Wi-Fi 6E Quick Guide

JUNIPER
driven by Mist AI
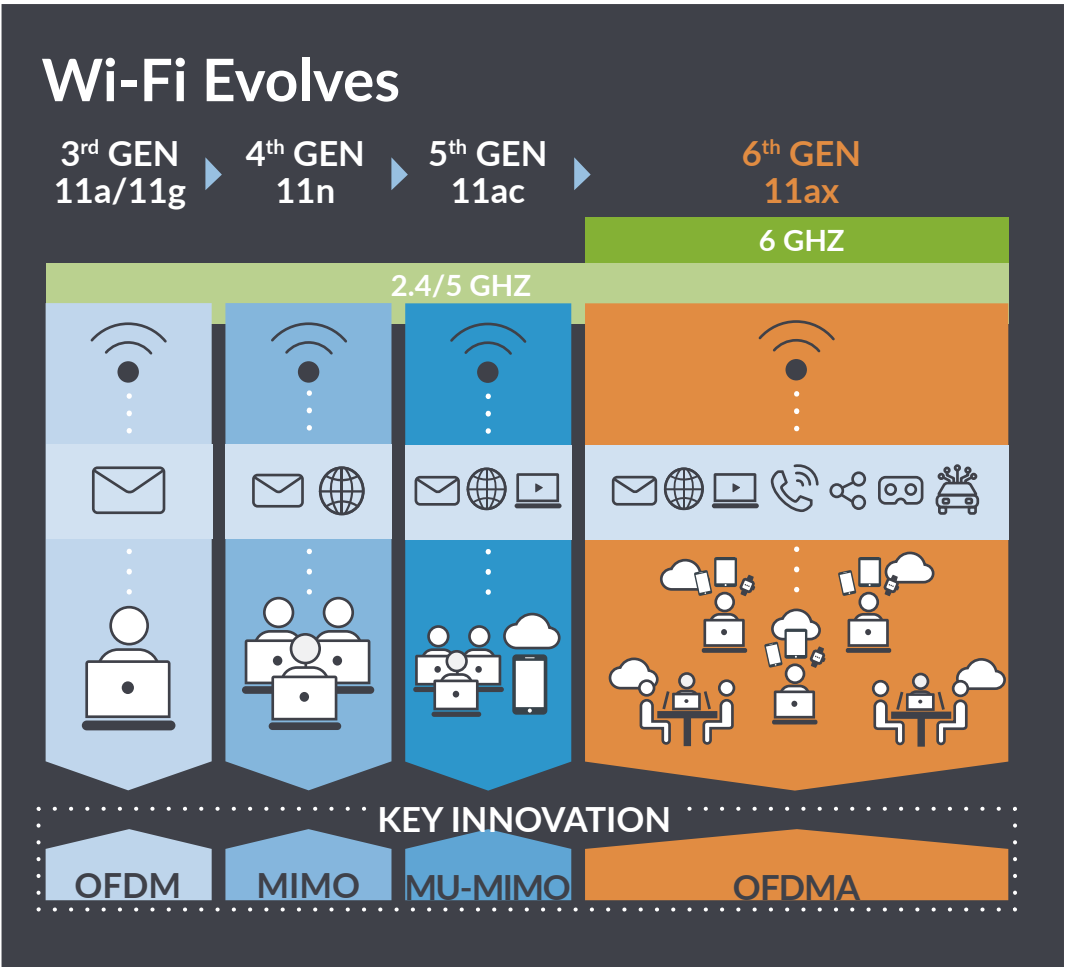
Wi-Fi 6E is the extension of Wi-Fi 6 (also known as 802.11ax), enabling the operation of features in the unlicensed 6 GHz band, in addition to the currently supported 2.4 GHz and 5 GHz bands.

Wi-Fi Evolves

3rd GEN 11a/11g	4th GEN 11n	5th GEN 11ac	6th GEN 11ax

6 GHz

2.4/5 GHZ

KEY INNOVATION

OFDM	MIMO	MU-MIMO	OFDMA

Wi-Fi 6E brings Wi-Fi to 6Ghz

- ☑ **Gigabit speeds**
  More, contiguous spectrum (up to an additional 1200 MHz; varies by country)

- ☑ **Extremely low latency**
  Wider channels

- ☑ **High capacity**
  Less interference and uncongested bandwidth

Key AP Specs

	AP45/45E	AP34
Deployment	Indoor	Indoor
Wi-Fi Standard	802.11ax (Wi-Fi 6) 4x4 : 4SS	802.11ax (Wi-Fi 6) 2x2 : 2SS
Wi-Fi Radios	Dedicated fourth radio	Dedicated fourth radio
Antenna Options	Internal/External	Internal
BLE	vBLE 16-element Directional Antenna Array + Omni Bluetooth Antenna	Omni BLE
Warranty	Limited Lifetime	Limited Lifetime
Frequencies Supported	2.4GHz 5GHz 6GHz	2.4GHz 5GHz 6GHz

Innovation: "AI for Wi-Fi 6 and 6E"

Due to the complexity of 802.11ax in Wi-Fi 6E, it is even more critical that you leverage AI to automate and optimize your network. You should look to your vendor to optimize the following key areas with AI:

- ☑ Intelligent load balancing between radios/bands

- ☑ Service levels that monitor and enforce orthogonal frequency-division multiple access (OFDMA) subcarrier assignments

- ☑ Basic Service Set (BSS) coloring assignments for high-density Wi-Fi environments

- ☑ Sticky client prevention using AI-driven algorithms

Unlicensed Spectrum and Channel Allocations

2.4 GHz Channel Allocations   80 MHz

ISM BAND

Channel	1	6	11
Center Frequency	2.412	2.437	2.462

QTY 3

5 GHz Channel Allocations   500 MHz

Radio Band	U-NII-1				U-NII-2a (DFS Channels)				U-NII-2c (Extended) — DFS Channels												U-NII-3					
Center Frequency	5.180	5.200	5.230	5.240	5.260	5.280	5.300	5.320	5.500	5.520	5.540	5.560	5.580	5.600	5.620	5.640	5.660	5.680	5.700	5.720	5.745	5.765	5.785	5.805	5.825
20 MHz	36	40	44	48	52	56	60	64	100	104	108	112	116	120	124	128	132	136	140	144	149	153	157	161	165
40 MHz	38		46		54		62		102		110		118		126		134		142		151		159		
80 MHz	42				58				106				122				138				155				
160 MHz	50								114																

TDWR (above U-NII-2c)

20 MHz QTY 25 · 40 MHz QTY 11 · 80 MHz QTY 5 · 160 MHz QTY 2

165 was ISM, now U-NII-3

6 GHz Channel Allocations   1,200 MHz

FCC – USA

Lower Power Indoor	5dBm/MHz – Net EIRP 18dBM																																																							
Radio Band	U-NII-5																								U-NII-6				U-NII-7																U-NII-8									

| Center Frequency | 5.955 | 5.975 | 5.995 | 6.015 | 6.035 | 6.055 | 6.075 | 6.095 | 6.115 | 6.135 | 6.155 | 6.175 | 6.195 | 6.215 | 6.235 | 6.255 | 6.275 | 6.295 | 6.315 | 6.335 | 6.355 | 6.375 | 6.395 | 6.415 | 6.435 | 6.455 | 6.475 | 6.495 | 6.515 | 6.535 | 6.555 | 6.575 | 6.595 | 6.615 | 6.635 | 6.655 | 6.675 | 6.695 | 6.715 | 6.735 | 6.755 | 6.775 | 6.795 | 6.815 | 6.835 | 6.855 | 6.895 | 6.915 | 6.935 | 6.955 | 6.975 | 6.975 | 7.015 | 7.035 | 7.055 | 7.075 | 7.095 | 7.115 |

20 MHz: 1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69 73 77 81 85 89 93 97 101 105 109 113 117 121 125 129 133 137 141 145 149 153 157 161 165 169 173 177 181 185 189 193 197 201 205 209 213 217 221 225 229 233 — QTY 59

40 MHz: 3 11 19 27 35 43 51 59 67 75 83 91 99 107 115 123 131 139 147 155 163 171 179 187 195 203 211 219 227 — QTY 29

80 MHz: 7 23 39 55 71 87 103 119 135 151 167 183 199 215 — QTY 14

160 MHz: 15 47 79 111 143 175 207 — QTY 7

Allowed Unlicensed Usage	Low Power Indoor	Low Power Indoor, Standard Power AP	Low Power Indoor	Low Power Indoor, Standard Power AP
Incumbents	Fixed Service, Satellite Service	Satellite Service, TV & Broadcast Services	Fixed Service, Satellite Service	Satellite Service, TV and Broadcast Services

Learn More: visit **What is Wi-Fi 6E**
https://juni.pr/2XRJzOd