

Data Sheet

CUSTOMER: ASUS

MODEL NAME: UX5304

AWAN P/N: AYP6Y-100373



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1. Description

1.1 Specifications

Antennas Type	PIFA Antenna for WLAN WIFI application	
Connector Type	IPEX NGFF Connector for 1.13 cable	
Cable Type	OD 1.13 RF L/L Cable	
Impedance	50Ω	
Polarization	Linear	
Radiation pattern	Omni-directional	
Frequency	2.40~2.50 GHz	
	5.15~5.895 GHz	
	5.925~7.125 GHz	
VSWR	2.40~2.50 GHz	2.0 Max
	5.15~5.895 GHz	
	5.925~7.125 GHz	
Cable Loss	2.40~2.50 GHz	0.37 dB
	5.15~5.895 GHz	0.61 dB
	5.925~7.125 GHz	0.68 dB
Cable length	WLAN Main : (AYP6Y-100373)	148 mm, Black

	2.4GHz 2400-2483.5 MHz	5.2GHz 5150-5250MHz	5.3GHz 5250-5350MHz	5.6GHz 5470-5725MHz	5.8GHz 5725-5850MHz	5.9GHz 5850-5895MHz	6.2GHz 5925-6425MHz	6.5GHz 6425-6525MHz	6.7GHz 6525-6875MHz	7.0 GHz 6875-7125MHz
Main	2.85	3.41	3.51	4.37	4.37	4.35	4.31	4.20	4.22	3.85

2. Electrical Specification

2.1 Test Equipment

- A. VSWR and input impedance: Agilent 8720/8753 Network Analyzer
- B. Antenna gain and efficiency: ETS three-dimensional anechoic chamber

2.2 Test Setup

2.2.1 Frequency Range

- A. 2.40~2.50 GHz
- B. 5.15~5.85 GHz
- C. 5.925~7.125 GHz

2.2.2 VSWR

- Step 1: The antenna is arranged on the customer provided test fixture(see figure. 1).
- Step 2: The VSWR of the antenna is measured via Agilent 8720/8753 Network Analyzer (see figure. 1).



Figure.1

2.2.3 Radiation pattern and Gain

- A. The 3D chamber provides less than -40dB reflectivity from 500MHz to 7.125GHz and a 40cm diameter spherical quiet zone. The measurement results are calibrated using both dipoles and standard gain horns (see figure. 2).
- B. The antenna under tested is arranged in the turned table and a decoupling sleeve is used to reduce feed line radiation (see figure. 3).
- C. The measured results of the radiation patterns and antenna gain are obtained from the control system and showed on the monitor (see figure. 4 and 5).



Figure. 2

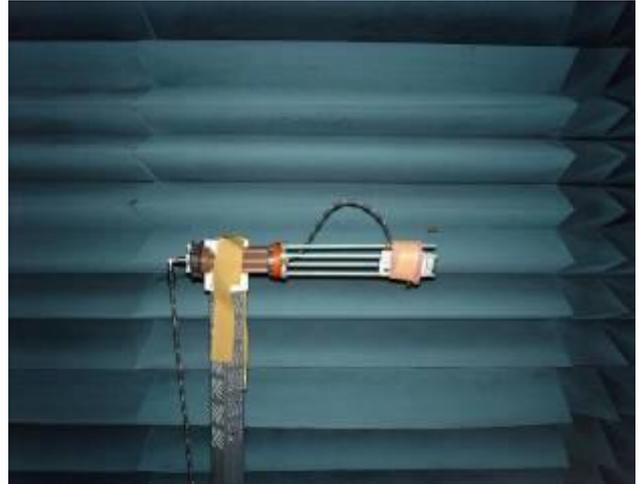


Figure. 3



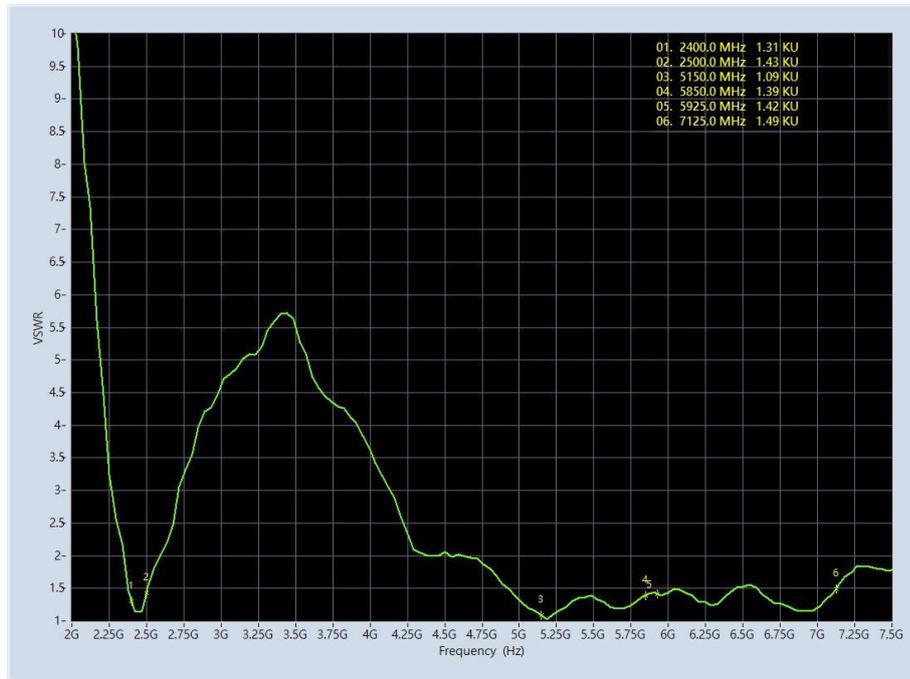
Figure. 4



Figure. 5

3. Performance Data

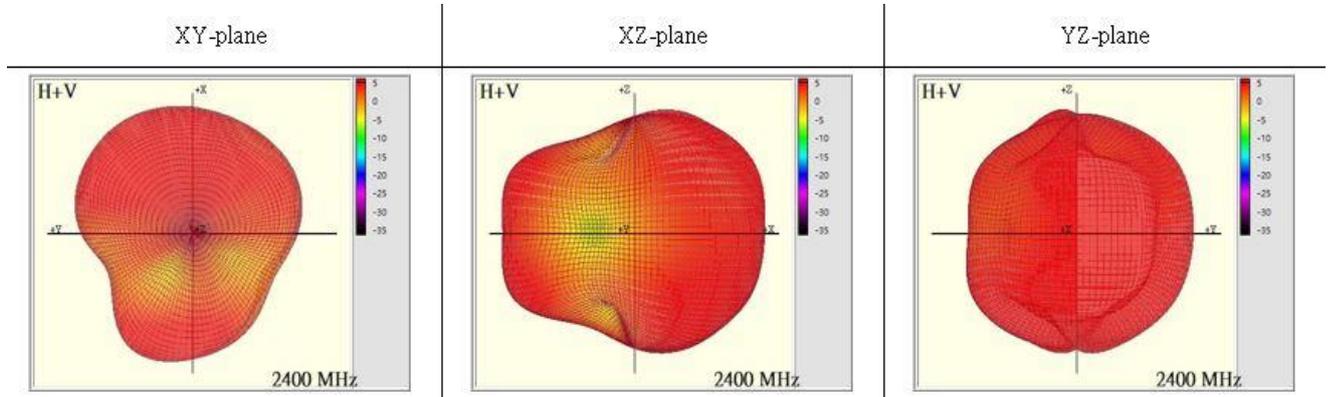
3.1 VSWR



WLAN Main

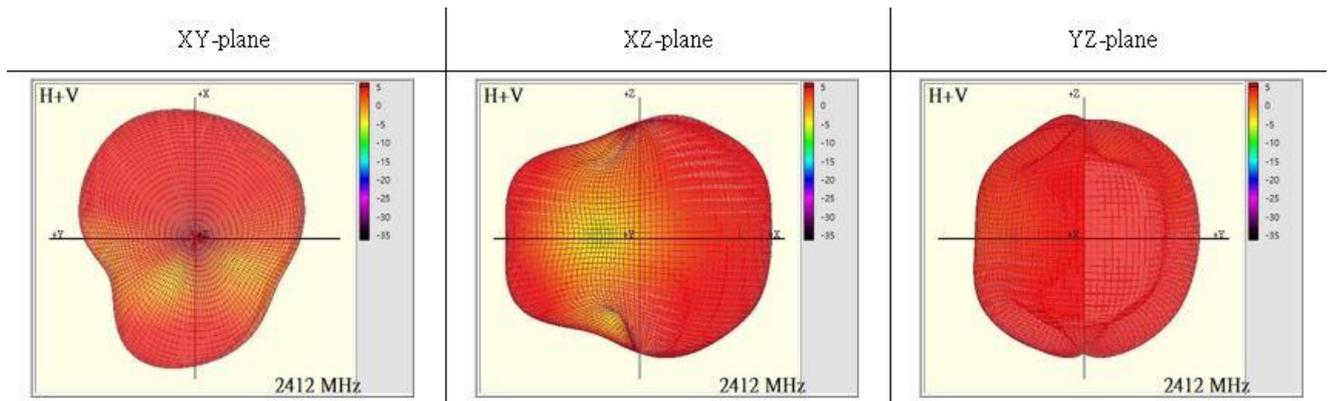
3.2 Radiation pattern & Gain(WLAN Main Antenna)

Main antenna: 2400 MHz



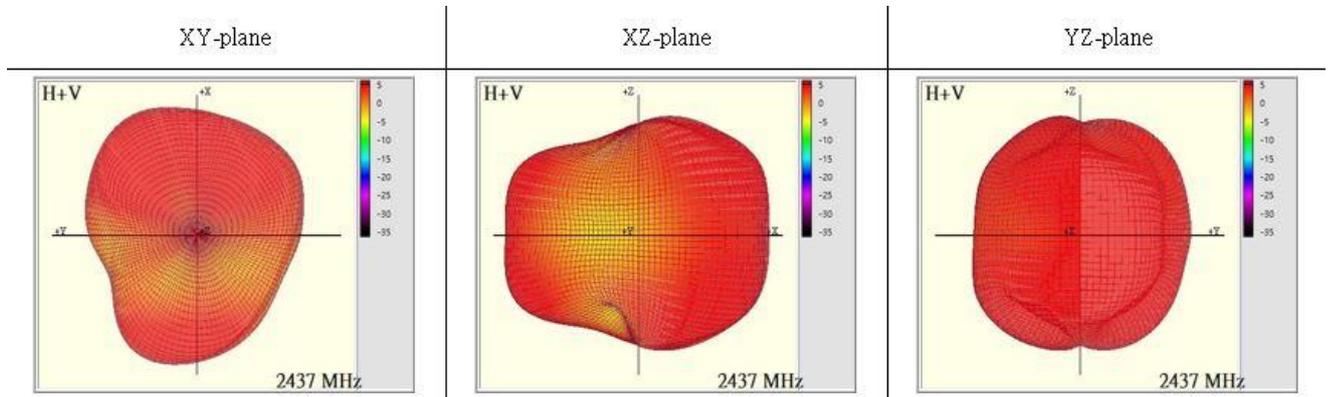
Center Frequency	2400 MHz
Three-dimensional (dBi) peak	2.63

Main antenna: 2412 MHz



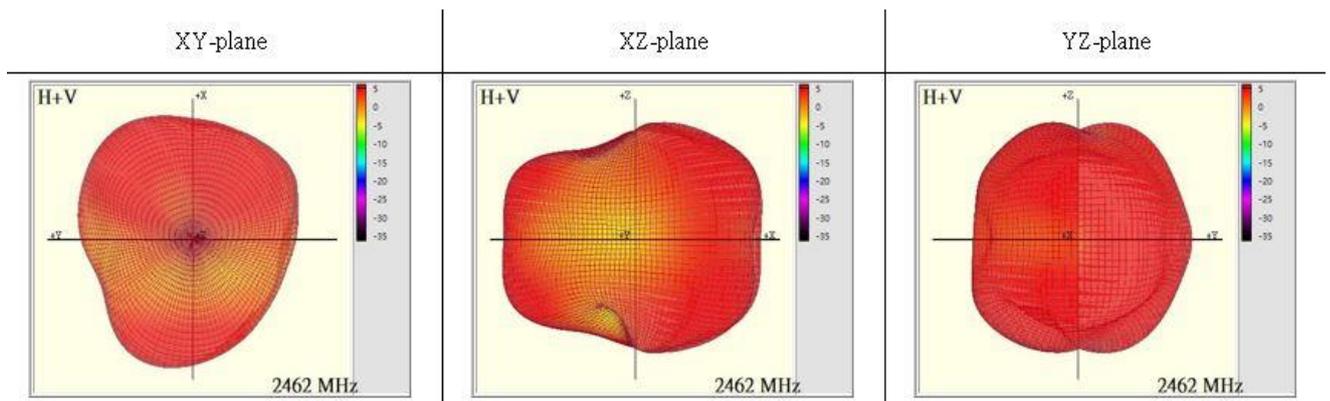
Center Frequency	2412 MHz
Three-dimensional (dBi) peak	2.79

Main antenna: 2437 MHz



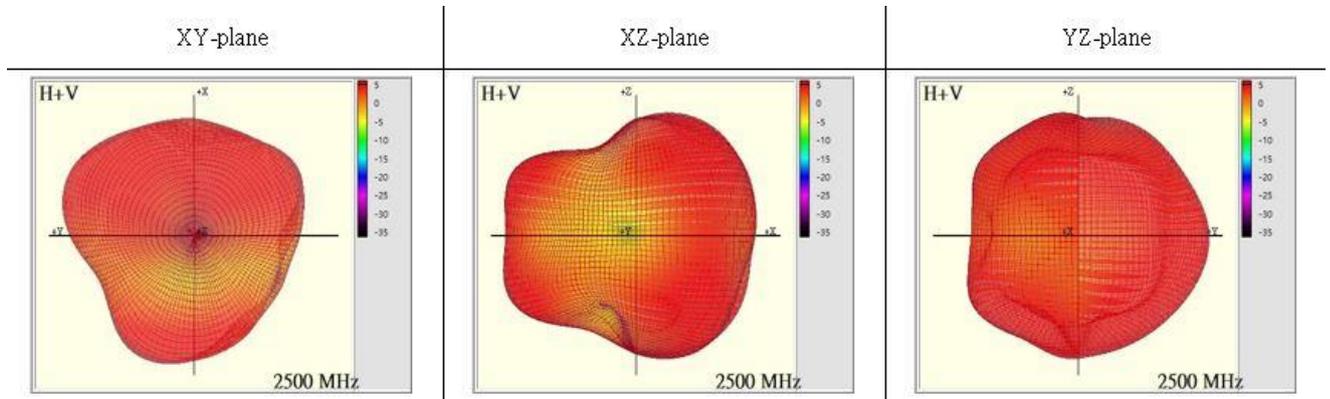
Center Frequency	2437 MHz
Three-dimensional (dBi) peak	2.85

Main antenna: 2462 MHz



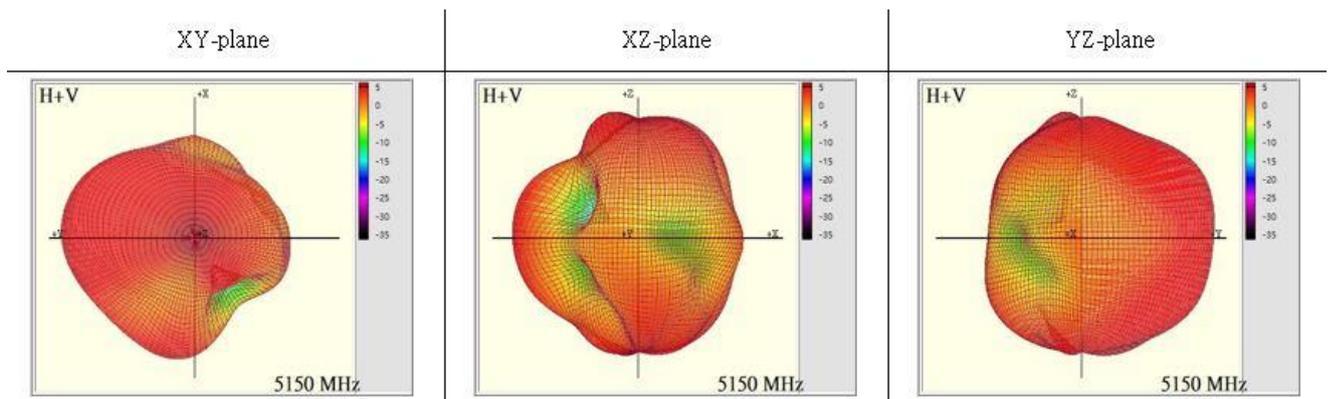
Center Frequency	2462 MHz
Three-dimensional (dBi) peak	2.73

Main antenna: 2500 MHz



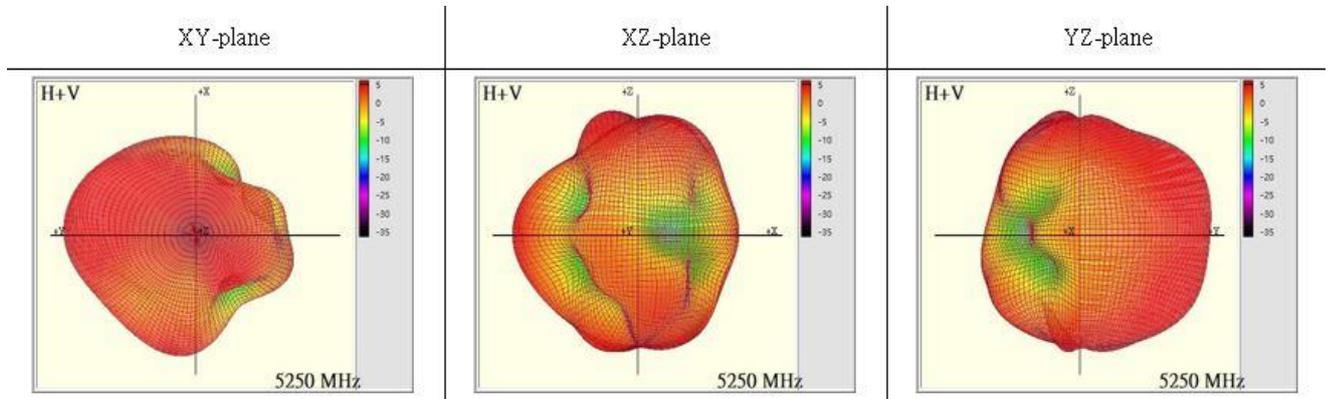
Center Frequency	2500 MHz
Three-dimensional (dBi) peak	2.36

Main antenna: 5150 MHz



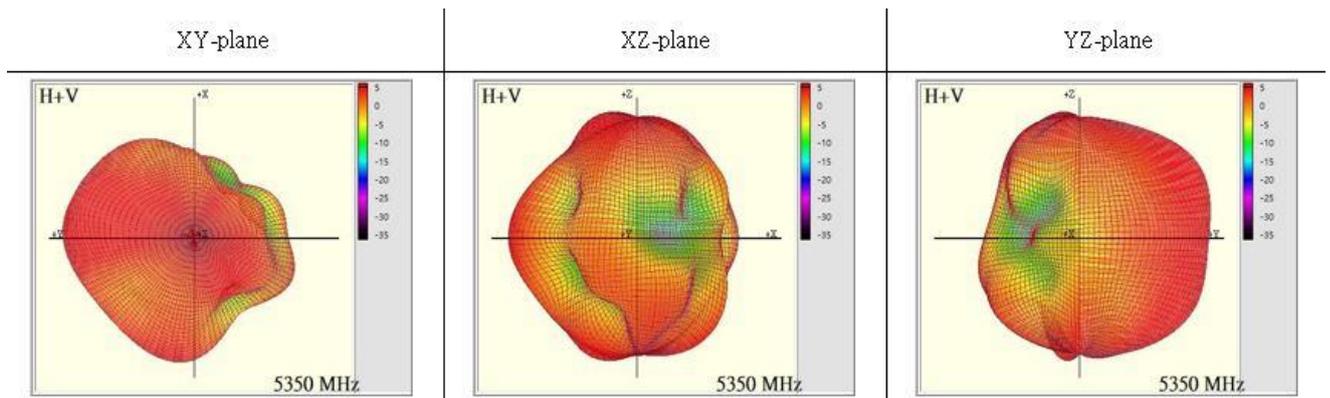
Center Frequency	5150 MHz
Three-dimensional (dBi) peak	3.23

Main antenna: 5250 MHz



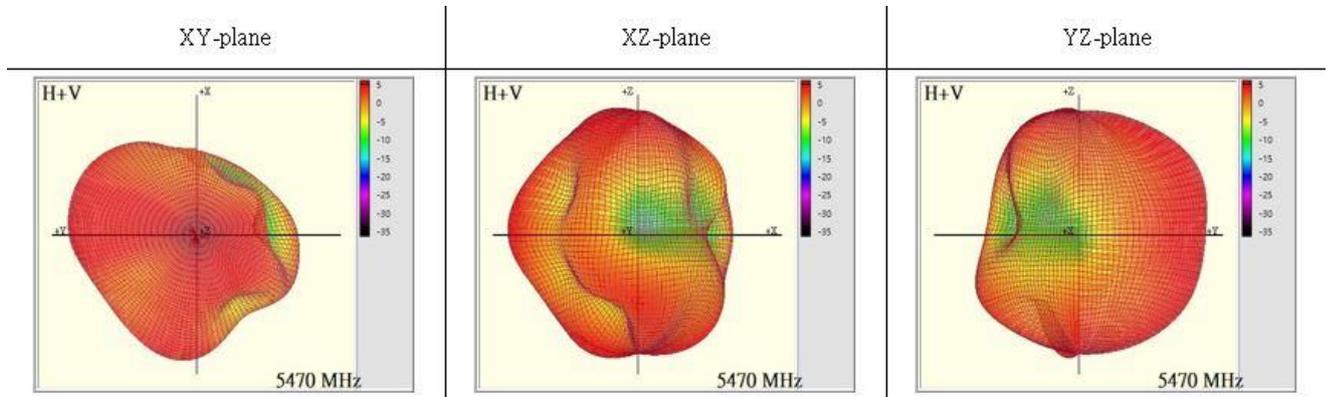
Center Frequency	5250 MHz
Three-dimensional (dBi) peak	3.41

Main antenna: 5350 MHz



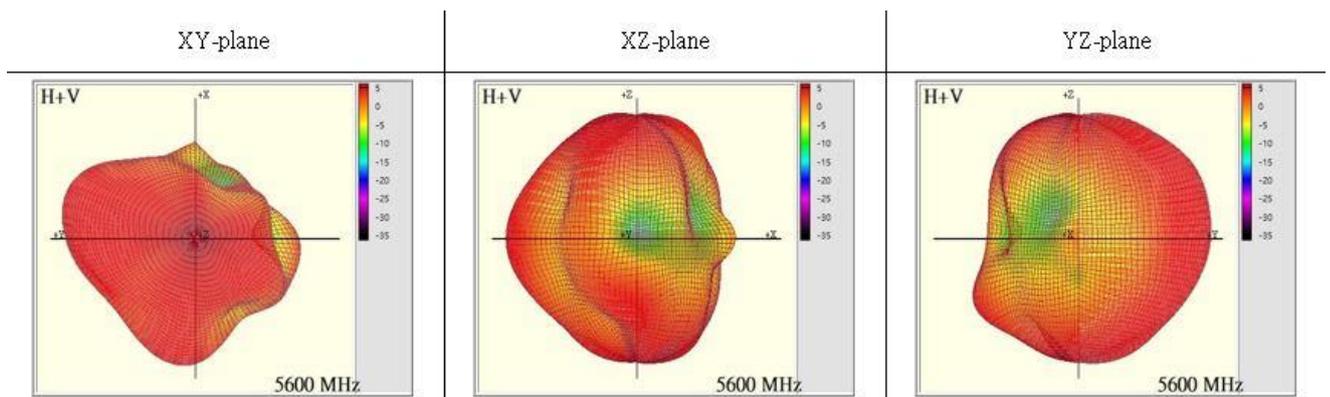
Center Frequency	5350 MHz
Three-dimensional (dBi) peak	3.51

Main antenna: 5470 MHz



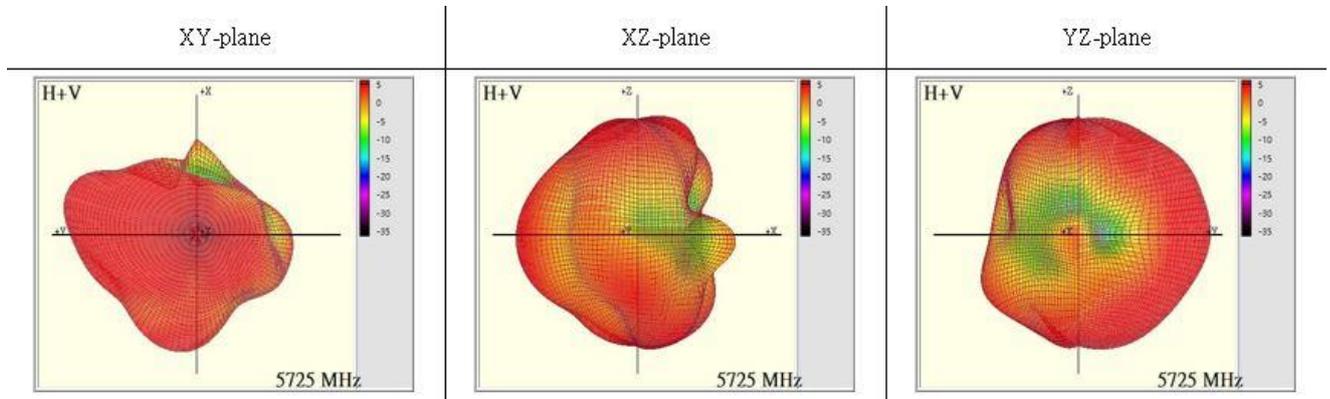
Center Frequency	5470 MHz
Three-dimensional (dBi) peak	4.30

Main antenna: 5600 MHz



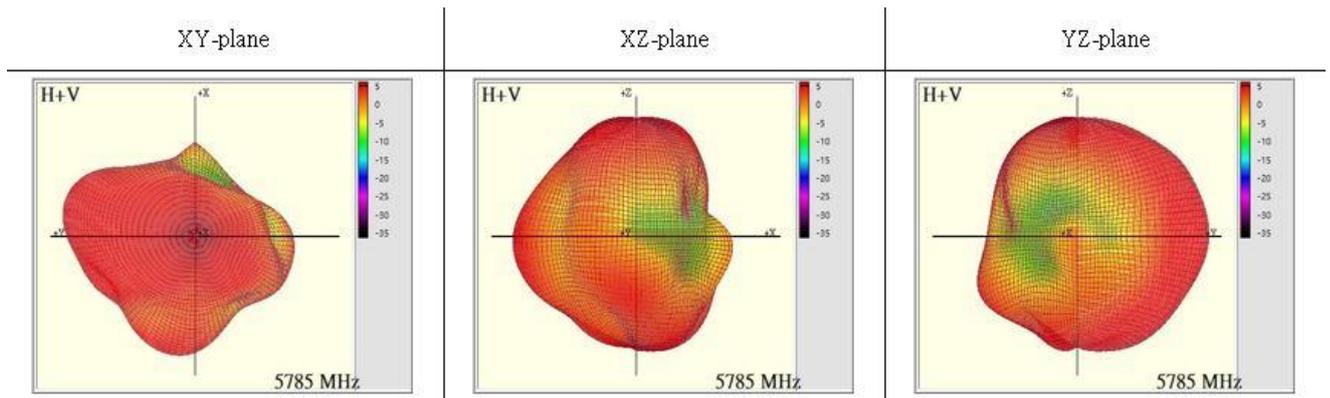
Center Frequency	5600 MHz
Three-dimensional (dBi) peak	4.20

Main antenna: 5725 MHz



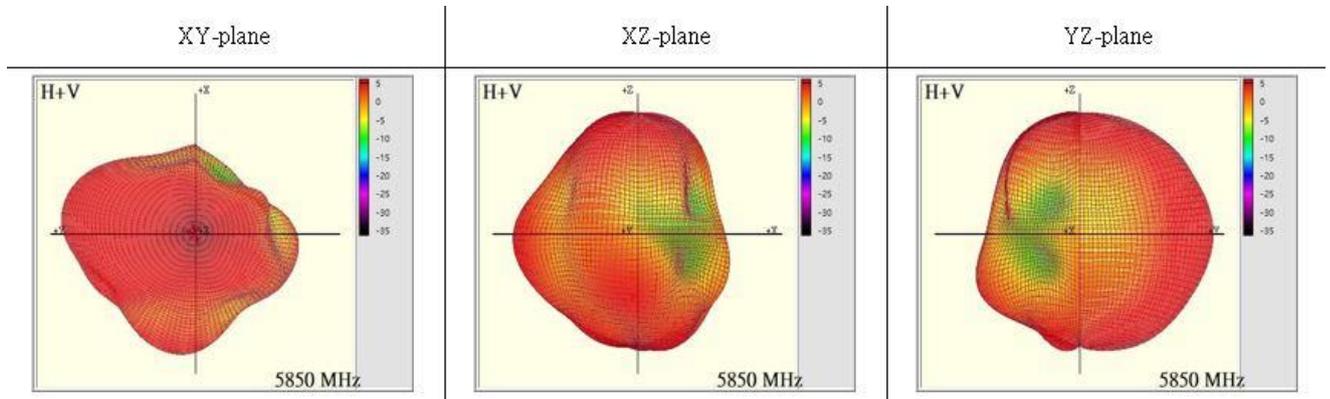
Center Frequency	5725 MHz
Three-dimensional (dBi) peak	4.37

Main antenna: 5785 MHz



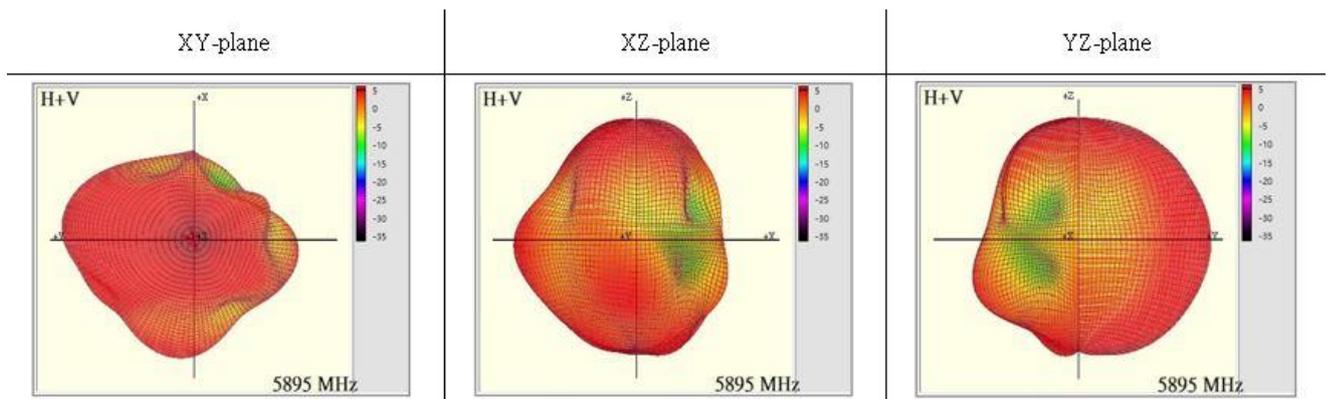
Center Frequency	5785 MHz
Three-dimensional (dBi) peak	4.30

Main antenna: 5850 MHz



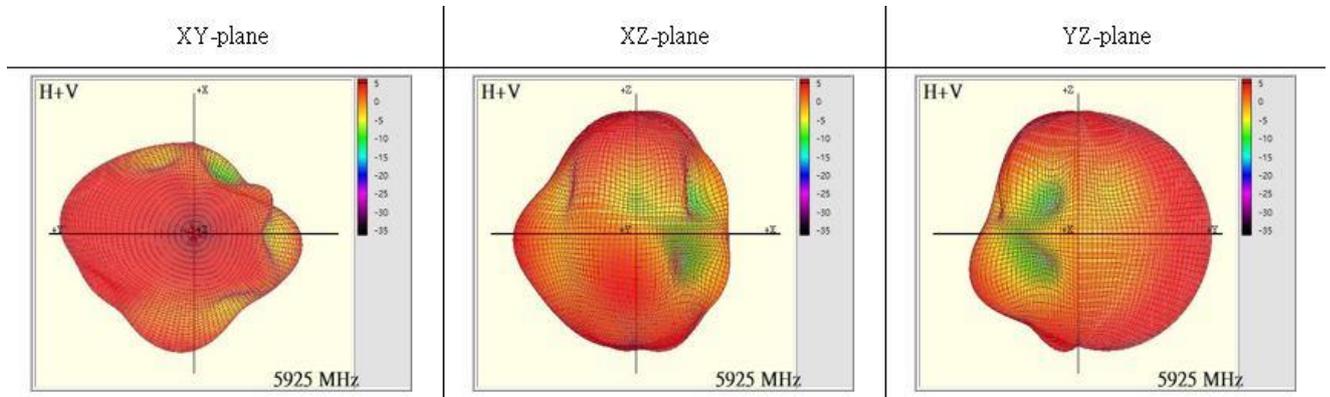
Center Frequency	5850 MHz
Three-dimensional (dBi) peak	4.32

Main antenna: 5895 MHz



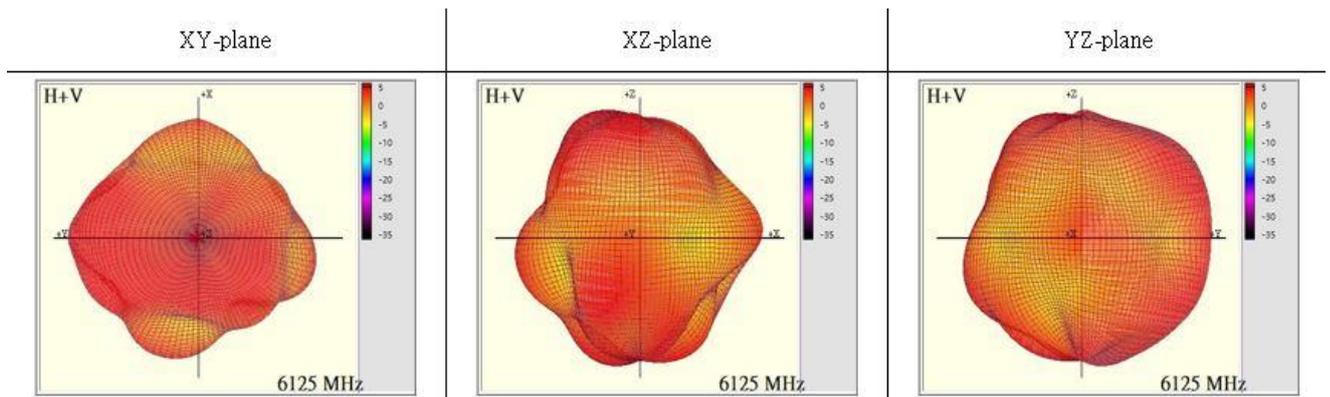
Center Frequency	5895 MHz
Three-dimensional (dBi) peak	4.35

Main antenna: 5925 MHz



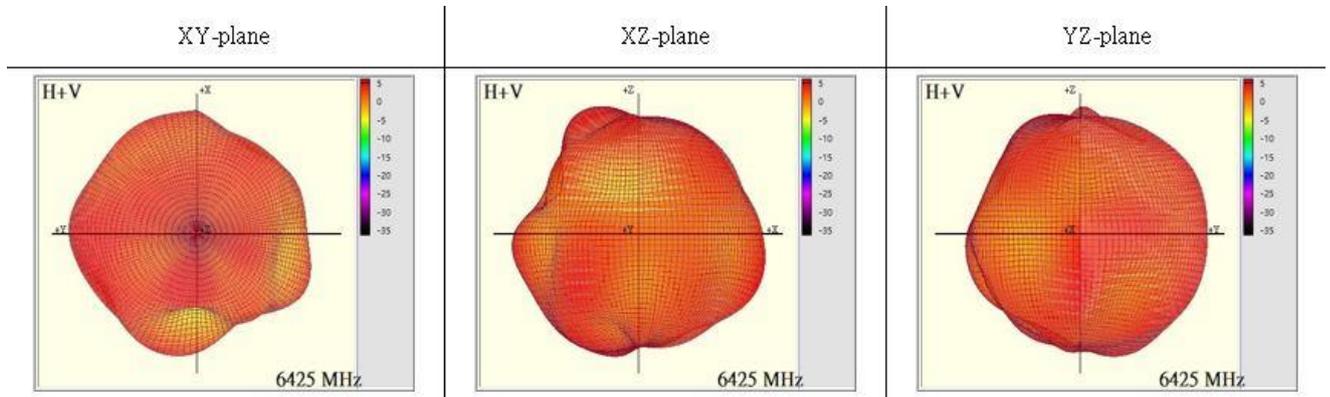
Center Frequency	5925 MHz
Three-dimensional (dBi) peak	4.15

Main antenna: 6125 MHz



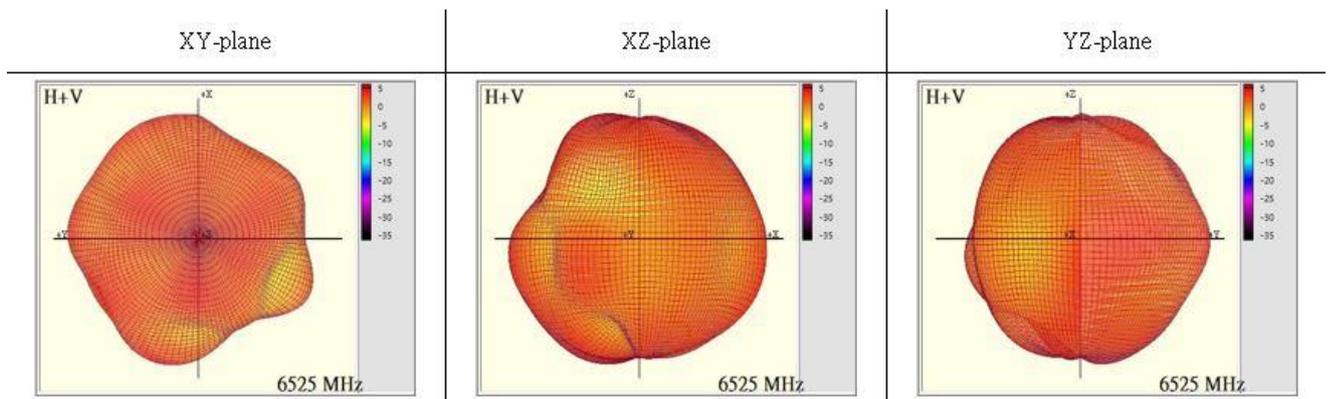
Center Frequency	6125 MHz
Three-dimensional (dBi) peak	4.31

Main antenna: 6425 MHz



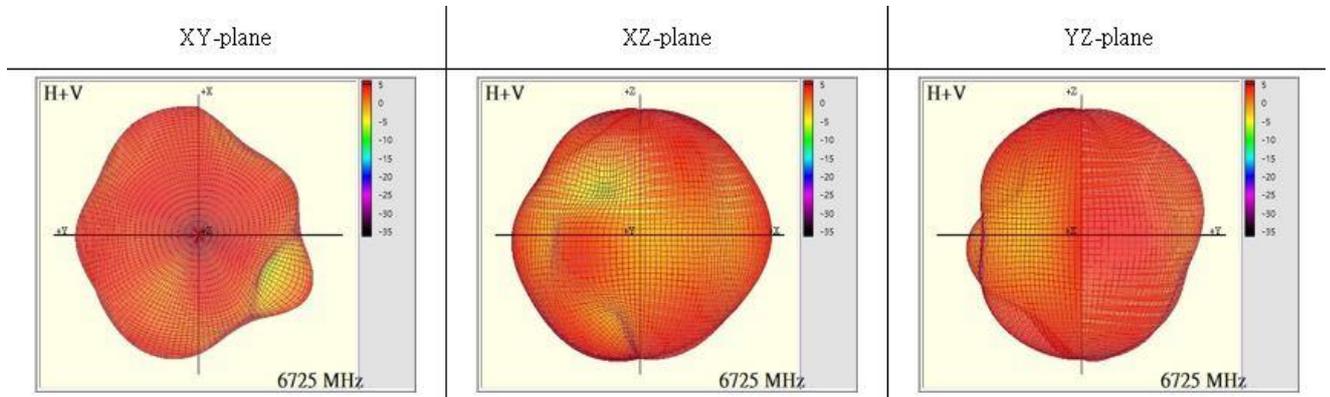
Center Frequency	6425 MHz
Three-dimensional (dBi) peak	4.20

Main antenna: 6525 MHz



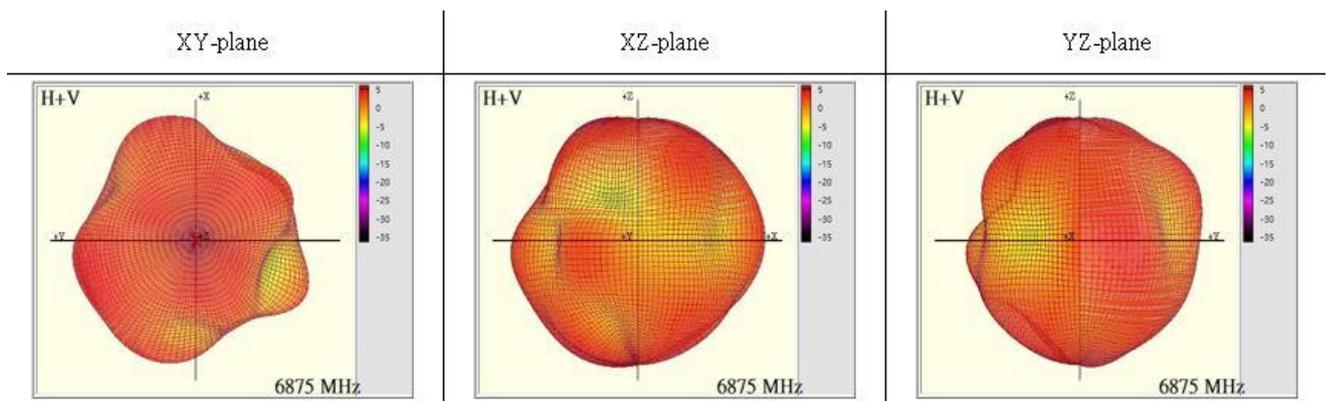
Center Frequency	6525 MHz
Three-dimensional (dBi) peak	4.14

Main antenna: 6725 MHz



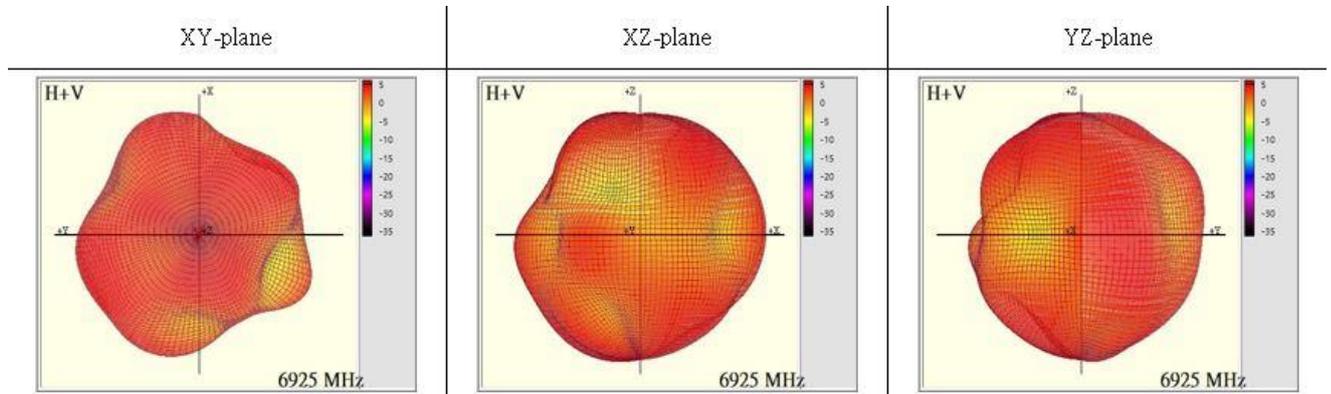
Center Frequency	6725 MHz
Three-dimensional (dBi) peak	4.22

Main antenna: 6875 MHz



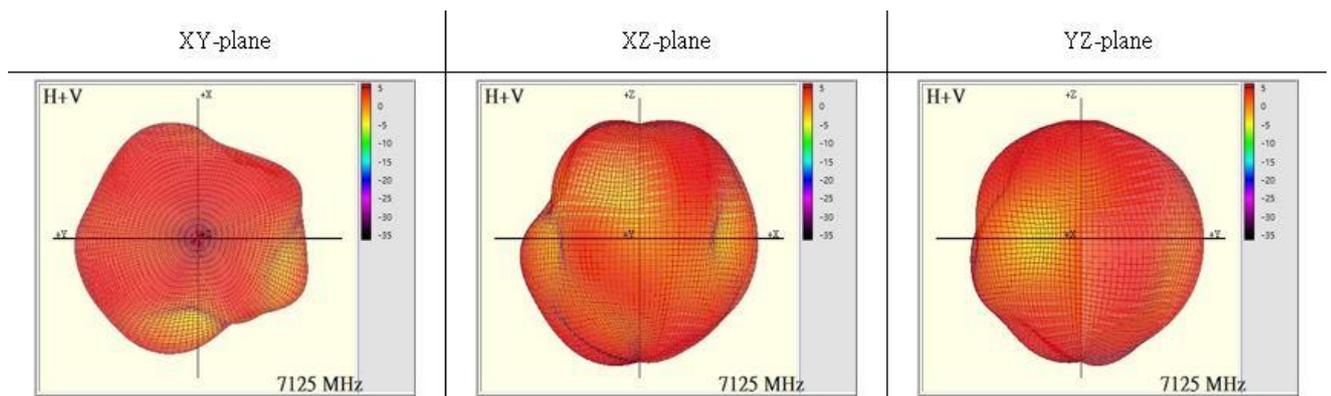
Center Frequency	6875 MHz
Three-dimensional (dBi) peak	3.53

Main antenna: 6925 MHz



Center Frequency	6925 MHz
Three-dimensional (dBi) peak	3.85

Main antenna: 7125 MHz



Center Frequency	7125 MHz
Three-dimensional (dBi) peak	3.50

3.3 Gain

Antenna Gain Table:

WLAN MAIN Antenna Gain		
Frequency	3D Peak Gain	3D Gain
	Total(dBi)	Efficiency %
2400(MHz)	2.63	63
2412(MHz)	2.79	68
2437(MHz)	2.85	70
2462(MHz)	2.73	67
2500(MHz)	2.36	63
5150(MHz)	3.23	47
5250(MHz)	3.41	47
5350(MHz)	3.51	44
5470(MHz)	4.30	51
5600(MHz)	4.20	46
5725(MHz)	4.37	46
5785(MHz)	4.30	41
5850(MHz)	4.32	41
5895(MHz)	4.35	44
5925(MHz)	4.15	42
6125(MHz)	4.31	47
6425(MHz)	4.20	50
6525(MHz)	4.14	51
6725(MHz)	4.22	50
6875(MHz)	3.53	42
6925(MHz)	3.85	47
7125(MHz)	3.50	42

Revision

Revision	Date	Change Notification	Notes
Rev.0	2022-12-12	---	