

# Q3 2015 Public PAE Report

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Publicly traded patent assertion entities (“PAEs”) are a relatively recent phenomenon. Over the past few years, the proliferation of public PAEs has cast some light on the ways in which PAEs seek to earn revenue based on their primary factors of production—capital and patents.

Over the past four quarters alone, the public PAEs detailed in this report have raised over \$761 million in the debt and equity markets while spending more than \$164 million on over 21 patent portfolios. The acquired patents, which relate to a variety of sectors, will likely be enforced by the PAEs.

Even with all of this activity, the public PAE industry is still considered too niche to have widespread, comprehensive coverage by sell-side equity analysts who independently research and analyze companies to generate investment recommendations. The dearth of insight into these companies has enabled a contingent of speculators and day traders who opine—often incorrectly—on what legal developments will mean for the prospects of future settlements or revenue for these companies.

In addition to the lack of sell-side coverage of PAEs, the art of analyzing public equity markets and SEC filings is generally not a core strength of many IP professionals, putting them at a disadvantage when encountering public PAEs as counterparties in patent transactions and/or as potential courtroom adversaries.

Since its inception in 2008, RPX has striven to increase transparency in the patent markets. To that end, this RPX Public PAE Report offers analysis of public PAEs and provides summary statistics for a variety of metrics relevant to the public market, including financial performance and enforcement activity. The goal of this report is to deliver comprehensive information that gives IP professionals unique perspective on public PAEs.

# Key Findings

Note: Aggregate figures and counts are relative to the 23 public PAEs detailed in this report.

- Taken as an index, public PAEs have underperformed the NASDAQ over the past quarter at (17.9%) versus (7.8%), and over the last twelve months at (16.1%) versus 2.8%. Only eight public PAEs had a positive stock price performance in the third quarter of 2015. Please see charts 1, 2, and 3.
- Public PAEs tend to be small—only three public PAEs have market capitalizations greater than \$1 billion as of September 30, 2015. Please see chart 4.
- Aggregate royalty revenue for public PAEs was \$355 million in the third quarter of 2015, yet only seven PAEs had royalty revenue above \$10 million. Please see charts 5 and 6.
- Despite underperforming the NASDAQ, PAEs have raised more than \$761 million across 20 transactions over the past 12 months. Please see charts 10 and 11.
- Only eight public PAEs have more than \$50 million in cash and seven have less than \$5 million as of September 30, 2015. Please see chart 14.
- Public PAEs are prolific acquirers of patent portfolios, with 21 disclosed purchases over the last 12 months. Please see chart 15 and 16.
- While cash is the most prevalent form of consideration in public PAE patent acquisitions, the majority of transactions include some mix of contingencies (i.e. back-end arrangements). Please see chart 19.
- Public PAEs are also prolific plaintiffs, accounting for 21 new campaigns and 154 new cases over the last 12 months, representing 443 active defendants as of September 30, 2015. Please see charts 20, 23, and 24.

# Methodology

RPX continuously strives to improve the accuracy and scope of its data and may make minor changes to methodology and underlying data presented in future analyses and reports. In addition, certain aspects of RPX's methodology may result in slight changes as time passes.

## Timing

- This report reflects available financial information as of November 25, 2015, which encompasses Q3 2015 reports and filings for all but one company highlighted in the report. Data are collected when the selected public PAEs report financial data, which can take two to three months after the close of a fiscal quarter or year, thus contributing to the time-gap between the availability of this report and the end of the quarter.
- For companies with off-cycle financials that do not coincide with standard quarter- and year-ends of March 31, June 30, September 30, and December 31, financial data were taken from the quarter with the closest associated end-date.

## Public PAE Definition

- For purposes of this report, a public PAE is a publicly traded entity with revenue, activities, or market valuation largely related to patent assertion.

## Public PAE Identification

- RPX identifies public PAEs through a manual review process performed by experienced employees with knowledge of the patent industry.

- The process includes, among other things, reviewing public filings; searching for evidence of operating or patent monetization activities on the Internet, including company websites; reviewing complaints, with a focus on accused products and allegations regarding products and/or services sold by the patent owner; considering the outside counsel employed by the entity (e.g. whether outside counsel has a history of representing public PAEs); reviewing corporate disclosure statements filed in litigation; and soliciting market intelligence from patent professionals.
- The public PAEs for this particular report represent the largest, most established public PAEs as well as several recently formed public PAEs that have become public via reverse mergers.
- While there are elements of subjectivity in this approach, RPX believes that the process is robust based on feedback from other patent professionals.

## Data Set

- This report uses data from publicly available sources (public filings, press releases, company websites, etc.) and from RPX's proprietary litigation database.

## Primary Market Sector

- RPX patent professionals classify portfolios into proprietary market sectors. Each portfolio offered may be classified into multiple market sectors. For purposes of this report, only the most relevant or "primary market sector" is used.

### Cases Filed

- “Cases filed” refers to filed actions. A single case filed may include multiple defendants. The date for a case filed is the date on which it was originally filed.

### Campaign, New Campaigns Filed, Total Campaign Defendants, and Unique Campaign Defendants

- “Campaign” refers to all cases filed by the same plaintiff (inclusive of all members in the corporate family) where each case has at least one patent or family member of a patent in common with another case in the campaign.
- “Campaigns filed” refers to unique campaigns. The date for a campaign filed is the filing date of the first case filed in the campaign. For example, if a campaign includes ten cases, there will be only one new campaign filed; the filing date for the campaign is established by the filing date of the first case filed in the campaign.

### Litigation Identification

- RPX excludes false marking cases, misfiles, and ownership disputes.

### PAE Related Entities

- RPX’s proprietary litigation database rolls up certain related PAEs into a single public PAE entity. RPX has manually identified these relationships by, among other things, reviewing corporate disclosures, patent assignment records, and RPX market intelligence. For example, Acacia has numerous subsidiaries that RPX has identified. These entities are all represented as Acacia in this report’s analyses.

### Small Cap and Large Cap PAEs

- A small cap PAE is a public PAE with a market cap of less than \$300 million, and a large cap PAE is a public PAE with a market cap greater than or equal to \$300 million, as of the end of the reporting quarter.

### Patent Transaction Identification

- This report notes patent acquisitions and patent sales that any PAE on the selected list has disclosed in public filings, press releases, or any other publicly available and credible source.

### PAE Financings Classification

- Financings classified as Equity deals are deals publicly identified as Bought Deals, Follow-ons, PIPEs, Private Placements, Registered Directs, Rights Offerings, or Warrant Sale.
- Financings classified as Debt deals are deals publicly identified as Debt, Loan Facilities, or Secured Notes.
- Financings classified as Hybrid deals are deals publicly identified as Convertible Debentures, Convertible Notes, Convertible Senior Notes, or Senior Convertible Notes.

### Historical Data

- For the purpose of consistency, historical PAE data are not adjusted quarter over quarter if the PAE list is modified due to various reasons (bankruptcy, acquisition, discontinuation of PAE activity, etc.). Historical data may change to reflect differences in public disclosure over time.

## Market Data

The following pages feature charts and highlights relating to PAE market performance.

## Public PAE Overview

Large Cap Companies	Ticker	Stock Price (As of 9/30/15)	Market Cap (\$USD M)	Q3 2015			Last 12 Months		
				High	Low	Stock Performance (% change)	High	Low	Stock Performance (% change)
InterDigital	IDCC	\$50.60	\$1,817.2	57.59	46.19	(11.2%)	\$60.69	\$38.64	27.1%
Tessera	TSRA	32.41	1,689.1	38.09	31.57	(14.5%)	43.71	24.84	21.9%
Rambus	RMBS	11.80	1,373.1	14.47	10.65	(17.5%)	15.49	9.87	(5.4%)
Rovi	ROVI	10.49	946.7	17.54	9.67	(34.2%)	26.44	9.21	(46.9%)
Acacia	ACTG	9.08	460.7	9.84	7.97	7.1%	19.93	7.88	(41.3%)
<b>Small Cap Companies</b>									
WiLAN	WILN	1.81	218.1	2.29	1.74	(16.3%)	3.01	1.74	(40.1%)
Pendrell	PCO	0.72	192.5	1.61	0.72	(47.4%)	1.86	0.67	(46.3%)
VirnetX	VHC	3.56	186.4	4.66	2.88	(16.4%)	8.09	2.71	(40.7%)
Unwired Planet	UIP	0.73	81.4	0.86	0.60	15.1%	1.90	0.54	(61.0%)
SITO Mobile	SITO	4.00	65.4	6.00	3.40	3.9%	6.15	1.48	(4.8%)
Vringo	VRNG	0.56	62.0	0.70	0.44	0.9%	1.14	0.39	(40.8%)
Network-1	NTIP	2.02	47.1	2.70	1.80	8.0%	2.99	1.49	(6.0%)
ITUS	ITUS	4.75	41.4	5.90	3.10	18.8%	8.95	1.39	(20.8%)
Finjan Holdings	FNJN	1.65	37.2	2.32	1.30	19.6%	3.31	1.16	(50.5%)
Crossroads Systems	CRDS	1.30	30.5	1.44	0.96	(7.8%)	3.05	0.95	(54.4%)
Marathon Patent Group	MARA	1.85	26.5	3.32	1.85	(34.9%)	9.73	1.51	(74.3%)
ParkerVision	PRKR	0.19	18.5	0.46	0.19	(52.1%)	1.33	0.18	(83.6%)
Inventergy	INVT	0.39	14.2	0.43	0.26	11.4%	1.80	0.23	(78.1%)
Spherix	SPEX	0.34	11.7	0.58	0.21	(26.1%)	1.65	0.20	(78.2%)
Document Security Systems	DSS	0.17	8.0	0.29	0.16	(36.1%)	0.85	0.15	(80.8%)
Patriotic Scientific	PTSC	0.01	5.8	0.04	0.01	(51.7%)	0.08	0.01	(73.9%)
Walker Innovation	WLKR	0.28	5.8	1.40	0.28	(80.1%)	2.76	0.26	(89.4%)
Endeavor IP	ENIP	0.00	0.2	0.00	0.00	(50.0%)	0.03	0.00	(98.7%)

Note: Last 12 months data through end of Q3 2015.

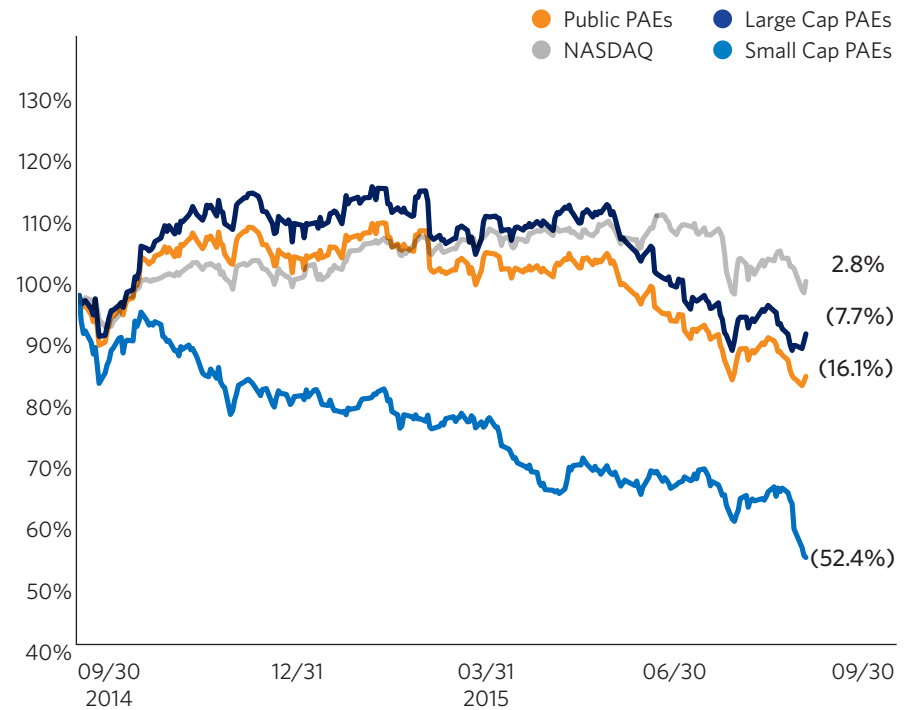


# Public PAEs Have Underperformed the Market

Chart 1: Q3 2015 Index Chart



Chart 2: Last 12 Months Index Chart as of 9/30/2015



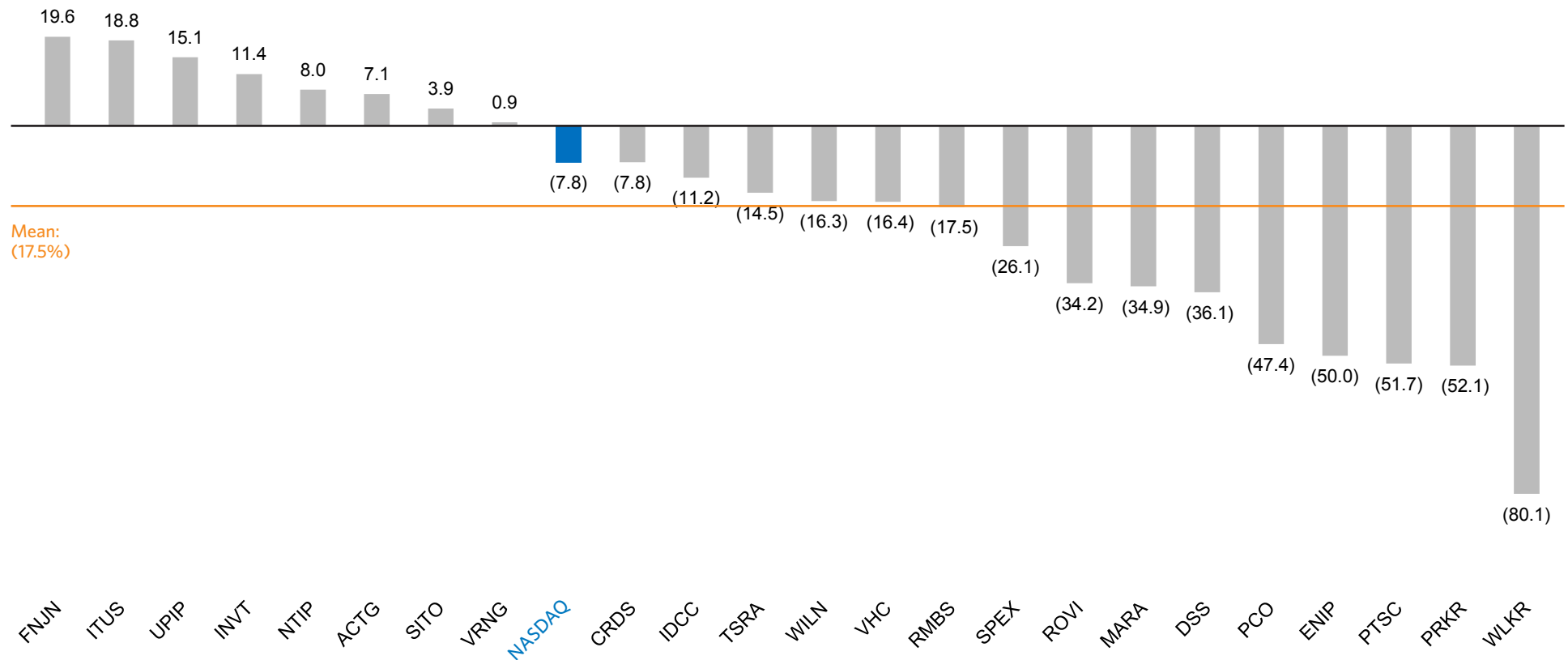
**Methodology Note:**

The "Public PAEs", "Large Cap PAEs", and "Small Cap PAEs" indices are market cap weighted—each stock is weighted based on its market capitalization, with larger companies carrying a larger percentage weighting of the index.

## Q3 2015 Stock Performance Has Been Sluggish Overall

**Chart 3: Q3 2015 Stock Performance Percentage**

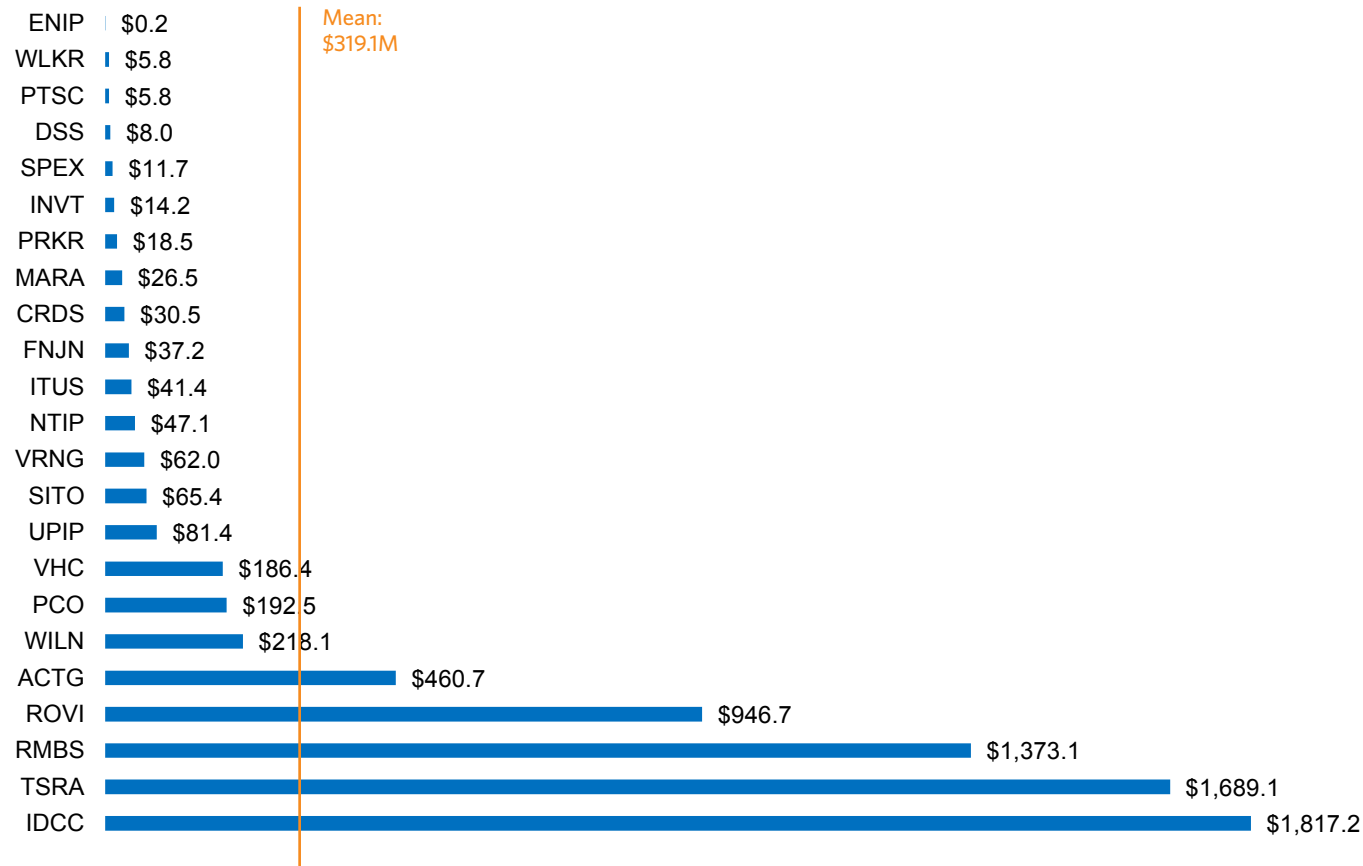
With the exception of a few companies, public PAEs generally underperformed the market in Q3 2015.



## Public PAE Market Cap Summary as of Q3 2015

**Chart 4: Public PAE Market Cap (\$USD M)**

There are only three public PAEs with a market cap over \$1 billion, with the majority of public PAEs under a market cap of \$100 million.



## Financial Data

The following pages feature charts and highlights relating to key financial data for public PAEs.

## Royalty Revenue is Below Two-year Average

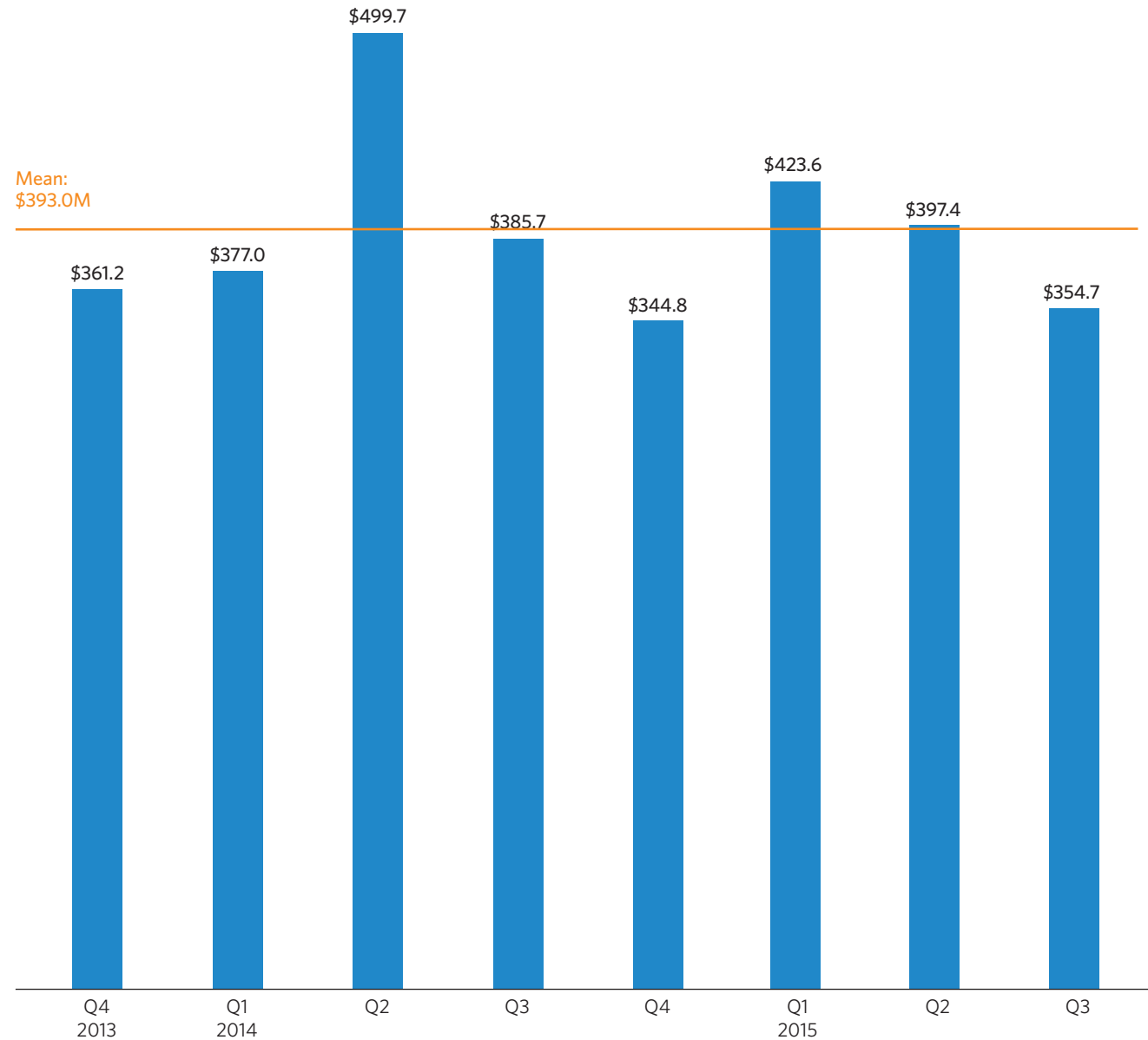
**Chart 5: Total Royalty Revenue (\$USD M)**

Royalty revenue has been inconsistent since Q4 2013.

**Methodology Note:**

Revenue is considered "royalty revenue":

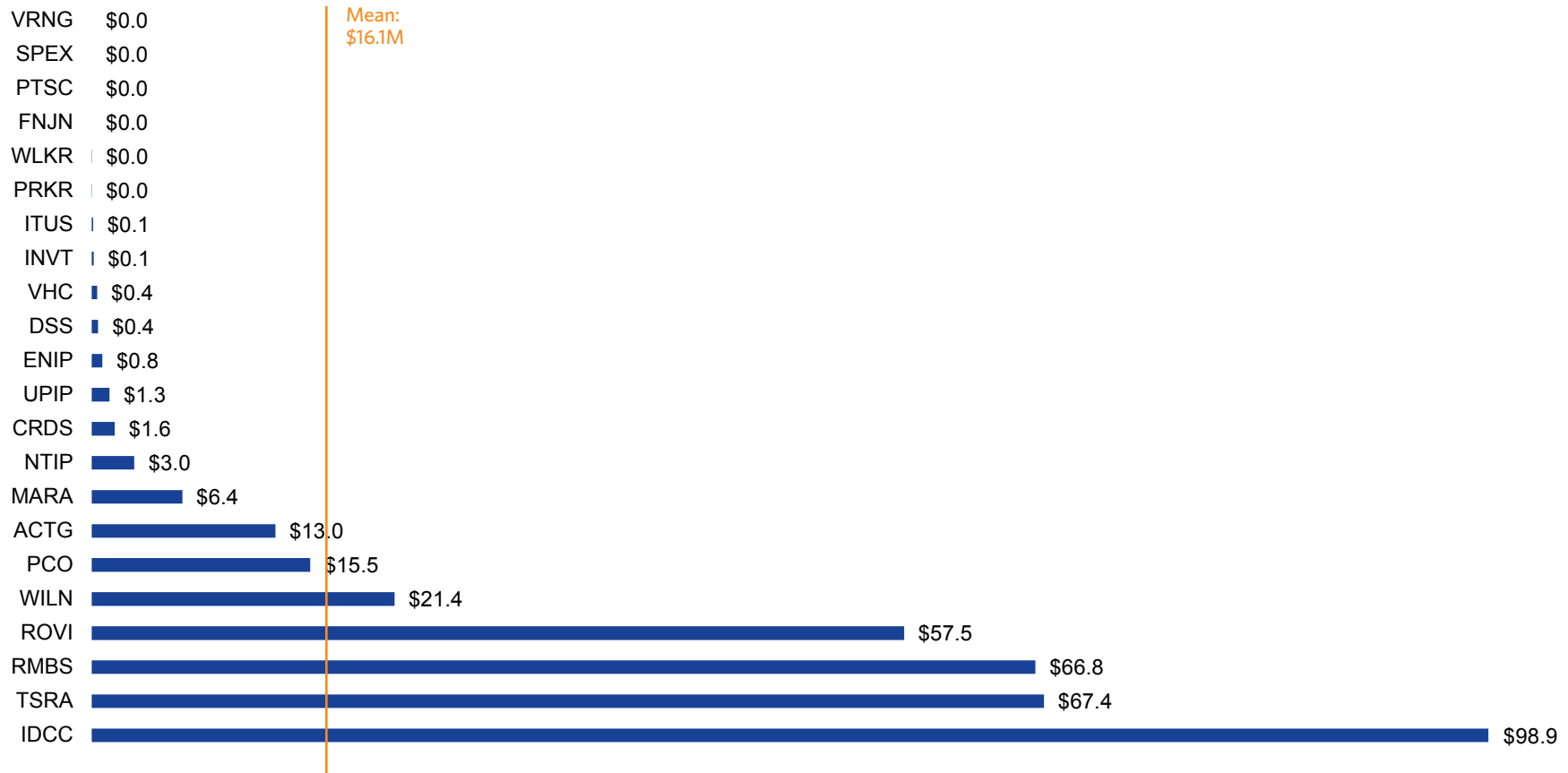
- If it is specifically classified or broken out as royalty or licensing revenue
- If the public PAE's only source of revenue is from licensing its patents



## Royalty Revenue Was Largely Driven by a Small Number of PAEs in Q3 2015

**Chart 6: Total Q3 2015 Royalty Revenue (\$USD M)**

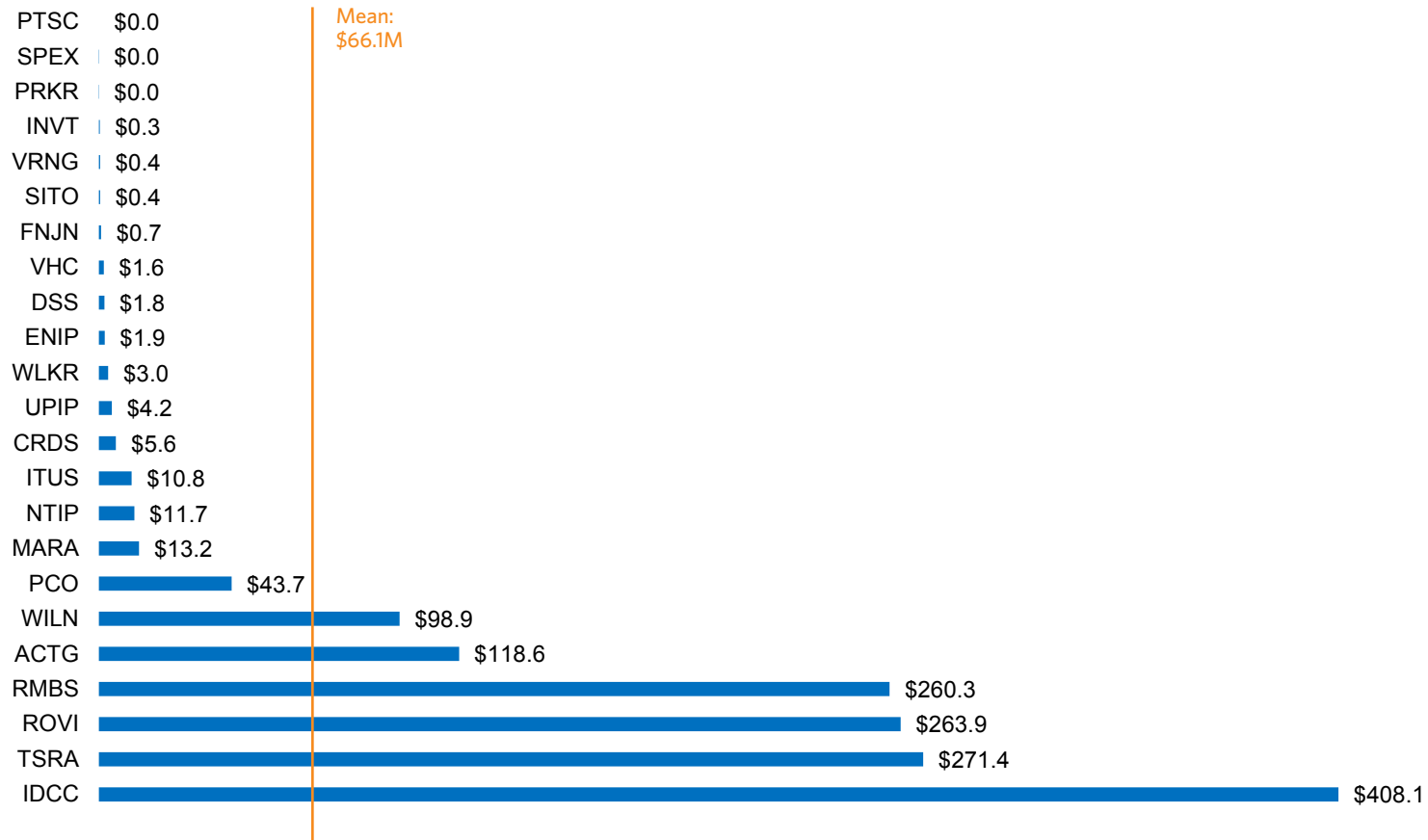
Seven public PAEs accounted for 96% of total royalty revenue of all selected public PAEs for Q3 2015.



## ...and over the Last 12 Months

**Chart 7: Last 12 Months Royalty Revenue (\$USD M)**

Four public PAEs accounted for 79% of total royalty revenue of all selected public PAEs for the last 12 months as of Q3 2015. Most have revenue under \$100 million.



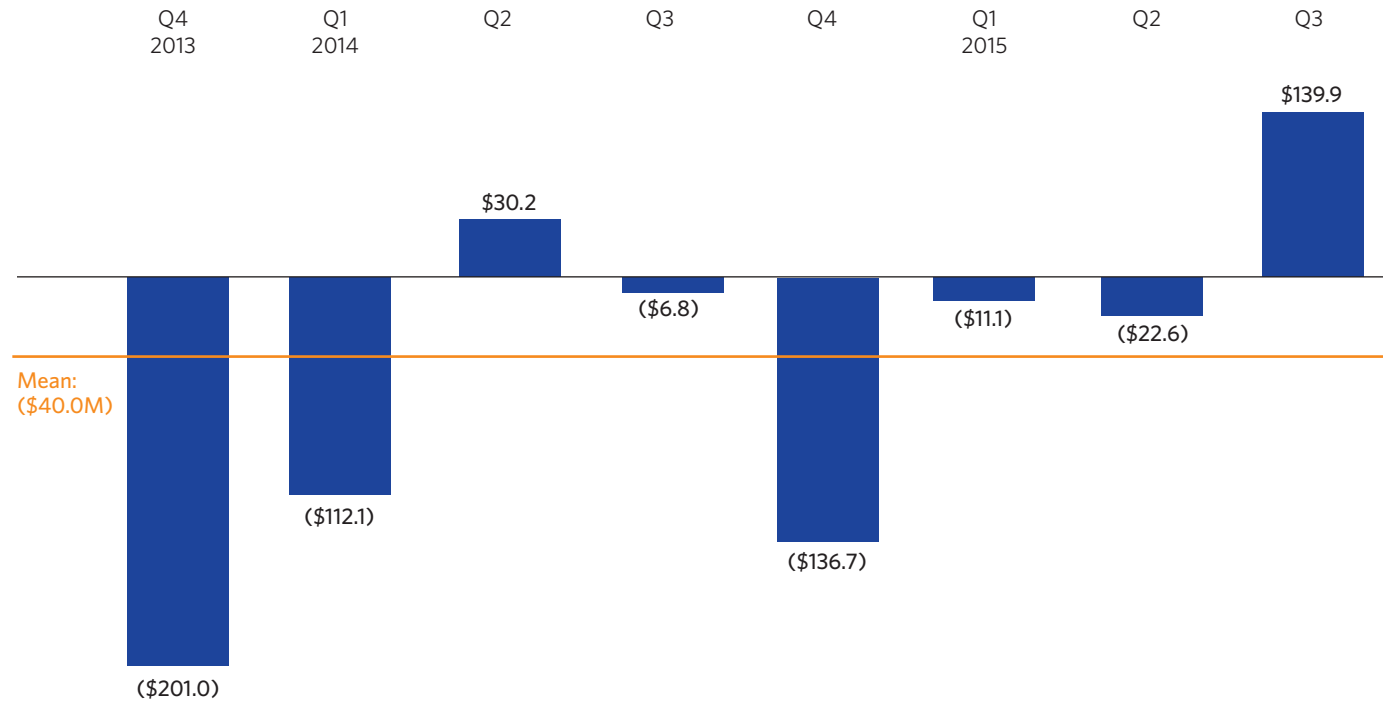
## Pattern of Net Losses for Public PAEs

### Chart 8: Total Net Income/ Loss per Quarter (\$USD M)

Public PAEs have experienced net losses over the past two years, with the exception of Q2 2014 and Q3 2015.

#### Methodology Note:

Net income/loss reflects the operations of the whole company and not specifically the operations related to patent assertion, as most public PAEs do not publicly disclose segmented profit/loss information for their patent assertion businesses.

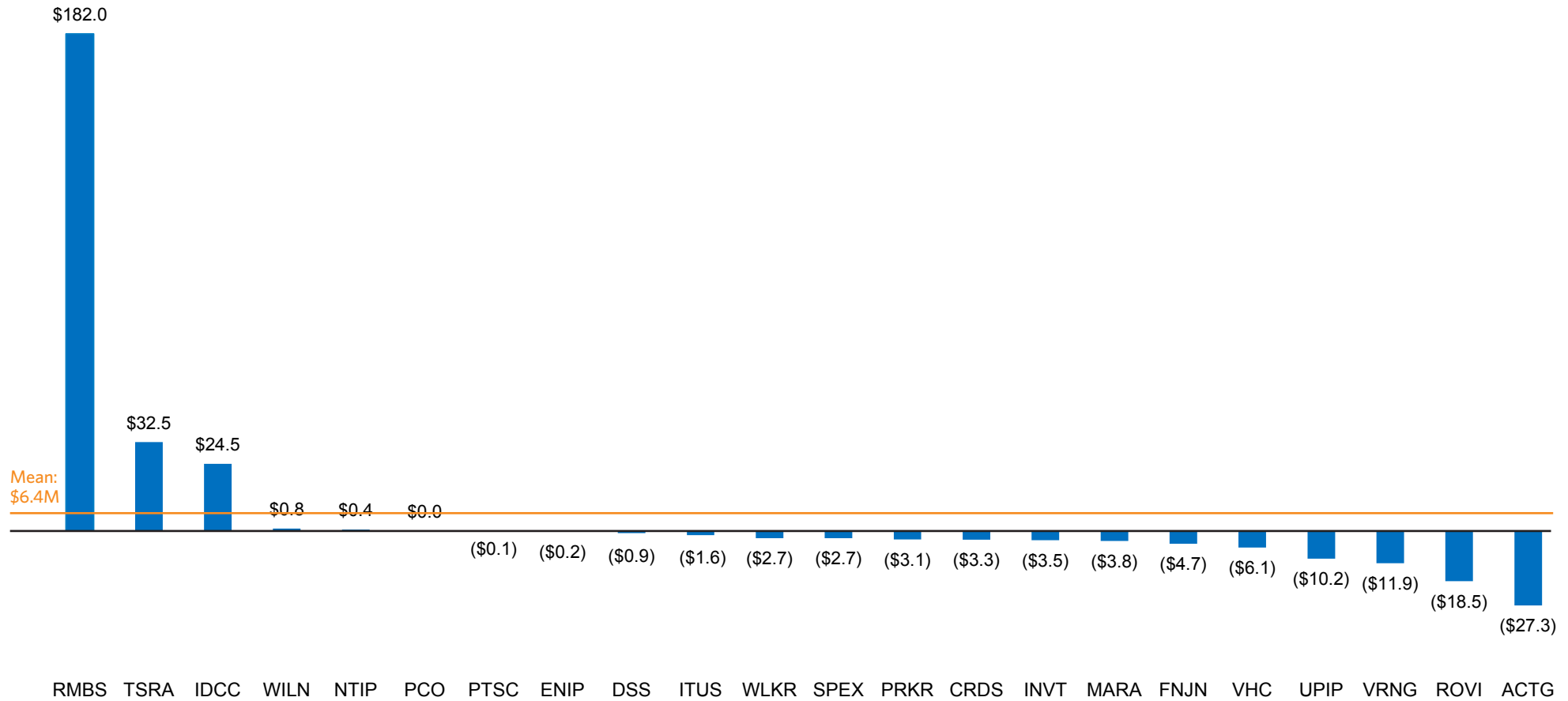




## Net Losses Common Across Most Public PAEs

**Chart 9: Total Q3 2015 Net Income/Loss (\$USD M)**

Only six public PAEs generated positive net income in Q3 2015.



## Detailed List of Public PAE Financings— Last 12 Months as of Q3 2015

During the last twelve months as of Q3 2015, there were nine equity deals totaling \$38 million, five debt deals of \$44 million, and six hybrid deals totaling \$679 million, with a total amount raised of \$761 million.

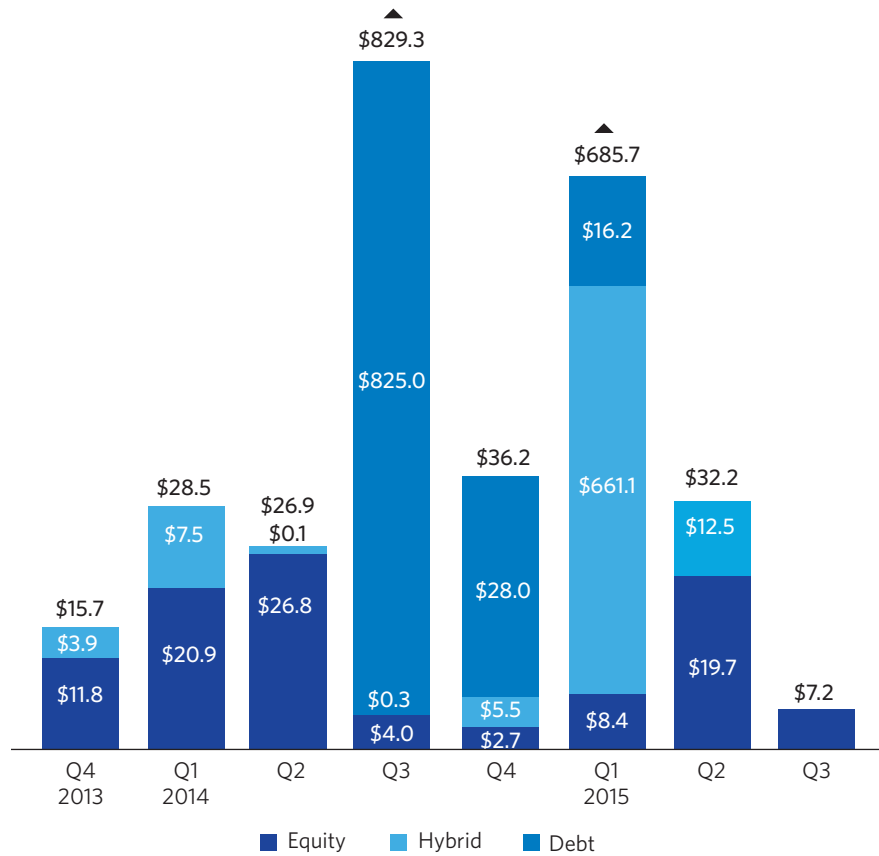
Close Date	Issuer	Type	Amount Raised (\$USD M)
09/01/15	Document Security Systems	Equity	\$1.0
07/28/15	Crossroads Systems	Equity	\$4.9
07/21/15	Spherix	Equity	\$1.3
05/04/15	Vringo	Hybrid	\$12.5
04/20/15	Revolutionary Concepts	Equity	\$17.5
04/06/15	Endeavor IP	Hybrid	\$0.0
04/01/15	Inventergy	Equity	\$2.2
03/11/15	InterDigital	Hybrid	\$316.0
01/29/15	Marathon Patent Group	Debt	\$15.0
01/27/15	Crossroads Systems	Equity	\$7.1

Close Date	Issuer	Type	Amount Raised (\$USD M)
03/04/15	Rovi	Hybrid	\$345.0
02/27/15	Inventergy	Debt	\$1.2
01/16/15	ParkerVision	Equity	\$1.3
01/16/15	Endeavor IP	Hybrid	\$0.1
12/23/14	Document Security Systems	Equity	\$1.7
12/23/14	ParkerVision	Debt	\$7.0
10/16/14	Marathon Patent Group	Hybrid	\$5.5
10/03/14	SITO	Debt	\$10.0
10/03/14	SITO	Equity	\$1.0
10/01/14	Inventergy	Debt	\$11.0

## Financings at Two-year Low in Q3 2015

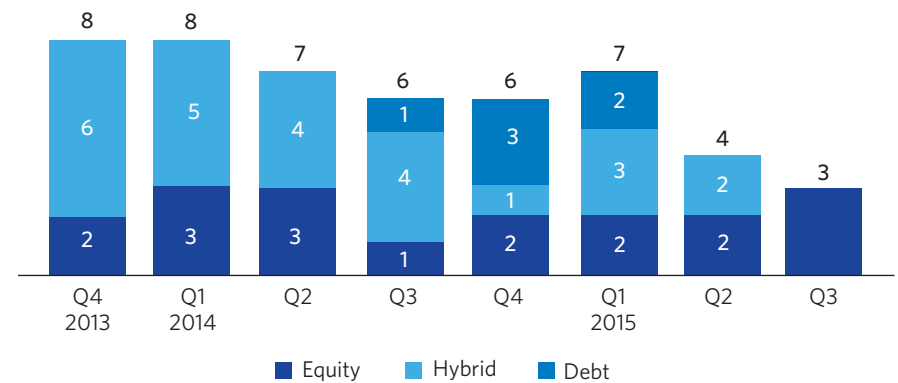
**Chart 10: Total Amount Raised by Type (\$USD M)**

Financings raise an average of \$208 million per quarter.



**Chart 11: Number of Financings by Type**

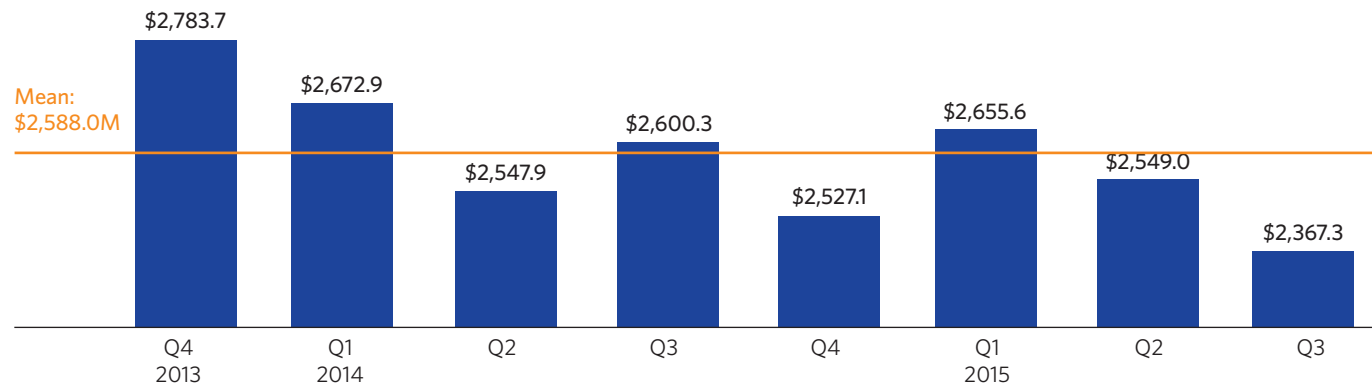
On average, public PAEs have executed six financings (typically hybrid transactions) per quarter. Q3 2015 featured the lowest number in the last eight quarters.



## Public PAE Cash Declining

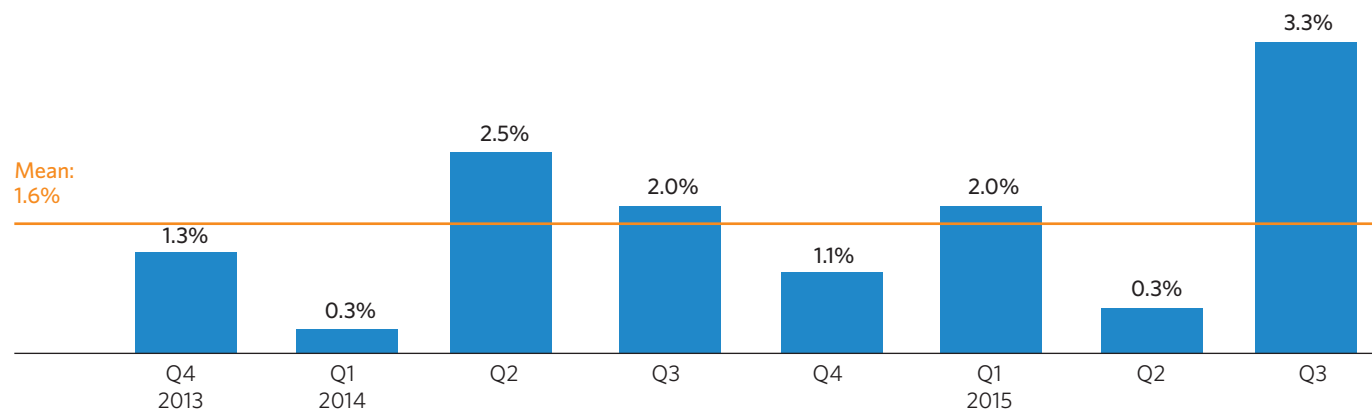
**Chart 12: Total Public PAE Cash Balance per Quarter (\$USD M)**

Since Q4 2013, public PAEs have had an average of \$2.6 billion in cash per quarter.



**Chart 13: Cash Spent to Acquire Patents as a Percentage of Total Public PAE Cash Balance**

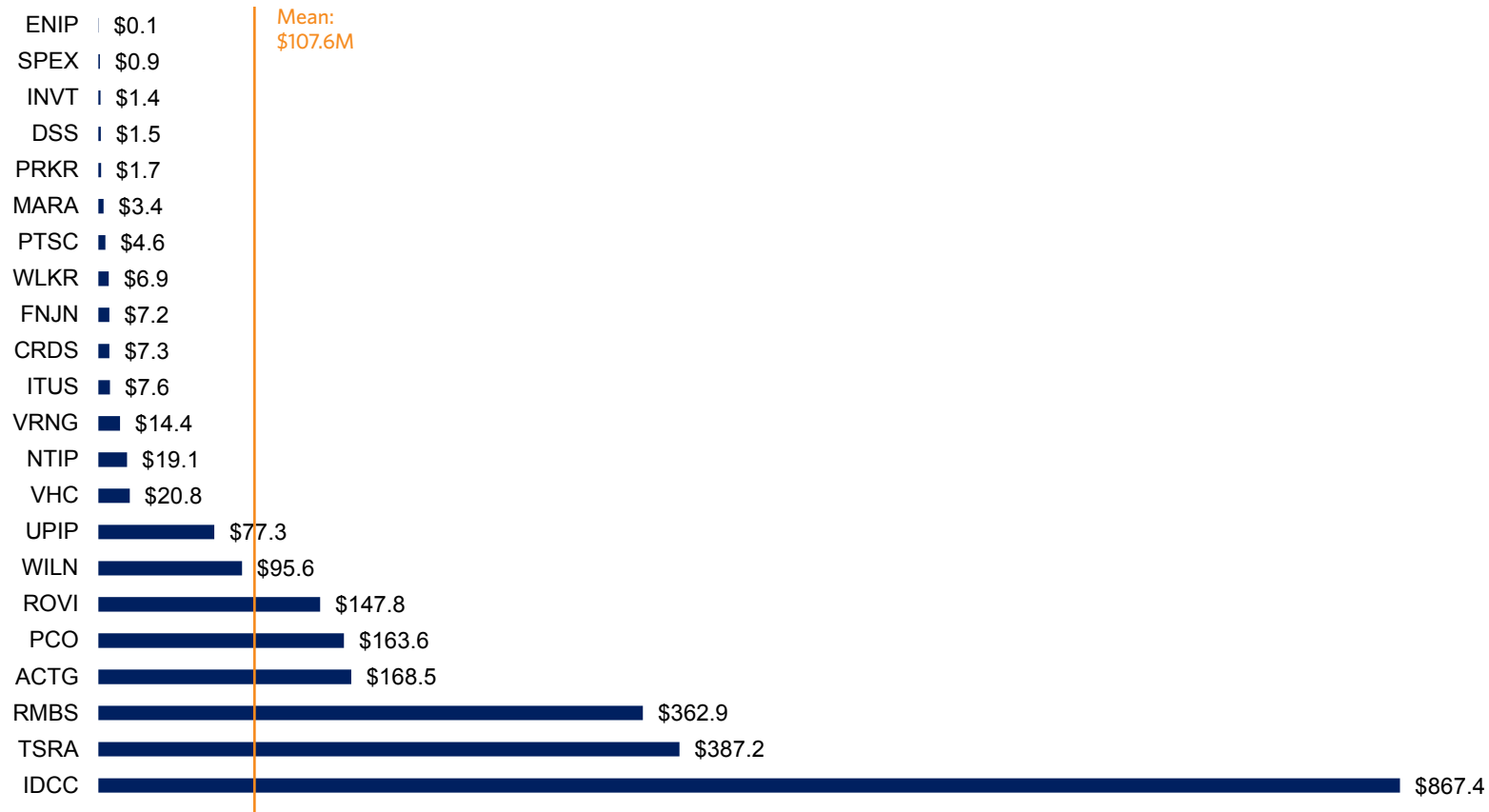
Cash spent on patents has been erratic quarter over quarter, with a high of 3.3% in Q3 2015.



## Cash Is Mostly Concentrated Among a Few Public PAEs

**Chart 14: Total Q3 2015 Cash Balance (\$USD M)**

The top five public PAEs accounted for 82% of the total cash balance of all selected public PAEs in Q3 2015.



## Patent Transactions

The following pages feature charts and highlights relating to public PAE patent acquisitions and sales.

## Disclosed Patent Transactions— Last 12 Months as of Q3 2015

### Patent Transaction Identification

This report notes patent acquisitions and patent sales that any PAE on the selected list has disclosed in public filings, press releases, or any other publicly available and credible source.

Date of Transaction	Acquirer	Seller	Portfolio	Purchase Price (\$USD M)	Number of Assets
8/27/2015	TSRA	Ziptronix	Low-temperature wafer bonding technology	\$32.3	Not disclosed
8/10/2015	ACTG	Not disclosed	Multi-zonal completion of horizontal wells	Not disclosed	Not disclosed
7/21/2015	ACTG	Not disclosed	Efficient operation of websites on the Internet	Not disclosed	Not disclosed
6/25/2015	Not Disclosed	INVT	Mobile communications infrastructure and mobile handset market	\$4.0	2 patent families
6/10/2015	WILN	Funai	Microphone technologies	Not disclosed	Not disclosed
6/2/2015	WILN	Infineon	DRAMs, FLASH memories, semiconductor processes, semiconductor manufacturing, lithography, packaging, semiconductor circuitry, and memory interfaces	\$33.0	Over 7,000 patents and applications
5/28/2015	WILN	Not disclosed	Automation of industrial facilities, including manufacturing plants and refineries	Not disclosed	Not disclosed
5/21/2015	WILN	Not disclosed	Technology that seamlessly transfers communications between Wi-Fi and cellular wireless networks	Not Disclosed	Not disclosed
4/23/2015	MARA	Bridgestone Americas Tire Operations	Tire pressure monitoring sensors and systems	\$10.0	43 patents
4/9/2015	WILN	Not disclosed	Microscopy-related intellectual property for producing enhanced images	Not disclosed	Not disclosed
4/7/2015	FNJN	F-Secure	Cybersecurity	\$0.0	2 patents
3/31/2015	SITO	Not disclosed	Mobile communications/advertising offerings	\$0.2	Not disclosed
2/1/2015	PCO	Not disclosed	Not disclosed	\$2.0	Not disclosed
1/7/2015	WILN	ROHM	Power management in semiconductor devices and systems	Not disclosed	Not disclosed
12/29/2014	AUO	ITUS	ePaper electrophoretic display	\$7.0	10 active US patents and 1 application
12/15/2014	WILN	Not disclosed	Power inverter technology	Not disclosed	Not disclosed
12/1/2014	ACTG	Nokia Networks	2G/3G/LTE and LTE-Advanced technologies	Not disclosed	Not disclosed

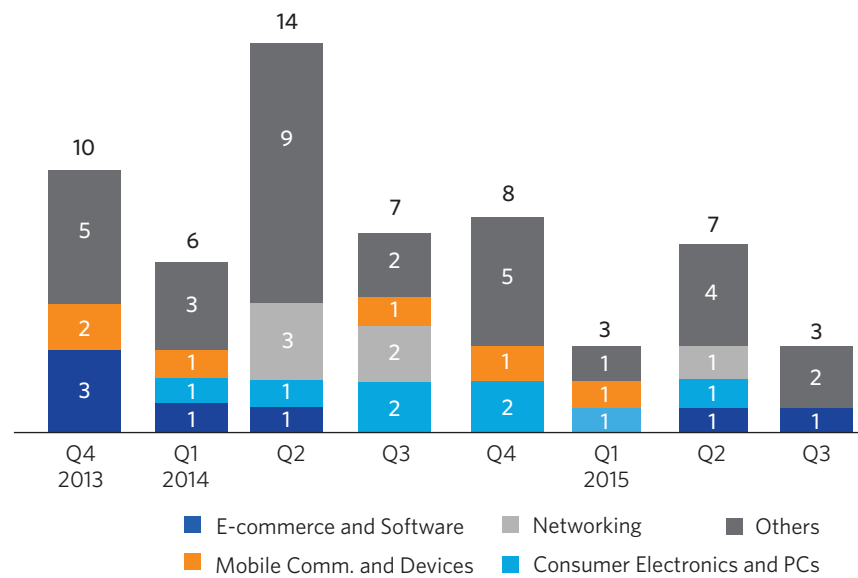
Date of Transaction	Acquirer	Seller	Portfolio	Purchase Price (\$USD M)	Number of Assets
11/13/2014	WILN	Not disclosed	LED lighting	Not disclosed	Not disclosed
11/6/2014	WILN	HP	Lighting and building systems technologies	Not disclosed	Not disclosed
11/5/2014	WILN	Not disclosed	Touch keypads used in consumer electronic devices	Not disclosed	Not disclosed
10/29/2014	WILN	ROHM	Semiconductor packaging	Not disclosed	Not disclosed
10/20/2014	WILN	Panasonic	Vending machine systems	Not disclosed	Not disclosed
10/13/2014	MARA	MedTech Development	Kyphoplasty, intervertebral inserts, and heart valve technology	\$15.5	Not disclosed



## Public PAEs Have Been Active in Acquiring Patents

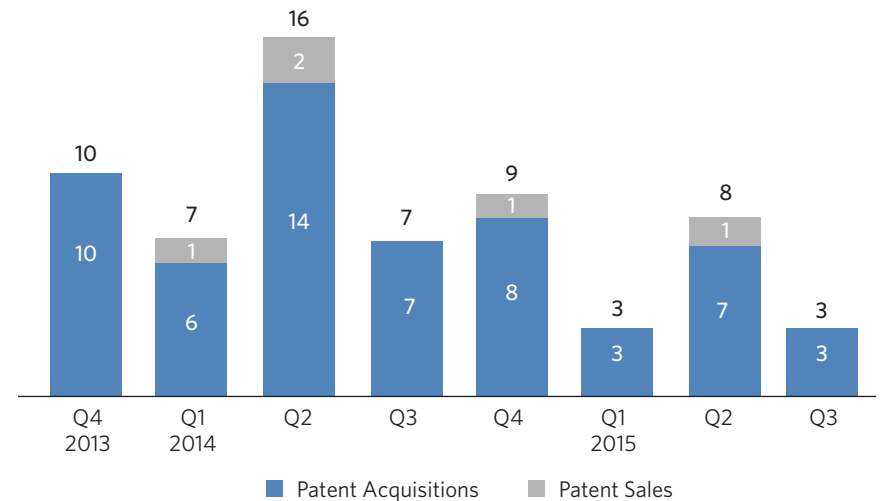
**Chart 15: Number of Disclosed Patent Acquisitions by Sector**

With the exception of the Consumer Electronics and PCs sector, patent acquisitions have been spread out relatively evenly between the other named sectors, with an average of seven total transactions per quarter. Also, since Q2 2014, there has been a falloff in E-commerce and Software patent acquisitions following the Supreme Court's *Alice* ruling.



**Chart 16: Number of Patent Transactions by Type**

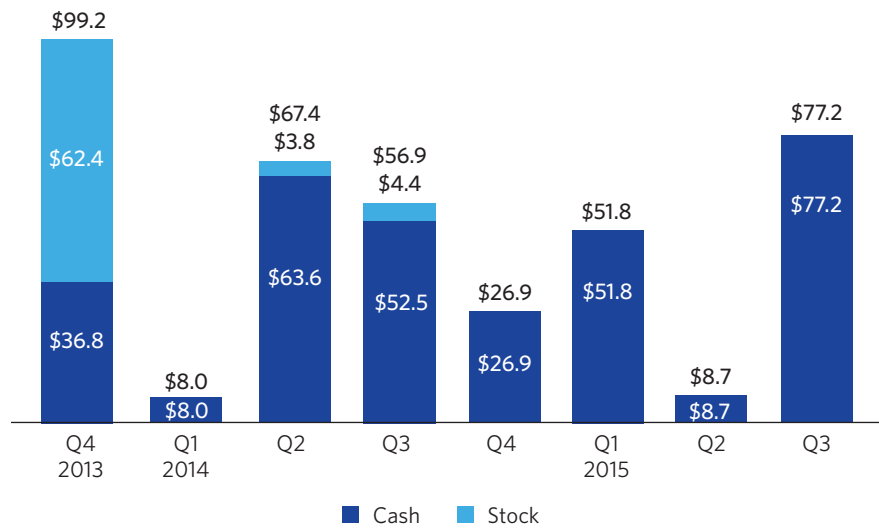
Public PAEs generally buy patents rather than sell them, with an average of eight total transactions per quarter.



## Most Deals Funded by Cash

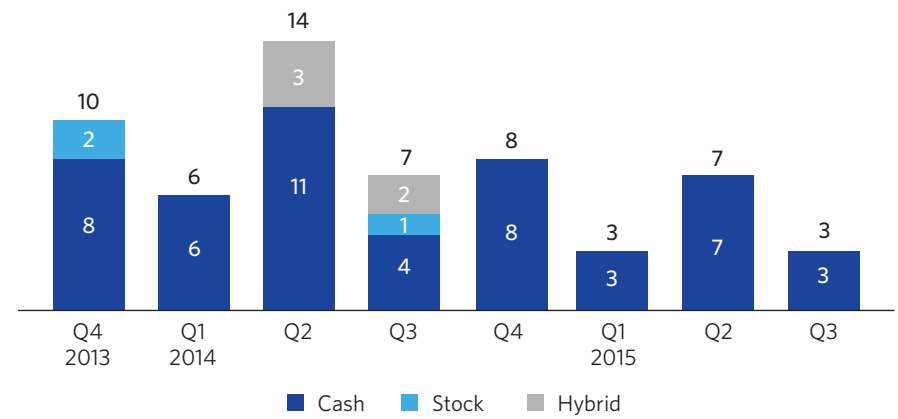
**Chart 17: Capital Spent on Patents by Type—Total \$ Amount (\$USD M)**

Public PAEs typically use cash to finance patent transactions. Since Q4 2013, public PAEs have spent an average of \$50 million per quarter on patents.



**Chart 18: Capital Spent on Patents by Type—Total Count**

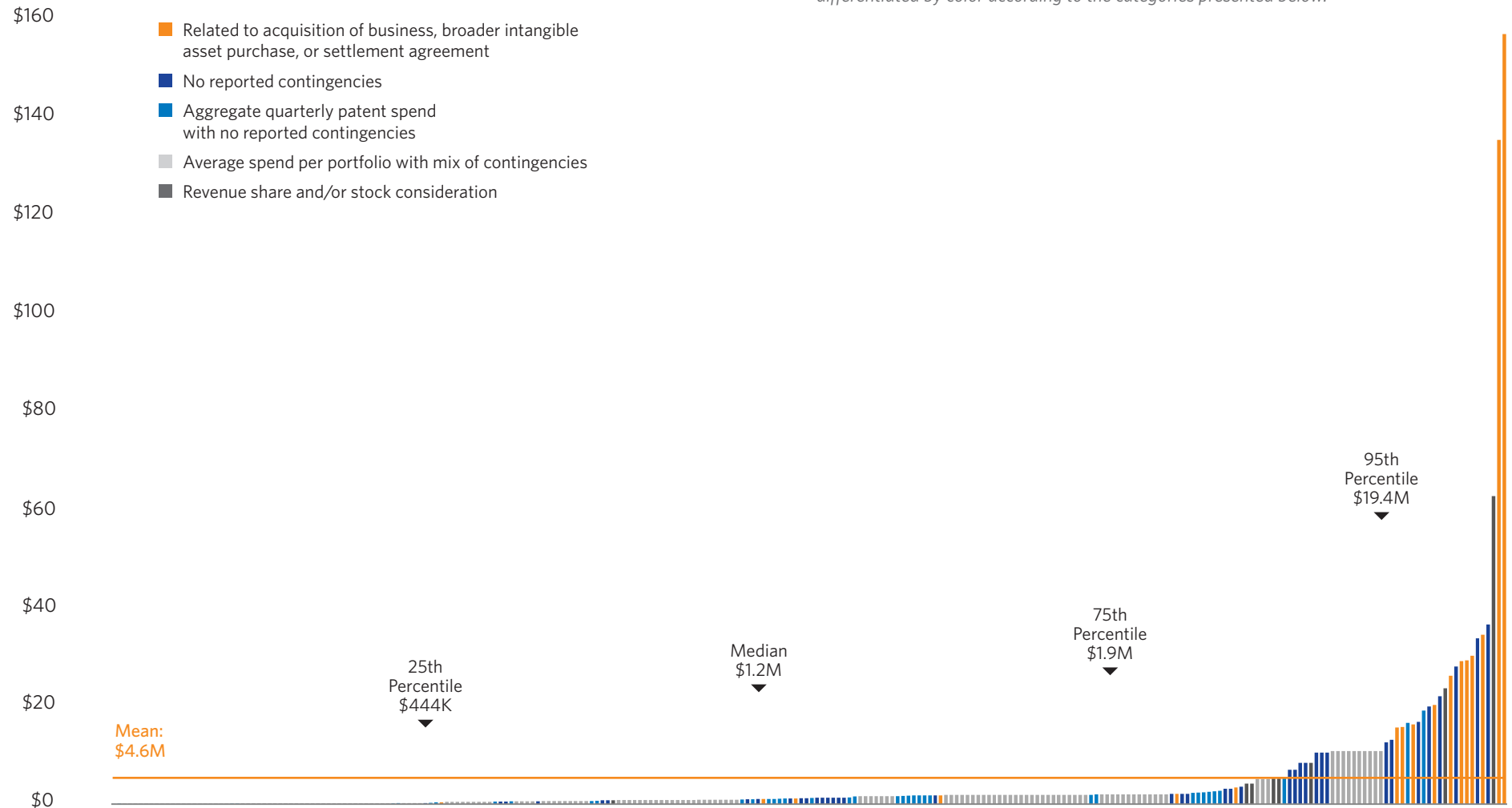
The majority of patent acquisitions have been funded with cash, with an average of seven total patent acquisitions per quarter.



## Guaranteed Purchase Prices of Public PAE Portfolio Acquisitions

**Chart 19: Guaranteed Purchase Prices of Public PAE Portfolio Acquisitions (\$USD M)**

Though there have been sizeable purchase prices for patent portfolios, the majority of recent purchase prices have been modest, hovering around \$1 million.



**Methodology Note:**

This chart displays all portfolio acquisitions, dating back to 2010, for the 23 public PAEs included in this report. For some transactions, the price was publicly disclosed and is identified here. For transactions where the price was not publicly disclosed, RPX took one quarter's acquisition spend and deemed it a single transaction. Finally, the transactions are differentiated by color according to the categories presented below.

## Litigation Data

The following pages feature charts and highlights relating to public PAE litigation data.

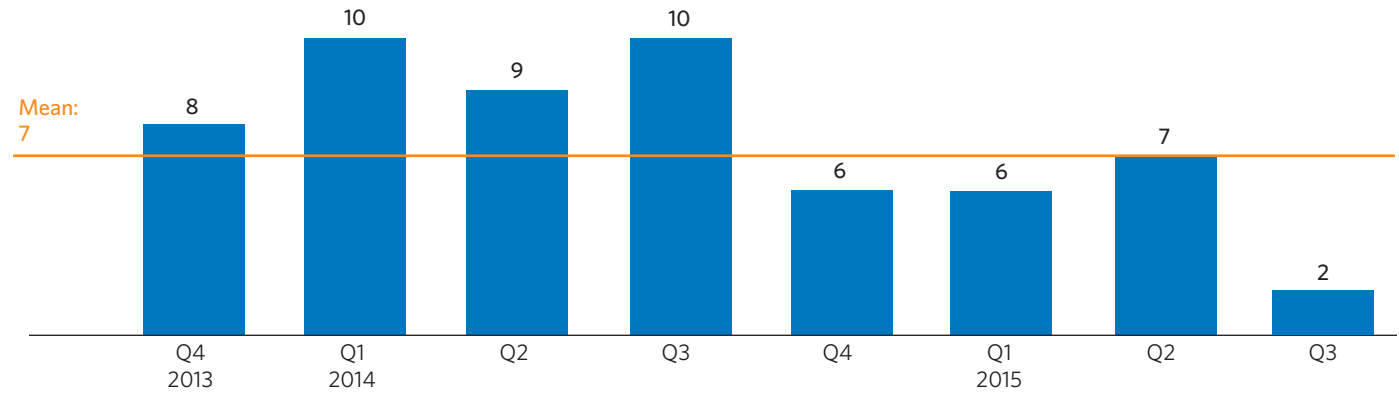
## New Public PAE Campaigns in Q3 2015

Public PAE	Campaign Name	Campaign Summary	Defendant(s) Named in Q1 2015	Number of Patents
Acacia	Rapid Completions LLC	In July 2015, Acacia subsidiary <a href="#">Rapid Completions LLC</a> (RC) filed a single complaint against Baker Hughes, Pegasi, TR Rodessa, and Weatherford International (and subsidiaries thereof), accusing the companies of infringing a group of five related oil and gas patents through various fracking tools ( <a href="#">6:15-cv-00724</a> ). (Peak Completion Technologies was added to the campaign through an amended complaint filed in September.) All five patents-in-suit issued to Packers Plus Energy Services (an operating company) between 2005 and 2014. In October, RC dismissed without prejudice its claims against TR Rodessa. The remaining defendants are active in the campaign as December 2015. Baker Hughes, Pegasi, and Weatherford assert that three of the patents-in-suit are unenforceable due to inequitable conduct. RC has moved for judgment on the pleadings and, alternatively, to dismiss and strike those defendants' allegations of inequitable conduct. That motion has not yet been heard as of the date of this report. This case is the first and only patent infringement suit RC has filed to date. Caldwell Cassady & Curry represents RC in litigation.	Baker Hughes, Pegasi, Peak Completion Technologies, TR Rodessa, and Weatherford International	5
WiLAN	Touchscreen Technology LLC	WiLAN's <a href="#">Touchscreen Technology LLC</a> filed suit against TCL (including its TCT Mobile Limited and TCT Mobile (US) subsidiaries) in July 2015, accusing the company of infringing a single patent through a range of smartphones and tablets ( <a href="#">1:15-cv-00566</a> ). The patent-in-suit ( <a href="#">6,597,345</a> ) issued to Jetway Technologies Ltd., a Taiwanese company, in July 2003. In December 2015, TCT Mobile (US) agreed to withdraw its motion to dismiss Touchscreen Technology's first amended complaint for lack of subject matter jurisdiction, without prejudice to refiling or later challenging Touchscreen's standing, if the NPE agreed to file an amended complaint. Accordingly, Touchscreen has filed a second amended complaint and the case remains active, in scheduling, as of the date of this report. Farnan LLP represents Touchscreen Technology in this case, which is the first and only patent infringement suit the NPE has filed to date.	TCL	1

## Active Public PAE Campaigns Relatively Stable over Time

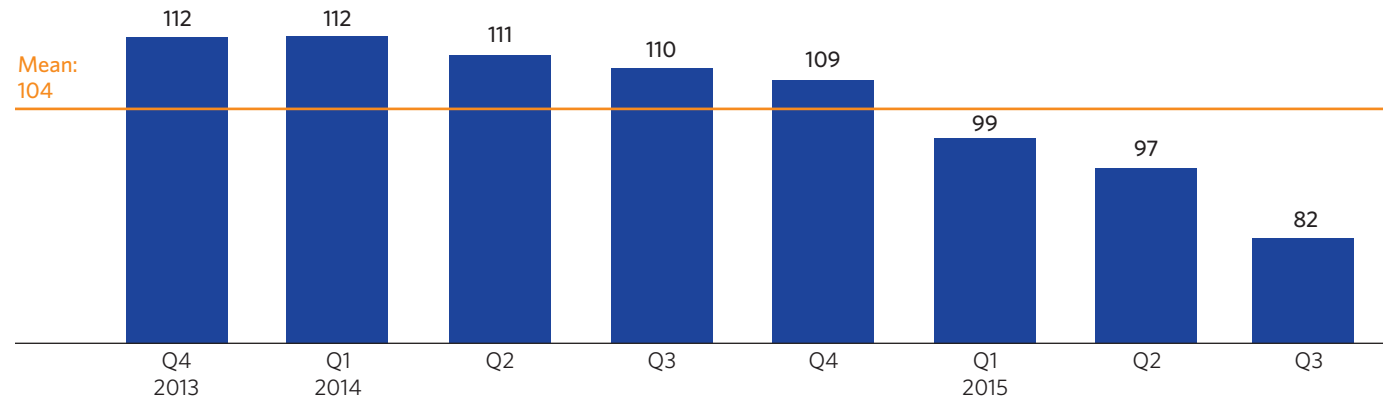
### Chart 20: Total New Campaigns per Quarter

Since Q4 2013, an average of seven new campaigns have been initiated every quarter.



### Chart 21: Total Active Campaigns per Quarter

The number of active campaigns has been trending down in recent quarters.



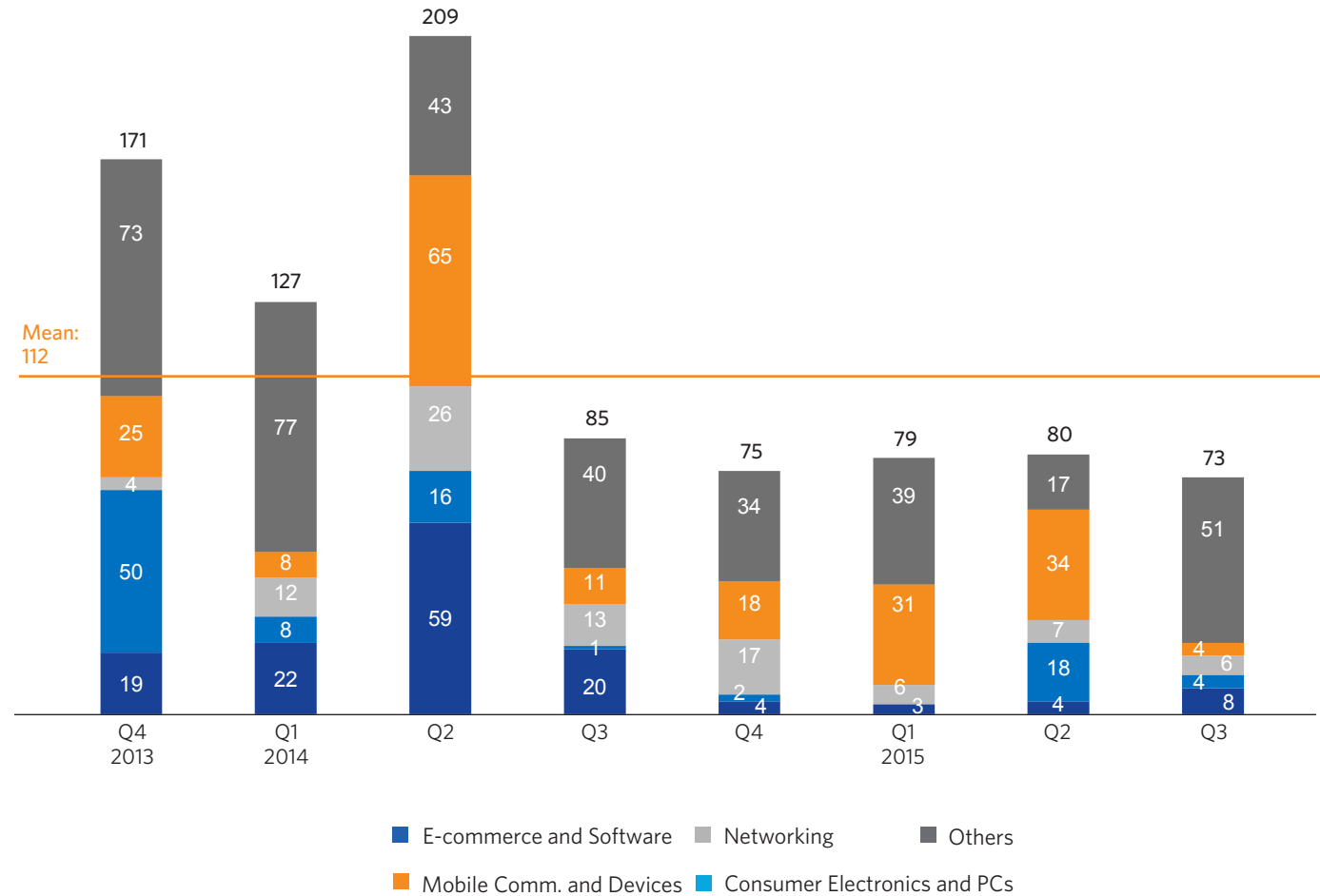
## Public PAE Defendants Added at Two-year Low

**Chart 22: Total Public PAE Defendants Added per Quarter**

The number of total public PAE defendants added has been inconsistent quarter over quarter, with a high of 209 in Q2 2014. Recent quarters have been well below the historical mean.

**Total Public PAE Defendants Added per Quarter by Sector**

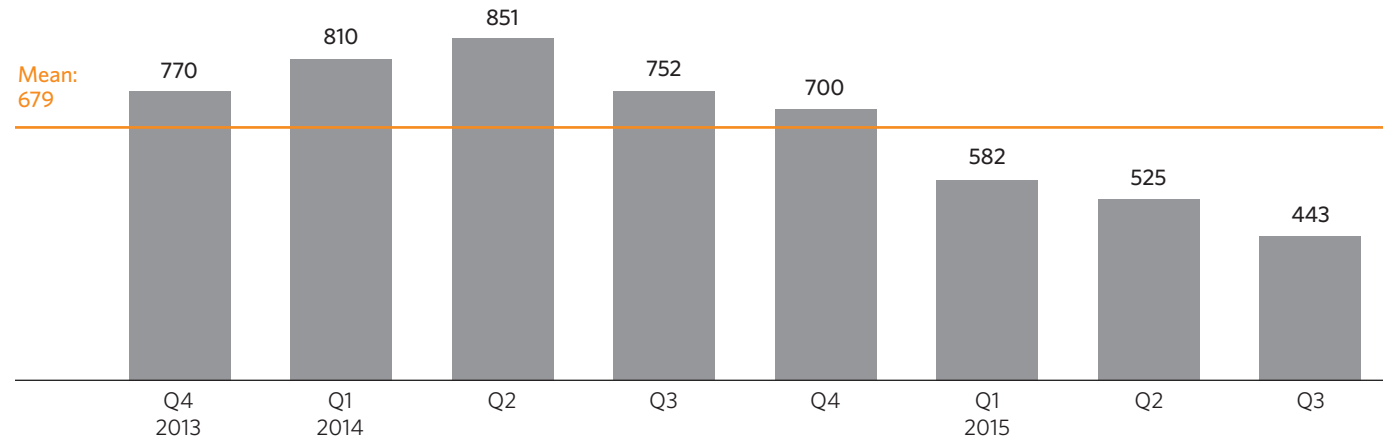
The Mobile Communications and Devices and the E-commerce and Software sectors have seen the most public PAE litigation activity. However, there has been a drop-off in the E-commerce and Software sector since Q2 2014, partly due to the Supreme Court *Alice* ruling on June 19, 2014.



## Number of Active Defendants in Public PAE Litigation Has Been Decreasing

### Chart 23: Total Active Defendants per Quarter

The average number of active defendants in public PAE litigation, per quarter and since Q4 2013, is 679. Recent quarters have seen slight declines.

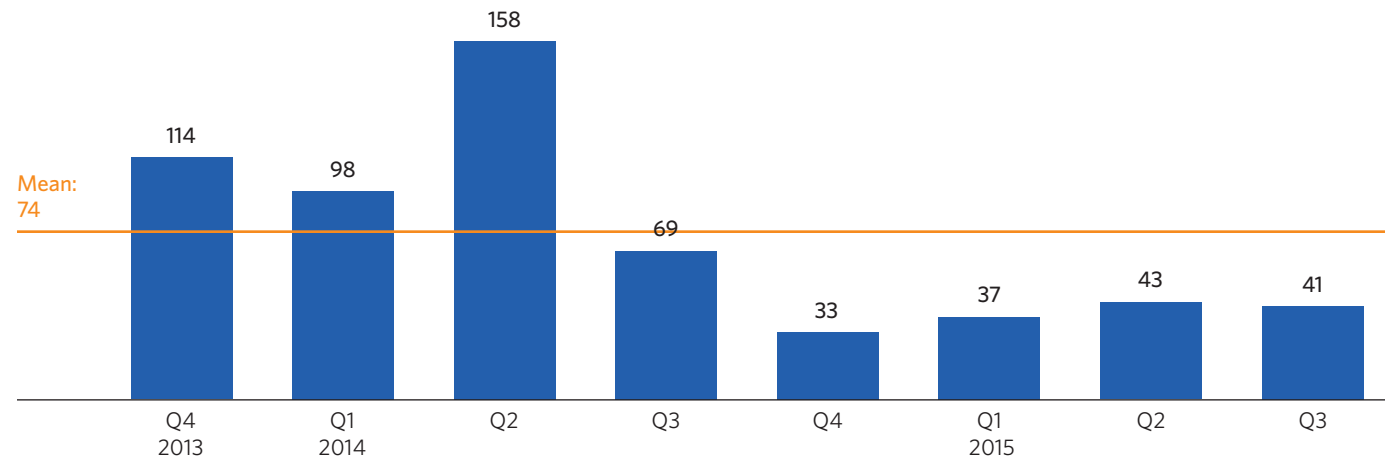




## Fewer Active Public PAE Cases in Q3 2015

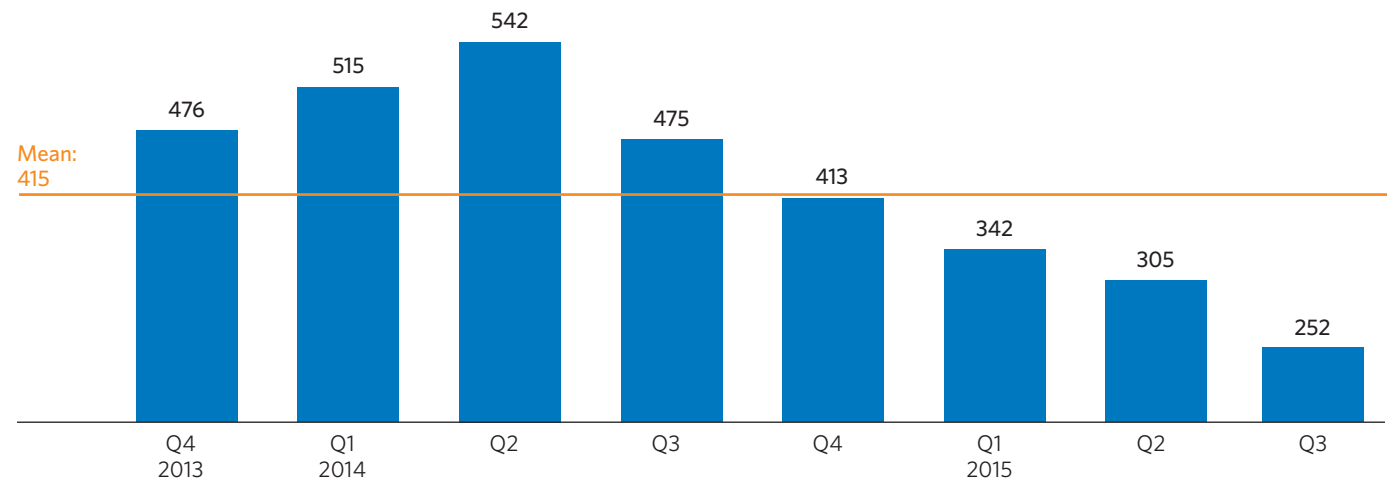
**Chart 24: Public PAE Cases Filed per Quarter**

Public PAE cases filed per quarter is sporadic, with a high of 158 in Q2 2014 and a low of 33 in Q4 2014.



**Chart 25: Active Public PAE Cases per Quarter**

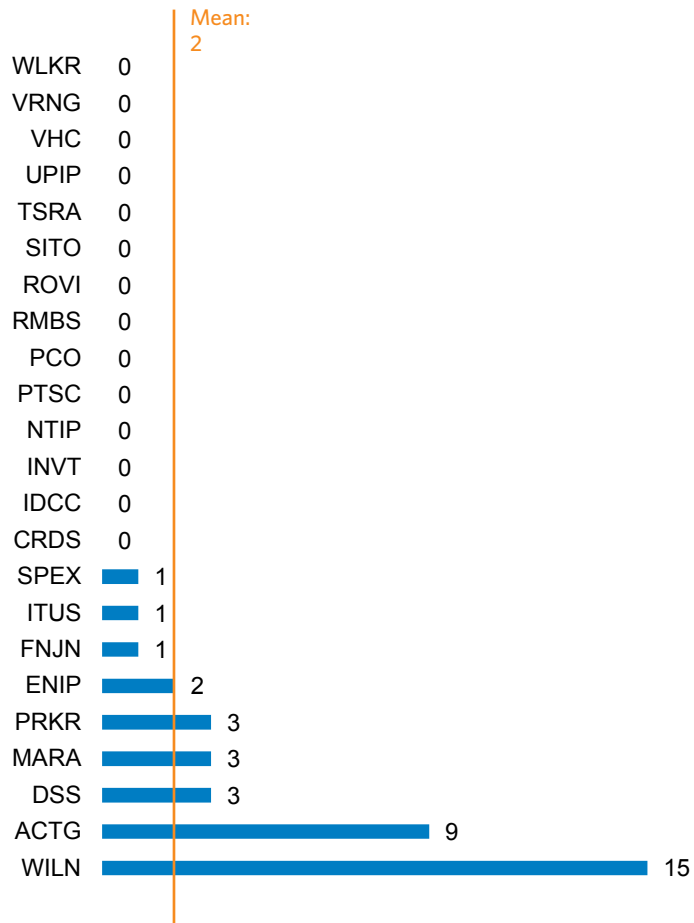
There has been an average of 415 active public PAE cases every quarter since Q4 2013.



## Public PAE Litigation Activity Largely Driven by Acacia and WiLAN

**Chart 26: Total Cases Filed in Q3 2015**

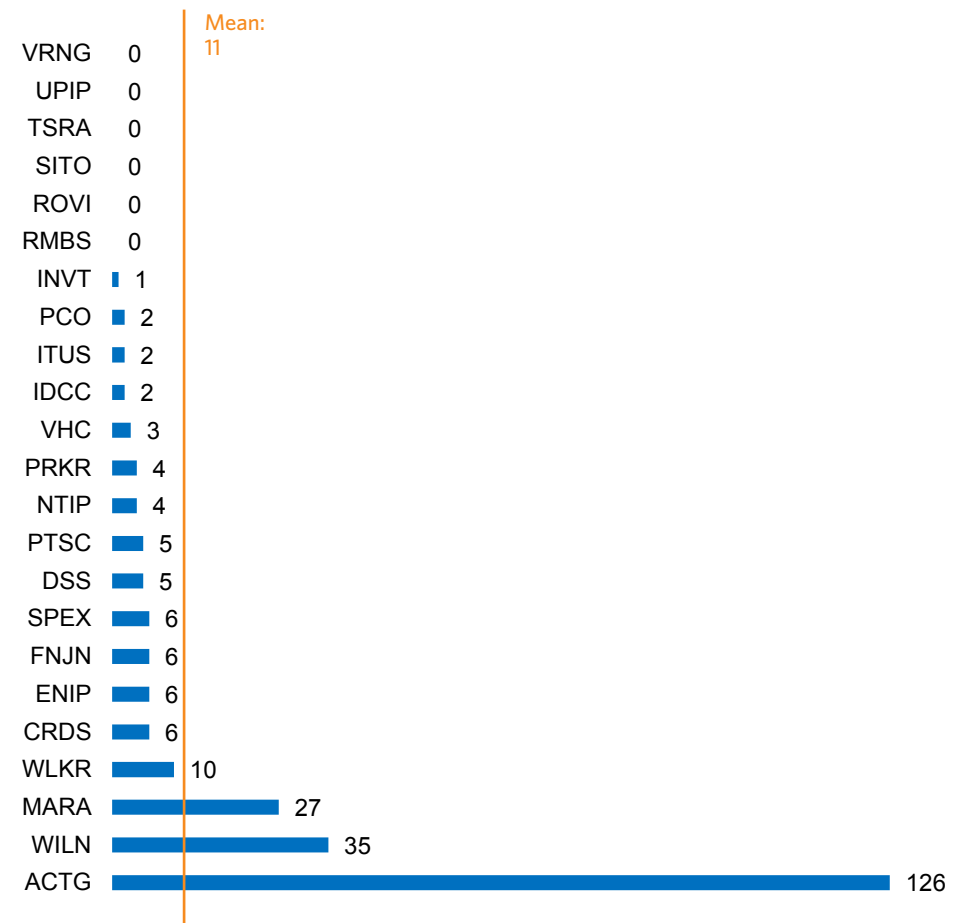
Acacia and WiLAN accounted for 63% of total cases filed by major public PAEs in Q3 2015.



## Acacia and WiLAN Have the Most Active Cases

**Chart 27: Total Active Cases in Q3 2015**

Acacia and WiLAN are the most active on the public PAE litigation front, with a total of 161 total active cases.



## Profiles

The following pages feature overview information and detailed summaries of public PAEs studied in this report.

## Overview

Company Name	Formation Type and Description	Primary Technologies
Acacia	Initial public offering in 1995	Consumer Electronics and PCs, E-commerce and Software, Media Content and Distribution, Medical, Mobile Communications and Devices, Networking
Crossroads Systems	First patent infringement case in September 2013	E-commerce and Software, Networking
Document Security Systems	Reverse merger (announced 10/2/12)	E-commerce and Software, Media Content and Distribution, Networking
Endeavor IP	Reverse merger (announced 5/13/13)	Mobile Communications and Devices
Finjan	Reverse merger (announced 6/3/13)	Web and Network Security
InterDigital	Initial public offering in 1981	Mobile Communications and Devices, Networking
Inventergy Global	Reverse merger (announced 12/13/13)	Consumer Electronics and PCs, Mobile Communications and Devices, Networking
ITUS	Began focusing on PAE activity in Q1 2013 (previously an operating company)	Consumer Electronics and PCs, E-commerce and Software, Mobile Communications and Devices
Marathon Patent Group	Reverse merger (announced 11/20/12)	E-commerce and Software, Mobile Communications and Devices, Networking
Network-1	Operating company with PAE activity (first PAE litigation in August 2005)	Networking, Consumer Electronics and PCs, Media Content and Distribution, E-commerce and Software
ParkerVision	First patent infringement case in July 2011 against Qualcomm	Mobile Communications and Devices, Semiconductors
Patriot Scientific	Entered into a joint venture agreement with Technology Properties Limited in June 2005 to commercialize its patented technologies	Consumer Electronics and PCs, Media Content and Distribution, Mobile Communications and Devices, Networking, Semiconductors
Pendrell	Began focusing on PAE activity second half of 2011 (previously an operating company)	Mobile Communications and Devices , E-commerce and Software

Company Name	Formation Type and Description	Primary Technologies
Rambus	Initial public offering in 1997 with core focus on product licensing	Semiconductors
Rovi	Operating company with PAE activity (first PAE litigation in 2007)	Digital entertainment
SITO	Operating company with PAE activity (first PAE litigation in February 2012)	Mobile search, commerce, advertising and streaming media
Spherix	Reverse merger (announced 2/22/13)	Mobile Communications and Devices
Tessera Technologies	Initial public offering in 2004	Semiconductors
Unwired Planet	Began focusing on PAE activity in May 2012 (previously an operating company)	Mobile Communications and Devices, E-commerce and Software
VirnetX	Reverse merger (announced 1/19/07)	Consumer Electronics and PCs, E-commerce and Software, Media Content and Distribution, Mobile Communications and Devices, Networking
Vringo	Reverse merger (announced 3/14/12)	E-commerce and Software
Walker Innovation	Reverse merger (announced 7/15/13)	Consumer Electronics and PCs, E-commerce and Software, Media Content and Distribution, Mobile Communications and Devices, Networking
WiLAN	PAE activity since 2007	Consumer Electronics and PCs, Mobile Communications and Devices, Networking

## Profiles

### Methodology Note:

“Reported Patent Count” refers to the number of patents or portfolios the PAE claims to hold; this count may differ from the number of patent assignments the PAE has recorded with the USPTO.

### Acacia Research Corporation

Consumer Electronics and PCs, E-commerce and Software, Media Content and Distribution, Medical, Mobile Communications and Devices, Networking

Stock Price (as of 9/30/15)	\$9.08	Acacia Research Corporation is headquartered in Newport Beach, California. It was founded in 1993, went public in 1995, and began asserting patents in litigation in 2000. The NPE has over 230 subsidiaries and 30 affiliates, only a small portion of which use the Acacia name. In a Q3 2015 corporate presentation, Acacia outlined the technologies of what it calls its “marquee portfolios”—portfolios of patent assets related to smartphones, tablets, PCs, and TVs; medical devices and technology; automotive; and energy. In a fact sheet covering the same quarter, the NPE disclosed recently established partner-
Market Cap (\$USD M)	\$460.7	
52-week High	\$19.93	
52-week Low	\$7.88	
Cash (\$USD M)	\$168.5	
Debt (\$USD M)	\$0.0	
Employee Count	57	
Reported Patent Count	Over 200 portfolios	

ships with Renesas, VoiceAge, Silicon Image, Boston Scientific, Nokia Siemens, Rambus, and Breed Automotive. Acacia and its subsidiaries hold thousands of patents across a wide range of industries and have been involved in more litigation than any other public PAE. Despite that distinction, as of December 2015, only seven of Acacia’s cases have gone to trial, and only one of those litigations has ended in the PAE’s favor.

### Crossroads Systems, Inc.

E-commerce and Software, Networking

Stock Price (as of 9/30/15)	\$1.30	Crossroads Systems, Inc. initiated, through a Texas subsidiary, its first patent infringement case in September 2013 against Dot Hill Systems. Since then, it has filed multiple infringement cases against various large technology companies, such as Huawei, Cisco, and Oracle. Previously, Crossroads was a provider of data storage solutions and security. Founded in 1996 and headquartered in Austin, Texas, Crossroads reports owning more than 100 patents. In early November 2015, Crossroads announced that it had secured \$10M in financing
Market Cap (\$USD M)	\$30.5	
52-week High	\$3.05	
52-week Low	\$0.95	
Cash (\$USD M)	\$7.3	
Debt (\$USD M)	\$2.7	
Employee Count	47	
Reported Patent Count	Over 100	

to litigate its storage virtualization patent portfolio, an investment led by Techquity. In a press release, Crossroads reported that it used \$2.7M of the proceeds to retire its credit facility with a Fortress affiliate and added the remaining \$7.3M to its cash balance to fund litigation-related expenses. According to the same press release, Crossroads has licensed the 5,941,972 patent family to 51 companies for over \$60 million.

### Document Security Systems, Inc.

#### E-commerce and Software, Media Content and Distribution, Networking

Stock Price (as of 9/30/15)	\$0.17	Document Security Systems, Inc. (DSS) operates through four segments, with DSS Technology Management, Inc. (DSS TM) primarily responsible for acquiring and/or developing patented technology for the purpose of monetizing those assets through various means, including litigation. According to the USPTO, DSS, through its subsidiaries, owns at least 100 US patents in disparate technology areas. DSS acquired social networking patents originally issued to Bascom Research, Bluetooth patents originally issued to BBN Corporation, and many	semiconductor patents originally issued to Cypress, Dongbu, and/or ANAM. Since October 2012, DSS has asserted patents from all three of these technologies in over 15 patent infringement lawsuits in the US. In early 2015, a California judge tossed DSS's infringement suit against Facebook and LinkedIn and invalidated claims of four of its Bascom patents, leading to a \$37M impairment charge and a reported overhaul of the NPE's patent monetization strategies.
Market Cap (\$USD M)	\$8.0		
52-week High	\$0.85		
52-week Low	\$0.15		
Cash (\$USD M)	\$1.5		
Debt (\$USD M)	\$8.1		
Employee Count	111		
Reported Patent Count	Over 100		

### Endeavor IP, Inc.

#### Mobile Communications and Devices

Stock Price (as of 9/30/15)	\$0.00	Endeavor IP, Inc. is a development stage company engaged in the commercialization of IP assets. It is a Nevada corporation currently located at a residential address in Half Moon Bay, California. (Prior to June 2012, it operated as a workplace ergonomic consultancy under the name Finishing Touches Home Goods Inc.) Endeavor owns at least six patents to date, purchasing wireless network patents from Mesh Comm, LLC. and energy monitoring system patents from Solid Solar Energy, Inc. Endeavor incorporated two subsidiaries to assert these patents: Endeavor MeshTech, Inc. and Endeavor Energy, Inc.	Endeavor has a single employee, Franciscus Diaba, its CEO and Chairman. It has two other directors: Andrew Uribe, an executive with no prior experience in intellectual property acquisition or enforcement, and David Waldman, an investor relations consultant. Endeavor has filed over 20 infringement suits since July 2013; defendants include Aclara, Consolidated Edison Solutions, Elster Solutions, Energyhub, Itron, Leviton, Mueller Systems, Sensus, and Tuscon Electric Power Company. In Q2 2015, the NPE disclosed patent license agreements and settlements with Synapse Wireless and Schneider Electric.
Market Cap (\$USD M)	\$0.2		
52-week High	\$0.03		
52-week Low	\$0.00		
Cash (\$USD M)	\$0.1		
Debt (\$USD M)	\$2.1		
Employee Count	1		
Reported Patent Count	6		

### Finjan Holdings, Inc.

#### Web and Network Security

Stock Price (as of 9/30/15)	\$1.65	Finjan Holdings, Inc. was formed in June 2013 as a result of a reverse merger of Finjan, Inc. with Converged Organics, a fertilizer company. The entity's primary business is to monetize the IP portfolio of Finjan, Inc., a former operating company that was founded in 1997 as an online security technology provider. M86 Security acquired Finjan, Inc.'s assets and business operations in 2009, but the company retained its IP portfolio. In 2013, Finjan appointed Phil Hartstein, formerly an IPNav vice president, as its CEO. In June 2015, Finjan announced plans to re-enter the market for cyber security products and services,	introducing the Finjan Mobile Secure Browser for smartphone consumers. Finjan and its subsidiaries have filed 13 infringement suits since 2006, mostly in 2013-2014. In August 2015, a jury in the Northern District of California awarded Finjan \$39.5 million after a two-week patent infringement trial against Blue Coat. In Q3 2015, Finjan reported a net loss of \$4.7M and higher expenses related to litigation, research and development, and SG&A compared to the same quarter in the previous year.
Market Cap (\$USD M)	\$37.2		
52-week High	\$3.31		
52-week Low	\$1.16		
Cash (\$USD M)	\$7.2		
Debt (\$USD M)	\$0.0		
Employee Count	15		
Reported Patent Count	46		

## InterDigital, Inc.

### Mobile Communications and Devices, Networking

Stock Price (as of 9/30/15)	\$50.60	InterDigital, Inc. was founded in 1972 and went public in 1981.	as two others.) A month before that ruling, the International
Market Cap (\$USD M)	\$1,817.2	The NPE has at least 30 subsidiaries and a large patent	Trade Commision determined that the companies did not
52-week High	\$60.69	portfolio, including 220 US patents issued in 2014 alone; the	infringe two other InterDigital networking patents and refused
52-week Low	\$38.64	patents primarily relate to mobile and networking technologies.	to block Nokia handsets from import into/sale in the United
Cash (\$USD M)	\$867.4	At least two of the NPE's cases have ended in settlement, one	States.
Debt (\$USD M)	\$480.9	with Samsung, the other with Huawei. In September 2015, the	
Employee Count	320	Patent Trial and Appeal Board invalidated claims of a	
Reported Patent Count	20,500	networking patent that InterDigital had asserted in cases	
		against Microsoft's Nokia unit and ZTE. (In October 2014, a	
		Delaware jury found that ZTE had infringed the patent as well	

## Inventergy Global

### Consumer Electronics and PCs, Mobile Communications and Devices, Networking

Stock Price (as of 9/30/15)	\$0.39	Inventergy Global launched in June 2013 and became a public	including Alcatel-Lucent, Huawei, Matsushita Electric Industrial
Market Cap (\$USD M)	\$14.2	entity through a reverse merger with eOn Communications	Company, Nokia, and Panasonic. While Inventergy Global has
52-week High	\$1.80	Corp. on December 18, 2013. CEO Joe Beyers was formerly the	not initiated any patent litigation as of December 2015, its
52-week Low	\$0.23	head of IP licensing for HP, and Paul Roberts, the VP of IP	Inventergy, Inc. subsidiary has filed two infringement suits
Cash (\$USD M)	\$1.4	licensing, was formerly at patent assertion entity Rovi. General	against GENBAND and Sonus; both have since been dismissed
Debt (\$USD M)	\$14.0	Counsel Wayne Sobon was previously at Rambus. Beyers has	without prejudice.
Employee Count	15	repeatedly loaned Inventergy money since 2013, and in April	
Reported Patent Count	755	2015, the entity replaced its full-time CFO with a contract CFO	
		to cut costs. According to USPTO records, the PAE has received	
		patent assignments from a number of operating companies,	

## ITUS Corporation

### Consumer Electronics and PCs, E-commerce and Software, Mobile Communications and Devices

Stock Price (as of 9/30/15)	\$4.75	ITUS Corporation develops, acquires, licenses, and enforces	Emission Display (nFED), Micro Electro Mechanical Systems
Market Cap (\$USD M)	\$41.4	patented technologies for the purposes of patent monetization	Display (MEMS), Loyalty Conversion Systems, J-Channel
52-week High	\$8.95	and patent assertion. Formed in 1982, it was originally an	Window Frame Construction, VPN Multicast Communications,
52-week Low	\$1.39	operating company called Copytele, Inc. offering a line of	Internet Telephonic Gateway, and Enhanced Auction
Cash (\$USD M)	\$7.6	encryption products. It began significant patent enforcement	Technologies. In July 2015, ITUS stock began trading on the
Debt (\$USD M)	\$0.0	activity in early 2013, changing its name to ITUS in September	NASDAQ, and the company announced settlement and
Employee Count	7	2014. The PAE reportedly holds over 100 patents and patent	dismissal of an infringement suit (over a patent related to
Reported Patent Count	8 portfolios	applications that it organizes into the following areas: Key	promoting items on an auction website) filed by its subsidiary
		Based Web Conferencing Encryption, Encrypted Cellular	Auction Acceleration Corporation against eBay, Auctiva, and
		Communications, E-Paper Electrophoretic Display, Nano Field	Vendio Services in September 2014.



### Marathon Patent Group, Inc.

E-commerce and Software, Mobile Communications and Devices, Networking

Stock Price (as of 9/30/15)	\$1.85	Marathon Patent Group, Inc. was formerly known as American Strategic Minerals Corporation and changed its name to Marathon in February 2013. It was incorporated in 2010 and is based in Alexandria, Virginia. Marathon reports acquiring patents from various sources, including from individual inventors to Fortune 500 companies. The PAE also reports owning over 360 patent assets and has been involved in more than 350 patent litigations in the US. It most recently filed suit in July 2015, through its Signal IP, Inc. subsidiary. In August 2015, Marathon announced a merger with Uniloc Luxembourg
Market Cap (\$USD M)	\$26.5	
52-week High	\$9.73	
52-week Low	\$1.51	
Cash (\$USD M)	\$3.4	
Debt (\$USD M)	\$33.3	
Employee Count	9	
Reported Patent Count	369	

SA, an NPE that has, together with its corporate affiliates, filed over 100 of its own lawsuits. Douglas Croxall, Marathon's CEO, will remain CEO of the merged company.

### Network-1 Technologies, Inc.

Networking, Consumer Electronics and PCs, Media Content and Distribution, and E-commerce and Software

Stock Price (as of 9/30/15)	\$2.02	Network-1 Technologies, Inc. is a patent licensing firm, founded in 1990, that has filed almost 20 suits, together with subsidiary Mirror Worlds Technologies, LLC, since 2004. Network-1's two most active campaigns assert power-over-Ethernet and document streaming patents. The entity owns over 20 patents, all acquired from other sources, including some developed by Mirror Worlds prior to its acquisition. Network-1 has asserted only a handful of patents in litigation; it has not taken any case to trial. Most of Network-1's operating income comes from licensing the 6,218,930 patent, which has purportedly generated
Market Cap (\$USD M)	\$47.1	
52-week High	\$2.99	
52-week Low	\$1.49	
Cash (\$USD M)	\$19.1	
Debt (\$USD M)	\$0.0	
Employee Count	3	
Reported Patent Count	24	

\$70M since 2007. In May 2014, claims of the '930 patent were challenged in an *inter partes* review by Avaya, Dell, Sony, and HP, but emerged unscathed. On appeal, the Federal Circuit upheld that ruling. In December 2015, in an ongoing case against Apple, a Texas judge barred the company from challenging the validity of a Mirror Worlds patent (6,006,227) that generally concerns organizing data stored via a computer operating system.

### ParkerVision, Inc.

Mobile Communications and Devices, Semiconductors

Stock Price (as of 9/30/15)	\$0.19	ParkerVision, Inc. claims that it designs, develops, and markets proprietary radio frequency (RF) technologies and products for use in semiconductor circuits for wireless communication products in the US. ParkerVision touts a three-part growth strategy for commercializing innovations that includes intellectual property licensing and/or product ventures, intellectual property enforcement, and product and component development, manufacturing, and sales. Current CEO Jeffrey L. Parker is a named inventor on several of the PAE's patents, which reportedly total over 300. The Patent Trial and Appeal
Market Cap (\$USD M)	\$18.5	
52-week High	\$1.33	
52-week Low	\$0.18	
Cash (\$USD M)	\$1.7	
Debt (\$USD M)	\$0.1	
Employee Count	48	
Reported Patent Count	312	

Board has instituted *inter partes* reviews of several ParkerVision patents based on petitions filed by RPX, leading to the cancellation of multiple patent claims. In July 2015, the Federal Circuit denied ParkerVision's attempt to reinstate a \$173M trial win against Qualcomm, which a district court judge had vacated in June 2014. The appeals court also denied a subsequent request for an *en banc* rehearing.

### Patriot Scientific

Consumer Electronics and PCs, Media Content and Distribution, Media Content and Distribution, Mobile Communications and Devices, Networking, Semiconductors

Stock Price (as of 9/30/15)	\$0.01	Patriot Scientific is based in Carlsbad, California and currently	patent and awarded Patriot \$959K in damages. Patriot has not
Market Cap (\$USD M)	\$5.8	has only three employees, including a CFO who is also serving	filed any new infringement litigation since 2012, and all of its
52-week High	\$0.08	as an interim CFO. (The other two employees are directors.)	cases have either terminated or been stayed for various
52-week Low	\$0.01	Patriot, together with its subsidiaries Technology Property	reasons, including an ongoing International Trade Commission
Cash (\$USD M)	\$4.6	Limited LLC and Phoenix Digital Solutions LLC, have collectively	investigation related to the '336 patent. In October 2014,
Debt (\$USD M)	\$0.0	filed over 20 patent infringement suits since 2003; past	Patriot announced that it had retained Dominion Harbor Group
Employee Count	3	defendants include Acer, Amazon, ASUS, Barnes & Noble, HTC,	to license its Moore Microprocessing patent portfolio, which
Reported Patent Holding	5	Huawei, Kyocera, NEC, Fujitsu, Samsung, Toshiba, and ZTE. In	includes the '336 patent.
		October 2013, a jury in the Northern District of California found	
		that HTC infringed multiple claims of the PAE's 5,809,336	

### Pendrell Corporation

Mobile Communications and Devices, E-commerce and Software

Stock Price (as of 9/30/15)	\$0.72	Pendrell Corporation is a patent investment company that	content, networking, semiconductors, data storage/security,
Market Cap (\$USD M)	\$192.5	acquires both patents and patent holding entities. It has at least	and wireless communication. ContentGuard Holdings is the
52-week High	\$1.86	25 known subsidiaries, several of which hold patents in their	only Pendrell subsidiary that has filed any patent infringement
52-week Low	\$0.67	own names. The PAE began as an operating company named	suits to date. Past defendants include Apple, Huawei, HTC, and
Cash (\$USD M)	\$163.6	ICO Global and was involved in satellite communication	Lenovo (Motorola Mobility). Active defendants include
Debt (\$USD M)	\$0.0	through the 1990s and 2000s. In June 2011, the company	Amazon, AT&T (DirectTV), Google (Alphabet), and BlackBerry.
Employee Count	57	renamed itself and began licensing efforts. Pendrell reports	In September 2015, a Texas jury found that Google and
Reported Patent Holding	1,200	holding 1,200 patents and applications; its largest portfolio,	Samsung did not infringe a group of ContentGuard DRM
		held by ContentGuard Holdings, Inc., includes patents related	patents.
		to digital rights management (DRM). Others relate to media	

### Rambus, Inc.

Semiconductors

Stock Price (as of 9/30/15)	\$11.80	Rambus Inc. is a technology development and licensing	filed new litigation since 2010, but it sold a portfolio of patents
Market Cap (\$USD M)	\$1,373.1	company that was founded in 1990. Since 2000, Rambus has	to Acacia Research Corporation in 2013, some of which are
52-week High	\$15.49	filed almost 30 suits involving more than 50 patents. The entity	now involved in an active campaign. In August 2015, Rambus
52-week Low	\$9.87	owns a portfolio of over 1,500 US patent publications, all of	announced that it would become, at least in part, a fabless chip
Cash (\$USD M)	\$362.9	which relate to various aspects of semiconductor technology.	company, hiring third party entities to manufacture the chips
Debt (\$USD M)	\$158.2	Rambus also has an active licensing program for the technology	that it designs for the first time in over 25 years.
Employee Count	505	that it develops. Rambus has secured substantial revenues from	
Reported Patent Count	1,765	its patent enforcement programs, including a \$397M damages	
		award against Hynix Semiconductor in March 2009 and a	
		\$900M settlement with Samsung in January 2010. It has not	

## Rovi Corporation

### Digital Entertainment

Stock Price (as of 9/30/15)	\$10.49	Rovi Corporation, formerly known as Macrovision Solutions Corporation, began as an operating company selling digital entertainment services. Since its rebranding in 2009, the entity has focused more on licensing its portfolio. According to SEC filings, Rovi owns nearly 6,000 patents and patent applications, and it derives more than half of its revenue from licensing. Rovi has sued some entertainment and media streaming companies, including Amazon, Hulu, Lenovo, LGE, and Toshiba, but has not filed new litigation since 2013. In July 2015, a court in the Northern District of California invalidated five patents asserted against Netflix on <i>Alice</i> -related grounds. With the court's dismissal of that action, Rovi does not currently have any active litigation. It has not taken a patent assertion case to a district court trial. Rovi's portfolio primarily relates to content discovery, DVR and VOD functionality, multi-screen functionality, as well as interactive applications and advertising.
Market Cap (\$USD M)	\$946.7	
52-week High	\$26.44	
52-week Low	\$9.27	
Cash (\$USD M)	\$147.8	
Debt (\$USD M)	\$1,007.0	
Employee Count	1,200	
Reported Patent Count	5,902	

## SITO Mobile, Ltd.

### Mobile Search, Commerce, Advertising and Streaming Media

Stock Price (as of 9/30/15)	\$4.00	SITO Mobile, Ltd., formerly Single Touch Systems, Inc., is an operating company that began monetizing its patents in 2012. SITO's mobile platform purportedly enables clients to send personalized messages and ads to customers based on their user preferences and purchase histories. SITO made a series of announcements in late 2014 that signal a shift in its business model, including a \$10M credit facility and a \$1M equity investment received from Fortress Investment Group. The loan is secured by SITO's patent portfolio. In July 2015, SITO acquired the mobile advertising business from Hipcricket, which filed bankruptcy, and in August 2015, SITO announced that its stock would begin trading on the NASDAQ exchange. The company has asserted only three of its patents in litigation, in 2012 cases against Zoove and Hulu. The complaints targeted defendants' mobile marketing platforms. The cases both terminated within a year of the complaints being filed.
Market Cap (\$USD M)	\$65.4	
52-week High	\$6.15	
52-week Low	\$1.48	
Cash (\$USD M)	\$2.8	
Debt (\$USD M)	\$9.3	
Employee Count	21	
Reported Patent Count	Not disclosed	

## Spherix, Inc.

### Mobile Communications and Devices

Stock Price (as of 9/30/15)	\$0.34	Spherix, Inc. began as a research company in 1967 and owns more than 300 patents and applications, including a portfolio acquired from Rockstar Consortium in July 2013. Many of its patents relate to aspects of wireless communication and networking. Spherix began asserting patents in litigation in 2011, filing most of its litigations in 2013 and 2014. In May 2015, Spherix filed suit against Cisco and Verizon in the Eastern District of Virginia. Cisco counter-sued the following month, in the District of Delaware, alleging that Spherix's history of litigation against Cisco (and its customer Verizon) has violated obligations to license the patents-in-suit, which Spherix contends are standard-essential, under terms consistent with Spherix's FRAND obligations. The parties moved to dismiss that action without prejudice in December 2015. All of Spherix's cases filed to date have terminated, and none have reached trial. In October 2015, Spherix announced that it had settled its litigation against Huawei (filed by Spherix subsidiary NNPT, LLC). As a result of that settlement, the Patent Trial and Appeal Board terminated two <i>inter partes</i> review proceedings involving Spherix's 6,578,086 and 7,664,123 patents.
Market Cap (\$USD M)	\$11.7	
52-week High	\$1.65	
52-week Low	\$0.20	
Cash (\$USD M)	\$0.9	
Debt (\$USD M)	\$0.5	
Employee Count	5	
Reported Patent Count	Over 330	

## Tessera Technologies, Inc.

### Semiconductors

Stock Price (as of 9/30/15)	\$32.41
Market Cap (\$USD M)	\$1,689.1
52-week High	\$43.71
52-week Low	\$24.84
Cash (\$USD M)	\$387.2
Debt (\$USD M)	\$0.0
Employee Count	203
Reported Patent Count	Not disclosed

Tessera Technologies, Inc. is an operating company that began asserting its patents in litigation in 2000. The former designer of semiconductor miniaturization technologies underwent a “turnaround campaign”, or shareholder intervention, led by Starboard Value LP in 2013. It refocused on monetization of its patent portfolio. As of December 2015, Tessera has at least 35 known subsidiaries, including Invensas Corporation, which has been active in litigation. In August 2015, Tessera acquired Ziptronix, Inc., a semiconductor company with patent holdings of its own, as well as an ongoing patent case against

OmniVision and TSMC. USPTO records indicate that Tessera holds over 2,100 US patents as of December 2015. More than 20 of those patents have been asserted by Tessera in litigation, mostly against chip manufacturers and companies that make and/or sell electronics that include semiconductor chips. Defendants have included Advanced Micro Devices, Acer, Freescale, Hitachi, Motorola Mobility, Qualcomm, Spansion, and STMicroelectronics. In August 2015, a California state court confirmed an arbitration award, in excess of \$125 million, to Tessera by Amkor for violation of its license agreement.

## Unwired Planet, Inc.

### Mobile Communications and Devices, E-commerce and Software

Stock Price (as of 9/30/15)	\$0.73
Market Cap (\$USD M)	\$81.4
52-week High	\$1.90
52-week Low	\$0.54
Cash (\$USD M)	\$77.3
Debt (\$USD M)	\$31.0
Employee Count	16
Reported Patent Count	2,500

Unwired Planet, Inc., previously Openwave Systems, is an operating company turned PAE. In 2012, the entity announced that it would focus exclusively on the monetization and enforcement of its patent portfolio. Unwired Planet received a \$50M investment from Indaba Capital Fund in June 2013 to finance its licensing efforts. William Marino, the CEO of Pragmatius, and Rich Chernicoff, past President of Tessera IP Corp., are among Unwired Planet’s board members. Boris Teksler, a former IP executive at HP and Apple, joined Unwired Planet as CEO in June 2015. Unwired Planet reportedly holds

2,500 patent assets, many of them acquired in a controversial deal with Ericsson, which Unwired Planet says focus exclusively on mobile technologies. The entity has filed six infringement suits since 2009, asserting over 30 patents against defendants including Apple, Google, RIM, and Square. In November 2015, Unwired Planet won a trial in the UK against Huawei and Samsung. The PAE has no active US litigation as of December 2015.

## VirnetX

### Consumer Electronics and PCs, E-commerce and Software, Media Content and Distribution, Mobile Communications and Devices, Networking

Stock Price (as of 9/30/15)	\$3.56
Market Cap (\$USD M)	\$186.4
52-week High	\$8.09
52-week Low	\$2.71
Cash (\$USD M)	\$20.8
Debt (\$USD M)	\$0.0
Employee Count	14
Reported Patent Count	Over 100

VirnetX develops and asserts security technology patents. At least 20 of VirnetX’s patents originated with Science Application International Corporation, a defense contractor that formerly employed VirnetX’s founders as well as its current CTO and Chief Scientist. Kendall Larsen is President and CEO; his prior experience includes a senior position at CIA contractor Phoenix Technologies. On the basis of regulatory filings, it appears that Larsen has used VirnetX shares as collateral for personal lines of credit. VirnetX has filed ten infringement suits since 2007 against companies including Apple, Cisco, and Microsoft. In September 2014, the Federal

Circuit vacated a jury verdict that ordered Apple to pay VirnetX \$368M in damages for infringement of a group of VPN and secure communications patents. The appeals court also denied VirnetX’s subsequent request for an *en banc* hearing. In October 2015, the Patent Trial and Appeal Board granted petitions for *inter partes* review, filed by Mangrove Partners, of VirnetX’s 6,502,135 and 7,490,151 patents. (Both of those patents were involved in the PAE’s 2014 trial against Apple.) A retrial on damages in the Apple case is scheduled in January 2016, as is a second trial covering another group of VirnetX patents that Apple is accused of infringing.

## Vringo, Inc.

### E-commerce and Software

Stock Price (as of 9/30/15)	\$0.56
Market Cap (\$USD M)	\$62.0
52-week High	\$1.14
52-week Low	\$0.39
Cash (\$USD M)	\$14.4
Debt (\$USD M)	\$4.1
Employee Count	13
Reported Patent Count	600

Vringo, Inc. is a PAE that merged with Innovate/Protect, a privately held patent assertion entity, in July 2012. The reverse merger resulted in the acquisition of a portfolio of patents that originated with Lycos as well as Innovate/Protect subsidiary I/P Engine. Vringo personnel include Andrew “Ken” Lang, CTO, formerly of Lycos, and David Cohen, Chief Legal and IP Officer, formerly of Nokia. The PAE has at least five known entities, including Vringo Infrastructure, its only subsidiary besides I/P Engine that has been active in litigation. As of December 2015, Vringo has filed only four infringement suits in the US, all of

which have closed; the cases assert a total of three patents. In August 2014, the Federal Circuit invalidated two of Vringo’s patents litigated against AOL, Gannet, Google, IAC, and Target, reversing a 2012 jury verdict that ordered the defendants to pay I/P Engine \$30M. Vringo is engaged in ongoing litigation outside the US, particularly against various international ZTE entities. However, in December 2015, the PAE announced that it had reached a settlement with ZTE for \$21.5M that will ultimately resolve all pending litigation between the parties.

## Walker Innovation Inc.

### Consumer Electronics and PCs, E-commerce and Software, Media Content and Distribution, Mobile Communications and Devices, Networking

Stock Price (as of 9/30/15)	\$0.28
Market Cap (\$USD M)	\$5.8
52-week High	\$2.76
52-week Low	\$0.26
Cash (\$USD M)	\$6.9
Debt (\$USD M)	\$0.0
Employee Count	22
Reported Patent Count	493

Walker Innovation Inc. is an inventor-controlled entity that formed in 2013 as a result of a reverse merger of Global Options Group with Walker Digital, LLC. Walker Innovation changed its name from Patent Properties, effective July 31, 2015. The entity is controlled by inventor and entrepreneur Jay Walker, the founder of Priceline. Walker Innovation reports holding nearly 500 patents, many of which name Walker as an inventor. They relate to a range of technologies, including authentication techniques, Internet searches and advertising, and online transactions. As of December 2015, Walker

Innovation itself has not filed any patent litigation; however, its 12 known subsidiaries, including Walker Digital LLC and Inventor Holdings LLC, have filed more than 60 infringement suits against over 150 companies since 2009.

## Wi-LAN Inc.

### Consumer Electronics and PCs, Mobile Communications and Devices, Networking

Stock Price (as of 9/30/15)	\$1.81
Market Cap (\$USD M)	\$218.1
52-week High	\$3.01
52-week Low	\$1.74
Cash (\$USD M)	\$95.6
Debt (\$USD M)	\$31.1
Employee Count	66
Reported Patent Count	Not disclosed

Wi-LAN Inc. (WiLAN) is a Canadian PAE that began litigating its patents in 2007. It was established in 1992 as an operating company selling products and licensing its inventions. In 2006, after years of stagnant stock valuation, it became an assertion-only entity. Both WiLAN’s CEO, Jim Skippen, and its COO, Michael Vladescu, came from MOSAID (now Conversant IP). WiLAN reportedly made several bids to purchase MOSAID—an effort that eventually fell through in 2011. In June 2015, Skippen announced plans to retire. WiLAN has over 30 known subsidiaries, including Open Network Solutions, its most active

subsidiary in litigation. In Q1 2014, WiLAN announced it would shift its focus from outright patent acquisition to privateering deals with patent holders. As of December 2015, WiLAN has filed over 150 cases against more than 75 companies, mostly defendants that manufacture and/or sell electronics and mobile devices. In the past, the PAE has reported owning over 4,000 patents.

## About RPX

RPX Corporation (NASDAQ: RPXC) helps operating companies reduce the cost and risk associated with NPE (non-practicing entity) patent litigation. Members of the RPX client network pay an annual fee that reflects their particular NPE risk. We then use this aggregated capital to acquire potentially problematic patents and rights in the open market and out of active litigations before they can become a costly problem for our clients. RPX promises never to litigate or assert the patents it purchases.

In addition to our core defensive patent acquisition service, RPX also negotiates syndicates to purchase and clear significant portfolios from the market on behalf of our clients. And we offer unique NPE litigation insurance—with policies written on A rated paper (AM Best) and backed by a Lloyd's syndicate. Further, RPX provides clients with in-depth industry data, market intelligence, and patent advisory services.

RPX has invested nearly \$2 billion to acquire 10,000+ US and international patent assets and rights, achieved more than 800 litigation dismissals, and prevented more than 3,000 NPE litigations from occurring. Since our founding in 2008, we have saved our clients more than \$2.5 billion in avoided NPE legal and settlement costs.

The RPX network comprises nearly 250 clients in sectors including automotive, consumer electronics and personal computing, E-commerce and software, financial services, media content and distribution, mobile communications, networking and semiconductors.

### Contacts

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