Not applicable, *"The noise level shall be determined by three different coarse scans with the RF source switched off. None of the evaluated points shall exceed 0,02 W/kg. This test shall be repeated periodically (preferably every second month). Within this constraint, the uncertainty due to noise shall be neglected."* (Reference EN 50361). Measured nominal Noise Floor is <0.005 W/Kg Maximum. **± 0%**

Integration Time (EN 50361 Reference 7.2.1.9):
For an integration time of t_{int} = 20 milliseconds (the SAR probes sampling rate), if 1 pulse was missed, this induces the following uncertainty:

$$u = 2.\frac{4{,}6x10^{-3}}{t_{\text{int}}}$$

$$u = \pm 2.3\%$$

Only 1 pulse will be missed as a GSM standard TDMA signal has an idle frame of 1 in 26 over a period of 120 milliseconds. No other integration time figure is required as this is covered by the CW/TDMA investigation and linearity

The Indexsar probe amplifiers have the facility for increasing the integration time in multiples of 20mS (50 Hz) or 16.67mS (60Hz). It is recommended that the integration period is set to 6 cycles for GSM phone testing. This reduces the uncertainty above as a good match with the frame rate can be achieved. The uncertainty above is reduced to **±0.4%.**

Mechanical Constraints

Scanning System (EN 50361 Reference 7.2.2.1):
$\boldsymbol{d_{ss}}$ - *the uncertainty to the SAR measurements through the accuracy and repeatability of positioning.*
The Mitsibishi Movemaster RV-2E 6 Axis Robot repeatability is ±0.04mm which is $\boldsymbol{d_{ss}}$.

From EN 50361:

$$\text{Error SAR [\%]} = 100\frac{d_{ss}}{sd/2}$$

$$\text{Scanning System Error SAR [\%]} = 100x\frac{0.04}{14/2}$$

Scanning System Error SAR [%] = **± 0.57%** Up to a frequency of 3 GHz.

Phantom shell (EN 50361 Reference 7.2.2.2):
$\mathbf{d_{ph}}$ - the shape and the thickness of the phantom shell
The phantom shell is made by an industrial moulding process from the CAD files of the SAM shape, with both internal and external moulds. For the upright phantoms, the external shape is subsequently digitised on a Mitutoyo CMM machine (Euro C574) to a precision of 0.001mm. Wall thickness measurements made non-destructively with an ultrasonic sensor indicate that the shell thickness away from the ear is 2.0 ± 0.1mm. This has been confirmed by mechanical measurements on available cut surfaces of the phantom shells.