

**Multi-stakeholder Workshop on
Unlicensed Use in the 6 GHz Band**

**Deploying Unlicensed 6 GHz RLANs
While Protecting the Fixed Service**

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History

- ❑ For the last 35 years the bulk of the Fixed Service Point-to-Point microwave systems (Part 101) have been frequency managed in such a way that all mw paths are protected from harmful interference
- ❑ Complete protection of all paths from harmful interference was an assumption



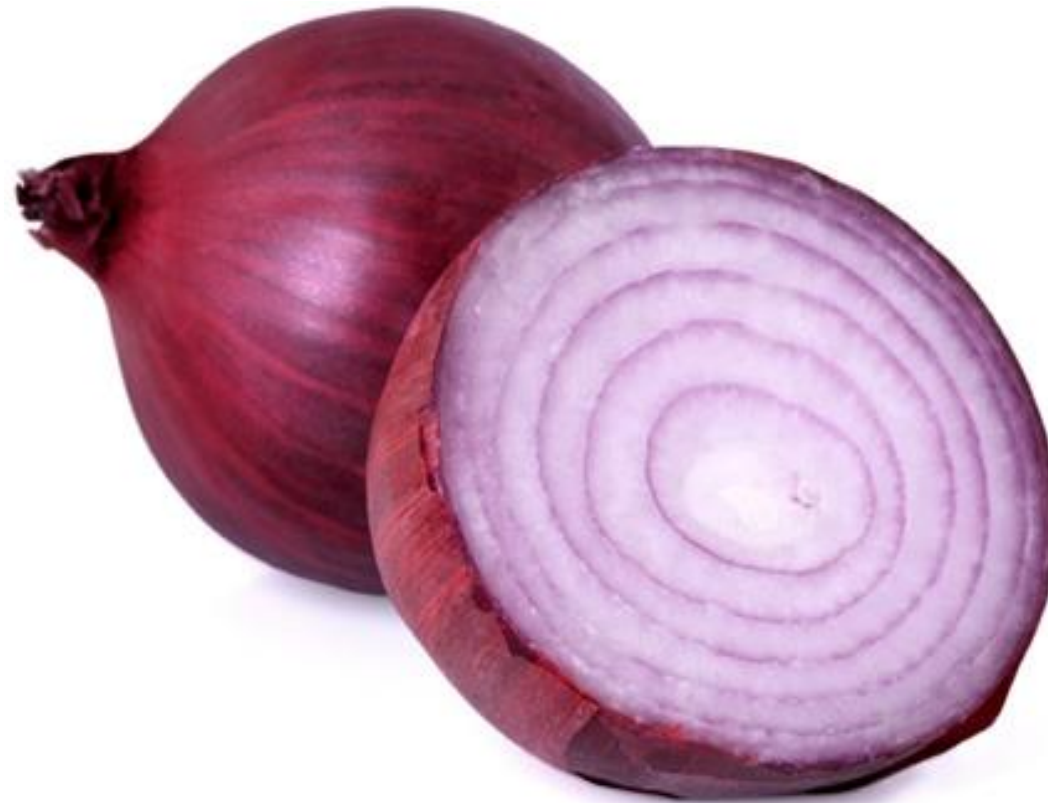
So What's New?

- ❑ RLAN consortium proposes to introduce unlicensed Wireless point to point and point to multipoint devices into the 5.925 to 7.125 GHz band
- ❑ Generally two service are proposed
 - Relatively high-power RLAN transmitters managed by an Automatic Frequency Coordination (AFC) function
 - 14 EIRP unmanaged indoor or outdoor RLAN transmitters
- ❑ FCC is in general agreement with the RLAN introduction into 6 GHz and will determine what RLAN services will be available
- ❑ The Commission made clear “we emphasize our commitment to preserve and protect the important base of incumbent users in these frequency bands [FCC 18-147, §2]”
- ❑ Fixed Point-to-Point users are concerned about possible changes to interference protection

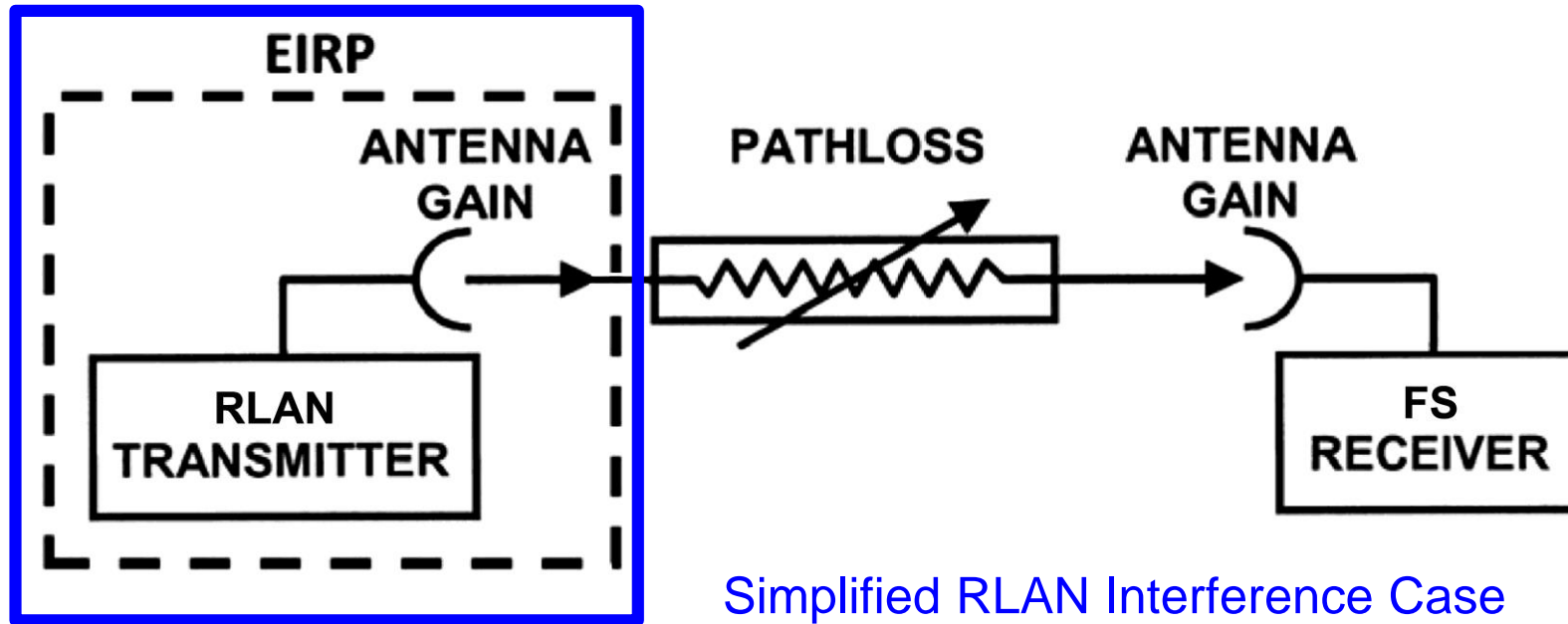
Concerns regarding unmanaged unlicensed services
should be discussed with the Commission

We need to focus on the AFC managed services

What are the high-level issues?

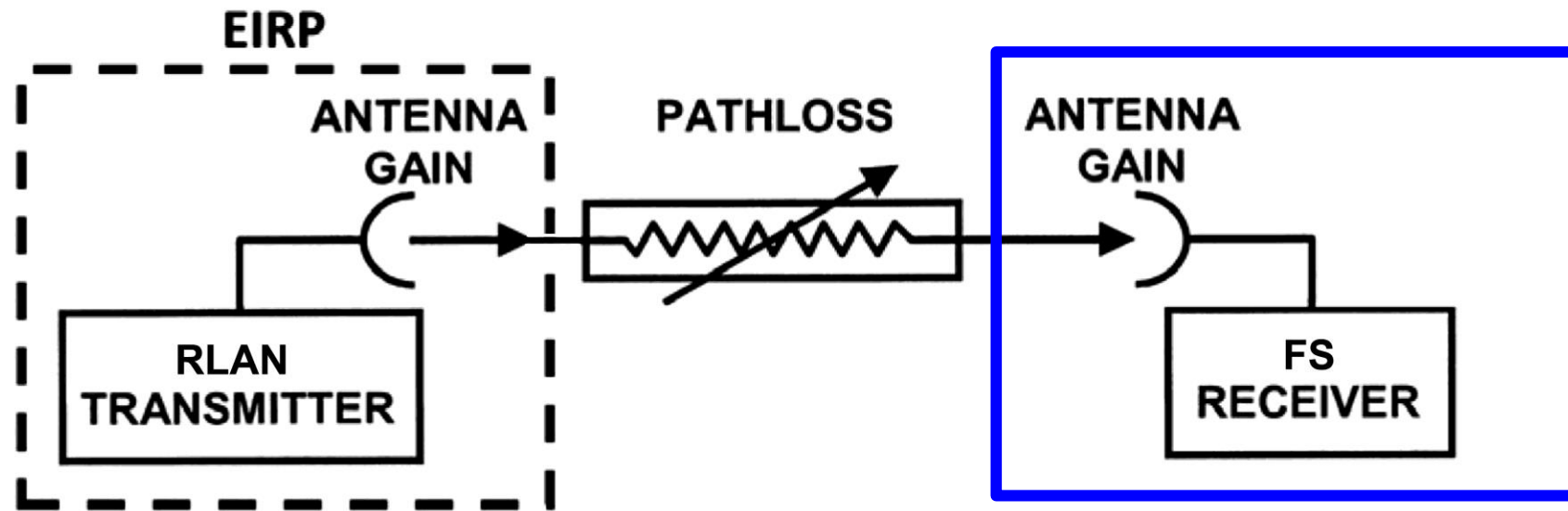


What are significant issues?



Where is the RLAN
(especially inside a building)?

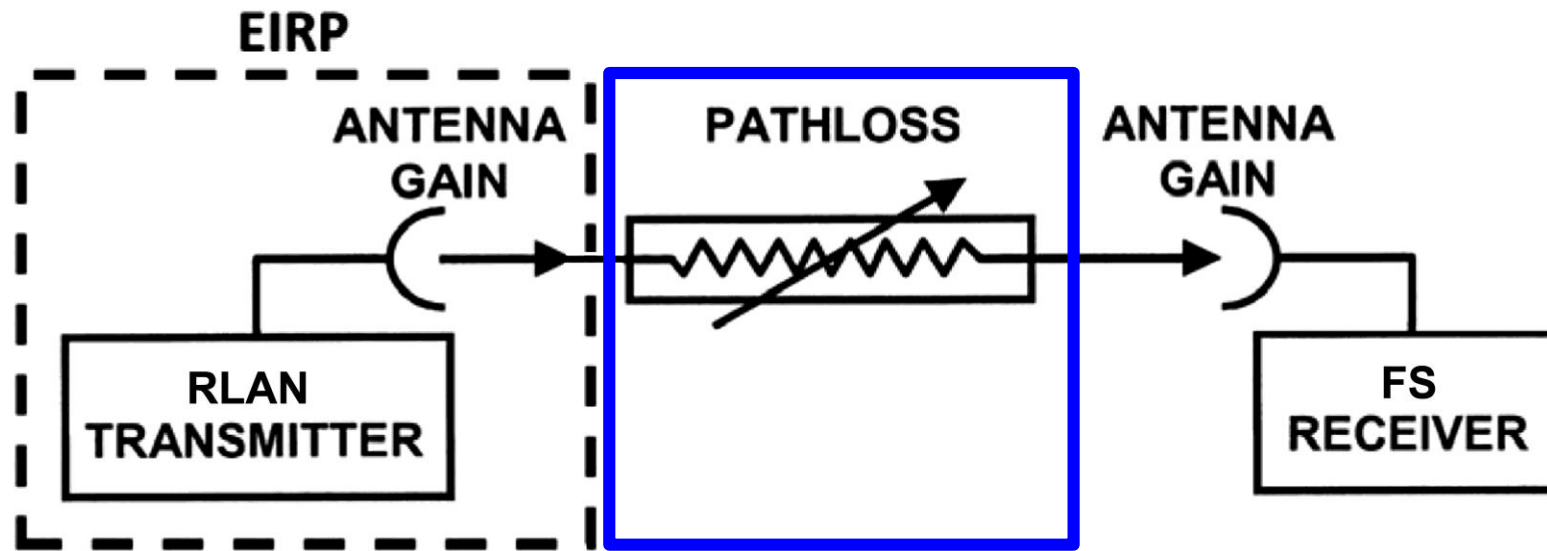
What are significant issues?



Simplified RLAN Interference Case

What are the real characteristics of the FS receiver
(when the FCC ULS database is wrong)?

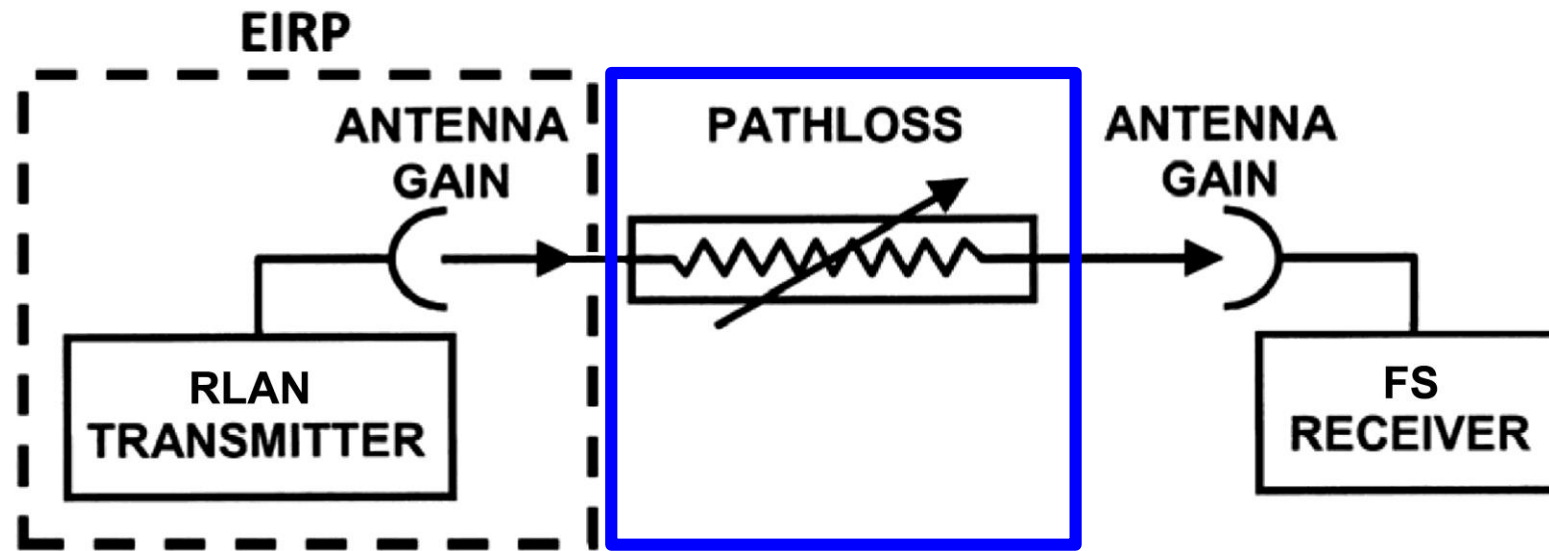
What are significant issues?



Simplified RLAN Interference Case

What is the propagation pathloss?

What is the propagation loss?



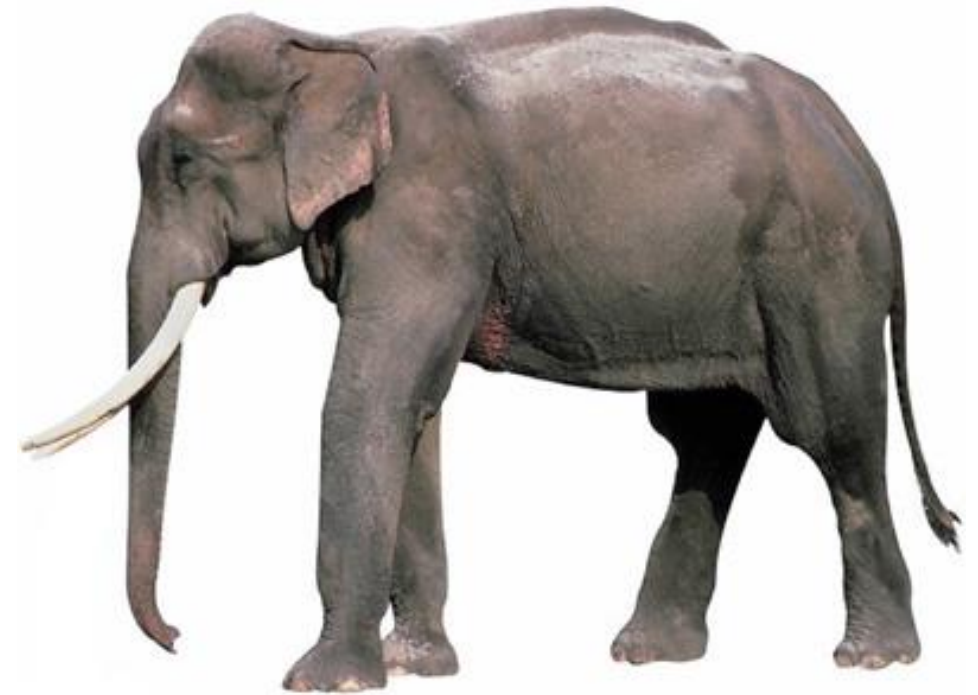
Simplified RLAN Interference Case

Terrain clutter detail is challenging to determine

Propagation prediction for clutter dominated paths is not accurate

What FS paths must be protected from interference?

- ❑ The “vast majority” of FS paths – RLAN Coalition
 - Candidate propagation models include WINNER II, ITM, ITU-R P.2108 and the 20 dB attn building
- ❑ All FS paths - Incumbents
 - Uncluttered free space pathloss estimation is straightforward
 - Cluttered path pathloss is difficult to calculate
 - Effects of reflections are not known



➡ Industry consensus is needed ←

Questions?

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