



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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Product Specification

Central Frequency*	2.45 GHz
Bandwidth	>100 MHz
Gain	1.2dBi max
VSWR	2.0 max
Polarization	Linear
Azimuth	Omni-directional
Impedance**	50Ω
Operating Temperature	-55~125 °C
Termination	Ni/Sn (Environment)
Resistance to soldering heat	260°C, 10 sec.
Maximum Power	1W



** Antenna is built-in internal impedance circuit and ground point can be grounded optionally for matching free purpose.

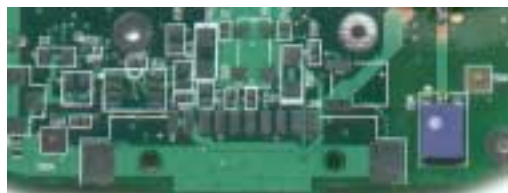
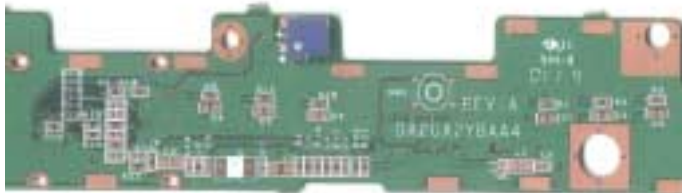
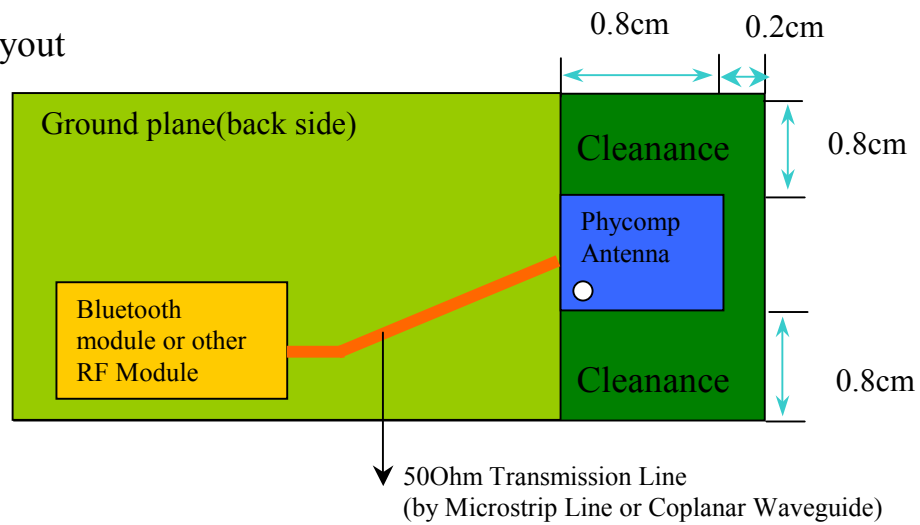


 *Special Environmental Concerns- Green Products Design: The foil making process is using environmentally-friendly aqueous solvent technology. Termination is lead free (Pb free) and packing materials can be re-cycled*

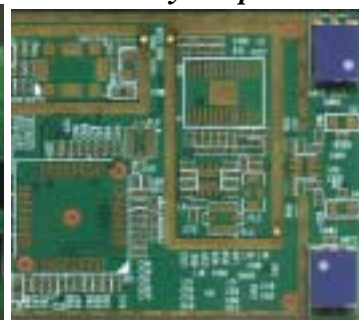
R&D	Print date 01/12/13			Preliminary use only				
	Multilayer Ceramic Antenna for Bluetooth (ISM Band 2.45GHz)			4311 111 00245/260/270 4312 111 00245/260/270			2001-2-22	
							2001-6-19	
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APPLICATION

Suggested Layout



Bluetooth Notebooks and PDAs with Phycomp Antenna



IEEE 802.11b WLAN Cards with Phycomp Antenna

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DIMENSIONAL DATA

Figure	Dimension	Port
	L	7.35±0.25 mm
	W	5.5±0.2 mm
	T	1.3±0.2 mm
	F	0.9±0.25 mm
	G	1.25±0.35 mm
	C	0.5±0.3 mm
	S1	1.25±0.35 mm
	S2	1.25±0.35 mm
	S3	0.9±0.25 mm
	S4	1.25±0.35 mm
		Feed Termination
		Ground Termination (<u>Optional*</u>)

* Antenna has a built-in circuit at Ground Termination. However, Ground Termination is optional if good matching is attainable. If good matching is attainable during application, Ground Termination can be used as NC Solder Termination.

SOLDER LAND PATTERN

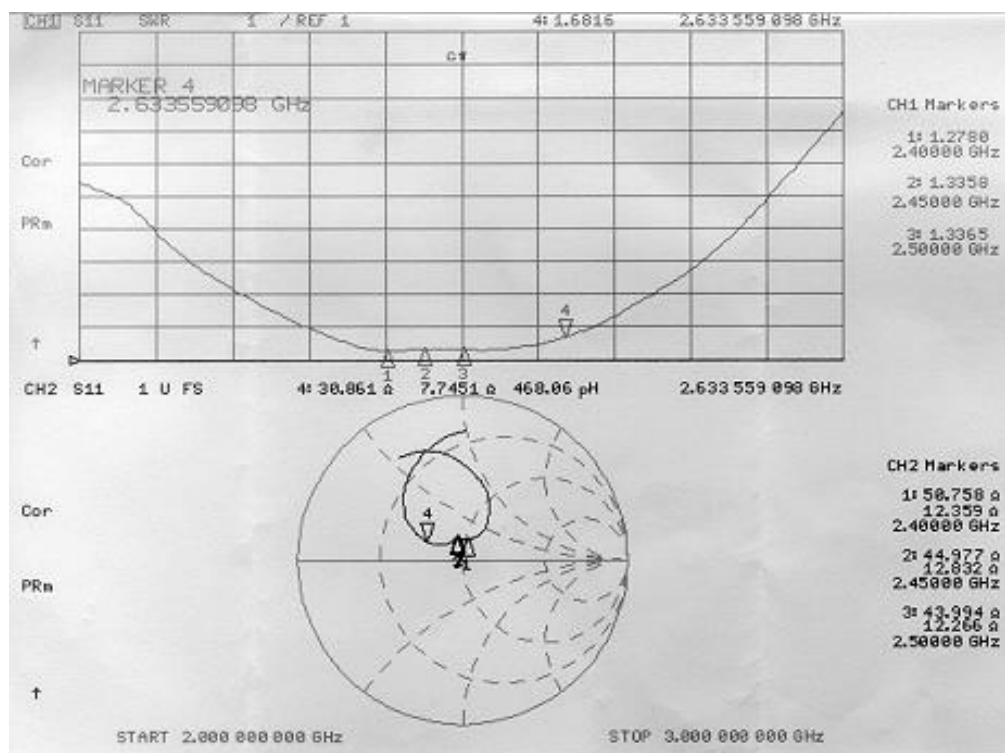
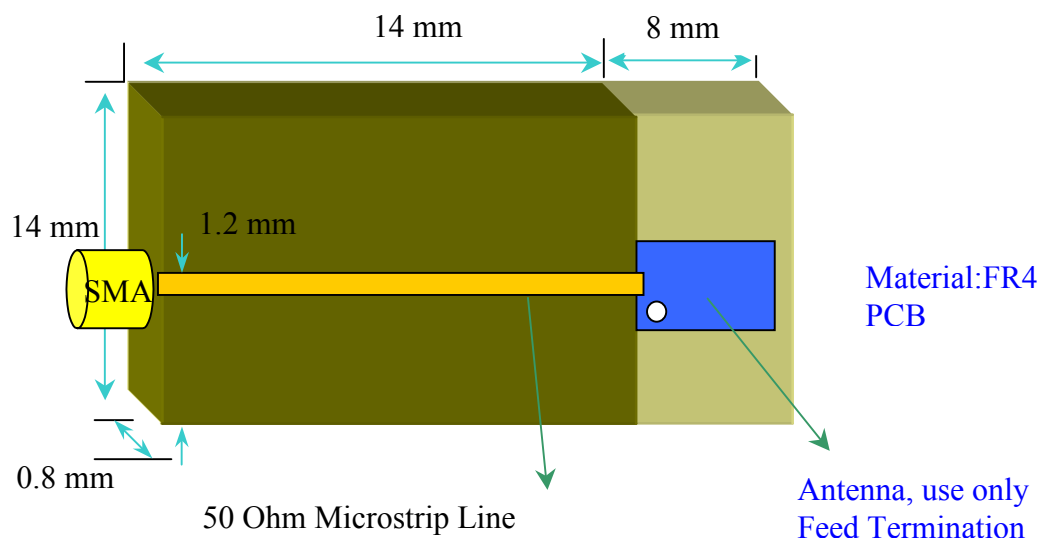
Figure	Dimensions	Remark
	L	8.30 ± 0.10 mm
	W	5.70 ± 0.10 mm
	F	1.00 ± 0.10 mm
	G	1.40 ± 0.10 mm
	C	0.90 ± 0.10 mm
	S1	1.40 ± 0.10 mm
	S2	1.40 ± 0.10 mm
	S3	1.00 ± 0.10 mm
	S4	1.40 ± 0.10 mm

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Central Frequency	2.45 GHz
Bandwidth	100 MHz
Gain	0 ~ 1.2dBi
VSWR	2.0 max
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Impedance	50Ω
Operating Temperature	-55~125 °C
Termination	Ni/Sn (Environmental Friendly Leadless)
Resistance to soldering heat	260°C, 10 sec.
Maximum Power	1W

H Plane

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IEC 384-10/ CECC 32 100 CLAUSE	IEC 60068-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
4.4		Mounting	The antenna can be mounted on printed-circuit boards or ceramic substrates by applying wave soldering, reflow soldering (including vapour phase soldering) or conductive adhesive	No visible damage
4.5		Visual inspection and dimension check	Any applicable method using $\times 10$ magnification	In accordance with specification (chip off 4mm)
4.6.1		Antenna	Frequency = 2.45 GHz; at 20 °C	Standard test board in page 4
4.8		Adhesion	A force of 5 N applied for 10 s to the line joining the terminations and in a plane parallel to the substrate	No visible damage
4.9		Bond strength of plating on end face	Mounted in accordance with CECC 32 100, paragraph 4.4	No visible damage
			Conditions: bending 1mm at a rate of 1mm/s, radius jig. 340 mm, 2mm warp on FR4 board of 90 mm length	No visible damage

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IEC 384-10/ CECC 32 100 CLAUSE	IEC 60068-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
4.10	20(Tb)	Resistance to soldering heat	260 ± 5 °C for 10 ± 0.5 s in a static solder bath	The terminations shall be well tinned after recovery and Central Freq. Change $\pm 6\%$
		Resistance to leaching	260 ± 5 °C for 30 ± 1 s in a static solder bath	Using visual enlargement of $\times 10$, dissolution of the termination shall not exceed 10%
4.11	20(Ta)	Solderability	Zero hour test, and test after storage (20 to 24 months) in original atmosphere; un-mounted chips completely immersed for 2 ± 0.5 s in 235 ± 5 °C.	The termination must be well tinned, at least 75% is well tinned at termination
4.12	4(Na)	Rapid change of temperature	-55 °C (30 minutes) to +125 °C (30 minutes); 100 cycles	No visible damage Central Freq. Change $\pm 6\%$
4.14	3(Ca)	Damp heat	500 ± 12 hours at 60 °C; 90 to 95 % RH	No visible damage 2 hours recovery Central Freq. Change $\pm 6\%$
4.15		Endurance	500 ± 12 hours at 125 °C;	No visible damage 2 hours recovery Central Freq. Change $\pm 6\%$

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ORDERING INFORMATION: Method I- by 12NC Ordering Code

The antennas may be ordered by using the 12 NC ordering code. These code numbers can be determined by the following rules:

43 11 00 245
F C M S T A

F. Family Code

43 = Antenna

C. Packing Type Code

11 = 180 mm/ 7" blister (1000pcs) , **12** = 330 mm/13" blister (4000 pcs)

13 = Bulk (1000 pcs)

M. Materials Code

1 = High Frequency Material

S. Size Code

11 = 7.35 * 5.5 * 1.3 mm

T. Tolerance

00 = 100 M Hz Band Width

A. Working Frequency (three types of antenna are available)

245 = 2.45 GHz

Type 245

260 = (2.45+0.15) GHz * Intention for shift up 150MHz

Type 260

270 = (2.45+0.25) GHz * Intention for shift up 250MHz

Type 270

Example: 12NC

4311 111 00245

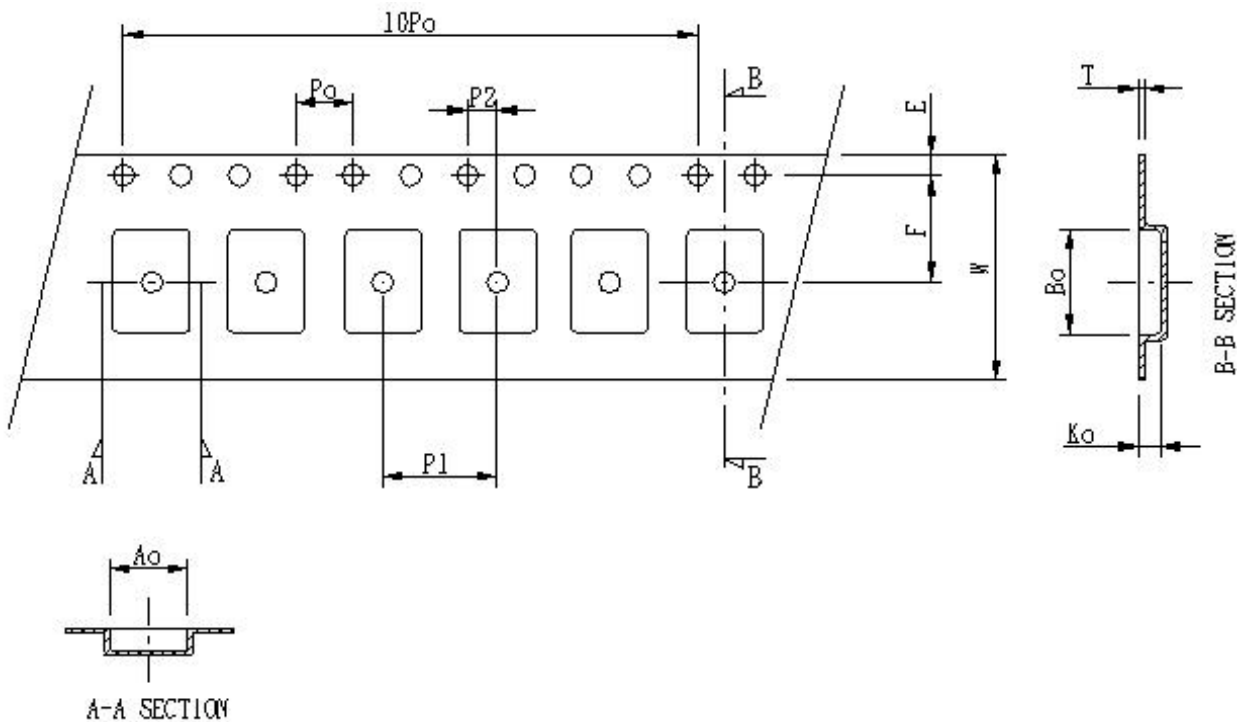
Product description: Antenna (43) by 180 mm blister (11) of High Frequency Material (1), Size 7.35*5.5*1.3 mm (1);
Tolerance (00) of 100 MHz (VSWR<2)
Working Frequency (245) = 2.45G Hz

ORDERING INFORMATION: Method II- by Clear Text Code

The antennas may be ordered by using the 16-digit clear text ordering code. These code numbers can be determined by the following rules:

AN2450000707051K (Clear Text Code Example)						
AN	2450	00	07	0705	1	K
Product	Central Freq.	Bandwidth	Material	Size	Quantities	Packing
AN= Antenna	2450=2.45GHz 2600=2.60GHz 2700=2.70GHz	00= >100MHz	07=K7	0705=07*05*1.3 mm	1 = 1K 4 = 4K	K=7" plastic F =13" plastic B = Bulk

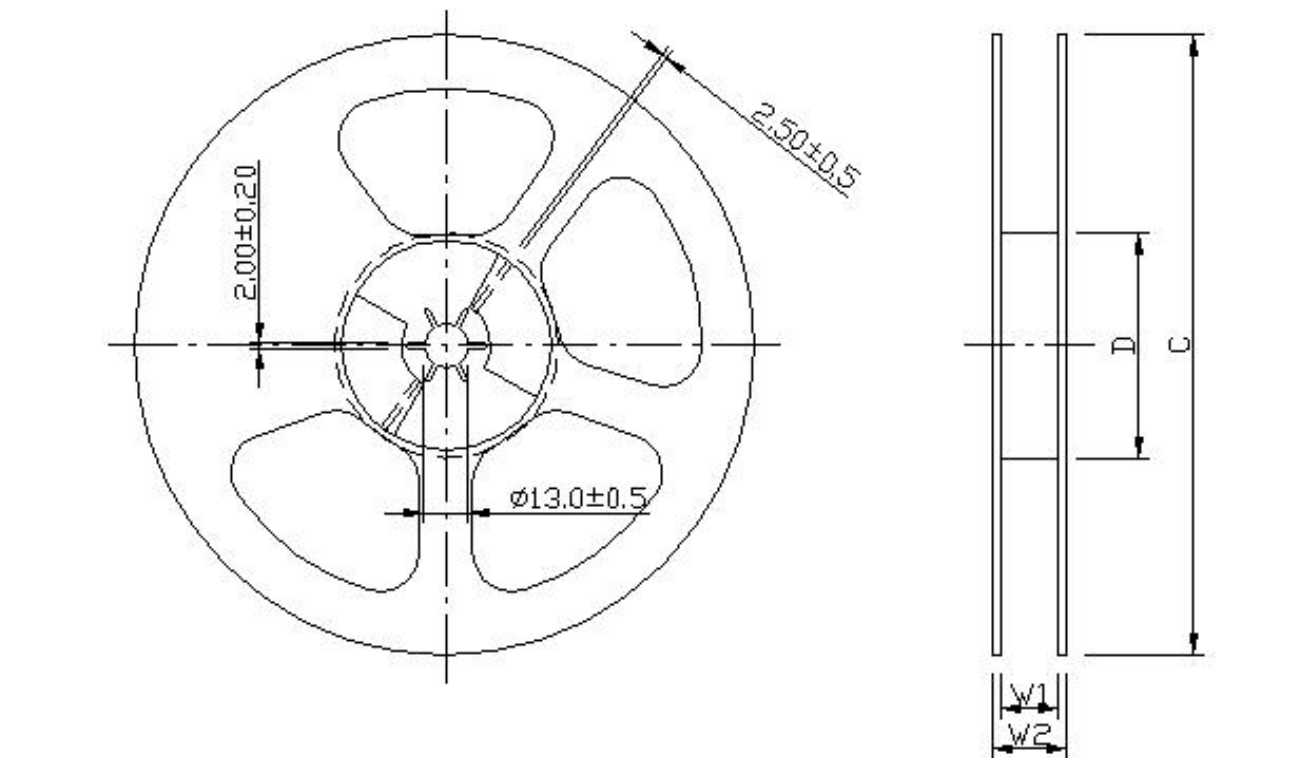
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	Multilayer Ceramic Antenna for Bluetooth (ISM Band 2.45GHz)		4311 111 00245/260/270 4312 111 00245/260/270		2001-2-22	
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DIMENSION:

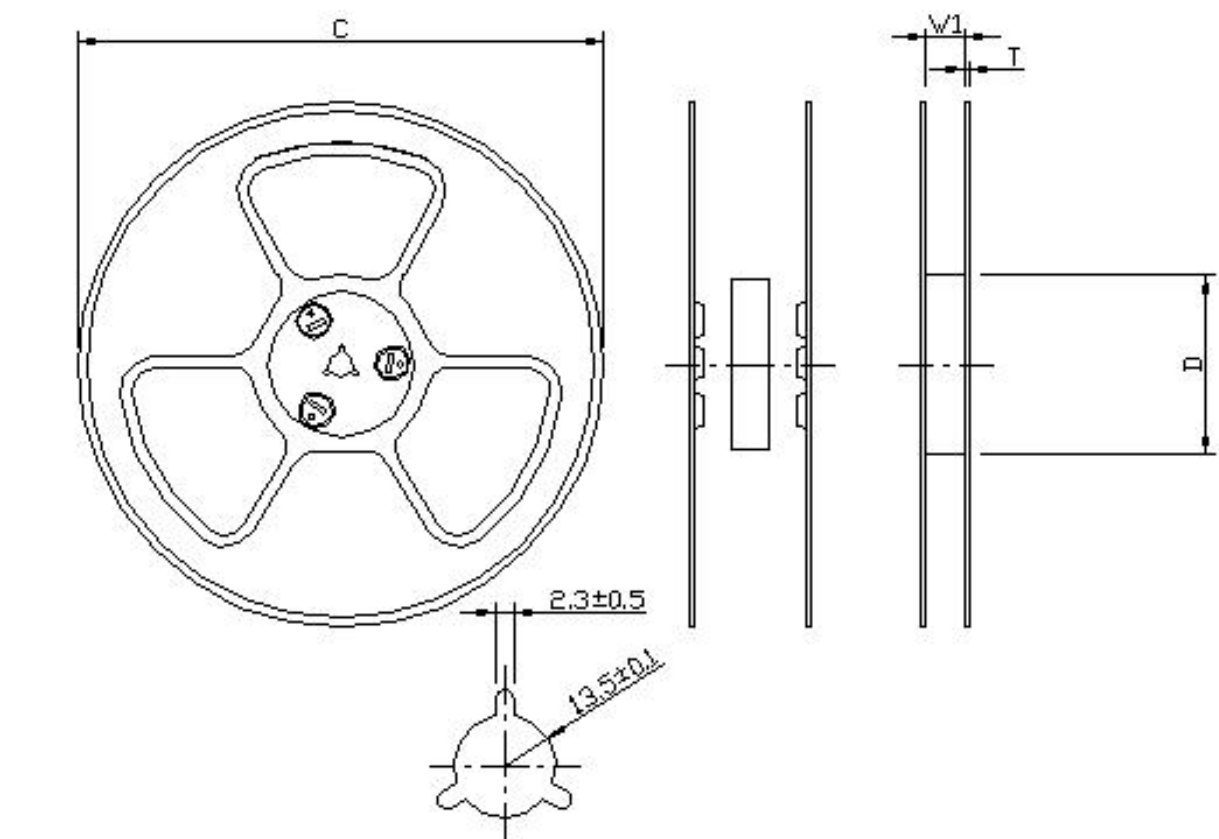
Serial no	Cecking note	Index	Spec(mm)
1	Sprocket hole	Do	1.55±0.10
2	Pocket hole	D1	1.50±0.10
3	Distance sprocket hole/sprocket hole	Po	4.0±0.10
4	Distance pocket/pocket	P1	8.0±0.10
5	Distance sprocket hole/pocket	P2	2.0±0.10
6	Tape width	W	16.0±0.30
7	Distance sprocket hole/outside	E	1.75±0.10
8	Distance sprocket hole/pocket	F	7.50±0.10
9	Pocket length	Ao	5.85±0.10
10	Pocket length	Bo	7.60±0.10
11	Pocket depth	Ko	1.70±0.10
12	Thickness of tape	T	0.30±0.10
13	10x sprocket hole pitch	10Po	40.0±0.10

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Product size code	Units per Reel	Tape Width (mm)	C (mm)	D (mm)	W ₁ (mm)	W ₂ (mm)
Antenna	1000	16	180.0±1.0	62±0.5	16.0 ⁺¹ ₋₀	20.5±0.2

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Product size code	Units per Reel	Tape Width (mm)	C (mm)	D (mm)	W ₁ (mm)	T (mm)
Antenna	4000	16	330±0.10	100±0.1	16.5±0.10	2.3±0.1

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