



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)



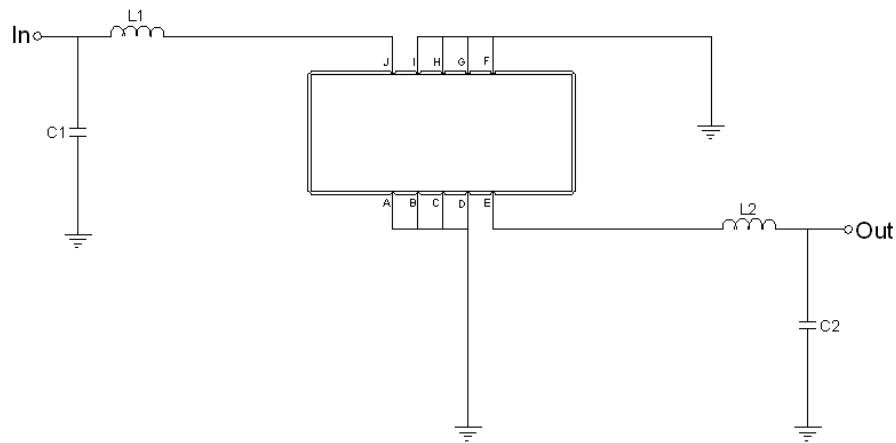


Mechanical Dimensions (mm)



| 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.

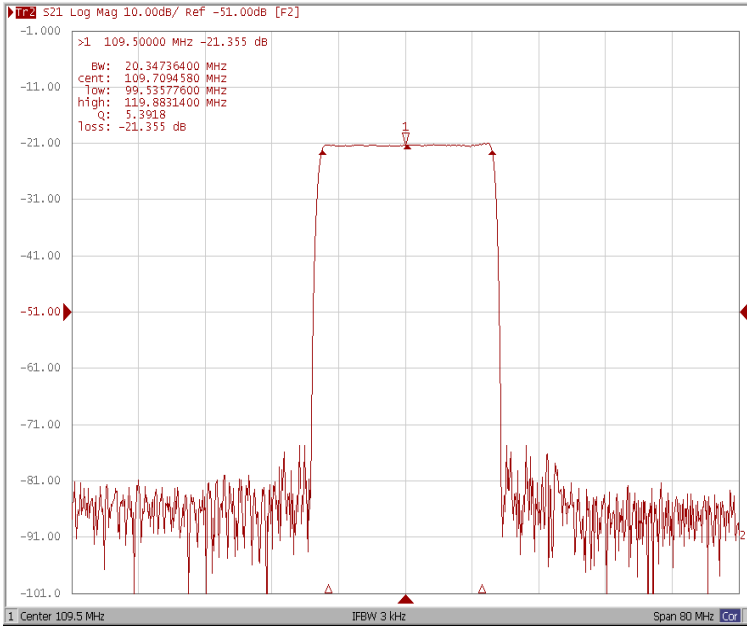
Electrical Specification

| 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 | - |

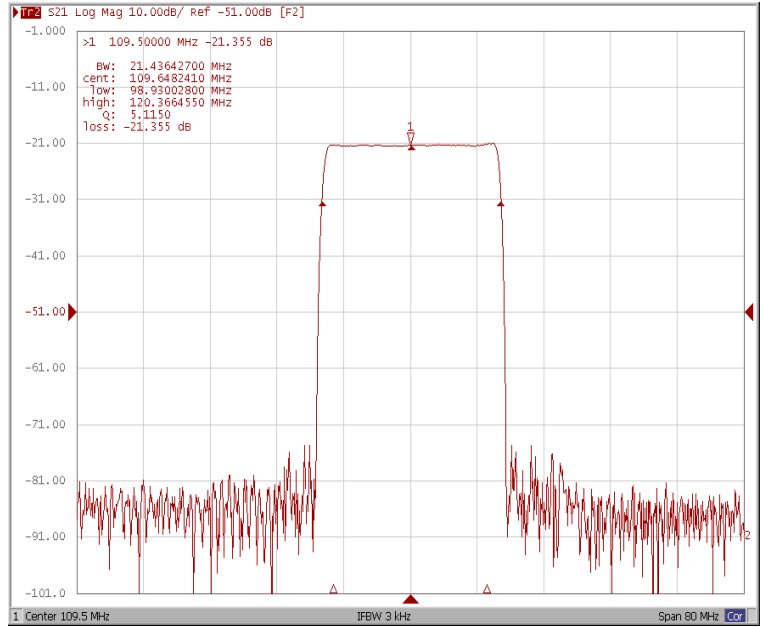


Frequency Response

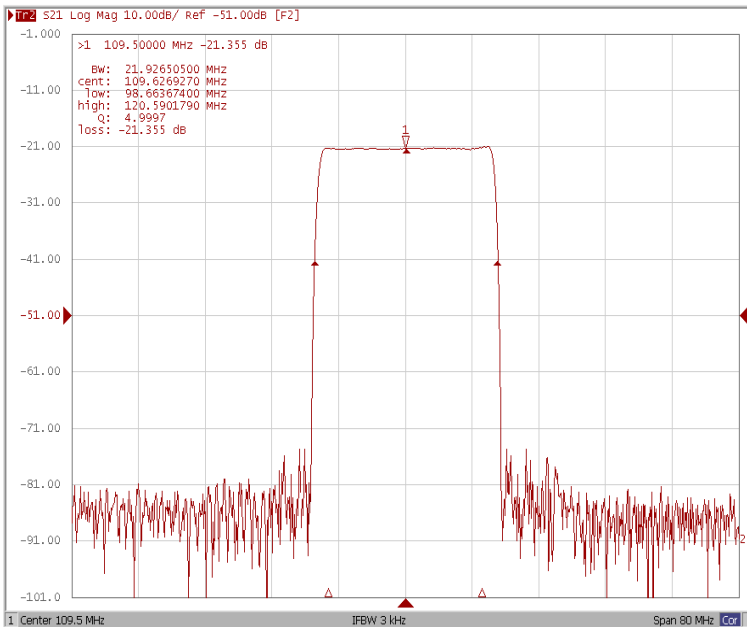
Bandwidth at -1.0 dB



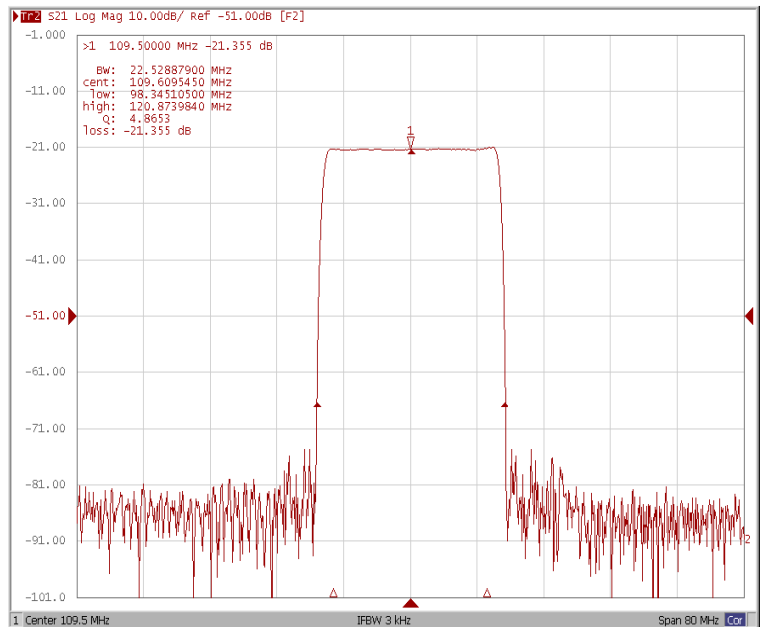
Bandwidth at -10.0 dB



Bandwidth at -20.0 dB



Bandwidth at -45.0 dB

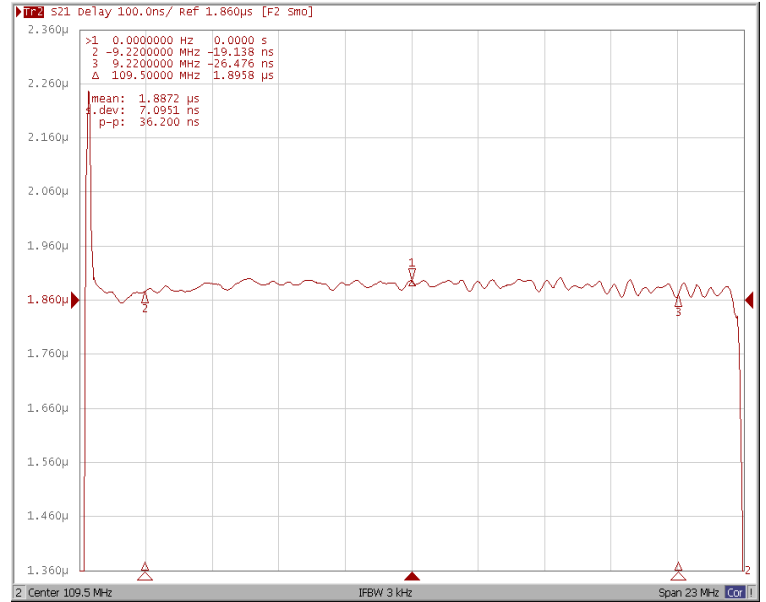




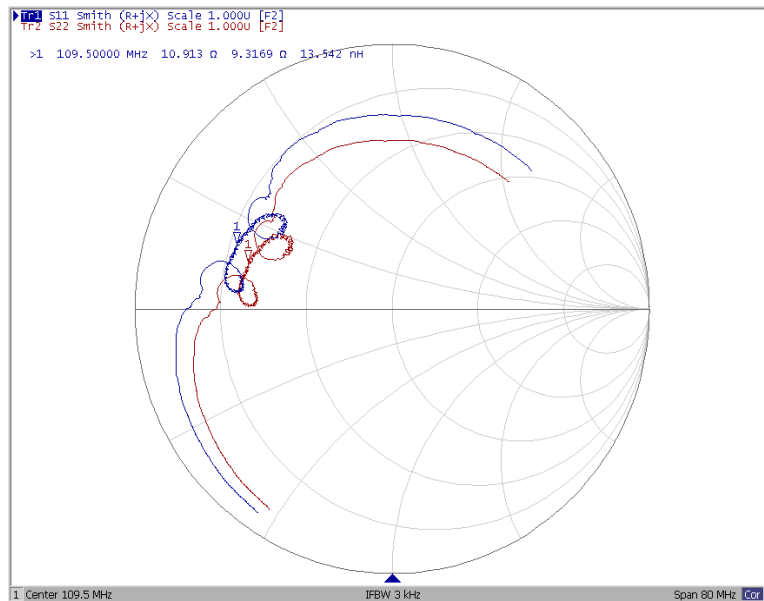
Ripple Variation $F_o \pm 9.22\text{MHz}$



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



Smith Chart





VSWR

