



# Mobile / Wireless Patents in Litigation

**1Q 2012**

## **I. 3G Mobile Patent**

## **II. 4G LTE Patent**

## **III. RFID Patent**

## **IV. NFC Patent**

# I. 3G Mobile Patent

# 1. Samsung Patent for Apple Lawsuit: Is US 7706348 an Essential Patent for 3G Smartphone?

US 7706348, titled “Apparatus And Method For Encoding/Decoding Transport Format Combination Indicator In CDMA Mobile Communication System”, is one of key patents that is used to sue Apple. Recently, Apple claimed that Samsung violated FRAND commitments specified in ETSI’s IPR policy.

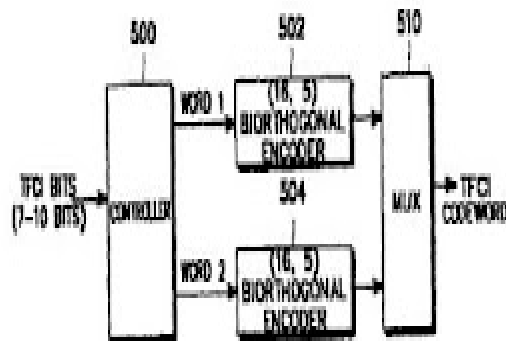


FIG. 5A  
(PRIOR ART)

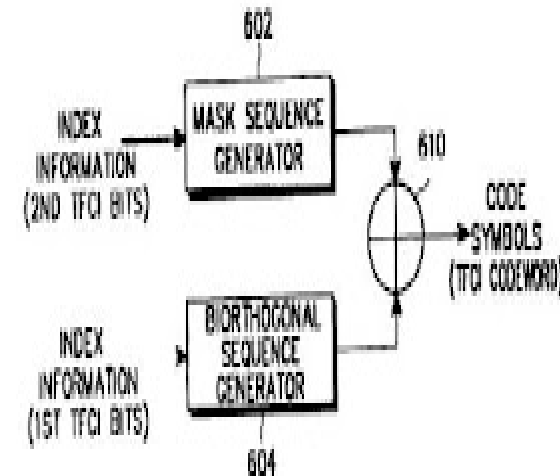


FIG. 6

## 1. Samsung Patent for Apple Lawsuit: Is US 7706348 an Essential Patent for 3G Smartphone? -2



An essential patent is defined as patent that contain one or more claims that are infringed by the implementation of a specification for standardized technology. Thus, if a 3G Smartphone product is implemented following the standard specifications, it should infringe some essential patents.

US 7706348 relates to an encoder for transmitting a transport format combination indicator (TFCI). It is based on Samsung's proposed TFCI coding scheme, which is a part of TS 25.212 specification during the 3GPP's standardization process. Even if the proposal was not accepted as a standard, it is widely adopted by Smartphone manufactures.

The issue is whether a patent proposed during a standardization process, but not specified in the standards, could be an essential patent.



## II. 4G LTE Patent

## 2.1 Samsung's LTE Patent War Against Apple



AnS. Korea's major IT news paper ETNEWS reported that Samsung started to investigate a possible patent infringement for LTE technology adopted in Apple's next version of its tablet, iPad3 ([http://www.etnews.com/news/home\\_mobile/information/2568398\\_1483.html](http://www.etnews.com/news/home_mobile/information/2568398_1483.html)).

Because it is known that Apple's iPad3 uses Qualcomm's LTE chipsets, in case that Samsung sues Apple for LTE patent infringement, it could be possible that Apple may defend using exhaustion theory. The defense based on exhaustion theory, however, will depend on the existence of a cross-licensing agreement between Samsung and Qualcomm.

Another possible defense strategy may be a counter attack utilizing the acquired Nortel's LTE patents. Recent TechIPm's intensive research of LTE patents essential for LTE devices implementation (LTE Essential Patent Candidates 3Q 2011: <http://techipm-innovationfrontline.blogspot.com/2011/07/lte-essential-patent-candidates-2011-3q.html>), however, indicates that Nortel's LTE patent portfolio may not be strong enough for the counter attack.

## 2.1 Samsung's LTE Patent War Against Apple -2

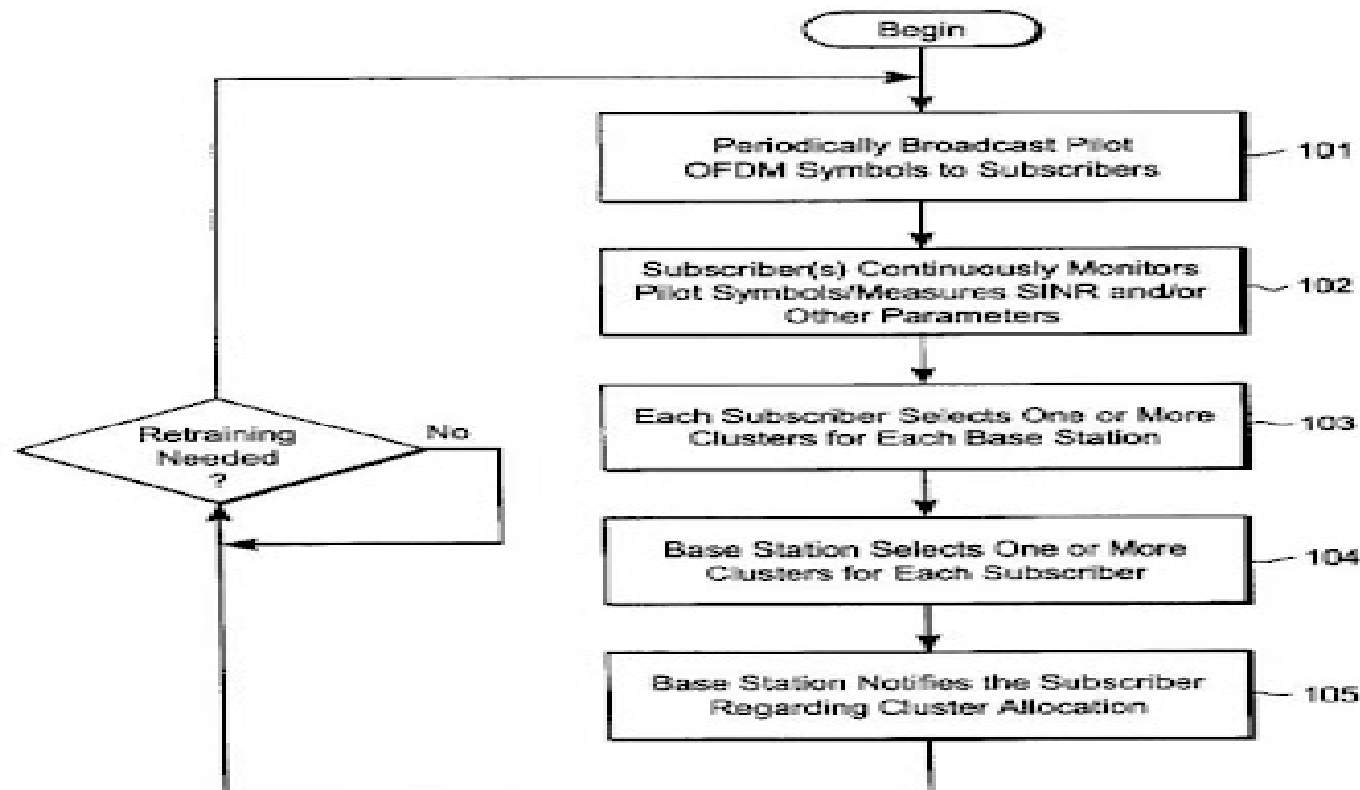


TechIPm's LTE patent research specifically focused on LTE mobile devices currently deployed in the US market (cf. the data in recent Article One's LTE patent report is mixed with infrastructure equipments patent information for the future EU market).



## 2.2 Adaptix's LTE Patent in Lawsuit Against Apple

Adaptix sued Apple for patent infringement of Apple's next version of its tablet, iPad3 based on its patents US6947748 and US7454212. The lawsuit was about LTE technology adopted in iPad3.



## 2.2 Adaptix's LTE Patent in Lawsuit Against Apple -2



Adaptix's patents US6947748 and US7454212 relate to channel evaluation method and adaptive modulation/coding scheme in OFDMA system utilizing reference signals (because Adaptix's patents were aimed at WiMAX (802.11e) standards originally, they used the term pilot signals instead of reference signals).

Even though the channel evaluation method and adaptive modulation/coding scheme in OFDMA system utilizing reference signals are described in LTE standard specifications (TS36.211, 212, 213, 300, and 321), preliminary comparative research between claims in the patents and specifications shows that Adaptix's patents US6947748 and US7454212 may not be essential for the implementation of iPad3.

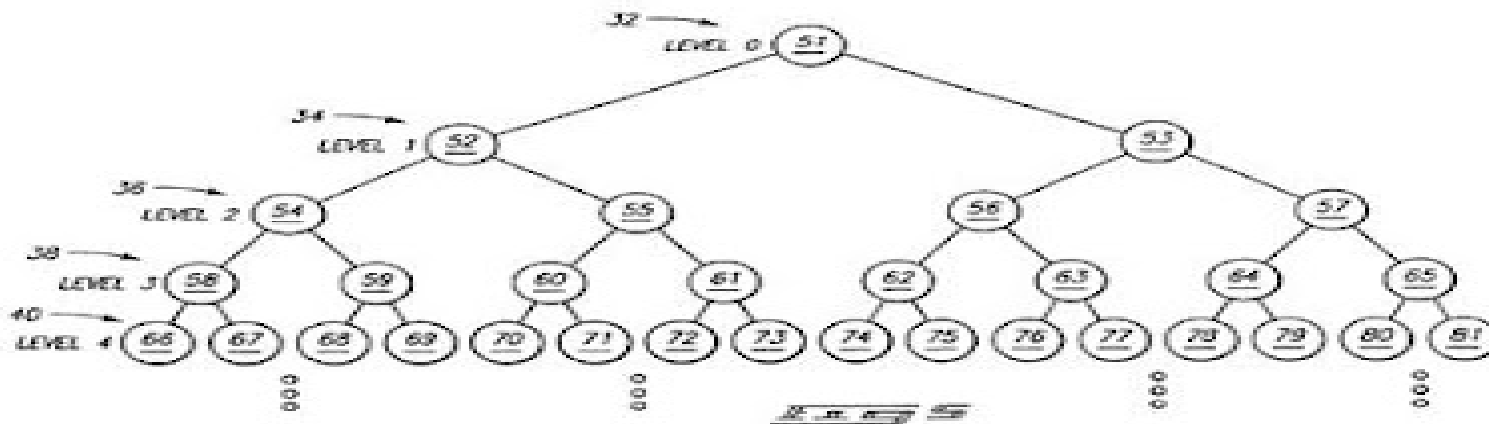
Further more, TechIPm's intensive research of LTE patents essential for LTE devices implementation (LTE Essential Patent Candidates 3Q 2011: <http://techipm-innovationfrontline.blogspot.com/2011/07/lte-essential-patent-candidates-2011-3q.html>), indicates that Qualcomm's LTE chipsets, which are used in iPad3, may be protected by Qualcomm's LTE patent portfolio.

# III. RFID Patent

### 3. RFID Patent in Lawsuit

USRE41531, titled “Communications Systems For Radio Frequency Identification”, is one of key patents that is used to sue retail companies (Macy’s, Gap, J.C. Penney etc.) by Round Rock Research LLC. Round Rock Research LLC is founded by John Desmarais, a famous patent attorney for his won in a \$1.52 billion verdict for Alcatel-Lucent against Microsoft in 2007.

Ref. RFID Patent Lawsuit Early Warning: <http://techipm-innovationfrontline.blogspot.com/2010/06/rfid-patent-lawsuit-early-warning.html>



### 3. RFID Patent in Lawsuit -2



USRE41531 relates to collision avoidance technology, which is essential in operating passive UHF RFID system (standardized as ISO 18000-6C & EPC Global Gen 2):

**BACKGROUND OF THE INVENTION:** When the interrogator sends a message to a transponder device requesting a reply, there is a possibility that multiple transponder devices will attempt to respond simultaneously, causing a collision, and thus causing an erroneous message to be received by the interrogator. For example, if the interrogator sends out a command requesting that all devices within a communications range identify themselves, and gets a large number of simultaneously replies, the interrogator may not be able to interpret any of these replies. Thus, arbitration schemes are employed to permit communications free of collision.

### 3. RFID Patent in Lawsuit -3



**SUMMARY OF THE INVENTION:** One aspect of the invention provides a method of establishing wireless communications between an interrogator and individual ones of multiple wireless identification devices. The method comprises utilizing a tree search method to establish communications without collision between the interrogator and individual ones of the multiple wireless identification devices. A search tree is defined for the tree search method. The tree has multiple levels respectively representing subgroups of the multiple wireless identification devices. The method further comprising starting the tree search at a selectable level of the search tree. In one aspect of the invention, the method further comprises determining the maximum possible number of wireless identification devices that could communicate with the interrogator, and selecting a level of the search tree based on the determined maximum possible number of wireless identification devices that could communicate with the interrogator. In another aspect of the invention, the method further comprises starting the tree search at a level determined by taking the base two logarithm of the determined maximum possible number, wherein the level of the tree containing all subgroups is considered level zero, and lower levels are numbered consecutively.

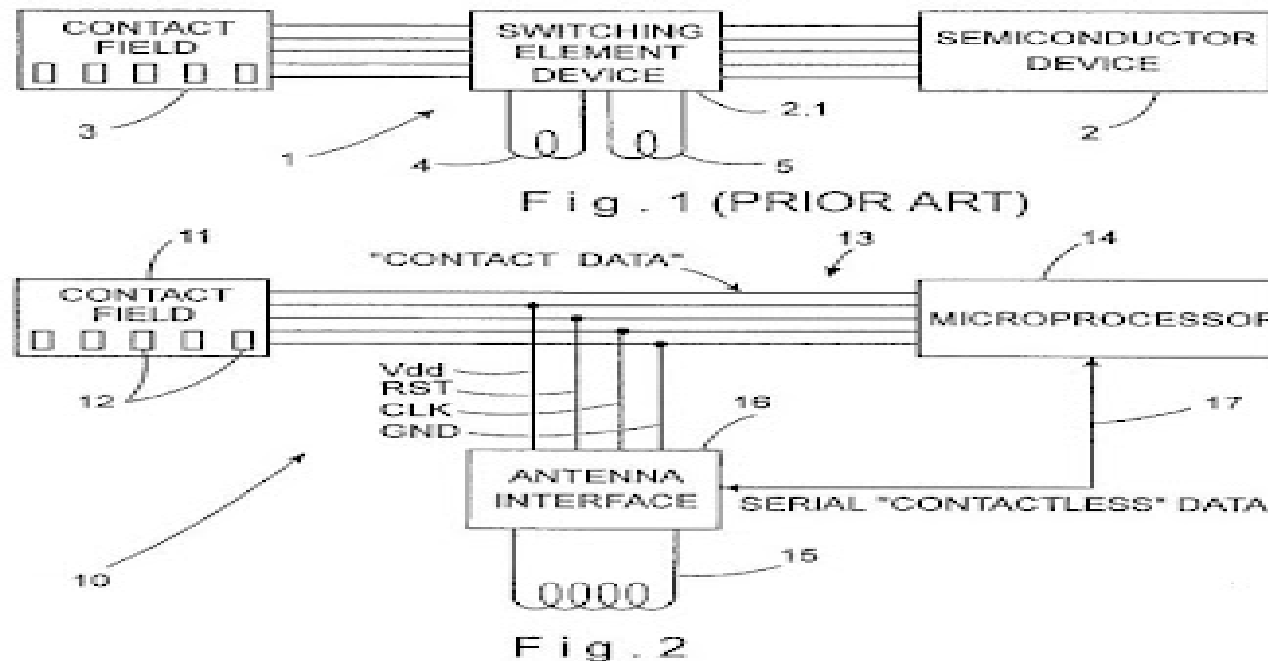


## IV. NFC Patent

## 4. NFC Patent in Lawsuit

Recently, On Track Innovations filed a lawsuit against T-Mobile for its patent US 6045043. On Track Innovations claimed that T-Mobile's smartphone services base on HTC Amaze 4G and the Nokia Astound violate its NFC technology.

US6045043 claimed fundamental functions of NFC in combination with other functions. The issue in litigation will be the claim construction for the limitation "contact and contactless modes of operation," especially the term "and."



## 4. NFC Patent in Lawsuit -2



Title: Contact/contactless data transaction card

### Summary:

Both "contact" and "contactless" devices are in the form of smart cards provided either with electrical contacts for effecting direct electrical contact with a card reader. When contactless data transmission is required, a coil antenna in the chip card is adapted to receive data from and transmit data to a reading device having a similar antenna. The invention relates to a data transaction device having an on-board processor for effecting both "contact" and "contactless" modes of data transfer, each conforming to different communications protocols. The invention provides a data transaction card wherein operating parameters associated with the communications protocols can be set by the manufacturer or user in accordance with customer requirements.

### Claim

1. A data transaction card having contact and contactless modes of operation, comprising:

- a semiconductor device for operating in said contact and contactless modes in accordance with a respective contact or contactless data communications protocol,
- a contact field including contacts fixedly connected to the semiconductor device during both said contact and contactless modes, and allowing data transmission between the contacts and the semiconductor device in accordance with said contact data communications protocol only during said contact mode,
- an antenna coil for allowing contactless data transmission between the antenna coil and the semiconductor device, in accordance with said contactless data communications protocol, and
- an antenna interface coupled to the antenna coil, to the semiconductor device and to at least some of the contacts in the contact field and being responsive to an electromagnetic field across the coil for effecting said contactless data transmission.

# Thank you!



- If you have any questions about TechIPm's products and services, please contact Dr. Alex G. Lee at [alexglee@techipm.com](mailto:alexglee@techipm.com)