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Global Product Certification
EMC-EMF Safety Approvals

APPENDIX G
OF
TEST REPORT T150916

TEST SAMPLE TEST PLAN

FCC ID:	2ACXQ-CL4NX-MR-1
Manufacturer:	Sato Vicinity Pty Ltd
Test Sample:	RFID Modular Read Write Reader
Model Number:	MR-1 Module
Serial Number:	Production Prototype
Date:	10th February 2016

Ceaseless Creativity for a Sustainable World

MR-1 Module
(Modular Transmitter)

EMC Test Plan

USA

11 January 2016

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Document Number: 090-10-1001-DOC

Revision Number: 1.1

Table of Contents

Revision status

Revision	*Date*	*Description*
1.0	July 15	Initial Release.
1.1	Jan 16	Updated to limited modular transmitter

1 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to describe the requirements for testing MR-1 Module Transmitter in Sato CL4NX printer against the relevant requirements of USA.

1.1 TEST REQUIREMENTS

1.1.1 Test Standards

Testing is to be performed using the procedures and criteria contained in the latest version of the following standards:

- USA
  FCC Part 15.212, 15.31, 15.207, 15.225 (Radio/EMC)

1.2 PRODUCT DESCRIPTION

MR-1 Module is a plug-in RFID radio device with integral antenna. It is an RFID read/write device designed to meet the requirements to manage tagging, monitor, and control a small number of items. It is designed to be incorporated in any hosts which has serial communication capability.

The unit consists of a connector for data communication and power source from the host. MR-1 is connected to antenna via a unique connector.

Power is provided from a host's 5VDC power supply.

1.2.1 Ports

The following ports are provided on the product:

- 2.0 mm pitch connectors (Data communication and power source)

1.3 PRODUCT SPECIFICATIONS

Manufacturer	Sato Vicinity Pty Ltd 8 Guihen Street Annandale NSW 2038 Telephone: +61 2 9562 9800 Fax: +61 2 9518 7620
Transmission Frequency	13.56 MHz
Voltage	5VDC
Number of Axes	1
Number of Reply Channels	1
Command Data Rate Number	424 kbit/s
Tag Type	PJM Stack Tags :

	• CC5
Antenna	Inductive loop antenna
Weight	100g
Operating Environment	Incorporated into any hosts such as printers

1.4 PRODUCT BUILD LEVEL

The build level of the MR-1 under test is as follows:

Model Number	MR-1 Module
Serial Numbers	Production prototype
Microprocessor type	AT32UC3B064
Frequencies	27.12MHz
Transmission Frequencies	13.56 MHz
BOM	090-70-001-BOM Version C8 090-10-005-BOM Version B1
Main PCB Circuit	090-10-001-SCH Version B4 090-10-005-SCH Version B1
Data Cable	Data Communication and power supply cable 200mm

1.4.1 Auxiliary Equipment

The following auxiliary equipment will be used during testing:

- Sato CL4NX Barcode Printer
- Laptop, USB Mouse
- Data Communication and power supply adaptor board
- Stack Tag

1.5 TESTING

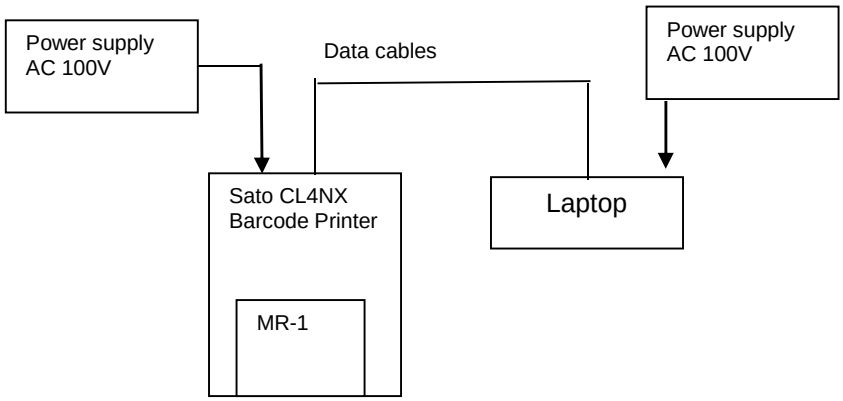
1.5.1 Order of Testing

Radiated emissions testing are required to be completed first, followed by conducted emissions testing.

Tests shall be performed with worst case tags.

1.5.2 Test Method and EUT Configuration

The MR-1 Modular Transmitter will be tested with the following set up:



1.5.3 EUT Operation

During testing, the MR-1 Transmitter Module will be connected and transmitting.

The unit will be polling the antenna during the test cycle.

In this mode, the test software will operate the data ports as follow:

- Laptop communicates with MR-1 module via the host, Sato CL4NX printer
- MR-1 operates in normal operating mode in the Sato CL4NX printer
- It represents a typical set up and operating mode

2 USA REQUIREMENTS

2.1 PRODUCT CLASSIFICATION

The MR-1 Modular Transmitter is classified as a short range radio device.

2.2 TEST CONFIGURATION and OPERATION

The test configuration and operation for MR-1 Modular Transmitter is detailed in Paragraph 1.5.

2.3 TEST REQUIREMENTS

A summary of all test requirements is given in Section 4 of this document.

2.3.1 Intentional Radiator Testing

The MR-1 Modular Transmitter must satisfy the requirements of FCC Part 15.212, 15.31, 15.207 and 15.225 for intentional radiators.

2.4 PERFORMANCE CRITERIA

MR-1 Modular Transmitter must meet the limits required for compliance.

2.5 TEST REPORTS

Provided MR-1 Modular Transmitter meets the requirements, an FCC Part 15 test report is required (soft copy only)

Test Reports are not required if the MR-1 Modular Transmitter does not meet the requirements.

2.6 CERTIFICATION

Application, via a TCB, is to be made to FCC for certification on completion of testing.

3 SUMMARY OF TESTING AND REPORT REQUIREMENTS

The following Tables provide a summary of all required testing.

TABLE 4.1 TEST SUMMARIES

TESTS		
	USA	**CERTIFICATION**
Radio/emissions	FCC Part 15.121,15.31, 15.207, 15.225	Required for USA

TABLE 4.2 – REPORT SUMMARY

COUNTRY	REQUIRED REPORT	COMMENT
USA	Radio/EMC/EMR –FCC Pt 15	