed implements and/or enforces Part 96 F protocols?

5150–5925 MHz Unlicensed National Information Infrastructure (U-NII)

- Different regulations apply in different portions of band
- U-NII-1: similar to 3.5 GHz, but DFS requires different technical details
- U-NII-3: Part 18 operation is permitted in 5725–5875; similar to 902–928/2400–2500 bands.
- U-NII-4: DSRC at 5.9 GHz.