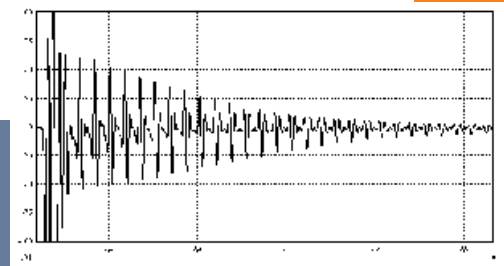


### HF - Ultrasonic testing

High frequencies in a range of 20 to 200 MHz generate in dependence of the velocity a wavelength between 25 and 500  $\mu\text{m}$  in the material. Therefore very small defects can be detected. The possible extremely short pulses provide a high axial resolution. The figure on the right hand side clearly demonstrates the separation of echoes coming from a steel plate with a thickness of 0,1 mm (!).

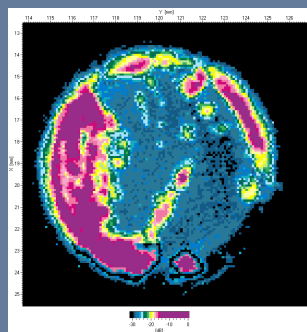


Echoes coming from a 0,1 mm

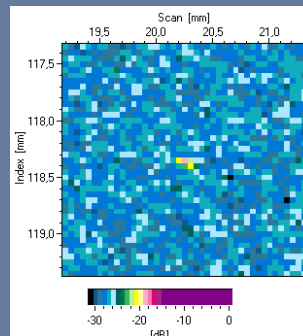
### USPC 3060 UHF Applications:



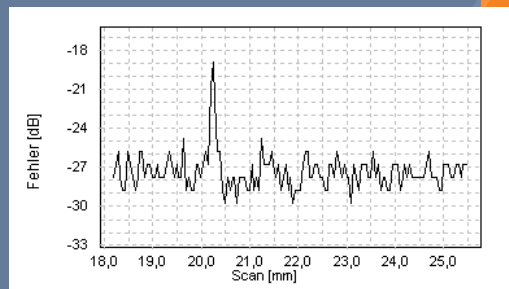
C-scan of a coin recorded with a test frequency of 80 Mhz



C-scan of a damaged relais contact



C-scan (80MHz) of a test component with a 50  $\mu\text{m}$  drilling



80MHz: Echo dynamic curve recorded at the position of a 50  $\mu\text{m}$  drilling

### High Frequency Ultrasonic Systems USPC 3060 UHF / USPC 3010 VHF

#### USPC 3060 UHF highlights:

- Separate pulser/receiver provides a short transducer cable
- Avalanche-transmitter for highest resolution
- Pulse width switch in 2 steps (6ns to 280ns) provides an optimal excitation for test frequencies in a range of 0.01 to 200 MHz
- Fast capture of amplitude and time flight data up to a pulse repetition frequency of 20kHz
- Pre-amplifier switch over from broadband to bandpass with 9 different frequency ranges from 1.0 to 100 MHz, increased resolution and reproducibility because of the suppression of noise out of the test frequency range

#### USPC 3010 VHF highlights:

- System based on PC-boards with a bandwidth of 65 MHz
- High- and low pass filters for high signal to noise ratios
- Avalanche-transmitter for highest resolution
- ADC-board up to 5 Gsamples/s

