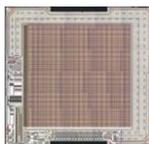


REPORT  
SAMPLE

# Capacitive Fingerprint Sensors

## *Technology and Patent Infringement Risk Analysis*



**Component A**  
*iPhone 5S*



**Component B**  
*Ascend Mate 7*



**Component C**  
*Galaxy S5*



**Component D**  
*Galaxy S6*



2405 route des Dolines, 06902 Sophia Antipolis, France  
Tel: +33 489 89 16 20  
Web: <http://www.knowmade.com>



21 rue La Nouë Bras de Fer, 44200 Nantes, France  
Tel: +33 240 18 09 16  
Web: <http://www.systemplus.fr>

# AUTHORS

REPORT  
SAMPLE



- Headquartered in Sophia Antipolis, France, **Knowmade** is a Technology Intelligence and IP Strategy consulting company. We provide patent search, patent analysis, patent valuation, IP landscape, scientific literature landscape, technology scouting, technology transfer and technology tracking. Our service offer consists of custom studies, on-demand tracking, analysis reports and strategy consulting. Knowmade combines information search services, scientific expertise, powerful analytics and visualization tools, and proprietary methodologies for analyzing patents and scientific information. With a solid focus on Microelectronics, Compound Semiconductors, LED, MEMS, Nanotechnology and Biotechnology, **Knowmade** supports research laboratories, industrial companies and investors in their business development.
- Headquartered in Nantes, France, **System Plus Consulting** is specialized in technology and cost analysis of electronic components and systems in the fields of Integrated Circuits, Power Devices and Modules, MEMS & Sensors, LED, Image Sensors, Packaging including wafer level, Electronic Boards and Systems. The company offers custom reverse costing analyses, standard reverse costing reports and costing tools. These analyses are used by Purchasing Departments to measure their suppliers' cost structure, R&D Departments to confirm technological choices depending on their impact on costs, and Benchmarking/Marketing Departments to monitor the products on the market.

**Disclaimer** : Knowmade and System Plus Consulting are research firms that provide technical analysis and opinions. They do not provide any insight analyses or counsel regarding legal aspects or the validity of any individual patent. The research, technical analysis and/or work contained herein is not a legal opinion and should not be construed as such.

# TABLE OF CONTENTS



- Introduction** **p04**
- Scope of the Study p05
- Rationales for Choice p06
- Key Features of the Report p07
- Objectives of the Report p08
- Terminology for Patent Analysis p09
- Methodology p11
- Patent Search Strategy p13
- Companies Presentation** **p14**
- AuthenTec p15
- Apple p16
- Fingerprints Card p17
- Validity & Synaptics p18
- Products Presentation** **p19**
- Fingerprint Sensor Supply Chain p20
- TMDR92 – iPhone 5S p21
- FPC1020 – Ascend Mate 7 p22
- VAL004A8-T – Galaxy S5 p23
- B1202A0-01 – Galaxy S6 p24
- Executive Summary** **p25**
- Tear Down** **p30**
- Physical Analysis Methodology p31
- Fingerprint Sensor Characteristics p32
- Packaging p33
- Sensing Area p35
- Technology Comparison p36

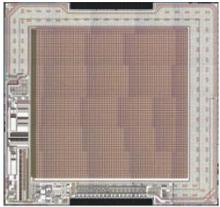
- Patent Analysis** **p37**
- Patent Infringement Risk Potential p38
- IP Portfolio p39
- TMDR92 – Apple iPhone 5S p40
- Patent Identification*
- Patent Infringement Risk*
- Conclusions*
- FPC1020 - Huawei Ascend Mate 7 p52
- Patent Identification*
- Patent Infringement Risk*
- Conclusions*
- VAL004A8-T - Samsung Galaxy S5 p72
- Patent Identification*
- Patent Infringement Risk*
- Conclusions*
- B1202A0-01 - Samsung Galaxy S6 p92
- Patent Identification*
- Patent Infringement Risk*
- Conclusions*
- Conclusions** **p111**
- Related Reports** **p114**

# INTRODUCTION

## Scope of the Study

REPORT  
SAMPLE

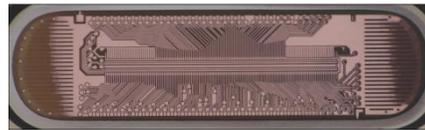
This report provides a technology and patent infringement risk analysis of 4 capacitive fingerprint sensors designed by Company X, Company Y and Company Z and included in smartphones : Apple iPhone 5S, Huawei Ascend Mate7 and Samsung Galaxy S5 and S6.



Component A  
(Company X)



Component B  
(Company Y)



Component C  
(Company Z)



Component B  
(Company Z)



This report is focused on some aspects presenting similar features between the 4 selected products and revealed by the reverse engineering performed by System Plus Consulting. These product features are only related to the fingerprint sensor die, design and packaging. They are not related to the ASIC. They are not related to the electrical circuit of the sensing area nor the signal process as those features are not accessible by a tear down of the device.

**Disclaimer:** This report does not provide detailed claim charts and legal opinions regarding patent infringements. The risks of patent infringement highlighted in this report require more in-depth legal assessments to be confirmed.

# INTRODUCTION

## Rationales for Choice



Fingerprint sensors using capacitive technology represent a fast growing market, and it can be linked to the development and integration of fingerprint scanners in smartphones and other electronic devices. The fingerprint sensor vendor IDEX forecasts an increase of 360% of the number of fingerprint sensor units in mobile devices and of the fingerprint sensor market between 2014 and 2017 (Source : N+1 Singer, IDEX, 2014).

Various devices (external fingerprint scanners, cars, phones, computers, keyboards and the like,...) integrating a capacitive fingerprint sensor have been available on the market since the late 90's. However, those sensors lacked efficiency and were difficult to use.

But **a new generation of capacitive fingerprint sensors has emerged in the last few years**. More efficient and easy to use, less expensive, they have been incorporated in the last generations of smartphones of companies like **Apple, Samsung** or **Huawei**.

**This market growth is supported by a new phase of IP development**, revealed by an increase in the number of new patents related to capacitive fingerprint sensor published since 2012 (Source : [Knowmade, 2015](#)).

**AuthenTec**, now part of **Apple**, is the 1<sup>st</sup> provider of fingerprint sensors for smartphone manufacturers (Fujitsu, Motorola, Philips, Apple,...). In 2013, for the 1<sup>st</sup> time, **Apple** included a fingerprint sensor in one of its devices, the iPhone 5S, following the acquisition of **AuthenTec**. In the last couple of years, other manufacturers relied upon other fingerprint sensors companies. In particular, the smartphone world leader **Samsung** choose a technology developed by **Synaptics (Validity)** and began to incorporate fingerprint scanners in its Galaxy products, including the Galaxy S5, in 2014. Launched in 2015, **Samsung's** Galaxy S6 also included such a fingerprint sensor but slightly different from the 1<sup>st</sup> generation. For its part **Huawei** choose the Swedish company **Fingerprint Cards** to equip its Ascend Mate 7 released in 2015.

**The fingerprint sensors found in the Apple iPhone 5S (AuthenTec), Huawei Ascend Mate 7 (Fingerprint Cards) and Samsung Galaxy S5 and S6 (Synaptics) represent 3 different technological choices but sharing common characteristics. Moreover, AuthenTec, Fingerprint Cards and Synaptics are the main actors in capacitive fingerprint sensing solutions for electronic devices. Thus the comparison of each fingerprint sensor with the technology developed by the two other companies would provide a deeper insight in the capacitive fingerprint sensor domain.**

# INTRODUCTION

## Key Features of the Report



- This report provides a deep insight on technology data and manufacturing processes (teardown analysis) of Component A, Component B, Component C and Component D components, and comparative studies of product features.
- It provides patents related to the target product features and held by Apple, Fingerprint Cards and Synaptics.
- It provides discussions on the potential patent infringement risks by comparing relevant patent claim elements to the target product features and manufacturing processes.
- This report also provides an extensive Excel database with all patents analyzed in this study (26 patent families including more than 100 patents). This database allows multi-criteria searches :
  - Patent publication number
  - Hyperlinks to the original documents
  - Priority date
  - Title
  - Abstract
  - Patent Assignees
  - Legal status of the patent

**Disclaimer** : This report does not provide any insight analyses or counsel regarding legal aspects or the validity of any individual patent. Knowmade and System Plus Consulting are research firms that provide technical analysis and opinions. The research, technical analysis and/or work contained herein is not a legal opinion and should not be construed as such.

# INTRODUCTION

## Objectives of the Report

---



- Provide an overview of technology data and manufacturing process of Component A, Component B, Component C and Component D components supplied by Apple (AuthenTec), Fingerprint Cards, Validity and Synaptics.
- Find the technical and manufacturing process similarities and differences of Component A, Component B, Component C and Component D components .
- Identify key patents held by Apple (AuthenTec), Fingerprint Cards and Synaptics (Validity), and related to the target product features and manufacturing processes.
- Find the link between patented technological solutions and marketed products.
- Identify the potential infringing parties, and help to find evidence of use.
- Identify potential risks of patent infringement, and identify the patents which require a more in depth legal assessment.

# INTRODUCTION

## Methodology

REPORT  
SAMPLE

### Teardown Analysis

- Package is analyzed and measured.
- The dies are extracted in order to get overall data: dimensions, main blocks, pad number and pin out, die marking.
- Setup of the manufacturing process.



### Comparative Study

- The similarities and differences of target of products are identified (product features and manufacturing processes).
- A set of product features and manufacturing processes is selected regarding their interest in terms of IP study.



### Patent Search

- Patents are extracted from Questel-Orbit worldwide patent database by using keyword-based queries.
- The selection of relevant patents is done manually by expert review of the subject-matter of inventions.
- The patents are manually categorized regarding the selected product features.



### Infringement Risks

- The links between the patented technologies and the target product features are established.
- The potential infringing parties of the target product are identified, and the potential risks of patent infringements are discussed.



# INTRODUCTION

## Methodology



- The data were extracted from the FamPat worldwide database (Questel-ORBIT) which provides 90+ million patent documents from 95 offices.
- The patents search was performed in September 2015, hence patents published after this date will not be available in this report.
- The patent selection was done manually.

**Number of selected patent families for capacitive fingerprint sensor technologies IP Investigation:**

**26 over a number of returned results > 900**

- The statistical analysis was performed with Questel Orbit IP Business Intelligence software.
- The patents were manually categorized using keyword analysis of patent title, abstract and claims, in conjunction with expert review of the subject-matter of inventions.
- The patents were organized according to FamPat's family rules (variation of EPO strict family): A *Patent Family* comprises patents linked by exactly same priority numbers (strict family), plus comparison of priority and application numbers, specific rules by country and information gathered from other sources (national files, legal status ...).

**Disclaimer:** *KnowMade is a research firm that provides technical analysis and technical opinions. The research, technical analysis and/or work contained herein is not a legal opinion and should not be construed as such.*

# INTRODUCTION

## Patent Search Strategy

REPORT  
SAMPLE

|   | Step   | Search Equation   | Results |
|---|--------|---|---------|
| Patent Related to Capacitive Fingerprint Sensor | Step 1 | (XXX OR XXX)/BI/CLMS/DESC AND (XXX OR XXX OR XXX)/BI/CLMS/DESC AND (XXX)/BI/CLMS/DESC AND (AUTHENTEC OR APPLE OR FINGERPRINT CARDS OR SYNAPTICS OR VALIDITY)/PA.FLD | >900    |
| Manual Selection                                | Step 2 | SELECTED PATENT FAMILIES  | 26      |

- + Truncation replacing any number of characters
- ? Truncation replacing zero or one character
- # Truncation replacing one character
- \_ Truncation for word that may have a space (ex: semiconductor, semi conductor)
- OR Finds references containing at least one of the words
- AND Finds references containing all words
- S Finds references containing the terms in the same sentence
- nD Finds references containing adjacent terms, regardless of the order, and may be separated by a maximum of n words

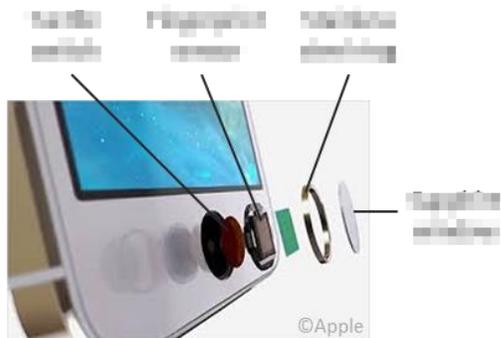
- nW Finds references containing adjacent terms, in the order specified, and may be separated by a maximum of n words
- ( ) Parentheses are necessary to combine different operators
- /TI/OTI Search in Title
- /BI Search in Title and Abstract
- /CLMS Search in Claims
- /DESC/ODES Search in Description
- /PA.FLD Search in Patent Assignees
- /IC Search in International Patent Classification (IPC)

# PRODUCTS PRESENTATION

## Component A – iPhone 5S

REPORT  
SAMPLE

The **Component A** fingerprint sensor from **Company A** is integrated in the home button of the **Apple iPhone 5S**. The iPhone 5S was launched in 2013. The sensor features a square shape with a resolution of xx pixels and pixel density of xx ppi. It uses a capacitive touch technology. The sensor array is composed of XXX capacitor plates mounted on a XXX substrate and covered by a protective XXX. The sensor die is XXX to a XXX substrate.



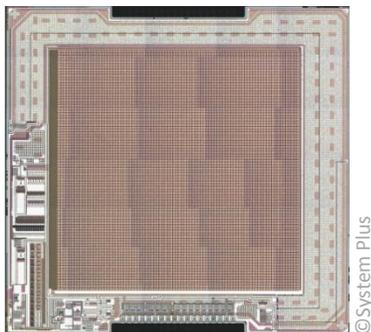
iPhone 5S home button assembly



iPhone 5S home button front view (left) and back view (right)



iPhone 5S home button assembly front view (top) and back view (bottom)



Component A fingerprint sensor die



iPhone 5S home button – cross section

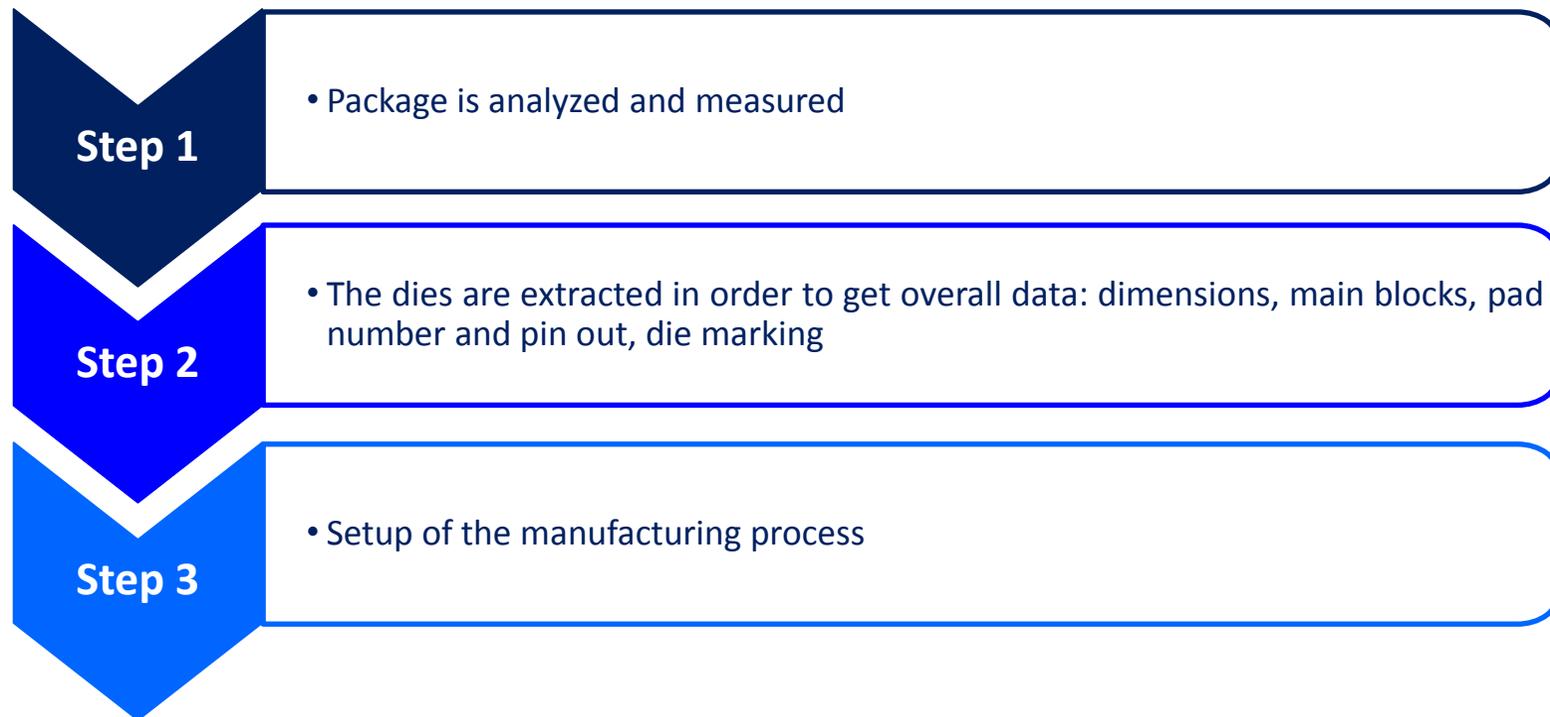
Source : System Plus

# TEAR DOWN

## Physical Analysis Methodology



This report is focused on some aspects presenting similar features between the 4 selected products and revealed by the reverse engineering performed by System Plus Consulting. These product features are only related to the fingerprint sensor die, design and packaging. They are not related to the ASIC.



# TEAR DOWN

## Packaging

REPORT  
SAMPLE

### Component A *Company X*

- Synthetic window
- Stainless steel ring
- Sensing die mounted to carrier PCB
- Protective steel plate



Figure 11 home button – cross section

### Component B *Company Y*

- LED Package and encapsulation molding
- Aluminum ring
- Stainless steel ring
- Sensing die mounted to carrier PCB and bonded to 4-Flux PCB by solder paste
- Protective window



Figure 12 home button – cross section

### Component C *Company Z*

- Plastic cover and aluminum ring
- Sensing die bonded to the ASIC die by support pillars and to the flux PCB by solder balls
- ASIC die supported by thin PCB
- Stainless steel plate



Figure 13 home button – cross section

### Component D *Company Z*

- Plastic cover and aluminum ring
- Sensing die bonded to the ASIC die by support pillars and to the flux PCB by solder balls
- ASIC die supported by assembly of rigid and flex PCB
- Aluminum plate



Figure 14 home button – cross section

# PATENT ANALYSIS

## Patent Infringement Risk Potential



**In this technology and patent infringement risk analysis, we have chosen the 3 following levels for characterizing the potential risk of patent infringement.**

- Unlikely infringement** The product features being investigated do not reproduce any elements of the patent's claims
- Likely infringement** The product features being investigated reproduced at least partly one element of the patent's claims
- Highly likely infringement** The product features being investigated reproduced at least one element of the patent's claims

# PATENT ANALYSIS

## Component A – Patent Identification

**REPORT  
SAMPLE**

### TEARDOWN



iPhone 5S home button assembly

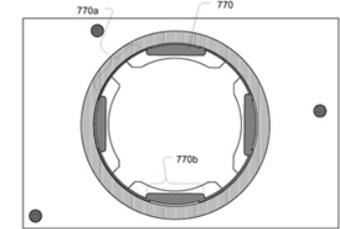
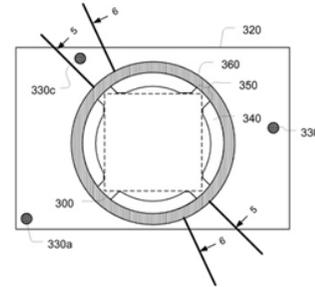
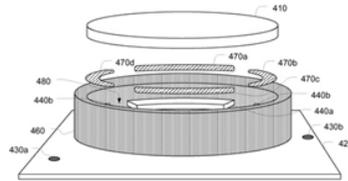


iPhone 5S home button – cross section

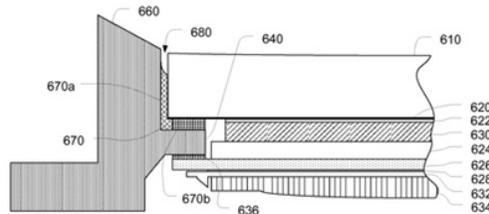
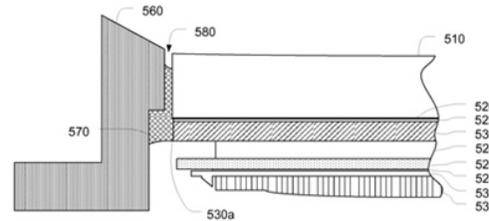
### IDENTIFIED PATENT FAMILIES

US [redacted] (2013) - [redacted]

Environmental [redacted]



An environmental [redacted]



The button assembly 500 includes [redacted]

[Redacted text describing the button assembly 500, including details about its layers and components.]

- Patent pending in the USA

# PATENT ANALYSIS

## Component A – Patent Infringement Risk

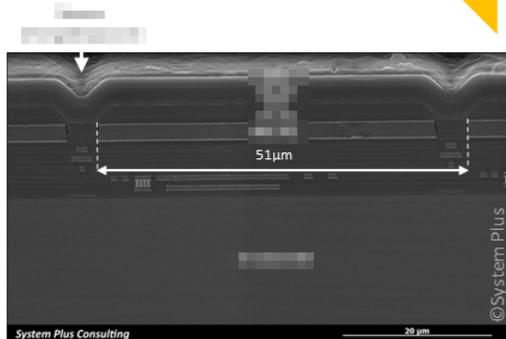
**REPORT  
SAMPLE**

### Component A Features Company X



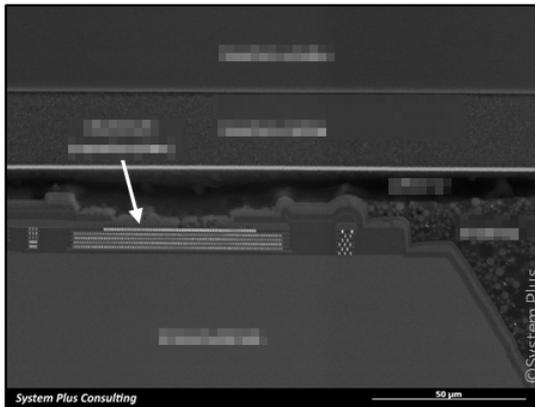
### Intellectual Property Rights Company Y

The sensing elements are covered with a layer of hydrophilic and oil repellent composite material.



Capacitors plate (cross section – SEM view)

The sensing surface is covered with an adhesion substrate (adhesion with the sensing surface material).



Sensor edge contact (cross section – SEM view)

Pending application : [WO 2015/080811](#)

Title : Method of manufacturing a capacitive device

Scope of the main claim :

A fingerprint sensing device comprising: a plurality of sensing elements, each of said sensing elements being configured to provide a signal indicative of an electrostatic coupling between said sensing element and a finger placed on a surface of the fingerprint sensing device, a first dielectric layer comprising a plurality of conductive sensing elements, and said dielectric layer comprising a plurality of conductive top surfaces of the first dielectric layer, said conductive top surfaces being distributed between and around said sensing elements with a spacing between adjacent conductive top surfaces being greater than the thickness of the hydrophilic layer arranged around the conductive top surfaces of the first dielectric layer, in said conductive top surfaces and between said conductive top surfaces of the sensing elements which said finger is placed, said top surfaces said top hydrophilic layer is more porous through use of said hydrophilic sensing device, hydrophilic material will remain in said recesses and is protected from wear and tear.

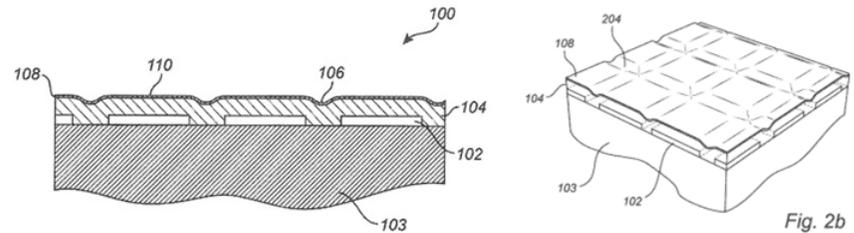


Fig. 2b

# PATENT ANALYSIS

## Component A – Patent Infringement Risk

**REPORT  
SAMPLE**

### Component A Features Company X

The fingerprint sensor is included in a housing with side walls and the sensing surface is positioned within the open upper end of the housing.

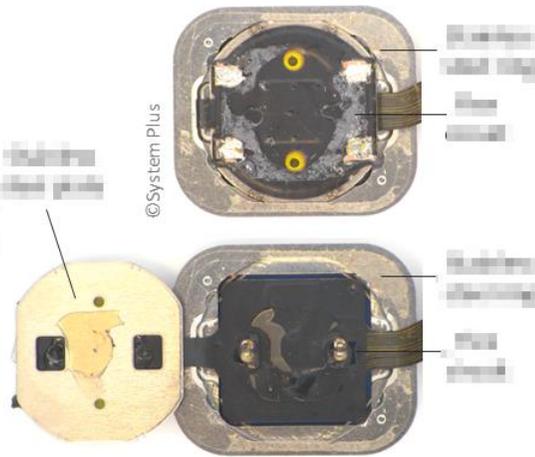


home button – cross section

The sensor is placed above the gasket.

The sensor comprises:

an integrated circuit (IC) mounted on a substrate, a flexible circuit substrate, a conductive contact pad, and a conductive contact pad mounted on the bottom plate.



home button assembly with gasket and tactile switch removed (top) and flex circuit unfolded (bottom)

**Highly Likely Infringement**

### Intellectual Property Rights Company Z

Granted patent : US [REDACTED]  
Pending applications : GB [REDACTED], DE [REDACTED], KR [REDACTED], TW [REDACTED]

Title : Fingerprint sensor [REDACTED]

Scope of the main claim :

An electronic device user interface comprising: a housing having side walls defining an open upper end having an open end surface and an inner surface defining a sensing area capable of sensing a finger contact; a sensor interface having a sensing area within the sensing area to receive a pressing within the open upper end of the housing and on one of a plurality of sensing elements; and a mechanism for triggering an event or controlling an operation of the electronic device, and an integrated circuit in communication with the sensing area.

Scope of dependent claims :

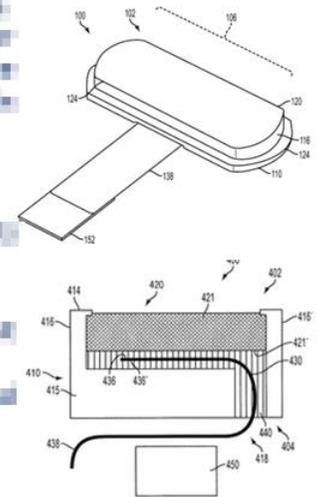
claims 3 and 4 : flexible circuit [REDACTED]

claim 6 : [REDACTED]

claim 7 : conductive pads and flexible circuit substrate [REDACTED]

claim 8 : the flexible circuit substrate is mounted around the bottom plate

claim 10 : the sensor has fingerprint sensor



# CONCLUSIONS

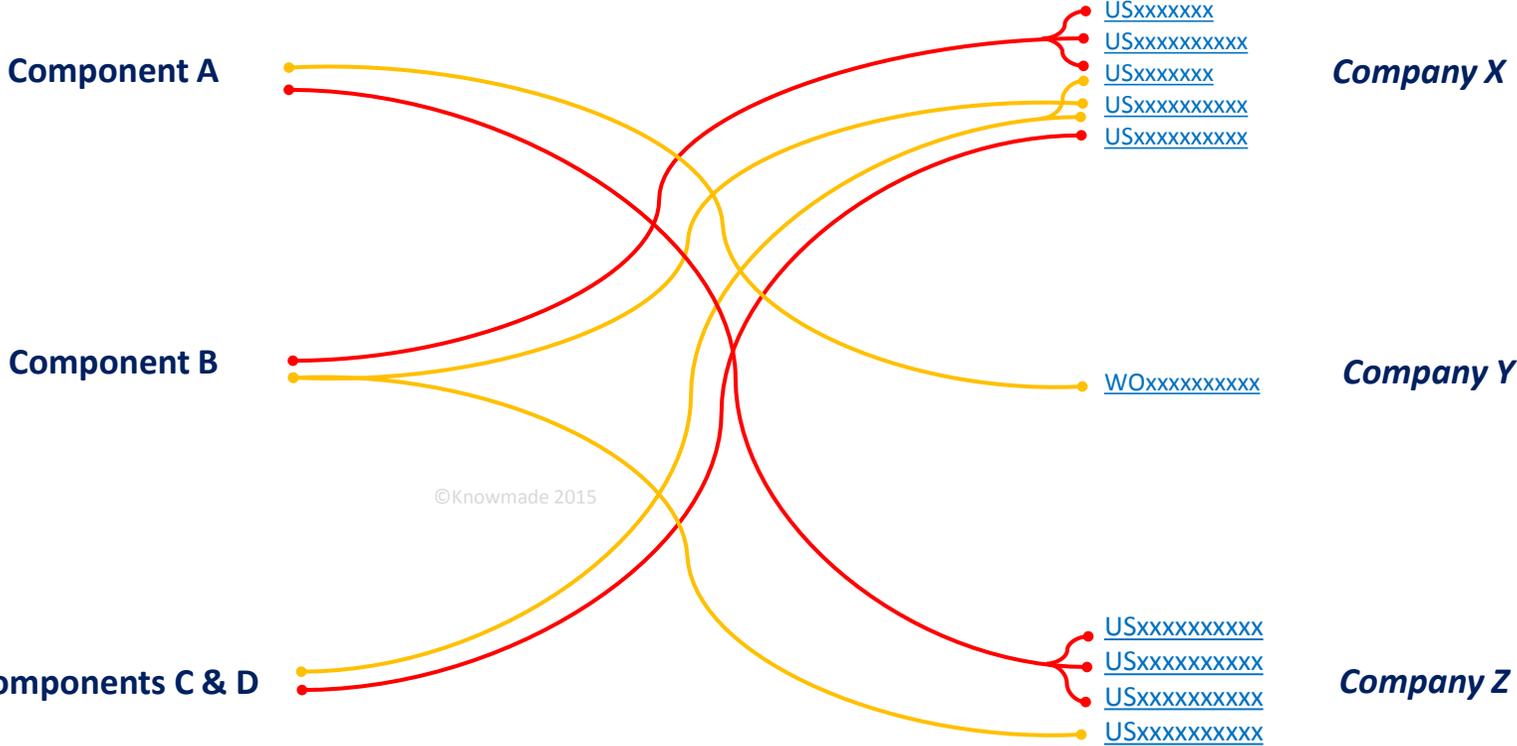
**REPORT  
SAMPLE**

## SUMMARY OF PATENT INFRINGEMENT RISK

Infringement Risk Level :  
—●— Highly likely  
—●— Likely

### Device and Fingerprint Sensor

### Intellectual Property Rights



©Knowmade 2015

The fingerprint sensor Component A shows a high risk of infringement regarding 3 patents owned by Company Z and a medium risk of infringement regarding 1 patent belonging to Company Y.  
 The sensor Component B has a risk of infringement towards 4 patents owned by Company X and a medium risk for a patent of Company Z.  
 Both sensors Component C & D show a risk of infringement regarding 3 patents belonging to Company X portfolio.

# EXCEL DATABASE

Containing all the patents analyzed in the report

|    | A             | B             | C                   | D             | E            | F                    | G                 | H                     | I                                  |
|----|---------------|---------------|---------------------|---------------|--------------|----------------------|-------------------|-----------------------|------------------------------------|
|    | FAMILY NUMBER | PATENT NUMBER | PATENT ASSIGNEE     | PRIORITY DATE | TITLE        | PDF                  | ABSTRACT          | LEGAL STATUS          | ACTUAL OR EXPECTED EXPIRATION DATE |
| 1  | 683           | AU            | METRO ENGINEERING I | 2000-12-05    | Swiped &...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR AU  | 2007-06-18                         |
| 2  | 683           | WO            | VALIDITY            | 2000-12-05    | Swiped &...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR WO  | 2021-12-05                         |
| 3  | 683           | EP            | VALIDITY SENSORS    | 2000-12-05    | Swiped &...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR EP  | 2021-12-05                         |
| 4  | 683           | AT            | VALIDITY SENSORS    | 2000-12-05    | System u...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR AT  | 2006-04-15                         |
| 5  | 683           | HK            | VALIDITY SENSORS    | 2000-12-05    | Swiped &...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR HK  | 2021-12-05                         |
| 6  | 683           | DE            | VALIDITY SENSORS    | 2000-12-05    | System u...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR DE  | 2021-12-05                         |
| 7  | 683           | US            | SYNAPTICS           | 2000-12-05    | Swiped &...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR US  | 2022-10-11                         |
| 8  | 683           | US            | VALIDITY;           | 2000-12-05    | Swiped &...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR US  | 2021-12-05                         |
| 9  | 683           | HK            | VALIDITY SENSORS    | 2000-12-05    | Capaciti...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR HK  | 2021-12-05                         |
| 10 | 683           | DE            | VALIDITY SENSORS    | 2000-12-05    | Kapaziti...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR DE  | 2021-12-05                         |
| 11 | 70            | WO            | FINGERPRINT CARDS   | 2014-02-21    | Method of... | <a href="#">Open</a> | The present i...  | LEGAL DETAILS FOR WO  | 2035-02-18                         |
| 12 | 70            | US            | FINGERPRINT CARDS   | 2014-02-21    | Method of... | <a href="#">Open</a> | The present i...  | LEGAL DETAILS FOR US  | 2034-12-02                         |
| 13 | 43            | US            | APPLE               | 1997-09-11    | Electros...  | <a href="#">Open</a> | A planar finge... | LEGAL DETAILS FOR US  | 2017-09-11                         |
| 14 | 139           | US            | APPLE               | 2001-05-07    | Fingerpr...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR US  | 2021-05-07                         |
| 15 | 139           | EP            | UPEK                | 2001-05-07    | Fingerpr...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR EP  | 2022-05-03                         |
| 16 | 139           | DE            | UPEK                | 2001-05-07    | Fingerab...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR DE  | 2011-12-01                         |
| 17 | 139           | JP2           | ST MICROELECTRONICS | 2001-05-07    | The resis... | <a href="#">Open</a> | PROBLEM TO        | LEGAL DETAILS FOR JP2 | 2012-02-20                         |
| 18 | 43            | US            | APPLE               | 1999-05-11    | Fingerpr...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR US  | 2022-01-16                         |
| 19 | 43            | US            | APPLE               | 1999-05-11    | Fingerpr...  | <a href="#">Open</a> | A fingerprint     | LEGAL DETAILS FOR US  | 2020-05-09                         |
| 20 | 14            | US            | APPLE               | 1997-07-02    | Solid sta... | <a href="#">Open</a> | A planar, cap...  | LEGAL DETAILS FOR US  | 2017-07-02                         |
| 21 | 14            | EP            | ST MICROELECTRONICS | 1997-07-02    | Solid sta... | <a href="#">Open</a> | A planar, cap...  | LEGAL DETAILS FOR EP  | 2018-06-30                         |
| 22 | 14            | DE            | ST MICROELECTRONICS | 1997-07-02    | Gerät un...  | <a href="#">Open</a> | A planar, cap...  | LEGAL DETAILS FOR DE  | 2012-01-03                         |
| 23 | 14            | JP1           | ST MICROELECTRONICS | 1997-07-02    | Solid-sta... | <a href="#">Open</a> | PROBLEM TO        | LEGAL DETAILS FOR JPH | 2011-08-15                         |
| 24 | 70            | US            | SYNAPTICS           | 2012-10-14    | Biometri...  | <a href="#">Open</a> | A method for      | LEGAL DETAILS FOR US  | 2033-10-09                         |
| 25 | 68            | US            | SYNAPTICS           | 2013-10-01    | Compac...    | <a href="#">Open</a> | A biometric s...  | LEGAL DETAILS FOR US  | 2034-09-29                         |
| 26 | 68            | WO            | SYNAPTICS           | 2013-10-01    | Compac...    | <a href="#">Open</a> | A biometric s...  | LEGAL DETAILS FOR WO  | 2034-09-29                         |

26 patent families composed of more than 100 patents.

This database allows multi-criteria searches and includes patent publication number, hyperlinks to the original documents, priority date, title, abstract, patent assignees, legal status for each member of the patent family.

# ORDER FORM

## Capacitive Fingerprint Sensors: Technology and Patent Infringement Risk Analysis

### SHIP TO

Name (Mr/Ms/Dr/Pr):

Job Title:

Company:

Address:

City:

State:

Postcode/Zip:

Country:

VAT ID Number for EU members:

Tel:

Email:

Date:

### PAYMENT METHODS

Order online for instant download: [Click here](#)

#### Check

To pay your invoice using a check, please mail your check to the following address:

KnowMade S.A.R.L.  
2405 route des Dolines, BP 65  
06902 Valbonne Sophia Antipolis  
FRANCE

#### Money Transfer

To pay your invoice using a bank money wire transfer please contact your bank to complete this process. Here is the information that you will need to submit the payment:

Payee: KnowMade S.A.R.L.  
Bank: Banque populaire St Laurent du Var CAP 3000 - Quartier du lac- 06700 St Laurent du Var  
IBAN: FR76 1560 7000 6360 6214 5695 126  
BIC/SWIFT: CCBPFRPPNCE

#### Paypal

In order to pay your invoice via PAYPAL, you must first register at [www.paypal.com](http://www.paypal.com). Then you can send money to the KnowMade S.A.R.L. by entering our E-mail address [contact@knowmade.fr](mailto:contact@knowmade.fr) as the recipient and entering the invoice amount.

### RETURN ORDER BY

**E-mail:** [contact@knowmade.fr](mailto:contact@knowmade.fr)

**Mail:** KnowMade S.A.R.L. 2405 route des Dolines, BP 65 06902 Sophia Antipolis FRANCE

### PRODUCT ORDER

€5,990

**Bundle with Knowmade and/or System Plus Consulting other related reports (contact us)**

For price in dollars, please use the day's exchange rate. For French customer, add 20% for VAT.

All reports are delivered electronically in pdf format at payment reception .

*I hereby accept Knowmade's Terms and Conditions of Sale*  
**Signature:**

# Terms and Conditions of Sales

## Definitions

“Acceptance”: Action by which the Buyer accepts the terms and conditions of sale in their entirety. It is done by signing the purchase order which mentions “I hereby accept Knowmade’s Terms and Conditions of Sale”.

“Buyer”: Any business user (i.e. any person acting in the course of its business activities, for its business needs) entering into the following general conditions to the exclusion of consumers acting in their personal interests.

“Contracting Parties” or “Parties”: The Seller on the one hand and the Buyer on the other hand.

“Intellectual Property Rights” (“IPR”) means any rights held by the Seller in its Products, including any patents, trademarks, registered models, designs, copyrights, inventions, commercial secrets and know-how, technical information, company or trading names and any other intellectual property rights or similar in any part of the world, notwithstanding the fact that they have been registered or not and including any pending registration of one of the above mentioned rights.

“License”: For the reports and databases, 2 different licenses are proposed. The buyer has to choose one license:

1. Single user license: a single individual at the company can use the report.
2. Corporate license: the report can be used by unlimited users within the company. Subsidiaries are not included.

“Products”: Reports are established in PowerPoint and delivered on a PDF format and the database may include Excel files.

“Seller”: Based in Sophia Antipolis (France headquarters), Knowmade is a technology intelligence company specialized in the research and analysis of scientific and technical information. We provide patent landscapes and scientific state of the art with high added value to businesses and research laboratories. Our intelligence digests play a key role to define your innovation and development strategy.

## 1. Scope

1.1 The Contracting Parties undertake to observe the following general conditions when agreed by the Buyer and the Seller. ANY ADDITIONAL, DIFFERENT, OR CONFLICTING TERMS AND CONDITIONS IN ANY OTHER DOCUMENTS ISSUED BY THE BUYER AT ANY TIME ARE HEREBY OBJECTED TO BY THE SELLER, SHALL BE WHOLLY INAPPLICABLE TO ANY SALE MADE HEREUNDER AND SHALL NOT BE BINDING IN ANY WAY ON THE SELLER.

1.2 This agreement becomes valid and enforceable between the Contracting Parties after clear and non-equivocal consent by any duly authorized person representing the Buyer. For these purposes, the Buyer accepts these conditions of sales when signing the purchase order which mentions “I hereby accept Knowmade’s Terms and Conditions of Sale”. This results in acceptance by the Buyer.

1.3 Orders are deemed to be accepted only upon written acceptance and confirmation by the Seller, within [7 days] from the date of order, to be sent either by email or to the Buyer’s address. In the absence of any confirmation in writing, orders shall be deemed to have been accepted.

## 2. Mailing of the Products

2.1 Products are sent by email to the Buyer:

- within [1] month from the order for Products already released; or
- within a reasonable time for Products ordered prior to their effective release. In this case, the Seller shall use its best endeavours to inform the Buyer of an indicative release date and the evolution of the work in progress.

2.2 Some weeks prior to the release date the Seller can propose a pre-release discount to the Buyer.

The Seller shall by no means be responsible for any delay in respect of article 2.2 above, and including in cases where a new event or access to new contradictory information would require for the analyst extra time to compute or compare the data in order to enable the Seller to deliver a high quality Products.

2.3 The mailing of the Product will occur only upon payment by the Buyer, in accordance with the conditions contained in article 3.

2.4 The mailing is operated through electronic means either by email via the sales department. If the Product’s electronic delivery format is defective, the Seller undertakes to replace it at no charge to the Buyer provided that it is informed of the defective formatting within 90 days from the date of the original download or receipt of the Product.

2.5 The person receiving the Products on behalf of the Buyer shall immediately verify the quality of the Products and their conformity to the order. Any claim for apparent defects or for non-conformity shall be sent in writing to the Seller within 8 days of receipt of the Products. For this purpose, the Buyer agrees to produce sufficient evidence of such defects.

2.6 No return of Products shall be accepted without prior information to the Seller, even in case of delayed delivery. Any Product returned to the Seller without providing prior information to the Seller as required under article 2.5 shall remain at the Buyer’s risk.

# Terms and Conditions of Sales

## 3. Price, invoicing and payment

3.1 Prices are given in the orders corresponding to each Product sold on a unit basis or corresponding to annual subscriptions. They are expressed to be inclusive of all taxes. The prices may be reevaluated from time to time. The effective price is deemed to be the one applicable at the time of the order.

3.2 Payments due by the Buyer shall be sent by cheque payable to Knowmade, PayPal or by electronic transfer to the following account:

Banque populaire St Laurent du Var CAP 3000 - Quartier du lac- 06700 St Laurent du Var

BIC or SWIFT code: CCBPFRPPNCE

IBAN : : FR76 1560 7000 6360 6214 5695 126

To ensure the payments, the Seller reserves the right to request down payments from the Buyer. In this case, the need of down payments will be mentioned on the order.

3.3 Payment is due by the Buyer to the Seller within 30 days from invoice date, except in the case of a particular written agreement. If the Buyer fails to pay within this time and fails to contact the Seller, the latter shall be entitled to invoice interest in arrears based on the annual rate Refi of the «BCE» + 7 points, in accordance with article L. 441-6 of the French Commercial Code. Our publications (report, database, tool...) are delivered only after reception of the payment.

3.4 In the event of termination of the contract, or of misconduct, during the contract, the Seller will have the right to invoice at the stage in progress, and to take legal action for damages.

## 4. Liabilities

4.1 The Buyer or any other individual or legal person acting on its behalf, being a business user buying the Products for its business activities, shall be solely responsible for choosing the Products and for the use and interpretations he makes of the documents it purchases, of the results he obtains, and of the advice and acts it deduces thereof.

4.2 The Seller shall only be liable for (i) direct and (ii) foreseeable pecuniary loss, caused by the Products or arising from a material breach of this agreement

4.3 In no event shall the Seller be liable for:

- a) damages of any kind, including without limitation, incidental or consequential damages (including, but not limited to, damages for loss of profits, business interruption and loss of programs or information) arising out of the use of or inability to use the Seller's website or the Products, or any information provided on the website, or in the Products;
- b) any claim attributable to errors, omissions or other inaccuracies in the Product or interpretations thereof.

4.4 All the information contained in the Products has been obtained from sources believed to be reliable. The Seller does not warrant the accuracy, completeness adequacy or reliability of such information, which cannot be guaranteed to be free from errors.

4.5 All the Products that the Seller sells may, upon prior notice to the Buyer from time to time be modified by or substituted with similar Products meeting the needs of the Buyer. This modification shall not lead to the liability of the Seller, provided that the Seller ensures the substituted Product is similar to the Product initially ordered.

4.6 In the case where, after inspection, it is acknowledged that the Products contain defects, the Seller undertakes to replace the defective products as far as the supplies allow and without indemnities or compensation of any kind for labor costs, delays, loss caused or any other reason. The replacement is guaranteed for a maximum of two months starting from the delivery date. Any replacement is excluded for any event as set out in article 5 below.

4.7 The deadlines that the Seller is asked to state for the mailing of the Products are given for information only and are not guaranteed. If such deadlines are not met, it shall not lead to any damages or cancellation of the orders, except for non-acceptable delays exceeding [4] months from the stated deadline, without information from the Seller. In such case only, the Buyer shall be entitled to ask for a reimbursement of its first down payment to the exclusion of any further damages.

4.8 The Seller does not make any warranties, express or implied, including, without limitation, those of saleability and fitness for a particular purpose, with respect to the Products. Although the Seller shall take reasonable steps to screen Products for infection of viruses, worms, Trojan horses or other codes containing contaminating or destructive properties before making the Products available, the Seller cannot guarantee that any Product will be free from infection.

## 5. Force majeure

The Seller shall not be liable for any delay in performance directly or indirectly caused by or resulting from acts of nature, fire, flood, accident, riot, war, government intervention, embargoes, strikes, labor difficulties, equipment failure, late deliveries by suppliers or other difficulties which are beyond the control, and not the fault of the Seller.

# Terms and Conditions of Sales

## 6. Protection of the Seller's IPR

6.1 All the IPR attached to the Products are and remain the property of the Seller and are protected under French and international copyright law and conventions.

6.2 The Buyer agreed not to disclose, copy, reproduce, redistribute, resell or publish the Product, or any part of it to any other party other than employees of its company. The Buyer shall have the right to use the Products solely for its own internal information purposes. In particular, the Buyer shall therefore not use the Product for purposes such as:

- Information storage and retrieval systems;
- Recordings and re-transmittals over any network (including any local area network);
- use in any timesharing, service bureau, bulletin board or similar arrangement or public display;
- Posting any Product to any other online service (including bulletin boards or the Internet);
- Licensing, leasing, selling, offering for sale or assigning the Product.

6.3 The Buyer shall be solely responsible towards the Seller of all infringements of this obligation, whether this infringement comes from its employees or any person to whom the Buyer has sent the Products and shall personally take care of any related proceedings, and the Buyer shall bear related financial consequences in their entirety.

6.4 The Buyer shall define within its company point of contact for the needs of the contract. This person will be the recipient of each new report in PDF format. This person shall also be responsible for respect of the copyrights and will guaranty that the Products are not disseminated out of the company.

## 7. Termination

7.1 If the Buyer cancels the order in whole or in part or postpones the date of mailing, the Buyer shall indemnify the Seller for the entire costs that have been incurred as at the date of notification by the Buyer of such delay or cancellation. This may also apply for any other direct or indirect consequential loss that may be borne by the Seller, following this decision.

7.2 In the event of breach by one Party under these conditions or the order, the non-breaching Party may send a notification to the other by recorded delivery letter upon which, after a period of thirty (30) days without solving the problem, the non-breaching Party shall be entitled to terminate all the pending orders, without being liable for any compensation.

## 8. Miscellaneous

All the provisions of these Terms and Conditions are for the benefit of the Seller itself, but also for its licensors, employees and agents. Each of them is entitled to assert and enforce those provisions against the Buyer.

Any notices under these Terms and Conditions shall be given in writing. They shall be effective upon receipt by the other Party.

The Seller may, from time to time, update these Terms and Conditions and the Buyer, is deemed to have accepted the latest version of these terms and conditions, provided they have been communicated to him in due time.

## 9. Governing law and jurisdiction

9.1 Any dispute arising out or linked to these Terms and Conditions or to any contract (orders) entered into in application of these Terms and Conditions shall be settled by the French Commercial Courts of Grasse, which shall have exclusive jurisdiction upon such issues.

9.2 French law shall govern the relation between the Buyer and the Seller, in accordance with these Terms and Conditions.