

4. SAR scan resolution: USB dongle KDB447498 D02 S 1 AR Procedures for Dongle Xmtr v01:  
[https://fjallfoss.fcc.gov/oetcf/report\\_detail.cfm?report\\_url=/prod/oet/forms/blobs/IDBretrieve.cgi?attachment\\_id=26969](https://fjallfoss.fcc.gov/oetcf/report_detail.cfm?report_url=/prod/oet/forms/blobs/IDBretrieve.cgi?attachment_id=26969) Please indicate the actual resolution used for testing. Please note that USB device are smaller than cellphone. The scan resolution must be adjusted (that is reduced) as necessary to satisfy the required SAR measurement uncertainty budget and requirements. Please revise SAR report or alternatively please explain.

Ans: The IEEE 1528 as below shows resolution is 8 mm normally, and QuieTek adjusted 5 mm resolution to achieve the requirement of KDB 447498.

#### F.4.1.2 Zoom scan to determine 1 g or 10 g SAR

After peaks have been located with the *area scan*, the peak spatial-average SAR is obtained using a *zoom scan*, with a scan dimension at least 1.5 times the length of a 1 g or 10 g cube edge, or 15 mm and 32 mm respectively. A *zoom-scan* volume of 32 mm × 32 mm × 30 mm consisting of 5 × 5 × 7 points centered at the peak SAR location determined during the *area scan* is typically used. Although a scan resolution of 8 mm yields sufficient interpolation accuracy for directions parallel to the surface, 5 mm is needed in the direction normal to the surface of the phantom to achieve the required extrapolation accuracy.

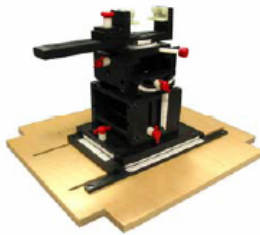
#### F.4.1.3 Extrapolation

The field-probe measuring location as defined by the probe calibration corresponds to the geometrical center of the sensor dipoles, which is displaced from the tip of the probe. Thus the SAR values required for computing the 1 g or 10 g SAR between the surface of the phantom and the closest measurable points must be determined by extrapolation. A basic exponential fit is useful for simple and conservative uncertainty analyses, but it may not be optimum for extrapolating many of the typical SAR distributions that occur in handset evaluations. A fourth-order least-squares polynomial fit of the measured data has been found to provide more satisfactory results for most situations. An  $N$ th order Lagrange extrapolation polynomial requires  $N + 1$  function or measurement points normal to the surface (Press et al. [B125]). The triangular

5. Device holder - USB dongle KDB447498 D02 S 1 AR Procedures for Dongle Xmtr v01: USB dongles will need to be embedded in several cm of Styrofoam to reduce measurement uncertainty field by avoiding perturbation due to device holder clamps used to position the dongle for SAR testing. Please explain the effect of the device holder on the USB dongle tested for this device.

Ans: We used the holder provided from SAR manufacture APREL, and it was designed to use during SAR testing.

### **Universal Device Positioner ALS-H-E-SET-2**



The APREL Laboratories Universal Device Positioner has been developed so as to allow complete freedom of movement of a DUT. Developed to hold the DUT in the equivalent of free space to avoid additional loading attributable to the material used in the construction of the positioner so as to reduce measurement uncertainty.

Positioner has a built-in 15 degree feature used for fast and accurate touch to tilt movement.

The APREL device positioner can hold in-place devices such as handsets, smart phones, Clam shell phones, PDA's and small size tablet PC's.

The device positioner can be used for HAC testing (Hearing Aid Compatibility).