

Appendix–I: The required specification for Hardware

Only Branded/Original Hardware will be accepted.

1. Desktop

- Provide configure and deploy in head quarter 40 Desktop for IT Staff (programmer)
 - Intel Core i7 dual or equivalent
 - 2 GB internal fast memory
 - 1 TB disk storage
 - Very High resolution graphical capacity – Dual screen capacity
 - 27 inches High resolution screen (2560 x 1440 or higher)
 - Key board and mouse
 - Microsoft installed Window 10 License
 - Myanmar font must be configured
- Provide configure and deploy in head quarter 20 Desktop for power users
 - Intel Core i7 dual or equivalent Processor
 - 4 GB internal fast memory
 - 1 TB disk storage
 - Very High resolution graphical capacity – Dual screen capacity (at least 2GB)
 - 2 x 27 inches High resolution screen (2560 x 1440 or higher)
 - Key board and mouse
 - Microsoft installed Window 10 License
 - Myanmar font must be configured

2. Laptop

- Provide configure and deploy in the field 700 Laptops with 3G/4G modem for end users
 - Intel Core i7 Processor
 - 2 GB internal memory
 - 1 TB disk storage
 - 15.6 inches High resolution screen (1920 x 1080 or higher)
 - Keyboard and mouse
 - Spill resistant keyboard
 - Microsoft installed Window 10 with License
 - Myanmar font must be configured

3. Tablet

- Provide configure and deploy in the field 300 Electronic tablets for end users
 - 2.0 GHz or higher Processor
 - 2 GB RAM or higher
 - 32 GB or higher for Storage
 - 10.1 Inch IPS LCD with (1920 x 1200 or higher) Resolution
 - Rear- 8 MP | Front- 5 MP or higher
 - Android 7.1 Nougat or higher
 - 9 hours for battery life
 - 1.5 lbs maximum (tablets only)
 - WiFi
 - Mobile Data (3G/4G) Capability - SIM / Micro SIM
- Rugged protective case to increase to provide shock absorbing dust resistance capacity.

4. Printer

- Provide configure and deploy in the field and head office 400 Laser printer
 - High capacity cartridge at least 5000 A4 pages
 - 600 dpi
 - 60 pages per minute
 - Integrated WiFi
 - Windows 10 compliant or higher

5. Automatic Feeding Document Scanner

- Provide configure and deploy in the field and head office 250 Scanner

Automatic Feeding document scanner	
General Technical Specifications	
Scanner Type	Automatic Document Feeder (ADF), Duplex Scanning
Scanning Modes	Color, Grayscale, Monochrome, Automatic (color / grayscale / monochrome detection(3))

Automatic Feeding document scanner		
Image Sensor		Color CIS (Contact Image Sensor) x 2 (front / back)
Light Source		3 Color LED (Red / Green / Blue)
Optical Resolution		600 x 600 dots per inch (dpi)
Scanning Speed (A4 portrait)(1)	Auto Mode(2)	Simplex or Duplex, 25 pages per minute (ppm)
	Normal Mode	Color & Grayscale 150 dpi, Monochrome 300 dpi, Simplex/Duplex, 25 ppm
	Better Mode	Color & Grayscale 200 dpi, Monochrome 400 dpi, Simplex/Duplex, 25 ppm
	Best Mode	Color & Grayscale 300 dpi, Monochrome 600 dpi, Simplex/Duplex, 25 ppm
	Excellent Mode(3)	Color & Grayscale 600 dpi, Monochrome 1200 dpi, Simplex/Duplex, 7 ppm
Document Size	Normal Mode without Carrier Sheet	A4, A5, A6, B5, B6, Business Card, Post Card, Letter, Legal and Custom Size. Max: 216 mm X 360 mm (8.5 in. X 14.17 in.), Min: 50.8 mm X 50.8 mm (2 in. X 2 in.). Automatically recognizes document size.
	Normal Mode with Carrier Sheet(3)	Use of a Carrier Sheet permits the scanning of A3, B4, 279.4 mm X 431.8 mm (11 in. x 17 in.) and photographs as well as the document sizes listed above.
	Long Paper Scanning(3)(4)	863mm (34 in.)
Multi-feedDetection		Supported (Standard) ultrasonic multi-feed detection sensor
PaperWeight (thickness)		40 g/m2 to 209 g/m2 (11 lb. to 56 lb.)
Paper Chute Capacity(5)		Maximum 50 sheets (A4, 80g/m2 or 21 lb.)
Interface		USB 3.0 (USB 2.0 / 1.1 Compatible)(6)

Automatic Feeding document scanner		
Wi-Fi Interface(7)	Observed Standards	IEEE802.11b / IEEE802.11g/ IEEE802.11n
	Communication Mode	Infrastructure Mode
	Frequency(8)	2.412 GHz to 2.462 GHz / 2.412 GHz to 2.472 GHz
	Communication Distance	Indoors, 50 m (Recommended: indoors, within 25 m) *May vary depending on surrounding environment and the access point to be connected
	Security(9)	WPA-PSK (TKIP / AES), WPA2-PSK (TKIP/AES), WEP (64-bit / 128-bit)
	Easy Installation	WPS2.0 supported (button / PIN code)
Power Requirement		AC Adapter AC 100 V to 240 V, 50 / 60 Hz
Power Consumption/ USB Connected	Operating Mode	20 W or less
	Sleep Mode	1.6 W or less
	Auto Standby (Off) Mode	Less than 0.4 watt
Power Consumption/ Wi-Fi Connected	Operating Mode	20 W or less
	Sleep Mode	2.5 W or less
	Auto Standby (Off) Mode	Less than 0.4 watt
Operation	Temperature	5 °C to 35 °C (41 °F to 95 °F)

Automatic Feeding document scanner		
Environment	Relative Humidity	20 % to 80 % (non- condensing)
Dimensions (W x D x H)(10)		292 mm x 159 mm x 168 mm (11.5 in. x 6.2 in. x 6.6 in.)
Device Weight		3.0 kg (6.62 lb.)
Driver		Specific driver ·Windows®: Does not support Twain/ISIS® · Mac OS: Does not support Twain
Environmental Compliance		ENERGY STAR® V2.0 Compliant / ROHS(11) / EPEAT Silver Compliant
Inbox Contents		ScanSnap, AC cable, AC adapter, USB cable (USB 3.0 supported), Safety Precautions, Setup DVD-ROM, ScanSnap Carrier Sheet

- Scanning speeds may vary due to the system environment used
- Documents measuring 5.8 inches (148 mm) in length or less are scanned in "Best Mode", while other documents are scanned in "Better Mode".
- Only Computer connection
- ScanSnap iX500 is capable of scanning documents that exceed A4 size in length. ScanSnap iX500 supports the scanning of longer documents in all modes except in "Excellent Mode"
- Maximum capacity varies depending upon paper weight.
- Some computers do not recognize the ScanSnap when it is connected to a USB 3.0 port. In this case, please use a USB 2.0 port
- Mobile devices that can be connected include iPad / iPhone / iPod touch and Android™. Refer to ScanSnap website for details
- Values depends on Country
- IEEE802.1X Authentication is not supported
- Excluding the stacker and other external attachments
- PFU LIMITED, a Fujitsu company, has determined that this product meets RoHS requirements (2002/95/EC).

6. Overhead Scanner

- Provide configure and deploy in the field and head office 250 Overhead Scanner

Over Head Scanner		
General Technical Specifications		
Scanner Type		Over Head system, simplex scanning
Scanning Modes		Color, Grayscale, Monochrome, Automatic (color, grayscale, monochrome detection)
Image Sensor		Lens reduction optics / color CCD x 1
Light Source		(White LED + lens illumination) x 2
Optical Resolution		Horizontal scanning: 285 to 218 dpi, Vertical scanning: 283 to 152 dpi ⁽¹⁾
Scanning Speed (A3 landscape) ⁽²⁾	Auto Mode ⁽³⁾	"Better mode" or "Best mode": 3 seconds / page
	Normal Mode	Color / Grayscale: 150 dpi, Monochrome: 300 dpi 3 seconds / page ⁽⁴⁾
	Better Mode	Color / Grayscale: 200 dpi, Monochrome: 400 dpi 3 seconds / page ⁽⁴⁾
	Best Mode	Color / Grayscale: 300 dpi, Monochrome: 600 dpi 3 seconds / page ⁽⁴⁾
	Excellent Mode	Color / Grayscale: 600 dpi, Monochrome: 1,200 dpi 3 seconds / page ⁽⁴⁾
Document Size		Automatically recognizes document size, A3 (landscape), A4 (landscape), A5 (landscape), A6 (landscape), B4 (landscape), B5 (landscape), B6 (landscape), Post Card, Business Card, Double Letter

Over Head Scanner	
	(landscape), Letter, Legal (landscape) and Customized size (Max: 432 x 300 mm (17.0 x 11.8 in.), Min: 25.4 x 25.4mm (1 x 1 in.)) ⁽⁵⁾
Document Thickness	30 mm (1.18 in.) or less
How to Start Scanning ⁽⁶⁾	Select one of the below. 1. Normal scan: Press "Scan" button for every page 2. Timed interval Scanning (Timed Mode) 3. Page turning detection
Interface ⁽⁷⁾	USB 2.0 / USB 1.1 (connector B Type)
Image Processing functions	Deskew by text on document, Auto paper size detection, Auto image rotation, Auto color detection, Book image correction ⁽⁸⁾ Multiple document detection ⁽⁹⁾
Magnification in Vertical Scanning (length)	± 1.5 %
Power Requirement	AC 100 V to 240 V, 50 Hz / 60 Hz
Power Consumption	During operation: 20 W or less During sleep mode: 2.6 W or less During standby: 0.4 W or less
Operation Environment	Temperature: 5 °C to 35 °C (41 °F to 95 °F) Relative humidity: 20 to 80 % (Non-condensing)
Dimensions (W x D x H)	210 mm x 156 mm x 383 mm
Device Weight	3 kg (6.61 lb.)
Driver	Specific driver: * Does not support Twain/ISIS®

- ## 7. Card Printer

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|----------------------|---|
| ○ Standard | Must support all Smart card ISO / IEC 7816 standard |
| ○ Print technology | Direct-to-card dye-sublimation/resin thermal transfer with lamination capability |
| ○ Print capabilities | two-sided (duplex) edge-to-edge printing
Full-color and UV, or monochrome printing capability in the same printer. |

- Print resolution enhanced text and bar code printing
Alphanumeric text, logos; 1D/2D bar code images Printer pooling/sharing
300 x 1200 dots per inch; Picture (photo),
256 shades per color panel
- Print speed printing cards on one side (YMCKT*) Up to 220 cards per hour
Full-color printing: Up to 165 cards per hour
printing cards on two sides (YMCKT-K*)
- Chip encoding and information on the CHIP Upload and/or encode all ID and status
Information uploading
- Card capacity (0.76 mm) cards; 25- Automatic feed: 100-card input for 0.030 in.
card output standard Easy access
exception card slot Separate reject location
and holding tray (10-card capacity or
more) Input hopper empty detection
must support up to (0.762 mm to 1.02 mm)
- Card Thickness Bidirectional USB 2.0 high speed; Ethernet
- Connectivity 10 Base-T/100- Base- TX (with activity light)
- Environmental range 10°C to 30°C / 50°F to 85°F operating
Operating Range

8. SMART Card

- Card dimensions 85.6mm x 53.98mm x 0.76mm
- Card material heat and abrasiveness
- Card Design Optional
- Holograms & Holomags Optional
- Lamination Optional
- Card Life Up to 10 years

○ Interface	Contact and Contactless
○ OS Type	Optional
○ Memory Size	1 MB
○ Support Algorithms	T=0, T=1 etc.
○ Chip location	Optional
○ Security Features	AES, DES, 3DES and HMAC encryptions
○ Standards	ISO 7816, ISO 14443
○ Processing Power	32-bit RISC processor running at 25 to 32 MHz or higher
○ speed transmission	9.6 to 223.2 kbps
○ Data retention	10 Years
○ Biometrics	10 Fingerprints, photo and iris
○ Electrical Operating	up 3V DC +/-10%
○ Write Endurance	greater than 1 million

9. Smart Card Reader

Specification	Description
Host interface	• Full speed USB (12 Mbps) • CCID compliant
Read and write speed	• Read/write speed up to 848 kbps
Smart card interface	• T=0, T=1 protocol support • Memory card support through SCM MCARD API Communication speed up to 344,105 bps (PPS, FI parameter) • Frequency up to 12 MHz (PPS, DI parameter) • Support ISO 7816 Class A and AB smart cards • Supports major contactless smart cards that conform to ISO14443 Type A and B • Supports major contact smart cards that conform to ISO7816 Native T=CL support for ISO14443-4

	Built-in antenna for contactless tag access, with card reading distance of up to 50 mm
Smart card connector	8 contacts (ISO locations) 100,000 insertions or higher - Sliding contact - Built-in anti-collision feature (at least 1 card is detected when multiple cards are presented)
Visual and Sound interface	- Dual-state green LED - Sound Notification
Cable/Power	- Cable: 1.5m long with USB type A connector - Power through USB bus
Physical specifications	- Cable: 1.5m long (or longer) with USB type A connector - Power through USB bus
Operating Temperature	0° to 50° Celsius
Ergonomic	- Easy to use - Dimensions: around (LWH) 70 x 70 x 10 mm
Supported Operating System	- Windows® 10 - Android Nougat or higher
API	- PC/SC - CT-API (through wrapper on top of PC/SC)
Certification	- FCC Class B part 15, cULus, CE,VCCI - USB - Microsoft® OS 10 - EMV 2000 Level 1

10. Ten Fingerprint Scanner/Reader

- Provide configure and deploy in the field and head office 721 Fingerprint Scanner/Reader

Features

- Wide Scanning Area
- Advanced Optical System

- Durable Compact Design
- Captures High Quality Image
- Programmable LED Buttons
- Supports Flat & Rolled Fingerprints

Technical Specifications

Specification	Description
Fingerprint scanning window size:	86 mm x 84 mm
Image size:	81 mm x 81 mm
Image resolution:	1600 x 1600 pixels, 500 dpi
Bit depth:	8 bit, 256 gray levels
Fingerprint image size (BMP):	approx. 2.5 MByte
Fingerprint image size (WSQ-compressed):	0.4 MByte (Ratio 5:1)
Conformity:	CE EC Directive 2001/95/EC EC Directive 2002/95/EC EC Directive 2006/95/EC EC Directive 2004/108/EC FBI Appendix F FBI WSQ SGS (Liveness, Spoof and Fake Fingerprint Detection)
Interface	USB 2.0 high-speed with 1.8 meters standard USB cable
Dimensions (H x W x D)	Around 120 mm x 163 mm x 238 mm
Operating temperature	0 °C to 50 °C at a humidity of 5 - 95 % non-condensing

Storage temperature	0 °C to 50 °C at a humidity of 5 - 95 % non-condensing
Light source	Infrared light-emitting diodes (LED)
Supply	external AC adapter with 1.8 m cable, 100 - 240 V, 50 / 60
SDK Features	
Fourprint Segmentation	separation of single fingerprint segments from a fourprint (CAPI and .NET) image
NIST Quality Check	NFIQ 1.0: calculation of the NIST quality from a given image. The quality is calculated in the NRQ range from 1 (good quality) to 5 (bad quality) using the official NIST standard NFIQ 2.0: calculation of the NIST quality from a given image. The quality is calculated in the NRQ range from 100 (good quality) to 0 (bad quality) using the official NIST standard
WSQ Compression	FBI-certified
Operating Systems	Windows, Linux

11. Single Fingerprint Scanner/reader Specification

Specification	Description
Fingerprint Sensor	Optical (Highly abrasive resistant)
Dimensions	Must be easily portable
Resolution	500 dpi/ 256 gray scale
Sensing Area	16 X 18 mm (or around)
Image Size	Around 288 x 320 pixels
Interface	USB 2.0 High speed/full speed, plug & play

Operating system	Microsoft Windows 10
Operating Temperature	-10 to 50 Celsius
Certification	CE,FCC,KCC, WHQL (Microsoft) , RoHS (nontoxic)
Standards	ISO 19794-2, ISO 19794-4, JPEG2000 are preferred, JPEG or WSQ (FBI encoding compliancy) are allowed. ANSI-378 is allowed.
Software	Comprehensive SDK compatible with Windows .NET ; API set

12. Mobile Station Kit

- Provide configure and deploy in the field and head office Mobile Station Kit
- Laptop computer (see Laptop Specification in Appendix (I)), mouse, USB flash drive, DVD/CD-RW drive, recharger, accumulator package
- All needed software components for remote ID checking, preparing examination reports,
- Input of ten finger prints and latent prints, real-time identification connection / Integration to the new SSB Information System Database
- Integration with Iris Scanner (see Iris Specification in Appendix(I))
- Car voltage converter, power filter
- GSM modem
- Fingerprint Scanner (see Fingerprint Scanner/Reader Specification in Appendix (I))
- Digital camera, recharger, tripod
- Ruggedized transportable suitcase

13. Iris Scanner

- Provide configure and deploy in the field and head office Iris Scanner/Reader

Specification	Description
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Capture Mode	Auto capture
Capture Distance	13.5 cm - 14.5 cm (5.3 inches -5.7 inches) from the front of camera Lens(Optimal distance = 14 cm (5.5 inches), Focal depth = 1.0 cm (0.4 inch),Field of View = 3.3 cm x 2.4 cm at 15 cm (1.3 inches x 0.9 inch at 5.9 inches)
Image Format	ISO Standard 19794-6 (2005 & 2011), (640 x 480 Pixels, 8 bit Grayscale), full support of K1, K2, K3, K7
Sensor Resolution	VGA
Dimensions	IriShield-USB: 124 mm x 63.2mm x 42.5 mm (4.9 inches x 2.49 inches x 1.68 inches) Goggle: 200 mm x 145 mm x 72 mm (7.9 inches x 5.7 inches x 2.8 inches)
Power	Single USB Bus Powered (DC +5V±5%) (Max power consumption=430mA)
Illumination	Infrared LED
Environmental	-20°C to +60°C (Storage); 0°C to +50°C (Operating)
Usage	Indoor; Outdoor (avoid direct sunlight and bright reflections)
Compliance Certificates	& Eye safety standard (IEC 62471:2006-07), RoHS FCC-Class A* , IP54*
Resolution	Spatial : ≥ 60% @ 4.0 Lp/mm, Pixel : ≥ 16 Pixels/mm
Connectivity	USB 2.0
Product package	Chip & Camera set, Module, Encased
Security	RSA (2048-bit) and AES (256-bit); X509 Certificate, PFX/PKCS#12 Certificate , RSA key pair generated on-board
Matching Speed	2000 matches per second (exclusive of communication time between the camera and the host)
Ancillary SW	Demo Application, Drivers, SDK (C/C++, .NET C#/VB, Java) with Sample codes
Host OS	Windows Family, Linux Family, WinCE, Embedded Linux, and Android

