



**ONE PLUS ONE**  
Wireless Communication

**Shenzhen One Plus One Wireless Communication  
Technology Co., LTD  
APPROVAL SHEET**

客户 Customer	
项目名 Project	<b>D86</b>
料号 Part NO.	
规格 Specification	<b>BT Antennas</b>

APPROVAL			
OnePlusOne:			
RF Check	ME Check	QC Check	Confirm By
Customer:			
EE Check	PM Check	QC Check	Confirm By

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Date:	Revision:	Updates and changes:	Issued by:
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Project: <b>D86</b>	Author: Mei Ting Huang	File Name: <b>D86_APP_A.doc</b>
Date: <b>2022-10-18</b>		
Revision:	<b>A</b>	
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Shenzhen OnePlusOne Wireless Communication Technology Co.,Ltd.		

2022-06-13	A	Initial sheet	Mei Ting Huang

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# 1 Antenna description

It summarize BT antennas for project D86. BT, antenna's frequency band is 2400-2500MHz, .

## 1.1 Part number

Part number of antenna: D86 Antenna pictures



# 2 Electrical Performance

## 2.1 Specification

BT	
Frequency Range	2400MHz~2500MHz
Return Loss	<-5
Efficiency	>25%

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## 2.1 Measurement Set-up

### 2.1.1 VSWR and Return Loss

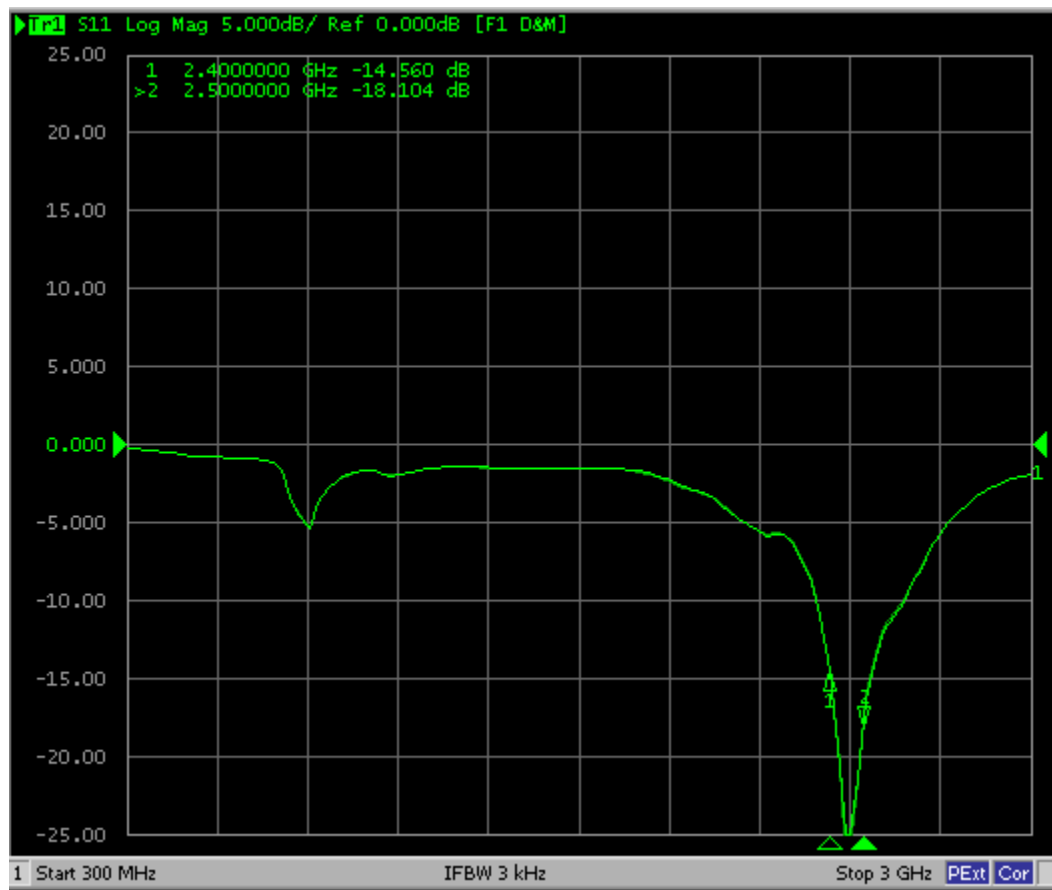
VSWR measurements ( $S_{11}$ ) were performed using an Agilent ENA series Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

### 2.1.2 Efficiency and Gain

The gain of the antenna was measured in OPO's 3D anechoic chamber in Shenzhen, China. The chamber is a ETS system capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents during passive tests. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a 8960 / MT8820C to establish the connection with the mobile device and read the power.

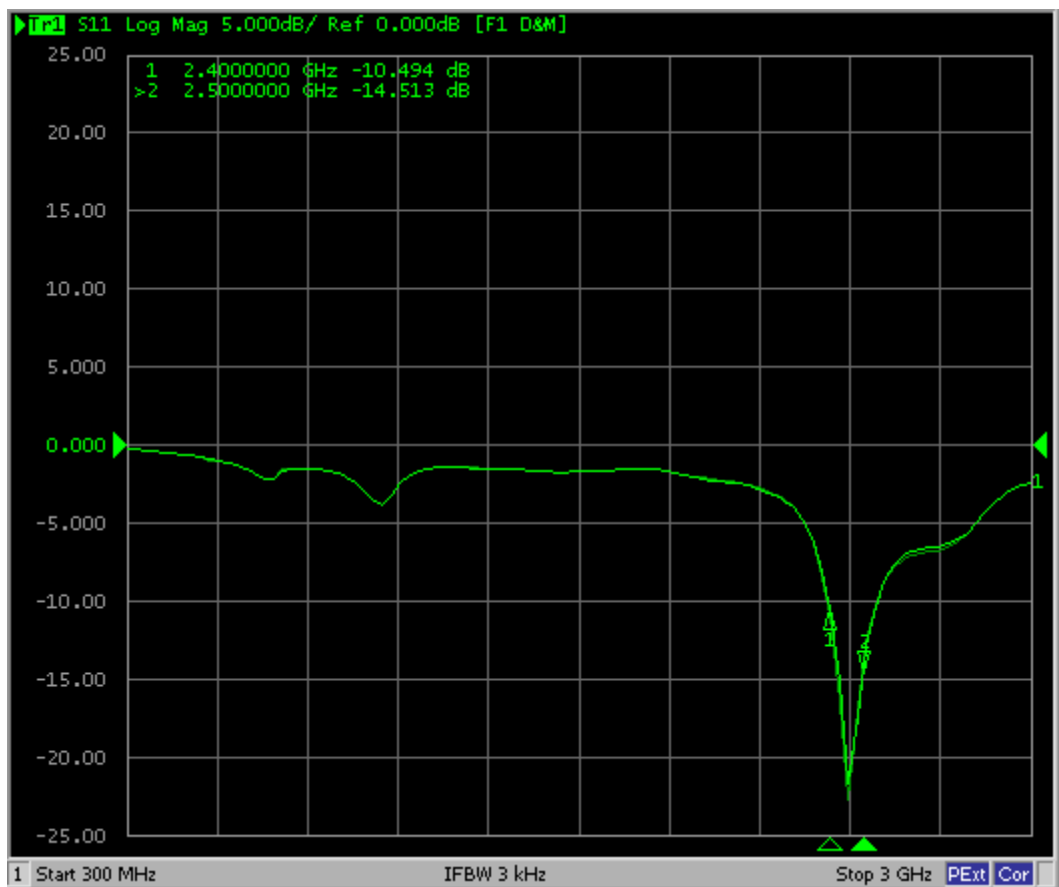
## 3 Reference measurement data

### 3.1 Passive



Return Loss-L

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**Return Loss-R**

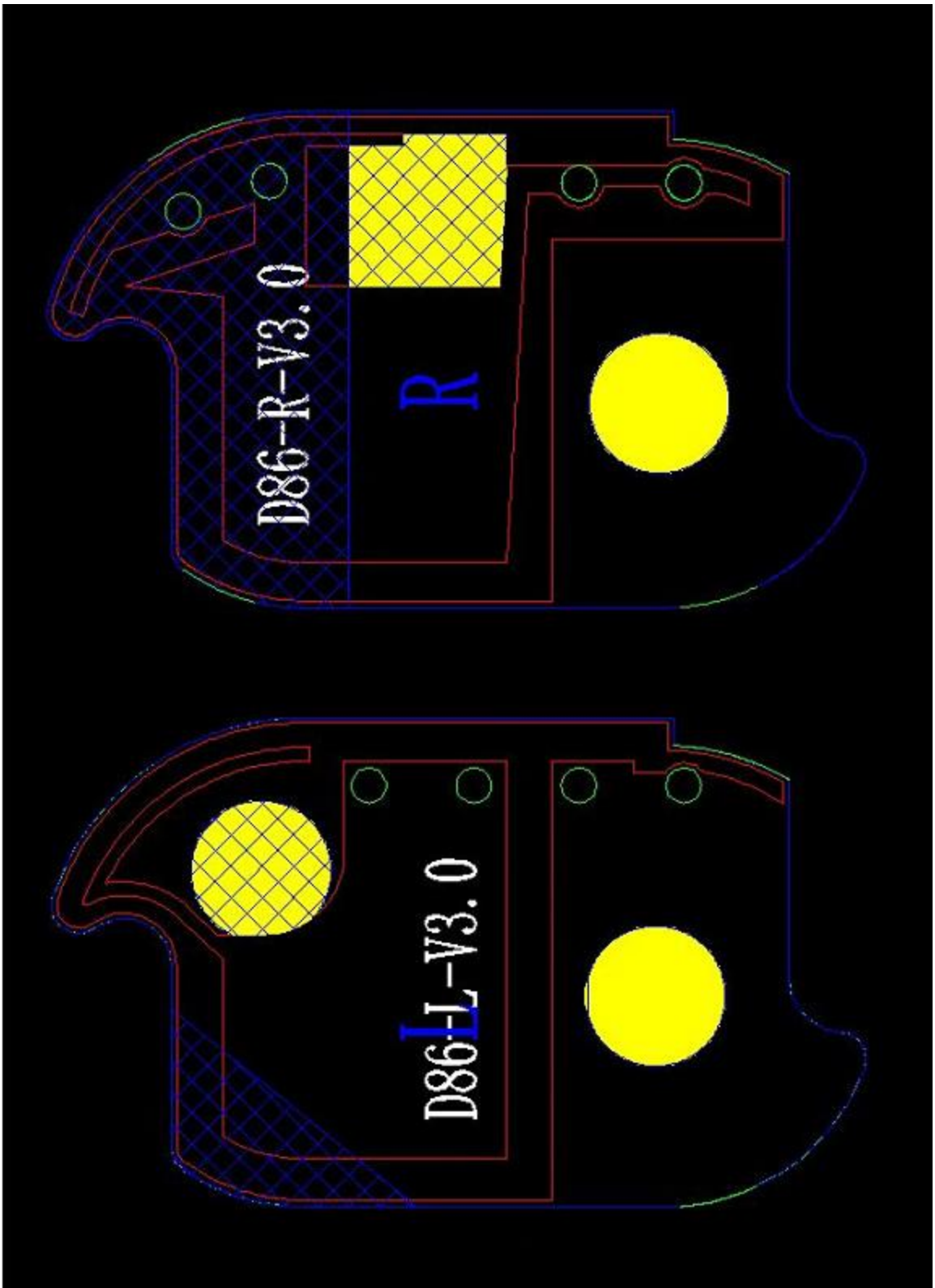
L	Passive Test For BT			R	Passive Test For BT		
	Freq (MHz)	Effi (%)	Effi (dB)		Freq (MHz)	Effi (%)	Effi (dB)
	2400	20.95	-6.79		2400	23.62	-6.27
	2410	17.34	-7.61		2410	18.71	-7.28
	2420	21.99	-6.58		2420	18.93	-7.23
	2430	17.34	-7.61		2430	21.68	-6.64
	2440	21.16	-6.74		2440	21.73	-6.63
	2450	17.08	-7.68		2450	18.52	-7.32
	2460	19.72	-7.05		2460	21.07	-6.76
	2470	16.93	-7.71		2470	15.58	-8.07
	2480	19.01	-7.21		2480	16.69	-7.78
	2490	16.25	-7.89		2490	12.43	-9.05
	2500	18.06	-7.43		2500	20.17	-6.95

### 3.2 Matching Circuit Description

## 4 Mechanical description

### 4.1 Drawings

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