

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 73 and 74 of the)	
Commission's Rules to Establish Rules for Digital)	MB Docket No. 03-185
Low Power Television, Television Translator, and)	
Television Booster Stations and to Amend Rules)	
for Digital Class A Television Stations)	

COMMENTS ON NOTICE OF PROPOSED RULES MAKING

Low Power Television Stations (LPTV) W25CU, W34CR, and W41CK received developmental authorizations from the LPTV Branch Mass Media early in the year 2002 to evaluate the use of the UHF-TV spectrum for the transmission of digital information (datacasting).

Cherryland Wireless LLC (Cherryland), through sublease of the above referenced channels, has conducted this evaluation in the Traverse City and Petoskey Michigan areas during 2002 and believe the results encourage the use of this spectrum (and LPTV in general) as a means to expand availability of broadband access particularly in rural areas.

The "Annual Report" for this developmental authorization is found in Attachment A at the end of this commentary.

Cherryland applauds the Commission's initiative to promote the use and transition of LPTV to include digital transmission authorization. Transmitting DTV as well as HDTV opens important opportunities for many LPTV stations in rural areas to originate, to relay, or to lease to analog stations needing low cost entry into the digital world.

Cherryland believes that the digital use of LPTV should not be limited to only video services but should include the ability to transmit any type of information in digital format. Indeed, as a result of its study of LPTV for delivery of broadband data services, Cherryland requests the Commission to include specifically worded authorization for datacasting in its rules making.

Cherryland envisions two stages for the use of LPTV in datacasting.

The first stage, using a single channel, transmits “download” broadband data to subscribers using a dial-up return. Cherryland’s experience from its developmental testing showed outstanding non-line of site performance with downloads in the 1+Mbps range using traditional dial-up returns.

Rural areas usually have “dial-up” Internet Service Providers (ISPs) who currently have little ability to cost effectively make broadband available to their residential and small business customers. These customers would historically be interested in large quantities of downloads with relatively little uploads usually consisting of key clicks. For many of these rural ISPs, the low cost of deploying a broadband service (typically \$100,000) would allow them to transition to offering broadband services in very short order. It may be possible for a group of local ISPs to jointly offer this service further reducing the financial cost of deployment.

The second stage, using two UHF channels with one used for traditional downloads initiated in the first stage and the second for wireless uploads, would follow upon projected results from developmental testing of this methodology. Cherryland has requested of the Commission for such authority but has not received a reply as of this Commentary.

Both headend and consumer premises equipment, easily available, is based on current proven technology used on other spectrum. The spectral mask used by Cherryland showed sharp drop-offs on the channel sidebands with no adjacent channel signals present above the noise floor. Digital transmissions are generally less susceptible to causing interference while digital reception

is more resilient to interference. Cherryland found usable signals out to 20 miles from the headend with receiving antennas ranging from small bow-tie antennas inside homes within a few miles of the headend to multi-element yagis at the farthest range of the signal.

While the second stage of this proposed broadband provisioning may be outside the scope of this rules making, the Commission can authorize the first stage to promote the rapid availability of broadband services, primarily in rural areas, by making datacasting an approved use within LPTV.

Additionally the Commission can authorize the Mass Media Bureau to use developmental initiatives to explore the use of low power consumer premises transmitters for the “upload” of data back to the headend.

Cherryland is especially suited to investigating this second stage concept since it already has two LPTV channels in its Petoskey marketplace. It would plan to transmit “download” data on one channel and receive very low power consumer transmissions on the second channel.

IN SUMMARY, Cherryland believes that digital transmission authority for LPTV will enhance the opportunity for LPTV stations to serve the public. It further believes that such digital authority not be limited to digital video services but include datacasting services as well.

Respectively Submitted,

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February 6, 2003

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Annual Report – Developmental Authorization
Low Power Television Datacasting
W25CU Traverse City, Michigan
W34CR and W41CK Petoskey, Michigan

Low Power Television Stations (LPTV) W25CU, W34CR, and W41CK received development authorizations from the LPTV Branch Mass Media early in the year 2002 to evaluate the use of the UHF spectrum for the transmission of digital information (datacasting). This authorization only permitted transmission from the headend requiring the signal's recipient to use a dial-up return.

Cherryland Wireless LLC, through sublease of the above referenced channels, has conducted this evaluation during 2002 and believe the results encourage the use of this spectrum (and LPTV in general) as a means to expand availability of broadband access particularly in rural areas.

The UHF spectrum is especially suited to resolving the line of site issues that higher frequency services find difficult to manage. Cherryland Wireless LLC also leases MMDS spectrum for dial-up return and two-way wireless services and, as such, is keenly aware of the various technical issues that each service experiences. The input modulation to the UHF transmitter was the same as that fed to the Microwave transmitter so parallel comparisons were readily available. The modem was the same for both services and in the case of the UHF reception a down converter was not need since the modem is designed to receive signals in the UHF television spectrum. Where ever terrain or trees blocked microwave signals to a particular location, the LPTV service performed admirably with download speeds often superior to that experienced with excellent line of site for the microwave service. Received download speeds were typically in the range of 1 Mbps or greater.

The range of usable signal was found to a maximum of 20 miles from the headend while the receive antenna requirements varied from the simple UHF "bow tie" dipole typically supplied with new televisions several years ago to the yagi with 30-35 dB gain. Within 3-5 miles usable signals could be reached with the "bow tie" antenna in an indoor setting. In some instances an amplifier was placed between the antenna and the modem where marginal indoor or distant outdoor signals existed. Should there be sufficient demand for this type of service; an integrated antenna-amplifier could be easily and economically built.

While our microwave service targets the commercial user who demands, in most case, the

capacity for both upload and download at high speeds, the UHF service is envisioned to be an effective competitor with cable, DSL, and satellite services where uploads are typically comprised of “key clicks” or small files rather than large files. The relatively low cost of building a datacasting service, especially by existing local dial-up Internet Service Providers (ISPs), would suggest a customer cost that would place competitive pressure upon these other services. In rural areas two or three LPTV datacasting stations could conceivably compete for customers promoting quality of service while in urban areas many times that number could co-exist.

There is under study the feasibility of using much lower power LPTV stations to create “mini-cells” of service rather than the “super-cell” used in this evaluation. Perhaps usable cells of 3-5 miles radius might prove more consumer friendly with associated economics for the operator. There are a variety of ways to feed such mini-cells including fixed broadband wireless or even traditional wireline services.

In February of 2002 the Mass Media Bureau approved a “Pilot Project” to evaluate the UHF spectrum for datacasting. We have not been formally a part of that pilot project although our efforts in many ways parallel those approved in the pilot project. It is believed that two or more independent efforts down the same pathway will result in different creative approaches that can be extraordinarily useful in the Commission’s eventual determination on this spectrum’s use for datacasting.

As such, the licensees within this project as well as the operating entity request that the Commission extend to these three licenses the benefits, authorizations, and responsibilities contained in FCC 02-40, adopted February 12, 2002.

While we will continue to explore one way transmission issues (with dial-up return), we have contacted a number of equipment manufacturers who are interested in providing low power (2-3 watt ERP maximum) UHF transmitters to establish two-way UHF wireless service. Discussions with potential manufacturers have also focused on a transmitter with interchangeable antennas of various gains.

In the Petoskey, Michigan market we have two authorized channels for datacasting. Our existing microwave equipment is compatible with the use of two channels, one for downloading and one for uploading. Downloading would use 64 QAM modulation on Channel 34 while uploading would use QPSK modulation on Channel 41. Time Division Duplexing (TDD) would be used on both channels. Download capacity is approximately 30 Mbps while upload is limited to about 8 Mbps.

Another system that is available and can easily be configured to the UHF television spectrum would use the same channel for both download and upload transmissions also using Time Division Duplexing. The single Traverse City, Michigan channel would be suitable for this evaluation. This system uses QPSK in both directions limiting total throughput to about 4 Mbps. This system might be most suitable to the mini-cell concepts under study.

As always, any report or complaint of interference would receive the highest priority attention and if the cause is not readily apparent and immediately correctable, the offending transmitter(s) will be shut down until such time as it can be established that interference no longer exists with any other licensed facility.

In summary, the licensees and the operating company request the extension of its developmental

authorizations to continue this promising study and most importantly its inclusion under the LPTV pilot project referenced in FCC 02-40 of February 12, 2002.

Respectfully submitted,

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