



HP Slim Desktop - S01-aF0020 (9EE58AA)



Overview

Dependable PC. Perfect for small spaces.

Make the most of your living space with a reliable compact PC. Designed to take up less space where you need it, the HP Slim Desktop delivers technology and reliability you can depend on, with a slim design that fits anywhere.



Engineered for all-day performance

Everything you do feels fast with the performance of a reliable processor. Save more of what you love with abundant storage for all your photos, videos and documents.



Brand you trust. Built to last.

For 80 years, we've had your back. Trusted by millions of customers, the HP brand puts dependable technology above all else. That's why our PCs go through over 230 individual tests[1] to ensure you're getting a powerful, reliable PC that's going to last.



Sleek, space-saving design

With its slim bezel design, this PC fits perfectly wherever you work or play. With a bold geometric pattern and all the ports you need located on the front, it's the perfect blend of form and function.

Features



Windows 10

Do great things confidently with the familiar feel of Windows - only better.^[3]



PCIe SSD storage

Boot up in seconds with lightning fast speed with up to 256 GB PCIe SSD storage.



Re-writable DVD drive

Watch and write DVDs using the integrated optical drive.^[5]



AMD Athlon™ 3000 Series Mobile Processors with Radeon™ Graphics

Get more done faster on a reliable laptop that can keep up with your everyday tasks. AMD Athlon™ 3000 Series Mobile Processors deliver modern features and responsiveness, so you can say goodbye to a PC that freezes. Stream movies** with extra-long battery life in beautiful, crystal-clear detail.^[4]



DDR4 RAM

Designed to run more efficiently and more reliably at faster speeds, DDR4 is the future of RAM. With its higher bandwidth, everything from multi-tasking to playing games gets a performance boost.



Wi-Fi 5 (1x1) & Bluetooth® 4.2

Stay connected to Wi-Fi and to Bluetooth® accessories with wireless technology.^[6]

[1] HP Total Test Process testing is not a guarantee of future performance under these test conditions. Damage under the HP Total Test Process test conditions or any accidental damage requires an optional HP Accidental Damage Protection Care Pack.

[3] Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.microsoft.com>.

[4] Multi-core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed. Internet access required and not included

[5] Actual speeds may vary. Don't copy copyright-protected materials.

[6] Wireless access point and Internet service required. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the laptop to communicate with other 802.11ac WLAN devices. Bluetooth® is a trademark owned by its proprietor and used by HP Inc. under license. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11ac) is backwards compatible with prior Wi-Fi 5 specs.

Specifications

Form factor	Minitower
Operating system	Windows 10 Home 64
Product color	Jet black front bezel, dark chrome logo
Processor family	AMD Athlon™ Processor
Processor	AMD Athlon™ 3150U (2.4 GHz base clock, up to 3.3 GHz max boost clock, 4 MB L3 cache, 2 cores) ^[6,7]
Chipset	AMD Integrated SoC
Memory	8 GB DDR4-2400 SDRAM (1 x 8 GB)
Memory Slots	1 DIMM
Internal Storage	256 GB PCIe® NVMe™ M.2 SSD
Optical drive	DVD-Writer
Graphics	Integrated
Graphics (integrated)	AMD Radeon™ Graphics
Minimum dimensions (W x D x H)	9.5 x 30.3 x 27 cm
Minimum dimensions (W x D x H)	3.74 x 11.93 x 10.63 in
Weight	3.02 kg
Weight	6.66 lb
Keyboard	USB black wired keyboard
Pointing device	HP wired black mouse
Video connectors	1 HDMI-out 1.4; 1 VGA; 1 serial
Ports	4 SuperSpeed USB Type-A 5Gbps signaling rate; 1 headphone/microphone combo
Expansion slots	2 M.2
Ports	2 USB 2.0 Type-A; 1 audio-in; 1 audio-out; 1 RJ-45
Package dimensions (W x D x H)	49.9 x 19.6 x 34.6 cm
Package weight	6.2 kg
Network interface	Integrated 10/100/1000 GbE LAN
Wireless	Realtek 802.11a/b/g/n/ac (1x1) Wi-Fi® and Bluetooth® 4.2 combo
Energy efficiency	ENERGY STAR® certified
Security management	Kensington Security lock slot
Pre-installed software	Netflix
Software included	McAfee LiveSafe™
Software - Productivity & finance	1 month trial for new Microsoft 365 customers ^[24]
Cloud service	Dropbox ^[1]

UPC number

194850307096

Additional specifications

Bluetooth version	Bluetooth® 4.2
ECC memory	No
I/O Port location	Front
I/O Port location	Rear
MDA key selling point	Windows 10 Home or other operating systems available
Memory and storage	8 GB memory; 256 GB SSD storage
Memory layout (slots & size)	1 x 8 GB
Memory module type	DIMM
Memory size	8
Memory size uom	GB
Memory speed	2400
Memory speed uom	MHz
Memory type	DDR4
Number of memory slots	1
Package dimensions (W x D x H)	19.65 x 7.72 x 13.62 in
Package weight	13.67 lb
Processor Brand	AMD
Processor base frequency	2.4
Processor base frequency uom	GHz
Processor cache	4 MB L3
Processor core	2
Processor family	Athlon™ Gold
Processor maximum frequency	3.3
Processor maximum frequency uom	GHz
Processor model	3150U
Processor speed	2.4 GHz
Processor threads	4
Product brand name	HP
Storage capacity 01	256
Storage capacity uom 01	GB
Storage form factor 01	M.2
Storage interface 01	PCIe®
Storage interface protocol 01	NVMe™

Storage type	SSD
Storage type 01	SSD
Wireless antenna	1x1
Wireless standard	802.11a/b/g/n/ac
Wireless supplier	Realtek

[1] New Dropbox users are eligible to get 25 GB of Dropbox space free for 12 months from date of registration. For complete details and terms of use, including cancellation policies, visit the Dropbox website at <https://www.dropbox.com/help/space/hp-promotion>. Internet service required and not included.

[6] Multi-core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.

[7] Max Boost clock frequency performance varies depending on hardware, software and overall system configuration.

[24] Must activate within 180 days of Windows activation.

Monitors

HP Home Monitors

★ : Recommended

HP Value Displays

HP 27mq 27-inch Display	1F2J9AA ★
HP 27mq 27-inch Display	7XM25AA ★
HP 22f 22-inch Display	2XN58AA
HP 22f 22-inch Display	3AJ92AA
HP 22fw 22-inch Display	3KS60AA
HP 22fw 22-inch Display	3KS61AA
HP 22m 21.5-inch Display	3WL44AA
HP 22m 21.5-inch Display	3WL45AA
HP 22x 21.5-inch Gaming Display	6ML40AA
HP 23f 23-inch Display	2XN59AA
HP 23f 23-inch Display	3AK97AA
HP 24f 24-inch Display	2XN60AA
HP 24f 24-inch Display	3AL28AA
HP 24f 24-inch Display	9TH23AA
HP 24fh 23.8-inch Display	4HZ37AA
HP 24fh 23.8-inch Display	5JB78AA
HP 24fh 23.8-inch Display	7LL28AA
HP 24fw 24-inch Display	3KS62AA
HP 24fw 24-inch Display	3KS63AA
HP 24fw 24-inch Display	5VU10AA
HP 24fw 24-inch Display	6NB66AA
HP 24fw with Audio 24-inch Display	4TB29AA
HP 24fw with Audio 24-inch Display	4TB30AA
HP 24m 23.8-inch Display	3WL46AA
HP 24m 23.8-inch Display	3WL47AA
HP 24m 23.8-inch Display	5SQ52AA
HP 24mh 23.8-inch Display	1DOJ9AA
HP 24mh 23.8-inch Display	7XM23AA
HP 24mq 23.8-inch Display	1F2J8AA
HP 24mq 23.8-inch Display	7XM24AA

HP 24o 24-inch LED Backlit Monitor	6NB98AA
HP 24x 23.8-inch Gaming Display	5ZU98AA
HP 24x 23.8-inch Gaming Display	5ZU99AA
HP 25er 25-inch Display	T3M84AA
HP 25f 25-inch Display	2XN61AA
HP 25f 25-inch Display	3AL43AA
HP 25mx 24.5-inch Display	4JF31AA
HP 25x 24.5-inch Display	3WL50AA
HP 25x 24.5-inch Display	3WL51AA
HP 27er 27-inch Display	T3M88AA
HP 27f 27-inch 4K Display	5ZP65AA
HP 27f 27-inch 4K Display	5ZP66AA
HP 27fh 27-inch Display	4HZ38AA
HP 27fh 27-inch Display	5JB79AA
HP 27fh 27-inch Display	7LL29AA
HP 27fw 27-inch Display	3KS64AA
HP 27fw 27-inch Display	3KS65AA
HP 27fw 27-inch Display	3MP91AA
HP 27fw 27-inch Display	6NB70AA
HP 27fw with Audio 27-inch Display	4TB31AA
HP 27fw with Audio 27-inch Display	4TB32AA
HP 27m 27-inch Display	3WL48AA
HP 27m 27-inch Display	3WL49AA
HP 27m 27-inch Display	9UP91AA
HP 27mx 27-inch Display	4KK74AA
HP 27sv 27-inch LED Backlit Monitor	M4B77A9
HP 27wm 27-inch LED Backlit Monitor	V9D84AA
HP 27x 27-inch Display	3WL52AA
HP 27x 27-inch Display	3WL53AA
HP 27x Curved Display	1AT01AA
HP 27x Curved Display	7MW42AA
HP 27xq 27-inch Display	3WL54AA
HP 27xq 27-inch Display	3WL55AA
HP 27y 27-inch Display	2YV11AA
HP 32 Display	2FW77AA
HP 32 Display	5SQ41AA

HP 32f Display	6XJ00AA
HP 32s Display	2UD96AA
HP 34f 34-inch Curved Display	6JM50AA
HP 34f 34-inch Curved Display	6JM51AA
HP V28 4K Monitor	8WH57AA
HP V28 4K Monitor	8WH58AA
HP V28 4K Monitor	8WH58AS
HP V28 4K Monitor	8WH59AA
HP VH240a Display	2DS80AA
HP X24c Gaming Monitor	13Q95AA
HP X24c Gaming Monitor	9EK40AA
HP X24c Gaming Monitor	9FM22AA
HP X24c Gaming Monitor	9FM22AS
HP X27i 2K Gaming Monitor	8AG16AA
HP X27i 2K Gaming Monitor	8AG17AA
HP X27i 2K Gaming Monitor	8GC08AA

HP Home Monitors

HP V27i FHD Monitor	9SV92AA ★
HP V27i FHD Monitor	9SV93AA ★
HP V27i FHD Monitor	9SV94AA ★
HP V24i FHD Monitor	9RV15AA ★
HP V24i FHD Monitor	9RV16AA ★
HP V24i FHD Monitor	9RV17AA ★
HP M27ha FHD Monitor	22H94AA
HP U27 4K Wireless Monitor	9TQ11AA
HP U27 4K Wireless Monitor	9TQ12AA
HP U27 4K Wireless Monitor	9TQ13AA
HP U27 4K Wireless Monitor	9TQ13AS
HP U28 4K HDR Monitor	1Z978AA
HP U28 4K HDR Monitor	1Z979AA
HP U28 4K HDR Monitor	1Z980AA
HP V19 HD Monitor	9TN41AA
HP V19 HD Monitor	9TN42AA
HP V19 HD Monitor	9TN42AS
HP V19e HD Monitor	25Y25A6

HP V19e HD Monitor	25V25AA	
HP V20 HD+ Monitor	1H848AA	
HP V20 HD+ Monitor	1H849AA	
HP V20 HD+ Monitor	1H850AA	
HP V20 HD+ Monitor	1H850AS	
HP V21 FHD Monitor	9TN57AA	
HP V21 FHD Monitor	9TN58AA	
HP V22 FHD Monitor	9SV78AA	
HP V22 FHD Monitor	9SV79AA	
HP V22 FHD Monitor	9SV80AA	
HP V22 FHD Monitor	9SV80AS	
HP V22e FHD Monitor	28N41AA	
HP V24 FHD Monitor	9SV71AA	
HP V24 FHD Monitor	9SV73AA	
HP V24 FHD Monitor	9WF30AA	
HP V24 FHD Monitor	9WF31AA	
HP V24e FHD Monitor	28N17AA	
HP V24i FHD Monitor	9RV17AS	
HP V27e FHD Monitor	28N20AA	
HP V27i FHD Monitor	1K3W7AA	
HP V27i FHD Monitor	9SV94AS	
HP X24i Gaming Monitor	2W922AA	
HP X24ih Gaming Monitor	13L82AA	
HP X24ih Gaming Monitor	2W924AA	
HP X24ih Gaming Monitor	2W925AA	

Pavilion Displays

HP Pavilion 22cwa 21.5-inch IPS LED Backlit Monitor	T4Q59AA	
HP Pavilion 27 27-inch Display	3TN79AA	
HP Pavilion 27 Quantum Dot 27-inch Display	5DQ99AA	
HP Pavilion 27 Quantum Dot 27-inch Display	5DR00AA	
HP Pavilion 27q Display	1HR73AA	
HP Pavilion 27xw 27-inch IPS LED Backlit Monitor	V0N26AA	
HP Pavilion 32 32-inch Display	V1M69AA	obsolete
HP Pavilion 32 QHD 32-inch Display	4WH45AA	
HP Pavilion Gaming 32 HDR Display	3BZ12AA	

OMEN by HP Displays

OMEN 27i Monitor	8AC94AA	
OMEN 27i Monitor	8AC95AA	
OMEN X 25 240Hz Gaming Display	4NK94AA	
OMEN X 25 240Hz Gaming Display	4NK95AA	
OMEN X 25f 240Hz Gaming Display	4WH47AA	
OMEN X 25f 240Hz Gaming Display	4WH48AA	
OMEN X 27 240Hz Gaming Monitor	6FN07AA	
OMEN X 27 240Hz Gaming Monitor	6FN08AA	
OMEN by HP 25 Display	Z7Y57A9	
OMEN by HP 25 Display	Z7Y57AA	
OMEN by HP 32 32-inch Display	W9S97AA	obsolete

Audio/Multimedia and Communication Devices

★ : Recommended

Headsets

HP Earbuds Black Headset 150	X7B04AA ★	
HP Bluetooth Headset 400	2ZW81AA	
HP Bluetooth Headset 500	2J875AA	
HP H2800 Black Headset	J8F10AA	
HP In-Ear Headphone 100	1KF55AA	
HP In-Ear Headphone 100	1KF56AA	
HP In-Ear Headset 150	2AP91AA	
HP In-Ear Headset 150	2AP92AA	
HP In-Ear Headset 150	2AP93AA	
HP On-Ear Headphone 200	2VB08AA	
HP Pavilion Gaming Headset 400	4BX31AA	
HP Pavilion Gaming Headset 600	4BX33AA	
HP Pavilion Gaming Headset 600	5RY19AA	obsolete
HP Stereo Headset H2800	2AP94AA	
HP Stereo Headset H2800	2AP95AA	
HP X1000 Wireless Gaming Headset	7HC42AA	
HP X1000 Wireless Gaming Headset	7HC43AA	
OMEN Frequency Wireless Headset	9FL60AA	obsolete
OMEN by HP Headset 800	1KF76AA	
OMEN by HP Mindframe Prime Headset	6MF35AA	
OMEN by HP Mindframe Prime Headset	6MF36AA	
Omen X by HP Mindframe Headset	3XT27AA	

Speakers

HP Black Bluetooth Speaker 360	2D799AA
HP Blue Bluetooth Speaker 360	2D800AA
HP Silver Bluetooth Speaker 350	2D804AA
HP Silver Bluetooth Speaker 360	2D801AA

Headphones

HP Wireless Earbuds G2	169H9AA
------------------------	---------

Keyboards/Mice and Input Devices

Keyboard and Mouse Kits

HP Pavilion Wireless Keyboard and Mouse 800	4CE99AA ★
HP Pavilion Keyboard and Mouse 200	9DF28AA ★
HP Wired Keyboard and Mouse 160	6HD76AA ★
HP 230 Wireless Mouse and Keyboard Combo	18H24AA
HP C2500 Desktop	H3C53AA
HP C2500 Desktop	J8F15AA
HP C2600 Keyboard and Mouse Combo	J2X04AA
HP C2710 Combo Keyboard	M7P30AA
HP C6020 Wireless Desktop	P1F56AA
HP Gaming Kit	4VC46AA
HP Pavilion Wired Keyboard and Mouse 400	4CE97AA
HP Pavilion Wireless Keyboard and Mouse 800	4CF00AA
HP Wireless Classic Desktop	LV290AA
HP Wireless Classic v2 Desktop	V4L73AA
HP Wireless Elite v2 Desktop Keyboard (USB Wireless Nano Receiver with Mouse)	QB355AA
HP Wireless Keyboard and Mouse 250	6JU16AA
HP Wireless Keyboard and Mouse 300	3ML04AA

Mice

HP Wireless Mouse 220	3FV66AA ★
HP Wireless Mouse 200	X6W31AA ★
HP Bluetooth Travel Mouse	6SP25AA
HP Bluetooth® Mouse 250	6CR73AA
HP Bluetooth® Mouse Z5000	2HW67AA
HP Dual Mode Mouse	6CR71AA
HP ENVY Rechargeable Mouse 500	2LX92AA
HP ENVY Rechargeable Mouse 500	2WX69AA
HP Elite Presenter Mouse	3YF38AA
HP Pavilion Gaming Mouse 200	5JS07AA
HP Pavilion Gaming Mouse 300	4PH30AA
HP Pavilion Gaming Mouse 300	4PH31AA

HP Retractable Wired Mouse 100	6GJ71AA
HP Spectre Rechargeable Mouse 700	3NZ70AA
HP Spectre Rechargeable Mouse 700	3NZ71AA
HP Spectre Rechargeable Mouse 700	4YH33AA
HP Spectre Rechargeable Mouse 700	4YH34AA
HP Spectre Rechargeable Mouse 700	5VD59AA
HP USB 3 Button Optical Mouse	KY619AA
HP Wired Mouse 100	6VY96AA
HP Wired Mouse 1000	4QM14AA
HP Wireless Mouse 200	2HU82AA
HP Wireless Mouse 200	2HU83AA
HP Wireless Mouse 200	2HU84AA
HP Wireless Mouse 200	2HU85AA
HP Wireless Mouse 200	2VY31AA
HP Wireless Mouse 200	2VY33AA
HP Wireless Mouse 201	3XA55AA
HP Wireless Mouse 220	7KX10AA
HP Wireless Mouse 220	7KX11AA
HP Wireless Mouse 220	7KX12AA
HP Wireless Mouse 220 with Pouch	6JA61AA
HP Wireless Mouse 220 with Pouch	6JA62AA
HP Wireless Mouse 220 with Pouch	6JA63AA
HP Wireless Mouse 250	3FV67AA
HP Wireless Mouse X200	6VY95AA
HP Wireless Mouse Z3700	4VY82AA
HP Wireless Mouse Z3700	6SD49AA
HP Wireless Mouse Z3700	7UH85AA
HP Wireless Mouse Z3700	7UH86AA
HP Wireless Mouse Z3700	7UH87AA
HP Wireless Mouse Z3700	7UH88AA
HP Wireless Mouse Z3700	7UH89AA
HP Wireless Mouse Z4000	H5N61AA
HP Wireless Silent 280M Mouse	19U64AA
HP X1000 Mouse	H2C21AA
HP X1500 Mouse	H4K66AA
HP X220 Backlit Gaming Mouse	8DX48AA

HP X3000 Wireless Mouse	H2C22AA
HP X4000b Bluetooth Mouse	H3T51AA
HP X4500 Wireless (Black) Mouse	H2W16AA
HP X4500 Wireless (Metal Black) Mouse	H2W26AA
HP X500 Wired Mouse	E5C12AA
HP X500 Wired Mouse	E5E76AA
HP X900 Wired Mouse	V1S46AA
HP Z3200 Black Wireless Mouse	J0E44AA
HP Z3200 White Wireless Mouse	E5J19AA
HP Z3700 Black Wireless Mouse	V0L79AA
HP Z3700 Blue Wireless Mouse	V0L81AA
HP Z3700 Ceramic White Wireless Mouse	171D8AA
HP Z3700 Forest Teal Wireless Mouse	171D9AA
HP Z3700 Gold Wireless Mouse	X7Q43AA
HP Z3700 Red Wireless Mouse	V0L82AA
HP Z3700 Silver Wireless Mouse	X7Q44AA
HP Z3700 White Wireless Mouse	V0L80AA
HP Z5000 Bluetooth Mouse	E5C13AA
HP Z5000 Dark Ash Silver Wireless Mouse	W2Q00AA
HP x4000 Wireless Mouse (Winter Blue) with Laser Sensor	H1D34AA
HP x4000 Wireless Mouse with Laser Sensor	A0X35AA
OMEN Vector Essential Mouse	8BC52AA
OMEN Vector Mouse	8BC53AA
OMEN Vector Wireless Mouse	2B349AA
OMEN by HP Mouse 400	3ML38AA
OMEN by HP Mouse 600	1KF75AA
OMEN by HP Photon Wireless Mouse	6CL96AA
OMEN by HP Reactor Mouse	2VPO2AA
OMEN by HP Reactor Mouse	7ZF19AA

Keyboards

HP Dual Mode Keyboard 1000	18J71AA
HP K1500 Keyboard	H3C52AA
HP K1500 Keyboard	J8F16AA
HP K2500 Wireless Keyboard	E5E77AA
HP K2500 Wireless Keyboard	E5E78AA

HP Keyboard 100	2UN30AA
HP Pavilion Gaming Keyboard 550	9LY71AA
HP Pavilion Gaming Keyboard 800	5JS06AA
HP Pavilion Wired Keyboard 300	4CE96AA
HP Pavilion Wireless Keyboard 400	4XL88AA
HP Pavilion Wireless Keyboard 600	4CE98AA
HP Pavilion Wireless Keyboard 600	4CF02AA
HP Wireless Elite v2 Keyboard	QB467AA
OMEN Spacer Wireless TKL Keyboard	9BU31AA
OMEN by HP Encoder Keyboard	6YW75AA
OMEN by HP Encoder Keyboard	6YW76AA
OMEN by HP Keyboard 1100	1MY13AA
OMEN by HP Sequencer Keyboard	2VN99AA

Batteries/Chargers/Adapters

AC Adapters

HP 65W 7.4mm Non-EM AC Adapter	Y5Y42AA
HP 65W Slim AC Adapter	5SA18AA
HP 65W Slim with USB AC Adapter	G6H47AA

Graphics Cards

Graphics Connectors/Adapters

HP HDMI to VGA Cable Adapter	X1B84AA
------------------------------	---------

PC Drives and Storage

PC DVD+RW Drives

HP USB External DVDRW Drive	F6V97AA
-----------------------------	---------

Disclaimer — Copyright

Intel, Core, Optane, Celeron, Pentium, Iris, XMM, and Thunderbolt are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. AMD, Ryzen, Athlon, and Radeon are trademarks of Advanced Micro Devices, Inc. Bluetooth is a trademark owned by its proprietor and used by HP Inc. under license. NVIDIA and GeForce are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum. DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. McAfee and McAfee LiveSafe are trademarks or registered trademarks of McAfee LLC in the

United States and other countries. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency. All other trademarks are the property of their respective owners.

© Copyright 2020 HP Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Generated by Dynamic Collateral Tool – (ww-en) – Dec 17, 2020 9:18 PM UTC+0000