

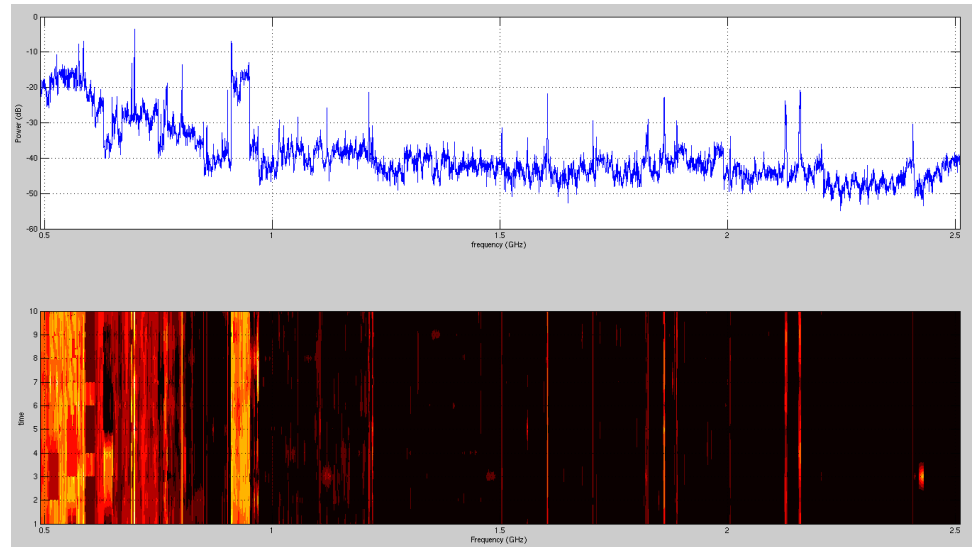
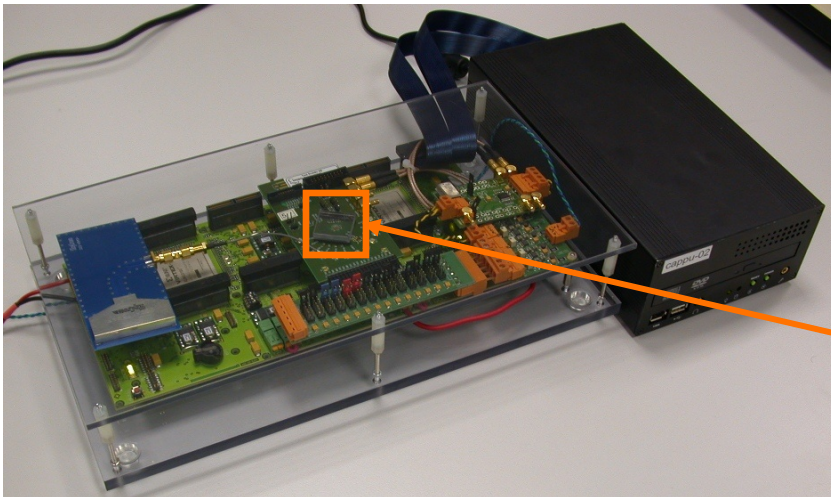
# Digital and Analog Solution for Low-power Multi-band Sensing

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# A single reconfigurable analog front-end: Scanning from 100MHz to 6GHz

## Prototype demonstrating sensing capabilities of IMEC Scaldio2B RFIC

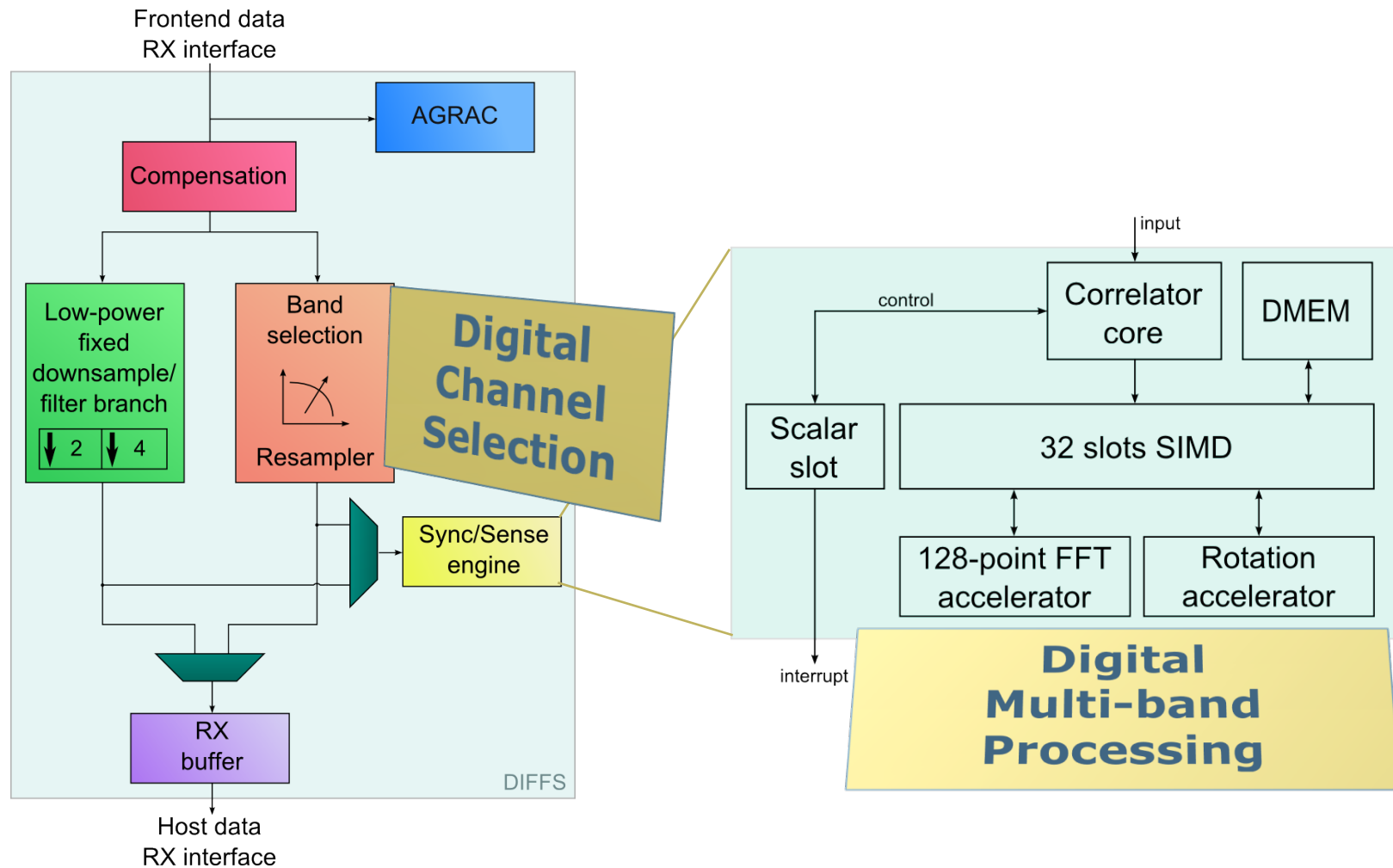


500 MHz

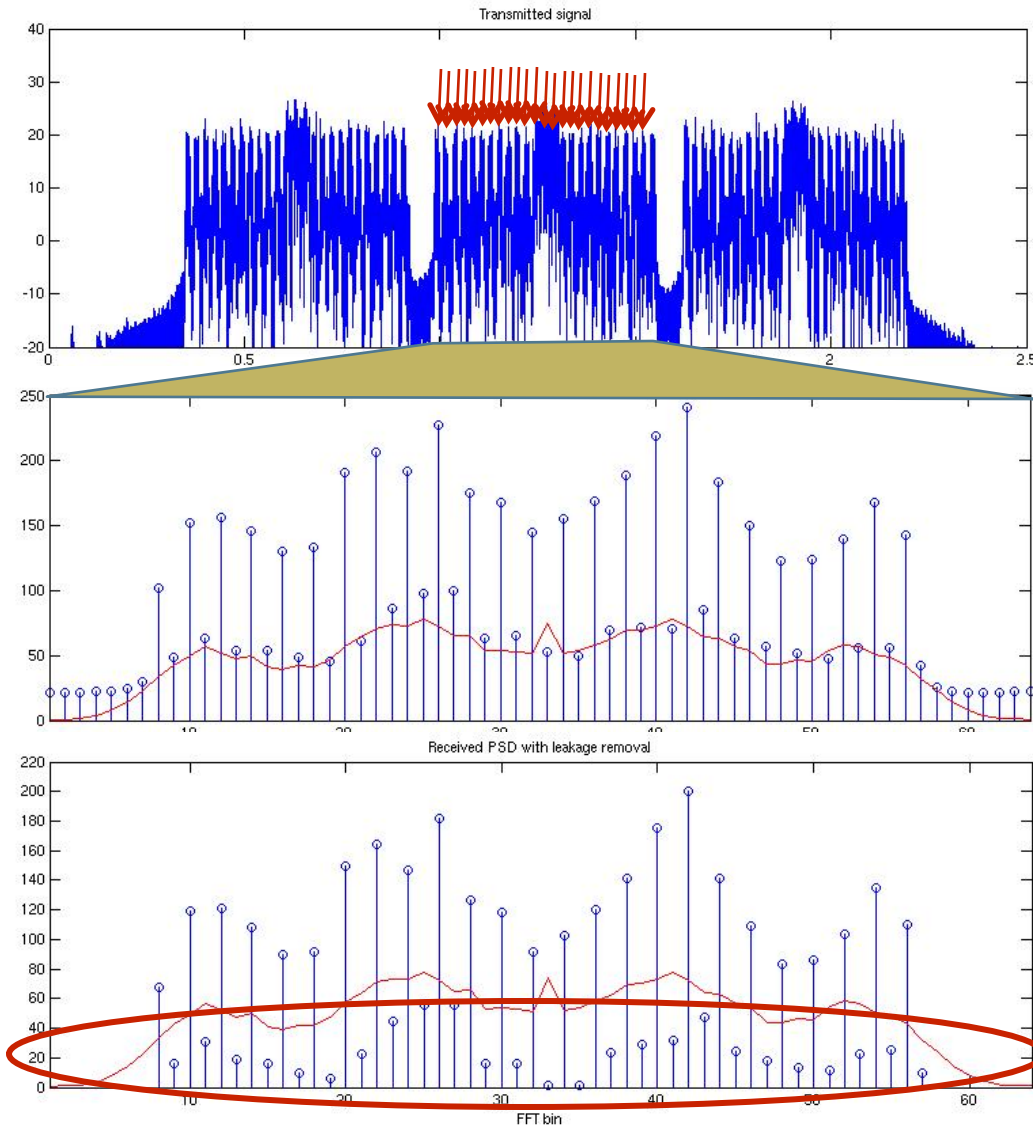
2.5 GHz

- 40 nm RFIC
- On chip ADC
- 100 MHz -> 6 GHz

# A sensing enabled digital front-end: Further band selection and FFT processing



# An algorithm for multi-band sensing: Iterative Leakage Removal



**Transmitted  
Signal:  
Many small  
spectrum holes**

**Filtered  
Received Signal  
After FFT**

**After leakage  
removal**

**Holes  
Identified**