

东莞市腾祥电子有限公司

Tengxiang Technology, Inc

承認書

SPECIFICATION FOR APPROVAL

騰祥料號

SOREDE P/N

AN2450-FPC002B0

品名/規格
DESCRIPTION

2.4/5.8G FPC antenna, with a black line extending 50mm

騰祥送樣編號
SOREDE DWG#

210412002

送樣日期

SAMPLE DATE

2021/4/12



MANUFACTURER/制造商

APPROVED BY 核准	Q.C.DEPT. 品管	CHECKED BY 核准	TESTED BY 檢測
韦佳	李群	胡超	黄佰铨

Product Number: AN2450-FPC002BO

Product Name: FPC Antenna

1. Specification

Sample Photo



A. Electrical Characteristics

Frequency	2400-2500MHz / 5150-5850 MHz
S.W.R.	≤ 2.0
Antenna Gain	3.53dBi / 6.12dBi
Polarization	Linear
Impedance	50 Ohm
Material of Radiator	Cu
Material of Plastic	/
Cable Type	OD1.13
Connector Type	/
Connector Pull Test	/
Connector Torque Test	/

C. Environmental

Operation Temperature	- 40 °C ~ + 80 °C
Storage Temperature	- 40 °C ~ + 80 °C

2. Characteristics and Reliability Test



Tengxiang Technology.Inc

Product Number: AN2450-FPC002BO

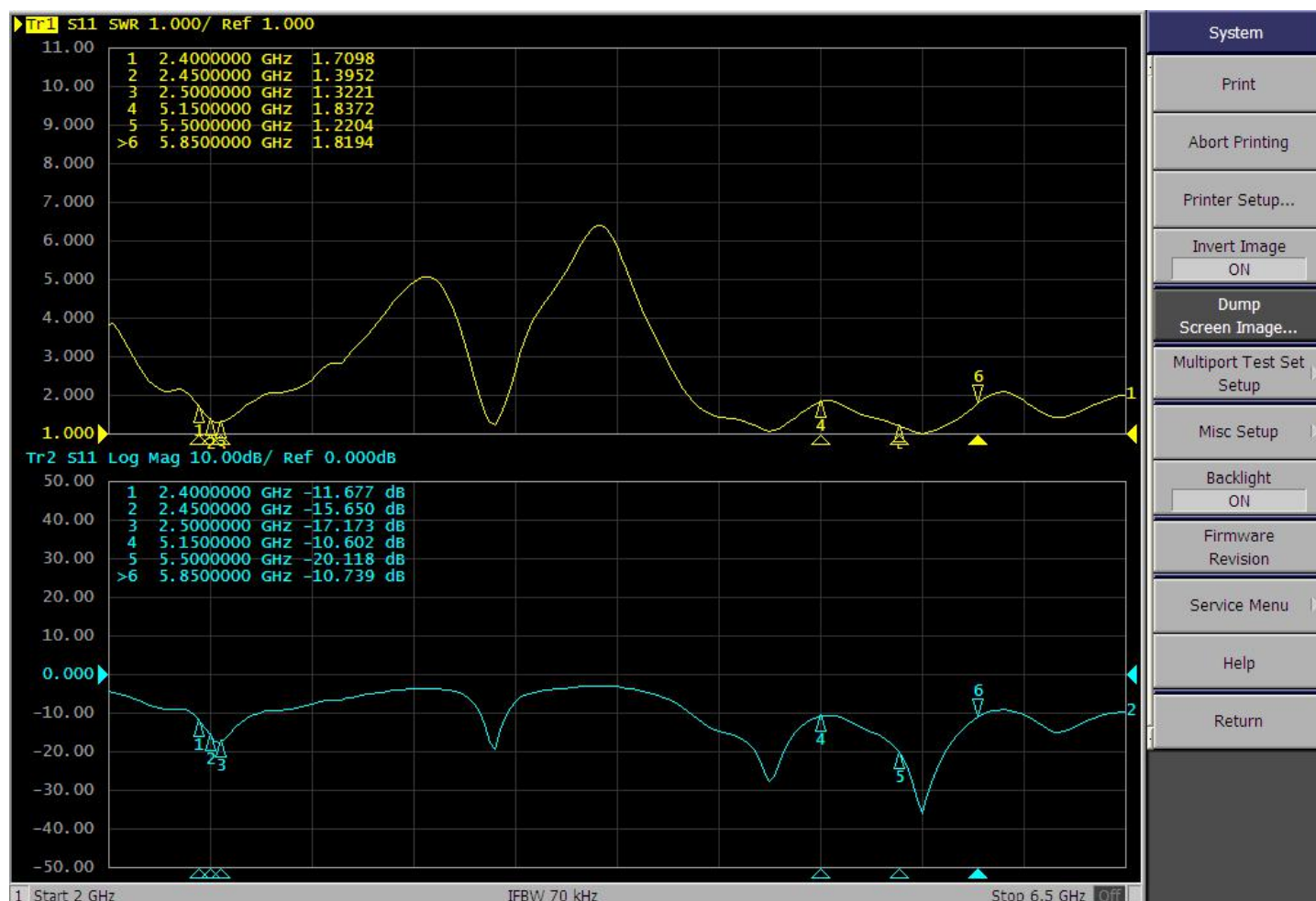
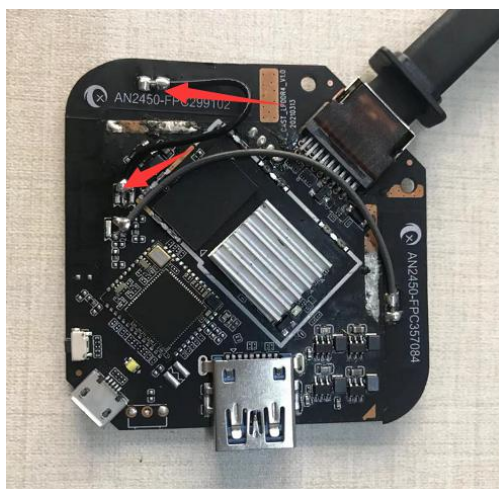
Product Name: FPC Antenna

Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	MIL-STD-202G, 201A Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	Height: 1.5 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	MIL-STD-202G, 211A, cond. E Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	MIL-STD-202G, 101E, cond. B Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: >= 95%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	1 Cycle: - 45°C (30 minutes) to + 85°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	MIL-STD-202G, 108A, cond. A Temp: 85°C; Time: 96 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2015/863/Eu

Product Number: AN2450-FPC002BO

Product Name: FPC Antenna

3. Antenna - S Parameter Test Data

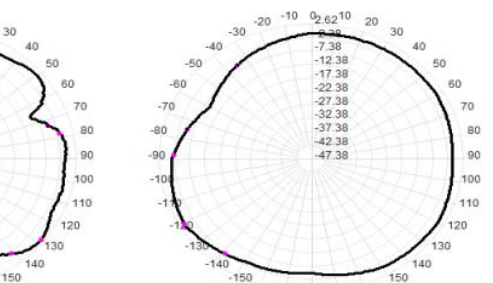
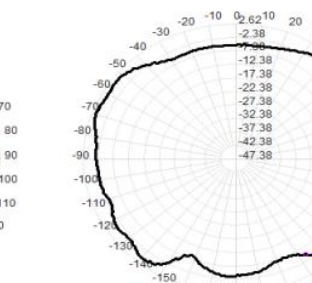
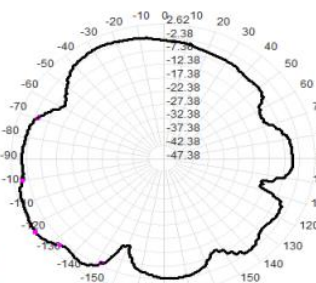
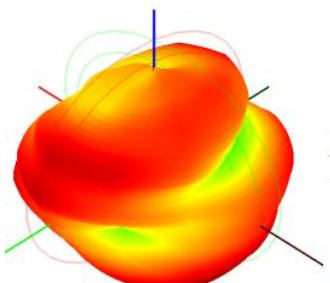
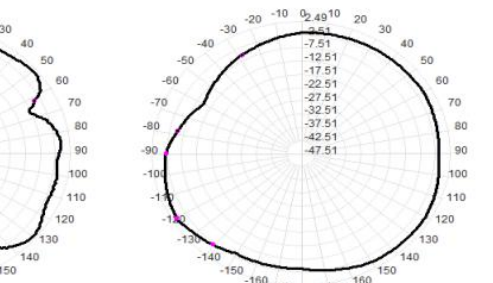
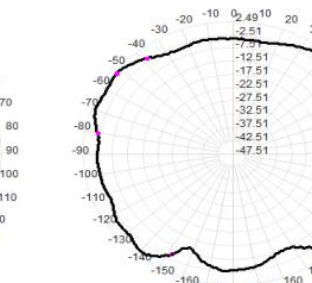
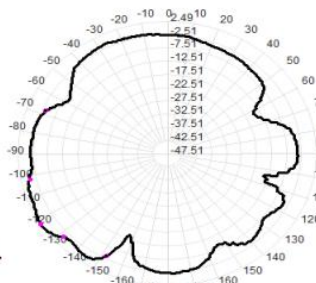
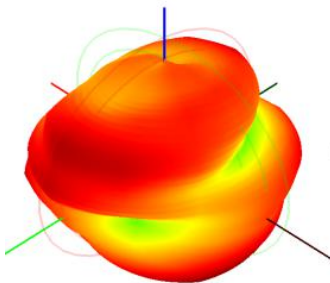
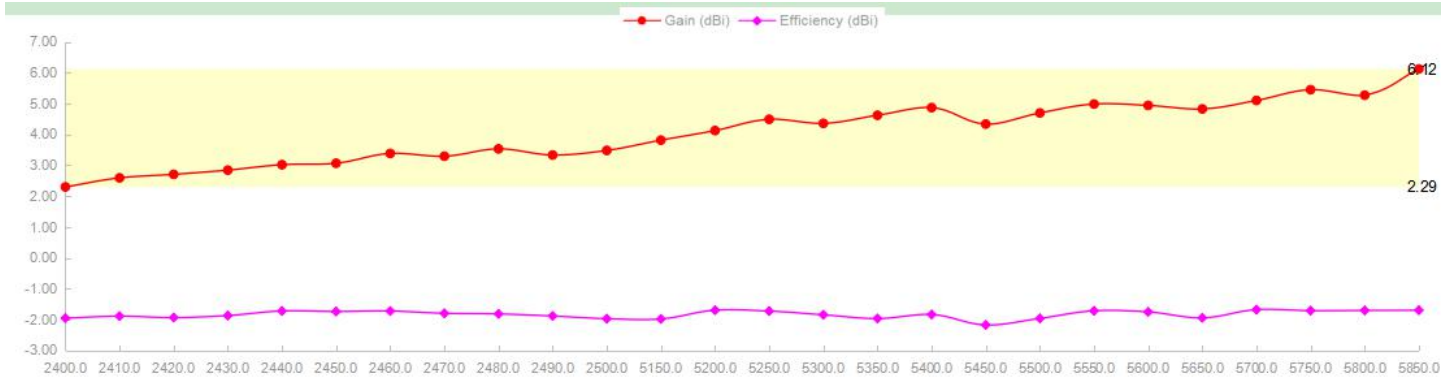


Product Number: AN2450-FPC002BO

Product Name: FPC Antenna

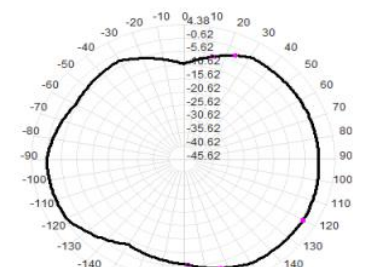
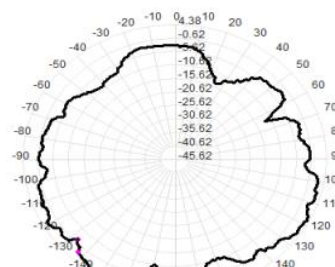
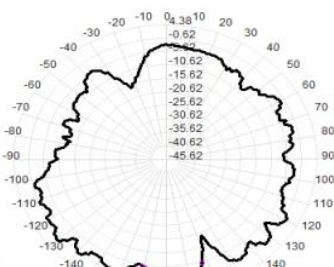
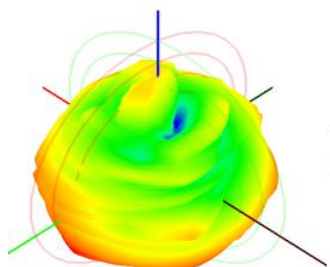
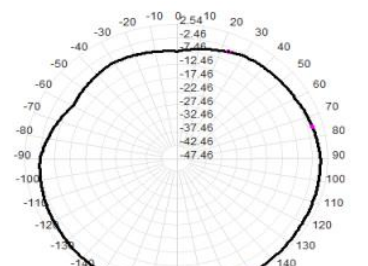
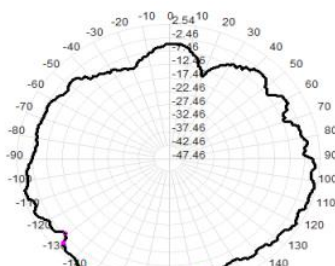
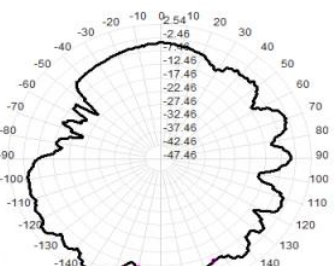
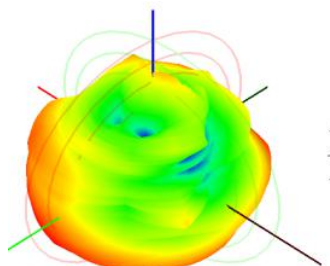
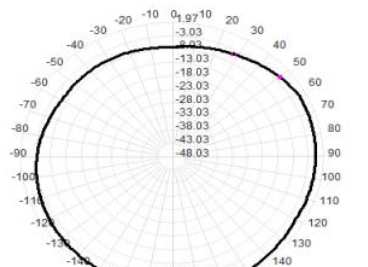
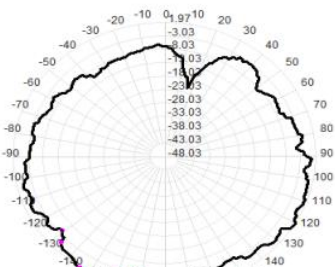
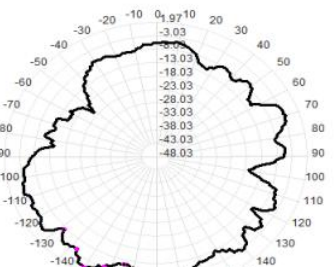
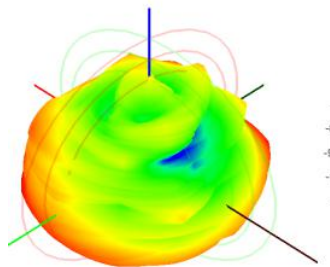
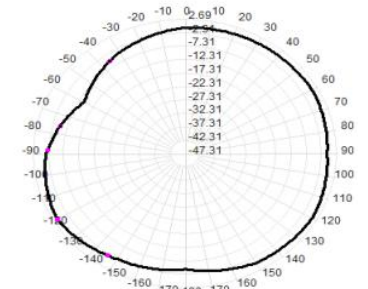
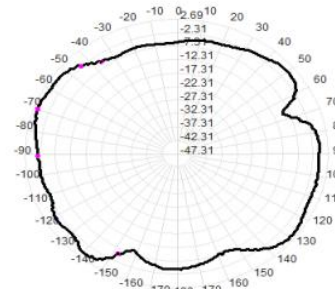
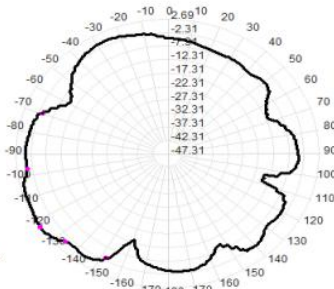
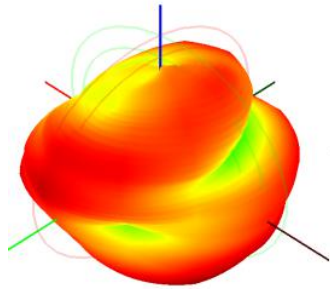
4. Antenna - Radiation Pattern Test Data

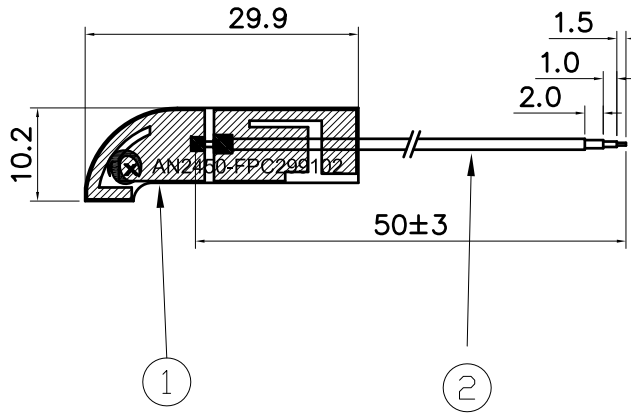
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Efficiency (dB)	-1.96	-1.89	-1.94	-1.87	-1.73	-1.74	-1.73	-1.80	-1.82	-1.89	-1.98	-1.99	-1.70	-1.73	-1.85	-1.97	-1.84	-2.18	-1.97	-1.72	-1.76	-1.95	-1.68	-1.72	-1.71	-1.70
Gain (dBi)	2.29	2.59	2.70	2.84	3.02	3.06	3.38	3.29	3.53	3.33	3.48	3.81	4.12	4.49	4.36	4.62	4.87	4.33	4.69	4.98	4.94	4.82	5.10	5.45	5.27	6.12
Efficiency (%)	63.70	64.65	63.96	64.95	67.21	66.93	65.98	64.75	63.76	63.35	62.17	60.29	63.70	66.84	65.20	63.51	65.45	60.53	63.57	67.29	66.73	63.84	67.87	67.18	67.48	69.13



Product Number: AN2450-FPC002BO

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HF☐ RoHS☒ REACH☐ CONFIDENTIAL					<table><tr><td>SIGN</td><td>DATE</td><td>DESCRIPTION</td><td>APPROVER</td></tr><tr><td>△</td><td></td><td></td><td></td></tr><tr><td>△</td><td></td><td></td><td></td></tr><tr><td>△</td><td></td><td></td><td></td></tr></table>			SIGN	DATE	DESCRIPTION	APPROVER	△				△				△																																				
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A	Note: 1.Mark * is important dimension;"Cpk "Identify for process control($CpK \geq 1.33$). 2.Tolerance:Unmarked tolerance refer to the standard tolerance please. 3.Pay attention to the direction of the connector.  Tengxiang Electronics Co., Ltd. <table><tr><td colspan="4">TITLE: Antenna</td></tr><tr><td colspan="2">PART NO.: AN2450-FPC002BO</td><td colspan="2">CUSTOMER P/N: /</td></tr><tr><td>APP BY</td><td>CHK BY</td><td>RF BY</td><td>DES BY</td></tr><tr><td>YCX</td><td>HC</td><td>WJ</td><td>HBX</td></tr><tr><td>2021.04.12</td><td>2021.04.12</td><td>2021.04.12</td><td>2021.04.12</td></tr><tr><td colspan="4">UNITS: mm</td></tr><tr><td colspan="4">SCALE: 1/1</td></tr><tr><td colspan="4">REVISION: A</td></tr><tr><td colspan="2">Tolerance</td><td colspan="2"></td></tr><tr><td colspan="2">X.X ±0.5</td><td colspan="2"></td></tr><tr><td colspan="2">X.XX ±0.2</td><td colspan="2"></td></tr><tr><td colspan="2">X° ±1</td><td colspan="2"></td></tr></table>							TITLE: Antenna				PART NO.: AN2450-FPC002BO		CUSTOMER P/N: /		APP BY	CHK BY	RF BY	DES BY	YCX	HC	WJ	HBX	2021.04.12	2021.04.12	2021.04.12	2021.04.12	UNITS: mm				SCALE: 1/1				REVISION: A				Tolerance				X.X ±0.5				X.XX ±0.2				X° ±1				A
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<table><tr><td>2</td><td>CB-113BS</td><td>Coaxial Cable</td><td>OD1.13</td><td>Black</td><td>1</td></tr><tr><td>1</td><td>AN2450-FPC299102</td><td>FPC</td><td></td><td>Black</td><td>1</td></tr><tr><td>No.</td><td>Part Number</td><td>Name</td><td>Material</td><td>Finish</td><td>Q'ty</td></tr></table>								2	CB-113BS	Coaxial Cable	OD1.13	Black	1	1	AN2450-FPC299102	FPC		Black	1	No.	Part Number	Name	Material	Finish	Q'ty																															
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Tengxiang Electronics Co., Ltd.

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PART NO.: AN2450-FPC002BO		CUSTOMER P/N: /	
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YCX	HC	WJ	HBX
2021.04.12	2021.04.12	2021.04.12	2021.04.12
UNITS: mm			
SCALE: 1/1			
REVISION: A			
Tolerance			
X.X ±0.5			
X.XX ±0.2			
X° ±1			

產品包裝規範

PACKING CRITERION

Date: 2021.04.12

Page: 1 of 1

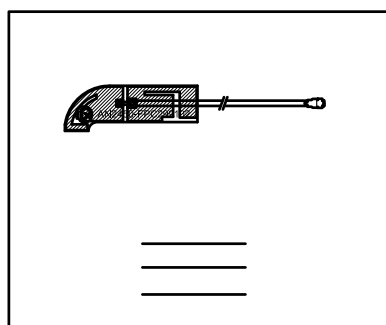
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Revision : A

Name: Antenna

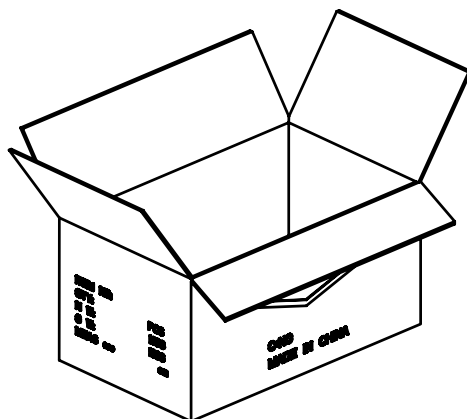
Customer : ALL

1 . Enter PE bag。



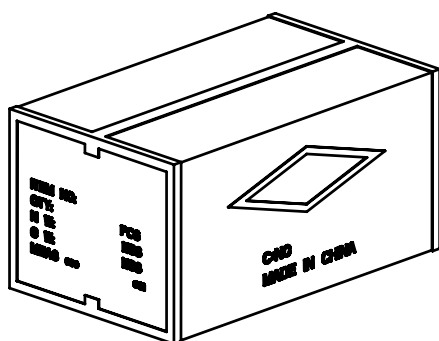
100pcs/ PE bag

2.PACKING 。



8000pcs/Carton

3. SEALING 。

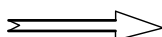


SIDE

ITEM NO:
QTY: PCS
N W: KGS
G W: KGS
MEAS

FRONT

C/NO
MADE IN CHINA



APPROVED BY : YCX

CHECKED BY : HC

DESIGNED BY : DWB