

Annex 1

SMART WIFI 100" TV - Minimum Specifications (QTY: 2)

TV Type	SMART WiFi TV
Screen Size	100"
Screen Resolution	3840 x 2160
Aspect Ratio	16:9
Motion Rate	60/120 Hz
Screen Technology	LED/QLED/OLED
Connectivity Options	USB 2.0
	Standard HDMI Input x2
	Wi-fi Direct
	Bluetooth
	Wireless 802.11b/g/n
	Ethernet 10/100/1000
	Anycast
OS	Android or Similar
Audio	Inbuilt Speakers
Mounting	Wall mountable with VESA brackets (if possible) / with stand
Warranty	Minimum of twelve (12) months

Mini-Computer with Accessories - Minimum Specifications (QTY: 2)

Type	Mini/Micro/Ultra Small/Ultra Compact Form Factor
CPU	Intel i5 11th Gen (or later)
Memory	16 GB RAM, DDR4 (SO-DIMM form factor or similar)
Storage	512 GB, M.2 2280 PCIe 4.0 x4 NVMe SSD
Network and Bluetooth	Gigabit LAN Ethernet 10/100/1000 Mbps; Bluetooth 4/5
Graphics	Intel UHD / Iris Xe Graphics, HDMI / D-port (Support up to 4K resolution @60Hz)
Monitor	Desktop 24" Flat Screen UHD Monitor with HDMI/D-port; VESA mount compatible
Keyboard	Wireless Keyboard full-size (QWERTY Enhanced, 101 keys, U.S. layout) with Nano USB Receiver
Mouse	Wireless Optical Scroll Mouse with Nano USB Receiver + Mouse pad
Minimum Ports	USB A Front 1 Port and Back 2 Ports USB C Port (or 1 USB A to USB C Adapter) Headphone / Mic Port DC-IN port (Power adapter included)

TPM	fTPM 2.0 or TPM 2.0 onboard module included
OS	Genuine Win 10 Professional 64 Bit (or later)
Drivers	OEM drivers for the define OS
HDMI 50M Wireless Extender Transmitter & Receiver with USB-C Power Port	Transmitter with 1×HDMI, 1×USB-C; Receiver with 1×HDMI, 1×VGA, 1×USB-C for power supply; Resolution of 1080P@60Hz; Transmission Distance of 50 m/164 ft; Must include x2 USB-A to USB-C cable for power and x1 USB-A power adapter (5V ± 5% ≥ 1A)
Additional Accessories	5 Meter Power code for the monitor
	5 Meter USB extension Cable
	USB A to HDMI Adapter
	USB A extension/additional HUB (Minimum 4 USB A ports)
	USB A to Ethernet Adapter (10/100/1000 Gigabit)
Other Requirements	PC must be VESA mount compatible. PC must be able to mount on to back of the monitor, as it is or with a separate mounting bracket or such (should be included if needed)
Headset	USB wired, echo cancellation full over-ear headphones (Oval-Shaped ear covered cups), dual earpiece with noise cancelling built-in boom microphone, and remote/buttons for adjusting volume and mute
Warranty	Minimum of twelve (12) months parts and labour

Video Conferencing Solution - Minimum Requirements/Specifications (QTY: 2)

Package / Bundle Contents	<ul style="list-style-type: none"> - x1 Camera - x1 Speakerphone (Microsoft Teams compatible) - x1 Expansion Speakerphone for Daisy-Chain (Microsoft Teams compatible) - Optional Expansion microphone (Microsoft Teams compatible) - Remote control - Power adapter - Power cord - USB2.0 type-B to type-A cable - Camera to Speakerphone Cable - 3.5 mm aux cable
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Camera	<ul style="list-style-type: none"> - Super-low-light 2M pixel sensor for clear and natural imaging in low-light conditions - Resolution: (16:9) 1920 x 1080, 1600 x 900, 1280 x 720, 960 x 540, 848 x 480, 800 x 448, 640 x 360, 424 x 240, 320 x 180; (4:3) 800 x 600, 640 x 480, 480 x 360, 320 x 240 at 60, 30, 15fps - Automatic FOV adjustment to fit all participants - Follow presenter based on preset areas - True WDR up to 120dB (optimize light balance in high-contrast conditions) - Zoom: 24X total zoom (12X optical zoom) - Field of view(D/H/V): 84.5°/76°/48° - Lens focal length: 3.9 mm (wide) ~ 47.3 mm (tele) - Lens F#: 1.8 (wide) ~ 2.8 (tele) - Mirror, Flip, AE, white balance - Minimum focus distance: 1.5 m - Standard tripod screw holes and Kensington slot
Motorized Pan & Tilt Movement	<ul style="list-style-type: none"> - Pan: ±170° - Tilt: +90° (up) -30° (down) - Camera presets (via remote control) - Fast and quiet pan & tilt movement
Video Format	<ul style="list-style-type: none"> - YUV, YUY2, MJPEG, NV12 - Network video compression format: H.264, H.265 - Network protocols: RTSP, RTMP
Speakerphone	<ul style="list-style-type: none"> - Full duplex microphone array with echo cancellation - Advanced noise suppression - Dual-omnidirectional microphone array - 3.5 mm phone-in jack - 3.5 mm line out - Speaker: 6W, Adjustable to 90dB SPL at 0.5 m - Touch controls for volume down/up, mute, call, hang-up, and Microsoft Teams button - Bridge phone-in and USB into one call - Security: Kensington slot
Audio Format	<ul style="list-style-type: none"> - AAC-LC - Network protocol: RTSP, RTMP
Connectivity	<ul style="list-style-type: none"> - 12V/5A power adaptor - Mini DIN9 for RS232 in & out connection (VISCA control panel and camera daisy-chain) - USB 3.1 Type-B connector - IP (RJ45)
Mount	<ul style="list-style-type: none"> - Camera wall-mount bracket - Foldable TV mount - Ceiling mount
OS Compatibility	<ul style="list-style-type: none"> - Windows® 10/11 - Mac OS X 14.4 or higher

Application Compatibility	<ul style="list-style-type: none"> - Microsoft® Teams - Microsoft® Lync™ - Skype for Business - Skype - Google Meet - Adobe® Connect™ - Cisco Webex® - Zoom
Additional Requirements	Setup, installation, initial configuration, with usage documentation, instructions, and support
Warranty	Minimum of twelve (12) months parts and labour

Mobile 75” Interactive Screen with OPS Module – Minimum Requirements/Specifications (QTY: 1)

General Requirements	All-in-one terminal must include: Interactive Panel; Video conference codec; Built-in Speaker; Built-in microphone; Built-in camera; 2x stylus/smart Pen; additional microphone; and OPS module.
	System configuration: 8 core CPU, 8 GB RAM, 64GB Flash
	Both the wall-mounting brackets and floor standing legs (with roller wheels) must be included, along with any required cables
Touch Screen Requirements	75-inch D-LED touch screen, 4K60 resolution
	Zero-gap bonding
	Support Anti-Glare (AG).
	Automatically adjust screen brightness based on light sensing.
	Optical anti-blue light, protect eyes and doesn't change color. The corresponding authentication certificate must be provided
	Screen protection up to physical toughened Mohs 7
	The color gamut is not less than 85% NTSC
	Typical contrast ratio: 1200: 1. Typical brightness: 350 nits
	Screen response time: 8ms
	Touch accuracy: ±1mm
	Support 20 touch points.
Camera Requirements	4K30 built-in camera.
	Horizontal viewing angle: 80°, vertical viewing angle: 50°
	A built-in privacy cover to physically close the camera.
	Auto-framing, automatically adjust the camera based on the location of the participants. The camera should display all participants in a panoramic view and ensure that the participants are displayed in the center.
	Speaker tracking, automatically switch to the close-up picture of speaker without manual intervention.
Microphone Requirements	At least 6 built-in microphone arrays
	The sound pickup radius atleast 12 meters, and the sound pickup angle: 180°.

	20 kHz full-frequency audio pickup, sampling frequency: 48 kHz
	Acoustic echo cancellation (AEC), automatic gain control (AGC), automatic noise reduction (ANR)
External Microphone Requirements	Omnidirectional microphone with a sound pickup distance of at least 6 meters.
	Two microphones can cascade.
	20 kHz full-frequency audio pickup, sampling frequency: 48 kHz.
	Acoustic echo cancellation (AEC), automatic gain control (AGC), automatic noise reduction (ANR)
Speaker Requirements	Two built-in speakers, frequency response range:100Hz-20KHz, total power no less than 40 W
Interface Requirements	Video In: 1 x HDMI 2.0 (4K60)
	Video Out: 1 x HDMI 2.0 (4K60)
	Audio In: 1 x 3.5mm
	Audio Out: 1 x 3.5mm
	3 x USB Type-A 3.0, support USB flash drive, mouse, keyboard, microphone, speaker, remote control and wireless dongle for projection. [At least 2 interfaces should be on the front]
	1 x USB Type-C, support USB flash device, wireless dongle for projection.
	1 x 10/100/1000M RJ45 port
	1 x COM port (RJ45)
	1 x OPS slot for PC module.
	Wi-Fi 5 and Wi-Fi 6, IEEE802.11a/b/g/n/ac/ax network protocol
	Wi-Fi 2.4 GHz and 5 GHz dual-band. Wi-Fi hotspot and Wi-Fi client can be enabled at the same time.
OPS Module Requirement	The performance should be no less than i7-10700, 16GB DDR4 RAM and 512GB SSD
	Video out: 1 x HDMI 1.4, 1 x DP 1.2.
	Audio in: 1 x 3.5mm.
	Audio out: 1 x 3.5mm.
	USB: 3 x USB Type-A 3.0, 3 x USB Type-A 2.0.
	Windows 10 Pro / Enterprise OS Genuine.
Remote controller Requirements	Remote control to control the volume, speaker on/off, microphone mute/unmute, camera open/close, previous/next page
Whiteboard Requirements	Writing latency no more than 16ms
	The built-in whiteboard supports handwriting, drawing, erasing, marking, saving, zooming, and locking the whiteboard. Able to change the background color.
	The whiteboard supports page turning. A maximum of 100 pages supported
	Selectable pen type: pencil, pen, and highlighter. Pen color: color palette.
	Full-screen annotation: Able to take a screenshot of any screen to enter the whiteboard annotation

	<p>The contents of the whiteboard are able to be saved locally and edited when opening it for the second time, saved in an external USB flash memory, able to send to an email.</p> <p>When writing on the electronic whiteboard, the hand-drawn graphics should be recognized as standard geometric figures, and the hand-written text should be recognized as standard printed text.</p>
Projection Requirements	Wired projection through HDMI cable. Projection resolution support up to 1080p60fps and 4K30fps.
	Wired projection through USB Type-C cable. Projection resolution support up to 1080p60fps and 4K30fps. When PC is projected to the device, the device should control the PC reversely without extra cables.
	Wireless projection by entering the projection code on the mobile phone and PC. Projection resolution should support up to 1080p60fps and 4K15fps. When PC is projected to the device, the device can control the PC reversely.
	Wi-Fi Direct projection. No need to configure a Wi-Fi router or change the network of the mobile phones or PCs during screen projection. Projection resolution: up to 1080P60fps and 4K15fps. When PC is projected to the device, the device should control the PC reversely.
Third-party Video Conference Requirements	Support third-party video conference APP
	The camera, microphone and speaker can be used for third-party video conference APP.
	The camera auto-framing and voice tracking features can be used for third-party video conference APP
Openness Requirements	Android apps is able to be installed.
	Support APP store dedicated to large screens device.
	Supports APIs, third-party applications can perform registration, conference call, conference control, configuration query, and address book query based on the APIs.
Additional Requirements	If needed, setup/installation and initial configurations must be included
Warranty	Minimum twelve (12) months parts and labour