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IEEE Standard for
Local and metropolitan area networks

Part 20: Air Interface for Mobile Broadband Wireless Access Systems Supporting Vehicular Mobility—Physical and Media Access Control Layer Specification

802.20™

IEEE Computer Society

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LAN/MAN Standards Committee

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TIA-1121.001—Physical Layer for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.002—MAC Layer for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.003—Radio Link Layer for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.004—Application Layer for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.005—Security Functions for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.006—Connection Control Plane for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.007—Session Control Plane for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.008—Route Control Plane for Ultra Mobile Broadband (UMB) Air Interface Specification

TIA-1121.009—Broadcast-Multicast Upper Layers for Ultra Mobile Broadband (UMB) Air Interface Specification

Abstract: The technical requirements of this standard form a compatibility standard for mobile broadband wireless access systems. The standard ensures that a compliant access terminal (AT) or user terminal (UT) can obtain service through any access node (AN) or base station (BS) conforming to properly selected modes of this standard, consistent with equipment and operator requirements, thus providing a framework for the rapid development of cost-effective, multivendor mobile broadband wireless access systems. This compatibility standard is targeted for use in a wide variety of licensed frequency bands and regulatory environments.

This standard provides for future standardized extension capabilities. The architecture defined by this standard permits such expansion without the loss of backward compatibility.

Keywords: access node, access terminal, base station, broadband, LAN, local area networks, MAN, metropolitan area networks, user terminal, vehicular mobility, wireless access

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Part 20: Air Interface for Mobile Broadband Wireless Access Systems Supporting Vehicular Mobility—Physical and Media Access Control Layer Specification

1. Scope

This standard specifies the 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. The system is optimized for IP-data transport, with peak data rates per user in excess of 1 Mbps.

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

3GPP2 C.R1001-F v1.0, Administration of Parameter Value Assignments for cdma2000TM Spread Spectrum Standards.[1]

3GPP2 C.S0001, Introduction to cdma2000 Standards for Spread Spectrum Systems.

3GPP2 C.S0010-C v2.0, Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations, March 2006.

3GPP2 C.S0011-C, Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Mobile Stations, March 2006.

3GPP2 C.S0024, cdma2000 High Rate Packet Data Air Interface Specification.

3GPP2 C.S0057-B, Band Class Specification for cdma2000 Spread Spectrum Systems.

3GPP2 S.S0055A v2.0, Enhanced Cryptographic Algorithms.

3GPP2 S.S0078, Common Security Algorithms.

ATIS-0700004.2005, High Capacity-Spatial Division Multiple Access (HC-SDMA) Radio Interface Standard, September 2005.[2]

IEEE Std 802.1Q™, IEEE Standard for Local and Metropolitan Area Networks: 2 Virtual Bridged Local Area Networks.[3, 4]

IEEE Std 802.2™, IEEE Standard for Local Area Networks—Logical link control.

IEEE Std 802.3™, IEEE Standard for Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications.

IETF RFC 791, Internet Protocol.[5]

IETF RFC 2210, The Use of RSVP with IETF Integrated Services.

IETF RFC 2216, Network Element Service Specification Template, S. Shenker, J. Wroclawski, September 1987.

IETF RFC 2460, Internet Protocol, Version 6 (IPv6) Specification.

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