

承 認 書

A P P R O V A L S H E E T

CUSTOMER: 香港商永道無線射頻標籤有限公司台灣分公司

CUSTOMER MODEL NO.:

JOYMAX MODEL NO.: TWX-1513SAXX-287 (PART NO)

Antenna MODEL NO.: SSP-10319

DESCRIPTION: 2.4+5GHz #1513 1/2 λ Replacement Antenna,
Swivel type

REV.: 00

DATE: 2019/9/6

Customer Approval

Joymax Approval



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Modification History:

Rev.	Date	Content
00	2019/9/6	首次發行

1. Specifications

1.1 Description

The antenna design of TWX-1513SAXX-287 is a $1/2\lambda$ omni-directional, swivel type, white sleeve antenna which is terminated with SMA male connector. It's an ease installation of connector direct mount to IEEE802.11a/b/g/n 2.4+5GHz wireless communication application.

1.2 Electrical Properties

Frequency Range	2.4~2.4835MHz / 5.15~5.85MHz
Impedance	50Ω
V.S.W.R.	
Radiation	Omni
Gain	<5dBi
Polarization	Vertical
Wave length	$1/2\lambda$, Collinear
Beam Width	2.4~2.4835GHz $45^{\circ}\pm 5^{\circ}$ @E-Plane 360° @H-Plane
Test Ground Size	N/A

1.3 Mechanical Properties

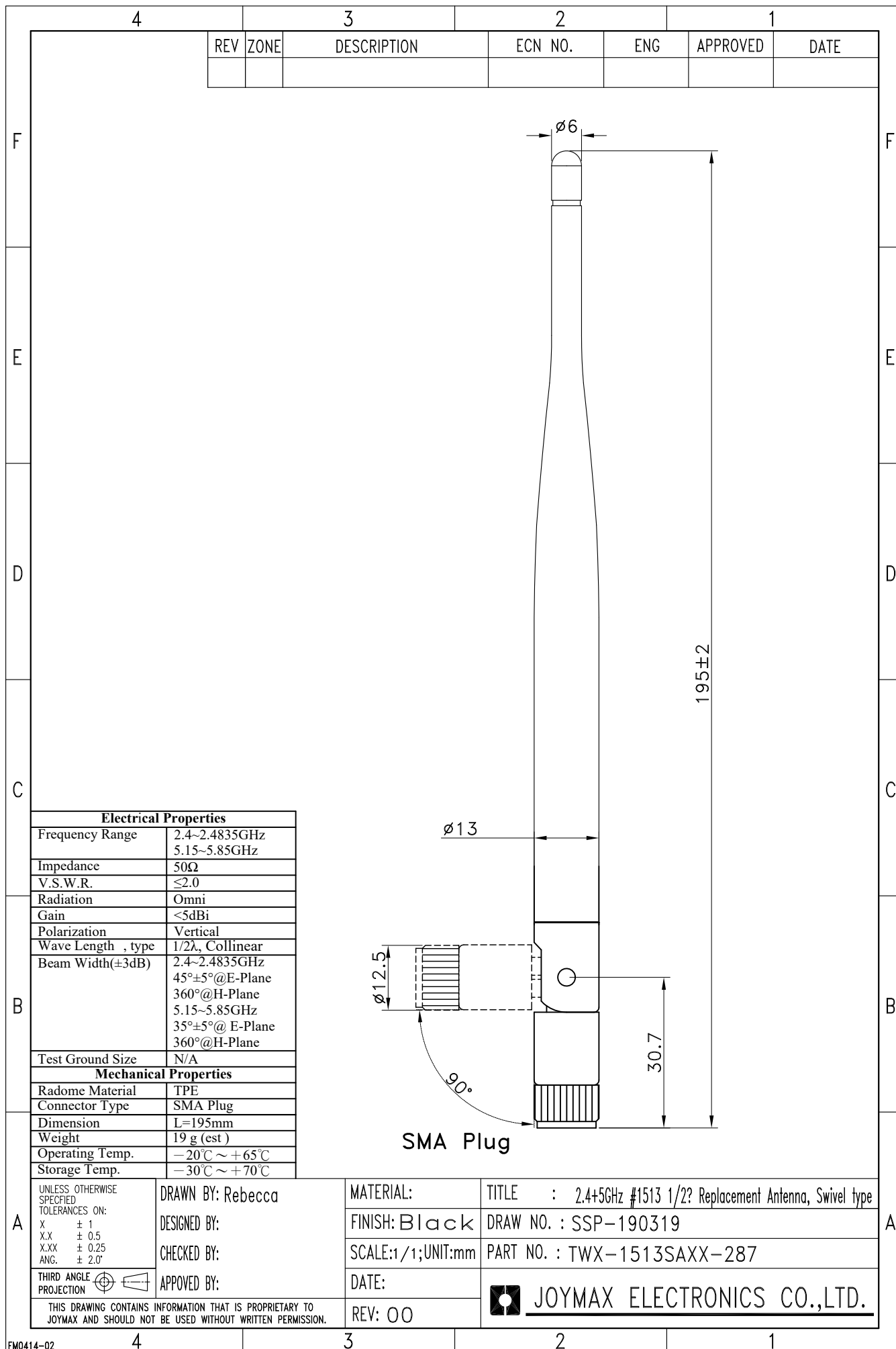
Radome Material	TPE
Connector	SMA PLUG
Dimension	L=195mm
Weight	19g (est)

1.4 Environmental Properites

Operating Temperature	-20~+65°C
Storage Temperature	-30~+70°C

*Conformity determination: Electrical Properties are conformed to the specifications.

2. Dimension

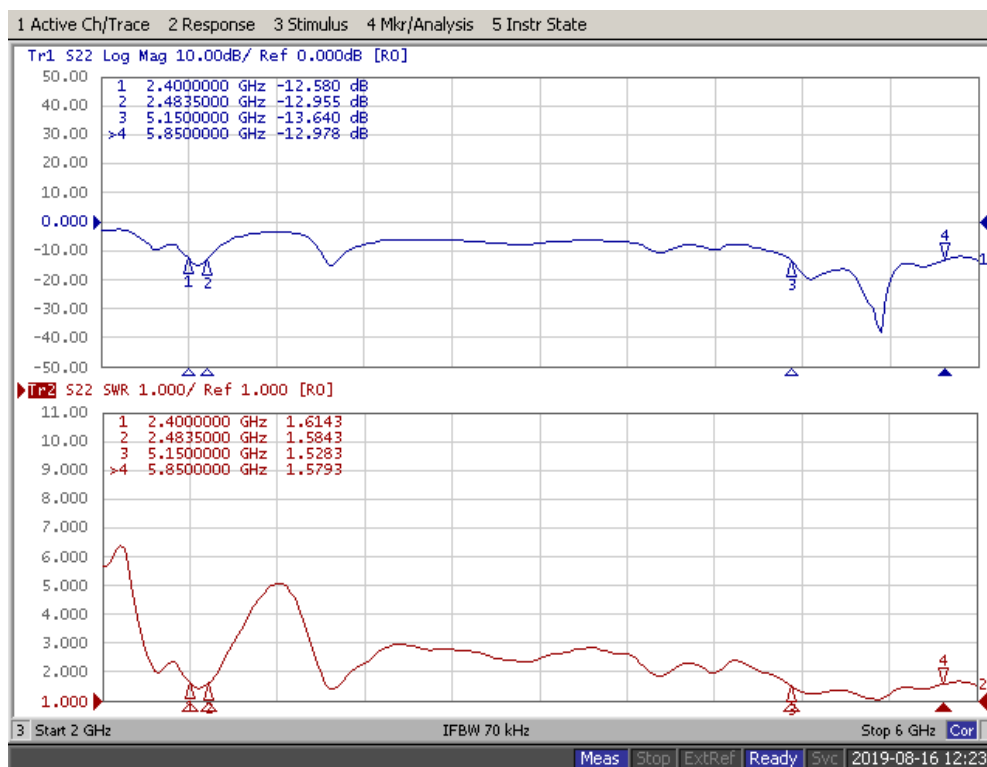


3. Test Condition & Report

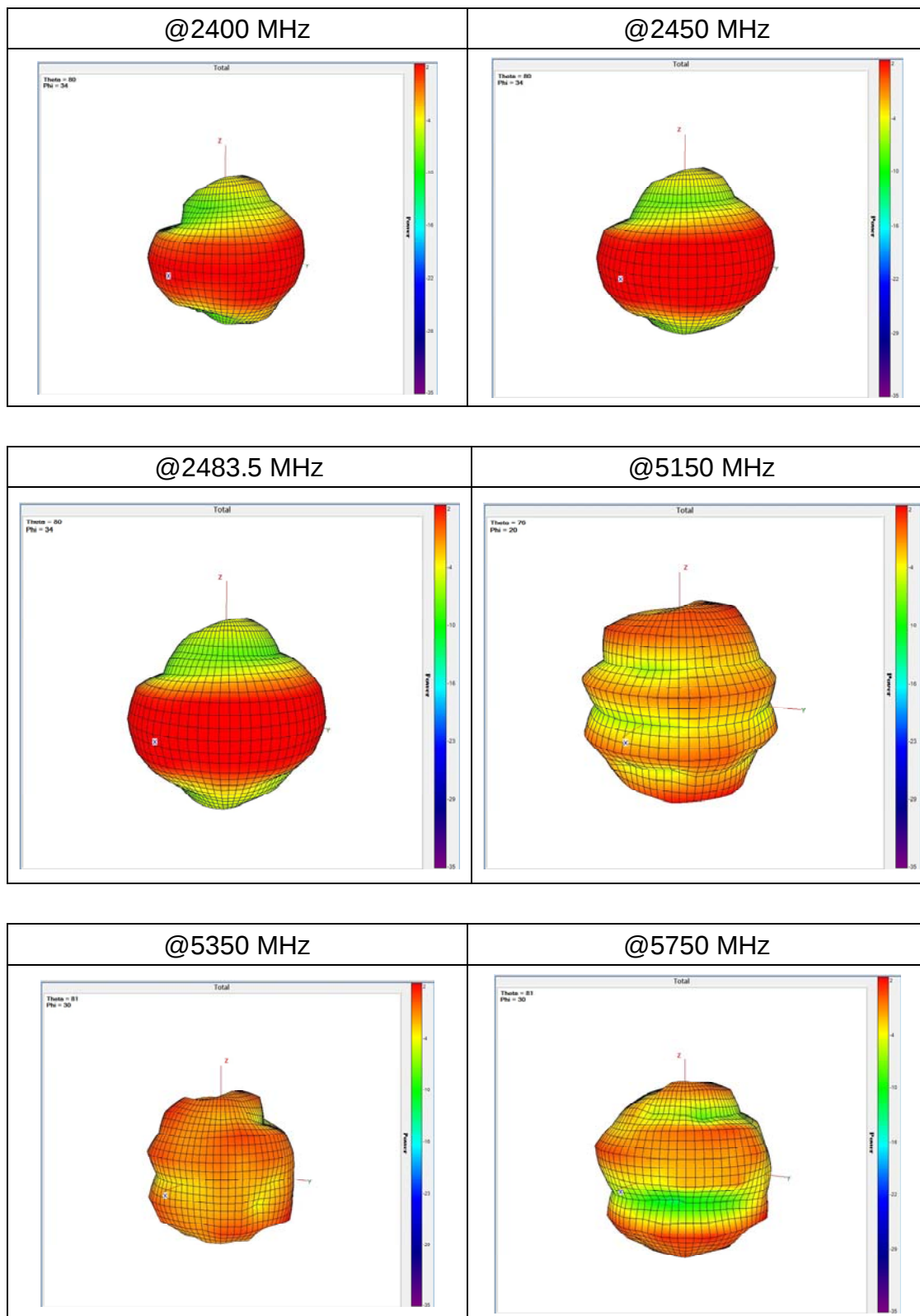
3.1 V.S.W.R / Return Loss

Return Loss

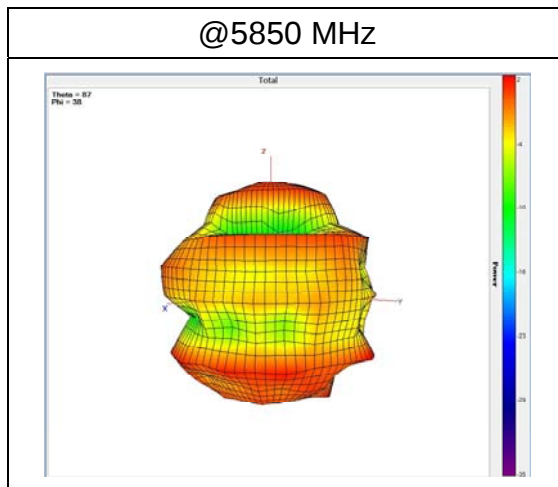
V.S.W.R.



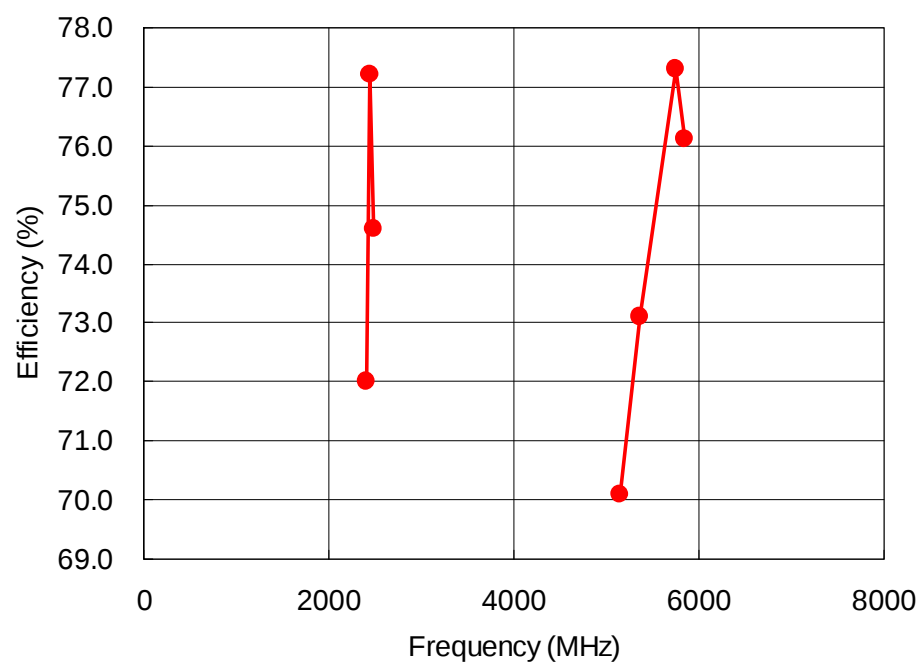
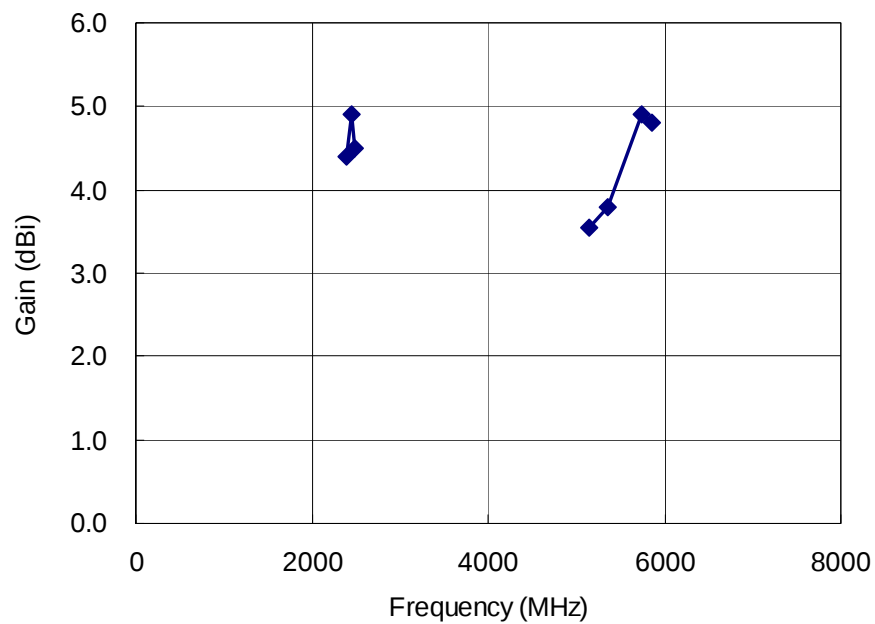
3.2 Pattern



3.2 Pattern

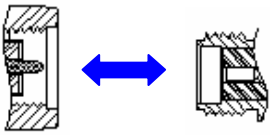
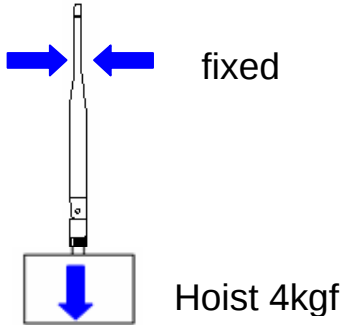
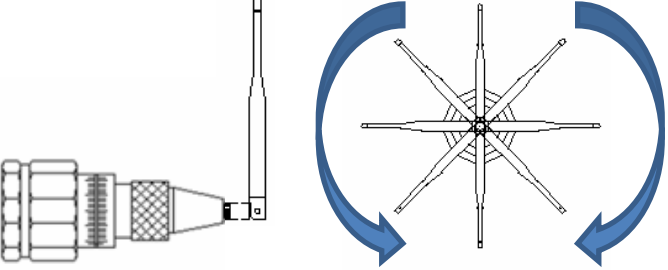
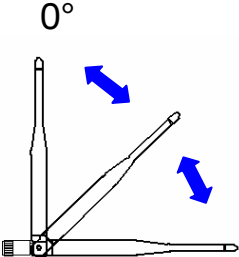


3.2 Pattern



Frequency (MHz)	2400	2450	2483.5	5150	5350	5750	5850
Gain (dBi)	4.4	4.9	4.5	3.5	3.8	4.9	4.8
Efficiency (%)	72.0	77.2	74.6	70.1	73.1	77.3	76.1

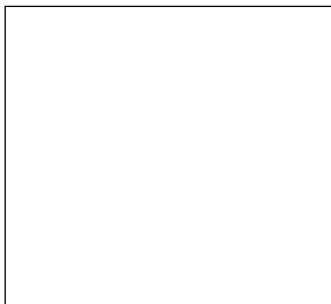
3.3 Mechanical Properties

Mechanical Requirements		Schematic diagram
Durability (mating)	500 cycles	
Pull-out force	4kgf	
Torque	$\geq 0.4\text{kgf-cm}$ Antenna can be rotated any angle does not fall.	
Swivel Angle	0° / 45° / 90°	

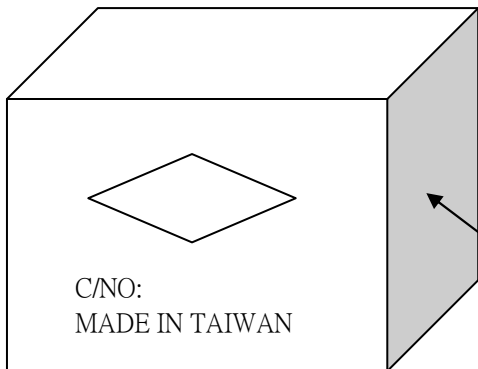
4. Package



- ① 1pcs antenna / 1 PE bag
PE bag size 45*240mm



- ② 50pcs antenna / 1 PE bag
PE bag size 280*450mm



- ③ 400pcs antenna / 1 Carton
Carton size 320*250*290mm

<u>MODEL No.:</u>	
<u>Q'ty:</u>	PCS
<u>N.W.:</u>	PCS
<u>G.W.:</u>	PCS

Packing q'ty is for reference only, adjust it based on production packing.