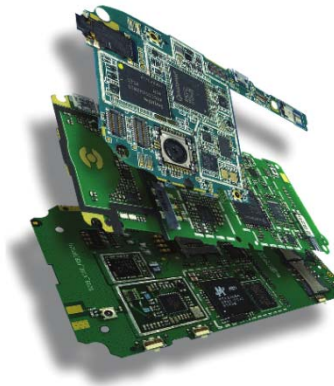


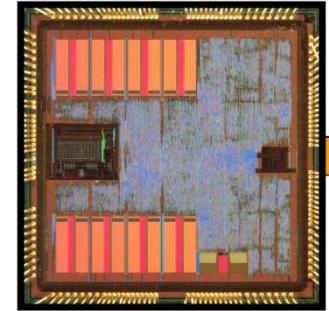
White Hat Reverse Engineering: Effective IP Defense and Offense

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UBM TechInsights
(December 7, 2011)



Agenda

- Introduction to RE
- RE and IP Management
- Example
- Conclusions
- Questions



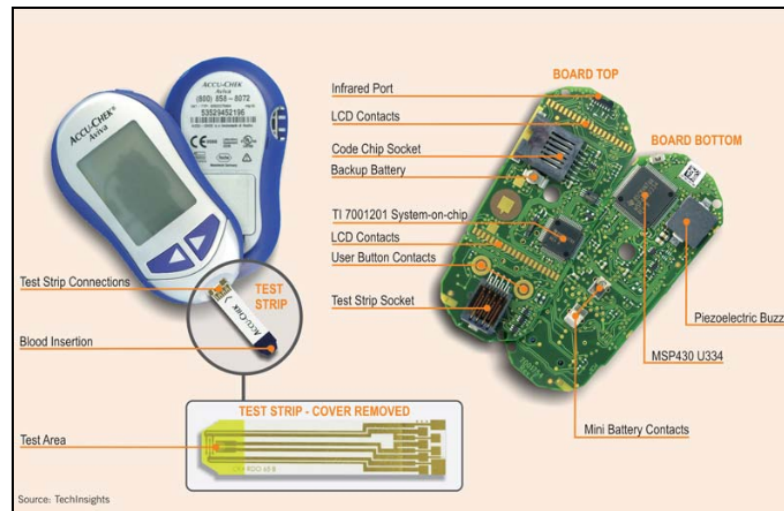
White Hat Reverse Engineering

- RE is the systematic tear down and analysis of what lies under the hood.
 - Understand how a device works
 - What intellectual property went into its creation
- Reverse engineering (RE) supports strategy and decision making across the IP lifecycle.
 - Protect a company's own intellectual property
 - Ensure it has a rock-solid defense against allegations of patent infringement from competitors



White Hat Reverse Engineering

- RE is a proven method to:
 - Determine if a competitor's comparable product is implementing patented inventions.
 - Benchmark one's self against the market.
 - Identify technology trends and key innovation impacting market dynamics



Legality of Reverse Engineering



RE is a legal and acceptable practice if:

- The cost and length of the process affords the innovator of the product or technology the time to recoup R&D costs before a competing product is brought to market.
- The second-comer is investing in forward-engineering that advances the state of the art and not simply looking to “rip-off” the previous innovation by making exact copies.
- The purpose is to achieve interoperability and compatibility between software/firmware or with an operating system, work out bugs, and to customize for specific applications.
- The results of RE help to assert, or defend against allegations of, patent infringement.

(Note: Exception is that it does not violate copyright law, a distinction pertinent to software/firmware)

IP Management Considerations

- Corporate IP Committee
 - Includes Product Development, Research, Business Development, Legal Counsel
 - Meets quarterly to review records of inventions (ROIs) and new submissions
 - Includes patents, trademarks, copyrights, trade secrets
- Primary Objectives
 - Create the Corporate IP strategy
 - Manage current portfolio
 - Determine a process for culling patents/countries
 - Encourage ROIs and develop future patents
 - Encourage the organization to respect confidentiality of work

IP Management Considerations

- **Competitive Intelligence**
 - Knowing what competitors are doing and how they are doing it
- **Patent Watch**
 - Offensive, defensive, picket fence, trading licenses
 - Joint effort with a subgroup who keep tabs on the competition as well as technology
- **Create a culture of respect for IP internally**
 - Ensure everything is properly licensed to avoid problems externally



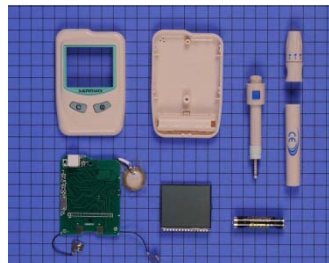
RE Support of IP Lifecycle

- Technology & Market Assessment
 - Helps a company advance the state of the art, rather than repeat it.
- Formulating an IP Strategy
 - Provides a clear understanding of the company's own patent portfolio, as well as that of its competitors.
- Establishing an IP Position
 - Helps craft patent claims that can be detected in an end product and to identify useful patents for acquisition.
- Leveraging IP to Defend Business
 - Gathers evidence to invalidate assertions of infringement against your company or strengthen an assertion against a third-party.
- Monetizing One's IP
 - Generates evidence of unlicensed use of patented technology.

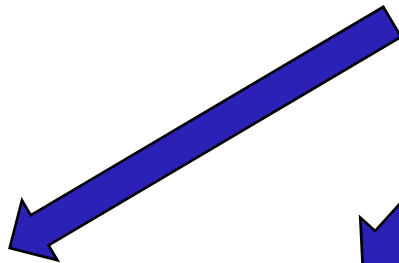
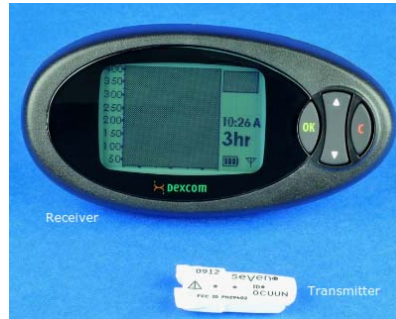
Reverse Engineering in Medical

Teardown reports provide critical insights into:

- The emerging electronic component suppliers for electronic medical devices.
- Emerging consumer electronics technologies that can be integrated into new medical products.
- Wireless connectivity that can be best integrated and at what cost.
- The best approaches to reducing bill of materials (BOM) and manufacturing costs.
- The best design, sourcing, and manufacturing strategies to compete in the emerging low cost environment.
- The competitive strengths of new international market entrants.



The Reverse Engineering Process



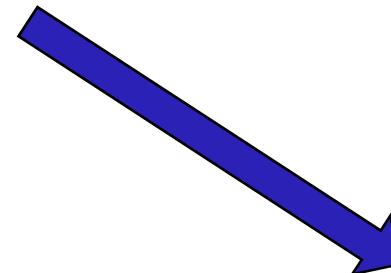
PC Board
Photos



Parts
List



IC Identification
List

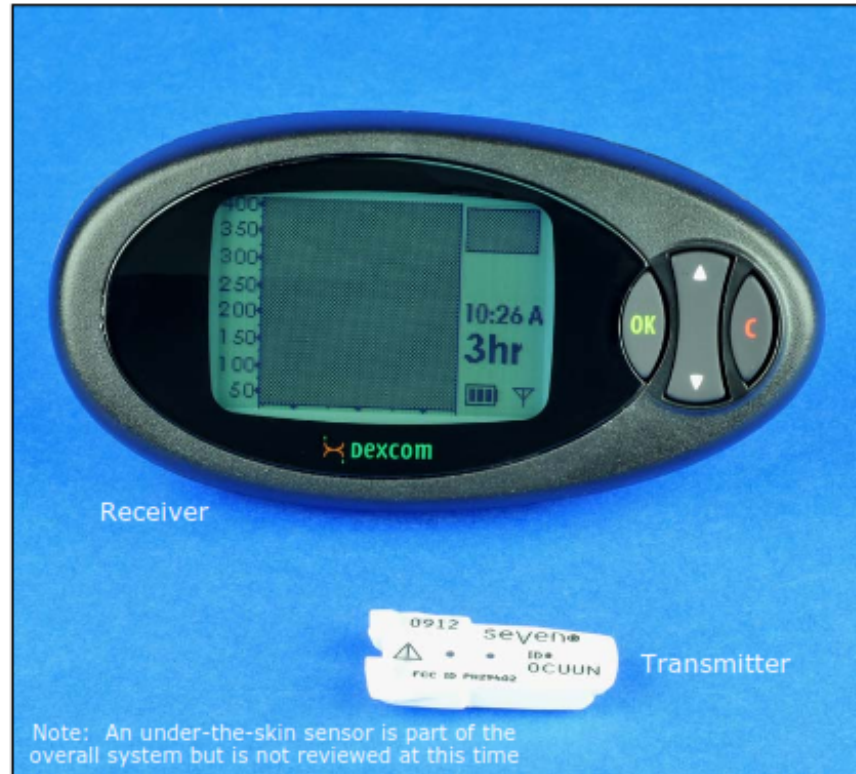


Product Cost
Estimate

TECHINSIGHTS

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Level 3 Chipography® Dexcom Seven Plus Continuous Glucose Monitoring System Report #17000-110512-BWc



Receiver

Transmitter

Note: An under-the-skin sensor is part of the overall system but is not reviewed at this time

Product Description

The SEVEN PLUS is made up of three technologies that all work together: the Sensor, the Transmitter, and the Receiver. The Sensor (not addressed in this report) is a disposable unit that you insert into your abdomen (belly) to continuously monitor your glucose levels for up to 7 days. The Transmitter is a reusable device that snaps into the Sensor Pod. Your Transmitter will wirelessly send your Sensor-measured glucose information to your Receiver. The Receiver is a hand-held device that receives and displays your glucose information every 5 minutes when calibrated with an approved commercially available glucose meter.

Report Contents:

- Circuit board & packaging metrics
- Complete parts list & component count
- Manufacturing cost analysis

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Conclusions

- Protecting one's Intellectual Property Rights is important to any technology company.
- Products risk being devalued, commoditized, or even directly copied without ongoing technical innovation and the strategic protection with patent, trade secret and other forms of legal protection.
- An effective and proactive IP strategy that protects a company's interests, fosters healthy market competition, and drives innovation demands the "under-the-hood" intelligence that only RE can provide.

Questions?

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