Versa WiFi6 WLAN AP Module for CSG Series

Versa CSG Series appliances can be optionally equipped with an embedded, enterprise-grade WiFi6 class WLAN Access Point module to provide concurrent, dual-band, 802.11ax capabilities. The embedded WiFi6 WLAN AP module adds enterprise-grade WLAN capability to the routing, SD-WAN, and next-generation security capabilities of the CSG series appliances. It provides WLAN connectivity simultaneously at 2.4 GHz and 5 GHz, thus supporting a variety of devices with an aggregate throughput of over 2 Gbps. The controllerless WiFi6 WLAN AP module embedded with CSG Series appliance is centrally managed and controlled by Versa Director; network and device analytics are provided by Versa Analytics.

Versa WiFi6 WLAN AP Advantage

The embedded Versa WiFi6 WLAN AP is based on the industry-proven WLAN technology and chipset used in many commercially available enterprise-grade products today. Here are some of the key highlights:

Dual-Band Dual-Concurrent (DBDC)

The embedded WiFi6 WLAN AP can operate simultaneously at 2.4 GHz and 5 GHz. While the 5-GHz radio provides higher performance, the 2.4-GHz radio provides longer range connectivity option. This combined with client steering and band steering enabled dual-band client devices, such as most modern smartphones, tablets, laptops, and PCs, to use the less-congested and higher-capacity 5-GHz band when they are closer to the unit and as they get further away from the CSG platform, they will automatically be moved to the 2.4GHz band for continued connectivity.

Multi-User MIMO

With 802.11ax and MU-MIMO, the embedded WLAN AP can connect simultaneously up to 512 clients efficiently. The reduced time-sharing increases the performance of the embedded WLAN AP tremendously, which results in improved user experience.

Smart WiFi

The embedded Versa WiFi6 WLAN AP automatically selects the best channels for the best user experience. Administrators can manually configure the channel assignments from the Versa Director using the workflow and template configuration capabilities provided. The embedded Versa WiFi6 WLAN AP supports Dynamic Frequency Selection (DFS), which allows the use of additional frequency bands that may be less utilized. The embedded WLAN AP leverages previously reserved channels to tap into the wider frequency spectrum. In addition, the embedded Versa WiFi6 WLAN AP supports Maximum Ratio Combining (MRC) capabilities for best receive sensitivity combined with high transmit power. The embedded Versa WiFi6 WLAN AP can support native mesh network capability with firmware upgrade in the future.

Performance and Scaling

This embedded Versa WiFi6 WLAN AP supports 802.11a/b/g/n/ac/ax, 20/40/80/160 MHz bands, as well as user-configurable channel bonding. Up to 512 clients can simultaneously connect to the embedded Versa WiFi6 WLAN AP module across dual frequencies. To further improve the user experience, it also supports background screening, auto selection of best (clean) channels, and the DFS channel to tap into a wider frequency spectrum. The optional built-in Qos features of the embedded WLAN AP complement the Versa Operating Systems (VOS)TM elaborate QoS handling to prioritize and manage QoS over the air.

Security

This embedded Versa WiFi6 WLAN AP supports state-of-the-art WLAN security. WLAN security is provided by 802.11i, AES-CCMP, TKIP, WPA2 and WPA3 encryption methods.

Management

Versa Director is used to configure, manage, and control the embedded WLAN AP. The built-in spectrum analyzer can be used to identify rogue frequencies and eliminate roque devices.

WLAN RF Performance 2.4GHz

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
2.4GHz 802.11b	1Mbps	18dBm	21dBm	±2dB
	2Mbps	18dBm	21dBm	±2dB
	5.5Mbps	18dBm	21dBm	±2dB
	11Mbps	18dBm	21dBm	±2dB
2.4GHz 802.11g	6Mbps	18dBm	21dBm	±2dB
	9Mbps	18dBm	21dBm	±2dB
	12Mbps	18dBm	21dBm	±2dB
	18Mbps	18dBm	21dBm	±2dB
	24Mbps	18dBm	21dBm	±2dB
	36Mbps	18dBm	21dBm	±2dB
	48Mbps	17dBm	20dBm	±2dB
	54Mbps	16dBm	19dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	18dBm	21dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	18dBm	21dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB
	MCS 6	17dBm	20dBm	±2dB
	MCS 7	16dBm	19dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	18dBm	21dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	18dBm	21dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB
	MCS 6	17dBm	20dBm	±2dB
	MCS 7	16dBm	19dBm	±2dB
2.4GHz 802.11ax HE20	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	18dBm	21dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	18dBm	21dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB
	MCS 6	17dBm	20dBm	±2dB
	MCS 7	16dBm	19dBm	±2dB
	MCS 8	16dBm	19dBm	±2dB
	MCS 9	15dBm	18dBm	±2dB
	MCS 10	14dBm	17dBm	±2dB
	MCS 11	13dBm	16dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11b	1Mbps	-97dBm	±2dB
	2Mbps	-91dBm	±2dB
	5.5Mbps	-89dBm	±2dB
	11Mbps	-84dBm	±2dB
2.4GHz 802.11g	6Mbps	-91dBm	±2dB
	9Mbps	-89dBm	±2dB
	12Mbps	-88dBm	±2dB
	18Mbps	-86dBm	±2dB
	24Mbps	-83dBm	±2dB
	36Mbps	-80dBm	±2dB
	48Mbps	-76dBm	±2dB
	54Mbps	-74dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	-94dBm	±2dB
	MCS 1	-90dBm	±2dB
	MCS 2	-88dBm	±2dB
	MCS 3	-83dBm	±2dB
	MCS 4	-81dBm	±2dB
	MCS 5	-76dBm	±2dB
	MCS 6	-75dBm	±2dB
	MCS 7	-73dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	-90dBm	±2dB
	MCS 1	-88dBm	±2dB
	MCS 2	-84dBm	±2dB
	MCS 3	-80dBm	±2dB
	MCS 4	-78dBm	±2dB
	MCS 5	-73dBm	±2dB
	MCS 6	-71dBm	±2dB
	MCS 7	-70dBm	±2dB
2.4GHz 802.11ax HE20	MCS 0	-92dBm	±2dB
	MCS 1	-90dBm	±2dB
	MCS 2	-87dBm	±2dB
	MCS 3	-82dBm	±2dB
	MCS 4	-80dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-74dBm	±2dB
	MCS 7	-73dBm	±2dB
	MCS 8	-67dBm	±2dB
	MCS 9	-65dBm	±2dB
	MCS 10	-62dBm	±2dB
	MCS 11	-59dBm	±2dB

WLAN RF Performance 5GHz

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
5GHz 802.11a	6Mbps	19dBm	22dBm	±2dB
	9Mbps	19dBm	22dBm	±2dB
	12Mbps	19dBm	22dBm	±2dB
	18Mbps	19dBm	22dBm	±2dB
	24Mbps	17dBm	20dBm	±2dB
	36Mbps	17dBm	20dBm	±2dB
	48Mbps	16dBm	19dBm	±2dB
	54Mbps	15dBm	18dBm	±2dB
5GHz 802.11n HT20	MCS 0	19dBm	22dBm	±2dB
	MCS 1	19dBm	22dBm	±2dB
	MCS 2	17dBm	20dBm	±2dB
	MCS 3	17dBm	20dBm	±2dB
	MCS 4	15dBm	18dBm	±2dB
	MCS 5	15dBm	18dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
5GHz 802.11n HT40	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	16dBm	19dBm	±2dB
	MCS 4	15dBm	18dBm	±2dB
	MCS 5	15dBm	18dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
5GHz 802.11ac VHT20	MCS 0	19dBm	22dBm	±2dB
	MCS 1	19dBm	22dBm	±2dB
	MCS 2	17dBm	20dBm	±2dB
	MCS 3	17dBm	20dBm	±2dB
	MCS 4	15dBm	18dBm	±2dB
	MCS 5	15dBm	18dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
	MCS 8	13dBm	16dBm	±2dB
5GHz 802.11ac VHT40	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	16dBm	19dBm	±2dB
	MCS 4	15dBm	18dBm	±2dB
	MCS 5	15dBm	18dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
	MCS 8	13dBm	16dBm	±2dB
	MCS 9	12dBm	15dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	-94dBm	±2dB
	9Mbps	-92dBm	±2dB
	12Mbps	-91dBm	±2dB
	18Mbps	-88dBm	±2dB
	24Mbps	-85dBm	±2dB
	36Mbps	-81dBm	±2dB
	48Mbps	-75dBm	±2dB
	54Mbps	-72dBm	±2dB
5GHz 802.11n HT20	MCS 0	-97dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-89dBm	±2dB
	MCS 3	-85dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-78dBm	±2dB
	MCS 6	-76dBm	±2dB
	MCS 7	-74dBm	±2dB
5GHz 802.11n HT40	MCS 0	-92dBm	±2dB
	MCS 1	-90dBm	±2dB
	MCS 2	-86dBm	±2dB
	MCS 3	-81dBm	±2dB
	MCS 4	-79dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-74dBm	±2dB
	MCS 7	-72dBm	±2dB
5GHz 802.11ac VHT20	MCS 0	-97dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-89dBm	±2dB
	MCS 3	-85dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-78dBm	±2dB
	MCS 6	-76dBm	±2dB
	MCS 7	-74dBm	±2dB
	MCS 8	-69dBm	±2dB
5GHz 802.11ac VHT40	MCS 0	-92dBm	±2dB
	MCS 1	-90dBm	±2dB
	MCS 2	-86dBm	±2dB
	MCS 3	-81dBm	±2dB
	MCS 4	-79dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-74dBm	±2dB
	MCS 7	-72dBm	±2dB
	MCS 8	-67dBm	±2dB
	MCS 9	-65dBm	±2dB

Specifications

Hardware Type	Indoor Access Point
Radio	
Number of Radios	2
Radio Capabilities	Radio 1: 2.4 GHz 802.11b/g/n (2x2:2 streams) 20/40 MHz (64 QAM) Radio 2: 5 GHz 802.11 a/n/ac (2x2:2 streams) 20/40/80 MHz (256 QAM)
Maximum Data Rate	Radio 1: Up to 573 Mbps Radio 2: Up to 2,402 Mbps
Supported Frequency Bands	2.4 GHz: 2.412 ~ 2.472GHz 5 GHz: 5.150 ~ 5.825GHz
Channel Spectrum Widths	Supports 20/40MHz at 2.4GHz Supports 20/40/80/160MHz at 5GHz
Modulation Techniques	OFDMA: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM,1024QAM
Antenna	
Number of Antennas	2
Antenna Type/Peak Gain	External: Peak gain of 3.1 dBi at 2.4 GHz and 4.39 dBi at 5 GHz
802.11 Capabilities	
802.11	802.11a/b/n/ac/ax
EAP Types	EAP-TLS, EAP-TTLS/MSCHAPv2, EAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
Authentication	WPA2, WPA3
SSID Type	Local bridge
802.11 Features	
802.11ac MU-MIMO Wave 2	Yes
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes
MIMO Power Save	Yes
Short Guard Interval	Yes
Certifications	
DFS	FCC, CE, CB (IEC), Japan
Form Factor	Internal Module

Applicable Platforms

CSG700 (revision-2)

Ordering Information

Versa WiFi6 WLAN Access Point module adds enterprise WLAN AP capability to CSG Series appliances. The Versa WiFi6 WLAN AP module is available as an option when ordering a CSG series appliance. For further details, refer to the CSG series ordering guide.

About Versa Networks

Versa Networks the leader in SASE offers fully featured SD-WAN with integrated NGFW/UTP, ZTNA, advanced scalable routing, SD-LAN, genuine multi-tenancy, big-data based analytics and latest AI-ML technologies as part of its single stack software solution. Versa Networks is privately held and funded by Sequoia Capital, Mayfield, Artis Ventures, Verizon Ventures, Comcast Ventures, Liberty Global Ventures, and Blackrock Ventures.

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