

## IEEE 802.16a/e below 2 GHz

### IEEE 802.16 Presentation Submission Template (Rev. 8.3)

Document Number:

IEEE C802.16-03/12

Date Submitted:

2003-07-21

Source:

Yigal Leiba  
Runcom Technologies  
Hacoma 2 st.  
Rishon LeZion, Israel

Voice: +972 3 9528440  
Fax: +972 3 9528805  
E-mail: yigall@runcom.co.il

Venue:

Session #26, San Francisco

Base Document:

None

Purpose:

Present during the "Proposed New Concepts" item following opening plenary.

Notice:

This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.

Release:

The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.

IEEE 802.16 Patent Policy:

The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures <<http://ieee802.org/16/ipr/patents/policy.html>>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <<mailto:chair@wirelessman.org>> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site <<http://ieee802.org/16/ipr/patents/notices>>.

# **IEEE 802.16a/e below 2 GHz**

Yigal Leiba

Runcom



# Proposal

---

- Submit a PAR to IEEE to extend the operating frequency range of 802.16a/e to include 470-2000MHz

- Lower frequencies have superior propagation properties and enable
  - **Better coverage**
  - **Use of omni-directional antennas**
  - **Outdoor to indoor propagation**
- **RF HW is cheaper and widely available**
- **These frequencies are becoming available**
  - **700MHz auction in the US**
  - **Analog broadcasting channels are anticipated to be released once TV broadcasting migrates to digital**

## Motivation – Cont'd

---

- Current IEEE 802.16a PHYs are highly suitable for operation in these frequencies with little or no change
  - Non-LOS operation
  - Capability to withstand severe multipath propagation
- Other wireless standards are also looking to use these frequencies
  - 3/4G cellular
  - IEEE 802.11

# Summary

---

- Looks like small changes if any will be required to 802.16a specifications
- Many potential advantages both technical and marketwise