IEEE P802.11
Wireless LANs

|  |
| --- |
| **Proposed Specification Framework for TGax** |
| **Date:** 2014-11-05 |
| **Author(s):** |
| **Name** | **Affiliation** | **Address** | **Phone** | **email** |
| Robert Stacey | Intel | 2111 NE 25th Ave, Hillsboro OR 97124, USA | +1-503-724-893 | robert.stacey@intel.com |
| Eldad Perahia | Intel |   |   | eldad.perahia@intel.com |
| Shahrnaz Azizi |   |   | shahrnaz.azizi@intel.com |
| Po-Kai Huang |   |   | po-kai.huang@intel.com |
| Qinghua Li |   |   | quinghua.li@intel.com |
| Xiaogang Chen |   |   | xiaogang.c.chen@intel.com |
| Chitto Ghosh |   |   | chittabrata.ghosh@intel.com |
| Rongzhen Yang |   |   | rongzhen.yang@intel.com |
| Fei Tong | Samsung | Innovation Park, Cambridge CB4 0DS (U.K.)  | +44 1223 434633 | f.tong@samsung.com |
| Hyunjeong Kang | Maetan 3-dong; Yongtong-GuSuwon; South Korea | +82-31-279-9028 | hyunjeong.kang@samsung.com |
| Kaushik Josiam | 1301, E. Lookout Dr, Richardson TX 75070 | (972) 761 7437 | k.josiam@samsung.com |
| Mark Rison | Innovation Park, Cambridge CB4 0DS (U.K.)  | +44 1223 434600 | m.rison@samsung.com |
| Rakesh Taori | 1301, E. Lookout Dr, Richardson TX 75070 | (972) 761 7470 | rakesh.taori@samsung.com |
| Sanghyun Chang | Maetan 3-dong; Yongtong-GuSuwon; South Korea | +82-10-8864-1751 | s29.chang@samsung.com |
| Lei Wang | Marvell  | 5488 Marvell Lane,Santa Clara, CA, 95054 | 858-205-7286 | Leileiw@marvell.com |
| Hongyuan Zhang | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | hongyuan@marvell.com |
| Yakun Sun | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | yakunsun@marvell.com |
| Liwen Chu | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | liwenchu@marvell.com |
| Mingguan Xu | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | mxu@marvell.com |
| Jinjing Jiang | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | jinjing@marvell.com |
| Yan Zhang | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | yzhang@marvell.com |
| Rui Cao  | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | ruicao@marvell.com |
| Sudhir Srinivasa | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | sudhirs@marvell.com |
| Saga Tamhane | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | sagar@marvell.com |
| Mao Yu | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | my@marvel..com |
| Edward Au | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | edwardau@marvell.com |
| Hui-Ling Lu | 5488 Marvell Lane,Santa Clara, CA, 95054 |   | hlou@marvell.com |
| Yasushi Takatori | NTT | 1-1 Hikari-no-oka, Yokosuka, Kanagawa 239-0847 Japan |   | takatori.yasushi@lab.ntt.co.jp |
| Yasuhiko Inoue |   |   | inoue.yasuhiko@lab.ntt.co.jp |
| Yusuke Asai |   |   | asai.yusuke@lab.ntt.co.jp |
| Koichi Ishihara |   |   | ishihara.koichi@lab.ntt.co.jp |
| Akira Kishida |   |   | kishida.akira@lab.ntt.co.jp |
| Akira Yamada | NTT DOCOMO | 3-6, Hikarinooka, Yokosuka-shi, Kanagawa, 239-8536, Japan |   | yamadaakira@nttdocomo.com |
| Fujio Watanabe | 3240 Hillview Ave, Palo Alto, CA 94304 |   | watanabe@docomoinnovations.com |
| Haralabos Papadopoulos |   |   | hpapadopoulos@docomoinnovations.com |
| Phillip Barber | Huawei | The Lone Star State, TX |   | pbarber@broadbandmobiletech.com |
| Peter Loc |   |   | peterloc@iwirelesstech.com |
| Le Liu | F1-17, Huawei Base, Bantian, Shenzhen | +86-18601656691 | liule@huawei.com |
| Jun Luo | 5B-N8, No.2222 Xinjinqiao Road, Pudong, Shanghai |   | jun.l@huawei.com |
| Yi Luo | F1-17, Huawei Base, Bantian, Shenzhen | +86-18665891036 | Roy.luoyi@huawei.com |
| Yingpei Lin | 5B-N8, No.2222 Xinjinqiao Road, Pudong, Shanghai |   | linyingpei@huawei.com |
| Jiyong Pang | 5B-N8, No.2222 Xinjinqiao Road, Pudong, Shanghai |   | pangjiyong@huawei.com |
| Zhigang Rong | 10180 Telesis Court, Suite 365, San Diego, CA  92121 NA |   | zhigang.rong@huawei.com |
| Rob Sun | 303 Terry Fox, Suite 400 Kanata, Ottawa, Canada |   | Rob.Sun@huawei.com |
| David X. Yang | F1-17, Huawei Base, Bantian, Shenzhen |   | david.yangxun@huawei.com |
| Yunsong Yang | 10180 Telesis Court, Suite 365, San Diego, CA  92121 NA |   | yangyunsong@huawei.com |
| Zhou Lan | F1-17, Huawei Base, Bantian, SHenzhen | +86-18565826350 | Lanzhou1@huawei.com |
| Junghoon Suh | 303 Terry Fox, Suite 400 Kanata, Ottawa, Canada |   | Junghoon.Suh@huawei.com |
| Jiayin Zhang | 5B-N8, No.2222 Xinjinqiao Road, Pudong, Shanghai | +86-18601656691 | zhangjiayin@huawei.com |
| Laurent cariou  | Orange |   |   | Laurent.cariou@orange.com |
| Thomas Derham  |   |   | thomas.derham@orange.com |
| Ron Porat | Broadcom |   |   | rporat@broadcom.com |
| Nihar Jindal |   |   |   |
| Matthew Fischer  |   |   | mfischer@broadcom.com |
| Sriram Venkateswaran  |   |   |   |
| Vinko Erceg |   |   |   |
| Wookbong Lee | LG Electronics | 19, Yangjae-daero 11gil, Seocho-gu, Seoul 137-130, Korea  |   | wookbong.lee@lge.com |
| Kiseon Ryu |   |   | kiseon.ryu@lge.com |
| Jinyoung Chun |   |   | jiny.chun@lge.com |
| Jinsoo Choi |   |   | js.choi@lge.com |
| Jeongki Kim |   |   | jeongki.kim@lge.com  |
| Giwon Park |   |   | giwon.park@lge.com  |
| Dongguk Lim |   |   | dongguk.lim@lge.com  |
| Suhwook Kim |   |   | suhwook.kim@lge.com  |
| Eunsung Park |   |   | esung.park@lge.com  |
| HanGyu Cho |   |   | hg.cho@lge.com |
| Albert Van Zelst | Qualcomm | Straatweg 66-S Breukelen, 3621 BR Netherlands |   | allert@qti.qualcomm.com |
| Alfred Asterjadhi | 5775 Morehouse Dr. San Diego, CA, USA |   | aasterja@qti.qualcomm.com |
| Bin Tian  | 5775 Morehouse Dr. San Diego, CA, USA |   | btian@qti.qualcomm.com |
| Carlos Aldana | 1700 Technology Drive San Jose, CA 95110, USA |   | caldana@qca.qualcomm.com |
| George Cherian | 5775 Morehouse Dr. San Diego, CA, USA |   | gcherian@qti.qualcomm.com |
| Gwendolyn Barriac | 5775 Morehouse Dr. San Diego, CA, USA |   | gbarriac@qti.qualcomm.com |
| Hemanth Sampath | 5775 Morehouse Dr. San Diego, CA, USA |   | hsampath@qti.qualcomm.com |
| Menzo Wentink | Straatweg 66-S Breukelen, 3621 BR Netherlands |   | mwentink@qti.qualcomm.com |
| Richard Van Nee | Straatweg 66-S Breukelen, 3621 BR Netherlands |   | rvannee@qti.qualcomm.com |
| Rolf De Vegt  | 1700 Technology Drive San Jose, CA 95110, USA |   | rolfv@qca.qualcomm.com |
| Sameer Vermani | 5775 Morehouse Dr. San Diego, CA, USA |   | svverman@qti.qualcomm.com |
| Simone Merlin | 5775 Morehouse Dr. San Diego, CA, USA |   | smerlin@qti.qualcomm.com |
| Tevfik Yucek   | 1700 Technology Drive San Jose, CA 95110, USA |   | tyucek@qca.qualcomm.com |
| VK Jones | 1700 Technology Drive San Jose, CA 95110, USA |   | vkjones@qca.qualcomm.com |
| Youhan Kim | 1700 Technology Drive San Jose, CA 95110, USA |   | youhank@qca.qualcomm.com |
| John (Ju-Hyung) Son | WILUS Institute | 263-2 Yangjae-dong,  | +82-2-552-110 | jhson@wilusgroup.com |
| Jin Sam Kwak | Seocho-gu, Seoul, Korea | sam@wilusgroup.com |
| Young Doo Kim | SK Telecom | 9-1 Sunae-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea | +82-31-710-5378 | yd76.kim@sk.com  |
| Hong Seok Shin | +82-31-710-5377 | hongseok.shin@sk.com  |

Abstract

This document provides the framework from which the draft TGax amendment will be developed. The document provides an outline of each the functional blocks that will be a part of the final amendment. The document is intended to reflect the working consensus of the group on the broad outline for the draft specification. As such it is expected to begin with minimal detail reflecting agreement on specific techniques and highlighting areas on which agreement is still required. It may also begin with an incomplete feature list with additional features added as they are justified. The document will evolve over time until it includes sufficient detail on all the functional blocks and their inter-dependencies so that work can begin on the draft amendment itself.

#  Revision history

|  |  |  |
| --- | --- | --- |
| Revision | Date | Changes |
| 0 | November 3, 2014 | Initial draft |
| 1 | November 3, 2014 | Added co-authors |
| 2 | November 5, 2014 | Harmonized with John Son and Young Doo Kim. Added some Huawei co-authors missed in previous revision. |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# 1 Definitions

# 2 Abbreviations and acronyms

HE High Efficiency

UL Uplink

DL Dowlink

OFDMA Orthogonal Frequency-Division Multiple Access

# 3 High Efficiency (HE) Physical Layer

This section describes the functional blocks in the physical layer.

# 4 Multi-user (MU) features

This section describes MU related features. MU features include UL and DL OFDMA and UL and DL MU-MIMO.

# 5 Coexistence

This section describes the functional blocks that support coexistence.

## 5.1 Features for operation in dense environments

This section describes features that improve overlapping BSS (OBSS) operation in dense environments. This includes features such as deferral rules and CCA levels.

## 6 MAC

This section describes general MAC functional blocks.

# References:

14/1447r1 Proposed Spec Framework Document for 11ax considering potential tech features