Project	**IEEE 802.16 Broadband Wireless Access Working Group <*http://ieee802.org/16*>**
Title	**IEEE 802.16m Functional Requirements**
Date Submitted	**2007-2-23**
Source(s)	Xin Qi (Xin.qi@nokia.com) Shaohua Li (shaohua.li@nokia.com) Shkumbin Hamiti (shkumbin.hamiti@nokia.com) Scott Probasco (scott.probasco@nokia.com) Nokia
Re:	This contribution is in the response of Call for Contributions on Requirements for P802.16m Advanced Air Interface on Jan. 30th, 2007.
Abstract	This document proposes a set of functional requirements for the consideration of 802.16m TG, based on the initial Draft Requirements document IEEE 802.16m-07/002.
Purpose	To propose text to set functional requirements for P802.16m.
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IEEE 802.16m Functional Requirements

Introduction

This document proposes a set of functional requirements for the consideration of 802.16m TG, in the response of Call for Contributions on Requirements for P802.16m Advanced Air Interface on Jan. 30th, 2007. The document addresses the section 6 of the initial Draft Requirements document IEEE 802.16m-07/002.

The following is proposed modification to the baseline text.

6.0 Functional Requirements

6.1 Peak Data Rate

State of the art modulation, coding, scheduling and multiplexing should be employed to achieve higher spectral efficiency at a reasonable complexity

Additional transmit and receive antennas may be considered but should not be required of subscriber devices. Size and power considerations continue to dictate that no more than two transmit and receive antennas be required of hand-held devices.

[The 802.16 m TG should include enhancements to the 802.16 MIMO and AAS modes within the scope of the project for the explicit purpose of increasing the capacity, aggregate link rates and spectral efficiency]

Adaptive switching between different MIMO schemes (diversity and multiplexing, open-loop and close-loop) shall be supported.

[Peak useful data rates up to 100 Mbit/sec for mobiles users]

[Peak useful data rates up to 1 Gb/s for stationary users]

[Interference Management/Avoidance]

The supported peak data rate shall scale according to size of the spectrum allocation and antenna numbers.

Peak useful data rates shall be up to 100 Mbit/sec for mobile users, if 100MHz bandwidth is used.

Peak useful data rates shall be up to 1 Gbit/s for stationary users, if 100MHz bandwidth and 4*4 antennas are used.

6.2 Latency

Latency should be further reduced as compared to the IEEE 802.16e reference system for all aspects of the system including the air link, state transition delay, access delay, and handover.

6.3 QoS

Relative to IMT-2000 systems, the 16m amendment shall

• have a greater ability to simultaneously support a wide range of multimedia services,

• provide enhanced management of different quality of service levels, and

• provide support for applications requiring IMT-Advanced system end user QoS requirements.

6.4 Radio Resource Management

[IEEE 802.16m amendment shall support functions such as priority and preemption.]

[IEEE 802.16m amendment shall support regional regulatory needs including CALEA.]

6.5 Security

[Requirements for Secrecy and Privacy: More powerful, enhanced (high-speed/small-size and low-power) confidentiality and integrity protection for traffic transmission, control information; More efficient, robust user/device authentication scheme; Location privacy scheme; and Reliable and flexible service availability protection scheme]

[Requirements for Inter-working Security: Delay constrained handover and roaming support without changing the security level (Especially, seamless mobility across heterogeneous networks with the negotiation of security mechanisms/algorithms); and Minimum performance/capacity degradation due to the security feature provisioning]

The supported peak data rate shall scale according to size of the spectrum allocation and antenna numbers.

Peak useful data rates shall be up to 100 Mbit/sec for mobile users, if 100MHz bandwidth is used.

*Peak useful data rates shall be up to 1 Gbit/s for stationary users, if 100MHz bandwidth and 4*4 antennas are used.*