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# SK3050DB

Band 5, Rx Balanced SAW Duplexer  
Revision 0: June 2017

MSL 3 Device



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

## □ 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	29dBm, Ta=+50deg.C, 50000h, CW		
Antenna Impedance(unbalanced) <sup>(1)</sup>	Ω	50//9.1nH		
Tx Impedance(unbalanced)	Ω	50		
Rx Impedance(balanced) <sup>(1)</sup>	Ω	100//56nH		
Package type		C64		
Length x Width	mm <sup>2</sup>	1.8 x 1.4		
Height	mm	0.65		

### Electrical Specification

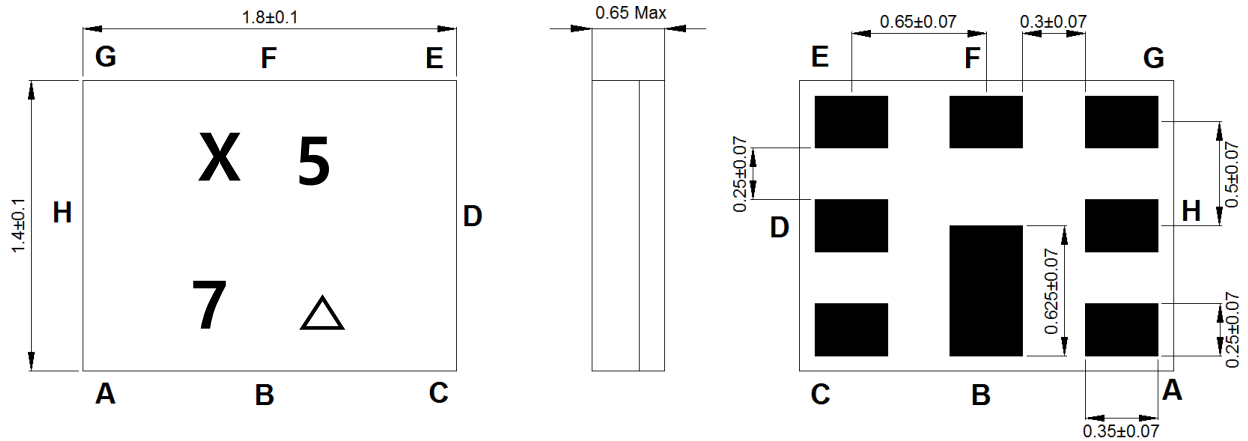
Tx to Ant		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
<b>Insertion Loss</b>	824.0 ~ 849.0	dB	-	1.7	2.0
<b>Ripple</b>	824.0 ~ 849.0	dB	-	0.8	1.2
<b>VSWR of Tx Port</b>	824.0 ~ 849.0	-	-	1.6	2.0
<b>VSWR of Ant Port</b>	824.0 ~ 849.0	-	-	1.6	2.0
<b>Attenuation</b>	779.0 ~ 804.0	dB	35	41	-
	869.0 ~ 894.0	dB	44	48	-
	1565.42 ~ 1605.89	dB	40	46	-
	1648.0 ~ 1698.0	dB	38	44	-
	1710.0 ~ 1785.0	dB	35	42	-
	1805.0 ~ 1880.0	dB	33	40	-
	1920.0 ~ 1980.0	dB	30	38	-
	2110.0 ~ 2170.0	dB	30	36	-
	2400.0 ~ 2557.0	dB	25	32	-
	4900.0 ~ 5950.0	dB	25	37	-

Ant to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
<b>Insertion Loss</b>	869.0 ~ 894.0	dB	-	1.9	2.3
<b>Ripple</b>	869.0 ~ 894.0	dB	-	0.6	1.2
<b>Phase Balance</b>	869.0 ~ 894.0	deg	-10	+1.0/+3.4	+10
<b>Amplitude Balance</b>	869.0 ~ 894.0	dB	-1.0	-0.1/+0.2	+1.0
<b>VSWR of Ant Port</b>	869.0 ~ 894.0	-	-	1.7	2.0
<b>VSWR of Rx Port</b>	869.0 ~ 894.0	-	-	1.7	2.0
<b>Attenuation</b>	824.0 ~ 849.0	dB	50	55	-
	1710.0 ~ 1788.0	dB	45	52	-
	1850.0 ~ 1920.0	dB	45	51	-
	1920.0 ~ 1980.0	dB	45	51	-
	2400.0 ~ 2500.0	dB	44	48	-
	3476.0 ~ 3576.0	dB	40	47	-
	4900.0 ~ 5950.0	dB	30	40	-

Tx to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Isolation	824.0 ~ 849.0	dB	55	59	-
	869.0 ~ 894.0	dB	50	53	-

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

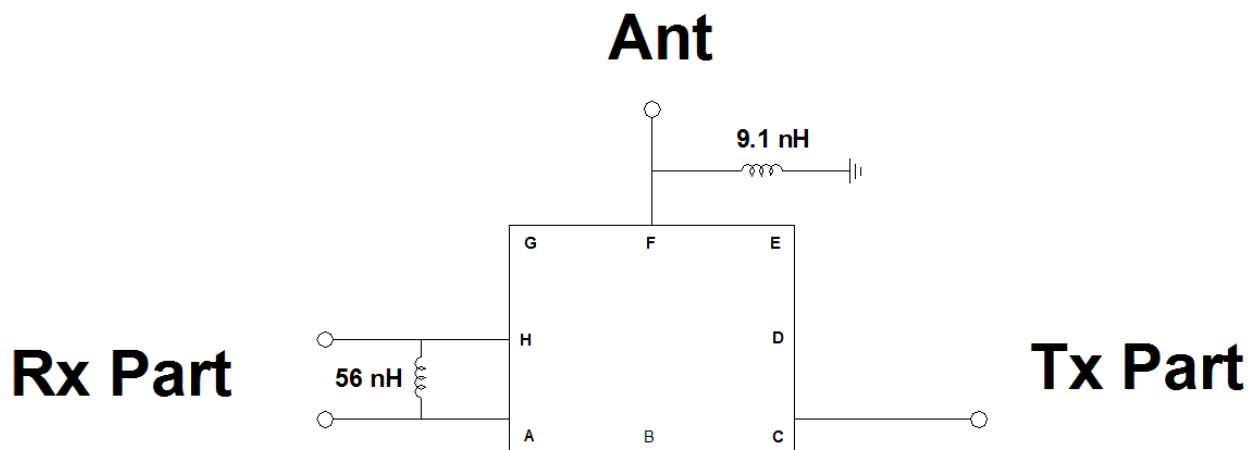
## Package Dimensions



Marking Descriptions	
X	S or W
5	Band Class
7	Series Number
△	Date Code(Year+Month)

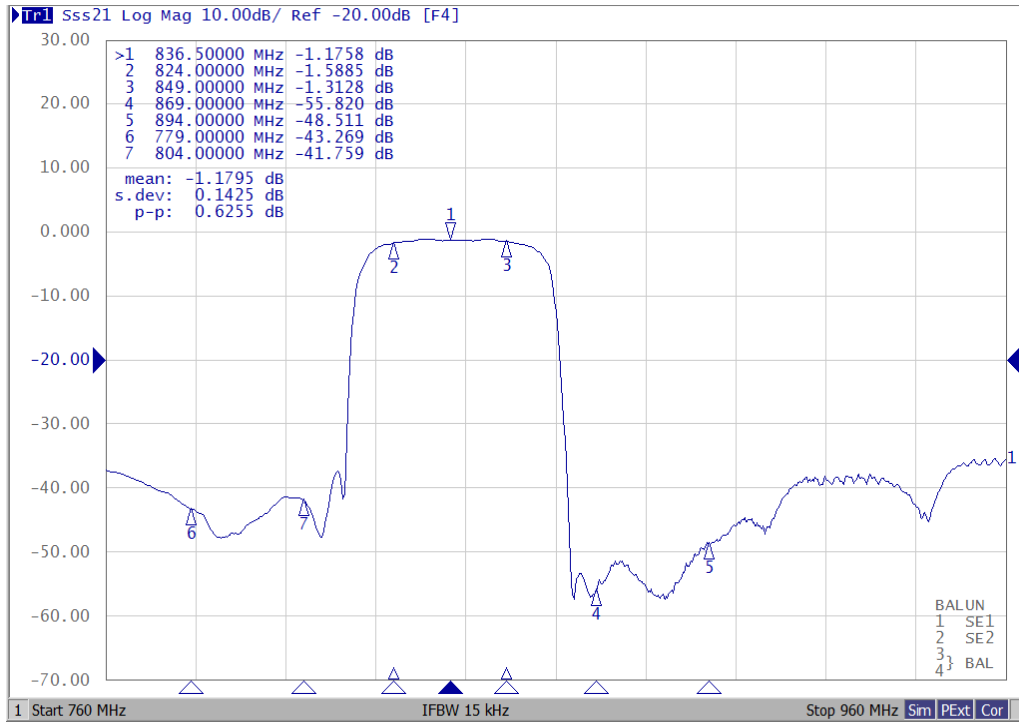
Pin Description	
B,D,E,G	Ground
F	Ant
C	Tx (836.5MHz)
A,H	Rx (881.5MHz)

## Testing Environment



## □ Frequency Characteristics

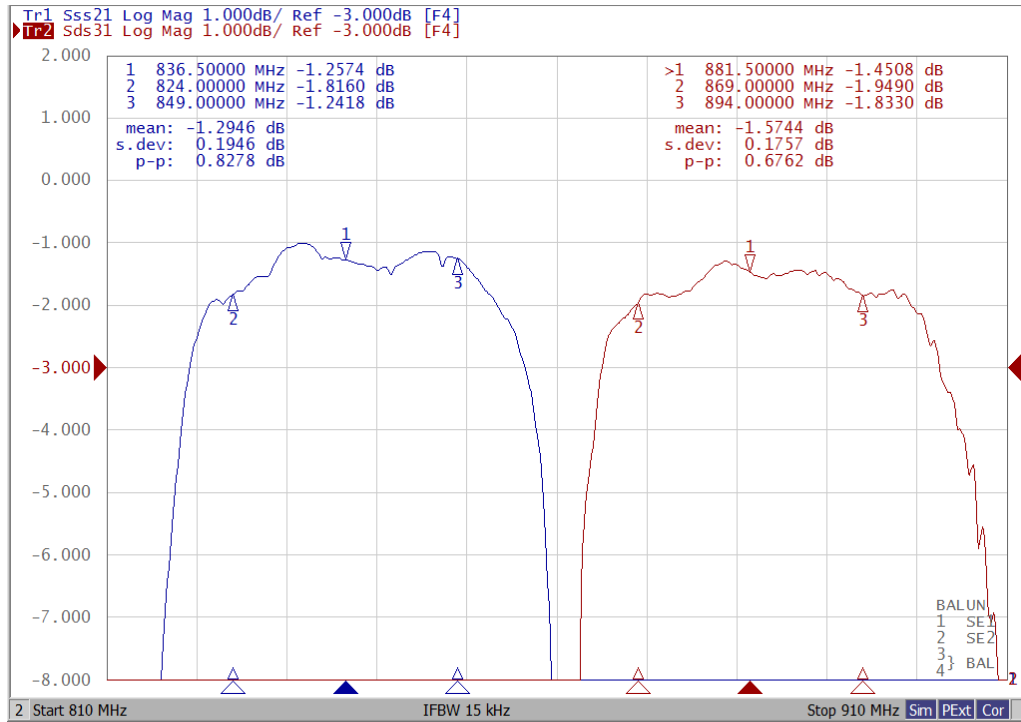
Tx to Ant



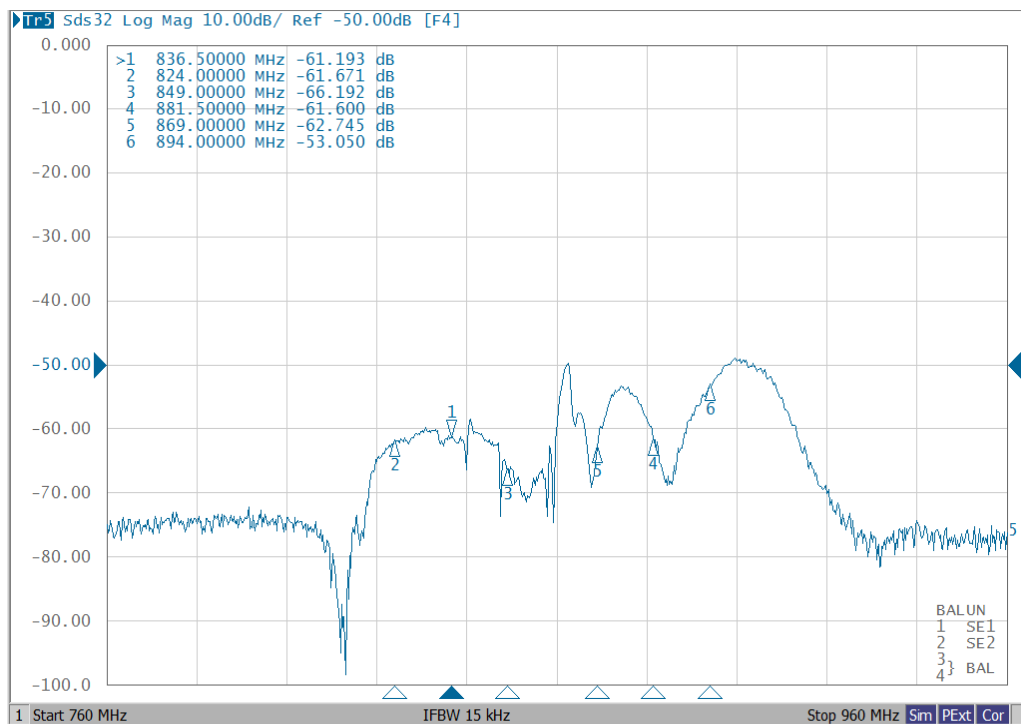
Ant to Rx



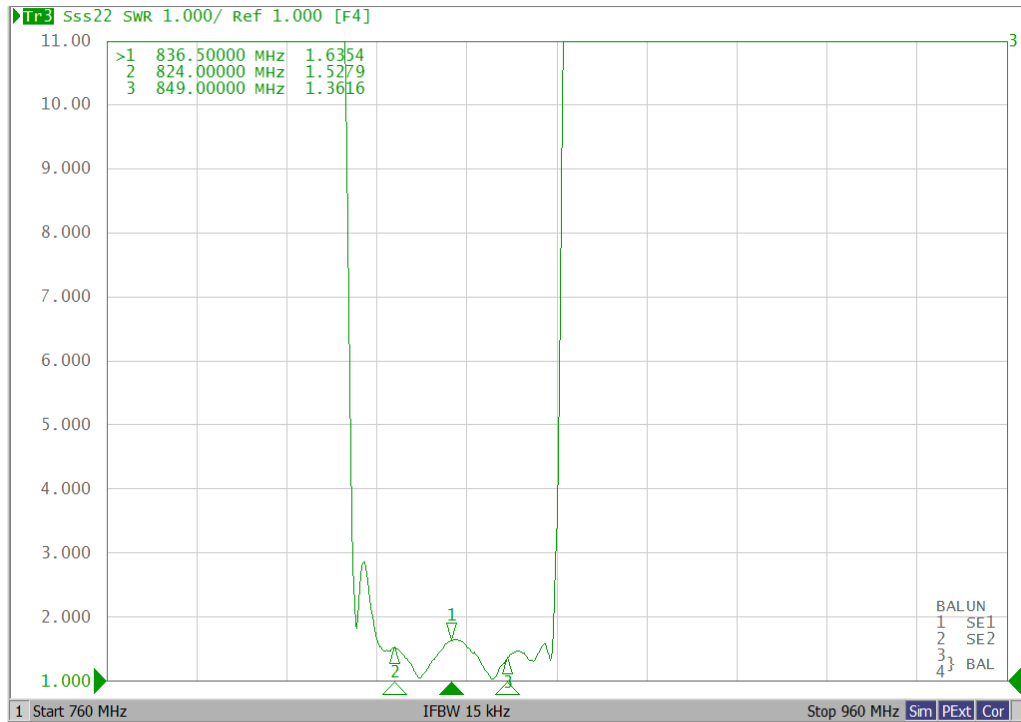
### Ripple



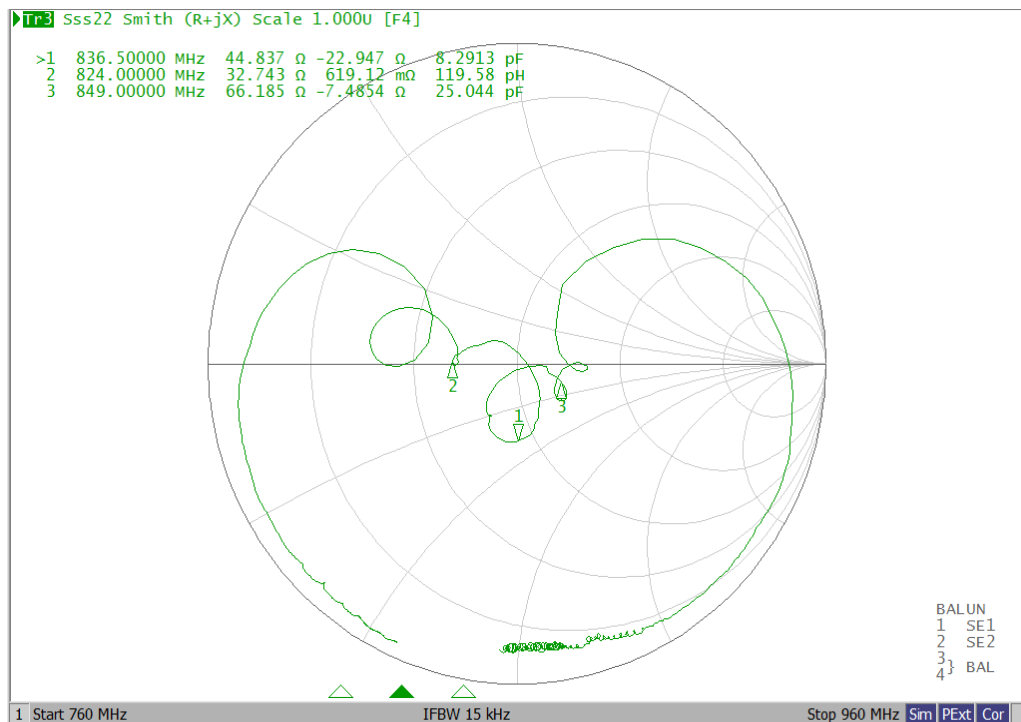
### Isolation



### VSWR (Tx Port)



### Smith Chart (Tx Port)

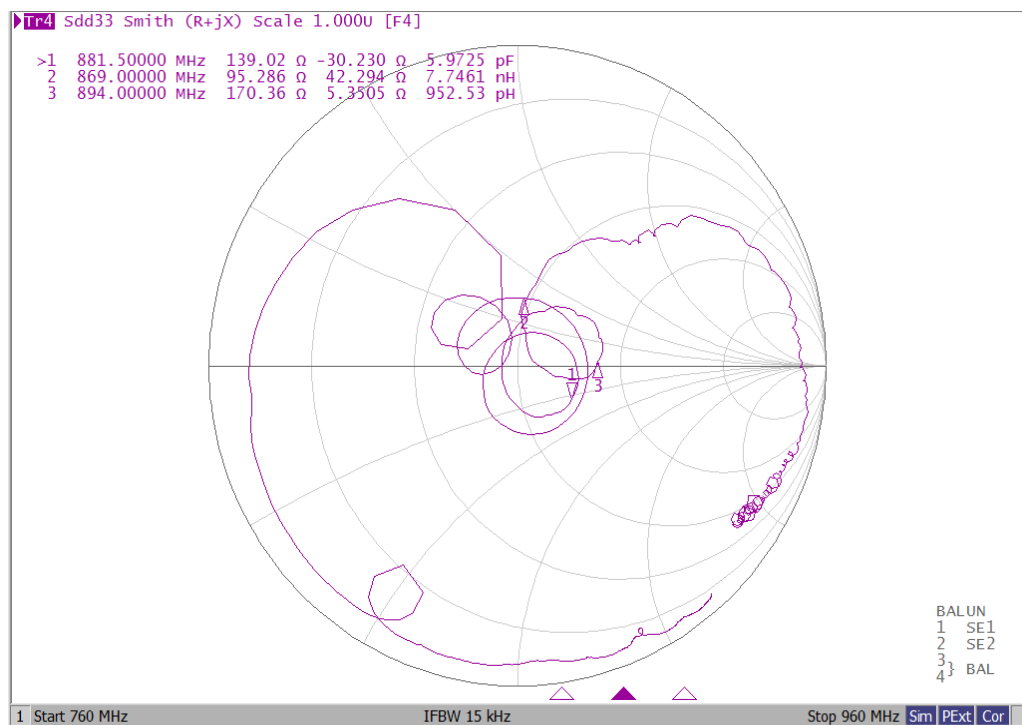




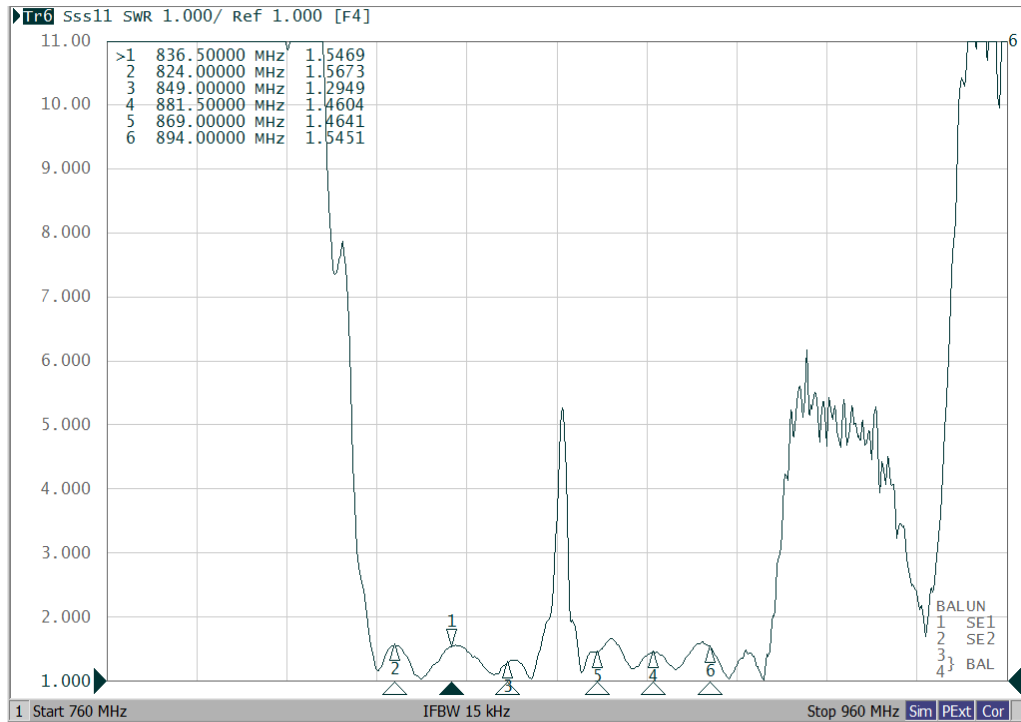
### VSWR (Rx Port)



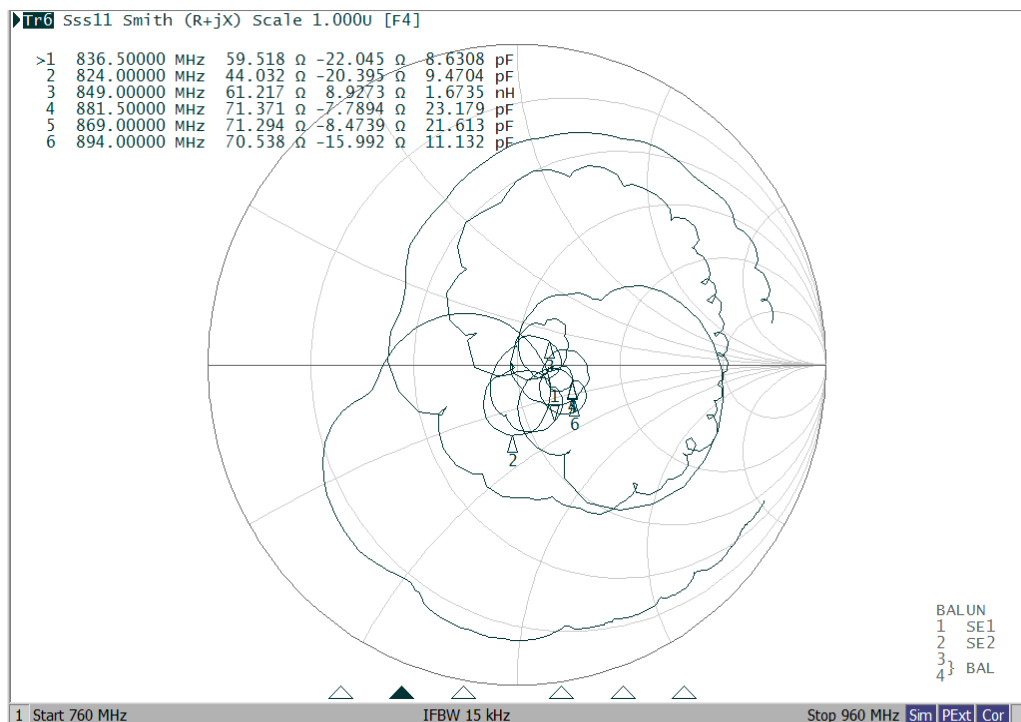
### Smith Chart (Rx Port)



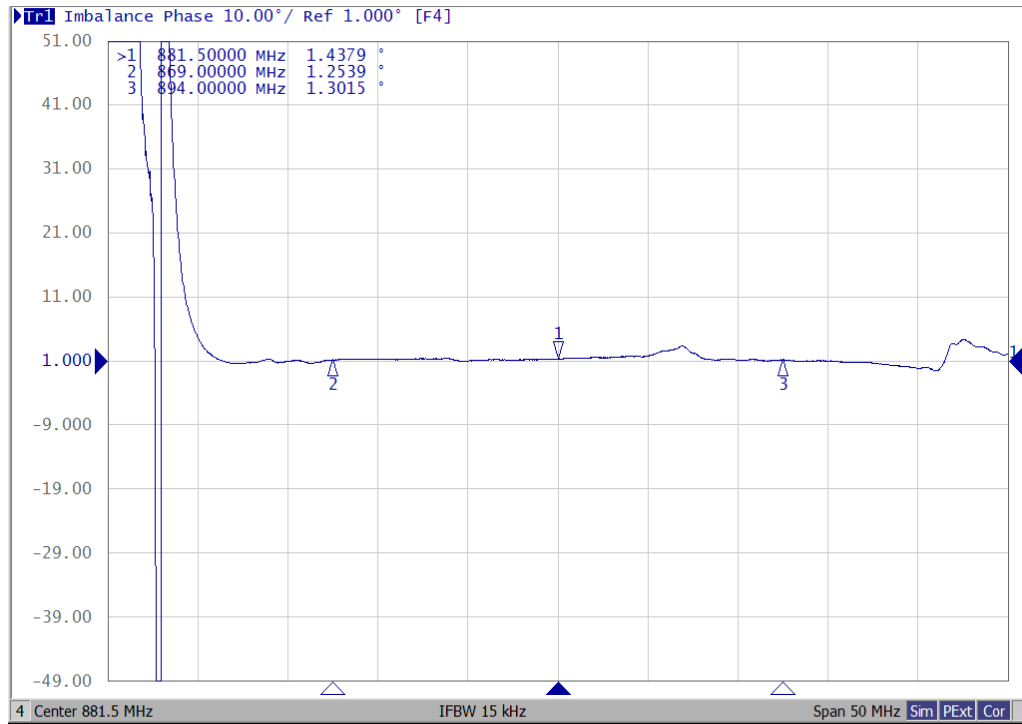
### VSWR (ANT Port)



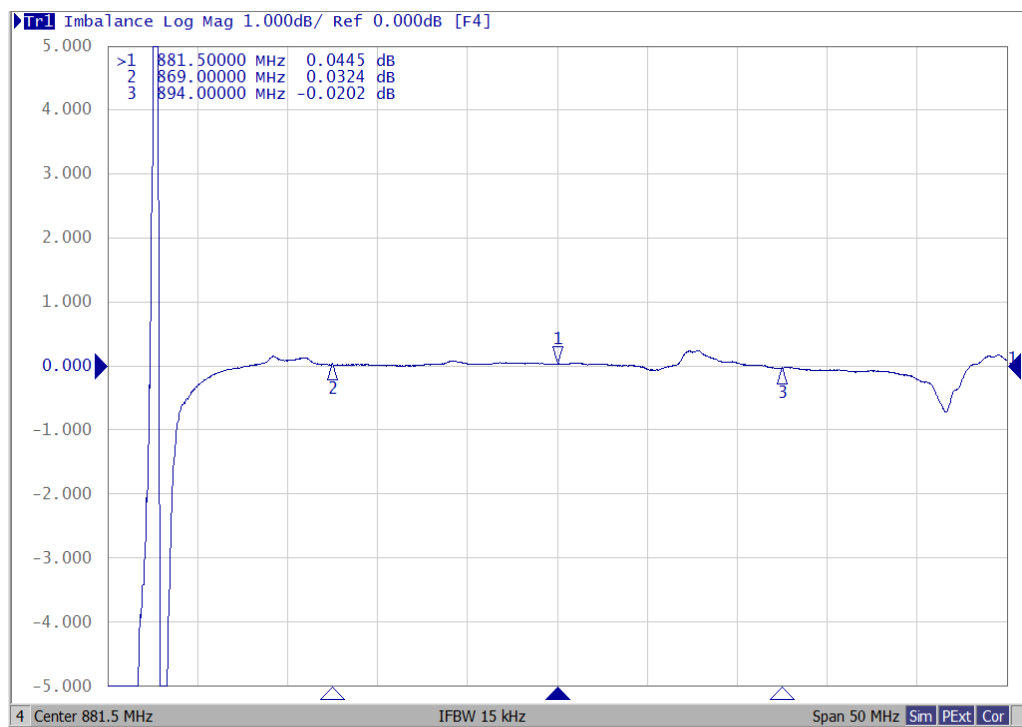
### Smith Chart (ANT Port)



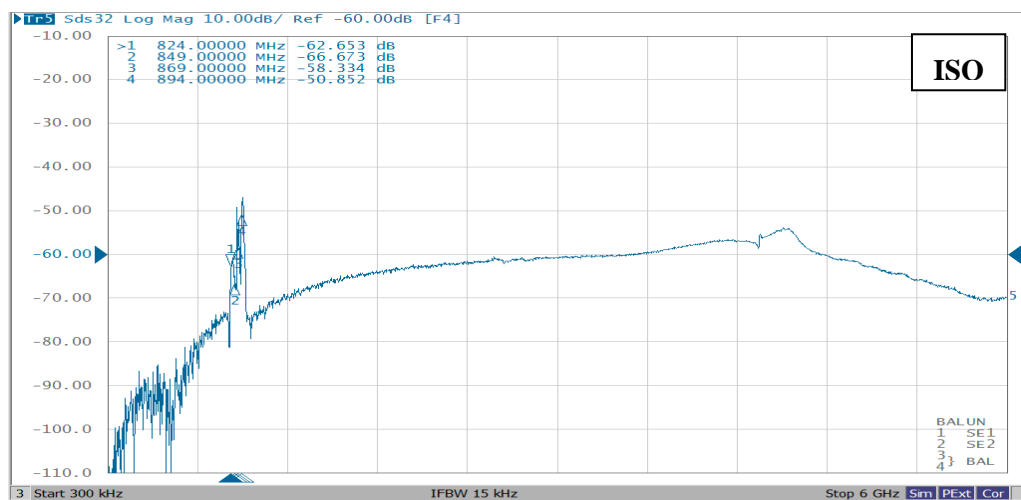
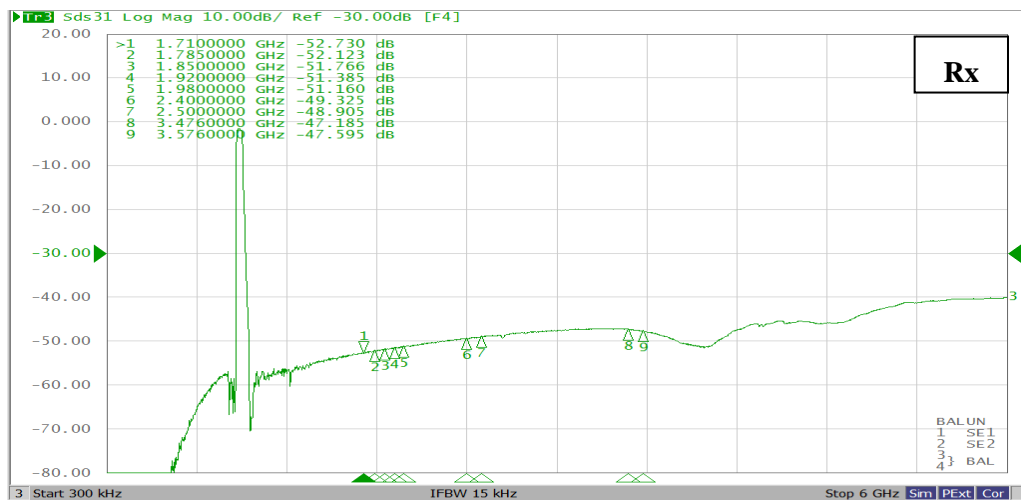
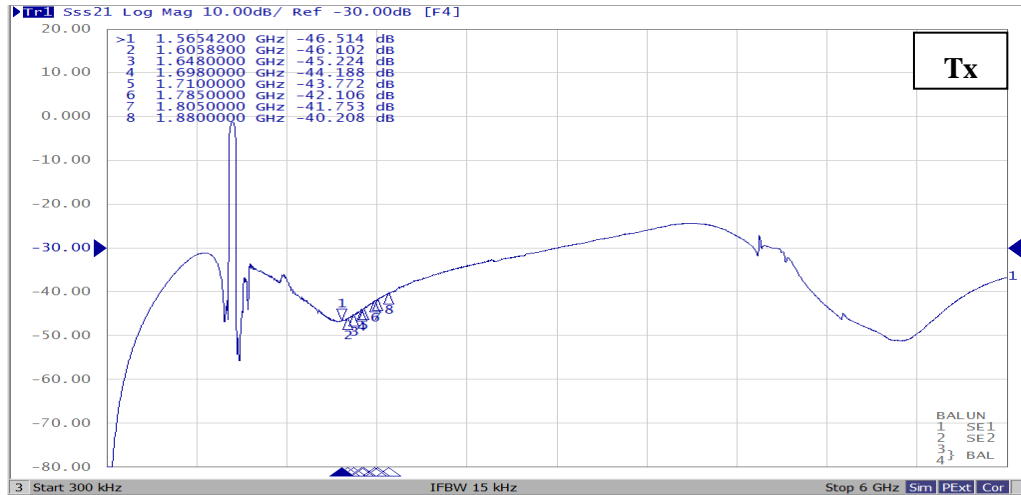
### Phase Balance



### Amplitude Balance



### Wide Span



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