What is SignaKey ?

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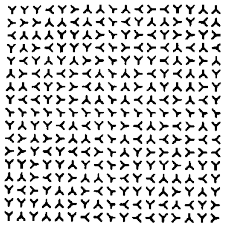
What is a SignaKey?

SignaKey through a partnership with ECC Corporation recently had a global specification for e-Labelling published by IECQ following an audit and approval by BSI. This specification: IECQ-CS 033000-UK 0001 can be found on the IECQ website."

What is a SignaKey?

- It looks like this 
- Uses NSA Suite B, FIPS Compliant, AES 256 Bit, Secure Hash Algorithm Encryption **VERY SECURE**
- 256 Hexadecimal data symbols enables 5.19×10^{33} unique identifiers **A LOT!!!!**
- Fast decode (< 3 seconds) with $7.95 webcam or Smartphone **FAST AND LOW COST.**

SignaKey Mark Consists of "Y"

If only these **2**

- λ **Bi**nary equivalent = 0
- Y **Bi**nary equivalent = 1

If there are **4**

- λ **Quat**nary equivalent = 0
- ≻ **Quat**nary equivalent = 1
- Y **Quat**nary equivalent = 2
- ≺ **Quat**nary equivalent = 3

How Does a SignaKey work?

Virtually Unlimited Quantities

256 Data Hexadecimal Data Symbols provides

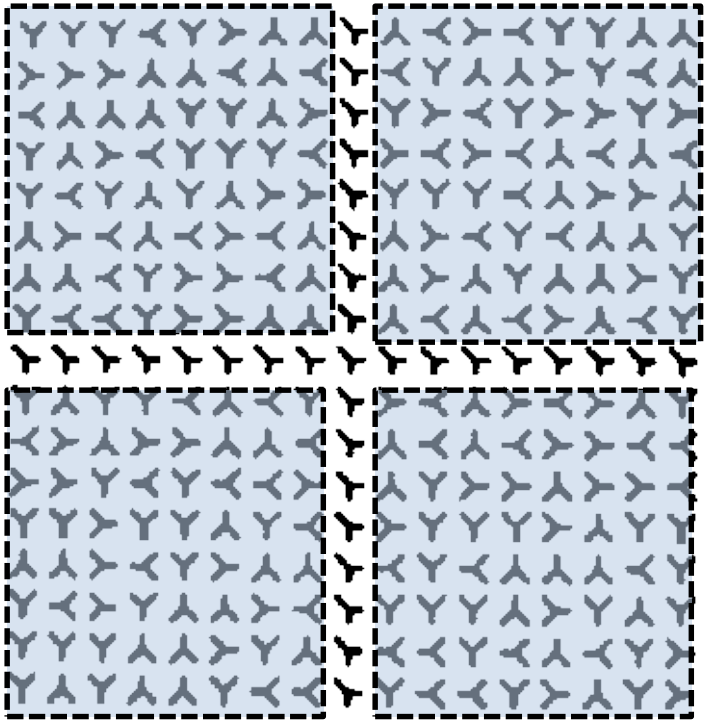
⇩

5.19 Decillion Unambiguously Unique Marks

⇩

5,190,000,000,000,000,000,000,000,000,000,000

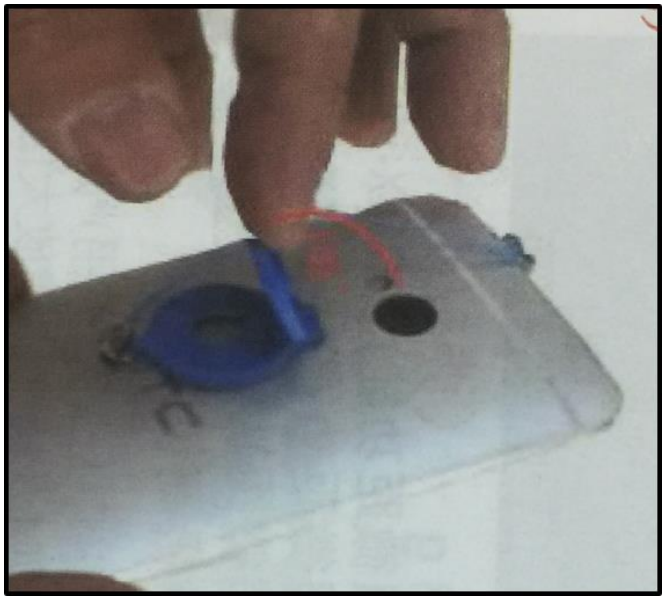
All 256 Data Symbols Shown



Orientation Symbols

How is it decoded ?

How is it decoded ?



Smart App Examples ?

Open the App on your Smart Phone

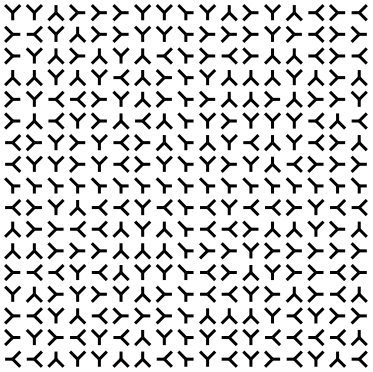
Login

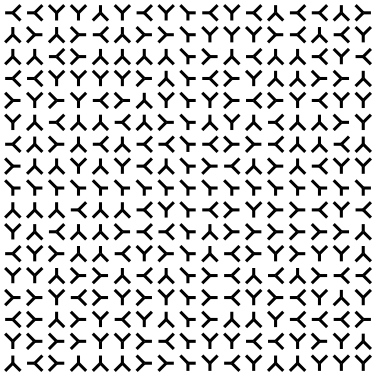
Prepare to Decode

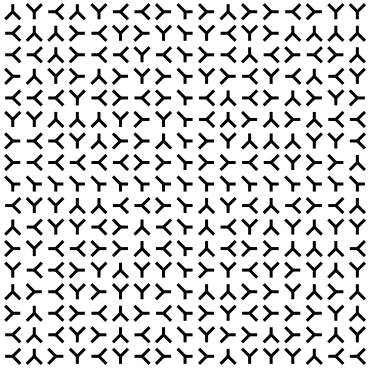
Point Smartphone at the Product

Focus on the e-label

Decode, verify and authenticate



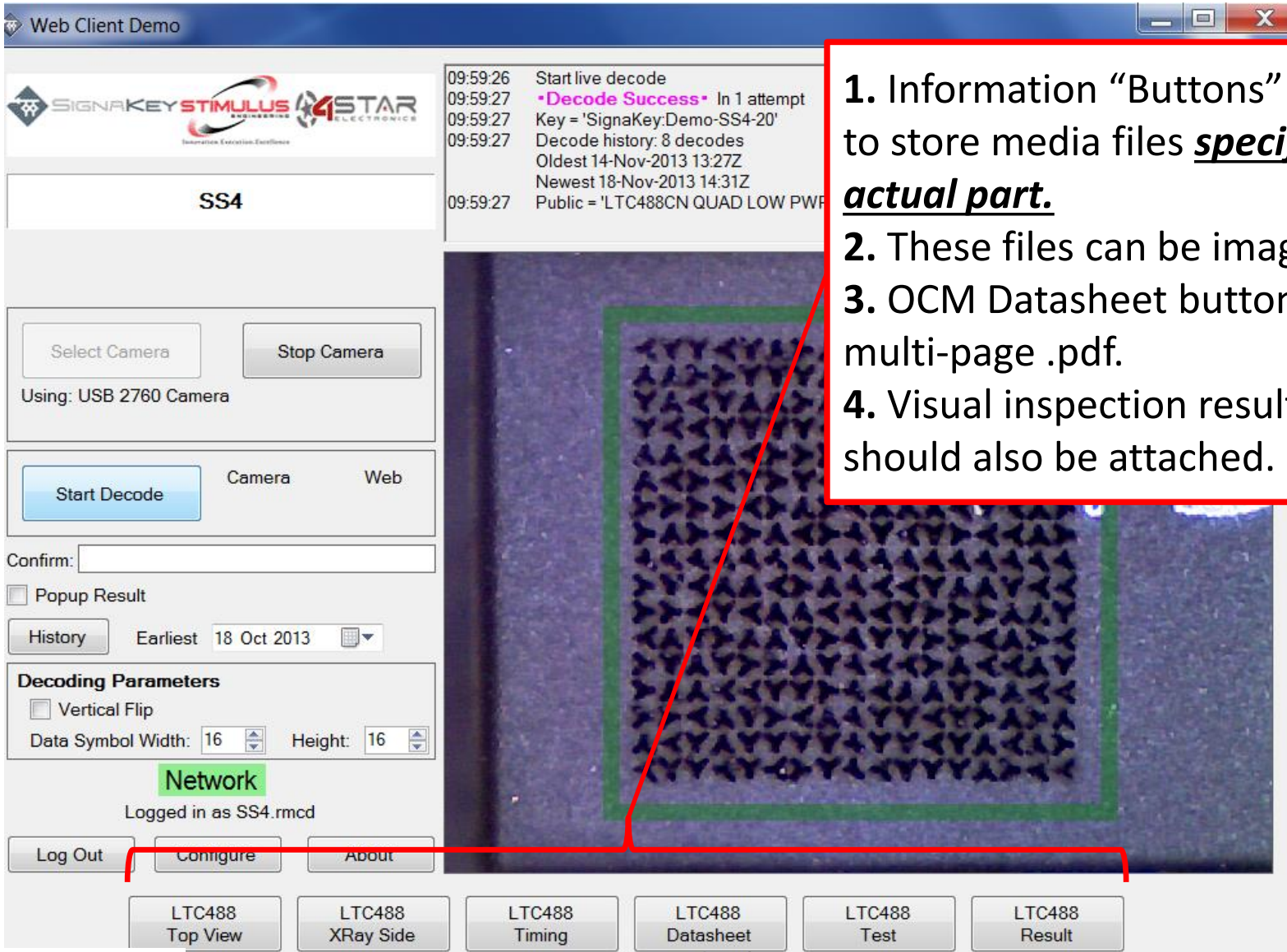




What can you use SignaKey for ?

- Security / Brand Protection
- Electronic components
  - Counterfeit prevention / authentication
  - Serialisation
- Documentation
- Supply Chain Movement
- Pharmaceuticals
- Medical
- High Value Goods

What can you do with the Key ?



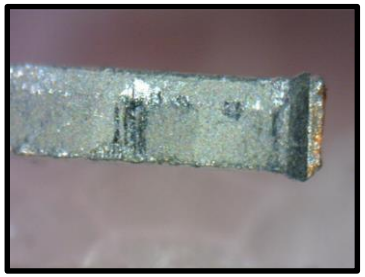
1. Information "Buttons" designed to store media files ***specific to actual part.***

2. These files can be images or .pdf.

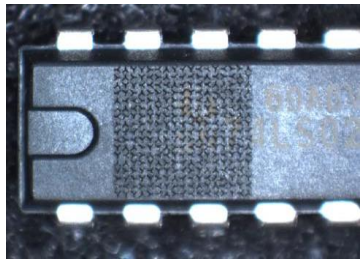
3. OCM Datasheet button can be multi-page .pdf.

4. Visual inspection results & images should also be attached.

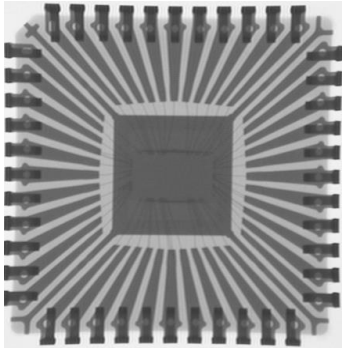
Examples of Attachments

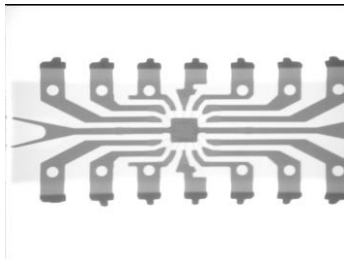


Visual Inspection



IC Photos, 1Etched



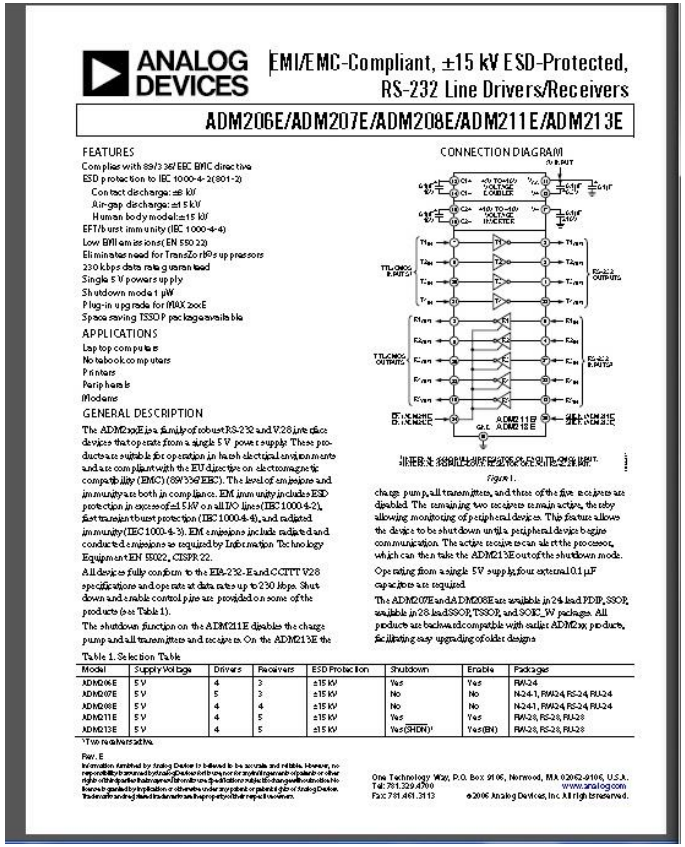


X Ray Images

Solvent Test

ANY MEDIA TYPE CAN ATTACH:

- **DOCUMENTS**
- **IMAGES**
- **VIDEOS**



ANALOG DEVICES

EMI/EMC-Compliant, ±15 kV ESD-Protected, RS-232 Line Drivers/Receivers

ADM206E/ADM207E/ADM208E/ADM211E/ADM213E

FEATURES

Complies with 89/336/EEC EMC directive
ESD protection to IEC 1000-4-2 (801-2)
Contact discharge: ±8 kV
Air-gap discharge: ±15 kV
Human body model: ±15 kV
EFT/burst immunity (IEC 1000-4-4)
Low EMI emissions (EN 55022)
Eliminates need for TransZorb® suppressors
230 kbps data rate guaranteed
Single 5 V power supply
Shutdown mode: 1 µW
Plug-in upgrade for MAX206E
Space-saving TSSOP package available

APPLICATIONS

Laptop computers
Notebook computers
Printers
Peripherals
Modems

GENERAL DESCRIPTION

The ADM2xxE is a family of robust RS-232 and V.28 line drivers/receivers that operate from a single 5 V power supply. These products are suitable for operation in harsh electrical environments and are compliant with the EU directive on electromagnetic compatibility (EMC) (89/336/EEC). The level of emissions and immunity are both in compliance. EMC immunity includes ESD protection in excess of ±15 kV on all I/O lines (IEC 1000-4-2), fast transient burst protection (IEC 1000-4-4), and radiated immunity (IEC 1000-4-3). EMC emissions include radiated and conducted emissions as required by Information Technology Equipment EN 55022, CISPR 22.

All devices fully conform to the EIA-232-E and CCITT V.28 specifications and operate at data rates up to 230 kbps. Shutdown and enable control pins are provided on some of the products (see Table 1).

The shutdown function on the ADM211E disables the charge pump and all transmitters and receivers. On the ADM213E the charge pump, all transmitters, and three of the five receivers are disabled. The remaining two receivers remain active, thereby allowing monitoring of peripheral devices. This feature allows the device to be shut down until a peripheral device begins communication. The active receivers can alert the processor, which can then take the ADM213E out of the shutdown mode.

Operating from a single 5 V supply, four external 0.1 µF capacitors are required.

The ADM207E and ADM208E are available in 24-lead PDIP, SSOP, available in 28-lead SSOP, TSSOP, and SOIC_W packages. All products are backward compatible with earlier ADM2xx products, facilitating easy upgrading of older designs.

Figure 1.

Table 1. Selection Table

Model	Supply Voltage	Drivers	Receivers	ESD Protection	Shutdown	Enable	Package
ADM206E	5 V	4	3	±15 kV	Yes	Yes	RM-24
ADM207E	5 V	5	3	±15 kV	No	No	N-24-1, RM-24, RS-24, RU-24
ADM208E	5 V	4	4	±15 kV	No	No	N-24-1, RM-24, RS-24, RU-24
ADM211E	5 V	4	5	±15 kV	Yes	Yes	RM-28, RS-28, RU-28
ADM213E	5 V	4	5	±15 kV	Yes (SHDN)[1]	Yes (EN)	RM-28, RS-28, RU-28

[1] Two receivers active.

Rev. E

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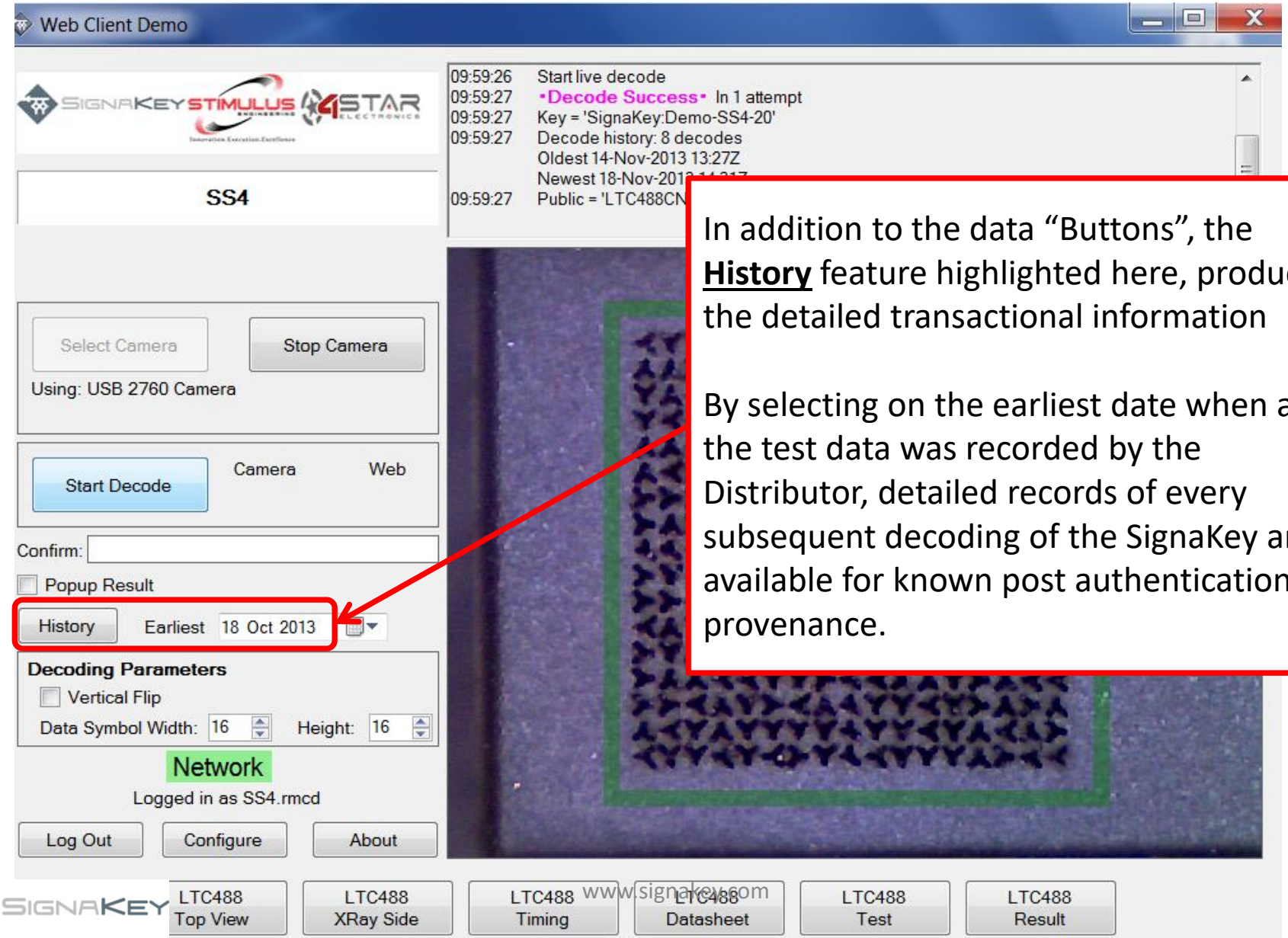
OCM Multi Page Spec Sheet

History Records All Decodes



In addition to the data "Buttons", the **History** feature highlighted here, produces the detailed transactional information

By selecting on the earliest date when all the test data was recorded by the Distributor, detailed records of every subsequent decoding of the SignaKey are available for known post authentication provenance.

Post Authentication History

Timestamp	Disclosed	User	IP Address	IP Known
11/14/2013 12:50:54 PM	True	SignaKey.RMcD	70.91.232.201	SignaKeyMI
11/13/2013 4:52:02 PM	True	SS4.Bill	68.106.7.56	
11/13/2013 4:36:41 PM	True		75.67.233.32	SignaKeyNH
11/13/2013 4:35:03 PM	True		75.67.233.32	SignaKeyNH
11/11/2013 3:34:01 PM	True	SS4.grego	184.9.216.1	STIMULUS
11/7/2013 7:25:07 PM	True	SS4.rmcd	70.91.232.201	SignaKeyMI
11/7/2013 5:50:08 PM	True	SS4.rmcd	70.91.232.201	SignaKeyMI
11/7/2013 5:44:41 PM	True	SignaKey.RMcD	70.91.232.201	SignaKeyMI

•2

1

•The component was decoded after testing by the user: SS4.RMCD at IP address 70.91.232.201 @Timestamp 11/7/2013 7:25:07PM. See record 1

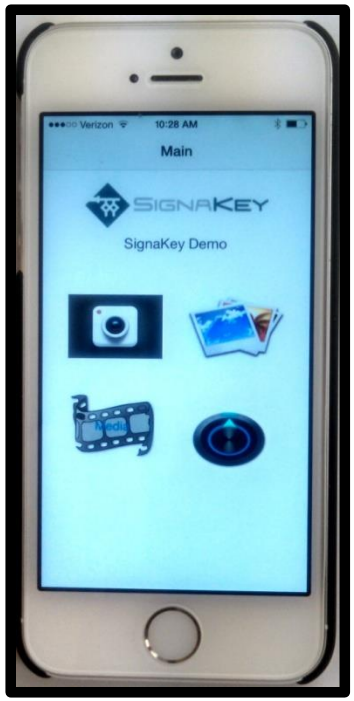
• The component was then sent via FedEx to Stimulus Engineering where it was decoded by user: SS.grego @ IP address 184.9.216.1 @ Timestamp 11/11/2013 3:34:01 PM. See record 2

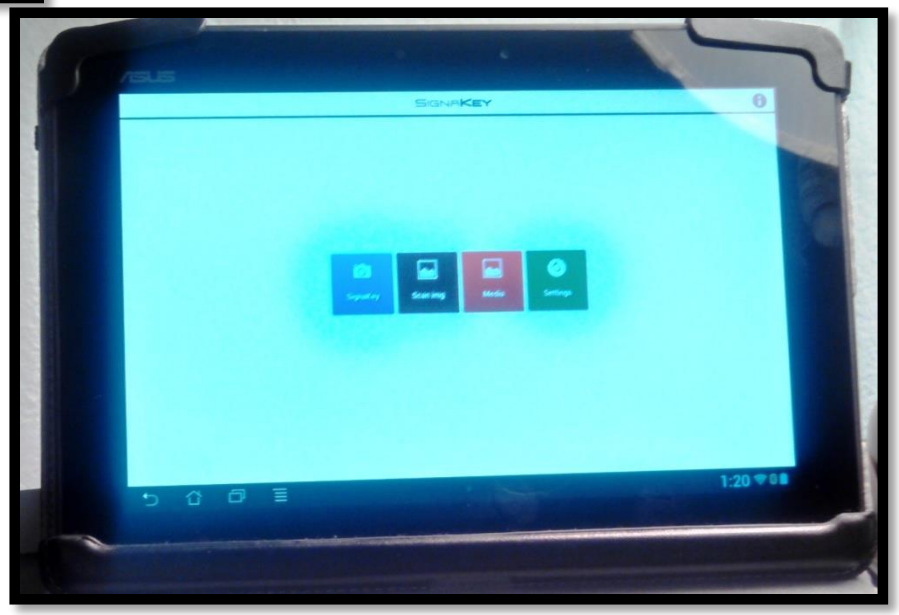
How is a SignaKey Decoded

$7.95 Webcam from Walmart

Apple I Phone or I Pad

Android Tablet or Smartphone





What do You Get With SignaKey ?

- A uniquely identified part / component.
- With bespoke attachments.
- From a Secure data base.
- Easy to decode and in real time.
- Traceability down Supply Chain after inspection.
- Secure Database can be hosted wherever required.

Summary

- Supply Chain Track and Trace
- Counterfeit Prevention
- Product Authentication
- Enhanced security
- E-Labelling

- Questions.