

Specification For Approval

Customer: Huagin

Model Name: Titan4 Antenna

AWAN P/N: AYP6Y-200082

Customer P/N: HQ260060002Q0

Customer Approval
R&D Manager

AWAN Approved				
R&D Manager /	Mechanical Manager /	QA Manager /	Project Engineer/	Product Manager/



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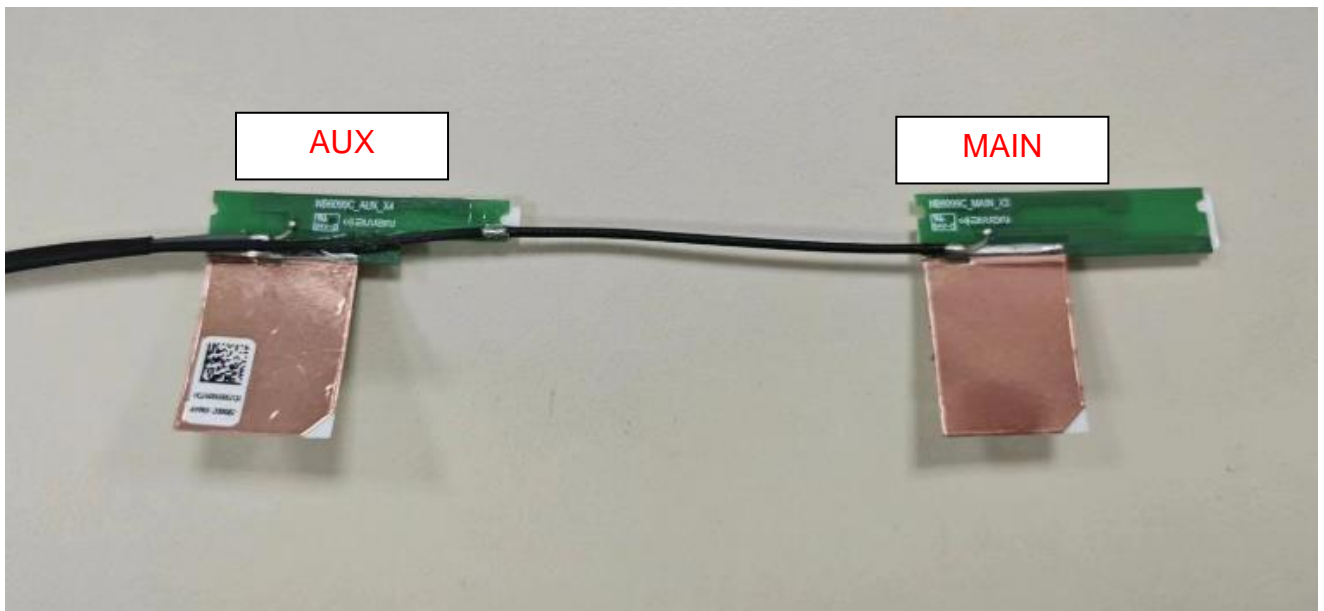
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1. Description

1.1 Specifications

Antennas Type	WLAN Antenna	
Cable Type	OD 1.13RF Cable	
Impedance	50Ω	
Polarization	Linear	
Radiation pattern	Omni-directional	
Frequency	WLAN	2.40Ghz ~ 2.50 Ghz 5.15Ghz ~ 5.85 Ghz
VSWR	WLAN	3.0 Max
Cable length	WLAN-AUX/MAIN	294mm/370mm

1.2 Antenna Pictures



WIFI Antenna P/N: AYP6Y-200082

2. Electrical Specification

2.1 Test Equipment

- A. VSWR and input impedance: Agilent 8720/5071 Network Analyzer
- B. Antenna gain and efficiency: ETS three-dimensional anechoic chamber

2.2 Test Setup

2.2.1 Frequency Range

- A. WLAN 2.40~2.5 Ghz 5.15~5.85 Ghz

2.2.2 VSWR

Step 1: The VSWR of the antenna is measured via Agilent 8753/5071 Network Analyzer (see figure. 1).



Figure. 1

2.2.3 Radiation pattern and Gain

- A. The 3D chamber provides less than -40dB reflectivity from 600MHz to 6GHz 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).

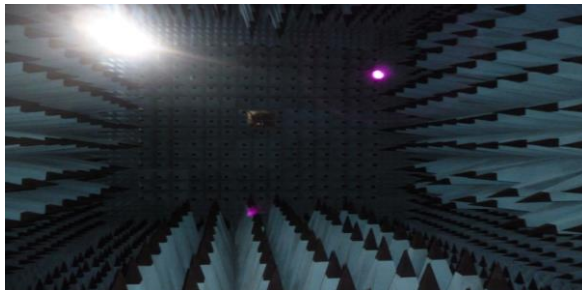


Figure. 2

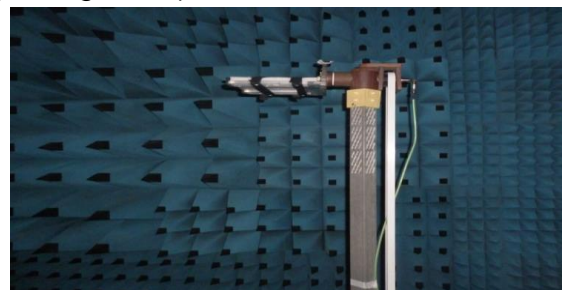
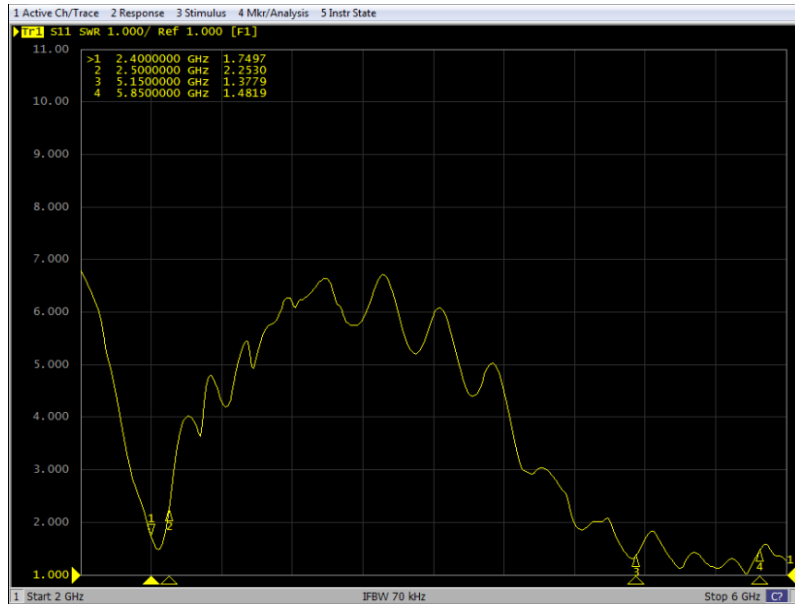


Figure. 3

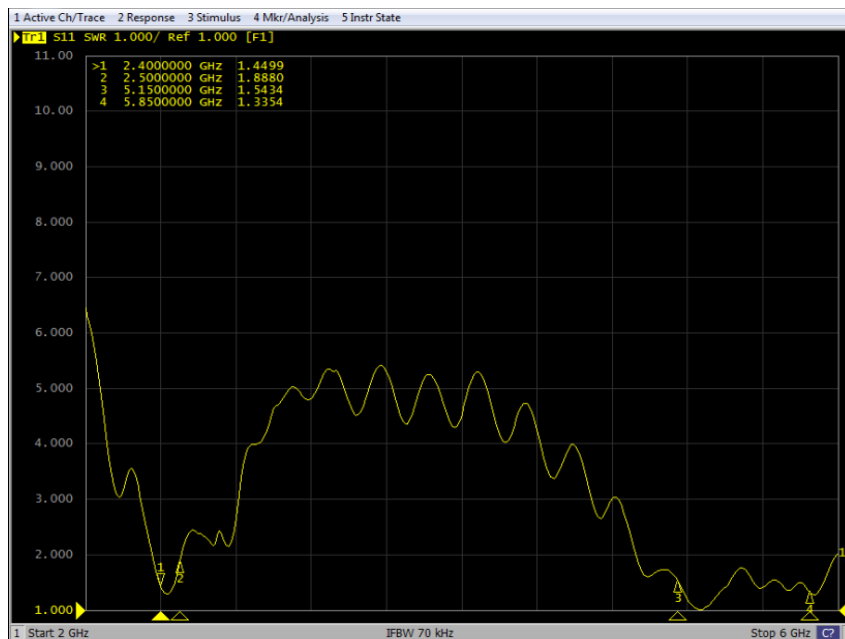
3. Performance Data

3.1 S11 Parameter

WALN MAIN Antenna



WALN AUX Antenna



3.2 Antenna Efficiency

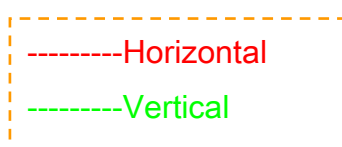
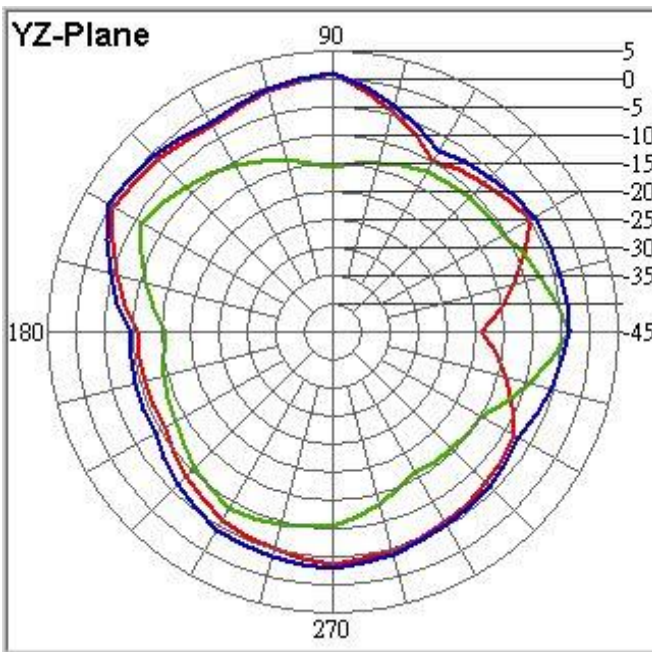
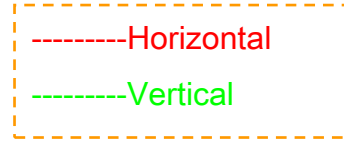
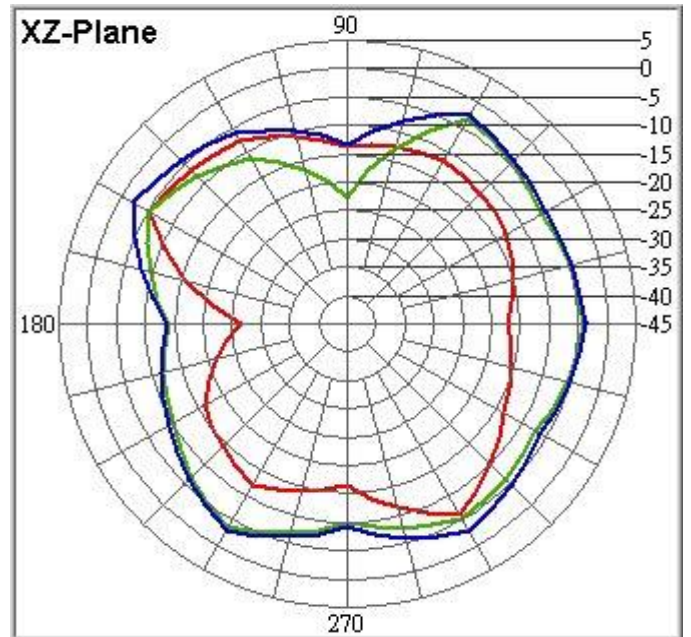
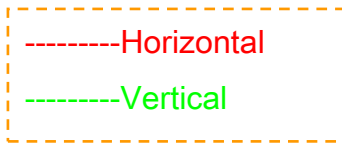
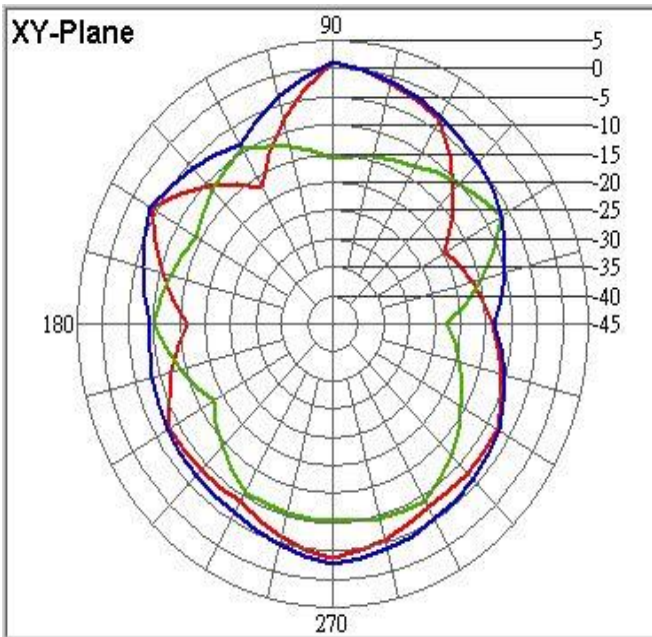


Antenna Efficiency Table:

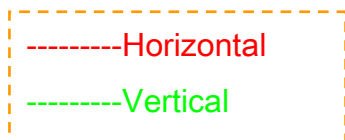
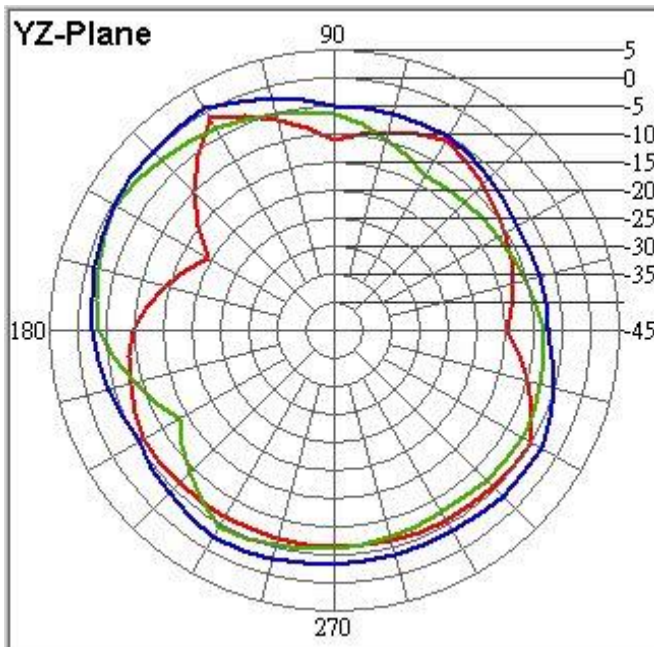
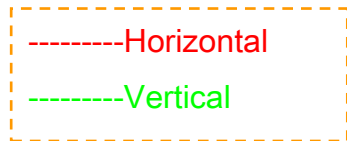
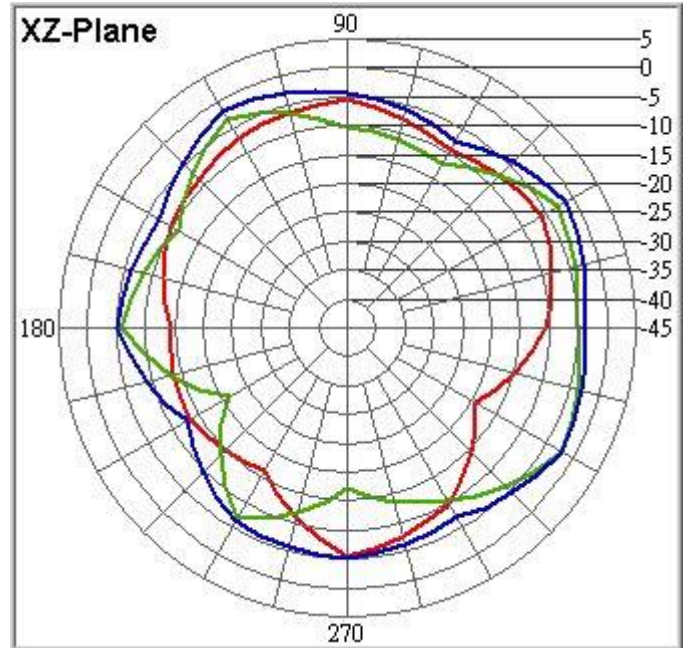
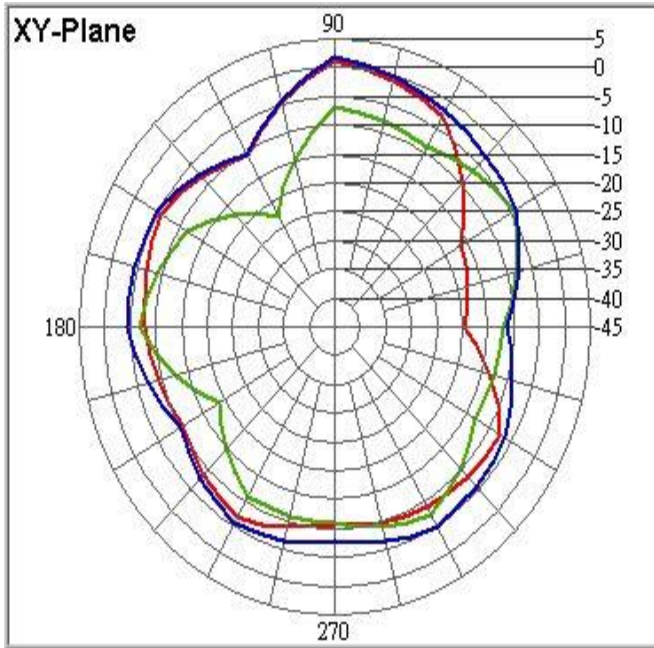
Antenna / Band / Frequency			Average Gain	Peak Gain	ANT Vendor1 AWAN		
			3D Spec	2D Spec	Antenna Avg. Gain		
(MHz)					AVG Gain (open)	Peak EIRP (open)	AVG Gain (Close)
WLAN Main	802.11g	2400	-4.5	3.0	-4.2	1.8	-6.3
		2450	-4.5	3.0	-3.9	1.1	-6.6
		2500	-4.5	3.0	-4.1	0.9	-6.8
	802.11a	5150	-5.5	5.0	-4.7	1.2	-6.3
		5250	-5.5	5.0	-4.8	1.7	-6.4
		5350	-5.5	5.0	-4.2	0.5	-6.3
		5470	-5.5	5.0	-4.6	1.1	-5.9
		5600	-5.5	5.0	-5.1	2.8	-6.6
		5725	-5.5	5.0	-4.8	0.8	-6.5
		5785	-5.5	5.0	-4.6	1.3	-6.0
5850	-5.5	5.0	-4.5	0.4	-6.5		

Antenna / Band / Frequency			Average Gain	Peak Gain	ANT Vendor1 AWAN		
			3D Spec	2D Spec	Antenna Avg. Gain		
(MHz)					AVG Gain (open)	Peak EIRP (open)	AVG Gain (Close)
WLAN AUX	802.11g	2400	-4.5	3.0	-4.5	1.2	-6.8
		2450	-4.5	3.0	-3.9	1.3	-6.4
		2500	-4.5	3.0	-4.3	1.7	-6.2
	802.11a	5150	-5.5	5.0	-4.8	1.3	-6.5
		5250	-5.5	5.0	-4.3	1.2	-7.2
		5350	-5.5	5.0	-4.1	1.0	-6.3
		5470	-5.5	5.0	-5.0	0.7	-6.7
		5600	-5.5	5.0	-4.8	0.8	-6.6
		5725	-5.5	5.0	-4.9	0.5	-6.3
		5785	-5.5	5.0	-5.4	0.4	-6.6
5850	-5.5	5.0	-4.8	1.0	-7.3		

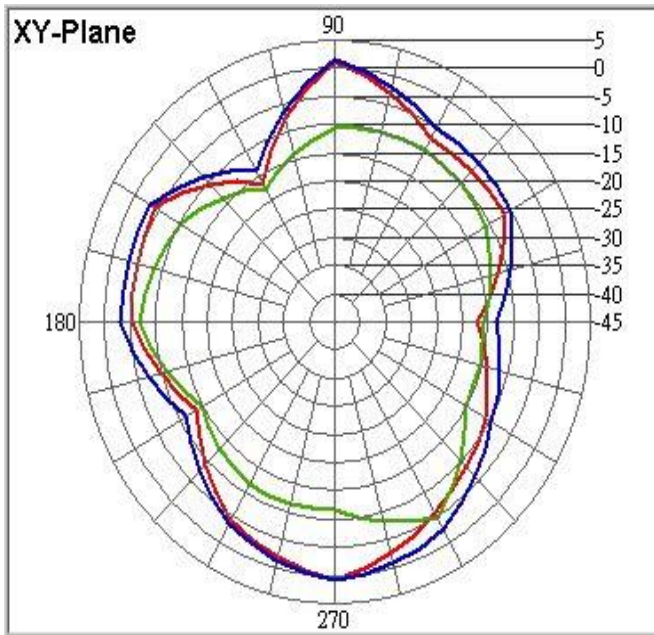
3.3.1 Radiation pattern & Gain –MAIN ANT 2450MHz



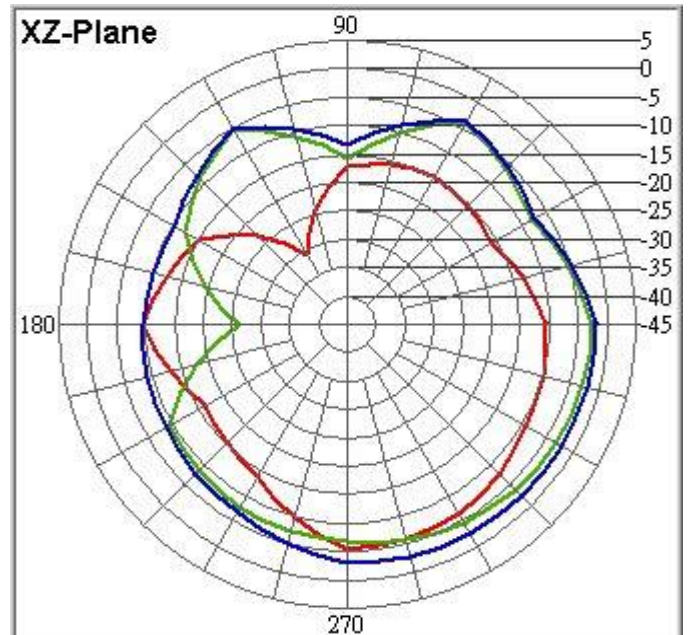
5785MHz



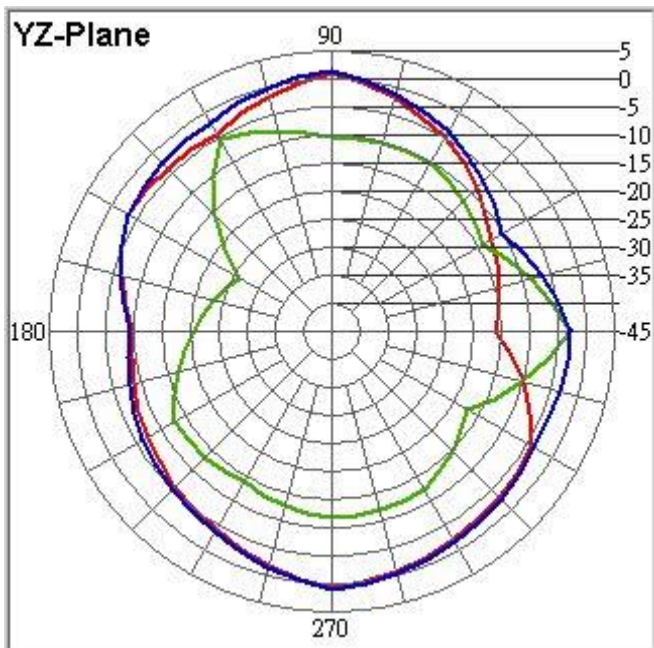
3.3.2 Radiation pattern & Gain –AUX ANT 2450MHz



-----Horizontal
-----Vertical

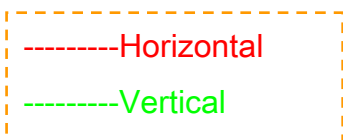
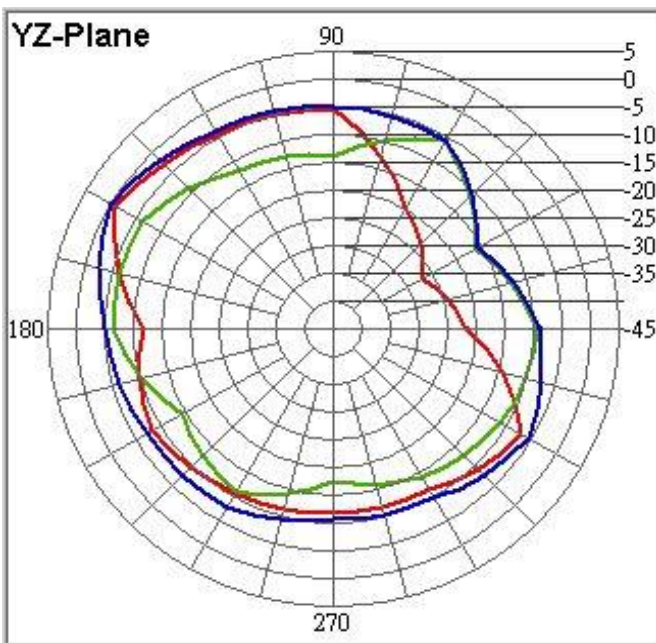
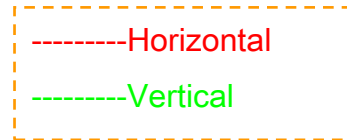
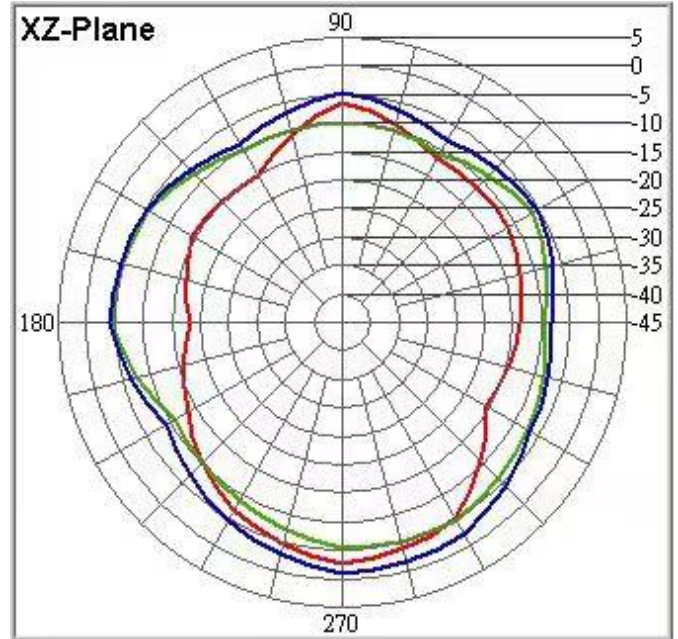
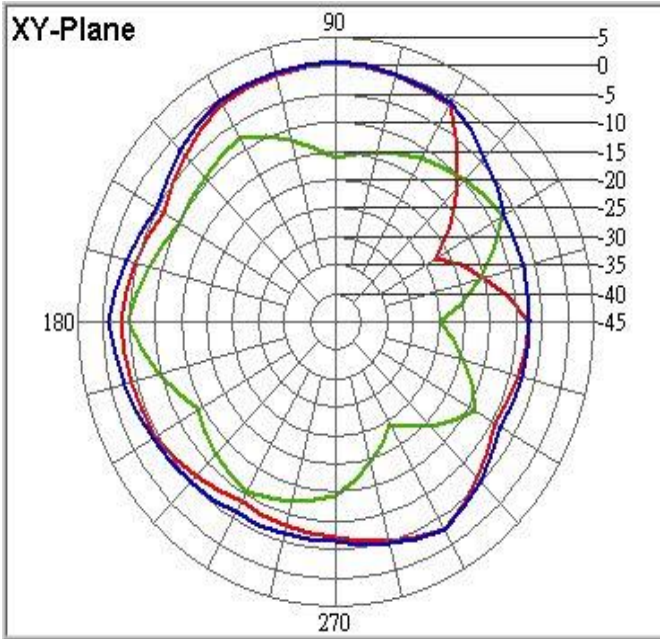


-----Horizontal
-----Vertical



-----Horizontal
-----Vertical

5785MHz



4. Mechanical Specification

4.1 Assembly Drawing WLAN MAIN & AUX Antenna

	1	2	3	4	5	6	7	8
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AWAN P/N	AYPY-200082
零件 P/N	HQ26006000200
零件 P/N	N2402000001A

Rev.	EC#	Description	Drawn/Date	Checked/Date	Approved/Date
X1		NEW RELEASE	WC 07/11/23	Jerry 07/11/23	Jerry 07/11/23
X2		AWAN HQ26006000200	WC 07/14/23	Jerry 07/14/23	Jerry 07/14/23
X3		NEW	WC 07/25/23	Jerry 07/25/23	Jerry 07/25/23
X4		LIBRARY RELEASE	WC 07/31/23	Jerry 07/31/23	Jerry 07/31/23
X5		LIBRARY RELEASE	WC 07/31/23	Jerry 07/31/23	Jerry 07/31/23
X6		LIBRARY RELEASE	WC 07/31/23	Jerry 07/31/23	Jerry 07/31/23
X7		AWAN HQ26006000200	WC 07/31/23	Jerry 07/31/23	Jerry 07/31/23
X8		AWAN HQ26006000200	WC 07/31/23	Jerry 07/31/23	Jerry 07/31/23
X9		LIBRARY RELEASE	WC 09/08/23	Jerry 09/08/23	Jerry 09/08/23
X10		LIBRARY RELEASE	WC 10/09/23	Jerry 10/09/23	Jerry 10/09/23

1.0 零件规格与选项

1.1 非指定位置均以公差之规格为准

1.2 * 公差规格之尺寸

2.0 其他注意事项

2.1 外观物须不可有伤痕、行线、凹痕

2.2 有异物附着性，并须保持清洁且无异物附着

2.3 零件规格与选项之零件规格均以规格书为准

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零件规格: HQ26006000200 XXXXXXXX XXXXX

① 零件规格(13位) EC: HQ26006000200, 零件规格以零件规格系统中指定完成后的规格为准, 共13位

② 生产日期及零件规格代码及变更代码: 规格: 年月日, 如: 8220100

6表示6年

26表示10月份, 10/11/12月份用A/C/D代替

26表示 26号生产

00表示公差, 00表示公差

1表示第一套模具, 依此类推(无模具信息或者模具信息不可控时可用0)

00表示变更版本, 规格: 从00-99

③ 位置代码: 规格: S8从00000-99999(6位16进制版本, 00000-99999; 该字段以“00001”为例)

④ 二维码格式: Data Matrix

Lot#	Qty	Material / Finish
10 Lot#	1	XXX
9 #2.0 Black Heat Shrinkable Tubing	1	XXX
8 Cu Foil	2	Cu
7 NB5099C AUX/MAIN (HF-DS10)	1	Tap
6 NB5099C AUX/MAIN (HF-DS10)	1	Tap
5 焊盘	1	I-00015-1800000
4 0.135 L/A Gray AWG26/28, AWG-41A-A-41	1	Cable
3 0.135 L/A Black AWG26/28, AWG-41A-A-41	1	Cable
2 NB5099C AUX PCB, 0.4mm	1	PCB
1 NB5099C MAIN PCB, 0.4mm	1	PCB

Item	Name	Qty	Part #	Material / Finish
1	AWAN HQ26006000200	1	Titran4 (NB6099C)	

Customer Drawing

Revision

Revision	Date	Change Notification	Notes
Rev.0	2023-10-12		
Rev.1	2023-11-22	Modify 2D gain pictures	