DONGGUAN HUANGJIE COMMUNICATION TECHNOLOGY CO., LTD.

SPECFICATION FOR APPROVAL

CUSTOMER	
CUS. CODE	
CUS. MODEL	
HJ-Tech CODE	3C0224A04-013
PRO. NAME	RF CABLE ASSEMBLY
SPECIFICATION DESCRIPTION	SMA Female-Female Pin Waterproof Connector, for 1. 13 BlackSilver-Tin Cable, Crimp with 1st-Generation Terminal, L=53. lmm
DATE	2026/8/27

SUPPLIER		
PREPARER	CHECKER	APPROVER
S. He	XIU HE	LFY

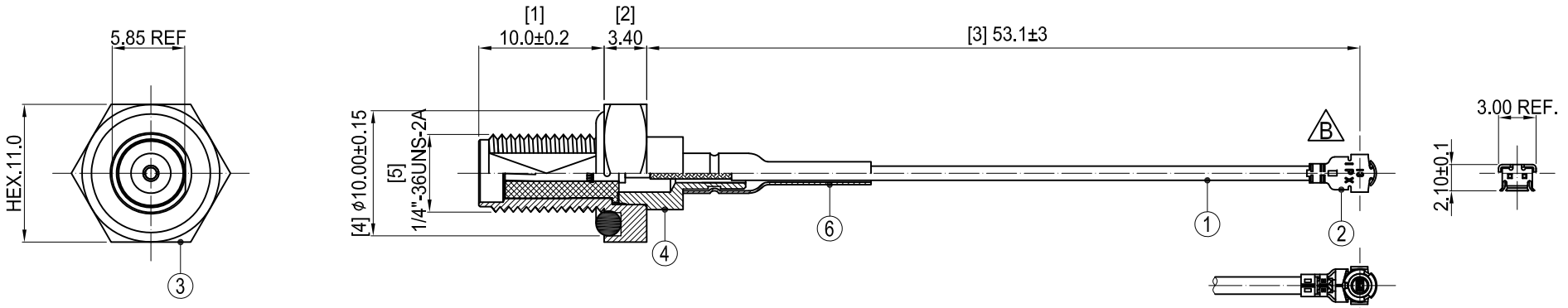
CUSTOMER		
TRANSCTOR	CHECKER	APPROVER

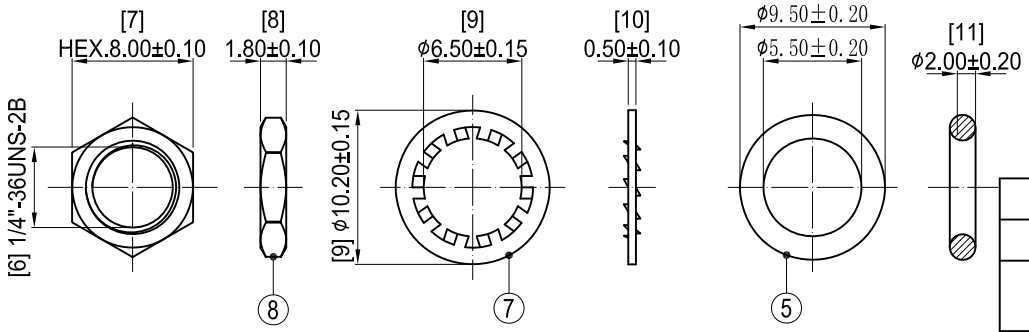
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REV.	RELEASE AND CHANGE SUMMARY	DATE
A	Initial Release	2021.03.09
B	Changed from ring□soldering to crimping; modified terminal orientation	2021.04.08
C	Updated dimension control marks	2021.03.09





Technical Requirements
1. Assembly Requirement: The SMA tail tube and coaxial cable braid shall be connected by crimping, with crimp height of 2.2-2.44mm.
2. Orientation Requirement The opening direction of crimped terminal shall follow the drawing, as well as the cross-section orientation shown in figure.*
3. Electrical Characteristics: Characteristic impedance: 50Ω; Applicable frequency range: DC-6 GHz; Insulation resistance: 5000MΩ;
Operating temperature: -15°C ~ +85°C; Storage temperature: -15°C ~ +60°C.
4. Open/Short-circuit and High-voltage Test: 100% tested by cable comprehensive tester. Test conditions: Open-short judgment threshold: 2kO; Maximum DC continuity resistance: 2.000; Insulation resistance: DC300V,0.05s, 50MO.5. Connector Pull-out Force Test: Minimum 2.0 kgf.*erminal Pull-out Force Test: Minimum 1.30 kgf.TestAlong the cable central axis, lift the 1.30kg weight vertically off the desktop at a speed of 25±3 mm/min;qualified if the weight is lifted.
6. Dimension Inspection: [F]=FAI First Article Inspection; []=In-process key patrol inspection; [O]=Outgoing inspection;[CPK]/[SPC]=Statistical control items.
7. Visual Inspection: 100% visual inspection. No scratches, damage or contamination on product surface; plating shall be bright and uniform without oxidation
8. Packaging Specification: 25 pcs per bundle, 50 pcs per bag, 2000 pcs per carton.
9. Environmental Requirement: The product and allits constituent materials shall comply with RoHS requirements.

NO	PART NUMBER	PART NAME & DESCRIPTION	Q'TY	REMARKS
8	2LC15S-301	SMA Nut, H8.0×T1.8mm, Gold Plating 1μin	1	---
7	2LC15S-201	Double-sided 10-tooth Washer, Gold Plating 1μin	1	---
6	2TA025BK1-015	Heat-shrink Tube Ø2.5×L15.0mm, Type 125H2 Standard, Black	1	---
5	2LC00S-408	Red Waterproof O-ring	1	---
4	2LC15SF301-7	SMA Rear Ferrule, Gold Plating 1μin	1	---
3	2LC15SF301-1	SMA Female-Female Pin; Body: Gold 1μin; Female Contact: Gold 3μin	1	---
2	2LM10P113210	MHF Ⅰ PLUG FOR OD1.13 CABLE	1	---
1	2C5M11311BK1	OD1.13 Black Silver-Tin Cable, 50Ω	1	---

GENERAL TOLERANCE:
UNLESS OTHERWISE SPECIFIED
LINEAR:
0.5 < L ≤ 6 ± 0.05
6 < L ≤ 30 ± 0.10
30 < L ≤ 120 ± 0.20
ANGULAR:
0 < L ≤ 10 ± 1°30'
10 < L ≤ 50 ± 1°00'
50 < L ≤ 120 ± 0°30'

FILE TYPE: Product Drawing
DRA./DATE: S.He/20.12.10
CHE./DATE: ***
APP./DATE: ***
FILE FORM: HJ-QR-E-03 22.09.01

Dongguan HUANGJIE Communication Technology Co., Ltd.
东莞市皇捷通讯科技有限公司

TITLE: Product Description
SMA Female Female Pin Waterproof Connector, for 1.13 Black Silver Tin Cable, Crimp with 1st Generation Terminal, L=53.1 mm

CODE: 3C0224A04-013

SIZE:	UNIT:	PRO.:	SCALE:	PAGE:
A4	mm	3rd	1:1	1/1

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO HUANGJIE AND SHOULDN'T BE USED WITHOUT WRITTEN PERMISSION.

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RF CABLE ASSEMBLY

1 SCOPE

1.1 CONTENTS

This Product Specification covers the mechanical, electrical and environmental performances specification for RF CABLE ASSEMBLY.

1.2 QUALIFICATION

When tests are performed the specification shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2 APPLICABLE DOCUMENTS AND FORMS

The associated product documents and forms constitute a part of this specification to the extent specified herein. Unless otherwise indicated, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of the specification and the reference documents, this specification shall take precedence.

3 TEST AND ACCEPTANCE REQUIREMENTS

3.1 GENERAL

3.1.1 Dimensional Characteristics

Part construction shall conform to the dimensions, shape, and detail attributes specified on the latest revision of the applicable part drawing(s).

3.1.2 Material Characteristics

All material used in each test sample shall conform to the material specifications shown on the latest revision of the applicable part drawing(s).

3.2 RATING

Frequency Range	Nominal Impedance	VSWR	WITHSTAND VOLTAGE	Operating Temperature
DC~6GHz	50Ω	2.0MAX.	200V AC/1 minute	-40℃ ~ +125℃

3.3 TEST CONDITION

Unless otherwise specified, all tests and measurements shall be performed under the following conditions.

Temperature	Atmospheric Pressure	Relative Humidity
+15℃ ~ +35℃	866hPa ~ 1066hPa	45% ~ 75%

3.4 Electrical Performance

No.	Items	Test Condition	Specifications
		GENERAL	
1	Contact Resistance	Solder the receptacle connector to the test board and mate the plug connector together, then measure the contact resistance as shown in figure 1 by the four terminal method. Open circuit voltage: 20mV MAX Circuit current: 10mA MAX	Inner contact: Initial: 20mΩ MAX After: 25mΩ MAX Ground contact: Initial: 20mΩ MAX After: 25mΩ MAX
2	Insulation Resistance	Mate the plug and receptacle connector Together,and then, apply DC 200 V Voltage between the inner contact and the ground contact in accordance with EIA 364-21F	Initial: 500 MΩ MIN After: 100 MΩ MIN
3	Dielectric Withstanding Voltage	Mate the plug and receptacle connector together, and then apply AC 200 V between the inner contact and the ground contact in accordance with EIA 364-20F	No flashover, No sparkover, No excess leakage, No breakdown
4	V.S.W.R	Measure V.S.W.R with a network analyzer from 0 to 6GHz(Install in plastic housing and test)	2.0MAX.
		MECHANICAL	
5	Un-mating Force	Solder the receptacle to the test board and mate the plug into it. Test the withdrawal force with an insertion-extraction force tester at a rate of 25 ± 3 mm/min	1.Initial:4N MIN 2.After 30 Cycle:2N MIN

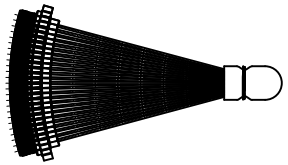
6	Durability	Solder the receptacle onto the test board, interlock the male and female connectors using a mating tester for 30 cycles, and then test the parameters.	Appearance: No AbnormalityContact Resistance: Shall meet 3.4.1/2/3/4
7	Cable retention	1 It is considered qualified if a 1.30 kg weight is lifted vertically from the table along the central axis of the cable at a speed of approximately 25 ± 3 mm/min.	No detachment or looseness at the crimp joint between the wire and the connector. Shall meet 3.4.1/2/3/4
ENVIRONMENTAL			
8	Humidity	Apply the following environment to themating connector in accordance with EIA364-31 Method III Test Condition B Temperature:25~65℃ Humidity : 90~95% R.H Duration: 96 hours	Appearance: No damage Contact Resistance: Shall meet 3.4.1 Insulation Resistance: Shall meet 3.4.2 Dielectric Withstanding Voltage: Shall meet 3.4.3
9	High Tempera-ture Test	Apply the following environment to themating connector Temperature : 90±2℃ Duration : 96 hours	Appearance: No damage Contact Resistance: Shall meet 3.4.1 Insulation Resistance: Shall meet 3.4.2 Dielectric Withstanding Voltage: Shall meet 3.4.3
10	Thermal Shock	Perform the following test conditions on mated connectors in accordance with Test Method III, Condition B of EIA-364-32: Temperature: -55°C to 85°C Transfer time: 5 min max. Number of cycles: 5	Appearance: No damage Contact Resistance: Shall meet 3.4.1 Insulation Resistance: Shall meet 3.4.2 Dielectric Withstanding Voltage: Shall meet 3.4.3
11	Salt Spray	EIA 364-26 Test Condition A Apply the following environment to the mating connector Temperature : 35±2℃ Relative Humidity : 90~98%R.H Salt water density: 5±1% Duration : 24 hours	Appearance: No damage Contact Resistance: Shall meet 3.4.1

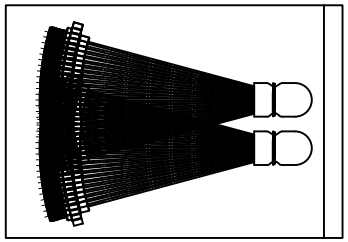
3.5 CHANGE LOG

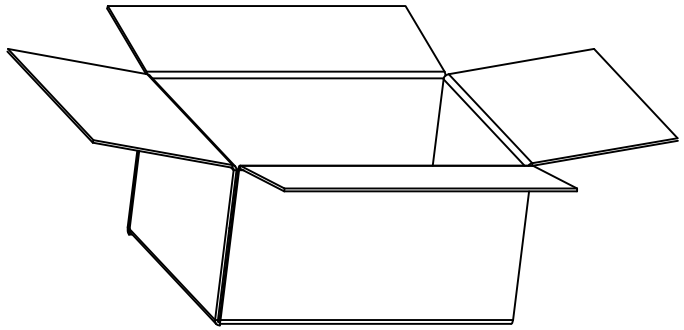
Revision	Release and Change Summary	Date	Tabulator	Checker	Approver
A		2026.08.11	S.He	XIU HE	LFY

REV.	RELEASE AND CHANGE SUMMARY	DATE
A	FIRST ISSUE	2023.10.20
B	ADD DUST CAPS	2023.12.20
C	UPDATE DIMENSION CONTROL MARKS	2026.03.13









PACKAGING SPECIFICATIONS：

1. 25 PCS/BUNDLE: USE PEARL COTTON AND RUBBER BANDS TO WRAP AND SECURE THE TERMINALS.
2. 2 BUNDLES/PACK: PLACE INTO A PE BAG AND SEAL IT.
3. EACH PE BAG CONTAINING 50 PCS MUST BE AFFIXED WITH A MATERIAL LABEL.
4. PARTITION BOARD: 2 PCS/CARTON. PLACE ONE PAPER PARTITION AT THE BOTTOM OF THE CARTON BEFORE LOADING,AND PLACE ANOTHER PAPER PARTITION BEFORE SEALING THE CARTON.
5. 2000 PCS/CARTON: CARTON DIMENSIONS: 360*360*145. THE CARTON SIZE SHALL BE SELECTED BASED ON THE ACTUAL DIMENSIONS AND QUANTITY OF THE MATERIALS.
6. APPLY "H-TYPE" SEALING TAPE ON BOTH THE TOP AND BOTTOM OF THE CARTON.
7. IF THE MATERIALS ARE INSUFFICIENT TO FULLY FILL THE CARTON, USE FILLER MATERIALS TO PACK THE EMPTY SPACE.
8. MATERIAL CARDS AND MONTH LABELS SHALL BE APPLIED IN STRICT ACCORDANCE WITH THE CUSTOMER'S SPECIFICATION SHEET.

GENERAL TOLERANCE:
UNLESS OTHERWISE SPECIFIED

LINEAR:	
0.5 < L ≤ 6	±0.05
6 < L ≤ 30	±0.10
30 < L ≤ 120	±0.20

ANGULAR:	
0 < L ≤ 10	±1°30'
10 < L ≤ 50	±1°00'
50 < L ≤ 120	±0°30'

ISS. /DATE: PRODUCT DRAWING
APP./DATE: *S.He 23.10.20*
CHE./DATE:
DRA./DATE:
FILE FORM: HJ-QE-E-03 22.11.01

HJ-Tech *RF Connectivity*
DongGuan HuangJie Communication Technology Co.; Ltd
东莞市皇捷通讯科技有限公司

TITLE: RF CABLE ASSEMBLY
SMA Female-Female Pin Water pr oof Connector , for 1. 13 BlackSilver -Tin Cable, Cr imp with 1st-Gener ation Ter minal, L=53. Imm

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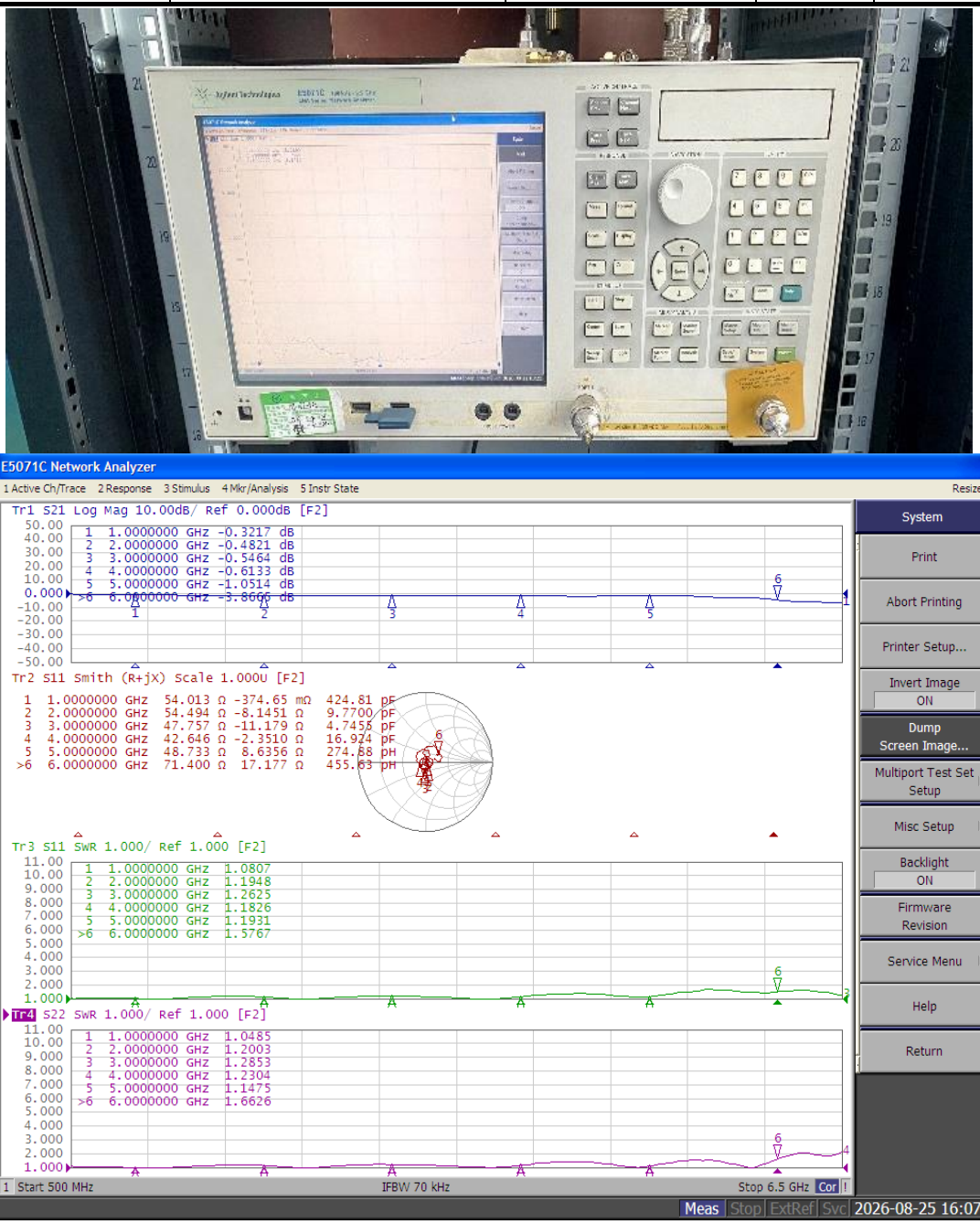
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Antenna Electrical Characteristic Test Report

DOC NO.:HJ-QR-Q-22 Rev:A0

Part Number:	3C0224A04-013	Item	Spec	Judge
Part Name:	SMA Female-Female Pin Waterproof Connector, for 1. 13 BlackSilver-Tin Cable, Crimp with 1st-Generation Terminal, L=53. Imm	VSWR	2. 0MAX.	pass
Test Equipment	Agilent E5071C	Characteristic impedance	50Ω	pass
Quantity	5pcs			
Test Date	2026/8/11			



Checker: XIU HE **Tester: S.He**