



EN IEC 62680-1-3 Test Report

24B01N000775-001-COM

For

Type-C Receptacle Connector

Company Name: Guangdong Jinshengxin Industry Share Co., Ltd.

Product Name: USB TYPE C FEMALE 16PIN 150° TYPE

Model Name: JSX-CF-009

Hardware Version: A

Issued Date: 2024-04-12

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of SACT.

Test Laboratory:

SACT, Shenzhen Academy of Information and Communications Technology

Building C, Shenzhen International Innovation Center, No.1008 Shenzhen Road, Futian District, Shenzhen,
Guangdong, P. R. China 518000.

Tel: +86 (0)755-33522000, Fax: +86 (0)755-33522001

Email: yeyia@sact.ac.cn, www.sact.ac.cn

A-3-2	Durability (preconditioning)
A-3-3	Temperature life (preconditioning)
A-3-4	Low level contact resistance
A-3-5	Vibration
A-3-6	Low level contact resistance
Group A-4	
No.	Test item
A-4-1	Low level contact resistance
A-4-2	Durability (preconditioning)
A-4-3	Temperature life (preconditioning)
A-4-4	Low level contact resistance
A-4-5	Moist flowing gas
A-4-6	Low level contact resistance
A-4-7	Thermal disturbance
A-4-8	Low level contact resistance
A-4-9	Humidity
A-4-10	Low level contact resistance
Group A-7	
No.	Test item
A-7-1	Dielectric withstanding voltage
A-7-2	Low level contact resistance
A-7-3	Durability (preconditioning)
A-7-4	Insulation time
A-7-5	Exhaustive time



A-7-6	Durability
A-7-7	Extensive tests
A-7-8	Durability
A-7-9	Extensive tests
A-7-10	Line level contact resistance
A-7-11	Dielectric withstanding voltage
A-7-12	Insulation Resistance
Group B-1	
No.	Test Item
B-1-1	4-Ann. Continuity
Group B-2	
No.	Test Item
B-2-1	Critical Disconnection
Group B-3	
No.	Test Item
B-3-1	Circuit Current Rating

7. Test Result Summary

Test Item	Clause	Result
Construction	3.2.1 (H)	Pass
Critical Dimensions	3.2.1 (H)	Pass
Low level contact resistance	3.7.A.1	Pass
Dielectric withstanding voltage	3.7.A.2	Pass
Insulation Resistance	3.7.A.3	Pass
Contact Current Rating	3.7.A.4	Pass
Insertion force	3.8.1.1	Pass
Extraction force	3.8.1.2	Pass
Durability	3.8.1.3	Pass
Retesting	3.8.1.3	Pass
4-Axis Corrosivity	3.8.1.5	Pass
Temperature life	3.8.2	Pass
Thermal shock	3.8.2	Pass
Cyclic temperature and humidity	3.8.2	Pass
Vibration	3.8.2	Pass
Mixed flowing gas	3.8.2	Pass
Thermal disturbance	3.8.2	Pass

**II. Test Detail****II.1. Clause 1.2.1 (6) Construction**

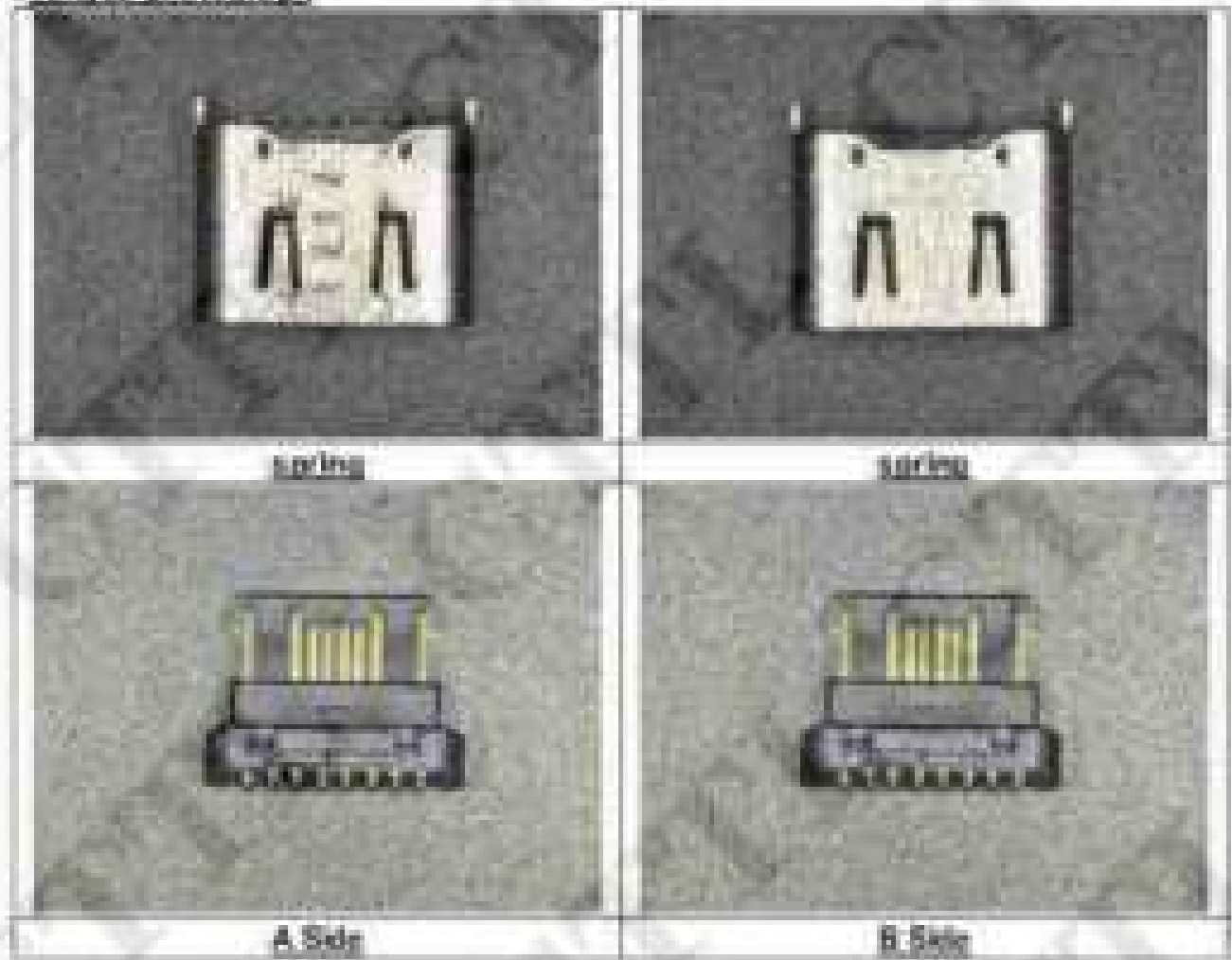
Construction			
Testing Period	Measure environment	Test Engineer	Test Result
2023/06/23	Temp 20 deg C, H2 8.1 uPa	Li Siuwing	Pass

EMC ground return path			
Description	Sample Coding		
	DS-1	DS-2	DS-3
1. EMC wiring	Y	Y	Y
2. EMC port	N	N	N
3. Shield bridge	N	N	N
4. Distance between the sample	1m	1m	1m
Result	Pass	Pass	Pass
Note: Power cable configurations, with a construction chart. The requirements apply to the power cable layout shown in ALTERNATE SECTION A.1. Figure 6-2. Power cable layout table with respect to returning current. Right angle.			

Number of pins: 14

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
✓	N/A	N/A	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1
✓	N/A	N/A	✓	N/A	✓	✓	✓	✓	N/A	N/A	✓

Force photograph





B.2. Clause 3.2.1 (1) Critical Dimensions

B-5-1 Critical Dimensions			
Testing Period	Measures achievement	Test Engineer	Test Result
2019/10/06	Target 25.8 / 1 / 62.9 / 254	Lir Darning	Pass

Test data: (12 items)			
B-5-1 Critical Dimensions – Receptacle			
Description	Sample Coding		
	B5-1	B5-2	B5-3
1.Receptacle pin-to opening (6.35 – 6.40)	6.393	6.394	6.394
2.Receptacle Pin-to opening position tolerance (0.04 with datum A/B/C)	0.036	0.036	0.034
3.Receptacle signal pin length (3.35 – 3.40)	3.376	3.382	3.389
4.Pin length center (3.30-3.70)	3.399	3.373	3.379
5.Tongue width (6.60 – 6.70)	6.714	6.700	6.707
6.Contact width (0.21 – 0.26)	0.235	0.235	0.243
7.Contact width position tolerance (0.08 with datum A/B/C)	0.019	0.016	0.024
8. Tongue thickness (0.65 – 0.75)	0.736	0.739	0.739
9.Receptacle Pin-to Wall/inner (2.52 – 2.60)	2.560	2.567	2.566
Default result	Pass	Pass	Pass

B.3. Clause 3.7.B.1 Low level contact resistance

A-1-1 Low level contact resistance			
Testing Period	Measures environment	Test Engineer	Test Result
2022/07/11	Temp: 20.1 °C / 68.2 °F	Zhao Jinglong	Pass
Test condition	Method: Maximum open circuit voltage 20 mV; Test current 100 mA;		
Criteria	≤40 mΩ (total)		

A-1-1-1												
ITEM#	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1-1	20.8			20.1	21.6	20.0	21.5	21.4	21.9			20.8
A1-2	21.3			23.5	24.4	20.7	22.0	24.4	25.5			25.1
A1-3	20.5			26.1	20.3	21.7	23.4	20.1	20.7			20.1
A1-4	18.7			21.1	19.1	19.5	19.4	18.7	18.8			19.2
A1-5	21.1			22.3	20.7	20.8	20.1	21.3	22.8			20.7
A1-6	21.2			21.8	21.2	20.7	20.9	20.5	20.1			19.5
A1-7	20.7			21.5	21.7	20.9	20.1	20.9	21.5			20.1
A1-8	20.3			22.4	22.0	22.0	20.4	21.1	23.7			21.5
A1-9	21.4			20.9	22.5	23.7	20.2	20.8	20.8			20.3
A1-10	22.5			20.0	19.1	19.1	19.3	20.1	19.1			20.3
ITEM#	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1-1	20.2			20.5	19.1	19.4	18.7	19.2	20.9			19.5
A1-2	21.9			24.4	20.3	25.1	19.7	24.5	20.8			18.8
A1-3	18.7			19.1	19.4	19.2	18.1	19.3	20.1			19.4
A1-4	21.1			21.3	21.5	20.8	20.7	21.3	20.6			20.1
A1-5	19.3			19.1	20.3	19.8	18.9	19.1	20.5			20.1
A1-6	22.1			20.3	19.6	19.6	18.3	19.5	20.2			19.8
A1-7	20.5			21.1	20.2	19.8	19.5	19.8	20.8			18.1
A1-8	20.7			20.1	20.1	19.0	19.9	19.6	19.3			18.7
A1-9	19.2			20.5	19.7	19.5	18.7	18.7	20.1			18.5
A1-10	20.9			22.0	20.6	21.1	20.7	20.2	20.1			20.0

A-3-4 Low level contact resistance

Testing Period :	Moisture environment	Test Engineer	Test Result
2022/07/18	Temp: 22.8/22.0/23.4/24.1	Ge. Kugel	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 100 mA		
Criteria:	200 mΩ		

Result (mΩ)												
Wiring	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1	21.1			21.3	21.5	21.6	20.3	20.4	20.7			20.9
A2	21.1			21.2	21.2	20.0	21.3	20.7	20.4			21.6
A3	20.3			20.1	21.2	20.4	21.2	21.0	20.5			21.2
A4	20.5			20.2	21.0	20.3	20.3	21.0	21.5			21.8
A5	20.5			20.1	20.1	20.7	20.5	20.1	20.4			20.8
A6	20.1			20.7	20.3	21.3	20.7	21.1	21.1			20.3
A7	21.1			20.7	21.7	20.1	20.3	21.1	20.7			20.1
A8	20.6			20.5	21.2	21.1	21.3	20.3	20.3			19.6
A9	20.6			21.0	20.3	20.0	21.1	20.1	20.0			20.7
A10	21.7			20.2	20.4	21.3	20.6	21.1	21.7			20.3
Wiring	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
B1	20.3			20.2	20.3	21.3	20.2	20.0	20.7			20.1
B2	21.6			21.1	21.4	21.3	20.3	20.3	21.3			19.3
B3	19.4			19.3	19.1	20.1	19.3	20.0	20.1			18.9
B4	21.7			20.3	20.2	20.2	20.3	20.4	21.4			20.3
B5	20.5			20.3	20.7	20.5	20.4	19.6	20.4			19.1
B6	20.5			20.4	20.3	20.5	20.1	19.7	20.7			20.3
B7	20.3			20.7	20.1	21.1	21.3	19.2	19.3			18.9
B8	20.4			19.5	20.3	21.4	20.5	19.7	20.4			19.7
B9	21.3			20.7	20.3	20.7	21.1	19.3	21.1			18.5
B10	21.4			21.4	21.0	20.7	21.3	21.3	21.0			20.8



A-1-5 Low level contact resistance

Testing Period :	Moisture environment	Test Engineer	Test Result
2022/07/18	Temp. 22.8 to 28.8 °C/73°F	Ge. Koppa	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 100 mA.		
Criteria:	250 mΩ		

Matrix												
Pin No	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A01	24.3			24.5	24.5	24.9	24.4	25.1	24.3			24.4
A02	24.1			23.6	23.8	25.1	25.7	24.3	23.7			23.8
A03	23.1			23.8	22.9	24.7	24.6	24.1	24.8			24.5
A04	24.4			21.1	24.8	19.7	24.4	19.3	24.3			24.3
A05	24.9			24.5	24.7	24.3	24.7	24.3	24.8			24.9
A06	24.6			24.9	22.4	20.7	24.4	24.7	24.8			24.7
A07	24.1			24.8	24.6	24.3	24.1	24.4	24.6			24.3
A08	24.6			23.8	24.3	24.4	24.7	23.8	24.5			24.5
A09	24.5			24.1	24.2	24.8	24.7	24.7	24.6			24.4
A10	24.3			24.8	24.4	24.4	24.2	24.1	24.2			24.7
Pin No	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A11	24.4			24.6	24.9	24.5	19.8	24.3	19.5			24.6
A12	24.4			24.8	24.8	24.5	24.2	24.4	24.4			24.1
A13	24.1			24.3	24.9	24.8	19.4	24.6	24.7			24.4
A14	24.2			23.1	24.9	24.1	23.9	23.5	24.9			24.3
A15	24.7			23.4	24.4	19.9	24.6	19.6	24.7			24.6
A16	24.3			24.7	24.7	24.1	19.7	19.4	24.9			19.7
A17	24.3			24.6	24.8	24.5	24.1	24.7	24.5			24.7
A18	24.2			24.8	24.7	24.7	19.9	24.6	24.2			24.2
A19	24.4			24.7	24.5	19.3	18.8	19.4	24.8			19.4
A20	24.4			24.3	24.2	24.2	24.1	24.3	24.7			22.9



A-2-1 Low level contact resistance

Testing Period :	Moisture environment	Test Engineer	Test Result
2022/07/01	Temp. 22.211/ 15.87444	Ge. Kugel	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA,		
Criteria:	500 mΩ (initial)		

2022 Results												
Item No.	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A2-1	21.1			25.8	24.5	21.8	20.1	21.5	20.5			22.3
A2-2	25.5			25.5	23.8	21.5	22.5	22.9	22.3			24.9
A2-3	26.2			26.1	24.1	20.8	20.1	20.8	25.9			24.6
A2-4	19.6			26.7	20.0	19.2	18.6	19.9	20.5			18.9
A2-5	24.9			20.2	19.7	20.5	20.1	18.8	20.9			20.7
A2-6	20.1			19.7	18.7	18.5	19.9	19.0	20.1			18.3
A2-7	19.2			19.6	18.9	18.4	19.1	18.9	20.1			19.7
A2-8	21.4			25.9	20.1	20.2	19.8	19.3	20.0			19.6
A2-9	18.5			21.2	19.2	18.2	18.7	18.1	20.9			18.9
A2-10	19.6			20.5	19.1	19.2	19.8	18.5	20.4			19.2
Item No.	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A2-1	20.1			20.3	20.5	20.0	19.8	19.7	20.9			20.9
A2-2	20.5			20.9	19.1	19.8	19.8	19.1	20.5			19.2
A2-3	19.1			20.9	20.6	20.1	19.1	20.1	21.9			19.1
A2-4	19.5			20.8	20.1	20.1	19.8	20.2	20.6			20.3
A2-5	20.1			20.5	19.8	19.8	19.2	19.3	20.2			19.8
A2-6	19.3			20.6	20.1	19.1	18.1	19.1	20.1			19.1
A2-7	20.8			22.1	21.9	21.0	20.5	20.6	20.1			20.1
A2-8	20.8			21.6	21.8	20.7	22.1	20.1	20.5			20.1
A2-9	19.9			21.9	21.9	19.6	19.1	20.0	18.8			20.2
A2-10	20.1			20.9	21.1	20.5	20.5	20.9	20.1			20.2

**REPORT HISTORY**

Report Number	Revision	Description	Issue Date
MS-24501AG00075-001-00M	V1	First release	2024-04-12

A-2-4 Low level contact resistance

Testing Period :	Measura environment	Test Engineer	Test Result
2022/07/18	Temp: 22.0 100% RH	Ge Kijpa	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA,		
Criteria:	200 mΩ		

Pin-to-Pin												
Pin No.	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1-1	31.4			23.0	22.3	21.5	21.0	20.9	21.5			20.7
A1-2	20.8			20.4	22.3	21.3	20.1	20.4	20.1			19.9
A1-3	20.2			20.4	20.8	20.8	19.4	19.1	20.0			19.2
A1-4	20.1			20.5	20.5	19.6	18.7	21.5	20.3			20.9
A1-5	19.5			20.5	20.2	19.1	18.5	19.0	21.1			19.3
A1-6	19.6			19.3	19.3	19.3	18.6	20.7	20.0			21.6
A1-7	18.3			22.1	21.1	21.2	20.0	19.0	20.8			20.8
A1-8	19.6			20.6	20.2	20.5	21.4	21.0	21.0			20.0
A1-9	20.1			20.3	19.5	19.0	18.3	18.3	20.8			19.7
A1-10	17.8			20.0	19.5	19.0	18.5	18.1	20.6			18.5
Pin No.	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
B1-1	17.1			20.8	18.9	20.1	19.4	19.5	21.2			18.5
B1-2	19.9			20.7	20.0	19.9	19.1	19.0	20.1			19.1
B1-3	19.0			20.4	20.6	19.8	19.2	20.1	20.0			20.2
B1-4	20.1			19.0	21.7	21.6	20.2	20.6	22.3			20.6
B1-5	21.3			21.4	22.0	22.4	20.6	22.3	22.0			22.0
B1-6	19.7			20.1	20.1	19.7	19.0	18.9	20.4			19.4
B1-7	21.1			21.5	21.8	20.7	21.2	19.9	22.0			22.5
B1-8	20.0			20.6	22.9	21.9	22.1	20.5	22.9			21.5
B1-9	19.0			19.8	20.1	20.1	19.0	18.6	19.0			20.8
B1-10	20.7			22.7	22.9	21.5	22.4	21.1	22.1			22.1



A-2-5 Low level contact resistance

Testing Period :	Measura environment	Test Engineer	Test Result
2022/07/26	Temp. 23.0 (17.3 ~ 28.9)	Ge. Kageki	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA.		
Criteria:	≤50 mΩ		

R245-4mm2												
Pin No.	A1	A2	A3	A4	A5	A6	A7	A8	A9	Pin No.	A10	A11
A0-1	21.8			25.5	20.5	22.4	24.4	24.8	21.9			21.5
A0-2	21.9			24.0	21.7	21.9	21.2	25.2	21.1			23.6
A0-3	20.4			24.9	20.2	21.2	19.2	19.5	19.7			19.1
A0-4	18.8			24.8	24.1	19.4	19.2	19.2	21.4			19.1
A0-5	20.7			24.2	20.9	21.1	20.9	20.1	21.1			19.5
A0-6	19.6			20.1	20.8	19.6	19.0	21.1	20.6			20.1
A0-7	18.5			19.6	19.1	19.3	19.0	19.9	20.3			19.2
A0-8	20.0			19.7	20.4	21.1	20.3	19.6	20.6			19.5
A0-9	19.4			21.6	19.0	19.9	19.6	20.8	19.8			19.5
A0-10	19.0			19.8	19.6	19.0	19.1	18.8	19.7			19.9
Pin No.	A12	A13	A14	A15	A16	A17	A18	A19	A20	Pin No.	A21	A22
A0-11	19.2			21.5	20.6	19.3	20.5	19.7	21.7			20.2
A0-12	19.8			22.9	19.8	19.9	19.6	19.4	21.1			19.5
A0-13	19.5			23.7	22.0	19.7	20.3	19.6	21.2			19.0
A0-14	19.3			20.9	21.4	20.7	19.8	19.5	21.0			19.6
A0-15	19.6			20.1	20.5	20.6	21.1	20.1	21.5			20.1
A0-16	22.1			22.5	22.2	20.9	20.3	21.3	20.5			19.8
A0-17	21.7			21.1	22.8	21.9	20.4	21.2	20.5			21.5
A0-18	19.5			21.9	21.9	20.5	21.1	21.9	21.4			19.7
A0-19	20.2			20.0	19.6	21.1	19.2	20.2	21.0			19.8
A0-20	21.1			21.4	21.3	20.1	21.4	22.2	21.4			21.1



A-2-8 Low level contact resistance

Testing Period :	Moisture environment	Test Engineer	Test Result
2022/07/26	Temp. 23.0 (1) 22.3 (100%)	Ge. Koppa	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA,		
Criteria:	200 mΩ		

R100 (mΩ)												
100mV	A1	A2	A3	A4	A5	A6	A7	A8	A9	B10	B11	B12
R2-1	21.2			25.6	21.4	21.1	28.9	29.5	21.9			22.9
R2-2	21.9			27.1	26.6	22.2	21.5	21.9	22.5			28.9
R2-3	21.3			22.2	21.1	20.7	20.3	20.1	25.7			21.3
R2-4	19.1			20.9	22.5	18.6	19.7	15.5	22.3			19.7
R2-5	21.4			21.9	19.6	20.2	19.3	19.6	21.2			20.5
R2-6	24.7			19.8	15.6	18.7	19.7	16.5	22.9			18.9
R2-7	20.1			20.2	19.1	19.2	19.3	16.5	15.5			20.5
R2-8	20.6			22.5	19.3	20.5	16.7	17.7	19.9			16.6
R2-9	19.9			20.9	20.2	19.4	18.6	18.3	20.1			19.0
R2-10	19.7			20.12	19.3	19.2	20.2	19.6	20.7			19.7
100mV	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
R2-1	19.9			22.9	20.1	20.3	19.5	19.1	23.8			21.1
R2-2	20.1			21.3	19.6	20.9	19.6	19.6	22.7			19.5
R2-3	20.3			20.6	20.7	21.2	19.8	22.8	21.9			19.7
R2-4	19.1			20.7	20.1	20.7	20.2	20.9	22.6			20.2
R2-5	22.7			20.6	19.9	19.0	19.6	19.7	20.8			19.6
R2-6	19.9			19.6	19.9	19.7	16.7	16.3	20.4			20.1
R2-7	21.6			21.1	21.0	20.6	20.2	20.7	21.7			22.6
R2-8	21.0			20.8	21.2	20.8	21.7	20.8	20.3			25.7
R2-9	20.3			20.6	20.9	19.7	19.6	20.2	21.2			24.7
R2-10	21.7			22.8	21.5	21.9	20.9	21.6	20.5			21.6



A-3-1 Low level contact resistance

Testing Period :	Measure environment	Test Engineer	Test Result
20220711	Temp. 22.2 to 25.8 °C	Ge. Koppa	Pass
Test condition	Method: Maximum open circuit voltage 30 mV, Test current 500 mA,		
Criteria:	500 mΩ (initial)		

Initial Results												
PCB No.	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1-4	21.7			23.6	22.5	22.7	24.0	24.2	22.7			21.5
A2-4	21.5			22.9	22.8	21.1	21.8	22.7	24.5			22.8
A3-5	21.6			22.8	21.9	22.7	24.9	21.1	22.8			24.4
A3-9	22.7			19.9	20.1	19.3	18.6	19.1	20.9			18.9
A3-5	19.5			20.1	21.3	20.8	20.6	20.9	24.1			19.1
A3-6	19.8			21.1	21.0	21.0	20.1	20.9	21.3			19.9
A3-7	20.5			21.0	20.9	21.2	20.1	20.8	21.0			19.7
A3-8	20.3			21.7	20.8	21.3	20.6	20.4	21.7			19.0
A3-9	20.2			22.1	22.3	22.6	22.8	22.6	22.0			20.5
A3-9	19.8			20.9	20.2	20.2	20.0	19.9	21.1			19.5
PCB No.	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A1-4	18.6			24.2	20.5	19.9	18.7	19.7	20.9			18.5
A2-1	20.0			28.4	22.6	23.3	21.9	21.8	24.6			23.3
A2-5	20.8			22.6	22.1	23.1	24.2	24.4	22.2			20.5
A3-4	20.2			20.7	22.2	19.0	18.5	19.1	21.9			22.8
A3-5	20.7			21.7	20.5	20.7	20.3	20.8	21.3			19.7
A3-6	21.1			22.2	21.5	21.8	21.3	21.2	22.4			20.0
A3-7	20.7			21.3	22.2	21.3	19.5	20.5	21.7			19.6
A3-8	19.7			20.9	20.8	20.3	20.4	21.2	21.1			19.2
A3-9	21.1			22.0	21.5	21.0	21.0	21.7	22.0			21.2
A3-9	20.7			21.0	20.1	20.2	19.8	19.9	21.0			19.7



A-3-4 Low level contact resistance

Testing Period :	Measure environment	Test Engineer	Test Result
2022/07/08	Temp. 22.8 to 28.8 °C/73	Ge. Koppa	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 100 mA.		
Criteria:	250 mΩ		

Batch 4 cells												
TT name	A1	A2	A3	A4	A5	A6	A7	A8	A9	10A	A11	A12
P1-1	24.5			21.1	21.0	21.2	20.9	21.1	21.9			20.9
P1-2	24.5			21.2	21.0	21.3	21.2	21.1	21.1			19.8
P1-3	24.1			20.8	21.5	21.7	21.7	21.2	21.7			20.5
P2-4	20.5			21.4	21.7	21.4	20.9	21.8	21.5			19.8
P2-5	20.9			21.4	21.5	21.0	21.0	21.3	21.4			19.5
P2-6	20.8			21.8	21.6	21.3	20.1	21.0	21.5			19.6
P2-7	20.1			21.7	21.4	21.6	20.5	21.5	21.5			19.2
P2-8	21.3			21.1	21.0	20.5	20.1	21.3	20.0			21.0
P2-9	20.3			21.3	21.0	20.8	19.7	20.4	21.0			20.5
A3-10	20.2			21.3	20.4	20.9	20.2	20.2	21.9			19.8
TT name	A1	A2	A3	A4	A5	A6	A7	A8	A9	10A	A11	A12
P3-1	21.4			21.4	21.4	21.1	20.7	21.5	21.4			19.9
P3-2	22.0			21.1	20.8	21.2	21.7	21.9	21.4			19.8
P3-3	21.5			21.3	21.3	21.4	21.6	21.9	21.1			19.8
P3-4	21.6			21.0	21.4	20.8	20.1	21.3	21.4			20.7
P3-5	20.1			21.7	21.8	21.9	20.4	20.9	21.4			20.5
P3-6	21.2			21.8	21.6	21.7	21.5	21.7	21.8			20.8
P3-7	19.8			22.0	21.4	20.8	21.0	21.9	21.1			20.4
P3-8	20.5			20.1	21.7	20.7	20.8	21.7	20.8			20.0
A3-9	20.7			21.1	21.7	21.3	21.8	21.1	21.7			19.6
A3-10	20.1			21.4	21.2	21.2	19.8	20.0	21.4			20.1



A-3-5 Low level contact resistance

Testing Period :	Measure environment	Test Engineer	Test Result
2022/07/20	Temp. 23.3 to 24.6 °C/74	On Site	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA.		
Criteria:	≤50 mV		

Pass												
Pinout	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1-1	20.3			21.1	21.5	21.5	21.1	20.9	20.6			20.6
A2-2	21.1			21.2	21.5	21.1	20.6	21.4	21.8			19.9
A3-3	23.1			22.1	21.7	22.0	21.4	21.2	21.2			20.8
A4-4	20.1			21.9	21.4	21.9	20.1	20.1	20.5			19.1
A5-5	21.3			20.1	20.2	21.2	21.0	21.1	21.1			19.9
A6-6	21.5			21.7	21.1	21.3	20.9	21.0	21.9			19.5
A7-7	20.1			21.9	21.4	20.1	21.4	21.7	22.0			19.0
A8-8	20.6			22.4	21.6	21.8	20.7	21.0	21.0			19.6
A9-9	20.4			22.2	21.7	21.8	20.1	21.0	21.5			20.3
A10-10	20.2			21.1	20.9	20.4	20.5	20.8	21.3			20.0
Pinout	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A1-1	20.3			21.2	21.1	22.0	21.0	21.3	21.4			20.2
A2-2	20.9			22.1	21.7	21.6	20.8	21.6	21.5			20.1
A3-3	21.1			22.7	22.3	23.0	20.1	21.1	20.2			20.5
A4-4	20.3			20.7	21.9	21.3	21.7	21.2	21.1			19.6
A5-5	21.7			20.1	21.1	20.8	20.5	20.9	21.0			20.7
A6-6	21.0			21.5	21.2	21.6	21.1	21.9	21.8			20.1
A7-7	21.3			21.2	21.8	21.1	20.9	21.9	21.9			20.3
A8-8	20.1			21.5	21.1	20.8	20.3	21.4	21.8			19.6
A9-9	20.8			21.3	21.9	21.9	20.9	21.5	21.3			19.4
A10-10	20.1			20.2	21.9	21.0	19.8	20.8	21.1			19.6

A-4-1 Low level contact resistance

Testing Period	Measurs environment	Test Engineer	Test Result
2022/07/08	Temp: 21.2 °C (69.96°F)	Zhen Xingcheng	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA,		
Criteria	500 mΩ (initial)		

Type 3-wire												
Pin No.	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A0-1	19.1			19.7	18.8	19.2	18.5	18.6	19.4			19.4
A0-2	21.6			22.3	20.2	21.2	21.1	21.9	21.6			21.2
A0-3	21.2			21.9	20.1	19.4	19.1	18.7	20.5			19.4
A0-4	21.5			20.8	21.7	21.9	21.5	21.5	22.4			19.1
A0-5	19.5			20.3	19.2	19.4	18.5	19.1	20.1			19.5
A0-6	18.9			20.3	19.5	20.1	19.1	19.3	20.5			19.2
A0-7	21.7			22.5	21.0	21.7	21.2	20.3	22.1			20.1
A0-8	21.8			20.8	20.8	19.5	19.9	19.1	20.4			19.1
A0-9	22.2			19.4	21.0	21.3	21.4	21.8	22.9			20.4
A0-10	21.4			22.3	20.3	19.8	20.1	19.1	20.1			18.9
Pin No.	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A0-1	21.3			21.1	21.0	21.4	20.7	21.0	21.5			21.4
A0-2	19.8			21.1	19.8	19.4	19.1	20.1	20.2			18.9
A0-3	22.5			22.2	21.1	21.4	20.9	21.2	22.4			20.5
A0-4	19.9			21.1	20.3	19.2	19.0	19.9	20.1			19.1
A0-5	21.1			21.3	21.2	21.5	21.1	20.0	21.0			19.5
A0-6	21.1			20.0	21.5	20.9	21.0	21.1	22.0			20.3
A0-7	20.2			20.2	20.3	20.8	20.2	20.4	21.2			21.9
A0-8	20.8			22.4	21.4	22.5	20.6	20.7	21.3			21.0
A0-9	20.3			19.8	20.0	20.1	19.1	18.9	20.1			17.9
A0-10	22.1			22.4	20.2	20.5	19.4	20.8	21.7			19.4

Kategori 1												
Subkate	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
Sub-1	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-2	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-3	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-4	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-5	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-6	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-7	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-8	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-9	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-10	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Subkate	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Sub-1	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-2	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-3	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-4	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-5	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-6	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-7	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-8	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-9	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0
Sub-10	15.0			15.0	15.0	15.0	15.0	15.0	15.0			15.0



A-4-4 Low level contact resistance

Testing Period :	Measure environment	Test Engineer	Test Result
2022/07/12	Temp: 21.2 °C RH: 1 %	Zhen Xinglong	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA		
Criteria:	≤50 mΩ		

Part B (400)												
Sample	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A01	26.7			26.1	26.6	19.5	19.2	15.5	26.7			26.2
A02	23.7			22.8	20.8	22.6	4.3	21.3	22.1			26.2
A03	26.4			25.3	26.7	18.7	26.1	24.9	26.2			27.2
A04	26.1			34.1	26.2	26.2	26.2	26.2	26.2			26.1
A05	26.5			22.2	26.1	19.2	19.9	25.1	26.2			19.4
A06	18.7			26.1	18.7	26.1	15.3	15.3	26.1			15.3
A07	23.4			23.7	22.4	25.1	26.2	19.1	26.7			26.1
A08	28.6			26.1	26.1	15.9	19.9	26.2	26.2			17.1
A09	23.9			24.8	26.2	26.1	26.1	26.2	26.1			26.1
A10	26.1			26.1	26.1	2.9	26.2	19.9	26.1			11.9
Sample	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A11	26.1			26.2	26.5	26.2	26.2	26.7	26.2			26.2
A12	26.2			26.2	26.5	26.2	26.2	26.1	26.2			26.2
A13	26.2			22.6	22.2	22.4	26.2	26.2	26.1			26.2
A14	26.1			26.1	26.4	26.1	26.7	26.2	26.1			26.1
A15	26.2			26.1	19.2	26.2	26.2	26.2	26.2			13.2
A16	26.5			26.1	22.2	26.2	26.2	26.2	26.2			16.2
A17	26.2			26.2	26.2	26.1	26.2	26.2	26.1			23.2
A18	26.2			23.4	26.2	26.2	26.1	26.2	26.1			26.2
A19	26.1			19.2	26.1	26.2	12.4	19.9	26.2			16.1
A20	26.2			26.1	26.1	26.1	15.2	26.2	26.2			19.2

RESULTS SUMMARY												
TEST NO.	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
0001	001			001	001	001	001	001	001			001
0002	002			002	002	002	002	002	002			002
0003	003			003	003	003	003	003	003			003
0004	004			004	004	004	004	004	004			004
0005	005			005	005	005	005	005	005			005
0006	006			006	006	006	006	006	006			006
0007	007			007	007	007	007	007	007			007
0008	008			008	008	008	008	008	008			008
0009	009			009	009	009	009	009	009			009
0010	010			010	010	010	010	010	010			010
0011	011			011	011	011	011	011	011			011
0012	012			012	012	012	012	012	012			012
0013	013			013	013	013	013	013	013			013
0014	014			014	014	014	014	014	014			014
0015	015			015	015	015	015	015	015			015
0016	016			016	016	016	016	016	016			016
0017	017			017	017	017	017	017	017			017
0018	018			018	018	018	018	018	018			018
0019	019			019	019	019	019	019	019			019
0020	020			020	020	020	020	020	020			020
0021	021			021	021	021	021	021	021			021
0022	022			022	022	022	022	022	022			022
0023	023			023	023	023	023	023	023			023
0024	024			024	024	024	024	024	024			024
0025	025			025	025	025	025	025	025			025
0026	026			026	026	026	026	026	026			026
0027	027			027	027	027	027	027	027			027
0028	028			028	028	028	028	028	028			028
0029	029			029	029	029	029	029	029			029
0030	030			030	030	030	030	030	030			030



CONTENTS

1. Test Laboratory	5
1.1. Testing Location	5
1.2. Testing Environment	5
1.3. Project Data	5
1.4. Signature	5
2. Client Information	5
2.1. Applicant Information	5
2.2. Manufacturer Information	5
3. Unit Under Test (UUT) Information	6
3.1. About UUT	6
3.2. Sample Coding	6
4. Reference Documents	7
5. USB Type-C Compliance Requirements	7
5.1. DC Electrical	7
5.2. Mechanical	8
5.3. Environmental	9
6. Test Procedure	10
7. Test Result Summary	13
8. Test Detail	14
8.1. Clause 3.2.1 (6) Construction	14
8.2. Clause 3.2.1 (8) Critical Dimensions	16
8.3. Clause 3.7.2.1 Low level contact resistance	17
8.4. Clause 3.7.2.2 Dielectric withstanding voltage	38
8.5. Clause 3.7.2.3 Insulation Resistance	40
8.6. Clause 3.7.2.4 Contact Current Rating	41
8.7. Clause 3.8.1.1 Insertion force	42
8.8. Clause 3.8.1.1 Extraction force	42
8.9. Clause 3.8.1.3 Durability	44
8.10. Clause 3.8.1.3 Reseating	45
8.11. Clause 3.8.1.3 4-Axis Continuity	46



A-4-E Low level contact resistance

Testing Period	Measure environment	Test Engineer	Test Result
2022/07/21	Temp. 23.0 °C / 73.2 °F	Zhen Keng Tang	Pass
Test condition	Method: Maximum open circuit voltage 20 mV; Test current 100 mA.		
Criteria	≤50 mΩ		

Result Table												
Sample	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A0-1	18.6			20.0	19.1	19.6	18.9	17.6	20.0			19.2
A0-2	18.6			20.4	20.1	19.2	19.8	19.6	21.0			19.2
A0-3	21.1			22.6	21.3	21.2	21.1	22.3	21.0			21.1
A0-4	17.8			22.7	22.0	19.2	22.4	20.5	24.6			22.3
A0-5	19.9			21.4	22.4	19.6	21.6	19.2	19.9			21.9
A0-6	16.7			22.9	21.1	20.0	21.0	19.8	21.4			20.1
A0-7	15.9			20.8	20.6	21.7	20.8	22.9	22.0			22.6
A0-8	20.1			19.5	23.8	22.8	21.2	20.2	18.1			21.7
A0-9	20.1			19.6	22.0	22.0	19.8	22.9	22.9			23.4
A0-10	19.9			21.1	21.7	21.6	20.4	22.0	21.6			21.4
Sample	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A1-1	21.1			21.9	22.5	22.3	21.1	21.1	21.7			22.2
A1-2	20.6			21.9	22.0	21.8	22.4	22.9	22.2			21.8
A1-3	19.6			19.9	21.7	20.2	19.2	19.3	20.4			20.2
A1-4	19.2			22.4	19.8	20.8	20.2	20.3	21.6			21.9
A1-5	18.7			22.4	19.7	20.7	22.6	21.6	20.8			21.9
A1-6	18.0			21.7	21.5	20.9	19.8	22.4	22.4			22.1
A1-7	19.1			22.5	22.6	20.6	17.4	22.8	20.4			15.6
A1-8	20.4			22.7	21.1	22.0	19.6	22.4	22.9			22.9
A1-9	20.5			22.0	21.8	22.4	20.9	22.2	22.8			20.4
A1-10	21.3			22.8	21.2	22.0	20.4	22.0	21.1			21.9

TABLE 2 (cont.)												
STATION	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
AP-1	187			282	196	283	187	197	201			197
AP-1A	187			208	201	196	196	197	201			197
AP-2	214			208	215	214	218	214	202			211
AP-4	194			208	213	193	213	208	202			214
AP-5	192			208	211	197	201	197	197			210
AP-6	168			214	203	208	208	191	208			196
AP-7	197			219	200	207	208	202	214			210
AP-8	210			219	216	203	207	208	211			212
AP-9	214			219	200	207	199	208	208			206
AP-20	196			209	208	205	191	208	201			208
STATION	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
AP-1	204			208	205	208	211	208	211			209
AP-2	211			208	207	205	211	208	208			211
AP-3	199			207	202	208	199	197	214			211
AP-4	196			214	197	214	205	208	214			218
AP-5	197			208	198	211	208	211	208			210
AP-6	211			201	212	214	191	208	211			211
AP-7	197			207	215	201	177	208	201			201
AP-8	211			209	212	202	187	211	214			209
AP-9	214			208	210	213	211	212	202			201
AP-20	208			207	207	202	208	211	207			207

A-4-8 Low level contact resistance

Testing Period	Measure environment	Test Engineer	Test Result
2022/01/22	Temp. 22.0 $\pm$ 1.2 $^{\circ}$ C	Zhao Jingcheng	Pass
Test condition	Method: Maximum open circuit voltage 20 mV; Test current 50 mA;		
Criteria	50 m Ω		

Pin-to-Pin												
Pin#	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A0-1	19.9			18.1	19.1	19.4	18.9	18.5	18.3			18.9
A0-2	19.9			18.1	18.1	18.4	18.5	18.1	18.8			18.9
A0-3	18.2			18.4	18.6	19.8	19.3	19.2	18.2			19.8
A0-4	18.9			18.2	18.6	18.9	18.3	18.1	18.8			19.7
A0-5	18.9			18.0	19.1	18.5	19.1	18.7	18.3			18.3
A0-6	18.8			18.4	18.7	18.1	18.7	19.1	18.8			18.6
A0-7	18.1			18.3	18.0	18.8	18.8	18.3	18.1			18.9
A0-8	18.1			18.6	18.6	18.3	19.8	19.2	18.4			19.2
A0-9	18.0			18.8	18.8	18.6	18.8	18.6	18.0			19.8
A0-10	18.8			18.6	18.1	18.1	18.1	18.8	18.3			18.1
Pin#	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A4-1	18.8			18.8	18.0	18.2	18.5	18.5	18.8			18.5
A4-2	18.0			18.2	18.9	18.8	19.4	19.6	18.1			18.7
A4-3	18.8			18.2	18.5	18.1	18.3	18.8	18.1			18.3
A4-4	19.8			18.9	18.1	19.4	19.0	19.8	18.1			19.8
A4-5	18.1			18.4	18.8	18.3	18.3	18.9	18.0			19.1
A4-6	18.9			18.8	18.4	18.1	18.4	18.5	18.0			18.1
A4-7	19.8			18.8	18.1	18.2	18.3	18.8	18.1			18.0
A4-8	18.1			18.5	18.0	18.4	18.3	18.8	18.1			18.1
A4-9	18.0			18.9	19.1	18.9	19.2	19.6	18.3			18.2
A4-10	18.3			18.2	18.1	18.0	19.8	18.2	18.0			18.7



表 1-1 某地区 1980 年人口统计													
姓名	性别	年龄	职业	民族	籍贯	文化程度	健康状况	婚姻状况	宗教信仰	政治面貌	备注	统计	备注
张三	男	25	工人	汉族	山东	小学	健康	已婚	无	党员		180	
李四	女	19	学生	汉族	河南	初中	健康	未婚	无	团员		150	
王五	男	30	农民	汉族	河北	小学	健康	已婚	无	群众		160	
赵六	女	22	教师	汉族	江苏	大学	健康	已婚	无	党员		170	
孙七	男	15	学生	汉族	湖南	小学	健康	未婚	无	团员		140	
周八	女	28	医生	汉族	湖北	大学	健康	已婚	无	党员		190	
吴九	男	12	学生	汉族	四川	小学	健康	未婚	无	团员		130	
郑十	女	35	工人	汉族	广东	小学	健康	已婚	无	群众		200	
冯十一	男	40	农民	汉族	广西	小学	健康	已婚	无	群众		210	
陈十二	女	18	学生	汉族	福建	初中	健康	未婚	无	团员		150	
林十三	男	22	工人	汉族	浙江	小学	健康	已婚	无	群众		160	
周十四	女	26	教师	汉族	江西	大学	健康	已婚	无	党员		180	
吴十五	男	14	学生	汉族	安徽	小学	健康	未婚	无	团员		140	
郑十六	女	32	工人	汉族	山西	小学	健康	已婚	无	群众		190	
孙十七	男	38	农民	汉族	陕西	小学	健康	已婚	无	群众		200	
周十八	女	16	学生	汉族	甘肃	初中	健康	未婚	无	团员		150	
吴十九	男	24	工人	汉族	宁夏	小学	健康	已婚	无	群众		170	
郑二十	女	29	教师	汉族	青海	大学	健康	已婚	无	党员		180	



A-4-10 Low level contact resistance

Testing Period :	Measures environment	Test Engineer	Test Result
2022/07/22	Temp: 22.6 (1) 21.2 (2) 21.0 (3)	Chen Jingcheng	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA.		
Criteria:	≤50 mΩ		

Pin Type												
Pin No.	A1	A7	A9	A4	A5	A6	A7	A8	A9	A10	A11	A12
101	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
102	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
103	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
104	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
105	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
106	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
107	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
108	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
109	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
110	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
111	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
112	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
113	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
114	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
115	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
116	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
117	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
118	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
119	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9
120	19.9			19.9	19.9	19.9	19.9	19.9	19.9			19.9

BAGI KIRAN												
PAWIS	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
841	134			268	198	183	187	179	261			191
844	137			264	208	188	186	181	261			251
845	202			296	216	181	212	213	208			261
847	218			238	208	197	218	201	219			207
848	214			288	288	191	287	201	261			197
849	129			268	228	208	268	264	261			167
851	214			224	201	228	218	199	207			216
853	248			181	261	221	261	261	201			234
857	120			197	201	224	208	201	261			201
858	254			261	288	281	187	287	267			211
PAWIS	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
861	214			234	261	288	281	261	269			234
862	218			288	201	228	261	268	269			231
863	247			197	214	207	188	197	261			228
864	138			261	288	227	214	261	207			268
866	236			208	261	228	228	261	261			121
868	191			201	229	201	199	214	228			261
869	269			261	288	238	288	268	261			261
870	208			238	281	234	197	269	201			206
873	219			214	201	161	261	239	261			201
876	218			214	201	261	218	201	264			234



A-T-2 Low level contact resistance

Testing Period :	Moisture environment	Test Engineer	Test Result
2022/07/20	Temp. 23.0°C / 74.6 °F±0.1	Ge. Koppa	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA.		
Criteria:	500 mΩ (initial)		

Resistance (mΩ)												
Wires	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1-1	29			21.8		14.5	13.4	15.9	21.1			21.7
A1-2	27.8			21.4		13.5	16.6	17.3	21.2			20.2
A1-3	17.9			22.0		9.4	17.7	19.2	16.1			21.6
A1-4	20.1			19.9		12.1	8.3	19.4	20.8			17.6
A1-5	18.2			26.1		15.5	22.2	17.8	19.8			21.2
A1-6	19.6			26.0		21.3	26.1	16.7	21.1			19.0
A1-7	26.6			19.6		15.5	11.6	15.1	26.0			18.2
A1-8	19.8			19.6		18.4	11.6	18.7	21.5			19.1
A1-9	18.0			20.1		19.7	19.8	17.6	20.7			17.7
A1-10	15.9			20.7		18.3	13.0	17.8	23.5			20.9
Wires	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A2-1	20.6			21		16.4	13.5	14.1	21.1			17.9
A2-2	17.7			20.1		13.7	21.0	18.4	23.2			21.1
A2-3	21.5			21.4		18.8	20.7	18.2	23.2			21.0
A2-4	20.3			19.7		13.0	21.6	18.1	22.1			21.2
A2-5	13.5			20.0		17.3	13.4	18.8	16.7			21.2
A2-6	21.5			24.3		14.3	16.6	18.0	26.5			21.5
A2-7	21.1			19.8		16.1	16.7	15.2	20.0			19.7
A2-8	20.1			20.8		16.7	18.7	18.8	21.0			19.1
A2-9	21.8			19.3		18.9	22.9	18.0	26.6			20.5
A2-10	21.2			21.9		19.7	18.8	18.4	21.1			19.7



A-7-10 Low level contact resistance

Testing Period :	Measurs environment	Test Engineer	Test Result
20101011	Temp. 20.3 °C (68.5 °F)	Ge. Kugel	Pass
Test condition	Method: Maximum open circuit voltage 20 mV, Test current 500 mA,		
Criteria:	500 mΩ (initial)		

P111175014												
Part No.	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
A1-1	0.1			0.2		0.3	0.4	0.5	0.6			0.7
A1-2	0.3			0.4		0.5	0.6	0.7	0.8			0.9
A1-3	0.4			0.5		0.6	0.7	0.8	0.9			1.0
A1-4	0.7			0.7		0.7	0.9	0.9	0.9			1.0
A1-5	0.6			0.6		0.7	0.9	0.9	0.9			1.0
A1-6	0.7			0.8		0.8	0.9	0.9	0.9			1.0
A1-7	0.6			0.7		0.7	0.8	0.8	0.8			1.0
A1-8	0.6			0.5		0.6	0.7	0.7	0.6			0.9
A1-9	0.6			0.7		0.6	0.6	0.6	0.7			0.7
A1-10	0.6			0.6		0.7	0.6	0.6	0.6			0.6
Part No.	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A1-1	0.4			0.4		0.5	0.5	0.6	0.6			0.9
A1-2	0.7			0.5		0.6	0.6	0.6	0.5			0.8
A1-3	0.7			0.7		0.7	0.5	0.6	0.6			0.6
A1-4	0.7			0.8		0.8	0.9	0.7	0.6			0.6
A1-5	0.6			0.8		0.6	0.6	0.6	0.6			0.8
A1-6	0.6			0.6		0.6	0.6	0.6	0.5			0.8
A1-7	0.6			0.7		0.6	0.7	0.7	0.6			0.8
A1-8	0.6			0.6		0.6	0.6	0.6	0.7			0.7
A1-9	0.6			0.6		0.7	0.6	0.5	0.6			0.6
A1-10	0.6			0.6		0.7	0.6	0.6	0.7			0.6

**8.4. Clause 3.7.8.3 Dielectric withstanding voltage**

A-7-1 Dielectric withstanding voltage			
Testing Period	Measures achievement	Test Engineer	Test Result
2022/07/25	Temp: 26.7 °C 75.8 %RH	Ge Xinghe	Pass
Test condition	Applied: 100 VAC (RMS), 1 min. The test voltage shall be applied between adjacent contacts.		
Criteria	A failure is the occurrence of adhesive discharge as evidenced by flashover (surface discharge), sparkover (air discharge), breakdown (transient discharge) or leakage in excess of 5 mA		

A-7-11 Dielectric withstanding voltage			
Testing Period	Measures achievement	Test Engineer	Test Result
2022/7/25	Temp: 25.1 °C 64.2 %RH	Ge Xinghe	Pass
Test condition	Applied: 100 VAC (RMS), 1 min. The test voltage shall be applied between adjacent contacts.		
Criteria	A failure is the occurrence of adhesive discharge as evidenced by flashover (surface discharge), sparkover (air discharge), breakdown (transient discharge) or leakage in excess of 5 mA		

B.5. Clause 3.7.8.3 Insulation Resistance

A-7-12 Insulation Resistance			
Testing Period	Measures involvement	Test Engineer	Test Result
2022/01/28	Items 20.1 to 20.2 NCR4	Go Kijun	Pass
Test condition	ABSD and Unbraked, 500 Vdc, 2mm. The test voltage shall be applied between adjacent conductors.		
Cable type	gH03VVC3		

A-7-12 Insulation Resistance (GQ)						
Sample Coding		A7-1	A7-2	A7-3	A7-4	A7-5
Test contacts	AB to A7	100.0	100.0	100.0	100.0	100.0
	A7 to AB	100.0	100.0	100.0	100.0	100.0
	AB to A9	100.0	100.0	100.0	100.0	100.0
	B6 to B7	100.0	100.0	100.0	100.0	100.0
	B7 to B8	100.0	100.0	100.0	100.0	100.0
Sample Coding		A7-6	A7-7	A7-8	A7-9	A7-10
Test contacts	AB to A7	100.0	100.0	100.0	100.0	100.0
	A7 to AB	100.0	100.0	100.0	100.0	100.0
	AB to A9	100.0	100.0	100.0	100.0	100.0
	B6 to B7	100.0	100.0	100.0	100.0	100.0
	B7 to B8	100.0	100.0	100.0	100.0	100.0
Again Followed by the specific resistance value.						



8.12. Clause 3.8.2 Temperature life	47
8.13. Clause 3.8.2 Thermal shock	47
8.14. Clause 3.8.2 Cyclic temperature and humidity	48
8.15. Clause 3.8.2 Vibration	48
8.16. Clause 3.8.2 Mixed flowing gas	49
8.17. Clause 3.8.2 Thermal disturbance	49
9. Test Equipments Utilized	50
ANNEX A: DUT photograph	52
ANNEX B: Drawing	53
ANNEX C: Insertion Force & Extraction Force Test Layout	54
ANNEX D: Durability Test Layout	55
ANNEX E: Dielectric withstanding voltage Test Layout	56
ANNEX F: Vibration Test Layout	57
ANNEX G: Contact Current Rating Test Layout	58



B.6. Clause 3.7.8.4 Contact Current Rating

B-6-1 Contact Current Rating			
Testing Period	Measures achievement	Test Engineer	Test Result
2022/07/13	Temp: 23.8°C / 67.2 °F RH	Zhen Anqing long	Pass
Test condition	1. 5A applied individually to VBUS pins (1A, pin A4, A6, B4 and B6) 2. 1.25A applied to the Vcore pins (1A, B5) terminated 3. 0.25 A applied individually to all the other contacts.		
Criteria	The temperature rise shall not exceed 30°C at the outside surface of the shell		

Test data			
B-6-1 Contact Current Rating			
Sample Coding	Ambient temperature (°C)	Thermocouple temperature (°C)	Temperature rise (°C)
B6-1	23.8	48.2	24.0
B6-2	23.8	49.3	25.2
B6-3	23.8	48.1	24.3
Note: Temperature rise of sample = Thermocouple temperature - Ambient temperature			

8.7. Clause 3.8.3.1 Insertion force

A-7-4 Insertion Force			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/20	Temp: 23.3 1/1 74.6 1/2RH	Ge. Singh	Pass
Test condition	Speed: 12.0mm/min. Insertion depth: 4.0mm.		
Criteria	Insertion force: 5N - 20N		

Test data:					
A-7-4 Insertion Force					
Sample Coding	A7-1	A7-2	A7-3	A7-4	A7-5
Insertion force (N)	10.1	10.2	10.0	10.1	10.2
Sample Coding	A7-6	A7-7	A7-8	A7-9	A7-10
Insertion force (N)	7.7	10.6	11.0	9.8	11.5

8.8. Clause 3.8.3.1 Extraction force

A-7-5 Extraction Force			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/20	Temp: 23.3 1/1 74.6 1/2RH	Ge. Singh	Pass
Test condition	Speed: 12.0mm/min. Extraction depth: 4.0mm.		
Criteria	Extraction force: 8N - 20N(max. loading)		

A-7-7 Extraction Force			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/20	Temp: 23.3 1/1 74.6 1/2RH	Ge. Singh	Pass
Test condition	Speed: 12.0mm/min. Extraction depth: 4.0mm.		
Criteria	Extraction force: 8N - 20N. 33% of the initial loading.		

A-7-9 Extraction Force			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/22	Temp: 22.8 1/1 74.1 1/2RH	Ge. Singh	Pass
Test condition	Speed: 12.0mm/min. Extraction depth: 4.0mm.		
Criteria	Extraction force: 8N - 20N		

Test data/					
A7-6 Extraction Force					
Sample Coding	A7-1	A7-2	A7-3	A7-4	A7-5
Extraction force (N)	19.5	18.8	19.8	18.4	19.0
Sample Coding	A7-6	A7-7	A7-8	A7-9	A7-10
Extraction force (N)	18.2	18.8	18.0	19.2	19.0
A7-7 Extraction Force					
Sample Coding	A7-1	A7-2	A7-3	A7-4	A7-5
Extraction force (N)	18.6	13.7	18.0	14.2	18.8
$\frac{ (A7-7)-(A7-5) }{(A7-5)} \times 100\%$	1.0%	25.9%	23.5%	22.8%	0.4%
Sample Coding	A7-6	A7-7	A7-8	A7-9	A7-10
Extraction force (N)	12.8	16.6	14.6	16.0	16.2
$\frac{ (A7-7)-(A7-5) }{(A7-5)} \times 100\%$	8.9%	7.0%	19.5%	16.7%	14.7%
A7-8 Extraction Force					
Sample Coding	A7-1	A7-2	A7-3	A7-4	A7-5
Extraction force (N)	12.3	6.4	7.6	6.1	6.4
Sample Coding	A7-6	A7-7	A7-8	A7-9	A7-10
Extraction force (N)	6.1	6.4	6.2	6.6	13.8

**8.8. Clause 18.1.3 Durability**

A-1-2 Durability			
Testing Period	Moisture environment	Test Engineer	Test Result
2022/07/11	Temp 22.1 11.60.8 %RH	Zhen Xingcheng	Pass
Test condition	Auto cycle, cycle rate: 500±50/h, Number of cycles: 50		
Criteria	No evidence of physical damage.		

A-2-2 Durability			
Testing Period	Moisture environment	Test Engineer	Test Result
2022/07/11	Temp 22.2 11.75.8 %RH	Ge Xingbo	Pass
Test condition	Auto cycle, cycle rate: 500±50/h, Number of cycles: 50		
Criteria	No evidence of physical damage.		

A-3-2 Durability			
Testing Period	Moisture environment	Test Engineer	Test Result
2022/07/11	Temp 22.2 11.75.8 %RH	Ge Xingbo	Pass
Test condition	Auto cycle, cycle rate: 500±50/h, Number of cycles: 50		
Criteria	No evidence of physical damage.		

A-4-2 Durability			
Testing Period	Moisture environment	Test Engineer	Test Result
2022/07/08	Temp 21.2 11.68.8 %RH	Zhen Xingcheng	Pass
Test condition	Auto cycle, cycle rate: 500±50/h, Number of cycles: 50		
Criteria	No evidence of physical damage.		

A-7-3 Durability			
Testing Period	Moisture environment	Test Engineer	Test Result
2022/07/08	Temp 23.2 11.74.8 %RH	Ge Xingbo	Pass
Test condition	Manual testing/running 4 cycles.		
Criteria	No evidence of physical damage.		

A-7-E Durability			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/20	Temp: 22.3 °C / 74.2 °F RH	Ge. Knight	Pass
Test condition	Manual mating/unmating 25 cycles.		
Criteria	No evidence of physical damage.		

A-7-B Durability			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/20	Temp: 24.1 °C / 75.2 °F RH	Ge. Knight	Pass
Test condition	Auto cycle - cycle rate: 100/50/5, Number of cycles: 6000; 3400 cycles (normal) + 2000 cycles (Rotate the screwdriver 100°) + 2000 cycles (normal) + 2000 cycles (Rotate the screwdriver 180°)		
Criteria	No evidence of physical damage.		

8.10 Clause 3.8.1.3 Re-seating

A-1-5 Re-seating			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/18	Temp: 22.6 °C / 72.7 °F RH	Zvon Knapberg	Pass
Test condition	Manual mating/unmating 3 cycles.		
Criteria	No evidence of physical damage.		

A-2-3 Re-seating			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/21	Temp: 23.0 °C / 73.2 °F RH	Ge. Knight	Pass
Test condition	Manual mating/unmating 3 cycles.		
Criteria	No evidence of physical damage.		

A-4-0 Re-seating			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/22	Temp: 22.6 °C / 72.7 °F RH	Zvon Knapberg	Pass
Test condition	Manual mating/unmating 3 cycles.		
Criteria	No evidence of physical damage.		

**B.11. Clause 3.8.1.6 4-Axis Continuity**

B-1-6 4-Axis Continuity			
Testing Period	Materials involvement	Test Engineer	Test Result
2022/07/28	Temp. 21.2 1:15-6 15RH	Li Bearing	Pass
Test condition	Method: 20N Force at 15 mm from acceptable steel making edge Duration: 10 seconds. Direction: 0, 90, 180, 270.		
Criteria	No discontinuities greater than 1.0 reproduced during 10 seconds at each axis.		

8.12 Clause 3.8.2 Temperature life

A-1-3 Temperature Life			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/11-2022/07/16	Temp 21.2 $\pm$ 1.1% RH	Zhao Jingcheng	Pass
Test condition	Moist. Temperature: 10 $\pm$ 2 $^{\circ}$ C, Duration: 120h		
Criteria	No evidence of physical damage		

A-3-3 Temperature Life			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/11-2022/07/14	Temp 21.2 $\pm$ 1.1% RH	Zhao Jingcheng	Pass
Test condition	Moist. Temperature: 10 $\pm$ 2 $^{\circ}$ C, Duration: 120h		
Criteria	No evidence of physical damage		

A-4-3 Temperature Life			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/08-2022/07/11	Temp 21.2 $\pm$ 1.1% RH	Zhao Jingcheng	Pass
Test condition	Moist. Temperature: 10 $\pm$ 2 $^{\circ}$ C, Duration: 120h		
Criteria	No evidence of physical damage		

8.13 Clause 3.8.2 Thermal shock

A-2-3 Thermal Shock			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/11-2022/07/11	Temp 23.3 $\pm$ 1.6% RH	Zhao Jingcheng	Pass
Test condition	Moist. +5$\pm$2°C, 10 min 10$\pm$2°C 10 cycles High low temperature transfer time within 5 min.  44 min cycle, total 10 cycles		
Criteria	No evidence of physical damage		

8.14 Clause 3.8.2 Cyclic temperature and humidity

A-2-5 Cyclic temperature and humidity			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/16-2022/07/19	Temp: 21.2 11 67.9 12RH	Zhao Jingcheng	Pass
Test condition	Notes: Temperature of 20°C ±1°C, relative humidity of 60%±5% to Temperature of 60°C ±1°C, relative humidity of 40%±5% . Thermal soaking 8.0 hour , ramped 1 hour . 24 cycles. 		
Criteria	No evidence of physical damages.		

8.15 Clause 3.8.2 Vibration

A-3-5 Vibration			
Testing Period	Measure environment	Test Engineer	Test Result
2022/07/19	Temp: 25.0 11 76.8 12RH	Ge Kexin	Pass
Test condition	Notes: random vibration; Frequency 20-2000Hz; Shake axis for 2 axis (X,Y,Z); Power spectral density 0.02g²/Hz, Acceleration 3.1g rms		
Criteria	No evidence of physical damages; No disconnections of fan or power lines happened		

B.16. Clause 3.8.2 Mixed flowing gas

A-4-5 Mixed flowing gas			
Testing Period	Testers environment	Test Engineer	Test Result
2022/07/19-2022/07/20	Temp 24.8 11 70.4 52°F	Zhen Anqicheng	Pass
Test condition	O ₂ (10±5) ppb, H ₂ O (500±50) ppb, H ₂ S (10±5) ppb SO ₂ (100±20) ppb, Temperature (35±1)°, Humidity (60±15)% 30 days and then accelerated for 30 days. The others are as specified for full 7 days test period.		
Criteria	No evidence of physical damage.		

B.17. Clause 3.8.2 Thermal disturbance

A-4-7 Thermal disturbance			
Testing Period	Testers environment	Test Engineer	Test Result
2022/07/21-2022/07/22	Temp 21.2 11 67.9 52°F	Zhen Anqicheng	Pass
Test condition	300Hz Cycle the connector or socket between -15 °C ± 3 °C and 55 °C ± 3 °C, as indicated on the part. Range should be a minimum of 2 °C per minute, and dwell times should prove that the connector reach the temperature extremes (a minimum of 5 minutes). Humidity is not controlled. Perform 10 each cycle.		
Criteria	No evidence of physical damage.		

9. Test Equipments Utilized

Name	Model	Serial number	Calibration Date	Expiry Date
Oven Machine (ESPEC)	LC-213	1010170286	2023.11.24	2024.11.23
Thermal Shock Chamber(ESPEC)	TSE-12-A	141003228	2023.12.08	2024.12.04
Temperature & Humidity Chamber	GPL-2	6010-003813	2023.11.24	2024.11.23
Mixed Flow Gas Chamber(Yamatoko)	GM-100VL	708	2023.12.08	2024.12.04
Vibration machine	V433-FAL1008 L	1028365-1	2023.11.24	2024.11.23
Durability Tester	YH-6816USD1	17068816007	2023.11.27	2024.11.26
Durability Tester	YH-6816USD1	17068816009	2023.11.27	2024.11.26
4-axis Tester	YH-6812WEXT	17068812423	2023.11.27	2024.11.26
4-axis Tester	YH-6812WEXT	17068812426	2023.11.27	2024.11.26
Microscope	MM-400/L	5413946	2023.11.27	2024.11.26
Micro-calrometer	RM0545	170938039	2023.11.27	2024.11.26
Electronic load meter	63616-83-20	636001001093	2023.11.27	2024.11.26
Electronic load meter	63616-83-20	636001001094	2023.11.27	2024.11.26
DC power supply	DSI-1766-2	160910112004 7	2023.11.27	2024.11.26
Temperature rise test system	GP10	517500482	2023.11.27	2024.11.26
Moment disconnection tester	MM11B	20010112	2023.11.29	2024.11.28



1. Test Laboratory

1.1. Testing Location

Location: SAICT

Address: Building G, Shenzhen International Innovation Center, No. 1008 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China 518000

1.2. Testing Environment

Normal Temperature: 15-35℃
Relative Humidity: 25-85%RH
Atmospheric pressure: 86-106kPa

1.3. Project Data

Testing Start Date: 2023-04-23

Testing End Date: 2023-04-28

1.4. Signatures

Zhan Weilong

Prepared this test report

Wang Yang

Reviewed this test report

Wei Ming

Approved this test report

2. Client Information

2.1. Applicant Information

Company Name: Guangdong Jieshengxin Industry Share Co., Ltd.
Address: 108 Quan Tong Road Daping Town, Dingguan City,
Guangdong Province
City: Dingguan
Country: China
Email: gswxmc@163.com.cn

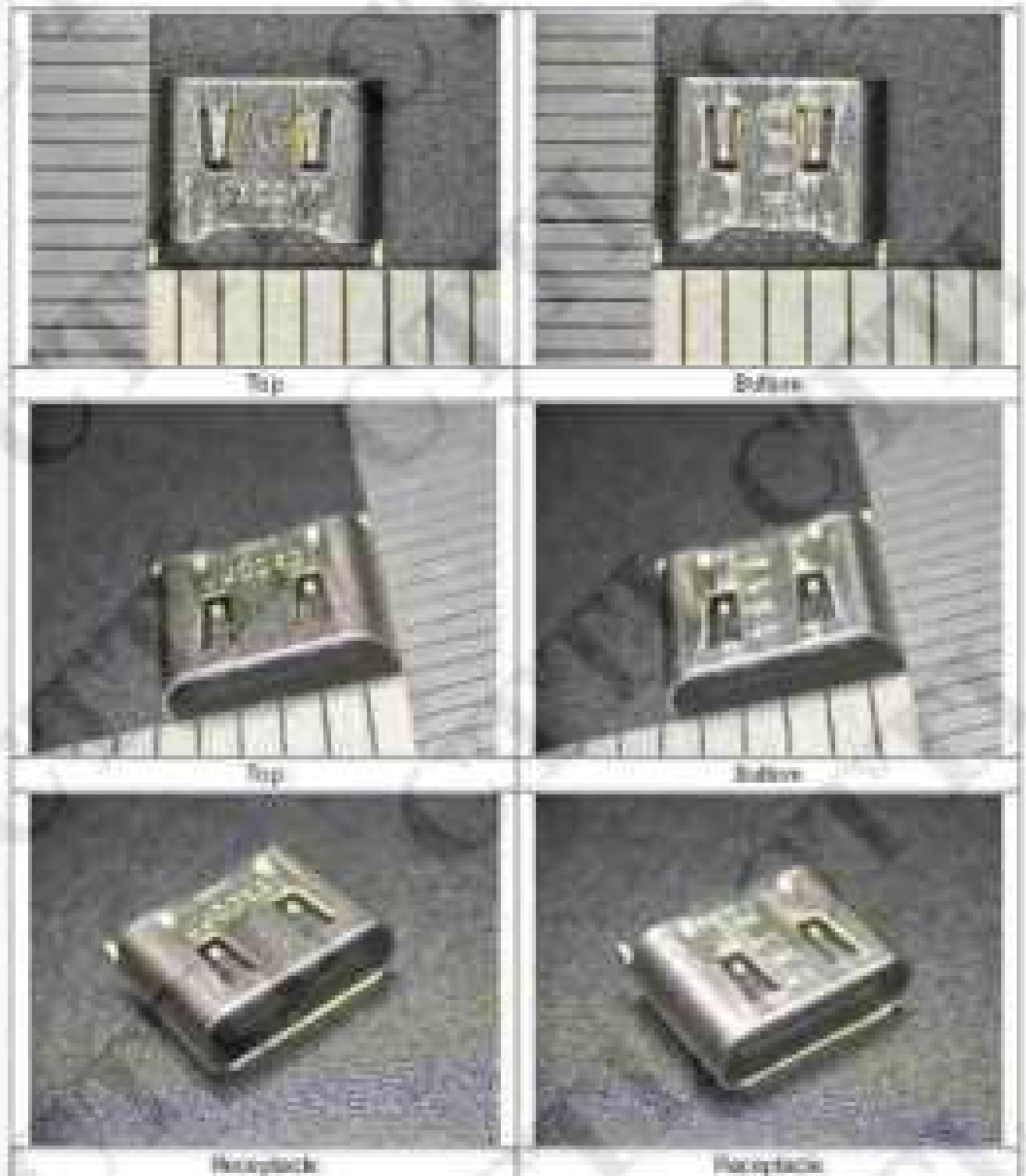
2.2. Manufacturer Information

Company Name: Guangdong Jieshengxin Industry Share Co., Ltd.
Address: 108 Quan Tong Road Daping Town, Dingguan City,
Guangdong Province
City: Dingguan
Country: China
Telephone: 0755-82913101

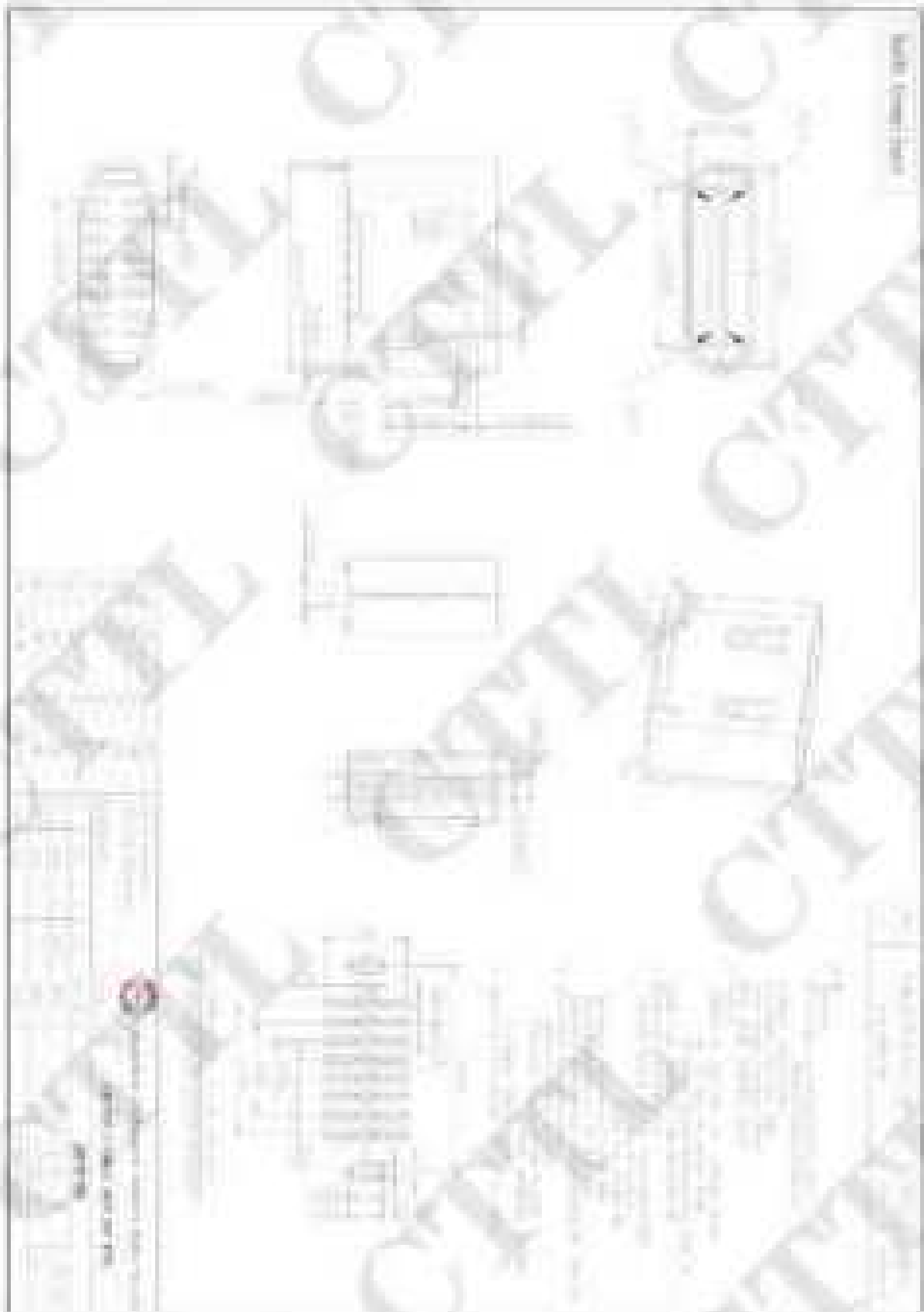


Electrical Safety Analyzer	T050251	XR003479	2023.11.27	2024.11.26
AVO meter	BTVC	EP880025W9	2023.11.27	2024.11.26

ANNEX A: UUT photograph



ANNEX B: Drawing



ANNEX C: Insertion Force & Extraction Force Test Layout



ANNEX D: Durability Test Layout



ANNEX E: Dielectric withstanding voltage Test Layout



ANNEX E: Vibration Test Layout



ANNEX G: Contact Current Rating Test Layout



END OF REPORT



1. Unit Under Test (UUT) Information

1.1. About UUT

Description:	LED S Type-D Plugpack Connector
Brand Name:	Guangdong Jinchengpin Industry Share Co., Ltd.
Marking Name:	LED TYPE C FEMALE NPN 180 TYPE
Model Name:	JSC-CF-009
Hardware Version:	A

1.2. Sample Coding

Test Group	Number of Plug/Plugpacks	Qty of Specimens
Group A-1	A1-1 to A1-10	10 pcs
Group A-2	A2-1 to A2-10	10 pcs
Group A-3	A3-1 to A3-10	10 pcs
Group A-4	A4-1 to A4-20	20 pcs
Group A-7	A7-1 to A7-10	10 pcs
Group B-1	B1-1 to B1-8	8 pcs
Group B-3	B3-1 to B3-3	3 pcs
Group B-6	B6-1 to B6-3	3 pcs



5.2. Mechanical

Clause	Task Item	Task Procedure	Requirement
5.2.1	General Installation		
5.2.1.1	Installation	5.2.1.1.1 The installation shall be carried out in accordance with the following requirements:	5.2.1.1.1.1 The installation shall be carried out in accordance with the following requirements:
5.2.1.2	Installation	5.2.1.2.1 The installation shall be carried out in accordance with the following requirements:	5.2.1.2.1 The installation shall be carried out in accordance with the following requirements:
5.2.1.3	Installation	5.2.1.3.1 The installation shall be carried out in accordance with the following requirements:	5.2.1.3.1 The installation shall be carried out in accordance with the following requirements:
5.2.1.4	Installation	5.2.1.4.1 The installation shall be carried out in accordance with the following requirements:	5.2.1.4.1 The installation shall be carried out in accordance with the following requirements:

5.3. Environmental

Clause	Test Item	Test Procedure	Requirements
5.3.1	Temperature rise	EN 12667-11, 12667-14 100°C without liquid nitrogen for 100 hours 100°C liquid nitrogen cooling for 10 hours when used as pre-conditioning	Low level liquid nitrogen levels used before and after the Temperature rise test
5.3.2	Cracks	EN 12667-10 Near Critical (N) Test Cycle (N)	No evidence of physical damage which significantly longer than 1 mm observed Low level liquid nitrogen levels used before and after the Temperature rise
5.3.3	Force Temperature and humidity	EN 12667-11	Low level liquid nitrogen levels used before and after the Force Temperature and humidity test
5.3.4	Flexural stress	EN 12667-10, Test Cycle (N) 100 hours 100°C and 100°C	No evidence of any physical damage Low level liquid nitrogen levels used before and after the Flexural Stress test
5.3.5	Moist Nitrogen gas	EN 12667-10/12667-14 Samples should be placed in an airtight container with a chamber with humidity in gas weight kg/m ³ for a minimum concentration of 100 g/m ³ (kg/m ³ = 1000 g/m ³). The samples should be removed the weight per kg/m ³ Temperature 100°C	Low level liquid nitrogen levels used before and after the Moist Nitrogen Gas test

6. Test Procedure

For the DC contactor, Mechanical and Environmental compliance requirements of Type C construction refer to the grouping and test methods in the IEC 60947-2 standard to implement the test.

Group A-1	
No.	Test Item
A-1-1	Low level contact resistance
A-1-2	Durability (opening/closing)
A-1-3	Temperature rise
A-1-4	Low level contact resistance
A-1-5	Resetting
A-1-6	Low level contact resistance
Group A-2	
No.	Test Item
A-2-1	Low level contact resistance
A-2-2	Durability (opening/closing)
A-2-3	Thermal shock
A-2-4	Low level contact resistance
A-2-5	Cycle suspension and verify
A-2-6	Low level contact resistance
A-2-7	Resetting
A-2-8	Low level contact resistance
Group A-3	
No.	Test Item
A-3-1	Low level contact resistance