

# DATA SHEET

## WIRELESS COMPONENTS

PCB type antenna  
ANTX100P001B24553  
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 X100 P 001 B 2455 3**  
 (1) (2) (3) (4) (5) (6) (7)

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**(1) FAMILY**

ANT = Antenna products

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

X = I-PEX  
 100 = 100mm

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**(3) ANTENNA TYPE**

P=PCB

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**(4) SERIAL NUMBER**

001 = SERIAL NUMBER 001

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**(5) PACKAGE TYPE**

B = Bulk

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**(6) WORKING FREQUENCY**

2455 = 2.40 ~ 2.50 GHz / 5.150 ~ 5.875 GHz

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**(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	2.5:1 max / 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**

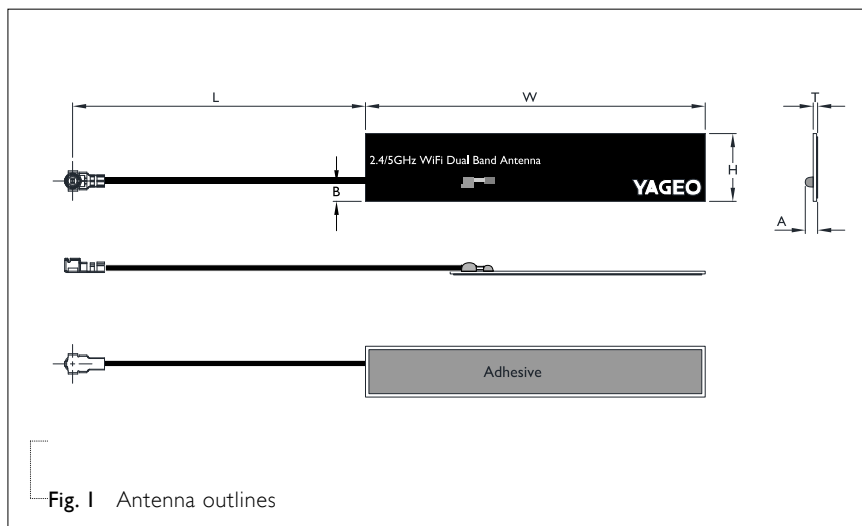
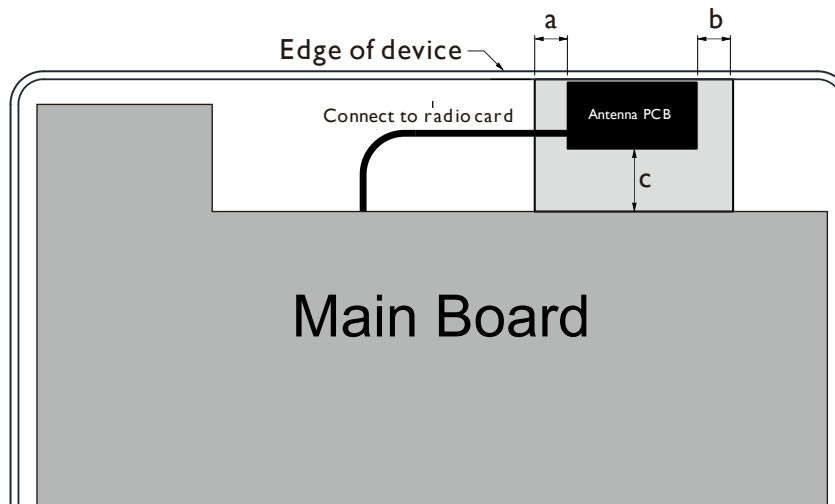


Fig. 1 Antenna outlines

APPLICATION INSTRUCTION



Antenna element should be placed at the edge of device, has minimum keep-out zone of  
 A: 5 mm Min  
 B: 5 mm Min  
 C: 10 mm Min  
 from metallic object.

Fig. 2 Application Instruction

RETURN LOSS & VSWR

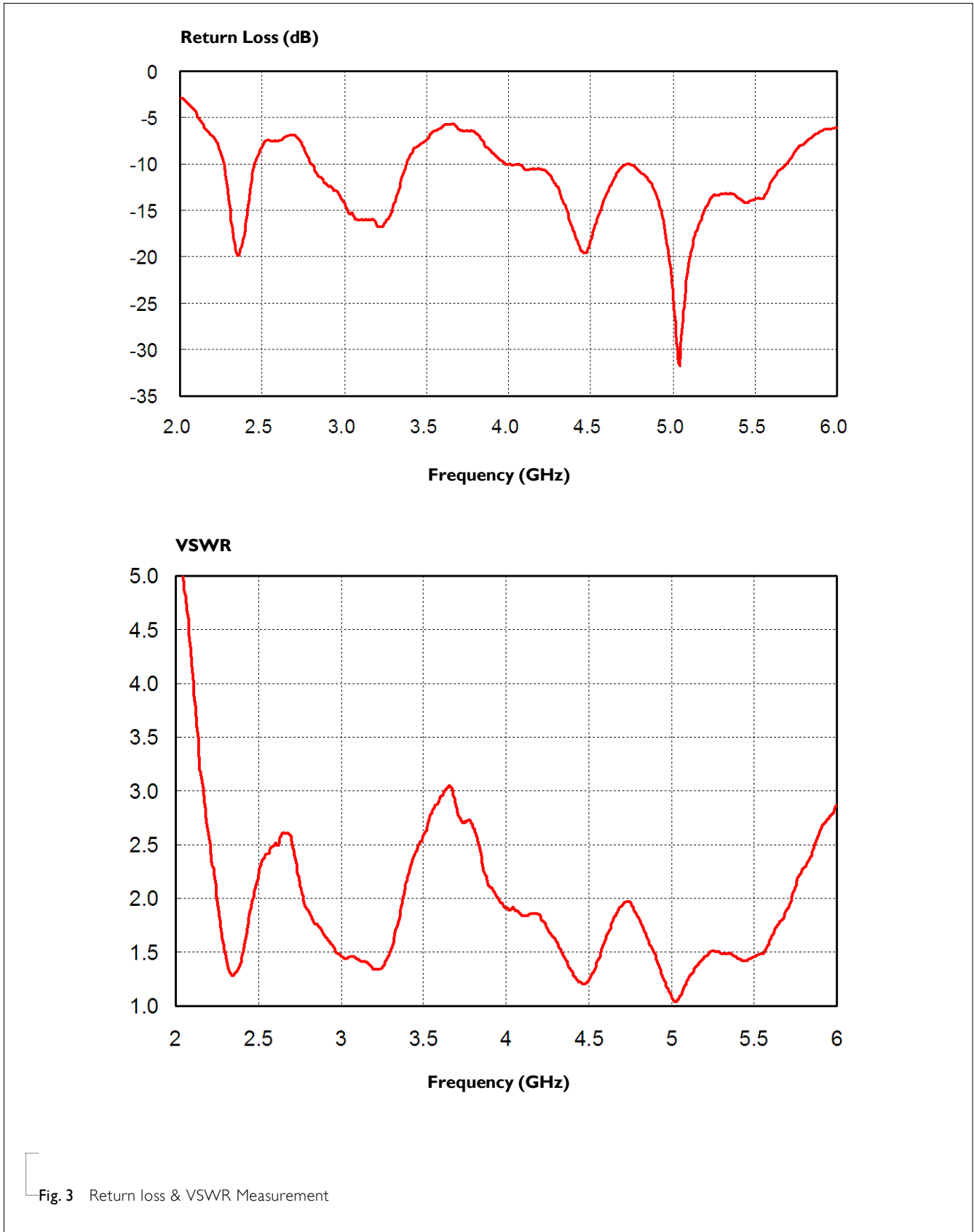


Fig. 3 Return loss & VSWR Measurement

**ANTENNA GAIN & EFFICIENCY**

Table 3

FREQUENCY (GHz)	AVERAGE GAIN (dBi)	EFFICIENCY (%)	PEAK GAIN (dBi)
2.40	-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

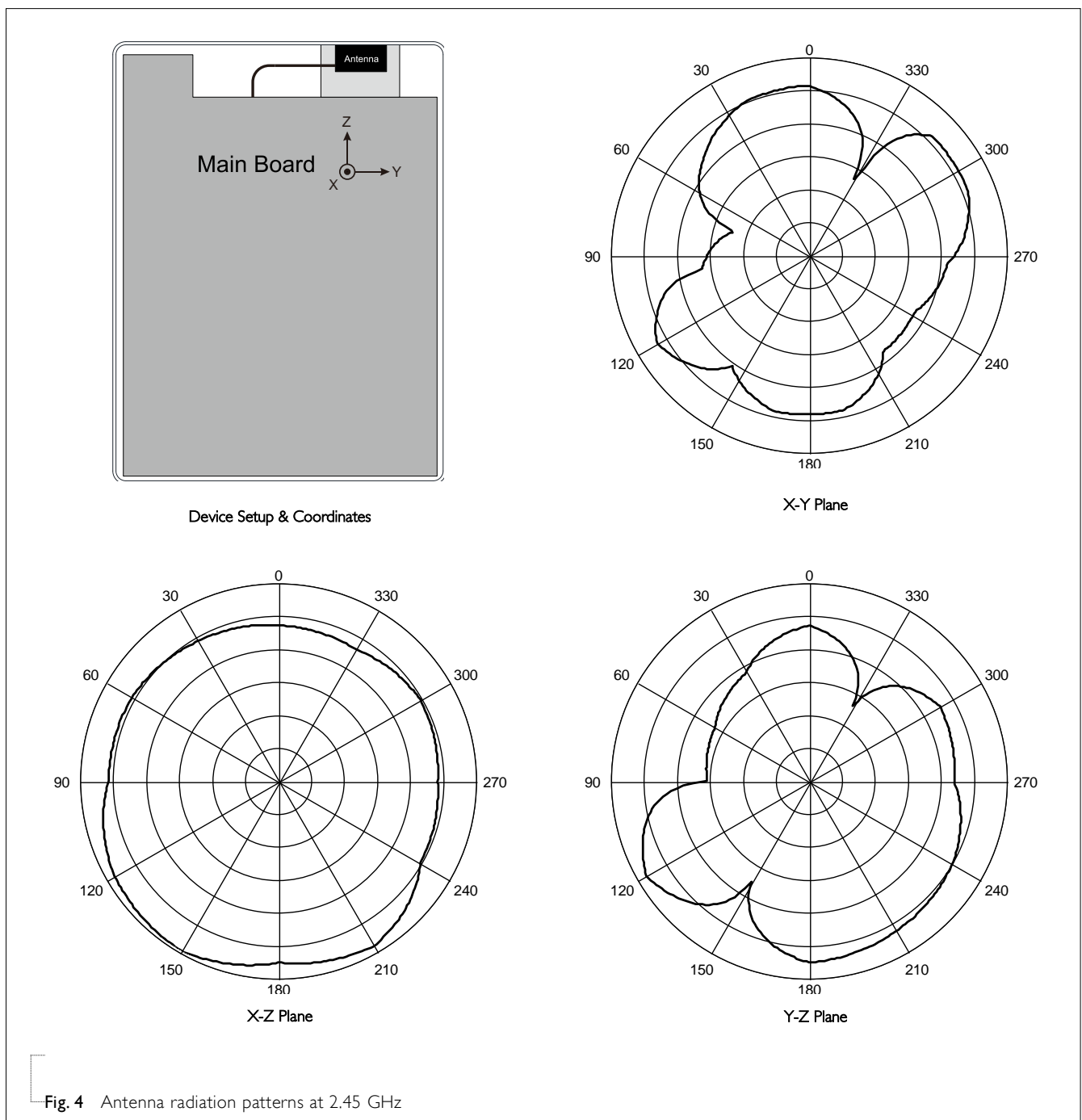


Fig. 4 Antenna radiation patterns at 2.45 GHz

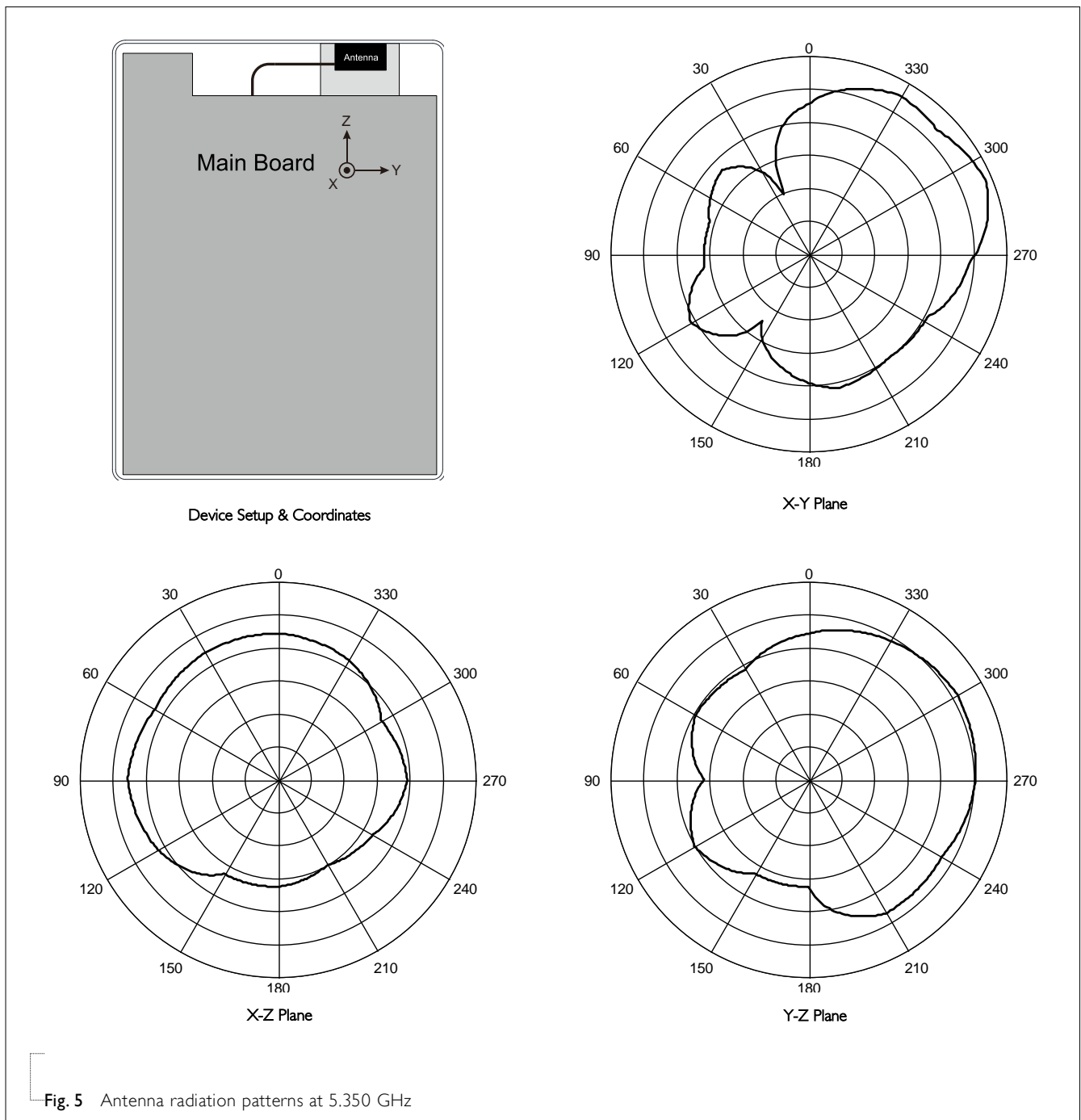
**ANTENNA GAIN & EFFICIENCY**

Table 4

FREQUENCY (GHz)	AVERAGE GAIN (dBi)	EFFICIENCY (%)	PEAK GAIN (dBi)
5.150	-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



REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Mar 31, 2013	-	- New data sheet for PCB type antenna, 2.40 ~ 2.50GHz / 5.150 ~ 5.875 GHz