

## Multilayer Chip Diplexer 叠层片式双工器

### FEATURES 特点

- **Multilayer monolithic construction yields high reliability**  
独石结构，可靠性高
- **Small, low profile SMD,**  
尺寸小，薄型贴片
- **Low insertion loss, high attenuation, high isolation**  
低插损、高抑制、高隔离



### APPLICATIONS 应用

- **Dual band/dual mode 2.4/5GHz WLAN** 双频段/双模 2.4GHz、5GHz 无线局域网
- **WLAN IEEE 802.11b~g and Bluetooth module.** 无线局域网 IEEE802.11b~g 和蓝牙模块
- **RF and Wireless Communication system.** 射频和无线通讯系统

### Product Identification 产品标识

**MDPX**    **22**    **M1524**    **P69**    **-D01**  
①            ②            ③            ④            ⑤

- ① **Series Name** 系列名称
- ② **Dimension** 产品尺寸 L×W: **【22: 2.5mm×2.0mm×1.0mm】**
- ③ **Module Frequency** 模块频率 1575MHz/2400MHz
- ④ **Planar Design Series** 平面结构设计
- ⑤ **Normal Type** 标准规格

### Product Specification 产品规格简表

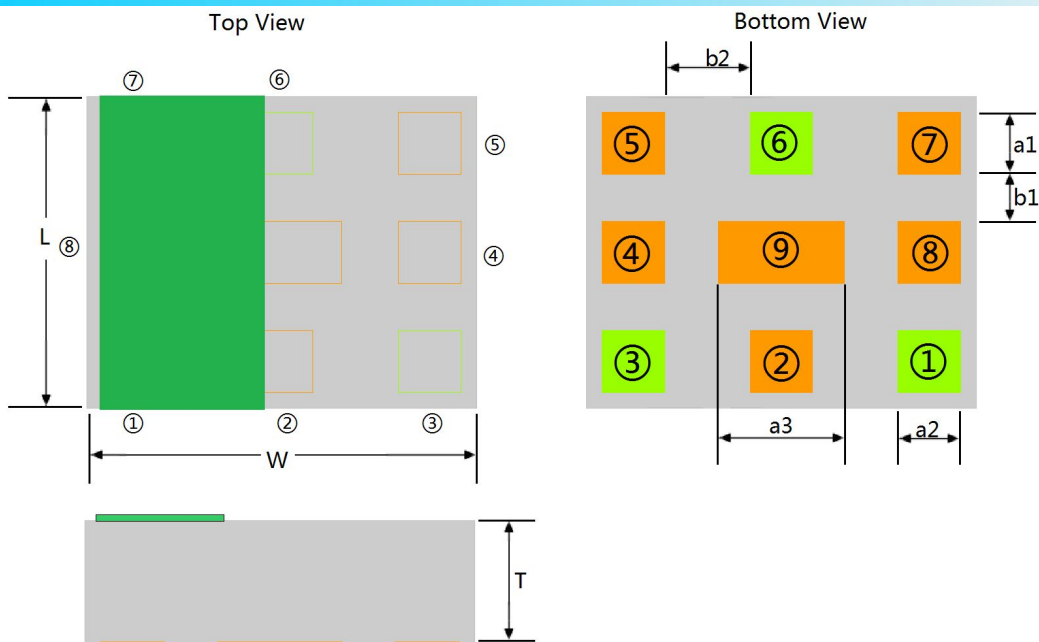
| Part No. 产品型号      | Dimensions 尺寸 L×W(mm) | Frequency 频率 (MHz) | Insertion Loss 插入损耗(dB) | V.S.W.R (in BW) 驻波比 | In/Output Impedance 输入/输出阻抗 |
|--------------------|-----------------------|--------------------|-------------------------|---------------------|-----------------------------|
| MDPX22M1524P69-D01 | 2.5X2.0               | f1:1572~1578       | ≤2.0                    | ≤2.1                | 50Ω                         |
|                    |                       | f2:2400~2500       | ≤0.6                    |                     |                             |
| MDPX18M1524P69-D03 | 1.6X0.8               | f1:1572~1578       | ≤0.6                    | ≤2.0                | 50Ω                         |
|                    |                       | f2:2400~2500       | ≤0.7                    |                     |                             |
|                    |                       | &4950~6000         |                         |                     |                             |
| MDPX18M2455P69-D06 | 1.6X0.8               | f1:2400~2500       | ≤0.8                    | ≤2.0                | 50Ω                         |
|                    |                       | f2:5100~5900       | ≤1.2                    |                     |                             |
| MDPX18M1524P69-D08 | 1.6X0.8               | f1:1572~1578       | ≤0.6                    | ≤2.0                | 50Ω                         |
|                    |                       | f2:2400~2500       | ≤0.6                    |                     |                             |

注意事项：本产品资料由于受篇幅限制，只提供了相关基本信息；同时由于产品资料在不断更新中，因此在您希望订购或详细了解产品相关资料时，请及时联系麦捷科技以获得最新、最全的产品资料。

## Multilayer Chip Diplexer 叠层片式双工器

Part No. 型号:MDPX22M1524P69-D01

### 1. Dimensions 外形尺寸 (Unit: mm)

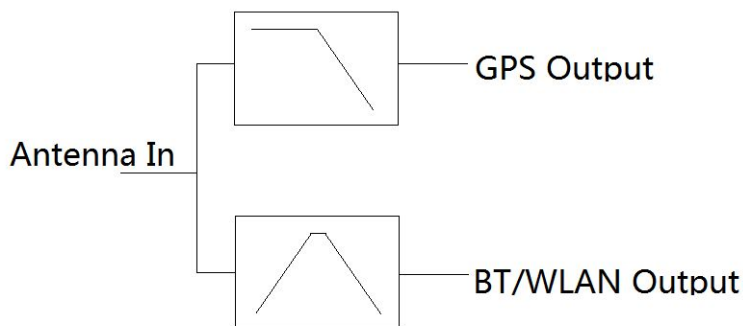


| Mark       | W             | L             | T             | a1            | a2            | a3            | b1            | b2             |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Dimensions | $2.5 \pm 0.2$ | $2.0 \pm 0.2$ | $0.8 \pm 0.1$ | $0.4 \pm 0.1$ | $0.4 \pm 0.1$ | $0.9 \pm 0.1$ | $0.3 \pm 0.1$ | $0.55 \pm 0.1$ |

### 2. Terminal Configuration 引脚结构

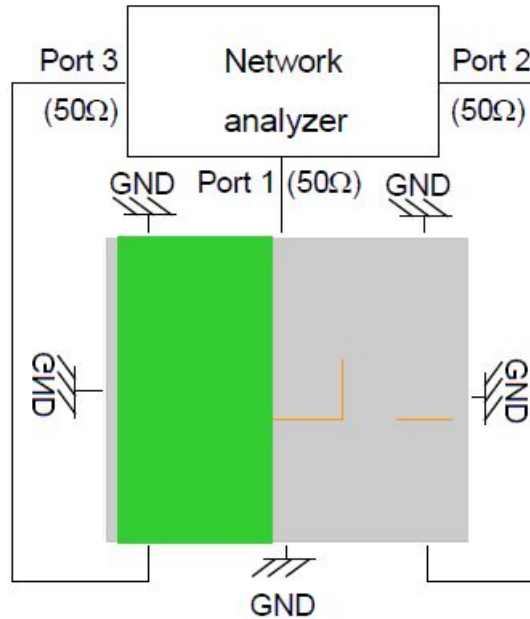
| Termination Name |                |        |            |
|------------------|----------------|--------|------------|
| ①                | BT/WLAN Output | ③      | GPS Output |
| ⑥                | Antenna Input  | ②④⑤⑦⑧⑨ | GND        |

### 3. Circuit Block 电路框图



## Multilayer Chip Diplexer 叠层片式双工器

### 4. Test Circuit 测试电路



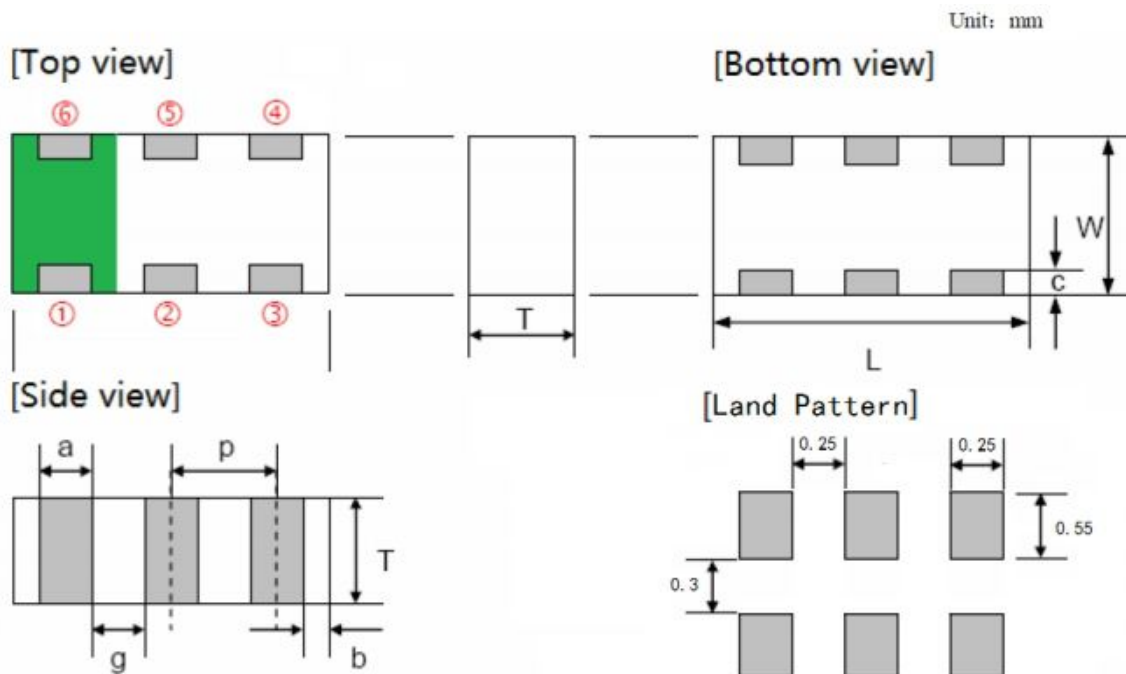
### 5. Electrical Characteristics 电气性能

| No. | Item (项目)                       | Specifications (特性)  |
|-----|---------------------------------|--|
| 1   | Frequency Range 频率范围 f1         | 2450±50 MHz  |
|     | Frequency Range 频率范围 f2         | 1575±3 MHz   |
| 2   | Insertion Loss (in f1) 插入衰耗     | ≤2.0dB (at 25°C±5°C)   |
|     |                                 | ≤2.3dB (at -40°C~85°C)   |
| 3   | Insertion Loss (in f2) 插入衰耗     | ≤0.6dB (at 25°C±5°C)   |
|     |                                 | ≤0.8dB (at -40°C~85°C)   |
| 4   | V.S.W.R (in BW) 驻波比(in f1 & f2) | ≤2.1   |
| 5   | Attenuation 阻带衰耗 (in f1)        | ≥350dB (880~960 MHz)<br>≥35dB (1710~1990 MHz)<br>≥30dB (2170 MHz)<br>≥30dB (4800~5000 MHz) |
| 6   | Attenuation 阻带衰耗 (in f2)        | ≥25dB (2400~2500MHz)   |
| 7   | In/Output Impedance 输入/输出阻抗     | 50 Ω   |

## Multilayer Chip Diplexer 叠层片式双工器

Part No. 型号:MDPX18M2455P69-D03

### 1. Dimensions 外形尺寸 (Unit: mm)

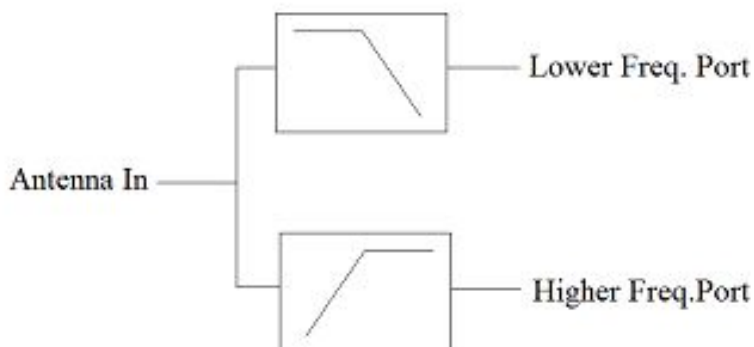


| L       | W       | T       | a       | b       | c        | g       | p        |
|---------|---------|---------|---------|---------|----------|---------|----------|
| 1.6±0.1 | 0.8±0.1 | 0.6±0.1 | 0.2±0.1 | 0.2±0.1 | 0.15±0.1 | 0.3±0.1 | 0.5±0.05 |

### 2. Terminal Configuration 引脚结构

| 1   | 2             | 3   | 4                | 5   | 6                |
|-----|---------------|-----|------------------|-----|------------------|
| GND | Antenna Input | GND | Lower Freq. Port | GND | Higher Freq.Port |

### 3. Circuit Block 电路框图



## Multilayer Chip Diplexer 叠层片式双工器

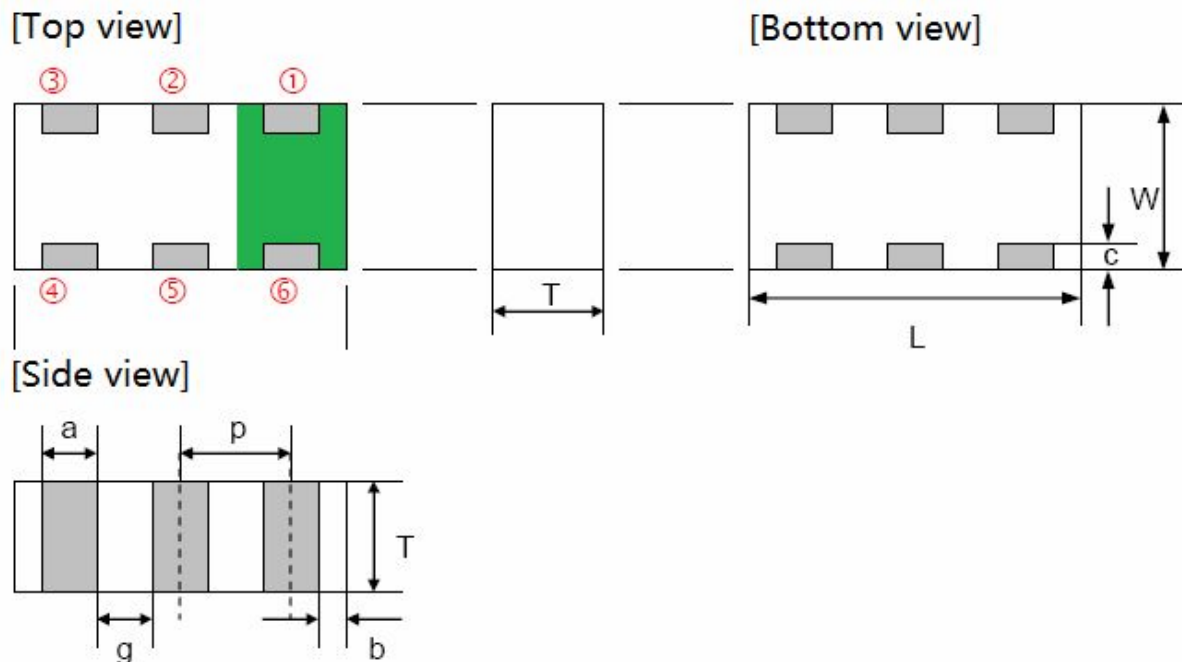
### 4. Electrical Characteristics 电气性能

| No. | Item (项目)                        | Specifications (特性)  |
|-----|----------------------------------|--|
| 5.1 | Frequency Range 频率范围 f1          | 2400-2500 MHz  |
|     | Frequency Range 频率范围 f2          | 4900-6000 MHz  |
| 5.2 | Insertion Loss (in f1) 插入衰耗      | 1570-1610 MHz  |
|     |                                  | 2400-2500 MHz  |
|     |                                  | $\leq 0.7\text{dB}$ (at $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ )    |
|     |                                  | $\leq 0.9\text{dB}$ (at $-40^{\circ}\text{C}\sim 85^{\circ}\text{C}$ ) |
| 5.3 | Insertion Loss (in f2) 插入衰耗      | 4900-6000 MHz  |
|     |                                  | $\leq 0.6\text{dB}$ (at $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ )    |
| 5.4 | V.S.W.R (in BW) 驻波比 (in f1 & f2) | $\leq 0.8\text{dB}$ (at $-40^{\circ}\text{C}\sim 85^{\circ}\text{C}$ ) |
|     |                                  | $\leq 0.6\text{dB}$ (at $25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ )    |
| 5.5 | Attenuation 阻带衰耗 (in f1)         | $\leq 2.0$   |
| 5.6 | Attenuation 阻带衰耗 (in f2)         | $\geq 20\text{dB}$ (1572~1578 MHz)                                     |
| 5.7 | In/Output Impedance 输入/输出阻抗      | $\geq 15\text{dB}$ (2400~2500MHz)<br>$\geq 15\text{dB}$ (4900~6000MHz) |
| 5.8 | Power Capacity 功率容量              | 50 $\Omega$  |
|     |                                  | 2.0 W max.   |

## Multilayer Chip Diplexer 叠层片式双工器

Part No. 型号:MDPX18M2455P69-D06

### 1. Dimensions 外形尺寸 (Unit: mm)

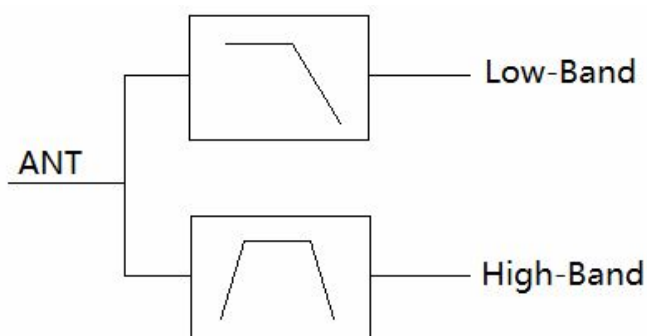


| Mark       | W             | L             | T             | a             | b             | c              | g             | p              |
|------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|----------------|
| Dimensions | $0.8 \pm 0.1$ | $1.6 \pm 0.1$ | $0.6 \pm 0.1$ | $0.2 \pm 0.1$ | $0.2 \pm 0.1$ | $0.15 \pm 0.1$ | $0.3 \pm 0.1$ | $0.5 \pm 0.05$ |

### 2. Terminal Configuration 引脚结构

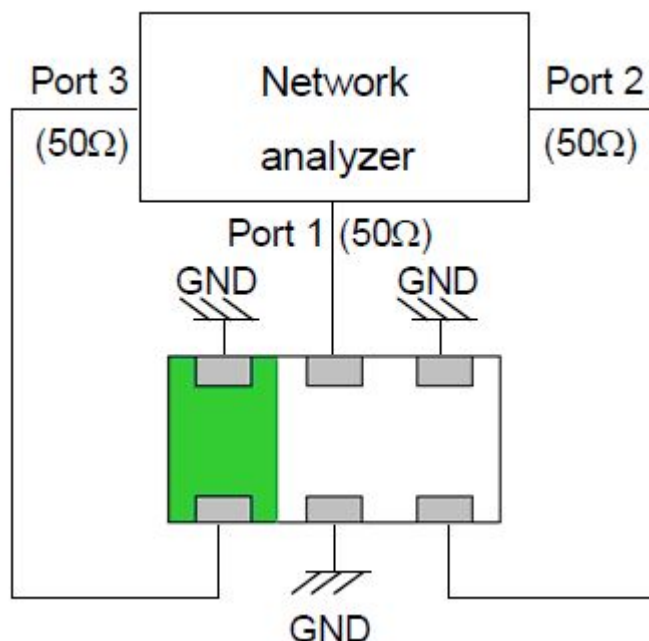
| Termination Name |           |   |     |   |          |
|------------------|-----------|---|-----|---|----------|
| ①                | High-Band | ② | GND | ③ | Low-Band |
| ④                | GND       | ⑤ | ANT | ⑥ | GND      |

### 3. Circuit Block 电路框图



## Multilayer Chip Diplexer 叠层片式双工器

### 4. Test Circuit 测试电路



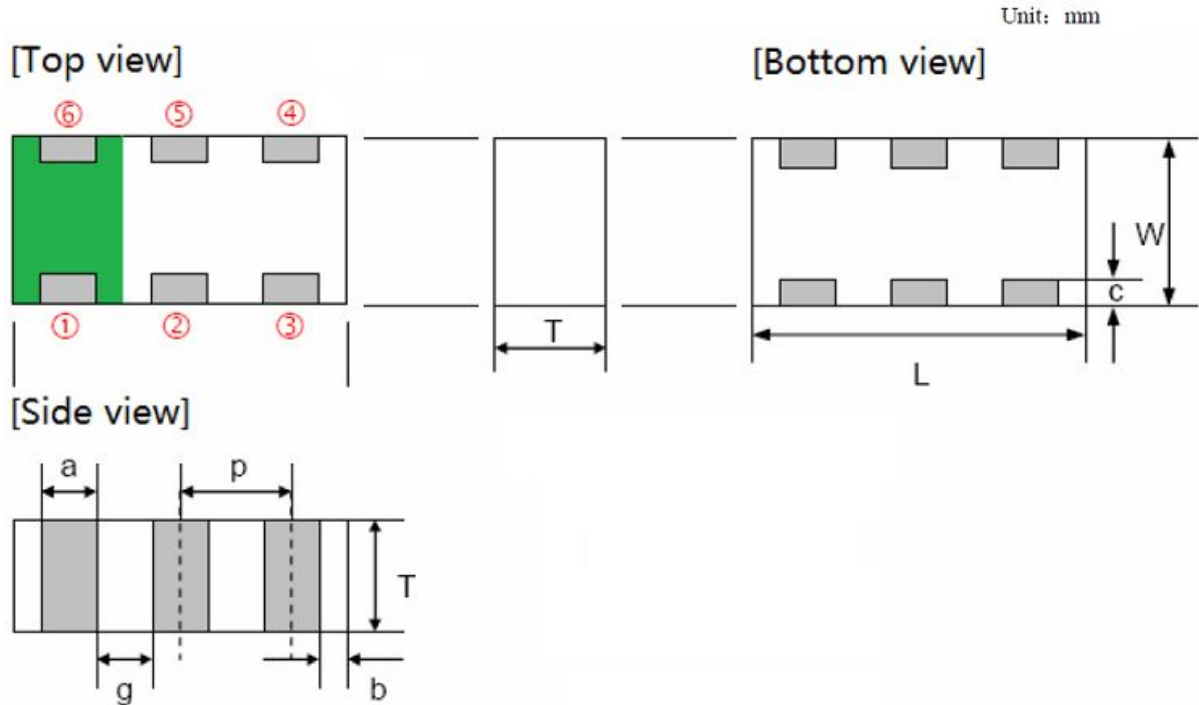
### 5. Electrical Characteristics 电气性能

| No. | Item (项目)                       | Specifications (特性)                            |
|-----|---------------------------------|--|
| 1   | Frequency Range 频率范围 f1         | 2400~2500 MHz                                  |
|     | Frequency Range 频率范围 f2         | 5100~5900 MHz                                  |
| 2   | Insertion Loss (in f1) 插入损耗     | ≤0.8dB (at 25°C±5°C)                           |
|     |                                 | ≤1.0dB (at -40°C~85°C)                         |
| 3   | Insertion Loss (in f2) 插入损耗     | ≤1.2dB (at 25°C±5°C)                           |
|     |                                 | ≤1.4dB (at -40°C~85°C)                         |
| 4   | V.S.W.R (in BW) 驻波比(in f1 & f2) | ≤2.0   |
| 5   | Attenuation 阻带衰减 (in f1)        | ≥20dB (4880~6000 MHz)<br>≥20dB (7200~7500 MHz) |
| 6   | Attenuation 阻带衰减 (in f2)        | ≥20dB (2400~2500MHz)<br>≥20dB (9800~11800MHz)  |
| 7   | In/Output Impedance 输入/输出阻抗     | 50 Ω   |

## Multilayer Chip Diplexer 叠层片式双工器

Part No. 型号:MDPX18M1524P69-D08

### 1. Dimensions 外形尺寸 (Unit: mm)

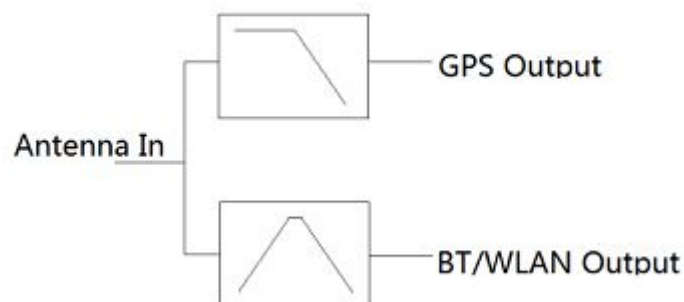


| L             | W             | T             | a             | b             | c              | g             | p              |
|---------------|---------------|---------------|---------------|---------------|----------------|---------------|----------------|
| $1.6 \pm 0.1$ | $0.8 \pm 0.1$ | $0.6 \pm 0.1$ | $0.2 \pm 0.1$ | $0.2 \pm 0.1$ | $0.15 \pm 0.1$ | $0.3 \pm 0.1$ | $0.5 \pm 0.05$ |

### 2. Terminal Configuration 引脚结构

| 1          | 2   | 3              | 4   | 5             | 6   |
|------------|-----|----------------|-----|---------------|-----|
| GPS Output | GND | BT/WLAN Output | GND | Antenna Input | GND |

### 3. Circuit Block 电路框图





## Multilayer Chip Diplexer 叠层片式双工器

### 4. Electrical Characteristics 电气性能

| No.  | Item (项目)                   | Specifications (特性)    |
|------|-----------------------------|------------------------|
| 6.1  | Frequency Range 频率范围 f1     | 2450±50 MHz            |
|      | Frequency Range 频率范围 f2     | 1575±3 MHz             |
| 6.2  | Insertion Loss (in f1) 插入损耗 | ≤0.6dB (at 25°C±5°C)   |
|      |                             | ≤0.7dB (at -40°C~85°C) |
| 6.3  | Amplitude Ripple (in f1) 纹波 | 0.5dB max              |
| 6.4  | Insertion Loss (in f2) 插入损耗 | ≤0.6dB (at 25°C±5°C)   |
|      |                             | ≤0.7dB (at -40°C~85°C) |
| 6.5  | Amplitude Ripple (in f2) 纹波 | 0.5dB max              |
| 6.6  | Return Loss 回波损耗 (in f1)    | ≥10dB                  |
| 6.7  | Return Loss 回波损耗 (in f2)    | ≥10dB                  |
| 6.8  | Attenuation 阻带损耗 (in f1)    | ≥22dB (1572~1578 MHz)  |
| 6.9  | Attenuation 阻带损耗 (in f2)    | ≥20dB (2400~2500MHz)   |
| 6.10 | Isolations 隔离度 (in f1&f2)   | ≥20dB                  |
| 6.11 | In/Output Impedance 输入/输出阻抗 | 50 Ω                   |
| 6.12 | Power capacity 功率容量         | 3W                     |