

To whom it may concern:

Purpose:

To promote innovation by suggesting additions and modifications to Ofcom's TV white space rules which increase the amount of recoverable white space for non-geolocated or weakly-geolocated devices as well as geolocated devices without a direct connection to a white space database.

Proposals:

1. Allow white space devices to "tether" to a non-white space device for the purposes of using its Internet connection to contact the database. Since the communication to the database will be encrypted end-to-end, the device providing the connection need not be certified. This will allow geolocated slave devices to bootstrap a connection to the master over white space.
2. Allow white space devices to prove their location using methods other than GPS or communication with a master WSD. For example, a device could as well prove that it is within the (smaller) service area of a non-white space device, possibly leading to more permissive generic operating parameters.
3. Allow white space devices to report their location uncertainty as a polygon or set of polygons, rather than a rectangle. In the future, devices may be able to prove that they are located within a more generic shape. Since location uncertainty directly factors into the amount of recoverable white space, allowing more generic shapes would drive innovation and improve access to spectrum.

Studies:

As part of our research at UC Berkeley, we have conducted studies on how to support non-geolocated or weakly-geolocated devices. In particular, we compare the FCC's approach, Ofcom's approach, and a new proposed method which achieves the same protection goals while increasing the amount of recoverable white space for these devices.

This research was published and presented at IEEE DySpAN 2014 in April and can be found at http://inst.eecs.berkeley.edu/~harriska/docs/2014_DySpAN_localization.pdf. We believe that our proposals may help address some of the issues that Ofcom is facing.

If you would like to learn more about our proposal or our work, please do not hesitate to contact us.

Sincerely,

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