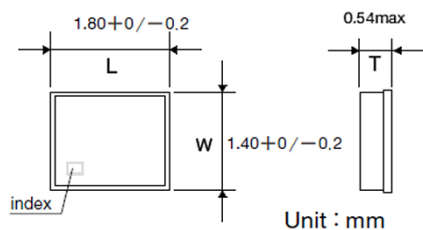


## FBAR/SAW Devices (FBAR Duplexers)

## D6HQ2G655DP01



## ■ Features

- Item Summary  
FBAR, Duplexer, 1.8x1.4x0.54mm
- Band 7
- Lifecycle Stage  
Mass Production
- Standard packaging quantity (minimum)  
Taping Embossed 3000, 15000pcs

## ■ Products characteristics table

System	LTE
Type	FBAR
Function	Duplexer
band	Band 7
Insertion Loss (typ) (Tx-ANT/ANT-Rx)	2.3/2.2 dB
Isolation (typ)	58/57 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/- 0.20 mm
Dimension W	1.4 + 0/- 0.20 mm
Dimension T	Max 0.54 mm

2016.11.21

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 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

**Table 1-1. Electrical Specification**

Item	Condition (MHz)	Specification			Unit	Remarks
		Min	Typ	Max		
Tx to ANT	2500 ~ 2570	-	2.3	2.9	dB(*1)	2500 ~ 2510MHz
		-	1.7	2.7		2510 ~ 2570MHz
Ripple	2500 ~ 2570	-	1.2	2.3	dB	
Ripple (any 5MHz)	2500 ~ 2570	-	0.5	1.0	dB	
VSWR	2500 ~ 2570	-	1.6	2.4	-	
		-	1.8	2.5	-	
Input Power	2500 ~ 2570	+29dBm, +50°C, 5khours, CW			dBm	
Absolute attenuation	10 ~ 1565.42	35	40	-	dB	
	832 ~ 862	45	51	-	dB	
	1226 ~ 1250	38	44	-	dB	
	1559 ~ 1563	35	40	-	dB	
	1565.42 ~ 1573.374	35	40	-	dB	
	1573.374 ~ 1577.466	35	40	-	dB	
	1577.466 ~ 1585.42	35	40	-	dB	
	1597.5515 ~ 1605.886	35	40	-	dB	
	1605.886 ~ 1680	35	39	-	dB	
	1710 ~ 1785	33	38	-	dB	
	1805 ~ 1880	33	38	-	dB	
	1710 ~ 1755	33	38	-	dB	
	1900 ~ 1920	32	37	-	dB	
	2010 ~ 2025	32	37	-	dB	
	2110 ~ 2170	32	36	-	dB	
	2402 ~ 2470	40	47	-	dB(*2)	
	2440 ~ 2460	40	44	-	dB(*2)	
	2474	28	43	-	dB	
	2402 ~ 2467	35	45	-	dB(*3)	
	2474 ~ 2500	1	2.3	-	dB	
2620 ~ 2690	45	52	-	dB		
4900 ~ 5950	35	50	-	dB		
5000 ~ 5140	40	51	-	dB		
5100 ~ 5280	40	52	-	dB		
7500 ~ 7710	27	44	-	dB		



\* Pb Free Part



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**Table 1-2. Electrical Specification**

Item		Condition (MHz)	Specification			Unit	Remarks
			Min	Typ	Max		
Tx to ANT	Absolute attenuation	2401 ~ 2423	45	51	-	dB(*2)	Ch1
		2406 ~ 2428	48	53	-	dB(*2)	Ch2
		2411 ~ 2433	47	53	-	dB(*2)	Ch3
		2416 ~ 2438	45	51	-	dB(*2)	Ch4
		2421 ~ 2443	41	49	-	dB(*2)	Ch5
		2426 ~ 2448	41	47	-	dB(*2)	Ch6
		2431 ~ 2453	40	46	-	dB(*2)	Ch7
		2436 ~ 2458	40	45	-	dB(*2)	Ch8
		2441 ~ 2463	40	44	-	dB(*2)	Ch9
		2446 ~ 2468	40	44	-	dB(*2)	Ch10
		2451 ~ 2473	40	45	-	dB(*2)	Ch11
		2456 ~ 2478	33	46	-	dB(*2)	Ch12
		2461 ~ 2483	23	40	-	dB(*2)	Ch13



\* Pb Free Part



MSL1

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**Table 1-3. Electrical Specification**

Item		Condition (MHz)	Specification			Unit	Remarks	
			Min	Typ	Max			
ANT to Rx	Insertion loss	2620 ~ 2690	-	2.2	2.6	dB <sup>(*1)</sup>		
	VSWR	ANT	2620 ~ 2690	-	1.7	2.3	-	
				Rx	-	1.8	2.3	-
	Absolute attenuation	1 ~ 2500	40	43	-	dB		
		45	60	99	-	dB		
		718 ~ 748	51	58	-	dB		
		814 ~ 849	50	56	-	dB		
		832 ~ 862	50	56	-	dB		
		880 ~ 915	50	55	-	dB		
		1710 ~ 1785	40	45	-	dB		
		1920 ~ 1980	40	44	-	dB		
		2400 ~ 2500	40	48	-	dB		
		2402 ~ 2470	44	48	-	dB		
		2500 ~ 2570	45	57	-	dB		
		2570 ~ 2600	1	8	-	dB		
		2775 ~ 2790	37	64	-	dB		
		2775 ~ 6000	40	47	-	dB		
	4900 ~ 5300	47	59	-	dB			
	5300 ~ 5950	40	58	-	dB			
7620 ~ 7830	40	48	-	dB				
7860 ~ 8070	40	47	-	dB				
Tx to Rx	Isolation	2500 ~ 2570	55	58	-	dB		
		2620 ~ 2690	52	57	-	dB		
		1574 ~ 1577	50	70	-	dB		
		5000 ~ 5140	32	57	-	dB		
		7500 ~ 7710	25	48	-	dB		
Terminating Impedance	Tx port	50			Ω	Single-ended		
	Rx port	50			Ω	Single-ended		
	Ant port	50 // 3.2nH			Ω	Single-ended		
Operating Temperature		-20 to +85			°C			
Device size (L max. x W max. x H max.)		1.8 x 1.4 x 0.54			mm			

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

(\*2) Integrated attenuation per 22MHz

(\*3) Integrated attenuation per 18MHz



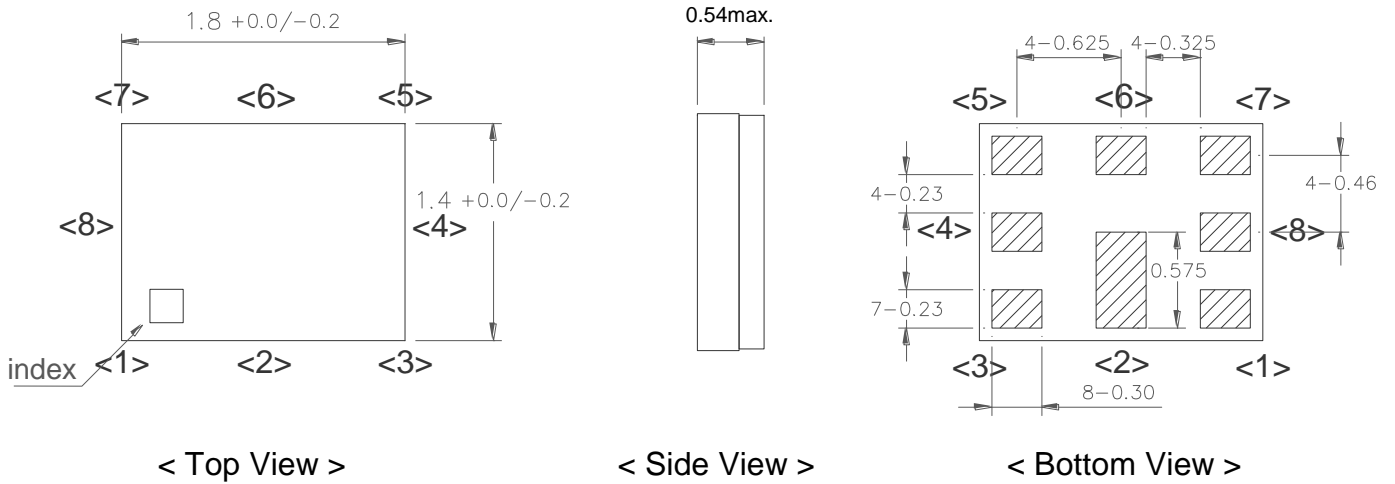
\* Pb Free Part



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System	Band 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

### 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**



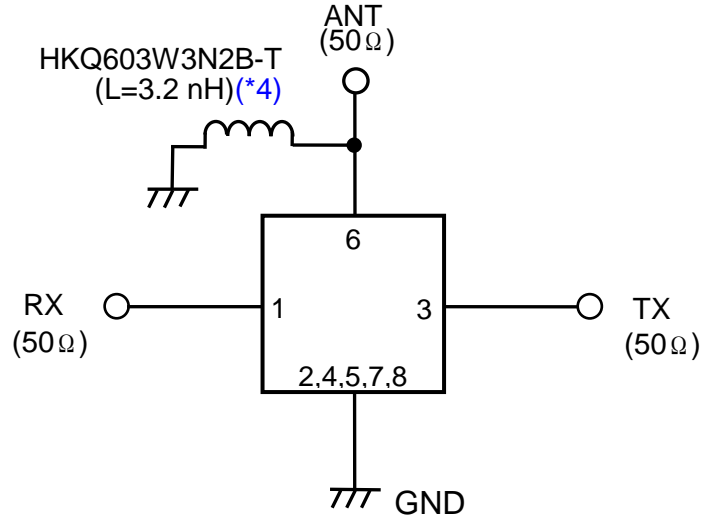
\* Pb Free Part



MSL1

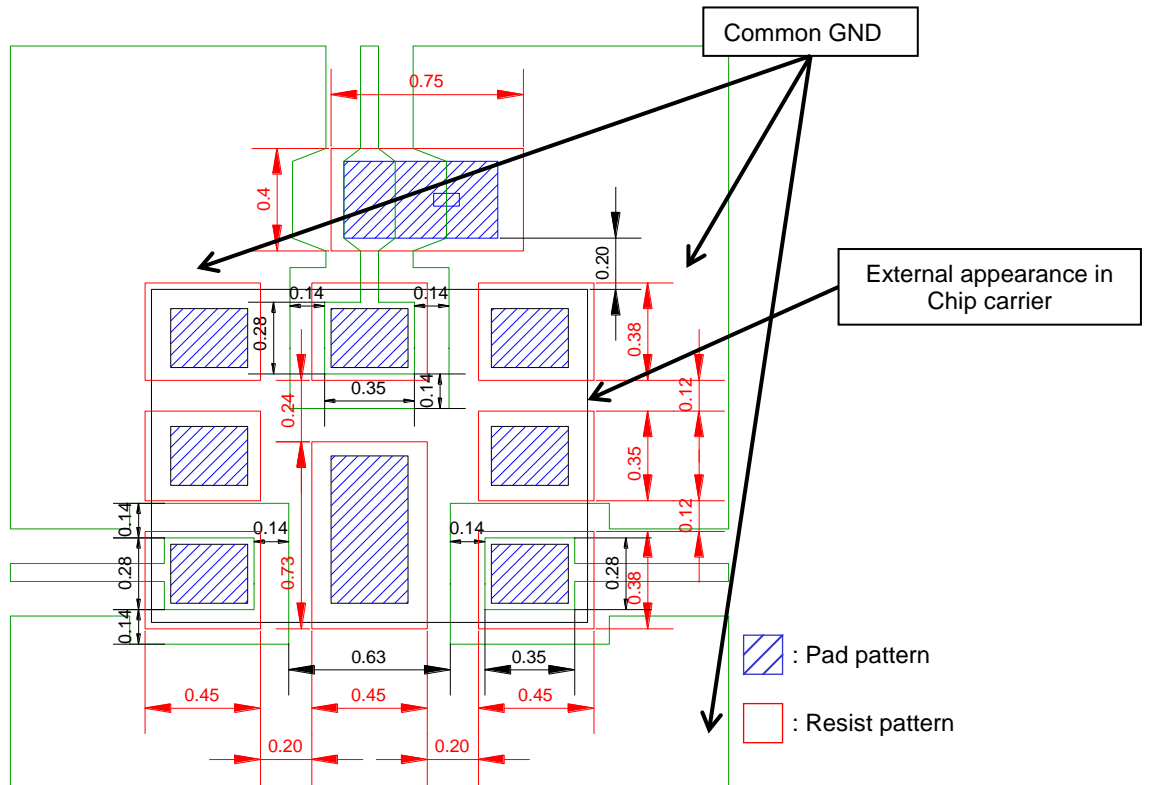
Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

### Evaluation Circuit



(\*4) Recommended Inductance condition to substitute for TAIYO YUDEN inductor 'HKQ0603W series' in a circuit simulator.

### Recommended foot print pattern



**Figure 2. Evaluation Circuit and Recommended foot print pattern**



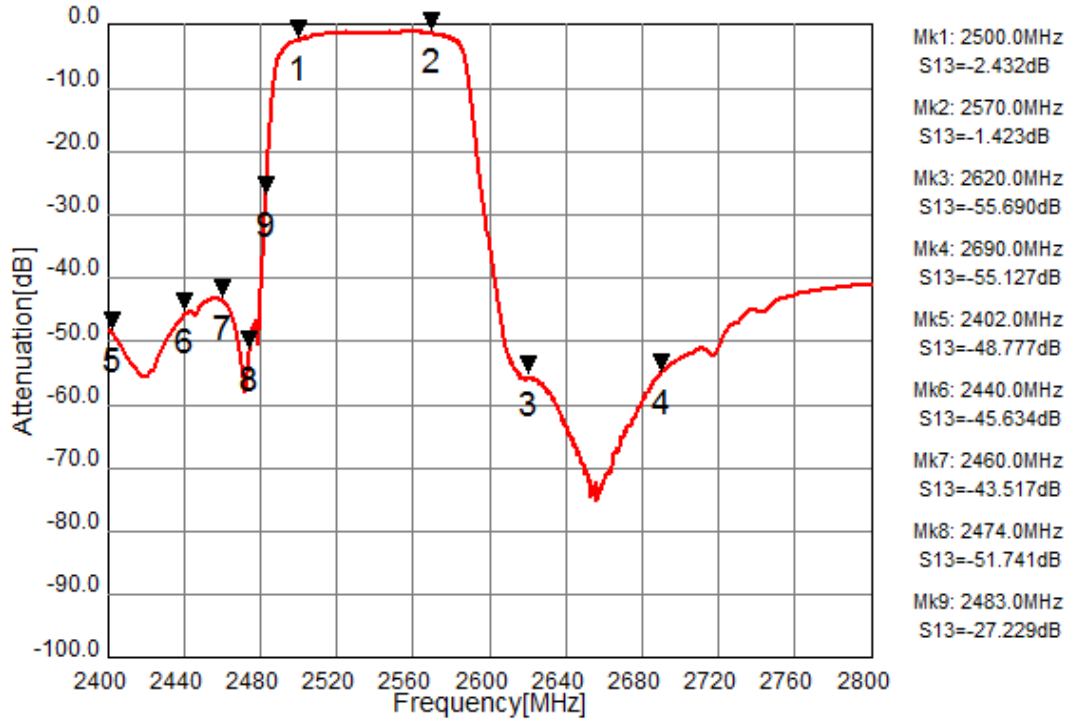
\* Pb Free Part



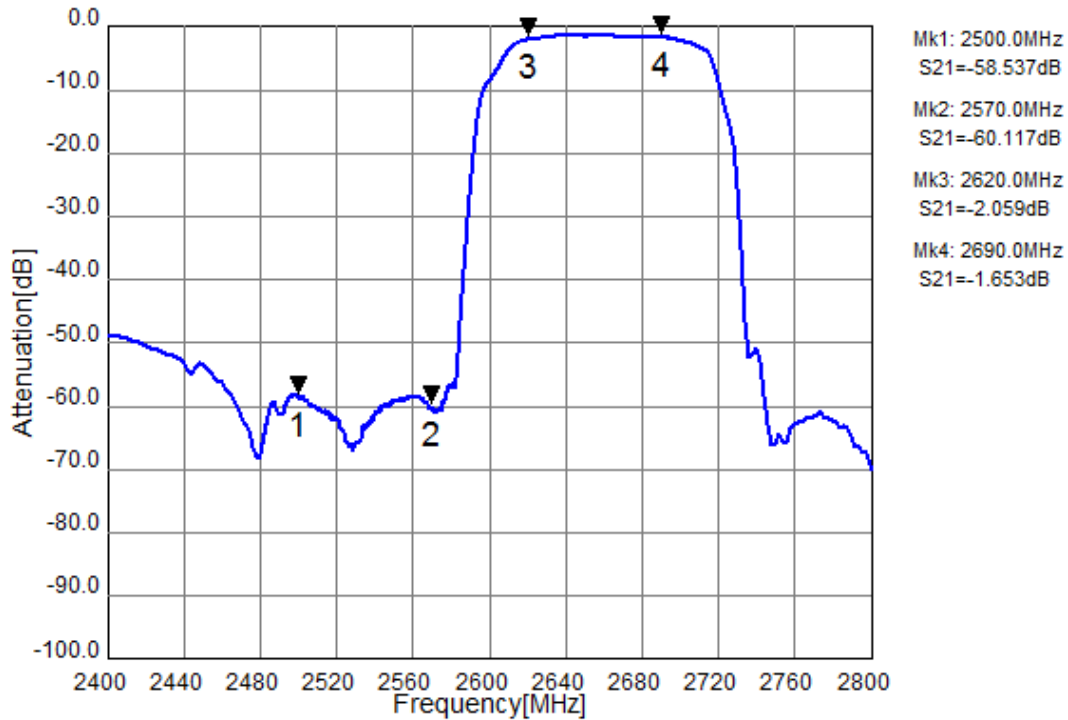
MSL1

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System	Band 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

### Tx to Ant



### Ant to Rx



**Figure 3-1. Electrical Characteristics of Simulation**

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



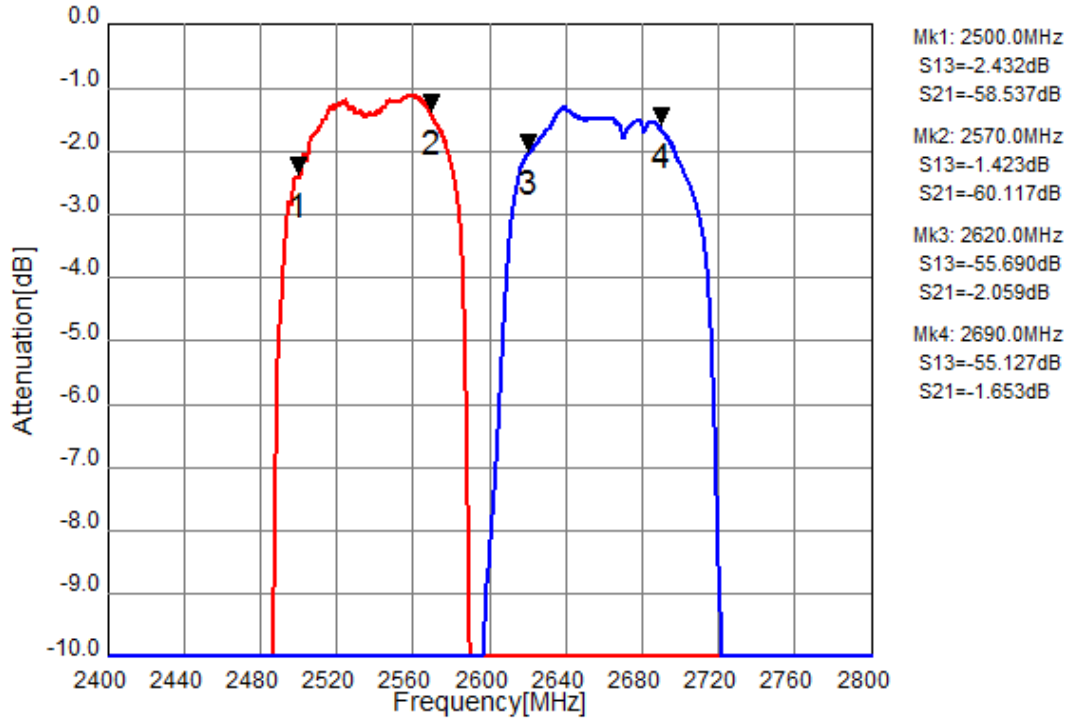
\* Pb Free Part



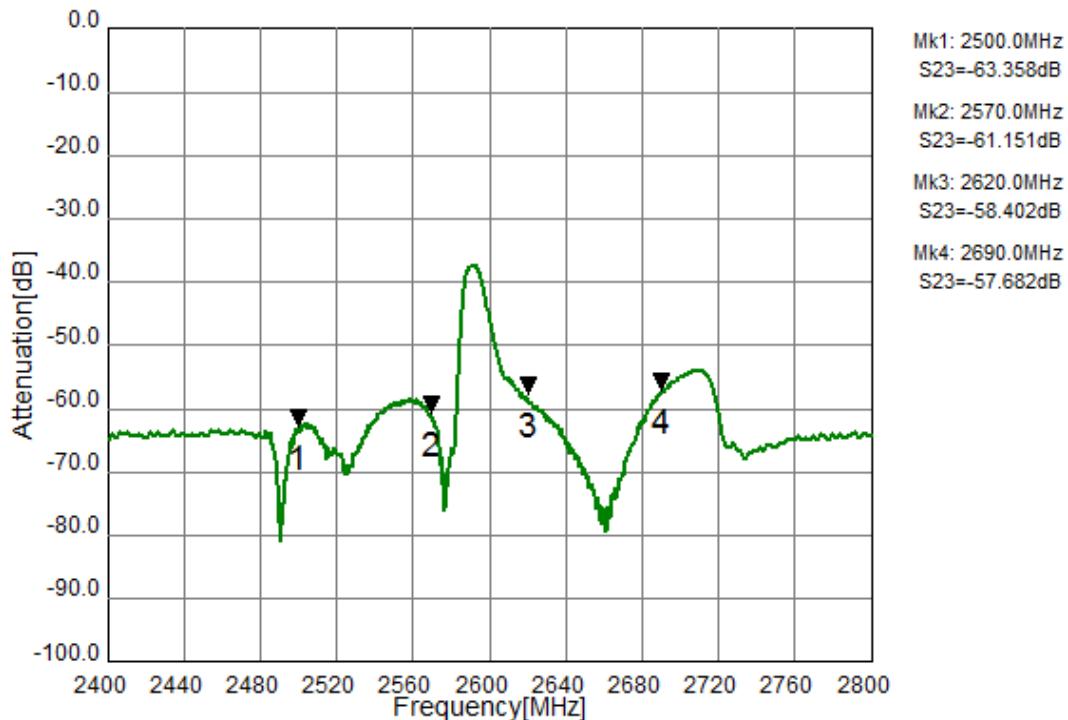
MSL1

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System	Band 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

## Tx to Ant, Ant to Rx



## Tx to Rx Isolation



**Figure 3-2. Electrical Characteristics of Simulation**

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





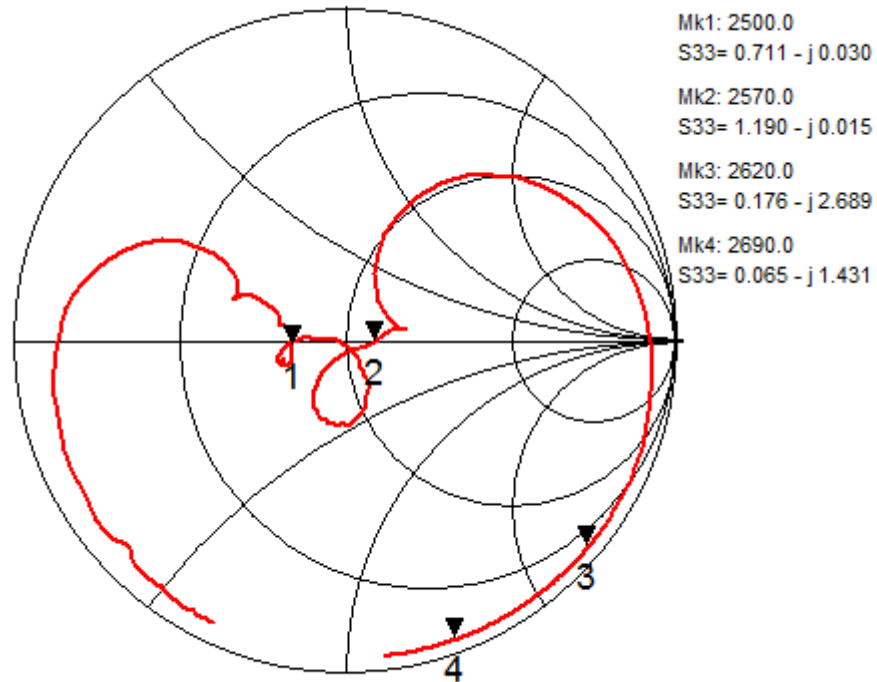
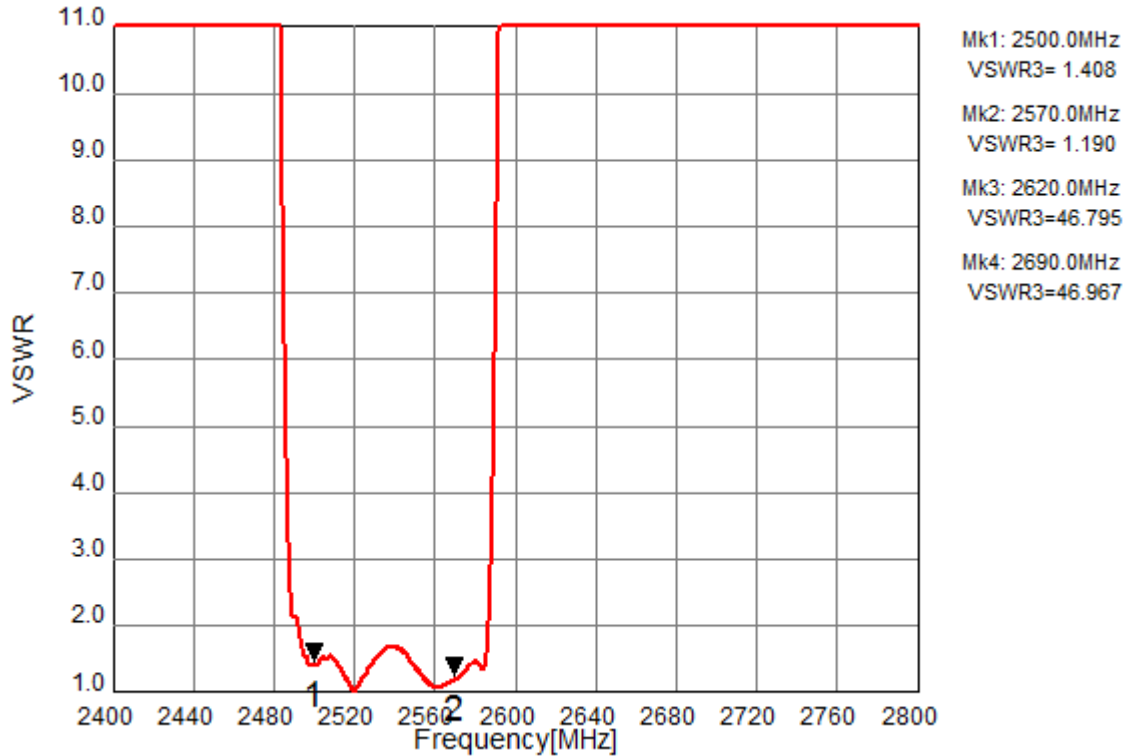
\* Pb Free Part



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System	Band 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

## Tx Port



**Figure 3-3. Electrical Characteristics of Simulation**



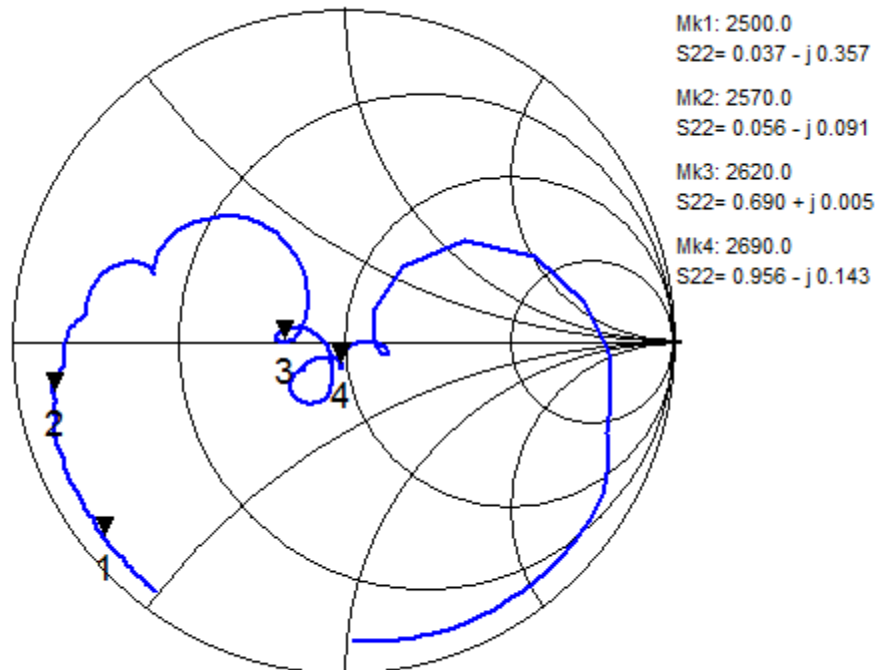
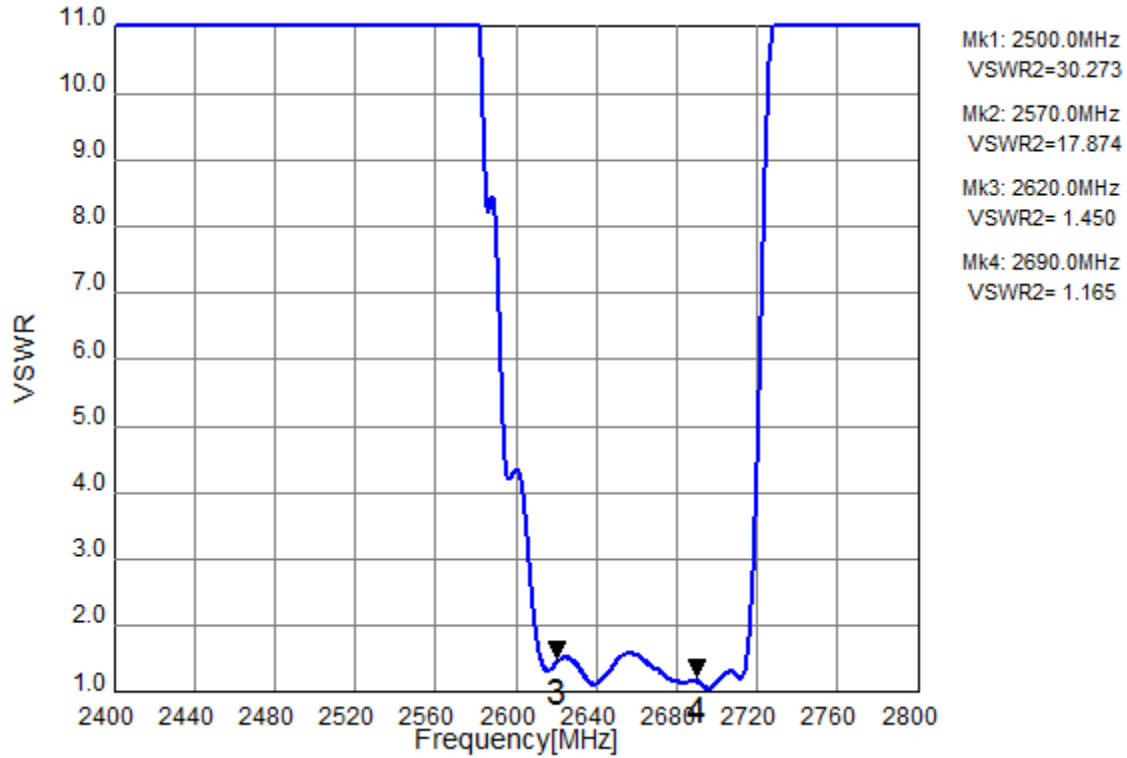
\* Pb Free Part



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Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

## Rx Port



**Figure 3-4. Electrical Characteristics of Simulation**



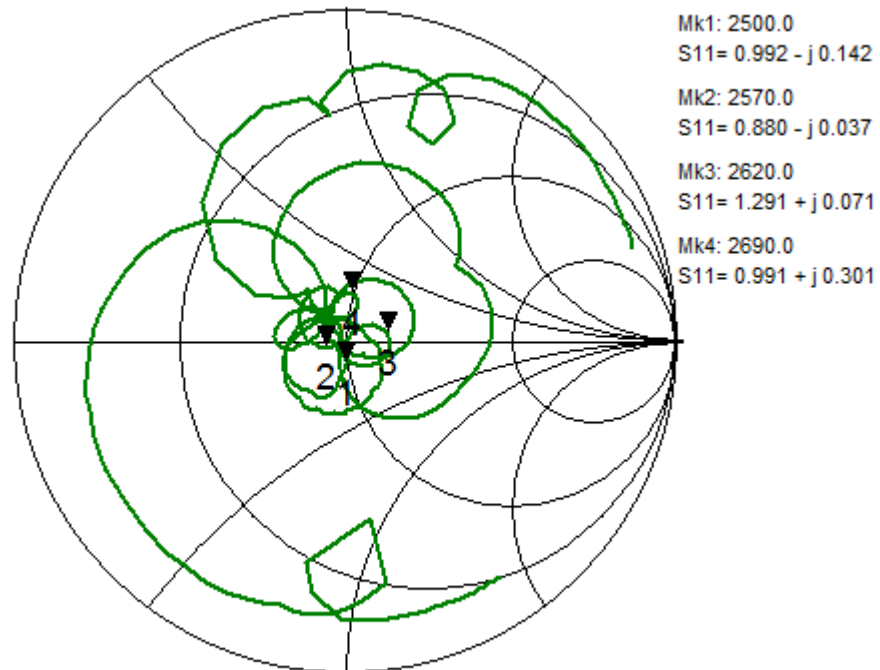
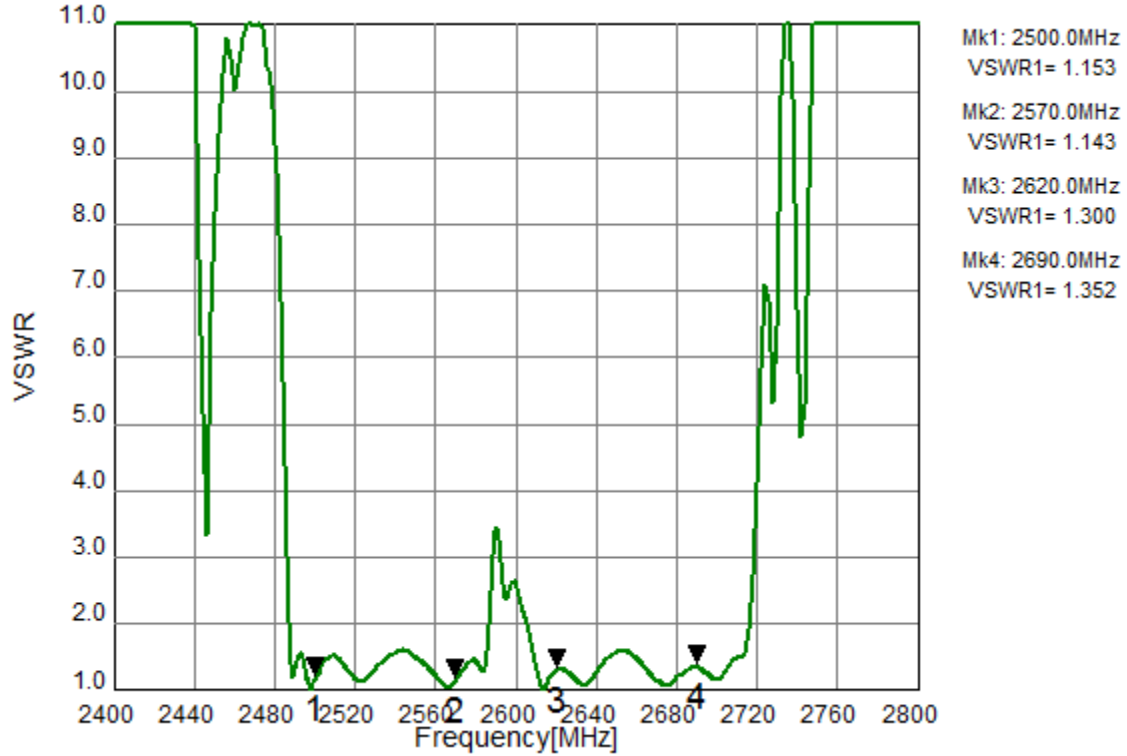
\* Pb Free Part



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Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

## Ant Port



**Figure 3-5. Electrical Characteristics of Simulation**



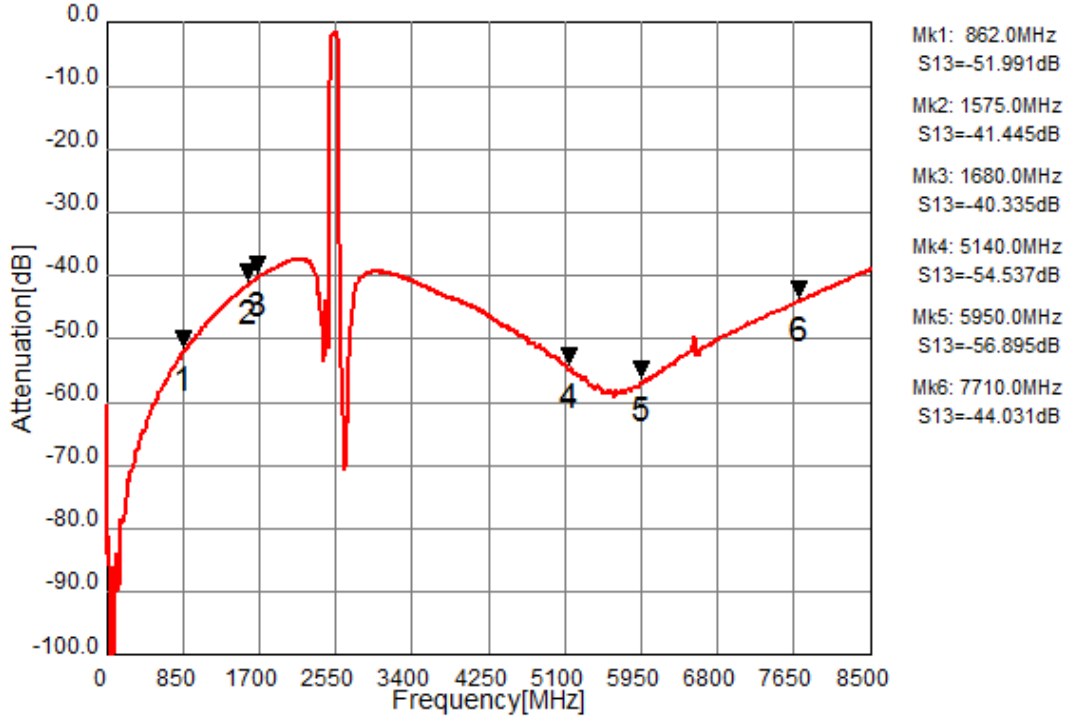
\* Pb Free Part



MSL1

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Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

### Tx to Ant (Wide Span)



### Ant to Rx (Wide Span)

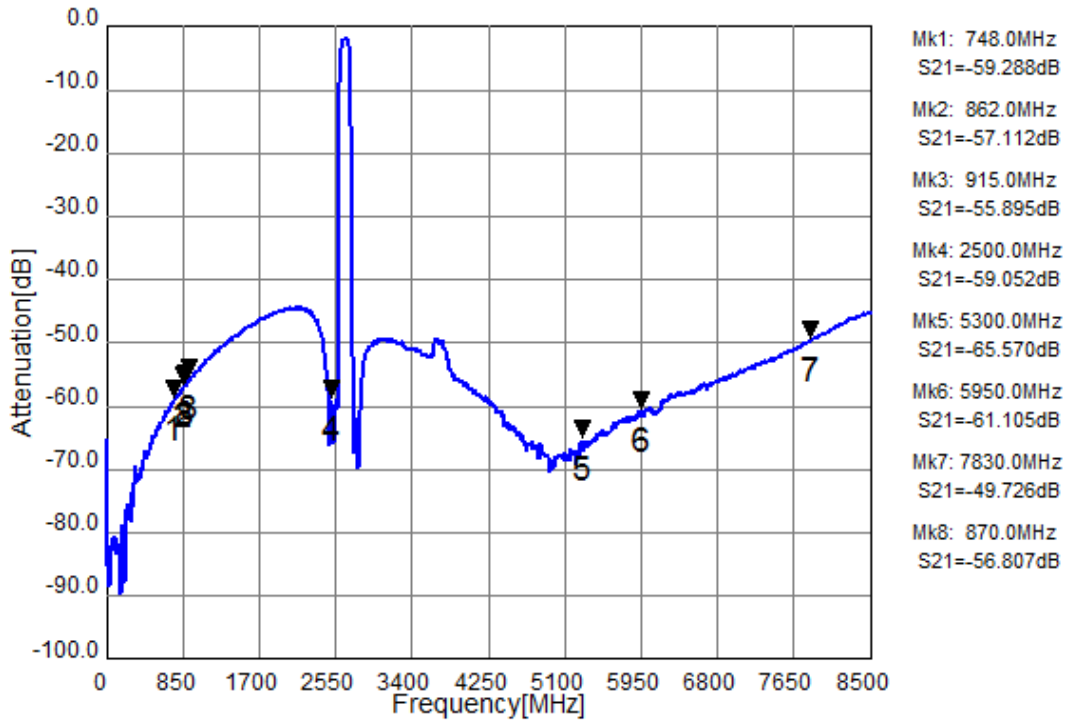


Figure 3-6. Electrical Characteristics



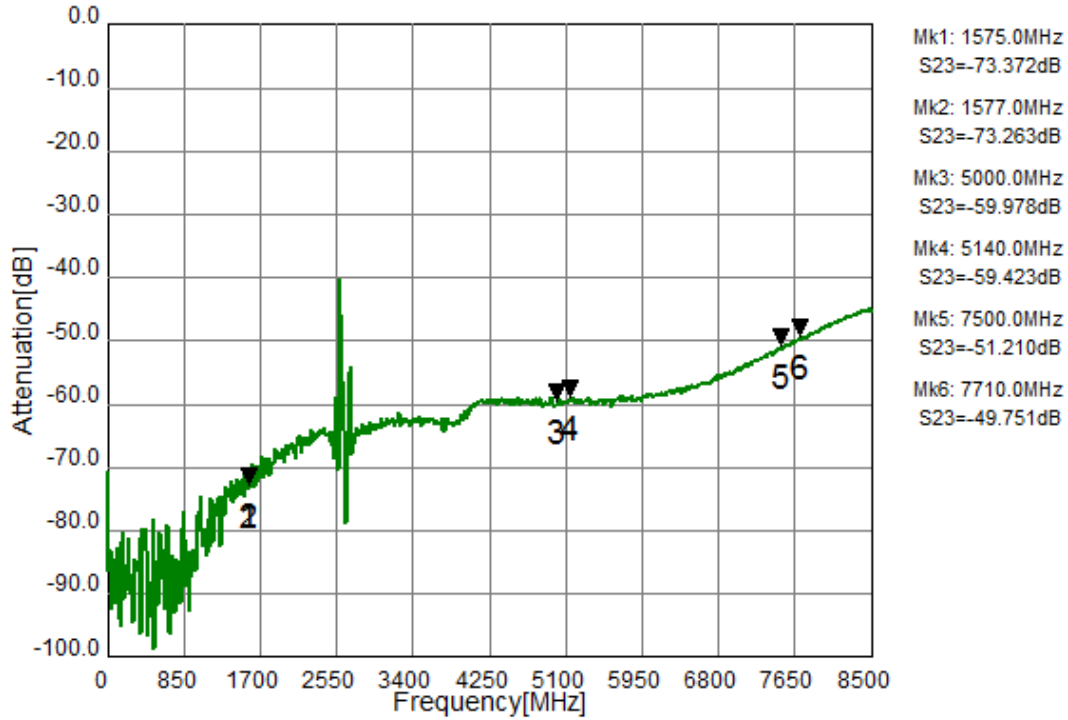
\* Pb Free Part



MSL1

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System	Band 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

## Tx to Rx Isolation (Wide Span)



**Figure 3-7. Electrical Characteristics**



\* Pb Free Part



MSL1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co.,Ltd.	
System	Band 7 Duplexer	Date	Jul. 30, 2015
Part Number	D6HQ2G655DP01	Ver.5.1deE	<b>Final</b>

## Ordering Code

Ordering Code	Packing	Reel size	Status
D6HQ2G655DP01- <b>Z</b>	Tape & Reel	3,000 pcs.	<b>MP</b>
D6HQ2G655DP01- <b>ZA</b>	Tape & Reel	less than 3,000 pcs.	<b>MP</b>
D6HQ2G655DP01- <b>Y</b>	Tape & Reel	15,000 pcs.	<b>MP</b>
D6HQ2G655DP01- <b>YA</b>	Tape & Reel	less than 15,000 pcs.	<b>MP</b>
D6HQ2G655DP01- <b>Q</b>	Bulk	few pcs.	<b>MP</b>

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

## 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.