

PIPX Intellectual Property Sector Index Q3 2016 update

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Composition and description of the PIPX index

The PIPX index is designed to provide a measure of the market value and hence the health of the intellectual property licensing business. The index consists of 12 companies with a primary focus of licensing and enforcement of patent intellectual property. The companies included in the index are listed in Table 1. In addition to a focus on intellectual property, there are two additional criteria for inclusion in the index. The first is that they must be publically traded companies, so that a market value can be established for the company on a daily basis. For this reason a number of prominent intellectual property licensing companies are not included, such as Intellectual Ventures, Conversant, and IPNav. The second is that they must also have a market capitalization greater than \$100M in order to provide a level of stability and minimize the number of companies popping into and out of the index. This excludes some smaller companies that may be added to the index later if they grow to and maintain a market capitalization of greater than \$100 million. Many of the companies' market capitalizations have shrunk below \$100M since being added to the index. Unwired Planet was part of the index until the end of Q2 2016 at which point it was removed due to its exit from the IP business.

Table 1 – Intellectual Property Licensing Companies Included

Acacia Research	Interdigital	FORM Holdings	VirnetX
Wi-LAN	Tessera	Rambus	RPX
Parkervision	Pendrell	Neonode	Marathon

The index is a capitalization-weighted price-return measure of the change in value of this segment of publically traded companies. The effect of dividends and daily changes in the number of shares outstanding are not included. The index is initiated with a value of 100 on July 1, 2011. This date was chosen to avoid what would be several significant disruptions to the index, namely the RPX initial public offering in May 2011, the initial listing of Wi-LAN on the NASDAQ in April 2011, and the taking private of MOSAID in Oct 2011.

Figure 1 shows the performance of the PIPX index starting from July 2011 through September 2016. Somewhat surprisingly, given the amount of interest and attention provided to IP licensing in recent years, the index trends down from July 2011 to about the middle of 2012 and from there has been relatively flat until summer of 2015 when it started trending down again. This performance stands in contrast to that of the broader economy and of publicly traded companies in general. It appears that the PIPX index may have bottomed out in early 2016 and is starting to recover. Figure 1 compares the PIPX to the S&P 500 over the period of interest.

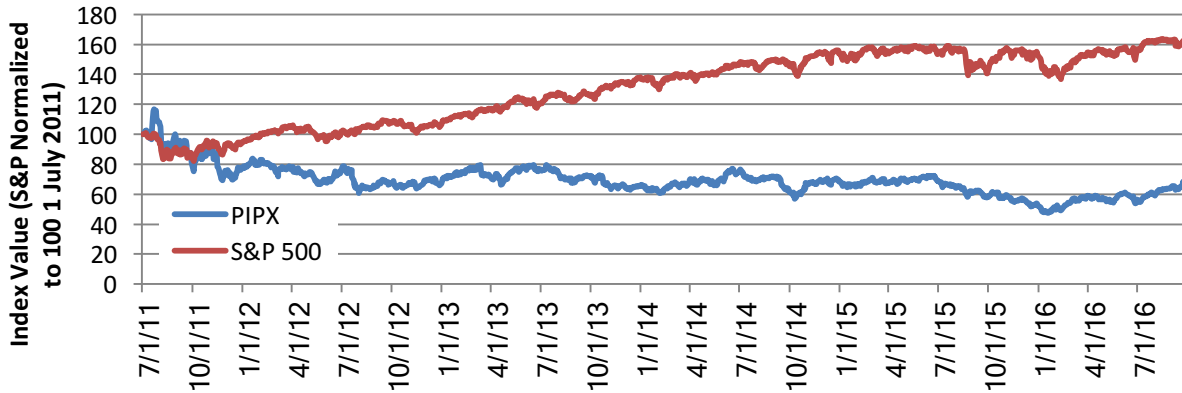


Figure 1 – Comparison of PIPX to S&P 500 (S&P 500 normalized to 100)

Q3 2016 Update

For Q3 the PIPX index was up a remarkable 20.4%, the largest quarterly gain to date, as compared to an up 3.3% quarter for the S&P 500 as shown in Figure 1. The change in value of the component companies is shown in Figure 2, ranging from 48.2% for Acacia to -39.4 % for Wi-Lan.

Figure 3 compares the quarter on quarter change in value of the PIPX and the S&P 500 since the PIPX inception. After substantially outgrowing the S&P 500 in Q1, Q2 saw the PIPX decrease while the S&P 500 increased. In Q3 the PIPX returned to a significant gain vs. the S&P 500. The value of \$1 invested in the S&P 500 in Q3 2011 would now be \$1.62 while the value of the same \$1 invested in the PIPX would be \$0.68.

Figure 4 shows the contribution of each company, positive or negative, to the change in the overall weighted index for Q2. For Q2, gains in Interdigital, Tessera, and Acacia carried the index to a substantial gain.

Interdigital, Tessera, and Rambus continue to make up an ever increasing share of the index. These three companies accounted for 37% of the total value of the index at the inception in 2011, today they make up 80% of the total value of the index, with Interdigital alone accounting for almost 40%.

Percentage Change Q3 2016

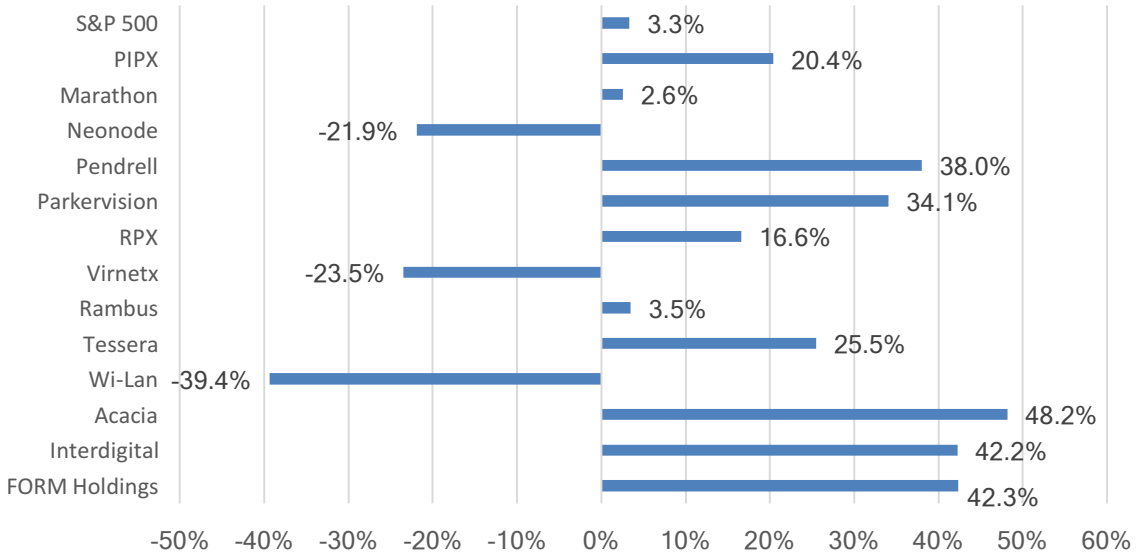


Figure 2 - Change in value of component companies and PIPX Index – Q3 2016

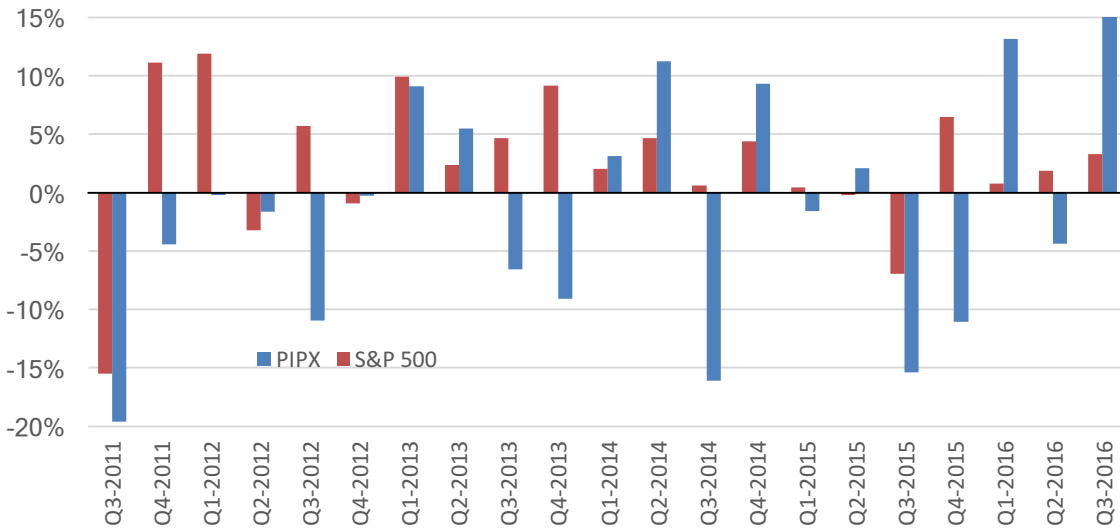


Figure 3 – Comparison of quarterly change in value of PIPX Index and S&P 500

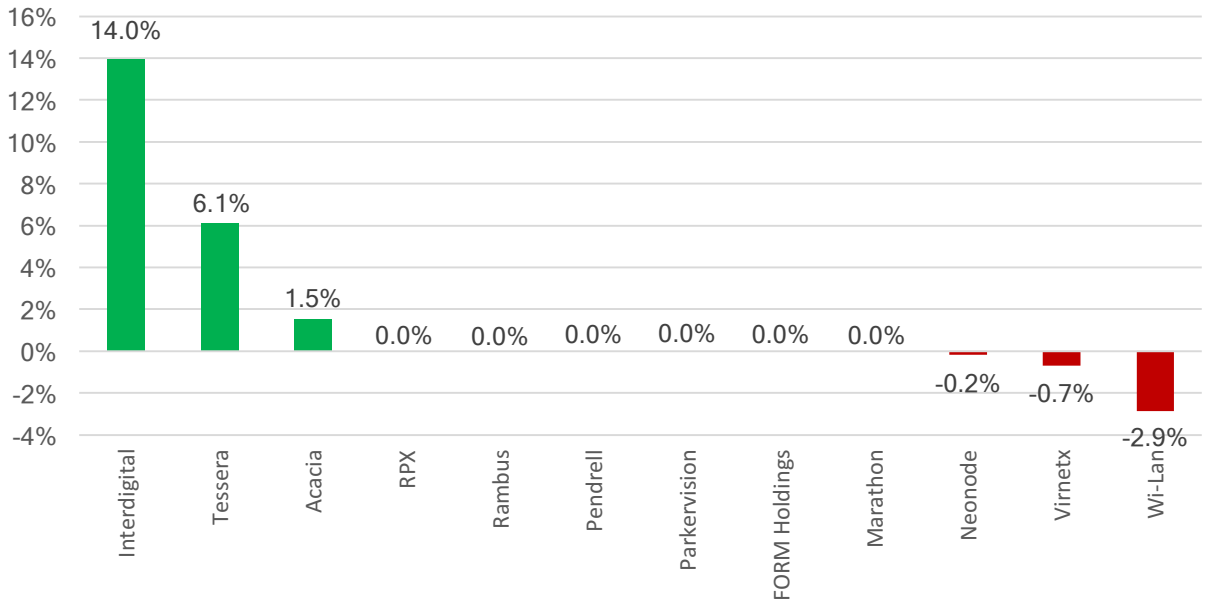


Figure 4 - How much each component company changed the PIPX Index – Q3