

## I2 Dipole 1900

The information and documentation below are provided to qualify the extended 3-year calibration interval of dipole.

### I2.1 List of Equipment

No.	Name	Type	Serial Number
01	Network analyzer	E5071C	MY46110673
02	Power meter	NRVD	102083
03	Power sensor	NRV-Z5	100542
04	Signal Generator	E4438C	MY49070393
05	Amplifier	60S1G4	0331848
06	E-field Probe	SPEAG EX3DV4	3846
07	DAE	SPEAG DAE4	771
08	Dipole Validation Kit	SPEAG D1900V2	541

### I2.2 Results of Impedance, Return-loss and System validation

#### Dipole 1900 - Head

		Year		Deviation	Limit
		2012	2013		
Impedance	Real ( $\Omega$ )	52.6	50.7	-1.9 $\Omega$	Deviation < 5 $\Omega$
	Imaginary ( $\Omega$ )	6.2	2.5	-3.7 $\Omega$	Deviation < 5 $\Omega$
Return-loss (dB)		-23.7	-23.5	0.2dB	Deviate < 0.2dB
System validation	10g	5.11	5.07	-0.78%	Deviation < 10%
	1g	9.62	9.61	-0.10%	Deviation < 10%

#### Dipole 1900 - Body

		Year		Deviation	Limit
		2012	2013		
Impedance	Real ( $\Omega$ )	48.6	47.1	-1.5 $\Omega$	Deviation < 5 $\Omega$
	Imaginary ( $\Omega$ )	6.9	3.3	-3.6 $\Omega$	Deviation < 5 $\Omega$
Return-loss (dB)		-23.0	-23.1	-0.1dB	Deviate < 0.2dB
System validation	10g	5.33	5.46	2.44%	Deviation < 10%
	1g	10	10.3	3.00%	Deviation < 10%

According to the above tables, it is not necessary to recalibration the dipoles in 2013.

### I3 Dipole 2450

The information and documentation below are provided to qualify the extended 3-year calibration interval of dipole.

#### I3.1 List of Equipment

No.	Name	Type	Serial Number
01	Network analyzer	E5071C	MY46110673
02	Power meter	NRVD	102083
03	Power sensor	NRV-Z5	100542
04	Signal Generator	E4438C	MY49070393
05	Amplifier	60S1G4	0331848
06	E-field Probe	SPEAG EX3DV4	3846
07	DAE	SPEAG DAE4	771
08	Dipole Validation Kit	SPEAG D2450V2	853

#### I3.2 Results of Impedance, Return-loss and System validation

##### Dipole 2450 - Head

		Year		Deviation	Limit
		2012	2013		
Impedance	Real ( $\Omega$ )	53.7	51.6	-2.1 $\Omega$	Deviation < 5 $\Omega$
	Imaginary ( $\Omega$ )	3.2	4.8	1.6 $\Omega$	Deviation < 5 $\Omega$
Return-loss (dB)		-26.4	-26.5	-0.1dB	Deviate < 0.2dB
System validation	10g	6.09	6.04	-0.82%	Deviation < 10%
	1g	13.1	12.9	-1.53%	Deviation < 10%

##### Dipole 2450 - Body

		Year		Deviation	Limit
		2012	2013		
Impedance	Real ( $\Omega$ )	49.9	52.5	2.6 $\Omega$	Deviation < 5 $\Omega$
	Imaginary ( $\Omega$ )	4.8	4.3	-0.5 $\Omega$	Deviation < 5 $\Omega$
Return-loss (dB)		-26.4	-26.2	0.2dB	Deviate < 0.2dB
System validation	10g	5.92	5.98	1.01%	Deviation < 10%
	1g	12.7	12.8	0.79%	Deviation < 10%

According to the above tables, it is not necessary to recalibration the dipoles in 2013.