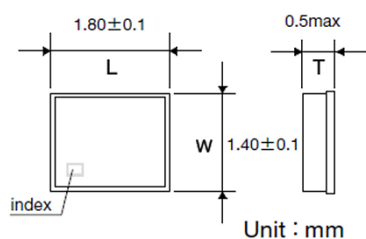


FBAR/SAW Devices (SAW Duplexers)

D5RB942M5E1CF



■ Features

- Item Summary
SAW, Duplexer, 1.8x1.4x0.5mm
Band 8
- Lifecycle Stage
Mass Production
- Standard packaging quantity (minimum)
Taping Embossed 3000 , 15000pcs

■ Products characteristics table

| | |
|---|---------------|
| System | W-CDMA / LTE |
| Type | SAW |
| Function | Duplexer |
| band | Band 8 |
| Insertion Loss (typ) (Tx-ANT/ANT-Rx) | 1.5/1.9 dB |
| Isolation (typ) | 56/51 dB |
| Operating Temp. Range | -20 to +85 °C |
| RoHS2 Compliance (10 subst.) | Yes |
| REACH Compliance (168 subst.) | Yes |
| Soldering | Reflow |

■ External Dimensions

| | |
|-------------|---------------|
| Dimension L | 1.8 ± 0.10 mm |
| Dimension W | 1.4 ± 0.10 mm |
| Dimension T | Max 0.5 mm |

2017.01.18

The data is reference only. Electrical characteristics vary depending on environment or measurement condition.
 TAIYO YUDEN reserves the right to make change to the Date at any time without notice.
 Before making final selection, please check product specification.



* Pb Free Part

| | | | |
|---------------|-----------------|---|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co., Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Table 1. Electrical Specification

| Item | | Condition (MHz) | Specification | | | Unit | Remarks | |
|--|----------------------|-----------------|-------------------|---|-------------|---------|--------------|----|
| | | | Min | Typ | Max | | | |
| Tx to ANT | Insertion loss | 882.4~912.6 | - | 1.5 | 2.4(*2) | dB (*1) | | |
| | | 880~915 | - | 1.9 | 3.4 | | | |
| | Ripple | 882.4~912.6 | - | 0.6 | 1.9 | dB | | |
| | | 880~915 | - | 1.0 | 2.9 | dB | | |
| | Power Durability | | 882.4~912.6 | +29dBm, Ta=+50°C, 10000h WCDMA modulation | | | - | |
| | VSWR | Tx | 880~915 | - | 2.0 | 2.6 | - | |
| | | Ant | 880~915 | - | 1.8 | 2.4 | | |
| | Absolute Attenuation | | | 927.4~957.6 | 42(*2) | 47 | - | dB |
| | | | | 1573.3~1605.9 | 40 | 45 | - | dB |
| | | | | 1760~1830 | 40 | 45 | - | dB |
| | | 2640~2745 | 25 | 32 | - | dB | | |
| ANT to Rx | Insertion loss | 927.4~957.6 | - | 1.9 | 2.4(*2) | dB (*1) | | |
| | | 925~960 | - | 2.1 | 3.1 | | | |
| | Ripple | 927.4~957.6 | - | 0.7 | 1.6 | dB | | |
| | | 925~960 | - | 0.9 | 2.3 | dB | | |
| | Amplitude balance | | 925~960 | -0.7 | -0.1 / +0.3 | +0.7 | dB | |
| | Phase balance | | 925~960 | -7 | -1 / +3 | +7 | deg. | |
| | VSWR | Ant | 925~960 | - | 1.9 | 2.3 | - | |
| | | Rx | 925~960 | - | 2.0 | 2.4 | | |
| Absolute Attenuation | | 882.4~912.6 | 48(*2) | 54 | - | dB | | |
| | | 2400~2500 | 40 | 49 | - | dB | | |
| Tx to Rx | Isolation | | 882.4~912.6 | 52(*2) | 56 | - | dB | |
| | | | 927.4~957.6 | 47(*2) | 51 | - | dB | |
| Terminating Impedance | | Tx port | 50 | | | Ohm | Single-ended | |
| | | Rx port | 100 | | | Ohm | Differential | |
| | | Ant port | 50 // 7.5nH (Q=∞) | | | Ohm | Single-ended | |
| Operating Temperature | | | -20 to +85 | | | °C | | |
| Device size (L typ. x W typ. x H max.) | | | 1.8 x 1.4 x 0.5 | | | mm | | |

(*1) Specification of insertion loss excludes loss that comes from the test board.

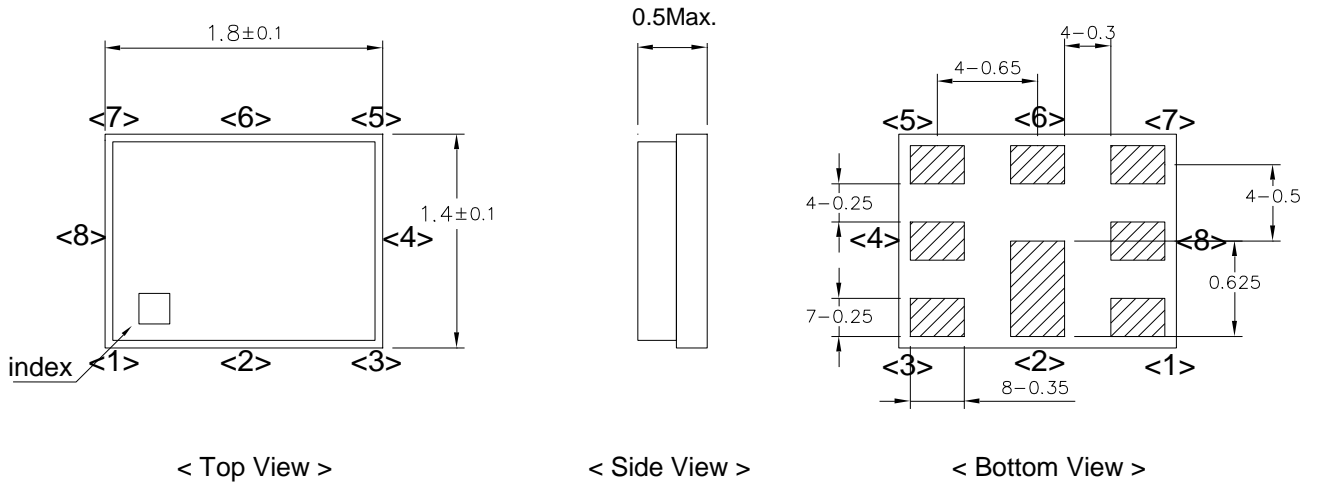
(*2) Integrated over +/-1.92MHz around the WCDMA channel center frequency



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
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| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Dimensions



Unit: mm

Pin Configuration

| Pin No. | Pin name | Description |
|---------|----------|-------------------------|
| 1 | Rx | Receiver Pin (balanced) |
| 2 | GND | Ground Pin |
| 3 | Tx | Transmitter Pin |
| 4 | GND | Ground Pin |
| 5 | GND | Ground Pin |
| 6 | ANT | Antenna Pin |
| 7 | GND | Ground Pin |
| 8 | Rx | Receiver Pin (balanced) |

Figure 1. Dimensions and Pin assignment



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
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| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Evaluation Circuit

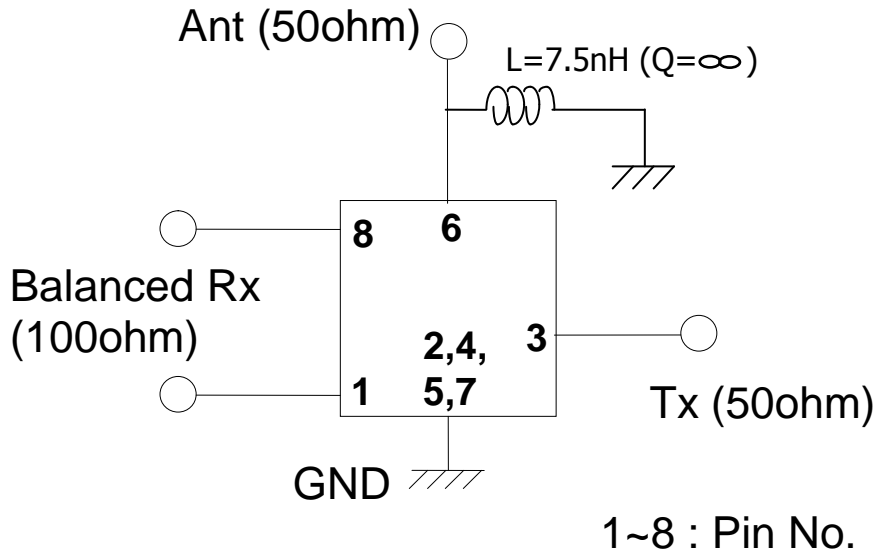


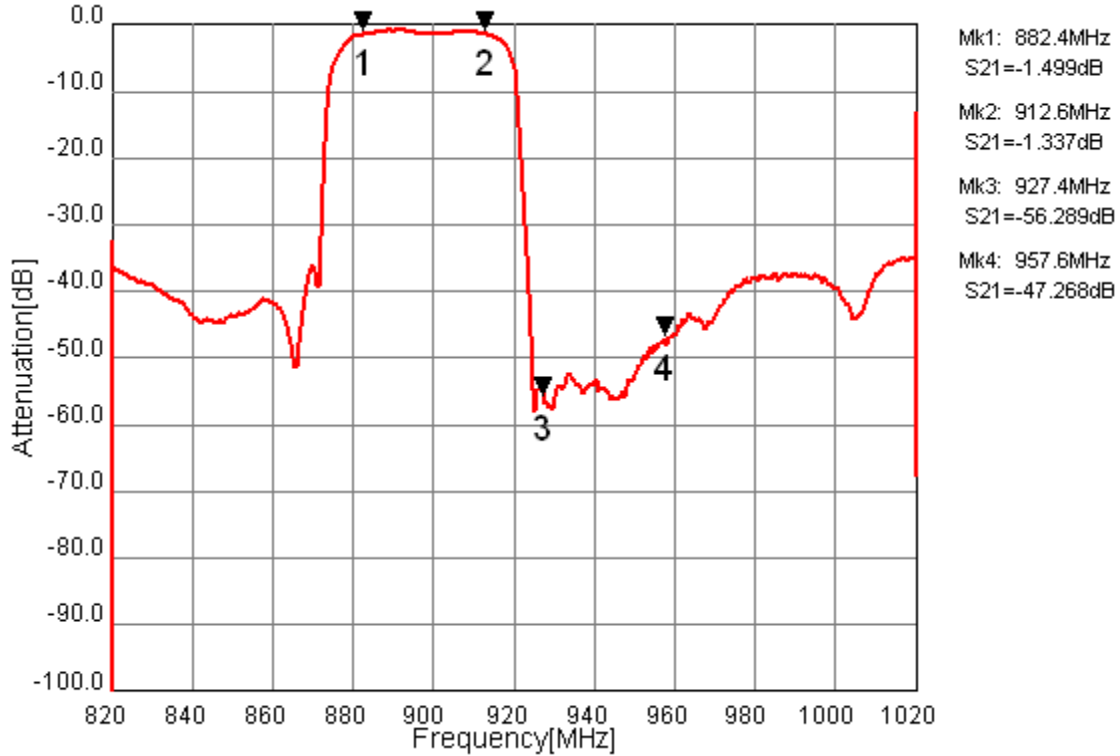
Figure 2. Evaluation Circuit



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co.,Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Tx to Ant



Ant to Rx

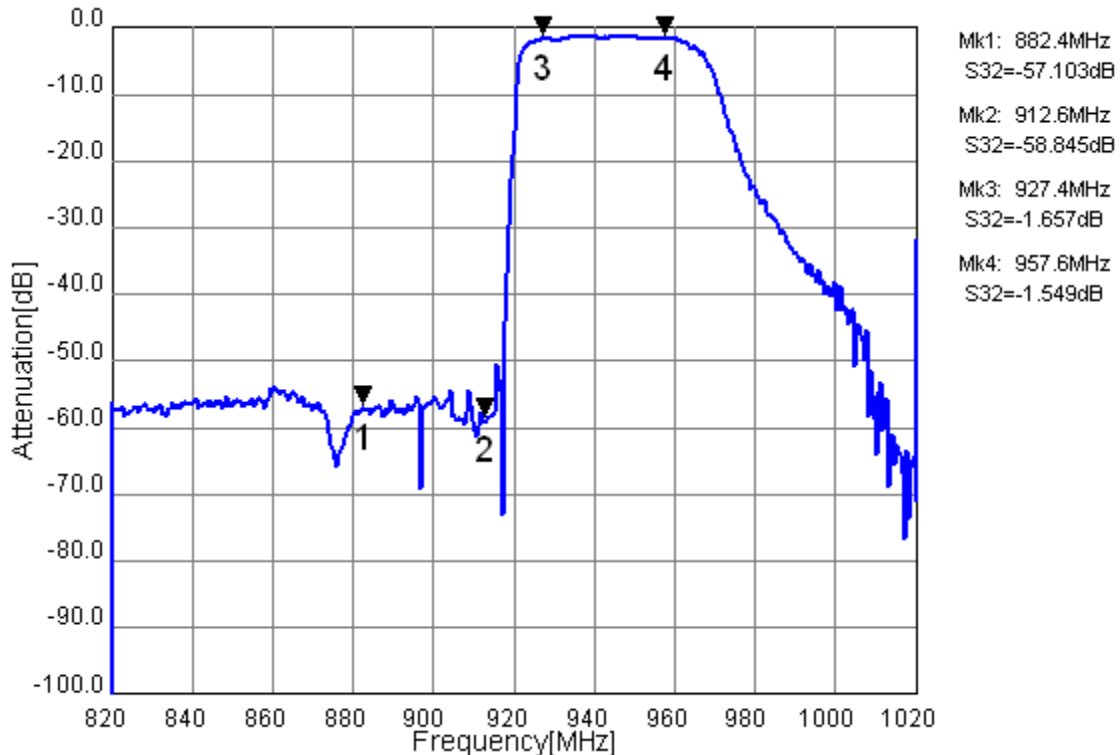


Figure 3-1. Electrical Characteristics

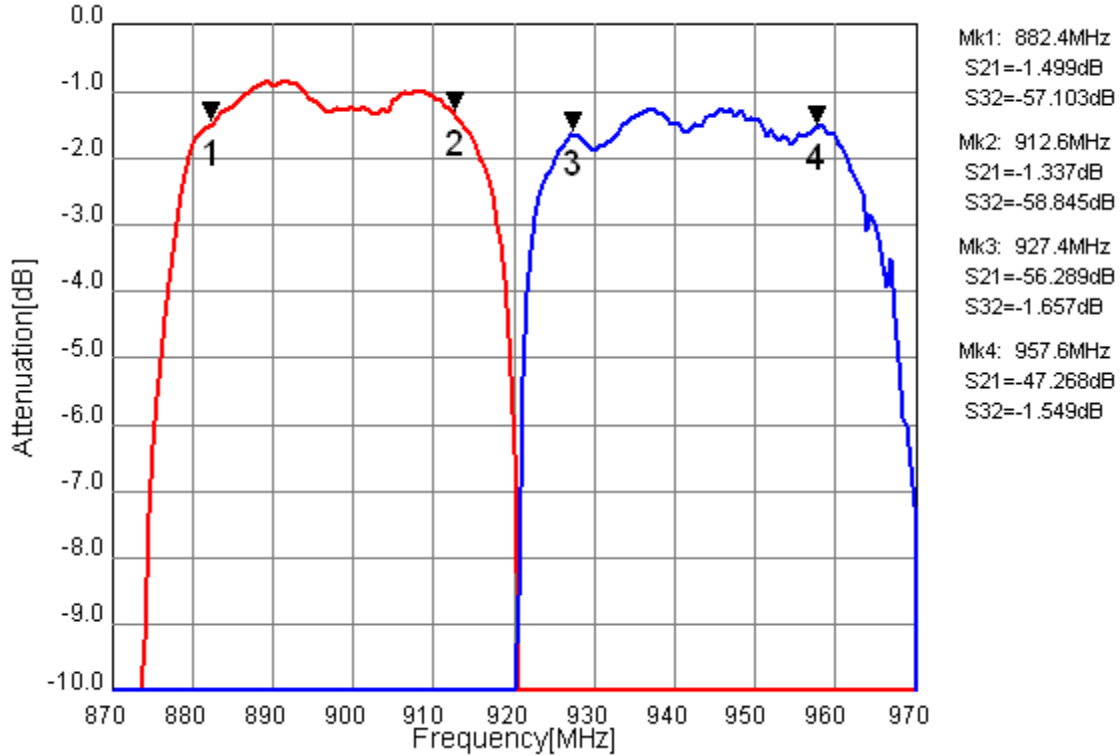
These data **exclude** loss that comes from the test board.



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co.,Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Tx to Ant, Ant to Rx



Tx to Rx Isolation

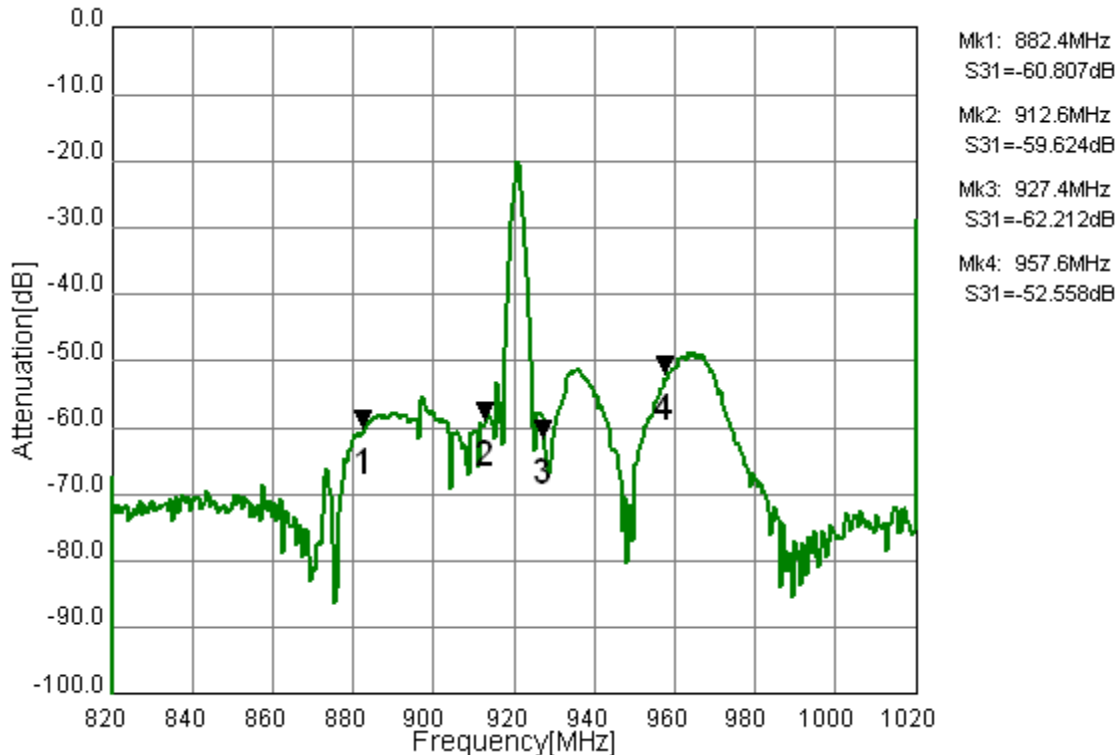


Figure 3-2. Electrical Characteristics

These data **exclude** loss that comes from the test board.



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co.,Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Tx Port

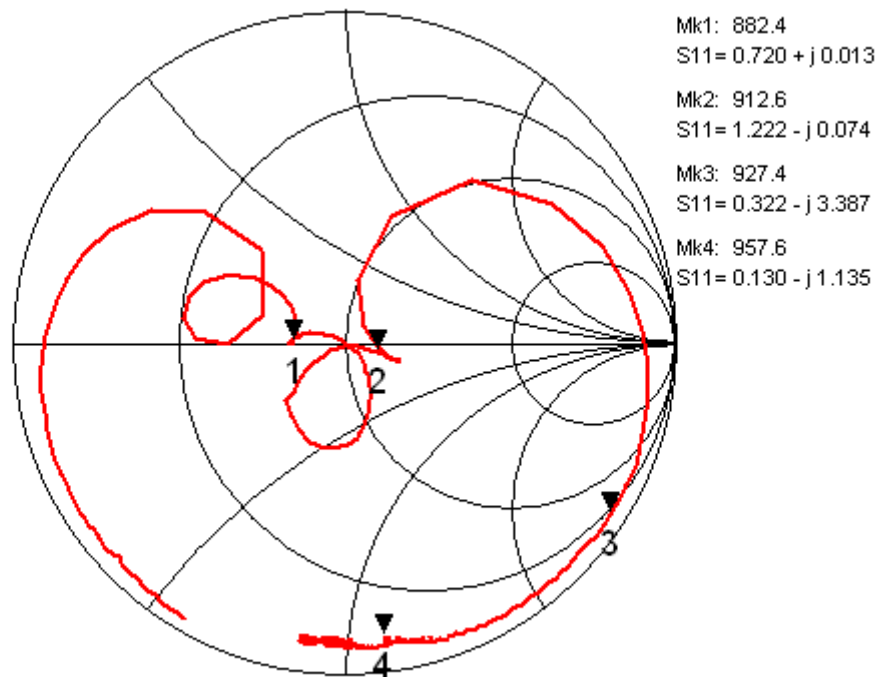
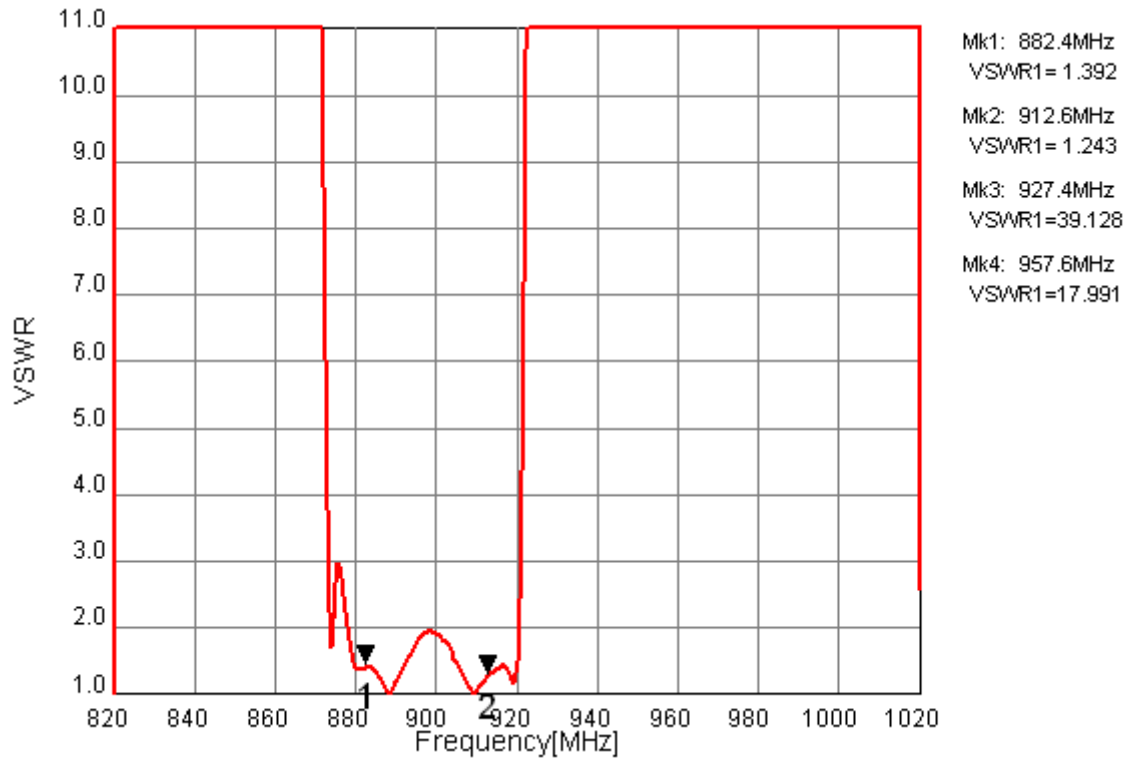


Figure 3-3. Electrical Characteristics



* Pb Free Part

| | | | |
|---------------|-----------------|---|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co., Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Rx Port

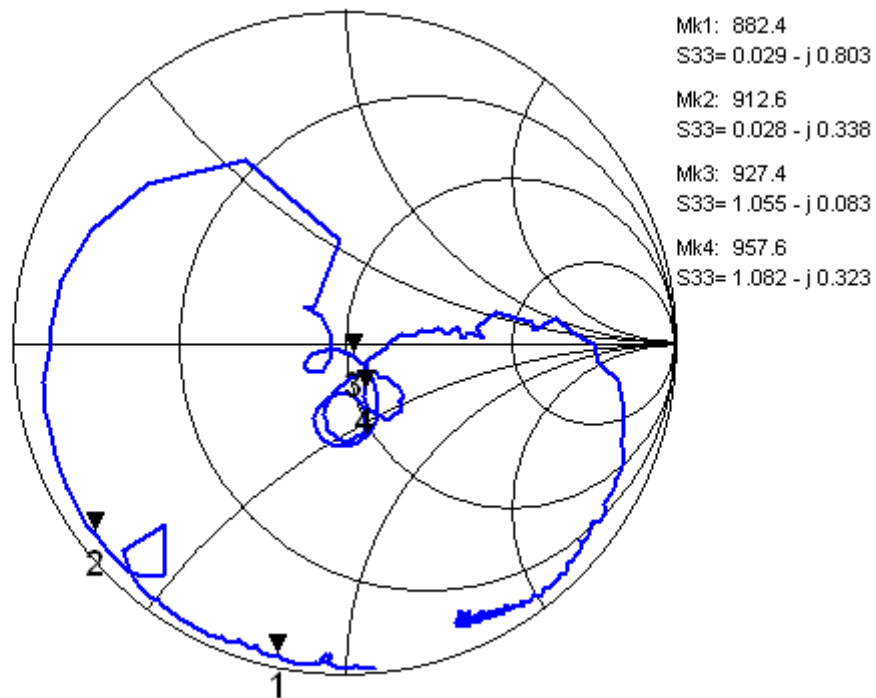
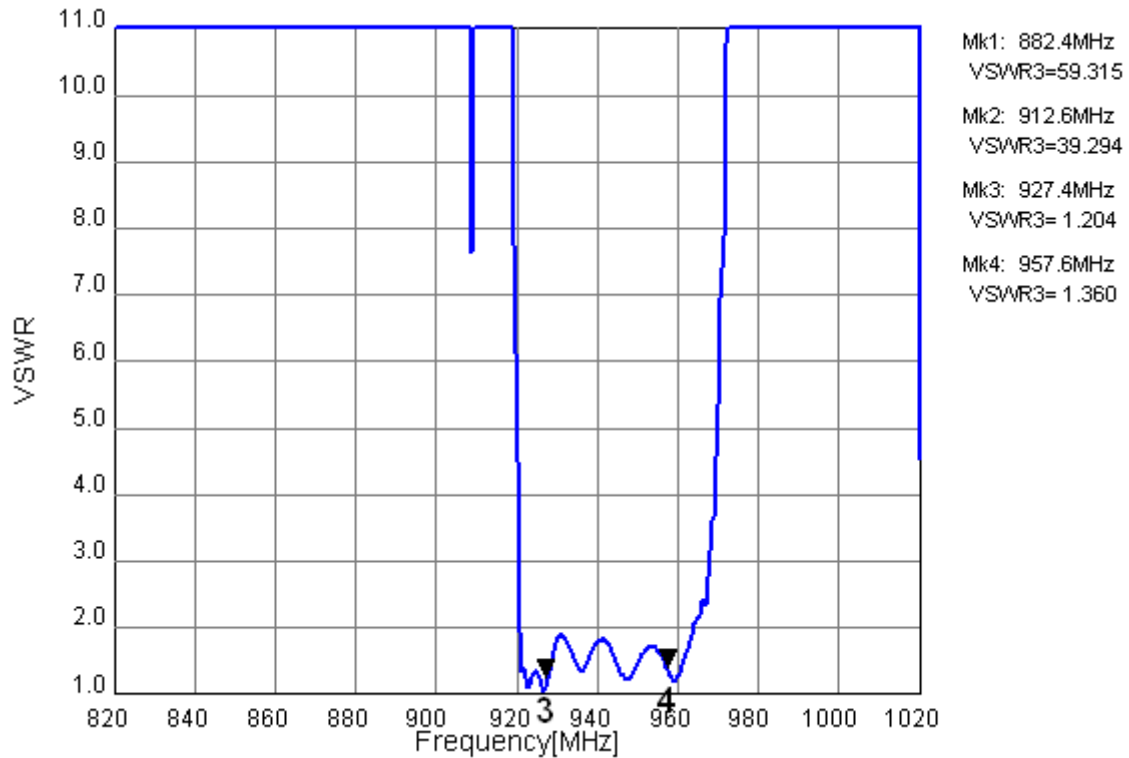


Figure 3-4. Electrical Characteristics



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co.,Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Ant Port

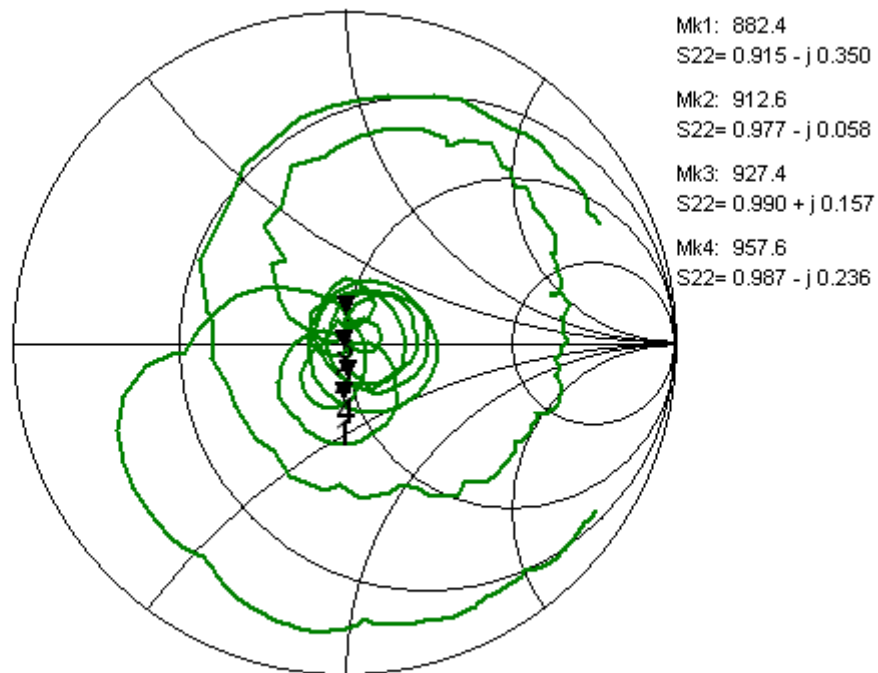
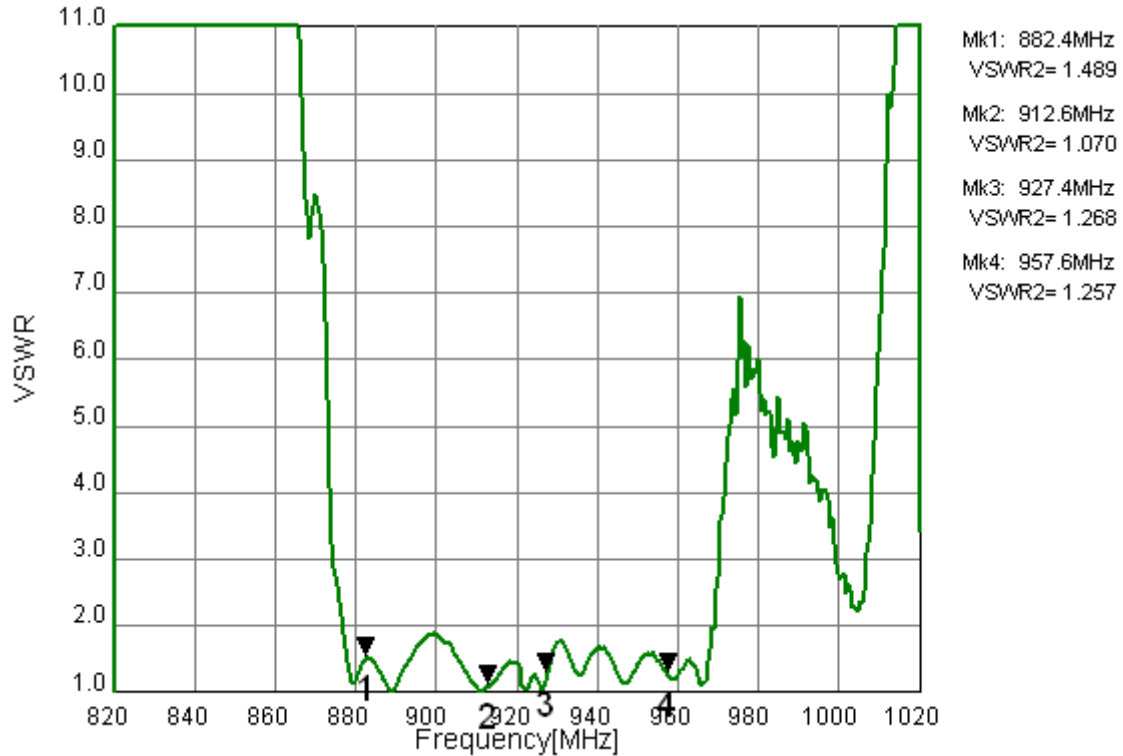


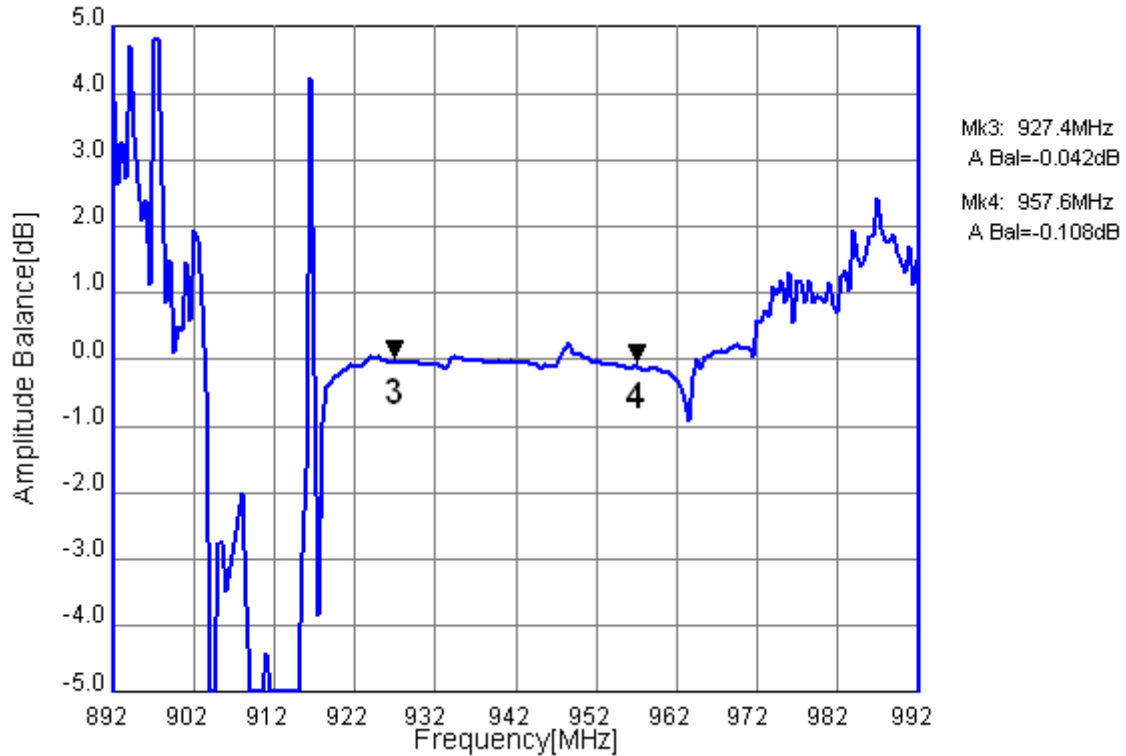
Figure 3-5. Electrical Characteristics



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co.,Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Ant to Rx (Amplitude balance)



Ant to Rx (Phase balance)

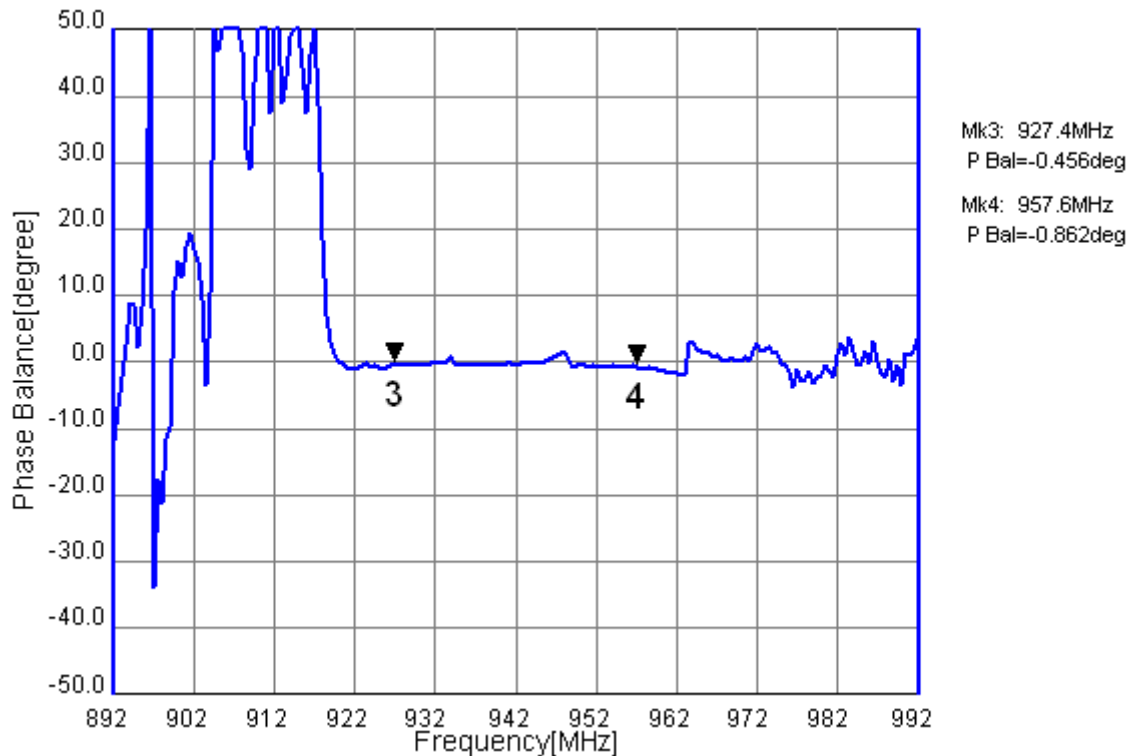


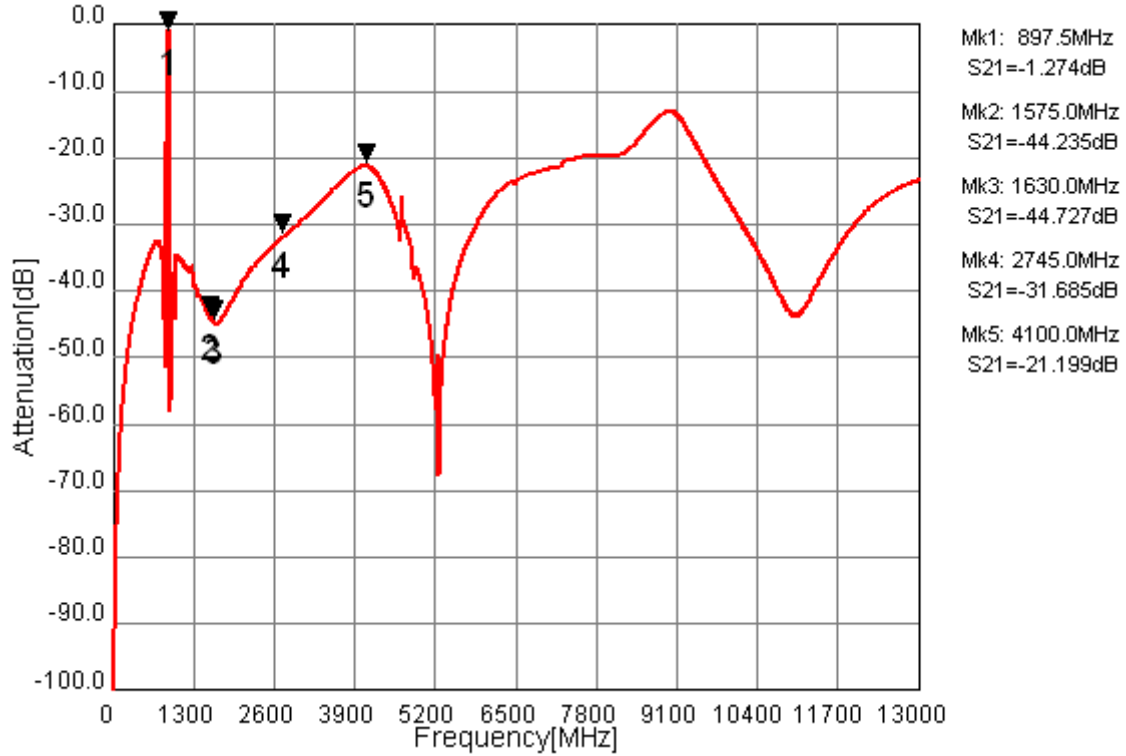
Figure 3-6. Electrical Characteristics



* Pb Free Part

| | | | |
|---------------|-----------------|--|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co.,Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Tx to Ant (Wide span)



Ant to Rx (Wide span)

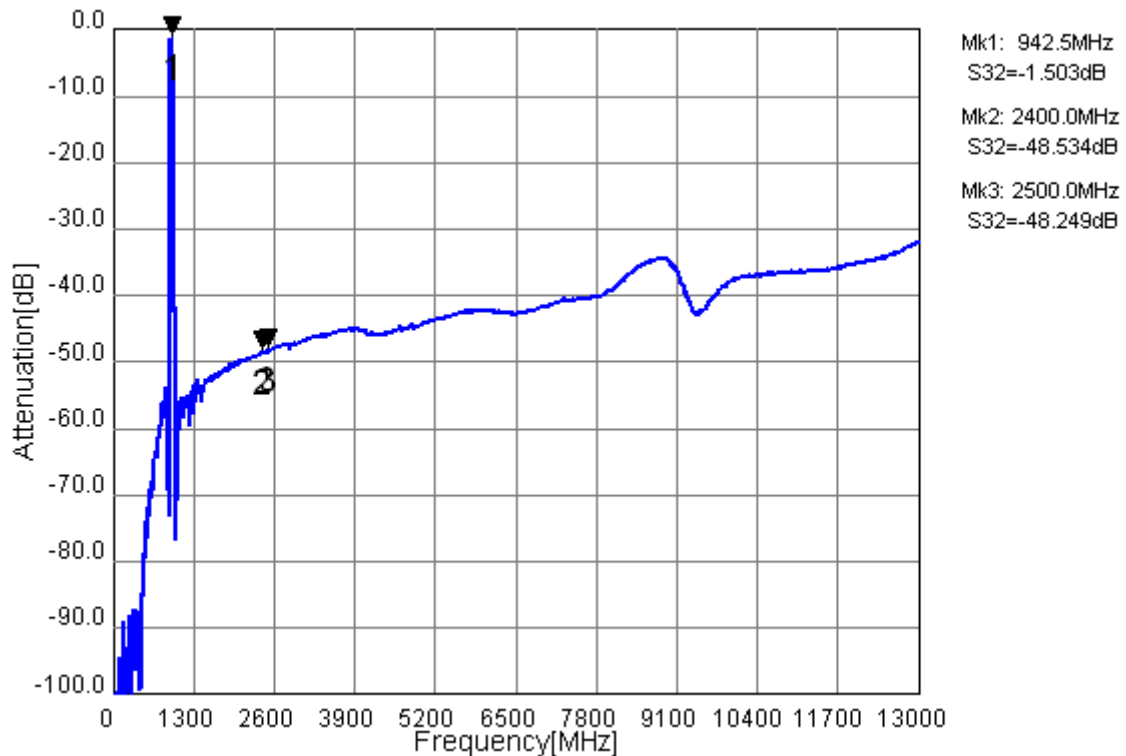


Figure 3-7. Electrical Characteristics



* Pb Free Part

| | | | |
|---------------|-----------------|---|---------------|
| Customer Name | Standard | TAIYO YUDEN Mobile Technology Co., Ltd. | |
| System | Band 8 Duplexer | DATE | July 25, 2013 |
| Part Number | D5RB942M5E1CF | Version 2.0cbA | Final |

Ordering Code

| Ordering Code | Packing | Reel size | Status |
|--------------------------|-------------|-----------------------|--------|
| D5RB942M5E1CF- Z | Tape & Reel | 3,000 pcs. | MP |
| D5RB942M5E1CF- ZA | Tape & Reel | less than 3,000 pcs. | MP |
| D5RB942M5E1CF- Y | Tape & Reel | 15,000 pcs. | MP |
| D5RB942M5E1CF- YA | Tape & Reel | less than 15,000 pcs. | MP |
| D5RB942M5E1CF- Q | Bulk | few pcs. | MP |

*Minimum order quantity (MOQ) is assigned for each inquiry, Please contact to Sales Representatives.

*MP : Mass Production

Notice

All of the contents specified herein are subject to change without notice due to technical improvements, etc.

Please contact Taiyo Yuden Co., Ltd. for further details of product specifications.

Please conduct validation and verification of products in actual condition of mounting and operating environment before commercial shipment of the equipment.

This product is for general electronics equipment such as Audio-Visual equipment, household electronics, office supplies, information services and telecommunications; therefore, in case this product is used for any medical equipment, space equipment, nuclear equipment or disaster prevention equipment, please contact Taiyo Yuden in advance.

In case this product is used for general electronics equipment or circuits which require high safety and high reliability, thoroughly evaluate on safety and add a protection circuit if necessary.