

客戶名稱 : 常 禾
CUSTOMER

Documnet No.: ENS000160640

Approval Sheet Rev.: A0

Spec. Rev. A0

承 認 書

APPROVAL SHEET

產品品名/Product Model No. : WA-F-LA-03-266

客戶料號/Customer No. : 150203000024

發行日期/ Issue Date : 2022/02/18

承認日期/ Approved Date : 2022/02/18

Approved by customer: (signing or stamping here)



 禾邦電子(蘇州)有限公司
INPAQ TECHNOLOGY(SuZhou)
Co.,Ltd

 佳邦科技股份有限公司
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No.5,zhongxin Road, PanYang industrial
Park,HuangDai town,XiangCheng
district ,Suzhou City

No. 59-12, 9 Lin, Ta Tsuo Li, Chu Nan
Chen, Miao Li Hsien, Taiwan, R.O.C.

WA-F-LA-03-266 Specification

1. Explanation of part number :

WA - F - LA - 03 - 266
(1) (2) (3) (4) (5)

(1) Product Type : Wireless Antenna

(2) Material: FPCB+CABLE

(3) Frequency : 2.4GHz-2.5GHz

(4) Coaxial Cable Type : 03

(5) Suffix :266

2. Storage Condition:

Temperature -40 to +70 °C
Humidity 65±20 % RH

3. Operating Condition:

Temperature -40 to +70 °C
Humidity 65±20 % RH

4. Electrical Specification :

Those specifications were specially defined for 哈曼 **SOUNDBAR 2721 BT** model, and all characteristics were measured under the model's handset testing.

4-1. Frequency Band:

Frequency Band	MHz
BT	2400-2500

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
ANGLES=± HOLEDIA=±

SCALE : UNIT : mm

DRAWN BY : 靳静 CHECKED BY : 赵付辉

DESIGNED BY : 牛永林 APPROVED BY : 赵付辉



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4-2. Impedance

50 ohm nominal

4-3. Matching circuit

None

4-4.VSWR

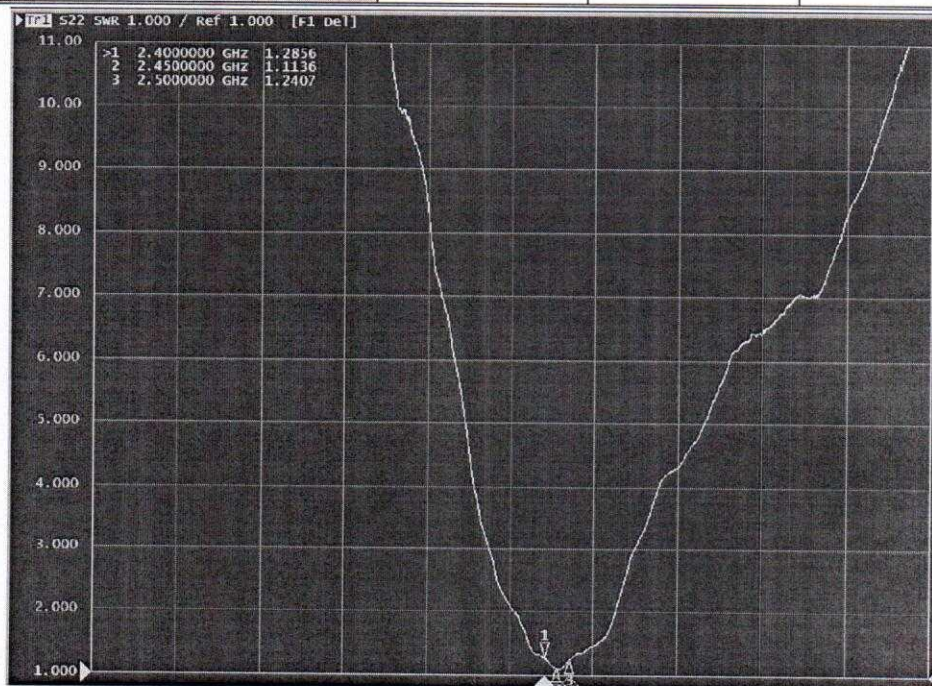
4-4.1 MeasuringMethod

1.A 50Ω coaxial 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

4-4.2Measurement frequency points and VSWR value

Frequency (Unit MHz)	2400	2450	2500
VSWR	≤2.5	≤2.5	≤2.5
VSWR	1.28	1.11	1.24



4-5.Efficiency and Gain

4-5.1 Measure method

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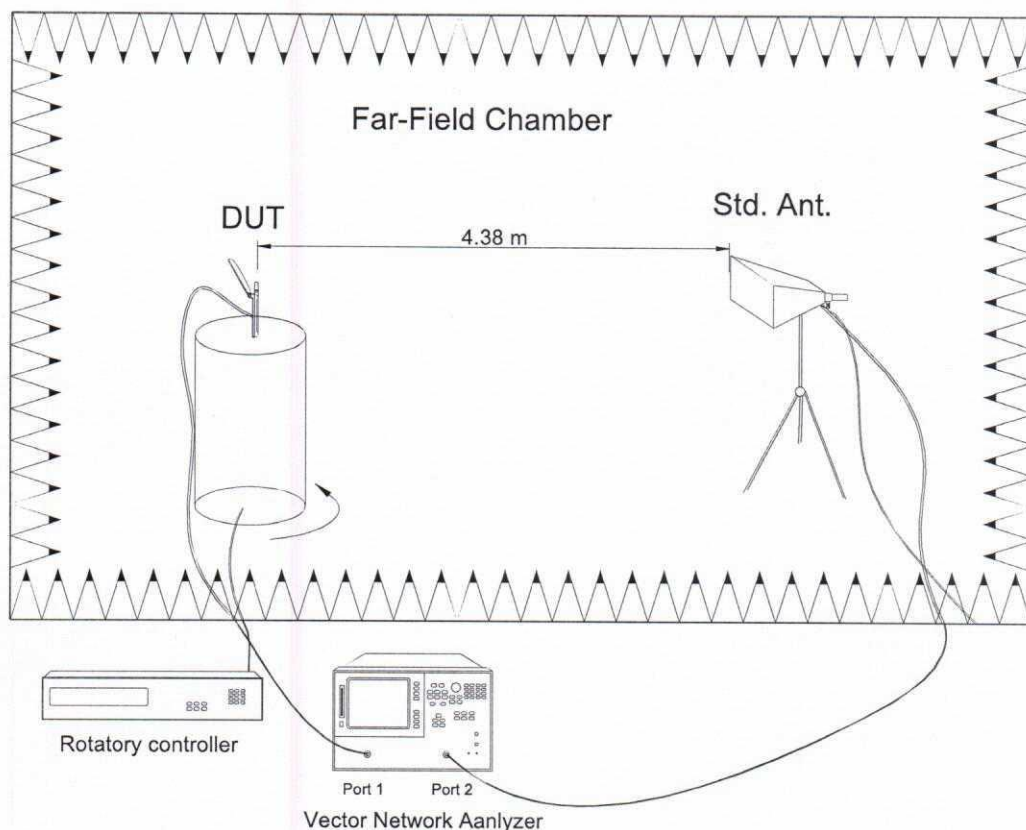
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1. Using a low loss coaxial cable to link a standard handset jig
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna to calibrated those data

4-5.2 Chamber definition



1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quite room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m
4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

4-5.3 Efficiency and Gain

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

Frequency (MHz)	2400.0	2450.0	2500.0
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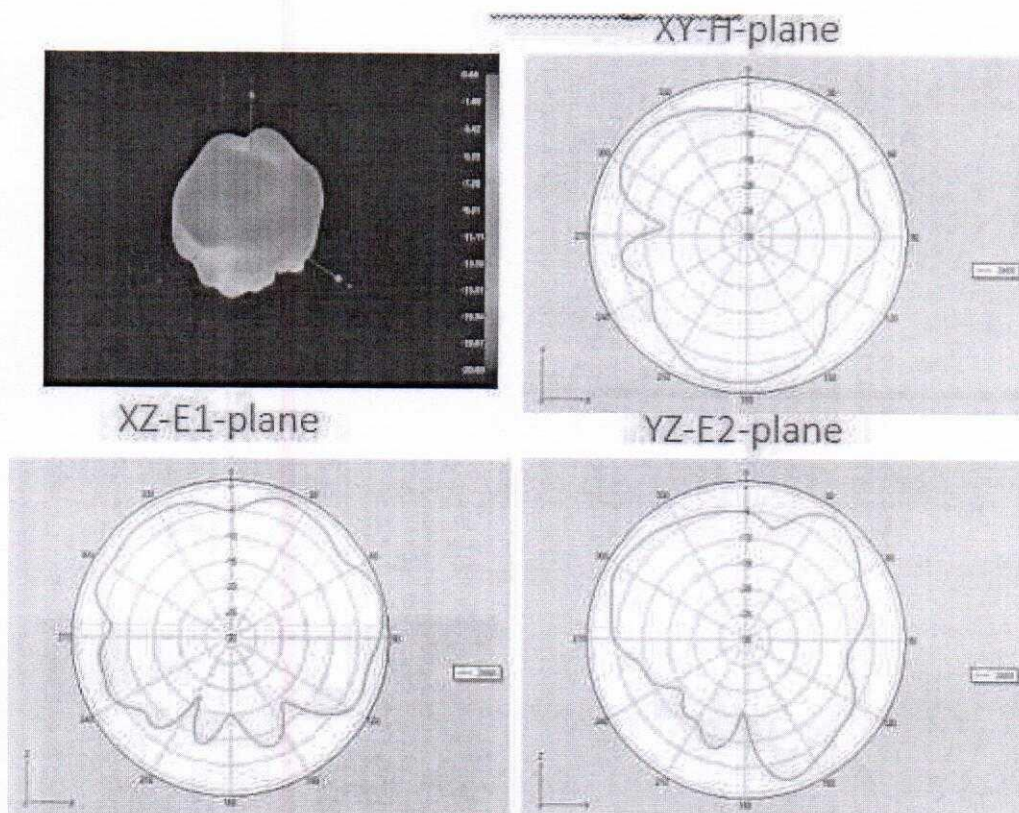
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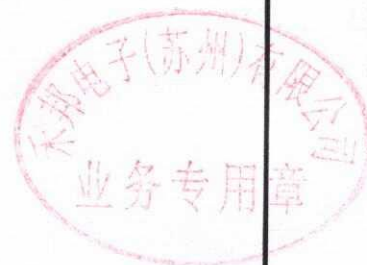
Efficiency (%)	52.76	55.32	52.64
Gain (dBi)	0.28	0.44	0.11



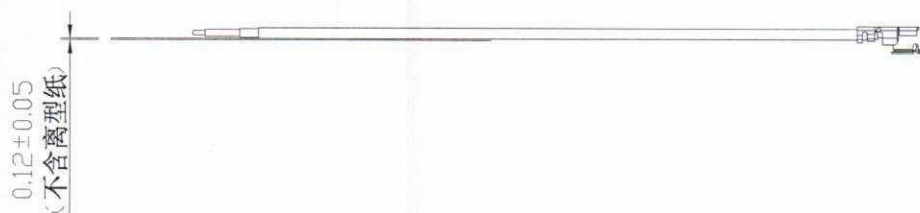
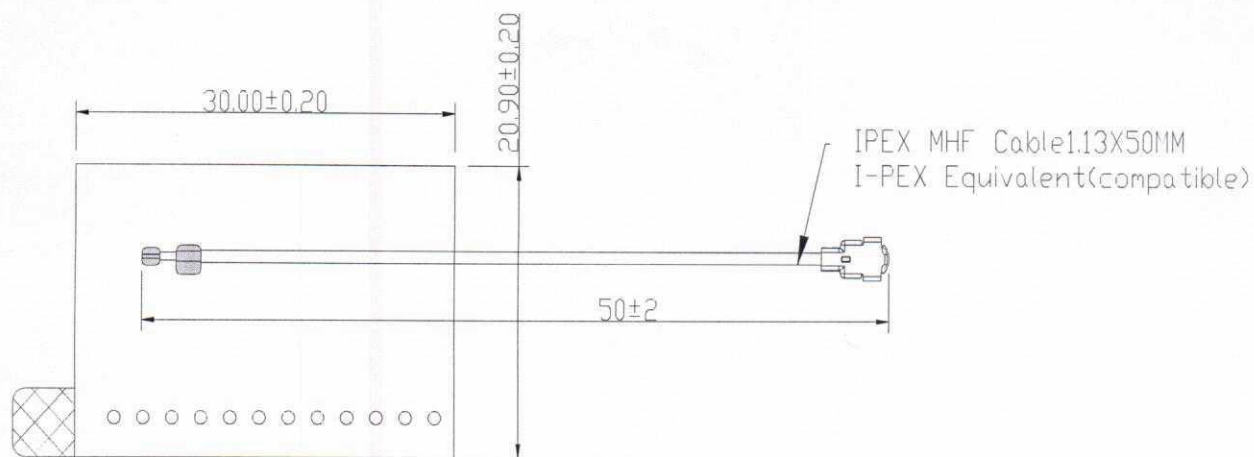
5. Mechanical Specification:

5-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 5-1-1



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包装规格: (供参考)

1. 将产品 10pcs 装入 1PE 袋, 然后将 PE 袋内的空气压出合上封口;



2. 将 200 袋天线放入一包装内箱, 共 $200 \times 10 = 2000\text{pcs}$, 放上填充物包好;



3. 将 4 个包装内箱放入包装外箱, 放好天地盖, 包装好并贴上标识, 共 $2000 \times 4 = 8000\text{pcs}$ 。

