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Source(s) | Dorin Viorel, Charlie Huo, Aram Sukyasian
| | Fujitsu Microelectronics Canada Inc.
| | Mike Hart
| | Fujitsu Laboratories Europe
| | Michiharu Nakamura
| | Fujitsu Laboratories Japan
| | Mark Naden, Israfil Bahceci, Hang Zhang, Peiying Zhu, Mo-Han Fong,
| | Wen Tong, David Steer, Gamini Senarath, Derek Yu, G.Q. Wang
| | pyzhu@nortel.com
| | Nortel
| | Changyoon Oh, Youngbin Chang,
| | Mihyun Lee, HyoYoungKyu Lim,
| | Jaeweon Cho, Panyuh Joo
| | Samsung Electronics
| | 416, Maetan-3dong, Youngtong-gu,
| | Suwon-si, Gyeonggi-do, Korea
| | Voice: +82-31-279-7529
| | Fax: +82-31-279-5130
| | mail to: changyoon.oh@samsung.com
Re: | 80216j-07_007r2: “Call for Technical Comments and Contributions regarding IEEE Project 802.16j”
Abstract | This document specifies the RS amble repetition rate.
Purpose | Text proposal for 802.16j Baseline Document
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RS Amble Repetition Rate.

Dorin Viorel, Charlie Huo, Aram Sukyasian
Fujitsu Microelectronics Canada Inc.

Mike Hart
Fujitsu Laboratories Europe

Michiharu Nakamura
Fujitsu Laboratories Japan

Mark Naden, Israfil Bahceci, Hang Zhang, Peiying Zhu, Mo-Han Fong, Wen Tong, David Steer, Gamini Senarath, Derek Yu, G.Q. Wang
Nortel

Changyoon Oh, Youngbin Chang, Mihyun Lee, HyoungKyu Lim, Jaeweon Cho, Panyuh Joo
Samsung Electronics

Introduction

In order to provide proper time and frequency synchronization, and Cell ID information for the sub-ordinate Relay Stations attempting to enter the network through getting connected to a parent RS, a relay amble structure has to be defined. One of the parameters of this relay structure is its related repetition rate.

Details

The repetition rate of the relay amble has to comply with the following conditions:

- The intended amble position is in the last symbol of the DL sub-frame.
- The relay amble has to provide support for the time and frequency synchronization algorithms (implementation specific). The initial synchronization takes places on the access preamble while the RS' holding sync and AFC tracking logic rely on the repetition rate of the relay amble sequence.
- The functionality of the Common Sync symbol as defined by [2], Section #8.4.6.1.1.1 has to be preserved.
- The BW throughput degradation due to relay amble repetition rate has to be minimized.

Conclusion

In order to comply with the above conditions, the relay amble shall be a repetitive structure, with a repetition rate of at least 1 out of 4 every frames. It is proposed that the text in the following section be included into the baseline document to specify this requirement.
Specific text changes

Add sub-clause #8.4.6.1.1.1 [Insert new subclause 8.4.6.1.1.3]

8.4.6.1.1.3 Relay amble
The relay amble, if present, is a repetitive structure with a maximum repetition periodrate given by Equation xxx.

\[
\text{Max} \text{ RelayAmbleRepetitionPeriodRate} = 40 \text{ ms}4\text{-frames} \quad \text{Equation xxx}
\]

References
1. IEEE 802.16-2004 “IEEE Standard for Local and Metropolitan Area Networks – Part 16”
2. IEEE 802.16e-2005