

**Ericsson Inc. and Telefonaktiebolaget LM  
Ericsson, Petitioner**

**v.**

**Intellectual Ventures II LLC, Patent Owner**

**IPR2014-01195  
U.S. Patent No. 7,787,431**

**Exhibit 2006**

Before Jameson Lee, Justin Busch and J. John Lee,  
*Administrative Patent Judges*

## Grounds for Institution

- Ground #1: Claims 1 and 2 for obviousness over the combination of Li, Yamaura, Zhuang, and Beta/UTRA
- Ground #2: Claims 1 and 2 for obviousness over the combination of Li, Yamaura, Mody, Nobilet, Popovic, and Beta/UTRA

(Institution Decision at 18)

# Independent Claim 1 of the '431 Patent

In a variable bandwidth wireless communication system communicating under multiple different communication schemes that each have a different bandwidth, a process performed by a base station of generating an information bearing signal for wireless transmission, the process comprising:

utilizing by the base station a number of subcarriers to construct a variable bandwidth wireless channel;  
utilizing by the base station groups of subcarriers, wherein each group includes a plurality of subcarriers;  
maintaining a fixed spacing between adjacent subcarriers;

adding or subtracting, by the base station, groups of subcarriers to scale the variable bandwidth wireless channel and achieve an operating channel bandwidth; and

wherein a core-band, including a plurality of subcarrier groups, substantially centered at an operating center frequency of the different communication schemes, is utilized by the base station as a broadcast channel carrying radio control and operation signalling, where the core-band is substantially not wider than a smallest possible operating channel bandwidth of the system; and

wherein the information bearing signal has a primary preamble sufficient for basic radio operation and wherein: the primary preamble is a direct sequence in the time domain with a frequency content confined within the core-band, or is an orthogonal frequency-divisional multiplexing (OFDM) symbol corresponding to a particular frequency pattern within the core-band; and

wherein properties of the primary preamble comprise:

an autocorrelation having a large correlation peak with respect to sidelobes;

a cross-correlation with other primary preambles having a small cross-correlation coefficient with respect to power of other primary preambles; and

a small peak-to-average ratio; and

wherein a large number of primary preamble sequences exhibit the properties.

**Ex. 1001, '431 patent**

# Dependent Claim 2 of the '431 Patent

The process of claim 1, wherein the information bearing signal is:

an orthogonal frequency division multiple access (OFDMA) signal; and is

utilized in a downlink with a duplexing technique that is either Time Division Duplexing (TDD) or Frequency Division Duplexing (FDD).

**Ex. 1001, '431 patent**

# Ground #1: Petitioner's Prior Art Combination for Claim 1

- 1.0 In a variable bandwidth wireless communication system communicating under multiple different communication schemes that each have a different bandwidth,
- 1.1 a process performed by a base station of generating an information bearing signal for wireless transmission, the process comprising:
- 1.2 utilizing by the base station a number of subcarriers to construct a variable bandwidth wireless channel;
- 1.3 utilizing by the base station groups of subcarriers, wherein each group includes a plurality of subcarriers;
- 1.4 maintaining a fixed spacing between adjacent subcarriers;
- 1.5 adding or subtracting, by the base station, groups of subcarriers to scale the variable bandwidth wireless channel **and achieve an operating channel bandwidth**; and

#### Alleged prior art

	Li
	Yamaura
	Beta
	Zhuang

**Patent Owner Response at pp. 22-23**

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