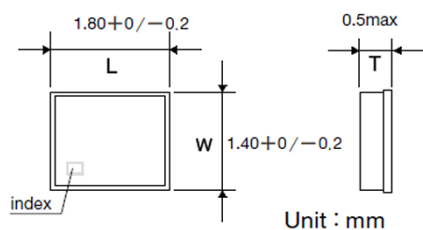


## FBAR/SAW Devices (SAW Duplexers)

## D5DA737M5K2H2



## ■ Features

- Item Summary  
SAW, Duplexer, 1.8x1.4x0.5mm  
Band12
- Lifecycle Stage  
Mass Production
- Standard packaging quantity (minimum)  
Taping Embossed 3000 , 15000pcs

## ■ Products characteristics table

System	LTE
Type	SAW
Function	Duplexer
band	Band12
Insertion Loss (typ) (Tx-ANT/ANT-Rx)	1.65/1.65 dB
Isolation (typ)	63/58 dB
Operating Temp. Range	-30 to +85 °C
RoHS2 Compliance (10 subst.)	Yes
REACH Compliance (168 subst.)	Yes
Soldering	Reflow

## ■ External Dimensions

Dimension L	1.8 + 0/- 0.20 mm
Dimension W	1.4 + 0/- 0.20 mm
Dimension T	Max 0.5 mm

2017.02.10

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



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

**Table 1. Electrical Specification**

Item		Condition (MHz)	Specification			Unit	Remarks	
			Min	Typ	Max			
Tx to ANT	Insertion loss(*1)	699 - 716	-	1.65	2.35	dB		
	Ripple	699 - 716	-	0.8	1.5	dB		
	VSWR	Ant	699 - 716	-	1.8	2.1	-	
				Tx	-	1.9	2.2	-
	Input Power	699 - 716	29dBm, Ta=+50°C, 50000h, CW			-		
	Absolute attenuation	729- 746	45	54	-	dB		
		746 - 768	30	46	-	dB		
		768 - 805	25	41	-	dB		
		869 - 894	35	44	-	dB		
		1398 - 1432	30	46	-	dB		
		1559 - 1606	40	46	-	dB		
2097 - 2155		35	43	-	dB			
2400 - 2484		30	55	-	dB			
2796 - 2864	15	41	-	dB				
4900 - 5850	5	12	-	dB				
ANT to Rx	Insertion loss(*1)	729 - 746	-	1.65	2.35	dB		
	Ripple	729 - 746	-	0.5	1.5	dB		
	VSWR	Ant	729- 746	-	1.6	2.0	-	
				Rx	-	1.9	2.2	-
	Absolute attenuation	699 - 716	55	62	-	dB		
		776 - 805	35	40	-	dB		
		814 - 960	40	55	-	dB		
		1710 - 1755	40	54	-	dB		
		1850 - 1920	40	52	-	dB		
		2187 - 2238	40	51	-	dB		
2400 - 2500		40	49	-	dB			
4900 - 5950		35	46	-	dB			
Tx to Rx	Isolation	699 - 716	60	63	-	dB		
		729 - 746	55	58	-	dB		
Terminating Impedance	Tx port	50			Ohm	Single-ended		
	Rx port	50			Ohm	Single-ended		
	Ant port	50//12nH(Q=∞)			Ohm	Single-ended		
Operating Temperature		-30 to +85			°C			
Device size (L max.x W max.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.



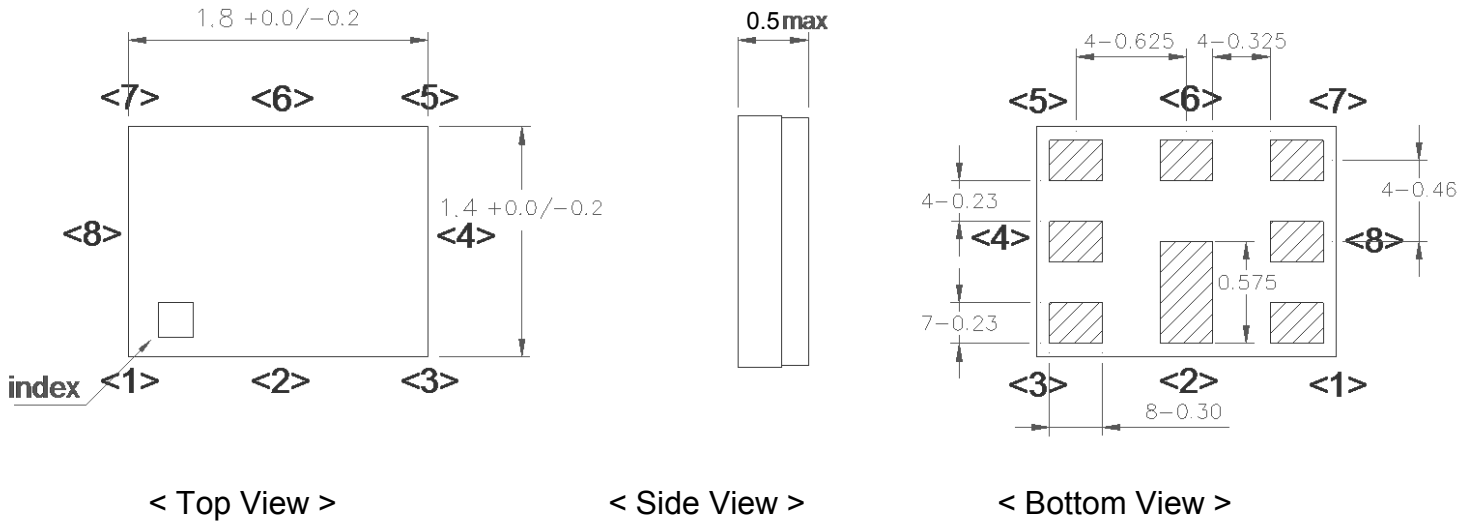
\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

### Dimensions



Unit: mm

### Pin Configuration

Pin No.	Pin name	Description
1	Rx	Receiver Pin
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	GND	Ground Pin

**Figure 1. Dimensions and Pin assignment**



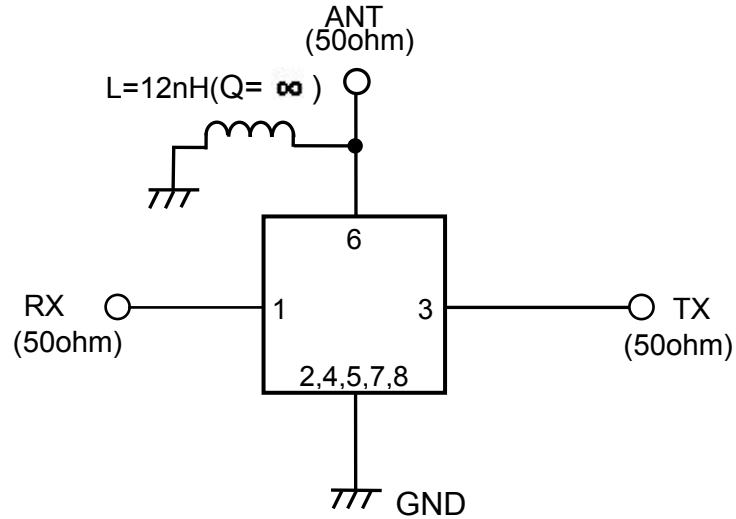
\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

### Evaluation Circuit



### Recommended foot print pattern

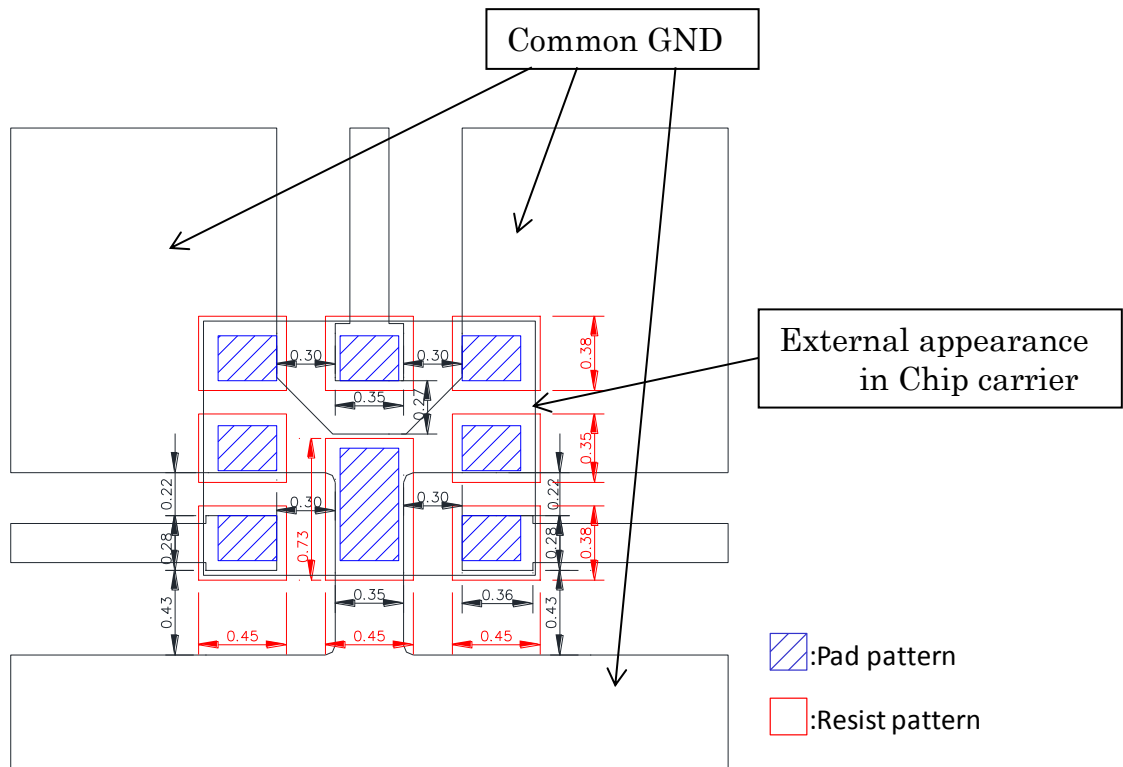


Figure 2. Recommended foot print pattern



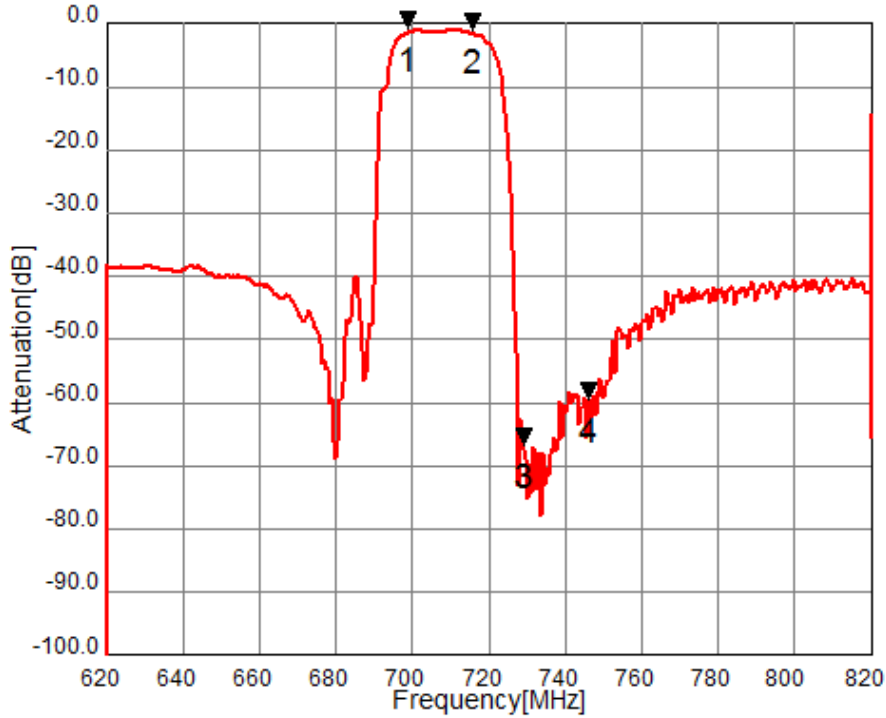
\* Pb Free Part



MSL1

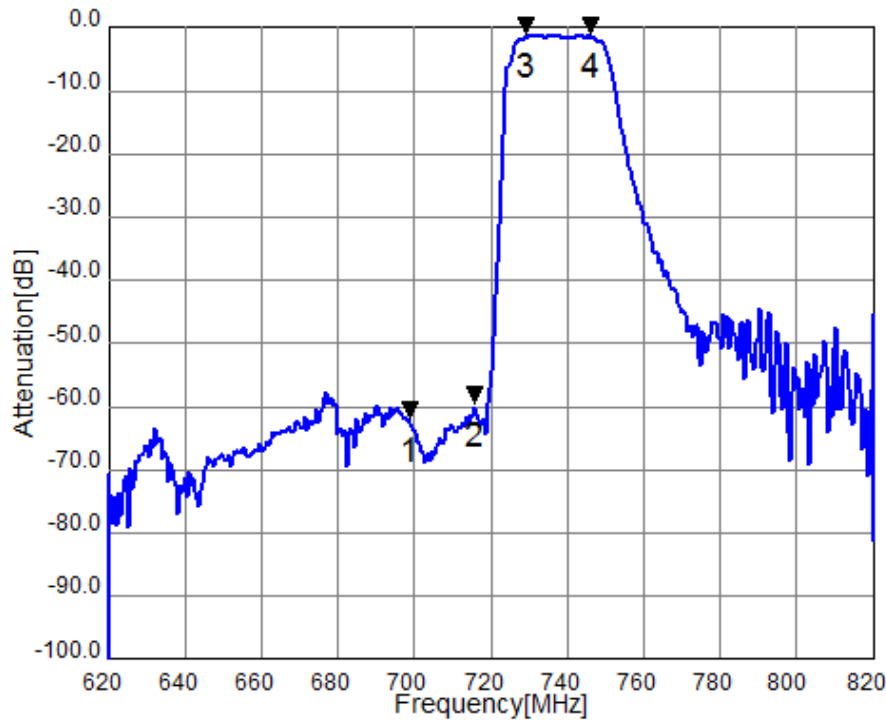
Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

### Tx to Ant



- Mk1: 699.0MHz  
S21=-1.484dB
- Mk2: 716.0MHz  
S21=-1.533dB
- Mk3: 729.0MHz  
S21=-67.289dB
- Mk4: 746.0MHz  
S21=-60.190dB

### Ant to Rx



- Mk1: 699.0MHz  
S31=-62.448dB
- Mk2: 716.0MHz  
S31=-60.008dB
- Mk3: 729.0MHz  
S31=-1.645dB
- Mk4: 746.0MHz  
S31=-1.529dB

**Figure 3-1. Electrical Characteristics**

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



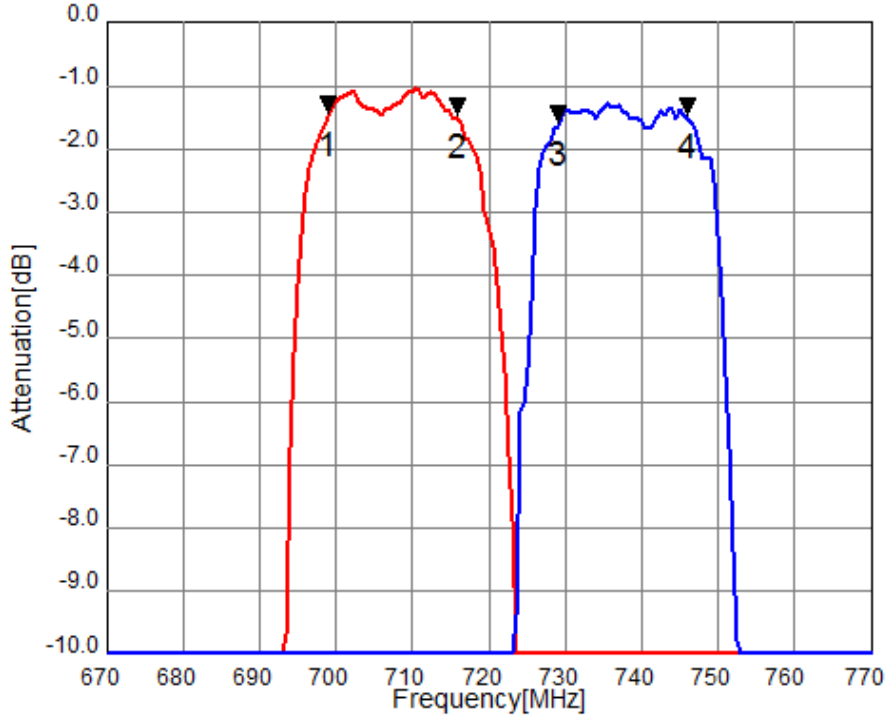
\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

## Tx to Ant, Ant to Rx



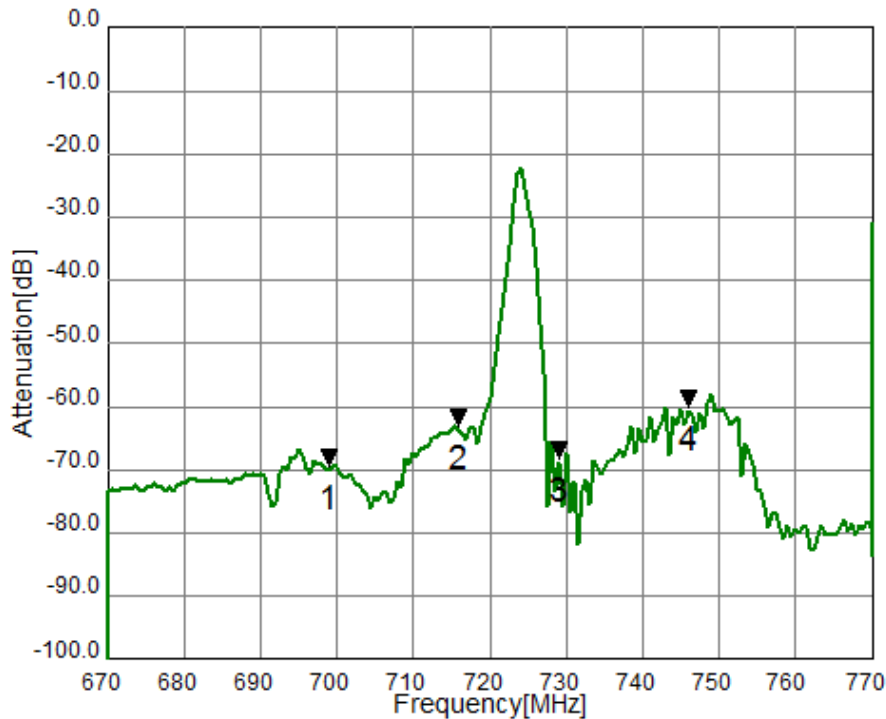
Mk1: 699.0MHz  
S21=-1.484dB  
S31=-62.448dB

Mk2: 716.0MHz  
S21=-1.533dB  
S31=-60.008dB

Mk3: 729.0MHz  
S21=-67.289dB  
S31=-1.645dB

Mk4: 746.0MHz  
S21=-60.190dB  
S31=-1.529dB

## Tx to Rx Isolation



Mk1: 699.0MHz  
S32=-70.067dB

Mk2: 716.0MHz  
S32=-63.588dB

Mk3: 729.0MHz  
S32=-68.690dB

Mk4: 746.0MHz  
S32=-60.647dB

**Figure 3-2. Electrical Characteristics**

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



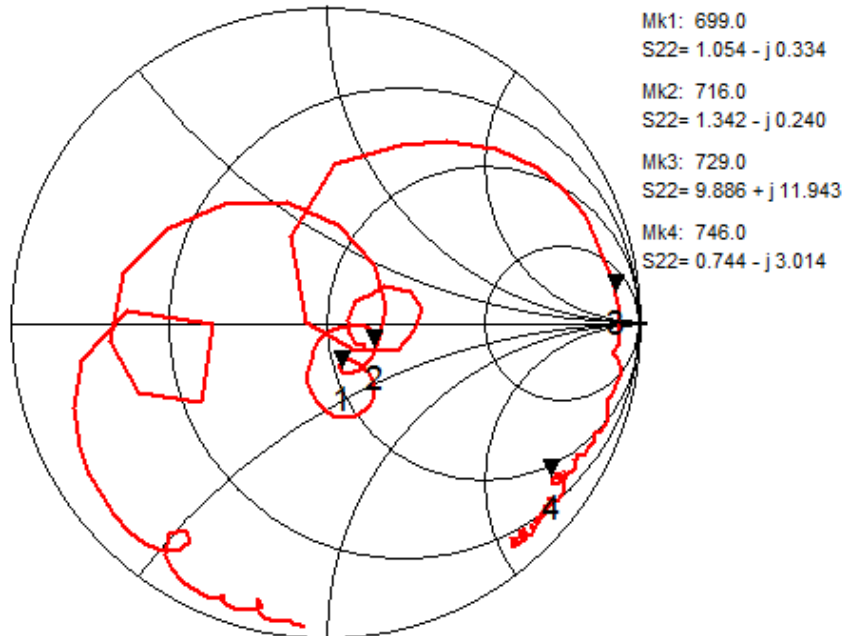
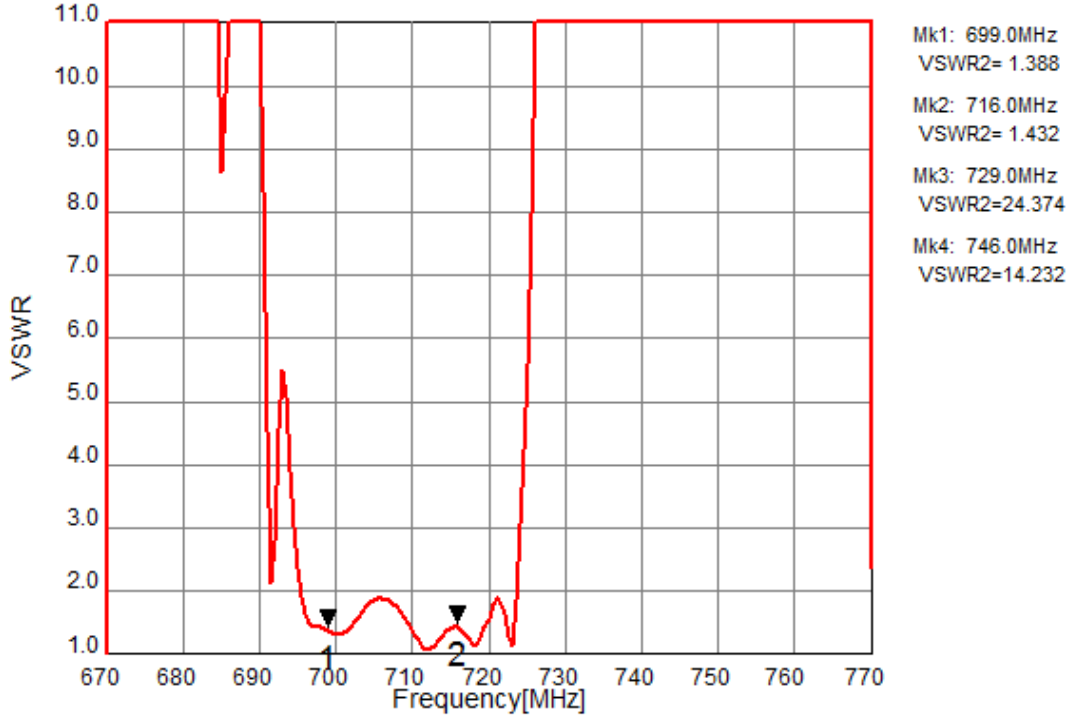
\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

## Tx Port



**Figure 3-3. Electrical Characteristics**



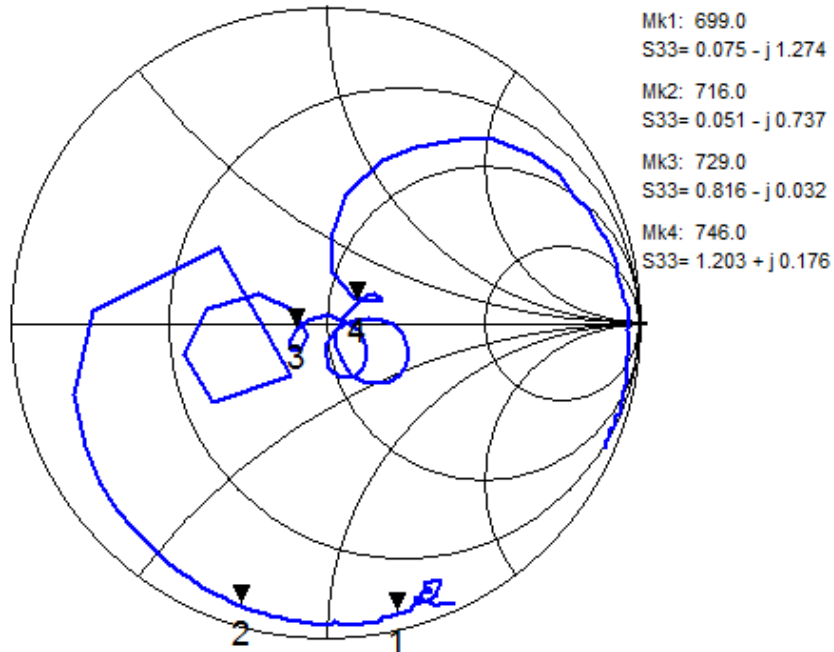
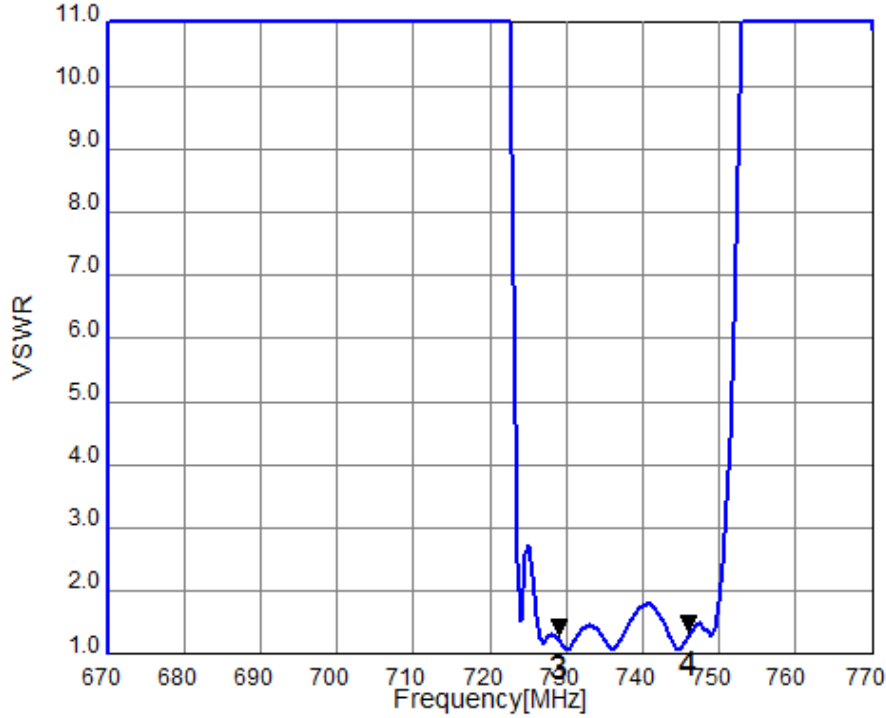
\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

## Rx Port



**Figure 3-4. Electrical Characteristics**



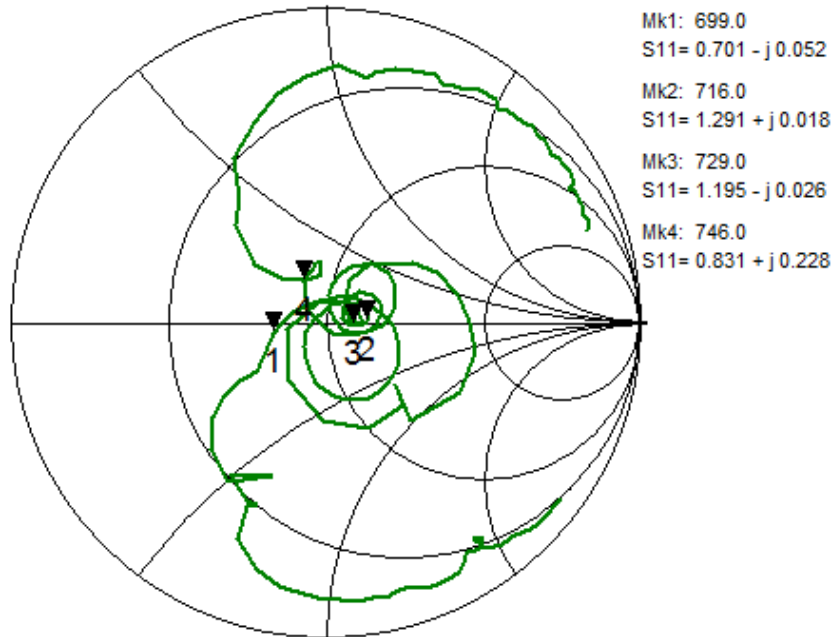
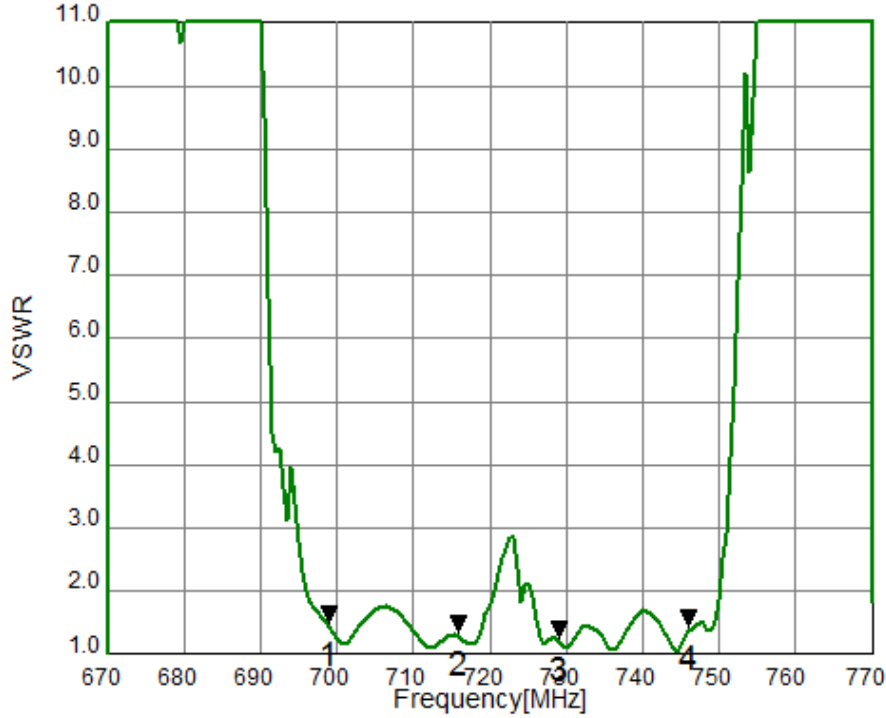
\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

## Ant Port



**Figure 3-5. Electrical Characteristics**



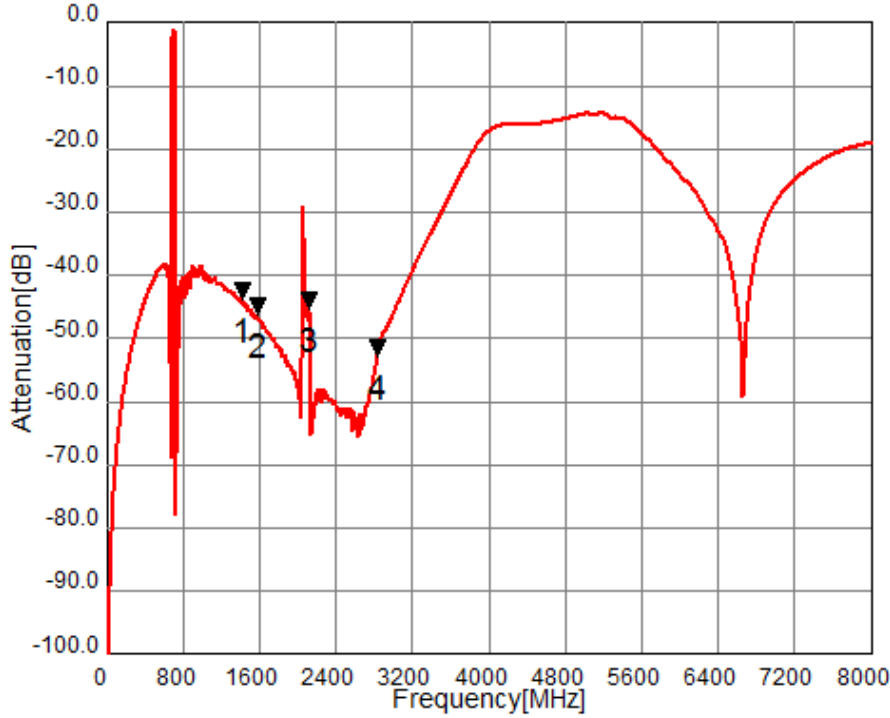
\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	Final

## Tx to Ant (Wide Span)



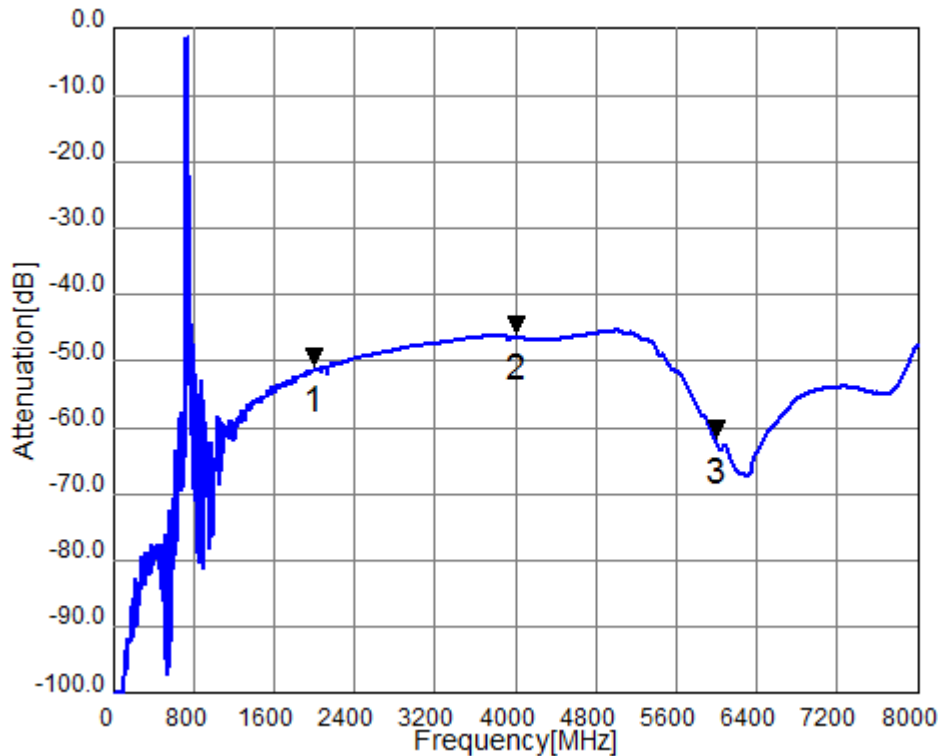
Mk1: 1415.0MHz  
S21=-44.279dB

Mk2: 1575.0MHz  
S21=-46.718dB

Mk3: 2122.5MHz  
S21=-46.011dB

Mk4: 2830.0MHz  
S21=-53.331dB

## Ant to Rx (Wide Span)



Mk1: 2000.0MHz  
S31=-51.370dB

Mk2: 4000.0MHz  
S31=-46.539dB

Mk3: 6000.0MHz  
S31=-62.089dB

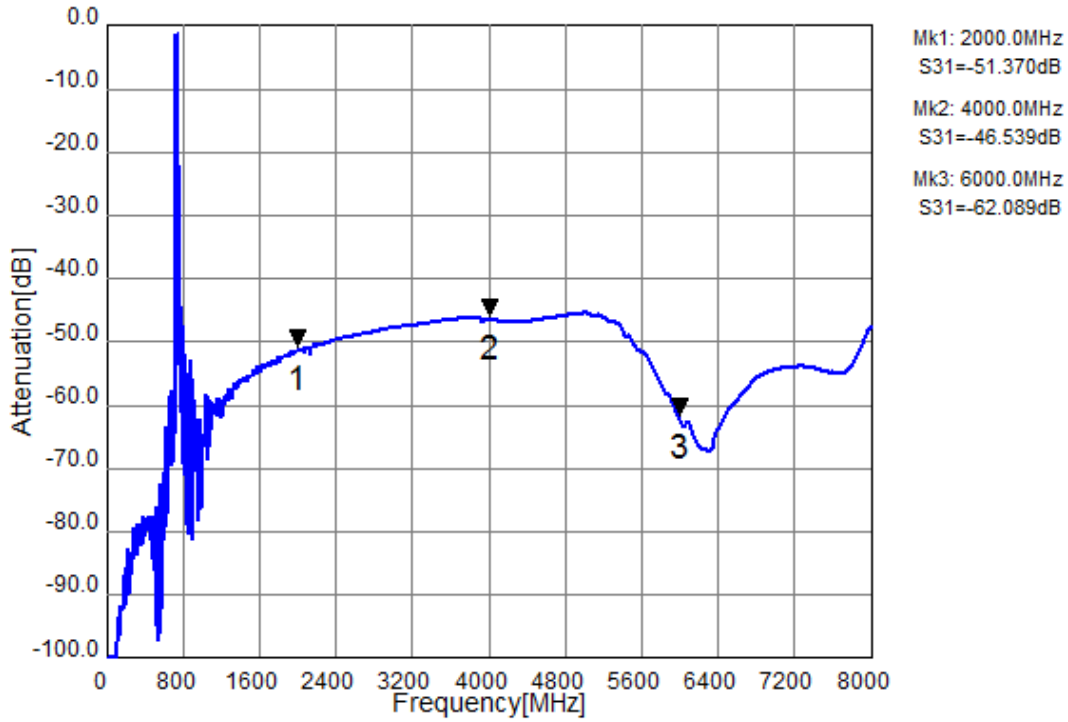


\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	<b>Final</b>



**Figure 3-6. Electrical Characteristics**



\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 12 Duplexer	Date	Sep. 1, 2015
Part Number	D5DA737M5K2H2	Version 3.1caB	<b>Final</b>

## Ordering Code

Ordering Code	Packing	Reel size	Status
D5DA737M5K2H2-Z	Tape & Reel	3,000 pcs.	MP
D5DA737M5K2H2-ZA	Tape & Reel	less than 3,000 pcs.	MP
D5DA737M5K2H2-Y	Tape & Reel	15,000 pcs.	MP
D5DA737M5K2H2-YA	Tape & Reel	less than 15,000 pcs.	MP
D5DA737M5K2H2-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.