



# NSS5820 48-Port 10G TOR Switch Datasheet

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*Maipu Communication Technology Co., Ltd*  
No. 16, Jiuxing Avenue  
Hi-Tech Park  
Chengdu, Sichuan Province  
P. R. China  
610041  
Tel: (86) 28-85148850, 85148041  
Fax: (86) 28-85146848, 85148139  
URL: [http:// www.maipu.com](http://www.maipu.com)  
Mail: [overseas@maipu.com](mailto:overseas@maipu.com)

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*Maipu Communication Technology Co., Ltd*  
No. 16, JiuXing Avenue, Hi-Tech Park  
Chengdu, Sichuan Province  
P. R. China  
610041  
Tel: (86) 28-85148850, 85148041  
Fax: (86) 28-85146848, 85148139  
URL: [http:// www.maipu.com](http://www.maipu.com)  
Mail: [overseas@maipu.com](mailto:overseas@maipu.com)

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# Overview

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## NSS5820 Self-controlled 10G switch

After “Prism Door” event, many industries involved in the national economy and people’s livelihood start to pay more and more attention to the network security, the devices of the foreign brand are gradually replaced, and the application and deployment of the domestic self-controlled switch are increasingly favored by various industries.

NSS5820 series self-controlled 10G switch developed by Maipu for the industry with the high requirement for the security is one new-generation multi-service high-performance Ethernet switch based on the domestic CPU and switching chip. As for the network aggregation, the server access of the data center and other scenarios, NSS5820 provides the secure, self-controllable, stable, and reliable high-performance L2/L3 switching service from the chip to the hardware and software.

NSS5820 series self-controlled 10G switch is named NSS5820-54XF.

NSS5820-54XF has fixed 48SFP+optical interface (support 10G, gigabit interface), six QSFP optical interfaces (support 40G interface), one USB interface, one DC0 management Ethernet interface, one RJ45 console port, four modular fan slots, and two modular power slots.

# Product Features

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## **1. Self-controlled CPU and switching chip design, secure and self-controllable**

Maipu adopts the new-generation self-controlled CPU chip and high-integrated high-performance switching chip to develop the new-generation high-performance, high-reliability, and self-controllable Ethernet switch, meeting the demand of the government and other customers for deploying the secure controllable network, providing the multi-service, secure and controllable integrated solution for the user, and ensuring the security requirement of the user network from the chip to hardware and software.

## **2. Self-operating system software of the switch, stable, secure and reliable**

NSS self-operating system is mature and stable, integrating Maipu's 15-year software technology experience of serving the finance and carrier and tested by nearly one million online running devices. Maipu self-controlled switch operation system has the independent IPR and has passed the vulnerability scan test of the information security product test center of Public Security Ministry. The operation system is secure and reliable.

## **3. Dual-plane encryption of the control plane and management plane, ensuring the network security effectively**

SSH login various mainstream encryption algorithms, including switch configuration file and log file, preventing the device from being cracked and the management data from being stolen, making the switch management plane secure and reliable. The common control protocols of the device, such as MSTP, RIP and OSPF, support encrypting the protocol packet, ensuring that the network topology protocol is not leaked. Support the trustable device authentication, and adopt the 802.1X authentication for the switch device connected to the network to judge the validity of the access device, preventing the invalid device from being connected to the network and making the switch control plane secure and reliable.

#### **4. Rich L2/L3 protocols, meeting the aggregation requirement of the complicated network**

Completely support the L2 and L3 protocols; support 802.1d/w/s spanning protocol, support 802.1q, 802.1p, 802.3ad, 802.1x, DHCP, NTP and other protocols; support the IGMP, PIM and other multicast protocols. Support the static routing, OSPF, BGP and other routing protocols, applicable to the complicated network and fully meeting the aggregation requirement of the complicated network.

# Product Specification

<b>Hardware specification</b>		
Product model	NSS5820-54XF	
Physical port	48 10G SFP+ optical interfaces, six 40G QSFP optical interfaces	
Management interface	One Console port, one DC0 management Ethernet interface, one USB interface	
Memory	2G	
Switch capacity	1.44Tbps	
Throughput	1071Mpps	
Max. capacity of MAC table	96K	
MTTF	80,000 hours	
VLAN	4K	
Dimension (W×D×H)(mm)	440×560×44.2	
AC input (AC)	100-240V, 50/60Hz	
Power consumption (MAX)	200W	
Work temperature	0-45°C	
Work humidity	10-90% no-condensing	
<b>Software features</b>		
Link-layer protocol and technology	LAN	Static MAC configuration; black-hole MAC
		Dynamic and static ARP, proxy ARP, free ARP
		Ethernet, Ethernet II, VLAN, 802.1x, 802.1p, 802.1q
		Support the VLAN based on the port, MAC, protocol, and IP subnet; support VLAN mapping
		STP/RSTP/MSTP
		IEEE802.3ad , QinQ
		Multi-to-one port mirroring, remote port mirroring RSPAN, flow mirroring
Network protocol	Routing protocol	Static route
		RIP
		OSPF
		BGP
		Equivalent route
	Multicast protocol	IGMP v1/v2/v3, IGMP Snooping
		PIM-DM, PIM-SM/SSM

	IP application	DHCP Server, DHCP Client, DHCP Relay, DHCP Snooping, Option 82
		DNS
		FTP Server, FTP Client
		Ping, TraceRoute
		UDP Helper, NTP
MPLS	MPLS L3 VPN	Support two cross-domain MPLS VPN mode (OptionA/OptionB)
	MCE	MCE
Virtualization	Virtualization function	Support the longitudinal virtualization
Network security	Port	Port security, port isolation
	ARP	ARP Guard, DAI, static ARP binding, ARP Proxy, free ARP
	ACL	Standard IP ACL, extended IP ACL, standard MAC ACL, IPv6 ACL, advanced ACL
	Security protection	Control plane protection, URPF, protocol encryption, configuration file encryption
	DDOS anti-attack	ICMP Flood intercepting, Smurf attack intercepting, Fraggle attack intercepting, LAND attack intercepting, SYN Flood attack intercepting
	Authentication	Local authentication, Radius, Tacacs+, AAA 802.1x authentication
QoS	Flow classification	Based on the port, MAC address, IP address, IP priority, DSCP priority, TCP/UDP port number, protocol type and so on
	Traffic monitoring	CAR
	Congestion management	SP, WDRR, SP+WDRR
	Congestion avoidance	WRED
	Link reliable	Support BFD for BGP/OSPF and so on
		Support Keepalive Gateway
Support VRRP		
Device management	Network management	SNMP v1/v2/v3, MIB, RMON, SYSLOG
	System management	Console port login management, Telnet (VTY) remote, SSH management, WEB management



# Order Information

Product Model	Description
NSS5820 host	
NSS5820-54XF	Fixed 48 SFP+ optical interfaces (support 10G, gigabit interface), six QSFP optical interfaces (support the 40G interface), four modular fan slots, two modular power slots
Fan power module	
NM58-FAN-B	Modular fan, support hot-swap, front-in and back-out flow direction, one device needs to be configured with four fans. It needs to be used with the —B power supply.
NM58-FAN-F	Modular fan, support hot-swap, front-in and back-out flow direction, one device needs to be configured with four fans. It needs to be used with the —F power supply.
AD250-1D006B-B	AC input 100-240V, or DC input 192~288V, 3.5A, output 12V/20.8A,5VSB/2A, isolation, current sharing, support hot-swap, outward ventilation. It needs to be used with —B fan.
AD250-1D006B-F	AC input 100-240V, or DC input 192~288V, 3.5A, output 12V/20.8A,5VSB/2A, isolation, current sharing, support hot-swap, inward ventilation. It needs to be used with —F fan.