STC Test Report

Date: 2016-05-27
No.: DM123686

Applicant: NIMA Labs
2121 Harrison Street, San Francisco, CA 94110, USA

Description of Sample(s): Submitted sample(s) said to be

Product:	Portable Gluten Sensor Device
Model Number:	300-00015
Brand Name:	NIMA

Date Sample(s) Received: 2016-05-18

Date Tested: 2016-05-23

Investigation Requested: FCC Part 15 Subpart B

Conclusion(s): The submitted product COMPLIED with the requirements of Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on Section 2.2 in this Test Report.

Remark(s): ---

LONG Yun Jian, Along
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
STC (Dongguan) Company Limited

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STC Test Report

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1.0 General Details

1.1 Equipment Under Test [EUT] Description of Sample(s)

Product:	Portable Gluten Sensor Device
Manufacturer:	Healthcare Technology International Ltd. Yin Yang Industrial Zone, Zhang Mu Tou, Dong Guan City
Brand Name:	NIMA
Model Number:	300-00015
Rating:	5Vd.c. by USB port

1.1.1 Description of EUT Operation

The Equipment Under Test (EUT) is a Portable Gluten Sensor Device. During the test, the EUT was conducted under Charge mode/Test mode function to simulate the normal operating condition.

1.2 Date of Order

2016-05-18

1.3 Submitted Sample(s):

1 Sample

1.4 Test Duration

2016-05-23

1.5 Country of Origin

China

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2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2015 and ANSI C63.4: 2009 for FCC Verification.

2.2 Test Standards and Results Summary Tables

EMISSION Results Summary						
Test Condition	Test Requirement	Test Method	Class / Severity	Test Result		
				Pass	Failed	N/A
Radiated Emissions	FCC 47CFR 15.109	ANSI C63.4:2009	Class B	☒	☐	☐
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC 47CFR 15.107	ANSI C63.4:2009	Class B	☒	☐	☐

Note: N/A - Not Applicable

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3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions (30 – 1000MHz)

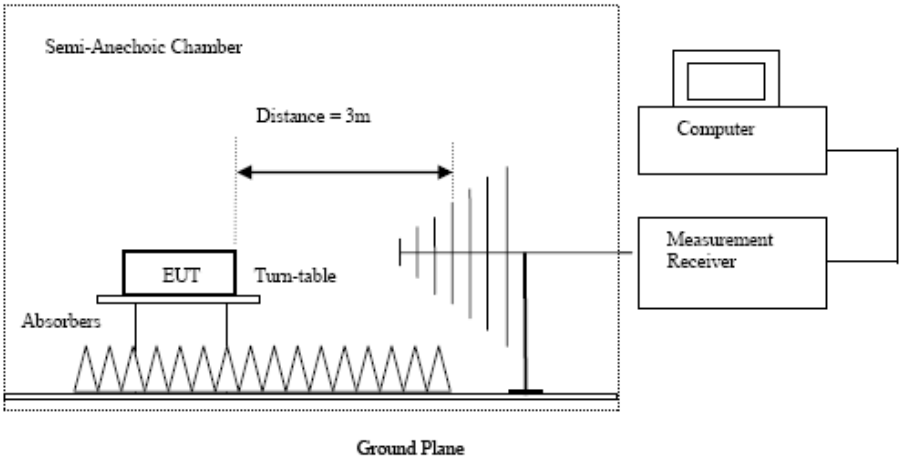
Test Requirement:	FCC 47CFR 15.109 Class B
Test Method:	ANSI C63.4:2009
Test Date:	2016-05-23
Mode of Operation:	Charge mode/Test mode

Test Method:

The sample was placed 0.8m above the ground plane of semi-anechoic chamber*. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

*: Semi-anechoic chamber located on the G/F of DGSTC with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 629686.

Test Setup:



- Absorbers placed on top of the ground plane are for measurements above 1000MHz only.
- Measurements between 30MHz to 1000MHz made with Bi-log antenna, above 1000MHz horn antenna is used.

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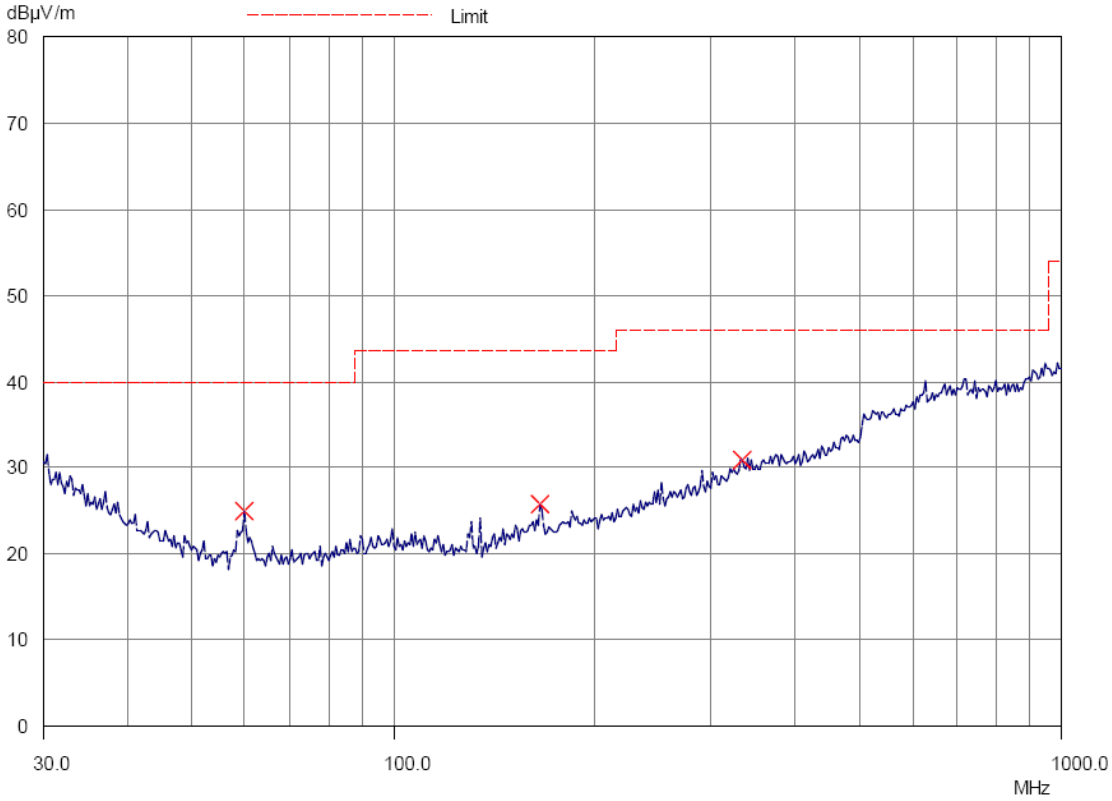
Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range	Quasi-Peak Limits	
[MHz]	[μV/m]	[dBμV/m]
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above960	500	54.0

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of Charge mode: PASS
Please refer to the following table for result details

Horizontal



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Results of Charge mode: PASS

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @3m μV/m	Limit @3m μV/m
59.7	Horizontal	24.9	40.0	15.1	100
166.0	Horizontal	25.8	43.5	17.7	150
332.1	Horizontal	30.9	46.0	15.1	200

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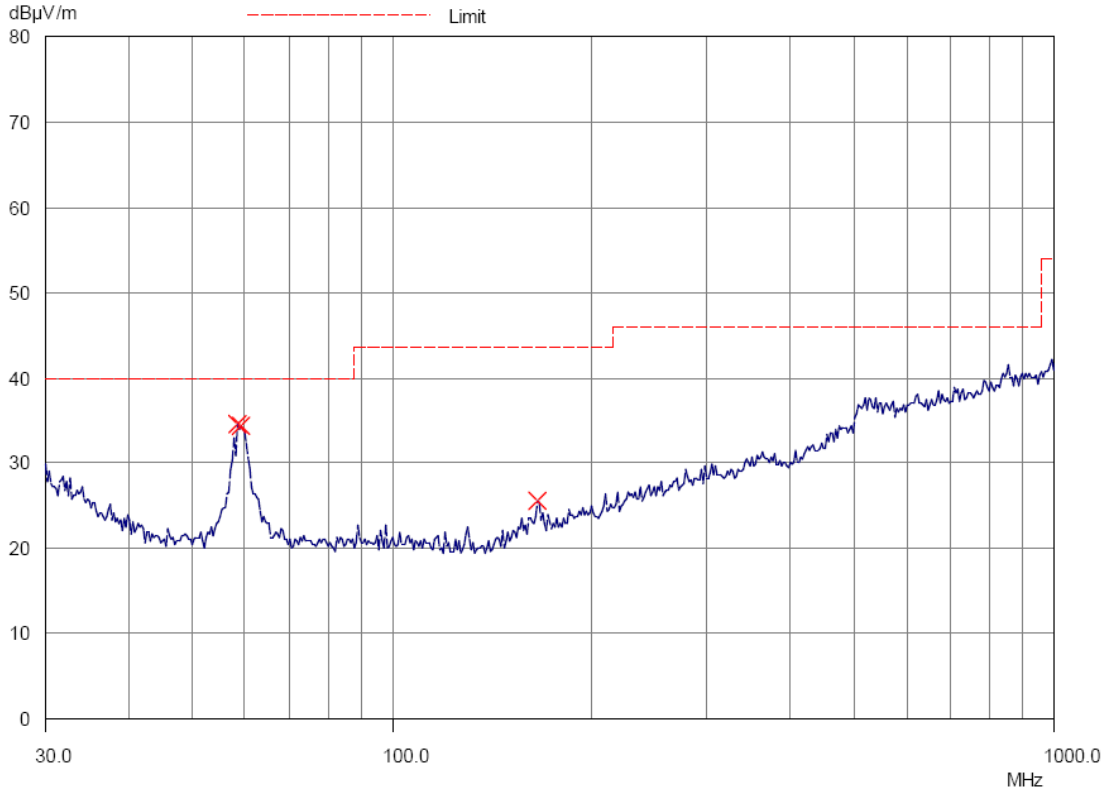
Above960	500	54.0

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of Charge mode : PASS
Please refer to the following table for result details

Vertical



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Results of Charge mode: PASS

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @3m μV/m	Limit @3m μV/m
58.4	Vertical	34.6	40.0	53.7	100
59.1	Vertical	34.4	40.0	52.5	100
165.9	Vertical	25.5	43.5	18.8	150

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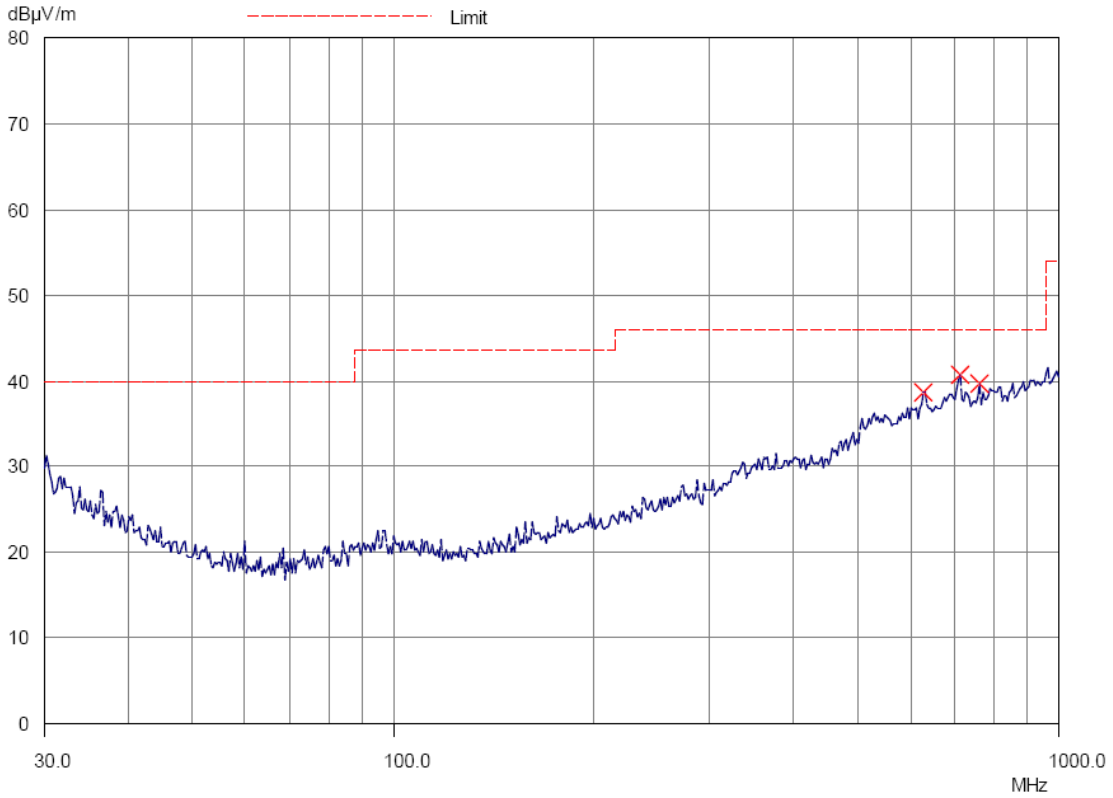
Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range	Quasi-Peak Limits	
[MHz]	[μV/m]	[dBμV/m]
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above960	500	54.0

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of Test mode: PASS
Please refer to the following table for result details

Horizontal



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Results of Test mode: PASS

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @3m μV/m	Limit @3m μV/m
623.9	Horizontal	38.7	46.0	86.1	200
711.3	Horizontal	40.8	46.0	109.6	200
758.2	Horizontal	39.8	46.0	97.7	200

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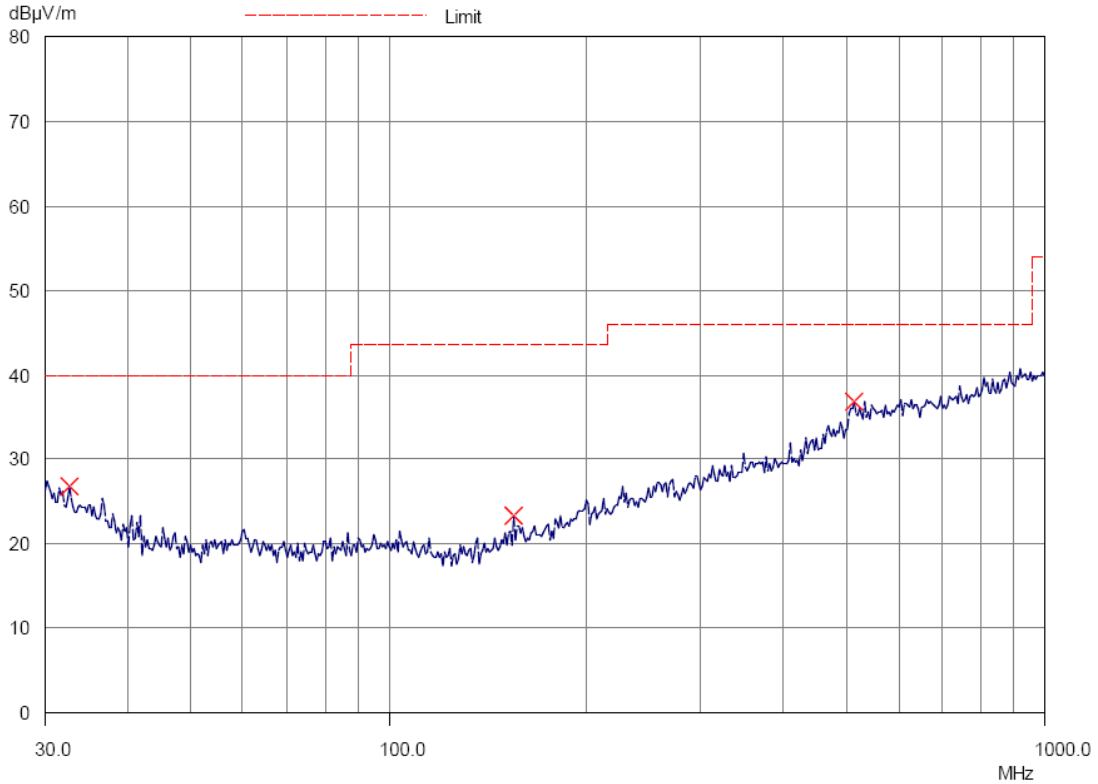
Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range	Quasi-Peak Limits	
[MHz]	[μV/m]	[dBμV/m]
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above960	500	54.0

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of Test mode : PASS
Please refer to the following table for result details

Vertical



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Results of Test mode: PASS

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @3m μV/m	Limit @3m μV/m
32.6	Vertical	26.8	40.0	21.9	100
155.4	Vertical	23.3	43.5	14.6	150
511.9	Vertical	36.8	46.0	69.2	200

Remarks:
Calculated measurement uncertainty (30MHz - 1GHz): 4.6dB
Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.

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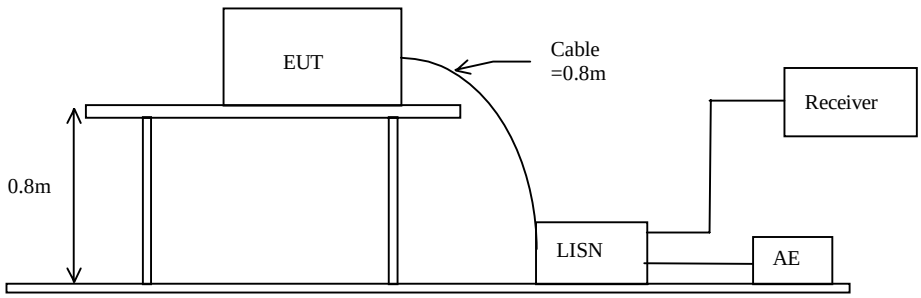
3.1.2 Conducted Emissions (0.15MHz to 30MHz)

Test Requirement:	FCC 47CFR 15.107 Class B
Test Method:	ANSI C63.4:2009
Test Date:	2016-05-23
Mode of Operation:	Charge mode

Test Method:

The test was performed in accordance with ANSI C63.4: 2009, with the following: initial measurements were performed in peak and average detection modes on the live line, any emissions recorded within 30dB of the relevant limit lines were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Test Setup:



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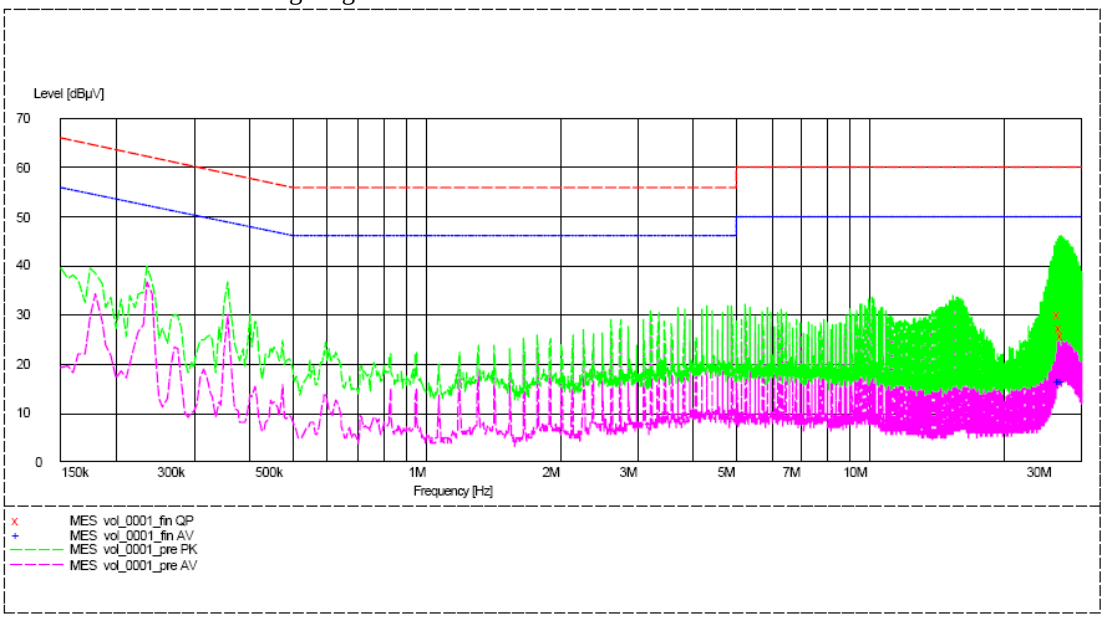
Limits for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Charge mode (L): PASS
Please refer to the following diagram for individual results.



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MEASUREMENT RESULT: "vol_0001_fin QP"

5/23/2016 2:02PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
26.705000	29.90	10.1	60	30.1	L1	GND
26.830000	27.20	10.1	60	32.8	L1	GND
27.200000	26.00	10.1	60	34.0	L1	GND

MEASUREMENT RESULT: "vol_0001_fin AV"

5/23/2016 2:02PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
26.705000	16.30	10.1	50	33.7	L1	GND
26.830000	16.30	10.1	50	33.7	L1	GND
27.075000	16.50	10.1	50	33.5	L1	GND

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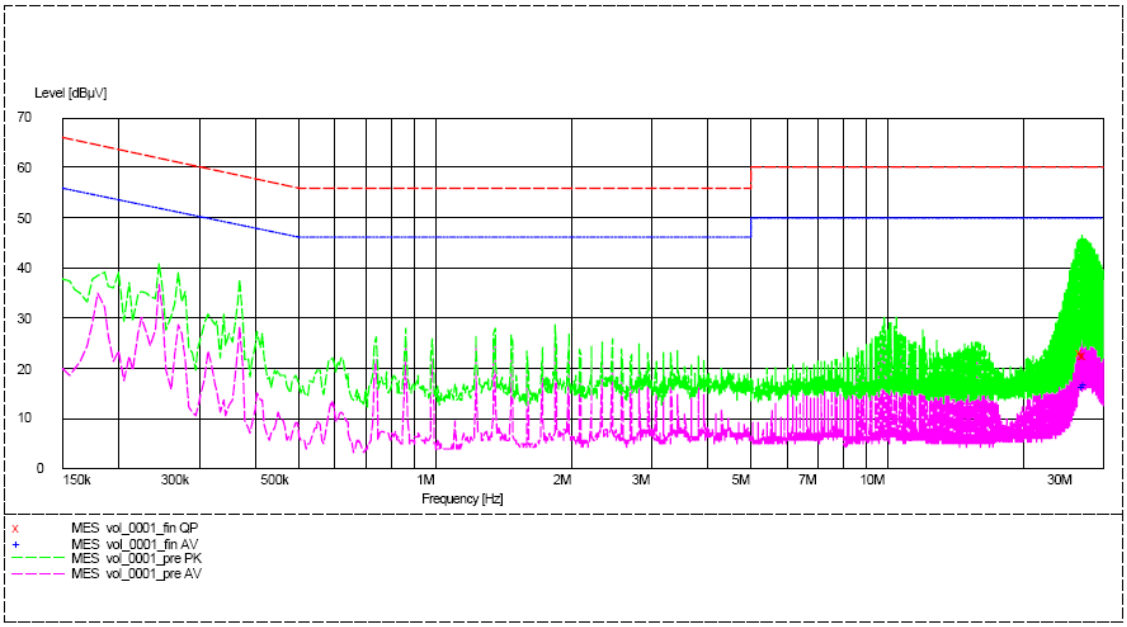
Limits for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Charge mode (N): PASS
Please refer to the following diagram for individual results.



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MEASUREMENT RESULT: "vol_0001_fin QP"

5/23/2016 2:05PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
26.845000	23.00	10.1	60	37.0	N	GND
27.340000	22.70	10.1	60	37.3	N	GND
27.465000	22.70	10.1	60	37.3	N	GND

MEASUREMENT RESULT: "vol_0001_fin AV"

5/23/2016 2:05PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
27.215000	16.40	10.1	50	33.6	N	GND
27.340000	16.50	10.1	50	33.5	N	GND
27.465000	16.60	10.1	50	33.4	N	GND

Remark:
Calculated measurement uncertainty (0.15MHz - 30MHz): 3.2dB

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Appendix A

List of Measurement Equipment

RADIATED EMISSION

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD036	EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	100388	2016.03.29
EMD061	BICONILOG ANTENNA	ETS.LINDGREN	3142C	00060439	2014.11.29
EMD084	MULTI-DVICE CONTROLLER	ETS.LINDGREN	2090	00060107	N/A
EMD088	VIDEO CONTOL UNIT	ETS.LINDGREN	Y21953A	2601073	N/A
EMD093	MONITOR	VIEWSONIC	VA9036	Q8X064201876	N/A
EMD102	INTELLIGENT FREQUENCY	AINUO LNSTRUMENT CO., LTD	AN97005SS	79707454	N/A
EMD105	FACT-3 EMC CHAMBER	ETS.LINDGREN	FACT-3	3803	N/A

CONDUCTED EMISSION

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EMD003	IMPULSEGRENZER PULSE LIMITER	ROHDE & SCHWARZ	ESH3-Z2	100071	2016.03.29
EMD004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ROHDE & SCHWARZ	ESH3-Z5	100102	2016.03.29
EMD036	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB26	100388	2016.03.29
EMD041	TWO-LINE V-NETWORK	ROHDE & SCHWARZ	ENV216	100261	2016.03.29
EMD103	INTELLIGENT FREQUENCY	AINUO LNSTRUMENT CO., LTD	AN97005SS	79707455	N/A
EMD106	SHIELDING ROOM #1	ETS.LINDGREN	RFD-100	3802	N/A

Remark:
N/A Not Applicable

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APPENDIX B

Photograph (S) Of Product

Front View of The Product

Rear View of The Product

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Photograph (S) Of Product

Part View of The Product

Inside View of The Product

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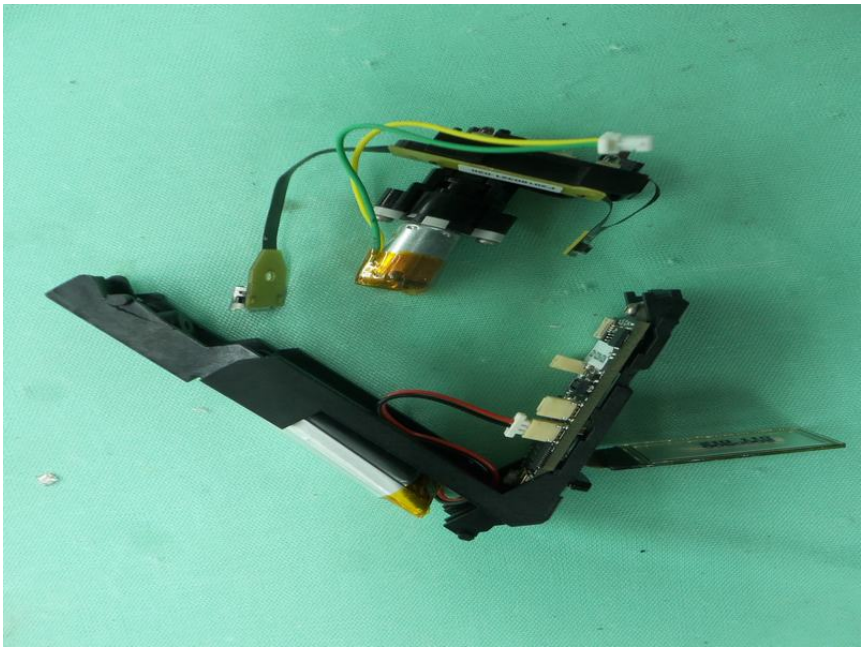
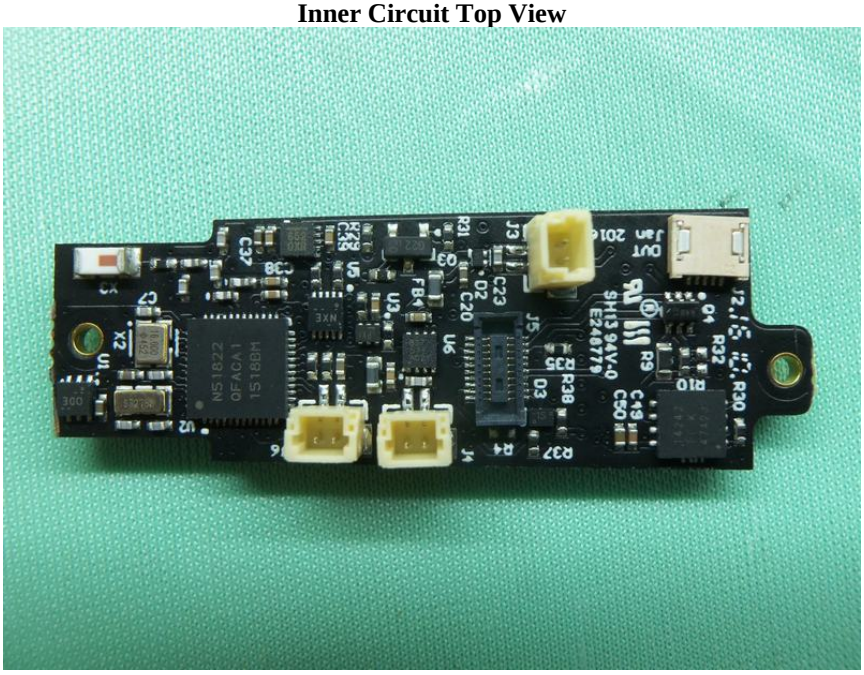
Photograph (S) Of Product

Inside View of The Product



Inner Circuit Top View



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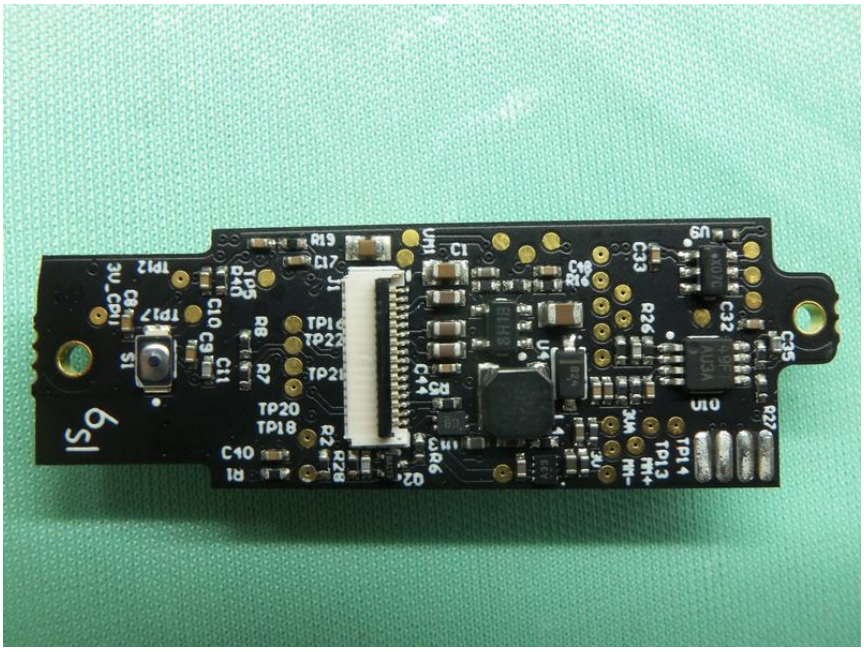
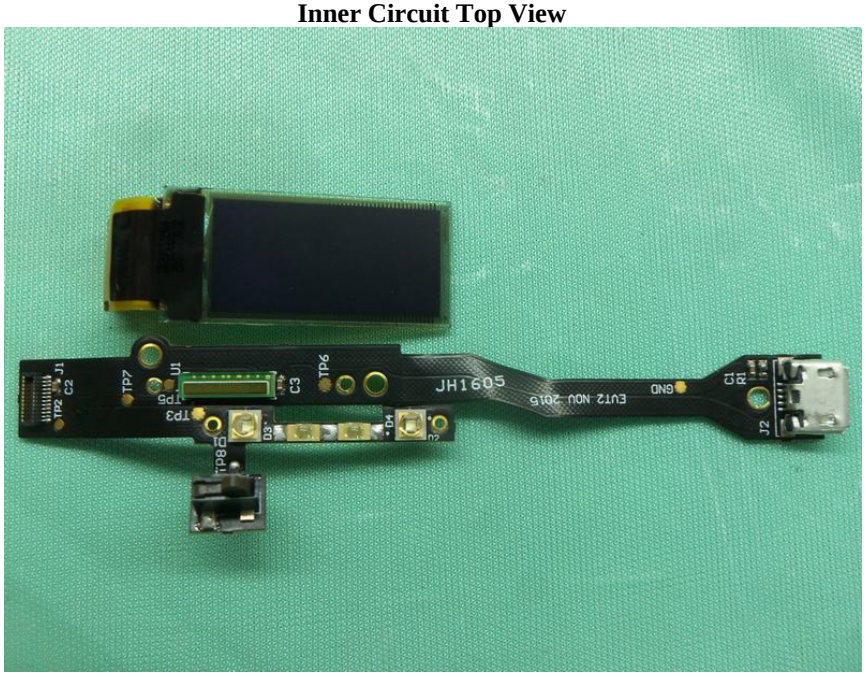
Photograph (S) Of Product

Inner Circuit Bottom View



Inner Circuit Top View



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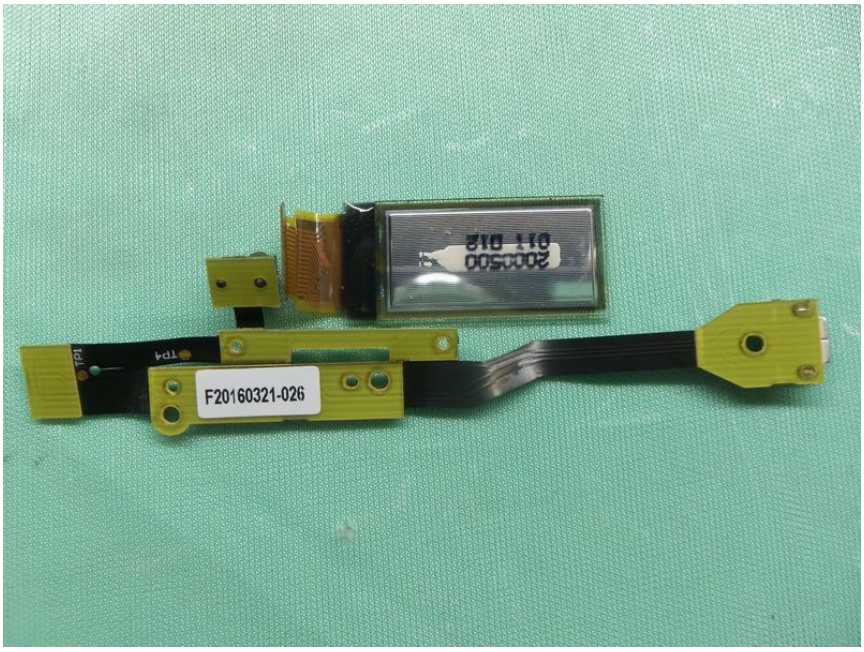
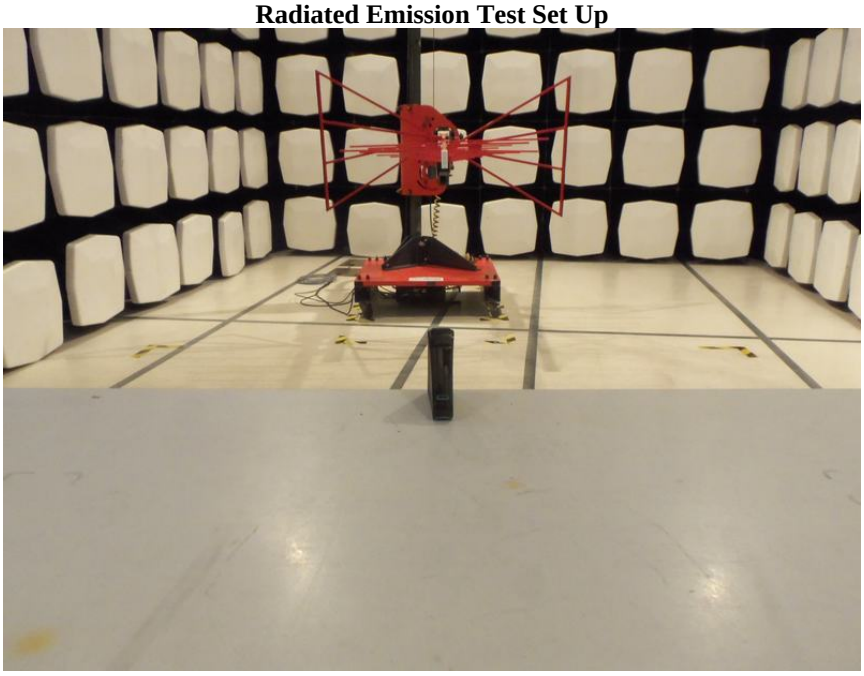
Photograph (S) Of Product

Inner Circuit Bottom View



Radiated Emission Test Set Up



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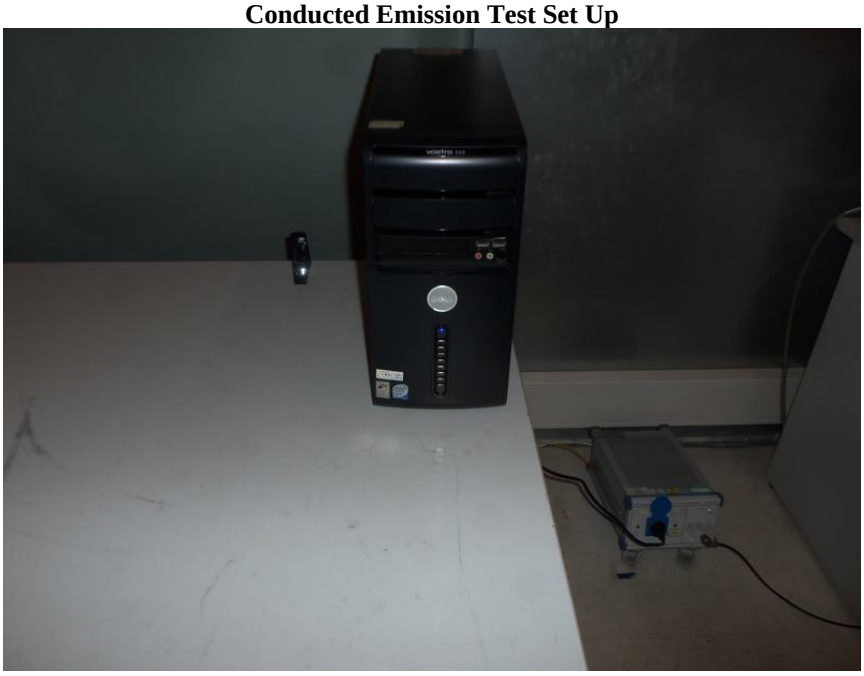
Photograph (S) Of Product

Conducted Emission Test Set Up



******* End of Test Report *******

STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)
Tel : (86 769) 8111 9888 Fax : (86 769) 8111 6222 E-mail : dgstc@dgstc.org Homepage : www.dgstc.org

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