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Title	Preamble, FCH and MAPs Transmission in Transparent Relay Station	
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Re:	Call for Technical Proposal regarding IEEE Project P802.16j	
Abstract	The document contains technical proposals for IEEE P802.16j that provides a frame structure.	
Purpose	This is a response to Call for Technical Proposals regarding IEEE Project P802.16j.	
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edures of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <<mailto:chair@wirelessman.org>> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site <<http://ieee802.org/16/ipr/patents/notices>>.

Preamble, FCH and MAPs Transmission in Transparent Relay Station

1. Introduction

The frame structure for a transparent relay mode was defined in P802.16j baseline document[1]. A transparent RS doesn't transmit its own preamble, FCH, and MAPs[2], but it can transmit the same as those of MR-BS. It has advantages of coverage extension, diversity gain, and so on to transmit a preamble, FCH, and MAPs in a transparent RS.

The following assumptions are made:

- No changes are required for a IEEE802.16e-2005 MS operation;
- It enables efficient and flexible relay link operation by extension of IEEE802.16e-2005 frame structure;
- The impact upon the current IEEE802.16e frame structure is minimized
- The relay link delay is minimized;
- Only centralized scheduler is supported for a transparent RS
- Only TDD frame is considered in this contribution

2. Proposed Solution

This proposal suggests that a transparent RS may transmit a preamble, FCH and MAPs that are same with those of MR-BS.

This proposed solution has following advantages:

- Diversity gain can be obtained because MR-BS and RS transmit the same preamble, FCH and MAPs simultaneously.
- In cooperative relay mode, the coincidence of signal power between data burst and control information is able to enhance the channel estimation performance using both preamble and pilots.
- Coverage can be extended because RS transmits a preamble, FCH and MAPs.

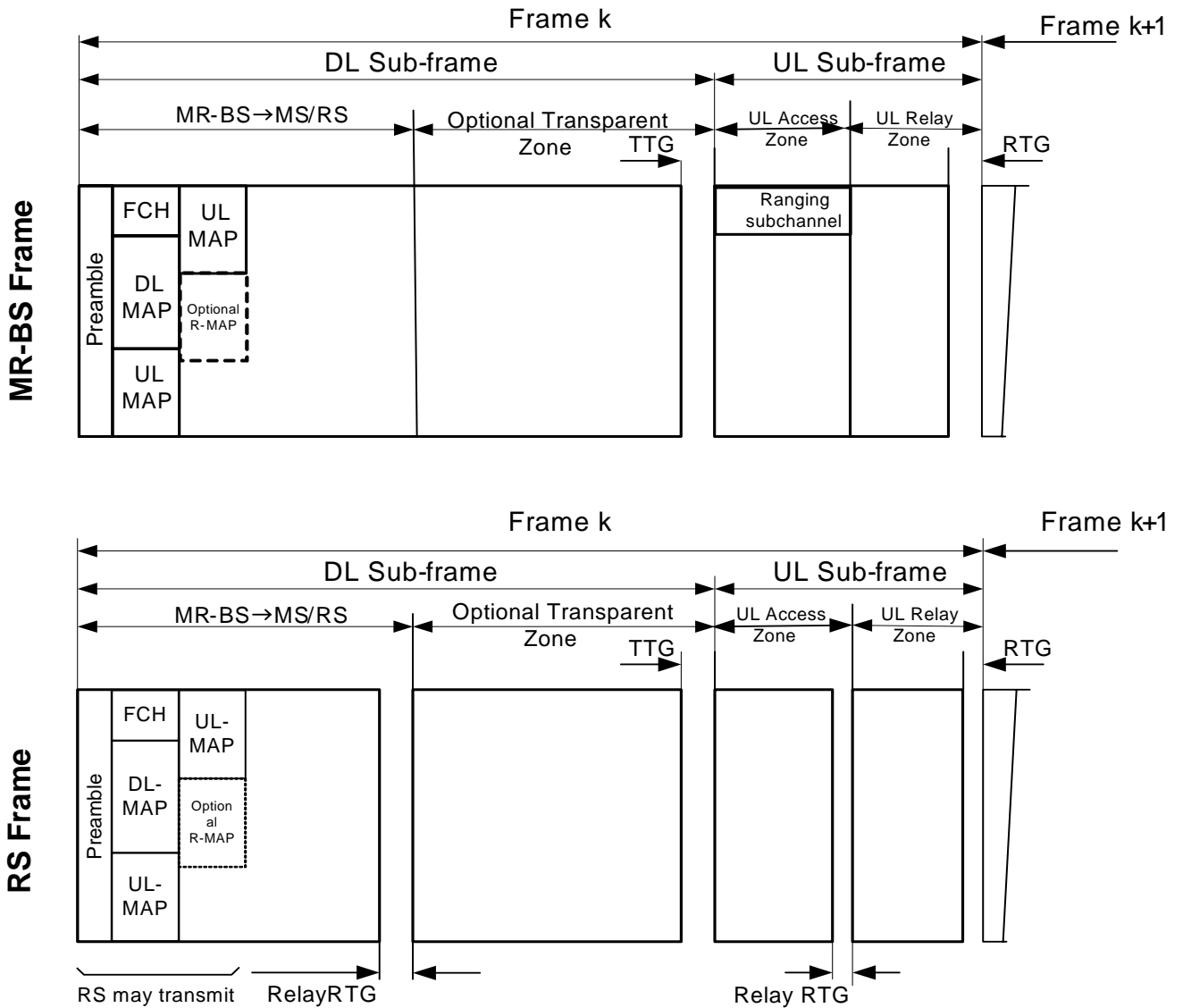


Figure 1. Example of a preamble, FCH, and MAPs transmission in transparent RS

3. Proposed Text

+++++ start text proposal +++++

[Replace Figure xxx at section 8.4.4.7.1.1]

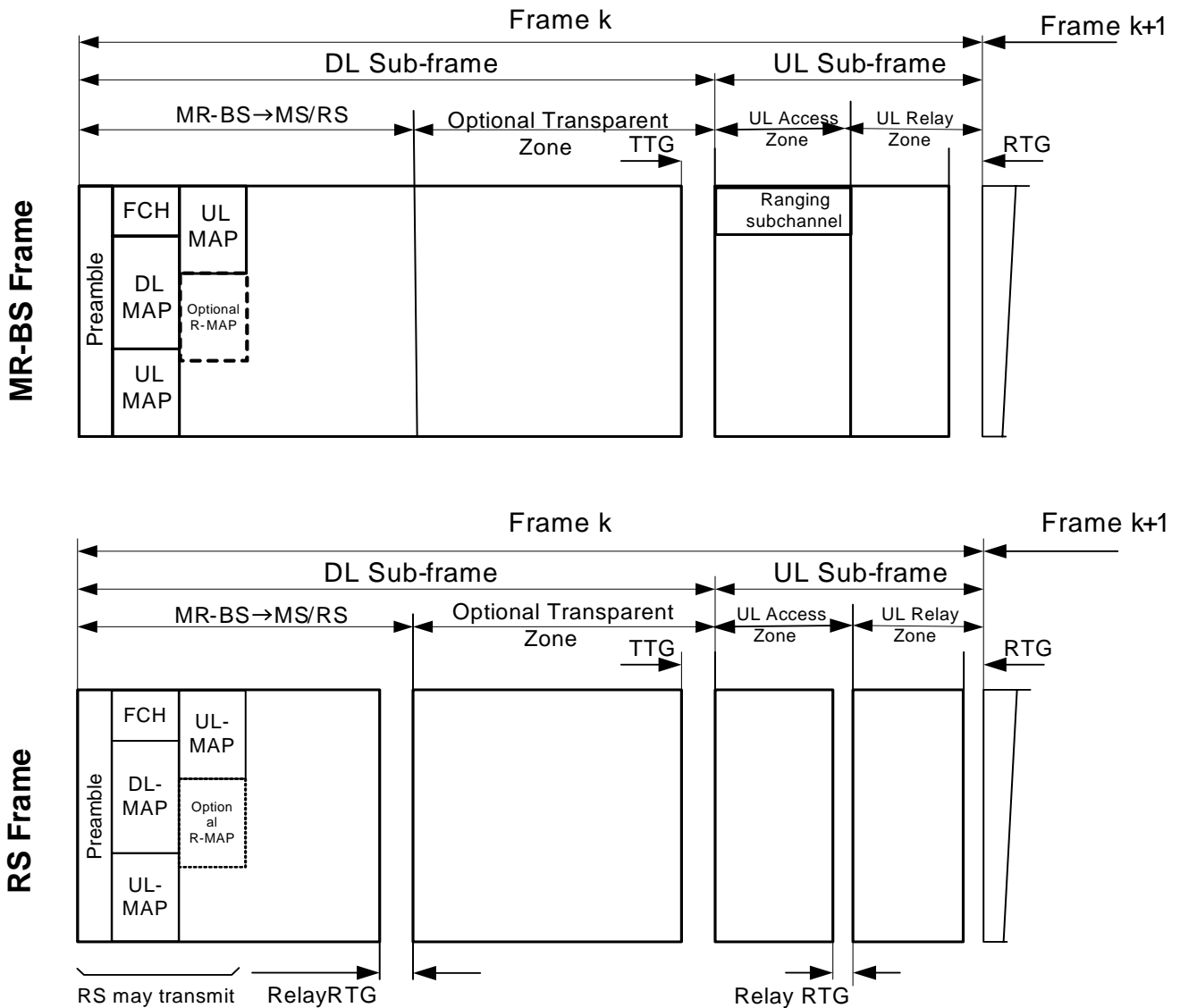


Figure xxx. Example of configuration for a transparent relay frame structure

[Replace the followings at section 8.4.4.7.1.2]

8.4.4.7.1.2 Relay frame structure

From RS view, an example of an RS TDD frame structure is shown in Figure xxx.

For a transparent RS, the preamble and MAP are basically not transmitted at the beginning of the frame. Instead it listens the preamble, MAP or optional R-MAP transmission from MR-BS. But optionally transparent RS may transmit the preamble, FCH and MAPs which are same with those of MR-BS. The detailed allocation for RS can be indicated by MAP or R-MAP. The signaling method shall be negotiated in RS network entry procedure. I

n each frame, the TTG shall be inserted between the DL sub-frame and the UL sub-frame. The RTG shall be inserted at the end of each frame.

+++++++ end of text proposal ++++++

References

- [1] IEEE P802.16j-06/026r2, "P802.16j Baseline document".
- [2] IEEE C802.16j-06/290, "Definitions, abbreviations and acronyms for P802.16j baseline document".