ANNEXURE – I

TECHNICAL SPECIFICATION FOR CHEMILUMINESCENCE & GEL IMAGING & ANALYSIS SYSTEM

S.NO	SPECIFICATION	Complied/Not Complied	Ref Page No
1	System with true16 bit CCD (not A/D) camera; pixel density of 65,536 gray levels.		
2	Individual pixel size should be at least 4.54 x 4.54 µm or bigger		
3	Camera resolution should be more than 6 megapixel.		
4	The instrument should provide excellent quantitative data from a single blot having very intense and weak signals in a single image; to facilitate the same instrument's dynamic range should be at least 4 orders of magnitude for all applications (please support with relevant technical data)		
5	Instrument should provide highest level for sensitivity and hence must have minimal dark current with maximum limit of 0.002 e/p/s and low read noise of not more than 6e-.		
6	should have peltier based cooling.		
7	Quantum efficiency at 425 nm should be 70% or more, this will ensure that the instrument is highly sensitive to very faint signals from chemiluminiscent blots.		
8	Motorized zoom fast lens with f/0.95 or better should be provide		
9	Light sources/excitation should include – Trans-UV (302 nm), Epi White and it should have upgradable option for Epi-Blue Multiplexed LED (460-490 nm), Epi-Green Multiplexed LED (520-545 nm), Epi-Red Multiplexed LED (625-650 nm), Epi-far red Multiplexed LED (650-675 nm), Epi-near IR Multiplexed LED (755-777 nm) and trans-blue light (Blue tray (for Gel green and any SYBR stains).		
10	Instrument should have provision for protective UV shield for use during band excision with safety interlocks to avoid un-intentional UV exposure to the user.		
11	Minimum imaging area for white light and chemiluminesence application should be 21 cm x 16.5 cm.		

12	Should provide image acquisition with automatic zoom, focus, and iris adjustment without the need for users to focus or adjust aperture settings.		
13	The instrument should have onboard attached touchscreen of 12" or bigger with multi-touch capability (2 points) enabling users to easily interact with the touchscreen to acquire, assess and export images. Touchscreen actions should include – tap, double tap, pan, scroll and pinch to zoom.		
14	Instrument should have multiple input/output ports with minimum 3 USB ports allowing users to connect USB devices (like keyboard, mouse, data storage, and printer). One USB port should be provided on the front panel for easy export to USB. Also, system should have one Ethernet port so that users can transfer image files via Ethernet to networked computers.		
15	Factory calibrated flat fielding for ensuring uniform data for all applications. System should be calibrated for image area, focus, and flat field correction at the factory and files stored in the integrated PC.		
16	Users should be able lock the system to prevent other users from interrupting a long acquisition or changing the settings		
17	System should enabled with stain-free imaging of gels and blots.		
18	The system should have a fixed sample stage.		
19	The system should provide flexibility in selecting the pixel binning options, should be possible to select minimally 2x2, 4x4 and 8x8 binning.		
20	Software should have highest level of automation in hardware calibration, image optimization, capture, and analysis.		
21	Should have automated workflow recorded in a protocol file from image capture to results thus eliminating need for training.		
22	Should allow 100% repeatability of the workflow by any user and ensures optimized image data and analysis from a gel in a single uninterrupted, fast, and completely reproducible workflow.		
23	Should have automated image capture driven by a selected gel or blot application.		
24	Software should have automated normalization feature for normalizing western blot signals of target band with either a housekeeping protein band or total protein load of a sample.		
25	Should generate publication ready images with user defined dpi, dimension and format with one click export option thus eliminating the need of using other software like Photoshop.		

26	Should generate customizable reports.		
27	Should have feature for Automatic print when only imaging and printing is required.		
28	Software should have easy copy/paste functionality, crop, zoom, 3D and colors.		
29	Signal Accumulation Mode (SAM) for easy optimization of exposure time for chemiluminescent detection.		
30	Software should be both PC and Mac compatible.		
31	Software should be provided for minimum 20 users with license for complete acquisition and analysis features.		
32	Software should be able to export images on a 16-bit and 8-bit tiff images with a one-click export option.		
33	Software should be able to export images in multiple formats with minimum options of exporting in .tiff, .png, .jpg and .bmp		
34	Software should have unlimited undo and redo functions to easily correct for any missteps with additional features like easy copy/paste, crop, zoom, 3D viewer and colors.		
35	Should be single software for acquisition and analysis.		
36	The software provided should have minimum 10 citations in peer-reviewed international journals for use in western blot normalization using stain-free technology/method. Please attach the publications in technical bid highlighting the same.		
37	Automated image capture optimized for each selected gel or blot application - Software should automatically select the appropriate filters, light sources, and camera settings for all applications. The software should ensure that image optimization is specific to a selected gel or blot application or can be used for a large portfolio of detection methods. Applications include chemiluminescent, colorimetric, and fluorescent blots, and nucleic acid and protein detection via colorimetric and fluorescent stains.		
38	Warranty should be 3 years for the instrument.		

SIGNATURE OF TENDERER
ALONG WITH SEAL OF THE
COMPANY WITH DATE

(Note: It is mandatory for the bidders to provide the compliance statement (comply/not comply) for the above points with document proof as required).If the compliance statement (comply/Not comply) is not furnished for the evaluation. Bidders will be disqualified.