

DSA / White Space Work Group

Questions, Comments and Suggestions for the
FCC Office of Engineering and Technology

March 10 Meeting



Driving the future of radio communications and systems worldwide

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Group Members

Industry Experts

- Adaptrum Inc.
- Cognitive Radio Technologies
- Huawei Technologies Co., Ltd.
- Hypres Inc
- Marvell Semiconductor
- Maximum Service Television (MSTV)
- MITRE Corp
- **Motorola Solutions** (Vice Chair)
- NEC Corporation
- Nokia Inc.
- Oracle
- PrismTech
- Shared Spectrum Company
- Shure Microphones
- Symantec (fmr. VeriSign Security)
- Television Translator Association
- VISTology, Inc.
- Wireless ISP Association (WISPA)
- Several private parties and individuals

Informal Collaboration

- IEEE 802.22
- IETF PAWS

Participating Administrators

- Frequency Finder
- KB Enterprises
- **Key Bridge Global** (Chair)
- Telcordia Technologies
- WSdb, LLC

Invited, Non-Participating Administrators

- Comsearch
- Google
- Neustar
- Spectrum Bridge



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Notes: Group has an open invitation policy – all are welcome to contribute.
Reiterating that all 9 administrators were invited to participate;



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Description of Contents

The contents herein are from members of the DSA White Space Interoperability Work Group and not the Wireless Innovation Forum.

This material is provided with the hope that it may help the Commission complete implementation of the TV Band White Space.



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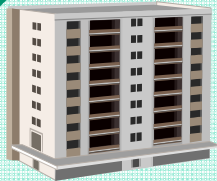


End-to-End Testing and Certification

DB Administrators

Administrator 1

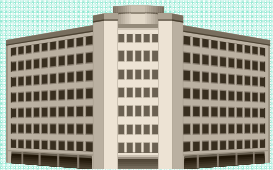
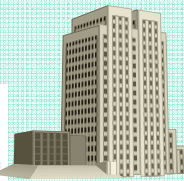
Administrator 2



DB 1



DB 2



Administrator 3

DB 3

Device Mfr's

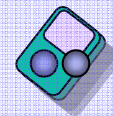


GPS Satellite

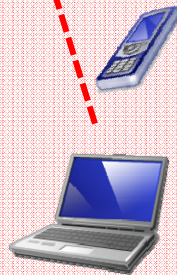
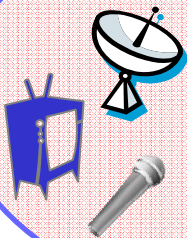
Mode II Device



Mode I Device

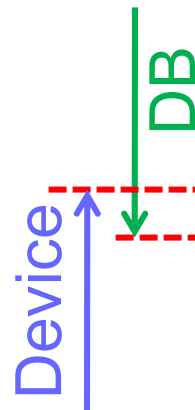


Incumbents



Points of Verification

1. Administrator
2. DB integrity
3. DB communication
4. DB - DB communication
5. DB - Mode II communication
6. Mode II location precision
7. Mode II Radio
8. Mode II - Mode I communication
9. Mode I Radio



Construction and Maintenance

Request for Rules clarification

Suggestion / Recommendation

- **(MSTV) Recommend administrator registration procedures provide sufficient user feedback to determine:**
 - Successful registration
 - Unsuccessful registration
 - Identification of any invalid data fields
- **(MSTV) Recommend administrators (and FCC if required) define what constitutes a fully qualified (e.g. unconditionally acceptable) registration record**
- **(Shure) Recommend that users refrain from registering with multiple administrators**
- **(Shure) Suggest a common entity registration resource is established (by industry or FCC)**

Inter-Administrator Coordination

Request for Rules clarification

Regarding database synchronization:

- (Airity) Please confirm synchronization at periods less than 24 hours is per administrator discretion or will Commission provide guidance in the future?
- (Airity) 15.715(l) Define “or more often, as appropriate”

Suggestion / Recommendation

- (MSTV) Request administrators disclose their method & frequency of synchronization to users

Calculations

Request for Rules clarification

When calculating radial contours:

- **(Motorola) Is there a preferred digital elevation model?**
 - Key Bridge says it is not necessary for FCC to specify an elevation model
- **(Key Bridge) Is there a minimum radial contour distance precision?**
 - e.g. +/- 1 meter?

Suggestion / Recommendation

When calculating HAAT:

- **(MSTV) Recommend remain consistent with Commission practice**
- **(Telcordia) Recommend the following minimum number of radials are employed**
 - Station haat
Use FCC method of 8 radials (majority)
 - Radial haat
Use 360 radials (majority)

Security

Request for Rules clarification

- None.

Suggestion / Recommendation

- **(Majority) Recommend that Inter-administrator security is a private-party transaction**
- **(Shockey) Note that security options will be largely determined by selection of transport method (e.g. HTTP), with many tools and options available**
- **(Key Bridge) Recommend embedded digital certificates in device firmware/hardware and public key infrastructure (PKI)**
- **(Motorola) Note that manufacturers generally support PKI for authentication of administrators and shared secrets for authentication of devices**
 - Support optional use of device certificates over shared secrets

Trial Periods

Request for Rules clarification

- **(Airity) 15.712(g)** Please provide location and transmission details for protected Mexican/Canadian stations
- **(Airity) 15.711(b)(3)(iv)** Please clarify the method for Fixed/Mode II channel list pass through –e.g. Mode I devices only authorized to use their channel list
 - (MSTV) Notes that intent is for channel list to be specific to each requesting device, including Mode I devices when channel list is passed through Fixed/Mode II

Suggestion / Recommendation

Objective Compliance Testing

- **(Airity) Relevance:** Suggest compliance tests should clearly identify Rules and metrics
- **(Airity) Reasonable:** Suggest compliance tests should be clearly pass/fail and not require significant time to complete
- **(MSTV) Accuracy:** Notes that LPAUX first-adjacent channel is the channel not available for ALL TVBDs
 - Notes that channel lists must be consistent across all administrators and must be tailored for the requesting device