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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In re Application of	)	
	)	
NEW YORK SPECTRUM	)	
HOLDING COMPANY, LLC	)	**File No. BEPXLD-20130313____**
	)	
For an Experimental License to Conduct	)	
Experimentation with Hybrid Broadcast/Broadband	)	
Technology at New York, NY, at	)	
Stations: WYNX-LD, Facility ID 38945, Channel 26	)	
WXNY-LD, Facility ID 29231, Channel 32	)	
WNYX-LD, Facility ID 29236, Channel 35	)	
WNXY-LD, Facility ID 29233, Channel 43	)	

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Federal Communications Commission
Bureau / Office

To: Chief, Video Division, Media Bureau

APPLICATION FOR AN EXPERIMENTAL BROADCAST LICENSE

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March 13, 2013

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I. SUMMARY

New York Spectrum Holding Company, LLC. (NYSHC) hereby applies for an experimental license to operate four digital low power television stations ("LPTV") at New York, New York, using an alternative technology to the ATSC standard embodied in Section 73.682(d) of the FCC's Rules and Regulations. The purposes of the experiment are (a) to study the impact of alternative technology on the number of LPTV stations that can be accommodated in whatever television spectrum remains available after the proposed spectrum repacking contemplated in Docket 12-268 (*see Expanding the Economic and Innovation Opportunities of Spectrum through Incentive Auctions*, 27 FCC Rcd. 12357 (2012); (b) to explore and to demonstrate mobile television broadcasting possibilities that are more efficient and reliable than both the current ATSC-based mobile standard and the technology used in the now-discontinued Media-Flo service; and (c) to demonstrate how television broadcasting and broadband access can be combined efficiently in available broadcast spectrum to reach both mobile and fixed receiving locations and can be bundled with existing two-way wireless services.

NYSHC is the current licensee of all four stations to be involved in the experimental operation; so no other broadcast licensee will be involved, nor will any vacant channels be occupied which might otherwise be available for "White Spaces" operations. The stations are:

WYNX-LD, Facility ID 38945, Channel 26
WXNY-LD, Facility ID 29231, Channel 32
WNYX-LD, Facility ID 29236, Channel 35
WNXY-LD, Facility ID 29233, Channel 43

The modulation to be used is the OFDM standard known as Converged Mobile Multimedia Broadcasting ("CMMB"); its technical name is Satellite-Terrestrial Interactive Mobile Infrastructure ("STiMi"). Participants in the experiment will include New York Broadband, LLC, 100% owner of NYSHC; CMMB America, LLC, which holds a 20% interest in New York Broadband; and CMMB Vision Holdings Co., Ltd., the majority owner of CMMB America. CMMB Vision Holdings is a convergent mobile multimedia service provider based in Hong Kong and a principal technology developer for CMMB and the major mobile technologies such as TD-SCDMA, OFDMA, WiMax, and LTE. CMMB Vision is also a member of the ATSC, helping to develop the next generation broadcasting standard ATSC 3.0 and to promote cross-fertilization between CMMB and ATSC 3.0. As discussed further below, established broadcast organizations, including the National Association of Broadcasters ("NAB") and the Advanced Television Systems Committee ("ATSC"), along with wireless carriers and over-the-top content providers, will be invited to participate in and to observe the results of the experimental activities.

The CMMB standard was jointly developed by U.S. and Chinese research institutions and has been adopted by the State Administration of Radio Film and Television (SARFT") as the national industry

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standard of mobile hand-held television in China. The world's major wireless handset manufacturers offer products that incorporate the CMMB standard. CMMB is commercially deployed in over 300 cities in China since 2010, with over 45 million users, but based on an 8 MHz channel bandwidth. It has been offered as both a stand-alone mobile TV service and a mobile TV service bundled with 3G cellular service. Receiver chips have been commissioned to operate within the U.S. channel bandwidth of 6 MHz, to be provided by Fujitsu. Initially, those chips will be incorporated into Mi-Fi type devices and dongles to be used with existing receivers, with new receivers with integrated 6 MHz CMMB chips to follow as manufacturers are able to supply them

At this stage of the experiment, authority is requested to transmit on a one-way basis only, from the licensed common transmitter site of the four subject stations, at or below the licensed effective radiated power ("ERP") and at the licensed antenna height for the stations. The only change will be conversion from ATSC modulation to the CMMB standard, with emission designator 6M00G7W. At a later stage of the project, a further application will be filed to modify the experimental authorization to add several specific distributed antenna system locations that will not expand the authorized 51 dBu service areas of the stations, to demonstrate that a single-frequency network can operate without increasing interference, together with gap-fillers operating at very low power to ensure that the signal is adequately receivable throughout the service area (similar to "small cell" technologies currently deployed in other wireless services).

The CMMB technology seamlessly combines the advantages of broadcast and unicast data delivery in a manner that drastically reduces costs and eliminates spectrum bottlenecks that both broadcasters and wireless carriers currently face in delivering data-intensive mobile video and multimedia services. The current unicast-based mobile networks (including 3G GSM and CDMA and LTE) will not be able to accommodate the growing demand for mobile video unless a radically different and far less expensive approach is introduced. NYSHC seeks to show that CMMB is a viable approach to accommodate mobile demand at a reasonable cost and without exhausting the supply of spectrum. Moreover, CMMB provides for the continuation of fixed and mobile broadcast services. That capability significantly reduces the need to make the "either/or" choice between television broadcasting and wireless mobile video services that has resulted in conflict rather than cooperation between some broadcasters and wireless carriers.

Services to be tested in the experiment include television programming and data broadcasting, including digital video, multimedia content, mobile apps, magazine format, and current information such as news and traffic. To the extent that any feedback from mobile devices or two-way communication is involved, it will occur through existing licensed two-way wireless systems operated by wireless carriers. NYSHC hopes to demonstrate that bundling CMMB technology with existing two-way services is feasible and can produce interactive and seamless data delivery.

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NYSHC will not charge any member of the public for services provided under the experimental authorization and will not sell any CMMB receivers. The existing broadcast programming services of the stations will be preserved in the ATSC format.

Interested industry organizations, including NAB, ATSC, and other international technology groups, will be invited to observe the system and to participate in performance measurement evaluation and activities.

Most importantly, the goal is to demonstrate that CMMB is a viable and immediate technology standard with complete and mature devices and eco-system support that can help to expand mobile video and data delivery without exhausting the supply of spectrum, in a spectrum-efficient manner, helping advance toward achievement of the universal deployment and adoption goals of the National Broadband Plan. NYSHC hopes that the results of its tests will show that CMMB should be an important part of any future television broadcasting standard and that the technology will be available in the near term to broadcasters and service providers who recognize its value and are given the ability by the FCC to pursue flexible spectrum use.

II. OVERVIEW OF CMMB

TECHNOLOGY FUNDAMENTALS

CMMB is an OFDM based, hybrid satellite/terrestrial wireless broadcasting system, which is designed to provide audio, video, and data services to handheld receivers. CMMB was developed from OFDMA, with most worked done in the University of Washington under Dr. Hui Liu, (IEEE fellow and U.S. citizen). It has been adopted by the State Administration of Radio Film and Television (SARFT) of China as the national industry standard of mobile hand-held TV in that country.

A fully deployed CMMB system is designed to employ both terrestrial TV towers and high-power satellites for cost-effective nationwide coverage and gap fillers to provide complementing SFN (Single Frequency Network) using S-band spectrum. Currently, only terrestrial coverage has been deployed.

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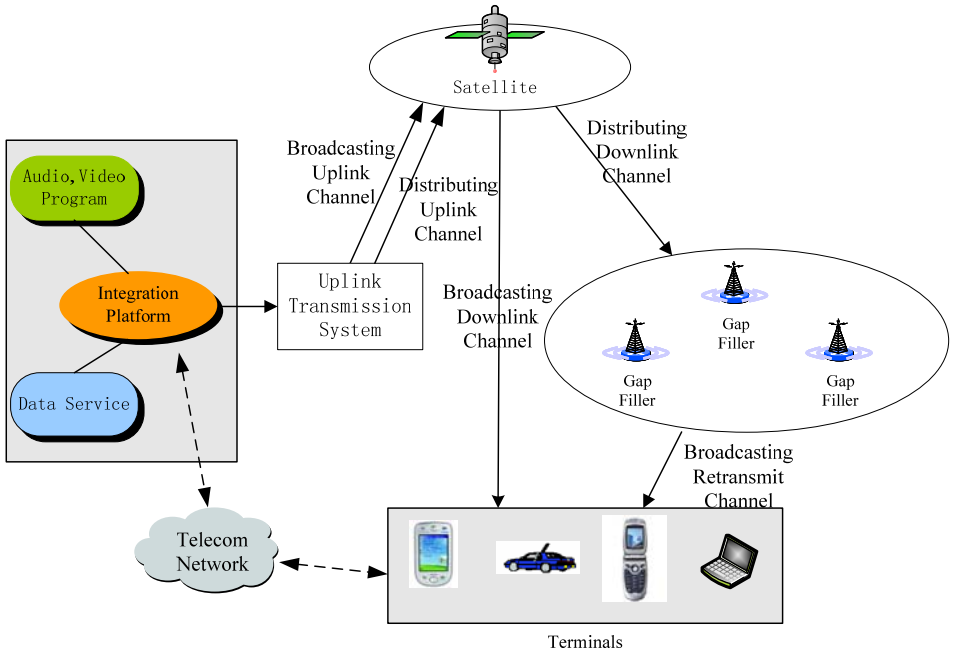


Figure 1. General CMMB architecture.

The CMMB Physical Layer standard applies advanced technologies, including high-structure LDPC channel coding, time-slot based power consumption optimization, and fast synchronization. CMMB provides highly reliable reception as well as low power consumption, supports SFN network deployment, supports handover and roaming, and offers flexibility and efficiency for multimedia services.

The main features of CMMB are listed in Table 1.

Table 1. CMMB Feature List.

Bandwidth	2, 5, 6 , 7, or 8 MHz
OFDM	4K, 1K
Outer Code	RS
Outer Interleaver	Byte block interleaver
Inner Code	LDPC (½, ¾)
Inner Interleaver	Bit block interleaver
Constellation	BPSK, QPSK, 16QAM
Scramble Code	Pseudo BPSK sequence
Frame Structure	Timeslot-based frame

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CURRENT CMMB ECO-SYSTEM AND OPERATING ENVIRONMENT IN CHINA

CMMB service started during the 2008 Beijing Olympic Games as a trial service and was commercially launched in 2010. Today it is widely commercialized in over 339 cities and 2000 rural counties with 800-million population under coverage, 45 million current users, and 60 million devices in circulation.

After several years of development in China, CMMB has also bred the largest Mobile TV eco-system in the world, with over 1000 types of CMMB-enabled devices and 500 vendors, including participation by all major international device makers, such as LG, Samsung, Motorola, Nokia, Apple, HTC, Sony-Ericsson, ZTE, Lenovo, etc.

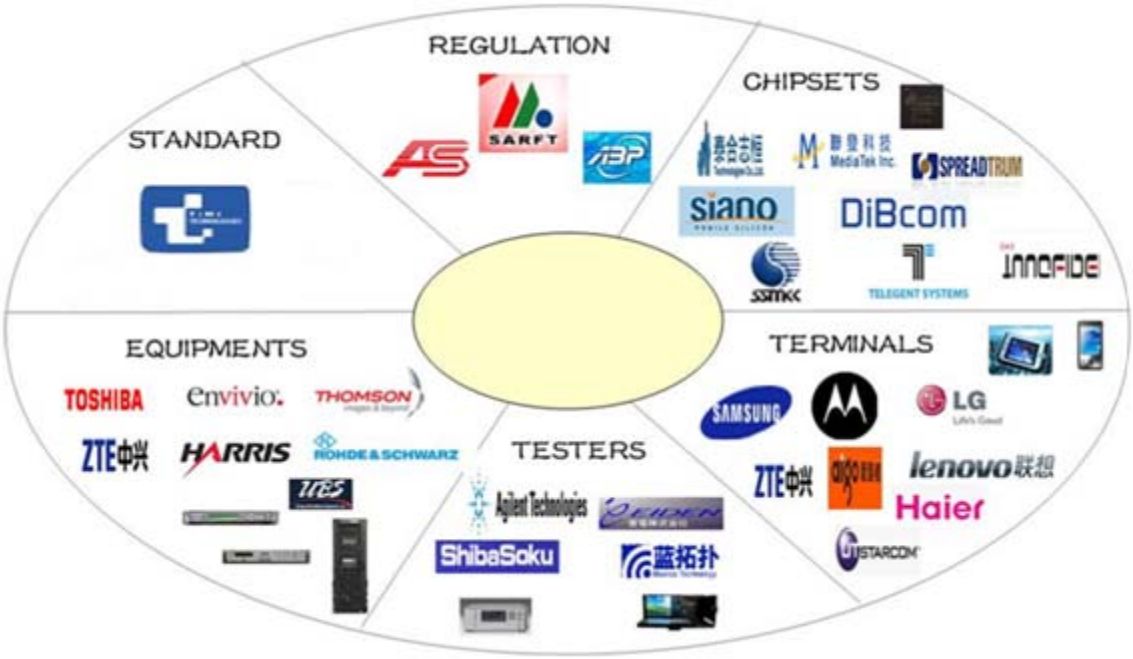


Figure 2. CMMB Ecosystem.

The CMMB service model includes an array of mobile TV and radio broadcasting, traffic navigation, financial information services, e-newspaper, and industry advertising. These services are provided on a subscription basis in China, although NYSHC does not propose to offer fee-based subscription services in its U.S. experiment.

CBC is the state-run and sole official operator of CMMB service. China Mobile (the world's largest mobile operator) is the only official operating partner.

DEVELOPMENT MILESTONES IN CHINA

- 2003, concept developed by Professor Liu at the University of Washington, Seattle WA [1]

[1] Hui Liu, etc. "An LDPC-based terrestrial multimedia broadcasting (TMB) system: design, implementation and experimental results", ICASSP '04, vol.4 pp. 905-908, 2004.

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- 2006-10, first standard approved (GY/T 220.1 – 2006, STiMi air interface)
- 2006-12, field trial system in Beijing
- 2007-3, first demodulator chip; first cell phone and PMP demo on CCBN
- 2007-10, CMMB Free-To-Air (FTA) services launched in the six Olympic cities
- 2008, trial network deployed in 37 cities for the 2008 Olympic Games in Beijing
- 2009, pre-commercial launch (150 cities)
- 2010, official commercial launch (320 cities), outdoor coverage: 95%, indoor coverage: 80%
- 2010, partnership with China Mobile; commercial launch March 2010
- 2012, coverage in 339 cities and more than 2000 counties, 800 million population coverage, 45 million users.

NEXT GENERATION CMMB DEVELOPMENT

i. NGB-W

SARFT, together with leading industry participants, is organizing the development of the CMMB-2 standard, which will be called Next Generation Broadcast – Wireless (NGB-W) to meet the challenge of rapidly emerging new services and applications. The standardization process is in the closing stage. The existing CMMB eco-system is expected to quickly evolve to support the new standard. The key features of NGB-W include:

- Much higher spectral efficiency and robustness for data delivery by employing advanced source and error control codes, modulation and multiple antenna techniques.
- Supporting combined terrestrial mobile broadcasting and fixed HDTV broadcasting in one RF channel.
- More flexible on frequency planning, network deployment and resource allocation.
- Distributing content through converged broadcast and unicast network, and support interactive, personalization and targeting service.
- Extending ubiquitous terrestrial-satellite coverage with much wider geographic and greater building penetration in any mobile and wireless environment.

ii. Broadcast-Unicast Convergence (CMMB-LTE)

It is widely recognized that accommodating increasing mobile video traffic requires a change from the current unicast-based mobile network alone (i.e., 3G and LTE), because its one-to-one delivery architecture is a highly inefficient way to deliver mostly one-way and repetitious video and data-intensive content. Typically, 80% of users download the top 5% of Internet content. The one-to-many architecture of television broadcasting, with its unlimited one-way delivery capability, is ideal for popular and common video and intensive data delivery. The challenge that service providers face is how to combine the two delivery approaches efficiently.

The next generation CMMB includes the creation of a broadcast-unicast converged network solution based on the best available mobile broadcast CMMB and unicast LTE technologies, to intelligently allocate data over broadcast or unicast channels for optimal delivery based on whether it is popular or

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individualized content. For example, popular and common video and multimedia can be routed to the one-way CMMB network for all users, while individualized data and browsing traffic can be routed to the two-way LTE network for specific users.

The concept is akin to a one-way bullet train coupled with a two-way super-highway to optimize public traffic flow.

The CMMB eco-system looks toward solving the problem of how to offload popular content from the LTE network and actively push it to mobile devices, resulting in much higher network efficiency and improved user experience. Intelligent middleware will analyze user behavior and determine which content-of-interest should be decoded and downloaded over which aspect of the system. In addition, downloaded content will be managed by the DRM and updated periodically.

Of particular importance is the fact that the CMMB system looks toward permitting both types of traffic to be embedded into one television broadcast channel, thereby significantly enhancing the efficiency of broadcast spectrum use without having to eliminate broadcast programming, HDTV services, or broadcast emergency services.

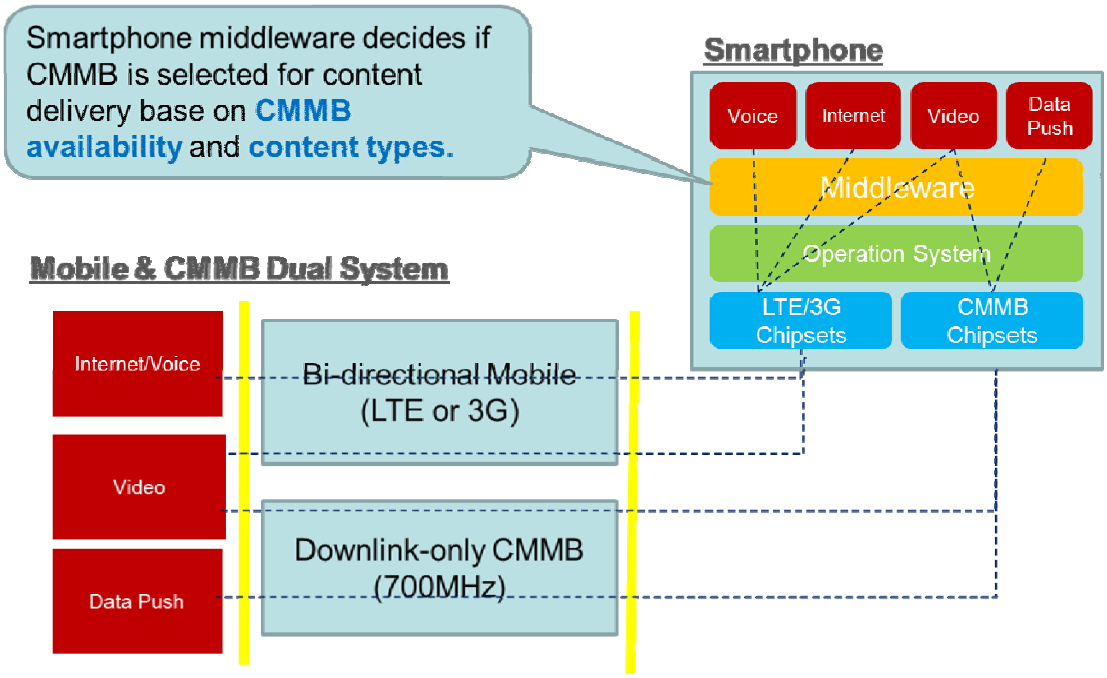


Figure 3. CMMB Data Service with Feedback through LTE Integration

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III. DETAILS OF THE EXPERIMENT

GOALS OF THE EXPERIMENT

1. To demonstrate that the overall technical parameters of CMMB are fully comply with FCC regulations in terms of power and interference, and to confirm that CMMB signals do not interfere with adjacent ATSC channels.
2. To demonstrate that the interference impact of CMMB on adjacent ATSC channels is less than the interference impact of adjacent-channel ATSC signals, thereby permitting more intensive broadcast spectrum use and accommodating more full and low power television services, both now and after repacking.
3. To develop and validate various service models jointly with service providers (mobile carriers, over-the-top providers, and television broadcasters) in a more sophisticated and multi-dimensional media market than now exists in the U.S.
4. To gather more information about the actual costs of deployment in an urban environment.
5. Provide a platform to NAB, ATSC, and others to observe, and validate the CMMB technology for next generation technology development in the U.S., including being a part of the anticipated future ATSC 3.0 standard.

SCOPE OF THE EXPERIMENT

- Location: New York City
- Number of channels: 4
- Number of receiving devices: up to 2,000.
- Technical parameters: Initially, the licensed locations of the four subject stations. No Form 346 tech boxes are provided, because there is no change in the engineering data currently on file for the four stations. The emission designator does not appear in the tech box but will be 6M00G7W, derived as follows: The bandwidth is 6 MHz, the modulation is OFDM (phase modulation), the nature of signal(s) modulating the main carrier is "two or more channels containing quantized or digital information", and the content is data and video (combination of the above).
- Type of services: Live mobile TV, video-on-demand/mobile data download, off-loading service for carriers, and various value-added services
- Term of experiment: one year (renewals may be requested).

INFORMATION ABOUT LICENSED CHANNELS

Information about the four channels licensed to NYSHC in New York is shown below. NYSHC plans to use all four channels in the CMMB trial, subject to preserving ATSC video programming as discussed

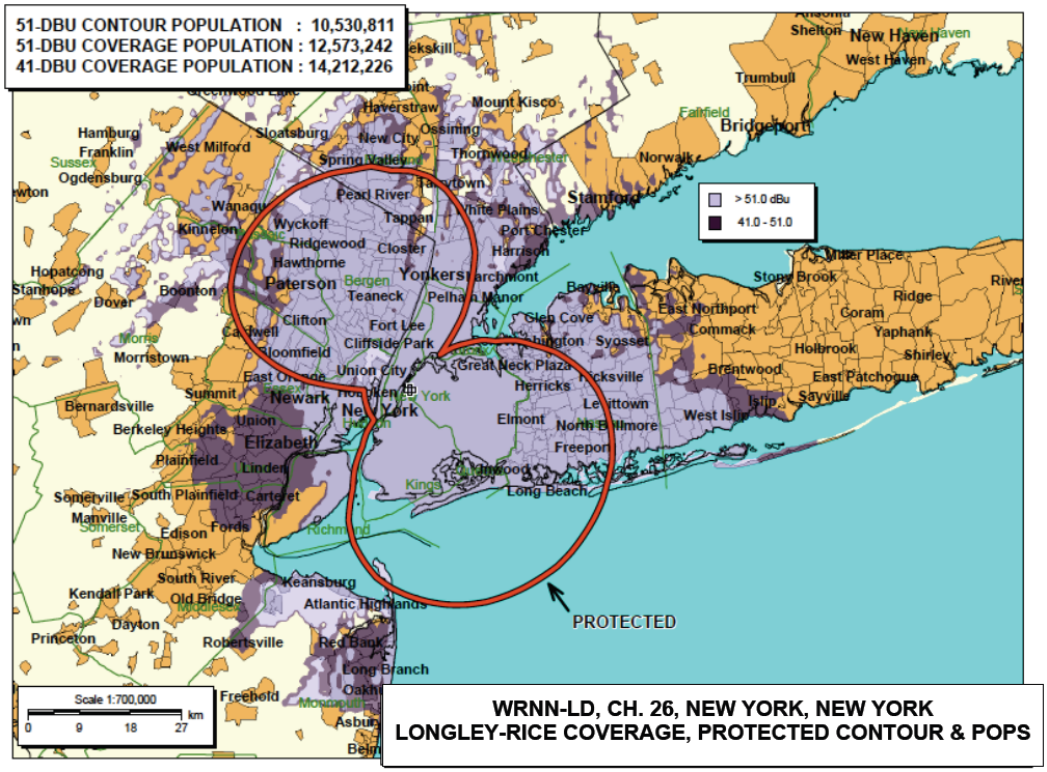
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below. It will use only the four licensed channels and not the adjacent channels on a "White Spaces" basis.

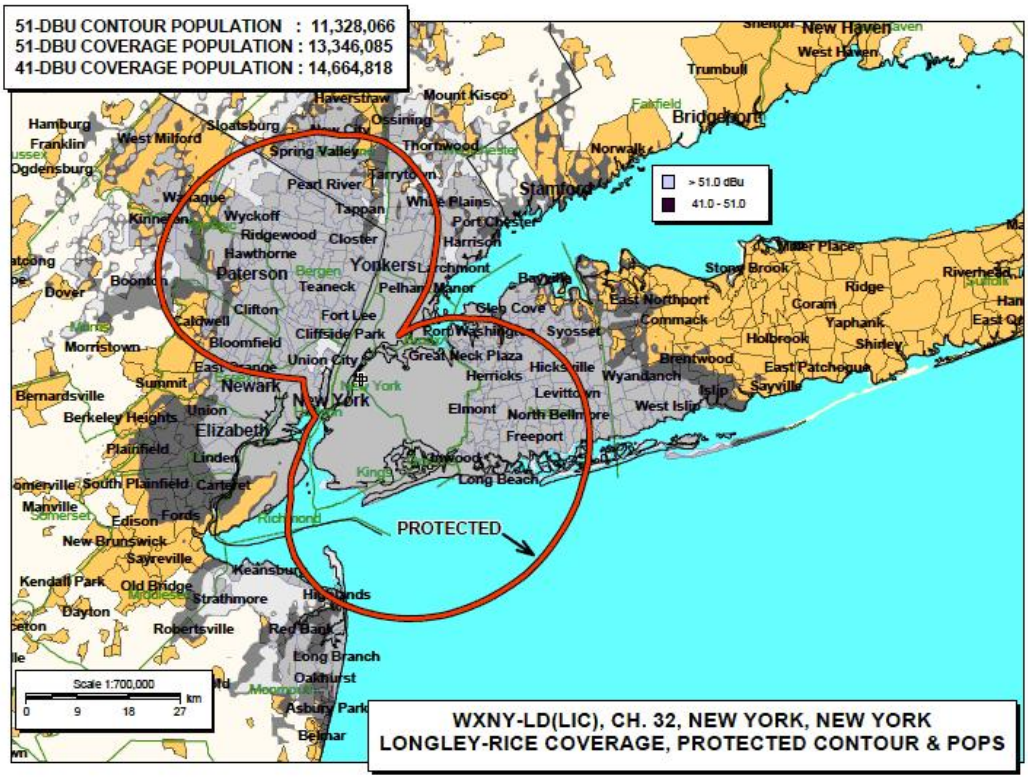
Table 2. New York Channel List.

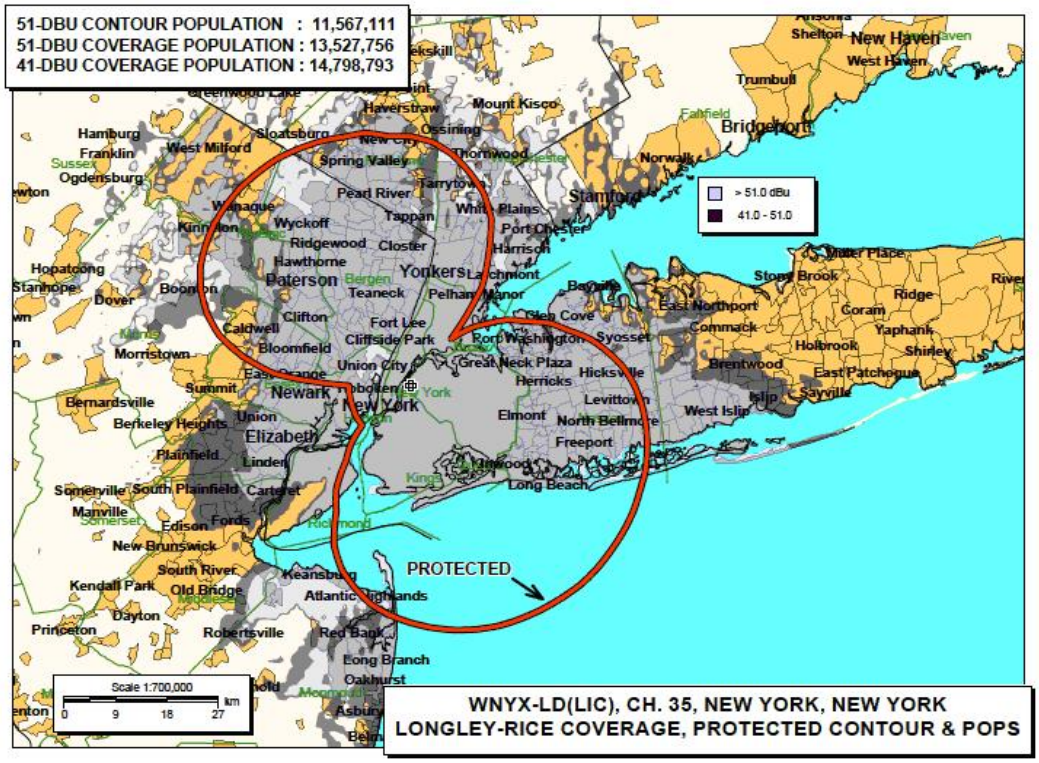
	Channel 26	Channel 32	Channel 35	Channel 43
City	New York, NY	New York, NY	New York, NY	New York, NY
Affiliations	independent	independent	independent	independent
Transmit Power	4 kW	7.5 kW	10 kW	4 kW
Frequency (MHz)	542 -548	578 -584	596 -602	644-650
Operation hours	Unlimited	Unlimited	Unlimited	Unlimited
Covered population (51dBu)	12,573,242	13,346,085	13,527,756	12,880,968

The coverage maps of the four channels are shown below:



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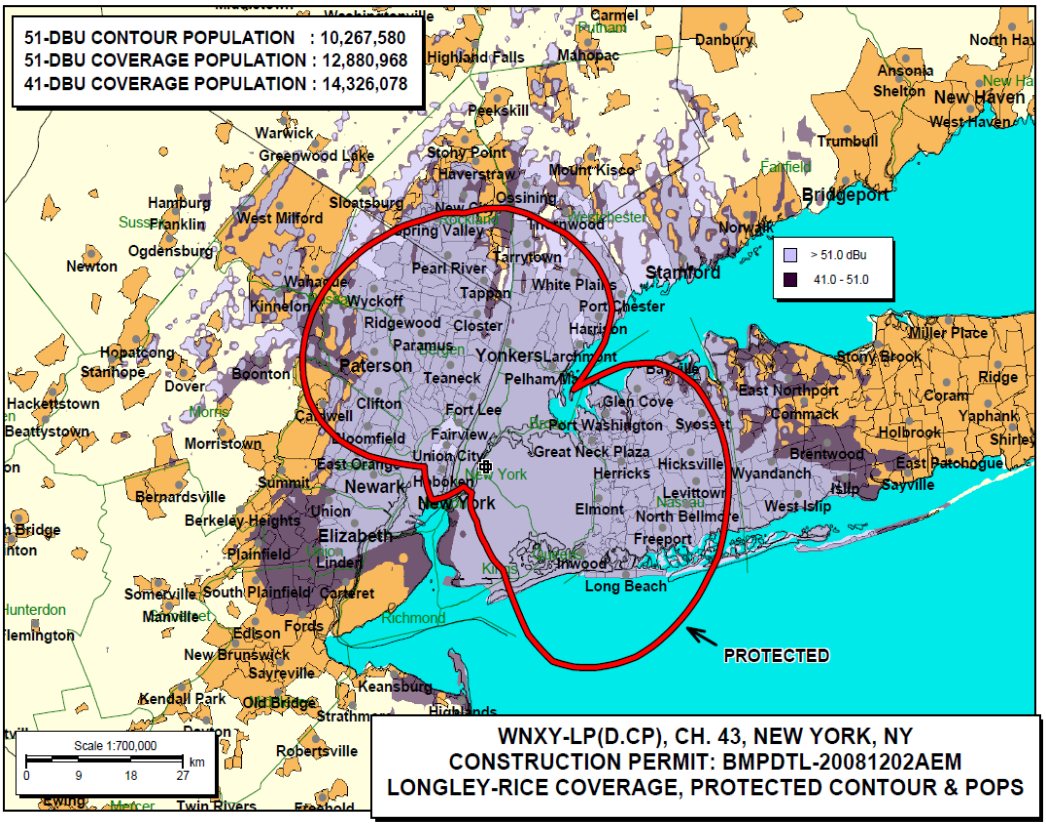


Figure 4. Coverage Maps of New York Channels

TRANSMITTER SITE

The existing broadcasting facilities are located on top of the Citibank Tower in Long Island City, NY.



Figure 5. Transmitter on Citibank Tower in Long Island City, NY.

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TRANSMITTER EQUIPMENT AND EDGE DEVICES

Harris Maxiva UAX ATSC transmitters are used by the stations. They can be upgraded to broadcast a CMMB signal by replacing the ATSC exciter with a CMMB exciter.

The edge devices to be used initially in the trial are CMMB-to-Wi-Fi converters. The converter receives the terrestrial broadcasted CMMB TV signal and streams it wirelessly through Wi-Fi to smartphones, tablets and computers which are Wi-Fi capable. The devices are manufactured by Dediprog Technology, an experienced manufacturer based in Taiwan (*see* www.dediprog.com). The Wi-Fi transceiver components in the devices are certified.

Later, new devices with CMMB technology embedded, such as dongles, smartphones, and tablets, may be deployed as participating technology providers and manufacturers offer such devices with a 6 MHz format. To date, these devices have been deployed in China, but only with an 8 MHz format. All devices will be collected and taken out of service after the experiment, unless a participant wishes to retain a multi-function device that does not transmit in the CMMB format for use with formats other than CMMB.



Figure 6. CMMB-to-Wi-Fi Converter

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IV. COMPLIANCE WITH FCC EXPERIMENTAL RULES AND POLICIES

IMPACT ON SERVICE TO TELEVISION VIEWERS

There are currently three television programming services being provided on the four stations taken together. These services will continue to be provided full-time. They will be clustered on Channels 32.1, 32.2, and 32.3, leaving Channels 26, 35, and 43 available for full-time experimentation. Experimentation is desired on Channel 32, because it is the only one of the four channels with both upper and lower first-adjacent full power stations licensed to New York City. However, Channel 32 experimentation will be confined to the hours of 12 midnight to 6 a.m., with a warning to viewers in the ATSC format before any late night interruptions of ATSC service.

HOURS OF EXPERIMENTAL OPERATION

NYSHC contemplates 24-hour a day experimental operation, seven days a week, with particular attention to hours when TV viewing and mobile usage is high and overnight hours when mobile usage is reduced and spare wireless network capacity is most available. As noted above, existing ATSC programming service will not be interrupted except from time to time between 12 midnight and 6 a.m.

RECEIVERS

NYSHC anticipates deploying up to 2,000 receiving devices in various form factors. As discussed above, these will include Wi-Fi hubs, dongles, and later smartphones and tablets.

CMMB will not distribute receivers directly to the public and will not sell any CMMB-capable receivers. It plans to work with established service providers and anticipates that receivers will be provided to employees and agents of those service providers for trials. It may lease receivers of so desired by a service provider, consistent with the new rules adopted in *Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission's Rules and Streamlining Other Related Rules*, FCC 13-15, rel. Jan. 31, 2013, at ¶ 136.

If a service provider wishes to place a receiver in the hands of one or more of its customers to determine consumer reaction, it will be warned that the receivers will be withdrawn at the end of the experiment and that customers may not buy them or be charged in a manner that will result in consumer loss when the service is withdrawn.

COMPARISON TO ONE-WAY TV TRANSMISSION AND OTHER EXPERIMENTS

While the service authorized under the experimental license will be one-way and will include video programming content, the content will not be limited to conventional television programming and may include on-demand video and data download. Two-way interaction is contemplated using independently existing communication channels, through existing wireless mobile and Internet services.

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The experiment should result in additional data beyond the recent grant to Baltimore (WNUV-TV) Licensee, Inc., File No. BPEXDT-20130116AFF, because NYSHC has access to a mature receiver eco-system that can be access multiple user devices through the Wi-Fi hubs described in the next sub-section.

TYPES OF RECEIVING DEVICES

CMMB technology may be added to a receiver internally or externally. Initially, external devices will be provided, including "Mi-Fi" type hubs that receive CMMB and retransmit conventional Wi-Fi signals to smartphones, tablets, and computers, and dongles that can plug into a USB port on a computer or other device.

Since CMMB chips are already built into smartphones provided by major manufacturers for the China market, it will be possible to move toward handsets that will both receive CMMB signals and be usable for conventional wireless services with cellular, PCS, and other systems in the U.S. Experience in China indicates that the cost of a receiver will increase by only $3-5 when a CMMB chip is added.

There is no intention to modify the internal components of existing non-CMMB wireless receivers.

COMMERCIAL ACTIVITIES

As indicated above, NYSHC will not charge any member of the public for services or receivers, and dedicated CMMB receivers will be retrieved at the end of the experiment. Some of the service providers which participate with NYSHC may choose to integrate CMMB services into commercial services that they already offer using different technologies, including using commercial services for a return link; but they will be warned that no member of the public may be required to pay for CMMB capability in experimental equipment, and users must be warned that the service is only experimental and temporary.

NYSHC contemplates that CMMB-capable receiving equipment will be placed primarily in the hands of employees and agents of service providers rather than members of the public at large.

DATA TO BE MEASURED AND REPORTED TO THE FCC

All three of the basic goals of the experiment will be studied:

a. Interference reduction. NYSHC and its experimental partners will undertake measurements in the field to demonstrate that at a minimum, CMMB operation causes no more interference to adjacent-channel ATSC stations than adjacent ATSC signals, and hopefully that it causes less interference, so that more TV channels can be used after repacking with CMMB than with ATSC.
b. Quality of Service. Observations will be made to determine whether the CMMB signal provides more reliable and uniform reception capability, particularly in comparison with the mobile hand-held ATSC broadcast standard. In a later phase, authority will be requested to

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deploy distributed antenna systems and gap-fillers to improve reliability and uniformity; and experiments will be undertaken to determine how intensively those devices must be deployed. Parameters to be examined include (i) for mobile TV, video quality, the optimal number of channels needed for streaming live TV, and achieved data rate, latency, channel switching time, and power consumption; and (ii) for data download and caching, achieved data rate and system capacity.

c. Service models with existing providers. NYSHC will attempt to engage existing wireless service providers and broadcasters and will report on any network capacity improvement found, as well as any improvement in quality of service and reduction of cost to consumers.

The table shown below illustrates a comparison of CMMB with other major mobile/handheld TV standards. NYSHC's experimental program will be designed to prove the superiority of CMMB superior on key performance measures.

Table 3. CMMB Feature Comparison.

	DVB-H	MediaFLO	T-DMB	S-DMB	ATSC M/H	CMMB	
Bandwidth	6~8 MHz	6 MHz	2 MHz	25 MHz	6 MHz	8 MHz	6 MHz
Modulation	4k OFDM	4k OFDM	1k OFDM	CDMA	8VSB	4k OFDM	
Channel coding	RS + Conv	RS+Turbo	RS + Conv	RS+ Conv	RS+Turbo	RS + LDPC	
Throughputs (Mbps)	12 (8MHz)	11	1.5	7	5.6	16.2	11.8
Spectral Efficiency (bit/s/Hz)	1.5	1.83	0.75	0.28	0.93	2	2
Interleaver	<0.25s	0.75s	0.25s	3.5s	1s	1s	
Switch time	5s	1~2s	1.5s	5s	6~7s	1~2s	
Performance AWGN (Eb/N0)	4.5dB	2dB	4.5dB	4.5dB	5.4dB	1.6dB	
Resistance to Multipath Interference	Good	Good	Good	Medium	Poor	Good	
Statistical Multiplexing	No	No	No	No	No	Yes	
Fast Sync	No	No	No	No	No	Yes	
Mobility Performance	Good	Good	Good	Good	Poor	Excellent	

STATION IDENTIFICATION

Although Station Identification pursuant to Section 73.1201 of the FCC's Rules will be transmitted on the streams carrying ATSC programming, there is no practical way to include a call sign in the CMMB digital format that can be read by non-CMMB receivers. Therefore, a waiver of Sectin 73.1201 is requested, as well as a waiver of new Section 5.115(b), as adopted in ET Docket Nos. 10-236 and 06-155, when those rules become effective. *See Promoting Expanded Opportunities for Radio Experimentation* (cited in full above).

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INTERFERENCE REMEDIATION

While NYSHC believes that its operations will not cause interference to any other station, the person who may be contacted immediately and who can respond and take corrective action if any questions arise is Xun Shao, cellphone 425-444-0734, e-mail xun.shao.q@gmail.com.

V. CONCLUSION

Few people would dispute that increased spectrum efficiency will be a critical component of achievement of the goals of the National Broadband Plan. Both wireless service providers and broadcasters must work toward greater efficiency. Wireless service providers must modify the traditional unicast model to avoid unnecessary repetitive transmission of commonly used content, and broadcasters must increase their own capacity to provide multiple video services as well as ancillary non-broadcast services.

A significant benefit of the CMMB-LTE convergence platform is that it fosters collaboration, rather than antagonism, between the broadcast and wireless industries in today's era of Internet and digitization. The CMMB solution draws on the synergy and integration of the existing resources of the two industries in terms of spectrum occupancy and ecosystem support to create an immediate and effective solution for the paralyzing wireless bottleneck and bandwidth shortage problem, hence giving rise to a much smoother technology transformation in the 21st century.

NYSHC requests authority to experiment with the CMMB convergence technology, to demonstrate in the United States that convergence is practical, and the public interest can be significantly advanced, with a technology that is currently available and relatively mature. , It is important to explore the ability of CMMB technology to operate successfully in a metropolitan area where population is very dense, resulting in heavy demand for content of all kinds, and where tall buildings and urban canyons present the greatest challenges to reliable signal propagation. Both the wireless and broadcast industries stand to benefit if the experiment is as successful as CMMB anticipates. Moreover, the nation as a whole stands to benefit, as becoming familiar with CMMB technology will help maintain the United States' leadership in advanced mobile services by allowing access to a technology that has received wide acceptance elsewhere in the world but currently remains unavailable to Americans.

VI. REQUIRED CERTIFICATIONS

Section 304 Statement: The Applicant hereby waives any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application.

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Anti-Drug Abuse Certification: The Applicant certifies that neither Applicant nor any party to this application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.

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