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Title	RS Periodic Ranging with Dedicated Ranging Code
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Re:	IEEE 802.16j-07/013: "Call for Technical Comments Regarding IEEE Project 802.16j"
Abstract	This contribution proposes RS Periodic Ranging with Dedicated Ranging Code
Purpose	Text proposal for 802.16j Baseline Document
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## RS Periodic Ranging with Dedicated Ranging Code

### Introduction

In 802.16e-2005, an MS transmits randomly selected periodic ranging code in a randomly selected ranging slot from available ranging region. In an MR system with transparent RSs, if a RS uses randomly selected periodic ranging code as an MS, the RS stays anonymously during periodic ranging process. Therefore, MR-BS cannot keep a stable relay path to the RS.

This contribution proposes assigning a dedicated periodic ranging for each RS such that a MR-BS can identify the RS and the associated relay path during periodic ranging process. In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the baseline working document IEEE 802.16j-06/026r3 are listed below.

### Text Proposal

#### 6.3.10 Ranging

##### 6.3.10.3 OFDMA based ranging

##### 6.3.10.3.4 Relaying support for OFDMA based ranging

*[Insert the following subclause 6.3.10.3.4.6]*

##### 6.3.10.3.4.6 RS periodic ranging and automatic adjustments with the access station

An RS that wishes to perform periodic ranging shall take the same steps described in 6.3.10.3.2, 6.3.10.3.4.1 and 6.3.10.3.4.2.

In an MR system with transparent RSs, the MR-BS may assign a dedicated periodic ranging code to a RS during network entry. In the CDMA periodic ranging process, the dedicated periodic ranging code is used instead of the (MS) periodic ranging code.

When the RS receives an unsolicited RNG-RSP message during network (re-)entry or handover procedure, it shall take the same steps described in 6.3.10.3.2, 6.3.10.3.4.3 and 6.3.10.3.4.4.

#### 11.19.1 CDMA Codes TLV

*[Insert the following table:]*

<u>Name</u>	<u>Type (1 byte)</u>	<u>Length</u>	<u>Value</u>
<u>Transparent MR system CDMA Code</u>	<u>TBD</u>	<u>1</u>	<u>The TLV carries 1 byte ranging code in the following order - Dedicated periodic ranging code</u>