

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Joint Petition for Rulemaking of America’s)
Public Television Stations, The AWARN)
Alliance, The Consumer Technology) GN Docket No. 16-142
Association, and The National Association of)
Broadcasters Seeking to Authorize Permissive)
Use of the “Next Generation TV” Broadcast)
Television Standard)

REPLY COMMENTS OF LG ELECTRONICS, INC.

LG Electronics, Inc. (“LG”) respectfully submits these Reply Comments in enthusiastic support of the Joint Petition for Rulemaking (the “Petition”) referenced above.¹ The Petition asks the Federal Communications Commission (“FCC” or “Commission”) to “allow the next evolutionary leap forward in broadcast television” by permitting broadcasters to voluntarily utilize the ATSC 3.0 transmission standard.² LG has been at the forefront of developing ATSC 3.0 and therefore understands fully its transformative potential.³ Next Generation TV is not broadcast television as we know it now – it is the future of mass media communications made possible today. For this reason, LG strongly supports the Petition.

As evidenced by the Comments filed in this proceeding, there is broad cross-industry support for ATSC 3.0. As other commenters have noted, “ATSC 3.0 will allow broadcasters to

¹ Media Bureau Seeks Comment on Joint Petition for Rulemaking of America’s Public Television Stations, The AWARN Alliance, The Consumer Technology Association, and The National Association of Broadcasters Seeking to Authorize Permissive Use of the “Next Generation TV” Broadcast Television Standard, *Public Notice*, GN Docket No. 16-142, DA 16-451 (rel. Apr. 26, 2016).

² Petition at ii.

³ LG is a leading broadcast technology innovator and the parent company of Zenith Electronics LLC, the primary developer of the current ATSC 1.0 digital television transmission standard. LG and Zenith are strong contributors to ATSC standard-setting activities, including continued development of the Next Generation TV technologies that will permit broadcasters to offer a vast array of new and innovative services and features to the American public.

present consumers with ‘more,’ ‘better’ and ‘new’ – more streams, more choices, more channels, more flexibility, better picture, better sound and new personalization and interactive features that will enhance the experience of watching broadcast content.”⁴ Indeed, “Next Generation TV will be exponentially better TV, with functional improvements that will include Ultra High Definition video, additional free over-the-air program streams, a more immersive and engaging audio experience, the potential for targeted programming that will personalize the viewing experience, and improved in-home reception.”⁵ Moreover, the robust nature of Next Generation TV transmissions will enable “enhanced mobile broadcasting capability” that “will heighten the ability of the public to receive not only high-quality entertainment programming but also ... life-saving news, emergency, and weather broadcasts” on mobile and handheld devices.⁶ As an IP-based standard, ATSC 3.0 will “enable next generation business models” and deliver “a level of viewer engagement not possible with the current DTV standard.”⁷ Just as importantly, ATSC 3.0 will allow for advanced emergency alerts (including the ability to “wake up” devices) and datacasting for law enforcement, first responder, and emergency management organizations.⁸

Despite these well-documented and substantial benefits, the American Cable Association (“ACA”) in its Comments suggests that a rulemaking should be delayed in order to allow the Commission time to issue a Notice of Inquiry seeking comment “on whether the ATSC 3.0 standard is complete or whether important details have yet to be finalized.”⁹ As explained more fully below, delaying the implementation of ATSC 3.0 is unnecessary, unwarranted, and contrary

⁴ Comments of the Advanced Television Systems Committee, Inc. (May 26, 2016) at 3. *See also, e.g.*, Comments of AGC Systems LLC (May 26, 2016) at 3-4.

⁵ Comments of Cox Media Group (May 26, 2016) at 2.

⁶ Comments of TEGNA, Inc. (May 26, 2016) at 2. TEGNA goes on to note that “Unlike previous iterations of mobile TV, Next Generation TV builds in native mobility from the very beginning, and has been engineered to serve devices in motion.” *Id.*

⁷ Comments of GatesAir Inc. (May 26, 2016) at 2.

⁸ Petition at 5.

⁹ Comments of American Cable Association (May 26, 2016) at 12.

to the public interest because the Physical Layer – the only layer of the Next Generation TV standard that requires Commission approval – is on the cusp of completion.

The Next Generation TV standard consists of three layers, each of which will incorporate multiple standards. The Physical Layer is the foundational element of ATSC 3.0 that addresses RF reception and interference considerations and defines the core transmission system that allows content to be transmitted by a television station. The suite of standards developed by the Advanced Television Systems Committee (“ATSC”) that will comprise the Physical Layer include standards A/321 and A/322. A/321 (“System Discovery and Signaling”) was unanimously approved by the ATSC on March 23, 2016 and is thus a full-fledged ATSC Final Standard. A/322 (“Physical Layer Protocol”)¹⁰ is currently an ATSC Candidate Standard that is expected to be approved by ATSC members as a Final Standard by August 2016, long before the conclusion of the rulemaking proceeding advocated by the Petition and overwhelmingly supported by the commenters.

The Commission, therefore, can approve the standards that comprise the *entire* Physical Layer – A/321 and A/322 – simultaneously. Doing so would not only allay the concerns of the ACA and others,¹¹ but would also provide certainty about the core RF characteristics of the Next Generation TV standard that will lay the groundwork for the future of television.¹² As an

¹⁰ A/322 is composed of numerous technologies that make ATSC 3.0 mobile, handheld and indoor simultaneous reception possible in a single RF channel. They include COFDM modulation, LDPC Forward Error Correction (FEC) codes, newly developed non-uniform constellations, multiple modulation schemes and Layer Division Multiplexing (LDM). It also is important to note that A/322 is the ATSC standard that enables single frequency networks (SFNs), a Next Generation TV feature highly desired by many broadcasters.

¹¹ See, e.g., Comments of AT&T (May 26, 2016) at 4 (“...numerous components of ATSC 3.0 are still ‘Candidate Standards’ and have not been ratified...”).

¹² When the Petition was filed in April 2016, A/322 was in Candidate Standard status. Accordingly, the interference study conducted by Meintel, Sgrignoli & Wallace, LLC (quite necessarily) focused solely on A/321. Using A/321, the Meintel study found that the current ATSC 1.0 and ATSC 3.0 transmission signals can co-exist in shared spectrum using FCC planning factors embodied in FCC OET Bulletin 69. LG is confident that A/322 will deliver comparable results. Indeed, LG’s own extensive over-the-air testing of enabling technologies behind A/322 and, more recently, of the Candidate Standard itself, confirm robust, interference-free transmission and excellent mobile and handheld reception as well as deep indoor reception of Next Generation TV signals.

additional benefit, addressing the entire Physical Layer as a whole in one rulemaking obviates the potential need for a future rulemaking dealing with A/322 independently.

As noted above, because the Physical Layer (i.e., A/321 and A/322) is what determines the interference and coverage characteristics of the Next Generation TV standard, it is the only layer of the standard that requires Commission approval. The other two layers – the Management and Protocols Layer and the Applications and Presentation Layer – have no effect on the reception and interference characteristics of an ATSC 3.0 signal, and therefore do not need the FCC’s imprimatur.¹³ Allowing the other two layers of the standard to develop via a market-based approach, like that utilized in the wireless context, will ensure that consumers continually have access to the most innovative and dynamic broadcast television services available.

CONCLUSION

LG is very optimistic about ATSC 3.0 and the future of television. LG and its U.S. R&D subsidiary, Zenith, are proud of their work helping to develop ATSC 3.0, and look forward to working with the Commission to bring the benefits of Next Generation TV to consumers. LG urges the Commission to move expeditiously through the rulemaking process to facilitate the rapid deployment of Next Generation TV for the American public.

¹³ In brief, the Management and Protocols Layer specifies how information is transported for delivery within an ATSC 3.0 signal and the Applications and Presentation Layer defines the elements that the viewer experiences, including video and audio coding.

Respectfully submitted,

LG ELECTRONICS, INC.

/s/

Dr. Jong G. Kim
Senior Vice President, LG Electronics, Inc.
President, Zenith R&D Laboratories
2000 Millbrook Drive
Lincolnshire, IL 60069

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