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**IEEE P802.11**  
**Wireless LANs**

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**802.11****Communication from the PatCom administrator regarding  
P802.11ah****Date:** 2015-03-03**Author(s):**

<b>Name</b>	<b>Company</b>	<b>Address</b>	<b>Phone</b>	<b>email</b>
Adrian Stephens	Intel Corporation			Adrian.p.stephens@intel.com

**Abstract**

This document contains a communication from the IEEE-SA Patent Committee administrator.

R1: corrected document number

**Email**

**From:** Dave Ringle [email removed – snip]  
**Sent:** 12 February 2015 23:30  
**To:** Stephens, Adrian P  
**Cc:** David Law; Michael Lindsay; Claire Topp  
**Subject:** P802.11ah patent statement

Dear Adrian,

I am aware that a request for an LoA for P802.11ah was sent by Bruce Kraemer to Fabian Gonell (Qualcomm) on 09 January 2014.

I am aware that you sent follow-up requests to Mr. Gonell on 12 August 2014 and again on 13 November 2014.

I just checked the LoA listings for P802.11ah at [http://standards.ieee.org/about/sasb/patcom/pat802\\_11.html](http://standards.ieee.org/about/sasb/patcom/pat802_11.html) and did not see an Accepted LoA from Qualcomm.

Please see the attached statement (P802\_11ah-qualcomm-statement.pdf) from Qualcomm that has been received.

Please share this information with the P802.11ah standards development group.

Regards,  
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David L. Ringle  
Director, IEEE-SA Governance  
IEEE Standards Association  
445 Hoes Lane  
Piscataway, NJ 08854-4141 USA  
[telephone number and email removed - snip]  
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**Attachment**

Because of the difficulty of embedding a PDF file and have it reliably readable, this submission is formatted as PDF, and the attachment from the email has been appended in pdf format.



**QUALCOMM Incorporated**

**5775 Morehouse Drive  
San Diego, CA 92121-1714  
(858) 587-1121**

**www.qualcomm.com**

**VIA Email and FEDX**

December 3, 2014

Mr. David Ringle  
PatCom Administrator  
IEEE-SA Standards Board Patent Committee  
Institute of Electrical and Electronics Engineers, Inc.  
445 Hoes Lane  
Piscataway, New Jersey 08854  
**Email: [d.ringle@ieee.org](mailto:d.ringle@ieee.org); [patcom@ieee.org](mailto:patcom@ieee.org)**

RE: IEEE 802.11ah

Dear Mr. Ringle:

In accordance with the last paragraph of Section 6.2 of the IEEE-SA Standards Board Bylaws, we hereby inform you that the following patent applications and patents (and foreign counterparts of such patent applications and patents) may result in Essential Patent Claims applicable to the 802.11ah standard that are not currently the subject of an existing Letter of Assurance with respect to 802.11ah.

Please note that these are not necessarily complete lists of patents or patent applications that may contain or may result in such Essential Patent Claims. They are lists of such patents or patent applications of which we are currently aware.

<b>Patent/Publication/Application Number</b>	<b>Territory Name</b>	<b>Patents.ApplicationTitle</b>
13/160,398	United States	Method and apparatus for sending very high throughput WLAN acknowledgment frames
13/358,326	United States	Systems and methods for communicating in a network
13/557,458	United States	Collision reduction mechanisms for wireless communication networks
13/566,908	United States	Power save with data fetch time, with end of data indication, and with more data acknowledgement
13/572,427	United States	Devices for reduced overhead paging
13/588,293	United States	Beacons for wireless communication



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13/589,675	United States	Systems and methods for compressing headers
13/597,758	United States	Fragmentation for long packets in a low-speed wireless network
13/664,029	United States	Channel selection rules for sub-1-GHz basic service sets
8,848,823	United States	Systems, methods, and devices to perform interleaving
20130176902	United States	System and method of communication using distributed channel access parameters
20130176925	United States	Systems and methods to transmit configuration change messages between an access point and a station
20130170345	United States	Systems and methods for generating and decoding short control frames in wireless communications
20130188542	United States	Systems and methods of relay selection and setup
20130195036	United States	Systems and methods for narrowband channel selection
20130229969	United States	Apparatus and methods for access identifier based multicast communication
20130258955	United States	Modulation and coding schemes in sub-1 GHz networks
20130315262	United States	Frame formats and timing parameters in sub-1 GHz networks
20130272282	United States	Tone scaling parameters in sub-1 GHz networks
20130266086	United States	Systems and methods for transmitting pilot tones
20130286889	United States	Using a mobile device to enable another device to connect to a wireless network
20130336182	United States	Systems and methods for identifying enhanced frames for wireless communication
20140010158	United States	Modulation coding scheme selection for response frames in case of transmit power imbalance
20140036775	United States	Apparatus and methods for frame control design



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20130128808	United States	Apparatus and methods for media access control header compression
20130128809	United States	Apparatus and methods for media access control header compression
20130177000	United States	Systems and methods for low-overhead wireless beacons having compressed network identifiers
20130176922	United States	Systems and methods for low-overhead wireless beacons having next full beacon indications
20130142124	United States	Systems and methods for low-overhead wireless beacon timing
20140056223	United States	Improved fragmentation for long packets in a low-speed wireless network
20130235860	United States	Dual interpretation of a length field of a signal unit
20130170411	United States	Signal unit including a field indicative of a zero-length payload
20130142275	United States	Systems and methods for communication over a plurality of frequencies and streams
8,767,873	United States	Systems and methods for communication over a plurality of frequencies and streams
20130279427	United States	System and method of communication using distributed channel access parameters
20140301208	United States	Systems and methods for generating and decoding short control frames in wireless communications
20130223211	United States	Apparatus and methods for block acknowledgment compression
20130223212	United States	Apparatus and methods for block acknowledgment compression
20130223213	United States	Apparatus and methods for block acknowledgment compression
20130229963	United States	Systems and methods for reducing collisions after traffic indication map paging
20130343433	United States	Systems and methods for wireless communication in sub gigahertz bands
20130343478	United States	Systems and methods for wireless communication in sub gigahertz bands



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8,233,462	United States	High speed media access control and direct link protocol
8,325,644	United States	Mixed mode preamble design for signaling number of streams per client
20120201196	United States	Signaling for extended MPDU, A-MPDU and A-MSDU frame formats
20130177001	United States	Systems and methods for low-overhead wireless beacon timing

Please confirm receipt of this declaration at your earliest convenience via email to Tom Rouse's attention at [trouse@qualcomm.com](mailto:trouse@qualcomm.com). If you have any questions or concerns, please contact Mr. Rouse directly at 858-587-1121.

Thank you.

Sincerely,

Thomas R. Rouse  
VP, QTL Patent Counsel  
Qualcomm Incorporated



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TR/go