

Prüfbericht-Nr.: Test report no.: CN234X8C 001		Auftrags-Nr.: Order no.: 170355014		Seite 1 von 22 Page 1 of 22	
Kunden-Referenz-Nr.: Client Reference No.: N/A		Auftragsdatum: Order date.: 2023.10.24			
Auftraggeber: Client: Xiamen Lujiang Technology Co., Ltd. Room 601-2, No.63-1, Wanghai Road, Software Park Phase II, Torch Hi-Tech Zone, Xiamen, Fujian, P.R. China.					
Prüfgegenstand: Test item: A4 Thermal Printer					
Bezeichnung / Typ-Nr.: Identification / Type No.: L81, A80, A81, 4187, L81S, L81H					
Auftrags-Inhalt: Order content: TÜV Rheinland RF service					
Prüfgrundlage: Test specification: EN 301489-1 V2.2.3:2019 EN 301489-17 V3.2.4:2020 EN 55032:2015+A11+A1 EN 55035:2017+A11					
Wareneingangsdatum: Date of sample receipt: 2023.10.24					
Prüfmuster-Nr.: Test sample No.: 170355014-001					
Prüfzeitraum: Testing period: Refer to test report					
Ort der Prüfung: Place of testing: Refer to section 2.1					
Prüflaboratorium: Testing laboratory: TÜV Rheinland (Guangdong) Ltd.					
Prüfergebnis*: Test result*: Pass					
geprüft von: tested by: Webb Luo		genehmigt von: authorized by: Amy Wang			
Datum: Date: 2024.01.08		Ausstellungs Datum: Issue date:2024.01.08			
Stellung/Position: Sachverständige(r)/Expert		Stellung/Position: Sachverständige(r)/Expert			
Sonstiges / Other:					
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery: Prüfmuster vollständig und unbeschädigt Test item complete and undamaged					
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable 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. 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.					

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Anmerkungen Remarks

- | | |
|----------|--|
| 1 | <p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.
Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system.</i>
<i>Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p> |
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| 3 | <p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben.
Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i>
<i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p> |
| 4 | <p>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</p> <p><i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i></p> |

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Test Summary

5.1.1 HARMONIC CURRENT EMISSIONS ON AC MAINS

RESULT: *Not applicable*

5.1.2 VOLTAGE FLUCTUATIONS AND FLICKER ON AC MAINS

RESULT: *Not applicable*

5.1.3 CONDUCTED EMISSION ON AC MAINS

RESULT: *Not applicable*

5.1.4 CONDUCTED EMISSION ON DC POWER INPUT/OUTPUT PORT

RESULT: *Not applicable*

5.1.5 CONDUCTED EMISSION ON WIRED NETWORK PORT

RESULT: *Not applicable*

5.1.6 RADIATED EMISSION

RESULT: *Pass*

5.2.1 RADIO FREQUENCY ELECTROMAGNETIC FIELDS (RS)

RESULT: *Pass*

5.2.2 RADIO FREQUENCY CONTINUOUS CONDUCTED (CS)

RESULT: *Not applicable*

5.2.3 ELECTROSTATIC DISCHARGE (ESD)

RESULT: *Pass*

5.2.4 ELECTRICAL FAST TRANSIENTS (EFT)

RESULT: *Not applicable*

5.2.5 SURGE

RESULT: *Not applicable*

5.2.6 VOLTAGE DIPS AND INTERRUPTIONS

RESULT: *Not applicable*

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1 General Remarks

When applying the basic standards in this test report, please refer to the applied generic or product family standards for edition information: For dated basic standards, only the edition cited applies. For undated basic standards, the latest edition (including any amendments) applies.

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:
Appendix A: Test Results of Article 3.1b EMC Requirements

2 Test Site

2.1 Test Facilities

Guangdong Global Testing Technology Co., Ltd.

Address: Room 101, 203, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city,
Guangdong P.R., China

CNAS Registration No.: L18872

The test at these test sites has been conducted under the supervision of a TÜV Rheinland engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Refer to attached Appendix A.

2.3 Uncertainty of Measurement

Table 2: EMC Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conducted Emission(9KHz-30MHz)	±3.37
2	Radiated Emission(30MHz ~ 1000MHz)	±4.16
3	Radiated Emission(1GHz ~ 6 GHz)	±5.40
Remark: 95% Confidence Levels, K=2.		

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3 General Product Information

The tested samples are A4 Thermal Printer with model numbers as shown in the cover page of test report for new approval.

The A4 Thermal Printer supports Bluetooth wireless technologies for APP control.

Model list:

L81, A80, A81, 4187, L81S, L81H

All models are identical to each other except for model name.

Therefore, full tests were performed on L81.

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

3.1 Product Function and Intended Use

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

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	A4 Thermal Printer
Type Designation	L81, A80, A81, 4187, L81S, L81H
Operating Temperature Range	0 °C ~ +40 °C
Operating Voltage	DC 3.7V via Li-ion Battery or DC 5.0V via USB port
Testing Voltage	DC 3.7V
Protection class:	III
Technical Specification of Bluetooth (dual mode)	
Operating Frequency	2402 MHz to 2480 MHz
Type of Modulation	GFSK, $\pi/4$ -DQPSK, 8DPSK
Channel Number	BR & EDR mode: 79 channels; Low Energy mode: 40 channels
Channel Separation	BR & EDR mode: 1MHz; Low Energy mode: 2MHz
Data Rate:	BR & EDR mode: 1Mbps, 2Mbps, 3Mbps Low Energy mode: 1Mbps
Antenna Type	PCB Layout Antenna
Antenna Gain	2.67 dBi
Classification of Receiver	Category 2 for RF output power less than 0dBm e.i.r.p

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Charging + Print mode (APP control with bluetooth)
- B. Charging mode

3.4 Noise Generating and Noise Suppressing Parts

For details refer to the Circuit Diagram.

3.5 Submitted Documents

- | | |
|---------------|----------------|
| - PCB Layout | - Parts List |
| - Schematics | - Rating Label |
| - 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.

Immunity: The equipment under test (EUT) was configured to have its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Refer to section 5.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
AC/DC Adapter	Xiaomi	MDY-11-EX	--	Input: 100-240Vac 50/60Hz Output: 5Vdc 3A, 9Vdc 3A, 12Vdc 2.25A, 20Vdc 1.35A, 11Vdc 3A Max
Notebook	Lenovo	T14	--	--
iphone	Apple	A2634	--	--

4.4 Countermeasures to Achieve EMC Compliance

No additional measures were employed to achieve compliance.

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5 Test Results of EMC Requirement

5.1 Test Results of EMISSION

5.1.1 Harmonic Current Emissions on AC Mains

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020 EN IEC 61000-3-2:2019+A1
Basic standard	: EN 301489-1 V2.2.3:2019, Clause 8.5
Measured harmonics	: 2 - 40
Classification	: Class A
Limit	: EN IEC 61000-3-2:2019+A1, Clause 7.1 Table 1

Exemption Conditions:

According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore, this test is not applicable for this EUT.

5.1.2 Voltage Fluctuations and Flicker on AC Mains

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020 EN 61000-3-3:2013+A1
Basic standard	: EN 301489-1 V2.2.3:2019, Clause 8.6
Frequency range	: 0 – 2 kHz
Limit	: EN 61000-3-3:2013+A1, Clause 5

Exemption Conditions:

According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore, this test is not applicable for this EUT.

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5.1.3 Conducted Emission on AC Mains

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 8.4
Frequency range	: 150 KHz – 30 MHz
Kind of test site	: Shielded Room
Limit	: EN 301489-1 V2.2.3:2019, Clause 8.4.3.2

Exemption Conditions:

According to the electrical construction of the EUT, there is no AC terminal incorporated and no dedicated AC/DC adaptor. Therefore, this test is not applicable for this EUT.

5.1.4 Conducted Emission on DC power input/output port

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 8.3
Frequency range	: 150 KHz – 30 MHz
Kind of test site	: Shielded Room
Limit	: EN 301489-1 V2.2.3:2019, Clause 8.3.3

Exemption Conditions:

According to the electrical construction of the EUT, there is no DC terminal incorporated. Therefore, this test is not applicable for this EUT.

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5.1.5 Conducted Emission on Wired network port

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 8.7
Frequency range	: 150 KHz – 30 MHz
Kind of test site	: Shielded Room
Limit	: EN 301489-1 V2.2.3:2019, Clause 8.7.3

Exemption Conditions:

According to the electrical construction of the EUT, there is no wired network terminal incorporated.
Therefore, this test is not applicable for this EUT.

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5.1.6 Radiated Emission

RESULT:

Pass

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 8.2
Classification	: Class B
Frequency range	: 30 MHz – 6 GHz*
Kind of test site	: 3m Semi-anechoic Chamber
Limit	: EN 55032:2015+A11+A1, Table A.4 EN 301489-17 V3.2.4:2020, Clause 8.2.3

Test Setup

Date of testing	: Refer to appendix 1
Test voltage	: DC 3.7V or AC 230V/50Hz (supplied by USB charger)
Operation mode	: A, B
Test Ports	: Enclosure
Ambient temperature	: Refer to appendix 1
Relative humidity	: Refer to appendix 1
Atmospheric pressure	: Refer to appendix 1

*) Since the highest frequency of the internal sources of the EUT is above 1GHz, According to EN 55032, the measurement shall only be made up to 6 GHz.

For the measurement records, refer to the appendix 1.

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5.2 Test Results of IMMUNITY

5.2.1 Radio Frequency Electromagnetic Fields (RS)

RESULT:

Pass

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019 EN 61000-4-3
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 9.2
Frequency range	: 80 MHz to 6000 MHz
Test level	: 3 V/m, (unmodulated, r.m.s)
Modulation	: 80% AM by a sinusoidal signal of 1kHz
Kind of test site	: 3m Full-anechoic Chamber
Performance criteria	: A (Transmitters: CT & Receivers: CR)

Test Setup

Date of testing	: 02.11.2023
Test voltage	: AC 230V/50Hz (supplied by USB charger)
Operation mode	: A
Test Ports	: Enclosure
Ambient temperature	: 23.8 °C
Relative humidity	: 54.3 %
Atmospheric pressure	: 101.4 kPa

Table 5: Test Result of Radio Frequency Electromagnetic Fields (RS)

Test Frequency Band	Polarity	Test Level	Location	Result	Remark
80MHz – 1000MHz	Vertical / Horizontal	3V/m	Front	PASS	EUT operated as intended, no degradation of function
			Rear	PASS	
			Left	PASS	
			Right	PASS	
1000MHz – 6000MHz	Vertical / Horizontal	3V/m	Front	PASS	EUT operated as intended, no degradation of function
			Rear	PASS	
			Left	PASS	
			Right	PASS	

*Remark: No degradation was observed during and after the tests.

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5.2.2 Radio Frequency Continuous Conducted (CS)

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019 EN 61000-4-6
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 9.5
Frequency range	: 0.15 - 80 MHz
Source impedance	: 150 Ω
Test level	: 3V ms (unmodulated, r.m.s.)
Modulation	: AM 80%, 1 kHz sine-wave
Sweep mode	: Automatic
Sweep rate	: $< 1.5 \times 10^{-3}$ decade / sec.
Performance criteria	: A (Transmitters: CT & Receivers: CR)

Exemption Conditions:

According to the electrical construction of the EUT, there is no AC terminal incorporated and DC terminal which no dedicated AC/DC adaptor. Therefore this test is not applicable for this EUT.

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5.2.3 Electrostatic Discharge (ESD)

RESULT:

Pass

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019 EN 61000-4-2
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 9.3
Discharge impedance	: 330 Ω / 150 pF
Test level	: Air discharge: ± 2 kV, ± 4 kV, ± 8 kV Contact discharge: ± 4 kV HCP & VCP: ± 4 kV
Position	: All exposed surfaces
Performance criteria	: B (Transmitters: TT & Receivers: TR)

Test Setup

Date of testing	: 02.11.2023
Input voltage	: AC 230V/50Hz (supplied by USB charger)
Operation mode	: A
Test Ports	: Enclosure
Ambient temperature	: 24.6 °C
Relative humidity	: 52.7 %
Atmospheric pressure	: 101.5 kPa

Table 6: Test Result of Electrostatic Discharge (ESD)

Discharge Type	Test Voltage	Location	Result	Remark
Contact	± 2.0kV, ± 4.0kV	HCP	PASS	EUT operated as intended, no degradation of function
		VCP		
		Conducted Enclosure		
Air	± 2.0kV, ± 4.0kV, ± 8.0kV	Non-conducted Enclosure	PASS	
		Slot		

*Remark: No degradation was observed during and after the tests.

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5.2.4 Electrical Fast Transients (EFT)

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019 EN 61000-4-4
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 9.4
Test level	: ± 1.0 kV on AC
Test duration	: 2 minute per level & polarity
Rise time	: 5/50ns
Repetition frequency	: 5 KHz
Performance criteria	: B (Transmitters: TT & Receivers: TR)

Exemption Conditions:

According to the electrical construction of the EUT, there is no AC terminal incorporated and DC terminal which no dedicated AC/DC adaptor. Therefore this test is not applicable for this EUT.

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5.2.5 Surge

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019 EN 61000-4-5
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 9.8
Test level	: ± 2.0 kV line to ground & ± 1.0 kV line to line
Repetition rate	: Max. 1/min
Performance criteria	: B (Transmitters: TT & Receivers: TR)

Exemption Conditions:

According to the electrical construction of the EUT, there is no AC terminal incorporated and DC terminal which no dedicated AC/DC adaptor. Therefore this test is not applicable for this EUT.

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5.2.6 Voltage Dips and Interruptions

RESULT:

Not applicable

Test Specification

Test standard	: EN 301489-17 V3.2.4:2020
Basic standard	: EN 301489-1 V2.2.3:2019 EN 61000-4-11
Test requirement	: EN 301489-1 V2.2.3:2019, Clause 9.7
Test level	: Voltage dips: ☒ 0 % residual voltage for 0,5 cycle ☒ 0 % residual voltage for 1 cycle ☒ 70 % residual voltage for 25 cycles (at 50 Hz) Voltage interruptions: ☒ 0 % residual voltage for 250 cycles (at 50 Hz).
Performance criteria	: B (Transmitters: TT & Receivers: TR) C (Transmitters: TT & Receivers: TR) for 250 cycles

Exemption Conditions:

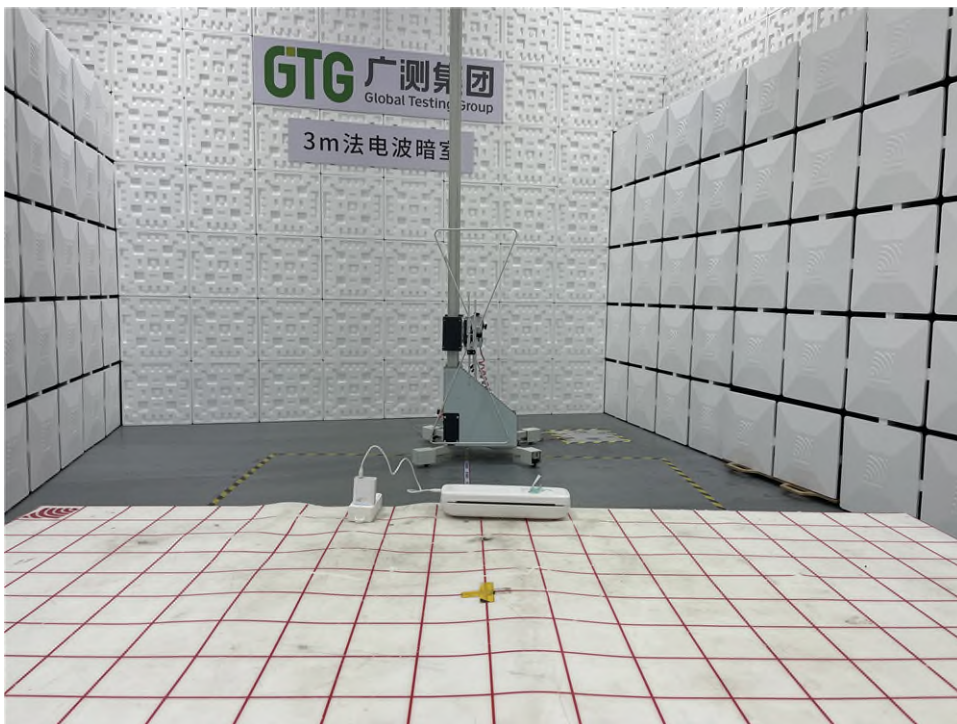
According to the electrical construction of the EUT, there is no AC terminal incorporated and DC terminal which no dedicated AC/DC adaptor. Therefore this test is not applicable for this EUT.

6 Photographs of the Test Set-Up

Photograph 1: Set-up for Radiated Emission (below 1GHz)



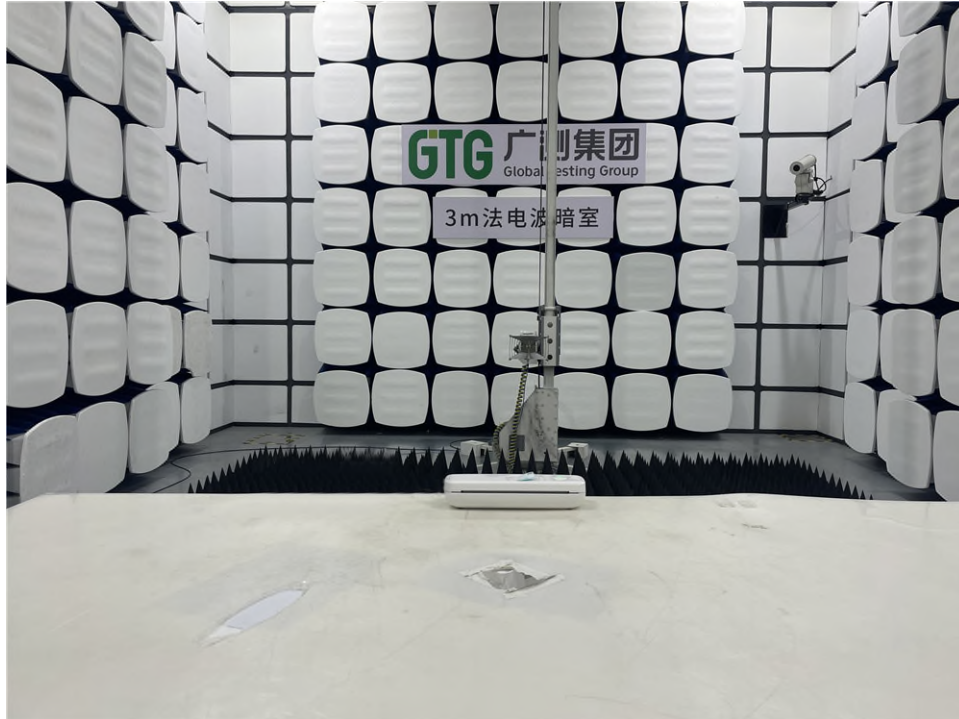
Photograph 2: Set-up for Radiated Emission (below 1GHz)



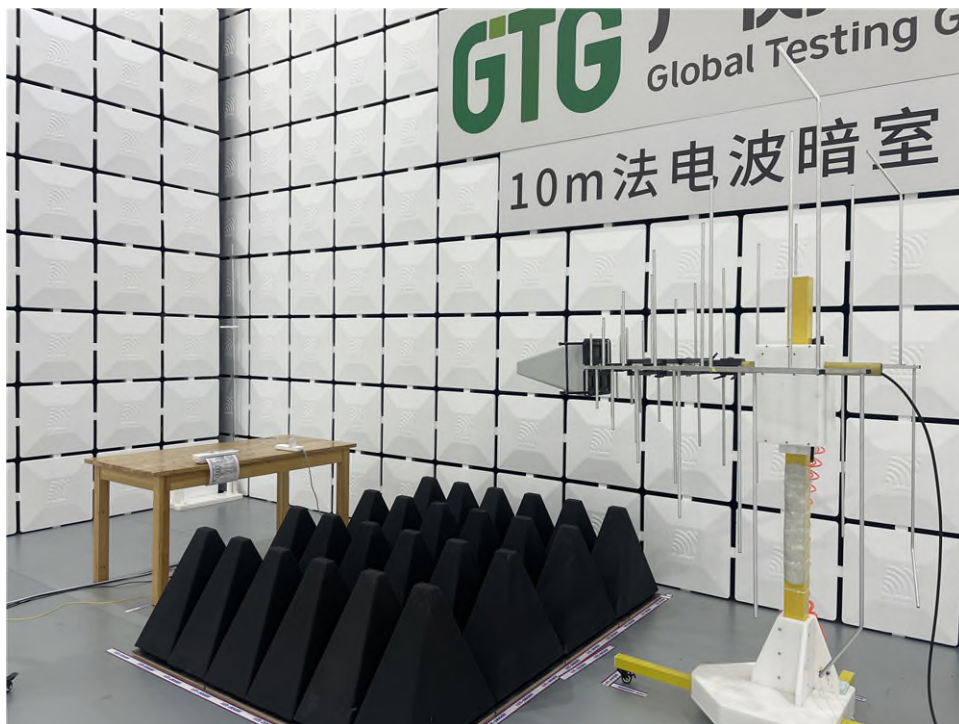
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Photograph 3: Set-up for Radiated Emission (above 1GHz)



Photograph 4: Set-up for Radio-frequency Electromagnetic Field Susceptibility



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Photograph 5: Set-up for Electrostatic Discharge

⚡ Contact Discharge $\pm 4\text{kV}$

⚡ Air Discharge $\pm 2, 4, 8\text{kV}$



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Conducted emission

Instr.Code	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
04-E-CE1-ENV216	L.I.S.N	ROHDE&SCHWARZ	ENV216	102843	2024.09.17
04-E-CE1-RF Cable	RF Cable	N/A	N/A	N/A	2024.09.17
04-E-CE1-ESR3	EMI Test Receiver	ROHDE&SCHWARZ	ESR3	102647	2023.12.02
04-E-CE1-Shielding Room	Shielded Room	chengyu	8m*4m*3.3m	N/A	2025.10.28
/	Test Software	Farad	EZ-EMC (Ver. EMC-con-3A1 1+)	N/A	N/A

Radiated emission (30M-1GHz)

Instr.Code	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
04-E-RE1-Chamber	Chamber 1	ETS	9*6*6	Q2146	2025.8.29
04-E-RE1-Control Room	Control Room 1	ETS	5*3*3	S2029	2025.8.29
04-E-RE1-ESCI3	Receiver	R&S	ESCI3	101409	2024.09.17
04-E-RE1-HPA-9K0130	Pre-Amplifier	HzEMC	HPA-9K0130	HYP A21001	2024.09.17
04-E-RE1-VULB 9168	Bilog Antenna	Schwarzbeck	VULB 9168	01315	2025.10.9
04-E-RE1-RF Cable 1GHz 1	RF Cable	/	/	/	2024.09.17
04-E-RE1-RF Cable 1GHz 2	RF Cable	/	/	/	2024.09.17
04-E-RE1-RF Cable 1GHz 3	RF Cable	/	/	/	2024.09.17
/	Test Software	Farad	Ver.FA-03A2 RE+	N/A	N/A

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Radiated emission (1G-18GHz)

Instr.Code	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
04-E-RE2-Chamber	Chamber 2	ETS	9*6*6	Q2149	2025.8.29
04-E-RE2-Control Room	Control Room 2	ETS	5*3*3	S2030	2025.8.29
04-E-RE2-FSV40	Spectrum Analyzer	R&S	FSV40	101413	2024.09.17
04-E-RE2-Amplifiers 18GHz	Pre-Amplifier	HzEMC	HPA-1G1850	HYP A21003	2024.09.17
04-E-RE2-Horn antenna 18GHz	Horn antenna	ETS	3117	00246069	2025.3.10
04-E-RE2-RF Cable 18GHz 7M	RF Cable	HzEMC	SFT205-NMNM-7M DC-18G	N/A	2024.09.17
04-E-RE2-RF Cable 18GHz 1.5M1	RF Cable	HzEMC	SFT205-NMNM-1.5M DC-18G	N/A	2024.09.17
04-E-RE2-RF Cable 18GHz 1.5M2	RF Cable	HzEMC	SFT205-NMSWNM-1.5M DC-18G	N/A	2024.09.17
/	Test Software	Farad	Ver.FA-03A2 RE+	N/A	N/A

ESD

Instr.Code	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
04-E-EMS-NSG437	ESD Simulator	TESEQ	NSG437	336	2024.09.17

Radio Frequency Electromagnetic Fields

Instr.Code	Equipment Type	Manufacturer	Model No.	Serial Number	Calibrated until
04-E-RS-STLP 9129	Stacked Log.-Per.-Broadband Antenna	Schwarzbeck	STLP 9129	170	2024.09.17
04-E-RS-MPA-80-1000-500	Power amplifier	MiCOTOP	MPA-80-1000-500	MPA2209336	2024.09.17
04-E-RS-1000-6000-100	Power amplifier	MiCOTOP	MPA-1000-6000-100	MPA2209337	2024.09.17
04-E-RS-N1914A	EPM Series Power Meter	Keysight	N1914A	MY53240003	2024.09.17
04-E-RS-E9304A1	Average Power Sensor	Keysight	E9304A	MY41498925	2024.09.17
04-E-RS-E9304A2	Average Power Sensor	Keysight	E9304A	MY41497454	2024.09.17
04-E-RS-N5171B	EXG Analog Signal Generator	Keysight	N5171B	MY61252624	2024.09.17
04-E-RS-EP 601	Field Probe	Narda	EP 601	811ZX11137	2023-10-29
04-E-RS-HSW06	RF Switch Unit	HzEMC	HSW06	HSW2218C04	N/A
04-E-RE2-Chamber	Chamber 2	ETS	9*6*6	Q2149	2025-8-30

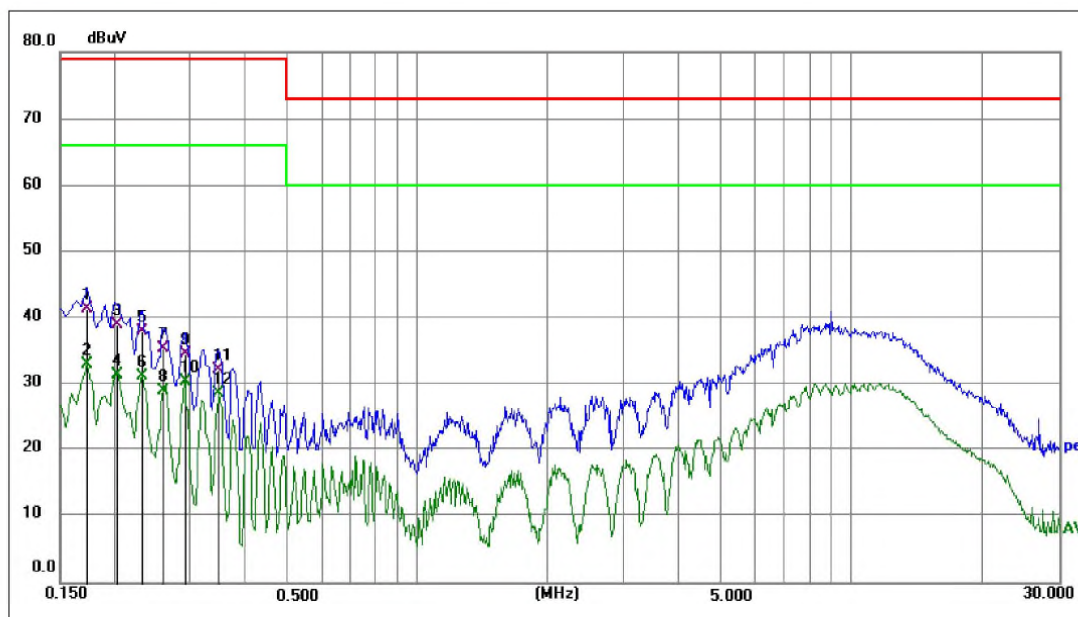
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city,Guangdong Pr., China.



Site:		Phase: L1	Temperature(C): 24(C)
Limit:	EN55032 Class A Conduction(QP)		Humidity(%): 50%RH
EUT:	A4 Printer	Test Time:	2023/10/25
M/N.:	L81	Power Rating:	5Vdc from AC/DC Adapter
Mode:	Charging + Print	Test Engineer:	Rock
Note:			

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1724	31.45	9.91	41.36	79.00	-37.64	QP
2	0.1724	23.06	9.91	32.97	66.00	-33.03	AVG
3	0.2028	29.16	9.94	39.10	79.00	-39.90	QP
4	0.2028	21.55	9.94	31.49	66.00	-34.51	AVG
5	0.2310	28.14	9.86	38.00	79.00	-41.00	QP
6	0.2310	21.39	9.86	31.25	66.00	-34.75	AVG
7	0.2580	25.67	9.81	35.48	79.00	-43.52	QP
8	0.2580	19.26	9.81	29.07	66.00	-36.93	AVG
9	0.2894	24.72	9.84	34.56	79.00	-44.44	QP
10	0.2894	20.71	9.84	30.55	66.00	-35.45	AVG
11	0.3480	22.32	9.96	32.28	79.00	-46.72	QP
12	0.3480	18.73	9.96	28.69	66.00	-37.31	AVG

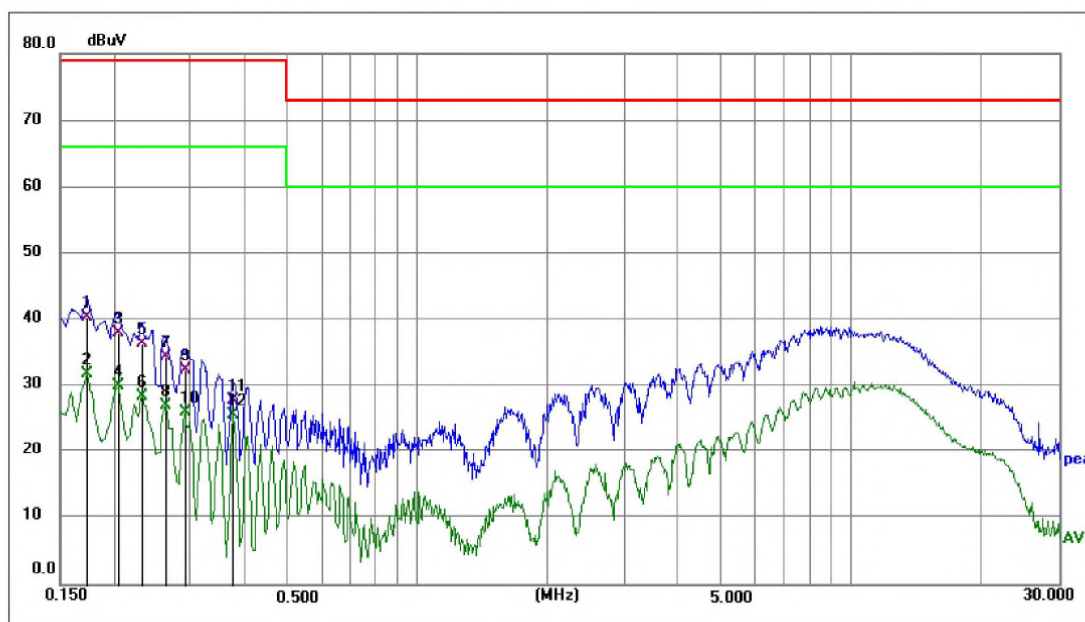
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city,Guangdong Pr., China.



Site:		Phase: N	Temperature(C): 24(C)
Limit:	EN55032 Class A Conduction(QP)		Humidity(%): 50%RH
EUT:	A4 Printer	Test Time:	2023/10/25
M/N.:	L81	Power Rating:	5Vdc from AC/DC Adapter
Mode:	Charging + Print	Test Engineer:	Rock
Note:			

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1725	30.42	9.94	40.36	79.00	-38.64	QP
2	0.1725	21.83	9.94	31.77	66.00	-34.23	AVG
3	0.2040	28.16	9.94	38.10	79.00	-40.90	QP
4	0.2040	20.10	9.94	30.04	66.00	-35.96	AVG
5	0.2310	26.53	9.92	36.45	79.00	-42.55	QP
6	0.2310	18.58	9.92	28.50	66.00	-37.50	AVG
7	0.2625	24.60	9.90	34.50	79.00	-44.50	QP
8	0.2625	17.20	9.90	27.10	66.00	-38.90	AVG
9	0.2895	22.56	9.89	32.45	79.00	-46.55	QP
10	0.2895	16.24	9.89	26.13	66.00	-39.87	AVG
11	0.3750	17.92	9.92	27.84	79.00	-51.16	QP
12	0.3750	15.72	9.92	25.64	66.00	-40.36	AVG

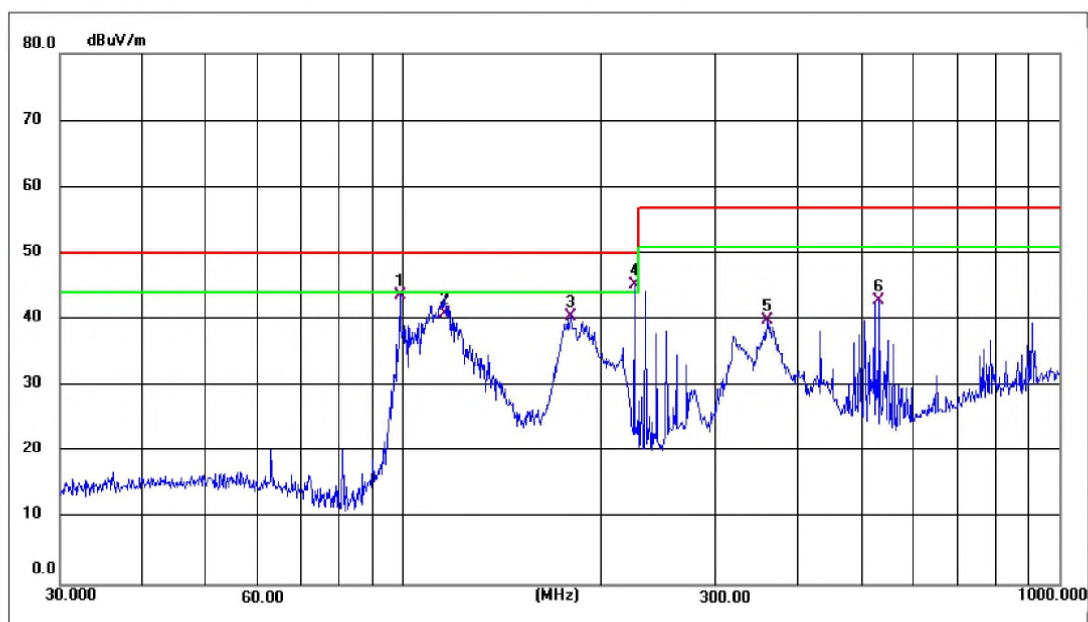
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city,Guangdong Pr., China.



Site:	Antenna::Horizontal	Temperature(C):24(C)
Limit:	EN55032 3m Class A Radiation(QP)	Humidity(%):53%
EUT:	A4 Printer	Test Time:
M/N.:	L81	Power Rating:
Mode:	Charging + Print	Test Engineer:
Note:		Don

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	98.8326	60.00	-16.36	43.64	50.00	-6.36	QP	
2	115.7256	55.54	-14.64	40.90	50.00	-9.10	QP	
3	180.0165	53.78	-13.38	40.40	50.00	-9.60	QP	
4 *	225.3080	60.68	-15.53	45.15	50.00	-4.85	QP	
5	359.1860	50.03	-10.05	39.98	57.00	-17.02	QP	
6	531.9633	48.73	-5.89	42.84	57.00	-14.16	QP	

*:Maximum data x:Over limit !:over margin

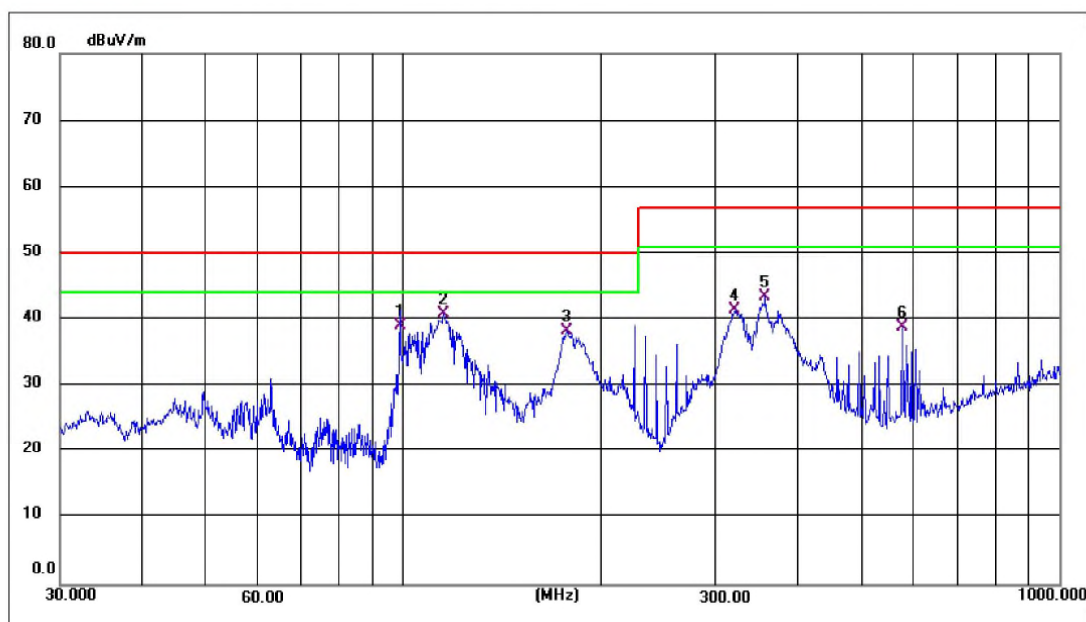
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city,Guangdong Pr., China.



Site:		Antenna:: Vertical	Temperature(C): 24(C)
Limit:	EN55032 3m Class A Radiation(QP)		Humidity(%): 53%
EUT:	A4 Printer	Test Time:	2023/10/25
M/N.:	L81	Power Rating:	5Vdc from AC/DC Adapter
Mode:	Charging + Print	Test Engineer:	Don
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	98.8326	55.46	-16.36	39.10	50.00	-10.90	QP	
2 *	115.3205	55.59	-14.68	40.91	50.00	-9.09	QP	
3	177.5092	51.50	-13.13	38.37	50.00	-11.63	QP	
4	321.0605	52.31	-10.79	41.52	57.00	-15.48	QP	
5	356.6758	53.63	-10.21	43.42	57.00	-13.58	QP	
6	576.6443	43.57	-4.73	38.84	57.00	-18.16	QP	

*:Maximum data x:Over limit !:over margin

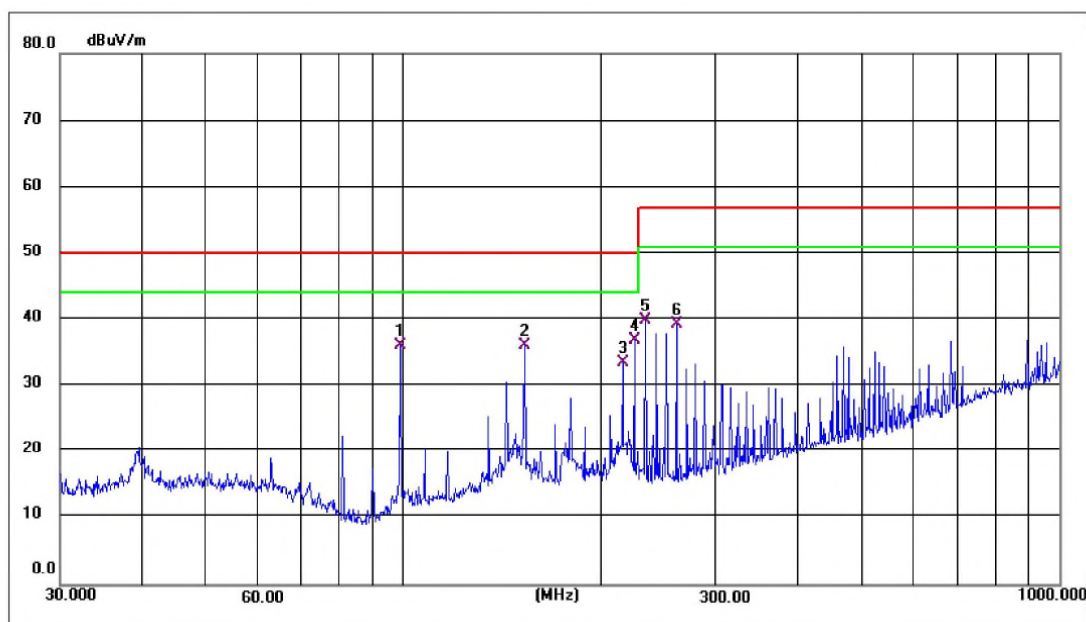
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city,Guangdong Pr., China.



Site:	EN 301489-1 Radiation(QP)	Antenna::Vertical	Temperature(C):24(C)
Limit:	A4 Printer	Test Time:	Humidity(%):53%
EUT:	L81	Power Rating:	2023/10/25
M/N.:	BT + Print	Test Engineer:	Built in battery operated
Note:			Don

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	98.8326	52.58	-16.36	36.22	50.00	-13.78	QP	
2	153.2004	47.86	-11.64	36.22	50.00	-13.78	QP	
3	216.0240	49.25	-15.62	33.63	50.00	-16.37	QP	
4 *	225.3080	52.53	-15.53	37.00	50.00	-13.00	QP	
5	234.1684	54.01	-14.10	39.91	57.00	-17.09	QP	
6	261.0583	52.15	-12.90	39.25	57.00	-17.75	QP	

*:Maximum data x:Over limit !:over margin

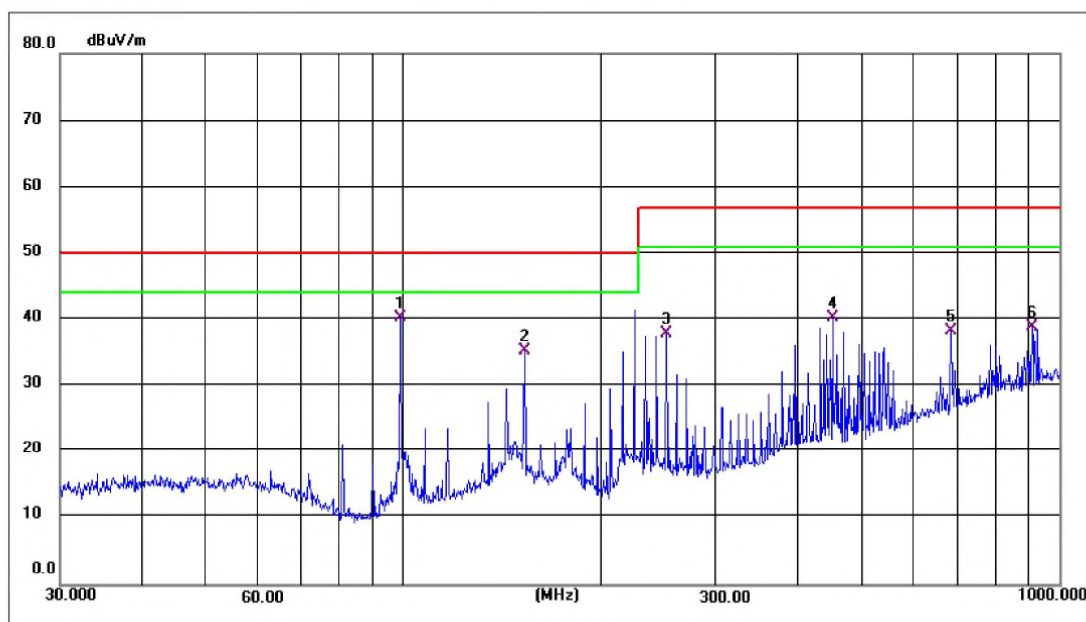
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city,Guangdong Pr., China.



Site:	EN 301489-1 Radiation(QP)	Antenna::Horizontal	Temperature(C):24(C)
Limit:	A4 Printer	Test Time:	Humidity(%):53%
EUT:	L81	Power Rating:	2023/10/25
M/N.:	BT + Print	Test Engineer:	Built in battery operated
Note:			Don

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1 *	98.8324	56.68	-16.36	40.32	50.00	-9.68	QP	
2	153.2002	46.95	-11.64	35.31	50.00	-14.69	QP	
3	252.0627	51.13	-13.19	37.94	57.00	-19.06	QP	
4	451.1350	47.42	-7.11	40.31	57.00	-16.69	QP	
5	684.7453	40.60	-2.30	38.30	57.00	-18.70	QP	
6	909.6666	37.19	1.71	38.90	57.00	-18.10	QP	

*:Maximum data x:Over limit !:over margin

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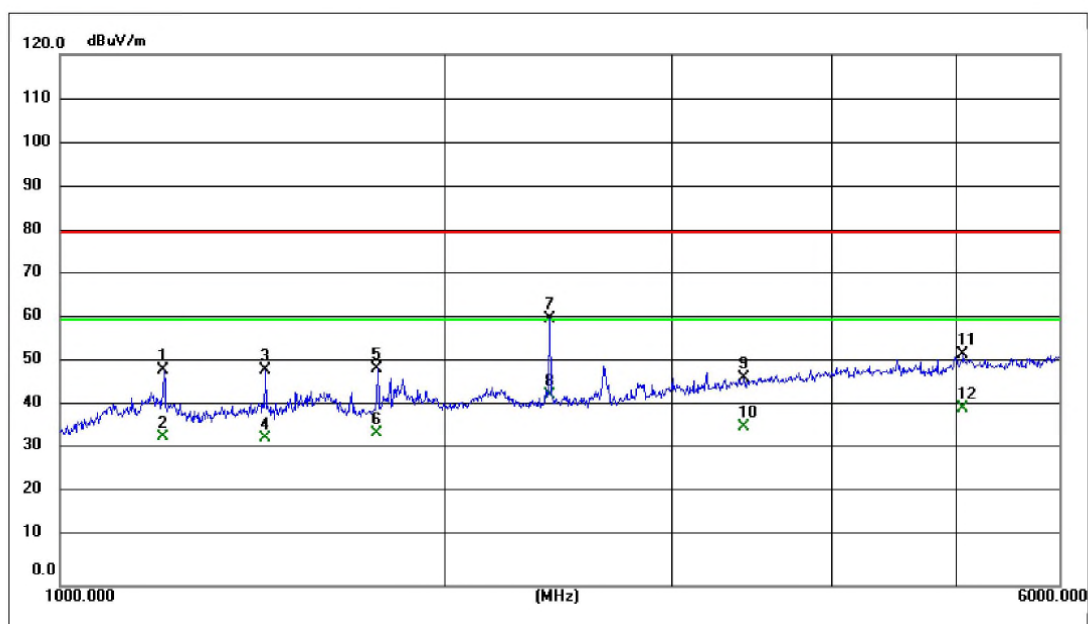
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city, Guangdong Pr., China.



Site:	Antenna: Vertical	Temperature(C): 25(C)
Limit: EN 301489-1 Above 1G Peak		Humidity(%): 52%
EUT: A4 Printer	Test Time: 2023/10/25	
M/N.: L81	Power Rating: Built in battery operated	
Mode: BT + Print	Test Engineer: Don	
Note:		

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector	Comment
1	1206.185	61.00	-12.28	48.72	80.00	-31.28	peak	
2	1206.185	45.98	-12.28	33.70	60.00	-26.30	AVG	
3	1447.408	60.32	-11.60	48.72	80.00	-31.28	peak	
4	1447.408	45.00	-11.60	33.40	60.00	-26.60	AVG	
5	1769.065	58.74	-9.59	49.15	80.00	-30.85	peak	
6	1769.065	44.19	-9.59	34.60	60.00	-25.40	AVG	
7	2409.767	66.68	-6.19	60.49	80.00	-19.51	peak	
8 *	2409.767	49.49	-6.19	43.30	60.00	-16.70	AVG	
9	3412.193	47.42	-0.37	47.05	80.00	-32.95	peak	
10	3412.193	36.57	-0.37	36.20	60.00	-23.80	AVG	
11	5056.358	47.00	5.57	52.57	80.00	-27.43	peak	
12	5056.358	34.53	5.57	40.10	60.00	-19.90	AVG	

*:Maximum data x:Over limit !:over margin

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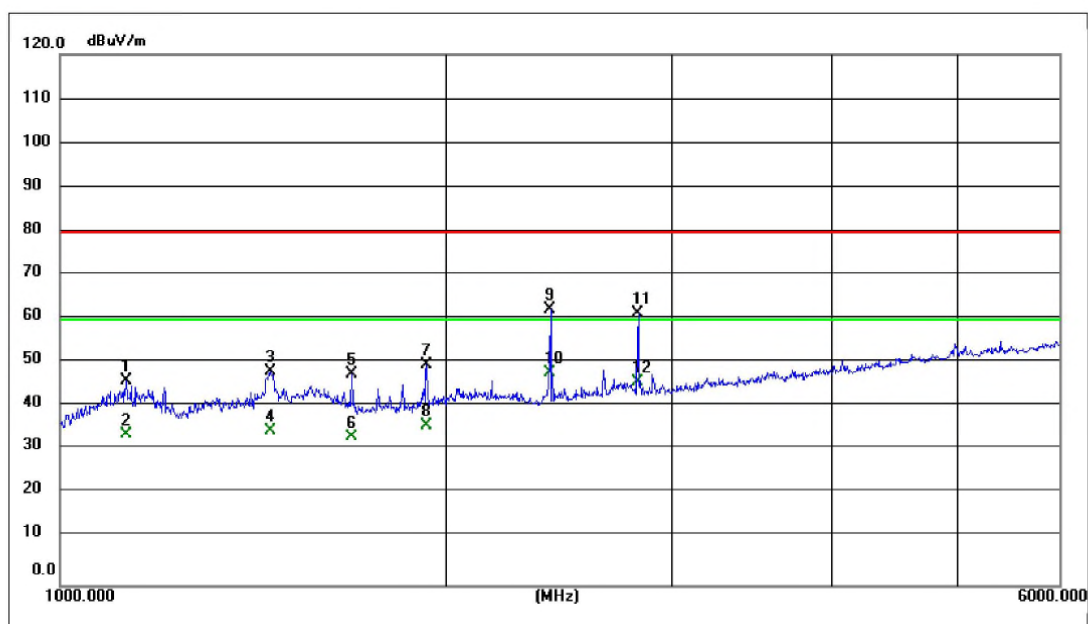
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Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city,Guangdong Pr., China.



Site:	EN 301489-1 Above 1G Peak	Antenna:Horizontal	Temperature(C):25(C)
Limit:	A4 Printer	Test Time:	Humidity(%):52%
EUT:	L81	Power Rating:	2023/10/25
M/N.:	BT + Print	Test Engineer:	Built in battery operated
Mode:			Don
Note:			

No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure-ment(dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector	Comment
1	1126.289	58.95	-12.56	46.39	80.00	-33.61	peak	
2	1126.289	46.76	-12.56	34.20	60.00	-25.80	AVG	
3	1457.819	60.16	-11.56	48.60	80.00	-31.40	peak	
4	1457.819	46.86	-11.56	35.30	60.00	-24.70	AVG	
5	1688.921	58.14	-10.28	47.86	80.00	-32.14	peak	
6	1688.921	44.08	-10.28	33.80	60.00	-26.20	AVG	
7	1930.108	58.45	-8.33	50.12	80.00	-29.88	peak	
8	1930.108	44.73	-8.33	36.40	60.00	-23.60	AVG	
9	2413.007	68.79	-6.17	62.62	80.00	-17.38	peak	
10 *	2413.007	54.37	-6.17	48.20	60.00	-11.80	AVG	
11	2823.848	65.52	-4.00	61.52	80.00	-18.48	peak	
12	2823.848	50.20	-4.00	46.20	60.00	-13.80	AVG	

*:Maximum data x:Over limit !:over margin