EMC Test Report

Report No.	:	MOS20231126460E
Report Version	:	V1.0
Equipment Under Test	:	paper straw/tube making machine
Test Model	:	CFXG-100
Model No.	:	CFXG-100,CFXG-80,CFXG-50,CFXG-150FD,CFXG-150FD, CFJG-150,CFJG-SK-150,CFJG-100,CFJG-SK-100, CFJG-50,CFJG-SK-50,CFJG-30,CFJG-20,CFJG-250
Trade Mark	:	N/A
Applicant	:	Wenzhou Chuangfeng Machinery Co.,Ltd.
Address	:	Building 6, Sunlou Industrial Area, Wanquan Town, Pingyang County, Wenzhou, Zhejiang, China
Essential Requirement	:	Directive 2014/30/EU
Applied Standard(s)	:	EN IEC 61000-6-3:2021 EN IEC 61000-6-1:2019 EN IEC61000-3-2:2019+A1:2021 EN 61000-3-3:2013+ A2:2021
Date of Sample Receipt	:	Novembe.26, 2023
Number of Test Sample(s)	:	1
Date of Test	:	Novembe.26, 2023-Novembe.29, 2023
Date of Issue	:	Novembe.30, 2023
Conclusion	:	Positive

Issued by

MOSEN DETECTION TECHNOLOGY CO., LTD.

No.28-C2010, Xintang Street, Tian'he District, Guangzhou, China

Tel: 4000-220-859

E-mail: Service@mosen-cert.com

Web: www.mosen-cert.com

Revision History

Report Version	Date	Description	Revised By
V1.0	Novembe.30, 2023	Initial Release	John Xiao

Conformity Assessment				
Manufacturer	**Wenzhou Chuangfeng Machinery Co.,Ltd.**			
Postal Address	Building 6, Sunlou Industrial Area, Wanquan Town, Pingyang County, Wenzhou, Zhejiang, China			
Contact Information	Tel	/	Fax	/
	E-mail	/	Web	/
Factory	**Wenzhou Chuangfeng Machinery Co.,Ltd.**			
Postal Address	Building 6, Sunlou Industrial Area, Wanquan Town, Pingyang County, Wenzhou, Zhejiang, China			
Contact Information	Phone	/	Fax	/
	E-mail	/	Website	/
Equipment Under Test	paper straw/tube making machine			
Trade Mark	N/A			
Test Model	CFXG-100			
Model No.	CFXG-100,CFXG-80,CFXG-50,CFXG-150FD,CFXG-150FD, CFJG-150,CFJG-SK-150,CFJG-100,CFJG-SK-100, CFJG-50,CFJG-SK-50,CFJG-30,CFJG-20,CFJG-250			
Rating	380V, 16A, 6KW			
Date of Test	Novembe.26, 2023-Novembe.29, 2023			
Deviation	None			
Condition of Test Sample	Normal			
Applied Standard	EN IEC 61000-6-3:2021 EN IEC 61000-6-1:2019 EN IEC61000-3-2:2019+A1:2021 EN 61000-3-3:2013+ A2:2021			
Report No.	MOS20231126460E			
TRF Originator	MOSEN DETECTION TECHNOLOGY CO., LTD.			
Master TRF	Dated 2017-03			
Conclusion	Positive			

The above equipment has been tested by **MOSEN DETECTION TECHNOLOGY CO., LTD.** and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Compiled by:	**Reviewed by:**	**Approved by:**
Vicky Zhang	Lucy Xu	John Xiao
Vicky Zhang/ File administrators Novembe.30, 2023	Lucy Xu/ Test Engineer Novembe.30, 2023	John Xiao/ Manager Novembe.30, 2023

TABLE OF CONTENTS

Description Page

1. SUMMARY OF STANDARDS AND RESULTS

1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION (EN IEC 61000-6-3:2021)			
Description of Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	EN 55032:2015+A1:2020	Class B	PASS
Radiated disturbance	EN 55032:2015+A1:2020	Class B	PASS
Harmonic current emissions	EN IEC61000-3-2:2019+A1:2021	Class A	PASS
Voltage fluctuations & flicker	EN 61000-3-3:2013+ A2:2021	---------	PASS
IMMUNITY (EN IEC 61000-6-1:2019)			
Description of Test Item	**Basic Standard**	**Performance Criteria**	**Results**
Electrostatic Discharge (ESD)	EN 61000-4-2: 2009	B	PASS
Radio-frequency, Continuous Radiated Disturbance	EN IEC 61000-4-3:2020	A	PASS
Electrical Fast Transient (EFT)	EN 61000-4-4: 2012	B	PASS
Surge (Input a.c. Power Ports)	EN 61000-4-5:2014+A1:2017	B	PASS
Surge (Telecommunication Ports)		B	N/A
Radio-frequency, Continuous Conducted Disturbance	EN 61000-4-6: 2014	A	PASS
Power Frequency Magnetic Field	EN 61000-4-8: 2010	A	PASS
Voltage Dips, 0% residual voltage, 0.5cycle	EN IEC 61000-4-11:2020	B	PASS
Voltage Dips, 0% residual voltage, 1cycle		B	PASS
Voltage Dips, 70% residual voltage, 25/30 at 50/60Hz cycle		C	PASS
Voltage Interruptions, 0% residual voltage, 250/300 at 50/60Hz cycle		C	PASS
N/A is an abbreviation for Not Applicable.			

1.2.Description of Performance Criteria

General Performance Criteria

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following:

- essential operational modes and states;
- tests of all peripheral access (hard disks, floppy disks, printers, keyboard, mouse, etc.);
- quality of software execution;
- quality of data display and transmission;
- quality of speech transmission.

1.2.1.Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.2.Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.3.Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture’s instructions.

Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be loss.

2. GENERAL INFORMATION

2.1. Product Description for Equipment Under Test (EUT)

EUT	:	paper straw/tube making machine
Trade Mark	:	N/A
Test Model	:	CFXG-100
Model No.	:	CFXG-100,CFXG-80,CFXG-50,CFXG-150FD,CFXG-150FD, CFJG-150,CFJG-SK-150,CFJG-100,CFJG-SK-100, CFJG-50,CFJG-SK-50,CFJG-30,CFJG-20,CFJG-250
Rating	:	380V, 16A, 6KW

2.2. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the MOSEN quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.3. Measurement Uncertainty

Test	Parameters	Expanded uncertainty (Ulab)	Expanded uncertainty (Ucispr)
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.46 dB ± 2.41dB	± 4.2 dB ± 3.7 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.56dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.15 dB	± 5.4 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.74 dB	N/A
Mains Harmonic	Voltage	± 0.562%	N/A
Voltage Fluctuations & Flicker	Voltage	± 0.524%	N/A

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

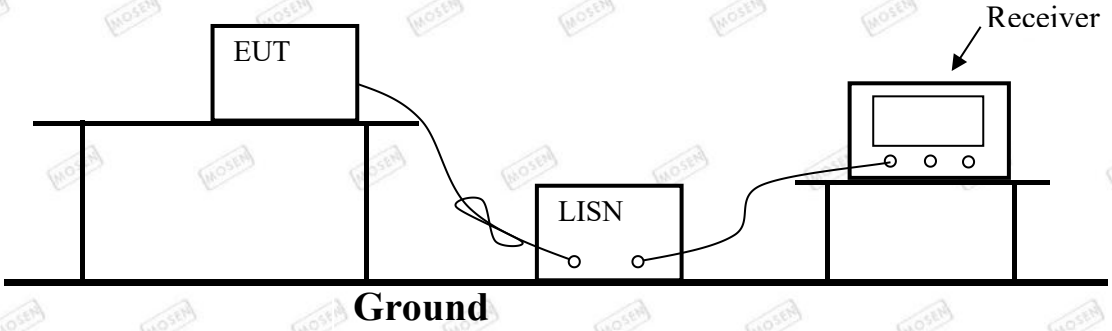
(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

3. MEASURING DEVICES AND TEST EQUIPMENT

Test Equipment	Manufacturer	Model No.	Serial No.	Calibrate Due day
EMI Test Receiver	R&S	ESCI	1011573	2024-06-10
10dB Attenuator	FRANKONIA	OSPAM234	9432	2024-06-10
Artificial Mains	R&S	ENV257	101164	2024-06-10
EMI Test Software	AUDIX	E3	N/A	2024-06-10
EMI Test Receiver	R&S	ESCI	100783	2024-06-10
Absorbing clamp	R&S	MDS 21	4095	2024-06-10
EMI Test Software	AUDIX	E3	N/A	2024-06-10
EMI Test Receiver	R&S	ESCI	101162	2024-06-10
Triple-loop Antenna	FRANKONIA	LLA-2	10842951	2024-06-10
EMI Test Receiver	R&S	ESCI	101766	2024-06-10
EMI Test Software	AUDIX	E3	N/A	2024-06-10
3m Semi Anechoic Chamber	FRANKONIA	3M	03CH05-FC	2024-06-10
EMI Test Receiver	R&S	ESCI	101628	2024-06-10
Log per Antenna	FRANKONIA	VULB9163	9163-511	2024-06-10
EMI Test Software	AUDIX	E3	N/A	2024-06-10
Positioning Controller	MF	MF-6241	/	2024-06-10
Power Analyzer Test System	3CTEST	64287	200002300001	2024-06-10
ESD Simulator	3CTEST	29743	KES4021	2024-06-10
SIGNAL GENERATOR	R&S	SMB100A	106452	2024-06-10
RF Power Amplifier	3CTEST	94623	130716	2024-06-10
Log-periodic Antenna	FRANKONIA	STLP9128D	011	2024-06-10
Power Meter	R&S	102031	160240	2024-06-10
Electrical fast transient(EFT)generator	3CTEST	EFT-1267	EC0031654	2024-06-10
Coupling Clamp	3CTEST	10697	EC04418793	2024-06-10
Surge test system	3CTEST	94731	EC5561237	2024-06-10
Coupling/decoupling network	3CTEST	12642	CS553129	2024-06-10
Simulator	FRANKONIA	CIT-10	A126A1082	2024-06-10
CDN	FRANKONIA	CDN-M2	50005642	2024-06-10
CDN	FRANKONIA	CDN-M3	0900-13	2024-06-10
Attenuator	FRANKONIA	00-6	00102621	2024-06-10
Voltage dips and up generator	3CTEST	94316	EC0186433	2024-06-10

4. POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1. Block Diagram of Test Setup



4.2. Measuring Standard

EN IEC 61000-6-3:2021 Chapter 11 Table 4 (EN 55032:2015+A1:2020)

Power Line Conducted Emission Limits (Class B)

Frequency	Limit (dBμV)	
	Quasi-peak Level	Average Level
150kHz ~ 0.5MHz	66 ~ 56*	56 ~ 46*
0.5MHz ~ 5.0MHz	56	46
5.0MHz ~ 30MHz	60	50

4.3. EUT Configuration on Test

The following equipments are installed on Conducted Emission Measurement to see EN 55032 requirements and operating in a manner which tends to maximize its emission characteristics in normal application.

4.4.Operating Condition of EUT

4.4.1.Setup the EUT as shown on Section 4.1.

4.4.2.Turn on the power of all equipments.

4.4.3.Let the EUT work in measuring mode (ON) and measure it.

4.5. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided 50-ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN 55032 regulations during conducted emission measurement.

The bandwidth of the field strength meter is set at 9kHz in 150kHz~30MHz and 200Hz in 9kHz~150kHz.

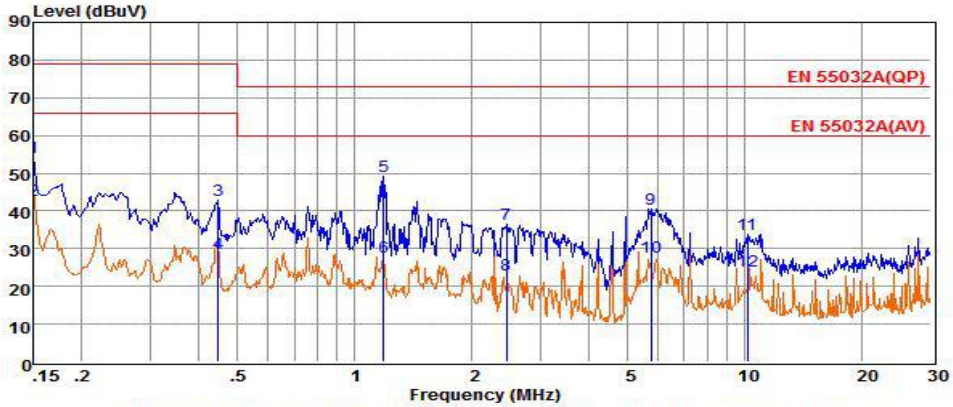
The frequency range from 150kHz to 30MHz is investigated

4.6. Test Results

PASS.

The scanning waveforms is in the next page.

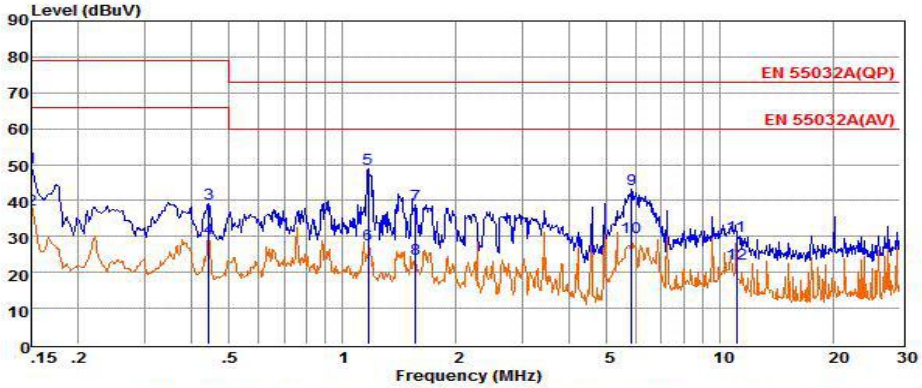
Model No.	CFXG-100	Test Mode	Normal
Environmental Conditions	23.5℃, 52.2% RH	Test Engineer	Lucy Xu
Pol	Line		



	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15	34.52	9.57	0.02	10.00	54.11	79.00	-24.89	QP
2	0.15	23.33	9.57	0.02	10.00	42.92	66.00	-23.08	Average
3	0.45	23.30	9.62	0.04	10.00	42.96	79.00	-36.04	QP
4	0.45	9.26	9.62	0.04	10.00	28.92	66.00	-37.08	Average
5	1.18	29.47	9.63	0.05	10.00	49.15	73.00	-23.85	QP
6	1.19	8.09	9.63	0.05	10.00	27.77	60.00	-32.23	Average
7	2.45	16.69	9.64	0.05	10.00	36.38	73.00	-36.62	QP
8	2.45	3.33	9.64	0.05	10.00	23.02	60.00	-36.98	Average
9	5.74	20.86	9.66	0.06	10.00	40.58	73.00	-32.42	QP
10	5.74	8.15	9.66	0.06	10.00	27.87	60.00	-32.13	Average
11	10.18	14.17	9.69	0.08	10.00	33.94	73.00	-39.06	QP
12	10.18	4.32	9.69	0.08	10.00	24.09	60.00	-35.91	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Model No.	CFXG-100	Test Mode	Normal
Environmental Conditions	23.5℃, 52.2% RH	Test Engineer	Lucy Xu
Pol	Neutral		

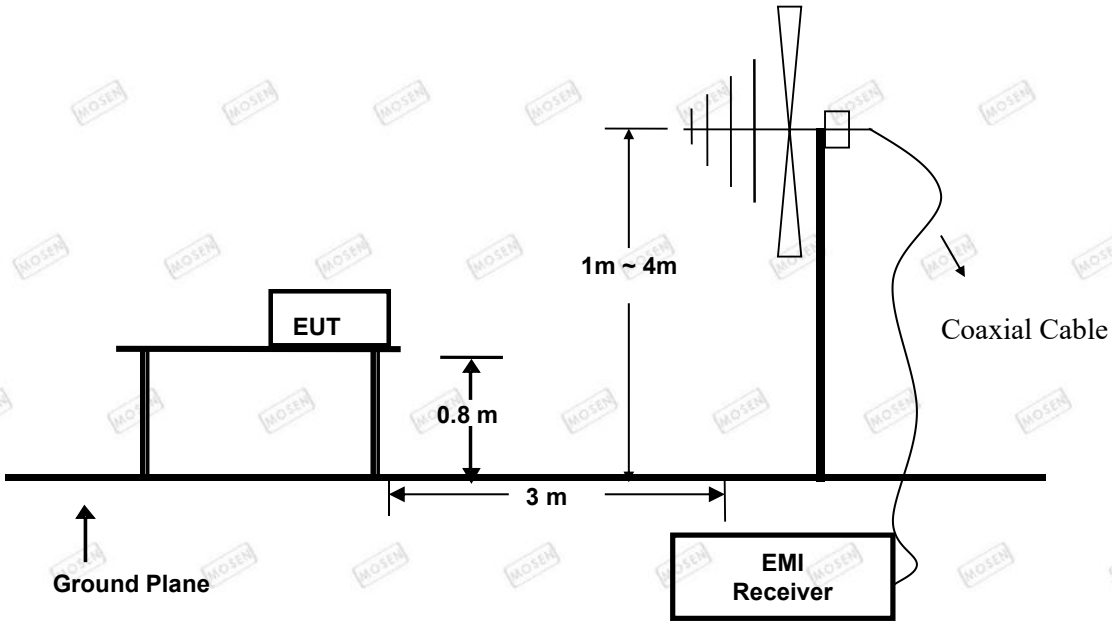


	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15	29.59	9.70	0.02	10.00	49.31	79.00	-29.69	QP
2	0.15	17.78	9.70	0.02	10.00	37.50	66.00	-28.50	Average
3	0.44	19.32	9.62	0.04	10.00	38.98	79.00	-40.02	QP
4	0.44	9.67	9.62	0.04	10.00	29.33	66.00	-36.67	Average
5	1.17	29.20	9.63	0.05	10.00	48.88	73.00	-24.12	QP
6	1.17	8.08	9.63	0.05	10.00	27.76	60.00	-32.24	Average
7	1.56	19.17	9.63	0.05	10.00	38.85	73.00	-34.15	QP
8	1.56	3.92	9.63	0.05	10.00	23.60	60.00	-36.40	Average
9	5.84	23.36	9.67	0.06	10.00	43.09	73.00	-29.91	QP
10	5.84	9.97	9.67	0.06	10.00	29.70	60.00	-30.30	Average
11	11.08	10.45	9.73	0.09	10.00	30.27	73.00	-42.73	QP
12	11.08	2.54	9.73	0.09	10.00	22.36	60.00	-37.64	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

5. Radiated emission measurement

5.1.Block Diagram of Test Setup



5.2.Measuring Standard

EN IEC 61000-6-3:2021 Chapter 11 Table 3 (EN 55032:2015+A1:2020)

5.3.Radiated Emission Limits

All emanations from a class device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dBμV/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: (1) The smaller limit shall apply at the combination point between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

5.4.EUT Configuration on Test

The EN 55032 regulations test method must be used to find the maximum emission during radiated emission measurement.

5.5.Operating Condition of EUT

5.5.1.Turn on the power.

5.5.2.Let the EUT work in test mode and measure it.

5.6.Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the Receiver is set at 120kHz.

All the scanning waveform is in next page.

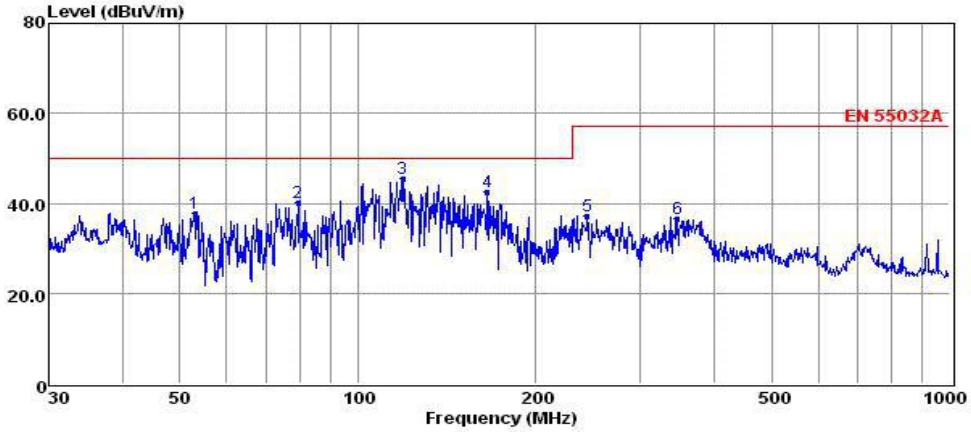
5.7.Test Results

PASS.

The frequency range from 30MHz to 1000MHz is investigated.

The scanning waveforms is in the next page.

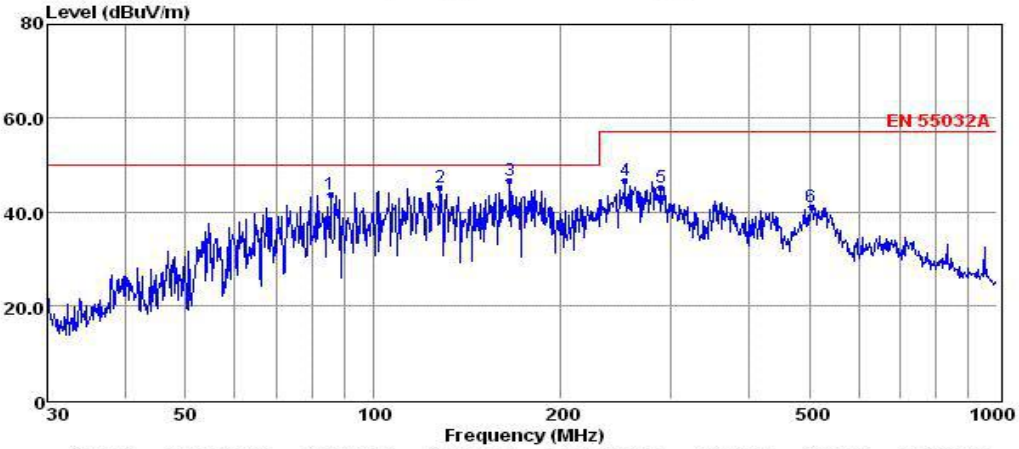
Model No.	CFXG-100	Test Mode	Normal
Environmental Conditions	23.5℃, 52.2% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Lucy Xu		



	Freq	Reading	CabLos	Anttac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	52.95	24.12	0.46	13.11	37.69	50.00	-12.31	QP
2	79.24	31.13	0.65	8.43	40.21	50.00	-9.79	QP
3	119.02	34.36	0.64	10.65	45.65	50.00	-4.35	QP
4	165.49	33.01	0.77	8.83	42.61	50.00	-7.39	QP
5	244.23	24.12	0.90	12.08	37.10	57.00	-19.90	QP
6	346.81	21.36	1.13	14.23	36.72	57.00	-20.28	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Model No.	CFXG-100	Test Mode	Normal
Environmental Conditions	23.5℃, 52.2% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Lucy Xu		

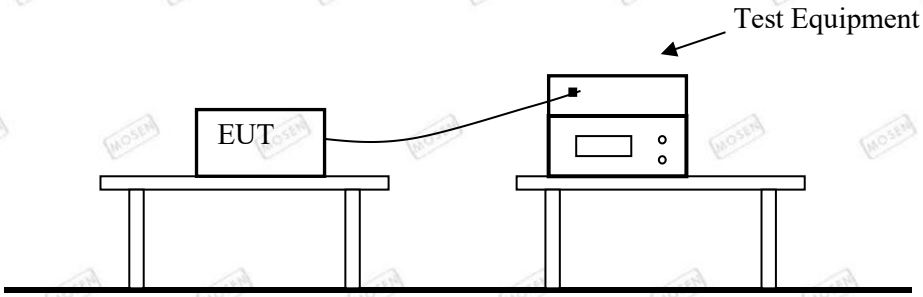


	Freq	Reading	CabLos	Anttac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	85.30	32.89	0.47	10.40	43.76	50.00	-6.24	QP
2	128.11	35.18	0.67	9.22	45.07	50.00	-4.93	QP
3	165.49	37.19	0.77	8.83	46.79	50.00	-3.21	QP
4	253.84	33.59	0.90	12.06	46.55	57.00	-10.45	QP
5	289.00	31.42	1.05	12.85	45.32	57.00	-11.68	QP
6	504.71	23.17	1.29	16.67	41.13	57.00	-15.87	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

6. Harmonic Current Measurement

6.1.Block Diagram of Test Setup



6.2.Test Standard

EN IEC61000-3-2:2019+A1:2021

6.3.Operating Condition of EUT

6.3.1.Setup the EUT as shown on Section 6.1.

6.3.2.Turn on the power of all equipments.

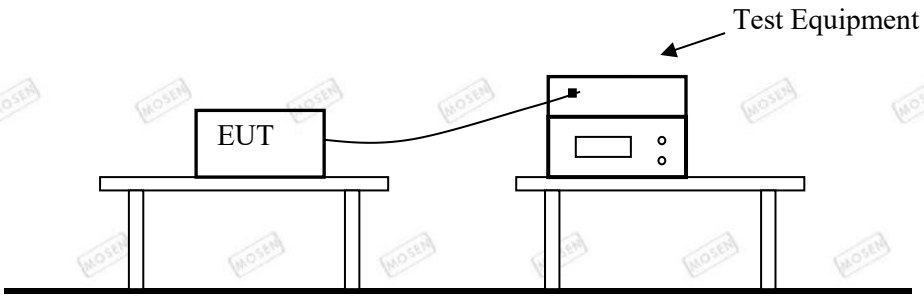
6.3.3.Let the EUT work in measuring mode (Normal) and measure it.

6.4.Test Results

PASS

7. Voltage Fluctuations & Flicker Measurement

7.1.Block Diagram of Test Setup



7.2.Test Standard

EN 61000-3-3:2013+ A2:2021

7.3.Operating Condition of EUT

7.3.1.Setup the EUT as shown on Section 7.1.

7.3.2.Turn on the power of all equipments.

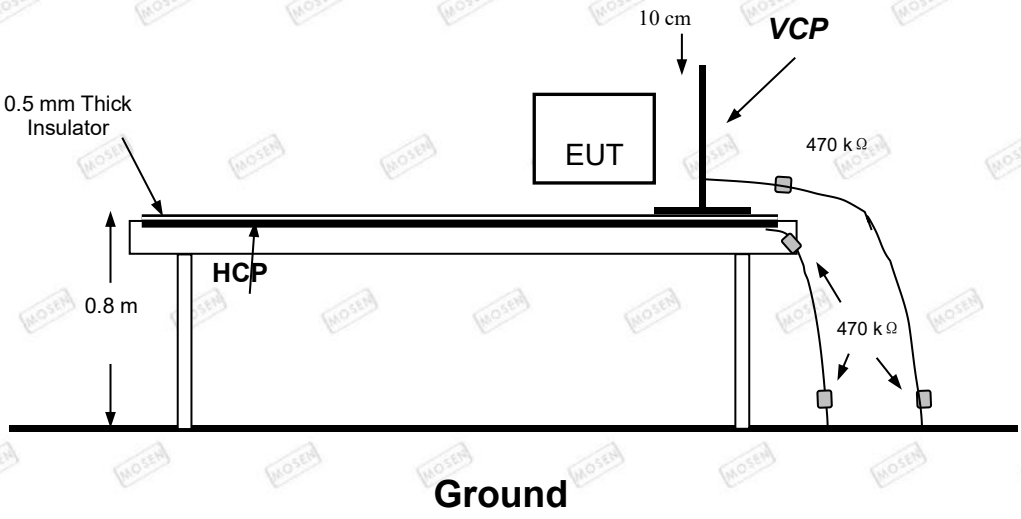
7.3.3.Let the EUT work in measuring mode (Normal) and measure it.

7.4.Test Results

PASS

8. Electrostatic Discharge Test

8.1.Block Diagram of Test Setup



8.2.Test Standard

EN IEC 61000-6-1:2019 Chapter 9 Table 1 (EN 61000-4-2: 2009, Severity Level: Air Discharge: Level 3, ±8KV/ Contact Discharge: Level 2, ±4KV)

8.3.Severity Levels and Performance Criterion

8.3.1.Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

8.3.2.Performance criterion: **B**

8.4.Operating Condition of EUT

8.4.1.Setup the EUT as shown in Section 8.1.
8.4.2.Turn on the power of all equipments.
8.4.3.Let the EUT work in test mode (Normal) and measure it.

8.5.Test Procedure

8.5.1.Air Discharge

This test is done on a non-conductive surfaces. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Because the case of the EUT is metal surface, so it does not need to be tested.

8.5.2.Contact Discharge

All the procedure shall be same as Section 8.5.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

8.5.3.Indirect Discharge For Horizontal Coupling Plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

8.5.4.Indirect Discharge For Vertical Coupling Plane

At least 20 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

8.6.Test Results

PASS.

Please refer to the following page.

Electrostatic Discharge Test Results

Standard	☐ IEC 61000-4-2 ☑ EN 61000-4-2		
Applicant	Wenzhou Chuangfeng Machinery Co.,Ltd.		
EUT	paper straw/tube making machine	**Temperature**	23.7℃
M/N	CFXG-100	**Humidity**	51.9%
Criterion	B	**Pressure**	1021mbar
Test Mode	Normal	**Test Engineer**	Lucy Xu

Air Discharge

Test Points	Test Levels			Results		
	± 2KV	± 4KV	± 8KV	Passed	FAIL	Performance Criterion
Front	☒	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☒	☐	☐ A ☒ B
Top	☒	☒	☒	☒	☐	☐ A ☒ B
Bottom	☒	☒	☒	☒	☐	☐ A ☒ B

Contact Discharge

Test Points	Test Levels		Results		
	± 2 KV	±4 KV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B
Top	☒	☒	☒	☐	☐ A ☒ B
Bottom	☒	☒	☒	☐	☐ A ☒ B

Discharge To Horizontal Coupling Plane

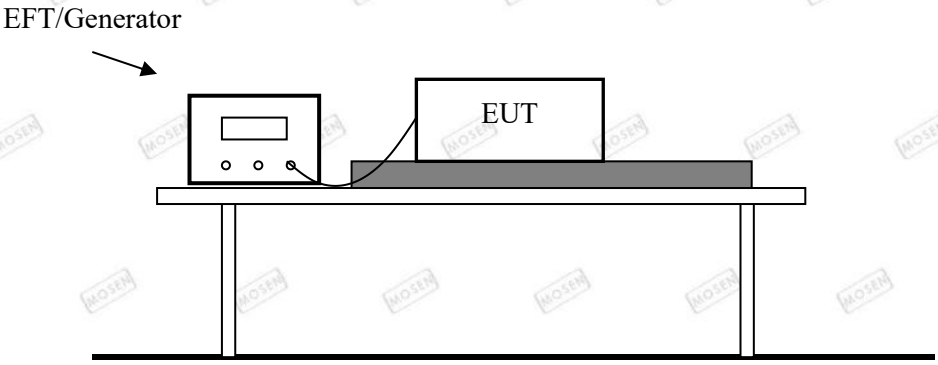
Side of EUT	Test Levels		Results		
	± 2 KV	± 4 KV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B

Discharge To Vertical Coupling Plane

Side of EUT	Test Levels		Results		
	± 2 KV	± 4 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B

9. Electrical Fast Transient/Burst Test

9.1.Block Diagram of Test Setup



9.2.Test Standard

EN IEC 61000-6-1:2019 Chapter 9 Table 4 (EN 61000-4-4: 2012, Severity Level: Level 2: Power Supply Lines: 1.0KV)

9.3.Severity Levels and Performance Criterion

9.3.1.Severity level

Open Circuit Output Test Voltage ±10%		
Level	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
1.	0.5 KV	0.25 KV
2.	1 KV	0.5 KV
3.	2 KV	1 KV
4.	4 KV	2 KV
X	Special	Special

9.3.2.Performance criterion: **B**

9.4.Operating Condition of EUT

9.4.1.Setup the EUT as shown in Section 9.1.

9.4.2.Turn on the power of all equipments.

9.4.3.Let the EUT work in test mode (Normal) and measure it.

9.5.Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

9.5.1.For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied

during compliance test and the duration of the test is 2 mins.

9.5.2.For signal lines and control lines ports:

No I/O ports. It's unnecessary to test.

9.5.3.For DC output line ports:

It's unnecessary to test.

9.6.Test Results

PASS.

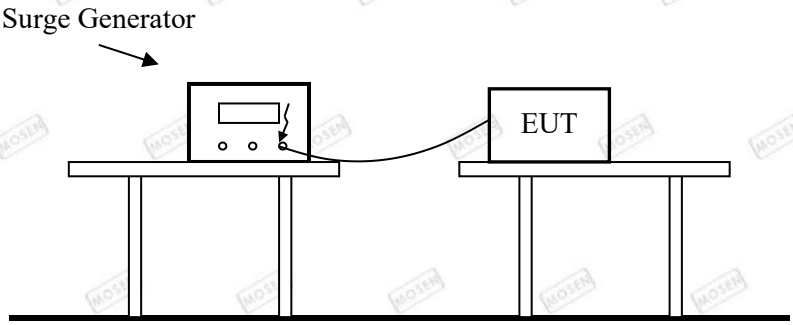
Electrical Fast Transient/Burst Test Results			
Standard	☐ IEC 61000-4-4 ☑ EN 61000-4-4		
Applicant	Wenzhou Chuangfeng Machinery Co.,Ltd.		
EUT	paper straw/tube making machine	**Temperature**	24.6℃
M/N	CFXG-100	**Humidity**	57%
Test Mode	Normal	**Criterion**	B
Test Engineer	Lucy Xu		

Line	Test Voltage	Result (+)	Result (-)
L	1KV	PASS	PASS
N	1KV	PASS	PASS
L-N	1KV	PASS	PASS
L-PE	1KV	PASS	PASS
N-PE	1KV	PASS	PASS
L-N-PE	1KV	PASS	PASS
Signal Line	--	--	--
I/O Cable	--	--	--

Note:

10. Surge Immunity Test

10.1.Block Diagram of Test Setup



10.2.Test Standard

EN IEC 61000-6-1:2019 Chapter 9 Table 4(EN 61000-4-5:2014+A1:2017, Severity Level: Line to Line: Level 2: 1.0KV, Line to Ground: Level 3: 2.0KV)

10.3.Severity Levels and Performance Criterion

10.3.1.Severity level

Severity Level	Open-Circuit Test Voltage (KV)
1	0.5
2	1.0
3	2.0
4	4.0
*	Special

10.3.2.Performance criterion: **B**

10.4.Operating Condition of EUT

10.4.1.Setup the EUT as shown in Section 10.1.

10.4.2.Turn on the power of all equipments.

10.4.3.Let the EUT work in test mode (Normal) and measure it.

10.5.Test Procedure

10.5.1.Set up the EUT and test generator as shown on Section 10.1.

10.5.2.For line to line coupling mode, provide a 1.0KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

10.5.3. For line to earth coupling mode, provide a 2.0KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

10.5.4.At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.

10.5.5. Different phase angles are done individually.

10.5.6.Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

10.6.Test Results

PASS.

Surge Immunity Test Result

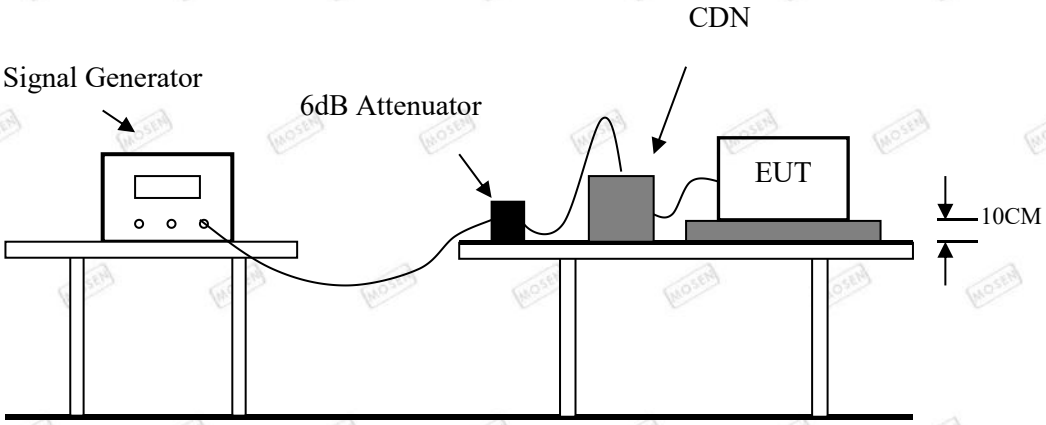
Standard	☐ IEC 61000-4-5 ☑ EN 61000-4-5		
Applicant	Wenzhou Chuangfeng Machinery Co.,Ltd.		
EUT	paper straw/tube making machine	**Temperature**	23.7℃
M/N	CFXG-100	**Humidity**	51.9%
Test Mode	Normal	**Criterion**	B
Test Engineer	Lucy Xu		

Location	Polarity	Phase Angle	Number of Pulse	Pulse Voltage (KV)	Result
L-N	+	0°	5	1.0	PASS
	+	90°	5	1.0	PASS
	+	180°	5	1.0	PASS
	+	270°	5	1.0	PASS
	-	0°	5	1.0	PASS
	-	90°	5	1.0	PASS
	-	180°	5	1.0	PASS
	-	270°	5	1.0	PASS
L-PE	+	0°	5	2.0	PASS
	+	90°	5	2.0	PASS
	+	180°	5	2.0	PASS
	+	270°	5	2.0	PASS
	-	0°	5	2.0	PASS
	-	90°	5	2.0	PASS
	-	180°	5	2.0	PASS
	-	270°	5	2.0	PASS
N-PE	+	0°	5	2.0	PASS
	+	90°	5	2.0	PASS
	+	180°	5	2.0	PASS
	+	270°	5	2.0	PASS
	-	0°	5	2.0	PASS
	-	90°	5	2.0	PASS
	-	180°	5	2.0	PASS
	-	270°	5	2.0	PASS
L-N-PE	+	0°	5	2.0	PASS
	+	90°	5	2.0	PASS
	+	180°	5	2.0	PASS
	+	270°	5	2.0	PASS

	-	0°	5	2.0	PASS
	-	90°	5	2.0	PASS
	-	180°	5	2.0	PASS
	-	270°	5	2.0	PASS
Signal Line					
Note					

11. Injected Currents Susceptibility Test

11.1.Block Diagram of Test Setup



11.2.Test Standard

EN IEC 61000-6-1:2019 Chapter 9 Table 4 (EN 61000-4-6: 2014, Severity Level 2: 3V)

11.3.Severity Levels and Performance Criterion

11.3.1.Severity level

Level	Field Strength (V)
1	1
2	3
3	10
X	Special

11.3.2.Performance criterion: **A**

11.4.Operating Condition of EUT

11.4.1.Setup the EUT as shown in Section 11.1.
11.4.2.Turn on the power of all equipments.
11.4.3.Let the EUT work in test mode (Normal) and measure it.

11.5.Test Procedure

11.5.1.Set up the EUT, CDN and test generators as shown on Section 11.1.

11.5.2.Let the EUT work in test mode and measure it.

11.5.3.The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).

11.5.4.The disturbance signal described below is injected to EUT through CDN.

11.5.5.The EUT operates within its operational mode(s) under intended climatic conditions after power on.

11.5.6.The frequency range is swept from 150kHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1kHz sine wave.

11.5.7.The rate of sweep shall not exceed 1.5*10-3decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

11.5.8.Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

11.6.Test Results

PASS.

Please refer to the following page.

Injected Currents Susceptibility Test Results

Standard	☐ IEC 61000-4-6 ☑ EN 61000-4-6		
Applicant	Wenzhou Chuangfeng Machinery Co.,Ltd.		
EUT	paper straw/tube making machine	**Temperature**	23.7℃
M/N	CFXG-100	**Humidity**	51.9%
Test Mode	Normal	**Criterion**	A
Test Engineer	Lucy Xu		

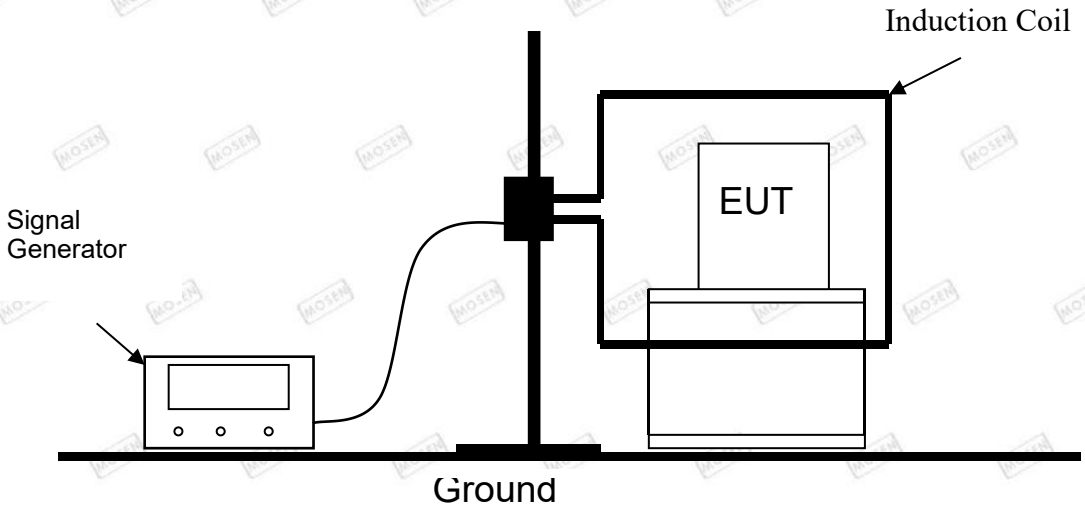
Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Criterion	Result
0.15 ~ 80	AC Mains	3V	A	PASS

Remark:
1. Modulation Signal:1kHz 80% AM
2. Measurement Equipment :
Simulator: CIT-10 (FRANKONIA)
CDN : ☐CDN-M2 (FRANKONIA)
☑CDN-M3 (FRANKONIA)

Note:

12. Magnetic Field Immunity Test

12.1.Block Diagram of Test Setup



12.2.Test Standard

EN IEC 61000-6-1:2019 Chapter 9 Table 1 (EN 61000-4-8: 2010, Severity Level 2: 3A/m)

12.3.Severity Levels and Performance Criterion

12.3.1.Severity level

Level	Magnetic Field Strength (A/m)
1.	1
2.	3
3.	10
4.	30
5.	100
X	Special

12.3.2.Performance criterion: **A**

12.4.Operating Condition of EUT

12.4.1.Setup the EUT as shown in Section 12.1.
12.4.2.Turn on the power of all equipments.
12.4.3.Let the EUT work in test mode (Normal) and measure it.

12.5.Test Procedure

12.5.1.Set up the EUT system as shown on Section 12.1.
12.5.2.The Induction coil is set up in horizontal or vertical.
12.5.3.Let the EUT work in test mode and measure it.

12.6.Test Results

PASS.
Please refer to the following page.

Magnetic Field Immunity Test Result

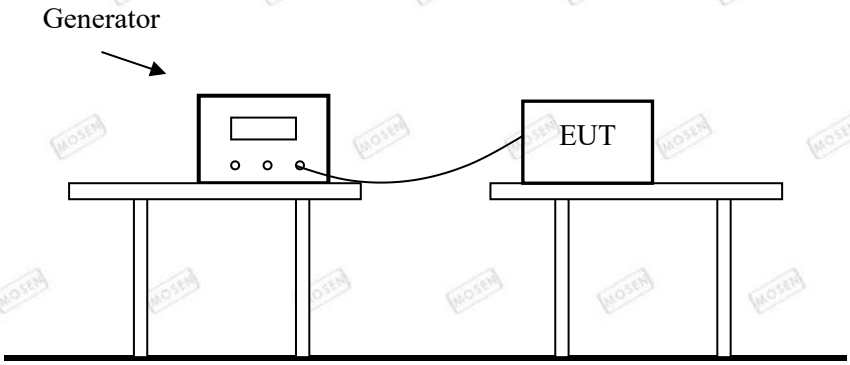
Standard	☐ IEC 61000-4-8 ☑ EN 61000-4-8		
Applicant	Wenzhou Chuangfeng Machinery Co.,Ltd.		
EUT	paper straw/tube making machine	**Temperature**	23.7℃
M/N	CFXG-100	**Humidity**	51.9%
Test Mode	Normal	**Criterion**	A
Test Engineer	Lucy Xu		

Test Level (A/M)	Testing Duration	Coil Orientation	Criterion	Result
3	5 mins	X	A	PASS
3	5 mins	Y	A	PASS
3	5 mins	Z	A	PASS

Note:

13. Voltage Dips And Interruptions Test

13.1.Block Diagram of Test Setup



13.2.Test Standard

EN IEC 61000-6-1:2019 Chapter 9 Table 4 (EN IEC 61000-4-11:2020)

13.3.Severity Levels and Performance Criterion

13.3.1.Severity level

Test Level (%UT)	Voltage dip and short interruptions (%UT)	Duration (in period)
0	100	0.5P
0	100	1P
70	30	25/30 at 50/60Hz
0	100	250P/300P at 50/60Hz

13.3.2.Performance criterion: **B&C**

13.4.Operating Condition of EUT

13.4.1.Setup the EUT as shown in Section 13.1.
13.4.2.Turn on the power of all equipments.
13.4.3.Let the EUT work in test mode (Normal) and measure it.

13.5.Test Procedure

13.5.1.Set up the EUT and test generator as shown on Section 13.1.

13.5.2.The interruptions is introduced at selected phase angles with specified duration.

13.5.3.Record any degradation of performance.

13.7.Test Results

PASS.

Voltage Dips And Interruptions Test Results

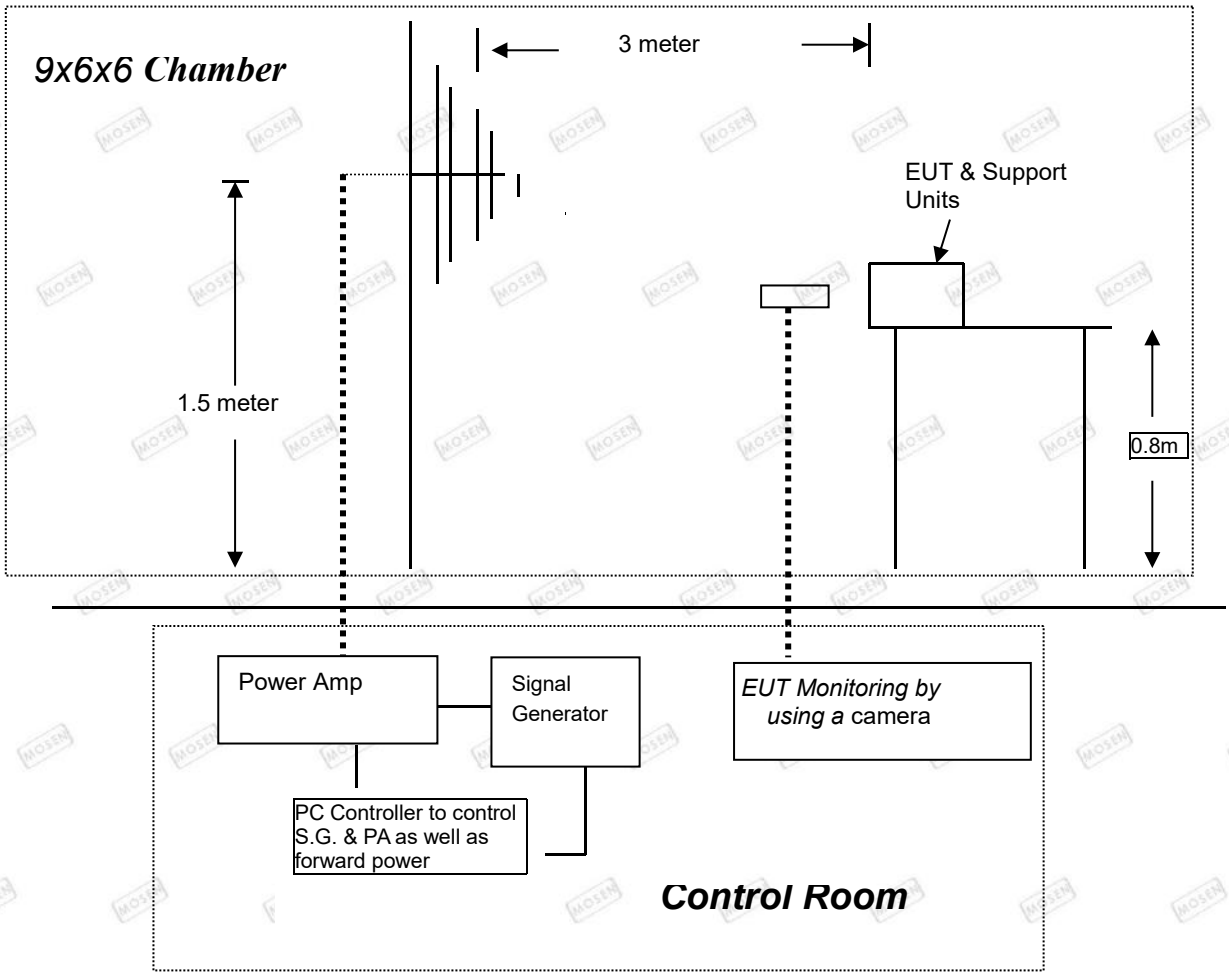
Standard	☐ IEC 61000-4-11 ☑ EN 61000-4-11		
Applicant	Wenzhou Chuangfeng Machinery Co.,Ltd.		
EUT	paper straw/tube making machine	**Temperature**	23.7℃
M/N	CFXG-100	**Humidity**	51.9%
Test Mode	Normal	**Criterion**	B&C
Test Engineer	Lucy Xu		

Test Level % U_T	Voltage Dips & Short Interruptions % U_T	Duration (in periods)	Criterion	Result
0	100	0.5P	B	PASS
0	100	1P	B	PASS
70	30	25/30 at 50/60Hz	C	PASS
0	100	250P/300P at 50/60Hz	C	PASS

Note:

14. RF Field Strength Susceptibility Test

14.1.Block Diagram of Test Setup



14.2.Test Standard

EN IEC 61000-6-1:2019 Chapter 9 Table 1 (EN IEC 61000-4-3:2020, Severity Level: 2, 3V / m)

14.3.Severity Levels and Performance Criterion

14.3.1.Severity level

Level	Field Strength (V/m)
1	1
2	3
3	10
X	Special

14.3.2.Performance criterion: **A**

14.4.Operating Condition of EUT

14.4.1.Setup the EUT as shown in Section 14.1.

14.4.2.Turn on the power of all equipments.

14.4.3.Let the EUT work in test mode (Normal) and measure it.

14.5.Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera is used to monitor EUT screen. All the scanning conditions are as follows:

Condition of Test	Remarks
1. Fielded Strength	3 V/m (Severity Level 2)
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80 - 1000 MHz, 1.4GHz - 6GHz
4. Dwell time of radiated	0.0015 decade/s
5. Waiting Time	3 Sec.

14.7.Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Standard	☐ IEC 61000-4-3 ☑ EN 61000-4-3		
Applicant	Wenzhou Chuangfeng Machinery Co.,Ltd.		
EUT	paper straw/tube making machine	**Temperature**	23.7℃
M/N	CFXG-100	**Humidity**	51.9%
Field Strength	3 V/m	**Criterion**	A
Test Mode	Normal	**Test Engineer**	Lucy Xu
Frequency Range	80 MHz to1.0 GHz, 1.4GHz - 6GHz	**Field Strength**	10 V/m
Modulation	☐None ☐ Pulse ☑AM 1KHz 80%		
Steps	1%		

	Horizontal	**Vertical**
Front	PASS	PASS
Right	PASS	PASS
Rear	PASS	PASS
Left	PASS	PASS

Note:

15. PHOTOGRAPHS OF THE EUT

Fig.1

----------THE END OF REPORT----------