PAR FORM

PAR Status: New PAR
PAR Approval Date: 2002-12-11
PAR Signature Page on File: Yes
Review of Standards Development Process: No

1. Assigned Project Number: 802.20

2. Sponsor Date of Request: 2002-11-01

3. Type of Document: Standard for

4. Title of Document:
Draft: Local and Metropolitan Area Networks - Standard Air Interface for Mobile Broadband Wireless Access Systems Supporting Vehicular Mobility - Physical and Media Access Control Layer Specification

5. Life Cycle: Full Use

6. Type of Project:
6a. Is this an update to an existing PAR? No

6b. The Project is a: New Standard

7. Contact Information of Working Group:
Name of Working Group: IEEE 802.20 Working Group on Mobile Broadband Wireless Access
Name of Working Group Chair: Mark Klerer
Telephone: 908-997-2069 **FAX:** 908-997-2050
Email: m.klerer@flarion.com

8. Contact Information of Official Reporter (If different than Working Group Chair)
Name of Official Reporter: (if different than WG contact)
Telephone: FAX:
Email:

9. Contact Information of Sponsoring Society or Standards Coordinating Committee:
Name of Sponsoring Society and Committee: Computer Society Local and Metropolitan Area Networks
Name of Sponsoring Committee Chair: Paul Nikolich
Telephone: 857-205-0050 **FAX:** 781-334-2255
Email: p.nikolich@ieee.org
Name of Liaison Rep. (If different than Sponsor Chair):
Telephone: FAX:
Email:

10. The Type of ballot is: Individual Sponsor Ballot
Expected Date of Submission for Initial Sponsor Ballot: 2004-05-26

11. Fill in Projected Completion Date for Submittal to RevCom: 2004-10-01
Explanation for Revised PAR that Completion date is being extended past the original four-year life of the PAR:

12. Scope of Proposed Project:

Specification of physical and medium access control layers of an air interface for interoperable mobile broadband wireless access systems, operating in licensed bands below 3.5 GHz, optimized for IP-data transport, with peak data rates per user in excess of 1 Mbps. It supports various vehicular mobility classes up to 250 Km/h in a MAN environment and targets spectral efficiencies, sustained user data rates and numbers of active users that are all significantly higher than achieved by existing mobile systems. (See also Item 18)

13. Purpose of Proposed Project:

The purpose of this project is to enable worldwide deployment of cost effective, spectrum efficient, ubiquitous, always-on and interoperable multi-vendor mobile broadband wireless access networks. It will provide an efficient packet based air interface optimized for IP. The standard will address end user markets that include access to Internet, intranet, and enterprise applications by mobile users as well as access to infotainment services.

14. Intellectual Property:

Sponsor has reviewed the IEEE patent policy with the working group? Yes
Sponsor is aware of copyrights relevant to this project? Yes
Sponsor is aware of trademarks relevant to this project? Yes
Sponsor is aware of possible registration of objects or numbers due to this project? Yes

15. Are you aware of other standards or projects with a similar scope? Yes

ITU-R Working Party 8F is developing air interfaces for IMT-2000 for both mobile and fixed applications, and receives input from various external standards development organizations. 3GPP and 3GPP2 are partnership projects that develop the specifications among these organizations for evolving mobile data air-interface specifications. Their work targets an evolution of existing voice and circuit-switched architectures (in the case of 3GPP based on GSM and in the case of 3GPP2 based on IS-41), as compared to the MBWA project, which focuses on an air-interface optimized for IP data for a cost-effective, packet-switched mobile broadband wireless data solution. T1P1.4 has a project on WWINA which addresses standards related to the radio and netowrk aspects of systems optimized fo rinternet data applications in low mobility environments (with handoff). The individual user data rates specified by this group range from 8 Kb/s to 2 Mb/s.

Similar Scope Project Information:

16. Is there potential for this standard (in part or in whole) to be submitted to an international organization for review/adoption?: Yes

If yes, please answer the following questions:

Which International Organization/Committee? ITU-R WP8F

International Contact Information?	Stephen Blust +14042365924 stephen.blust@cingular.com

17. Will this project focus on Health, Safety or Environmental Issues? No

18. Additional Explanatory Notes: (Item Number and Explanation)

Item #12 - As stated in item 12, the standard to be developed "targets spectral efficiencies, sustained user data rates and numbers of active users, which are all significantly higher than those achieved by existing mobile communications systems". The table below provides additional information on air interface charateristics and performance targets that are expected to be achieved.

Characteristic	Target Value
Mobility	Vehicular mobility classes up to 250 km/hr (as defined in ITU-R M.1034-1)
Sustained spectral efficiency	> 1 b/s/Hz/cell
Peak user data rate (Downlink (DL))	> 1 Mbps*
Peak user data rate (Uplink (UL))	> 300 Kbps*
Peak aggregate data rate per cell (DL)	> 4 Mbps*
Peak aggregate data rate per cell (UL)	> 800 Kbps*
Airlink MAC frame RTT	<10 ms
Bandwidth	e.g., 1.25 MHz, 5 MHz
Cell Sizes	Appropriate for ubiquitous metropolitan area networks and capable of reusing existing infrastructure.
Spectrum (Maximum operating frequency)	< 3.5 GHz
Spectrum (Frequency Arrangements)	Supports FDD (Frequency Division Duplexing) and TDD (Time Division Duplexing) frequency arrangements
Spectrum Allocations	Licensed spectrum allocated to the Mobile Service
Security Support	AES (Advanced Encryption Standard)

* Targets for 1.25 MHz channel bandwidth. This represents 2 x 1.25 Mhz paired) channels for FDD and a 2.5 MHz (unpaired) channel for TDD. For other bandwidths, the data rates may change.