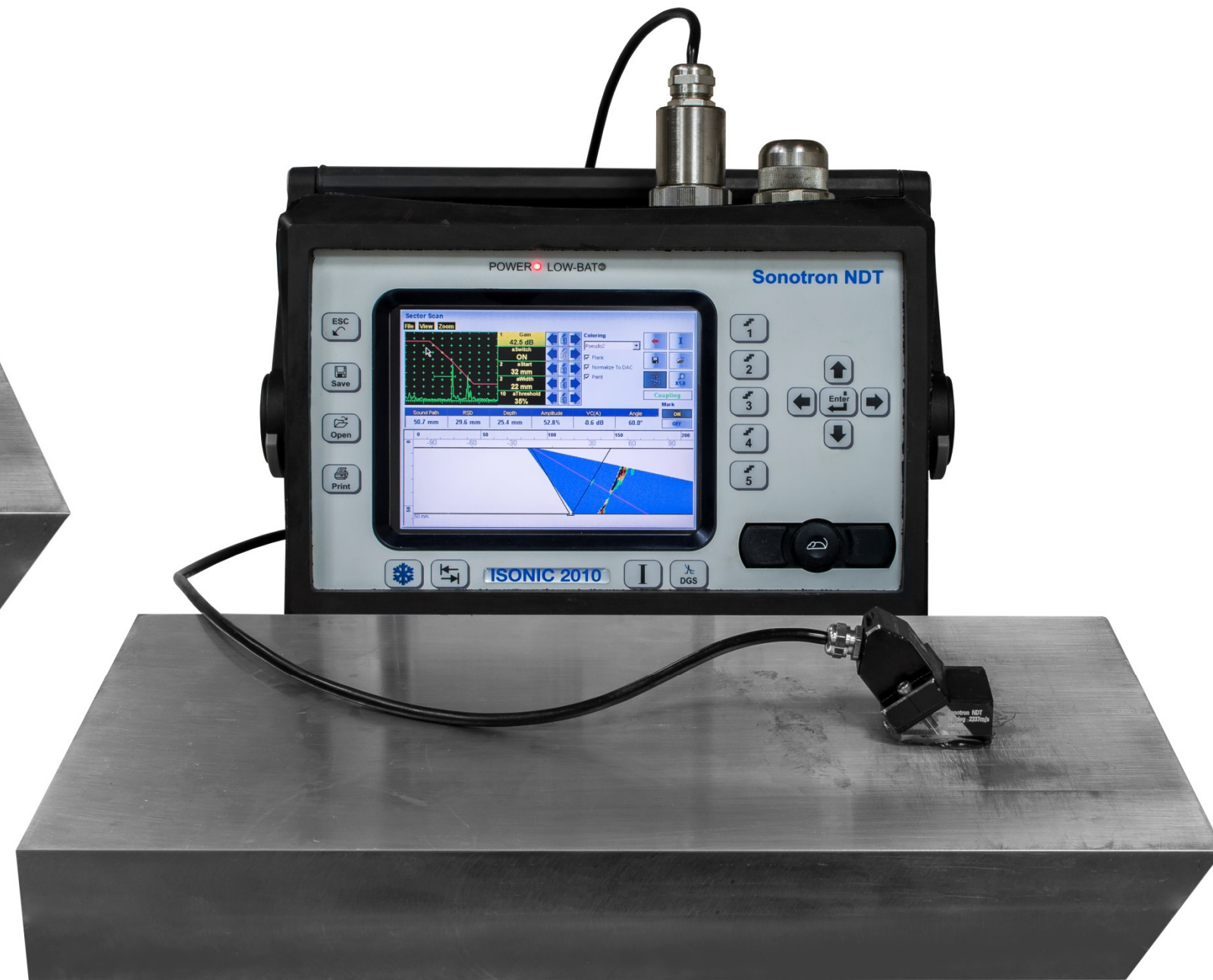
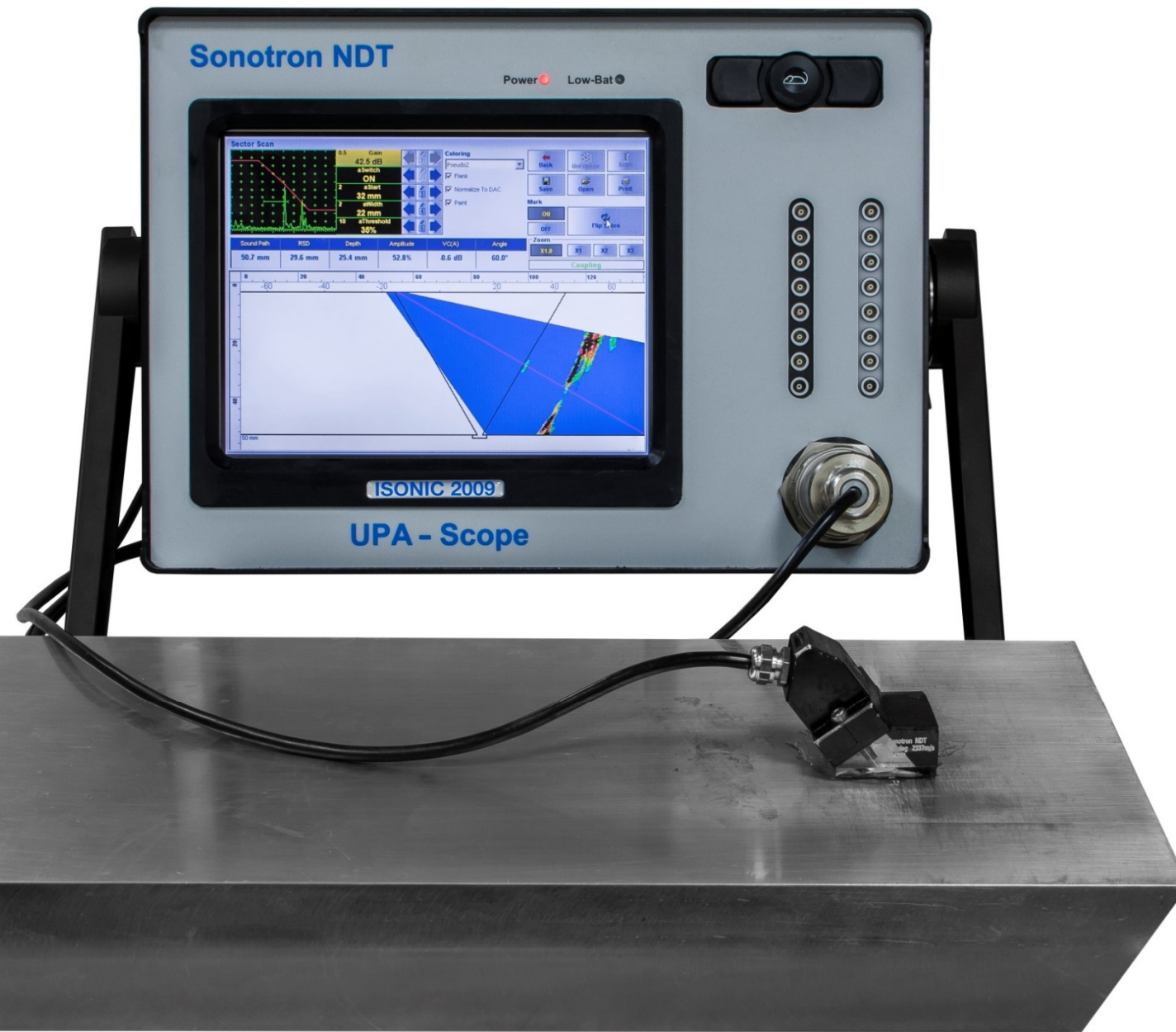
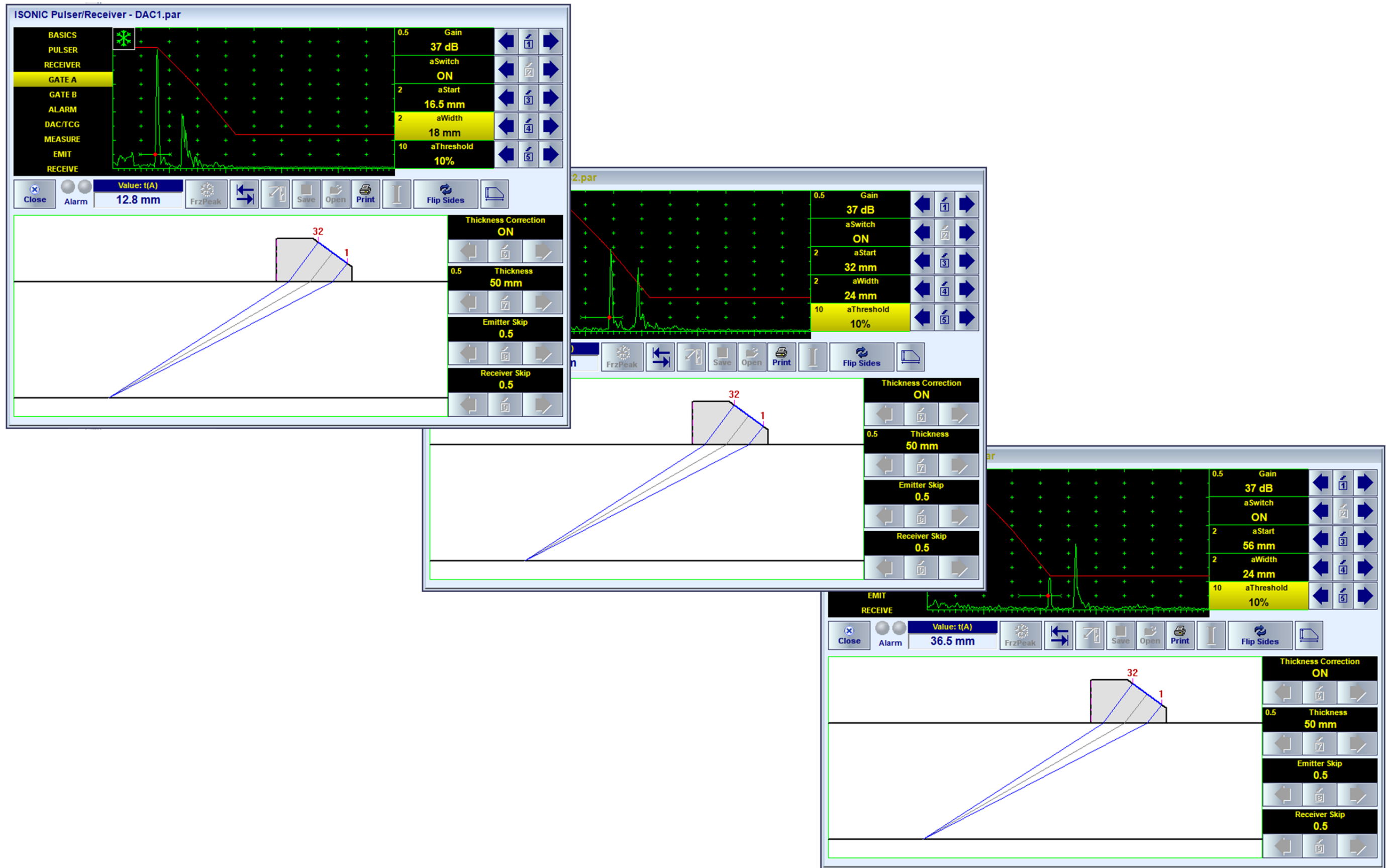


Combining the independent Angle Gain Compensation, the DAC Normalization or DAC based TCG in order to equalize the sensitivity for the sectorial scan coverage

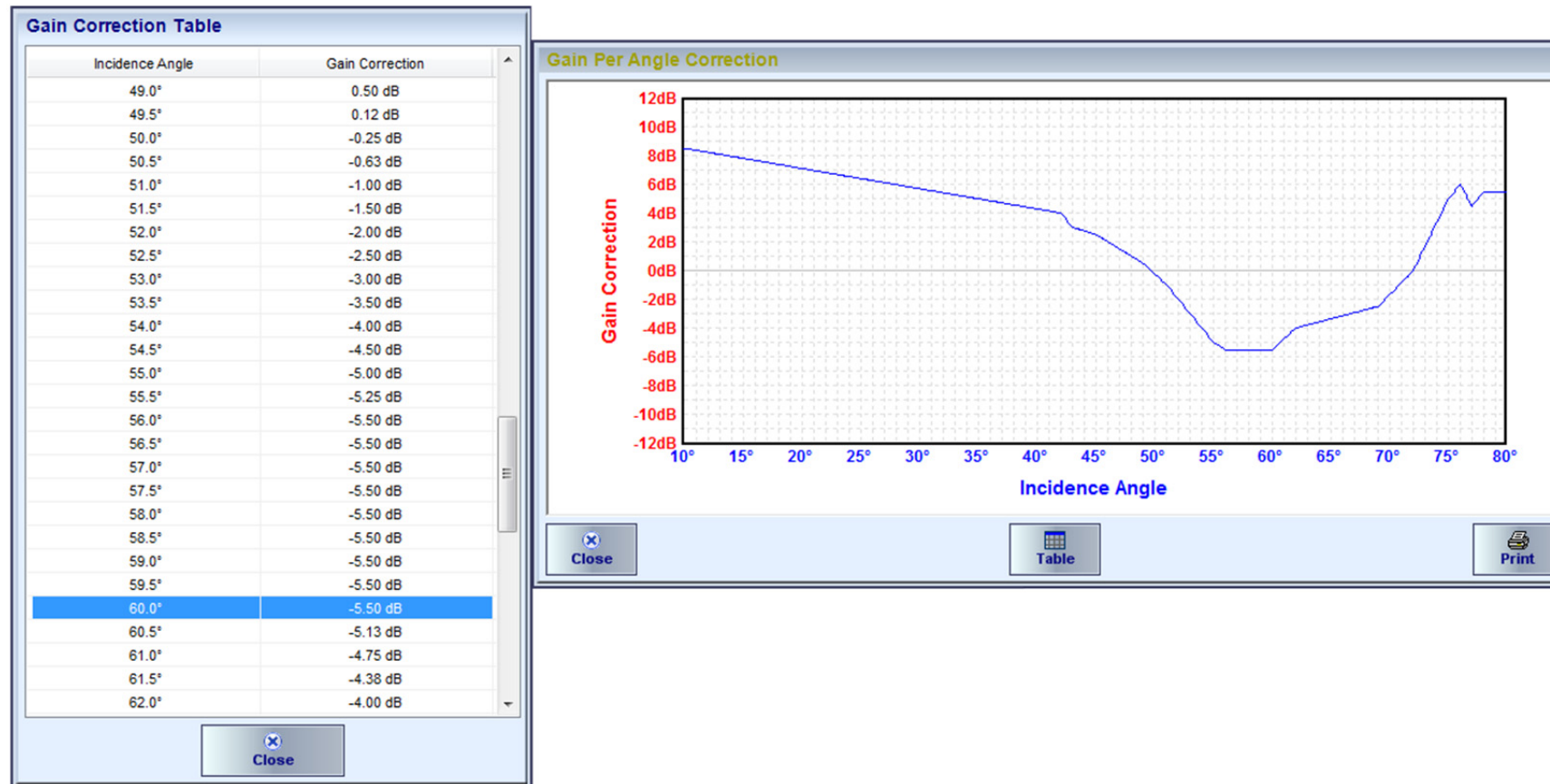
1. Reference reflector – 2 mm FBH



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

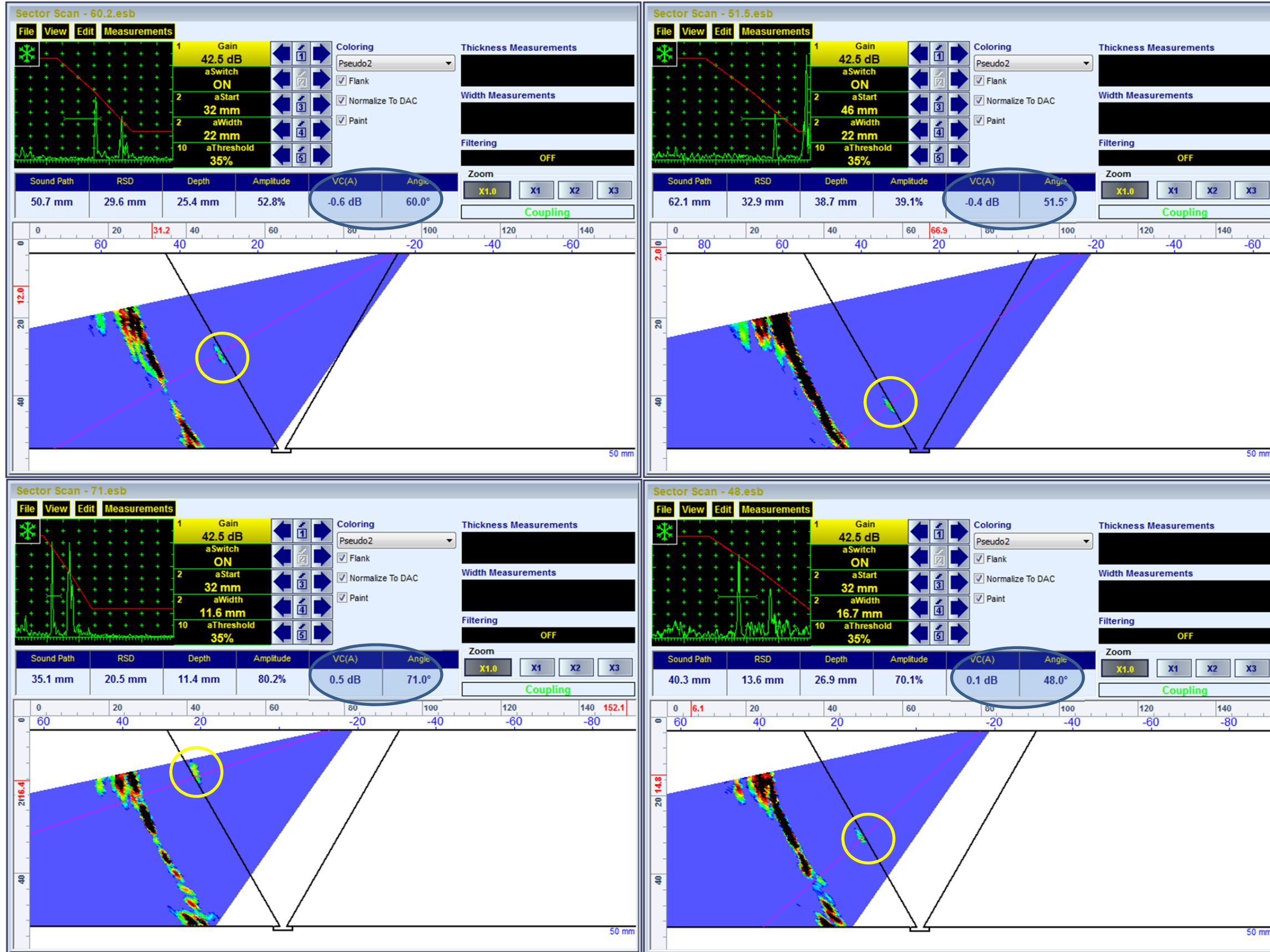


The angle Gain Compensation is adjusted through getting a number of echoes from the same FBHs at various angles and bringing every echo amplitude to the DAC level

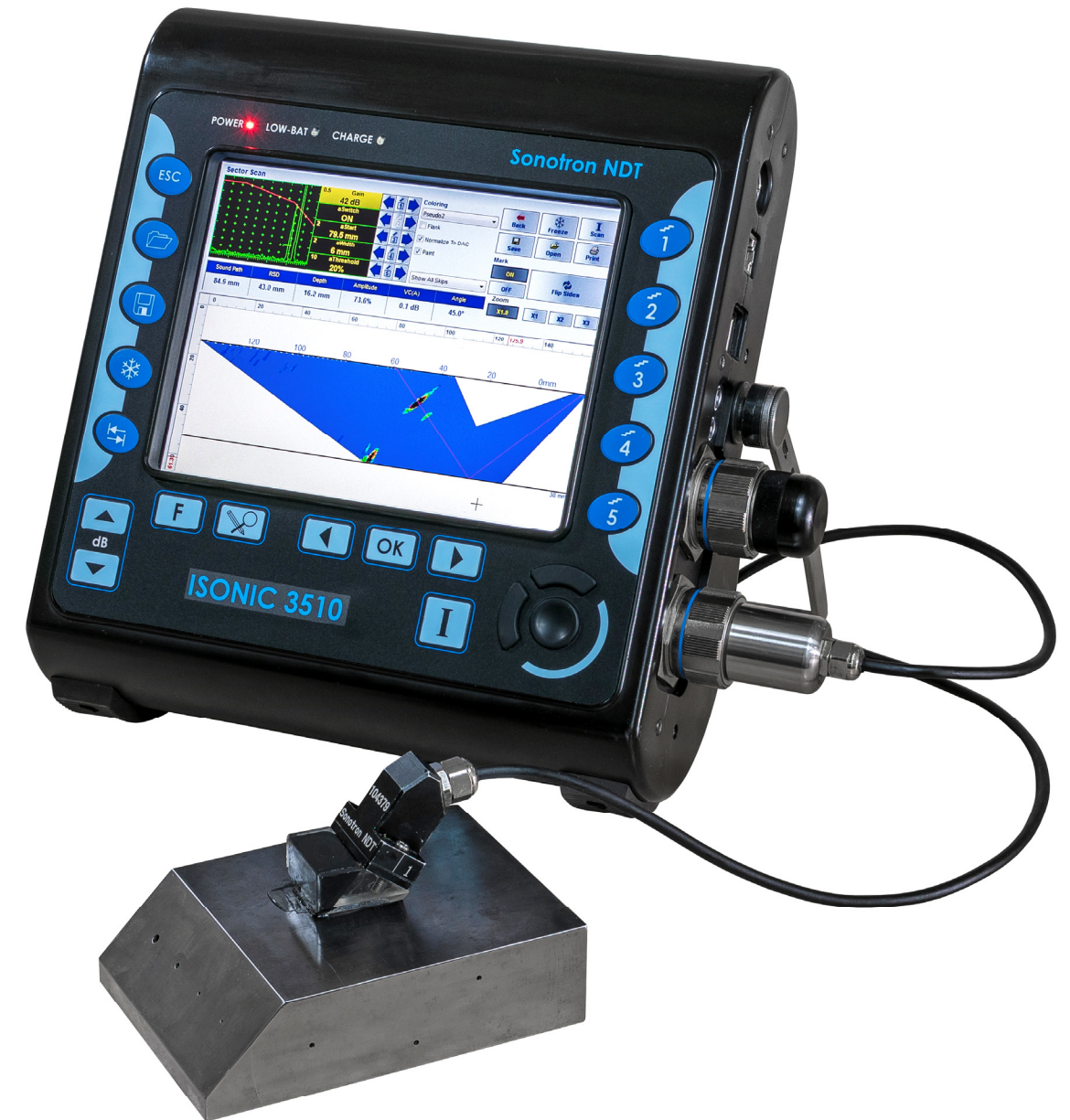


As a result the signals from equal FBHs have the same **dB-to-DAC** rate independently on the reflector's location and the incidence angle varying in the wide range

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



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



ISONIC Pulsar/Receiver - FBH.par

BASICS
PULSER
RECEIVER
GATE A
GATE B
ALARM
DAC/TCG
MEASURE
EMIT
RECEIVE

Value: t(A)
17.5 mm

FrzPeak

Close Alarm

Thickness Correction **ON**

0.5 Thickness **38 mm**

Emitter Skip **1**

Receiver Skip **1**

Gain Correction Table

Incidence Angle	Gain Correction
43.5°	-10.63 dB
44.0°	-10.75 dB
44.5°	-10.88 dB
45.0°	-11.00 dB
45.5°	-10.88 dB
46.0°	-10.75 dB
46.5°	-10.63 dB
47.0°	-10.50 dB
47.5°	-10.38 dB
48.0°	-10.25 dB
48.5°	-10.13 dB
49.0°	-10.00 dB
49.5°	-9.42 dB
50.0°	-8.83 dB
50.5°	-8.25 dB
51.0°	-7.67 dB
51.5°	-7.08 dB
52.0°	-6.50 dB
52.5°	-5.50 dB
53.0°	-4.50 dB
53.5°	-3.50 dB
54.0°	-2.50 dB
54.5°	-1.42 dB
55.0°	-0.33 dB
55.5°	0.75 dB
56.0°	1.83 dB
56.5°	2.92 dB

Close

Gain Per Angle Correction - ANGLE_GAIN_COMPENSATION.gac

1 Incidence Angle **10 °**

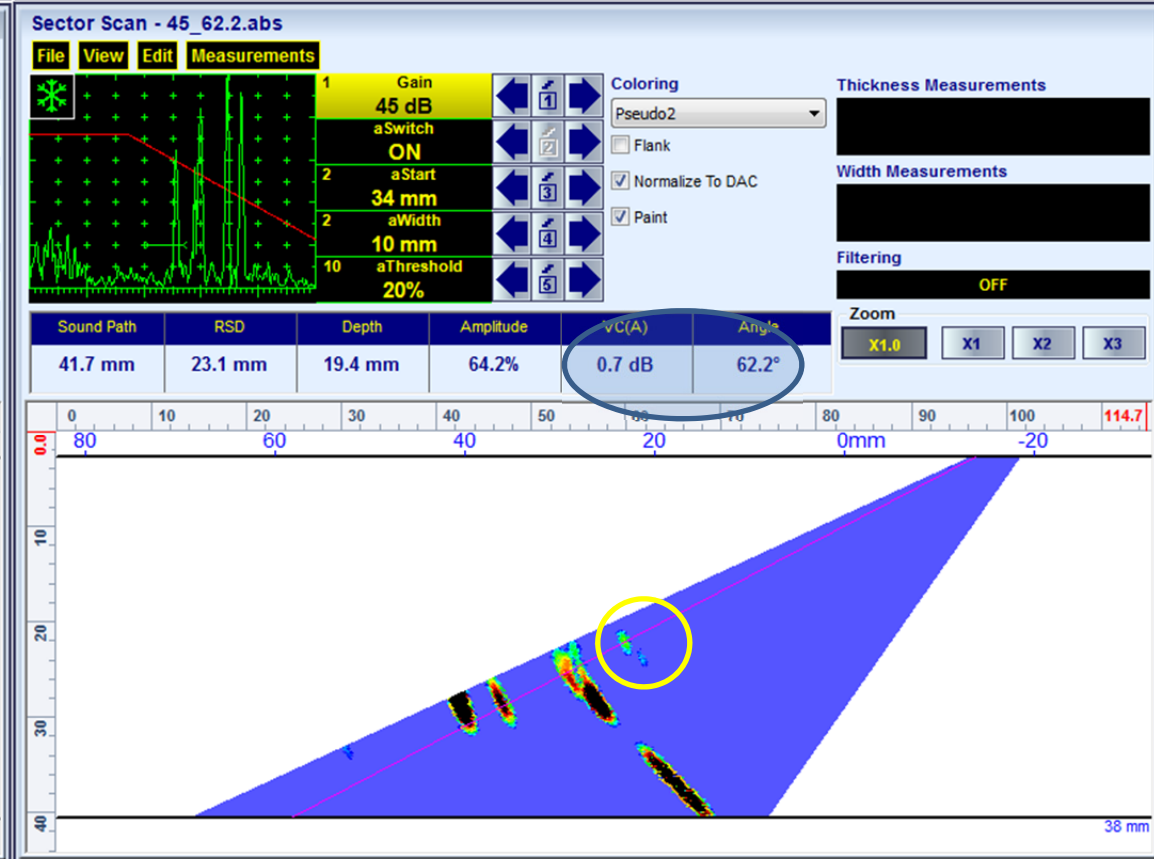
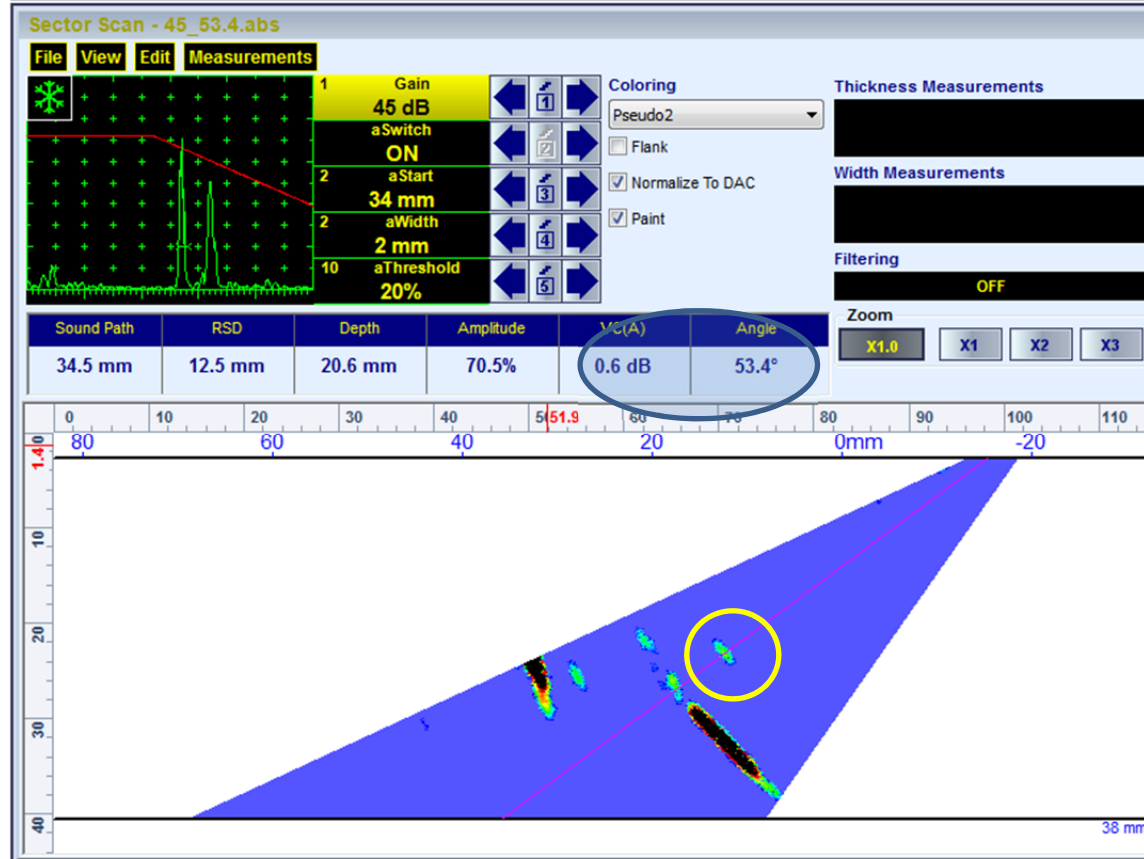
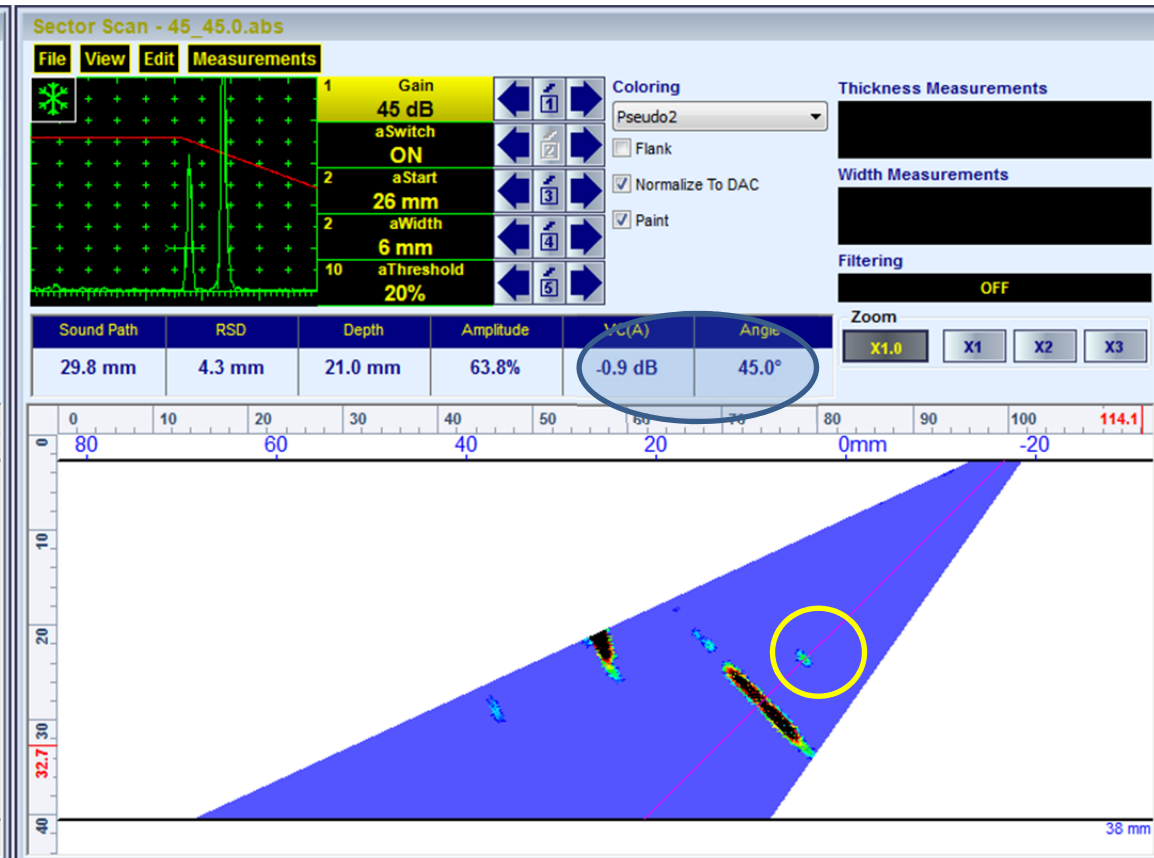
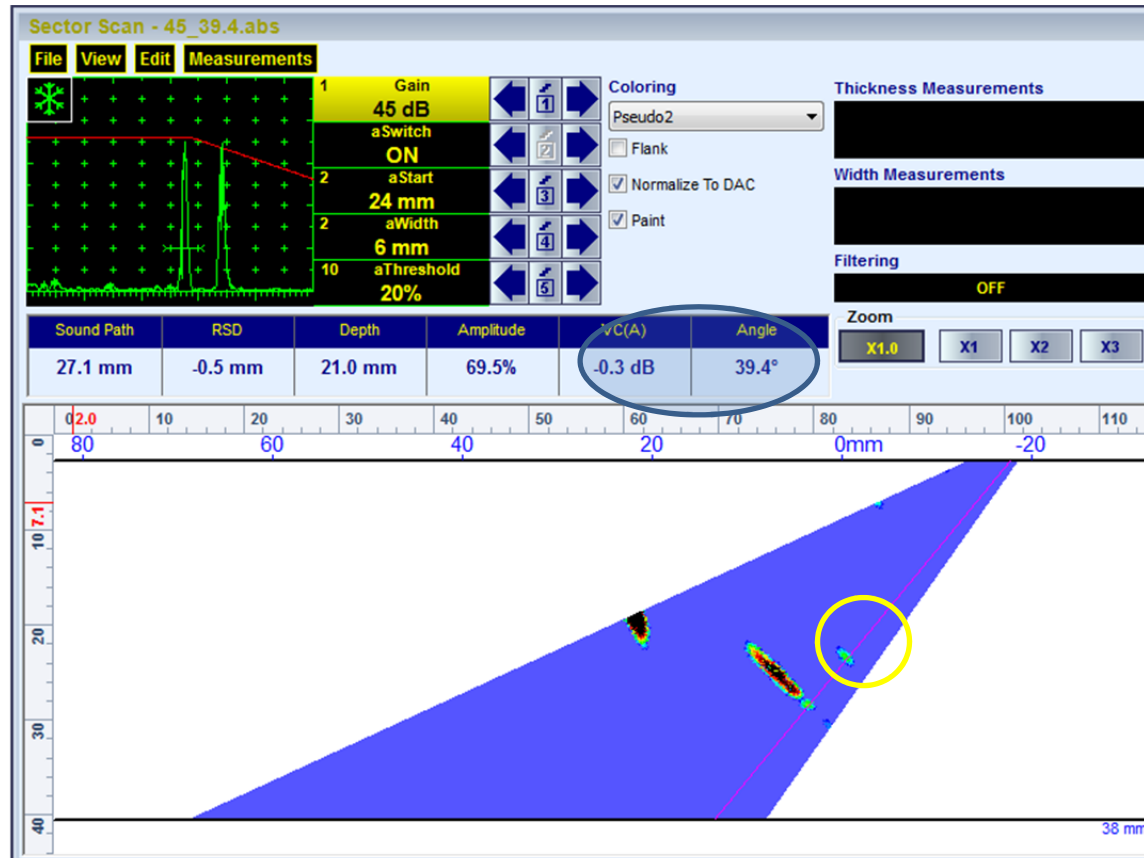
Gain Correction **-4.5 dB**

Gain Correction

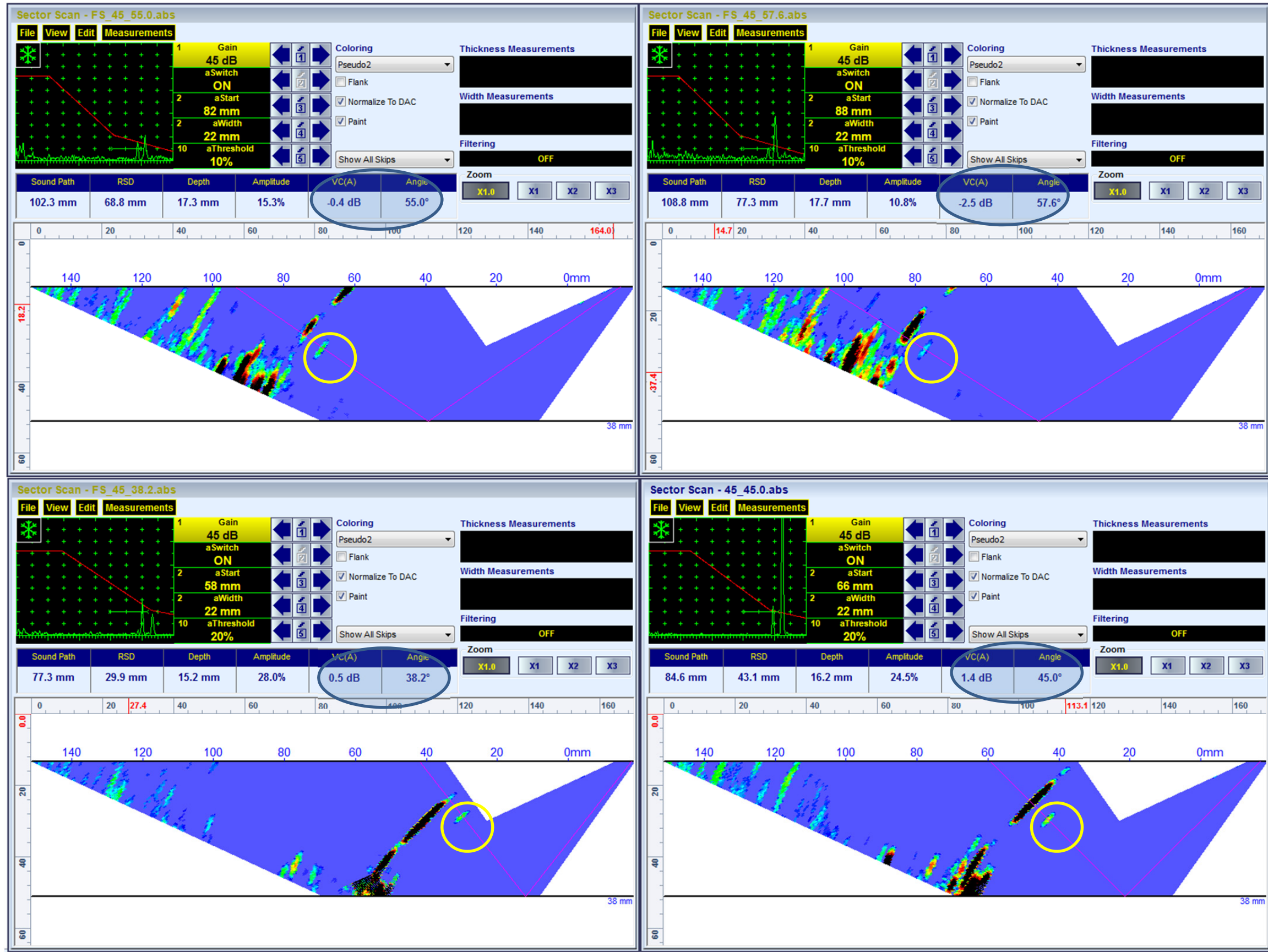
Incidence Angle

Table Save Open Print Reset Done

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



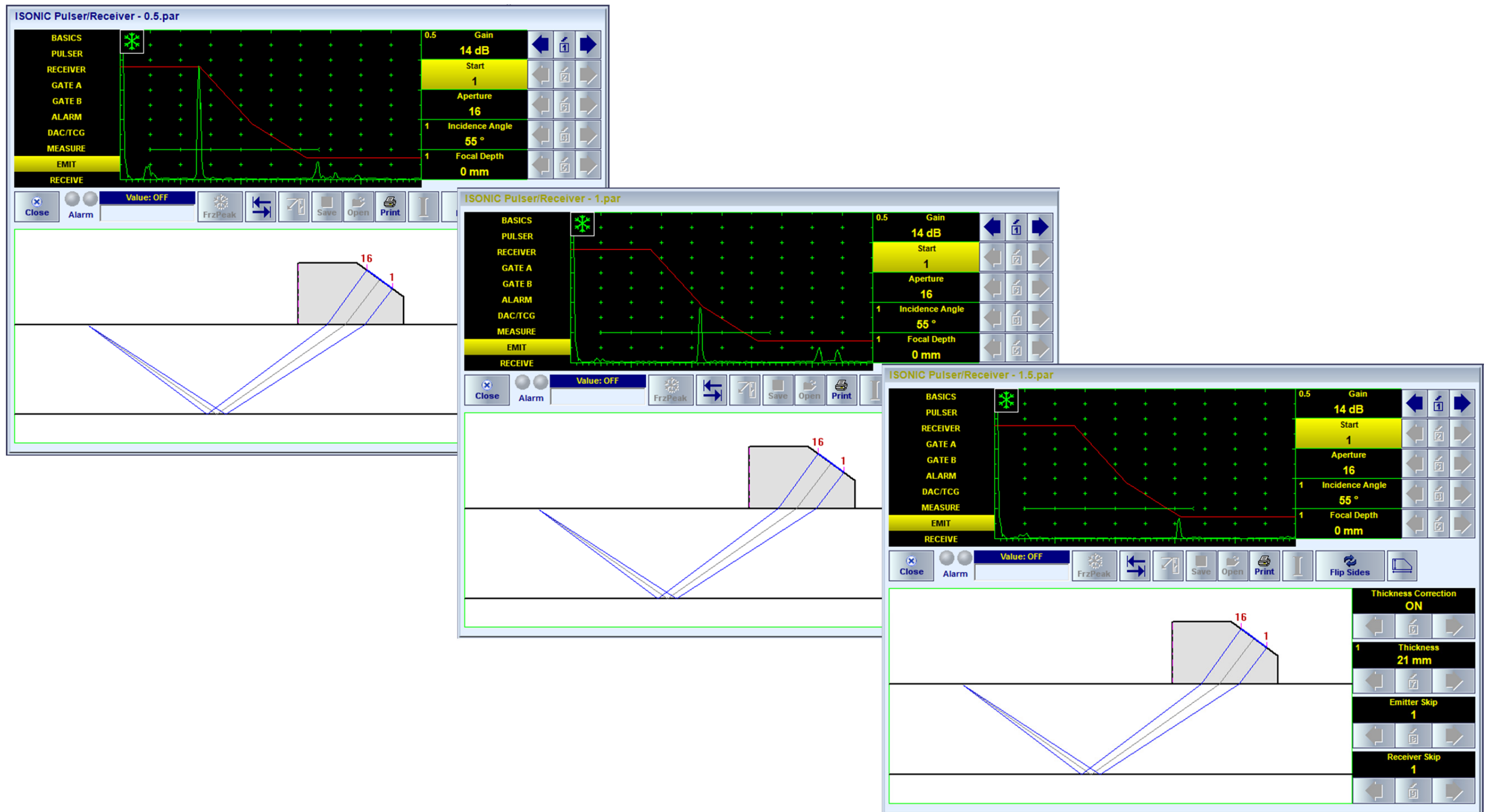
Sector Scan Coverage – Full Skip – DAC Normalization – Angle Gain Compensation



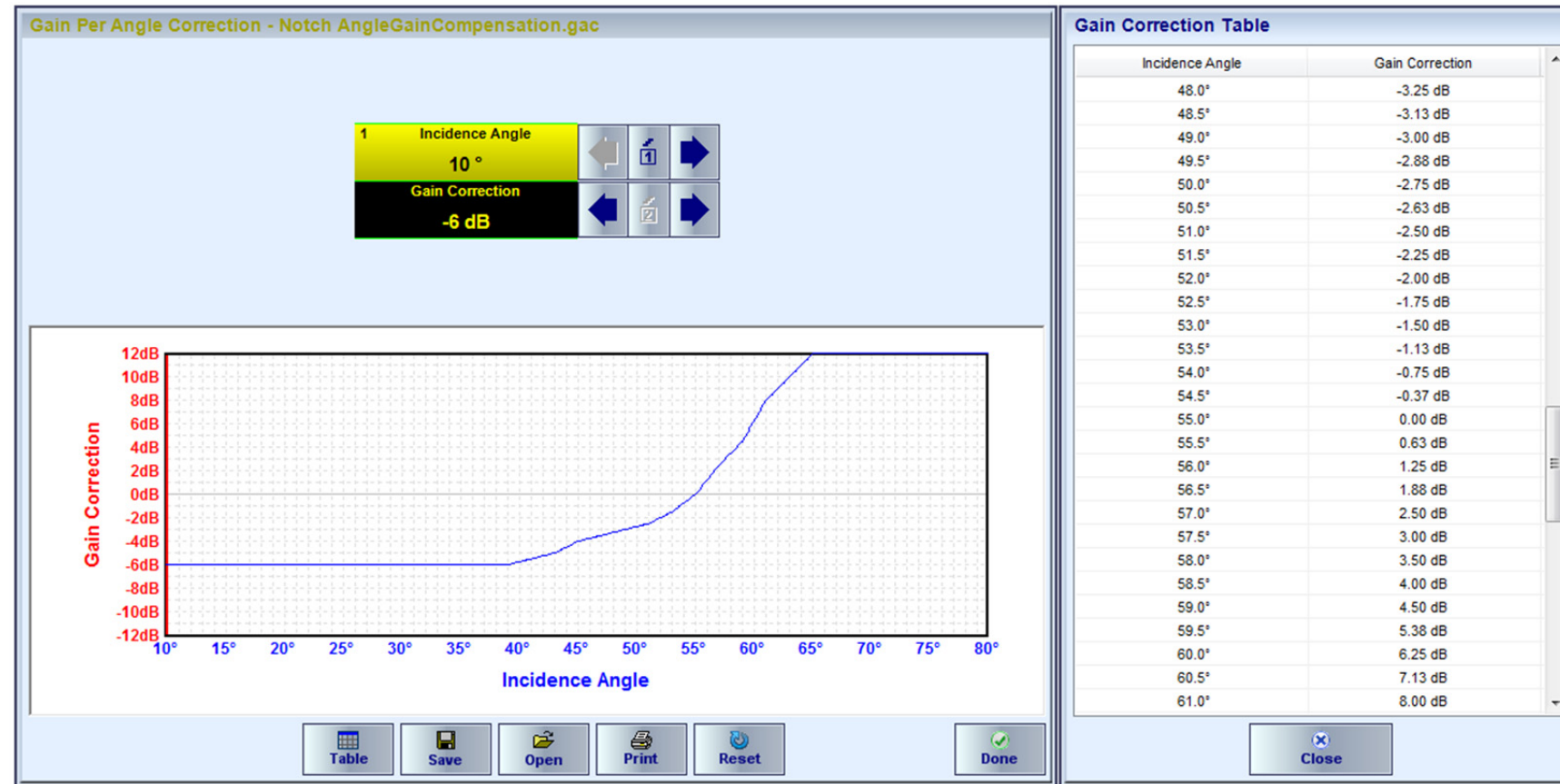
2. Reference reflector – 2 mm EDM Notch

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

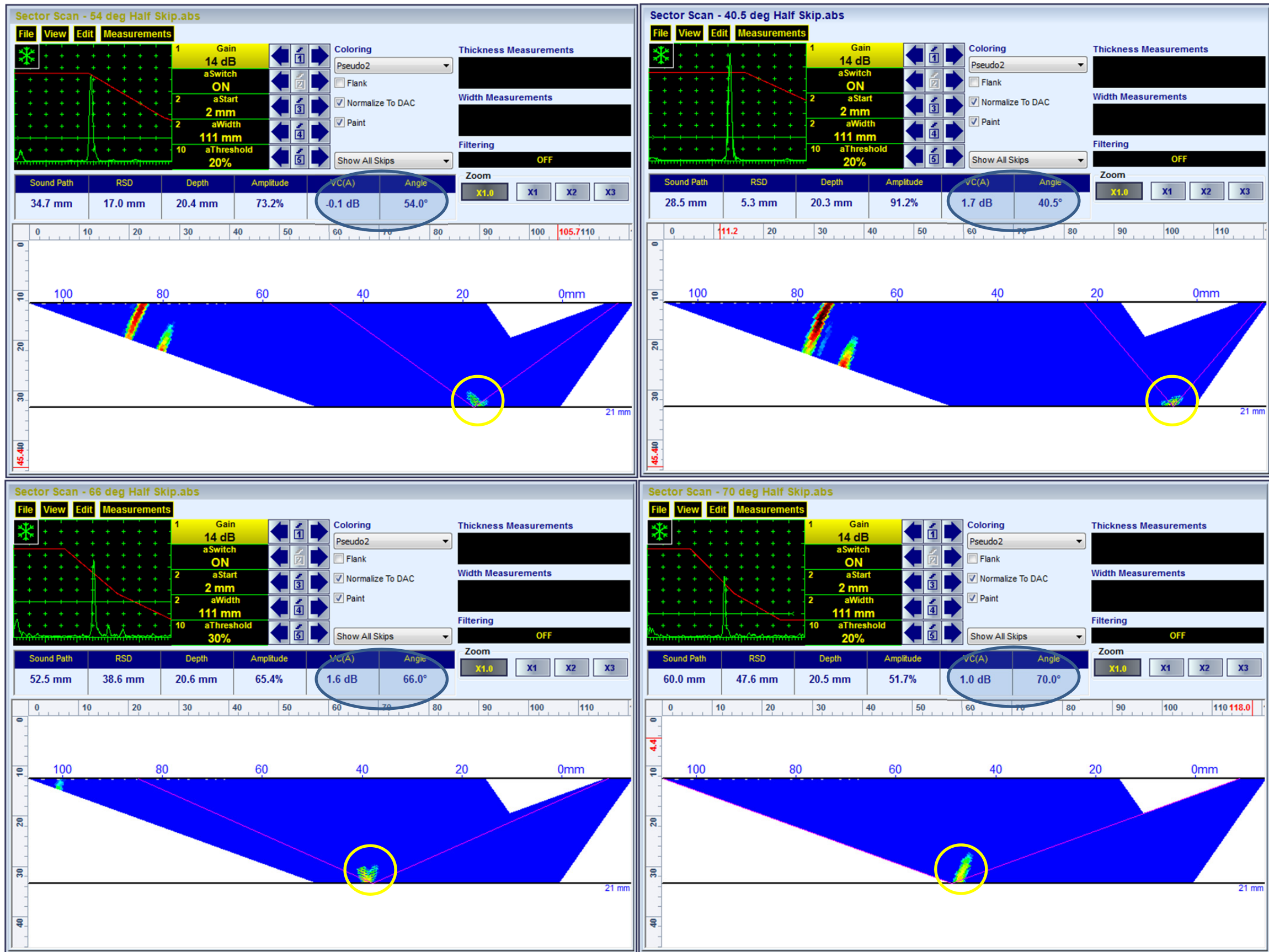
Notch-based DAC



Notch & DAC based Angle Gain Compensation



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



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

