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| Re: | IEEE 802.16m-09/0044, "IEEE 802.16 Working Group Working Group Letter Ballot #30" | |
| Abstract | Propose to support wake-up procedure during the unavailable interval to shorten the service interruption time and minimize the impact of low-duty operation. | |
| Purpose | To be discussed and adopted in P802.16m/D1. | |
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Low-Duty Operation Mode and Wake-up Procedure in Femtocell (15.4.10)

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Introduction

Low-duty operation mode for Femto ABS is defined in the IEEE P802.16m/D1. In this contribution, we propose the text to support wake-up procedure during the unavailable interval to shorten the service interruption time and minimize the impact of low-duty operation.

An initial ranging region is allocated for during unavailable interval. Femto ABS regards initial ranging code during unavailable interval as a “wake-up ranging code”. It would be appropriate to inhibit initial ranging for the purpose of initial network entry during unavailable interval. During the unavailable interval, the Femto ABS may keep monitoring the initial ranging region without transmitting any signal. Therefore, the benefit of mitigating interference via low-duty operation mode is still retained while the service interruption time due to low duty operation mode is shortened.

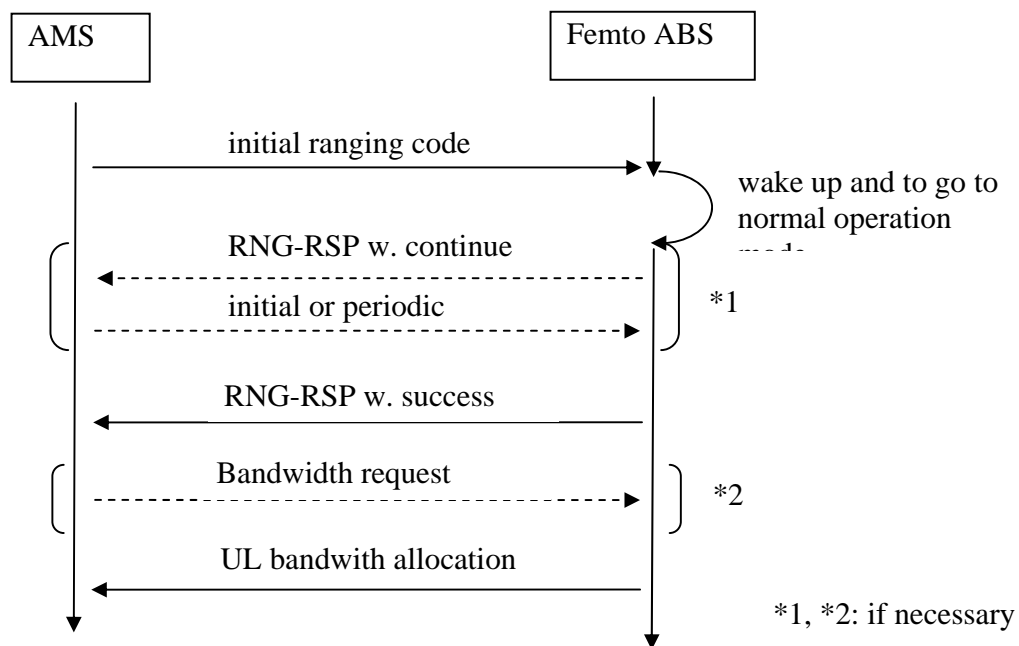


Figure 1: wake-up procedure of the Femto ABS in the unavailable interval of low-duty operation mode

Proposed Text

[Insert the following new text as a new subclause 15.4.10.x after 15.4.10.1]

===== *Start of the Text* =====

15.4.10.x Wake-up procedure of the Femto ABS in unavailable interval

An AMS intends to connect to a Femto ABS in low-duty operation mode during the unavailable interval may wait until the available interval. Otherwise, the AMS may send an initial ranging code in the dedicated initial ranging region to activate the Femto ABS in low duty mode back to normal operation. AMS shall not attempt to initiate network entry procedure during unavailable interval of the Femto ABS. In order to allow AMS to wake up Femto ABS, the Femto ABS may allocate initial ranging region for during unavailable interval. When the Femto ABS allocate valid initial ranging region during unavailable interval, it shall monitor if any initial ranging codes being sent by AMSs. Upon detection of an initial ranging code, the Femto ABS shall return to normal operation mode immediately and send RNG-RSP for its frequency and timing adjustment. After or together with RNG-RSP with success status, the Femto ABS may allocate UL bandwidth for the AMS to send any message, otherwise, AMS may send Bandwidth request to seek UL allocation.

===== *End of Proposed Text* =====