Hi Alan
Items in your email are addressed as follows.

Your item a)Probe information etc. Very simply put - the FCC will most likely dismiss the grant if the SAR report is not strictly in accordance with OET65C. Reports then MUST contain all of the information as specified in OET65C and IEEE1428. There are no exceptions. Therefore, you will notice in II (2)(a) below, that it is required by OET65C that you place this information in the SAR report.

Your item b) Again, the report is to be clear and unambiguous. This means the body of the SAR report MUST specify the category of the device as specified in IEEE1528 and OET65C. Assumptions of category, because SAR was done, are not acceptable. A clear, unambiguous statement as to category is required by OET65C - again no exceptions. Therefore the exposure category Portable - GENERAL POPULATION / UNCONTROLLED EXPOSURE must be clearly identified in the body of the report. See I(1)(c) below.

Your item c) Phantom - Appendix D1 is a copy of the calibration certificate and only addresses a particular device or system as it was calibrated. It does not attest to any fact that it is or was the actual device used in the test. The description required in OET65C II(4)(a) states that the report must specify a description of the head and body phantoms as used in the tests. If this is the same as the calibration certificate then it is proper to so state. (i.e. - "The head and body phantoms used in this test are as specified in the calibration certificate in Appendix D1 and have the following characteristics..." Then provide the characteristics). This then makes the report unambiguous and shows that you are aware of the requirements of OET65C.

Please refer to Appendix B of OET65C where it states, "The information described in this Appendix should be included in test reports submitted for equipment authorization that requires SAR evaluation. The information is generally necessary to evaluate test results and to determine RF exposure compliance."

This information specified to be in the report include:
I. Information on Test Device and Exposure Categories
II: Specific Information for SAR Measurements
III: Specific Information for SAR Computations

I: INFORMATION ON TEST DEVICE AND EXPOSURE CATEGORIES
1) General information
a) FCC ID – each RF exposure test report must include the FCC ID of the device evaluated.
b) an affirmative statement of compliance with FCC RF exposure (see 47 CFR §2.909)
c) device category– identify if the SAR evaluation is for a mobile or portable transmitter
d) RF exposure environment – state the applicable exposure condition for the transmitter operating environment, Occupational/Controlled or General Population/Uncontrolled
2) Device operating configurations and test conditions
a) whether the test device is a production unit or an identical prototype (see 47 CFR §2.908)
b) a brief description of the test device operating configurations, including
i) operating modes and operating frequency range(s)
ii) maximum device rating for each operating mode and frequency range

iii) operating tolerances
iv) antenna type and operating positions
v) applicable body-worn configurations
vi) battery options that could affect the SAR results
c) procedures used to establish the test signals
d) applicable source-based time-averaging duty factor and the duty factor used in the tests
e) maximum output power measured before and after each SAR test

II: Specific Information for SAR Measurements
1) Measurement system and site description
a) a brief description of the SAR measurement system
b) a brief description of the test setup
2) Electric field probe calibration
a) a description of the probe, its dimensions and sensor offset etc.
b) a description of the probe measurement errors
c) most recent calibration date
3) SAR measurement system verification
a) A brief description of the RF radiating source used to verify the SAR system performance within the operating frequency range of the test device (see Appendix D)
b) a list of the tissue dielectric parameters, ambient and tissue temperatures, output power, peak and one-gram averaged SAR for the measured and expected target test configurations
c) a list of the error components contributing to the total measurement uncertainty
4) Phantom description
a) a description of the head and body phantoms used in the tests, including shell thickness and other tolerances
5) Tissue dielectric property
a) the composition of ingredients for the tissue material used in the SAR tests
b) the tissue dielectric parameters measured at the middle of each operating frequency range of the test device
c) the temperature range and operating conditions of the tissue material during each SAR measurement
6) Device positioning
a) a description of the dielectric holder or similar mechanisms used to position the test device in the specific test configurations
b) a description of the positioning procedures used to evaluate the highest exposure expected under normal operating configurations
c) sketches and illustrations showing the device positions, with respect to the phantom; including separation distances and angles, as appropriate
d) a description of the antenna operating positions, extended, retracted or stowed etc. and the configurations tested in the SAR evaluation
7) Peak SAR locations
a) a description of the coarse resolution, surface or area scan procedures used to search for all possible peak SAR locations within the phantom
b) a description of the interpolation procedures applied to the measured points to identify the peak SAR locations at a finer spatial resolution
c) description, illustration and SAR distribution plots showing the peak SAR locations with respect to the phantom and the test device
d) identifying the peak SAR locations used to evaluate the highest one-gram averaged SAR
8) One-gram averaged SAR
a) a description of the fine resolution, volume or zoom scan procedures used to determine the highest one-gram averaged SAR in the shape of a cube

b) a description of the extrapolation procedures used to estimate the SAR value of points close to the phantom surface that are not measurable
c) a description of the interpolation procedures applied to the measured and extrapolated points to obtain SAR values at a finer spatial resolution within the zoom scan volume
d) a description of the integration procedures applied to the interpolated SAR values within the zoom scan volume to determine the highest 1 or 10-gram SAR in the shape of a cube
9) Total measurement uncertainty
a) a tabulated list of the error components and uncertainty values contributing to the total measurement uncertainty (see Appendix D)
b) reporting the combined standard uncertainty and expanded uncertainty of each measurement
c) if compliance cannot be ensured after taking measurement uncertainty into account, an explanation of the procedures that have been used to reduce the measurement uncertainty and applicable means that can be used to ensure compliance. Test results for determining SAR compliance
a) if the channels tested for each configuration (left, right, cheek, tilt/ear, extended, retracted etc.) have similar SAR distributions, a plot of the highest SAR for each test configuration should be sufficient; otherwise additional plots should be included to document the differences
b) all of the measured SAR values should be documented in a tabulated format with respect to the test configurations.

III: SPECIFIC INFORMATION FOR SAR COMPUTATIONS
1) Computational resources
a) a summary of the computational resource required to perform the SAR computations for the test transmitter and phantom configurations
b) a summary of the computational requirements with respect to modeling and computing parameters for determining the highest exposure expected for normal device operation, such as minimal computational requirements and those used in the computation
2) FDTD algorithm implementation and validation a) a summary of the basic algorithm implementation applicable to the particular SAR evaluation, including absorbing boundary conditions, source excitation methods, certain standard algorithms for handling thin metallic wires, sheets or dielectric materials etc.
b) descriptions of the procedures used to validate the basic computing algorithms described in a) and analysis of the computing accuracy based on these algorithms for the particular SAR evaluation
3) Computational parameters
a) a tabulated list of computational parameters such as cell size, domain size, time step size, tissue and device model separation from the absorbing boundaries and other essential parameters relating to the computational setup requirements for the SAR evaluation
b) a description of the procedures used to handle computation efficiency and modeling accuracy for the phantom and the test device
4) Phantom model implementation and validation
a) identify the source of the phantom model, its original resolution and the procedures used to code and assign tissue dielectric parameters for the SAR evaluation
b) verify the phantom model is appropriate for determining the highest exposure expected for normal device operation
c) describe procedures used to verify that the particular phantom model has been correctly constructed for making SAR computations, such as comparing computed and measured SAR results of a dipole source
5) Tissue dielectric parameters

a) a description of the types of tissues used in the phantom models and the sources of tissue dielectric parameters used in the computations
b) verify that the tissue types and dielectric parameters used in the SAR computation are appropriate for determining the highest exposure expected for normal device operation
c) a tabulated list of the dielectric parameters used in the device and phantom models
6) Transmitter model implementation and validation
a) a description of the essential features that must be modeled correctly for the particular test device model to be valid
b) descriptions and illustrations showing the correspondence between the modeled test device and the actual device, with respect to shape, size, dimensions and near-field radiating characteristics
c) verify that the test device model is equivalent to the actual device for predicting the SAR distributions for satisfying 47 CFR §§2.907 and 2.908 of Commission Rules
d) verify the SAR distribution at the high, middle and low channels, similar to those considered in SAR measurements for determining the highest SAR
7) Test device positioning
a) a description of the device test positions (left, right, cheek, tilt/ear, extended and retracted etc.) used in the SAR computations
b) illustrations showing the separation distances between the test device and the phantom for the tested configurations, similar to the reporting procedures used in SAR measurements
8) Steady state termination procedures
a) a description of the criteria and procedures used to determine that sinusoidal steady state conditions have been reached throughout the computational domain for terminating the computations
b) reporting the number of time steps or sinusoidal cycles executed to reach steady state
c) a description of the expected error margin provided by the termination procedures
9) Computing peak SAR from field components
a) a description of the procedures used to compute the sinusoidal steady total electric field with selected field components at each tissue location
b) a description of the expected error margin provided by the algorithms used to compute the SAR at each tissue location according to the selected field components and tissue dielectric parameters
10) One-gram averaged SAR procedures
a) a description of the procedures used to search for the highest one-gram averaged SAR, including the procedures for handling inhomogeneous tissues within the one-gram cube
b) specify the weight and dimensions of the one-gram cube of tissue
c) a description of the expected error margin provided by the algorithms used in computing the one-gram SAR
11) Total computational uncertainty – a description of the expected error and computational uncertainty for the test device and tissue models, test configurations and numerical algorithms etc.
12) Test results for determining SAR compliance
a) illustrations showing the SAR distribution of dominant peak locations produced by the test transmitter, with respect to the phantom and the test device, similar to those reported in SAR measurements
b) a description of how the maximum device output rating is determined and used to normalized the SAR values for each test configuration
c) a description of the procedures used to compute source-based time-averaged SAR

Thanks
Dennis

alan_lane@adt.com.tw wrote:
<blockquote TYPE=CITE>Dennis,
For Item 4, I have the following reply.
a) description of the probe â€“ including tip diameter, internal sensor offset from tip, etc.
A: Why you need that information ? Just like a spectrum analyzer we use for measurement, we need to state the brand name, model name as well as the series number on the test report. But there is no need to explain FCC how the mixer or pre-amplifier work in spectrum analyzer.
As you may know, these setting has been programed in the controlling software of Schmid & Partner.
What we need to do is to input the model name and series number of
The robe in the software. Attached JPG file is the setting of the software for the probe we used. Also you can find the certificate and all the calibration data in the Appendix B, C & D.

b) mobile or portable transmitter device category identified.
A: I think there is no need to test SAR for mobile device. This transmitter is portable device.

c) a description of the Phantom including a description of shell thickness and other tolerances (i.e. thickness 2 +/- 0.2 mm for head and body phantoms,
A: You can find this information on the Appendix D1.

d) OK (z-axis plot provided, but photo of liquid depth may still be requested by FCC)
A: It is 15cm.

e) description of the holding fixtures showing or explaining nonconductive nature of holding fixture.
A: The holding fixtures is composed by Styrofoam which is transparent
For EM wave. Our holding fixtures is always produced accoring the dimension of the EUT.

We will reply you other question very soon. Thank you.
See attached file: Mechanical.jpg)(See attached file: Conversion Factor.jpg)(See attached file: Sensitivity.jpg)(See attached file: Suface
Detection.jpg)
Name: Mechanical.jpg
Name: Conversion Factor.jpg
Name: Sensitivity.jpg
Name: Suface Detection.jpg