# Gentong Communication Technology Co.,Ltd

## BT antenna report

Project Name:BTA512

Frequency band:2400-2500MHz

Antenna: PCBA

Version: R:A

## 1、Passive testing fixture

Purpose: To test the passive parameters of the antenna as accurately as possible.

Production method: The mobile phone manufacturing tool uses a 50 ohm coaxial cable, with one end connected to the test point at the back end of the matching circuit (RF test hole front end) of the mobile phone motherboard, and the other end connected to an SMA connector.

## 2 、S11 testing

S11 Test Method Description:

Test equipment: network analyzer (Agilent 8753D)

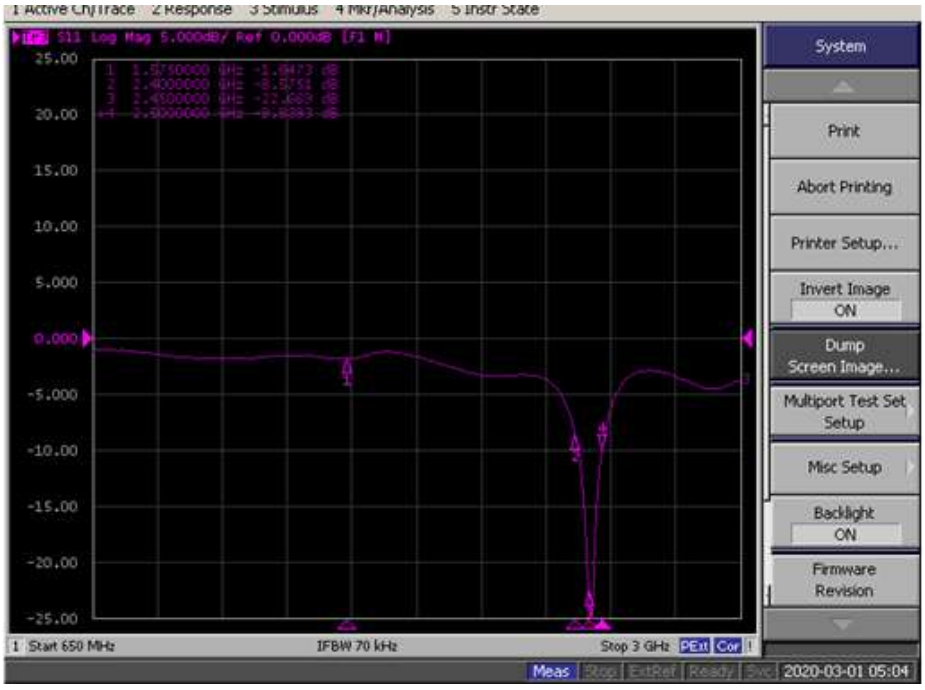
Test method: Use a 50 ohm CABLE cable to export from the instrument test port, calibrate with a calibration piece, and connect to the SMA connector of the mobile phone tool. Record the corresponding return loss and standing wave ratio at the relevant frequency points.

The test schematic is as follows:

## 3 、S11 parameters

BT antenna

| Frequency（MHZ） | 2400 | 2450 | 2500 |
|---|---|---|---|
| Return loss (dB) | -8.57 | -22.66 | -9.83 |
| Standing wave ratio | 1.3 | 1.26 | 1.29 |



## 4、Darkroom testing

4.0 Testing Equipment

Test system: ETS shielded darkroom

Test environment: temperature 22 ℃± 3 ℃, humidity 50% ± 15%

Test equipment: when testing passive data, use network analyzer Agilent E5071B

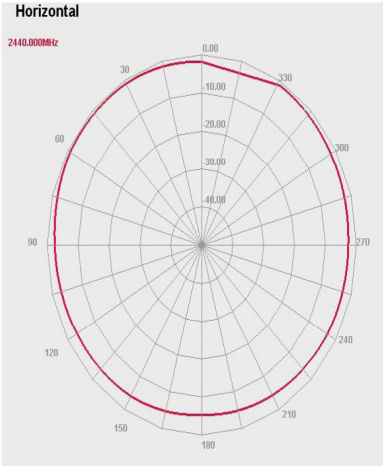
When testing active data, use a comprehensive tester Agilent 8960 8820C

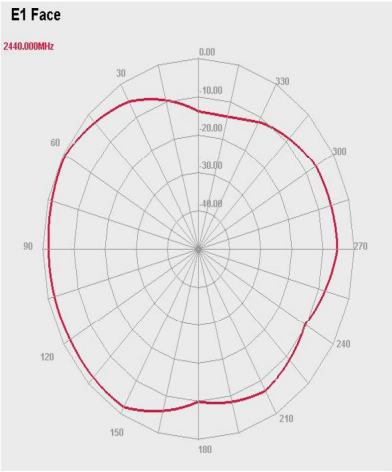
4.1 Test method description and diagram:

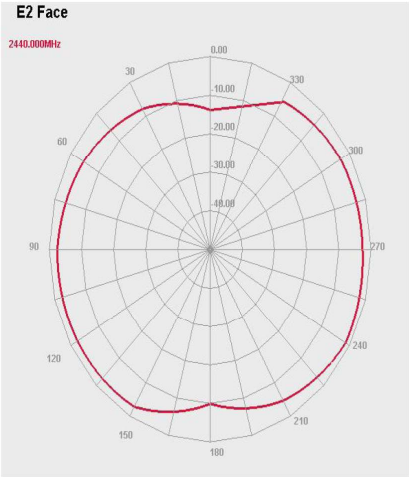
The testing system consists of a darkroom, turntable, source antenna system, testing instruments, and control computer. The testing computer is the controller of the entire system. During testing, the testing computer controls the turntable to rotate to a certain angle, and then controls the instrument to perform spatial attenuation testing. After collecting the raw data, the data is compensated and corrected, and finally the test data is obtained. The schematic diagram is as follows:

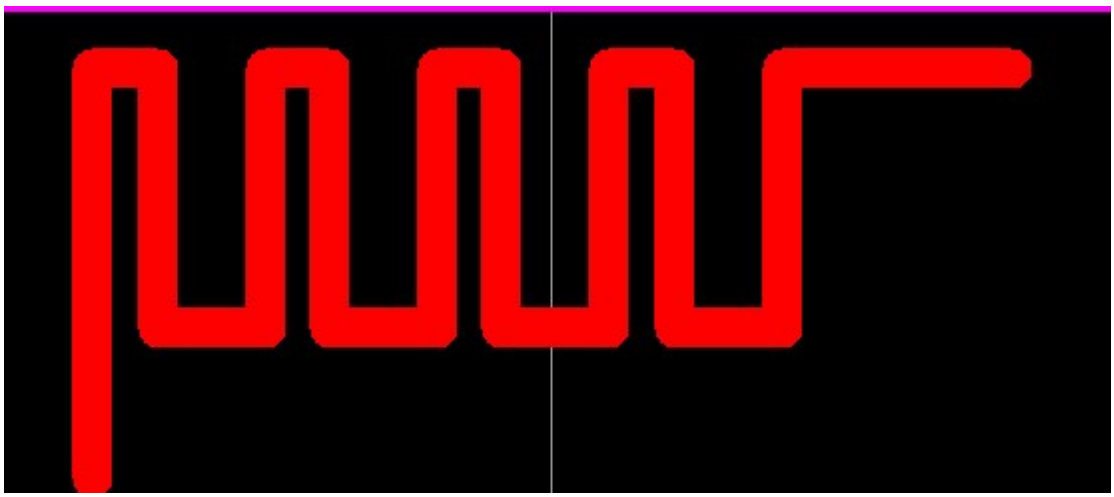
4.2 Antenna Test Report (BT efficiency)：

| Freq | Effi | Effi | Gain | Gain |
|---|---|---|---|---|
| (MHz) | (%%) | (dB) | (dBi) | (dBd) |
| 2400 | 38.83 | -0.41 | -0.47 | -2.62 |
| 2420 | 40.12 | -0.39 | -0.23 | -2.38 |
| 2440 | 40.33 | -0.39 | -0.35 | -2.5 |
| 2460 | 39.39 | -0.40 | -0.15 | -2.3 |
| 2480 | 38.52 | -0.41 | 0 | -2.15 |
| 2500 | 36.55 | -0.43 | -0.07 | -2.22 |




## 5、BT Antenna Photo