minutes

Friedrich-Alexander-Universität Erlangen-Nürnberg

Sub project / GAP (incl. sub projects): GAP III (A02, A03, B02)

Date and location: 30.05.2022, Teams

Participants: Amelie Hagelauer, Laura Cottatellucci, Stefan Brückner, Jasmin Kolpak, Fabian Michler, Kenneth Mayer.

Keeper of the minutes: Fabian Michler

Date and location for next meeting: 29.06.2022, Teams

topic 1 – Time plan *reported by Fabian Michler*
content/description: - Empkins Beacon V2 (24 GHz non-miniaturized, including battery pack) finished by Stefan Brückner (A02). Preparing measurement setup with optical reference system for joint measurements with Jasmin Kolpak (A02). 1-CH EMG (non-miniaturized) is ready. - Patent draft for A02/A03 was written and will be submitted by Prof. Vossiek.
tasks and responsibilities: - -/-

topic 2 – Progress report of subprojects *reported by every PhD student – slides are available in GAP III FAUbox folder*

content/description:
- A02 by Stefan Brückner:
  - Adapter board to connect 1-CH EMG, 24 GHz transmitter and power supply is fabricated
  - Currently working on a measurement environment with optical reference for the localization
  - Developed a concept for a joint publication (T-MTT) with focus on localization
  - Next steps:
  - Joint experiment with Jasmin Kolpak with results to be included in the joint publication
- A03/LTE by Jasmin Kolpak:
  - Comparison of theory and measurements of the EMG circuit

        - Analysis of two different amplifier feedback paths to achieve common-mode rejection even if electrode impedances are unbalanced
        - Good measurement results even if only one feedback path is used
          → well suited for the planned miniaturization
    - Next steps:
        - Investigation of different MMICs (24/60GHz) with ASK options
          → IFX BGT24LTR11 will be evaluated by Fabian Michler/Jasmin Kolpak as first candidate
- B02 by Kenneth Mayer:
    - Simulations on power transfer in MISO systems to find optimal antenna positions (2D) even at the worst receiver placement in the given environment
    - Assumtion of a two-antenna scenario and a spherical wave propagation model
    - Next steps:
        - Generalization to find placement/power allocation of an arbitrary number of antennas

tasks and responsibilities:

-/-

topic 3 – Organizational topics

content/description:

- Jasmin Kolpak:
    - EMG Worhshop with Prof. Roberto Merletti scheduled for the first week in July

tasks and responsibilities:

- -/-

topics for next meeting

may

☐ Time plan

☐ Progress report of subprojects

☐ Organizational topics

Notes: