Annex E. Calibration Certificates

ID	Device	Type/Model	Serial Number	Manufacturer	Calibration Certificate
0236	Dosimetric E-field Probe	EX3DV4	3978	SPEAG	"See attachments"
0277	750 MHz System Validation Dipole	D750V3	1136	SPEAG	"See attachments"
0278	835 MHz System Validation Dipole	D835V2	4d192	SPEAG	"See attachments"
0280	1750 MHz System Validation Dipole	D1750V2	1133	SPEAG	"See attachments"
0281	1900 MHz System Validation Dipole	D1900V2	5d197	SPEAG	"See attachments"
0283	2300 MHz System Validation Dipole	D2300V2	1046	SPEAG	"See attachments"
0284	2600 MHz System Validation Dipole	D2600V2	1100	SPEAG	"See attachments"

Dipole calibration

According to the KDB 865664 D01, a dipole must be calibrated using a fully validated SAR system according to the tissue dielectric parameters and SAR probe calibration frequency required for device testing. However, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements.

1. When the most recent return-loss result, measured at least annually, deviates by more than 20% from the previous measurement (i.e. value in dB × 0.2) or not meeting the required 20 dB minimum return-loss requirement.

2. When the most recent measurement of the real or imaginary parts of the impedance, measured at least annually, deviates by more than 5 Ω from the previous measurement

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The below results show the latest return loss and impedance measurements for each dipole performed by the lab:

ID #0277 Dipole 750 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-29.2	49.9 – 3.5 j	2019-01-17
Last	-31.9	50.7 + 2.5 j	2020-05-28
ID #0278 Dipole 835 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-24.2	47.1 – 5.2 j	2019-01-17
Last	-24.2	46.2 – 4.5 j	2020-05-28
ID #0280 Dipole 1750 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-28.2	46.3 – 0.7 j	2019-01-21
Last	-25.5	47.8 + 4.9 j	2020-05-28
ID #0281 Dipole 1900 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-24.6	49.6 + 5.9 j	2019-01-21
Last	-25.9	48.7 + 4.8 j	2020-05-28
ID #0283 Dipole 2300 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-26.1	45.8 – 2.2 j	2019-01-21
Last	-24.5	50.7 + 5.8 j	2020-05-28
ID #0284 Dipole 2600 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-22.0	45.5 – 6.1 j	2019-01-21
Last	-24.9	46.4 - 4.1 j	2020-05-28

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