

March 7, 2014

VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Expression of Interest – Rural Broadband Trials WC Docket No. 10-90

Dear Ms. Dortch,

This letter is to express Adaptrum's interest in providing innovative wireless broadband technology solutions for the Rural Broadband Trials announced at the January 30th FCC Open Meeting.

Background

Adaptrum, Inc. is a Silicon Valley based company developing innovative wireless broadband technology using vacant VHF/UHF TV channels or TV White Spaces. Adaptrum was an active participant in the FCC TV White Space proceeding from 2008 to 2010 and made significant contributions leading to the successful conclusion of the Rulemaking.

Adaptrum TV White Space product was among the first TV White Space devices certified by the FCC together with leading TV White Space Database providers Google and Iconectiv. Adaptrum is launching its second generation ACRS 2.0 TV White Space product with market leading performance and cost. ACRS 2.0 has entered volume production since the beginning of 2014.

Abundant amount of TV White Space spectrum exists in the rural areas considered by the Rural Broadband Trials/Experiments. Based on conservative estimates, on average about 90 MHz of TV White Space spectrum exists in the geographic areas eligible for the Experiments. UHF TV White Space spectrum has superior propagation characteristics which combined with cutting edge TV White Space technology offered by Adaptrum can provide cost effective coverage that extends well beyond what be achieved using traditional wireline technologies or other wireless technologies.

Wireless ISPs and local communities play very important roles in providing broadband service in the rural areas considered in the Experiments, as these areas are often unattended by the larger wireline service providers and wireless carriers due to the low population density. Most of WISPs are using unlicensed wireless technologies in 900

MHz, 2.4 GHz and 3.6 GHz (and 5 GHz for backhaul) to serve their customers today. Based on the field data we have collected working with a number of these WISPs in the rural areas in Virginia and West Virginia, TV White Space will allow them to extend their service areas multiple fold under the same cost and reach the areas they are currently unable to serve using 2.4 GHz or 900 MHz products due to terrain or foliage. In most of the cases, it is possible to provide 100 percentage blanket coverage in these rural areas with 8 – 10 Mbps speed on average to every single customer.

Proposed technology

Adaptrum's market leading TV White Space technology is based on TDD/OFDMA capable of operating over the entire UHF TV spectrum plus any other spectrum bands below 1 GHz while meeting all FCC TV White Space regulatory requirements. It offers 4G comparable wide-area performance with superior throughput per unit frequency (10 Mbps up/down over 6 MHz channel) and latency (15 ms typical). The access point/base station cost is significantly lower than its 4G counterparts. The CPE (Customer Premise Equipment) cost is higher initially as is typical in the early adoption phase of a new technology but will go down quickly over time as the volume picks up – following the same pricing-over-time curve as any other unlicensed wireless technology, e.g. 802.11 WiFi.

Product Readiness

Since introducing the first FCC certified TV White Space broadband system ACRS 1.0 in 2012, Adaptrum has been focusing on building our second generation product not only with superior performance and reliability but also for large-scale manufacturing.

Adaptrum ACRS 2.0 product line has entered volume production since the beginning of 2014. Adaptrum is positioned to deliver large quantities of ACRS 2.0 TV White Space systems to our trials partners immediately. Most of the projects we have in discussion will reach full speed in second half of 2014 extending into 2015.

Scalability

TV White Space technology is ideal for building cost effective and scalable broadband networks in the sparsely populated rural areas considered in the Experiments. Unlicensed TV White Space networks can be built and provisioned quickly – in months instead of years for competing wireline and licensed wireless solutions. It is possible to provide a 10 Mbps baseline service with 100 percentage coverage in the first phase of the network deployment to reach all potential customers in a target area. With more customers using the service, the network can be subdivided into smaller cells to scale up the capacity. This works out perfectly for small/medium operators or local communities with capital constraints because 1) there is zero upfront spectrum cost, 2) very low initial CAPEX and 3) the infrastructure investment for capacity enhancement can be scaled in pace with the custom take-up rate to achieve a sustaining, profitable business.

Project Descriptions

We list two of our top projects in this EOI letter. We are also working on a number of other rural broadband projects in different states across the country.

Underserved Areas in West Virginia, Iowa and Maine with AIR.U

Adaptrum has been working together with AIR.U in the first university community TV White Space deployment in Morgantown, West Virginia. The project is a close collaboration between Adaptrum, AIR.U co-founder Declaration Networks Group, Inc., West Virginia University and West Virginia Network (WVNET) to extend the last mile service to underserved areas in the communities around West Virginia University.

The AIR.U mission is to accelerate deployment of next generation networks in educational communities by creating a nationwide sustainable program deploying high capacity broadband networks leveraging TV White Space technology. Announced in 2012, AIR.U is a consortium of education associations, public interest groups and high-tech companies. The founding high education organizations collectively represent over 500 colleges and universities nationwide. Google, Microsoft, New America Foundation, Declaration Networks Group are also founding partners.

The next phase of expansion of the AIR.U program includes multiple projects covering underserved communities and surrounding areas in West Virginia, Iowa and Maine. Adaptrum is working closely with our AIR.U partners on these projects.

Central Virginia – Louisa, Spotsylvania, Hanover, Goochland, Fluvanna, Albermarle and Orange Counties

We are working with CVALiNK – a Virginia-based WISP – to provide broadband service to underserved areas in Louisa, Spotsylvania, Hanover, Goochland, Fluvanna, Albermarle, and Orange Counties in Central Virginia. In addition to providing broadband service to households and business, we also plan to provide free or low cost service to schools, libraries, county/town offices and community centers.

CVALiNK Broadband was established in February of 2001 to provide service in rural areas of Central Virginia. Today CVALiNK has established tower sites and backhaul facilities in counties throughout Central Virginia. In 2011, CVALiNK was awarded an RFP for Louisa County to study the cost and design of a county wide broadband network for their businesses and citizens. CVALiNK has a current and past member of the Wireless Internet Service Provider Association as well as a member of the Louisa Chamber of Commerce.

Project Cost and Funding Requirements

We are working with our trial partners on project scoping and financial

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requirements. We will provide detailed project proposals at a later time.

Thank you for considering our Expression of Interest to participate in the Rural Broadband Trials. We are encouraged by the Commission's vision and leadership in this important initiative to connect rural households and communities across the nation.

Sincerely,

/S/

Haiyun Tang
CEO
Adaptrum, Inc.