**Minutes for PM1 Session on Monday, 14th September, 2015**

TIM read out the guidelines at the start of this meeting

Chitto volunteered to take minutes for this session

0998r1 document presented by the Chair

Agenda is approved on 0998r1

Tim checked that there are 4 contributions as of now;

September 2015-March 2016 as Timeline for the TIG; in March 2016, if EC approves formation of SG, complete developing PAR and CSD by July 2016 and Task Group by September 2016.

Q: Output of SIG

A: Slide 7 of 0998r1 answers the understanding of formation of this TIG

**1064r0: Long Range Low Power Design Criteria, Jarkko Kneckt (Nokia)**

Q: In Slide 5, there was discussion of “grouping” of STAs and need reason for support of this feature?

A: Grouping might be avoiding congestion, in terms of contention for channel access

Q: Are you proposing sub-channel BW of OFDMA or a new transmission mode?

A: AN open question for us, could be HE operation mode and use same silicon to support LRLP

Q: Non-AP STAs are where power savings is considered?

A: Yes

Q: No backward compatibility for LRLP STAs, what about protection?

A: AP needs to protect transmissions from such STAs; not interested in long range, but low power; cell edge performance could be improved and solve coexistence problems

Q: Do we need OFDMA for such STAs?

A: Band agnostic and main emphasis is on sub-20MHz bandwidth, not just promoting OFDMA

Q: Coin cell battery and OFDMA may be contradictory; are you also considering single carrier or OFDMA?

A: Coin cell is the target, peak data rates, but not considering on the PHY modulation

Q: Discussion on MAC simplifications, no PHY changes?

A: Not really, if possible use existing PHY of high efficiency; question is about using existing new hardware or building a new radio altogether

Q: SNR improvement in DL with AP transmitting at higher power and in UL, how would you get SNR advantage?

A: narrow beam and BW;

1140r1: Minseok OH, Kyonggi University

Q: Range expectation between LRLP device and Controller:

A: Same apartment

Q: Why LRLP is Wi-Fi and rest of the devices on other Wi-Fi technologies

A: Data rate between home theatre and TV s very high and use high speed WLAN and hence depending upon use cases, use LRLP selectively; LRLP controls multiple links in red links and brown links in upper 5 GHz; there can be a device be LRLP and 20MHz mode of operation, giving the use case of a mobile phone with multiple capabilities

Structure of our output document and planning for next meeting; guideline for PAR development;

Recess and meeting at PM2 on Thursday

1140, 1112, 1108, 1064: These are the four contributions that were discussed today.

**Minutes for PM2 Session on Thursday, 17th September, 2015 (Number of participants:50)**

**0998r2:**

TIG Report outline

The Chair wants to get output of the title for TIG Output Document;

“LRLP Operation in 802.11: Use Cases and Technical Requirements: Guidelines for PAR Development

There was a suggestion for “LRLP Operation for IoT in 802.11,” but the Chair intends to keep it general for the title; also a suggestion of spelling out LRLP and the Chair accepted

Proposal to change “Technical Requirements” to “Design Criteria” or “Functional Requirements.” The Chair accepted to change it to “Functional Requirements.”

The Chair read out Document 11-15/1181r1:

Q: Frequency band interest for LRLP

A: 10dB improvements above 20MHz operation in 2.4GHz band

Q: Request to delete 2.4GHz band

A: Accepted the suggestion

Q: For LRLP AP, LRLP capability can be interpreted as running in parallel with legacy operation

A: Not in parallel, but sequentially

Q: Coexistence with operational 11ax devices, clearly mention this point?

A: Every LRLP STA is not fully 11ax conformant, but may have simpler functionality

Q: Purpose of the “transmission range” as a metric

A: Metrics discusses the variables and the requirements are defined below;

Q: Fast wake-up can be one of the metrics for LRLP?

A: To accommodate the speaker’s request, the Chair included “Tradeoffs between low power operation and latency” under Technical Feasibility

Due to unanimous consent, the word “Battery capacity” is changed to “Battery life” under LRLP Use Case metrics

Request made to replace the “home security use case” under Technical Feasibility

New use cases “Home Theater,” Indoor device control.

The Chair suggested of introducing the LRLP operation topic within 11ax TG, but there were comments to share once we have a better understanding of the metrics and use cases and requirements.

The Chair checked with the group about need for teleconference calls and the group agreed that there may be no need to have calls at this point;

The Chair ran a motion to adjourn this session and the motion passed unanimously.