

AUT Report

Product Model: TL-WR846N

Manufacturer: TP-Link Systems Inc.

Test Date: 2025.3.26

Tested By: Cui Jiafu *Cui Jiafu*

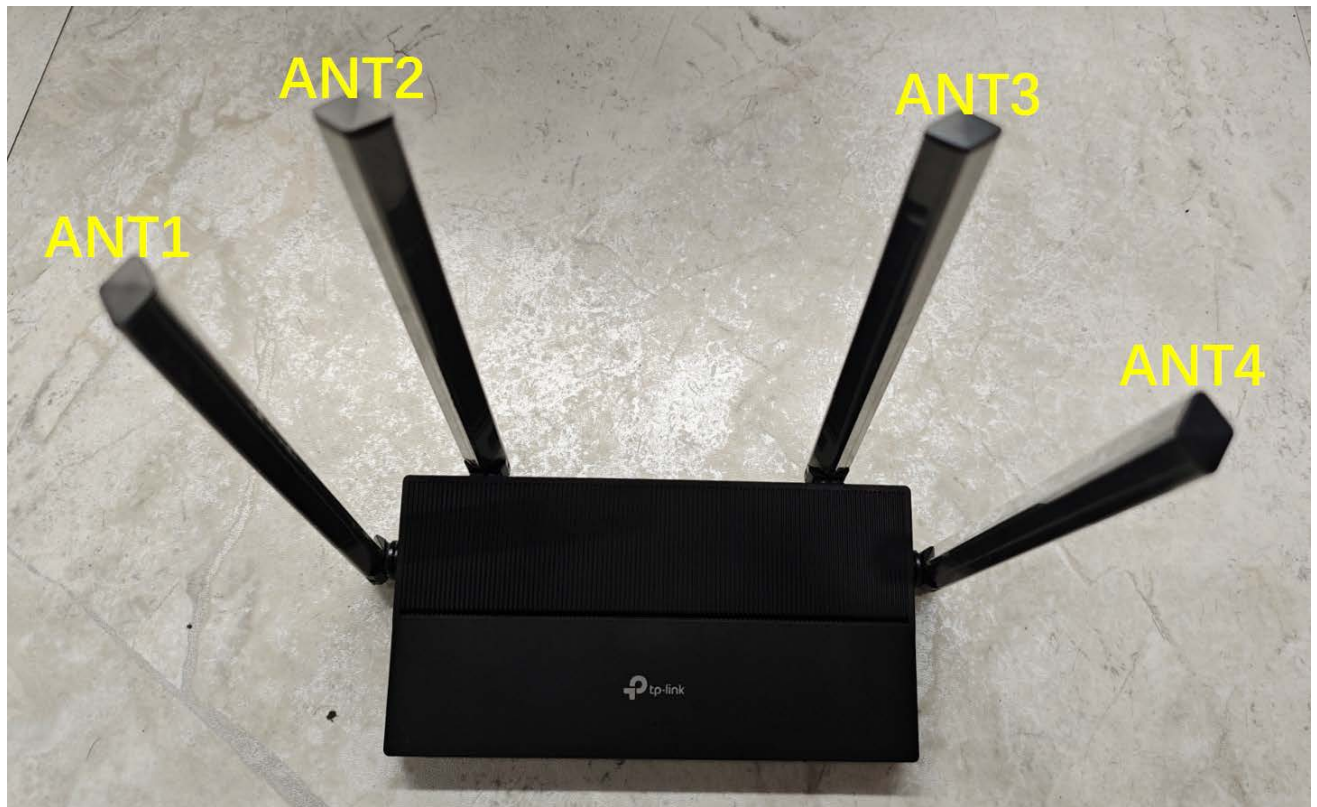
TP-Link Systems Inc.
10 Mauchly, Irvine, CA 92618

Index

1. Antenna Distribution.....	3
2. Electrical Characteristics	3
3. Gain and Radiation Pattern	5
3.1 Measurement Procedure.....	5
3.2 Test Setup	6
3.3 S Parameter Test Data	7
3.4 Antenna Peak Gain	9
3.5 Antenna Radiation Pattern	9

1. Antenna Distribution

TL-WR846N



2. Electrical Characteristics

Ant1	
Frequency	2400~2500MHz
Impedance	50Ohm
Antenna Type	Dipole
Antenna Gain	6.23dBi@2400~2500MHz
Radiation pattern	Omni-Directional
P/N	TL-WR846N-ant1

Ant2	
Frequency	2400~2500MHz
Impedance	50Ohm
Antenna Type	Dipole
Antenna Gain	6.59dBi@2400~2500MHz
Radiation pattern	Omni-Directional
P/N	TL-WR846N-ant2

Ant3	
Frequency	2400~2500MHz
Impedance	50Ohm
Antenna Type	Dipole
Antenna Gain	6.75dBi@2400~2500MHz
Radiation pattern	Omni-Directional
P/N	TL-WR846N-ant3

Ant4	
Frequency	2400~2500MHz
Impedance	50Ohm
Antenna Type	Dipole
Antenna Gain	6.22dBi@2400~2500MHz
Radiation pattern	Omni-Directional
P/N	TL-WR846N-ant4

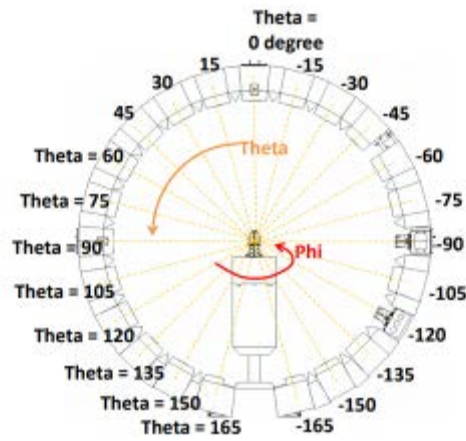


Figure 3-2

Before the measurement, calibrated the vector network analyzer, and then connected the input end of each antenna to the output end of the vector network analyzer, and evenly the antennas to be measured.

Test Equipment listed below:

Equipments	Model	Manufacturer	S/N	Cali. Interval	Cali. Due Date
Chamber	Rayzone2800	GTS(General Test System)	MY5347043 5	12months	2025/04/15
Vector Network Analyzer	E5071C	Keysight	MY46315238	24months	2026/05/27
GTS MaxSign100 Software	V2.1	GTS(General Test System)	/	/	/

3.2 Test Setup

he test setup was shown in Figure 3-3, 3-4:



Figure 3-3

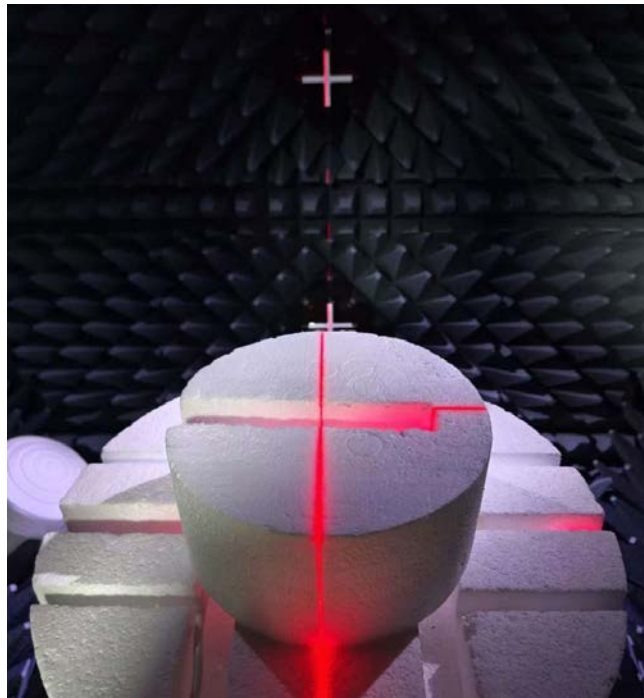
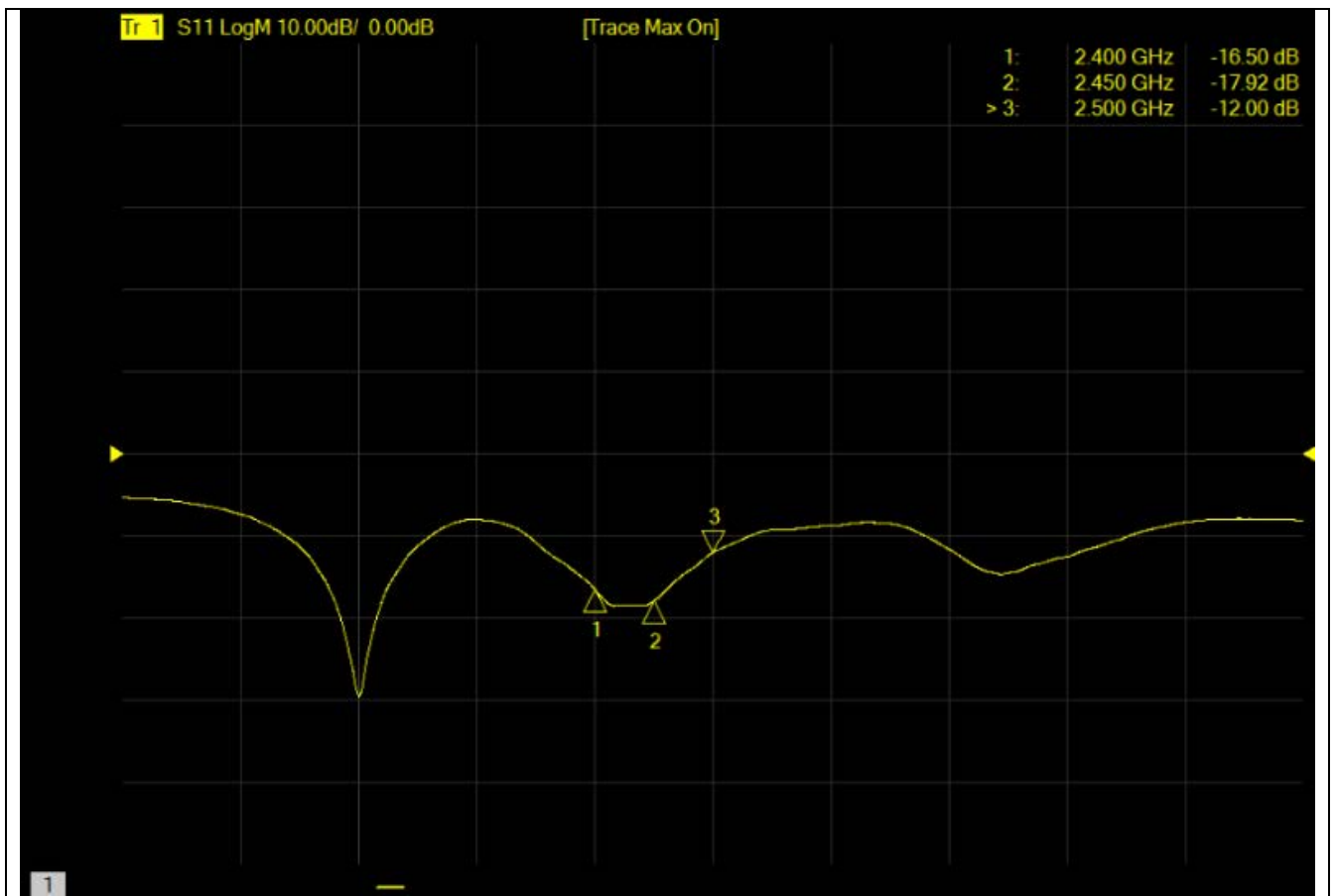


Figure 3-4

3.3 S Parameter Test Data



Ant2



Ant3





3.4 Antenna Peak Gain

Frequency	2.45GHz 2400~2500MHz
Ant1 MaxGain(dBi)	6.23
Ant2 MaxGain(dBi)	6.59
Ant3 MaxGain(dBi)	6.75
Ant4 MaxGain(dBi)	6.22
Ant1 Polarization/ Φ (°) / θ (°)	Theta/315/90
Ant2 Polarization/ Φ (°) / θ (°)	Theta/285/45
Ant3 Polarization/ Φ (°) / θ (°)	Theta/45/90
Ant4 Polarization/ Φ (°) / θ (°)	Theta/270/90
Max Gain(dBi)	6.75

3.5 Antenna Radiation Pattern

Ant1

