DONEWIN
Global ICT Solutions Provider

# H3C S6520X-EI Series Enhanced 10GE Switches

Release Date: May, 2023

New H3C Technologies Co., Limited

# Product Overview

H3C S6520X-EI Switch Series—Industry-leading high performance and scalable 10GE access switching solution with modular dual power, fixed or modular uplinks (10GE/40GE/100GE) and IRF for resiliency. The series offers OSPF/BGP and multicast, SDN enabled and flexible management.

The S6520X-EI switch series contains the following models:

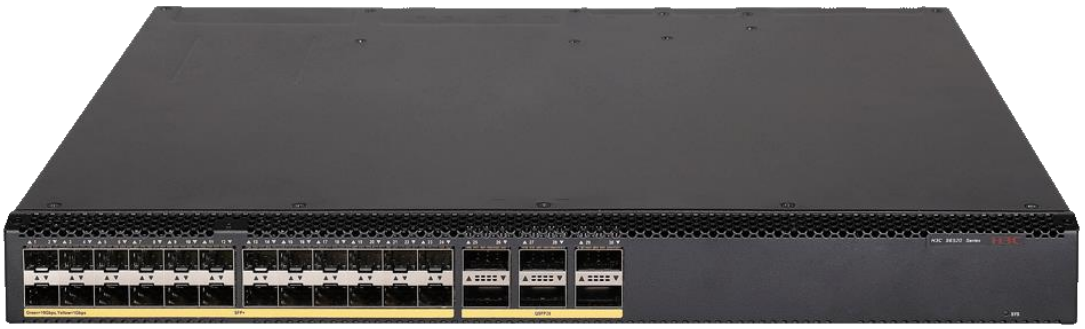
- H3C S6520X-30QC–EI: 24 × 1/10G SFP+ ports, 2 × QSFP+ ports (40GE, can be split into four 10GE ports.), 2 × expansion slots, 2 × fan tray slots, and 2 × power module slots
- H3C S6520X-54QC–EI: 48 × 1/10G SFP+ ports, 2 × QSFP+ ports (40GE, can be split into four 10GE ports.), 2 × expansion slots, 2 × fan tray slots, and 2 × power module slots
- H3C S6520X-30HC–EI: 24 × 1/10G SFP+ ports, 2 × QSFP28 ports (100G, can be split into four 25GE ports), 2 × expansion slots, 2 × fan tray slots, and 2 × power module slots
- H3C S6520X-54HC–EI: 48 × 1/10G SFP+ ports, 2 × QSFP28 ports (100G, can be split into four 25GE ports), 2 × expansion slots, 2 × fan tray slots, and 2 × power module slots
- H3C S6520X-30HF–EI: 24 × 1/10G SFP+ ports, 6 × QSFP28 ports, 3 × fan tray slots, and 2 × power module slots
- H3C S6520X-54HF–EI: 48 × 1/10G SFP+ ports, 6 × QSFP28 ports, 3 × fan tray slots, and 2 × power module slots
- H3C S6520X-54HC-UPWR-EI: 24 ×100M/1G/2.5G/5G/10G Base-T PoE++ ports, 4 × QSFP28 ports, 2 kinds of expansion slots (1 large slot in front, 1 normal slot in rear), 2 × fan tray slots, and 2 × power module slots.

S6520X-30QC–EI-GL

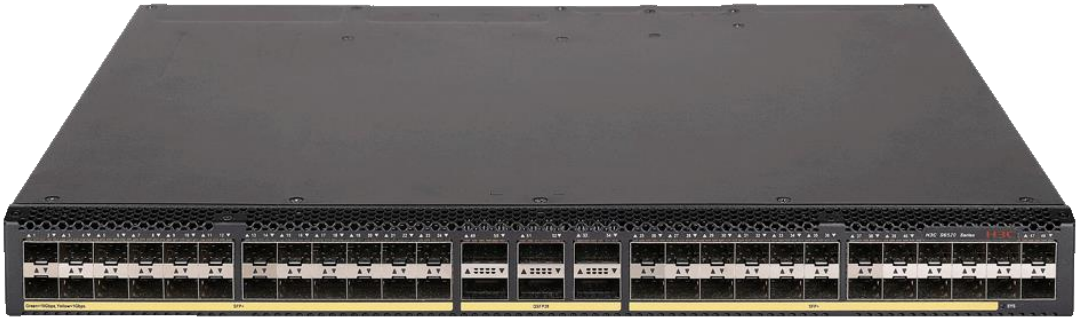
S6520X-54QC–EI-GL

S6520X-30HC–EI-GL

S6520X-54HC–EI-GL



S6520X-30HF-EI-GL



S6520X-54HF-EI-GL

S6520X-54HC-UPWR-EI-GL

# Features and Benefits

## Open Application Architecture

In H3C open application architecture (OAA), the switch can accommodate high-performance OAP modules to offer dedicated services such as firewall, IPS, or load balancing in addition to conventional forwarding services. By installing OAP modules, the customers can use the switch as a multiservice device without having to buy separate service appliances, such as a firewall device.

## High-Density 10GE Forwarding

The switch offers high-density 10GE forwarding and can expand 10GE ports flexibly. It provides 48/24*10/1GE autosensing SFP+ ports, six QSFP28 ports or two QSFP28 or QSFP+ ports onboard, and two expansion slots that support up to 11 kinds of modules range from GE to 10GE, 25GE, 40GE,100GE and Multigiga ports. Using a QSFP+ to SFP+ splitter cable, you can split a QSFP+ port into four line-rate 10GE SFP+ ports. Max 72*10GE supported on one single switch.

## Embedded Access Controller

H3C S6520X-EI implements the WLAN function by installing an AC feature pack on the main control unit, thereby implementing both the wired function and the WLAN function on a single device. Embedded AC is a low-cost WLAN solution, save overall investment, improve forwarding capacity, realized a true unified wired and wireless solution in Campus. Max256 AP supported on one single switches.

## H3C Intelligent Resilient Framework 2 (IRF2)

H3C Intelligent Resilient Framework 2 (IRF 2) virtualizes multiple S6520X-EI switches into one virtual switch and provides the following benefits:

- **Scalability:** IRF 2 allows you to add devices to the IRF 2 system easily. It provides a single point of management, enables switch plug-and-play, and supports software auto-update for software synchronization from the master to the new member devices. It brings business agility with lower total cost of ownership by allowing new switches to be added to the fabric without network topology change as business grows.
- **High availability:** The H3C proprietary routing hot backup technology ensures redundancy and backup of all information on the control and data planes and non-stop Layer 3 data forwarding in an IRF 2 fabric. It also eliminates single point of failure and ensures service continuity.
- **Redundancy and load balancing:** The distributed link aggregation technology supports load sharing and mutual backup among multiple uplinks, which enhances the network redundancy and improves link resources usage.

- **Flexibility and resiliency:** The switch use standard GE ports instead of specialized ports for IRF links between IRF member devices. This allows customers to assign bandwidth as needed between uplink, downlink, and IRF system connections. In addition, an S6520X-HI IRF fabric can span a rack, multiple racks, or multiple campuses.

## Wide Range of Advanced Features

The switch offers a wide range of features, including:

- **Modular hardware and software design:** The switch uses modular, hot swapping, and redundancy design for hardware, including power modules and fan trays. The switch also uses modular design for software, which enables feature installation and removal on an as-needed basis. Refined physical architecture and optimized software workflows greatly reduce the end-to-end packet processing delay.
- **Software-defined networking (SDN):** An innovative network architecture that separates the control plane from the forwarding plane, typically by using OpenFlow. SDN significantly simplifies network management, reduces maintenance complexities and costs, enables flexible traffic management, and offers a good platform for network and application innovations.
- **Virtual eXtensible LAN (VXLAN):** A MAC-in-UDP technology that provides Layer 2 connectivity between distant network sites across an IP network. VXLAN enables long-distance virtual machine and data mobility and is typically used in data centers and the access layer of campus networks for multitenant services. The H3C implementation of VXLAN supports automatic VXLAN tunnel establishment with EVPN.
- **Ethernet Virtual Private Network (EVPN):** A Layer 2 VPN technology that provides both Layer 2 and Layer 3 connectivity between distant network sites across an IP network. EVPN uses MP-BGP in the control plane and VXLAN in the data plane. EVPN provides the following benefits: Configuration automation; Separation of the control plane and the data plane; Integrated routing and bridging (IRB).
- **In-Service Software Upgrade (ISSU) and Operation, Administration, and Maintenance (OAM):** Ensure business continuity and improve Ethernet management and maintainability.

## Comprehensive Security Control Policies

The switch supports AAA authentications (including RADIUS authentication) and dynamic or static binding of user identifiers such as user account, IP address, MAC address, VLAN, and port number.

Using the switch in conjunction with H3C IMC, you can manage and monitor online users in real time and take prompt action on illegitimate behaviors.

The switch offers a large number of inbound and outbound ACLs and VLAN-based ACL assignment. This simplifies configurations and saves ACL resources.

## MACsec

MACsec is an ideal hop-by-hop link-layer security protocol for Ethernet networks, which are typically insecure. It provides the following services:

- **Data encryption:** Encrypts data over the Ethernet link to protect data against security issues such as eavesdropping.
- **Anti-replay:** Prevents packets from being intercepted and modified en route to protect the network against unauthorized access.
- **Tampering protection:** prevents packet tampering to protect data integrity.

MACsec supports the following deployments:

- **Client-oriented:** Protects data transmission over the link between the client and its access device.
- **Device-oriented mode:** Protects data transmission over the link between two peering devices.

The switch can cooperate with H3C iNode client and core switches such as S10500X and S7500X to provide a complete MACsec solution.

## High Availability

In addition to node and link protection, the switch offers the following hardware high availability features:

- 1+1 power module redundancy and 1+1 fan tray redundancy.
- Hot-swappable interface modules.
- Automatic power and fan tray status monitoring and alarming mechanisms.
- Automatic fan speed adjustment based on the change in temperature.
- Self-protection mechanisms that protect power modules against overcurrent, overvoltage, and overtemperature conditions.

## Outstanding Management Capacity

The switch provides a variety of management features and is easy to manage. It offers the following device management features:

- Provides multiple management interfaces, including the console port, out-of-band management Ethernet port, and USB port.
- Supports configuration and management from CLI or H3C IMC Intelligent Management Center.

- Supports multiple access methods, including SNMPv1/v2c/v3, Telnet, and more secure SSH 2.0 and SSL.
- Uses OAM to enhance system management capability.
- Supports FTP for system upgrade.

## Smart Management Center (SmartMC)

SmartMC is H3C's latest offering and innovation that helps small and middle size enterprise network to address management issue and is free of charge, easy to use web management tool. SmartMC is embedded network management tool into the switch, it includes commander switches and other access switches.

SmartMC delivers the following benefits:

- **Intelligent operation:** once the switch is powered on and SmartMC function is enabled, topology will be created automatically and user can go enhanced web GUI to check the latest status.
- **Centralized management:** all management can be achieved via commander switch such as centralized configuration backup, and software version management, increasing working efficiency.
- **One key device replacement:** in case of one switch failure, the new added same type switch can download the same configuration and work as old switch immediately

## Multichassis Link Aggregation Group (M-LAG) (Original DRNI)

H3C S6520X-EI series switches support M-LAG, which enables links of multiple switches to aggregate into one to implement device-level link backup. M-LAG is applicable to servers dual-homed to a pair of access devices for node redundancy.

- **Streamlined topology:** M-LAG simplifies the network topology and spanning tree configuration by virtualizing two physical devices into one logical device.
- **Independent upgrading:** The DR member devices can be upgraded independently one by one to minimize the impact on traffic forwarding.
- **High availability:** The DR system uses a keepalive link to detect multi-active collision to ensure that only one member device forwards traffic after a DR system splits.

## Visualization Ability

H3C S6520X-EI series switches support Telemetry technology, which can send the switch's real-time resource information and alarm information to the O&M platform through the gRPC protocol.

The platform can realize network quality backtracking, troubleshooting, risk early warning, architecture optimization and other functions to accurately guarantee user experience by analyzing real-time data.

# Hardware Specifications

| Item | S6520X-30HC-EI-GL | S6520X-30QC-EI-GL | S6520X-54HC-EI-GL | S6520X-54QC-EI-GL | S6520X-54HF-EI-GL | S6520X-30HF-EI-GL | S6520X-54HC-UPWR-EI-GL |
|---|---|---|---|---|---|---|---|
| Port switching capacity | 1680Gbps | 960Gbps | 2160Gbps | 1440Gbps | 2160Gbps | 1680Gbps | 2160Gbps |
| Packet forwarding rate | 705Mpps | 705Mpps | 1050Mpps | 1050Mpps | 600Mpps | 600Mpps | 1050Mpps |
| System switching capacity | 2.56Tbps | | | | | | |
| Dimensions (H × W × D) | 43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in) | | | | | | |
| Weight | ≤7.4KG | ≤7KG | ≤ 7.6KG | ≤7.2KG | ≤6KG | ≤5.5KG | ≤9.6 KG |
| CPU | Dual Core, 1.6GHz | | | | | | |
| Flash/SDRAM | 1GB/2GB | | | | | | |
| Packet Buffer | 10M | | | | | | |
| Console ports | 1 | | | | | | |
| Management Ethernet ports | 1 | | | | | | |
| USB ports | 1 | | | | | | |
| SFP+ | 24 | 24 | 48 | 48 | 48 | 24 | 24 |
| QSFP+ | - | 2 | - | 2 | - | - | |
| QSFP28 | 2 | - | 2 | - | 6 | 6 | 4 |
| Expansion slots | 2 | | | | - | | 2 |
| Expansion modules | 2-Port 10G SFP+ Ethernet Optical Interface Module<br>4-Port 10G SFP+ Ethernet Optical Interface Module | | | | N/A | | Front: 24-10G/1G |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 8-Port 10G SFP+ with MACSec Interface Module<br>8-Port 1/2.5/5G BASE-T Ethernet Copper Interface Module<br>8-Port 1/2.5/5/10G BASE-T Ethernet Copper Interface Module<br>2-port 25GE SFP28 interface module<br>2-port 40GE QSFP+ interface module<br>8-port 25GE SFP28 interface module (for S6520X-54HC-EI)<br>2-port 100GE QSFP28 interface module (for S6520X-54HC-EI) | | | | | | SFP+ 24-100M/1G/2.5G/5G/10G Base-T PoE++ |
| Input voltage range | Rated: 100 VAC to 240 VAC @ 50 Hz/60 Hz<br>Max.: 90 VAC to 264 VAC @ 47 Hz to 63 Hz<br>Rated voltage range: –48 to –60 VDC<br>Max voltage range: –36 to –72 VDC | | | | Rated voltage range: 100 to 240 VAC @ 50/60 Hz<br>Max voltage range: 90 to 264 VAC @ 47 to 63 Hz | | Rated voltage range: 100 to 240 VAC @ 50/60 Hz<br>Max voltage range: 90 to 290 VAC @ 47 to 63 Hz |
| Fan trays | 2 hot swappable fan trays, adjustable speed, and invertible airflow | | | | | | |
| Power Supply slots | 2 | | | | | | |
| Idle power consumption | Single AC: 38W<br>Dual AC: 43W | Single AC: 38W<br>Dual AC: 43W | Single AC: 44W<br>Dual AC: 49W | Single AC: 39W<br>Dual AC: 44W | Single AC: 29W<br>Dual AC: 36W | Single AC: 29W<br>Dual AC: 35W | Host+SFP module:<br>Single AC: 74W<br>Dual AC: 89W<br>Host+Ethernet module:<br>Single AC: 69W<br>Dual AC: 82W |
| Max. power consumpti | Single AC: 197W<br>Dual AC: | Single AC: 179W<br>Dual AC: | Single AC: 249W<br>Dual AC: | Single AC: 231W<br>Dual AC: | Single AC: 163W<br>Dual AC: | Single AC: 131W<br>Dual AC: | Host+SFP module<br>Single AC: |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| on | 200W | 183W | 251W | 234W | 162W | 134W | 1580W<br>Dual AC: 2487W<br>Host+Ethernet module: Single AC: 1595W<br>Dual AC: 3061W |
| Operating Temperature | 0ºC to 45ºC (32°F to 113°F)<br>-60m-5000m altitude: From 0m, the maximum operating temperature reduce by 0.33℃ for every time 100 the altitude increases by 100m. | | | | | | |
| Storage Temperature | -40℃ to 70℃(-40°F to 158°F) | | | | | | |
| Operating & storage humidity | 5% RH to 95% RH, non-condensing | | | | | | |
| MTBF(Year) | 63.4 | 62.8 | 60.8 | 60.2 | 60.8 | 63.4 | 61.7 |
| MTTR(Hour) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Note: This content is applicable only to regions outside mainland China. H3C reserves the right to interpret the content.

# Software Specifications

| Feature | S6520X-EI switch series |
|---|---|
| Virtualization | Intelligent Resilient Framework 2 (IRF2)<br>Distributed device management<br>Distributed link aggregation<br>Distributed resilient routing<br>Stacking through standard Ethernet ports<br>Local device stacking and remote device stacking<br>LACP-, BFD-, and ARP-based multi-active detection (MAD) |
| Link aggregation | 10GE/40GE/100GE port aggregation<br>Static aggregation<br>Dynamic aggregation |
| Jumbo | Supported |

| | |
|---|---|
| frame | |
| MAC address table | Static MAC address<br>Blackhole MAC address<br>MAC learning limit |
| OpenFlow | OpenFlow 1.3 |
| VxLAN | VXLAN L2 switching<br>VXLAN L3 routing<br>VXLAN VTEP<br>IS-IS+ENDP distributed control plane<br>MP-BGP+EVPN distributed control plane<br>OpenFlow+Netconf centralized control plane |
| VLAN | Port-based VLAN (up to 4094 VLANs)<br>Default VLAN<br>QinQ and flexible QinQ<br>VLAN mapping<br>PVST+ and RPVST+ |
| Traffic monitoring | sFLOW |
| LLDP | LLDP/LLDP-MED |
| DHCP | DHCP client<br>DHCP snooping<br>DHCP relay<br>DHCP server<br>DHCP snooping Option 82/DHCP relay Option 82 |
| ARP | Static entry<br>Gratuitous ARP<br>Common proxy ARP and local proxy ARP<br>Dynamic ARP inspection<br>ARP anti-attack<br>ARP source suppression<br>ARP detection based on DHCP snooping safety entries, 802.1X entries, and IP/MAC static binding entries |
| Routing | IPV4 routing<br>IPV6 routing<br>IPv4/IPv6 static routing |

| | |
|---|---|
| | Dynamic routing such as RIP v1/2 and RIPng<br>Policy routing<br>Equal-cost multi-path routing (ECMP)<br>VRRP<br>OSPFv1/v2/v3<br>BGP<br>IS-IS |
| IPv6 | Neighbor Discovery (ND)<br>PMTU<br>ICMP v6, Telnet v6, SFTP v6, SNMP v6, BFD v6, VRRP v3<br>IPv6 Portal<br>IPv6 tunnel |
| Multicast | IGMP Snooping v2/v3<br>IGMP Snooping fast-leave<br>IGMP Snooping group-policy<br>PIM-SM and PIM-SSM<br>PIM snooping<br>MVRP (GVRP analog)<br>MFF<br>Enhanced Layer 3 multicast |
| MPLS | Support MPLS<br>Support MCE<br>Support MPLS VPN, VPLS |
| Zero configuration | DHCP auto-config<br>CWMP-TR069 |
| Broadcast/Multicast/Unicast storm suppression | Storm suppression based on port bandwidth percentage<br>Storm suppression based on PPS<br>Storm suppression based on BPS |
| Loop-free redundant Layer 2 topology | STP/RSTP/MSTP<br>STP Root Guard<br>BPDU Guard<br>BPDU Blocking and Root Guard<br>Link Detection (UDLD) |

| | |
|---|---|
| | Digital Diagnostic Monitor (DDM)<br>G.8032 Ethernet ring protection switching (ERPS) |
| QoS/ACL | Rate limit for receiving and transmitting packets<br>CAR<br>Eight output queues per port<br>Flexible queue scheduling algorithms based on both port and queue, including SP, WDRR, WRR, WFQ, and SP+WRR<br>802.1p priority and DSCP priority<br>Layer 2 to Layer 4 packet filtering<br>Traffic classification based on source MAC, destination MAC, source IP, destination IP, port, protocol, and VLAN<br>Time range<br>WRED |
| Mirroring | Flow mirroring<br>N:4 port mirroring<br>Local port mirroring and remote port mirroring<br>Policy-based Mirroring<br>Traffic Mirroring |
| Security | Hierarchical user management and password protection<br>MAC-based authentication<br>802.1X<br>Storm constrain<br>AAA authentication<br>RADIUS authentication<br>HWTACACS<br>SSH2.0<br>Port isolation<br>IP/Port/MAC binding<br>IP source guard<br>HTTPs<br>SSL<br>Public Key Infrastructure (PKI)<br>CPU protection<br>Control Plane Protection (CoPP), Wireless Intrusion Prevention System (WIPS) |
| Loading and | Loading and upgrading through XMODEM/FTP/TFTP |

| | |
|---|---|
| upgrading | Loading and upgrading from USB |
| Power saving | Automatic port power-down<br>Scheduled port power-down (schedule job)<br>802.3az Energy Efficient Ethernet (EEE) support |
| Management and maintenance | Loading and upgrading through XModem/FTP/TFTP<br>Zero Touch Provisioning<br>Configuration through CLI, Telnet, and console port<br>SNMPv1/v2c/v3<br>Restful<br>Python<br>Job scheduler<br>ISSU<br>VCT<br>802.1ag and 802.3ah<br>Simple Network Management Protocol (SNMP)<br>IMC network management system<br>System log<br>Alarming based on severity<br>NTP<br>Power, fan, and temperature alarming<br>Debugging information output<br>Ping and Tracert<br>Track<br>Telnet-based remote maintenance |
| EMC | FCC Part 15 Subpart B CLASS A<br>ICES-003 CLASS A<br>VCCI CLASS A<br>CISPR 32 CLASS A<br>EN 55032 CLASS A<br>AS/NZS CISPR32 CLASS A<br>CISPR 24<br>EN 55024<br>EN 61000-3-2<br>EN 61000-3-3<br>GB/T 9254 |

| | |
|---|---|
| | YD/T 993 |
| Safety | UL 60950-1<br>CAN/CSA C22.2 No 60950-1<br>IEC 60950-1<br>EN 60950-1<br>AS/NZS 60950-1<br>FDA 21 CFR Subchapter J<br>GB 4943.1 |

# Performance Specification

| Model | S6520X-30QC-EI-GL | S6520X-54QC-EI-GL | S6520X-30HC-EI-GL | S6520X-54HC-EI-GL | S6520X-30HF-EI-GL | S6520X-54HF-EI-GL | S6520X-54HC-UPWR-EI-GL |
|---|---|---|---|---|---|---|---|
| MAC address entries(max) | 131,072 | 131,072 | 131,072 | 131,072 | 131,072 | 131,072 | 131,072 |
| VLAN table | 4094 | 4094 | 4094 | 4094 | 4094 | 4094 | 4094 |
| VLAN interface | 1024 | 1024 | 1024 | 1024 | 1024 | 1024 | 1024 |
| IPv4 routing entries(max) | 65,536 | 65,536 | 65,536 | 65,536 | 65,536 | 65,536 | 65,536 |
| IPv4 ARP entries(max) | 65,536 | 65,536 | 65,536 | 65,536 | 65,536 | 65,536 | 65,536 |
| IPv4 ACL entries | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 |
| IPv4 multicast L2 entries | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| IPv4 multicast L3 entries | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| IPv6 unicast routing | 32,768 | 32,768 | 32,768 | 32,768 | 32,768 | 32,768 | 32,768 |

| Model | S6520X-30QC-EI-GL | S6520X-54QC-EI-GL | S6520X-30HC-EI-GL | S6520X-54HC-EI-GL | S6520X-30HF-EI-GL | S6520X-54HF-EI-GL | S6520X-54HC-UPWR-EI-GL |
|---|---|---|---|---|---|---|---|
| entries | | | | | | | |
| QOS forward queues | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| IPv6 ACL entries | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 | Ingress:2048 Egress:256 |
| IPv6 ND entries | 32,768 | 32,768 | 32,768 | 32,768 | 32,768 | 32,768 | 32,768 |
| IPv6 multicast L2 entries | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| IPv6 multicast L3 entries | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| Jumbo frame length | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| Max Stacking Ports | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Max Stacking Bandwidth | 480Gbps | 480Gbps | 480Gbps | 480Gbps | 480Gbps | 480Gbps | 480Gbps |

# Removable Components Matrix

| Field Replace Unit | S6520X-30QC-EI-GL S6520X-54QC-EI-GL | S6520X-30HC-EI-GL S6520X-54HC-EI-GL | S6520X-30HF-EI-GL S6520X-54HF-EI-GL |
|---|---|---|---|
| Removable power supplies | | | |
| PSR250-12A | Supported | Supported | Not supported |
| PSR250-12A1 | Supported | Supported | Not supported |

| | | | |
|---|---|---|---|
| PSR450-12D | Supported | Supported | Not supported |
| PSR180-12A-F | Not supported | Not supported | Supported |
| PSR180-12A-B | Not supported | Not supported | Supported |
| Removable fan trays | | | |
| LSWM1FANSCE | Supported | Supported | Not supported |
| LSWM1FANSCBE | Supported | Supported | Not supported |
| LSPM1FANSA-SN | Not supported | Not supported | Supported |
| LSPM1FANSB-SN | Not supported | Not supported | Supported |
| Expansion cards | | | |
| LSWM2QP2P | Supported | Supported | Not supported |
| LSWM2SP8P | Supported | Supported | Not supported |
| LSWM4SP8PM | Supported | Supported | Not supported |
| LSWM2ZQP2P | Not supported | Supported | Not supported |
| LSWM2ZSP8P | Not supported | Supported | Not supported |
| LSPM6FWD | Supported | Supported | Not supported |
| LSPM6FWD8 | Supported | Supported | Not supported |
| LSWM2XMGT8P | Supported | Supported | Not supported |
| LSWM2MGT8P | Supported | Supported | Not supported |
| LSWM2ZSP2P | Supported | Supported | Not supported |
| LSWM2SP2PB | Supported | Supported | Not supported |
| LSWM2SP4PB | Supported | Supported | Not supported |

# Standards and Protocols Compliance

| Organization | Standards and Protocols |
|---|---|
| IEEE | 802.1x Port based network access control protocol |
| | 802.1ab Link Layer Discovery Protocol |
| | 802.1ak MVRP and MRP |
| | 802.1ax Link Aggregation |
| | 802.1d Media Access Control Bridges |
| | 802.1p Priority |
| | 802.1q VLANs |

| Organization | Standards and Protocols |
|---|---|
| | 802.1s Multiple Spanning Trees |
| | 802.1ag Connectivity Fault Management |
| | 802.1v VLAN classification by Protocol and Port |
| | 802.1w Rapid Reconfiguration of Spanning Tree |
| | 802.3ad Link Aggregation Control Protocol |
| | 802.3ah Ethernet in the First Mile |
| | 802.3x Full Duplex and flow control |
| | 802.3z 1000BASE-X |
| | 802.3ae 10-Gigabit Ethernet |
| | 802.3an 10-Gigabit Base-T Ethernet |
| | 802.3by 25G Ethernet |
| | 802.3ba 40/100G Ethernet |
| IETF | RFC 2710 Multicast Listener Discovery (MLD) for IPv6 |
| | RFC 2711 IPv6 Router Alert Option |
| | RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol |
| | RFC 2918 Route Refresh Capability for BGP-4 |
| | RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations |
| | RFC 2934 Protocol Independent Multicast MIB for IPv4 |
| | RFC 3101 OSPF Not-so-stubby-area option |
| | RFC 3019 MLDv1 MIB |
| | RFC 3046 DHCP Relay Agent Information Option |
| | RFC 3056 Connection of IPv6 Domains via IPv4 Clouds |
| | RFC 3065 Autonomous System Confederation for BGP |
| | RFC 3137 OSPF Stub Router Advertisement sFlow |
| | RFC 3376 IGMPv3 |
| | RFC 3416 (SNMP Protocol Operations v2) |
| | RFC 3417 (SNMP Transport Mappings) |
| | RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) |
| | RFC 3484 Default Address Selection for IPv6 |

| Organization | Standards and Protocols |
|---|---|
| | RFC 3509 Alternative Implementations of OSPF Area Border Routers |
| | RFC 3580 IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines |
| | RFC 3623 Graceful OSPF Restart |
| | RFC 3768 Virtual Router Redundancy Protocol (VRRP) |
| | RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6 |
| | RFC 3973 PIM Dense Mode |
| | RFC 4022 MIB for TCP |
| | RFC 4113 MIB for UDP |
| | RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers |
| | RFC 4251 The Secure Shell (SSH) Protocol |
| | RFC 4252 SSHv6 Authentication |
| | RFC 4253 SSHv6 Transport Layer |
| | RFC 4254 SSHv6 Connection |
| | RFC 4271 A Border Gateway Protocol 4 (BGP-4) |
| | RFC 4273 Definitions of Managed Objects for BGP-4 |
| | RFC 4291 IP Version 6 Addressing Architecture |
| | RFC 4292 IP Forwarding Table MIB |
| | RFC 4293 Management Information Base for the Internet Protocol (IP) |
| | RFC 4360 BGP Extended Communities Attribute |
| | RFC 4419 Key Exchange for SSH |
| | RFC 4443 ICMPv6 |
| | RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP) |
| | RFC 4486 Subcodes for BGP Cease Notification Message |
| | RFC 4541 IGMP & MLD Snooping Switch |
| | RFC 4552 Authentication/Confidentiality for OSPFv3 |
| | RFC 4601 PIM Sparse Mode |
| | RFC 4607 Source-Specific Multicast for IP |
| | RFC 4724 Graceful Restart Mechanism for BGP |
| | RFC 4750 OSPFv2 MIB partial support no SetMIB |
| | RFC 4760 Multiprotocol Extensions for BGP-4 |

| Organization | Standards and Protocols |
|---|---|
| | RFC 4861 IPv6 Neighbor Discovery |
| | RFC 4862 IPv6 Stateless Address Auto-configuration |
| | RFC 4940 IANA Considerations for OSPF |
| | RFC 5059 Bootstrap Router (BSR) Mechanism for PIM, PIM WG |
| | RFC 5065 Autonomous System Confederation for BGP |
| | RFC 5095 Deprecation of Type 0 Routing Headers in IPv6 |
| | RFC 5187 OSPFv3 Graceful Restart |
| | RFC 5340 OSPFv3 for IPv6 |
| | RFC 5424 Syslog Protocol |
| | RFC 5492 Capabilities Advertisement with BGP-4 |
| | RFC 5519 Multicast Group Membership Discovery MIB (MLDv2 only) |
| | RFC 5798 VRRP (exclude Accept Mode and sub-sec timer) |
| | RFC 5880 Bidirectional Forwarding Detection |
| | RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification |
| | RFC 6620 FCFS SAVI |
| | RFC 6987 OSPF Stub Router Advertisement |
| | RFC6020 YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF) |
| | RFC7348 Virtual eXtensible Local Area Network (VXLAN): A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks |
| | RFC7432 BGP MPLS-Based Ethernet VPN |
| | RFC4664 Framework for Layer 2 Virtual Private Networks (L2VPNs) |
| | RFC4665 Service Requirements for Layer 2 Provider Provisioned Virtual Private Networks |
| | RFC4761 Virtual Private LAN Service (VPLS) Using BGP for Auto-Discovery and Signaling |
| | RFC4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling |
| | RFC5120 M-ISIS: Multi Topology (MT) Routing in Intermediate System to Intermediate Systems (IS-ISs) |
| | RFC5280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile |
| | RFC5308 Routing IPv6 with IS-IS |

| Organization | Standards and Protocols |
|---|---|
| | RFC5381 Experience of Implementing NETCONF over SOAP |
| | RFC5415 Control and Provisioning of Wireless Access Points (CAPWAP) Protocol Specification |
| ITU | ITU-T Y.1731 |
| | ITU-T Rec G.8032/Y.1344 Mar. 2010 |

# Ordering Information

| Product ID | Product Description |
|---|---|
| LS-6520X-30QC-EI-GL | H3C S6520X-30QC-EI-GL L3 Ethernet Switch (24SFP Plus+2QSFP Plus+2Slot), No Power |
| LS-6520X-54QC-EI-GL | H3C S6520X-54QC-EI-GL L3 Ethernet Switch (48SFP Plus+2QSFP Plus+2Slot), No Power |
| LS-6520X-30HC-EI-GL | H3C S6520X-30HC-EI-GL L3 Ethernet Switch (24SFP Plus+2QSFP28+2Slot), No Power |
| LS-6520X-54HC-EI-GL | H3C S6520X-54HC-EI-GL L3 Ethernet Switch (48SFP Plus+2QSFP28+2Slot), No Power |
| LS-6520X-30HF-EI-GL | H3C S6520X-30HF-EI-GL L3 Ethernet Switch (24SFP Plus+6QSFP28), No Power |
| LS-6520X-54HF-EI-GL | H3C S6520X-54HF-EI-GL L3 Ethernet Switch (48SFP Plus+6QSFP28), No Power |
| S6520X-54HC-UPWR-EI-GL | H3C S6520X-54HC-UPWR-EI-GL, L3 Ethernet Switch(24*10GBase-T(PoE++) +4*QSFP28+1E-Slot+1Slot), (Without Power Supplies) |
| **Fan** | |
| LSWM1FANSCE | Ethernet Switch Fan Module(Power to Port Airflow) |
| LSWM1FANSCBE | Ethernet Switch Fan Module(Port to Power Airflow) |
| LSPM1FANSA-SN | H3C Fan Module (Fan Panel Side Intake Airflow) |
| LSPM1FANSB-SN | H3C Fan Module (Fan Panel Side Exhaust Airflow) |
| **Power supply** | |
| PSR250-12A-GL | 250W AC Power Supply Module |
| PSR250-12A1-GL | 250W AC Power Supply Module |
| PSR450-12D | 450W DC Power Supply Module |
| PSR180-12A-F | 180W Asset-Manageable AC Power Supply Module (Power Panel Side Intake Airflow) |
| PSR180-12A-B | 180W Asset-Manageable AC Power Supply Module (Power Panel Side Exhaust Airflow) |
| PSR600-54A-B | 600W AC Power Supply module (only for S6520X-54HC-UPWR-EI) |
| PSR920-54A-B | 920W AC Power Supply module (only for S6520X-54HC-UPWR-EI) |

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|---|---|
| PSR1600-54A-B | 1600W AC Power Supply module (only for S6520X-54HC-UPWR-EI) |
| **Modules** | |
| LSWM124SFPP | 24 Ports SFP Plus Ethernet Optical Interface Module (only for S6520X-54HC-UPWR-EI) |
| LSWM124MUPWR | 24 Ports 1G/2.5G/5G/10G BASE-T PoE++ Ethernet Copper Interface Module (only for S6520X-54HC-UPWR-EI) |
| LSWM2QP2P | 2-Port 40G QSFP Plus Interface Card |
| LSWM2SP2PB | 2-Port 10G SFP Plus Ethernet Optical Interface Module |
| LSWM2SP4PB | 4-Port 10G SFP Plus Ethernet Optical Interface Module |
| LSWM2MGT8P | 8-Port 1/2.5/5G BASE-T Ethernet Copper Interface Module |
| LSWM2XMGT8P | 8-Port 1/2.5/5/10G BASE-T Ethernet Copper Interface Module |
| LSWM2ZSP2P | 2-Port 25G SFP28 Ethernet Optical Interface Module |
| LSWM4SP8PM | 8-Port 10G SFP Plus with MACSec Interface Module |
| LSWM2ZSP8P | 8-Port 25G SFP28 Interface Module |
| LSWM2ZQP2P | 2-Port 100G QSFP28 Interface Module |
| **Wireless license** | |
| LIS-WX-128-BE | Enhanced Access Controller License,128 APs |
| LIS-WX-32-BE | Enhanced Access Controller License,32 APs |
| LIS-WX-16-BE | Enhanced Access Controller License,16 APs |
| LIS-WX-8-BE | Enhanced Access Controller License,8 APs |
| LIS-WX-1-BE | Enhanced Access Controller License,1 AP |
| **Transceivers** | |
| SFP-GE-SX-MM850-A | 1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC) |
| SFP-GE-LX-SM1310-A | 1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC) |
| SFP-GE-LH40-SM1310 | 1000BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC) |
| SFP-GE-LH40-SM1550 | 1000BASE-LH40 SFP Transceiver, Single Mode (1550nm, 40km, LC) |
| SFP-GE-LH80-SM1550 | 1000BASE-LH80 SFP Transceiver, Single Mode (1550nm, 80km, LC) |
| SFP-GE-LH100-SM1550 | 1000BASE-LH100 SFP Transceiver, Single Mode (1550nm, 100km, LC) |
| SFP-GE-LX-SM1310-BIDI | 1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1310/RX1490, 10km, LC) |
| SFP-GE-LX-SM1490-BIDI | 1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1490/RX1310, 10km, LC) |
| SFP-GE-T | 1000BASE-T SFP |
| SFP-XG-LH40-SM1550 | SFP+ Module (1550nm,40km, LC) |

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|---|---|
| SFP-XG-LX-SM1310-E | SFP+ Module (1310nm,10km, LC) |
| SFP-XG-SX-MM850-E | SFP+ Module (850nm,300m, LC) |
| SFP-25G-SR-MM850 | 25G SFP28 Optical Transceiver Module (850nm,100m,SR,MM,LC) |
| QSFP-40G-LR4-WDM1300 | 40GBASE-LR4 QSFP+ Optical Transceiver Module |
| QSFP-40G-CSR4-MM850 | QSFP+ 40GBASE Optical Transceiver Module (850nm,300m,CSR4,Support 40G to 4*10G) |
| QSFP-40G-SR4-MM850 | QSFP+ 40GBASE Optical Transceiver Module (850nm,100m, SR4,Support 40G to 4*10G) |
| QSFP-100G-SR4-MM850 | 100G QSFP28 Optical Transceiver Module (850nm,100m OM4,SR4,MPO) |
| QSFP-100G-LR4-WDM1300 | 100G QSFP28 Optical Transceiver Module(1310nm,10km,LR4,WDM,LC) |
| QSFP-100G-LR4L-WDM1300 | 100G QSFP28 Optical Transceiver Module (1310nm,2km,LR4L,CWDM4,LC) |
| **Cables** | |
| CAB-CON-1.8m | Single Cable, Console Serial Port Cable,1.8m,D9F,28UL20276(4P)(P296U),MPH-8P8C |
| LSWM1STK | SFP+ Cable 0.65m |
| LSWM2STK | SFP+ Cable 1.2m |
| LSWM3STK | SFP+ Cable 3m |
| SFP-25G-D-CAB-1M | 25G SFP28 to 25G SFP28 1m Passive Cable |
| SFP-25G-D-CAB-3M | 25G SFP28 to 25G SFP28 3m Passive Cable |
| SFP-25G-D-CAB-5M | 25G SFP28 to 25G SFP28 5m Passive Cable |
| LSWM1QSTK0 | 40G QSFP+ Cable 1m |
| LSWM1QSTK1 | 40G QSFP+ Cable 3m |
| LSWM1QSTK2 | 40G QSFP+ Cable 5m |
| LSWM1QSTK3 | 40G QSFP+ to 4x10G SFP+ Cable 1m |
| LSWM1QSTK4 | 40G QSFP+ to 4x10G SFP+ Cable 3m |
| LSWM1QSTK5 | 40G QSFP+ to 4x10G SFP+ Cable 5m |
| QSFP-100G-D-CAB-1M | 100G QSFP28 to 100G QSFP28 1m Passive Cable |
| QSFP-100G-D-CAB-3M | 100G QSFP28 to 100G QSFP28 3m Passive Cable |
| QSFP-100G-D-CAB-5M | 100G QSFP28 to 100G QSFP28 5m Passive Cable |
| QSFP-100G-4SFP-25G-CAB-1M | 100G QSFP28 to 4x25G SFP28 1m Passive Cable |
| QSFP-100G-4SFP-25G-CAB-3M | 100G QSFP28 to 4x25G SFP28 3m Passive Cable |

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|---|---|
| QSFP-100G-4SFP-25G-CAB-5M | 100G QSFP28 to 4x25G SFP28 5m Passive Cable |
| QSFP-100G-D-AOC-7M | 100G QSFP28 to 100G QSFP28 7m Active Optical Cable |
| QSFP-100G-D-AOC-10M | 100G QSFP28 to 100G QSFP28 10m Active Optical Cable |
| QSFP-100G-D-AOC-20M | 100G QSFP28 to 100G QSFP28 20m Active Optical Cable |
| OP-MPO8-8LC-10-M | Fiber Connector,MPO(8 core)/PC,8LC/PC(0.5m),Multimode(OM3),3.0mm,10.0m |
| OP-MPO8-MPO8-10-M | Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,10.0m |
| OP-MPO8-MPO8-50-M | Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,50.0m |
| OP-MPO8-MPO8-100-M | Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,100.0m |
| OP-MPO8-MPO8-200-M | Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,200.0m |



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