IEEE P802.15  
Wireless Specialty Networks

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| 143th IEEE 802.15 WSN MEETING  **802.15 IG NEXT GEN SUN PHY Minutes July 2023 Hybrid Mtg** | | | | |
| Date: 2023-07-11 | | | | |
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Abstract

# This document contains the IG notes from the July 10-13, 2023 Plenary meeting

**Tuesday, 11th July 2023, 16:00 (Berlin) IG Next Gen SUN PHY PM#2**

1. The meeting was recessed early due to a scheduling issue with the rooms at the site. No business was conducted during this meeting

**Wednesday, 12th July 2023, 16:00 (Berlin) IG Next Gen SUN PHY PM#2 1**

1. The IEEE 802.15 IG meeting was called to order by the Chair.

1. The Chair reviewed the IEEE-SA patent policy, copyright policy, logistics, and reminders, including meeting guidelines and attendance recording procedures.
2. Agenda for Tuesday PM2 meeting was presented by Chair
   * Approved by unanimous consent
3. Reviewed Call to action email that was sent by WG Chair on May 31st, 2023
4. Call to action had three technical submission:
   * Henk de-Ruijter, Silabs
     + 64-QAM extension for the SUN OFDM PHY (15-23-0389-00-04ad)
     + Preamble proposal for the SUN OFDM-LR PHY (15-23-0391-00-04ad)
   * Hiroshi Harada, Kyoto University. (15-23-0390-00-04ad)
     + latest research and proposal for SUN extension related to SUN-OFDM and SUN-FSK
5. Technical presentation from by each submitter and good technical discussions on each topic presented.
6. Discussion on asking the WG chair to become a Study Group with the following objective
   * Additional improvement to the SUN-OFDM specification with a particular focus on long-range communication in highly congested environments
     + Data rates of 1 - 50kbps
     + RX Sensitivity of approximately -120dBm @ 1% PER 64 bytes (payload)
     + Consider collision mitigation techniques
     + Compliant with FCC 15.247 “digital modulation techniques”
     + Focus on symmetrical communication
   * Additional higher data rate options for SUN-OFDM and improved robustness
     + Introduction of 64/256 QAM to the SUN-OFDM specification (more advanced error codecs)
     + Improve performance low data option of existing SUN-OFDM (maybe improving synch)
     + Additional extension to the SUN-FSK specification including increased channel BW ( specifically Japan )
     + Improve coexistence in general as this is an unlicensed band
   * Additional frequency range for SUN PHY
     + Add new frequencies that have been added to regional regulation
7. Formal text to WG chair was developed
8. Meeting was adjourned

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