InQuartik

Decrypt Complexity

Reading Patent Litigation With Patent Data

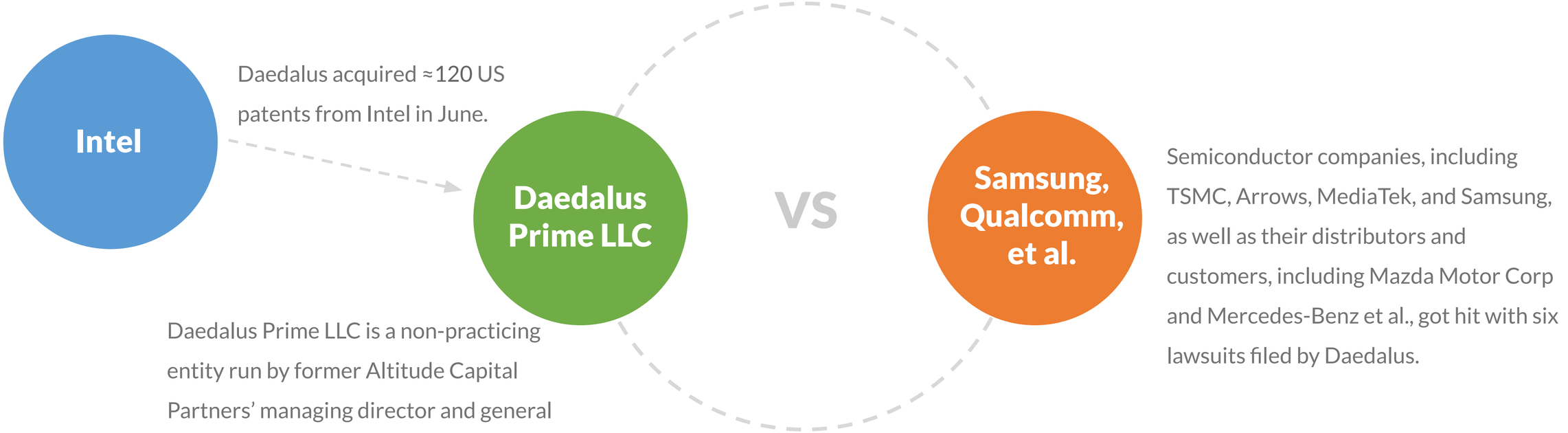
Daedalus Prime LLC v. Arrow Electronics, Inc. et al (DDE-1-22-cv-01107)
Daedalus Prime LLC v. Mazda Motor Corporation et al (DDE-1-22-cv-01108)
Daedalus Prime LLC v. Mazda Motor Corporation et al (DDE-1-22-cv-01109)
Daedalus Prime LLC v. Samsung Electronics Co., Ltd. et al (EDTX-2-22-cv-00352,0053,0054)
ITC-337-TA-3637
ITC-337-TA-3640
ITC-337-TA-3641

Table of Contents

About the Cases

About the Cases

- On August 23rd and September 12th, Daedalus Prime LLC, an NPE, filed 6 lawsuits and 3 ITC cases against Semiconductor companies, including TSMC, Arrows, MediaTek, Samsung, and NXP, as well as their distributors and customers, including Mazda Motor Corp and Mercedes-Benz et al.
- Daedalus alleges that the companies have infringed 20 of its U.S. patents on semiconductor and microprocessor devices.
- All 20 patents-in-suit were among the ≈120 patents Daedalus acquired from Intel in June.



The Cases - 1st Series Filed on August 23, 2022

Daedalus launched the first series of cases on August 23rd, three U.S. District Court cases at the District Court of Delaware and one ITC case.

Daedalus asserted the same six patents in all four of the ‘August 23rd’ cases.

Venue	Case	The Patents-in-suit
ITC	Semiconductors and Devices and Products Containing the Same, Including Printed Circuit Boards, Automotive Parts, and Automobiles; Inv. No. 337-TA-3637 (Violation)	**US 10,049,080** **US 10,394,300** **US 10,705,588** **US 8,775,833** **US 8,898,494** **US 9,575,895**
DDE	Daedalus Prime LLC v. Arrow Electronics, Inc. et al (1-22-cv-01107)	
	Daedalus Prime LLC v. Mazda Motor Corporation et al (1-22-cv-01108)	
	Daedalus Prime LLC v. Mazda Motor Corporation et al (1-22-cv-01109)	

The Cases - 2nd Series Filed on September 12, 2022

Just a few days later, Daedalus initiated the 2nd round of cases, including two ITC cases involving four patents in each case and three cases filed at the Eastern District Court of Texas, involving the eight ITC case patents and 10 additional patents in two cases.

Venue	Case	The Patents-in-suit
ITC	Certain Integrated Circuits, Mobile Devices Containing the Same, and Components Thereof; Inv. No. 337-TA-3640 (Violation)	**US 8,775,833** **US 8,898,494** **US 10,049,080** **US 10,705,588**
	Semiconductor Devices, Mobile Devices Containing The Same, and Components Thereof; Inv. No. 337-TA-3641 (Violation)	**US 9,831,306** **US 10,319,812** **US 10,700,178** **US 11,251,281**
EDTX	Daedalus Prime LLC v. Samsung Electronics Co., Ltd. et al (2-22-cv-00352)	Same 8 patents in the two ITC cases above
	Daedalus Prime LLC v. Samsung Electronics Co., Ltd. et al (2-22-cv-00353)	**US 9,202,699** **US 10,541,334** **US 10,727,183** **US 9,627,321**
	Daedalus Prime LLC v. Samsung Electronics Co., Ltd. et al (2-22-cv-00354)	**US 8,359,629** **US 9,432,840** **US 9,887,838** **US 9,996,135** **US 10,372,197** **US 10,705,960**

Summary of the Cases

In summary, there are a total of six district court cases and three ITC cases to date, with a total of 20 asserted patents.

Date filed	Case	Number of patents asserted	Note
8/23	ITC-337-TA-3637	6	All six patents in each of these cases are the same patents. All these cases include the 4 patents **(A)**
	DDE-1-22-cv-01107	6	
	DDE-1-22-cv-01108	6	
	DDE-1-22-cv-01109	6	
9/12	ITC-337-TA-3640	4	This case uses the 4 patents in the 8/23 cases and EDTX-2-22-cv-00352 **(A)**
	ITC-337-TA-3641	4	This case uses the 4 patents in EDTX-2-22-cv-00352 **(B)**
	EDTX-2-22-cv-00352	8	This case uses the 4 patents in the 8/23 cases and EDTX-2-22-cv-00352 **(A)** This case uses the 4 patents in ITC-337-TA-3641 **(B)**
	EDTX-2-22-cv-00353	4	
	EDTX-2-22-cv-00354	6	

Several patents were used more than once (highlighted in the table above).

A. The 4 patents, US 10,049,080, US 10,705,588, US 8,775,833, and US 8,898,494 were used in all 4 of the 8/23 cases, ITC-337-TA-3640, and EDTX-2-22-cv-00352.
B. The 4 patents, US 9,831,306, US 10,319,812, US 10,700,178, and US 11,251,281 were used in ITC-337-TA-3641 and EDTX-2-22-cv-00352.

The Patents-in-suit

Discovering the Patents' Potential Quality Issues

Examining the Quality Issues of the Patents-in-suit

Using *Quality Insights*, we examined the quality issues of the 20 patents-in-suit. We not only compiled the issues found in the patents' prosecution and PTAB history, but we also unearthed the potential issues found, such as the indefiniteness terms not disclosed by the patent's specifications and the number of potential novelty/non-obviousness prior art found.

The example below presents the various quality-related factors we examined (using the US 9,627,321 patent as an example):

Patent-in-Suit			Prosecution / PTAB Record				Potential Issues		
Patent No.	Title	Case Number	Novelty Challenge	Double Patenting	Non-Obviousness	Claim Disclosure	Indefiniteness Terms	Novelty Prior Art	Non-Obviousness Prior Art
US 9,627,321	Methods and apparatuses to form self-aligned caps	EDTX-2-22-cv-00353	US5470789		US20100081276 US5470789 US20090283499	Substantially	region, location	8 Patent Ref.	37 Patent Ref.

For the full list of the 20 patents-in-suit and their quality issues, please see the Appendix.

The Quality Issues of the Patents-in-suit

Below are the findings discovered after examining the various quality-related aspects of the 20 patents-in-suit.

Prosecution / PTAB Records				Potential Issues*			
	No. of Patents	Percentage			No. of Patents with # of issues	Percentage	No. of Prior art Found (among # of issues)
Novelty Challenge (§102)	8	40%		Indefiniteness Terms	18	90%	- -
Non-Obviousness (§103)	9	45%		Novelty Prior Art	11	55%	Avg.19
Double Patenting	9	45%		Non-Obviousness Prior Art	17	85%	Avg. 70

*The potential issues included in this section includes patents-in-suit with >5% Indefiniteness Terms; >3 Novelty Prior art references; >10 Non-Obviousness prior art references.

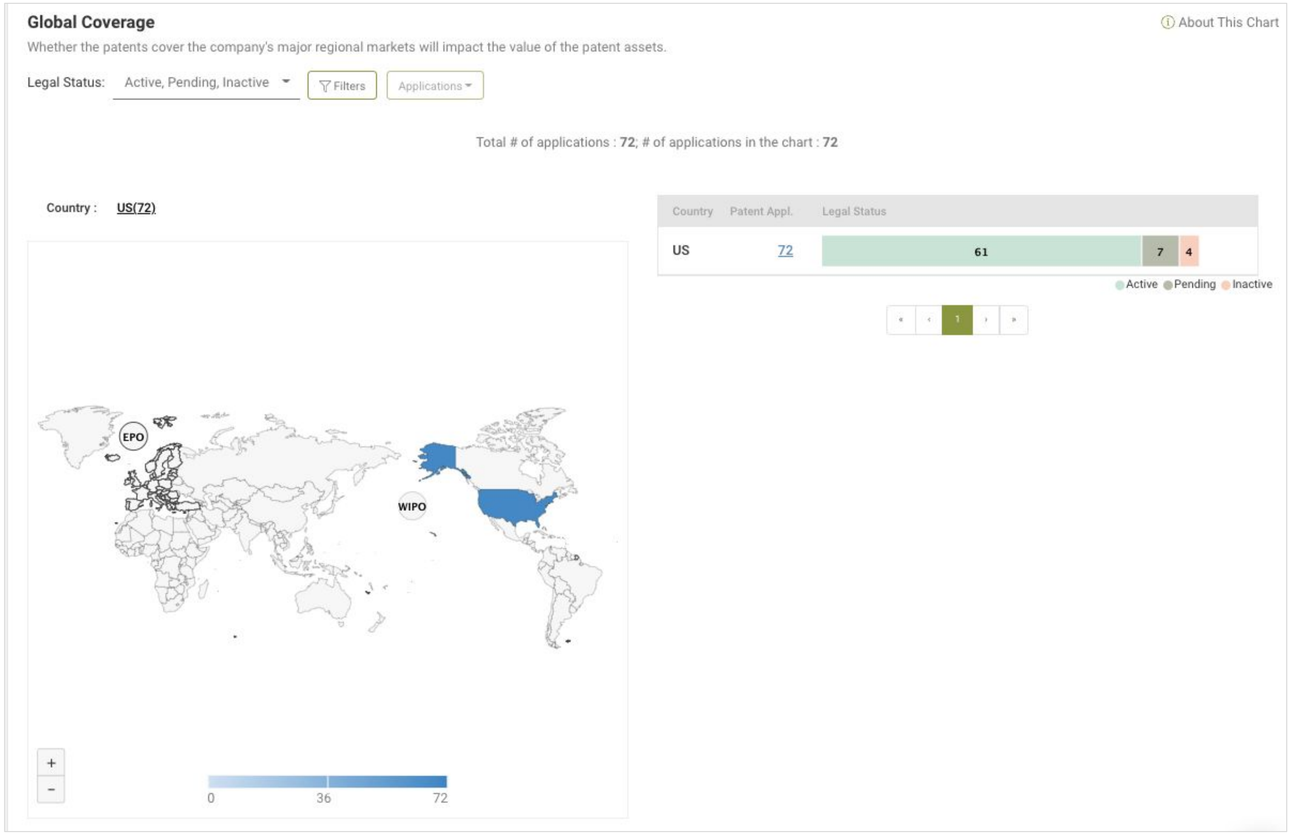
Two of the 20 patents-in-suit do not have quality issues in their history and have a low number of potential novelty prior art — US 10,541,334 and US 10,727,183 (asserted in the EDTX-2-22-cv-00353 case).

For the full list of the 20 patents-in-suit and their quality issues, please see the Appendix.

The ‘Quality Insights’ of The Patents-in-suit

Although nearly all of the patents-in-suit have potential quality issues, there are still patents with no apparent issues in their history and less potential prior art. The defendant may find these patents more difficult to invalidate.

The Possible Impact On the Litigation



Source: *Due Diligence*

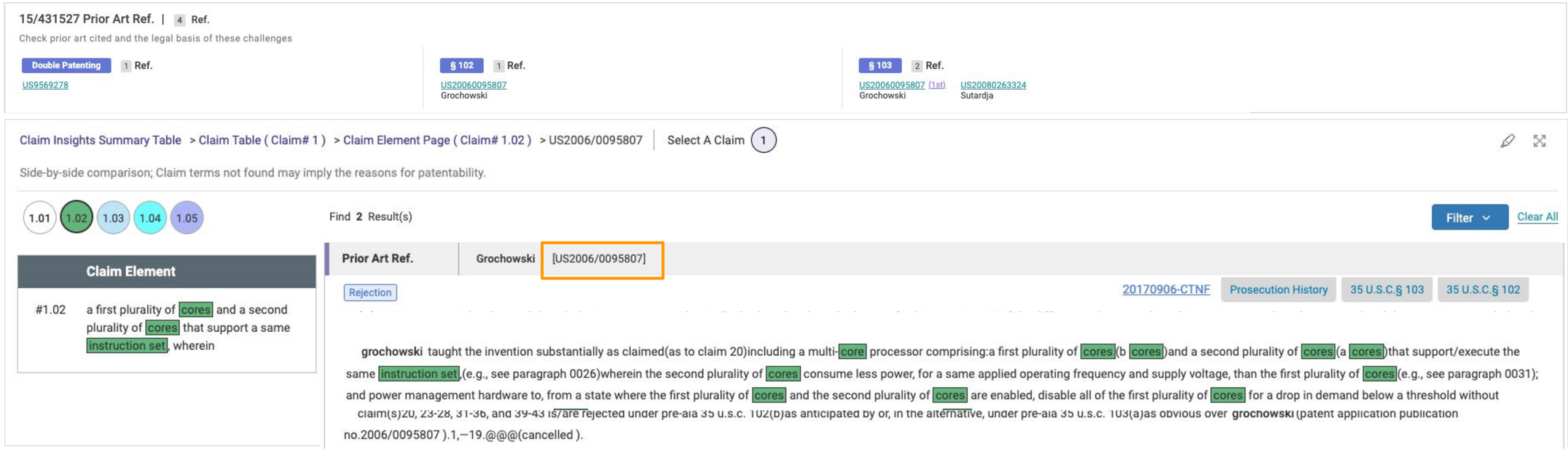
The patents-in-suit and their family members are deployed in the U.S. jurisdiction only, indicating that Daedalus's patents pose litigation threats only in the U.S. regional market at the moment.

The patents-in-suit and their family members are expected to expire between 2030 to 2034.

The Data Behind the Results — Novelty Issues Found in the Patents' History

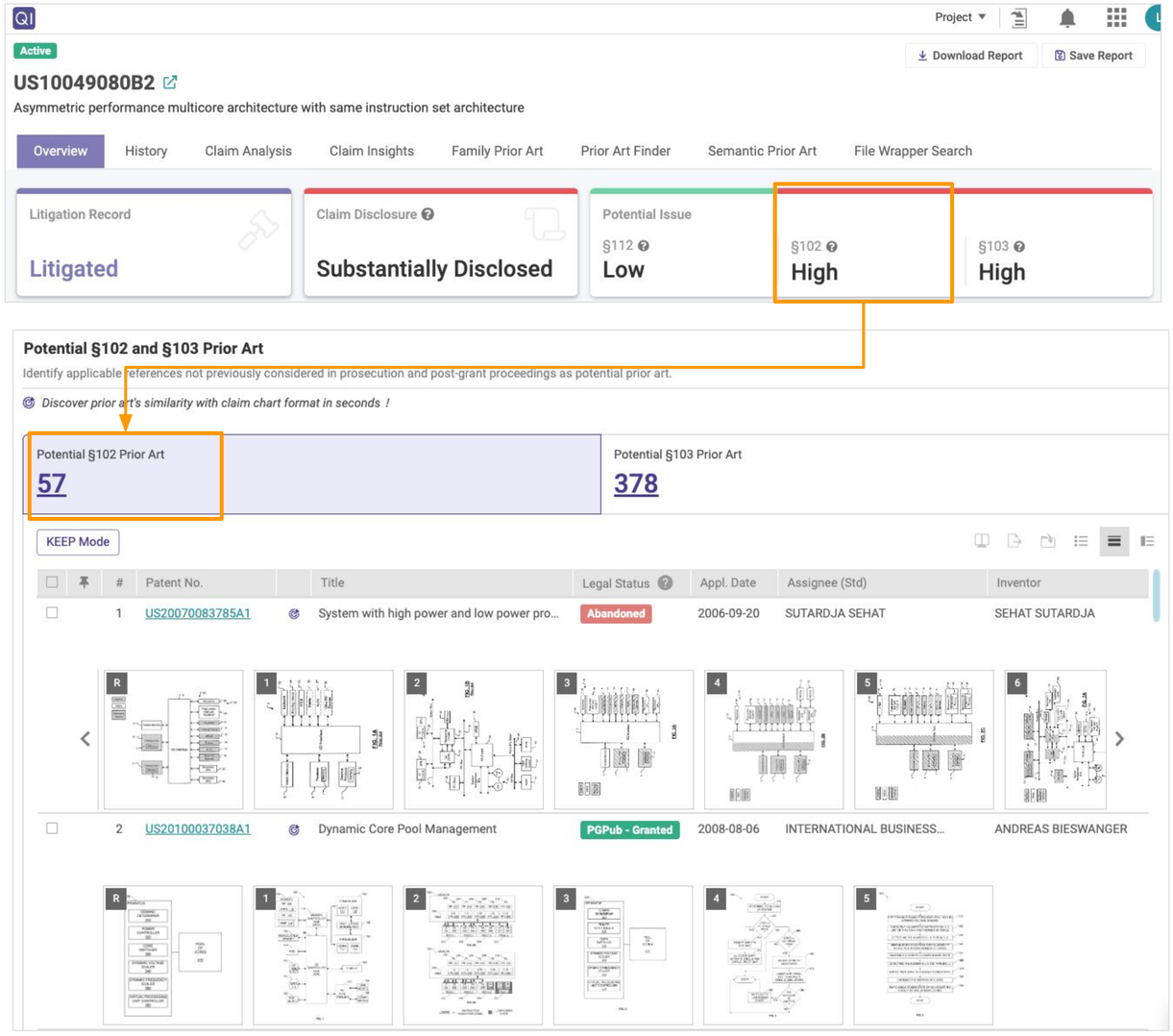
Around a third (28%) of the U.S. patents-in-suit have novelty (§102) issues in their prosecution and PTAB history. The issues point to possible quality concerns of the patents themselves and their corresponding family members.

Using the US 10,049,080 patent as an example (which was asserted in the 8/23 cases, 1 EDTX case, and 1 ITC case from 9/12), we can see the automated claim chart that compares claim #1 to the non-final rejection filed on 2017-09-06. The chart shows that the current claim #1 of the '080 patent is "substantially disclosed" by the U.S. patent publication US 2006/0095807 ("Method and apparatus for varying energy per instruction according to the amount of available parallelism"), which the examiner cited as an "§102" prior art reference during prosecution.



Source: *Quality Insights*

The Data Behind the Results —The Number of Potential Novelty Prior Art Found



Source: *Quality Insights*

The number of potential prior art can also give us an idea of how easily a patent can be challenged.

The potential prior art found by *Quality Insights* includes novelty (§102) issues found in the prior art of family members and the 2nd and 3rd-degree prior art list.

Using patent No. US 10,049,080 as an example, 57 potential novelty prior art was found, giving it a ‘High' under §102 Potential Issues.

Reviewing Daedalus Prime LLC’s Patent Portfolio

The Portfolios' Statuses

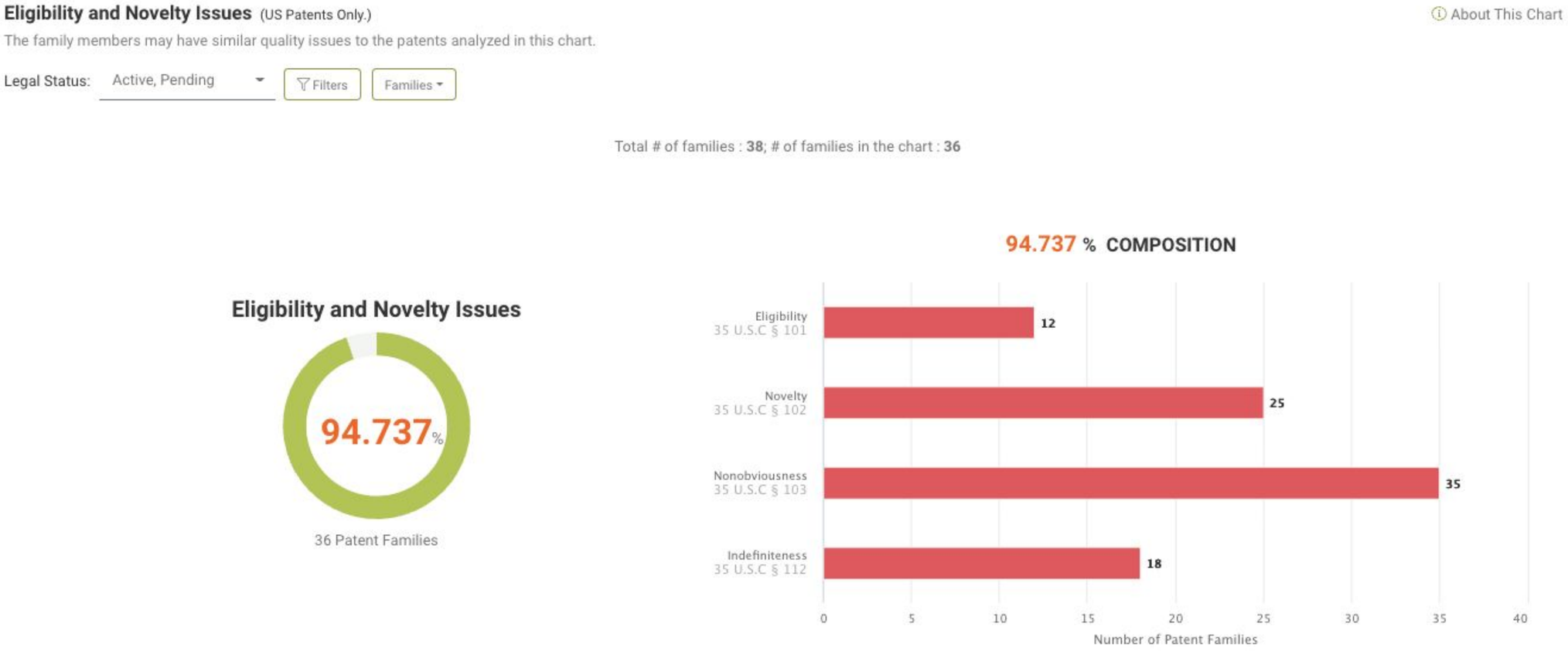
- The patent portfolio of Daedalus Prime consists of 125 patent applications that correspond to 38 families.
- 82.11% of the patent applications in Daedalus' portfolio are active; 8.13% are still pending applications, and only 9.77% are inactive.
- Nearly all Daedalus' patents and applications are only deployed in the U.S., except for two German patents.
- Daedalus' patents are all transferred from other companies (122 patents from Intel and one from International Business Machines Corp).

Number of Patents	
Applications	US (123) DE (2)
Families	38
Legal Status	
Active	103 (82.4%)
Pending	10 (8%)
Inactive	12 (9.6%)
Coverage of Active or Pending Patents	
	US (123) DE(2)
Transacted US Patents	
Transacted Patents (100%)	From Intel (122) From IBM (1)

According to an article by IAM, Daedalus filed another lawsuit in Düsseldorf Regional Court in Germany against Samsung, asserting its two German patents. These two patents are included in the portfolio analysis, but as we are unable to confirm more details about the German case at this time, we have omitted the two patents from our analysis of the patents-in-suit.

Quality Highlights of the Portfolio – Eligibility and Novelty Issues

As for the percentage of eligibility and novelty issues found among the active/pending U.S. applications, 94.74% of the families have quality issues in their prosecution and PTAB history. The novelty issues of the portfolio is quite significant, with 25 out of 36 families (69.4%) that had encountered §102 issues in the past.



Source: *Due Diligence*

Patent Quality and Value Rankings – Derived from Deep Learning

Before examining the Quality and Value Rankings, let's get a basic understanding of Patentcloud's Quality Value model from the figure below:

Predicts the relative potentiality for invalidation

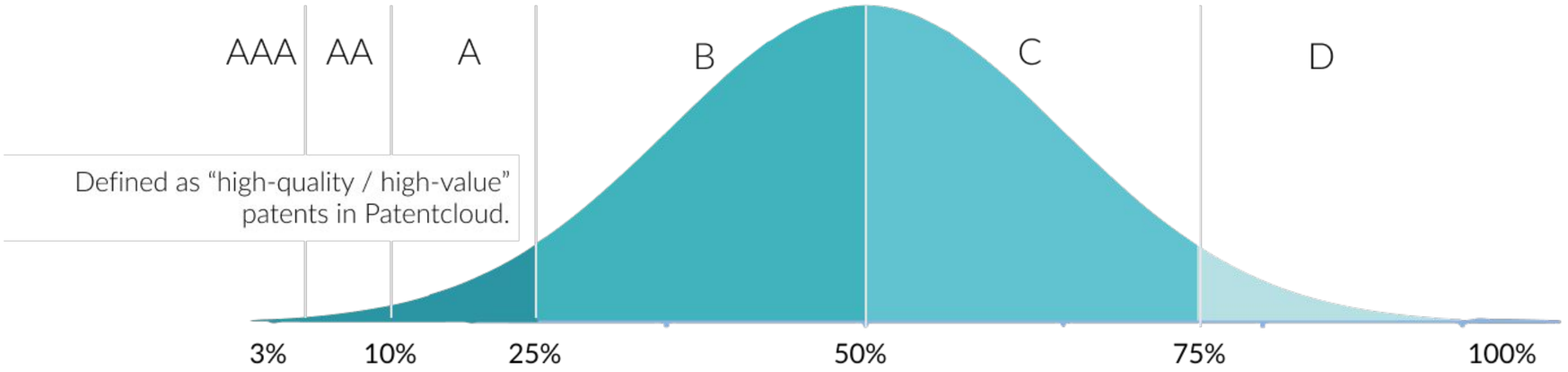
Based on how similar a patent is to patents that did not overcome examination or was invalidated.

Quality

Value

Predicts the relative potentiality for monetization

Based on how similar a patent is to patents that were litigated or transacted



Comparing Value

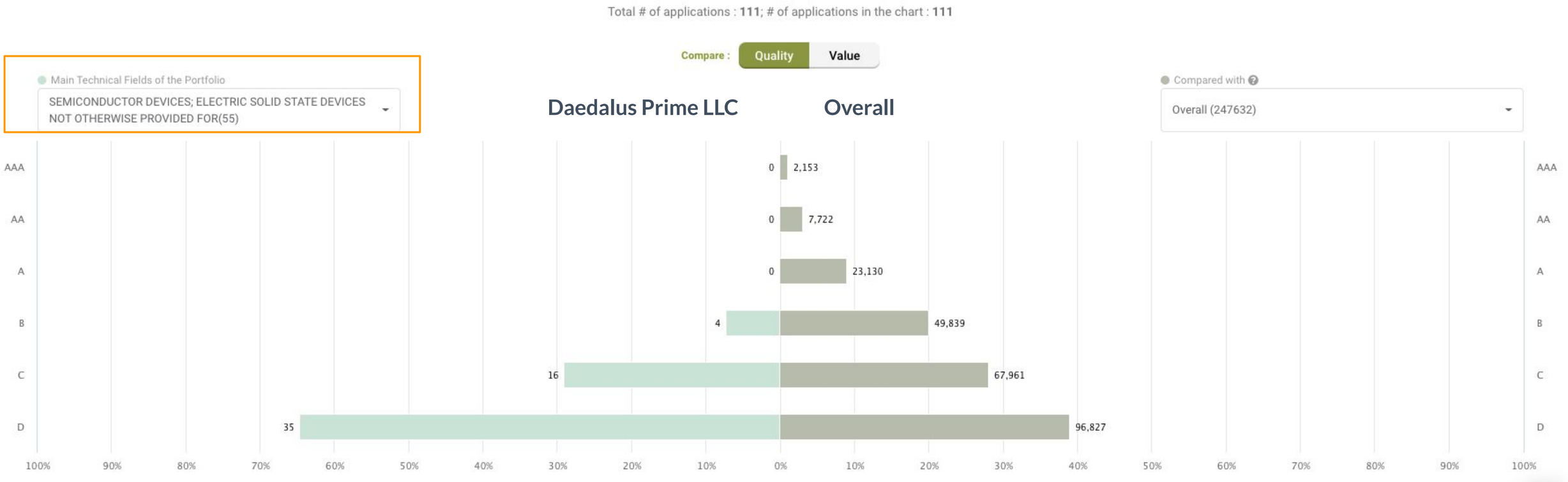
Looking at the Value Rankings, we analyzed Daedalus' patents regarding "Semiconductor devices; Electric solid state devices not otherwise provided for" (IPC H01L), the field in which the defendants have the most patents, compared with overall market.

We can see that around 52.7% of Daedalus' patents in 'Semiconductor devices; Electric solid state devices not otherwise provided for' are ranked A or above, much higher than the overall 17.3%.

Source: *Due Diligence*

Comparing Quality

As for the Quality Ranking, Daedalus has no U.S. patents ranked A or above under IPC H01L. Daedalus has more patents (63.6%) rated D than the overall market's 39.1%.

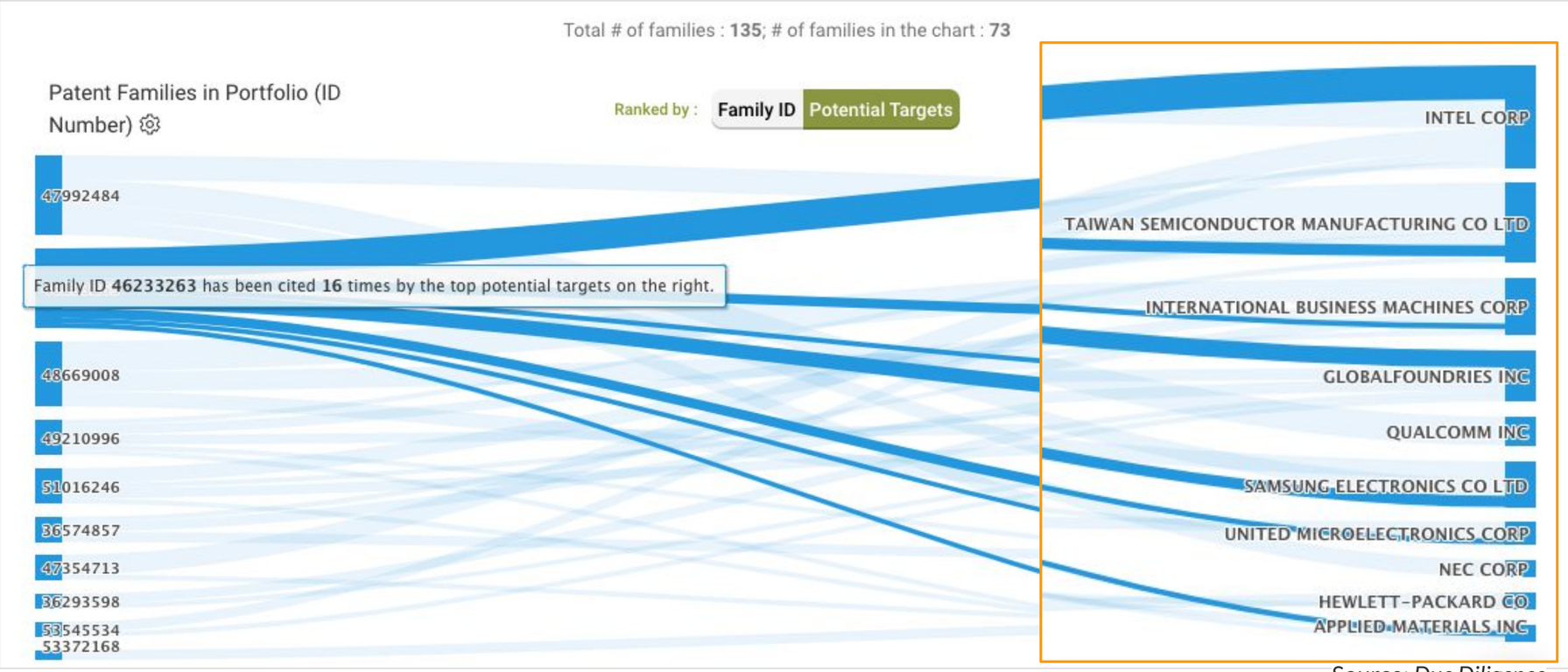


Source: *Due Diligence*

Daedalus Prime LLC's Potential Targets

This Potential Target chart identifies potential buyers or licensees of the portfolio. These targets are considered technology followers of the company's portfolio based on novelty-citation information.

Besides TSMC and Samsung already got hit by Daedalus, the example here shows that family ID 46233263 (US 8,901,537) was cited by the patent applications of Global Foundries, United Microelectronics, and Applied Materials, making them potential targets.



Source: *Due Diligence*

Portfolio Insights

Looking at the portfolio from a macro perspective, Daedalus' portfolio seems to have higher value patents compared to the top owners in the field. We also found obvious quality issues in the portfolio. 69% of the patent families have members challenged with novelty rejections during prosecution.

Besides TSMC and Samsung, who were already sued by Daedalus, we found that other potential targets of the portfolio, such as Global Foundries, United Microelectronics, and Applied Materials, should be wary of future litigations.

Conclusion

Conclusion

- Although we found some potential quality issues among several patents-in-suit, there are still patents with no apparent issues that the defendant will find more difficult to invalidate.

- Using *Due Diligence*, we also found a significant percentage (69%) of patent families that have members challenged with novelty rejections during prosecution. Despite the quality issues, Daedalus appears to have a portfolio with more high-value patents compared to the top owners in the same field.

- Looking at the novelty citation data in the *Due Diligence* report, we found that other potential targets of the portfolio should be wary of future litigations. The potential targets include GlobalFoundries, United Microelectronics, and Applied Materials.

- Daedalus Prime LLC has already enforced its patents against semiconductor companies, including TSMC, Arrows, MediaTek, Samsung, NXP, and their distributors and customers, including Mazda Motor Corp and Mercedes-Benz et al., more enforcement may be expected.

Thank You!

If you have any questions or want to book a demo, please contact:

Joanna Chen

Client Success Manager

TEL: 02.7733.0277 ext. 16784

E-mail: JoannaChen@inquartik.com

Contact us: www.inquartik.com

InQuartik

Appendix - The Quality Issues of the Patents-in-suit 1/3

Patents-in-Suit			Prosecution / PTAB Record				Potential Issues		
Patent No.	Title	Case Number	Novelty Challenge	Double Patenting	Non-Obviousness	Claim Disclosure	Indefiniteness Terms	Novelty Prior Art	Non-Obviousness Prior Art
US 10,049,080	Asymmetric performance multicore architecture with same instruction set architecture	DDE-1-22-cv-01107 DDE-1-22-cv-01108 DDE-1-22-cv-01109 ITC-337-TA-3637 EDTX-2-22-cv-00352 ITC-337-TA-3640	US20060095807	US9569278	US20060095807 US20080263324	Substantially		57 Patent Ref.	379 Patent Ref.
US 10,705,588	Enabling a non-core domain to control memory bandwidth in a processor			US10037067		Not Disclosed	independently, operable, fourth,concurrently	0 Patent Ref.	1 Patent Ref.
US 8,775,833	Dynamically allocating a power budget over multiple domains of a processor		US20080136397	US20080136397 US20130061064	US20130061064 US20080136397	Partially	controllable machine	25 Patent Ref.	7 Patent Ref.
US 8,898,494	Power budgeting between a processing core, a graphics core, and a bus on an integrated circuit when a limit is reached		US20110310413 US20050060594	US20120324248 US5758133	US20110310413 US20050060594 US20120324248 US20080104428 US5758133 US20070074011	Substantially	adjusting	37 Patent Ref.	81 Patent Ref.
US 10,394,300	Controlling operating voltage of a processor	DDE-1-22-cv-01107 DDE-1-22-cv-01108 DDE-1-22-cv-01109 ITC-337-TA-3637				Not Disclosed	inactive, send	1 Patent Ref.	28 Patent Ref.
US 9,575,895	Providing common caching agent for core and integrated input/output (IO) module		US20150143051 US8984228	US11016918	US20040139283 US20080320236	Substantially	machine	0 Patent Ref.	43 Patent Ref.

*Cases in red are from the 8/23 series of cases; those in green are from the 9/12 series.

Appendix - The Quality Issues of the Patents-in-suit 2/3

Patents-in-Suit			Prosecution / PTAB Record				Potential Issues		
Patent No.	Title	Case Number	Novelty Challenge	Double Patenting	Non-Obviousness	Claim Disclosure	Indefiniteness Terms	Novelty Prior Art	Non-Obviousness Prior Art
US 9,831,306	Self-aligned gate edge and local interconnect and method to fabricate same	EDTX-2-22-cv-00352 ITC-337-TA-3641	US2,0050,056,888			Partially	wi-fi, supports, activation, received, deactivation	13 Patent Ref.	99 Patent Ref.
US 10,319,812	Self-aligned gate edge and local interconnect and method to fabricate same			US9831306		Partially	discontinuous, laterally, composition	7 Patent Ref.	16 Patent Ref.
US 10,700,178	Contact resistance reduction employing germanium overlayer pre-contact metalization					Not Disclosed	facets	7 Patent Ref.	39 Patent Ref.
US 11,251,281	Contact resistance reduction employing germanium overlayer pre-contact metalization					Not Disclosed	exposing	10 Patent Ref.	56 Patent Ref.
US 9,202,699	Capping dielectric structure for transistor gates	EDTX-2-22-cv-00353	US20110156107 US20060046449		US20110156107 US20110034026	Partially		36 Patent Ref.	57 Patent Ref.
US 10,541,334	Techniques for integration of Ge-rich p-MOS source/drain					Not Disclosed	body, direct, consists, percent,abutting, wrapped	0 Patent Ref.	6 Patent Ref.
US 10,727,183	Methods and apparatuses to form self-aligned caps					Not Disclosed	upper, curved, location, surrounding, corner, meet, co-planar	0 Patent Ref.	18 Patent Ref.

*Cases in red are from the 8/23 series of cases; those in green are from the 9/12 series.

Appendix - The Quality Issues of the Patents-in-suit 3/3

Patents-in-Suit			Prosecution / PTAB Record				Potential Issues		
Patent No.	Title	Case Number	Novelty Challenge	Double Patenting	Non-Obviousness	Claim Disclosure	Indefiniteness Terms	Novelty Prior Art	Non-Obviousness Prior Art
US 9,627,321	Methods and apparatuses to form self-aligned caps	EDTX-2-22-cv-00353	US5470789		US20100081276 US5470789 US20090283499	Substantially	region, location	8 Patent Ref.	37 Patent Ref.
US 8,359,629	Method and device for controlling use of context information of a user	EDTX-2-22-cv-00354			US7072956 US20090319806 US20080194233 .	Substantially	retrieved, result, non-transitory, retrieving	0 Patent Ref.	112 Patent Ref.
US 9,432,840	Radio based location power profiles		US20090043501 US20100184440 US20110286437…	US201300US201 3000535305353		Partially	co-planar, uppermost discontinuous, laterally	71 Patent Ref.	158 Patent Ref.
US 9,887,838	Method and device for secure communications over a network using a hardware security engine				US7966646 US20090280905 US20040158715 …	Substantially	encoded, non-transitory, execution	1 Patent Ref.	104 Patent Ref.
US 9,996,135	Controlling operating voltage of a processor					Not Disclosed	inactive, send	1 Patent Ref.	46 Patent Ref.
US 10,372,197	User level control of power management policies			US9170624 US9535487 US9098261		Substantially	balance, responsive, predominant, machine	1 Patent Ref.	29 Patent Ref.
US 10,705,960	Processors having virtually clustered cores and cache slices			US20180225211 US20140189239 US20180225213 …	US20140189239 US20050027941 US20110022773…	Substantially	enable, coherent, subsystem, operative, accessible, integral	11 Patent Ref.	84 Patent Ref.

*Cases in red are from the 8/23 series of cases; those in green are from the 9/12 series.