

APPENDIX D: RELEVANT PAGES FROM DAE4 REPORT(S)

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **SRTC (PTT)**

Certificate No: **DAE4-725_Oct11**

CALIBRATION CERTIFICATE

Object: **DAE4 - SD 000 D04 BJ - SN: 725**

Calibration procedure(s): **QA CAL-06.v23
Calibration procedure for the data acquisition electronics (DAE)**

Calibration date: **October 18, 2011**

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)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|-------------------------------|--------------------|----------------------------|------------------------|
| Keithley Multimeter Type 2001 | SN: 0810278 | 28-Sep-11 (No:11450) | Sep-12 |
| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
| Calibrator Box V1.1 | SE UMS 006 AB 1004 | 08-Jun-11 (in house check) | In house check: Jun-12 |

| | Name | Function | Signature |
|----------------|---------------|--------------|-----------|
| Calibrated by: | Andrea Guntli | Technician | |
| Approved by: | Fin Bornholt | R&D Director | |

Issued: November 28, 2011

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

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary

DAE data acquisition electronics
Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement*: Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
 - *DC Voltage Measurement Linearity*: Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
 - *Common mode sensitivity*: Influence of a positive or negative common mode voltage on the differential measurement.
 - *Channel separation*: Influence of a voltage on the neighbor channels not subject to an input voltage.
 - *AD Converter Values with inputs shorted*: Values on the internal AD converter corresponding to zero input voltage
 - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
 - *Input Offset Current*: Typical value for information; Maximum channel input offset current, not considering the input resistance.
 - *Input resistance*: Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
 - *Low Battery Alarm Voltage*: Typical value for information. Below this voltage, a battery alarm signal is generated.
 - *Power consumption*: Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1μV , full range = -100...+300 mV

Low Range: 1LSB = 61nV , full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

| Calibration Factors | X | Y | Z |
|---------------------|----------------------|----------------------|----------------------|
| High Range | 404.106 ± 0.1% (k=2) | 404.866 ± 0.1% (k=2) | 404.430 ± 0.1% (k=2) |
| Low Range | 3.93459 ± 0.7% (k=2) | 3.98865 ± 0.7% (k=2) | 3.96451 ± 0.7% (k=2) |

Connector Angle

| | |
|---|---------------|
| Connector Angle to be used in DASY system | 236.0 ° ± 1 ° |
|---|---------------|

Appendix

1. DC Voltage Linearity

| High Range | Reading (μV) | Difference (μV) | Error (%) |
|-------------------|---------------------------|------------------------------|-----------|
| Channel X + Input | 199998.3 | 0.34 | 0.00 |
| Channel X + Input | 20003.85 | 3.75 | 0.02 |
| Channel X - Input | -19997.38 | 2.12 | -0.01 |
| Channel Y + Input | 199996.4 | -0.35 | -0.00 |
| Channel Y + Input | 20004.41 | 4.21 | 0.02 |
| Channel Y - Input | -19995.93 | 3.37 | -0.02 |
| Channel Z + Input | 199993.7 | -1.68 | -0.00 |
| Channel Z + Input | 20002.28 | 2.18 | 0.01 |
| Channel Z - Input | -20000.46 | -1.16 | 0.01 |

| Low Range | Reading (μV) | Difference (μV) | Error (%) |
|-------------------|---------------------------|------------------------------|-----------|
| Channel X + Input | 2000.1 | 0.15 | 0.01 |
| Channel X + Input | 200.12 | 0.22 | 0.11 |
| Channel X - Input | -199.60 | 0.20 | -0.10 |
| Channel Y + Input | 2000.1 | -0.06 | -0.00 |
| Channel Y + Input | 199.60 | -0.20 | -0.10 |
| Channel Y - Input | -200.23 | -0.33 | 0.17 |
| Channel Z + Input | 1999.7 | -0.19 | -0.01 |
| Channel Z + Input | 199.57 | -0.33 | -0.17 |
| Channel Z - Input | -200.45 | -0.35 | 0.17 |

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

| | Common mode Input Voltage (mV) | High Range Average Reading (μV) | Low Range Average Reading (μV) |
|-----------|--------------------------------|--|---|
| Channel X | 200 | 11.04 | 8.48 |
| | -200 | -6.64 | -8.94 |
| Channel Y | 200 | -10.67 | -10.89 |
| | -200 | 10.38 | 9.84 |
| Channel Z | 200 | -3.46 | -3.91 |
| | -200 | 2.19 | 2.06 |

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

| | Input Voltage (mV) | Channel X (μV) | Channel Y (μV) | Channel Z (μV) |
|-----------|--------------------|-----------------------------|-----------------------------|-----------------------------|
| Channel X | 200 | - | 2.72 | 0.54 |
| Channel Y | 200 | 2.36 | - | 4.76 |
| Channel Z | 200 | 1.75 | -0.08 | - |

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

| | High Range (LSB) | Low Range (LSB) |
|-----------|------------------|-----------------|
| Channel X | 16170 | 15814 |
| Channel Y | 16205 | 16139 |
| Channel Z | 16115 | 16059 |

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Input 10M Ω

| | Average (μ V) | min. Offset (μ V) | max. Offset (μ V) | Std. Deviation (μ V) |
|-----------|--------------------|------------------------|------------------------|---------------------------|
| Channel X | -0.59 | -1.37 | 0.95 | 0.39 |
| Channel Y | -2.05 | -4.06 | -1.08 | 0.42 |
| Channel Z | -0.18 | -1.05 | 0.50 | 0.33 |

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

| | Zeroing (kOhm) | Measuring (MOhm) |
|-----------|----------------|------------------|
| Channel X | 200 | 200 |
| Channel Y | 200 | 200 |
| Channel Z | 200 | 200 |

8. Low Battery Alarm Voltage (Typical values for information)

| Typical values | Alarm Level (VDC) |
|----------------|-------------------|
| Supply (+ Vcc) | +7.9 |
| Supply (- Vcc) | -7.6 |

9. Power Consumption (Typical values for information)

| Typical values | Switched off (mA) | Stand by (mA) | Transmitting (mA) |
|----------------|-------------------|---------------|-------------------|
| Supply (+ Vcc) | +0.01 | +6 | +14 |
| Supply (- Vcc) | -0.01 | -8 | -9 |

APPENDIX E: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S)

The State Radio_monitoring_center Testing Center

Calibration Certificate



IAC-MRA **CNAS**
CALIBRATION
CNAS L0447

Instrument Dipole

Type/Model D900V2

Manufacturer Schmid & Partner Engineering AG

Serial No SN: 171

Name of Client The State Radio_monitoring_center Testing Center

Address of Client No.80 Beilishi Road Xicheng District Beijing, China

Calibration Date 2011.6.11

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

Approved by  

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China
Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 1 of 7 Certificate No.SRTC2011-CAL003-001

The State Radio_monitoring_center Testing Center

| | |
|---|----------------|
| Reference documents of the measurement(Code, Name) | |
| SRMC3003-V1.0.0 Working procedure for calibration of SAR Testing system | |
| Place and environmental condition of the measurement | |
| Temperature 20.3℃ | Humidity 38.6% |
| Location SRTC Room226 | |

| Primary Calibration Equipment used | Model/Type | ID# | Cal Date | Scheduled Calibration |
|--------------------------------------|------------|----------------|-----------|-----------------------|
| Power meter | E4417A | SN: MY45101004 | 2010.8.20 | 2011.8.20 |
| Power sensor | E9300B | SN: MY41496001 | 2010.8.20 | 2011.8.20 |
| Power sensor | E9300B | SN: MY41496003 | 2010.8.20 | 2011.8.20 |
| DAE Reference DAE | DAE4 | SN: 720 | 2011.1.19 | 2012.1.19 |
| Reference probe | ES3DV3 | SN:3128 | 2011.4.21 | 2012.4.21 |
| Secondary Calibration Equipment used | Model/Type | ID# | Cal Date | Scheduled Calibration |
| Signal generator | SML03 | SN:103514 | 2010.8 | 2011.8 |
| Network analyzer | 8714ET | SN:US40372083 | 2010.8 | 2011.8 |

Note:

1. 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.
2. This calibration certificate shall not be reproduced except in full without written approval of the laboratory.
3. SRTC is responsible for the whole of certificate only with stamp of SRTC.
4. The calibration results would be valid only for the items calibration.

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R.China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 2 of 7

Certificate No.SRTC2011-CAL003-001

The State Radio_monitoring_center Testing Center

Glossary

| | |
|-------|---------------------------------|
| TSL | tissue simulating liquid |
| ConvF | sensitivity in TSL/NORM x, y, z |
| N/A | not applicable or not measured |

Calibration is preformed according to the Following Standards

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in Human Head from Wireless Communication Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz) ", February 2005
- c) Federal Communication Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65
- d) EN 62209-1 Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices — Human models,instrumentation, and procedures — Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)

Additional Documentation:

- e) DASY System Handbook

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 3 of 7

Certificate No.SRTC2011-CAL003-001

The State Radio_monitoring_center Testing Center

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.
- 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.

Measurement Conditions

| | | |
|----------------------------|------------------------|-------------|
| DASY Version | DSAY 5 | V52.2.0.163 |
| Extrapolation | Advanced Extrapolation | —— |
| Phantom | ELI4 | —— |
| Distance Dipole Center-TSL | 15mm | With spacer |
| Area Scan Resolution | dx,dy=15mm | —— |
| Zoom Scan Resolution | dx,dy,dz=5mm | —— |
| Frequency | 900MHz | —— |

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China

Tel: +86-10-68009202 68009203

Fax: +86-10-68009205 68009195

Page 4 of 7

Certificate No.SRTC2011-CAL003-001

The State Radio_monitoring_center Testing Center

Head TSL Parameters

The following parameters and calculation were applied

| | Temperature | Permittivity | Conductivity |
|----------------------------------|--------------|--------------|---------------|
| Nominal Head TSL parameters | 22.0°C | 42.0 | 0.99mho/m |
| Measured Head TSL parameters | (22±0.5)°C | 42.621±5% | 0.966mho/m±5% |
| Head TSL temperature during test | (22.6±0.6)°C | —— | —— |

1. SAR-Head TSL

| SAR averaged over 1cm ³ (1g) of Head TSL | Condition | —— |
|---|-------------------|-----------------------------|
| SAR measured | 250mW input power | 2.58mW/g |
| SAR normalized | normalized to 1W | 10.32mW/g |
| SAR for nominal Head TSL parameters | normalized to 1W | 10.54mW/g±17.4%(k=2) |

| SAR averaged over 10cm ³ (10g) of Head TSL | Condition | —— |
|---|-------------------|----------------------------|
| SAR measured | 250mW input power | 1.64mW/g |
| SAR normalized | normalized to 1W | 6.56mW/g |
| SAR for nominal Head TSL parameters | normalized to 1W | 6.64mW/g±16.8%(k=2) |

2.Other Parameters

| | |
|-------------|------------------|
| Return Loss | -20.25 dB |
|-------------|------------------|

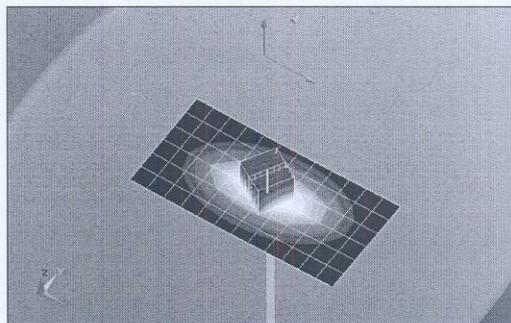
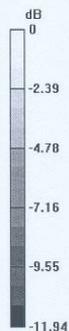
The State Radio_monitoring_center Testing Center

Annex

Annex 1

Date/Time: 6/11/2011 5:38:58 PM

Test Laboratory: The name of your organization
 DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:171
 Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 900$ MHz; $\sigma = 0.966$ mho/m; $\epsilon_r = 42.621$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASy5 (IEEE/IEC/ANSI C63.19-2007)
 DASy4 Configuration:
 Probe: ES3DV3 - SN3128; ConvF(9.03, 9.53, 9.2); Calibrated: 4/21/2011
 Sensor-Surface: 4mm (Mechanical Surface Detection)
 Electronics: DAE - SN720; Calibrated: 1/19/2011
 Phantom: ELI v4.0; Type: QDOVA001BB;
 SEMCAD X Version 14.6.4 (4989)
 Configuration/Towards ground - Middle /Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 2.777 mW/g
 Configuration/Towards ground - Middle /Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 54.277 V/m; Power Drift = -0.02 dB
 Peak SAR (extrapolated) = 4.0250
 SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.64 mW/g
 Maximum value of SAR (measured) = 2.795 mW/g



0 dB = 2.790mW/g = 8.91 dB mW/g

中心检测中心

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R.China

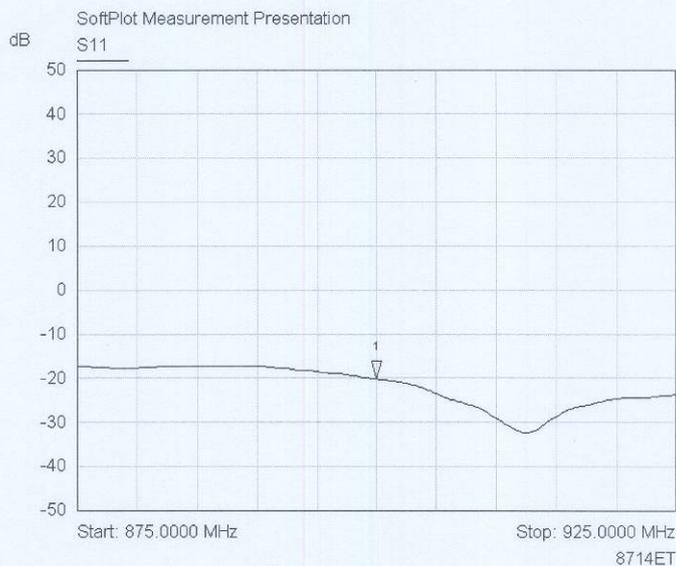
Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 6 of 7

Certificate No.SRTC2011-CAL003-001

The State Radio_monitoring_center Testing Center

Annex 2



| Mkr | Trace | X-Axis | Value | Notes |
|-----|-------|--------------|-----------|-------|
| 1 | √ S11 | 900.0000 MHz | -20.25 dB | |

Head TSL Return Loss

Calibrated by 张赫作

Checked by 刘佳

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 7 of 7

Certificate No.SRTC2011-CAL003-001

The State Radio_monitoring_center Testing Center

Calibration Certificate



Instrument Dipole

Type/Model D1800V2

Manufacturer Schmid & Partner Engineering AG

Serial No SN: 2d084

Name of Client The State Radio_monitoring_center Testing Center

Address of Client No.80 Beilishi Road Xicheng District Beijing, China

Calibration Date 2011.6.11

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

Approved by



Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 1 of 7

Certificate No.SRTC2011-CAL003-002

The State Radio_monitoring_center Testing Center

| |
|---|
| Reference documents of the measurement(Code, Name) |
| SRMC3003-V1.0.0 Working procedure for calibration of SAR Testing system |
| Place and environmental condition of the measurement |
| Temperature 20.3℃ Humidity 39.7% |
| Location SRTC Room226 |

| Primary Calibration Equipment used | Model/Type | ID# | Cal Date | Scheduled Calibration |
|--------------------------------------|------------|----------------|-----------|-----------------------|
| Power meter | E4417A | SN: MY45101004 | 2010.8.20 | 2011.8.20 |
| Power sensor | E9300B | SN: MY41496001 | 2010.8.20 | 2011.8.20 |
| Power sensor | E9300B | SN: MY41496003 | 2010.8.20 | 2011.8.20 |
| DAE Reference DAE | DAE4 | SN: 720 | 2011.1.19 | 2012.1.19 |
| Reference probe | ES3DV3 | SN:3128 | 2011.4.21 | 2012.4.21 |
| Secondary Calibration Equipment used | Model/Type | ID# | Cal Date | Scheduled Calibration |
| Signal generator | SML03 | SN:103514 | 2010.8 | 2011.8 |
| Network analyzer | 8714ET | SN:US40372083 | 2010.8 | 2011.8 |

Note:

1. 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.
2. This calibration certificate shall not be reproduced except in full without written approval of the laboratory.
3. SRTC is responsible for the whole of certificate only with stamp of SRTC.
4. The calibration results would be valid only for the items calibration.

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R.China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 2 of 7

Certificate No.SRTC2011-CAL003-002

The State Radio_monitoring_center Testing Center

Glossary

| | |
|-------|---------------------------------|
| TSL | tissue simulating liquid |
| ConvF | sensitivity in TSL/NORM x, y, z |
| N/A | not applicable or not measured |

Calibration is preformed according to the Following Standards

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in Human Head from Wireless Communication Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005
- c) Federal Communication Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65
- d) EN 62209-1 Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices — Human models, instrumentation, and procedures — Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)

Additional Documentation:

- e) DASY System Handbook

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 3 of 7

Certificate No.SRTC2011-CAL003-002

The State Radio_monitoring_center Testing Center

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.
- 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.

Measurement Conditions

| | | |
|-----------------------------------|------------------------|-------------|
| DASY Version | DSAY 5 | V52.2.0.163 |
| Extrapolation | Advanced Extrapolation | —— |
| Phantom | ELI4 | —— |
| Distance Dipole Center-TSL | 15mm | With spacer |
| Area Scan Resolution | dx,dy=15mm | —— |
| Zoom Scan Resolution | dx,dy,dz=5mm | —— |
| Frequency | 1800MHz | —— |

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R.China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 4 of 7

Certificate No.SRTC2011-CAL003-002

The State Radio_monitoring_center Testing Center

Head TSL Parameters

The following parameters and calculation were applied

| | Temperature | Permittivity | Conductivity |
|----------------------------------|--------------|--------------|---------------|
| Nominal Head TSL parameters | 22.0°C | 40.0 | 1.40mho/m |
| Measured Head TSL parameters | (22±0.5)°C | 38.471±5% | 1.366mho/m±5% |
| Head TSL temperature during test | (22.6±0.6)°C | ——— | ——— |

1. SAR-Head TSL

| SAR averaged over 1cm ³ (1g) of Head TSL | Condition | ——— |
|---|-------------------|-----------------------------|
| SAR measured | 250mW input power | 9.79mW/g |
| SAR normalized | normalized to 1W | 39.16mW/g |
| SAR for nominal Head TSL parameters | normalized to 1W | 38.81mW/g±17.4%(k=2) |

| SAR averaged over 10cm ³ (10g) of Head TSL | Condition | ——— |
|---|-------------------|-----------------------------|
| SAR measured | 250mW input power | 5.13mW/g |
| SAR normalized | normalized to 1W | 20.42 mW/g |
| SAR for nominal Head TSL parameters | normalized to 1W | 20.18mW/g±16.8%(k=2) |

2.Other Parameters

| | |
|-------------|-----------|
| Return Loss | -30.87 dB |
|-------------|-----------|

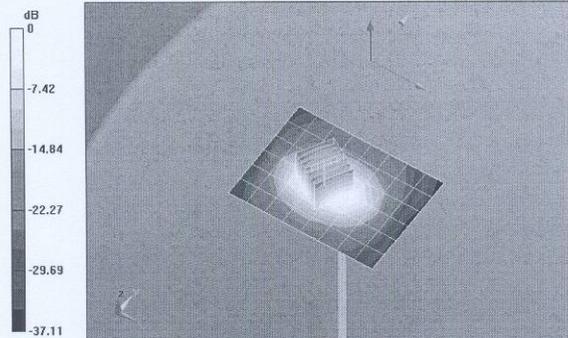
The State Radio_monitoring_center Testing Center

Annex

Annex 1

Date/Time: 6/11/2011 3:01:56 PM

Test Laboratory: SRTC, Beijing, China
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:4d084
Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1800$ MHz; $\sigma = 1.366$ mho/m; $\epsilon_r = 38.471$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)
DASY4 Configuration:
Probe: ES3DV3 - SN3128; ConvF(6.15, 6.5, 6.27); Calibrated: 4/21/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE - SN720; Calibrated: 1/19/2011
Phantom: ELI v4.0; Type: QDOVA001BB;
SEMCAD X Version 14.6.4 (4989)
Configuration/Towards ground - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.313 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 17.7400
SAR(1 g) = 9.79 mW/g; SAR(10 g) = 5.13 mW/g
Maximum value of SAR (measured) = 10.972 mW/g
Configuration/Towards ground - Middle/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.276 mW/g



0 dB = 10.280mW/g = 20.24 dB mW/g

国家无线电监测中心
SRTC

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China

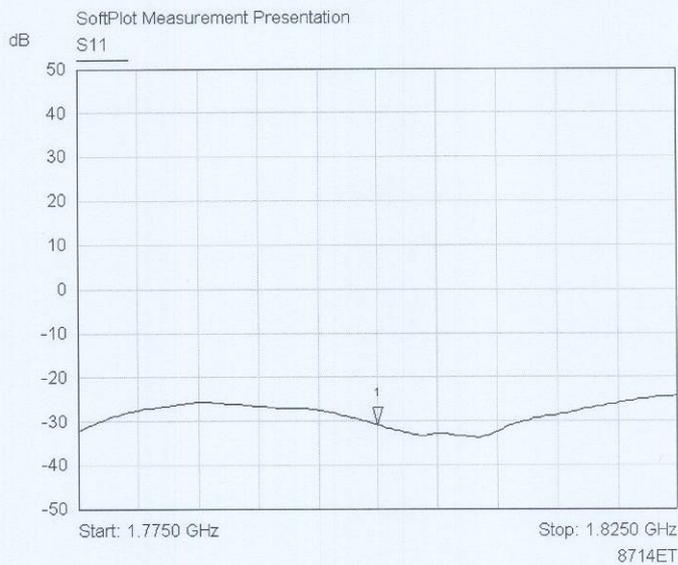
Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 6 of 7

Certificate No.SRTC2011-CAL003-002

The State Radio_monitoring_center Testing Center

Annex 2



| Mkr | Trace | X-Axis | Value | Notes |
|-----|-------|------------|-----------|-------|
| 1 | S11 | 1.8000 GHz | -30.87 dB | |

Head TSL Return Loss

Calibrated by 张赫佐

Checked by 刘佳

Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P.R .China

Tel: +86-10-68009202 68009203
Fax: +86-10-68009205 68009195

Page 7 of 7

Certificate No.SRTC2011-CAL003-002