



PRODUCT SPECIFICATION

REV A January 2011

Oscilent Controlled Document

Ordering Code / Part Number	Product Description
821-IF109.5M-20A	109.5 MHz IF SAW Filter 20.35 MHz Bandwidth

Specification Contents

- o Mechanical Dimensions
- o Test Circuit
- o Maximum Ratings
- o Electrical Specification
- o Frequency Response
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Notes

- o Electrostatic Sensitive Device (ESD) 
- o Avoid excessive ultrasonic exposure
- o Solderability compatible with JEDEC J-STD-020C Pb-free process, 260°C peak reflow temperature
- o This product complies with EU directive 2002/95/EC (RoHS compliance)



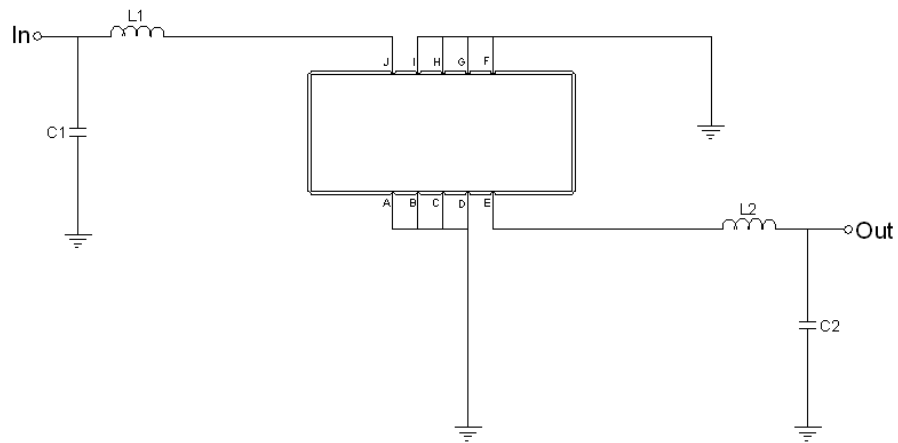


Mechanical Dimensions (mm)



Pin Description	
A, B, C, D, F, G, H, I	Ground
J	Input
E	Output

Test Circuit



Test Fixture & Values	
Input	L1=68 nH, C1=16 pF
Output	L2=68 nH, C1=16 pF
Source/Load Impedance	50 Ω



Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operating Temperature Range	°C	0	-	70
Storage Temperature Range	°C	-30	-	80
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) ⁽¹⁾	Ω	-	50	-
Load Impedance (single ended) ⁽¹⁾	Ω	-	50	-

Notes: With Matching Network (Ref. Testing Environment Circuit as shown above).

Those impedances could be modified with different impedance values and/or structures, if necessary.

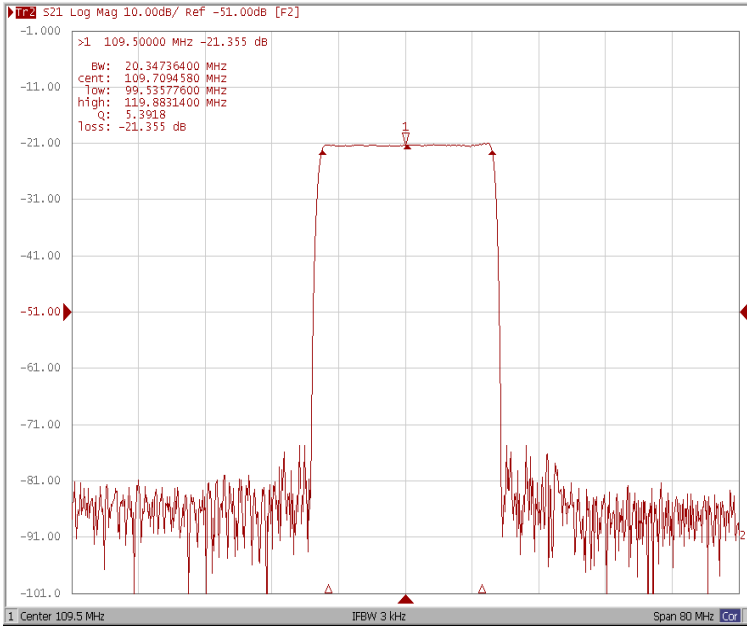
Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	109.5	-
Insertion Loss at Fo	dB	-	21.37	25.0
Group Delay Variation (Fo±9.22MHz)	ns	-	40	80
Absolute Delay	us	-	1.89	-
Passband Ripple (Fo±9.22MHz)	dB	-	0.45	1.0
Bandwidth at -1dB	MHz	20.00	20.35	-
Bandwidth at -10dB	MHz	-	21.40	21.80
Bandwidth at -20dB	MHz	-	21.90	22.20
Bandwidth at -30dB	MHz	-	22.20	22.50
Bandwidth at -45B	MHz	-	22.50	-
Ultimate Rejection	dB	-	50	-
Temperature Coefficient of Frequency	ppm/°C	-	-72	-

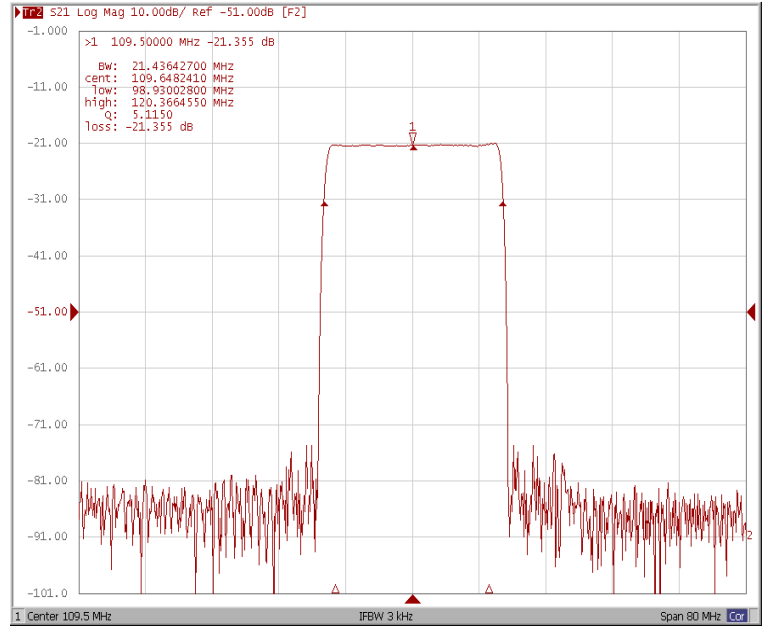


Frequency Response

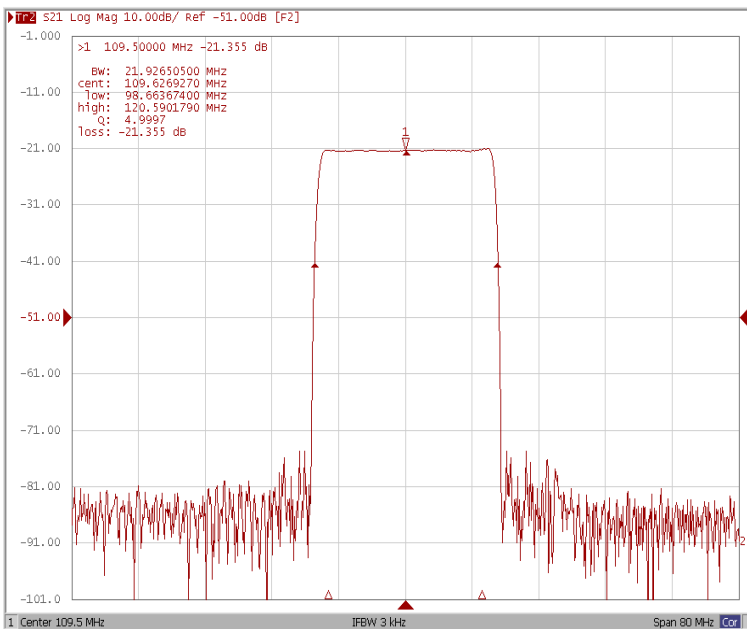
Bandwidth at -1.0 dB



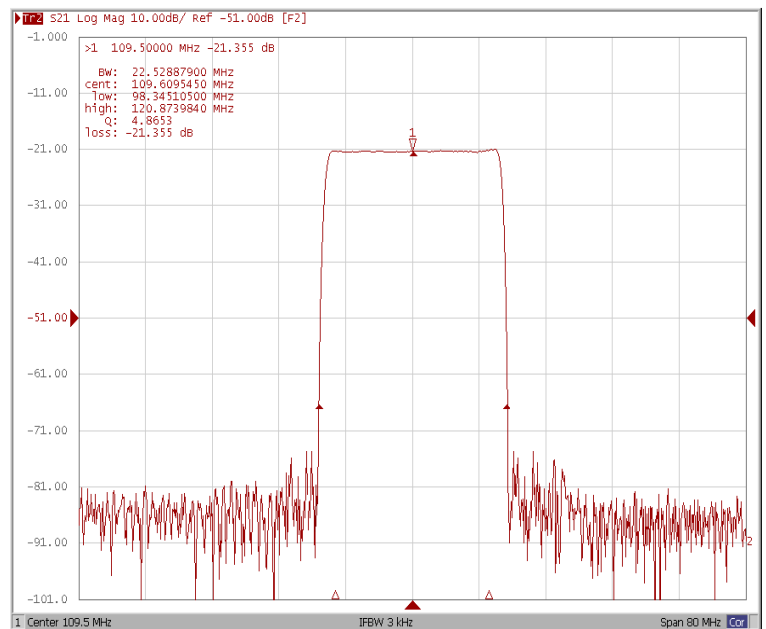
Bandwidth at -10.0 dB



Bandwidth at -20.0 dB

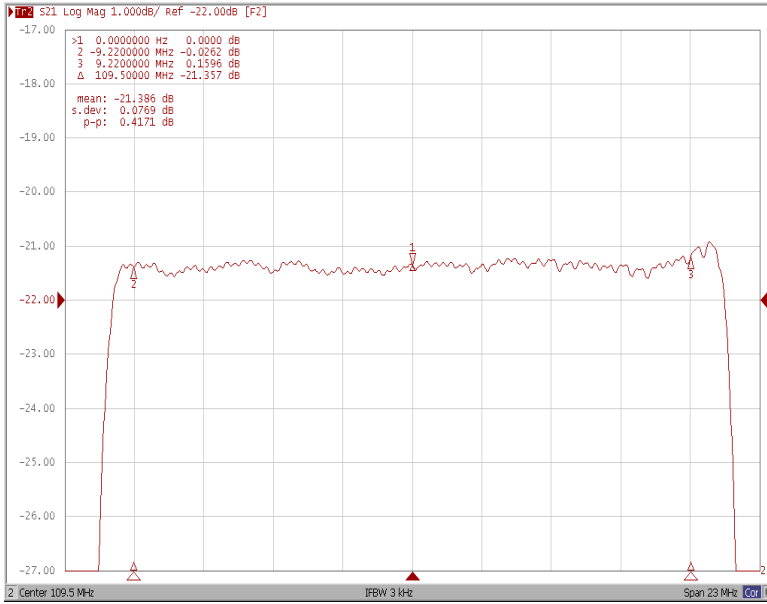


Bandwidth at -45.0 dB

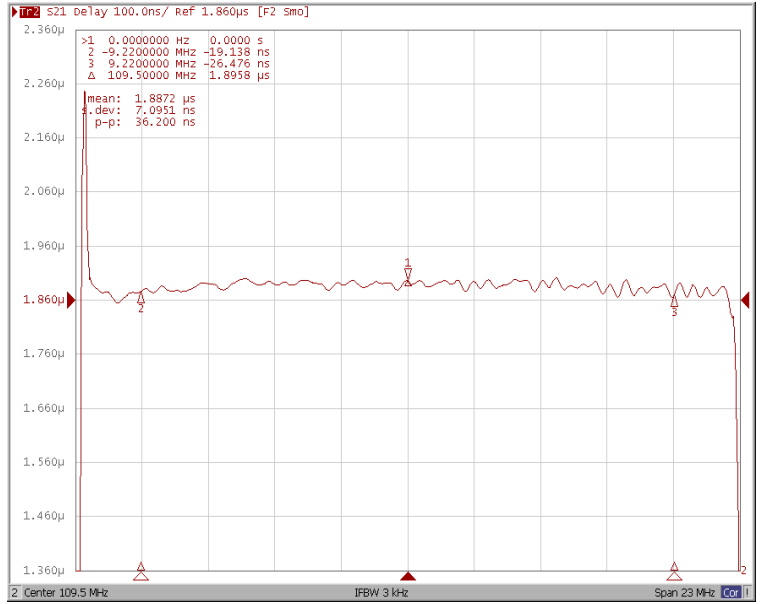




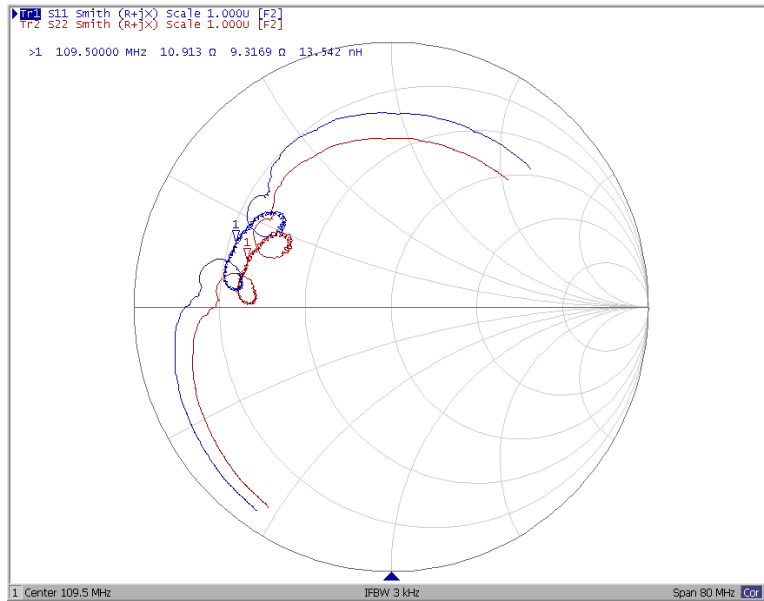
Ripple Variation $F_o \pm 9.22\text{MHz}$



Group Delay Variation $F_o \pm 9.22\text{MHz}$



Smith Chart





VSWR

