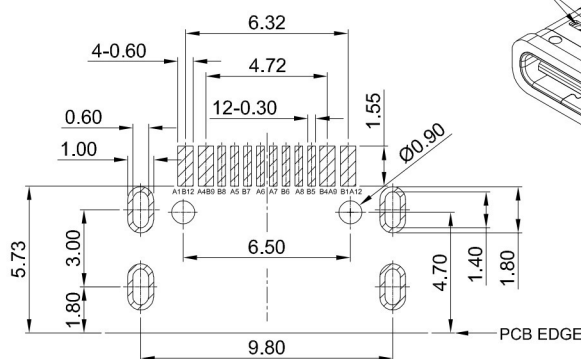
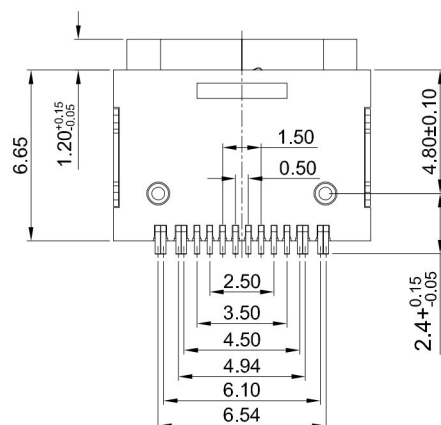
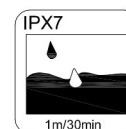
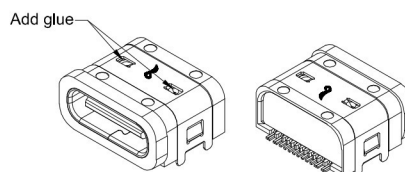
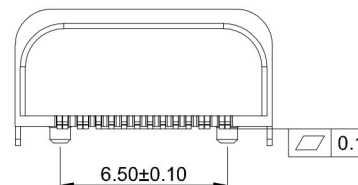
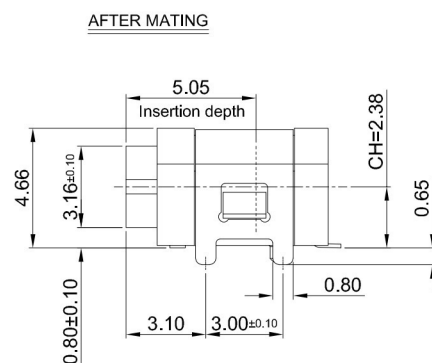
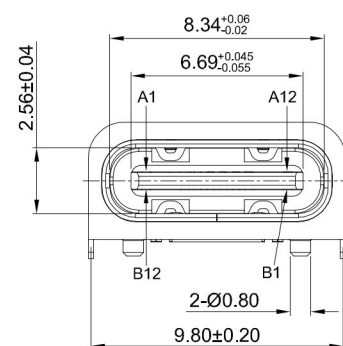
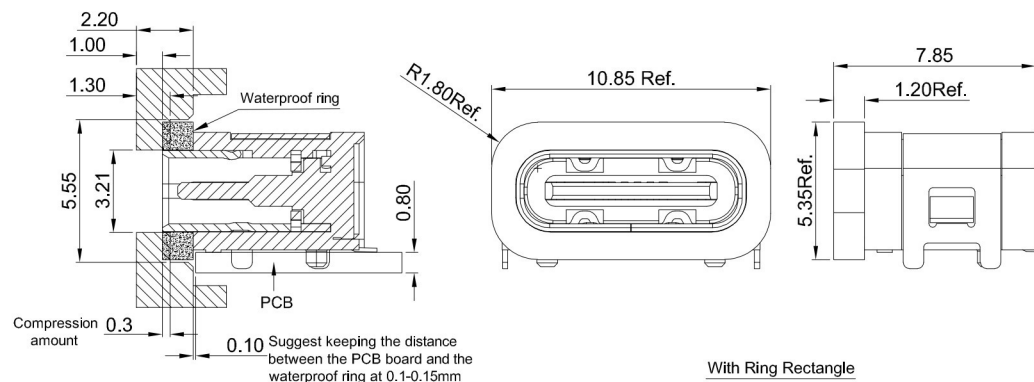
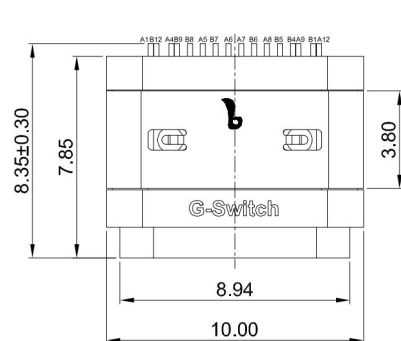




RECOMMENDED PCB LAYOUT
TOLERANCE:±0.05

1	COVER	STAINLESS STEEL	Ni30u"MIN PLATED
2	SHEATH	HIGH TEMPERATURE PLASTIC	PA46 BLACK UL 94 V-0
3	MID PLATE	STAINLESS STEEL	——
4	HOUSING	HIGH TEMPERATURE PLASTIC	LCP BLACK UL 94 V-0
5	TERMINALS	COPPER ALLOY C7025	Au1u"MIN PLATING ON CONTACT AREA
NO.	PARTS	MATERIAL	REMARKS



SCALE: 1:1	UNIT: mm
SIZE: A4	

Unless otherwise	
General Tolerance:	
X.x	±0.30
X.xx	±0.20
X.xxx	±0.10
X.x°	±3°
X.x°	±2°

Title:	IPX7 Horizontal Type-c 16P Female SMT CH=2.38 L=7.85mm
--------	---

Molde Code: GT-USB-9070B

DRAWN	CHECKED	APPROVED	DATE
Xia	Chen	Chen	2023.02.05



REV: A0 SHEET: 1/1

G-Switch USB-C Specification:

1. Current rated: 5A on vbus/1.25A on vconn/0.25A on other
Voltage rating: 24V AC
2. Withstanding voltage: 100V AC/minute
3. Contact resistance: 40mΩ Max
4. Insulation resistance: 100MΩ Min
5. Operating temperature: -40°C ~ +85°C
6. Mating force: 5N~20N
7. Unmating force: 8N~20N
8. Durability cycle: 10,000 cycles
9. Waterproof grade: IP-X7.
10. Compliant with: IEC62680-1-3

USB IF TID:13112

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
GND			VBUS	CC1	D+	D-	SBU1	VBUS			GND
First			First	Second	Second	Second	Second	First			First
B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1
GND			VBUS	SBU2	D-	D+	CC2	VBUS			GND
First			First	Second	Second	Second	Second	First			First



USB-IF Compliance Test Report for USB2.0 Type-C Receptacle Connector

Report Number: 25T04N000393-002-REC

Company Name: G-Switch Technology (Dongguan) Co., Ltd.

Product Name: IPX7 Horizontal Type-c 16P Female SMT

CH=2.38 L=7.85mm

Model Name: GT-USB-9070B

Hardware Version: A0

TID: 13112

Issued Date: 2025-04-14

Test Result: Pass

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 SAICT.

Test Laboratory:

SAICT, Shenzhen Academy of Information and Communications Technology

Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China 518000.

Tel:+86(0)755-33322000, Fax:+86(0)755-33322001

Email: yewu@saict.ac.cn. www.saict.ac.cn



REPORT HISTORY

Report Number	Revision	Description	Issue Date
25T04N000393-002-REC	V1	First release	2025-04-14

Note: the latest revision of the test report supersedes all previous versions.



CONTENTS

1. Summary of Test Report	1
1.1. Test Standards	1
1.2. Test Result	2
VISUAL INSPECTION	2
GROUP A-1	2
GROUP A-2	2
GROUP A-3	2
GROUP A-4	3
GROUP A-7	3
GROUP B-1	4
GROUP B-5	4
GROUP B-6	4
1.3. Testing Location	4
1.4. Project Data	4
1.5. Signature	4
2. Client Information	5
3. Equipment Under Test (EUT) and Ancillary Equipment (AE)	6
4. Test Data	7
4.1. Testing Environment	7
4.2. Test Data	7
GROUP A-1	7
GROUP A-2	9
GROUP A-3	11
GROUP A-4	13
GROUP A-7	16
GROUP B-1	21
GROUP B-5	22
GROUP B-6	23
5. Test Equipments Utilized	24
ANNEX A: EUT photograph	25
ANNEX B Drawing	26



1. Summary of Test Report

1.1. Test Standards

1. Universal Serial Bus Type-C Connectors and Cable Assemblies Compliance Document
Revision 2.1b:2021
2. EIA-364-09D:2018 Durability Test Procedure for Electrical Connectors and Contacts
3. EIA-364-13E:2011 MATING AND UNMATING FORCE TEST PROCEDURE FOR
ELECTRICAL CONNECTORS AND SOCKETS
4. EIA-364-17C:2011 TEMPERATURE LIFE WITH OR WITHOUT ELECTRICAL LOAD
TEST PROCEDURE FOR ELECTRICAL CONNECTORS AND SOCKETS
5. EIA-364-18B:2007 VISUAL AND DIMENSIONAL INSPECTION TEST PROCEDURE
FOR ELECTRICAL CONNECTORS, AND SOCKETS
6. EIA-364-20F:2019 Dielectric Withstanding Voltage Test Procedure for Electrical
Connectors, Sockets and Coaxial Contacts
7. EIA-364-21F:2020 Insulation Resistance Test Procedure for Electrical Connectors,
Sockets and Coaxial Contacts
8. EIA-364-23C:2012 Low Level Contact Resistance Test Procedure For Electrical
Connectors and Sockets
9. EIA-364-28F:2011 VIBRATION TEST PROCEDURE FOR ELECTRICAL
CONNECTORS AND SOCKETS
10. EIA-364-31F:2019 Humidity Test Procedure for Electrical Connectors and Sockets
11. EIA-364-32G:2014 Thermal Shock (Temperature Cycling) Test Procedure for Electrical
Connectors and Sockets
12. EIA-364-65B:2009 MIXED FLOWING TEST PROCEDURE FOR ELECTRICAL
CONNECTORS CONTACTS AND SOCKETS



1.2. Test Result

Visual Inspection			
Test Group/Test	SPEC/Requirement	EIA 364	Result
Connector	USB2.0 Type-C Receptacle:16	N/A	Pass
Group A-1			
Test Group/Test	SPEC/Requirement	EIA 364	Result
A-1-1 Low level contact resistance	40 milliohms max for all contacts.	23C	Pass
A-1-2 Durability (preconditioning)	No evidence of physical damage.	09D	Pass
A-1-3 Temperature life	No evidence of physical damage.	17C	Pass
A-1-4 Low level contact resistance	50 milliohms max.	23C	Pass
A-1-5 Re-seating	No evidence of physical damage.	N/A	Pass
A-1-6 Low level contact resistance	50 milliohms max.	23C	Pass
Group A-2			
Test Group/Test	SPEC/Requirement	EIA 364	Result
A-2-1 Low level contact resistance	40 milliohms max for all contacts.	23C	Pass
A-2-2 Durability (preconditioning)	No evidence of physical damage.	09D	Pass
A-2-3 Thermal shock	No evidence of physical damage.	32G	Pass
A-2-4 Low level contact resistance	50 milliohms max.	23C	Pass
A-2-5 Cyclic temperature and humidity	No evidence of physical damage.	31E	Pass
A-2-6 Low level contact resistance	50 milliohms max.	23C	Pass
A-2-7 Re-seating	No evidence of physical damage.	N/A	Pass
A-2-8 Low level contact resistance	50 milliohms max.	23C	Pass
Group A-3			
Test Group/Test	SPEC/Requirement	EIA 364	Result
A-3-1 Low level contact resistance	40 milliohms max for all contacts.	23C	Pass
A-3-2 Durability (preconditioning)	No evidence of physical damage.	09D	Pass
A-3-3 Temperature life (preconditioning)	No evidence of physical damage.	17C	Pass
A-3-4 Low level contact resistance	50 milliohms max.	23C	Pass
A-3-5 Vibration	Discontinuity less than 1 μ s and no physical damage.	28F	Pass
A-3-6 Low level contact resistance	50 milliohms max.	23C	Pass



Group A-4			
Test Group/Test	SPEC/Requirement	EIA 364	Result
A-4-1 Low level contact resistance	40 milliohms max for all contacts.	23C	Pass
A-4-2 Durability (preconditioning)	No evidence of physical damage.	09D	Pass
A-4-3 Temperature life (preconditioning)	No evidence of physical damage.	17C	Pass
A-4-4 Low level contact resistance	50 milliohms max.	23C	Pass
A-4-5 Mixed flowing gas	No evidence of physical damage.	65B	Pass
A-4-6 Low level contact resistance	50 milliohms max.	23C	Pass
A-4-7 Thermal disturbance	No evidence of physical damage.	N/A	Pass
A-4-8 Low level contact resistance	50 milliohms max.	23C	Pass
A-4-9 Re-seating	No evidence of physical damage.	N/A	Pass
A-4-10 Low level contact resistance	50 milliohms max.	23C	Pass
Group A-7			
Test Group/Test	SPEC/Requirement	EIA 364	Result
A-7-1 Dielectric withstanding voltage	No disruptive discharge.	20F	Pass
A-7-2 Low level contact resistance	40 milliohms max for all contacts.	23C	Pass
A-7-3 Durability (preconditioning)	No evidence of physical damage.	N/A	Pass
A-7-4 Insertion force	Within the range of 5 N to 20 N.	13E	Pass
A-7-5 Extraction force	Within the range of 8 N to 20 N. Initial reading.	13E	Pass
A-7-6 Durability	No evidence of physical damage.	N/A	Pass
A-7-7 Extraction force	Within: a) 33% of the initial reading, and b) 8 N to 20 N.	13E	Pass
A-7-8 Durability	No evidence of physical damage.	09D	Pass
A-7-9 Extraction force	Within 6 N to 20 N.	13E	Pass
A-7-10 Low level contact resistance	50 milliohms max.	23C	Pass
A-7-11 Dielectric withstanding voltage	No disruptive discharge .	20F	Pass
A-7-12 Insulation Resistance	A minimum of 100 MΩ insulation resistance is required between adjacent contacts of unmated and mated connectors.	21F	Pass



Group B-1			
Test Group/Test	SPEC/Requirement	EIA 364	Result
B-1-4 4-Axis Continuity	No discontinuities greater than 1 microsecond duration in any of the four orientations tested.	N/A	Pass
Group B-5			
Test Group/Test	SPEC/Requirement	EIA 364	Result
B-5-1 Critical Dimensions	Meet all critical dimension requirements.	18B	Pass
Group B-6			
Test Group/Test	SPEC/Requirement	EIA 364	Result
B-6-1 Contact Current Rating	Not exceed 30°C.	N/A	Pass

1.3. Testing Location

Address: Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China 518000

1.4. Project Data

Testing Start Date: 2025-03-04

Testing End Date: 2025-04-08

1.5. Signature

Su Kun

Prepared this test report

Wang Yang

Reviewed this test report

Wei Ming

Approved this test report



2. Client Information

Applicant Information	
Company Name:	G-Switch Technology (Dongguan) Co., Ltd.
VID:	13584
Contact Name:	FengFeng Chen
Contact Email:	feng@g-switch.cn
Address:	Room 701, Workshop 2, Optical Technology Innovation Center, Xinhong, Marina Bay New District, Dongguan City
City:	Dongguan
Country:	China
Telephone:	0769-82388879
Manufacturer Information	
Company Name:	G-Switch Technology (Dongguan) Co., Ltd.
Contact Name:	FengFeng Chen
Contact Email:	feng@g-switch.cn
Address:	Room 701, Workshop 2, Optical Technology Innovation Center, Xinhong, Marina Bay New District, Dongguan City
City:	Dongguan
Country:	China
Telephone:	0769-82388879



3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

Receptacle		
Manufacturer’s Name	G-Switch Technology (Dongguan) Co., Ltd.	
Product Marketing Name	IPX7 Horizontal Type-c 16P Female SMT CH=2.38 L=7.85mm	
Model/Part Number	GT-USB-9070B	
Product Revision	A0	
USB-IF TID Number	13112	
Condition of EUT as received	No abnormality in appearance	
Sample Coding		
Test Group	Number of Plug/Receptacle	Qty of Specimen
Group A-1	UT01aa to UT10aa	10 pcs
Group A-2	UT11aa to UT20aa	10 pcs
Group A-3	UT21aa to UT30aa	10 pcs
Group A-4	UT31aa to UT50aa	20 pcs
Group A-7	UT51aa to UT60aa	10 pcs
Group B-1	UT61aa to UT68aa	8 pcs
Group B-5	UT69aa to UT71aa	3 pcs
Group B-6	UT72aa to UT74aa	3 pcs



4. Test Data

4.1. Testing Environment

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

4.2. Test Data

Group A-1

A-1-1 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/24	Temperature(℃)	22.6	Huang Siwei	Pass
	Humidity (RH)	56.2 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤40 mΩ（Initial）			

A-1-2 Durability				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/24	Temperature(℃)	22.6	Huang Siwei	Pass
	Humidity (RH)	56.2 %		
Test condition	Auto cycle; cycle rate: 500±50/h; Number of cycles: 50.			
Criteria	No evidence of physical damages.			

A-1-3 Temperature Life				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/24-2025/03/29	Temperature(℃)	22.7 - 24.1	Huang Siwei	Pass
	Humidity (RH)	55.2 - 59.4 %		
Test condition	Mated; Temperature: 105±2℃; Duration: 120h.			
Criteria	No evidence of physical damages.			

A-1-4 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/31	Temperature(℃)	22.6	Huang Siwei	Pass
	Humidity (RH)	56.1 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



A-1-5 Re-seating				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/31	Temperature(℃)	22.6	Huang Siwei	Pass
	Humidity (RH)	56.1 %		
Test condition	Manual mating/unmating 3 cycles.			
Criteria	No evidence of physical damages.			

A-1-6 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/31	Temperature(°C)	22.6	Huang Siwei	Pass
	Humidity (RH)	56.1 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



Group A-2

A-2-1 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/24	Temperature(℃)	22.9	Huang Siwei	Pass
	Humidity (RH)	56.5 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤40 mΩ (Initial)			

A-2-2 Durability				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/24	Temperature(℃)	22.9	Huang Siwei	Pass
	Humidity (RH)	56.5 %		
Test condition	Auto cycle; cycle rate: 500±50/h; Number of cycles: 50.			
Criteria	No evidence of physical damages.			

A-2-3 Thermal Shock				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/24-2025/03/25	Temperature(°C)	22.7 - 23.5	Huang Siwei	Pass
	Humidity (RH)	56.2 - 57.3 %		
Test condition	Mated; -55⁰ °C to 85^{±3} °C, 10 cycles. High/low temperature transfer time within 5 min. </			

A-2-4 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/25	Temperature(°C)	22.1	Huang Siwei	Pass
	Humidity (RH)	56.4 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



A-2-5 Cyclic temperature and humidity				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/25-2025/03/28	Temperature(℃)	21.8 - 23.1	Huang Siwei	Pass
	Humidity (RH)	56.5 - 58.6 %		
Test condition	Mated; Temperature of 25℃±3℃ relative humidity of 80% ±3% to Temperature of 65℃±3℃ relative humidity of 50% ±3% , Thermal ramp time 0.5 hour , maintain 1 hour , 24 cycles.			
	Temperature 65℃ 25℃ 1.0 h 0.5 h 1.0 h 0.5 h ← As one cycle, total 24 cycles → Humidity 80 %R.H. 50 %R.H. → Time			
Criteria	No evidence of physical damages.			

A-2-6 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/28	Temperature(℃)	22.1	Huang Siwei	Pass
	Humidity (RH)	56.0 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			

A-2-7 Re-seating				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/28	Temperature(℃)	22.1	Huang Siwei	Pass
	Humidity (RH)	56.0 %		
Test condition	Manual mating/unmating 3 cycles.			
Criteria	No evidence of physical damages.			

A-2-8 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/28	Temperature(℃)	22.1	Huang Siwei	Pass
	Humidity (RH)	56.0 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



Group A-3

A-3-1 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/19	Temperature(℃)	22.7	Su Kun	Pass
	Humidity (RH)	36.8 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤40 mΩ (Initial)			

A-3-2 Durability				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/19	Temperature(℃)	22.7	Su Kun	Pass
	Humidity (RH)	36.8 %		
Test condition	Auto cycle; cycle rate: 500±50/h; Number of cycles: 50.			
Criteria	No evidence of physical damages.			

A-3-3 Temperature Life				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/19-2025/03/22	Temperature(℃)	22.3 - 24.8	Su Kun	Pass
	Humidity (RH)	30.2 - 35.9 %		
Test condition	Mated; Temperature: 105±2℃; Duration: 72h.			
Criteria	No evidence of physical damages.			

A-3-4 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/25	Temperature(℃)	23.5	Su Kun	Pass
	Humidity (RH)	52.3 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



A-3-5 Vibration				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/27	Temperature(℃)	25.3	Su Kun	Pass
	Humidity (RH)	61.2 %		
Test condition	Mated; random vibration; Frequency:20-500Hz; 15min./axis for 3 axis (X,Y,Z); Power spectral density:0.02g ² /Hz, Acceleration:3.1grms.			
Criteria	No evidence of physical damages. No discontinuities of 1us or greater duration happened			

A-3-6 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/27	Temperature(°C)	24.5	Su Kun	Pass
	Humidity (RH)	69.1 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



Group A-4

A-4-1 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/26	Temperature(℃)	23.3	Huang Siwei	Pass
	Humidity (RH)	55.2 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤40 mΩ (Initial)			

A-4-2 Durability				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/26	Temperature(℃)	23.3	Huang Siwei	Pass
	Humidity (RH)	55.2 %		
Test condition	Auto cycle; cycle rate: 500±50/h; Number of cycles: 50.			
Criteria	No evidence of physical damages.			

A-4-3 Temperature Life				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/26-2025/03/29	Temperature(℃)	23.3 - 24.2	Huang Siwei	Pass
	Humidity (RH)	54.8 -57.2 %		
Test condition	Mated; Temperature: 105±2℃; Duration: 72h.			
Criteria	No evidence of physical damages.			

A-4-4 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/29	Temperature(℃)	22.7	Huang Siwei	Pass
	Humidity (RH)	56.7 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



A-4-5 Mixed flowing gas				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/31-2025/04/07	Temperature(℃)	22.7 - 23.7	Huang Siwei	Pass
	Humidity (RH)	57.5 - 58.1 %		
Test condition	CL2:(10±3) ppb; No2:(200±50) ppb; H2S:(10±5) ppb SO2:(100±20) ppb; Temperature:(30±1)℃; Humidity:(70±2)%RH 1/3 days and then unmated for 2/3 days. The others are exposed mated for full 7 days test period.			
Criteria	No evidence of physical damages.			

A-4-6 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/07	Temperature(℃)	22.2	Huang Siwei	Pass
	Humidity (RH)	55.4 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			

A-4-7 Thermal disturbance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/07-2025/04/08	Temperature(°C)	23.1 - 24.2	Huang Siwei	Pass
	Humidity (RH)	56.2 - 57.3 %		
Test condition	Mated Cycle the connector or socket between 15 °C ± 3 °C and 85 °C ± 3 °C, as measured on the part. Ramps should be a minimum of 2 °C per minute, and dwell times should insure that the contacts reach the temperature extremes (a minimum of 5 minutes). Humidity is not controlled. Perform 10 such cycles.			
Criteria	No evidence of physical damages.			

A-4-8 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/08	Temperature(℃)	22.8	Huang Siwei	Pass
	Humidity (RH)	55.7 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			



A-4-9 Re-seating				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/08	Temperature(℃)	22.8	Huang Siwei	Pass
	Humidity (RH)	55.7 %		
Test condition	Manual mating/unmating 3 cycles.			
Criteria	No evidence of physical damages.			

A-4-10 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/08	Temperature(℃)	22.8	Huang Siwei	Pass
	Humidity (RH)	55.7 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			

**Group A-7**

A-7-1 Dielectric withstanding voltage				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/01	Temperature(℃)	20.5	Su Kun	Pass
	Humidity (RH)	50.0 %		
Test condition	Mated; 100 VAC (RMS), 1 min. The test voltage shall be applied between adjacent contacts.			
Criteria	A failure is the occurrence of a disruptive discharge as evidenced by flashover (surface discharge), sparkover (air discharge), breakdown (puncture discharge) or leakage in excess of 5 mA			

A-7-2 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/01	Temperature(℃)	20.4	Su Kun	Pass
	Humidity (RH)	54.0 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤40 mΩ （Initial）			

A-7-3 Durability				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/01	Temperature(℃)	20.9	Su Kun	Pass
	Humidity (RH)	54.9 %		
Test condition	Manual mating/unmating 4 cycles.			
Criteria	No evidence of physical damages.			

A-7-4 Insertion Force				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/01	Temperature(℃)	20.9	Su Kun	Pass
	Humidity (RH)	54.9 %		
Test condition	Speed: 12.5mm/min; Insertion depth: 5.0mm.			
Criteria	Insertion force:5N~20N			



A-7-5 Extraction Force				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/01	Temperature(℃)	20.9	Su Kun	Pass
	Humidity (RH)	54.9 %		
Test condition	Speed: 12.5mm/min; Extraction depth: 5.0mm.			
Criteria	Extraction force: 8N~20N(Initial reading)			

A-7-6 Durability				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/01	Temperature(℃)	20.9	Su Kun	Pass
	Humidity (RH)	54.9 %		
Test condition	Manual mating/unmating 25 cycles.			
Criteria	No evidence of physical damages.			

A-7-7 Extraction Force				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/01	Temperature(℃)	20.9	Su Kun	Pass
	Humidity (RH)	54.9 %		
Test condition	Speed: 12.5mm/min; Extraction depth: 5.0mm.			
Criteria	Extraction force: 8N~20N; 33% of the initial reading.			

A-7-8 Durability				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/02-2025/04/03	Temperature(℃)	23.5 - 24.5	Su Kun	Pass
	Humidity (RH)	67.0 - 70.0 %		
Test condition	Auto cycle, cycle rate: 500±50/h; Number of cycles: 10000. 2468 cycles (normal) + 2500 cycles (Rotate the receptacle 180°) + 2500 cycles (normal) + 2500 cycles (Rotate the receptacle 180°)			
Criteria	No evidence of physical damages.			

A-7-9 Extraction Force				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/07	Temperature(℃)	22.5	Su Kun	Pass
	Humidity (RH)	67.0 %		
Test condition	Speed: 12.5mm/min; Extraction depth: 5.0mm.			
Criteria	Extraction force: 6N~20N.			



A-7-10 Low level contact resistance				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/07	Temperature(℃)	22.5	Su Kun	Pass
	Humidity (RH)	67.0 %		
Test condition	Mated; Maximum open circuit voltage 20 mV; Test current 100 mA.			
Criteria	≤50 mΩ			

A-7-11 Dielectric withstanding voltage				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/07	Temperature(°C)	22.5	Su Kun	Pass
	Humidity (RH)	67.8 %		
Test condition	Mated; 100 VAC (RMS), 1 min. The test voltage shall be applied between adjacent contacts.			
Criteria	A failure is the occurrence of a disruptive discharge as evidenced by flashover (surface discharge), sparkover (air discharge), breakdown (puncture discharge) or leakage in excess of 5 mA			

A-7-12 Insulation Resistance					
Testing Period		Measure environment		Test Engineer	Test Result
2025/04/07		Temperature(℃)	22.5	Su Kun	Pass
		Humidity (RH)	67.8 %		
Test condition		Mated and Unmated, 500 Vdc, 2min. The test voltage shall be applied between adjacent contacts.			
Criteria		≥100MΩ			



Test data:					
A-7-4 Insertion Force					
Sample Coding	UT51aa	UT52aa	UT53aa	UT54aa	UT55aa
Insertion force (N)	13.1	13.7	13.9	14.1	14.6
Sample Coding	UT56aa	UT57aa	UT58aa	UT59aa	UT60aa
Insertion force (N)	15.2	15.5	15.5	15.8	15.5
A-7-5 Extraction Force					
Sample Coding	UT51aa	UT52aa	UT53aa	UT54aa	UT55aa
Extraction force (N)	17.4	17.5	18.3	18.4	19.1
Sample Coding	UT56aa	UT57aa	UT58aa	UT59aa	UT60aa
Extraction force (N)	18.4	18.8	18.8	18.7	19.3
A-7-7 Extraction Force					
Sample Coding	UT51aa	UT52aa	UT53aa	UT54aa	UT55aa
Extraction force (N)	17.3	19.1	19.0	19.5	19.5
$\frac{ (A-7-7)-(A-7-5) }{(A-7-5)} * 100\%$	0.57%	9.14%	3.83%	5.98%	2.09%
Sample Coding	UT56aa	UT57aa	UT58aa	UT59aa	UT60aa
Extraction force (N)	19.1	19.8	19.8	19.9	19.7
$\frac{ (A-7-7)-(A-7-5) }{(A-7-5)} * 100\%$	3.80%	5.32%	5.32%	6.42%	2.07%
A-7-9 Extraction Force					
Sample Coding	UT51aa	UT52aa	UT53aa	UT54aa	UT55aa
Extraction force (N)	9.3	9.5	8.8	9.1	11.4
Sample Coding	UT56aa	UT57aa	UT58aa	UT59aa	UT60aa
Extraction force (N)	11.7	8.9	10.6	8.5	10.4



A-7-12 Insulation Resistance Mated					
Sample Coding Test contacts	UT51aa	UT52aa	UT53aa	UT54aa	UT55aa
A4 to A5 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
A5 to A6 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
A6 to A7 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
B4 to B5 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
B5 to B6 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
Sample Coding Test contacts	UT56aa	UT57aa	UT58aa	UT59aa	UT60aa
A4 to A5 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
A5 to A6 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
A6 to A7 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
B4 to B5 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
B5 to B6 (Mated)	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ	> 100MΩ
Note: Followed by the specific resistance value.					



Group B-1

B-1-4 4-Axis Continuity				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/21	Temperature(℃)	22.7	Su Kun	Pass
	Humidity (RH)	49.7 %		
Test condition	Mated, 20N Force at 15 mm from receptacle shell mating edge. Duration: 10 seconds; Direction: 0, 90, 180, 270.			
Criteria	No discontinuities greater than 1.0 microsecond during 10 seconds at each axis.			



Group B-5

B-5-1 Critical Dimensions				
Testing Period	Measure environment		Test Engineer	Test Result
2025/03/04	Temperature(°C)	23.2	Huang Siwei	Pass
	Humidity (RH)	67.9 %		

Test data: (Unit:mm)			
B-5-1 Critical Dimensions – Receptacle			
Description	Sample Coding		
	UT69aa	UT70aa	UT71aa
1.Receptacle inside opening (8.32~8.40)	8.3324	8.3251	8.3365
2.Receptacle insider opening position tolerance (0.04 with datum A/B/C)	0.0060	0.0279	0.0197
3.Receptacle signal pin length (3.35~3.65)	3.4483	3.4403	3.4170
4.Pin length delta (0.30~0.70)	0.4774	0.4947	0.4623
5.Tongue width (6.635~6.735)	6.7182	6.7283	6.7216
6.Contact width (0.21~0.29)	0.2877	0.2856	0.2892
7.Contact width position tolerance (0.08 with datum A/B/C)	0.0171	0.0150	0.0248
8. Tongue thickness (0.65~0.75)	0.7176	0.7157	0.7219
9.Receptacle inside thickness (2.52~2.60)	2.5898	2.5938	2.5823
Decision result	Pass	Pass	Pass



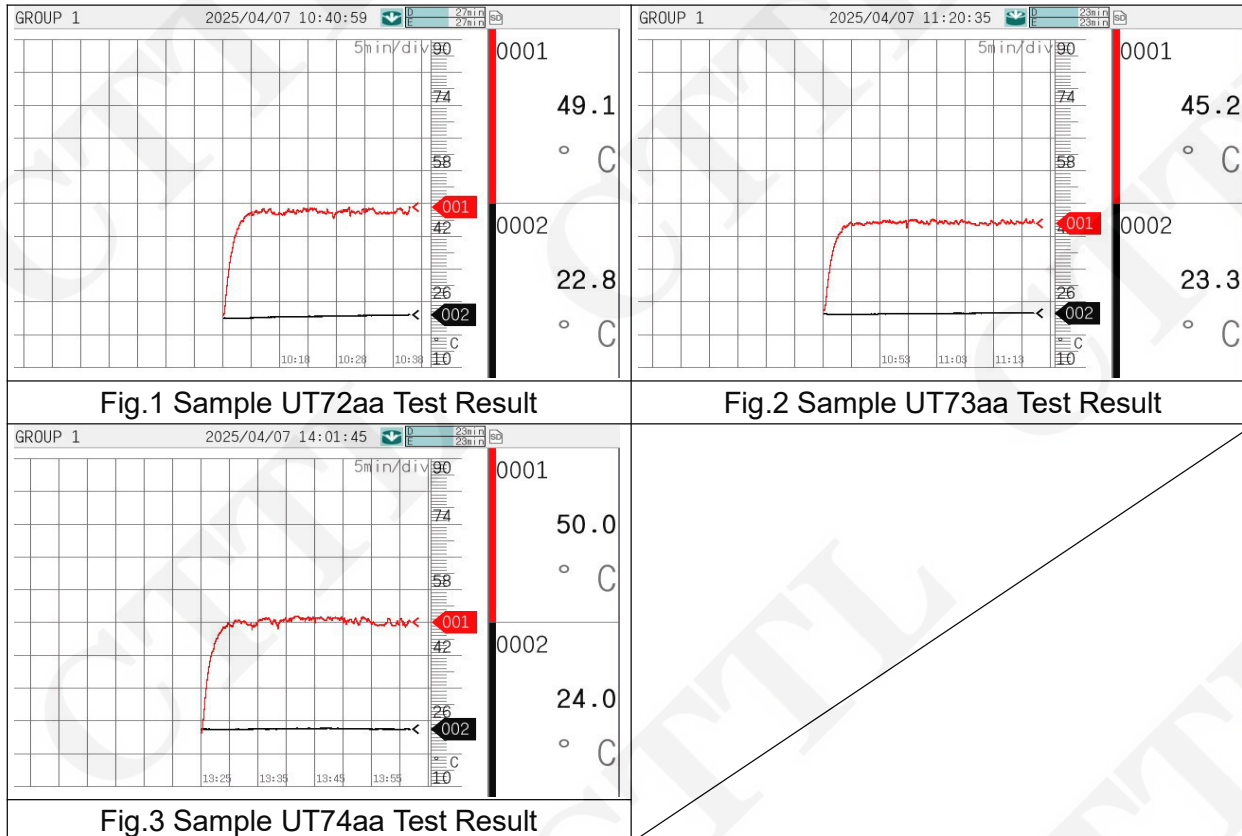
Group B-6

B-6-1 Contact Current Rating				
Testing Period	Measure environment		Test Engineer	Test Result
2025/04/07	Temperature(℃)	22.8	Su Kun	Pass
	Humidity (RH)	62.4 %		
Test condition	1、 5A applied collectively to VBUS pins（i.e.,pins A4,A9,B4,and B9）. 2、 0.5A applied to the VCONN pin（i.e.,B5）,terminated. 3、 0.25 A applied individually to all the other contacts.			
Criteria	The temperature rise shall not exceed 30℃ 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)
UT72aa	22.8	49.1	26.3
UT73aa	23.3	45.2	21.9
UT74aa	24.0	50.0	26.0

Note: Temperature rise of sample = Thermocouple temperature - Ambient temperature.

B-6 Temperature Rise Curve





5. Test Equipments Utilized

Name	Model	Serial number	Expire Date
Oven Machine (ESPEC)	LC-213	1010170285	2025.11.21
Oven Machine (ESPEC)	LC-213	1010170239	2025.11.21
Thermal Shock Chamber(ESPEC)	TSE-12-A	161003228	2025.11.21
Temperature & Humidity Chamber	GPL-2	0010-003613	2025.11.21
Mixed Flow Gas Chamber(Yamasaki)	GH-180	705	2025.11.21
Vibration machine	V455-PA1000L	1020385/1	2025.11.21
Durability Tester	YH-8816USDT	17068816076	2025.11.21
Durability Tester	YH-8816USDT	17068816077	2025.11.21
Durability Tester	YH-8816USDT	17068816078	2025.11.21
Durability Tester	YH-8816USDT	17068816079	2025.11.21
4-axis Tester	YH-8812WEXT	17068812429	2025.11.21
4-axis Tester	YH-8812WEXT	17068812430	2025.11.21
Microscope	MM-400/L	3413948	2025.11.21
Micro-ohmmeter	RM3545-02	170938239	2025.11.21
Electronic load meter	63610-80-20	636001001093	2025.11.21
Electronic load meter	63610-80-20	636001001094	2025.11.21
DC power supply	9202B	652E22230	2025.11.21
Temperature rise test system	GP10+20CH	S5T909482	2025.11.21
Moment disconnection tester	NM11B-7	I20010112	2025.11.24
Electrical Safety Analyzer	TOS9201	XK002479	2025.11.21
AVO meter	87VC	37980325WS	2025.11.21

ANNEX A: EUT photograph



Fig.4 Receptacle

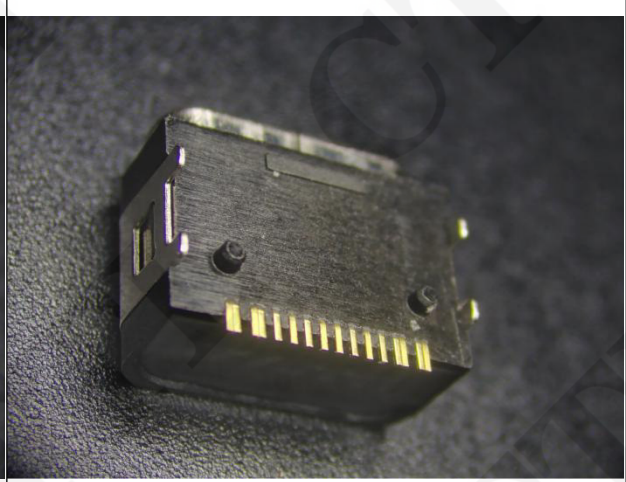
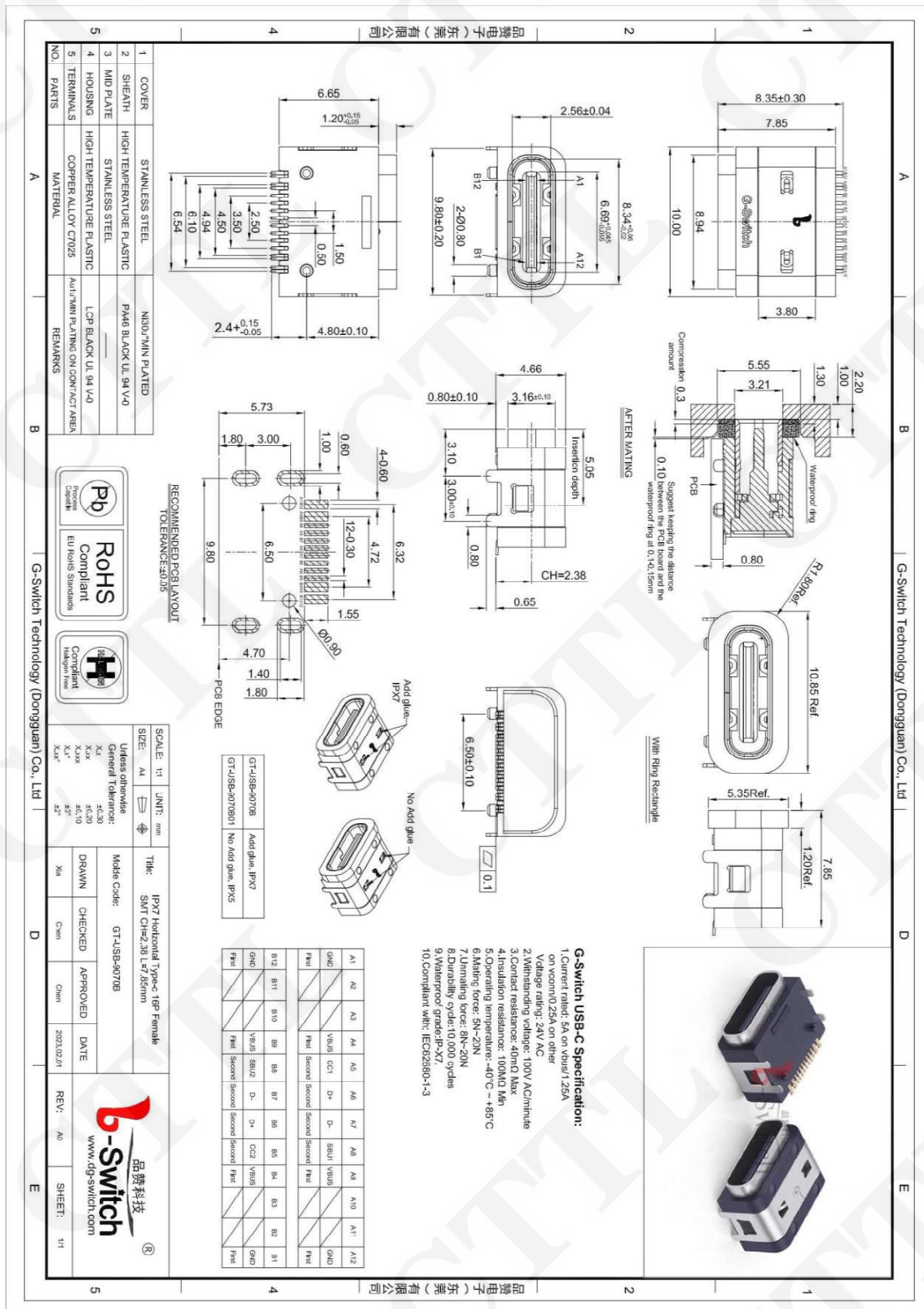


Fig.5 Receptacle

ANNEX B Drawing



END OF REPORT