

Exhibit 2017
Zynga, Inc. v. Personalized Media Communications, LLC
Case IPR2013-00171 (SCM)

OCEAN TOMO PATENT QUALITY INVENTOR STUDY

April, 2011

The U.S. has transitioned to an innovation based economy with intellectual property (IP) taking center stage. Eighty percent (80%) of company value is comprised of intangible assets, according to the Ocean Tomo Intangible Asset Market Value Study released earlier this year.

One of the largest components of value, corporate intangibles can often be traced directly to the women and men responsible – the inventors holding the most significant patents. In order to recognize significant individual contributors, Ocean Tomo, the leading intellectual capital merchant bank™ firm, undertook a study of top patent inventors relative to the quality of their 2010 issued and in-force patents.

The Ocean Tomo Patent Quality Inventor Study ranks the top three inventors within four technology sectors: wireless, biotech, industrials and semiconductors. Requiring only a minimum of five issued patents, the ranking is based on the average patent IPQ® score for each inventor's 2010 issued and active U.S. patents within noted U.S. Patent Office Classifications. Ocean Tomo PatentRatings® IPQ scores objectively rate patent assets based on a proven statistical methodology, with a median score being 100.

WIRELESS (USPC 455, 370 & 375)

In Wireless, the top rated inventor with 16 patents in USPC 455, 370 & 375 is John Christopher Harvey. These patents have an average IPQ score of 235.7 which puts his patents in the top 0.1% of the approximate 220,000, active US utility patents granted in 2010. He is followed by Joseph J. Kubler with 7 patents within the technology area and an average IPQ® score of 204.8. Completing the top three in this category is Naoko Iwami, with 6 patents and an average IPQ score of 195.8.

1st Inventor ¹	Avg. IPQ® Score ²	Patent Count ³	Percentile ⁴	Current Assignee(s) ⁵
Harvey; John C	235.7	16	0.1%	Personalized Media Communications LLC
Kubler; Joseph J.	204.8	7	0.3%	Broadcom Corp.
Iwami; Naoko	195.8	6	0.5%	Hitachi Ltd.

The top rated patent within the technology area for each of these three inventors include:

Patent Number ⁶	IPQ® Score ⁷	Rating ⁸	Title ⁹	Issue Date ¹⁰	Nominal Expiration Date ¹¹	1st Inventor ¹
7848316	229.0	A+	Hierarchical data collection network supporting packetized voice communications among wireless terminals and telephones	12/7/2010	10/5/2015	Kubler; Joseph J.
7738447	236.1	A+	Voice communication system and voice communication method	6/15/2010	12/13/2014	Iwami; Naoko
7747217	259.5	A+	Signal processing apparatus and methods	6/29/2010	6/29/2027	Harvey; John C.

BIOTECH (USPC: 435 & 436)

In Biotech, Travis Mickle is the top rated inventor. The 16 patents that fall within USPC 435 and 436 have an average IPQ score of 185.1. This average lands his patents in the top 1% of all active US utility patents. James G. Metz ranks second within this technology area with an average IPQ for his 13 patents at 171.1. He is followed by Joseph A. Sorge, with 8 patents and an average IPQ of 168.7.

1st Inventor ¹	Avg IPQ® Score ²	Patent Count ³	Percentile ⁴	Current Assignee(s) ⁵
Mickle; Travis	185.1	16	0.9%	Shire plc
Metz; James G.	171.1	13	1.7%	Martek Biosciences Corp.
Sorge; Joseph A.	168.7	8	3.0%	Hologic Inc.

The top rated patent within the technology area for each of these three inventors include:

Patent Number ⁶	IPQ [®] Score ⁷	Rating ⁸	Title ⁹	Issue Date ¹⁰	Nominal Expiration Date ¹¹	1st Inventor ¹
7642074	217.5	A+	PUFA polyketide synthase systems and uses thereof	1/5/2010	3/26/2024	Metz; James G.
7662788	195.4	A+	Abuse-resistant amphetamine prodrugs	2/16/2010	4/10/2026	Mickle; Travis
7794935	202.2	A+	Compositions for detection of a target nucleic acid sequence	9/14/2010	10/29/2019	Sorge; Joseph A.

INDUSTRIALS (USPC: 324, 318 & 060)

In Industrials, Stephen Brown was the top Inventor with 7 patents in USPC 324, 318 and 060. Having an average IPQ score of 159.4 places those 7 patents in the top 6% of all active US utility patents. The second ranked inventor is Kevin I. Bertness with 6 patents and an average IPQ score of 146.9 placing his patents among the top 8.9% of all active US patents. He is followed by Lee D. Whetsel, with an average IPQ score of 134.0, his 10 patents are among the top 14.7% of all in-force US patents.

1st Inventor ¹	Avg IPQ [®] Score ²	Patent Count ³	Percentile ⁴	Current Assignee(s) ⁵
Brown; Stephen J.	159.4	7	5.3%	Health Hero Network
Bertness; Kevin I.	146.9	6	8.9%	Midtronics, Inc.
Whetsel; Lee D.	134.0	10	14.7%	Texas Instruments Inc.

The top rated patent within the technology area for each of these three inventors are:

Patent Number ⁶	IPQ [®] Score ⁷	Rating ⁸	Title ⁹	Issued Date ¹⁰	Nominal Expiration Date ¹¹	1st Inventor ¹
7765111	219.6	A+	Method and apparatus for remove health monitoring and providing health related information	7/27/2010	11/17/2012	Brown; Stephen J.
7706991	192.7	A+	Alternator tester	4/27/2010	7/29/2016	Bertness; Kevin I.
7808264	199.1	A+	Method and apparatus for die testing on wafer	10/5/2010	10/31/2016	Whetsel; Lee D.

SEMICONDUCTORS (USPC: 438, 257 & 365)

In Semiconductors, Howard Rhodes is the top inventor with 16 patents in USPC 438, 257 and 365. With an average IPQ score of 149.1, his 16 patents rank among the top 9% of all active US utility patents. He is followed by Kristy Campbell, with 9 patents included in the study group with an average IPQ score of 147.4, placing her patents among the top 8.9% of all US issued patents. Alan Wood's patents with an average IPQ score of 145.7 places his six patents within the top 8.9% of all issued US patents.

1st Inventor ¹	Avg IPQ [®] Score ²	Patent Count ³	Percentile ⁴	Current Assignee(s) ⁵
Rhodes; Howard E.	149.1	16	8.9%	Aptina Imagin Corporation/Micron Technology, Inc./OmniVision Technologies, Inc./Round Rock Research, LLC
Campbell; Kristy A.	147.4	9	8.9%	Micron Technology Inc.
Wood; Alan G.	145.7	6	8.9%	Micron Technology, Inc.

The top rated patent within the technology area for each of these three inventors are:

Patent Number ⁶	IPQ [®] Score ⁷	Rating ⁸	Title ⁹	Issued Date ¹⁰	Nominal Expiration Date ¹¹	1st Inventor ¹
7659205	167.8	A+	Amorphous carbon-based non-volatile memory	2/9/2010	7/27/2024	Campbell; Kristy A.
7678691	214.5	A+	Method of making a semiconductor device having improved contacts	3/16/2010	3/7/2015	Rhodes; Howard E.
7833832	194.8	A+	Method and system for fabricating semiconductor components with through interconnects	11/16/2010	12/28/2026	Wood; Alan G.

The study was performed using the Ocean Tomo PatentRatings® system the first market-validated software platform for objectively assessing patent quality, relative value, and competitive trends for patents, patent portfolios, companies, and technology sectors. The Ocean Tomo PatentRatings® System uses a patented method of patent quality valuation, (USP 6,556,992 7,657,476 and 7,716,226 and other US and foreign patents pending) that is statistically based calculating the relative quality of all patents issued by the U.S. Patent Office since 1976 using more than 50 independent and objective factors that are correlated to patent value.

METHODOLOGY

The top three inventors featured in this study were identified using the following process:

1. Starting with a list of the first or lead named inventors issued 5 or more patents from the USPTO in 2010 within selected technology areas as defined by the US Patent Classification (USPC) System.
 - BioTech defined by USPC 435 - Chemistry: molecular biology and microbiology and USPC 436 - Chemistry: analytical and immunological testing
 - Semiconductors: USPC 438 - Semiconductor device manufacturing: process, USPC 257 - Active solid-state devices (e.g., transistors, solid-state diodes) and USPC 365 - Static information storage and retrieval
 - Wireless: USPC 455 - Telecommunications, USPC 370 - Multiplex communications and USPC 375 - Pulse or digital communication
 - Industrials: USPC 324 - Electricity: measuring and testing, USPC 318 - Electricity: motive power systems and USPC 060- Power plants)
2. The inventors were ranked by the average IPQ® score of their in-force patents within the noted USPCs to determine the top 3 inventors within the technology areas.

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- 1 1st Inventor – Lead inventor named on issued US patent
 - 2 Avg IPQ® Score: Average IPQ for lead inventors' 2010 issued & in-force US patents within designated USPC group
 - 3 Patent Count: Number of 2010 issued & in-force US patents for lead inventor within designated USPC group
 - 4 Percentile: Percentile ranking among all 2010 issued in-force US patents
 - 5 Current Assignee: The most current owner based on the USPTO's Assignment database as recorded at the time of data capture, which maybe different from the original assignee on the face of the patent document.
 - 6 Patent Number: The identification number for a patent issued by the U.S. Patent and Trademark Office (USPTO)
 - 7 IPQ® Score: Output from Ocean Tomo's PatentRatings® system, uses 50 independent and objective factors that are correlated to patent commercial value, where 100 is a median quality, above 100 indicates above average quality relative to all issued US patents.
 - 8 Rating: Output from Ocean Tomo's PatentRatings® system, correlates to IPQ® Score as defined above
 - 9 Title: Summary description of the invention
 - 10 Issue Date: The date the patent was issued by the USPTO
 - 11 Nominal Expiration Date: The projected date of patent expiration based on USPTO data

SOURCE: OCEAN TOMO PATENTRATINGS® DATA (PATENTRATINGS.COM); AS OF APRIL, 2011.
