



**ONE PLUS ONE**  
Wireless Communication

深圳市一加一无线通讯技术有限公司

## 承认书

### APPROVAL SHEET

客户 Customer	爱保护
项目名 Project	AF25
料号 Part NO.	
规格 Specification	V5. 3+BR+EDR+BLE specification Antennas

承认签章后请寄回承认书一份

Please return to us one copy of "APPROVAL SHEET" with your approved signatures

APPROVAL			
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RF Check	ME Check	QC Check	Confirm By
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Date:	Revision:	Updates and changes:	Issued by:
2023.7.15	A	Initial sheet	Haiou.Zhu

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# 1 Antenna description

It summarize BT 5.3antennas for project.BT 5.3 antenna’s frequency band is 2400-2500MHz. BT 5.3 antenna’s type is Monopole

## 1.1 Part number

Part number of antenna:

## 1.2 Antenna pictures



# 2 Electrical Performance

## 2.1 Specification

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

## 2.2 Measurement Set-up

### 2.2.1 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.

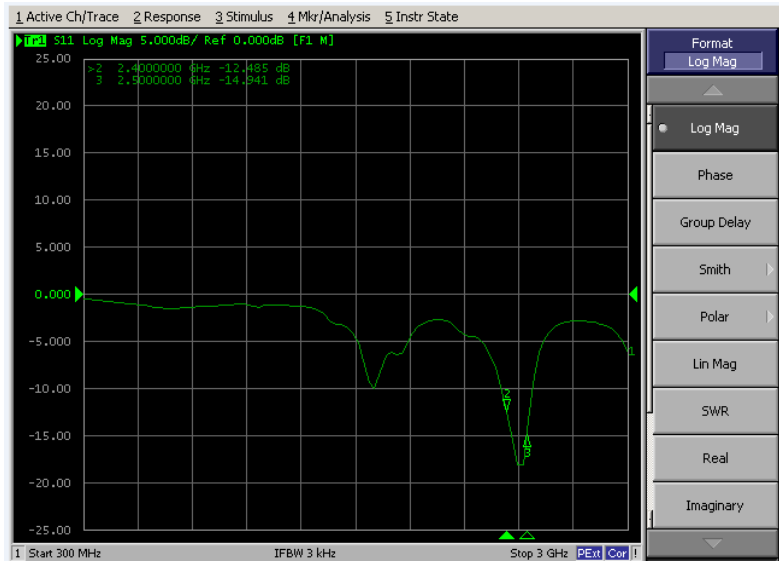
### 2.2.2 Efficiency and Gain

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.

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### 3 Reference measurement data

#### 3.1 Passive



Return SWR

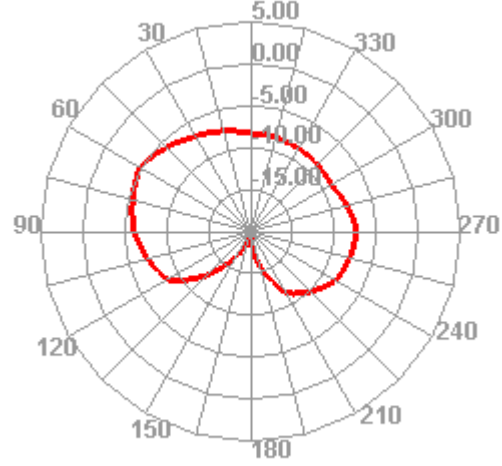
#### 3.2 Active

Test Result	Bluetooth TRP		
	0	39	78
Frequency (MHz)	2402	2441	2480
Txp Ave (dBm)	-7.72	-8.07	-8.14
NHPRP (dBm) 45	NULL	NULL	NULL
MAX (dBm)	-4.8	-5.76	-6.33
EIRP peak	-4.8	-5.76	-6.33
Gain(dBi)	-3.9	-4.01	-3.86
Min (dBm)	-35.7	-36.02	-31
Attenuation Horizontal	43.67	43.01	43.4

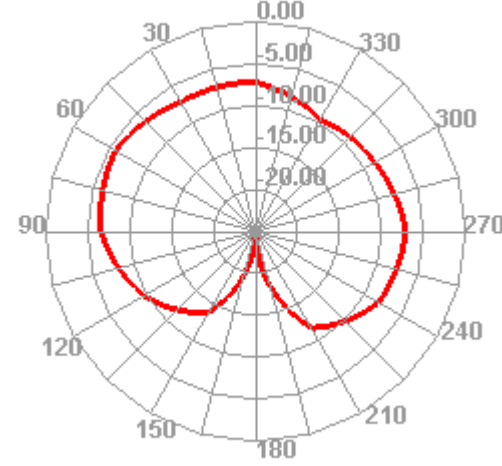
Application Information	
04Version	5.258.361
TotalTime	3m 12s 535ms
AdditionalInfor	B141EAA725E6

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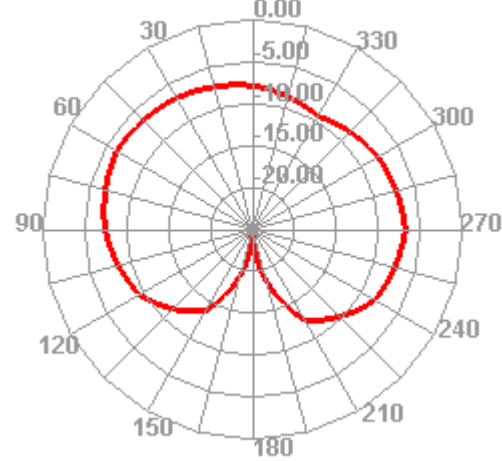
Bluetooth 0 TRP Phi=45



Bluetooth 39 TRP Phi=45



Bluetooth 78 TRP Phi=45



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4 Mechanical description

4.1 Drawings

