

Exhibit E

Valve's Accused Handheld Instrumentalities infringe the following asserted claims of U.S. Patent No. 10,627,907 to Venkatesan et al. (the "'907 patent") in at least the following exemplary ways. To the extent that the cited documentation relating to Valve's Accused Handheld Instrumentalities does not disclose all features, methods or operations required by the asserted claims, such non-disclosed features, methods or operations are inherently or equivalently practiced. Immersion's preliminary infringement contentions are based on information presently available to Immersion. Based upon that information, Valve's deployment, operation, maintenance, testing, use, sale, and importation of the Accused Handheld Instrumentalities as described below infringes one or more claims of the '907 Patent either literally or under the doctrine of equivalents. Immersion reserves the right to provide further details regarding Valve's infringement, whether that infringement is literal or under the doctrine of equivalents, as discovery is provided by Valve, and to the fullest extent permissible under the Federal and Local Rules, and any Order of this Court. The specific components, systems, and constructs identified in this chart are for exemplary purposes only and Immersion reserves all rights to supplement as additional components, systems, and constructs become known through discovery, as well as after Valve produces documents and source code and/or the Court construes any terms from the claims of the '907 Patent.

For example, Valve provides guides for developing games and applications with the Unreal, Unity, and Source engines for the Accused Handheld Instrumentalities, which are subject to Valve's control and used for Valve's benefit. In addition, certain developers may develop games and applications with different engines that nonetheless must interoperate with the Accused Handheld Instrumentalities and are subject to Valve's control and used for Valve's benefit. Regardless of which engine is deployed, the Accused Handheld Instrumentalities infringe the asserted claims, as identified in the examples below.

Valve directly infringes the claims of the '907 Patent in the exemplary ways detailed below. Valve indirectly infringes the claims of the '907 Patent to the extent Valve's users are direct infringers of the claims of the '907 Patent as referenced below, and their acts of direct infringement are use of the Accused Handheld Instrumentalities in an infringing manner as described below. With knowledge of infringement of the claims of the '907 Patent going back to at least the filing of the Complaint in this matter, Valve has taken and continues to take active steps to induce infringement of the claims of the '907 Patent by its users. Such active steps include, but are not limited to, making and selling the Accused Handheld Instrumentalities, encouraging third parties to develop infringing features for the Accused Handheld Instrumentalities, providing its users with instructions on use of the accused features of Accused Handheld Instrumentalities.

In addition, Valve infringes by supplying or causing to be supplied in or from the United States all or a substantial portion of the components of the Accused Handheld Instrumentalities, including software, in such manner as to actively induce the combination of

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such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States. Valve further also causes to be supplied in or from the United States components of the Accused Handheld Instrumentalities especially made for use in the Accused Handheld Instrumentalities, including without limitation software, that are not staple articles of commerce suitable for substantial noninfringing use, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States.

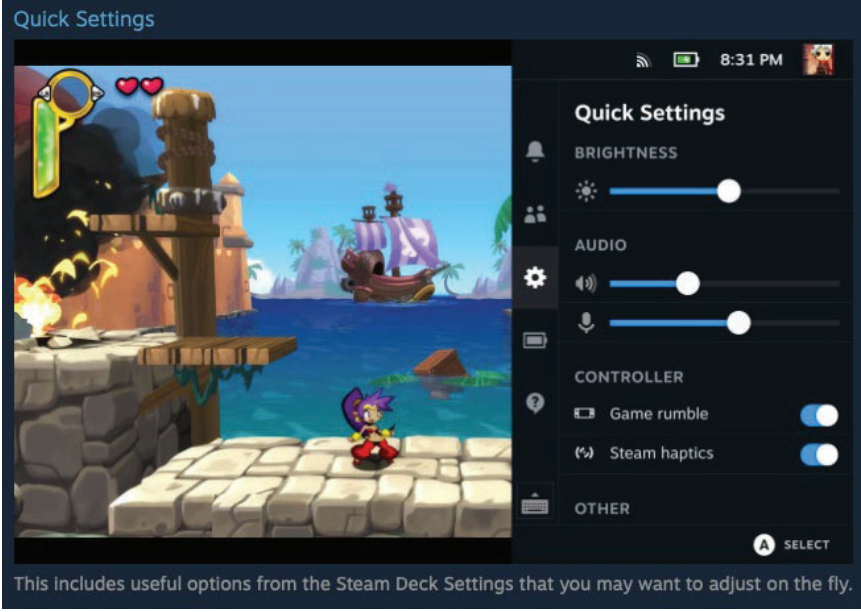
Claim 1	Valve's Accused Instrumentalities
1[P] A method for controlling a user input element associated with a haptic output device, the method comprising:	To the extent the preamble is determined to be limiting, Valve's Accused Handheld Instrumentalities perform a method for controlling a user input element associated with a haptic output device. For example, the Steam Deck includes analog triggers:¹

¹ See <https://steamcommunity.com/sharedfiles/filedetails/?id=2804823261> (last accessed May 10, 2023).

Claim 1	Valve's Accused Instrumentalities
	Steam Deck Controls Controls  The Steam Deck is equipped with controls that are found on a typical gamepad: • Button pad (A B X Y) • D-pad • Menu & View buttons (also called Start & Select) • Steam button (also called Guide button) & Quick Access button • L & R bumpers (also called L1 & R1) • L & R analog triggers (also called L2 & R2) • Dual analog sticks (with clickable thumbsticks also called L3 & R3) Further, Valve's Accused Handheld Instrumentalities comprise a haptic output device at least because, for example, Steam Input refers to the collection of software, hardware, and configuration utilities that Steam uses to interface with games,² and the Steam Deck offers "Game rumble" and "Steam haptics".³

² See <https://steamcommunity.com/sharedfiles/filedetails/?id=2804823261> (last accessed May 10, 2023).

³ See <https://steamcommunity.com/sharedfiles/filedetails/?id=2804823261> (last accessed May 10, 2023).

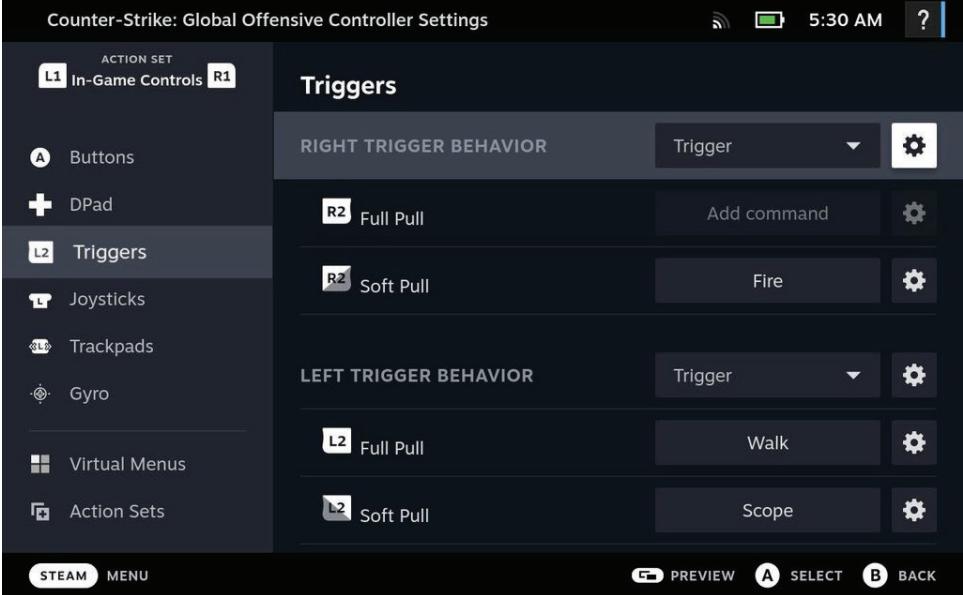
Claim 1	Valve's Accused Instrumentalities
	 Quick Settings BRIGHTNESS AUDIO CONTROLLER Game rumble Steam haptics OTHER SELECT This includes useful options from the Steam Deck Settings that you may want to adjust on the fly.
1[A] defining position and range information for the user input element associated with the haptic output device, including a primary range of positions, a secondary range of positions, and a boundary range of positions, wherein the boundary range	Valve's Accused Handheld Instrumentalities define position and range information for the user input element associated with the haptic output device, including a primary range of positions, a secondary range of positions, and a boundary range of positions, wherein the boundary range of positions partially overlaps each of the primary range of positions and the secondary range of positions. For example, the Steam Deck offers the ability to view or edit the analog trigger's range start and end, which are examples of a primary range of positions and a secondary range of positions, as further described below:⁴

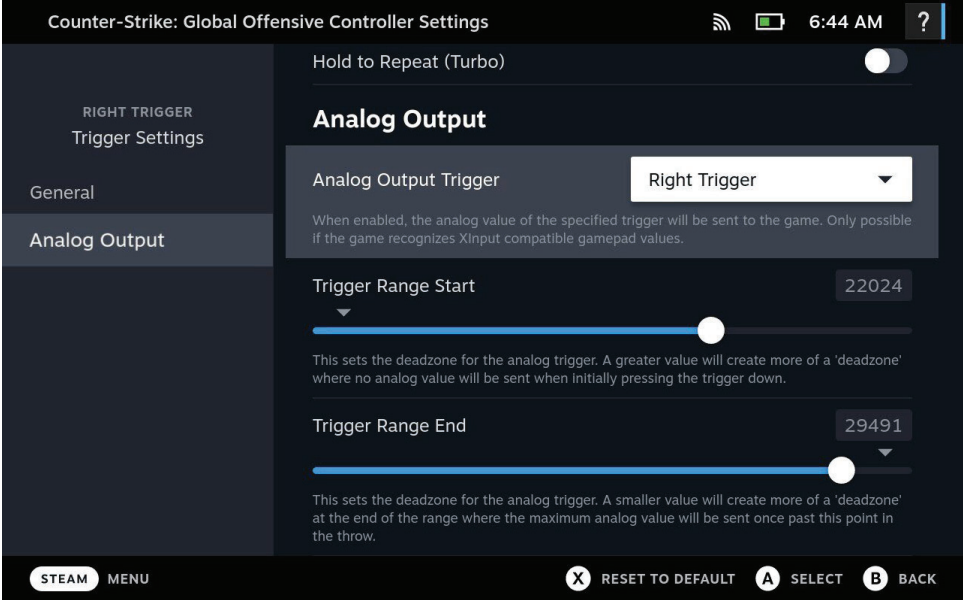
⁴ See <https://steamcommunity.com/sharedfiles/filedetails/?id=2804823261> (last accessed May 10, 2023).

Claim 1	Valve's Accused Instrumentalities
of positions partially overlaps each of the primary range of positions and the secondary range of positions; and	Trigger Range Start and end When Analog Output Trigger is enabled, Trigger Range Start and Trigger Range End determine the trigger's deadzone. When a trigger is not physically resetting to its original position after being pressed and released, resulting in undesired output to the game, adjusting the trigger's deadzone can mitigate this problem. Further, the figures below are screenshots taken from a Steam Deck while testing this functionality in <i>Counter-Strike: Global Offensive</i>⁵ (“CSGO”) with the “SteamDeck Official Controls”: <i>CSGO</i>’s SteamDeck Official Controls bind the “Soft Pull” for the right trigger to the action “Fire”:

⁵ See https://store.steampowered.com/app/730/CounterStrike_Global_Offensive/ (last accessed May 10, 2023).

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Claim 1	Valve's Accused Instrumentalities
	 The screenshot displays the 'Counter-Strike: Global Offensive Controller Settings' menu. The left sidebar lists various control categories: Buttons, DPad, Triggers (selected), Joysticks, Trackpads, Gyro, Virtual Menus, and Action Sets. The main area is titled 'Triggers' and is divided into 'RIGHT TRIGGER BEHAVIOR' and 'LEFT TRIGGER BEHAVIOR'. Under 'RIGHT TRIGGER BEHAVIOR', the 'Trigger' dropdown is set to 'Trigger'. Below this, two pull actions are listed: 'Full Pull' (R2) mapped to 'Add command' and 'Soft Pull' (R2) mapped to 'Fire'. Under 'LEFT TRIGGER BEHAVIOR', the 'Trigger' dropdown is also set to 'Trigger'. Below this, two pull actions are listed: 'Full Pull' (L2) mapped to 'Walk' and 'Soft Pull' (L2) mapped to 'Scope'. The bottom of the screen shows navigation buttons: STEAM, MENU, PREVIEW, SELECT (A), and BACK (B). The top status bar indicates the time is 5:30 AM.

Claim 1	Valve's Accused Instrumentalities
	Additionally, viewing the settings for the “Right Trigger Behavior” allows for viewing the default “Trigger Range Start” and “Trigger Range End” for the Soft Pull. Testing confirms this functionality:  The help text beneath the Trigger Range Start explains that this sets the deadzone for the analog trigger, where no analog values will be sent when initially pressing the trigger down, which is just one example of a primary range of positions: This sets the deadzone for the analog trigger. A greater value will create more of a 'deadzone' where no analog value will be sent when initially pressing the trigger down. Further, the help text beneath the Trigger Range Ends explains that this creates a deadzone at the end of the range, where the maximum analog values will be sent once past this point, which is just one example of a secondary range of positions: This sets the deadzone for the analog trigger. A smaller value will create more of a 'deadzone' at the end of the range where the maximum analog value will be sent once past this point in the throw.

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Claim 1	Valve's Accused Instrumentalities
	Further, as shown below, the following exemplary Valve games have controller settings that use or enable use of analog output triggers with a boundary range of positions with a “Trigger Range Start” and “Trigger Range End” as shown in the screenshots included in the cited Exhibits: - Aperture Desk Job [Exh. E-1] - Artifact Classic [Exh. E-2] - Counter-Strike 2 [Exh. E-3] - Counter-Strike [Exh. E-4] - Counter-Strike: Source [Exh. E-5] - Counter-Strike: Condition Zero [Exh. E-6] - Day of Defeat [Exh. E-7] - Day of Defeat: Source [Exh. E-8] - Deathmatch Classic [Exh. E-9] - Dota 2 [Exh. E-10] - Dota Underlords [Exh. E-11] - Garry's Mod [Exh. E-12] - Half-Life 2: Deathmatch [Exh. E-13] - Half-Life 2: Episode One [Exh. E-14] - Half-Life 2: Episode Two [Exh. E-15] - Half-Life 2 [Exh. E-16] - Half-Life: Blue Shift [Exh. E-17] - Half-Life Deathmatch: Source [Exh. E-18] - Half-Life [Exh. E-19] - Half-Life 2: Lost Coast [Exh. E-20] - Half-Life: Opposing Force [Exh. E-21] - Half-Life: Source [Exh. E-22] - Left 4 Dead 2 [Exh. E-23] - Portal 2 [Exh. E-24] - Portal [Exh. E-25] - Ricochet [Exh. E-26] - Team Fortress 2 [Exh. E-27] - Team Fortress Classic [Exh. E-28]

Claim 1	Valve's Accused Instrumentalities
	Further, as shown below, the following exemplary third-party games (https://store.steampowered.com/sale/decktop100) have controller settings that use or enable use of analog output triggers with a boundary range of positions with a “Trigger Range Start” and “Trigger Range End” as shown in the screenshots included in the cited Exhibits: - Hogwarts Legacy [Exh. E-29] - Vampire Survivors [Exh. E-30] - ELDEN RING [Exh. E-31] - Resident Evil 4 [Exh. E-32] - The Witcher® 3: Wild Hunt [Exh. E-33] - Dead Cells [Exh. E-34] - Hades [Exh. E-35] - Street Fighter™ 6 [Exh. E-36] - Brotato [Exh. E-37] - Red Dead Redemption 2 [Exh. E-38] - DREDGE [Exh. E-39] - Stardew Valley [Exh. E-40] - Grand Theft Auto V [Exh. E-41] - Cyberpunk 2077 [Exh. E-42] - OCTOPATH TRAVELER II [Exh. E-43] - Cult of the Lamb [Exh. E-44] - Hi-Fi RUSH [Exh. E-45] - No Man's Sky [Exh. E-46] - Persona 5 Royal [Exh. E-47] - STAR WARS Jedi: Fallen Order™ [Exh. E-48] The above configurations result in a range of positions between the trigger range start and end that constitute analog values outside of the trigger's deadzone. This is just one example of a boundary range of positions that partially overlaps each of the primary range of positions and the secondary range of positions. Thus, Valve's Accused Handheld Instrumentalities define position and range information for the user input element associated with the haptic output device, including a primary range of positions, a secondary range of positions, and a boundary range of positions, wherein the boundary range of positions partially overlaps

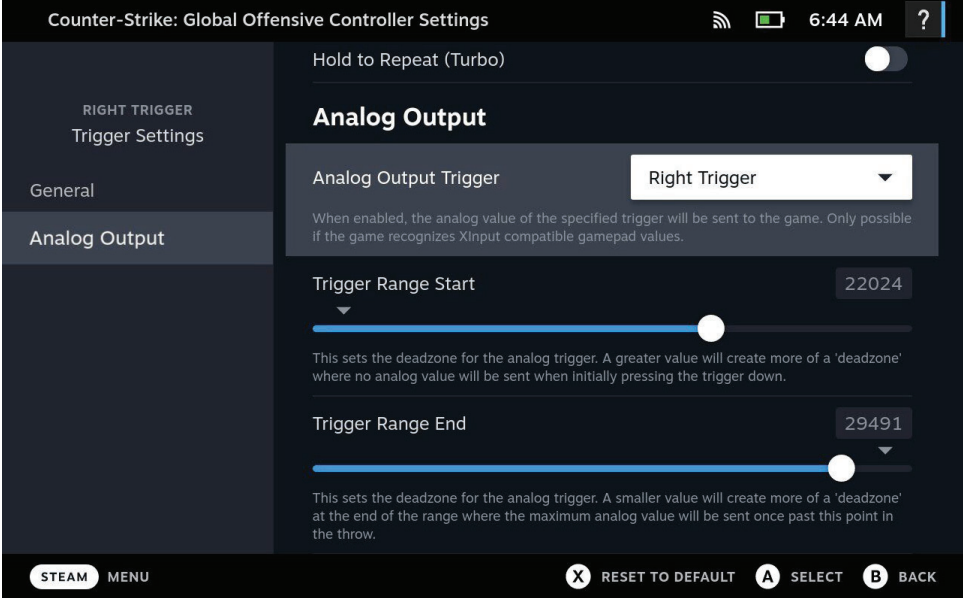
Claim 1	Valve's Accused Instrumentalities
	each of the primary range of positions and the secondary range of positions, consistent with the examples noted above.
1[B] rendering a haptic effect in response to an entry of the user input element to one or more positions within the boundary range of positions.	Valve's Accused Handheld Instrumentalities render a haptic effect in response to an entry of the user input element to one or more positions within the boundary range of positions. For example, testing in <i>CSGO</i> with the configuration described in Limitation 1A confirms that firing occurred late into the Soft Pull of the right trigger, i.e., upon entry of the user input element within the boundary range of positions. Firing also causes haptic effects to occur.  Where the “analog trigger” is enabled, Valve and third party games render a haptic effect in response to an entry within the boundary range of positions. Thus, Valve's Accused Handheld Instrumentalities render a haptic effect in response to an entry of the user input element to one or more positions within the boundary range of positions, consistent with the examples noted above.

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	Valve's Accused Instrumentalities
2. The method of claim 1, wherein one of the primary range of positions, the secondary range of positions, and the boundary range of positions is calculated based on a movement of the user input element from a maximum out position to a grounding position.	Valve's Accused Handheld Instrumentalities perform the method of claim 1, wherein one of the primary range of positions, the secondary range of positions, and the boundary range of positions is calculated based on a movement of the user input element from a maximum out position to a grounding position. On information and belief, Valve's Accused Handheld Instrumentalities calculate one of the primary range of positions, the secondary range of positions, and the boundary range of positions based on the maximum out position and grounding position of the Steam Deck's trigger.
Claim 3	Valve's Accused Instrumentalities
3. The method of claim 1, wherein a profile for the user input element is calculated by mapping each position of the user input element to an analog to digital conversion value.	Valve's Accused Handheld Instrumentalities perform the method of claim 1, wherein a profile for the user input element is calculated by mapping each position of the user input element to an analog to digital conversion value. On information and belief, Valve's Accused Handheld Instrumentalities map the position of the Steam Deck's trigger to an analog to digital conversion value.

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Claim 4	Valve's Accused Instrumentalities
4. The method of claim 3, wherein the profile for the user input element is an increasing profile or a decreasing profile.	Valve's Accused Handheld Instrumentalities perform the method of claim 3, wherein the profile for the user input element is an increasing profile or a decreasing profile. On information and belief, Valve's Accused Handheld Instrumentalities calculate the profile from claim 1 using increasing or decreasing profiles.
Claim 5	Valve's Accused Instrumentalities
5. The method of claim 1, wherein a normalized profile for the user input element is calculated by removing at least one of the secondary range of positions or the boundary range of positions from mapped analog to digital conversion values.	Valve's Accused Handheld Instrumentalities perform the method of claim 1, wherein a normalized profile for the user input element is calculated by removing at least one of the secondary range of positions or the boundary range of positions from mapped analog to digital conversion values. On information and belief, Valve's Accused Handheld Instrumentalities calculates a normalized profile for the trigger by removing at least one of the configured secondary range of positions or the configured boundary range of positions from mapped analog to digital conversion values.
Claim 6	Valve's Accused Instrumentalities
6. The method of claim 1, further comprising monitoring a position of the user input element.	Valve's Accused Handheld Instrumentalities perform the method of claim 1, further comprising monitoring a position of the user input element. For example, the ability to configure the default "Trigger Range Start" and "Trigger Range End" for the Soft Pull indicates that Valve's Accused Handheld Instrumentalities monitor the position of the trigger for operating under this configuration:

Claim 6	Valve's Accused Instrumentalities
	 The screenshot displays the 'Counter-Strike: Global Offensive Controller Settings' menu. On the left, a sidebar lists 'RIGHT TRIGGER Trigger Settings' with sub-options 'General' and 'Analog Output'. The 'Analog Output' option is selected. The main area shows the 'Analog Output' settings. At the top, 'Hold to Repeat (Turbo)' is toggled off. Below, 'Analog Output Trigger' is set to 'Right Trigger'. A descriptive note states: 'When enabled, the analog value of the specified trigger will be sent to the game. Only possible if the game recognizes XInput compatible gamepad values.' Two sliders are present: 'Trigger Range Start' is set to 22024, and 'Trigger Range End' is set to 29491. Explanatory text for the sliders indicates they define a 'deadzone' for the analog trigger. At the bottom, navigation buttons include 'STEAM MENU', 'X RESET TO DEFAULT', 'A SELECT', and 'B BACK'.
Claim 7	Valve's Accused Instrumentalities
7. The method of claim 1, further comprising adjusting a profile and a normalized profile of the user input element to adjust for a change to a resting position of the user input element.	Valve's Accused Handheld Instrumentalities perform the method of claim 1, further comprising adjusting a profile and a normalized profile of the user input element to adjust for a change to a resting position of the user input element. On information and belief, Valve's Accused Handheld Instrumentalities calculate a profile and a normalized profile based on the original resting position of the Steam Deck's trigger. Further, on information and belief, Valve's Accused Handheld Instrumentalities adjusts this profile and normalized profile based on a change to this resting position.

Claim 8	Valve's Accused Instrumentalities																
8[P] A non-transitory computer readable storage medium storing a program configured to be executed by a processor, the program comprising instructions for:	To the extent the preamble is determined to be limiting, Valve's Accused Handheld Instrumentalities include a non-transitory computer readable storage medium storing a program configured to be executed by a processor, the program comprising instructions for the limitations below. See Limitation 1[P]. Further, Valve's Accused Handheld Instrumentalities include a processor, RAM, and storage for storing a program configured to be executed by a processor:⁶ Tech Specs <table> <tr> <td colspan="2">Compute</td></tr> <tr> <td rowspan="4">Processor</td><td>AMD APU</td></tr> <tr> <td>CPU: Zen 2 4c/8t, 2.4-3.5GHz (up to 448 GFlops FP32)</td></tr> <tr> <td>GPU: 8 RDNA 2 CUs, 1.0-1.6GHz (up to 1.6 TFlops FP32)</td></tr> <tr> <td>APU power: 4-15W</td></tr> <tr> <td colspan="2">RAM</td></tr> <tr> <td colspan="2">16 GB LPDDR5 on-board RAM (5500 MT/s quad 32-bit channels)</td></tr> <tr> <td rowspan="4">Storage</td><td>64 GB eMMC (PCIe Gen 2 x1)</td></tr> <tr> <td>256 GB NVMe SSD (PCIe Gen 3 x4 or PCIe Gen 3 x2*)</td></tr> <tr> <td>512 GB high-speed NVMe SSD (PCIe Gen 3 x4 or PCIe Gen 3 x2*)</td></tr> <tr> <td>All models use socketed 2230 m.2 modules (not intended for end-user replacement) All models include high-speed microSD card slot *Some 256GB and 512GB models ship with a PCIe Gen 3 x2 SSD. In our testing, we did not see any impact to gaming performance between x2 and x4.</td></tr> </table>	Compute		Processor	AMD APU	CPU: Zen 2 4c/8t, 2.4-3.5GHz (up to 448 GFlops FP32)	GPU: 8 RDNA 2 CUs, 1.0-1.6GHz (up to 1.6 TFlops FP32)	APU power: 4-15W	RAM		16 GB LPDDR5 on-board RAM (5500 MT/s quad 32-bit channels)		Storage	64 GB eMMC (PCIe Gen 2 x1)	256 GB NVMe SSD (PCIe Gen 3 x4 or PCIe Gen 3 x2*)	512 GB high-speed NVMe SSD (PCIe Gen 3 x4 or PCIe Gen 3 x2*)	All models use socketed 2230 m.2 modules (not intended for end-user replacement) All models include high-speed microSD card slot *Some 256GB and 512GB models ship with a PCIe Gen 3 x2 SSD. In our testing, we did not see any impact to gaming performance between x2 and x4.
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⁶ See https://store.steampowered.com/steamdeck/#SaleSection_24468.

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Claim 8	Valve's Accused Instrumentalities
	Further, Valve's SteamVR supports multiple engines, including the Unity Engine⁷, the Unreal Engine⁸, and the proprietary Source 2 Engine, through multiple SDKs such as OpenVR⁹ and OpenXR¹⁰ to implement applications and games. As one example, OpenVR is divided into two layers: application and driver. Valve documentation notes that, "One real-world example of an application is a game engine like Unity."¹¹ Further, "OpenVR for application talks to SteamVR. SteamVR then talks to OpenVR driver."¹²
8[A] defining position and range information for a user input element associated with the haptic output device, including a primary range of positions, a secondary range of positions, and a boundary range of positions, wherein the boundary range of positions partially	Valve's Accused Handheld Instrumentalities define position and range information for a user input element associated with the haptic output device, including a primary range of positions, a secondary range of positions, and a boundary range of positions, wherein the boundary range of positions partially overlaps each of the primary range of positions and the secondary range of positions. See Limitation 1[A].

⁷ See https://valvesoftware.github.io/steamvr_unity_plugin/ (last accessed May 10, 2023); <https://github.com/ValveSoftware/unity-xr-plugin> (last accessed May 10, 2023).

⁸ See https://github.com/ValveSoftware/steamvr_unreal_plugin (last accessed May 10, 2023).

⁹ See <https://help.steampowered.com/en/faqs/view/46C3-050A-2E52-12D6> (last accessed May 10, 2023); <https://github.com/ValveSoftware/openvr/wiki/API-Documentation> (last accessed May 10, 2023).

¹⁰ See <https://github.com/ValveSoftware/OpenXR-Canonical-Pose-Tool> (last accessed May 10, 2023); https://github.com/ValveSoftware/openxr_engine_plugins (last accessed May 10, 2023).

¹¹ See <https://github.com/ValveSoftware/openvr/wiki/API-Documentation> (last accessed May 10, 2023).

¹² See <https://github.com/ValveSoftware/openvr/wiki/API-Documentation> (last accessed May 10, 2023).

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Claim 8	Valve's Accused Instrumentalities
overlaps each of the primary range of positions and the secondary range of positions; and	
8[B] rendering a haptic effect in response to an entry of the user input element to one or more positions within the boundary range of positions.	Valve's Accused Handheld Instrumentalities render a haptic effect in response to an entry of the user input element to one or more positions within the boundary range of positions. See Limitation 1[B].
Claim 9	Valve's Accused Instrumentalities
9. The non-transitory computer readable storage medium of claim 8, wherein one of the primary range of positions, the secondary range of positions, and the boundary range of positions is calculated based on a movement of the user input element from a maximum out position to a grounding position.	Valve's Accused Handheld Instrumentalities include the non-transitory computer readable storage medium of claim 8, wherein one of the primary range of positions, the secondary range of positions, and the boundary range of positions is calculated based on a movement of the user input element from a maximum out position to a grounding position. See Claim 2.

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Claim 9	Valve's Accused Instrumentalities
out position to a grounding position.	
Claim 10	Valve's Accused Instrumentalities
10. The non-transitory computer readable storage medium of claim 8, wherein a profile for the user input element is calculated by mapping each position of the user input element to an analog to digital conversion value.	Valve's Accused Handheld Instrumentalities include the non-transitory computer readable storage medium of claim 8, wherein a profile for the user input element is calculated by mapping each position of the user input element to an analog to digital conversion value. See Claim 3.
Claim 11	Valve's Accused Instrumentalities
11. The non-transitory computer readable storage medium of claim 10, wherein the profile for the user input element is an increasing profile or a decreasing profile.	Valve's Accused Handheld Instrumentalities include the non-transitory computer readable storage medium of claim 10, wherein the profile for the user input element is an increasing profile or a decreasing profile. See Claim 4.
Claim 12	Valve's Accused Instrumentalities
12. The non-transitory computer readable storage	Valve's Accused Handheld Instrumentalities include the non-transitory computer readable storage medium of claim 8, wherein a normalized profile for the user input element is calculated by removing at least one of

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Claim 12	Valve's Accused Instrumentalities
medium of claim 8, wherein a normalized profile for the user input element is calculated by removing at least one of the secondary range of positions or the boundary range of positions from mapped analog to digital conversion values.	the secondary range of positions or the boundary range of positions from mapped analog to digital conversion values. See Claim 5.
Claim 13	Valve's Accused Instrumentalities
13. The non-transitory computer readable storage medium of claim 8, further comprising instructions for monitoring a position of the user input element.	Valve's Accused Handheld Instrumentalities include the non-transitory computer readable storage medium of claim 8, further comprising instructions for monitoring a position of the user input element. See Claim 6.
Claim 14	Valve's Accused Instrumentalities
14. The non-transitory computer readable storage medium of claim 13, further comprising instructions for	Valve's Accused Handheld Instrumentalities include the non-transitory computer readable storage medium of claim 13, further comprising instructions for adjusting a profile and a normalized profile of the user input element to adjust for a change to a resting position of the user input element. See Claim 7.

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Claim 14	Valve's Accused Instrumentalities
adjusting a profile and a normalized profile of the user input element to adjust for a change to a resting position of the user input element.	

Claim 15	Valve's Accused Instrumentalities
15[P] A device comprising:	To the extent the preamble is determined to be limiting, Valve's Accused Handheld Instrumentalities include a device that meets the limitations below. See below.
15[A] a processor; and	Valve's Accused Handheld Instrumentalities include a processor. See Limitation 8[P].
15[B] a memory storing a program for execution by the processor, the program including instructions for:	Valve's Accused Handheld Instrumentalities include a memory storing a program for execution by the processor, the program including instructions for the limitations below. See Limitation 8[P].
15[C] defining position and range information <u>for</u> a user input element associated with the	Valve's Accused Handheld Instrumentalities define position and range information for the user input element associated with the haptic output device, including a primary range of positions, a secondary range of positions, and a boundary range of positions, wherein the boundary range of positions partially overlaps each of the primary range of positions and the secondary range of positions.

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Claim 15	Valve's Accused Instrumentalities
haptic output device, including a primary range of positions, a secondary range of positions, and a boundary range of positions, wherein the boundary range of positions partially overlaps each of the primary range of positions and the secondary range of positions; and	See Limitation 1[A].
15[D] rendering a haptic effect in response to an entry of the user input element to one or more positions within the boundary range of positions.	Valve's Accused Handheld Instrumentalities render a haptic effect in response to an entry of the user input element to one or more positions within the boundary range of positions. See Limitation 1[B].
Claim 16	Valve's Accused Instrumentalities
16. The device of claim 15, wherein one of the primary range of positions, the secondary	Valve's Accused Handheld Instrumentalities include the device of claim 15, wherein one of the primary range of positions, the secondary range of positions, and the boundary range of positions is calculated based on a movement of the user input element from a maximum out position to a grounding position. See Claim 2.

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Claim 16	Valve's Accused Instrumentalities
range of positions, and the boundary range of positions is calculated based on a movement of the user input element from a maximum out position to a grounding position.	
Claim 17	Valve's Accused Instrumentalities
17. The device of claim 15, wherein a profile for the user input element is calculated by mapping each position of the user input element to an analog to digital conversion value.	Valve's Accused Handheld Instrumentalities include the device of claim 15, wherein a profile for the user input element is calculated by mapping each position of the user input element to an analog to digital conversion value. See Claim 3.
Claim 18	Valve's Accused Instrumentalities
18. The device of claim 15, wherein a normalized profile for the user input element is calculated by removing at least one of the secondary range of positions or	Valve's Accused Handheld Instrumentalities include the device of claim 15, wherein a normalized profile for the user input element is calculated by removing at least one of the secondary range of positions or the boundary range of positions from mapped analog to digital conversion values. See Claim 4.

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Claim 18	Valve's Accused Instrumentalities
the boundary range of positions from mapped analog to digital conversion values.	
Claim 19	Valve's Accused Instrumentalities
19. The device of claim 15, further comprising instructions for monitoring a position of the user input element.	Valve's Accused Handheld Instrumentalities include the device of claim 15, further comprising instructions for monitoring a position of the user input element. See Claim 6.
Claim 20	Valve's Accused Instrumentalities
20. The device of claim 19, further comprising instructions for adjusting a profile and a normalized profile of the user input element to adjust for a change to a resting position of the user input element.	Valve's Accused Handheld Instrumentalities include the device of claim 19, further comprising instructions for adjusting a profile and a normalized profile of the user input element to adjust for a change to a resting position of the user input element. See Claim 7.