ANTENNA PRODUCTS

DATA SHEET

5320 Ceramic Chip Antenna for IEEE 802.11 b/g & Bluetooth Application

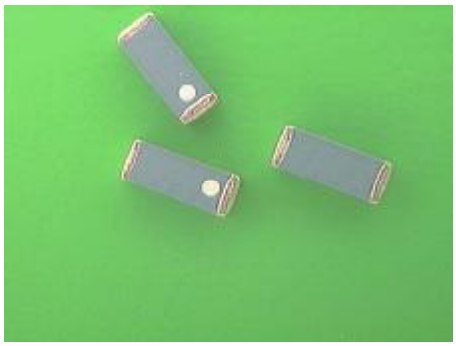
March, 2007 Rev.2

R&D								
	5320 Ceramic Chip Antenna for WLAN & Bluetooth Application			**CAN4311153002xx1K**			July,2006	
							March, 2007	
Justin Liu	C.T.Lee	March, 2007		Page 1	sheet 190-1			A4
spec.doc	Yageo Taiwan							

5320 Ceramic Chip Antenna for IEEE802.11 b/g & Bluetooth Application

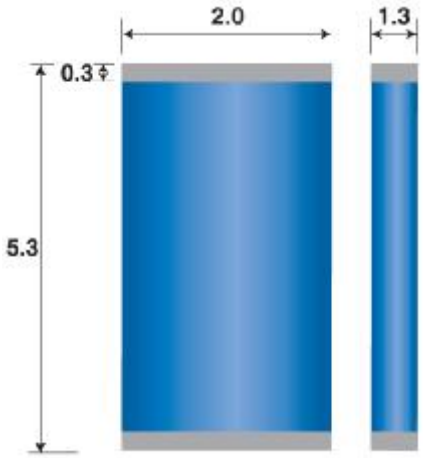
Quick Reference Data

Central Frequency	2.45GHz*[1]
Bandwidth	at least 200 MHz*[2]
VSWR	2.0 (Max.)*[2]
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Peak Gain	5.5 dBi*[2]
Impedance	50Ω
Operating Temperature	-25~85 ^{o}C
Termination	Ni / Sn (Environmentally-Friendly Leadless)
Resistance to soldering heats	260℃ , 10sec.
Maximum Power	1W



[1] All the technical data and information contained herein are subject to change without prior notice
[2] Testing under evaluation board of page2

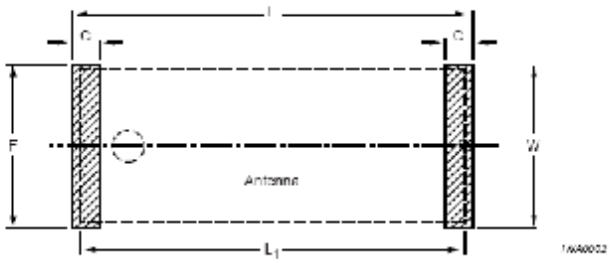
1. Mechanical Data (5.3 x 2.0x 1.3mm³)



Unit: mm

2. Dimension of Footprint

FOOTPRINT DIMENSIONS



For dimensions see Table 2.

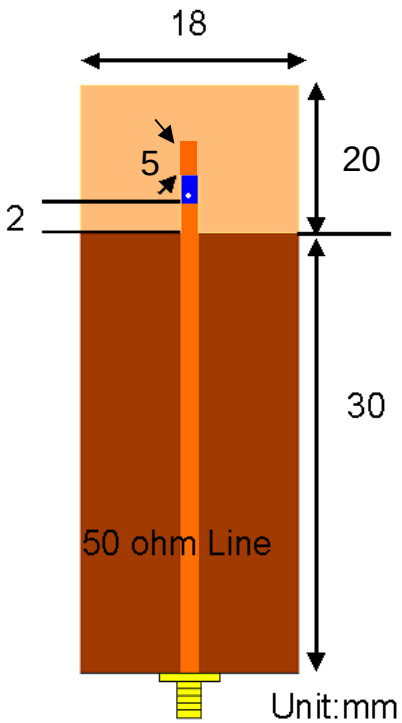
Fig.2. Recommend dimensions of solder

Physical dimensions

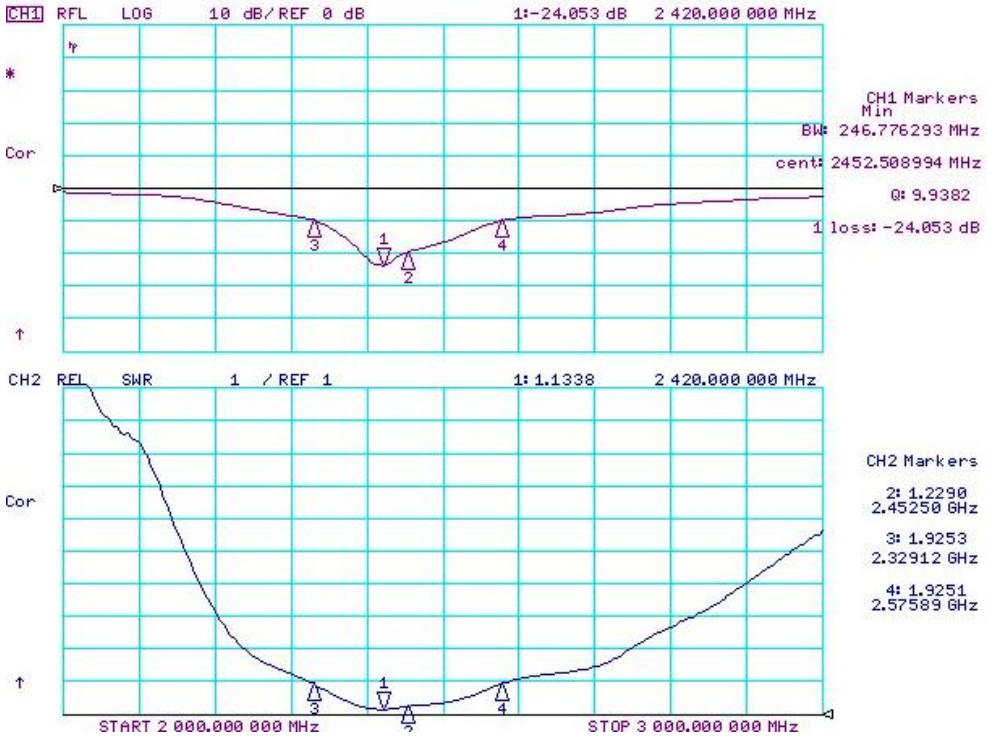
Table 2 The dimensions of antenna appearance

SYMBOL	DETAILS	DIMENSIONS (mm)
L		5.3 ±0.2
W	–	2.0 +0.2
I	feed pad	2.2 ±0.2
C	–	0.5 +0.25
L1	–	5.3 ±0.5

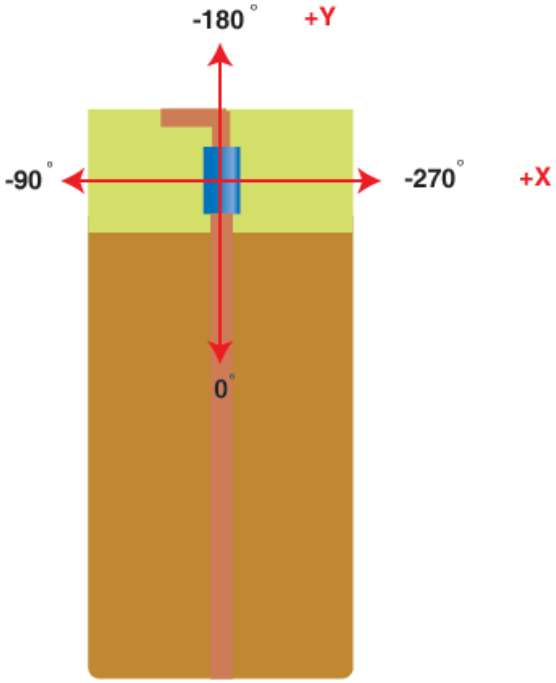
3. Evaluation Board Dimension and Outlook



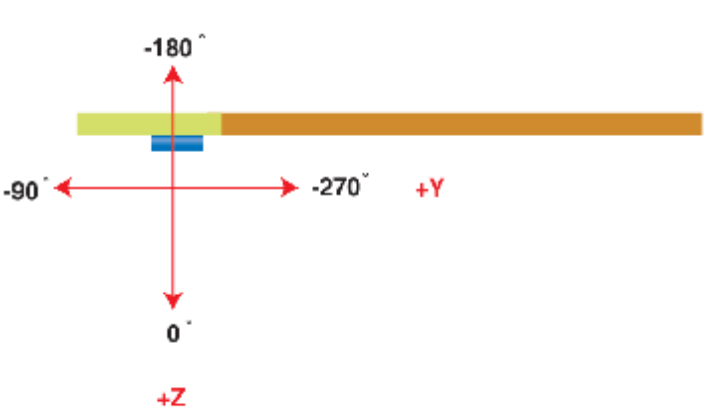
4. Return Loss



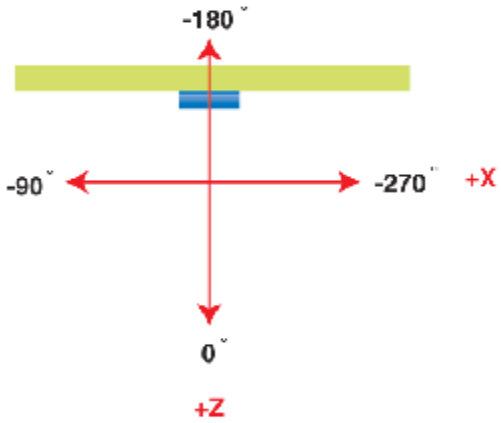
5. The Definition of X-Y-Z Plane and Angle



XY Plane

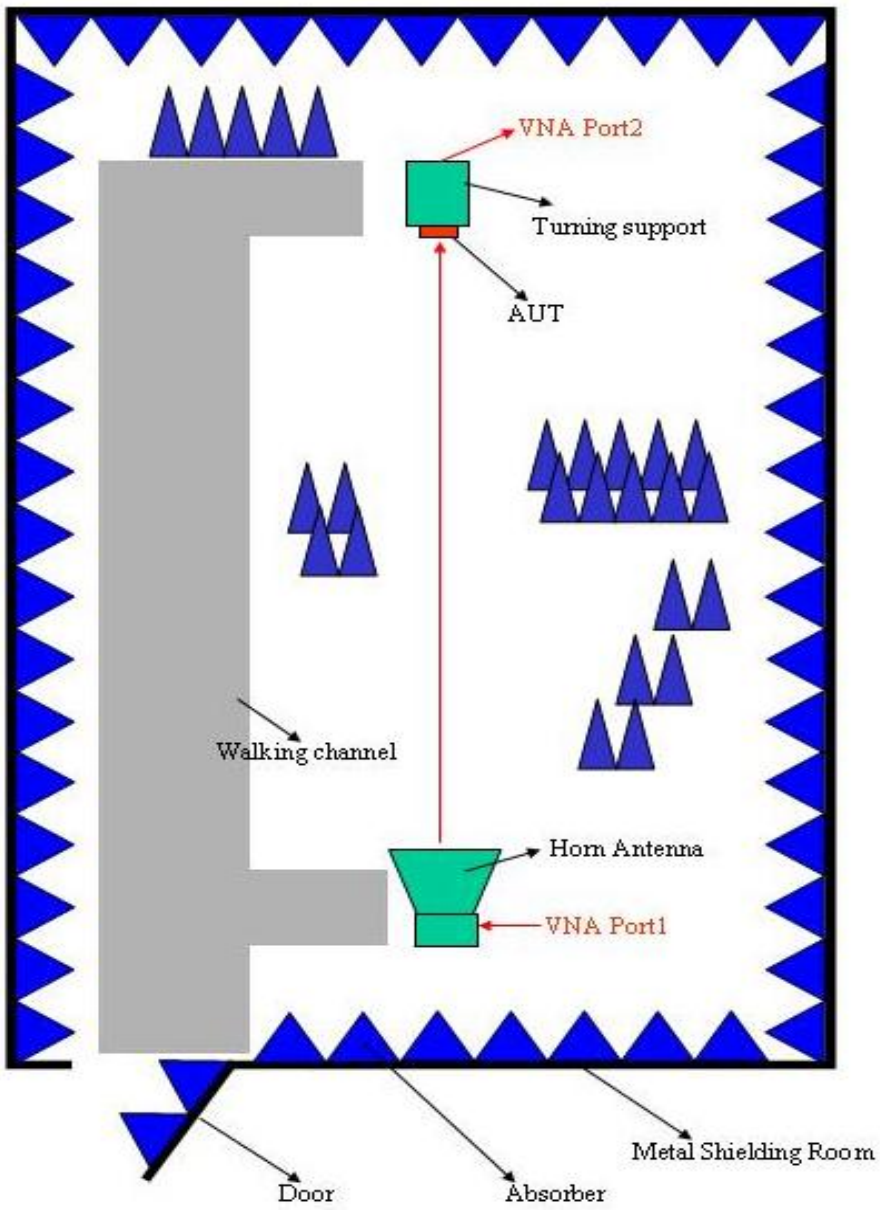


YZ Plane

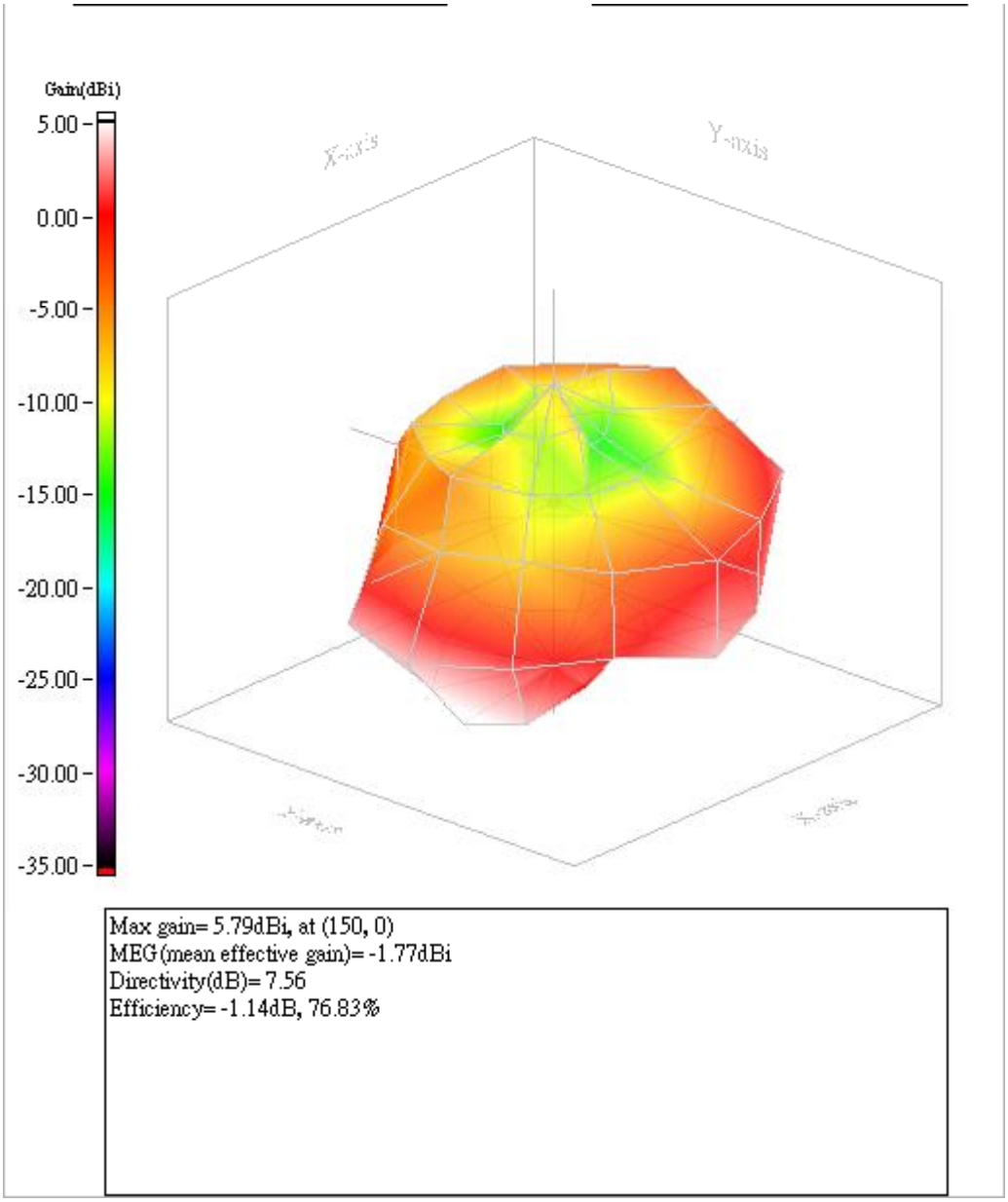


XZ Plane

6. The Environment of Antenna Radiation Pattern
Anechoic Chamber Dimension=10(m) × 6(m) × 6(m)



7. 3D Radiation Pattern



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 ´ 10 magnification	In accordance with specification (chip off 4mm)
4.6.1		Antenna	Central Frequency at 20 ^{o}C	Standard test board in page 4
4.8		Adhesion	A force of 3 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 0.5 mm at a rate of 1mm/s, radius jig. 340 mm, 2mm warp on FR4 board of 90 mm length	No visible damage
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 ± 6%

IEC 384-10/ CECC 32 100 CLAUSE	IEC 60068-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
		Resistance to leaching	260 ± 5 °C for 30 ± 1 s in a static solder bath	Using visual enlargement of ´ 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	-25 °C (30 minutes) to +85 °C (30 minutes); 100 cycles	No visible damage Central Freq. Change ± 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 ± 6%
4.15		Endurance	500 ± 12 hours at 85 °C;	No visible damage 2 hours recovery Central Freq. Change ± 6%

Ordering Information

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

CAN 43	11	1	53	00	2xx	1K
A	P	M	S	B	T	Q

A. Family Code

CAN 43 = Yageo Part No. for Antenna

P.Packing Type Code

11 = 180 mm/ 7" reel, blister taping

M. Materials Code

1 = High Frequency Material

S. Size Code

53= 5.3 * 2.0*1.3mm

B. Application

00 = Bluetooth Application

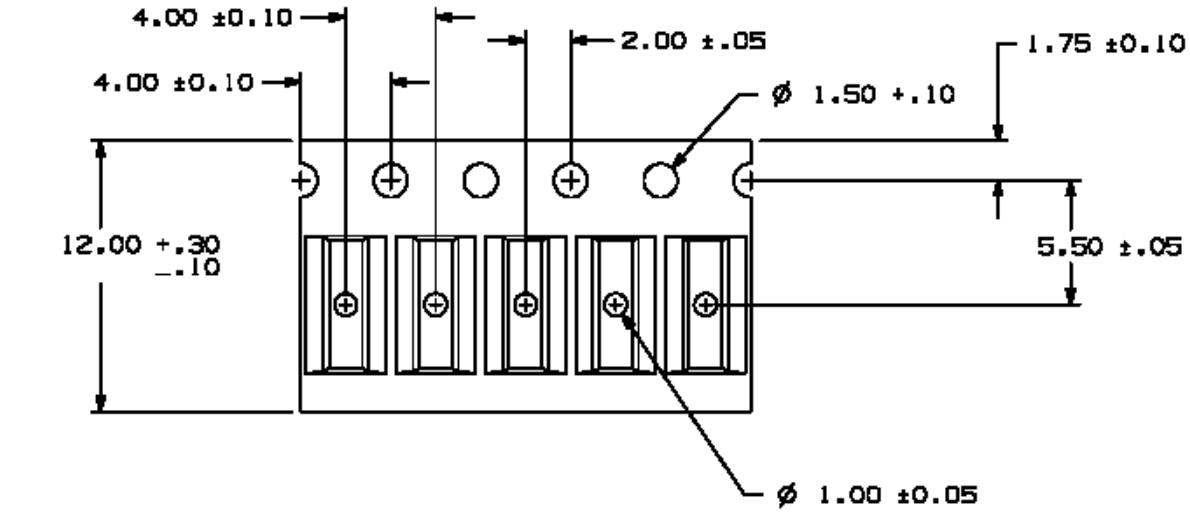
T. Type

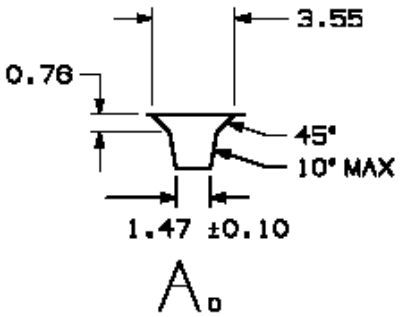
200 = **type 0**
210 = type 1
220 = type 2
230 = type 3
240 = type 4
245 = normal type
250 = type 5

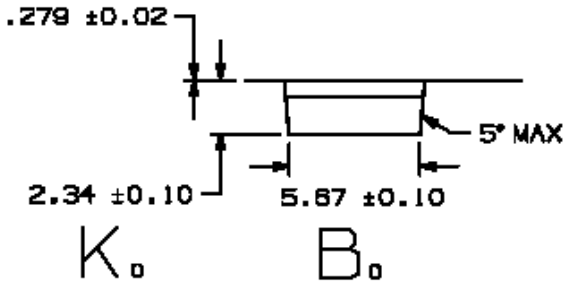
Q. Packing amount

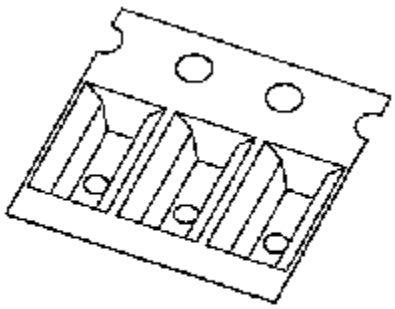
1K = 1000 pcs for taping per reel

Taping Blister Tape









THE DIMENSIONS SHOWN ON THIS PROPOSED DRAWING ARE FOR ILLUSTRATIVE PURPOSE. DIMENSIONS FROM ACTUAL CARRIER MAY VARY SLIGHTLY.

DIMENSION:

Serial no	Checking note	Index	Spec(mm)
1	Sprocket hole	Do	1.50±0.10
2	Pocket hole	D1	1.0±0.05
3	Distance sprocket hole/sprocket hole	Po	4.0±0.10
4	Distance pocket/pocket	P1	4.0±0.10
5	Distance sprocket hole/pocket	P2	2.0±0.05
6	Tape width	W	12.0±0.30
7	Distance sprocket hole/outside	E	1.75±0.10
8	Distance sprocket hole/pocket	F	5.50±0.05
9	Pocket length	Ao	1.47±0.10
10	Pocket length	Bo	5.57±0.10
11	Pocket depth	Ko	2.34±0.10
12	Thickness of tape	T	0.279±0.02
13	10x sprocket hole pitch	10Po	40.0±0.20

7”(180mm) Reel Specifications

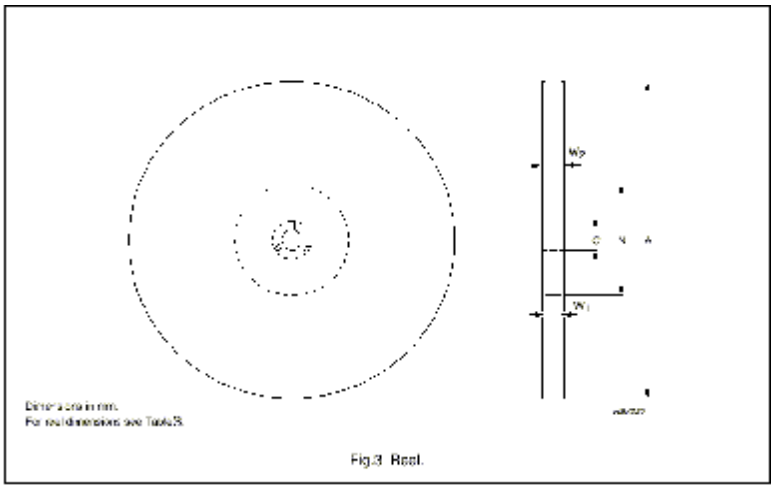


Fig.3 Reel.

TAPE WEITH (mm)	A (mm)	N (mm)	C (mm)	W_1 (mm)	W_2 MAX. (mm)
12	180	60±1	$13^{+0.50}/_{-0.20}$	$12.4^{+2.0}/_{-0.0}$	18.4

Revision Control:

Revision	Date	Content	Remark
1	2006, July	Modify the description for part nr.	
2	2007, March	Modify the part nr.	