

**Date:** 4<sup>th</sup> June 2002  
**Client:** Good Technology  
**Project Number:** GDTB-G100-SAR-3879  
**Contact:** Louie Sanguinetti  
**FCC ID:** PX3G100

Mr Sanguinetti,

Below is the response to the questions from the FCC in respect to the G100 portable device.

If you have any further questions or correspondence concerning this application in respect to the SAR evaluation performed please feel free to forward them at your convenience.

Regards,

Stuart Nicol.

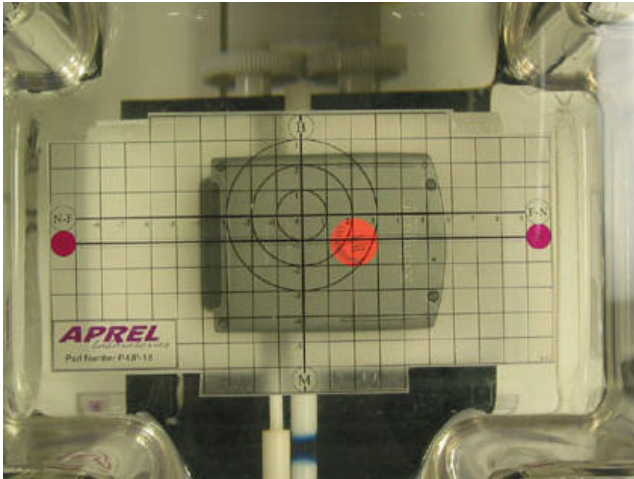
**1) *Need external photos with side views of device in holster please. Manual does not show holster option?***

Below is a side view of the device located in the holster.

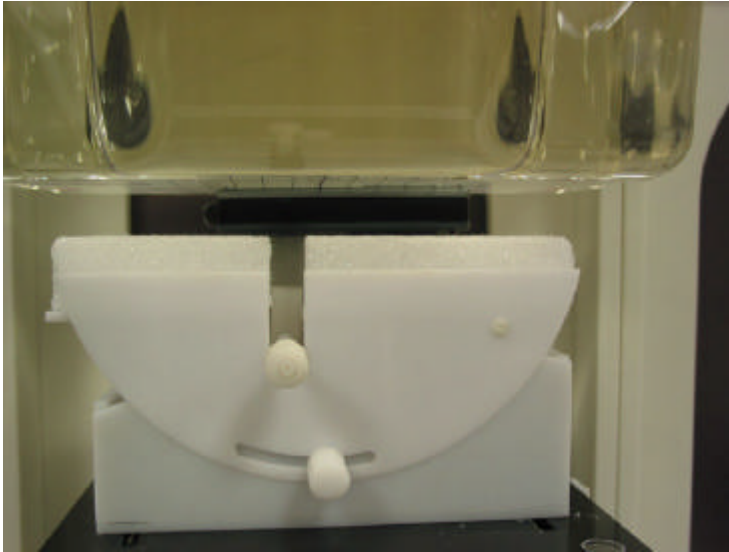


- 2) ***Need photos of EUT holder and setup with device in place as used for SAR test.***

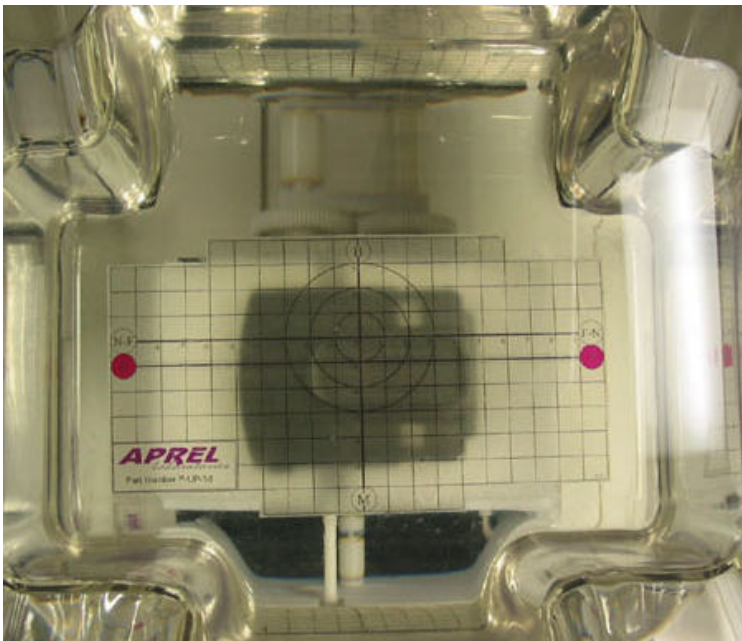
Below are the views of the device while set-up for the SAR tests.



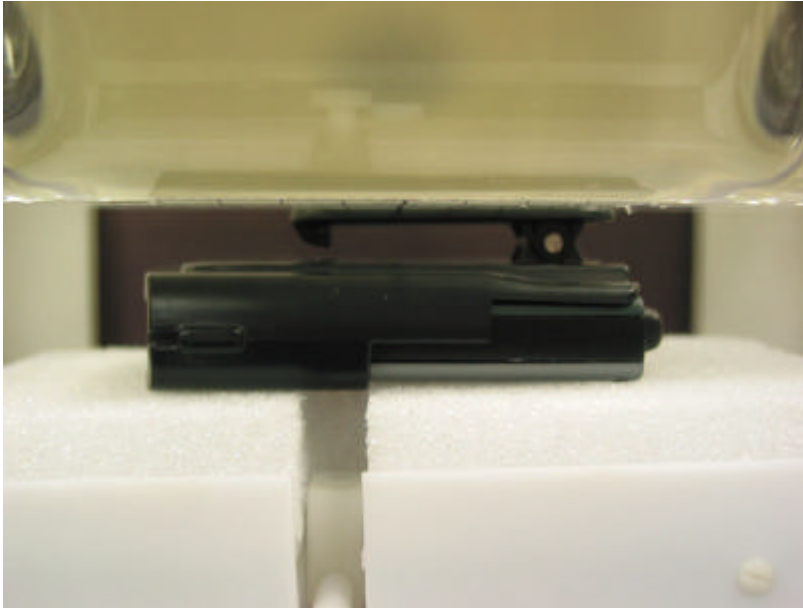
Top View No Holster



Side View No Holster



Top View With Holster



Side View With Holster

- 3) ***Follow-up for reply to 6) of CRN 22989: SAR report page 8 says time-domain waveform is captured; page 9 says diode compression point (dcp) is used to calculate final SAR. This seems like a contradiction.***

***One well-known linearization method uses dcp and crest factor to calculate SAR from probe response.***

***If dcp is used as stated, what additional crest factor or correction factor was used and how?***

The statement should have read that the calibrated value for the (DCP) is used when necessary in the final calculation of the SAR.

The DCP is used linearize the voltage output from the probe. The algorithm below is an example of the methodology used during the calculation.

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

**4) Contour plots:**

***There are two plots called Graph 5 pp. 23,24.***

***Graph 4 is mid channel 896, Graph 5 page 23, is low channel 896, Graph 6 page 25 is mid channel 899 Which are correct low, mid, high plots?***

***Please explain difference between the two mid or low plots, and revise Table 2 and plots if needed.***

Table 2 on page 16 included a type error. The channel was indicated as being Middle, where the actual channel was Low. The frequency recorded was correct. The following information should have been included.

**Holster\*\* Definition:-**

The device was tested at a 15mm Separation distance while in the holster.

**Holster (11.9mm) + Phantom Shell Thickness (2mm) + D (1.1mm) = 15mm**

Un updated version of page 16 has been included.

For graph four a type error was made. The channel was indicated as being Middle, where the actual channel was Low. The frequency recorded was correct. Additional information should also have been displayed and indicated that the position and frequency where the conservative SAR was measured was repeated but with a compounded separation distance of 15mm.

The reference to Graph 5 on page 24 is a type error. It should have read graph 6, result being that the subsequent graphs are labeled incorrectly. Included are the corrected pages 22 to 26 Graph 4 to Graph 8.

- 5) ***Device dimensions are 11.7 cm long by 7.9 cm wide.  
According to SAR plots, device is 40cm wide. Please submit correct SAR plots,  
re-test if needed.***

The physical dimension of the device is 99.6mm (length) x 72mm (breadth) x 16mm (depth). The actual physical size for the course scan area was 110mm (length) x 100mm (breadth). The measurement executed and resultant plot submitted is correct. The problem was software related in how the legend is displayed in respect to scale and definition so I would disregard the legend as it should have represented a size of 100mm x 110mm. The scale of the device in respect to the graphic plot should only be used for visualization purposes.

- 6) ***It is expected that normal use position in hand will have antenna protruding some distance away from hand. It may be possible to better simulate that case with device at the edge of a flat phantom. How do SAR results support compliance for that case?***

The purpose of the full SAR assessment is to provide a "Conservative SAR Value" as per IEEE-P1528. It has also been the goal to reduce the number of measurements needed for assessing the validity of any given device during the compliance exercise. By moving the device into another configuration where the antenna is protruding outside of the measurement area, the "Conservative SAR Value" would be reduced and as a result may not be deemed conservative in respect to the scope of the project.