No. SEDC/RC/DigiComm/2K23-10319

Date: 16/03/2024

Corrigendum-II

(Tender No. SEDC/RC/DigiComm/2K23-10319)

HPSEDC published e-tender for Rate Contract for Peripherals for Digital Communication, Collaboration and Learning bearing tender No: SEDC/RC/DigiComm/2K23-10319 on 26-09-2023.

Response to pre-bid queries are attached as **Annexure A**.

Additional items along with revisions in the current specifications are attached as **Annexure B.**

Last date for bid submission has been extended from 10/10/2023 to 01/04/2024 till 2.30 PM and same will be opened on 02/04/2024 at 2.30PM.

General Manager (Technical)

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
1	5	INVITATION FOR E-BIDS	SECTION-1	LIST OF IMPORTANT GENERAL CONDITIONS-Point no-4 -supplies should be completed within 4-5 weeks & Installation has to be completed within one week after supply of material.	**Revised Clause:** LIST OF IMPORTANT GENERAL CONDITIONS- Point no-4 -supplies should be completed within 8-10 weeks & Installation has to be completed within one week after supply of material.
2	11	INSTRUCTIONS TO BIDDERS A INTRODUCTION 2.1. Eligible Bidders	SECTION 2	The average annual turnover of the OEM, whose equipment's/systems/ Items are sought to be supplied should Rs.200 Crores during last 3 years as per audited balance sheets/Annual reports of counts	Exemptions as per State Government are already included in the bid document
3	11	INSTRUCTIONS TO BIDDERS Pre- Qualification Criteria	SECTION 2	5. A Bidder quoting for Peripherals for Digital Communication, collaboration and learning: (i) The OEM or its bidder must have supplied minimum 500 number of Peripherals for Digital Communication, collaboration and learning/ similar equipment(s) in the last three years in Government/Semi Govt./ PSUs/ Autonomous bodies of Central/ State Govt.	**Clarification:** Similar Equipment means pieces of equipment which are similar in function and appearance.
4	11	INSTRUCTIONS TO BIDDERS	SECTION 2	OEM turnover	**As per RFP**
5	11	INSTRUCTIONS TO BIDDERS A-INTRODUCTION	SECTION 2	EMD in the shape of DD/RTGS	**As per RFP**
6	11	2.1. Eligible Bidders S. No. 5	SECTION 2	The OEM or its bidder must have supplied minimum 500 number of Peripherals for Digital Communication, collaboration and learning/ similar equipment(s) in the last three years in Government/Semi Govt./ PSUs/ Autonomous bodies of Central/ State Govt.	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
7	11	INSTRUCTIONS TO BIDDERS Pre- Qualification Criteria	SECTION 2	(i) Tender Document Fee in favour of Managing Director, H.P. State Electronics Development Corporation, I.T. Bhawan, Mehli, Shimla-13. (ii) Earnest Money Deposit (EMD) in the shape of Demand Draft/ Bank Guarantee valid for 180 days in favour of Managing Director, H.P. State Electronics Development Corporation, I.T. Bhawan, Mehli, Shimla-13.	Exemptions as per State Government are already included in the bid document
8	13	INSTRUCTIONS TO BIDDERS A-INTRODUCTION	SECTION 2	It should be OEM or Principal National Distributor or SI. If it is an SI then they should have a National Presence and also should have sustained relationship with OEM.	**Revised Clause:** It should be OEM or Principal Distributor or SI. If it is an SI then they should have sustained relationship with OEM.
9	21	E-BID OPENING AND EVALUATION	SECTION 2	2.18.2 Reduction in Statutory Duties and Levies	**As per RFP**
10	25	3.5 Performance Security:	SECTION 2	3.5.2 Within 10 days of 'Notification of Award', the successful bidder/ Supplier shall initially furnish a 3% Performance Bank Guarantee of total order value valid for 63 months to safeguard the purchaser against timely delivery/installation and maintenance of ordered equipments during the currency of the contract.	**Revised Clause:** 3.5.2 Within 10 days of 'Notification of Award', the successful bidder/ Supplier shall initially furnish a 3% Performance Bank Guarantee of total order value valid for 39 months to safeguard the purchaser against timely delivery/installation and maintenance of ordered equipments during the currency of the contract.
11	27	GENERAL CONDITIONS OF THE TENDER &CONTRACT	SECTION-3	**3.8 Insurance:** 3.8.1 The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery	**As per RFP**

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12	28	GENERAL CONDITIONS OF THE TENDER &CONTRACT	SECTION-3	**3.11 Payment:** Amount of 1st instalment shall be regulated in such a manner that the total payment after delivery is 85% of the order value & Remaining amount of 15% of the order value shall be paid after satisfactory installation of equipments and execution of Performance Guarantee for proper maintenance during warranty period.	**As per RFP**
13	30	GENERAL CONDITIONS OF THE TENDER &CONTRACT	SECTION-3	3.15 Delays in the Supplier's Performance: (ii) imposition of liquidated damages @Rs 50/- per day per Peripherals for Digital Communication, collaboration and learning of the unfulfilled order. The maximum penalty will not exceed 10% of the equipment cost.	**As per RFP**
14	43	TECHNCIAL SPECIFICATIONS Item No. 1	SECTION – V	**Camera Control** -Automatically moves and adjusts the lens to comfortably frame meeting participants in rooms	**Clarification:** Automatically movement is the function of a camera to automatically focus on a subject
15	43	TECHNCIAL SPECIFICATIONS Item No. 1	SECTION – V	Pan: ± 90° Tilt: ± 30 15x Zoom or better	**As per RFP**
16	43	TECHNCIAL SPECIFICATIONS Item No. 1	SECTION – V	Camera: 4K at 30 fps and	**As per RFP**
17	43	TECHNCIAL SPECIFICATIONS Item No. 1	SECTION – V	Field of View: Facility to extend MIC from Camera over Ethernet cable	**As per RFP**
18	43	TECHNCIAL SPECIFICATIONS Item No. 1	SECTION – V	MIC/Speakerphone from Camera over Ethernet/USB cable	**As per RFP**
19	44	TECHNCIAL SPECIFICATIONS Item No. 2	SECTION – V	1080p at 30 FPS, 720p at 60 fps	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
20	44	TECHNCIAL SPECIFICATIONS Item No. 2	SECTION – V	Facility to extend MIC from Camera over Ethernet cable or equivalent / expansion cable	**As per RFP**
21	44	TECHNCIAL SPECIFICATIONS Item No. 2	SECTION – V	Pan, Tilt, Zoom: 5x Optical Zoom or better	**As per RFP**
22	44	TECHNCIAL SPECIFICATIONS Item No. 2	SECTION – V	Field of View: Facility to extend MIC from Camera over Ethernet cable	**As per RFP**
23	44	TECHNCIAL SPECIFICATIONS Item No. 2	SECTION – V	Field of View: with Pickup range from 12ft to 20ft diameter either with one mic or by connecting up to 1 additional MIC/Speakerphone using inbuilt/ external Hub to be supplied with MIC/Speakerphone. Mute button with LED status indicator, Acoustic Echo Cancellation, Background noise suppression Facility to extend MIC/Speakerphone from Camera over Ethernet/USB	**As per RFP**
24	44	TECHNCIAL SPECIFICATIONS Item No. 2	SECTION – V	HDMI/ USB	**As per RFP**
25	45	TECHNCIAL SPECIFICATIONS Item No. 2	SECTION – V	Accessories: Remote Control, Power cables, All necessary 4k/ 1080p capable data cables (HDMI/ USB – 1.5 m length) to connect Camera to PC, standard MIC cable – 2.5 m length and Ethernet / equivalent cable – 5 m length to extend length of MIC (if applicable), Necessary mounting brackets for Camera, MIC	**As per RFP**
26	45	TECHNCIAL SPECIFICATIONS Item No. 3	SECTION – V	4K at 30 fps/ 1080p, 720p at 60 fps	**As per RFP**
27	45	TECHNCIAL SPECIFICATIONS Item No. 3	SECTION – V	Pan, Tilt, Zoom: 2x Optical Zoom or bette	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
28	46	TECHNCIAL SPECIFICATIONS Item No.5: USB based Conferencing System	SECTION – V	Output: H.265, H.264, YUY2, MJPEG, PTZ Camera, Optical Resolution: 2 MP (1080p30fps or above), Sensor size: 1/2.8" CMOS, SNR >55dB, USB Connectivity, 90°FOV or more, Autofocus, 10x Optical zoom, Motorized 240- Degree Pan, 120-degree tilt, 5 or more preset, Kensington security slot for physical security.	**Revised Clause:** Output: H.265, H.264, YUY2, MJPEG, PTZ Camera, Optical Resolution: 2 MP (1080p30fps or above), Sensor size: 1/2.8" CMOS, SNR >55dB, USB Connectivity, 90° ± 10° FOV or more, Autofocus, 10x Optical zoom, Motorized 240- Degree Pan, 120-degree tilt, 5 or more preset.
29	46	TECHNCIAL SPECIFICATIONS Item No.5: USB based Conferencing System	SECTION – V	System should be supplied with 4 microphones from day one with each having four directional microphones /Omnidirectional, AEC and expandable to 6 microphones without any external device. Distortion: <5 % from 200Hz, Frequency response: 100Hz – 11KHz, Sensitivity: -28dB +/-3dB	As per RFP
30	46	TECHNCIAL SPECIFICATIONS Item No.5: USB based Conferencing System	SECTION – V	Sensitivity: 83dBSPL +/-3dB at 1W/1M, Max output: 91dBSPL, Frequency response: 120Hz – 14KHz, full duplex, Kensington security lock, LED / LCD Indication on speaker and microphone for streaming, mute, hold and Bluetooth pairing, Caller ID, duration and other function so that user is aware about the status of the device.	**Revised Clause:** Sensitivity: 83dBSPL +/-3dB at 1W/1M, Max output: 91dBSPL, Frequency response: 120Hz – 14KHz, full duplex, LED / LCD Indication on speaker and microphone for streaming, mute, hold and Bluetooth pairing, Caller ID, duration and other function so that user is aware about the status of the device.
31	46	TECHNCIAL SPECIFICATIONS Item No. 5	SECTION – V	System should be supplied with 4 microphones from day one with each having four directional microphones /Omnidirectional, AEC and expandable to 6 microphones without any external device. Distortion:	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
32	47	TECHNCIAL SPECIFICATIONS Item No. 6: Integrated conferencing device with inbuilt battery backup to be used with Laptop / Desktop.	SECTION – V	Other- System should be designed such a way that single USB cable (for camera, speakerphone and microphone) with 6ft of minimum length is connected to end device (laptop, Mac, Codec, desktop and thin client), Dockable Remote Control/ Touch panel to manage Camera, Speakerphone (volume +/-) and Microphone (mute/unmute) from 10 ft or more.	**Revised Clause:** System should be designed such a way that preferably single USB cable (for camera, speakerphone and microphone) with 6ft of minimum length is connected to end device (laptop, Mac, Codec, desktop and thin client), Dockable Remote Control/ Touch panel to manage Camera, Speakerphone (volume +/-) and Microphone (mute/unmute) from 10 ft or more.
33	47	TECHNCIAL SPECIFICATIONS Item No. 6	SECTION – V	Integrated Microphones - Two inbuilt directional microphones supporting 9-foot or more with mute/unmute option from device as well as remote control/touch panel with LED Indication	**As per RFP**
34	47	TECHNCIAL SPECIFICATIONS Item No. 6: Integrated conferencing device with inbuilt battery backup to be used with Laptop / Desktop.	SECTION – V	Complete camera, speakerphone, remote control, microphone and battery should be an integrated single	**Revised Clause:** System should be designed such a way that preferably single USB cable (for camera, speakerphone and microphone) with 6ft of minimum length is connected to end device (laptop, Mac, Codec, desktop and thin client), Dockable Remote Control/ Touch panel to manage Camera, Speakerphone (volume +/-) and Microphone (mute/unmute) from 10 ft or more.

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
35	47	TECHNCIAL SPECIFICATIONS Item No. 6: Integrated conferencing device with inbuilt battery backup to be used with Laptop / Desktop.	SECTION – V	Integrated Microphones: as well as remote control/touch panel with LED Indication	**Revised Clause:** System should be designed such a way that preferably single USB cable (for camera, speakerphone and microphone) with 6ft of minimum length is connected to end device (laptop, Mac, Codec, desktop and thin client), Dockable Remote Control/ Touch panel to manage Camera, Speakerphone (volume +/-) and Microphone (mute/unmute) from 10 ft or more.
36	47	TECHNCIAL SPECIFICATIONS Item No. 6: Integrated conferencing device with inbuilt battery backup to be used with Laptop / Desktop.	SECTION – V	Other: System should be designed such a way that single USB cable (for camera, speakerphone and microphone) with 6ft of minimum length is connected to end device (laptop, Mac, Codec, desktop and thin client), Dockable Remote Control/ Touch panel to manage Camera, Speakerphone (volume +/-) and Microphone (mute/unmute) from 10 ft or more.	**Revised Clause:** System should be designed such a way that preferably single USB cable (for camera, speakerphone and microphone) with 6ft of minimum length is connected to end device (laptop, Mac, Codec, desktop and thin client), Dockable Remote Control/ Touch panel to manage Camera, Speakerphone (volume +/-) and Microphone (mute/unmute) from 10 ft or more.
37	47	TECHNCIAL SPECIFICATIONS Item No. 6: Integrated conferencing device with inbuilt battery backup to be used with Laptop / Desktop.	SECTION – V	Integrated Microphones - Two inbuilt directional microphones supporting 9-foot or more with mute/unmute option from device as well as remote control/touch panel with LED Indication	**As per RFP**
38	48	TECHNCIAL SPECIFICATIONS Item No. 7	SECTION – V	Built-in OPS/ separate Micro PC⌐ Intel i5 8th Generation processor or higher, 8GB RAM, 512GB SSD, Wireless Keyboard & Mouse, Windows 10 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, Highspeed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.	**Revised Clause:** Built-in OPS/ separate Micro PC- Intel i5 11th Generation processor or higher, 8GB RAM, 512GB SSD, Wireless Keyboard & Mouse, Windows 11 SL Preloaded, HDMI 2.0, DP port, Highspeed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
39	48	TECHNCIAL SPECIFICATIONS Item No. 7	SECTION – V	Certification Required - Mandatory Certifications: BIS, FCC Desired Certifications: UL or more	**Revised Clause:** Certification Required - Mandatory Certifications: BIS Desired Certifications: UL, FCC or more
40	48	TECHNCIAL SPECIFICATIONS Item No. 8: Sliding screen with Diagonal 65 inch or Higher	SECTION – V	Built-in OPS/ separate Micro PC- Intel i5 8th Generation processor or higher, 8GB RAM, 512GB SSD, Wireless Keyboard & Mouse, Windows 10 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, Highspeed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.	**Revised Clause:** Built-in OPS/ separate Micro PC- Intel i5 11th Generation processor or higher, 8GB RAM, 512GB SSD, Wireless Keyboard & Mouse, Windows 11 SL Preloaded, HDMI 2.0, DP port, Highspeed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.
41	48	TECHNCIAL SPECIFICATIONS Item No. 8: Sliding screen with Diagonal 65 inch or Higher	SECTION – V	Certification Required - Mandatory Certifications: BIS, FCC Desired Certifications: UL or more	**Revised Clause:** Certification Required - Mandatory Certifications: BIS Desired Certifications: UL, FCC or more
42	48	TECHNCIAL SPECIFICATIONS Item No. 8, Point No. 1	SECTION – V	1.Sliding screen with LED technology 2.Safety Lockable enclosure with movable white boards	**As per RFP**
43	49	TECHNCIAL SPECIFICATIONS Item No. 8	SECTION – V	Certification Required - Mandatory Certifications: BIS, FCC Desired Certifications: UL or more	**Revised Clause:** Certification Required - Mandatory Certifications: BIS Desired Certifications: UL, FCC or more
44	49	TECHNCIAL SPECIFICATIONS Item No. 9, Point No. 1	SECTION – V	1.Sliding screen with LED technology 2.Safety Lockable enclosure with movable white boards	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
45	49	TECHNCIAL SPECIFICATIONS Item No. 8, Point No. 7	SECTION – V	Audio: Inbuilt 2x10 Watts RMS or better	**Clarification:** These specifications are bare minimum, bidder can quote product with better specifications.
46	49	TECHNCIAL SPECIFICATIONS Item No. 8, Point No. 11	SECTION – V	Light Life: 30,000 Hrs or better	**As per RFP**
47	50	TECHNCIAL SPECIFICATIONS Item No. 9	SECTION – V	Built-in OPS/ separate Micro PC⌐ Intel i5 8th Generation processor or higher, 8GB RAM, 512GB SSD, Wireless Keyboard & Mouse, Windows 10 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, Highspeed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.	**Revised Clause:** Built-in OPS/ separate Micro PC- Intel i5 11th Generation processor or higher, 8GB RAM, 512GB SSD, Wireless Keyboard & Mouse, Windows 11 SL Preloaded, HDMI 2.0, DP port, Highspeed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.
48	50	TECHNCIAL SPECIFICATIONS Item No. 9, Point No. 7	SECTION – V	Audio: Inbuilt 2x10 Watts RMS or better	**Clarification:** These specifications are bare minimum, bidder can quote product with better specifications.
49	50	TECHNCIAL SPECIFICATIONS Item No. 9, Point No. 11	SECTION – V	Light Life: 30,000 Hrs or better	As per RFP
50	53	TECHNCIAL SPECIFICATIONS Item No. 16: LED Smart TVs 32" Commercial Display	SECTION – V	Connectivity - 2 X HDMI in, 1 X USB 2.0, 1 X RJ45, 1X RS232, built-in Wi-Fi, Screen mirroring	**Revised Clause:** Connectivity - 2 X HDMI in, 1 X USB 2.0, 1 X RJ45, built-in Wi-Fi, Screen mirroring
51	54	TECHNCIAL SPECIFICATIONS Item No. 18: Micro Computer with Intel Quad Core i7	SECTION – V	**Processor**: 11th Generation or higher Intel Quad Core i7 or higher Processor	**Revised Clause:** Processor: 12th Generation or higher Intel Quad Core i7 or higher Processor

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
52	54	TECHNCIAL SPECIFICATIONS Item No. 19: Micro Computer with Intel Quad Core i5	SECTION – V	**Generation**: 11th Generation or higher Intel Quad Core i5 or higher Processor	**Revised Clause:** Processor: 12th Generation or higher Intel Quad Core i5 or higher Processor
53	54	TECHNCIAL SPECIFICATIONS Item No. 17	SECTION – V	Connectivity - 2 X HDMI in, 1 X USB 2.0, 1 X RJ45, 1X RS232, built-in Wi-Fi, Screen mirroring	**Revised Clause:** Connectivity - 2 X HDMI in, 1 X USB 2.0, 1 X RJ45, built-in Wi-Fi, Screen mirroring
54	55	TECHNCIAL SPECIFICATIONS Item No. 20: Micro Computer with Intel Quad Core i3	SECTION – V	**Generation:** 11th Generation or higher Intel Quad Core i3 or higher Processor	**Revised Clause:** Processor: 12th Generation or higher Intel Quad Core i3 or higher Processor
55	55	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	Horizontal Field of View: 102° or better Vertical Field of View: 50° or better	**Revised Clause:** Horizontal Field of View: 90° ± 10% or better Vertical Field of View: 50° ± 10% or better
56	56	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	Camera- Sensor: 4kp30 or better Video resolution: 1080p30 or better Horizontal Field of View: 102° or better Vertical Field of View: 50° or better Digital zoom: 5x or better Up to 10 web managed presets or better Up to 10 GUI managed presets or better Speaker Auto User Framing/ Speaker Auto-Tracking Mode	**Revised Clause:** Horizontal Field of View: 90° ± 10% or better Vertical Field of View: 50° ± 10% or better
57	56	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	Collaboration Features: Optional AV grabber connected to the USB port	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
58	56	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	Network Protocols: STUN, TCP/IP, TELNET, TFTP, 802.1q,802.1p	**Revised Clause:** Network Protocols : DHCP, DNS, HTTP, HTTPS, RTP/ RTCP, SNTP, TCP/IP, TELNET, TFTP, 802.1q,802.1p and 802.1x
59	57	TECHNCIAL SPECIFICATIONS Item No. 22 Video Conferencing (Option 2)	SECTION – V	Communications- IP: H.323, SIP (RFC 3261) Bit rate: H.323, SIP: up to 4Mbps or higher MCU compatibility: H.243, H.231 XMPP Presence supporting	**Revised Clause :** Communications-: IP: H.323, SIP (RFC 3261) Bit rate: H.323, SIP: up to 4Mbps or higher MCU compatibility: H.243, H.231
60	57	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Horizontal Field of View: 102° or better Vertical Field of View: 50° or better	**Revised Clause:** Horizontal Field of View: 90° ± 10% or better Vertical Field of View: 50° ± 10% or better
61	57	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	USB Ports- 1 x USB-C, 1 x USB3	**Revised Clause :** USB Ports- 2 x USB-3
62	57	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Web Management - Accessible with Internet Explorer8.0+, Firefox 3.6+, Safari 5.0+, Chrome 11.0+, Opera 11+ Automatic Firmware Upgrade through Cloud	**Revised Clause:** Web Management - Accessible with Internet Explorer8.0+, Firefox 3.6+, Safari 5.0+, Chrome 11.0+, Opera 11+ Automatic Firmware Upgrade through Cloud/Manual
63	57	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	User Interface: Touch panel	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
64	57	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	Firewall Traversal: STUN H.460.18, H.460.19 or better	**As per RFP**
65	57	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	Automatic Firmware Upgrade through Cloud	**Revised Clause:** Web Management - Accessible with Internet Explorer8.0+, Firefox 3.6+, Safari 5.0+, Chrome 11.0+, Opera 11+ Automatic Firmware Upgrade through Cloud/Manual
66	57	TECHNCIAL SPECIFICATIONS Item No. 21: Video Conferencing (Option 1)	SECTION – V	Interoperability: Calendar integration for third party cloud like Zoom/ WebEx	**As per RFP**
67	57	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Dual: H.239 (H.323); BFCP (SIP) or better SVC (Scalable Video Coding)	**As per RFP**
68	57	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Communications₁ IP: H.323, SIP (RFC 3261) Bit rate: H.323, SIP: up to 4Mbps or higher MCU compatibility: H.243, H.231XMPP Presencesupporting	**Revised Clause :** Communications-: IP: H.323, SIP (RFC 3261) Bit rate: H.323, SIP: up to 4Mbps or higher MCU compatibility: H.243, H.231
69	58	TECHNCIAL SPECIFICATIONS Item No. 22 Video Conferencing (Option 2)	SECTION – V	Camera- Sensor: 4kp30 or better Video resolution: 1080p30 or better Horizontal Field of View: 102° or better Vertical Field of View: 50° or better Digital zoom: 5x or better Up to 10 web managed presets or better Up to 10 GUI managed presets or better Speaker Auto User Framing/ Speaker Auto-Tracking Mode	**Revised Clause:** Horizontal Field of View: 90° ± 10% or better Vertical Field of View: 50° ± 10% or better

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70	58	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Camera- Sensor: 4kp30 or better Video resolution: 1080p30 or better Horizontal Field of View: 102° or better Vertical Field of View: 50° or better Digital zoom: 5x or better Up to 10 web managed presets or better Up to 10 GUI managed presets or better Speaker Auto User Framing/ Speaker Auto-Tracking Mode	**Revised Clause:** Horizontal Field of View: 90° ± 10% or better Vertical Field of View: 50° ± 10% or better
71	58	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Audio Protocols: G.711, G.719, G.728 and G.729 A/B, G.722, G.722.1, G.722.1 Annex C, Opus	**As per RFP**
72	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Content Sharing / Web Collaboration Features -Wireless presentation up to 1080p15fps or better Content presentation via Android Apps and USB key Content sharing up to 1080p15fps or better	**As per RFP**
73	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	USB Ports- 1 x USB-C, 1 x USB3	**Revised Clause :** USB Ports- 2 x USB-3
74	59	TECHNCIAL SPECIFICATIONS Item No. 22 Video Conferencing (Option 2)	SECTION – V	Content Sharing / Web Collaboration Features -Wireless presentation up to 1080p15fps or better Content presentation via Android Apps and USB key Content sharing up to 1080p15fps or better	**As per RFP**
75	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Wireless presentation up to 1080p15fps or better Content presentation via Android Apps and USB key Content sharing up to 1080p15fps or better through HDMI using AV grabber connected to the USB port (optional)	**As per RFP**

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76	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Network Protocols: DHCP, DNS, HTTP, HTTPS, RTP/ RTCP, SNTP, STUN, TCP/IP, TELNET, TFTP, 802.1q,802.1p	**Revised Clause:** Network Protocols : DHCP, DNS, HTTP, HTTPS, RTP/ RTCP, SNTP, TCP/IP, TELNET, TFTP, 802.1q,802.1p and 802.1x
77	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	User Interface: Touch Screen Monitor control support	**As per RFP**
78	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Firewall Traversal: Auto NAT discovery HTTP and STUN H.460.18, H.460.19	**As per RFP**
79	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Security Features: H.323 security per H.235v3/ Annex D SIP security per SRTP and TLS 1.2	**As per RFP**
80	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Enciphering up to AES-256 SIP "Digest" authentication (MD5) or better	**As per RFP**
81	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Public-Key including Diffie￢ Hellman (2048 bits) or better	**As per RFP**
82	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	RSA (up to 4096 bits) Cryptographic hash (up to SHA￢512)	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
83	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	White list support	**As per RFP**
84	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Supported disks with file system FAT32, EXT2, EXT3, EXT4 or better	**As per RFP**
85	59	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	File transfer to remote FTP server Digital signature for recorded files	**As per RFP**
86	60	TECHNCIAL SPECIFICATIONS Item No. 22 Video Conferencing (Option 2)	SECTION – V	Web Management - Accessible with Internet Explorer8.0+, Firefox 3.6+, Safari 5.0+, Chrome 11.0+, Opera 11+ Automatic Firmware Upgrade through Cloud	**Revised Clause:** Web Management - Accessible with Internet Explorer8.0+, Firefox 3.6+, Safari 5.0+, Chrome 11.0+, Opera 11+ Automatic Firmware Upgrade through Cloud/Manual
87	60	TECHNCIAL SPECIFICATIONS Item No. 22: Video Conferencing (Option 2)	SECTION – V	Interoperability: Calendar integration for third party cloud like Zoom, WebEx Broadsoft 22.0+, Cisco, Polycom, Cisco Webex (via SIP gateway), Blue Jeans, Zoom, Hangouts	**Revised Clause :** Interoperability: Calendar integration for third party cloud like Zoom, WebEx or any other Broadsoft 22.0+, Cisco, Polycom, Cisco Webex (via SIP gateway), Blue Jeans, Zoom, Hangouts or any other
88	61	TECHNCIAL SPECIFICATIONS Item No. 24: Speaker (Option 2)	SECTION – V	Visual incoming call indicator - Yes	**This clause stands deleted**
89	61	TECHNCIAL SPECIFICATIONS Item No. 25: Speaker (Option 3)	SECTION – V	Display - LCD with Touchscreen	**As per RFP**

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
90	61	TECHNCIAL SPECIFICATIONS Item No. 23: Speaker (Option 1)	SECTION – V	Auxiliary audio output: 3.5mm jack	**Revised Clause :** Auxiliary audio output: 3.5mm jack/USB & Bluetooth
91	61	TECHNCIAL SPECIFICATIONS Item No. 24: Speaker (Option 2)	SECTION – V	Auxiliary audio output: 3.5mm jack	**Revised Clause :** Auxiliary audio output: 3.5mm jack/USB & Bluetooth
92	61	TECHNCIAL SPECIFICATIONS Item No. 25: Speaker (Option 3)	SECTION – V	Auxiliary audio output: 3.5mm jack	**Revised Clause :** Auxiliary audio output: 3.5mm jack/USB & Bluetooth
93	62	TECHNCIAL SPECIFICATIONS Item No. 27: Speakerphone	SECTION – V	USB 2.0, Bluetooth 5.0 or better, Class 1 (HFP/HSP/A2DP), NFC	As per RFP
94	62	TECHNCIAL SPECIFICATIONS Item No. 25: Speaker (Option 3)	SECTION – V	Display - LCD with Touchscreen	As per RFP
95	62	TECHNCIAL SPECIFICATIONS Item No. 26: Camera (Option 4)	SECTION – V	Field of View - Horizontal: 100 degrees or better Vertical: 60 degrees or better	Revised Clause: Horizontal Field of View: 90° ± 10% or better Vertical Field of View: 50° ± 10% or better
96	47, 48	TECHNCIAL SPECIFICATIONS Item No. 7,8 & 9	SECTION – V	Sliding screen with Diagonal 55- 65-75 inch or Higher	Specifications are bare minimum, however bidder can quote better specifications
97	47, 48	TECHNCIAL SPECIFICATIONS Item No. 7,8 & 9	SECTION – V	Sliding screen with Diagonal 55- 65-75 inch or Higher	As per RFP

Sr. No.	(Page No.)	RFP Reference	Section No.	Content of RFP requiring clarification	Clarification/Revised Claused may be Read as
98	47,48,49	TECHNCIAL SPECIFICATIONS	SECTION – V	sliding screen with LED technology	As per RFP
99	47,48,49	TECHNCIAL SPECIFICATIONS Item No. 7, 8, & 9	SECTION – V	Brightness - 350 cd/m2 or higher	Specifications are bare minimum, however bidder can quote better specifications
100	47,48,49	TECHNCIAL SPECIFICATIONS Item No. 7,8 & 9	SECTION – V	Mandatory Certifications: BIS, FCC Desired Certifications: UL or more	**Revised Clause:** Certification Required - Mandatory Certifications: BIS Desired Certifications: UL, FCC or more

Revised cum additional specifications are as below :

Description		Compliance Yes/No Model No.
Item No 12: OPS (Core i3)	Intel i3 12th Generation processor or higher, 8GB RAM, 512GB NVME SSD, Wireless Keyboard & Mouse, Windows 11 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, High-speed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.	
Item No 13: OPS (Core i5)	Intel i5 12th Generation processor or higher, 8GB RAM, 512GB NVME SSD, Wireless Keyboard & Mouse, Windows 11 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, High-speed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity	
Item No 14: OPS (Core i7)	Intel i7 12th Generation processor or higher, 8GB RAM, 512GB NVME SSD, Wireless Keyboard & Mouse, Windows 1 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, High-speed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity	
Item No 26: Micro PC (i3)	Intel i3 12th Generation processor or higher, 8GB RAM, 512GB NVME SSD, Wireless Keyboard & Mouse, Windows 11 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, High-speed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity.	
Item No 27: Micro PC (i5)	Intel i5 12th Generation processor or higher, 8GB RAM, 512GB NVME SSD, Wireless Keyboard & Mouse, Windows 11 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, High-speed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity	
Item No 28: Micro PC (i7)	Intel i7 12th Generation processor or higher, 8GB RAM, 512GB NVME SSD, Wireless Keyboard & Mouse, Windows 1 SL Preloaded, HDMI 2.0, VGA-out, and Display out ports, High-speed 3.0 USB ports for connection to pen drives, external hard drives and flash drives, Rugged steel chassis for extra strength and integrity	

Item No 29: Movable stand for Mounting Digital display	Floor Stand with Moving Wheels, Suitable from Displays sizes 55", 65", 75", 86", 98", maximum weight Load 150 Kg, Base rack and Accessories rack built in	

Item No 30: Small Form Factor (i7/ Ryzen 7)

Sr. No		Description	Compliance Yes/No Model No.
1.	Generation	Intel 12th Generation or Higher / AMD 5000 Series or Higher	
2.	Model	Ryzen 7 5700G / Core i7 -12700	

Item No 31: Small Form Factor (i5/ Ryzen 5)

Sr. No		Description	Compliance Yes/No Model No.
1.	Generation	Intel 12th Generation or Higher / AMD 5000 Series or Higher	
2.	Model	Ryzen 5 5600G / Core i5 -12600	

Item No 32: Small Form Factor (i3/ Ryzen 3)

Sr. No		Description	Compliance Yes/No Model No.
1.	Generation	Intel 12th Generation or Higher / AMD 5000 Series or Higher	
2.	Model	Ryzen 3 5300G / Core i3 -12100	

Item No 33: Sliding screen with Diagonal 85 inch or Higher

Sr. No		Description	Compliance Yes/No Model No.
1.	Display	1. Sliding screen with LED technology 2. Safety Lockable enclosure with movable white boards	
3.	Panel Size	85" or Higher	
4.	Display Area (mm)	Minimum 1900(H) x 1050(V) or better	
5.	Aspect Ratio	16:9	

6.	Native Resolution	4K 60hz	
7.	Brightness	350 cd/m2 or higher	
8.	Contrast Ratio	1100:1 or higher	
9.	Response Time	10ms or Better	
10.	Viewing Angles	H = 178, V = 178 typ.	
11.	Light Life	Minimum 30,000 hrs of Higher	
11.	Antiglare Coating	Yes	
12.	Touch Interface	Touch sensitive as well as pen driven	
13.	Touch Technology	Infrared optical/ Capacitive	
14.	Number of Touch Points (Number)	10 Points or higher IR Multi-Touch Touch Interface	
15.	Provision for wall mounting	Yes	
16.	Number of electronic pen or stylus to be supplied with the board (Nos)	2 with magnetic pen holder	
17.	Installation Kit, connecting cables to be supplied along with the Panel	Yes, VGA (5m x 1), HDMI (1.5m x 2)	
18.	Certification Required	Mandatory Certifications: BIS, FCC Desired Certifications: UL or more	
19.	Warranty	Three years onsite warranty.	
20.	OPS Specification	4K OPS module with Intel core i5 or better, 11th generation or better, 8 GB RAM 256GB NVME SSD or better, Window 11 Professional.	

Item No 34: Sliding screen with Diagonal 98 inch or Higher

Sr. No.	Description		Compliance Yes/No Model No.
1.	Display	Sliding screen with LED technology Safety Lockable enclosure with movable white boards	
2.	Panel Size	98" or Higher	
3.	Display Area (mm)	Minimum 2170(H) x 1230(V) or better	
4.	Aspect Ratio	16:9	
5.	Native Resolution	4K 60hz	
6.	Brightness	350 cd/m2 or higher	
7.	Contrast Ratio	1100:1 or higher	

8.	Response Time	10ms or Better	
9.	Viewing Angles	H = 178, V = 178 typ.	
10.	Light Life	Minimum 30,000 hrs of Higher	
21.	Antiglare Coating	Yes	
22.	Touch Interface	Touch sensitive as well as pen driven	
23.	Touch Technology	Infrared optical/ Capacitive	
24.	Number of Touch Points (Number)	10 Points or higher IR Multi-Touch Touch Interface	
25.	Provision for wall mounting	Yes	
26.	Number of electronic pen or stylus to be supplied with the board (Nos)	2 with magnetic pen holder	
27.	Installation Kit, connecting cables to be supplied along with the Panel	Yes, VGA (5m x 1), HDMI (1.5m x 2)	
28.	Certification Required	Mandatory Certifications: BIS, FCC Desired Certifications: UL or more	
29.	Warranty	Three years onsite warranty.	
30.	OPS Specification	4K OPS module with Intel core i5 or better, 11th generation or better, 8 GB RAM 256GB NVME SSD or better, Window 11 Professional.	

Item No 35: Sliding screen with Diagonal 110 inch or Higher

Sr. No.	Description		Compliance Yes/No Model No.
1.	Display	Sliding screen with LED technology Safety Lockable enclosure with movable white boards	
2.	Panel Size	110" or Higher	
3.	Display Area (mm)	109.4"diagonal or better	
4.	Aspect Ratio	16:9	
5.	Native Resolution	4K 60hz	
6.	Brightness	350 cd/m2 or higher	
7.	Contrast Ratio	1100:1 or higher	
8.	Response Time	10ms or Better	

9.	Viewing Angles	H = 178, V = 178 typ.	
10.	Light Life	Minimum 50,000 hrs of Higher	
11.	Antiglare Coating	Yes	
12.	Touch Interface	Touch sensitive as well as pen driven	
13.	Touch Technology	Infrared optical/ Capacitive	
14.	Number of Touch Points (Number)	10 Points or higher IR Multi-Touch Touch Interface	
15.	Provision for wall mounting	Yes	
16.	Number of electronic pen or stylus to be supplied with the board (Nos)	2 with magnetic pen holder	
17.	Installation Kit, connecting cables to be supplied along with the Panel	Yes, VGA (5m x 1), HDMI (1.5m x 2)	
18.	Certification Required	Mandatory Certifications: BIS, FCC Desired Certifications: UL or more	
19.	Warranty	Three years onsite warranty	
20.	OPS Specification	4K OPS module with Intel core i5 or better, 11th generation or better, 8 GB RAM 256GB NVME SSD or better, Window 11 Professional.	

Item No 36: Integrated USB all-in-one conferencing device for 20+ seater

	Item Description	Compliance Yes/No Model No.
Camera	Camera should be plug and play and should comply with UVC 1.1 standards for processing of video.	
	Output: YUY2, MJPEG.	
	Optical Resolution: 8 MP (4K (3840×2160)30fps, 1080P60fps, 720p30fps & 60fps).	
	Sensor size: 1/2.5" CMOS	
	Port: USB 3.0 for end device connectivity.	
	SNR >= 38dB	
	FOV: Diagonal 90°, Horizontal 83°and vertical 52°or above.	
	Aperture: F2.0 ~ 3.1	
	Focal length Wide: 3.725mm, Tele: 17.88mm	
	Should support autofocus.	
	Smooth Motorized pan, tilt and zoom from remote control	
	It should also be possible for user to control camera via simple software application in PC & Mac.	

	Should support FECC: Far End camera control.	
	Zoom: 5x optical and 10x digital or better	
	Camera Control: Standard VISCA / Mini din 6 pin or equivalent	
	＋/-90° Pan range, ＋50°/-90° tilt range	
	Minimum illumination: 80 lux	
	Preset: 3 or above	
	Camera should have option to mount on Tripod stand if required.	
	To be supplied with required power adaptor, regional plugs, cables minimum 3mts and mounting bracket.	
Microphon e	System should be supplied with 2 microphones from day one and have the ability to connect another similar 5 microphones if required in future without any external device.	
	Pickup range: 15 ft / 4.5m diameter or more	
	Each microphone should have four omnidirectional microphones forming eight acoustic beams	
	Should have AEC (Acoustic Echo Cancellation)	
	Should have VAD (Voice Activity Detector) to cut unwanted voice.	
	Should have background noise suppression	
	Should have mute button with LED status indicator	
	Frequency response: 90Hz – 16kHz	
	Sensitivity: >-27dB +/-1dB @ 1Pa	
	It should be possible to extend single or multiple microphones upto 50mtrs.	
	Microphone data rate: 48 kHz	
Speaker	System should be supplied with Two speakerphone from day one	
	Speaker should take power from the integrated Unit only to avoid multiple cables or power sources.	
	Should have High-performance 3" (76mm) driver.	
	Speaker should have the option to be mounted on wall.	
	Speaker volume 95dB SPL @1W, 100dB SPL @7.5W, both +/-2dB at ½ meter	
	Sensitivity: 95+/-2dB SPL at ½ meter	
	Distortion: 200Hz–300Hz < 2.5%, 300Hz–10kHz < 1%@7.5W	
	Speaker sampling rate: 48 kHz	
Other	System should have the option to connect 2 display devices in the room.	
	System should give the option to connect any video source via HDMI / VGA on the table side and carry it to the display device upto 50mts	
Cable Manageme	System should be supplied with 3mts of minimum length cable to connected end device (laptop, Mac, Codec, desktop and thin client)	

	All necessary cables for all the components, power adaptors, regional plugs, quick start guide along with the mounting bracket should be supplied by the OEM.	
nt and ambience		
Remote Control	Type: RF / Bluetooth with removable / replaceable batteries to ensure it don't require line of sight in conference room.	
	System should be supplied with all-in-one remote control to manage Camera (Pan, Tilt, Zoom, Preset, block/ mute video).	
	Range 8.5 mts or more	
Warranty	Three years comprehensive onsite warranty	

Item No 37: DOCK (Speaker phone and Mic)

	Item Description	Compliance Yes/No Model No.
General Requirement	All in one system with speaker, microphone, touch controls, Display output and other I/O ports for adding various accessories to the laptop / PC or compute device.	
System Requirements	System should be compatible with Windows, iOS, Chrome or Android Bluetooth enabled devices. System with required 3rd party application should integrate with MS office 365 Or Google calender and provide one-touch to join meeting experience and customization with major VC application providers like Zoom , MS Teams & Google Meet. Certifications: Microsoft Teams, Google Meet, Google Voice, Zoom, and Tencent Meeting	
Speaker	Frequency response: 60Hz-20kHz, Driver size: 55 mm	
Microphone	5 Integrated beamforming mics, Frequency response: 65Hz-8kHz	
Package Contents	All required cable to connect system with the compute / Pc should be supplied by the OEM.	
Docking station features	Docking interface: USB-C with Display Port or Alt Mode Power to system: Up to 100 Watt charging Monitor Ports: 1 x HDMI v. 2.0 (Support up to 4K, i.e. 3840 x 2160 @60Hz HDR) 1 x DisplayPort 1.4 (Support up to 4K, i.e. 3840 x 2160 @60Hz HDR) Others: 1 x Bluetooth Sync button 1 x AC power (230W, 19.5V) Security slot type: Kensington security slot 2-Year Limited Hardware Warranty 1-Year Extended Warranty available for purchase	

	Peripheral Ports: 2 x USB-A 1 x USB3.1 (5Gbps) with 4.5W charging 1 x USB3.1 (5Gbps) with 7.5W fast charging 3 x USB-C 2 x USB3.1 (5Gbps) with 4.5W charging 1 x USB3.1 (5Gbps) with 7.5W fast charging 1 x USB-C Upstream	
I/O Ports		
Warranty	Three years comprehensive onsite warranty	

Item No 38: Integrated USB all-in-one conferencing device for 4-5-seater

	Item Description	Compliance Yes/No Model No.
General Requirement	Complete camera, speakerphone, remote control and microphone should be an integrated single OEM solution for ease of use and seamless experience.	
Camera	System should support onboard H.264 UVC 1.1 AVC for processing of video within the camera to save computing resources on end device/ laptop/PC or codec.	
	Resolution 1080p at 30fps for live calling and 2 MP optical for still photographs	
	Port : USB 2.0 for end device connectivity.(Single USB for connecting speakerphone , microphone and camera)	
	SNR >= 35 db or better with Aperature F#2.0 or higher	
	Zoom: 1.2x or better with 75degree or above FOV, Autofocus	
	Motorized pan, tilt and zoom enabled from remote control as well as manually from integrated system itself with $+$/-64° Pan range or 180° PAN , $+$24°/-30° tilt range	
Integrated Speakerphone	Frequency response: 220 Hz - 20 kHz or better, Sensitivity: 80 dB SPL at 1 ft (0.3 m)	
Microphone	Omni-directional with Frequency Response: 200 Hz - 8 kHz or better, 3.5 mm jack for personal conversation.	
Cables and remote control	System should be connected and powered with USB cable(for camera , speakerphone and microphone) with 2 mts of minimum length is connected to end device (laptop, Mac, Codec ,desktop and thin client)	
	System should be supplied with integrated remote control to manage Camera (Pan, Tilt, Zoom, Preset), Speakerphone (volume +/-) and Microphone (mute /unmute) with 3 mts or above range.	
Warranty	Three years comprehensive onsite warranty	

Item no 39: Integrated USB all-in-one conferencing device

	Item Description	Compliance Yes/No Model No.
Camera	Camera should be plug and play and should comply to UVC 1.1 standards for processing of video.	
	Output: YUY2, MJPEG.	
	Optical Resolution : 8 MP : (4K, 1440p, 1080p, 900p, 720p, and SD at 30fps)	
	Sensor size : 1/2.5" CMOS	
	Port : USB 3.0: 3x Type A, 1x Type C	
	SNR >= 38dB	
	FOV : Diagonal 90°, Horizontal 82°.1and vertical 52°.2or above.	
	Aperature : F2.0 ~ 3.1, Total Room Coverage 132.1° Horizontal x 82.2° Vertical	
	Focal length Wide: 3.725mm, Tele : 17.88mm	
	Should support autofocus, speakers tracking, auto framing	
	Smooth Motorized pan, tilt and zoom from remote control	
	It should also be possible for user to control camera via simple software application in PC & Mac.	
	Should support FECC: Far End camera control.	
	Zoom: 15x or better	
	Camera Control: by remote	
	+/-90° Pan range , +50°/-90° tilt range	
	Minimum illumination : 80 lux	
	Preset : 1 or above	
	Should have Dual camera to support Speaker track , group framing , grid view , Speaker track with room view features, Camera Zone also	
	Should have Kensington Security Slot to ensure physical security of camera in conference room.	
	Device should have option to mount on wall\table\TV	
	To be supplied with required power adaptor, regional plugs, cables minimum 3mts and mounting bracket.	
Microphone	System should be supplied with 6 internal microphone from day one and have the ability to connect another 4 external microphones if required in future without any external device and hence all 10 microphones should work simultaneously.	
	Pickup range: 7m / 23 ft diameter or more	

	Each external microphone should have four omnidirectional microphones forming eight acoustic beams and have option to be mounted on the ceiling directly, if required with Pendant mount.	
	Should have AEC (Acoustic Echo Cancellation)	
	Should have VAD (Voice Activity Detector) to cut unwanted voice.	
	Should have background noise suppression	
	Should have mute button with LED status indicator	
	Frequency response: 90Hz – 16kHz	
	Sensitivity: >-36dBFS +/-1dB @ 1Pa	
	It should be possible to extend single or multiple external microphones upto 50mtrs.	
	Microphone data rate: 48 kHz	
Speaker	Sensitivity: 90+/-3dB SPL at 1W, ½ meter	
	Speaker should take power from the integrated Unit only to avoid multiple cables or power sources.	
	Drivers: 2x 70mm / 2.7 in	
	Output: 90dB SPL @1W, 99dB SPL @8.0W, both +/-2dB at ½ meter	
	Speaker Sampling Rate: 48 kHz	
	THD: 1kHz < 2%	
Other	System should have the option to connect 2 display devices in the room.	
	System should have build in appliance mode with basic application, Example - MS Teams, Zoom , Go to Meeting, ETC. and guest join option also	
	System should give the option to connect any video source via HDMI on the table side and carry it to the display device upto 50mts	
Cable Management and ambience	System should be supplied with USB A to USB C 3.0 Cable: 2.2m / 7.2 ft of minimum length cable to connected end device (laptop, Mac, Codec ,desktop and thin client)	
	All necessary cables for all the components, power adaptors, cable management, regional plugs, and quick start guide along with the mounting bracket should be supplied by the OEM.	
Remote Control	Type: RF / Bluetooth with removable / replaceable batteries to ensure it don't require line of sight in conference room.	
	System should be supplied with all-in-one remote control to manage Camera (Pan, Tilt, Zoom, Preset, block/ mute video).	
	Range 8.5 mts or more	
Warranty	Three years comprehensive onsite warranty	

Item No 40: Integrated USB all-in-one conferencing device

	Item Description	Compliance Yes/No Model No.
Camera	Camera should be plug and play and should comply to UVC 1.1 standards for processing of video.	
	Output: YUY2, MJPEG.	
	Optical Resolution: (4K, 1440p, 1080P6, 720p30fps & 30fps).	
	Sensor size : 1/2.5" CMOS	
	Port : HDMI Out: 1 HDMI In: 1 USB: 1x Type A USB 3.1, 1x Type C USB 3.1 Network: 10/100/1G Ethernet WiFi: 802.11a/b/g/n/ac	
	FOV: Diagonal 120°, Horizontal 113°and vertical 80 or above.	
	Focal length Wide: 3.725mm, Tele : 17.88mm	
	Should support auto framing	
	Smooth Motorized pan, tilt and zoom from remote control	
	It should also be possible for user to control camera via simple software application in PC & Mac.	
	Should support FECC: Far End camera control.	
	Zoom: 4X HD digital zoom , Pan Motorized : ±48° , Tilt Motorized ±32°	
	Total Room Coverage (field of view + pan and tilt):163° horizontal x 110° vertical	
	Should have support group framing.	
	Preset : 1 or above	
	Should have Kensington Security Slot to ensure physical security of camera in conference room.	
	Camera should have option to mount on Tripod stand if required.	
	To be supplied with required power adaptor, regional plugs, cables minimum 3mts and mounting bracket.	
Microphone	System should be supplied with 6 internal microphone from day one and have the ability to connect another 3 external microphones if required in future without any external device and hance all 9 microphones should work simultaneously.	
	Pickup range: 7m / 23 ft diameter or more	
	Each microphone should have four omnidirectional microphones forming eight acoustic beams	
	Should have AEC (Acoustic Echo Cancellation)	
	Should have VAD (Voice Activity Detector) to cut unwanted voice.	

	Should have background noise suppression	
	Should have mute button with LED status indicator	
	Frequency response: 90Hz – 16kHz	
	Sensitivity:>-36dBFS +/-1dB @ 1Pa	
	It should be possible to extend single or multiple microphones.	
	Microphone data rate: 48 kHz	
Speaker	System should be supplied with 2 internal speakerphone from day one	
	Speaker should take power from the integrated Unit only to avoid multiple cables or power sources.	
	Should have High-performance 3" (76mm) driver.	
	90dB SPL @1W, 99dB SPL @8.0W, both +/-2dB at ½ meter	
	Sensitivity:86+/-2dB SPL at 1W, ½ meter	
	Speaker sampling rate: 48 kHz	
Other	System should have the option to connect 2 display devices in the room.	
	System should have built in appliance mode with basic application, Example - MS Teams, Zoom , Go to Meeting, ETC. and guest join option also	
	System should give the option to connect any video source via HDMI / VGA on the table side and carry it to the display device upto 50mts	
Cable Management and ambience	System should be supplied with USB A to USB C 3.0 Cable: 2.2m / 7.2 ft of minimum length cable to connected end device (laptop, Mac, Codec ,desktop and thin client)	
	All necessary cables for all the components, power adaptors, regional plugs, quick start guide along with the mounting bracket should be supplied by the OEM.	
Remote Control	Type: RF / Bluetooth with removable / replaceable batteries to ensure it don't require line of sight in conference room.	
	System should be supplied with all-in-one remote control to manage Camera (Pan, Tilt, Zoom, Preset, block/ mute video).	
	Range 8.5 mts or more	
Warranty	Three years comprehensive onsite warranty	

Item No. 41: Integrated USB all-in-one conferencing device for 8+ seater

Item Description		Compliance Yes/No Model No.
Camera	System should be USB video class (UVC) for processing of video and USB Audio class (UAC) to save computing resources on end device/ laptop/PC or codec.	
	Output: YUY2, MJPEG.	
	Optical Resolution : 8 MP for still photo and 4K(3840×2160)30fps, 1080P60fps or above for video calling	
	Sensor size : 1/3" CMOS	
	Port: USB 2.0 for end device connectivity.	
	SNR >= 38dB	
	Should support autofocus.	
	FOV: Diagonal 120°, Horizontal 113°and vertical 80°or above.	
	Aperature: F#2.0	
	Smooth Motorized pan, tilt and zoom from remote control provided with unit or via Smartphone.	
	It should also be possible for user to control camera via simple software application in PC & Mac.	
	Should support FECC: Far End camera control.	
	Zoom: 5x or better	
	Camera Control: Standard VISCA / Mini din 6 pin / USB / USB C type or equivalent.	
	$+$/-25° Pan range , $+$/- 15° tilt range	
	Minimum illumination : 80 lux	
	Preset : 3 or above	
	Should have Kensington Security Slot to ensure physical security of camera in conference room.	
	To be supplied with required power adaptor, regional plugs, cables minimum 5mts and mounting bracket.	
Integrated Speakerphone	LED for speakerphone streaming, mute, hold and bluetooth pairing so that user is aware about the status of the device.	
	Should have Kensington Security Slot to ensure physical security of device in conference room.	
	Audio Technology: Must support Echo and noise cancellation.	
	Frequency response: 100Hz – 15KHz	
	Sensitivity: 86.5+/-3dB SPL at 0.5 meter	
	Max output: 95 dB SPL at 0.5 meter	
Integrated Microphones	Three inbuilt microphones supporting pickup from 8ft or more.	

	Frequency response:90 Hz - 16kHz for full voice reproduction and high intelligibility without noise	
	System should support atleast 1 or more expansion microphone to increase coverage for large conference rooms.	
	Microphones should be Microsoft Cortana certified for precision with voice command.	
	Integrated microphone and supported expansion microphone should have mute/unmute button so that user sitting at any corner of conference room have provision to mute/ unmute the complete system with LED indication on each of microphone.	
Cable Management and ambience	System should support single USB cable (for camera , speakerphone and microphone) with 5mts of minimum length is connected to end device (laptop, Mac, Codec ,desktop and thin client)	
	All necessary cables for all the components, power adaptors, regional plugs, quick start guide along with the wall mounting bracket should be supplied by the OEM. If required OEM should provide separate kid to TV mount the integrated system.	
Remote Control	Type: RF with removable / replaceable batteries.	
	System should be supplied with all-in-one remote control to manage Camera (Pan, Tilt, Zoom, Preset), Speakerphone (volume +/-) and Microphone (mute /unmute)	
	Any smart device (Android /IOS) with Bluetooth should be able to act as remote control.	
Warranty	Three years comprehensive onsite warranty	

Item No 42: Sliding screen with safety lockable enclosure

Sr.No.	Description	Compliance (Yes/No)
42 a	Supply and Installation of a protection mechanism for a 55" or higher size Interactive Panel Protection mechanism with proper distinctive lock for 55" or higher Hybrid Interactive Panels: Sliding shutter with SS frame or equivalent for 55" or higher Hybrid Interactive Panels along with a lock and white marker board on front	
42 b	Supply and Installation of a protection mechanism for a 65" or higher size Interactive Panel Protection mechanism with proper distinctive lock for 65" or higher Hybrid Interactive Panels: Sliding shutter with SS	

	frame or equivalent for 65" or higher Hybrid Interactive Panels along with a lock and white marker board on front	
42 c	Supply and Installation of a protection mechanism for a 75" or higher size Interactive Panel Protection mechanism with proper distinctive lock for 75" or higher Hybrid Interactive Panels: Sliding shutter with SS frame or equivalent for 75" or higher Hybrid Interactive Panels along with a lock and white marker board on front	
42 d	Supply and Installation of a protection mechanism for an 85" or higher size Interactive Panel Protection mechanism with proper distinctive lock for 85" or higher Hybrid Interactive Panels: Sliding shutter with SS frame or equivalent for 85" or higher Hybrid Interactive Panels along with a lock and white marker board on front	
42 e	Supply and Installation of a protection mechanism for a 98" or higher size Interactive Panel Protection mechanism with proper distinctive lock for 98" or higher Hybrid Interactive Panels: Sliding shutter with SS frame or equivalent for 98" or higher Hybrid Interactive Panels along with a lock and white marker board on front	
42 f	Supply and Installation of a protection mechanism for a 110" or higher size Interactive Panel Protection mechanism with proper distinctive lock for 110" or higher Hybrid Interactive Panels: Sliding shutter with SS frame or equivalent for 110" or higher Hybrid Interactive Panels along with a lock and white marker board on front	

Note: For Item No 7,8 and 9, Sr.No. 1, Display stands deleted.