

Received: 24 April 2013

**Document 4A/233-E**  
**26 April 2013**  
**English only**

## North American Broadcasters Association

### US BROADCASTERS' SUBMISSION IN RESPONSE TO THE FCC'S NOTICE OF PROPOSED RULE MAKING CONCERNING THE AMENDMENT OF THE COMMISSION'S RULES WITH REGARD TO COMMERCIAL OPERATIONS IN THE 3 550-3 650 MHz BAND

The North American Broadcasters Association (NABA, [www.nabanet.com](http://www.nabanet.com)) is an association of broadcasters in Canada, Mexico and the United States, and the NABA Technical Committee is its standing technical body. NABA is thus in a position to present the technical viewpoints of the most authoritative association of professional North American Broadcasters in television and sound programme production, post-production, and distribution for terrestrial, satellite, and cable broadcasting.

NABA is a Sector Member of ITU-R and a long-time participant in ITU-R Study Groups, Working Parties, Task Groups, Rapporteur Groups, etc. NABA numbers among its members Chairmen, Vice-Chairmen and members of the above groups. NABA also participates widely in the ITU work on radio, television and multimedia services.

#### Summary

NABA submits this contribution to Working Party 4A for its consideration and action, as appropriate. Our submission was prepared by a number of our US broadcast members in response to the FCC NRPM (Notice of Proposed Rule Making) on the matter of an Amendment of the (FCC) Commission's Rules with Regard to Commercial Operations in the 3 550-3 650 MHz band. NABA congratulates the members who prepared the submission and strongly endorses it. It is felt that this submission could be very useful to the Chairman and members of Working Party 4A in defining the work required in this area going forward (Note the submission is attached and since this is now a public document it can also be found on the FCC website, see: <http://apps.fcc.gov/ecfs/document/view?id=7022138155>).



C-Band report to  
FCC.pdf

In the embedded study below, Alion concludes that using the 3 550-3 650 MHz and the 3 650 3 700 MHz bands for small cell broadband applications would be very problematic for incumbent C-Band (3 700-4 200 MHz) users, which generally includes the entire video distribution industry – both broadcast and cable – throughout the United States. Spectrum sharing in these bands will require coordination with incumbent, adjacent band, DOMSAT users. The successful

coordination will result in multi-km protection distances required that are significant, and when multiplied by the many thousands of C-Band earth stations, are highly likely to create unacceptable encumbrances for small cell systems and risk to C-Band earth stations.



ESO-13-011-v3  
-unsigned.doc

Further, the study concluded that the small cell broadband deployments proposed in NPRM FCC 12-148 have the potential to cause harmful interference to C-Band DOMSAT operations. Distances to mitigate RFI to C-Band DOMSAT systems for small-signal and large signal interactions were derived for various parametric cases: varying the C-Band DOMSAT I/N thresholds and elevation angles, and the small cell deployment frequency band (per NPRM). The required separation distances range up to 33 km. For operational systems with low link margins, interference levels exceeding the analysed thresholds may lead to complete reception failure due to the bit error rate “cliff”. In addition, the protection distances would be greater with higher power levels and for propagation percentages less than 50% (appropriate for low link margins).

---