

U.S. PTO
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PROVISIONAL APPLICATION COVER SHEET

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

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06009
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Docket Number 06720.6055		Type a plus sign (+) inside this box =		+
INVENTOR(s)/APPLICANT(s)				
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)	
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TITLE OF INVENTION (500 characters max)				
FRAME STRUCTURE FOR IEEE 802.16m				
CORRESPONDENCE ADDRESS				
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P., Customer Number 22,852				
ENCLOSED APPLICATION PARTS (check all that apply)				
<input checked="" type="checkbox"/> Specification: 9 Pages <input type="checkbox"/> Drawing(s): Sheets/ Figures <input type="checkbox"/> Other: Pages;				
METHOD OF PAYMENT				
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the Provisional Application filing fees		PROVISIONAL FILING FEE \$200.00		
<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.		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.		
		\$ (Size Fee)		
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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

1. Frame structure for IEEE 802.16m

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2007/07/11

119

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

Proposed structure A

Frequency planning

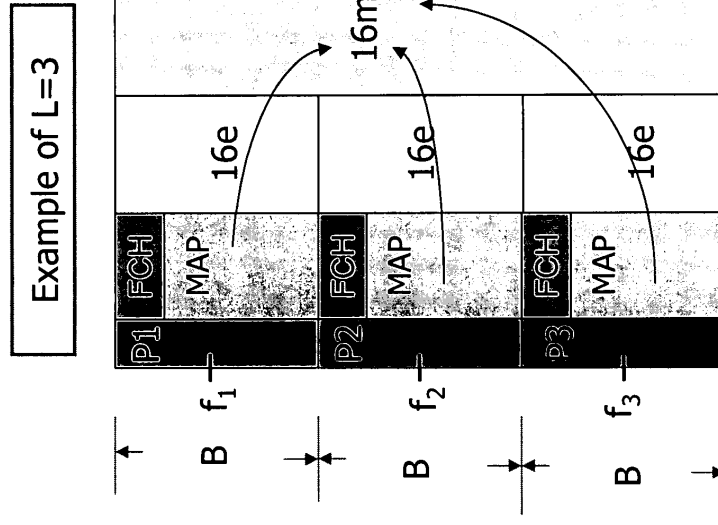
- Occupy the same band class as 802.16e
- A 802.16m channel uses multiple (L) contiguous 802.16e channels
- L BS's share the same 802.16m zone with $L*B$ bandwidth (802.16e BW with B)

Backward compatibility

- 16e preamble/FCH/MAP are kept unchanged
- Only new DL (UL) 16m zones are appended (resource allocation is done by BS cooperation)

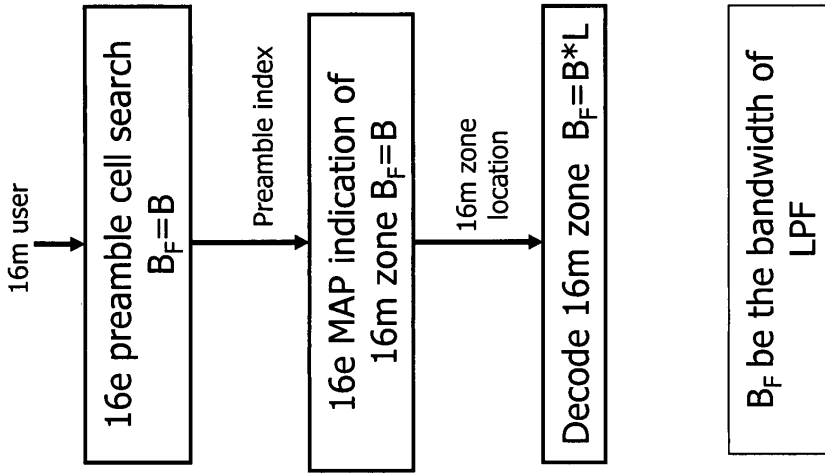
BS cooperation

- 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 $L*B$
 - 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 $L*B$



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