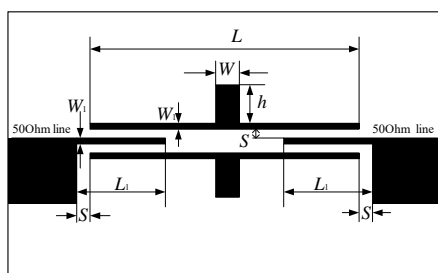
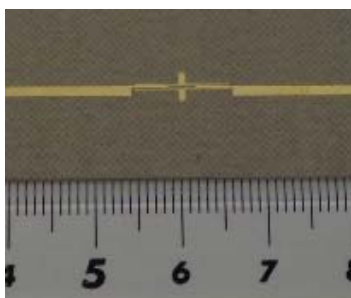


Compact UWB BPFs using Microstrip Stub-Loaded Multimode Resonators

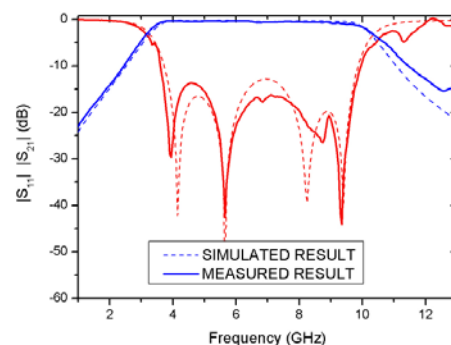
- Compact size realized using microstrip open- or/and short-stub loaded multi-mode resonators.
- Wide passband with $FBW > 100\%$.
- Low loss with passband $I.L. = 0.5 \sim 1.4$ dB and $R.L. \sim 15$ dB.
- Easy for fabrication with minimum strip-width=0.2mm and minimum gap-width=0.1mm.
- Substrate with $\epsilon_r = 9.8$, thickness $h = 1.27$ mm, and loss $\tan \delta = 0.003$.



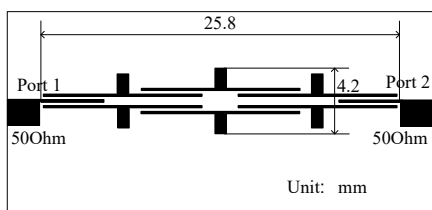
UWB BPF using one open stub-loaded dual-mode resonator doublet



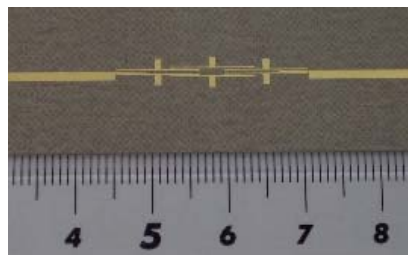
Fabricated filter



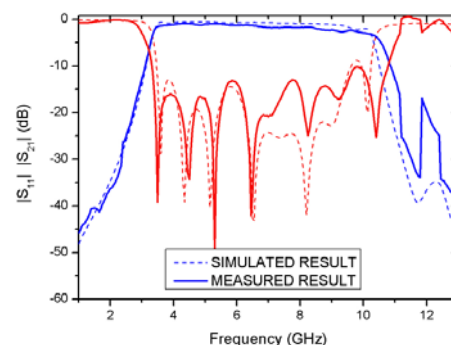
Frequency response



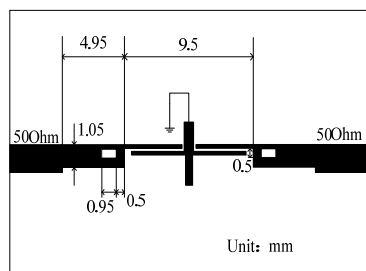
UWB BPF using three cascaded open stub-loaded dual-mode resonator doublets



Fabricated filter



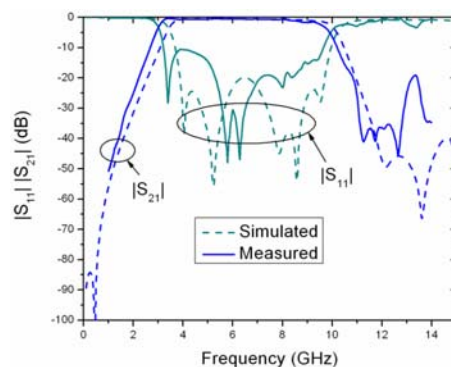
Frequency response



UWB BPF using one open and short-stub-loaded three-mode resonator



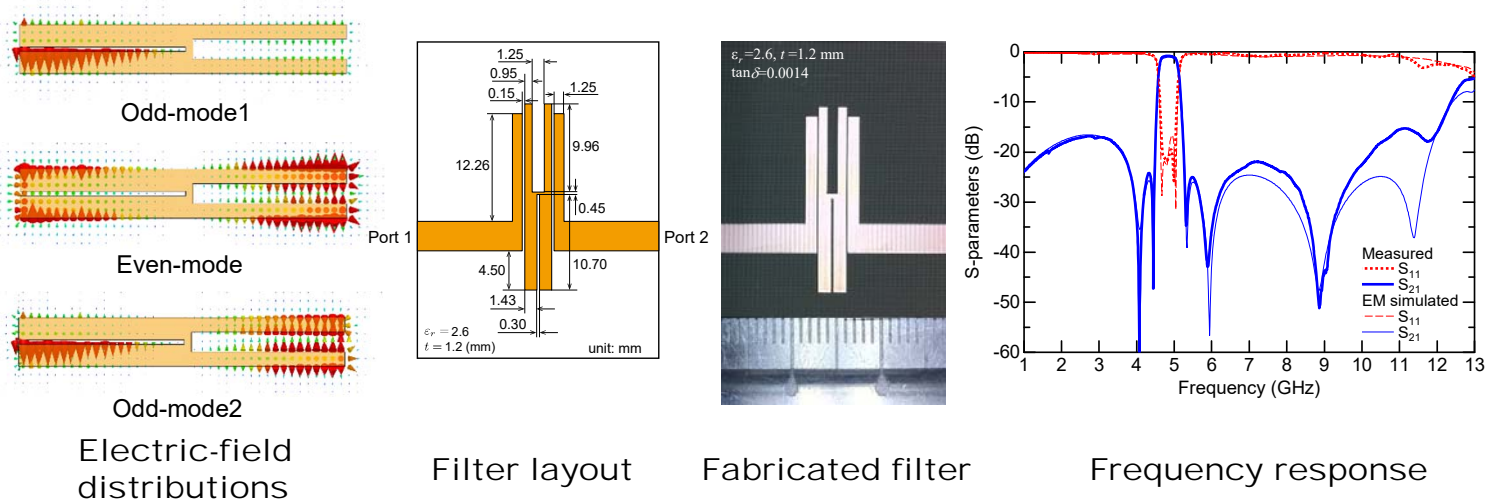
Fabricated filter



Frequency response

Three-mode H-shaped Resonator Bandpass Filter

- Compact size realized with H-shaped resonator.
- Three-mode resonator having two odd-mode and one even-mode resonances.
- High skirt selectivity with four transmission zeros located near the passband edges.
- Low loss with $I.L. = 1$ dB in passband and wide stopband characteristic.



Dual-Mode Loop Resonator Bandpass Filters

- Filter designs based on the combination of synthesis theory and parameter-extraction method for transversal resonator array filter circuit.
- Two transmission zeros (TZs) generated at predetermined finite frequencies.
- Direct source/load coupling used for two TZs.

