

# DATA SHEET

WIRELESS COMPONENTS

PCB type antenna

ANTX100P111B24553

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 802.11b/g/n)
- Bluetooth / ZigBee devices
- Car Infotainment
- Smart meter
- Lighting control
- POS terminal
- Wireless Industrial Control

**ORDERING INFORMATION – GLOBAL PART NUMBER, PHYCOMP CTC & 12NC**

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 111 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**

Serial number 111

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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**

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	3.2 dBi / 3.4 dBi
Polarization	Linear
Radiation Pattern	Omni-directional
Impedance	50 Ω Nominal
Operating Temperature	- 40 °C to 85 °C
Maximum Power	1 W
PCB Dimension	40mm x 8mm x 0.55mm
Radio Connector	I-PEX (20278-112R-13)
Cable Diameter / Length / Color	1.13mm / 100mm / Black
Mounting	Adhesive Tape (HF-DS)

**DIMENSIONS**

DIMENSION	VALUE
L (mm)	100 ±3.00
W (mm)	40±0.30
H (mm)	8±0.30
B (mm)	4±1.00
T (mm)	0.55±0.15
A (mm)	2.30Max

**OUTLINES**

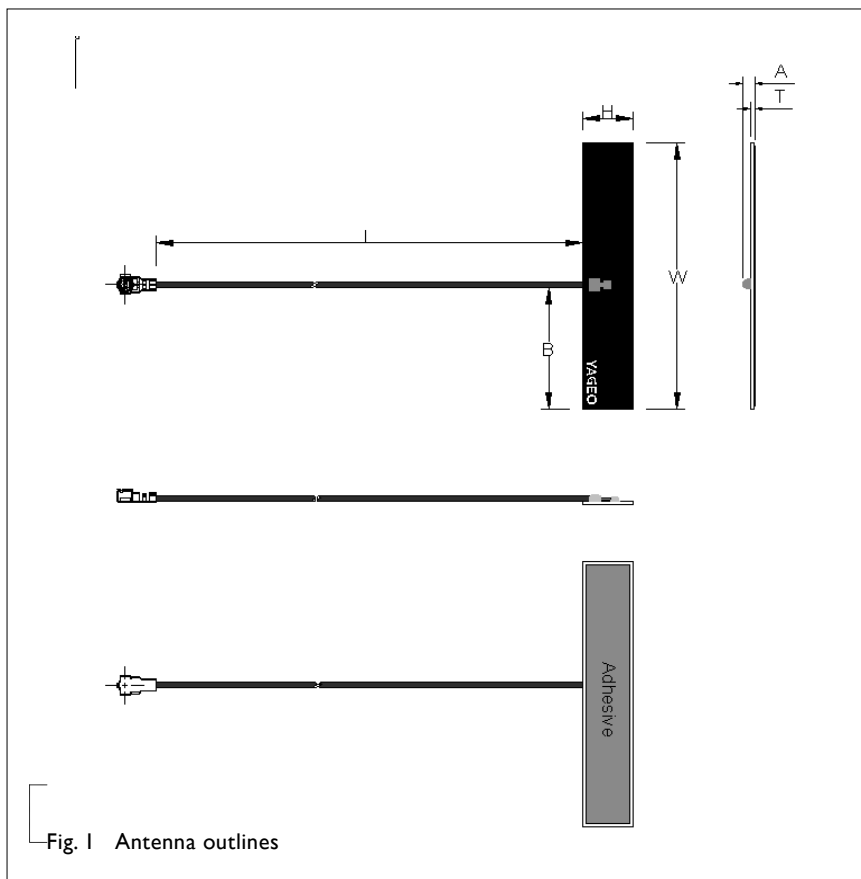
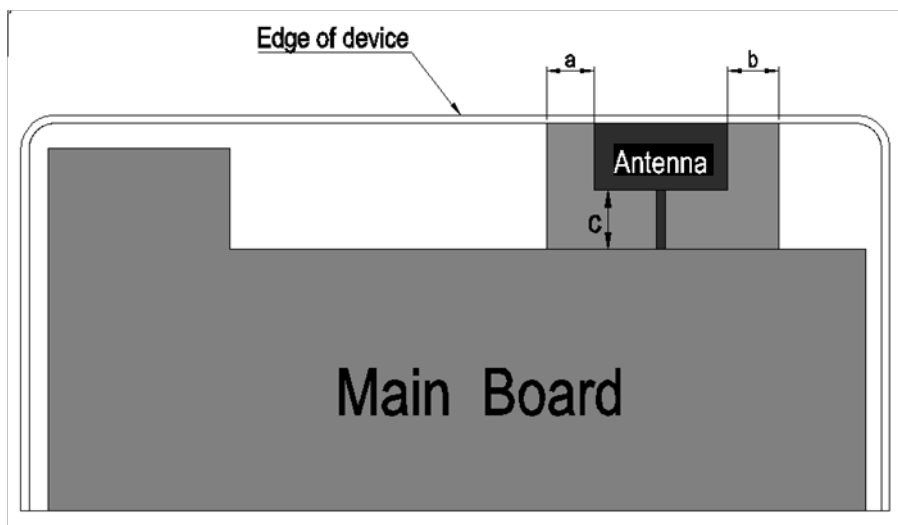


Fig. 1 Antenna outlines

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: 10 mm Min

Fig. 2 Application Instruction

RETURN LOSS & VSWR

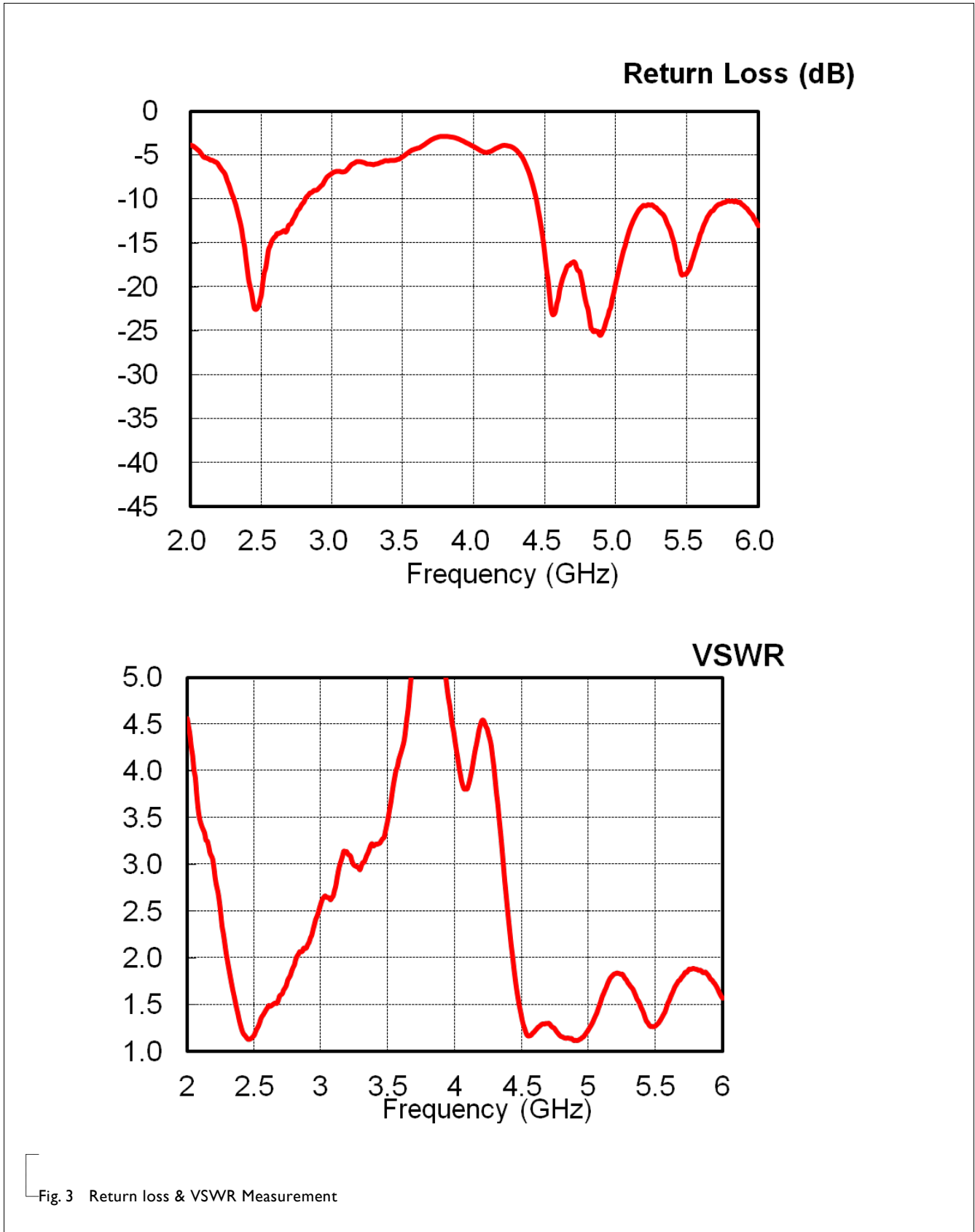


Fig. 3 Return loss & VSWR Measurement

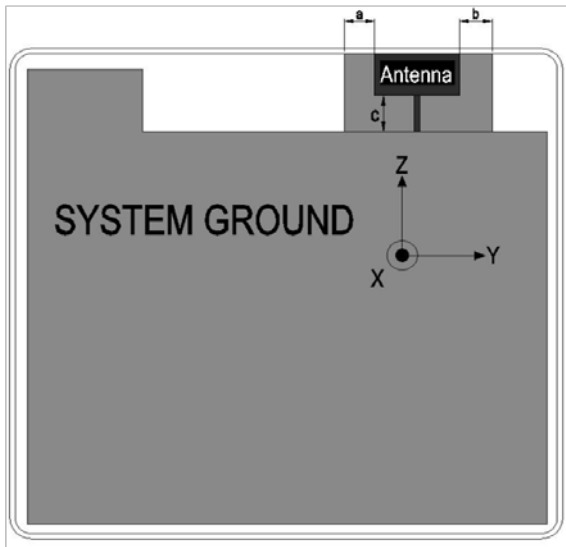
**ANTENNA GAIN & EFFICIENCY**

Table 3

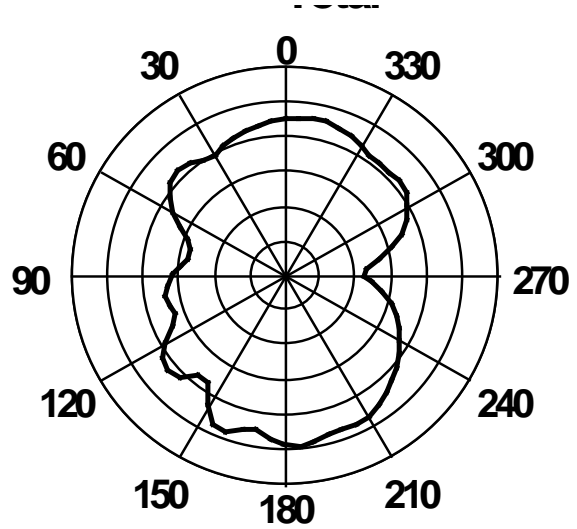
FREQUENCY (GHz)	AVERAGE GAIN (dBi)	EFFICIENCY (%)	PEAK GAIN (dBi)
2.40	-0.8	83.2	3.2
2.45	-1.1	78.4	2.9
2.50	-2.0	63.4	2.4

**ANTENNA RADIATION PATTERNS**

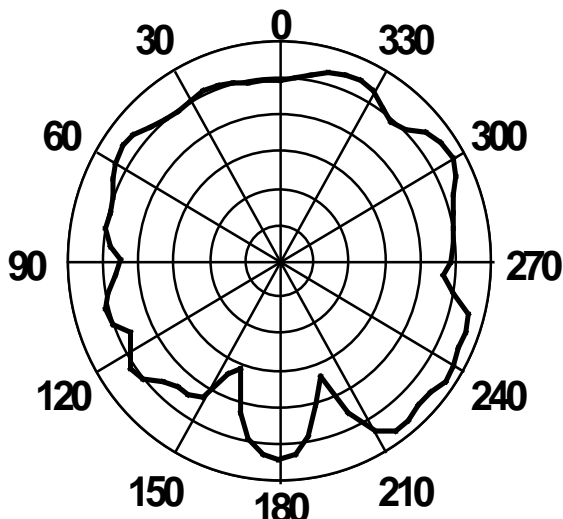
Scale: 5 dBi / div Max : 5 dBi Min : -25 dBi



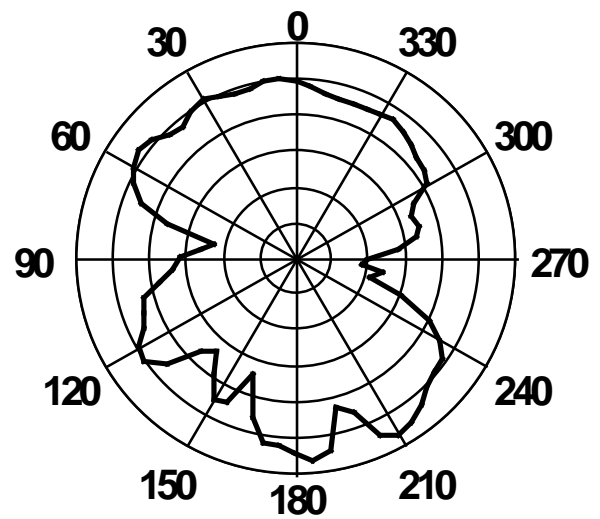
Device Setup & Coordinates



X-Y Plane



X-Z Plane



Y-Z Plane

Fig. 4 Antenna radiation patterns at 2.45 GHz

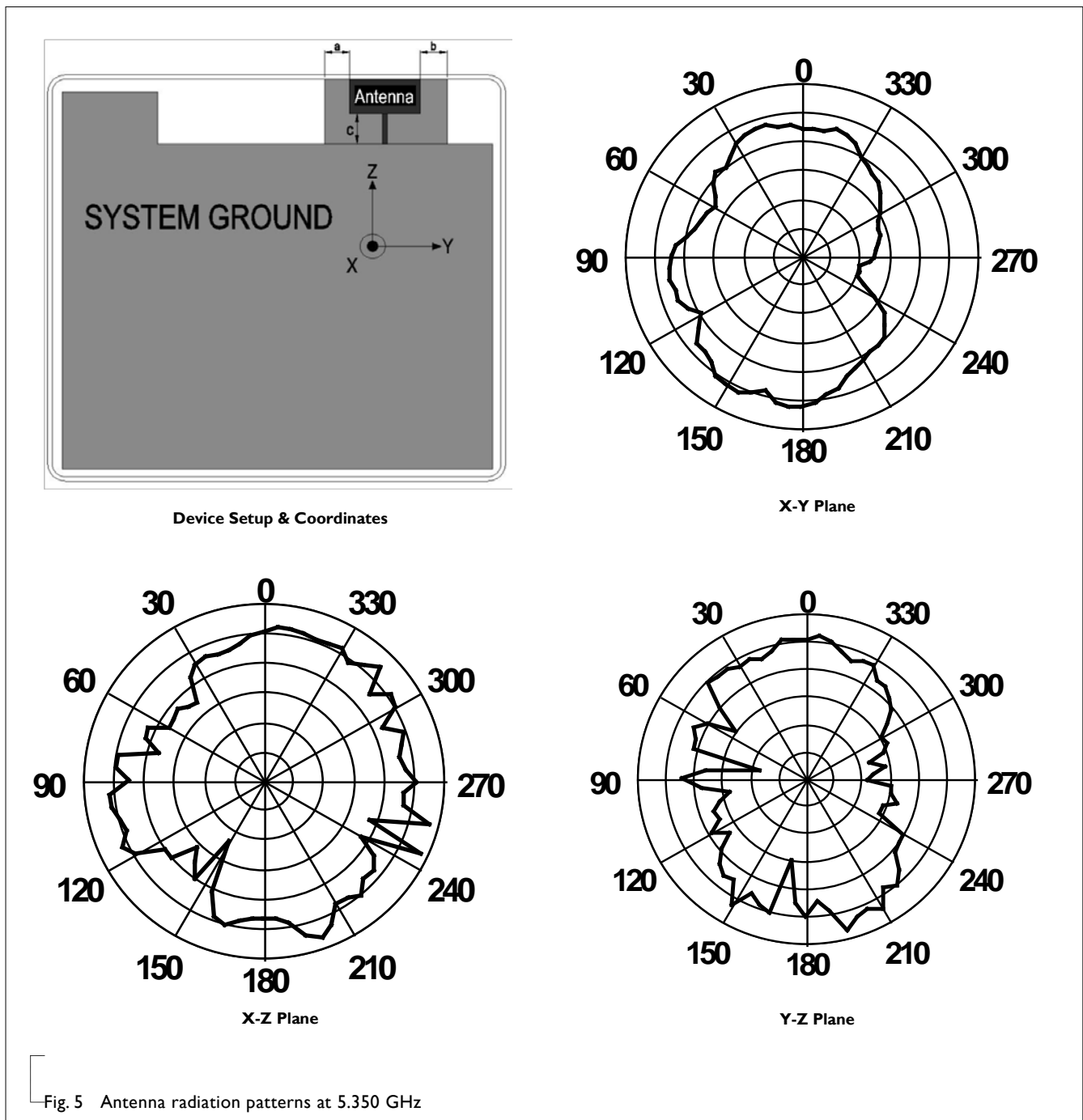
**ANTENNA GAIN & EFFICIENCY**

Table 4

FREQUENCY (GHz)	AVERAGE GAIN (dBi)	EFFICIENCY (%)	PEAK GAIN (dBi)
5.150	-2.3	59.4	2.5
5.350	-2.4	57.9	1.6
5.475	-2.3	59.0	1.7
5.725	-2.4	58.0	3.4
5.875	-2.4	57.5	2.0

**ANTENNA RADIATION PATTERNS**

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



REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Apr. 29, 2015	-	- New data sheet for PCB type antenna, 2.40 ~ 2.50GHz / 5.150 ~ 5.875 GHz