

Revised Technical Specifications for Supply, Installation, Testing & Commissioning of Integrated AV/IT Solutions for **Hospital Director Conference Room** at MTI Ayub Teaching Hospital Abbottabad after Prebid meeting

S.No	Item Name	Detailed Specifications (Revised & Standardized)	Qty
1.	Smart Signage 4K LED 98"	<p><u>98-inch Crystal UHD Signage – Stunning Performance for Large Format Digital Display</u></p> <p><u>Tender Technical Specifications</u></p> <ul style="list-style-type: none"> • Crystal UHD Professional Digital Signage Display • 1. Display Panel • Display Type: Professional Crystal UHD Commercial Signage Panel • Screen Size: Minimum 98" (as required) • Native Resolution: 3840 × 2160 (4K UHD) • Aspect Ratio: 16:9 • Panel Technology: VA / IPS Industrial Grade Panel • Brightness: Minimum 500 nits • Contrast Ratio: Minimum 4000:1 • Color Gamut: Minimum NTSC 72% • Haze Level: 25% anti-glare professional display coating • Pixel Pitch: Approx. 0.245 – 0.487 mm depending on screen size • Operation Mode: 24/7 Continuous Commercial Operation • Orientation Support: Landscape and Portrait mode <hr/> <ul style="list-style-type: none"> • 2. Image Processing Technology • Display must support Dynamic Crystal Color technology capable of producing over 1 billion color shades. • Integrated Quantum Processor Lite 4K for advanced video processing and AI upscaling. • Display must provide consistent lifelike color reproduction and enhanced clarity for digital signage applications. <hr/> <ul style="list-style-type: none"> • 3. Built-In Signage Platform • Integrated Smart Signage Platform (SSSP) version 10.0 or higher • Built-in Magic INFO S10 content management compatibility • Operating System: Tizen OS version 7.0 • Processor: Quad-Core CA73 Processor (1.6 GHz or higher) • Internal Storage: Minimum 16 GB <hr/> <ul style="list-style-type: none"> • 4. Connectivity <p>Video Inputs</p> <ul style="list-style-type: none"> • Minimum 1 × DisplayPort 1.2 • Minimum 3 × HDMI 2.0 <p>USB</p> <ul style="list-style-type: none"> • Minimum 2 × USB 2.0 ports 	1

Control Interfaces

- RS-232C (In/Out)
- RJ-45 Ethernet LAN

Wireless Connectivity

- Built-in Wi-Fi (2.4 / 5 GHz dual band)
- Bluetooth connectivity

Audio

- Built-in 10W × 2 Channel speakers
- Stereo mini jack audio output

5. Mechanical Design

- Ultra Slim Industrial Design
- Maximum Panel Depth: **28.5 mm or slimmer**
- Even bezel design on all four sides
- VESA Mount Support:
 - 200 × 200 mm
 - 400 × 300 mm
 - 400 × 400 mm
- VESA Mount Screw: **M8 (12–14 mm)**

The display must support **centered VESA mounting holes for portrait installation.**

6. Advanced Features

The display must include the following integrated features:

- **SmartView+** wireless screen sharing
- **Smart Calibration** through Samsung mobile application
- **Automatic Source Switching & Recovery**
- **Director Mode**
- **Dicom Simulation Mode**
- **Video Conference compatibility**
- **Upgradable Web Engine**
- **Workspace (Microsoft 365 / VMware / Remote Desktop support)**

7. Sensors and Hardware Features

- Ambient Light Sensor
- Temperature Sensor
- Auto Level Function
- Center IR Receiver
- Second-Generation B2B Commercial Design

8. Environmental & Certification

- Safety Certification: **IEC 60950-1 / 62368-1**
- EMC: **Class B**
- Energy Efficiency: **ENERGY STAR 8.0**
- Environmental Compliance: **EPEAT Certified**
- Environmental Protection: **IP5x dust protection**
- Security: **802.1x WPA2 Enterprise Authentication**

9. Power

- Power Supply: **AC 100 – 240V, 50/60Hz**
- Standby Power Consumption: **Less than 0.5W**

10. Operating Conditions

- Operating Temperature: **0°C to 40°C**

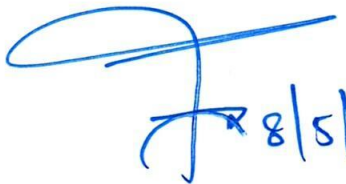
		<ul style="list-style-type: none"> Humidity: 10% to 80% RH <hr/> <ul style="list-style-type: none"> 11. Accessories <p>The following accessories must be included:</p> <ul style="list-style-type: none"> Remote Controller with Batteries Power Cord Quick Installation Guide Warranty Card RS-232C Gender Adapter <p>Optional Accessories:</p> <ul style="list-style-type: none"> Compatible Slim Fit Wall Mount <p>Compatible Samsung Professional Stand Minimum 3 years OEM warranty</p>	
2.	65 INCH 4k Smart LED	<p>65" QLED 4K Smart LED TV – Technical Specifications</p> <p>Display:</p> <ul style="list-style-type: none"> Screen Size: 65 Inches Resolution: 3840 × 2160 (4K UHD) Refresh Rate: 100Hz (supports up to 120Hz via HDMI) Panel Type: QLED with 100% Color Volume Viewing Angle: Wide Viewing Angle Contrast Technology: Dual LED with Supreme UHD Dimming <p>Video Features:</p> <ul style="list-style-type: none"> Processor: Quantum Processor 4K with AI Upscaling HDR Support: Quantum HDR, HDR10+ (Adaptive & Gaming), HLG Motion Technology: Motion Xcelerator Turbo+ Picture Enhancements: Contrast Enhancer, Film Mode, Filmmaker Mode <p>Audio System:</p> <ul style="list-style-type: none"> Output Power: 20W RMS Speaker Type: 2CH Technologies: Object Tracking Sound (OTS Lite), Adaptive Sound+, Active Voice Amplifier Bluetooth Audio & Dual Audio Support <p>Smart Features:</p> <ul style="list-style-type: none"> Operating System: Tizen™ Smart TV Built-in Voice Assistant: Bixby Smart Connectivity: SmartThings Hub, IoT Support, Mobile Mirroring Multi-View: Up to 2 screens Wireless DeX & Microsoft 365 Support <p>Gaming Features:</p> <ul style="list-style-type: none"> Auto Low Latency Mode (ALLM) FreeSync Premium Pro Game Motion Plus, Dynamic Black EQ Super Ultra Wide Game View & Mini Map Zoom <p>Connectivity:</p> <ul style="list-style-type: none"> HDMI Ports: 4 (All support 4K@120Hz) USB Ports: 2 LAN (Ethernet): 1 Wi-Fi: Wi-Fi 5 Bluetooth: Version 5.2 Audio Out: Optical (Digital) HDMI ARC: eARC/ARC <p>Design & Build:</p> <ul style="list-style-type: none"> Design: AirSlim, 3 Bezel-less 	2

		<ul style="list-style-type: none"> • Color: Titan Gray • Mounting: VESA 400 × 300 mm (Wall Mount Supported) <p>Power:</p> <ul style="list-style-type: none"> • Power Supply: AC 100–240V, 50/60Hz • Maximum Consumption: 250W • Energy Saving Features: Eco Sensor, Auto Power Off <p>Dimensions & Weight:</p> <ul style="list-style-type: none"> • With Stand: 1451.7 × 900.4 × 285.6 mm • Without Stand: 1451.7 × 831.8 × 25.7 mm • Weight (with stand): 24.3 kg <p>Additional Features:</p> <ul style="list-style-type: none"> • Triple Protection (Dust, Humidity, Voltage Protection) • Built-in Zigbee/Thread Module • Ambient Mode+ • Accessibility Features (Voice Guide, Audio Description, etc.) <p>Accessories:</p> <ul style="list-style-type: none"> • Remote Control (TM2360E) • Power Cable • Wall Mount Compatibility (Slim Fit / Full Motion Support) • User Manual & E-Manual <p>Minimum 3 years OEM warranty</p>	
3.	Video Wall Controller / Processor	<p>Multi-Screen Video Wall Controller including 08 (4K) Output Ports and 02 (4K) Input Ports. Supply, installation, testing and commissioning of industrial modular video wall controller meeting the following minimum specifications:</p> <ul style="list-style-type: none"> • Chassis: 19-inch 2.5U ATCA industrial rack-mount chassis • Architecture: PCI-E bus modular card design • Slots: Minimum 5 slots • Operating System: Embedded Linux • Video Wall Capacity: Support up to 32 LCD screens splicing with 3 additional outputs • Video Decoding: <ul style="list-style-type: none"> ○ 4 × 4K decoding @25fps ○ 16 × 1080P decoding @25fps ○ 32 × 720P decoding @25fps ○ 64 × D1 decoding @25fps ○ Support H.265 video decoding • Input Interfaces: HDMI / DVI-I / 3G-SDI / CVBS input cards • Output Interfaces: HDMI and 3G-SDI output cards • Multi-Window Processing: Support up to 32 layers window display • Control: PC client / Network keyboard / Tablet control • Network: Minimum 2 × Gigabit RJ-45 ports • Power: Redundant power supply supported • Cooling: Smart temperature-controlled fan system <p>Form Factor: Industrial rack-mount video wall controller system</p>	01

4.	AI-capable Workstation	AI-capable Workstation: Latest-gen Core Ultra 9 / Core i9 / Core i7-K class CPU (or equivalent), 32GB DDR5 RAM, 1TB NVMe Gen4 SSD, NVIDIA RTX 4070/4070Ti class GPU (≥12GB VRAM) with H.264/H.265/AV1 hardware encoding, minimum 4K multi-display outputs, 1×LAN (≥1GbE; 2.5GbE preferred), Windows 11 Pro genuine license.	1
5.	Professional LCD Monitor (Operator)	24" professional IPS monitor, FHD/2K resolution, HDMI & DP inputs, slim bezel, tilt/height adjustable	1
6.	24U Server / Network Rack Cabinet	Standard 19" rack, 24U height, lockable front & rear doors, fan tray, vertical cable managers, PDU shelf	1
7.	Rack-Mount Online UPS (6kVA + Batteries)	6 kVA online double-conversion UPS, rack-mount/tower type, external battery packs for extended backup, SNMP/monitoring slot	1
8.	HDMI Cable (4K)	HDMI 2.0/2.1, 4K@60Hz, 10m (or as required), good shielding, connectors + laying	1
9.	Conference System Control Unit	Digital discussion controller, mic modes, auto mic management, recording/output, camera tracking trigger, balanced I/O, expandable, support wireless microphone	1
10.	Chairman Unit (Motorized monitor lift + mic)	19" retractable monitor, integrated digital mic, priority control, voting/ID options, table cut-out & lift mechanism (Top Branded)	1
11.	Delegate Units (24 Seats)	Digital tabletop mic units, gooseneck mic, speaker, request-to-speak, headphone, ID/voting option	24
12.	Ceiling Speakers (10W)	6" ceiling speakers, 10W, 100V line, metal grille, clear speech tuning	6
13.	Power Amplifier (100-120W)	100V PA amplifier (100–120W), mixer inputs, protection, paging priority	2
14.	Wireless Lavalier Presenter Mic System	UHF wireless handheld microphone with diversity receiver	2
15.	Wireless Handheld Mic	UHF handheld, metal body, stable link, ~30-50m range	1
16.	Audio Mixer / DSP	6-8 mic/line inputs, digital EQ, compressor, feedback suppression, balanced outputs	1
17.	4K Dual-Eye Intelligent Tracking Camera	Dual-eye 4K PTZ camera, AI-based speaker/presenter tracking, auto-framing, USB plug-and-play	1
18.	Second PTZ / WideAngle Camera	PTZ or wide-angle camera for audience coverage, USB/HDMI output	1
19.	PTZ Joystick Controller	Professional PTZ joystick controller with presets, VISCA/IP control	1
20.	Managed PoE Network Switch	16-port PoE+ managed switch, VLAN, QOS, security features, 10G SFP+ uplinks	1
21.	Intelligent CCTV Camera (4MP AI)	4MP IP camera, AI analytics (human/vehicle), PoE, IR night vision, IP67	2

22.	Door Access / Smart Lock System	Smart door access controller with reader, power supply, access management	1
23.	Digital Pointer/ Presenter	Wireless presenter / air-mouse / laser pointer	1
24.	Core Ultra 5 All-in One PC (Presenter Touch System + Desk)	Intel Core Ultra 5, 16 GB RAM, 512 GB NVMe SSD, 23-24" display	1
25.	Smoke Detector	Addressable/conventional smoke detector with base, installation & commissioning (Complete System)	1
26.	Fire Extinguisher (12kg)	ABC/DCP 12kg, bracket, standard rating	2
27.	LaserJet Printer Wi-Fi/Network	Mono laser A4, duplex, Wi-Fi + LAN, ~40+ ppm class	1
28.	USB Audio Interface	USB audio interface for VC mic feed, balanced I/O	
29.	Main electrical junction box / small DB	Safe power distribution	01
30.	Installation / Small Accessories (Conference Room - Complete Scope)	Complete installation, integration, cabling, mounting, testing, commissioning, documentation and user training of all AV/IT systems, including all small accessories, consumables, ducts, connectors, terminations, audio/video tuning and safety works, required for a fully functional conference room.	1

1. ~~One~~-year warranty is mandatory for the equipment. (~~except~~ ~~LED~~)
 Three

Revised after
 Pre bid meeting

 8/5/26