# Proposed modifications to the PN sequence used by the Base Stations and Relay Stations in a MR enabled network (Rev 2)

**IEEE 802.16 Presentation Submission Template (Rev. 8.3)**

Document Number:

IEEE S802.16j-06/150r2

Date Submitted:

2006-11-15

Source:


Fraser Cameron, Voice: +1 403 207 6311

Dorin Viorel Voice: +1 403 207 6311

Fujitsu Microelectronics Canada Inc E-mail: fcameron@fmci.fujitsu.com

Calgary, AB, Canada E-mail: dviorel@fmci.fujitsu.com


Venue:

IEEE 802.16 Session #46, Dallas, USA

Base Document:

IEEE C802.16j-06/150 and URL <http://ieee802.org/16/… C80216j-06_150.pdf>.

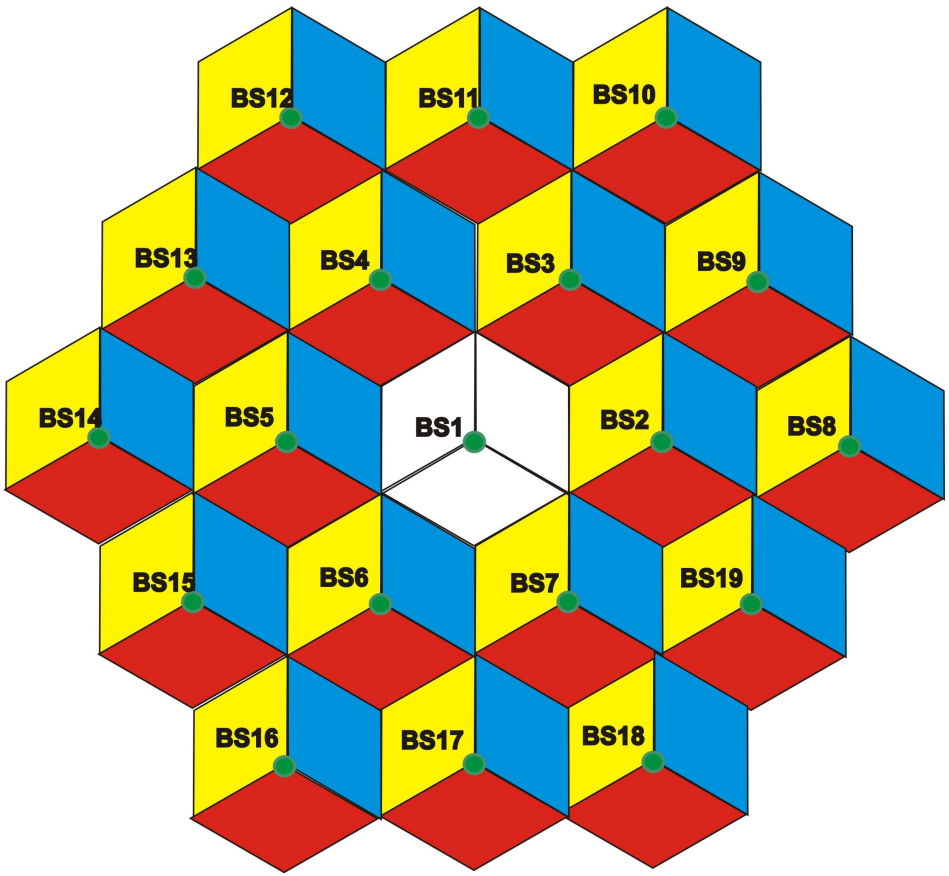
Purpose:

For discussion and approval of inclusion of the proposed text into the P802.16j baseline document.

# Introduction

- This contribution attempts to fix the following:
  - Speed-up the network entry and re-entry procedures
  - Re-organize the PN sequence as defined by 802.16e, without altering the PN sequence

# Preamble Allocation. Rationale.




-A RS entity attempting to enter the Network or during the scanning procedures is not allowed to run any power measurement on two BS entities (RS or BS) bearing the same Cell ID.

-It is up to the service provider how the Cell ID management is organized.

-In a tier 1+2 cluster of cell, the minimal distance between two identical BS entitiess, bearing the same CellID is 8R. Therefore it is assumed that an RS shall not receive two signals from two different BS entities bearing the same IDCell.

# PN Sequence Re-organization.

| BS/RS | Index | ID Cell | Segment |
|---|---|---|---|
| **BS** | 0 | 0 | 0 |
| **BS** | 18 | 18 | 0 |
| **RS** | 19 | 19 | 0 |
| **RS** | 31 | 31 | 0 |
| **BS** | 32 | 0 | 1 |
| **BS** | 50 | 18 | 1 |
| **RS** | 51 | 19 | 1 |
| **RS** | 63 | 31 | 1 |
| **BS** | 64 | 0 | 2 |
| **BS** | 82 | 18 | 2 |
| **RS** | 83 | 19 | 2 |
| **RS** | 113 | 17 | 2 |

## Advantages

- A fast track time domain fast identification of a RS or a BS is made possible.
- No changes are performed on the 16e PN sequence.
- The process is transparent for a 802.16e MS.