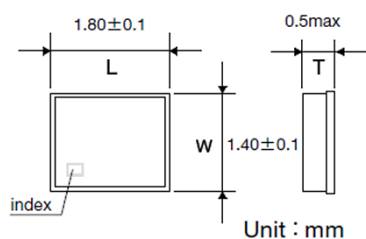


## FBAR/SAW Devices (SAW Duplexers)

## 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.

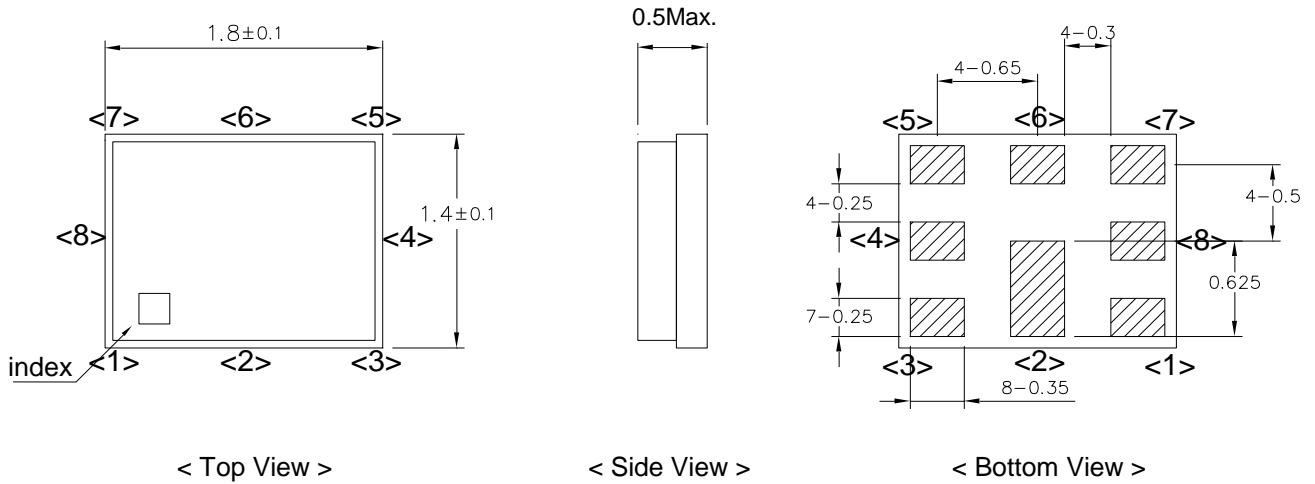
(\*2) Integrated over +/-1.92MHz around the WCDMA channel center frequency



\* Pb Free Part

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### 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)

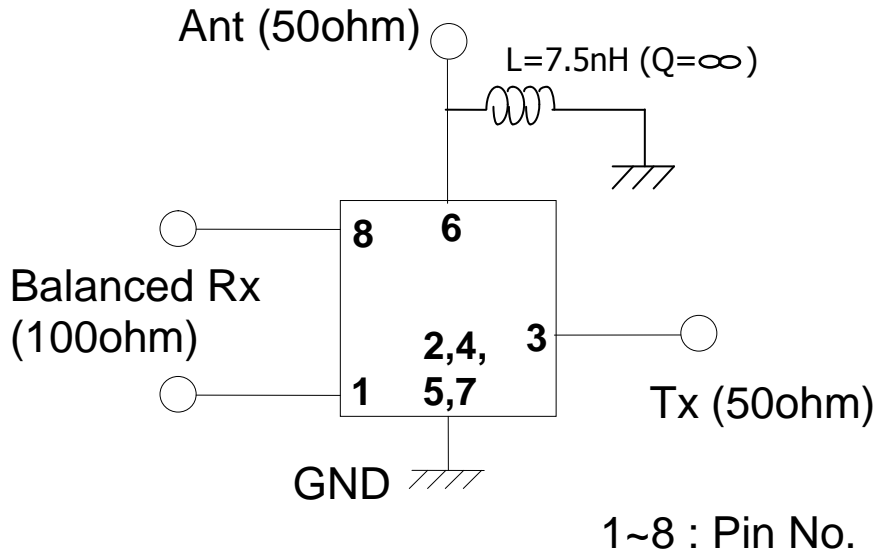
**Figure 1. Dimensions and Pin assignment**



\* Pb Free Part

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### Evaluation Circuit



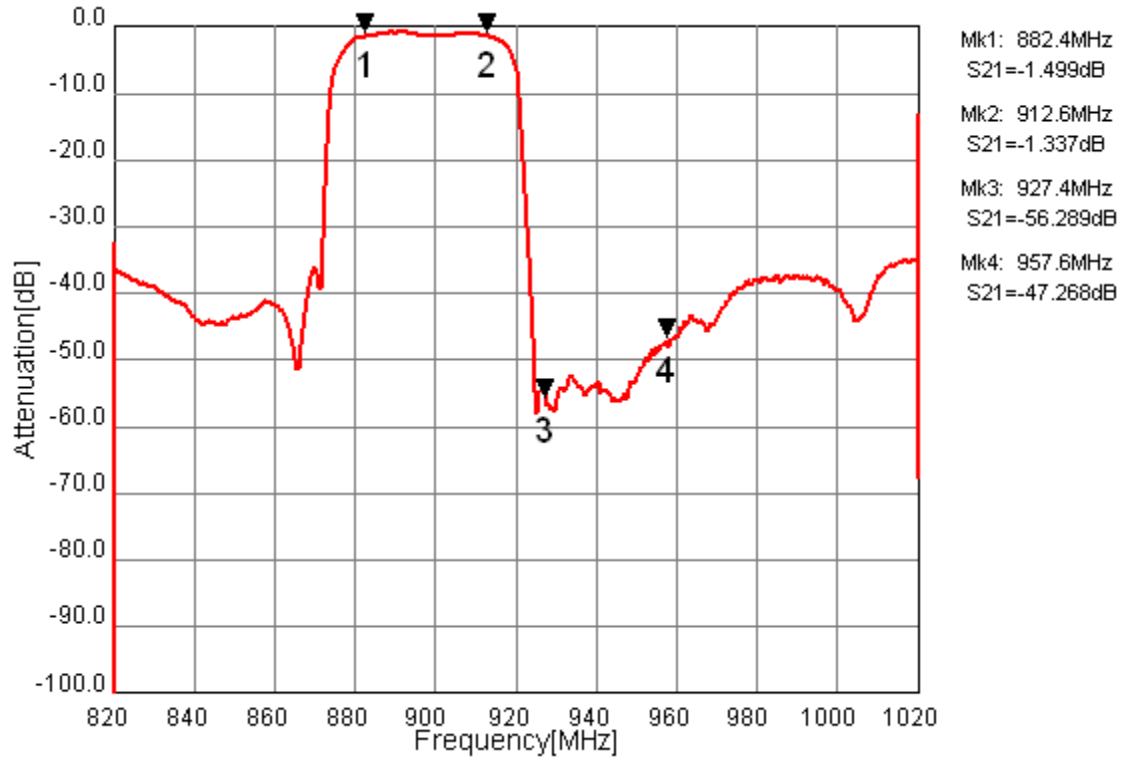
**Figure 2. Evaluation Circuit**



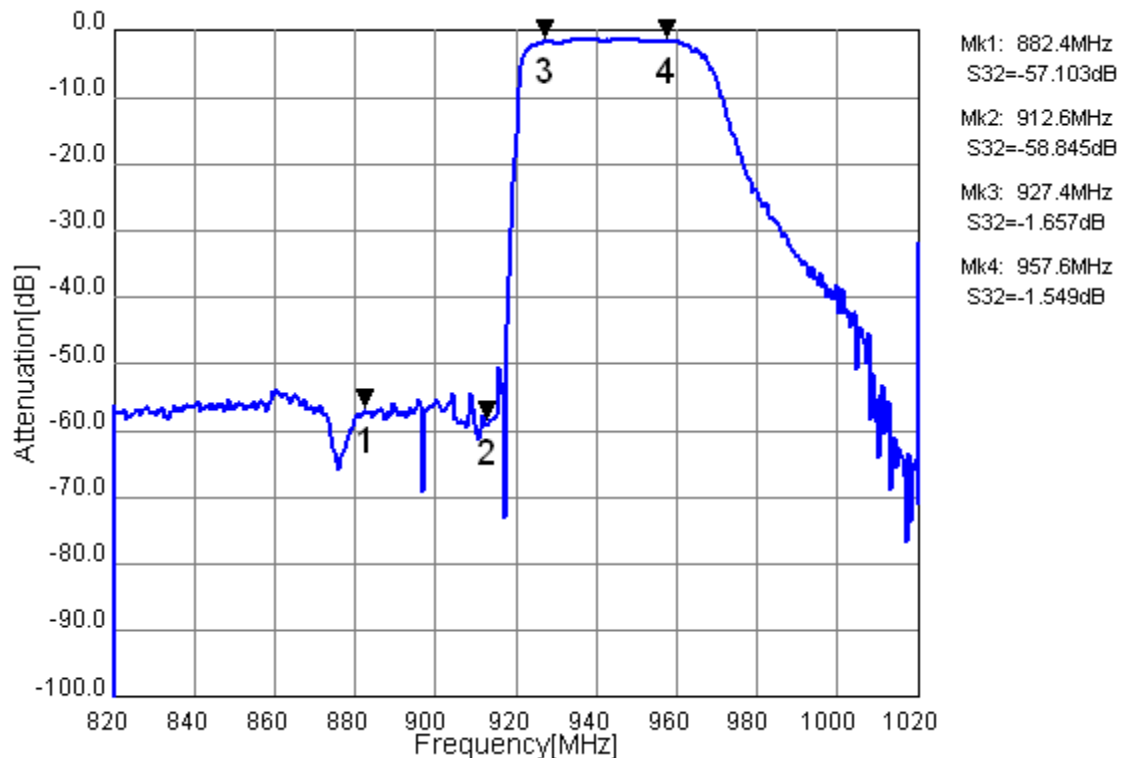
\* Pb Free Part

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
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Part Number	D5RB942M5E1CF	Version 2.0cbA	Final

## Tx to Ant



## Ant to Rx



**Figure 3-1. Electrical Characteristics**

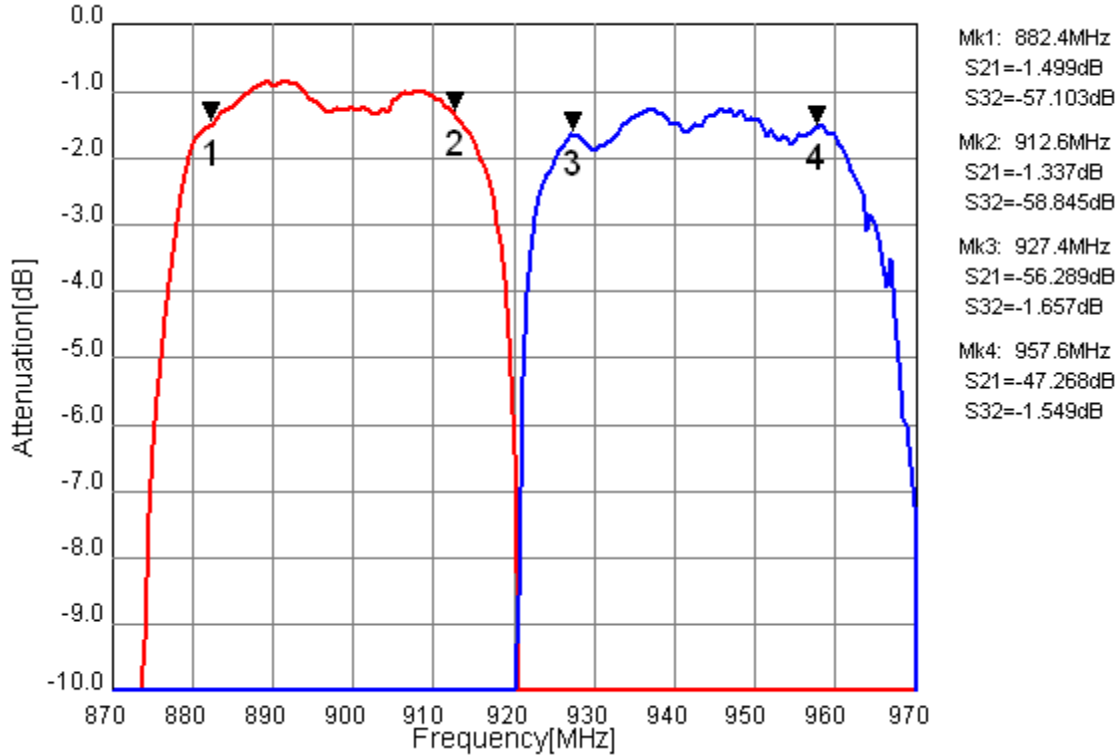
These data **exclude** loss that comes from the test board.



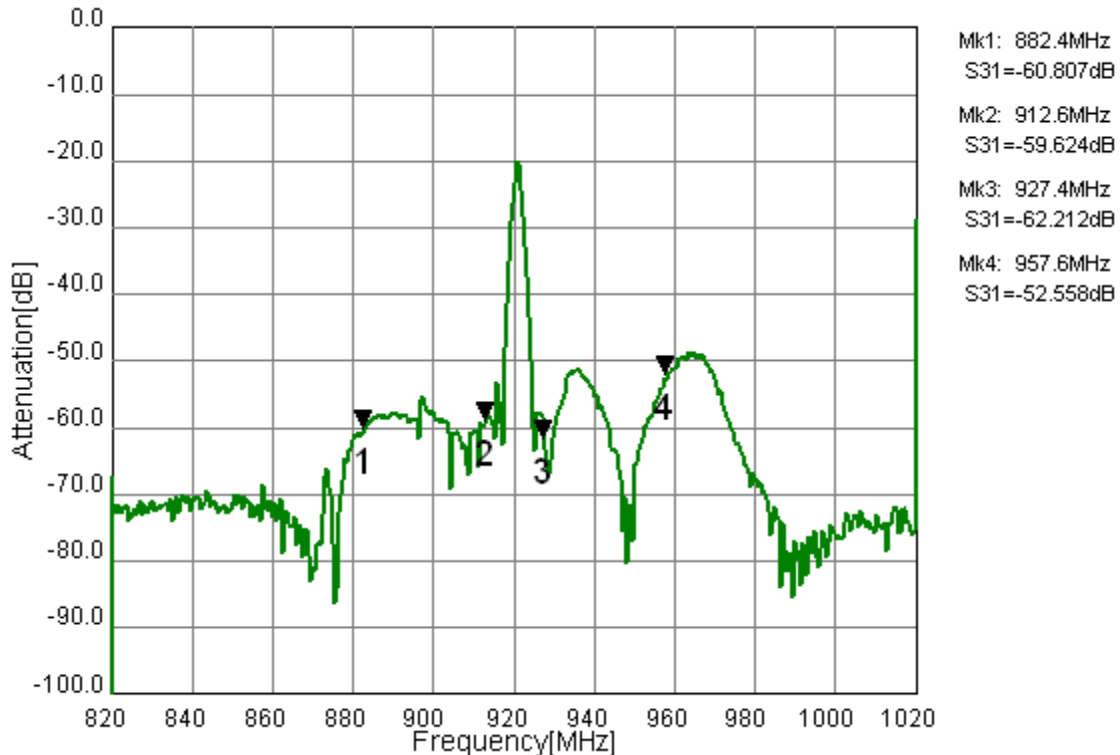
\* Pb Free Part

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**

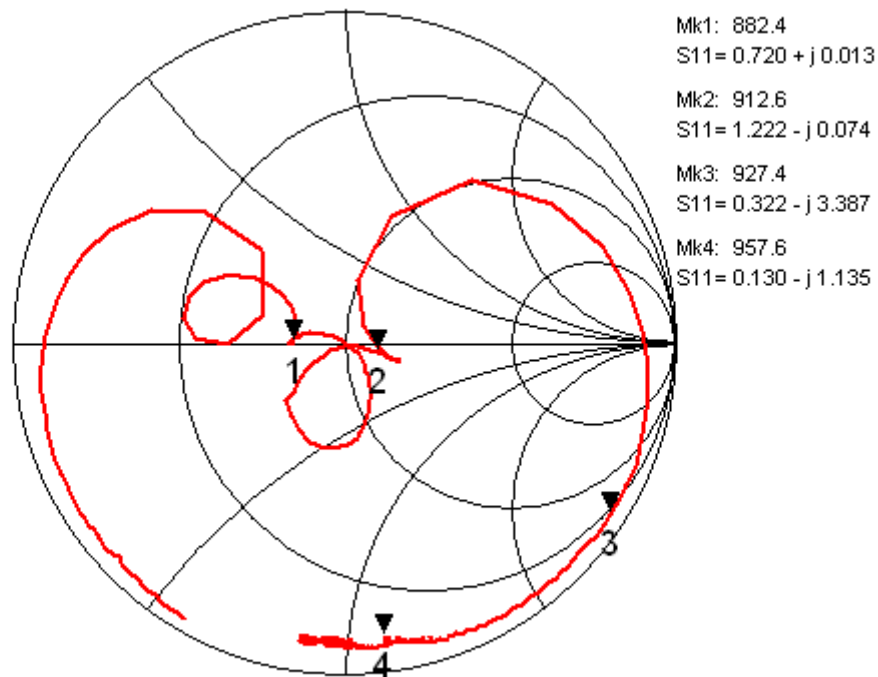
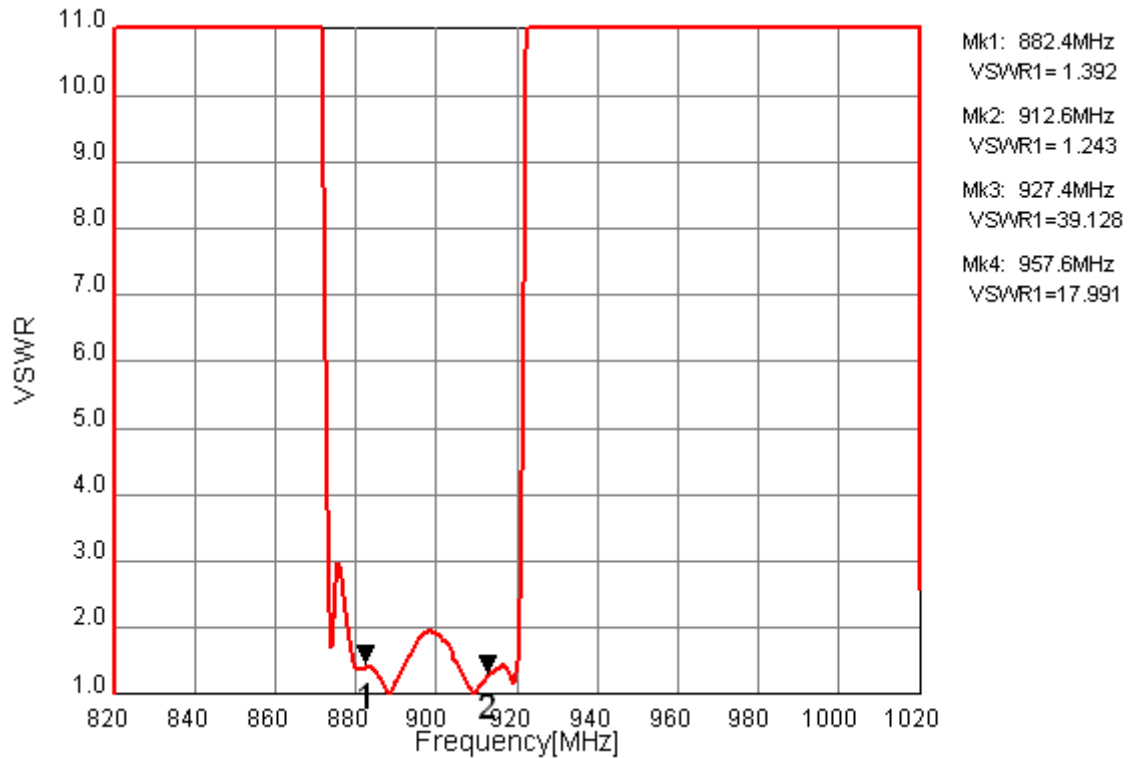
These data **exclude** loss that comes from the test board.



\* Pb Free Part

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System	Band 8 Duplexer	DATE	July 25, 2013
Part Number	D5RB942M5E1CF	Version 2.0cbA	Final

## Tx Port



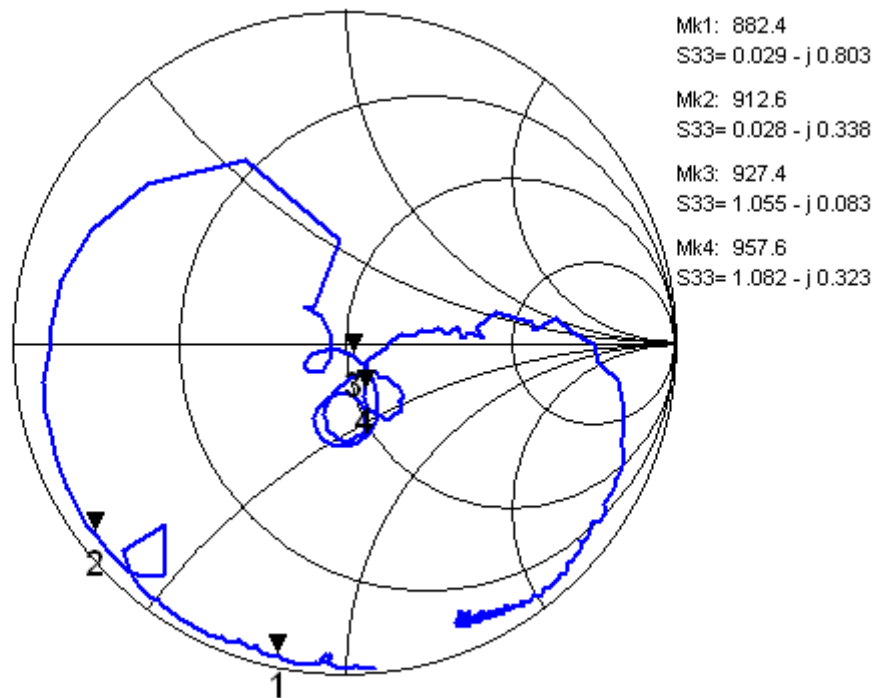
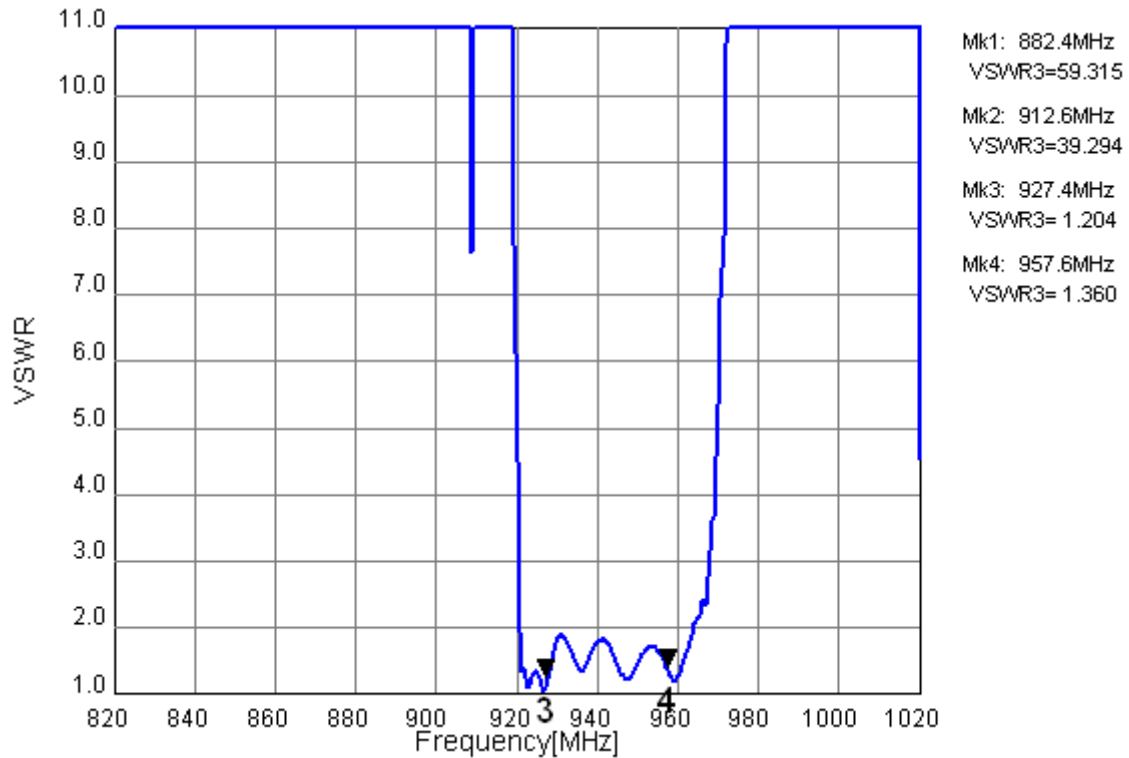
**Figure 3-3. Electrical Characteristics**



\* 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**

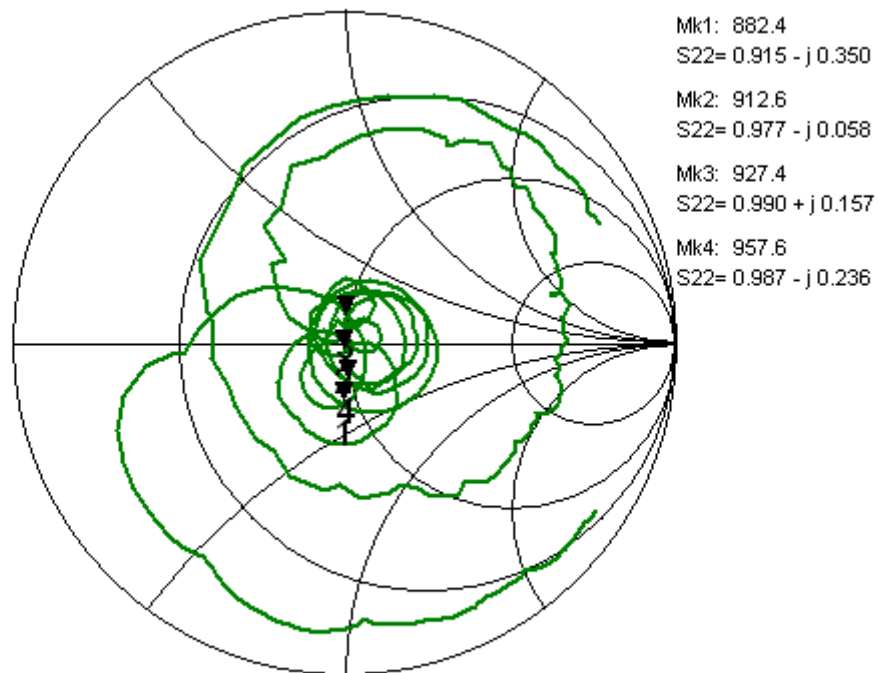
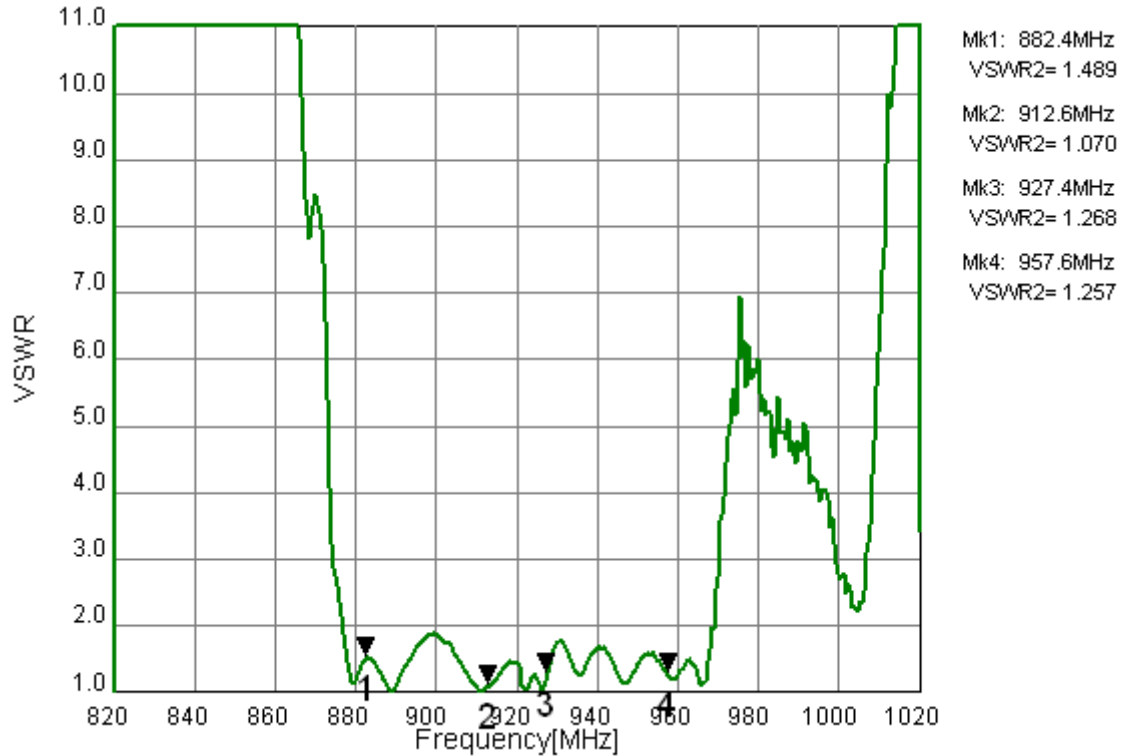




\* Pb Free Part

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## Ant Port



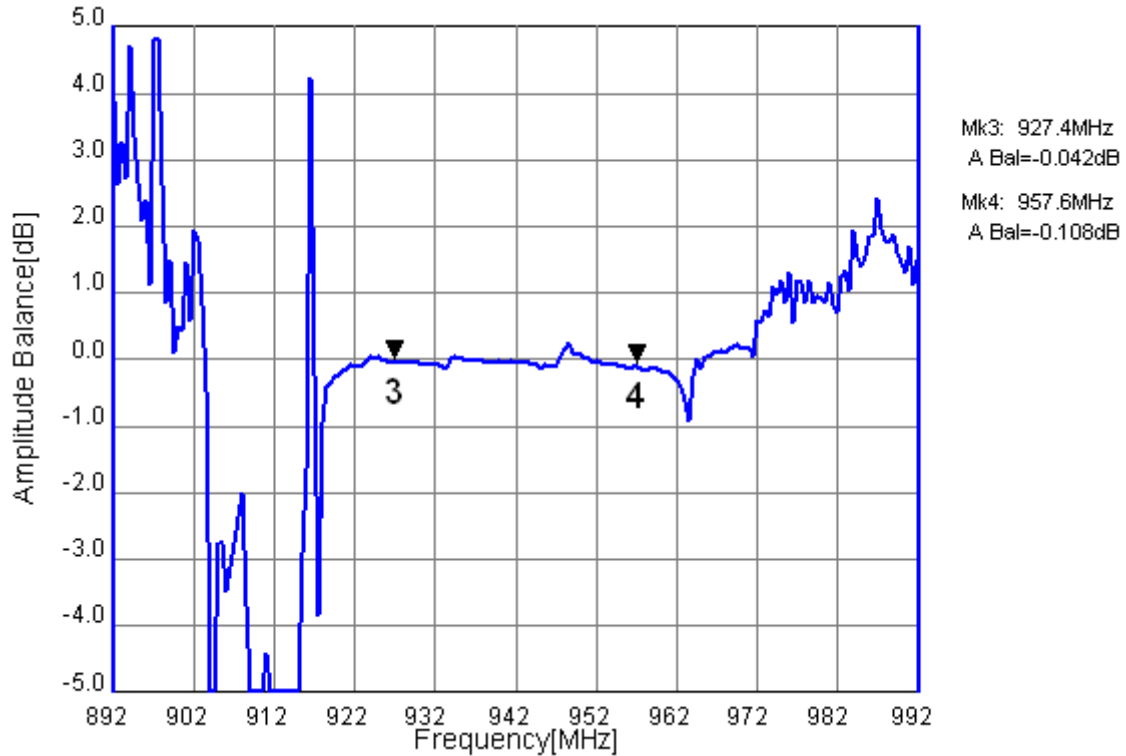
**Figure 3-5. Electrical Characteristics**



\* Pb Free Part

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
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Part Number	D5RB942M5E1CF	Version 2.0cbA	Final

### Ant to Rx (Amplitude balance)



### Ant to Rx (Phase balance)

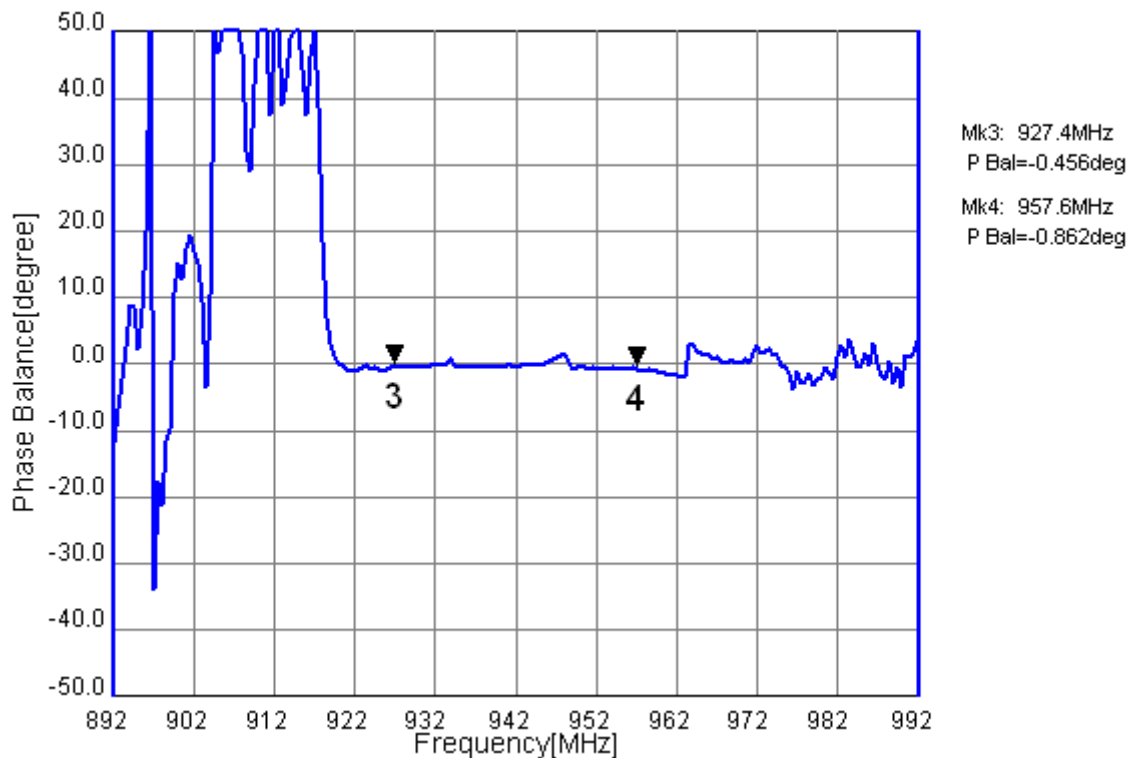


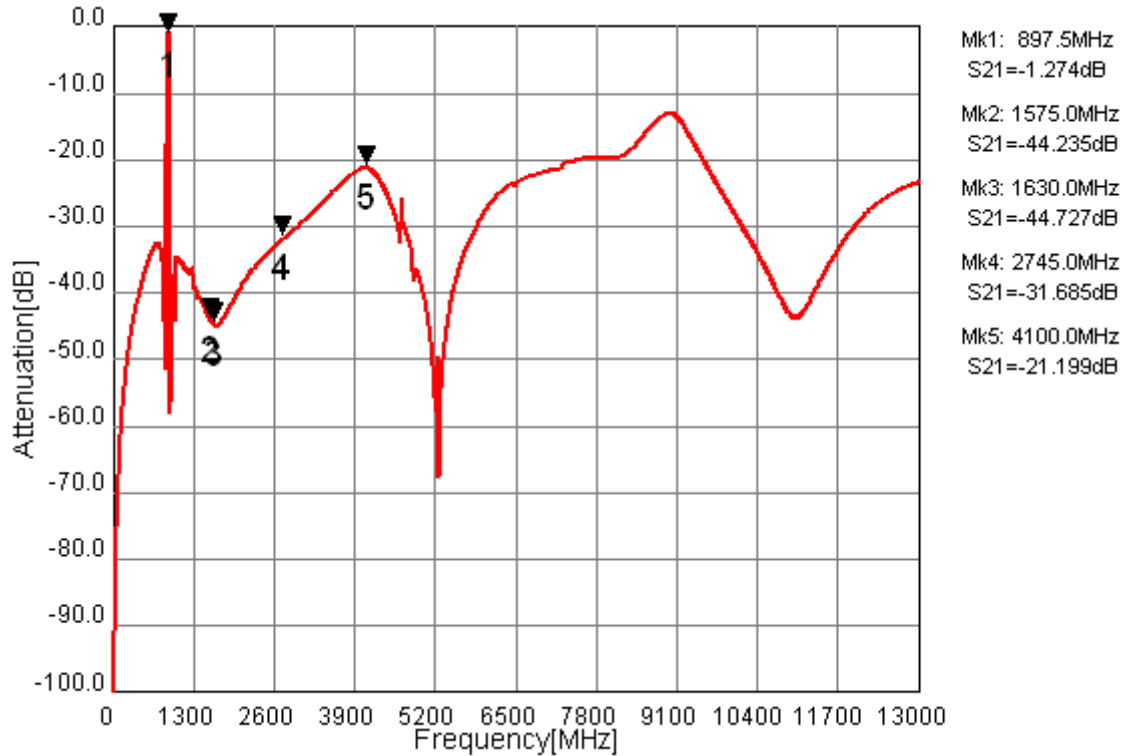
Figure 3-6. Electrical Characteristics



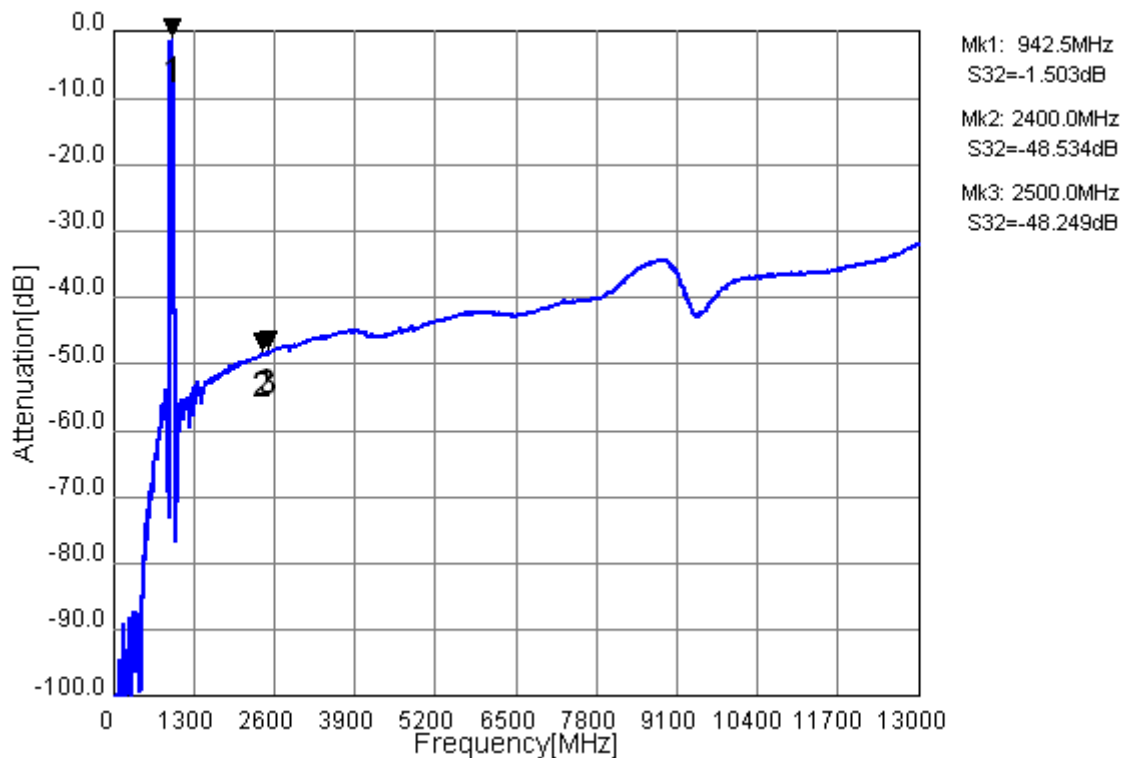
\* Pb Free Part

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### 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.