

**PROVISIONAL APPLICATION COVER SHEET**

This is a request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53(c).

06909 U.S. PTO  
071207

Docket Number 06720.6055		Type a plus sign (+) inside this box =		+
<b>INVENTOR(s)/APPLICANT(s)</b>				
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<b>TITLE OF INVENTION (500 characters max)</b>				
<b>FRAME STRUCTURE FOR IEEE 802.16m</b>				
<b>CORRESPONDENCE ADDRESS</b>				
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<b>ENCLOSED APPLICATION PARTS (check all that apply)</b>				
<input checked="" type="checkbox"/> Specification: 9 Pages <input type="checkbox"/> Drawing(s): Sheets/ Figures <input type="checkbox"/> Other: Pages;				
<b>METHOD OF PAYMENT</b>				
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the Provisional Application filing fees  <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any deficiency or credit any overpayment in fees to Deposit Account Number 06-0916.		<b>PROVISIONAL FILING FEE</b> \$200.00  Total Number of Pages of specification, drawings, sequence or computer listing, or other papers 9. If more than 100 pages, add \$250 for each additional 50 pages or fraction thereof.  <div style="text-align: right;">\$ (Size Fee)</div> Reduction by ½ For Small Entity     \$  <b>TOTAL FILING FEE</b> \$200.00		

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

- No.  
 Yes, the name of the U.S. Government agency and the Government contract number are:

Respectfully submitted on behalf of the patent practitioners associated with Customer Number 22,852,

SIGNATURE 

Date July 12, 2007

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- Additional inventors are being named on separately numbered sheets attached hereto.

**PROVISIONAL APPLICATION FILING ONLY**

# **Frame structure for IEEE 802.16m**

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## Introduction

- # New standard 802.16m is being developed for next generation wireless communication
  - Enhanced spectrum efficiency
  - Higher speed
- # Backward compatibility
  - 802.16m shall be backward compatible with legacy system 802.16e
  - Systems based on IEEE 802.16m and 802.16e systems shall be able to operate on the same RF carrier, with the same channel bandwidth; and should be able to operate on the same RF carrier with different channel bandwidths.
- # It is necessary to devise the frame structure of 802.16m frame supporting backward compatibility



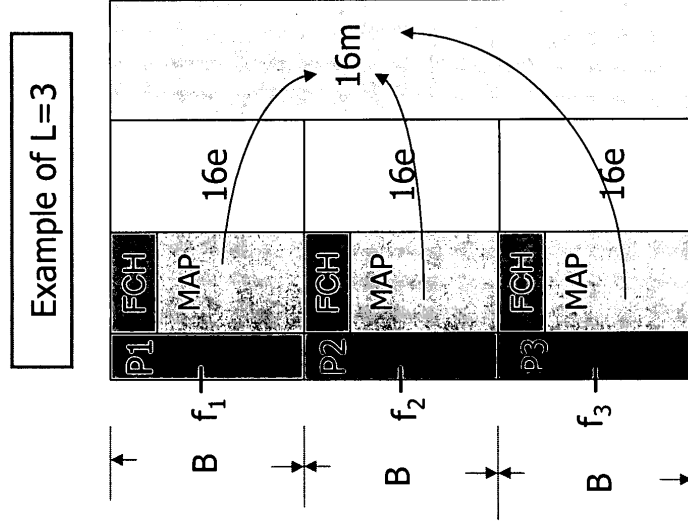
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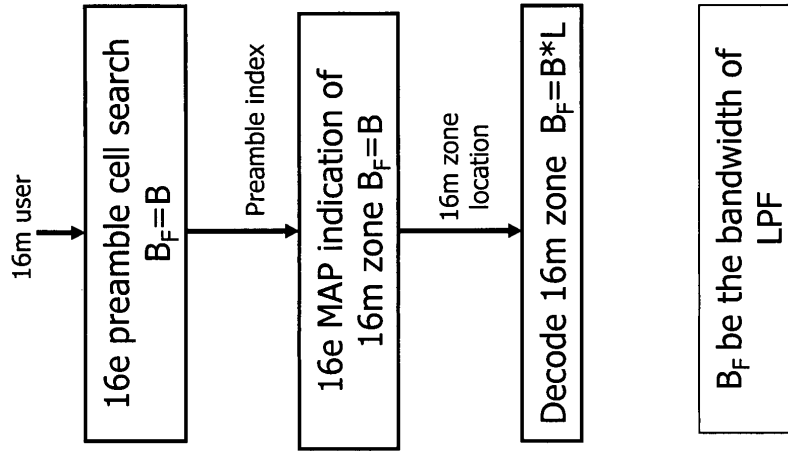
## Proposed structure A

- # Frequency planning
  - Occupy the same band class as 802.16e
  - A 802.16m channel uses multiple (L) contiguous 802.16e channels
  - L BS's share the same 802.16m zone with  $L*B$  bandwidth ( 802.16e BW with B)
- # Backward compatibility
  - 16e preamble/FCH/MAP are kept unchanged
  - Only new DL (UL) 16m zones are appended (resource allocation is done by BS cooperation)
- # BS cooperation
  - 16e BS's transmit 16e data using subcarriers with BW B of their own, while share subcarriers with BW  $B*L$  in 16m zone.



## Proposed structure A

- Cell search by 16m user
  - Baseband BW of  $L \cdot B$
  - Detect 16e preamble with BW of B
  - Decode FCH/MAP to decide the location of 16m zone
  - Retrieve 16m zone with BS with BW of  $L \cdot B$



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