

DATA SHEET

WIRELESS COMPONENTS

Ceramic Antenna

ANT3505B000TWPENA

PENTA-BAND

3505 Series



YAGEO
Phicom

Product Specification – February 23, 2013 V.0



FEATURES

- Compact Size
- High radiation efficiency
- Multi-band coverage
- Reflow process compatible
- RoHS compliant

APPLICATIONS

- Global cellular network devices
- Telematics
- Cellular broadband access
- M2M module

ORDERING INFORMATION

All part numbers are identified by the series, packing type, material, size, antenna type, working frequency and packing quantity.

PART NUMBER

ANT 3505 B 000 T WPENA
(1) (2) (3) (4) (5) (6)

(1) PRODUCT

ANT = Antenna

(2) SIZE

3505 = 35 × 5 mm

(3) ANTENNA TYPE

B=Bulk Antenna

(4) SERIAL NO.

000

(5) PACKING STYLE

T = Tray

(6) WORKING FREQUENCY

WPEN=0.8/0.9/1.8/1.9/2.1 GHz

PHYCOMP CTC

CAN4313449009181B

I2NC

431344900918

SPECIFICATION

Table 1

DESCRIPTION	VALUE
Working Frequency	824~960 / 1710~2170 MHz
Bandwidth	140MHz / 470 MHz (Typ.)
Return Loss	6.26 / 5.03 dB min
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Peak Gain	2.91 dBi(Typ.)
Impedance	50 Ω
Operating Temperature	- 40~105 °C
Maximum Power	4 W
Termination	Ag (Environmentally-Friendly Leadless)
Resistance to Soldering Heats	260°C , 10sec.

NOTE

I. The specification is defined on Yageo evaluation board

DIMENSIONS

Table 2 Machinal Dimension

	DIMENSION
L (mm)	35.00 ±0.20
W (mm)	5.00 ±0.20
T (mm)	6.00 ±0.20
A (mm)	2.00 ±0.20
B (mm)	1.50 ±0.20
C (mm)	1.27 ±0.20

OUTLINES

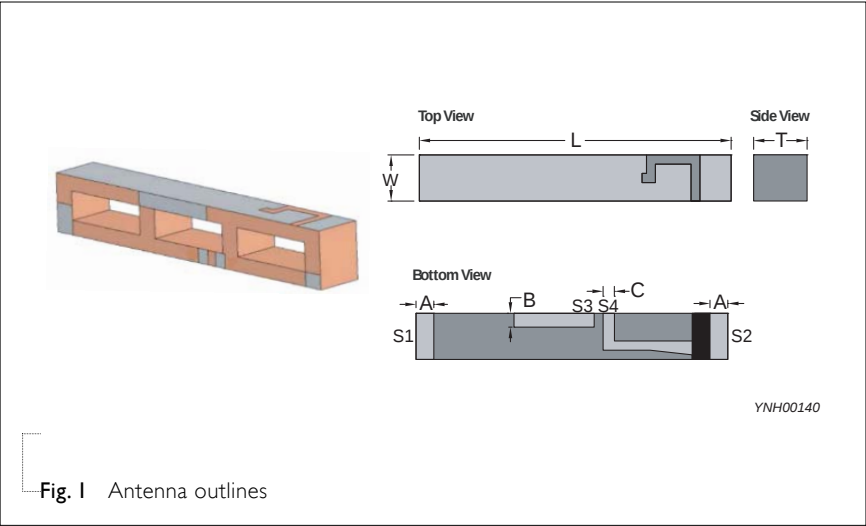


Fig. I Antenna outlines

Table 3 Termination configuration

TERMINAL NAME	FUNCTION
S1	Soldering Point
S2	Soldering Point
S3	GND
S4	Feeding Point

REFERENCE DESIGN OF EVALUATION BOARD

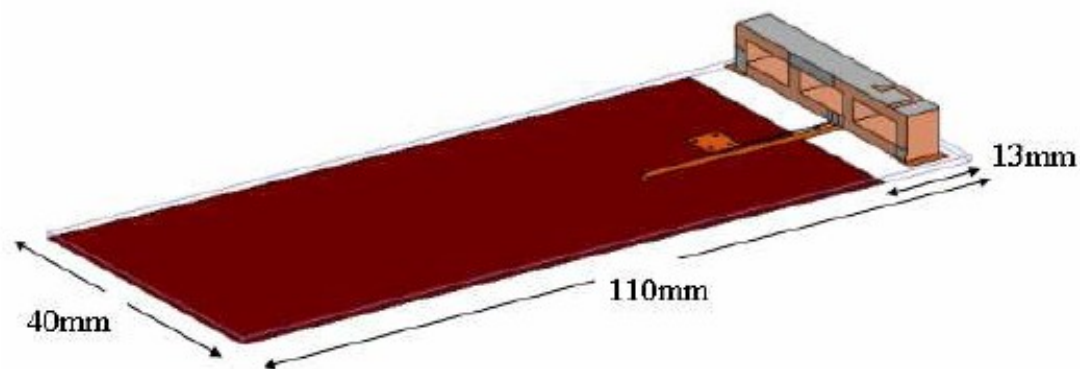


Fig. 2 Outlook and dimension of evaluation board

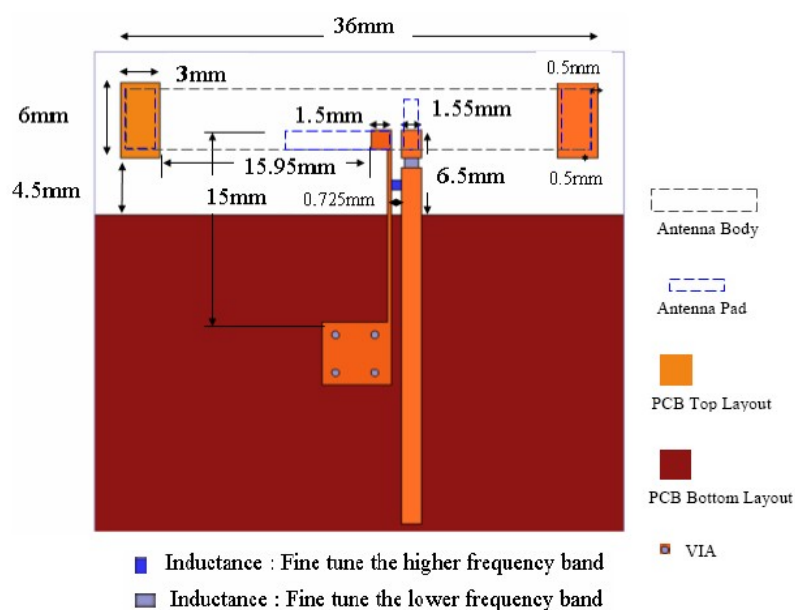
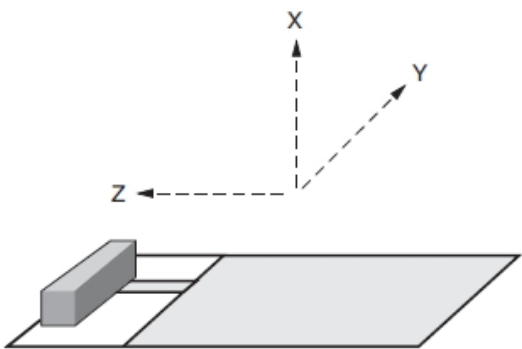


Fig. 3 Details of soldering Pad

ELECTRICAL PERFORMANCES

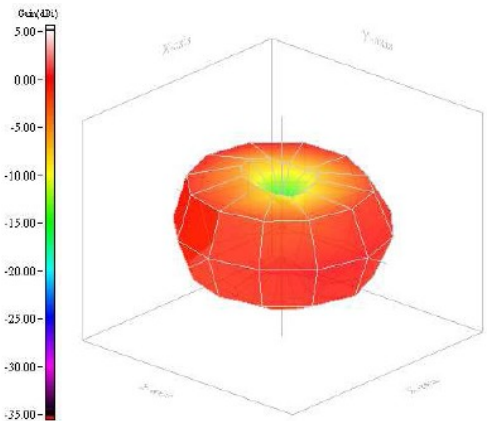


Fig. 4 Return loss



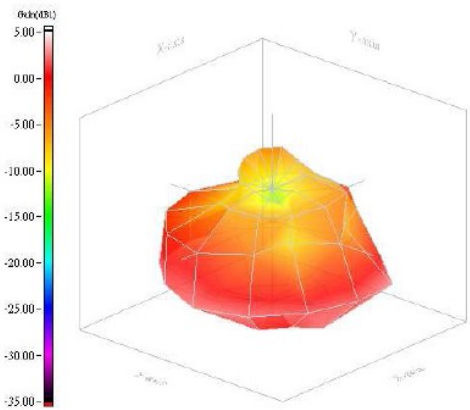
Evaluation board and XYZ direction

Model name	350506 bulk antenna	Test mode	WWAN
Test frequency / Polarization	880.00 MHz / Vector sum	Test date	2011/8/22



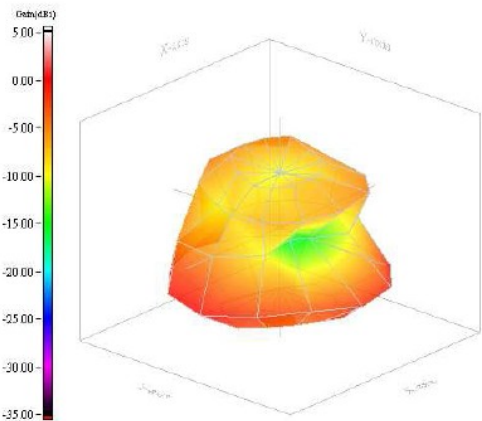
Max gain=0.67dBi, at (60, 240)
MEG (mean effective gain)=-3.86dBi
Directivity(dBi)=2.34
Efficiency=-1.67dB, 68.09%
Frequency= 880 MHz
Max gain = 1.72 dBi, at (60, 210)
MEG (mean effective gain)= -2.99dBi
Directivity (dB) = 3.08
Efficiency = -1.36dB, 73.11%

Model name	350506 bulk antenna	Test mode	WWAN
Test frequency / Polarization	1880.00 MHz / Vector	Test date	2011/8/22



Max gain=2.91dBi, at (120, 210)
MEG (mean effective gain)=-2.29dBi
Directivity(dBi)=4.57
Efficiency=-1.26dB, 68.21%
Frequency= 1880 MHz
Max gain = 4.35 dBi, at (150, 240)
MEG (mean effective gain)= -1.20dBi
Directivity (dB) = 5.35
Efficiency = -1.00dB, 79.52%

Model name	350506 bulk antenna	Test mode	WWAN
Test frequency / Polarization	2140.00 MHz / Vector	Test date	2011/8/22



Max gain=1.28dBi, at (120, 210)
MEG (mean effective gain)=-4.86dBi
Directivity(dBi)=5.26
Efficiency=-3.98dB, 40.03%
Frequency= 2140 MHz
Max gain = 1.67dBi, at (120, 240)
MEG (mean effective gain)= -3.93dBi
Directivity (dB) = 5.36
Efficiency = -3.69dB, 42.75%

Fig. 5 Radiation pattern

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Feb. 23, 2013	-	New data sheet for SMD type antenna, WWAN application, 3505 series