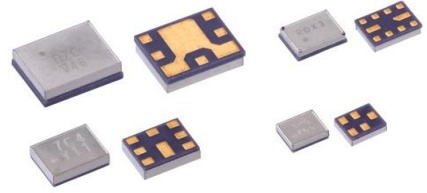


## Datasheet



# SAW Duplexer

Application : Band 12/85 Duplexer

P/N : FSDCSQ8N737MK3HZ  
D5FH737M0K3HZ

Version : 1.2

Date : September 5th, 2022

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## Features

- Size : 1.8 mm x 1.4 mm



**TAIYO YUDEN CO., LTD.**

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

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 12/85 Duplexer	Date	Sep. 05, 2022
Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

## History

Version No.	Date	Description
1.2	Sep. 05, 2022	Datasheet Format Revised
		Changed to New P/N

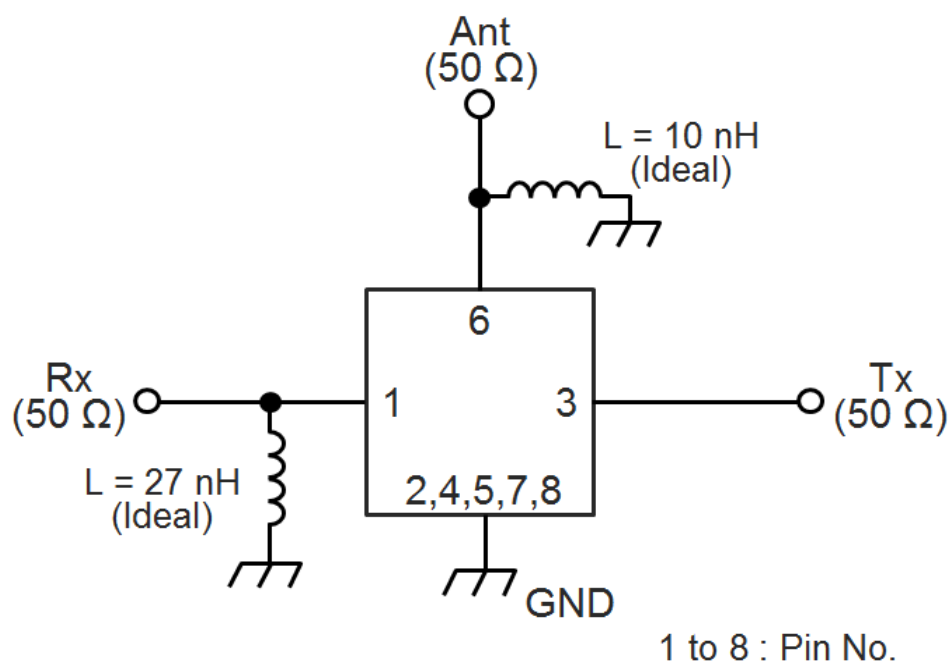
Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 12/85 Duplexer	Date	Sep. 05, 2022
Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

## 1. Absolute Maximum Ratings

**Table-1**

Item	Symbol	Ratings	Unit	Remarks
Operating Temperature Range	Ta	-30 to +85	°C	
Device Storage Temperature	Tstg1	-40 to +100	°C	
Carrier Tape Storage Temperature Range	Tstg2	-5 to +40	°C	Shelter from the Direct Sunlight
Maximum Input Power	Pin	+30.0	dBm	698 - 716 MHz Continuous Wave Ta = +50 °C Ant, Port : Loaded at 50 Ω Input Time : 5000 hmax.
Maximum DC Voltage	-	+/-5	V	Device Only

## 2. Evaluation Circuit



**Figure-1**

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 12/85 Duplexer	Date	Sep. 05, 2022
Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

### 3. Electrical Specification

**Table-2**

Item			Condition (MHz)	Specification			Unit	Remarks
				Min.	Typ.	Max.		
Tx to Ant	Insertion Loss		698 - 716	-	1.5	2.3	dB	
	Ripple		698 - 716	-	0.6	1.6	dB	
	VSWR	Tx	698 - 716	-	1.3	2.0	-	
		Ant	698 - 716	-	1.2	2.0	-	
	Absolute Attenuation		728 - 746	45	57	-	dB	
			746 - 768	30	41	-	dB	
			768 - 805	25	38	-	dB	
			869 - 894	30	36	-	dB	
			1398 - 1432	30	41	-	dB	
			1559 - 1606	40	44	-	dB	
			2097 - 2155	35	44	-	dB	
			2400 - 2484	30	49	-	dB	
			2796 - 2864	15	46	-	dB	
			4900 - 5850	5	26	-	dB	
Ant to Rx	Insertion Loss		728 - 746	-	1.5	2.2	dB	
	Ripple		728 - 746	-	0.5	1.5	dB	
	VSWR	Ant	728 - 746	-	1.4	2.0	-	
		Rx	728 - 746	-	1.6	2.0	-	
	Absolute Attenuation		10 - 698	35	65	-	dB	
			698 - 716	55	66	-	dB	(*1)
			776 - 805	35	40	-	dB	(*1)
			805 - 2500	34	42	-	dB	
			814 - 960	35	47	-	dB	
			1710 - 1755	40	73	-	dB	
			1850 - 1920	40	74	-	dB	
			2187 - 2238	40	69	-	dB	
			2400 - 2500	40	79	-	dB	
			4900 - 5725	35	44	-	dB	
			5725 - 5950	30	42	-	dB	
Tx to Rx	Isolation		698 - 716	60	66	-	dB	(*1)
			728 - 746	55	63	-	dB	(*1)

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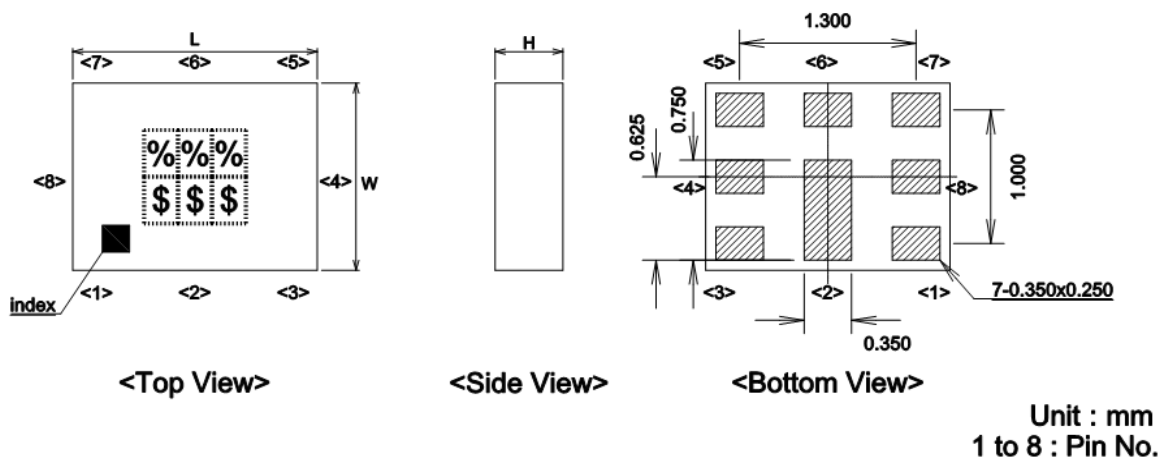
Item	Condition (MHz)	Specification			Unit	Remarks
		Min.	Typ.	Max.		
Terminating Impedance	Tx Port	50			$\Omega$	
	Rx Port	50 // 27 nH			$\Omega$	
	Ant Port	50 // 10 nH			$\Omega$	
DC Impedance to Ground		100			M $\Omega$	Device Only

\*Typical Value at +25 +/- 2 °C

(\*1) Integrated attenuation over 5 MHz CH BW.

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#### 4. Dimensions & Marking Information



**Figure-2**

%%% : BHZ (Part Symbol)  
\$\$\$ : Product Trace Code

L = 1.8 +/- 0.1 mm  
W = 1.4 +/- 0.1 mm  
H = 0.44 mm Max

Note) This Marking Information is not applied to products before production.

#### 5. Pin Configuration

**Table-3**

Pin No.	Symbol	Function
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

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6. Recommended Foot Print Pattern

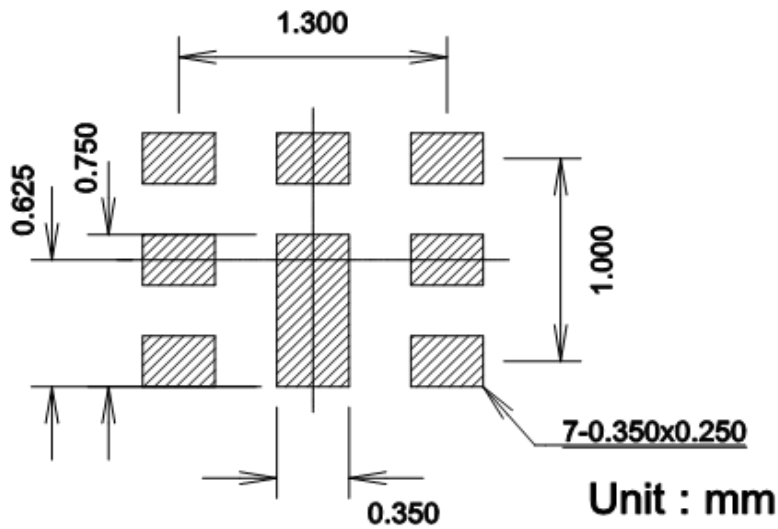
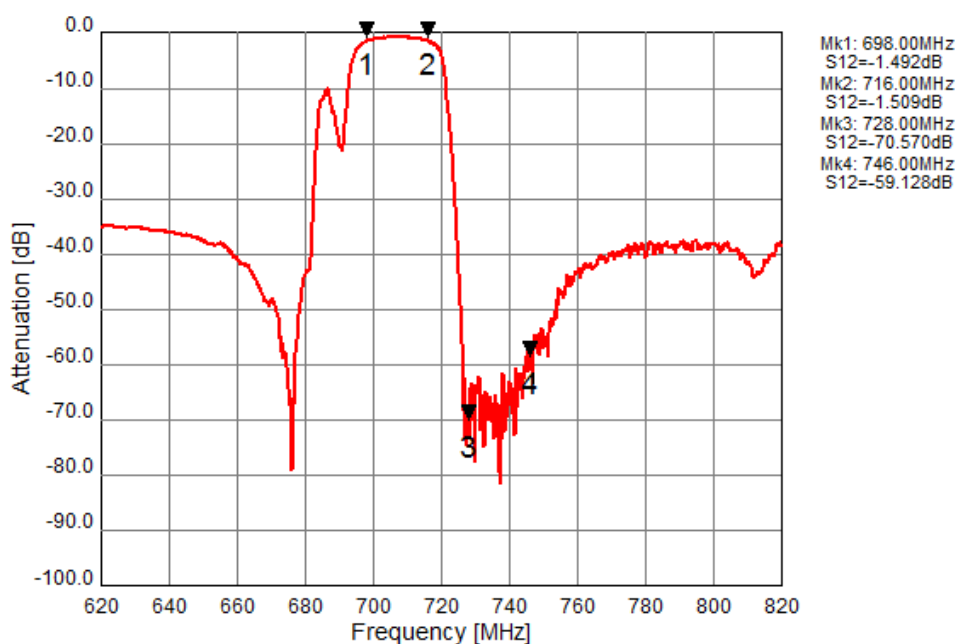


Figure-3

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 12/85 Duplexer	Date	Sep. 05, 2022
Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

## 7. Electrical Characteristics

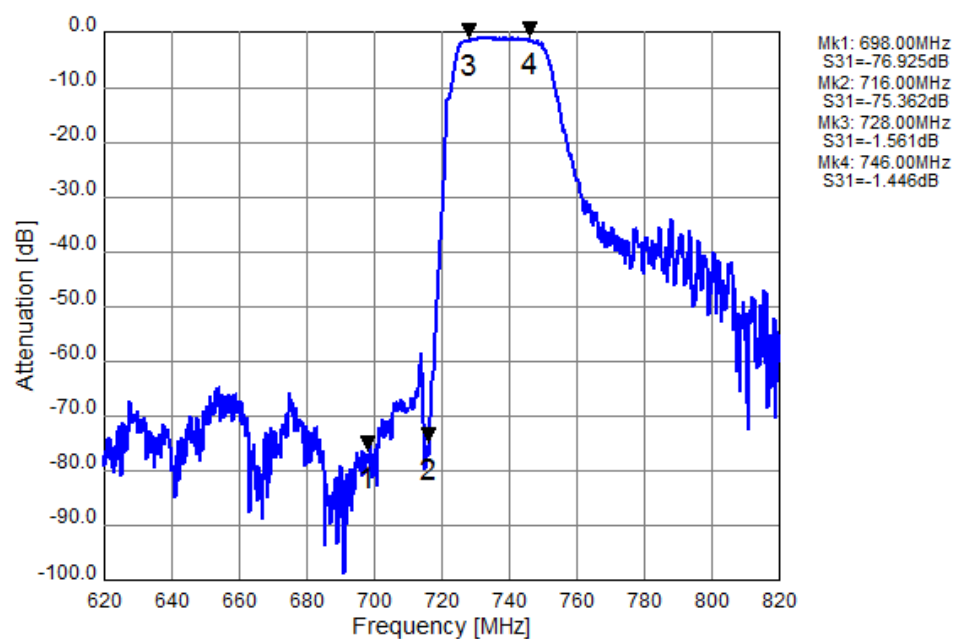
### Tx to Ant



**Figure-4-1**

These data exclude loss that comes from the test board.

### Ant to Rx



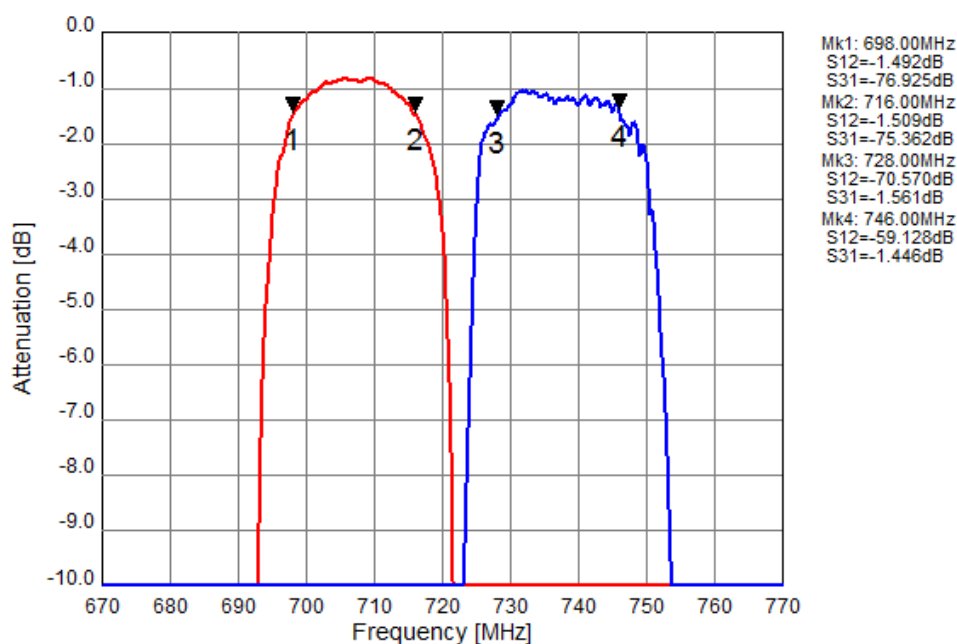
**Figure-4-2**

These data exclude loss that comes from the test board.



Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 12/85 Duplexer	Date	Sep. 05, 2022
Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

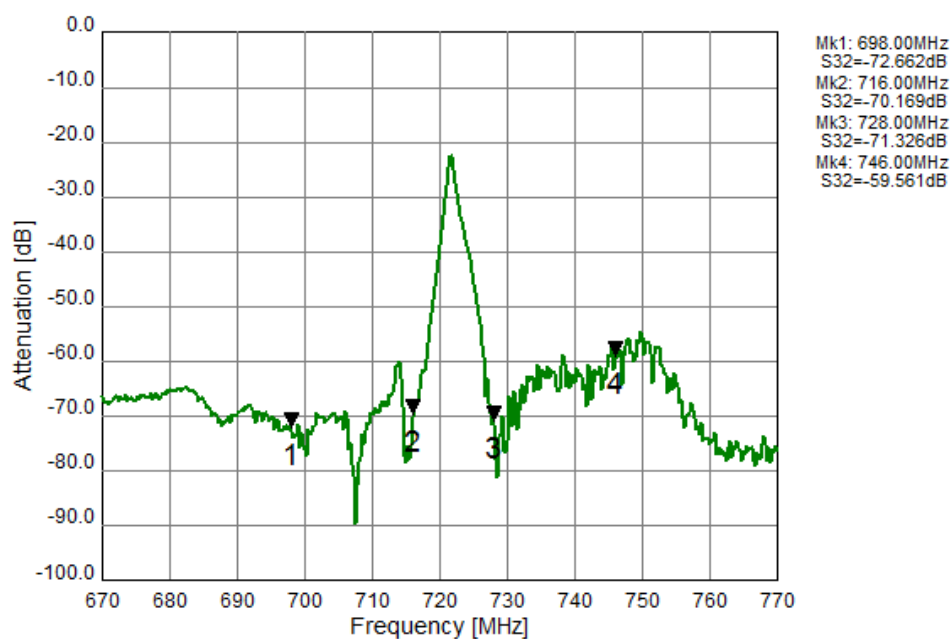
### Tx to Ant, Ant to Rx



**Figure-4-3**

These data exclude loss that comes from the test board.

### Tx to Rx Isolation

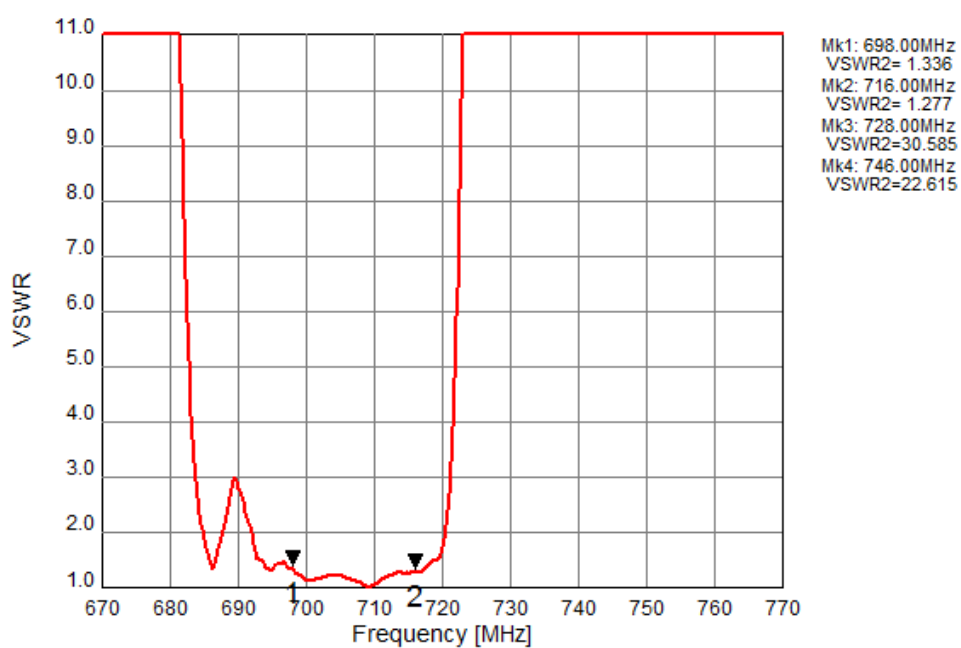


**Figure-4-4**

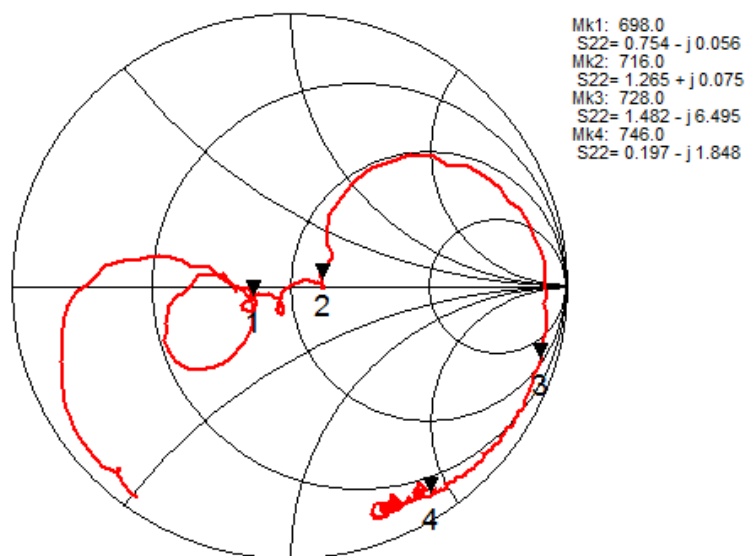
These data exclude loss that comes from the test board.

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
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## Tx Port



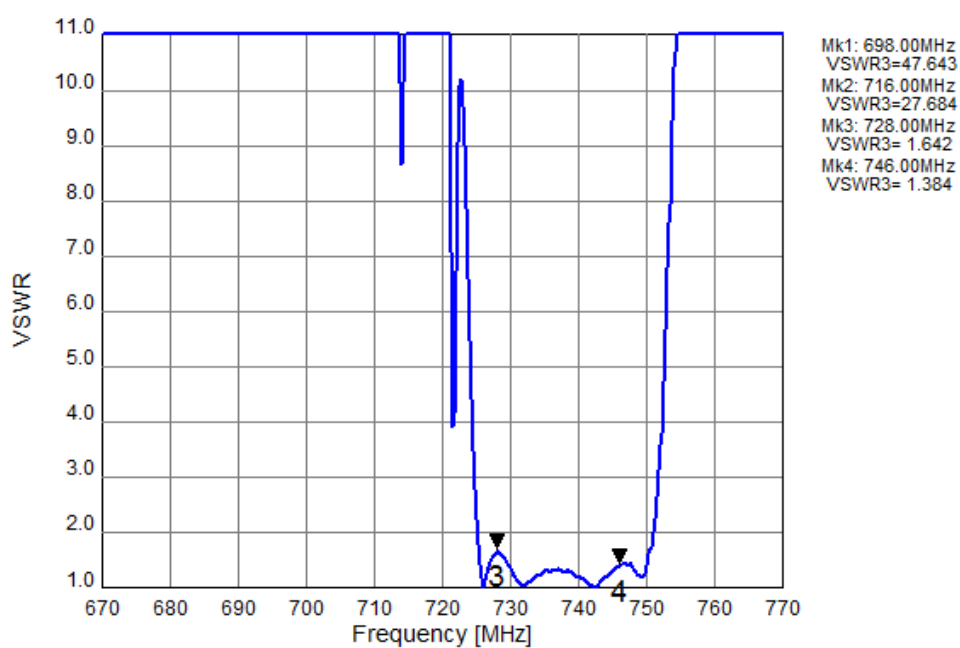
**Figure-4-5**



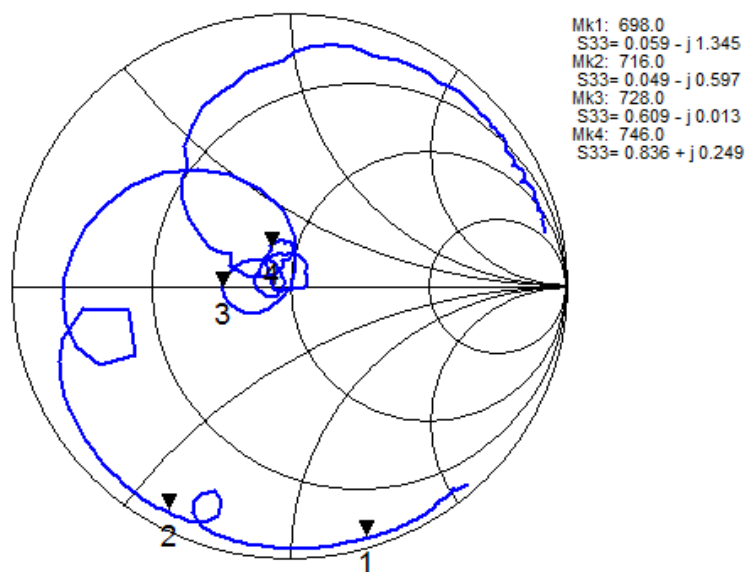
**Figure-4-6**

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 12/85 Duplexer	Date	Sep. 05, 2022
Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

## Rx Port



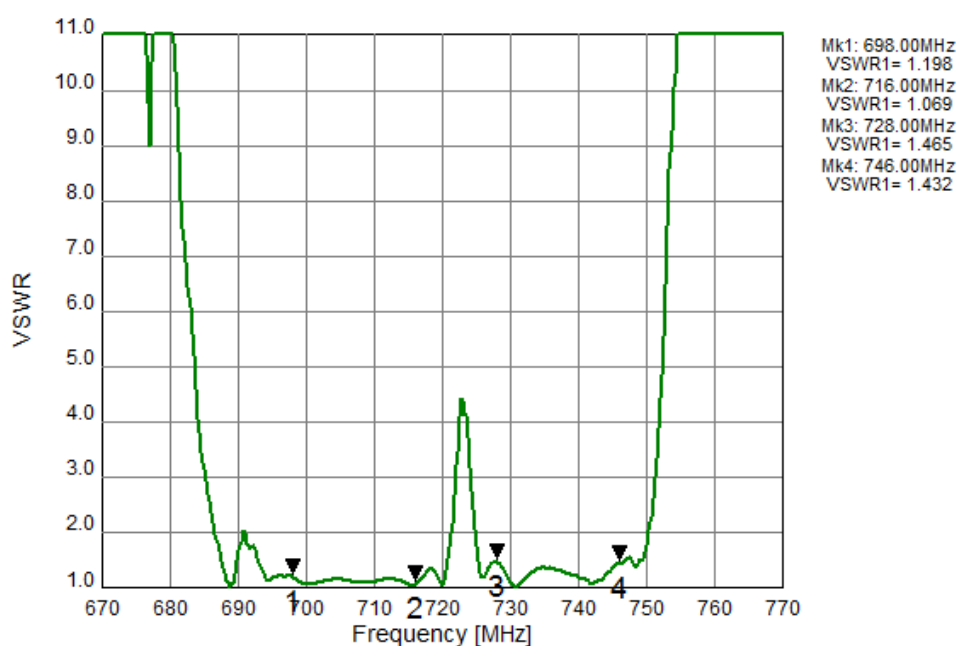
**Figure-4-7**



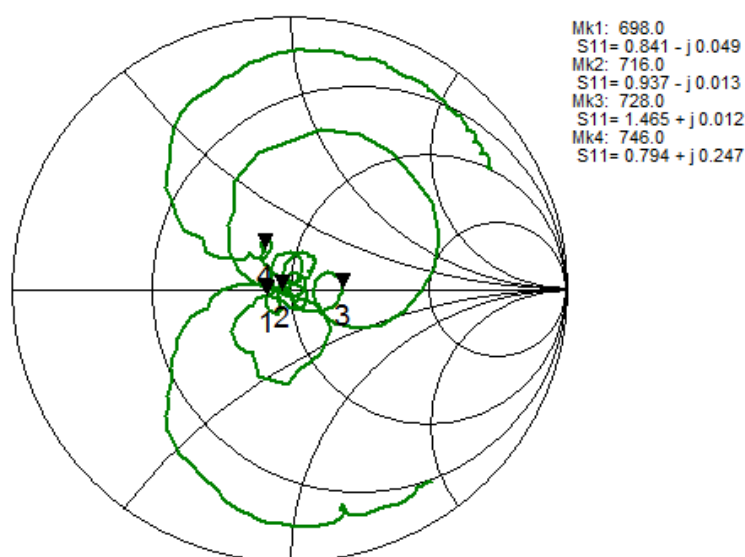
**Figure-4-8**

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 12/85 Duplexer	Date	Sep. 05, 2022
Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

## Ant Port



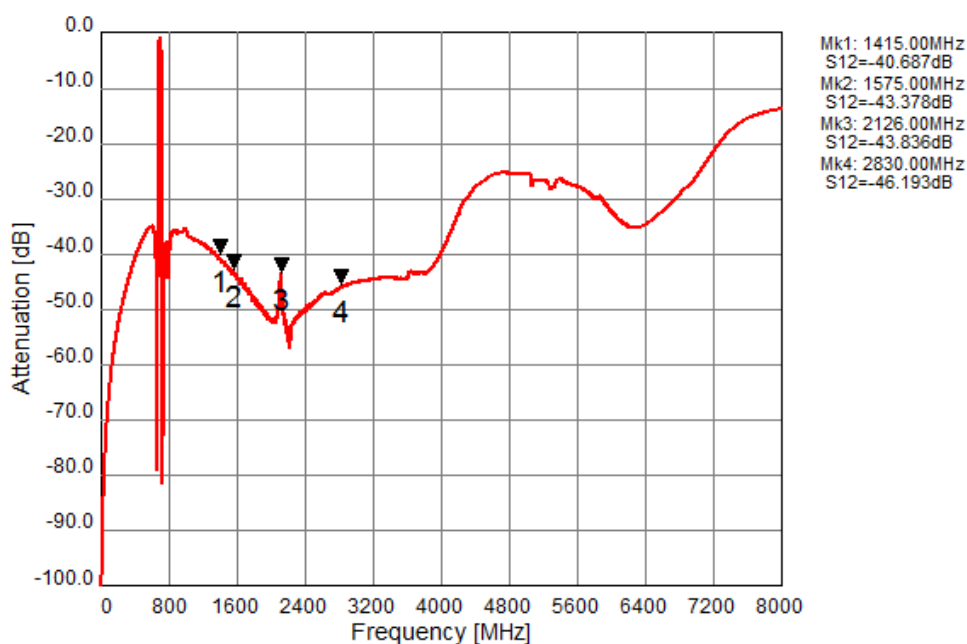
**Figure-4-9**



**Figure-4-10**

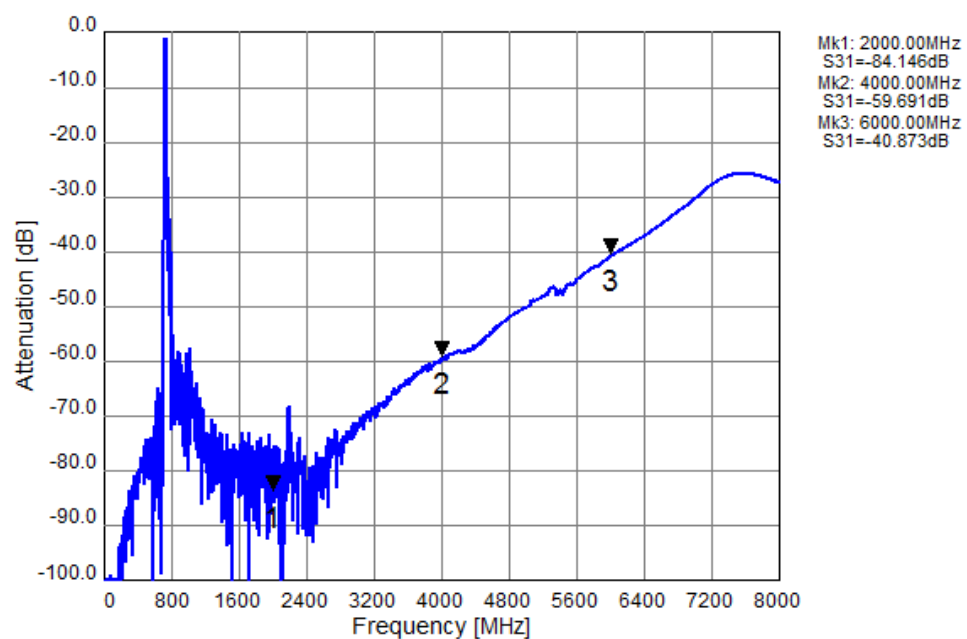
Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
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Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

### Tx to Ant (Wide Span)



**Figure-4-11**

### Ant to Rx (Wide Span)



**Figure-4-12**

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
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Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

## 8. Ordering Code

**Table-4**

Standard Ordering Code	Packing	Reel Size	Status
FSDCSQ8N737MK3HZ-AY	Tape & Reel	15,000 pcs.	MP
D5FH737M0K3HZ-Y	Tape & Reel	15,000 pcs.	MP

Option Ordering Code	Packing	Reel Size	Status
FSDCSQ8N737MK3HZ-AYA	Tape & Reel	less than 15,000 pcs.	MP
FSDCSQ8N737MK3HZ-AZ	Tape & Reel	3,000 pcs.	MP
FSDCSQ8N737MK3HZ-AZA	Tape & Reel	less than 3,000 pcs.	MP
FSDCSQ8N737MK3HZ-AQ	Bulk	few pcs.	MP
D5FH737M0K3HZ-YA	Tape & Reel	less than 15,000 pcs.	MP
D5FH737M0K3HZ-Z	Tape & Reel	3,000 pcs.	MP
D5FH737M0K3HZ-ZA	Tape & Reel	less than 3,000 pcs.	MP
D5FH737M0K3HZ-Q	Bulk	few pcs.	MP

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

\*MP : Mass Production



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Part Number	FSDCSQ8N737MK3HZ / D5FH737M0K3HZ	Version 1.2	Final

### Notice

- Please conduct validation and verification of our products in actual condition of mounting and operating environment before using our products.
- The products listed in this specification are intended for use in general electronic equipment (e.g., AV equipment, OA equipment, home electric appliances, office equipment, information and communication equipment including, without limitation, mobile phone, and PC). Please be sure to contact TAIYO YUDEN for further information before using the products for any equipment which may directly cause loss of human life or bodily injury (e.g., transportation equipment including, without limitation, automotive powertrain control system, train control system, and ship control system, traffic signal equipment, disaster prevention equipment, medical equipment classified as Class I, II or III by IMDRF, highly public information network equipment including, without limitation, telephone exchange, and base station).  
Please do not incorporate our products into any equipment requiring high levels of safety and/or reliability (e.g., aerospace equipment, aviation equipment, medical equipment classified as Class IV by IMDRF, nuclear control equipment, undersea equipment, military equipment).  
When our products are used even for high safety and/or reliability-required devices or circuits of general electronic equipment, it is strongly recommended to perform a thorough safety evaluation prior to use of our products and to install a protection circuit as necessary.  
Please note that unless you obtain prior written consent of TAIYO YUDEN, TAIYO YUDEN shall not be in any way responsible for any damages incurred by you or third parties arising from use of the products listed in this specification for any equipment requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.
- Information contained in this specification is intended to convey examples of typical performances and/or applications of our products and is not intended to make any warranty with respect to the intellectual property rights or any other related rights of TAIYO YUDEN or any third parties nor grant any license under such rights.
- Please note that the scope of warranty for our products is limited to the delivered our products themselves and TAIYO YUDEN shall not be in any way responsible for any damages resulting from a fault or defect in our products. Notwithstanding the foregoing, if there is a written agreement (e.g., supply and purchase agreement, quality assurance agreement) signed by TAIYO YUDEN and your company, TAIYO YUDEN will warrant our products in accordance with such agreement.
- The contents of this specification are applicable to our products which are purchased from our sales offices or authorized distributors (hereinafter "TAIYO YUDEN's official sales channel"). Please note that the contents of this specification are not applicable to our products purchased from any seller other than TAIYO YUDEN's official sales channel.
- Caution for Export  
Some of our products listed in this specification may require specific procedures for export according to "U.S. Export Administration Regulations", "Foreign Exchange and Foreign Trade Control Law" of Japan, and other applicable regulations. Should you have any questions on this matter, please contact our sales staff.