

EMC

ONSITE TEST REPORT

Test Report No: RD/2014/10007

Applicant : FONG-YO Machinery Co., Ltd.

Address of Applicant: 3F., No 29 , Lane .136, Zhongxing N. St., Sanchong Dist.,
New Taipei City ,24158 Taiwan(R.O.C)

Equipment Under Test (EUT):

Product Name: Fully Automatic Bag Making Machine

Representative Model: FY-550HS-SV

Series Model: FY-820SD-SV, FY-820SDP-SV , FY-850B-SV, FY-550HF-SV

Test(s) Required : SGS Onsite Test Standard: 2013

EN 61000-6-2: 2005, EN 61000-6-4: 2007+A1:2011

Date of Tests: March 17, 2014

Date of Issue: April 01, 2014

Test Result :

PASS

Remarks :

This report detail the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS EMC Services or testing done by SGS EMC Services in connection with distribution or use of the product described in this report must be approved by SGS EMC Services in writing.

Authorized Signatory:



SGS TAIWAN LTD.

Jason Lin

Technical Manager

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1. General Information

1.1 Client Information

Applicant : FONG-YO Machinery Co., Ltd.

Address of Applicant: 3F., No 29 , Lane .136, Zhongxing N. St., Sanchong Dist.,
New Taipei City ,24158 Taiwan(R.O.C)

1.2 General Description of EUT

Product Name: Fully Automatic Bag Making Machine

Representative Model: FY-550HS-SV

Series Model: FY-820SD-SV , FY-820SDP-SV , FY-850B-SV, FY-550HF-SV

The differences among the above models are the mechanical dimension and structure of them. The main model type: FY-550HS-SV was carried out in EMC compliance tests.

1.3 Details of EUT (Main Model)

Product Type: FY-550HF-SV

Voltage: 3Phases AC 380V, 50/60Hz

1.4 Description of Support Units

N/A

1.5 Standards Applicable for Testing

The SGS Onsite Test Standard refers to the following standards.

Standard	Test Applicable
CISPR 11/EN 55011 Industrial, Scientific and Medical Equipment	Yes
EN61000-4-2 Electrostatic Discharge	Yes
EN61000-4-4 Electrical Fast Burst Transient	Yes
EN61000-4-6 Conducted Disturbances	Yes
Mobile Phone Test	Yes

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1.6 Deviation from the Standard

1.6.1 Emissions Testing

Conducted emissions measurements were performed using the Line Impedance Stabilization Network (LISN) defined in the basic standard CISPR 11.

1.6.2 Immunity Testing

The free field radiated immunity test called up by the test specification is normally performed within a high integrity screened room to prevent interference with broadcast services.

For this reason, the radiated immunity test should not be performed on-site where the protection of local broadcast services cannot be guaranteed. As an acceptable on-site alternative to the radiated immunity test called up by EN61000-6-2 and detailed in the Basic Standard EN61000-4-3 Bulk Current Injection tests were performed over the frequency range 1MHz to 400MHz.

To simulate as closely as possible the free field radiated immunity test which is called up by the test specification, the BCI test was to be applied to all cables which may be exposed to radio frequency fields.

Cables which were contained within fully enclosed cable trunking were to be omitted. Internal cable runs within control panels, wiring cabinets or behind metal panels were not tested.

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Radio Disturbance

EN 55011/CISPR 11: 2009/A1:2010

2.1 Test Results

EN 55011/CISPR 11: 2009/A1:2010 Class A Group 1 Equipment	Result
Conducted Emission	PASS
Radiated Emission	PASS

2.2 Frequency Range and Limits

2.2.1 Conducted Emission

Frequency Range:	0.15 to 30 MHz	
Quasi-Peak Limit:	79 dB μ V	0.15 to 0.50 MHz
	73 dB μ V	0.50 to 30.0 MHz
Average Limit:	66 dB μ V	0.15 to 0.50 MHz
	60 dB μ V	0.50 to 30.0 MHz

2.2.2 Radiated Emissions

Frequency Range:	30 to 1000 MHz	
Limit (3m Antenna to EUT distance):	50 dB μ V/m	30 to 230 MHz
	57 dB μ V/m	230 to 1000 MHz

2.3 Methods and Procedures

Standard	Date	Description
EN 55011/ CISPR 11	2009/A1:2010	Limits and methods of measurement of radio interference characteristics of industrial, scientific and medical equipment.

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2.4 Test Instruments

Conducted Emission Measurements

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
Hewlett Packard Spectrum Analyser	8591EM	3801A01447	Sep. 11 , 2013
L.I.S.N/Rolf Heine	NNB-4/200X	299.7810.52	Mar. 13, 2013
Transient Limiter/PMM	PL101	1110X10118	May 18, 2013

Radiated Emission Measurements

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
Hewlett Packard Spectrum Analyser	8591EM	3801A01447	Sep. 11 , 2013
Advantest Preamplifier	EMC-9325	244	August 25, 2013
Schwarzbeck BILOG Antenna	VULB 9161SE	4082	July 03, 2013

2.5 Test Site

3F., No 29 , Lane .136, Zhongxing N. St., Sanchong Dist., New Taipei City ,24158 Taiwan(R.O.C)

2.6 Operating Mode of the EUT

The EUT was pre-tested in the following modes:

1. Main motor set at stand-by mode, and machine is operating.
2. Main motor set at low speed, and machine is operating.
3. Main motor set at high speed, and machine is operating.

The worst case in mode 3 was tested in compliance tests.

2.7 Climatic Environment

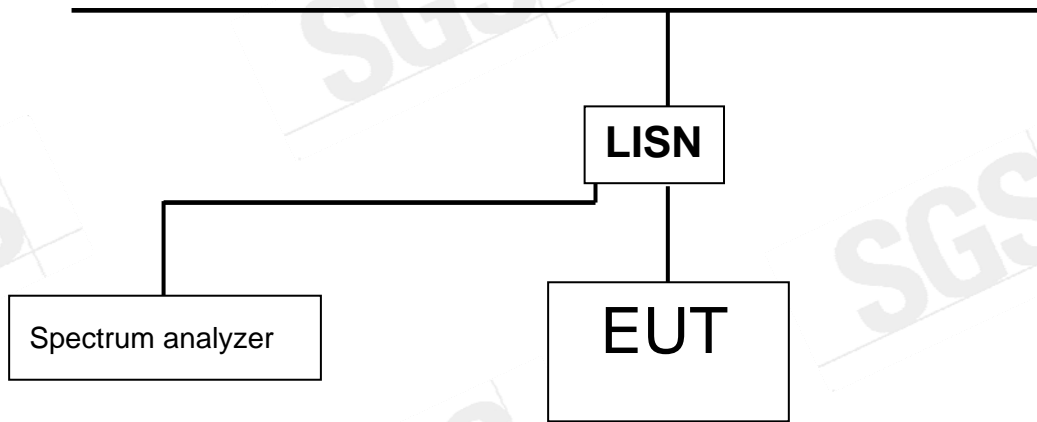
Temperature: 21 °C
 Relative Humidity: 50%
 Atmospheric Pressure: 1006 mBar

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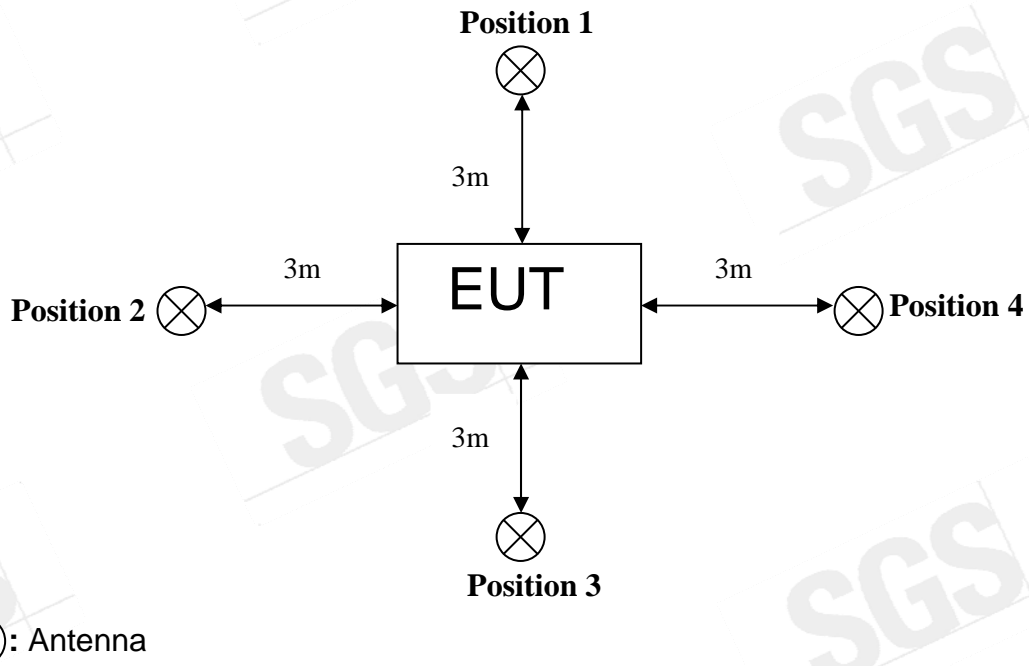
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2.8 Test set-up of Conducted Emission



2.9 Test set-up of Radiated Emission



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2.10 Measurement Data

2.10.1 Conducted Emission Modification:

The EUT was pre-tested in the following modes, as detailed above. The emissions profile for each mode was very similar. Measurements were carried out on L1, L2 and L3 with respect to earth in operating mode.

Tables 1 shows the worst case phase emissions for L1, L2 and L3.

Frequency (MHz)	Conductor	Quasi-Peak Reading (dB μ V)	Average Reading (dB μ V)	Quasi-Peak Limit (dB μ V)	Average Limit (dB μ V)
0.15	L1	60.31	48.31	79.00	66.00
0.17	L1	48.31	44.21	79.00	66.00
0.36	L1	43.21	40.11	79.00	66.00
0.76	L1	48.22	45.32	73.00	60.00
1.07	L1	43.33	40.23	73.00	60.00
2.69	L1	34.26	32.16	73.00	60.00
0.15	L2	40.31	37.21	79.00	66.00
0.43	L2	43.22	40.22	79.00	66.00
0.58	L2	44.72	41.32	73.00	60.00
0.68	L2	42.32	40.12	73.00	60.00
0.76	L2	51.82	48.32	73.00	60.00
1.07	L2	37.23	34.53	73.00	60.00
0.15	L3	65.81	60.21	79.00	66.00
0.38	L3	41.31	39.21	79.00	66.00
0.45	L3	42.72	40.12	79.00	66.00
0.58	L3	45.62	41.42	73.00	60.00
0.76	L3	43.22	41.72	73.00	60.00
1.09	L3	40.33	37.33	73.00	60.00

Table 1 shows the worst case phase emissions for L1, L2, and L3

With the EUT operating in high speed mode, the highest average emission was 60.21 dB μ V at 0.15 MHz. This is 5.79 dB μ V below the class A group 1 average limits.

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2.10.2 Radiated Emission

The EUT was pre-tested in the modes as detailed in the previous page. The emissions profile for each mode was very similar. Tests were carried out with the EUT operating in mode 3. Measurements were performed at 4 positions around the EUT with the antenna height set at 1.5 metres high. The antenna to EUT distance was 3 metres.

Frequency (MHz)	Antenna Position	Antenna Orientation	Quasi-Peak Reading (dB μ V/m)	Quasi-Peak Limit (dB μ V/m)
44.50	1	Horizontal	30.47	50.00
318.57	1	Horizontal	29.98	57.00
398.60	1	Horizontal	30.78	57.00
44.50	1	Vertical	40.67	50.00
398.36	1	Vertical	28.27	57.00
585.32	1	Vertical	27.15	57.00
44.50	2	Horizontal	38.37	50.00
398.60	2	Horizontal	36.57	57.00
578.75	2	Horizontal	24.05	57.00
44.50	2	Vertical	40.37	50.00
76.07	2	Vertical	38.79	50.00
238.50	2	Vertical	24.76	57.00
46.97	3	Horizontal	36.47	50.00
110.02	3	Horizontal	37.81	50.00
587.75	3	Horizontal	31.15	57.00
44.50	3	Vertical	39.47	50.00
110.20	3	Vertical	34.21	50.00
381.62	3	Vertical	23.05	57.00
44.55	4	Horizontal	30.37	50.00
146.40	4	Horizontal	22.73	50.00
238.55	4	Horizontal	27.76	57.00
44.55	4	Vertical	35.47	50.00
110.02	4	Vertical	34.01	50.00
398.60	4	Vertical	30.87	57.00

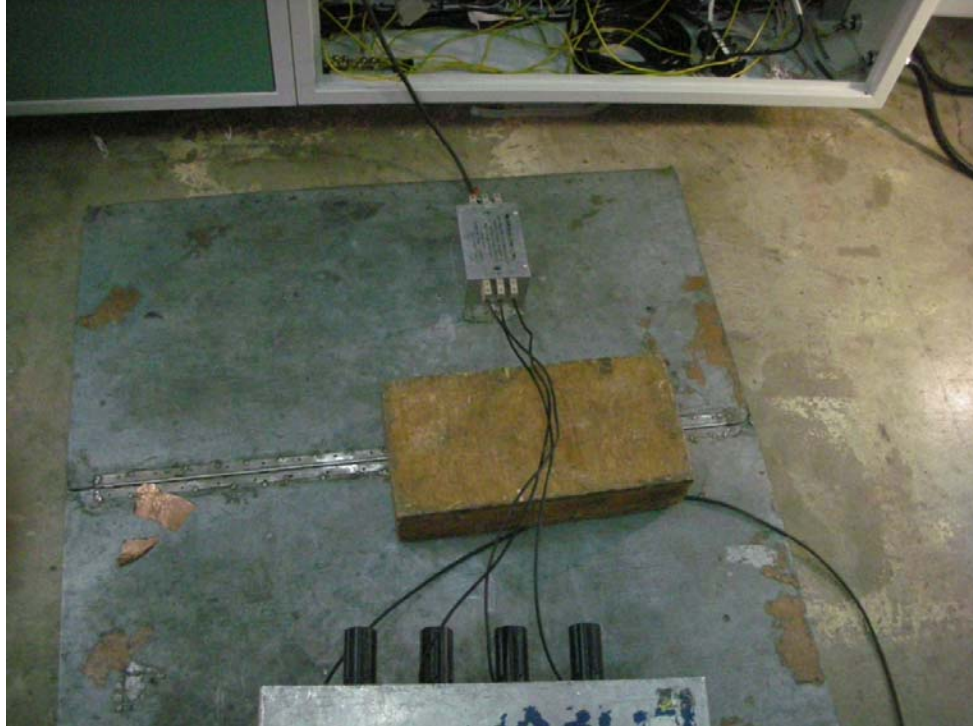
With the EUT operating in mode 3, position 1 / Antenna Vertical was the worst case emission position / antenna orientation. The highest quasi-peak emission was 40.67 dB μ V/m at 44.50 MHz. This is 9.33 dB μ V/m below the class A, group 1 limit.

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2.11 Photographs (Conducted Emission)



Photographs (Radiated Emission)



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<p>IMMUNITY</p> <p>EN61000-4-2 : 2009</p> <p>EN61000-4-4 : 2004/A1:2010</p> <p>EN61000-4-6 : 2009</p> <p>Mobile Phone Test: 2013</p>

3.1 Test Results

EN61000-4-2: 2009	PASS
EN61000-4-4 : 2004/A1:2010	PASS
EN61000-4-6: 2009	PASS
Mobile Phone Test: 2013	PASS

3.2 Performance Criteria Description

Criterion A - The apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Criterion B - The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Criterion C - Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls.

3.3 Test of EN61000-4-2

3.3.1 Methods and Procedures

Standard	Date	Description
EN61000-4-2	2009	Electrostatic Discharge (ESD)

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3.3.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
NOISEKEN	ESS-2002	ESS04X3530	July. 10, 2013

3.3.3 Test Site

3F., No 29 , Lane .136, Zhongxing N. St., Sanchong Dist., New Taipei City ,24158 Taiwan(R.O.C)

3.3.4 Operating Mode of the EUT

The EUT was pre-tested in stand-by mode and operating mode.

The worst case in operating mode was tested in compliance tests.

3.3.5 Monitoring of the EUT

1. To monitor the LEDs on Control Box are in normal operation.
2. To monitor all functions of the machine are running properly.
3. To monitor the machine if it has any degradation in control system.
4. To monitor if the machine has any malfunction.

3.3.6 Climatic Environment

Temperature: 23°C

Relative Humidity: 51 %

Atmospheric Pressure: 1006 mBar

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3.3.8 Photographs



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3.4 Test of EN61000-4-4

3.4.1 Methods and Procedures

Standard	Date	Description
EN61000-4-4	2004/A1:2010	Electrical fast transient/burst requirements

3.4.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
EMC PARTNER EFT Tester	TRA2000	648	Mar. 23, 2013

3.4.3 Test Site

3F., No 29 , Lane .136, Zhongxing N. St., Sanchong Dist., New Taipei City ,24158 Taiwan(R.O.C)

3.4.4 Operating Mode of the EUT

The EUT was pre-tested in stand-by mode and operating mode.

The worst case in operating mode was tested in compliance tests.

3.3.5 Monitoring of the EUT

1. To monitor the LEDs on Control Box are in normal operation.
2. To monitor all functions of the machine are running properly.
3. To monitor the machine if it has any degradation in control system.
4. To monitor if the machine has any malfunction.

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3.4.6 Climatic Environment

Temperature: 23 °C
Relative Humidity: 50 %
Atmospheric Pressure: 1008 mBar
* Deviation from standard.

3.4.7 Results of Electrical Fast Transient

Basic Standard: EN61000-4-4: 2004/A1:2010
Impulse Frequency: 5 kHz
Tr/Tn: 5/50 ns
Burst Duration: 15 ms
Burst Period: 300 ms
Test Duration: 1 minute
Rest: 30 second

3.4.7 Results of Electrical Fast Transient (Continued)

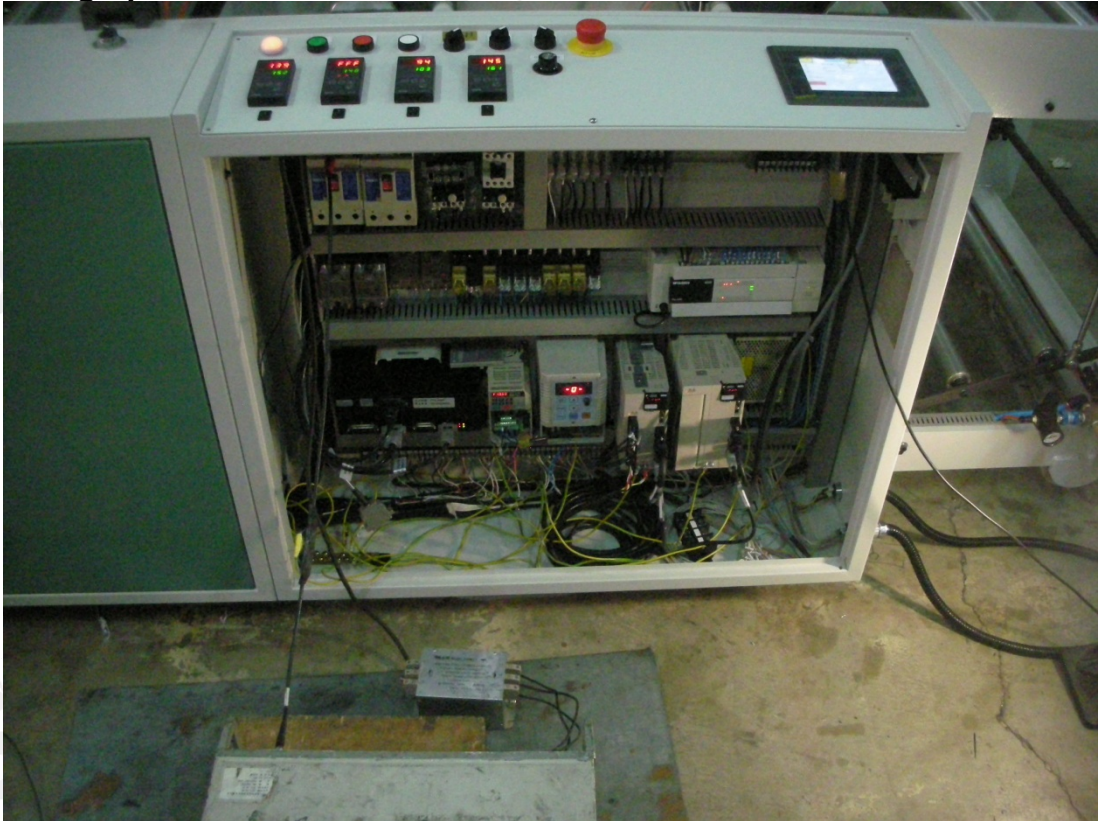
Cable Description	Cable Type	Coupling (Direct/Clamp)	Test Level (± kV)	Observations
Main power (L1)	Unshielded	Direct	2	Note 1
Main power (L2)	Unshielded	Direct	2	Note 1
Main power (L3)	Unshielded	Direct	2	Note 1

Note 1: No degradation in the performance of the EUT was observed.

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3.4.8 Photographs



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3.5 Test of EN61000-4-6

3.5.1 Methods and Procedures

Standard	Date	Description
EN61000-4-6	2009	Immunity to conducted disturbances, induced by radio-frequency fields.

3.5.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
Hewlett Packard Spectrum Analyser	8591EM	3801A01447	Sep. 11 , 2013
FCC Current Injection Probe	F-203I-23MM	479	Nov. 28, 2013
FCC Monitoring Probe	FCC-120-9A	08527	Jun. 22,2013
Kalmus Power Amplifier	116FC-CE	8380-1	Jun. 17, 2013
Rhode & Schwarz Signal Generator	SMY01	844146/016	Dec. 16, 2013
Calibration Jig	FCC-BCICF-2	120	N/A
50 Ω Terminator	50T-054	N/A	N/A
30 dB Attenuator	25-A-MFN-30	9724	N/A

3.5.3 Test Site

3F., No 29 , Lane .136, Zhongxing N. St., Sanchong Dist., New Taipei City ,24158 Taiwan(R.O.C)

3.5.4 Operating Mode of the EUT

The EUT was pre-tested in stand-by mode and operating mode.

The worst case in operating mode was tested in compliance tests.

3.5.5 Monitoring of the EUT

1. To monitor the LEDs on Control Box are in normal operation.
2. To monitor all functions of the machine are running properly.
3. To monitor the machine if it has any degradation in control system.
4. To monitor if the machine has any malfunction.

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3.5.6 Climatic Environment

Temperature: 21°C
 Relative Humidity: 52 %
 Atmospheric Pressure: 1007 mBar

3.5.7 Results of Immunity to Conducted Disturbances (CS)

Basic Standard: EN61000-4-6: 2009
 Frequency range: 0.15 MHz - 400 MHz
 Test Voltage: 10 V rms
 Modulation: 80% Amplitude Modulation
 Frequency step: 1% of the fundamental
 Dwell time: 2 seconds

Results of Conducted Disturbances (Continued)

Cable Description	Cable Type	Test Voltage (V rms)	Observations
Main power	Unshielded	10	Note 1
External Control Lines	Unshielded	10	Note 1
External Signal Lines	Unshielded	10	Note 1

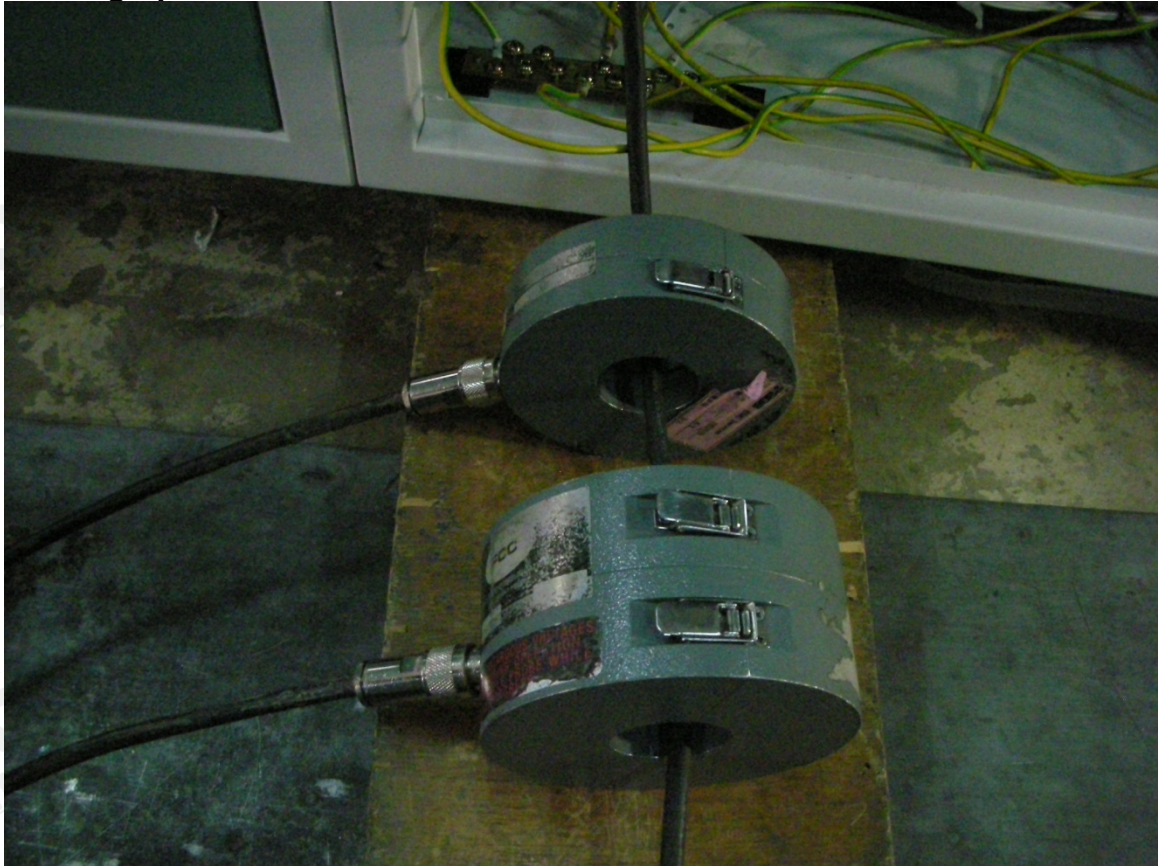
Note 1: No degradation in the performance of the EUT was observed.

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3.6 Test of Mobile Phone Test

3.6.1 Methods and Procedures

Standard	Date	Description
SGS Onsite Test Standard	2013	Mobile Phone test

3.6.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
Mobile phone/ Apple	MF354TA/A	C39LQWXXFRXX	N/A

3.6.3 Test Site

3F., No 29 , Lane .136, Zhongxing N. St., Sanchong Dist., New Taipei City ,24158 Taiwan(R.O.C)

3.6.4 Operating Mode of the EUT

The EUT was pre-tested in stand-by mode and operating mode.

The worst case in operating mode was tested in compliance tests.

3.6.5 Monitoring of the EUT

1. To monitor the LEDs on Control Box are in normal operation.
2. To monitor all functions of the machine are running properly.
3. To monitor the machine if it has any degradation in control system.
4. To monitor if the machine has any malfunction.

3.6.6 Climatic Environment

Temperature: 23°C

Relative Humidity: 52 %

Atmospheric Pressure: 1003 mBar

3.6.7 Results of Mobile Phone Test

Periphery of EUT	Distance from EUT (0.1m/Inside)	Mobile Phone Orientation	Observations
Control panel of Main Control box	0.1m	Horizontal Vertical	Note 1
LEDs of Main Control box	0.1m	Horizontal Vertical	Note 1

Note 1: No degradation in the performance of the EUT was observed.

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