



Australian Government

Department of Industry,
Science and Resources

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

**Supplementary Certificate of Approval
NMI S777**

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.

Independent Solutions Model Flexi-Fuel Control System for Fuel Dispensers for Motor Vehicles

submitted by Independent Solutions Australia Pty Ltd
37 Brandl St
Eight Mile Plains QLD 4113

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 R 117, *Measuring Systems for Liquids Other than Water*, dated June 2011.

The approval of **variant 4** has been granted with reference to document NMI R 117, *Measuring Systems for Liquids Other than Water*, dated June 2011 and 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	6/02/19
1	Pattern approved & Variant 1 approved – certificate issued	5/04/19
2	Variant 2 approved – certificate issued	01/11/19
3	Variant 3 approved – certificate issued	26/07/22

Document History (cont...)

Rev	Reason/Details	Date
4	Variant 4 approved – certificate issued	03/10/24

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S777' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NMI PS777' may be re-marked 'NMI S777' 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.

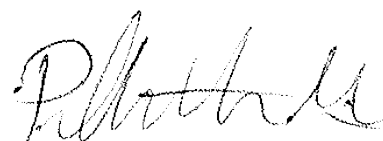
Special

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.

Special Conditions of Approval: (Variant 4)

The approval of Variant 4 is approved for instruments to simultaneously operate as a control system to provide attended self-serve facility with compatible NMI approved fuel dispensers, and as a Point of Sale facility with compatible NMI approved measuring instrument for weighed item transactions.

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



Phillip Mitchell
A/g Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No S777

1. Description of Pattern **provisionally approved on 6/02/19**
approved on 5/04/19

An Independent Solutions model Flexi-Fuel control system to provide an attended self-service facility for compatible (#) approved fuel dispensers for motor vehicles. The fuel dispensers are controlled by the Flexi-Fuel system through the DOMS model PSS5000 Controller (as described in approval NMI S748).

1.1 Key Features

- The system is approved for environmental class A, a climate-controlled environment between 5 °C and 30 °C.
 - The system can provide a self-serve arrangement for compatible (#) approved fuel dispensers.
 - The system allows post-payment or pre-payment deliveries; in the latter case the fuel dispenser must incorporate a pre-set device.
 - The system allows up to two transactions per fuel dispenser, i.e. current sale on the fuel dispenser and a stored transaction.
 - The system may facilitate mixed-mode operation for unattended self-service mode. A control system that is approved for unattended self-service operation must be interfaced to the Flexi-Fuel control system for operation in this mode.
 - Additional POS consoles may be interfaced for multi-attended self-serve operation.
 - The nominal supply voltage is 240 V AC.
- (#) '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 Independent Solutions model Flexi-Fuel system (Figure 1) comprises:

(i) Point of Sale (POS) Console

The Flexi-Fuel point of sale console comprises a HP model RP9 or equivalent (*) PC-based device using a Microsoft Windows operating system running Flexi-fuel version 1.x.x.x software. The software version number is displayed by selecting the 'About' button.

(ii) Fuel Dispenser Controller

A DOMS PSS5000 controller and PIPI display as described in the documentation of approval NMI S748, provide interface and data acquisition between the fuel dispensers and the Point of Sale console and allow the recall of the stored transactions under power failure condition.

(iii) Uninterruptible Power Supply (UPS)

A UPS unit that supports USB/HID power device class standard must be included to provide operation under power failure condition. The UPS is interfaced to the DOMS PSS5000 controller as described in the documentation of approval NMI S748.

(iv) Electronic Indications

The HP model RP9 POS console has an integral touch sensitive display to provide an indication for the operator (Figure 2).

A HP model L6015 LCD monitor or equivalent (*) is connected to the Point of Sale Console and provides an indication for the customer (Figure 3).

(v) Printing Devices

An Epson model TM-T81 receipt printer or equivalent (*) is connected to the POS console. A typical record is shown in Figure 4.

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

(vi) Additional System Facilities

In addition, the model Flexi-Fuel control system may include point of sale facilities including cash drawers, a magnetic card or barcode reader and EFT facility. The facilities shall not interact with the console in a way that would cause an incorrect indication of the measured volume or price.

1.3 Checking Facilities

(i) Printer

The system monitors the condition of the receipt printer and if an error is detected or the printer is out of paper, a visual warning is displayed on the operator's screen.

(ii) Uninterruptible Power Supply (UPS)

The PSS 5000 controller monitors the condition of the UPS and if an error condition is detected the controller will prevent the ability to authorise a stored transaction.

(iii) PIPI Display

If a connection to the PIPI display from the PSS 5000 controller is interrupted or an error occurs with the PIPI the controller will prevent the ability to authorise a stored transaction.

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
Year of manufacture
Pattern approval number	NMI S777

1.5 Verification Provision

Provision is made for the application of a verification mark.

2. Description of Variant 1 **approved on 5/04/19**

With the Fuel Dispenser Controller of the pattern described in **1.2 System Description** replaced by a Postec PCC4 controller or other controller variations as described in approval NMI S398.

3. Description of Variant 2 **approved on 01/11/19**

With the Fuel Dispenser Controller of the pattern described in **1.2 System Description** replaced by an Integration Technologies Enabler series controller or other compatible (#) controller variations as described in approval NMI S518 (Figure 5).

A UPS unit that supports USB/HID power device class standard described **1.2 System Description** is now interfaced to the Point of Sale Console.

(#) '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.

3.1 Checking Facilities

(i) Uninterruptible Power Supply (UPS)

The Point of Sale Console monitors the condition of the UPS and if an error condition is detected the controller will prevent the ability to authorise a stored transaction.

(ii) Customer Display

If a connection from the Point of Sale Console to the Customer Display is interrupted or an error is detected with the Customer Display, the Point of Sale Console will prevent the ability to authorise a stored transaction.

4. Description of Variant 3 **approved on 26/07/22**

With the DOMS PSS5000 fuel dispenser controller operating without the PIPI display connected as described in **1.3 Checking Facilities**. The Customer Display connected to the POS console replaces the functionality of the PIPI display.

4.1 Checking Facilities

(i) Uninterruptible Power Supply (UPS)

The Point of Sale Console monitors the condition of the UPS and if an error condition is detected the controller will prevent the ability to authorise a stored transaction.

(ii) Customer Display

If a connection from the Point of Sale Console to the Customer Display is interrupted or an error is detected with the Customer Display, the Point of Sale Console will prevent the ability to authorise a stored transaction.

5. Description of Variant 4

approved 03/10/24

The Independent Solutions model Flexi-Fuel point of sale (POS) system is configured to operate simultaneously as an attended self-service facility operating Flexi-fuel software as described in **1.2 System description** and also configured to include the functionality of the PTPOS software as described in certificate **NMI S581**. The variant (Figure 6) can provide certain additional facilities for transactions when interfaced to compatible (#) NMI-approved measuring instruments granted with reference to document NMI M 7.

In this configuration the software is identified as PTPOS version 3.xx. The software version number is displayed on start-up of the PTPOS software or at the bottom right of the operator screen

5.1 Key Features

- The system provides point of sale arrangements for a Datalogic model Magellan 8404 self-indicating non-automatic weighing instrument (approval NMI 6/4C/252) 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 public.
 - 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).
 - The POS controllers may be connected in a network to share common PLU data, for totalisation, and to accumulate and retrieve management information.
- (#) '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.

5.2 System Description

(i) Electronic Indications

The variant comprises electronic indications as described above in **1.2 System Description – (iv) Electronic Indications**

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

(ii) Printing Devices

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

The variant comprises electronic indications as described above in **1.2 System Description – (v) Printing Devices**. Figure 4 shows a typical record.

- (*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this

(iii) 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).

The facilities shall not interact with the system in a way that would cause an incorrect indication of the measured quantity or price.

5.3 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
Year of manufacture
Pattern approval number	NMI S777

5.4 Verification Provision

Provision is made for the application of a verification mark.

TEST PROCEDURE No S777

Instruments shall be tested in conjunction with any tests specified in the approval documentation for the instruments to which the pattern is connected, as appropriate, and in accordance with the National Instrument Test Procedures.

Test Procedure for Pattern and Variants configured for Self-service arrangement for fuel measurement transactions:

Points 2-6 are required at commissioning, thereafter they may be conducted at the discretion of the inspecting officer.

1. Check the Flexi-Fuel software version number.
2. Check that the unit price change for the grade of fuel is implemented to the allocated fuel dispensers when they are available for authorisation.
3. Check that the system identifies, displays and prints the correct data for the corresponding number allocated to the fuel dispenser.
4. Authorise a delivery and check that the delivery details on the fuel dispenser agree with the receipt obtained.
5. Authorise a stored delivery and check that the delivery details of the first delivery to be stored in memory is printed on the audit printer.
6. A pre-paid delivery is only possible for fuel dispensers with pre-set facility. For a pre-paid delivery check that the amount displayed on the fuel dispenser equals the pre-paid amount

For the Pattern and Variant 1 only

7. Check that when the PIPI is disconnected from the DOMS PSS5000 controller (simulation of fault), the fuel dispenser cannot be authorised for a second delivery unless the transaction for the first delivery has been completed.

For Variant 2 and 3 only

8. Check that when the Customer Display is disconnected from the Point of Sale Console (simulation of fault), the fuel dispenser cannot be authorised for a second delivery unless the transaction for the first delivery has been completed.
9. Check that when the Uninterruptible Power Supply is disconnected from the Point of Sale Console (simulation of fault) for variant 2 and DOMS controller for variant 3, the fuel dispenser cannot be authorised for a second delivery unless the transaction for the first delivery has been completed.

For variant 4

The system shall be tested according to the applicable test procedure for Self-service arrangement for fuel measurement transactions in addition to the applicable test procedure for Point of Sale arrangement for weighed item transactions.

Test Procedure for Variants configured with Point of Sale arrangement for weighed item transactions:

For variant 4

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.

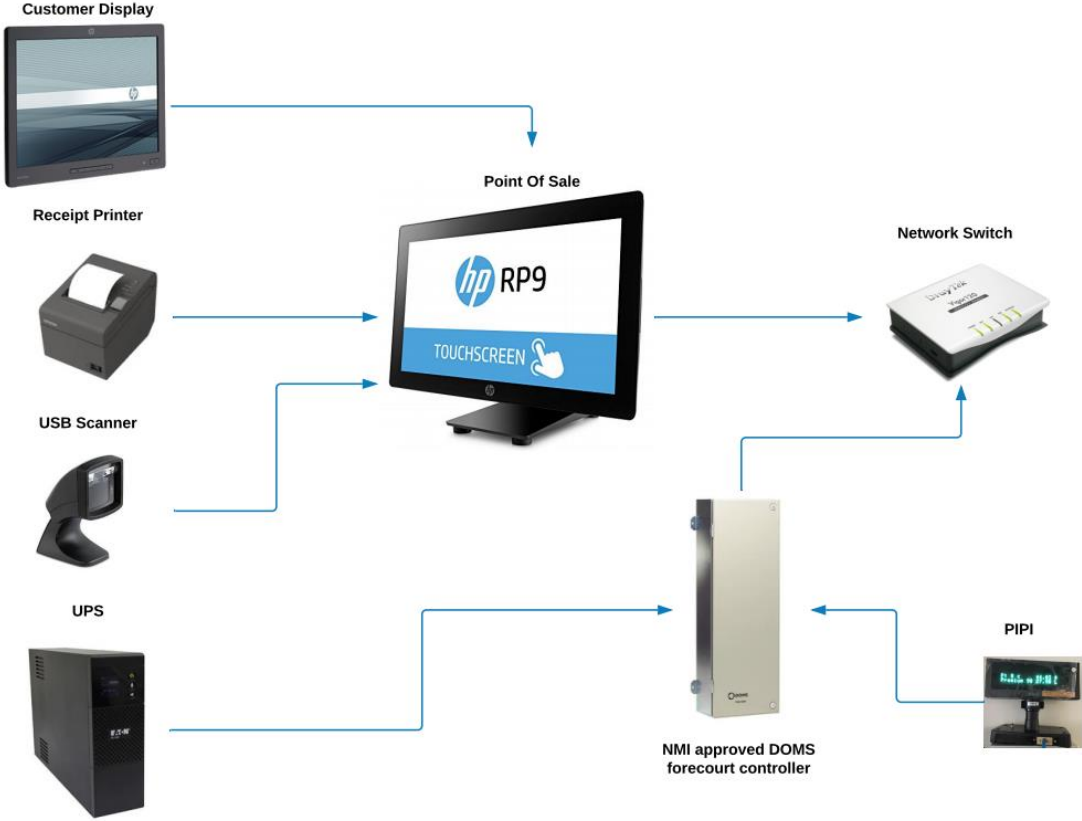
Maximum Permissible Error

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

TESTS

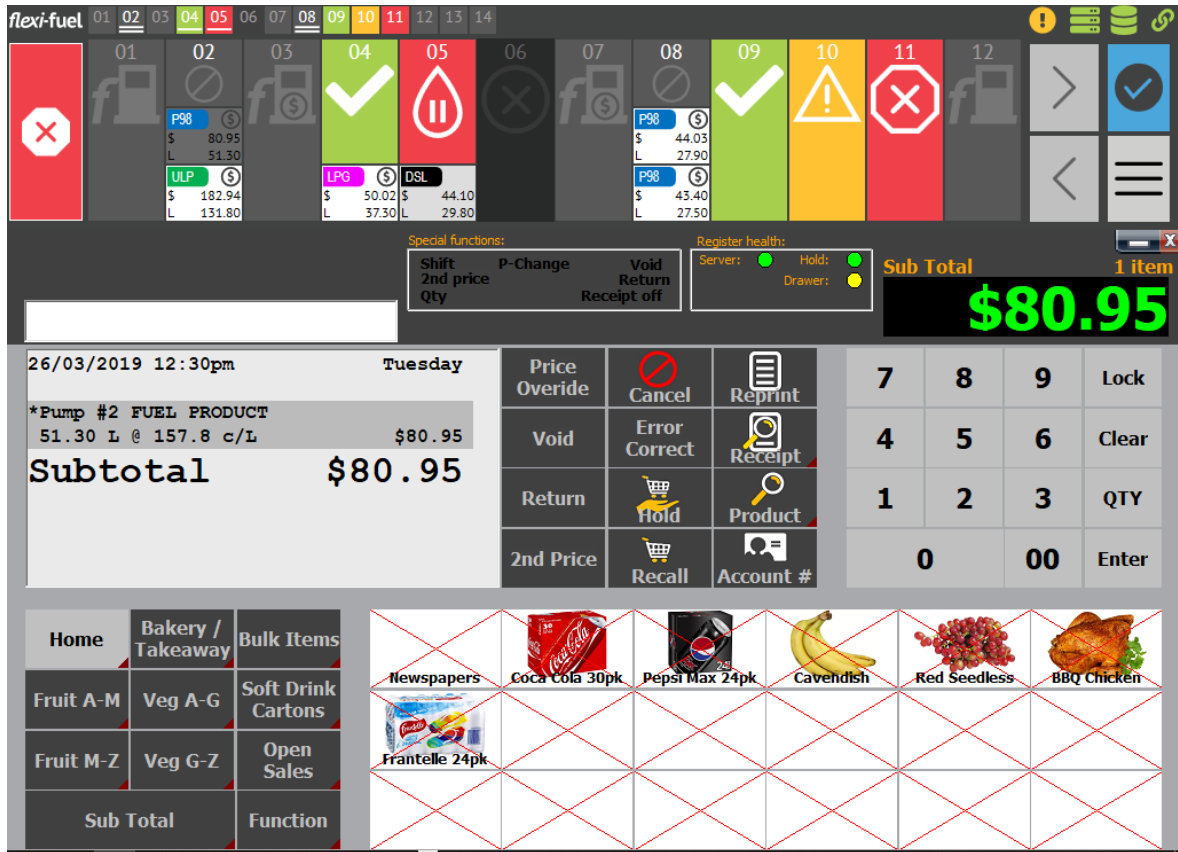
1. Check the software version number/s.
2. Check that the POS system faithfully reproduces the measurement data in the same units and scale interval as the connected approved measuring instrument, e.g. test by using a PLU without a stored tare.
3. Check that the system performs correct price computation,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

FIGURE S777 – 1



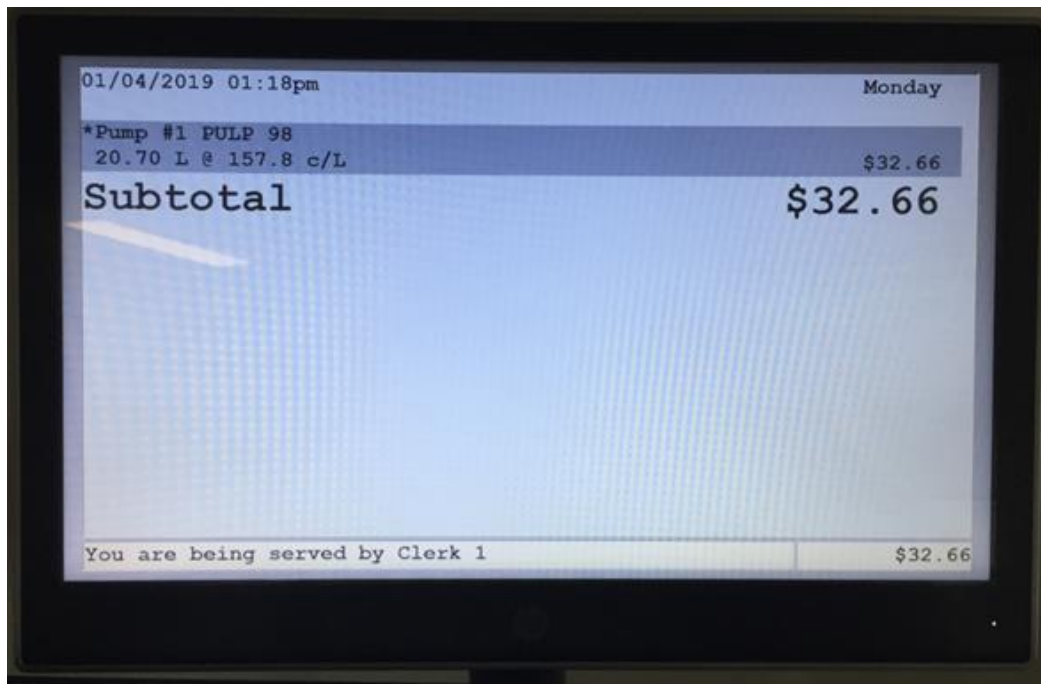
Point of Sale (POS) System

FIGURE S777 – 2



Typical Operator Display

FIGURE S777 – 3



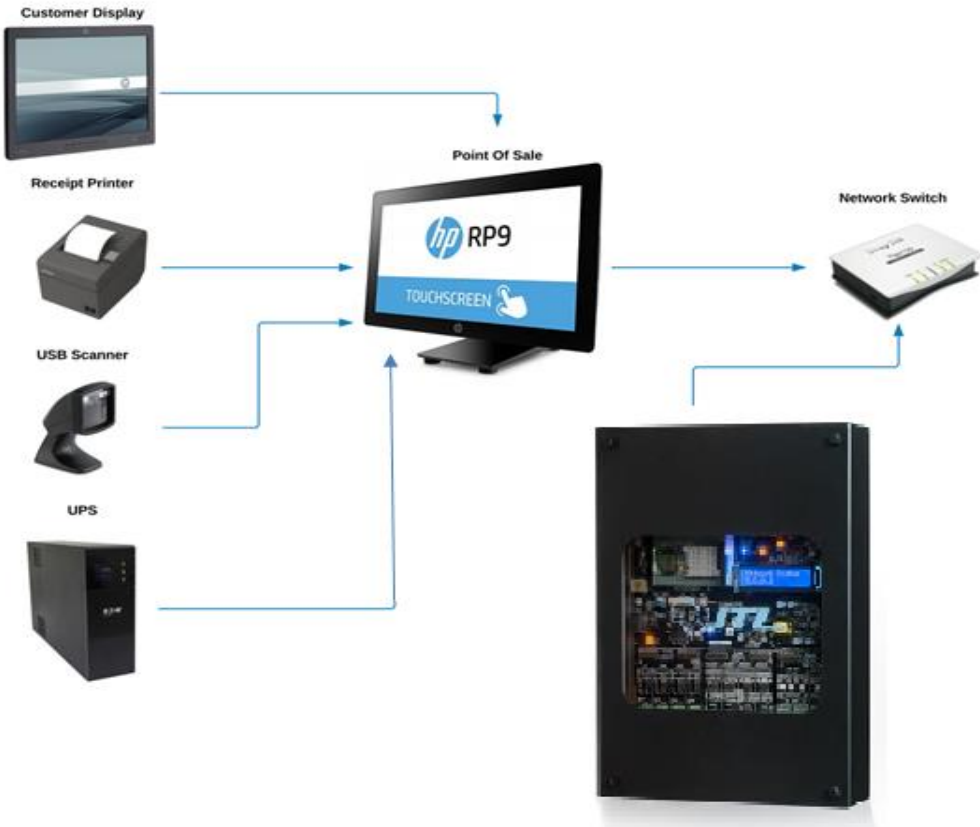
Typical Customer Display

FIGURE S777 – 4



A Typical Receipt

FIGURE S777 – 5



Point of Sale (POS) System (Variant 2)

FIGURE S777 – 6



Point of Sale (POS) System configured for Self Service Fuel and Point of Sale weighed items (Variant 4)

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