

1.2 Change List

A list of all changes to VIZIO Home System Spec.

	Section	Change	JIRA	Notes
1	Version 2024.1 Align FUR7.0	Release: July 15, 2024		Updated for 5586L.
2	https://vizio.atlassian.net/wiki/x/E4NvwCI	Updated referenced documents.	N/A	
3	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.0--Wi-Fi-Standards-and-Requirements	Small skus limits increased to include 5Ghz 802.11ac dual band.	n/a	
4	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.0--Wi-Fi-Standards-and-Requirements	Updated the WiFi support to include -L and -8 SOC.		
5	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.1.-Wi-Fi-and-Network-Management	SoftAP requirement reinstated only for captive portal support.		
6	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.2-Interface-Arbitration	Clarified network arbitration is switching from Ethernet to Wi-Fi and vice-versa. Deleted Wi-Fi connected second screen may request a TDLS link rather than use the wired connection but the Ethernet connection persists Deleted TDLS uses the network to negotiate an out-of-band connection.		TLDS support removed - no tablet support.
7	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.4-Set-Up-Network-Connection	For connection test, deleted Fast.com , instead use google service to ping DNS servers. Speed test deleted. Deleted IPv6 manual support from Mobile app only.		
8	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.6-Wireless-Protocols-and-Security	Deleted 5583 is limited to 802.11n support only.		
9	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.6.1-Wireless-Test-Spec-and-Worksheets	Updated Wi-Fi test documents to 4.4, rev 2.		
10	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.6.2-Wireless-Security-requirements	Wi-Fi security requirements include mixed mode with WPA2/WPA3.		
11	2.8	Deleted Wi-Fi TDLS		TLDS support removed - no tablet support.
12	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.8-TV-mDNS-Support	Added mDNS supports Cast and power on for Quick mode. Added mDNS offload for wake on eco mode Deleted support required for Knocket by MAC or PC.		Knocket no longer used for testing.
13	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1-Bluetooth	Deleted BT sku limitation and TV is slave for mobile devices. Added update to Dual Port Bluetooth 5.2 in progress.		
14	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.1-Bluetooth-Profiles	Included Bluetooth support of SCPP for gamepads. Deleted support for HSP (headset profile) and HFP (hands free profile for camera)	n/a	

15	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.2-Bluetooth-Multiple-Device-Support-(BT-5.2)-TBD-until-FUR8.0	BT 5.2 support for multiple devices is TBD planned for FUR 8.0.		
16	3.1.4	Deleted Bluetooth USB Dongle Support for Voice Remote		Dongle not supported.
17	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.4-Bluetooth-Wi-Fi-Combo-Chip	Updated WiFi BT chip combo with -K, -L, -8 SOC		
18	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.5-Bluetooth-Support-for-Headphones-and-Voice-Remote-by-SKU	Updated BT supporter headphones and voice remote to include -L and -8 skus and added game controller support.		
19	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.3-Inputs	Added composite limited to 2020 -H and 2021 -J skus. HDMI 1.4b and 2.1a supported - removed all other versions.		
20	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.3.2-HDMI-Video-Timings-for-Devices	Added 4K@60 Hz 48 Gbps for 2024 -8 Quantum (VQP65C-84, VQP75C-84) HDMI-3		
21	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.3.3-PC-Timings	European timings are not supported: deleted.		
22	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.3.5-VIZIO-Home-Input	Updated SmartCast Home Input to VIZIO Home Input.		
23	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.4-HDMI-and-CEC-Management	Updated versions for HDMI CEC support.		
24	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.4.5-HDMI-EDID	Updated EDID size and requirements for HDMI.		
25	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.5.2-USB-Retail-Demo-Mode-Video-DELETED	Deleted. Retail demo video does not play from USB.		USB only uploads retail demo videos to TV.
26	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.6-Codec%2C-Containers%2C-Formats	WebP is supported for Google Cast but not required: deleted requirement.		TV platforms cannot support WebP.
27	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.7-Audio-Requirements	Added DTS:X applies to: <ul style="list-style-type: none"> 5691 5695/S 5586L 72690-4K Added 5583 and 72690-2K include DTS M6 but not DTS:X.	n/a	

28	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.7-Audio-Requirements	<p>Updated Audio Requirements:</p> <p>TV speakers</p> <ul style="list-style-type: none"> Deleted stereo audio for TV speakers Added DD+ Updated DTS DS to DTS CA <p>SPDIF</p> <ul style="list-style-type: none"> Remove DD+ support <p>HDMI-ARC/eARC</p> <ul style="list-style-type: none"> Audio post processing not supported DD+, DD+ Atmos, DTS CA, DTS:X Removed pass through only for Dolby TrueHD, Dolby TrueHD with Atmos, DTS:X 	n/a	Changes due to addition of MS12 decoder.
29	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.8.1-Color-Gamut	Removed detailed Color gamut for P skus and included defined in PRD by SKU.		
30	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.14-Dynamic-Random-Access-Memory-Requirements-(DRAM)	Added DRAM for 5586L.		
31	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258633268#3.15-Flash-Memory-(eMMC)-Requirements	Added Flash Memory for 5586L.		
32	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.16-Performance#17	Channel Scan (Find More Channels) takes 7 minutes instead of 4 minutes.	MVD-6185	4 minutes performance never met. HW agreed to current scan time.
33	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.16-Performance	Added Power OFF (Quick Start) and other minor updates.		
34	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258600613	<ul style="list-style-type: none"> Deleted Alexa built-in Deleted Cirrent Deleted python SCPL (internal version is use) Updated versions linux 5.15 (5586L), 4.19 (Apollo MTK), 5.11 (Novatek) Added font rendered embedded Loki & Conjure. Added Google Chromecast is for casting only. 	n/a	Alexa build-in and Cirrent network not supported.
35	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.1-Dynamic-Ad-Insertion	Deleted Dynamic Ad Insertion.	n/a	Not supported 2020 going forward.
36	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.1-Cast-Core-Hardware-Accelerated-Media-Playback	Updated that Cast Core media playback is used for casted content only.		
37	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.1.1-Cast-Modes	Cast from VIZIO mobile app uses Google cast APIs.		
38	4.1.2	Deleted Cast Power State.		
39	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.1.2-Wake-on-IP-(Wi-Fi-and-LAN)	Wake on IP switches to VIZIO Home input if casting.		
40	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.1.3-Input-Switch-with-Cast	Updated input switch to VIZIO Home when casting.		
41	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.2-Graphics-Management	Graphics management uses Cast core and Loki based on the app.		Refer to technical specs for details.

42	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.3-Conjure-Chromium-support	Deleted user manual from Conjure Chromium support.		User manual moved to Loki
43	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.4-DIAL-support-for-Two-Screen-Experience-(new-internal-version)	Added DIAL has new internal version and supports Netflix.		
44	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.5-Binary-Compatibility-and-Single-Codebase	The firmware is divided into separately loadable component replacing Cast firmware with current VIZIO iteration of Conjure.		
45	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.6-OSD-and-Content-Rendering	Added Loki used for OSD rendering and Loki player planned for content.		
46	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.6.1-Fancy-Player-(aka-Loki-Player%3F)	Added VIZIO Loki player for video playback.		Added to WatchFree+ first then propagated to all apps.
47	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.7.1-Power-On-State	Deleted long chorded press of back panel Input and Volume up exits OOB. A press of BACK with a confirmation exits OOB.		TV's no longer support Input and volume up on the panel.
48	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.7.2-VIZIO-Splash-Screen-Display	Add display of logo splash screen will be displayed by Loki in future. Deleted OOB only display of logo from cold boot.		
49	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.7.4-SCPL-API	Updated REST to internal SCPL	n/a	
50	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.8-Voice-Command-support	Updated supported voice commands. Deleted obsolete Voice command requirements.		
51	https://vizio.atlassian.net/wiki/spaces/USS/pages/edit-v2/149258600613#4.8.1-Voice-Engine	Added Houndify decodes to a SCPL (IOT) command.		
52	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.9-HDMI-Automatic-Low-Latency-Mode	Updated HDMI automatic low latency mode requirements.		
53	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.10-Peak-Brightness-Burst-Mode-DELETED	Deleted Peak Brightness. This feature was only for Quantum Pro.		After testing was not required.
54	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633387/5.+TV+101#5.1-TV101-and-Settings-Application	Updated with current 2024 5586L requirements.	n/a	As per engineering request.
55	6. Updates	Add naming updates from cmd: mgXXX-CommandStickName.cmd	NTD-386	
56	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258567847/6.+Updates#6.1.1-Software-Update-Requirements#8-10	Added TV wakes up after 1 minute after power down to check for update. Added DLM binaries.	n/a	Spec cleanup
57	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258567847/6.+Updates#6.1.2-Upgradeable-Modules-from-Firmware-Update	Added VIZIO OS is upgradeable module. PQ and AQ updates included.	n/a	spec clean up
58	6.2 Google Cast Receiver Updates 6.2.1 Google Cast Receiver Omaha Update	Deleted Cast update via Omaha: never implemented.	n/a	

59	https://vizio.atlassian.net/wiki/spaces/USS/pages/149260304415/8.+Factory+Test+and+Calibration#%5BhardBreak%5D8.2-Factory-Calibration-3D-LUT	Deleted Factory Calibration 3D LUT	n/a	Never implemented.
60	https://vizio.atlassian.net/wiki/spaces/USS/pages/149260304415/8.+Factory+Test+and+Calibration#8.3-TV-Unpaired-Bluetooth-Remote	Deleted conflicting statement that reset does delete BT remote pairing.	n/a	Reset to factory settings does not delete pairing of BT remote
61	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258569166/9.+Diagnostics#9.4-USB-Logging-Mode	Updated Diagnostics: <ul style="list-style-type: none"> Platform logging levels for all software modules are controlled by using VLOG including App, Kernel, All and Off. USB logging mode file name to "enable_log2usb" 	n/a	Spec clean up
62				
63	Release Feb 9, 2024	Version 2023.2 Align FUR6.1		
64	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.6-Codec%2C-Containers%2C-Formats	Reinstated HE-AAC, ACC-LC for MP4 file extension.	n/a	Dolby requires support HE-AAC and ACC-LC. Due to cost 5.1 not support???
65	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.10.3-Power-States	Deleted Active Standby Added Power Off turns TV back on after 1 minute to check for updates via Qterics. Added Power Off with Eco mode waits TBD seconds to power on is power off.	N/a <ul style="list-style-type: none"> Active Standby not implemented - no longer a requirement. 	Spec clean up
66	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258600613/4.+Software+Requirements#4.8.4-TV101-and-Settings-Application	Deleted as previously replaced with 5. TV 101	spec clean up	
67	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633387/5.+TV+101#5.1-TV101-and-Settings-Application	Updated with current 2023 requirements.	spec clean up	
68	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633387/5.+TV+101#5.1.2-Filmmaker-Mode-(deferred-to--L-2023)	Deleted Filmmaker mode as never supported and no future plans.		
69	8. Factory Test and Calibration	Added CC key or STAR key	n/a	Star key replaces CC key on BT remotes.
70	https://vizio.atlassian.net/wiki/spaces/USS/pages/149764604592/9.0+VIZIO+Test+Menu#9.0.1-Factory-menu	Added Factory menu codes to Test menu section for ODM reference.	n/a	
71	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258569166/9.+Diagnostics#9.2.1-Command-Stick-Behavior	Added UX/UI for Command Stick once detected and launched.	NTD-386	Added to support Novatek.
72	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258569166/9.+Diagnostics#9.4-USB-Logging-Mode	File for USB to start data logging renamed to "enable_log2usb" .		
73				
74	Release May 30, 2023	Version 2023.1 Align FUR5.3		
75	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.1-Bluetooth-Profiles	Added GATT required: <ul style="list-style-type: none"> BT remote headphones 		
76	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.10-Adaptive-Bitrate-Streaming	Deleted smooth streaming from Adaptive Bitrate Streaming.	n/a	Per engineering " stopped using when we released conjure (2019). I've confirmed with mtk as well that none of the native apps are using it. We are using hls and dash for all chipsets."

77	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.1-Bluetooth-Profiles	Added A2DP and AVCRP used for BT headphones; HID and HOGP used for game controllers. BT remote profile is HID only, not HOGP.		
78	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.2.1-Bluetooth-Multiple-Device-Hardware-Requirements	Add hardware requirements to support multiple BT devices such as remote and game controllers.	MVV-14543 MVD-4054 M VP-6045 MV S-1652	
79	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.3-Bluetooth-Minimum-Range-for-Voice-Remote	Corrected range requirements from 15 feet to 15 meters.		
80	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.6-Bluetooth-Support-for-Headphones-and-Voice-Remote-by-SKU	2023 seasonal skus shipping with IR remote: V755x-K04, V555x-J01, V505x-J09	MVV-15669	Models are BT ready for after market purchase of BT remote.
81	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.3.2-HDMI-Video-Timings-for-Devices	All P skus 2020 - 2022 including OLED, added 2160p 8/10/12 bit 4:2:0 due to EDID support added.	MVS-1717	
82	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.3.2-HDMI-Video-Timings-for-Devices	Reformatted HDMI Video Timing table for clarity. Added resolution name (e.g. 4K UHD).	n/a	spec clean up
83	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.6-Codec%2C-Containers%2C-Formats	For MP4 file extension delete HE-AAC, LE-ACC and .mk4 (for heart monitors). Removed shoutcast, a streaming service, not a format or container.	n/a	spec clean up • HE-AAC, LE-ACC not supported due to cost
84	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.8.2-Screen-Refresh-Rate	Added HDMI screen refresh rate for VQ6 is 4K1K@120 Hz, MQX is 4K1K@240 Hz Added 4:2:0 support at 120 Hz for 2160P and 4096x2160. reinstated 480i for HDMI.	MVS-1710 M VV-14683	4096x2160 is used for 4K cinema.
85	3.17	Deleted Camara Requirements.		Spec clean up
86	4.0	Added Apple AirPlay requires version 4.0, skus 2020 (-H) going forward.	MVV-14810 MVS-1719 M VD-4325 MV P-6106	Add NTD Jira for Novatek when available.
87	4.9	Cirrent - deleted, Cirrent system monitoring software binary not implemented.		Spec clean up
88	5.1.3	Deleted Portrait Displays automatic calibration - not implemented.		Spec clean up
89	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633387/5.+TV+101#5.2-Audio-Controls	Digital Audio Out updated settings, Digital replaces Dolby D and Bitstream.		Spec clean up

	Version	Section	Change	JIRA	Notes	Testrail test case #	VQA assignee
1	2022.3	Release July 21, 2022	Align FUR5.2				
2	2022.3	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258667415/2.+Network+Requirements#2.6.1-Wireless-Test-Spec-and-Worksheets	Updated Wi-Fi test worksheets and specification to version 4.1 Rev 1.	Latest version			
3		https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.1.6-Bluetooth-Support-for-Headphones-and-Voice-Remote-by-SKU	After market support of BT voice remote for -H OLED skus.				Birsen

4	2022.3	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.2.1-OLED-Panel	Issue CEC power command to power off CEC device when TV is off, regardless of Off-RS.	MVP-5359			Victor / Chris
5	2022.3	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.2.1-OLED-Panel	Change RS Off to every 5 hours of operation from 4 hours.	Checking with MTK. DELETED.			n/a
6	2022.3	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.10.4-Wake-Up-Support	Support Eco mode WOW and WOL with Voice Assistant all SOC 2020 going forward except for 5583 -J.	MVV-13376			Santosh / Mounika
7	2022.3	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.10.6-Power-State-Saved-and-Restored-after-AC-Off	The power on state is saved and restored at AC power cycle. Supports power on of the TV at retail that is not in demo mode.	MVV-12456 MVP-5391 MVD-3234 MVS-977			Raghav
8	2022.3	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.16-Performance Added performance table to the spec instead of a link.	Find channel speed reduced to 1.5 minutes <ul style="list-style-type: none"> HDMI to HDMI performance reduced 2 to 1 sec. HDMI to SCTV home page = 2 seconds HTML5 app to SCTV home page = 2 seconds Input switching with front panel button is 400msec? OBE completed, SC Home "Welcome to VIZIO" pop up displays in 2 seconds. OBE not started, after AC cycle and V logo, demo mode notification displays in 2 seconds 	<ul style="list-style-type: none"> MVV-12153 MVV-11389 Press HOME key Press EXIT key MVD-2649 MVV-13357, MVD-3539, MVS-1215, MVP-5649 MVS-1255, MVP-3597 			Robert W.
9							
10	2022.2	released February 1, 2022	Aligned FUR5.1.1 for 5695S skus				
11	2022.2	1.1	Added table of acronyms				
12	2022.2	2.4	Correct WPA3 AES to WPA3 SAE.				Santosh / Mounika
13	2022.2	2.6.1	Updated WiFi test spec and worksheets to version 4.0 and added additional cases as needed for WiFi 6.				Santosh / Mounika
14	2022.2	3.1	Add HSP, headset profile.				Birsen
15	2022.2	3.1.1	Added detailed requirements for Bluetooth 5.2 adding: <ul style="list-style-type: none"> Enhanced Attribute Protocol (EATT) Isochronous Channels (ISOC) LE Audio Codec: LC3 LE Power Control (LEPC) Broadcast Audio Sharing 				Birsen
16	2022.2	3.1.1	For BT profiles clarified that BT headphones and sounders are sink and TV source but if streaming audio to TV then mobile device is source and TV is sink.	Support for BT source/TV sink is required but TBD.			Birsen
17	2022.2	3.1.6	BT support and BT voice remote applies to all D skus (5583).				Birsen
18	2022.2	3.1.6	BT audio FUR5.1 for all but -K V505/V555 (released in error).	V505/V555 update to MP version of BT headphones included FUR5.1.			Birsen
19	2022.2	3.2.1	Change RS Off to every 5 hours of operation from 4 hours.				Chris
20	2022.2	3.7	Audio post processing supported for PCM.				Victor / Chris

21	2022.2	3.7.2	Added passthrough details for DD and DTS audio formats.				Victor / Chris
22	2022.2	3.8.2	Add refresh rate of 1080p at 240 Hz to support gaming for M50QXM-K01 only.				Victor / Chris
23	2022.2	https://vizio.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.10.6-Power-State-Saved-and-Restored-after-AC-Off	If OOBE or demo mode at AC cycle always power on automatically regardless if TV was powered on or DC off.				Romer
24	2022.2	https://vizioirvine.atlassian.net/wiki/spaces/USS/pages/149258633268/3.+Hardware+Requirements#3.16-Performance	After hardware program team review updated Eco mode DC on to 5 seconds and a few more performance times.				Robert W.
25	2022.2	4.8.2	VIZIO splash logo displays only from kernel, no longer in the boot loader to prevent display differences in the images due to backlight and for kernel, PQ support not included for kernel.				n/a
26	2022.2	6.1	USB package update is the only method to roll back firmware and is required to wipe certs and then TV must be re-registered.	MVV-9870			Justin
27	2022.2	6.1.1	Added ULI updates includes but is not limited to Wi-Fi, Bluetooth and TCon/Gamma modules.				n/a
28							
29	2022.1	released August 12, 2021	Aligned FUR5 and FUR5.1				
30	2022.1	Coverage	Change name to year +version (2022.1) as releases are infrequent (sometimes 2 releases a year).	Align with FUR /year			n/a
31	2022.1	2	2022 Network requirements upgraded to 2x2 dual band for 5583 and WiFi 6E 2x2 Tri Band for 5691 and 5695.				Santosh / Mounika
32	2022.1	2	Network support required Wi-Fi 4 (802.11n) 2x2 dual band for 5583.	Include old Wi-Fi nomenclature for versions.			Santosh / Mounika
33	2022.1	2.3	Changed IPV6 requirement to 2022 and removed ability to disable IPV6 from TV.				Santosh / Mounika
34		2.4	WiFi security types includes WPA3+AES.	WIFI 6 and 6E only			Santosh / Mounika
35	2022.1	2.6	To wireless protocols add WIFI 6E 2x2 Tri band (2.4/5/6GHz) for 2022 5691/5695.				Santosh / Mounika
36	2022.1	3.1	5583 BT 5.0 and 5691/ 5695 Dual Port Bluetooth 5.2 required for 2022 skus.				n/a
37	2022.1	3.1	Added table of Wi-Fi and Bluetooth chip support.				n/a
38	2022.1	3.1	Added Bluetooth protocols for HFP (CR series) and HAP (BT hearing aids). TBD addition for BT Voice remote (if required) and Game controller for 2022.				n/a
39	2022.1	3.1.4	Added table of BT support for headphones and Voice remote.				Birsen
40	2022.1	3.1.4	Added 2022 -K D skus with P (club) ship with Voice Remote, everyday (M) do not.	For Everyday (M) sidebar includes Pair Remote to support after market XRT260 purchase.			n/a

41	2022.1	3.1.4	Added 2022 -K D skus for headphone support for all D skus	Bluetooth headphone supported for all D skus - may not be at launch.			n/a
42	2022.1	3.3.2	For HDMI 1/2 limited to 2160p 24/30/ 60 Hz 8 bit 4:4:4 and 2160p 10 bit 4:2:2. HDMI 3/4 has full support of 2160p 8/10 /12 bit 4:4:4 at 24/30/60/120 Hz.	HDMI 1/2 limitations			Victor / Chris
43	2022.1	3.3.3	1440/120 not supported for HDMI 1/2 or for any port for EDID 1.4. 1440/60 not supported for HDMI 3/4 (OLED HDMI 2/3) with EDID 2.0/2.1.	Limitations due to port bandwidth and spec issue for EDID.			Victor / Chris
44	2022.1	3.7.1	Added 2002 -K PQX TV speaker Range 100Hz-16kHz, 90dB SPL	Up from 87 dB SPL: supports deeper Bass.			n/a
45	2022.1	3.8	Added PQ hardware requirements section				n/a
46	2022.1	3.8.1	Added Color Gamut by year /series				n/a
47	2022.1	3.8.2	Added Screen Refresh and scanning backlight support by year/series	DMR120 DMR240 (don't include HZ due to legal)			n/a
48	2022.1	3.8.3	Added Brightness NITS	Reference to PRD only by SKU			n/a
49	2022.1	3.9.1	AC on: LED blinks with a 1 second period until TV is in standby, then fades to off 2 - 3 sec. DC on: the LED is lit until splash screen displays. Reboot TV: LED blinks with a 1 second period until TV logo displays. Either LED is blinking or logo displays.	LED behavior incomplete			Robert W.
50	2022.1	3.9.1	No logo display for DC with Quick start (delays power on).				Robert W.
51	2022.1	3.9.4	To support BT Voice remote, Wake on BT support remove for all skus (including 2016 - 2019).				n/a
52	2022.1	3.12	LED requirements for AC On is flashed with 1 second period until standby then LED fades to Off over 2-3 seconds. For DC off LED turns Max White for 1 second, then backlight off in 0.25 seconds.	Update LED indicator spec			Robert W.
53	2022.1	3.14	2022 -K 5695S includes 4GM of DRAM.	Supports higher performance app launching /switching and powerful gaming.			n/a
54	2022.1	3.15	2022 -K 5695S includes 16GM of eMMC.				n/a
55	2022.1	4	Added Alexa Voice Assistant Built-in (MQ9, P and OLED only) to Software components.				Brian
56	2022.1	4	Updated Apple AirPlay to version 2.0.				Jorden
57	2022.1	4	Added Cirrent agent for monitoring and capture of TV WiFi analytics.				n/a
58	2022.1	4.8.2	Seamless transition from bootloader version of splash screen to linux version is required. Added if post OOB, no splash screen with AC on to standby.	Clarify splash screen			n/a
59	2022.1	4.8.2	Reduce Backlight to 60 Cd/m2.	Reduces the visibility of panel imperfections			n/a

60	2022.1	4.8.2	Local Dimming must be enabled if supported in the TV. Splash displays against blank (black) screen: local dimming reduces noticeable panel imperfections.	Local dimming for Splash			Robert W.
61	2022.1	4.10	Add Burst Mode for Peak Brightness.				n/a

Version	Section	Change	Why/Notes
1.6	released April 15, 2021	Aligned FUR4.1	
1.6	3.7.2	Add AV sync requirements.	AV sync undefined
1.6	3.9.2	AC Power Boot up performance is defined as 8 or 10 seconds to ready for power on for Eco Mode or Quick Start. Additional 3 or 5 seconds for power on for Quick Start or Eco Power. To power on for Reboot TV is 16 seconds.	clearer definition
1.6	4.8.2	While kernel loads V logo display from TV memory replacing V logo displayed from boot loader: this image must exactly match the image in the boot loader. The boot loader & kernel turns on only the LEDs behind the logo.	Behavior is required but missing from spec
1.6	4.8.2	For OOBE only the VIZIO logo splash screen displays from a cold boot (AC on) and powers the TV on.	Non OOBE AC on to standby, no logo display.
1.6	5	Remove EQ add Bass and treble and other spec clean up to match current sidebar.	spec clean up
1.6	5.1.2	Filmmaker mode deferred to -L 2023	No UHD promotion with marketing yet for -K 2022
1.6	5.1.4	Pure gray backgrounds display the imperfections and lack of uniformity intrinsic to a panel and should be avoided including shading or ramping that can display banding on the TV.	Gray Background limitation
1.6	6	During update, download is aborted if powered down but during firmware install, power down is prevented to allow completion of the update.	Spec clarification
1.6	8	Universal factory menu access shall be via legacy IR codes defined as MENU followed by LEFT, DOWN, BACK, CC.	No digits on voice remote
1.5	released January 15, 2021		
1.5	introduction	Latest versions included.	Updated document versions
1.5	2.6	VIZIO WiFi test spec and worksheets updated from version 2.0 to version 3.0.	WiFi protocols & security
1.5	3.1.1	Bluetooth Voice remote minimum clear air range tested at 50 feet (voice and keys).	Bluetooth Range (placeholder until spec)
1.5	3.4	Added D skus support only HDMI 1.3, 1.4, 1.4a, ARC due to FHD (1080P) and HD ((720P) resolution limitations. No HDR (4K) support.	Clarification 5583/D skus
1.5	3.3.3	Corrected 1440x2520 to 2520x1440/60Hz.	resolution typo
1.5	3.4.5	HDMI EDID remains at 256 bytes for 2021 D skus. Added table of EDID size, HDMI Mode setting and 1440@60Hz or 120Hz. NOTE: Planned for inclusion for 2021 FCS with waiver for MP.	HDMI EDID D skus
1.5	3.7	M6 DTS HD not supported 2021 D skus: no support for DTS digital surround or DTS master audio. DTS:X post processing supported.	Cost Savings
1.5	3.7	Added 2021 D skus support DTS M6 and DTS virtual X.	DTS support D skus
1.5	3.4.5	To support Freesync, AMD must be included in the EDID block.	HDMI EDID freesync
1.5	3.14.1	For CR series increase 1 GB flash memory to 1.2 GB for demo video but system limited to 1080P graphics layer (no support of 4K overlay).	CR series 1.2 GB flash memory
1.5	8.4	At the factory, Bluetooth remote must be unpaired from TV using the factory command/menu. The BT API including the BT_unpair command must be used.	Reset to Factory Settings does not unpair remote
1.4	released Oct 26, 2020		
1.4	2.9	Added support of tool Knocket for mDNS.	VIZIO SC mDNS

1.4	3.1		2021 Bluetooth support is for 4K TVs (V, M, P skus).
1.4	3.1	Support audio from mobile client to TV.	Add HID (Human Interface Device) over GATT (2021)
1.4	3.2.1	Added Demo mode with DC off runs Off-RS at power down prior to standby same as normal TV. For Demo mode with AC off, at AC on TV DC powers on with black screen, runs Off-RS then TV powers on.	Demo mode no Off-RS with AC off
1.4	3.4.5	HDMI EDID size needs to be increased to 512B to accommodate more features and data blocks.	HDMI EDID
1.4	3.7	Clarified DTS:X limitation to virtual DTS:X is for 2020. Full support 2021 and going forward.	DTS:X support
1.4	3.10	2020 4 button behavior defined in SmartCast platform settings spec and added 2021 is a single button.	2021 has different back panel
1.4	3.14.2	Demo videos deleted from flash memory after 24 hours of connecting to internet if Viewing Data accepted and DAI enabled. Required to create space to store Ads for DAI in /demo partition.	Flash Memory Deletion of Demo Videos
1.3	released June 5, 2020		
1.3	2	2x2 single band 802.11n only	D series
1.3	2.1, 2.5, 2.8	For 2016 SmartCast, OOB setup was only possible from mobile app and required softAP. For skus 2017 forward, OOB supported setup from IR remote. Users preferred IR remote instead of mobile app.	SoftAP deleted.
1.3	2.3	IPv4 only for 2020 due to AirPlay issues. IPv6 included for 2021.	IPv6 support delayed
1.3	2.4	Continue scanned and dynamically add AP's missing from the list. Add icon to indicate scan in progress.	Networkscan
1.3	2.6	802.11n only	D series
1.3	3.2.1	Automatic RS Off run at power ON and clarified LEA is always on per LG OLED spec.	OLED RS off & LEA
1.3	3.1	Time out reduced from 2 minutes per 1 minute per LG recommendation.	OLED sidebar time out
1.3	3.2.1	Add OLED settings menu time out at 1 minute.	OLED image sticking
1.3	3.2.1	Sidebar highlight too bright, use gray highlight instead of teal.	OLED image sticking
1.3	3.2.1	Remove screensaver.	OLED image sticking
1.3	3.3	D series with 5583 is limited to 1.3, 1.4, 1.4a and ARC. No eARC.	D series
1.3	3.4.1	TV saves dynamic EDID through DC power cycles for HDMI connected devices.	HDMI blanking due to lost EDID
1.3	3.7.2	Audio Path table unchanged but added notes with description of categories.	Audio Path notes
1.3	3.7.2	Updated audio path table for Digital for analog: 2 cases with bypass for DD-HD and DTS-MA. All other cases of Digital match Auto. Must maintain A/V sync.	Audio path updated & bypass maintain A/V sync
1.3	3.9.5	Corrected buttons back panel: if powered on long press POWER button issues Soft Power Cycle.	Soft Power Cycle
1.3	3.9.5	Added BT Voice Remote wake up support. Eco Mode power on is IR for both 5691 and 5695 due to hardware limitation.	Wake Up Support Voice Remote
1.3	4.9	Define domains for Voice support: power, volume, input selection, change channel, menu adjustments, accessibility, search, launch app.	Voice support domains
1.3	3.7	Added to audio requirements that DTS:X is not supported and expand on TV speaker support.	No DTS:X
1.3	3.13, 3.14	1 GB DRAM/4 GB Flash memory	D series
1.2	released October 13, 2019		
1.2	2.0	Added WiFi chip and provided support.	Final WiFi chip
1.2	2.8	Deleted softAP as the only purpose was for OOB using mobile app. All OOB setup uses IR remote.	No OOB support for mobile app
1.2	3.9.4	A power on request during the last 5 seconds before power down is ignored.	Active Standby

1.2	3.94	Power down event sent to SCPL layer to notify that the TV will power down.	Active Standby
1.2	3.7	Use DTS M6 (Virtual X) instead of Studio Sound decoding for all skus (SOC 5691/5695).	Audio support
1.2	3.7.2	Update Audio table.	Audio support
1.2	3.2.1	Added OLED panel section to prevent OLED Image retention as per LG requirements for the panel.	OLED panel compensation
1.2	3.5.5	Added requirement #3 for Film Maker Mode to adjust brightness level as needed per ambient sending of environment.	FMM luminance
1.2	2.0		Final WiFi chip
1.2	3.2	V6/M7/M8 must support and respond to BT USB dongle commands received from the BT remote.	BT USB dongle support
1.1	released August 4, 2019		
1.1	1.0	Added required reference document SettingsMatrixSDR_HDR10_HDR10P_DV_HLG_V3.0.	Reference to PQ document
1.1	2.6	Removed 2.4 GHz from 802.11ac and removed Mbits/sec limits as the limits are defined in the specific specs for the protocol.	Clarification
1.1	3.1	Added to support pairing of BT remote, the TV is the master.	BT clarification
1.1	3.5.1	USB power delivery replace Active standby with Quick Start.	Replace text string Active standby with Quick Start.
1.1	3.9.4, 3.9.5	Wake up support replace active standby with Quick Start.	Replace text string Active standby with Quick Start.
1.1	3.9.4	Define Active Standby is state with TV on but panel off to allow 1. Immediate power on if user powered off in error and 2. Notification to SCTV prior to power off to ensure SCTV and AppleTV turn off before power off.	Power states Active Standby
1.1	3.15	Active Standby is 100 seconds (TBD).	Performance active standby
1.1	4	Added PlayReady 4.0 or later required with support for 'cbcs' encryption (Netflix)	PlayReady Version
1.1	4.1	Add DAI support request PIP/POP.	Dynamic Ad Insertion
1.1	4.9	Clarify how voice converted to action on TV and what commands are supported.	Clarification
1.1	4.9.1	Houndify provides support of voice to command that TV then can convert to action.	Specify tool
1.1	5.1	Updated PQ to support 3D LUT as follows. Included 20 point White Balance for all skus and saved by color temperature. Color Calibration is saved by Picture Mode, no longer by color temperature. Added Picture Size & Position, HDMI Mode, Full Color 4:4:4, Film Maker Mode and Color Space saved by input not picture mode. Added Copy Picture Mode.	Updated PQ
1.1	5.1.3	Add addition of FMM and transition to commercials should not be noticeable.	Film Maker Mode
1.1	7.2.1	Trusted Execution Environment support for IoT cert from Qterics for SCPL layer.	TEE support for IoT
1.1	Appendix1	Added Redbox IR code is 0x42.	RedBox IR code
1.6	released 20190610		
1.0	3.3.6	Added 5 virtual inputs is maximum.	define #
1.0	3.7	Add MS12 transcoding. Dolby TrueHD is transcoded to DD+ for HDMI-ARC out to sound bar/AVR. Dolby TrueHD with Atmos is transcoded to DD+ Atmos for HDMI-ARC out to sound bar/AVR.	Added feature
1.0	3.9.3	Rename Quick Start (not Active Standby).	Text string fixed.

1.0	3.9.4	#4 Define Active Standby: TV remains powered on for 10 minutes after power off to allow for quick power on and permit orderly power down of all functions	Improved performance
1.0	8.1	20 Point Calibration is limited to P series/OLED	Function limited by series