

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Amendment of the Commission’s Rules with) GN Docket No. 12-354
Regard to Commercial Operations in the 3550-)
3650 MHz Band)
)

Comments of Sony Electronics Inc.¹

Sony Electronics Inc. (“Sony”) respectfully submits the following comments on the Second Further Notice of Proposed Rulemaking in the above-referenced proceeding.²

First, in response to the Commission’s questions regarding the best method for determining whether and when PAL frequencies are in use by an incumbent, Sony agrees with those commenters that have endorsed what the Commission describes as an “engineering” definition of use,³ and urges the Commission not to adopt the alternative “economic” definition. Sony believes that the challenges of implementing a technical solution can be overcome. By contrast, an economic definition of “use” would be far more difficult to implement, and would ultimately be far less efficient and beneficial. It is unclear, for example, how the Commission would determine the price of a right to exclude under this approach, given likely differences from cell to cell in covered population, propagation characteristics, duration of exclusion, and other variables. Dynamic calculation of such prices introduces significant implementation

¹ Sony Electronics Inc. is a U.S.-based research, development, marketing, and sales subsidiary of Sony Corporation. Sony entities design, manufacture, and sell mobile products throughout the world, and have conducted extensive research and testing of next-generation wireless services, including the 3.5 GHz small-cell services that are the subject of this proceeding.

² Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 Band, GN Docket No. 12-354, *Second Further Notice of Proposed Rulemaking*, 30 FCC Rcd 3959 (2015) (*Second FNPRM*).

³ *Second FNPRM*, ¶ 420, nn. 882-91.

challenges. Moreover, this approach would create uncertainty for GAA operations, would disincentivize GAA deployment, and therefore undermine the Commission’s goal in this proceeding of making more spectrum available for shared uses.

Second, Sony encourages the Commission to use an aggregate measurement of GAA interference to enforce PAL incumbent protection. Sony’s internal testing with white-spaces devices (WSDs) suggests that limiting aggregate interference is critical for ensuring sufficient protection for incumbents. Regarding the Commission’s concerns about the “equitable and coordination challenges” in limiting GAA use,⁴ the Commission should consider existing standards that have been designed to address those, or similar, challenges. For example, CEPT ECC Report 186⁵ describes a method for calculating the additional interference margin necessary to compensate for aggregate interference from multiple WSDs, and then calculating the suitable power levels for individual WSDs. Similarly, Draft ETSI EN 303 145⁶ describes, among other things, a method for deciding whether and when to deny access to a secondary user. Industry benefits when it can invest in a harmonized approach for regulatory compliance. Similarly, users benefit from mobile devices that can be used worldwide, with consistent functionality.

Standards also exist to enable coordination frequency assignment among multiple SASs, an approach that Sony supports because it will create a competitive market and foster innovation

⁴ *Second FNPRM*, ¶ 424.

⁵ CEPT ECC Report 186, Technical and operational requirements for the operation of white space devices under geo-location approach, Jan. 2013, available at <http://www.ero-docdb.dk/Docs/doc98/official/pdf/ECCREP186.PDF> (last visited July 13, 2015).

⁶ Draft ETSI EN 303 145, Reconfigurable Radio Systems (RRS); System Architecture and High Level Procedures for Coordinated and Uncoordinated Use of TV White Spaces, Jul. 2015, available at http://www.etsi.org/deliver/etsi_en/303100_303199/303145/01.01.05_20/en_303145v010105a.pdf (last visited July 13, 2015).

among database providers. These standards include ETSI TS 103 143⁷ and draft EN 303 144,⁸ both of which include solutions for protecting incumbents from secondary users, and for enabling multiple databases to manage devices in different regions.

In summary, Sony encourages the Commission to evaluate spectrum use by means of an engineering metric, to calculate incumbent protections based on aggregate interference, and to leverage existing international standards when making these calculations and to enable SAS interoperability.

Respectfully submitted,

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⁷ ETSI TS 103 143, Reconfigurable Radio Systems (RRS); System architecture for information exchange between different Geo-location Databases (GLDBs) enabling the operation of White Space Devices (WSDs), v1.1.1, Jan. 2015, available at http://www.etsi.org/deliver/etsi_ts/103100_103199/103143/01.01.01_60/ts_103143v010101p.pdf (last visited July 13, 2015).

⁸ Draft ETSI EN 303 144, Reconfigurable Radio Systems (RRS); Enabling the operation of Cognitive Radio System (CRS) dependent for their use of radio spectrum on information obtained from Geo-location Databases (GLDBs); Parameters and procedures for information exchange between different GLDBs, v.1.0.1, Jul. 2015, available at http://www.etsi.org/deliver/etsi_en/303100_303199/303144/01.00.01_20/en_303144v010001a.pdf (last visited July 13, 2015).