



ISO9001-2015  
Certificate No:672Q22020207194

No.T52210311961TC Date;OCT 12,2022 No.T52310270397TC Date;apr 15,2023

# 承認書

## SPECIFICATION FOR APPROVAL

客户名稱  
CUSTOMER

品名規格  
DESCRIPTION FS 25×5×21x12-1.5

客户料號  
CUS. P/N

提出日期  
DATE 2025.05.12

| 出 圖<br>RDAWING |                |                 |
|----------------|----------------|-----------------|
| 發 行<br>MADE    | 復 核<br>CHECKED | 確 認<br>APPROVED |
| 李光赫            | 方煜镗            | 梁琼              |
| 销售部：张 丽        |                |                 |

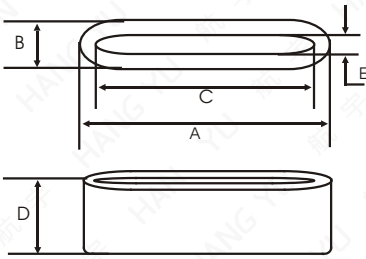
| 承 認<br>CUSTOMER APPROVE |
|-------------------------|
|                         |

# 承 認 書

## SPECIFICATION FOR APPROVAL

|                     |                   |                   |            |
|---------------------|-------------------|-------------------|------------|
| 客 户 名 稱<br>CUSTOMER |                   | 日 期<br>DATE       | 2025.05.12 |
| 規 格<br>ITEM         | FS 25×5×21x12-1.5 | 編 號<br>SERIAL NO. |            |

|                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                  |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------|---|------------|---|------------|---|-------------|---|-------------|---|--|---|--|---|--|
| <p>1. 形狀尺寸(單位/毫米):<br/>SHAPE &amp; DIMENSION(unit/mm):</p> <div style="text-align: center;">  </div> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">A</td><td style="width: 90%;">25 ± 0.7 mm</td></tr> <tr><td>B</td><td>5 ± 0.4 mm</td></tr> <tr><td>C</td><td>21 ± 0.5mm</td></tr> <tr><td>D</td><td>12 ± 0.5 mm</td></tr> <tr><td>E</td><td>1.5 ± 0.5mm</td></tr> <tr><td>F</td><td></td></tr> <tr><td>G</td><td></td></tr> <tr><td>H</td><td></td></tr> </table> | A | 25 ± 0.7 mm | B | 5 ± 0.4 mm | C | 21 ± 0.5mm | D | 12 ± 0.5 mm | E | 1.5 ± 0.5mm | F |  | G |  | H |  |
| A                                                                                                                                                                                     | 25 ± 0.7 mm                                                                                                                                                                                                                                                                                                                                                                                                      |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
| B                                                                                                                                                                                     | 5 ± 0.4 mm                                                                                                                                                                                                                                                                                                                                                                                                       |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
| C                                                                                                                                                                                     | 21 ± 0.5mm                                                                                                                                                                                                                                                                                                                                                                                                       |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
| D                                                                                                                                                                                     | 12 ± 0.5 mm                                                                                                                                                                                                                                                                                                                                                                                                      |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
| E                                                                                                                                                                                     | 1.5 ± 0.5mm                                                                                                                                                                                                                                                                                                                                                                                                      |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
| F                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                  |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
| G                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                  |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |
| H                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                  |   |             |   |            |   |            |   |             |   |             |   |  |   |  |   |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |                 |              |         |     |                            |  |           |     |     |                                       |              |        |              |         |       |     |       |     |            |   |                 |   |  |                                    |  |  |  |  |                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------|--------------|---------|-----|----------------------------|--|-----------|-----|-----|---------------------------------------|--------------|--------|--------------|---------|-------|-----|-------|-----|------------|---|-----------------|---|--|------------------------------------|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>2. 電氣性能檢測項目:<br/>ELECTRICAL REQUIREMENTS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"><input type="checkbox"/> L</td> <td style="width: 20%;"></td> <td style="width: 15%;">TEST FREQ</td> <td style="width: 15%;">KHZ</td> <td style="width: 15%;">MHZ</td> </tr> <tr> <td><input type="checkbox"/> Q</td> <td></td> <td>TEST FREQ</td> <td>KHZ</td> <td>MHZ</td> </tr> <tr> <td rowspan="2"><input checked="" type="checkbox"/> Z</td> <td>Z1= 24 Ω MIN</td> <td>25 MHZ</td> <td>Z2= 84 Ω MIN</td> <td>100 MHZ</td> </tr> <tr> <td>Z3= /</td> <td>KHZ</td> <td>Z4= /</td> <td>KHZ</td> </tr> <tr> <td>溫度<br/>TEMP</td> <td>℃</td> <td>濕 度<br/>HUMIDITY</td> <td colspan="2">%</td> </tr> <tr> <td colspan="5">           線 組<br/>WINDING Φ0.5x0.5TSx100L(mm)         </td> </tr> </table> | <input type="checkbox"/> L |                 | TEST FREQ    | KHZ     | MHZ | <input type="checkbox"/> Q |  | TEST FREQ | KHZ | MHZ | <input checked="" type="checkbox"/> Z | Z1= 24 Ω MIN | 25 MHZ | Z2= 84 Ω MIN | 100 MHZ | Z3= / | KHZ | Z4= / | KHZ | 溫度<br>TEMP | ℃ | 濕 度<br>HUMIDITY | % |  | 線 組<br>WINDING Φ0.5x0.5TSx100L(mm) |  |  |  |  | <p>測試儀器<br/>TEST INSTRUMENTS</p> <p>1. Q-METER:<br/>○ HP 4342A    ○ MQ-172</p> <p>2. L.C.R. METER:<br/>○ HP 4284A</p> <p>3. IMPEDANCE ANALYZER:<br/>○ HP 4192A    Ø HP 4191A    ○ HP4192B</p> <p>4. L-METER:<br/>○ TH 2775B</p> <p>5. DIGITAL MINI-OHMMETER:<br/>○ VP2941A</p> |
| <input type="checkbox"/> L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            | TEST FREQ       | KHZ          | MHZ     |     |                            |  |           |     |     |                                       |              |        |              |         |       |     |       |     |            |   |                 |   |  |                                    |  |  |  |  |                                                                                                                                                                                                                                                                                |
| <input type="checkbox"/> Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            | TEST FREQ       | KHZ          | MHZ     |     |                            |  |           |     |     |                                       |              |        |              |         |       |     |       |     |            |   |                 |   |  |                                    |  |  |  |  |                                                                                                                                                                                                                                                                                |
| <input checked="" type="checkbox"/> Z                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z1= 24 Ω MIN               | 25 MHZ          | Z2= 84 Ω MIN | 100 MHZ |     |                            |  |           |     |     |                                       |              |        |              |         |       |     |       |     |            |   |                 |   |  |                                    |  |  |  |  |                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Z3= /                      | KHZ             | Z4= /        | KHZ     |     |                            |  |           |     |     |                                       |              |        |              |         |       |     |       |     |            |   |                 |   |  |                                    |  |  |  |  |                                                                                                                                                                                                                                                                                |
| 溫度<br>TEMP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ℃                          | 濕 度<br>HUMIDITY | %            |         |     |                            |  |           |     |     |                                       |              |        |              |         |       |     |       |     |            |   |                 |   |  |                                    |  |  |  |  |                                                                                                                                                                                                                                                                                |
| 線 組<br>WINDING Φ0.5x0.5TSx100L(mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |                 |              |         |     |                            |  |           |     |     |                                       |              |        |              |         |       |     |       |     |            |   |                 |   |  |                                    |  |  |  |  |                                                                                                                                                                                                                                                                                |

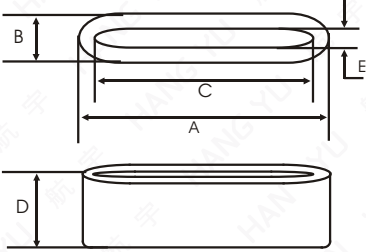
  

| <p>3. 外 觀:<br/>THE LIMIT OF BREAKAGE:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">項 目<br/>Item</th> <th style="width: 50%;">標準值<br/>Standard Value</th> </tr> <tr> <td>一處缺陷的面積<br/>Area of a breakage</td> <td>≤ 1mm<sup>2</sup></td> </tr> <tr> <td>總缺陷面積<br/>All area of the breakage</td> <td>≤ 2mm<sup>2</sup></td> </tr> <tr> <td>缺陷深度<br/>The depth of the breakage</td> <td>≤ 0.4mm</td> </tr> <tr> <td>毛刺長度<br/>The length of burr</td> <td>≤ 0.2mm</td> </tr> </table> | 項 目<br>Item           | 標準值<br>Standard Value | 一處缺陷的面積<br>Area of a breakage | ≤ 1mm <sup>2</sup> | 總缺陷面積<br>All area of the breakage | ≤ 2mm <sup>2</sup> | 缺陷深度<br>The depth of the breakage | ≤ 0.4mm | 毛刺長度<br>The length of burr | ≤ 0.2mm |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------------------|--------------------|-----------------------------------|--------------------|-----------------------------------|---------|----------------------------|---------|--|
| 項 目<br>Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 標準值<br>Standard Value |                       |                               |                    |                                   |                    |                                   |         |                            |         |  |
| 一處缺陷的面積<br>Area of a breakage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ≤ 1mm <sup>2</sup>    |                       |                               |                    |                                   |                    |                                   |         |                            |         |  |
| 總缺陷面積<br>All area of the breakage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ≤ 2mm <sup>2</sup>    |                       |                               |                    |                                   |                    |                                   |         |                            |         |  |
| 缺陷深度<br>The depth of the breakage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ≤ 0.4mm               |                       |                               |                    |                                   |                    |                                   |         |                            |         |  |
| 毛刺長度<br>The length of burr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ≤ 0.2mm               |                       |                               |                    |                                   |                    |                                   |         |                            |         |  |

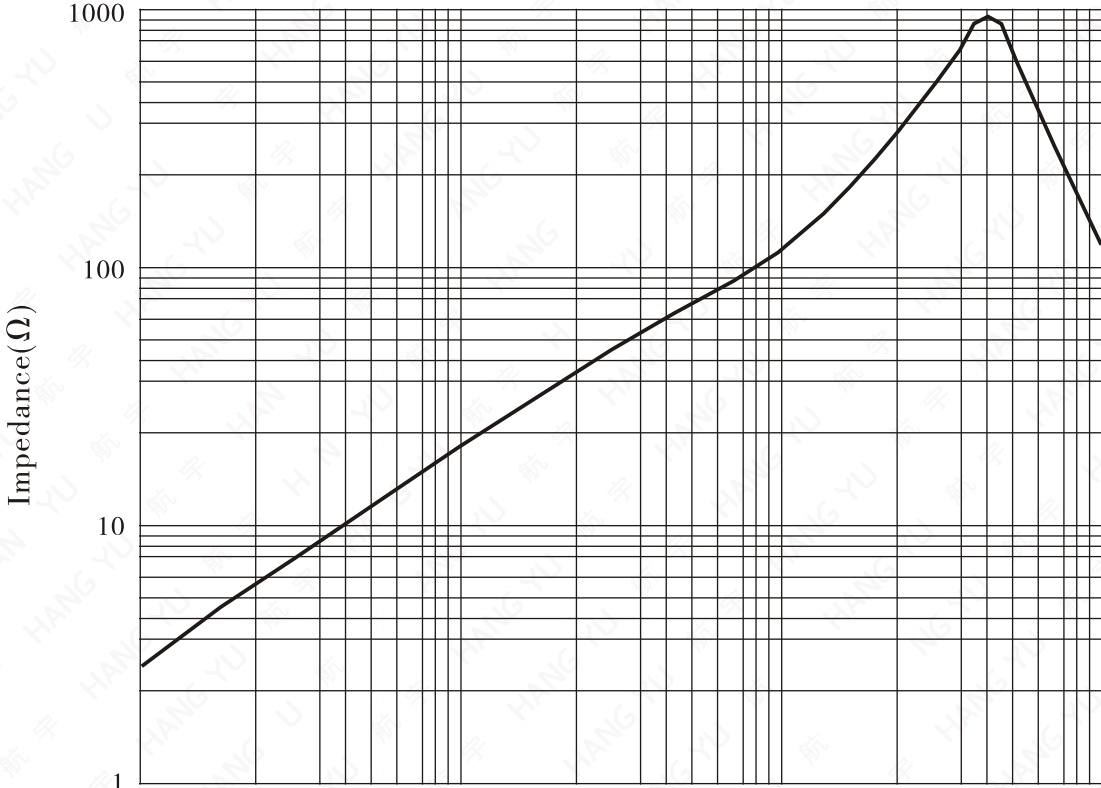
  

|                                                                                                                                                                                                                                                                                       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>4. 包 裝:<br/>PACKAGING:</p> <p>內包裝採用泡塑盒，外包裝採用紙箱，每箱產品外面都蓋上合格章(包括品名、數量、批號、檢驗員)。<br/>Inner packing adopts foam plastics box, outer packing adopts carton and each carton should have a qualified chapter label outside(include the variety, quantity, batch number and inspector).</p> |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

檢驗數據  
INSPECTION DATA

|                                            |                                  |                                                                                                                                                |       |                |       |       |                                 |                       |                |                        |                 |   |
|--------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------|-------|-------|---------------------------------|-----------------------|----------------|------------------------|-----------------|---|
| 客戶名稱<br>CUSTOMER                           |                                  | 日期<br>DATE                                                                                                                                     |       | 數量<br>QUANTITY |       | 10PCS |                                 |                       |                |                        |                 |   |
| 編號<br>SERIAL NO.                           |                                  | <div>形狀尺寸(單位/毫米):<br/>SHAPE &amp; DIMENSION(unit:mm):</div>  |       |                |       |       |                                 |                       |                |                        |                 |   |
| 規格<br>ITEM                                 |                                  |                                                                                                                                                |       |                |       |       |                                 | FS 25×5×21x12-1.5     |                |                        |                 |   |
| 線組<br>WINDING                              |                                  |                                                                                                                                                |       |                |       |       |                                 | Φ0.5x0.5TSx100L(mm)   |                |                        |                 |   |
| 測試頻率<br>TEST FREQ                          |                                  |                                                                                                                                                |       |                |       |       |                                 | Z1=     KHZ<br>25 MHZ |                | Z2=     KHZ<br>100 MHZ |                 |   |
|                                            |                                  |                                                                                                                                                |       |                |       |       |                                 | Z3=     KHZ<br>MHZ    |                | Z4=     KHZ<br>MHZ     |                 |   |
| 溫度<br>TEMP                                 |                                  | ℃                                                                                                                                              |       | 濕度<br>HUMIDITY |       | %     |                                 |                       |                |                        |                 |   |
| 項目<br>TEST<br>ITEM                         | 電氣性能<br>ELECTRIC CHARACTERISTICS |                                                                                                                                                |       |                |       |       | 尺寸(單位:毫米)<br>DIMENSION(unit:mm) |                       |                |                        |                 |   |
|                                            | Q                                | L(μH)<br>(MH)                                                                                                                                  | Z1(Ω) | Z2(Ω)          | Z3(Ω) | Z4(Ω) | A                               | B                     | C              | D                      | E               | F |
|                                            |                                  |                                                                                                                                                | 24    | 84             |       |       | 25                              | 5                     | 21             | 12                     | 1.5             |   |
| +                                          |                                  |                                                                                                                                                | /     | /              |       |       | 0.7                             | 0.4                   | 0.5            | 0.5                    | 0.5             |   |
| -                                          |                                  |                                                                                                                                                | 0     | 0              |       |       | 0.7                             | 0.4                   | 0.5            | 0.5                    | 0.5             |   |
| 1                                          |                                  |                                                                                                                                                | 36.6  | 108.1          |       |       | 24.95                           | 5.02                  | 21.36          | 11.97                  | 1.81            |   |
| 2                                          |                                  |                                                                                                                                                | 36.4  | 107.8          |       |       | 24.98                           | 5.06                  | 21.18          | 11.98                  | 1.78            |   |
| 3                                          |                                  |                                                                                                                                                | 36.7  | 107.6          |       |       | 24.98                           | 5.10                  | 21.12          | 11.92                  | 1.82            |   |
| 4                                          |                                  |                                                                                                                                                | 36.5  | 106.9          |       |       | 24.99                           | 5.12                  | 21.20          | 11.99                  | 1.76            |   |
| 5                                          |                                  |                                                                                                                                                | 36.8  | 107.9          |       |       | 24.97                           | 5.11                  | 21.24          | 11.93                  | 1.74            |   |
| 6                                          |                                  |                                                                                                                                                | 36.1  | 108.2          |       |       | 24.92                           | 5.14                  | 21.18          | 11.97                  | 1.70            |   |
| 7                                          |                                  |                                                                                                                                                | 36.2  | 107.4          |       |       | 25.12                           | 5.16                  | 21.15          | 12.20                  | 1.78            |   |
| 8                                          |                                  |                                                                                                                                                | 36.4  | 107.6          |       |       | 25.15                           | 5.11                  | 21.30          | 12.12                  | 1.80            |   |
| 9                                          |                                  |                                                                                                                                                | 36.9  | 107.5          |       |       | 25.09                           | 5.13                  | 21.04          | 12.15                  | 1.85            |   |
| 10                                         |                                  |                                                                                                                                                | 36.5  | 107.9          |       |       | 25.10                           | 5.18                  | 21.22          | 12.20                  | 1.76            |   |
| X̄                                         |                                  |                                                                                                                                                | 36.62 | 107.68         |       |       | 25.02                           | 5.11                  | 21.19          | 12.04                  | 1.78            |   |
| Y/N                                        |                                  |                                                                                                                                                | Y     | Y              |       |       | Y                               | Y                     | Y              | Y                      | Y               |   |
| 測試儀器:<br>TEST INSTRUMENTS:<br><br>HP 4191A |                                  |                                                                                                                                                |       |                |       |       | 檢 驗<br>INSPECTED                |                       | 復 核<br>CHECKED |                        | 確 認<br>APPROVED |   |
|                                            |                                  |                                                                                                                                                |       |                |       |       | 李光赫                             |                       | 方煜镠            |                        | 梁琮              |   |

阻抗 - 頻率曲綫  
IMPEDANCE V.S FREQUENCY (Z-Y)

|                                                                                                                                                                             |                               |                                           |                                           |                                            |                          |                           |                            |                                                |                                 |                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------|--------------------------|---------------------------|----------------------------|------------------------------------------------|---------------------------------|-------------------------------------|
| 客戶名稱<br>CUSTOMER                                                                                                                                                            |                               |                                           |                                           | 日期<br>DATE                                 |                          | 2025.05.12                |                            |                                                |                                 |                                     |
| 規 格<br>ITEM                                                                                                                                                                 |                               | FS 25×5×21x12-1.5                         |                                           |                                            | 編 號<br>SERIAL NO.        |                           |                            |                                                |                                 |                                     |
| 材質特性 MATERIAL CHARACTERISTICS                                                                                                                                               |                               |                                           |                                           |                                            |                          |                           |                            |                                                |                                 |                                     |
| 材料牌號<br>Mate-rial                                                                                                                                                           | 初始磁導率<br>Initial Permeability | 比損耗因子<br>Relative Loss Factor             | 比溫度系數<br>Relative Temperature Coefficient | 飽和磁通密度<br>Saturation Magnetic Flux Density | 剩 磁<br>Reman-ence        | 矯頑力<br>Coercivity         | 居裏溫度<br>Curie Tempera-ture | 電阻率<br>Electrical Resistivity                  | 使用範圍<br>Applied Frequency Range | 密度<br>Density                       |
| Unit symbol                                                                                                                                                                 | $\mu_i$<br>$\pm 20\%$         | $\tan \delta / \mu_i$<br>$\times 10^{-6}$ | $\alpha \mu_i \%$<br>$\times 10^{-6}$     | <b>Bs</b><br><b>(MT)</b>                   | <b>Br</b><br><b>(MT)</b> | <b>HC</b><br><b>(A/m)</b> | <b>Tc</b><br><b>(℃)</b>    | $\rho$<br><b>(<math>\Omega \cdot m</math>)</b> | <b>F</b><br><b>MHz</b>          | <b>d</b><br><b>g/cm<sup>3</sup></b> |
|                                                                                                                                                                             |                               | 16 (0.1MHz)                               | 5 - 10                                    | 350(1600A/m)                               | 200                      | 20                        | >110                       | >10 <sup>5</sup>                               | 0.1 - 15                        | 4.7                                 |
| <div><div>Impedance(<math>\Omega</math>)</div><div></div><div>Frequency(MHz)</div></div> |                               |                                           |                                           |                                            |                          |                           |                            |                                                |                                 |                                     |
| 測試條件：<br>TESTING CONDITION:                                                                                                                                                 |                               |                                           |                                           |                                            |                          |                           |                            |                                                |                                 |                                     |
| 1. 測試儀器：<br>Testing Equipment:                                                                                                                                              |                               | HP 4191A                                  |                                           |                                            |                          | 測 試<br>TESTED             |                            | 復 核<br>CHECKED                                 |                                 | 確 認<br>APPROVED                     |
| 2. 測試頻率區間：<br>Testing Frequency Range:                                                                                                                                      |                               | 1-1000MHz                                 |                                           |                                            |                          | 武卫锋                       |                            | 陆卯生                                            |                                 | 林萍                                  |
| 3. 測試綫組：<br>Testing Coil Specification:                                                                                                                                     |                               | Φ0.5x0.5TSx100L(mm)                       |                                           |                                            |                          |                           |                            |                                                |                                 |                                     |