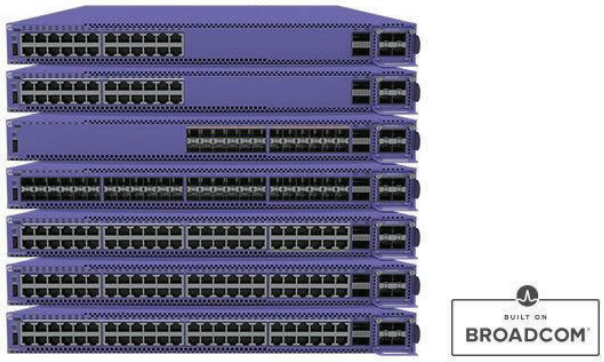
5520シリーズ

ハイライト

- ギガビットおよびマルチギガビットに対応した24ポートおよび48ポートの固定スイッチ
- ユニバーサルデュアルペルソナハードウェアによるオペレーティングシステム（OS）の選択
- 直感的で一元化されたクラウドベースのネットワーク管理
- ExtremeCloud™ IQ および ExtremeCloud IQ – Site Engine
- Extreme Fabric Connectによるファブリック対応運用で、シンプルでセキュアなネットワークプロビジョニングと自動化を実現
- 全モデルで前面から背面への冷却とAC電源入力が可能
- 特定のモデルでは、背面から前面への冷却とDC電源入力オプション
- ACおよびDC電源ユニット（PSU）対応SKU

主なハードウェアの特徴

- 10Gbおよび25Gbのモジュラー・アップリンクポートを選択可能
- 30W、60W、90WのPoEに対応し、接続機器への給電が可能
- 1台あたり200Gb、最大8台までスタッキング可能
- ホットスワップ可能な冗長電源とファン
- セキュアなリンク暗号化のため、アクセスポートとモジュラー・アップリンクポートにMACsecを搭載
- V300/V400エッジデバイスをサポートする拡張エッジスイッチング制御ブリッジ
- ノンブロッキング・ワイヤスピード設計



ユニバーサルエッジ/アグリゲーションスイッチプラットフォーム

5520シリーズは、次世代のデジタルエンタープライズ向けに設計された、高性能で機能豊富なエッジおよびアグリゲーションスイッチファミリです。24ポートおよび48ポートの1ギガビットモデル、1/2.5/5ギガビットマルチレートモデル、および24ポートの10ギガビットモデルで構成され、エンドツーエンドのセキュアなネットワークセグメンテーションと高度なポリシー機能を提供し、さまざまなエッジ、アグリゲーション、およびワイヤリングクロゼット環境に導入できます。5520はユニバーサルハードウェアプラットフォームで、Extreme Networksのフラッグシップスイッチ OSをユーザが選択可能で、他に類を見ない柔軟なプラットフォームを提供します。

5520は10Gbおよび25Gbのモジュラーアップリンクをサポートし、さまざまなメディアを介して他のスイッチやデバイスと柔軟にリンクできます。また、V300/V400エッジデバイスをサポートする拡張エッジスイッチング制御ブリッジも利用可能で、一部のモデルでは前面から背面または背面から前面への冷却を選択できます。5520シリーズは、30W、60W、90WのPoEを提供し、無線APの理想的な有線バックエンドとして、またはデジタルサイネージ、パンチルトズームカメラ、スマート照明、POS端末などの次世代パワードイーサネットデバイスをサポートします。

ユニバーサルハードウェアプラットフォーム

5520 はデュアルペルソナ機能を備えており、OS を選択することができます。Switch Engine(EXOS)[1] またはFabric Engine(VOSS)[2] OS は、スイッチ起動時に選択することも、後で変更することもできます。選択時に、スイッチはそのOSの機能と性能を引き継ぎます。

5520のOS選択は、ExtremeCloud IQで自動化することも可能で、スイッチ起動時に希望のOSを自動的にロードし、リモートからOSの有効化を容易にします。

[1] Switch Engineは、バージョン31.6以降、すべてのユニバーサルスイッチプラットフォームにおけるExtremeXOS（EXOS）の新しい名称です。

[2] Fabric Engineは、バージョン8.6以降、すべてのユニバーサルスイッチプラットフォームにおけるVSPオペレーティングシステムソフトウェア（VOSS）の新しい名称です。

クラウドベースのネットワーク管理

5520は、ExtremeCloud IQとExtremeCloud IQ – Site Engineでスイッチの集中管理を行うことができ、有線/無線ネットワーク全体のユーザ、デバイス、アプリケーションを統合して表示できるため、効率的なインベントリ管理とネットワークトポロジー管理が可能です。ExtremeCloud IQは、ゼロタッチプロビジョニングを可能にし、OSペルソナの選択だけでなく、新しい5520スイッチを迅速にオンラインにすることができます。

また、5520のオンボックス管理は、ウェブベースのGUIまたは汎用コマンドラインインターフェイス（CLI）を使用して手動で行うこともできます。

イーサネットファブリックサービス

5520は、Fabric Engine実行時にはExtreme NetworksのFabric Connectを、Switch Engine実行時にはExtreme Networks のIP Fabricを含む、さまざまなイーサネットファブリックサービスをサポートします。また、レイヤ2またはレイヤ3のファブリックサービスに自動接続するためのFabric Attachもサポートしています。

Extreme NetworksのFabric ConnectとIP Fabricは、ネットワーク運用の自動化、ネットワークプロビジョニングの簡素化、セキュリティの強化を実現する仮想化ネットワークの構築を可能にするとともに、ネットワーク担当者やIT担当者の負担を軽減します。

パワーオーバーイーサネット（PoE）

5520の全モデルは、IEEE 802.3bt準拠の30W、60W、90W PoEに対応します。これにより、パワードエッジデバイスのニーズに対応し、電気配線や回路を追加する必要がなくなります。さらに、5520 PoEモデルは、より効率的で信頼性の高いパワードエッジデバイス操作のための無停止型および高速PoEをサポートしています。

柔軟なアップリンクのためのVIMオプション

5520は、VIM（Versatile Interface Modules）をサポートし、1つのVIMスロットで柔軟なアップリンク機能を提供します。VIMオプションには、LRM(ロングリーチマルチモード)と256ビットMACsecサポートを含む4ポート10Gbまたは25Gbモジュールがあります。

高性能スタッキング

5520シリーズは、内蔵の2つのQSFP28スタッキングポートを使用してSwitch Engineを実行すると、高速200Gb*スタッキングをサポートします。メーカ認定のQSFP+ダイレクトアタッチケーブルと光トランシーバを使用して、最大8台のスイッチをスタックできます。

*Switch Engine31.6で利用可能な200Gbスタッキング

オーディオ・ビデオ・ブリッジング

5520シリーズは、Switch Engine OSを実行している場合、IEEE 802.1 オーディオ・ビデオ・ブリッジング（AVB）をサポートします。これは、5520モデルがイーサネットを介して信頼性の高いリアルタイムのオーディオ/ビデオ伝送を提供することを可能にし、今日の高精細、タイムセンシティブなマルチメディアストリームに必要なサービス品質を満たします。

External Interfaces

Switch Model	Interfaces

5520-24T	• 24 x 10/100/1000BASE-T ports
	  ◦ Full / Half-Duplex (autosensing)
	  ◦ MACsec-capable
	• 2 x Stacking/QSFP28 ports* (unpopulated)
	• 1 x Serial console port (RJ-45)
	• 1 x 10/100/1000BASE-T out-of-band management port
	• 2 x USB A ports for management or external USB flash
	• 1 x USB Micro-B console port
	• 1 x VIM slot

5520-24W	• 24 x 10/100/1000BASE-T 802.3bt (90W) ports
	  ◦ Full / Half-Duplex (autosensing)
	  ◦ MACsec-capable
	• 2 x Stacking/QSFP28 ports* (unpopulated)
	• 1 x Serial console port (RJ-45)
	• 1 x 10/100/1000BASE-T out-of-band management port
	• 2 x USB A ports for management or external USB flash
	• 1 x USB Micro-B console port
	• 1 x VIM slot

5520-48T	• 48 x 10/100/1000BASE-T ports
	  ◦ Full / Half-Duplex (autosensing)
	  ◦ MACsec-capable
	• 2 x Stacking/QSFP28 ports* (unpopulated)
	• 1 x Serial console port (RJ-45)
	• 1 x 10/100/1000BASE-T out-of-band management port
	• 2 x USB A ports for management or external USB flash
	• 1 x USB Micro-B console port
	• 1 x VIM slot

5520-48W	• 48 x 10/100/1000BASE-T 802.3bt (90W) ports
	  ◦ Full / Half-Duplex (autosensing)
	  ◦ MACsec-capable
	• 2 x Stacking/QSFP28 ports* (unpopulated)
	• 1 x Serial console port (RJ-45)
	• 1 x 10/100/1000BASE-T out-of-band management port
	• 2 x USB A ports for management or external USB flash
	• 1 x USB Micro-B console port
	• 1 x VIM slot

5520-12MW-36W	• 12 x 100M/1/2.5/5GBASE-T 802.3bt (90W) PoE ports
	• 36 x 10/100/1000BASE-T 802.3bt (90W) PoE ports
	  ◦ Full-Duplex
	  ◦ MACsec-capable
	• 2 x Stacking/QSFP28 ports* (unpopulated)
	• 1 x Serial console port (RJ-45)
	• 1 x 10/100/1000BASE-T out-of-band management port
	• 2 x USB A ports for management or external USB flash
	• 1 x USB Micro-B console port
	• 1 x VIM slot

Switch Model	Interfaces
5520-48SE	• 48 x 100/1000BASE-X (SFP) ports (unpopulated) ◦ MACsec-capable • 2 x Stacking/QSFP28 ports* (unpopulated) • 1 x Serial console port (RJ-45) • 1 x 10/100/1000BASE-T out-of-band management port • 2 x USB A ports for management or external USB flash • 1 x USB Micro-B console port • 1 x VIM slot
5520-24X	• 24 x 100M/1G/10GBASE-X (SFP+) ports** (unpopulated) • 2 x Stacking/QSFP28 ports* (unpopulated) • 1 x Serial console port (RJ-45) • 1 x 10/100/1000BASE-T out-of-band management port • 2 x USB A ports for management or external USB flash • 1 x USB Micro-B console port • 1 x VIM slot
5520-24T-ACDC	• 24 x 10/100/1000BASE-T FDX/HDX MACsec capable ports • 2 stacking/QSFP28 ports • 1 unpopulated VIM slot • 3 unpopulated modular fan slots • 2 unpopulated modular PSU slots • AC or DC PSU capable
5520-48T-ACDC	• 48 x 10/100/1000BASE-T FDX/HDX MACsec capable ports • 2 stacking/QSFP28 ports • 1 unpopulated VIM slot • 3 unpopulated modular fan slots • 2 unpopulated modular PSU slots • AC or DC PSU capable
5520-24X-ACDC	• 24 x 1Gb/10Gb SFP+ ports • 2 stacking/QSFP28 ports • 1 unpopulated VIM slot • 3 unpopulated modular fan slots • 2 unpopulated modular PSU slots • AC or DC PSU capable
5520-48SE-ACDC	• 48 x 1000BASE-X SFP MACsec capable ports • 2 stacking/QSFP28 ports • 1 unpopulated VIM slot • 3 unpopulated modular fan slots • 2 unpopulated modular PSU slots • AC or DC PSU capable
5520-VIM-4X	• 4 x 1/10GBASE-X SFP+ ports (unpopulated)

5520-VIM-4XE	• 4 x 1/10GBASE-X SFP+ ports (unpopulated)
	  ◦ LRM-capable
	  ◦ MACsec-capable

5520-VIM-4YE	• 4 x 10/25GBASE-X SFP28 ports (unpopulated) ◦ MACsec-capable

* Notes on use of the 2 x Stacking/QSFP28 ports

1. With Switch Engine, the 2 x QSFP28 ports can be used for stacking or as Ethernet uplink ports (when not stacking); stacking data rate is 40Gb or 50Gb per port.
2. With Fabric Engine, the 2 x QSFP28 ports can be used as Ethernet uplink ports if in non-Fabric mode or if no VIM is present as of the VOSS 8.4.2 release.
3. Ethernet uplink QSFP28 data rate options per port, with channelization: 4 x 10Gb SFP+, 4 x 25Gb SFP28, 1 x 40Gb QSFP+ (supported with Switch Engine and Fabric Engine); 2 x 50Gb (Switch Engine only)

** 100M on 5520-24 x access ports supported with Switch Engine and with Fabric Engine (minimum Release 8.6).

Performance and Scale

Switch Model	Max Active 10Mb/ 100Mb/ 1000Mb ports	Max Active 100Mb/1Gb/ 2.5Gb/5Gb ports	Max Active 100Mb/1Gb SFP ports	Max Active 1Gb/10Gb SFP+ ports*	Max Active 25Gb SFP28 ports*	Max Active 40Gb QSFP+ ports**	Max Active 50Gb ports**	Max Active 40Gb/ 50Gb Stacking ports***	Aggregated Switch Bandwidth	Frame Forwarding Rate
5520-24T	24	0	0	12	12	2	4	2	648 Gbps	482.1 Mpps
5520-24W	24	0	0	12	12	2	4	2	648 Gbps	482.1 Mpps
5520-48T	48	0	0	12	12	2	4	2	696 Gbps	517.8 Mpps
5520-48W	48	0	0	12	12	2	4	2	696 Gbps	517.8 Mpps
5520-12MW-36W	36	12	0	12	12	2	4	2	792 Gbps	589.3 Mpps
5520-48SE	0	0	48	12	12	2	4	2	696 Gbps	517.8 Mpps
5520-24X	0	0	24	36	12	2	4	2	1080 Gbps	803.5 Mpps
5520-24T-ACDC	24	0	0	12	12	2	4	2	648 Gbps	482.1 Mpps
5520-48T-ACDC	48	0	0	12	12	2	4	2	696 Gbps	517.8 Mpps
5520-24X-ACDC	0	0	24	36	12	2	4	2	1080 Gbps	803.5 Mpps
5520-48SE-ACDC	0	0	48	12	12	2	4	2	696 Gbps	517.8 Mpps

* Includes 8 ports available through channelization of the 2 x QSFP28 ports when not used for stacking with Switch Engine, or with VOSS 8.4.2 or later

** Available through channelization of the 2 x QSFP28 ports when these ports are not used for stacking in Switch Engine, or with VOSS 8.4.2 or later

*** 50Gb stacking with Switch Engine mode only 31.6 or later

Software Scaling Values

5520 with Switch Engine

- MAC Table: 114,688/65,536
- IPv4 ARP Table: 60,000/41,000*
- IPv4 Route Table: 81,000/16,000*
- IP Multicast Entries (S,G,V): 43,000/24,000*
- IPv6 ND Table: 18,000
- IPv6 Route Table: 40,000/8,000*
- ACL (Ingress/Egress): 9,216/1,024
- QoS Egress Queues/Port: 8
- VLANs: 4,094
- Routed VLANs: 2,048

* First value is the maximum; second is the default. Scaling limits are configurable.See the Switch Engine Release Notes for additional details

OnePolicy Scaling

- Policy Profiles: 63
- Unique permit/deny rules per switch: 8,120
- Authenticated policy users/switch: 9,216

5520 with Fabric Engine

- MAC Table: 40,960 (81,920 non-Fabric)
- IPv4 ARP/IP Host Table: 16,000/48,000
- IPv4 Route Table: 15,500
- IP Multicast Routes: 4,000
- IPv6 ND Table: 16,000
- IPv6 Route Table: 7,500
- IPv4 ACL (Ingress/Egress): 1,024/336
- QoS Egress Queues/Port: 8
- VLANs: 4,059
- Routed VLANs: 500

Fabric Connect Scaling

- Fabric Adjacencies per switch: 128
- BEB Nodes per VSN: 500
- L2 VSN: 3500
- L3 VSN: 256

Weights and Dimensions

Switches

Switch Model	Weight*	Physical Dimensions	
		Chassis Only	With PSU
5520-24T	5.54 kg (12.21 lb.)	Height: 44 mm (1.73 in.) Width: 441 mm (17.36 in.) Depth: 442 mm (17.42 in.)	Height: 44 mm (1.73 in.) Width: 441 mm (17.36 in.) Depth: 449 mm (17.68 in.)
5520-24W	6.25 kg (13.78 lb.)		
5520-48T	5.76 kg (12.70 lb.)		
5520-48W	6.06 kg (13.36 lb.)		
5520-12MW-36W	6.33 kg (13.96 lb.)		
5520-48SE	5.70 kg (12.57 lb.)		
5520-24X	6.25 kg (13.78 lb.)		
5520-24T-ACDC	5.15 kg (11.35 lb.)	Height: 43 mm (1.71 in.) Width: 431 mm (16.98 in.) Depth: 442 mm (17.42 in.)	Not applicable
5520-48T-ACDC	5.95 kg (13.12 lb.)		
5520-24X-ACDC	5.68 kg (12.52 lb.)		
5520-48SE-ACDC	5.91 kg (13.03 lb.)		

* Switch weights include fans but no PSUs

VIM Modules

Model	Weight	Physical Dimensions
5520-VIM-4X	0.17 kg (0.37 lb.)	Height: 40.8 mm (1.61 in.) Width: 48.8 mm (1.92 in.) Depth: 146.3 mm (5.76 in.)
5520-VIM-4XE	0.20 kg (0.44 lb.)	
5520-VIM-4YE	0.21 kg (0.46 lb.)	

Power Supplies

Model	Weight*	Physical Dimensions
10953 (350W AC)	1.08 kg (2.38 lb.)	Height: 82.5 mm (3.25 in.) Width: 40 mm (1.57 in.) Depth: 287 mm (11.30 in.)
10951 (715W AC)	1.16 kg (2.56 lb.)	
10941 (1100W AC)	1.16 kg (2.56 lb.)	
XN-ACPWR-2000W-F (2000W AC)	1.16 kg (2.56 lb.)	Height: 75 mm (2.95 in.) Width: 40 mm (1.57 in.) Depth: 292 mm (11.50 in.)
XN-ACPWR-550W-FB	0.81 kg (1.79 lb.)	Height: 40 mm (1.58 in.) Width: 73.7 mm (2.90 in.) Depth: 185.2 mm (7.29 in.)
XN-ACPWR-550W-BF	0.81 kg (1.79 lb.)	
XN-DCPWR-550W-FB	0.81 kg (1.79 lb.)	
XN-DCPWR-550W-BF	0.81 kg (1.79 lb.)	

Power Supply Unit Specifications

	10953	10951	10941	XN-ACPWR-2000-F*
Voltage Input Range (Nominal)	100VAC-127VAC/ 200VAC-240VAC	100VAC-127VAC/ 200VAC-240VAC	100VAC-127VAC/ 200VAC-240VAC	100VAC-127VAC/ 200VAC-240VAC
Line Frequency Range	50Hz to 60Hz	50Hz to 60Hz	50Hz to 60Hz	50Hz to 60Hz
Power Supply Input Socket	IEC/EN 60320 C14	IEC/EN 60320 C16	IEC/EN 60320 C16	IEC/EN 60320 C16
Power Cord Input Plug	IEC/EN 60320 C13	IEC/EN 60320 C15	IEC/EN 60320 C15	IEC/EN 60320 C15
Operating Temperature	0°C to 55°C (32°F to 131°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 55°C (32°F to 131°F) Normal Operation

* 200VAC-240VAC is required to achieve full 2000W output. If run at 100VAC-120VAC, output is limited to 1100W.

Power Supply Unit Specifications (cont.)

	XN-ACPWR-350W-FB	XN-ACPWR-350W-BF	XN-ACPWR-715W-FB	XN-ACPWR-1100W-FB	XN-ACPWR-2000W-FB*
Voltage Input Range (Nominal)	100VAC-240VAC	100VAC-240VAC	100VAC-240VAC	100VAC-240VAC	100VAC-240VAC
Line Frequency Range	50Hz to 60Hz	50Hz to 60Hz	50Hz to 60Hz	50Hz to 60Hz	50Hz to 60Hz

	XN-ACPWR-350W-FB	XN-ACPWR-350W-BF	XN-ACPWR-715W-FB	XN-ACPWR-1100W-FB	XN-ACPWR-2000W-FB*
Power Supply Input Socket	IEC/EN 60320 C14	IEC/EN 60320 C14	IEC/EN 60320 C16	IEC/EN 60320 C16	IEC/EN 60320 C16
Power Cord Input Plug	IEC/EN 60320 C13	IEC/EN 60320 C13	IEC/EN 60320 C15	IEC/EN 60320 C15	IEC/EN 60320 C15
Operating Temperature	0°C to 55°C (32°F to 131°F) Normal Operation	0°C to 55°C (32°F to 131°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation

* 200VAC-240VAC is required to achieve full 2000W output. If run at 100VAC-120VAC, output is limited to 1100W.

Power Supply Unit Specifications (cont.)

	XN-ACPWR-550W-FB	XN-ACPWR-550W-BF	XN-DCPWR-550W-FB	XN-DCPWR-550W-BF
Voltage Input Range (Nominal)	100VAC-240VAC	100VAC-240VAC	-48VDC (-36VDC to -72VDC)	-48VDC (-36VDC to -72VDC)
Line Frequency Range	50Hz to 60Hz	50Hz to 60Hz	N/A	N/A
Power Supply Input Socket	IEC 320 - C14	IEC 320 - C14	POSITRONIC PN# PLAH03M400A1/AA-E1A	POSITRONIC PN# PLAH03M400A1/AA-E1A
Power Cord Input Plug	IEC 320 - C13	IEC 320 - C13	POSITRONIC PN# PLAH03M400A1/AA-E1A	POSITRONIC PN# PLAH03M400A1/AA-E1A
Operating Temperature	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation	0°C to 50°C (32°F to 122°F) Normal Operation

PoE Power Budget

Switch Model	1 x 715W	2x 715W	1 x 1100W	2 x 1100W	1 x 2000W @ 100-120VAC	1 x 2000W @ 200-240VAC	2 x 2000W @ 100-120VAC	2 x 2000W @ 200-240VAC
5520-24W	494W	1079W	879W	1781W	879W	1779W	1869W	2160W
5520-48W	483W	1068W	868W	1770W	868W	1768W	1858W	3568W
5520-12MW-36W	464W	1049W	849W	1751W	849W	1749W	1839W	3549W

Note: It is recommended that primary and secondary power supply units (PSUs) be of the same type to support optimal PoE operation.

Minimum/Maximum Power Consumption and Heat Dissipation

Switch Model	Minimum Power Consumption (W)	Minimum Heat Dissipation (BTU/hr)	Maximum Power Consumption (W)*	Maximum Heat Dissipation (BTU/hr)**
5520-24T	52	176	142	483
5520-24W	54	182	2480	1092

Switch Model	Minimum Power Consumption (W)	Minimum Heat Dissipation (BTU/hr)	Maximum Power Consumption (W)*	Maximum Heat Dissipation (BTU/hr)**
5520-48T	60	205	171	584
5520-48W	59	203	4100	1817
5520-12MW-36W	66	224	4095	1862
5520-48SE	61	209	255	872
5520-24X	48	165	171	585
5520-24T-ACDC	41	140	135	459
5520-48T-ACDC	46	156	141	481
5520-24X-ACDC	39	132	169	575
5520-48SE-ACDC	45	154	223	760

* Includes maximum PoE load (W) through the switch

** Does not include PoE load heat dissipated through external electronic load

Fan and Acoustic Noise

Switch Model	Acoustic Information	
5520-24T	Typical: Single 350W AC PSU, no VIM Maximum: Dual 350W AC PSU, 5520-VIM-4YE	
	Bystander Sound Pressure 39.6 dB(A),0˚C to 35˚C (32˚F to 95˚F) (Typical) 77.5 dB(A), 50˚C (122˚F) (Maximum)	Sound Power 5.1 B, 0˚C to 35˚C (32˚F to 95˚F) (Typical) 8.46 B, 50˚C (122˚F) (Maximum)
5520-24W	Typical: Single 715W AC PSU, no VIM Maximum: Dual 1100W AC PSU, 5520-VIM-4YE	
	Bystander Sound Pressure 50.4 dB(A),0˚C to 35˚C (32˚F to 95˚F) (Typical) 67.1 dB(A), 25˚C (77˚F) (Maximum) 78.9 dB(A), 50˚C (122˚F) (Maximum)	Sound Power 6 B, 0˚C to 35˚C (32˚F to 95˚F) (Typical) 7.61 B, 25˚C (77˚F) (Maximum) 8.6 B, 50˚C (122˚F) (Maximum)
5520-48T	Typical: Single 350W AC PSU, no VIM Maximum: Dual 350W AC PSU, 5520-VIM-4YE	
	Bystander Sound Pressure 39.0 dB(A),0˚C to 35˚C (32˚F to 95˚F) (Typical) 79.0 dB(A), 50˚C (122˚F) (Maximum)	Sound Power 4.9 B, 0˚C to 35˚C (32˚F to 95˚F) (Typical) 8.52 B, 50˚C (122˚F) (Maximum)
5520-48W	Typical: Single 1100W AC PSU, no VIM Maximum: Dual 2000W AC PSU (240VAC), 5520-VIM-4YE	

Switch Model	Acoustic Information	
	Bystander Sound Pressure 64.3 dB(A),0˚C to 35˚C (32˚F to 95˚F) (Typical) 69.1 dB(A), 25˚C (77˚F) (Maximum) 79.4 dB(A), 50˚C (122˚F) (Maximum)	Sound Power 7.24 B, 0˚C to 35˚C (32˚F to 95˚F) (Typical) 7.65 B, 25˚C (77˚F) (Maximum) 8.6 B, 50˚C (122˚F) (Maximum)
5520-12MW-36W	Typical: Single 1100W AC PSU, no VIM Maximum: Dual 2000W AC PSU (240VAC), 5520-VIM-4YE	
	Bystander Sound Pressure 62.7 dB(A),0˚C to 35˚C (32˚F to 95˚F) (Typical) 69.2 dB(A), 25˚C (77˚F) (Maximum) 78.8 dB(A), 50˚C (122˚F) (Maximum)	Sound Power 7.25 B, 0˚C to 35˚C (32˚F to 95˚F) (Typical) 7.64 B, 25˚C (77˚F) (Maximum) 8.6 B, 50˚C (122˚F) (Maximum)
5520-48SE	Typical: Single 350W AC PSU, no VIM Maximum: Dual 350W AC PSU, 5520-VIM-4YE	
	Bystander Sound Pressure 41.4 dB(A),0˚C to 35˚C (32˚F to 95˚F) (Typical) 77.9 dB(A), 50˚C (122˚F) (Maximum)	Sound Power 5.14 B, 0˚C to 35˚C (32˚F to 95˚F) (Typical) 8.53 B, 50˚C (122˚F) (Maximum)
5520-24X	Typical: Single 350W AC PSU, no VIM Maximum: Dual 350W AC PSU, 5520-VIM-4YE	
	Bystander Sound Pressure 40.6 dB(A),0˚C to 35˚C (32˚F to 95˚F) (Typical) 76.9 dB(A), 50˚C (122˚F) (Maximum)	Sound Power 5.05 B, 0˚C to 35˚C (32˚F to 95˚F) (Typical) 8.52 B, 50˚C (122˚F) (Maximum)
5520-24T-ACDC	Typical: F2B Airflow; Single 550W AC PSU, no VIM Maximum: F2B Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.6 dB(A), 0˚C to 40˚C (Typical) 76.5 dB(A), 50˚C (Maximum)	Sound Power 4.94 B, 0˚C to 40˚C (Typical) 8.60 B, 50˚C (Maximum)
	Typical: F2B Airflow; Single 550W DC PSU, no VIM Maximum: F2B Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.2 dB(A), 0˚C to 40˚C (Typical) 77.0 dB(A), 50˚C (Maximum)	Sound Power 4.89 B, 0˚C to 40˚C (Typical) 8.56 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W AC PSU, no VIM Maximum: B2F Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.46dB(A), 0˚C to 40˚C (Typical) 76.6 dB(A), 50˚C (Maximum)	Sound Power 4.99 B, 0˚C to 40˚C (Typical) 8.61 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W DC PSU, no VIM Maximum: B2F Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 39.8 dB(A), 0˚C to 40˚C (Typical) 79.0 dB(A), 50˚C (Maximum)	Sound Power 5.03 B, 0˚C to 40˚C (Typical) 8.69 B, 50˚C (Maximum)

Switch Model	Acoustic Information	
5520-48T-ACDC	Typical:F2B Airflow; Single 550W AC PSU, no VIM Maximum: F2B Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.2 dB(A), 0˚C to 40˚C (Typical) 76.4 dB(A), 50˚C (Maximum)	Sound Power 4.91 B, 0˚C to 40˚C (Typical) 8.58 B, 50˚C (Maximum)
	Typical: F2B Airflow; Single 550W DC PSU, no VIM Maximum: F2B Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.1 dB(A), 0˚C to 40˚C (Typical) 77.1 dB(A), 50˚C (Maximum)	Sound Power 4.88 B, 0˚C to 40˚C (Typical) 8.55 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W AC PSU, no VIM Maximum: B2F Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.5 dB(A), 0˚C to 40˚C (Typical) 76.7 dB(A), 50˚C (Maximum)	Sound Power 4.94 B, 0˚C to 40˚C (Typical) 8.54 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W DC PSU, no VIM Maximum: B2F Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 39.6 dB(A), 0˚C to 40˚C (Typical) 79.0 dB(A), 50˚C (Maximum)	Sound Power 5.00 B, 0˚C to 40˚C (Typical) 8.70 B, 50˚C (Maximum)
5520-48SE-ACDC	Typical: F2B Airflow; Single 550W AC PSU, no VIM Maximum: F2B Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 39.0 dB(A), 0˚C to 40˚C (Typical) 76.6 dB(A), 50˚C (Maximum)	Sound Power 4.98 B, 0˚C to 40˚C (Typical) 8.65 B, 50˚C (Maximum)
	Typical: F2B Airflow; Single 550W DC PSU, no VIM Maximum: F2B Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.7 dB(A), 0˚C to 40˚C (Typical) 77.2 dB(A), 50˚C (Maximum)	Sound Power 4.96 B, 0˚C to 40˚C (Typical) 8.64 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W AC PSU, no VIM Maximum: B2F Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.9 dB(A), 0˚C to 40˚C (Typical) 77.4 dB(A), 50˚C (Maximum)	Sound Power 4.95 B, 0˚C to 40˚C (Typical) 8.65 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W DC PSU, no VIM Maximum: B2F Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 40.2 dB(A), 0˚C to 40˚C (Typical) 79.5 dB(A), 50˚C (Maximum)	Sound Power 5.04 B, 0˚C to 40˚C (Typical) 8.75 B, 50˚C (Maximum)

Switch Model	Acoustic Information	
5520-24X-ACDC	Typical: F2B Airflow; Single 550W AC PSU, no VIM Maximum: F2B Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.1 dB(A), 0˚C to 40˚C (Typical) 75.8 dB(A), 50˚C (Maximum)	Sound Power 4.90 B, 0˚C to 40˚C (Typical) 8.59 B, 50˚C (Maximum)
	Typical: F2B Airflow; Single 550W DC PSU, no VIM Maximum: F2B Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.0 dB(A), 0˚C to 40˚C (Typical) 76.6 dB(A), 50˚C (Maximum)	Sound Power 4.88 B, 0˚C to 40˚C (Typical) 8.53 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W AC PSU, no VIM Maximum: B2F Airflow; Dual 550W AC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 38.3 dB(A), 0˚C to 40˚C (Typical) 77.3 dB(A), 50˚C (Maximum)	Sound Power 4.94 B, 0˚C to 40˚C (Typical) 8.64 B, 50˚C (Maximum)
	Typical: B2F Airflow; Single 550W DC PSU, no VIM Maximum: B2F Airflow; Dual 550W DC PSU, with 5520-VIM-4YE	
	Bystander Sound Pressure 40.1 dB(A), 0˚C to 40˚C (Typical) 79.3 dB(A), 50˚C (Maximum)	Sound Power 4.94 B, 0˚C to 40˚C (Typical) 8.73 B, 50˚C (Maximum)

Environmental

Environmental Specifications

EN/ETSI 300 019-2-1 v2.1.2 - Class 1.2 Storage

EN/ETSI 300 019-2-2 v2.1.2 - Class 2.3 Transportation

EN/ETSI 300 019-2-3 v2.1.2 - Class 3.1e Operational

EN/ETSI 300 753 (1997-10) - Acoustic Noise

ASTM D3580 Random Vibration Unpackaged 1.5 G

Environmental Compliance

EU RoHS - 2011/65/EU

EU WEEE - 2012/19/EU

EU REACH - Regulation (EC) No 1907/2006 - Reporting

China RoHS - SJ/T 11363-2006

Taiwan RoHS - CNS 15663 (2013.7)

Environmental Operating Conditions

Temp: 0°C to 50°C (32°F to 122°F) for Front-Back cooling

Temp: 0°C to 45°C (32°F to 113°F) for Back-Front cooling (5520-24T, 5520-24x, 5520-48T, 5520-48SE)

Humidity: 5% to 95% relative humidity, non-condensing

Altitude: 0 to 3,000 meters (9,850 feet)

Shock (half sine): 98m/s2 (10G), 11ms, 18 shocks

Random vibration: 3Hz to 500Hz at 1.5 G rms

Packaging and Storage Specifications

Temp: -40°C to 70°C (-40°F to 158°F)

Humidity: 5% to 95% relative humidity, non-condensing

Packaged Shock (half sine): 180 m/s2 (18 G), 6 ms, 600 shocks

Packaged Vibration: 5Hz to 62Hz at velocity 5 mm/s, 62Hz to 500Hz at 0.2 G

Packaged Random Vibration: 5Hz to 20Hz at 1.0 ASD w/–3 dB/oct. from 20Hz to 200Hz

Packaged Drop Height: 14 drops minimum on sides and corners at 42 inches (<15 kg box)

Regulatory and Safety

North American ITE

UL 60950-1

UL/CuL 62368-1 Listed

Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)

CDRH Letter of Approval (US FDA Approval)

CAN/CSA 22.2 No. 60950-1

European ITE

EN 60950-1, EN 62368-1

EN 60825-1 Class 1 (Lasers Safety)

2014/35/EU Low Voltage Directive

International ITE

CB Report and Certificate per IEC 60950-1

IEC 62368-1

EMI/EMC Standards

North American EMC for ITE

FCC CFR 47 Part 15 Class A (USA)

CB Report and Certificate IEC 62368-1

RoHS Directive 2011/65/EU

AS/NZS 60950-1 (Australia /New Zealand)

European EMC Standards

EN 55035

EN 55032 Class A

EN 55024

EN 55011

EN 61000-3-2,2014 (Harmonics)

EN 61000-3-3 2013 (Flicker)

EN 300 386 (EMC Telecommunications)

2014/30/EU EMC Directive

International EMC Certifications

CISPR 32, Class A (International Emissions)

AS/NZS CISPR32

CISPR 24 Class A (International Immunity)

IEC 61000-4-2/EN 61000-4-2 Electrostatic Discharge, 8kV Contact, 15 kV Air, Criteria B

IEC 61000-4-3 /EN 61000-4-3 Radiated Immunity 10V/m, Criteria A

IEC 61000-4-4/EN 61000-4-4 Transient Burst, 1 kV, Criteria AB

IEC 61000-4-5 /EN 61000-4-5 Surge, 2 kV L-L, 2 kV L-G, Level 3, Criteria B

IEC 61000-4-6 Conducted Immunity, 0.15-80 MHz, 10V/m unmod. RMS, Criteria A

IEC/EN 61000-4-11 Power Dips & Interruptions, >30%, 25 periods, Criteria C

Country Specific

VCCI Class A (Japan Emissions)

ACMA RCM (Australia Emissions)

CCC Mark (China)

KCC Mark, EMC Approval (Korea)

EAC Mark (Custom Union)

NRCS Mark (South Africa)

BSMI Mark (Taiwan)

Anatel (Brazil)

NoM (Mexico)

IEEE 802.3 Media Access Standards

IEEE 802.3ab 1000BASE-T

IEEE 802.3bz 2.5G/5GBASE-T

IEEE 802.3bt Type4 PoE

IEEE 802.3ae 10GBASE-X

IEEE 802.3aq 10GBASE-LRM

IEEE 802.3by 25GBASE-X

IEEE 802.3ba/802.3bm 40GBASE-X and 100GBASE-X

IEEE 802.3az Energy Efficient Ethernet

Ordering Notes

Customers ordering a 5520 Series switch receive the base switch along with Base software license, fan modules and rack-mount kit. At least one Power Supply Unit (PSU) is required for 5520 operation, and a second PSU is required for redundancy and/or additional power.

Versatile Interface Modules (VIMs), power supplies, transceiver/optics, power cords, as well as Premier and MACsec licenses must be ordered separately.

Base Software and Optional Premier License

The Base software included with each 5520 unit supports most available switch features. Certain features, however, require a Premier license to operate.

For Switch Engine, a Premier License is required for:

- 5 or more OSPF interfaces
- PIM DM / PM SSM
- Anycast RP (Rendezvous Point)
- Multi-Source Discovery Protocol (MSDP)
- IS-IS/BGP4/MBGP*
- GRE Tunneling
- EthernetVPN (EVPN)
- Multi-Protocol Label Switching (MPLS)***

For Fabric Engine, a Premier License is required for:

- 5 or more OSPF or RIP interfaces
- 3 or more BGP peers
- 25 or more VRFs**
- Layer 3 Virtual Service Networks (L3 VSNs)
- Distributed Virtual Routing (DvR) Controller

* Up to 2 BGP interfaces included in Base software with the EXOS 31.4 Release

** VRFs included in Base software with the VOSS 8.4 Release

*** MPLS available with Switch Engine 31.6 release

Ordering Information

5520 Systems - Fans Included

Part Number	Product Name	Product Description
5520-24T	5520 24-port Switch	5520 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 2 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-24W	5520 24-port 90w PoE Switch	5520 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex 802.3bt 90W PoE MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-48T	5520 48-port Switch	5520 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-48W	5520 48-port 90w PoE Switch	5520 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex 802.3bt 90W PoE MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-12MW-36W	5520 48-port 90w PoE with 12 ports multi-rate Switch	5520 Universal Switch with 12 x 100Mb/1Gb/2.5Gb/5Gb 802.3bt 90W PoE MACsec-capable ports plus 36 x 10/100/1000BASE-T 802.3bt 90W PoE Full / Half-Duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-24X	5520 24-port SFP+ Switch	5520 Universal Switch with 24 x 100Mb/1Gb/10Gb SFP+ ports, includes 2 Stacking/QSFP28 ports, 2 fan modules, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.

5520 Systems – Without Fans and PSUs (ordered separately)

Part Number	Product Name	Product Description
5520-24T-BASE	5520 24-port Switch	5520 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 2 unpopulated fan slots, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-48T-BASE	5520 48-port Switch	5520 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex MACsec-capable ports, includes 2 x Stacking/QSFP28 ports, 3 unpopulated fan slots, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-48SE	5520 48-port 90w PoE Switch	5520 Universal Switch with 48 x 100M/1Gb SFP MACsec-capable ports, includes 2 x Stacking/ QSFP28 ports, 3 unpopulated fan slots, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-48SE-BASE	5520 48-port SFP Switch	5520 Universal Switch with 48 x 100M/1Gb SFP MACsec-capable ports, includes 2 x Stacking/ QSFP28 ports, 3 unpopulated fan slots, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.
5520-24X-BASE	5520 24-port SFP+ Switch	5520 Universal Switch with 24 x 100Mb/1Gb/10Gb SFP+ ports, includes 2 Stacking/QSFP28 ports, 2 unpopulated fan slots, 1 VIM slot, 2 unpopulated modular PSU slots, Base software license.

5520 Systems - AC/DC Switches without Fans and PSUs (ordered separately)

Part Number	Product Name	Product Description
5520-24T-ACDC-BASE	5520 24-port Switch	5520 Universal Switch with 24 x 10/100/1000BASE-T FDX/HDX MACsec-capable ports, 2 x Stacking/QSFP28 ports, 1 unpopulated VIM slot, 3 unpopulated modular fan slots, 2 unpopulated modular PSU slots, AC or DC PSU capable.
5520-48T-ACDC-BASE	5520 48-port Switch	5520 Universal Switch with 48 x 10/100/1000BASE-T FDX/HDX MACsec-capable ports, 2 x Stacking/QSFP28 ports, 1 unpopulated VIM slot, 3 unpopulated modular fan slots, 2 unpopulated modular PSU slots, AC or DC PSU capable.
5520-24X-ACDC-BASE	5520 24-port SFP+ Switch	5520 Universal Switch with 24 x 1Gb/10Gb SFP+ ports, 2 Stacking/QSFP28 ports, 1 unpopulated VIM slot, 3 unpopulated modular fan slots, 2 unpopulated modular PSU slots, AC or DC PSU capable.
5520-48SE-ACDC-BASE	5520 48-port SFP Switch	5520 Universal Switch with 48 x 1000BASE-X SFP MACsec capable ports, 2 x Stacking/ QSFP28 ports, 1 unpopulated VIM slot, 3 unpopulated modular fan slots, 2 unpopulated modular PSU slots, AC or DC PSU capable.

Versatile Interface Modules

Part Number	Product Name	Product Description
5520-VIM-4X	4-port SFP+ module	5520 Versatile Interface Module with 4 x 1/10Gb SFP+ ports
5520-VIM-4XE	4-port SFP+ module LRM/ MACsec capable	5520 Versatile Interface Module with 4 x 1/10Gb SFP+ LRM and MACsec-capable ports
5520-VIM-4YE	4-port SFP28 module MACsec capable	5520 Versatile Interface Module with 4 x 10/25Gb SFP28 MACsec-capable ports

Power Supplies for use with 5520 AC only

Part Number	Product Name	Product Description
10953	350W AC PSU FB	350W AC PSU supported on 5520
10951	715W AC PSU FB	715W AC PSU supported on 5520
10941	1100W AC PSU FB	1100W AC PSU supported on 5520
XN-ACPWR-2000W-F	2000W AC PSU FB	2000W AC PSU supported on 5520
XN-ACPWR-350W-FB*	350W AC PSU FB	350W AC Power Supply Module - Front to Back airflow, also used on X465 and VSP 4900
XN-ACPWR-715W-FB*	715W AC PSU FB	715W AC PoE Power Supply Module - Front to Back airflow, also used on 5720, X465, and VSP 4900
XN-ACPWR-1100W-FB*	1100W AC PSU FB	1100W AC PoE Power Supply Module - Front to Back airflow, also used on 5720, X465, and VSP 4900
XN-ACPWR-2000W-FB*	2000WAC PSU FB	2000W AC PoE Power Supply Module - Front to Back airflow, also used on 5720, X465, and VSP 4900
XN-ACPWR-350W-BF	350W AC PSU BF	350W Back to Front cooling AC PSU supported on 5520 Non-PoE switches

* XN-ACPWR-xxx-FB power supply units cannot be used with the 10941, 10951, 10953, or XN-ACPWR-2000W-F PSUs on the same switch. Not available for Mexico, Russia, Brazil, China, Korea, South Africa, India at present, pending certification.

Power Supplies for use with 5520-ACDC Switches

Part Number	Product Name	Product Description
XN-ACPWR-550W-FB	550W AC PSU FB	550W AC Power Supply Module - Front to Back airflow
XN-ACPWR-550W-BF	550W AC PSU BF	550W AC Power Supply Module - Back to Front airflow
XN-DCPWR-550W-FB	550W DC PSU FB	550W DC Power Supply Module - Front to Back airflow
XN-DCPWR-550W-BF	550W DC PSU BF	550W DC Power Supply Module - Back to Front airflow

Fan Modules and Rack Mount Kits

Part Number	Product Name	Product Description
17115	Spare Fan Module FB	Fan module for 5520, Front to Back airflow
17116	Spare Fan Module BF	Fan module for 5520, Back to Front airflow
XN-4P-RMKIT-005	4-Post Rack Mount Kit	Spare 4-Post Rack Mount Kit for 5520
XN-2P-RMKIT-005**	2-Post Rack Mount Kit	Optional 2-Post Rack Mount Kit for 5520

** The optional 2-post rack mount kit can be used with 5520 chassis HW rev AD or higher.

Software Licenses

Part Number	Product Name	Product Description
5000-PRMR-LIC-P	Premier License for 5000 Series	Perpetual Premier License for 5000 Series switches
5000-MACSEC-LIC-P	MACsec License for the 5000 Series	Perpetual MACsec license for the 5000 Series switches

Warranty

All 5520 Series models are covered under Extreme's Universal LLW policy. For warranty details, please visit our Policies and Warranties page.

Power Cords

Power cords are not included with the 5520 in support of our green initiatives but can be ordered separately.

Optics / Transceivers

For a list of the optics and transceivers supported on the 5520 Series hardware, refer to our Extreme Optics Compatibility Tool.

Maintenance Services

Extreme's maintenance and support services are provided by 100% in-house engineering experts. We have a rate of over 90% first-person resolution, ensuring efficient operation of your business- essential network.

With 24x7x365 phone support, advanced parts replacement, and on-site support, we augment your staff with expert resources to help you mitigate critical network issues fast. Visit ExtremeWorks Maintenance Services for more information.

Certifications

For information on Industry, Security, and Government certifications for 5520 Series models, contact your Sales Representative.

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