

MBWA PAR Proposal

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Contribution to MBWA call for contributions

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Single Mobile PAR is Sufficient!

- "Pedestrian FWA" doesn't address any new market
 - Cellular provides wide-area coverage (capacity restricted by available spectrum)
 - WLAN provides high-speed hot spot coverage (cell size restricted by regulatory power limitations)
 - FWA addresses nomadicity¹ (not mobile usage)
- The core mobile speed area is 10-50 km/h and every mobile system is eager to address this space
 - Higher speeds are a niche (according to cellular usage surveys)
 - Lower speeds down to 0 km/h are automatically covered (but not as effectively as systems optimized for static deployment like FWA)
- Addressing a market that WLAN systems with extended range and cellular like deployment would cover is the business of 802.11 (802.11 is traditionally addressing the pedestrian market).

¹ *Nomadic = terminal is virtually static during usage*

Proposal

- Stick to a single mobile (incl. pedestrian as well as higher speeds) PAR
- Address only mobile frequency allocations
- Target spectrum efficiency $> 4-5$ bit/s/Hz (existing solutions provide 2-3 bit/s/Hz) in a cellular deployment
- Speeds up to 100-120 km/h must be supported, up to 250 km/h can be considered (optional), speed classes to be defined
- Separate parameter settings for speed classes are encouraged to optimize the performance

- Reside the potential new project within 802.16

- A separate SG/TG for nomadicity can be formed (to study whether any major changes are necessary)

Proposed PAR Text

This standard specifies the physical and media access control layer of the air interface of interoperable mobile broadband wireless access systems targeting a spectrum efficiency of 4-5 bit/s/Hz (i.e. 5+Mbps@1.25MHz or 20+Mbps@5MHz channel bandwidths). This standard supports cell sizes appropriate to ubiquitous metropolitan-area networks and supports mobility classes up to 250 km/h with emphasis on below 120 km/h. It applies to systems operating in licensed bands allocated by the ITU-R or other radio regulators to the Mobile Service. [Systems may employ either a TDD or an FDD channel structure]. The air interface is designed to carry IP based traffic.”