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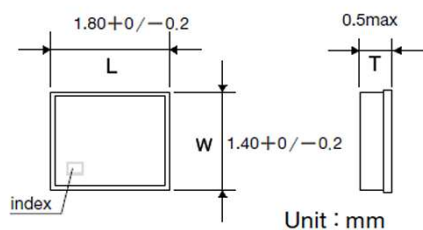
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## FBAR/SAW Devices (SAW Duplexers)

## D6DA2G140K2A7



## ■ Features

- Item Summary  
SAW, Duplexer, 1.8x1.4x0.5mm  
Band 1 / BC 6
- Lifecycle Stage  
Mass Production
- Standard packaging quantity (minimum)  
Taping Embossed 3000 , 15000pcs

## ■ Products characteristics table

System	W-CDMA / CDMA / LTE
Type	SAW
Function	Duplexer
band	Band 1 / BC 6
Insertion Loss (typ) (Tx-ANT/ANT-Rx)	1.6/1.7 dB
Isolation (typ)	58/59 dB
Operating Temp. Range	-20 to +85 °C
RoHS2 Compliance (10 subst.)	Yes
REACH Compliance (173 subst.)	Yes
Halogen Free	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

2017.04.30

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 1 Duplexer	Date	Oct.15, 2015
Part Number	D6DA2G140K2A7	Ver.1.1ghE	<b>Final</b>

**Table 1. Electrical Specification**

Item		Condition (MHz)	Specification			Unit	Remarks	
			Min	Typ	Max			
Tx to ANT	Insertion loss	1920.48~1979.52	-	1.6	2.2	dB (*1)		
	Ripple	1920.48~1979.52	-	0.7	1.4	dB		
	VSWR	Tx	1920.48~1979.52	-	1.6	2.1	-	
		ANT		-	1.4	2.0	-	
	Input power	1920.48~1979.52	29dBm, Ta+50deg.C, 10000h,CW			-		
	Absolute attenuation	1559~1563	37	41	-	dB		
		1565~1606	37	40	-	dB		
		1805~1880	10	25	-	dB		
2110~2170		44	58	-	dB			
2400~2500		33	38	-	dB			
3840~3960		25	34	-	dB			
ANT to Rx	Insertion loss	2110.48~2169.52	-	1.7	2.2	dB (*1)		
	Ripple	2110.48~2169.52	-	0.6	1.4	dB		
	VSWR	ANT	2110.48~2169.52	-	1.6	2.0	-	
		Rx		-	1.7	2.2	-	
	Absolute attenuation	190	50	81	-	dB	Rx-Tx	
		1730~1790	40	46	-	dB	2Tx -Rx	
		1920~1980	45	55	-	dB		
		1980~2015	15	50	-	dB		
2015~2075		18	26	-	dB	(Rx+Tx)/2		
2400~2500		35	44	-	dB			
4030~4150		40	51	-	dB	Rx+Tx		
5950~6130	33	41	-	dB	Rx+2Tx			
Tx to Rx	Isolation	1920.48~1979.52	54	58	-	dB		
		2110.48~2169.52	55	59	-	dB		
Terminating Impedance		Tx port	50 // 15nH			Ω		
		Rx port	50			Ω		
		Ant port	50 // 2.7nH			Ω		
Operating Temperature			-20 to +85			°C		
Maximum DC in all ports			-	-	3	VDC	Device only	
DC impedance to ground			100			MΩ	Device only	
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



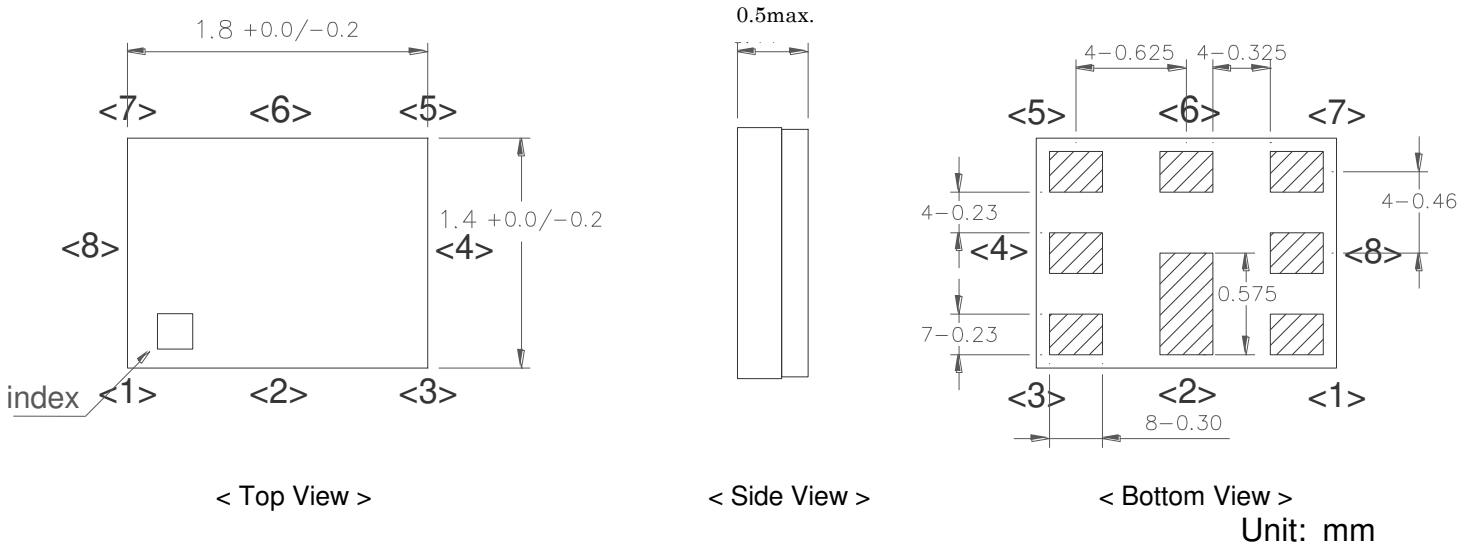
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### Dimensions



### Pin assignment

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

**Figure 1. Dimensions and Pin assignment**



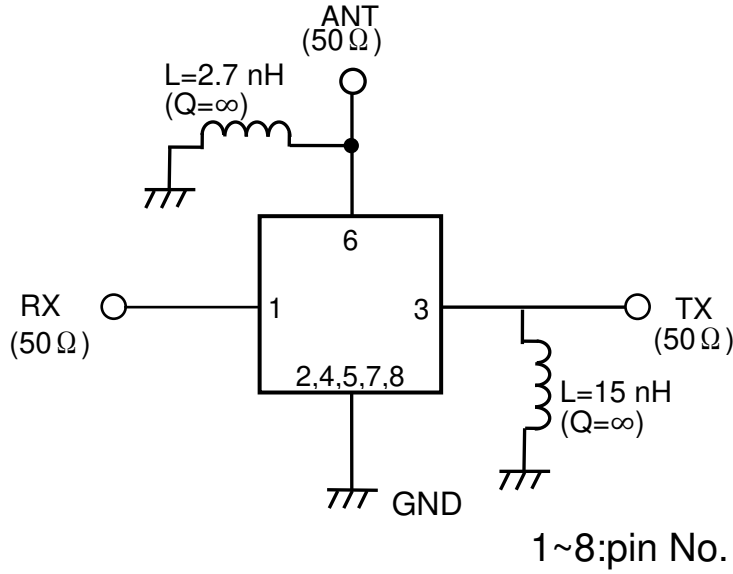
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### Evaluation Circuit



### Recommended foot print pattern

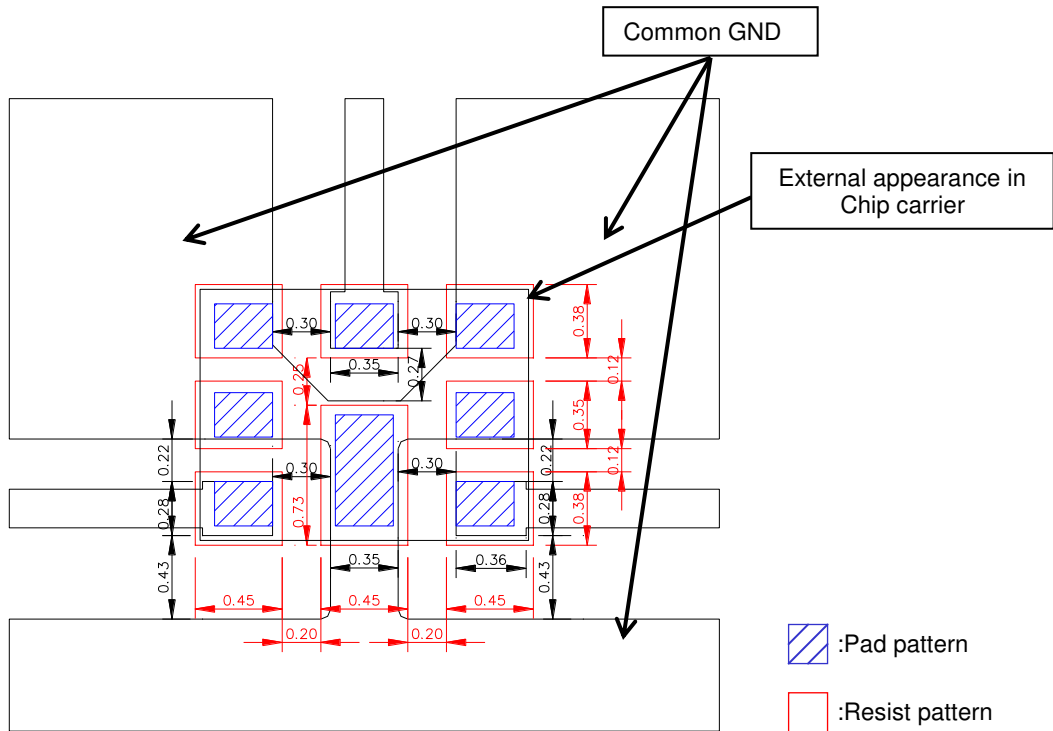


Figure 2. Recommended foot print pattern





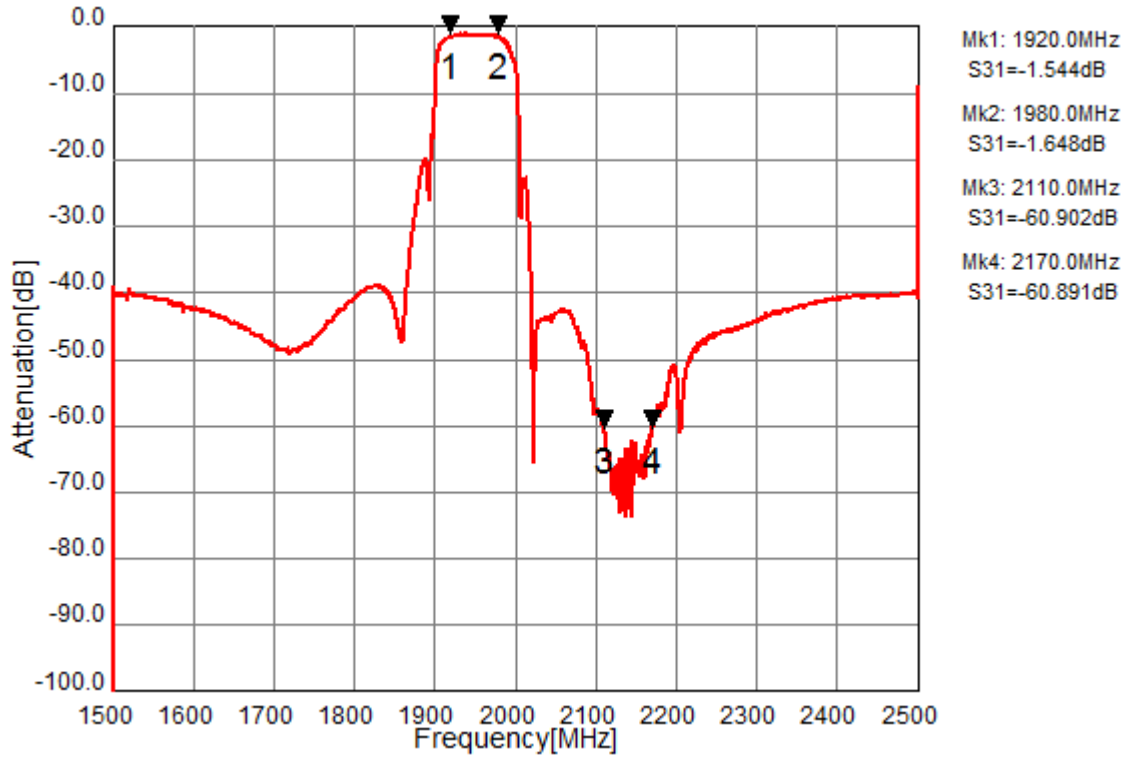
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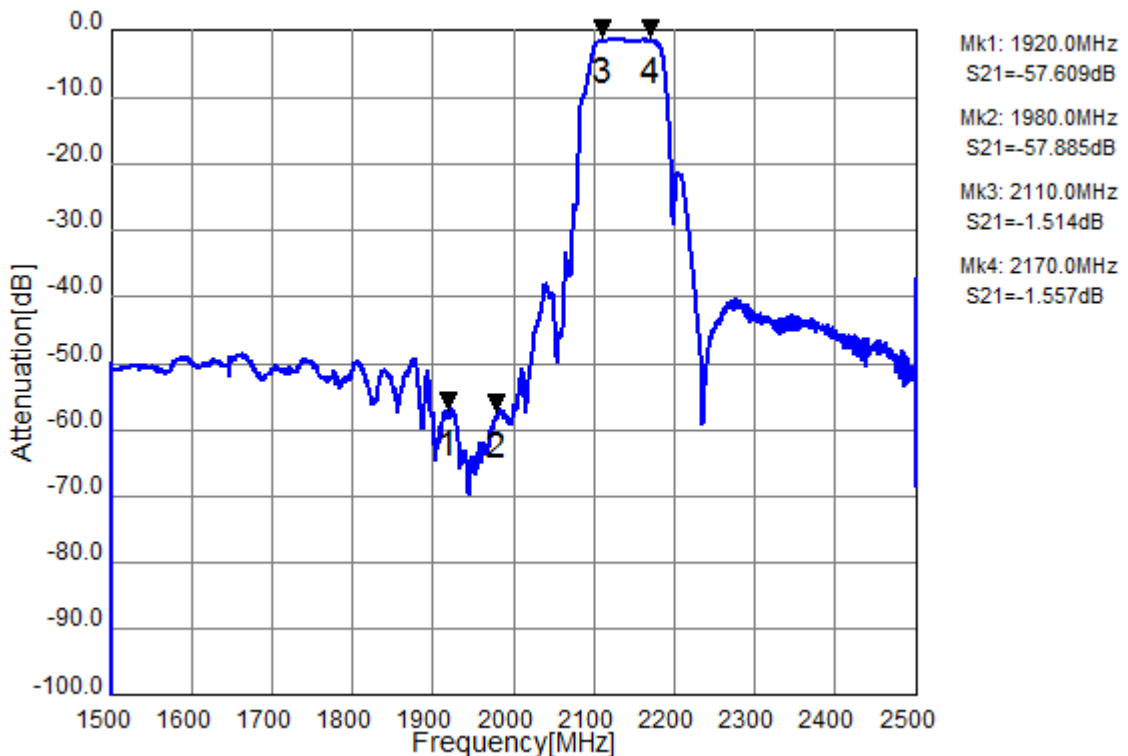
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### Tx to Ant



### Ant to Rx



**Figure 3-1. Electrical Characteristics**

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



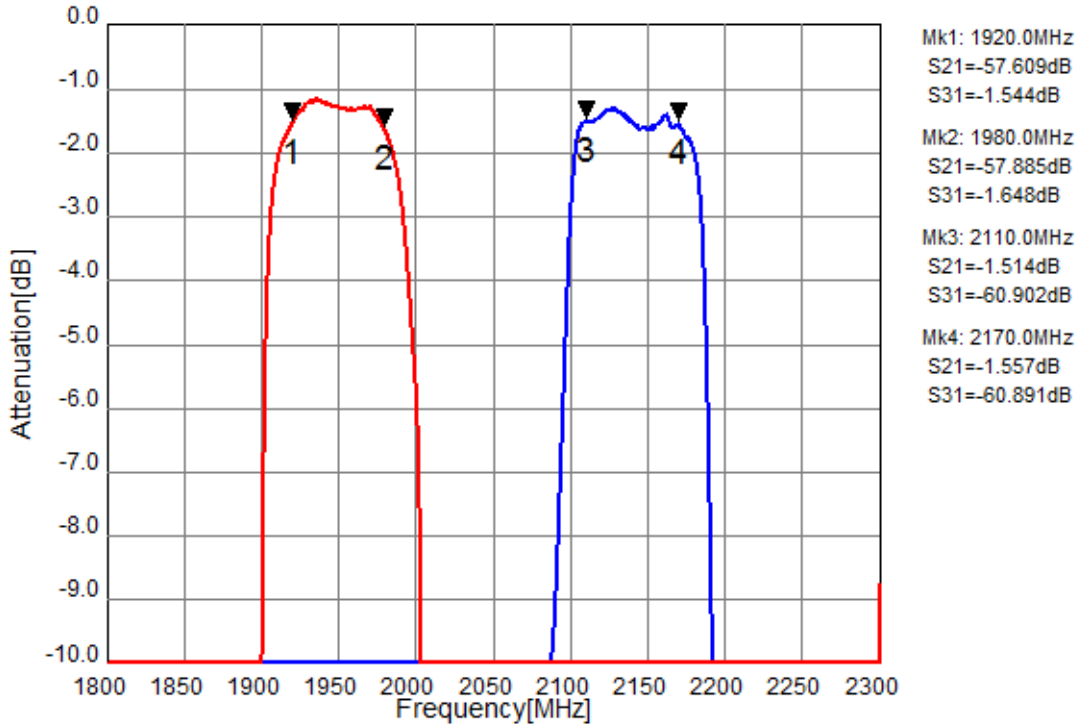
\* Pb Free Part



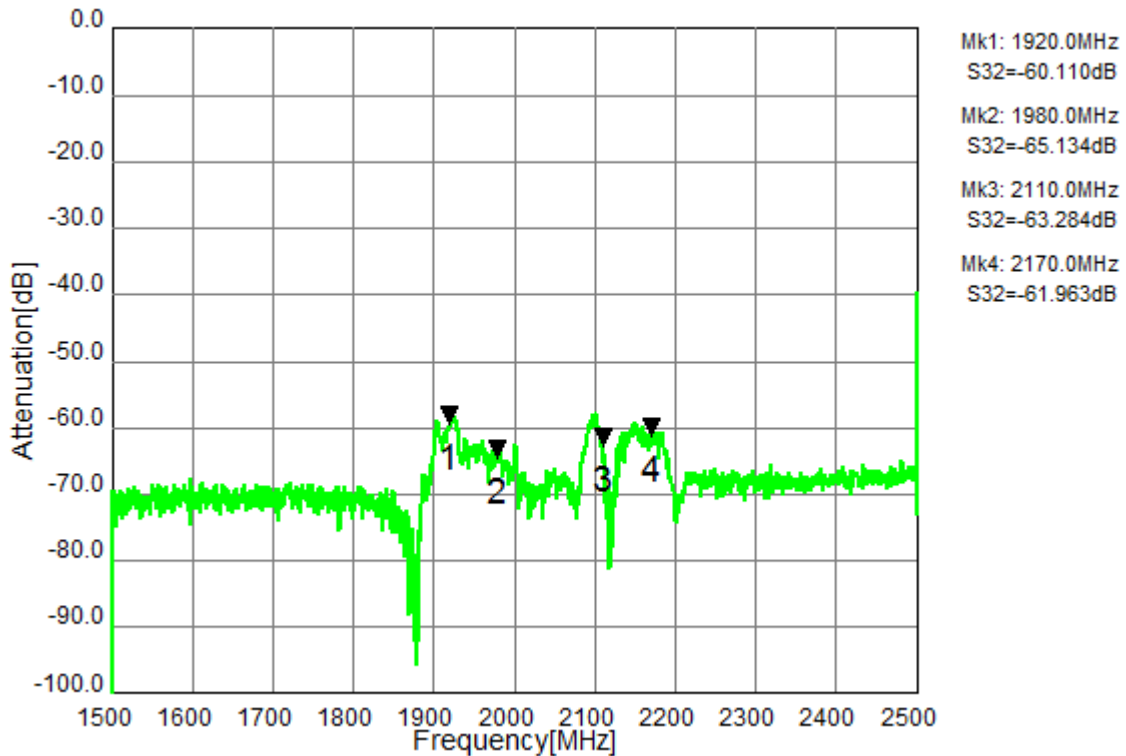
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## Tx to Ant, Ant to Rx



## Tx to Rx Isolation



**Figure 3-2. Electrical Characteristics**

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



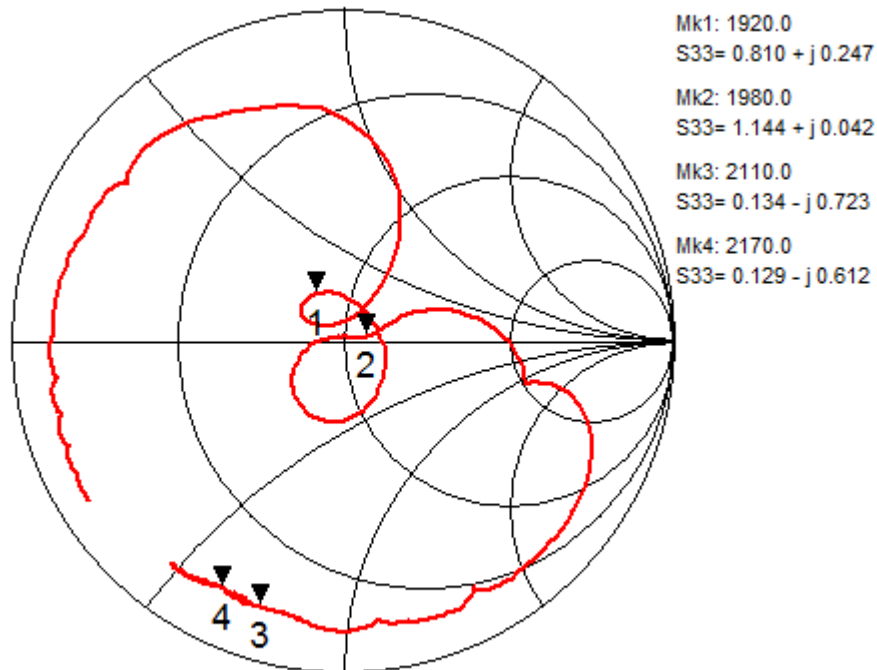
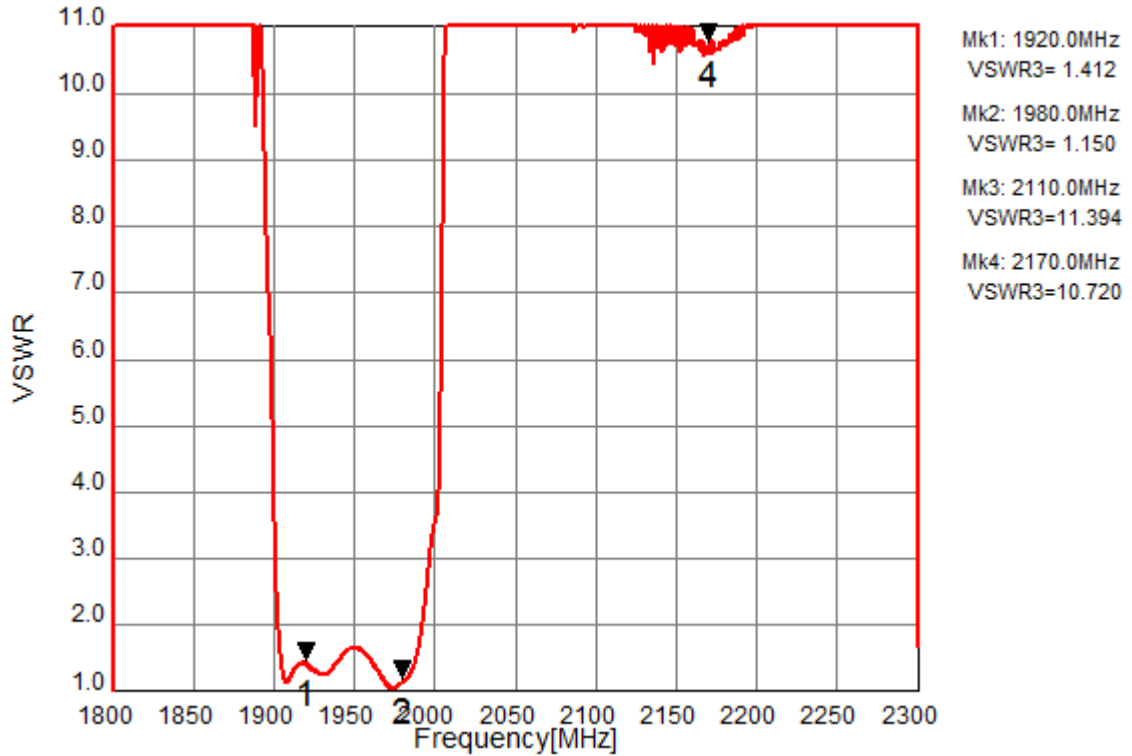
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## Tx Port



**Figure 3-3. Electrical Characteristics**





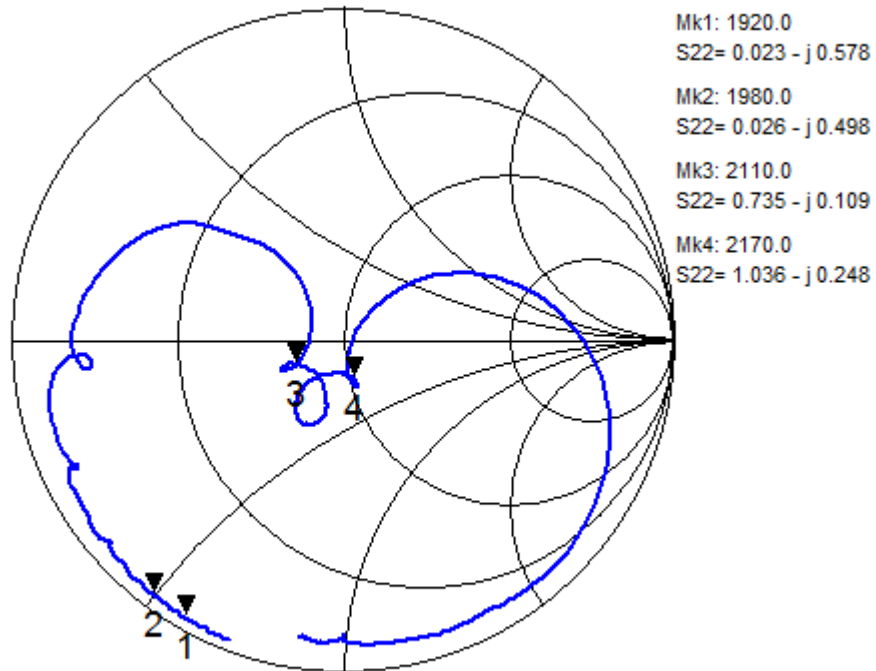
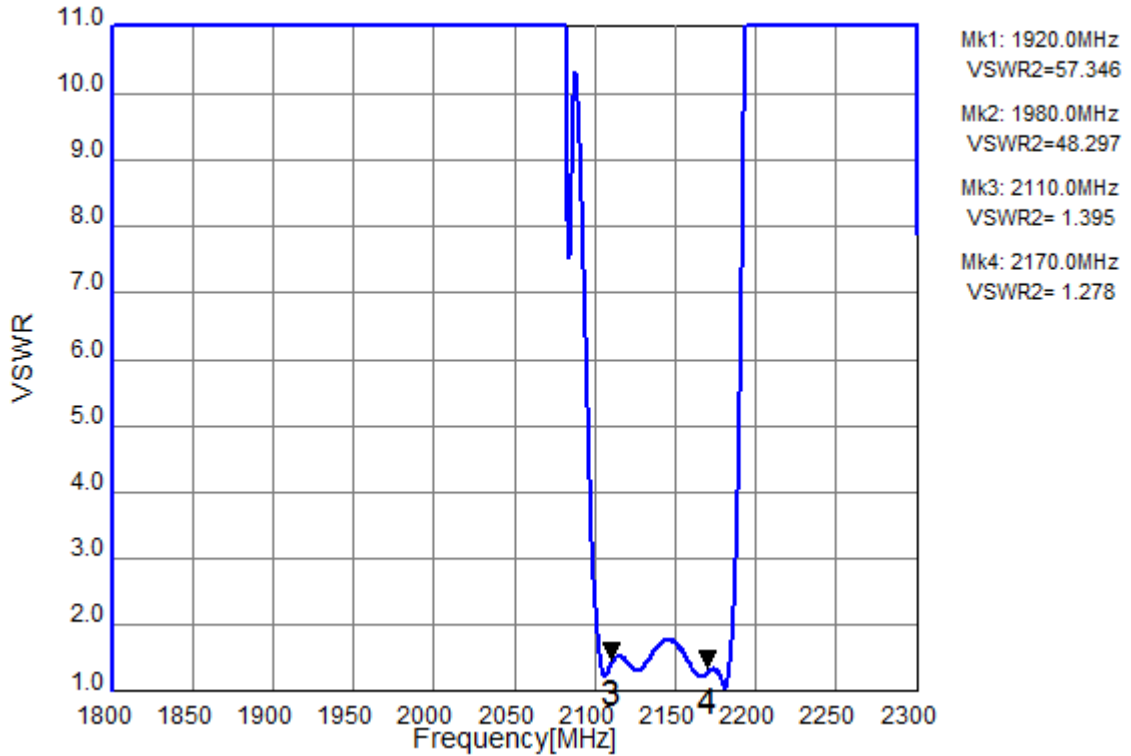
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## Rx Port



**Figure 3-4. Electrical Characteristics**



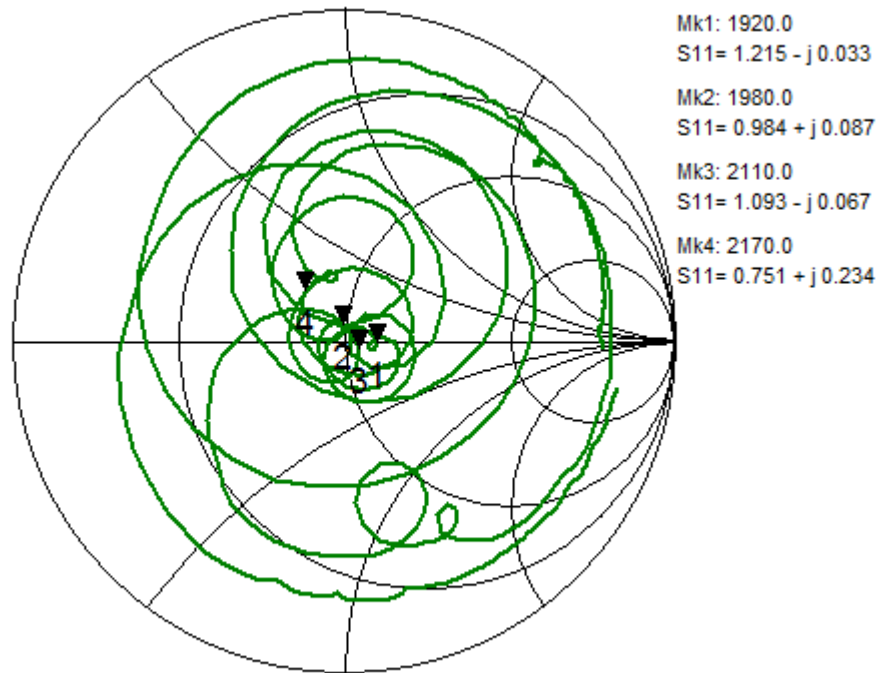
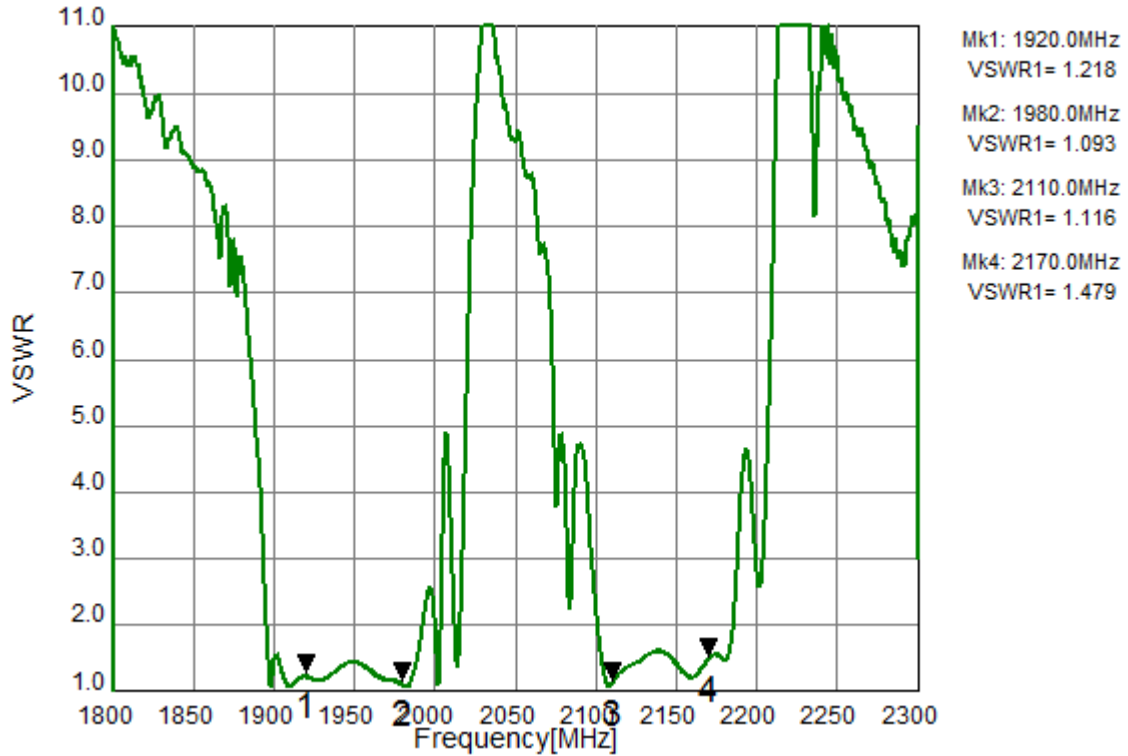
\* Pb Free Part



MSL1

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## Ant Port



**Figure 3-5. Electrical Characteristics**



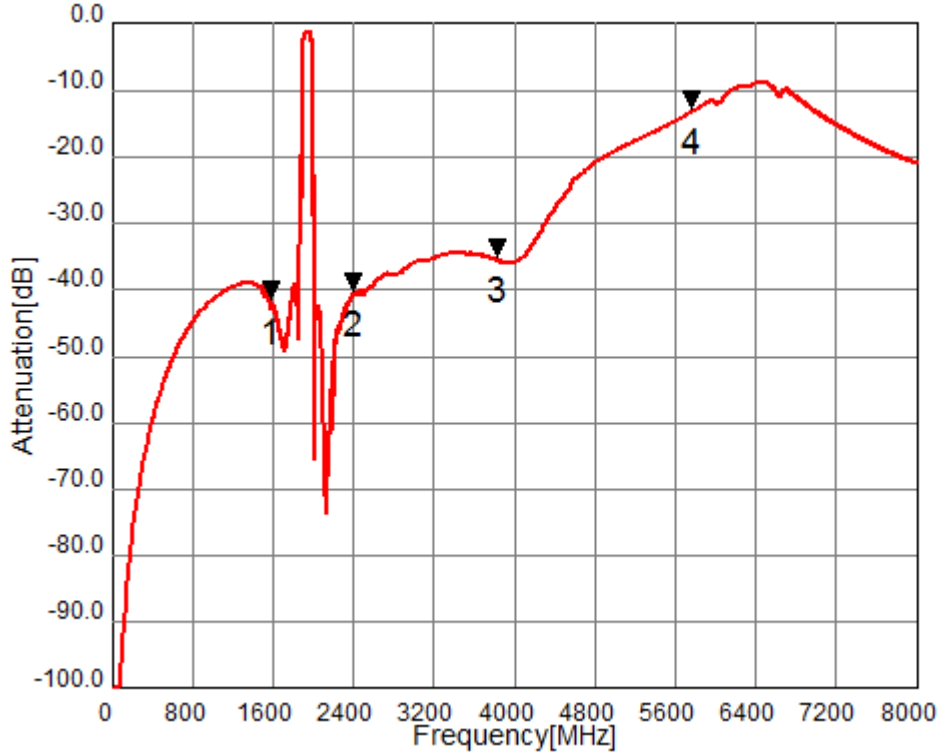
\* Pb Free Part



MSL1

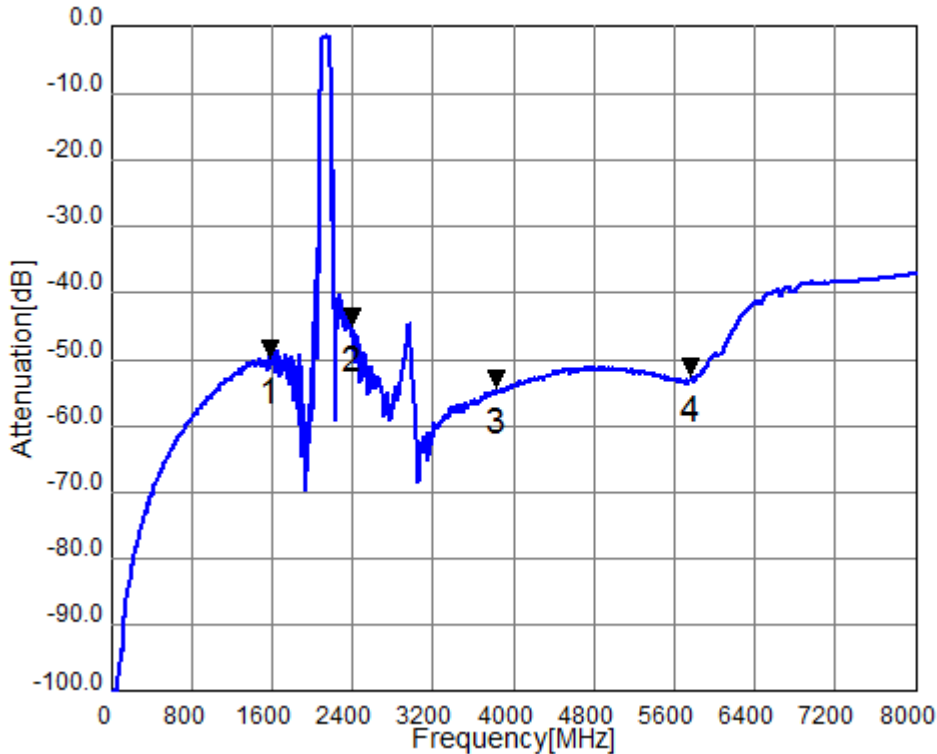
Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 1 Duplexer	Date	Oct.15, 2015
Part Number	D6DA2G140K2A7	Ver.1.1ghE	<b>Final</b>

### Tx to Ant (Wide span)



- Mk1: 1577.0MHz  
S31=-41.869dB
- Mk2: 2400.0MHz  
S31=-40.963dB
- Mk3: 3840.0MHz  
S31=-35.619dB
- Mk4: 5760.0MHz  
S31=-13.273dB

### Ant to Rx (Wide span)



- Mk1: 1577.0MHz  
S21=-50.316dB
- Mk2: 2400.0MHz  
S21=-45.550dB
- Mk3: 3840.0MHz  
S21=-54.979dB
- Mk4: 5760.0MHz  
S21=-53.275dB

**Figure 3-6. Electrical Characteristics**



\* Pb Free Part



MSL1

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## Ordering Code

Ordering Code	Packing	Reel size	Status
D6DA2G140K2A7-Z	Tape & Reel	3,000 pcs.	MP
D6DA2G140K2A7-ZA	Tape & Reel	less than 3,000 pcs.	MP
D6DA2G140K2A7-Y	Tape & Reel	15,000 pcs.	MP
D6DA2G140K2A7-YA	Tape & Reel	less than 15,000 pcs.	MP
D6DA2G140K2A7-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.