Combining the independent Angle Gain Compensation, the DAC Normalization or DAC based TCG in order to equalize the sensitivity for the sectorial scan coverage

1. Reference reflector – 2 mm FBH

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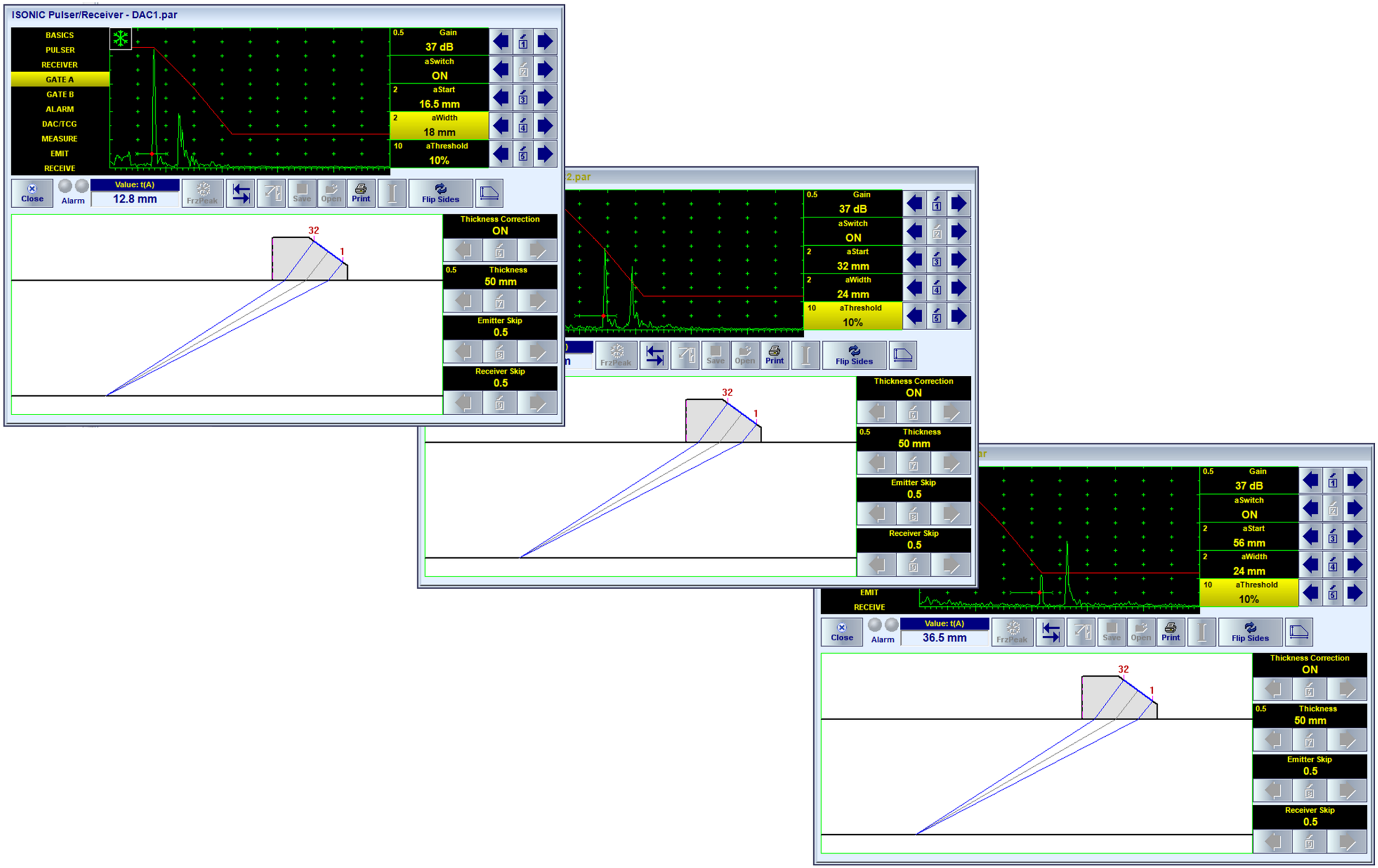
At the first stage the DAC is prepared for the FBH, which is situated at parallel to the weld bevel. For the first present case weld bevel and FBH are is 30 deg inclined



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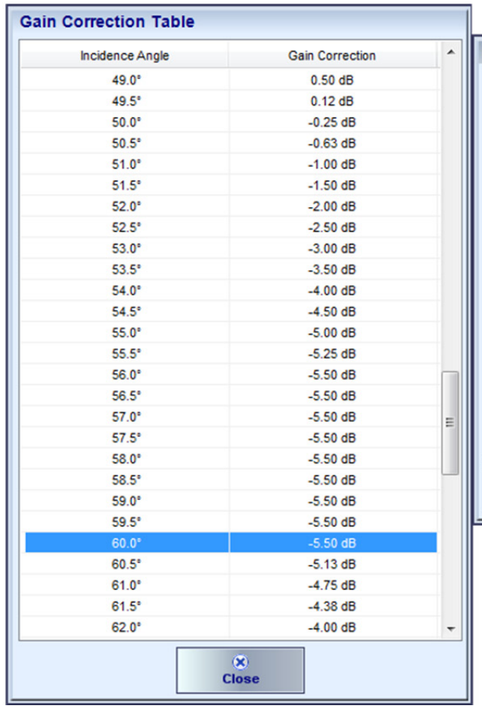
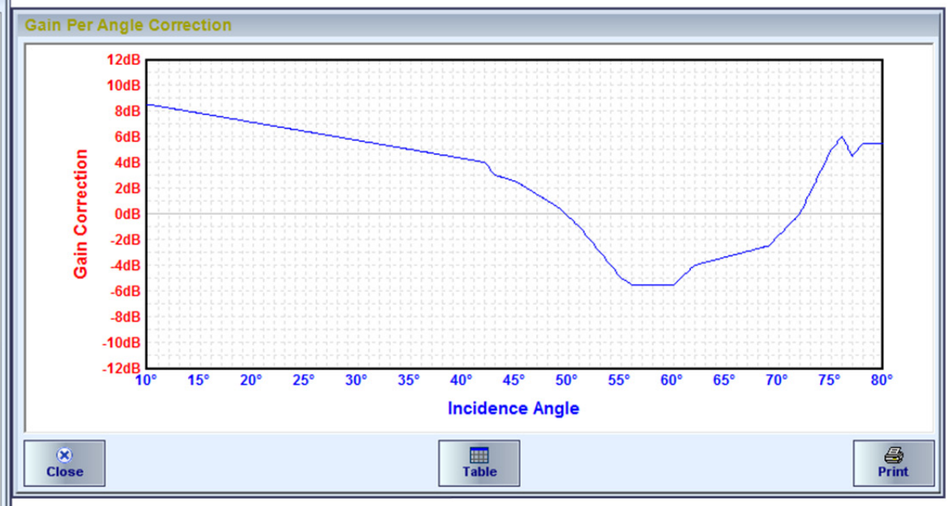
The angle Gain Compensation is adjusted through getting a number of echoes from the same FBHs at various angles and bringing every echo amplitude to the DAC level





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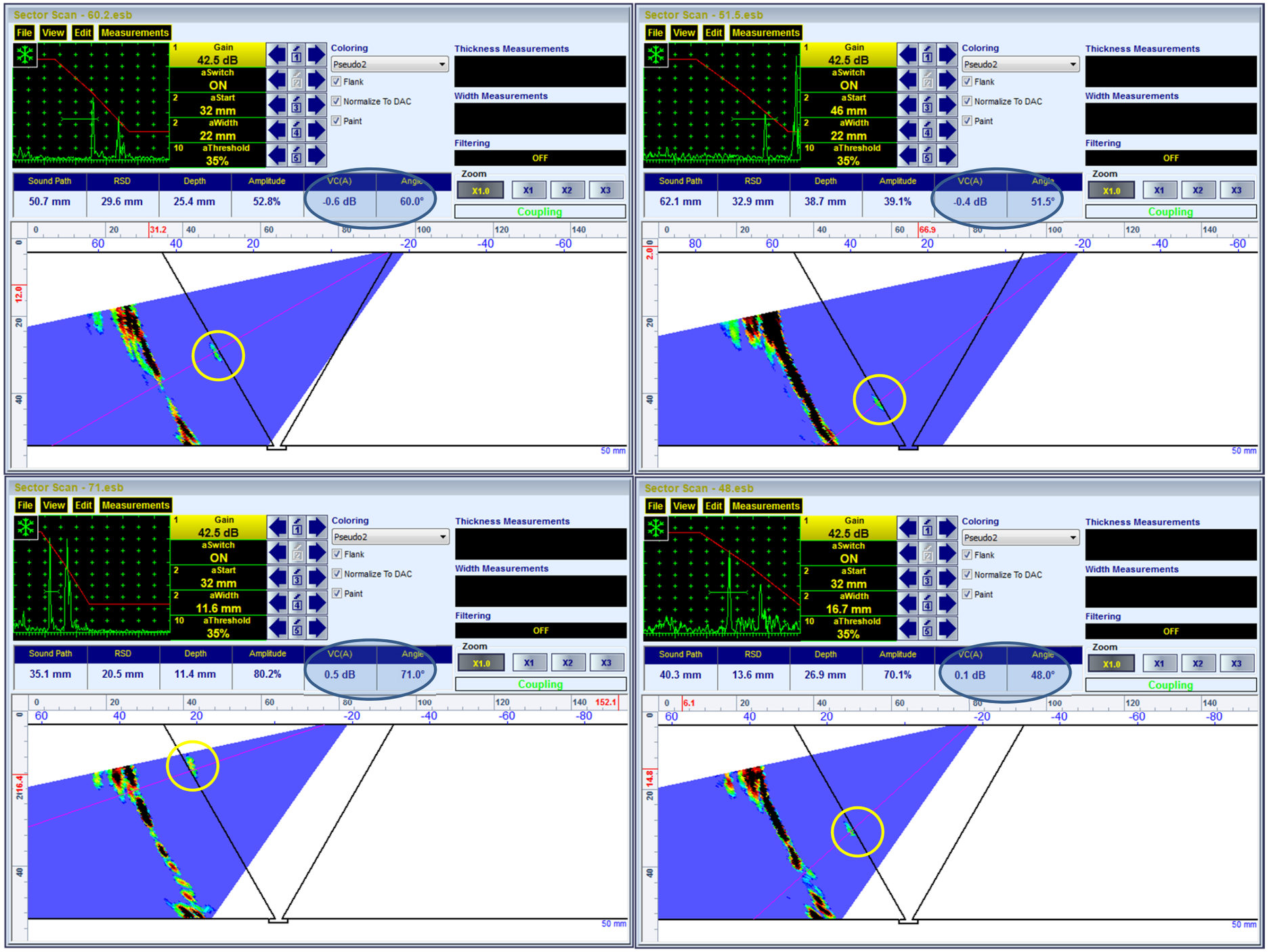
As a result the signals from equal FBHs have the same **dB-to-DAC** rate independently on the reflector's location and the incidence angle varying in the wide range

Sector Scan Coverage – Half Skip – DAC Normalization – Angle Gain Compensation



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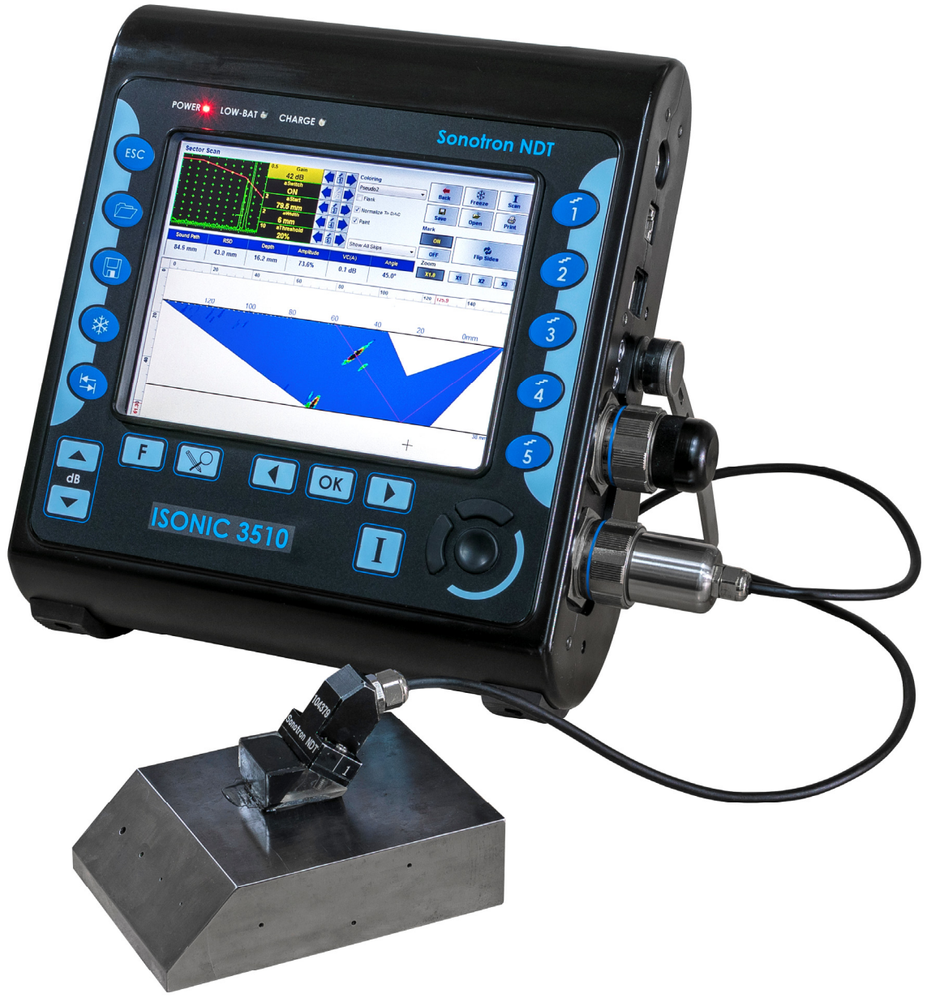
The similar results were obtained for the 45 deg-inclined FBH



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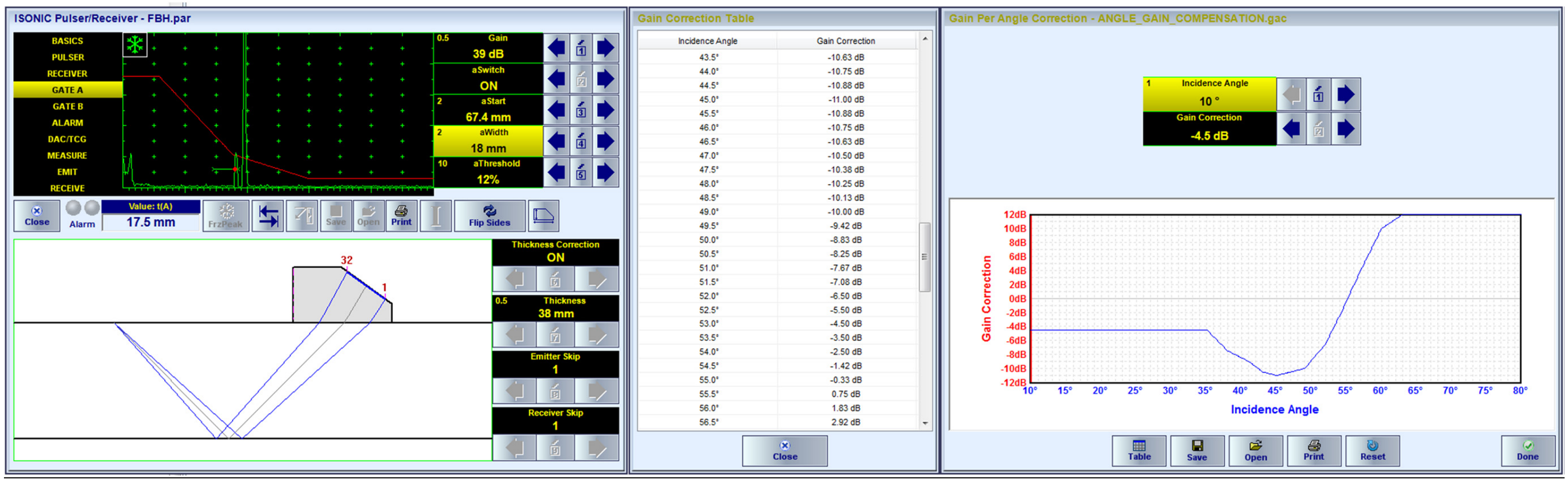
DAC and Angle Gain compensation



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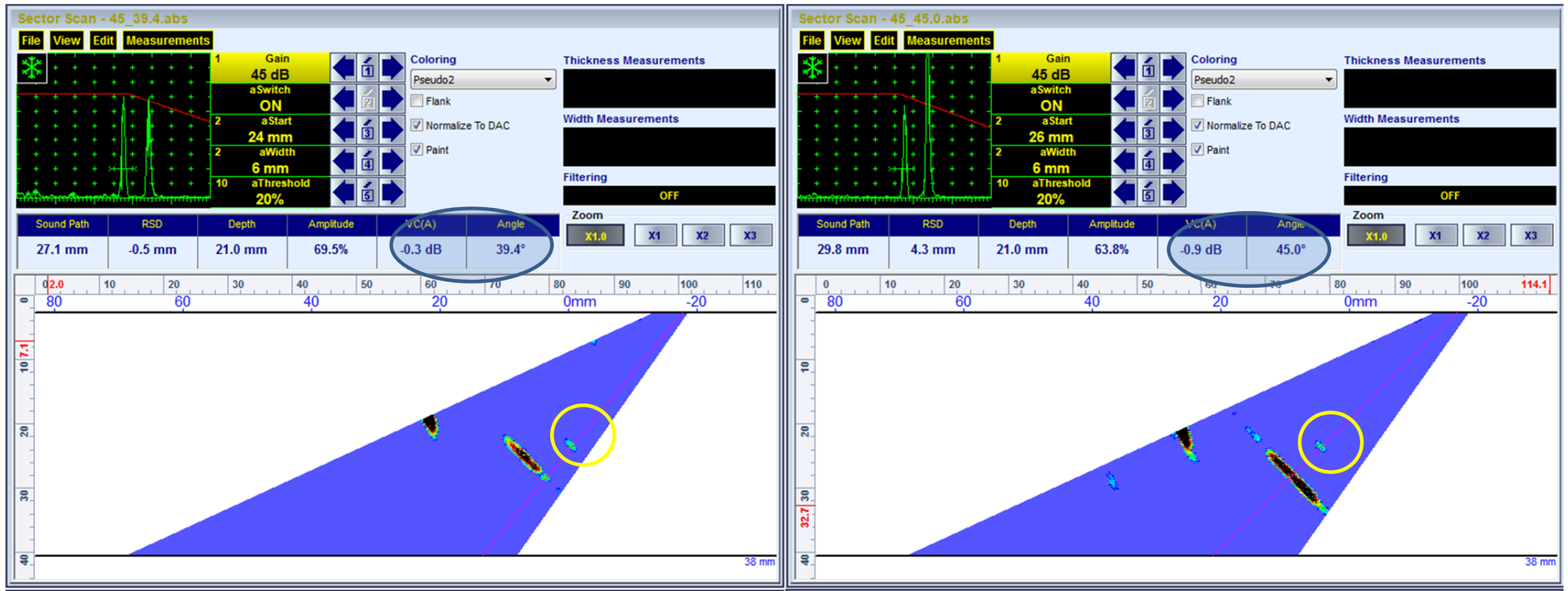
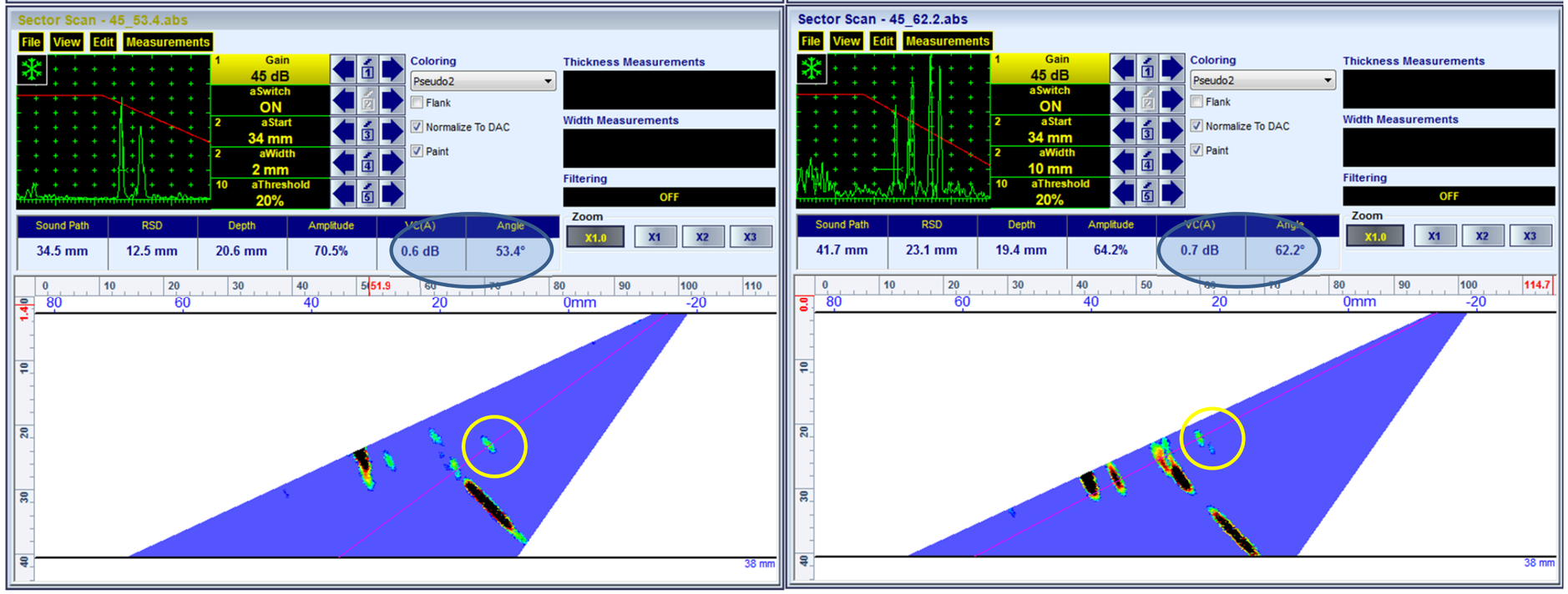
Sector Scan Coverage – Half Skip – DAC Normalization – Angle Gain Compensation





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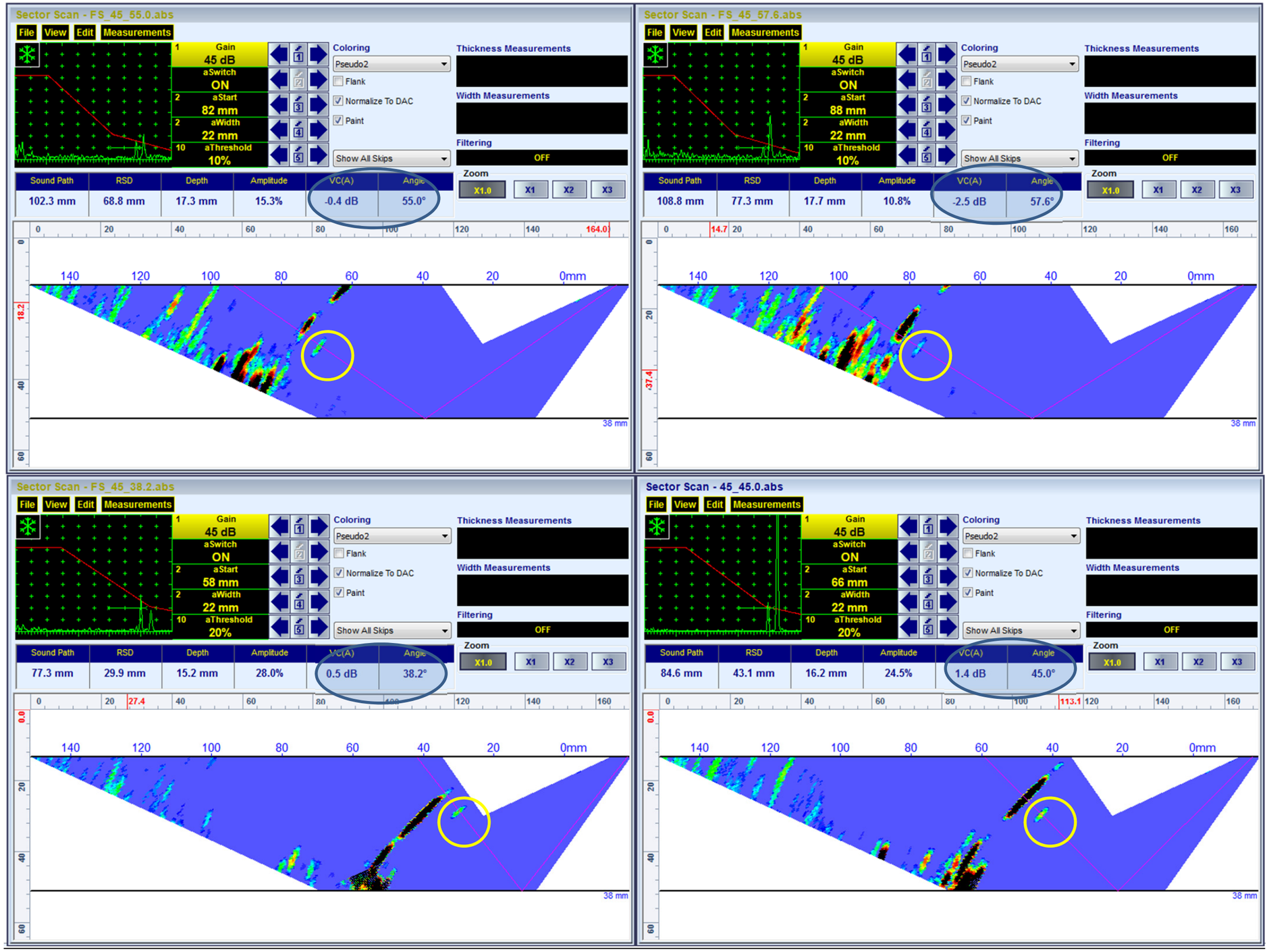
Sector Scan Coverage – Full Skip – DAC Normalization – Angle Gain Compensation



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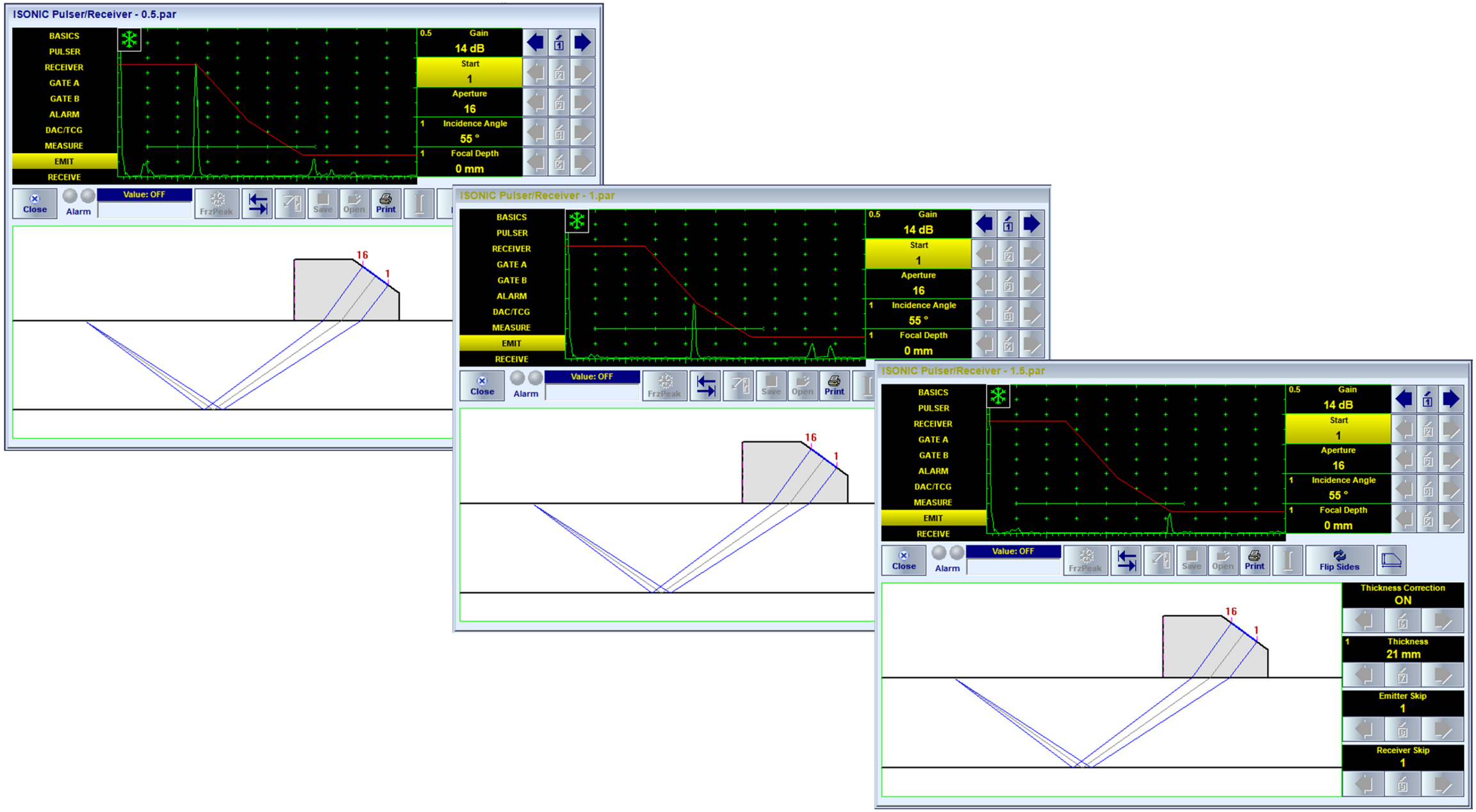
2. Reference reflector – 2 mm EDM Notch

The same approach may be easy extended to other types of artificial reflectors, for example notch

Notch-based DAC



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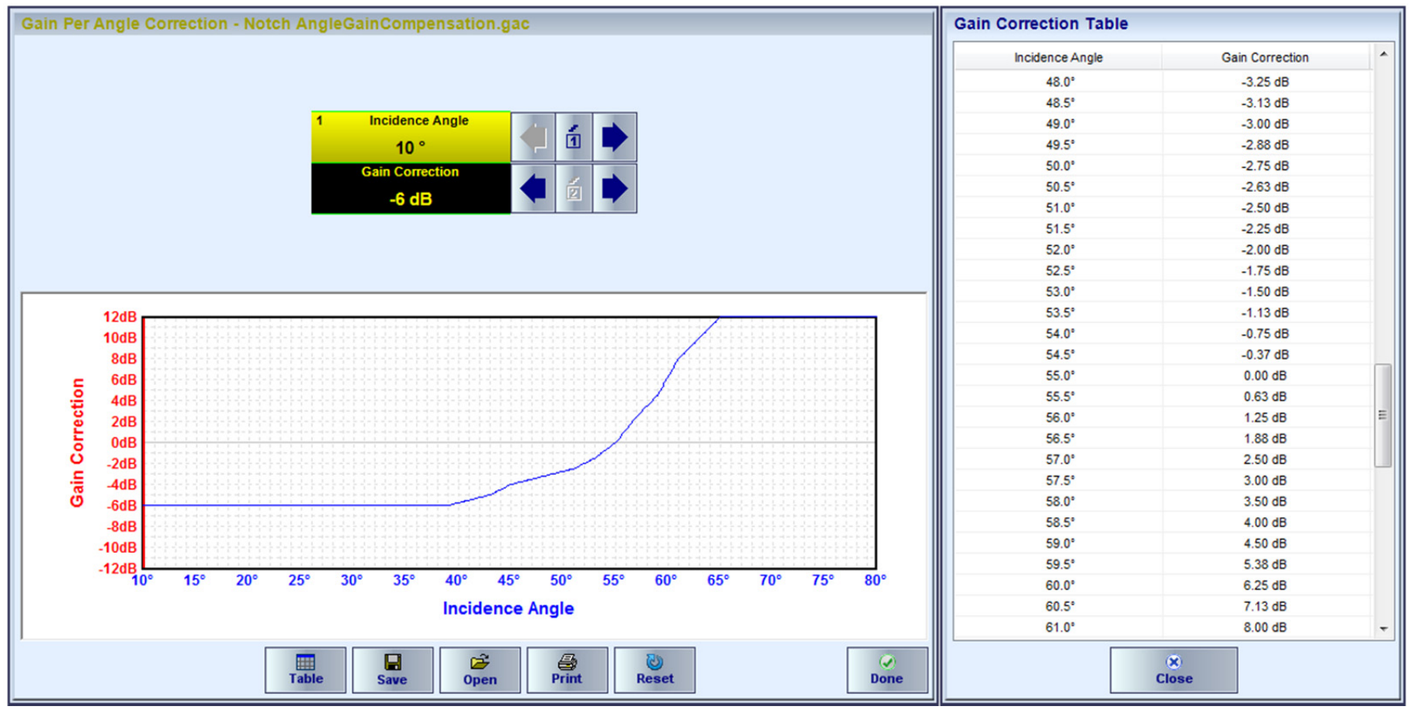
Notch & DAC based Angle Gain Compensation



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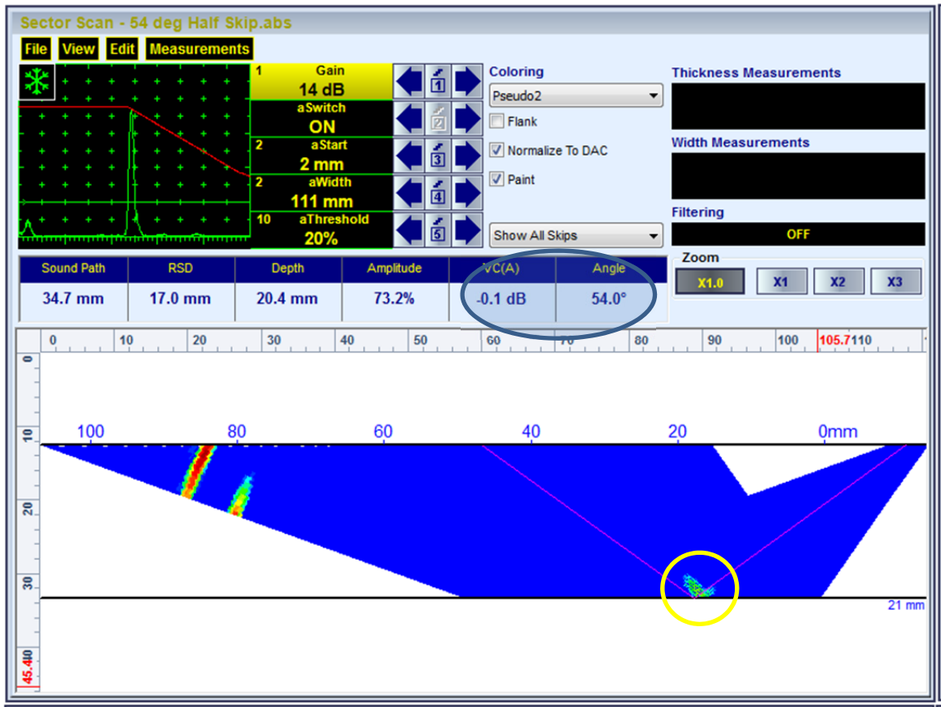
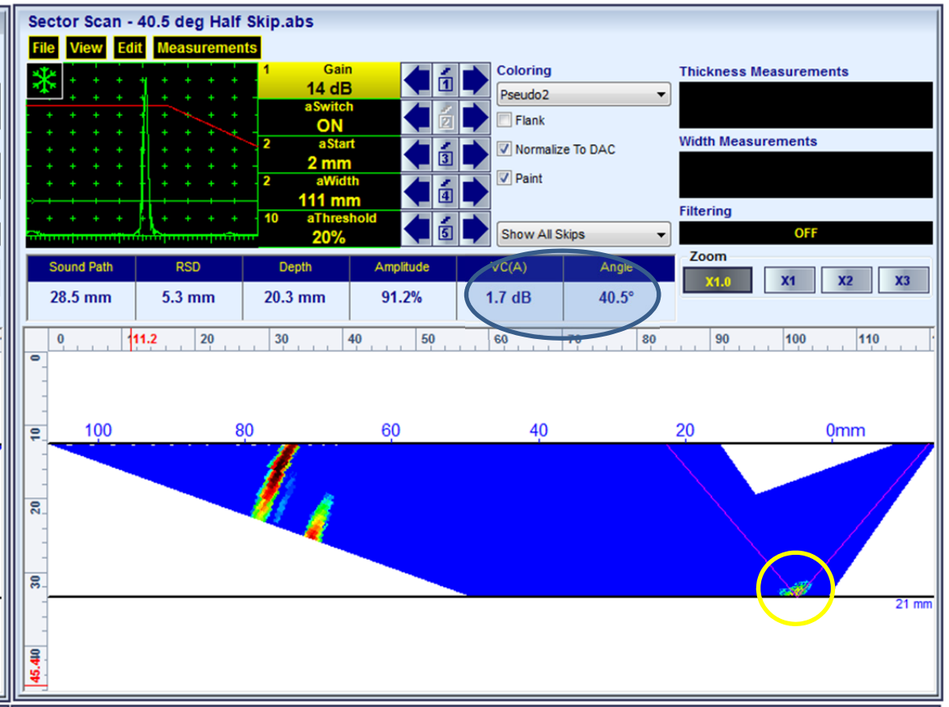
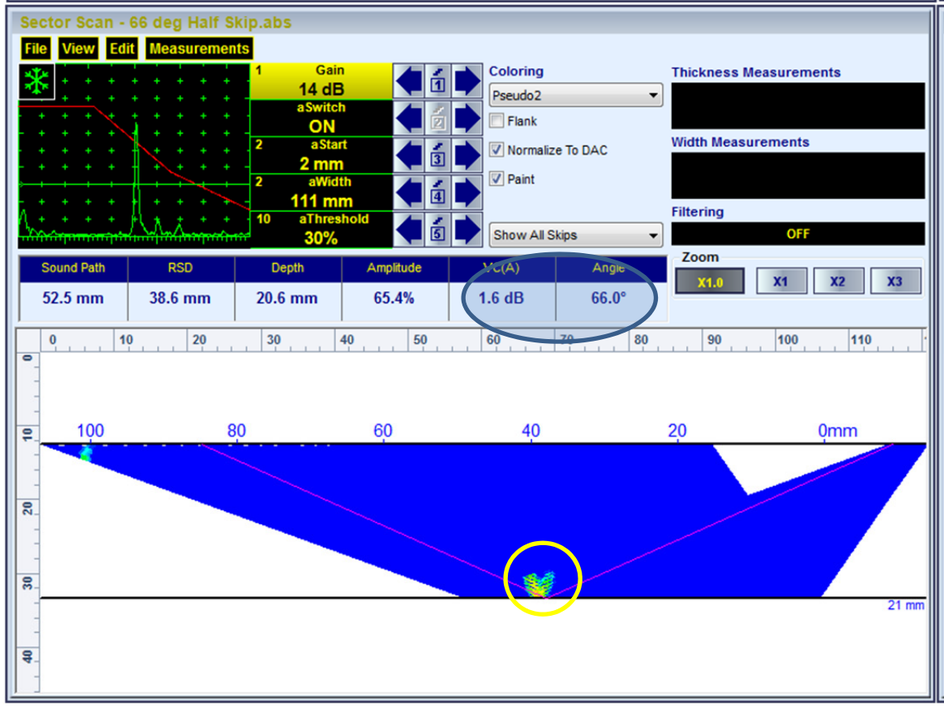
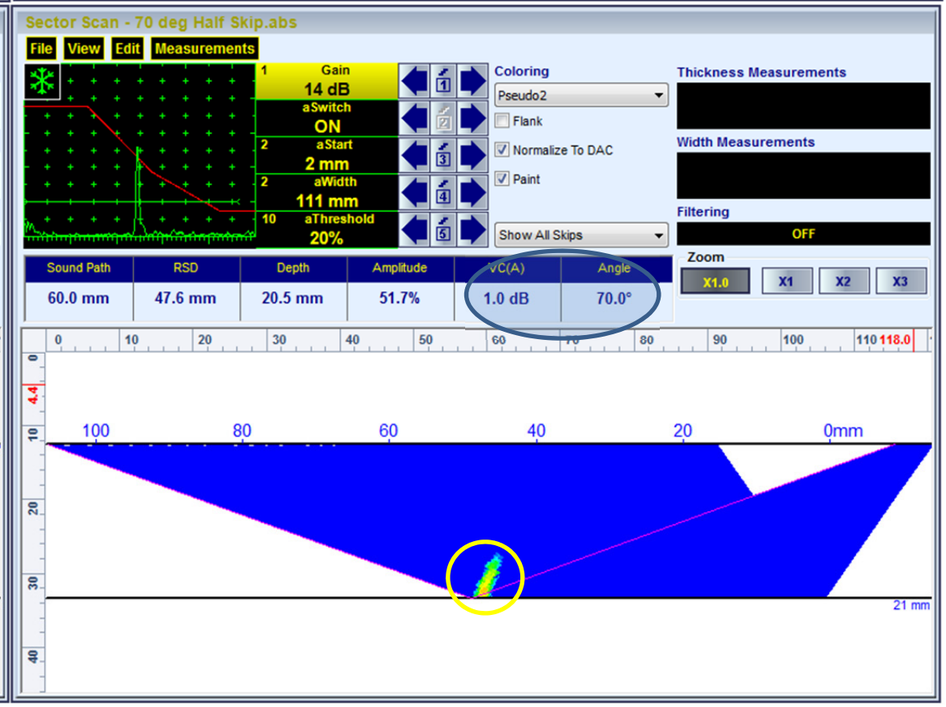
Sector Scan Coverage – Half Skip – DAC Normalization – Angle Gain Compensation









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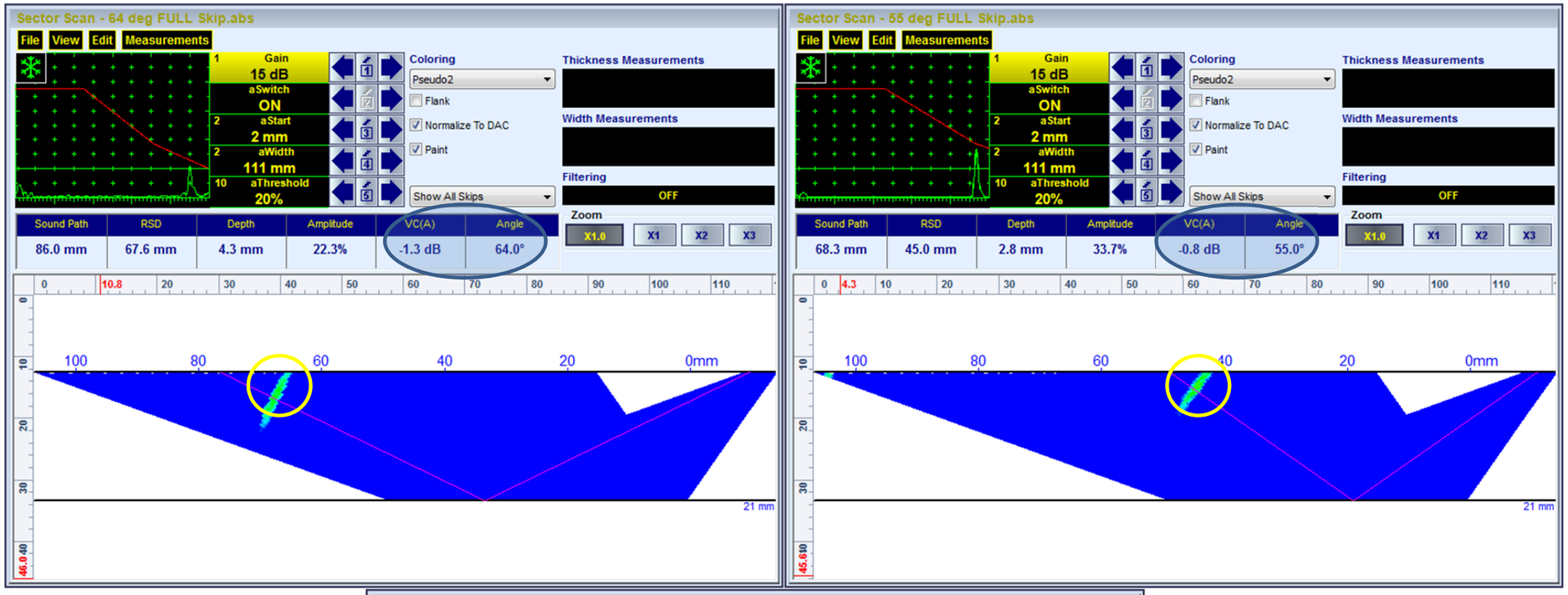
Sector Scan Coverage – Full Skip – DAC Normalization – Angle Gain Compensation



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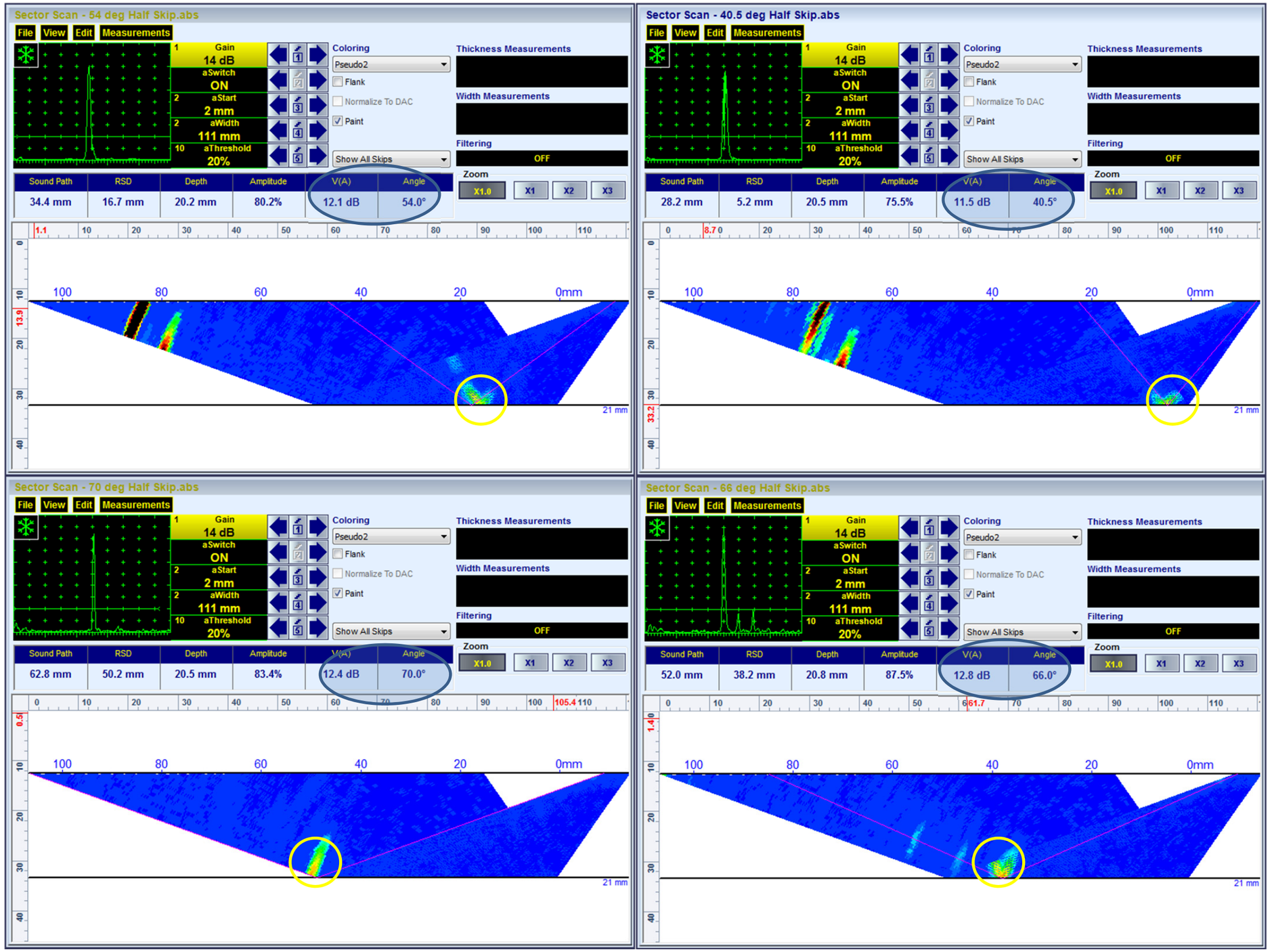
Sector Scan Coverage – Half Skip – DAC-based TCG – Angle Gain Compensation



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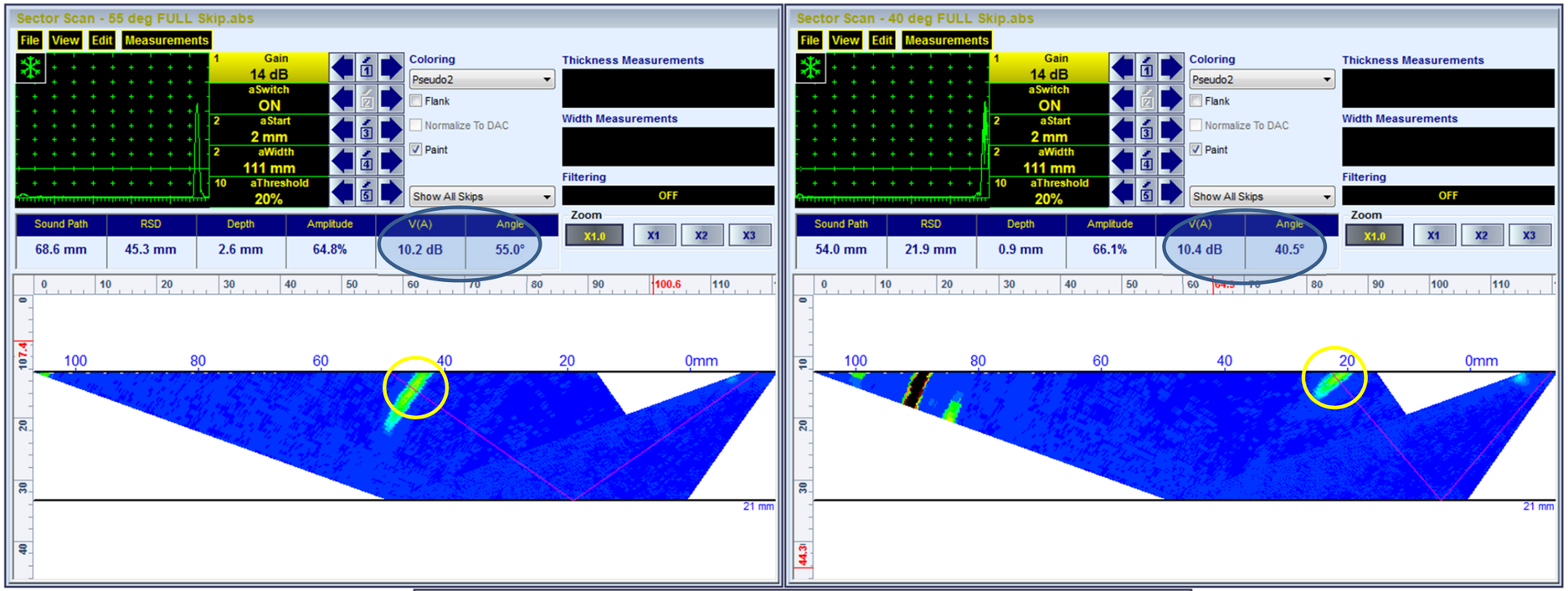
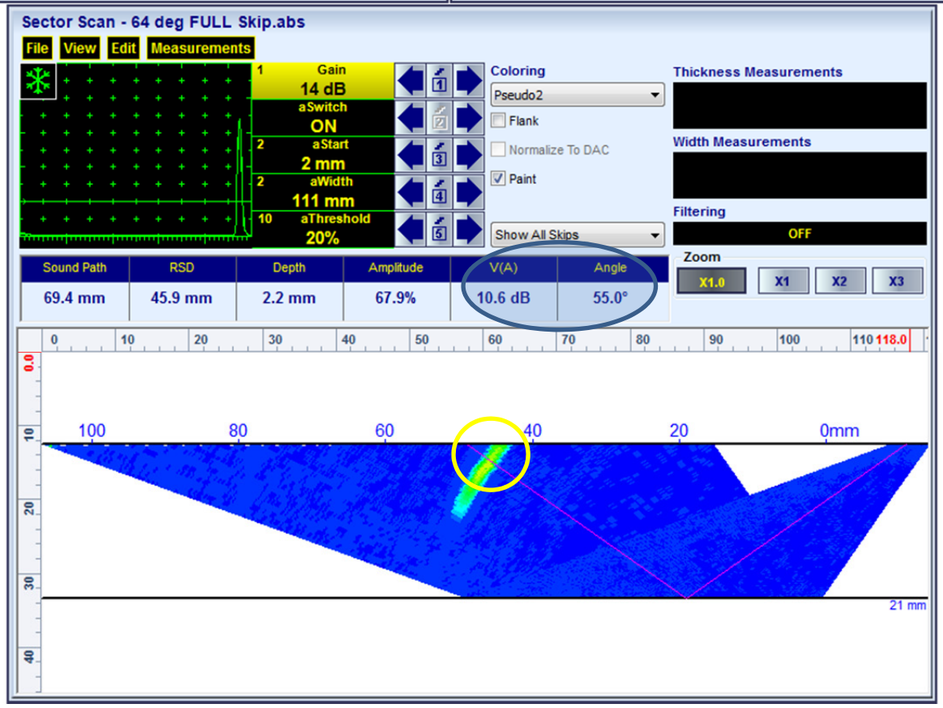
Sector Scan Coverage – Half Skip – DAC-based TCG – Angle Gain Compensation





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