Annex E. Calibration Certificates

ID	Device	Type/Model	Serial Number	Manufacturer	Calibration Certificate
086-000	Dosimetric E-Field probe	EX3DV4	7455	SPEAG	See attached files
002-009	Dosimetric E-field Probe	EX3DV4	3978	SPEAG	See attached files
004-006	Dosimetric E-Field probe	EX3DV4	7604	SPEAG	See attached files
071-000	750 MHz System Validation Dipole	D750V3	1136	SPEAG	See attached files
072-000	835 MHz System Validation Dipole	D835V2	4d192	SPEAG	See attached files
073-000	1750 MHz System Validation Dipole	D1750V2	1133	SPEAG	See attached files
074-000	1900 MHz System Validation Dipole	D1900V2	5d197	SPEAG	See attached files
075-000	2300 MHz System Validation Dipole	D2300V2	1046	SPEAG	See attached files
076-000	2600 MHz System Validation Dipole	D2600V2	1100	SPEAG	See attached files
404-000	3700 MHz System Validation Dipole	D3700V2	1093	SPEAG	See attached files

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 less 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 less than 5 Ω from the previous measurement

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

ID #071-000 Dipole 750 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-27.9	49.4 – 4.0 j	2021-01-21
WRF Lab verification	-29.9	49.1 – 3.1 j	2022-01-17
ID #072-000 Dipole 835 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-22.9	46.9 – 6.2 j	2021-01-21
WRF Lab verification	-20.6	43.7 – 6.0 j	2022-01-18
ID #073-000 Dipole 1750 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-28.5	46.5 – 0.7 j	2021-01-14
WRF Lab verification	-29.3	46.7 – 0.0 j	2022-01-18
ID #074-000 Dipole 1900 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-24.1	49.2 + 6.1 j	2021-01-14
WRF Lab verification	-21.9	50.6 + 8.1 j	2022-01-18
ID #075-000 Dipole 2300 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-25.1	45.6 – 3.0 j	2021-01-13
WRF Lab verification	-26.6	48.3 – 4.3 j	2022-01-17
ID #076-000 Dipole 2600 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-24.0	46.0 – 4.6 j	2021-01-13
WRF Lab verification	-24.9	46.6 – 4.3 j	2022-01-14
ID #404-000 Dipole 3700 MHz Body TSL			
	Return Loss [dB]	Impedance [Ω]	Date
Original Calibration	-20.1	41.3 –2.3 j	2021-05-21