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January 22, 2015

To: Ms. Susanna Kooistra  
Secretariat 3GPP TSG-RAN  
[susanna.kooistra@3gpp.org](mailto:susanna.kooistra@3gpp.org)

Mr. Dino Flore  
Chair 3GPP TSG-RAN  
[oflore@qti.qualcomm.com](mailto:oflore@qti.qualcomm.com)

**RE: Request for information sharing between ATIS COAST SYNC and 3GPP RAN on timing requirements for wireless base stations in the United States**

Dear Ms. Kooistra and Mr. Flore:

The ATIS Copper/Optical Access, Synchronization and Transport Committee's Synchronization Subcommittee (COAST SYNC) is engaged in discussions with the United States Department of Homeland Security, Department of Defense, and the Communications Sector Coordinating Council on GPS vulnerability to jamming and spoofing. As part of this work, we are studying possible alternative timing systems to be used as a back up to GPS. Examples of possible alternative timing sources include eLORAN, sync over fiber, beacons, and others.

The most stringent timing requirements we know of in COAST SYNC are those associated with LTE and LTE-Advanced. We have seen numerous charts and presentations indicating inter-cell phase timing requirements as precise as +/- 1.5 microseconds for some LTE-Advanced specific applications. We have heard that wireless handset manufacturers believe +/- 100 nanosecond phase alignment would be required to meet FCC mandated XYZ coordinate location requirements if the OTDOA method is employed.

COAST SYNC is interested in learning the timing requirements at wireless base stations. We are, therefore, reaching out to 3GPP RAN as the organization responsible for wireless base station timing specifications so we are assured that any new timing solutions deployed as an alternative to and backup to GPS will meet the present and future needs of the wireless industry.

COAST SYNC would appreciate the opportunity to receive information from 3GPP RAN to provide a common understanding of the present and future timing requirements at wireless base stations. COAST SYNC is open to whatever mode of communication is best for 3GPP RAN. Options include (but are not limited to) having a 3GPP RAN delegate attend the COAST SYNC meetings and provide input via contributions, a separate meeting between COAST SYNC and 3GPP RAN leadership, or written correspondence/liaison statement between COAST SYNC and 3GPP RAN or RAN4.

We can arrange a conference call or virtual meeting to discuss this request if desired. Please contact Mr. Lee Cosart, ATIS COAST SYNC Chair ([Lee.cosart@Microsemi.com](mailto:Lee.cosart@Microsemi.com)), or Mr. David Overdorf, ATIS COAST SYNC Vice Chair ([do3863@att.com](mailto:do3863@att.com)), if you have any comments or questions. Thank you for your consideration of this request.

Best regards,

Ken Biholar  
COAST Chair

cc: William Szeto, COAST Vice Chair, [william.szeto@xtera.com](mailto:william.szeto@xtera.com)  
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