

Exhibit 1: Description of Microsoft Corporation, Seattle WA - White Spaces Network Program of Research and Experimentation

Microsoft Corporation respectfully requests the issuance of an experimental license using the equipment and operating parameters set forth in its application for an experimental license (FCC File No. 0534-EX-PL-2010) (the "Application"). Grant of this license will enable Microsoft in Seattle, WA to conduct research and experimentation using vacant spectrum in the television broadcast bands (the "TV white spaces") for the testing of fixed white spaces devices.¹

Microsoft is working jointly with Spectrum Bridge in investigating the usefulness of available white space (UHF) spectrum for use in home networking applications. A non-commercial network will be constructed that consists of 1 base station (hub) and 5 separate access points or CPEs (spokes).

Spectrum Bridge will serve as a white space data base provider and assist in insuring compliance with the FCC's white space rules. Although the request is for frequencies that span the UHF portion (470-698 MHz) of the white space band, only channels permitted for use by FCC rules will be utilized. These channels are shown in the figure at the right:

The fixed spoke devices will be located within the immediate area (3 km radius) of the base station location specified in the Application and will communicate directly with the fixed base station(s).



¹ See *Unlicensed Operations in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices, Below 900 MHz and the 3 GHz Band*, Second Memorandum Opinion and Order, FCC 10-174.

Airspan will provide the radios required to conduct these experiments. The proposed experiment will utilize fixed stations with the following parameters:

Lower and upper frequencies and frequency units	470-698 MHz (channel size 6 MHz)
ERP and ERP units	2 watts, max
Frequency tolerance	< 1 ppm
Station class (i.e., fixed or mobile).	Fixed

The solution incorporates a fixed “base station” connected to the internet. The base station (hub) will provide broadband connections (approx 10 Mbits/sec (using OFDM modulation) to a number of fixed client devices. One goal is to show how UHF operation, combined with 6 MHz channels of TV white space provides a practical solution to providing exceptional broadband coverage and connectivity within and throughout a home or neighborhood network, even in spatially challenging, non-LOS environments. The experiment is expected to last approximately 12 months.

As previously mentioned, these experiments will use White Space radios controlled by a white spaces database managed by Spectrum Bridge. These experiments are expected to yield useful data without causing harmful interference to incumbent television station users. The Microsoft white space network will not transmit on any channel or in a manner that impacts an incumbent television licensee entitled to interference protection. In the unlikely event that a potential interference issue arises, the following persons should be contacted:

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The Commission has indicated that it expects the availability of white space spectrum will promote the development and deployment of innovative new services. It is expected that these experiments have a reasonable promise of contribution to the development of white space technologies and policy. Microsoft also believes that this research effort will further these goals by testing the viability of new applications and acquiring test data while insuring interference-free operation.

Microsoft and its partners fully anticipate that these experiments will further the development of innovative white spaces applications, and respectfully requests expedited processing of the Application.