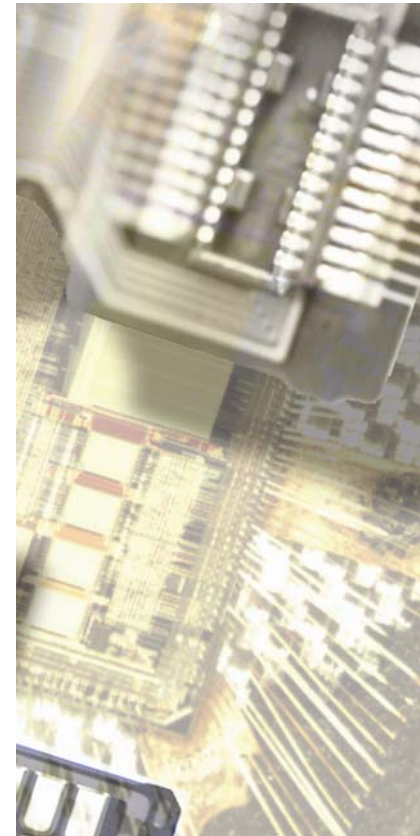


Protect or Profit – Managing your Patented Innovations

Industry Trends

- Patents provide one of the largest opportunities for companies to increase strategic business value
- *“... top performers ... do at least one intellectual property deal a month and earn licensing revenues of more than \$10,000 annually for each active patent ... most companies average less than \$1,000”*

- McKinsey Quarterly



Common Problems

- Large, unorganized patent portfolios
- Insufficient patents in key areas
- Unclear how patents map to technology, products, competitors, business units
- Ad-hoc organization - spreadsheets, wiki's,
- Unclear patent holdings due to mergers, acquisitions, divestitures, new issues
- Hard to find best patent set for a given context or opportunity
- No individual within the company has a mandate to generate a return from intellectual property

Desired Outcomes Drive Strategy

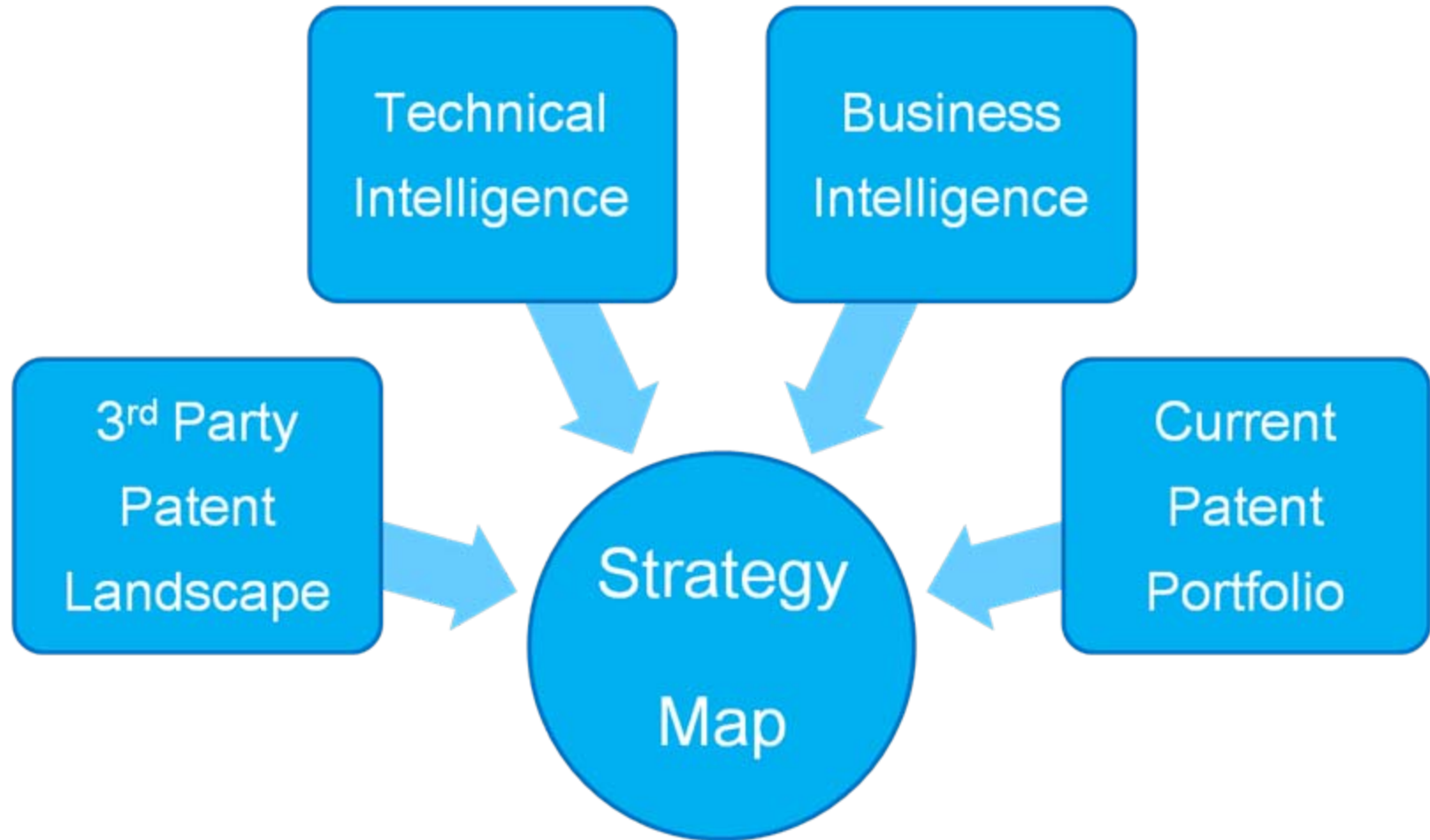
- Ultimate goal with drive requirements and structure of portfolio
 - Freedom to Operate
 - Defend Market Share
 - Generate Revenue
 - Enable Collaboration
 - IP Based Ventures

IP Life Cycle Concept

- Systematic approach to technology innovation and the resulting creation, management, and utilization of IP assets to impact business performance



Informed Decisions



Portfolio Management & Patent Evaluation

- Establish an effective taxonomy to provide structure, identify patents with external value, and drive decision making
- Sort, evaluate, and rate patent assets

The Result – A structured patent portfolio with prioritized assets to *drive monetization efforts* and *enable smart decisions* about which patents to file, acquire, license, sell or abandon

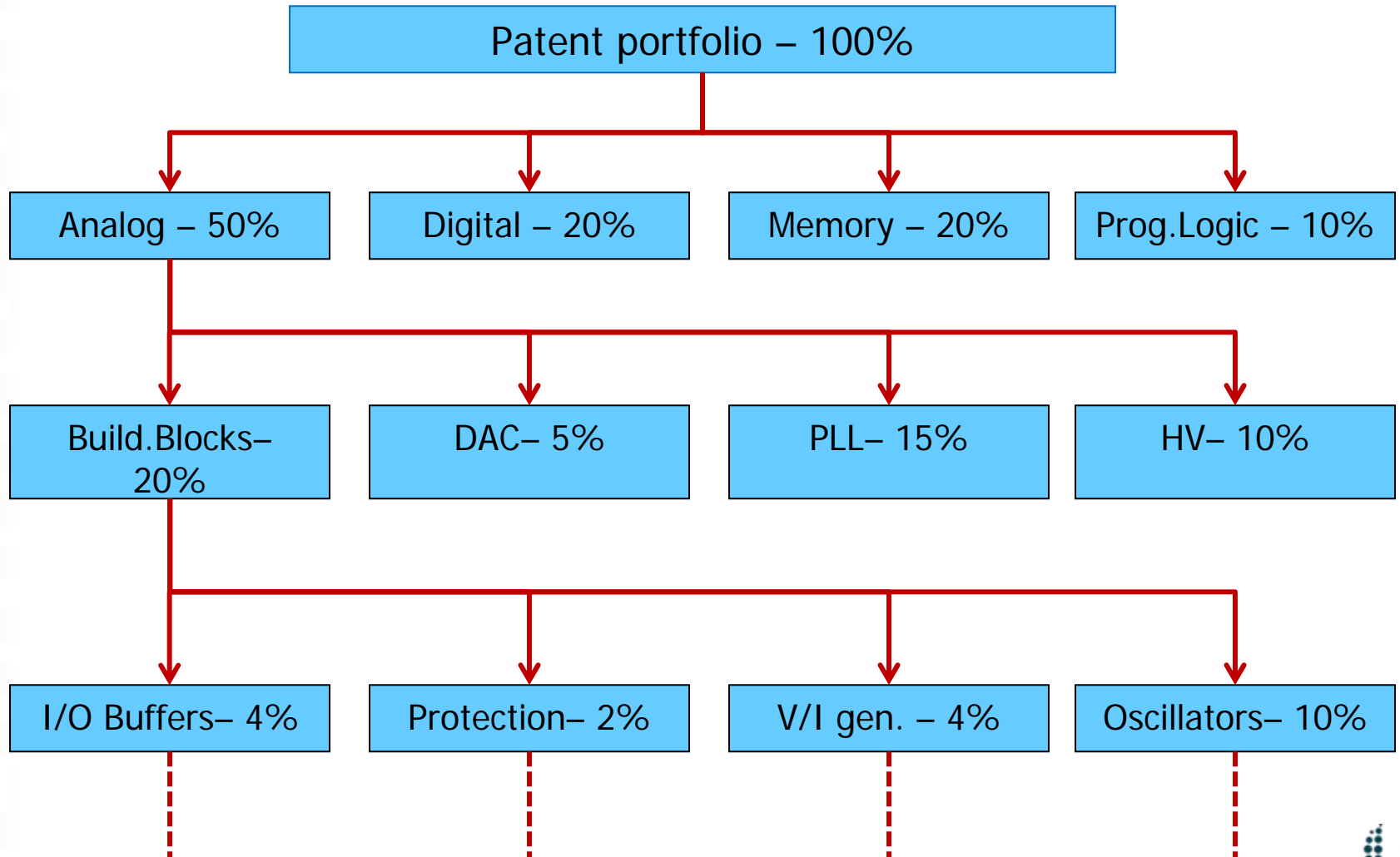


Sorting Process

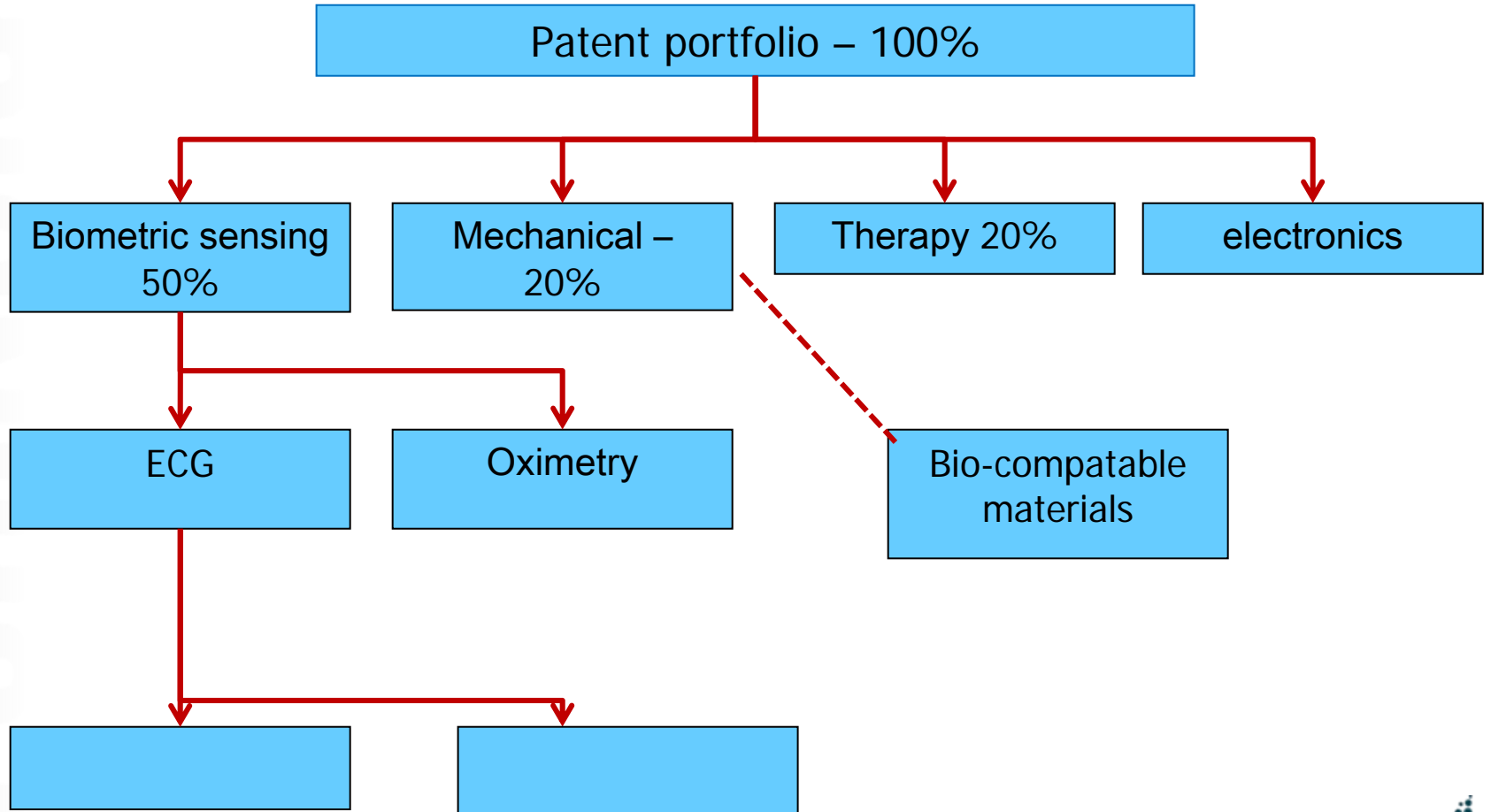
- Effective sorting requires an appropriate taxonomy for grouping similar patents
- UBM TechInsights typically creates a taxonomy in 2-3 dimensions
 - Application area or product
 - Technology
 - Business Solution
- Vital that a level of granularity is applied to enable filtering for further review



Filter for Triage: initial sort



Filter for Triage: initial sort



Taxonomy - Windows Internet Explorer provided by Semiconductor Insights

https://www.patentvista.com/pvedemo/pages/portfolio/Taxonomy.aspx

PatentVista Enterprise

Home Admin My Patent Sets Search Projects Tasks View Taxonomy Tools

Global Patent Inc | John Boyd

Taxonomy

Subject Matter (938)

- Circuit 220
 - Analog 35
 - ADC 1
 - Amplifier 2
 - Clock 4
 - DAC 3
 - Impedance Matching 4
 - Oscillator 2
 - PLL 13
 - ESD 16
 - High Power 32
 - VO 20
 - Interface 11
 - Memory 59
 - Piezoelectric 1
 - Sensor 57
- Communications 228
 - Network 26
 - VoIP 20
 - Wired 1
 - Wireless 186
- Manufacturing 156
 - LCD 39

Path: CircuitAnalog

patents to display... Actions...

Total Records [35] Page 1 / 2

Case Number	Patent #	Publication Date	Title
EP-637a	EP0601637B1	10/27/1999	Cathode ray tube comprising a semiconductor cathode
US-103	EP1263134A2	12/04/2002	Method for making an accurate miniature semiconductor resonator
US-271	EP1354407B1	06/07/2006	A PHASE-LOCKED LOOP
US-679	EP1784835A1	05/16/2007	INDIVIDUAL DATA LINE STROBE-OFFSET CONTROL IN MEMORY SYSTEMS
US-021	EP1907913A2	04/09/2008	LOW-LEAKAGE CURRENT SOURCES AND ACTIVE CIRCUITS
US-103	JP2003133427A	05/09/2003	METHOD FOR MANUFACTURING ACCURATE MINIATURE SEMICONDUCTOR RESONATOR
US-021	JP2008544707T	12/04/2008	
US-271	JP3836794B2	10/25/2006	
US-679	US2010118627A1	05/13/2010	STROBE-OFFSET CONTROL CIRCUIT
US-139	US2010130139A1	05/27/2010	Duty cycle adjustment for a local oscillator signal
US-664	US6140664A	10/31/2000	Cathode ray tube comprising a semiconductor cathode
US-103	US6448103B1	09/10/2002	Method for making an accurate miniature semiconductor resonator
US-569	US6809569B2	10/26/2004	Circuit, apparatus and method having a cross-coupled load with current mirrors
US-506	US6836506B2	12/28/2004	Synchronizing timing between multiple air link standard signals operating within a communications terminal

EP0601637B1 - Cathode ray tube comprising a semiconductor cathode

Case Number: EP-637a

Patent Number: EP0601637B1

Publication Date: 10/27/1999

Application Number: 93203356

Filing Date: 12/01/1993

Fwd Citations: 2

Title: Cathode ray tube comprising a semiconductor cathode

Scores

Ability to Detect: 3

Demonstration justification for patent with score 3

Commercial Impact: 1

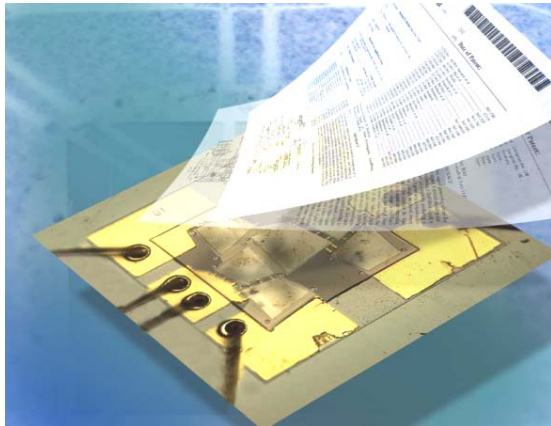
Not used or obsolete technology

Jason White 10/13/2010 *

Patent Assessment

- Criteria should be relevant to the portfolio management goals
- Criteria for consideration:
 - Strength of the invention
 - Use of the technology within industry
 - Commercial merit of the technology
 - Quality of the claims construction
 - Ability to detect use of the invention
 - Probability of existing prior art
 - Remaining life span of the patent
 - Strategic value to core business
 - Previously licensed technology
- Consider a stages approach – 2 to 3 criteria for first cut

Patent Landscapes



- Identify relevant patents and applications that are visible
- Determine the division of the technology space
- Get a clear view of what's in the public domain, what's proprietary, and what's unclaimed

Value

- Locates patents for acquisition
- Highlights roadblocks to product development
- Identifies opportunity for future patenting
- Identifies alternative applications and markets
- Delivers competitive intelligence

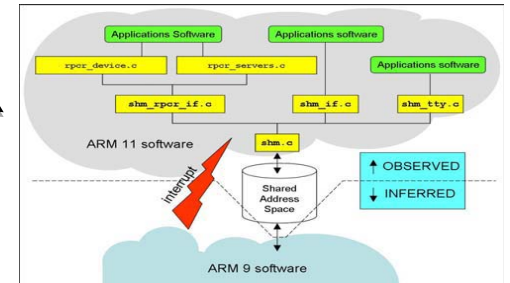
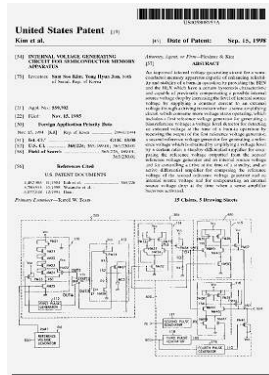
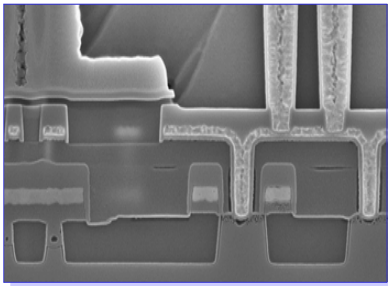
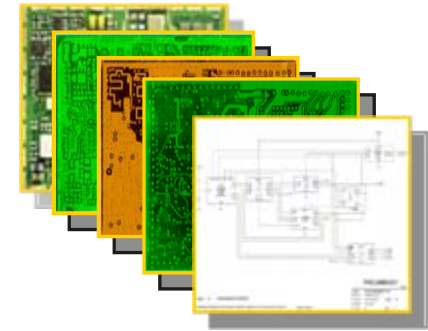
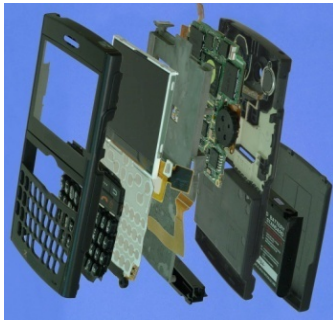
Quick Case Study#1

Orthodontic Mouthpiece

- A client wanted to enter the Orthodontic mouthpiece market with a few existing patent portfolio
- UBM Techinsights analyzed 3rd party major player in the technology area based on Patent Landscape in order to map out the positioning of the stake holders
- In order to strengthening patent portfolio, UBM Techinsights provided advisory service for patent enforceability improvement during patent drafting/prosecution process



Technical Intelligence



Business Intelligence

→ Insight into the market landscape, key players and technologies:

- In-depth profile of a company, including analysis of the organization, products and technology, as well as financials and strategic alliances and partnerships
- Market assessment, including market size and share for particular technologies or a larger business segment

Portfolio Management

- Patent portfolios contain key assets that need to generate return for the corporation
- Systematic management approach is required to ensure results are consistent with business strategy
 - Establish framework for decision making at each stage in the process
 - Identify key metrics to drive performance

The Evolution of Patent Licensing

- Design Freedom – 1980's
 - Our pile of patents is bigger than yours
 - Rapid increase in patent filings equalized situation
- Proud Lists – early 1990's
 - Exchange lists of top patents that represent value of portfolio
 - Questions of validity and infringement
- Infringement Analysis – late 1990's
 - Application of reverse engineering to demonstrate use of patented technology



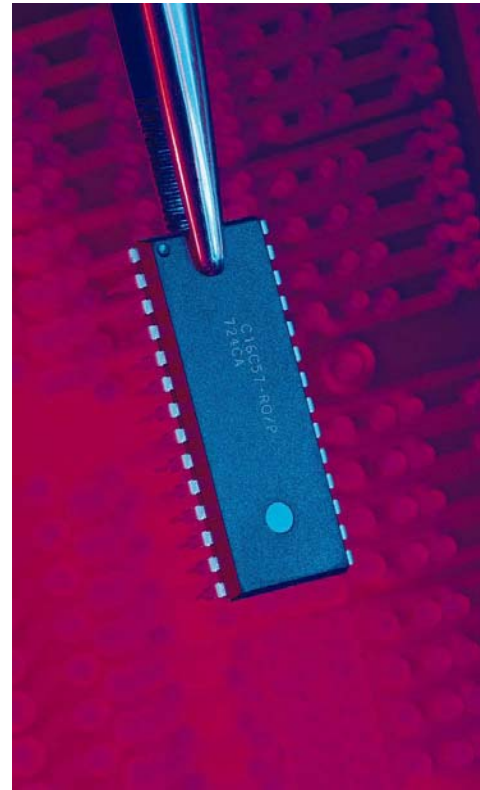
Current Trends

- Number and type of organizations asserting patent rights continues to evolve
- Large corporations generally ignore first notice without “evidence of use”
- Difficult for smaller organizations or companies new to licensing to be noticed



How Assertive Licensing is Done Today

1. Define Licensing Strategy
2. Mine the Patent Portfolio
3. Select and Target Licensees
4. Gather Evidence
5. Negotiate



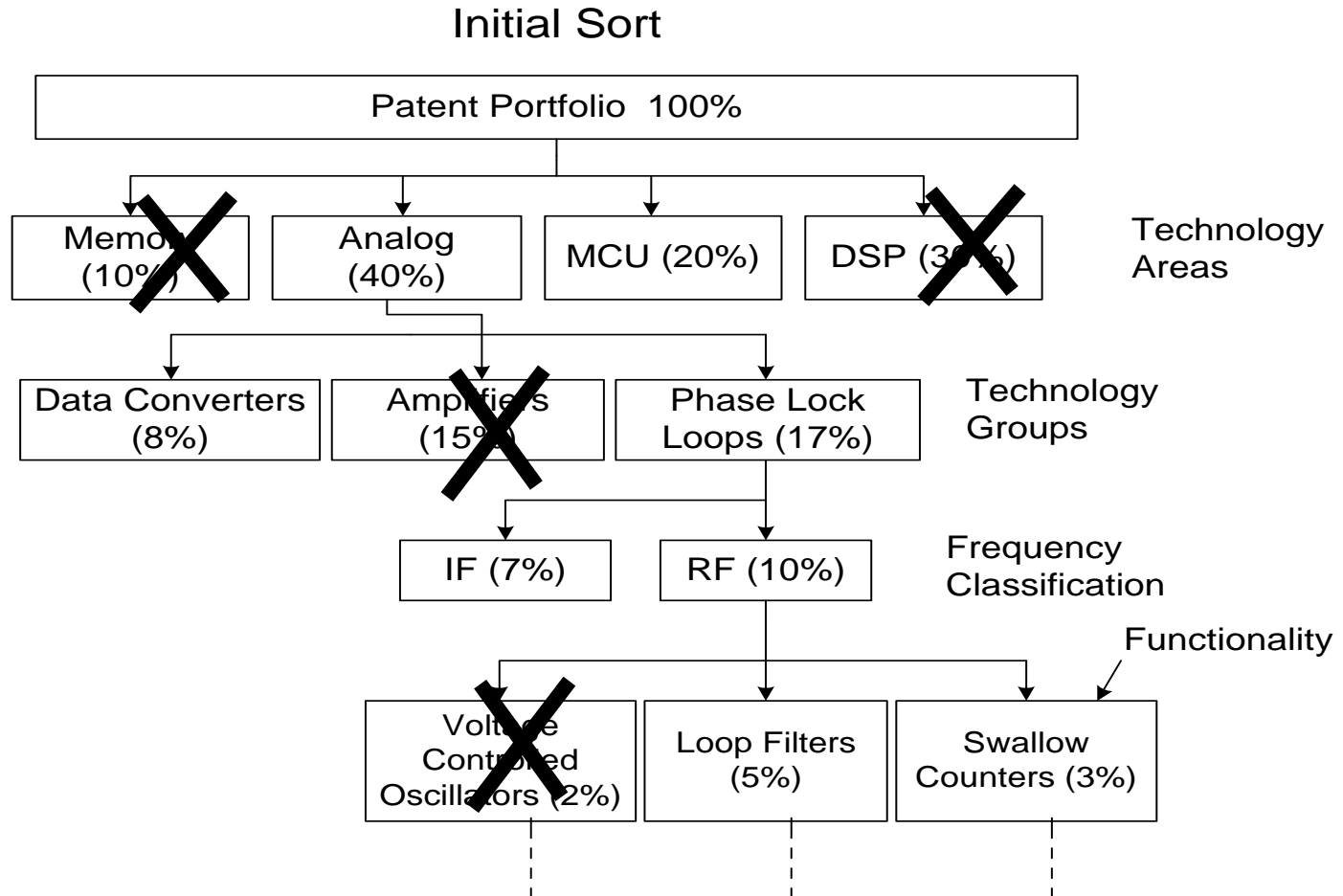
Step 1: Define Strategy

- Core vs. Non-core technology
 - Retaliation risk
- Impact of program on existing relationships
 - Customers
 - Partners
 - Investors
 - Competitors
- Corporate willingness/aversion to litigation
- Expected return on investment and timeframe
- Available resources - \$ and people



Step 2: Portfolio Mining

Portfolio Organization



Step 3: Select Potential Licensees

- Assess candidates by market & product revenues, product availability, and technical alignment with patents
- Investigate parallel technologies that could be relevant to your portfolio



The Result

A prioritized list of high potential licensees and target products
Position yourself for successful licensing program

Step 4: Gather Evidence

- Detailed and precise reverse engineering and testing
 - Materials and structures
 - Circuit extraction and analysis
 - Leading edge electrical testing and measurement
- Documented evidence



The Result

Establish credibility with potential licensees
Accelerate negotiation cycle
Maximize value of the portfolio

Claim Elements

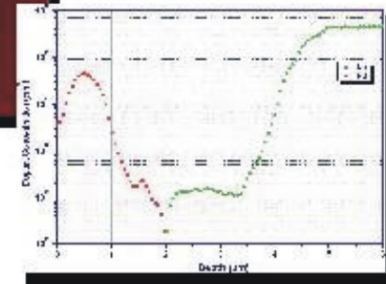
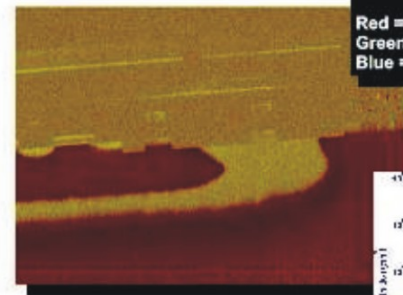
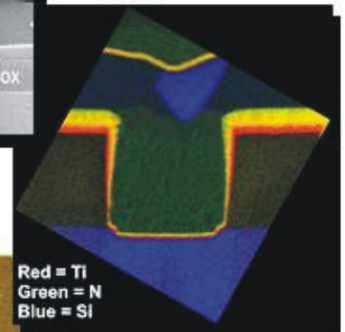
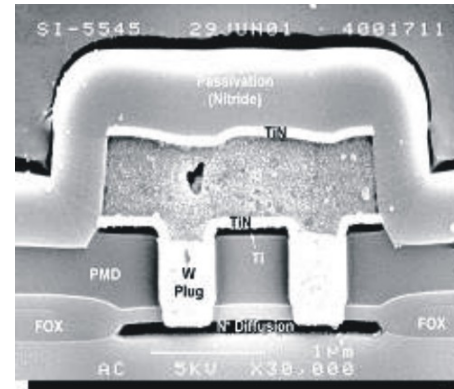
"Method and apparatus for programming and testing a non-volatile memory cell for storing multibit states"

1. A method of programming a select non-volatile memory cell of a memory array having a pulse generator circuit integrated with said memory array, said select memory cell having a floating gate for storing charges therein to control the flow of current in a channel, said method for programming said select memory cell to one of a plurality (more than two) of states with each state controlling a different amount of current flowing in said channel with a first state of said select memory cell controlling the least amount of current flowing in said channel, said method comprising: receiving a plurality of binary signals; converting said plurality of binary signals into a select state of said plurality of states for said select memory cell; generating a first pulse by said pulse generator and applying said first pulse in the event said select state is said first state; reading said select memory cell; and reapplying said first pulse to said select memory cell in the event said select memory cell is not programmed to said select state; or generating a second pulse by said pulse generator and applying said second pulse in the event said select state is other than said first state, with said second pulse smaller than said first pulse; reading said select memory cell; and reapplying said second pulse to said select memory cell in the event said select memory cell is not programmed to said select state.

Step 4: Structural Analysis

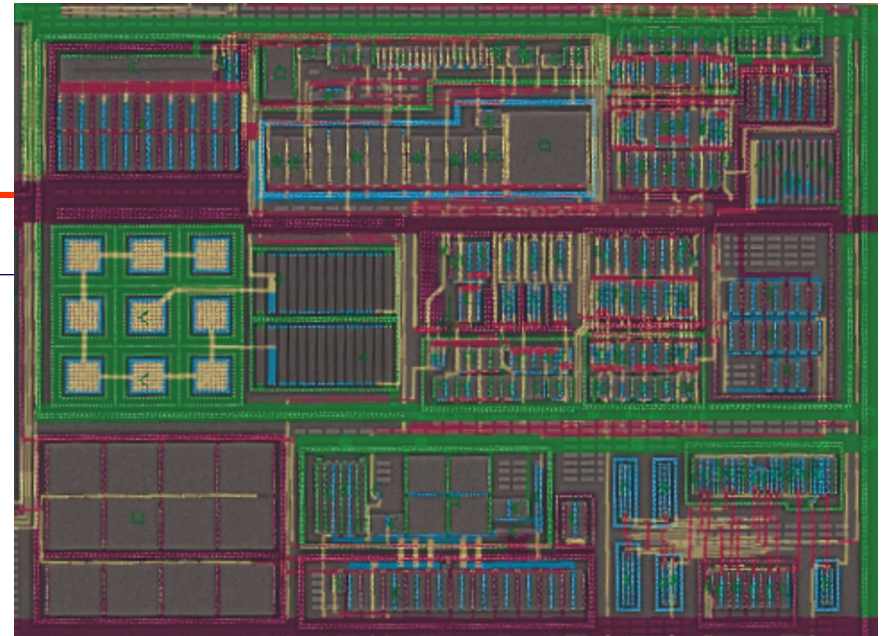
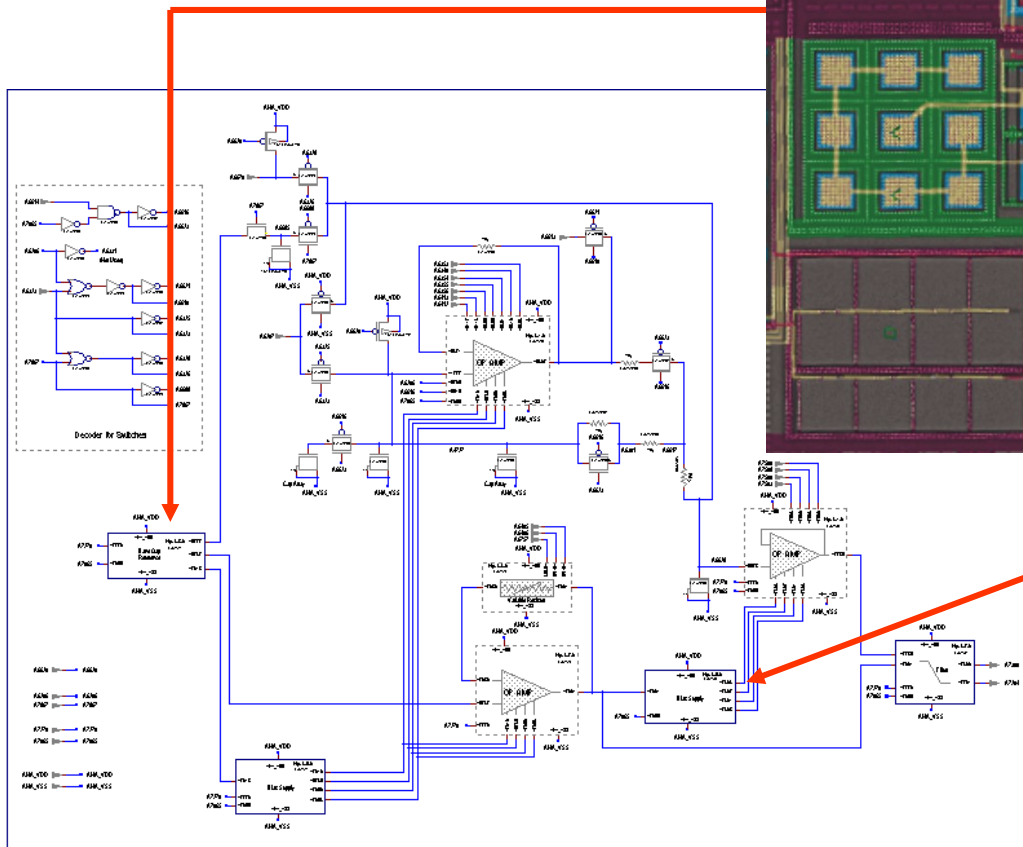
Possible techniques include:

- Materials analysis
- Packaging analysis
- Layout elements
- Process flow /mask count
- Foundry I.D.



Step 4: Circuit Extraction

A BandGap Reference Circuit



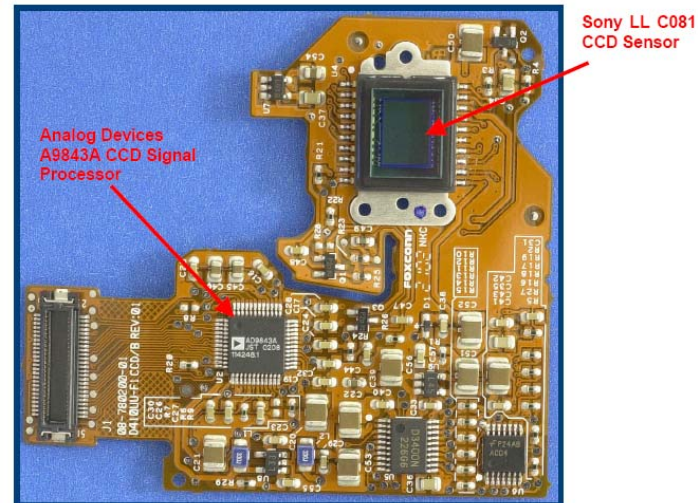
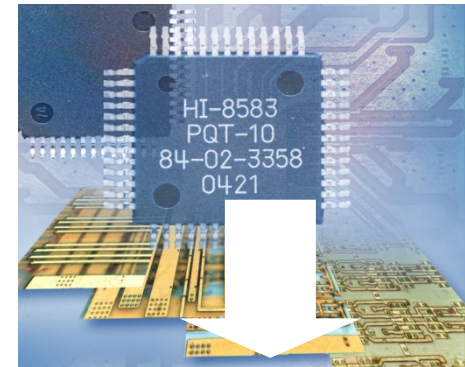
Layers M3-M1 and Poly visible

A Bias Supply Circuit For Op Amp

Schematic always referenced to layout

System Level Analysis

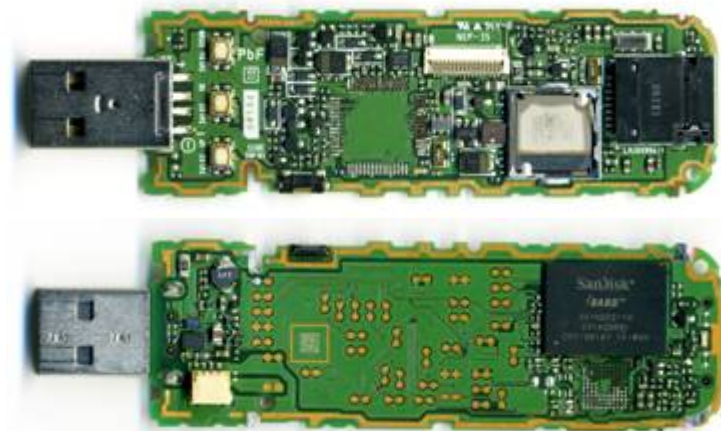
Understand certain behaviors, operations, or functions that extend beyond a single IC



Quick Case Study#2

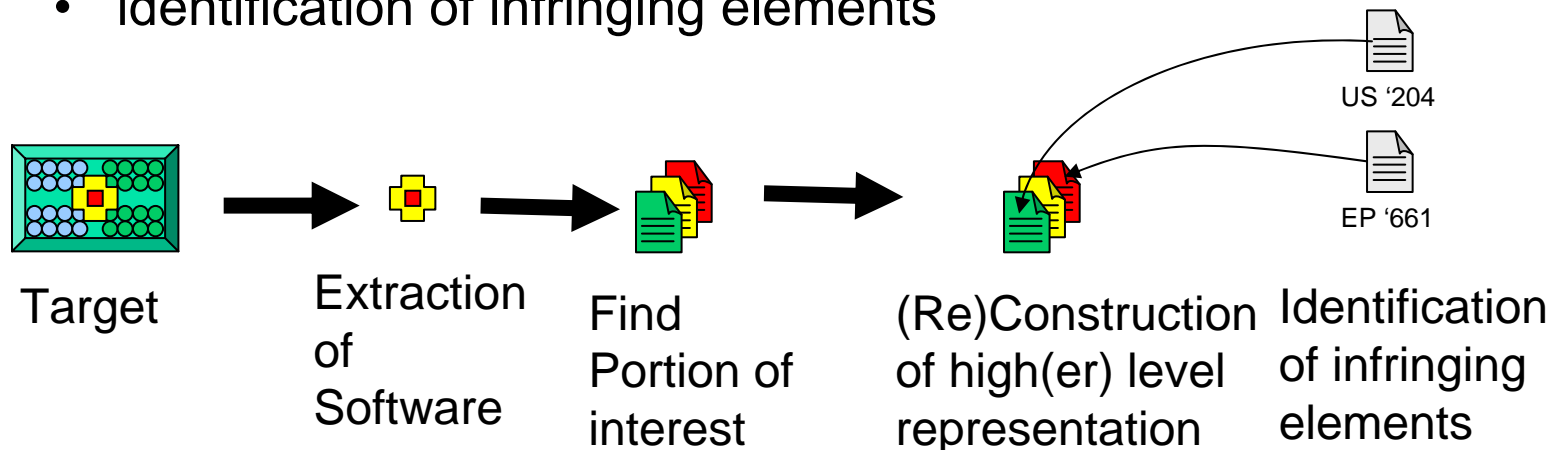
Blood Glucose Meter Analysis

- A client wanted to confirm the wave form during entire the period before, during, and after the blood sample applied on the test strip
- UBM Techinsights extracted circuit schematics from microcontroller chip on the meter and launched wave form analysis on node during the entire operation



Software Reverse Engineering

- What's involved in Software RE?
 - extraction of software from a device, code update, installer, etc
 - analysis of software
 - (re)construction of a high(er)-level representation of the software
 - identification of infringing elements



Step 5: Negotiations

1. Notify target
2. Technical Discussions
 - When and how to present claim charts?
 - Counter arguments of invalidity and non-infringement
 - Counter assertion
3. Business Discussions
4. Desired Outcome/Litigate/Walk Away

Key Points

- Patents are a key business asset that needs to be generating a return on investment
- Assertive licensing can be a significant source of revenue if done correctly
 - Regularly mine your patent portfolio
 - Systematically identify potential licensees
 - Use hard evidence to drive deals

Thank you for your time

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