

## Statement of Equivalency

### APEX Version 5.6 to APEX Version 5.5.3

#### Background

APEX is the software that runs differing hardware platforms for Hologic Densitometers. APEX Version 5.6 is for use with the Horizon line of densitometers and includes new features not found in earlier versions. Please review the APEX 5.6 Release notes for a description of new features.

#### Analysis

APEX 5.6 analysis measurement results are identical to results obtained with APEX 5.5.3.

#### Reporting

Reference data has changed to incorporate updated data available from the BMDCS study [Journal of Clinical Endocrinology and Metabolism 2011 Oct;96(10):3160-9 and 2013 Jan;98(1):420]. This will affect Z-scores calculated for children.

Kevin Wilson, PhD  
Scientific Director

Peter E. Lewis  
Sr. Manager, Software Engineering

## Statement of Equivalency

### APEX Version 5.5.3 to APEX Version 5.5.2

#### Background

APEX is the software that runs differing hardware platforms for Hologic Densitometers. APEX Version 5.5.3 is for use with the Horizon line of densitometers and includes new features not found in earlier versions.

#### Analysis

APEX 5.5.3 analysis measurement results are identical to results obtained with APEX 5.5.2.

#### T-score Results

APEX 5.5.3 T-score results may be different from earlier versions of APEX. APEX 5.5.2 can be configured to calculate male T-scores from young normal female reference data, in accordance with some DXA reporting guidelines (E.g. International Society of Clinical Bone Densitometry, Japan Society of Bone Mineral Research, etc.). It is the User's responsibility to configure the T-score calculation to achieve the desired output.

*NOTE: T-scores are calculated during report generation using the current software configuration. Previously reported results will change to match the current T-score software configuration if they are re-reported. No reanalysis is necessary. This includes when rate of change reports are generated, the older data will be reported with T-scores calculated from the current software configuration.*

Thomas L. Kelly  
Senior Principal Scientist

Peter E. Lewis  
Sr. Manager, Software Engineering

## Statement of Equivalency

### APEX Version 5.5.2.1 to APEX Version 5.5

#### Background

APEX is the software that runs differing hardware platforms for Hologic Densitometers. APEX Version 5.5.2.1 runs on Windows 7 and is used by the Horizon. APEX Version 5.5.2.1 has been updated to support the Horizon A model.

#### QC

APEX 5.5.2 adds an Infant Whole Body Air scan once a month to Horizon for additional quality assurance. This occurs ONLY if the Infant Whole Body Option is installed. To avoid this QC step (e.g. option bought as part of a package and there is no intention of scanning infants), you can uninstall the Infant Whole Body option from the main APEX screen by going to Utilities -> Install Options, select "Infant Whole Body" from the list of options, and click on "Uninstall".

#### Scan Acquisition

Scan acquisition for all scan modes supported by earlier versions of APEX 5.5 is identical in APEX 5.5.2.1

#### Analysis

APEX 5.5.2 analysis results are identical to results obtained with APEX 5.5 except as noted below.

APEX 5.5.2.1 corrects an issue in versions of APEX 5.5, 4.5 and 3.5 (not present in earlier versions of APEX 5, 4 or 3) where Whole body BMC/BMD results have a factor of 1.013 applied to the results the first time the analysis of the scan is repeated.

**Infant Whole Body:** In APEX 5.5.2 a new analysis method called "Infant WB" was developed to exclude more bone containing pixels from the body composition analysis. The Infant WB analysis method results in higher %Fat results in most infants and in lean animals (e.g. piglets), better agreement with criterion methods in neonates, and only minimal change to the BMD/BMC results. At this time, both the existing "Infant Whole Body" and the new "Infant WB" analysis methods are available; however, Hologic recommends making the transition to the new "Infant WB" analysis as future releases may discontinue support for the older "Infant Whole Body" analysis.

Kevin Wilson, PhD  
Scientific Director

Peter E. Lewis  
Sr. Manager, Software Engineering

## Statement of Equivalency

### APEX Version 5.5 to APEX Version 4.0 or 3.4

#### Background

APEX is the software that runs differing hardware platforms for Hologic Densitometers. APEX Version 5.5 is for use with the Horizon line of densitometers and includes new features not found in earlier versions. However, APEX 5.5 can analyze scans acquired in previous Hologic software versions and obtain identical results to those obtained in APEX 4.0 or 3.4.

Thomas L. Kelly  
Senior Principal Scientist

Peter E. Lewis  
Sr. Manager, Software Engineering