ANTENNA PRODUCTS

DATA SHEET

870MHz Ceramic Chip Antenna (12*4 mm)

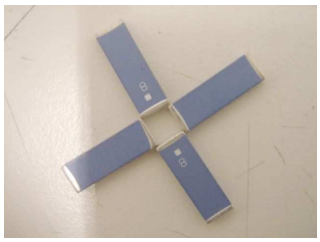
Oct, 2009, V10

R&D	Print date 09/10/16							
	Multilayer Ceramic Antenna for 870 MHz (12*4mm)			**CAN4311 129 XX 0871K**		V7	Jun 2009	
						V8	Aug 2009	
						V9	Sep 2009	
						V10	Oct 2009	
Willing Chang Oscar Lu	Tommy Chen			Page 1	sheet 190-1			A4

MULTILAYER CERAMIC ANTENNA (LINEAR POLARIZATION MODE) FOR 700MHz~1000MHz

Product Specification

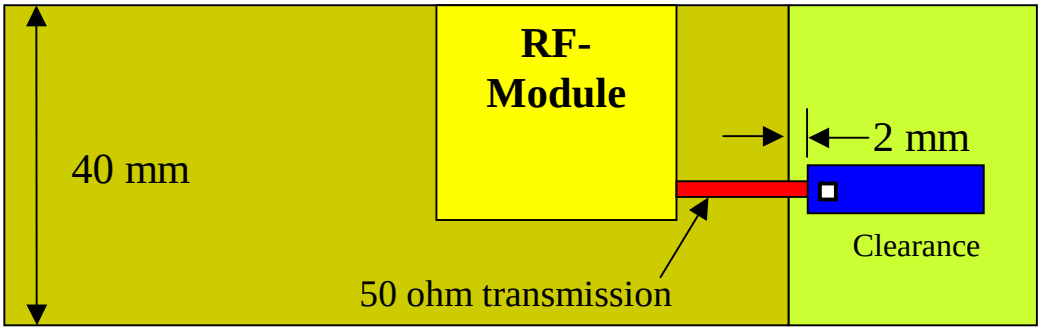
QUICK REFERENCE DATA

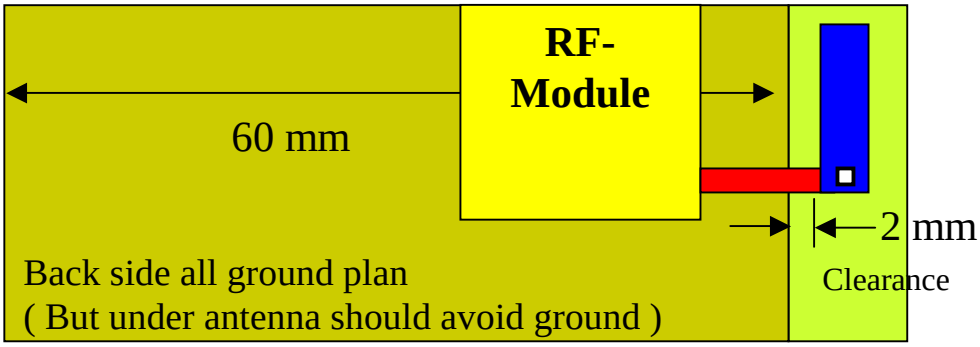


Working Frequency	700~1000MHz
Bandwidth	20 MHz (Min)
Gain	0.5 dBi (Max)
VSWR	2.0 max
Polarization	Linear
Azimuth	Omni-directional
Impedance	50Ω
Operating Temperature	-25~85 ^{o}C
Termination	Ni/Sn (Environmentally-Friendly Leadless)
Resistance to soldering heat	260^{o}C, 10 sec.

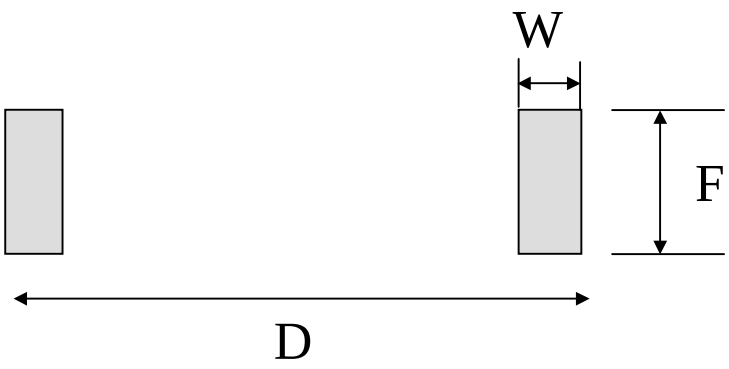
Special Environmenal Concerns- Green Products Design: The foil making process is using environmentally friendly aqueous solvent technology. Termination is lead free and packing materials can be re-cycled

1. APPLICATION

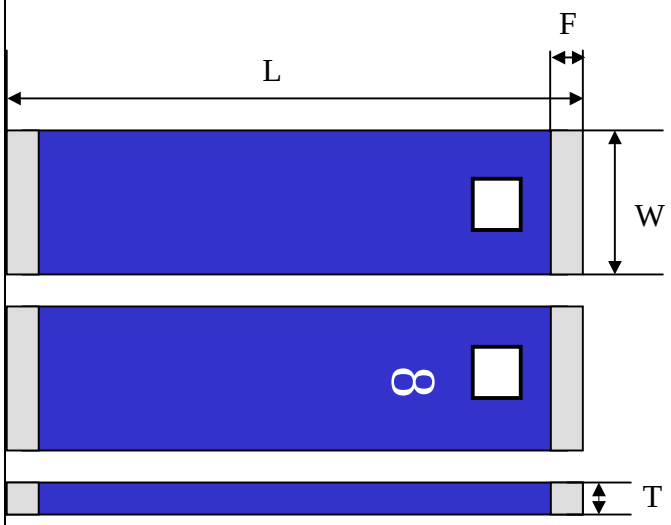




2. SOLDER LAND PATTERN FOR ANTENNA

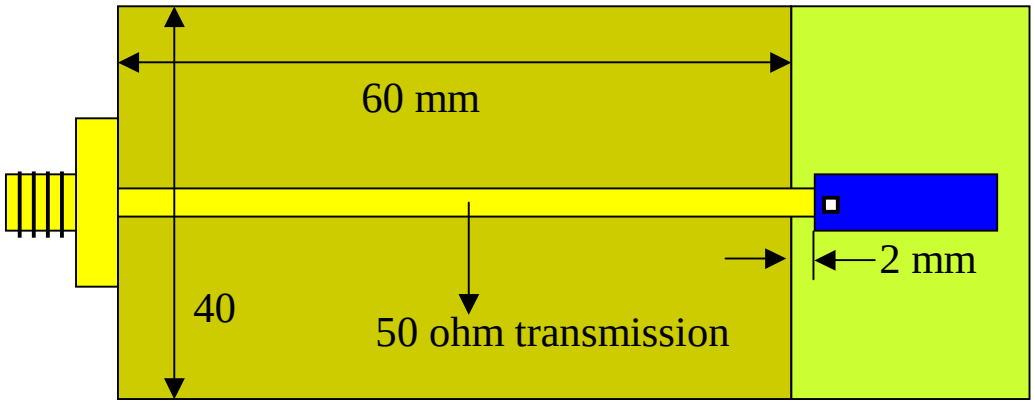
Figure	Dimensions		Remark
	W F D	1.8 ± 0.15 mm 4.25 ± 0.15 mm 14.0 ± 0.15 mm	Feed Pad Feed Pad

3. MECHANICAL DATA

Figure	Dimension		Port
	W L T F	4.1±0.2mm 12.1±0.2mm 1.6±0.2mm 0.85±0.35mm	Feed termination Solder termination

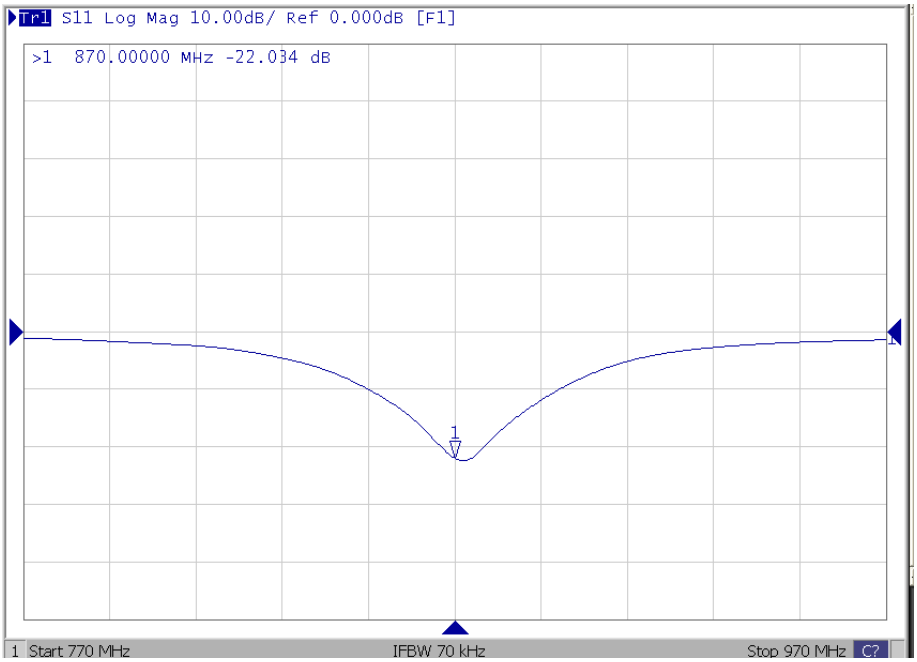
4. Yageo Standard Test Board (Without Matching)

(For S_{11} (Return Loss) and Radiation Pattern Measurment)

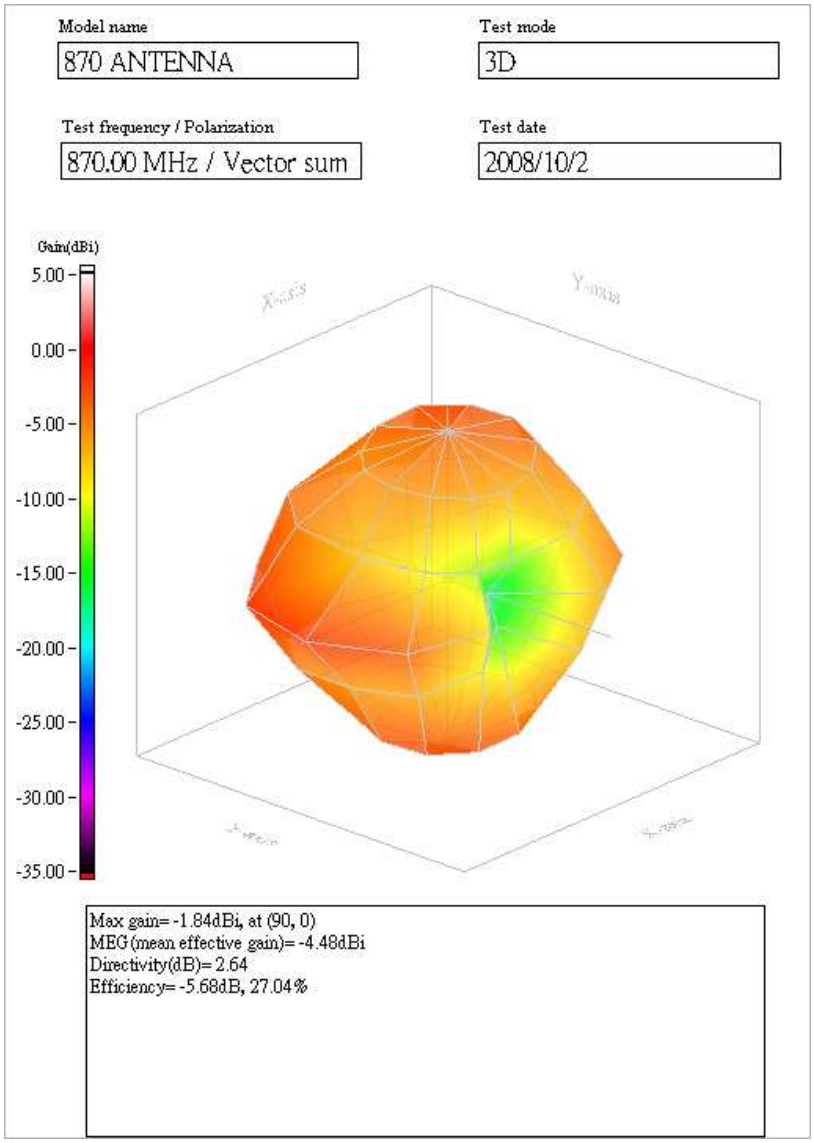


FR-4 PCB thickness = 0.8 mm
The length of transmission line = 60 mm (depends on PCB thickness)

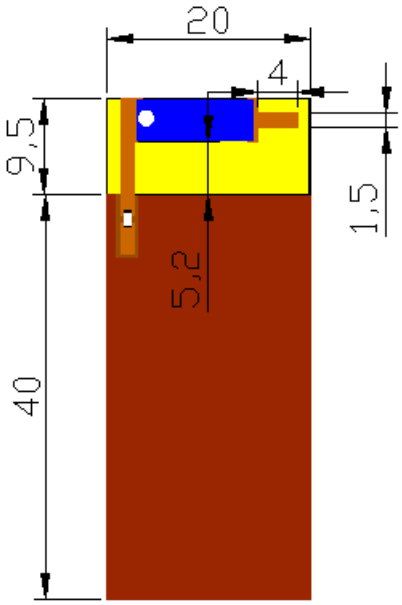
5. Measurement of S-parameter (on Yageo Standard Test Board)

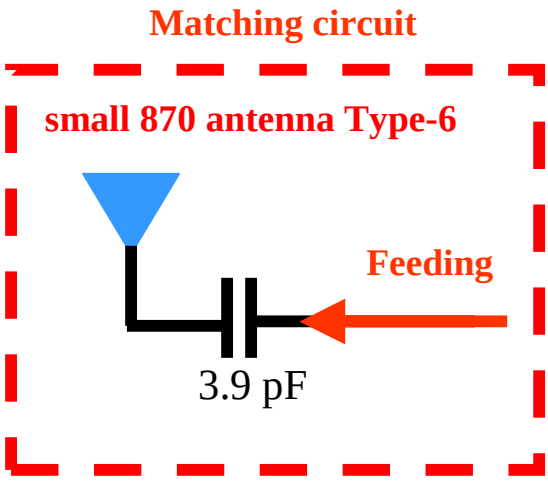


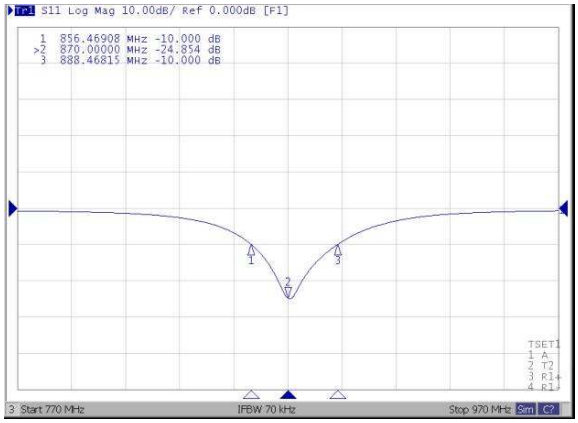
6. 3D Radiation Pattern (on Yageo Standard Test Board)

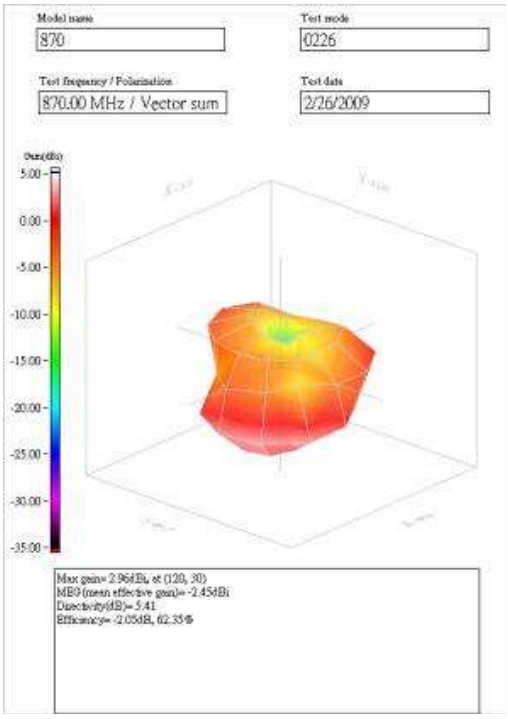


7. Suggestion of Layout and Matching Circuit (Layout Guide)









8. RELIABILITY DATA (Reference to IEC Specification)

IEC 384-10/ CECC 32 100 CLAUSE	IEC 6006868-2 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
4.6.1		Antenna	Central Frequency 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 0.25 mm at a rate of 1mm/s, radius jig. 340 mm,1 mm warp on FR4 board of 90 mm length	No visible damage

IEC 384-10/ CECC 32 100 CLAUSE	IEC 6006868-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
4.10	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.
		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	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

9. ORDERING INFORMATION:

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

CAN43	11	1	29	XX	087	1K
F	C	M	S	T	A	P

F. Family Code
CAN43 = Antenna

C. Packing Type Code
11 = Tape

M. Materials Code
1 = High Frequency Material

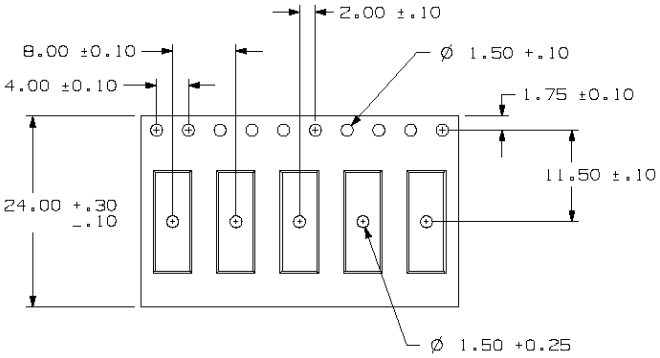
S. Size Code
29 =12* 4 * 1.5 mm

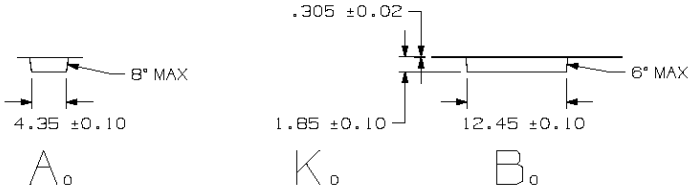
T. Type
03 = type 3
04 = type 4
05 = type 5
06 = type 6
07 = type 7
08 = type 8
09 = type 9

A. Working Frequency
087 = 700~1000MHz

P. Packing
1K = Tape packing, 1000pcs/reel

Taping Blister Tape

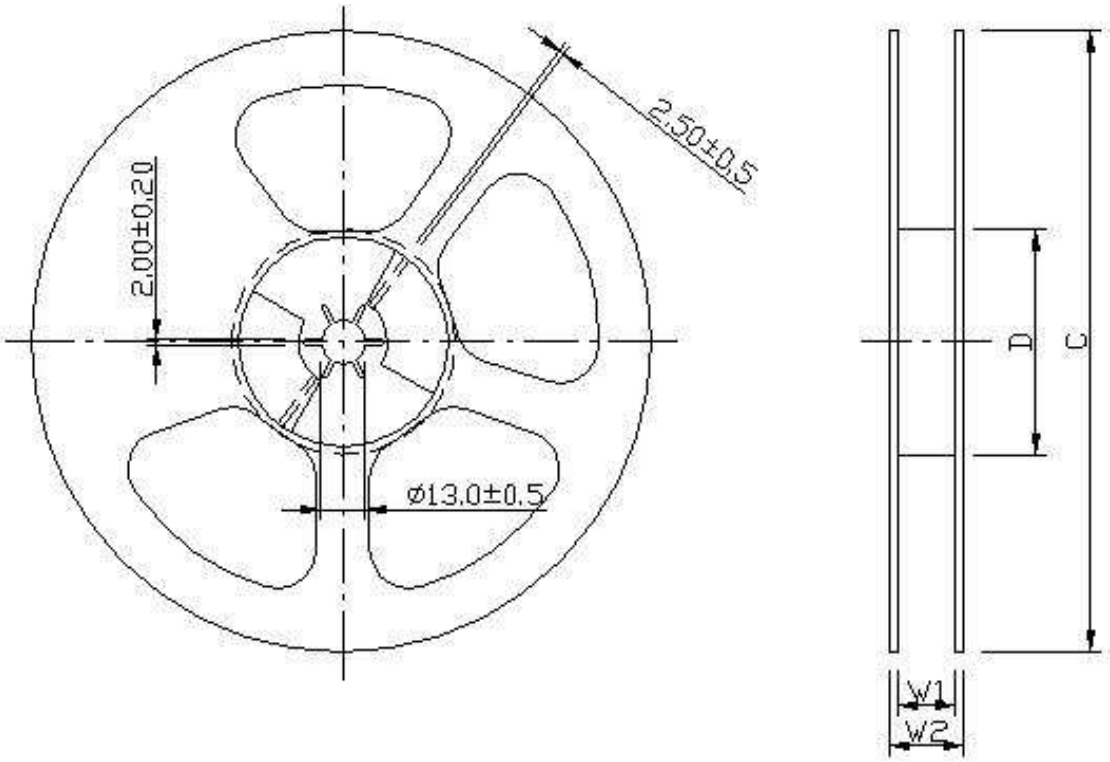




Dimension

Serial no	Cecking note	Index	Spec(mm)
1	Sprocket hole	Do	1.5±0.10
2	Pocket hole	D1	1.50±0.25
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	24.0±0.30
7	Distance sprocket hole/outside	E	1.75±0.10
8	Distance sprocket hole/pocket	F	11.50±0.10
9	Pocket length	Ao	4.35±0.10
10	Pocket length	Bo	12.45±0.10
11	Pocket depth	Ko	1.85 ± 0.10
12	Thickness of tape	T	0.3±0.10
13	10x sprocket hole pitch	10Po	40.0±0.20

Reel Specifications



Product size code	Units per Reel	Tape Width (mm)	C (mm)	D (mm)	W_1 (mm)	W_2 (mm)
Antenna	1000	24	180.0±1.0	62±0.5	16±0.5	20.5±0.5

Revision Control:

Revision	Date	Content	Remark
V1	Nov. 2006	New Issued	
V2	Oct. 2008	Add 3D radiation pattern	
V3	Oct. 2008	Add type 06 into this series	
V4	Feb. 2009	Add return loss and 3D radiation pattern of type 06	
V5	3rd,Mar, 2009	Add the suggestion of EVB with matching circuit, return loss and 3D radiation pattern	
V6	18th,Mar, 2009	Add return loss and 3D radiation pattern of type 05	
V7	29th,Jun, 2009	Modify the dimension of land pattern and the illustration of evaluation board	
V8	11th,Aug, 2009	Add type 04 into this series	
V9	14th,Sep, 2009	Add type 03 into this series	
V10	14th,Oct, 2009	Modify the antenna Working Frequency	