Australian Government
Department of Industry, Science and Resources

National Measurement Institute
36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S713

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

ABACUS SOLUTIONS PTY LTD Model Abacus Point of Sale (POS) System

submitted by Abacus Solutions Pty Ltd
Level 18/567 Collins St
Melbourne VIC 3000

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*, dated June 2012.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	8/03/16
1	Pattern approved – interim certificate issued	28/04/16
2	Pattern approved – certificate issued	30/11/17
3	Variant 1 approved – certificate issued	04/08/22

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S713' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NMI PS713' may be re-marked 'NMI S713' but only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Special

Certain aspects of this instrument (in particular transaction record printing formats) are able to be configured by the user. Whilst NMI believes that acceptable formats can be achieved for typical basic sales modes, it is also possible for the instrument to be configured to produce unacceptable formats, and use of some formats may be inappropriate for different sales modes. It is the responsibility of the user to ensure that acceptable and appropriate formats are used in any particular situation.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

Darryl Hines
Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No S713

1. Description of Pattern provisionally approved on 8/03/16 approved 28/04/16

An ABACUS SOLUTIONS model Abacus point of sale (POS) system to provide certain additional facilities for transactions when interfaced to compatible (#) NMI-approved measuring instruments granted with reference to document NMI M 7.

1.1 Key Features

- The system provides point of sale arrangements for a CAS model PD-II self-indicating non-automatic weighing instrument (approval NMI 6/4C/237) or other compatible (#) NMI-approved measuring instruments.
- The system receives measurement data from the output interface of the approved measuring instrument and computes prices using a product look up (PLU) facility.
- The system computes total price for multiple items including non-measured items and is approved for use for transactions direct to the public.
- Manually entered measurement data shall be indicated as such on a printed transaction record.
- The system is able to apply a preset tare value up to the maximum capacity of the approved measuring instrument. Preset tare values may be keyboard-entered or stored (e.g. within a PLU facility).

(#) 'Compatible' is defined to mean that no additions/changes to the hardware/software specified in this approval are required for satisfactory operation of the system.

1.2 System Description

The ABACUS SOLUTIONS model Abacus point of sale (POS) system (Figure 1) comprises:

(i) POS Controller

The ABACUS SOLUTIONS model Abacus POS controller comprises an Apple model iPad Mini or equivalent (*) device that operates an Apple IOS-based operating system running Abacus version 2.x.x POS software. The POS controller communicates to the weighing instrument via a USR-TCP232-300 or equivalent (*) serial to Ethernet converter. The software version number is displayed on the bottom right corner at the Login screen and under the System tab at the Settings screen.

(ii) Electronic Indications

Indications shall satisfy the requirements of document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*.

The Apple model iPad Mini touch sensitive device or equivalent (*) provides an indication for the operator (Figure 2) and another an Apple model iPad Mini or equivalent (*) provides an indication for the customer (Figure 3)

Information additional to that required by document NMI M 7, including totalisation details and product images, may also be indicated.

(iii) Printing Devices

Transaction records shall satisfy the requirements of document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*.

An EPSON model TM-T8211 printer or equivalent (*) is connected to the controller to provide a transaction record printing facility. A typical record is shown in Figure 4.

Labels shall satisfy the requirements of document NMI M 7.

A Zebra model TLP 2824 printer or equivalent (*) is connected to provide a label printing facility. A typical label is shown in Figure 5.

(*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this approval for satisfactory operation of the system.

(iv) Additional System Facilities

In addition, the system may include other facilities including point of sale cash drawers, magnetic card and/or barcode reader and electronic funds transfer (EFT), etc. The facilities shall not interact with the system in a way that would cause an incorrect indication of the measured quantity or price.

1.3 Verification Provision

Provision is made for the application of a verification mark.

1.4 Descriptive Markings

The POS controller is marked in a clear and permanent manner, in one location, with the following information:

Submittor's name or mark	……..
Serial number or other unique identifier	……..
Pattern approval number	NMI S713

2. Description of Variant 1 **approved on 04/08/22**

With the ABACUS SOLUTIONS model Abacus point of sale (POS) system now operating an Android-based operating system.

2.1 System Description

(i) POS Controller

The ABACUS SOLUTIONS model Abacus POS controller now comprises an Sunmi model D2s plus touchscreen console or equivalent (*) device that operates an Android-based operating system running Abacus version 1.x.x POS software (Figure 6). The POS controller communicates to the weighing instrument via a USB to Serial port converter or equivalent (*). The software version number is displayed on the top left corner of the main screen.

(*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this approval for satisfactory operation of the system.

(ii) Electronic Indications

Indications shall satisfy the requirements of document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*.

The Sunmi D2s plus touch sensitive device or equivalent (*) provides an indication for the operator (Figure 7) and another and another integral display to provide an indication for the customer (Figure 8).

Information additional to that required by document NMI M 7, including totalisation details and product images, may also be indicated.

(iii) Printing Devices

Transaction records shall satisfy the requirements of document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*.

The Sunmi D2s plus POS controller includes an integrated receipt printer, or an equivalent (*) is connected to the controller to provide a transaction record printing facility.

Labels shall satisfy the requirements of document NMI M 7.

A Zebra model DS9308 label printer or equivalent (*) is connected to provide a label printing facility. A typical label is shown in Figure 5.

(*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this approval for satisfactory operation of the system.

(iv) Additional System Facilities

In addition, the system may include other facilities including point of sale cash drawers, magnetic card and/or barcode reader and electronic funds transfer (EFT), etc. The facilities shall not interact with the system in a way that would cause an incorrect indication of the measured quantity or price.

TEST PROCEDURE No S713

The POS system shall be tested in addition to any tests specified in the approval documentation for the measuring instrument/s to which the POS system is connected, as appropriate

The POS system shall be tested in the normal operational mode of the instrument and device, not in 'training mode' or any other management mode.

Maximum Permissible Error

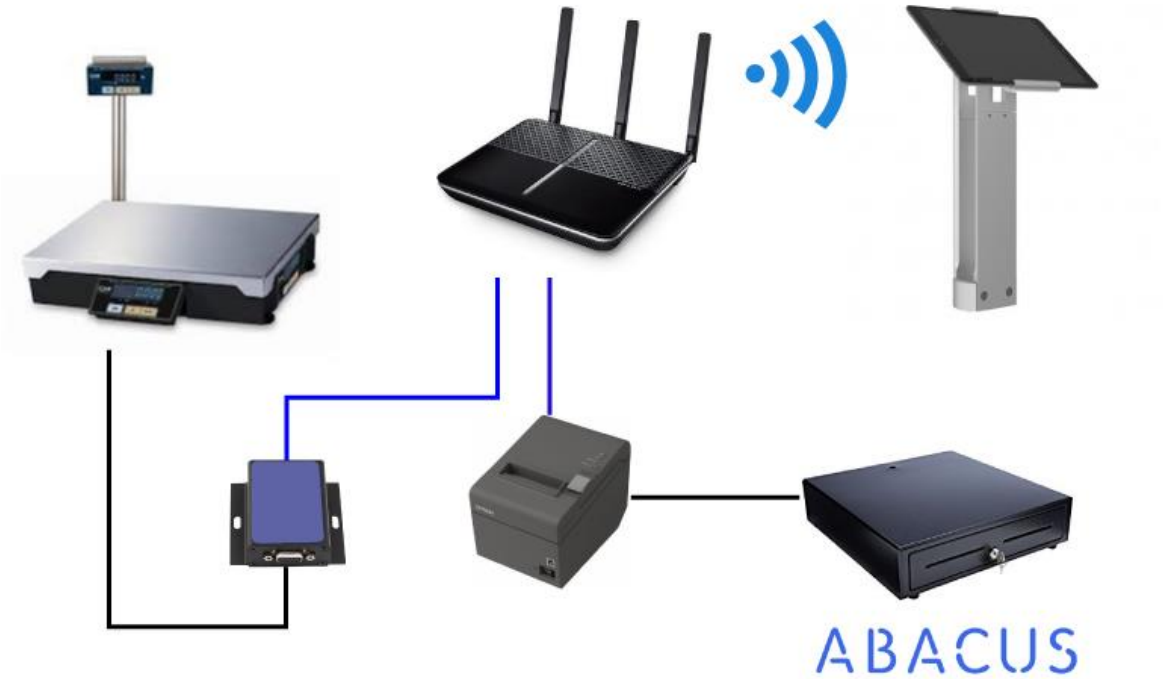
The maximum permissible error for price computation is ±0.5 cent.

TESTS

1. Check the software version number/s.
2. Check that the POS system faithfully reproduces the measurement data in the same units and scale interval as the connected approved measuring instrument, e.g. test by using a PLU without a stored tare.
3. Check that the system performs correct price computation, and computes and indicates a correct unrounded subtotal. For cash payment methods, check that any rounding calculation is correct.
4. Perform a measurement with a preset tare applied and confirm that the POS system correctly calculates and indicates a net measurement result.
5. Manually enter some pre-determined measurement data and ensure that the printed transaction record clearly indicates the transaction as such.
6. Ensure that electronic indications and printed information are in accordance with document NMI M 7.

FIGURE S713 – 1

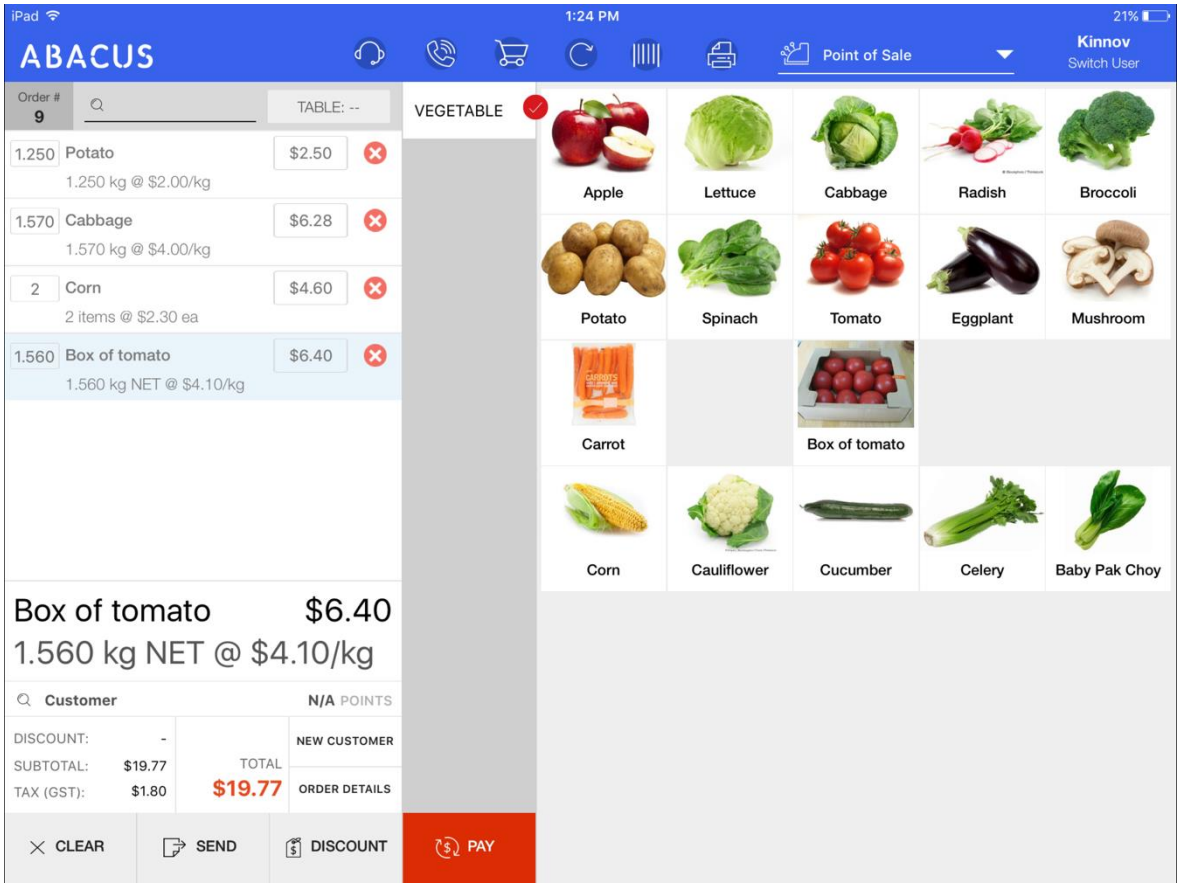
Shown with Magellan Scale and Pole Display



Shown with CAS PDii Scale and Pole Display

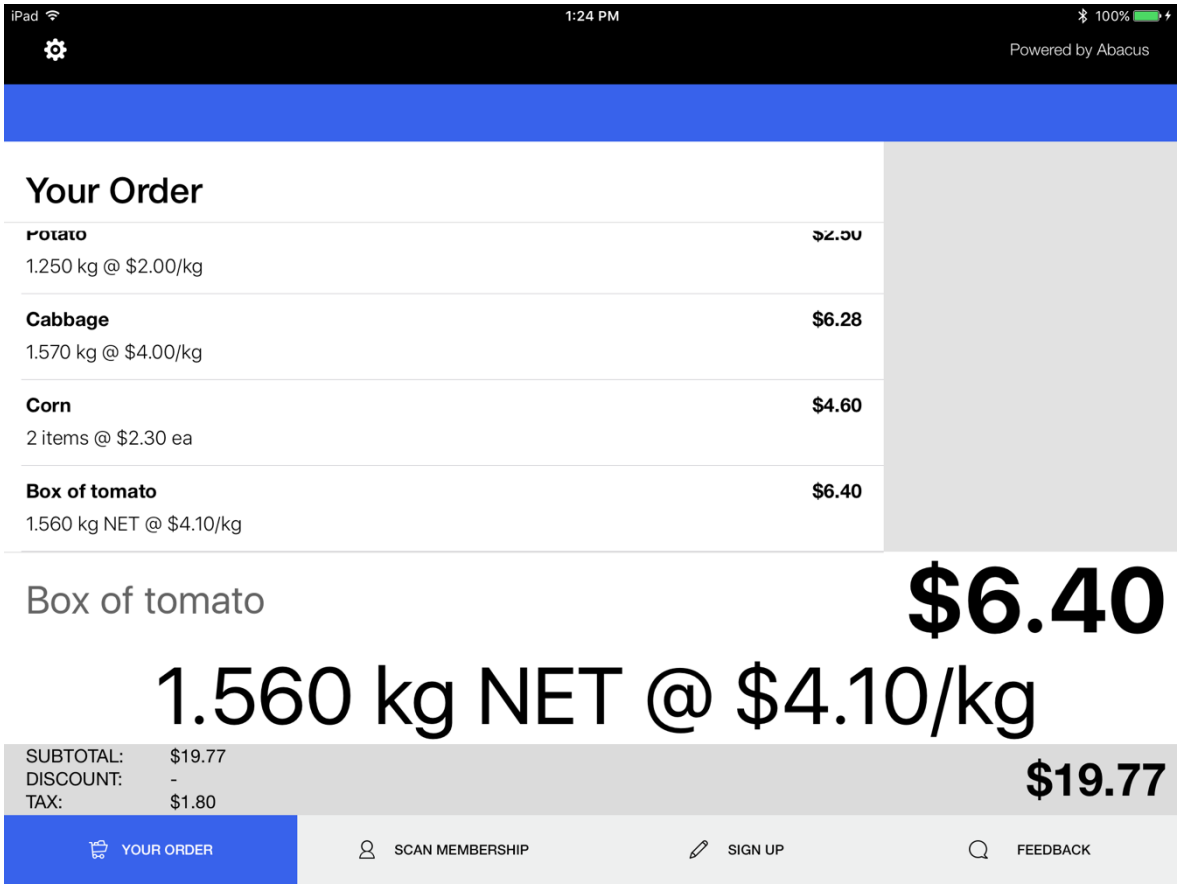
ABACUS SOLUTIONS Model Abacus Point of Sale (POS) System

FIGURE S713 – 2



Typical Operator Display

FIGURE S713 – 3



Typical Customer Display

FIGURE S713 – 4

ABN: 01 2345 6789
Ph: 04 1234 5678
7 HIGHLANDER LANE
MELBOURNE 3000

TAX INVOICE

08/07/2016 1:28 PM No: 201607081
Service: Kinnov
Customer:

DESCRIPTION	AMOUNT
%Potato	
1.250 kg @ $2.00/kg	$2.50
Cabbage	
1.570 kg @ $4.00/kg	$6.28
Corn	
2 items @ $2.30 ea	$4.60
Box of tomato	
1.560 kg NET @ $4.10/kg	$6.40

Subtotal: $19.77

Rounding: -$0.02
Total: $19.75
GST Included In Total: $1.80

Cash: $20.00

Change: $0.25

* GST free items
% Manually Entered Weight

Order Number: 9

PLEASE COME AGAIN

Powered by Abacus

A Typical Receipt

FIGURE S713 – 5

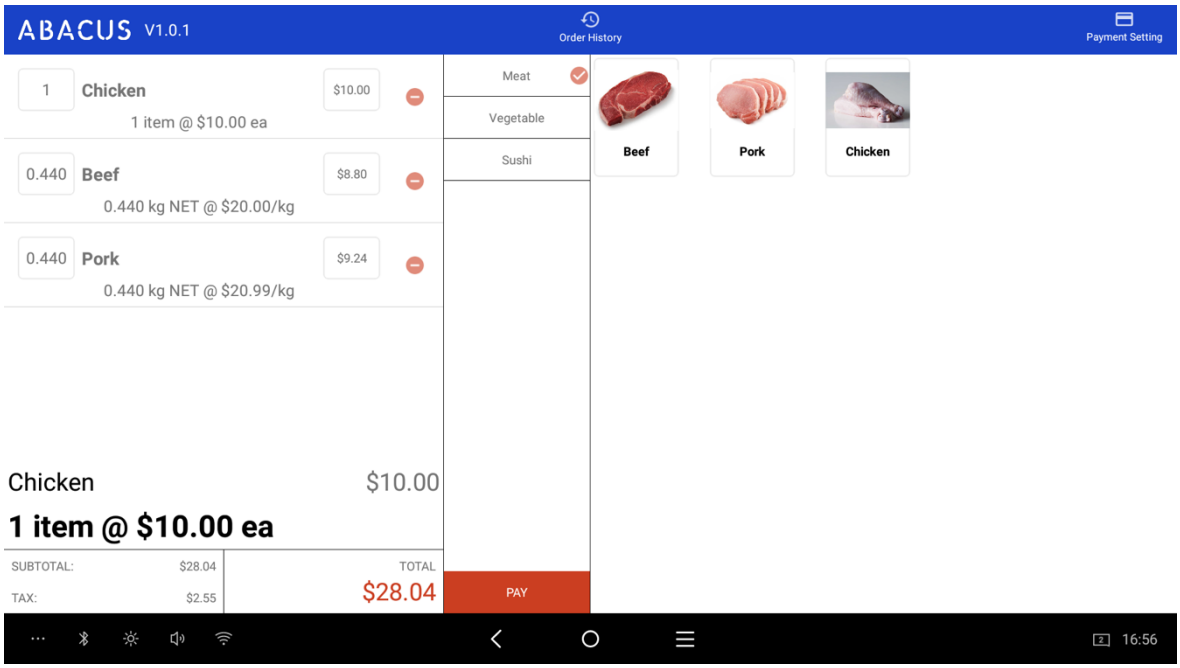
A Typical Label

FIGURE S713 – 6

Sunmi D2splus controller (Android-based operating system)

ABACUS SOLUTIONS Model Abacus Point of Sale (POS) System – Variant 1

FIGURE S713 – 7



Typical Operator Display – Variant 1

FIGURE S713 – 8

Typical Customer Display – Variant 1

~ End of Document ~