EMC TECHNICAL FILE

Product Name : Cordless screwdriver

Model Name : Driver A,Driver B,Driver C,Driver D,Driver E,Driver F,Driver G,Driver H

Prepared for:

Qidong Shi Li Electrical Co.,Ltd.
Lizi Town,Qidong City,Jiangsu Province,Industrial Park on the 1st
TEL: /
FAX: /

Prepared by:

Shanghai Global Testing Services Co., Ltd.
Floor 2nd, Building D-1, No. 128, Shenfu Road, Minhang District, Shanghai, China.
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Report Number	:	TEGD19112520869
Date of Report	:	November 20,2019
Date of Test	:	November 20,2019 to November 26,2019

Notes：
The review results only relate to these samples which have been reviewed.
Partly using this file will not be admitted unless been allowed by GTS.
GTS is only responsible for the complete file with the fileed stamp of GTS.

Applicant:	Qidong Shi Li Electrical Co.,Ltd. Lizi Town,Qidong City,Jiangsu Province,Industrial Park on the 1st
Manufacturer:	Qidong Shi Li Electrical Co.,Ltd. Lizi Town,Qidong City,Jiangsu Province,Industrial Park on the 1st
Product Name:	Cordless screwdriver
Brand Name:	Kalei
Model Name:	Driver A,Driver B,Driver C,Driver D,Driver E,Driver F,Driver G,Driver H
Serial Number:	/
Rating:	3.6V/7.2V/12V/ 14.4V/18V, 0.5A
Date of Receipt:	November 20,2019
Date of Test:	November 20,2019 to November 26,2019
Test Standard:	EN 61000-6-1:2007, EN 61000-6-3:2007+A1:2011
Test Result:	PASS

Prepared by : _____

Approved by : _____

GLOBAL TESTING SERVICES CO.,LTD. GTS CERTIFICATION

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 Description of EUT

Product Name:	Cordless screwdriver
Model Name:	Driver A,Driver B,Driver C,Driver D,Driver E,Driver F,Driver G,Driver H
Serial Number:	N/A
Power Supply:	3.6V/7.2V/12V/ 14.4V/18V
Applicant:	Qidong Shi Li Electrical Co.,Ltd. Lizi Town,Qidong City,Jiangsu Province, Industrial Park on the 1st
Manufacturer:	Qidong Shi Li Electrical Co.,Ltd. Lizi Town,Qidong City,Jiangsu Province, Industrial Park on the 1st

1.2 Description of Test Facility

Site Description	:	Shanghai Global Testing Services Co., Ltd.
Name of Firm	:	Shanghai Global Testing Services Co., Ltd.
Site Location	:	Floor 2nd, Building D-1, No. 128, Shenfu Road, Minhang District, Shanghai, China.

The site and apparatus are constructed in conformance with the requirements of ANSI C63.4, CISPR 16-1-1 and other equivalent standards.

1.3 Measurement Uncertainty

Conducted Emission Expanded Uncertainty	:	U = 1.76 dB
Radiated Emission Expanded Uncertainty	:	U = 3.02 dB

2. TECHNIACL SUMMARY

2.1 SUMMARY OF STANDARDS AND TEST RESULTS

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

EN 61000-6-3:2007+A1:2011			
Test Item	**Test Standard**	**Limits**	**Results**
Conducted Disturbance at low voltage AC mains ports	CISPR 16-1-1:2015,CISPR 16-1-2:2014,CISPR 16-2-1:2014	N/A	N/A
Conducted Disturbance at DC power ports	CISPR 16-1-1:2015,CISPR 16-1-2:2014,CISPR 16-2-1:2014	See 5.3	P
Conducted Disturbance at telecommunication /network ports	CISPR 22:2008	N/A	N/A
Radiated Disturbance	CISPR 16-2-3:2016	See 7.3	P

EN 61000-6-1:2007			
Test Item	**Basic Standard**	**Performance Criteria**	**Results**
Electrostatic discharge Immunity	IEC 61000-4-2:2008	B	P
RF Electromagnetic Field Immunity	IEC 61000-4-3:2006+A1:2007 +A2:2010	A	P
Electrical Fast Transient/Burst Immunity	IEC 61000-4-4:2012	B	P
Surge Immunity	IEC 61000-4-5:2014	B	P
Conducted Disturbances Immunity	IEC 61000-4-6:2013+Cor 1:2015	A	P
Power-frequency Magnetic Field Immunity	IEC 61000-4-8:2009	A	P
Voltage Dips: 100% reduction, 0.5 cycle	IEC 61000-4-11:2004	N/A	N/A
Voltage Dips: 100% reduction, 1 cycle		N/A	N/A
Voltage Dips: 30% reduction, 25 cycles		N/A	N/A
Voltage Interruptions: 100% reduction, 250 periods		N/A	N/A

Note: P means pass, F means failure, N/A means not applicable

2.2 Description of Performance Criteria

The variety and the diversity of the apparatus within the scope of this standard make it difficult to define precise criteria for the evaluation of the immunity test results.
If, as result of the application of the tests defined in this standard, the apparatus becomes dangerous or unsafe, the apparatus shall be deemed to have failed the test.
A functional description and a definition of performance criteria, during or as a consequence of the EMC testing, shall be provided by the manufacturer and noted in the test report, based on the following criteria:

2.2.1 Performance criterion A
The apparatus shall continue to operate as intended during 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. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

2.2.2 Performance 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. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed however. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

2.2.3 Performance criterion C
Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

3. TEST EQUIPMENT LIST

Conducted Disturbance at DC power ports				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Next Cal.**
Shielding Room	CHENGYU	5m×4m×3m	CR	Sep 13, 2020
EMI Test Receiver	R&S	ESCI7	100787	Feb 23, 2021
Artificial Mains Network	TESEQ	NNB 51	33285	Feb 23, 2021

Radiated Disturbance Test				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Next Cal.**
3m Semi-anechoic Chamber	CHENGYU	9.2×6.25×6.15m	SAR	Sep 13, 2020
EMI Test Receiver	R&S	ESCI7	100787	Feb 23, 2021
EMC Shielding room	Changzhou FeiTe	8 x 5 x 3 mm	Nil	Dec 23, 2021
Broadband Log Antenna	Schwarzbeck	VULB 9163	9163-561	Jul 24, 2020

Electrostatic Discharge Immunity Test				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Next Cal.**
ESD Generator	SCHAFFNER	NSG 438	849	Feb 23, 2021

RF Electromagnetic Field Immunity				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Next Cal.**
Radiated Immunity Test System	TESEQ	ITS 6006	37546	Jul 24, 2020
Power Meter	TESEQ	PMR 6006	73819	Jul 24, 2020
Power Amplifier	MILMEGA	AS1860-50	1066592	Jul 24, 2020
Log Periodic Antenna	Schwarzbeck	STLP 9128 D	9128 D 048	Jul 24, 2020
Field Probe	ETS-Lindgren	HI-6105	00161798	Jul 24, 2020

Electrical Fast Transient/SURGE Immunity Test				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Next Cal.**
EFT/SURGE Generator	TESEQ	NSG 3060	1468	Feb 23, 2021
Single Phase Coupling/decoupling Network	TESEQ	CDN 3061	1404	Feb 23, 2021
Capacitive clamp	TESEQ	CDN 3425	1736	Feb 23, 2021

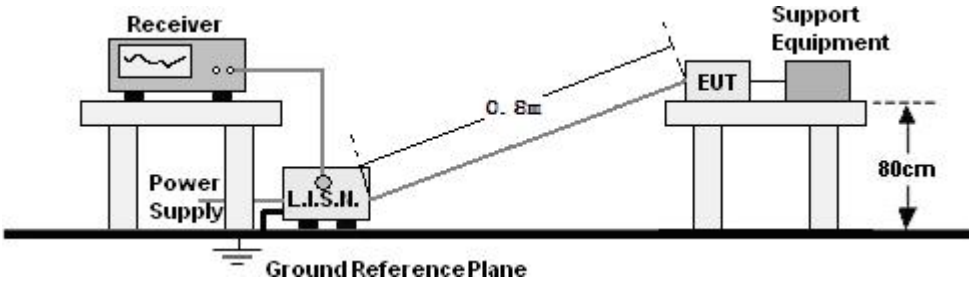
Conducted Disturbances Immunity Test				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Next Cal.**
Conducted Immunity Test System	TESEQ	NSG 4070	25795	Feb 23, 2021
Coupling/Decoupling Network	TESEQ	CDN M116S	35371	Feb 23, 2021
EM-clamp	TESEQ	KEMZ 801	29530	Feb 23, 2021

Power-frequency Magnetic Field Immunity Test				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Next Cal.**
P-f Magnetic Field Loop	FCC	F-1000-4-8/9/10-1M	13	Feb 24, 2020
Power Magnetic Field Generator	SANKI	SKS-0805	/	Feb 24, 2020

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and has been calibrated by accredited calibration laboratories.

4. CONDUCTED DISTURBANCE AT LOW VOLTAGE AC MAINS PORTS

4.1 DIAGRAM OF TEST SETUP



4.2 APPLICABLE STANDARD

EN 61000-6-3:2007+A1:2011(CISPR 16-1-1:2015, CISPR 16-1-2:2014, CISPR 16-2-1:2014)

4.3 LIMITS FOR CONDUCTED DISTURBANCE

Frequency Range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.15 ~ 0.5	66-56	56-46
0.5 ~ 5	56	46
5 ~ 30	60	50
NOTE – The lower limit shall apply at the transition frequencies.		

4.4 TEST RESULT

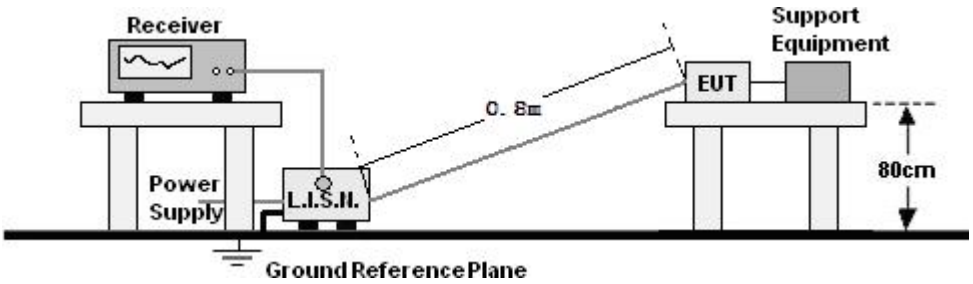
N/A

4.5 TEST CONCLUSION

N/A

5. CONDUCTED DISTURBANCE AT DC POWER PORTS

5.1 DIAGRAM OF TEST SETUP



5.2 APPLICABLE STANDARD

EN 61000-6-3:2007+A1:2011(CISPR 16-1-1:2015, CISPR 16-1-2:2014, CISPR 16-2-1:2014)

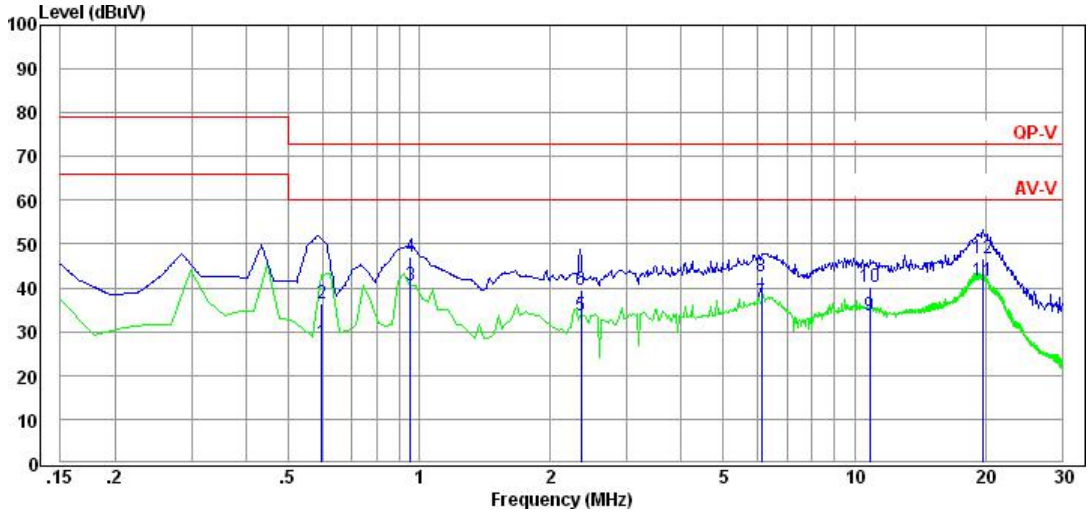
5.3 LIMITS FOR CONDUCTED DISTURBANCE

Frequency Range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.15 ～ 0.5	79	66
0.5 ～ 30	73	60
NOTE – The lower limit shall apply at the transition frequencies.		

5.4 TEST RESULT

TEMPERATURE : 22℃ HUMIDITY: 53% TEST
MODEL : Operating POWER SUPPLY : 12V

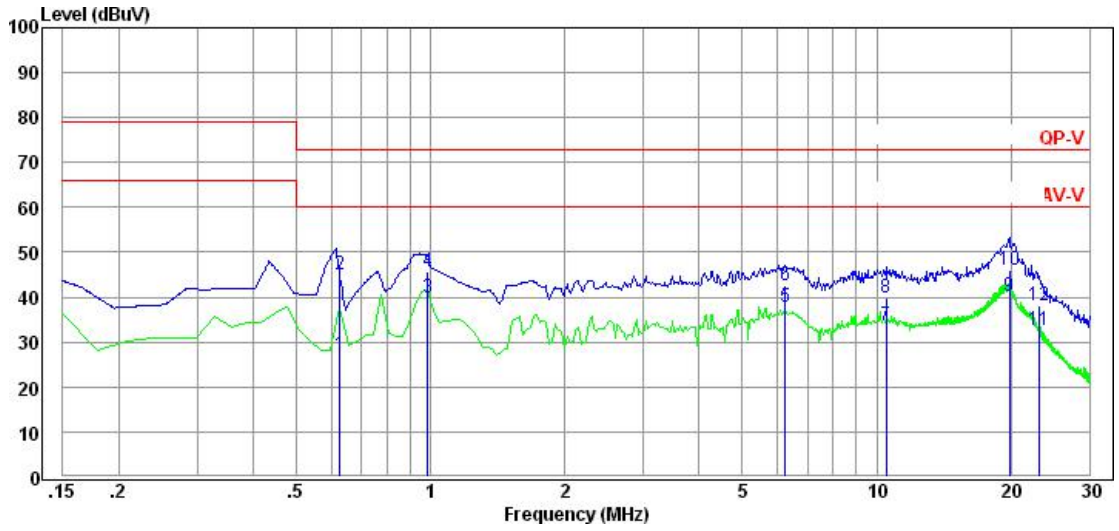
LINE：



Freq MHz	Reading dBuV	C.F dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Detector
0.60	17.75	9.69	27.44	60.00	32.56	Average
0.60	26.70	9.69	36.39	73.00	36.61	QP
0.96	30.85	9.64	40.49	60.00	19.51	Average
0.96	37.50	9.64	47.14	73.00	25.86	QP
2.36	23.83	9.84	33.67	60.00	26.33	Average
2.36	29.69	9.84	39.53	73.00	33.47	QP
6.12	26.67	9.94	36.61	60.00	23.39	Average
6.12	32.82	9.94	42.76	73.00	30.24	QP
10.87	23.70	10.08	33.78	60.00	26.22	Average
10.87	30.21	10.08	40.29	73.00	32.71	QP
19.67	31.29	10.13	41.42	60.00	18.58	Average
19.67	36.66	10.13	46.79	73.00	26.21	QP

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

NEUTRAL：



Freq MHz	Reading dBuV	C.F dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Detector
0.63	17.57	9.68	27.25	60.00	32.75	Average
0.63	35.38	9.68	45.06	73.00	27.94	QP
0.99	30.39	9.61	40.00	60.00	20.00	Average
0.99	35.97	9.61	45.58	73.00	27.42	QP
6.24	27.74	9.94	37.68	60.00	22.32	Average
6.24	32.60	9.94	42.54	73.00	30.46	QP
10.51	23.64	10.09	33.73	60.00	26.27	Average
10.51	29.74	10.09	39.83	73.00	33.17	QP
19.82	30.20	10.16	40.36	60.00	19.64	Average
19.82	35.97	10.16	46.13	73.00	26.87	QP
23.14	22.30	10.22	32.52	60.00	27.48	Average
23.14	28.03	10.22	38.25	73.00	34.75	QP

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

5.5 TEST CONCLUSION

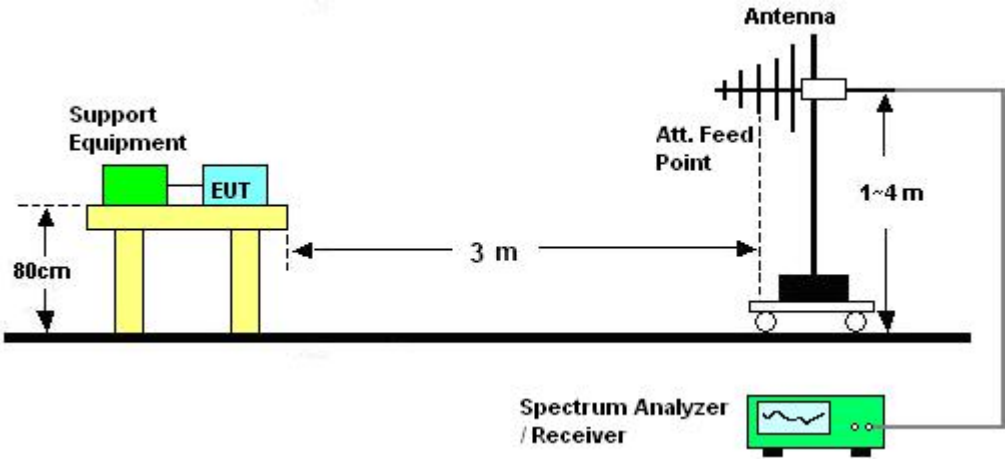
PASS

6. CONDUCTED DISTURBANCE AT TELECOMMUNICATION/NETWORK PORTS

N/A

7. RADIATED DISTURBANCE TEST

7.1 DIAGRAM OF TEST SETUP



7.2 APPLICABLE STANDARD

EN 61000-6-3:2007+A1:2011 (CISPR 16-2-3:2016)

7.3 LIMITS FOR RADIATED DISTURBANC

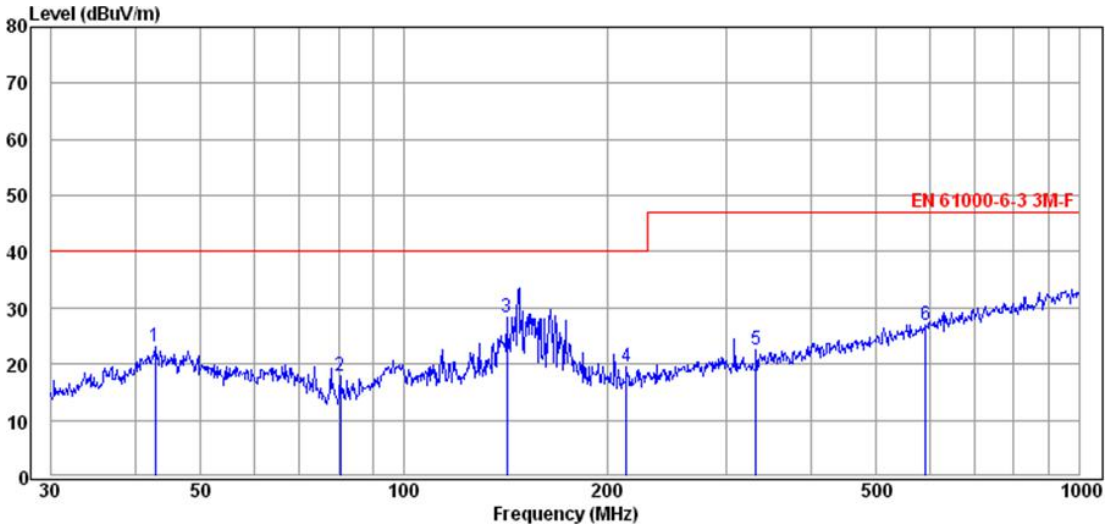
Below 1GHz

Frequency (MHz)	Distance (m)	Field Strength Limits dB(V/m)	Converted Field Strength Limits By 3 Meters Measuring Distance dB(V/m)
30 ~ 230	10	30	40
230 ~ 1000	10	37	47
NOTE 1 - The lower limit shall apply at the transition frequency. NOTE 2 – Additional provisions may be required for cases where interference occurs.			

7.4 TEST RESULT

Temperature	:	22℃	Humidity	:	53%
Test Model	:	Operating	Power Supply	:	12V

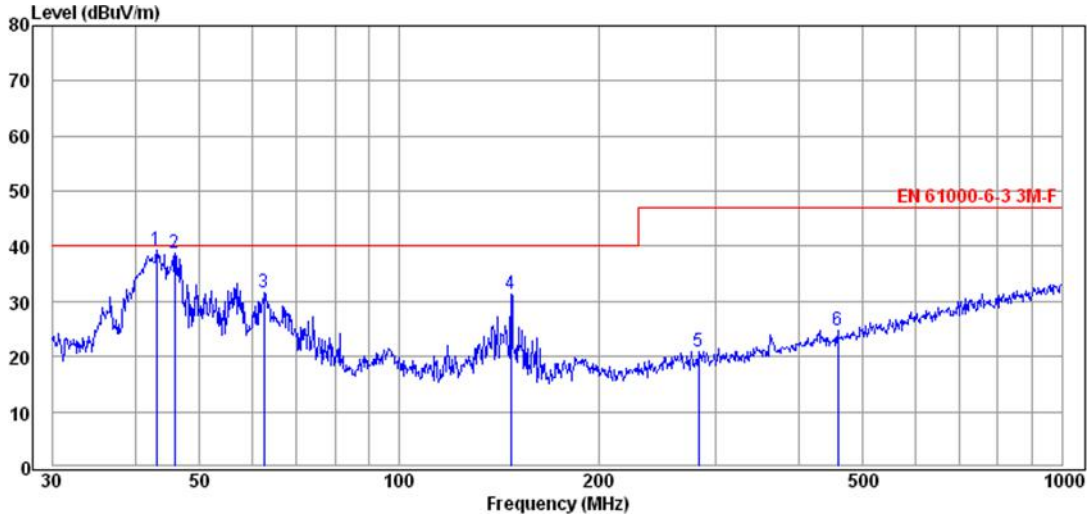
HORIZONTAL:



Freq MHz	Reading dBuV	C.F dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Detector
42.75	7.29	15.77	23.06	40.00	16.94	QP
80.36	7.47	10.34	17.81	40.00	22.19	QP
141.83	17.44	10.94	28.38	40.00	11.62	QP
213.76	5.24	14.25	19.49	40.00	20.51	QP
332.52	4.85	17.66	22.51	47.00	24.49	QP
593.05	3.51	23.56	27.07	47.00	19.93	QP

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

VERTICAL：



Freq MHz	Reading dBuV	C.F dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Detector
43.05	23.51	15.77	39.28	40.00	0.72	QP
45.86	22.83	15.91	38.74	40.00	1.26	QP
62.43	17.55	14.04	31.59	40.00	8.41	QP
147.40	20.31	11.00	31.31	40.00	8.69	QP
282.99	4.44	16.47	20.91	47.00	26.09	QP
459.11	4.28	20.41	24.69	47.00	22.31	QP

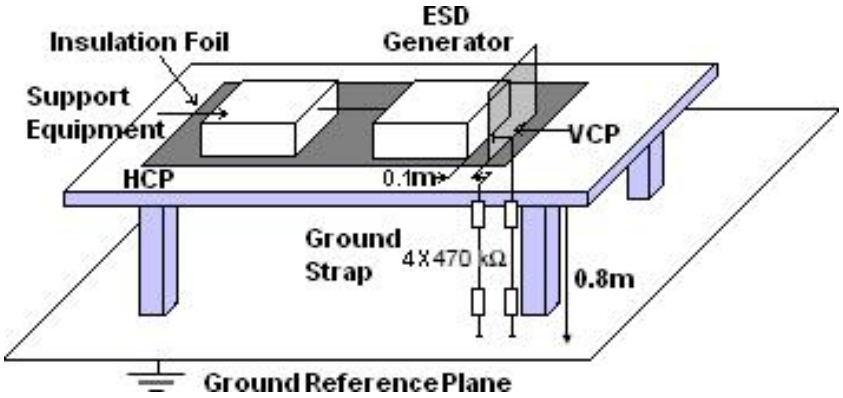
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

7.5 TEST CONCLUSION

PASS

8. ELECTROSTATIC DISCHARGE IMMUNITY TEST

8.1 DIAGRAM OF TEST SETUP



8.2 APPLICABLE STANDARD

IEC 61000-4-2:2008, Contact Discharge:±4kV;

Air Discharge: ±8kV

8.3 SEVERITY LEVELS AND PERFORMANCE CRITERION

8.3.1 Severity levels

Level	Test Voltage	
	Contact Discharge (kV)	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 TEST RESULT

Temperature : 22℃ Humidity : 45%
Test Model : Operating Power Supply: 12V

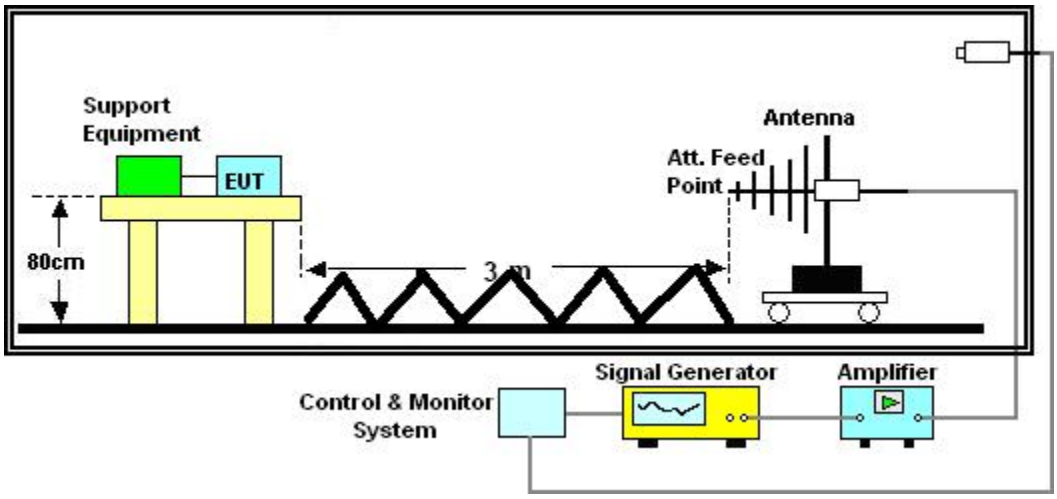
Air Discharge Voltage: ±2kV, ±4kV, ±8kV Contact Discharge Voltage: ±2kV, ±4kV Contact Discharge: For each point positive 10 times and negative 10 times discharge Air Discharge: For each point positive 10 times and negative 10 times discharge			
Location	**Point**	**Kind**	**Result**
Around the EUT	4	C (VCP)	A
Around the EUT	4	C (HCP)	A
Metal part of EUT and screws	20	C	B
Gap and Button	/	A	B
NOTE 1 – C (Contact Discharge), A(Air Discharge); NOTE 2 – HCP (Horizontal Coupling Plane), VCP (Vertical Coupling Plane).			

8.5 TEST CONCLUSION

PASS

9. RF ELECTROMAGNETIC FIELD IMMUNITY TEST

9.1 Diagram of Test Setup



9.2 Applicable Standard

IEC 61000-4-3:2006+A1:2007+A2:2010,
Frequency Range:

80 - 1000 MHz, Field Strength: 3 V/m, Unmodulation:, 80% AM 1kHz;

1400 - 2000 MHz, Field Strength: 3V/m, Unmodulation, 80% AM 1kHz;
2000 - 2700 MHz, Field Strength: 1 V/m, Unmodulation, 80% AM 1kHz

9.3 Severity Levels and Performance Criterion

9.3.1 Severity levels

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

9.3.2 Performance criterion: A

9.4 Test Result

Temperature	:	24℃	Humidity	:	55%
Test Model	:	Operating	Power Supply	:	12V

Frequency Range		80 MHz to 1000 MHz		1400 MHz to 2000 MHz		2000 MHz to 2700 MHz	
Modulation		80% AM 1 kHz		80% AM 1 kHz		80% AM 1 kHz	
Steps		1 %		1 %		1 %	
Dwell Time		3 s		3 s		3 s	
Antenna Polarization		80 MHz to 1000 MHz		1400 MHz to 2000 MHz		2000 MHz to 2700 MHz	
Field Strength		3V/m		3V/m		1V/m	
Antenna Polarization		Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
EUT Position	Front	A	A	A	A	A	A
	Rear	A	A	A	A	A	A
	Right	A	A	A	A	A	A
	Left	A	A	A	A	A	A
	Floor	--	--	--	--	--	--
	Top	--	--	--	--	--	--
NOTE – “--” means the item is no applicable.							

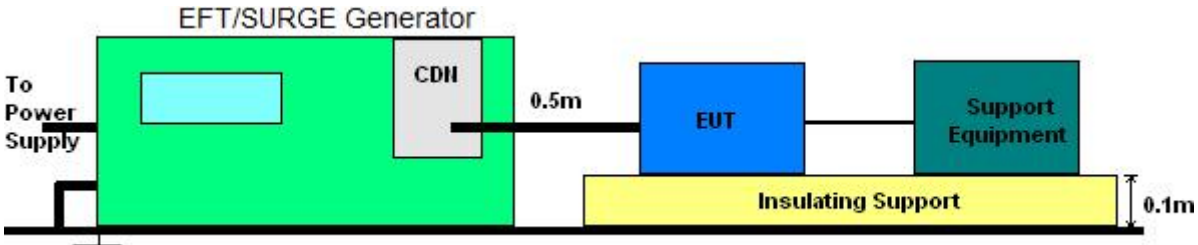
9.5 TEST CONCLUSION

PASS

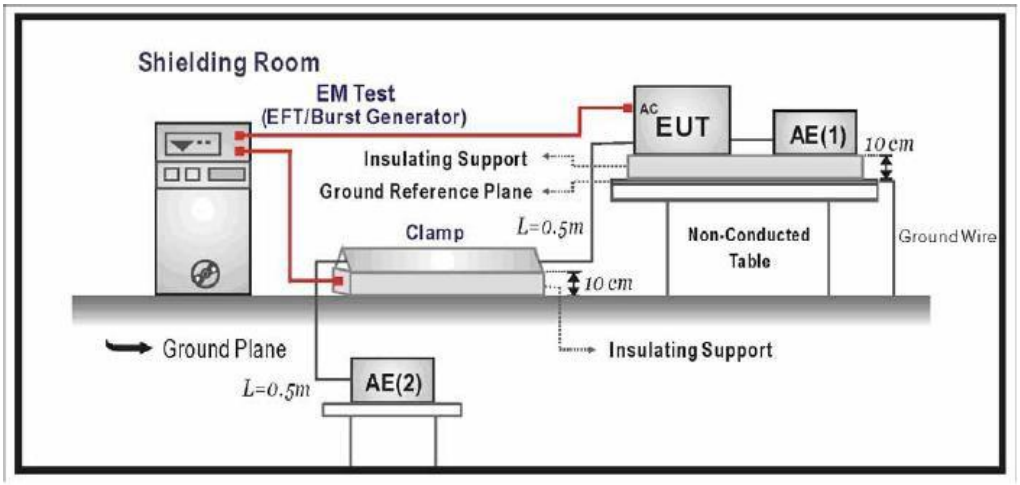
10. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

10.1 DIAGRAM OF TEST SETUP

FOR POWER PORT：



FOR SIGNAL PORT:



10.2 APPLICABLE STANDARD

IEC 61000-4-4:2012, Signal ports and DC power ports：±0.5 kV, 5/50ns, 5kHz
AC Power ports：±1 kV, 5/50ns, 5kHz

10.3 EVERITY LEVELS AND PERFORMANCE CRITERION

10.3.1 SEVERITY LEVELS

Open circuit output test voltage and repetition rate of the impulses				
Level	On power port, PE		On I/O (input/output) signal, data and control ports	
	Voltage peak kV	Repetition rate kHz	Voltage peak kV	Repetition rate kHz
1.	0.5	5 or 100	0.25	5 or 100
2.	1	5 or 100	0.5	5 or 100
3.	2	5 or 100	1	5 or 100
4.	4	5 or 100	2	5 or 100
Xa	Special	Special	Special	Special

Note 1: Use of 5kHz repetition rates is traditional; however, 100kHz is closer to reality. Product committees should determine which frequencies are relevant for specific products or product types. Note 2: With some products, there may be no clear distinction between power ports and I/O ports, in which case it is up to product committees tomake this determination for test purposes.
"Xa" is an open level. The level has to be specified in the dedicated equipment specification.

10.3.2 PERFORMANCE CRITERION: B

10.4 TEST RESULTS

Temperature : 24℃ Humidity : 55%
Test Model : Operating Power Supply : 12V

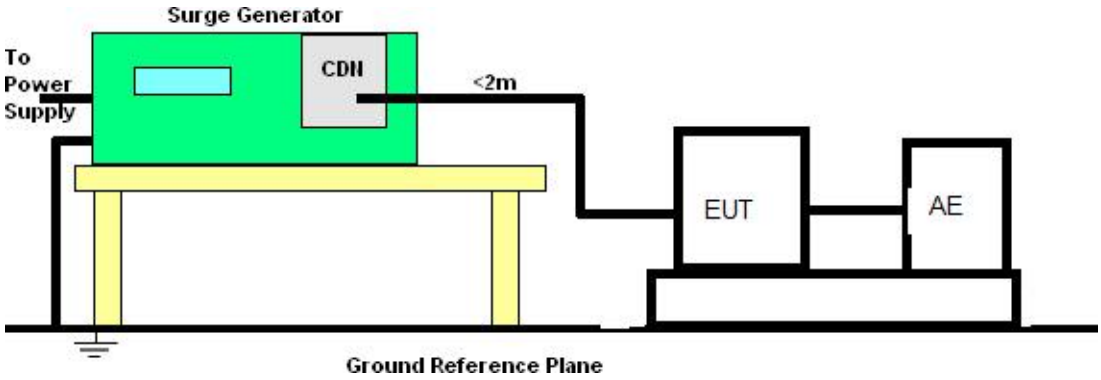
Inject Line	Voltage kV	Repetition rate kHz	Duration of Test (seconds)	Inject Method	Result
AC power port	– –	--	--	--	--
DC power port	±0.5	5	120	Direct	B
Signal Port	--	– –	– –	– –	--
NOTE – "--" means the item is no applicable.					

10.5TEST CONCLUSION

PASS

11. SURGE IMMUNITY TEST

11.1 Diagram of Test Setup



11.2 Applicable Standard

IEC 61000-4-5:2014

AC power port: Line to line: ±1 kV, 1.2/50（8/20）Line to earth: ±2 kV, 1.2/50（8/20）
DC power port: Line to line: ±0.5 kV, 1.2/50（8/20）Line to earth: ±0.5 kV, 1.2/50（8/20）

11.3 Severity Levels and Performance Criterion

11.3.1 Severity levels

Test Level	Power Supply Coupling Mode	
	Line to Line kV	Line to Earth kV
1	NA	0.5
2	0.5	1.0
3	1.0	2.0
4	2.0	4.0
X	Special	Special

11.3.2 Performance criterion: B

11.4 Test Result

Temperature : 24℃ Humidity : 55%
Test Model : Operating Power Supply : 12V

AC Input Power Port						
Location	Polarity		Coupling Mode	No. of Pulse	Pulse Voltage (kV)	Result
AC power ports	--	- -	--	--	--	- -
	- -	- -	--	--	--	- -
DC power ports	--	--	--	--	--	--
	+	-	Line to Line	10	0.5	P
NOTE “--” means the item is no applicable.						

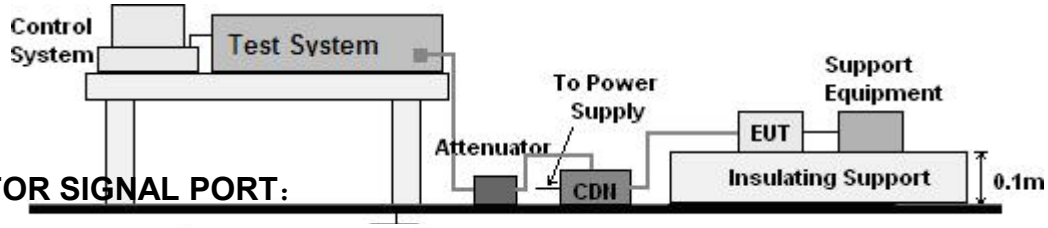
11.5 TEST CONCLUSION

PASS

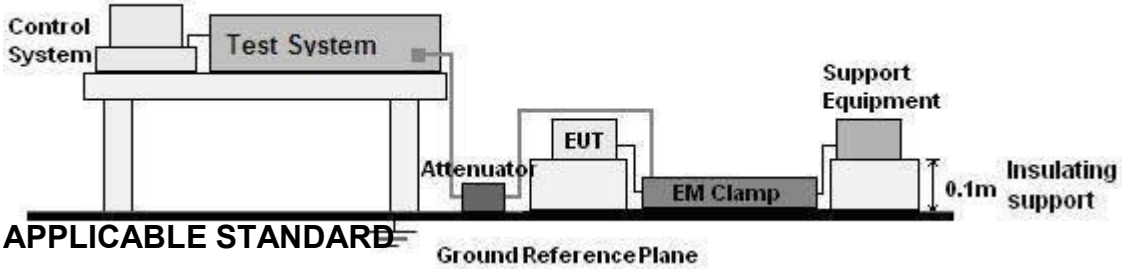
12. CONDUCTED DISTURBANCES IMMUNITY TEST

12.1 Diagram of Test Setup

FOR POWER PORT：



FOR SIGNAL PORT：



12.2 APPLICABLE STANDARD

IEC 61000-4-6:2013+Cor 1:2015, AC and DC Power ports： 0.15-80MHz, 3V Unmodulation, 80%AM (1kHz), Signal ports: 0.15-80MHz, 3V Unmodulation, 80%AM (1kHz)

12.3 SEVERITY LEVELS AND PERFORMANCE CRITERION

12.3.1 Severity levels

Frequency Range 0.15 MHz – 80 MHz		
Level	Voltage Level (e.m.f.)	
	U0 dB(μV)	U0 (V)
1.	120	1
2.	130	3
3.	140	10
Xa	Special	
Xa is an open level.		

12.3.2 Performance criterion: A

12.4 TEST RESULTS

Temperature : 24℃ Humidity : 55%
Test Model : Operating Power Supply : 12V

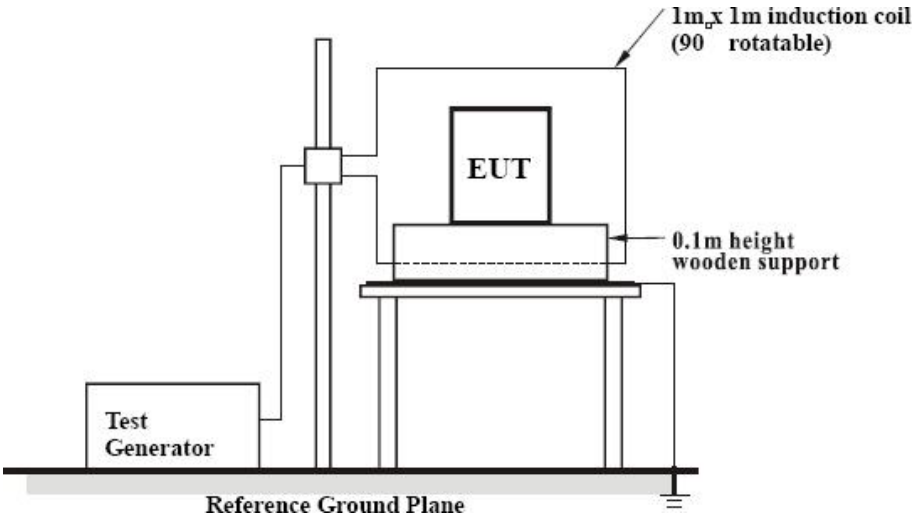
Injected Position	Frequency Range(MHz)	Strength (Unmodulated)	Results
AC power ports	--	--	--
DC power ports	0.15 ~ 80	3V(r.m.s.)	A
Signal ports	---	--	--
NOTE “--” means the item is no applicable.			

12.5 TEST CONCLUSION

PASS

13. POWER-FREQUENCY MAGNETIC FIELD IMMUNITY TEST

13.1 DIAGRAM OF TEST SETUP



13.2 APPLICABLE STANDARD

IEC 61000-4-8:2009, Magnetic field strength: 3A/m, 50Hz

13.3 SEVERITY LEVELS AND PERFORMANCE CRITERION

13.3.1 Severity level:

Test Level	Magnetic field strength A/m
1	1
2	3
3	10
4	30
5	100
X	Special

13.3.2 Performance criterion: A

13.4 TEST RESULTS

Temperature : 25℃ Humidity : 53%
Test Model : Operating Power Supply : 12V

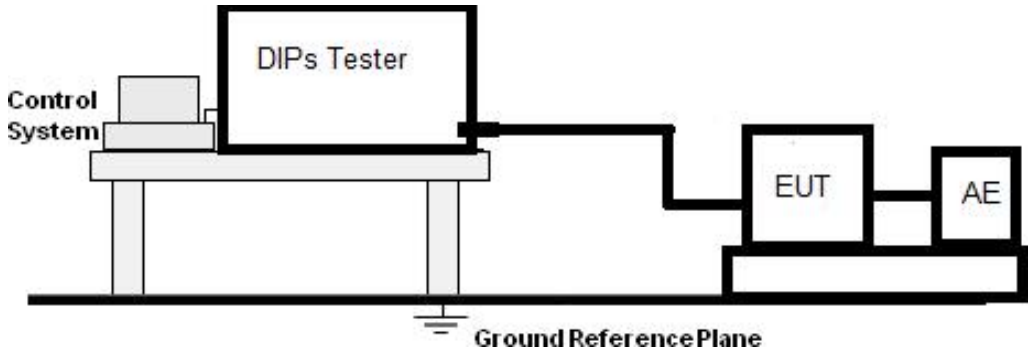
Test Level (A/m)	Testing Duration (in second)	Coil Orientation	Criterion
3	120	Axis-X	A
3	120	Axis-Y	A
3	120	Axis-Z	A

13.5 TEST CONCLUSION

PASS

14. VOLTAGE DIPS AND SHORT INTERRUPTIONS IMMUNITY TEST

14.1 DIAGRAM OF TEST SETUP



14.2 APPLICABLE STANDARD

IEC 61000-4-11: 2004, Test Value：Voltage dips: Dips 100% reduction: 0.5 cycle; Dips 100% reduction: 1 cycle; Dips 30% reduction: 25 cycles; Voltage interruptions 100% reduction: 250 cycles.

14.3 SEVERITY LEVELS AND PERFORMANCE CRITERION

14.3.1 Preferred severity levels and durations for voltage dips

Class[a]	Test level and durations for voltage dips (ts) (50Hz/60Hz)				
Class 1	Case-by-case according to the equipment requirements				
Class 2	0% during ½ cycle	0% during 1 cycle	70% during 25/30c cycles		
Class 3	0% during ½ cycle	0% during 1 cycle	40% during 10/12[c] cycles	70% during 25/30[c] cycles	80% during 250/300[c] cycles
Class X[b]	X	X	X	X	X

a Classes as per IEC 61000-2-4.
b To be defined by product committee. For equipment connected directly or indirectly to the public network, the levels must not be less severe than Class 2.
c “25/30 cycles” means “25 cycles for 50Hz test” and “30 cycles for 60Hz test”.

14.3.2 Preferred severity levels and durations for short interruptions:

Class[a]	Test level and durations for short interruptions (ts) (50Hz/60Hz)
Class 1	Case-by-case according to the equipment requirements
Class 2	0% during 250/300[c] cycles
Class 3	80% during 250/300[c] cycles
Class X[b]	X

a Classes as per IEC 61000-2-4. b To be defined by product committee. For equipment connected directly or indirectly to the public network, the levels must not be less severe than Class 2. c “250/300 cycles” means “250 cycles for 50Hz test” and “300 cycles for 60Hz test”.

14.3.3 Performance criterion:
Voltage Dips 100%Reduction 0.5 cycle: B
Voltage Dips 100% Reduction 1 cycle: B
Voltage Dips 30% Reduction 25 period: C
Voltage interruptions 100% Reduction 250 period: C

14.4 TEST RESULTS

N/A

14.5 TEST CONCLUSION

N/A

----End of the report----

Type of equipment, model: Cordless screwdriver ,
Driver A,Driver B,Driver C,Driver D,Driver E,Driver F,Driver G,Driver H

Details of:

View:

[X] general

[ ] front

[ ] rear

[ ] right

[ ] left

[ ] top

[ ] bottom

- End of Annex I -