

# PUBLIC INTERNATIONAL TENDER

## TABLETS 8'' 2024

### TECHNICAL ANNEX

#### **1. Call Aim**

#### **2. Offer**

- 2.1. Presentation
- 2.2. Documentation
- 2.3. Samples

#### **3. Warranty**

- 3.1 Dead on Arrival
- 3.2 Systemic Failures

#### **4. Delivery time period and conditions**

#### **5. Quality controls**

#### **6. Requirements**

#### **7. Cover**

#### **8. Technical Evaluation Criteria**

- 8.1. Background Evaluation
- 8.2. Compliance with mandatory requirements
- 8.3. Sample Evaluation
  - 8.3.1. Performance, multimedia and user experience
  - 8.3.2. Maintenance
- 8.4. Evaluation of compliance with software requirements

#### **9. Annex I: Price Tables**

#### **10. Annex II: Confidentiality and data protection**

## 1. Call Aim

Centro Ceibal calls for a public international tender for the acquisition of up to 70,000 tablets of 8 '' for delivery to beneficiaries of Plan Ceibal.

The products that the successful bidders must deliver to Ceibal are the following:

1. **Tablet with cover plus software image** developed according to Ceibal's requirements and certified by Google, installed in the devices during the production process.
2. **Manual settings:** disable screen unlock, set default launcher, enable unknown sources, disable GPS, disable Google Assistant, time zone, etc.
3. **Spare parts.**
4. **Documentation** requested in section 2.2.

The bidder must separately quote the development and certification of an additional software image, which Ceibal may request due to changes in requirements or due to the evolution of Android versions. This image is not the one that will be shipped with the device at the factory, but rather a **maintenance software image**. See *Annex I: Price tables*.

The bidder must quote the spare parts in FOB Origin mode.

The offer must be submitted in accordance with the specifications in section 2. OFFER.

All products purchased from the bidder and / or all the services provided by the bidder are governed by the confidentiality and data protection considerations specified in *Annex II: Confidentiality and data protection*.

## 2. Offer

**Each bidder may offer a maximum of 2 models. All the documentation presented must be segmented identifying each product by its corresponding model in the technical and economic offers.**

### 2.1. Presentation

The technical offer will be included in a file with a password, this file will be presented segmented into the following folders:

1. Folder with factory background specification. It should be detailed:
  - Factory that will produce the devices offered.
  - General production volume of the factory in the last 12 months.
  - Production volume of tablets at the factory in the last 12 months.
  - Slot time to start production of a standard Android tablet (acquisition of raw material and preparation of production line).

2. Folder with bidder background. It should be detailed:
  - History of provision of similar consumer electronic devices in the last 12 months.
  - Background of educational projects in which you have participated.
  - Background work with the factory that will produce the devices indicated in 1., detailing time of joint work, projects and volume of devices.
  - List of clients and respective contacts.
3. Folder with the complete tables in *Section 6 Requirements*.
4. Folder with the complete documentation requested in section 2.2 *Documentation* for each model of laptop offered.
5. (Optional) Folder with additional warranty specifications to those set out in section 3. *Warranty*.
6. (Optional) Folder with specification of delivery terms in case of not meeting the desirable delivery terms specified in section 4. *Delivery terms and conditions*.
7. (Optional) Folder with the complementary technical information that the bidder considers pertinent to provide.

The economic offer will be presented segmented in the following folders, **in a separate file and with a password**:

1. Folder with the complete tables in *Annex I: Price tables*.
2. (Optional) Folder with the quotation of additional guarantee, in case of offering them.
3. (Optional) Folder with additional quotes to those specified above, if applicable.

## 2.2. Documentation

The documentation that must be included in the technical offer documentation folder, for each model offered, is the following:

DOCUMENTATION		
MANDATORY WITH THE OFFER		
2.2.1	TECHNICAL SPECIFICATIONS	Technical specifications of each model offered.
2.2.2	DISASSEMBLY TECHNICAL DOCUMENTATION	Technical document detailing the complete disassembly procedure for the device.
2.2.3	TECHNICAL DOCUMENTATION TO INSTALL AND CUSTOMIZE FIRMWARE AND OPERATING SYSTEM	Technical document that details tools and procedures to customize and install the firmware and operating system of the device. You must also specify what type of customizations can be made (see Annex I: Requirements as a reference of the necessary customizations).
2.2.4	SERIAL NUMBER CONFIGURATION	Serial number configuration tool and procedure (see requirement 6.40 SERIAL NUMBER AND BAR CODE).
OPTIONAL WITH THE OFFER		
2.2.5	WIFI ALLIANCE CERTIFICATIONS	WiFi Alliance certifications of the network card offered.

The following documentation is mandatory with each shipment of equipment, or with each change of hardware, as applicable:

DOCUMENTATION		
MANDATORY WITH EACH SHIPMENT and / or HARDWARE CHANGE		
2.2.6	RoHS CERTIFICATE	RoHS standard compliance certificate. <b>(It is NOT required to present the detailed documents with the test protocols applied).</b>
2.2.7	FCC CERTIFICATE	Certificate of compliance with FCC standard. <b>(It is NOT required to present the detailed documents with the test protocols applied).</b>
2.2.8	ENERGY STAR (or equivalent)	Energy Star certificate (or equivalent) of the equipment (laptop/charger) <b>(detailed documents with test protocols are NOT required).</b>
2.2.9	BILL OF MATERIALS (BOM)	Worksheet with all the hardware components that make up the device, each with a code that identifies it, including the casing and any other individual component that can be replaced in case of failure.
2.2.10	SCHEMATICS, LAYOUT and BAI	Schematics, layout and board assembly information (BAI) of the motherboard in digital format. This information shall be delivered once production has started (or at the latest prior to the first shipment) and each time the successful bidder notifies a hardware change.
2.2.11	EXPLODED VIEW DRAWING	Technical drawing of the assembly and relationship between all the atomized parts of the equipment, each one identified with a code. This information will be delivered once production has started (or at most prior to the first shipment) and each time the successful bidder notifies a hardware change.
2.2.12	DATA SHEETS	Data sheets of main components of the device such as battery, screen, camera, etc., and of main components of the motherboard such as integrated circuits and connectors.
2.2.13	MSDS BATTERIES	Battery Material Safety Data Sheet (MSDS).
2.2.14	CHARGER: ROHS CERTIFICATE	Certificate of compliance with the RoHS standard of the charger, in case it is not included in the RoHS certificate of the device. <b>(It is NOT required to present the detailed documents with the test protocols applied).</b>
2.2.15	CHARGER: EN60950 CERTIFICATE (or its updates)	Certificate of compliance with standard EN60950 (or its updates), Information technology equipment – Safety, of the charger. <b>(It is NOT required to present the detailed documents with the test protocols applied).</b>
2.2.16	CHARGER: CERTIFIED IEC61000 (or its updates)	Certificate of compliance with the IEC 61000 standard (or its updates), Electromagnetic compatibility (EMC), of the charger. <b>(It is NOT required to present the detailed documents with the test protocols applied).</b>
2.2.17	CHARGER: EN55022 CERTIFICATE (or its updates)	Certificate of compliance with standard EN55022 (or its updates), Information technology equipment Radio disturbance characteristics, of the charger. <b>(It is NOT required to present the detailed documents with the test protocols applied).</b> <b>Device information sheet</b>
2.2.18	DEVICES SHEET	Device information sheet (see description in this section).
2.2.19	LOGISTICS SHEET	Logistics information sheet (see description in this section).
2.2.20	FINAL PRODUCT HARDWARE DETAIL	Information sheet of components of the final product (see description in this section).

The information required in requirements 2.2.18, 2.2.19, and 2.2.20 is described below:

- 2.2.18. DEVICES SHEET

- Part number.
- Serial number.
- Pallet number / master box number in which the device is shipped.
- MAC addresses of all network cards that the device has.
- Part number and serial number of the main components (minimum: motherboard, display and battery).
- Identifier obtainable by software with the method specified by the bidder.
- IMEI (if applicable).

- 2.2.19 LOGISTICS SHEET

- Individual box measurements.
- Individual box weight.
- Master box measurements.
- Master box weight.
- Number of individual boxes per master box.
- Number of master boxes per pallet.
- Pallet height.

- 2.2.20 FINAL PRODUCT HARDWARE DETAIL

FINAL PRODUCT HARDWARE DETAIL	
<b>Bidder:</b>	
<b>Model</b>	
<b>Processor</b>	
Brand	
Model	
Frequency	
Architecture (ARM / X86)	
No. of physical cores	
<b>RAM Memory</b>	
Brand	
Model or Part number	
Capacity (GB)	
Technology (LPDDR2 / LPDDR3 / others)	
Mounting (Removable / OnBoard)	
<b>Internal Storage</b>	
Brand	

Model or Part number	
Technology (eMMC / SSD)	
Capacity (GB)	
Mounting (Removable / OnBoard)	
<b>GPU</b>	
Brand	
Model	
<b>Screen</b>	
Size (inches)	
Brand	
Technology (LCD / IPS / OLED)	
Resolution (Px)	
Interface (EDP / LVDS / other)	
Attachment to the housing (Glued / inserts / brackets / other)	
<b>Touchscreen</b>	
Touchscreen (Number of recognized dots: 5/10)	
<b>Camera</b>	
Front Resolution (Mpix)	
Rear Resolution (Mpix)	
<b>Audio</b>	
Built-in microphone (Yes / No, Onboard / Removable)	
Integrated speakers (Yes / No, Quantity, Mounting: Glued / With bracket / With screws)	
<b>Connectivity</b>	
Bluetooth (Version)	
WIFI (Brand and model or Part number of the module)	
No. of antennas	
<b>Ports I/O</b>	
USB (2.0 / 3.0, Type B / Type C, Mini / Micro, quantity)	
SD (uSDHC)	
HDMI (Connector size: Mini / Micro)	
Built-in microphone with headphones (Yes / No)	
Others	
<b>Battery</b>	
Voltage (V)	
Capacity(mAh)	

Brand	
With thermal protection terminal to PCB (Yes / No)	
Fixing method (Tapes / Screws / Bracket)	
<b>AC / DC source (Charger)</b>	
Cable Length (cm)	
Input voltage and frequency (VAC, Hz)	
Output voltage (VDC)	
Output current / power (A, W)	
Charger: DC connector (Barrel, USB)	
<b>Thermal Dissipation System</b>	
Shielding Heatsink (Yes / No)	
Pad / Thermal Paste / None	

## 2.3. Samples

At the time of submission of the offers, **FIVE** identical samples of each model of tablet offered must be delivered, with their chargers.

**All tablet and charger samples must be properly identified according to the following guidelines:**

3 letters to identify the bidder

Model offered

Processor

RAM Memory

Storage Capacity

Sample No.

As an example, sample **1** of model **XYZ** offered by **ABC** should be labeled: ABC-XYZ-I-MT8183-3GB-32GB-1.

**Ceibal reserves the right not to accept samples that are not properly identified.**

Samples must be delivered to the reception desk at the offices of Centro Ceibal (Av. Italia 6201 Edificio Los Ceibos, Monday to Friday from 9:00 a.m. to 5:00 p.m.),

Reference should be made to the Bid, and Ceibal will deliver a receipt signed by Ceibal and by the person delivering the samples.

In exceptional cases and when there are justified reasons in Ceibal's judgment, the bidder may defer the delivery of samples for a reasonable period of time that Ceibal will evaluate.

A fundamental part of the technical evaluation will be performed on these samples (see section 8. TECHNICAL EVALUATION CRITERIA). The specifications and performance of the final product cannot be lower than those of the sample. This aspect will be verified in the quality controls that determine the acceptance of the product.

Some tests to be performed on the samples may result in their destruction, and those that are not destroyed may be returned in different conditions than those in which they were delivered. The bidder shall have 4 weeks from the award date to withdraw the samples submitted. Upon expiration of the aforementioned term without having withdrawn them, Centro Ceibal may freely dispose of them, without the right to claim by the bidder.

### 3. Warranty

The following warranty conditions are mandatory:

#### 3.1 Dead on Arrival

Warranty for replacement of devices with failure due to DOA for a period of 90 days from arrival: 10 tablets every 1000.

#### 3.2 Systemic failures

Ceibal may request from the successful bidder the necessary spare parts or the replacement of equipment in the event that a systemic failure attributable to the design or manufacture of the equipment is detected. The costs derived from the execution of this guarantee are the sole responsibility of the supplier.

In the event that the bidder presents **additional** guarantees, they must be detailed in their technical proposal. If the additional guarantee conditions proposed by the bidder imply additional costs, these must be presented in the economic offer, quoted separately.

The bidder will guarantee that the products supplied under the contract are new, complete, unused and free from defects attributable to design, materials, manufacture, storage conditions (packaging, appropriate temperature and humidity), transfer or any other act or omission of the bidder that could manifest itself on the occasion of the normal use of the products under the prevailing conditions in the country.



## 4. Delivery time period and conditions

### 4.1. Delivery time period

TWENTY devices of the awarded model must be delivered before February 1, 2024 for use in repair training. **These 20 samples are not part of the awarded lot and are at the supplier's cost.**

It is desirable that the supplier meets the following delivery schedule:

- ETA of 50% of the awarded lot: 120 calendar days after the award resolution is communicated.
- ETA of the remaining 50% of the awarded lot: within 30 calendar days after delivery of the first 50%, or April 15, 2024, whichever occurs before.

The specified delivery times include the following milestones:

1. Software image development.
2. Software image certification developed. The software image referred to in 1., to be installed at the factory, must be a Google certified image.
3. Definition of hardware specifications, in case the final product presents minor changes in components, internal design, etc., with respect to the samples presented. **It is a condition for the beginning of production that Ceibal validates the equivalence of the final product with the samples presented.**
4. Production
  - 4.1. Final Product:
    - 4.1.1. Centro Ceibal will agree with the successful bidder on the device's production schedule. The successful bidder will send Ceibal 10 golden samples of each production batch (see section 5. QUALITY CONTROLS.).
    - 4.1.2. Quality control at source (see section 5. QUALITY CONTROLS).
    - 4.1.3. Verification of availability of all requested documentation of the product.
  - 4.2. Spare Parts:
    - 4.2.1. Centro Ceibal will agree with the successful bidder the quantity of spare parts for each part that the latter must provide and how they must be sent.
5. Delivery of documentation requested in section as *mandatory with each shipment and / or hardware change* in section 2.2 DOCUMENTATION.
6. Shipping and quality control upon arrival in Uruguay (see section 5. QUALITY CONTROLS).

In case of not being able to comply with the established delivery schedule (quantities and / or deadlines), the bidder must specify the alternative schedule taking into account Ceibal's delivery commitment during the first quarter of 2024. **The same delivery deadlines apply both for the final product (tablet + accessories) and for spare parts..**

## 4.2. Delivery conditions

All devices sent to Ceibal must be made up of the same components. In the event that this cannot be fulfilled, the successful bidder must notify Ceibal in writing within a period of no less than 60 days and Ceibal may validate the new BOM.

The successful tenderer must deliver the devices in compliance with the following specifications:

- Each pallet must be labeled with the following information:
  - Device model / lot / batch (**pallets containing more than one device model will not be accepted**).
  - Pallet number / total pallets in the lot.
  - Number of master boxes on pallet.
  - List of the master boxes that make up the pallet.
- Each master box must be labeled with the following information:
  - Device model / lot / batch
  - Number of master boxes / total of master boxes in the batch.
  - Serial number (barcode and alphanumeric) of each device in the master box.
  - Product description.
- Each individual box should be labeled with the following information:
  - Device model.
  - Serial number (barcode and alphanumeric) of the device.

The design of each individual box and each master box must be customized according to specifications that will be agreed between Centro Ceibal and the successful bidder.

Centro Ceibal may request the inclusion of a printed brochure with recommendations for use and care of the equipment in each individual box.

## 5. Quality control

Centro Ceibal will carry out three quality controls on the awarded products that may partially or totally reject the inspected lots. These three inspections are:

1. Inspection at origin prior to shipment.
2. Validation of *golden samples* that the successful bidder will send to be evaluated at Centro Ceibal (10 devices from each batch produced, sent by air freight at the winner's expense).
3. Final inspection at Ceibal after receiving the shipment.

Centro Ceibal, or a representative designated by it, may visit the factory before and / or during batch production for Ceibal, after coordination between the parties and independent of the quality controls. Centro Ceibal may also request a visit to the manufacturer to work together during the software image development process.

## 6. Requirements

<b>HARDWARE</b>					
<b>MANDATORY REQUIREMENTS</b>			<b>COMPLIES</b>		<b>OBSERVATIONS</b>
			YES	NO	
6.1	PROCESSOR	Minimum performance benchmark according to cpubenchmark.net: <b>Mediatek MT8183.</b>			
6.2	RAM MEMORY	DDR3 or higher. Minimum capacity according to Google's requirement for the Android version offered (see requirement 6.14 OPERATING SYSTEM)			
6.3	INTERNAL STORAGE	Minimum: 32GB			
6.4	SCREEN	Size 8 ". Minimum resolution: 1280x800p.			
6.5	TOUCHSCREEN	P + G technology, or other technology that is safe for the user. (Glass touchscreen is not accepted)			
6.6	CONNECTIVITY	Minimum: 802.11n 2x2 dual band network card (2.4GHz and 5GHz). WPA2 Personal / Enterprise security. Specify card to motherboard connection interface			
		Bluetooth			
6.7	MULTIMEDIA	Headphone output and external microphone input through the same connector. (TRRS 3.5mm).			
		Built-in microphone and speakers.			
		Front camera: minimum resolution 2MP.			
		Rear camera: minimum resolution 5MP.			
6.8	PORTS	MicroSD card reader.			
6.9	BATTERY ATTACHMENT AND REMOVAL	The battery must not be attached to any component of the equipment, except to a support designed for that purpose.			
6.10	NOT SOLDERED PERIPHERALS	Peripherals (screen, touchscreen, speakers, battery, antennas, etc.) NOT soldered to the motherboard. Peripherals must be connected to the motherboard using removable connectors.			
6.11	REINFORCED USB CONNECTOR	Reinforced metal body structure of USB connectors (type micro B or type C), for example, by spot welding or by its constitutive design.			
6.12	HARDWARE TEST	Software or firmware tool that allows verification of the device's integrated peripherals and ports. This tool must be available in Spanish and / or English. For details of the characteristics sought, see Annex V: Technical evaluation criteria.			
<b>DESIRABLE REQUIREMENTS</b>					
6.13	VIDEO	Video ports (USB-C, mini HDMI or micro HDMI)			

SOFTWARE					
MANDATORY REQUIREMENTS			COMPLIES		OBSERVATIONS
			YES	NO	
6.14	OPERATING SYSTEM	Android 13 or later. <b>ANDROID GO IS NOT ACCEPTED.</b>			
6.15	LANGUAGE	Operating system and all its interfaces and configuration options in Spanish.			
6.16	CUSTOMIZATION AND INSTALLATION TOOLS	The bidder must deliver the tools detailed in documentation requirements 2.2.3 and 2.2.4 for firmware and operating system customization, and for operating system installation on various computers.			
6.17	DISC IMAGE	The tablet will be delivered to the end user with a software image developed in conjunction with Ceibal. This software image will include an interface specially designed for the target audience as the default operating environment, in addition to having the operating system's own launcher (for more image requirements see requirements 6.19 to 6.34). The software image must be certified by Google.			
6.18	IMAGE AVAILABILITY WITH ROOT OR USER DEBUG PRIVILEGES	The bidder must deliver a software image of the device that has root or user debug privileges.			
<b>SOFTWARE PICTURE - ANDROID SETTINGS</b>					
6.19	LANGUAGE AND KEYBOARD	Spanish - (Spain)			
6.20	DISPLAY SUSPENSION	5 minutes			
6.21	BROWSER	Default website: www.ceibal.edu.uy			
6.22	MANUAL CONDITIONING AT THE FACTORY	Disable screen unlock, set default launcher, enable unknown origins, disable GPS, disable google assistant, time zone			
<b>SOFTWARE IMAGE - OTHER CONFIGURATIONS</b>					
6.23	BOOT	Include a boot image.			
		Include boot animation			
6.24	WALLPAPER	Set wallpaper provided by Ceibal			
6.25	REBOOT	Add restart option when pressing power button.			
6.26	GOOGLE APPLICATIONS	Include Google applications that are mandatory in Uruguay.			
6.27	USB PORT	Create a soft-link to the USB port under the name / sdcard / usbc card / or rename it that way.			
6.28	SD CARD	Include read and write permissions on SD card.			
<b>SOFTWARE IMAGE - CONTENTS TO INCLUDE</b>					
6.29	LIBRARIES	Include libraries in / system / lib			
6.30	NO APP CONTENT	Create CEIBAL folder in / sdcard and include content in it			
6.31	INITIALIZATION FILES	Copy folder with device initialization content to / sdcard folder that is preserved in case of factory reset of device			
<b>SOFTWARE PICTURE - APPLICATIONS INSTALLED</b>					
6.32	APPS	Install applications that Centro Ceibal will specify			

SOFTWARE IMAGE - OTHER REQUIREMENTS					
6.33	SYSTEM PRIVILEGES	Ceibal must be able to sign applications so that they have system privileges. This can be done by the bidder whenever Ceibal requests it, but it will be valued if Ceibal can do it. For this, indicate if the delivery of the System Platform Key is possible.			
6.34	DEVELOPMENT	Specify the request response time and iteration time for each development cycle of the software image. For the purpose of sizing development cycles, these may include the following tasks:			
		* Modification of basic settings such as default language, time zone, among others.			
		* Installation of Ceibal applications as system applications.			
		* Disk partitioning			
		* Upload of digital certificates in specific directories.			
* Configure applications to be launched once the device starts					

LOGISTICS					
MANDATORY REQUIREMENTS			COMPLIES		OBSERVATIONS
			YES	NO	
6.35	CEIBAL LOGO, FANTASY NAME AND GRAPHIC REPRESENTATION OF THE MODEL	Ceibal will specify the Ceibal logo, fantasy name and graphic representation of the model, which must be printed on the casing using laser, silkscreen or another printing method. For reference, see Gacrux and Bellatrix model designs at the following link: <a href="https://www.ceibal.edu.uy/es/dispositivos/tablets">https://www.ceibal.edu.uy/es/dispositivos/tablets</a> )			
		Labels will NOT be accepted. This print must meet the following durability criteria:  - Clearly visible on housing.  - Indelible before the application of alcohol.  - Not removable when gluing and peeling packing tapes.			
6.36	SERIAL NUMBER and BARCODE	Unique Serial Number (SN) and corresponding barcode printed on housing by laser, silkscreen or other printing method. The same considerations apply as for requirement 6.35 CEIBAL LOGO, FANTASY NAME AND GRAPHIC REPRESENTATION OF THE MODEL. The barcode must have sufficient contrast to be read by barcode readers. Labels will NOT be accepted.			
		The serial number must be obtainable by software following the Android standard and must be accessible through the command 'adb shell getprop   grep ro.boot.serialn '.			
		The serial number obtainable by software must be configurable using a tool and procedure that the bidder will specify. This requirement is necessary so that the serial number printed on the housing and the serial number obtained by software match on a machine after a repair in which the motherboard was changed (See requirement 2.2.4 SERIAL NUMBER CONFIGURATION)			

6.37	PARTS IDENTIFICATION	<p>The following components must have a barcode or QR code that allows the part number to be scanned (applies both to the parts included in the equipment and to individual spare parts):</p> <p>Battery</p> <p>Motherboard and Screen. Additionally, they must have a similar label or engraved by laser or silkscreen (with scannable codes) with the part number and serial number information.</p> <p>Touchscreen</p>			
6.38	PACKING ECO FRIENDLY	The design of the packing must be eco friendly, cardboard and biodegradable nylon.			

CHARGERS					
MANDATORY REQUIREMENTS			COMPLIANCE		OBSERVATIONS
			YES	NO	
6.39	HOUSING	Material: ABS plastic or similar with good impact resistance. It shall withstand a fall from a height of 1 meter onto a surface covered with wood.			
		The charger can only be opened by a destructive process. It must be sealed and must not have screws that allow it to be opened by the user.			
6.40	220V AC PLUG CONTACTS	Europlug CEE 7/16 220VAC 2.5A 2 pins. <b>See image 1.</b>			
		Insulation on 220VAC plug contacts. <b>See image 1.</b>			
6.41	PINS REMOVAL FORCE	The pins may only be removed from the loader body if a force greater than 40kgf is exerted.			
		Force on housing surfaces: The external housing must withstand a force of 25Kg on a 30mm circular surface for 5 sec without causing damage.			
6.42	DC CABLE	The cable is removable from the charger via USB type A connector. Length 170 cm $\pm$ 50 cm. <b>See image 2.</b>			
		Reinforced: Internal cables encapsulated in plastic sheathing. <b>See image 3.</b>			
		Strain Relief: Presence of strain relief at both ends of the cable (charger input and DC connector). <b>See image 4.</b>			
6.43	ELECTRICAL CHARACTERISTICS	Input: 100 - 240 VAC			
		A tolerance of 5% should be maintained for the specified nominal conditions.			
6.44	DC CONNECTOR	The connector shall ensure correct and firm coupling with the equipment.			

6.45	CEIBAL LOGO	Ceibal will specify the model's logo and fantasy name. In addition to this information, the production lot and charger electrical specifications must be printed on the housing by laser, silkscreen or other printing method, labels will NOT be accepted. The same considerations apply as for requirement 6.35 CEIBAL LOGO, FANTASY NAME AND GRAPHIC REPRESENTATION OF THE MODEL.			
------	-------------	--	--	--	--

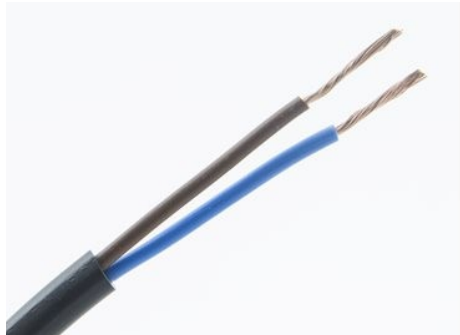

**Image 1:** Requirements 6.40. 220VAC PLUG CONTACTS :



**Image 2:** Requirements 6.42 DC CABLE:



**Image 3:** Requirements 6.42 DC CABLE:

Reinforced cable (meets mandatory requirement)	Non-reinforced cable ( <b>does NOT</b> meet the mandatory requirement)
	

**Image 4:** Requirements 6.42 DC CABLE



TABLET CERTIFICATIONS					
MANDATORY REQUIREMENTS			COMPLIATIONS		OBSERVATIONS
			YES	NO	
6.46	Restriction of Hazardous Substances	Documentation supporting the RoHS certification of the device or all of its components will be required as a requirement for acceptance of production batches.			
6.47	Federal Communications Commission Declaration of Conformity	Documentation supporting FCC certification will be required as a requirement for acceptance of production batches			
6.48	Energy Star (or equivalent)	Documentation of Energy Star (or equivalent) compliance will be required.			
6.49	Information technology equipment - Safety	Documentation proving compliance with the EN60950 standard (or its updates) will be required as a requirement for acceptance of production batches			
6.50	Electromagnetic compatibility (EMC)	Documentation proving compliance with the IEC61000 standard (or its updates) will be required as a requirement for acceptance of production batches			
6.51	Information technology equipment. Radio disturbance characteristics.	Documentation proving compliance with the EN55022 standard (or its updates) will be required as a requirement for acceptance of production batches			



<b>CHARGER CERTIFICATIONS</b>					
<b>MANDATORY REQUIREMENTS</b>			<b>COMPLIES</b>		<b>SPECIFICATIONS AND OBSERVATIONS</b>
			YES	NO	
6.52	Restriction of Hazardous Substances	Documentation proving the RoHS certification of the charger will be required, in case the charger is not included in the RoHS certification of the device, as a requirement for acceptance of production batches.			
6.53	Information technology equipment - Safety	Documentation proving compliance with the EN60950 standard (or its updates) will be required as a requirement for acceptance of production batches			
6.54	Electromagnetic compatibility (EMC)	Documentation proving compliance with the IEC61000 standard (or its updates) will be required as a requirement for acceptance of production batches			
6.55	Information technology equipment. Radio disturbance characteristics.	Documentation proving compliance with the EN55022 standard (or its updates) will be required as a requirement for acceptance of production batches			
6.56	Energy Star (or equivalent)	Documentation of Energy Star (or equivalent) compliance will be required. (Applies in the case 6.48 is not covered.)			

<b>COVER</b>					
<b>MANDATORY REQUIREMENTS</b>			<b>COMPLIES</b>		<b>OBSERVATIONS</b>
			YES	NO	
<b>PROTECTION</b>					
6.57	COVER	The product must include a cover according to the specifications of section 7: Cover.			

## 7. Cover

### **Material**

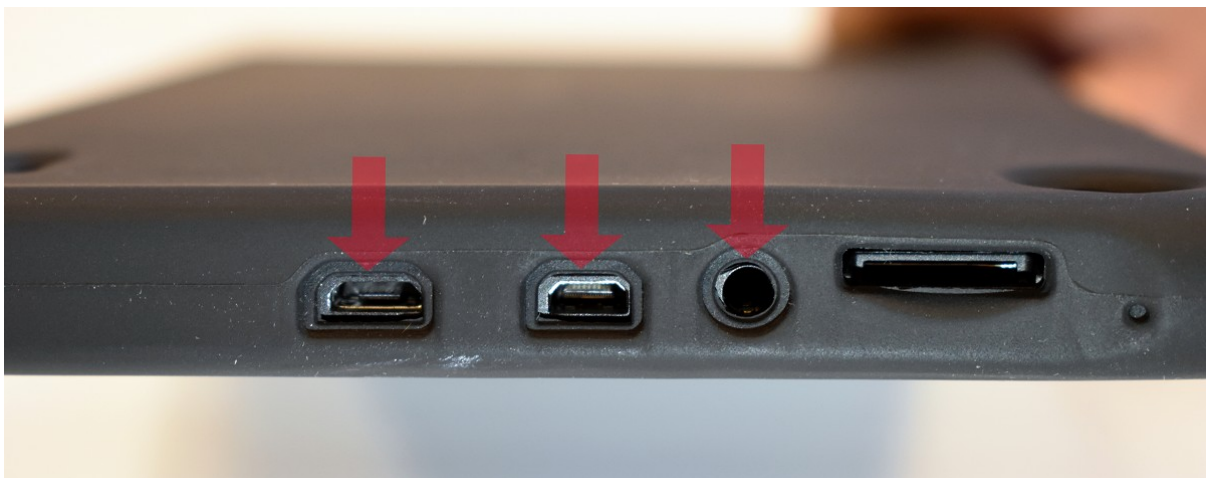
Silicone.

### **Color**

Black.

### **Connector hole**

The cut-out of the holes for the side connectors of the tablet (micro USB, audio, HDMI, etc.) must be adequate to ensure that all external accessories and cables can be reliably connected.



### **Connector legends**

In addition to the logo on the back, the indication legends corresponding to frequently used connectors (at least the USB charging connector) and buttons must be incorporated.





**Logo and fantasy name of the model**

The cover must incorporate the ceibal logo on its back along with the identification of the device model. Ceibal will define this identification, which can be the model name specified by the supplier, a fantasy name selected by Ceibal, or both. Below is an example of a cover of a model currently in the Ceibal tablet park.



## Edges

### 1- Contact surface clearance

The edges of the front frame are thickened to achieve greater clearance of the screen-touchscreen assembly from a contact plane in the event of horizontal impacts or falls.



### 2- Touchscreen retention

The inner edges of the cover should advance as far as possible on the touchscreen / screen. In this way, the cover would be tighter, preventing part of the touchscreen or screen from lifting, or fragments of the same from detaching in cases of breakage.



**Corners**

The cover must present thickened corners, in order to have greater resistance to shocks in these sectors of the device that are the most frequent.



**Corners**

The cover must present thickened corners, in order to have greater resistance to shocks in these sectors of the device that are the most frequent.



## 8. Technical evaluation criteria

The evaluation of the technical offer includes the following device evaluation criteria:

- Background evaluation.
- Evaluation of compliance with mandatory requirements.
- Evaluation of samples:
  - Performance, WiFi and multimedia evaluation
  - User experience evaluation
  - Maintenance evaluation
- Evaluation of compliance with software requirements.

### 8.1. Background evaluation

The evaluation of the technical offer includes the following device evaluation criteria:

- Background evaluation. It will be evaluated:
  - The Factory background
  - The Background of the bidder
- Factory visit. Centro Ceibal may request a visit to the factory that the bidder specifies in his offer. The objective of this visit is to check the capacity of the factory to meet the production volume in terms of quality and deadlines. **When presenting itself, the bidder guarantees that the factory will allow access to Ceibal, or to a representative designated by it, so that the corresponding evaluation can be carried out**, if Ceibal requests it. For this evaluation, the following will be needed:
  - Free access to the company's manufacturing facilities and offices.
  - Free access to take photographic and videographic records of the facilities, both inside and outside the factory buildings.
  - Free access to documentation linked to current quality and management certificates.
  - Free access to documentation related to legal records of the company.

### 8.2. Compliance with mandatory requirements

Any offer that does not meet any of the mandatory requirements requested in the corresponding category of section 6. REQUIREMENTS will be discarded.

## 8.3. Sample evaluation

### 8.3.1. Performance, multimedia and user experience

Hardware performance and overall device usage experience will be evaluated. The evaluated aspects are: camera, screen, audio, video, WiFi, response of the device in interaction with the user, autonomy of the device in battery operation, disk reading / writing, CPU performance, among others.

### 8.3.2. Maintenance

The maintenance evaluation analyzes the suitability of the device for the user and the characteristics of the support service provided by Ceibal, and the quality of the documentation associated with maintenance requested in section 2.2 DOCUMENTATION

**As general characteristics, a robust and easy-to-repair device is sought, both in terms of the time it takes to repair and its technical complexity.**

Among the aspects to be evaluated, the following stand out:

#### Hardware Test

The suitability of the software or firmware tool presented will be evaluated for the Ceibal operating procedures (see mandatory requirement 7.12 *Hardware test*). Described below, as a **reference**, the characteristics of the tool sought:

- Features:
  - Sequential mode where all the tests are executed.
  - Manual mode where it is allowed to run a specific test.
  - At the end of each test, it allows the technician to decide if the result is acceptable or not.
  - Allows you to skip Test or go back to the previous one manually.
  - Has a LOG with the results of all the tests.
  
- Tests:
  - Keyboard Test: Allows verification of the following keys:
    - Volume +
    - Volume -
    - Power.
  - Bluetooth test: Activate Bluetooth and recognize nearby devices.
  - WiFi test: Activate WiFi, recognize nearby access points and connect.
  - Display Test: Shows color sequence in full screen.
  - Audio Test: Allows verification of the following components:
    - Speakers
    - Earphones
    - Microphone.
  - Backlight Test: Shows variation in screen brightness.
  - Touchscreen Test: Displays a matrix to review by touch.

- Camera Test: Activates the cameras and allows you to take and save a photo.
- Battery Test: Displays the Battery information
  - Tension
  - Charge level
  - Current capacity and design capacity
- Storage test
  - Check microSD card
  - Check storage read by OTG adapter
- Device Information:
  - Name of the device
  - Firmware version
  - Serial number
- SIM test (in 3G / LTE models): Allows detection and validation of the SIM
- Flash Test (if applicable to the model): Allows the LED used as the camera flash to turn on

#### **Fragile module assembly**

Easy to disassemble fragile modules, for example screen, internal battery, antennas, etc., in order to minimize the risk of breakage. It is desirable that the assembly of these modules is not done with adhesive materials.

#### **Disassembly and assembly complexity**

Design that allows a simple assembly and disassembly process, with minimal risks on the components that are removed and replaced. For example, the following considerations contribute to the ease of the process:

- Presence of guides for the conduction of internal cables that avoid the use of adhesive tapes.
- Low diversity of screws and easily identifiable, for example, by color coding and / or printing the screw size on PCB.
- Modularity: design that allows removal and replacement of modules without the need to remove other modules.

#### **Screw anchors**

Robust screw anchors to withstand wear and tear from multiple removals.

#### **Safety**

Design that prioritizes user safety. For example, safety mechanisms due to excess battery temperature.

#### **Length of internal cables**

Appropriate length of internal cables in order to avoid unnecessary tension in the connection to the motherboard or excessive dispersion of the cables inside the equipment.



### **External connectors**

The external connectors are accessible by the user so it is important that they are robust to withstand external pressure. Some aspects to consider are:

- Connectors fully contained inside the device to avoid greater pressure than necessary, or even reinforced by the plastic of the housing itself.
- Assembly of the connectors on independent boards that are connected to the motherboard, so that when the connector breaks, it is not necessary to remove and replace the entire motherboard.
- Small SMD connectors such as micro USB, audio connectors, micro HDMI, etc, with four anchor points to the motherboard.
- Connectors assembled in a board-cut configuration that make contact with the motherboard at the rear of the connector, providing an additional point of support for the connector.
- Reversible connectors, such as micro USB type C (see optional requirements in Annex I. Requirements)

### **External buttons**

External buttons are prone to breakage, so it is desirable that they are not assembled on the motherboard but on a separate module.

On the other hand, external plastic parts, such as the power and volume buttons, are desirable to remain assembled on the device's plastic casing so that they are not lost during repairs.

### **Internal assembly**

To avoid breakage during tablet repair processes, it is desirable to:

- Speakers not assembled on removable parts of the case. This avoids cable strains when opening the devices.
- Motherboard components separated from the device opening points, so that when using tools to open the computer there is no risk of component breakage.
- PCB shield not soldered to the board so it can be removed during repairs.

### **Cards**

Some tablets have removable plastic parts in the case to hide cards (SIM, microSD, etc.) prone to breakage or loss, which has a direct impact on the operation of the equipment. It is desirable that the device does not include these types of parts.

### **Spare parts compatibility**

The compatibility of spare parts of the models offered with existing models in the Ceibal equipment park will be evaluated.

## 8.4. Evaluation of compliance with software requirements

The supplier's ability to meet the development requirements of a software image will be evaluated. This evaluation also includes the evaluation of compliance with other requirements that are associated with the image, for example, some logistical aspects (Serial number, procedures, etc.).

## 9. Annex I: Price tables

PRODUCT: TABLET WITH COVER + CERTIFIED SOFTWARE IMAGE + MANUAL CONFIGURATIONS (MANDATORY QUOTATION)				
PRODUCT: TABLET WITH COVER + CERTIFIED SOFTWARE IMAGE + MANUAL CONFIGURATIONS	TABLET MODEL	VOLUME	UNIT PRICE, US \$ CIF MVD	OBSERVATIONS
		Up to 10.000		
		between 10.001 and 40.000		
		between 40.001 and 70.000		
		More than 70.000		

DEVELOPMENT AND CERTIFICATION OF MAINTENANCE SOFTWARE IMAGE (MANDATORY QUOTATION)	
PRICE US\$	

SPARE PARTS (MANDATORY QUOTATION)		
SPARE PART	UNIT PRICE, US \$ FOB MVD (origin port)	MINIMUM BATCH
Touchscreen		
Screen		
Battery		
Motherboard		
Charger		
...		
...		
...		

Prices quoted for spare parts will be valid for 12 months from the date of award.

## 10. Annex II: Confidentiality and data protection

The Company that is the successful bidder, expressly undertakes to keep in the strictest confidentiality all the information that it processes or uses during its relationship with Centro Ceibal. Confidential Information includes, among others, by way of example, the following information: all commercial strategy, plan and procedure, proprietary information, software, tool, process, images, personal data, methodology, information and trade secret, and other information and material Ceibal, as well as the students, beneficiaries, teachers, study centers, which could be obtained by the Company from any source or could be developed as a result of this contract.

**In the event that the bidder accesses personal data, they must inform in their offer where they host the data as well as their privacy and data security policy.** In this case, it is obliged to process the personal data to which they have access in accordance with Law No. 18,331, of August 11, 2008 and Decree No. 414/2009, of August 31, 2009, only for the provision and in the framework of the contracted service, not being able to use them for any other purpose, or for their own benefit, be it free or onerous, nor assign them, communicate them or transfer them to third parties, except with the prior authorization of Centro Ceibal.

In no case may access to personal data be understood as an assignment or permission for its free use by the selected bidders.

Likewise, they are obliged to adopt the necessary security measures to guarantee the security and confidentiality of personal data and to avoid its adulteration, loss, consultation or unauthorized treatment, as well as to detect deviations of information.

In the event that personal data is housed, even temporarily, outside the national territory, the importer must be in countries considered to have adequate levels of European data protection standards, in accordance with Directive 95/46 / CE, of the European Parliament and of the Council, modifying, concordant and complementary.

At the end of this contract, they are obliged to return or delete from all their systems and physical and logical files, whether they are their own or contracted to third parties, the personal data accessed, obtained or processed under this contract, as well as the associated metadata, in if applicable.

Information of any type referring to specific or determinable natural or legal persons, by way of example, any numerical, alphabetical, graphic, photographic, acoustic or any other type of information that refers to them directly or indirectly, in accordance with the provisions, is considered personal data. provided in Article 4 of Law No. 18,331 and Articles 1 and 4 of Decree No. 414/009.