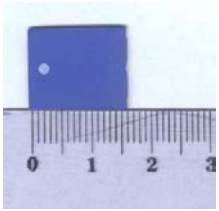
WIDE BAND MULTILAYER CERAMIC ANTENNA FOR 850~950MHz

Product Specification[1] (Preliminary)

QUICK REFERENCE DATA

Size	16.5*14*0.9 mm
Working Frequency	850~950MHz
Gain	1.5 dBi Max
VSWR	2 max
Polarization	Linear
Azimuth	Omni-directional
Impedance	50Ω
Operating Temperature	-55~125 ^{O}C
Termination	Ni/Sn (Environmentally-Friendly Leadless)
Resistance to soldering heats	260^{O}C, 10 sec.

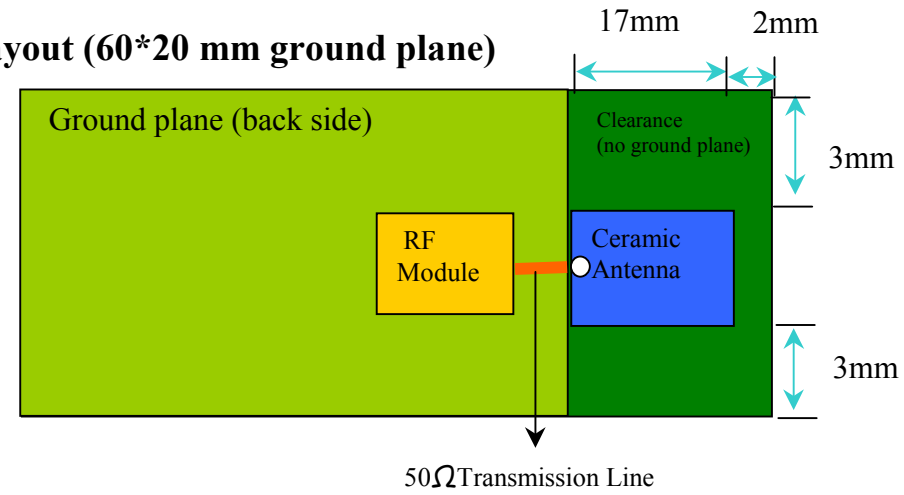


Special Environmental Concerns- Green Products Design: The foil making process is using environmentally friendly aqueous solvent technology. Termination is lead free and packing materials can be re-cycled

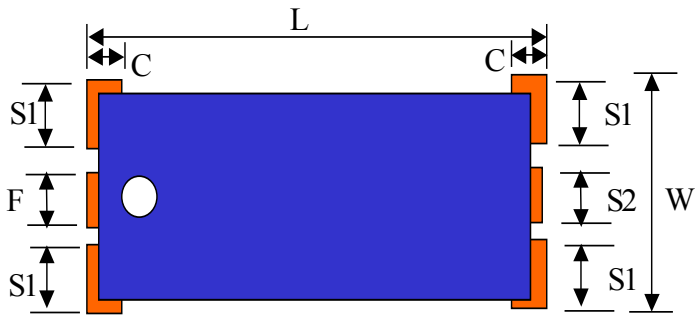
[1] All the technical data and information contained herein are subject to change without prior notice

APPLICATION

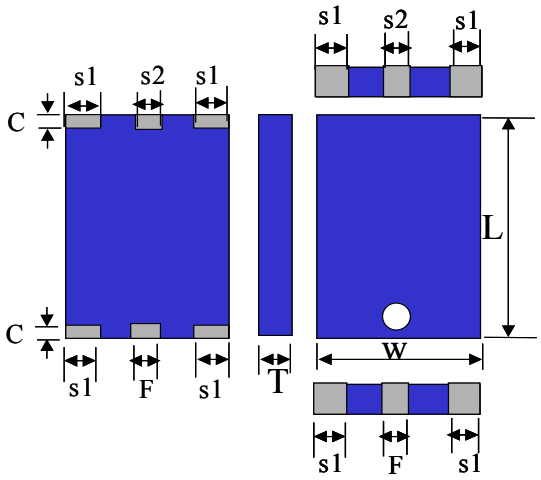
Suggested Layout (60*20 mm ground plane)



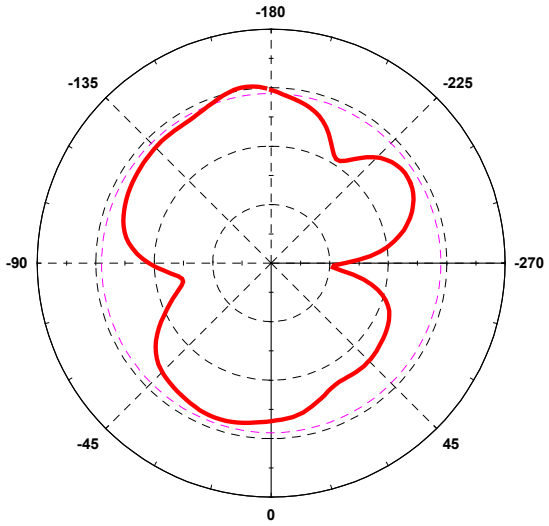
Solder Land Pattern for Antenna

Figure	Dimensions		*Remark*
	L	17.00 ± 0.10 mm	
	W	14.40 ± 0.10 mm	
	F	1.00 ± 0.10 mm	Feed pad
	C	0.90 ± 0.10 mm	
	S1	1.40 ± 0.10 mm	Mount pad
	S2	1.00 ± 0.10 mm	Mount pad

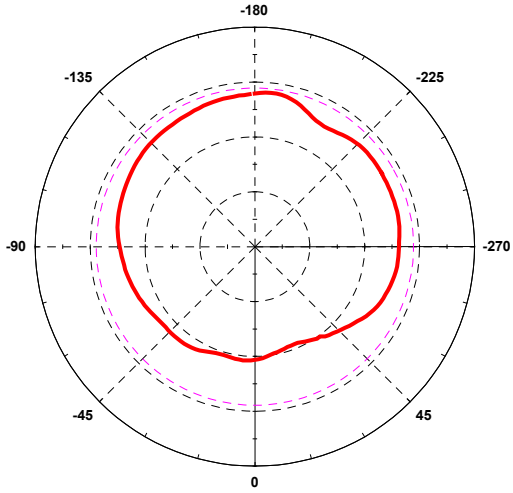
MECHANICAL DATA

Figure	Dimension		Port
	L	16.5±0.5mm	-
	W	14.0±0.5mm	-
	T	0.9±0.2mm	-
	F	2.1±0.25mm	Feed termination
	C	1.0±0.3mm	-
	S1	1.70±0.35mm	Solder termination
	S2	2.1±0.25mm	Solder termination

Radiation Pattern Polar plot

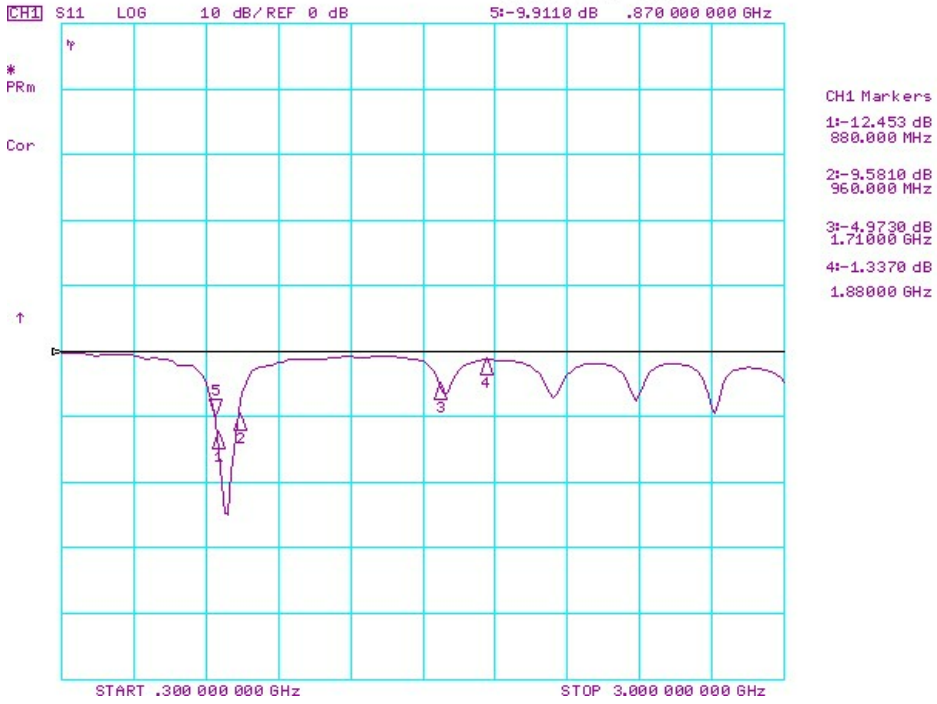


E Plane

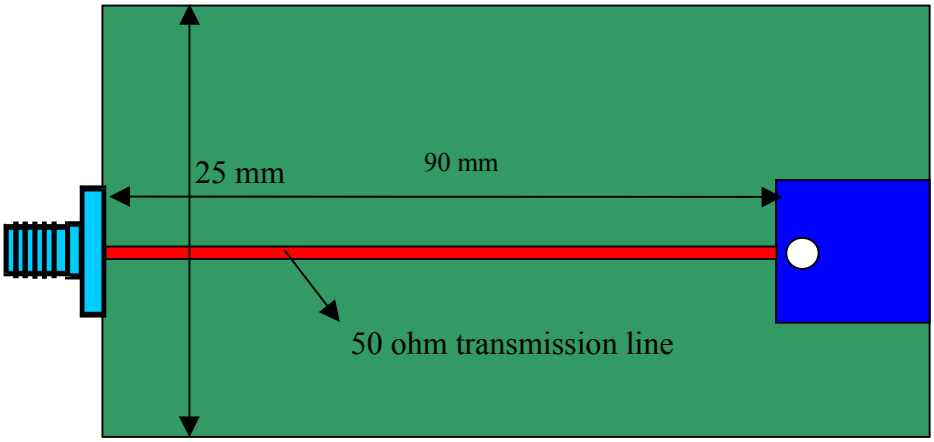


H Plane

Return Loss Signal



DEMO Board



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 (no chip off 3 mm)
4.6.1		Antenna	Central Frequency at 20 ^{o}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 and Central Freq. Change ± 6%
		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
4.12	Na	Rapid change of temperature	-55 °C (30 minutes) to +125 °C (30 minutes); 5 cycles	No visible damage Central Freq. Change ± 6%
4.14	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 125 °C;	No visible damage 2 hours recovery Central Freq. Change ± 6%

ORDERING INFORMATION: 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:

4311 1 19 00 087
F C M S T A

F. Family Code
43 = Antenna

C. Packing Type Code
13 = Bulk, 1000 pcs
11 = 1000 pcs in tape

M. Materials Code
1 = High Frequency Material

S. Size Code
19 = 16.5 * 14 * 0.9 mm

T. Tolerance
00 = 80 M Hz Band Width

A. Working Frequency
087 = 850~950MHz

Example: 12NC 4311 119 00087
Product description: Antenna (43) by 1000 pcs (11) of High Frequency Material (1), Size 16.5*14*0.9 mm (19);
Tolerance (00) of 80 MHz (VSWR<2)
Working Frequency (087) = 870~950MHz

ORDERING INFORMATION: Method II- by Clear Text Code (Temporary)

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

AN0870000716141B (Clear Text Code Example)						
AN	0870	00	07	1614	1	B
Product	Central Freq.	Bandwidth	Material	Size	Quantities	Packing
AN= Antenna	0870=870MHz ~ 950MHz	00= 80MHz	07=K7	1614=16*14* 0.9 mm	1 = 1K	B = Bulk

Revision Control:

Revision	Date	Content	Remark
	March 13, 2002	New Issued	
	Oct. 14, 2002	Modify dimension and termination width (S1, F, C, S2)	