

Commissioner's Decision #1413  
Décision du Commissaire #1413

TOPIC: O-00 Obviousness

SUJET: O-00 Évidence

Application No: 2,584,375  
Demande no: 2,584,375

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,584,375 having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423), has consequently been reviewed in accordance with Paragraph 30(6)(c) of the *Patent Rules*. The recommendation of the Board and the decision of the Commissioner is to refuse the application.

Agent for the Applicant

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## INTRODUCTION

- [1] This recommendation deals with a review of the rejection under subsection 30(3) of the *Patent Rules* of patent application number 2,584,375 entitled “Method of Controlling a Plurality of Internal Antennas in a Mobile Communication Device.” The Applicant is Research In Motion Limited.
- [2] The application pertains to the field of mobile communications, and in particular, to the control of multiple antennas co-located in a single mobile device. The application discloses a method and a device for determining the received signal strength from a first and second antenna, and generating a resultant signal based on determining which of the two received signals is the stronger signal.
- [3] For the reasons that follow, we recommend that the application be refused.

## PROCEDURAL HISTORY

- [4] The application was filed on October 17, 2005. Examination of the application culminated in the issuance of a Final Action (FA) dated October 29, 2014, rejecting the application on the grounds of obviousness and indefiniteness. In its response to the FA, the Applicant submitted proposed claims and arguments in favour of their patentability.
- [5] The application was forwarded to the Patent Appeal Board on May 14, 2015 with a Summary of Reasons (“SOR”) setting out why the Examiner considered claims 1-8 on file to be defective for obviousness. The SOR was forwarded to the Applicant on July 7, 2015.
- [6] In a letter dated June 29, 2015, the Applicant indicated that it would not be providing written submissions in response to the SOR, and further, that it did not wish to participate in an oral hearing.
- [7] The present panel was formed to review the application under paragraph 30(6)(c) of the *Patent Rules*. In a letter dated July 25, 2016 [the “Panel Letter”], we set out our preliminary analysis and rationale as to why, based on the record before us, claims 1-8

are obvious and do not comply with subsection 28.3 of the *Patent Act*. The Panel Letter also offered the Applicant an opportunity to be heard.

- [8] In a letter dated September 1, 2016, the Applicant declined to make any further submissions in response to the Panel Letter, and declined the offer of a hearing.

## ISSUE

- [9] The issue addressed in this recommendation is whether claims 1-8 are obvious, contrary to subsection 28.3 of the *Patent Act*.

## LEGAL PRINCIPLES

### *Obviousness*

- [10] The *Patent Act* requires that the subject matter of a claim not be obvious. Subsection 28.3 of the Act provides as follows:

28.3 The subject matter defined by a claim in an application for a patent in Canada must be subject matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

(a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

- [11] In *Apotex Inc v Sanofi-Synthelabo Canada Inc*, 2008 SCC 61 at para. 67, the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach:

- (1)(a) Identify the notional "person skilled in the art";
- (b) Identify the relevant common general knowledge of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;

- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

## ANALYSIS

### *Step 1a- Identify the notional person skilled in the art*

- [12] The Panel Letter identified the person skilled in the art as an individual or design team comprising one or more electrical engineers familiar with the physical design of portable radio transceiver antennas and radio signal processing.

### *Step 1b - Identify the relevant common knowledge (CGK) of that person*

- [13] The Panel Letter (page 4) set out the relevant CGK of the person skilled in the art:
- a) Knowledge of basic signal processing and antenna theory, including various antenna design parameters (e.g. widths, lengths, loop shapes, polarization, notches, etc.) and common internal mobile antenna designs (e.g., slot, loop, planar, or patch antennas);
  - b) Knowledge of mobile device antenna limitations, such as the common use of internal antennas, the effect of a user's hands or body on antenna reception, and mobile device form, i.e., small size, low power, compact shape, and ease of portability;
  - c) Knowledge of diversity techniques used in communication systems to improve reliability, by providing redundant communication paths to counter disturbances such as fading, multi-path, noise, transmission loss, bit errors, etc.. Common diversity techniques in wireless applications include spatial (using 2 or more antennas), polarization, frequency, and time;
  - d) Knowledge of using antenna diversity in a wireless device by choosing the best signal, or combination of signals, received from multiple antennas, to improve antenna performance in situations of hand or body shadowing; and
  - e) Knowledge of using antenna diversity in a mobile telephone by selecting the best signal quality based on the received signal strength from two or more separated antennas or two or more antennas with different polarizations.

### *Step 2 – Identify the Inventive Concept of the claims in question or if that cannot readily be done, construe it*

- [14] As we set out in the Panel Letter, the inventive concept of claim 1 is:
- determining a strength of a first received signal via a first antenna disposed substantially in a plane and having a first polarity;

- determining a strength of a second received signal via a second antenna disposed substantially co-planar with the first antenna and having a second polarity substantially orthogonal to the first polarity; and
- based on determining that one of the first signal and the second signal has a stronger signal, generating a resultant received signal from the one of the first and second signals.

[15] The Panel Letter addressed the features of the remaining claims. We noted that independent claims 6 and 8 defined different embodiments of the inventive concept of claim 1, and that dependent claims 2-5 and 7 defined techniques commonly known in the art of signal processing. In its response to the FA, the Applicant did not identify any particular differences or inventive features of claims 2-8.

[16] Accordingly, as set out in the Panel Letter, all the claims will either stand or fall together based on the outcome of the analysis for claim 1.

*Step 3 - Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed*

[17] The FA cited three relevant documents forming the state of the art:

|                     |                |                  |
|---------------------|----------------|------------------|
| D1: US 2002/0106995 | August 8, 2002 | Callaway         |
| D3: US 2002/0085643 | July 4, 2002   | Kitchener et al. |
| D6: WO96/08089      | March 14, 1996 | Mogensen         |

[18] The Panel Letter accepted the Applicant's identification of the differences between the inventive concept of claim 1 and the combination of D1, D3 and D6 ("the state of the art") as follows:

Determining a strength of a first received signal via a first antenna and determining a strength of a second received signal via a second antenna, and generating a resultant received signal from (at least) the one of the first and second signals, and the generation being based on based on determining that one of the first signal and the second signal has a stronger signal.

*Step 4: Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?*

[19] For the reasons provided below, and as previously provided in the Panel Letter, the panel considers the claims on file to be obvious to the skilled person.

[20] Regarding claim 1, the panel considers that the skilled person would see the differences to be a variation on the CGK principle of antenna (spatial) diversity applied to a mobile device, wherein a signal, or combination of signals, received from multiple separated antennas within the device, is selected based on received signal strength, and used as the resultant signal. As addressed in the Panel Letter, both D1 and D6 disclose this principle as CGK in the mobile communication arts.

[21] In our view, the skilled person would also rely on their CGK to select the signal based on the strongest signal strength, as this is a typical and well known goal of a diversity system in the radio frequency power domain, i.e. choose, from the two or more redundant signal paths, the signal with the greatest received power or signal strength. The strongest signal is commonly understood to be the “best” signal to use.

[22] In the response to the FA (pages 4 to 6), the Applicant submitted that the differences identified in Step 3 would not be obvious. In the Panel Letter (pages 7-8), we addressed these concerns, and determined that the differences would be obvious to the skilled person. As noted at the outset of this recommendation (paragraph 8, above), the Applicant did not provide any reply or response to the Panel Letter or the reasoning it provided.

[23] Regarding claims 2-8, as claim 1 has been found to be obvious, we similarly consider that the matter of claims 2-8 would also be obvious to the person skilled in the art as these claims do not define any further inventive limitation to the obvious matter of claim 1, either alone or in combination.

[24] Therefore, claims 1-8 on file are obvious, contrary to section 28.3 of the *Patent Act*.

#### *Proposed Claims*

[25] Proposed claims 1-8 were submitted by the Applicant in response to the FA. In accordance with subsection 30(6)(b) of the *Patent Rules*, the proposed amendment is “considered not to have been made”.

[26] The proposed claims primarily differ from the claims on file by the addition of the expression “at least” to independent claims 1, 6 and 8.

[27] As we set out in the Panel Letter, since the proposed claims do not define any further inventive concept to the claims on file, the obviousness defect of the claims on file would not be overcome if the proposed claims were adopted. Therefore, the panel does not consider that the proposed claims meet the requirements of a “necessary” amendment under subsection 30(6.3) of the *Patent Rules*.

## **RECOMMENDATION OF THE BOARD**

[28] For the reasons given in this recommendation, and as previously provided to the Applicant in the Panel Letter dated July 25, 2016 (which the Applicant’s response of September 1, 2016 did not address), we recommend that the application be refused because the claims on file are obvious, contrary to subsection 28.3 of the *Patent Act*.

[29] We are also not satisfied that specific amendments proposed by the Applicant are necessary for compliance with the *Patent Act* and *Patent Rules*.

Andrew Strong  
Member

Ed MacLaurin  
Member

Tatjana Kremer  
Member

**DECISION**

[30] I concur with the conclusions and recommendation of the Patent Appeal Board that the application be refused because claims 1-8 on file are obvious, contrary to subsection 28.3 of the *Patent Act*.

[31] Therefore, in accordance with section 40 of the *Patent Act*, I refuse to grant a patent on this application. Under section 41 of the *Patent Act*, the Applicant has six months within which to appeal my decision to the Federal Court of Canada.

Johanne Bélisle  
Commissioner of Patents

Dated at Gatineau, Quebec,  
this 25<sup>th</sup> day of October, 2016