Specification For Approval

CUSTOMER NAME: **Jiangsu Youli Advanced Technology Co., Ltd**

CUSTOMER P/N: Y02-09555

PRODUCT SPEC: 2.4G copper tube antenna

SUPPLIER P/N: NB2400-0305CU11370MMIX

REV: 2.0

DATE: 2022/06/13

DRAWING	CHECK	APPROVED
FENG	ZHU	FENG

CUSTOMER APPROVE:

DATE	CHECK	APPROVED

PRODUCTION COMPANY:

Dongguan Chrungmung Electronics Co., Ltd.

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Add: Building 1, No. 433, Zhen'an East Road
Chang'an Town, Dongguan, 1618
Tel: 0769-85388271 13925511731

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1. Revision History

Revision	Date	Change Notification	Description
1.0	2023.03.30	first edition	
2.0	2023.06.13	Second Edition	Change English version

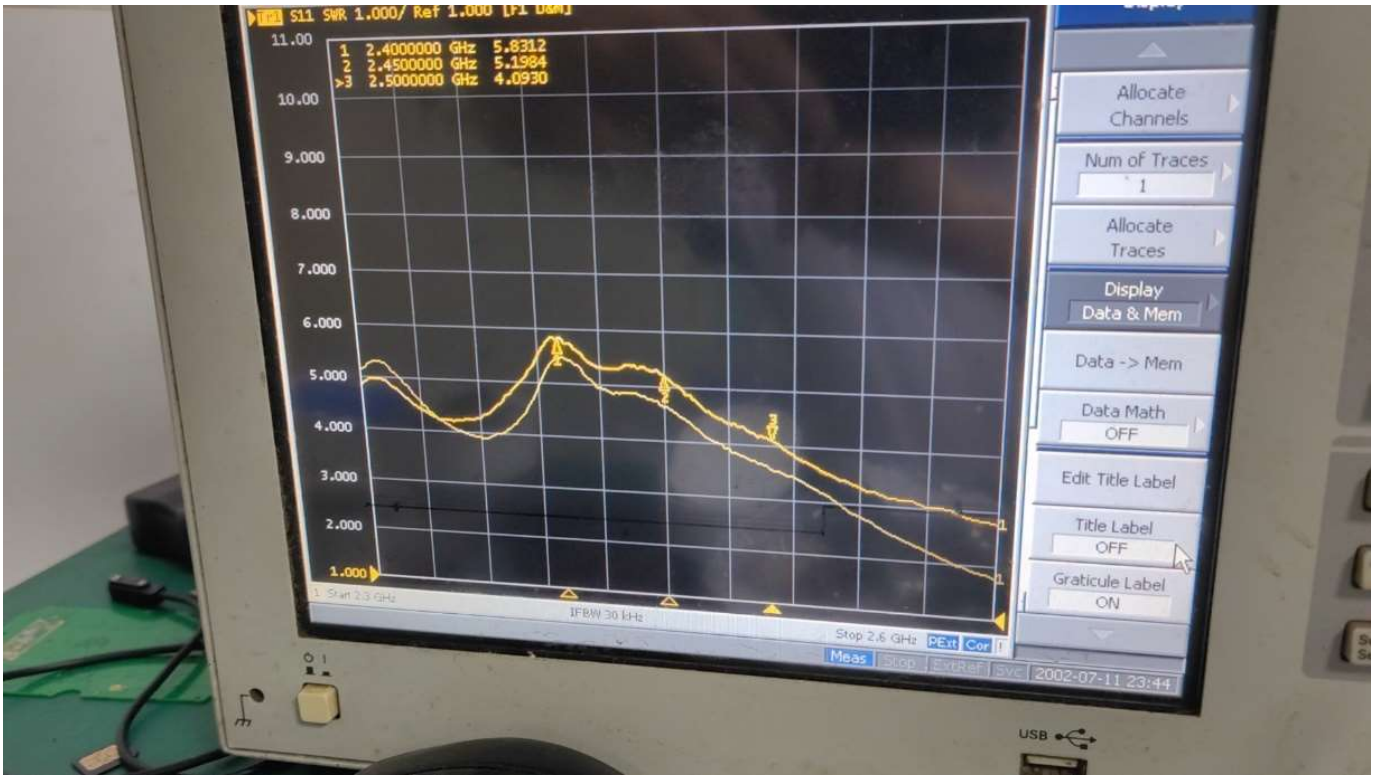
2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	<=3.0 @ 2400~2500 MHz(Naked test)
Peak Gain	<1.0 dBi
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Cable Type	OD1.13mm
Antenna Type	Monopole Antenna
Connector Type	Mini Connector
C. Environmental	
Operation Temperature	- 40 ˚C ~ + 65 ˚C
Storage Temperature	- 40 ˚C ~ + 80 ˚C

3. Characteristics and Reliability Test

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	GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	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	GB / T 2423 . 17- 93 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	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 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 2002/95/EC

4. Antenna - S Parameter Test Data

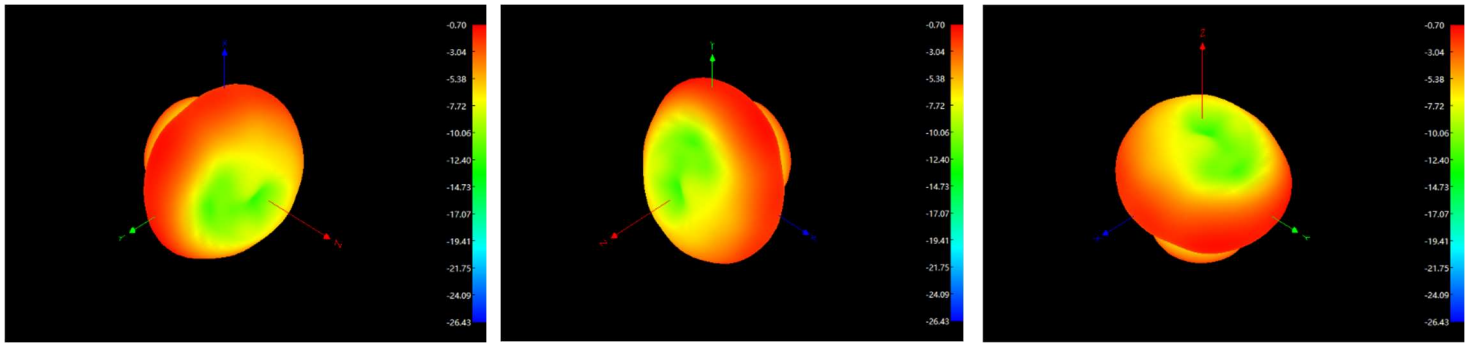


5. 1 Antenna - Radiation Pattern Test Data

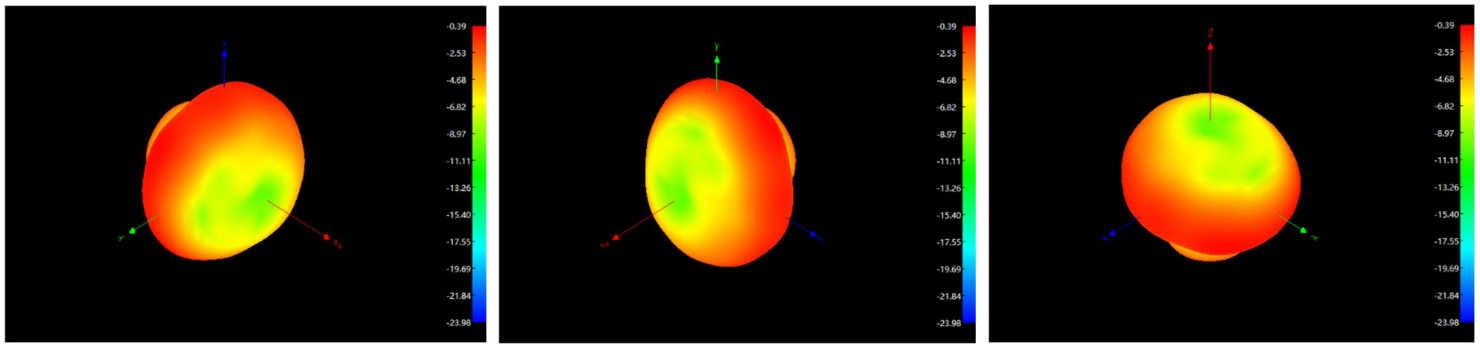
Frequency/Mhz	Efficiency / dB	Efficiency / %	Frequency/MHz	MaxGain/dBi	AvgGain/dBi
2400	-4.44	35.97	2400	-0.7	-4.44
2410	-4.53	35.24	2410	-0.66	-4.53
2420	-4.29	37.24	2420	-0.59	-4.29
2430	-4.14	38.55	2430	-0.62	-4.14
2440	-4.05	39.36	2440	-1.05	-4.05
2450	-3.86	41.11	2450	-0.39	-3.86
2460	-3.74	42.27	2460	-0.37	-3.74
2470	-3.72	42.46	2470	0	-3.72
2480	-3.55	44.16	2480	0.16	-3.55
2490	-3.58	43.85	2490	0.3	-3.58
2500	-3.45	45.19	2500	0.37	-3.45

5. 2 Antenna - Radiation Pattern Test Data

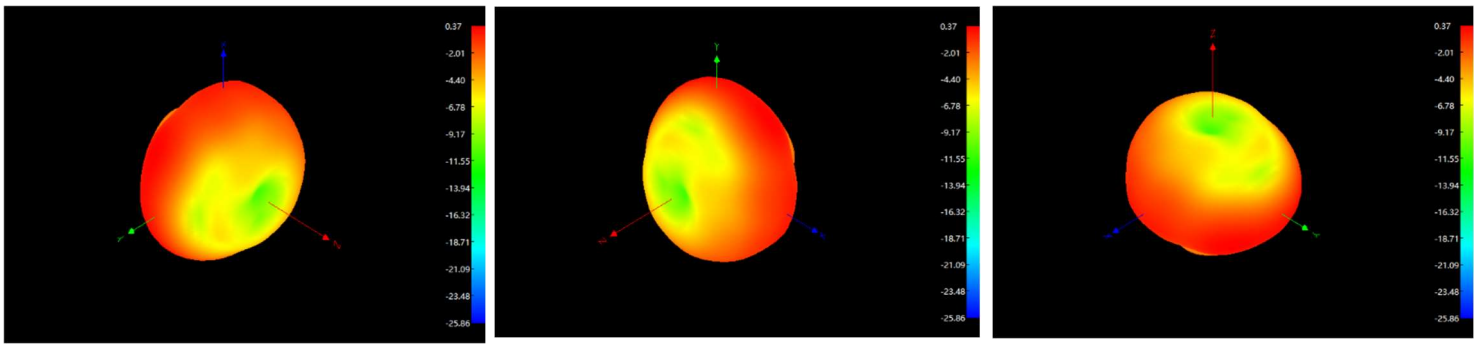
2400MHz



2450MHz



2500MHz



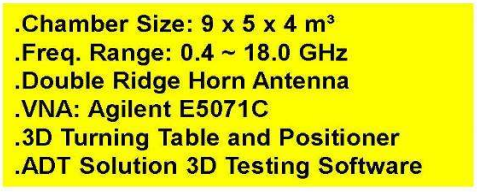
6.Testing Equipment and Principle

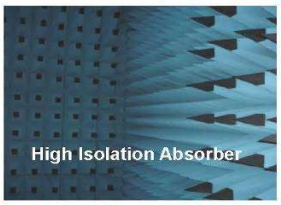
1. Testing equipment:

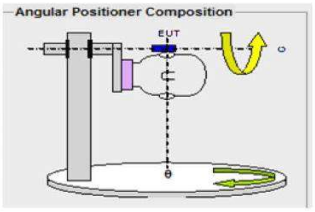
Network Analyzers :Agilent 8753D 5071B

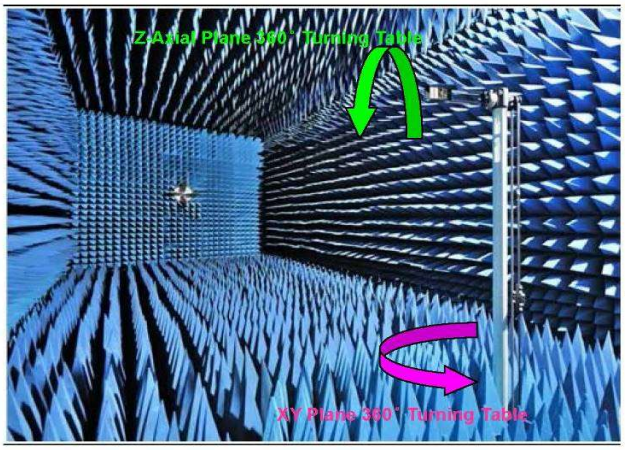
Communications Test Set:Agilent E5515C

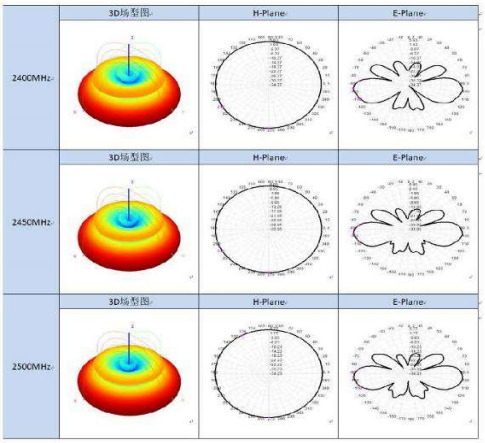
3D Chamber Test System:

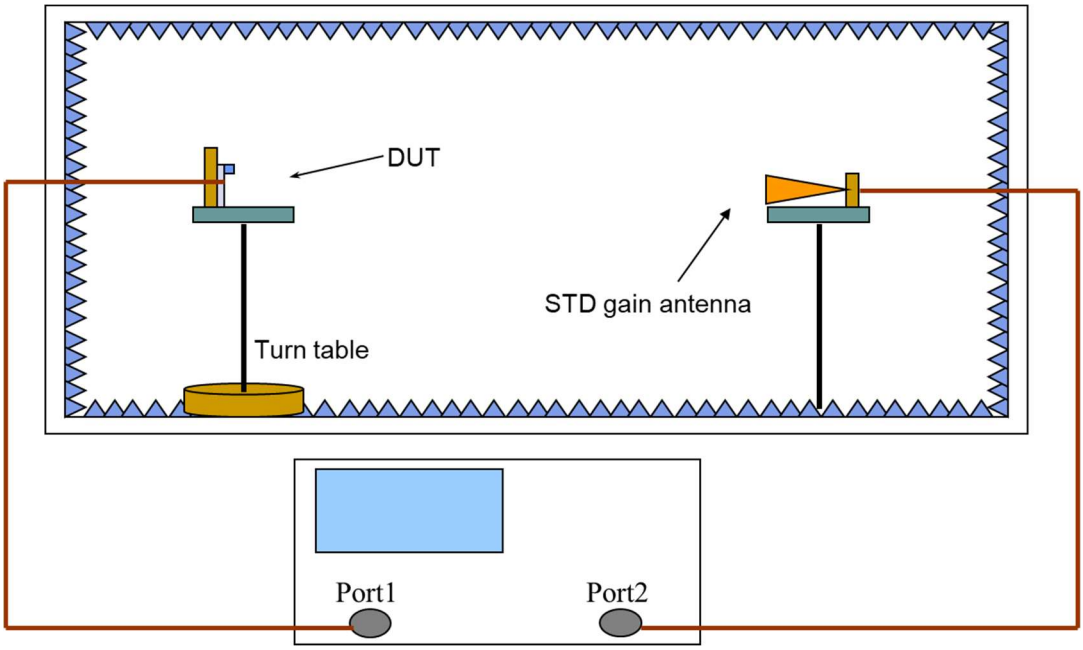








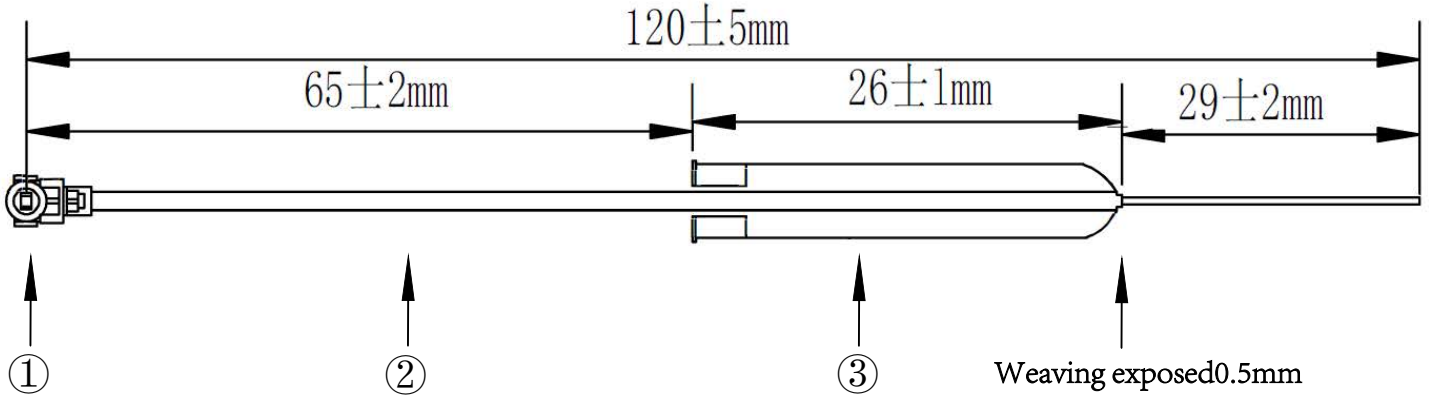




7. Mechanical Drawing See attached files

RoHS
Compatible

SIGN	DATE	DESCRIPTION	APPROVER
A			
B			
C			



Note:
1.Take" * "is the important dimension.
2.Tolerance:Unmarked tolerance refer to the standard tolerance please.
3.Pull Strength of the connector must be >/=1.0kg.
4.Note Connector orientation.

No.	Part Number	Name	Material	Q'ty
3	NB2400-0305CU	Tube	φ4.4*26mm	1
2	R-CB-113B	Coaxial Cable	SHOWA-O.D. 1.13mm Grey	1
1	CI-113	Connector	Mini Connector	1

Dongguan Chrungmung Electronics Co., Ltd.

TITLE: Embedded Antenna

PART NO.: NB2400-0305CU11370MMIX | DWG NAME: NB2400-0305CU11370MMIX.dwg

APPROVED BY	CHECKED BY	DESIDNED BY	
ZHUQL 2023/06/13	ZHUQL 2023/06/13	FENG 2023/06/13	UNITS: mm SCALE: 1/1 REVISION: A

Tolerance
X.X ±0.5
X.XX ±0.2
X° ±1°

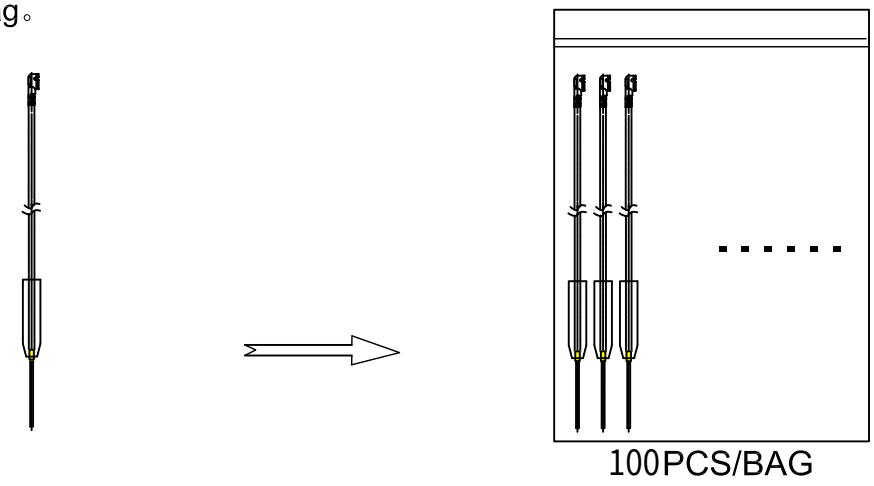
Packing Criterion

★★★★☆

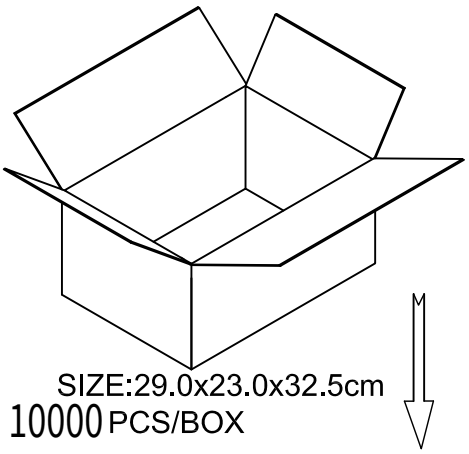
Date: 2023-06-13

Part Number : NB2400-0305CU11370MMIX	Revision : A
Name: 2.4G Embedded Antenna	Customer :

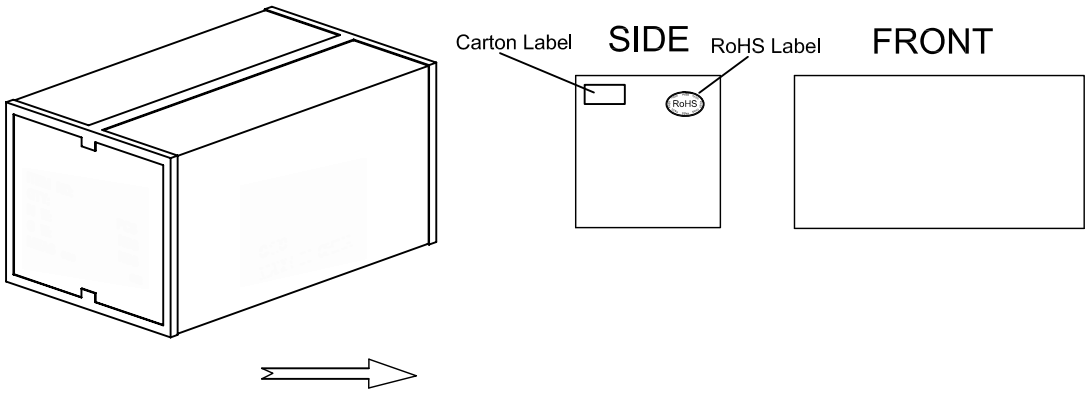
1 . Enter PE bag。



2.PACKING 。



3 . SEALING。



APPROVED BY : LQ CHECKED BY : _____ DESIGNED BY : DJC