



BHEL-EPD

ELECTROPORCELAINS DIVISION
BENGALURU – 560012, INDIA
Purchase Specification
Group: Photovoltaic Module

SPEC. NO: EP: SPV: MC: 03

REV. 00

JOB NO. - STD.

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SPV Module Tracking System**1.0 TECHNICAL SPECIFICATION :**

ITEM	SPV Module Tracking System
1.1	PRODUCT DESCRIPTION : Integrated Reader UHF
a)	UHF middle Distance integrative reader
b)	PROCESSOR Bidder to indicate
c)	MEMORY $\geq$ RAM 16bits + FRAM 32K bits
d)	FREQUENCY 860-868MHz
e)	INTERFACE RS232, RS485, TCP/IP
f)	GPIO 1 Relay Output, 2 TTL outputs, 2 TTL inputs

1.2	PRODUCT DESCRIPTION : Handheld Reader
a)	UHF Handheld Reader Inbuilt PDA
b)	FREQUENCY 860-868MH
c)	READING RANGE 5 Meter
d)	CONNECTIVITY Wi-Fi(802.11b/g)
e)	MEMORY 128MS RAM/1GB FLASH with 2D Barcode option
f)	CPU Bidder to indicate

1.3	PRODUCT DESCRIPTION
a)	Product WMS(Ware House Management) Software
RFID Enabled Solar Panel Packing Management software. The process of solar panel stacking, scanning, data acquisition, processor, preparation of packing list and data management is provided in Annexure -I.	

2.0 Installation & Implementation :

- 2.1 The Installation, Implementation & Training charges on RFID Hardware & software in Supplier scope.
- 2.2 The Supplier should submit test and guarantee certificate.
- 2.3 The Supplier has to ensure that the reader scans the RFID of the stacked modules properly without overlap.

3.0 Scope of work :

- 3.1 Reader able to read/scan all data from RFID pasted on module.
- 3.2 Convert Requisite electrical parameter (Module No, Voc, Isc, Vmp, Pmax, Eff, FF) respectively of each module against one pallet (28no. of module) in to a specified printable format and save the same data in to specified folder in computer.
- 3.3 Auto generate box no. along with barcode against one pallet (28nos.) of module.
- 3.4 Printing of packing list with box no.

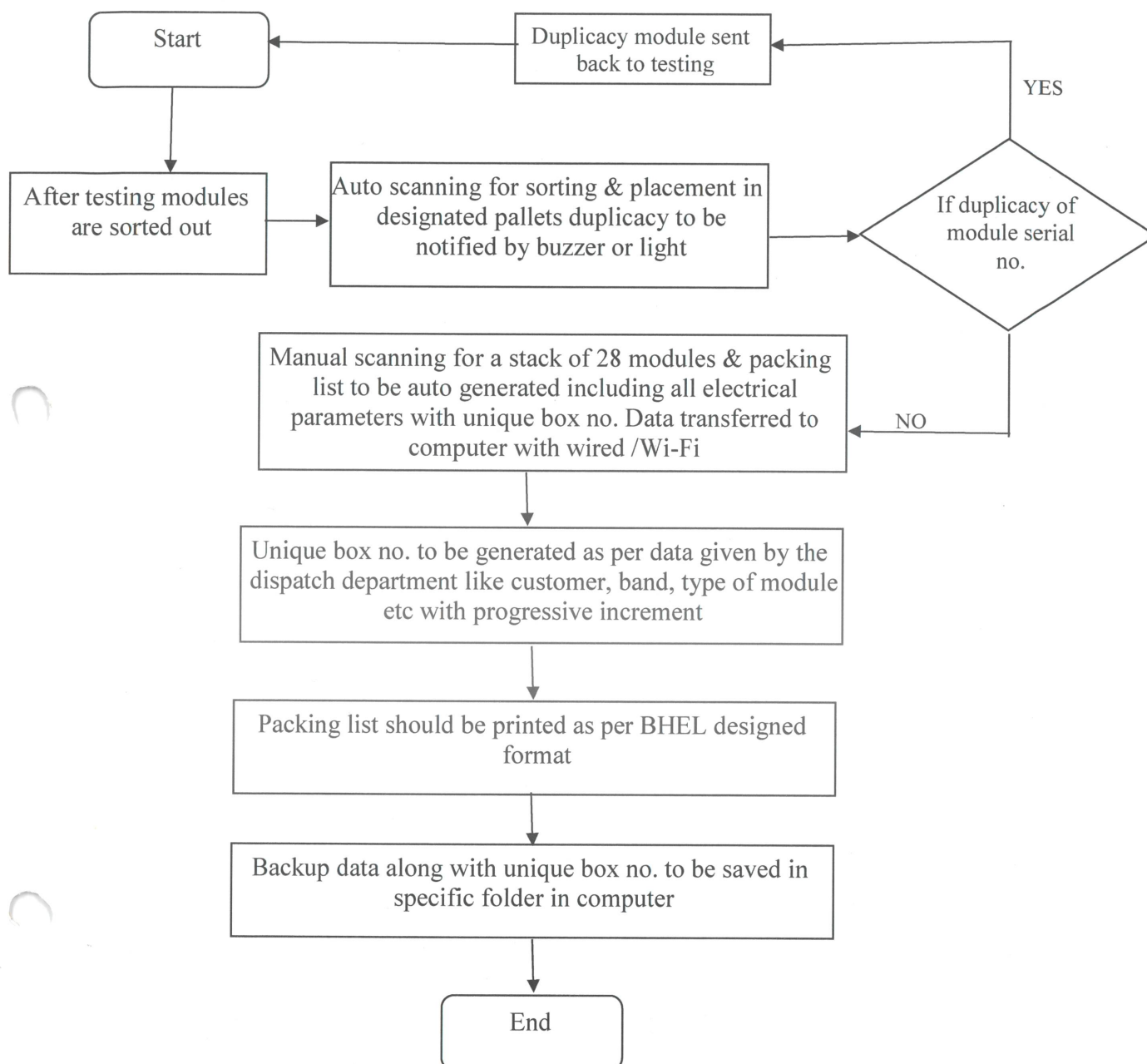
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Annexure – I

POST PRODUCTION MODULE MOVEMENT FLOW CHART



Parameters to be mentioned in the packing list: - 1.SL NO, 2.PV MODULE SERIAL NO. , 3.OPEN CIRCUIT VOLTAGE (Voc), 4.SHORT CIRCUIT CURRENT (Isc), 5.VOLTAGE AT PEAK POWER POINT (Vmp V), 6. CURRENT AT PEAK POWER POINT (Imp A), 7.MAXIMUM MODULE POWER OUTPUT (Pmax W), 8.MODULE EFFICIENCY (in %), 9.FILL FACTOR (FF), 10.UNIQUE BOX NO., 11.DATE OF PACKING, 12.QUANTITY OF MODULES.

Note: - Bidder to visit BHEL –EPD SPV Department and understand the process in detail. The process flow given above is broad and indicative. For the purpose of development of Software (WMS software@ point 1.3). Bidder to provide detailed description of inputs, outputs and process steps in the technical offer.