



Total Solution Provider in Saw Device

SD-2140T1-C45

Band 1, SAW Duplexer
Revision 1: May 2014



- Electrical Characteristics
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 - 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	V	0		
Input Power at Tx Port	dBm	-		
Antenna Impedance(single ended)	Ω	50//2.7nH		
Tx Impedance(single ended)	Ω	50		
Rx Impedance (balanced) ⁽¹⁾	Ω	100//12nH		
Package type		C45		
Length x Width	mm ²	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	1920.0 ~ 1980.0	dB	-	1.5	1.8
Ripple	1920.0 ~ 1980.0	dB _{p-p}	-	0.4	1.0
VSWR of Ant Port	1920.0 ~ 1980.0	-	-	1.7	2.0
VSWR of Tx Port	1920.0 ~ 1980.0	-	-	1.8	2.1
Attenuation	1574.0 ~ 1577.0	dB	30	36	-
	2110.0 ~ 2170.0	dB	38	41	-
	2400.0 ~ 2500.0	dB	25	29	-
	3840.0 ~ 3960.0	dB	10	14	-

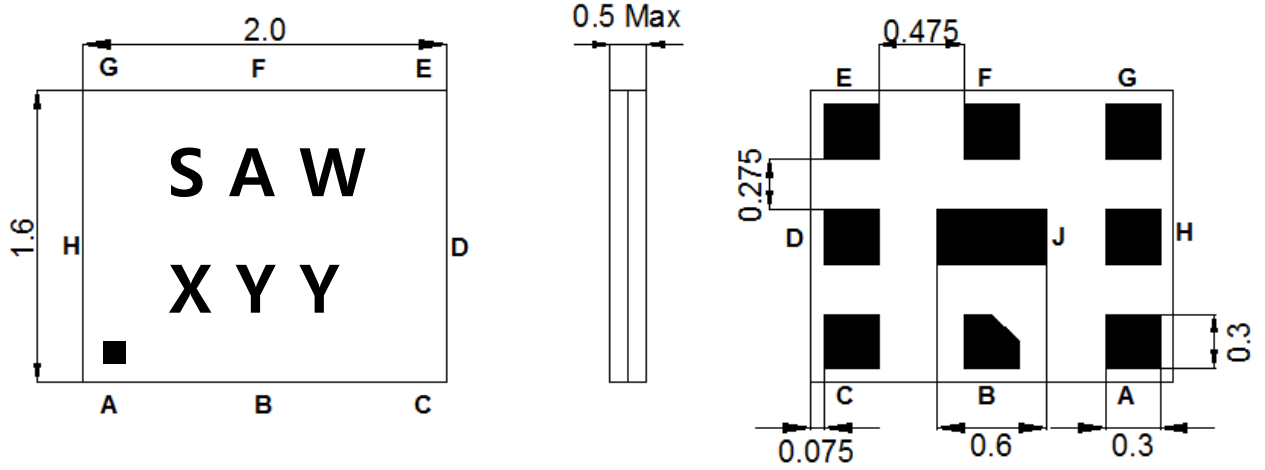


Ant to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	2110.0 ~ 2170.0	dB	-	1.6	2.2
Ripple	2110.0 ~ 2170.0	dB _{p-p}	-	0.5	1.0
VSWR of Ant Port	2110.0 ~ 2170.0	-	-	1.5	2.0
VSWR of Rx Port	2110.0 ~ 2170.0	-	-	1.5	2.0
Attenuation	1920.0 ~ 1980.0	dB	45	48	-
	1980.0 ~ 2025.0	dB	30	48	-
	2400.0 ~ 2500.0	dB	25	33	-
Amplitude balance($ S_{31}/S_{41} $)	2110.0 ~ 2170.0	dB	-1.3	-0.2/+1.0	+1.3
Phase balance $\Phi(S_{31}) - \Phi(S_{41}) + 180^\circ$	2110.0 ~ 2170.0	deg	-10	-5/+1	+10

Tx to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Isolation in Tx Band	1920.0 ~ 1980.0	dB	55	59	-
Isolation in Rx Band	2110.0 ~ 2170.0	dB	44	47	-

Notes : (1) With Matching Network .

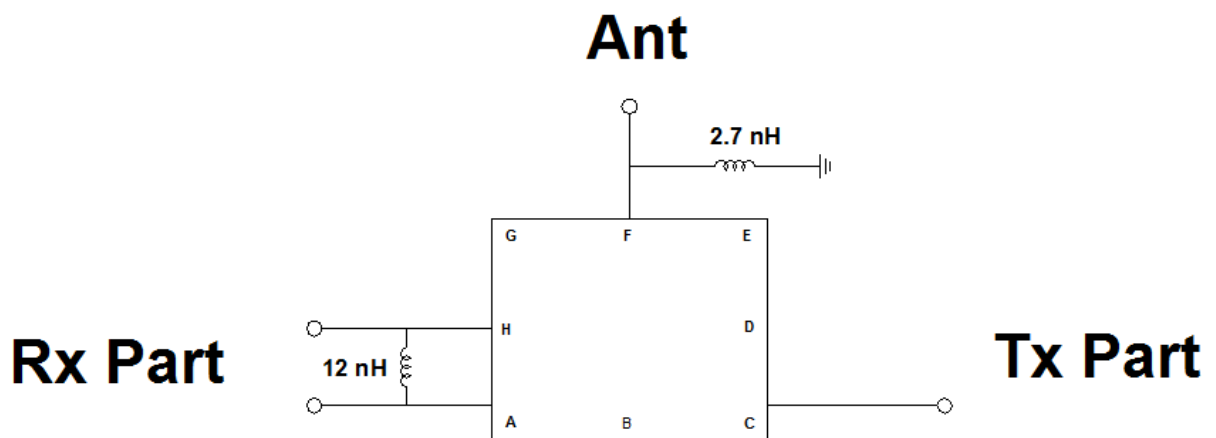
Package Dimensions



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

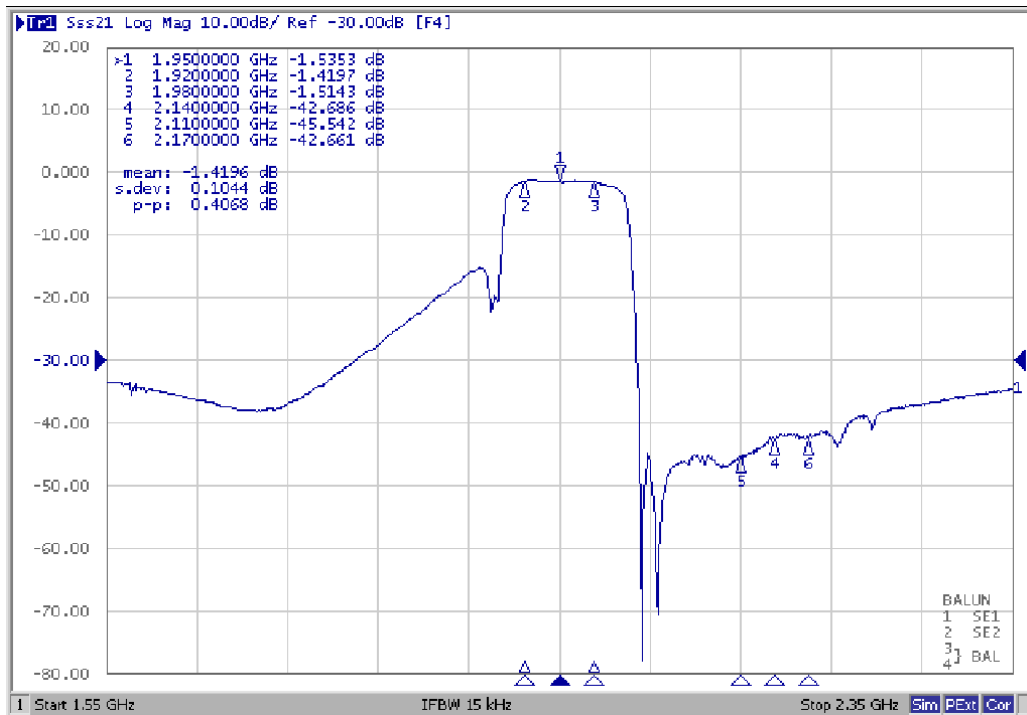
Pin Description	
B,D,E,G,J	Ground
F	Ant
C	Tx (1950.0MHz)
A,H	Rx (2140.0MHz)

Testing Environment

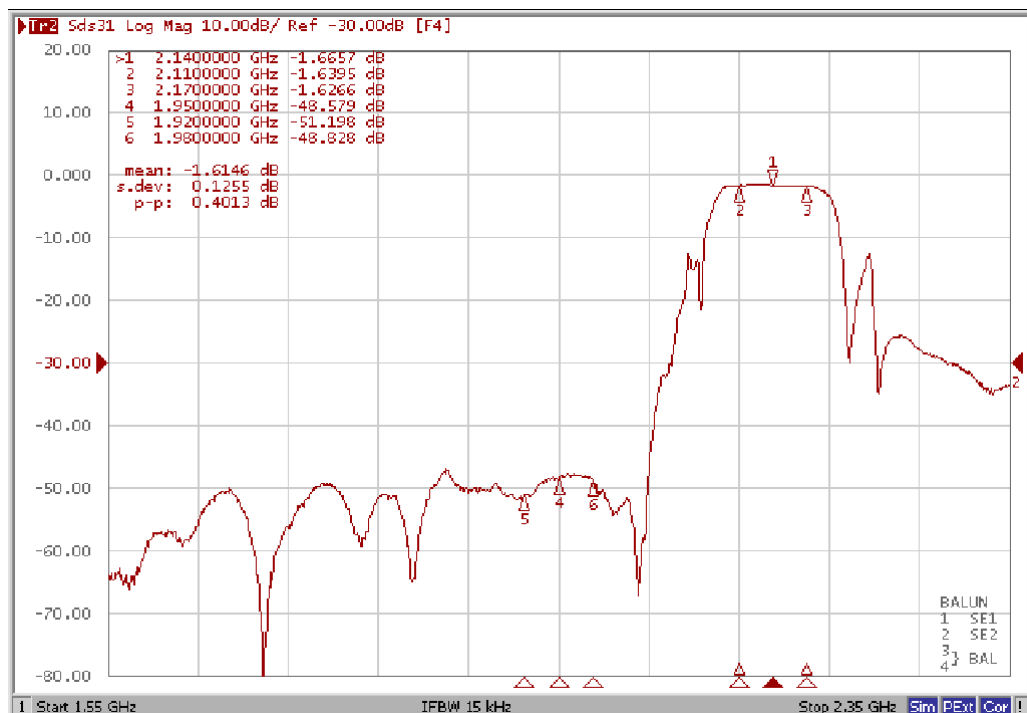


Frequency Characteristics

Tx to Ant

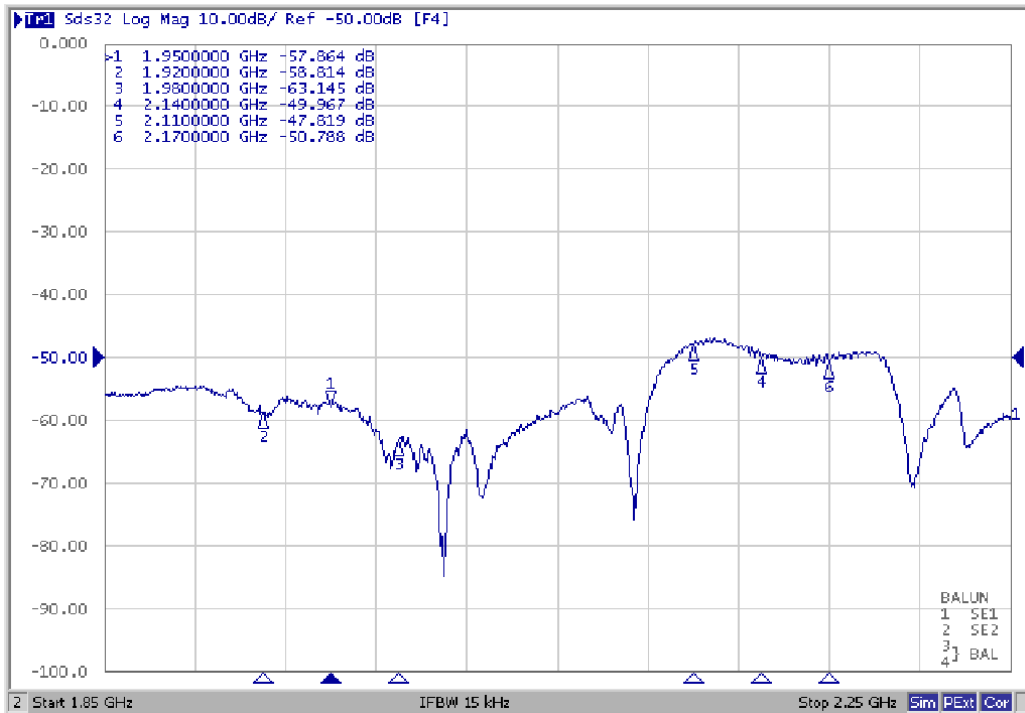


Ant to Rx

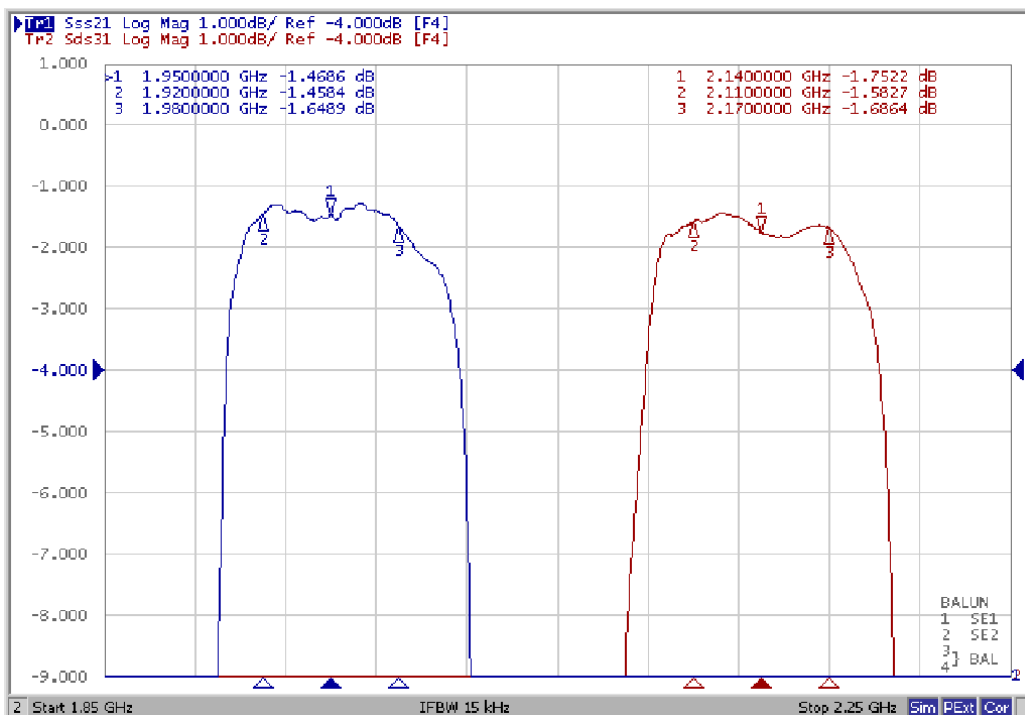




Isolation

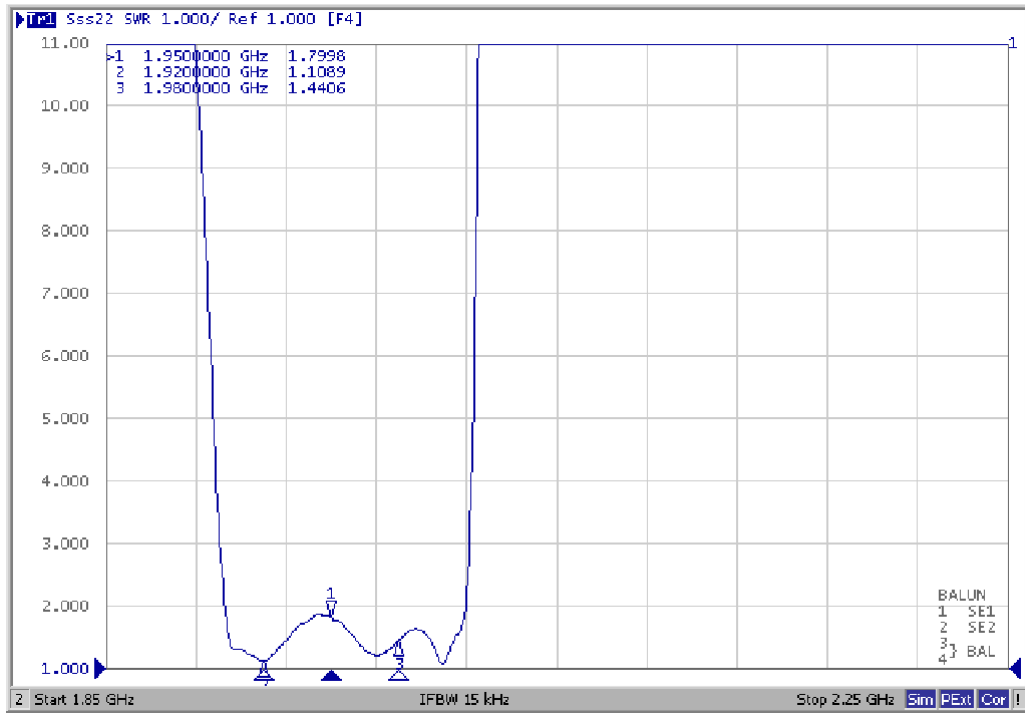


Ripple

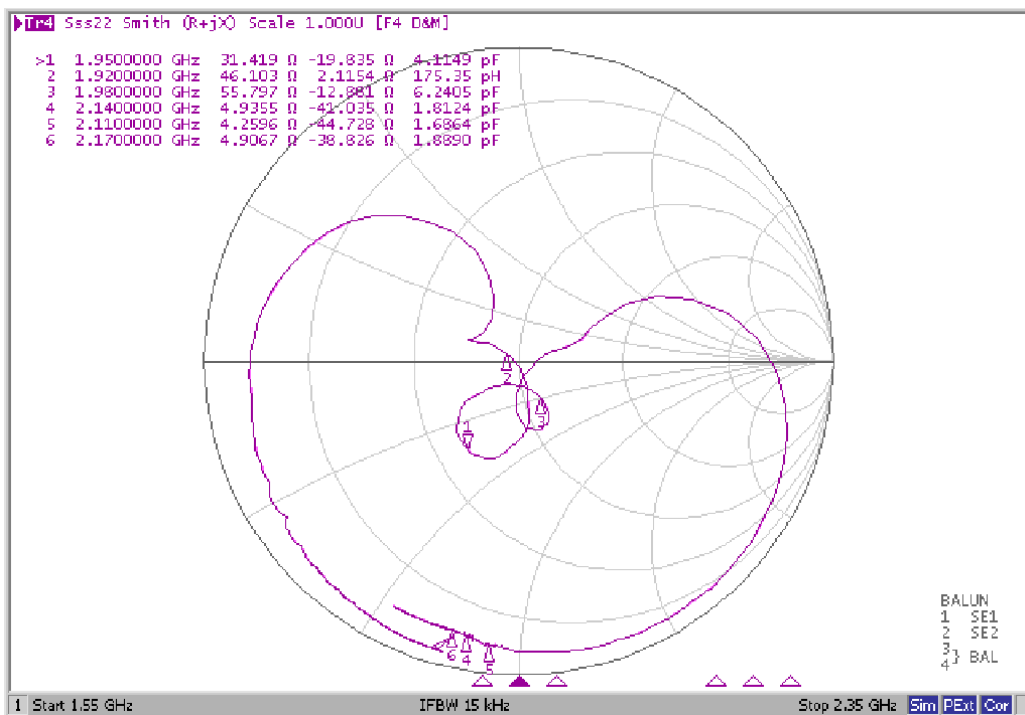




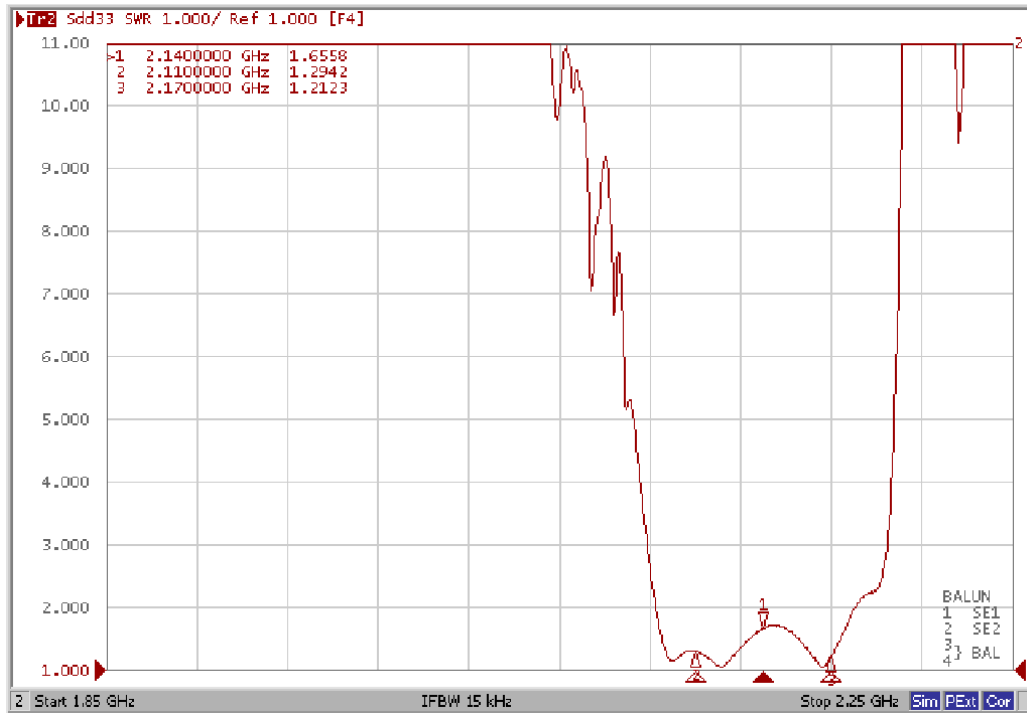
VSWR (Tx Port)



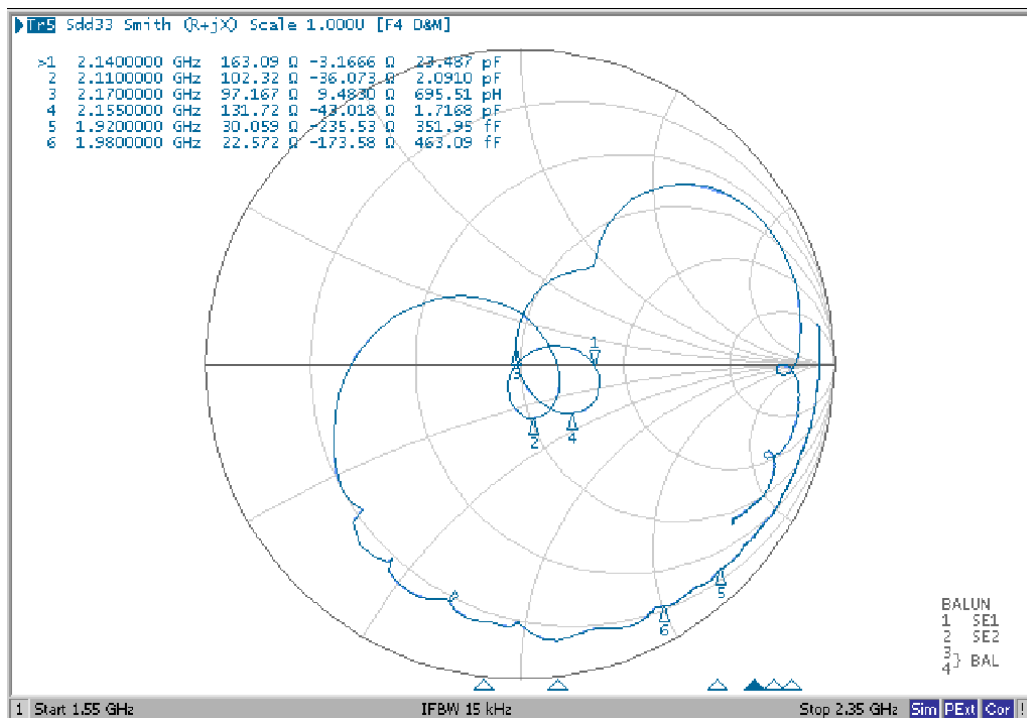
Smith Chart (Tx Port)



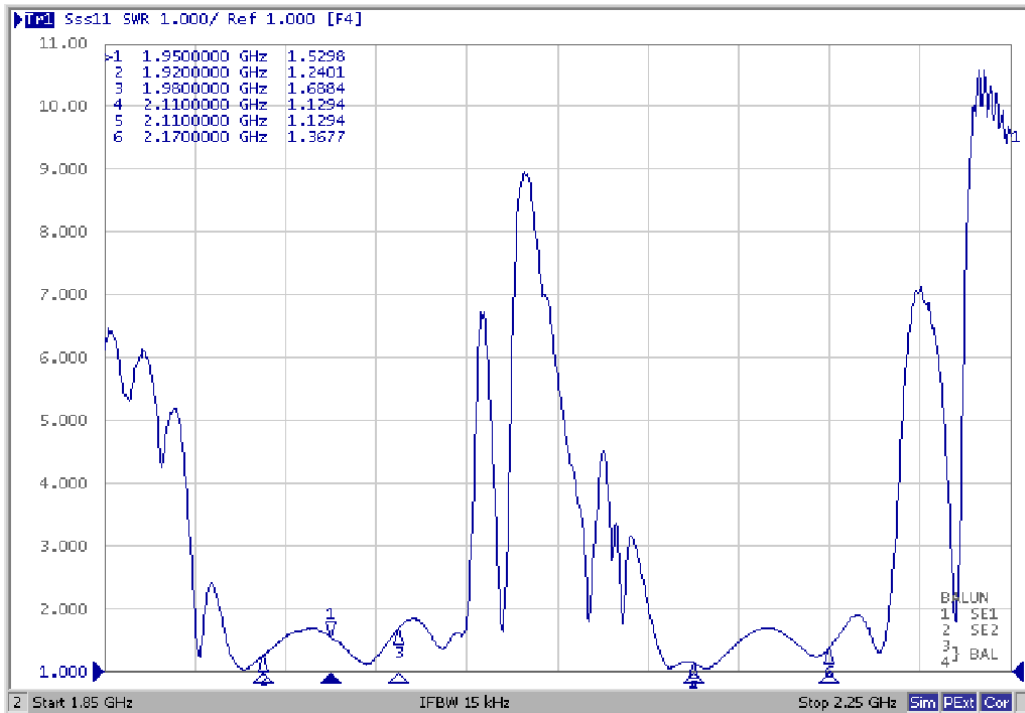
VSWR (Rx Port)



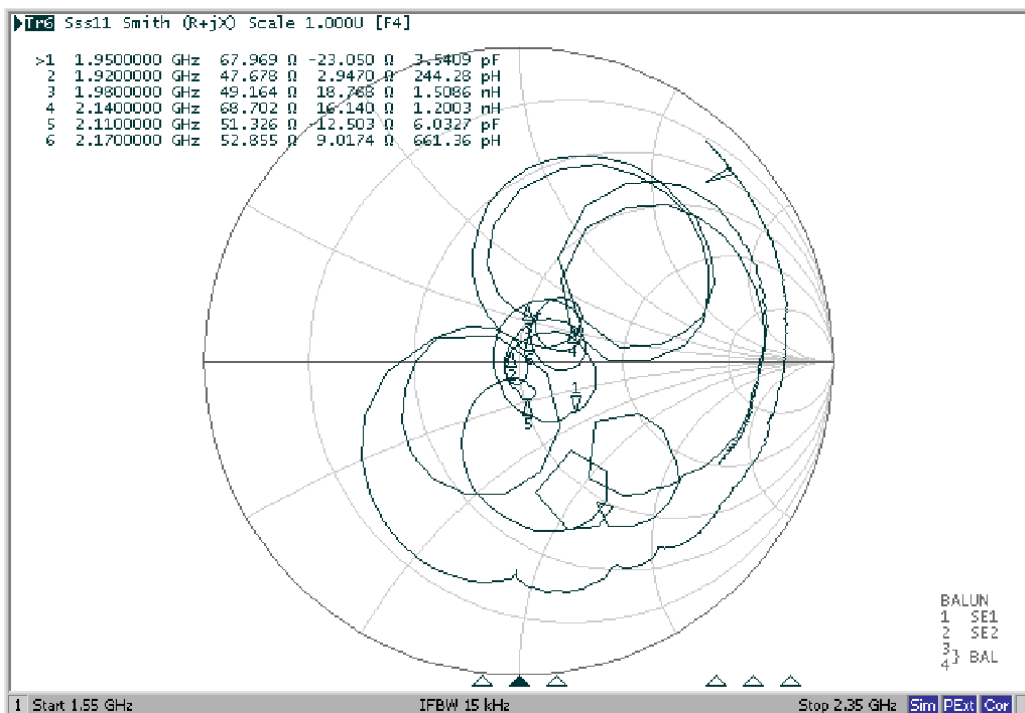
Smith Chart (Rx Port)



VSWR (ANT Port)



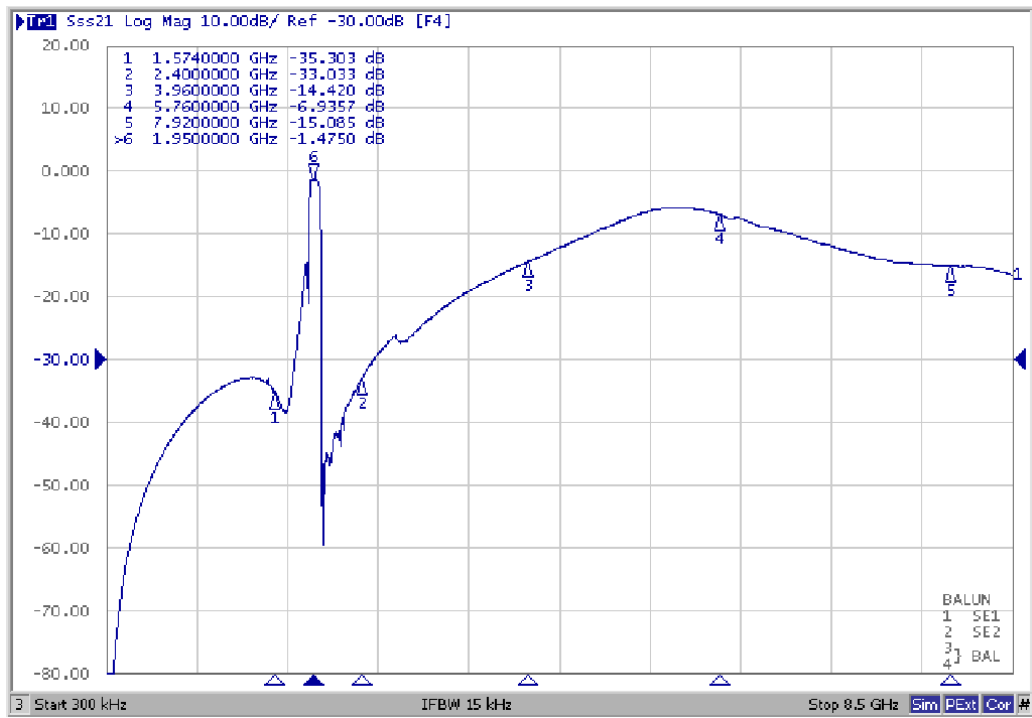
Smith Chart (ANT Port)



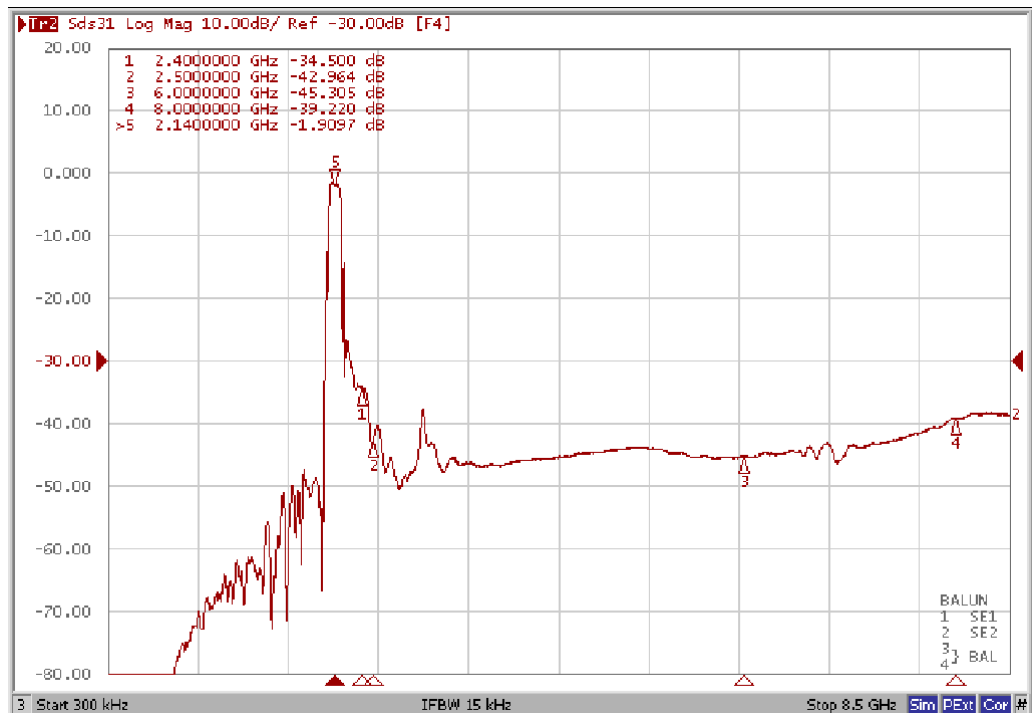


Wide Span

Tx

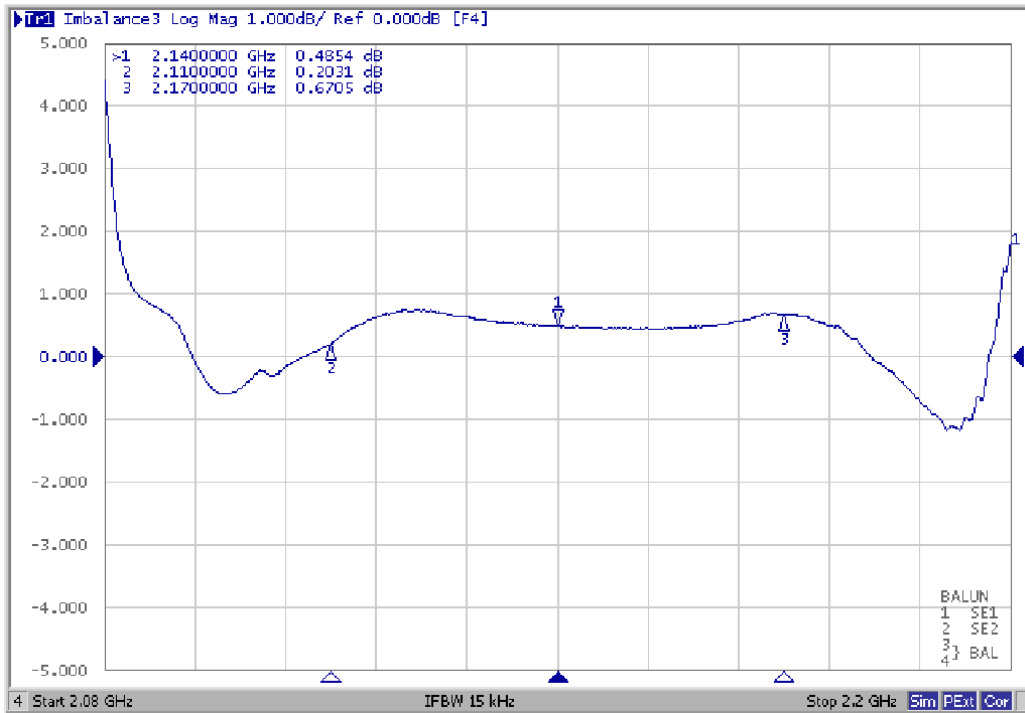


Rx





Amplitude balance of Ant to Rx+/Rx-



Phase balance of Ant to Rx+/Rx-

