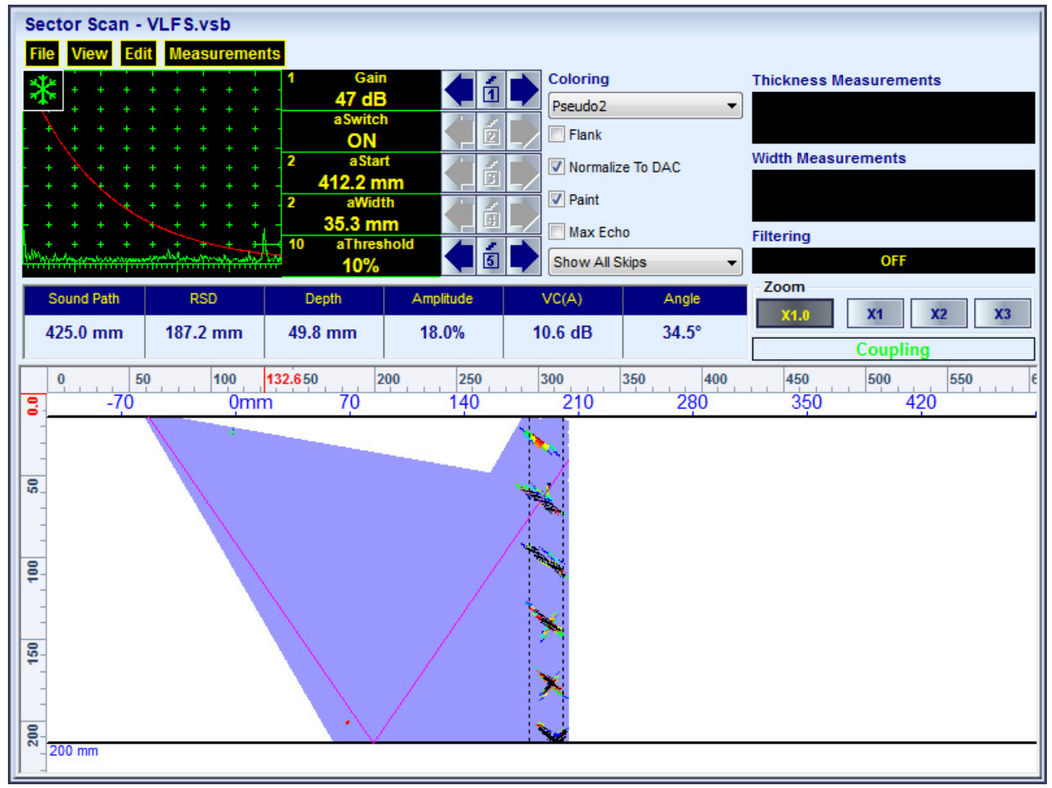

| Item | Order Code (Part ##) |
|---|---|
| Inspection SW Application for ISONIC 3510 - Phased Array Modality: **VLFS – Vertical Line Focusing Scanning and Imaging (typical application: inspection of planar and circumferential narrow gap heavy thickness welds, ER welds, welded rails, etc)**<br>⇨ True-To-Geometry Volume Corrected Imaging - Cross Sectional and Top (C-Scan)- / Side- / End- View and 3D<br>⇨ Sector-Scan and B-Scan (Linear Scan) Cross Sectional Coverage<br>⇨ Intuitive Image Guided PA Pulser Receiver with Beam Forming View<br>⇨ DAC / TCG Normalization<br>⇨ Built-In Ray Tracer - Scanning Pattern Design<br>⇨ Independent on TCG Angle Gain Compensation / Gain Per Focal Law Correction<br>⇨ Automatic Coupling Monitor<br>⇨ Encoded and Time based C-Scan<br>⇨ 100% Raw Data Capturing<br>⇨ FMC/TFM Protocol for the data acquisition and imaging<br>⇨ Automatic Defects Alarming Upon C-Scan Acquisition Completed<br>⇨ Automatic Creation of Editable Defects List<br>⇨ Puzzling Suitable C-Scan Inspection Record - Ability of Scanning Weld In Several Shots from Both Side with Storing a Number of Files Mergeable Into a Single File Inspection Report<br>⇨ Comprehensive Postrpocessing Including:<br>→ Recovery and Evaluation of Captured A-Scans from the Recorded Cross Sectional Views (Sector Scan / B-Scan) and C-Scans<br>→ Recovery of Cross Sectional Views from the Recorded C-Scans<br>→ Converting Recorded C-Scans or their Segments into 3D Images<br>→ Off-Line Gain Manipulation<br>→ Off-Line DAC Normalization of the Recorded Images / DAC Evaluation<br>→ Numerous Filtering / Reject Options ( by Geometry / Position / By Amplitude / dB-to-DAC / etc )<br>→ Defects Sizing<br>→ Creation of Defect List and Storing it Into a Separate File<br>→ Automatic creating of inspection reports - hard copy / PDF File | SWA 3510006 |

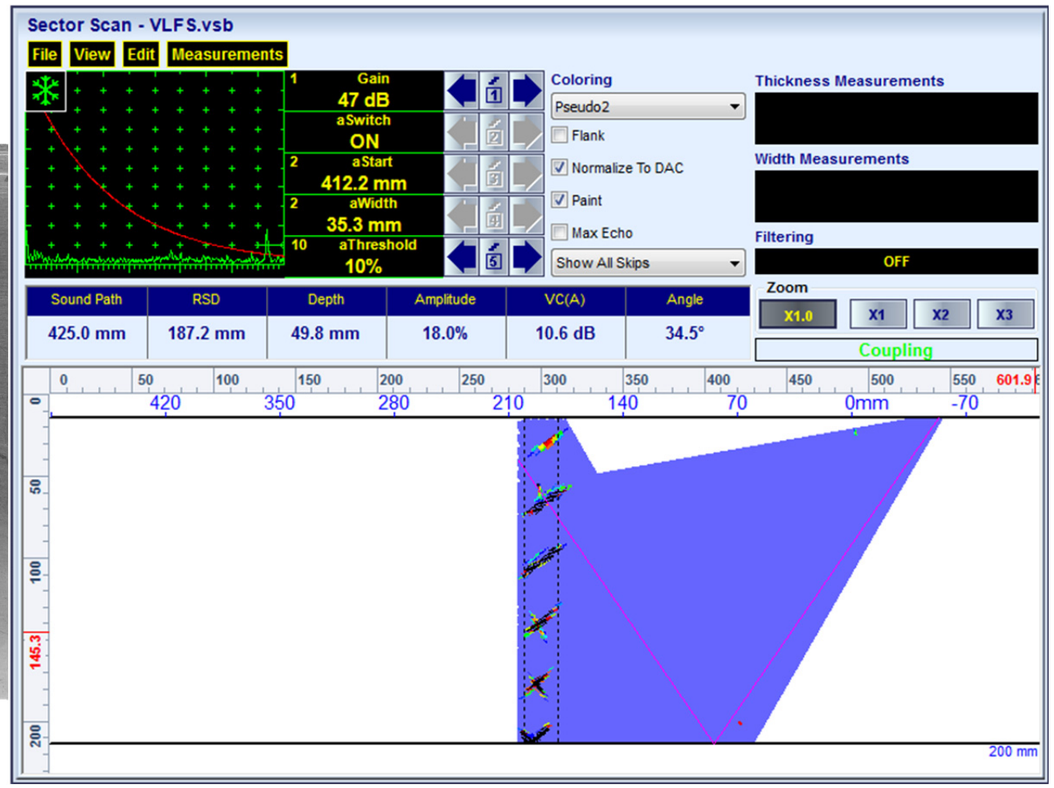



***Combined half- and full skip inspection of 200 mm thick calibration block: focal point migrates along the vertical line connecting the centers of the reflectors***

SONOTRON NDT
4, Pekeris st., Rabin Science Park, Rehovot, 7670204, Israel
Phone: +972-(0)8-9311000, Fax: +972-(0)8-9477712
www.sonotronndt.com

***Combined half- and full skip inspection of 200 mm thick calibration block: focal point migrates along the vertical line connecting the centers of the reflectors***


| *Item* | *Order Code (Part ##)* |
|---|---|
| Inspection SW Application for ISONIC 2009 UPA-Scope - Phased Array Modality: **VLFS – Vertical Line Focusing Scanning and Imaging (typical application: inspection of planar and circumferential narrow gap heavy thickness welds, ER welds, welded rails, etc)**<br>⇨ True-To-Geometry Volume Corrected Imaging - Cross Sectional and Top (C-Scan)- / Side- / End- View and 3D<br>⇨ Sector-Scan and B-Scan (Linear Scan) Cross Sectional Coverage<br>⇨ Intuitive Image Guided PA Pulser Receiver with Beam Forming View<br>⇨ DAC / TCG Normalization<br>⇨ Built-In Ray Tracer - Scanning Pattern Design<br>⇨ Independent on TCG Angle Gain Compensation / Gain Per Focal Law Correction<br>⇨ Automatic Coupling Monitor<br>⇨ Encoded and Time based C-Scan<br>⇨ 100% Raw Data Capturing<br>⇨ FMC/TFM Protocol for the data acquisition and imaging<br>⇨ Automatic Defects Alarming Upon C-Scan Acquisition Completed<br>⇨ Automatic Creation of Editable Defects List<br>⇨ Puzzling Suitable C-Scan Inspection Record - Ability of Scanning Weld In Several Shots from Both Side with Storing a Number of Files Mergeable Into a Single File Inspection Report<br>⇨ Comprehensive Postrpocessing Including:<br>→ Recovery and Evaluation of Captured A-Scans from the Recorded Cross Sectional Views (Sector Scan / B-Scan) and C-Scans<br>→ Recovery of Cross Sectional Views from the Recorded C-Scans<br>→ Converting Recorded C-Scans or their Segments into 3D Images<br>→ Off-Line Gain Manipulation<br>→ Off-Line DAC Normalization of the Recorded Images / DAC Evaluation<br>→ Numerous Filtering / Reject Options ( by Geometry / Position / By Amplitude / dB-to-DAC / etc )<br>→ Defects Sizing<br>→ Creation of Defect List and Storing it Into a Separate File<br>→ Automatic creating of inspection reports - hard copy / PDF File | SWA 909806 |

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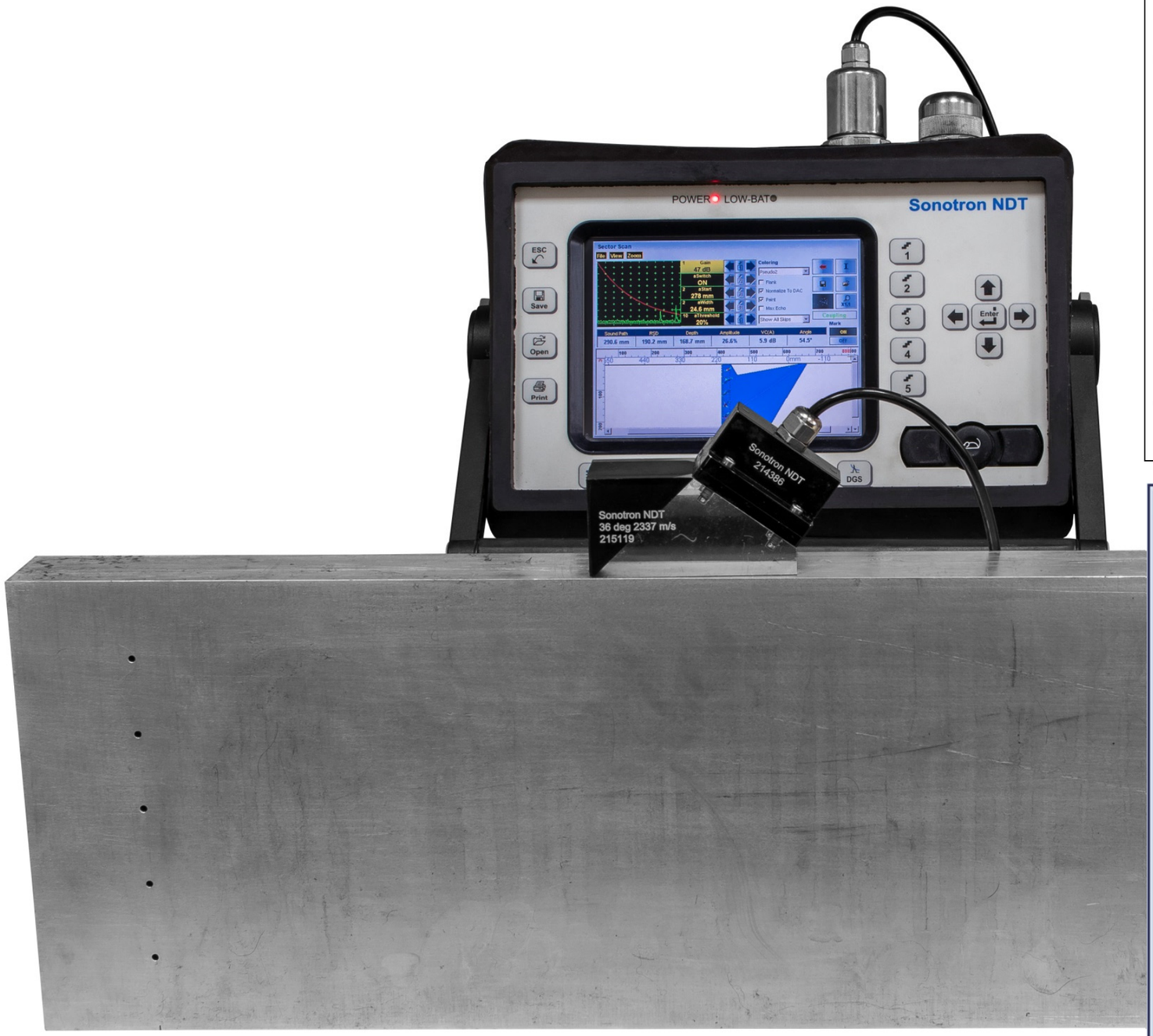
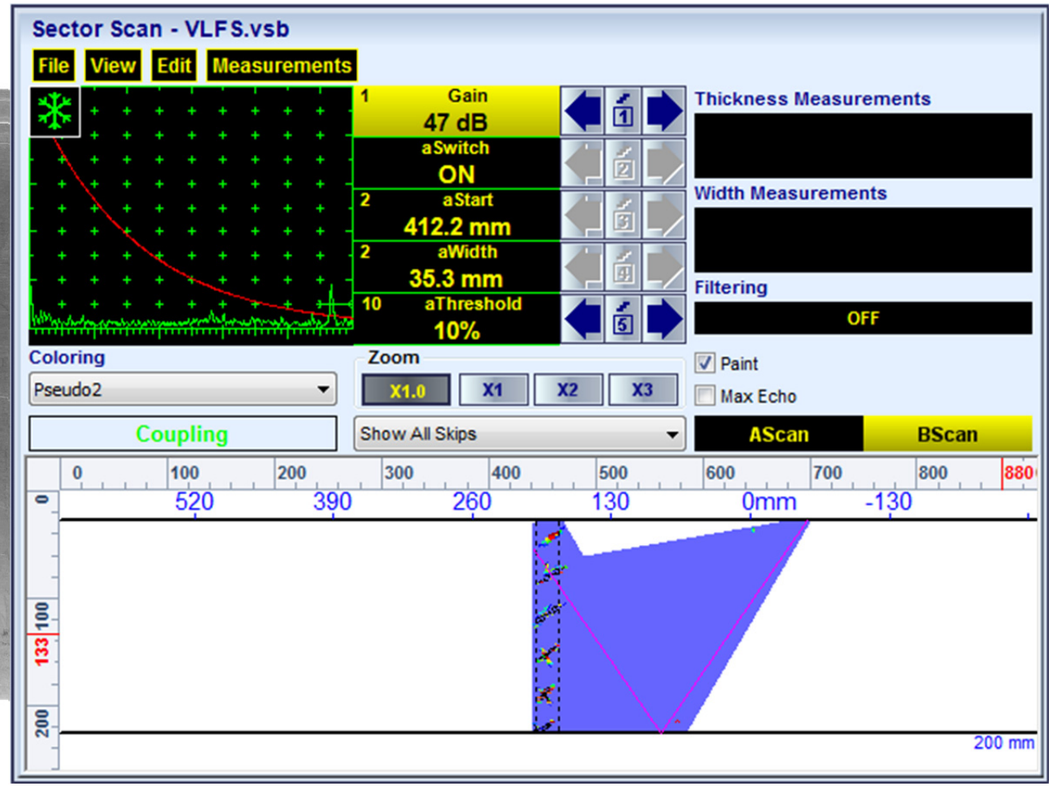



| *Item* | *Order Code (Part ##)* |
|---|---|
| Inspection SW Application for ISONIC 2010 - Phased Array Modality: **VLFS – Vertical Line Focusing Scanning and Imaging (typical application: inspection of planar and circumferential narrow gap heavy thickness welds, ER welds, welded rails, etc)**<br>⇨ True-To-Geometry Volume Corrected Imaging - Cross Sectional and Top (C-Scan)- / Side- / End- View and 3D<br>⇨ Sector-Scan and B-Scan (Linear Scan) Cross Sectional Coverage<br>⇨ Intuitive Image Guided PA Pulser Receiver with Beam Forming View<br>⇨ DAC / TCG Normalization<br>⇨ Built-In Ray Tracer - Scanning Pattern Design<br>⇨ Independent on TCG Angle Gain Compensation / Gain Per Focal Law Correction<br>⇨ Automatic Coupling Monitor<br>⇨ Encoded and Time based C-Scan<br>⇨ 100% Raw Data Capturing<br>⇨ FMC/TFM Protocol for the data acquisition and imaging<br>⇨ Automatic Defects Alarming Upon C-Scan Acquisition Completed<br>⇨ Automatic Creation of Editable Defects List<br>⇨ Puzzling Suitable C-Scan Inspection Record - Ability of Scanning Weld In Several Shots from Both Side with Storing a Number of Files Mergeable Into a Single File Inspection Report<br>⇨ Comprehensive Postrpocessing Including:<br>→ Recovery and Evaluation of Captured A-Scans from the Recorded Cross Sectional Views (Sector Scan / B-Scan) and C-Scans<br>→ Recovery of Cross Sectional Views from the Recorded C-Scans<br>→ Converting Recorded C-Scans or their Segments into 3D Images<br>→ Off-Line Gain Manipulation<br>→ Off-Line DAC Normalization of the Recorded Images / DAC Evaluation<br>→ Numerous Filtering / Reject Options ( by Geometry / Position / By Amplitude / dB-to-DAC / etc )<br>→ Defects Sizing<br>→ Creation of Defect List and Storing it Into a Separate File<br>→ Automatic creating of inspection reports - hard copy / PDF File | SWA 910806 |

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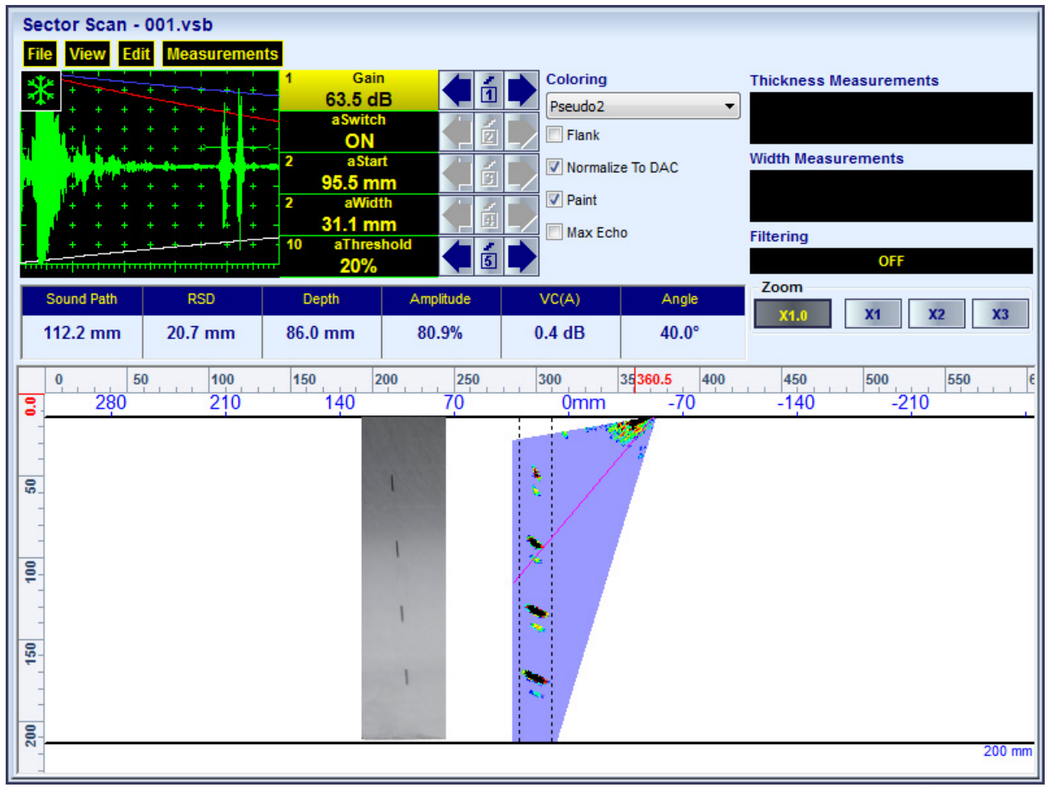
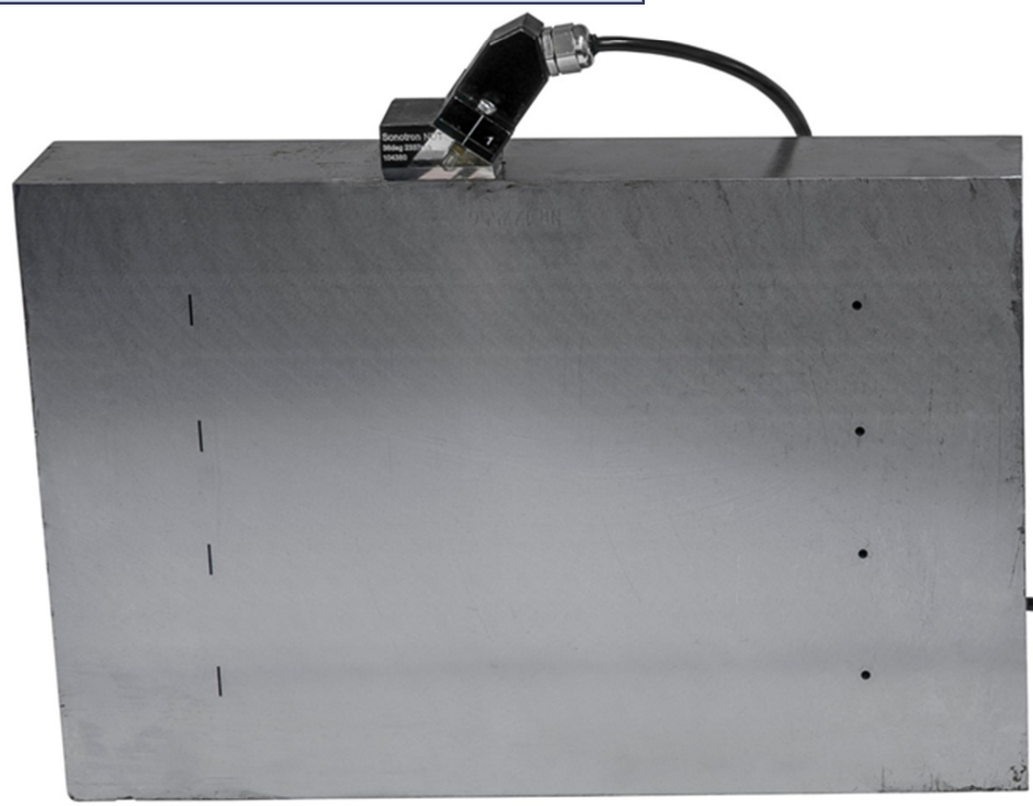



***Reverse TOFD: compression wave PE detection of the cracks and lack of side wall fusion defects in narrow gap heavy thickness welds based on the receiving and waveform analysis of the upper and lower tip-diffraction echoes***

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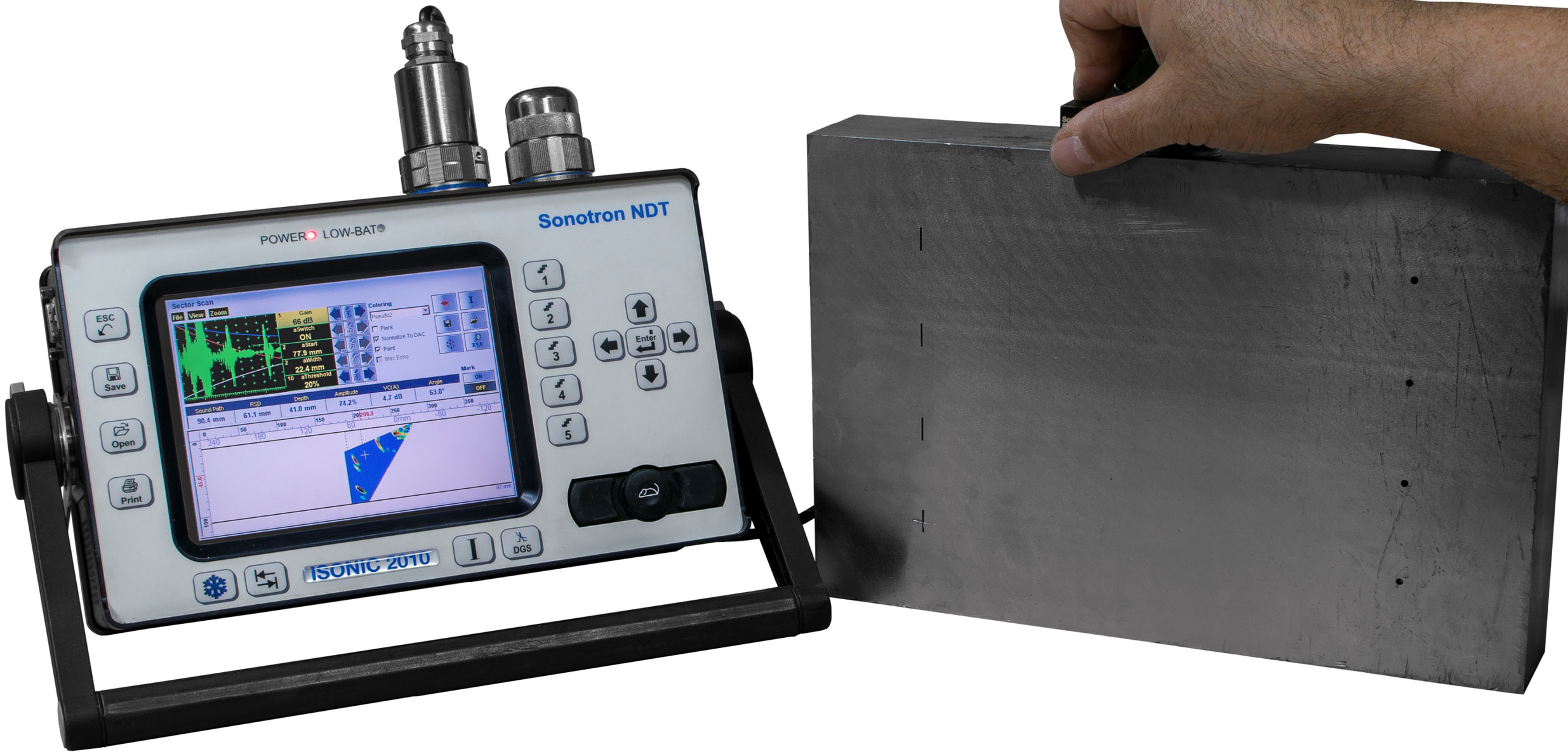


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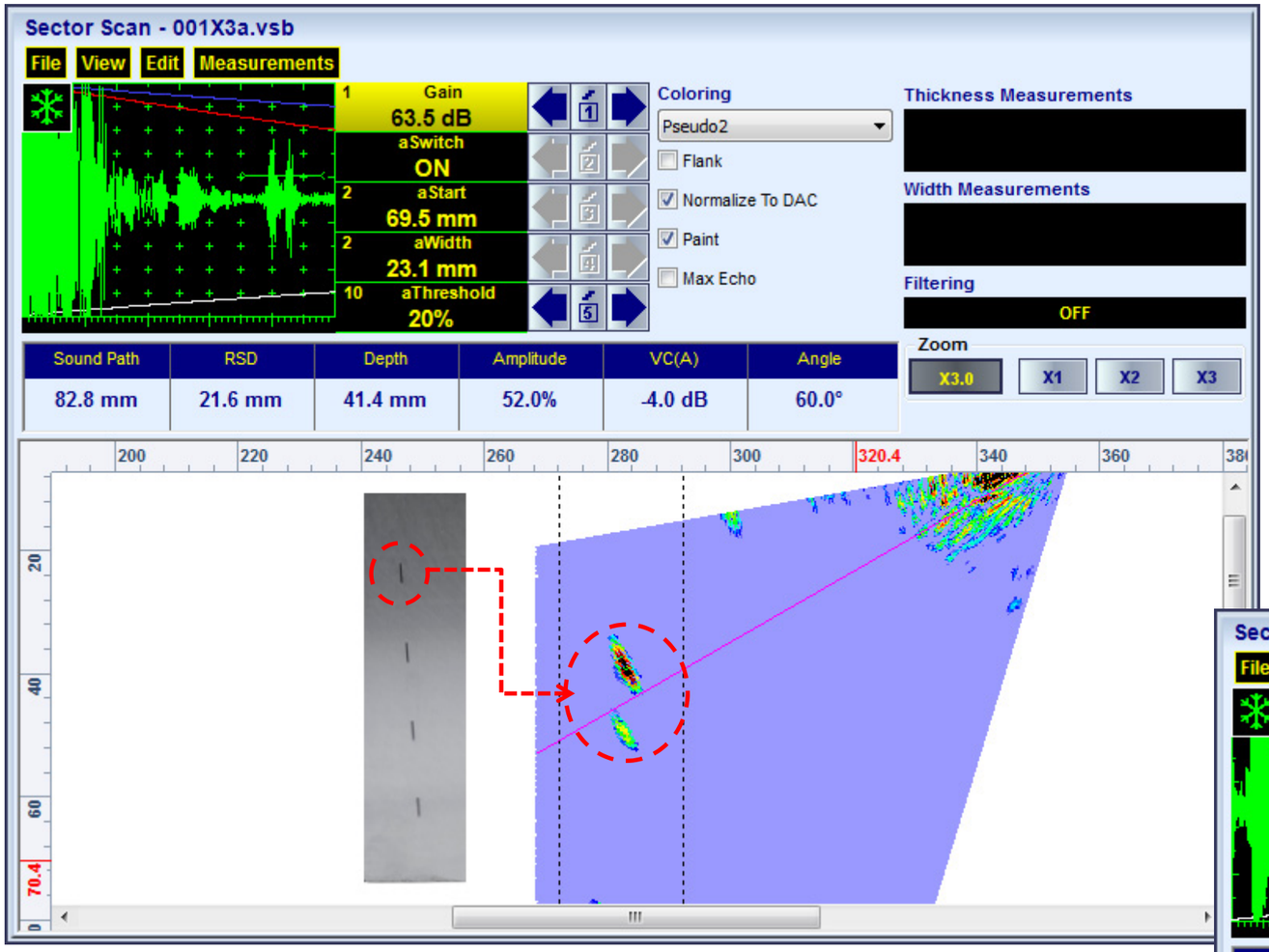
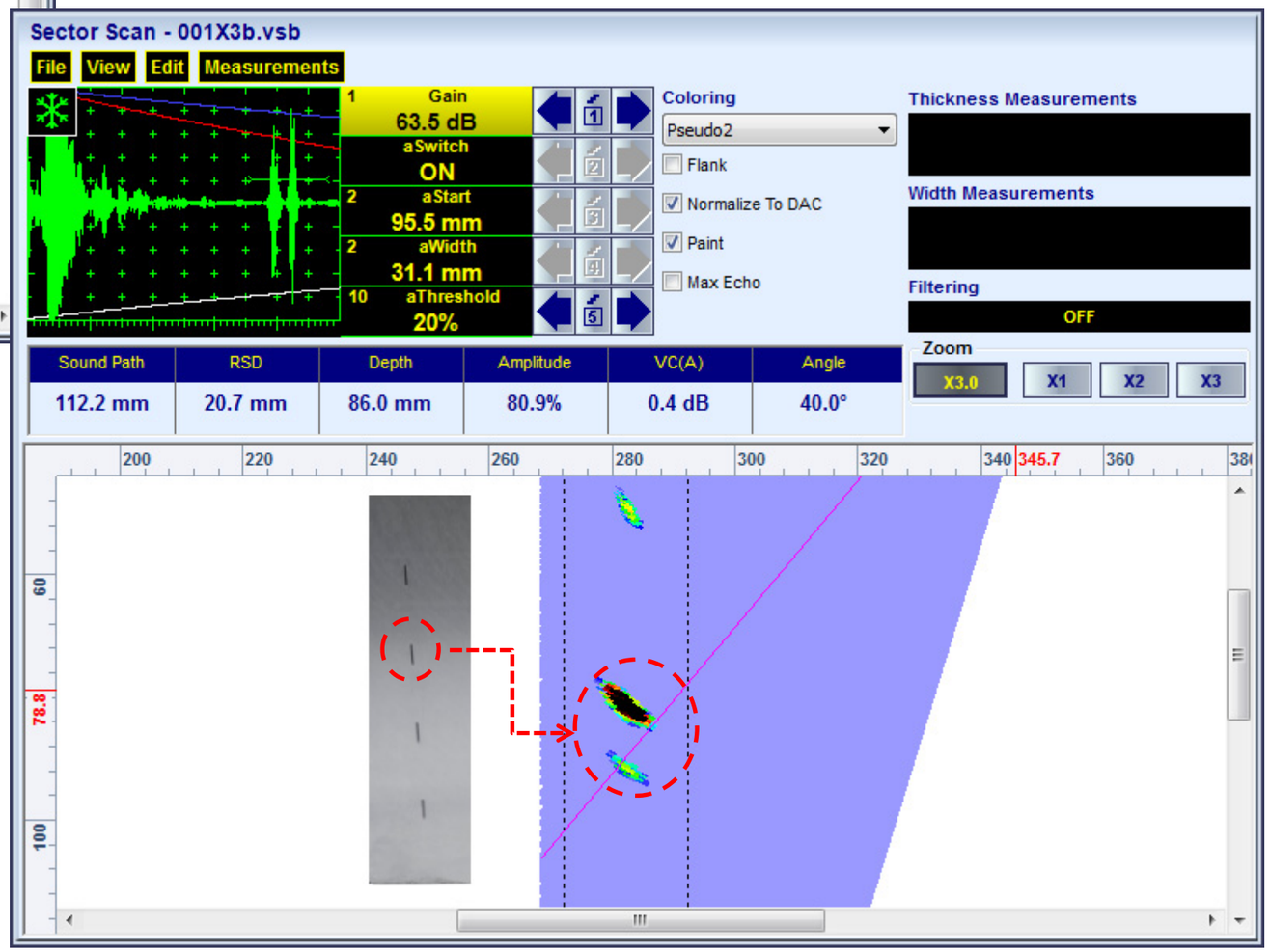



***Reverse TOFD: Every planar vertical defect with sharp edges returns the diffracted signals from the upper and lower tip***

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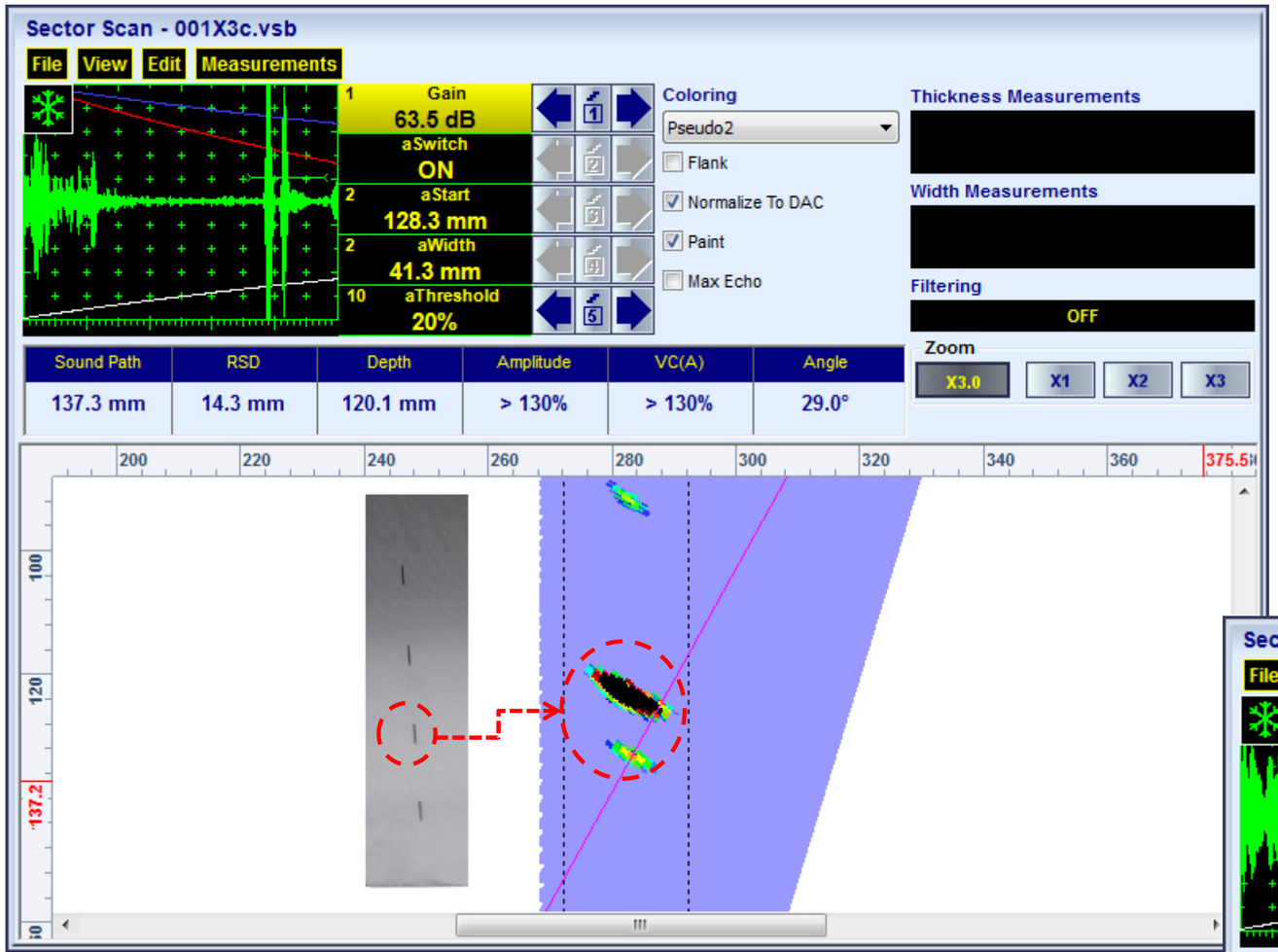
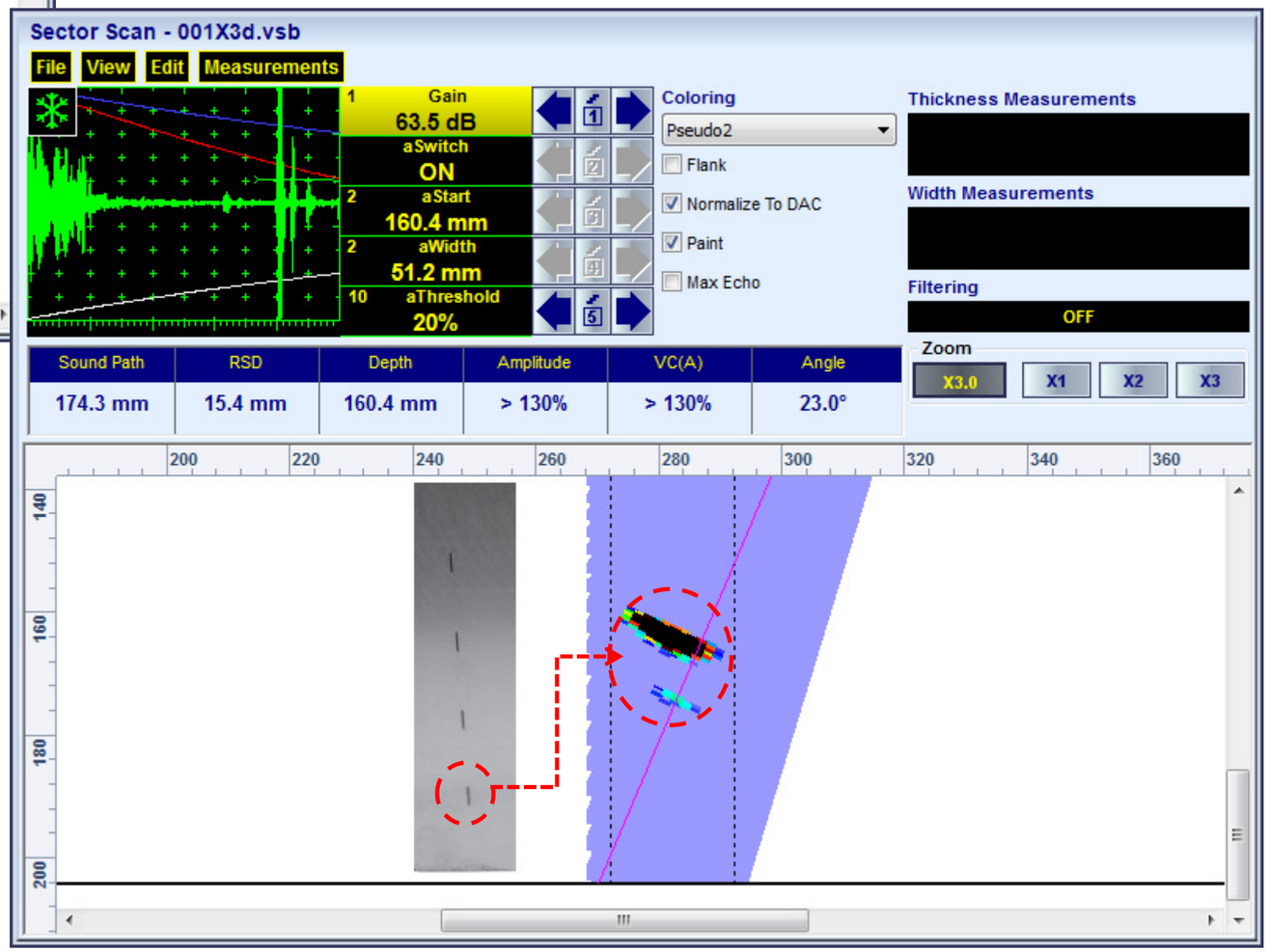



*Reverse TOFD: Every planar vertical defect with sharp edges returns the diffracted signals from the upper and lower tip*

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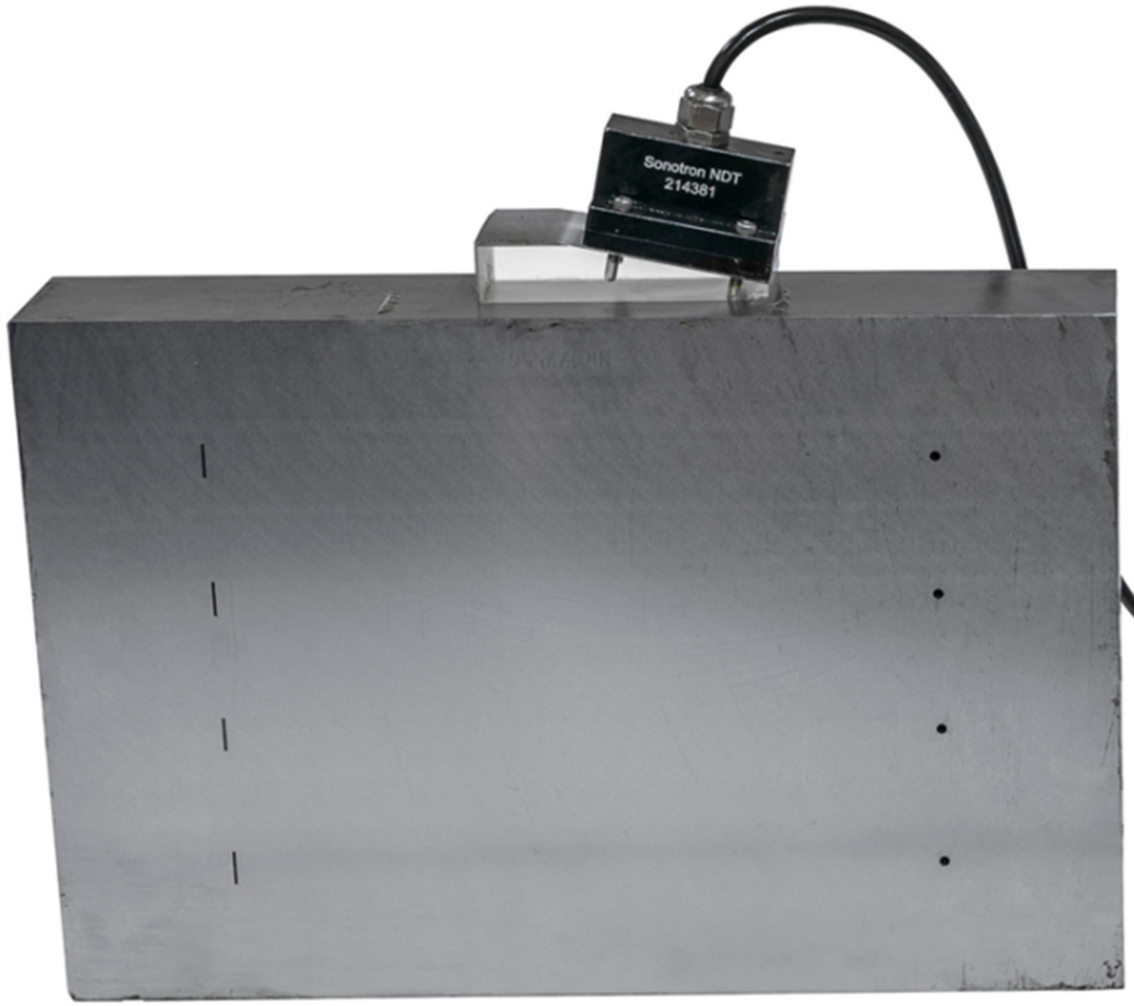
***Reverse TOFD: It is possible to provide the sectorial scan coverage of the region of interest combining focusing along the vertical line and gating the A-Scans in a manner providing the cross-sectional gated imaging. This allows the phase analyzing for the signals received: as for the traditional TOFD technology the phase shift is 180 deg for the upper / lower tip diffraction echoes***





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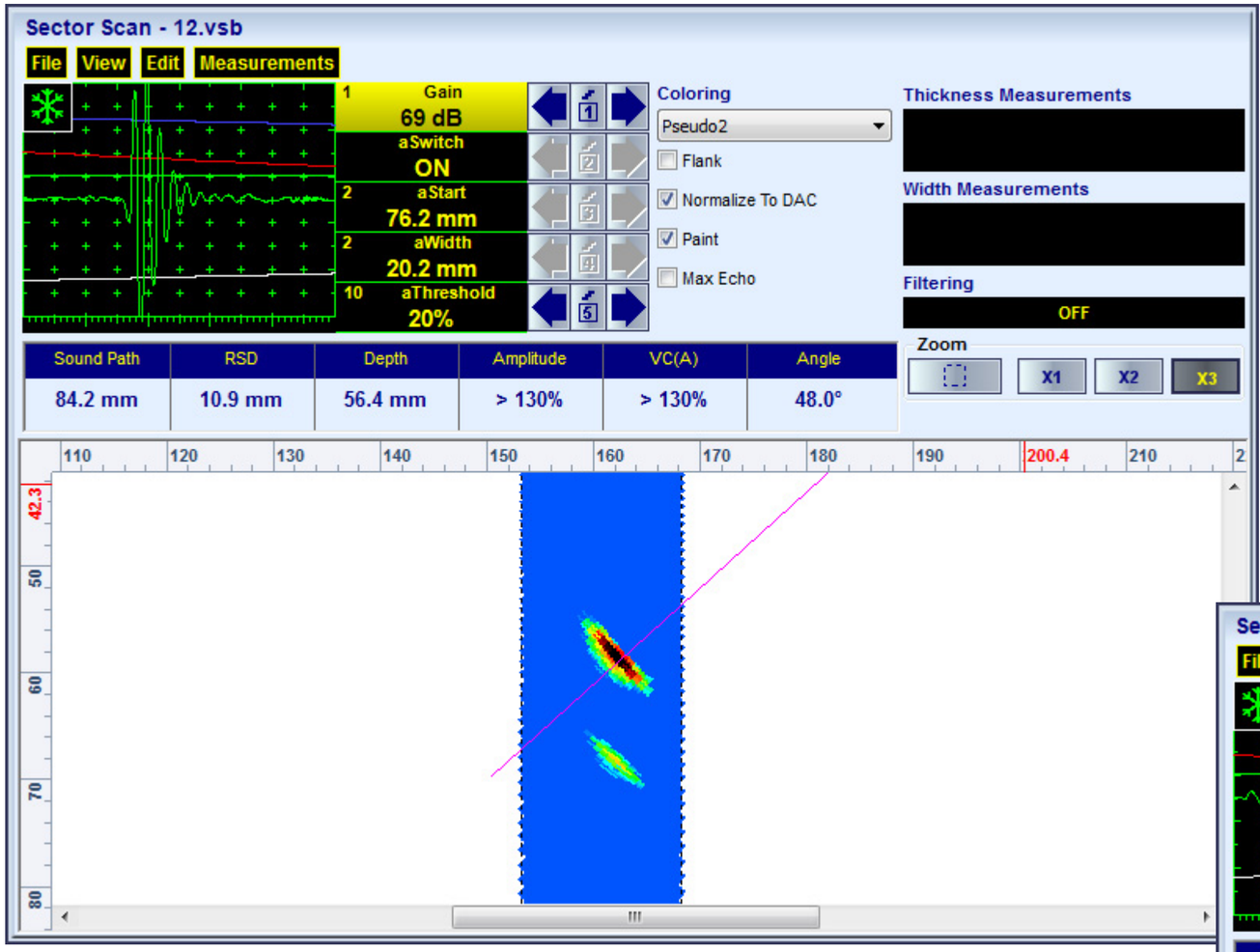


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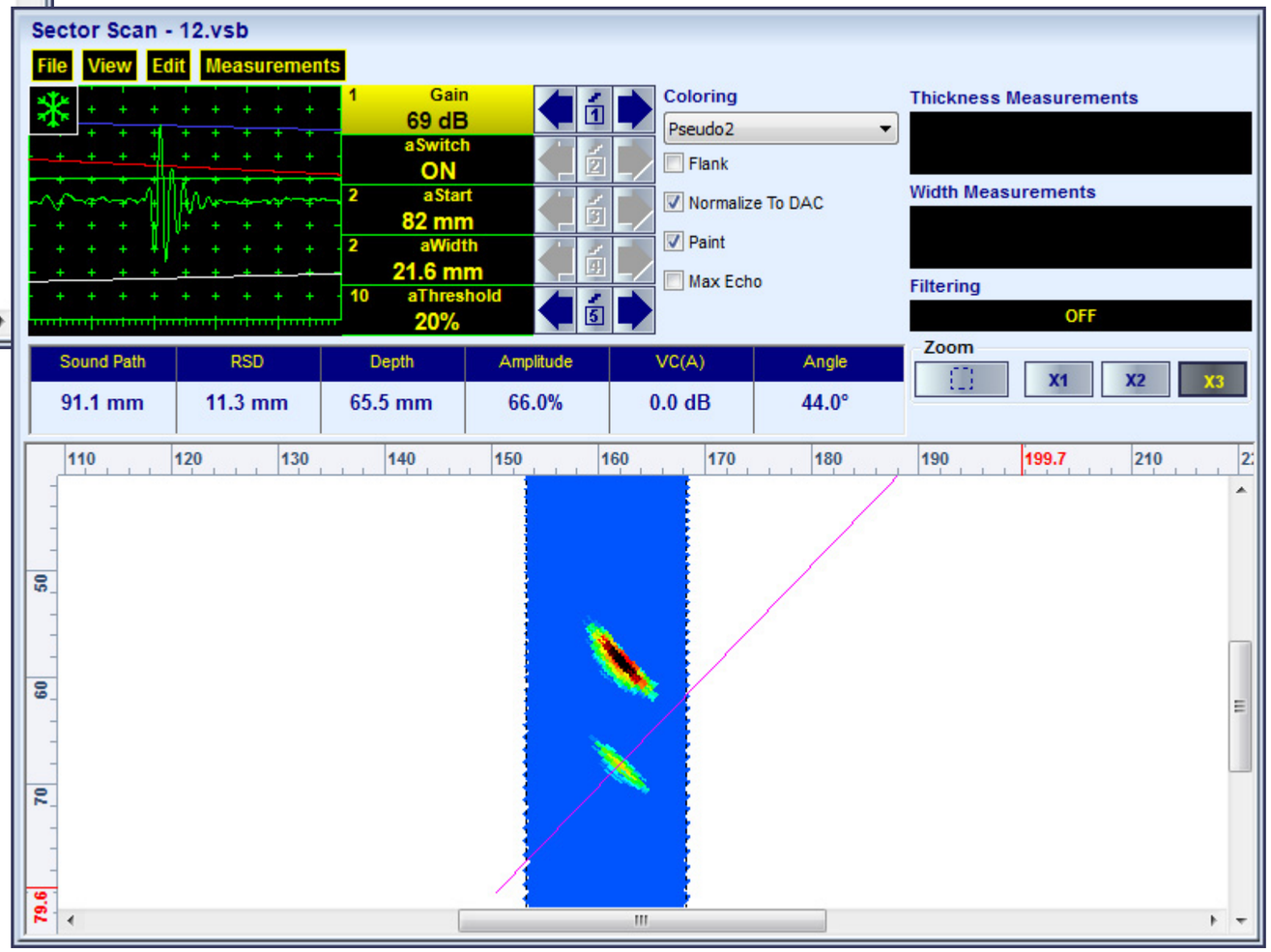


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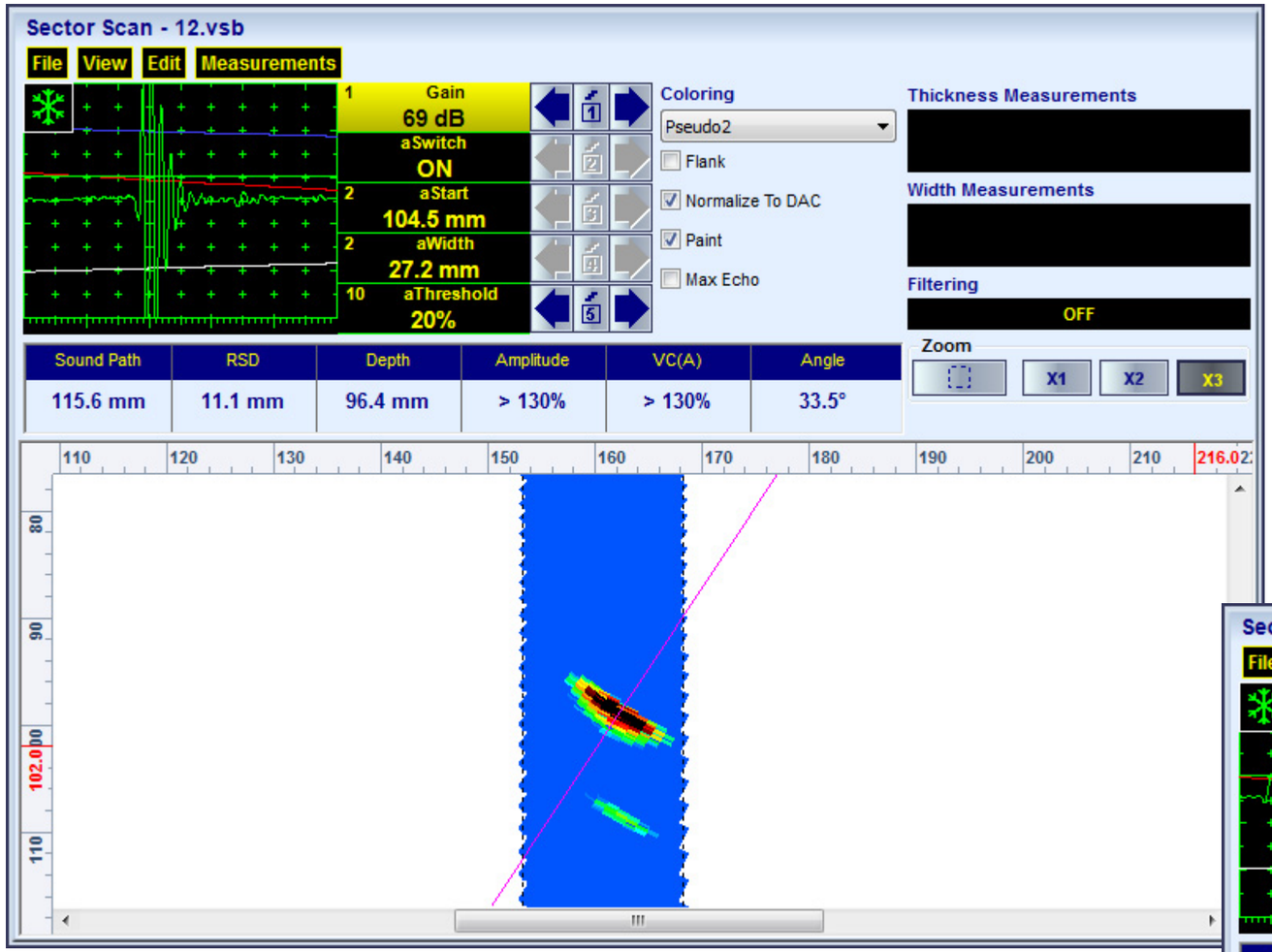


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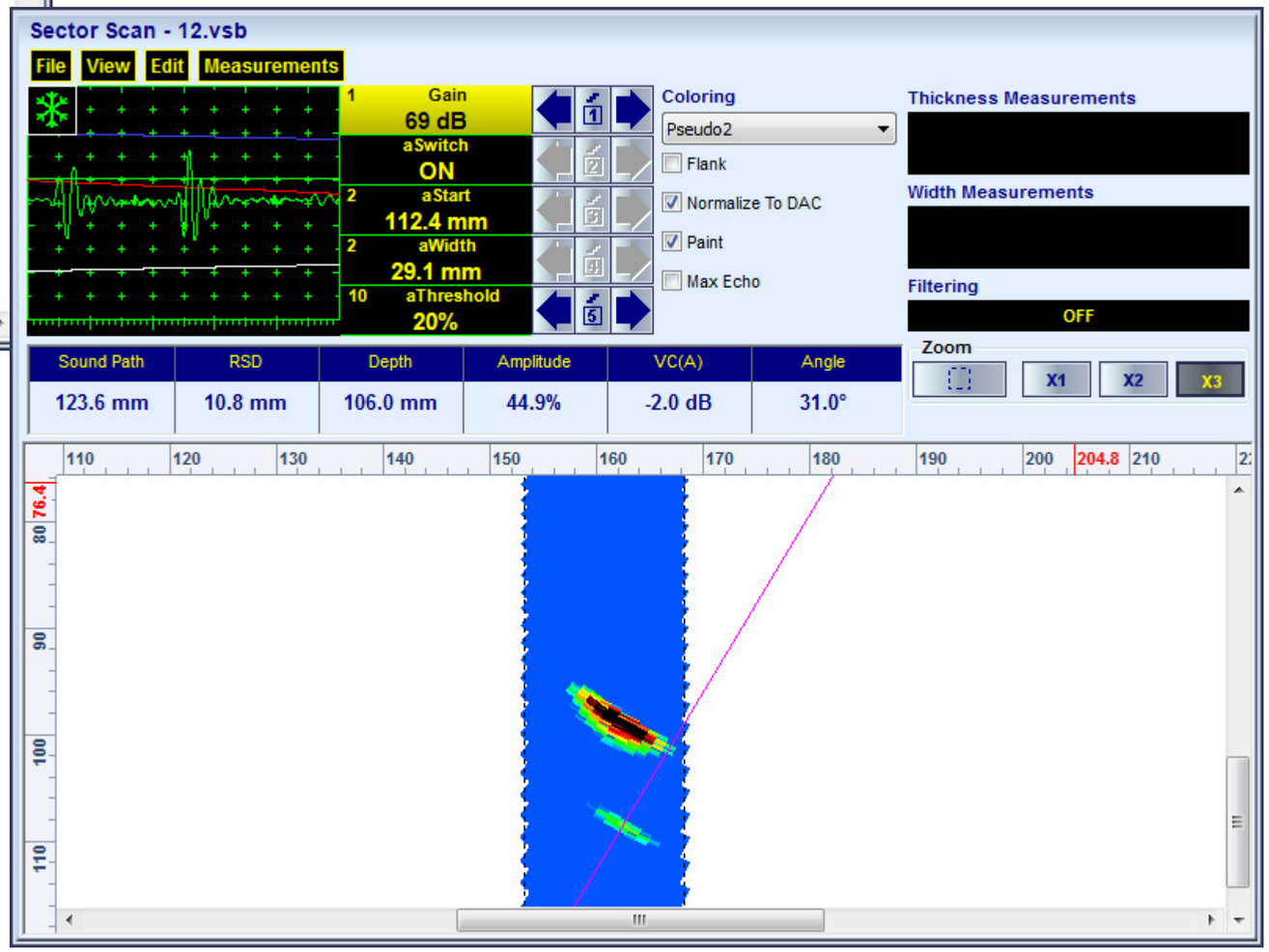


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***Shear wave***

***Inspection of ERW / thermite joints in the rails – detection and sizing of planar vertical and other defects***

***Secondary inspection of rails for confirming/rejecting AUT findings and precise sizing of confirmed indications***


**ROI S-Scan**


**FMC/TFM**

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***Compression wave***

***Inspection of ERW / thermite joints in the rails – detection and sizing of planar vertical and other defects***

***Secondary inspection of rails for confirming/rejecting AUT findings and precise sizing of confirmed indications***


**ROI S-Scan**


**FMC/TFM**

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