

Updated Findings on Essentiality of 5G declared Standard Essential Patents

BY



Introduction

As we create and consume ever greater amounts of data, telecommunication
tThis report is an update to the report titled "Exploration of 5G Standards and Preliminary Findings on Essentiality" published May 26, 2020¹. This report covers more than 700 technical specifications and technical reports related to 5G technology covered in the 3GPP Portal². The scope of the prior report covered 12,002 patent families, having 63,985 individual patent documents, declared as of March 19, 2019. This scope has increased to 18,887 patent families, having 87,771 individual patent documents, declared as of November 26, 2019. In the prior report, 6,402 of the 12,002 patent families had a granted alive patent³. This update sees 4,361 additional patent families now with a granted alive patent⁴.



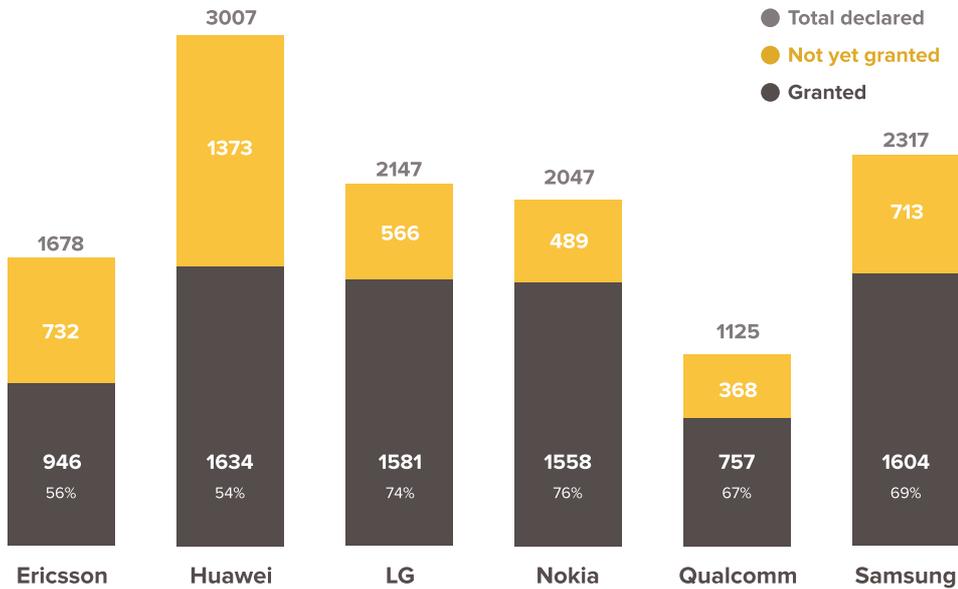
1 - <https://portal.3gpp.org/#/55936-specifications>

2 - As of December 31, 2019

3 - As of June 30, 2020

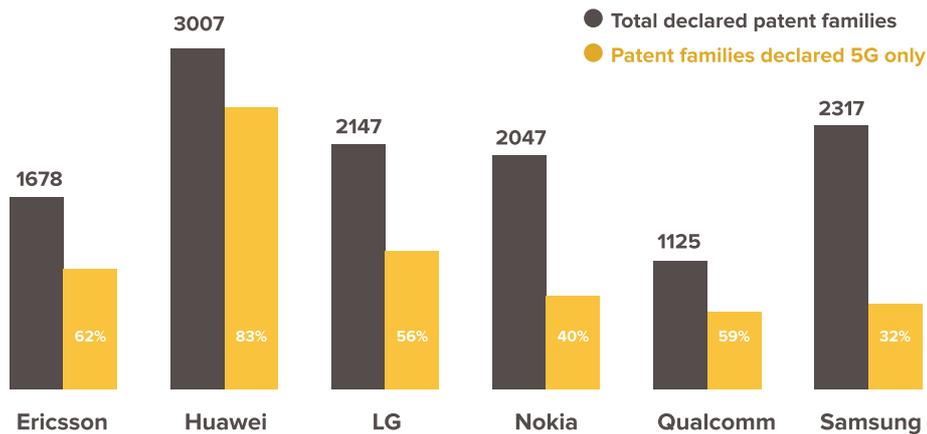
The state of 5G SEPs

Who are the players?



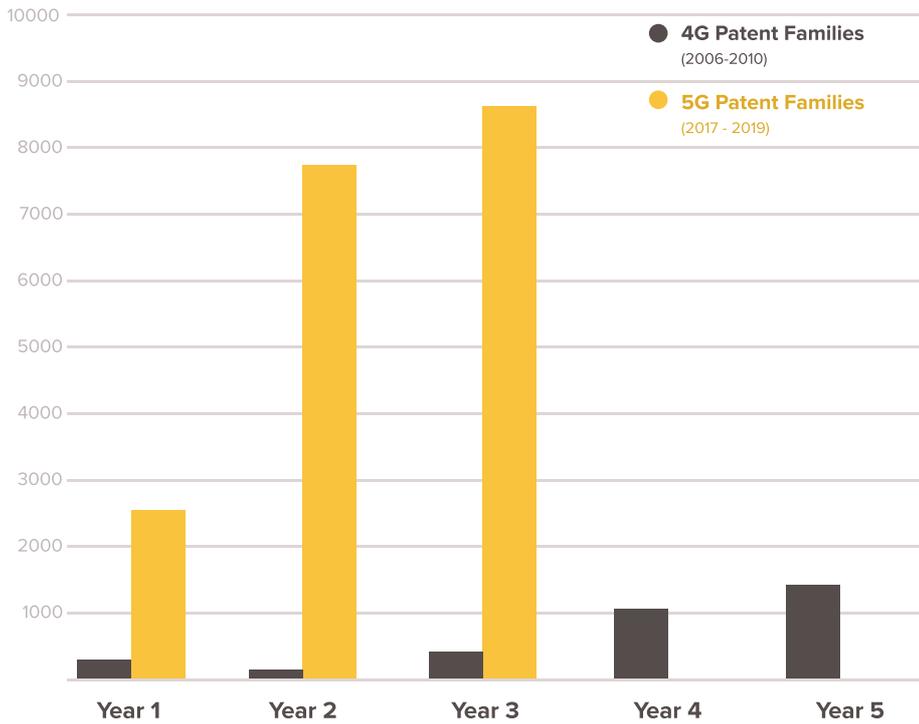
As of November 26, 2019, 18,887 patent families have been declared essential to ETSI. The largest six companies still have the majority of patent families: 65% of the declared standard essential patent families. The remaining 35% are held by approximately 70 entities.

How many patents are declared to 5G only?



In addition to declaring their patents essential to 5G, some of the top players had a majority of their total declared patent families declared essential to previous standards.

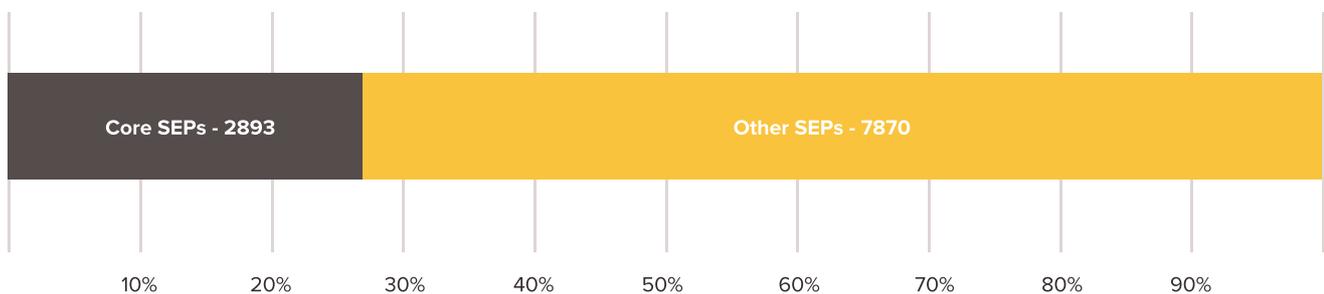
Timeline of SEP Declarations, 4G vs. 5G



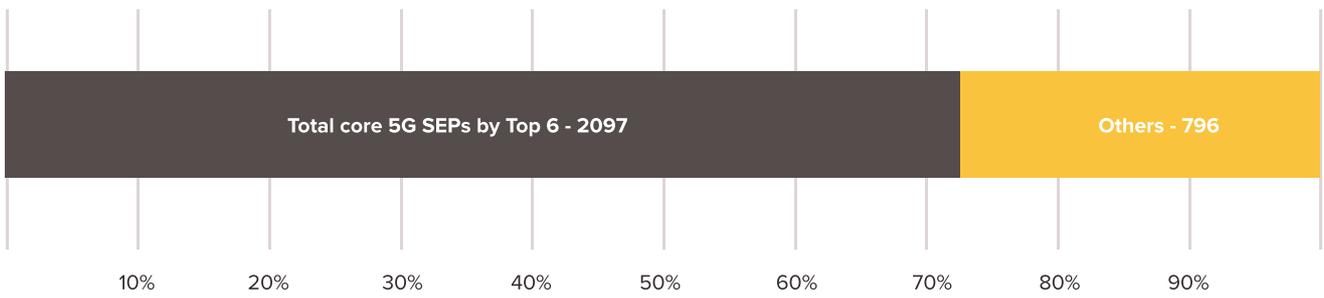
Updated findings on essentiality

Ratio of total core SEPs vs. non-core SEPs

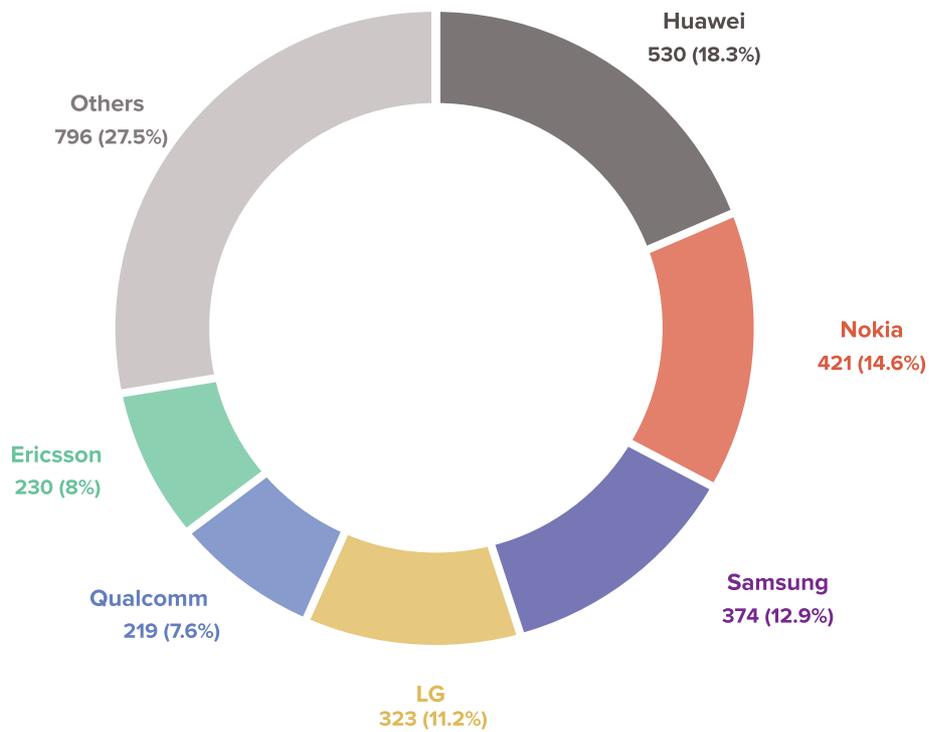
- 18,887 Patent Families declared to ETSI as of November 26, 2019
- 10,763 of these 18,887 families with a granted, alive patent as of June 30, 2020
- 2,893 of these 10,763 families determined as core essential SEPs



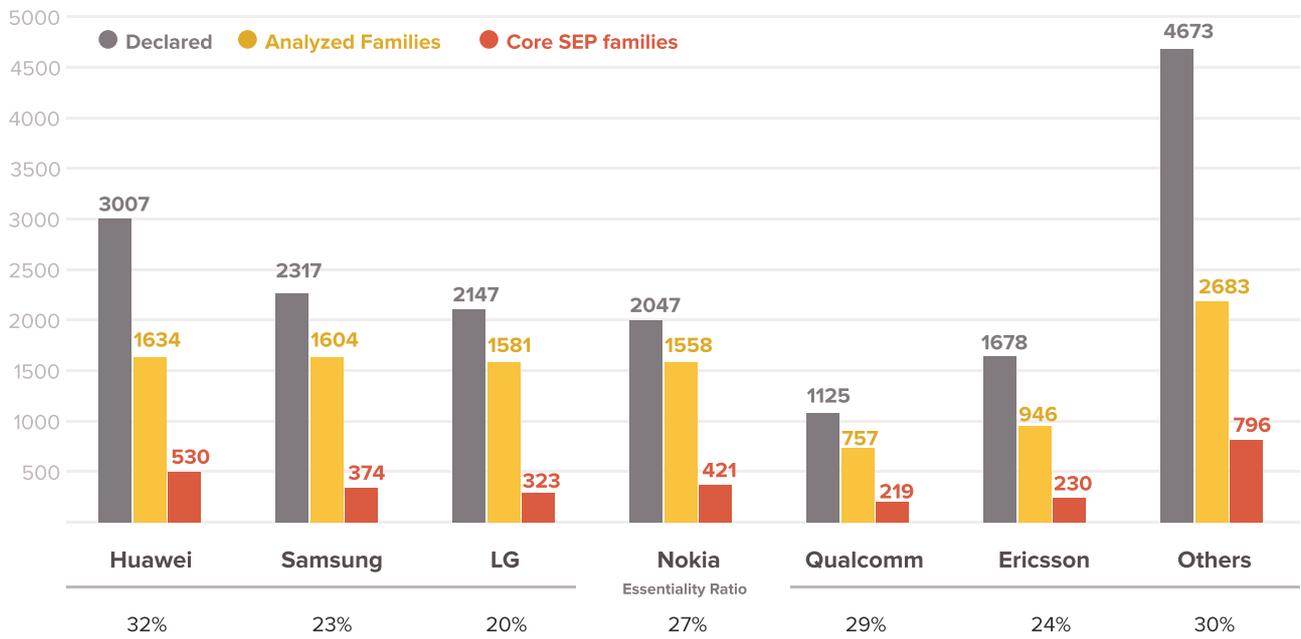
Ownership breakdown of reviewed core SEPs



Distribution of core SEPs with live granted patent families



Essentiality ratio of top companies' core SEPs



Who is this report for?

Anyone who owns or has played a hand in creating the technology covered by these standards.

Implementers who seek to commercialize this technology and need to license on SEPs.

Policymakers who seek to protect today's innovations while encouraging tomorrow's.

Legal professionals, judges and courts, who need evidence of essentiality and a clear methodology to help them resolve licensing disputes.

Who are we?



GreyB is the world's leading technology research and intelligence company. We perform custom analysis on information including patents, scientific papers, market reports, and news to drive business insights. We innovate and combine machine learning & human intelligence to translate your high value opportunities into a win or help you with efficient risk mitigation in the changing landscape of the industry.



Muzammil Hassan

Manager at GreyB



Aman Kumar

Team Lead at GreyB

Methodology

What data was covered?

The data covered was all patents from the ETSI website 5G declaration list March 2019 version. This covers any patent or patent application declared to the ETSI 5G standard. Essentiality evaluation involves significant time and effort so there is a lag between release date of our report and data covered. We'll issue updates as we continue to analyze the data.

How did we analyze the data?

- All patents declared to relevant 5G specifications and projects were selected resulting in 63,985 individual patent documents (granted patents, published patent applications, and non-public patent applications)
- ~500 Non-public patent documents, unavailable for inspection, were removed
- The remaining ~63,500 patent documents were grouped into 12,002 patent families.
- 6,402 of the 12,002 patent families with a granted patent having live legal status as of 31st December 2019 were kept, the rest were removed
- We determined our understanding of each of the 6,402 patent families by reading the claims and related embodiments from these granted patents and checked the correspondence history and documentation at the patent office to understand each patent.
- We determined essentiality for each patent family as a Core SEP or not by checking any specifications declared to be relevant by the patent holder to the SEP and compared the specific sections of these to compare overlap of the patent claims with those sections. If partial or no overlap was found, we then broadened our comparison to the wider group of all other specifications to repeat this process.