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

NOTICE OF PROPOSED RULEMAKING	)	
AUTHORIZING PERMISSIVE USE OF THE "NEXT GENERATION" BROADCAST TELEVISION STANDARD	)	GN Docket No. 16-142

Comments of LS telcom, Inc. and RadioSoft, Inc.

I. INTRODUCTION

1. LS telcom is a worldwide provider of integrated, scalable, and automated system solutions and strategic consulting service for radio spectrum management and radio spectrum monitoring. The system solutions comply with global ITU standards and integrate regional and national coordination agreements. LS telcom is an ITU-R and ITU-D Sector Member, a White Space Database provider certified by the FCC, and actively participates in radio communications programs with prestigious universities and research institutes around the world. Regulatory authorities/commissions, defense organizations, and network operators in more than 100 countries rely on the commanding capabilities provided by its advanced system solutions and its internationally recognized consulting expertise in all aspects of the radio spectrum management and monitoring discipline. The Canadian regulator ISED (Innovation, Science and Economic Development), an FCC peer regulatory authority, has implemented LS telcom's flagship product SPECTRA Enterprise which replaced their legacy system and modernized their spectrum management environment to support the spectrum management lifecycle from spectrum planning and allocation, technical frequency and interference analysis, licensing and billing to national and international coordination, including cross-border coordination with the relevant US government organizations.

2. RadioSoft is a developer of software and databases for Frequency Coordination, Service and Interference calculation and TIA/EIA TSB-88 compliance to the Commission, Frequency Advisory Committees ("FACs"), the Federal Government and the general radio user community for both Land Mobile and Broadcast users. It is also, by contract, the retail frequency coordinator for both Public Safety (for AASHTO) and Business-Industrial (for AAA and MRFAC) applicants. It is an active participant in spectrum policy debates, and has commented on the record for various Dockets. It is both a White Space Database provider and, under Frequency Finder, Inc., a registrar for the 70-80-90 GHz link service.

II. SUMMARY

1. In GN Docket No. 16-142, the Commission seeks comment on the NOTICE OF PROPOSED RULEMAKING for AUTHORIZING THE PERMISSIVE USE OF THE "NEXT GENERATION" TV STANDARD for the adoption of Advanced Television Systems Committee (ATSC) 3.0 as the Next Generation TV transmission standard as a new, optional standard for television

broadcasting while ensuring the current DTV standard remains available to users. The deployment of multiple standards of broadcast simultaneously implies a consistency in footprint that must be delivered to the consumers within the coverage area.

III. DISCUSSION

1. When an upgrade to a technology is introduced to the market, the adoption by consumers is not an overnight process. The Over the Air (OTA) broadcast industry has experienced this with the previous upgrade from analog to digital service, the transition period for adoption in the market is accomplished over time. As identified in the NPRM, Next Generation TV will require upgrades in both network as well as consumer equipment to support the technology upgrade. The requirement of consumer equipment upgrade further extends the timeframe that OTA broadcasters must plan to allow for the transition of the customer base. This implies the requirement for supporting both existing as well as the Next Generation TV broadcast technology simultaneously while maintaining consistency in coverage to protect delivery of services to consumers.

2. With the commencement of the repack process in April 2017, the spectrum allocations for broadcasting and commercial wireless service has introduced modifications for close to one thousand OTA broadcast frequency assignments resulting in a new broadcast assignments that will be implemented over the designated thirty nine month period.

3. Maintaining consistency of coverage is key for the stability of the network operation. This will require several different standards of comparison, involving service-to-service predictions from:

- ATSC to ATSC 3.0 for the same facility, antenna location and height;
- ATSC to ATSC 3.0 with two different facilities, i.e. a co-location move to share a channel among two or more broadcasters, in which case service-to-service predictions may also involve maintaining service original predicated on analog facilities dating from the 1990's;
- ATSC 3.0 bidirectional interference calculations to ATSC 3.0, ATSC, Land Mobile and LTE; calculated with industry defined protection ratios

4. With the new channel assignments of the repack combined with the deployment of Next Generation TV (ATSC 3.0) in a common timeframe, the proper planning of current, future, and new technology broadcast footprints must be completed to assure continuity of service to the consumer base served by each of the OTA broadcast networks. LS telcom recommends that OTA broadcasters should employ consistent planning and propagation utilities that measure and predict the footprint of consumer coverage allowing broadcasters to deliver a consistency in service footprint between the two technologies.

5. As the thirty-nine month timeframe of the Repack will dominate the time and effort of system installers and testing personnel over the next several years, LS telcom recommends that technologies that increase the efficiency of installation such as Unmanned Aircraft Systems (UAS) Broadcast Measurement be leveraged to speed the installation and acceptance process allowing the industry to move to a focus for deployment of the ATSC 3.0 standard.

6. In addition to current broadcast standards, these broadcast planning utilities should support the applicable suite of ATSC 3.0 standards including A/321 "SYSTEM DISCOVERY AND SIGNALING" and ATSC A/322, "Physical Layer Protocol".

IV. CONCLUSION

1. As the wireless industry as a whole looks to leverage the most efficient use of spectrum, LS telcom proposes that comprehensive planning utilities supporting Next Generation TV (ATSC 3.0) should be a key part of broadcaster's migration plans. Given the repack of channels and upgrades in network equipment, networks should deploy upgradeable solutions to incorporate the ATSC 3.0 standard. In support of this evolution in technology, the commission should recommend that broadcasters leverage utilities that provide comprehensive planning capabilities for ATSC 3.0 to maintain a consistent broadcast footprint across multiple standards and deliver the most efficient use of the spectrum. By leveraging these planning utilities, a more accurate measure of service footprint can be predicted and measured and networks can maintain a consistent coverage for consumers.

Respectfully submitted this 3rd of May, 2017 by

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