Kinghelm®

Chip Antenna

For UWB

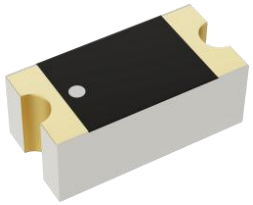
KH-3216-C32-UWB

3.2x1.6x1.2 mm

深圳市金航标电子有限公司

Applications

1. 6-9G device
2. Ch5&CH9 gadget
3. ISM band equipment
4. Small size



Features

1. Compact size
2. Omni-directional radiation
3. Tape & reel automatic mounting
4. Reflow process compatible
5. RoHS compliance (Pb-Free)

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.

Electrical Specification

Table 1. Electrical Specification

Item	Min.	Type	Max.	Unit
Frequency Range	6000		9000	MHz
VSWR	1.0		2.5	:1
Efficiency	63		80	%
Peak Gain		5.20		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

• Ta: +25±5°C

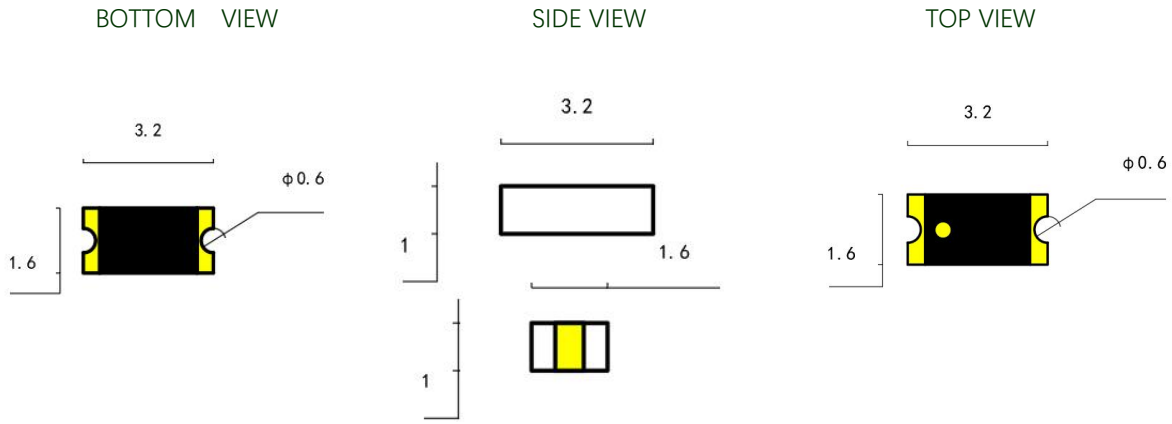
Mechanical Specification

Table 2. Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		3.2*1.6*1.2		Mm
Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

Outline Drawing

Figure 1. View (Unit: mm)



Recommend PCB Layout

Figure 2. PCB Layout (Unit: mm)

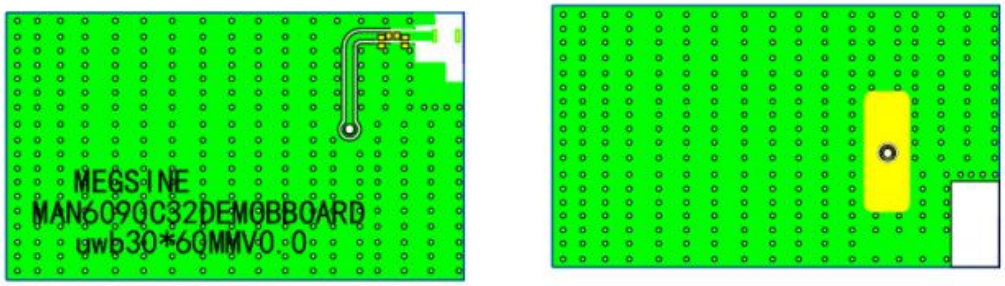


Figure 3. Antenna Layout (Unit: mm)

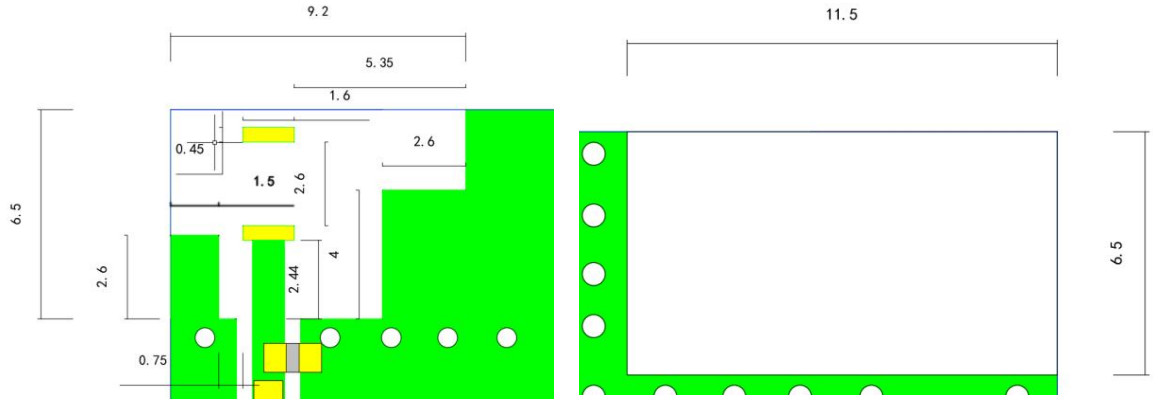


Figure 4. Matching Circuit (Unit: mm)

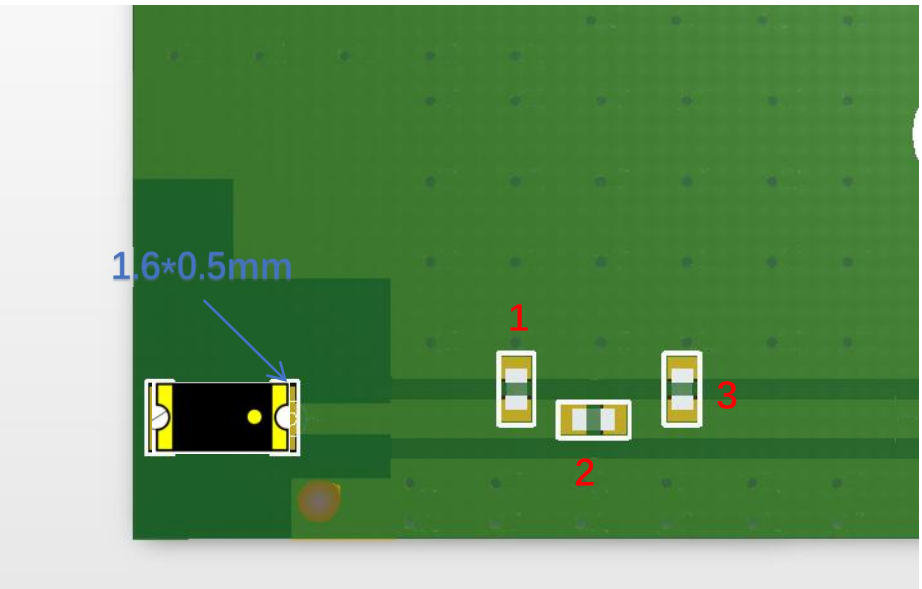


Table 3. Matching

Location	Description	Vendor
1	N/C	MURATA
2	3.3pf	MURATA
3	2.0nH	MURATA

Typical Performance

Figure 5. VSWR

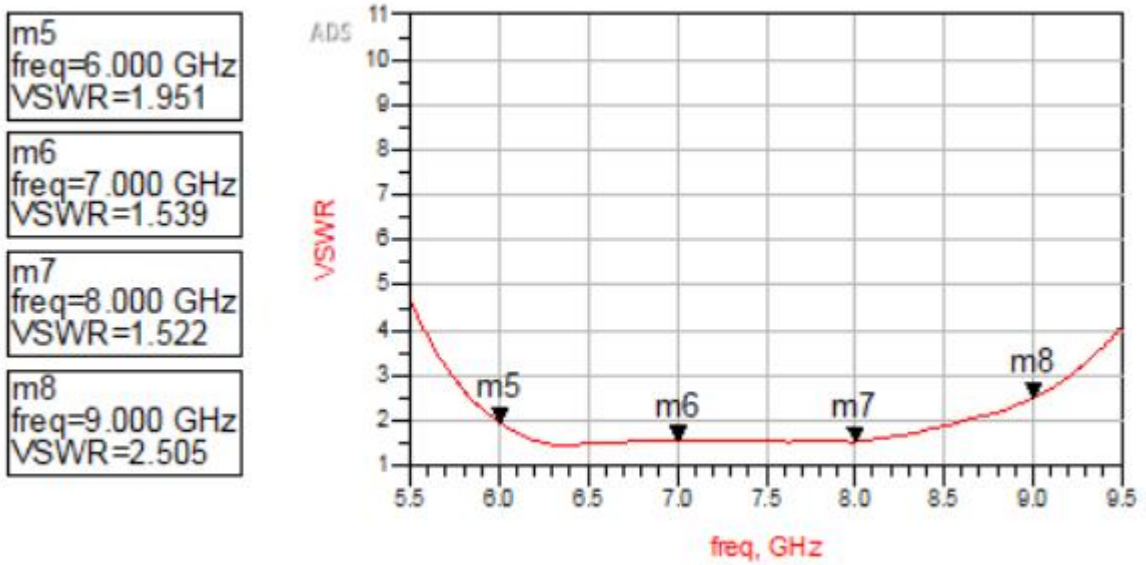
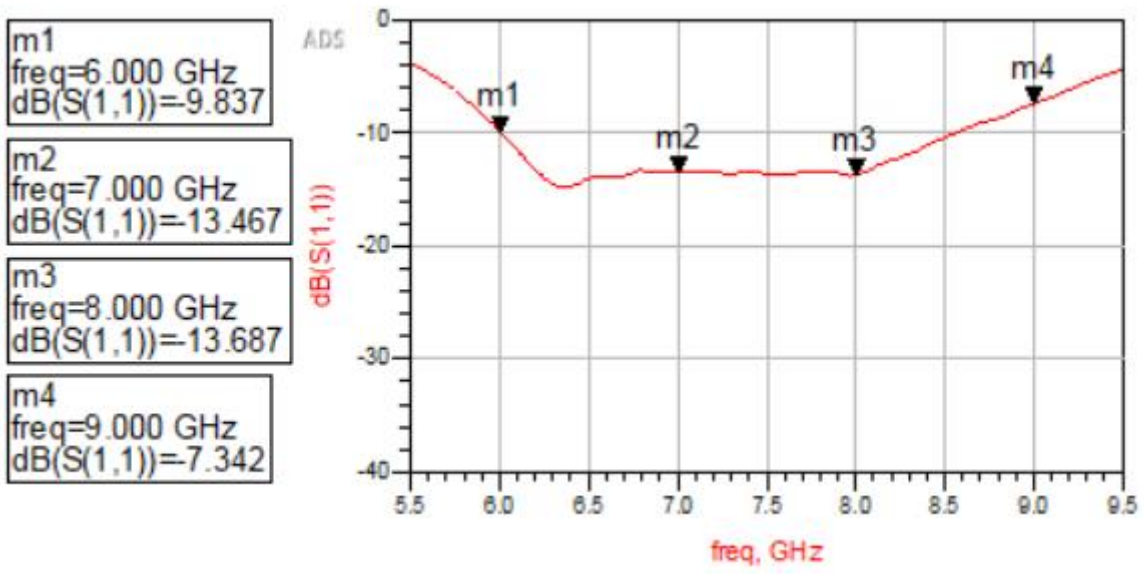


Figure 6. Return Loss



Radiation Pattern & Efficiency & Peak Gain

Figure 7. The Gain pattern is measured in FAR-field chamber

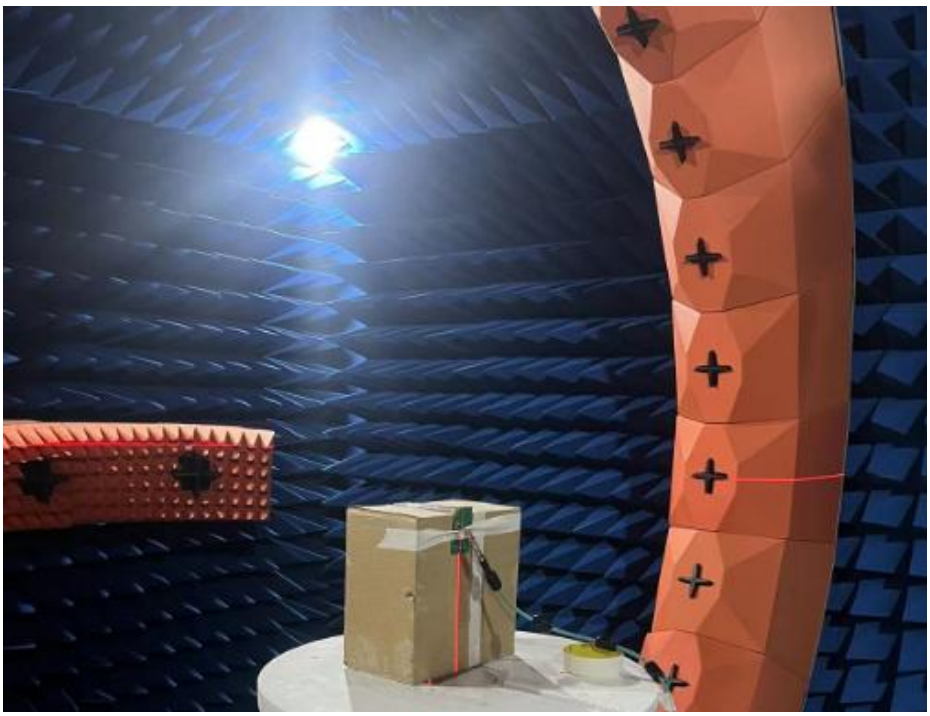


Table 4. Total Efficiency&Peak Gain

Item（MHz）	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)	Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
6000	69.98	3.57	-1.55	7300	77.27	3.8	-1.12
6050	75.34	4.39	-1.23	7350	77.62	3.28	-1.1
6100	74.82	4.1	-1.26	7400	73.96	3.38	-1.31
6150	74.64	4.09	-1.27	7450	80.72	4.43	-0.93
6200	77.98	4.41	-1.08	7500	80.54	4.1	-0.94
6250	81.85	4.73	-0.87	7550	77.27	4.13	-1.12
6300	80.72	4.7	-0.93	7600	76.91	4.32	-1.14
6350	76.03	4.03	-1.19	7650	77.8	4.71	-1.09
6400	77.98	3.88	-1.08	7700	77.8	4.39	-1.09
6450	79.07	4.21	-1.02	7750	78.52	4.42	-1.05
6500	74.47	3.82	-1.28	7800	78.7	4.23	-1.04
6550	77.45	4.41	-1.11	7850	79.25	4.25	-1.01
6600	75.51	4.09	-1.22	7900	78.52	4.62	-1.05
6650	74.82	4.19	-1.26	7950	83.18	5.2	-0.8
6700	73.11	4.05	-1.36	8000	79.25	4.27	-1.01
6750	72.11	3.87	-1.42	8050	75.11	3.78	-1.24
6800	72.44	3.84	-1.4	8100	72.01	3.83	-1.43
6850	71.94	3.51	-1.43	8150	71.8	3.66	-1.44
6900	66.99	3.21	-1.74	8200	70.8	2.59	-1.50
6950	74.3	4.24	-1.29	8250	67.54	3.02	-1.70
7000	71.12	3.95	-1.48	8300	67.69	3.53	-1.69
7050	76.21	4.2	-1.18	8350	65.43	2.94	-1.84
7100	76.56	3.99	-1.16	8400	64.32	3.06	-1.92
7150	73.96	3.57	-1.31	8450	63.20	2.96	-1.99
7200	75.51	4.31	-1.22	8500	63.06	2.53	-2.0
7250	76.38	4.76	-1.17				

Figure 8. Total Efficiency

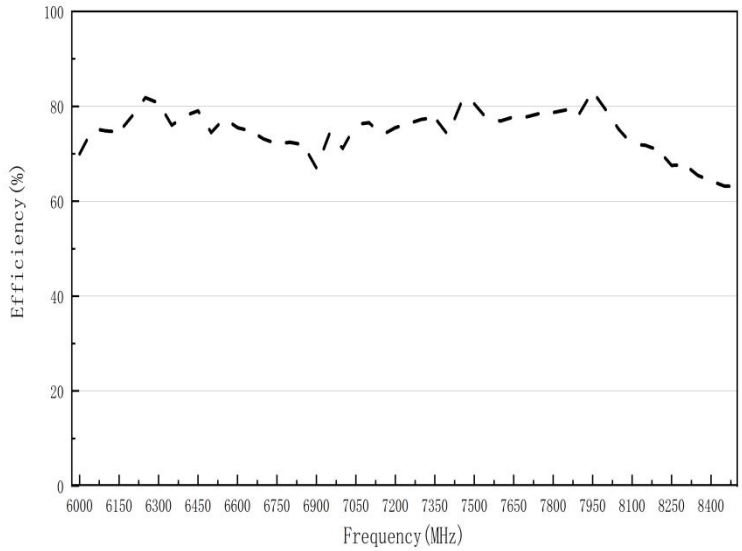


Figure 9. Peak Gain

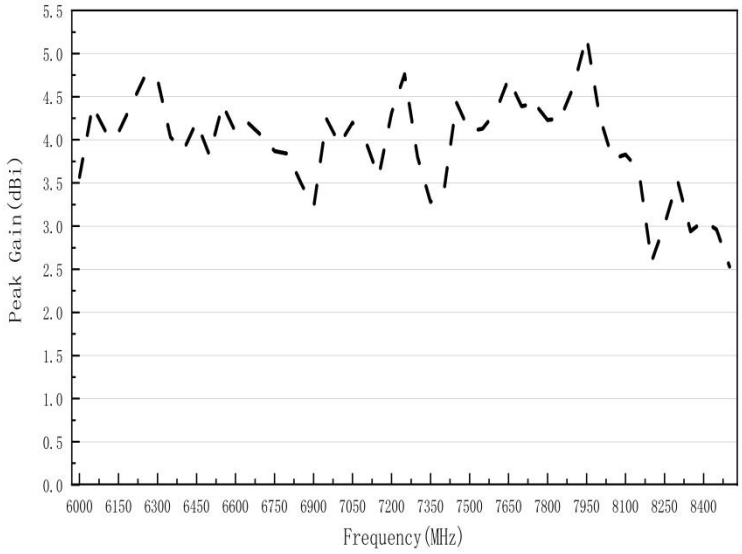
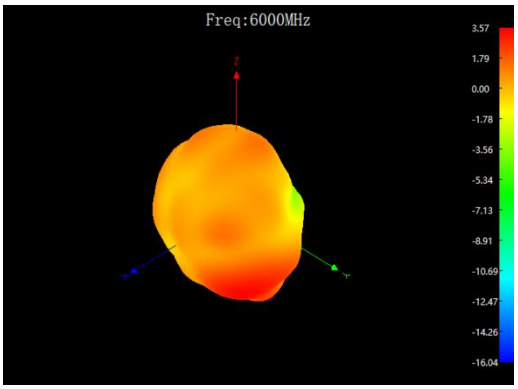
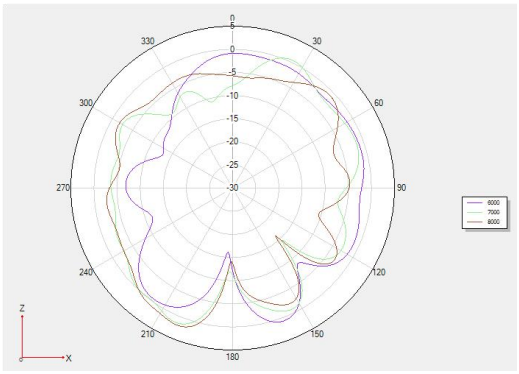
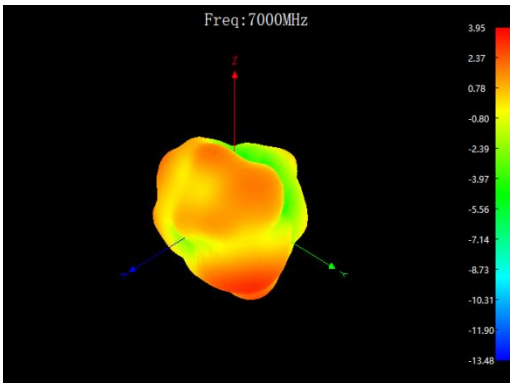
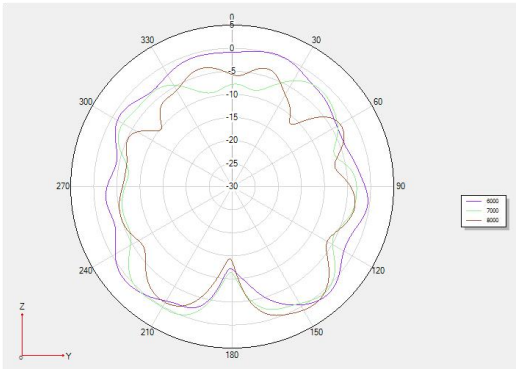
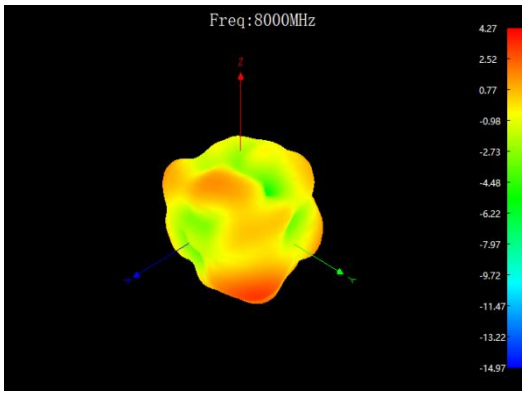
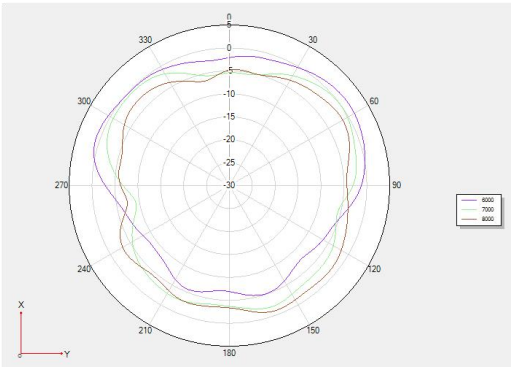


Figure 10. Radiation Pattern

*Antenna performance will also change in different environments, it is recommended to consult the relevant technical personnel before use to confirm the layout to ensure good performance.

Packaging and Ordering Information

Figure 11. Packaging Information

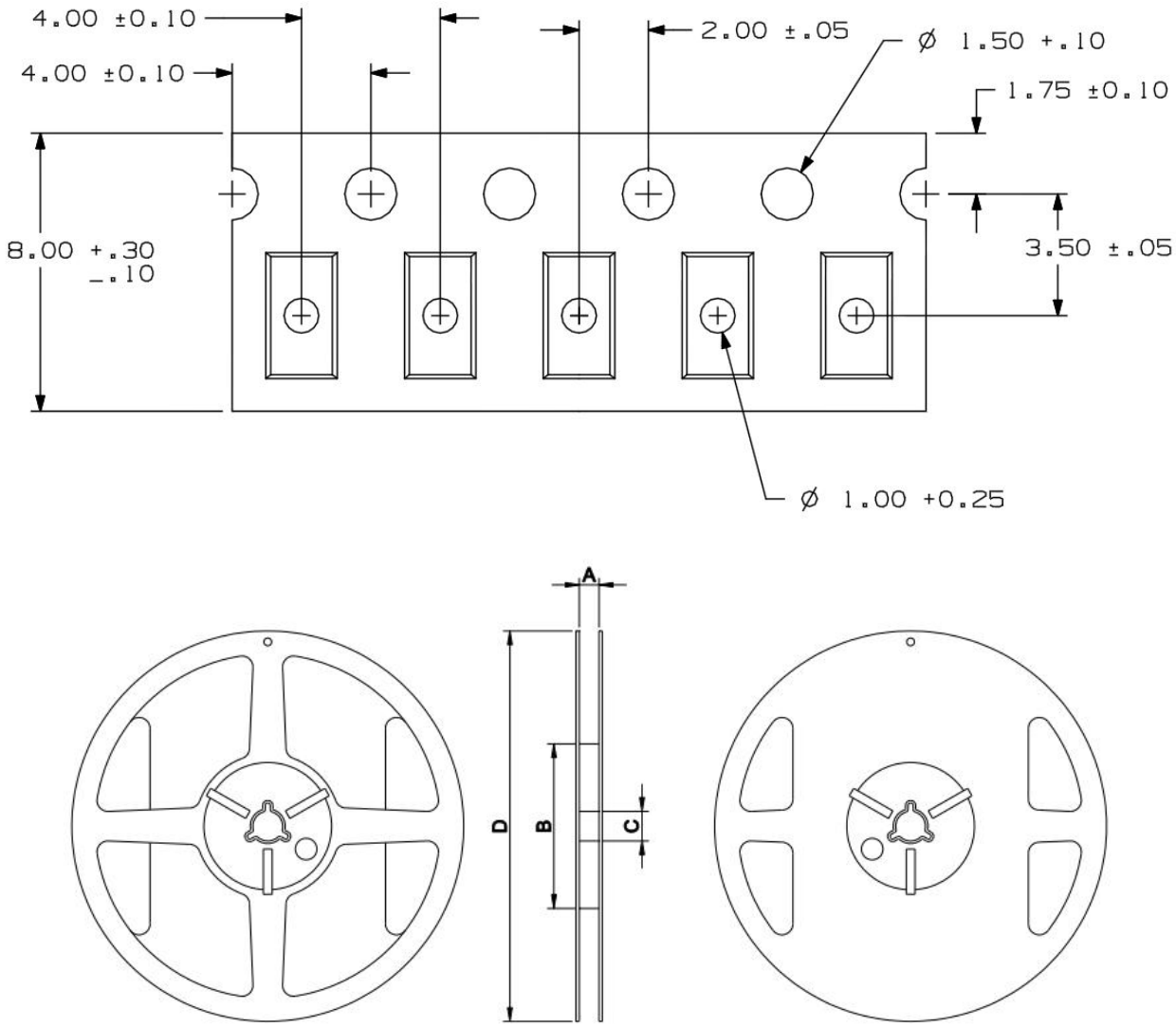


Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
	SMD	7”	3000/Reel

Revision	Description	Date
Rev0	Preliminary	2024/1/3