



# DATA SHEET

### WIRELESS COMPONENTS WLAN ANTENNA

Model: LN313

Part No / YAGEO: ANTA0ZV1421124554 Part No /Customer: 6036B0289901



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YAGEÓ Phícomp

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**Wireless Components** 

#### **1. 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)**

#### ANTA0ZV1421124554

(1) (2) (3) (4) (5) (6) (7)

#### (1) FAMILY

ANT = Antenna Products

#### (2) SPECIAL DESIGN PRODUCT

A0

#### (3) CUSTOMER NAME

ZV=Customer

#### (4) **PROJECT NUMBER**

1421 = Project Series Number

#### (5) AMOUNT OF CONNECTORS

1 = 1 connector

#### (6) ANTENNA FUNCTION

2455 = WLAN

#### (7) ANTENNA NUMBER

4 = Project Part Number

Wireless Components

### **2. SPECIFICATIONS**

DESCRIPTIO	Ν
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Working Frequency	2400 ~ 2500MHz/ 5150~5850MHz
VSWR	4.0 : 1 max for WLAN Antenna
Peak Gain	2.58 dBi for 2400 ~2500MHz band
	2.69 dBi for 5150 ~5850MHz band
Cable Loss	0.08 dBi for 2400 ~2500MHz band
	0.13 dBi for 5150 ~5850MHz band
Radio Connector	I-PEX, TN , KS, FD or equivalent
Coaxial Cable	KB, HL, SY or equivalent
Impedance	50Ω Nominal.
Cable Diameter / Length / Color / Jacket	1.13 mm / 30mm / White / FEP
Antenna Dimension	20*11.7 mm
Operating Temperature	<b>-40~90</b> ℃
Maximum Power	1W
Polarization	Linear
Radiation Pattern	Omni-directional
Tube	OD2.5mm/L=20mm
Antenna Type	PIFA

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### **3. PACKING SPEC**

Packing 10 pcs of antenna in a small bag(No.6); every 10 bags packing in a big bag(No.8); every 20 bags(No.8) packing in a carton. Each carton contains 2000pcs antenna in total.

#### Please refer to below as example.

I. 10 Pcs/Per Small Bag(No. 6)





2. 10 Small Bag/Per Big Bag(No. 8)



#### 3. 20 Big Bag/per Carton (2000pcs)



4. Finished Packing





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### 4. Test Methodology

4.1 Test equipment

The equipment for the antenna measurement we used is as follows.

- A. Agilent 8753ET / 8719D Network Analyzer to measure the VSWR and input impedance.
- B. Three-dimensional anechoic chamber to measure the gain (Standard dipole and horn were used to calibrate the chamber)
- C. Digital caliper to measure the dimensions.
- D. Climatic chamber for mechanical tests.

4.2 Test setup

- 4.2.1 Frequency Range
  - 2000 ~ 6000MHz
- 4.2.2 Antenna configuration

The antenna basically has two parts; the stamping and the cable assembly with the connector on one side. The detailed drawing is attached.

4.2.3 VSWR

The VSWR is measured with Agilent 8753ET / 8719D network analyzer. All the measurements are performed with the customer provided fixture. Figure 1 shows the schematic diagram for measuring VSWR.



Figure 1. The schematic diagram for measuring VSWR

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#### 4.2.4 Radiation pattern and gain

The radiation pattern must have the omni-directional characteristic in both positions. The radiation pattern measurements are performed in the threedimensional anechoic chamber. The chamber provides less than –30dB reflectivity from 700MHz through 8GHz. The chamber is calibrated using both standard dipole and horn antenna. The gain here is expressed as dBi that standardizes the isotropic antenna. The gain measurements are also performed in the same chamber described previously. Figure 2 shows the schematic diagram for measuring radiation pattern and gain.

#### 2D / 3D Anechoic chamber



Data Acquisition & Processing PC

Figure 2. The schematic diagram for measuring radiation pattern and gain



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### 5. Performance Data

#### 5.1 VSWR in the Fixture



#### Product specification

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### 5.2 Radiation pattern and gain for 3D Data



#### 2400MHz

#### 2450MHz





#### 2500MHz



5150MHz

5350MHz

-15



#### 5250MHz



#### 5470MHz

Power (dBm)



5850MHz

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5.3 Average gain (dBi) summary

Antenna (Cable color) / Band / Frequency		Gain Spec 3D Spec	Test Date Antenna Gain	
		NB Mode		
	Ϋ́	2400	-4.3	-2.01
	46	2450	-4.3	-1.65
	2.	2500	-4.3	-1.64
z I	LAN	5150	-5.3	-1.21
		5250	-5.3	-1.44
≥		5350	-5.3	-1.50
-	Hz	5470	-5.3	-1.85
2n 56	5600	-5.3	-1.75	
	_,	5725	-5.3	-1.70
		5785	-5.3	-1.59
		5850	-5.3	-2.13

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### 6. Antenna Drawing

#### 6.1 Antenna Drawing



#### 6.2 RF Connector Drawing IPEX RF Connector Drawing (20565)



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### 7. Reliability Data For Antenna Patch

IEC 384-10/ CECC 32 100 CLAUSE	IEC 60068-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
4.12	4(Na)	Rapid change of temperature	-40 °C (30 minutes) to +90 °C (30 minutes); 5 cycles	No visible damage Central Freq. Change 6%
4.14	3(Ca)	Damp heat	500 ± 12 hours at 40 °C; 90 to 95 % RH	No visible damage 2 hours recovery Central Freq. Change ± 6%
4.15		Endurance	500 ± 12 hours at 90 °C;	No visible damage 2 hours recovery Central Freq. Change ± 6%

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<u>8. REV</u>	ISION HISTORY	
Revision	Date Change Notification	Description
R01	2020/10/06	New Release