# Exhibit N (Submitted Under Seal)

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3/22/2012

# Certificate of Translation

I hereby certify that this Korean to English translation of pages SAMNDCA10765465 and SAMNDCA10765466 document with the beginning Bates number SAMNDCA10765465 is an

of the document with the beginning Bates number SAMNDCA10765465 is an accurate and complete rendering of the contents of the source document to the best of my knowledge, except for the word "TRANSLATION" at the upper right corner of each translated page. I further certify that I translated said document and that I am fluent in both Korean and English.

BY:

Andrew Kim

Hello!

This is Jinho Park at ATMEL QUANTUM.

Thank you for taking an interest in our ATMEL QUANTUM products. Below is an outline of the characteristics of our products.

- 1. Instead of the conventional self-capacitance system, the more advanced mutual-capacitance system is used.
  - A. Under the conventional self system, there are as many sensors as there are channels. Under the mutual system, there are as many sensors as there are nodes. The number of nodes is calculated by multiplying the number of X-axes by that of Y-axes. Thus, the mutual system yields far more nodes (sensors) from the same number of channels and produces superior performance.
- 2. Complete solution
  - A. Ours is not a solution being developed tied to a phone development but a complete solution that readily provides performance merely by connecting it to a phone over the I2C communication link.
  - B. Unlike the competitors' products that require tunings (development in reality) through multiple f/w updates during an actual development period, our product needs almost no update via f/w change.
- 3. Simple ITO structure 2 layer, 1 layer solution
  - A. Instead of the conventional 3-layer (including the shield layer), we have the 2-layer and 1-layer solutions. Superior compared to the 3-layer solution in terms of price and yield.
- 4. QCP program
  - A. Superior inspection machines filter out in advance the defective units during mass-production. This blocks defective units from getting mounted on mobile phone sets in the first place, raising yield and preventing defects in advance.
  - B. In case of our competitors, they are only capable of running the types of tests such as the open-short test. As a result, their inspected ITO and ITO modules have defect rates ranging 2-3%. By comparison, the ITO and ITO modules inspected by our QCP program report almost no defect.
- 5. Experience with many ITO manufacturer
  - A. Compared to the competitors' products that function smoothly only with a particular ITO manufacturer, ours cowork well with many different ITO vendors. We have numerous actual mass production experiences with many manufacturers.
- 6. We have our own FAB.
  - A. Fabless companies cannot handle sudden surges in order volume, which is how the mobile phone industry operates. In case of ATMEL, owning our FAB enables us to adequately handle sudden surges in order volume.

Attached file is material on mutual capacitance, which I explained briefly above, for your reference. If you have any questions, please do not hesitate to contact me at any time.

Best Regards, Jinho Park

Touch Sensing R&D Engineering Manager

ATMEL QUANTUM Embedded & Touch Solution Lab. E-mail: jinho.park@atmel.com Cellular: 82-10-2688-5556 From: Park, Jinho Sent: Friday, March 27, 2009 9:30 AM To: 'knocklee@samsung.com' Cc: Yu, Hyun-Seok Subject: Requested Material on Atmel Quantum's Mutual Capacitance Hello, Lead Heon Seok Lee! This is Jinho Park at Atmel Quantum. As I told you at the meeting, the touch screen implemented in Apple's iPhone has superior performance for the following reasons. 1) Sensor structure > Mutual capacitance 2) Line-driver → High voltage driving Attached file is the material you requested. Please keep for your reference. Please pass it along to those who need it. If you have questions, please contact me any time at my contact information below. Thank you. Best Regards, Jinho Park Touch Sensing R&D Engineering Manager \_\_\_\_\_\_ **ATMEL QUANTUM** Embedded & Touch Solution Lab. E-mail: jinho.park@atmel.com

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Cellular: 82-10-2688-5556

안녕하세요!

ATMEL QUANTUM의 박진호입니다.

저희 ATMEL QUANTUM의 제품에 관심을 가져 주시니 감사 드립니다.

저희 제품의 특징을 간단하게 정리하면 아래와 같습니다.

# 1. 기존의 self-capacitance방식이 아닌 진보된 mutual-capacitance방식을 사용

A. 기존의 self방식은 channel숫자가 sensor수가 되지만 mutual방식은 X축과 Y축을 곱한 숫자인 node의 숫자가 sensor수가 됨으로 인하여 같은 channel숫자에서 월등히 많은 node(sensor)를 확보할 수 있으므로 뛰어난 성능을 확보할 수 있음

### 2. 완성된 solution

- A. Phone의 개발에 따라 같이 개발하는 solution이 아닌 완성된 solution으로서 phone에 붙여서 I2C통신만 제대로 연결되면 바로 성능이 확보됨.
- B. 실제 개발 기간 중 번번히 f/w update를 통해 tuning(사실상 개발)을 해야 하는 타사 대비 f/w change 에 의한 update가 거의 필요 없음.

# 3. Simple ITO structure - 2 layer, 1 layer solution

A. 기존의 3 layer (shield layer포함)이 아닌 2 layer및 1 layer solution을 가지고 있음. 3 layer solution대 비 가격, yield면에서 우수함

### 4. QCP program

- A. 우수한 검사기를 통하여 mass-production시 불량시료를 사전에 filtering하여 phone set에 불량시료가 장착되는 것을 사전에 차단하여 수율을 높여 주고 불량을 사전에 예방함
- B. 경쟁사의 경우는 open-short정도의 검사만 가능하여 검사기를 통과하여 나온 ITO및 ITO module의 경우에도 약 2-3%의 불량이 발생하나 QCP program에 의해 출하된 ITO및 ITO module의 경우는 거의 불량이 발견되지 않고 있음

### 5. Experience with many ITO manufacturer

A. 특정 ITO manufacturer에서만 원활하게 동작되는 타사 대비 많은 ITO vendor와 co-work이 가능하며 실제 많은 업체와 양산경험이 있음

## 6. 자체 보유한 FAB이 있음

A. Fabless회사의 경우 mobile의 특성상 한 순간에 터져 나오는 물량을 감당할 수 없으나 ATMEL의 경우는 자체FAB을 보유하여 순간적으로 터져 나오는 물량을 충분히 소화할 수 있음

첨부file은 간단하게나마 설명 드린 mutual capacitance에 관련된 자료입니다. 참조 바랍니다. 의문사항 있으시면 망설이지 마시고 언제든지 연락 주시기 바랍니다.

Best Regards,

Jinho Park

**Touch Sensing R&D Engineering Manager** 

**ATMEL QUANTUM** Embedded & Touch Solution Lab. E-mail: jinho.park@atmel.com Cellular: 82-10-2688-5556 From: Park, Jinho Sent: Friday, March 27, 2009 9:30 AM To: 'knocklee@samsung.com' Cc: Yu, Hyun-Seok Subject: 요청하신 Atmel Quantum 의 Mutual Capacitance 관련자료입니다. 안녕하세요. 이헌석 책임님! Atmel Quantum의 박진호입니다. meeting에서 말씀 드렸듯이 Apple사의 iPhone에서 구현된 Touch Screen의 performance의 우수성은 아래 사항에 서 나온 것입니다. 1) Sensor 구조 → Mutual capacitance 2) Line-driver → High voltage driving 첨부 file은 요청하신 자료입니다. 참조 바랍니다. 필요하신 분께 공유 부탁 드립니다. 의문사항 있으시면 아래 연락처로 언제든 연락 주시기 바랍니다. 감사합니다. Best Regards, Jinho Park Touch Sensing R&D Engineering Manager \_\_\_\_\_ **ATMEL QUANTUM** Embedded & Touch Solution Lab. E-mail: jinho.park@atmel.com Cellular: 82-10-2688-5556

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