

RF Test Report



Report Number : 6128624034501
Applicant : HiTi Digital, Inc.
Product : HiTi PHOTO PRINTER
Model : P525L
FCC ID : W5388D2035002

In accordance with
FCC rule part §15.225

RESPONSIBLE FOR	NAME	SIGNATURE	DATE
Approved By	Jack Chang		2024.10.20
Prepared By	Ariel Hsu		2024.10.20

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service control rules.

EXECUTIVE SUMMARY

TÜV SÜD Asia Ltd., reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities for any modifications made to the production units which result in non-compliance to the relevant regulations. TÜV SÜD Asia Ltd. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD Asia Ltd. issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval.

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1 General Information

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

History of this test report

Issue	Description of Change	Date of Issue
1	Initial Issue	2024-10-20

1.2 Introduction

The information contained in this report is intended to show verification of RF qualification approval. The testing requirements of the standards for the tests listed in Section 1.5.

Applicant	:	HiTi Digital, Inc.
Address	:	7F, No. 207-2, Sec. 3, Beixin Rd., Xindian Dist., 231 New Taipei City, TAIWAN
Manufacturer	:	HiTi Digital, Inc.
Address	:	7F, No. 207-2, Sec. 3, Beixin Rd., Xindian Dist., 231 New Taipei City, TAIWAN
Product Name	:	HiTi PHOTO PRINTER
Model Number(s)	:	P525L
Trade name	:	HiTi Digital Inc.
Firmware Version	:	V1.29.0.T
Hardware Version	:	V1.6.36.60
Date of Receipt of EUT	:	2024-06-03
Start of Test	:	2024-09-27
Finish of Test	:	2024-09-30
Test Laboratory	:	TÜV SÜD Asia Ltd., Taiwan Branch
Address	:	7F., No. 37, Sec. 2, Zhongyang S. Rd., Beitou District, Taipei City 11270, R.O.C. Taiwan
Test Location	:	TÜV SÜD Asia Ltd., Taiwan Branch, Guishan Laboratory
Address	:	No. 31, Dinghu Road, Guishan District, Taoyuan City, TAIWAN (R.O.C.)

The test facility is accredited by TAF (member of ILAC), under number 2573 according to ISO/IEC 17025: 2017.



1.3 Applied Standard

FCC rule part §15.225
Deviation from standards FCC Part 15, Subpart C §15.225
ANSI C63.10:2013

1.4 Deviation from standards

None

1.5 List of applied test(s) of the EUT

FCC Rules	Test item	Result	Remark
§15.207	AC Power Line Conducted Emission	Compliant	
§15.225 (a)-(d)	Radiated Emission	Compliant	
§15.209	Radiated Emission Limits, general requirement	Compliant	
§15.225 (e)	Frequency Stability	Compliant	
§2.1049 §15.215 (c)	Emission Bandwidth	Compliant	

2 General EUT Information

All information in this chapter was provided by the applicant.

2.1 General Description

2.2 Variation of family model(s)

2.2.1 List of family model(s)

Brand	Type Identification	Difference
HiTi Digital Inc.	P5XXX	The X in model name can be 0-9, A-Z, a-z or blank for marketing purpose and All models are electrically identical.
	U8XXX	
	RXXX	
	DS6XXX	

2.3 Technical Specification of EUT

Items	EUT information
Operating Frequency	13.56 MHz
Channel number	1
Field Strength of Fundamental	46.3 dB μ V/m @3m
Extreme Temperature Range	0 ~ 35 °C
Operation Voltage	100-240 Vac
Modulation	ASK
Antenna Type	Loop Antenna

2.4 Antenna Information

Antenna Type	Supplier	Model	Frequency (MHz)	Peak Antenna Gain (dBi)
Loop	HITI	P525L	13.56	N/A

3 Configuration of Equipment

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

Numbers assigned to equipment on the diagram in "3.2 System configuration" correspond to the list in "3.1 Equipment and Cable(s) used"

This test configuration is based on the manufacture's instruction.

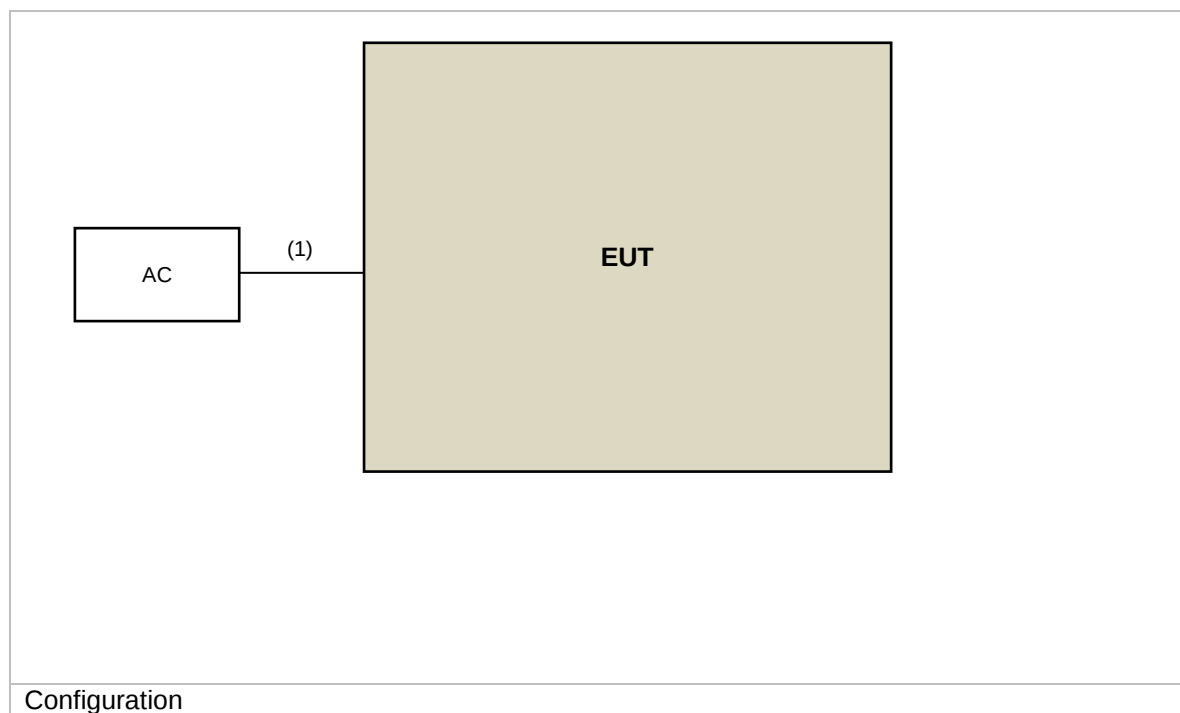
Cabling and setup(s) were taken into consideration and test data was taken under worse case condition.

The EUT has been tested as an independent unit with other necessary accessories or support units.

3.1 Equipment and Cable(s) used

No.	Equipment	Qty.	Length (m)	Description
1	Power Cable	1	1.5	Provided by Lab

3.2 System configuration



4 General Test Configurations

The equipment under test (EUT) was configured to measure its maximum emission level. The test modes were adapted accordingly in reference to the instructions for use.

4.1 Description of test mode

- 1) The EUT has been tested under continuous transmission mode.
- 2) The frequency 13.56 MHz is the default channel to test, where it is the only manipulative channel as this application supports.
- 3) The field strength of radiation emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.
- 4) Only one configuration is supported/applicable as follows.

Field Strength of Fundamental Emissions

- ☒ Pre-scan full test was applied on all test modes, but only the worst case was shown.
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	13.56	13.56

Radiated Spurious Emissions

- ☒ Pre-scan full test was applied on all test modes, but only the worst case was shown.
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	13.56	13.56

Frequency Stability

- ☒ Pre-scan full test was applied on all test modes, but only the worst case was shown.
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	13.56	13.56

20 dB Bandwidth

- ☒ Pre-scan full test was applied on all test modes, but only the worst case was shown.
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	13.56	13.56

Mains Conducted Emission

- ☒ Pre-scan full test was applied on all test modes, but only the worst case was shown.
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	13.56	13.56

4.2 Test Condition

Extreme Temperature Range over which equipment is to be type tested		
☐	Outdoor and indoor usage	-20 °C to +55 °C
☒	Indoor usage only	0 °C to +35 °C
☐	Other	[°C to °C declared by manufacturer]

Test Item	Ambient Temperature	Relative Humidity	Tested by
Field Strength of Fundamental Emissions	22-26 °C	50-65 %	Sam Huang
Radiated Spurious Emissions	22-26 °C	50-65 %	Sam Huang
Frequency Stability	22-26 °C	50-65 %	Sam Huang
20 dB Bandwidth	22-26 °C	50-65 %	Sam Huang
Mains Conducted Emission	22-26 °C	50-65 %	Sam Huang

5 Test Result

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§ 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Refer to EUT photo for details.

5.2 Field Strength of Fundamental Emissions

5.2.1 Measurement procedure

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

Distance Extrapolation Factor

30m to 3m

Distance extrapolation = $40 \cdot \log(30/3) = 40 \text{ dB}$

30m to 10m

Distance extrapolation = $40 \cdot \log(30/10) = 19.08 \text{ dB}$

10m to 3m

Distance extrapolation = $40 \cdot \log(10/3) = 20.92 \text{ dB}$

Note:

- Distance extrapolation factor = $40 \log(\text{required distance} / \text{test distance}) \text{ (dB)}$
- The lower limit shall apply at the transition frequencies.
- KDB 414788 D01 OATS and 3m semi-anechoic chamber Justification:
Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. OATS and 3m SAC chamber testing had been performed and 3m SAC measured test result is the worst case test result.

Actual FS (dBμV/m) = Spectrum. Reading level(dBμV) + Factor(dB)

Below 30 MHz of Factor(dB) = Antenna Factor(dBμV/m) + Cable Loss(dB) – Distance Factor (dB)

Above 30 MHz of Factor(dB) = Antenna Factor(dBμV/m) + Cable Loss(dB) – Pre_Amp Gain (dB)

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

5.2.2 Measurement procedure

- 1) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3-meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 3) Parallel (OPEN), perpendicular (CLOSE), and ground-parallel (GROUND) orientations of the antenna are set to make the measurement.
- 4) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

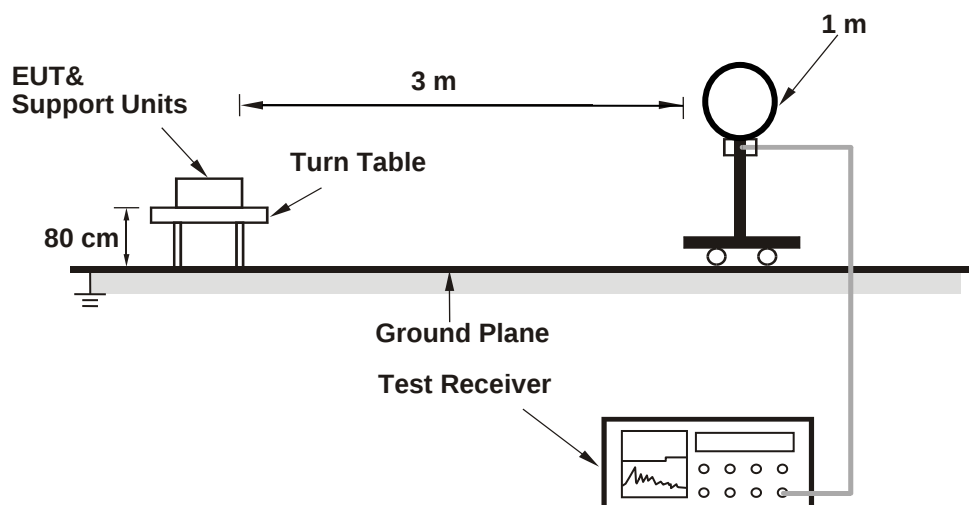
Limit at 30m = 15848 (uV/m)

**Limit at 3m = $20 \cdot \log(15848) + 40 \log(30\text{m}/3\text{m})$ (dBuV/m)

= 84 + 40 (dBuV/m)

= 124 (dBuV/m)

5.2.3 Test Setup



5.2.4 Limit

Rules and specifications	CFR 47 Part 15 section 15.225(a)-(d)	
Frequency of Emission (MHz)	Field Strength ($\mu\text{V/m}$) at 30m	Field Strength ($\text{dB}\mu\text{V/m}$) at 30m
1.705~13.110	30	29.5
13.110~13.410	106	40.5
13.410~13.553	334	50.5
13.553~13.567	15848	84
13.567~13.710	334	50.5
13.710~14.010	106	40.5
14.010~30.00	30	29.5

5.2.5 Measurement result

Please refer to Appendix B

5.3 Radiated Spurious Emissions

5.3.1 Measurement procedure

For Radiated Emissions below 30 MHz

- a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) Parallel (OPEN), perpendicular (CLOSE), and ground-parallel (GROUND) orientations of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

- 1) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
- 2) All modes of operation were investigated and the worst-case emissions are reported.

For Radiated Emissions above 30 MHz

- a) The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f) The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

- 1) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
- 2) All modes of operation were investigated and the worst-case emissions are reported.

- 3) The Radiated Emissions testing was performed in the X, Y and Z axis orientation. The worst-case Axis orientation is recorded in this test report.

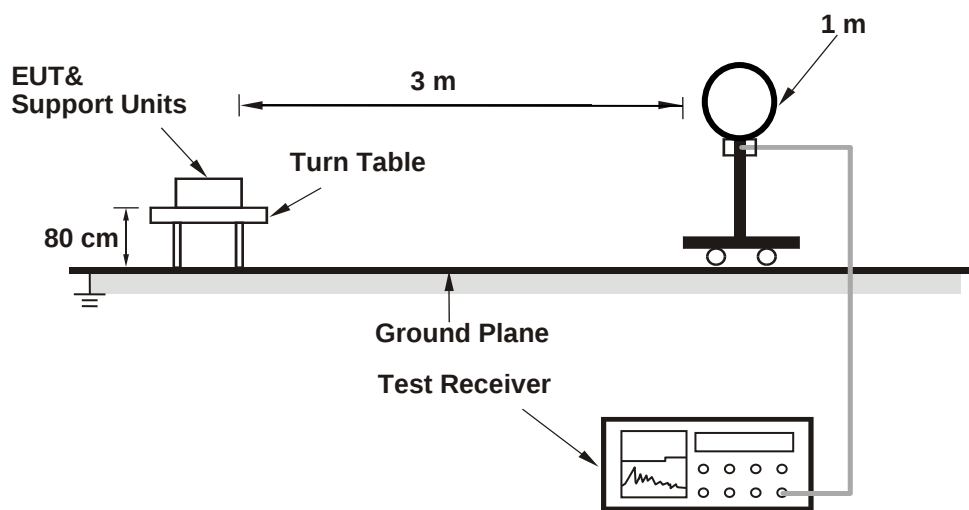
Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

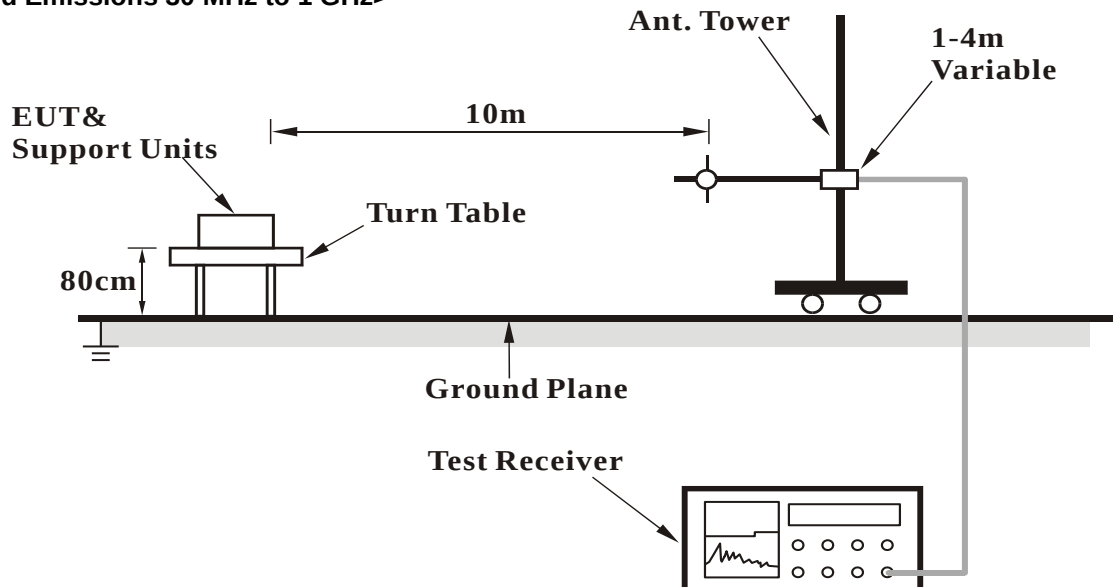
Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

5.3.2 Test Setup

<Radiated Emissions below 30 MHz>



<Radiated Emissions 30 MHz to 1 GHz>



5.3.3 Limit

The field strength of any emissions appearing outside of the 13.110-14.010 MHz shall not exceed the general radiated emission limits in section 15.209 as below.

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Notes:

- 1) Emission level in $\text{dB}\mu\text{V/m} = 20 \log (\mu\text{V/m})$
- 2) Distance extrapolation factor = $40 \log (\text{required distance/ test distance})$ (dB)
- 3) $20 * \log(30 \mu\text{V/m}) = 29.54 \text{ dB}\mu\text{V/m}$
- 4) The lower limit shall apply at the transition frequencies.
- 5) The measurement was undertaken in closer distance at 3m, where extrapolation factor is offset to convert the limit of the measurement.
- 6) Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of §15.205
- 7) The general radiated emission limits in §15.209 apply for the spurious emission generate from UE, except for the fundamental emission where the respective section specifies otherwise.

5.3.4 Measurement result

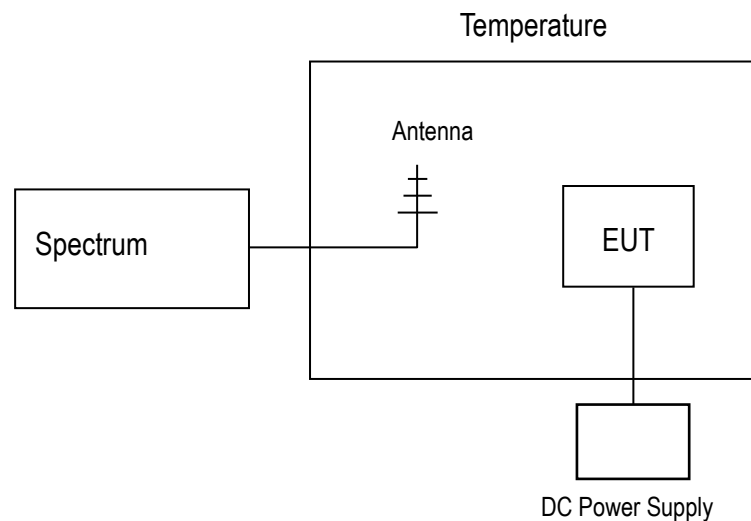
Please refer to Appendix C

5.4 Frequency Stability

5.4.1 Measurement procedure

- 1) The EUT was placed on a turn table which is 0.8m above ground plane.
- 2) Set EUT as normal operation
- 3) Set SPA Center Frequency = fundamental frequency, RBW, VBW= 10kHz, Span =100kHz.
- 4) Set SPA Max hold. Mark peak.

5.4.2 Test Setup



5.4.3 Limit

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.



5.4.4 Measurement result

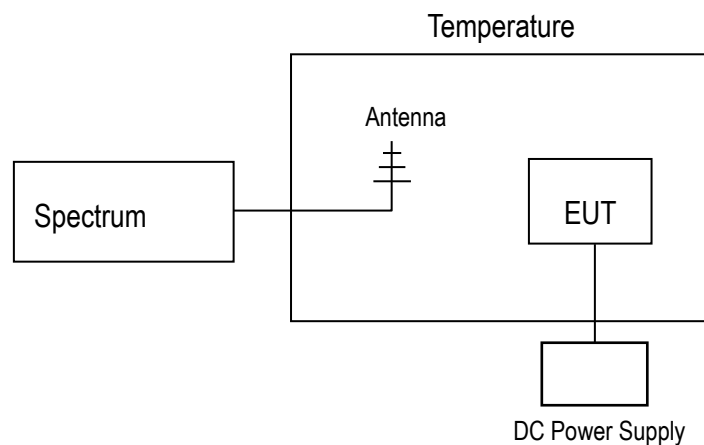
Please refer to Appendix D

5.5 20 dB Bandwidth and 99% Occupied Bandwidth

5.5.1 Measurement procedure

- 1) Placed the EUT on the testing table.
- 2) Set the EUT under transmission condition continuously at specific channel frequency.
- 3) The resolution bandwidth of 1 kHz and the video bandwidth of 3 kHz were used.
- 4) Measured the spectrum width with power higher than 20dB below carrier.

5.5.2 Test Setup



5.5.3 Limit

The 20 dB bandwidth shall be specified in operating frequency band

5.5.4 Measurement result

Please refer to Appendix E

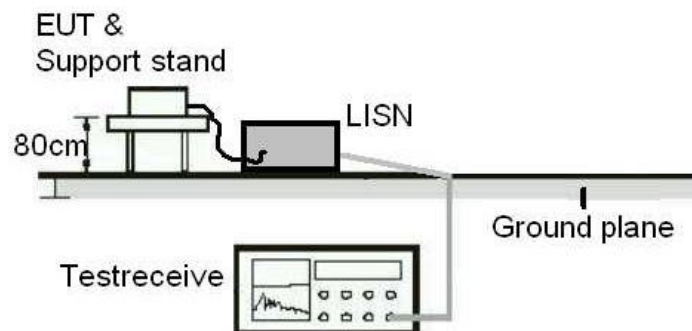
5.6 Mains Emission

5.6.1 Measurement procedure

1. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 μ H of coupling impedance for the measuring instrument.
2. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
3. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

5.6.2 Test Setup



5.6.3 Limit

Frequency range MHz	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Note

1. The lower limit shall apply at the transition frequencies
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.



5.6.4 Measurement result

Please refer to Appendix F

Note: Refer to next page for measurement data and plots.

Note2: The * reveals the worst-case results that closest to the limit.

6 Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

Radiated Spurious Emission Measurement Uncertainty		
Frequency	Polarization	Measurement uncertainty
9kHz~30MHz	Vertical	± 2.61 dB
30MHz - 1000MHz		± 1.8 dB
1GHz - 18GHz		± 2.11 dB
18GHz - 40GHz		± 2.41 dB
9kHz~30MHz	Horizontal	± 2.61 dB
30MHz - 1000MHz		± 1.82 dB
1GHz - 18GHz		± 2.11 dB
18GHz - 40GHz		± 2.41 dB

Test Items	Measurement uncertainty
AC Power Line Conducted Emission	± 2.69 dB
Frequency Stability	± 29 Hz
Emission Bandwidth	± 0.7 Hz
Temperature	± 0.51 °C
Humidity	± 4.7 %
DC / AC Power Source	± 1.5 %

Appendix A. Test Equipment

Test Equipment Used (Emission Bandwidth, Frequency Stability)

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
Spectrum Analyzer	Keysight	N9010B	MY63440384	2024/7/9	2025/7/8

Test Equipment Used (Radiated emission)

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
Spectrum Analyzer	R&S	FSV3044	101346	2024/7/15	2025/7/14
Spectrum Analyzer	R&S	ESR	102601	2024/7/5	2025/7/4
RF Coaxial Cable	SGH	SGH1-HA500	SGH1-HA500-N/N+L-0.5M-202212-5	2024/4/8	2025/4/7
RF Coaxial Cable	SGH	SGH1-HA500	SGH1-HA500-N/N-2M-202212-3	2024/4/8	2025/4/7
RF Coaxial Cable	SGH	SGH40-HA360	SGH40-HA360-K/K-2M-202212-2	2024/4/9	2025/4/8
Bi-log	VULB9168	VULB9168	01498&2203	2023/12/12	2024/12/11
Loop Antenna	HLA-6121	HLA-6121	64165	2024/3/5	2025/3/4

Test Equipment Used (Mains conduction)

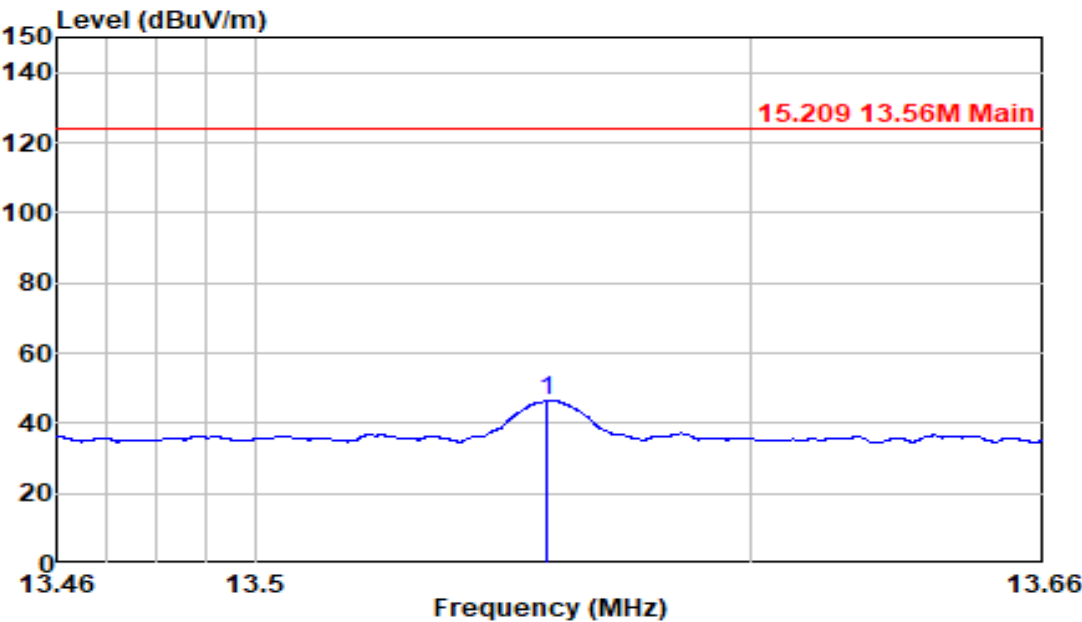
Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	R&S	ESR	102599	2024/8/5	2025/8/4
LISN	R&S	ENV216	10157	2023/10/26	2024/10/25

*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.



Appendix B. Field Strength of Fundamental Emissions

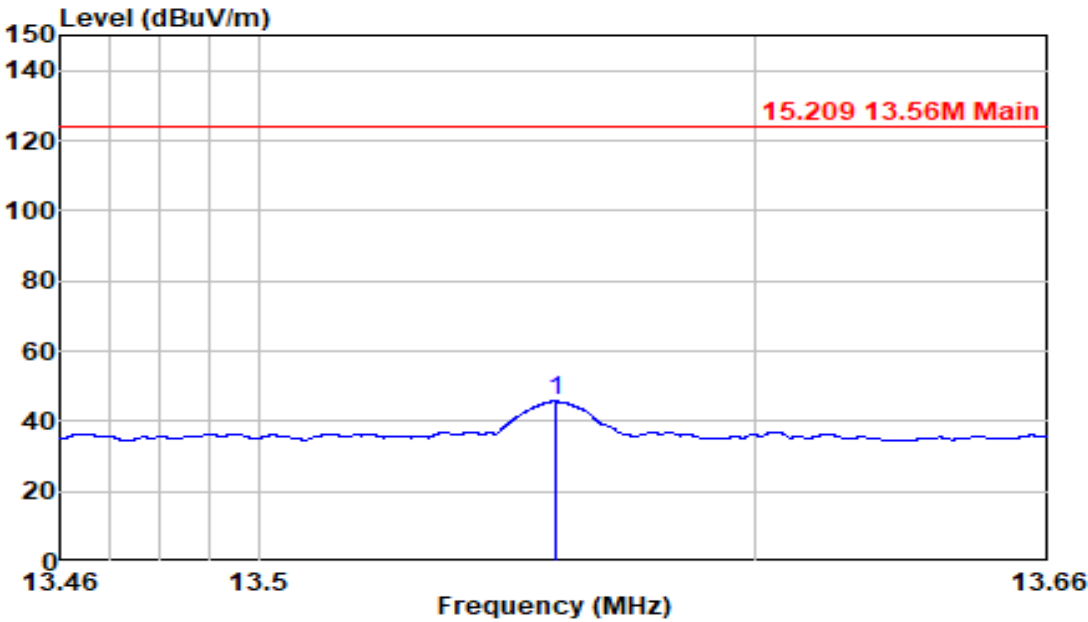
Report No.	:6128624034501	Test Date	:2024-09-27
Product Name	: HiTi PHOTO PRINTER	Model Name	:P525L
Operation Band	:NFC	Temp/Humi	:23.5C 59%
Channel	:13.56MHz	Antenna Pol	:Vertical
Mode	:FIELD STRENGTH	Test Engineer	:Sam Huang
Power Setting	:Default	Test Site	:chamber B
NOTE	:		



Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.	dB	LV	@3m	dB	PK/QP/AV	CM	DOG
	dBuV		dBuV/m	dBuV/m				
13.560	23.50	22.80	46.30	124.00	-77.70	Peak	100	335



Report No.	:6128624034501	Test Date	:2024-09-27
Product Name	: HiTi PHOTO PRINTER	Model Name	:P525L
Operation Band	:NFC	Temp/Humi	:23.5C 59%
Channel	:13.56MHz	Antenna Pol	:Horizontal
Mode	:FIELD STRENGTH	Test Engineer	:Sam Huang
Power Setting	:Default	Test Site	:chamber B
NOTE	:		

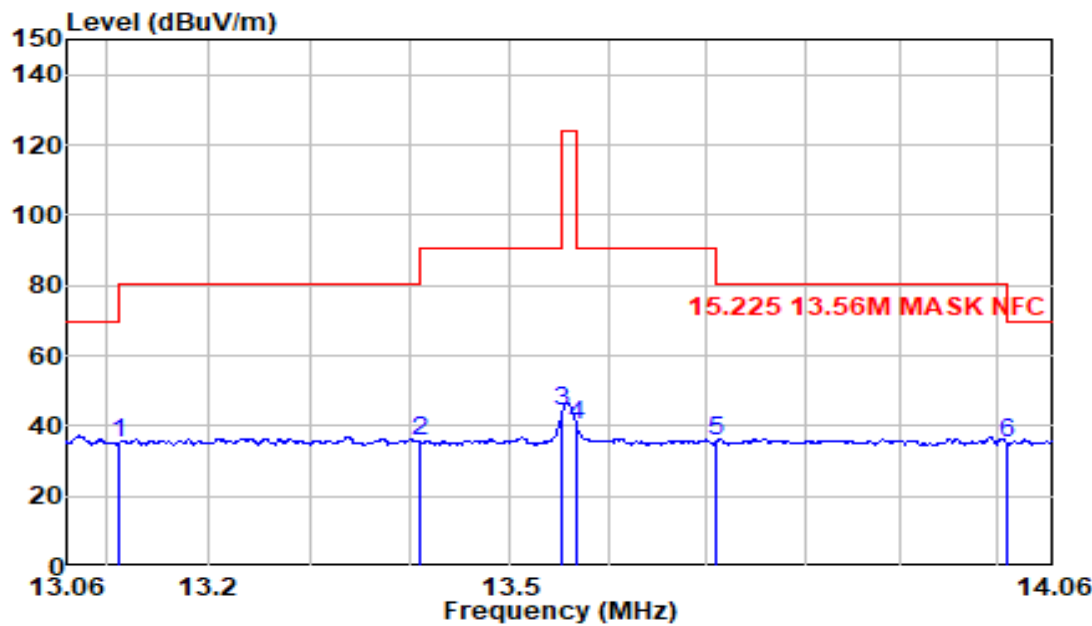


Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.	dB	LV	@3m	dB	PK/QP/AV	CM	DOG
	dBuV		dBuV/m	dBuV/m				
13.560	22.85	22.80	45.65	124.00	-78.35	Peak	100	307



Appendix C. Radiated Spurious Emissions

Report No.	:6128624034501	Test Date	:2024-09-27
Product Name	: HiTi PHOTO PRINTER	Model Name	:P525L
Operation Band	:NFC	Temp/Humi	:23.5C 59%
Channel	:13.56MHz	Antenna Pol	:Vertical
Mode	:Mask	Test Engineer	:Sam Huang
Power Setting	:Default	Test Site	:chamber B
NOTE	:		



Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.	dB	LV	@3m	dB	PK/QP/AV	CM	DOG
13.110	12.13	22.78	34.91	69.54	-34.63	Peak	100	132
13.410	12.66	22.80	35.46	80.50	-45.04	Peak	100	82
13.553	21.62	22.80	44.42	90.47	-46.05	Peak	100	10
13.567	17.47	22.81	40.28	90.47	-50.19	Peak	100	229
13.710	12.91	22.81	35.72	80.50	-44.78	Peak	100	56
14.010	12.31	22.83	35.14	69.54	-34.40	Peak	100	96



Report No.

Product Name

Operation Band

Channel

Mode

Power Setting

NOTE

:6128624034501

: HiTi PHOTO PRINTER

:NFC

:13.56MHz

:Mask

:Default

:

Test Date

Model Name

Temp/Humi

Antenna Pol

Test Engineer

Test Site

:2024-09-27

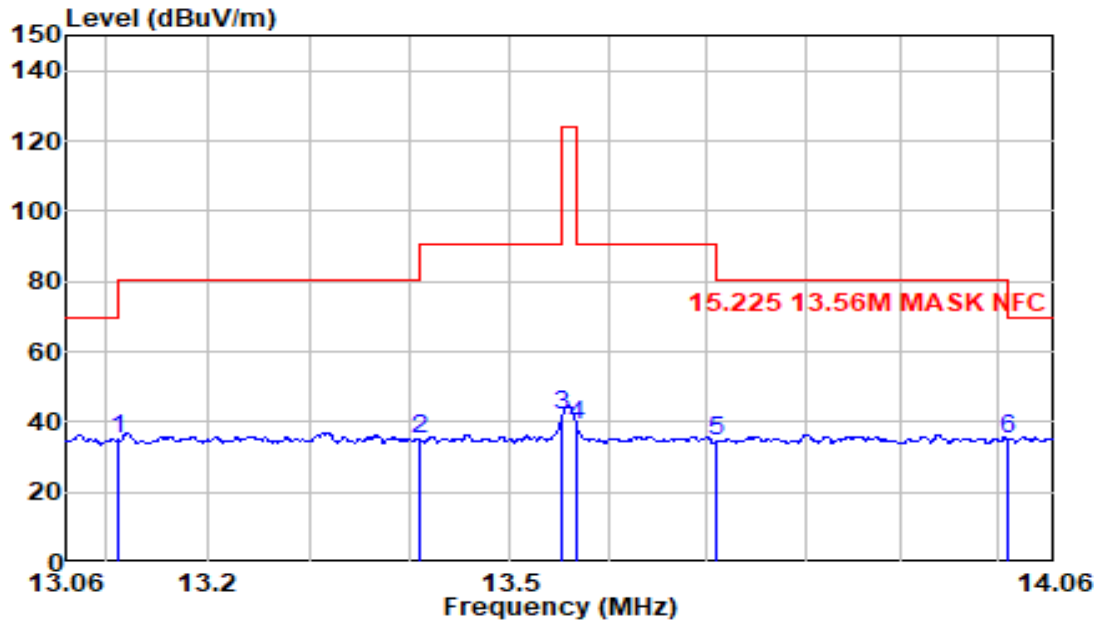
:P525L

:23.5C 59%

:Horizontal

:Sam Huang

:chamber B



Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.	dB	LV	@3m	dB	PK/QP/AV	CM	DOG
13.110	12.28	22.78	35.06	69.54	-34.48	Peak	100	122
13.410	12.23	22.80	35.03	80.50	-45.47	Peak	100	14
13.553	19.32	22.80	42.12	90.47	-48.35	Peak	100	236
13.567	16.03	22.81	38.84	90.47	-51.63	Peak	100	283
13.710	11.53	22.81	34.34	80.50	-46.16	Peak	100	235
14.010	12.00	22.83	34.83	69.54	-34.71	Peak	100	248



Report No.
Product Name

Operation Band
Channel
Mode
Power Setting
NOTE

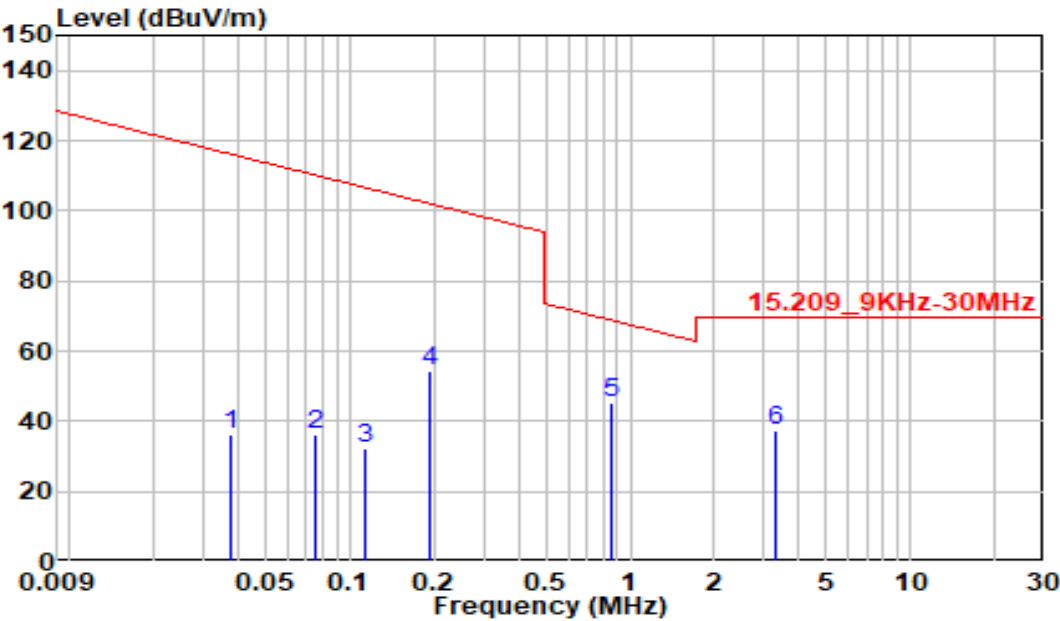
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: HiTi PHOTO
PRINTER
:NFC
:13.56MHz
:Tx
:Default
:

Test Date
Model Name

Temp/Humi
Antenna Pol
Test Engineer
Test Site

:2024-09-27
:P525L

:23.5C 59%
:Vertical
:Sam Huang
:chamber B



Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.		LV	@3m				
	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV	CM	DOG
0.038	15.47	20.64	36.11	116.02	-79.91	Peak	100	250
0.076	15.96	20.08	36.04	110.01	-73.97	Peak	100	62
0.114	12.72	19.60	32.32	106.47	-74.15	Peak	100	124
0.192	34.43	19.88	54.31	101.91	-47.60	Peak	100	89
0.862	24.55	20.46	45.01	68.86	-23.85	Peak	100	78
3.293	16.98	20.54	37.52	69.54	-32.02	Peak	100	105



Report No.
Product Name

Operation Band
Channel
Mode
Power Setting
NOTE

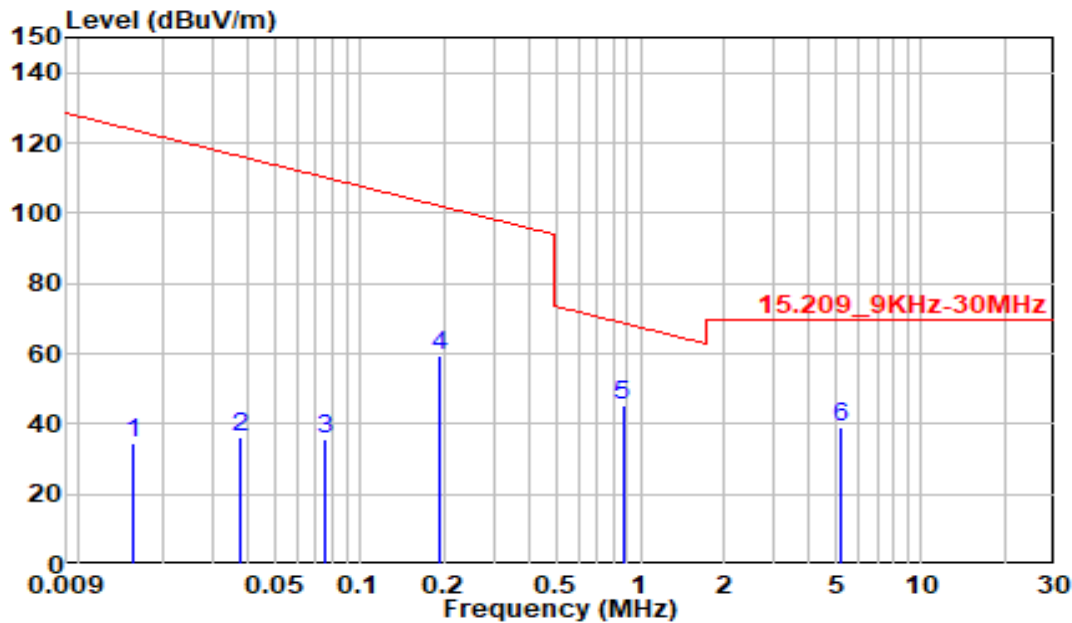
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: HiTi PHOTO
PRINTER
:NFC
:13.56MHz
:Tx
:Default
:

Test Date
Model Name

Temp/Humi
Antenna Pol
Test Engineer
Test Site

:2024-09-27
:P525L

:23.5C 59%
:Horizontal
:Sam Huang
:chamber B



Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.		LV	@3m				
	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV	CM	DOG
0.016	15.54	18.92	34.46	123.69	-89.23	Peak	100	184
0.038	15.78	20.64	36.42	116.02	-79.60	Peak	100	127
0.076	15.80	20.07	35.87	109.99	-74.12	Peak	100	298
0.192	39.30	19.88	59.18	101.91	-42.73	Peak	100	128
0.866	24.67	20.47	45.14	68.82	-23.68	Peak	100	105
5.194	18.51	20.58	39.09	69.54	-30.45	Peak	100	90



Report No.

Product Name

Operation Band

Channel

Mode

Power Setting

NOTE

:6128624034501

: HiTi PHOTO
PRINTER

:NFC

:13.56MHz

:Tx

:Default

:

Test Date

Model Name

Temp/Humi

Antenna Pol

Test Engineer

Test Site

:2024-09-27

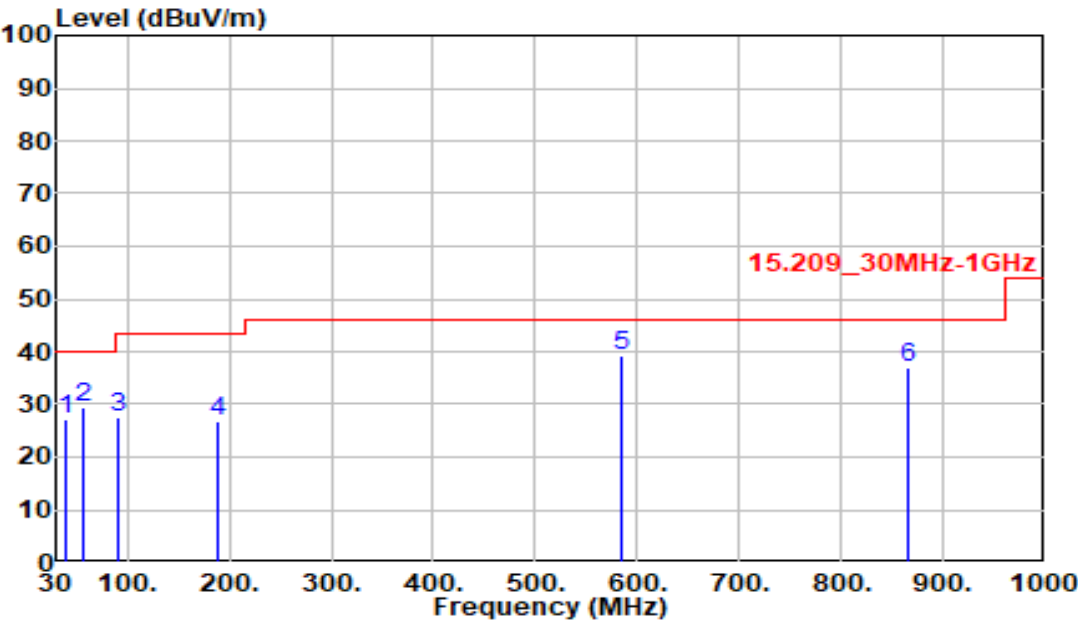
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:23.5C 59%

:Vertical

:Sam Huang

:chamber B



Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.		LV					
	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV	CM	DOG
40.988	51.37	-24.28	27.09	40.00	-12.91	Peak	105	301
57.999	53.54	-24.27	29.27	40.00	-10.73	Peak	314	326
92.139	57.22	-29.52	27.70	43.50	-15.80	Peak	333	333
188.413	53.10	-26.35	26.75	43.50	-16.75	Peak	326	29
584.790	55.06	-15.94	39.12	46.00	-6.88	Peak	339	253
866.088	48.55	-11.61	36.94	46.00	-9.06	Peak	211	106



Report No.

Product Name

Operation Band

Channel

Mode

Power Setting

NOTE

:6128624034501

: HiTi PHOTO
PRINTER

:NFC

:13.56MHz

:Tx

:Default

:

Test Date

Model Name

Temp/Humi

Antenna Pol

Test Engineer

Test Site

:2024-09-27

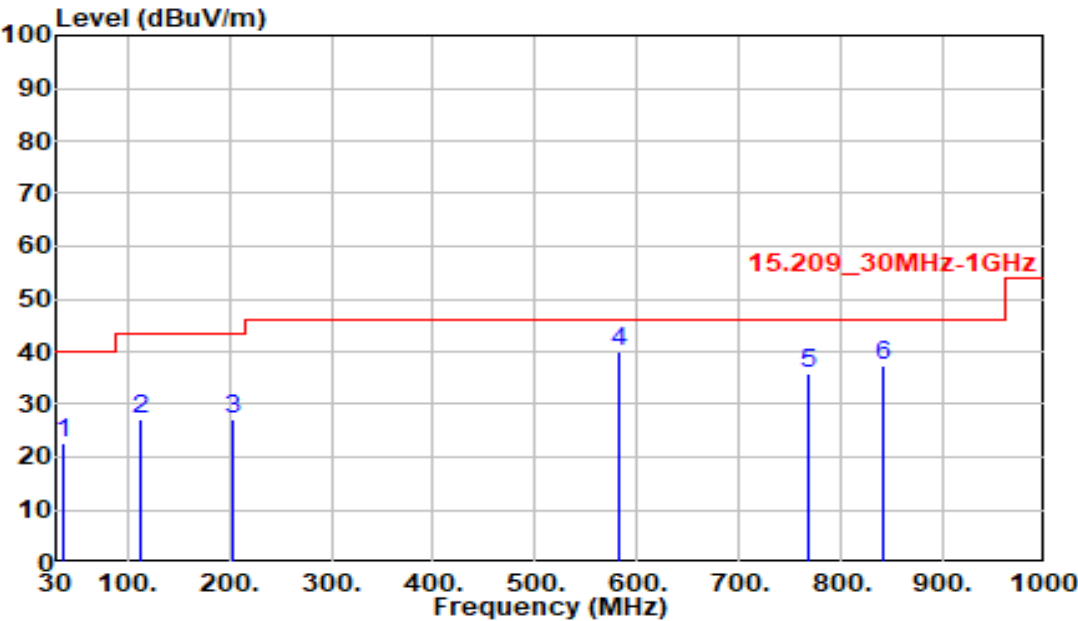
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:23.5C 59%

:Horizontal

:Sam Huang

:chamber B



Freq	Read	Factor	Emission	Limit	Margin	Detect	Apos	TPos
MHz	LV.		LV					
	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV	CM	DOG
36.790	47.35	-24.60	22.75	40.00	-17.25	Peak	204	198
113.420	54.39	-27.32	27.07	43.50	-16.43	Peak	100	89
202.660	54.28	-27.00	27.28	43.50	-16.22	Peak	272	287
582.900	55.91	-16.00	39.91	46.00	-6.09	Peak	103	73
768.170	48.66	-12.66	36.00	46.00	-10.00	Peak	269	251
840.920	49.40	-11.90	37.50	46.00	-8.50	Peak	348	193

Appendix D. Frequency Stability

Temperature Variation								
Limit : $\pm 0.01\%$								
Temperature (°C)	Frequency (MHz)							
	0 minute		2 minute		5 minutes		10 minutes	
	Reading (MHz)	Drift(%)	Reading (MHz)	Drift(%)	Reading (MHz)	Drift(%)	Reading (MHz)	Drift(%)
50	13.56092	0.00678	13.56102	0.00752	13.56122	0.00900	13.56067	0.00494
40	13.56113	0.00833	13.56068	0.00501	13.55899	-0.00745	13.55959	-0.00302
30	13.55875	-0.00922	13.56026	0.00192	13.56036	0.00265	13.56060	0.00442
20	13.55911	-0.00656	13.56023	0.00170	13.56105	0.00774	13.56116	0.00855
10	13.55865	-0.00996	13.56012	0.00088	13.56114	0.00841	13.56135	0.00996
0	13.55888	-0.00826	13.56060	0.00442	13.56010	0.00074	13.55997	-0.00022
-10	13.55901	-0.00730	13.56103	0.00760	13.55883	-0.00863	13.55988	-0.00088
-20	13.55931	-0.00509	13.55941	-0.00435	13.55970	-0.00221	13.55920	-0.00590

Voltage Variation								
Limit : $\pm 0.01\%$								
Voltage (Vac)	Frequency (MHz)							
	0 minute		2 minute		5 minutes		10 minutes	
	Reading (MHz)	Drift(%)	Reading (MHz)	Drift(%)	Reading (MHz)	Drift(%)	Reading (MHz)	Drift(%)
138	13.55987	0.00973	13.55983	-0.00096	13.55968	-0.00125	13.55972	-0.00206
120	13.56077	0.00966	13.56019	0.00568	13.56134	0.0014	13.55948	-0.00383
102	13.56122	-0.00612	13.55966	0.009	13.55972	-0.00251	13.56021	0.00155



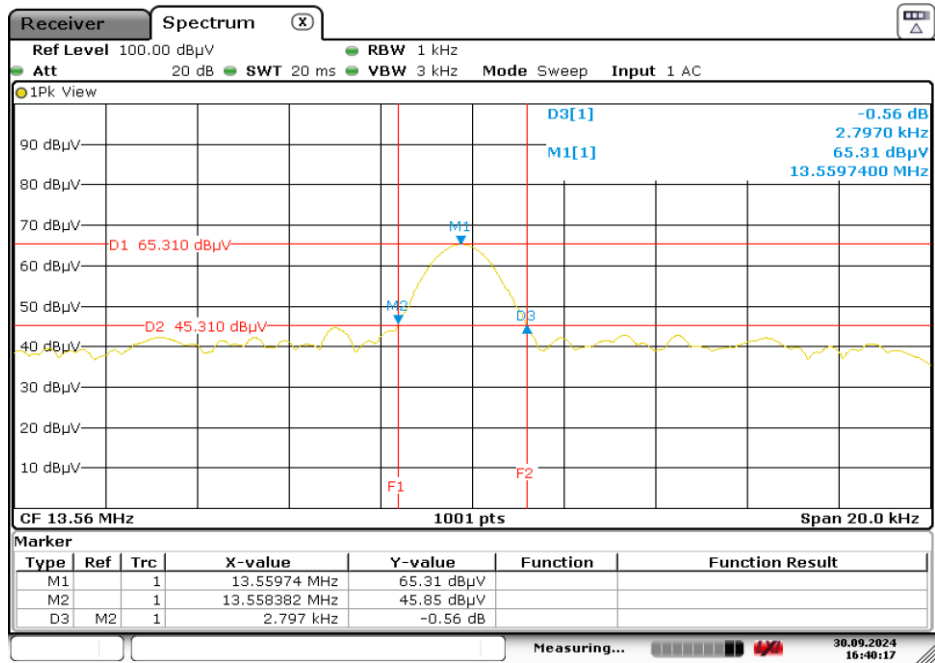
Appendix E. Emission Bandwidth

20dB Bandwidth

<NFC>

Channel	Channel Frequency (MHz)	20dB Bandwidth (KHz)
1	13.56	2.797

Lower & Upper Test Frequency Point (MHz)	Test Frequency (MHz)	Limit (MHz)
Lower	13.558382	13.11
Upper	13.561179	14.01

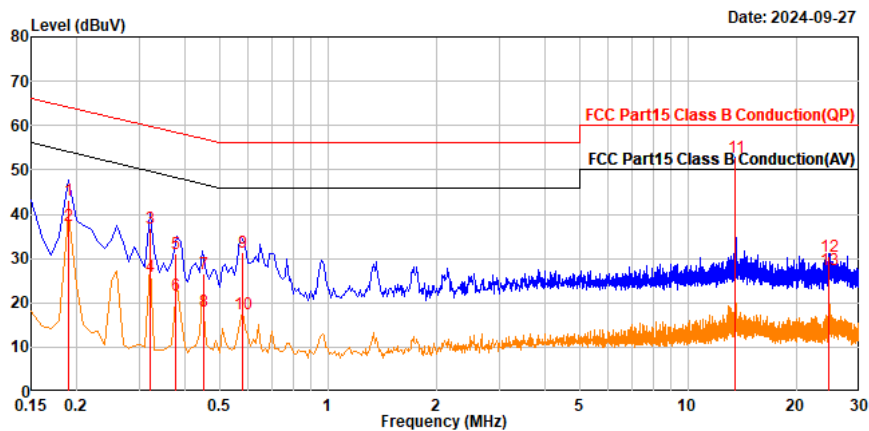




Appendix F. Mains Emission



TÜV SÜD Asia Ltd. Taiwan Branch
No. 31,Dinghu Rd.,Guishan Dist.,
Taoyuan City 333,Taiwan(R.O.C.)



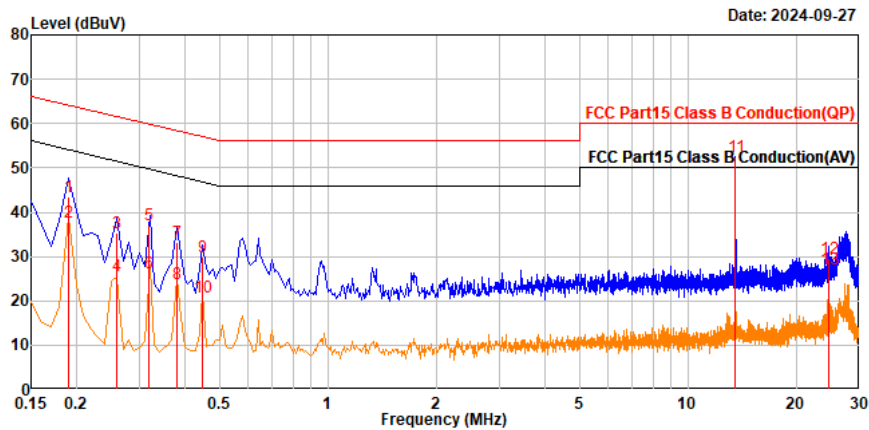
Trace: 1

Site : Shielded Room A
Condition : FCC Part15 Class B Conduction(QP) LISN ENV216_101517_20231026 Line
Report No. : 6128624034301
Product Name : Printer
Operation Band: NFC
Channel : 13.56MHz
Mode : Tx
Power : 120V 60Hz
Model Name : P525L
Temp/Humi : 23.6C 58%
Test Engineer : Sam Huang
NOTE :

	Read			LISN	Cable	Limit	Over		
	Freq	Level	Level	Factor	Factor	Line	Limit	Remark	Result
	MHz	dBuV	dBuV	dB	dB	dB	dB		
1	0.190	33.46	43.09	9.63	9.62	0.01	64.03	-20.94 QP	Pass
2	0.190	27.72	37.35	9.63	9.62	0.01	54.03	-16.68 Average	Pass
3	0.320	27.27	36.90	9.63	9.62	0.01	59.70	-22.80 QP	Pass
4	0.320	16.22	25.85	9.63	9.62	0.01	49.70	-23.85 Average	Pass
5	0.379	21.47	31.10	9.63	9.62	0.01	58.29	-27.19 QP	Pass
6	0.379	12.01	21.64	9.63	9.62	0.01	48.29	-26.65 Average	Pass
7	0.451	17.02	26.65	9.63	9.62	0.01	56.86	-30.21 QP	Pass
8	0.451	8.45	18.08	9.63	9.62	0.01	46.86	-28.78 Average	Pass
9	0.580	21.69	31.32	9.63	9.62	0.01	56.00	-24.68 QP	Pass
10	0.580	7.94	17.57	9.63	9.62	0.01	46.00	-28.43 Average	Pass
11	13.560	43.06	52.76	9.70	9.64	0.06	60.00	-7.24 Peak	Pass
12	24.578	20.73	30.34	9.61	9.53	0.08	60.00	-29.66 QP	Pass
13	24.578	17.92	27.53	9.61	9.53	0.08	50.00	-22.47 Average	Pass



TÜV SÜD Asia Ltd. Taiwan Branch
No. 31,Dinghu Rd.,Guishan Dist.,
Taoyuan City 333,Taiwan(R.O.C.)



Trace: 1
Site : Shielded Room A
Condition : FCC Part15 Class B Conduction(QP) LISN ENV216_101517_20231026 Neutra
Report No. : 6128624034301
Product Name : Printer
Operation Band: NFC
Channel : 13.56MHz
Mode : Tx
Power : 120V 60Hz
Model Name : P525L
Temp/Humi : 23.6C 58%
Test Engineer : Sam Huang
NOTE :

	Freq	Read Level	Level Factor	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark	Result
	MHz	dBuV	dBuV	dB	dB	dB	dB		
1	0.190	33.89	43.52	9.63	9.62	0.01	64.03	-20.51 QP	Pass
2	0.190	27.97	37.60	9.63	9.62	0.01	54.03	-16.43 Average	Pass
3	0.260	25.59	35.22	9.63	9.62	0.01	61.44	-26.22 QP	Pass
4	0.260	16.13	25.76	9.63	9.62	0.01	51.44	-25.68 Average	Pass
5	0.320	27.56	37.18	9.62	9.61	0.01	59.72	-22.54 QP	Pass
6	0.320	16.57	26.19	9.62	9.61	0.01	49.72	-23.53 Average	Pass
7	0.380	23.58	33.20	9.62	9.61	0.01	58.27	-25.07 QP	Pass
8	0.380	14.16	23.78	9.62	9.61	0.01	48.27	-24.49 Average	Pass
9	0.449	20.15	29.77	9.62	9.61	0.01	56.89	-27.12 QP	Pass
10	0.449	11.19	20.81	9.62	9.61	0.01	46.89	-26.08 Average	Pass
11	13.560	42.78	52.52	9.74	9.68	0.06	60.00	-7.48 Peak	Pass
12	24.575	19.93	29.67	9.74	9.66	0.08	60.00	-30.33 QP	Pass
13	24.575	17.55	27.29	9.74	9.66	0.08	50.00	-22.71 Average	Pass