

Antenna

YC0008AA Datasheet

Antenna Services

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Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

Or our local office. For more information, please visit:

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About the Document

Revision History

Version	Date	Author	Note
-	2020-12-15	Kenny YIN	Creation of the document
1.0	2020-12-15	Kenny YIN	First official release

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1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

2 Product Features

- GNSS
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	1173 MHz, 1575 MHz
Input Impedence	50 Ω
VSWR	≤ 2.5
Gain	≤ 2 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Size	30 (L) \times 5 (W) \times 5 (H) mm
Carrier	XHP-1002
Connector Type	SMD
Working Temperature	-45 $^{\circ}$ C to +80 $^{\circ}$ C
Radome Color	Black

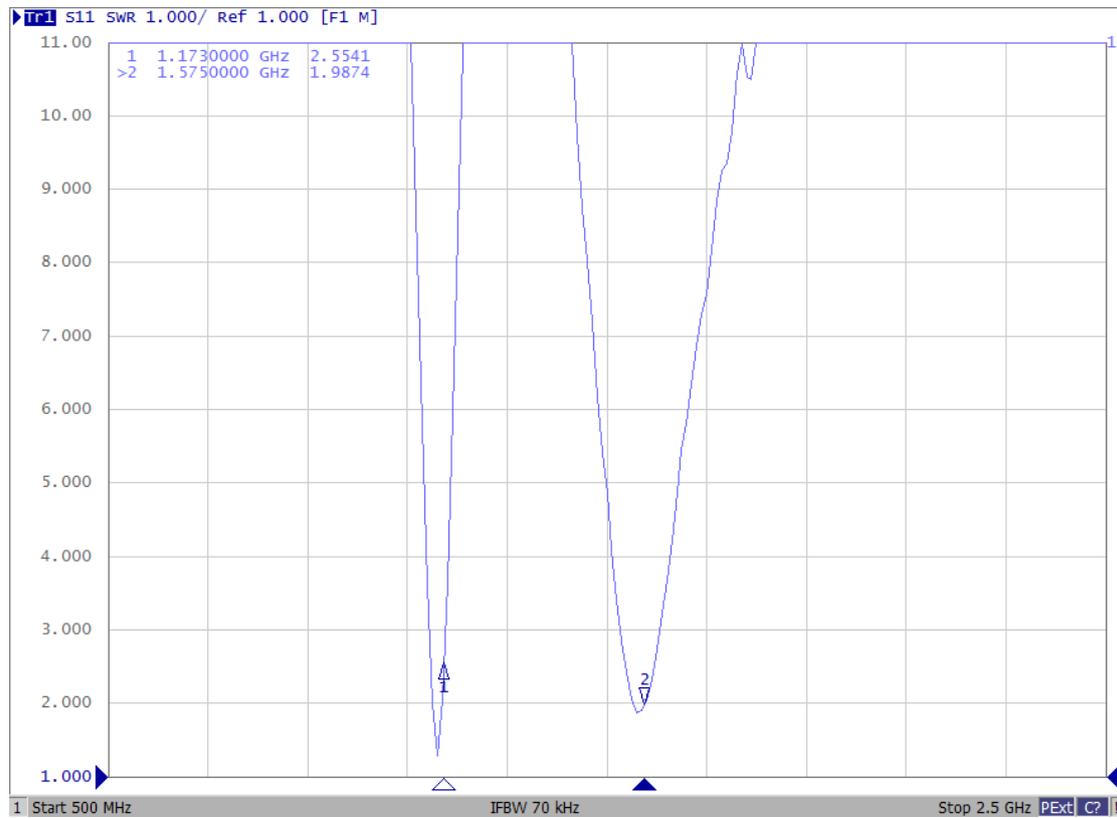
4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100KHz-6.5GHz
- RayZone®2800 Chamber 5G(FR1) SISO/MIMO, 400MHz-6.0GHz

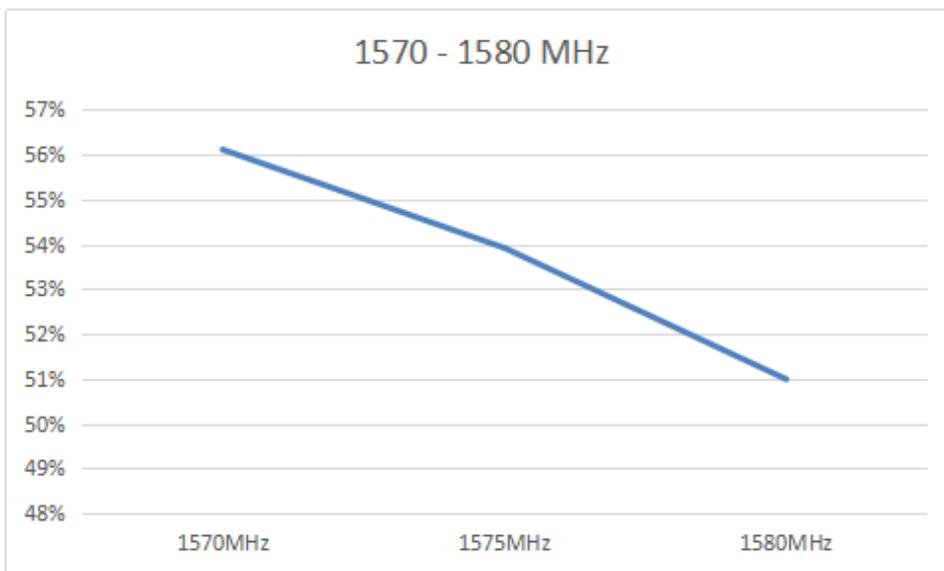
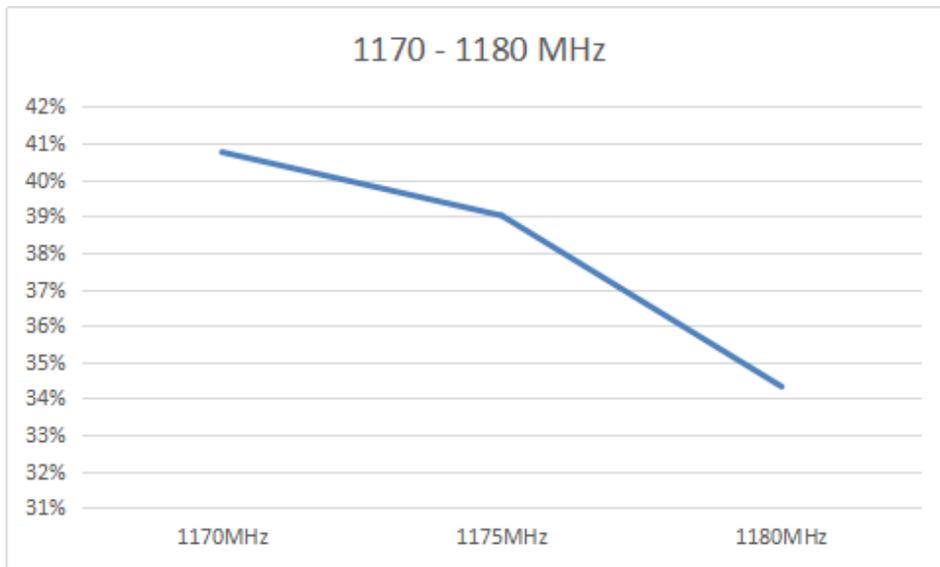


4.2. VSWR



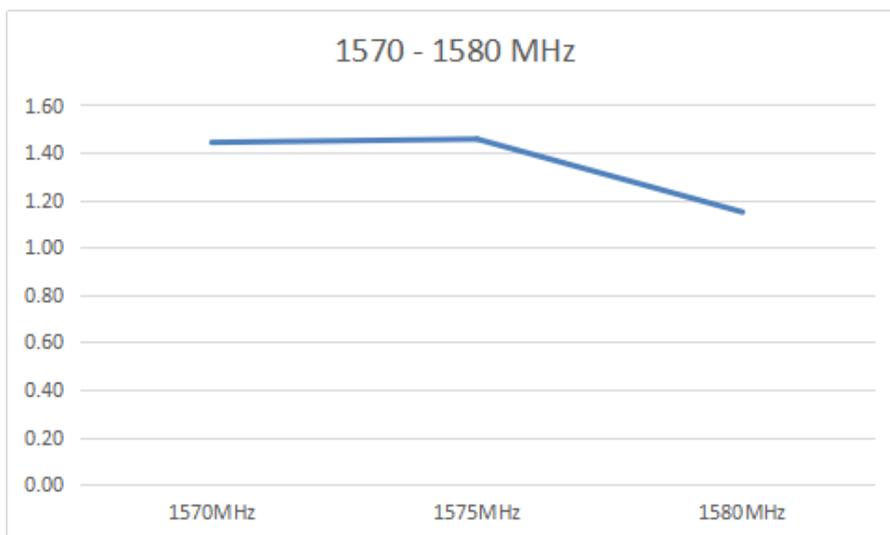
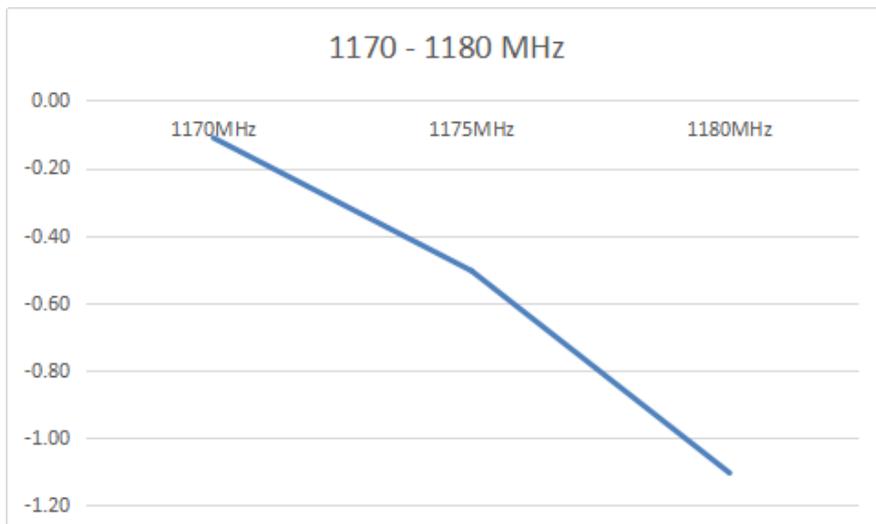
Frequency (MHz)	1173	1575
VSWR	2.5	1.9

4.3. Efficiency



Frequency (MHz)	1170	1175	1180	1570	1575	1580
Efficiency (%)	41%	39%	34%	56%	54%	51%

4.4. Gain



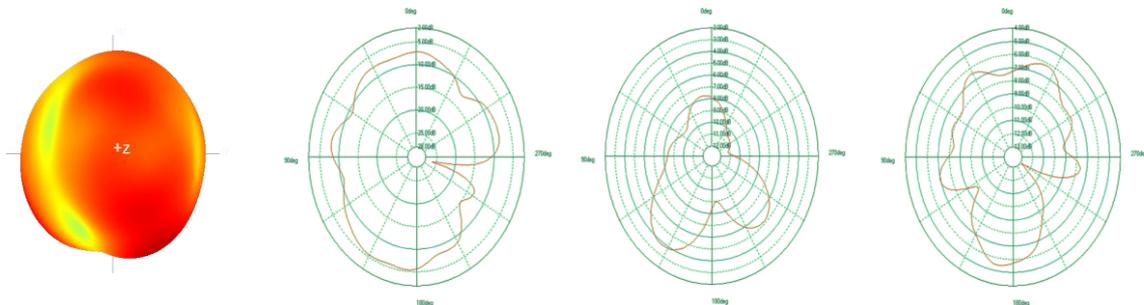
Frequency (MHz)	1170	1175	1180	1570	1575	1580
Gain (dBi)	-0.11	-0.51	-1.11	1.44	1.46	1.15

4.5. Radiation Patterns

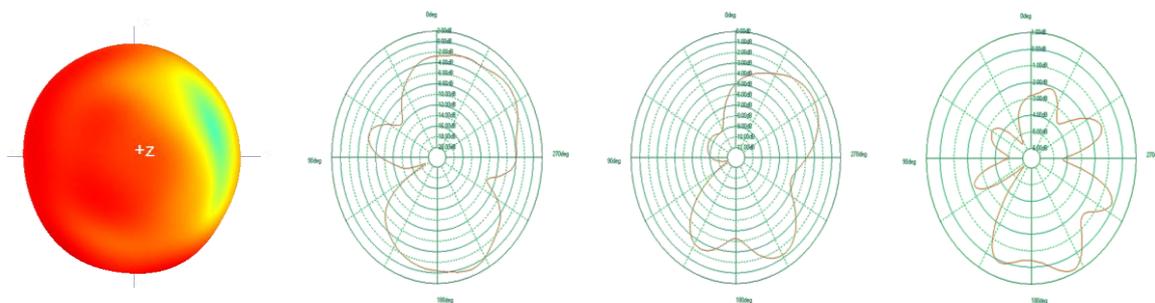
Board length 80 mm



1173MHz

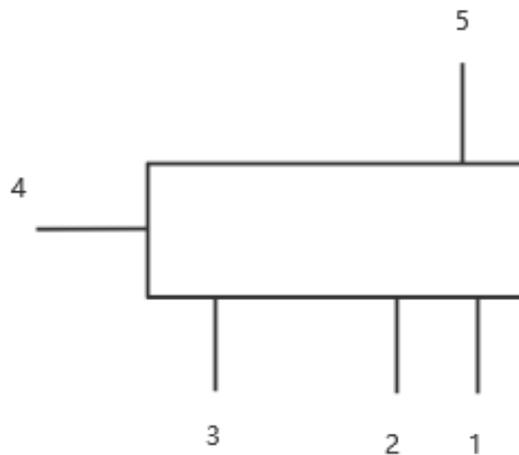


1575MHz



4.6. Schematic symbol and Pin definition

The pin assignment for the antenna are as follows. The antenna has 6 pins and only two work. All other pins are designed for mechanical strength.



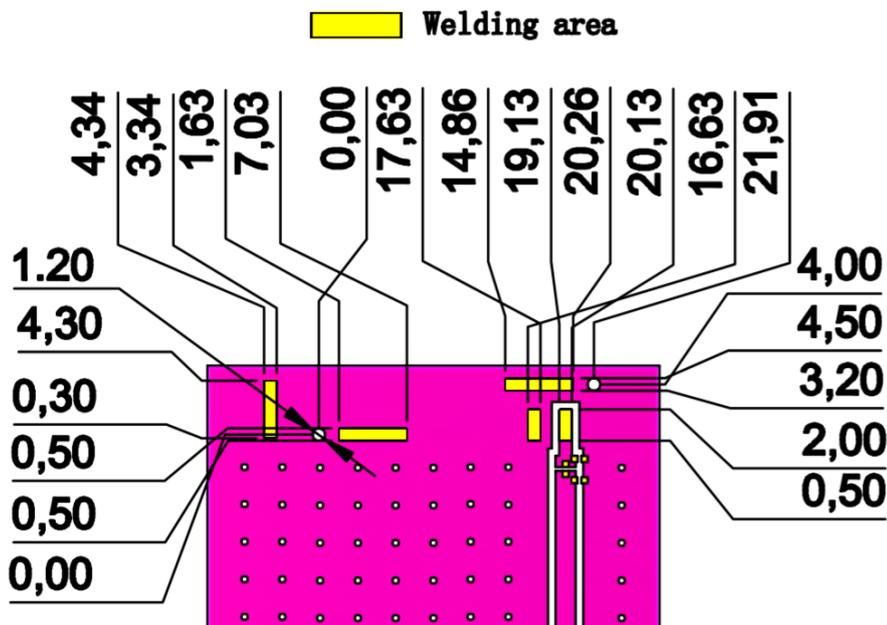
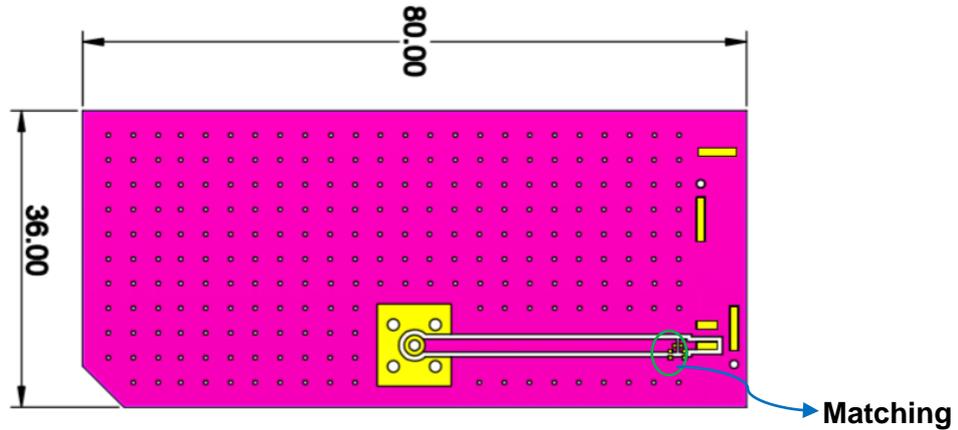
Pin No.	Description
1	Feed
2	Return/GND
3、4、5	Not used (Mechanical only)

4.7. Transmission Line

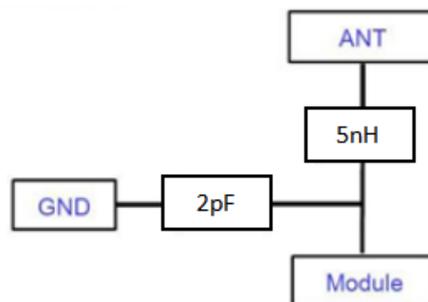
The characteristic impedance of all transmission lines shall be designed as 50 Ω .

- The length of the transmission lines should be kept to as short as possible
- Any other part of the RF system, such as transceiver, power amplifiers, etc., shall also be designed with an impedance of 50 Ω

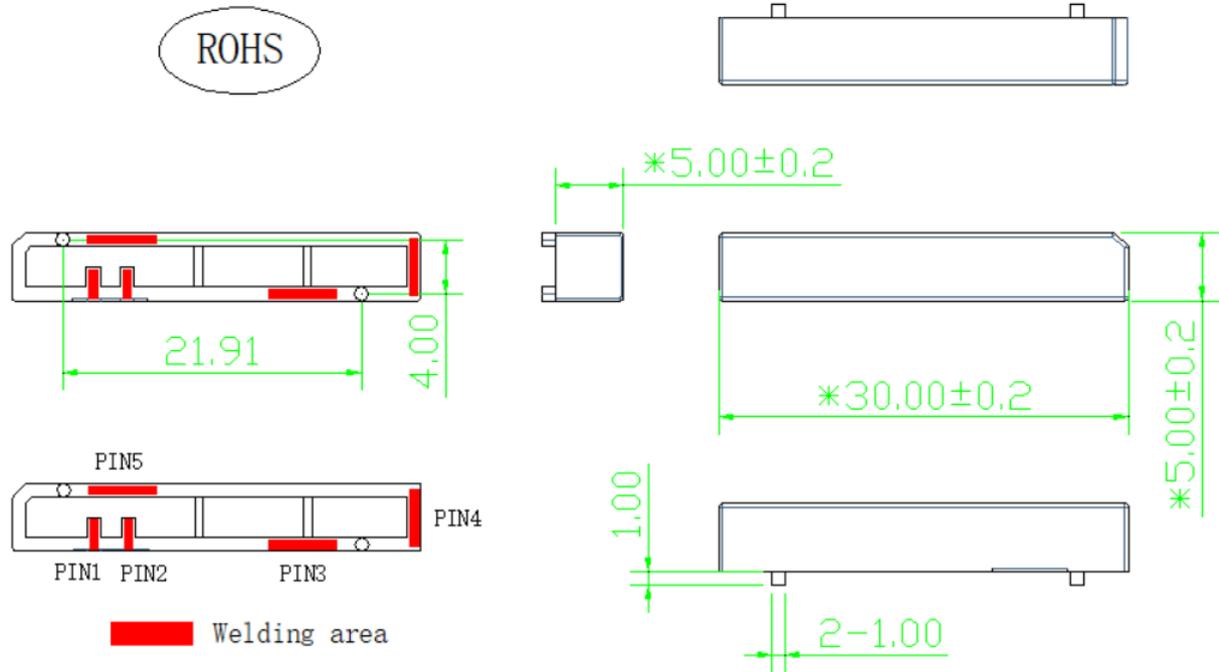
4.8. Reference PCB Design



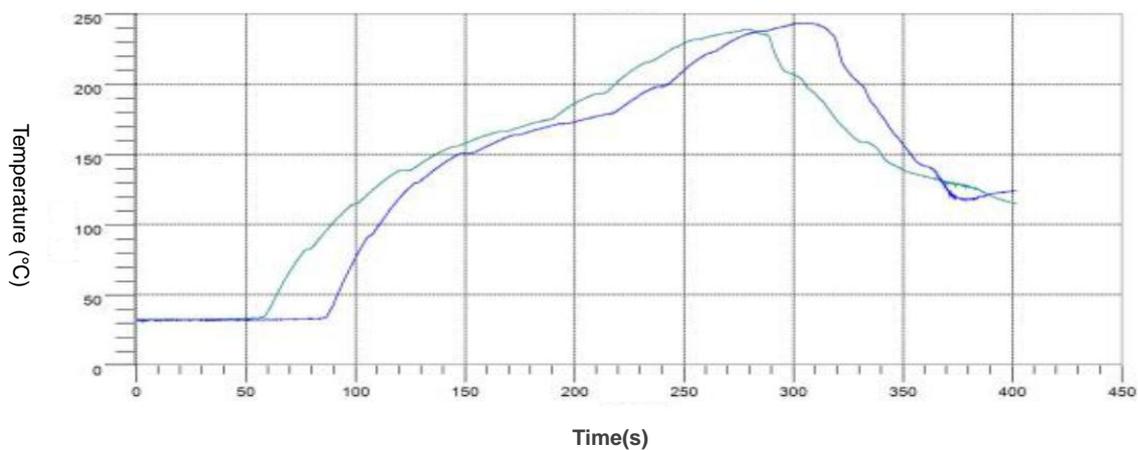
Matching circuit



5 Product Size



6 Reflow Profile

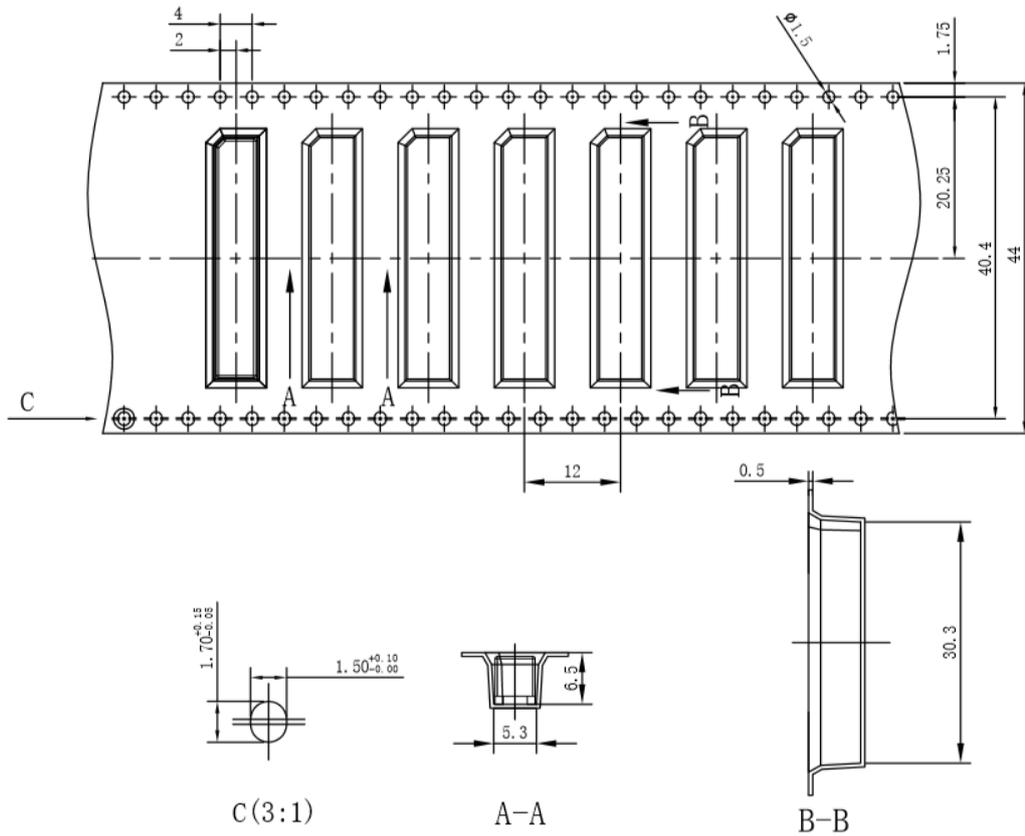


No	Probe name	150-190°C		>220°C	peak temperature°C
		60-110s	slope 0.0-3.0	40-90s	230-250°C
No.1	J1	67.9	0.59	52.4	239
No.2	J2	80.6	0.5	62.3	243.4

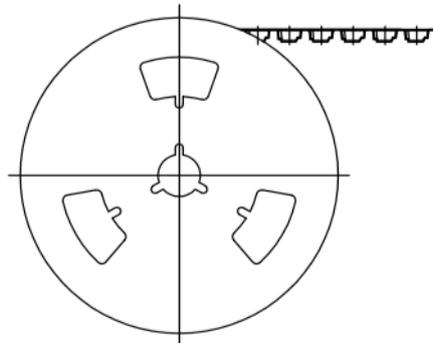
furnace parameter	1	2	3	4	5	6	7	8	9	10	11	12
Up Temperature zone	175.0	185.0	185.0	185.0	190.0	195.0	230.0	275.0	275.0	275.0		
Down Temperature zone	175.0	185.0	185.0	185.0	190.0	195.0	230.0	275.0	275.0	275.0		
Temperature zone length	0	0	0	0	0	0	0	0	0	0	0	0

7 Package

- Quantity/Reel: 800 pcs/reel
- Carrier tape dimensions



- Taping reel dimensions



330*100*44