

300 MHz dipole, transmit f = 300 MHz				
Probe SN 3163	A	B	C	D
Dipole SN 1014	300 head	150 head	300 body	150 body
ε; σ target; range 10% range 15% range 20%	45.3; 0.87	52.3; 0.76 47.1-57.5; 0.68-0.84 44.5-60.1; 0.65-0.87 41.8-62.8; 0.61-0.91	58.2; 0.92	61.9; 0.80 55.7-68.1; 0.72-0.88 52.6-71.2; 0.68-0.92 49.5-74.3; 0.64-0.96
ε; σ meas.	45.2; 0.91	52.1; 0.77	56.6; 0.94	60.8; 0.83
probe (cert.)	7.15	8.33	7.11	8.05
% diff. probe		$100 \times A-B /B = 14.2\%$		11.7%
1g target (cert.)	2.89	n/a	2.85	n/a
1g meas.	2.82	2.12*	2.76	2.23*
1g 5 tests mean		2.12		2.20
% diff. 1g meas.		$100 \times A-B /A = 27\%$ $100 \times 2.89-2.12 /2.89$		22%

* use source freq. 300 MHz

In 2) b) of KDB 865664, the parameters measured at 300 MHz should be within 10% of those at 150 MHz;
not parameters at 150 MHz compared to 300 MHz parameters.

KDB pub 865664 D01 v01r01 (05/28/13)

3.5. SAR system validation and verification requirements below 300 MHz

... For SAR measurements in the 100 MHz to 300 MHz range, when dipoles or equivalent RF sources corresponding to the device frequency range are available from SAR system manufacturers for system validation and verification, the applicable sources must be used.[33] ...

The test laboratory must establish a new SAR target value for the 300 MHz dipole, using the 150 MHz SAR probe calibration point and 150 MHz tissue-equivalent dielectric parameters, and with the dipole transmitting at 300 MHz, using the procedures required in section 3.4.2 for establishing a new SAR target at the tuned dipole frequency according to the probe calibration and tissue dielectric parameters at an offset frequency. SAR system verification at 300 MHz is also required to support the test results. ...

[16] Shielded loops have been specified for 30 MHz, 64 MHz, 128 MHz, 150 MHz and 220 MHz by SAR standards committees. These are expected to be available soon for some SAR systems.

3.4.2. System verification options ...

- 2) Establishing a new SAR target at the tuned dipole frequency according to the probe calibration and tissue dielectric parameters required at an offset frequency required for device testing
 - a) When the conditions required in step 1) (of 3.4.2) to establish a new SAR target for the dipole at an offset frequency can be satisfied, this alternative does not apply.
 - b) The tissue dielectric parameters measured at the tuned dipole frequency must be within $\pm 10\%$ of those required for device testing at the offset frequencies. This tissue parameter tolerance is expected to support an operating range of ± 120 MHz to 250 MHz or more above 300 MHz and ± 100 MHz or more below 300 MHz for the typical tissue-equivalent recipes.
 - c) The SAR probe must be calibrated at the offset (device testing) frequency and the probe conversion factors at the tuned dipole frequency and device testing frequencies must be within 10% of each other.
 - d) The new SAR target determined using the probe calibration and tissue-equivalent medium at the offset frequency must be within 15% of the calibrated SAR target at the tuned dipole frequency.
 - e) The new SAR target must be established using 5 or more measurements, each reconfigured separately, with a coefficient of variation $< 2\%$; that is, standard deviation divided by mean < 0.02 .
The coefficient of variation for all subsequent system verifications must be less than 3% and the mean must be within 15% of the original tuned dipole SAR target.
All previous system verification data must be applied to compute the coefficient of variation; until the probe or dipole is recalibrated or a different tissue recipe is used, which requires the SAR target for the dipole to be reassessed.
 - f) Continued use of this new SAR target and dipole combination for system verification to support SAR measurements required by similar test devices must use the same SAR probe, same probe calibration point and the same tissue-equivalent medium recipe used to establish the SAR target.