SmartAir DVW-624i

WiFi 6/6E(802.11ax) Access Point for extremely high-dense environments

Key features & Benefits

Very High performance
Maximum date rates of 2.4Gbps in 5GHz band, 1.15Gbps in 2.4GHz band, and 4.8Gbps in 6GHz band (aggregate peak rate of 8.35Gbps)

Increasing the efficiency
Supports concurrent triple-radio 802.11ax along with UL / DL-OFDMA and Multi-user MIMO(MU-MIMO)

Connecting more devices simultaneously
Improved device performance by increasing number of simultaneous device connections with built-in 4 spatial streams per radio(2.4GHz, 5GHz & 6GHz) . Up to 512 associated client devices(256 clients @6GHz) per radio.

Multi-gigabit access speeds
Optimized multi-gigabit Wi-Fi performance delivered using the built-in 5GbE port to connect to multigigabit switches.

Enhanced security
Supports the latest Wi-Fi security standard with WPA3 and receive enhanced protection from man-in-the-middle attacks in the most secure way.

Learn More (Controller-based Only)

Smart Channel™ manages the 2.4-GHz, 5-GHz, and 6GHz radio bands and ensures that APs stay clear of RF interference.

Smart Power™ manages RF output power of APs belonging to the specific AP Group. When coverage hole is detected, it increases output power of adjacent Aps.

Smart Access™ optimizes Wi-Fi client performance as users roam and RF conditions change. If a mobile device moves out of range of an AP or RF interference degrades performance, it automatically steers it to a better AP.

Smart Speed™ monitors and measures the throughput between controller and APs to assure enough bandwidth between them.

Smart Path™ monitors the wired path between controller and APs by sending ICMP packets to detect wired network failure.

DVW-624i

Product Overview

The DVW-624i AP is a high-end triple-band, triple-concurrent Wi-Fi 6E AP that supports 4 spatial streams in all radios, i.e., 6GHz, 5GHz and 2.4GHz bands, channel bandwidths up to 160MHz in 5/6GHz(40MHz in 2.4GHz), and 1024-QAM modulation. The DVW-624i AP is designed to deliver high performance access for mobile and IoT devices in environments where device density is high.

With OFDMA and MU-MIMO capabilities, the DVW-624i AP efficiently manages up to 512 client connections(256 clients @6GHz) with increased capacity and improved coverage and performance in ultra-high dense environments such as healthcare facilities, universities, conference centers, arenas, and stadiums. Furthermore, multi-gigabit Ethernet ensures bottleneck-less backhaul even at full use of available Wi-Fi capacity.

The DVW-624i AP supports features of IEEE802.11ax standard in order to simultaneously serve multiple clients and prioritize different types of traffic, which increases the data rates for both individual applications, devices and the overall network.

The DVW-624i AP supports WiFi Enhanced Open™ which provides confidentiality for over-the-air communications with OWE(Opportunistic Wireless Encryption) & SAE(Simultaneous Authentication of Equals) in open networks such as coffee shops and restaurants, as well as airports, hotels and sports arenas and supports Easy Connect ™ for IoT connection.

Features

General

- supports 3 radios(2.4GHz, 5GHz and 6GHz)
- 4x4 MU-MIMO implementation for high-performance
- 4 spatial streams
- Max link rate 1.15Mbps @ 2.4GHz radio
- Max link rate 2.4Gbps @ 5GHz radio
- Max link rate 4.8Gbps @ 6GHz radio

Radio Resource Management

- Dynamic Channel Control/Selection
- Automatic transmit power and channel control
- Self-healing with coverage hole detection
- Band steering with multiple steering modes
- Load balancing of clients
- Airtime fairness
- Adaptive Noise Immunity
- Analyzing RF Spectrum
- Smart Mesh with indoor/outdoor Aps
- Performance protection in congested RF environments
- Mitigates co-channel interference with coordinated access
- Mitigates adjacent channel interference with optimized receiver sensitivity
- Efficient reuse of channels at shorter intervals
- Mitigates non 802.11 interference without dedicated radios

Service and Networking

- L2 fast roaming
  - Opportunistic Key Caching
  - PMK Key Caching

- Bridging or NAT for LAN/Wireless
- DHCP Server/Client
- VLAN assignment per SSID
  - Optionally, by filer-id of external RADIUS server
- Q-in-Q tagging

Management and Configuration

- Multiple user interface options :
  - Centralized management via SmartAir Controller
  - Built-in web-based management
  - Command line interface (CLI)
- Remote firmware upgrade and configuration

QoS

- Wireless Multimedia Extensions(WME, subnet of IEEE 802.11e)
- U-APSD/WMM Power Save
- Prioritizes voice over data for both tagged and untagged traffic
- Rule and role based QoS processing
- QoS policy and Rate Limitation per group, station
  - DSCP
  - 802.1P
  - 802.1P/WMM

Security, Authentication and Encryption

- Stateful inspection firewall
  - TCP/UDP flooding
  - SYN flooding
  - ARP flooding
  - IP Spoofing
  - IP Sweeping
  - Port Scanning
  - Session Limit by source or destination
- AP access control from remote device
- ACL policy with IP address, port of source and destination

- WPA / WPA2 / WPA3 personal & enterprise
- IEEE 802.11i / WPA2 with passphrase (WPA2-Personal)
- IEEE 802.1X (WPA2-Enterprise) and hardware-accelerated AES
- EAP Types
  - EAP-TLS
  - EAP-TTLS/MSCHAPv2
  - PEAPv0/EAP-MSCHAPv2
  - PEAPv1/EAP-GTC
  - EAP-SIM
  - EAP-AKA/EAP-AKA Prime
  - EAP-FAST
- TKIP/AES
- High availability for authentication
  - When disconnecting with controller, AP try to authenticate RADIUS server directly for wireless stations

Regulatory & Certifications

- KC certified
- CE Marked(TBD)
- Wi-Fi Alliance-certified 802.11a/b/g/n/ac/ax

WiFi CERTIFIED

General Specifications

Physical Characteristics

Physical Size	• 235 mm x 235 mm x 45 mm
Weight	• 1.3 kg
LED	• Power (Blue/Red : Normal/Booting, Alarm) • WAN1 (Blue/Orange : 5G/2.5G Link/1G Link) • WAN2 (Orange : Link/Active) • LAN (Orange : Link/Active) • 2.4G/5G (Blue : Active) • 6G (Blue : Active)

Power

Power	• External Power Adaptor
	   Input : 110-240V AC
	   Output : 12V DC, 4A(DC-038 Type)
	• Power over Ethernet 802.3at/bt

Comsumption	• 40W(Max)

Interfaces

WAN1(PoE) port	• 5Gbps base-T interface with POE+ (RJ-45 Tap down & Blue color)
LAN2/WAN2 port(Note1)	• 10/100/1000M base-T interfaces with auto MDI/MDI-X (RJ-45 Tap down & Gray color)
LAN port	• 10/100/1000M base-T interfaces with auto MDI/MDI-X (RJ-45 Tap down & Yellow color)
USB port	• One USB 3.0 Host Port for AUX interface (Optional)
WLAN	• Internal PCB ANT 4T4R : Max 7dBi PCB type
Console port	• RS-232C interface for management, RJ-45

Note 1 : DVW-624 series AP supports Link aggregation for uplink or backhaul line connection using WAN and WAN2 ports and 802.3at PoE(PD) is only supported on WAN port.

Environmental Conditions

Operating temperature	• -10°C to 55°C
Storage temperature	• -10°C to 60°C
Operating Humidity	• 0% to 95% Non-Condensing
Storage Humidity	• 0% to 95%

Radio Specifications

Wireless Modulation

802.11a	• BPSK, QPSK, 16QAM, 64QAM with OFDM
802.11b	• Direct-sequence spread-spectrum(DSSS)
802.11g	• DSSS and Orthogonal frequency-division multiplexing (OFDM)
802.11n	• BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM • High-throughput (HT) support: HT 20/40 • Packet aggregation: A-MPDU, A-MSDU • Advanced Features: LDPC, STBC and TxBF
802.11ac	• BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM • Packet aggregation: A-MPDU, A-MSDU • Very High-Throughput : VHT20/40/80/160 • Advanced Features: LDPC, STBC, Maximum Likelihood (ML) Detection
802.11ax	• BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM with OFDM • UL/DL MU-MIMO • OFDMA(Orthogonal frequency-division multiple access)

Output Power

802.11n	20MHz 40MHz	MAX 23dBm±1.5dBm@MCS0/8/16/24 MAX 23dBm±1.5dBm@MCS7/15/23/31
802.11g		MAX 23dBm ±1.5dBm
802.11b		MAX 23dBm ±1.5dBm
802.11a		MAX 23dBm ±1.5dBm
802.11ac	VHT20 VHT40 VHT80 VHT160	MAX 23dBm ±1.5dBm@MCS0~7 MAX 22dBm ±1.5dBm@MCS8 MAX 21dBm ±1.5dBm@MCS9
802.11ax	HE20 HE40 HE80 HE160	MAX 23dBm ±1.5dBm@MCS0~7 MAX 22dBm ±1.5dBm@MCS8 MAX 21dBm ±1.5dBm@MCS9 MAX 20dBm ±1.5dBm@MCS10 MAX 19dBm ±1.5dBm@MCS11
802.11ax (6GHz)	HE20 HE40 HE80 HE160	MAX 17dBm±1.5dBm@all rate

Receiver Sensitivity(PER 10%_one stream)

802.11n	HT20	- 90dBm @ MCS0 - 72dBm @ MCS7
	HT40	- 88dBm @ MCS0 - 70dBm @ MCS7
802.11g		-90dBm @ 6M (BPSK, 1/2) -73dBm @ 54M (QAM64)
802.11b (PER 8%)		-95dBm @ 1Mbps -86dBm @ 11Mbps
802.11a		-91dBm @ 6M (BPSK, 1/2) -74dBm @ 54M (QAM64)
802.11ac	VHT20	-89dBm @MCS0, -71dBm @MCS7(64QAM) -66dBm@MCS8(256QAM)
	VHT40	-86dBm @MCS0, -68dBm @MCS7 -61dBm@MCS9(256QAM)
	VHT80	-83dBm @MCS0, -65dBm @MCS7 -58dBm@MCS9
	VHT160	TBD
802.11ax	HE20	-90dBm @MCS0, -71dBm @MCS7 -65dBm@MCS9, -59dBm@MCS11
	HE40	-87dBm @MCS0, -68dBm @MCS7 -62dBm@MCS9, -56dBm@MCS11
	HE80	-84dBm @MCS0, -65dBm @MCS7 -59dBm@MCS9, -53dBm@MCS11
	HE160	-81dBm@MCS0, -62dBm@MCS7 -56dBm@MCS9, -50dBm@MCS11