

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	33.9 ± 6 %	4.89 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.35 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	82.6 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.5 W/kg ± 19.5 % (k=2)

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	33.6 ± 6 %	5.09 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.99 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	79.0 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.5 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.1 ± 6 %	5.47 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.65 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	75.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.14 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.2 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.42 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.9 ± 6 %	5.60 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5300 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.74 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	76.8 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.17 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.5 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.5 ± 6 %	5.86 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5500 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	8.25 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	81.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.29 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	22.7 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.3 ± 6 %	6.00 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	8.28 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	82.2 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.30 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	22.8 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.0 ± 6 %	6.28 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.91 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	78.5 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	2.20 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.8 W/kg ± 19.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)**Antenna Parameters with Head TSL at 5200 MHz**

Impedance, transformed to feed point	48.9 Ω - 7.7 $j\Omega$
Return Loss	- 22.1 dB

Antenna Parameters with Head TSL at 5300 MHz

Impedance, transformed to feed point	47.2 Ω - 5.4 $j\Omega$
Return Loss	- 24.1 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	49.9 Ω - 4.4 $j\Omega$
Return Loss	- 27.2 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	53.4 Ω - 2.4 $j\Omega$
Return Loss	- 27.9 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	50.9 Ω - 3.8 $j\Omega$
Return Loss	- 28.3 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	48.5 Ω - 5.8 $j\Omega$
Return Loss	- 24.3 dB

Antenna Parameters with Body TSL at 5300 MHz

Impedance, transformed to feed point	47.5 Ω - 3.3 $j\Omega$
Return Loss	- 27.4 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	50.9 Ω - 2.0 $j\Omega$
Return Loss	- 33.0 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	53.9 Ω + 0.1 $j\Omega$
Return Loss	- 28.6 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	52.6 Ω - 1.9 $j\Omega$
Return Loss	- 30.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.202 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	November 27, 2006



DASY5 Validation Report for Head TSL

Date: 20.07.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1060

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz

Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 4.49 \text{ S/m}$; $\epsilon_r = 34.5$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 4.59 \text{ S/m}$; $\epsilon_r = 34.3$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5500 \text{ MHz}$; $\sigma = 4.78 \text{ S/m}$; $\epsilon_r = 34.1$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 4.89 \text{ S/m}$; $\epsilon_r = 33.9$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 5.09 \text{ S/m}$; $\epsilon_r = 33.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.51, 5.51, 5.51); Calibrated: 30.12.2014, ConvF(5.21, 5.21, 5.21); Calibrated: 30.12.2014, ConvF(5.12, 5.12, 5.12); Calibrated: 30.12.2014, ConvF(4.92, 4.92, 4.92); Calibrated: 30.12.2014, ConvF(4.9, 4.9, 4.9); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 65.63 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 28.1 W/kg

SAR(1 g) = 7.86 W/kg; SAR(10 g) = 2.26 W/kg

Maximum value of SAR (measured) = 18.1 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.03 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 30.6 W/kg

SAR(1 g) = 8.25 W/kg; SAR(10 g) = 2.37 W/kg

Maximum value of SAR (measured) = 19.2 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 64.57 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 31.9 W/kg

SAR(1 g) = 8.26 W/kg; SAR(10 g) = 2.36 W/kg

Maximum value of SAR (measured) = 19.4 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan,**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 64.98 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 32.5 W/kg

SAR(1 g) = 8.35 W/kg; SAR(10 g) = 2.38 W/kg

Maximum value of SAR (measured) = 19.8 W/kg

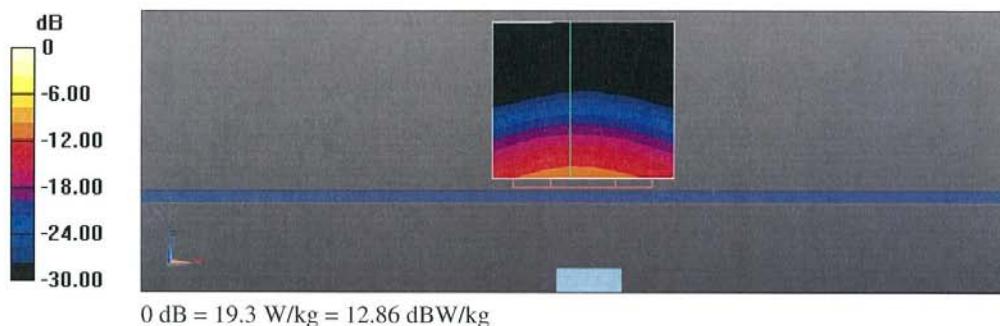
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan,**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 62.55 V/m; Power Drift = 0.04 dB

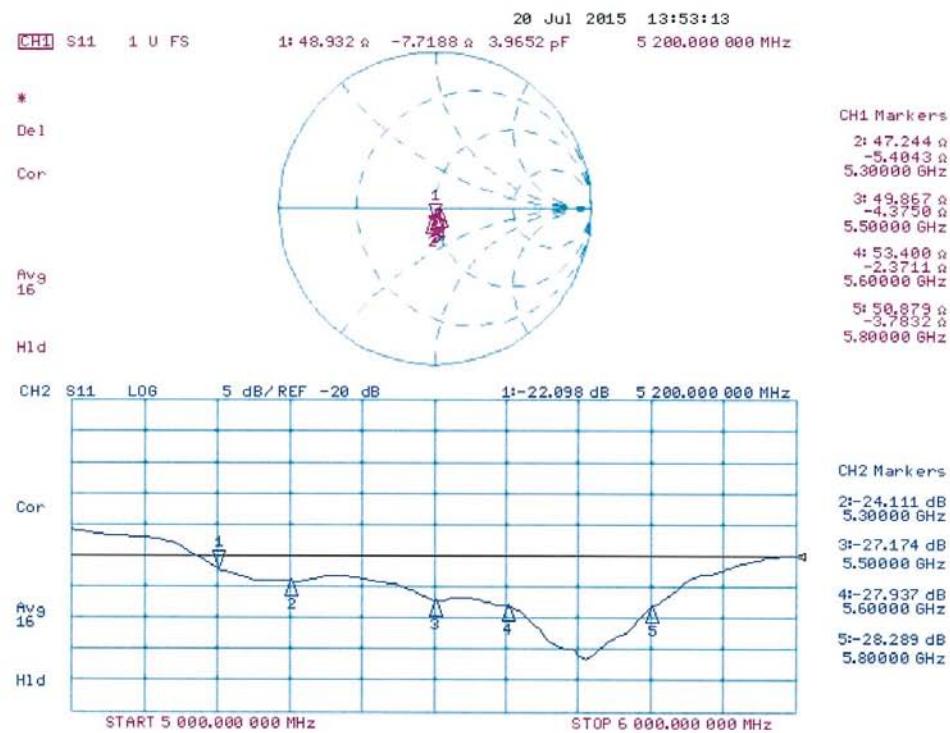
Peak SAR (extrapolated) = 32.3 W/kg

SAR(1 g) = 7.99 W/kg; SAR(10 g) = 2.28 W/kg

Maximum value of SAR (measured) = 19.3 W/kg



Impedance Measurement Plot for Head TSL





DASY5 Validation Report for Body TSL

Date: 27.07.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1060

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz
Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.47 \text{ S/m}$; $\epsilon_r = 47.1$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 5.6 \text{ S/m}$; $\epsilon_r = 46.9$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5500 \text{ MHz}$; $\sigma = 5.86 \text{ S/m}$; $\epsilon_r = 46.5$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 6 \text{ S/m}$; $\epsilon_r = 46.3$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 6.28 \text{ S/m}$; $\epsilon_r = 46$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.95, 4.95, 4.95); Calibrated: 30.12.2014, ConvF(4.78, 4.78, 4.78); Calibrated: 30.12.2014, ConvF(4.45, 4.45, 4.45); Calibrated: 30.12.2014, ConvF(4.35, 4.35, 4.35); Calibrated: 30.12.2014, ConvF(4.32, 4.32, 4.32); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 59.61 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 29.6 W/kg

SAR(1 g) = 7.65 W/kg; SAR(10 g) = 2.14 W/kg

Maximum value of SAR (measured) = 17.6 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 59.80 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 30.8 W/kg

SAR(1 g) = 7.74 W/kg; SAR(10 g) = 2.17 W/kg

Maximum value of SAR (measured) = 18.2 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 60.05 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 34.9 W/kg

SAR(1 g) = 8.25 W/kg; SAR(10 g) = 2.29 W/kg

Maximum value of SAR (measured) = 19.5 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan,**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 58.98 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 35.9 W/kg

SAR(1 g) = 8.28 W/kg; SAR(10 g) = 2.3 W/kg

Maximum value of SAR (measured) = 20.0 W/kg

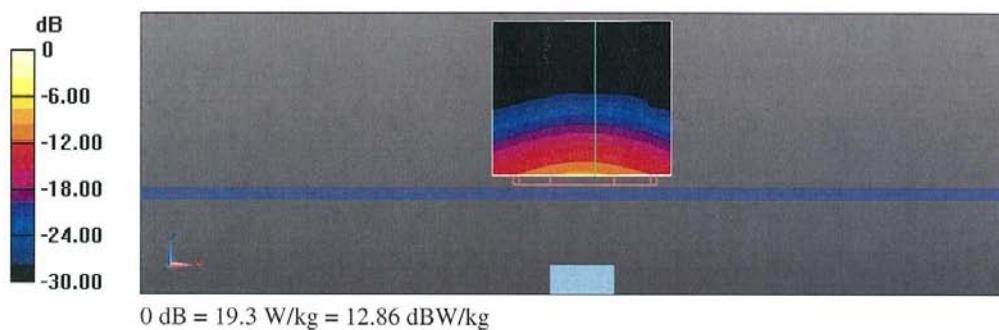
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan,**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 57.14 V/m; Power Drift = -0.02 dB

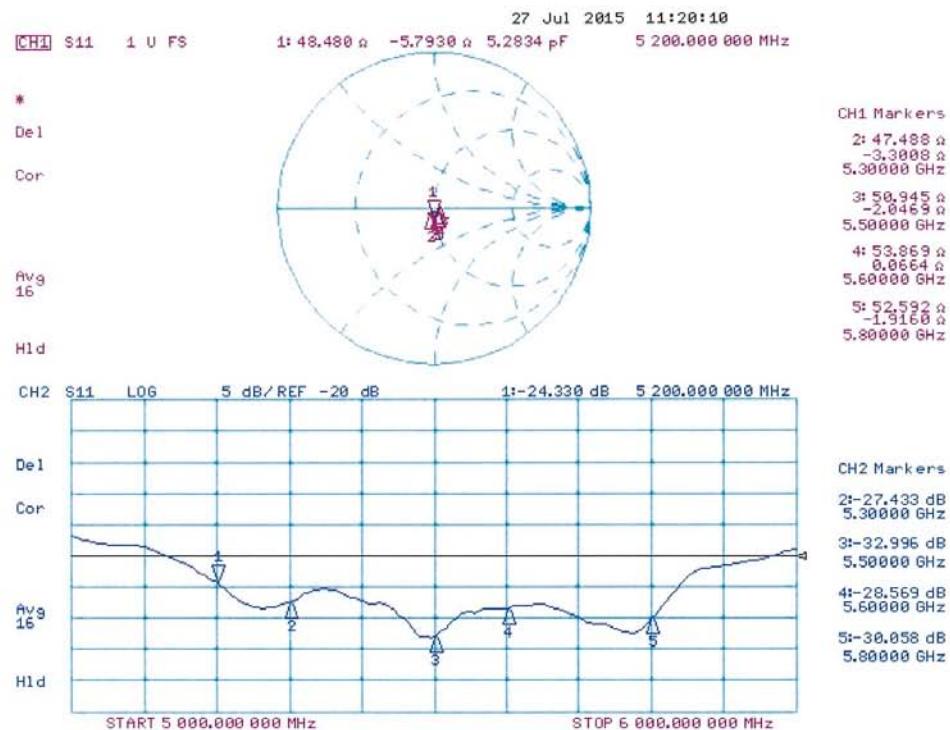
Peak SAR (extrapolated) = 35.6 W/kg

SAR(1 g) = 7.91 W/kg; SAR(10 g) = 2.2 W/kg

Maximum value of SAR (measured) = 19.3 W/kg



Impedance Measurement Plot for Body TSL



ANNEX I LTE CA specification

The device supports downlinkRelease 10 LTE Carrier Aggregation (CA) only. It supports a maximum of 2 carriers in the downlink. Other Release 10 features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications. According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

E-UTRA CA Configuration	E-UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_2A-4A	2	Yes	Yes	Yes	Yes	Yes	Yes	40	0
	4			Yes	Yes	Yes	Yes		
	2			Yes	Yes			20	1
	4			Yes	Yes				
	2			Yes	Yes	Yes	Yes	40	2
	4			Yes	Yes	Yes	Yes		
CA_4A-12A	4	Yes	Yes	Yes	Yes			20	0
	12			Yes	Yes				
	4	Yes	Yes	Yes	Yes	Yes	Yes	30	1
	12			Yes	Yes				
	4			Yes	Yes	Yes	Yes	30	2
	12		Yes	Yes					
	4			Yes	Yes			20	3
	12			Yes	Yes				
	4			Yes	Yes	Yes	Yes	30	4
	12			Yes	Yes				
	4			Yes	Yes	Yes		20	5
	12			Yes					
CA_2A-12A	2			Yes	Yes	Yes	Yes	30	0
	12			Yes	Yes				
	2			Yes	Yes	Yes	Yes	30	1
	12		Yes	Yes	Yes				
	2			Yes	Yes			20	2
	12			Yes	Yes				

E-UTRACA configuration	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20			40	0
	5, 10	5, 10			20	1

Test frequencies for CA_4A-4A

Range	CC-Combo / N _{RB_agg} [RB]	CC1 Note1					Wgap [MHz]	CC2 Note1				
		BW [RB]	N _{UL}	f _{UL} [MHz]	N _{DL}	f _{DL} [MHz]		BW [RB]	N _{UL}	f _{UL} [MHz]	N _{DL}	f _{DL} [MHz]
		25+25	25	19975	1712.5	1975	2112.5	35	25	20375	1752.5	2375
N/A	25+50	25	19975	1712.5	1975	2112.5	30	50	20350	1750	2350	2150
		50	20000	1715	2000	2115	30	25	20375	1752.5	2375	2152.5
	25+75	25	19975	1712.5	1975	2112.5	25	75	20325	1747.5	2325	2147.5
		75	20025	1717.5	2025	2117.5	25	25	20375	1752.5	2375	2152.5
	50+50	50	20000	1715	2000	2115	25	50	20350	1750	2350	2150
	25+100	25	19975	1712.5	1975	2112.5	20	100	20300	1745	2300	2145
		100	20050	1720	2050	2120	20	25	20375	1752.5	2375	2152.5
	50+75	50	20000	1715	2000	2115	20	75	20325	1747.5	2325	2147.5
		75	20025	1717.5	2025	2117.5	20	50	20350	1750	2350	2150
	50+100	50	20000	1715	2000	2115	15	100	20300	1745	2300	2145
		100	20050	1720	2050	2120	15	50	20350	1750	2350	2150
	75+75	75	20025	1717.5	2025	2117.5	15	75	20325	1747.5	2325	2147.5
	75+100	75	20025	1717.5	2025	2117.5	10	100	20300	1745	2300	2145
		100	20050	1720	2050	2120	10	75	20325	1747.5	2325	2147.5

Note 1: Carriers in increasing frequency order.

The following conducted power measurement results of downlink LTE carrier aggregation are provided to quantify downlink only carrier aggregation SAR test exclusion per KDB 941225 D05A. Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

The conducted power measurement results of downlink LTE CA conducted power are as below (Normal Power):

DL LTE CA Class	PCC							SCC			Power		
	PCC Band width (MH z)	PCC UL RB size	PCC UL RB offse t	PCC DL RB size	PCC DL RB offse t	PCC UL Channel	PCC DL Channe 1	SCC Band width (MH z)	SCC DL Channel	Rel 8 LTET x Power (dBm)	Rel 10 DL LTE CA Tx Power(dB m)	Tune up	
CA_4A -4A	4	15	1	0	75	0	20325	2325	4	20	2050	25.24	23.60
CA_2A -4A	2	20	1	0	100	0	18700	700	4	20	2175	24.56	23.50
CA_4A -2A	4	15	1	0	75	0	20325	2325	2	20	900	25.24	23.51
CA_2A -12A	2	20	1	0	100	0	18700	700	12	10	5095	24.56	23.51
CA_12 A-2A	12	10	1	0	50	0	23060	5060	2	20	900	25.46	23.54
CA_4A -12A	4	15	1	0	75	0	20325	2325	12	10	5095	25.24	23.59
CA_12 A-4A	12	10	1	0	50	0	23060	5060	4	20	2175	25.46	23.42

The conducted power measurement results of downlink LTE CA conducted power are as below (Low Power):

DL LTE CA Class	PCC								SCC			Power		
	PCC Band Ban d	PCC Band width (MH z)	PCC UL RB size	PCC UL RB offse t	PCC DL RB size	PCC DL RB offse t	PCC UL Channel	PCC DL Channe l	SCC Band Band	SCC Band width (MH z)	SCC DL Channel	Rel 8 LTET x Power (dBm)	Rel 10 DL LTE CA Tx Power(dB m)	Tune up
CA_4A -4A	4	20	1	0	100	0	20050	2050	4	20	2300	21.89	21.98	22
CA_2A -4A	2	20	1	0	100	0	18700	700	4	20	2175	21.09	21.19	21.5
CA_4A -2A	4	20	1	0	100	0	20050	2050	2	20	900	21.89	21.94	22
CA_2A -12A	2	20	1	0	100	0	18700	700	12	10	5095	21.09	21.09	21.5
CA_12 A-2A	12	10	1	0	50	0	23060	5060	2	20	900	25.46	23.54	25.5
CA_4A -12A	4	20	1	0	100	0	20050	2050	12	10	5095	21.89	21.99	22
CA_12 A-4A	12	10	1	0	50	0	23060	5060	4	20	2175	25.46	23.57	25.5

ANNEX J Accreditation Certificate**China National Accreditation Service for Conformity Assessment****LABORATORY ACCREDITATION CERTIFICATE****(No. CNAS L0570)**

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in ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing and calibration.

The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.

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Signed on behalf of China National Accreditation Service
for Conformity Assessment

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