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Certificate No: Z18-60042

## **CALIBRATION CERTIFICATE**

Object

D5GHzV2 - SN: 1172

Calibration Procedure(s)

Client

FF-Z11-003-01

Calibration Procedures for dipole validation kits

Calibration date:

March 30, 2018

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

ID#	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
102083	01-Nov-17 (CTTL, No.J17X08756)	Oct-18
100542	01-Nov-17 (CTTL, No.J17X08756)	Oct-18
SN 7464	12-Sep-17(SPEAG,No.EX3-7464_Sep17)	Sep-18
SN 1525	02-Oct-17(SPEAG,No.DAE4-1525_Oct17)	Oct-18
ID#	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
MY49071430	23-Jan-18 (CTTL, No.J18X00560)	Jan-19
MY46110673	24-Jan-18 (CTTL, No.J18X00561)	Jan-19
	102083 100542 SN 7464 SN 1525 ID# MY49071430	102083 01-Nov-17 (CTTL, No.J17X08756) 100542 01-Nov-17 (CTTL, No.J17X08756) SN 7464 12-Sep-17(SPEAG,No.EX3-7464_Sep17) SN 1525 02-Oct-17(SPEAG,No.DAE4-1525_Oct17) ID# Cal Date(Calibrated by, Certificate No.) MY49071430 23-Jan-18 (CTTL, No.J18X00560)

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	L. L.
Reviewed by:	Lin Hao	SAR Test Engineer	THE YE
Approved by:	Qi Dianyuan	SAR Project Leader	200

Issued: April 2, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z18-60042

Page 1 of 16

: 131 of 146

Report Issued Date: Sep. 16, 2020





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#### Glossary:

TSL tissue simulating liquid
ConvF sensitivity in TSL / NORMx,y,z
N/A not applicable or not measured

## Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

## **Additional Documentation:**

e) DASY4/5 System Handbook

#### Methods Applied and Interpretation of Parameters:

- Measurement Conditions: Further details are available from the Validation Report at the end
  of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed
  point exactly below the center marking of the flat phantom section, with the arms oriented
  parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole
  positioned under the liquid filled phantom. The impedance stated is transformed from the
  measurement at the SMA connector to the feed point. The Return Loss ensures low
  reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point.
   No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

Certificate No: Z18-60042

Page 2 of 16

: 132 of 146

Report Issued Date: Sep. 16, 2020





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## **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.10.0.1446
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz ± 1 MHz 5300 MHz ± 1 MHz 5500 MHz ± 1 MHz 5600 MHz ± 1 MHz 5800 MHz ± 1 MHz	

## Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.2 ± 6 %	4.70 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C		

#### SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.48 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	74.9 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.14 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	21.4 mW /g ± 24.2 % (k=2)

Certificate No: Z18-60042

Page 3 of 16

: 133 of 146

Report Issued Date: Sep. 16, 2020





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## Head TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.76 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.7 ± 6 %	4.77 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C		( <u>1111</u>

## SAR result with Head TSL at 5300 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.54 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	75.8 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.11 mW/g
SAR for nominal Head TSL parameters	normalized to 1W	21.2 mW /g ± 24.2 % (k=2)

## Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.8 ± 6 %	4.97 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	C and a line on	

## SAR result with Head TSL at 5500 MHz

SAR averaged over 1 $cm^3$ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.99 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	80.0 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.26 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.6 mW /g ± 24.2 % (k=2)

Certificate No: Z18-60042

Page 4 of 16

: 134 of 146

Report Issued Date: Sep. 16, 2020





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# Head TSL parameters at 5600 MHz The following parameters and calculations w

	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	35.8 ± 6 %	5.10 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C		

## SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.91 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	79.3 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.21 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.2 mW /g ± 24.2 % (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	35.6 ± 6 %	5.28 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C		

## SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.36 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	73.7 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.06 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	20.7 mW /g ± 24.2 % (k=2)

Certificate No: Z18-60042

Page 5 of 16





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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	48.9 ± 6 %	5.29 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °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	7.09 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	70.9 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	1.98 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	19.8 mW /g ± 24.2 % (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	48.7 ± 6 %	5.40 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C		

## SAR result with Body TSL at 5300 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.12 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	71.1 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	1.98 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	19.8 mW /g ± 24.2 % (k=2)

Certificate No: Z18-60042

Page 6 of 16





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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	48.2 ± 6 %	5.67 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °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	7.72 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	77.1 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	2.14 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	21.4 mW /g ± 24.2 % (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	48.1 ± 6 %	5.81 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °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	7.52 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	75.1 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	2.10 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	21.0 mW /g ± 24.2 % (k=2)

Certificate No: Z18-60042

Page 7 of 16





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## 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	47.7 ± 6 %	6.09 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °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	7.27 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	72.6 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	2.02 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	20.2 mW /g ± 24.2 % (k=2)

Certificate No: Z18-60042

Page 8 of 16





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## Appendix (Additional assessments outside the scope of CNAS L0570)

## Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	53.1Ω - 8.16jΩ	
Return Loss	- 21.5dB	

## Antenna Parameters with Head TSL at 5300 MHz

Impedance, transformed to feed point	49.8Ω - 5.65jΩ
Return Loss	- 25.0dB

#### Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	53.2Ω - 6.65jΩ	
Return Loss	- 22.9dB	

## Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	58.6Ω - 2.98jΩ	
Return Loss	- 21.6dB	

## Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	55.0Ω - 3.20jΩ	
Return Loss	- 24.9dB	

## Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	50.5Ω - 9.39jΩ
Return Loss	- 20.6dB

## Antenna Parameters with Body TSL at 5300 MHz

Impedance, transformed to feed point	51.0Ω - 4.11jΩ	
Return Loss	- 27.6dB	

Certificate No: Z18-60042

Page 9 of 16





Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China Tel: +86-10-62304633-2512 Fax: +86-10-62304633-2504 http://www.chinattl.cn

#### Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	50.3Ω - 4.72jΩ	
Return Loss	- 26.5dB	

## Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	57.0Ω - 5.31jΩ
Return Loss	- 21.7dB

## Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	58.8Ω - 0.73jΩ	
Return Loss	- 21.9dB	

## General Antenna Parameters and Design

Electrical Delay (one direction)	1.071 ns	

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

Certificate No: Z18-60042

Page 10 of 16





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**DASY5 Validation Report for Head TSL** 

Date: 03.30.2018

Page Number

: 140 of 146

Report Issued Date: Sep. 16, 2020

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1172

Communication System: CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz, Medium parameters used: f = 5200 MHz;  $\sigma = 4.704$  mho/m;  $\epsilon r = 36.22$ ;  $\rho = 1000$  kg/m3, Medium parameters used: f = 5300 MHz;  $\sigma = 4.77$  mho/m;  $\epsilon r = 36.74$ ;  $\rho = 1000$  kg/m3, Medium parameters used: f = 5500 MHz;  $\sigma = 4.966$  mho/m;  $\epsilon r = 35.76$ ;  $\rho = 1000$  kg/m3, Medium parameters used: f = 5600 MHz;  $\sigma = 5.104$  mho/m;  $\epsilon r = 35.78$ ;  $\rho = 1000$  kg/m3, Medium parameters used: f = 5800 MHz;  $\sigma = 5.281$  mho/m;  $\epsilon r = 35.62$ ;  $\rho = 1000$  kg/m3.

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

## DASY5 Configuration:

- Probe: EX3DV4 SN7464; ConvF(5.82, 5.82, 5.82); Calibrated: 9/12/2017, ConvF(5.53,5.53,5.53); Calibrated: 9/12/2017, ConvF(5.21,5.21,5.21); Calibrated: 9/12/2017, ConvF(4.98,4.98); Calibrated: 9/12/2017, ConvF(5.11,5.11); Calibrated: 9/12/2017,
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1525; Calibrated: 2017-10-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/3
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Dipole Calibration /Pin=100mW, d=10mm, f=5200 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 60.30 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 32.5 W/kg

SAR(1 g) = 7.48 W/kg; SAR(10 g) = 2.14 W/kg

Maximum value of SAR (measured) = 18.7 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5300 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.18 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 34.1 W/kg

SAR(1 g) = 7.54 W/kg; SAR(10 g) = 2.11 W/kg

Maximum value of SAR (measured) = 18.7 W/kg

Certificate No: Z18-60042

Page 11 of 16

: 141 of 146

Report Issued Date: Sep. 16, 2020



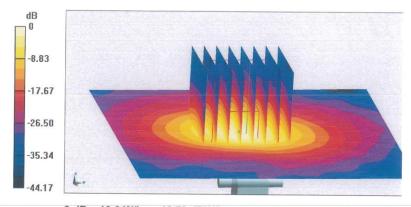


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Dipole Calibration /Pin=100mW, d=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm Reference Value = 62.80 V/m; Power Drift = 0.03 dB Peak SAR (extrapolated) = 35.7 W/kg
SAR(1 g) = 7.99 W/kg; SAR(10 g) = 2.26 W/kg
Maximum value of SAR (measured) = 19.3 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm Reference Value = 61.90 V/m; Power Drift = 0.06 dB Peak SAR (extrapolated) = 37.2 W/kg
SAR(1 g) = 7.91 W/kg; SAR(10 g) = 2.21 W/kg
Maximum value of SAR (measured) = 19.7 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm Reference Value = 60.37 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 37.1 W/kg SAR(1 g) = 7.36 W/kg; SAR(10 g) = 2.06 W/kg Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 19.0 W/kg = 12.79 dBW/kg

Certificate No: Z18-60042

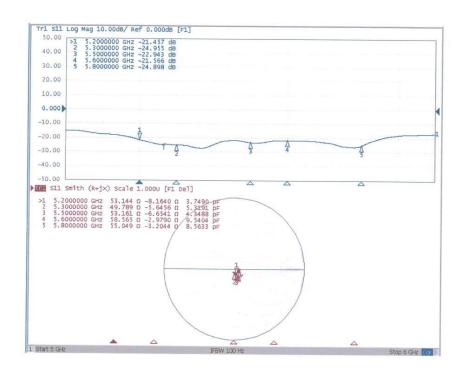
Page 12 of 16





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## Impedance Measurement Plot for Head TSL



Certificate No: Z18-60042

Page 13 of 16





Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China Tel: +86-10-62304633-2512 Fax: +86-10-62304633-2504 E-mail: cttl@chinattl.com http://www.chinattl.cn

**DASY5 Validation Report for Body TSL** 

Date: 03.20.2018

Page Number

: 143 of 146

Report Issued Date: Sep. 16, 2020

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1172

Communication System: CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz, Medium parameters used: f = 5200 MHz;  $\sigma = 5.285$  mho/m;  $\epsilon r = 48.89$ ;  $\rho = 1000$  kg/m3, Medium parameters used: f = 5300 MHz;  $\sigma = 5.398$  mho/m;  $\epsilon r = 48.67$ ;  $\rho = 1000$  kg/m3, Medium parameters used: f = 5500 MHz;  $\sigma = 5.674$  mho/m;  $\epsilon r = 48.24$ ;  $\rho = 1000$  kg/m3, Medium parameters used: f = 5600 MHz;  $\sigma = 5.813$  mho/m;  $\epsilon r = 48.05$ ;  $\rho = 1000$  kg/m3, Medium parameters used:  $\epsilon r = 5600$  MHz;  $\epsilon r = 6.093$  mho/m;  $\epsilon r = 47.65$ ;  $\epsilon r = 1000$  kg/m3,

Phantom section: Center Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

#### DASY5 Configuration:

- Probe: EX3DV4 SN7464; ConvF(5.39, 5.39, 5.39); Calibrated: 9/12/2017, ConvF(5.19, 5.19, 5.19); Calibrated: 9/12/2017, ConvF(4.61,4.61,4.61); Calibrated: 9/12/2017, ConvF(4.5,4.5,4.5); Calibrated: 9/12/2017, ConvF(4.67,4.67,4.67); Calibrated: 9/12/2017,
- · Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1525; Calibrated: 2017-10-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/3
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Dipole Calibration /Pin=100mW, d=10mm, f=5200 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 65.11 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 32.2 W/kg

SAR(1 g) = 7.09 W/kg; SAR(10 g) = 1.98 W/kg Maximum value of SAR (measured) = 17.3 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5300 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 62.15 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 33.3 W/kg

SAR(1 g) = 7.12 W/kg; SAR(10 g) = 1.98 W/kg Maximum value of SAR (measured) = 17.5 W/kg

Certificate No: Z18-60042

Page 14 of 16





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Dipole Calibration /Pin=100mW, d=10mm, f=5500 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 65.49 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 37.5 W/kg

SAR(1 g) = 7.72 W/kg; SAR(10 g) = 2.14 W/kg Maximum value of SAR (measured) = 19.5 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5600 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 64.69 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 36.4 W/kg

SAR(1 g) = 7.52 W/kg; SAR(10 g) = 2.1 W/kg

Maximum value of SAR (measured) = 18.5 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5800 MHz/Zoom Scan,

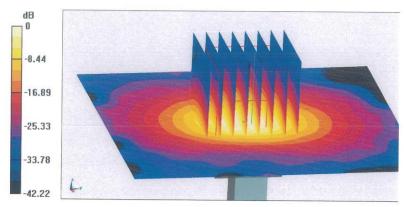
dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 62.28 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 37.9 W/kg

SAR(1 g) = 7.27 W/kg; SAR(10 g) = 2.02 W/kg

Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 18.5 W/kg = 12.67 dBW/kg

Certificate No: Z18-60042

Page 15 of 16

: 145 of 146

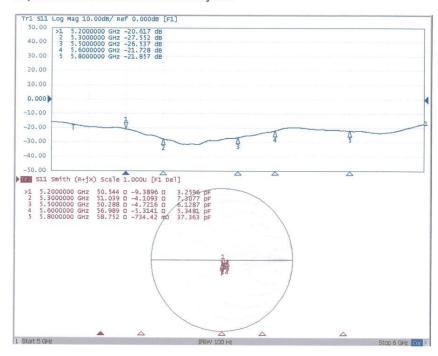
Report Issued Date: Sep. 16, 2020





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## Impedance Measurement Plot for Body TSL



Certificate No: Z18-60042

Page 16 of 16

: 146 of 146

Report Issued Date: Sep. 16, 2020



## **ANNEX D. Accreditation Certification**



\*\*\*\*\*\*\*\*End of the Report\*\*\*\*\*\*