



*Total Solution Provider in Saw Device*

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# SD-0942T1-C45

Band 8, SAW Duplexer  
Revision 1: May 2014



- Electrical Characteristics
  - Package Dimensions
  - Testing Environment
  - Frequency Characteristics
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## □ Electrical Characteristics

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-20	-	+85
Storage Temperature Range	°C	-40	-	+85
Maximum DC Voltage at Tx, Rx Port	V	5		
Input Power at Tx Port	dBm	29dBm, Ta=+50°C, 10000h, WCDMA modulation		
Antenna Impedance(single ended)	Ω	50//7.5nH		
Tx Impedance(single ended)	Ω	50		
Rx Impedance (balanced) <sup>(1)</sup>	Ω	100		
Package type		C45		
Length x Width	mm <sup>2</sup>	2.0 x 1.6		
Height	mm	0.5		

**Electrical Specification**

Tx to Ant		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	882.4 ~ 912.6	dB	-	1.8	2.6
Ripple	882.4 ~ 912.6	dB <sub>p-p</sub>	-	0.8	1.9
VSWR of Ant Port	880.4 ~ 914.6	-	-	1.7	2.0
VSWR of Tx Port	880.4 ~ 914.6	-	-	1.9	2.2
Attenuation	10.0 ~ 821.0	dB	33	38	-
	927.4 ~ 957.6	dB	44	53	-
	1565.4 ~ 1605.9	dB	45	50	-
	1760.0 ~ 1880.0	dB	40	49	-
	1880.0 ~ 2500.0	dB	33	39	-
	2620.0 ~ 2745.0	dB	30	36	-
	3520.0 ~ 3660.0	dB	20	31	-
	4400.0 ~ 4575.0	dB	15	24	-
	5150.0 ~ 5850.0	dB	10	25	-

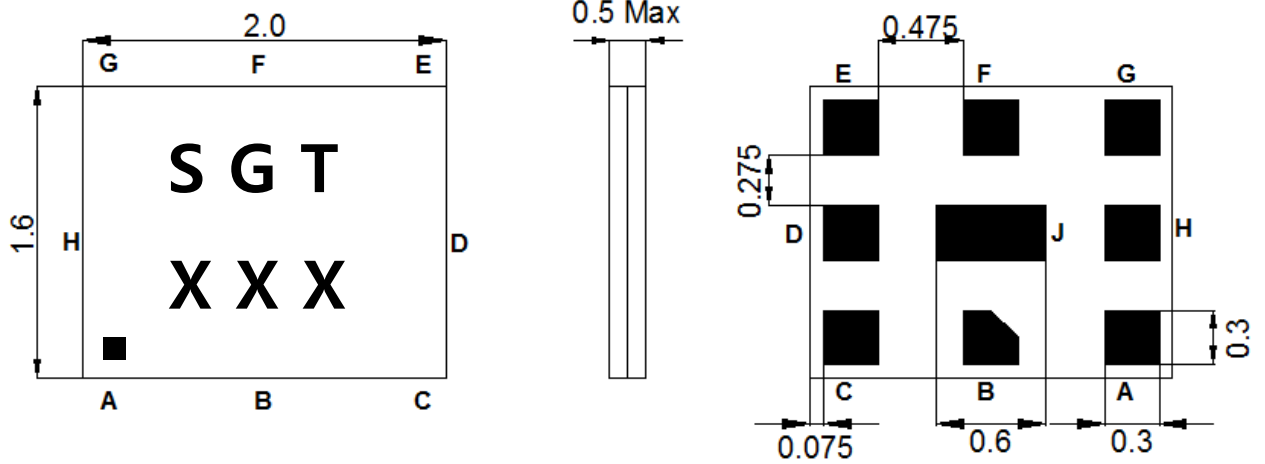


Ant to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	925.0 ~ 960.0	dB	-	2.3	3.3
	927.4 ~ 957.6	dB	-	2.2	2.6
Ripple	925.0 ~ 960.0	dB <sub>p-p</sub>	-	0.8	2.2
VSWR of Ant Port	925.0 ~ 960.0	-	-	1.8	2.1
VSWR of Rx Port	925.0 ~ 960.0	-	-	2.0	2.3
Attenuation	1.0 ~ 880.0	dB	35	58	-
	882.4 ~ 912.6	dB	48	58	-
	1045.0 ~ 4810.0	dB	35	48	-
Amplitude balance( $ S_{31}/S_{41} $ )	925.0 ~ 960.0	dB	-0.7	-0.3/+0.2	+0.7
Phase balance $\Phi(S_{31}) - \Phi(S_{41}) + 180^\circ$	925.0 ~ 960.0	deg	-7	-2/+3	+7

Tx to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Isolation	882.4 ~ 912.6	dB	56	60	-
	927.4 ~ 957.6	dB	50	55	-

**Notes :** (1) With Matching Network .

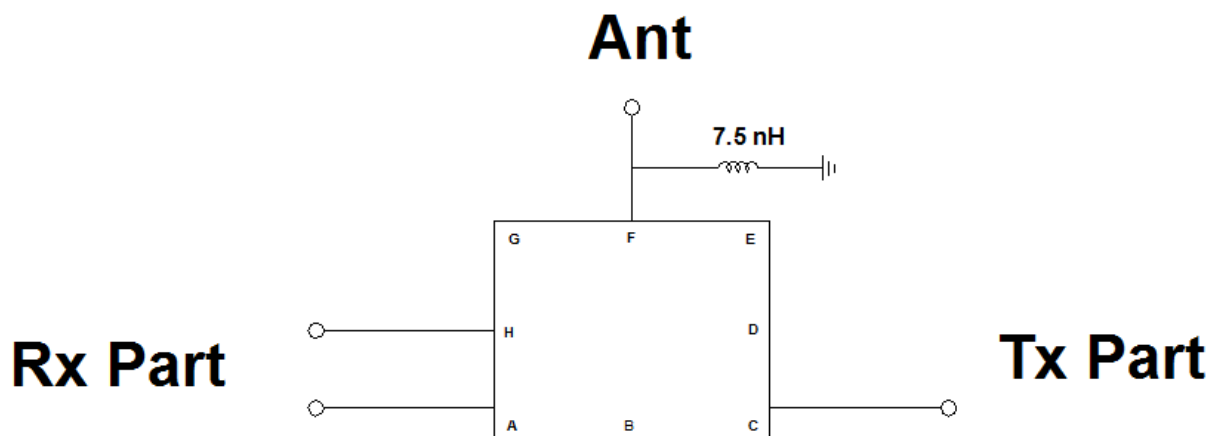
**Package Dimensions**



Marking Descriptions	
S	SAWNICS
GT	Series Number
X	Date Code(Year+Month)
YY	Lot No

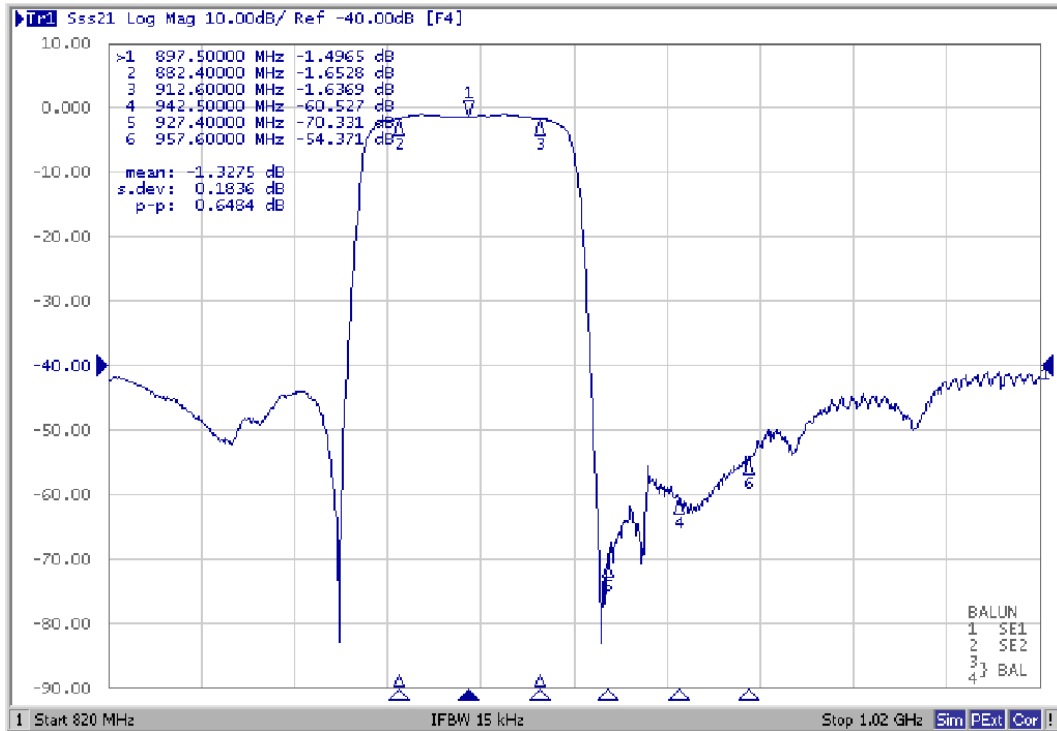
Pin Description	
B,D,E,G	Ground
F	Ant
C	Tx (897.5MHz)
A, H	Rx (942.5MHz)

**Testing Environment**

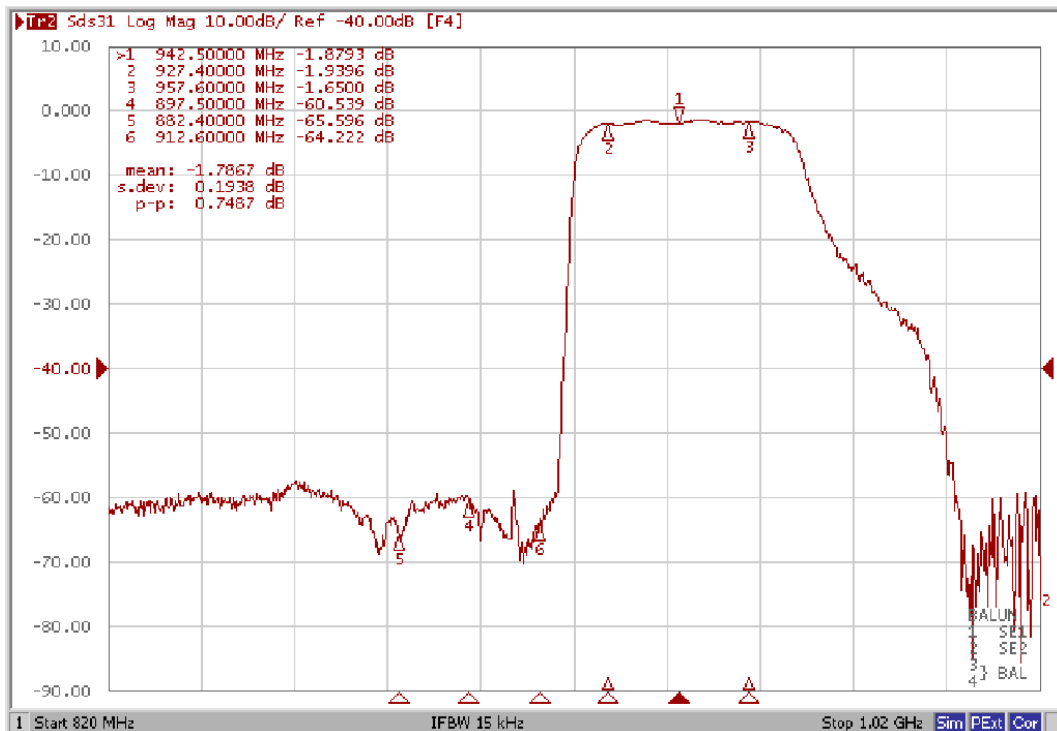


**□ Frequency Characteristics**

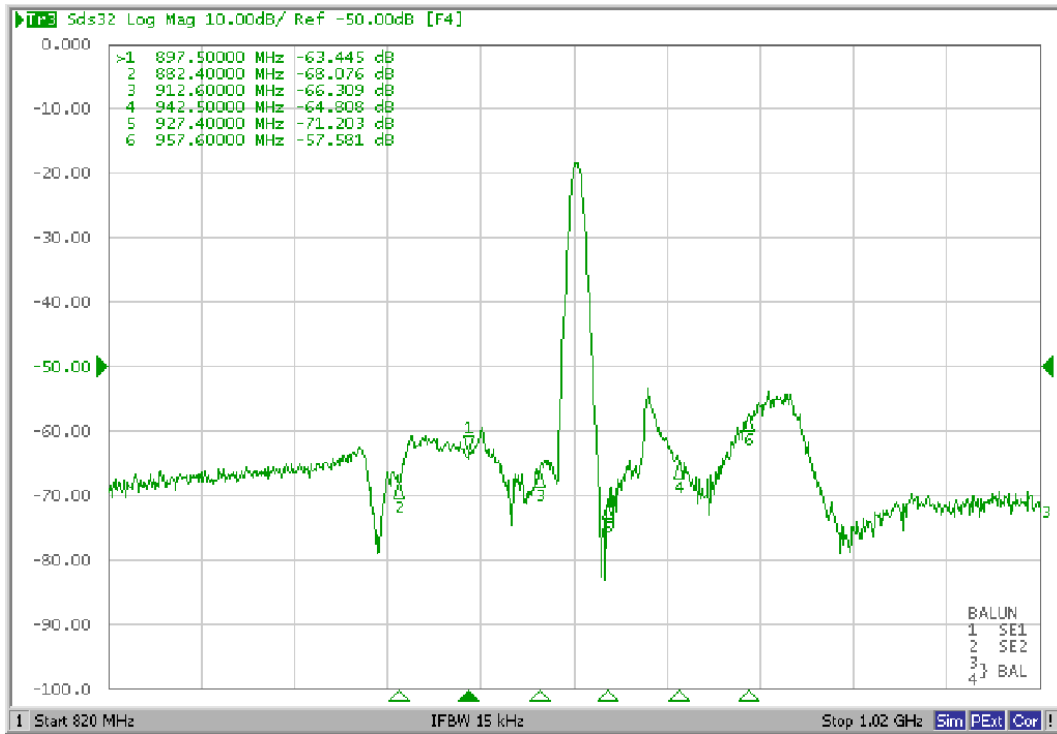
**Tx to Ant**



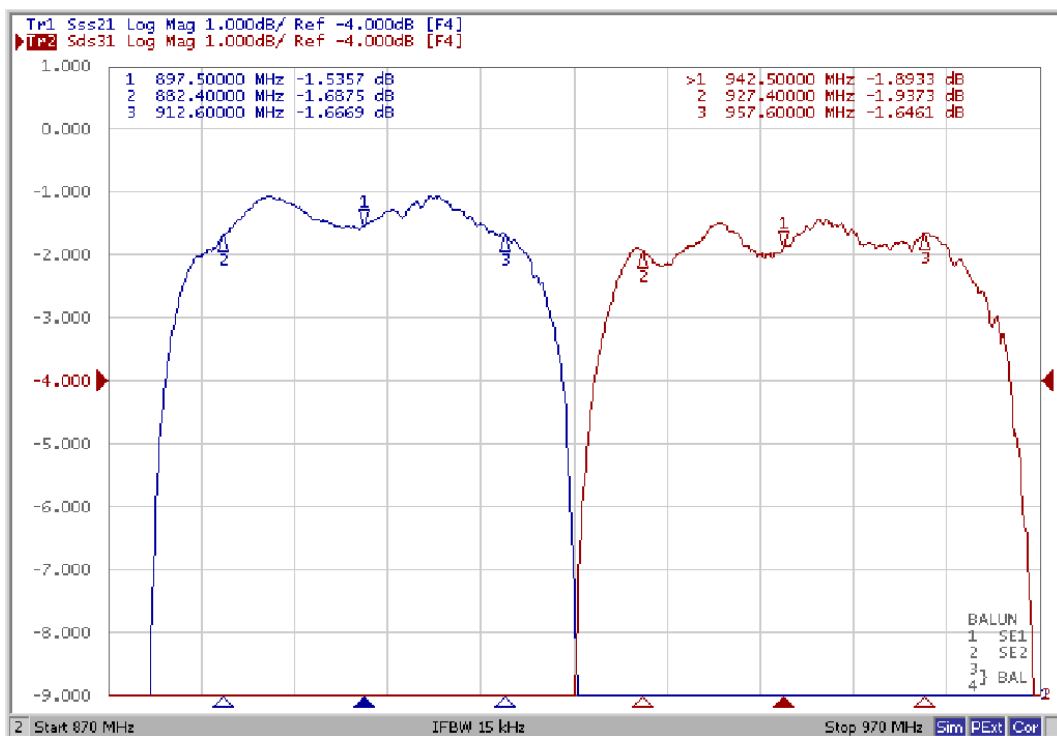
**Ant to Rx**



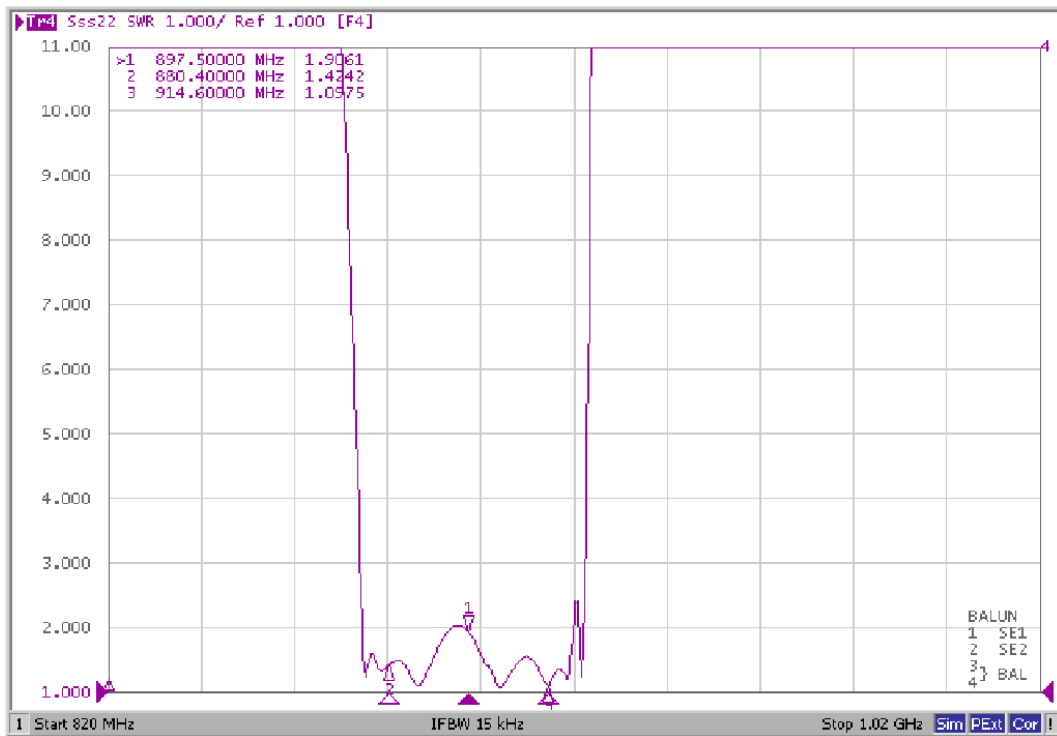
### Isolation



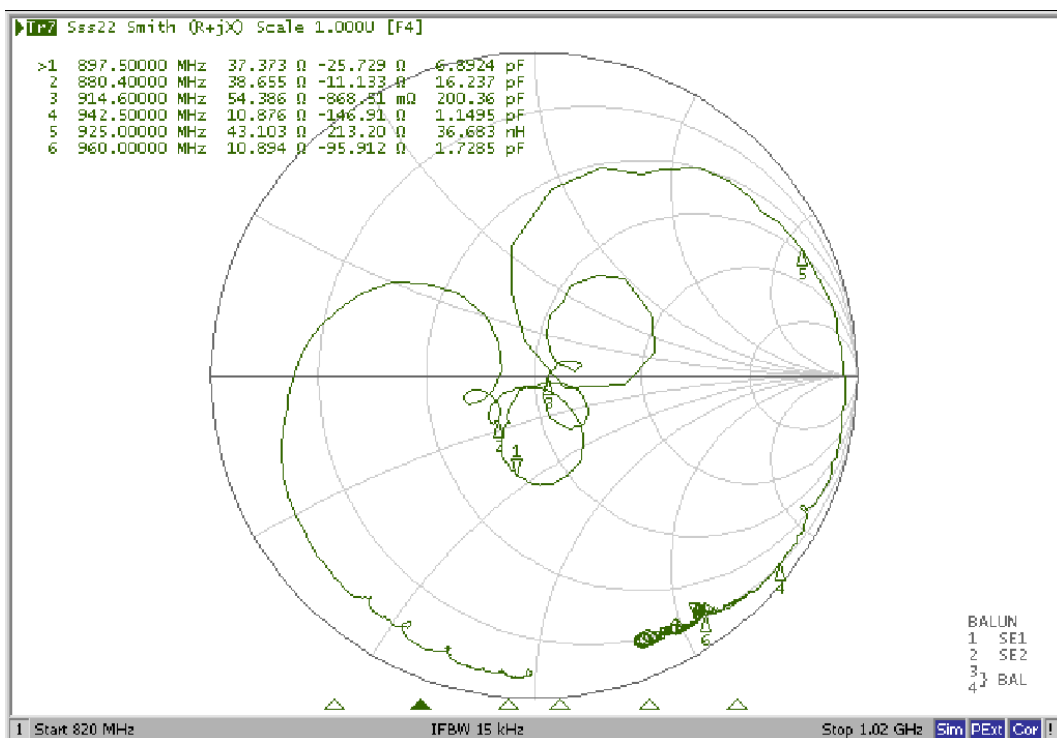
### Ripple



### VSWR (Tx Port)

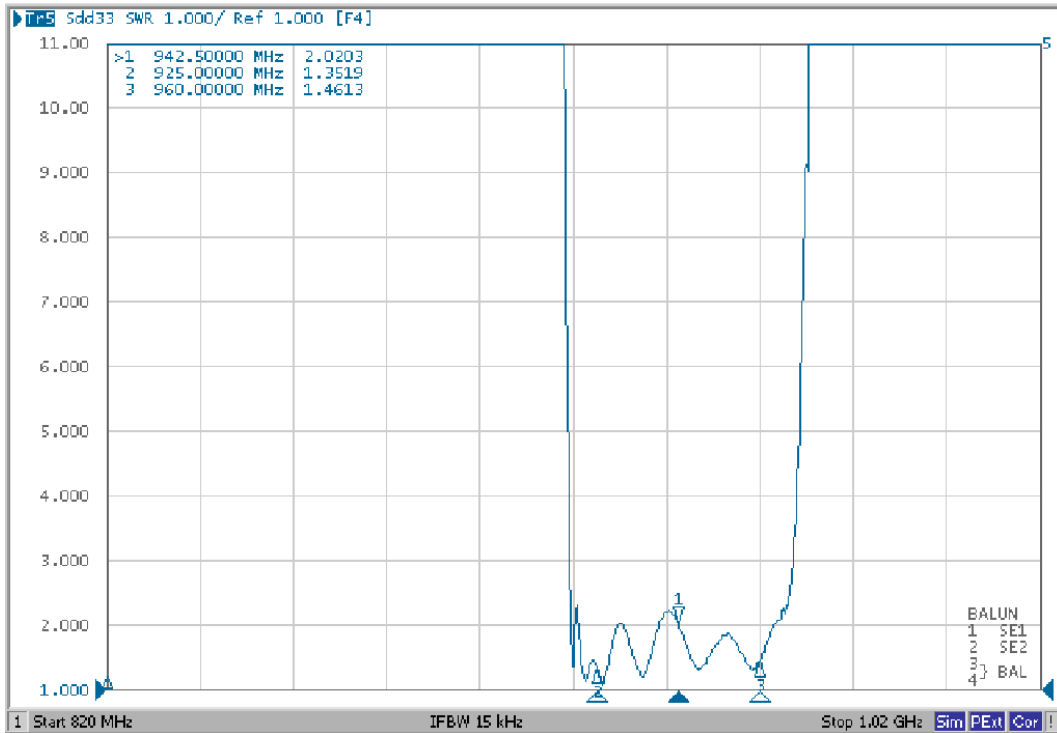


### Smith Chart (Tx Port)

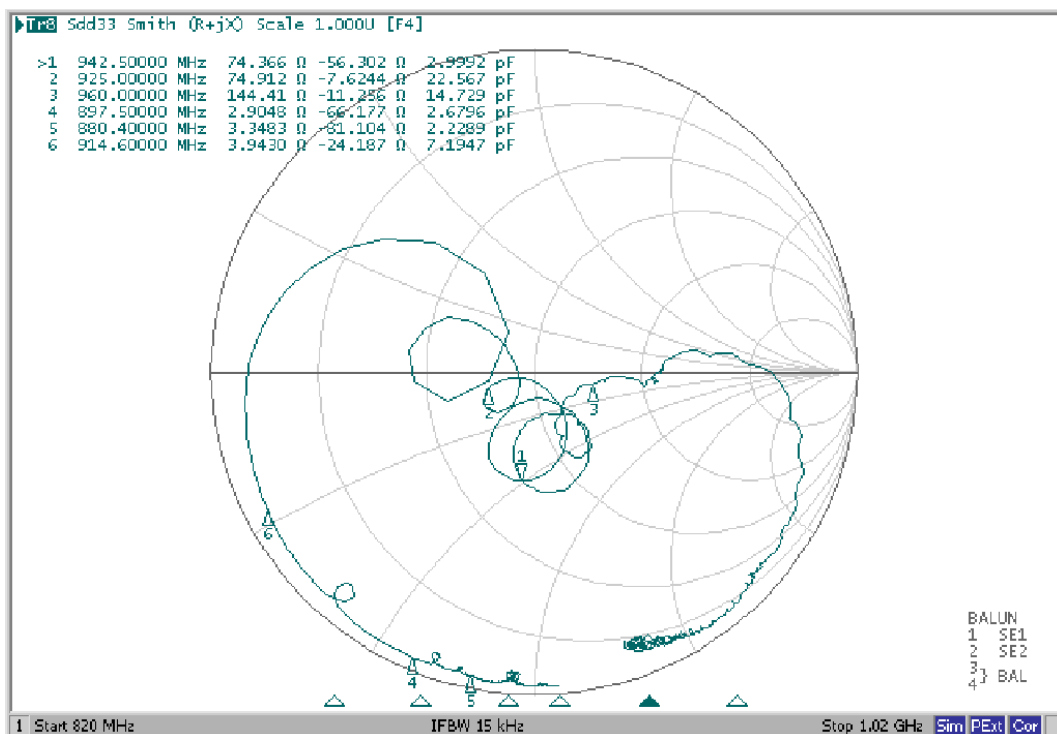




**VSWR (Rx Port)**

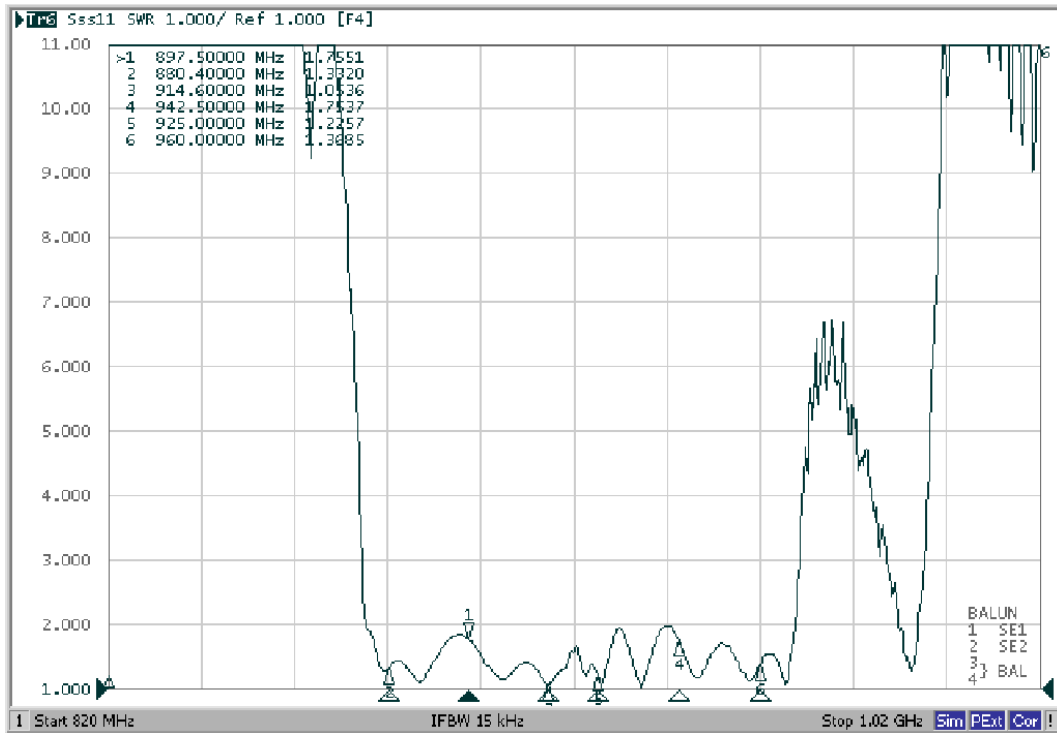


**Smith Chart (Rx Port)**

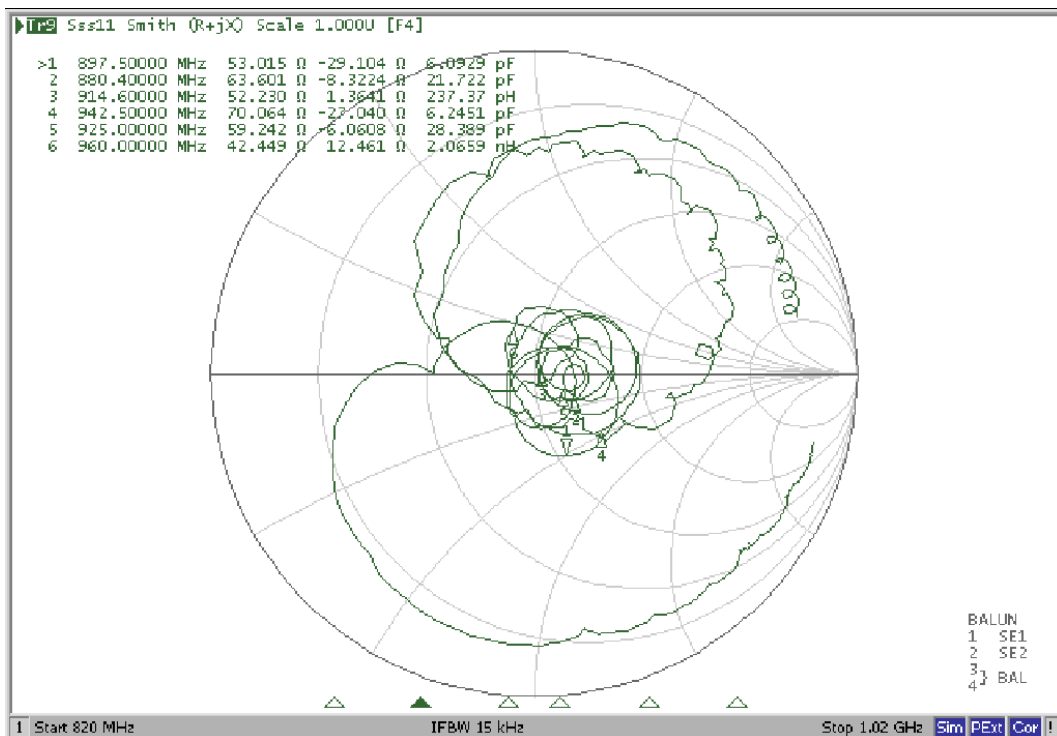




VSWR (ANT Port)



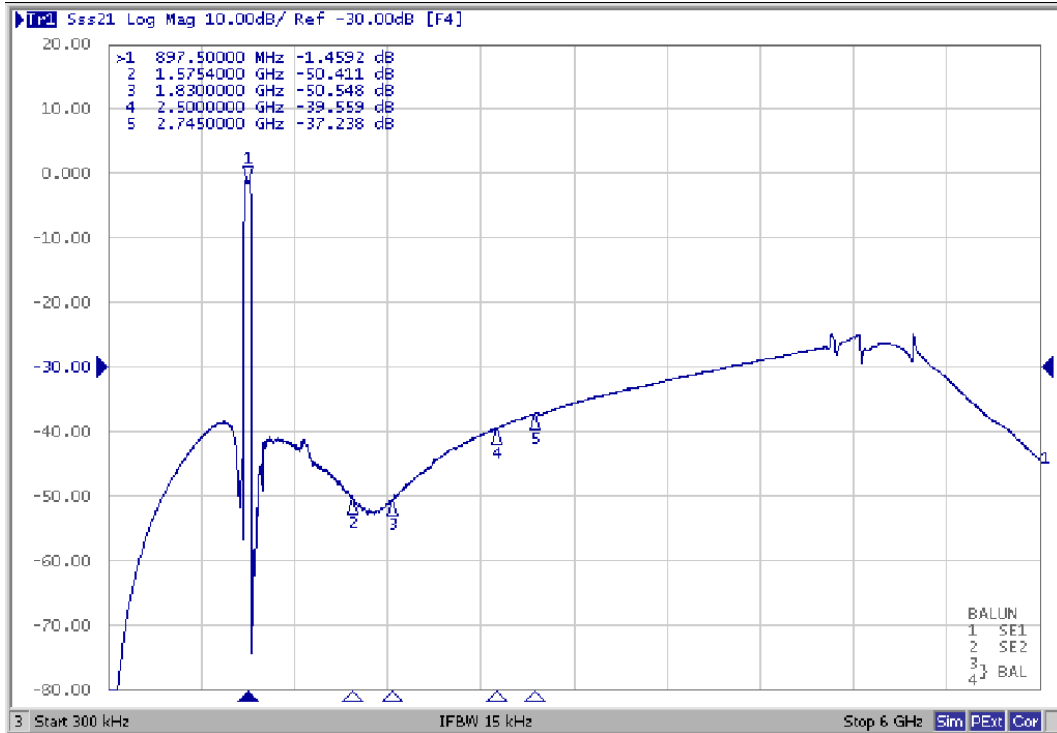
Smith Chart (ANT Port)



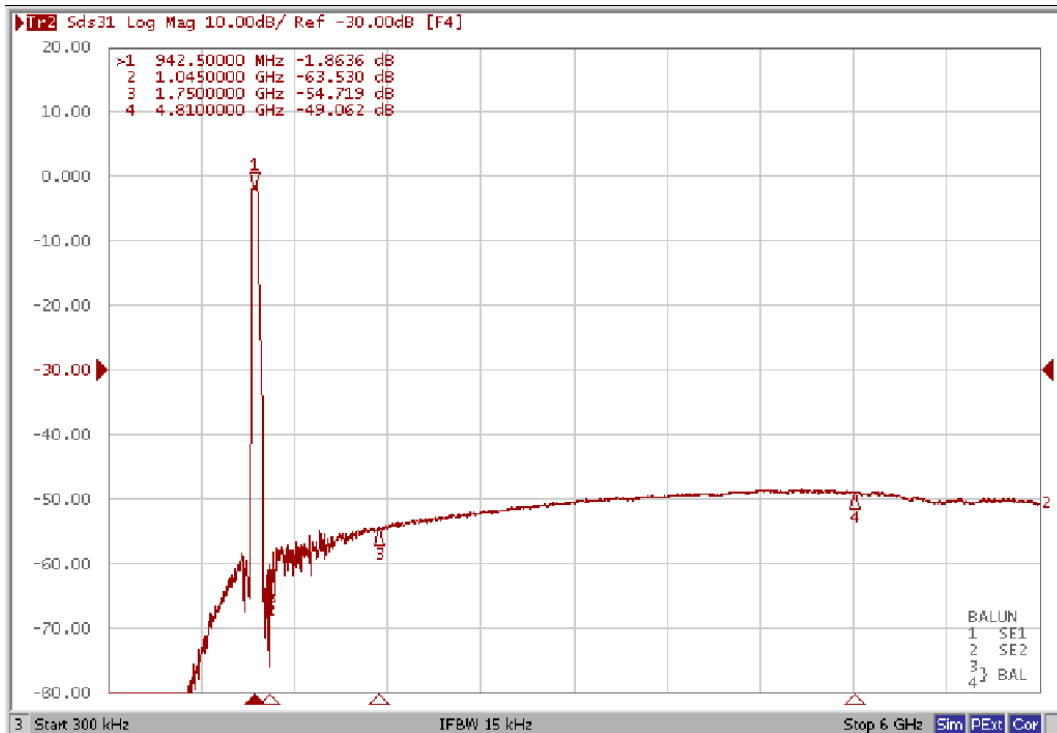


Wide Span

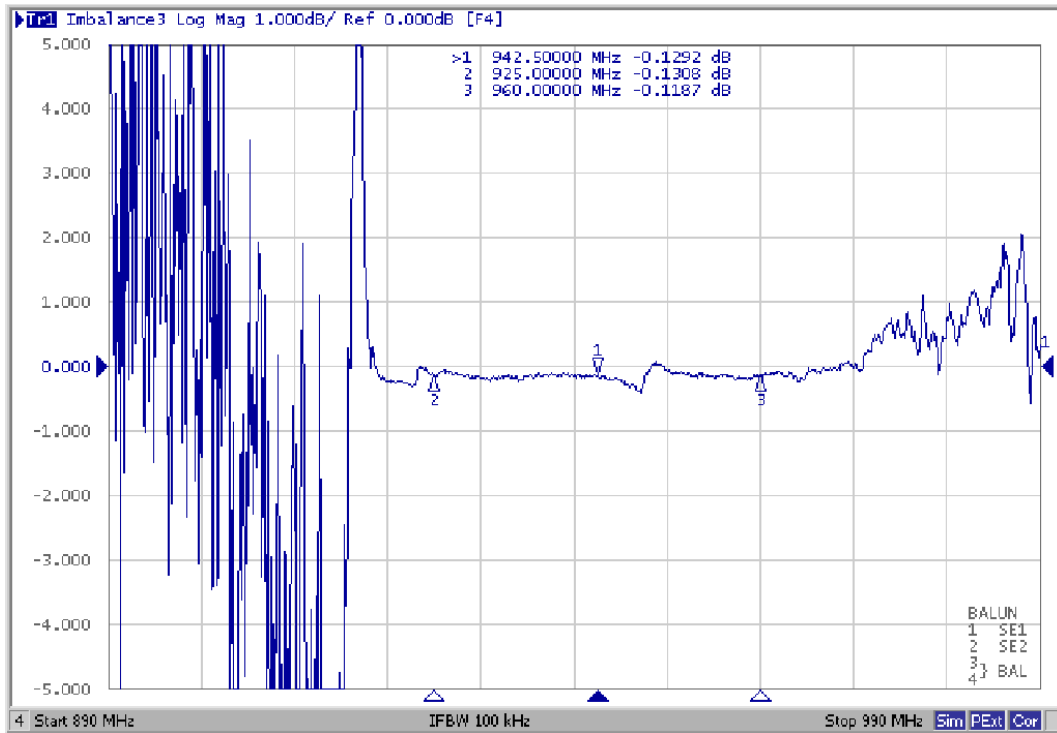
Tx



Rx



**Amplitude balance of Ant to Rx+/Rx-**



**Phase balance of Ant to Rx+/Rx-**

