

Antenna

YPGS001AA Datasheet

Antenna Services

Version: 1.0

Date: 2022-01-04

Status: Released



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About the Document

Revision History

Version	Date	Author	Note
-	2021-12-14	Kenny YIN/ Xiaodong YANG	Creation of the document
1.0	2022-01-04	Kenny YIN/ Xiaodong YANG	First official release

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1 Product Description

This Quectel GNSS antenna adopts a diversity of forms to guarantee the most suitable polarization type. Quectel's positioning products support single-band or multi-band operation modes to meet various high-precision positioning requirements of customers' products. Quectel also provides both passive and active antennas to satisfy the customer demand for high gain. Such antenna supports different installation or connection methods such as pin mount, surface mount, magnetic mount, internal cable, and external SMA. Customized connector type and cable length are provided according to requirements.

2 Product Features

- GPS
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	1559–1609 MHz
Input Impedance	50 Ω
VSWR	≤ 2.0
Gain	≤ 2 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Size	7.0 mm x 5.8 mm x 0.8 mm
Casing	FR4
Connector Type	SMD
Working Temperature	-40 °C to +85 °C
Radome Color	Black

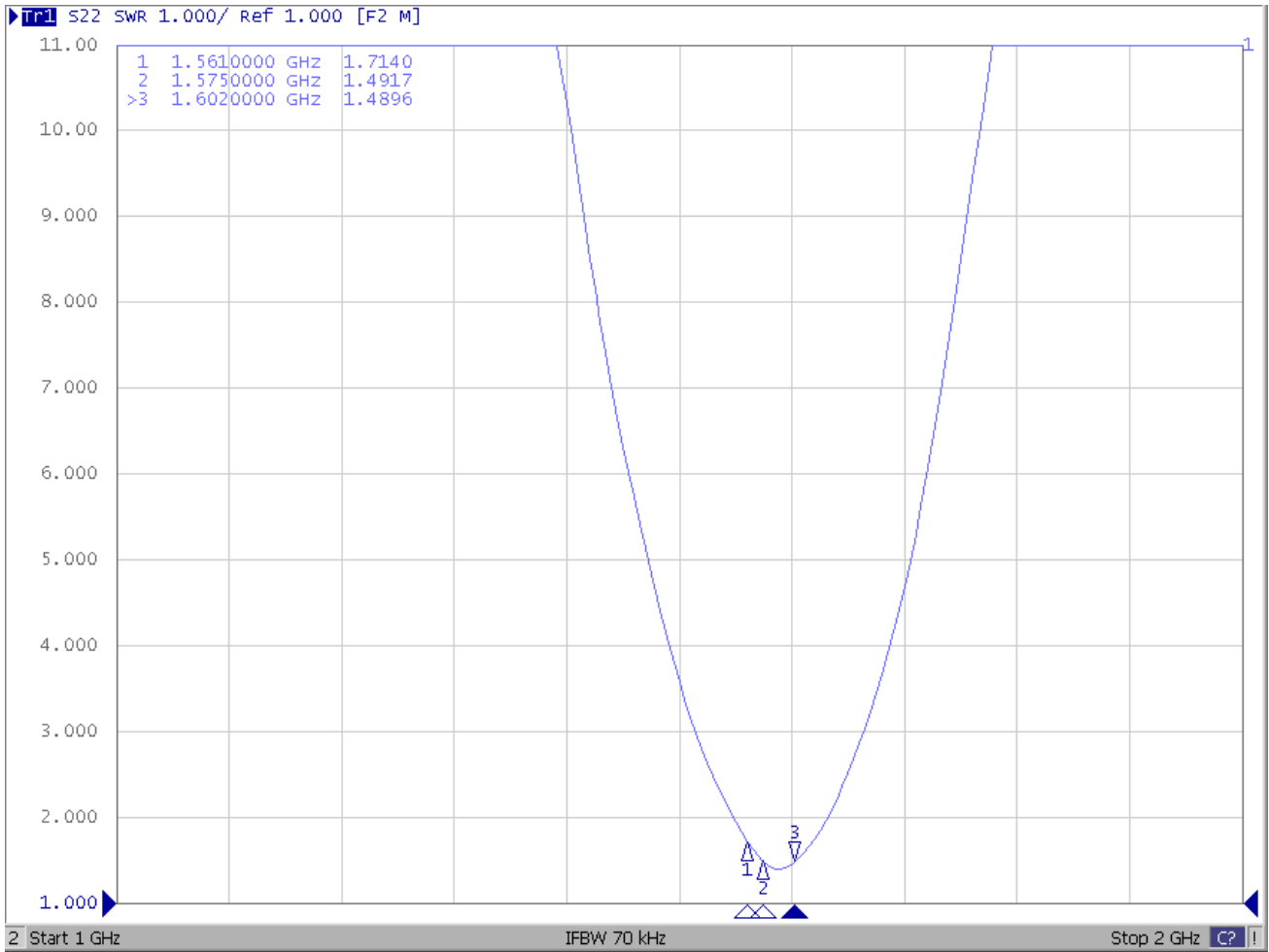
4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz

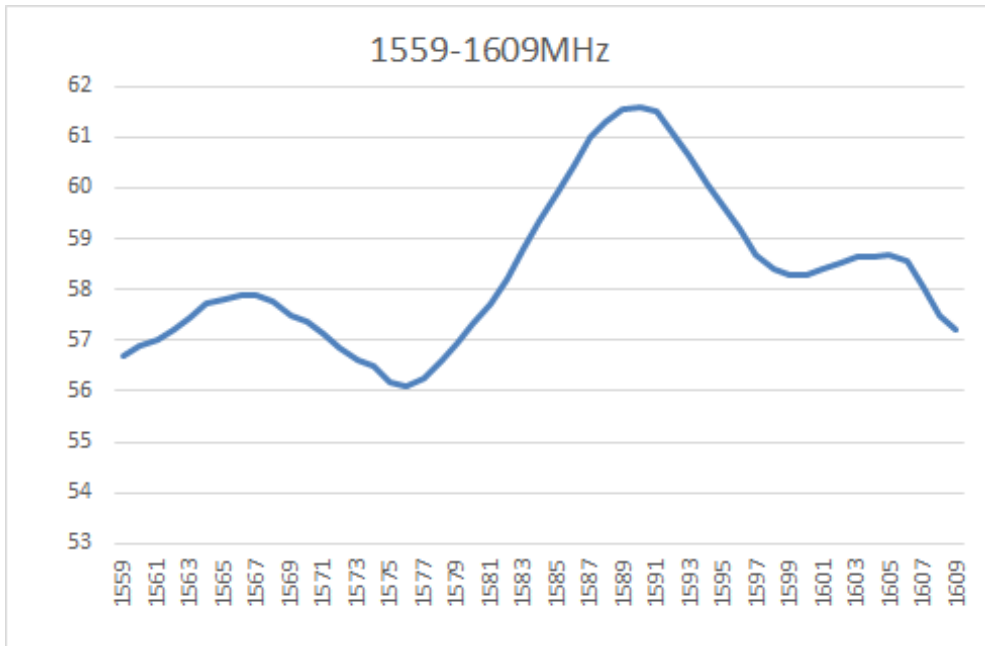


4.2. VSWR



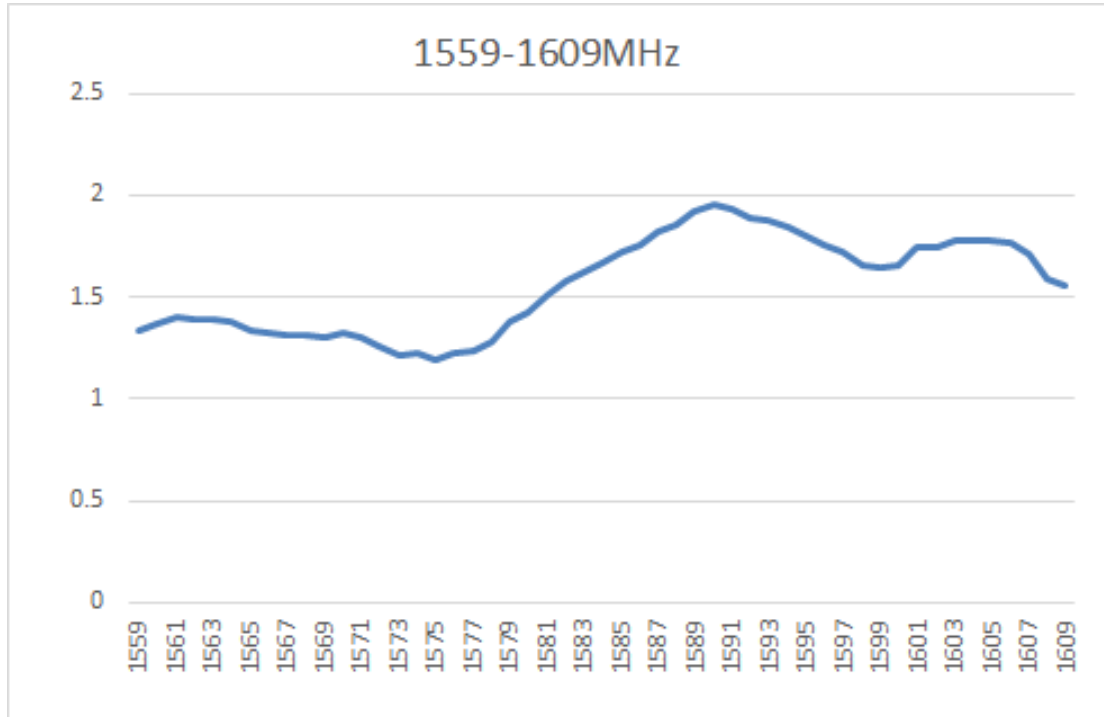
Frequency (MHz)	1561	1575	1602
VSWR	1.71	1.49	1.48

4.3. Efficiency



Frequency (MHz)	1561	1575	1602
Efficiency (%)	57.03	56.18	58.53

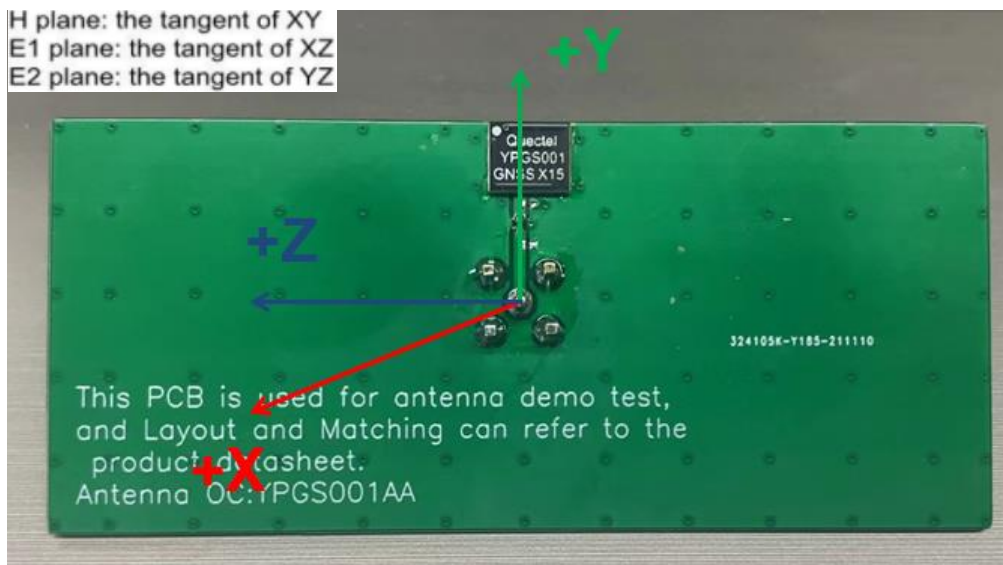
4.4. Gain



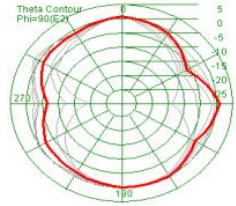
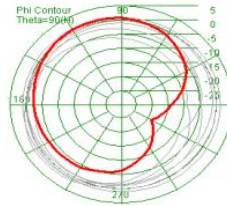
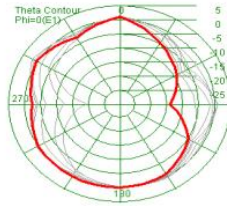
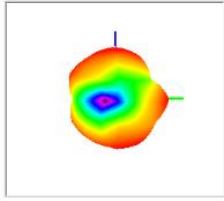
Frequency (MHz)	1561	1575	1602
Gain (dBi)	1.40	1.19	1.74

4.5. Radiation Pattern

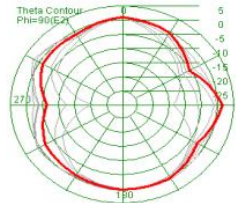
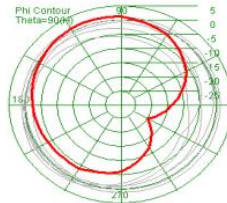
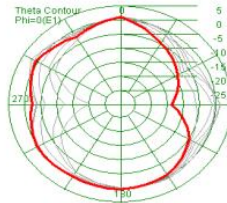
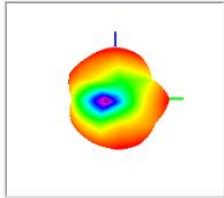
- Test condition: with a ground plane (EVB size: 80 mm × 35 mm).



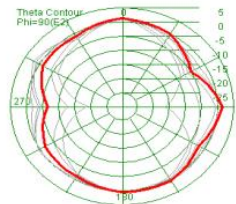
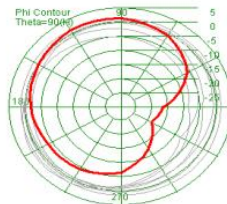
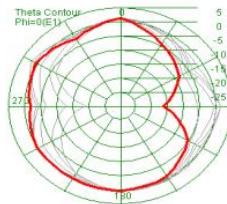
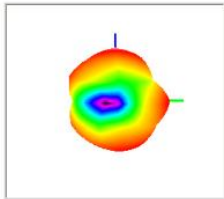
1561MHZ



1575MHZ



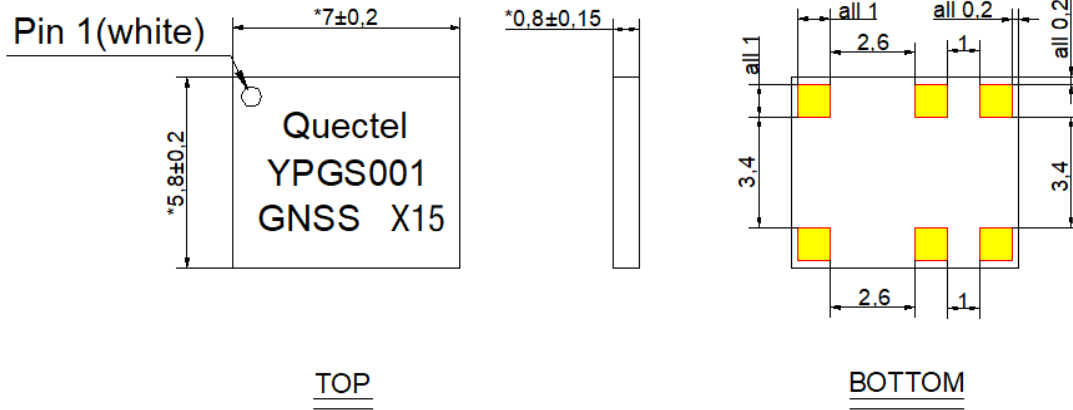
1602MHZ



5 Product Size

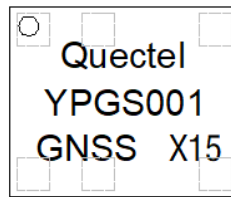
RoHS

■ Pad

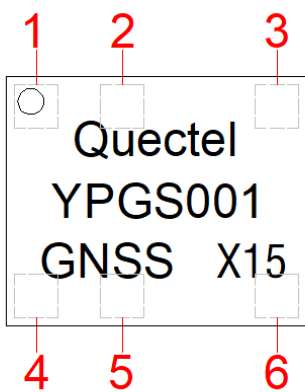


TOP

BOTTOM



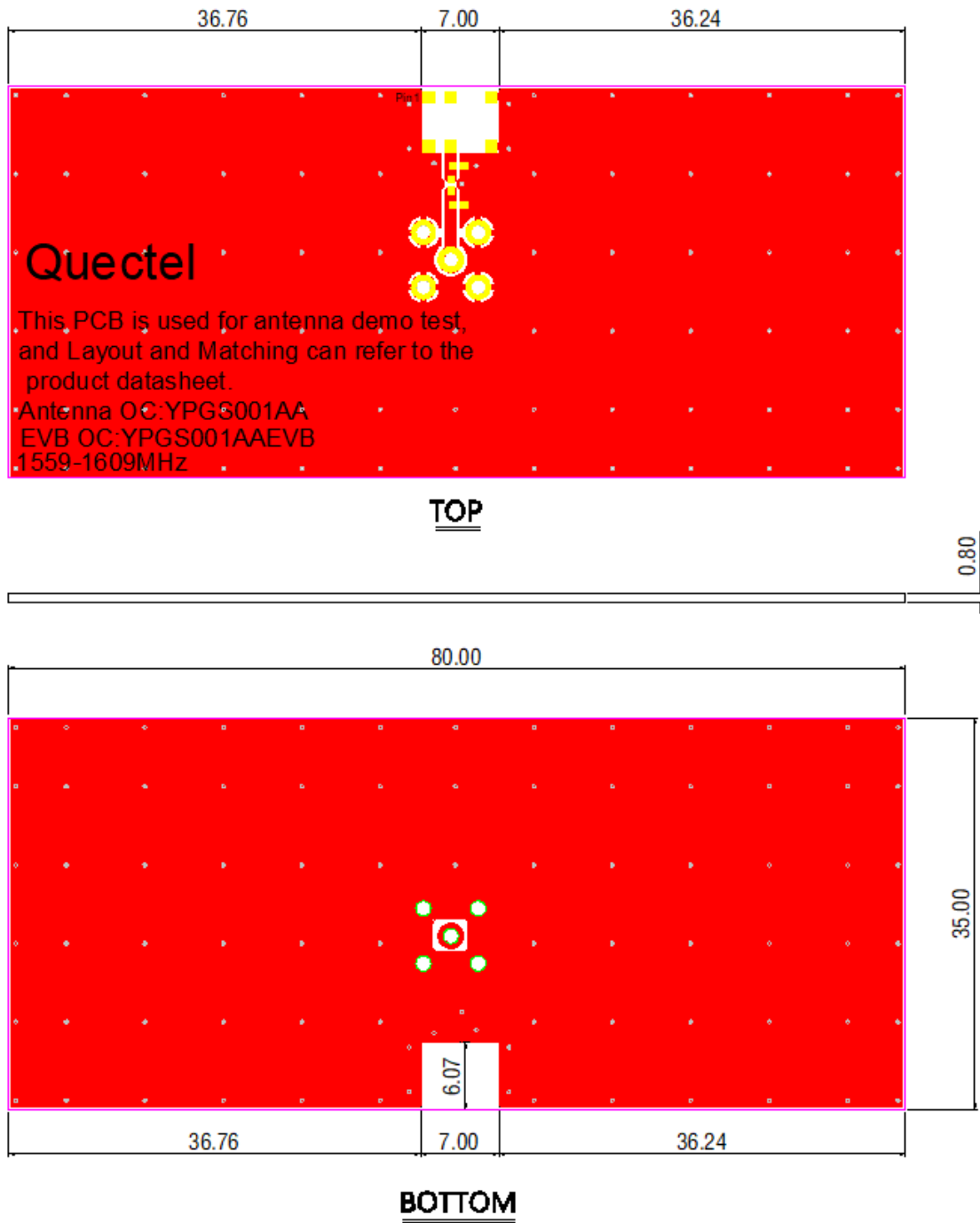
Top perspective view

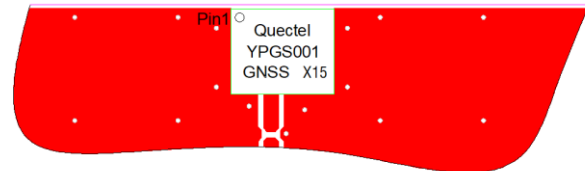
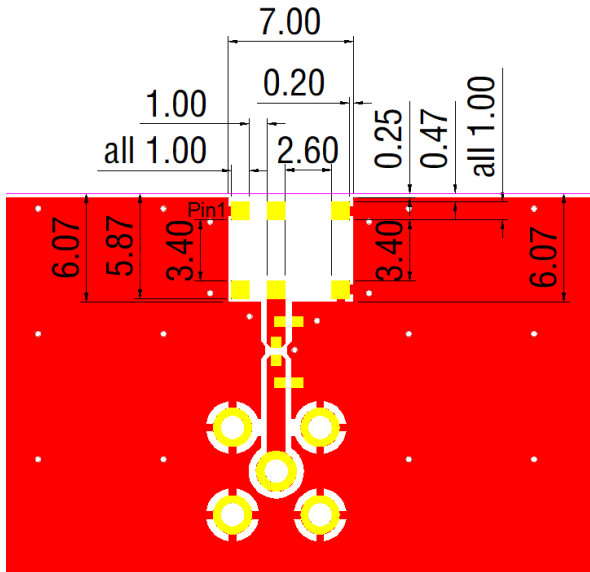


Top perspective view

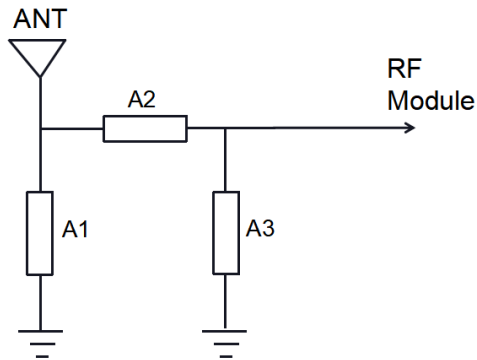
PAD NO.	Description
1	GND
2	Not used (mechanical only)
3	GND
4	Not used (mechanical only)
5	Feed
6	GND

6 EVB Size

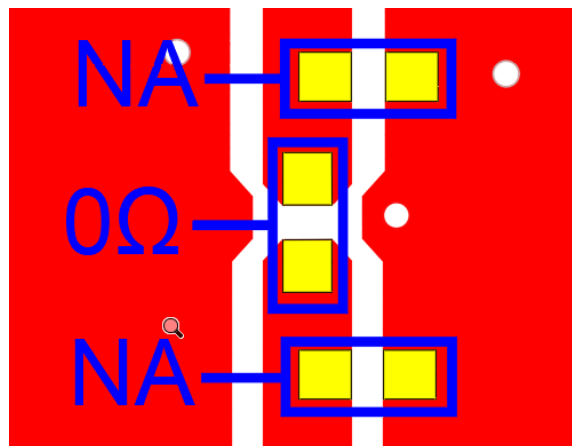




Antenna Position

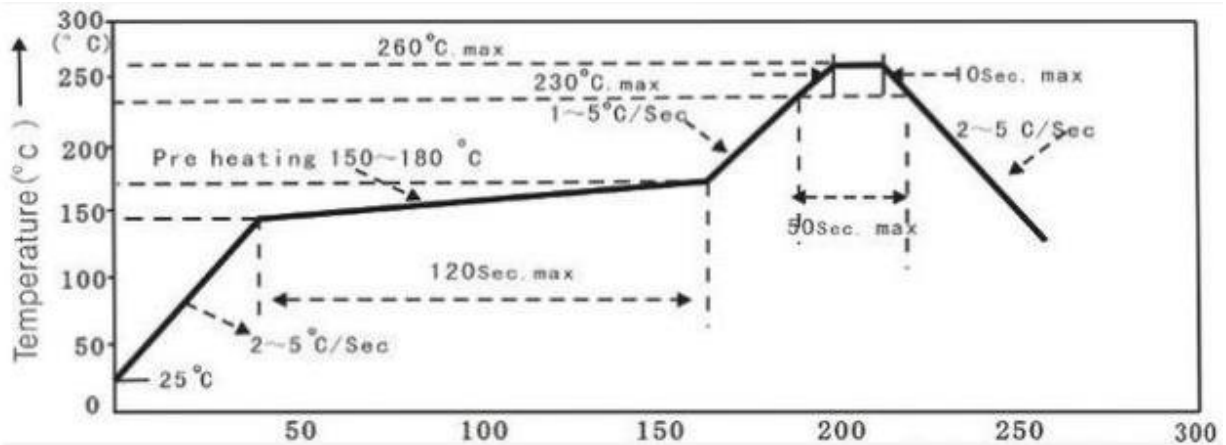


A1	NA
A2	0Ω
A3	NA



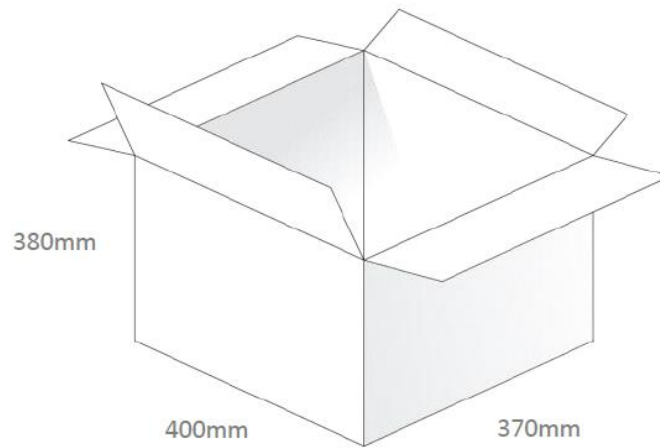
7 Soldering Temperature

Phase	Profile Features	PB-Free Assembly (Max.)
RAMP-UP	Avg. Ramp-up Rate (T _{smax} to T _p)	3 °C/second (Max.)
PREHEAT	Temperature Min. (T _{smin})	150 °C
	Temperature Max. (T _{smax})	180 °C
	Time (T _{smin} to T _{smax})	120 seconds (Max.)
REFLOW	Temperature (TL)	210 °C
	Total Time above TL (tl)	50 seconds (Max.)
PEAK	Temperature (T _p)	260 °C
	Time (t _p)	10 seconds (Max.)
RAMP-DOWN	Rate	5 °C/second (Max.)



8 Package

- Dimensions and Marks



- Section of Package

Package is made of corrugated paper with thickness of 0.6 cm. Package has 5 inner boxes, each box has 1 reel (vacuum packaged with desiccant in the bag).

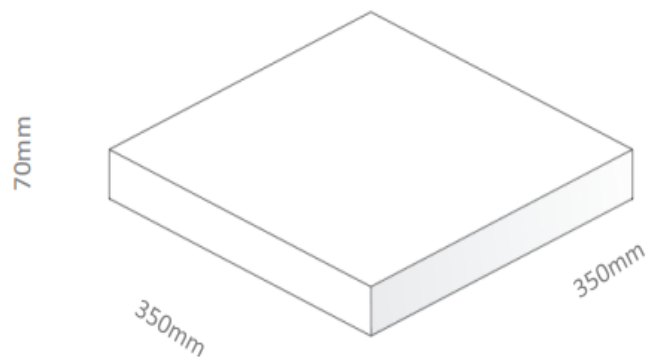
- Quantity of Package

Per plastic reel :4000 pcs

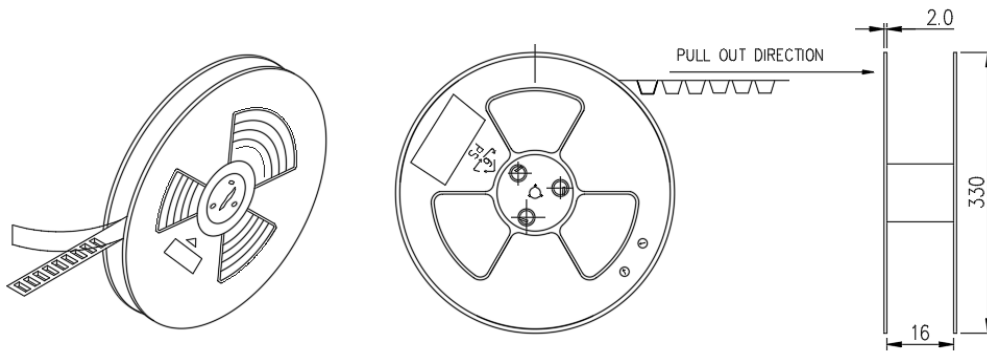
Per inner box:1 reel

Per package:5 inner boxes (20000 pcs)

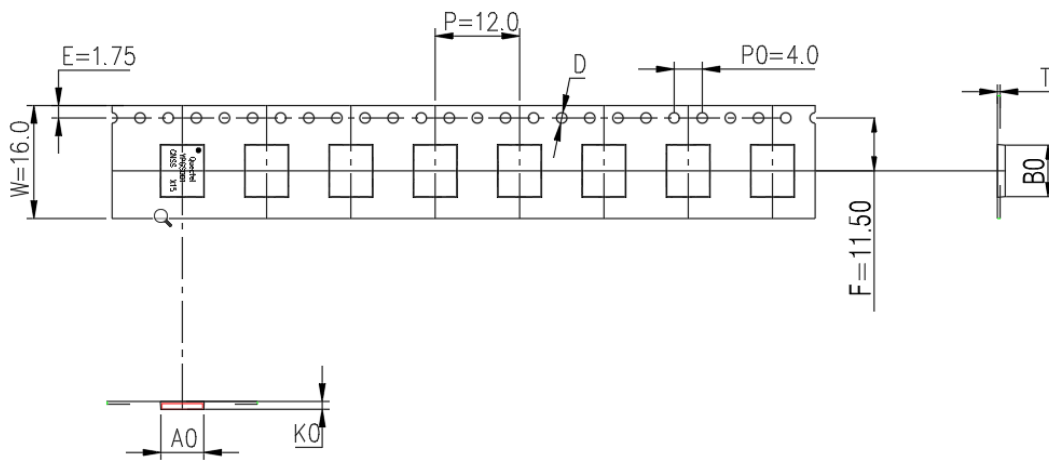
- Inner Box Dimensions



● Reel Dimensions



● Dimensions of Carrier Tape



ITEM	W	A ₀	B ₀	K ₀	P	F	E ₀	D	P ₀	T
DIM	16.00 ^{+0.30} _{-0.30}	6.10 ^{+0.10} _{-0.10}	7.30 ^{+0.10} _{-0.10}	1.10 ^{+0.10} _{-0.10}	12.0 ^{+0.10} _{-0.10}	11.50 ^{+0.15} _{-0.15}	1.75 ^{+0.10} _{-0.10}	1.50 ^{+0.10} _{-0.00}	4.00 ^{+0.10} _{-0.10}	0.30 ^{+0.05} _{-0.05}