

Title: Proposal for creation of a Study Group on Coexistence in License-Exempt bands

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Chair – Ad-Hoc Committee for License Exempt Co-existence

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21a HaBarzel Street, Tel Aviv, Israel

Venue:

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Base Document: -

Purpose: Start the discussion on creation of a 802.16 Study Group on Coexistence in License Exempt bands

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**Proposal for creation of a Study Group on
Coexistence in License-Exempt bands**

Mariana Goldhamer

Chair

LE Coexistence Ad-Hoc Committee

802.16 LE Coexistence Ad-Hoc Committee Results

- There are considerable co-existence problems between systems operating in a non-coordinated mode
- A protocol, embedded in the system, is necessary to automatically handle the spectrum sharing (such as DCS, Time sharing, Cognitive Radio)
- Not only 802.16 systems should be considered
- A Study Group is necessary to continue the work towards PAR

Study Group scope - 1

- Asses the feasibility of a coexistence protocol, PHY independent, and adapted to 802.16 MAC protocol, including:
 - PHY/MAC modifications
 - PHY independent protocol
 - Inter-system communication protocol
 - Spectrum sharing rules
 - Take advantage of the 802.16 MAC predictive behavior
- Study differences between Licensed and LE environment, affecting a “Recommended practice” standard

Study Group scope - 2

- Study the impact on protocol and “Recommended practice” of spectrum sharing with primary (licensed) spectrum users in LE bands
 - Dynamic deployment environment
- PAR drafting, using results of previous studies

Supplementary issues for SG scope - 1

- Coexistence with 802.11, asked in Ad-Hoc meeting in Shenzhen
 - Important aspect, if:
 - 802.11 is deployed outdoor
 - 802.16 CPE is working in the vicinity of a 802.11 network
 - Should be taken in consideration, but not as main scope
 - The 802.11 “Clear Channel Assessment”:
 - Will not work with directive antennae
 - Detection level for unknown PHYs is: -62dBm !
 - The indoor CPE case may be resolved with PCF (Point Coordination Function) and 802.11 MAC modifications
 - Not clear how many of 802.11 APs/STAs use PCF

Supplementary issues for SG scope - 2

- Asses feasibility of extensions to 802 standards, for systems using LE bands
 - Important issue
 - 802.11, 802.15, 802.16
 - Who will synchronize between them?
 - Will they converge if the work is done in parallel ?
 - **New 802 effort necessary?**
 - To be addressed in a further phase, after 802.16 will draft a suitable solution for itself

Supplementary issues for SG scope - 3

- Study of inter-system interference
 - 802.16 to / from 802.16
 - 802.16 to / from 802.11
 - 802.16 to / from 802.15

 - **802.19 charter ?**

Place for drafting – P&P

- “The decision of whether to utilize an existing Working Group or TAG, or to establish a new Working Group or TAG to carry out work items recommended by a Working Group shall be made by the Executive Committee with due consideration of advice from the Study Group”.

Conclusion

- I propose the creation of an 802.16 Study Group on Coexistence in LE bands
- Scope
 - Asses the feasibility of a coexistence protocol, PHY independent, and adapted to 802.16 MAC protocol
 - Study differences between Licensed and LE environment, affecting a “Recommended practice” standard
 - Study the impact on protocol and “Recommended practice” of spectrum sharing with primary spectrum users in LE bands
 - Draft one or more PARs
- The SG may recommend to do the work or parts of the work in other place / places, if found appropriate (e.g. 802.19, new WG)