



EMC Test Report

Product : SCOOTER BOOSTER

Model Number : GX3

Prepared for : Shenzhen Ipozon Technology Co.,Ltd

Address : No.42 Minan Road, Pinghu Fumin Industrial Zone, Longgang District, Shenzhen, Guangdong Province ,China.

Prepared By : Shenzhen Ipozon Technology Co.,Ltd

Address : No.42 Minan Road, Pinghu Fumin Industrial Zone, Longgang District, Shenzhen, Guangdong Province ,China.

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Prepared by(Engineer):

Approved & Authorized Signer(Manager):



1 Contents

	Page
COVER PAGE	
1 CONTENTS	2
2 TEST SUMMARY	3
3 GENERAL INFORMATION	4
3.1 GENERAL DESCRIPTION OF EUT	5
4 EQUIPMENTS LIST FOR ALL TEST ITEMS	6
5 EMISSION TEST RESULTS	7
5.1 MAINS TERMINALS DISTURBANCE VOLTAGE MEASUREMENT	7
5.1.1 E.U.T. OPERATION	7
5.1.2 TEST SPECIFICATION	7
5.1.3 MEASUREMENT DATA	8
5.2 DISTURBANCE POWER MEASUREMENT	13
5.2.1 E.U.T. OPERATION	13
5.2.2 TEST SPECIFICATION	13
5.2.3 MEASUREMENT DATA	14
5.3 HARMONICS	15
5.3.1 E.U.T. OPERATION	15
5.3.2 TEST SPECIFICATION	15
5.3.3 MEASUREMENT DATA	16
5.4 VOLTAGE CHANGES, VOLTAGE FLUCTUATIONS AND FLICKER	18
5.4.1 E.U.T. OPERATION	18
5.4.2 TEST SPECIFICATION	18
5.4.3 MEASUREMENT DATA	19
6 IMMUNITY TEST RESULTS	19
6.1 ELECTROSTATIC DISCHARGE IMMUNITY TEST	19
6.1.1 E.U.T. OPERATION	20
6.1.2 TEST SPECIFICATION	20
6.1.3 MEASUREMENT DATA	21
6.2 RF FIELD STRENGTH IMMUNITY TEST	22
6.2.1 E.U.T. OPERATION	22
6.2.2 TEST SPECIFICATION	22
6.2.3 MEASUREMENT DATA	23
6.3 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST	24
6.3.1 E.U.T. OPERATION	24
6.3.2 TEST SPECIFICATION	24
6.3.3 MEASUREMENT DATA	25
6.4 SURGE IMMUNITY TEST	26
6.4.1 E.U.T. OPERATION	26
6.4.2 TEST SPECIFICATION	26
6.4.3 MEASUREMENT DATA	27
6.5 CONDUCTED DISTURBANCE IMMUNITY TEST	28
6.5.1 E.U.T. OPERATION	28
6.5.2 TEST SPECIFICATION	28
6.5.3 MEASUREMENT DATA	29
6.6 POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST	30
6.6.1 E.U.T. OPERATION	30
6.6.2 TEST SPECIFICATION	30
6.6.3 MEASUREMENT DATA	31
6.7 VOLTAGE DIPS AND INTERRUPTIONS IMMUNITY TEST	32
6.7.1 E.U.T. OPERATION	32
6.7.2 TEST SPECIFICATION	32

6.7.3 MEASUREMENT DATA..... 33

7 APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....34

2 Test Summary

Test procedures according to the technical standards:

<u>EMC Emission</u>				
Standard	Test Item	Limit	Judgment	Remark
EN 55014-1: 2006+A1:2009+A2: 2011	Conducted Emission	Class B	PASS	
	Radiated Emission	Class B	PASS	
EN61000-3-2: 2014	Harmonic Current Emission	Class A or D NOTE (2)	PASS	
EN 61000-3-3: 2013	Voltage Fluctuations & Flicker	-----	PASS	
<u>EMC Immunity</u>				
Section EN 55014-2:2015	Test Item	Performance Criteria	Judgment	Remark
EN 61000-4-2: 2009	Electrostatic Discharge	B	PASS	
EN 61000-4-3:2006+A1:2008+A2:2010	RF electromagnetic field	A	PASS	
EN 61000-4-4: 2012	Fast transients	B	PASS	
EN 61000-4-5: 2014	Surges	B	PASS	
EN 61000-4-6: 2014	Injected Current	A	PASS	
EN 61000-4-11: 2004	Volt. Interruptions Volt. Dips	C / C / C NOTE (3)	PASS	

NOTE:

(1) ' N/A' denotes test is not applicable in this Test Report

(2) No limits apply for equipment with an active input power up to and including 75W.

(3) Voltage dip: 0% reduction – Performance Criteria **C**

Voltage dip: 30% reduction – Performance Criteria **C**

Voltage dip: 60% reduction – Performance Criteria **C**

For client's request and manual description, the test will not be executed.

3 General Information

3.1 General Description OfEUT

Manufacturer:	Shenzhen Ipozon Technology Co.,Ltd
Manufacturer Address:	No.42 Minan Road, Pinghu Fumin Industrial Zone, Longgang District, Shenzhen, Guangdong Provice ,China.
EUT Name:	SCOOTER BOOSTER
Test Model No:	GX3
Attached No.:	GX3
Brand Name:	N/A
Power Supply Range:	DC25.2V

4 Equipments List For All Test Items

No.	Equipment	Manufacturer	Model No.	S/N	Cal date
1	EMI Test Receiver	R&S	ESCI	100612	2015-7-01
2	EMI Test Receiver	R&S	ESPI	100067	2015-7-01
3	Amplifier	HP	8447D	1937A02415	2015-7-01
4	Single Power Conductor Module	FCC	FCC-LISN-5-50-1-01-CISPR25	07118	2015-7-01
5	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-387	2015-7-01
6	Horn Antenna	SCHWARZBECK	BBHA9120A	B08000991-0021	2015-7-01
7	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	169	2015-7-01
8	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	818	2015-7-01
9	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	354	2015-7-01
10	Power Clamp	SCHWARZBECK	MDS-21	3898	2015-7-01
11	Single Power Conductor Module	FCC	FCC-LISN-5-50-1-01-CISPR25	07254	2015-7-01
12	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	D-69124	2015-7-01
13	Positioning Balance car	C&C	CC-C-1F	MF7802155	2015-7-01
14	Electrostatic Discharge Simulator	TESEQ	NSG437	128	2015-7-01
15	Fast Transient Burst Generator	SCHAFFNER	MODULA6150	34587	2015-7-01
16	Fast Transient Noise Simulator	Noiseken	FNS-105AX	31438	2015-7-01
17	Capacitive Coupling Clamp	TESEQ	CDN8014	25115	2015-7-01
18	Color TV Pattern Genenator	PHILIPS	PM5418	TM209966	N/A
19	Power Frequency Magnetic Field Gene	EVERFINE	EMS61000-8K	608085	2015-7-01
20	Triple-Loop Antenna	EVERFINE	LLA-2	607035	2015-7-01
21	10dB attenuator	SCHWARZBECK	MTAIMP-136	R65.90.0009	2015-7-01

5 Emission Test Results

5.1 Mains Terminals Disturbance Voltage Measurement

Frequency Range:	150kHz to 30MHz
Limits:	Table 1 of EN 55014-1
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximized peak within 6dB of Average Limit

5.1.1 E.U.T. Operation

Operating Environment:

Temperature:	21°C	Humidity:	63% RH	Atmospheric Pressure:	102.0	Kpa
EUT Operation:	Connect EUT output to dummy load.					

5.1.2 Test Specification

EUT was placed upon a wooden test table 0.8m above the horizontal metal plane and 0.4m from the vertical metal reference plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m, All peripherals were connected to another AMN, and placed at a distance of 10 cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

Associated with the conducted emission test data in this report is a ± 1.54 dB measurement uncertainty.

5.1.3 Measurement Data

An initial pre-scan was performed on the live and neutral lines.

Quasi-peak or average measurements were performed at the frequency which maximum peak emissions were detected.

Please refer to the attached quasi-peak & average measurement data for reference.

Line

Frequency (MHz)	Factor (dB)	Quasi-peak				Average			
		Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)	Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)
0.242	10.163	39.200	49.363	63.371	-14.008	28.900	39.065	53.343	-14.278
0.307	10.235	36.300	46.535	61.514	-14.979	29.700	39.936	51.486	-11.550
0.439	10.324	34.000	44.324	57.743	-13.419	30.100	40.425	47.686	-7.261
* 0.573	10.382	32.800	43.182	56.000	-12.818	29.400	39.782	46.000	-6.218
1.849	10.540	32.700	43.240	56.000	-12.760	27.400	37.940	46.000	-8.060
5.659	10.680	27.300	37.980	60.000	-22.020	22.400	33.080	50.000	-16.920

Neutral

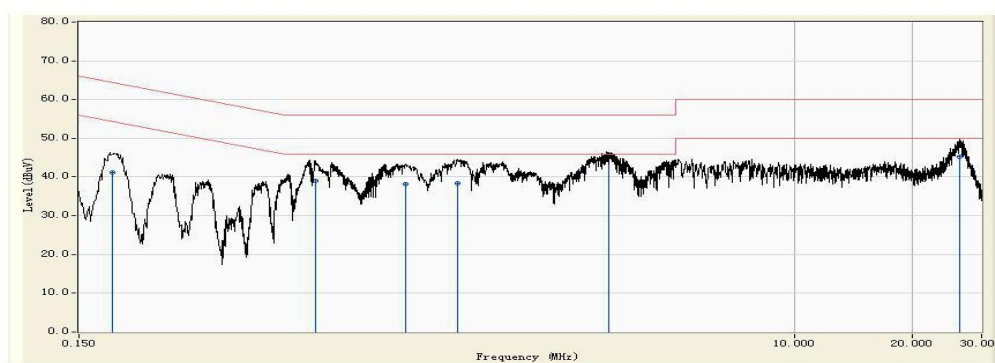
Frequency (MHz)	Factor (dB)	Quasi-peak				Average			
		Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)	Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)
0.242	10.163	39.200	49.363	63.371	-14.008	28.900	39.065	53.343	-14.278
0.307	10.235	36.300	46.535	61.514	-14.979	29.700	39.936	51.486	-11.550
0.439	10.324	34.000	44.324	57.743	-13.419	30.100	40.425	47.686	-7.261
* 0.573	10.382	32.800	43.182	56.000	-12.818	29.400	39.782	46.000	-6.218
1.849	10.540	32.700	43.240	56.000	-12.760	27.400	37.940	46.000	-8.060
5.659	10.680	27.300	37.980	60.000	-22.020	22.400	33.080	50.000	-16.920

Note: “*” means the worst case

Measurement Level = Reading Level + Factor

Factor= Cable Loss + LISN insertion loss

Engineer: Bill	
Site: conduction test site	Time: Jan.09,2020
Limit: EN 55014_B_03M_QP	Margin: 10
EUT: SCOOTER BOOSTER	Probe: LISN-VA-LIN1-LINE1
POWER: DC25.2V	Note: PREVIEW



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV)	Margin (dB)	Limit (dBμV)	Detector Type
1	0.183	10.073	31.200	41.273	-23.784	65.057	QUASIPeAK
2	0.601	10.392	28.600	38.992	-17.008	56.000	QUASIPeAK
3	1.016	10.470	27.600	38.070	-17.930	56.000	QUASIPeAK
4	1.363	10.493	28.000	38.493	-17.507	56.000	QUASIPeAK
5	* 3.367	10.630	34.600	45.230	-10.770	56.000	QUASIPeAK
6	26.300	11.290	33.900	45.190	-14.810	60.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer: Bill	
Site: conduction test site	Time: Jan.09,2020
Limit: EN 55014_B_00M_AV	Margin: 10
EUT: SCOOTER BOOSTER	Probe: LISN-VA-LIN1-LINE1
POWER: DC25.2V	Note: PREVIEW

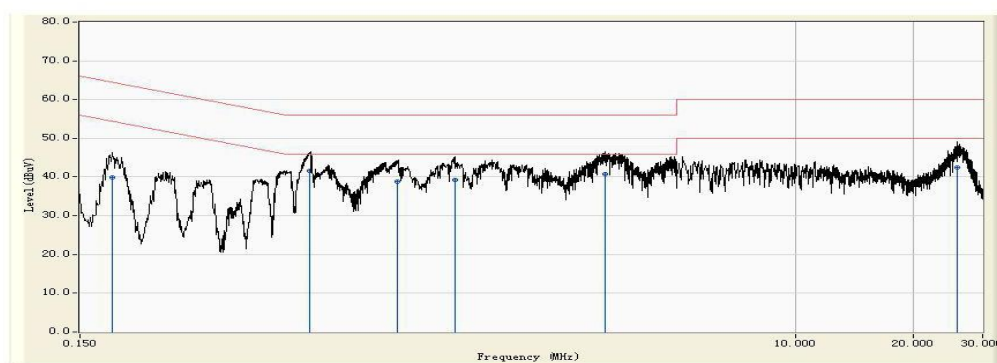


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.183	10.073	24.600	34.673	-20.384	55.057	AVERAGE
2	0.605	10.395	24.100	34.495	-11.505	46.000	AVERAGE
3	1.016	10.470	24.600	35.070	-10.930	46.000	AVERAGE
4	1.363	10.493	23.400	33.893	-12.107	46.000	AVERAGE
5	* 3.363	10.630	25.800	36.430	-9.570	46.000	AVERAGE
6	26.300	11.290	25.600	36.890	-13.110	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer: Bill	
Site: conduction test site	Time: Jan.10,2020
Limit: EN 55014_B_00M_QP	Margin: 10
EUT: SCOOTER BOOSTER	Probe: LISN-VB-LIN2-LINE2
POWER: DC25.2V	Note: PREVIEW



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV)	Margin (dB)	Limit (dBμV)	Detector Type
1		0.181	9.995	29.800	39.794	-25.320	65.114	QUASIPeAK
2	*	0.578	10.383	31.200	41.583	-14.417	56.000	QUASIPeAK
3		0.966	10.470	28.300	38.770	-17.230	56.000	QUASIPeAK
4		1.354	10.490	28.700	39.190	-16.810	56.000	QUASIPeAK
5		3.287	10.621	30.100	40.721	-15.279	56.000	QUASIPeAK
6		25.825	11.180	31.200	42.380	-17.620	60.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer: Bill	
Site: conduction test site	Time: Jan. 10, 2020
Limit: EN 55014_B_00M_AV	Margin: 10
EUT: SCOOTER BOOSTER	Probe: LISN-VB-LIN2-LINE2
POWER: DC25.2V	Note: PREVIEW



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV)	Margin (dB)	Limit (dBμV)	Detector Type
1	0.183	10.001	23.700	33.702	-21.356	55.057	AVERAGE
2	*	10.381	23.700	34.081	-11.919	46.000	AVERAGE
3	0.965	10.470	21.800	32.270	-13.730	46.000	AVERAGE
4	1.356	10.490	22.300	32.790	-13.210	46.000	AVERAGE
5	3.280	10.620	23.100	33.720	-12.280	46.000	AVERAGE
6	26.175	11.180	25.300	36.480	-13.520	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

5.2 Disturbance PowerMeasurement						
Frequency Range:		30MHz to 300MHz				
Limits:		Table 2 of EN55014-1				
Detector:		Peak for pre-scan (120kHz resolution bandwidth)				
		Quasi-Peak and Average if maximum peak within 6dB of limit				
5.2.1 E.U.T. Operation						
Operating Environment:						
Temperature:	16.7 °C	Humidity:	59% RH	Atmospheric Pressure:	102	Kpa
EUT Operation:	1					
5.2.2 Test Specification						
The EUT was placed on a wooden table which is 0.8m in height. A non-metallic slide groove 6m long was placed at the same height for movement of the absorbing clamp. Absorbing clamp moved along the slide groove during testing to find the maximum disturbance reading. All reflecting or absorbing objects are not closer than 0.8m to the measuring set-up.						

Associated with the radiated emission test data in this report is a ± 3.44 dB measurement uncertainty.

5.2.3 Measurement Data

An initial pre-scan was performed on the live and neutral lines.

Quasi-peak or average measurements were performed at the frequency which maximum peak emissions were detected.

Please refer to the attached quasi-peak & average measurement data.

Power Line

Frequency (MHz)	Factor (dB)	Quasi-peak				Average			
		Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)	Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)
0.242	10.163	39.200	49.363	63.371	-14.008	28.900	39.065	51.486	-11.550
0.307	10.235	36.300	46.535	61.514	-14.979	29.700	39.936	51.486	-11.550
0.439	10.324	34.000	44.324	57.743	-13.419	30.100	40.425	47.686	-7.261
* 0.573	10.382	32.800	43.182	56.000	-12.818	29.400	39.782	46.000	-6.218
1.849	10.540	32.700	43.240	56.000	-12.760	27.400	37.940	46.000	-8.060
5.659	10.680	27.300	37.980	60.000	-22.020	22.400	33.080	50.000	-16.920

AV Input Cable

Frequency (MHz)	Factor (dB)	Quasi-peak				Average			
		Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)	Reading Level (dBuV)	Measure Level (dBμV)	Limit (dBμV)	Margin (dB)
0.242	10.163	39.200	49.363	63.371	-14.008	28.900	39.065	53.343	-14.278
0.307	10.235	36.300	46.535	61.514	-14.979	29.700	39.936	51.486	-11.550
0.439	10.324	34.000	44.324	57.743	-13.419	30.100	40.425	47.686	-7.261
* 0.573	10.382	32.800	43.182	56.000	-12.818	29.400	39.782	46.000	-6.218
1.849	10.540	32.700	43.240	56.000	-12.760	27.400	37.940	46.000	-8.060
5.659	10.680	27.300	37.980	60.000	-22.020	22.400	33.080	50.000	-16.920

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Clamp Factor + Cable Loss

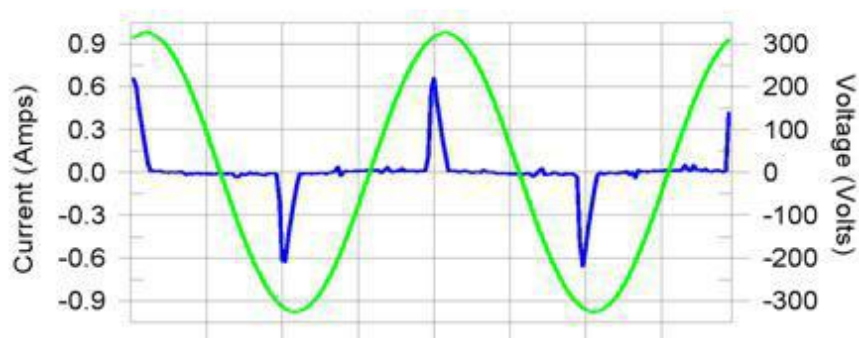
5.3 Harmonics						
Frequency Range:		100Hz to 2kHz				
Test Requirement:		EN 61000-3-2				
5.3.1 E.U.T. Operation						
Operating Environment:						
Temperature:	22°C	Humidity:	62% RH	Atmospheric Pressure:	102.0	Kpa
EUT Operation:	1					
5.3.2 Test specification						
EUT operated in the mode as mentioned above, and connected to Harmonic/Flicker measuring equipment which was connected to an AC power source. Measurement was performed after EUT operating in static state for 10 seconds. Each order harmonics found to meet the relevant limits.						

EUT operated in the mode as mentioned above, and connected to Harmonic/Flicker measuring equipment which was connected to an AC power source. Measurement was performed after EUT operating in static state for 10 seconds. Each order harmonics found to meet the relevant limits.

5.3.3 Measurement Data

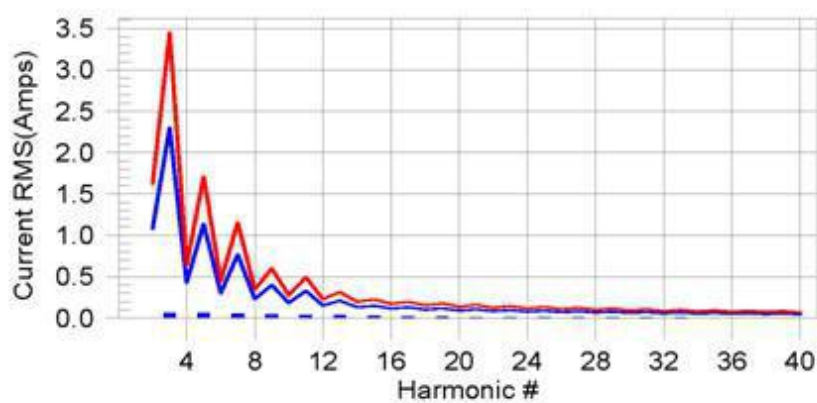
Test Result: Pass Source qualification: Normal

Current & voltage waveforms



Harmonics and Class A limit line

European Limits



Test result: Pass Worst harmonic was #15 with 11.09% of the limit.

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.1	0.002	1.620	0.10	Pass
3	0.064	2.300	2.8	0.067	3.450	1.94	Pass
4	0.001	0.430	0.2	0.001	0.645	0.19	Pass
5	0.059	1.140	5.2	0.061	1.710	3.56	Pass
6	0.001	0.300	0.2	0.001	0.450	0.16	Pass
7	0.054	0.770	7.0	0.055	1.155	4.77	Pass
8	0.000	0.230	0.2	0.001	0.345	0.16	Pass
9	0.046	0.400	11.6	0.048	0.600	7.94	Pass
10	0.000	0.184	0.2	0.001	0.276	0.19	Pass
11	0.039	0.330	11.7	0.040	0.495	8.05	Pass
12	0.000	0.153	0.2	0.000	0.230	0.20	Pass
13	0.031	0.210	14.8	0.032	0.315	10.17	Pass
14	0.000	0.131	0.2	0.000	0.197	0.17	Pass
15	0.024	0.150	16.1	0.025	0.225	11.09	Pass
16	0.000	0.115	0.2	0.000	0.173	0.22	Pass
17	0.019	0.132	14.1	0.019	0.199	9.67	Pass
18	0.000	0.102	0.3	0.000	0.153	0.29	Pass
19	0.015	0.118	12.6	0.015	0.178	8.64	Pass
20	0.000	0.092	0.3	0.000	0.138	0.33	Pass
21	0.013	0.107	12.1	0.013	0.161	8.32	Pass
22	0.000	0.084	0.4	0.000	0.125	0.31	Pass
23	0.012	0.098	12.3	0.012	0.147	8.48	Pass
24	0.000	0.077	0.4	0.000	0.115	0.33	Pass
25	0.011	0.090	12.8	0.012	0.135	8.83	Pass
26	0.000	0.071	0.5	0.000	0.106	0.46	Pass
27	0.011	0.083	12.7	0.011	0.125	8.76	Pass
28	0.000	0.066	0.4	0.000	0.099	0.34	Pass
29	0.009	0.078	12.0	0.010	0.116	8.28	Pass
30	0.000	0.061	0.5	0.000	0.092	0.52	Pass
31	0.008	0.073	10.7	0.008	0.109	7.42	Pass
32	0.000	0.058	0.4	0.000	0.086	0.37	Pass
33	0.006	0.068	9.0	0.006	0.102	6.32	Pass
34	0.000	0.054	0.4	0.000	0.081	0.42	Pass
35	0.005	0.064	7.4	0.005	0.096	5.19	Pass
36	0.000	0.051	0.4	0.000	0.077	0.38	Pass
37	0.004	0.061	6.4	0.004	0.091	4.51	Pass
38	0.000	0.048	0.7	0.000	0.073	0.60	Pass
39	0.003	0.058	6.0	0.004	0.087	4.19	Pass
40	0.000	0.046	0.5	0.000	0.069	0.53	Pass

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.367	0.460	79.67	OK
3	0.479	2.071	23.13	OK
4	0.146	0.460	31.79	OK
5	0.104	0.920	11.29	OK
6	0.078	0.460	16.99	OK
7	0.099	0.690	14.39	OK
8	0.070	0.460	15.18	OK
9	0.039	0.460	8.51	OK
10	0.060	0.460	13.02	OK
11	0.076	0.230	33.25	OK
12	0.050	0.230	21.52	OK
13	0.031	0.230	13.51	OK
14	0.040	0.230	17.38	OK
15	0.044	0.230	19.05	OK
16	0.040	0.230	17.50	OK
17	0.040	0.230	17.49	OK
18	0.043	0.230	18.62	OK
19	0.019	0.230	8.39	OK
20	0.032	0.230	14.01	OK
21	0.036	0.230	15.78	OK
22	0.027	0.230	11.61	OK
23	0.022	0.230	9.58	OK
24	0.024	0.230	10.48	OK
25	0.029	0.230	12.81	OK
26	0.023	0.230	10.19	OK
27	0.027	0.230	11.71	OK
28	0.023	0.230	9.84	OK
29	0.017	0.230	7.28	OK
30	0.023	0.230	9.90	OK
31	0.030	0.230	13.03	OK
32	0.019	0.230	8.46	OK
33	0.014	0.230	6.21	OK
34	0.019	0.230	8.11	OK
35	0.020	0.230	8.54	OK
36	0.017	0.230	7.43	OK
37	0.020	0.230	8.55	OK
38	0.016	0.230	6.86	OK
39	0.015	0.230	6.65	OK
40	0.017	0.230	7.44	OK

5.4 Voltage changes, voltage fluctuations and flicker

Test Requirement:	EN 61000-3-3
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5.4.1 E.U.T. Operation

Operating Environment:

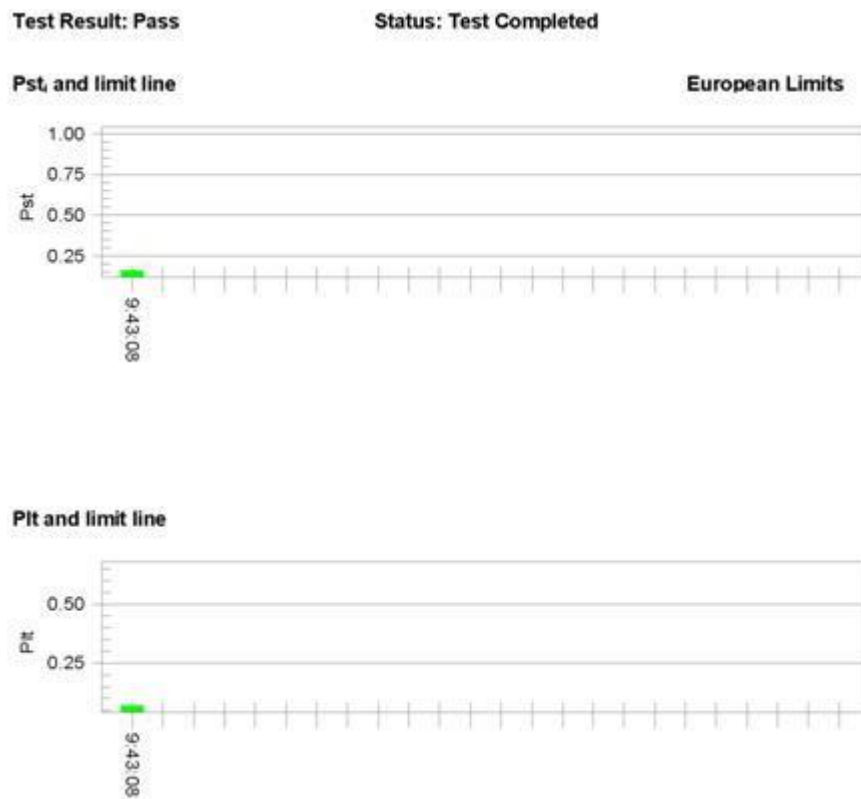
Temperature:	22°C	Humidity:	62% RH	Atmospheric Pressure:	102.0	Kpa
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EUT Operation:	Connect EUT output to dummy load.
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5.4.2 Test specification

EUT was operated in the mode as mentioned above, and connected to Harmonic/Flicker measuring equipment which was connected to an AC power source.

5.4.3 Measurement Data



6 Immunity Test Results

6.1 Electrostatic discharge immunity test

Acceptable Performance Criterion:	B
Discharge Impedance:	330 Ω / 150 pF
Discharge Voltage:	Air Discharge: ± 8 kV
	Contact Discharge: ± 4 kV
	VCP, HCP: ± 4 kV
Polarity:	Positive & Negative
Minimum discharge Interval:	1 second

6.1.1 E.U.T. Operation

Operating Environment:

Temperature:	22°C	Humidity:	52% RH	Atmospheric Pressure:	102.0	Kpa
EUT Operation:	1					

6.1.2 Test specification

EUT was operated in the mode as mentioned above,. Both contact and air discharge was executed. contact discharge to the conductive surfaces and to coupling planes; air discharge at insulating surfaces. Each test point shall be subjected to 10 discharges at least (For each Level and polarity).

6.1.3 Measurement Data

Test Record

Form: AMC 410-6

Electrostatic Discharge Immunity Test Results				
Applicant: <u>Shenzhen Ipozon Technology Co.,Ltd.</u>		Test Date : <u>Jan.11,2020</u>		
EUT: <u>SCOOTER BOOSTER</u>		Test Result: ☒ Pass ☐ Fail		
M/N: <u>GX3</u>		Temp: <u>25</u> °C , Humi: <u>55</u> %		
Power Supply: <u>DC25.2V</u>		Atmospheric Pressure: <u>102.0</u> Kpa		
Operating Mode	Running mode			Criterion
Test Level	Air Discharge(A) <u>± 8</u> KV , Contact Discharge (C) <u>± 4</u> KV			
Test Position	Discharge Mode	Points	Discharge times for each Point (for each Level And polarity)	Result
EUT enclosure	A	4	10	Pass
Slot	A	4	10	Pass
HCP	C	4	10	Pass
VCP	C	4	10	Pass
Note: "A" means Air Discharge, "C" means Contact Discharge, Horizontal Coupling Plane(HCP) and Vertical Coupling plane(VCP).				

6.2 RF field strength immunity test

Acceptable Performance Criterion:	A
Test Level	3 V/m
Test Distance	3 m
Frequency Range	80MHz~1000MHz
Polarity:	Horizontal & Vertical

6.2.1 E.U.T. Operation

Operating Environment:

Temperature:	25°C	Humidity:	60% RH	Atmospheric Pressure:	102.0	Kpa
EUT Operation:	Connect EUT output to dummy load.					

6.2.2 Test specification

Test was executed in a fully Anechoic chamber. An antenna was used to transmit interference signal. EUT was placed upon a wooden table above the reference ground 0.8m, and was positioned so that the four sides of the EUT shall be exposed to the electromagnetic field in a sequence, In each position the performance of the EUT was investigated. A camera was used to monitor the loss of function or degradation of performance of the EUT.

6.2.3 Measurement Data

Test Record

Form: AMC410-7

Radiated Frequency Field Strength Immunity Test Results				
Applicant: <u>Shenzhen Ipozon Technology Co.,Ltd</u>		Test Date: <u>Jan.11,2020</u>		
EUT: <u>SCOOTER BOOSTER</u>		Test Result: ☒ Pass ☐ Fail		
M/N: <u>GX3</u>		Temp: <u>25</u> °C , Humi: <u>60</u> %		
Power Supply: <u>DC25.2V</u>		Atmospheric Pressure: <u>102.0</u> Kpa		
Test Port	Enclosure			
Operating Mode	Running mode			
Test Level	<u>3</u> V/m (r.m.s) (unmodulated)		Criterion	A
Frequency Range(MHz)	Antenna polarity	Modulation	EUT position	Result
80~1000	Horizontal	1kHz, 80%, AM	Front	Pass
			Rear	Pass
			Left	Pass
			Right	Pass
80~1000	Vertical	1kHz, 80%, AM	Front	Pass
			Rear	Pass
			Left	Pass
			Right	Pass
Note : None				

6.3 Electrical fast transient/burst immunity test

Acceptable
Performance Criterion:

B

Test Level:

0.5, 1.0, kV on AC Line; 0.5 kV on Signal Line

Repetition Frequency:

5 kHz

Burst Duration:

300 ms

Test Duration:

2 minute for each level & polarity

6.3.1 E.U.T. Operation

Operating Environment:

Temperature:

22°C

Humidity:

62% RH

Atmospheric Pressure:

102.0

Kpa

EUT Operation:

Connect EUT output to dummy load.

6.3.2 Test specification

EUT was placed on a metal ground reference plane and was insulated from it by a wooden support which is 0.1m thick. The ground reference plane is connected to the protective earth. The test generator and the coupling/decoupling network were placed directly on, and bonded to the ground reference plane.

6.3.3 Measurement Data

Test Record

Form: AMC 410-8

Electrical Fast Transient/Burst Test Results			
Applicant: <u>Shenzhen Ipozon Technology Co.,Ltd</u>		Test Date <u>:Jan.11,2020</u>	
EUT: <u>SCOOTER BOOSTER</u>		Test Result: ☒ Pass ☐ Fail	
M/N: <u>GX3</u>		Temp: <u>22</u> °C , Humi: <u>62</u> %	
Power Supply: <u>DC25.2V</u>		Atmospheric Pressure: <u>102.0</u> Kpa	
Operating Mode	Running mode		Criterion
Test Signal	5/50ns, repetition frequency : ☒ 5KHz / ☐ 100 KHz		
Coupling Line	Test Level (KV)	Test Duration (S)	Result
L	1	120	Pass
N	1	120	Pass
PE	N/A	N/A	N/A
L+N	1	120	Pass
L+PE	N/A	N/A	N/A
N+PE	N/A	N/A	N/A
L+N+PE	N/A	N/A	N/A
DC/Signal/control Line	N/A	N/A	N/A
Note: None			

6.4 Surge immunity test

Acceptable Performance Criterion:	B
Test Level:	0.5, 1kV Live to Neutral
	0.5, 1, 2kV Live, Neutral to Earth
Polarity:	Positive & Negative
Generator source impedance:	2 Ω & 12 Ω
Trigger Mode:	Internal
No. of surges:	5 positive, 5 negative at 0°, 90°, 180°, 270°.

6.4.1 E.U.T. Operation

Operating Environment:

Temperature:	22°C	Humidity:	62% RH	Atmospheric Pressure:	102.0	Kpa
EUT Operation:	Connect EUT output to dummy load.					

6.4.2 Test specification

EUT was placed on a wooden table which is 0.8m above the ground and operated in the mode as mentioned above,. The power cord between the EUT and the coupling/decoupling network was bundled so as to make it less than 2 m in length.

6.4.3 Measurement Data

Test Record

Form: AMC 410-9

Surge Immunity Test Results					
Applicant: <u>Shenzhen Ipozon Technology Co.,Ltd</u>			Test Date: <u>Jan.12,2020</u>		
EUT: <u>SCOOTER BOOSTER</u>			Test Result: ☒ Pass ☐ Fail		
M/N: <u>GX3</u>			Temp: <u>22</u> °C , Humi: <u>62</u> %		
Power Supply: <u>DC25.2V</u>			Atmospheric Pressure: <u>102.0</u> Kpa		
Operating Mode	Running mode			Criterion	B
Test Port	AC Input port				
Test Signal	☒ 1.2/50 μs ☐ 10/700μs				
Coupling Line	Test Level (KV)	Phase	Pulse	Interval (s)	Result
L-N	1	0°~270°	10	60	Pass
L-PE	N/A	N/A	N/A	N/A	N/A
N-PE	N/A	N/A	N/A	N/A	N/A
Signal Line	N/A	N/A	N/A	N/A	N/A
Note: None					

Acceptable Performance Criterion:	A
Frequency Range	0.150MHz~80MHz

Operating Environment:

EUT Operation:	Connect EUT output to dummy load.
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The equipment to be tested was placed on an insulating support of 0,1 m height above a ground reference Plane. The minimum distance between the EUT and all other conductive structures, except the ground reference plane is more than 0,5 m. All relevant cables were provided with the appropriate coupling and decoupling devices at a distance between 0,1 m and 0,3 m from the projected geometry of the EUT .

6.5.3 Measurement Data

Test Record

Form: AMC 410-10

Conducted Disturbance Immunity Test Results				
Applicant: <u>Shenzhen Ipozon Technology Co., Ltd</u>		Test Date: <u>Jan. 12, 2020</u>		
EUT: <u>SCOOTER BOOSTER</u>		Test Result: ☒ Pass ☐ Fail		
M/N: <u>GX3</u>		Temp: <u>25</u> °C , Humi: <u>60</u> %		
Power Supply: <u>DC25.2V</u>		Atmospheric Pressure: <u>102.0</u> Kpa		
Test Port	AC Input Port			
Operating Mode	Running mode			
Test Level (V)	<u>3</u> V(r.m.f) (unmodulated)		Criterion	A
Step Size	<u>1</u> %	Dwell Time (S)	<u>0.5</u>	
Frequency Range (MHz)		Modulation		Result
0.15~80		1k Hz, 80%, AM		Pass
N/A		N/A		N/A
Note: None.				

6.6 Power frequency magnetic field immunity test

Acceptable Performance Criterion:	A
Test Level:	1 A/m
Coil Orientation:	X & Y & Z
Test Duration:	5 Minutes for each orientation

6.6.1 E.U.T. Operation

Operating Environment:

Temperature:	22°C	Humidity:	62% RH	Atmospheric Pressure:	102.0	Kpa
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EUT Operation: Connect EUT output to dummy load.

6.6.2 Test specification

The equipment is configured and connected to satisfy its functional requirements. It was placed on the ground reference plane with the interposition of a 0,1 m thickness wooden support and was placed in the center of the induction coil.. All cables (include power cord and signal line) were exposed to the magnetic field for at least 1m of their length.

6.6.3 Measurement Data

Test Record

Form: AMC 410-14

Power Frequency Magnetic Field Immunity Test Results				
Applicant: <u>Shenzhen Ipozon Technology Co.,Ltd</u> EUT: <u>SCOOTER BOOSTER</u> M/N: <u>GX3</u> Power Supply: <u>DC25.2V</u>			Test Date <u>:Jan.12,2020</u> Test Result: ☒ Pass ☐ Fail Temp: <u>22</u> °C , Humi: <u>62</u> % Atmospheric Pressure: <u>102.0</u> Kpa	
Operating Mode	Running mode			
Test Level	Test Duration	Coil Orientation	Criterion	Result
<u>1</u> A/m	<u>5</u> minus	X	A	Pass
<u>1</u> A/m	<u>5</u> minus	Y	A	Pass
<u>1</u> A/m	<u>5</u> minus	Z	A	Pass
Notes: None				

6.7 Voltage dips and interruptions immunity test

Acceptable Performance Criterion:	B & C
Test Level:	<5% of U_T (Supply Voltage) for 0.5 and 250 Periods
	70 % of U_T (Supply Voltage) for 25 Periods
No. of Dips / Interruptions:	3 per Level

6.7.1 E.U.T. Operation

Operating Environment:						
Temperature:	22°C	Humidity:	62% RH	Atmospheric Pressure:	102.0	Kpa
EUT Operation:	Connect EUT output to dummy load.					

6.7.2 Test specification

EUT connected to the test generator with the shortest power supply cable as specified by the EUT manufacturer. The rated voltage of the EUT was used as the basis for voltage test level specification. After each group of tests, a full functional check was performed.

6.7.3 Measurement Data

Test Record

Form: AMC 410-11

Voltage Dips And Interruptions Test Results

Applicant: <u>Shenzhen Ipozon Technology Co.,Ltd</u>		Test Date <u>:Jan.12,2020</u>			
EUT: <u>SCOOTER BOOSTER</u>		Test Result: ☒ Pass ☐ Fail			
M/N: <u>GX3</u>		Temp: <u>22</u> °C , Humi: <u>62</u> %			
Power Supply: <u>DC25.2V</u>		Atmospheric Pressure: <u>102.0</u> Kpa			
Test Port	AC Input				
Operating Mode	Running mode				
Level (%U _T)	Interruption & Dips (%U _T)	Duration (Cyc)	Phase	Criterion	Result
<5	>95	0.5	0°	B	Pass
70	30	25	0°	C	Pass
<5	>95	250	0°	C	Pass
Note: None.					

7 APPENDIX-Photographs Of EUT Constructional Details



=====End of Report=====