

# DATA SHEET

## WIRELESS COMPONENTS

PCB type antenna  
ANTX100P002B24553  
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 002 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**

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 Ω 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 / 100mm / Black
Mounting	Adhesive Tape (HF-DS)

**DIMENSIONS**

Table 2 Mechanical Dimension

DIMENSION	VALUE
L (mm)	100 ± 3.00
W (mm)	40 ± 0.30
H (mm)	8 ± 0.30
H1 (mm)	32 ± 0.30
T (mm)	0.55 ± 0.15
A (mm)	2.30 Max
T1 (mm)	0.15 ± 0.05

**OUTLINES**

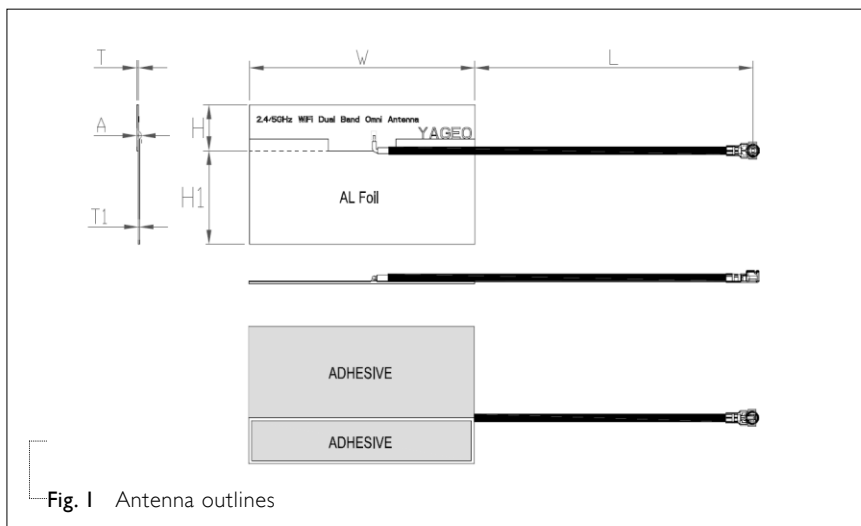
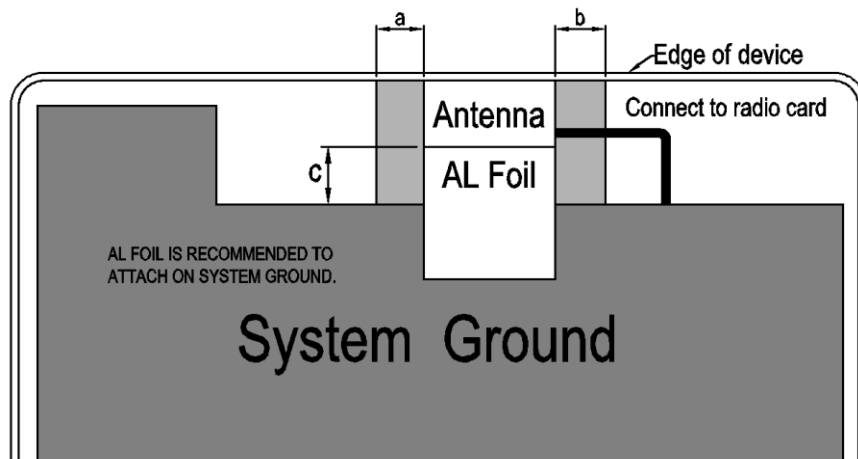


Fig. 1 Antenna outlines

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

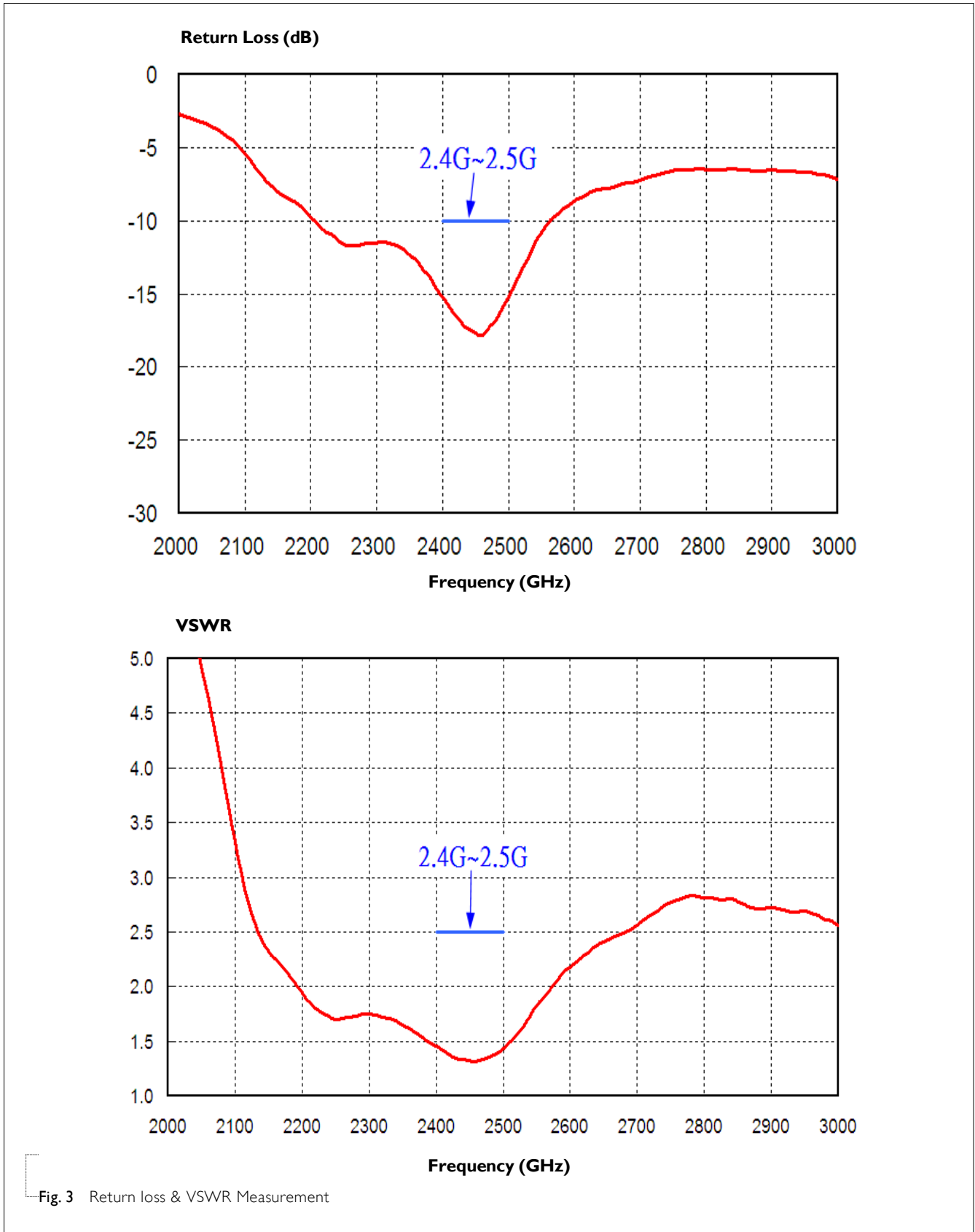


Fig. 3 Return loss & VSWR Measurement

**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

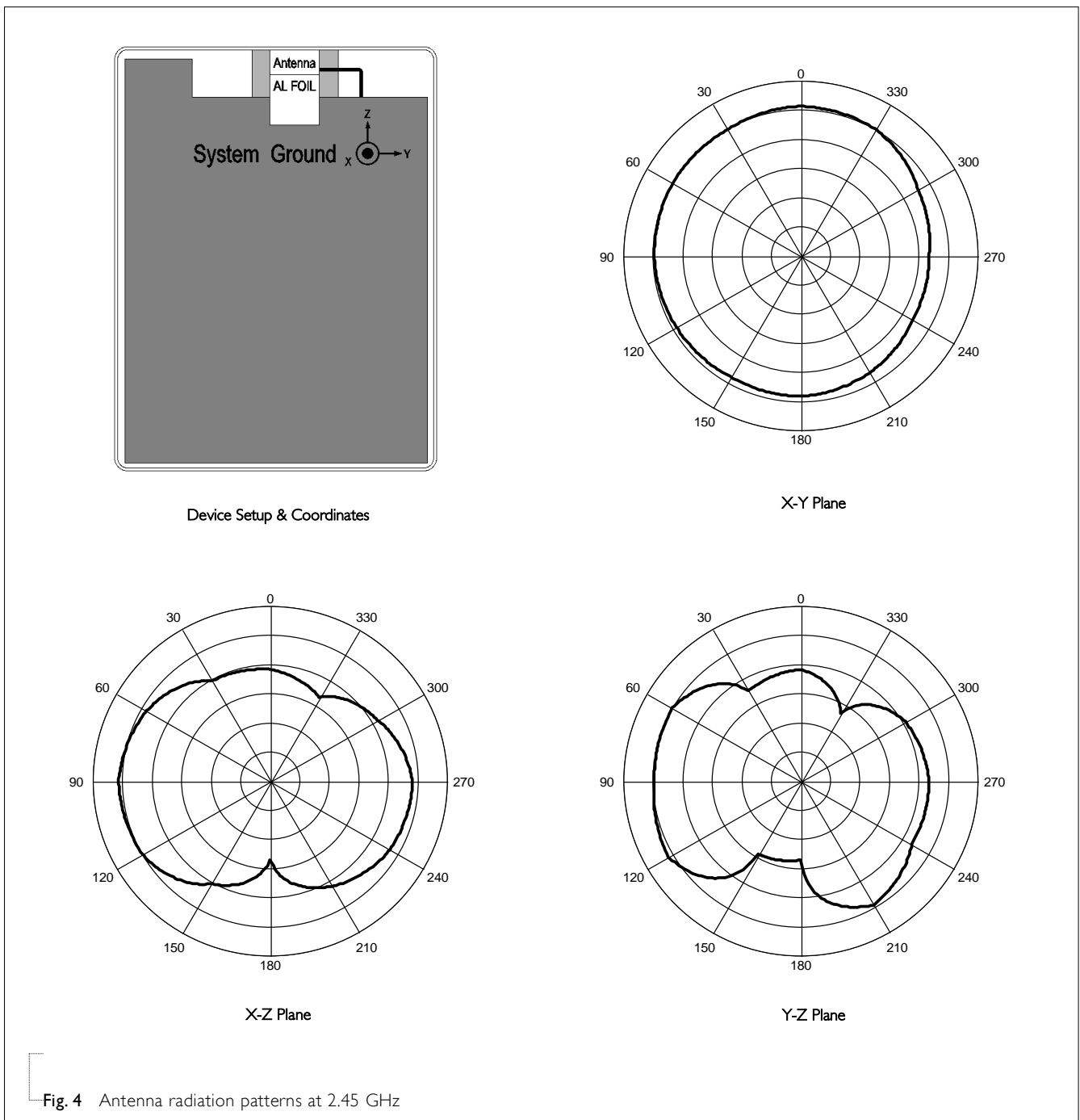


Fig. 4 Antenna radiation patterns at 2.45 GHz

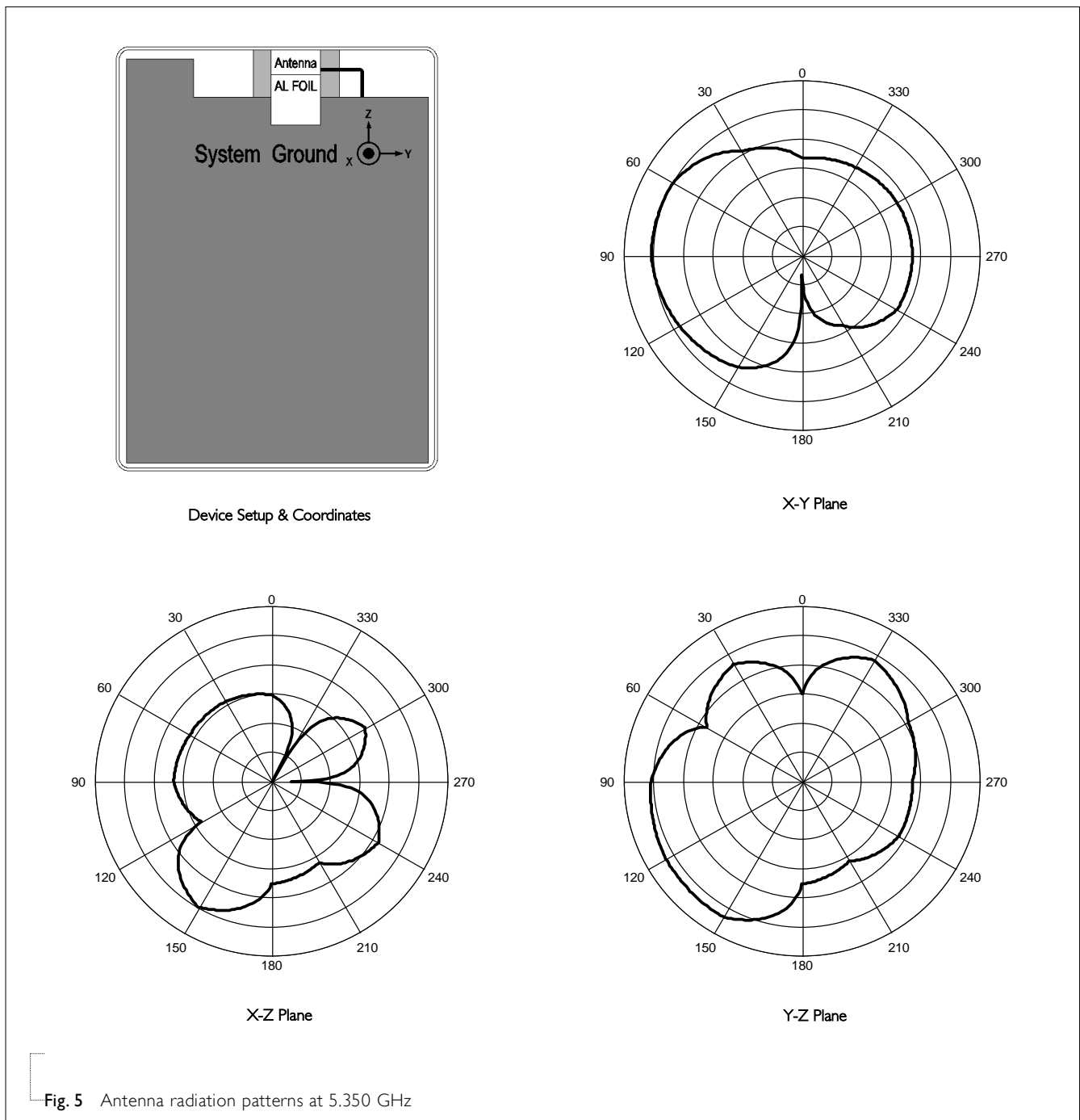
**ANTENNA GAIN & EFFICIENCY**

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



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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