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DONGGUAN HUANGJIE COMMUNICATION TECHNOLOGY CO., LTD.

SPECFICATION FOR APPROVAL

CUSTOMER	
CUS. CODE	
CUS. MODEL	
HJ-Tech CODE	3N020200-003
PRO. NAME	RF ANTENNA COMPONENT
SPECIFICATION DESCRIPTION	Loar Antenna Plastic bracket: L34.40×W13.50×H6.50, PBT, black
DATE	2026/8/18

SUPPLIER		
PREPARER	CHECKER	APPROVER
S.He	XIU HE	LFY

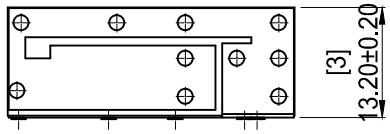
CUSTOMER		
TRANSCTOR	CHECKER	APPROVER

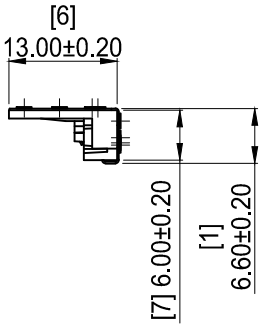
DONGGUAN HUANGJIE COMMUNICATION TECHNOLOGY CO.,LTD.
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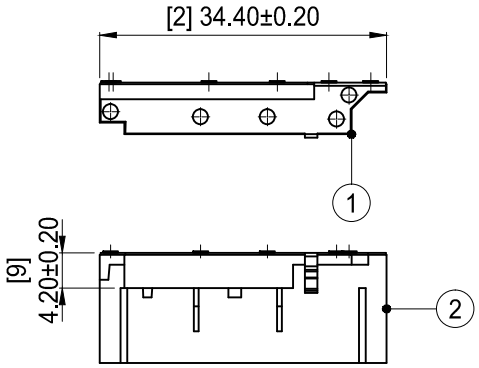
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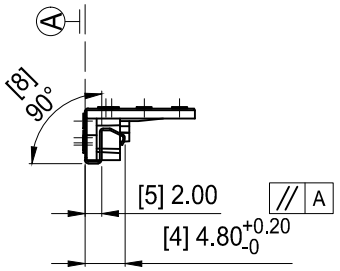
S/N	SYNOPSIS	PAGE
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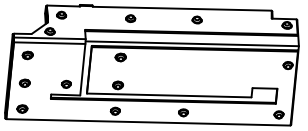
REV.	RELEASE AND CHANGE SUMMARY	DATE
A	First Release	2023.07.11

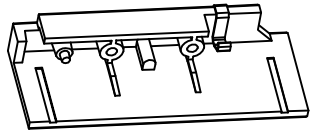


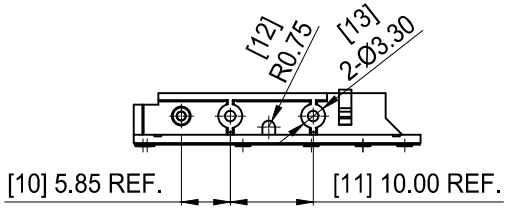












Technical Specification:
1. Assembly Requirement
The steel sheet shall be assembled in place and fixed by melting with ultrasonic equipment.
2. Electrical Characteristics
Characteristic impedance: 50Ω;
100% test with production test fixture plus vector network analyzer.
863.25-869.25 MHz VSWR: Acceptable when 1.5 ≤ n ≤ 2.0.
3. Dimension Inspection
IF]-First Article Inspection(FA); I]-Key item for in-process patrol inspection; [O]-Outgoing inspection; Cpk. [SPCI-Statistical control items.
4. Visual Inspection
100% visual inspection. No scratch, damage or contamination, hardware parts shall be free of oxidation. Refer to SIP for details.
5. Packaging Specification
70 pcs per reel.
6. Environmental Requirement
The product and all materials used in production process shall comply with EU RoHS directive requirements

No.	PART NUMBER	PART NAME AND DESCRIPTION	Q'TY
2	2SBKZ4502	Plastic bracket: L34.40×W13.50×H6.50, PBT, black	1
1	2YC057	Steel sheet: L34.20×W13.10×H6.60×T0.20, SUS304	1

BOM

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 24.05.29
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: RF Antenna Assembly
Plastic bracket: L34.40×W13.50×H6.50, PBT, black
CODE: 3N020200-003

SIZE:	UNIT:	PRO.:	SCALE:	PAGE:
A4	mm	3rd	1:0.6	1/1

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

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WIFI 2.4G&5.8G FLEX CABLE BUILT-IN ANTENNA

1 SCOPE

1.1 CONTENTS

This Product Specification covers the mechanical, electrical and environmental performances specification for Loar flex cable built-in antenna.

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	Return Loss	Peak Gain	Operating Temperature
868MHz	50Ω	< -10 dB	2dBi	-40℃ ~ +85℃

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

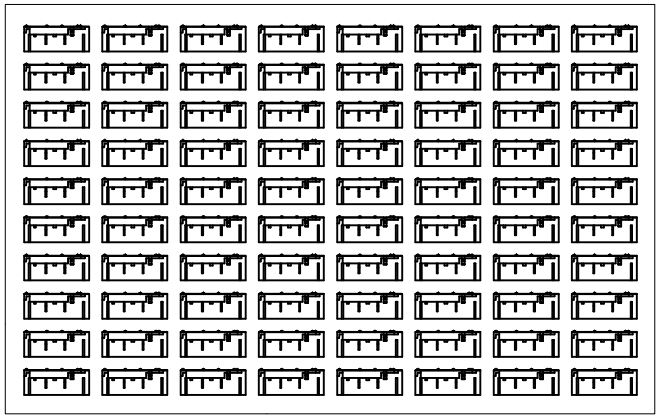
No.	Items	Test Condition	Specifications
		GENERAL	
1	Contact Resistance	Solder the receptacle connector to the test board and mate the plug connector together, then measure the contact resistance as shown in figure 1 by the four terminal method. Open circuit voltage: 20mV MAX Circuit current: 10mA MAX	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

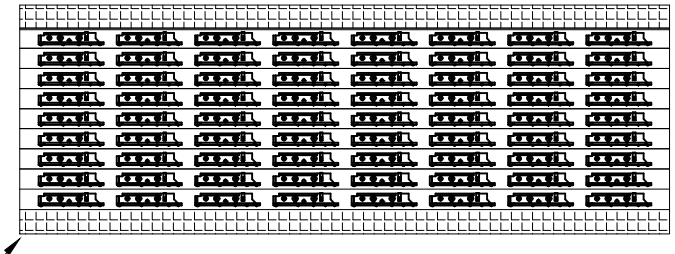
Revision	Release and Change Summary	Date	Tabulator	Checker	Approver
A		2026.08.11	S.He	XIU HE	LFY

REV.	RELEASE AND CHANGE SUMMARY	DATE
A	//	2025.02.19



70PCS/disk

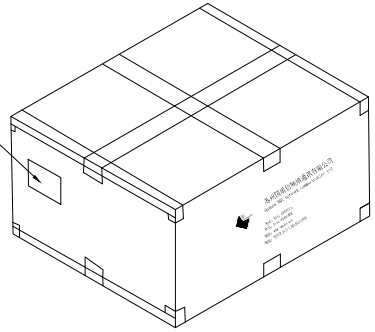
Cardboard partition



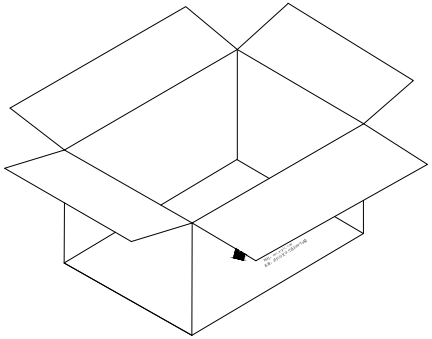
Cardboard partition

9 plates/bundle, pack 8 bundles。70*9*8=5040 PCS)

Label



10 bundles/box(630*10=6300PCS)



纸箱内围尺寸：L50.0*W31.0*H39.5cm

No.	PART NUMBER	PRODUCT NAME	SPECIFICATIONS	Q'TY
3	B0110-5031395R	Paper carton	L50.0*W31.0*H39.5cm	1/6300
2	B0830-3322400R	Cardboard partition	33*24cm	2/630
1	B03A0-3324100R	Blister box	33*24*10cm	1/70

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: 包装图

DRA./DATE: *S.He 25.02.19*

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: Packaging Specification

CODE: 3N020200-003

SIZE:	UNIT:	PRO.:	SCALE:	PAGE:
A4	mm	3rd	1:1	2/2

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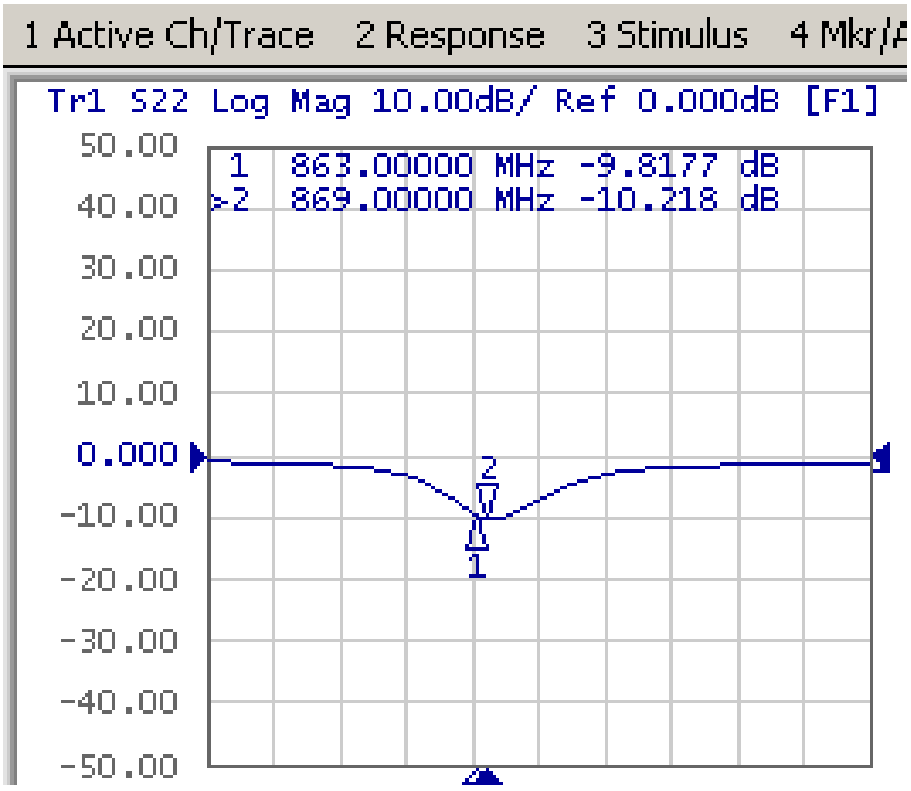
Antenna Electrical Characteristic Test Report

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

Part Number:	3N020200-003	Item	Spec	Judge
Part Name:	Loar Antenna Plastic bracket: L34.40×W13.50×H6.50, PBT, black	VSWR	⩽1.8	pass
Test Equipment	Agilent E5071C/OTA Chamber	Characteristic impedance	50Ω	pass
Quantity	5pcs			
Test Date	2026/8/11			



1 RETURN LOSS



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

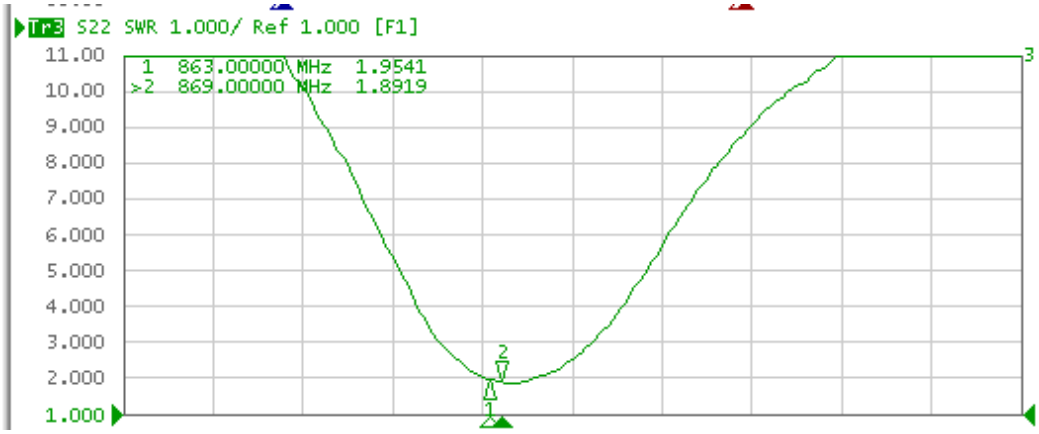
DONGGUAN HUANGJIE COMMUNICATION TECHNOLOGY CO., LTD.

Antenna Electrical Characteristic Test Report

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

Part Number:	3N020200-003	Item	Spec	Judge
Part Name:	Loar Antenna Plastic bracket: L34.40×W13.50×H6.50, PBT, black	VSWR	≤1.8	pass
Test Equipment	Agilent E5071C/OTA Chamber	Characteristic impedance	50Ω	pass
Quantity	5pcs			
Test Date	2026/8/11			

2 VSWR



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

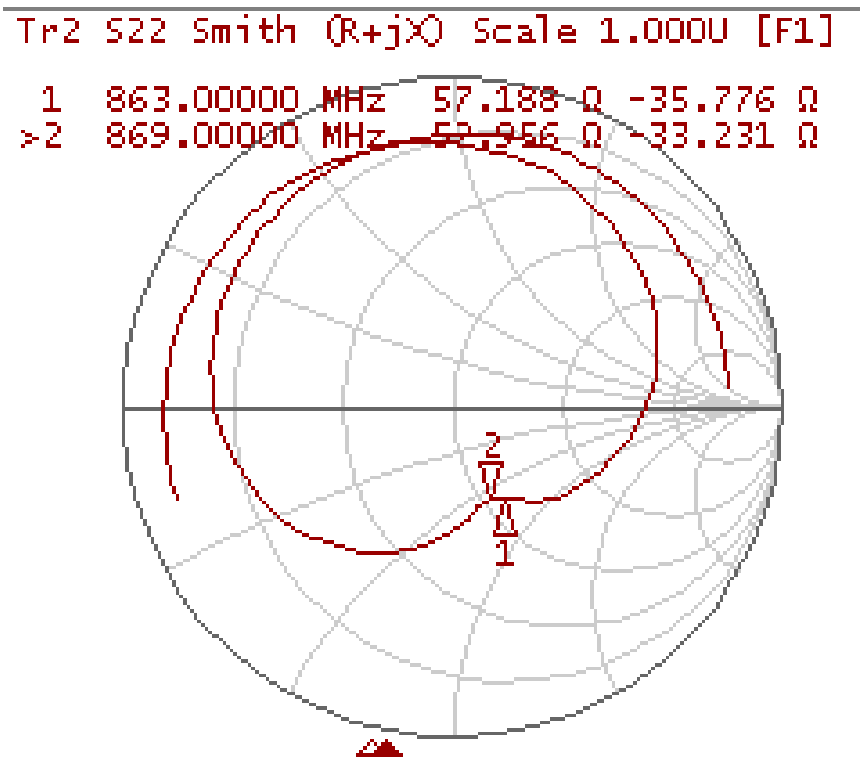
DONGGUAN HUANGJIE COMMUNICATION TECHNOLOGY CO., LTD.

Antenna Electrical Characteristic Test Report

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

Part Number:	3N020200-003	Item	Spec	Judge
Part Name:	Loar Antenna Plastic bracket: L34.40×W13.50×H6.50, PBT, black	VSWR	≤1.8	pass
Test Equipment	Agilent E5071C/OTA Chamber	Characteristic impedance	50Ω	pass
Quantity	5pcs			
Test Date	2026/8/11			

3 SMITH(R+JX)



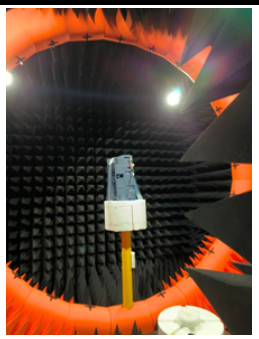
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Antenna Electrical Characteristic Test Report

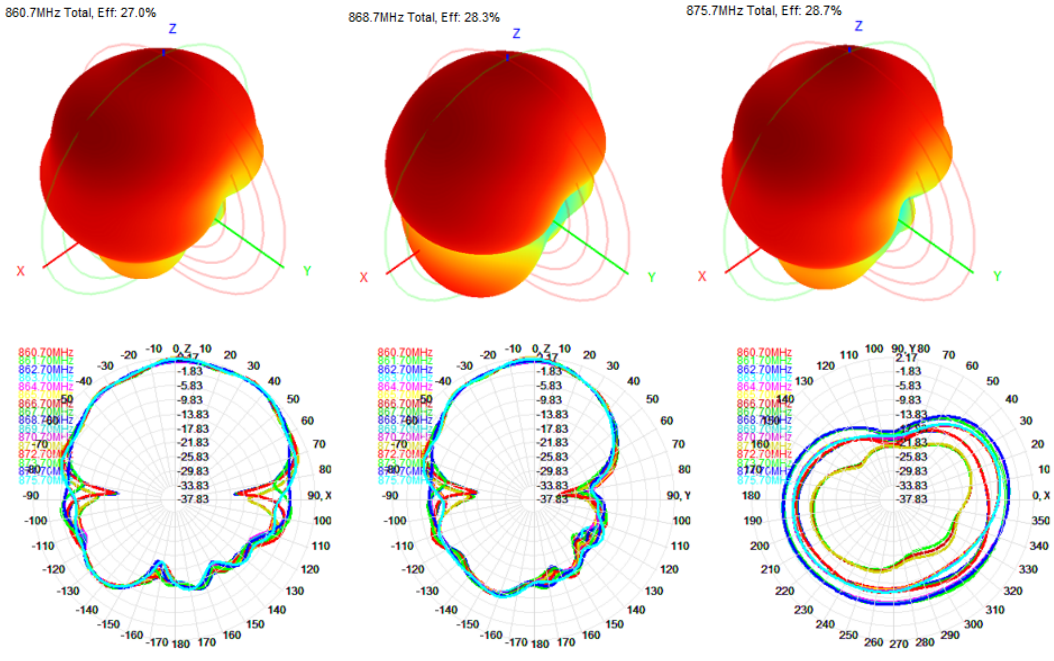
DOC NO.:HJ-QR-Q-22 Rev:A0

Part Number:	3N020200-003	Item	Spec	Judge
Part Name:	Loar Antenna Plastic bracket L34.40×W13.50×H6.50, PBT, black	Gain	2DBI	pass
Test Equipment	Agilent E5071C/OTA Chamber	Characteristic impedance	50Ω	pass
Quantity	5pcs			
Test Date	2026/8/11			



4 2D/3D RADIATION PATTERN

Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Frequency (MHz)	860.7	861.7	862.7	863.7	864.7	865.7	866.7	867.7	868.7	869.7	870.7	871.7	872.7	873.7	874.7	875.7
Efficiency (dBi)	-5.68	-5.64	-5.61	-5.57	-5.55	-5.52	-5.50	-5.49	-5.48	-5.47	-5.46	-5.47	-5.46	-5.45	-5.43	-5.42
Gain (dBi)	1.69	1.99	1.93	1.66	1.52	1.87	2.15	2.05	1.72	1.57	1.89	2.19	2.05	1.67	1.55	1.89
Efficiency (%)	27.03	27.27	27.50	27.70	27.86	28.02	28.17	28.27	28.33	28.40	28.42	28.41	28.46	28.54	28.64	28.71
Directivity (dB)	7.37	7.64	7.53	7.23	7.07	7.40	7.66	7.54	7.20	7.04	7.36	7.66	7.51	7.12	6.98	7.31



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