



Total Solution Provider in Saw Device

SD-0782T1-C45

Band 13, SAW Duplexer
Revision 2: May 2014



- Electrical Characteristics
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-

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□ Electrical Characteristics

Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-30	-	+85
Storage Temperature Range	°C	-40	-	+85
Maximum DC Voltage	V	0		
Input Power at Tx Port	dBm	29dBm, Ta=+50°C, 50kh, CW		
Antenna Impedance(single ended)	Ω	50//12nH		
Tx Impedance(single ended)	Ω	50		
Rx Impedance (balanced) ⁽¹⁾	Ω	100		
Package type		C45		
Length x Width	mm ²	2.0 x 1.6		
Height	mm	0.5		



Electrical Specification

Tx to Ant		Specifications				Remarks
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum	
Insertion Loss	777.0 ~ 787.0	dB	-	1.8	2.5	
	777.5 ~ 786.5	dB	-	1.7	2.3	
Ripple	777.0 ~ 787.0	dB _{p-p}	-	0.4	1.3	
VSWR of Ant Port	777.0 ~ 787.0	-	-	1.6	2.0	
VSWR of Tx Port	777.0 ~ 787.0	-	-	1.6	2.0	
Attenuation	DC ~ 716.0	dB	30	40	-	
	716.0 ~ 728.0	dB	30	44	-	
	728.0 ~ 746.0	dB	30	48	-	
	746.0 ~ 756.0	dB	45	49	-	
	758.0 ~ 767.5	dB	30	43	-	
	767.5 ~ 768.0	dB	30	-	-	25 ± 2 °C
		dB	20	49	-	
	768.0 ~ 769.0	dB	12	37	-	
	769.0 ~ 770.0	dB	5	24	-	
	770.0 ~ 771.0	dB	3	13	-	
	771.0 ~ 772.0	dB	2	6	-	
	793.0 ~ 805.0	dB	1	2	-	
	869.0 ~ 894.0	dB	35	47	-	
	1554.0 ~ 1565.0	dB	42	53	-	
	1565.0 ~ 1585.0	dB	42	53	-	
	1597.0 ~ 1607.0	dB	42	53	-	
	1805.0 ~ 1880.0	dB	35	45	-	
	1930.0 ~ 1990.0	dB	35	44	-	
	2110.0 ~ 2170.0	dB	35	41	-	
	2331.0 ~ 2361.0	dB	30	39	-	
2400.0 ~ 2484.0	dB	30	37	-		
3108.0 ~ 3148.0	dB	20	32	-		

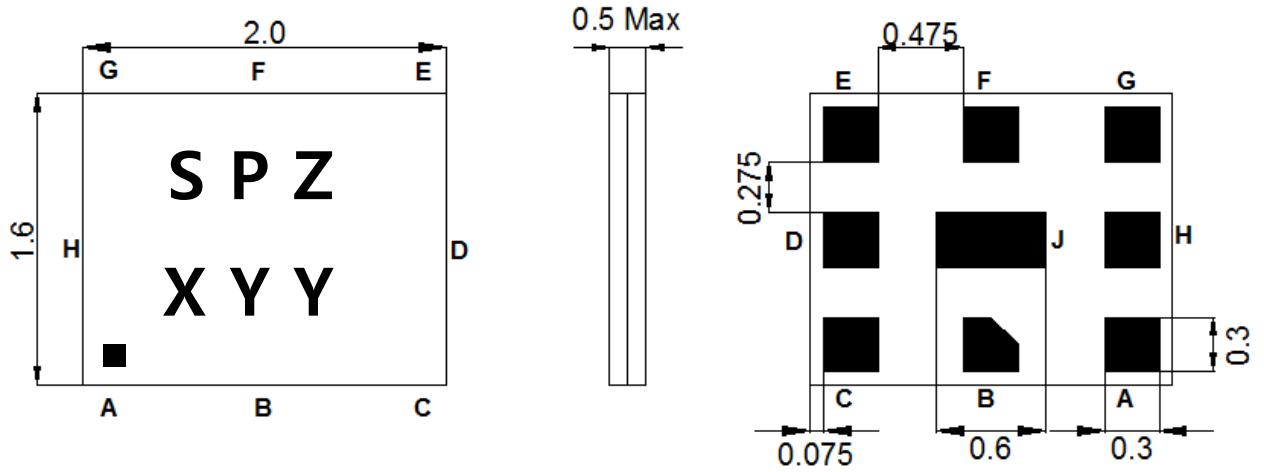


Ant to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	746.0 ~ 756.0	dB	-	-	2.6
	746.5 ~ 755.5	dB	-	2.0	2.4
Ripple	746.0 ~ 756.0	dB _{p-p}	-	0.3	1.2
VSWR of Ant Port	746.0 ~ 756.0	-	-	1.3	2.0
VSWR of Rx Port	746.0 ~ 756.0	-	-	1.5	2.0
Attenuation	DC ~ 736.0	dB	32	38	-
	777.0 ~ 787.0	dB	48	54	-
	793.0 ~ 805.0	dB	35	46	-
	805.0 ~ 6000.0	dB	25	46	-
Amplitude balance($ S_{31}/S_{41} $)	746.0 ~ 756.0	dB	-1.0	-0.2/+0.2	+1.0
Phase balance $\Phi(S_{31}) - \Phi(S_{41}) + 180^\circ$	746.0 ~ 756.0	deg	-10	-3/+3	+10

Tx to Rx		Specifications				Remarks
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum	
Isolation in Tx Band	777.0 ~ 787.0	dB	52	57	-	Differential Rejection
		dB	55	64	-	Common Mode Rejection
Isolation in Rx Band	746.0 ~ 756.0	dB	47	51	-	Differential Rejection

Notes : (1) With Matching Network .

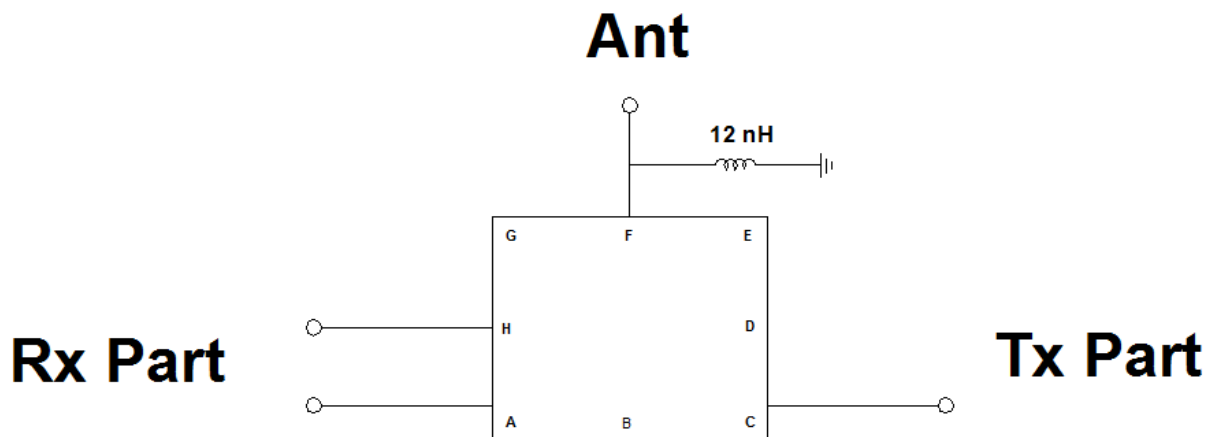
Package Dimensions



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

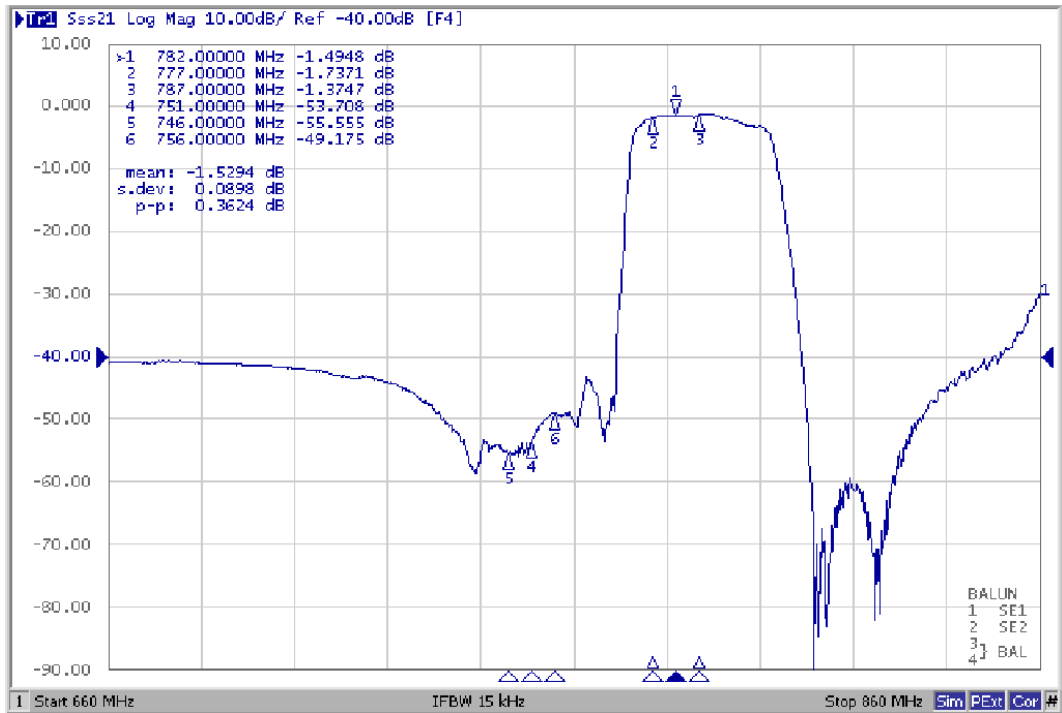
Pin Description	
B,D,E,G,J	Ground
F	Ant
C	Tx (782.0MHz)
A,H	Rx (751.0MHz)

Testing Environment

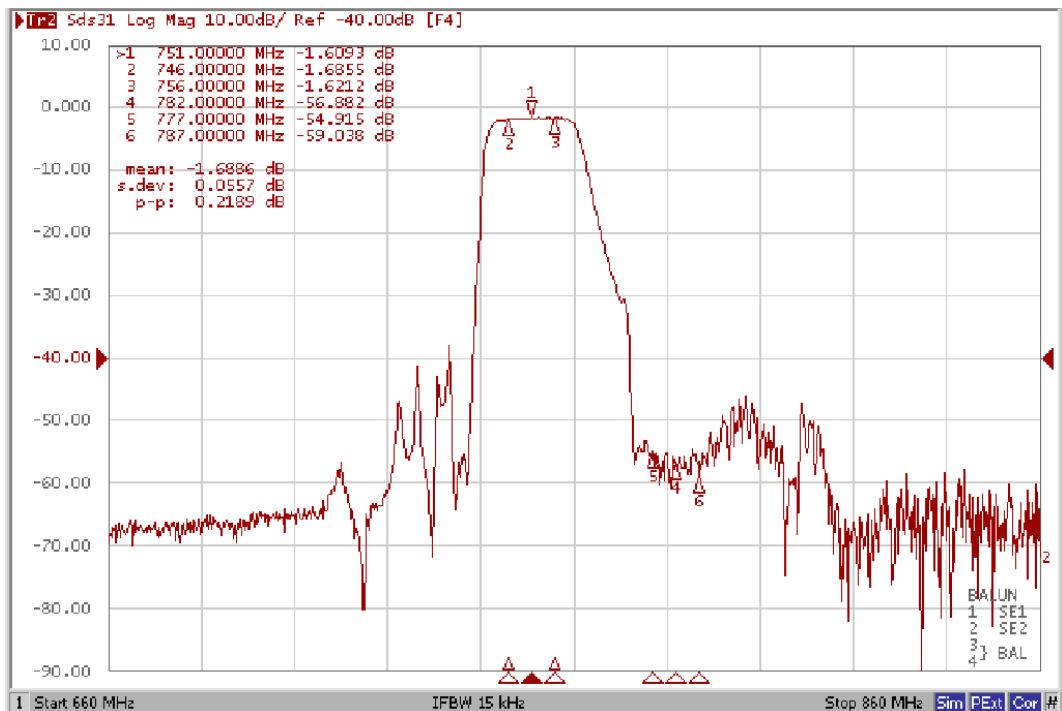


Frequency Characteristics

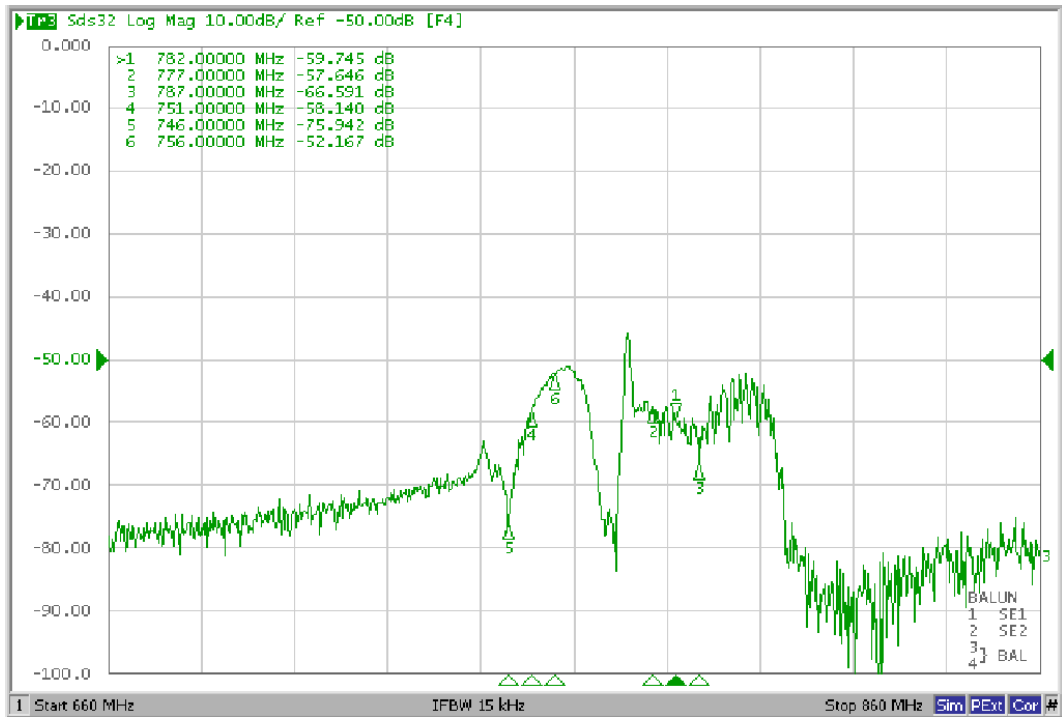
Tx to Ant



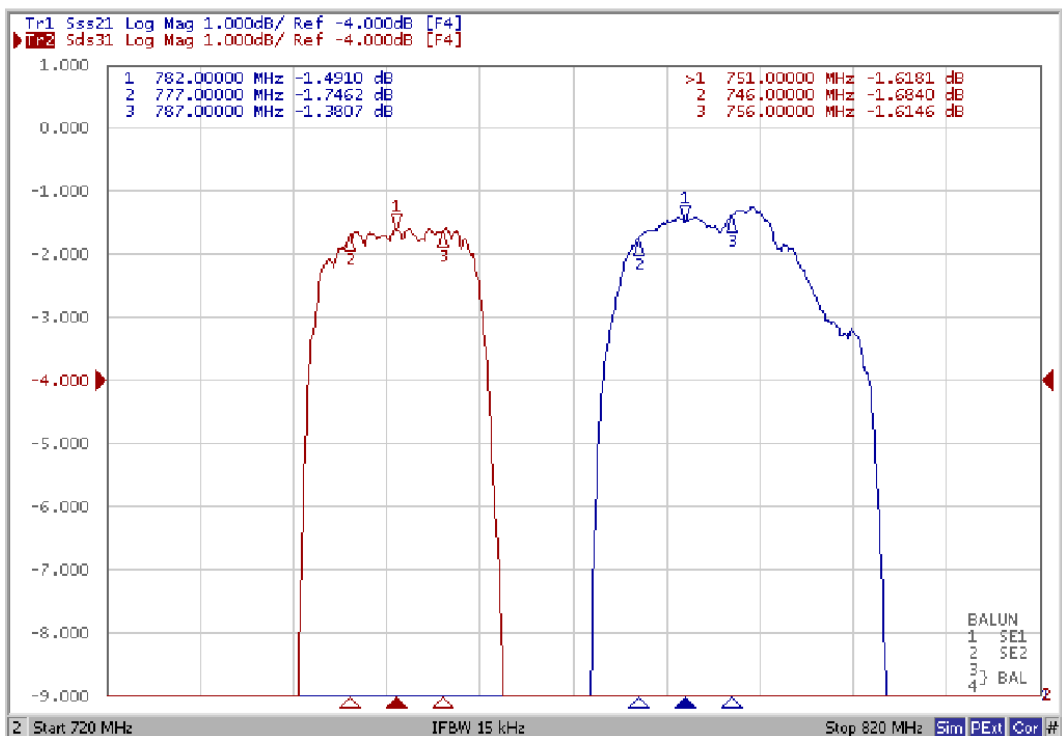
Ant to Rx



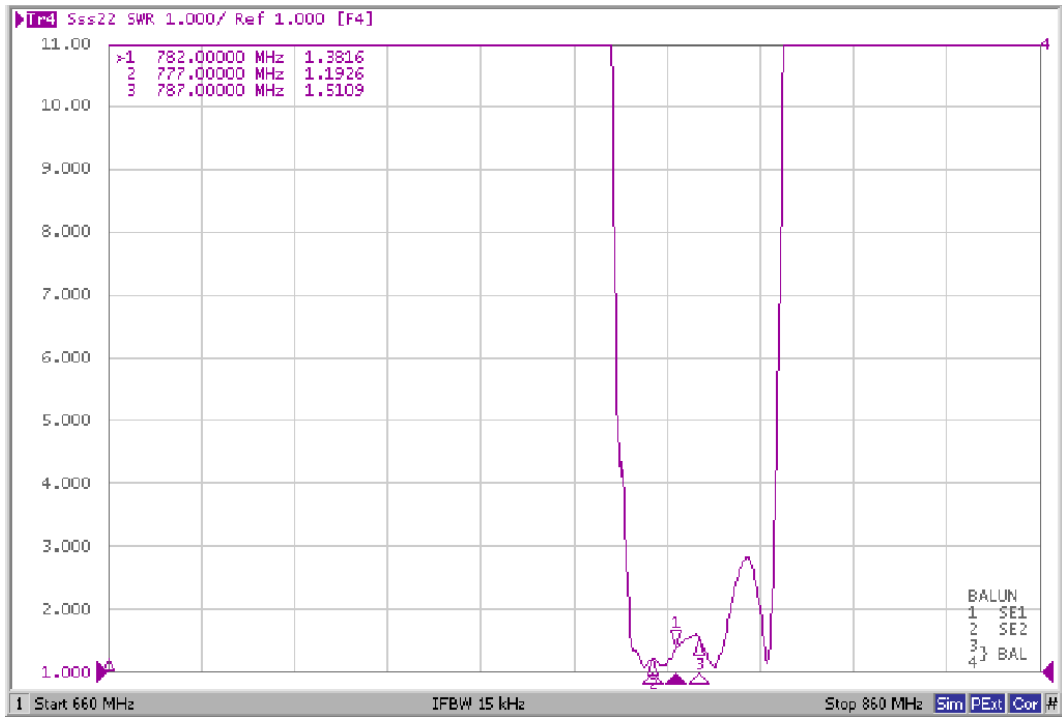
Isolation



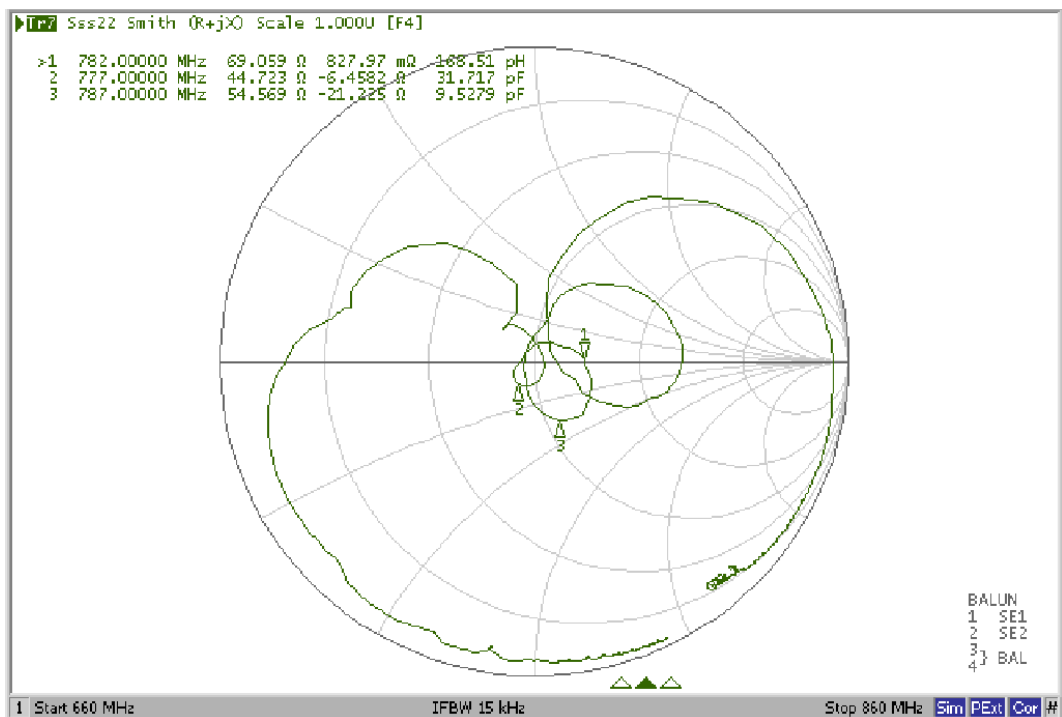
Ripple



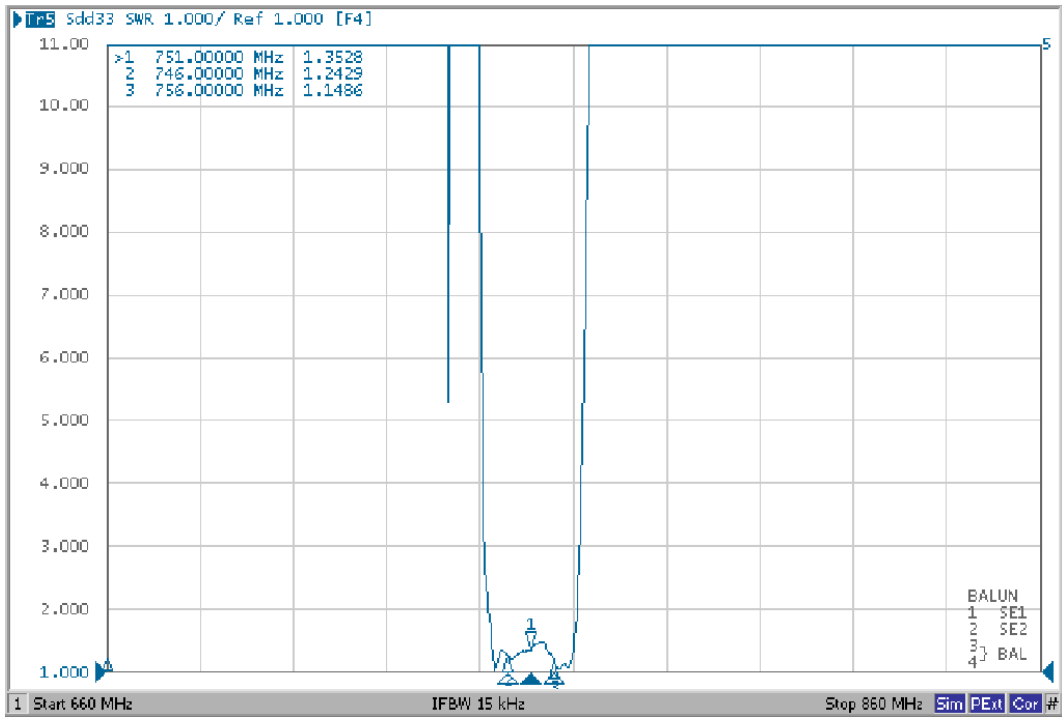
VSWR (Tx Port)



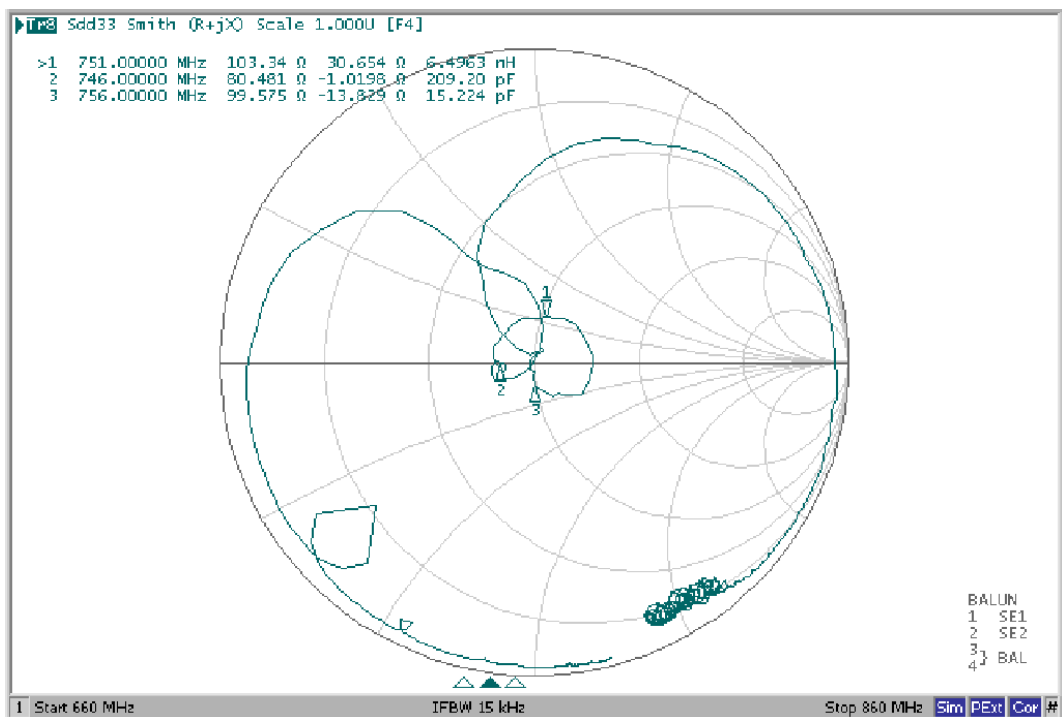
Smith Chart (Tx Port)



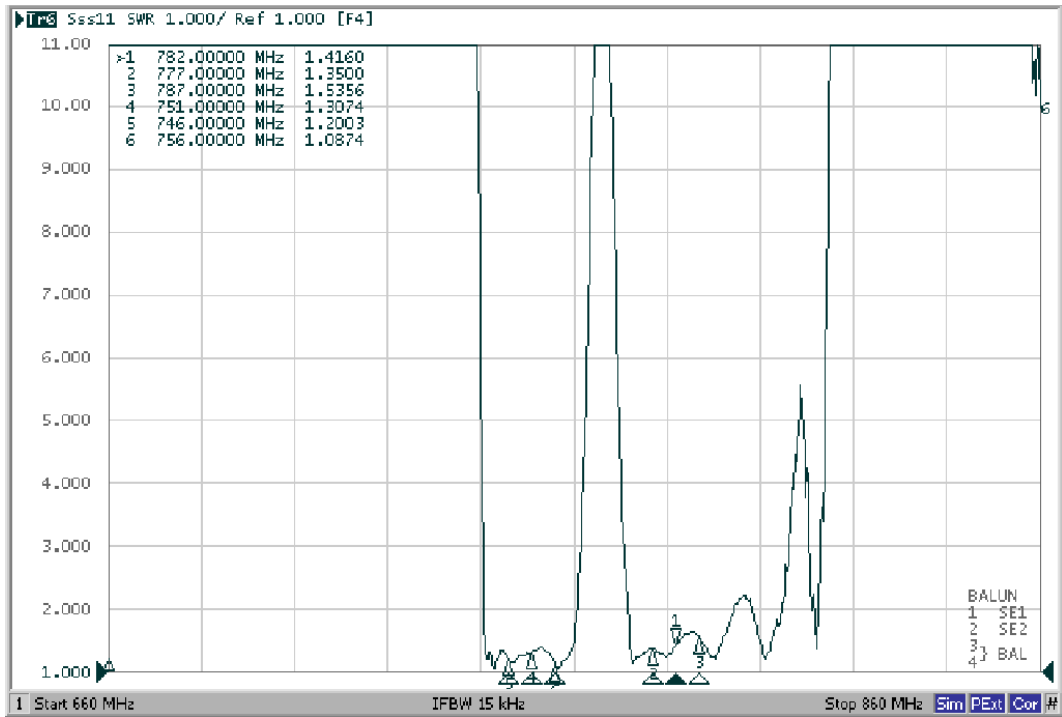
VSWR (Rx Port)



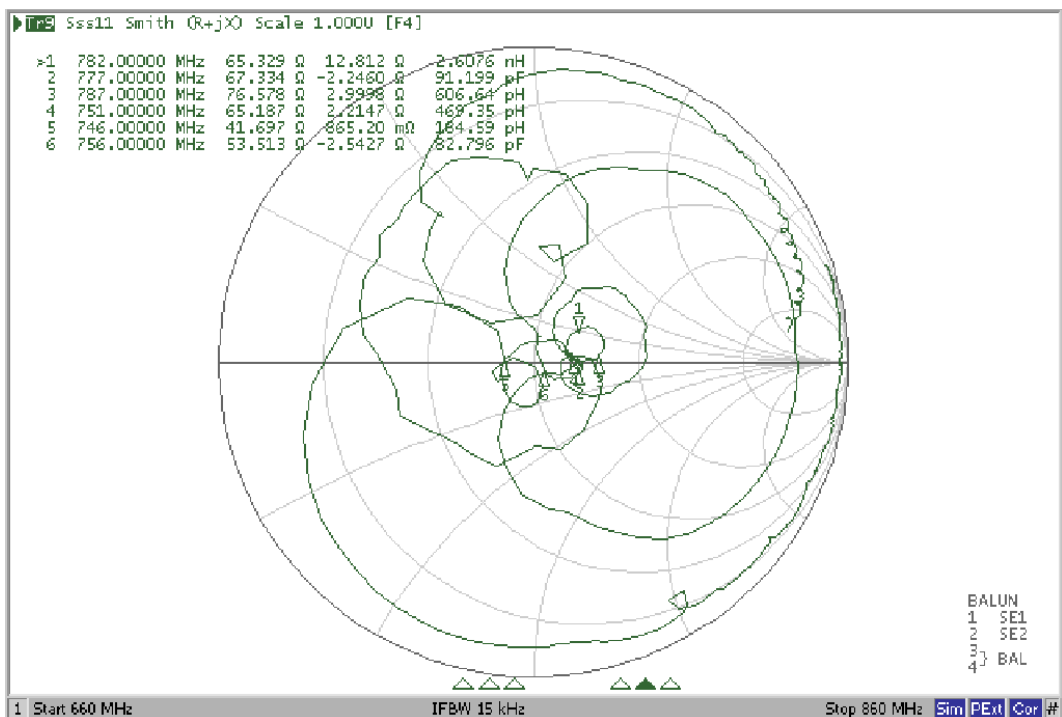
Smith Chart (Rx Port)



VSWR (ANT Port)



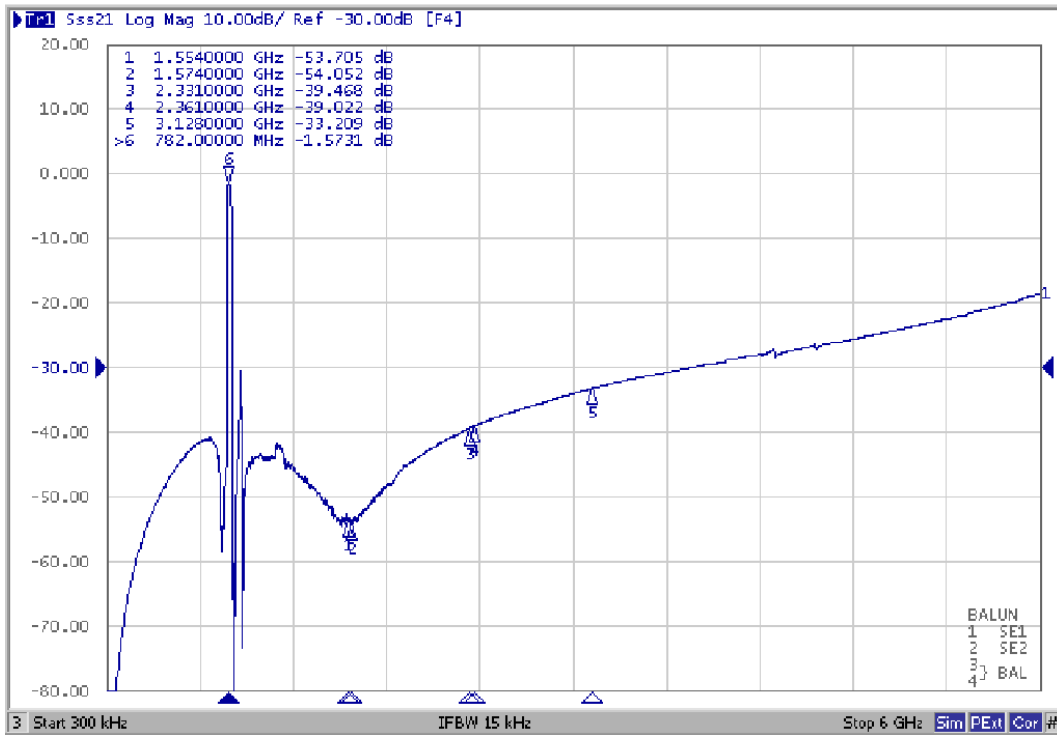
Smith Chart (ANT Port)



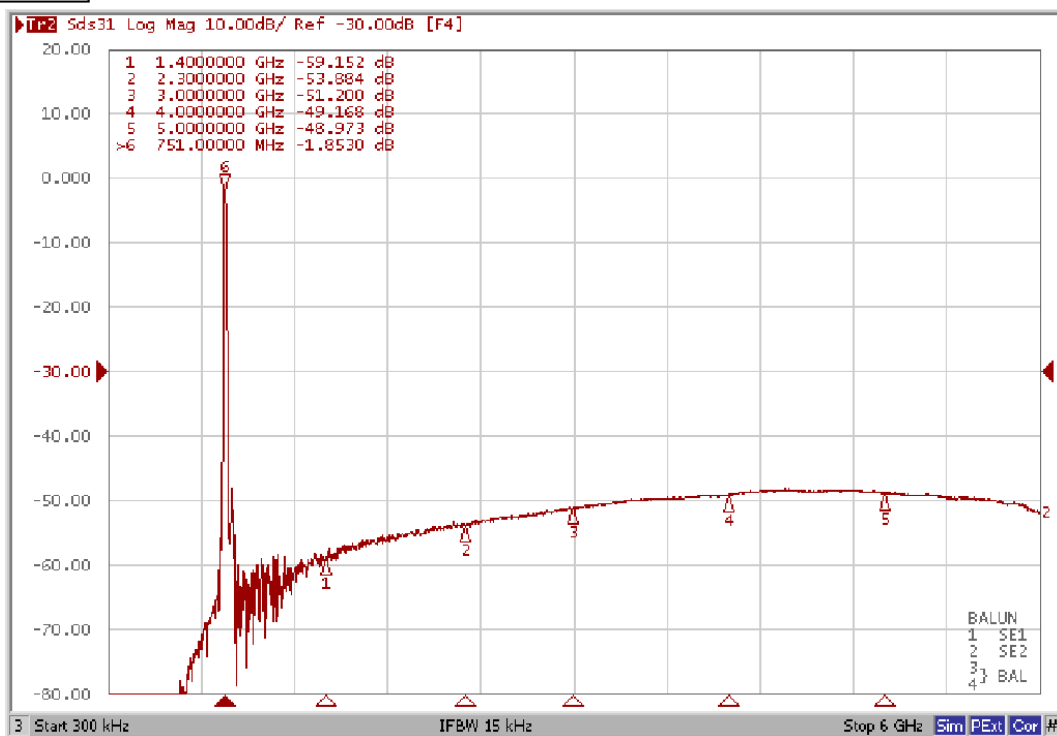


Wide Span

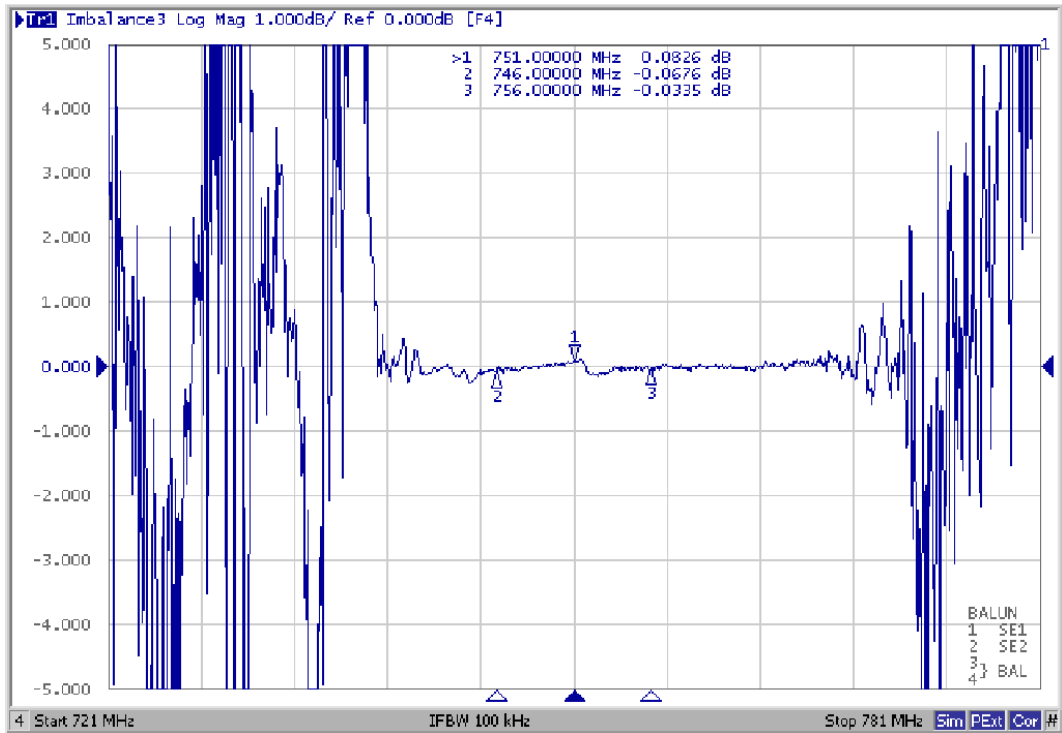
Tx



Rx



Amplitude balance of Ant to Rx+/Rx-



Phase balance of Ant to Rx+/Rx-

