



# USG20-VPN/USG20W-VPN

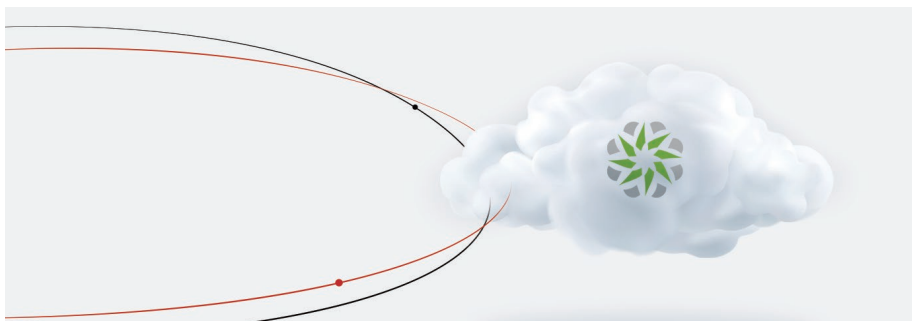
## VPN Firewall

The latest USG20-VPN/USG20(W)-VPN is equipped with one single cloud management platform while strengthening the robust VPN connections across the branch offices and chain stores with an easy-to-use, integrated security solution designed specifically for your needs. USG20(W)-VPN delivers the best-of-breed protection without the cost or complexity.

### Benefits

#### Nebula Together

The USG20-VPN/USG20W-VPN is now part of the Nebula cloud management family with the same easy management interface and streamlined configuration & updates. The network functions and management services are pushed to the cloud and are optimized for managing distributed networks.



Flexible to adapt to On Premises or Nebula cloud



Manage all distributed networks from one single screen



Web Filtering protects you from undesirable content



Device Insight provides better visibility and control



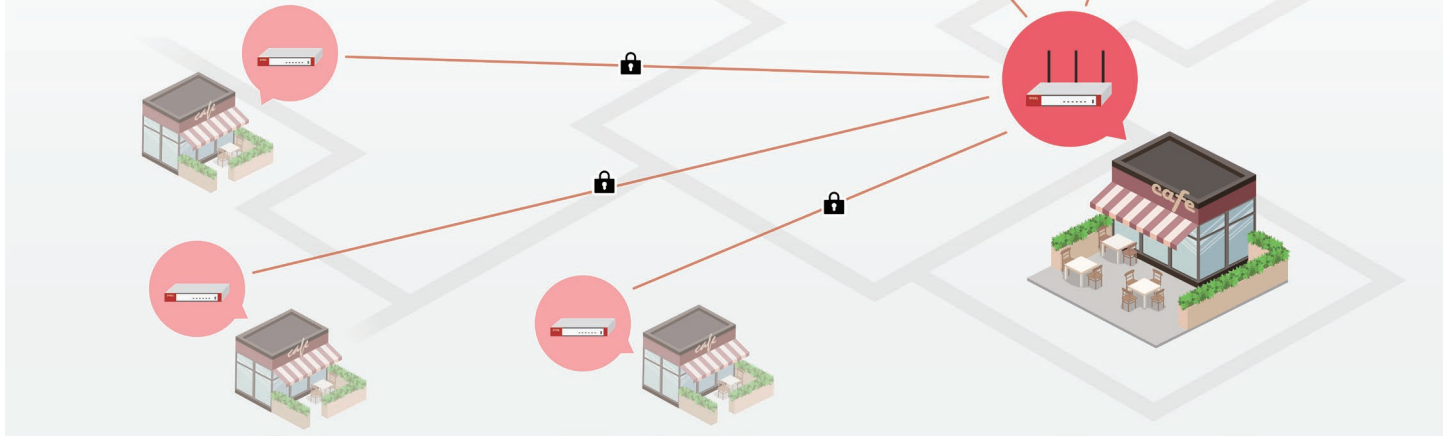
Analytics report and enhanced insights



## Secure Retail/Branch Network

The USG20-VPN/USG20W-VPN provides comprehensive VPN connection types including IKEv2, SSL & IPsec VPN. All offer customers secured remote connections. IPsec VPN hardware engine for high-efficiency VPN tunnel. VPN load balance/failover with IKEv2 ensures strong VPN reliability and security for your business.

The USG20-VPN/USG20W-VPN is designed specifically for the needs of small business and branch locations, delivering enterprise-class security. Advanced networking and security features like Web Filtering, Security Profile Sync, and SecuReporter improves security by blocking access to malicious or risky websites, along with controlled access with integrated firewall policy for highly granular blocking and filtering, creating a unified security solution for both wired and wireless networks.



## Centralized Provisioning from Nebula

With Zero-Touch deployment and simplified centralized management, installation and operation is no longer a hassle. After being registered to a network, the USG20-VPN/USG20W-VPN will automatically be discovered when it's connected, then the preconfigured settings are automatically applied.

The USG20-VPN/USG20W-VPN helps customers to comply with regulations by offering log archiving service without the need for additional hardware and software installation.

## All from One Place with Ease

From access points, switches, security gateways and firewalls, all Nebula devices are managed through the cloud using an intuitive interface that allows you to configure, manage, and troubleshoot all distributed networks from one single screen without the complexity of remote site access.

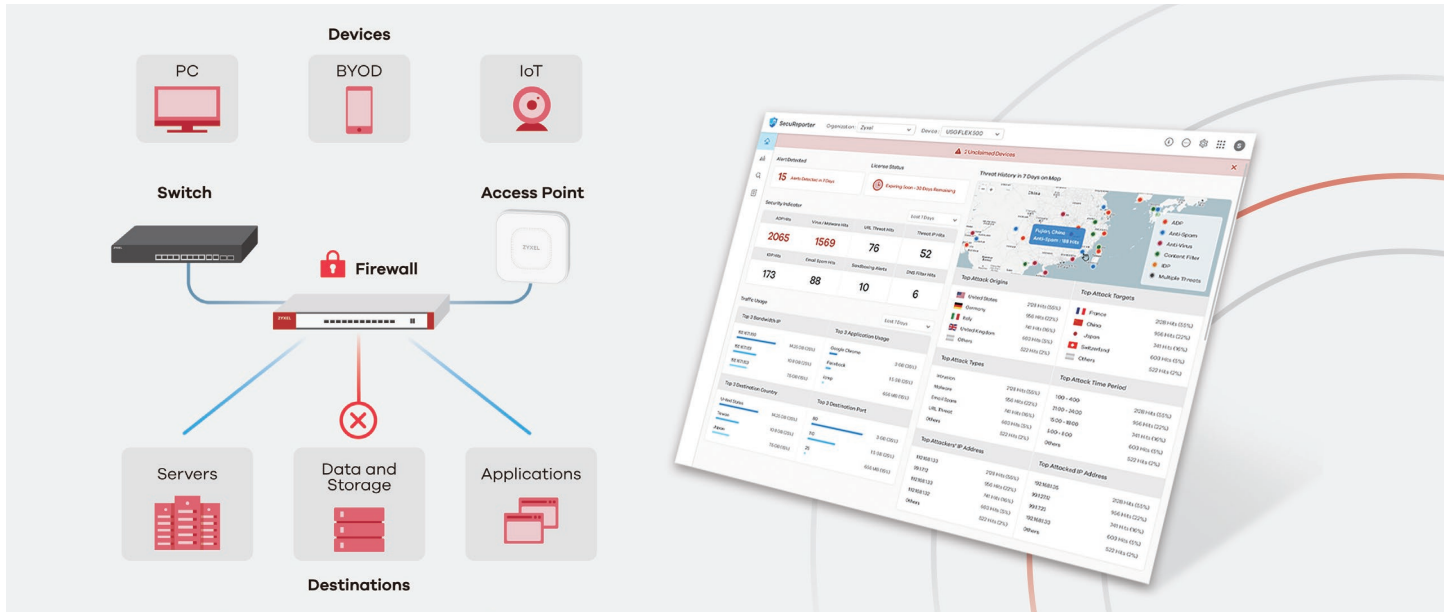
## Comprehensive Content Filtering Service

USG20-VPN/USG20W-VPN delivers enhanced content filtering functionality and security through its powerful combination of both reputation and category-based filtering. The dynamic content categorization analyzes the content of a previously unknown website and domain, then determines if it belongs to an undesirable category including gambling, pornography, games, and many others. A newly added DNS content filter offers a better approach to inspect web access, particularly when the website is deploying ESNI (Encrypted Server Name Indication) where the traditional URL filtering is not applicable to the destination domain.



## Deep Insight Into All Your Devices

Device Insight gives you more visibility of your networks including wired, wireless, BYOD, and IoT devices. Enable it to identify devices with distinct security segments down to individual level. Device insights also detect vulnerabilities that are associated with those devices. It helps SMB(s) to reduce the number of human hours spent on investigation. Continuing with our goal of providing our customers with increased visibility, Zyxel SecuReporter gives your organization comprehensive endpoint inventory dashboard.



## Analytics Report and Enhanced Insights

USG20-VPN/USG20W-VPN dashboard gives user-friendly traffic summary and threat visual statistics. Utilize SecuReporter for further threat analysis with correlation feature design, making it easy to proactively trackback network status to prevent the next threat event. Centralized visibility of network activities for you to easily manage multiple clients.

## Simplified Management Procedure

Managing complex configuration settings can be confusing and time-consuming. Zyxel USG20-VPN/USG20W-VPN provides an "easy mode" setting in the GUI for entry-level and SOHO users. Easy mode provides an icon-based feature set and attractive dashboard to simplify management and monitoring of the device. Application and function settings also have integrated wizards for user-friendly setup. Zyxel USG20-VPN/USG20W-VPN easy mode helps entry-level users and SOHO users effortlessly take advantage of high-speed and secure networking.

## Zyxel One Network Experience

Aiming for relieving our customers from repetitive operations of deploying and managing a network, Zyxel One Network is designed to simplify the configuration, management, and troubleshooting, allowing our customers to focus on the business priorities. Zyxel One Network presents an easy-to-use tool, Zyxel One Network Utility (ZON Utility), to realize speed network setup. Zyxel Smart Connect allows Zyxel networking equipment to be aware and recognize each other and further facilitating the network maintenance via one-click remote functions such as factory reset or power cycling. Zyxel One Network redefines the network integration across multiple networking products from switch to WiFi AP and to Gateway.



**Zyxel one network**  
Redefining network integration

## Licenses

### Licensed Pack

The USG20-VPN/USG20W-VPN provides an indispensable feature set to perfectly fit small business requirements as well as to gain essential security services needed to protect against cyberattacks. Nebula Control Center (NCC) offers multiple subscription options to meet customers' needs.

The Nebula Plus/Professional Pack gives you some peace of mind at more control over your network updates and visibility, or even the most advanced management of cloud networking.



● On Premises Feature Included

● Nebula Feature Included

	Service / Component	On Premises	On Cloud
<b>Content Filter Pack</b>	Web Filtering	●	●
	SecuReporter Premium	●	●
	Security Profile Sync		●
<b>Nebula Professional Pack</b>	Nebula Professional Pack Service		●
<b>Nebula Plus Pack</b>	Nebula Plus Pack Service		●

\*: Please contact your local customer service if you can't use your content filter license with Nebula.

## Specifications

Model	USG20-VPN	USG20W-VPN	
<b>Product photo</b>			
<b>Hardware Specifications</b>			
10/100/1000 Mbps RJ-45 ports	4 x LAN/DMZ, 1 x WAN, 1 x SFP	4 x LAN/DMZ, 1 x WAN, 1 x SFP	
USB ports	1	1	
Console port	Yes (RJ-45)	Yes (RJ-45)	
Rack-mountable	N/A	N/A	
Fanless	Yes	Yes	
<b>System Capacity &amp; Performance*1</b>			
SPI firewall throughput*2 (Mbps)	350	350	
VPN throughput (Mbps)	90	90	
VPN IMIX Throughput (Mbps)*3	40	40	
Max. TCP concurrent sessions*5	20,000	20,000	
Max. concurrent IPsec VPN tunnels*6	10	10	
Recommended gateway-to-gateway IPsec VPN tunnels	5	5	
Concurrent SSL VPN users	5 / 15	5 / 15	
VLAN interface	8	8	
<b>Speed Test Performance</b>			
SPI firewall throughput*9 (Mbps)	320	320	
<b>Key Features</b>			
<b>Security Service</b>	<b>Content Filtering*7</b>	Yes	Yes
	<b>SecuReporter Premium*7</b>	Yes	Yes
	<b>2-Factor Authentication</b>	Yes	Yes
	<b>Device Insight</b>	Yes	Yes
	<b>Security Profile Synchronize (SPS)*7</b>	Yes	Yes



Model		USG20-VPN	USG20W-VPN
<b>Key Features</b>			
<b>VPN Features</b>	<b>VPN</b>	IKEv2, IPSec, SSL, L2TP/IPSec	IKEv2, IPSec, SSL, L2TP/IPSec
	<b>Microsoft Azure</b>	Yes	Yes
	<b>Amazon VPC</b>	Yes	Yes
<b>Connectivity Management</b>	<b>Nebula Cloud Managed Mode</b>	Yes	Yes
	<b>EZ Mode</b>	Yes	Yes
	<b>Concurrent devices logins*8</b>	64	64
	<b>Facebook Wi-Fi</b>	Yes	Yes
<b>Power Requirements</b>			
<b>Power input</b>		12V DC, 2.0 A max.	12V DC, 2.0 A max.
<b>Max. power consumption (Watt Max.)</b>		12	18
<b>Heat dissipation (BTU/hr)</b>		40.92	61.38
<b>Physical Specifications</b>			
<b>Item</b>	<b>dimensions (WxDxH) (mm/in.)</b>	216 x 143 x 33 / 8.50 x 5.63 x 1.30	216 x 143 x 33 / 8.50 x 5.63 x 1.30
	<b>weight (kg/lb.)</b>	0.88 / 1.94	0.94 / 2.06 (Antenna included)
	<b>Packing</b>		
<b>Item</b>	<b>dimensions (WxDxH) (mm/in.)</b>	276 x 185 x 98 / 10.87 x 7.28 x 3.86	276 x 185 x 98 / 10.87 x 7.28 x 3.86
	<b>weight (kg/lb.)</b>	1.41 / 3.11	1.50 / 3.31
	<b>Included accessories</b>	<ul style="list-style-type: none"> <li>• Power adapter</li> <li>• RJ-45 - RS-232 cable for console connection</li> </ul>	<ul style="list-style-type: none"> <li>• Power adapter</li> <li>• RJ-45 - RS-232 cable for console connection</li> <li>• Antenna</li> </ul>
<b>Environmental Specifications</b>			
<b>Operating environment</b>	<b>Temperature</b>	0°C to 40°C / 32°F to 104°F	0°C to 40°C / 32°F to 104°F
	<b>Humidity</b>	10% to 90% (non-condensing)	10% to 90% (non-condensing)
<b>Storage environment</b>	<b>Temperature</b>	- 30°C to 70°C / - 22°F to 158°F	- 30°C to 70°C / - 22°F to 158°F
	<b>Humidity</b>	10% to 90% (non-condensing)	10% to 90% (non-condensing)
<b>MTBF (hr)</b>		655130	655130
<b>Certifications</b>			
<b>EMC</b>		FCC Part 15 (Class B), IC, CE EMC (Class B), RCM, BSMI	FCC Part 15 (Class B), IC, CE EMC (Class B), RCM, BSMI
<b>Safety</b>		BSMI, UL	BSMI, UL

\*: This matrix with firmware ZLD5.2 or later.

\*1: Actual performance may vary depending on system configuration, network conditions, and activated applications.

\*2: Maximum throughput based on RFC 2544 (1,518-byte UDP packets).

\*3: VPN throughput measured based on RFC 2544 (1,424-byte UDP packets); IMIX: UDP throughput based on a combination of 64 byte, 512 byte and 1424 byte packet sizes.

\*4: Anti-malware (with Express Mode) and IPS throughput measured using the industry standard HTTP performance test (1,460-byte HTTP packets) Testing done with multiple flows.

\*5: Maximum sessions measured using the industry standard IXIA IxLoad testing tool

\*6: Including Gateway-to-Gateway and Client-to-Gateway.

\*7: With Zyxel service license to enable or extend the feature capacity.

\*8: This is the recommend maximum number of concurrent logged-in devices.

\*9: The Speedtest result is conducted with 1Gbps WAN link in real world and it is subject to fluctuate due to quality of the ISP link.

## Wireless Specifications

Model	USG20W-VPN	
Standard compliance	802.11 a/b/g/n/ac	
Wireless frequency	2.4 GHz/5 GHz	
Radio	1	
SSID number	4	
Maximum transmit power (Max. total channel)	US (FCC) 2.4 GHz: 25 dBm, 3 antennas	
	US (FCC) 5 GHz: 25 dBm, 3 antennas	
	EU (ETSI) 2.4 GHz: 20 dBm (EIRP), 3 antennas	
	EU (ETSI) 5 GHz: 20 dBm (EIRP), 3 antennas	
No. of antenna	3 detachable antennas	
Antenna gain	<ul style="list-style-type: none"> <li>• 2 dBi @2.4 GHz</li> <li>• 3 dBi @5 GHz</li> </ul>	
Data rate	<ul style="list-style-type: none"> <li>• 802.11n: Up to 450 Mbps</li> <li>• 802.11ac: Up to 1300 Mbps</li> </ul>	
Frequency band	<b>2.4 GHz (IEEE 802.11 b/g/n):</b> <ul style="list-style-type: none"> <li>• USA (FCC): 2.412 to 2.462 GHz</li> <li>• Europe (ETSI): 2.412 to 2.472 GHz</li> <li>• TWN (NCC): 2.412 to 2.462 GHz</li> </ul>	<b>5 GHz (IEEE 802.11 a/n/ac):</b> <ul style="list-style-type: none"> <li>• USA (FCC): 5.150 to 5.250 GHz; 5.250 to 5.350 GHz; 5.470 to 5.725 GHz; 5.725 to 5.850 GHz</li> <li>• Europe (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz</li> <li>• TWN (NCC): 5.15 to 5.25 GHz; 5.25 to 5.35 GHz; 5.470 to 5.725 GHz; 5.725 to 5.850 GHz</li> </ul>
Receive sensitivity	<b>2.4 GHz:</b> <ul style="list-style-type: none"> <li>• 11 Mbps ≤ -87 dBm</li> <li>• 54 Mbps ≤ -77 dBm</li> <li>• HT20 ≤ -71 dBm</li> <li>• HT40 ≤ -68 dBm</li> </ul>	<b>5 GHz:</b> <ul style="list-style-type: none"> <li>• 54 Mbps ≤ -74 dBm</li> <li>• HT40, MCS23 ≤ -68 dBm</li> <li>• VHT40, MCS9 ≤ -62 dBm</li> <li>• HT20, MCS23 ≤ -71 dBm</li> <li>• VHT20, MCS8 ≤ -66 dBm</li> <li>• VHT80, MCS9 ≤ -59 dBm</li> </ul>

## Software Features

### Security Service

#### Firewall

- ICSA-certified corporate firewall
- Routing and transparent (bridge) modes
- Stateful packet inspection
- SIP NAT traversal
- H.323 NAT traversal<sup>\*1</sup>
- ALG support for customized ports
- Protocol anomaly detection and protection
- Traffic anomaly detection and protection
- Flooding detection and protection
- DoS/DDoS protection

#### Web Filtering

- HTTPs domain filtering
- SafeSearch support
- Allow List websites enforcement
- URL Block and Allow List with keyword blocking
- Customizable warning messages and redirect URL
- Customizable Content Filtering block page

- URL categories increased to 111
- CTIRU (Counter-Terrorism Internet Referral Unit) support
- Support DNS base filtering (domain filtering)

#### Geo Enforcer

- Geo IP blocking
- Geographical visibility on traffics statistics and logs
- IPv6 address support<sup>\*2</sup>

#### Device Insight<sup>\*1</sup>

- Agentless Scanning for discovery and classification of devices
- Provide the dashboard to view all devices on the network, including wired, wireless, BYOD, IoT, and SecuExtender (remote endpoint)
- Extended view of the inventory on SecuReporter
- Visibility of network devices (switches, wireless access points, firewalls) from Zyxel or 3rd party vendors

### VPN

#### IPSec VPN

- Encryption: DES, 3DES, AES (256-bit)
- Authentication: MD5, SHA1, SHA2 (512-bit)
- Support Route-based VPN Tunnel Interface (VTI)
- Key management: IKEv1 (x-auth, mode-config), IKEv2 (EAP, configuration payload)
- Perfect forward secrecy (DH groups) support 1, 2, 5, 14, 15-18, 20-21
- IPSec NAT traversal (NAT-T)
- Dead Peer Detection (DPD) and relay detection
- PSK and PKI (X.509) certificate support
- VPN concentrator
- Route-based VPN Tunnel Interface (VTI)
- VPN auto-reconnection
- VPN high availability (Failover, LB)
- L2TP over IPSec
- GRE and GRE over IPSec
- NAT over IPSec

- SecuExtender Zero Trust VPN Client provisioning
- Support native Windows, iOS/macOS and Android (StrongSwan) client provision\*<sup>1</sup>
- Support 2FA Email/SMS\*<sup>1</sup>
- Support 2FA Google Authenticator

### SSL VPN

- Supports Windows and macOS
- Supports full tunnel mode
- Supports 2-Factor authentication

## Networking

### Mobile Broadband\*<sup>1</sup>

- WAN connection failover via 3G and 4G\* USB modems
- Auto fallback when primary WAN recovers

### IPv6 Support\*<sup>1</sup>

- Dual stack
- IPv4 tunneling (6rd and 6to4 transition tunnel)
- IPv6 addressing
- DNS, DHCPv6 server/client
- Bridge
- VLAN
- PPPoE
- Static/Policy route
- Session control
- Firewall and ADP
- IPSec (IKEv2 6in6, 4in6, 6in4)
- Content Filtering

### Connection

- Routing mode
- Bridge mode and hybrid mode\*<sup>1</sup>
- Ethernet and PPPoE
- NAT and PAT
- NAT Virtual Server Load Balancing
- VLAN tagging (802.1Q)
- Virtual interface (alias interface)
- Policy-based routing (user-aware)\*<sup>1</sup>
- Policy-based NAT (SNAT)
- Dynamic routing (RIPv1/v2 and OSPF, BGP)\*<sup>1</sup>
- DHCP client/server/relay
- Dynamic DNS support
- WAN trunk for more than 2 ports
- Per host session limit
- Guaranteed bandwidth
- Maximum bandwidth
- Priority-bandwidth utilization
- Bandwidth limit per user
- Bandwidth limit per IP
- GRE\*<sup>1</sup>
- BGP

## Management

### Nebula Cloud Management\*<sup>2</sup>

- Unlimited Registration & Central Management (Configuration, Monitoring, Dashboard, Location Map & Floor Plan Visual) of Nebula Devices
- Zero Touch Auto-Deployment of Hardware/Configuration from Cloud
- Over-the-air Firmware Management
- Central Device and Client Monitoring (Log and Statistics Information) and Reporting
- Security Profile Sync

### Authentication

- Local user database
- Cloud user database\*<sup>2</sup>
- Built-in user database
- External user database: Microsoft Windows Active Directory, RADIUS, LDAP
- IEEE 802.1x authentication
- Captive portal Web authentication
- XAUTH, IKEv2 with EAP VPN authentication
- Web-based authentication
- Forced user authentication (transparent authentication)
- IP-MAC address binding
- SSO (Single Sign-On) support\*<sup>1</sup>
- Supports 2-factor authentication
  - Google Authenticator
  - SMS/Email

### System Management

- Role-based administration
- Multiple administrator logins
- Supports Cloud Helper
- Multi-lingual Web GUI (HTTPS and HTTP)
- Command line interface (console, Web console, SSH and telnet)\*<sup>1</sup>
- SNMP v1, v2c, v3
- System configuration rollback\*<sup>1</sup>
- Configuration auto backup\*<sup>1</sup>
- Firmware upgrade via FTP, FTP-TLS, and web GUI\*<sup>1</sup>
- Dual firmware images
- Cloud CNM SecuManager\*<sup>1</sup>

### Logging/Monitoring

- Comprehensive local logging
- Syslog (send to up to 4 servers)
- Email alerts (send to up to 2 servers)
- Real-time traffic monitoring
- System status monitoring
- Built-in daily report
- Cloud CNM SecuReporter

## Zyxel One Network

- ZON Utility
  - IP configuration
  - Web GUI access
  - Firmware upgrade
  - Password configuration
- Smart Connect
  - Location and System Name update
  - Discover neighboring devices
  - One-click remote management access to the neighboring Zyxel devices

## Subscription Services

- Content Filter Pack
  - Web Filtering
  - SecuReporter Premium
  - Security Profile Sync
- Nebula Professional Pack
- Nebula Plus Pack

\*: For specific models supporting the 3G and 4G dongles on the list, please refer to the Zyxel product page at 3G dongle document

\*<sup>1</sup>: Only supported in On-Premise mode

\*<sup>2</sup>: Only supported in Cloud mode

## Accessories

### Transceivers (Optional)

Model	Speed	Connector	Wavelength	Max. Distance	Optical Fiber Type	DDMI
<b>SFP10G-SR*</b>	10-Gigabit SFP+	Duplex LC	850 nm	300 m/ 328 yd	Multi Mode	Yes
<b>SFP10G-LR*</b>	10-Gigabit SFP+	Duplex LC	1310 nm	10 km/ 10936 yd	Single Mode	Yes
<b>SFP-1000T</b>	Gigabit	RJ-45	-	100 m/ 109 yd	Multi Mode	-
<b>SFP-LX-10-D</b>	Gigabit	Single LC	1310 nm	10 km/ 10936 yd	Single Mode	Yes
<b>SFP-SX-D</b>	Gigabit	Single LC	850 nm	500 m/ 601 yd	Multi Mode	Yes
<b>SFP-BX1310-10-D*1</b>	Gigabit	Single LC	1310 nm(TX) 1490 nm(RX)	10 km/ 10936 yd	Single Mode	Yes
<b>SFP-BX1490-10-D*1</b>	Gigabit	Single LC	1490 nm(TX) 1310 nm(RX)	10 km/ 10936 yd	Single Mode	Yes

\*:only USG2200 series supports 10-Gigabit SFP+

\*1: SFP-BX1310-10-D & SFP-BX1490-10-D, SFP-BX1310-E & SFP-BX1550-E must be used in pairs.

Functions	Max. Distance	Optical Fiber Type	DDMI
<b>USG2200 Series</b>	300 m/328 yd	Multi Mode	Yes
<b>USG20-VPN/20W-VPN</b>	10 km/10936 yd	Single Mode	Yes
<b>ATP100/100W/200/500/700/800</b>	100 m/109 yd	Multi Mode	-
<b>USG FLEX 100/100W/200/500/700</b>	10 km/10936 yd	Single Mode	Yes
<b>VPN50/100/300/1000</b>	550 m/601 yd	Multi Mode	Yes
	10 km/10936 yd	Single Mode	Yes
	10 km/10936 yd	Single Mode	Yes

\*: Only USG2200 series supports 10-Gigabit SFP+

\*1: SFP-BX1310-10-D and SFP-BX1490-10-D are must used in pairs.

For more product information, visit us on the web at [www.zyxel.com](http://www.zyxel.com)

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