

# DATA SHEET

## WIRELESS COMPONENTS

PCB type antenna  
ANTX200P002B24553  
2.40 ~ 2.50GHz / 5.150 ~ 5.875 GHz



**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 802.11 b/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 X200 P 002 B 2455 3**  
(1) (2) (3) (4) (5) (6) (7)

**(1) FAMILY**

ANT = Antenna products

**(2) CONNECTOR & CABLE LENGTH (MM)**

X = I-PEX  
200 = 200mm

**(3) ANTENNA TYPE**

P=PCB

**(4) SERIAL NUMBER**

002 = SERIAL NUMBER 002

**(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

## SPECIFICATIONS

Table 1

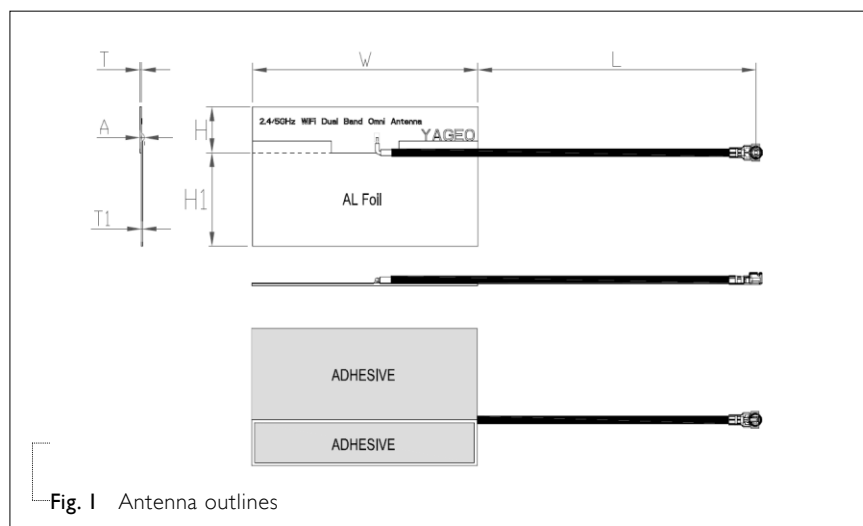
| DESCRIPTION                     | VALUE                               |
|---------------------------------|-------------------------------------|
| Working Frequency               | 2.40 ~ 2.50 GHz / 5.150 ~ 5.875 GHz |
| VSWR                            | 2.5:1 max / 2.5:1 max               |
| Peak Gain                       | 0.7 dBi / 1.9 dBi                   |
| Polarization                    | Linear                              |
| Radiation Pattern               | Omni-directional                    |
| Impedance                       | 50 $\Omega$ Nominal                 |
| Operating Temperature           | - 40 °C to 85 °C                    |
| Maximum Power                   | 1 W                                 |
| Dimension (PCB+AL Foil)         | 40mm x 43mm x 0.55mm                |
| Radio Connector                 | I-PEX (20278-112R-13)               |
| Cable Diameter / Length / Color | 1.13mm / 200mm / Black              |
| Mounting                        | Adhesive Tape (HF-DS)               |

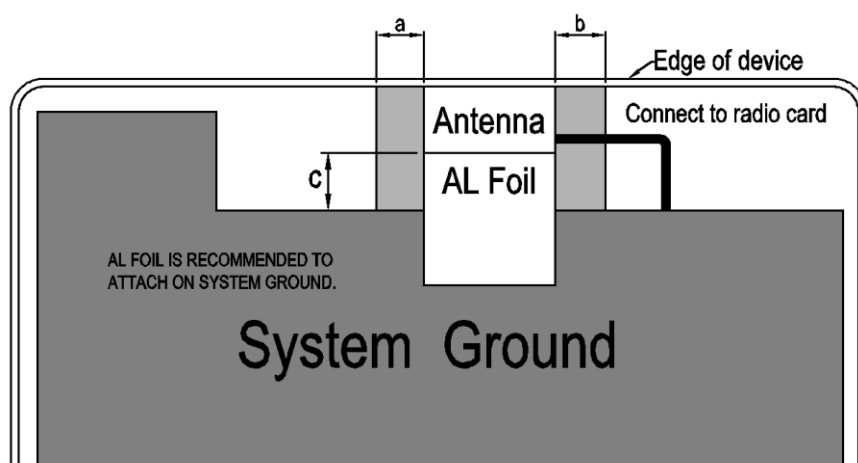
## DIMENSIONS

Table 2 Mechanical Dimension

| DIMENSION | VALUE           |
|-----------|-----------------|
| L (mm)    | 200 $\pm$ 3.00  |
| W (mm)    | 40 $\pm$ 0.30   |
| H (mm)    | 8 $\pm$ 0.30    |
| H1 (mm)   | 32 $\pm$ 0.30   |
| T (mm)    | 0.55 $\pm$ 0.15 |
| A (mm)    | 2.30 Max        |
| T1 (mm)   | 0.15 $\pm$ 0.05 |

## OUTLINES



APPLICATION INSTRUCTION

Antenna element should be placed at the edge of device, has minimum clearance from metallic object:

A: 5 mm Min

B: 5 mm Min

C: 5 mm Max

Fig. 2 Application Instruction

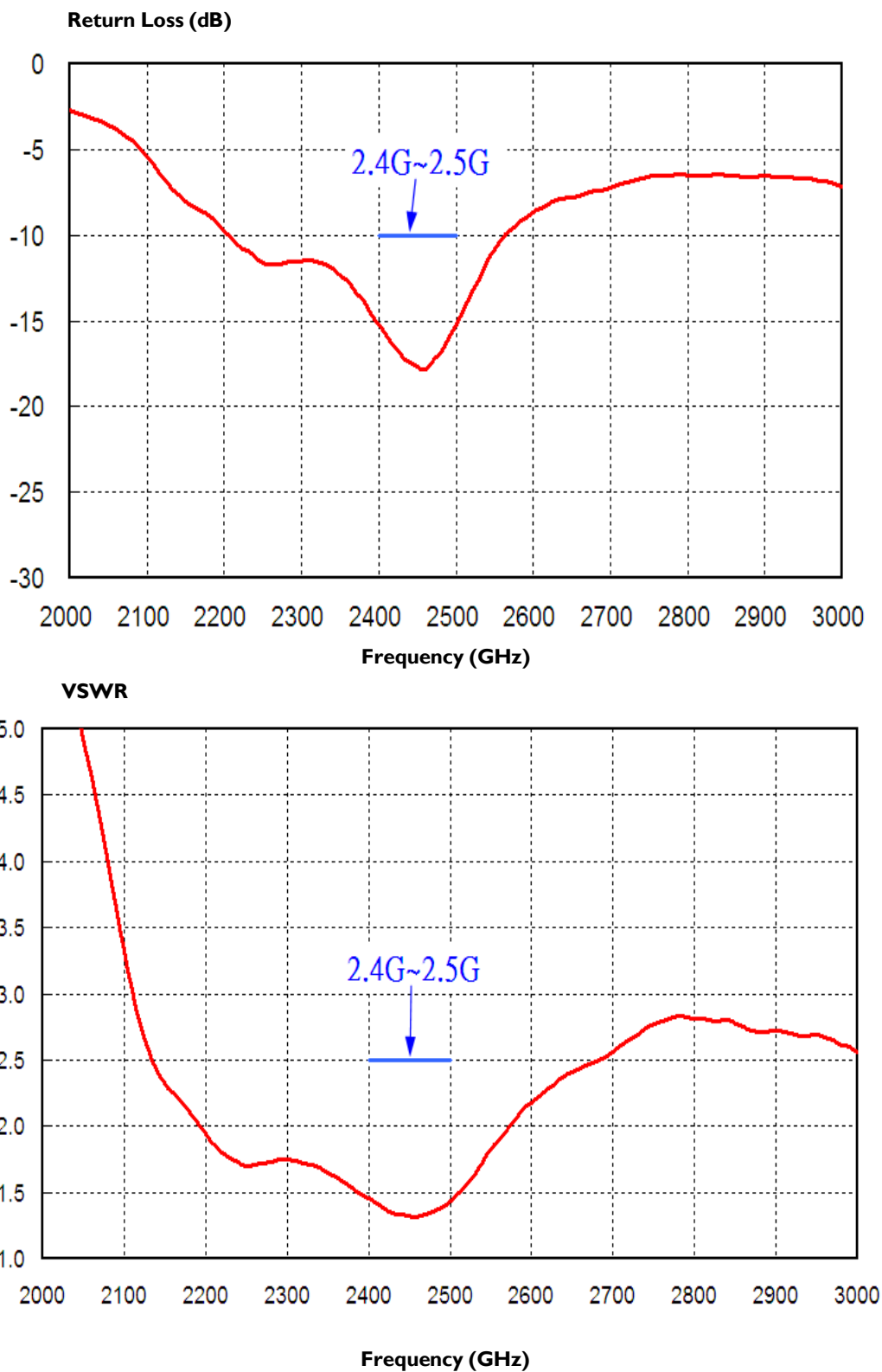
RETURN LOSS & VSWR

Fig. 3 Return loss & VSWR Measurement

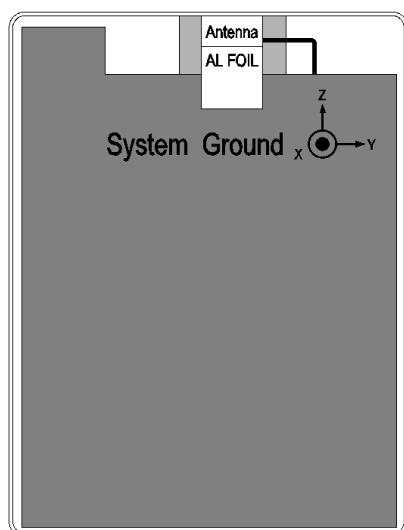
### ANTENNA GAIN & EFFICIENCY

Table 3

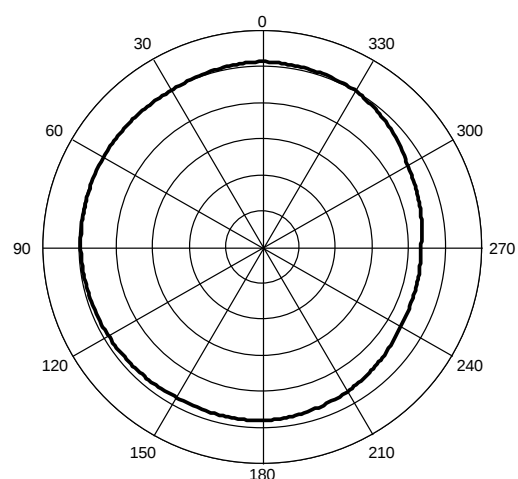
| FREQUENCY (GHz) | AVERAGE GAIN (dBi) | EFFICIENCY (%) | PEAK GAIN (dBi) |
|-----------------|--------------------|----------------|-----------------|
| 2.40            | -2.1               | 61.2           | 0.4             |
| 2.45            | -1.7               | 68.2           | 0.7             |
| 2.50            | -2.1               | 61.1           | 0.9             |

### ANTENNA RADIATION PATTERNS

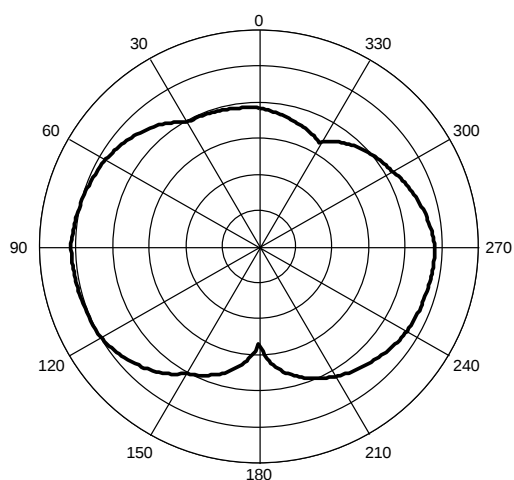
Scale: 5 dBi / div    Max : 5 dBi    Min : -25 dBi



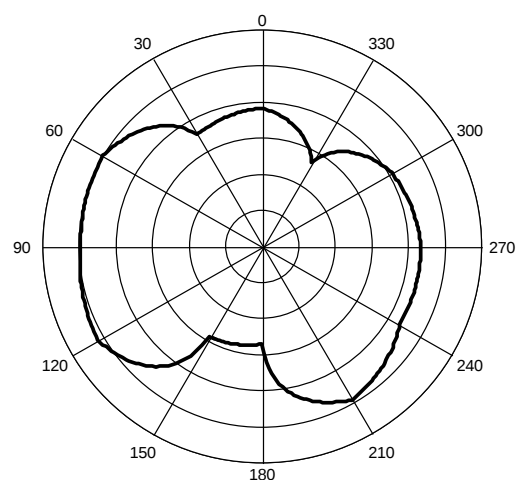
Device Setup &amp; Coordinates



X-Y Plane



X-Z Plane



Y-Z Plane

**Fig. 4** Antenna radiation patterns at 2.45 GHz

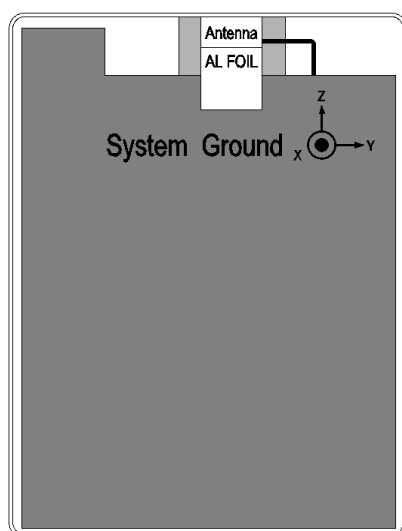
**ANTENNA GAIN & EFFICIENCY**

Table 4

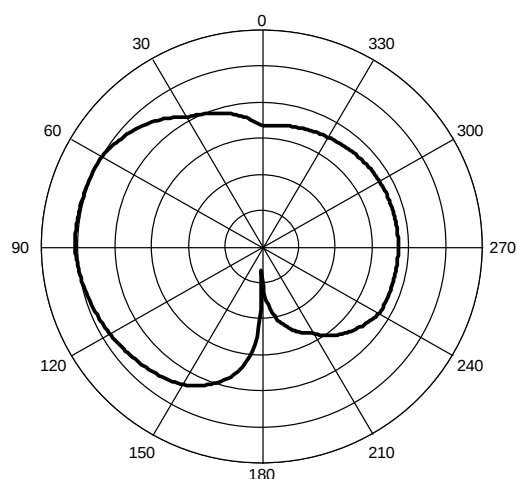
| FREQUENCY (GHz) | AVERAGE GAIN (dBi) | EFFICIENCY (%) | PEAK GAIN (dBi) |
|-----------------|--------------------|----------------|-----------------|
| 5.150           | -3.9               | 41.0           | 2.3             |
| 5.350           | -3.6               | 43.3           | 1.9             |
| 5.470           | -4.4               | 40.4           | 1.0             |
| 5.725           | -4.5               | 40.1           | 0.5             |
| 5.875           | -4.1               | 40.9           | 0.4             |

**ANTENNA RADIATION PATTERNS**

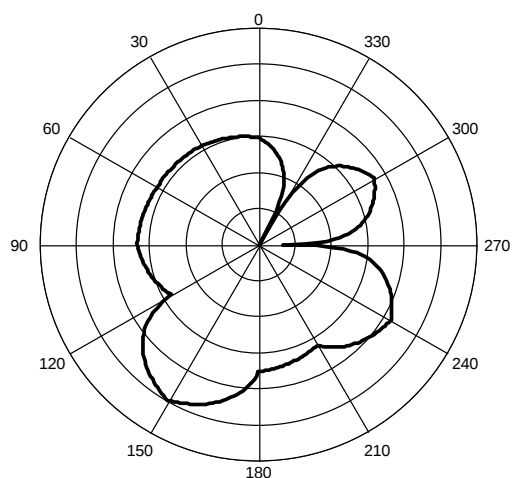
Scale: 5 dBi / div    Max : 5 dBi    Min : -25 dBi



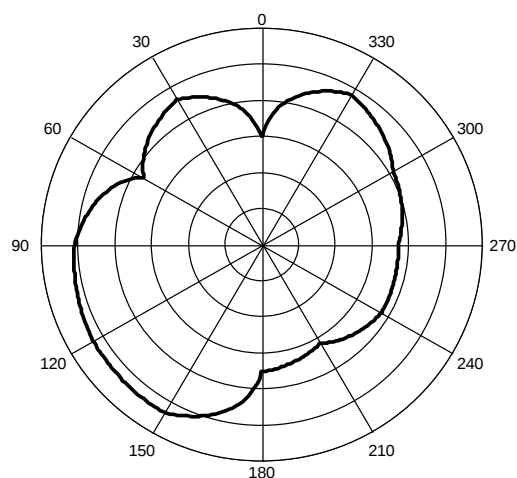
Device Setup &amp; Coordinates



X-Y Plane



X-Z Plane



Y-Z Plane

Fig. 5 Antenna radiation patterns at 5.350 GHz

# REVISION HISTORY

| REVISION  | DATE          | CHANGE NOTIFICATION | DESCRIPTION                                                                  |
|-----------|---------------|---------------------|------------------------------------------------------------------------------|
| Version 0 | Jun. 10, 2014 | -                   | - New data sheet for PCB type antenna,<br>2.40 ~ 2.50GHz / 5.150 ~ 5.875 GHz |

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Yageo:

[ANTX200P002B24553](#)