

Prüfbericht-Nr.: <i>Test report no.:</i>	60434796 003	Auftrags-Nr.: <i>Order no.:</i>	168328031	Seite 1 von 12 <i>Page 1 of 12</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2021-07-22	
Auftraggeber: <i>Client:</i>	Sanford, L.P.dba Dymo 3 Glendale Parkway, NE Atlanta GA 30328, United States Of America			
Prüfgegenstand: <i>Test item:</i>	Label maker			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	LabelWriter 550			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart B ICES-003 Issue 7 October 2020			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2021-07-22	Please refer to Photo Document		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003096161-001			
Prüfzeitraum: <i>Testing period:</i>	2021-07-29 – 2021-08-03			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	 Lin Lin		genehmigt von: <i>authorized by:</i>	 Hardy Suo
Datum: <i>Date:</i>	2021-08-06		Ausstellungsdatum: <i>Issue date:</i>	2021-08-06
Stellung / Position:	Senior Project Manager		Stellung / Position:	Reviewer
Sonstiges / Other:	FCC ID: RGDW550 Note: This version of product based on the previous version (report no.: 60434796 002), adding additional DC to DC chip, due to this changed, the EMC arranged fully re-test.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend N/T = nicht getestet
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Test Summary

5.1.1 RADIATED EMISSIONS

RESULT: Pass

5.1.2 CONDUCTED EMISSIONS ON AC MAINS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Setup Photos

Appendix B: Test results of EMC

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China

FCC Accreditation Designation No.: CN1260

ISED Wireless Device Testing Laboratory: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radiated Emissions				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
3m SAC	ETS	SAC3	CT001632-Q1362	2021-08-23
EMI Test Receiver	R&S	ESR7	102111	2021-12-16
Horn Antenna	R&S	HF907	102706	2022-08-07
Preamplifier	FIT	SCU-18F	180077	2021-08-16
Active magnetic loop antenna	SCHWARZBECK	FMZB1519B	00080	2021-08-20
Trilog-Broadband antenna	SCHWARZBECK	VULB9168	0945	2021-12-12
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A
Conducted Emissions				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESR3	102680	2022-04-24
Artificial Mains Network	R&S	ENV216	101445	2022-04-24
EMC32 test software	R&S	EMC32(Ver.10.50.00)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Parameter	Uncertainty
Radiated Emission (3m SAC), 30MHz to 1000MHz	± 4.52 dB
Radiated Emission (3m SAC), above 1000MHz	± 4.37 dB
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The device is a Label maker, which supports NFC function.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Label maker
Type Designation	LabelWriter 550
FCC ID	RGDLW550
Equipment Class	B
Operating Voltage	DC 24V@1.75A input via power adapter
Testing Voltage	AC 120V/60Hz
Power adapter	Model: DSA-42PFC-24 2 240175 Input: 100-240V, 50/60Hz Output: DC 24V, 1.75A

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Print by USB + NFC mode
- B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.4: 2014.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Remark
Portable Laptop	Lenovo	ThinkPad T480	10Q67059	N/A
USB Cable	newell	USB Cable	---	Shielded, Length: 1.2m Provided by client

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

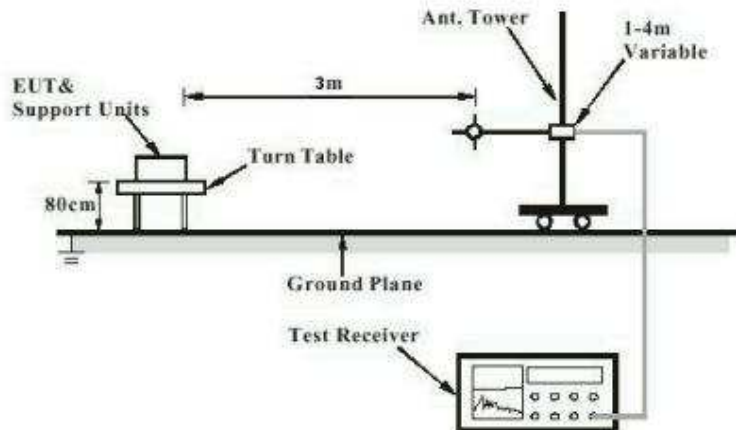


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

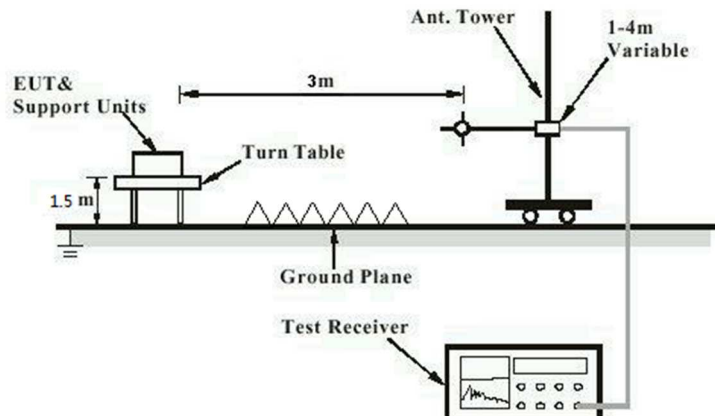
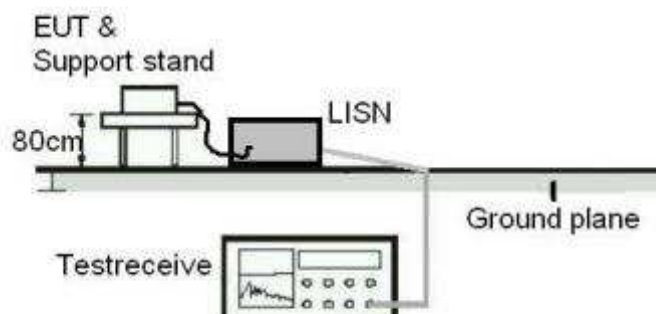


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement



5 Test Results

5.1.1 Radiated Emissions

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.109(a) ICES-003 Issue 7, Clause 3.2.2
Basic standard	: ANSI C63.4: 2014
Frequency range	: 30MHz to 2000MHz
Classification	: Class B
Limits	: FCC Part 15.109(a) ICES-003 Issue 7, Clause 3.2.2
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2021-07-29 ~ 2021-08-03
Input voltage	: AC 120V/60Hz
Operation mode	: A
Earthing	: Not connected
Ambient temperature	: 23 °C
Relative humidity	: 50 %
Atmospheric pressure	: 101 kPa

Note: The product internal highest operation frequency is lower than 500MHz, so the highest measurement frequency range is up to 2GHz.

For the measurement records, refer to the appendix B.

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5.1.2 Conducted Emissions on AC Mains

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.107(a) ICES-003 Issue 7, Clause 3.2.1
Basic standard	: ANSI C63.4: 2014
Frequency range	: 150KHz to 30MHz
Classification	: Class B
Limits	: FCC Part 15.109(a) ICES-003 Issue 7, Clause 3.2.1
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2021-07-29
Input voltage	: AC 120V/60Hz
Operation mode	: A
Earthing	: Not connected
Ambient temperature	: 23 °C
Relative humidity	: 50 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

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