

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 install 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

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 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	0.9 dBi / 2.3 dBi
Polarization	Linear
Radiation Pattern	Omni-directional
Impedance	50 Ω Nominal
Operating Temperature	-40 °C to 85 °C
Maximum Power	1 W
Dimension	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	VALUE
L (mm)	200 ±3.00
W (mm)	40 ± 0.30
H (mm)	8 ± 0.30
H1 (mm)	32 ± 0.30
Γ (mm)	0.55 ± 0.15
A (mm)	2.30 Max
Γ1 (mm)	0.15 ± 0.05

OUTLINES

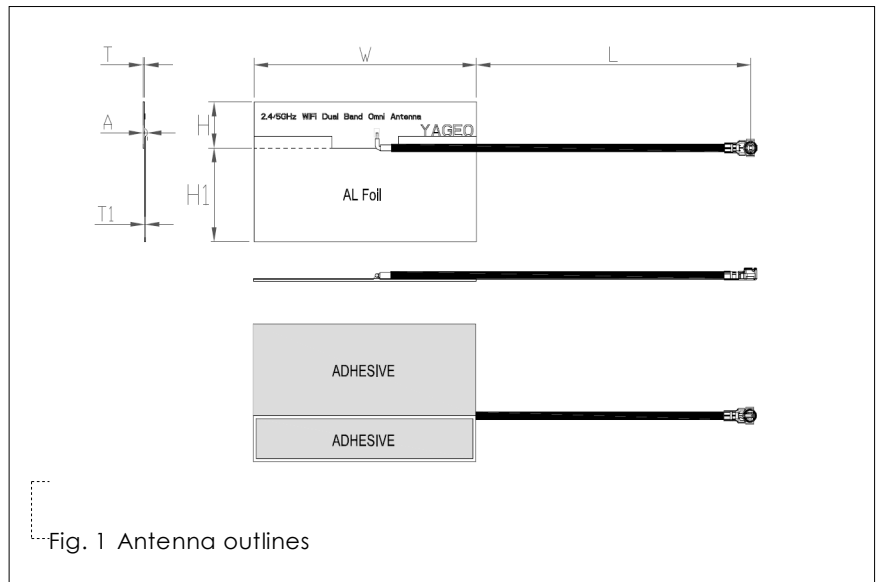
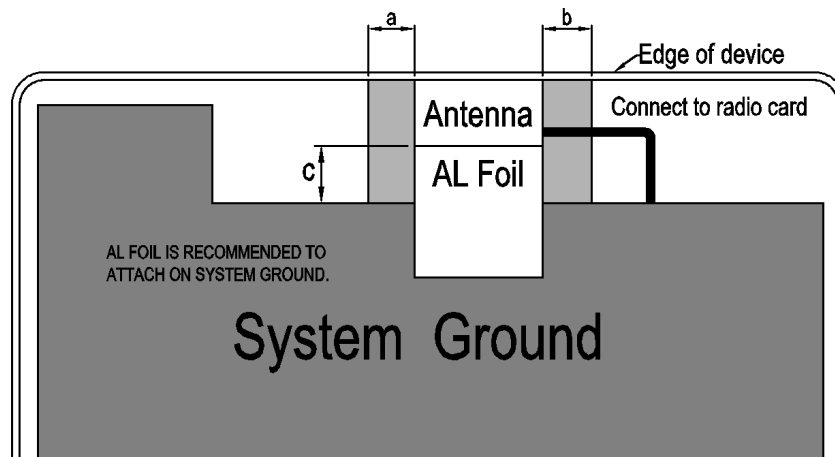


Fig. 1 Antenna outlines

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: 5 mm Max
 from metallic object.

Fig. 2 Application Instruction

RETURN LOSS & VSWR

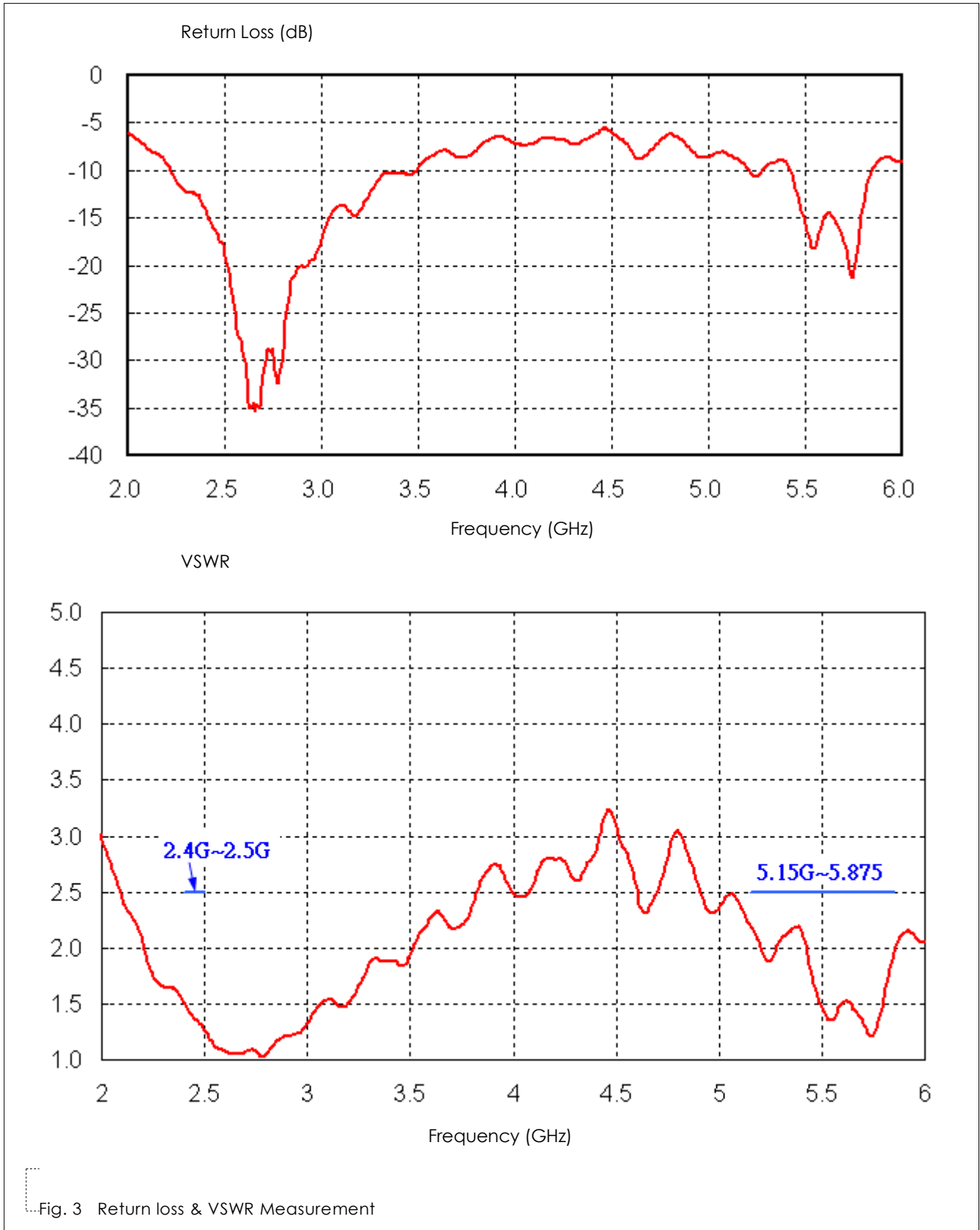


Fig. 3 Return loss & VSWR Measurement

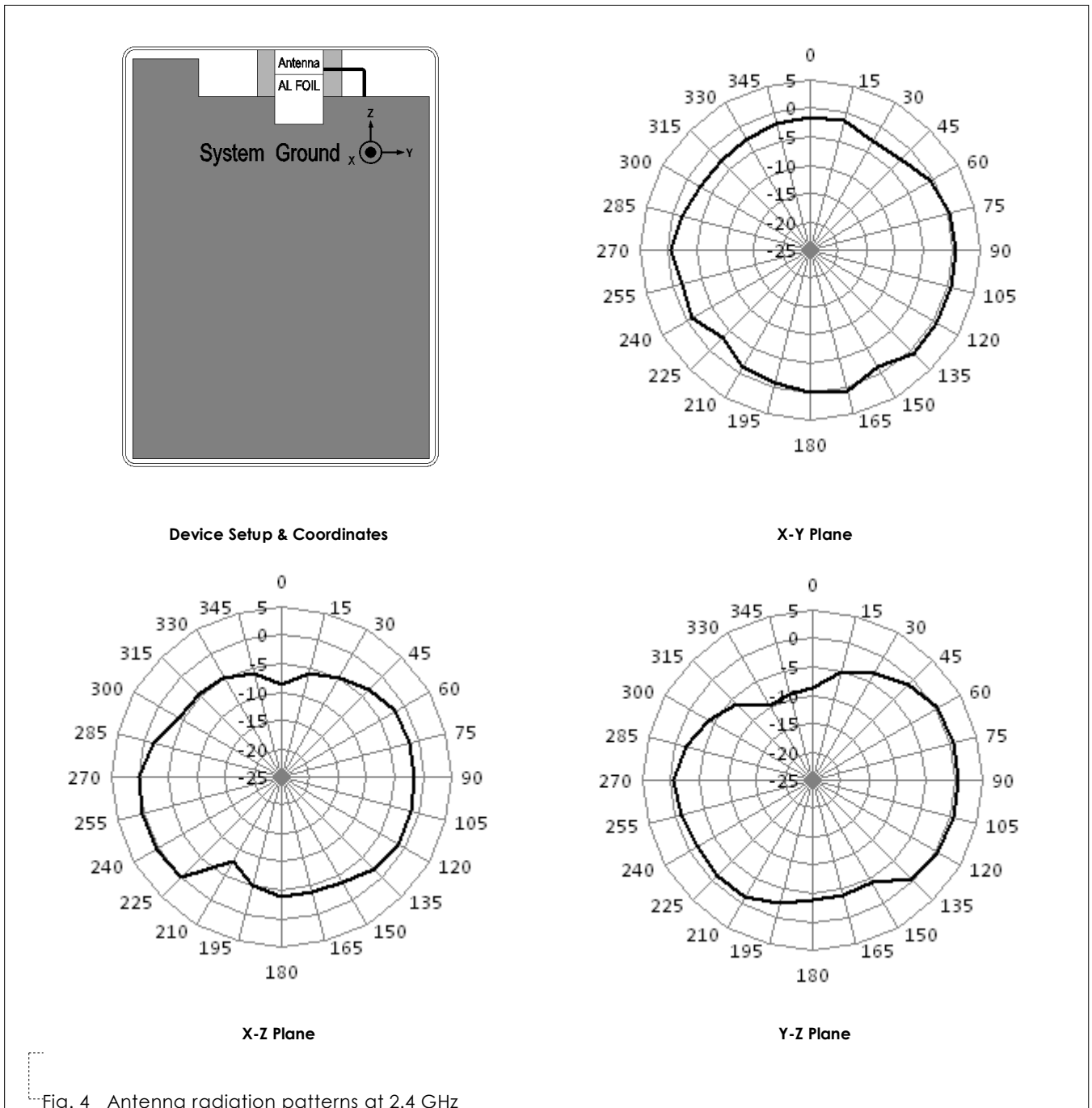
ANTENNA GAIN & EFFICIENCY

Table 3

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

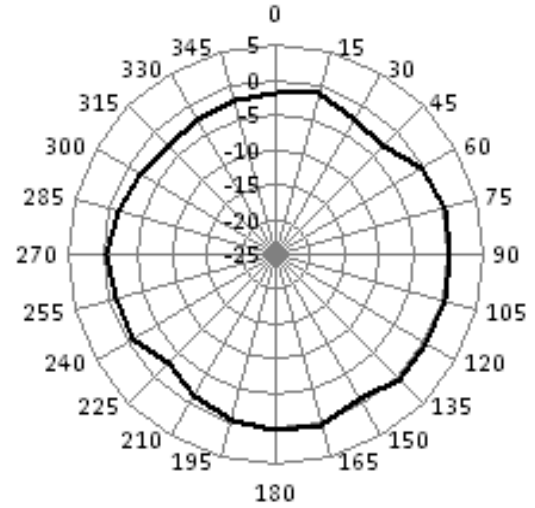
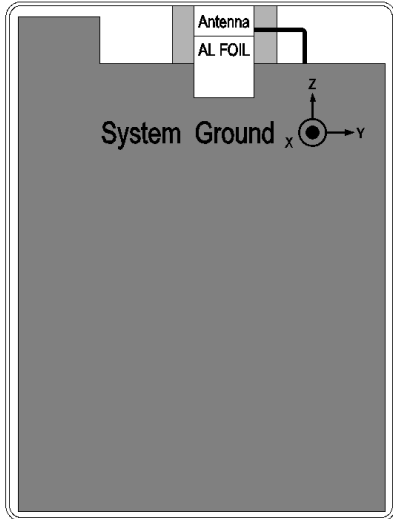
ANTENNA RADIATION PATTERNS

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

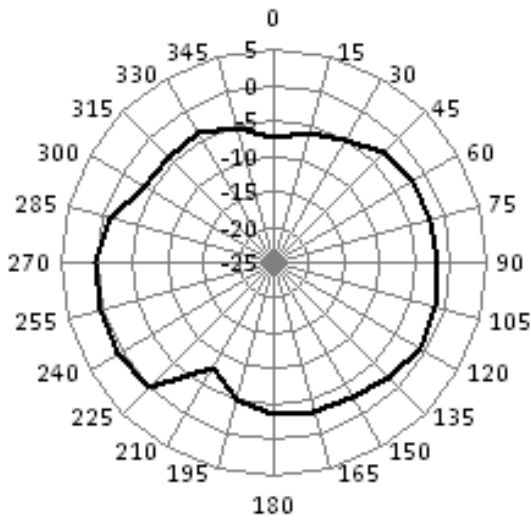


ANTENNA RADIATION PATTERNS

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

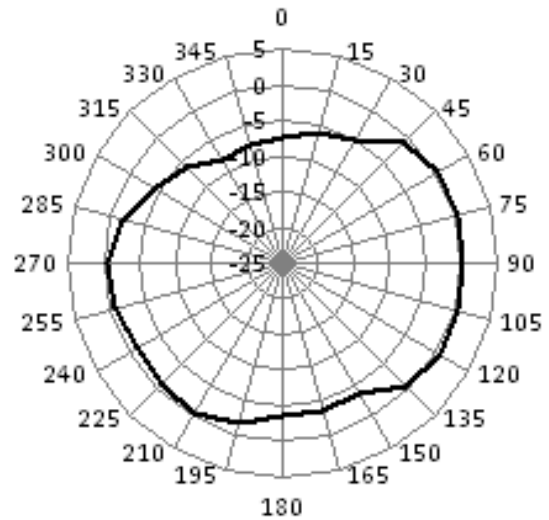


Device Setup & Coordinates



X-Z Plane

X-Y Plane

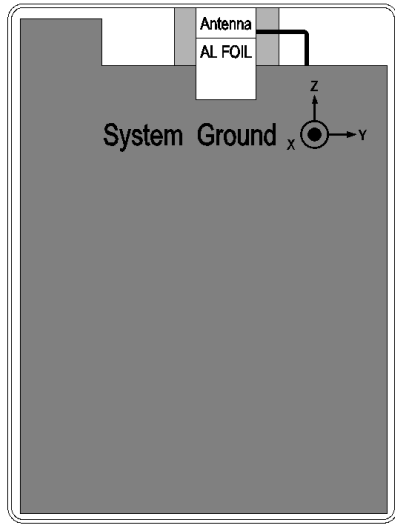


Y-Z Plane

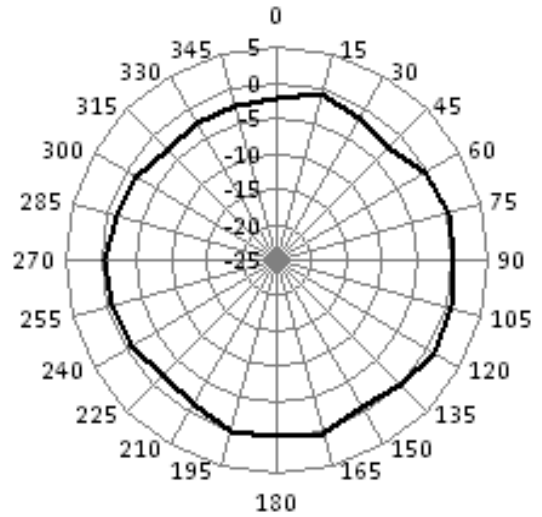
Fig. 5 Antenna radiation patterns at 2.45 GHz

ANTENNA RADIATION PATTERNS

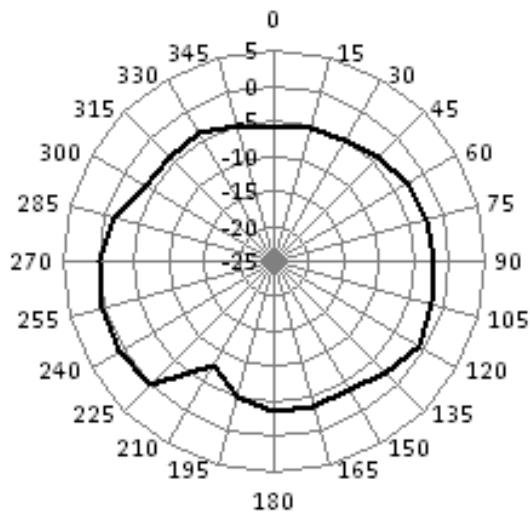
Scale: 5 dBi / div Max : 5 dBi Min : -25 dBi



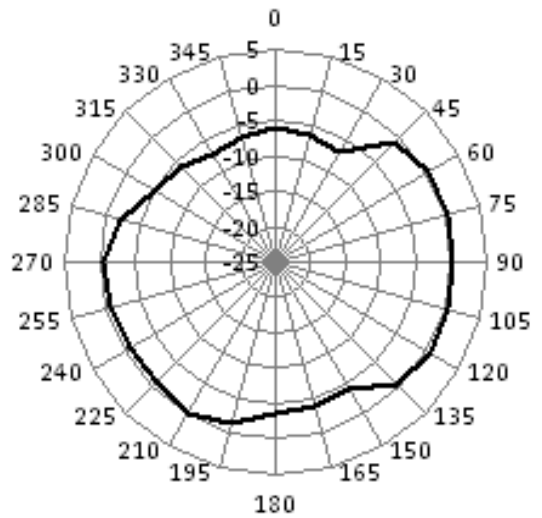
Device Setup & Coordinates



X-Y Plane



X-Z Plane



Y-Z Plane

Fig. 6 Antenna radiation patterns at 2.5 GHz

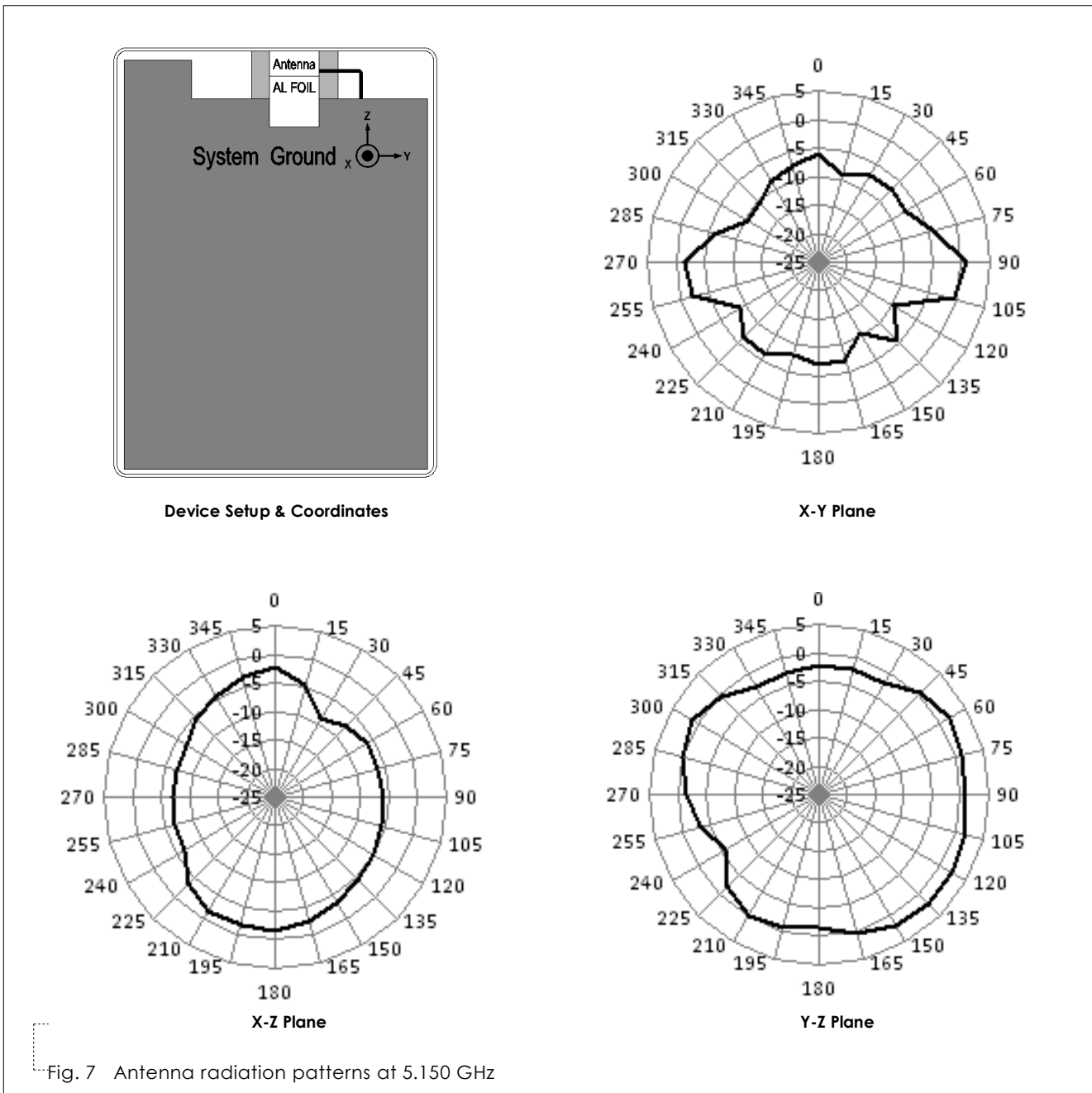
ANTENNA GAIN & EFFICIENCY

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

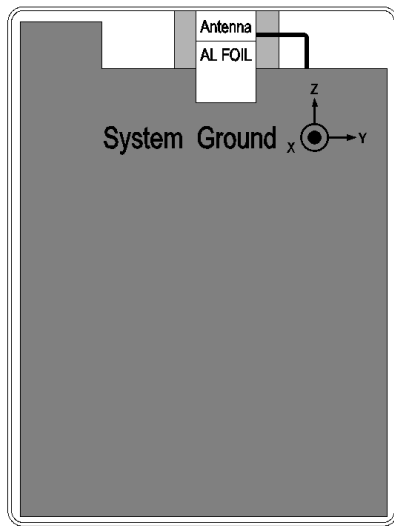
ANTENNA RADIATION PATTERNS

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

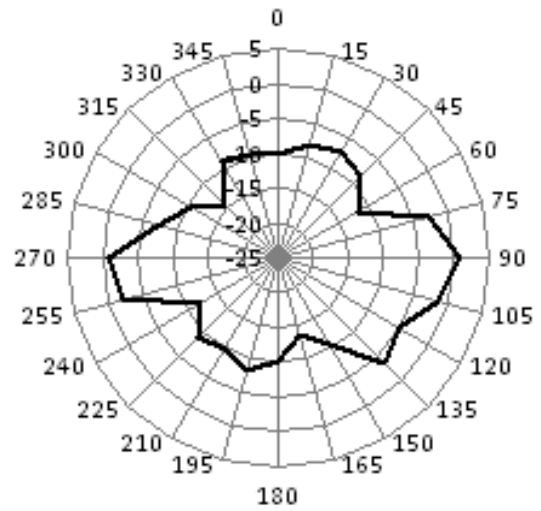


ANTENNA RADIATION PATTERNS

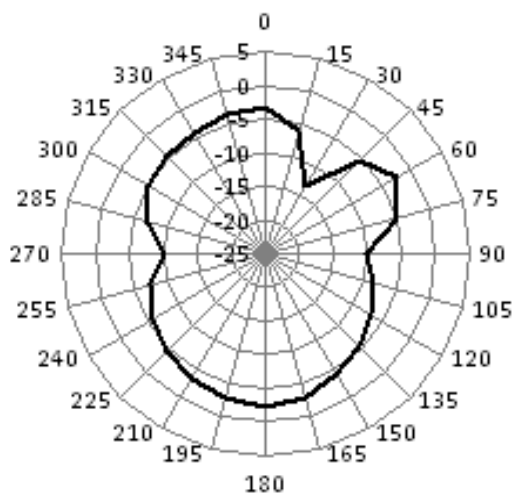
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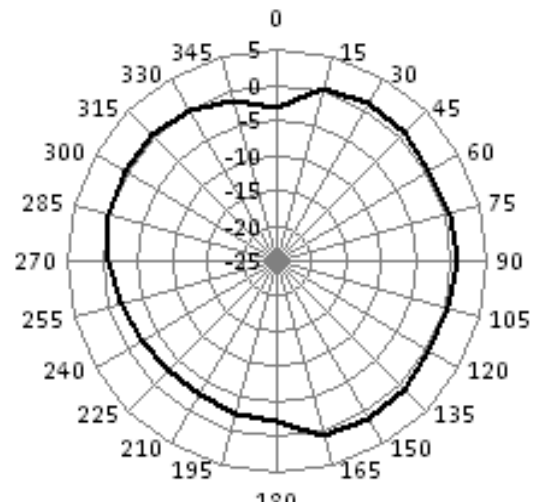
Device Setup & Coordinates



X-Y Plane



X-Z Plane

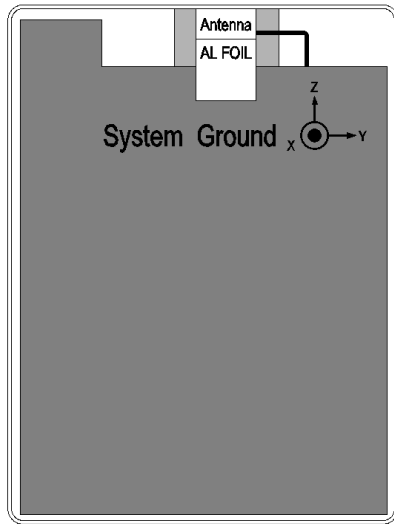


Y-Z Plane

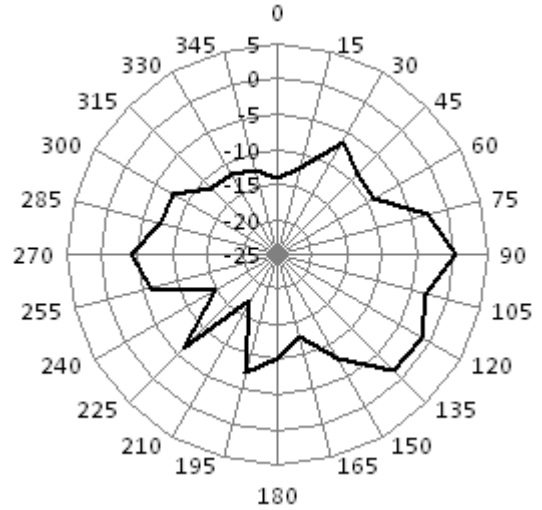
Fig. 8 Antenna radiation patterns at 5.47 GHz

ANTENNA RADIATION PATTERNS

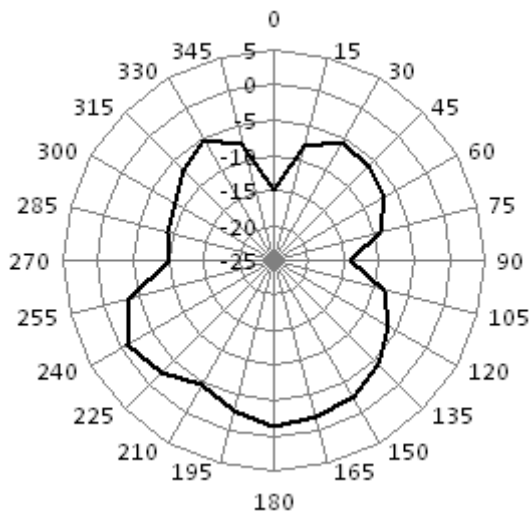
Scale: 5 dBi / div Max : 5 dBi Min : -25 dBi



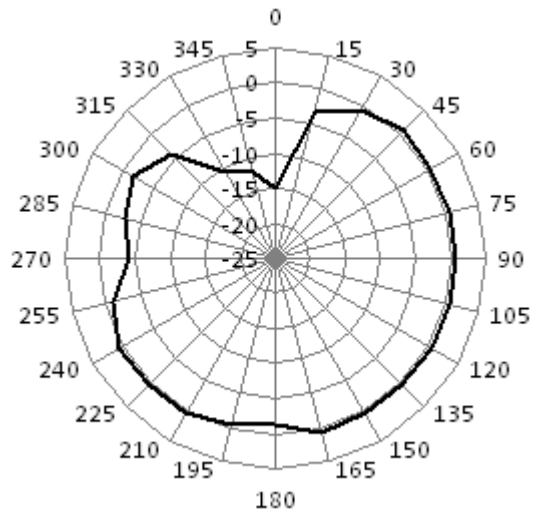
Device Setup & Coordinates



X-Y Plane



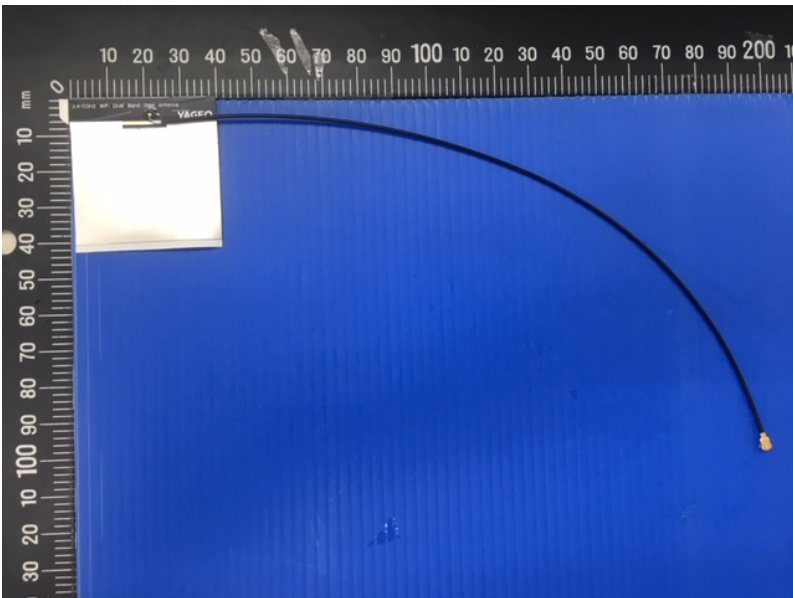
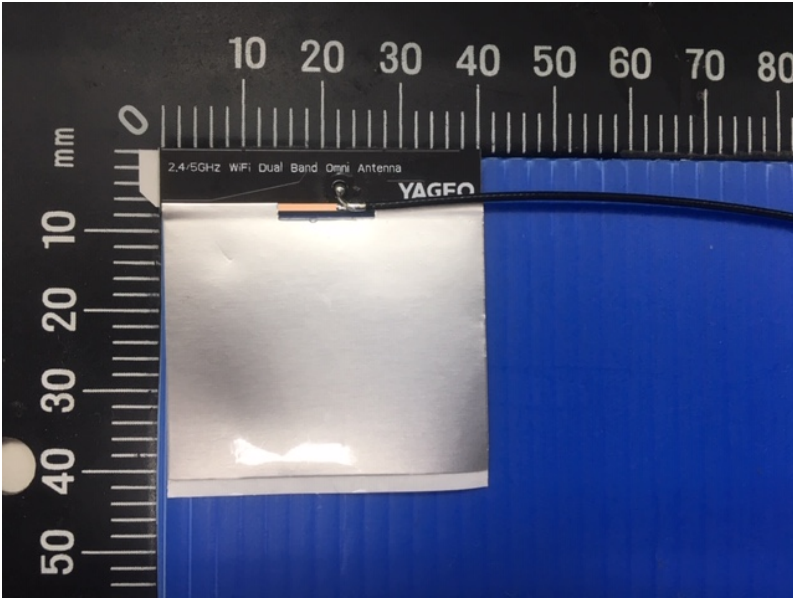
X-Z Plane

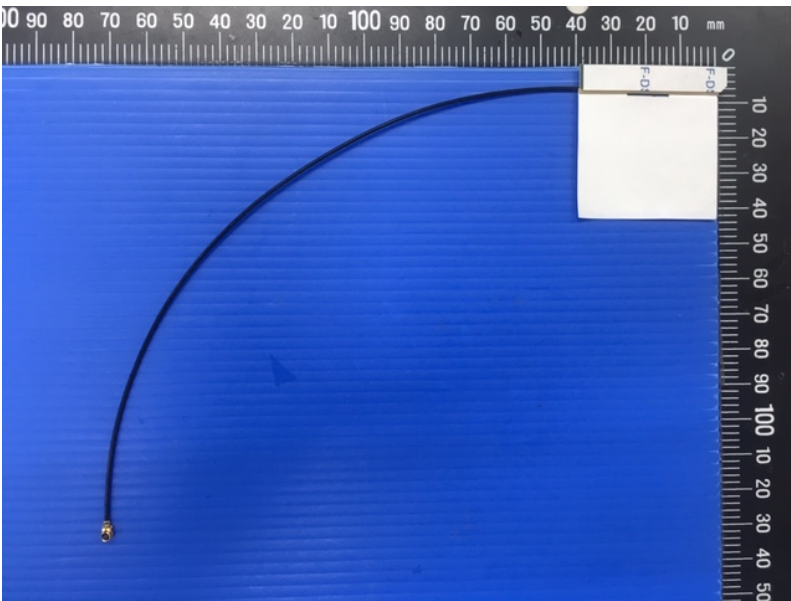
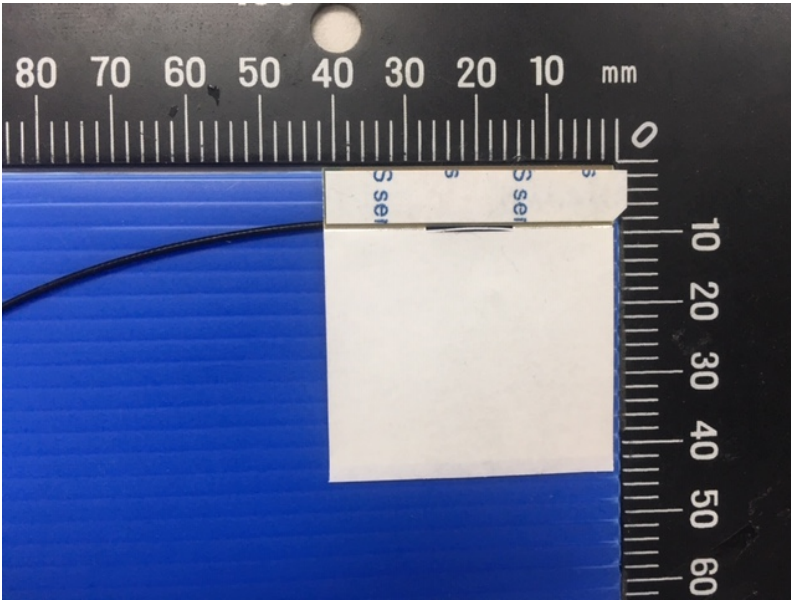


Y-Z Plane

Fig. 9 Antenna radiation patterns at 5.875 GHz

ANTENNA PHOTO





REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 1	JUL. 22, 2019	-	- Data sheet for PCB type antenna, 2.40 ~ 2.50GHz / 5.150 ~ 5.875 GHz