

WatchTV, Inc.
Station KKEI-CD
Facility ID 71078
Portland, OR

FLEXIBLE USE WAIVER SHOWING

By this application, WatchTV, Inc. (“WatchTV”) requests a Service Rule Waiver pursuant to Section 73.3700(f) of the Commission’s Rules, to allow Station KKEI-CD to transmit with a signal format other than the ATSC 1.0 standard specified in Section 73.682(d) of the Commission’s Rules.

A permanent waiver is requested.

The initial proposal is to transmit using the recently developed ATSC 3.0 standard that the Commission has proposed to allow for television broadcast stations. *See Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard*, 32 FCC Rcd. 1670 (2017). KKEI-CD will transmit from its present transmitter site, plus two additional transmitter sites, as authorized in an experimental authorization, LMS File No. 0000021321, granted February 14, 2017. The underlying application is available in the LMS system. WatchTV seeks authority to use these experimental facilities on a permanent basis, as well as to modify those facilities and/or to add locations from time to time as may be approved by the Commission in future-filed applications.

File No. 0000021321 includes a showing of how and why KKEI-CD will not cause any additional interference to other stations beyond what KKEI-CD may have caused transmitting with the ATSC 1.0 standard. This showing is based on maps showing the protected 51 dBu contour from the main transmitter site plus the contours from the two additional sites, which lie entirely within the main site contour. It includes an explanation of why an ATSC 3.0 signal will not cause more interference than an ATSC 1.0 signal.

For maintenance of a free broadcast stream, KKEI-CD is currently transmitting its programming in the ATSC 1.0 format via a digital stream on KOXO-CD, Facility ID 17080, Portland. KOXO-CD is also seeking a flexible use waiver in a separate application. If necessary, KKEI-CD will move its programming to one of the other four stations licensed to WatchTV in Portland, all of which transmit from the same site. However, WatchTV, believes that it should be sufficient to offer a free stream of programming in the ATSC 3.0 format on KKEI-CD’s own channel.

“Broadcasting” is defined in Section 3(7) of the Communications Act, 47 U.S.C. ¶153(7), as “the dissemination of radio communications intended to be received by the public, directly, or by intermediate relay stations.” Nothing in that definition requires that every station in a given broadcast service must transmit with the same format. Indeed, when FM radiobroadcasting was developed, no one found that it was improper for some stations to transmit with amplitude modulation (AM) and others with frequency modulation (FM), even though there was no compatibility whatsoever between the formats, and FM required a new receiver. FM was called

a separate service for some purposes, but it remained part of “radio” – the aural broadcast service. Radio stations transmitted with incompatible formats, with very few FM receivers in use by the public; yet all of them were still “broadcasting.”

In *Subscription Video*, 2 FCC Rcd. 1001, 1006, ¶ 41 (1987) (concluding that subscription TV and DBS services are not “broadcasting” within the meaning of the Communications Act), *aff’d*, *National Association for Better Broadcasting v. FCC*, 849 F.2d 665, 669 (D.C. Cir. 1988), the Commission stated that broadcasting is negated when the party transmitting the content controls reception through a requirement to register and pay a fee enforced through encryption. Otherwise, if a signal is disseminated into the air with no requirement to register or to pay to receive, and receivers are available from outside sources that can display the picture and sound without proprietary decryption, then the entity transmitting that signal is “broadcasting” within the meaning of the Communications Act. Thus as long as a free and uncontrolled video program stream is provided by a TV station, regardless of format as long as it is not encrypted and receivers are available to the public from outside sources, that station should be deemed to be engaged in broadcasting be permitted to choose its own unencrypted broadcast format. Broadcast regulations, such as political access and rate regulation and children’s programming, will of course continue to apply to the station’s free stream, regardless of technical format.

As long as KKEI-CD is transmitting in the ATSC 3.0 format, WatchTV commits to maintaining a free broadcast stream in the ATSC 3.0 format, with no requirement to acquire a receiver from WatchTV, no requirement to register with WatchTV to receive the signal, no requirement to pay a fee, and no encryption. ATSC 3.0 receivers are expected to be readily available in the consumer marketplace within a short period of time. The free broadcast stream will operate at least 18 hours a day and will include the local and children’s programs required of Class A stations.

WatchTV also plans, and by this application seeks authority, to migrate to more advanced technologies as they develop. All are expected to be OFDM-based and thus have interference immunity superior to the ATSC 1.0 format. These technologies are currently being referred to as “5G” in many contexts, although the name may also evolve over time.

It is important to note that companies like Samsung, which is very active in television broadcasting technology and is currently probably the leading TV receiver manufacturer, is participating in the development of not only ATSC 3.0 but also TV broadcast technologies beyond ATSC 3.0 and into the 5G environment. *See Verizon Taps Samsung, Cisco for Multi-Vendor 5G Trials, Multichannel News*, May 10, 2017: <http://www.multichannel.com/news/transactions/verizon-taps-samsung-cisco-multi-vendor-5g-trials/412756>

Qualcomm is also building video program distribution capability into its 5G advanced LTE platform, with deployment starting this year. Attached are pages from that company’s February, 2017, brochure indicating that media will be an integral part of their eco-system.

In the case of 5G technologies, because they will have video programming components, WatchTV will be able to distribute Class A-compliant programming without restriction on

reception by the public, just as it will using the ATSC 3.0 platform. Just as unlocked cellular telephone handsets are available today to consumers without purchasing from the carrier that provides service, and in light of the recent demise of carrier handset subsidies, it is likely that there will be a lively 5G consumer handset market. WatchTV's programming will be able to reach these receivers without any contract or other relationship between the consumer and WatchTV and no control by WatchTV over reception.

WatchTV thus seeks authority to provide its free and unrestricted broadcast service using whichever technology it is using to transmit under flexible use, as long as consumers have access to receivers in the commercial marketplace. It should be noted that Section 6403(b)(4)(B) of the *Middle Class Tax Relief and Job Creation Act of 2012* provides for "flexible" use of the TV spectrum. The term "flexible" is defined by www.dictionary.com as "susceptible of modification or adaptation"; so the term inherently includes subsequent changes and indicates that KKEI-CD and other stations with flexible service waivers should not be locked into a single format. The statute also requires at least one "broadcast television stream" but does not define the technology of that stream other than to say that it must be "at no charge to the public," which is a condition which WatchTV agrees to accept. The Commission should not impose more restrictions than Congress stated or intended. Thus it should approve WatchTV's proposals to migrate to more advanced technologies in the future, subject to not causing additional interference to other stations, and to provide programming at no charge to the public in varying, publicly accessible formats.

PLEASE NOTE THAT THIS REQUEST IS FOR FLEXIBLE USE OPERATION ON CHANNEL 36 ,
WHICH IS THE CHANNEL TO WHICH KKEI-CD MUST MOVE. LMS HAS INSERTED CHANNEL 38
INTO FORM 2100, AND THAT DATA FIELD CANNOT BE EDITED BY THE APPLICANT.



The essential role of Gigabit LTE & LTE Advanced Pro in a 5G World

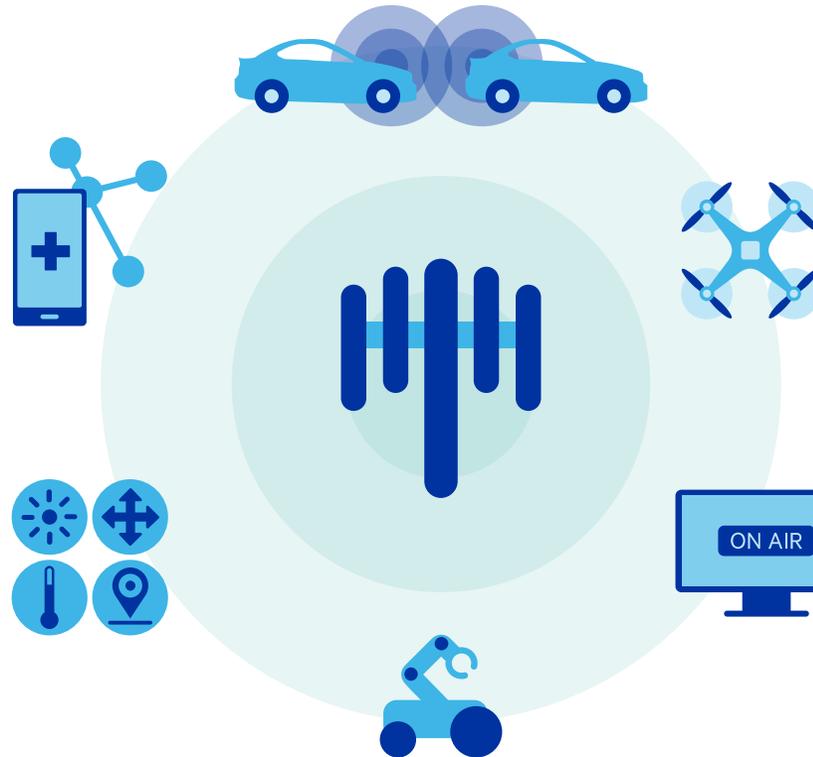
Qualcomm Technologies, Inc.
February 2017



Expanding mobile ecosystem by pioneering new verticals

Vehicle-to-everything (C-V2X)

Give vehicles the ability to reliably communicate with each other and everything around them



Public safety

Leverage the vast LTE ecosystem for robust public safety communications

Drone communication

Enable a growing set of drone use cases leveraging extensive LTE coverage

Internet of Things

Scale down LTE for machine-type, low-power, wide-area communication

Digital TV broadcasting

Evolve broadcast to deliver a converged TV network

Ultra-low latency

Bring ubiquitous low-latency communication for command & control, e.g., robotics, industrial equipment

eMBMS¹ delivers terrestrial Digital TV more efficiently

Compared to dedicated high-power broadcast network



Single broadcast

network for mobile and fixed devices
–unicast for on-demand and interactivity



Efficiently deliver

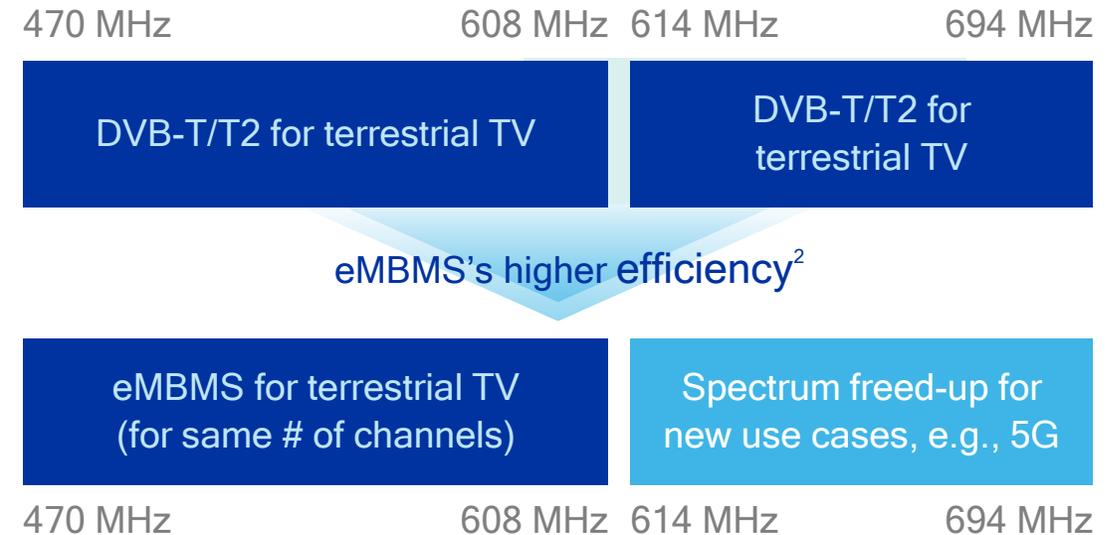
content to new device types (e.g., receive-only);
also supporting new waveform & dedicated carrier



Shared broadcast

to serve users from multiple providers and
operators—enabling new media delivery

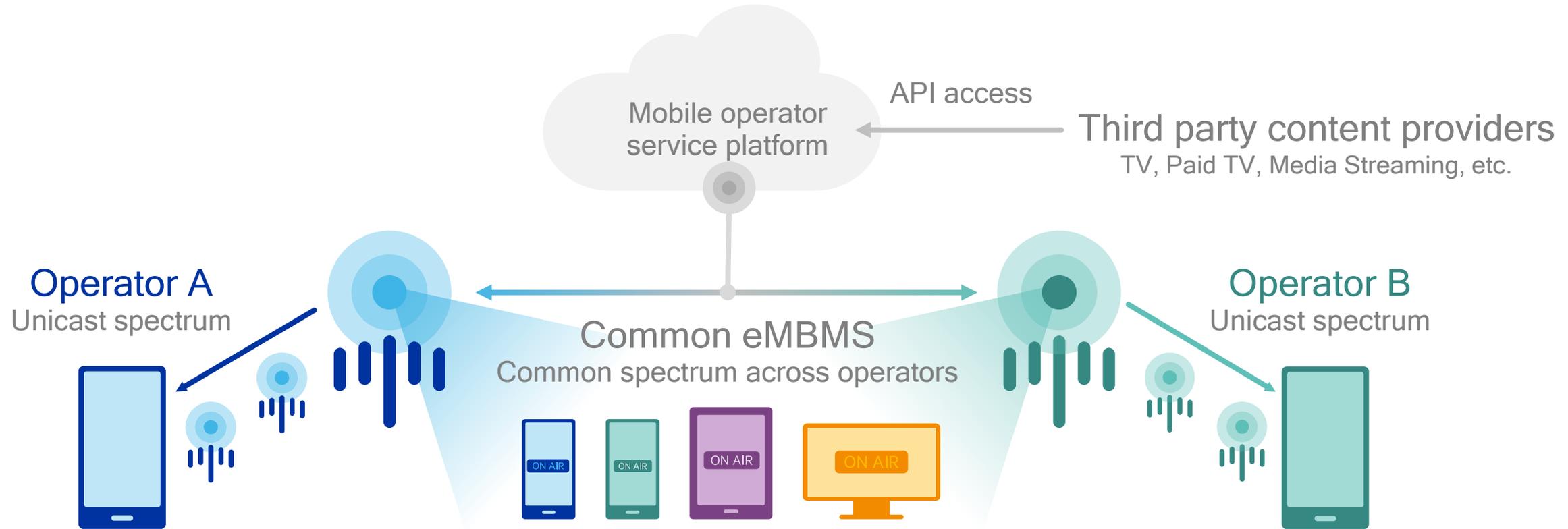
A strong candidate to deliver next-gen digital TV in Europe



1. Evolved Multimedia Broadcast Multicast Service; 2. ~2x more efficient than DVB-T/ATSC and provides longer range up to 15km (with further extended CP of 200 us and features such as 2x2 MIMO, 256 QAM, increased subframe limit); Assumptions: current broadcast technology operates in MFN mode with a frequency reuse of at least 4 with a spectrum efficiency of up to 4 bps/Hz inside each cell. This corresponds to an overall spectrum efficiency of approx. 1bps/Hz. Whereas eMBMS operates in SFN over the entire coverage area with a spectrum efficiency of up to 2bps/Hz

Shared broadcast for new media delivery models

Serve users from multiple providers and operators on common broadcast carrier



Users can access content even without subscription and SIM card

New and more efficient way to distribute operator-specific and 3rd party content (paid, free)