Patently100®
Wi-Fi

The world's leading Wi-Fi patent owners

2026

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This new annual report includes two rankings: the *Wi-Fi 6 Top 75*, which lists the entities that own the most Standard Essential Patents (SEPs) relating to Wi-Fi 6 technology, and the *Wi-Fi 5 Top 25*. Both are compiled using Patently License™, an analytics and licensing tool for SEPs.

Learn more about our solution and the data here.

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Introduction

Wi-Fi 6 (IEEE 802.11ax) has emerged as the dominant wireless standard for high-density, high-throughput environments, underpinning the next generation of connected devices and services. As the technology matures, the landscape of Standard Essential Patents (SEPs) for Wi-Fi 6 has become a focal point for innovation, licensing, and litigation.

Unlike 3GPP, for which ETSI IPR Policy requires members to make “timely” declarations of potentially essential patents, in the case of Wi-Fi there is no obligation as such to declare patents to IEEE. As a result, there are fewer declared patents and a greater need for independent identification of undeclared SEPs.

This report provides an in-depth analysis of the 75 entities holding the most Wi-Fi 6 patents, including the top 10 portfolios: Huawei, LG, Intel, Qualcomm, Acacia, NXP, NTT, Sony, Mediatek, and Broadcom. For each, we examined their corporate background, Wi-Fi 6 contributions, patent statistics, licensing strategies, and notable strategic moves. A similar analysis was performed to produce our ranking of the 25 entities holding the most significant Wi-Fi 5 (IEEE 802.11ac) patents.

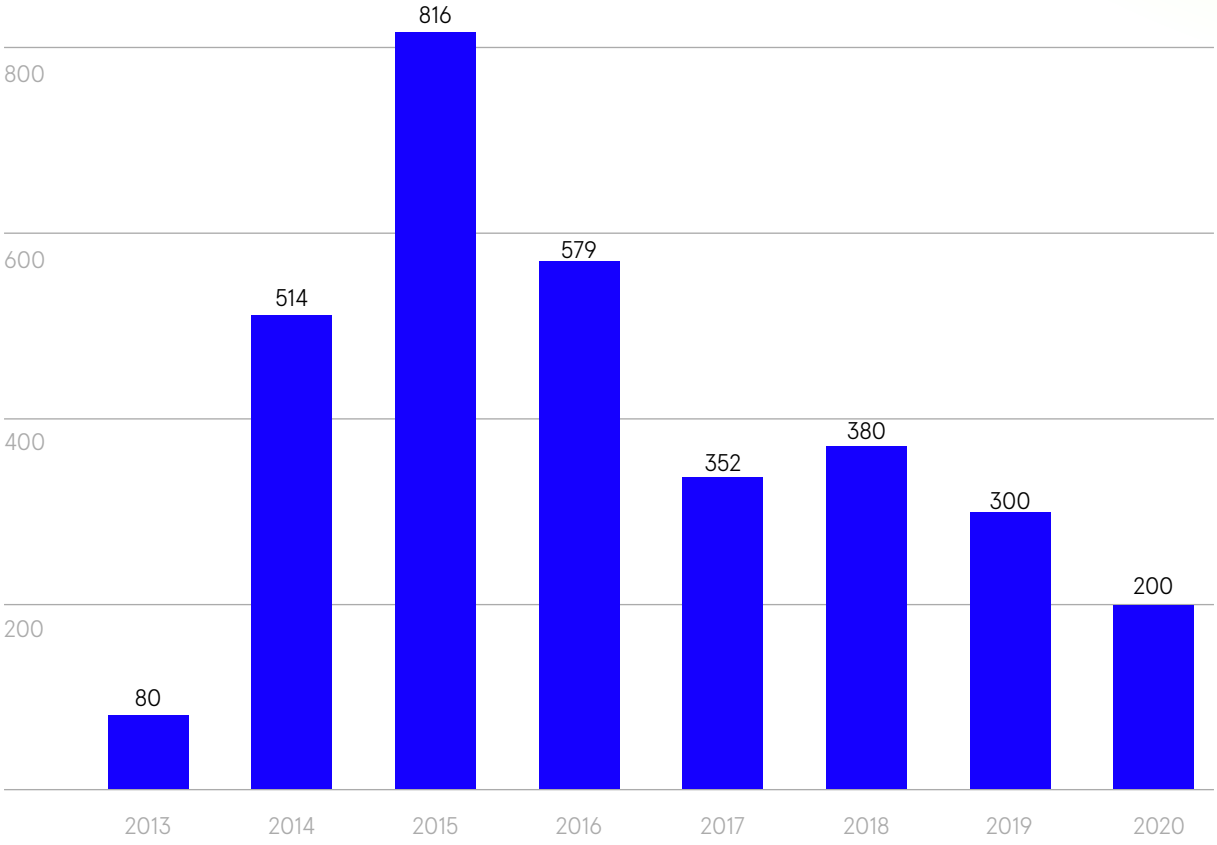
Why does the licensing of Wi-Fi SEPs represent a complex terrain to navigate?

Wi-Fi 6 has a high market penetration: it delivers material performance gains over Wi-Fi 5, with the IEEE task group having targeted around a four-fold higher throughput per station at comparable or lower power. It introduces PHY/MAC enhancements such as OFDMA, expanded MUMIMO (uplink & downlink, up to 8 streams), spatial reuse/BSS colouring, TWT, 1024QAM, and wider channels.

Wi-Fi SEPs are held by a large number of patentees across telecoms, semiconductor, and consumer electronics sectors, requiring implementers to negotiate with multiple licensors rather than a single rights holder. Unlike cellular standards such as 3GPP, Wi-Fi has historically relied more on bilateral licensing, resulting in inconsistent royalty demands. Wi-Fi 6 is implemented in an ever-wider range of products (including routers, smartphones, IoT devices, TVs), complicating valuation and licensing structures across very different product categories and price points.

Implementers also often need to license SEPs originating from multiple generations of Wi-Fi technology. A Wi-Fi 6 implementer may for example need to license patents from the Wi-Fi era, as well as those from the Wi-Fi 6 period.

Priority date of SEP families matching Wi-Fi 6



2013-2020 were key years for Wi-Fi 6 SEP priority filings, with LG taking the top spot of priority filings in 2014, and 2015 being Huawei's most active year. Qualcomm led priority filings in 2013 (when Wi-Fi 5 handed the baton to Wi-Fi 6); Intel quickly overtook Qualcomm in 2014 and had the top spot for priority filings in 2016 and 2017.

The Sisvel Wi-Fi 6 Patent Pool

The Sisvel Wi-Fi 6 patent pool has emerged as a central mechanism for licensing SEPs from multiple leading holders, including Huawei, MediaTek, Mitsubishi Electric, Orange, Panasonic, Philips, SK Telecom, and Wilus.

The 2026 published royalty rate is $0.50 per device for consumer products, access points with enterprise-grade performance: $1.00 per device.

In November 2025, HP became the latest major company to take a pool license. HP joined alongside close to 40 other companies that are licensees, including Cisco, Netgear and Acer.

The pool streamlines access to critical SEPs and reduces litigation risk for implementers, though major Wi-Fi SEP holders like Qualcomm and Acacia continue to license independently.

Litigation Trends

Wi-Fi SEP litigation has surged, targeting computer, router, and home entertainment device makers.

Huawei's enforcement actions against device makers including Netgear, Amazon, and AVM; Acacia's verdicts against TP-Link; and Non-Practising Entity (NPE) campaigns involving former NXP and Marvell patents.

Many implementers go to the UK courts seeking both court-determined global FRAND licenses and interim licenses pending final determination. For example, in a battle that is ongoing into 2026, TP-Link seeks such a licence from Huawei.

Meanwhile, SEP holders seek anti-suit injunctions like the anti-interim licence injunction (AILI) recently granted by the UPC's Mannheim Local Division in an SEP dispute (involving InterDigital and Amazon). Elsewhere, courts in Brazil, China, Germany, India and the US continue to play pivotal roles in adjudicating SEP disputes and influencing global licensing behaviour.

Who are the strongest players in the Wi-Fi 6 SEP landscape?

We evaluated owners of Wi-Fi 6 SEPs based on the number of families identified to be essential to Wi-Fi 6, revealing the SEP owners driving faster and more efficient digital experiences across the globe. We've outlined the top 10 owners, followed by an extended list.

1.

Huawei Technologies is a leading global telecommunications and electronics company from China. It played an active role in developing the Wi-Fi 6 (802.11ax) standard, contributing numerous technical proposals during the IEEE 802.11ax working group process.

Huawei holds the largest portfolios of patents essential to Wi-Fi 6. These patents span core innovations enabling the standard's high efficiency, from advanced multi-user MIMO antenna techniques to spectrum-sharing features like OFDMA. Huawei's approach to its Wi-Fi 6 SEPs combines collaboration and commercialization.

The company has participated in joint licensing initiatives such as patent pools to simplify access to its Wi-Fi 6 IP. Huawei has also shown willingness to enforce its Wi-Fi patents when needed, underlining their strategic importance. Overall, Huawei's key contributions to Wi-Fi 6 helped shape critical features that boost network capacity and speed, reflecting its broad R&D investment in wireless networking technologies.

LG Electronics, a major South Korean technology company, has a long history in wireless communications and consumer devices. The firm was deeply involved in the creation of the Wi-Fi 6 standard, drawing on expertise from its work in both cellular and Wi-Fi domains. LG engineers participated in IEEE 802.11ax meetings and put forward technical contributions to improve the standard's performance for devices like smartphones and smart home appliances.

LG owns a very substantial Wi-Fi 6 patent portfolio. These patents generally cover enhancements to wireless throughput, power efficiency, and connectivity reliability, all important for user devices.

In terms of IP strategy, LG typically adopts a cooperative licensing stance. It often engages in broad cross-licensing agreements, ensuring its patents both protect its product lineup and bring value through reciprocal access to others' technology. LG's innovations for Wi-Fi 6 focus on practical improvements (for example, better battery-saving mechanisms and robust multi-device connectivity), consistent with the company's role in delivering Wi-Fi 6 capabilities to everyday consumer electronics.

3.

Intel is an American semiconductor giant known for PC processors and networking components. It has been a key contributor to Wi-Fi standards, and its involvement in Wi-Fi 6 was significant. Intel sent technical experts to the 802.11ax standard development meetings, where they helped design and refine features that would later be crucial for high-performance Wi-Fi. As a result of this engagement, Intel accumulated a large number of Wi-Fi 6 SEPs covering core aspects of the standard. Its patent holdings encompass innovations in multi-user data transmission (such as uplink and downlink MU-MIMO improvements) and advanced scheduling techniques for managing many devices simultaneously, technologies that Intel helped introduce to Wi-Fi 6 to ensure efficient network usage.

Intel's Wi-Fi 6 patent portfolio is primarily used defensively and for strategic partnerships. The company integrates Wi-Fi 6 into its chipsets for laptops and routers, so it mainly leverages these patents to secure cross-licenses and support broad adoption of Wi-Fi 6 in the industry.

Intel's contributions and innovations in Wi-Fi 6 ultimately center on boosting throughput and reliability for end-users, aligning with its broader goal of improving wireless connectivity in PCs and smart devices.

Qualcomm

Qualcomm is a U.S.-based leader in wireless technology, famous for its mobile chipsets and extensive patent holdings. The company played an instrumental role in shaping Wi-Fi 6. Drawing on its experience from both previous Wi-Fi generations and cellular standards, Qualcomm contributed a multitude of proposals to the IEEE 802.11ax working groups. It was one of the top contributors by volume of technical submissions, influencing features that improved Wi-Fi 6's capacity and speed. Qualcomm today holds a wide-ranging portfolio of Wi-Fi 6 standard-essential patents, consistently ranking at the forefront in terms of sheer number of SEP families. These patents cover many facets of the Wi-Fi 6 specification: from higher-order modulation techniques (like 1024-QAM for faster data rates) to mechanisms for efficient multi-device communications (like enhanced MU-MIMO and scheduling algorithms).

When it comes to leveraging this portfolio, Qualcomm follows a proactive licensing model. It typically licenses its Wi-Fi patents as part of broader agreements that also cover cellular and other technologies, seeking royalties from device manufacturers under FRAND commitments. Qualcomm's strong patent position allows it to negotiate cross-licensing deals and ensure its technologies are widely implemented.

Qualcomm's key innovations for Wi-Fi 6, such as boosting spectral efficiency and enabling robust simultaneous connections, have been foundational in making Wi-Fi 6 a high-performance standard.

5.

Acacia Research is an intellectual property licensing company based in the United States, known for acquiring patent portfolios in various tech sectors. In the context of Wi-Fi 6, Acacia itself did not participate in the R&D or standard-setting process; however, it emerged as one of the significant holders of Wi-Fi 6 SEPs by purchasing and aggregating patents from other companies. Through these acquisitions, Acacia assembled a broad portfolio of patents reading on the 802.11ax standard. The patents in Acacia's Wi-Fi 6 collection originate from multiple sources (for example, they may include former patents of companies that contributed to Wi-Fi 6 development). This means Acacia's portfolio spans many key areas of Wi-Fi 6 technology, potentially covering elements like advanced antenna techniques, channel access methods, and other fundamental features introduced with 802.11ax.

Acacia's role in the Wi-Fi 6 ecosystem is purely as a licensor. The company's business model is to monetize patent rights, so it seeks licensing agreements with manufacturers of Wi-Fi 6 enabled products. Acacia typically offers licenses under terms that reflect the essential nature of the patents, and it can resort to litigation if negotiations fail. It does not have its own products, so it avoids the risk that might be countersued.

In summary, Acacia strategically curates and licenses a portion of the standard's IP. Its presence highlights the role of patent licensing entities in ensuring implementers of Wi-Fi 6 either obtain licenses for all necessary patents or face enforcement actions to compensate patent holders.

NXP Semiconductors, based in the Netherlands, is a major chipmaker with a focus on automotive, IoT, and security solutions. NXP became a significant player in Wi-Fi 6 largely through acquisition and consolidation of Wi-Fi technology expertise (for example, it acquired Marvell's wireless networking business around the time Wi-Fi 6 was emerging). Through such moves, NXP inherited and developed a solid portfolio of Wi-Fi 6 patents. Its involvement in the Wi-Fi 6 standard included contributing know-how for making the technology suitable for embedded and industrial applications, as well as participating in industry groups to support the standard's adoption.

NXP's Wi-Fi 6 SEP portfolio includes patents on fundamental radio innovations and protocol improvements, covering features like better modulation, interference mitigation, and low-power operation (key for IoT devices using Wi-Fi 6). This diversified patent base aligns with NXP's interest in applying Wi-Fi 6 in cars, factories, and smart infrastructure. NXP's licensing approach to Wi-Fi 6 IP is typically partnership oriented. As a company selling chips in various markets, it uses its patents to negotiate cross-licenses so that it and its customers can implement Wi-Fi 6 freely.

For NXP, patent licensing is not a primary business for the company. Strategically, its Wi-Fi 6 innovations aim at reliability and efficiency. For instance, ensuring connectivity holds up in noisy environments and power-constrained scenarios, thus extending Wi-Fi 6's benefits beyond consumer devices into enterprise and automotive realms.

7.

NTT

Nippon Telegraph and Telephone is a Japanese telecommunications group with a strong research arm in wireless and networking technologies. Although not a chipset vendor, NTT has been an active contributor to Wi-Fi standards to support its vision of advanced network services. In developing Wi-Fi 6, NTT's researchers took part in the IEEE 802.11ax standard meetings, often bringing the perspective of a network operator that manages large-scale Wi-Fi deployments (such as public hotspots and enterprise networks). NTT's patent portfolio for Wi-Fi 6 reflects its focused contributions: it holds a set of Wi-Fi 6 SEPs that address improvements in network efficiency, signal quality, and integration of Wi-Fi with other communication systems. NTT's Wi-Fi 6 portfolio covers many strategically important innovations, for example, methods for optimizing Wi-Fi performance in congested environments and techniques to ensure smoother hand-offs between cellular and Wi-Fi networks. When it comes to utilizing these patents, NTT generally emphasizes collaboration. The company is oriented toward cross-licensing and standardization.

Its use of declared Wi-Fi 6 SEPs aligns with NTT's broader philosophy of encouraging widespread technology adoption. In practice, NTT's Wi-Fi 6 innovations have contributed to making the standard robust enough for carrier-grade services and dense user scenarios, which is crucial for telecommunications providers that rely on Wi-Fi to complement mobile networks.

SONY

Sony is a Japanese conglomerate known for its electronics, entertainment, and gaming products, many of which incorporate Wi-Fi connectivity. Sony has longstanding experience in wireless technology, and while it is not primarily a networking equipment provider, it has been involved in Wi-Fi standards to support features important for consumer electronics. During the development of Wi-Fi 6, Sony contributed through industry forums and standards meetings, focusing on use-cases like high-definition wireless streaming and low-latency gaming over Wi-Fi. The company's Wi-Fi 6 SEP portfolio is significant and reflects its consumer-oriented innovation.

Sony's patents related to 802.11ax often deal with improving user experience. For instance, techniques to reduce latency or jitter (which benefits online gaming and video streaming), and methods to ensure stable high-throughput connections for devices like smart TVs and consoles. Some patents may also cover power-saving mechanisms, which are crucial for battery-powered devices. Regarding licensing, Sony generally treats its Wi-Fi patents as part of its broader cross-licensing strategy. Because Sony produces a wide array of Wi-Fi-enabled products (phones, PlayStation consoles, cameras, etc.), it accumulates patents partly to guard these products against infringement claims and to negotiate cross-licenses with other patent holders.

For Sony, generating royalty revenue from Wi-Fi SEPs is not a core business goal. Instead, holding Wi-Fi 6 SEPs strengthens Sony's hand in patent discussions and ensures its products can implement the latest Wi-Fi features. Sony's contributions to Wi-Fi 6 helped tailor the standard to better serve high-bandwidth multimedia applications, aligning the technology with the demands of modern digital entertainment.

9.

MEDIATEK

MediaTek is a Taiwan-based fabless semiconductor company that designs chips for smartphones, smart TVs, IoT devices, and Wi-Fi routers. It has become a key competitor in the wireless chipset market.

In the development of Wi-Fi 6, MediaTek steadily increased its participation to ensure its technology would be part of the new standard. The company's engineers worked on proposals within the IEEE 802.11ax committees, particularly as Wi-Fi 6 and the subsequent Wi-Fi 7 were evolving. MediaTek's aim was to influence features that would allow efficient, cost-effective implementation in the mass-market chips it produces. Consequently, MediaTek has built up a strong portfolio of Wi-Fi 6 SEPs. MediaTek's contributions to Wi-Fi 6 are reflected in practical innovations that helped make the standard widely adoptable and focus on balancing high performance with the power and cost constraints of consumer devices. They cover a range of technical areas: for example, several of its patents deal with optimizing multi-user communication (making sure many devices can concurrently use the network without collisions), improving modulation and coding schemes for better data rates, and enhancing coexistence of Wi-Fi with other wireless technologies.

MediaTek's Wi-Fi 6 SEP holdings place it among the top patent owners for this standard, underscoring its significant R&D investment. On the licensing front, MediaTek has taken a collaborative approach. The company is a member of the Sisvel Wi-Fi 6 patent pool, signaling an openness to share its innovations on standardized terms and making it easier for device manufacturers to license necessary patents in one go.

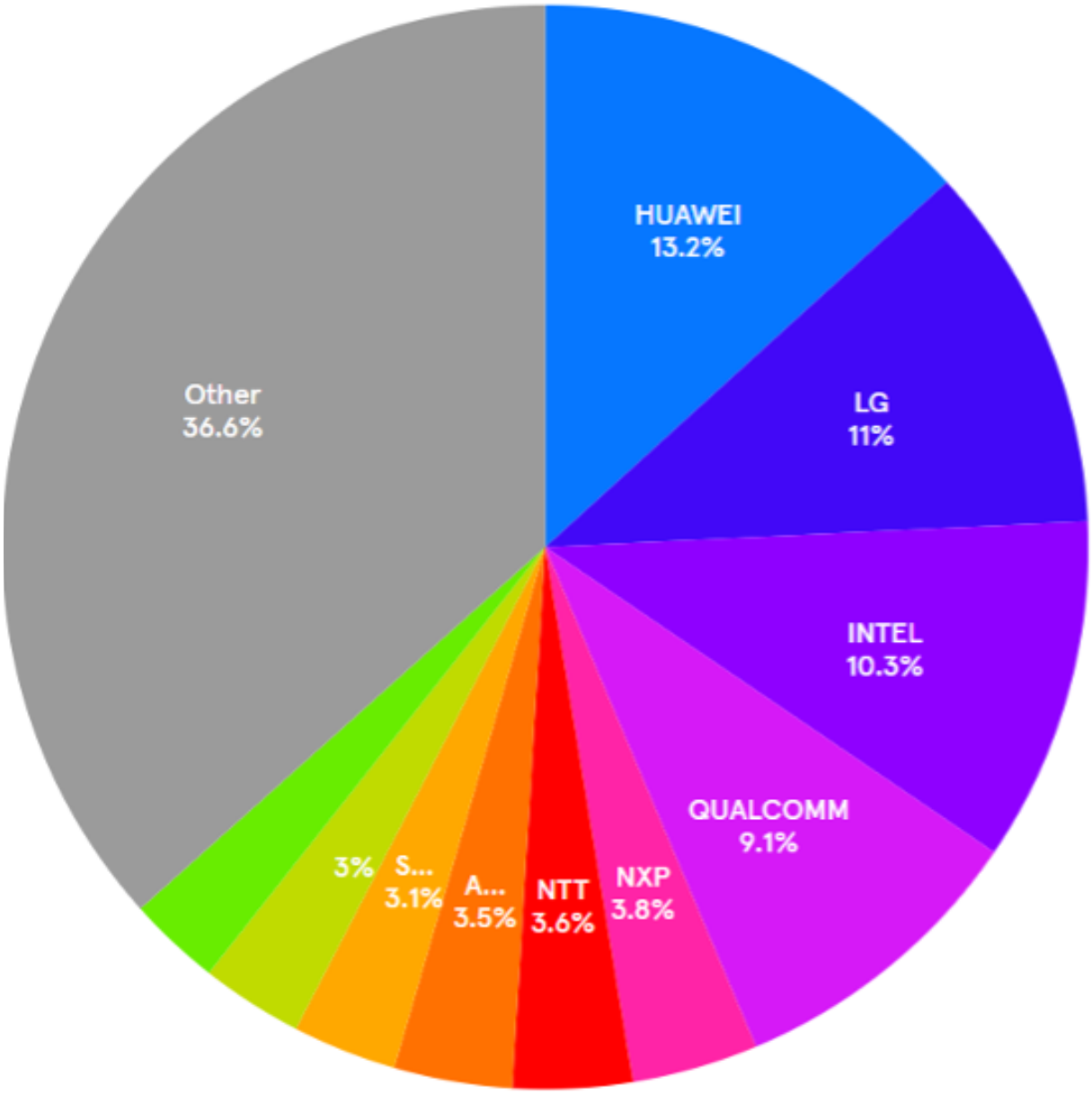
BROADCOM

Broadcom is an American semiconductor company with a long history in networking and connectivity chips, including being one of the top suppliers of Wi-Fi chipsets for routers, mobile devices, and computers. Broadcom was deeply engaged in the Wi-Fi 6 development process, leveraging its practical experience from implementing prior Wi-Fi standards (802.11n, ac, etc.). The company's representatives contributed to IEEE 802.11ax discussions, ensuring that new features like OFDMA and uplink MU-MIMO could be integrated into real-world silicon smoothly.

Broadcom's Wi-Fi 6 patent portfolio is sizeable and covers essential improvements that came with the 802.11ax standard. Key areas of its patents include physical layer advancements (such as the use of 1024-QAM modulation to increase data throughput), methods for coordinating multiple users on the network (to take full advantage of multi-user transmission capabilities), and techniques to maintain backward compatibility with older Wi-Fi devices while still achieving Wi-Fi 6 performance gains. These innovations stem from Broadcom's extensive R&D and hands-on trials with Wi-Fi technology.

In terms of utilizing its SEP portfolio, Broadcom balances defensive and offensive strategies. It engages in cross-licensing with other industry players to support its chip sales and to ensure continued interoperability. At the same time, Broadcom has not shied away from seeking royalties for its wireless patents. Broadcom's contributions to Wi-Fi 6 were pivotal in bringing the standard from paper to products; its innovations helped achieve the higher speeds and capacity that define Wi-Fi 6, making those features available in many routers and devices powered by Broadcom chipsets.

Owner breakdown of Wi-Fi 6 families



Approximately 64% of all Wi-Fi 6 Established SEP families are owned by the top 10 Ultimate Owners. At the start of 2026, there are approximately 2,900 such families in total.

Here is the *Wi-Fi 6 Top 75* for 2026

#	Ultimate owner	SEP Families		SEP Families with issued US	
		Count	% of total	Count	% of total
1	Huawei	384	13.20%	208	8.80%
2	LG	319	11.0%	312	13.20%
3	Intel	298	10.30%	249	10.50%
4	Qualcomm	265	9.10%	248	10.50%
5	Acacia	114	3.90%	113	4.80%
6	NXP	109	3.80%	107	4.50%
7	NTT	103	3.60%	47	2.0%
8	Sony	90	3.10%	82	3.50%
9	MediaTek	88	3.0%	83	3.50%
10	Broadcom	80	2.80%	79	3.30%
11	Marvell	78	2.70%	77	3.20%
12	Ericsson	75	2.60%	64	2.70%
13	Canon	71	2.40%	53	2.20%
14	Apple	64	2.20%	60	2.50%
15	ZTE	59	2.0%	39	1.60%
16	Meizu	58	2.0%	3	0.10%
17	InterDigital	55	1.90%	51	2.20%
18	Samsung	51	1.80%	48	2.0%
19	SK Telecom	47	1.60%	45	1.90%
20	Cisco	44	1.50%	44	1.90%
21	HPE	42	1.40%	42	1.80%

[1] Data current up to December 2025

#	Ultimate owner	SEP Families		SEP Families with issued US	
		Count	% of total	Count	% of total
22	Panasonic	28	1.0%	28	1.20%
23	AX Wireless	19	0.70%	18	0.80%
24	Infineon	19	0.70%	19	0.80%
25	MaxLinear	18	0.60%	18	0.80%
26	ISG	17	0.60%	17	0.70%
27	Estelgia	16	0.60%	16	0.70%
28	Wilus	15	0.50%	10	0.40%
29	ETRI	14	0.50%	9	0.40%
30	Toshiba	13	0.40%	12	0.50%
31	Sharp	12	0.40%	11	0.50%
32	Fortinet	11	0.40%	11	0.50%
33	Nokia	11	0.40%	10	0.40%
34	Philips	11	0.40%	11	0.50%
35	Commscope	11	0.40%	11	0.50%
36	UNISOC	9	0.30%	0	0.0
37	Realtek	7	0.20%	5	0.20%
38	NEC	6	0.20%	5	0.20%
39	Solid	6	0.20%	6	0.30%
40	Xiaomi	6	0.20%	6	0.30%
41	Cognitive	5	0.20%	5	0.20%
42	KPI	5	0.20%	5	0.20%
43	TP-Link	5	0.20%	0	0.0
44	Amazon	4	0.10%	4	0.20%
45	Dominion Harbor	4	0.10%	4	0.20%
46	Korea University	4	0.10%	0	0.0%

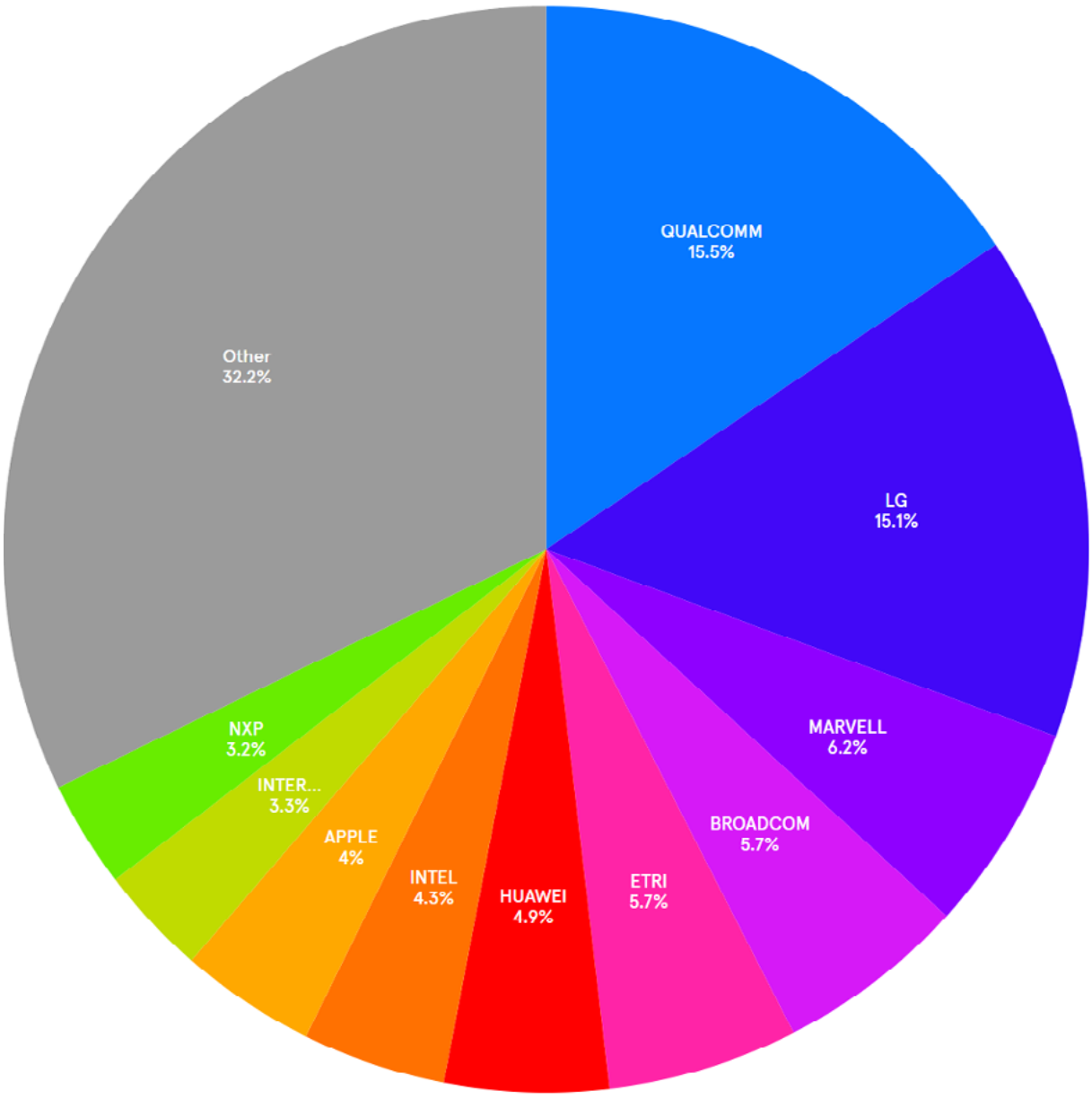
#	Ultimate owner	SEP Families		SEP Families with issued US	
		Count	% of total	Count	% of total
47	Newracom	4	0.10%	4	0.20%
48	Renesas	4	0.10%	4	0.20%
49	Sagemcom	4	0.10%	3	0.10%
50	SNU	4	0.10%	1	0.0%
51	Xidian University	4	0.10%	1	0.0%
52	Alphabet	3	0.10%	3	0.10%
53	Charter Comm	3	0.10%	3	0.10%
54	Hust	3	0.10%	0	0.0%
55	Rohde & Schwartz	3	0.10%	3	0.10%
56	Senscomm	3	0.10%	1	0.0%
57	Yonsei University	3	0.10%	0	0.0%
58	Airties	2	0.10%	1	0.0%
59	Anritsu	2	0.10%	1	0.0%
60	Arista Networks	2	0.10%	2	0.10%
61	CableLabs	2	0.10%	2	0.10%
62	Comm Systems	2	0.10%	2	0.10%
63	CQUPT	2	0.10%	0	0.0%
64	Humax Networks	2	0.10%	2	0.10%
65	Keysight	2	0.10%	2	0.10%
66	OPPO	2	0.10%	1	0.0%
67	Oswego	2	0.10%	2	0.10%
68	Peraso	2	0.10%	2	0.10%
69	Plume Design	2	0.10%	2	0.10%
70	Seoultech	2	0.10%	0	0.0%

#	Ultimate owner	SEP Families		SEP Families with issued US	
		Count	% of total	Count	% of total
71	Tencent	2	0.10%	2	0.10%
72	TI	2	0.10%	2	0.10%
73	Wenzhou Polytechnic	2	0.10%	0	0.0%
74	Yeungnam University	2	0.10%	0	0.0%
75	Zhiguancheng	2	0.10%	0	0.0%

Who are the strongest players in the Wi-Fi 5 SEP landscape?

We evaluated owners of Wi-Fi 5 SEPs based on the number of families identified to be essential to Wi-Fi 5, revealing the early SEP owners in the Wi-Fi space. The proportions held by the top 10 Wi-Fi 5 owners are shown in the following chart.

Owner breakdown of Wi-Fi 5 families



Around 68% of all Wi-Fi 5 Established SEP families are owned by the top 10 Ultimate Owners. At the start of 2026, there are approximately 1,300 such families in total.

Here is the *Wi-Fi 5 Top 25* for 2026

#	Ultimate owner	SEP Families		SEP Families with issued US	
		Count	% of total	Count	% of total
1	Qualcomm	200	15.50%	156	14.90%
2	LG	194	15.0%	170	16.20%
3	Marvell	80	6.20%	77	7.40%
4	Broadcom	73	5.60%	68	6.50%
5	ETRI	73	5.60%	59	5.60%
6	Huawei	63	4.90%	35	3.30%
7	Apple	55	4.30%	50	4.80%
8	Intel	55	4.30%	25	2.40%
9	InterDigital	42	3.30%	36	3.40%
10	NXP	41	3.20%	37	3.50%
11	Nokia	39	3.0%	37	3.50%
12	Origin	33	2.60%	33	3.20%
13	ZTE	30	2.30%	12	1.10%
14	MediaTek	25	1.90%	25	2.40%
15	Samsung	24	1.90%	20	1.90%
16	NTT	22	1.70%	10	1.0%
17	Plume Design	14	1.10%	13	1.20%
18	Cisco	13	1.0%	13	1.20%
19	Renesas	13	1.0%	12	1.10%
20	STM	13	1.0%	13	1.20%
21	MaxLinear	10	0.80%	10	1.0%

[1] Data current up to December 2025

#	Ultimate owner	SEP Families		SEP Families with issued US	
		Count	% of total	Count	% of total
22	Sony	9	0.70%	6	0.60%
23	KT Corp	8	0.60%	6	0.60%
24	Orange	8	0.60%	7	0.70%
25	HPE	6	0.50%	6	0.60%

Our methodology

The **Patently 100® Wi-Fi** report is a culmination of many years' laborious gathering, processing and curation of SEP family data including priority relationships which are extremely important in correctly defining patent families. Ownership name data requires careful cleaning, normalising and matching. Moreover, Ultimate Owner determination requires up-to-date information on corporate groupings.

There is no shortage of research and interest in which companies own the patents for technologies in the Wi-Fi patent landscape. However, unlike 3GPP, where patent holders may disclose their potentially essential 5G patents to the European Telecommunications Standards Institute (ETSI), in the case of Wi-Fi there is no obligation as such to declare patents to IEEE. Therefore, the IEEE declaration database represents only one of various inputs in ranking SEPs for Wi-Fi.

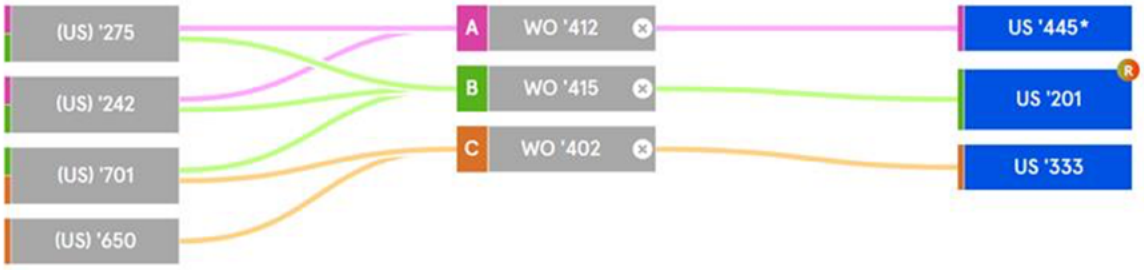
Additional strategies are needed to identify SEPs for the **Patently 100® Wi-Fi** report, including consulting public sources such as patent pools, litigation records, and nonpracticing entity (NPE) disclosures. Companies associated with Letters of Assurance (LOA) submitters and contributors to IEEE working groups are identified, and assignee-based and inventor-based searches are conducted within these companies' portfolios. Further, Wi-Fi 6 specific keywords, technical concepts, and IPC/CPC classifications in targeted searches are conducted. Titles, abstracts, and first claims are screened to exclude irrelevant results.

For Wi-Fi 6, the SEP candidates are limited to the Wi-Fi 6 development period, namely March 2014 to November 2020, and for Wi-Fi 5, the relevant earlier period. All identified patents are consolidated and expanded patent families are identified. For this first ranking, families are tagged as relevant if they contained at least, one issued and unexpired patent in an IP5 jurisdiction (US, EP, JP, CN, or KR) as of 31 December 2024.

How Patently SEP data is produced

Our unique and proprietary algorithm builds Genetic® patent families and identifies those families that contain patents that have been identified to map to the standards, specifically for this report, to Wi-Fi 6. These we refer to as SEP families.

Below is an example of an extended family (Patently family ref. F150514-8A5) containing interconnected Genetic families, labelled A to C, which is owned by LG. All of the Genetic families are interconnected by a set of US priority filings but they each have different priorities. Of the different Genetic families, only B has been identified as a SEP (labelled with a "R" marker disc.)



Within the SEP families, we focus on those that have a Family Status of Established (i.e., have at least one member that has been granted and is in force).

As for ownership, we determine the Ultimate Owner as an indicator of the party that is responsible for licensing its share of the SEPs, based on publicly available corporate structure data. Each SEP family is accorded a single Ultimate Owner according to the latest recorded owner data for each family. Where an SEP family has joint ownership, a single owner is determined according to the latest declarant, which is indicative of the most active licensor. Where a family has split ownership, the latest recorded owner wins. By counting each SEP family as a single element of ownership, the Patently listed SEP ownership corresponds with the totals of SEP families, which is not the case with reports made available by other companies (which therefore suffer from over-counting).

From a count of these SEP families, per Ultimate Owner, we generate the Patently 75 rankings for Wi-Fi 6 and the Patently 25 rankings for Wi-Fi 5.

[1] One exception we have made is in the case of Sharp Corp. Whilst it is technically a subsidiary of Foxconn (Hon Hai Precision Industry Co Ltd), it is understood that Sharp is the licensor of its SEPs.

Note on Ultimate Owner

The term “Ultimate Owner” is used for informational and illustrative purposes only. Publicly available information often does not conclusively establish that a particular company is owned, controlled, or otherwise affiliated with its Ultimate Owner. No representation or warranty is made as to the accuracy, completeness, or legal status of any ownership or control relationship between these entities. Any reference to a potential relationship should not be construed as a statement of fact or a legal determination of ownership, control, or affiliation.

Questel partnership

In 2024, we partnered with Questel, a global leader in intellectual property (IP) solutions. The partnership expanded our database and marked a significant milestone in the delivery of enhanced patent data and services to a broader range of IP professionals. The company’s extensive global coverage, expert essentiality evaluations performed by Concur IP, a Questel company, and meticulous methodology have brought a new dimension to the partnership, underscoring the essentiality evaluation data and its ongoing importance.

Patently License with Questel (PLQ) brings a powerful Verified Essentiality filter so you can focus on patent families that are not just identified to be relevant (via declaration or proprietary heuristic methods) to Wi-Fi 6, but also families that have been evaluated as essential to Wi-Fi 6. Exact essentiality rates, and extrapolations across entire portfolios of the relevant Ultimate Owner, along with other essentiality analytics, are available by subscription to PLQ.

Want to know more about Patent Families in Patently?

If you would like to learn more about how Genetic® patent families within an extended family can empower your licensing and help avoid possible misidentification in the future, please send an email to ask@patently.com.

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Patently License is powered by advanced SEP analytics, allowing you to explore ownership, geographical coverage and technology coverage of SEPs based on Patently's highly accurate SEP family Ultimate Owner data so you can better understand ownership of patents to support negotiations around rates.

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About the author

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Jerome Spaargaren is a patent attorney and co-founder at Patently. Jerome has worked for over 30 years in the field of telecommunications, SEPs and licensing.

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