

# Multilayer Chip Antenna – SLDA Series



Operating temp. : -40°C ~+85°C

## FEATURES

- ◆ Light weight, compact
- ◆ Wide bandwidth, low cost
- ◆ Built-in antenna with high gain

## APPLICATIONS

- ◆ Bluetooth, Wi-Fi
- ◆ Home RF system, etc.

## PRODUCT IDENTIFICATION

|                                                                                                    |                                                                                            |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------|---------|----|---------|----|---------|----|---------|----|---------|----|---------|----|---------|----|---------|-----|----------|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------|---------------|--------|-----------|--------|-----------|
| <div>1</div> <div>SLDA</div>                                                                       | <div>2</div> <div>31</div>                                                                 | <div>3</div> <div>-2R800G</div> | <div>4</div> <div>-S1</div>                                                                                                                                                                                                                                                                                                                                                                                                                        | <div>5</div> <div>T</div> | <div>6</div> <div>F</div>                                              |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| <div>1</div> <div>Type</div> <table><tr><td>SLDA</td><td>Multilayer Chip Antenna</td></tr></table> | SLDA                                                                                       | Multilayer Chip Antenna         | <div>2</div> <div>External Dimensions (L×W) (mm)</div> <table><tr><td>15</td><td>1.0×0.5</td></tr><tr><td>18</td><td>1.6×0.8</td></tr><tr><td>31</td><td>3.2×1.6</td></tr><tr><td>52</td><td>5.2×2.1</td></tr><tr><td>62</td><td>6.0×2.0</td></tr><tr><td>72</td><td>7.0×2.0</td></tr><tr><td>81</td><td>8.0×1.0</td></tr><tr><td>92</td><td>9.0×2.0</td></tr><tr><td>106</td><td>10.0×6.0</td></tr><tr><td>154</td><td>15.0×4.0</td></tr></table> |                           | 15                                                                     | 1.0×0.5 | 18 | 1.6×0.8 | 31 | 3.2×1.6 | 52 | 5.2×2.1 | 62 | 6.0×2.0 | 72 | 7.0×2.0 | 81 | 8.0×1.0 | 92 | 9.0×2.0 | 106 | 10.0×6.0 | 154 | 15.0×4.0 | <div>3</div> <div>Center Frequency</div> <table><tr><td>Example</td><td>Nominal Value</td></tr><tr><td>2R800G</td><td>2800.0MHz</td></tr><tr><td>2R450G</td><td>2450.0MHz</td></tr></table> |  |  | Example | Nominal Value | 2R800G | 2800.0MHz | 2R450G | 2450.0MHz |
| SLDA                                                                                               | Multilayer Chip Antenna                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 15                                                                                                 | 1.0×0.5                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 18                                                                                                 | 1.6×0.8                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 31                                                                                                 | 3.2×1.6                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 52                                                                                                 | 5.2×2.1                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 62                                                                                                 | 6.0×2.0                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 72                                                                                                 | 7.0×2.0                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 81                                                                                                 | 8.0×1.0                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 92                                                                                                 | 9.0×2.0                                                                                    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 106                                                                                                | 10.0×6.0                                                                                   |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 154                                                                                                | 15.0×4.0                                                                                   |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| Example                                                                                            | Nominal Value                                                                              |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 2R800G                                                                                             | 2800.0MHz                                                                                  |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| 2R450G                                                                                             | 2450.0MHz                                                                                  |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| <div>4</div> <div>Series Code</div> <div>S1, 01, etc.</div>                                        | <div>5</div> <div>Packing</div> <table><tr><td>T</td><td>Tape &amp; Reel</td></tr></table> |                                 | T                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Tape & Reel               | <div>6</div> <div>Hazardous Substance Free Products</div> <div>F</div> |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |
| T                                                                                                  | Tape & Reel                                                                                |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                                                                        |         |    |         |    |         |    |         |    |         |    |         |    |         |    |         |     |          |     |          |                                                                                                                                                                                             |  |  |         |               |        |           |        |           |

## SHAPE AND LAND PATTERN

| Type                         | Dimensions (mm) |
|------------------------------|-----------------|
|                              |                 |
| Type: 31-2R450G-S1TF         |                 |
| <b>Land Pattern (mm)</b><br> |                 |

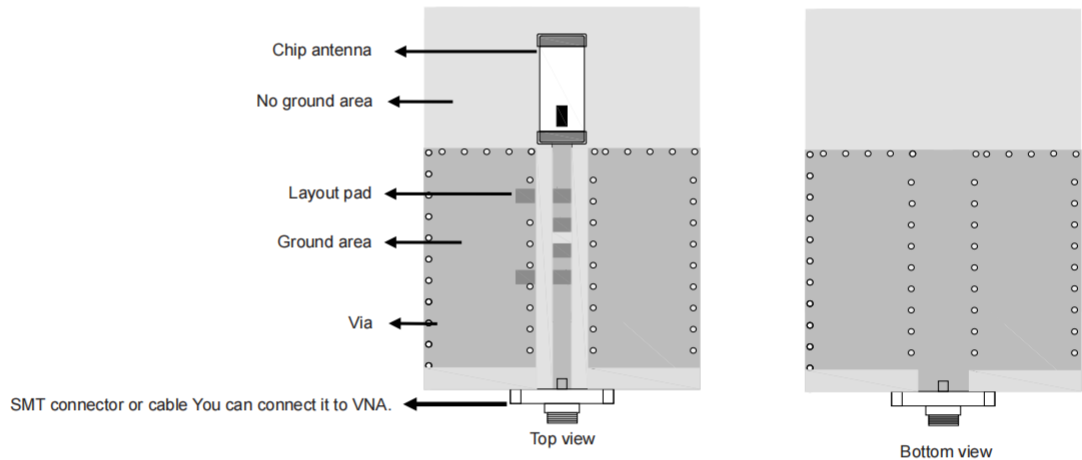
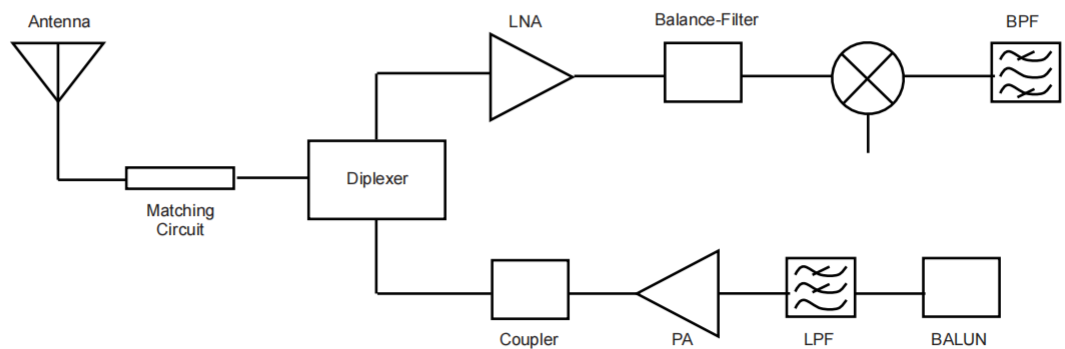
**SHAPE AND DIMENSIONS**

| Series  | A        | B       | C        | D              | E       | F       | G       | H       | I   | J       |
|---------|----------|---------|----------|----------------|---------|---------|---------|---------|-----|---------|
| SLDA15  | 1.00±0.1 | 0.5±0.1 | 0.4±0.05 | 0.25±0.1/-0.05 | -       | -       | -       | -       | -   | -       |
| SLDA18  | 1.6±0.1  | 0.8±0.1 | 0.45±0.1 | 0.25±0.1       | -       | -       | -       | -       | -   | -       |
| SLDA31  | 3.2±0.2  | 1.6±0.2 | 1.2±0.2  | 0.5±0.2        | 1.6±0.2 | 0.8±0.2 | 0.8±0.2 | 2.2±0.2 | 1.4 | 1.6±0.2 |
| SLDA52  | 5.2±0.2  | 2.1±0.2 | 1.0±0.2  | 0.5±0.2        | 2.3±0.2 | 1.5±0.2 | 1.0±0.2 | 4.0±0.2 | 1.4 | 2.3±0.2 |
| SLDA62  | 6.0±0.2  | 2.0±0.2 | 1.0±0.2  | 0.5±0.2        | 2.2±0.2 | 1.5±0.2 | 1.0±0.2 | 5.0±0.2 | 1.4 | 2.2±0.2 |
| SLDA72  | 7.0±0.2  | 2.0±0.2 | 1.0±0.2  | 0.5±0.2        | 2.2±0.2 | 1.5±0.2 | 1.0±0.2 | 6.0±0.2 | 1.4 | 2.2±0.2 |
| SLDA81  | 8.0±0.2  | 1.0±0.2 | 1.0±0.2  | 0.5±0.2        | 1.5±0.2 | 1.5±0.2 | 1.0±0.2 | 7.0±0.2 | 1.4 | 1.5±0.2 |
| SLDA92  | 9.0±0.2  | 2.0±0.2 | 1.0±0.2  | 0.5±0.2        | 2.2±0.2 | 1.5±0.2 | 1.0±0.2 | 8.0±0.2 | 1.4 | 2.2±0.2 |
| SLDA106 | 10.0±0.3 | 6.0±0.3 | 1.0±0.2  | 0.5±0.3        | -       | -       | -       | -       | -   | -       |
| SLDA154 | 15.0±0.2 | 4.0±0.2 | 1.5±0.2  | 1.0±0.3        | -       | -       | -       | -       | -   | -       |

**TERMINAL-CONFIGURATION**

(1)  (2)

| No. | Terminal Name | No. | Terminal Name |
|-----|---------------|-----|---------------|
| (1) | Feeding Point | (2) | NC            |

**EVALUATION BOARD****APPLICATION GUIDE**

**SPECIFICATIONS SLDA15 TYPE**

| Part Number        | Band Width | Peak Gain    | Average Gain | VSWR  | Impedance | Power Capacity |
|--------------------|------------|--------------|--------------|-------|-----------|----------------|
|                    | MHz        | V-XZ         | V-XZ         | In BW | $\Omega$  | W              |
| SLDA15-2R450G-36TF | 2400~2500  | 0.85dBi Typ. | -1.5dBi Typ. | <2    | 50        | 2              |

**SLDA18 TYPE**

| Part Number        | Band Width | Peak Gain | Average Gain | VSWR                          | Impedance | Power Capacity |
|--------------------|------------|-----------|--------------|-------------------------------|-----------|----------------|
|                    | MHz        | V-XZ      | V-XZ         | In BW                         | $\Omega$  | W              |
| SLDA18-5R500G-36TF | 2400~2484  | -         | -            | 6.5 max.<br>@2400-2484<br>MHz | 50        | 3              |
|                    | 5150~5850  |           |              | 4.0 max.<br>@5150-5850<br>MHz |           |                |
| SLDA18-2R450G-31TF | 2400~2480  | 0.9dBi    | -2.0dBi      | -                             | 50        | 3              |

**SLDA31 TYPE**

| Part Number        | Band Width | Peak Gain              | Average Gain            | VSWR  | Impedance | Power Capacity |
|--------------------|------------|------------------------|-------------------------|-------|-----------|----------------|
|                    | MHz        | V-XZ                   | V-XZ                    | In BW | $\Omega$  | W              |
| SLDA31-2R800G-S1TF | $\geq 100$ | 0.5dBi Typ.            | -1dBi Typ.              | <2    | 50        | 3              |
| SLDA31-2R450G-S1TF | $\geq 100$ | 0.5dBi Typ.            | -1dBi Typ.              | <2    | 50        | 3              |
| SLDA31-2R400G-S1TF | $\geq 100$ | 2.5dBi<br>@ (XZ-total) | -1.5dBi<br>@ (XZ-total) | <2    | 50        | 3              |
| SLDA31-2R450G-S2TF | $\geq 100$ | 2.5dBi<br>@ (XZ-total) | 0.5dBi<br>@ (XZ-total)  | <2    | 50        | 3              |
| SLDA31-2R450G-36TF | 2400~2500  | 1.7dBi                 | -1.0dBi                 | <2    | 50        | 3              |
| SLDA31-6R050G-31TF | 2400~2500  | 2.5dBi                 | -2.9dBi                 | <2    | 50        | 3              |
|                    | 4900~5850  | 1.5dBi                 | -2.1dBi                 |       |           |                |
|                    | 5850~7200  | 2.2dBi                 | -1.7dBi                 |       |           |                |
| SLDA31-7R000G-31TF | 5500~8500  | 3.5dBi                 | -1.3dBi                 | <2    | 50        | 3              |

**SLDA52 TYPE**

| Part Number        | Band Width | Peak Gain   | Average Gain | VSWR  | Impedance | Power Capacity |
|--------------------|------------|-------------|--------------|-------|-----------|----------------|
|                    | MHz        | V-XZ        | V-XZ         | In BW | $\Omega$  | W              |
| SLDA52-2R510G-S1TF | $\geq 200$ | 2.5dBi Typ. | 0.5dBi Typ.  | <2    | 50        | 3              |
| SLDA52-2R540G-S1TF | $\geq 200$ | 2.5dBi Typ. | 0.5dBi Typ.  | <2    | 50        |                |
| SLDA52-2R450G-31TF | 2400~2500  | 0dBi        | -1.5dBi      | <2    | 50        | 3              |

**SLDA62 TYPE**

| Part Number        | Band Width | Peak Gain   | Average Gain | VSWR  | Impedance | Power Capacity |
|--------------------|------------|-------------|--------------|-------|-----------|----------------|
|                    | MHz        | V-XZ        | V-XZ         | In BW | $\Omega$  | W              |
| SLDA62-2R640G-01TF | $\geq 200$ | 2.6dBi Typ. | 0.7dBi Typ.  | <2    | 50        | 3              |

**SLDA72 TYPE**

| Part Number        | Band Width | Peak Gain   | Average Gain | VSWR  | Impedance | Power Capacity |
|--------------------|------------|-------------|--------------|-------|-----------|----------------|
|                    | MHz        | V-XZ        | V-XZ         | In BW | $\Omega$  | W              |
| SLDA72-0R900G-31TF | 858~928    | -1.1dBi     | -2.5dBi      | <2    | 50        | 3              |
| SLDA72-2R470G-S1TF | $\geq 200$ | 2.7dBi Typ. | 1.0dBi Typ.  | <2    | 50        | 3              |
| SLDA72-2R450G-31TF | 2400~2500  | 1.5dBi      | -0.5dBi      | <2    | 50        | 3              |

**SPECIFICATIONS SLDA81 TYPE**

| Part Number        | Band Width | Peak Gain   | Average Gain | VSWR  | Impedance | Power Capacity |
|--------------------|------------|-------------|--------------|-------|-----------|----------------|
|                    | MHz        | V-XZ        | V-XZ         | In BW | $\Omega$  | W              |
| SLDA81-3R010G-S1TF | $\geq 200$ | 2.0dBi Typ. | 0.5dBi Typ.  | <2    | 50        | 3              |

**SLDA92 TYPE**

| Part Number        | Band Width | Peak Gain   | Average Gain | VSWR  | Impedance | Power Capacity |
|--------------------|------------|-------------|--------------|-------|-----------|----------------|
|                    | MHz        | V-XZ        | V-XZ         | In BW | $\Omega$  | W              |
| SLDA92-2R660G-S1TF | $\geq 200$ | 3.0dBi Typ. | 1.0dBi Typ.  | <2    | 50        | 3              |

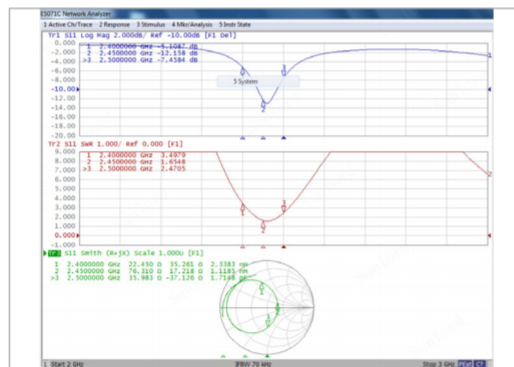
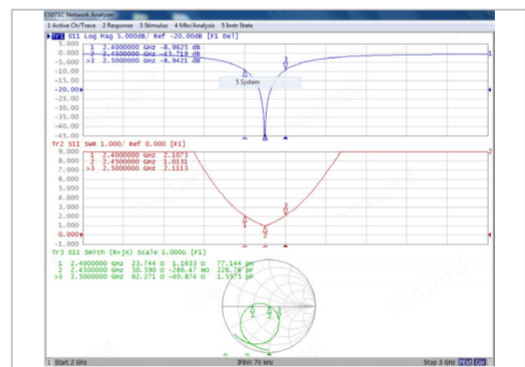
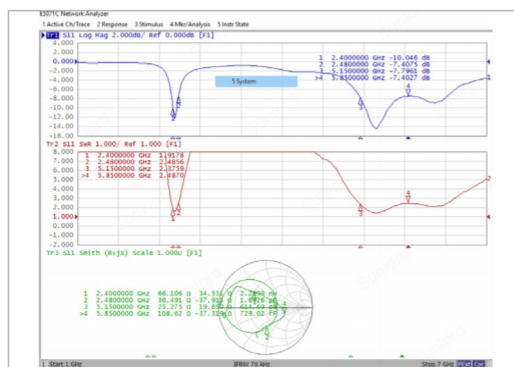
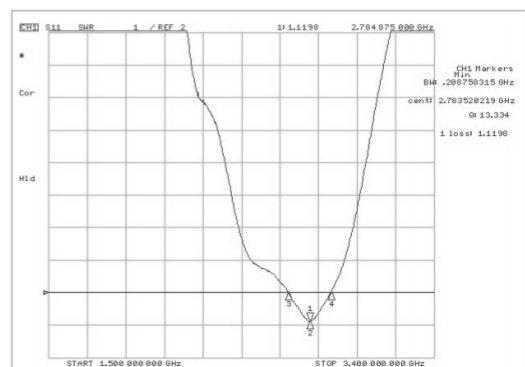
**SLDA106 TYPE**

| Part Number         | Band Width | Peak Gain | Average Gain | VSWR  | Impedance | Power Capacity |
|---------------------|------------|-----------|--------------|-------|-----------|----------------|
|                     | MHz        | V-XZ      | V-XZ         | In BW | $\Omega$  | W              |
| SLDA106-7R000G-31TF | 3100~10300 | 2.2dBi    | -3.5dBi.     | <2    | 50        | 3              |

**SLDA154 TYPE**

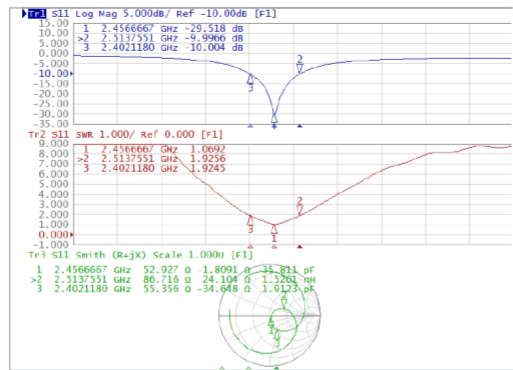
| Part Number         | Band Width                   | Peak Gain | Average Gain | VSWR  | Impedance | Power Capacity |
|---------------------|------------------------------|-----------|--------------|-------|-----------|----------------|
|                     | MHz                          | V-XZ      | V-XZ         | In BW | $\Omega$  | W              |
| SLDA154-2R200G-31TF | 700~800 MHz<br>1700~2100 MHz | 2.0dBi.   | -1.6dBi      | <2    | 50        | 3              |
|                     | 824~960 MHz<br>1710~2690 MHz | 2.0dBi    | -1.0dBi      |       |           |                |

※Frequency will be changed with layout of PCB. Please contact us for appropriate design.

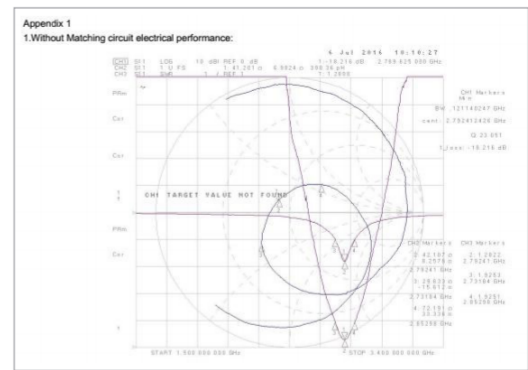
**IMPEDANCE MATCHING****SLDA15-2R450G-36TF****SLDA18-5R500G-36TF****SLDA18-2R450G-31TF****SLDA31-2R800G-S1TF**

## IMPEDANCE MATCHING

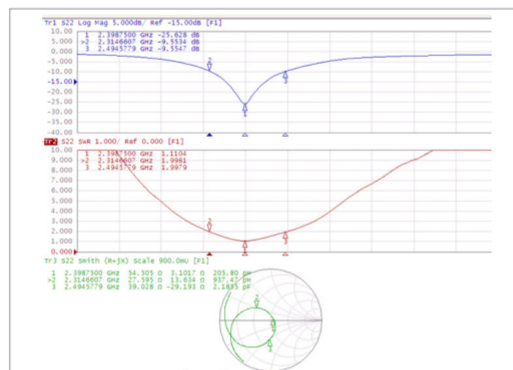
SLDA31-2R400G-S1TF



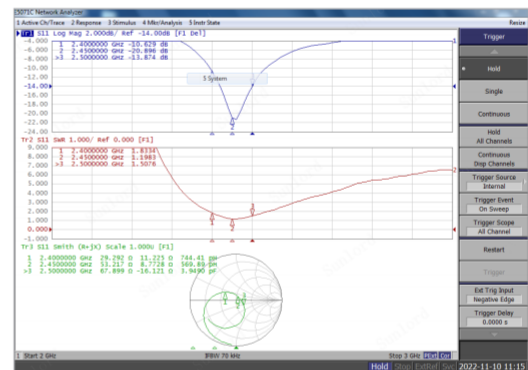
SLDA31-2R450G-S1TF



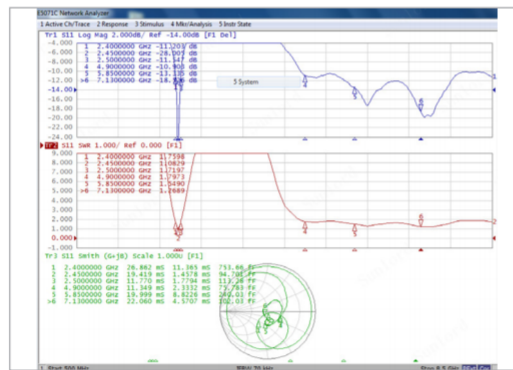
SLDA31-2R450G-S2TF



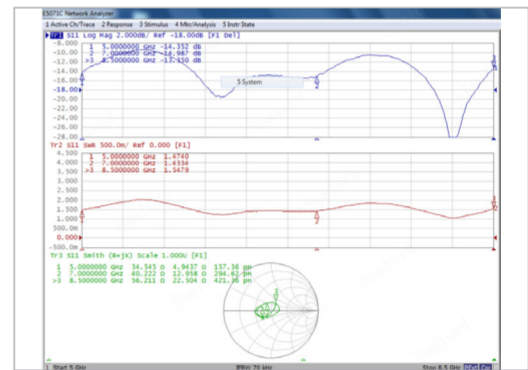
SLDA31-2R450G-36TF



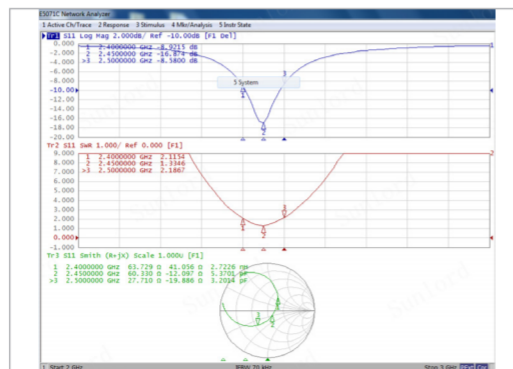
SLDA31-6R050G-31TF



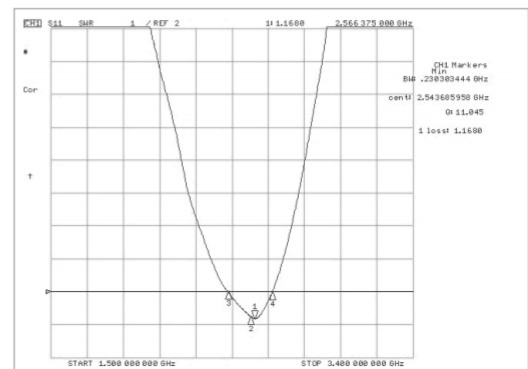
SLDA31-7R000G-31TF



SLDA52-2R450G-31TF

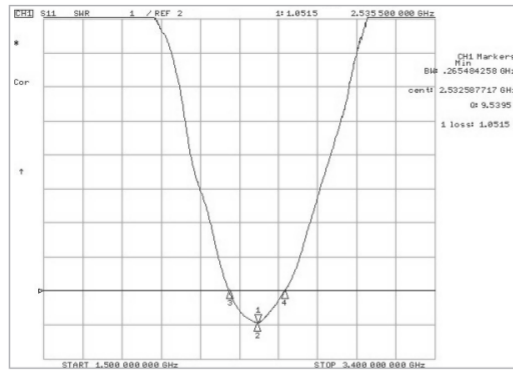


SLDA52-2R510G-S1TF

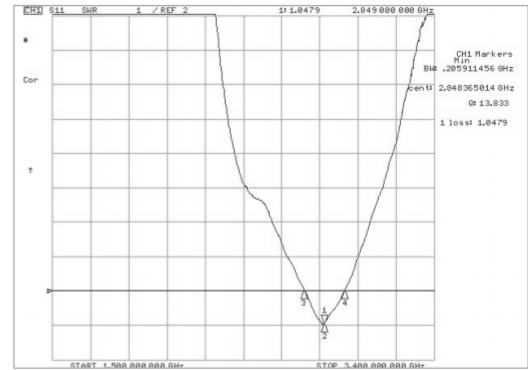


# IMPEDANCE MATCHING

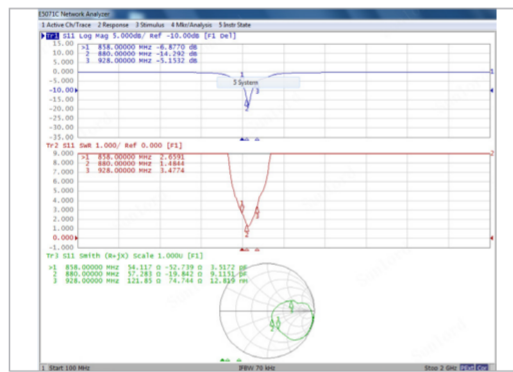
SLDA52-2R540G-S1TF



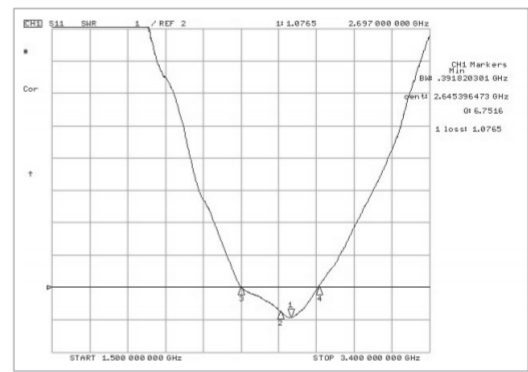
SLDA62-2R640G-01TF



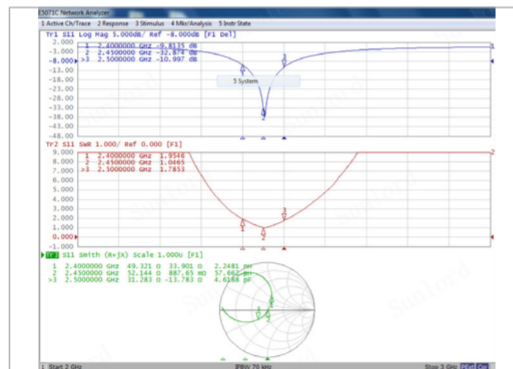
SLDA72-0R900G-31TF



SLDA72-2R470G-S1TF



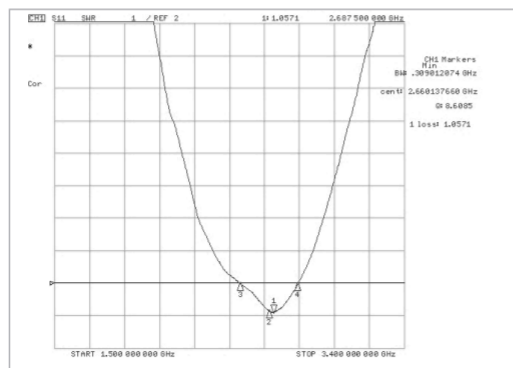
SLDA72-2R450G-31TF



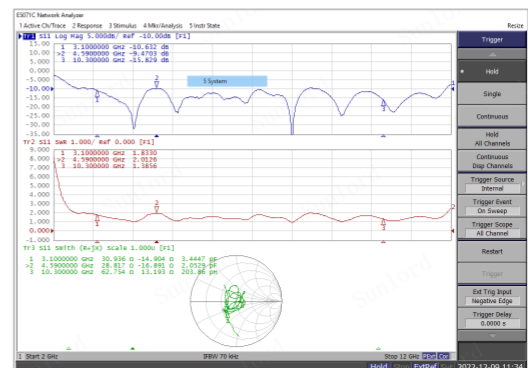
SLDA81-3R010G-S1TF



SLDA92-2R660G-S1TF



SLDA106-7R000G-31TF



## IMPEDANCE MATCHING

SLDA154-2R200G-31TF

