



Specification acknowledgement

Specification for Approval

Customer Name: _____

Customer:

Specification Description: 2.4 G full netcom small pepper antenna

Part name

Flying S number: BJL-X W 2.4 G 03-050

Part No.

Customer Material Number: _____

Customer Part No.

Customer acknowledged printing CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

CHIEF	SALES	CHIEF	DESIGN
Ni Xiang	Li Jin	Jiang Xinping	Yang-hui Chen
Date:2024-05-22		Date:2024-05-22	
Thank you for the opportunity to admit our samples. If Simon admits to pass, please sign this form back to our company. OWE GRATITUDE TO GIV E US THE OPPORTUNITY OF SAMPLE APPROVAL .PLEASE RETURN THIS FROM TO US AFTER YOURS ACCEPT .			

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editi on	date	engineer	revise content
01	2024.05.22	Yang-hui Chen	NEW



Shenzhen Electronics Co., Ltd

ROHS Compliant

REV

AD

2022.06.24

Rated voltage:
AC 60V 1. No broken skin outside the
wire harm.
2. The finished product
conductance: 20-0 hm
test guide Voltage
must be 100%
product shall be 100%
fully inspected OK. 4.

AC200V insulation

Working frequency band (Frequency Range)	824-960MHz 1710-2690MH
gain (Gain)	2dbi
voltage standing wave ratio (VSWR)	Contrast the waveform
Polarization mode (Polarization)	perpendicular
characteristic impedance (Impedance)	50 OHM

(PRODUCT NAME)

Gum stick-4G-Pepper-L =50MM

GENERAL TOLERANCE

100-200 :	± 3.00
50-100 :	± 2.08
25-50 :	± 0.20
10-25 :	± 0.15
1-10 :	± 0.

PMC

M M	(SIZE)	1:3
(PAGE)	OF	A4

N	Code	Name	Description	Qty	Part
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3	1.008.0104	spring	GSM 32±0.5*0.8MM Brass for 10 laps	1	
2	1.006.0107	Plastic pole	43*10.3MM Black bar sleeve	1	
1	1.004.8001	S NA	6.0 Bend needle / 12 hours	1	

Rated voltage:
AC 60V 1. No broken skin outside the wire harm.
2. The finished product must be 100% tested.
3. The finished product must be 100% resistance:
4. AC200V insulation

Working frequency band (Frequency Range)

824-960MHz 1710-2690MH

gain (dBi)

2dBi

voltage standing wave ratio (VSWR)

Contrast the waveform

Polarization mode (Polarization)

perpendicular

characteristic impedance (Impedance)

50 OHM

ANGLE PROJECTION

GENERAL TOLERANCE:

100~200: ± 3.00

50~100: ± 2.00

25~50: ± 0.20

10~25: ± 0.15

1~10: ± 0.1

(PRODUCT NAME)

Gum stick-4G-Pepper-L=50MM

M M

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PMC



5, the antenna index parameters

Product type: 4G full netcom small pepper elbow antenna	
DESCRIPTION	VALUE
Frequency range (Working frequency band)	2400-2500MHz
Impedance (Characteristic impedance)	50 Ω
V.S.W. R(voltage standing-wave ratio)	≤ 1.5
Gain (Gain)	3.5 dBi
Radiation (Directionality)	Omni-directional
Polarization (Liner mode)	linear Vertical
Admitted power (Power)	10 W
Connector (Joint model)	SMA-J
Operating temp (Operating temperature)	-40°C~+85°C
Storage temp (Storage temperature)	-40°C~+85°C

1. Summary Summary:

This report to account for the measurement setup and result of the Antenna. The measurement setup includes s-parameter, The measured data for Antenna are presented and analysis.

This report is used to illustrate the results of the measured antenna, which includes the voltage standing wave ratio and reflection coefficient of the S parameter, as the data representation and analysis of the measured antenna

2. Measurement of the S-Parameter Measurement S parameters:

A. Reflection coefficient Reflectance factor:

Instrument (Discussion): Network Analyzer (network analysis).

Setup Establishment:

(1) Calibrate the Network Analyzer by one port calibration using 0.5L calibration kits.

The correction of the monitor is corrected for one port through the 0.5L calibration suite.

(2) Connect the antenna under test to the Network Analyzer. Discussion on connecting the reception and test antenna to the network analysis.

(3) Measure the S11 (reflection coefficient) shown in Fig.1. Measurement S11 is shown in Figure 1

(4) Generally, the S11 is less than -10dB to ensure the 90% VSWR 2.0:1 power into antenna and only less than 10% power back to system.

Generally, the S11 is less than -10dB VSWR and less than 2.0:1, to ensure that 90% of the power is converted to antennas and only less than 10% of the power is reflected back to the system.

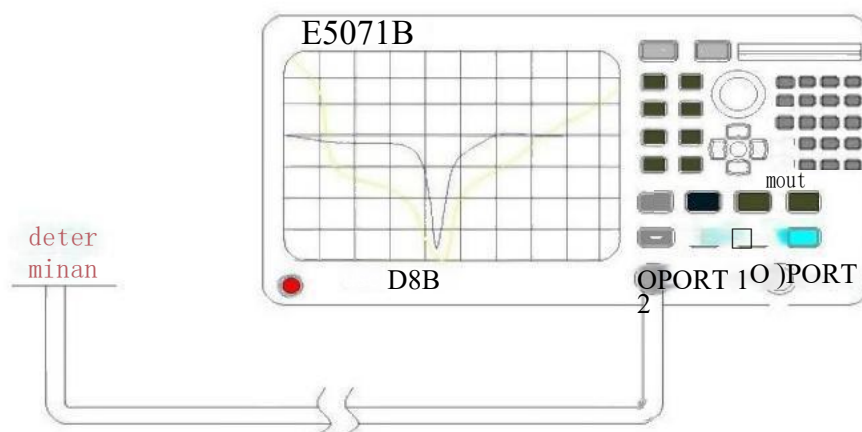
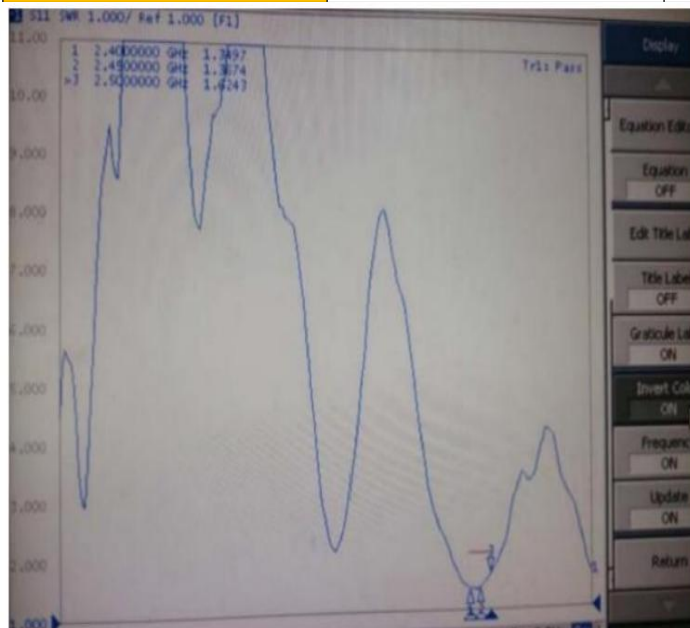


Fig.1 Antenna measured in
Network Analyzer Figure 1

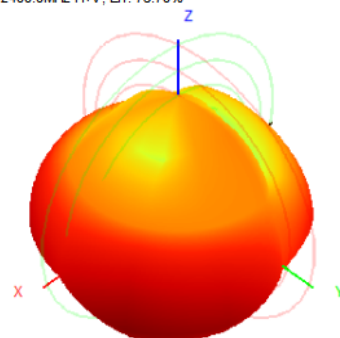
7 antenna performance test Antenna performance test

project Item			
Frequency MHz Working frequency band	2400MHz	2450MHz	2500MHz
V.S.W. R standing-wave ratio	1.34	1.36	1.62

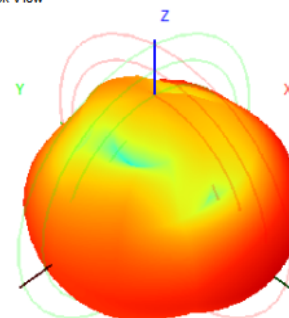


Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	3.47	75.70%
2410	3.28	73.10%
2420	3.1	72.90%
2430	2.99	70.40%
2440	2.96	66.80%
2450	2.99	69.00%
2460	3.50	71.10%
2470	3.05	70.10%
2480	3.12	67.90%
2490	3.15	63.70%
2500	3.07	64.90%

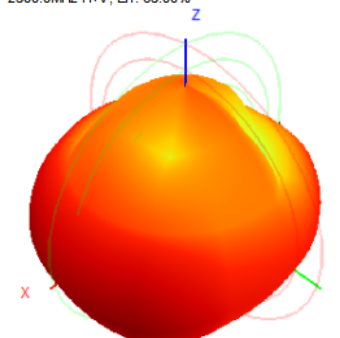
2400.0MHz H+V, Eff: 75.70%



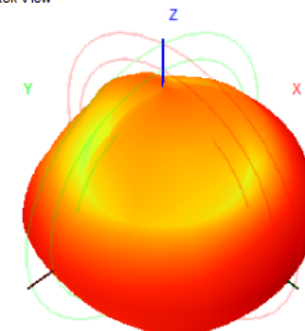
Back View



2500.0MHz H+V, Eff: 65.00%



Back View



Environmental test requirements

order	test item	Test methods and conditions	testing facility	test result
1	Temperature and humidity test	<p>Refer to EIA 364-31 Method 3, test condition A</p> <p>The purpose of this test procedure is to detail the standard test method of evaluating the products affected by the high humidity and heat affecting the performance of the material</p> <p>ask:</p> <p>temperature:70℃</p> <p>Humidity: 90~95% (R.H)</p> <p style="color: red;">Time: 7 2 hours</p>	K. SON INS THS-A4L-150	qualified
2	Low temperature test	<p>Refer to the Feisheng Electronic Test Specification:</p> <p>The measured sample shall be placed in a balance temperature environment with a temperature setting</p> <p style="color: red;">Set at -20℃</p> <p>ask:</p> <p style="color: red;">Time: 2 4 hours</p>	K. SON INS THS-A4L-150	qualified
3	High temperature test	<p>Refer to the Feisheng Electronic Test Specification:</p> <p>The measured sample shall be placed in a temperature environment with a temperature set at 70℃.</p> <p>ask:</p> <p style="color: red;">Time: 24 hours</p>	K. SON INS THS-A4L-150	<u>qualified</u>
4	Hot and cold impact	<p>Refer to the Feisheng Electronic Test Specification:</p> <p>The measured samples shall be placed in a fixed environment with a temperature set</p> <p style="color: red;">Set as -20 ~ 70℃.</p> <p>ask:</p> <p>More than 8 hours. (30 minutes / time, 12 cycles)</p>	K. SON INS THS-A4L-150	qualified

5	Salt Spray Test	<p>Refer to the Feisheng Electronic Test Specification:</p> <p>The measured samples shall be placed in a fixed environment under the requirements of: NaCL concentration: 40-60g / 1 Kg</p> <p>PH value: 6.5-7.2 Test time: 24H</p> <p>1. Gold-plated products are not allowed to have rust spot peeling</p> <p>2. Other nickel-plated galvanized products shall not have more than two rust points on the same shaft or surface.</p>	Salt mist test machine	qualified
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Mechanical test requirements

order	test item	Test methods and conditions	testing facility	test result
1	Vibration test	test condition A The purpose of this test procedure is to detail the standard test methods where the products used, which are evaluated by movement or moving, affect the performance of the materials.	Vibration test machine	qualified
		ask: Vibration range: 10-55 HZ Displacement amplitude: 0.35mm Acceleration amplitude: 50.0M/S Scan cycles: 30 times		
2	drop test	Refer to the Feisheng Electronic Test Specification: The measured sample shall be placed at a certain height set to IM and fall freely 3 times in the direction of 6 faces	Drop test treatment gear	<u>qualified</u>
		ask: Product mechanical characteristics are normal after the drop test		
		Refer to the Feisheng Electronic Test Specification: If the measured object is fixed, and after applying the force in the		

3	strain relief test	opposite direction, the product assembly should not fall off.	Pull test machine	qualified
		ask: 1. Product assembly should not fall off. 2. Minimum tension: 1.2 KG		