

[illegible]

WA-F-LA-02-181 Specification

1. Explanation of part number :

WA F LA 02 181
(1) (2) (3) (4) (5)

(1) Product Type: Wireless Antenna

(2) Combo: FPCB

(3) Frequency : 2400~2500 MHz

(4) Coaxial Cable Type : With RF1.13 low loss Black

(5) Suffix : 181

2. Storage Condition:

Temperature -40 to +85°C

Humidity 20 to 85 %RH

Recommended storage condition:

Store in room condition as listed below: Temperature -20°C~+45°C, Humidity 80% Max.

3. Operating Condition:

Temperature -40 to +85°C

Humidity 10 to 85 %RH

4. Electrical Specification:

Those specifications were specially defined for 科沃斯-机器狗 WIFI model, and all characteristics were measured in the customer's machine.

4-1. Frequency Band:

Frequency Band	MHz
WIFI	2400-2500

4-2. Impedance

50 ohm nominal

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = ± X.X = ± X.XX = ±

ANGLES = ± HOLEDIA = ±



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SCALE : UNIT : mm

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4-3. Matching circuit

None

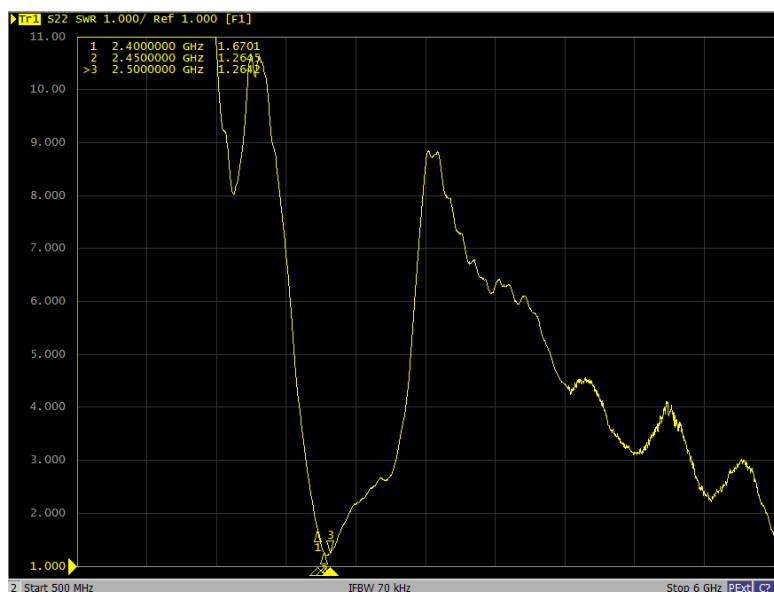
4-4. VSWR

4-4.1 Measuring Method

- 1.A 50Ωcoaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR
- 2.Keeping this jig away from metal at least 20cm

4-4.2 Measurement frequency points and VSWR value

Frequency (Unit MHz)		2400	2450	2500
VSWR Spec.		≤3.5		
VSWR	ANT1	1.67	1.26	1.26



4-5. Efficiency and Gain

4-5.1 Measuring equipment

Measuring instrument:

Microwave chamber, Network analyzer, and standard antenna.

Instructions for microwave chamber:

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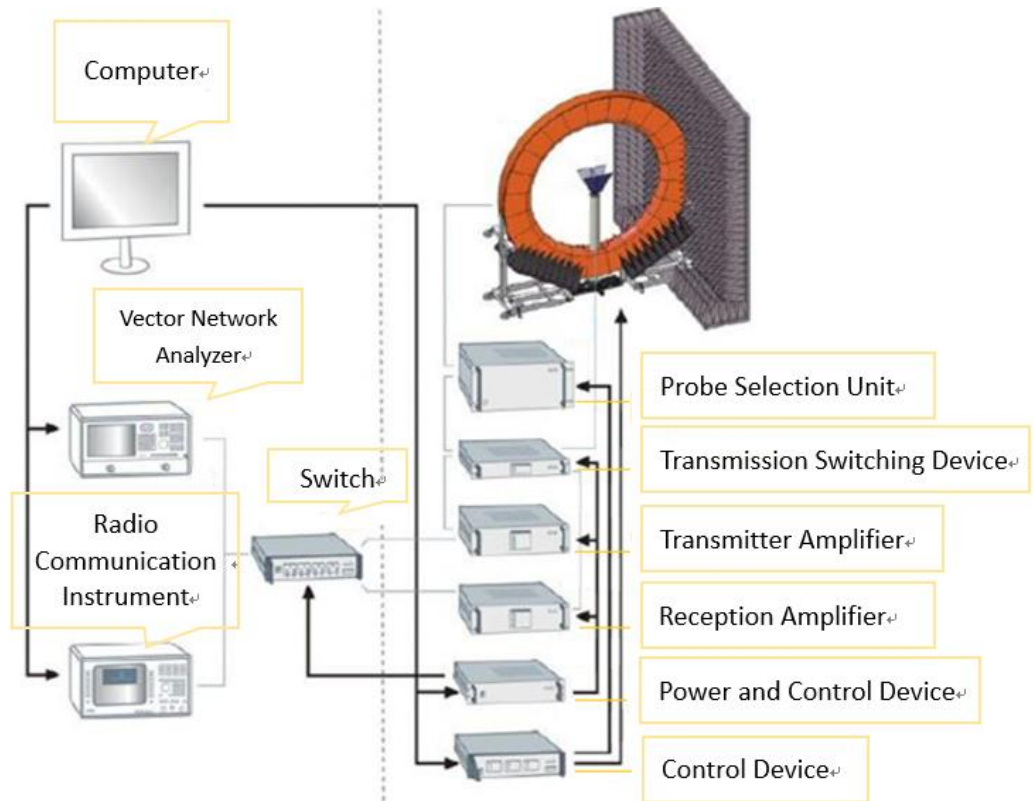
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This is a microwave chamber set up by our company in Suzhou, This microwave chamber belongs to a set of near-field measurement system. The size of the chamber is 4M * 4M * 4M.



The microwave chamber, shown above, using a unique multi-probe technique, The aim is to reduce the measurement time of the whole measurement system. The measuring system use multi-probe array instead of single probe to scan the measured surface of the antenna under test, a single probe has the capability of measuring orthogonal polarization amplitude and phase, it also has a wide frequency range, the corresponding multi-probe array is switched quickly by electronic switch, greatly improved the measurement efficiency.

The probe model: HD-400(400MHz~6.0GHz) . Because of its capability of broadband frequency and the orthogonal polarization function, the number of probes needed to be equipped with the system is reduced; The small size of the probe reduces the coupling between the probes, make it is possible to insert probes of other frequency bands between probes, then a single system can support a wider frequency range.

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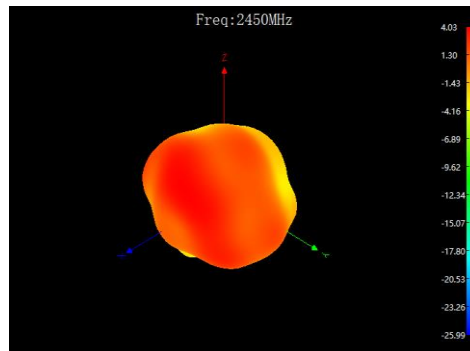
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4-5.2 Efficiency and Gain、Radiation Pattern

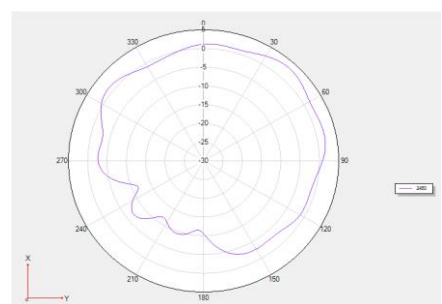
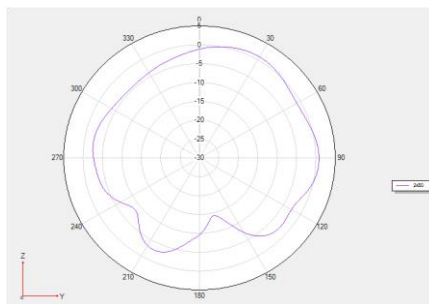
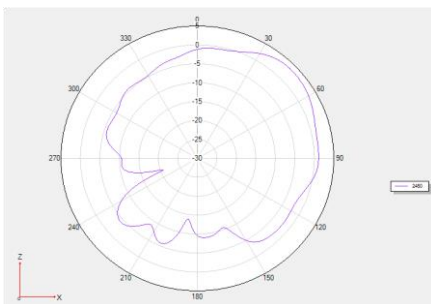
- Antenna gain is marked (dBi) and is based on STANDARD HORN antenna. The data shows Peak Gain and Average Gain.

Frequency(MHz)		2400	2450	2500
WIFI	Efficiency (%)	63.1	65.46	64.42
	Peak Gain (dBi)	0.92	1.09	1.01

- 3D Radiation Pattern Results



- 2D Radiation Pattern Results



- Physical coordinate Image



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