

IEEE802.11 Wi-Fi Standards - Performance & Speeds

Over the years, the IEEE 802.11 Wi-Fi standards have advanced giving greater capability. The different standards in use have been summarised along with the WiFi Alliance numbers that give easier recognition.

The main standards in common use have been included - others are available for more specialised applications.

Wi-Fi Standard	Wi-Fi Gen	Year Adopted	Freq (GHz)	Max PHY Data Rate	Approx Max Range
802.11	(Wi-Fi 0)*	1997	2.4	2 Mbps	20m indoor 100m outdoor
802.11a	(Wi-Fi 1)*	1999	5	54 Mbps	35m indoor 120m outdoor
802.11b	(Wi-Fi 2)*	1999	2.4	11 Mbps	35m indoor 140m outdoor
802.11g	(Wi-Fi 3)*	2003	2.4	54 Mbps	38m indoor 140m outdoor
802.11n	Wi-Fi 4	2009	2.4 / 5	600 Mbps	70m indoor 250m outdoor
802.11ac	Wi-Fi 5	2013	5	6.9 Gbps	35m indoor
802.11ax	Wi-Fi 6	2021	2.4 / 5 / 6	9.6 Gbps	30m indoor 120m outdoor
802.11be	Wi-Fi 7	2024	2.4 / 5 / 6	46.1 Gbps	30m indoor 120m outdoor
802.11bn	Wi-Fi 8	~2028	2.4 / 5 / 6 / 42 / 60 / 71	TBD	TBD

* Not officially designated, but numbering fits with standards and release dates, etc.

802.11bn, Wi-Fi 8 has not been fully defined yet and is likely to be adopted by 2028