

Exhibit 1: ver3

Description of Lowell, MI Area - White Spaces Femtocell Network Program of Research and Experimentation

Carlson Wireless Technologies Inc. aka Carlson Wireless 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. 0500-EX-PL-2010) (the "Application"). Grant of this license will enable Carlson Wireless and Vergennes Broadband in West Michigan to conduct research and experimentation using vacant spectrum in the television broadcast bands (the "TV white spaces") for the testing of the following

- Fixed white spaces devices¹
- Femtocell (cellular coverage extender) devices in attachment to the white space device

Carlson Wireless and Vergennes Broadband are working jointly with Spectrum Bridge in investigating the usefulness of available white space (VHF & UHF) spectrum for use in rural broadband applications and enhanced wireless broadband access for residents living and working in rural underserved areas. In addition, Vergennes Broadband will be investigating stability and compatibility of femtocell devices that are already on the market today and being sold by major carriers such as Verizon, Sprint, and AT&T.

A non-commercial outdoor network will be constructed that consists of 1 access point located at 42°57'32.84"N and 85°25'33.32"W.

The access point will service up to 8 fixed subscriber stations, each containing a femtocell attached at the subscriber station. 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 portions (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:

Fixed spoke devices will be located within the immediate area (3 km radius) of each base station location specified in the Application, and the total deployment will not exceed 24 spoke portable/fixed devices which will communicate directly with the fixed outdoor base station(s).



¹See *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.*

Carlson Wireless will provide the necessary hardware and software for the whitespace devices conducted in these experiments. Vergennes Broadband will purchase Femtocell devices from AT&T, Sprint, and Verizon. 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	4 watts (+36dBm)
Frequency tolerance	< 1 ppm
Station class (i.e. fixed or mobile)	Fixed
Femtocell frequency	As licensed/configured by carrier and where carrier owns spectrum

The white space equipment to be used for these experiments is manufactured exclusively for Carlson by KTS Wireless. The solution incorporates a fixed “base station” connected to the internet. The base stations (hubs) provide broadband connections (approx 2 Mbps (using an FSK modulation) to a number of fixed client devices that provide broadband connectivity. One goal is to show how UHF operation, combined with 6 MHz channels of TV white space provides a practical solution to providing broadband connectivity within and throughout an rural community, in challenging terrain.

Another goal is to show how existing femtocell devices that utilize licensed frequencies affect the white space device and if they produce undesirable interference. The area where the experiment will be conducted has been approved for use of these devices according to the requirements established by the wireless carriers AT&T, Sprint, and Verizon.

Femtocells enhance indoor cellular coverage to provide more reliable wireless service. The devices are compatible with all phones and works like a miniature cell tower in the home or home office. The femtocell plugs into an existing high-speed Internet connection to communicate with the carrier network.

AT&T 3G Microcell™	http://www.wireless.att.com/learn/why/3gmicrocell
Sprint AIRAVE	http://shop.sprint.com/en/services/airave/index.shtml
Verizon Wireless Network Extender	http://www.verizonwireless.com/b2c/store/accessory?&action=gotoFemtocell

It is the intention of Vergennes Broadband to upgrade the white space radios to commercial FCC certified white space radios, when they become available, to maintain the services within their area. It is also the intent to retain the femtocell devices for ongoing use. The experiment is expected to last approximately 6 months.

These experiments will use White Space radios to be controlled by a white spaces database upon certification. These experiments are expected to facilitate fixed operations in the white spaces without causing harmful interference to incumbent television stations. The Vergennes Broadband 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 and the use of femtocell technology is expected to grow and these experiments have a reasonable promise of contribution to the development of white space technologies and policy. Carlson Wireless and Vergennes Broadband also believe that this research effort will further these goals by testing the viability of new applications and acquiring test data while insuring interference-free operation.

Carlson Wireless and the Vergennes Broadband 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.