

**BEFORE THE
REPUBLIC OF COLOMBIA
THE DIRECTOR-GENERAL OF THE
NATIONAL AGENCY OF THE SPECTRUM**

Comments from the WhiteSpace Alliance on the)
proposed Regulations on Television Band)
WhiteSpaces)



WhiteSpace Alliance (“WSA”), commends the Republic of Colombia, National Agency of Spectrum for making a bold and thoughtful decision to issue a Notice of Proposed Rulemaking on Television Band WhiteSpaces. WSA respectfully submits its comments in response to the proposed Television Band WhiteSpace regulations from the National Agency of the Spectrum.

INTRODUCTION

1. WhiteSpace Alliance, a global non-profit organization promoting the use of Television (TV) Band White Spaces for broadband internet connectivity and machine to machine Internet of Things (IoT) commends the Republic of Colombia, Agency of Spectrum for issuing the Notice of Proposed Rulemaking for the TV Band WhiteSpaces.
2. WSA agrees with the Government that TV WhiteSpaces can help alleviate the digital divide, facilitate social inclusion and support of the national Government-based programs to provide access to the information technologies.
3. The mission of the Whitespace Alliance (<http://www.whitespacealliance.org/>) is to promote the development, deployment and use of standards-based products and services as a means of providing broadband capabilities via WhiteSpace spectrum. By promoting the use of standards, the Alliance will enable companies to provide

broadband connectivity at reasonable cost. The WSA will also act as an enabler of the emerging white spaces ecosystem by helping to put in place interoperability, conformance, and compliance testing to make sure that our member stakeholders get the needed information & collaborations to succeed both in the market place and with regulatory requirements. Interoperability specifications will allow multiple vendors to enter the market and help to reduce the costs for the consumers. WhiteSpace Alliance promotes the use of IEEE, 3GPP and IETF Standards for use in the WhiteSpaces.

4. Wi-FAR and WSACONNECT® are the trademarks of the WhiteSpace Alliance
5. The WSA Wi-FAR interoperability specification is derived from the IEEE 802.22-2011 Standard on Wireless Regional Area Networks (www.ieee802.org/22). Wi-FAR provides Point to Multi-Point and Middle-Mile Broadband Wireless Access for Regional, Rural and Remote Areas under Line of Sight (LoS) and Non Line of Sight (NLoS) Conditions. The specification uses advanced Spectrum Sharing Technology and ensures that no harmful interference is caused to the primary services in those bands. Wi-FAR adds Cognitive Radio technology to a simple and optimized OFDMA waveform (similar to the OFDMA technology used in other broadband standards). Each Wi-FAR cell will provide 22 to 29 Mbps of aggregated throughput per TV Channel. Typical distances covered range from 10 km up to 30 km. The Wi-FAR inter-operability compliance and testing document is available to the WhiteSpace Alliance members upon request. Wi-FAR CERTIFIED logo gives consumers confidence that a product will deliver a good user experience and meet industry standards. Service providers and enterprise IT managers specify Wi-FAR CERTIFIED to reduce support costs and ensure a product has met industry-agreed requirements.
6. The WSACONNECT interoperability specification has been derived from the IETF Protocol to Access White Spaces (PAWS) Standard IETF RFC 7545. The specification was completed and published to the members in Q1 of 2015. The WSACONNECT™ protocol defines an

interoperable specification for information exchange between the WhiteSpace Database (WSDB) and a White Space Device (WSD). The protocol defines a global paradigm shift to manage the spectrum dynamically and opportunistically. It also provides a flexible mechanism for various regulatory regimes to alter the rules and policies to access and manage the spectrum. It allows the policies to be changed through databases. The WSAConnect protocol enables the WSDs to communicate various parameters such as their Antenna Transmit Height, the desired Transmit Power, their Location etc., to the WSDB in a secure manner. Based on the knowledge of the incumbent users of the spectrum derived from the regulatory repository, the database computes the protection contour and a list of available channels for the WSD, seeking to use the spectrum. This information is conveyed back to the WSD over the secure WSAConnect Protocol. The WSD adjusts its parameters based on this information, and starts using the available channel to provide wireless internet connectivity.

WSA COMMENTS ON THE PROPOSED NOTICE OF RULEMAKING

7. **RESOLUTION No. sheet N ° 3 (Translated from Spanish)** – “That it is important to test the scheme's use of TV white spaces, which, initially, a test will be done during a period of two years, after which the entity will evaluate the experiences learned and make adjustments.”
 - a. WSA believes that this period of two years of testing could be significantly shortened. WSA urges the Government to complete the tests, trials and final regulations within one year period.
8. **RESOLUTION No. sheet N ° 9:** Prohibit the operation of white spaces devices in the municipalities whose population exceeds one hundred thousand inhabitants and in certain geographical areas of the country which will be determined by the ANE, in order to avoid interference to allocations in the band 470 MHz to 698 MHz and its adjacent bands.

- a. WSA urges the Government not to allow prohibition of the use of TV WhiteSpace devices in large population centers since even in large population centers, the people, small and medium enterprises can greatly benefit due to this spectrum availability. WhiteSpace spectrum in larger population centers can provide services such as e-Banking, e-Payment, e-Education, e-Health etc, and also act as a spectrum to offload mobile traffic.
- b. WSA believes that an adequately managed and approved devices meeting the spectrum mask and using a Database is unlikely to cause interference to the TV receivers.

CONCLUSIONS

Once again, WSA commends the National Agency of Spectrum for making a bold and thoughtful decision to issue a Notice of Proposed Rulemaking on Television Band WhiteSpaces. We would like to continue to work with you through the regulatory process and ensure that the people of Colombia can fully benefit from innovative uses of this spectrum.

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