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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **D750V3-1075_Nov12**

CALIBRATION CERTIFICATE

Object **D750V3 - SN: 1075**

Calibration procedure(s) **QA CAL-05.v8**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **November 19, 2012**

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 $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Israe El-Naouq** **Function** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Israe El-Naouq
Katja Pokovic

Issued: November 19, 2012

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Glossary:

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

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- 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 300 MHz to 3 GHz)", February 2005
- Federal Communications 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

Additional Documentation:

- 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	42.2 $\pm$ 6 %	0.90 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.09 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.30 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.41 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	55.3 $\pm$ 6 %	0.97 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.24 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	8.88 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.48 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	5.88 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$55.2 \Omega + 0.6 j\Omega$
Return Loss	- 26.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$50.9 \Omega - 1.6 j\Omega$
Return Loss	- 34.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.426 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	September 04, 2012

DASY5 Validation Report for Head TSL

Date: 19.11.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075

Communication System: CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.9 \text{ mho/m}$; $\epsilon_r = 42.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.33, 6.33, 6.33); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, $d=15\text{mm}$ 2/Zoom Scan (7x8x7)/Cube 0:

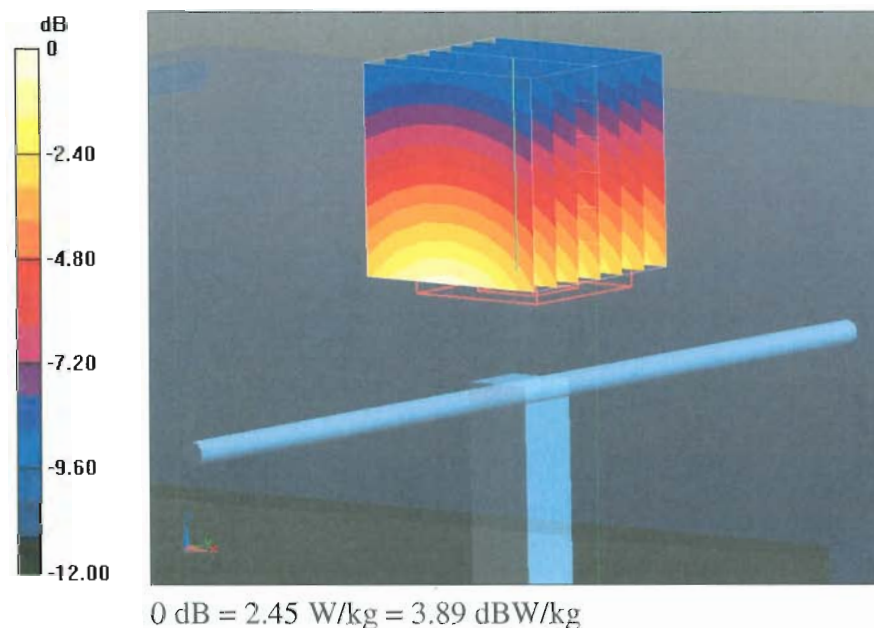
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.207 V/m; Power Drift = 0.04 dB

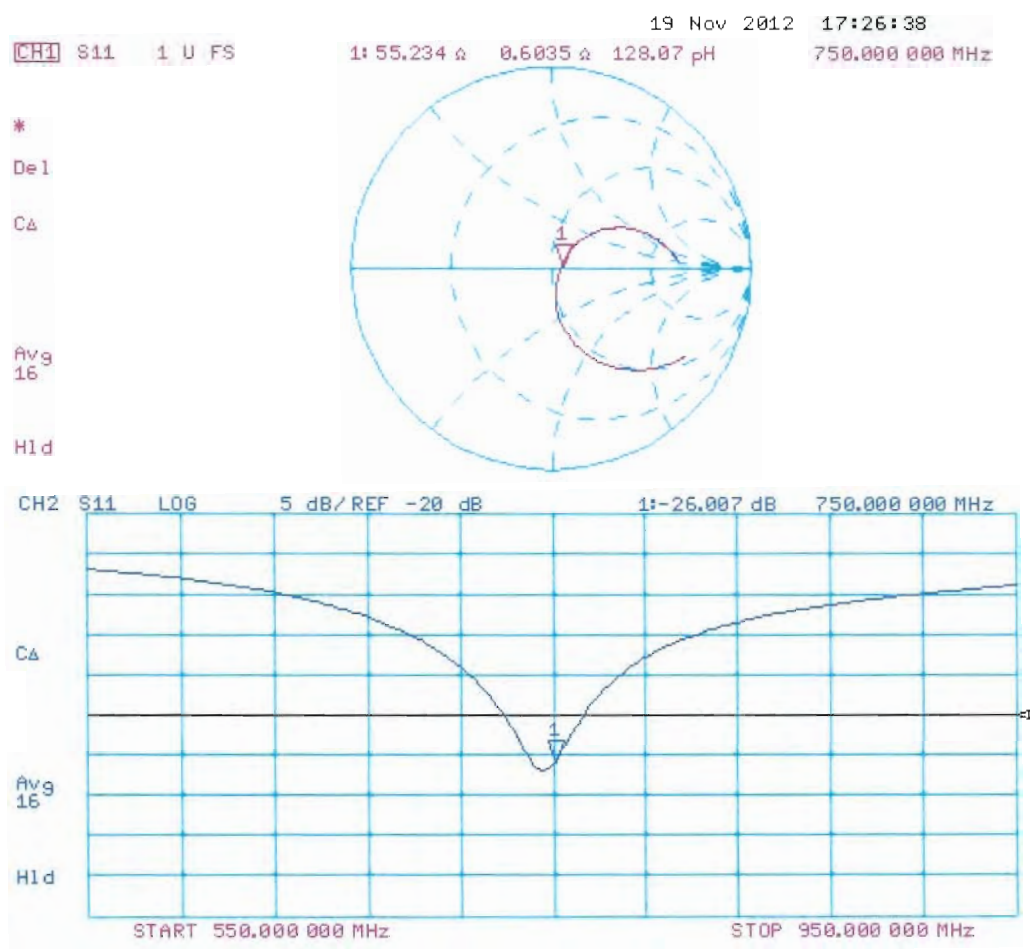
Peak SAR (extrapolated) = 3.22 W/kg

SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.36 W/kg

Maximum value of SAR (measured) = 2.45 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 19.11.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075

Communication System: CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.97 \text{ mho/m}$; $\epsilon_r = 55.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.12, 6.12, 6.12); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

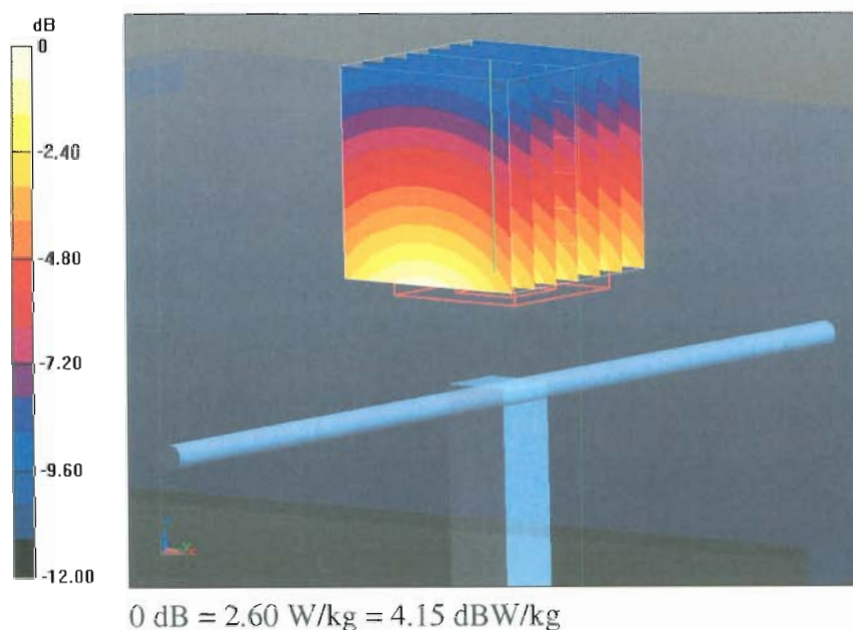
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.100 V/m; Power Drift = 0.01 dB

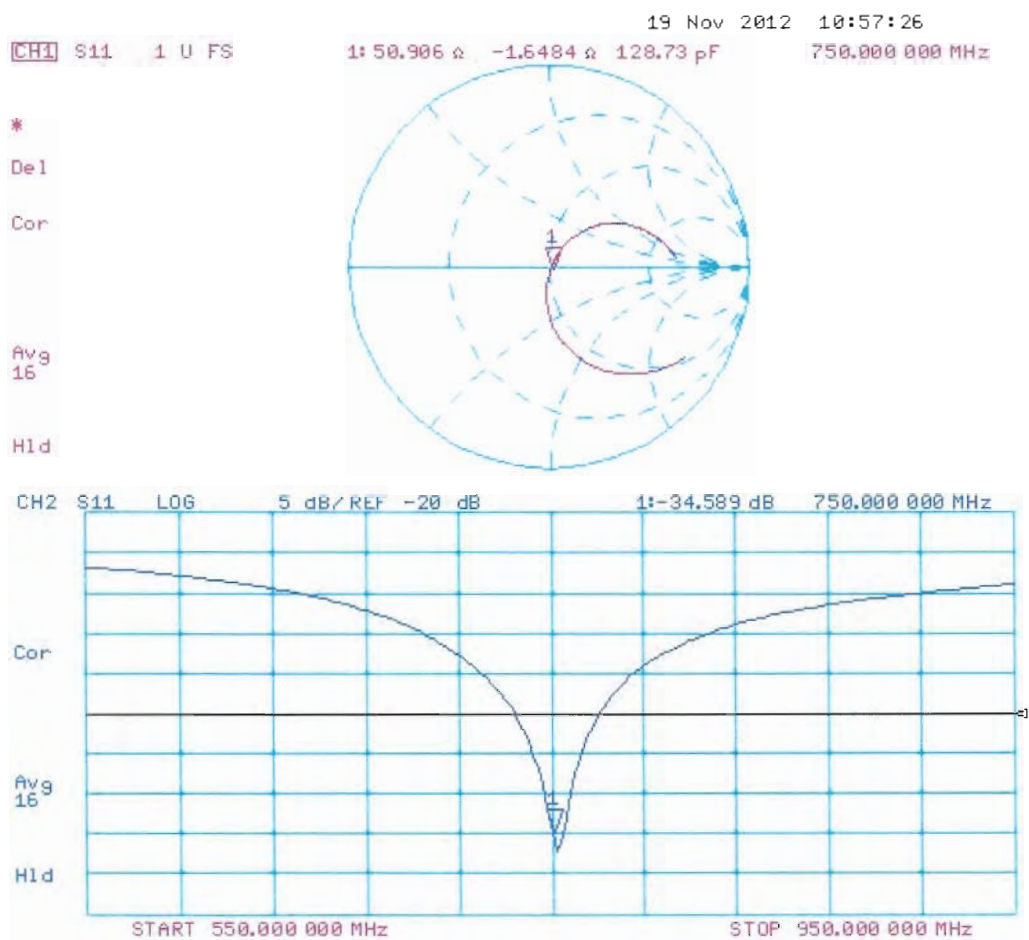
Peak SAR (extrapolated) = 3.35 W/kg

SAR(1 g) = 2.24 W/kg; SAR(10 g) = 1.48 W/kg

Maximum value of SAR (measured) = 2.60 W/kg



Impedance Measurement Plot for Body TSL





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Client **Nokia Salo TCC**

Certificate No: **D835V2-480_Dec12**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 480**

Calibration procedure(s) **QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **December 03, 2012**

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.

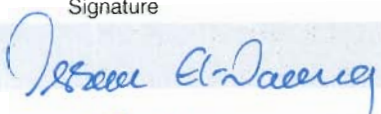
All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.3 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Israe El-Naouq** Name: **Israe El-Naouq** Function: **Laboratory Technician**

Approved by: **Katja Pokovic** Name: **Katja Pokovic** Function: **Technical Manager**

Signature



Issued: December 3, 2012

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Glossary:

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ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- 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 300 MHz to 3 GHz)", February 2005
- Federal Communications 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

Additional Documentation:

- 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	41.4 $\pm$ 6 %	0.92 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.39 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.40 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.56 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.16 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	54.5 $\pm$ 6 %	0.99 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.42 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.51 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.59 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	6.27 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.8 Ω - 3.3 j Ω
Return Loss	- 29.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.7 Ω - 4.9 j Ω
Return Loss	- 24.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.391 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	January 28, 2003

DASY5 Validation Report for Head TSL

Date: 03.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

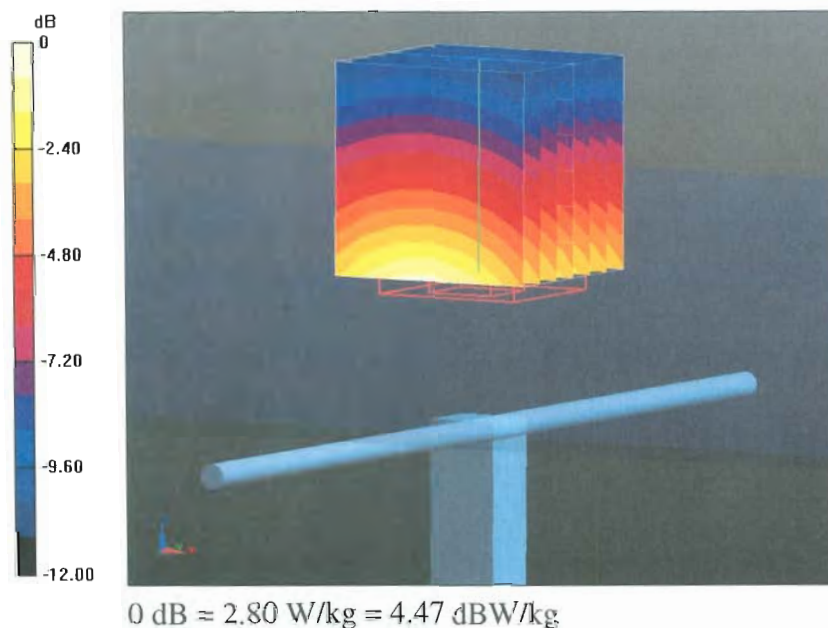
Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 56.814 V/m; Power Drift = 0.00 dB

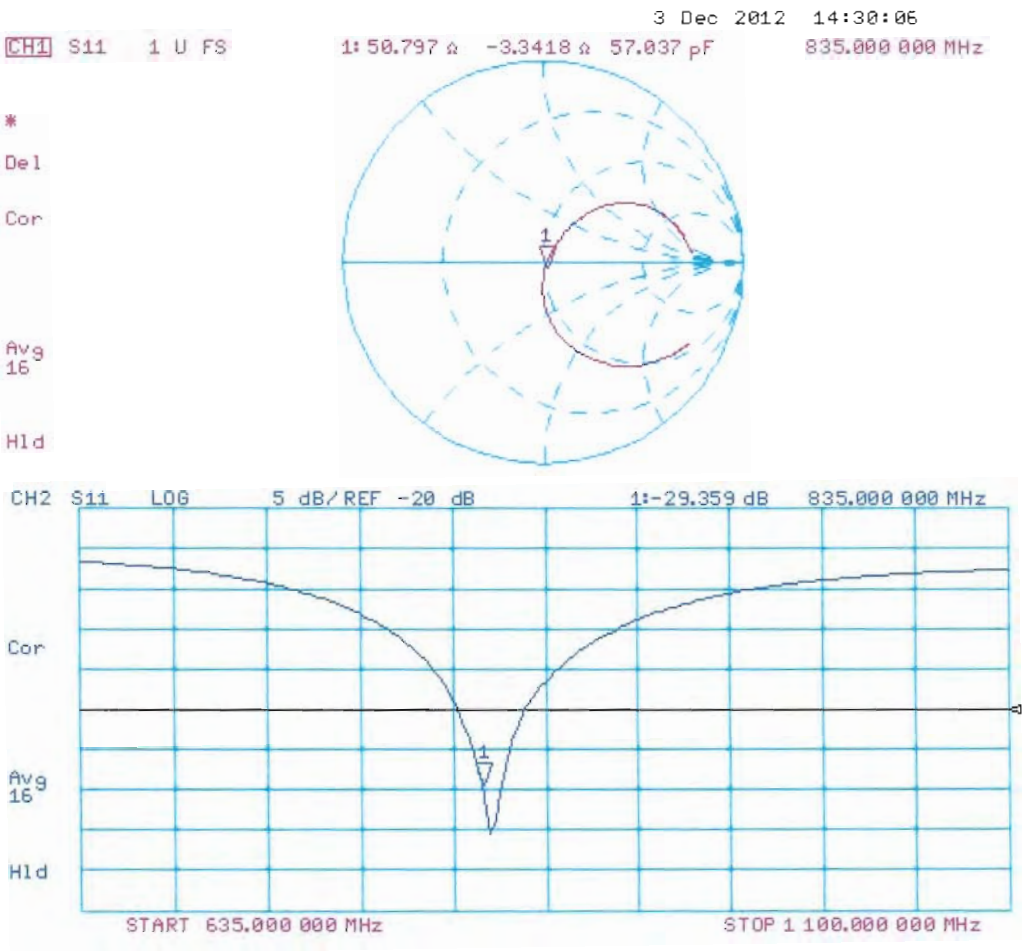
Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.39 W/kg; SAR(10 g) = 1.56 W/kg

Maximum value of SAR (measured) = 2.80 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 03.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

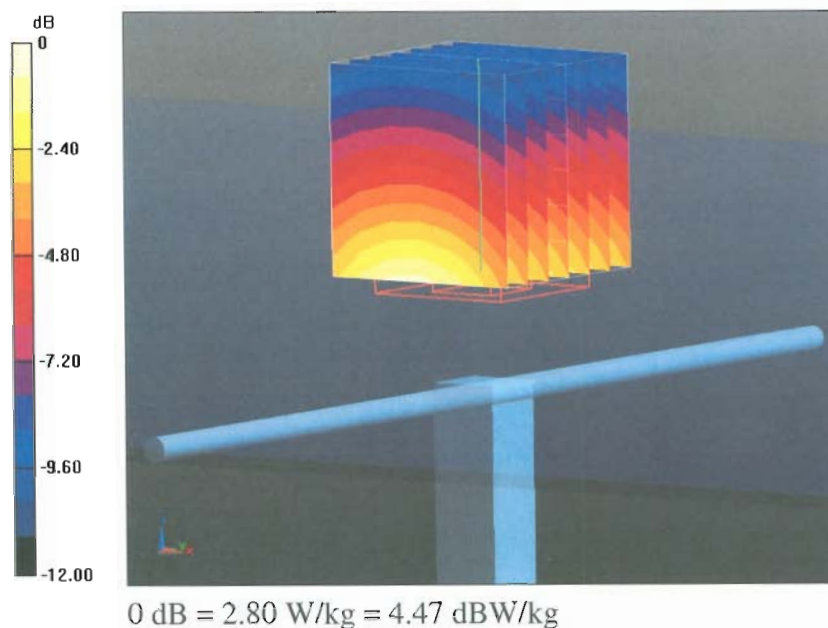
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.301 V/m; Power Drift = 0.00 dB

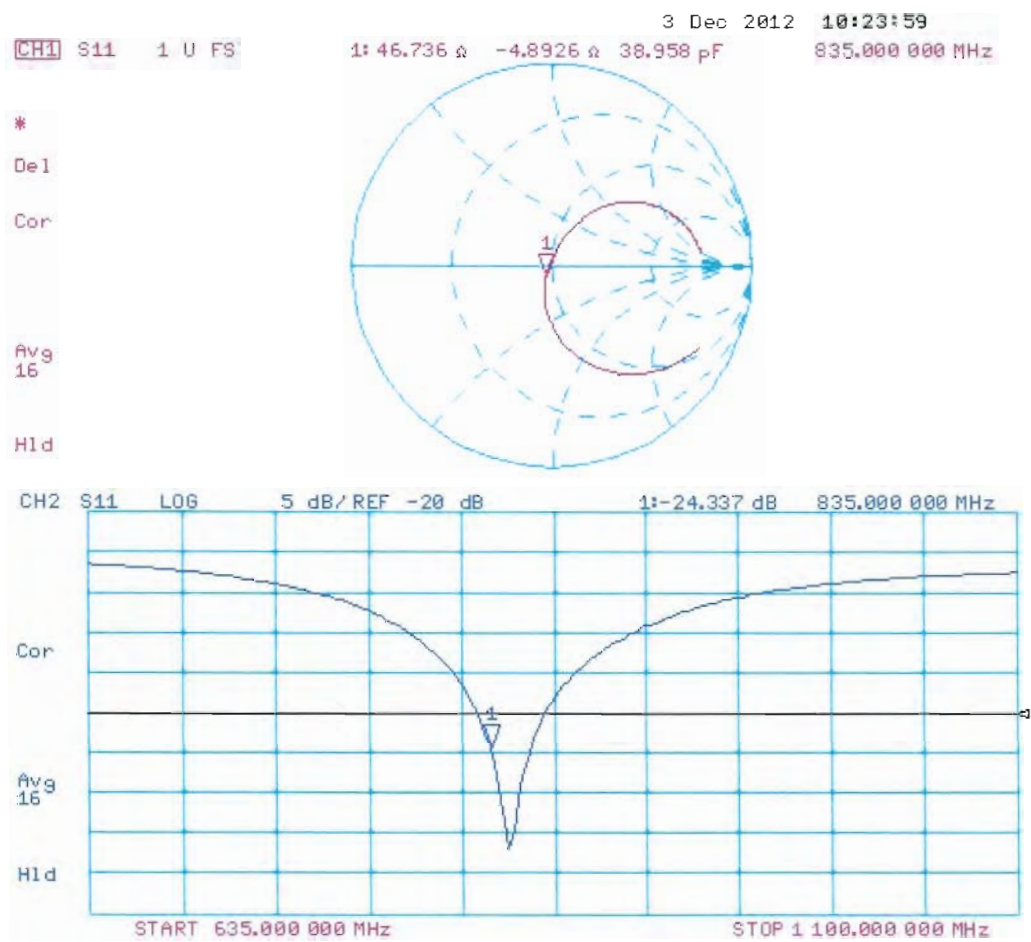
Peak SAR (extrapolated) = 3.53 W/kg

SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 2.80 W/kg



Impedance Measurement Plot for Body TSL





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Client **Nokia Salo TCC**

Certificate No: **D1750V2-1082_Dec12**

CALIBRATION CERTIFICATE

Object **D1750V2 - SN: 1082**

Calibration procedure(s) **QA CAL-05.v8**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **December 05, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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Type-N mismatch combination	SN: 5047.3 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
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DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Israe El-Naouq** **Israe El-Naouq** **Function**
Laboratory Technician

Approved by: **Katja Pokovic** **Katja Pokovic** **Technical Manager**

Signature

Issued: December 5, 2012

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Additional Documentation:

- DASY4/5 System Handbook

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- 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.3 $\pm$ 6 %	1.34 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.99 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	36.3 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.80 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	19.3 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	51.8 $\pm$ 6 %	1.47 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.21 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	36.9 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	4.95 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	19.8 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$49.8 \Omega + 0.7 j\Omega$
Return Loss	- 43.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$46.2 \Omega + 0.8 j\Omega$
Return Loss	- 27.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.219 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
Manufactured on	January 19, 2011

DASY5 Validation Report for Head TSL

Date: 05.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082

Communication System: CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.22, 5.22, 5.22); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

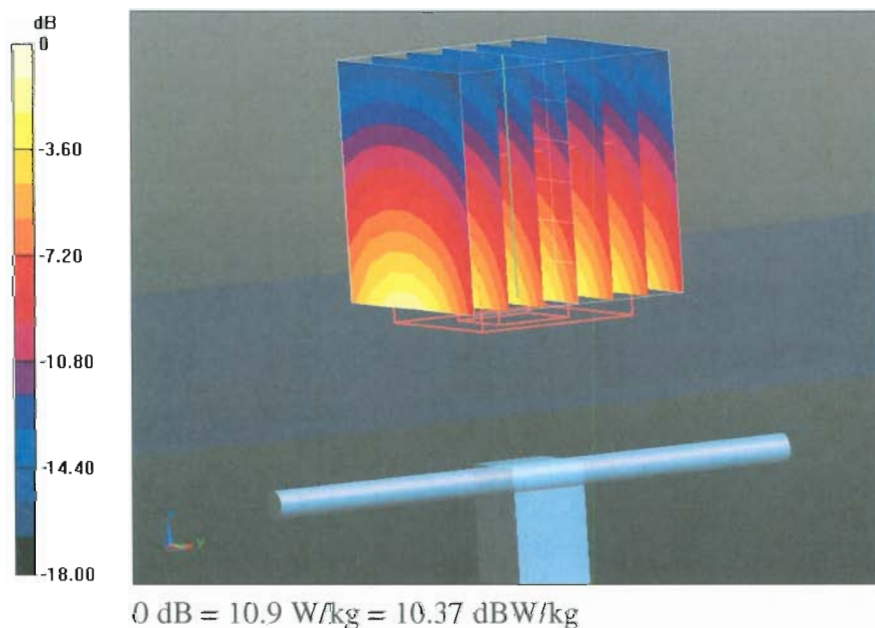
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.445 V/m; Power Drift = 0.04 dB

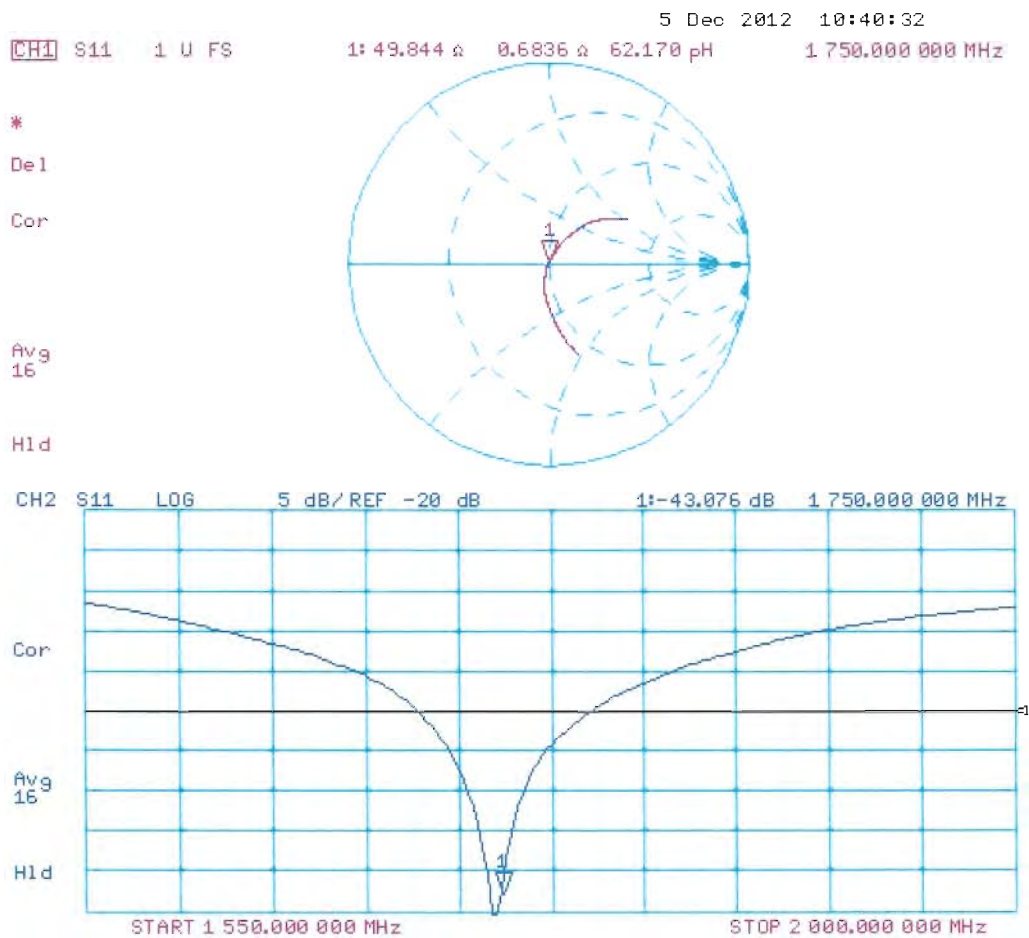
Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 8.99 W/kg; SAR(10 g) = 4.8 W/kg

Maximum value of SAR (measured) = 10.9 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 05.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082

Communication System: CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.85, 4.85, 4.85); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

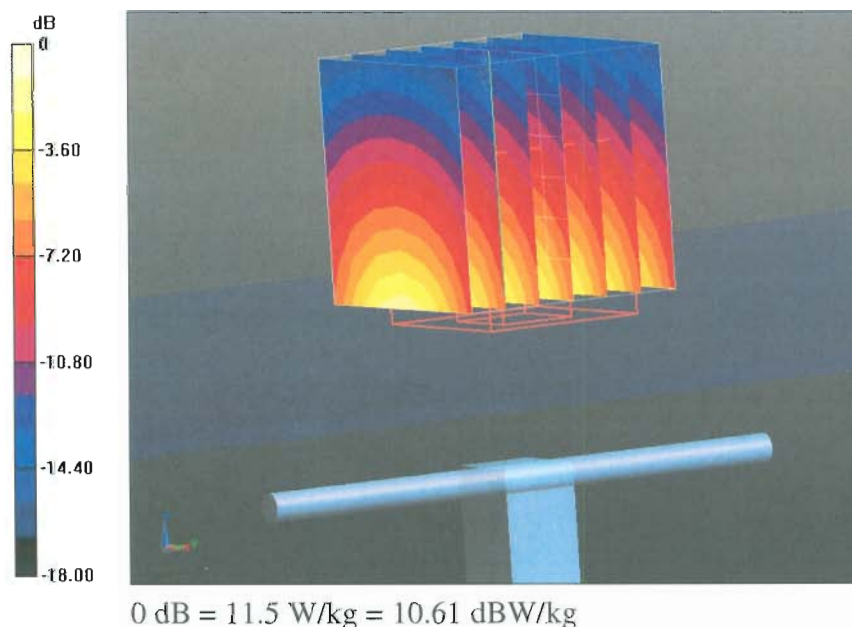
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.445 V/m; Power Drift = 0.04 dB

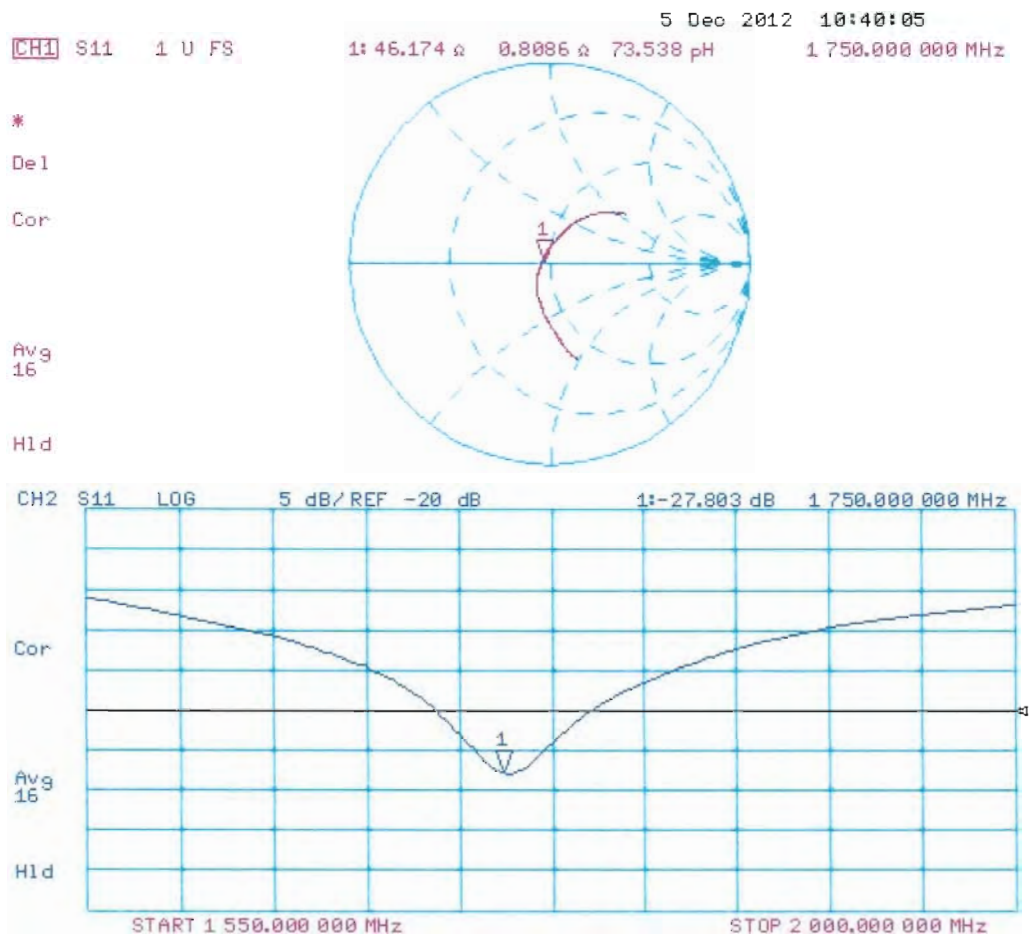
Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 9.21 W/kg; SAR(10 g) = 4.95 W/kg

Maximum value of SAR (measured) = 11.5 W/kg



Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 108**

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 Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **D1900V2-5d013_Dec12**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d013**

Calibration procedure(s) **QA CAL-05.v8**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **December 06, 2012**

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
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.3 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Israe El-Naouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: December 6, 2012

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Glossary:

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

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- 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 300 MHz to 3 GHz)", February 2005
- Federal Communications 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

Additional Documentation:

- 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.5 $\pm$ 6 %	1.38 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.1 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	40.6 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.2 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	52.2 $\pm$ 6 %	1.52 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.3 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	41.0 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.41 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.6 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$52.3 \Omega + 6.2 j\Omega$
Return Loss	- 23.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$48.4 \Omega + 5.9 j\Omega$
Return Loss	- 24.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.194 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
Manufactured on	April 30, 2002

DASY5 Validation Report for Head TSL

Date: 06.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.01, 5.01, 5.01); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

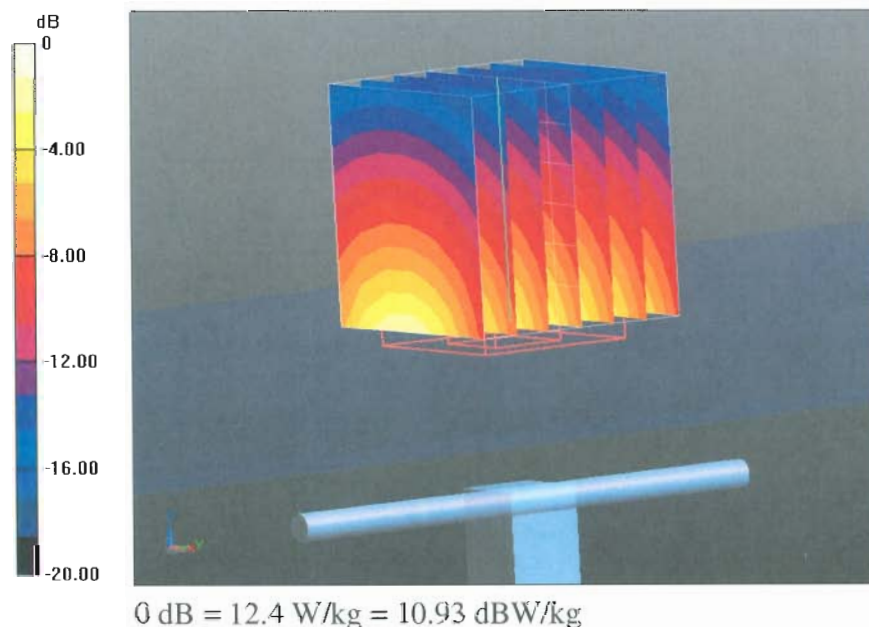
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.748 V/m; Power Drift = 0.04 dB

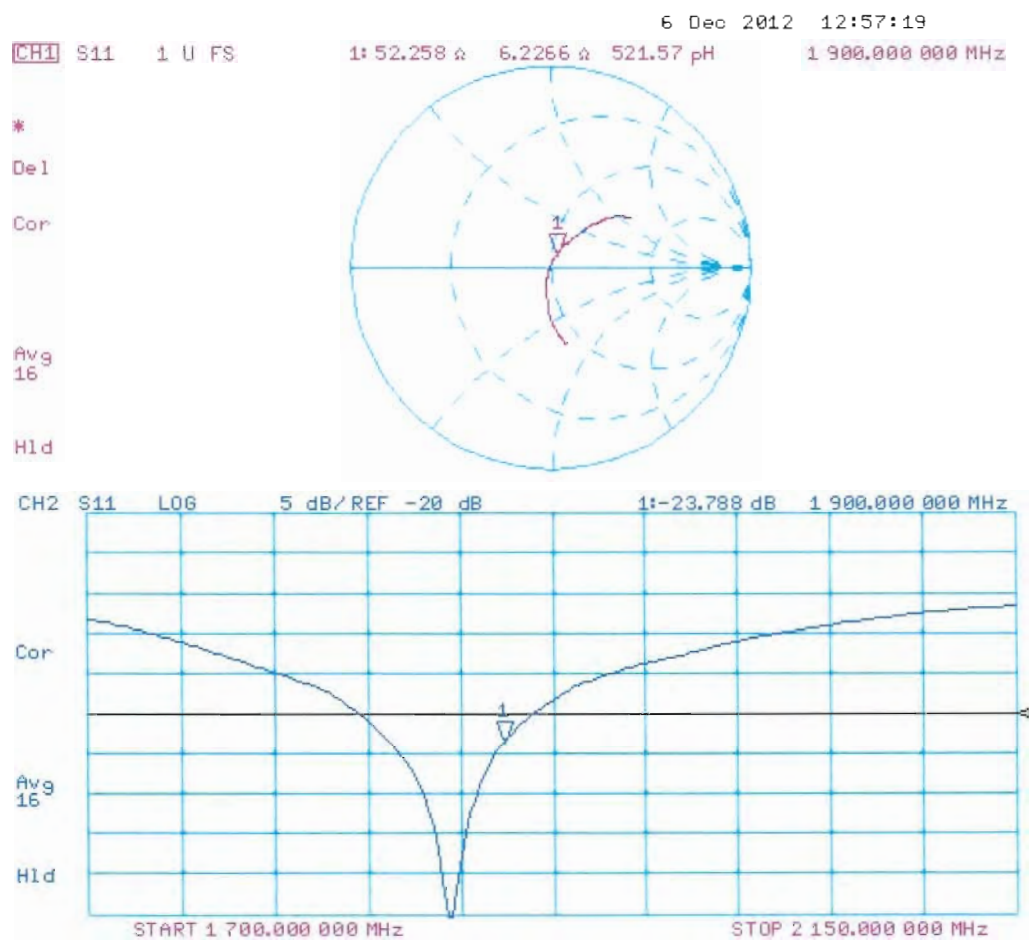
Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.28 W/kg

Maximum value of SAR (measured) = 12.4 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 06.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.62, 4.62, 4.62); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

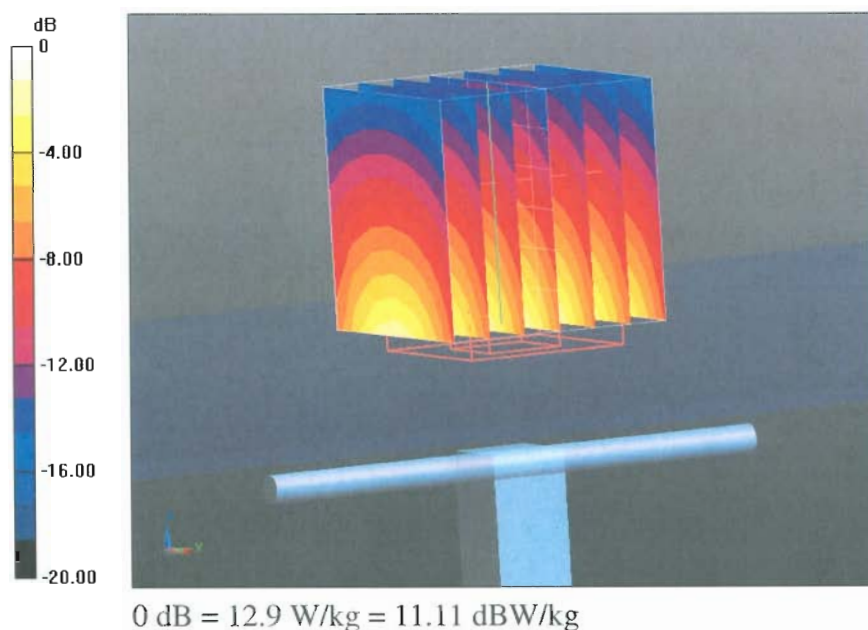
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.039 V/m; Power Drift = 0.04 dB

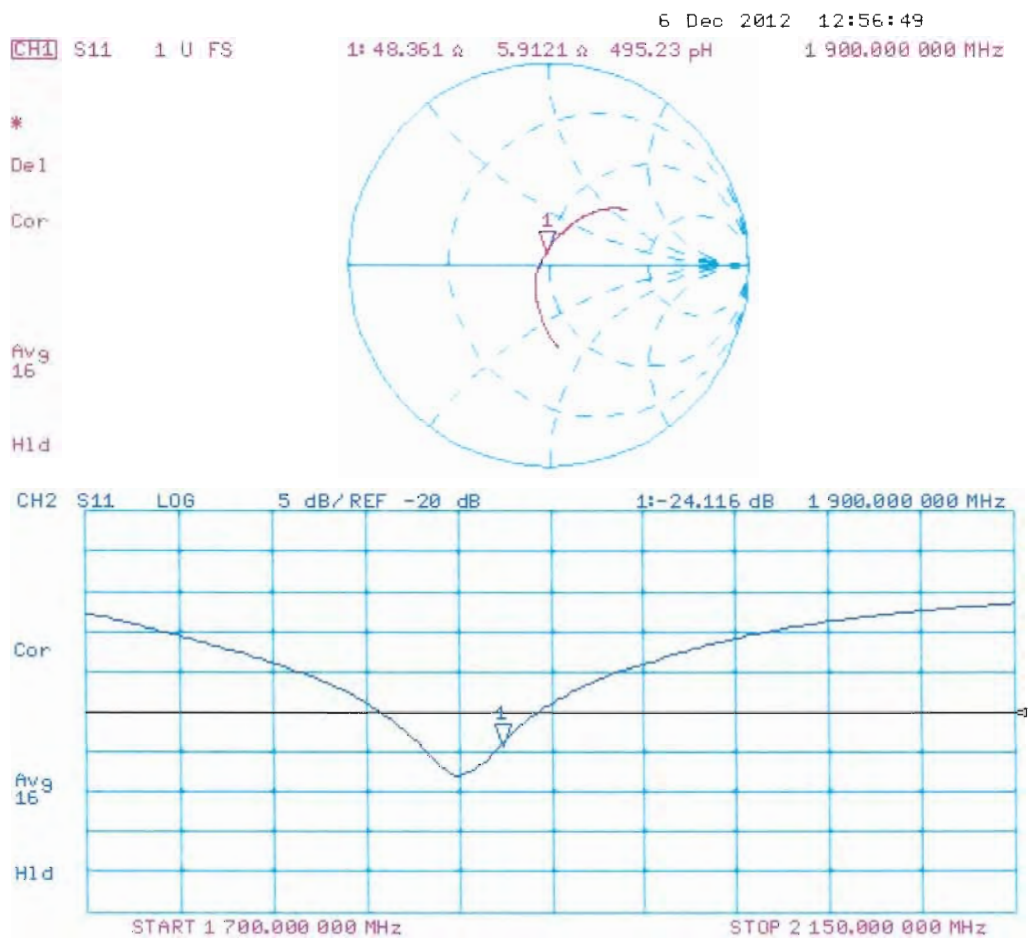
Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 10.3 W/kg; SAR(10 g) = 5.41 W/kg

Maximum value of SAR (measured) = 12.9 W/kg



Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 108**

Client **Nokia SD**

Certificate No: **D2450V2-800_Sep12**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 800**

Calibration procedure(s) **QA CAL-05.v8**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **September 13, 2012**

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%.

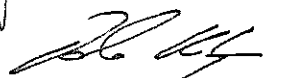
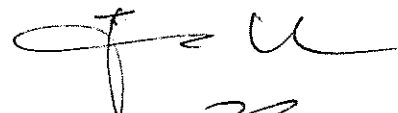
Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

Calibrated by: **Jeton Kastrati** Laboratory Technician

Approved by: **Katja Pokovic** Technical Manager

Signature



Issued: September 13, 2012

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Accreditation No.: **SCS 108**

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Glossary:

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

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- 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 300 MHz to 3 GHz)", February 2005
- Federal Communications 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

Additional Documentation:

- 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.9 $\pm$ 6 %	1.84 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	53.2 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.24 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	24.9 mW / g $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	51.0 $\pm$ 6 %	2.01 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.0 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	50.9 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.05 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	23.9 mW / g $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$54.9\ \Omega + 2.2\ j\Omega$
Return Loss	- 25.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$51.4\ \Omega + 3.7\ j\Omega$
Return Loss	- 28.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.159 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
Manufactured on	November 02, 2006

DASY5 Validation Report for Head TSL

Date: 13.09.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 800

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.45, 4.45, 4.45); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.2(969); SEMCAD X 14.6.6(6824)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

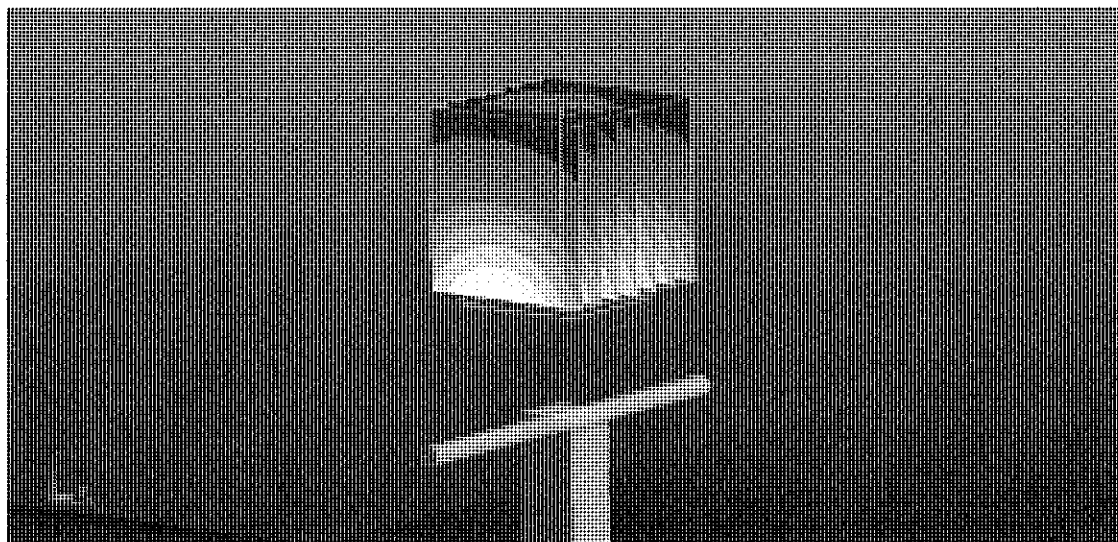
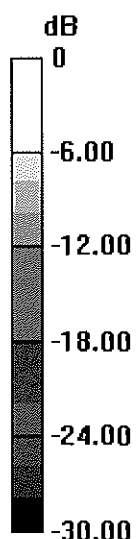
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.1 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 27.710 mW/g

SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.24 mW/g

Maximum value of SAR (measured) = 17.2 W/kg

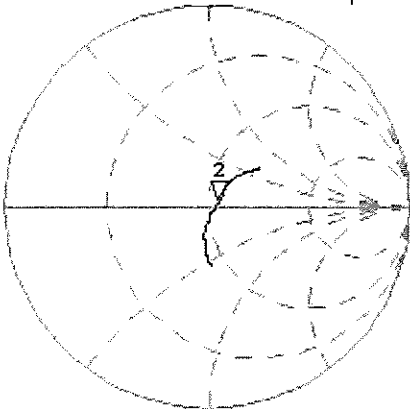


0 dB = 17.2 W/kg = 24.71 dB W/kg

Impedance Measurement Plot for Head TSL

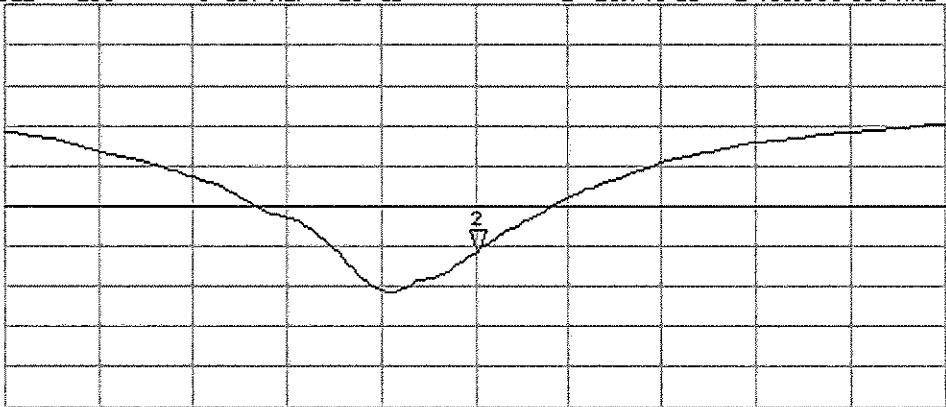
13 Sep 2012 10:29:35
CH1 S11 1 U FS 2: 54.936 Ω 2.2227 Ω 144.39 μH 2 450.000 000 MHz

*
De1
CA
Avg
16
H1d



CH2 S11 LOG 5 dB/REF -20 dB 2:-25.749 dB 2 450.000 000 MHz

CA
Avg
16
H1d



START 2 250.000 000 MHz STOP 2 650.000 000 MHz

DASY5 Validation Report for Body TSL

Date: 13.09.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 800

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 51$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.26, 4.26, 4.26); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.2(969); SEMCAD X 14.6.6(6824)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

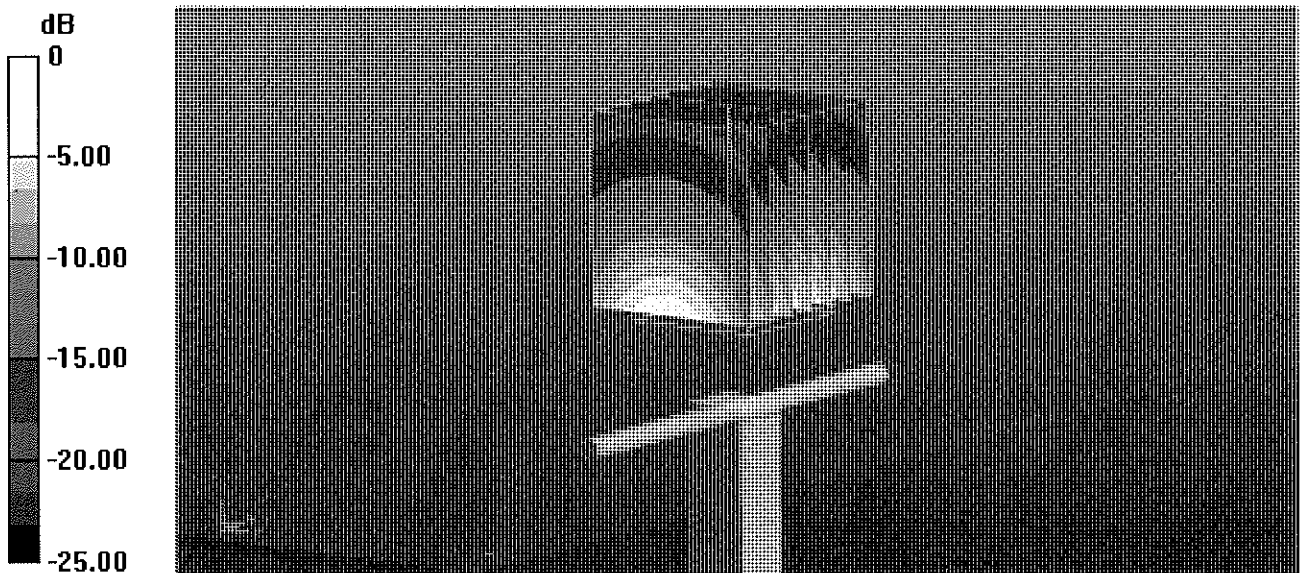
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.223 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 26.601 mW/g

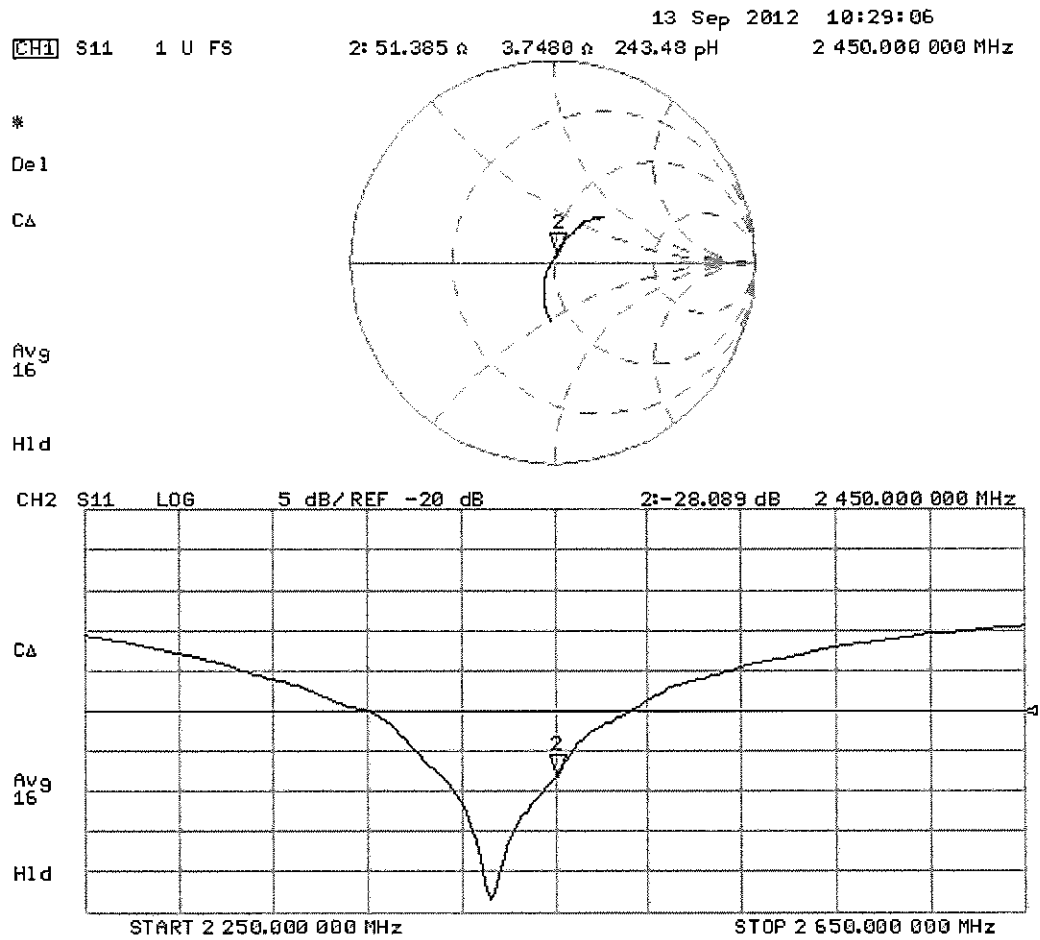
SAR(1 g) = 13 mW/g; SAR(10 g) = 6.05 mW/g

Maximum value of SAR (measured) = 16.9 W/kg



0 dB = 16.9 W/kg = 24.56 dB W/kg

Impedance Measurement Plot for Body TSL





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 **Nokia SD**

Certificate No: **D5GHzV2-1042_Nov12**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN: 1042**

Calibration procedure(s) **QA CAL-22.v1**
Calibration procedure for dipole validation kits between 3-6 GHz

Calibration date: **November 13, 2012**

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
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe EX3DV4	SN: 3503	30-Dec-11 (No. EX3-3503_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Leif Klysner** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: November 13, 2012

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



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:

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

Calibration is Performed According to the Following Standards:

- a) IEC 62209-2, "Evaluation of Human Exposure to Radio Frequency Fields from Handheld and Body-Mounted Wireless Communication Devices in the Frequency Range of 30 MHz to 6 GHz: Human models, Instrumentation, and Procedures"; Part 2: "Procedure to determine the Specific Absorption Rate (SAR) for including accessories and multiple transmitters", March 2010
- b) Federal Communications 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

Additional Documentation:

- c) 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz $\pm$ 1 MHz 5300 MHz $\pm$ 1 MHz 5500 MHz $\pm$ 1 MHz 5600 MHz $\pm$ 1 MHz 5800 MHz $\pm$ 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 $\pm$ 0.2) °C	34.8 $\pm$ 6 %	4.53 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.85 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	77.9 W/kg $\pm$ 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.25 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.3 W/kg $\pm$ 19.5 % (k=2)

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	34.7 ± 6 %	4.63 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5300 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.15 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	80.9 W / kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.34 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.2 W/kg ± 19.5 % (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	34.4 ± 6 %	4.83 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	83.3 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (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 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	34.2 ± 6 %	4.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	82.5 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.4 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	34.0 ± 6 %	5.15 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.82 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	77.5 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.23 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.1 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	46.8 ± 6 %	5.35 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.36 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	72.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.06 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.4 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	46.7 ± 6 %	5.47 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5300 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.54 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	74.7 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.12 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.0 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	46.3 ± 6 %	5.73 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	7.94 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	78.7 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	21.7 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	46.2 ± 6 %	5.86 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	8.04 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	79.7 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.23 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	22.0 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	45.9 ± 6 %	6.13 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	7.46 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	73.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.07 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.4 W/kg ± 19.5 % (k=2)

Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	47.7 Ω - 10.7 j Ω
Return Loss	- 19.1 dB

Antenna Parameters with Head TSL at 5300 MHz

Impedance, transformed to feed point	50.7 Ω - 7.3 j Ω
Return Loss	- 22.7 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	47.0 Ω - 5.5 j Ω
Return Loss	- 23.9 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	52.5 Ω - 8.1 j Ω
Return Loss	- 21.7 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	54.6 Ω - 2.0 j Ω
Return Loss	- 26.4 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	48.8 Ω - 9.6 j Ω
Return Loss	- 20.2 dB

Antenna Parameters with Body TSL at 5300 MHz

Impedance, transformed to feed point	51.0 Ω - 5.9 j Ω
Return Loss	- 24.5 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	47.6 Ω - 4.4 j Ω
Return Loss	- 25.7 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	53.7 Ω - 7.1 j Ω
Return Loss	- 22.3 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	56.7 Ω - 1.0 j Ω
Return Loss	- 24.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.196 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
Manufactured on	December 30, 2005

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

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

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.53$ mho/m; $\epsilon_r = 34.8$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5300$ MHz; $\sigma = 4.63$ mho/m; $\epsilon_r = 34.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5500$ MHz; $\sigma = 4.83$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5600$ MHz; $\sigma = 4.93$ mho/m; $\epsilon_r = 34.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5800$ MHz; $\sigma = 5.15$ mho/m; $\epsilon_r = 34$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.41, 5.41, 5.41); Calibrated: 30.12.2011, ConvF(5.1, 5.1, 5.1); Calibrated: 30.12.2011, ConvF(4.91, 4.91, 4.91); Calibrated: 30.12.2011, ConvF(4.76, 4.76, 4.76); Calibrated: 30.12.2011, ConvF(4.81, 4.81, 4.81); Calibrated: 30.12.2011;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

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 = 63.770 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 28.5 W/kg

SAR(1 g) = 7.85 W/kg; SAR(10 g) = 2.25 W/kg

Maximum value of SAR (measured) = 18.0 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 = 63.429 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 30.4 W/kg

SAR(1 g) = 8.15 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 18.9 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 = 63.178 V/m; Power Drift = 0.08 dB

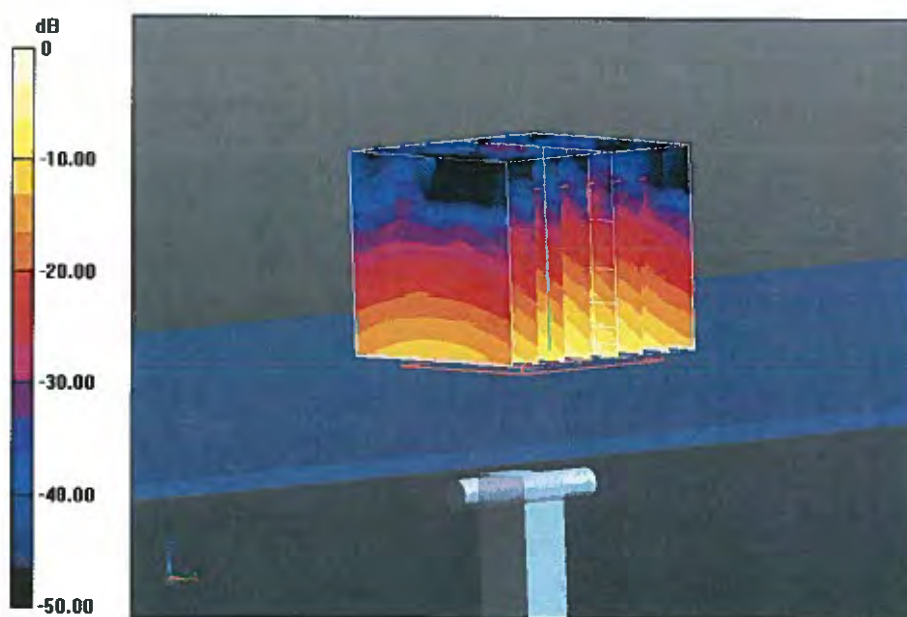
Peak SAR (extrapolated) = 32.8 W/kg

SAR(1 g) = 8.4 W/kg; SAR(10 g) = 2.38 W/kg

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

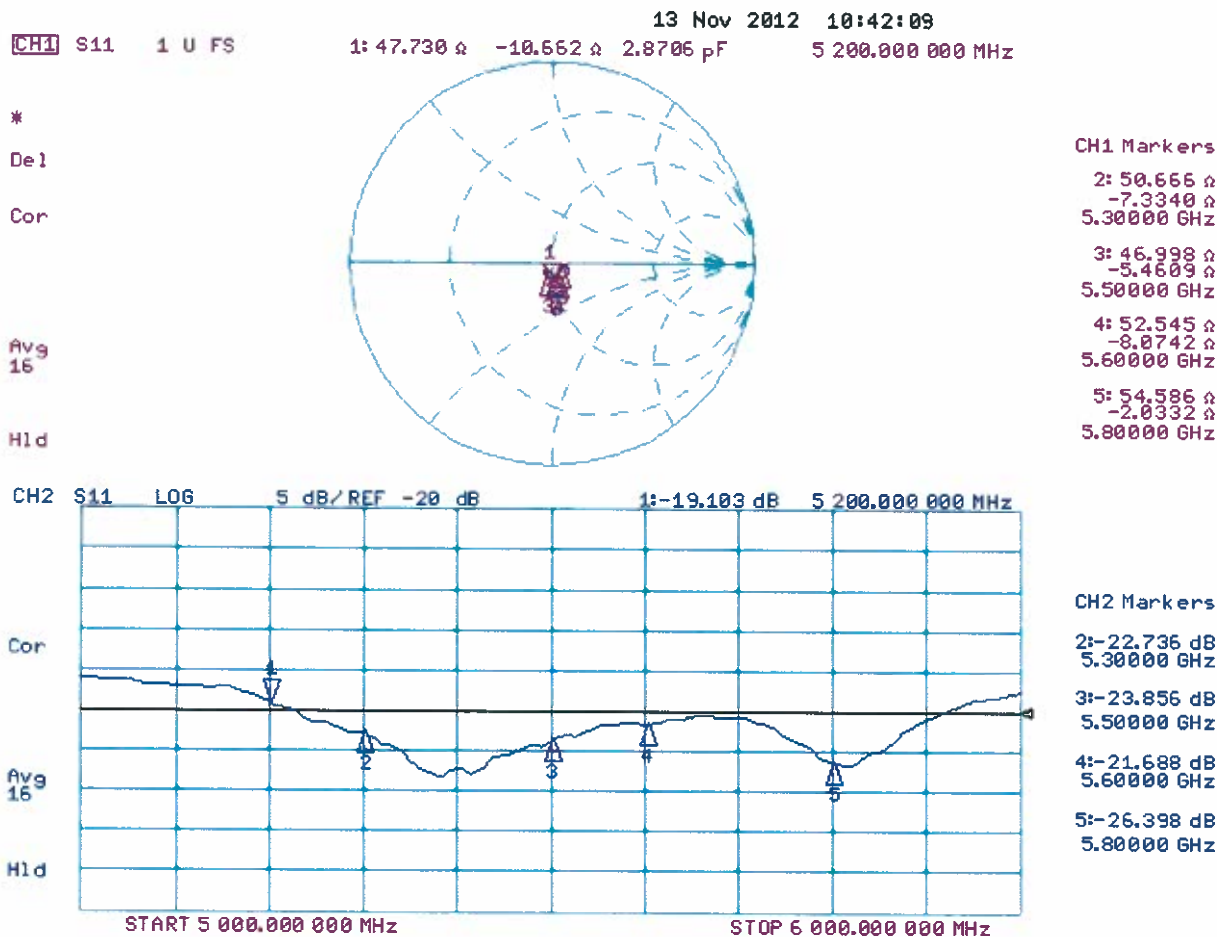
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 62.410 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 32.6 W/kg
SAR(1 g) = 8.32 W/kg; SAR(10 g) = 2.37 W/kg

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 = 59.880 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 32.0 W/kg
SAR(1 g) = 7.82 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 19.0 W/kg



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

Impedance Measurement Plot for Head TSL



Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

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

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.35$ mho/m; $\epsilon_r = 46.8$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5300$ MHz; $\sigma = 5.47$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5500$ MHz; $\sigma = 5.73$ mho/m; $\epsilon_r = 46.3$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5600$ MHz; $\sigma = 5.86$ mho/m; $\epsilon_r = 46.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5800$ MHz; $\sigma = 6.13$ mho/m; $\epsilon_r = 45.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.91, 4.91, 4.91); Calibrated: 30.12.2011, ConvF(4.67, 4.67, 4.67); Calibrated: 30.12.2011, ConvF(4.43, 4.43, 4.43); Calibrated: 30.12.2011, ConvF(4.22, 4.22, 4.22); Calibrated: 30.12.2011, ConvF(4.38, 4.38, 4.38); Calibrated: 30.12.2011;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

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 = 58.598 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 29.3 W/kg

SAR(1 g) = 7.36 W/kg; SAR(10 g) = 2.06 W/kg

Maximum value of SAR (measured) = 17.7 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 = 58.989 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 30.7 W/kg

SAR(1 g) = 7.54 W/kg; SAR(10 g) = 2.12 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 = 59.380 V/m; Power Drift = -0.02 dB

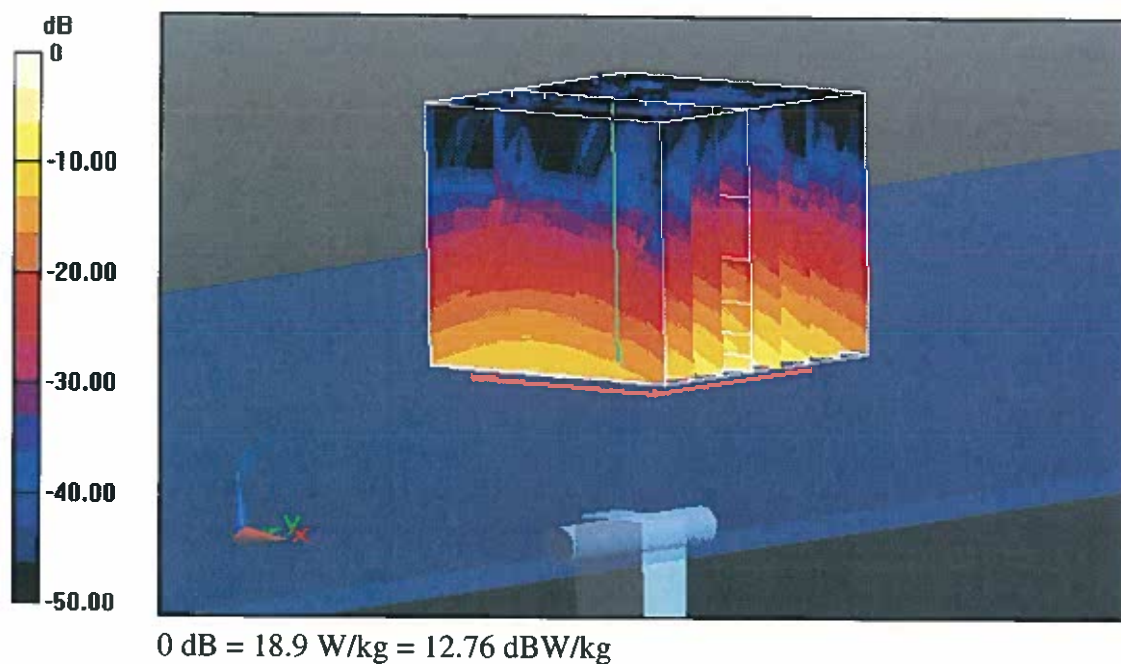
Peak SAR (extrapolated) = 34.4 W/kg

SAR(1 g) = 7.94 W/kg; SAR(10 g) = 2.2 W/kg

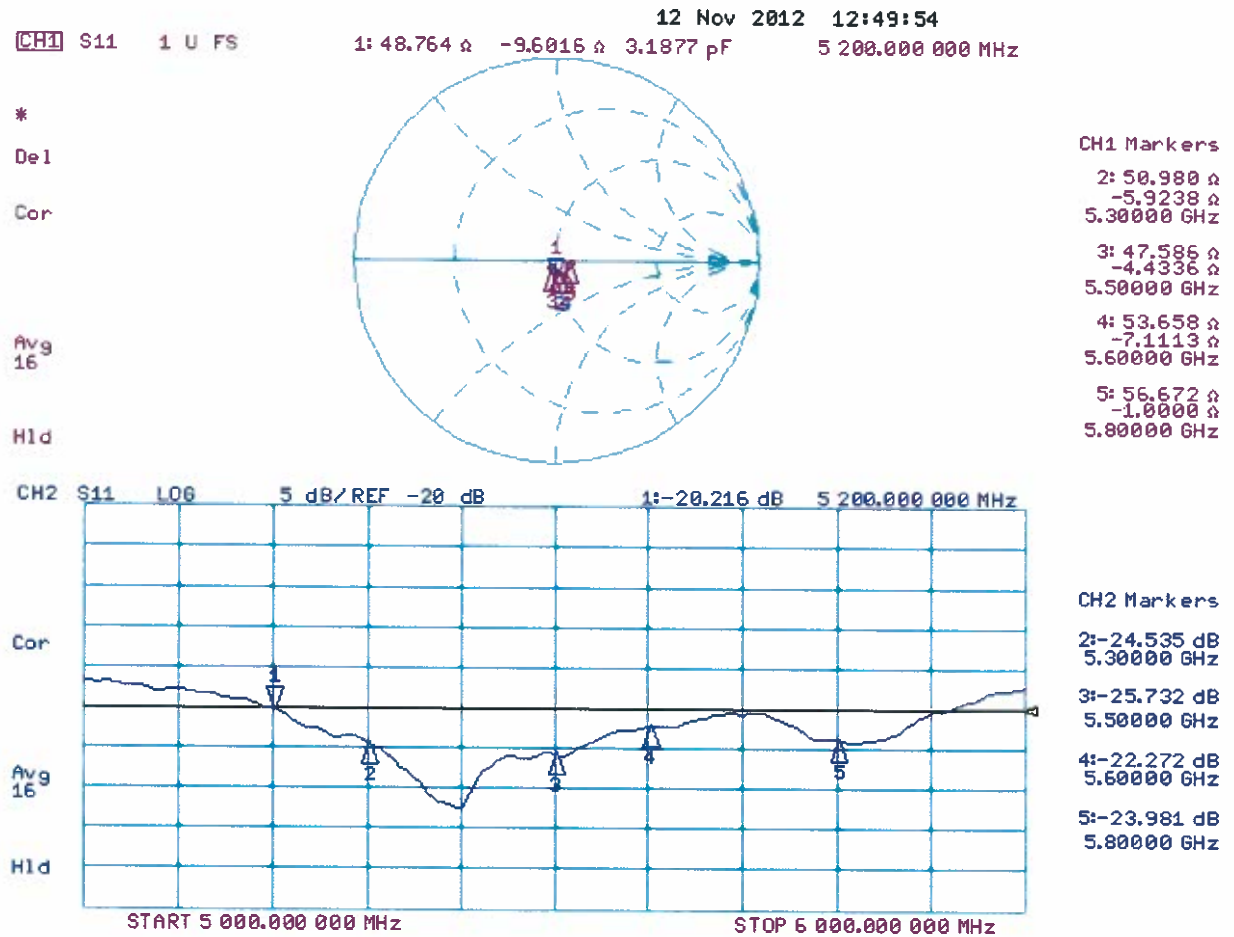
Maximum value of SAR (measured) = 19.6 W/kg

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 = 58.795 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 35.9 W/kg
SAR(1 g) = 8.04 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 20.1 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 = 55.526 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 35.1 W/kg
SAR(1 g) = 7.46 W/kg; SAR(10 g) = 2.07 W/kg
Maximum value of SAR (measured) = 18.9 W/kg



Impedance Measurement Plot for Body TSL



APPENDIX G: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED LTE TRANSMISSION MODES

G.1 Power Tuning Targets

FULL POWER

Band	Target Tuning Power in Head, Body and WR mode measurements					
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE700 (Band 17)	N/A	N/A	23.5	23.5	N/A	N/A
LTE750 (Band 13)	N/A	N/A	23.0	23.0	N/A	N/A
LTE850 (Band 5)	23.0	23.0	23.0	23.0	N/A	N/A
LTE1700/2100 (Band 4)	23.5	23.5	23.5	23.5	23.5	23.5
LTE1900 (Band 2)	23.5	23.5	23.5	23.5	23.5	23.5

REDUCED POWER

Band	Target Tuning Power in Head, Body and WR mode measurements					
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE700 (Band 17)	N/A	N/A	20.7	20.7	N/A	N/A
LTE750 (Band 13)	N/A	N/A	20.5	20.5	N/A	N/A
LTE850 (Band 5)	20.0	20.0	20.0	20.0	N/A	N/A
LTE1700/2100 (Band 4)	17.3	17.3	17.3	17.3	17.3	17.3
LTE1900 (Band 2)	17.3	17.3	17.3	17.3	17.3	17.3

G.2 Conducted Power from the Samples used in the Testing

Type: RX-114; Serial number: 004402/47/351363/2 used for LTE700 (Band17) FULL POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE700 (Band 17) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
706.5	23755	5	1	0	QPSK	23.86	-
706.5	23755	5	1	12	QPSK	23.77	-
706.5	23755	5	1	24	QPSK	23.67	-
706.5	23755	5	12	0	QPSK	23.60	-
706.5	23755	5	12	6	QPSK	23.57	-
706.5	23755	5	12	13	QPSK	23.46	-
706.5	23755	5	25	0	QPSK	23.44	-
706.5	23755	5	1	0	16QAM	23.52	-
706.5	23755	5	1	12	16QAM	23.44	-
706.5	23755	5	1	24	16QAM	23.31	-
706.5	23755	5	12	0	16QAM	22.56	-
706.5	23755	5	12	6	16QAM	22.56	-
706.5	23755	5	12	13	16QAM	22.45	-
706.5	23755	5	25	0	16QAM	22.37	-
710.0	23790	5	1	0	QPSK	23.57	-
710.0	23790	5	1	12	QPSK	23.56	-
710.0	23790	5	1	24	QPSK	23.56	-
710.0	23790	5	12	0	QPSK	23.30	-
710.0	23790	5	12	6	QPSK	23.35	-
710.0	23790	5	12	13	QPSK	23.31	-
710.0	23790	5	25	0	QPSK	23.22	-
710.0	23790	5	1	0	16QAM	23.25	-
710.0	23790	5	1	12	16QAM	23.21	-
710.0	23790	5	1	24	16QAM	23.22	-
710.0	23790	5	12	0	16QAM	22.34	-
710.0	23790	5	12	6	16QAM	22.34	-
710.0	23790	5	12	13	16QAM	22.28	-
710.0	23790	5	25	0	16QAM	22.14	-

(Table LTE700, 004402/47/351363/2 continues)

(Table LTE700, 004402/47/351363/2 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
713.5	23825	5	1	0	QPSK	23.47	-
713.5	23825	5	1	12	QPSK	23.58	-
713.5	23825	5	1	24	QPSK	23.81	-
713.5	23825	5	12	0	QPSK	23.24	-
713.5	23825	5	12	6	QPSK	23.39	-
713.5	23825	5	12	13	QPSK	23.46	-
713.5	23825	5	25	0	QPSK	23.24	-
713.5	23825	5	1	0	16QAM	23.11	-
713.5	23825	5	1	12	16QAM	23.24	-
713.5	23825	5	1	24	16QAM	23.41	-
713.5	23825	5	12	0	16QAM	22.26	-
713.5	23825	5	12	6	16QAM	22.39	-
713.5	23825	5	12	13	16QAM	22.46	-
713.5	23825	5	25	0	16QAM	22.13	-
709.0	23780	10	1	0	QPSK	23.83	-
709.0	23780	10	1	24	QPSK	23.59	-
709.0	23780	10	1	49	QPSK	23.65	-
709.0	23780	10	25	0	QPSK	23.42	-
709.0	23780	10	25	12	QPSK	23.30	-
709.0	23780	10	25	25	QPSK	23.22	-
709.0	23780	10	50	0	QPSK	23.23	-
709.0	23780	10	1	0	16QAM	23.33	-
709.0	23780	10	1	24	16QAM	23.08	-
709.0	23780	10	1	49	16QAM	23.15	-
709.0	23780	10	25	0	16QAM	22.32	-
709.0	23780	10	25	12	16QAM	22.22	-
709.0	23780	10	25	25	16QAM	22.13	-
709.0	23780	10	50	0	16QAM	22.18	-

(Table LTE700, 004402/47/351363/2 continues)

(Table LTE700, 004402/47/351363/2 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
710.0	23790	10	1	0	QPSK	23.77	-
710.0	23790	10	1	24	QPSK	23.59	-
710.0	23790	10	1	49	QPSK	23.72	-
710.0	23790	10	25	0	QPSK	23.34	-
710.0	23790	10	25	12	QPSK	23.25	-
710.0	23790	10	25	25	QPSK	23.30	-
710.0	23790	10	50	0	QPSK	23.17	-
710.0	23790	10	1	0	16QAM	23.24	-
710.0	23790	10	1	24	16QAM	22.99	-
710.0	23790	10	1	49	16QAM	23.17	-
710.0	23790	10	25	0	16QAM	22.19	-
710.0	23790	10	25	12	16QAM	22.15	-
710.0	23790	10	25	25	16QAM	22.15	-
710.0	23790	10	50	0	16QAM	22.14	-
711.0	23800	10	1	0	QPSK	23.8	-
711.0	23800	10	1	24	QPSK	23.53	-
711.0	23800	10	1	49	QPSK	23.85	-
711.0	23800	10	25	0	QPSK	23.27	-
711.0	23800	10	25	12	QPSK	23.19	-
711.0	23800	10	25	25	QPSK	23.27	-
711.0	23800	10	50	0	QPSK	23.20	-
711.0	23800	10	1	0	16QAM	23.17	-
711.0	23800	10	1	24	16QAM	23.03	-
711.0	23800	10	1	49	16QAM	23.27	-
711.0	23800	10	25	0	16QAM	22.15	-
711.0	23800	10	25	12	16QAM	22.10	-
711.0	23800	10	25	25	16QAM	22.18	-
711.0	23800	10	50	0	16QAM	22.07	-

Type: RX-114; Serial number: 004402/47/351375/6 used for LTE700 (Band17) REDUCED POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE700 (Band 17) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
706.5	23755	5	1	0	QPSK	20.92	-
706.5	23755	5	1	12	QPSK	20.78	-
706.5	23755	5	1	24	QPSK	20.78	-
706.5	23755	5	12	0	QPSK	20.88	-
706.5	23755	5	12	6	QPSK	20.77	-
706.5	23755	5	12	13	QPSK	20.77	-
706.5	23755	5	25	0	QPSK	20.72	-
706.5	23755	5	1	0	16QAM	20.76	-
706.5	23755	5	1	12	16QAM	20.59	-
706.5	23755	5	1	24	16QAM	20.58	-
706.5	23755	5	12	0	16QAM	20.91	-
706.5	23755	5	12	6	16QAM	20.87	-
706.5	23755	5	12	13	16QAM	20.86	-
706.5	23755	5	25	0	16QAM	20.77	-
710.0	23790	5	1	0	QPSK	20.64	-
710.0	23790	5	1	12	QPSK	20.74	-
710.0	23790	5	1	24	QPSK	20.70	-
710.0	23790	5	12	0	QPSK	20.71	-
710.0	23790	5	12	6	QPSK	20.66	-
710.0	23790	5	12	13	QPSK	20.62	-
710.0	23790	5	25	0	QPSK	20.55	-
710.0	23790	5	1	0	16QAM	20.30	-
710.0	23790	5	1	12	16QAM	20.41	-
710.0	23790	5	1	24	16QAM	20.29	-
710.0	23790	5	12	0	16QAM	20.74	-
710.0	23790	5	12	6	16QAM	20.71	-
710.0	23790	5	12	13	16QAM	20.69	-
710.0	23790	5	25	0	16QAM	20.61	-

(Table LTE700, 004402/47/351375/6 continues)

(Table LTE700, 004402/47/351375/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
713.5	23825	5	1	0	QPSK	20.7	-
713.5	23825	5	1	12	QPSK	20.75	-
713.5	23825	5	1	24	QPSK	20.90	-
713.5	23825	5	12	0	QPSK	20.61	-
713.5	23825	5	12	6	QPSK	20.64	-
713.5	23825	5	12	13	QPSK	20.80	-
713.5	23825	5	25	0	QPSK	20.64	-
713.5	23825	5	1	0	16QAM	20.34	-
713.5	23825	5	1	12	16QAM	20.37	-
713.5	23825	5	1	24	16QAM	20.55	-
713.5	23825	5	12	0	16QAM	20.64	-
713.5	23825	5	12	6	16QAM	20.71	-
713.5	23825	5	12	13	16QAM	20.77	-
713.5	23825	5	25	0	16QAM	20.61	-
709.0	23780	10	1	0	QPSK	20.94	-
709.0	23780	10	1	24	QPSK	20.76	-
709.0	23780	10	1	49	QPSK	20.82	-
709.0	23780	10	25	0	QPSK	20.73	-
709.0	23780	10	25	12	QPSK	20.64	-
709.0	23780	10	25	25	QPSK	20.59	-
709.0	23780	10	50	0	QPSK	20.61	-
709.0	23780	10	1	0	16QAM	20.70	-
709.0	23780	10	1	24	16QAM	20.51	-
709.0	23780	10	1	49	16QAM	20.66	-
709.0	23780	10	25	0	16QAM	20.63	-
709.0	23780	10	25	12	16QAM	20.63	-
709.0	23780	10	25	25	16QAM	20.56	-
709.0	23780	10	50	0	16QAM	20.56	-

(Table LTE700, 004402/47/351375/6 continues)

(Table LTE700, 004402/47/351375/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
710.0	23790	10	1	0	QPSK	20.81	-
710.0	23790	10	1	24	QPSK	20.73	-
710.0	23790	10	1	49	QPSK	20.85	-
710.0	23790	10	25	0	QPSK	20.69	-
710.0	23790	10	25	12	QPSK	20.64	-
710.0	23790	10	25	25	QPSK	20.58	-
710.0	23790	10	50	0	QPSK	20.54	-
710.0	23790	10	1	0	16QAM	20.62	-
710.0	23790	10	1	24	16QAM	20.59	-
710.0	23790	10	1	49	16QAM	20.71	-
710.0	23790	10	25	0	16QAM	20.59	-
710.0	23790	10	25	12	16QAM	20.49	-
710.0	23790	10	25	25	16QAM	20.52	-
710.0	23790	10	50	0	16QAM	20.51	-
711.0	23800	10	1	0	QPSK	20.74	-
711.0	23800	10	1	24	QPSK	20.74	-
711.0	23800	10	1	49	QPSK	20.89	-
711.0	23800	10	25	0	QPSK	20.61	-
711.0	23800	10	25	12	QPSK	20.56	-
711.0	23800	10	25	25	QPSK	20.69	-
711.0	23800	10	50	0	QPSK	20.59	-
711.0	23800	10	1	0	16QAM	20.59	-
711.0	23800	10	1	24	16QAM	20.58	-
711.0	23800	10	1	49	16QAM	20.83	-
711.0	23800	10	25	0	16QAM	20.54	-
711.0	23800	10	25	12	16QAM	20.47	-
711.0	23800	10	25	25	16QAM	20.54	-
711.0	23800	10	50	0	16QAM	20.53	-

Type: RX-114; Serial number: 004402/47/351363/2 used for LTE750 (Band13) FULL POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE750 (Band 13) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
779.5	23205	5	1	0	QPSK	23.08	-
779.5	23205	5	1	12	QPSK	23.27	-
779.5	23205	5	1	24	QPSK	23.17	-
779.5	23205	5	12	0	QPSK	22.56	-
779.5	23205	5	12	6	QPSK	22.59	-
779.5	23205	5	12	13	QPSK	22.56	-
779.5	23205	5	25	0	QPSK	22.51	-
779.5	23205	5	1	0	16QAM	22.17	-
779.5	23205	5	1	12	16QAM	22.34	-
779.5	23205	5	1	24	16QAM	22.14	-
779.5	23205	5	12	0	16QAM	21.52	-
779.5	23205	5	12	6	16QAM	21.65	-
779.5	23205	5	12	13	16QAM	21.65	-
779.5	23205	5	25	0	16QAM	21.42	-
782.0	23230	5	1	0	QPSK	23.21	-
782.0	23230	5	1	12	QPSK	23.28	-
782.0	23230	5	1	24	QPSK	23.05	-
782.0	23230	5	12	0	QPSK	22.54	-
782.0	23230	5	12	6	QPSK	22.55	-
782.0	23230	5	12	13	QPSK	22.60	-
782.0	23230	5	25	0	QPSK	22.46	-
782.0	23230	5	1	0	16QAM	22.76	-
782.0	23230	5	1	12	16QAM	22.77	-
782.0	23230	5	1	24	16QAM	22.52	-
782.0	23230	5	12	0	16QAM	21.57	-
782.0	23230	5	12	6	16QAM	21.62	-
782.0	23230	5	12	13	16QAM	21.65	-
782.0	23230	5	25	0	16QAM	21.41	-

(Table LTE750, 004402/47/351363/2 continues)

(Table LTE750, 004402/47/351363/2 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
784.5	23255	5	1	0	QPSK	23.21	-
784.5	23255	5	1	12	QPSK	23.35	-
784.5	23255	5	1	24	QPSK	23.35	-
784.5	23255	5	12	0	QPSK	22.47	-
784.5	23255	5	12	6	QPSK	22.58	-
784.5	23255	5	12	13	QPSK	22.67	-
784.5	23255	5	25	0	QPSK	22.43	-
784.5	23255	5	1	0	16QAM	22.18	-
784.5	23255	5	1	12	16QAM	22.38	-
784.5	23255	5	1	24	16QAM	22.37	-
784.5	23255	5	12	0	16QAM	21.55	-
784.5	23255	5	12	6	16QAM	21.58	-
784.5	23255	5	12	13	16QAM	21.66	-
784.5	23255	5	25	0	16QAM	21.39	-
782.0	23230	10	1	0	QPSK	23.17	-
782.0	23230	10	1	24	QPSK	23.22	-
782.0	23230	10	1	49	QPSK	23.30	-
782.0	23230	10	25	0	QPSK	22.50	-
782.0	23230	10	25	12	QPSK	22.48	-
782.0	23230	10	25	25	QPSK	22.49	-
782.0	23230	10	50	0	QPSK	22.41	-
782.0	23230	10	1	0	16QAM	22.46	-
782.0	23230	10	1	24	16QAM	22.50	-
782.0	23230	10	1	49	16QAM	22.60	-
782.0	23230	10	25	0	16QAM	21.49	-
782.0	23230	10	25	12	16QAM	21.56	-
782.0	23230	10	25	25	16QAM	21.57	-
782.0	23230	10	50	0	16QAM	21.45	-

Type: RX-114; Serial number: 004402/47/351375/6 used for LTE750 (Band13) REDUCED POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE750 (Band 13) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
779.5	23205	5	1	0	QPSK	20.53	-
779.5	23205	5	1	12	QPSK	20.50	-
779.5	23205	5	1	24	QPSK	20.39	-
779.5	23205	5	12	0	QPSK	20.45	-
779.5	23205	5	12	6	QPSK	20.44	-
779.5	23205	5	12	13	QPSK	20.42	-
779.5	23205	5	25	0	QPSK	20.36	-
779.5	23205	5	1	0	16QAM	20.61	-
779.5	23205	5	1	12	16QAM	20.58	-
779.5	23205	5	1	24	16QAM	20.51	-
779.5	23205	5	12	0	16QAM	20.41	-
779.5	23205	5	12	6	16QAM	20.38	-
779.5	23205	5	12	13	16QAM	20.40	-
779.5	23205	5	25	0	16QAM	20.29	-
782.0	23230	5	1	0	QPSK	20.45	-
782.0	23230	5	1	12	QPSK	20.48	-
782.0	23230	5	1	24	QPSK	20.45	-
782.0	23230	5	12	0	QPSK	20.39	-
782.0	23230	5	12	6	QPSK	20.43	-
782.0	23230	5	12	13	QPSK	20.35	-
782.0	23230	5	25	0	QPSK	20.32	-
782.0	23230	5	1	0	16QAM	20.50	-
782.0	23230	5	1	12	16QAM	20.58	-
782.0	23230	5	1	24	16QAM	20.53	-
782.0	23230	5	12	0	16QAM	20.37	-
782.0	23230	5	12	6	16QAM	20.36	-
782.0	23230	5	12	13	16QAM	20.35	-
782.0	23230	5	25	0	16QAM	20.33	-

(Table LTE750, 004402/47/351375/6 continues)

(Table LTE750, 004402/47/351375/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
784.5	23255	5	1	0	QPSK	20.45	-
784.5	23255	5	1	12	QPSK	20.51	-
784.5	23255	5	1	24	QPSK	20.70	-
784.5	23255	5	12	0	QPSK	20.32	-
784.5	23255	5	12	6	QPSK	20.46	-
784.5	23255	5	12	13	QPSK	20.49	-
784.5	23255	5	25	0	QPSK	20.32	-
784.5	23255	5	1	0	16QAM	20.50	-
784.5	23255	5	1	12	16QAM	20.59	-
784.5	23255	5	1	24	16QAM	20.78	-
784.5	23255	5	12	0	16QAM	20.31	-
784.5	23255	5	12	6	16QAM	20.40	-
784.5	23255	5	12	13	16QAM	20.42	-
784.5	23255	5	25	0	16QAM	20.32	-
782.0	23230	10	1	0	QPSK	20.49	-
782.0	23230	10	1	24	QPSK	20.48	-
782.0	23230	10	1	49	QPSK	20.62	-
782.0	23230	10	25	0	QPSK	20.36	-
782.0	23230	10	25	12	QPSK	20.36	-
782.0	23230	10	25	25	QPSK	20.29	-
782.0	23230	10	50	0	QPSK	20.38	-
782.0	23230	10	1	0	16QAM	20.62	-
782.0	23230	10	1	24	16QAM	20.59	-
782.0	23230	10	1	49	16QAM	20.81	-
782.0	23230	10	25	0	16QAM	20.35	-
782.0	23230	10	25	12	16QAM	20.39	-
782.0	23230	10	25	25	16QAM	20.31	-
782.0	23230	10	50	0	16QAM	20.30	-

Type: RX-114; Serial number: 004402/47/351342/6 used for LTE850 (Band 5) FULL POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE850 (Band 5) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
824.7	20407	1.4	1	0	QPSK	23.72	-
824.7	20407	1.4	1	2	QPSK	23.75	-
824.7	20407	1.4	1	5	QPSK	23.77	-
824.7	20407	1.4	3	0	QPSK	23.65	-
824.7	20407	1.4	3	2	QPSK	23.64	-
824.7	20407	1.4	3	3	QPSK	23.61	-
824.7	20407	1.4	6	0	QPSK	23.09	-
824.7	20407	1.4	1	0	16QAM	23.14	-
824.7	20407	1.4	1	2	16QAM	23.13	-
824.7	20407	1.4	1	5	16QAM	23.29	-
824.7	20407	1.4	3	0	16QAM	23.04	-
824.7	20407	1.4	3	2	16QAM	23.02	-
824.7	20407	1.4	3	3	16QAM	23.03	-
824.7	20407	1.4	6	0	16QAM	22.12	-
836.5	20525	1.4	1	0	QPSK	23.67	-
836.5	20525	1.4	1	2	QPSK	23.64	-
836.5	20525	1.4	1	5	QPSK	23.67	-
836.5	20525	1.4	3	0	QPSK	23.65	-
836.5	20525	1.4	3	2	QPSK	23.56	-
836.5	20525	1.4	3	3	QPSK	23.62	-
836.5	20525	1.4	6	0	QPSK	22.98	-
836.5	20525	1.4	1	0	16QAM	23.14	-
836.5	20525	1.4	1	2	16QAM	23.16	-
836.5	20525	1.4	1	5	16QAM	23.20	-
836.5	20525	1.4	3	0	16QAM	23.04	-
836.5	20525	1.4	3	2	16QAM	23.03	-
836.5	20525	1.4	3	3	16QAM	23.04	-
836.5	20525	1.4	6	0	16QAM	22.01	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
848.3	20643	1.4	1	0	QPSK	23.73	-
848.3	20643	1.4	1	2	QPSK	23.74	-
848.3	20643	1.4	1	5	QPSK	23.74	-
848.3	20643	1.4	3	0	QPSK	23.75	-
848.3	20643	1.4	3	2	QPSK	23.72	-
848.3	20643	1.4	3	3	QPSK	23.75	-
848.3	20643	1.4	6	0	QPSK	23.12	-
848.3	20643	1.4	1	0	16QAM	23.25	-
848.3	20643	1.4	1	2	16QAM	23.25	-
848.3	20643	1.4	1	5	16QAM	23.25	-
848.3	20643	1.4	3	0	16QAM	23.15	-
848.3	20643	1.4	3	2	16QAM	23.17	-
848.3	20643	1.4	3	3	16QAM	23.14	-
848.3	20643	1.4	6	0	16QAM	22.14	-
825.5	20415	3	1	0	QPSK	23.64	-
825.5	20415	3	1	7	QPSK	23.74	-
825.5	20415	3	1	14	QPSK	23.61	-
825.5	20415	3	8	0	QPSK	23.02	-
825.5	20415	3	8	3	QPSK	23.09	-
825.5	20415	3	8	7	QPSK	23.08	-
825.5	20415	3	15	0	QPSK	22.98	-
825.5	20415	3	1	0	16QAM	22.86	-
825.5	20415	3	1	7	16QAM	22.96	-
825.5	20415	3	1	14	16QAM	22.92	-
825.5	20415	3	8	0	16QAM	21.96	-
825.5	20415	3	8	3	16QAM	22.08	-
825.5	20415	3	8	7	16QAM	22.05	-
825.5	20415	3	15	0	16QAM	22.02	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	3	1	0	QPSK	23.61	-
836.5	20525	3	1	7	QPSK	23.59	-
836.5	20525	3	1	14	QPSK	23.64	-
836.5	20525	3	8	0	QPSK	23.00	-
836.5	20525	3	8	3	QPSK	22.98	-
836.5	20525	3	8	7	QPSK	22.94	-
836.5	20525	3	15	0	QPSK	22.87	-
836.5	20525	3	1	0	16QAM	22.84	-
836.5	20525	3	1	7	16QAM	22.85	-
836.5	20525	3	1	14	16QAM	22.85	-
836.5	20525	3	8	0	16QAM	21.92	-
836.5	20525	3	8	3	16QAM	21.97	-
836.5	20525	3	8	7	16QAM	21.99	-
836.5	20525	3	15	0	16QAM	22.03	-
847.5	20635	3	1	0	QPSK	23.69	-
847.5	20635	3	1	7	QPSK	23.71	-
847.5	20635	3	1	14	QPSK	23.75	-
847.5	20635	3	8	0	QPSK	23.06	-
847.5	20635	3	8	3	QPSK	23.11	-
847.5	20635	3	8	7	QPSK	23.11	-
847.5	20635	3	15	0	QPSK	23.04	-
847.5	20635	3	1	0	16QAM	22.87	-
847.5	20635	3	1	7	16QAM	22.96	-
847.5	20635	3	1	14	16QAM	22.86	-
847.5	20635	3	8	0	16QAM	22.12	-
847.5	20635	3	8	3	16QAM	22.11	-
847.5	20635	3	8	7	16QAM	22.11	-
847.5	20635	3	15	0	16QAM	22.15	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
826.5	20425	5	1	0	QPSK	23.62	-
826.5	20425	5	1	12	QPSK	23.64	-
826.5	20425	5	1	24	QPSK	23.64	-
826.5	20425	5	12	0	QPSK	23.07	-
826.5	20425	5	12	6	QPSK	23.03	-
826.5	20425	5	12	13	QPSK	22.95	-
826.5	20425	5	25	0	QPSK	22.91	-
826.5	20425	5	1	0	16QAM	22.67	-
826.5	20425	5	1	12	16QAM	22.70	-
826.5	20425	5	1	24	16QAM	22.69	-
826.5	20425	5	12	0	16QAM	22.10	-
826.5	20425	5	12	6	16QAM	22.04	-
826.5	20425	5	12	13	16QAM	21.98	-
826.5	20425	5	25	0	16QAM	21.85	-
836.5	20525	5	1	0	QPSK	23.58	-
836.5	20525	5	1	12	QPSK	23.64	-
836.5	20525	5	1	24	QPSK	23.62	-
836.5	20525	5	12	0	QPSK	22.90	-
836.5	20525	5	12	6	QPSK	22.93	-
836.5	20525	5	12	13	QPSK	22.96	-
836.5	20525	5	25	0	QPSK	22.81	-
836.5	20525	5	1	0	16QAM	22.70	-
836.5	20525	5	1	12	16QAM	22.66	-
836.5	20525	5	1	24	16QAM	22.70	-
836.5	20525	5	12	0	16QAM	22.01	-
836.5	20525	5	12	6	16QAM	21.99	-
836.5	20525	5	12	13	16QAM	22.02	-
836.5	20525	5	25	0	16QAM	21.87	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
846.5	20625	5	1	0	QPSK	23.65	-
846.5	20625	5	1	12	QPSK	23.70	-
846.5	20625	5	1	24	QPSK	23.75	-
846.5	20625	5	12	0	QPSK	22.97	-
846.5	20625	5	12	6	QPSK	23.08	-
846.5	20625	5	12	13	QPSK	23.11	-
846.5	20625	5	25	0	QPSK	22.97	-
846.5	20625	5	1	0	16QAM	22.83	-
846.5	20625	5	1	12	16QAM	22.92	-
846.5	20625	5	1	24	16QAM	22.95	-
846.5	20625	5	12	0	16QAM	21.99	-
846.5	20625	5	12	6	16QAM	22.06	-
846.5	20625	5	12	13	16QAM	22.07	-
846.5	20625	5	25	0	16QAM	21.97	-
829.0	20450	10	1	0	QPSK	23.65	-
829.0	20450	10	1	24	QPSK	23.63	-
829.0	20450	10	1	49	QPSK	23.71	-
829.0	20450	10	25	0	QPSK	22.88	-
829.0	20450	10	25	12	QPSK	22.87	-
829.0	20450	10	25	25	QPSK	22.91	-
829.0	20450	10	50	0	QPSK	22.76	-
829.0	20450	10	1	0	16QAM	22.81	-
829.0	20450	10	1	24	16QAM	22.81	-
829.0	20450	10	1	49	16QAM	22.89	-
829.0	20450	10	25	0	16QAM	21.82	-
829.0	20450	10	25	12	16QAM	21.86	-
829.0	20450	10	25	25	16QAM	21.92	-
829.0	20450	10	50	0	16QAM	21.71	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	10	1	0	QPSK	23.7	-
836.5	20525	10	1	24	QPSK	23.65	-
836.5	20525	10	1	49	QPSK	23.61	-
836.5	20525	10	25	0	QPSK	22.85	-
836.5	20525	10	25	12	QPSK	22.8	-
836.5	20525	10	25	25	QPSK	22.84	-
836.5	20525	10	50	0	QPSK	22.69	-
836.5	20525	10	1	0	16QAM	22.93	-
836.5	20525	10	1	24	16QAM	22.85	-
836.5	20525	10	1	49	16QAM	22.81	-
836.5	20525	10	25	0	16QAM	21.79	-
836.5	20525	10	25	12	16QAM	21.84	-
836.5	20525	10	25	25	16QAM	21.77	-
836.5	20525	10	50	0	16QAM	21.68	-
844.0	20600	10	1	0	QPSK	23.60	-
844.0	20600	10	1	24	QPSK	23.58	-
844.0	20600	10	1	49	QPSK	23.73	-
844.0	20600	10	25	0	QPSK	22.79	-
844.0	20600	10	25	12	QPSK	22.88	-
844.0	20600	10	25	25	QPSK	22.95	-
844.0	20600	10	50	0	QPSK	22.70	-
844.0	20600	10	1	0	16QAM	22.91	-
844.0	20600	10	1	24	16QAM	22.88	-
844.0	20600	10	1	49	16QAM	23.05	-
844.0	20600	10	25	0	16QAM	21.70	-
844.0	20600	10	25	12	16QAM	21.77	-
844.0	20600	10	25	25	16QAM	21.90	-
844.0	20600	10	50	0	16QAM	21.71	-

Type: RX-114; Serial number: 004402/47/351393/9 used for LTE850 (Band 5) REDUCED POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE850 (Band 5) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
824.7	20407	1.4	1	0	QPSK	20.08	-
824.7	20407	1.4	1	2	QPSK	20.07	-
824.7	20407	1.4	1	5	QPSK	20.09	-
824.7	20407	1.4	3	0	QPSK	20.17	-
824.7	20407	1.4	3	2	QPSK	20.15	-
824.7	20407	1.4	3	3	QPSK	20.15	-
824.7	20407	1.4	6	0	QPSK	20.09	-
824.7	20407	1.4	1	0	16QAM	20.02	-
824.7	20407	1.4	1	2	16QAM	19.98	-
824.7	20407	1.4	1	5	16QAM	19.96	-
824.7	20407	1.4	3	0	16QAM	20.17	-
824.7	20407	1.4	3	2	16QAM	20.17	-
824.7	20407	1.4	3	3	16QAM	20.19	-
824.7	20407	1.4	6	0	16QAM	20.09	-
836.5	20525	1.4	1	0	QPSK	20.11	-
836.5	20525	1.4	1	2	QPSK	20.08	-
836.5	20525	1.4	1	5	QPSK	20.13	-
836.5	20525	1.4	3	0	QPSK	20.18	-
836.5	20525	1.4	3	2	QPSK	20.15	-
836.5	20525	1.4	3	3	QPSK	20.13	-
836.5	20525	1.4	6	0	QPSK	20.15	-
836.5	20525	1.4	1	0	16QAM	19.98	-
836.5	20525	1.4	1	2	16QAM	19.97	-
836.5	20525	1.4	1	5	16QAM	19.88	-
836.5	20525	1.4	3	0	16QAM	20.18	-
836.5	20525	1.4	3	2	16QAM	20.18	-
836.5	20525	1.4	3	3	16QAM	20.21	-
836.5	20525	1.4	6	0	16QAM	20.11	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
848.3	20643	1.4	1	0	QPSK	20.07	-
848.3	20643	1.4	1	2	QPSK	20.03	-
848.3	20643	1.4	1	5	QPSK	20.05	-
848.3	20643	1.4	3	0	QPSK	20.09	-
848.3	20643	1.4	3	2	QPSK	20.08	-
848.3	20643	1.4	3	3	QPSK	20.06	-
848.3	20643	1.4	6	0	QPSK	20.13	-
848.3	20643	1.4	1	0	16QAM	19.72	-
848.3	20643	1.4	1	2	16QAM	19.70	-
848.3	20643	1.4	1	5	16QAM	19.73	-
848.3	20643	1.4	3	0	16QAM	20.11	-
848.3	20643	1.4	3	2	16QAM	20.16	-
848.3	20643	1.4	3	3	16QAM	20.10	-
848.3	20643	1.4	6	0	16QAM	20.00	-
825.5	20415	3	1	0	QPSK	20.11	-
825.5	20415	3	1	7	QPSK	20.10	-
825.5	20415	3	1	14	QPSK	20.14	-
825.5	20415	3	8	0	QPSK	20.07	-
825.5	20415	3	8	3	QPSK	20.07	-
825.5	20415	3	8	7	QPSK	20.04	-
825.5	20415	3	15	0	QPSK	20.04	-
825.5	20415	3	1	0	16QAM	19.84	-
825.5	20415	3	1	7	16QAM	19.75	-
825.5	20415	3	1	14	16QAM	19.85	-
825.5	20415	3	8	0	16QAM	20.01	-
825.5	20415	3	8	3	16QAM	19.99	-
825.5	20415	3	8	7	16QAM	19.98	-
825.5	20415	3	15	0	16QAM	20.04	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	3	1	0	QPSK	20.19	-
836.5	20525	3	1	7	QPSK	20.20	-
836.5	20525	3	1	14	QPSK	20.20	-
836.5	20525	3	8	0	QPSK	20.13	-
836.5	20525	3	8	3	QPSK	20.14	-
836.5	20525	3	8	7	QPSK	20.12	-
836.5	20525	3	15	0	QPSK	20.08	-
836.5	20525	3	1	0	16QAM	19.95	-
836.5	20525	3	1	7	16QAM	19.93	-
836.5	20525	3	1	14	16QAM	19.87	-
836.5	20525	3	8	0	16QAM	20.00	-
836.5	20525	3	8	3	16QAM	20.01	-
836.5	20525	3	8	7	16QAM	20.00	-
836.5	20525	3	15	0	16QAM	19.98	-
847.5	20635	3	1	0	QPSK	20.10	-
847.5	20635	3	1	7	QPSK	20.12	-
847.5	20635	3	1	14	QPSK	20.13	-
847.5	20635	3	8	0	QPSK	20.09	-
847.5	20635	3	8	3	QPSK	19.99	-
847.5	20635	3	8	7	QPSK	20.07	-
847.5	20635	3	15	0	QPSK	20.04	-
847.5	20635	3	1	0	16QAM	19.83	-
847.5	20635	3	1	7	16QAM	19.84	-
847.5	20635	3	1	14	16QAM	19.85	-
847.5	20635	3	8	0	16QAM	19.92	-
847.5	20635	3	8	3	16QAM	19.93	-
847.5	20635	3	8	7	16QAM	19.93	-
847.5	20635	3	15	0	16QAM	19.92	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
826.5	20425	5	1	0	QPSK	20.18	-
826.5	20425	5	1	12	QPSK	20.25	-
826.5	20425	5	1	24	QPSK	20.11	-
826.5	20425	5	12	0	QPSK	20.07	-
826.5	20425	5	12	6	QPSK	20.10	-
826.5	20425	5	12	13	QPSK	20.22	-
826.5	20425	5	25	0	QPSK	20.07	-
826.5	20425	5	1	0	16QAM	20.08	-
826.5	20425	5	1	12	16QAM	20.01	-
826.5	20425	5	1	24	16QAM	19.94	-
826.5	20425	5	12	0	16QAM	20.09	-
826.5	20425	5	12	6	16QAM	20.16	-
826.5	20425	5	12	13	16QAM	20.20	-
826.5	20425	5	25	0	16QAM	19.94	-
836.5	20525	5	1	0	QPSK	20.13	-
836.5	20525	5	1	12	QPSK	20.13	-
836.5	20525	5	1	24	QPSK	20.11	-
836.5	20525	5	12	0	QPSK	20.07	-
836.5	20525	5	12	6	QPSK	20.14	-
836.5	20525	5	12	13	QPSK	20.09	-
836.5	20525	5	25	0	QPSK	20.00	-
836.5	20525	5	1	0	16QAM	20.04	-
836.5	20525	5	1	12	16QAM	19.99	-
836.5	20525	5	1	24	16QAM	19.98	-
836.5	20525	5	12	0	16QAM	20.13	-
836.5	20525	5	12	6	16QAM	20.13	-
836.5	20525	5	12	13	16QAM	20.08	-
836.5	20525	5	25	0	16QAM	19.90	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
846.5	20625	5	1	0	QPSK	20.08	-
846.5	20625	5	1	12	QPSK	20.00	-
846.5	20625	5	1	24	QPSK	20.04	-
846.5	20625	5	12	0	QPSK	20.11	-
846.5	20625	5	12	6	QPSK	20.06	-
846.5	20625	5	12	13	QPSK	20.03	-
846.5	20625	5	25	0	QPSK	19.92	-
846.5	20625	5	1	0	16QAM	19.98	-
846.5	20625	5	1	12	16QAM	19.87	-
846.5	20625	5	1	24	16QAM	19.95	-
846.5	20625	5	12	0	16QAM	20.14	-
846.5	20625	5	12	6	16QAM	20.00	-
846.5	20625	5	12	13	16QAM	20.06	-
846.5	20625	5	25	0	16QAM	19.86	-
829.0	20450	10	1	0	QPSK	20.12	-
829.0	20450	10	1	24	QPSK	20.08	-
829.0	20450	10	1	49	QPSK	20.21	-
829.0	20450	10	25	0	QPSK	20.02	-
829.0	20450	10	25	12	QPSK	20.05	-
829.0	20450	10	25	25	QPSK	20.17	-
829.0	20450	10	50	0	QPSK	20.01	-
829.0	20450	10	1	0	16QAM	20.42	-
829.0	20450	10	1	24	16QAM	20.21	-
829.0	20450	10	1	49	16QAM	20.33	-
829.0	20450	10	25	0	16QAM	19.99	-
829.0	20450	10	25	12	16QAM	20.04	-
829.0	20450	10	25	25	16QAM	20.11	-
829.0	20450	10	50	0	16QAM	19.97	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	10	1	0	QPSK	20.14	-
836.5	20525	10	1	24	QPSK	20.19	-
836.5	20525	10	1	49	QPSK	20.09	-
836.5	20525	10	25	0	QPSK	20.09	-
836.5	20525	10	25	12	QPSK	20.08	-
836.5	20525	10	25	25	QPSK	20.04	-
836.5	20525	10	50	0	QPSK	19.99	-
836.5	20525	10	1	0	16QAM	20.33	-
836.5	20525	10	1	24	16QAM	20.35	-
836.5	20525	10	1	49	16QAM	20.31	-
836.5	20525	10	25	0	16QAM	20.04	-
836.5	20525	10	25	12	16QAM	20.05	-
836.5	20525	10	25	25	16QAM	20.06	-
836.5	20525	10	50	0	16QAM	19.98	-
844.0	20600	10	1	0	QPSK	20.18	-
844.0	20600	10	1	24	QPSK	20.08	-
844.0	20600	10	1	49	QPSK	20.10	-
844.0	20600	10	25	0	QPSK	20.04	-
844.0	20600	10	25	12	QPSK	20.00	-
844.0	20600	10	25	25	QPSK	19.98	-
844.0	20600	10	50	0	QPSK	19.97	-
844.0	20600	10	1	0	16QAM	20.39	-
844.0	20600	10	1	24	16QAM	20.29	-
844.0	20600	10	1	49	16QAM	20.32	-
844.0	20600	10	25	0	16QAM	20.06	-
844.0	20600	10	25	12	16QAM	20.02	-
844.0	20600	10	25	25	16QAM	19.97	-
844.0	20600	10	50	0	16QAM	19.98	-

Type: RX-114; Serial number: 004402/47/351347/5 used for LTE1700/2100 (Band 4) FULL POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1700/2100 (Band 4) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1710.7	19957	1.4	1	0	QPSK	23.71	-
1710.7	19957	1.4	1	2	QPSK	23.62	-
1710.7	19957	1.4	1	5	QPSK	23.66	-
1710.7	19957	1.4	3	0	QPSK	23.69	-
1710.7	19957	1.4	3	2	QPSK	23.65	-
1710.7	19957	1.4	3	3	QPSK	23.59	-
1710.7	19957	1.4	6	0	QPSK	23.08	-
1710.7	19957	1.4	1	0	16QAM	23.31	-
1710.7	19957	1.4	1	2	16QAM	23.31	-
1710.7	19957	1.4	1	5	16QAM	23.32	-
1710.7	19957	1.4	3	0	16QAM	23.15	-
1710.7	19957	1.4	3	2	16QAM	23.18	-
1710.7	19957	1.4	3	3	16QAM	23.11	-
1710.7	19957	1.4	6	0	16QAM	22.23	-
1732.5	20175	1.4	1	0	QPSK	23.62	-
1732.5	20175	1.4	1	2	QPSK	23.68	-
1732.5	20175	1.4	1	5	QPSK	23.75	-
1732.5	20175	1.4	3	0	QPSK	23.65	-
1732.5	20175	1.4	3	2	QPSK	23.62	-
1732.5	20175	1.4	3	3	QPSK	23.75	-
1732.5	20175	1.4	6	0	QPSK	23.19	-
1732.5	20175	1.4	1	0	16QAM	23.32	-
1732.5	20175	1.4	1	2	16QAM	23.30	-
1732.5	20175	1.4	1	5	16QAM	23.37	-
1732.5	20175	1.4	3	0	16QAM	23.19	-
1732.5	20175	1.4	3	2	16QAM	23.13	-
1732.5	20175	1.4	3	3	16QAM	23.27	-
1732.5	20175	1.4	6	0	16QAM	22.16	-

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1754.3	20393	1.4	1	0	QPSK	23.70	-
1754.3	20393	1.4	1	2	QPSK	23.73	-
1754.3	20393	1.4	1	5	QPSK	23.73	-
1754.3	20393	1.4	3	0	QPSK	23.75	-
1754.3	20393	1.4	3	2	QPSK	23.70	-
1754.3	20393	1.4	3	3	QPSK	23.72	-
1754.3	20393	1.4	6	0	QPSK	23.28	-
1754.3	20393	1.4	1	0	16QAM	23.36	-
1754.3	20393	1.4	1	2	16QAM	23.40	-
1754.3	20393	1.4	1	5	16QAM	23.35	-
1754.3	20393	1.4	3	0	16QAM	23.30	-
1754.3	20393	1.4	3	2	16QAM	23.30	-
1754.3	20393	1.4	3	3	16QAM	23.32	-
1754.3	20393	1.4	6	0	16QAM	22.30	-
1711.5	19965	3	1	0	QPSK	23.67	23.68
1711.5	19965	3	1	7	QPSK	23.66	23.59
1711.5	19965	3	1	14	QPSK	23.63	23.63
1711.5	19965	3	8	0	QPSK	23.11	22.17
1711.5	19965	3	8	3	QPSK	23.13	22.15
1711.5	19965	3	8	7	QPSK	23.08	22.18
1711.5	19965	3	15	0	QPSK	23.05	22.11
1711.5	19965	3	1	0	16QAM	22.85	23.30
1711.5	19965	3	1	7	16QAM	22.78	23.30
1711.5	19965	3	1	14	16QAM	22.78	23.24
1711.5	19965	3	8	0	16QAM	22.21	21.16
1711.5	19965	3	8	3	16QAM	22.15	21.13
1711.5	19965	3	8	7	16QAM	22.18	21.16
1711.5	19965	3	15	0	16QAM	22.16	21.14

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	3	1	0	QPSK	23.66	23.62
1732.5	20175	3	1	7	QPSK	23.73	23.73
1732.5	20175	3	1	14	QPSK	23.71	23.68
1732.5	20175	3	8	0	QPSK	23.21	22.13
1732.5	20175	3	8	3	QPSK	23.17	22.14
1732.5	20175	3	8	7	QPSK	23.25	22.18
1732.5	20175	3	15	0	QPSK	23.09	22.10
1732.5	20175	3	1	0	16QAM	23.03	23.21
1732.5	20175	3	1	7	16QAM	23.15	23.26
1732.5	20175	3	1	14	16QAM	22.98	23.21
1732.5	20175	3	8	0	16QAM	22.19	21.04
1732.5	20175	3	8	3	16QAM	22.15	21.04
1732.5	20175	3	8	7	16QAM	22.22	21.11
1732.5	20175	3	15	0	16QAM	22.18	20.97
1753.5	20385	3	1	0	QPSK	23.65	23.69
1753.5	20385	3	1	7	QPSK	23.67	23.66
1753.5	20385	3	1	14	QPSK	23.71	23.70
1753.5	20385	3	8	0	QPSK	23.28	22.28
1753.5	20385	3	8	3	QPSK	23.23	22.24
1753.5	20385	3	8	7	QPSK	23.29	22.23
1753.5	20385	3	15	0	QPSK	23.17	22.21
1753.5	20385	3	1	0	16QAM	22.93	23.36
1753.5	20385	3	1	7	16QAM	22.94	23.39
1753.5	20385	3	1	14	16QAM	22.95	23.38
1753.5	20385	3	8	0	16QAM	22.26	21.22
1753.5	20385	3	8	3	16QAM	22.27	21.22
1753.5	20385	3	8	7	16QAM	22.27	21.20
1753.5	20385	3	15	0	16QAM	22.25	21.21

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1712.5	19975	5	1	0	QPSK	23.68	23.65
1712.5	19975	5	1	12	QPSK	23.65	23.60
1712.5	19975	5	1	24	QPSK	23.67	23.71
1712.5	19975	5	12	0	QPSK	23.09	22.13
1712.5	19975	5	12	6	QPSK	23.06	22.15
1712.5	19975	5	12	13	QPSK	23.06	22.15
1712.5	19975	5	25	0	QPSK	22.99	22.00
1712.5	19975	5	1	0	16QAM	22.94	22.99
1712.5	19975	5	1	12	16QAM	22.92	23.00
1712.5	19975	5	1	24	16QAM	23.01	23.05
1712.5	19975	5	12	0	16QAM	22.21	21.25
1712.5	19975	5	12	6	16QAM	22.15	21.20
1712.5	19975	5	12	13	16QAM	22.08	21.23
1712.5	19975	5	25	0	16QAM	22.08	21.10
1732.5	20175	5	1	0	QPSK	23.64	23.60
1732.5	20175	5	1	12	QPSK	23.70	23.68
1732.5	20175	5	1	24	QPSK	23.73	23.68
1732.5	20175	5	12	0	QPSK	23.14	22.16
1732.5	20175	5	12	6	QPSK	23.14	22.14
1732.5	20175	5	12	13	QPSK	23.22	22.18
1732.5	20175	5	25	0	QPSK	23.07	22.03
1732.5	20175	5	1	0	16QAM	22.99	23.02
1732.5	20175	5	1	12	16QAM	22.95	23.10
1732.5	20175	5	1	24	16QAM	22.98	23.09
1732.5	20175	5	12	0	16QAM	22.17	21.15
1732.5	20175	5	12	6	16QAM	22.15	21.23
1732.5	20175	5	12	13	16QAM	22.21	21.25
1732.5	20175	5	25	0	16QAM	22.07	21.05

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1752.5	20375	5	1	0	QPSK	23.72	23.75
1752.5	20375	5	1	12	QPSK	23.69	23.68
1752.5	20375	5	1	24	QPSK	23.70	23.74
1752.5	20375	5	12	0	QPSK	23.21	22.18
1752.5	20375	5	12	6	QPSK	23.20	22.24
1752.5	20375	5	12	13	QPSK	23.25	22.28
1752.5	20375	5	25	0	QPSK	23.09	22.14
1752.5	20375	5	1	0	16QAM	23.13	22.95
1752.5	20375	5	1	12	16QAM	23.08	22.90
1752.5	20375	5	1	24	16QAM	23.14	22.94
1752.5	20375	5	12	0	16QAM	22.23	21.23
1752.5	20375	5	12	6	16QAM	22.23	21.23
1752.5	20375	5	12	13	16QAM	22.24	21.27
1752.5	20375	5	25	0	16QAM	22.14	21.19
1715.0	20000	10	1	0	QPSK	23.66	23.61
1715.0	20000	10	1	24	QPSK	23.67	23.64
1715.0	20000	10	1	49	QPSK	23.58	23.50
1715.0	20000	10	25	0	QPSK	23.00	22.09
1715.0	20000	10	25	12	QPSK	23.00	22.05
1715.0	20000	10	25	25	QPSK	23.01	22.15
1715.0	20000	10	50	0	QPSK	22.83	21.91
1715.0	20000	10	1	0	16QAM	23.30	22.83
1715.0	20000	10	1	24	16QAM	23.29	22.86
1715.0	20000	10	1	49	16QAM	23.16	22.80
1715.0	20000	10	25	0	16QAM	22.05	21.07
1715.0	20000	10	25	12	16QAM	22.05	21.10
1715.0	20000	10	25	25	16QAM	22.07	21.14
1715.0	20000	10	50	0	16QAM	21.90	20.98

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	10	1	0	QPSK	23.63	23.52
1732.5	20175	10	1	24	QPSK	23.55	23.59
1732.5	20175	10	1	49	QPSK	23.65	23.56
1732.5	20175	10	25	0	QPSK	23.03	22.12
1732.5	20175	10	25	12	QPSK	23.00	22.03
1732.5	20175	10	25	25	QPSK	23.06	22.09
1732.5	20175	10	50	0	QPSK	22.86	21.90
1732.5	20175	10	1	0	16QAM	23.22	22.82
1732.5	20175	10	1	24	16QAM	23.29	22.74
1732.5	20175	10	1	49	16QAM	23.32	22.84
1732.5	20175	10	25	0	16QAM	22.09	21.00
1732.5	20175	10	25	12	16QAM	22.00	20.99
1732.5	20175	10	25	25	16QAM	22.09	21.07
1732.5	20175	10	50	0	16QAM	21.78	20.90
1750.0	20350	10	1	0	QPSK	23.76	23.71
1750.0	20350	10	1	24	QPSK	23.74	23.70
1750.0	20350	10	1	49	QPSK	23.74	23.66
1750.0	20350	10	25	0	QPSK	23.10	22.12
1750.0	20350	10	25	12	QPSK	23.08	22.07
1750.0	20350	10	25	25	QPSK	23.11	22.13
1750.0	20350	10	50	0	QPSK	22.92	21.93
1750.0	20350	10	1	0	16QAM	23.45	23.00
1750.0	20350	10	1	24	16QAM	23.43	23.07
1750.0	20350	10	1	49	16QAM	23.35	23.14
1750.0	20350	10	25	0	16QAM	22.11	21.11
1750.0	20350	10	25	12	16QAM	22.10	21.07
1750.0	20350	10	25	25	16QAM	22.16	21.10
1750.0	20350	10	50	0	16QAM	21.89	20.92

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1717.5	20025	15	1	0	QPSK	23.70	23.63
1717.5	20025	15	1	36	QPSK	23.65	23.61
1717.5	20025	15	1	74	QPSK	23.72	23.64
1717.5	20025	15	37	0	QPSK	22.92	21.96
1717.5	20025	15	37	18	QPSK	22.97	22.01
1717.5	20025	15	37	38	QPSK	22.99	22.03
1717.5	20025	15	75	0	QPSK	22.93	21.92
1717.5	20025	15	1	0	16QAM	23.01	22.98
1717.5	20025	15	1	36	16QAM	23.02	22.97
1717.5	20025	15	1	74	16QAM	23.08	23.05
1717.5	20025	15	37	0	16QAM	21.93	20.98
1717.5	20025	15	37	18	16QAM	22.05	20.99
1717.5	20025	15	37	38	16QAM	22.03	21.04
1717.5	20025	15	75	0	16QAM	22.00	21.01
1732.5	20175	15	1	0	QPSK	23.72	23.60
1732.5	20175	15	1	36	QPSK	23.74	23.70
1732.5	20175	15	1	74	QPSK	23.85	23.78
1732.5	20175	15	37	0	QPSK	23.00	22.03
1732.5	20175	15	37	18	QPSK	22.92	21.94
1732.5	20175	15	37	38	QPSK	22.92	22.00
1732.5	20175	15	75	0	QPSK	22.92	21.92
1732.5	20175	15	1	0	16QAM	23.28	23.00
1732.5	20175	15	1	36	16QAM	23.35	23.00
1732.5	20175	15	1	74	16QAM	23.45	23.02
1732.5	20175	15	37	0	16QAM	22.01	21.01
1732.5	20175	15	37	18	16QAM	21.96	20.96
1732.5	20175	15	37	38	16QAM	21.97	20.95
1732.5	20175	15	75	0	16QAM	21.88	20.87

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1747.5	20325	15	1	0	QPSK	23.80	23.75
1747.5	20325	15	1	36	QPSK	23.71	23.69
1747.5	20325	15	1	74	QPSK	23.71	23.78
1747.5	20325	15	37	0	QPSK	22.99	21.97
1747.5	20325	15	37	18	QPSK	23.00	22.05
1747.5	20325	15	37	38	QPSK	23.00	22.01
1747.5	20325	15	75	0	QPSK	22.95	22.02
1747.5	20325	15	1	0	16QAM	23.14	23.11
1747.5	20325	15	1	36	16QAM	23.10	23.07
1747.5	20325	15	1	74	16QAM	23.17	23.18
1747.5	20325	15	37	0	16QAM	21.93	21.03
1747.5	20325	15	37	18	16QAM	22.01	21.02
1747.5	20325	15	37	38	16QAM	22.00	21.01
1747.5	20325	15	75	0	16QAM	21.94	21.03
1720.0	20050	20	1	0	QPSK	23.70	23.71
1720.0	20050	20	1	49	QPSK	23.62	23.58
1720.0	20050	20	1	99	QPSK	23.58	23.53
1720.0	20050	20	50	0	QPSK	22.86	21.90
1720.0	20050	20	50	24	QPSK	22.84	21.94
1720.0	20050	20	50	50	QPSK	22.97	21.96
1720.0	20050	20	100	0	QPSK	22.83	21.94
1720.0	20050	20	1	0	16QAM	23.05	23.28
1720.0	20050	20	1	49	16QAM	22.98	23.14
1720.0	20050	20	1	99	16QAM	22.99	23.15
1720.0	20050	20	50	0	16QAM	21.89	20.92
1720.0	20050	20	50	24	16QAM	21.88	20.89
1720.0	20050	20	50	50	16QAM	21.96	20.92
1720.0	20050	20	100	0	16QAM	21.93	20.94

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	20	1	0	QPSK	23.78	23.74
1732.5	20175	20	1	49	QPSK	23.74	23.69
1732.5	20175	20	1	99	QPSK	23.80	23.74
1732.5	20175	20	50	0	QPSK	22.95	21.98
1732.5	20175	20	50	24	QPSK	22.90	21.88
1732.5	20175	20	50	50	QPSK	22.86	21.91
1732.5	20175	20	100	0	QPSK	22.93	21.96
1732.5	20175	20	1	0	16QAM	23.14	23.30
1732.5	20175	20	1	49	16QAM	23.14	23.31
1732.5	20175	20	1	99	16QAM	23.19	23.45
1732.5	20175	20	50	0	16QAM	21.94	20.90
1732.5	20175	20	50	24	16QAM	21.83	20.79
1732.5	20175	20	50	50	16QAM	21.90	20.88
1732.5	20175	20	100	0	16QAM	21.93	20.93
1745.0	20300	20	1	0	QPSK	23.74	23.64
1745.0	20300	20	1	49	QPSK	23.75	23.71
1745.0	20300	20	1	99	QPSK	23.78	23.75
1745.0	20300	20	50	0	QPSK	22.84	21.93
1745.0	20300	20	50	24	QPSK	22.87	21.95
1745.0	20300	20	50	50	QPSK	22.89	21.91
1745.0	20300	20	100	0	QPSK	22.95	22.01
1745.0	20300	20	1	0	16QAM	23.33	23.30
1745.0	20300	20	1	49	16QAM	23.28	23.34
1745.0	20300	20	1	99	16QAM	23.19	23.27
1745.0	20300	20	50	0	16QAM	21.81	20.89
1745.0	20300	20	50	24	16QAM	21.92	20.93
1745.0	20300	20	50	50	16QAM	21.85	20.87
1745.0	20300	20	100	0	16QAM	21.99	20.97

Type: RX-114; Serial number: 004402/47/351408/5 used for LTE1700/2100 (Band 4) REDUCED POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1700/2100 (Band 4) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1710.7	19957	1.4	1	0	QPSK	17.19	-
1710.7	19957	1.4	1	2	QPSK	17.12	-
1710.7	19957	1.4	1	5	QPSK	17.08	-
1710.7	19957	1.4	3	0	QPSK	17.16	-
1710.7	19957	1.4	3	2	QPSK	17.17	-
1710.7	19957	1.4	3	3	QPSK	17.09	-
1710.7	19957	1.4	6	0	QPSK	17.17	-
1710.7	19957	1.4	1	0	16QAM	17.01	-
1710.7	19957	1.4	1	2	16QAM	17.03	-
1710.7	19957	1.4	1	5	16QAM	17.02	-
1710.7	19957	1.4	3	0	16QAM	17.2	-
1710.7	19957	1.4	3	2	16QAM	17.25	-
1710.7	19957	1.4	3	3	16QAM	17.23	-
1710.7	19957	1.4	6	0	16QAM	17.18	-
1732.5	20175	1.4	1	0	QPSK	17.04	-
1732.5	20175	1.4	1	2	QPSK	17.03	-
1732.5	20175	1.4	1	5	QPSK	16.96	-
1732.5	20175	1.4	3	0	QPSK	17.1	-
1732.5	20175	1.4	3	2	QPSK	17.06	-
1732.5	20175	1.4	3	3	QPSK	17.07	-
1732.5	20175	1.4	6	0	QPSK	17.05	-
1732.5	20175	1.4	1	0	16QAM	17.02	-
1732.5	20175	1.4	1	2	16QAM	16.92	-
1732.5	20175	1.4	1	5	16QAM	17.17	-
1732.5	20175	1.4	3	0	16QAM	17.03	-
1732.5	20175	1.4	3	2	16QAM	17.07	-
1732.5	20175	1.4	3	3	16QAM	17.14	-
1732.5	20175	1.4	6	0	16QAM	17.05	-

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1754.3	20393	1.4	1	0	QPSK	17.29	-
1754.3	20393	1.4	1	2	QPSK	17.32	-
1754.3	20393	1.4	1	5	QPSK	17.32	-
1754.3	20393	1.4	3	0	QPSK	17.28	-
1754.3	20393	1.4	3	2	QPSK	17.35	-
1754.3	20393	1.4	3	3	QPSK	17.29	-
1754.3	20393	1.4	6	0	QPSK	17.29	-
1754.3	20393	1.4	1	0	16QAM	17.37	-
1754.3	20393	1.4	1	2	16QAM	17.33	-
1754.3	20393	1.4	1	5	16QAM	17.35	-
1754.3	20393	1.4	3	0	16QAM	17.29	-
1754.3	20393	1.4	3	2	16QAM	17.35	-
1754.3	20393	1.4	3	3	16QAM	17.29	-
1754.3	20393	1.4	6	0	16QAM	17.40	-
1711.5	19965	3	1	0	QPSK	17.17	17.14
1711.5	19965	3	1	7	QPSK	17.25	17.28
1711.5	19965	3	1	14	QPSK	17.23	17.28
1711.5	19965	3	8	0	QPSK	17.17	17.21
1711.5	19965	3	8	3	QPSK	17.21	17.24
1711.5	19965	3	8	7	QPSK	17.18	17.28
1711.5	19965	3	15	0	QPSK	17.26	17.26
1711.5	19965	3	1	0	16QAM	17.39	17.05
1711.5	19965	3	1	7	16QAM	17.45	17.19
1711.5	19965	3	1	14	16QAM	17.47	17.10
1711.5	19965	3	8	0	16QAM	17.04	17.09
1711.5	19965	3	8	3	16QAM	17.15	17.18
1711.5	19965	3	8	7	16QAM	17.16	17.20
1711.5	19965	3	15	0	16QAM	17.16	17.23

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	3	1	0	QPSK	17.15	17.06
1732.5	20175	3	1	7	QPSK	17.06	17.06
1732.5	20175	3	1	14	QPSK	17.06	17.03
1732.5	20175	3	8	0	QPSK	17.08	17.04
1732.5	20175	3	8	3	QPSK	17.02	17.06
1732.5	20175	3	8	7	QPSK	17.04	16.99
1732.5	20175	3	15	0	QPSK	16.99	16.97
1732.5	20175	3	1	0	16QAM	17.27	16.98
1732.5	20175	3	1	7	16QAM	17.30	16.92
1732.5	20175	3	1	14	16QAM	17.20	17.04
1732.5	20175	3	8	0	16QAM	17.01	17.00
1732.5	20175	3	8	3	16QAM	16.84	17.01
1732.5	20175	3	8	7	16QAM	16.87	16.96
1732.5	20175	3	15	0	16QAM	17.01	17.05
1753.5	20385	3	1	0	QPSK	17.30	17.35
1753.5	20385	3	1	7	QPSK	17.33	17.33
1753.5	20385	3	1	14	QPSK	17.36	17.33
1753.5	20385	3	8	0	QPSK	17.30	17.30
1753.5	20385	3	8	3	QPSK	17.33	17.36
1753.5	20385	3	8	7	QPSK	17.26	17.28
1753.5	20385	3	15	0	QPSK	17.27	17.26
1753.5	20385	3	1	0	16QAM	17.18	17.42
1753.5	20385	3	1	7	16QAM	17.18	17.40
1753.5	20385	3	1	14	16QAM	17.18	17.38
1753.5	20385	3	8	0	16QAM	17.18	17.24
1753.5	20385	3	8	3	16QAM	17.25	17.23
1753.5	20385	3	8	7	16QAM	17.22	17.20
1753.5	20385	3	15	0	16QAM	17.28	17.32

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1712.5	19975	5	1	0	QPSK	17.18	17.19
1712.5	19975	5	1	12	QPSK	17.27	17.28
1712.5	19975	5	1	24	QPSK	17.26	17.19
1712.5	19975	5	12	0	QPSK	17.11	17.13
1712.5	19975	5	12	6	QPSK	17.27	17.22
1712.5	19975	5	12	13	QPSK	17.19	17.23
1712.5	19975	5	25	0	QPSK	17.22	17.17
1712.5	19975	5	1	0	16QAM	17.08	17.41
1712.5	19975	5	1	12	16QAM	17.18	17.48
1712.5	19975	5	1	24	16QAM	17.08	17.40
1712.5	19975	5	12	0	16QAM	17.15	17.19
1712.5	19975	5	12	6	16QAM	17.23	17.26
1712.5	19975	5	12	13	16QAM	17.19	17.24
1712.5	19975	5	25	0	16QAM	17.26	17.15
1732.5	20175	5	1	0	QPSK	17.12	17.13
1732.5	20175	5	1	12	QPSK	17.04	17.09
1732.5	20175	5	1	24	QPSK	17.07	17.03
1732.5	20175	5	12	0	QPSK	17.06	16.99
1732.5	20175	5	12	6	QPSK	17.01	16.98
1732.5	20175	5	12	13	QPSK	17.03	17.02
1732.5	20175	5	25	0	QPSK	16.94	16.92
1732.5	20175	5	1	0	16QAM	17.09	17.23
1732.5	20175	5	1	12	16QAM	17.02	17.21
1732.5	20175	5	1	24	16QAM	16.96	17.20
1732.5	20175	5	12	0	16QAM	17.07	17.01
1732.5	20175	5	12	6	16QAM	16.94	16.96
1732.5	20175	5	12	13	16QAM	16.95	16.99
1732.5	20175	5	25	0	16QAM	16.92	16.96

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1752.5	20375	5	1	0	QPSK	17.36	17.33
1752.5	20375	5	1	12	QPSK	17.36	17.31
1752.5	20375	5	1	24	QPSK	17.36	17.35
1752.5	20375	5	12	0	QPSK	17.31	17.27
1752.5	20375	5	12	6	QPSK	17.33	17.29
1752.5	20375	5	12	13	QPSK	17.3	17.32
1752.5	20375	5	25	0	QPSK	17.19	17.27
1752.5	20375	5	1	0	16QAM	17.19	17.12
1752.5	20375	5	1	12	16QAM	17.17	17.20
1752.5	20375	5	1	24	16QAM	17.24	17.21
1752.5	20375	5	12	0	16QAM	17.24	17.28
1752.5	20375	5	12	6	16QAM	17.25	17.27
1752.5	20375	5	12	13	16QAM	17.26	17.29
1752.5	20375	5	25	0	16QAM	17.19	17.26
1715.0	20000	10	1	0	QPSK	17.18	17.10
1715.0	20000	10	1	24	QPSK	17.04	16.95
1715.0	20000	10	1	49	QPSK	17.12	17.03
1715.0	20000	10	25	0	QPSK	17.23	17.26
1715.0	20000	10	25	12	QPSK	17.17	17.17
1715.0	20000	10	25	25	QPSK	17.23	17.17
1715.0	20000	10	50	0	QPSK	17.20	17.07
1715.0	20000	10	1	0	16QAM	17.14	17.04
1715.0	20000	10	1	24	16QAM	17.16	16.98
1715.0	20000	10	1	49	16QAM	17.09	16.97
1715.0	20000	10	25	0	16QAM	17.12	17.16
1715.0	20000	10	25	12	16QAM	17.07	17.08
1715.0	20000	10	25	25	16QAM	16.98	16.99
1715.0	20000	10	50	0	16QAM	17.10	17.12

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	10	1	0	QPSK	17.26	17.18
1732.5	20175	10	1	24	QPSK	17.17	17.01
1732.5	20175	10	1	49	QPSK	17.18	17.07
1732.5	20175	10	25	0	QPSK	17.07	17.04
1732.5	20175	10	25	12	QPSK	17.00	16.94
1732.5	20175	10	25	25	QPSK	16.96	16.91
1732.5	20175	10	50	0	QPSK	16.99	16.93
1732.5	20175	10	1	0	16QAM	17.39	17.02
1732.5	20175	10	1	24	16QAM	17.18	16.97
1732.5	20175	10	1	49	16QAM	17.22	16.99
1732.5	20175	10	25	0	16QAM	17.01	17.06
1732.5	20175	10	25	12	16QAM	16.98	16.83
1732.5	20175	10	25	25	16QAM	16.82	16.90
1732.5	20175	10	50	0	16QAM	16.93	16.99
1750.0	20350	10	1	0	QPSK	17.26	17.22
1750.0	20350	10	1	24	QPSK	17.22	17.20
1750.0	20350	10	1	49	QPSK	17.22	17.21
1750.0	20350	10	25	0	QPSK	17.10	17.07
1750.0	20350	10	25	12	QPSK	17.14	17.08
1750.0	20350	10	25	25	QPSK	17.17	17.11
1750.0	20350	10	50	0	QPSK	17.07	17.05
1750.0	20350	10	1	0	16QAM	17.35	17.13
1750.0	20350	10	1	24	16QAM	17.27	17.07
1750.0	20350	10	1	49	16QAM	17.35	17.14
1750.0	20350	10	25	0	16QAM	17.02	17.04
1750.0	20350	10	25	12	16QAM	17.05	17.03
1750.0	20350	10	25	25	16QAM	17.10	17.07
1750.0	20350	10	50	0	16QAM	17.01	17.07

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1717.5	20025	15	1	0	QPSK	17.11	17.18
1717.5	20025	15	1	36	QPSK	17.12	17.16
1717.5	20025	15	1	74	QPSK	17.04	17.06
1717.5	20025	15	37	0	QPSK	17.05	17.19
1717.5	20025	15	37	18	QPSK	17.07	17.16
1717.5	20025	15	37	38	QPSK	17.09	17.19
1717.5	20025	15	75	0	QPSK	17.13	17.08
1717.5	20025	15	1	0	16QAM	16.84	17.26
1717.5	20025	15	1	36	16QAM	17.05	17.22
1717.5	20025	15	1	74	16QAM	16.90	17.20
1717.5	20025	15	37	0	16QAM	17.08	17.08
1717.5	20025	15	37	18	16QAM	16.87	16.87
1717.5	20025	15	37	38	16QAM	17.06	17.16
1717.5	20025	15	75	0	16QAM	17.10	17.00
1732.5	20175	15	1	0	QPSK	17.12	17.19
1732.5	20175	15	1	36	QPSK	17.02	17.17
1732.5	20175	15	1	74	QPSK	17.01	17.07
1732.5	20175	15	37	0	QPSK	17.03	17.02
1732.5	20175	15	37	18	QPSK	16.94	16.96
1732.5	20175	15	37	38	QPSK	17.00	17.04
1732.5	20175	15	75	0	QPSK	16.92	16.93
1732.5	20175	15	1	0	16QAM	16.94	17.24
1732.5	20175	15	1	36	16QAM	16.94	17.23
1732.5	20175	15	1	74	16QAM	16.86	17.17
1732.5	20175	15	37	0	16QAM	17.05	17.06
1732.5	20175	15	37	18	16QAM	16.92	16.94
1732.5	20175	15	37	38	16QAM	16.98	16.96
1732.5	20175	15	75	0	16QAM	16.89	16.93

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1747.5	20325	15	1	0	QPSK	17.13	17.20
1747.5	20325	15	1	36	QPSK	17.14	17.18
1747.5	20325	15	1	74	QPSK	17.14	17.12
1747.5	20325	15	37	0	QPSK	17.08	17.03
1747.5	20325	15	37	18	QPSK	17.06	17.08
1747.5	20325	15	37	38	QPSK	17.08	17.10
1747.5	20325	15	75	0	QPSK	17.04	17.02
1747.5	20325	15	1	0	16QAM	16.83	17.28
1747.5	20325	15	1	36	16QAM	16.82	17.29
1747.5	20325	15	1	74	16QAM	16.86	17.32
1747.5	20325	15	37	0	16QAM	16.97	16.98
1747.5	20325	15	37	18	16QAM	17.01	17.02
1747.5	20325	15	37	38	16QAM	17.03	17.11
1747.5	20325	15	75	0	16QAM	17.05	17.05
1720.0	20050	20	1	0	QPSK	17.17	17.15
1720.0	20050	20	1	49	QPSK	17.04	17.02
1720.0	20050	20	1	99	QPSK	17.06	16.98
1720.0	20050	20	50	0	QPSK	17.06	17.08
1720.0	20050	20	50	24	QPSK	17.10	17.09
1720.0	20050	20	50	50	QPSK	16.97	16.98
1720.0	20050	20	100	0	QPSK	17.06	17.06
1720.0	20050	20	1	0	16QAM	17.04	17.01
1720.0	20050	20	1	49	16QAM	16.89	16.92
1720.0	20050	20	1	99	16QAM	16.87	16.89
1720.0	20050	20	50	0	16QAM	17.05	17.00
1720.0	20050	20	50	24	16QAM	17.03	17.08
1720.0	20050	20	50	50	16QAM	16.88	16.94
1720.0	20050	20	100	0	16QAM	17.10	17.07

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	20	1	0	QPSK	17.15	17.15
1732.5	20175	20	1	49	QPSK	17.03	17.04
1732.5	20175	20	1	99	QPSK	16.99	16.96
1732.5	20175	20	50	0	QPSK	17.00	16.95
1732.5	20175	20	50	24	QPSK	16.95	16.94
1732.5	20175	20	50	50	QPSK	16.95	16.99
1732.5	20175	20	100	0	QPSK	16.97	16.94
1732.5	20175	20	1	0	16QAM	16.97	17.01
1732.5	20175	20	1	49	16QAM	16.86	16.86
1732.5	20175	20	1	99	16QAM	16.87	16.84
1732.5	20175	20	50	0	16QAM	16.83	17.00
1732.5	20175	20	50	24	16QAM	16.90	16.99
1732.5	20175	20	50	50	16QAM	16.84	16.93
1732.5	20175	20	100	0	16QAM	16.94	16.90
1745.0	20300	20	1	0	QPSK	17.17	17.21
1745.0	20300	20	1	49	QPSK	17.11	17.14
1745.0	20300	20	1	99	QPSK	17.13	17.10
1745.0	20300	20	50	0	QPSK	17.03	17.05
1745.0	20300	20	50	24	QPSK	17.03	17.02
1745.0	20300	20	50	50	QPSK	17.04	17.02
1745.0	20300	20	100	0	QPSK	17.02	17.05
1745.0	20300	20	1	0	16QAM	17.05	16.83
1745.0	20300	20	1	49	16QAM	16.97	16.83
1745.0	20300	20	1	99	16QAM	17.07	16.80
1745.0	20300	20	50	0	16QAM	16.93	17.03
1745.0	20300	20	50	24	16QAM	16.96	16.99
1745.0	20300	20	50	50	16QAM	16.90	16.98
1745.0	20300	20	100	0	16QAM	16.96	16.99

Type: RX-114; Serial number: 004402/47/351347/5 used for LTE1900 (Band 2) FULL POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1900 (Band 2) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1850.7	18607	1.4	1	0	QPSK	23.59	-
1850.7	18607	1.4	1	2	QPSK	23.58	-
1850.7	18607	1.4	1	5	QPSK	23.59	-
1850.7	18607	1.4	3	0	QPSK	23.64	-
1850.7	18607	1.4	3	2	QPSK	23.61	-
1850.7	18607	1.4	3	3	QPSK	23.63	-
1850.7	18607	1.4	6	0	QPSK	23.09	-
1850.7	18607	1.4	1	0	16QAM	23.15	-
1850.7	18607	1.4	1	2	16QAM	23.18	-
1850.7	18607	1.4	1	5	16QAM	23.24	-
1850.7	18607	1.4	3	0	16QAM	23.15	-
1850.7	18607	1.4	3	2	16QAM	23.13	-
1850.7	18607	1.4	3	3	16QAM	23.08	-
1850.7	18607	1.4	6	0	16QAM	22.27	-
1880.0	18900	1.4	1	0	QPSK	23.63	-
1880.0	18900	1.4	1	2	QPSK	23.58	-
1880.0	18900	1.4	1	5	QPSK	23.62	-
1880.0	18900	1.4	3	0	QPSK	23.60	-
1880.0	18900	1.4	3	2	QPSK	23.60	-
1880.0	18900	1.4	3	3	QPSK	23.64	-
1880.0	18900	1.4	6	0	QPSK	23.09	-
1880.0	18900	1.4	1	0	16QAM	23.17	-
1880.0	18900	1.4	1	2	16QAM	23.24	-
1880.0	18900	1.4	1	5	16QAM	23.23	-
1880.0	18900	1.4	3	0	16QAM	23.19	-
1880.0	18900	1.4	3	2	16QAM	23.19	-
1880.0	18900	1.4	3	3	16QAM	23.22	-
1880.0	18900	1.4	6	0	16QAM	22.24	-

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1909.3	19193	1.4	1	0	QPSK	23.52	-
1909.3	19193	1.4	1	2	QPSK	23.51	-
1909.3	19193	1.4	1	5	QPSK	23.50	-
1909.3	19193	1.4	3	0	QPSK	23.50	-
1909.3	19193	1.4	3	2	QPSK	23.51	-
1909.3	19193	1.4	3	3	QPSK	23.54	-
1909.3	19193	1.4	6	0	QPSK	23.02	-
1909.3	19193	1.4	1	0	16QAM	23.07	-
1909.3	19193	1.4	1	2	16QAM	23.06	-
1909.3	19193	1.4	1	5	16QAM	23.08	-
1909.3	19193	1.4	3	0	16QAM	23.02	-
1909.3	19193	1.4	3	2	16QAM	23.06	-
1909.3	19193	1.4	3	3	16QAM	23.03	-
1909.3	19193	1.4	6	0	16QAM	22.23	-
1851.5	18615	3	1	0	QPSK	23.59	23.53
1851.5	18615	3	1	7	QPSK	23.60	23.58
1851.5	18615	3	1	14	QPSK	23.53	23.49
1851.5	18615	3	8	0	QPSK	23.07	22.22
1851.5	18615	3	8	3	QPSK	23.12	22.13
1851.5	18615	3	8	7	QPSK	23.10	22.17
1851.5	18615	3	15	0	QPSK	23.05	22.15
1851.5	18615	3	1	0	16QAM	23.22	22.81
1851.5	18615	3	1	7	16QAM	23.23	22.82
1851.5	18615	3	1	14	16QAM	23.16	22.72
1851.5	18615	3	8	0	16QAM	22.07	21.07
1851.5	18615	3	8	3	16QAM	22.14	21.04
1851.5	18615	3	8	7	16QAM	22.06	21.03
1851.5	18615	3	15	0	16QAM	22.10	21.06

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/342581/1 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	3	1	0	QPSK	23.53	23.52
1880.0	18900	3	1	7	QPSK	23.58	23.57
1880.0	18900	3	1	14	QPSK	23.64	23.65
1880.0	18900	3	8	0	QPSK	23.08	22.05
1880.0	18900	3	8	3	QPSK	23.05	22.08
1880.0	18900	3	8	7	QPSK	23.07	22.13
1880.0	18900	3	15	0	QPSK	23.03	21.99
1880.0	18900	3	1	0	16QAM	22.71	22.89
1880.0	18900	3	1	7	16QAM	22.78	22.91
1880.0	18900	3	1	14	16QAM	22.80	22.96
1880.0	18900	3	8	0	16QAM	22.08	20.90
1880.0	18900	3	8	3	16QAM	22.05	20.93
1880.0	18900	3	8	7	16QAM	22.12	21.01
1880.0	18900	3	15	0	16QAM	22.08	20.99
1908.5	19185	3	1	0	QPSK	23.58	23.53
1908.5	19185	3	1	7	QPSK	23.50	23.46
1908.5	19185	3	1	14	QPSK	23.47	23.41
1908.5	19185	3	8	0	QPSK	23.03	22.06
1908.5	19185	3	8	3	QPSK	23.02	22.03
1908.5	19185	3	8	7	QPSK	23.03	22.11
1908.5	19185	3	15	0	QPSK	22.97	22.02
1908.5	19185	3	1	0	16QAM	23.02	23.02
1908.5	19185	3	1	7	16QAM	23.00	22.99
1908.5	19185	3	1	14	16QAM	22.93	22.92
1908.5	19185	3	8	0	16QAM	22.06	21.06
1908.5	19185	3	8	3	16QAM	22.09	20.99
1908.5	19185	3	8	7	16QAM	22.10	21.05
1908.5	19185	3	15	0	16QAM	22.08	21.02

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1852.5	18625	5	1	0	QPSK	23.58	23.56
1852.5	18625	5	1	12	QPSK	23.60	23.51
1852.5	18625	5	1	24	QPSK	23.56	23.55
1852.5	18625	5	12	0	QPSK	23.03	22.12
1852.5	18625	5	12	6	QPSK	23.04	22.08
1852.5	18625	5	12	13	QPSK	23.10	22.17
1852.5	18625	5	25	0	QPSK	22.93	21.99
1852.5	18625	5	1	0	16QAM	22.87	22.95
1852.5	18625	5	1	12	16QAM	22.78	22.83
1852.5	18625	5	1	24	16QAM	22.85	22.90
1852.5	18625	5	12	0	16QAM	22.07	21.16
1852.5	18625	5	12	6	16QAM	22.10	21.19
1852.5	18625	5	12	13	16QAM	22.15	21.18
1852.5	18625	5	25	0	16QAM	21.99	20.96
1880.0	18900	5	1	0	QPSK	23.65	23.61
1880.0	18900	5	1	12	QPSK	23.61	23.55
1880.0	18900	5	1	24	QPSK	23.68	23.66
1880.0	18900	5	12	0	QPSK	23.07	22.01
1880.0	18900	5	12	6	QPSK	23.05	22.07
1880.0	18900	5	12	13	QPSK	23.09	22.11
1880.0	18900	5	25	0	QPSK	22.91	21.94
1880.0	18900	5	1	0	16QAM	23.07	23.27
1880.0	18900	5	1	12	16QAM	22.97	23.28
1880.0	18900	5	1	24	16QAM	23.06	23.33
1880.0	18900	5	12	0	16QAM	22.10	21.09
1880.0	18900	5	12	6	16QAM	22.11	21.13
1880.0	18900	5	12	13	16QAM	22.15	21.18
1880.0	18900	5	25	0	16QAM	21.98	20.90

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1907.5	19175	5	1	0	QPSK	23.59	23.51
1907.5	19175	5	1	12	QPSK	23.57	23.55
1907.5	19175	5	1	24	QPSK	23.52	23.47
1907.5	19175	5	12	0	QPSK	23.10	21.96
1907.5	19175	5	12	6	QPSK	23.10	22.04
1907.5	19175	5	12	13	QPSK	23.06	22.05
1907.5	19175	5	25	0	QPSK	23.00	22.03
1907.5	19175	5	1	0	16QAM	22.99	23.14
1907.5	19175	5	1	12	16QAM	23.05	23.15
1907.5	19175	5	1	24	16QAM	22.93	23.00
1907.5	19175	5	12	0	16QAM	22.09	21.19
1907.5	19175	5	12	6	16QAM	22.17	21.22
1907.5	19175	5	12	13	16QAM	22.15	21.13
1907.5	19175	5	25	0	16QAM	22.07	23.51
1855.0	18650	10	1	0	QPSK	23.58	23.55
1855.0	18650	10	1	24	QPSK	23.69	23.65
1855.0	18650	10	1	49	QPSK	23.55	23.39
1855.0	18650	10	25	0	QPSK	22.89	21.98
1855.0	18650	10	25	12	QPSK	22.95	21.99
1855.0	18650	10	25	25	QPSK	22.95	21.94
1855.0	18650	10	50	0	QPSK	22.82	21.88
1855.0	18650	10	1	0	16QAM	23.00	23.25
1855.0	18650	10	1	24	16QAM	23.04	23.29
1855.0	18650	10	1	49	16QAM	23.01	23.07
1855.0	18650	10	25	0	16QAM	21.89	21.00
1855.0	18650	10	25	12	16QAM	21.95	21.05
1855.0	18650	10	25	25	16QAM	21.90	20.97
1855.0	18650	10	50	0	16QAM	21.85	20.86

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	10	1	0	QPSK	23.61	23.57
1880.0	18900	10	1	24	QPSK	23.58	23.62
1880.0	18900	10	1	49	QPSK	23.68	23.83
1880.0	18900	10	25	0	QPSK	22.95	21.87
1880.0	18900	10	25	12	QPSK	23.02	21.93
1880.0	18900	10	25	25	QPSK	23.06	22.08
1880.0	18900	10	50	0	QPSK	22.83	21.85
1880.0	18900	10	1	0	16QAM	23.26	23.27
1880.0	18900	10	1	24	16QAM	23.26	23.34
1880.0	18900	10	1	49	16QAM	23.25	23.34
1880.0	18900	10	25	0	16QAM	21.95	20.92
1880.0	18900	10	25	12	16QAM	22.01	20.96
1880.0	18900	10	25	25	16QAM	22.12	21.14
1880.0	18900	10	50	0	16QAM	21.86	20.92
1905.0	19150	10	1	0	QPSK	23.49	23.59
1905.0	19150	10	1	24	QPSK	23.61	23.60
1905.0	19150	10	1	49	QPSK	23.51	23.50
1905.0	19150	10	25	0	QPSK	22.88	21.91
1905.0	19150	10	25	12	QPSK	23.07	21.97
1905.0	19150	10	25	25	QPSK	23.12	22.13
1905.0	19150	10	50	0	QPSK	22.82	21.89
1905.0	19150	10	1	0	16QAM	23.31	23.23
1905.0	19150	10	1	24	16QAM	23.21	23.18
1905.0	19150	10	1	49	16QAM	23.44	23.19
1905.0	19150	10	25	0	16QAM	21.98	20.94
1905.0	19150	10	25	12	16QAM	22.03	21.03
1905.0	19150	10	25	25	16QAM	22.11	21.13
1905.0	19150	10	50	0	16QAM	21.91	20.96

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1857.5	18675	15	1	0	QPSK	23.59	23.56
1857.5	18675	15	1	36	QPSK	23.50	23.49
1857.5	18675	15	1	74	QPSK	23.50	23.45
1857.5	18675	15	37	0	QPSK	22.94	21.93
1857.5	18675	15	37	18	QPSK	22.99	22.00
1857.5	18675	15	37	38	QPSK	23.00	21.94
1857.5	18675	15	75	0	QPSK	22.77	21.80
1857.5	18675	15	1	0	16QAM	22.98	22.93
1857.5	18675	15	1	36	16QAM	22.93	22.86
1857.5	18675	15	1	74	16QAM	22.93	22.90
1857.5	18675	15	37	0	16QAM	21.94	20.86
1857.5	18675	15	37	18	16QAM	21.98	20.88
1857.5	18675	15	37	38	16QAM	21.95	20.89
1857.5	18675	15	75	0	16QAM	21.88	20.83
1880.0	18900	15	1	0	QPSK	23.47	23.51
1880.0	18900	15	1	36	QPSK	23.57	23.61
1880.0	18900	15	1	74	QPSK	23.71	23.61
1880.0	18900	15	37	0	QPSK	22.79	21.82
1880.0	18900	15	37	18	QPSK	22.94	21.91
1880.0	18900	15	37	38	QPSK	23.03	22.09
1880.0	18900	15	75	0	QPSK	22.88	21.94
1880.0	18900	15	1	0	16QAM	22.96	22.93
1880.0	18900	15	1	36	16QAM	23.01	23.02
1880.0	18900	15	1	74	16QAM	22.94	23.12
1880.0	18900	15	37	0	16QAM	21.82	20.78
1880.0	18900	15	37	18	16QAM	21.85	20.85
1880.0	18900	15	37	38	16QAM	22.06	21.01
1880.0	18900	15	75	0	16QAM	21.91	20.94

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1902.5	19125	15	1	0	QPSK	23.62	23.39
1902.5	19125	15	1	36	QPSK	23.58	23.54
1902.5	19125	15	1	74	QPSK	23.58	23.47
1902.5	19125	15	37	0	QPSK	22.94	21.94
1902.5	19125	15	37	18	QPSK	22.83	21.87
1902.5	19125	15	37	38	QPSK	23.04	22.03
1902.5	19125	15	75	0	QPSK	22.76	21.83
1902.5	19125	15	1	0	16QAM	23.04	22.77
1902.5	19125	15	1	36	16QAM	22.95	22.99
1902.5	19125	15	1	74	16QAM	23.45	23.10
1902.5	19125	15	37	0	16QAM	21.94	20.92
1902.5	19125	15	37	18	16QAM	21.88	20.88
1902.5	19125	15	37	38	16QAM	22.05	20.99
1902.5	19125	15	75	0	16QAM	21.89	20.91
1860.0	18700	20	1	0	QPSK	23.64	23.60
1860.0	18700	20	1	49	QPSK	23.50	23.44
1860.0	18700	20	1	99	QPSK	23.66	23.66
1860.0	18700	20	50	0	QPSK	22.87	21.92
1860.0	18700	20	50	24	QPSK	22.86	21.90
1860.0	18700	20	50	50	QPSK	22.88	21.81
1860.0	18700	20	100	0	QPSK	22.81	21.84
1860.0	18700	20	1	0	16QAM	22.97	23.01
1860.0	18700	20	1	49	16QAM	22.89	22.85
1860.0	18700	20	1	99	16QAM	23.03	23.04
1860.0	18700	20	50	0	16QAM	21.94	20.91
1860.0	18700	20	50	24	16QAM	21.81	20.84
1860.0	18700	20	50	50	16QAM	21.91	20.83
1860.0	18700	20	100	0	16QAM	21.88	20.86

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	20	1	0	QPSK	23.64	23.62
1880.0	18900	20	1	49	QPSK	23.61	23.60
1880.0	18900	20	1	99	QPSK	23.69	23.68
1880.0	18900	20	50	0	QPSK	22.83	21.84
1880.0	18900	20	50	24	QPSK	22.82	21.91
1880.0	18900	20	50	50	QPSK	23.07	22.10
1880.0	18900	20	100	0	QPSK	22.93	21.92
1880.0	18900	20	1	0	16QAM	23.15	23.08
1880.0	18900	20	1	49	16QAM	23.18	23.05
1880.0	18900	20	1	99	16QAM	23.11	23.09
1880.0	18900	20	50	0	16QAM	21.82	20.88
1880.0	18900	20	50	24	16QAM	21.87	20.93
1880.0	18900	20	50	50	16QAM	22.06	21.06
1880.0	18900	20	100	0	16QAM	22.01	21.03
1900.0	19100	20	1	0	QPSK	23.69	23.65
1900.0	19100	20	1	49	QPSK	23.57	23.66
1900.0	19100	20	1	99	QPSK	23.50	23.48
1900.0	19100	20	50	0	QPSK	22.92	21.96
1900.0	19100	20	50	24	QPSK	22.73	21.78
1900.0	19100	20	50	50	QPSK	22.92	21.92
1900.0	19100	20	100	0	QPSK	22.71	21.76
1900.0	19100	20	1	0	16QAM	23.12	23.82
1900.0	19100	20	1	49	16QAM	23.09	23.16
1900.0	19100	20	1	99	16QAM	23.02	22.97
1900.0	19100	20	50	0	16QAM	21.96	20.94
1900.0	19100	20	50	24	16QAM	21.74	20.80
1900.0	19100	20	50	50	16QAM	21.94	20.90
1900.0	19100	20	100	0	16QAM	21.84	20.89

Type: RX-114; Serial number: 004402/47/351408/5 used for LTE1900 (Band 2) REDUCED POWER for Body SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1900 (Band 2) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1850.7	18607	1.4	1	0	QPSK	17.27	-
1850.7	18607	1.4	1	2	QPSK	17.25	-
1850.7	18607	1.4	1	5	QPSK	17.27	-
1850.7	18607	1.4	3	0	QPSK	17.25	-
1850.7	18607	1.4	3	2	QPSK	17.29	-
1850.7	18607	1.4	3	3	QPSK	17.26	-
1850.7	18607	1.4	6	0	QPSK	17.28	-
1850.7	18607	1.4	1	0	16QAM	16.93	-
1850.7	18607	1.4	1	2	16QAM	16.89	-
1850.7	18607	1.4	1	5	16QAM	16.89	-
1850.7	18607	1.4	3	0	16QAM	17.09	-
1850.7	18607	1.4	3	2	16QAM	17.07	-
1850.7	18607	1.4	3	3	16QAM	17.12	-
1850.7	18607	1.4	6	0	16QAM	17.13	-
1880.0	18900	1.4	1	0	QPSK	17.45	-
1880.0	18900	1.4	1	2	QPSK	17.38	-
1880.0	18900	1.4	1	5	QPSK	17.37	-
1880.0	18900	1.4	3	0	QPSK	17.31	-
1880.0	18900	1.4	3	2	QPSK	17.38	-
1880.0	18900	1.4	3	3	QPSK	17.40	-
1880.0	18900	1.4	6	0	QPSK	17.39	-
1880.0	18900	1.4	1	0	16QAM	17.00	-
1880.0	18900	1.4	1	2	16QAM	17.03	-
1880.0	18900	1.4	1	5	16QAM	17.09	-
1880.0	18900	1.4	3	0	16QAM	17.12	-
1880.0	18900	1.4	3	2	16QAM	17.20	-
1880.0	18900	1.4	3	3	16QAM	17.24	-
1880.0	18900	1.4	6	0	16QAM	17.18	-

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1909.3	19193	1.4	1	0	QPSK	17.23	-
1909.3	19193	1.4	1	2	QPSK	17.10	-
1909.3	19193	1.4	1	5	QPSK	17.11	-
1909.3	19193	1.4	3	0	QPSK	17.23	-
1909.3	19193	1.4	3	2	QPSK	17.08	-
1909.3	19193	1.4	3	3	QPSK	17.11	-
1909.3	19193	1.4	6	0	QPSK	17.18	-
1909.3	19193	1.4	1	0	16QAM	17.04	-
1909.3	19193	1.4	1	2	16QAM	17.01	-
1909.3	19193	1.4	1	5	16QAM	16.98	-
1909.3	19193	1.4	3	0	16QAM	17.24	-
1909.3	19193	1.4	3	2	16QAM	17.22	-
1909.3	19193	1.4	3	3	16QAM	17.23	-
1909.3	19193	1.4	6	0	16QAM	17.24	-
1851.5	18615	3	1	0	QPSK	17.28	17.27
1851.5	18615	3	1	7	QPSK	17.26	17.20
1851.5	18615	3	1	14	QPSK	17.20	17.23
1851.5	18615	3	8	0	QPSK	17.23	17.20
1851.5	18615	3	8	3	QPSK	17.21	17.25
1851.5	18615	3	8	7	QPSK	17.19	17.23
1851.5	18615	3	15	0	QPSK	17.19	17.22
1851.5	18615	3	1	0	16QAM	17.39	17.42
1851.5	18615	3	1	7	16QAM	17.41	17.39
1851.5	18615	3	1	14	16QAM	17.34	17.27
1851.5	18615	3	8	0	16QAM	17.09	17.10
1851.5	18615	3	8	3	16QAM	17.05	17.07
1851.5	18615	3	8	7	16QAM	17.05	17.02
1851.5	18615	3	15	0	16QAM	17.14	17.10

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	3	1	0	QPSK	17.11	17.13
1880.0	18900	3	1	7	QPSK	17.44	17.36
1880.0	18900	3	1	14	QPSK	17.32	17.36
1880.0	18900	3	8	0	QPSK	17.11	17.13
1880.0	18900	3	8	3	QPSK	17.34	17.39
1880.0	18900	3	8	7	QPSK	17.42	17.43
1880.0	18900	3	15	0	QPSK	17.28	17.35
1880.0	18900	3	1	0	16QAM	17.32	17.35
1880.0	18900	3	1	7	16QAM	17.33	17.39
1880.0	18900	3	1	14	16QAM	17.28	17.32
1880.0	18900	3	8	0	16QAM	17.09	17.12
1880.0	18900	3	8	3	16QAM	17.07	17.02
1880.0	18900	3	8	7	16QAM	17.06	17.20
1880.0	18900	3	15	0	16QAM	17.16	17.19
1908.5	19185	3	1	0	QPSK	17.51	17.36
1908.5	19185	3	1	7	QPSK	17.27	17.23
1908.5	19185	3	1	14	QPSK	17.17	17.15
1908.5	19185	3	8	0	QPSK	17.32	17.33
1908.5	19185	3	8	3	QPSK	17.20	17.23
1908.5	19185	3	8	7	QPSK	17.15	17.15
1908.5	19185	3	15	0	QPSK	17.23	17.22
1908.5	19185	3	1	0	16QAM	17.49	17.43
1908.5	19185	3	1	7	16QAM	17.52	17.47
1908.5	19185	3	1	14	16QAM	17.31	17.35
1908.5	19185	3	8	0	16QAM	17.15	17.56
1908.5	19185	3	8	3	16QAM	17.21	17.12
1908.5	19185	3	8	7	16QAM	17.09	17.14
1908.5	19185	3	15	0	16QAM	17.26	17.19

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1852.5	18625	5	1	0	QPSK	17.32	17.32
1852.5	18625	5	1	12	QPSK	17.27	17.18
1852.5	18625	5	1	24	QPSK	17.28	17.23
1852.5	18625	5	12	0	QPSK	17.21	17.21
1852.5	18625	5	12	6	QPSK	17.07	17.15
1852.5	18625	5	12	13	QPSK	17.26	17.18
1852.5	18625	5	25	0	QPSK	17.09	17.09
1852.5	18625	5	1	0	16QAM	17.10	17.11
1852.5	18625	5	1	12	16QAM	17.06	17.07
1852.5	18625	5	1	24	16QAM	17.10	17.17
1852.5	18625	5	12	0	16QAM	17.23	17.22
1852.5	18625	5	12	6	16QAM	17.19	17.18
1852.5	18625	5	12	13	16QAM	17.18	17.23
1852.5	18625	5	25	0	16QAM	17.10	17.12
1880.0	18900	5	1	0	QPSK	16.94	17.02
1880.0	18900	5	1	12	QPSK	17.41	17.36
1880.0	18900	5	1	24	QPSK	17.20	17.22
1880.0	18900	5	12	0	QPSK	17.05	17.11
1880.0	18900	5	12	6	QPSK	17.37	17.32
1880.0	18900	5	12	13	QPSK	17.32	17.28
1880.0	18900	5	25	0	QPSK	17.38	17.16
1880.0	18900	5	1	0	16QAM	16.90	16.93
1880.0	18900	5	1	12	16QAM	17.12	17.17
1880.0	18900	5	1	24	16QAM	16.94	16.91
1880.0	18900	5	12	0	16QAM	17.15	17.19
1880.0	18900	5	12	6	16QAM	17.12	17.17
1880.0	18900	5	12	13	16QAM	17.14	17.17
1880.0	18900	5	25	0	16QAM	17.11	17.1

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1907.5	19175	5	1	0	QPSK	17.32	17.40
1907.5	19175	5	1	12	QPSK	17.51	17.38
1907.5	19175	5	1	24	QPSK	17.18	17.23
1907.5	19175	5	12	0	QPSK	17.46	17.47
1907.5	19175	5	12	6	QPSK	17.48	17.50
1907.5	19175	5	12	13	QPSK	17.20	17.22
1907.5	19175	5	25	0	QPSK	17.32	17.51
1907.5	19175	5	1	0	16QAM	17.38	17.38
1907.5	19175	5	1	12	16QAM	17.27	17.25
1907.5	19175	5	1	24	16QAM	17.15	17.07
1907.5	19175	5	12	0	16QAM	17.33	17.34
1907.5	19175	5	12	6	16QAM	17.23	17.15
1907.5	19175	5	12	13	16QAM	17.19	17.19
1907.5	19175	5	25	0	16QAM	17.23	17.39
1855.0	18650	10	1	0	QPSK	17.32	17.30
1855.0	18650	10	1	24	QPSK	17.14	17.07
1855.0	18650	10	1	49	QPSK	17.07	17.01
1855.0	18650	10	25	0	QPSK	17.07	17.09
1855.0	18650	10	25	12	QPSK	17.01	16.96
1855.0	18650	10	25	25	QPSK	16.94	16.88
1855.0	18650	10	50	0	QPSK	16.89	17.14
1855.0	18650	10	1	0	16QAM	17.37	17.39
1855.0	18650	10	1	24	16QAM	17.39	17.38
1855.0	18650	10	1	49	16QAM	17.06	17.07
1855.0	18650	10	25	0	16QAM	16.93	17.00
1855.0	18650	10	25	12	16QAM	17.11	17.04
1855.0	18650	10	25	25	16QAM	16.98	16.92
1855.0	18650	10	50	0	16QAM	17.03	17.07

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	10	1	0	QPSK	17.02	16.93
1880.0	18900	10	1	24	QPSK	17.45	17.39
1880.0	18900	10	1	49	QPSK	17.21	17.24
1880.0	18900	10	25	0	QPSK	16.92	16.89
1880.0	18900	10	25	12	QPSK	17.43	17.32
1880.0	18900	10	25	25	QPSK	17.22	17.22
1880.0	18900	10	50	0	QPSK	17.17	17.22
1880.0	18900	10	1	0	16QAM	17.17	17.18
1880.0	18900	10	1	24	16QAM	17.34	17.27
1880.0	18900	10	1	49	16QAM	17.20	17.22
1880.0	18900	10	25	0	16QAM	16.84	16.87
1880.0	18900	10	25	12	16QAM	16.97	17.06
1880.0	18900	10	25	25	16QAM	16.88	17.06
1880.0	18900	10	50	0	16QAM	17.01	17.06
1905.0	19150	10	1	0	QPSK	17.42	17.45
1905.0	19150	10	1	24	QPSK	17.57	17.54
1905.0	19150	10	1	49	QPSK	17.18	17.20
1905.0	19150	10	25	0	QPSK	17.43	17.44
1905.0	19150	10	25	12	QPSK	17.44	17.40
1905.0	19150	10	25	25	QPSK	17.22	17.27
1905.0	19150	10	50	0	QPSK	17.23	17.26
1905.0	19150	10	1	0	16QAM	17.35	17.36
1905.0	19150	10	1	24	16QAM	17.50	17.57
1905.0	19150	10	1	49	16QAM	17.31	17.32
1905.0	19150	10	25	0	16QAM	17.41	17.37
1905.0	19150	10	25	12	16QAM	17.39	17.19
1905.0	19150	10	25	25	16QAM	17.04	17.08
1905.0	19150	10	50	0	16QAM	17.20	17.22

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1857.5	18675	15	1	0	QPSK	17.20	17.23
1857.5	18675	15	1	36	QPSK	17.00	16.97
1857.5	18675	15	1	74	QPSK	17.13	17.10
1857.5	18675	15	37	0	QPSK	17.25	17.22
1857.5	18675	15	37	18	QPSK	16.95	16.92
1857.5	18675	15	37	38	QPSK	16.82	16.81
1857.5	18675	15	75	0	QPSK	16.93	16.90
1857.5	18675	15	1	0	16QAM	17.03	17.34
1857.5	18675	15	1	36	16QAM	16.81	17.06
1857.5	18675	15	1	74	16QAM	16.83	16.84
1857.5	18675	15	37	0	16QAM	17.11	17.15
1857.5	18675	15	37	18	16QAM	16.99	16.83
1857.5	18675	15	37	38	16QAM	16.83	16.85
1857.5	18675	15	75	0	16QAM	16.88	16.85
1880.0	18900	15	1	0	QPSK	16.84	16.85
1880.0	18900	15	1	36	QPSK	17.32	17.33
1880.0	18900	15	1	74	QPSK	17.16	17.13
1880.0	18900	15	37	0	QPSK	16.84	16.83
1880.0	18900	15	37	18	QPSK	17.19	17.27
1880.0	18900	15	37	38	QPSK	17.15	17.17
1880.0	18900	15	75	0	QPSK	17.08	17.08
1880.0	18900	15	1	0	16QAM	16.86	16.81
1880.0	18900	15	1	36	16QAM	17.03	17.01
1880.0	18900	15	1	74	16QAM	17.09	17.08
1880.0	18900	15	37	0	16QAM	16.86	16.87
1880.0	18900	15	37	18	16QAM	17.06	17.05
1880.0	18900	15	37	38	16QAM	17.03	17.04
1880.0	18900	15	75	0	16QAM	16.93	16.90

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1902.5	19125	15	1	0	QPSK	17.48	17.42
1902.5	19125	15	1	36	QPSK	17.59	17.59
1902.5	19125	15	1	74	QPSK	17.18	17.20
1902.5	19125	15	37	0	QPSK	17.59	17.61
1902.5	19125	15	37	18	QPSK	17.40	17.38
1902.5	19125	15	37	38	QPSK	17.47	17.42
1902.5	19125	15	75	0	QPSK	17.35	17.26
1902.5	19125	15	1	0	16QAM	17.40	17.60
1902.5	19125	15	1	36	16QAM	17.32	17.34
1902.5	19125	15	1	74	16QAM	16.90	17.02
1902.5	19125	15	37	0	16QAM	17.56	17.60
1902.5	19125	15	37	18	16QAM	17.46	17.39
1902.5	19125	15	37	38	16QAM	17.44	17.49
1902.5	19125	15	75	0	16QAM	17.35	17.38
1860.0	18700	20	1	0	QPSK	17.36	17.25
1860.0	18700	20	1	49	QPSK	17.09	17.06
1860.0	18700	20	1	99	QPSK	16.80	16.82
1860.0	18700	20	50	0	QPSK	17.13	17.05
1860.0	18700	20	50	24	QPSK	17.02	16.94
1860.0	18700	20	50	50	QPSK	16.96	16.88
1860.0	18700	20	100	0	QPSK	16.98	16.96
1860.0	18700	20	1	0	16QAM	16.96	16.94
1860.0	18700	20	1	49	16QAM	16.81	17.06
1860.0	18700	20	1	99	16QAM	16.88	16.88
1860.0	18700	20	50	0	16QAM	17.15	17.19
1860.0	18700	20	50	24	16QAM	16.98	16.90
1860.0	18700	20	50	50	16QAM	17.00	16.98
1860.0	18700	20	100	0	16QAM	16.98	16.95

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	20	1	0	QPSK	17.04	16.95
1880.0	18900	20	1	49	QPSK	17.45	17.36
1880.0	18900	20	1	99	QPSK	17.47	17.43
1880.0	18900	20	50	0	QPSK	16.84	16.80
1880.0	18900	20	50	24	QPSK	17.29	17.22
1880.0	18900	20	50	50	QPSK	17.23	17.07
1880.0	18900	20	100	0	QPSK	17.11	17.25
1880.0	18900	20	1	0	16QAM	16.80	16.82
1880.0	18900	20	1	49	16QAM	17.01	16.89
1880.0	18900	20	1	99	16QAM	17.11	17.21
1880.0	18900	20	50	0	16QAM	16.85	16.85
1880.0	18900	20	50	24	16QAM	17.02	17.02
1880.0	18900	20	50	50	16QAM	17.10	17.08
1880.0	18900	20	100	0	16QAM	17.08	17.03
1900.0	19100	20	1	0	QPSK	17.60	17.60
1900.0	19100	20	1	49	QPSK	17.56	17.60
1900.0	19100	20	1	99	QPSK	17.20	17.10
1900.0	19100	20	50	0	QPSK	17.64	17.58
1900.0	19100	20	50	24	QPSK	17.53	17.43
1900.0	19100	20	50	50	QPSK	17.25	17.19
1900.0	19100	20	100	0	QPSK	17.23	17.20
1900.0	19100	20	1	0	16QAM	17.36	17.32
1900.0	19100	20	1	49	16QAM	17.28	17.25
1900.0	19100	20	1	99	16QAM	16.93	16.91
1900.0	19100	20	50	0	16QAM	17.45	17.45
1900.0	19100	20	50	24	16QAM	17.36	17.42
1900.0	19100	20	50	50	16QAM	17.20	17.13
1900.0	19100	20	100	0	16QAM	17.26	17.21

APPENDIX H: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED GSM/GPRS/EGPRS TRANSMISSION MODES

H.1 Power Tuning Targets

FULL POWER

GSM/GPRS/EGPRS 850 Body			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	32.5	32.5	32.5
GPRS 2-slot	30.0	30.0	30.0
GPRS 3-slot	28.2	28.2	28.2
GPRS 4-slot	27.0	27.0	27.0
EGRPS 1-slot	27.0	27.0	27.0
EGPRS 2-slot	27.0	27.0	27.0
EGPRS 3-slot	27.0	27.0	27.0
EGPRS 4-slot	26.5	26.5	26.5

GSM/GPRS/EGPRS 1900 Body			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	30.0	30.0	30.0
GPRS 2-slot	27.0	27.0	27.0
GPRS 3-slot	25.2	25.2	25.2
GPRS 4-slot	24.0	24.0	24.0
EGRPS 1-slot	25.5	25.5	25.5
EGPRS 2-slot	24.5	24.5	24.5
EGPRS 3-slot	24.5	24.5	24.5
EGPRS 4-slot	23.2	23.2	23.2

REDUCED POWER

GSM/GPRS/EGPRS 850			
Body			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	30.0	30.0	30.0
GPRS 2-slot	27.5	27.5	27.5
GPRS 3-slot	25.2	25.2	25.2
GPRS 4-slot	25.0	25.0	25.0
EGRPS 1-slot	27.0	27.0	27.0
EGPRS 2-slot	27.0	27.0	27.0
EGPRS 3-slot	25.0	25.0	25.0
EGPRS 4-slot	24.5	24.5	24.5

GSM/GPRS/EGPRS 1900			
Body			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	26.0	26.0	26.0
GPRS 2-slot	22.5	22.5	22.5
GPRS 3-slot	22.2	22.2	22.2
GPRS 4-slot	22.0	22.0	22.0
EGRPS 1-slot	25.5	25.5	25.5
EGPRS 2-slot	22.0	22.0	22.0
EGPRS 3-slot	22.0	22.0	22.0
EGPRS 4-slot	21.7	21.7	21.7

H.2 Conducted Power from the Samples used in the Testing

Type: RX-114; Serial number: 004402/47/351342/6 used for

- GSM/GPRS/EGPRS850 FULL POWER Body SAR measurements

GSM/GPRS/EGPRS 850 Body			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	32.63	32.61	32.60
GPRS 2-slot	30.16	30.13	30.16
GPRS 3-slot	28.54	28.42	28.33
GPRS 4-slot	27.21	27.05	27.35
EGPRS 1-slot	27.07	27.06	27.04
EGPRS 2-slot	27.28	27.20	27.23
EGPRS 3-slot	27.14	27.10	27.06
EGPRS 4-slot	26.76	26.66	26.67

Type: RX-114; Serial number: 004402/47/351393/9 used for

- GSM/GPRS/EGPRS850 REDUCED POWER Body SAR measurements

GSM/GPRS/EGPRS 850 Body			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	29.60	29.50	29.50
GPRS 2-slot	27.30	27.20	27.10
GPRS 3-slot	25.20	25.10	24.90
GPRS 4-slot	25.00	24.90	24.80
EGPRS 1-slot	26.80	26.70	26.60
EGPRS 2-slot	26.80	26.70	26.50
EGPRS 3-slot	24.50	24.50	24.60
EGPRS 4-slot	24.50	24.60	24.40

Type: RX-114; Serial number: 004402/47/351347/5 used for

- GSM/GPRS/EGPRS1900 FULL POWER Body SAR measurements

GSM/GPRS/EGPRS 1900 Body			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	30.24	30.18	30.26
GPRS 2-slot	27.34	27.35	27.26
GPRS 3-slot	25.36	25.44	25.43
GPRS 4-slot	24.34	24.21	24.27
EGRPS 1-slot	25.65	25.61	25.61
EGPRS 2-slot	24.83	24.75	24.77
EGPRS 3-slot	24.68	24.63	24.67
EGPRS 4-slot	23.55	23.51	23.51

Type: RX-114; Serial number: 004402/47/351408/5 used for

- GSM/GPRS/EGPRS1900 REDUCED POWER Body SAR measurements

GSM/GPRS/EGPRS 1900 Body			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	25.80	25.90	26.10
GPRS 2-slot	22.40	22.40	22.50
GPRS 3-slot	22.40	22.40	22.50
GPRS 4-slot	22.10	22.10	22.20
EGRPS 1-slot	25.40	25.50	25.70
EGPRS 2-slot	21.70	21.80	21.90
EGPRS 3-slot	21.70	21.70	21.90
EGPRS 4-slot	21.60	21.70	21.80

APPENDIX I: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED WCDMA TRANSMISSION MODES

I.1 Power Tuning Targets

FULL POWER

WCDMA 850 (Band 5) Body			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	23.5	23.5	23.5

WCDMA1900 (Band 2) Body			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	23.5	23.5	23.5

REDUCED POWER

WCDMA 850 (Band 5) Body			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	20.0	20.0	20.0

WCDMA1900 (Band 2) Body			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	17.0	17.0	17.0

I.2 Conducted Power from the Samples used in the Testing

Type: RX-114; Serial number: 004402/47/351342/6

- Used for WCDMA850 (Band 5) FULL POWER Body SAR measurements.

WCDMA 850 (Band 5) Body			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	23.77	23.73	23.68

Type: RX-114; Serial number: 004402/47/351393/9

- Used for WCDMA850 (Band 5) REDUCED POWER Body SAR measurements.

WCDMA 850 (Band 5) Body			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	20.10	20.23	20.07

Type: RX-114; Serial number: 004402/47/351347/5

- Used for WCDMA1900 (Band 2) FULL POWER Body SAR measurements.

WCDMA1900 (Band 2) Body			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	23.67	23.64	23.60

Type: RX-114; Serial number: 004402/47/351408/5

- Used for WCDMA1900 (Band 2) REDUCED POWER Body SAR measurements.

WCDMA1900 (Band 2) Body			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	16.98	17.02	17.15

WCDMA and HSUPA Subtest mode conducted powers, measured from a separate, fully representative sample are presented in Appendix D.

APPENDIX J: CONDUCTED POWER RESULTS FOR WLAN2450 AND WLAN5000

J.1 Power Tuning Targets Body Measurements - WLAN2450 – Main Antenna

WLAN 2.4 GHz Tuning Targets – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
802.11b BPSK 1 Mbps	13.00	13.00	13.00	13.00	13.00
802.11b QPSK 2 Mbps	13.00	13.00	13.00	13.00	13.00
802.11b QPSK 5.5 Mbps	13.00	13.00	13.00	13.00	13.00
802.11b QPSK 11 Mbps	13.00	13.00	13.00	13.00	13.00
802.11g BPSK 6 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g BPSK 9 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g QPSK 12 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g QPSK 18 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 16QAM 24 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 16QAM 36 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 64QAM 48 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 64QAM 54 Mbps	10.00	10.00	11.50	10.00	10.00
802.11n BPSK 6.5 / 7.25 Mbps	8.50	8.50	10.00	8.50	8.50
802.11n QPSK 13.0 / 14.4 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n QPSK 19.5 / 21.7 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n 16QAM 26.0 / 28.9 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 16QAM 39.0 / 43.3 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 52.0 / 57.8 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 58.5 / 65.0 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 65.0 / 72.2 Mbps	5.50	5.50	7.00	5.50	5.50
802.11n BPSK 13.0 / 14.4 Mbps	8.50	8.50	10.00	8.50	8.50
802.11n QPSK 26.0 / 28.9 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n QPSK 39.0 / 43.3 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n 16QAM 52.0 / 57.8 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 16QAM 78.0 / 86.7 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 104.0 / 115.6 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 117.0 / 130.0 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 130.0 / 144.4 Mbps	5.50	5.50	7.00	5.50	5.50

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Tuning Targets – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
802.11n BPSK 13.5 / 15.0 Mbps	9.00	-	9.00	-	9.00
802.11n QPSK 27.0 / 30.0 Mbps	7.00	-	7.00	-	7.00
802.11n QPSK 40.5 / 45.0 Mbps	7.00	-	7.00	-	7.00
802.11n 16QAM 54.0 / 60.0 Mbps	6.50	-	6.50	-	6.50
802.11n 16QAM 81.0 / 90.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 121.5 / 135.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 135.0 / 150.0 Mbps	4.00	-	4.00	-	4.00
802.11n BPSK 27.0 / 30.0 Mbps	9.00	-	9.00	-	9.00
802.11n QPSK 54.0 / 60.0 Mbps	7.00	-	7.00	-	7.00
802.11n QPSK 81.0 / 90.0 Mbps	7.00	-	7.00	-	7.00
802.11n 16QAM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
802.11n 16QAM 162.0 / 180.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 216.0 / 240.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 243.0 / 270.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 270.0 / 300.0 Mbps	4.00	-	4.00	-	4.00

J.2 Power Tuning Targets Body Measurements - WLAN2450 - AUX Antenna

WLAN 2.4 GHz Tuning Targets – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
802.11b BPSK 1 Mbps	13.00	13.00	13.00	13.00	13.00
802.11b QPSK 2 Mbps	13.00	13.00	13.00	13.00	13.00
802.11b QPSK 5.5 Mbps	13.00	13.00	13.00	13.00	13.00
802.11b QPSK 11 Mbps	13.00	13.00	13.00	13.00	13.00
802.11g BPSK 6 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g BPSK 9 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g QPSK 12 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g QPSK 18 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 16QAM 24 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 16QAM 36 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 64QAM 48 Mbps	10.00	10.00	11.50	10.00	10.00
802.11g 64QAM 54 Mbps	10.00	10.00	11.50	10.00	10.00
802.11n BPSK 6.5 / 7.25 Mbps	8.50	8.50	10.00	8.50	8.50
802.11n QPSK 13.0 / 14.4 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n QPSK 19.5 / 21.7 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n 16QAM 26.0 / 28.9 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 16QAM 39.0 / 43.3 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 52.0 / 57.8 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 58.5 / 65.0 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 65.0 / 72.2 Mbps	5.50	5.50	7.00	5.50	5.50
802.11n BPSK 13.0 / 14.4 Mbps	8.50	8.50	10.00	8.50	8.50
802.11n QPSK 26.0 / 28.9 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n QPSK 39.0 / 43.3 Mbps	6.50	6.50	8.00	6.50	6.50
802.11n 16QAM 52.0 / 57.8 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 16QAM 78.0 / 86.7 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 104.0 / 115.6 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 117.0 / 130.0 Mbps	8.00	8.00	9.50	8.00	8.00
802.11n 64QAM 130.0 / 144.4 Mbps	5.50	5.50	7.00	5.50	5.50

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Tuning Targets – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
802.11n BPSK 13.5 / 15.0 Mbps	9.00	-	9.00	-	9.00
802.11n QPSK 27.0 / 30.0 Mbps	7.00	-	7.00	-	7.00
802.11n QPSK 40.5 / 45.0 Mbps	7.00	-	7.00	-	7.00
802.11n 16QAM 54.0 / 60.0 Mbps	6.50	-	6.50	-	6.50
802.11n 16QAM 81.0 / 90.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 121.5 / 135.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 135.0 / 150.0 Mbps	4.00	-	4.00	-	4.00
802.11n BPSK 27.0 / 30.0 Mbps	9.00	-	9.00	-	9.00
802.11n QPSK 54.0 / 60.0 Mbps	7.00	-	7.00	-	7.00
802.11n QPSK 81.0 / 90.0 Mbps	7.00	-	7.00	-	7.00
802.11n 16QAM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
802.11n 16QAM 162.0 / 180.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 216.0 / 240.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 243.0 / 270.0 Mbps	6.50	-	6.50	-	6.50
802.11n 64QAM 270.0 / 300.0 Mbps	4.00	-	4.00	-	4.00

J.3 Power Tuning Targets Body Measurements - WLAN5000 - Main Antenna

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz Tuning Targets					
			36	40	44	48	52	56
802.11a	BPSK	6	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	BPSK	9	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	QPSK	12	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	QPSK	18	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	16QAM	24	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	16QAM	36	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	64QAM	48	6.00	6.00	6.00	6.00	6.50	6.50
802.11a	64QAM	54	6.00	6.00	6.00	6.00	6.50	6.50
802.11n	BPSK	6.5 / 7.25	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	13.0 / 14.4	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	QPSK	19.5 / 21.7	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	26.0 / 28.9	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	39.0 / 43.3	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	52.0 / 57.8	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	58.5 / 65.0	6.00	6.00	6.00	6.00	6.50	6.50
802.11n	64QAM	65.0 / 72.2	6.00	6.00	6.00	6.00	6.50	6.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	26.0 / 28.9	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	QPSK	39.0 / 43.3	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	52.0 / 57.8	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	78.0 / 86.7	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	104.0 / 115.6	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	117.0 / 130.0	6.00	6.00	6.00	6.00	6.50	6.50
802.11n	64QAM	130.0 / 144.4	6.00	6.00	6.00	6.00	6.50	6.50

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz Tuning Targets						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	16QAM	81.0 / 90.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	108.0 / 120.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	121.5 / 135.0	3.00	3.00	3.00	3.00	3.00	3.00	3.00
802.11n	64QAM	135.0 / 150.0	2.50	2.50	2.50	2.50	2.50	2.50	2.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	16QAM	162.0 / 180.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	216.0 / 240.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	243.0 / 270.0	3.00	3.00	3.00	3.00	3.00	3.00	3.00
802.11n	64QAM	270.0 / 300.0	2.50	2.50	2.50	2.50	2.50	2.50	2.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			60	64	100	104	108	112
802.11a	BPSK	6	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	BPSK	9	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	QPSK	12	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	QPSK	18	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	16QAM	24	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	16QAM	36	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	64QAM	48	6.50	6.50	6.00	6.00	6.00	6.00
802.11a	64QAM	54	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	BPSK	6.5 / 7.25	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	13.0 / 14.4	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	QPSK	19.5 / 21.7	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	26.0 / 28.9	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	39.0 / 43.3	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	52.0 / 57.8	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	58.5 / 65.0	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	64QAM	65.0 / 72.2	6.50	6.50	6.00	6.00	6.00	6.00
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	26.0 / 28.9	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	QPSK	39.0 / 43.3	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	52.0 / 57.8	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	78.0 / 86.7	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	104.0 / 115.6	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	117.0 / 130.0	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	64QAM	130.0 / 144.4	6.50	6.50	6.00	6.00	6.00	6.00

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	7.00	7.00	7.00	7.00	7.00	6.50
802.11n	QPSK	27.0 / 30.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	QPSK	40.5 / 45.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	16QAM	54.0 / 60.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	16QAM	81.0 / 90.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	108.0 / 120.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	121.5 / 135.0	2.00	2.00	2.00	2.00	2.00	1.50
802.11n	64QAM	135.0 / 150.0	1.50	1.50	1.50	1.50	1.50	1.00
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	7.00	7.00	7.00	7.00	7.00	6.50
802.11n	QPSK	54.0 / 60.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	QPSK	81.0 / 90.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	16QAM	108.0 / 120.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	16QAM	162.0 / 180.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	216.0 / 240.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	243.0 / 270.0	2.00	2.00	2.00	2.00	2.00	1.50
802.11n	64QAM	270.0 / 300.0	1.50	1.50	1.50	1.50	1.50	1.00

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			116	120	124	128	132	136
802.11a	BPSK	6	7.50	6.50	6.50	6.50	6.50	6.50
802.11a	BPSK	9	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	QPSK	12	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	QPSK	18	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	16QAM	24	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	16QAM	36	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	64QAM	48	6.00	5.00	5.00	5.00	5.00	5.00
802.11a	64QAM	54	6.00	5.00	5.00	5.00	5.00	5.00
802.11n	BPSK	6.5 / 7.25	7.50	6.50	6.50	6.50	6.50	6.50
802.11n	QPSK	13.0 / 14.4	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	19.5 / 21.7	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	26.0 / 28.9	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	39.0 / 43.3	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	52.0 / 57.8	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	58.5 / 65.0	6.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	65.0 / 72.2	6.00	5.00	5.00	5.00	5.00	5.00
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.50	6.50	6.50	6.50	6.50	6.50
802.11n	QPSK	26.0 / 28.9	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	39.0 / 43.3	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	52.0 / 57.8	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	78.0 / 86.7	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	104.0 / 115.6	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	117.0 / 130.0	6.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	130.0 / 144.4	6.00	5.00	5.00	5.00	5.00	5.00

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	6.50	6.50	7.00	7.00
802.11n	QPSK	27.0 / 30.0	4.50	4.50	5.00	5.00
802.11n	QPSK	40.5 / 45.0	4.50	4.50	5.00	5.00
802.11n	16QAM	54.0 / 60.0	3.50	3.50	4.00	4.00
802.11n	16QAM	81.0 / 90.0	3.50	3.50	4.00	4.00
802.11n	64QAM	108.0 / 120.0	3.50	3.50	4.00	4.00
802.11n	64QAM	121.5 / 135.0	1.50	1.50	2.00	2.00
802.11n	64QAM	135.0 / 150.0	1.00	1.00	1.50	1.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	6.50	6.50	7.00	7.00
802.11n	QPSK	54.0 / 60.0	4.50	4.50	5.00	5.00
802.11n	QPSK	81.0 / 90.0	4.50	4.50	5.00	5.00
802.11n	16QAM	108.0 / 120.0	3.50	3.50	4.00	4.00
802.11n	16QAM	162.0 / 180.0	3.50	3.50	4.00	4.00
802.11n	64QAM	216.0 / 240.0	3.50	3.50	4.00	4.00
802.11n	64QAM	243.0 / 270.0	1.50	1.50	2.00	2.00
802.11n	64QAM	270.0 / 300.0	1.00	1.00	1.50	1.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz Tuning Targets					
			140	149	153	157	161	165
802.11a	BPSK	6	6.50	7.50	7.50	7.50	7.50	7.50
802.11a	BPSK	9	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	QPSK	12	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	QPSK	18	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	16QAM	24	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	16QAM	36	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	64QAM	48	5.00	6.00	6.00	6.00	6.00	6.00
802.11a	64QAM	54	5.00	6.00	6.00	6.00	6.00	6.00
802.11n	BPSK	6.5 / 7.25	6.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	13.0 / 14.4	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	QPSK	19.5 / 21.7	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	26.0 / 28.9	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	39.0 / 43.3	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	52.0 / 57.8	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	58.5 / 65.0	5.00	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	65.0 / 72.2	5.00	6.00	6.00	6.00	6.00	6.00
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	6.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	26.0 / 28.9	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	QPSK	39.0 / 43.3	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	52.0 / 57.8	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	78.0 / 86.7	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	104.0 / 115.6	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	117.0 / 130.0	5.00	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	130.0 / 144.4	5.00	6.00	6.00	6.00	6.00	6.00

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	5.00	5.00	5.00	5.00
802.11n	16QAM	81.0 / 90.0	5.00	5.00	5.00	5.00
802.11n	64QAM	108.0 / 120.0	5.00	5.00	5.00	5.00
802.11n	64QAM	121.5 / 135.0	3.00	3.00	3.00	3.00
802.11n	64QAM	135.0 / 150.0	2.50	2.50	2.50	2.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	5.00	5.00	5.00	5.00
802.11n	16QAM	162.0 / 180.0	5.00	5.00	5.00	5.00
802.11n	64QAM	216.0 / 240.0	5.00	5.00	5.00	5.00
802.11n	64QAM	243.0 / 270.0	3.00	3.00	3.00	3.00
802.11n	64QAM	270.0 / 300.0	2.50	2.50	2.50	2.50

J.4 Power Tuning Targets Body Measurements - WLAN5000 - AUX Antenna

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz Tuning Targets					
			36	40	44	48	52	56
802.11a	BPSK	6	9.50	9.50	9.50	9.50	8.50	8.50
802.11a	BPSK	9	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	QPSK	12	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	QPSK	18	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	16QAM	24	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	16QAM	36	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	64QAM	48	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	64QAM	54	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	BPSK	6.5 / 7.25	9.50	9.50	9.50	9.50	8.50	8.50
802.11n	QPSK	13.0 / 14.4	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	QPSK	19.5 / 21.7	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	26.0 / 28.9	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	39.0 / 43.3	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	52.0 / 57.8	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	58.5 / 65.0	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	65.0 / 72.2	8.50	8.50	8.50	8.50	7.50	7.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.50	9.50	9.50	9.50	8.50	8.50
802.11n	QPSK	26.0 / 28.9	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	QPSK	39.0 / 43.3	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	52.0 / 57.8	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	78.0 / 86.7	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	104.0 / 115.6	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	117.0 / 130.0	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	130.0 / 144.4	8.50	8.50	8.50	8.50	7.50	7.50

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz Tuning Targets						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	8.50	8.50	8.50	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	16QAM	81.0 / 90.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	108.0 / 120.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	121.5 / 135.0	4.50	4.50	4.50	4.00	4.00	4.00	4.00
802.11n	64QAM	135.0 / 150.0	3.50	3.50	3.50	3.00	3.00	3.00	3.00
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.50	8.50	8.50	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	16QAM	162.0 / 180.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	216.0 / 240.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	243.0 / 270.0	4.50	4.50	4.50	4.00	4.00	4.00	4.00
802.11n	64QAM	270.0 / 300.0	3.50	3.50	3.50	3.00	3.00	3.00	3.00

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			60	64	100	104	108	112
802.11a	BPSK	6	8.50	8.50	8.50	8.50	8.50	8.50
802.11a	BPSK	9	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	12	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	18	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	24	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	36	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	48	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	54	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	BPSK	6.5 / 7.25	8.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	13.0 / 14.4	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	19.5 / 21.7	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	26.0 / 28.9	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	39.0 / 43.3	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	52.0 / 57.8	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	58.5 / 65.0	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	65.0 / 72.2	7.50	7.50	7.50	7.50	7.50	7.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	26.0 / 28.9	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	39.0 / 43.3	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	52.0 / 57.8	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	78.0 / 86.7	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	104.0 / 115.6	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	117.0 / 130.0	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	130.0 / 144.4	7.50	7.50	7.50	7.50	7.50	7.50

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00	8.00	9.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	16QAM	54.0 / 60.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	16QAM	81.0 / 90.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	108.0 / 120.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	121.5 / 135.0	4.00	4.00	4.00	4.00	4.00	4.50
802.11n	64QAM	135.0 / 150.0	3.00	3.00	3.00	3.00	3.00	3.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00	8.00	9.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	16QAM	108.0 / 120.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	16QAM	162.0 / 180.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	216.0 / 240.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	243.0 / 270.0	4.00	4.00	4.00	4.00	4.00	4.50
802.11n	64QAM	270.0 / 300.0	3.00	3.00	3.00	3.00	3.00	3.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			116	120	124	128	132	136
802.11a	BPSK	6	8.50	9.50	9.50	9.50	9.50	9.50
802.11a	BPSK	9	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	QPSK	12	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	QPSK	18	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	16QAM	24	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	16QAM	36	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	64QAM	48	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	64QAM	54	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	BPSK	6.5 / 7.25	8.50	9.50	9.50	9.50	9.50	9.50
802.11n	QPSK	13.0 / 14.4	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	19.5 / 21.7	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	26.0 / 28.9	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	39.0 / 43.3	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	52.0 / 57.8	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	58.5 / 65.0	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	65.0 / 72.2	7.50	8.50	8.50	8.50	8.50	8.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.50	9.50	9.50	9.50	9.50	9.50
802.11n	QPSK	26.0 / 28.9	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	39.0 / 43.3	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	52.0 / 57.8	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	78.0 / 86.7	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	104.0 / 115.6	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	117.0 / 130.0	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	130.0 / 144.4	7.50	8.50	8.50	8.50	8.50	8.50

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	9.00	9.00	8.50	8.50
802.11n	QPSK	27.0 / 30.0	7.50	7.50	6.50	6.50
802.11n	QPSK	40.5 / 45.0	7.50	7.50	6.50	6.50
802.11n	16QAM	54.0 / 60.0	6.50	6.50	6.00	6.00
802.11n	16QAM	81.0 / 90.0	6.50	6.50	6.00	6.00
802.11n	64QAM	108.0 / 120.0	6.50	6.50	6.00	6.00
802.11n	64QAM	121.5 / 135.0	4.50	4.50	4.50	4.50
802.11n	64QAM	135.0 / 150.0	3.50	3.50	3.50	3.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.00	9.00	8.50	8.50
802.11n	QPSK	54.0 / 60.0	7.50	7.50	6.50	6.50
802.11n	QPSK	81.0 / 90.0	7.50	7.50	6.50	6.50
802.11n	16QAM	108.0 / 120.0	6.50	6.50	6.00	6.00
802.11n	16QAM	162.0 / 180.0	6.50	6.50	6.00	6.00
802.11n	64QAM	216.0 / 240.0	6.50	6.50	6.00	6.00
802.11n	64QAM	243.0 / 270.0	4.50	4.50	4.50	4.50
802.11n	64QAM	270.0 / 300.0	3.50	3.50	3.50	3.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			140	149	153	157	161	165
802.11a	BPSK	6	9.50	8.50	8.50	8.50	8.50	8.50
802.11a	BPSK	9	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	12	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	18	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	24	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	36	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	48	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	54	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	BPSK	6.5 / 7.25	9.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	13.0 / 14.4	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	19.5 / 21.7	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	26.0 / 28.9	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	39.0 / 43.3	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	52.0 / 57.8	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	58.5 / 65.0	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	65.0 / 72.2	8.50	7.50	7.50	7.50	7.50	7.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	26.0 / 28.9	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	39.0 / 43.3	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	52.0 / 57.8	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	78.0 / 86.7	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	104.0 / 115.6	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	117.0 / 130.0	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	130.0 / 144.4	8.50	7.50	7.50	7.50	7.50	7.50

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz Tuning Targets			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	5.50	5.50	5.50	5.50
802.11n	16QAM	81.0 / 90.0	5.50	5.50	5.50	5.50
802.11n	64QAM	108.0 / 120.0	5.50	5.50	5.50	5.50
802.11n	64QAM	121.5 / 135.0	4.00	4.00	4.00	4.00
802.11n	64QAM	135.0 / 150.0	3.00	3.00	3.00	3.00
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	5.50	5.50	5.50	5.50
802.11n	16QAM	162.0 / 180.0	5.50	5.50	5.50	5.50
802.11n	64QAM	216.0 / 240.0	5.50	5.50	5.50	5.50
802.11n	64QAM	243.0 / 270.0	4.00	4.00	4.00	4.00
802.11n	64QAM	270.0 / 300.0	3.00	3.00	3.00	3.00

J.5 Conducted Power from the Sample used in the WLAN2450 Main Antenna Testing

Type: RX-114; Serial number: 004402/47/351070/3 used for WLAN2450 Body Main Antenna Testing

WLAN 2.4 GHz Conducted Power Measurements – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
802.11b BPSK 1 Mbps	12.86	12.84	14.39	12.41	13.01
802.11b QPSK 2 Mbps	12.61	12.80	14.37	12.38	12.95
802.11b QPSK 5.5 Mbps	12.74	12.96	14.54	12.47	13.09
802.11b QPSK 11 Mbps	12.75	12.97	14.53	12.50	13.09
802.11g BPSK 6 Mbps	10.22	10.46	12.02	10.25	10.22
802.11g BPSK 9 Mbps	10.24	10.54	12.07	10.77	10.25
802.11g QPSK 12 Mbps	10.26	10.53	12.08	10.32	10.27
802.11g QPSK 18 Mbps	10.32	10.59	12.09	10.33	10.29
802.11g 16QAM 24 Mbps	10.60	10.87	12.42	10.65	10.14
802.11g 16QAM 36 Mbps	10.83	11.16	12.61	10.87	10.26
802.11g 64QAM 48 Mbps	10.88	11.15	12.75	10.99	10.34
802.11g 64QAM 54 Mbps	10.51	10.63	12.13	10.57	10.22
802.11n BPSK 6.5 / 7.25 Mbps	9.10	9.36	10.89	9.21	9.78
802.11n QPSK 13.0 / 14.4 Mbps	7.77	8.05	9.51	8.35	7.18
802.11n QPSK 19.5 / 21.7 Mbps	7.83	8.10	9.63	7.83	7.23
802.11n 16QAM 26.0 / 28.9 Mbps	8.20	8.52	9.96	8.33	8.29
802.11n 16QAM 39.0 / 43.3 Mbps	8.25	8.56	10.05	8.29	8.50
802.11n 64QAM 52.0 / 57.8 Mbps	8.38	8.53	10.15	8.42	8.50
802.11n 64QAM 58.5 / 65.0 Mbps	8.30	8.57	10.24	8.42	8.53
802.11n 64QAM 65.0 / 72.2 Mbps	6.33	6.69	8.26	6.47	6.49
802.11n BPSK 13.0 / 14.4 Mbps	9.10	9.36	10.89	9.21	9.78
802.11n QPSK 26.0 / 28.9 Mbps	7.77	8.05	9.51	8.35	7.18
802.11n QPSK 39.0 / 43.3 Mbps	7.83	8.10	9.63	7.83	7.23
802.11n 16QAM 52.0 / 57.8 Mbps	8.20	8.52	9.96	8.33	8.29
802.11n 16QAM 78.0 / 86.7 Mbps	8.25	8.56	10.05	8.29	8.50
802.11n 64QAM 104.0 / 115.6 Mbps	8.38	8.53	10.15	8.42	8.50
802.11n 64QAM 117.0 / 130.0 Mbps	8.30	8.57	10.24	8.42	8.53
802.11n 64QAM 130.0 / 144.4 Mbps	6.33	6.69	8.26	6.47	6.49

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Conducted Power Measurements – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
802.11n BPSK 13.5 / 15.0 Mbps	10.30	-	10.14	-	8.97
802.11n QPSK 27.0 / 30.0 Mbps	6.99	-	7.90	-	7.49
802.11n QPSK 40.5 / 45.0 Mbps	7.02	-	7.95	-	7.53
802.11n 16QAM 54.0 / 60.0 Mbps	7.01	-	7.79	-	7.59
802.11n 16QAM 81.0 / 90.0 Mbps	7.05	-	7.78	-	7.64
802.11n 64QAM 108.0 / 120.0 Mbps	6.98	-	7.80	-	7.71
802.11n 64QAM 121.5 / 135.0 Mbps	6.56	-	7.93	-	7.65
802.11n 64QAM 135.0 / 150.0 Mbps	5.10	-	5.42	-	4.37
802.11n BPSK 27.0 / 30.0 Mbps	10.30	-	10.14	-	8.97
802.11n QPSK 54.0 / 60.0 Mbps	6.99	-	7.90	-	7.49
802.11n QPSK 81.0 / 90.0 Mbps	7.02	-	7.95	-	7.53
802.11n 16QAM 108.0 / 120.0 Mbps	7.01	-	7.79	-	7.59
802.11n 16QAM 162.0 / 180.0 Mbps	7.05	-	7.78	-	7.64
802.11n 64QAM 216.0 / 240.0 Mbps	6.98	-	7.80	-	7.71
802.11n 64QAM 243.0 / 270.0 Mbps	6.56	-	7.93	-	7.65
802.11n 64QAM 270.0 / 300.0 Mbps	5.10	-	5.42	-	4.37

J.6 Conducted Power from the Sample used in the WLAN2450 AUX Antenna Testing

Type: RX-114; Serial number: 004402/47/351070/3 used for WLAN2450 Body AUX Antenna Testing

WLAN 2.4 GHz Conducted Power Measurements – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
802.11b BPSK 1 Mbps	13.50	13.15	14.10	11.98	13.18
802.11b QPSK 2 Mbps	13.44	13.14	14.10	11.97	13.19
802.11b QPSK 5.5 Mbps	13.63	13.31	14.30	12.08	13.34
802.11b QPSK 11 Mbps	13.59	13.30	14.25	11.97	12.86
802.11g BPSK 6 Mbps	10.97	11.05	11.69	9.84	10.54
802.11g BPSK 9 Mbps	10.99	11.06	11.68	10.24	10.56
802.11g QPSK 12 Mbps	10.99	11.07	11.74	10.41	10.60
802.11g QPSK 18 Mbps	11.09	11.18	11.76	10.12	10.61
802.11g 16QAM 24 Mbps	11.23	11.39	11.91	10.21	10.90
802.11g 16QAM 36 Mbps	11.20	11.43	12.08	10.56	11.22
802.11g 64QAM 48 Mbps	11.51	11.33	12.08	10.69	11.19
802.11g 64QAM 54 Mbps	11.08	11.04	11.85	10.14	10.71
802.11n BPSK 6.5 / 7.25 Mbps	9.84	9.96	10.57	8.87	9.45
802.11n QPSK 13.0 / 14.4 Mbps	8.51	8.65	9.20	7.46	8.06
802.11n QPSK 19.5 / 21.7 Mbps	8.58	8.69	9.25	7.51	8.13
802.11n 16QAM 26.0 / 28.9 Mbps	8.98	9.10	9.62	7.94	8.53
802.11n 16QAM 39.0 / 43.3 Mbps	9.02	9.13	9.67	7.93	8.57
802.11n 64QAM 52.0 / 57.8 Mbps	9.21	9.14	9.86	8.00	8.67
802.11n 64QAM 58.5 / 65.0 Mbps	9.23	9.27	9.76	8.09	8.61
802.11n 64QAM 65.0 / 72.2 Mbps	7.19	7.32	7.86	6.17	6.73
802.11n BPSK 13.0 / 14.4 Mbps	9.84	9.96	10.57	8.87	9.45
802.11n QPSK 26.0 / 28.9 Mbps	8.51	8.65	9.20	7.46	8.06
802.11n QPSK 39.0 / 43.3 Mbps	8.58	8.69	9.25	7.51	8.13
802.11n 16QAM 52.0 / 57.8 Mbps	8.98	9.10	9.62	7.94	8.53
802.11n 16QAM 78.0 / 86.7 Mbps	9.02	9.13	9.67	7.93	8.57
802.11n 64QAM 104.0 / 115.6 Mbps	9.21	9.14	9.86	8.00	8.67
802.11n 64QAM 117.0 / 130.0 Mbps	9.23	9.27	9.76	8.09	8.61
802.11n 64QAM 130.0 / 144.4 Mbps	7.19	7.32	7.86	6.17	6.73

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Conducted Power Measurements – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
802.11n BPSK 13.5 / 15.0 Mbps	9.55	-	9.24	-	9.19
802.11n QPSK 27.0 / 30.0 Mbps	8.24	-	7.34	-	7.28
802.11n QPSK 40.5 / 45.0 Mbps	8.26	-	7.35	-	7.30
802.11n 16QAM 54.0 / 60.0 Mbps	7.41	-	6.85	-	7.15
802.11n 16QAM 81.0 / 90.0 Mbps	7.43	-	6.97	-	7.23
802.11n 64QAM 108.0 / 120.0 Mbps	7.51	-	6.90	-	7.28
802.11n 64QAM 121.5 / 135.0 Mbps	7.49	-	7.02	-	7.34
802.11n 64QAM 135.0 / 150.0 Mbps	5.49	-	5.06	-	5.38
802.11n BPSK 27.0 / 30.0 Mbps	9.55	-	9.24	-	9.19
802.11n QPSK 54.0 / 60.0 Mbps	8.24	-	7.34	-	7.28
802.11n QPSK 81.0 / 90.0 Mbps	8.26	-	7.35	-	7.30
802.11n 16QAM 108.0 / 120.0 Mbps	7.41	-	6.85	-	7.15
802.11n 16QAM 162.0 / 180.0 Mbps	7.43	-	6.97	-	7.23
802.11n 64QAM 216.0 / 240.0 Mbps	7.51	-	6.90	-	7.28
802.11n 64QAM 243.0 / 270.0 Mbps	7.49	-	7.02	-	7.34
802.11n 64QAM 270.0 / 300.0 Mbps	5.49	-	5.06	-	5.38

J.7 Conducted Power from the Sample used in the WLAN5000 Main Antenna Testing

Type: RX-114; Serial number: 004402/47/351376/4 used for WLAN5000 Body Main Antenna Testing

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			36	40	44	48	52	56
802.11a	BPSK	6	7.76	8.14	8.40	8.49	8.71	8.40
802.11a	BPSK	9	6.55	7.31	7.56	7.18	7.43	7.57
802.11a	QPSK	12	6.53	6.88	7.57	7.20	7.42	7.60
802.11a	QPSK	18	6.61	6.99	7.27	7.82	7.50	7.68
802.11a	16QAM	24	6.81	7.31	7.46	7.68	7.82	8.00
802.11a	16QAM	36	7.14	7.67	8.03	7.41	8.20	8.24
802.11a	64QAM	48	6.16	6.43	7.19	6.51	6.80	7.06
802.11a	64QAM	54	6.47	7.00	6.66	6.60	6.92	6.97
802.11n	BPSK	6.5 / 7.25	7.55	8.03	7.86	8.41	8.61	8.25
802.11n	QPSK	13.0 / 14.4	6.55	7.21	7.02	7.11	7.31	7.97
802.11n	QPSK	19.5 / 21.7	6.49	6.84	7.08	7.21	7.42	7.61
802.11n	16QAM	26.0 / 28.9	6.80	7.22	7.39	7.56	7.77	7.95
802.11n	16QAM	39.0 / 43.3	6.88	7.31	7.58	7.75	7.46	8.09
802.11n	64QAM	52.0 / 57.8	6.84	7.71	7.86	7.72	7.86	8.28
802.11n	64QAM	58.5 / 65.0	5.99	6.87	6.70	6.69	7.34	7.00
802.11n	64QAM	65.0 / 72.2	6.39	6.39	6.66	6.58	6.92	7.06
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.55	8.03	7.86	8.41	8.61	8.25
802.11n	QPSK	26.0 / 28.9	6.55	7.21	7.02	7.11	7.31	7.97
802.11n	QPSK	39.0 / 43.3	6.49	6.84	7.08	7.21	7.42	7.61
802.11n	16QAM	52.0 / 57.8	6.80	7.22	7.39	7.56	7.77	7.95
802.11n	16QAM	78.0 / 86.7	6.88	7.31	7.58	7.75	7.46	8.09
802.11n	64QAM	104.0 / 115.6	6.84	7.71	7.86	7.72	7.86	8.28
802.11n	64QAM	117.0 / 130.0	5.99	6.87	6.70	6.69	7.34	7.00
802.11n	64QAM	130.0 / 144.4	6.39	6.39	6.66	6.58	6.92	7.06

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	8.31	8.46	8.20	8.75	9.00	8.47	8.43
802.11n	QPSK	27.0 / 30.0	6.20	6.16	6.37	6.42	6.73	6.66	6.65
802.11n	QPSK	40.5 / 45.0	5.96	5.97	6.17	6.32	6.94	6.44	6.46
802.11n	16QAM	54.0 / 60.0	4.91	5.02	4.83	5.36	5.14	5.57	5.04
802.11n	16QAM	81.0 / 90.0	5.25	5.45	5.70	5.88	6.10	6.07	5.58
802.11n	64QAM	108.0 / 120.0	5.14	5.43	4.95	5.11	5.29	5.32	5.17
802.11n	64QAM	121.5 / 135.0	3.13	3.27	3.10	3.60	3.33	3.84	3.39
802.11n	64QAM	135.0 / 150.0	2.45	2.60	2.57	2.54	2.95	2.92	2.91
802.11ac	256QAM	351 / 390	-	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.31	8.46	8.20	8.75	9.00	8.47	8.43
802.11n	QPSK	54.0 / 60.0	6.20	6.16	6.37	6.42	6.73	6.66	6.65
802.11n	QPSK	81.0 / 90.0	5.96	5.97	6.17	6.32	6.94	6.44	6.46
802.11n	16QAM	108.0 / 120.0	4.91	5.02	4.83	5.36	5.14	5.57	5.04
802.11n	16QAM	162.0 / 180.0	5.25	5.45	5.70	5.88	6.10	6.07	5.58
802.11n	64QAM	216.0 / 240.0	5.14	5.43	4.95	5.11	5.29	5.32	5.17
802.11n	64QAM	243.0 / 270.0	3.13	3.27	3.10	3.60	3.33	3.84	3.39
802.11n	64QAM	270.0 / 300.0	2.45	2.60	2.57	2.54	2.95	2.92	2.91

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			60	64	100	104	108	112
802.11a	BPSK	6	8.84	8.40	8.56	8.05	7.71	7.62
802.11a	BPSK	9	7.51	8.04	7.15	7.32	6.74	6.72
802.11a	QPSK	12	7.57	7.60	7.19	7.31	6.81	6.74
802.11a	QPSK	18	7.62	7.69	7.29	7.02	6.90	6.88
802.11a	16QAM	24	7.59	7.98	7.53	7.27	7.28	7.14
802.11a	16QAM	36	8.44	7.83	7.85	7.73	7.05	7.28
802.11a	64QAM	48	6.92	7.09	7.21	6.85	6.29	6.16
802.11a	64QAM	54	7.09	7.15	7.05	6.82	6.27	6.20
802.11n	BPSK	6.5 / 7.25	8.29	8.32	8.32	8.00	7.46	7.36
802.11n	QPSK	13.0 / 14.4	7.49	7.48	6.95	6.72	6.62	6.65
802.11n	QPSK	19.5 / 21.7	7.59	7.60	7.10	6.81	6.73	6.74
802.11n	16QAM	26.0 / 28.9	8.00	8.02	7.47	7.18	7.17	7.06
802.11n	16QAM	39.0 / 43.3	7.66	7.62	7.62	7.40	7.32	7.20
802.11n	64QAM	52.0 / 57.8	7.95	7.88	7.83	7.64	7.04	6.94
802.11n	64QAM	58.5 / 65.0	7.10	7.11	7.28	6.87	5.73	6.16
802.11n	64QAM	65.0 / 72.2	7.04	6.99	6.62	6.87	6.20	5.66
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.29	8.32	8.32	8.00	7.46	7.36
802.11n	QPSK	26.0 / 28.9	7.49	7.48	6.95	6.72	6.62	6.65
802.11n	QPSK	39.0 / 43.3	7.59	7.60	7.10	6.81	6.73	6.74
802.11n	16QAM	52.0 / 57.8	8.00	8.02	7.47	7.18	7.17	7.06
802.11n	16QAM	78.0 / 86.7	7.66	7.62	7.62	7.40	7.32	7.20
802.11n	64QAM	104.0 / 115.6	7.95	7.88	7.83	7.64	7.04	6.94
802.11n	64QAM	117.0 / 130.0	7.10	7.11	7.28	6.87	5.73	6.16
802.11n	64QAM	130.0 / 144.4	7.04	6.99	6.62	6.87	6.20	5.66

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	7.36	7.70	7.09	7.04	7.04	7.09
802.11n	QPSK	27.0 / 30.0	5.61	5.97	5.38	5.26	5.28	5.25
802.11n	QPSK	40.5 / 45.0	5.36	5.69	5.10	4.98	5.00	5.00
802.11n	16QAM	54.0 / 60.0	4.97	4.81	4.20	4.04	4.13	4.09
802.11n	16QAM	81.0 / 90.0	5.10	4.96	4.60	4.72	4.68	4.70
802.11n	64QAM	108.0 / 120.0	4.77	4.62	4.06	4.14	3.99	3.94
802.11n	64QAM	121.5 / 135.0	2.80	2.70	2.11	2.15	2.13	2.00
802.11n	64QAM	135.0 / 150.0	2.31	1.63	1.49	1.45	1.51	1.32
802.11ac	256QAM	351 / 390	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	7.36	7.70	7.09	7.04	7.04	7.09
802.11n	QPSK	54.0 / 60.0	5.61	5.97	5.38	5.26	5.28	5.25
802.11n	QPSK	81.0 / 90.0	5.36	5.69	5.10	4.98	5.00	5.00
802.11n	16QAM	108.0 / 120.0	4.97	4.81	4.20	4.04	4.13	4.09
802.11n	16QAM	162.0 / 180.0	5.10	4.96	4.60	4.72	4.68	4.70
802.11n	64QAM	216.0 / 240.0	4.77	4.62	4.06	4.14	3.99	3.94
802.11n	64QAM	243.0 / 270.0	2.80	2.70	2.11	2.15	2.13	2.00
802.11n	64QAM	270.0 / 300.0	2.31	1.63	1.49	1.45	1.51	1.32

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			116	120	124	128	132	136
802.11a	BPSK	6	7.13	7.18	7.06	7.06	7.57	7.49
802.11a	BPSK	9	6.18	6.23	6.62	6.13	6.64	6.61
802.11a	QPSK	12	6.30	6.28	6.21	6.18	6.62	6.63
802.11a	QPSK	18	6.38	6.35	6.35	6.29	6.81	6.33
802.11a	16QAM	24	6.70	6.71	6.56	6.52	6.53	7.01
802.11a	16QAM	36	6.41	6.52	6.35	6.72	6.70	6.81
802.11a	64QAM	48	5.67	5.73	5.69	5.45	6.20	6.02
802.11a	64QAM	54	5.81	5.15	5.71	5.49	5.75	6.21
802.11n	BPSK	6.5 / 7.25	6.86	6.94	6.84	6.84	7.34	7.28
802.11n	QPSK	13.0 / 14.4	6.15	6.14	6.05	6.07	6.60	6.11
802.11n	QPSK	19.5 / 21.7	6.22	6.25	6.14	6.18	6.17	6.20
802.11n	16QAM	26.0 / 28.9	6.17	6.67	6.50	6.61	6.50	6.53
802.11n	16QAM	39.0 / 43.3	6.33	6.82	6.28	6.16	6.73	6.62
802.11n	64QAM	52.0 / 57.8	6.87	6.96	6.90	6.34	6.87	6.83
802.11n	64QAM	58.5 / 65.0	5.67	5.66	5.70	5.48	6.16	5.58
802.11n	64QAM	65.0 / 72.2	5.67	5.27	5.65	5.53	6.14	6.13
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	6.86	6.94	6.84	6.84	7.34	7.28
802.11n	QPSK	26.0 / 28.9	6.15	6.14	6.05	6.07	6.60	6.11
802.11n	QPSK	39.0 / 43.3	6.22	6.25	6.14	6.18	6.17	6.20
802.11n	16QAM	52.0 / 57.8	6.17	6.67	6.50	6.61	6.50	6.53
802.11n	16QAM	78.0 / 86.7	6.33	6.82	6.28	6.16	6.73	6.62
802.11n	64QAM	104.0 / 115.6	6.87	6.96	6.90	6.34	6.87	6.83
802.11n	64QAM	117.0 / 130.0	5.67	5.66	5.70	5.48	6.16	5.58
802.11n	64QAM	130.0 / 144.4	5.67	5.27	5.65	5.53	6.14	6.13

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	6.96	6.95	7.04	7.03
802.11n	QPSK	27.0 / 30.0	5.32	5.21	5.29	5.37
802.11n	QPSK	40.5 / 45.0	5.01	4.89	5.02	5.09
802.11n	16QAM	54.0 / 60.0	4.04	4.05	4.05	4.08
802.11n	16QAM	81.0 / 90.0	4.17	4.18	4.46	4.36
802.11n	64QAM	108.0 / 120.0	3.85	3.86	3.99	4.18
802.11n	64QAM	121.5 / 135.0	2.59	1.50	1.95	1.97
802.11n	64QAM	135.0 / 150.0	1.37	1.28	1.46	1.58
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	6.96	6.95	7.04	7.03
802.11n	QPSK	54.0 / 60.0	5.32	5.21	5.29	5.37
802.11n	QPSK	81.0 / 90.0	5.01	4.89	5.02	5.09
802.11n	16QAM	108.0 / 120.0	4.04	4.05	4.05	4.08
802.11n	16QAM	162.0 / 180.0	4.17	4.18	4.46	4.36
802.11n	64QAM	216.0 / 240.0	3.85	3.86	3.99	4.18
802.11n	64QAM	243.0 / 270.0	2.59	1.50	1.95	1.97
802.11n	64QAM	270.0 / 300.0	1.37	1.28	1.46	1.58

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			140	149	153	157	161	165
802.11a	BPSK	6	7.48	7.63	8.12	8.78	8.88	8.91
802.11a	BPSK	9	6.60	7.23	7.32	7.47	8.10	8.09
802.11a	QPSK	12	6.63	7.25	7.36	7.46	7.63	8.18
802.11a	QPSK	18	6.24	6.89	6.99	7.61	8.23	8.25
802.11a	16QAM	24	6.41	7.05	7.68	7.78	7.95	8.55
802.11a	16QAM	36	6.69	7.28	7.61	7.68	8.18	8.42
802.11a	64QAM	48	5.88	6.08	6.44	6.99	7.04	7.49
802.11a	64QAM	54	5.63	6.20	6.58	6.92	7.09	7.54
802.11n	BPSK	6.5 / 7.25	7.28	7.41	7.95	8.61	8.37	8.76
802.11n	QPSK	13.0 / 14.4	6.56	6.74	7.23	7.36	7.50	8.00
802.11n	QPSK	19.5 / 21.7	6.66	6.77	6.83	7.45	7.59	8.07
802.11n	16QAM	26.0 / 28.9	6.45	7.03	7.17	7.81	7.94	8.40
802.11n	16QAM	39.0 / 43.3	6.59	7.16	7.30	7.52	8.14	8.05
802.11n	64QAM	52.0 / 57.8	6.73	7.35	7.49	7.95	7.90	8.40
802.11n	64QAM	58.5 / 65.0	5.77	6.01	6.64	6.94	7.30	7.54
802.11n	64QAM	65.0 / 72.2	5.66	6.07	6.25	6.95	6.93	7.42
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.28	7.41	7.95	8.61	8.37	8.76
802.11n	QPSK	26.0 / 28.9	6.56	6.74	7.23	7.36	7.50	8.00
802.11n	QPSK	39.0 / 43.3	6.66	6.77	6.83	7.45	7.59	8.07
802.11n	16QAM	52.0 / 57.8	6.45	7.03	7.17	7.81	7.94	8.40
802.11n	16QAM	78.0 / 86.7	6.59	7.16	7.30	7.52	8.14	8.05
802.11n	64QAM	104.0 / 115.6	6.73	7.35	7.49	7.95	7.90	8.40
802.11n	64QAM	117.0 / 130.0	5.77	6.01	6.64	6.94	7.30	7.54
802.11n	64QAM	130.0 / 144.4	5.66	6.07	6.25	6.95	6.93	7.42

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	8.16	8.23	8.50	8.87
802.11n	QPSK	27.0 / 30.0	6.15	6.52	6.76	7.28
802.11n	QPSK	40.5 / 45.0	6.17	5.67	6.38	6.34
802.11n	16QAM	54.0 / 60.0	5.02	5.24	5.30	5.38
802.11n	16QAM	81.0 / 90.0	5.28	5.51	5.55	6.04
802.11n	64QAM	108.0 / 120.0	5.14	5.43	5.15	5.58
802.11n	64QAM	121.5 / 135.0	3.04	3.28	3.03	3.68
802.11n	64QAM	135.0 / 150.0	2.65	2.80	2.62	3.11
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.16	8.23	8.50	8.87
802.11n	QPSK	54.0 / 60.0	6.15	6.52	6.76	7.28
802.11n	QPSK	81.0 / 90.0	6.17	5.67	6.38	6.34
802.11n	16QAM	108.0 / 120.0	5.02	5.24	5.30	5.38
802.11n	16QAM	162.0 / 180.0	5.28	5.51	5.55	6.04
802.11n	64QAM	216.0 / 240.0	5.14	5.43	5.15	5.58
802.11n	64QAM	243.0 / 270.0	3.04	3.28	3.03	3.68
802.11n	64QAM	270.0 / 300.0	2.65	2.80	2.62	3.11

J.8 Conducted Power from the Sample used in the WLAN5000 AUX Antenna Testing

Type: RX-114; Serial number: 004402/47/351376/4 used for WLAN5000 Body AUX Antenna Testing

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			36	40	44	48	52	56
802.11a	BPSK	6	10.84	10.67	10.66	9.61	9.16	8.94
802.11a	BPSK	9	9.21	9.45	9.20	8.32	8.29	8.27
802.11a	QPSK	12	9.61	9.49	9.25	8.88	8.34	8.26
802.11a	QPSK	18	9.68	9.57	9.38	9.05	8.07	7.90
802.11a	16QAM	24	10.16	9.88	9.70	8.89	8.80	8.71
802.11a	16QAM	36	10.73	10.20	10.12	9.10	8.63	8.42
802.11a	64QAM	48	9.53	8.96	9.22	8.30	7.85	7.79
802.11a	64QAM	54	9.80	9.00	9.34	8.40	7.82	7.73
802.11n	BPSK	6.5 / 7.25	10.02	10.22	10.05	9.60	9.15	8.55
802.11n	QPSK	13.0 / 14.4	9.21	9.45	9.20	8.36	7.90	7.74
802.11n	QPSK	19.5 / 21.7	9.65	9.49	9.31	8.45	8.00	7.90
802.11n	16QAM	26.0 / 28.9	10.19	9.90	9.79	8.96	8.35	8.37
802.11n	16QAM	39.0 / 43.3	10.24	10.10	9.93	9.12	8.59	8.47
802.11n	64QAM	52.0 / 57.8	10.39	10.25	10.27	9.26	8.74	8.64
802.11n	64QAM	58.5 / 65.0	8.94	9.22	8.90	7.90	7.96	7.80
802.11n	64QAM	65.0 / 72.2	9.24	9.09	8.88	8.50	7.92	7.80
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	10.02	10.22	10.05	9.60	9.15	8.55
802.11n	QPSK	26.0 / 28.9	9.21	9.45	9.20	8.36	7.90	7.74
802.11n	QPSK	39.0 / 43.3	9.65	9.49	9.31	8.45	8.00	7.90
802.11n	16QAM	52.0 / 57.8	10.19	9.90	9.79	8.96	8.35	8.37
802.11n	16QAM	78.0 / 86.7	10.24	10.10	9.93	9.12	8.59	8.47
802.11n	64QAM	104.0 / 115.6	10.39	10.25	10.27	9.26	8.74	8.64
802.11n	64QAM	117.0 / 130.0	8.94	9.22	8.90	7.90	7.96	7.80
802.11n	64QAM	130.0 / 144.4	9.24	9.09	8.88	8.50	7.92	7.80

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	9.89	9.79	9.07	9.02	8.51	8.70	8.27
802.11n	QPSK	27.0 / 30.0	8.01	7.77	7.65	7.17	7.13	7.33	6.99
802.11n	QPSK	40.5 / 45.0	7.90	7.86	7.54	7.02	7.05	7.28	6.91
802.11n	16QAM	54.0 / 60.0	6.86	7.35	6.64	6.15	6.21	6.36	6.01
802.11n	16QAM	81.0 / 90.0	7.33	7.26	7.17	6.24	6.68	6.37	6.06
802.11n	64QAM	108.0 / 120.0	6.67	7.01	6.35	6.49	6.02	6.15	5.91
802.11n	64QAM	121.5 / 135.0	5.17	5.22	4.82	4.52	4.50	4.25	4.39
802.11n	64QAM	135.0 / 150.0	4.55	4.11	3.88	3.38	3.56	3.76	3.38
802.11ac	256QAM	351 / 390	-	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.89	9.79	9.07	9.02	8.51	8.70	8.27
802.11n	QPSK	54.0 / 60.0	8.01	7.77	7.65	7.17	7.13	7.33	6.99
802.11n	QPSK	81.0 / 90.0	7.90	7.86	7.54	7.02	7.05	7.28	6.91
802.11n	16QAM	108.0 / 120.0	6.86	7.35	6.64	6.15	6.21	6.36	6.01
802.11n	16QAM	162.0 / 180.0	7.33	7.26	7.17	6.24	6.68	6.37	6.06
802.11n	64QAM	216.0 / 240.0	6.67	7.01	6.35	6.49	6.02	6.15	5.91
802.11n	64QAM	243.0 / 270.0	5.17	5.22	4.82	4.52	4.50	4.25	4.39
802.11n	64QAM	270.0 / 300.0	4.55	4.11	3.88	3.38	3.56	3.76	3.38

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			60	64	100	104	108	112
802.11a	BPSK	6	9.04	8.53	9.03	8.84	9.38	9.05
802.11a	BPSK	9	8.38	7.54	8.12	7.99	8.43	8.14
802.11a	QPSK	12	7.97	7.51	8.08	7.99	8.45	8.60
802.11a	QPSK	18	8.05	7.57	8.21	8.06	8.58	8.25
802.11a	16QAM	24	8.41	7.96	8.58	8.45	8.89	8.61
802.11a	16QAM	36	8.71	8.19	8.87	8.65	9.20	8.78
802.11a	64QAM	48	7.86	7.52	8.00	7.84	8.08	8.25
802.11a	64QAM	54	7.95	7.54	7.49	7.94	8.09	8.26
802.11n	BPSK	6.5 / 7.25	8.61	8.18	8.85	8.67	9.18	8.87
802.11n	QPSK	13.0 / 14.4	7.96	6.92	8.04	7.91	8.40	8.00
802.11n	QPSK	19.5 / 21.7	8.03	7.57	8.08	8.02	8.49	8.18
802.11n	16QAM	26.0 / 28.9	8.47	7.99	8.62	8.28	8.89	8.56
802.11n	16QAM	39.0 / 43.3	8.61	8.12	8.74	8.13	8.94	8.73
802.11n	64QAM	52.0 / 57.8	8.72	7.95	8.51	8.67	8.72	8.85
802.11n	64QAM	58.5 / 65.0	7.51	7.12	7.63	7.43	8.09	7.97
802.11n	64QAM	65.0 / 72.2	7.61	7.08	7.50	7.34	8.08	8.25
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.61	8.18	8.85	8.67	9.18	8.87
802.11n	QPSK	26.0 / 28.9	7.96	6.92	8.04	7.91	8.40	8.00
802.11n	QPSK	39.0 / 43.3	8.03	7.57	8.08	8.02	8.49	8.18
802.11n	16QAM	52.0 / 57.8	8.47	7.99	8.62	8.28	8.89	8.56
802.11n	16QAM	78.0 / 86.7	8.61	8.12	8.74	8.13	8.94	8.73
802.11n	64QAM	104.0 / 115.6	8.72	7.95	8.51	8.67	8.72	8.85
802.11n	64QAM	117.0 / 130.0	7.51	7.12	7.63	7.43	8.09	7.97
802.11n	64QAM	130.0 / 144.4	7.61	7.08	7.50	7.34	8.08	8.25

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	8.25	8.72	8.30	8.47	9.24	9.42
802.11n	QPSK	27.0 / 30.0	6.86	6.89	6.41	6.56	7.36	7.54
802.11n	QPSK	40.5 / 45.0	6.93	6.86	6.40	6.47	7.71	8.07
802.11n	16QAM	54.0 / 60.0	5.96	5.94	5.49	5.64	6.85	7.05
802.11n	16QAM	81.0 / 90.0	5.86	5.81	5.84	5.91	6.68	7.00
802.11n	64QAM	108.0 / 120.0	5.80	5.68	5.80	5.95	6.57	6.87
802.11n	64QAM	121.5 / 135.0	4.03	4.44	3.95	3.98	4.73	5.06
802.11n	64QAM	135.0 / 150.0	3.14	3.00	3.06	3.22	4.01	4.26
802.11ac	256QAM	351 / 390	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.25	8.72	8.30	8.47	9.24	9.42
802.11n	QPSK	54.0 / 60.0	6.86	6.89	6.41	6.56	7.36	7.54
802.11n	QPSK	81.0 / 90.0	6.93	6.86	6.40	6.47	7.71	8.07
802.11n	16QAM	108.0 / 120.0	5.96	5.94	5.49	5.64	6.85	7.05
802.11n	16QAM	162.0 / 180.0	5.86	5.81	5.84	5.91	6.68	7.00
802.11n	64QAM	216.0 / 240.0	5.80	5.68	5.80	5.95	6.57	6.87
802.11n	64QAM	243.0 / 270.0	4.03	4.44	3.95	3.98	4.73	5.06
802.11n	64QAM	270.0 / 300.0	3.14	3.00	3.06	3.22	4.01	4.26

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			116	120	124	128	132	136
802.11a	BPSK	6	9.31	10.30	10.59	10.54	9.74	9.61
802.11a	BPSK	9	8.27	9.39	9.62	9.64	8.81	8.76
802.11a	QPSK	12	8.76	9.41	9.62	9.66	9.32	9.27
802.11a	QPSK	18	8.45	9.55	9.75	9.78	8.98	8.87
802.11a	16QAM	24	8.71	9.83	9.46	9.92	9.26	9.09
802.11a	16QAM	36	9.06	10.06	10.43	10.19	9.69	9.37
802.11a	64QAM	48	8.37	9.10	9.13	9.12	8.85	8.66
802.11a	64QAM	54	8.72	9.10	9.20	9.13	8.76	8.79
802.11n	BPSK	6.5 / 7.25	9.30	10.15	10.48	10.39	9.60	9.51
802.11n	QPSK	13.0 / 14.4	8.27	8.94	9.09	9.26	8.83	8.75
802.11n	QPSK	19.5 / 21.7	8.35	8.97	9.20	9.28	8.88	8.79
802.11n	16QAM	26.0 / 28.9	8.79	9.40	9.52	9.53	9.27	9.09
802.11n	16QAM	39.0 / 43.3	8.88	9.51	10.17	9.80	9.41	9.17
802.11n	64QAM	52.0 / 57.8	9.21	9.70	10.09	10.15	9.68	9.44
802.11n	64QAM	58.5 / 65.0	8.34	9.06	8.94	9.15	8.74	8.71
802.11n	64QAM	65.0 / 72.2	8.31	9.02	9.00	9.12	8.78	8.74
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.30	10.15	10.48	10.39	9.60	9.51
802.11n	QPSK	26.0 / 28.9	8.27	8.94	9.09	9.26	8.83	8.75
802.11n	QPSK	39.0 / 43.3	8.35	8.97	9.20	9.28	8.88	8.79
802.11n	16QAM	52.0 / 57.8	8.79	9.40	9.52	9.53	9.27	9.09
802.11n	16QAM	78.0 / 86.7	8.88	9.51	10.17	9.80	9.41	9.17
802.11n	64QAM	104.0 / 115.6	9.21	9.70	10.09	10.15	9.68	9.44
802.11n	64QAM	117.0 / 130.0	8.34	9.06	8.94	9.15	8.74	8.71
802.11n	64QAM	130.0 / 144.4	8.31	9.02	9.00	9.12	8.78	8.74

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	9.55	10.07	9.65	9.59
802.11n	QPSK	27.0 / 30.0	7.76	8.25	7.83	7.74
802.11n	QPSK	40.5 / 45.0	8.09	8.64	7.72	7.67
802.11n	16QAM	54.0 / 60.0	6.62	7.16	6.75	6.69
802.11n	16QAM	81.0 / 90.0	7.06	7.00	7.17	6.99
802.11n	64QAM	108.0 / 120.0	6.92	7.05	7.10	6.98
802.11n	64QAM	121.5 / 135.0	5.10	5.14	5.27	5.22
802.11n	64QAM	135.0 / 150.0	4.27	4.37	3.90	4.33
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.55	10.07	9.65	9.59
802.11n	QPSK	54.0 / 60.0	7.76	8.25	7.83	7.74
802.11n	QPSK	81.0 / 90.0	8.09	8.64	7.72	7.67
802.11n	16QAM	108.0 / 120.0	6.62	7.16	6.75	6.69
802.11n	16QAM	162.0 / 180.0	7.06	7.00	7.17	6.99
802.11n	64QAM	216.0 / 240.0	6.92	7.05	7.10	6.98
802.11n	64QAM	243.0 / 270.0	5.10	5.14	5.27	5.22
802.11n	64QAM	270.0 / 300.0	4.27	4.37	3.90	4.33

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			140	149	153	157	161	165
802.11a	BPSK	6	9.55	9.25	9.04	8.96	8.68	8.88
802.11a	BPSK	9	8.66	8.47	8.14	8.01	7.84	7.97
802.11a	QPSK	12	8.67	8.40	8.15	8.02	7.88	7.95
802.11a	QPSK	18	9.19	8.52	8.21	8.16	7.94	8.06
802.11a	16QAM	24	8.84	8.70	8.41	8.26	8.11	8.28
802.11a	16QAM	36	9.16	8.98	8.62	8.49	8.55	8.44
802.11a	64QAM	48	8.62	7.56	7.93	7.30	7.48	7.29
802.11a	64QAM	54	8.64	8.12	7.93	7.75	7.30	7.41
802.11n	BPSK	6.5 / 7.25	9.53	9.05	8.86	8.78	8.49	8.67
802.11n	QPSK	13.0 / 14.4	8.61	8.36	8.04	7.89	7.76	7.85
802.11n	QPSK	19.5 / 21.7	8.74	8.44	8.13	7.99	7.86	7.94
802.11n	16QAM	26.0 / 28.9	8.91	8.62	8.38	8.24	8.15	8.21
802.11n	16QAM	39.0 / 43.3	9.05	8.72	8.56	8.35	8.21	8.33
802.11n	64QAM	52.0 / 57.8	9.24	9.11	8.69	8.68	8.64	8.55
802.11n	64QAM	58.5 / 65.0	8.65	8.20	7.83	7.34	7.31	7.90
802.11n	64QAM	65.0 / 72.2	8.60	8.01	7.95	7.88	7.45	7.30
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.53	9.05	8.86	8.78	8.49	8.67
802.11n	QPSK	26.0 / 28.9	8.61	8.36	8.04	7.89	7.76	7.85
802.11n	QPSK	39.0 / 43.3	8.74	8.44	8.13	7.99	7.86	7.94
802.11n	16QAM	52.0 / 57.8	8.91	8.62	8.38	8.24	8.15	8.21
802.11n	16QAM	78.0 / 86.7	9.05	8.72	8.56	8.35	8.21	8.33
802.11n	64QAM	104.0 / 115.6	9.24	9.11	8.69	8.68	8.64	8.55
802.11n	64QAM	117.0 / 130.0	8.65	8.20	7.83	7.34	7.31	7.90
802.11n	64QAM	130.0 / 144.4	8.60	8.01	7.95	7.88	7.45	7.30

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	9.02	8.91	8.67	8.42
802.11n	QPSK	27.0 / 30.0	7.24	7.06	6.87	6.63
802.11n	QPSK	40.5 / 45.0	7.14	6.99	6.82	6.59
802.11n	16QAM	54.0 / 60.0	6.06	6.04	5.69	5.53
802.11n	16QAM	81.0 / 90.0	6.45	6.29	6.13	5.48
802.11n	64QAM	108.0 / 120.0	6.26	6.29	5.58	5.71
802.11n	64QAM	121.5 / 135.0	4.28	4.47	4.14	4.05
802.11n	64QAM	135.0 / 150.0	3.41	3.14	3.06	3.31
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.02	8.91	8.67	8.42
802.11n	QPSK	54.0 / 60.0	7.24	7.06	6.87	6.63
802.11n	QPSK	81.0 / 90.0	7.14	6.99	6.82	6.59
802.11n	16QAM	108.0 / 120.0	6.06	6.04	5.69	5.53
802.11n	16QAM	162.0 / 180.0	6.45	6.29	6.13	5.48
802.11n	64QAM	216.0 / 240.0	6.26	6.29	5.58	5.71
802.11n	64QAM	243.0 / 270.0	4.28	4.47	4.14	4.05
802.11n	64QAM	270.0 / 300.0	3.41	3.14	3.06	3.31

APPENDIX K: SAR EXCLUSION THRESHOLD CALCULATIONS

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
- $$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{GHz}}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{24} \text{ where}$$
- f_{GHz} is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation²⁵
 - The result is rounded to one decimal place for comparison
 - 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

- 2) At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:²⁶
- a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·($f_{\text{GHz}}/150$)] mW, at 100 MHz to 1500 MHz
- b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

Multislot worst case:

Band	Radio Mode	Slots	Target	tuning tolera	mW conv	time-averaged	Max
850	GSM/GPRS	1	32.5	32.85	1927.5	240.9	271.6
		2	30	30.35	1083.9	271.0	
		3	28.2	28.55	716.1	268.6	
		4	27	27.35	543.3	271.6	
1900	GSM/GPRS	1	30	30.35	1083.9	135.5	136.1
		2	27	27.35	543.3	135.8	
		3	25.2	25.55	358.9	134.6	
		4	24	24.35	272.3	136.1	

Cellular:

Radio Mode	Band	Target	Upper limit of tuning tolerance (+0.35 dB)	mW conv	time-averaged	Hi Ch Tx freq Ghz	Top Edge to Cellular Main	Greater than 3 = SAR test	SAR test
							Separation distance mm	Exclusion result	
GSM/GPRS	850	-	-	271.6	271.6	0.8488	33.97	7.4	YES
	1900	-	-	136.1	136.1	1.9098	33.97	5.5	YES
	B2	23.5	23.85	242.7	242.7	1.9076	33.97	9.9	YES
	B4	N/A	N/A	N/A	N/A	1.7526	33.97	N/A	N/A
WCDMA	B5	23.5	23.85	242.7	242.7	0.8466	33.97	6.6	YES
	B2	23.5	23.85	242.7	242.7	1.900	33.97	9.8	YES
	B4	23.5	23.85	242.7	242.7	1.745	33.97	9.4	YES
	B5	23.5	23.85	242.7	242.7	0.844	33.97	6.6	YES
	B13	23	23.35	216.3	216.3	0.782	33.97	5.6	YES
	B17	23.5	23.85	242.7	242.7	0.711	33.97	6.0	YES

Power[mW] <= 3*distance[mm]/ sqrt(f[GHz])

Threshold at 50mm
162.8
108.5
108.6
113.3
163.0
YES
108.8
113.6
163.3
169.6
177.9

Radio Mode	Band	Target	Upper limit of tuning tolerance (+0.35 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Bottom Edge to Cellular Main			f (Mhz) / 150	Exclusion threshold [mW]	Tx pwr > Threshold = SAR	
							Separation distance mm	Threshold at 50mm	Distance -50mm			Power - Threshold	SAR test
GSM/GPRS	850	-	-	271.6	271.6	824.2	58.97	162.8	8.97	5.5	212.1	59.5	YES
	1900	-	-	136.1	136.1	1850.2	58.97	108.5	8.97	-	198.2	-62.1	NO
	B2	23.5	23.85	242.7	242.7	1852.4	58.97	108.6	8.97	-	198.3	44.4	YES
	B4	N/A	N/A	N/A	N/A	1712.4	58.97	113.3	8.97	-	203.0	N/A	N/A
WCDMA	B5	23.5	23.85	242.7	242.7	826.4	58.97	163.0	8.97	5.5	212.4	30.2	YES
	B2	23.5	23.85	242.7	242.7	1860.0	58.97	108.8	8.97	-	198.5	44.1	YES
	B4	23.5	23.85	242.7	242.7	1720.0	58.97	113.6	8.97	-	203.3	39.4	YES
	B5	23.5	23.85	242.7	242.7	829.0	58.97	163.3	8.97	5.5	212.8	29.8	YES
LTE	B13	23	23.35	216.3	216.3	782.0	58.97	169.6	8.97	5.2	216.4	-0.1	NO
	B17	23.5	23.85	242.7	242.7	709.0	58.97	177.9	8.97	4.7	220.3	22.4	YES

Radio Mode	Band	Target	Upper limit of tuning tolerance (+0.35 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Right Edge to Cellular Main		Threshold at 50mm	Distance -50mm	f (Mhz) / 150	Exclusion threshold [mW]	Tx pwr > Threshold = SAR		SAR test
							Separation distance mm						Power - Threshold		
GSM/GPRS	850	-	-	271.6	271.6	824.2	249.7	162.8	199.7	5.5	1260.1	-988.5		NO	
	1900	-	-	136.1	136.1	1850.2	249.7	108.5	199.7	-	2105.5	-1969.4		NO	
	B2	23.5	23.85	242.7	242.7	1852.4	249.7	108.6	199.7	-	2105.6	-1862.9		NO	
	B4	N/A	N/A	N/A	N/A	1712.4	249.7	113.3	199.7	-	2110.3	N/A		N/A	
WCDMA	B5	23.5	23.85	242.7	242.7	826.4	249.7	163.0	199.7	5.5	1263.2	-1020.6		NO	
	B2	23.5	23.85	242.7	242.7	1860.0	249.7	108.8	199.7	-	2105.8	-1863.2		NO	
	B4	23.5	23.85	242.7	242.7	1720.0	249.7	113.6	199.7	-	2110.6	-1867.9		NO	
	B5	23.5	23.85	242.7	242.7	829.0	249.7	163.3	199.7	5.5	1267.0	-1024.3		NO	
LTE	B13	23	23.35	216.3	216.3	782.0	249.7	169.6	199.7	5.2	1210.7	-994.5		NO	
	B17	23.5	23.85	242.7	242.7	709.0	249.7	177.9	199.7	4.7	1121.8	-879.1		NO	

WLAN:		WiFi Power Setting				WLAN Main and aux to bottom edge		Greater than 3 = SAR test	SAR Test
802.11	Band	Target	Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Hi Ch Tx freq Ghz	Separation distance mm	Exclusion result	
	2.4GHz	13	14.5	28.2	28.2	2.462	5	8.8	
	5GHz	9.5	11	12.6	12.6	5.805	5	6.1	

Power[mW] <= 3*distance[mm]/ sqrt(f[GHz])

Threshold at 50mm
95.6
62.3

AN	WiFi Power Setting						WLAN Main and Aux to top edge			Tx pwr > Threshold = SAR		
	Band	Target	Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance - 50mm	Exclusion threshold [mW]	Power - Threshold	SAR test
802.11	2.4GHz	13	14.5	28.2	28.2	2412	156.2	95.6	106.2	1157.6	-1129.4	NO
	5GHz	9.5	11	12.6	12.6	5200	156.2	62.3	106.2	1124.3	-1111.7	NO

AN	WiFi Power Setting						WLAN main to right edge and WLAN Aux to left edge		Tx pwr > Threshold = SAR			
	Band	Target	Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance - 50mm	Exclusion threshold [mW]	Power - Threshold	SAR test
802.11	2.4GHz	13	14.5	28.2	28.2	2412	69.9	95.6	19.9	294.6	-266.4	NO
	5GHz	9.5	11	12.6	12.6	5200	69.9	62.3	19.9	261.3	-248.7	NO

		WiFi Power Setting					WLAN main to left edge and WLAN aux to right edge		Tx pwr > Threshold = SAR				
802.11	Band	Target	Upper limit of tuning tolerance (+1.5 dB)		mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance - 50mm	Exclusion threshold [mW]	Power - Threshold	SAR test
	2.4GHz	13	14.5		28.2	28.2	2412	174.2	95.6	124.2	1337.6	-1309.4	NO
	5GHz	9.5	11		12.6	12.6	5200	174.2	62.3	124.2	1304.3	-1291.7	NO

with SU-42 in tablet mode

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{GHz}}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{24} \text{ where}$$

- f_{GHz} is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁵
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

- 2) At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:²⁶
- [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm) · ($f_{\text{MHz}}/150$)] mW, at 100 MHz to 1500 MHz
 - [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz

Multislot worst case:

Band	Radio Mode	Slots	Target	tuning toleran	mW conv	time-averaged	Max
850	GSM/GPRS	1	32.5	32.5	1927.5	240.9	271.6
		2	30	30.35	1083.9	271.0	
		3	28.2	28.55	716.1	268.6	
		4	27	27.35	543.3	271.6	
1900	GSM/GPRS	1	30	30.35	1083.9	135.5	136.1
		2	27	27.35	543.3	135.8	
		3	25.5	25.55	358.9	134.6	
		4	24	24.35	272.3	136.1	

Cellular:

										Back facing to Cellular Main		Greater than 3 = SAR test		Power[mW] <= 3*distance(mm)/ sqrt(f[GHz])			
Radio Mode	Band	Target	Upper limit of tuning tolerance (+0.35 dB)	mW conv	time-averaged	Hi Ch Tx freq GHz	Separation distance mm	Exclusion result	SAR test	Threshold at 50mm							
GSM/GPRS	850	-	-	271.6	271.6	0.8488	24.72	10.1	YES	162.8							
	1900	-	-	136.1	136.1	1.9098	24.72	7.6	YES	108.5							
	B2	23.5	23.85	242.7	242.7	1.9076	24.72	13.6	YES	108.6							
	B4	N/A	N/A	N/A	N/A	1.7526	24.72	N/A	N/A	113.3							
	B5	23.5	23.85	242.7	242.7	0.8466	24.72	9.0	YES	163.0							
LTE	B2	23.5	23.85	242.7	242.7	1.900	24.72	13.5	YES	108.8							
	B4	23.5	23.85	242.7	242.7	1.745	24.72	13.0	YES	113.6							
	B5	23.5	23.85	242.7	242.7	0.844	24.72	9.0	YES	163.3							
	B13	23	23.35	216.3	216.3	0.782	24.72	7.7	YES	169.6							
	B17	23.5	23.85	242.7	242.7	0.711	24.72	8.3	YES	177.9							
										Bottom Edge to Cellular Main		Tx pwr > Threshold = SAR					
Radio Mode	Band	Target	Upper limit of tuning tolerance (+0.35 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance -50mm	f (Mhz) / 150	Exclusion threshold [mW]	Power - Threshold	SAR test				
GSM/GPRS	850	-	-	271.6	271.6	824.2	124.2	162.8	74.2	5.5	570.5	-298.9	NO				
	1900	-	-	136.1	136.1	1850.2	124.2	108.5	74.2	-	850.5	-714.4	NO				
	B2	23.5	23.85	242.7	242.7	1852.4	124.2	108.6	74.2	-	850.6	-607.9	NO				
	B4	N/A	N/A	N/A	N/A	1712.4	124.2	113.3	74.2	-	855.3	N/A	N/A				
	B5	23.5	23.85	242.7	242.7	826.4	124.2	163.0	74.2	5.5	571.8	-329.2	NO				
LTE	B2	23.5	23.85	242.7	242.7	1860.0	124.2	108.8	74.2	-	850.8	-608.2	NO				
	B4	23.5	23.85	242.7	242.7	1720.0	124.2	113.6	74.2	-	855.6	-612.9	NO				
	B5	23.5	23.85	242.7	242.7	829.0	124.2	163.3	74.2	5.5	573.4	-330.7	NO				
	B13	23	23.35	216.3	216.3	782.0	124.2	169.6	74.2	5.2	556.5	-340.2	NO				
	B17	23.5	23.85	242.7	242.7	709.0	124.2	177.9	74.2	4.7	528.6	-285.9	NO				
										Right Edge to Cellular Main		Tx pwr > Threshold = SAR					
Radio Mode	Band	Target	Upper limit of tuning tolerance (+0.35 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance -50mm	f (Mhz) / 150	Exclusion threshold [mW]	Power - Threshold	SAR test				
GSM/GPRS	850	-	-	271.6	271.6	824.2	249.7	162.8	199.7	5.5	1260.1	-988.5	NO				
	1900	-	-	136.1	136.1	1850.2	249.7	108.5	199.7	-	2105.5	-1969.4	NO				
	B2	23.5	23.85	242.7	242.7	1852.4	249.7	108.6	199.7	-	2105.6	-1862.9	NO				
	B4	N/A	N/A	N/A	N/A	1712.4	249.7	113.3	199.7	-	2110.3	N/A	N/A				
	B5	23.5	23.85	242.7	242.7	826.4	249.7	163.0	199.7	5.5	1263.2	-1020.6	NO				
WCDMA	B2	23.5	23.85	242.7	242.7	1860.0	249.7	108.8	199.7	-	2105.8	-1863.2	NO				
	B4	23.5	23.85	242.7	242.7	1720.0	249.7	113.6	199.7	-	2110.6	-1867.9	NO				
	B5	23.5	23.85	242.7	242.7	829.0	249.7	163.3	199.7	5.5	1267.0	-1024.3	NO				
	B13	23	23.35	216.3	216.3	782.0	249.7	169.6	199.7	5.2	1210.7	-994.5	NO				
	B17	23.5	23.85	242.7	242.7	709.0	249.7	177.9	199.7	4.7	1121.8	-879.1	NO				

WLAN:							WLAN Main and aux to Back facing		Greater than 3 = SAR test	
802.11	Band	Target	Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Hi Ch Tx freq Ghz	Separation distance mm	Exclusion result	SAR Test	
	2.4GHz	13	14.5	28.2	28.2	2.462	15	2.9	NO	
	5GHz	9.5	11	12.6	12.6	5.805	15	2.0	NO	

WLAN:								WLAN Main and aux to bottom edge	Greater than 3 = SAR test	
	Band	Target	Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Hi Ch Tx freq GHz		Separation distance mm	Exclusion result	SAR Test
802.11	2.4GHz	13	14.5	28.2	28.2	2.462		124.2	0.4	NO
	5GHz	9.5	11	12.6	12.6	5.805		124.2	0.2	NO

										WLAN main to right edge and WLAN Aux to left edge		Tx pwr > Threshold = SAR			
WLAN	Band	Target	WIFI Power Setting Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance - 50mm	Exclusion threshold [mW]	Power - Threshold	SAR test			
802.11	2.4GHz	13	14.5	28.2	28.2	2412	69.9	95.6	19.9	294.6	-266.4	NO			
	5GHz	9.5	11	12.6	12.6	5200	69.9	62.3	19.9	261.3	-248.7	NO			
										WLAN main to left edge and WLAN aux to right edge		Tx pwr > Threshold = SAR			
WLAN	Band	Target	WIFI Power Setting Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance - 50mm	Exclusion threshold [mW]	Power - Threshold	SAR test			
802.11	2.4GHz	13	14.5	28.2	28.2	2412	174.2	95.6	124.2	1337.6	-1309.4	NO			
	5GHz	9.5	11	12.6	12.6	5200	174.2	62.3	124.2	1304.3	-1291.7	NO			

with SU-42 in laptop mode

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f_{\text{GHz}}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,²⁴ where

- f_{GHz} is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁵
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

2) At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:²⁶

- [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm) · ($f_{\text{MHz}}/150$)] mW, at 100 MHz to 1500 MHz
- [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz

Multislot worst case:

Band	Radio Mode	Slots	Target	tuning tolera	mW conv	time-averaged	Max
850	GSM/GPRS	1	32.5	32.85	1927.5	240.9	271.6
		2	30	30.35	1083.9	271.0	
		3	28.2	28.55	716.1	268.6	
		4	27	27.35	543.3	271.6	
Band	Radio Mode	Slots	Target	tuning tolera	mW conv	time-averaged	
1900	GSM/GPRS	1	30	30.35	1083.9	135.5	136.1
		2	27	27.35	543.3	135.8	
		3	25.2	25.55	358.9	134.6	
		4	24	24.35	272.3	136.1	

Cellular:

		Bottom Edge to Cellular Main										Tx pwr > Threshold = SAR	
Radio Mode	Band	Target	Upper limit of tuning tolerance (+0.35 dB)	mW conv	time-averaged	Low Ch Tx freq Mhz	Separation distance mm	Threshold at 50mm	Distance -50mm	f (Mhz) / 150	Exclusion threshold [mW]	Power - Threshold	SAR test
GSM/GPRS	850	-	-	271.6	271.6	824.2	67.76	162.8	17.76	5.5	260.4	11.2	YES
	1900	-	-	136.1	136.1	1850.2	67.76	108.5	17.76	-	286.1	-150.0	NO
	B2	23.5	23.85	242.7	242.7	1852.4	67.76	108.6	17.76	-	286.2	-43.5	NO
	B4	N/A	N/A	N/A	N/A	1712.4	67.76	113.3	17.76	-	290.9	N/A	N/A
WCDMA	B5	23.5	23.85	242.7	242.7	826.4	67.76	163.0	17.76	5.5	260.9	-18.2	NO
	B2	23.5	23.85	242.7	242.7	1860.0	67.76	108.8	17.76	-	286.4	-43.8	NO
	B4	23.5	23.85	242.7	242.7	1720.0	67.76	113.6	17.76	-	291.2	-48.5	NO
	B5	23.5	23.85	242.7	242.7	829.0	67.76	163.3	17.76	5.5	261.4	-18.8	NO
	B13	23	23.35	216.3	216.3	782.0	67.76	169.6	17.76	5.2	262.2	-45.9	NO
	B17	23.5	23.85	242.7	242.7	709.0	67.76	177.9	17.76	4.7	261.8	-19.2	NO

WLAN:

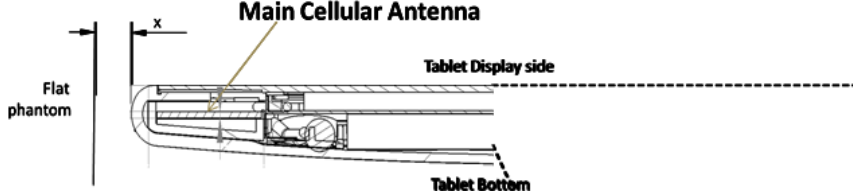
		WIFI Power Setting				WLAN Main and aux to bottom edge		Greater than 3 = SAR test	
Band	Target	Upper limit of tuning tolerance (+1.5 dB)	mW conv	time-averaged	Hi Ch Tx freq Ghz	Separation distance mm	Exclusion result	SAR Test	
802.11	2.4GHz	13	28.2	28.2	2.462	16.14	2.7	NO	
	5GHz	9.5	12.6	12.6	5.805	16.14	1.9	NO	

Power[mW] <= 3*distance[mm]/ sqrt(f[GHz])

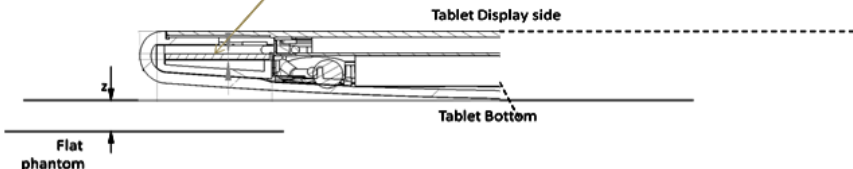
Threshold at 50mm
95.6
62.3

APPENDIX L: PROXIMITY SENSOR TEST RESULTS

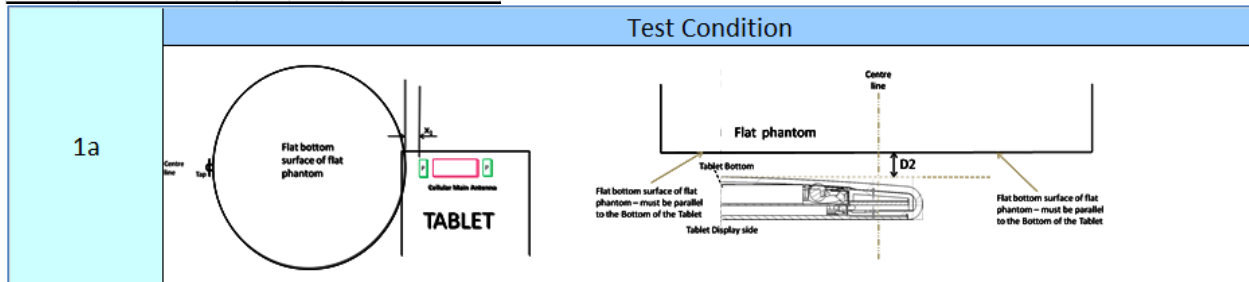
○ P-sensor on ✗ P-Sensor Off

B1.0 P-Sensor Trigger Distance																											
1 away from left edge	Test Condition																										
																											
	X (mm)																										
	Frequency (MHz)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
850	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X
	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X
	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

○ P-sensor on ✗ P-Sensor Off

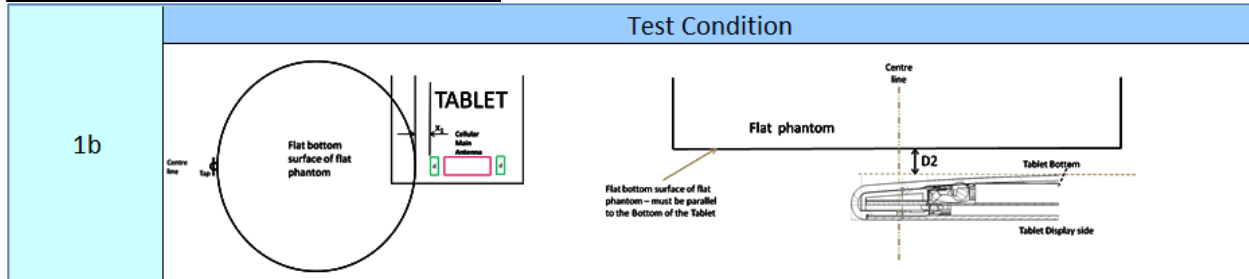
Test Condition																											
2 away from back surface																											
	Z (mm) [D2=Zmin-1]																										
850	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X
	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X
	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

○ P-sensor on ✗ P-Sensor Off



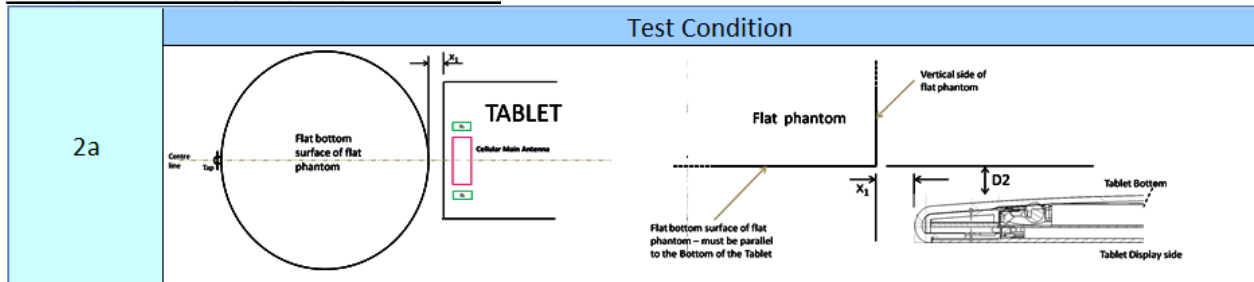
Frequency (MHz)	X1 (mm)																			
850	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1900	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

○ P-sensor on ✗ P-Sensor Off



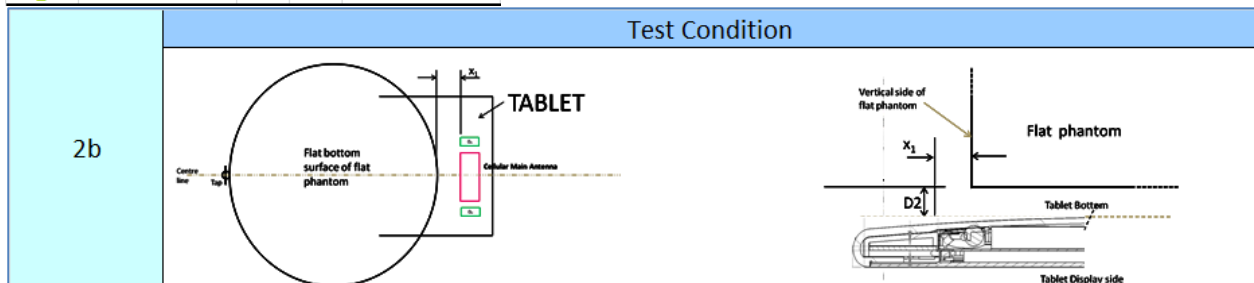
Frequency (MHz)	X1 (mm)																			
850	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1900	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6

○ P-sensor on × P-Sensor Off



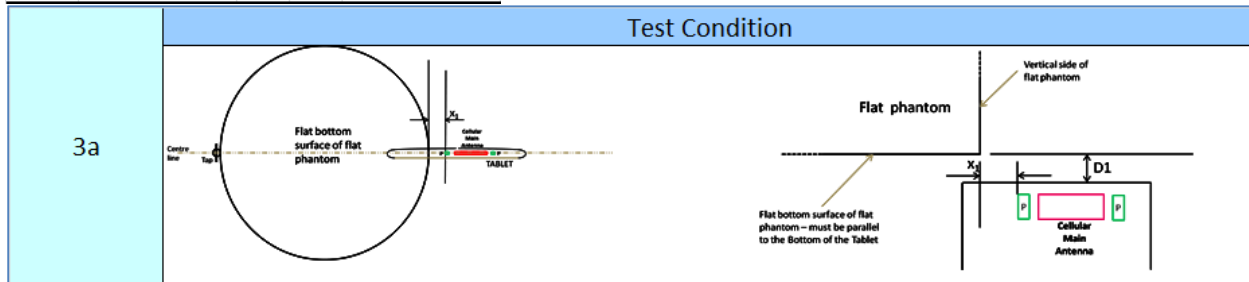
Frequency (MHz)	X1 (mm)																																																	
850	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50									
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X									
	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15									
	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
1900	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50									
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X								
	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15									
	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							

○ P-sensor on × P-Sensor Off



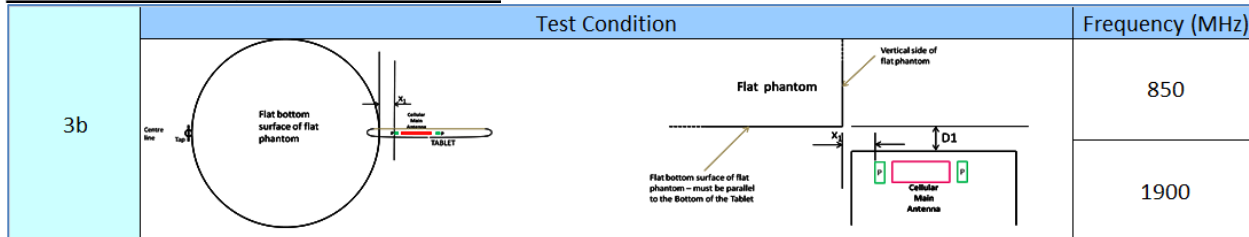
Frequency (MHz)	X1 (mm)																																																	
850	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50									
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X										
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20									
	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
1900	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50									
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X										
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20									
	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									

○ P-sensor on ✗ P-Sensor Off



Frequency (MHz)	X1 (mm)																																											
850	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10			
	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1900	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10			
	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

○ P-sensor on ✗ P-Sensor Off



Frequency (MHz)	X1 (mm)																																								
850	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20
	X	X	X	X	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20
	X	X	X	X	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[illegible]

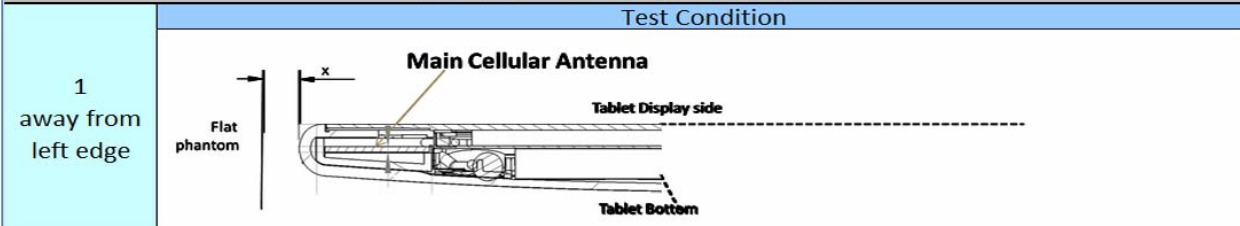
SAR Report
Appendix L for FCC_RX-114_05
Applicant: Nokia Corporation

○ P-sensor on ✗ P-Sensor Off

with SU-42 Smart cover

B1.0 P-Sensor Trigger Distance

Test Condition



Frequency (MHz)	X (mm)																										
850	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	✗	✗	✗	✗	✗
	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	✗	✗	✗	✗	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1900	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	✗	✗	✗	✗	✗
	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	✗	✗	✗	✗	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○