

2023 SparkLAN Product Roadmap



SparkLAN Confidential



2023

The Era of Wi-Fi 6E / Wi-Fi 7

What's Wi-Fi 7?

Wi-Fi 7 has the following features:

***provide over 3 times faster data rates of 46 Gbps using a 320 MHz channel in the 6 GHz**

***one 160 MHz channel in the 5 GHz band with up to 4096-QAM (4K-QAM) modulation**

***16 spatial streams MU-MIMO, New Multi-Link Operation (MLO) enables Wi-Fi 7 to combine several frequencies across bands into a single and steady connection.**

Wi-Fi 7 is being designed to be optimized for these video applications like gaming, streaming, smart home devices and services, cloud computing, video conferencing , etc.

Key Wi-Fi 7 Features*



User Experience Data Rate



Spectrum Efficiency



Network Energy Efficiency



Connection Density

Key Enhancements

320 MHz channels
4096-QAM
16 spatial streams

Multi-link operation
Multi-AP operation
Deterministic low latency

Multi-RU (puncturing)



Peak Data Rate



Cost Effective



Area Capacity

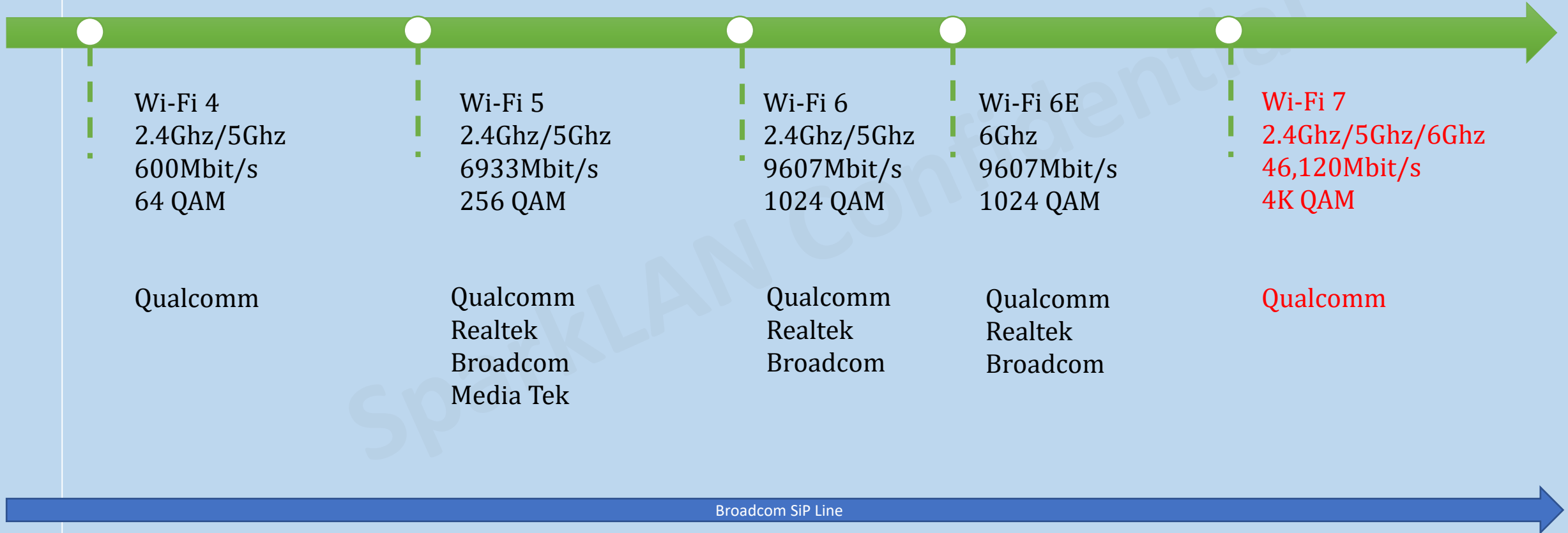


Low Latency

Wi-Fi 6E/7 comparison

	Wi-Fi 6E	Wi-Fi 7
IEEE	802.11ax	802.11be EHT
Frequency	2.4GHz, 5GHz, 6GHz	2.4GHz, 5GHz, 6GHz
Channel bandwidth	160 MHz	Up to 320 MHz
QAM	1024-QAM	4096-QAM
Theoretical maximum speed	9.6 Gbps	46 Gbps
Spatial streams	8x8 MU-MIMO	16x16 MU-MIMO
Application	Access point, high quality video streaming, etc.	Video applications like gaming, streaming, smart home devices, cloud computing, video conferencing, etc.




SparkLAN Solutions Covers all Wi-Fi Generations







2023 New Product Design Matrix

	Q1/2023	Q2/2023	Q3/2023	Q4/2023
2x2	<ul style="list-style-type: none">WUBT-281AX Wi-Fi 6 USBWNFT-280AX (BT) Wi-Fi 6E Realtek M.2WNFQ-267AX (BT) Wi-Fi 6E QCA M.2	<ul style="list-style-type: none">WNFQ-290AX(BT) Wi-Fi 7 QCA M.2WPEQ-291AX(BT) Wi-Fi 7 QCA PCIE	<ul style="list-style-type: none">WUBT-282AX Wi-Fi 6E USB	
4x4			<ul style="list-style-type: none">WPEQ-451AX Wi-Fi 7 6Ghz APWPEQ-452AX Wi-Fi 7 5Ghz AP	<ul style="list-style-type: none">WPEQ-453AX Wi-Fi 7 2.4+5Ghz APWPEQ-454AX Wi-Fi 7 5+6Ghz AP

Realtek Wi-Fi 6/6E Solutions


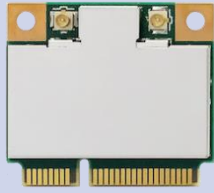
Model	WUBT-281AX	WUBT-282AX	WNFT-280AX (BT)
Picture **Illustration only**			
Frequency	802.11ax Dual-Band 2x2 USB	802.11ax Tri-Band 2x2 USB	802.11ax Tri-Band 2x2 + BT 5.2
Chipset	RTL8832BU	RTL88XX	RTL8852CE
Interface	WLAN: USB 3.0	WLAN: USB 3.0	Wi-Fi: PCIE / BT:USB
Support OS	Windows, Linux, Android	Windows, Linux, Android	Windows, Linux (Open Source)
Antenna	2x IPEX MHF1 connectors or printed antenna	2x IPEX MHF1 connectors or printed antenna	2x IPEX MHF4
Form factor	USB 3.0 Type A or Pin Wafer	USB 3.0 Type A or Pin Wafer	M.2 A/E Key 2230
Operating temp.	-20 °C ~ 70°C (TBD)	-20 °C ~ 70°C (TBD)	-10 °C ~ 70°C
Estimated availability	Q1/2023	Q4/2023	Q1/2023

Wi-Fi 7 QCA AP Solutions

Model	WPEQ-451AX	WPEQ-452AX	WPEQ-453AX	WPEQ-454AX
Picture **Illustration only**				
Frequency	802.11be 6G Single-Band 4x4	802.11be 5G Single-Band 4x4	802.11be 2.4G 2T2R/ 40MHz + 5G 2T2R/160MHz	802.11be 5G-H 2T2R/160MHz + 6G 2T2R/320MHz
Chipset	Qualcomm Atheros QCN927x			
Interface	WLAN: PCIE			
Support OS	Linux (Open Source)			
Antenna	4 x IPEX connectors			
Form factor	M.2 or Mini PCIe			
Operating temp.	-20 °C ~ 70°C (TBD)			
Estimated availability	Q3/2023		Q4/2023	

**Final spec is subject to change

Wi-Fi 7 QCA Client Solutions

Model	WNFQ-290AX(BT)	WPEQ-291AX(BT)
Picture **Illustration only**		
Frequency	802.11be Tri-Band 2x2 + BT 5.3	802.11be Tri-Band 2x2 + BT 5.3
Chipset	Qualcomm QCA207x	Qualcomm WCN785x
Interface	WLAN: PCIe, BT: USB	
Support OS	Windows / Linux (Open Source)	
Antenna	2 x IPEX connectors	
Form factor	M.2 2230	Half Mini PCIe
Operating temp.	-10 °C ~ 70°C (reference design spec, TBD)	
Estimated availability	Q3/2023	Q3/2023

Wi-Fi 6/6E Solutions_MP

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WiFi 6 / 6E Solutions

4 x 4

WPEQ-405AX

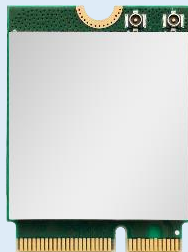
- QCN9074
- Single Band 5Ghz, AP use
- Min Linux kernel 5.17 for ath11k driver
- Operating temp. : -20~70°C



2 x 2

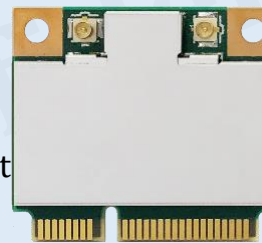
WNFQ-268AXI (BT)

- WCN6856
- Tri-band support, SoftAP support
- Windows / Linux
- Operating temp.: -40°C ~ 75°C



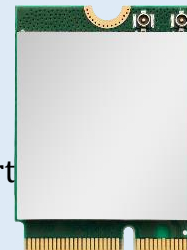
WPEQ-268AXI(BT)

- WCN6856
- Tri-band support, SoftAP support
- Windows / Linux
- Operating temp.: -40°C ~ 75°C



WNFQ-269AX(BT)

- WCN6856
- Tri-band support, SoftAP support
- Windows / Linux
- Operating temp.: -10°C ~ 70°C



2 x 2

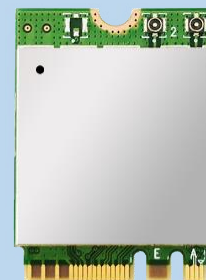
WPEQ-276AX

- QCN9072
- Single band 6Ghz, AP use
- Min Linux kernel 5.17 for ath11k driver
- Operating temp. : -20~70°C



WNFT-238AX (BT)

- RTL8852BE
- 2.4Ghz / 5Ghz
- Windows / Linux
- Operating temp.: 0°C ~ 70°C



WPEB-265AXI(BT)

- BCM43752
- 2.4Ghz / 5Ghz
- Linux / Android
- Operating temp.: -40°C ~ 85°C





Let's Connect

