

July 21, 2020

## Bid Bulletin No. 1

**Subject: Supply and Delivery of Various IT Equipment under PB 20-03-18**

This bid bulletin is being issued to reflect the changes/clarifications in the Invitation to Bid, Bid Data Sheet, Special Conditions of Contract, Schedule of Requirements and Technical Specifications for PB 20-03-18 Supply and Delivery of Various IT Equipment as follows:

### INVITATION TO BID:

Revision in number 1 & 2, see attached Revised Invitation to Bid for your reference.

### BID DATA SHEET:

Clause	Particulars
2	The Funding Source is:  The Government of the Philippines (GOP) through the 2020 Corporate Fund Budget the amount of <b>TWO MILLION ONE HUNDRED FIFTY-EIGHT THOUSAND TWO HUNDRED PESOS ONLY (PhP2,158,200.00)</b> .  The name of the Project is: Supply and Delivery of Various IT Equipment
13.2	The Total ABC is <b>TWO MILLION ONE HUNDRED FIFTY-EIGHT THOUSAND TWO HUNDRED PESOS ONLY (PhP2,158,200.00)</b> . Any bid with a financial component exceeding this amount shall not be accepted.

### SPECIAL CONDITIONS OF CONTRACT:

Clause	Particulars
1.1(j)	The Funding Source is  The Government of the Philippines (GOP) through the <b>2020 Corporate Fund Budget</b> the amount of <b>Two Million One Hundred Fifty-Eight Thousand Two Hundred Pesos Only (PhP2,158,200.00)</b> .

### REVISED SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS:

Attached is the Revised Schedule of Requirements and Technical Specifications for the complete details.

Please be guided accordingly.

  
**GENARO S. RILLON**  
BAC Chairperson

**INVITATION TO BID**  
**SUPPLY AND DELIVERY OF VARIOUS IT EQUIPMENT**  
**(PB 20-03-18)**

1. The Philippine Rice Research Institute, through the **2020 Corporate Fund Budget** intends to apply the sum of **TWO MILLION ONE HUNDRED FIFTY-EIGHT THOUSAND TWO HUNDRED PESOS ONLY (PhP2,158,200.00)** being the Approved Budget for the Contract (ABC) to payments under the contract for the **Supply and Delivery of Various IT Equipment under PB 20-03-18**. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The Philippine Rice Research Institute now invites bids for the **Supply and Delivery of Various IT Equipment under PB 20-03-18** as follows: 11 units Desktop Computer, 4 units Laptop Computer, 1 unit Computer Server, 2 units Network Bridge, 8 units Network Attached Storage (NAS), 1 unit QR Reader/Scanner, 3 units Printer, 1 unit ID Printer, and 2 units Scanner.

Delivery of the Goods is required within the period specified in the Schedule of Requirements. Bidders should have completed, within two (2) years from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II. Instructions to Bidders.

3. Bidding will be conducted through open competitive bidding procedures using a non-discretionary “pass/fail” criterion as specified in the 2016 Revised Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184, otherwise known as the “Government Procurement Reform Act”.

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA 5183.

4. Interested bidders may obtain further information from PhilRice through telecommunication or video conferencing during office hours, kindly refer to the schedule below.
5. A complete set of Bidding Documents may be acquired by interested Bidders from the address below upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by GPPB, in the amount of **Two Thousand Three Hundred Pesos Only (PhP2,300.00)**.

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

We encourage bidders to download the bidding documents through PhilGEPS or the PhilRice website and pay through bank. Please coordinate with the BAC Secretariat through the email address and contact number given below for the bank details and procedures.

6. The Philippine Rice Research Institute will hold an online/virtual Pre-Bid Conference on the date specified below which shall be open to all prospective bidders. A Personal Meeting ID will be sent through SMS or email for each participant at least one day

before the event. Prospective bidders need to signify their intention to participate by sending an email to the address given below.

7. Bids must be duly received by the BAC Secretariat at the address below one (1) day before the opening of bids. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 18.

Face to Face and Virtual/Online Bid opening shall be held on **July 28, 2020; 3:30PM** at PhilRice Maligaya, Science City of Muñoz, N.E. Bids will be opened in the presence of the bidders' representatives (*limited number only*) who choose to attend at the address below. Late bids shall not be accepted.

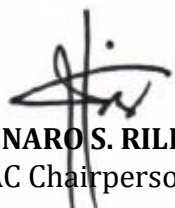
8. The Philippine Rice Research Institute reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 41 of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

9. Pls refer to the following schedule of activities:

Activity	Date	Remarks
Acceptance of queries through telephone or video call with the BAC Secretariat	July 6 to 10, 13 to 17, 20 to 24 & 27, 2020 8am to 12:00noon	Queries on the bidding documents only.  Queries on the technical specifications should be in formal writing sent through email or fax, addressed to the BAC Chairperson through the BAC Secretariat.
Availability of Bidding documents and acceptance of Payment	July 7 to 27, 2020	Downloadable through PhilGEPS, PhilRice Website and can be requested through email.  Please call the BAC Secretariat for the procedures on online payment
Virtual/Online Pre-Bid Conference	July 15, 2020 Roll Call: 1:30PM Meeting Proper: 2:00 PM	Interested bidders shall signify intention to bid through email. A Personal Meeting ID will be sent through email to confirmed participants.
Deadline for the submission of bids	On or before July 27, 2020 5:00PM	Through personal delivery or through courier at the BAC Secretariat Office.
Bid Opening (Face to Face & Virtual/Online)	July 28, 2020 Roll Call: 3:00PM Meeting Proper: 3:30 PM	A Personal Meeting ID will be sent to participants who submitted bid proposals on time.

For further information, please refer to:

**THE BAC SECRETARIAT**  
Procurement Management Division  
Philippine Rice Research Institute  
Maligaya, Science City of Munoz, Nueva Ecija  
Telefax: (044) 456-0650  
Mobile No. 09209135104  
Email add: [bacsecretariat@philrice.gov.ph](mailto:bacsecretariat@philrice.gov.ph)  
Website: [www.philrice.gov.ph](http://www.philrice.gov.ph)

  
**GENARO S. RILLON**  
 BAC Chairperson

## ***Section VI. Revised Schedule of Requirements***

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

<b>Item</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>ABC (in PhP)</b>	<b>Division</b>	<b>Delivery Period</b>
1.	Branded, Brand new, Desktop Computer with latest engineering design software (2020) Computer Aided Design (CAD)	1	Unit	125,000.00	PPD	Within 30 days upon receipt of PO/NTP
2.	Branded, Brand new, Desktop Computer	9	Unit	540,000.00	PMD (5), PPD (1), Agusan (1), LB (2)	Within 30 days upon receipt of PO/NTP
3.	Branded, Brand new, Laptop Computer	1	Unit	75,000.00	ISD	Within 30 days upon receipt of PO/NTP
4.	Branded, Brand new, Laptop Computer	1	Unit	60,000.00	PMD	Within 30 days upon receipt of PO/NTP
5.	Branded, Brand new, Computer Server with licensed server operating system	1	Unit	370,000.00	RSSP	Within 30 days upon receipt of PO/NTP
6.	Branded, Brand new Tower Desktop Computer	1	Unit	60,000.00	TMSD	Within 30 days upon receipt of PO/NTP
7.	Branded, Brand new, Laptop Computer	1	Unit	55,000.00	DevCom	Within 30 days upon receipt of PO/NTP
8.	Branded, Brand new, Laptop Computer	1	Unit	75,000.00	ComRel	Within 30 days upon receipt of PO/NTP
9.	Network bridge to provide BDD and Seedtech direct connection to the RSS server: Outdoor wireless access point for Rice Seed Systems Program	2	Unit	100,000.00	RSSP	Within 30 days upon receipt of PO/NTP
10.	<b>Network Attached Storage (NAS)</b>	<b>6</b>	<b>Unit</b>	<b>300,000.00</b>	<b>RSSP</b>	<b>Within 30 days upon receipt of PO/NTP</b>
11.	QR Reader/Scanner	1	Unit	25,000.00	GRD	Within 30 days upon receipt of PO/NTP
12.	Printer	2	Unit	37,700.00	Admin	Within 30 days upon receipt of PO/NTP
13.	<b>Printer</b>	<b>1</b>	<b>Unit</b>	<b>15,500.00</b>	<b>Admin</b>	<b>Within 30 days upon receipt of PO/NTP</b>
14.	Document Scanner	1	Unit	20,000.00	Admin	Within 30 days upon receipt of PO/NTP
15.	A3 Flatbed Colour Image Scanner	1	Unit	200,000.00	CBC	Within 30 days upon receipt of PO/NTP
16.	ID Printer	1	Unit	100,000.00	Admin	Within 30 days upon receipt of PO/NTP
	<b>TOTAL ABC</b>			<b>2,158,200.00</b>		

## ***Section VII. Revised Technical Specifications***

<b>Item</b>	<b>Specification</b>	<b>Statement of Compliance</b>
1.	<p>One (1) Unit Branded, Brand New Desktop Computer with latest engineering design software (2020) Computer Aided Design (CAD)</p> <p>Processor: Intel i7 8th gen or equivalent, 6 cores / 12 threads, 3.2Ghz base frequency to 4.6Ghz max turbo frequency, 12MB cache, 14nm</p> <p>Motherboard: 4 USB ports with 2 USB3 (min), PCIE port, 4 SATA ports (min), Gigabit Ethernet port, 2 memory banks (min) DDR4 support, 8th Gen processor support</p> <p>Memory: 2 pc DDR4 2400 memory 16GB (32GB total minimum)</p> <p>Hard Drive: 1 pc 3.5" SATA 2TB (min) + 256GB M.2 SSD</p> <p>Optical Drive: DVD Writer</p> <p>Video: Workstation Video Card Quadro or FirePro, VGA port, DVI port (optional), HDMI, 2GB DDR3 (Min)</p> <p>Monitor: 24" (min) LED, VGA, HDMI, DVI (optional)</p> <p>Input: USB Keyboard and USB Mouse</p>	<p>Bidders must state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of <b>ITB</b> Clause 3.1(a)(ii) and/or <b>GCC</b> Clause 2.1(a)(ii).</p>

	<p>Operating System: Licensed Professional, latest 64bit with NTFS file system, for network domain environment</p> <p><b>Licensed 64bit CAD software With complete basic toolsets At least 2 years subscription</b></p> <p>Productivity Software: Licensed, <b>latest 64bit</b>, Including word processor, spreadsheet, presentation FOR BUSINESS</p> <p>UPS: 650VA (min), online type, with surge protection</p>	
2.	<p>Nine (9) Units Branded/Brand New Tower Computer, desktop with licensed OS, MS Office, Anti-virus Software, and UPS,</p> <p>Processor: Intel i5 8th gen or equivalent, 6 cores / 6 threads, 2.8Ghz base frequency to 4 Ghz max turbo frequency, 9MB cache, 14nm</p> <p>Motherboard: 4 USB ports with 2 USB3 (min), PCIE port, 4 SATA ports (min), Gigabit Ethernet port, 2 memory banks (min) DDR4 support, 8th Gen processor support</p> <p>Memory: 1 pc DDR4 2400 memory 8GB (min)</p> <p>Hard Drive: 1 pc 3.5" SATA 1TB (min)</p> <p>Optical Drive: DVD Writer</p> <p>Video: VGA port, DVI port, HDMI (optional), Video card (optional)</p> <p>Monitor: 20" (min) LED, VGA, DVI (optional)</p> <p>Input: USB Keyboard and USB Mouse</p> <p>Operating System: Licensed Professional, latest 64bit with NTFS file system, for network domain environment</p> <p>Productivity Software: Licensed, latest 32-64bit, Including word processor, spreadsheet, presentation for business</p> <p>UPS: 650VA (min), online type, with surge protection</p>	
3.	<p>One (1) Unit Branded, Brand New Thin Laptop Computer</p> <p>Minimum Requirements: 13.3" LED 1440x900px resolution 256GB PCIe based SSD drive</p>	

	<p>1.8Ghz to 2.9Ghz dual core processor  8GB memory  built-in 54Watt hour lithium polymer battery  1.35kg weight  .11-.68" height  12.8" width  8.94" depth  720p camera  2 USB3 ports  High-speed connection 2 port  Magnetically attached power connectors  2 power port  SDXC card slot  802.11ac wireless networking  bluetooth 4.0</p> <p>Operating System: Licensed, latest OS with APFS</p> <p>Office Productivity Software: Office 365 Small Business Subscription</p>	
4.	<p>One (1) Unit Branded, Brand New Laptop Computer</p> <p>Minimum Requirements:  Processor: Intel i5 8th gen or later / equivalent. 4 cores / 8 threads, 1.6Ghz base frequency to 3.4Ghz turbo frequency, 6MB cache, 14nm  Memory: 1 pc DDR4 2400 memory 8GB (min)  Hard Drive: 1 pc 2.5" 1 TB SATA or 512GB M.2 SSD (min)  Monitor: 14" LED  I/O: Wireless mouse, USB2, USB3, VGA, HDMI (optional), minimum 3 USB ports</p> <p>Operating System: Licensed, latest 64bit</p> <p>Productivity Software: Licensed, latest 32-64bit, Including word processor, spreadsheet, presentation for business Slim and lightweight</p>	
5.	<p>One (1) Unit Branded brand new, Computer Server with licensed server operating system</p> <p>Processor: 1x 2.3GHz Processor, 16C/32T, 22M Cache, 125W TDP  Memory: 16GB RDIMM DDR4-2400  Hard Disk: 3.84TB (4x960GB) Raw Capacity, 2.5" SAS SSD  Raid Controller: Supports RAID 0, 1, 5, 6, 10, 50, 60  Network Controller: 4Port 1GB Ethernet Adapter</p>	

	<p>Power Supply: 550W Hot Plug (1+1)Redundant Power Supply  DVD-RW Optical Drive  Form Factor: 1U Rackmount  Accessories:  Rackmount Rail Kit w/ Cable  Management Arm  Front Security Bezel Cover w/ key  3 Years Warranty  Latest Licensed Windows Server Operating System</p>	
6.	<p>One (1) Unit Branded, brand new (tower) Computer, desktop w/ licensed OS and productivity software</p> <p>Processor: Intel i5 8th gen or equivalent, 6 cores / 6 threads, 2.8Ghz base frequency to 4 Ghz max turbo frequency, 9MB cache, 14nm  Motherboard: 4 USB ports with 2 USB3 (min), PCIE port, 4 SATA ports (min), Gigabit Ethernet port, 2 memory banks (min) DDR4 support, 8th Gen processor support  Memory: 1 pc DDR4 2400 memory 8GB (min)  Hard Drive: 1 pc 3.5" SATA 1TB (min)  Optical Drive: DVD Writer  Video: VGA port, DVI port, HDMI (optional), Video card (optional)  Monitor: 20" (min) LED, VGA, DVI (optional)  Input: USB Keyboard and USB Mouse</p> <p>Operating System: Licensed Professional, latest 64bit with NTFS file system, for network domain environment</p> <p>Productivity Software: Licensed, latest 32-64bit, Including word processor, spreadsheet, presentation FOR BUSINESS</p> <p>UPS: 650VA (min), online type, with surge protection</p>	
7.	<p>One (1) Unit Branded, Brand New Laptop Computer, w/ licensed OS and productivity software/s</p> <p>Minimum Requirements:  Processor: Intel i5 8th gen or later / equivalent. 4 cores / 8 threads, 1.6Ghz base frequency to 3.4Ghz turbo frequency, 6MB cache, 14nm  Memory: 1 pc DDR4 2400 memory 8GB (min)</p>	



	<p>Hard Drive: 1 pc 2.5" SATA 1TB (min) or 512MB M.2 SSD  Monitor: 14" LED  I/O: Wireless mouse, USB2,USB3, VGA, HDMI (optional), minimum 3 USB ports</p> <p>Operating System: Licensed, latest 64bit</p> <p>Productivity Software: Licensed, latest 32-64bit, Including word processor, spreadsheet, presentation for business  Slim and lightweight</p>	
8.	<p>One (1) Unit Branded, Brand New Laptop Computer, w/ licensed OS and productivity software/s</p> <p>Minimum Requirements:  Processor: Intel i5 8th gen or later / equivalent. 4 cores / 8 threads, 1.6Ghz base frequency to 3.4Ghz turbo frequency, 6MB cache, 14nm  Memory: 1 pc DDR4 2400 memory 8GB (min)  Hard Drive: 1 pc 2.5" SATA 1TB (min) or 512MB M.2 SSD  <b>Monitor: 14" to 15" LED</b>  I/O: Wireless mouse, USB2, USB3, VGA, HDMI (optional), minimum 3 USB ports</p> <p>Operating System: Licensed, latest 64bit</p> <p>Productivity Software: Licensed, latest 32-64bit, Including word processor, spreadsheet, presentation for business  Slim and lightweight</p> <p><b>Inclusion: Wireless Mouse</b></p>	
9.	<p>Two (2) Units Branded, Brand New Network bridge to provide BDD and Seedtech direct connection to the RSS server:  Outdoor AP distance - max. 50km  Outdoor wireless access point for Rice Seed Systems Program  PtP and PtMP Application  10/100/1000 Ethernet Port  500+ Mbps (Max. 80 MHz) Throughput  Full-Band 5GHz Frequency  (2)RP-SMA, (1)GPS Waterproof RF Connectors  Atheros MIPS 74Kc Processor  128 MB DDR2 Memory  10/20/30/40/50/60/80 MHz Channel Sizes  Â± 24 kV Contact/Air ESD/EMP Protection</p>	

	<p>24V, 1A Gigabit PoE Adapter (Included)  Access Point/Station Mode  Die-Cast Aluminum with White Powder Coating Enclosure  RoHS Compliant, CE/FCC/IC Certified  Antenna:  PtP Bridge Dish Antenna  30dBi Gain  5.1-5.9 GHz Frequency  Light Weight Design  200km/h Wind Survivability  790 N @ 200km/h Wind Loading  Dual-Linear Polarization  35dB Min. Cross-pol Isolation  Accessories  Rocket Bracket and Weatherproof RF Connectors (Included)  Universal Pole Mount Bracket:  Protective Shroud, Elevation Rod, Pole Clamp, Stabilizers</p>	
10.	<p>Eight (8) Units Branded, Brand New Network Attached Storage (NAS)</p> <p>CPU: Quad-core 2.0GHz-2.41GHz  Memory: 4GB DDR3L  Flash: 512MB DOM  HDD Slot: 4Bay 3.5" SATA 6Gb/s  16TB (4x4TB)  Hot-Swappable HDD Tray with Keylock  Gigabit LAN Ports  USB 3.0 Ports  Port Trunking/Link Aggregation Support  AES 256-bit Volume-based Encryption  File System (Internal): EXT4  File System (External): EXT3, EXT4, NTFS, FAT32, HFS+  RAID 0/1/5/5+/6/6+/10/10+ support  Single Disk Support  Windows ACL support  Remote Replication Support  Active Directory Integration (Existing)</p>	
11.	<p>One (1) Unit <b>Branded</b>, Brand new, QR Reader/Scanner  2D Imager, Standard Range, Cordless, Bluetooth</p>	
12.	<p>Two (2) Units Brand New Printer with scanner</p> <p>SPECIFICATIONS  Print, Copy, Scan, Fax  Multitasking supported  Print technology – Laser  Print quality black (best) – Up to 600 x 600 dpi  Print quality color (best) – Up to 600 x 600 dpi</p>	

	<p>ePrint capability  Mobile printing capability  Wireless capability  Duplex printing – Manual (driver support provided)  Scan resolution, optical – Up to 300 dpi (color and mono, ADF)  Scan resolution, optical – Up to 1200 dpi (color and mono, flatbed)  Print speed up to 17 ppm, LTR  2-line LCD with numeric pad</p>	
13.	<p>One (1) Unit Branded Brand New, Printer with scanner</p> <p><b>SPECIFICATIONS</b>  Compact integrated ink tank design  Print speeds up to 15ipm for black and 8.0ipm for colour  Auto-duplex printing  ADF capability  Ethernet &amp; Wi-Fi Direct  Borderless Printing up to A4 size  Spill-free ink refilling with Automatic Document Feeder  LCD Screen  color: Black</p>	
14.	<p>One (1) Unit Branded Brand New, Document Scanner</p> <p>Fast — high-quality scans up to 26 ppm/52 ipm; scans both sides in one pass  "Double-feed Detection and Paper Protection prevent misfeeds; peak daily duty cycle up to 3,000 sheets"  "Scan to online storage accounts— scan to Dropbox, Evernote, Google Drive, SharePoint and more"  "can to searchable PDFs — save scanned documents as PDF files; scan and edit documents and spreadsheets with OCR software included"  Easily scan stacks of documents — 50-page Auto Document Feeder  "Scan folded pages up to 11" x 17", rigid ID cards, stacks of business cards and single sheets"  Optical Resolution: 600 dpi  Max Resolution: 1200 x 1200 dpi  Maximum Scan Area: 8.5 x 120"  Scan Speed: 26 ppm / 52 ipm</p>	
15.	<p>One (1) Unit Branded, Brand New A3 Flatbed Colour Image Scanner</p> <p>Sensor Type: 6-line colour CCD  Light Source: LED</p>	

	<p>Optical Resolution: 2,400 x 4,800 dpi  Optical Density: 3.8 Dmax  Output Resolution: 50 - 6,400 dpi (1 dpi increments)  Scanner Bit Depth (Colour): 48-bit input, 24/48-bit output  Scanner Bit Depth (Grayscale): 16-bit input, 8/16-bit output  Scanner Bit Depth (Black &amp; White): 16-bit input, 1-bit output  Max Document Size: 310 x 437mm (Reflective); 309 x 420mm (Transparency)  Film Scanning: 35mm strip film x 48 Frames, 35mm mounted film x 30 Frames, (6 x 17cm) x 6 Frames, (4" x 5") x 8 Frames, up to 12.2" x 16.5"  Output File Formats: JPEG, TIFF, Multi-TIFF, PDF, Searchable PDF, BMP, PNG  Supported OS: Windows XP / Vista / 7 / 8 / 8.1 / 10; Mac OS X 10.6.8 or later  Scanner Driver Compatibility: TWAIN</p>	
16.	<p>One (1) Unit Branded, Brand New ID Printer</p> <p>Specs:  Print Method: Direct-to-Card  Resolution: 300 dpi or higher  Print Speed:  Accepted Card Type: PVC card  Accepted Card Thickness: 0.01-0.039inch/0.25-1.00mm(10-40mil)  Accepted Card Size: (2.13x3.37 inch/53.98x85.6mm)  Operating System: For windows 7 or above  Interface: USB2.0 or USB 3.0 or ethernet  Way to Print: PC Link  Input Hopper Card Capacity: 100 cards (0.030inch/0.76mm/30mil)  Output Hopper Card Capacity: 50 cards (0.030 inch/0.76mm/30mil)  With Magnetic stripe card encoding module  With Flipper module for dual sided printing  With Cleaning Roller</p>	