



frecn|sys

Frequency Components and Systems

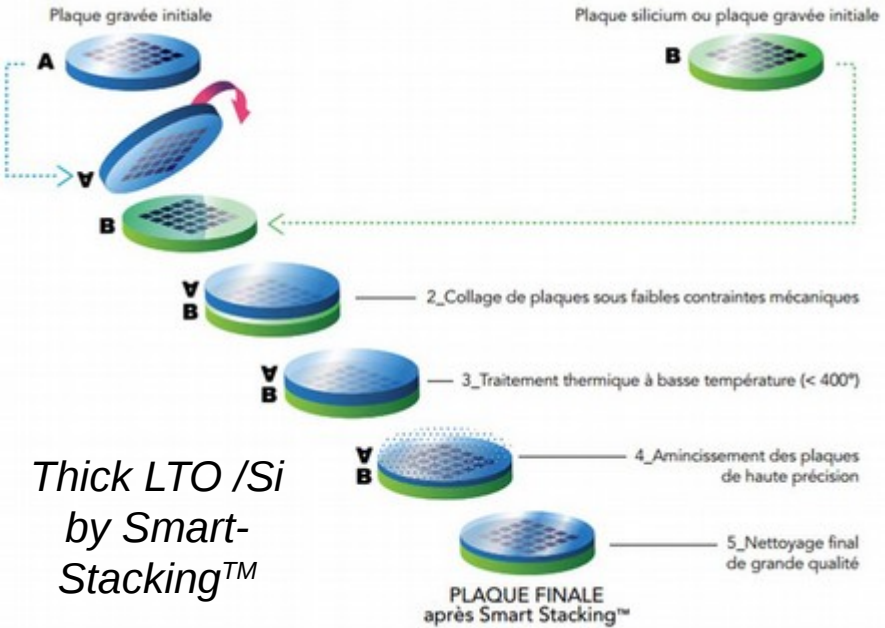
A **soitec** company

TEMIS Innovation
18 Rue Alain Savary 25000 Besançon
Tel. (direct) : +33 (0) 3 81 25 53 63
Fax. : +33 (0) 3 81 25 53 51

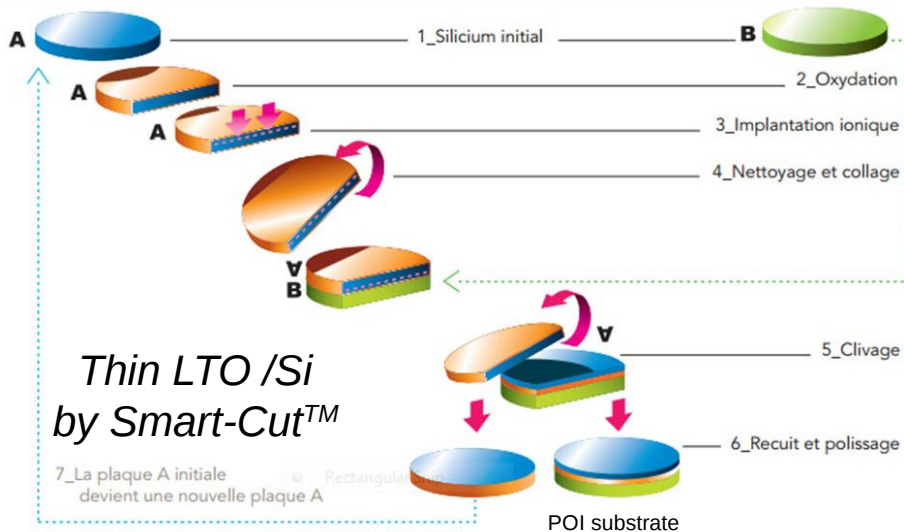
contact@frecnsys.fr
www.frecnsys.com



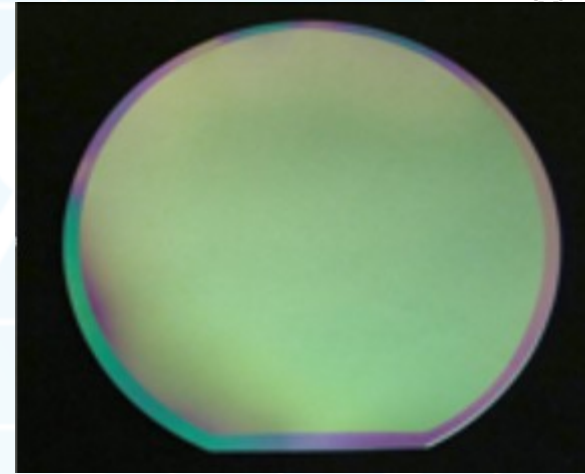
POI – a new SAW/BAW standard of the future



*Thick LTO / Si
by Smart-Stacking™*

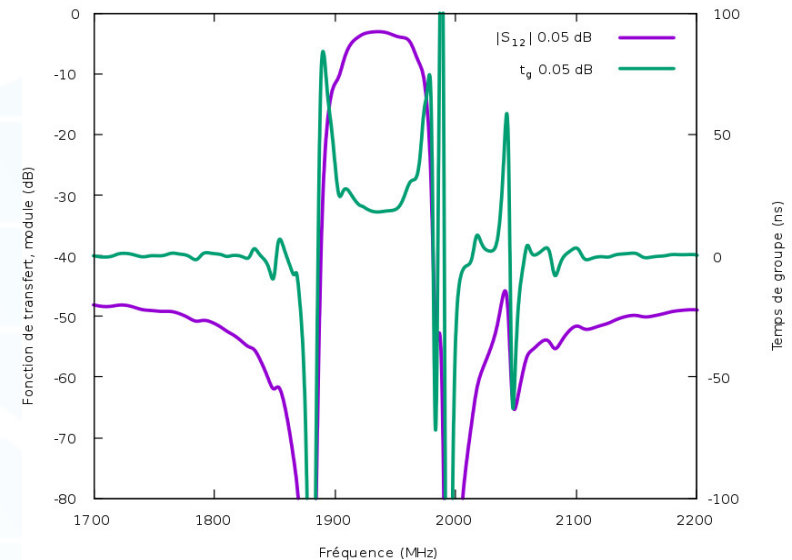


*Thin LTO / Si
by Smart-Cut™*

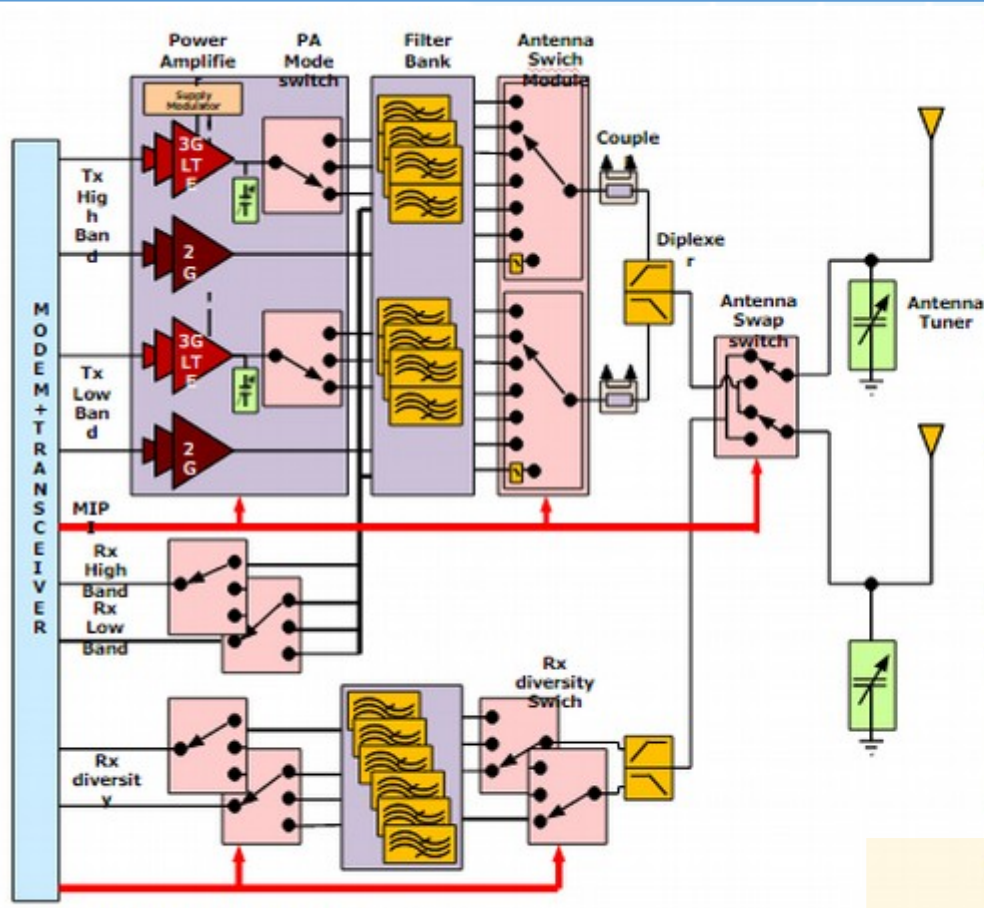


Ø150 mm LiTaO₃ (YXl)/42° / Si (100)















Example of a filter on POI




POI – frec|n|sys challenges



Soitec White Paper Dec 2013

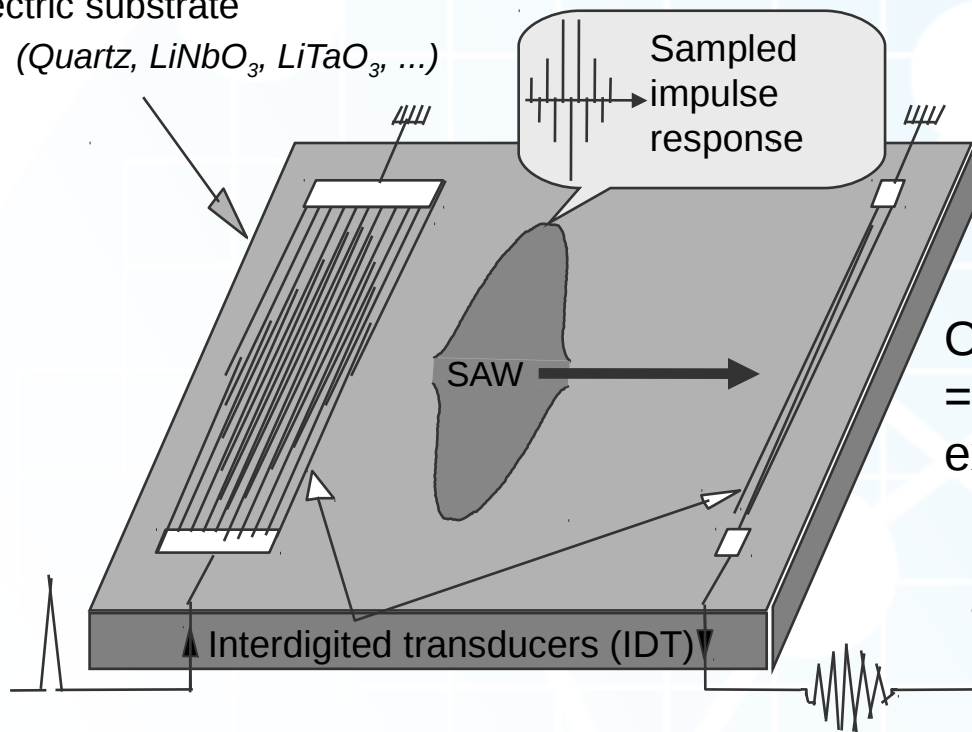
		switch => RF SOI	
		Antenna tuner => RF SOI	
		Diplexeurs => RF SOI	
		Power amplifiers => RF SOI	
		Filters => piézoélectrique	

 frec|n|sys provides added-value for POI substrates maturation for RF filters and to develop new activities in the SOITEC group exploiting these innovative wafer potential

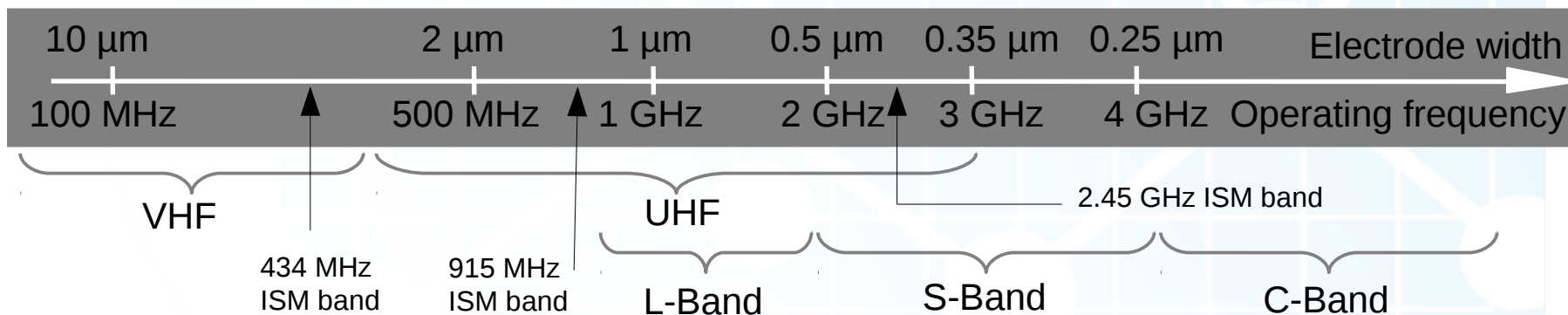
Basic SAW parameters

Piezoelectric substrate

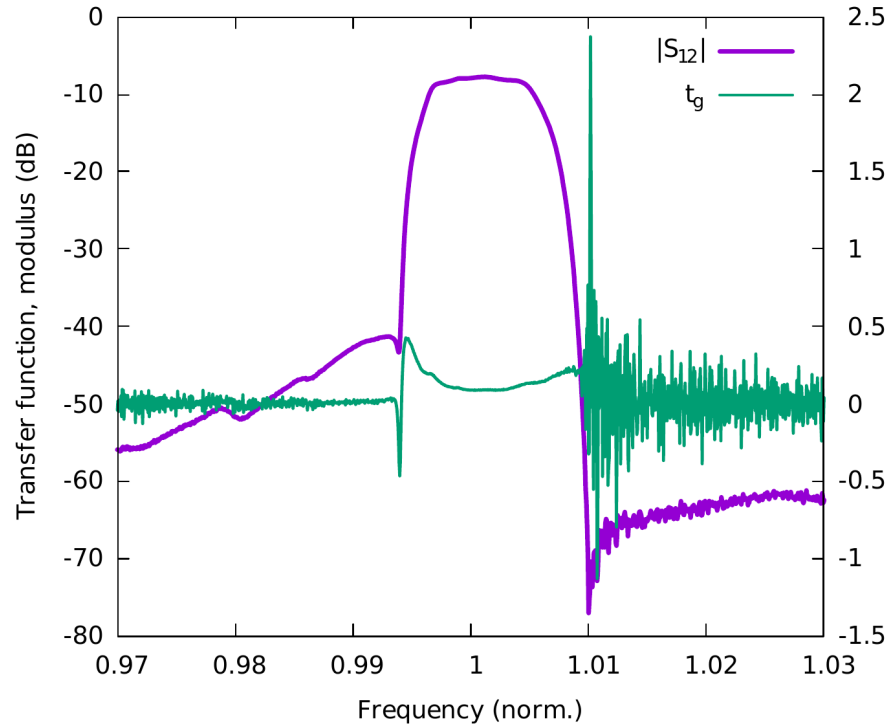
(Quartz, LiNbO₃, LiTaO₃, ...)



Overlap shape of the fingers
= Fourier transform of the
expected spectral function

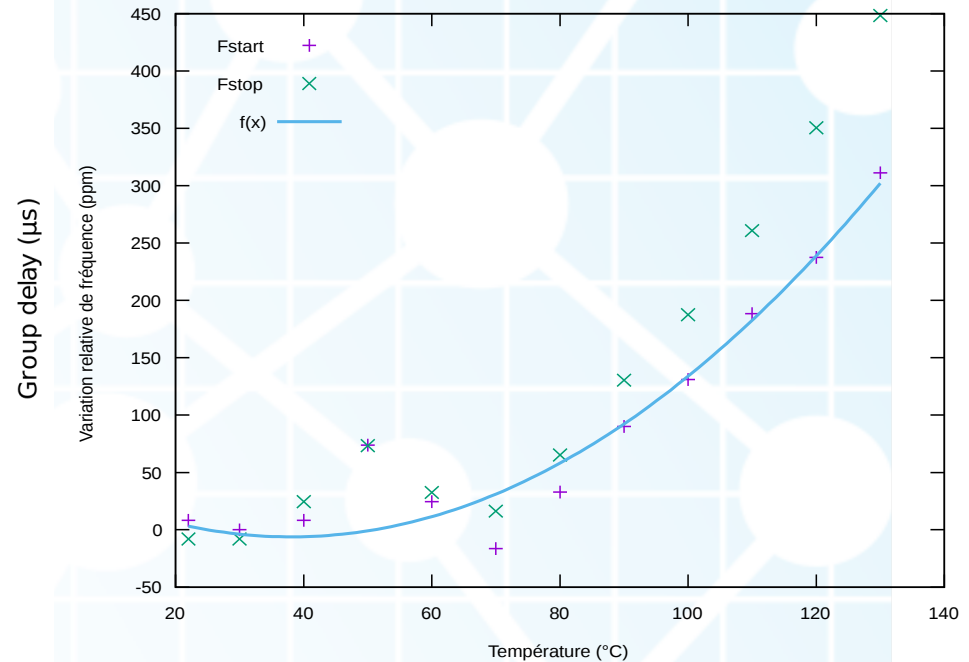


LT42/Si filter on SOITEC's POI with 0 TCF



After impedance matching – losses better than 5 dB, far-filed rejection better than 50 dB, no ripple on the upper frequency band

Patent pending



Thermal sensitivity comparable to those of quartz devices but with an opposite curvature, proper to LiTaO_3/Si substrates

$$-0,9 < \theta\alpha < 1 \text{ ppm.K}^{-1}$$

$$+30 < \theta\beta < +36 \text{ ppb.K}^{-2}$$

frec|n|sys is ready to answer your demand and questions

frec|n|sys, a *CIR accredited company*