Specification of
Earphone Antenna Element

<table>
<tr><td>Project</td><td colspan="3">OT93A earphone</td><td>Frequency Band</td><td colspan="2">BT(2400-2500)</td></tr>
<tr><td>P/N</td><td colspan="3">F-KT-7Z-0002-002-K0</td><td>Version</td><td colspan="2">T01</td></tr>
<tr><td>Date</td><td colspan="6">2024/06/17</td></tr>
<tr><td colspan="7">SPEED</td></tr>
<tr><td rowspan="3">Checked by</td><td>RF</td><td colspan="2">Xiaojun Tang</td><td rowspan="2">Design by</td><td>RF</td><td>Shiwu Yan</td></tr>
<tr><td>ME</td><td colspan="2">Kevin Wang</td><td>ME</td><td>Rui Wang</td></tr>
<tr><td></td><td colspan="2"></td><td>Remark</td><td colspan="2"></td></tr>
<tr><td colspan="7">Customer</td></tr>
<tr><td>Date</td><td colspan="6"></td></tr>
<tr><td rowspan="2">Confirmed by</td><td colspan="2">RF</td><td colspan="4"></td></tr>
<tr><td colspan="2">ME</td><td colspan="4"></td></tr>
<tr><td>Remark</td><td colspan="6"></td></tr>
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Antenna Supplier Name: Huizhou SPEED Wireless Technology Co., Ltd

Address: No. SX-01-02, Shangxia District, Dongjiang High-Tech Zone, Huizhou City, Guangdong Province

1 Introduction

The antenna covers the band:BT(2400MHz-2500MHz).
Antenna properties were measured in the actual environment plane.

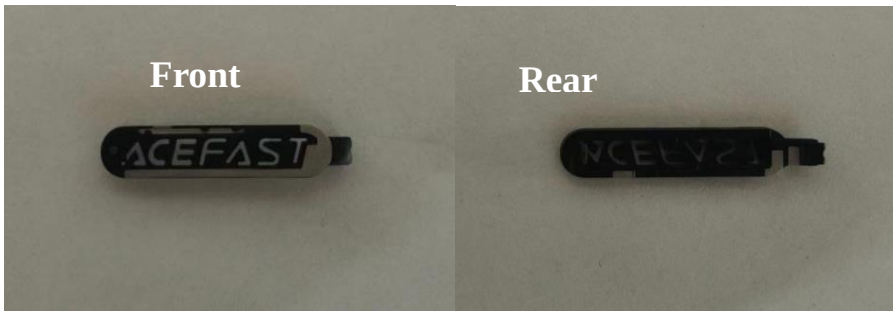


Figure 1: Proposed Antenna

2 Electrical Performance

2.1 Specification

Antenna Passive Performance		
Antenna Bands		
1	Operation Frequency (MHz)	2400-2500
2	Return Loss (dB)	-8
3	Zenith Gain(dBi)	Peak Gain :-3.7
4	Efficiency (%)	9
5	Polarization	Vertical polarization
6	Impedance	50 Ω

2.2 Test Set-up

The return loss and VSWR were measured with Agilent E5071C.

The efficiency and gain were measured in ETS-Lindgren Chamber in picture2

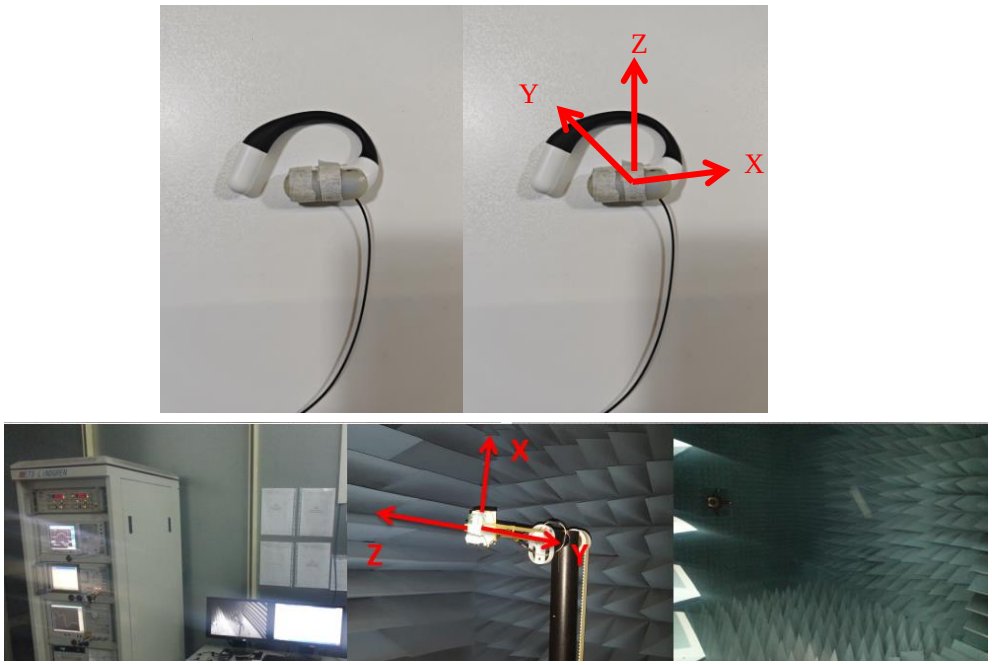
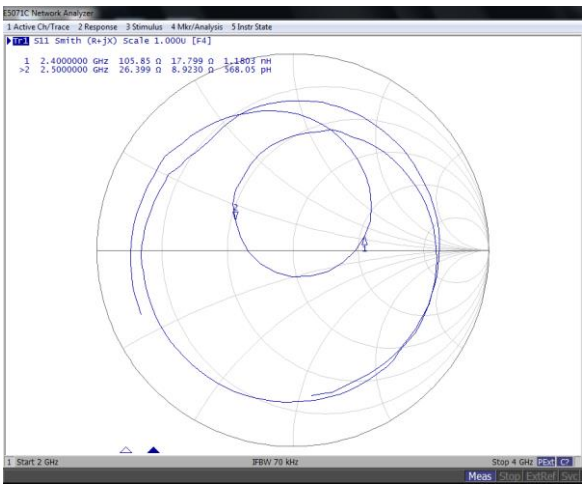
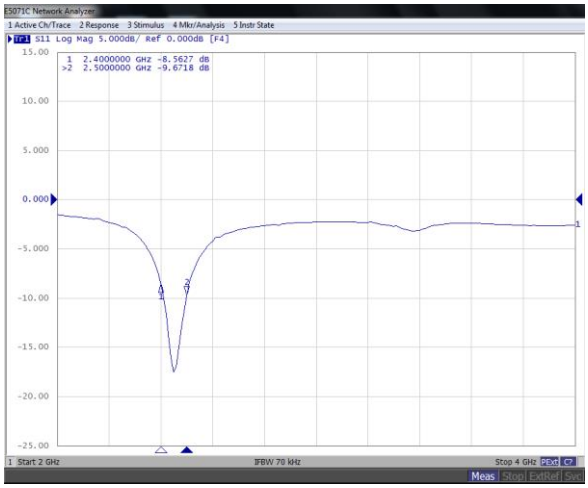


Figure 2: ETS chamber and measurement system

2.3 Smith Chart & Return Loss

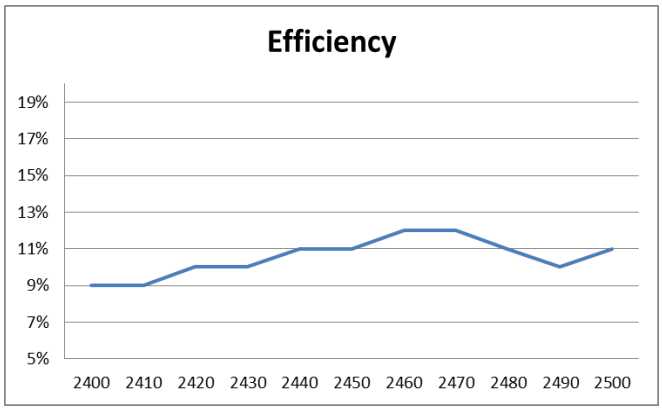


Smith

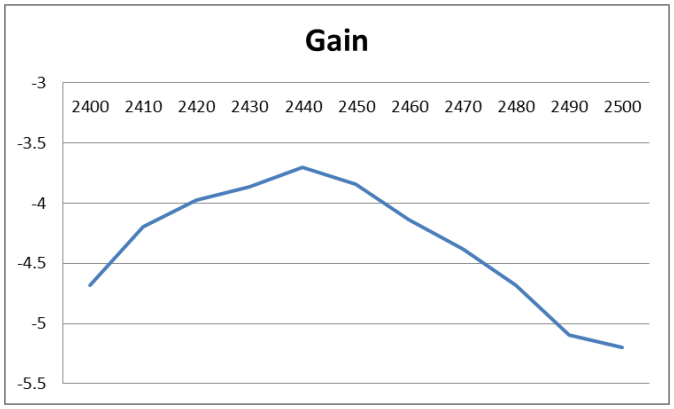


Return Loss

2.4 Efficiency and Gain

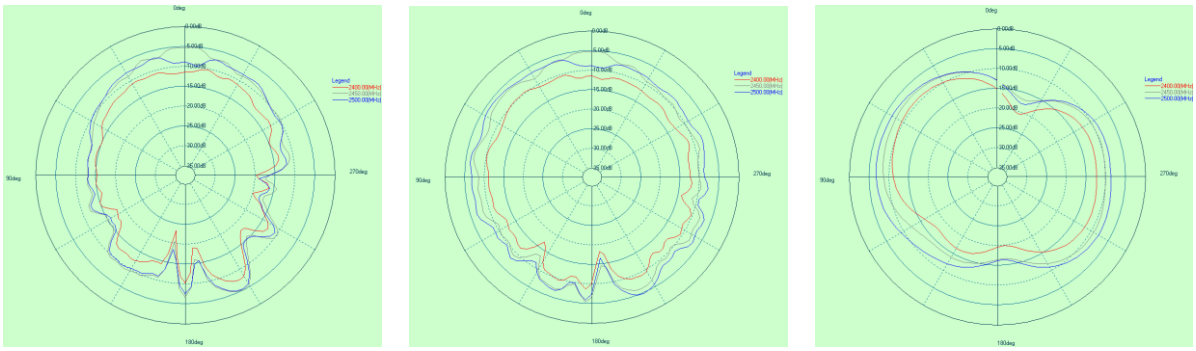


Efficiency

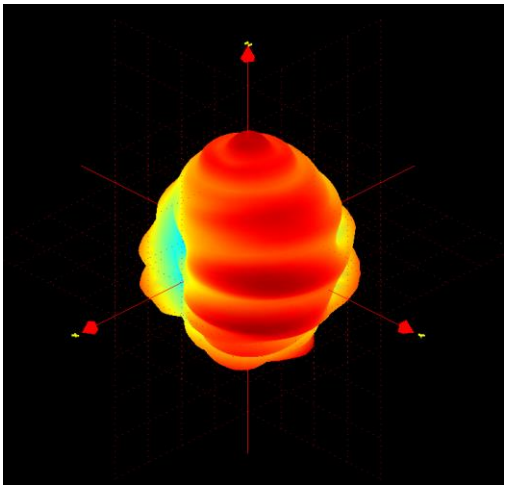


Peak Gain

2.5 Gain and Radiation Pattern



2D pattern



3D radiation pattern

3 Mechanical Drawing (Units: mm)