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Innovative Service Around the Globe YAGEO

DATA SHEET

WIRELESS COMPONENTS

PCB type antenna

ANTX100P001B24553

2.40 ~ 2.50GHz / 5.150 ~ 5.875 GHz



Product Specification – June 16, 2014 V.0

YAGEO Phycomp

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FEATURES & BENEFITS

- The smallest PCB antenna in the market
- Miniature design allows users to save required space
- Double-side adhesive tape makes it easy to instal in device
- Ranges of types of connector and cable provide a flexible design options
- Halogen free and RoHS compliant

APPLICATIONS

- Tablet / Desktop PC
- Internet TV / STB / Game console / Camera
- WiFi network devices (IEEE 802.11b/g/n)
- Bluetooth / ZigBee devices
- Car Infotainment
- Smart meter
- Lighting control
- POS terminal
- Wireless Industrial Control

ORDERING INFORMATION - GLOBAL PART NUMBER, PHYCOMP CTC & I2NC

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

YAGEO BRAND ordering code

GLOBAL PART NUMBER (PREFERRED)

ANT	X100	P	001	B	2455	3
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) FAMILY

ANT = Antenna products

(2) CONNECTOR & CABLE LENGTH (MM)

X = I-PEX
100 = 100mm

(3) ANTENNA TYPE

P=PCB

(4) SERIAL NUMBER

001 = SERIAL NUMBER 001

(5) PACKAGE TYPE

B = Bulk

(6) WORKING FREQUENCY

2455 = 2.40 ~ 2.50 GHz / 5.150 ~ 5.875 GHz

(7) CABLE TYPE

3 = 1.13mm diameter Mini-Coaxial Cable

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SPECIFICATIONS

Table 1

DESCRIPTION	VALUE
Working Frequency	2.40 ~ 2.50 GHz / 5.150 ~ 5.875 GHz
VSWR	2.5:1max / 2.5:1 max
Peak Gain	4.6 dBi / 3.9 dBi
Polarization	Linear
Radiation Pattern	Omni-directional
Impedance	50 Ω Nominal
Operating Temperature	– 40 °C to 85 °C
Maximum Power	1 W
PCB Dimension	50mm x 10mm x 0.95mm
Radio Connector	I-PEX (20278-112R-13)
Cable Diameter / Length / Color	1.13mm / 100mm / Black
Mounting	Adhesive Tape (HF-DS)

DIMENSIONS

Table 2 Mechanical Dimension

DIMENSION	VALUE
L (mm)	100 ±3.00
W (mm)	50 ± 0.30
H (mm)	10 ± 0.30
T (mm)	0.95 ± 0.15
A (mm)	2.30 Max
B (mm)	1.80 ± 1.00

OUTLINES

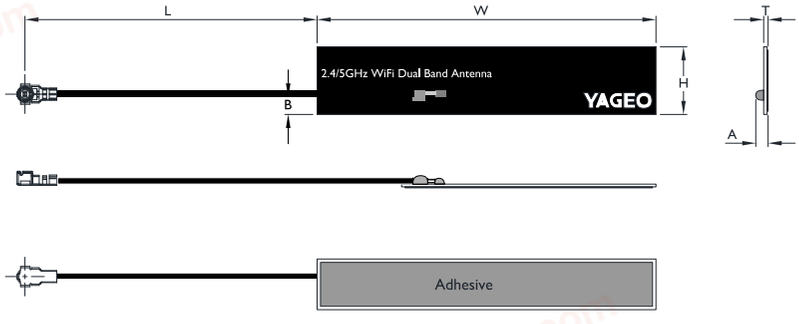
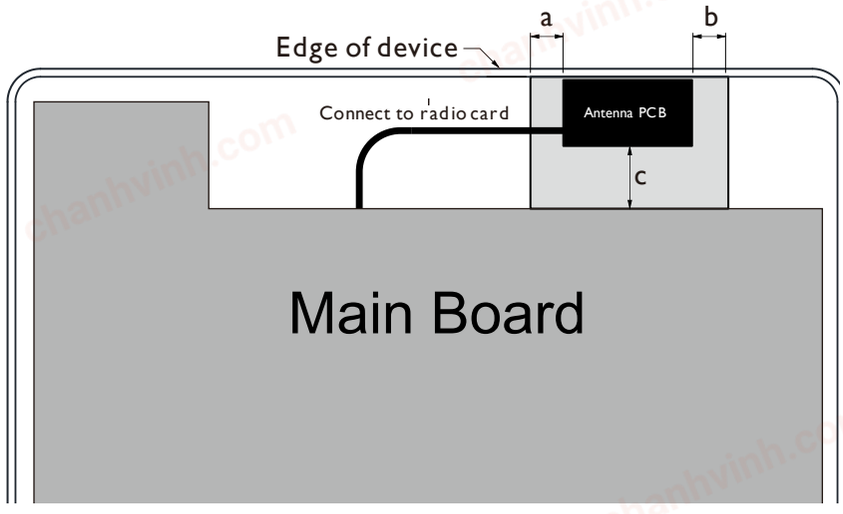


Fig. 1 Antenna outlines

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APPLICATION INSTRUCTION



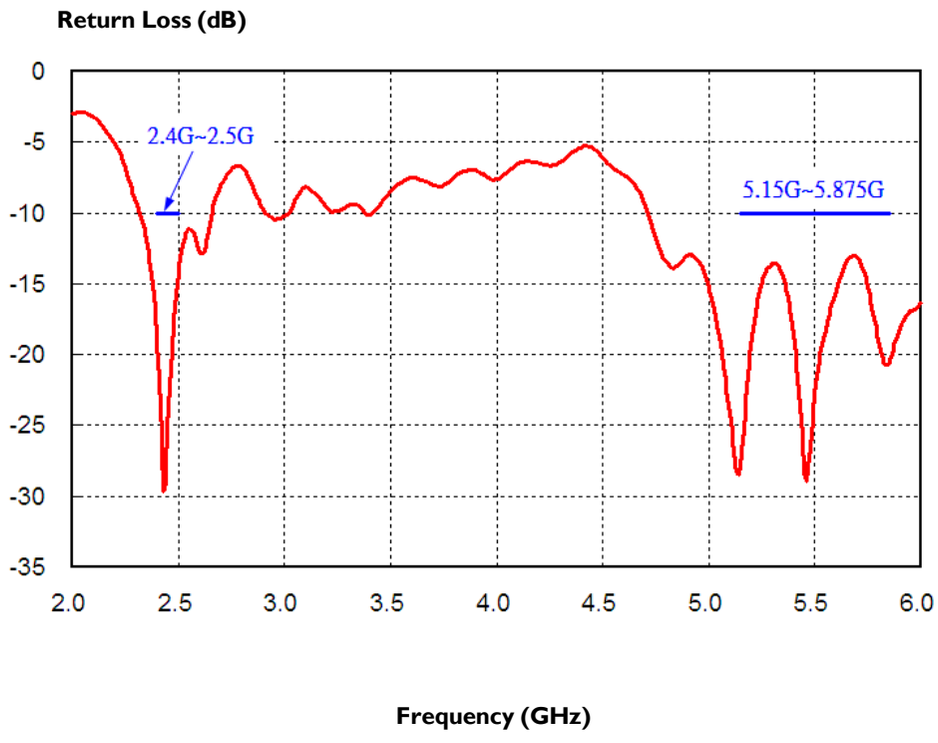


Antenna element should be placed at the edge of device, has minimum clearance from metalic object:
A: 5 mm Min
B: 5 mm Min
C: 10 mm Min

Fig. 2 Application Instruction

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RETURN LOSS & VSWR



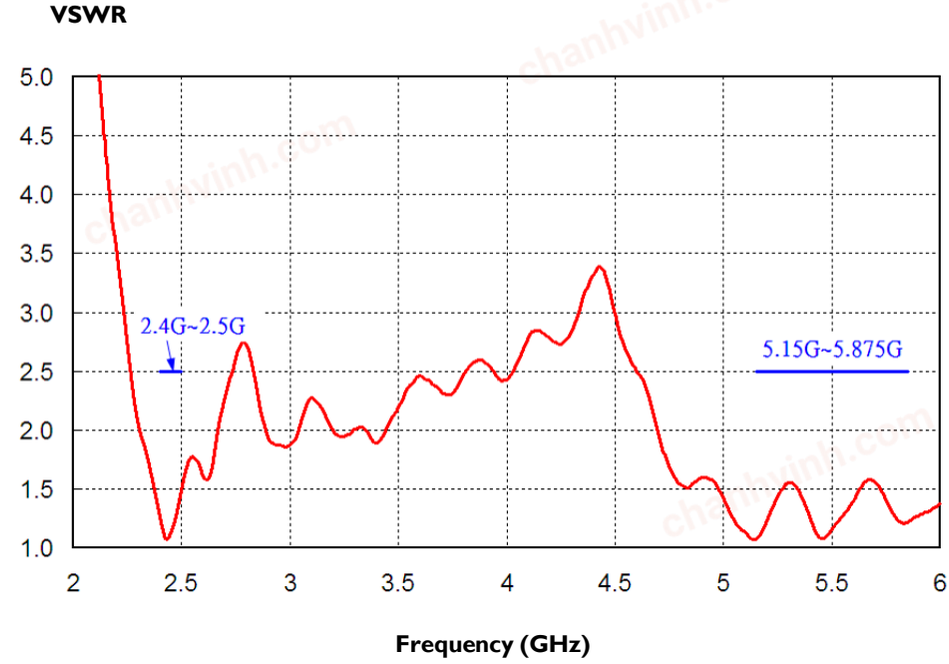


Fig. 3 Return loss & VSWR Measurement

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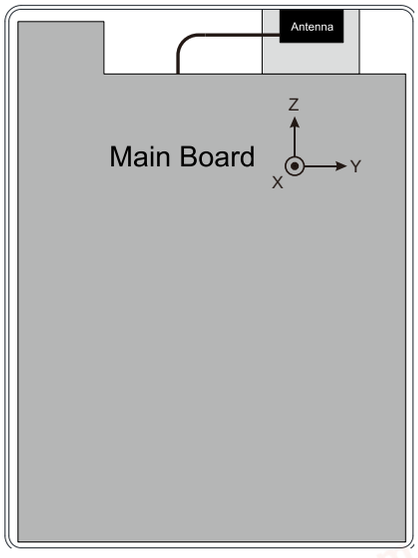
ANTENNA GAIN & EFFICIENCY

Table 3

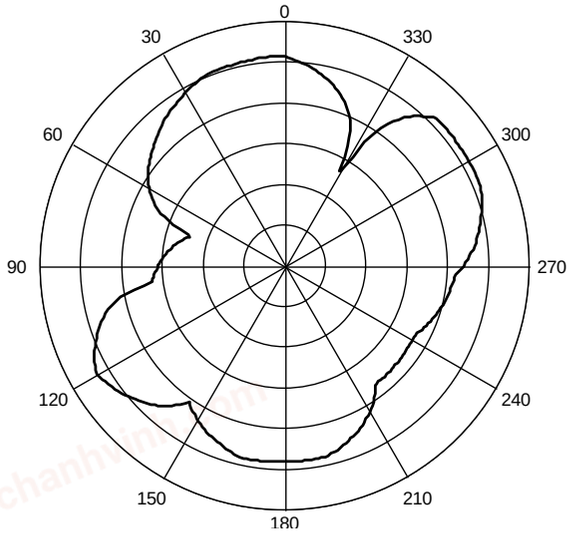
FREQUENCY (GHz)	AVERAGE GAIN (dBi)	EFFICIENCY (%)	PEAK GAIN (dBi)
2.40	-1.4	73	4.3
2.45	-0.9	81	4.6
2.50	-1.5	71	4.5

ANTENNA RADIATION PATTERNS

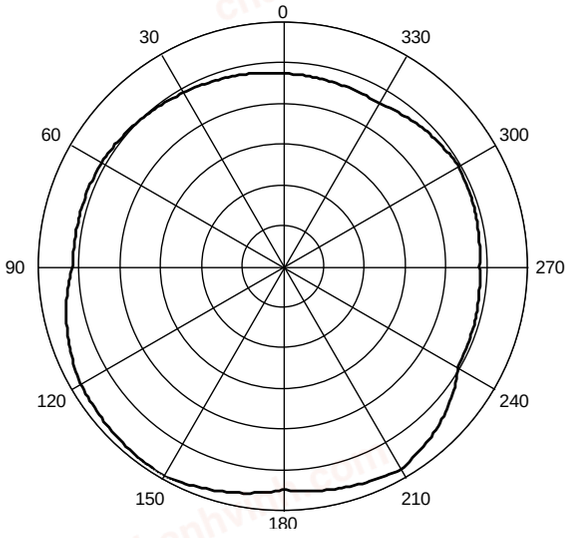
Scale: 5 dBi / div Max : 5 dBi Min : -25 dBi



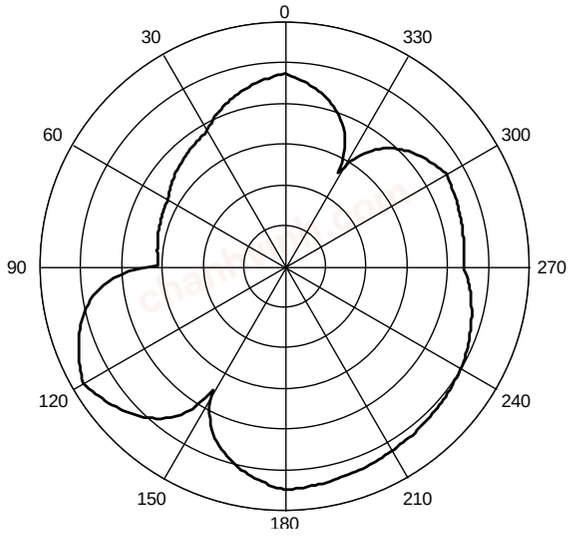
Device Setup & Coordinates



X-Y Plane



X-Z Plane



Y-Z Plane

Fig. 4 Antenna radiation patterns at 2.45 GHz

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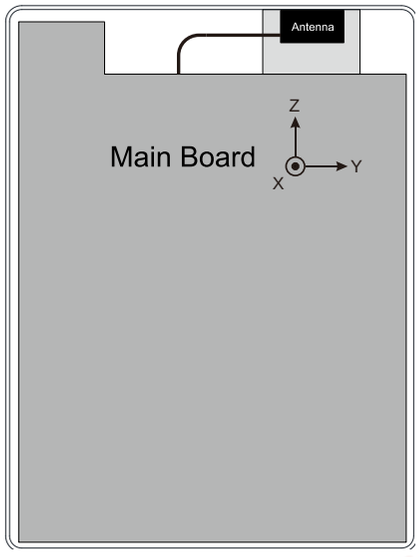
ANTENNA GAIN & EFFICIENCY

Table 4

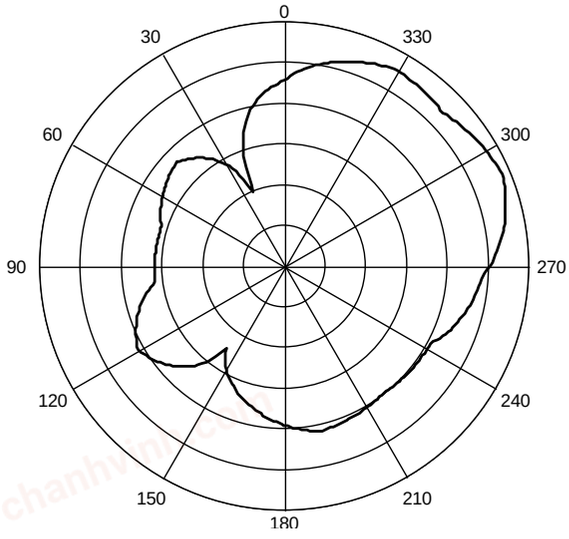
FREQUENCY (GHz)	AVERAGE GAIN (dBi)	EFFICIENCY (%)	PEAK GAIN (dBi)
5.150	-2.7	54	4.9
5.350	-2.9	52	3.9
5.470	2.4	57	4.1
5.725	-2.0	62	5.1
5.875	-2.2	61	4.3

ANTENNA RADIATION PATTERNS

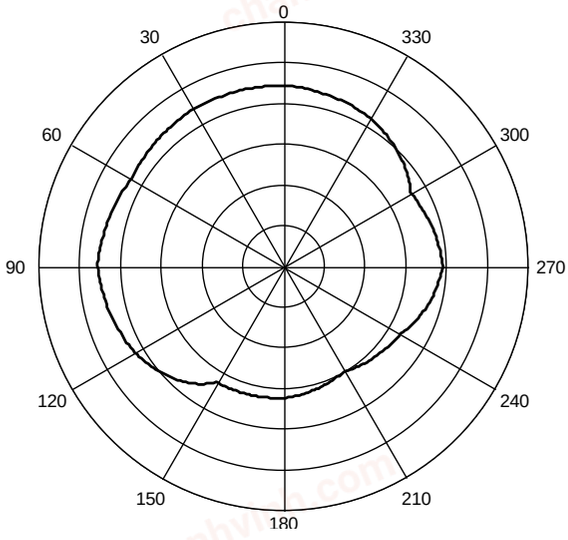
Scale: 5 dBi / div Max : 5 dBi Min : -25 dBi



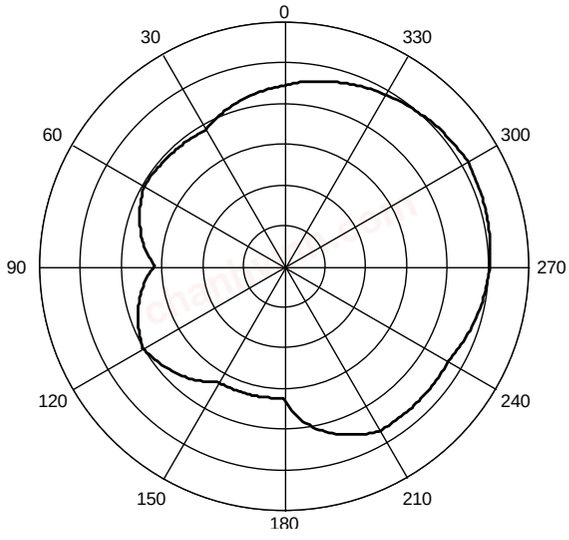
Device Setup & Coordinates



X-Y Plane



X-Z Plane



Y-Z Plane

Fig. 5 Antenna radiation patterns at 5.350 GHz

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REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Jun. 16, 2014	-	- New data sheet for PCB type antenna, 2.40 ~ 2.50GHz / 5.150 ~ 5.875 GHz

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