

HAC RF Emissions Test Report

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Tested devices:	RM-659		
FCC ID:	QMNRM-659	IC:	661X-RM659
Supplement reports:	T-Coil_RM-659_01, HAC_Photo_RM-659_02		
Testing has been carried out in accordance with:	ANSI C63.19-2007 American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids		
Documentation:	The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test results:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		
Date and signatures:			
For the contents:			

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1. SUMMARY OF HAC RF EMISSION TEST REPORT

1.1 Test Details

Period of test	2010-07-27 to 2010-08-02
SN, HW, SW and DUT numbers of tested device	SN: 004401/01/985984/8, HW: 0203, SW: 010.016, DUT: 14784
Batteries used in testing	-
State of sample	Prototype unit
Notes	AWF = -5 for GSM, 0 for WCDMA

1.2 Maximum Results

The maximum measured HAC RF emissions values and categories for electric and magnetic fields in normal scan procedure are given in section 1.2.1 and 1.2.3 respectively. Values and categories for electric and magnetic fields for T-Coil test assessment are given in section 1.2.2 and 1.2.4 respectively.

1.2.1 Electric field measurements in normal scan

Band & Mode	Ch / Freq. [MHz]	Conducted power	Limit of E-field max. value in category M3 [V/m]	Maximum E-field value after exclusion [V/m]	Category
GSM850	128 / 824.2	32.5 dBm	149.6 – 266.1	168.1	M3 (-5dB)
WCDMA850	4132 / 826.4	23.5 dBm	199.5 – 354.8	40.2	M4 (0dB)
GSM1900	810 / 1909.8	30.0 dBm	47.3 – 84.1	74.4	M3 (-5dB)
WCDMA1900	9538 / 1907.6	23.5 dBm	63.1 – 112.2	19.0	M4 (0dB)

1.2.2 Electric field measurements for T-Coil assessment

Band & Mode	Ch / Freq. [MHz]	Conducted power	Limit of E-field max. value in category M3 [V/m]	Maximum E-field value after exclusion [V/m]	Category
GSM850	251 / 848.8	32.5 dBm	149.6 – 266.1	171.7	M3 (-5dB)
WCDMA850	4233 / 846.6	23.5 dBm	199.5 – 354.8	39.9	M4 (0dB)
GSM1900	810 / 1909.8	30.0 dBm	47.3 – 84.1	68.1	M3 (-5dB)
WCDMA1900	9538 / 1907.6	23.5 dBm	63.1 – 112.2	19.4	M4 (0dB)

1.2.3 Magnetic field measurements in normal scan

Band & Mode	Ch / Freq. [MHz]	Conducted power	Limit of H-field max. value in category M3 [A/m]	Maximum H-field value after exclusion [A/m]	Category
GSM850	128 / 824.2	32.5 dBm	0.45 – 0.80	0.256	M4 (-5dB)
WCDMA850	4132 / 826.4	23.5 dBm	0.60 – 1.07	0.058	M4 (0dB)
GSM1900	810 / 1909.8	30.0 dBm	0.14 – 0.25	0.174	M3 (-5dB)
WCDMA1900	9538 / 1907.6	23.5 dBm	0.19 – 0.34	0.049	M4 (0dB)

1.2.4 Magnetic field measurements for T-Coil assessment

Band & Mode	Ch / Freq. [MHz]	Conducted power	Limit of H-field max. value in category M3 [A/m]	Maximum H-field value after exclusion [A/m]	Category
GSM850	251 / 848.8	32.5 dBm	0.45 – 0.80	0.287	M4 (-5dB)
WCDMA850	4233 / 846.6	23.5 dBm	0.60 – 1.07	0.075	M4 (0dB)
GSM1900	810 / 1909.8	30.0 dBm	0.14 – 0.25	0.155	M3 (-5dB)
WCDMA1900	9538 / 1907.6	23.5 dBm	0.19 – 0.34	0.048	M4 (0dB)

1.2.5 Overall RF emissions category of the tested device in normal scan

Band & Mode	Combined category (E- and H-fields)	Pass / Fail
GSM850	M3	Pass
WCDMA850	M4	Pass
GSM1900	M3	Pass
WCDMA1900	M4	Pass
Final Category	M3	Pass

1.2.6 Overall RF emissions category of the tested device for T-Coil assessment

Band & Mode	Combined category (E- and H-fields)	Pass / Fail
GSM850	M3	Pass
WCDMA850	M4	Pass
GSM1900	M3	Pass
WCDMA1900	M4	Pass
Final Category	M3	Pass

1.2.7 Maximum Drift

Maximum drift during measurements	0.35 dB
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1.2.8 Measurement Uncertainty

Extended Uncertainty (k=2) 95%, E-field	14.7 %
Extended Uncertainty (k=2) 95%, H-field	10.9 %

2. DESCRIPTION OF THE DEVICE UNDER TEST (DUT)

Modes of Operation	Bands	Modulation Mode	Duty Cycle	Transmitter Frequency Range (MHz)
GSM	850 1900	GMSK	1/8	824 – 849 1850 – 1910
WCDMA	850 (Band V) 1900 (Band II)	QPSK	1	826 – 847 1852 - 1908

Outside of USA the transmitter of the device is capable of operating also in 900MHz, 1800MHz and 2100MHz bands, which are not part of this filing.

2.1 Picture of the Device

See separate report HAC_Photo_RM-659_02.

3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature [°C]:	20.1 to 21.6
Ambient humidity [RH %]:	53 to 65

3.2 Device Control and Parameters

The transmitter of the device was put into operation by using a call tester. Communications between the device and the call tester were established by air link.

For all tests the device output power was set to maximum power level; a fully charged battery was used for every test sequence.

The transmission mode of the device in WCDMA HAC RF emission tests was configured to 12.2kbps RMC with all TPC bits set as “1”.

The measurements were performed on lowest, middle and highest channels.

Two separate HAC RF measurements were performed for RM-569; one with normal positioning and another with 25 degrees of clockwise rotation of the device to correspond with the T-Coil assessment. The acoustic output of the device is located 7mm to the right from the earpiece center.

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement system and components

The measurements were performed using an automated near-field scanning system, DASY 4, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland.
The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE4	1213	12 months	2010-11
E-field Probe ER3DV6	2309	12 months	2010-10
H-field Probe H3DV6	6143	12 months	2010-10
Dipole Validation Kit, CD835V3	1005	24 months	2010-11
Dipole Validation Kit, CD1880V3	1004	24 months	2010-11
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing and validation:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SML03	101265	12 months	2010-09
Amplifier	ZHL-42 (SMA)	N072095-5	12 months	2010-09
Power Meter	NRVS	838624/032	12 months	2010-09
Power Sensor	NRV-Z32	839176/020	12 months	2010-09
Call Tester	CMU 200	101111	-	-

4.1.1 Isotropic E-field probe ER3DV6

Construction	One dipole parallel, two dipoles normal to probe axis Built-in shielding against static charges PEEK enclosure material
Frequency	In air 100 MHz to >6 GHz; Linearity: ± 0.2 dB (100 MHz to 3 GHz)
Directivity	± 0.2 dB in air (rotation around probe axis) ± 0.4 dB in air (rotation normal to probe axis)
Dynamic Range	2 V/m to > 1000 V/m; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 8 mm
Application	Distance from probe tip to nearest point of dipole: 1.25 mm General near-field measurements up to 6 GHz Field component measurements Fast automatic scanning in phantoms

4.1.2 Isotropic H-field probe H3DV6

Construction	Three concentric loop sensors with 3.8 mm loop diameters Resistively loaded detector diodes for linear response Built-in shielding against static charges PEEK enclosure material
Frequency	200 MHz to 3 GHz; Output linearized (absolute accuracy $\pm 6.0\%$, $k=2$)
Directivity	± 0.25 dB (spherical isotropy error)
Dynamic Range	10 mA/m to 2 A/m at 1 GHz
Dimensions	Overall length: 330 mm Tip length: 40 mm Body diameter: 12 mm Tip diameter: 6 mm
Application	Distance from probe tip to nearest point of dipole: 1.1 mm General magnetic near-field measurements up to 3 GHz Field component measurements, surface current measurements Measurements in air or liquids, low interaction

4.1.3 Device Holder

The Device Holder and Test Arch are manufactured by Speag (<http://www.dasy4.com/hac>). Test arch is used for all tests i.e. for both validation testing and device testing. The holder and test arch conforms to the requirements of ANSI C63.19.

The SPEAG device holder (see Section 5.1) was used to position the test device in all tests.

4.2 Validation of the System

The manufacturer calibrates the probes annually. Validation measurements are made regularly using the dipole validation kit. The power level used by manufacturer in dipole calibration is supplied to the dipole antenna. The antenna is scanned at 10mm distance between top surface of the dipole and calibration point of the probe.

System Validation, H-field and E-field

f [MHz]	Description	E-field [V/m]	H-field [A/m]
835	Reference result	164.1	0.441
	± 10% window	147.7 – 180.5	0.397 – 0.485
	2010-07-27	171.6	0.480
1880	Reference result	137.9	0.461
	± 10% window	124.1 – 151.7	0.415 – 0.507
	2010-07-27	146.4	0.495

Plots of the system validation scans are given in **Appendix A**.

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Test Arch and Device Holder

The test device was placed in the Device Holder (illustrated below) that is supplied by SPEAG. Using this positioner the tested device is positioned under Test Arch.



Device holder and Test Arch supplied by SPEAG

5.2 Test Positions

5.2.1 Scan area centered at the acoustic output

The device was positioned such that Device Reference plane was touching the bottom of the Test Arch. The scan is centered at the acoustic output by aligning the acoustic output with the intersection of the Test Arch's middle bar and dielectric wire. The acoustic output is located 7mm to the right from the earpiece center.

5.3 Scan Procedures

Near field scans of 5cm x 5cm were used for determination of the field distribution. Measurement plane distance from WD reference plane is 15mm. Scans were performed for both E- and H-field using appropriate probe. DASY software divides detected values into 3 x 3 sub grids as described in the C63.19 standard.

5.4 Probe Modulation Factor

All raw measurements in DASY4 system are presented as RMS values. The measurement software then applies Probe Modulation Factor (PMF) to convert readings to “slot averaged” peak values as required by C63.19 standard.

Therefore PMF was assessed as described in C63.19 standard along with Speag's Application Note (AN_Hearing_Aid_Compatibility.pdf, section 28.8, "Definition / Determination of the Probe Modulation Factor").

Observed Modulation Factor:

$$PMF_{(E)} = E\text{-field}_{(CW)} / E\text{-field}_{(Modulated)}$$

$$PMF_{(H)} = H\text{-field}_{(CW)} / H\text{-field}_{(Modulated)}$$

Observed Crest Factor:

$$CF_{(E)} = (PMF_{(E)})^2$$

$$CF_{(H)} = (PMF_{(H)})^2$$

Modulation factors, GSM

f [MHz]	P_{mod} [dBm]	E-field [V/m] Probe SN: 2309		H-field [A/m] Probe SN: 6143		PMF E-field	PMF H-field
		CW	GSM	CW	GSM		
835.0	20	99.6	34.7	0.459	0.169	2.87	2.72
1880.0	20	158.4	55.1	0.498	0.221	2.87	2.25

Modulation factors, WCDMA

f [MHz]	P_{mod} [dBm]	E-field [V/m] Probe SN: 2309		H-field [A/m] Probe SN: 6143		PMF E-field	PMF H-field
		CW	WCDMA	CW	WCDMA		
835.0	20	26.2	42.8	0.118	0.201	0.61	0.59
1880.0	20	36.3	60.1	0.112	0.217	0.60	0.52

5.5 Slot Averaged Calculation Method

The slot-averaged values for the every measured signal type were calculated using observed duty cycles.

5.6 Sub-grid Exclusion

The measurement grid defined in C63.19 consists of 9 evenly sized blocks, which are used to define permissible exclusion areas. For both E- and H-field measurements three contiguous blocks may be excluded from the measurements except center block may never be excluded. There must be 4 blocks left that are common for both E- and H-field measurements, so maximum of 5 different blocks can be excluded (e.g. 3 blocks excluded from E-field and 2 blocks from H-field).

5.7 Category Limits

From remaining maximum values after exclusion process, Hearing Aid M-category is defined according to the category limits of C63.19 – 2007.

		Limits for RF-parameters <960MHz	
Category	AWF [dB]	E-field [V/m]	H-field [A/m]
M1	0	631.0 to 1122.0	1.91 to 3.39
	-5	473.2 to 841.4	1.43 to 2.54
M2	0	354.8 to 631.0	1.07 to 1.91
	-5	266.1 to 473.2	0.80 to 1.43
M3	0	199.5 to 354.8	0.60 to 1.07
	-5	149.6 to 266.1	0.45 to 0.80
M4	0	<199.5	<0.60
	-5	<149.6	<0.45

		Limits for RF-parameters >960MHz	
Category	AWF [dB]	E-field [V/m]	H-field [A/m]
M1	0	199.5 to 354.8	0.60 to 1.07
	-5	149.6 to 266.1	0.45 to 0.80
M2	0	112.2 to 199.5	0.34 to 0.60
	-5	84.1 to 149.6	0.25 to 0.45
M3	0	63.1 to 112.2	0.19 to 0.34
	-5	47.3 to 84.1	0.14 to 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

6. MEASUREMENT UNCERTAINTY

Source of Uncertainty	Tolerance ±%	Prob. Dist.	Div.	ci E	ci H	Standard Uncertainty ±%, E	Standard Uncertainty ±%, H	Remark
MEASUREMENT SYSTEM								
Probe Calibration	5.1	N	1	1	1	5.1	5.1	
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7	
Sensor Displacement	16.5	R	√3	1	0.145	9.5	1.4	
Boundary Effect	2.4	R	√3	1	1	1.4	1.4	
Linearity	4.7	R	√3	1	1	2.7	2.7	SAR
Scaling to Peak Envelope Power	2.0	R	√3	1	1	1.2	1.2	
System Detection Limit	1.0	R	√3	1	1	0.6	0.6	
Readout Electronics	0.3	N	1	1	1	0.3	0.3	SAR
Response Time	0.8	R	√3	1	1	0.5	0.5	
Integration Time	2.6	R	√3	1	1	1.5	1.5	SAR
RF Ambient Conditions	3.0	R	√3	1	1	1.7	1.7	SAR
RF Reflections	12.0	R	√3	1	1	6.9	6.9	
Probe Positioner	1.2	R	√3	1	0.67	0.7	0.5	
Probe Positioning	4.7	R	√3	1	0.67	2.7	1.8	
Extrapolation and Interpolation	1.0	R	√3	1	1	0.6	0.6	SAR
TEST SAMPLE RELATED								
Device Positioning Vertical	4.7	R	√3	1	0.67	2.7	1.8	
Device Positioning Lateral	1.0	R	√3	1	1	0.6	0.6	
Device Holder and Test Arch	2.4	R	√3	1	1	1.4	1.4	
Power Drift	5.0	R	√3	1	1	2.9	2.9	SAR
TEST ARCH AND SETUP RELATED								
Test Arch Thickness	2.4	R	√3	1	0.67	1.4	0.9	
Combined Standard Uncertainty						14.7	10.9	
Expanded Uncertainty on Power						29.4	21.8	
Expanded Uncertainty on Field						14.7	10.9	

7. RESULTS

7.1 The Calculated Maximum Field Values of the Device in Normal Scan

GSM850, RF emissions results

Mode	Test configuration	Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM850	Power	32.5 dBm	32.5 dBm	32.5 dBm
	E-field [V/m]	168.1	161.7	165.6
	H-field [A/m]	0.256	0.225	0.225
	Category	M3 (-5 dB)	M3 (-5 dB)	M3 (-5 dB)

WCDMA850, RF emissions results

Mode	Test configuration	Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA850	Power	23.5 dBm	23.5 dBm	23.5 dBm
	E-field [V/m]	35.7	40.2	38.7
	H-field [A/m]	0.055	0.058	0.057
	Category	M4 (0 dB)	M4 (0 dB)	M4 (0 dB)

GSM1900, RF emissions results

Mode	Test configuration	Ch 512 1850.2MHz	Ch 661 1880.0MHz	Ch 810 1909.8MHz
GSM1900	Power	30.0 dBm	30.0 dBm	30.0 dBm
	E-field [V/m]	46.8	57.9	74.4
	H-field [A/m]	0.104	0.145	0.174
	Category	M4 (-5 dB)	M3 (-5 dB)	M3 (-5 dB)

WCDMA1900, RF emissions results

Mode	Test configuration	Ch 9262 1852.4MHz	Ch 9400 1880.0MHz	Ch 9538 1907.6MHz
WCDMA1900	Power	23.5 dBm	23.5 dBm	23.5 dBm
	E-field [V/m]	13.5	16.1	19.0
	H-field [A/m]	0.036	0.044	0.049
	Category	M4 (0 dB)	M4 (0 dB)	M4 (0 dB)

Plots of the measurement scans are shown in **Appendix B**. Excluded cells are colored orange

7.2 The Calculated Maximum Field Values of the Device for T-Coil Assessment

GSM850, RF emissions results

Mode	Option	Test configuration	Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM850	25 degrees of rotation	Power	32.5 dBm	32.5 dBm	32.5 dBm
		E-field [V/m]	160.7	148.8	171.7
		H-field [A/m]	0.272	0.263	0.287
		Category	M3 (-5 dB)	M4 (-5 dB)	M3 (-5 dB)

WCDMA850, RF emissions results

Mode	Option	Test configuration	Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA850	25 degrees of rotation	Power	23.5 dBm	23.5 dBm	23.5 dBm
		E-field [V/m]	34.9	36.1	39.9
		H-field [A/m]	0.068	0.069	0.075
		Category	M4 (0 dB)	M4 (0 dB)	M4 (0 dB)

GSM1900, RF emissions results

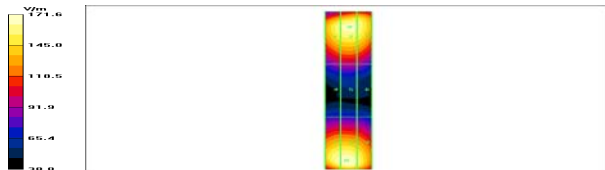
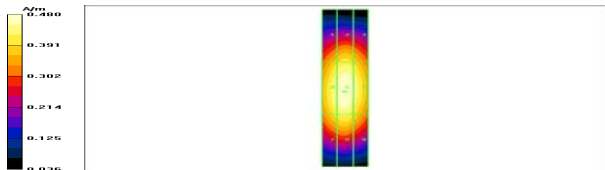
Mode	Option	Test configuration	Ch 512 1850.2MHz	Ch 661 1880.0MHz	Ch 810 1909.8MHz
GSM1900	25 degrees of rotation	Power	30.0 dBm	30.0 dBm	30.0 dBm
		E-field [V/m]	48.4	58.7	68.1
		H-field [A/m]	0.107	0.145	0.155
		Category	M3 (-5 dB)	M3 (-5 dB)	M3 (-5 dB))

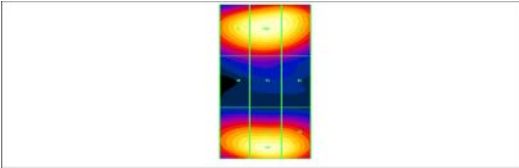
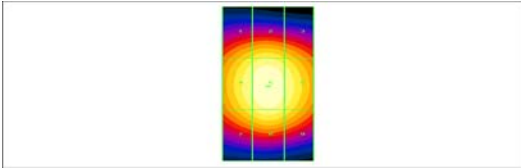
WCDMA1900, RF emissions results

Mode	Option	Test configuration	Ch 9262 1852.4MHz	Ch 9400 1880.0MHz	Ch 9538 1907.6MHz
WCDMA1900	25 degrees of rotation	Power	23.5 dBm	23.5 dBm	23.5 dBm
		E-field [V/m]	14.7	17.1	19.4
		H-field [A/m]	0.036	0.045	0.048
		Category	M4 (0 dB)	M4 (0 dB)	M4 (0 dB)

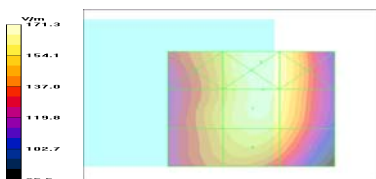
Plots of the measurement scans are shown in **Appendix C**. Excluded cells are colored orange.

APPENDIX A: SYSTEM VALIDATION SCANS

SYSTEM VALIDATION DATA 850MHZ																			
Date/Time: 2010-07-27 14:30:48 Test Laboratory: TCC Nokia Type: CD835V3; Serial: 1005	Date/Time: 2010-07-27 14:07:51 Test Laboratory: TCC Nokia Type: CD835V3; Serial: 1005																		
Communication System: CW Frequency: 835 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m ³ Phantom section: E Dipole Section	Communication System: CW Frequency: 835 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m ³ Phantom section: H Dipole Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 171.6 V/m Probe Modulation Factor = 1.00 Device Reference Point: 0.000, 0.000, 354.7 mm Reference Value = 108.2 V/m; Power Drift = 0.009 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)	H Scan - measurement distance from the probe sensor center to CD835 dipole= 10mm/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.480 A/m Probe Modulation Factor = 1.00 Device Reference Point: 0.000, 0.000, 354.7 mm Reference Value = 0.509 A/m; Power Drift = 0.032 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)																		
 <table><tr><td>Grid 1 161.8 M4</td><td>Grid 2 166.2 M4</td><td>Grid 3 163.4 M4</td></tr><tr><td>Grid 4 93.1 M4</td><td>Grid 5 96.0 M4</td><td>Grid 6 92.8 M4</td></tr><tr><td>Grid 7 168.8 M4</td><td>Grid 8 171.6 M4</td><td>Grid 9 162.5 M4</td></tr></table>	Grid 1 161.8 M4	Grid 2 166.2 M4	Grid 3 163.4 M4	Grid 4 93.1 M4	Grid 5 96.0 M4	Grid 6 92.8 M4	Grid 7 168.8 M4	Grid 8 171.6 M4	Grid 9 162.5 M4	 <table><tr><td>Grid 1 0.385 M4</td><td>Grid 2 0.410 M4</td><td>Grid 3 0.388 M4</td></tr><tr><td>Grid 4 0.456 M4</td><td>Grid 5 0.480 M4</td><td>Grid 6 0.452 M4</td></tr><tr><td>Grid 7 0.409 M4</td><td>Grid 8 0.429 M4</td><td>Grid 9 0.399 M4</td></tr></table>	Grid 1 0.385 M4	Grid 2 0.410 M4	Grid 3 0.388 M4	Grid 4 0.456 M4	Grid 5 0.480 M4	Grid 6 0.452 M4	Grid 7 0.409 M4	Grid 8 0.429 M4	Grid 9 0.399 M4
Grid 1 161.8 M4	Grid 2 166.2 M4	Grid 3 163.4 M4																	
Grid 4 93.1 M4	Grid 5 96.0 M4	Grid 6 92.8 M4																	
Grid 7 168.8 M4	Grid 8 171.6 M4	Grid 9 162.5 M4																	
Grid 1 0.385 M4	Grid 2 0.410 M4	Grid 3 0.388 M4																	
Grid 4 0.456 M4	Grid 5 0.480 M4	Grid 6 0.452 M4																	
Grid 7 0.409 M4	Grid 8 0.429 M4	Grid 9 0.399 M4																	

SYSTEM VALIDATION DATA 1900MHZ																			
Date/Time: 2010-07-27 14:24:56 Test Laboratory: TCC Nokia Type: CD1880V3; Serial: 1004	Date/Time: 2010-07-27 14:15:53 Test Laboratory: TCC Nokia Type: CD1880V3; Serial: 1004																		
Communication System: CW Frequency: 1880 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Dipole Section	Communication System: CW Frequency: 1880 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Dipole Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 146.4 V/m Probe Modulation Factor = 1.00 Device Reference Point: 0.000, 0.000, 354.7 mm Reference Value = 164.8 V/m; Power Drift = 0.007 dB Hearing Aid Near-Field Category: M2 (AWF 0 dB) 146.4 129.2 111.9 94.7 77.4 60.2  <table><tr><td>Grid 1 141.6 M2</td><td>Grid 2 146.4 M2</td><td>Grid 3 143.4 M2</td></tr><tr><td>Grid 4 97.4 M3</td><td>Grid 5 100.1 M3</td><td>Grid 6 95.3 M3</td></tr><tr><td>Grid 7 138.2 M2</td><td>Grid 8 145.2 M2</td><td>Grid 9 141.7 M2</td></tr></table>	Grid 1 141.6 M2	Grid 2 146.4 M2	Grid 3 143.4 M2	Grid 4 97.4 M3	Grid 5 100.1 M3	Grid 6 95.3 M3	Grid 7 138.2 M2	Grid 8 145.2 M2	Grid 9 141.7 M2	H Scan - measurement distance from the probe sensor center to CD1880 dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.495 A/m Probe Modulation Factor = 1.00 Device Reference Point: 0.000, 0.000, 354.7 mm Reference Value = 0.526 A/m; Power Drift = 0.015 dB Hearing Aid Near-Field Category: M2 (AWF 0 dB) 0.495 0.441 0.387 0.344 0.300 0.256  <table><tr><td>Grid 1 0.420 M2</td><td>Grid 2 0.440 M2</td><td>Grid 3 0.414 M2</td></tr><tr><td>Grid 4 0.470 M2</td><td>Grid 5 0.495 M2</td><td>Grid 6 0.469 M2</td></tr><tr><td>Grid 7 0.435 M2</td><td>Grid 8 0.462 M2</td><td>Grid 9 0.436 M2</td></tr></table>	Grid 1 0.420 M2	Grid 2 0.440 M2	Grid 3 0.414 M2	Grid 4 0.470 M2	Grid 5 0.495 M2	Grid 6 0.469 M2	Grid 7 0.435 M2	Grid 8 0.462 M2	Grid 9 0.436 M2
Grid 1 141.6 M2	Grid 2 146.4 M2	Grid 3 143.4 M2																	
Grid 4 97.4 M3	Grid 5 100.1 M3	Grid 6 95.3 M3																	
Grid 7 138.2 M2	Grid 8 145.2 M2	Grid 9 141.7 M2																	
Grid 1 0.420 M2	Grid 2 0.440 M2	Grid 3 0.414 M2																	
Grid 4 0.470 M2	Grid 5 0.495 M2	Grid 6 0.469 M2																	
Grid 7 0.435 M2	Grid 8 0.462 M2	Grid 9 0.436 M2																	

APPENDIX B: MEASUREMENT SCANS

MEASUREMENT DATA GSM850, CHANNEL LOW (824.2 MHz)																			
Date/Time: 2010-08-02 09:03:15 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 13:14:46 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM850 (ER3DV6) Frequency: 824.2 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m ³ Phantom section: E Device Section	Communication System: GSM850 (H3DV6) Frequency: 824.2 MHz; Duty Cycle: 1:7.39 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m ³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 168.1 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 75.0 V/m; Power Drift = 0.053 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)	H Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.256 A/m Probe Modulation Factor = 2.72 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.071 A/m; Power Drift = 0.016 dB Hearing Aid Near-Field Category: M4 (AWF -5 dB)																		
 <table><tr><td>Grid 1 154.5 M3</td><td>Grid 2 171.3 M3</td><td>Grid 3 165.4 M3</td></tr><tr><td>Grid 4 155.2 M3</td><td>Grid 5 168.1 M3</td><td>Grid 6 163.4 M3</td></tr><tr><td>Grid 7 152.6 M3</td><td>Grid 8 162.4 M3</td><td>Grid 9 154.9 M3</td></tr></table>	Grid 1 154.5 M3	Grid 2 171.3 M3	Grid 3 165.4 M3	Grid 4 155.2 M3	Grid 5 168.1 M3	Grid 6 163.4 M3	Grid 7 152.6 M3	Grid 8 162.4 M3	Grid 9 154.9 M3	 <table><tr><td>Grid 1 0.311 M4</td><td>Grid 2 0.222 M4</td><td>Grid 3 0.136 M4</td></tr><tr><td>Grid 4 0.324 M4</td><td>Grid 5 0.237 M4</td><td>Grid 6 0.161 M4</td></tr><tr><td>Grid 7 0.351 M4</td><td>Grid 8 0.256 M4</td><td>Grid 9 0.176 M4</td></tr></table>	Grid 1 0.311 M4	Grid 2 0.222 M4	Grid 3 0.136 M4	Grid 4 0.324 M4	Grid 5 0.237 M4	Grid 6 0.161 M4	Grid 7 0.351 M4	Grid 8 0.256 M4	Grid 9 0.176 M4
Grid 1 154.5 M3	Grid 2 171.3 M3	Grid 3 165.4 M3																	
Grid 4 155.2 M3	Grid 5 168.1 M3	Grid 6 163.4 M3																	
Grid 7 152.6 M3	Grid 8 162.4 M3	Grid 9 154.9 M3																	
Grid 1 0.311 M4	Grid 2 0.222 M4	Grid 3 0.136 M4																	
Grid 4 0.324 M4	Grid 5 0.237 M4	Grid 6 0.161 M4																	
Grid 7 0.351 M4	Grid 8 0.256 M4	Grid 9 0.176 M4																	

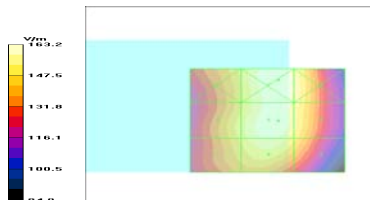
MEASUREMENT DATA GSM850, CHANNEL MIDDLE (836.6 MHz)

Date/Time: 2010-08-02 08:53:52
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

Communication System: GSM850 (ER3DV6)
Frequency: 836.6 MHz; Duty Cycle: 1:8.26
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
Phantom section: E Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2309
- ConvF(1, 1, 1); Calibrated: 2009-10-27
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan -Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 161.7 V/m
Probe Modulation Factor = 2.87
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 72.4 V/m; Power Drift = -0.025 dB
Hearing Aid Near-Field Category: M3 (AWF -5 dB)



Grid 1 149.1 M4	Grid 2 163.2 M3	Grid 3 158.0 M3
Grid 4 151.1 M3	Grid 5 161.7 M3	Grid 6 156.4 M3
Grid 7 148.8 M4	Grid 8 158.0 M3	Grid 9 150.2 M3

Date/Time: 2010-07-29 13:04:52
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

Communication System: GSM850 (H3DV6)
Frequency: 836.6 MHz; Duty Cycle: 1:7.39
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³
Phantom section: H Device Section

DASY4 Configuration:
- Probe: H3DV6 - SN6143
- ; Calibrated: 2009-10-23
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

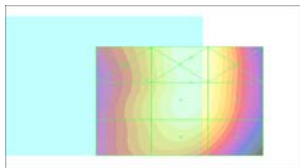
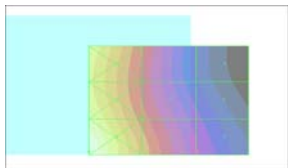
H Scan - Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.225 A/m
Probe Modulation Factor = 2.72
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.063 A/m; Power Drift = -0.042 dB
Hearing Aid Near-Field Category: M4 (AWF -5 dB)



Grid 1 0.304 M4	Grid 2 0.215 M4	Grid 3 0.126 M4
Grid 4 0.300 M4	Grid 5 0.212 M4	Grid 6 0.138 M4
Grid 7 0.319 M4	Grid 8 0.225 M4	Grid 9 0.149 M4

MEASUREMENT DATA GSM850, CHANNEL HIGH (848.8 MHz)																			
Date/Time: 2010-08-02 08:58:32 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 13:09:40 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM850 (ER3DV6) Frequency: 848.8 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m ³ Phantom section: E Device Section	Communication System: GSM850 (H3DV6) Frequency: 848.8 MHz; Duty Cycle: 1:7.39 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m ³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 165.6 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 74.0 V/m; Power Drift = -0.027 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB) 	H Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.225 A/m Probe Modulation Factor = 2.72 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.062 A/m; Power Drift = 0.016 dB Hearing Aid Near-Field Category: M4 (AWF -5 dB) 																		
<table><tr><td>Grid 1 151.7 M3</td><td>Grid 2 165.2 M3</td><td>Grid 3 159.7 M3</td></tr><tr><td>Grid 4 155.7 M3</td><td>Grid 5 165.6 M3</td><td>Grid 6 158.8 M3</td></tr><tr><td>Grid 7 153.6 M3</td><td>Grid 8 161.8 M3</td><td>Grid 9 153.5 M3</td></tr></table>	Grid 1 151.7 M3	Grid 2 165.2 M3	Grid 3 159.7 M3	Grid 4 155.7 M3	Grid 5 165.6 M3	Grid 6 158.8 M3	Grid 7 153.6 M3	Grid 8 161.8 M3	Grid 9 153.5 M3	<table><tr><td>Grid 1 0.318 M4</td><td>Grid 2 0.225 M4</td><td>Grid 3 0.131 M4</td></tr><tr><td>Grid 4 0.302 M4</td><td>Grid 5 0.209 M4</td><td>Grid 6 0.128 M4</td></tr><tr><td>Grid 7 0.316 M4</td><td>Grid 8 0.217 M4</td><td>Grid 9 0.136 M4</td></tr></table>	Grid 1 0.318 M4	Grid 2 0.225 M4	Grid 3 0.131 M4	Grid 4 0.302 M4	Grid 5 0.209 M4	Grid 6 0.128 M4	Grid 7 0.316 M4	Grid 8 0.217 M4	Grid 9 0.136 M4
Grid 1 151.7 M3	Grid 2 165.2 M3	Grid 3 159.7 M3																	
Grid 4 155.7 M3	Grid 5 165.6 M3	Grid 6 158.8 M3																	
Grid 7 153.6 M3	Grid 8 161.8 M3	Grid 9 153.5 M3																	
Grid 1 0.318 M4	Grid 2 0.225 M4	Grid 3 0.131 M4																	
Grid 4 0.302 M4	Grid 5 0.209 M4	Grid 6 0.128 M4																	
Grid 7 0.316 M4	Grid 8 0.217 M4	Grid 9 0.136 M4																	

MEASUREMENT DATA WCDMA850, CHANNEL LOW (826.4 MHz)

Date/Time: 2010-08-02 10:40:54 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 14:48:50 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA850 (ER3DV6) Frequency: 826.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: WCDMA850 (H3DV6) Frequency: 826.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 35.7 V/m Probe Modulation Factor = 0.610 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 75.3 V/m; Power Drift = 0.002 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB) 35.75 35.70 35.65 35.60 35.55 35.50 35.45 35.40 35.35 35.30 35.25 35.20 35.15 35.10 35.05 35.00 34.95 34.90 34.85 34.80 34.75 34.70 34.65 34.60 34.55 34.50 34.45 34.40 34.35 34.30 34.25 34.20 34.15 34.10 34.05 34.00 33.95 33.90 33.85 33.80 33.75 33.70 33.65 33.60 33.55 33.50 33.45 33.40 33.35 33.30 33.25 33.20 33.15 33.10 33.05 33.00 32.95 32.90 32.85 32.80 32.75 32.70 32.65 32.60 32.55 32.50 32.45 32.40 32.35 32.30 32.25 32.20 32.15 32.10 32.05 32.00 31.95 31.90 31.85 31.80 31.75 31.70 31.65 31.60 31.55 31.50 31.45 31.40 31.35 31.30 31.25 31.20 31.15 31.10 31.05 31.00 30.95 30.90 30.85 30.80 30.75 30.70 30.65 30.60 30.55 30.50 30.45 30.40 30.35 30.30 30.25 30.20 30.15 30.10 30.05 30.00 29.95 29.90 29.85 29.80 29.75 29.70 29.65 29.60 29.55 29.50 29.45 29.40 29.35 29.30 29.25 29.20 29.15 29.10 29.05 29.00 28.95 28.90 28.85 28.80 28.75 28.70 28.65 28.60 28.55 28.50 28.45 28.40 28.35 28.30 28.25 28.20 28.15 28.10 28.05 28.00 27.95 27.90 27.85 27.80 27.75 27.70 27.65 27.60 27.55 27.50 27.45 27.40 27.35 27.30 27.25 27.20 27.15 27.10 27.05 27.00 26.95 26.90 26.85 26.80 26.75 26.70 26.65 26.60 26.55 26.50 26.45 26.40 26.35 26.30 26.25 26.20 26.15 26.10 26.05 26.00 25.95 25.90 25.85 25.80 25.75 25.70 25.65 25.60 25.55 25.50 25.45 25.40 25.35 25.30 25.25 25.20 25.15 25.10 25.05 25.00 24.95 24.90 24.85 24.80 24.75 24.70 24.65 24.60 24.55 24.50 24.45 24.40 24.35 24.30 24.25 24.20 24.15 24.10 24.05 24.00 23.95 23.90 23.85 23.80 23.75 23.70 23.65 23.60 23.55 23.50 23.45 23.40 23.35 23.30 23.25 23.20 23.15 23.10 23.05 23.00 22.95 22.90 22.85 22.80 22.75 22.70 22.65 22.60 22.55 22.50 22.45 22.40 22.35 22.30 22.25 22.20 22.15 22.10 22.05 22.00 21.95 21.90 21.85 21.80 21.75 21.70 21.65 21.60 21.55 21.50 21.45 21.40 21.35 21.30 21.25 21.20 21.15 21.10 21.05 21.00 20.95 20.90 20.85 20.80 20.75 20.70 20.65 20.60 20.55 20.50 20.45 20.40 20.35 20.30 20.25 20.20 20.15 20.10 20.05 20.00 19.95 19.90 19.85 19.80 19.75 19.70 19.65 19.60 19.55 19.50 19.45 19.40 19.35 19.30 19.25 19.20 19.15 19.10 19.05 19.00 18.95 18.90 18.85 18.80 18.75 18.70 18.65 18.60 18.55 18.50 18.45 18.40 18.35 18.30 18.25 18.20 18.15 18.10 18.05 18.00 17.95 17.90 17.85 17.80 17.75 17.70 17.65 17.60 17.55 17.50 17.45 17.40 17.35 17.30 17.25 17.20 17.15 17.10 17.05 17.00 16.95 16.90 16.85 16.80 16.75 16.70 16.65 16.60 16.55 16.50 16.45 16.40 16.35 16.30 16.25 16.20 16.15 16.10 16.05 16.00 15.95 15.90 15.85 15.80 15.75 15.70 15.65 15.60 15.55 15.50 15.45 15.40 15.35 15.30 15.25 15.20 15.15 15.10 15.05 15.00 14.95 14.90 14.85 14.80 14.75 14.70 14.65 14.60 14.55 14.50 14.45 14.40 14.35 14.30 14.25 14.20 14.15 14.10 14.05 14.00 13.95 13.90 13.85 13.80 13.75 13.70 13.65 13.60 13.55 13.50 13.45 13.40 13.35 13.30 13.25 13.20 13.15 13.10 13.05 13.00 12.95 12.90 12.85 12.80 12.75 12.70 12.65 12.60 12.55 12.50 12.45 12.40 12.35 12.30 12.25 12.20 12.15 12.10 12.05 12.00 11.95 11.90 11.85 11.80 11.75 11.70 11.65 11.60 11.55 11.50 11.45 11.40 11.35 11.30 11.25 11.20 11.15 11.10 11.05 11.00 10.95 10.90 10.85 10.80 10.75 10.70 10.65 10.60 10.55 10.50 10.45 10.40 10.35 10.30 10.25 10.20 10.15 10.10 10.05 10.00 9.95 9.90 9.85 9.80 9.75 9.70 9.65 9.60 9.55 9.50 9.45 9.40 9.35 9.30 9.25 9.20 9.15 9.10 9.05 9.00 8.95 8.90 8.85 8.80 8.75 8.70 8.65 8.60 8.55 8.50 8.45 8.40 8.35 8.30 8.25 8.20 8.15 8.10 8.05 8.00 7.95 7.90 7.85 7.80 7.75 7.70 7.65 7.60 7.55 7.50 7.45 7.40 7.35 7.30 7.25 7.20 7.15 7.10 7.05 7.00 6.95 6.90 6.85 6.80 6.75 6.70 6.65 6.60 6.55 6.50 6.45 6.40 6.35 6.30 6.25 6.20 6.15 6.10 6.05 6.00 5.95 5.90 5.85 5.80 5.75 5.70 5.65 5.60 5.55 5.50 5.45 5.40 5.35 5.30 5.25 5.20 5.15 5.10 5.05 5.00 4.95 4.90 4.85 4.80 4.75 4.70 4.65 4.60 4.55 4.50 4.45 4.40 4.35 4.30 4.25 4.20 4.15 4.10 4.05 4.00 3.95 3.90 3.85 3.80 3.75 3.70 3.65 3.60 3.55 3.50 3.45 3.40 3.35 3.30 3.25 3.20 3.15 3.10 3.05 3.00 2.95 2.90 2.85 2.80 2.75 2.70 2.65 2.60 2.55 2.50 2.45 2.40 2.35 2.30 2.25 2.20 2.15 2.10 2.05 2.00 1.95 1.90 1.85 1.80 1.75 1.70 1.65 1.60 1.55 1.50 1.45 1.40 1.35 1.30 1.25 1.20 1.15 1.10 1.05 1.00 0.95 0.90 0.85 0.80 0.75 0.70 0.65 0.60 0.55 0.50 0.45 0.40 0.35 0.30 0.25 0.20 0.15 0.10 0.05 0.00  <table><tr><td>Grid 1 32.5 M4</td><td>Grid 2 36.2 M4</td><td>Grid 3 35.3 M4</td></tr><tr><td>Grid 4 32.9 M4</td><td>Grid 5 35.7 M4</td><td>Grid 6 34.9 M4</td></tr><tr><td>Grid 7 32.5 M4</td><td>Grid 8 34.8 M4</td><td>Grid 9 33.4 M4</td></tr></table>	Grid 1 32.5 M4	Grid 2 36.2 M4	Grid 3 35.3 M4	Grid 4 32.9 M4	Grid 5 35.7 M4	Grid 6 34.9 M4	Grid 7 32.5 M4	Grid 8 34.8 M4	Grid 9 33.4 M4	H Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.055 A/m Probe Modulation Factor = 0.590 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.070 A/m; Power Drift = 0.003 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB) 0.055 0.054 0.053 0.052 0.051 0.050 0.049 0.048 0.047 0.046 0.045 0.044 0.043 0.042 0.041 0.040 0.039 0.038 0.037 0.036 0.035 0.034 0.033 0.032 0.031 0.030 0.029 0.028 0.027 0.026 0.025 0.024 0.023 0.022 0.021 0.020 0.019 0.018 0.017 0.016 0.015 0.014 0.013 0.012 0.011 0.010 0.009 0.008 0.007 0.006 0.005 0.004 0.003 0.002 0.001 0.000 -0.001 -0.002 -0.003 -0.004 -0.005 -0.006 -0.007 -0.008 -0.009 -0.010 -0.011 -0.012 -0.013 -0.014 -0.015 -0.016 -0.017 -0.018 -0.019 -0.020 -0.021 -0.022 -0.023 -0.024 -0.025 -0.026 -0.027 -0.028 -0.029 -0.030 -0.031 -0.032 -0.033 -0.034 -0.035 -0.036 -0.037 -0.038 -0.039 -0.040 -0.041 -0.042 -0.043 -0.044 -0.045 -0.046 -0.047 -0.048 -0.049 -0.050 -0.051 -0.052 -0.053 -0.054 -0.055  <table><tr><td>Grid 1 0.068 M4</td><td>Grid 2 0.049 M4</td><td>Grid 3 0.029 M4</td></tr><tr><td>Grid 4 0.069 M4</td><td>Grid 5 0.050 M4</td><td>Grid 6 0.034 M4</td></tr><tr><td>Grid 7 0.075 M4</td><td>Grid 8 0.055 M4</td><td>Grid 9 0.038 M4</td></tr></table>	Grid 1 0.068 M4	Grid 2 0.049 M4	Grid 3 0.029 M4	Grid 4 0.069 M4	Grid 5 0.050 M4	Grid 6 0.034 M4	Grid 7 0.075 M4	Grid 8 0.055 M4	Grid 9 0.038 M4
Grid 1 32.5 M4	Grid 2 36.2 M4	Grid 3 35.3 M4																	
Grid 4 32.9 M4	Grid 5 35.7 M4	Grid 6 34.9 M4																	
Grid 7 32.5 M4	Grid 8 34.8 M4	Grid 9 33.4 M4																	
Grid 1 0.068 M4	Grid 2 0.049 M4	Grid 3 0.029 M4																	
Grid 4 0.069 M4	Grid 5 0.050 M4	Grid 6 0.034 M4																	
Grid 7 0.075 M4	Grid 8 0.055 M4	Grid 9 0.038 M4																	

MEASUREMENT DATA WCDMA850, CHANNEL MIDDLE (835 MHz)

Date/Time: 2010-08-02 10:30:13 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 14:39:08 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA850 (ER3DV6) Frequency: 835 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: WCDMA850 (H3DV6) Frequency: 835 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan -Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 40.2 V/m Probe Modulation Factor = 0.610 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 82.9 V/m; Power Drift = 0.111 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)  <table><tr><td>Grid 1 36.5 M4</td><td>Grid 2 40.4 M4</td><td>Grid 3 39.1 M4</td></tr><tr><td>Grid 4 37.1 M4</td><td>Grid 5 40.2 M4</td><td>Grid 6 38.8 M4</td></tr><tr><td>Grid 7 36.5 M4</td><td>Grid 8 39.0 M4</td><td>Grid 9 37.4 M4</td></tr></table>	Grid 1 36.5 M4	Grid 2 40.4 M4	Grid 3 39.1 M4	Grid 4 37.1 M4	Grid 5 40.2 M4	Grid 6 38.8 M4	Grid 7 36.5 M4	Grid 8 39.0 M4	Grid 9 37.4 M4	H Scan - Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.058 A/m Probe Modulation Factor = 0.590 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.075 A/m; Power Drift = 0.076 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)  <table><tr><td>Grid 1 0.074 M4</td><td>Grid 2 0.054 M4</td><td>Grid 3 0.032 M4</td></tr><tr><td>Grid 4 0.073 M4</td><td>Grid 5 0.054 M4</td><td>Grid 6 0.036 M4</td></tr><tr><td>Grid 7 0.078 M4</td><td>Grid 8 0.058 M4</td><td>Grid 9 0.040 M4</td></tr></table>	Grid 1 0.074 M4	Grid 2 0.054 M4	Grid 3 0.032 M4	Grid 4 0.073 M4	Grid 5 0.054 M4	Grid 6 0.036 M4	Grid 7 0.078 M4	Grid 8 0.058 M4	Grid 9 0.040 M4
Grid 1 36.5 M4	Grid 2 40.4 M4	Grid 3 39.1 M4																	
Grid 4 37.1 M4	Grid 5 40.2 M4	Grid 6 38.8 M4																	
Grid 7 36.5 M4	Grid 8 39.0 M4	Grid 9 37.4 M4																	
Grid 1 0.074 M4	Grid 2 0.054 M4	Grid 3 0.032 M4																	
Grid 4 0.073 M4	Grid 5 0.054 M4	Grid 6 0.036 M4																	
Grid 7 0.078 M4	Grid 8 0.058 M4	Grid 9 0.040 M4																	

MEASUREMENT DATA WCDMA850, CHANNEL HIGH (846.6 MHz)																			
Date/Time: 2010-08-02 10:36:07 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 14:43:54 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA850 (ER3DV6) Frequency: 846.6 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m ³ Phantom section: E Device Section	Communication System: WCDMA850 (H3DV6) Frequency: 846.6 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m ³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 38.7 V/m Probe Modulation Factor = 0.610 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 81.3 V/m; Power Drift = -0.043 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB) 	H Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.057 A/m Probe Modulation Factor = 0.590 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.069 A/m; Power Drift = 0.030 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB) 																		
<table><tr><td>Grid 1 35.3 M4</td><td>Grid 2 38.8 M4</td><td>Grid 3 37.5 M4</td></tr><tr><td>Grid 4 36.1 M4</td><td>Grid 5 38.7 M4</td><td>Grid 6 37.3 M4</td></tr><tr><td>Grid 7 35.6 M4</td><td>Grid 8 37.8 M4</td><td>Grid 9 36.0 M4</td></tr></table>	Grid 1 35.3 M4	Grid 2 38.8 M4	Grid 3 37.5 M4	Grid 4 36.1 M4	Grid 5 38.7 M4	Grid 6 37.3 M4	Grid 7 35.6 M4	Grid 8 37.8 M4	Grid 9 36.0 M4	<table><tr><td>Grid 1 0.078 M4</td><td>Grid 2 0.057 M4</td><td>Grid 3 0.034 M4</td></tr><tr><td>Grid 4 0.073 M4</td><td>Grid 5 0.051 M4</td><td>Grid 6 0.031 M4</td></tr><tr><td>Grid 7 0.077 M4</td><td>Grid 8 0.053 M4</td><td>Grid 9 0.033 M4</td></tr></table>	Grid 1 0.078 M4	Grid 2 0.057 M4	Grid 3 0.034 M4	Grid 4 0.073 M4	Grid 5 0.051 M4	Grid 6 0.031 M4	Grid 7 0.077 M4	Grid 8 0.053 M4	Grid 9 0.033 M4
Grid 1 35.3 M4	Grid 2 38.8 M4	Grid 3 37.5 M4																	
Grid 4 36.1 M4	Grid 5 38.7 M4	Grid 6 37.3 M4																	
Grid 7 35.6 M4	Grid 8 37.8 M4	Grid 9 36.0 M4																	
Grid 1 0.078 M4	Grid 2 0.057 M4	Grid 3 0.034 M4																	
Grid 4 0.073 M4	Grid 5 0.051 M4	Grid 6 0.031 M4																	
Grid 7 0.077 M4	Grid 8 0.053 M4	Grid 9 0.033 M4																	

MEASUREMENT DATA GSM1900, CHANNEL LOW (1850.2 MHz)

Date/Time: 2010-08-02 09:48:04
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

Date/Time: 2010-07-29 13:37:22
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

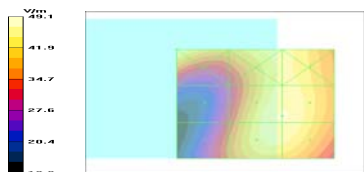
Communication System: GSM1900 (ER3DV6)
Frequency: 1850.2 MHz; Duty Cycle: 1:8.26
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
Phantom section: E Device Section

Communication System: GSM1900 (H3DV6)
Frequency: 1850.2 MHz; Duty Cycle: 1:5.07
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³
Phantom section: H Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2309
- ConvF(1, 1, 1); Calibrated: 2009-10-27
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

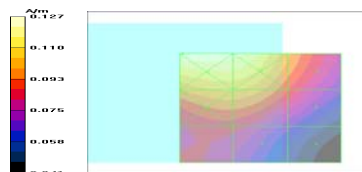
DASY4 Configuration:
- Probe: H3DV6 - SN6143
- ; Calibrated: 2009-10-23
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan - Low/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 46.8 V/m
Probe Modulation Factor = 2.87
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 17.5 V/m; Power Drift = 0.002 dB
Hearing Aid Near-Field Category: M4 (AWF -5 dB)



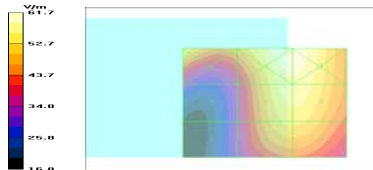
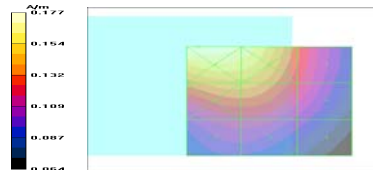
Grid 1 49.1 M3	Grid 2 45.4 M4	Grid 3 45.3 M4
Grid 4 32.2 M4	Grid 5 46.8 M4	Grid 6 46.8 M4
Grid 7 35.6 M4	Grid 8 46.7 M4	Grid 9 46.7 M4

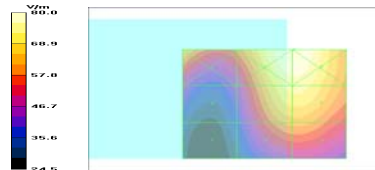
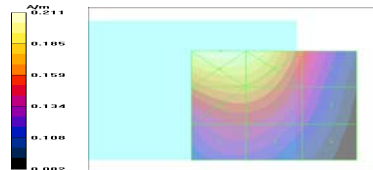
H Scan - Low/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.104 A/m
Probe Modulation Factor = 2.25
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.043 A/m; Power Drift = 0.006 dB
Hearing Aid Near-Field Category: M4 (AWF -5 dB)

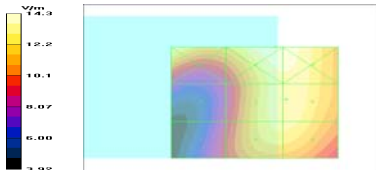
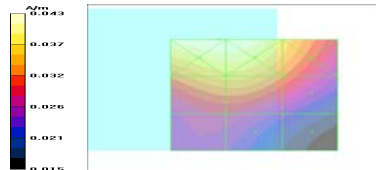


Grid 1 0.127 M4	Grid 2 0.123 M4	Grid 3 0.100 M4
Grid 4 0.105 M4	Grid 5 0.104 M4	Grid 6 0.087 M4
Grid 7 0.084 M4	Grid 8 0.084 M4	Grid 9 0.066 M4

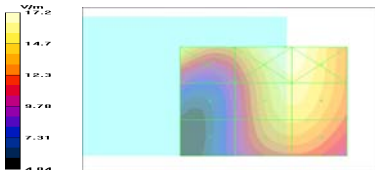
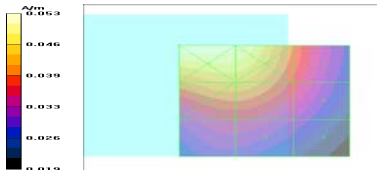
MEASUREMENT DATA GSM1900, CHANNEL MIDDLE (1880 MHz)

Date/Time: 2010-08-02 09:21:13 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 13:27:53 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM1900 (ER3DV6) Frequency: 1880 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: GSM1900 (H3DV6) Frequency: 1880 MHz; Duty Cycle: 1:5.07 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan -Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 57.9 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 21.5 V/m; Power Drift = -0.033 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 57.7 M3</td><td>Grid 2 61.7 M3</td><td>Grid 3 61.5 M3</td></tr><tr><td>Grid 4 36.2 M4</td><td>Grid 5 57.8 M3</td><td>Grid 6 57.9 M3</td></tr><tr><td>Grid 7 34.0 M4</td><td>Grid 8 53.6 M3</td><td>Grid 9 53.6 M3</td></tr></table>	Grid 1 57.7 M3	Grid 2 61.7 M3	Grid 3 61.5 M3	Grid 4 36.2 M4	Grid 5 57.8 M3	Grid 6 57.9 M3	Grid 7 34.0 M4	Grid 8 53.6 M3	Grid 9 53.6 M3	H Scan - Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.145 A/m Probe Modulation Factor = 2.25 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.060 A/m; Power Drift = -0.030 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 0.177 M3</td><td>Grid 2 0.170 M3</td><td>Grid 3 0.127 M4</td></tr><tr><td>Grid 4 0.145 M3</td><td>Grid 5 0.145 M3</td><td>Grid 6 0.119 M4</td></tr><tr><td>Grid 7 0.115 M4</td><td>Grid 8 0.115 M4</td><td>Grid 9 0.100 M4</td></tr></table>	Grid 1 0.177 M3	Grid 2 0.170 M3	Grid 3 0.127 M4	Grid 4 0.145 M3	Grid 5 0.145 M3	Grid 6 0.119 M4	Grid 7 0.115 M4	Grid 8 0.115 M4	Grid 9 0.100 M4
Grid 1 57.7 M3	Grid 2 61.7 M3	Grid 3 61.5 M3																	
Grid 4 36.2 M4	Grid 5 57.8 M3	Grid 6 57.9 M3																	
Grid 7 34.0 M4	Grid 8 53.6 M3	Grid 9 53.6 M3																	
Grid 1 0.177 M3	Grid 2 0.170 M3	Grid 3 0.127 M4																	
Grid 4 0.145 M3	Grid 5 0.145 M3	Grid 6 0.119 M4																	
Grid 7 0.115 M4	Grid 8 0.115 M4	Grid 9 0.100 M4																	

MEASUREMENT DATA GSM1900, CHANNEL HIGH (1909.8 MHz)																			
Date/Time: 2010-08-02 09:37:17 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 13:32:38 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM1900 (ER3DV6) Frequency: 1909.8 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: GSM1900 (H3DV6) Frequency: 1909.8 MHz; Duty Cycle: 1:5.07 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 74.4 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 25.5 V/m; Power Drift = 0.064 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 69.2 M3</td><td>Grid 2 80.0 M3</td><td>Grid 3 80.0 M3</td></tr><tr><td>Grid 4 47.4 M3</td><td>Grid 5 74.2 M3</td><td>Grid 6 74.4 M3</td></tr><tr><td>Grid 7 37.3 M4</td><td>Grid 8 63.0 M3</td><td>Grid 9 63.2 M3</td></tr></table>	Grid 1 69.2 M3	Grid 2 80.0 M3	Grid 3 80.0 M3	Grid 4 47.4 M3	Grid 5 74.2 M3	Grid 6 74.4 M3	Grid 7 37.3 M4	Grid 8 63.0 M3	Grid 9 63.2 M3	H Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.174 A/m Probe Modulation Factor = 2.25 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.069 A/m; Power Drift = 0.030 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 0.211 M3</td><td>Grid 2 0.206 M3</td><td>Grid 3 0.152 M3</td></tr><tr><td>Grid 4 0.174 M3</td><td>Grid 5 0.174 M3</td><td>Grid 6 0.136 M4</td></tr><tr><td>Grid 7 0.143 M3</td><td>Grid 8 0.143 M3</td><td>Grid 9 0.119 M4</td></tr></table>	Grid 1 0.211 M3	Grid 2 0.206 M3	Grid 3 0.152 M3	Grid 4 0.174 M3	Grid 5 0.174 M3	Grid 6 0.136 M4	Grid 7 0.143 M3	Grid 8 0.143 M3	Grid 9 0.119 M4
Grid 1 69.2 M3	Grid 2 80.0 M3	Grid 3 80.0 M3																	
Grid 4 47.4 M3	Grid 5 74.2 M3	Grid 6 74.4 M3																	
Grid 7 37.3 M4	Grid 8 63.0 M3	Grid 9 63.2 M3																	
Grid 1 0.211 M3	Grid 2 0.206 M3	Grid 3 0.152 M3																	
Grid 4 0.174 M3	Grid 5 0.174 M3	Grid 6 0.136 M4																	
Grid 7 0.143 M3	Grid 8 0.143 M3	Grid 9 0.119 M4																	

MEASUREMENT DATA WCDMA1900, CHANNEL LOW (1852.4MHz)																			
Date/Time: 2010-08-02 10:19:05 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 13:57:29 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA1900 (ER3DV6) Frequency: 1852.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m ³ Phantom section: E Device Section	Communication System: WCDMA1900 (H3DV6) Frequency: 1852.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m ³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 13.5 V/m Probe Modulation Factor = 0.600 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 24.2 V/m; Power Drift = -0.109 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)	H Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.036 A/m Probe Modulation Factor = 0.520 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.066 A/m; Power Drift = -0.059 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)																		
 <table><tr><td>Grid 1 14.3 M4</td><td>Grid 2 14.3 M4</td><td>Grid 3 14.3 M4</td></tr><tr><td>Grid 4 8.79 M4</td><td>Grid 5 13.5 M4</td><td>Grid 6 13.5 M4</td></tr><tr><td>Grid 7 9.36 M4</td><td>Grid 8 13.2 M4</td><td>Grid 9 13.2 M4</td></tr></table>	Grid 1 14.3 M4	Grid 2 14.3 M4	Grid 3 14.3 M4	Grid 4 8.79 M4	Grid 5 13.5 M4	Grid 6 13.5 M4	Grid 7 9.36 M4	Grid 8 13.2 M4	Grid 9 13.2 M4	 <table><tr><td>Grid 1 0.043 M4</td><td>Grid 2 0.043 M4</td><td>Grid 3 0.037 M4</td></tr><tr><td>Grid 4 0.036 M4</td><td>Grid 5 0.036 M4</td><td>Grid 6 0.032 M4</td></tr><tr><td>Grid 7 0.028 M4</td><td>Grid 8 0.028 M4</td><td>Grid 9 0.023 M4</td></tr></table>	Grid 1 0.043 M4	Grid 2 0.043 M4	Grid 3 0.037 M4	Grid 4 0.036 M4	Grid 5 0.036 M4	Grid 6 0.032 M4	Grid 7 0.028 M4	Grid 8 0.028 M4	Grid 9 0.023 M4
Grid 1 14.3 M4	Grid 2 14.3 M4	Grid 3 14.3 M4																	
Grid 4 8.79 M4	Grid 5 13.5 M4	Grid 6 13.5 M4																	
Grid 7 9.36 M4	Grid 8 13.2 M4	Grid 9 13.2 M4																	
Grid 1 0.043 M4	Grid 2 0.043 M4	Grid 3 0.037 M4																	
Grid 4 0.036 M4	Grid 5 0.036 M4	Grid 6 0.032 M4																	
Grid 7 0.028 M4	Grid 8 0.028 M4	Grid 9 0.023 M4																	

MEASUREMENT DATA WCDMA1900, CHANNEL MIDDLE (1880MHz)

Date/Time: 2010-08-02 10:02:12 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 13:47:50 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA1900 (ER3DV6) Frequency: 1880 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: WCDMA1900 (H3DV6) Frequency: 1880 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan -Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 16.1 V/m Probe Modulation Factor = 0.600 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 29.4 V/m; Power Drift = -0.329 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)  <table><tr><td>Grid 1 16.5 M4</td><td>Grid 2 17.2 M4</td><td>Grid 3 17.1 M4</td></tr><tr><td>Grid 4 10.2 M4</td><td>Grid 5 16.1 M4</td><td>Grid 6 16.1 M4</td></tr><tr><td>Grid 7 9.49 M4</td><td>Grid 8 14.9 M4</td><td>Grid 9 14.9 M4</td></tr></table>	Grid 1 16.5 M4	Grid 2 17.2 M4	Grid 3 17.1 M4	Grid 4 10.2 M4	Grid 5 16.1 M4	Grid 6 16.1 M4	Grid 7 9.49 M4	Grid 8 14.9 M4	Grid 9 14.9 M4	H Scan - Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.044 A/m Probe Modulation Factor = 0.520 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.080 A/m; Power Drift = -0.146 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)  <table><tr><td>Grid 1 0.053 M4</td><td>Grid 2 0.052 M4</td><td>Grid 3 0.039 M4</td></tr><tr><td>Grid 4 0.044 M4</td><td>Grid 5 0.044 M4</td><td>Grid 6 0.037 M4</td></tr><tr><td>Grid 7 0.035 M4</td><td>Grid 8 0.035 M4</td><td>Grid 9 0.030 M4</td></tr></table>	Grid 1 0.053 M4	Grid 2 0.052 M4	Grid 3 0.039 M4	Grid 4 0.044 M4	Grid 5 0.044 M4	Grid 6 0.037 M4	Grid 7 0.035 M4	Grid 8 0.035 M4	Grid 9 0.030 M4
Grid 1 16.5 M4	Grid 2 17.2 M4	Grid 3 17.1 M4																	
Grid 4 10.2 M4	Grid 5 16.1 M4	Grid 6 16.1 M4																	
Grid 7 9.49 M4	Grid 8 14.9 M4	Grid 9 14.9 M4																	
Grid 1 0.053 M4	Grid 2 0.052 M4	Grid 3 0.039 M4																	
Grid 4 0.044 M4	Grid 5 0.044 M4	Grid 6 0.037 M4																	
Grid 7 0.035 M4	Grid 8 0.035 M4	Grid 9 0.030 M4																	

MEASUREMENT DATA WCDMA1900, CHANNEL HIGH (1907.6MHz)

Date/Time: 2010-08-02 10:14:16
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

Date/Time: 2010-07-29 13:52:42
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

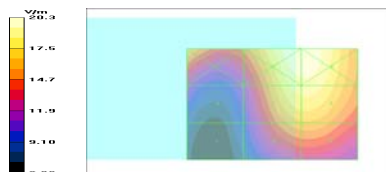
Communication System: WCDMA1900 (ER3DV6)
Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
Phantom section: E Device Section

Communication System: WCDMA1900 (H3DV6)
Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³
Phantom section: H Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2309
- ConvF(1, 1, 1); Calibrated: 2009-10-27
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

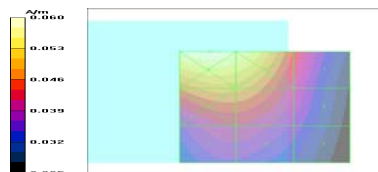
DASY4 Configuration:
- Probe: H3DV6 - SN6143
- ; Calibrated: 2009-10-23
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan - High/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 19.0 V/m
Probe Modulation Factor = 0.600
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 31.4 V/m; Power Drift = -0.075 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)



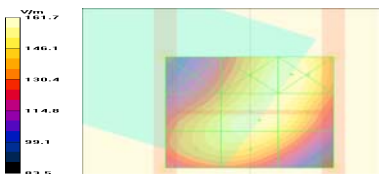
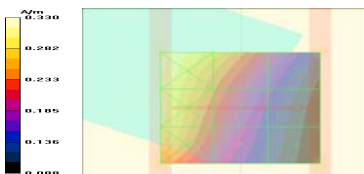
Grid 1 17.5 M4	Grid 2 20.3 M4	Grid 3 20.3 M4
Grid 4 12.0 M4	Grid 5 19.0 M4	Grid 6 19.0 M4
Grid 7 9.59 M4	Grid 8 16.4 M4	Grid 9 16.4 M4

H Scan - High/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.049 A/m
Probe Modulation Factor = 0.520
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.089 A/m; Power Drift = -0.209 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)



Grid 1 0.060 M4	Grid 2 0.058 M4	Grid 3 0.044 M4
Grid 4 0.050 M4	Grid 5 0.049 M4	Grid 6 0.040 M4
Grid 7 0.041 M4	Grid 8 0.041 M4	Grid 9 0.036 M4

APPENDIX C: MEASUREMENT SCANS FOR T-COIL ASSESSMENT

MEASUREMENT DATA GSM850, CHANNEL LOW (824.2 MHz)																			
Date/Time: 2010-07-29 08:12:54 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 10:13:59 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM850 (ER3DV6) Frequency: 824.2 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: GSM850 (H3DV6) Frequency: 824.2 MHz; Duty Cycle: 1:7.39 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 160.7 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 68.8 V/m; Power Drift = -0.012 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 133.0 M4</td><td>Grid 2 160.3 M3</td><td>Grid 3 161.7 M3</td></tr><tr><td>Grid 4 153.1 M3</td><td>Grid 5 160.7 M3</td><td>Grid 6 159.7 M3</td></tr><tr><td>Grid 7 152.6 M3</td><td>Grid 8 158.0 M3</td><td>Grid 9 150.2 M3</td></tr></table>	Grid 1 133.0 M4	Grid 2 160.3 M3	Grid 3 161.7 M3	Grid 4 153.1 M3	Grid 5 160.7 M3	Grid 6 159.7 M3	Grid 7 152.6 M3	Grid 8 158.0 M3	Grid 9 150.2 M3	H Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.272 A/m Probe Modulation Factor = 2.72 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.072 A/m; Power Drift = 0.001 dB Hearing Aid Near-Field Category: M4 (AWF -5 dB)  <table><tr><td>Grid 1 0.330 M4</td><td>Grid 2 0.272 M4</td><td>Grid 3 0.202 M4</td></tr><tr><td>Grid 4 0.313 M4</td><td>Grid 5 0.237 M4</td><td>Grid 6 0.161 M4</td></tr><tr><td>Grid 7 0.300 M4</td><td>Grid 8 0.215 M4</td><td>Grid 9 0.143 M4</td></tr></table>	Grid 1 0.330 M4	Grid 2 0.272 M4	Grid 3 0.202 M4	Grid 4 0.313 M4	Grid 5 0.237 M4	Grid 6 0.161 M4	Grid 7 0.300 M4	Grid 8 0.215 M4	Grid 9 0.143 M4
Grid 1 133.0 M4	Grid 2 160.3 M3	Grid 3 161.7 M3																	
Grid 4 153.1 M3	Grid 5 160.7 M3	Grid 6 159.7 M3																	
Grid 7 152.6 M3	Grid 8 158.0 M3	Grid 9 150.2 M3																	
Grid 1 0.330 M4	Grid 2 0.272 M4	Grid 3 0.202 M4																	
Grid 4 0.313 M4	Grid 5 0.237 M4	Grid 6 0.161 M4																	
Grid 7 0.300 M4	Grid 8 0.215 M4	Grid 9 0.143 M4																	

MEASUREMENT DATA GSM850, CHANNEL MIDDLE (836.6 MHz)

Date/Time: 2010-07-29 08:02:00
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

Date/Time: 2010-07-29 10:03:09
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

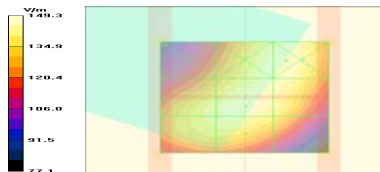
Communication System: GSM850 (ER3DV6)
Frequency: 836.6 MHz; Duty Cycle: 1:8.26
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
Phantom section: E Device Section

Communication System: GSM850 (H3DV6)
Frequency: 836.6 MHz; Duty Cycle: 1:7.39
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³
Phantom section: H Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2309
- ConvF(1, 1, 1); Calibrated: 2009-10-27
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: H3DV6 - SN6143
- ; Calibrated: 2009-10-23
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan -Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 148.8 V/m
Probe Modulation Factor = 2.87
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 63.7 V/m; Power Drift = 0.003 dB
Hearing Aid Near-Field Category: M4 (AWF -5 dB)

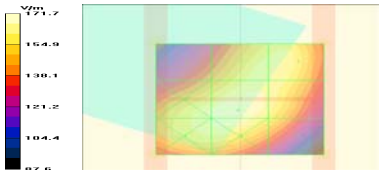
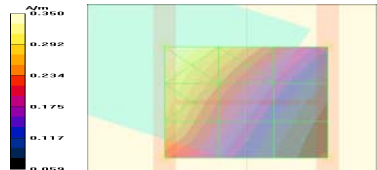


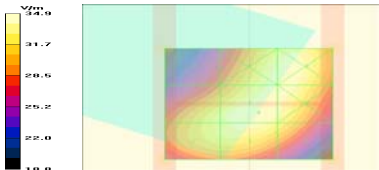
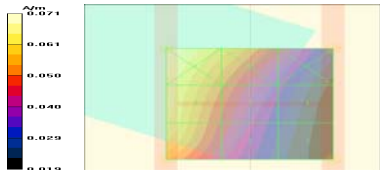
Grid 1 125.7 M4	Grid 2 147.9 M4	Grid 3 149.3 M4
Grid 4 143.5 M4	Grid 5 148.8 M4	Grid 6 147.1 M4
Grid 7 142.9 M4	Grid 8 145.9 M4	Grid 9 138.3 M4

H Scan - Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.263 A/m
Probe Modulation Factor = 2.72
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.063 A/m; Power Drift = 0.007 dB
Hearing Aid Near-Field Category: M4 (AWF -5 dB)



Grid 1 0.316 M4	Grid 2 0.263 M4	Grid 3 0.197 M4
Grid 4 0.290 M4	Grid 5 0.218 M4	Grid 6 0.147 M4
Grid 7 0.267 M4	Grid 8 0.187 M4	Grid 9 0.121 M4

MEASUREMENT DATA GSM850, CHANNEL HIGH (848.8 MHz)																			
Date/Time: 2010-07-29 08:07:55 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 10:09:02 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM850 (ER3DV6) Frequency: 848.8 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: GSM850 (H3DV6) Frequency: 848.8 MHz; Duty Cycle: 1:7.39 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 171.7 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 73.0 V/m; Power Drift = -0.041 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 143.6 M4</td><td>Grid 2 165.7 M3</td><td>Grid 3 165.7 M3</td></tr><tr><td>Grid 4 167.3 M3</td><td>Grid 5 171.7 M3</td><td>Grid 6 165.5 M3</td></tr><tr><td>Grid 7 167.1 M3</td><td>Grid 8 170.0 M3</td><td>Grid 9 157.7 M3</td></tr></table>	Grid 1 143.6 M4	Grid 2 165.7 M3	Grid 3 165.7 M3	Grid 4 167.3 M3	Grid 5 171.7 M3	Grid 6 165.5 M3	Grid 7 167.1 M3	Grid 8 170.0 M3	Grid 9 157.7 M3	H Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.287 A/m Probe Modulation Factor = 2.72 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.066 A/m; Power Drift = -0.045 dB Hearing Aid Near-Field Category: M4 (AWF -5 dB)  <table><tr><td>Grid 1 0.350 M4</td><td>Grid 2 0.290 M4</td><td>Grid 3 0.216 M4</td></tr><tr><td>Grid 4 0.318 M4</td><td>Grid 5 0.236 M4</td><td>Grid 6 0.156 M4</td></tr><tr><td>Grid 7 0.287 M4</td><td>Grid 8 0.195 M4</td><td>Grid 9 0.119 M4</td></tr></table>	Grid 1 0.350 M4	Grid 2 0.290 M4	Grid 3 0.216 M4	Grid 4 0.318 M4	Grid 5 0.236 M4	Grid 6 0.156 M4	Grid 7 0.287 M4	Grid 8 0.195 M4	Grid 9 0.119 M4
Grid 1 143.6 M4	Grid 2 165.7 M3	Grid 3 165.7 M3																	
Grid 4 167.3 M3	Grid 5 171.7 M3	Grid 6 165.5 M3																	
Grid 7 167.1 M3	Grid 8 170.0 M3	Grid 9 157.7 M3																	
Grid 1 0.350 M4	Grid 2 0.290 M4	Grid 3 0.216 M4																	
Grid 4 0.318 M4	Grid 5 0.236 M4	Grid 6 0.156 M4																	
Grid 7 0.287 M4	Grid 8 0.195 M4	Grid 9 0.119 M4																	

MEASUREMENT DATA WCDMA850, CHANNEL LOW (826.4 MHz)																			
Date/Time: 2010-07-29 09:49:00 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 12:53:02 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA850 (ER3DV6) Frequency: 826.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: WCDMA850 Frequency: 826.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 34.9 V/m Probe Modulation Factor = 0.610 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 69.4 V/m; Power Drift = 0.006 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)  <table><tr><td>Grid 1 28.4 M4</td><td>Grid 2 34.4 M4</td><td>Grid 3 34.6 M4</td></tr><tr><td>Grid 4 33.3 M4</td><td>Grid 5 34.9 M4</td><td>Grid 6 34.4 M4</td></tr><tr><td>Grid 7 33.3 M4</td><td>Grid 8 34.5 M4</td><td>Grid 9 32.9 M4</td></tr></table>	Grid 1 28.4 M4	Grid 2 34.4 M4	Grid 3 34.6 M4	Grid 4 33.3 M4	Grid 5 34.9 M4	Grid 6 34.4 M4	Grid 7 33.3 M4	Grid 8 34.5 M4	Grid 9 32.9 M4	H Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.068 A/m Probe Modulation Factor = 0.590 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.071 A/m; Power Drift = -0.005 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)  <table><tr><td>Grid 1 0.071 M4</td><td>Grid 2 0.060 M4</td><td>Grid 3 0.045 M4</td></tr><tr><td>Grid 4 0.068 M4</td><td>Grid 5 0.051 M4</td><td>Grid 6 0.035 M4</td></tr><tr><td>Grid 7 0.066 M4</td><td>Grid 8 0.046 M4</td><td>Grid 9 0.030 M4</td></tr></table>	Grid 1 0.071 M4	Grid 2 0.060 M4	Grid 3 0.045 M4	Grid 4 0.068 M4	Grid 5 0.051 M4	Grid 6 0.035 M4	Grid 7 0.066 M4	Grid 8 0.046 M4	Grid 9 0.030 M4
Grid 1 28.4 M4	Grid 2 34.4 M4	Grid 3 34.6 M4																	
Grid 4 33.3 M4	Grid 5 34.9 M4	Grid 6 34.4 M4																	
Grid 7 33.3 M4	Grid 8 34.5 M4	Grid 9 32.9 M4																	
Grid 1 0.071 M4	Grid 2 0.060 M4	Grid 3 0.045 M4																	
Grid 4 0.068 M4	Grid 5 0.051 M4	Grid 6 0.035 M4																	
Grid 7 0.066 M4	Grid 8 0.046 M4	Grid 9 0.030 M4																	

MEASUREMENT DATA WCDMA850, CHANNEL MIDDLE (835 MHz)

Date/Time: 2010-07-29 09:39:27
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

Date/Time: 2010-07-29 12:43:29
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

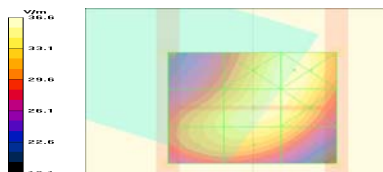
Communication System: WCDMA850 (ER3DV6)
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
Phantom section: E Device Section

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³
Phantom section: H Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2309
- ConvF(1, 1, 1); Calibrated: 2009-10-27
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

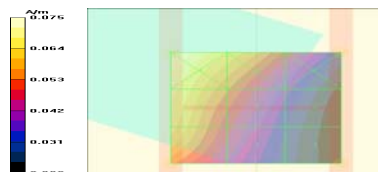
DASY4 Configuration:
- Probe: H3DV6 - SN6143
- ; Calibrated: 2009-10-23
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan -Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 36.1 V/m
Probe Modulation Factor = 0.610
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 71.0 V/m; Power Drift = 0.085 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)



Grid 1 30.0 M4	Grid 2 36.1 M4	Grid 3 36.6 M4
Grid 4 33.9 M4	Grid 5 36.1 M4	Grid 6 36.1 M4
Grid 7 33.7 M4	Grid 8 34.9 M4	Grid 9 33.6 M4

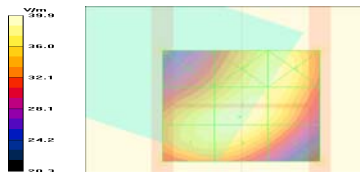
H Scan - Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.069 A/m
Probe Modulation Factor = 0.590
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.073 A/m; Power Drift = 0.214 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)



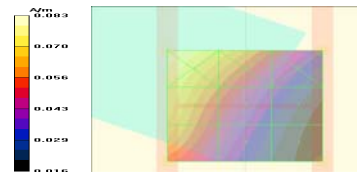
Grid 1 0.075 M4	Grid 2 0.064 M4	Grid 3 0.049 M4
Grid 4 0.069 M4	Grid 5 0.054 M4	Grid 6 0.037 M4
Grid 7 0.066 M4	Grid 8 0.047 M4	Grid 9 0.032 M4

MEASUREMENT DATA WCDMA850, CHANNEL HIGH (846.6 MHz)

Date/Time: 2010-07-29 09:44:17 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 12:48:16 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8
Communication System: WCDMA850 (ER3DV6) Frequency: 846.6 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: WCDMA850 Frequency: 846.6 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184
E Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 39.9 V/m Probe Modulation Factor = 0.610 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 79.2 V/m; Power Drift = -0.007 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)	H Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.075 A/m Probe Modulation Factor = 0.590 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.074 A/m; Power Drift = 0.077 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)



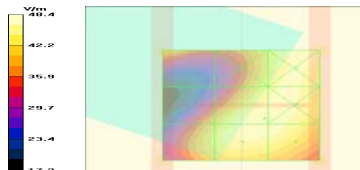
Grid 1 33.5 M4	Grid 2 38.7 M4	Grid 3 38.7 M4
Grid 4 38.9 M4	Grid 5 39.9 M4	Grid 6 38.6 M4
Grid 7 38.8 M4	Grid 8 39.5 M4	Grid 9 36.6 M4



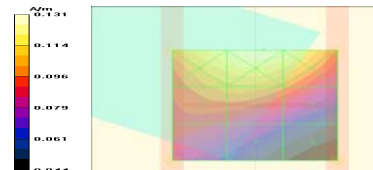
Grid 1 0.083 M4	Grid 2 0.069 M4	Grid 3 0.052 M4
Grid 4 0.075 M4	Grid 5 0.056 M4	Grid 6 0.038 M4
Grid 7 0.069 M4	Grid 8 0.048 M4	Grid 9 0.030 M4

MEASUREMENT DATA GSM1900, CHANNEL LOW (1850.2 MHz)

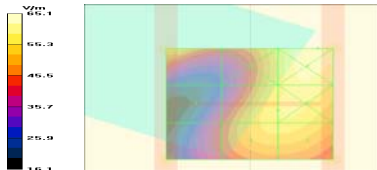
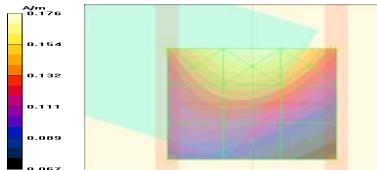
Date/Time: 2010-07-29 09:06:22 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 10:31:57 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8
Communication System: GSM1900 (ER3DV6) Frequency: 1850.2 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: GSM1900 (H3DV6) Frequency: 1850.2 MHz; Duty Cycle: 1:5.07 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184
E Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 48.4 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 17.3 V/m; Power Drift = 0.017 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)	H Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.107 A/m Probe Modulation Factor = 2.25 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.043 A/m; Power Drift = -0.006 dB Hearing Aid Near-Field Category: M4 (AWF -5 dB)

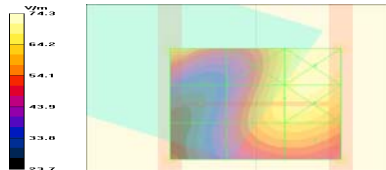
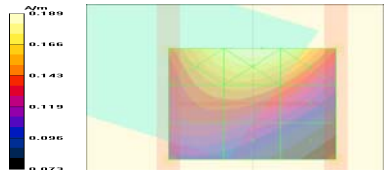


Grid 1 41.8 M4	Grid 2 44.5 M4	Grid 3 47.2 M4
Grid 4 40.3 M4	Grid 5 48.4 M3	Grid 6 48.3 M3
Grid 7 43.0 M4	Grid 8 48.2 M3	Grid 9 48.1 M3

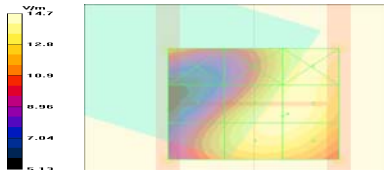
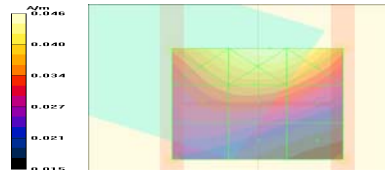


Grid 1 0.126 M4	Grid 2 0.131 M4	Grid 3 0.128 M4
Grid 4 0.105 M4	Grid 5 0.107 M4	Grid 6 0.099 M4
Grid 7 0.089 M4	Grid 8 0.083 M4	Grid 9 0.068 M4

MEASUREMENT DATA GSM1900, CHANNEL MIDDLE (1880 MHz)																			
Date/Time: 2010-07-29 08:56:41 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 10:22:23 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM1900 (ER3DV6) Frequency: 1880 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: GSM1900 (H3DV6) Frequency: 1880 MHz; Duty Cycle: 1:5.07 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan -Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 58.7 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 20.1 V/m; Power Drift = -0.091 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 58.2 M3</td><td>Grid 2 57.3 M3</td><td>Grid 3 65.1 M3</td></tr><tr><td>Grid 4 40.7 M4</td><td>Grid 5 58.7 M3</td><td>Grid 6 61.5 M3</td></tr><tr><td>Grid 7 42.9 M4</td><td>Grid 8 57.9 M3</td><td>Grid 9 58.0 M3</td></tr></table>	Grid 1 58.2 M3	Grid 2 57.3 M3	Grid 3 65.1 M3	Grid 4 40.7 M4	Grid 5 58.7 M3	Grid 6 61.5 M3	Grid 7 42.9 M4	Grid 8 57.9 M3	Grid 9 58.0 M3	H Scan - Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.145 A/m Probe Modulation Factor = 2.25 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.061 A/m; Power Drift = -0.025 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 0.169 M3</td><td>Grid 2 0.176 M3</td><td>Grid 3 0.169 M3</td></tr><tr><td>Grid 4 0.142 M3</td><td>Grid 5 0.145 M3</td><td>Grid 6 0.137 M4</td></tr><tr><td>Grid 7 0.116 M4</td><td>Grid 8 0.116 M4</td><td>Grid 9 0.102 M4</td></tr></table>	Grid 1 0.169 M3	Grid 2 0.176 M3	Grid 3 0.169 M3	Grid 4 0.142 M3	Grid 5 0.145 M3	Grid 6 0.137 M4	Grid 7 0.116 M4	Grid 8 0.116 M4	Grid 9 0.102 M4
Grid 1 58.2 M3	Grid 2 57.3 M3	Grid 3 65.1 M3																	
Grid 4 40.7 M4	Grid 5 58.7 M3	Grid 6 61.5 M3																	
Grid 7 42.9 M4	Grid 8 57.9 M3	Grid 9 58.0 M3																	
Grid 1 0.169 M3	Grid 2 0.176 M3	Grid 3 0.169 M3																	
Grid 4 0.142 M3	Grid 5 0.145 M3	Grid 6 0.137 M4																	
Grid 7 0.116 M4	Grid 8 0.116 M4	Grid 9 0.102 M4																	

MEASUREMENT DATA GSM1900, CHANNEL HIGH (1909.8 MHz)																			
Date/Time: 2010-07-29 09:01:28 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 10:27:07 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: GSM1900 (ER3DV6) Frequency: 1909.8 MHz; Duty Cycle: 1:8.26 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: GSM1900 (H3DV6) Frequency: 1909.8 MHz; Duty Cycle: 1:5.07 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 68.1 V/m Probe Modulation Factor = 2.87 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 23.3 V/m; Power Drift = -0.044 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 66.2 M3</td><td>Grid 2 67.5 M3</td><td>Grid 3 74.3 M3</td></tr><tr><td>Grid 4 43.8 M4</td><td>Grid 5 68.1 M3</td><td>Grid 6 72.5 M3</td></tr><tr><td>Grid 7 44.3 M4</td><td>Grid 8 64.3 M3</td><td>Grid 9 64.6 M3</td></tr></table>	Grid 1 66.2 M3	Grid 2 67.5 M3	Grid 3 74.3 M3	Grid 4 43.8 M4	Grid 5 68.1 M3	Grid 6 72.5 M3	Grid 7 44.3 M4	Grid 8 64.3 M3	Grid 9 64.6 M3	H Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.155 A/m Probe Modulation Factor = 2.25 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.063 A/m; Power Drift = 0.004 dB Hearing Aid Near-Field Category: M3 (AWF -5 dB)  <table><tr><td>Grid 1 0.181 M3</td><td>Grid 2 0.189 M3</td><td>Grid 3 0.184 M3</td></tr><tr><td>Grid 4 0.153 M3</td><td>Grid 5 0.155 M3</td><td>Grid 6 0.143 M3</td></tr><tr><td>Grid 7 0.128 M4</td><td>Grid 8 0.126 M4</td><td>Grid 9 0.108 M4</td></tr></table>	Grid 1 0.181 M3	Grid 2 0.189 M3	Grid 3 0.184 M3	Grid 4 0.153 M3	Grid 5 0.155 M3	Grid 6 0.143 M3	Grid 7 0.128 M4	Grid 8 0.126 M4	Grid 9 0.108 M4
Grid 1 66.2 M3	Grid 2 67.5 M3	Grid 3 74.3 M3																	
Grid 4 43.8 M4	Grid 5 68.1 M3	Grid 6 72.5 M3																	
Grid 7 44.3 M4	Grid 8 64.3 M3	Grid 9 64.6 M3																	
Grid 1 0.181 M3	Grid 2 0.189 M3	Grid 3 0.184 M3																	
Grid 4 0.153 M3	Grid 5 0.155 M3	Grid 6 0.143 M3																	
Grid 7 0.128 M4	Grid 8 0.126 M4	Grid 9 0.108 M4																	

MEASUREMENT DATA WCDMA1900, CHANNEL LOW (1852.4MHz)

Date/Time: 2010-07-29 09:23:43 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 12:33:08 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA1900 (ER3DV6) Frequency: 1852.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³ Phantom section: E Device Section	Communication System: WCDMA1900 (H3DV6) Frequency: 1852.4 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 14.7 V/m Probe Modulation Factor = 0.600 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 24.9 V/m; Power Drift = 0.005 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB) <table><tr><td>Grid 1 12.1 M4</td><td>Grid 2 13.5 M4</td><td>Grid 3 14.4 M4</td></tr><tr><td>Grid 4 11.8 M4</td><td>Grid 5 14.6 M4</td><td>Grid 6 14.7 M4</td></tr><tr><td>Grid 7 12.5 M4</td><td>Grid 8 14.5 M4</td><td>Grid 9 14.5 M4</td></tr></table>	Grid 1 12.1 M4	Grid 2 13.5 M4	Grid 3 14.4 M4	Grid 4 11.8 M4	Grid 5 14.6 M4	Grid 6 14.7 M4	Grid 7 12.5 M4	Grid 8 14.5 M4	Grid 9 14.5 M4	H Scan - Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.036 A/m Probe Modulation Factor = 0.520 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.065 A/m; Power Drift = 0.010 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB) <table><tr><td>Grid 1 0.043 M4</td><td>Grid 2 0.046 M4</td><td>Grid 3 0.045 M4</td></tr><tr><td>Grid 4 0.035 M4</td><td>Grid 5 0.036 M4</td><td>Grid 6 0.035 M4</td></tr><tr><td>Grid 7 0.028 M4</td><td>Grid 8 0.027 M4</td><td>Grid 9 0.024 M4</td></tr></table>	Grid 1 0.043 M4	Grid 2 0.046 M4	Grid 3 0.045 M4	Grid 4 0.035 M4	Grid 5 0.036 M4	Grid 6 0.035 M4	Grid 7 0.028 M4	Grid 8 0.027 M4	Grid 9 0.024 M4
Grid 1 12.1 M4	Grid 2 13.5 M4	Grid 3 14.4 M4																	
Grid 4 11.8 M4	Grid 5 14.6 M4	Grid 6 14.7 M4																	
Grid 7 12.5 M4	Grid 8 14.5 M4	Grid 9 14.5 M4																	
Grid 1 0.043 M4	Grid 2 0.046 M4	Grid 3 0.045 M4																	
Grid 4 0.035 M4	Grid 5 0.036 M4	Grid 6 0.035 M4																	
Grid 7 0.028 M4	Grid 8 0.027 M4	Grid 9 0.024 M4																	

MEASUREMENT DATA WCDMA1900, CHANNEL MIDDLE (1880MHz)

Date/Time: 2010-07-29 09:13:56
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

Date/Time: 2010-07-29 12:23:30
Test Laboratory: TCC Nokia
Type: RM-659; Serial: 004401/01/985984/8

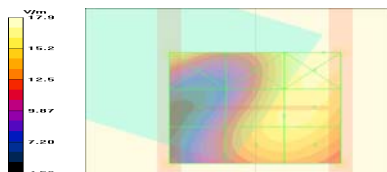
Communication System: WCDMA1900 (ER3DV6)
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
Phantom section: E Device Section

Communication System: WCDMA1900 (H3DV6)
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Air; Medium Notes: -
Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³
Phantom section: H Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2309
- ConvF(1, 1, 1); Calibrated: 2009-10-27
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

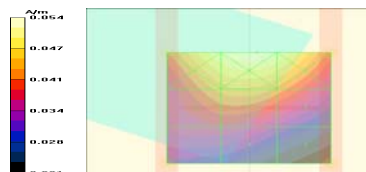
DASY4 Configuration:
- Probe: H3DV6 - SN6143
- ; Calibrated: 2009-10-23
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: -
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan -Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 17.1 V/m
Probe Modulation Factor = 0.600
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 27.4 V/m; Power Drift = -0.258 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

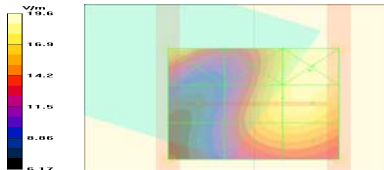
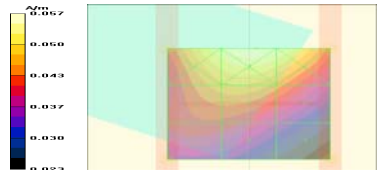


Grid 1	Grid 2	Grid 3
16.4 M4	15.8 M4	17.9 M4
Grid 4	Grid 5	Grid 6
11.3 M4	16.4 M4	17.1 M4
Grid 7	Grid 8	Grid 9
12.0 M4	16.2 M4	16.2 M4

H Scan - Middle/Hearing Aid Compatibility Test (101x101x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.045 A/m
Probe Modulation Factor = 0.520
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.084 A/m; Power Drift = -0.347 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)



Grid 1	Grid 2	Grid 3
0.052 M4	0.054 M4	0.052 M4
Grid 4	Grid 5	Grid 6
0.044 M4	0.045 M4	0.042 M4
Grid 7	Grid 8	Grid 9
0.036 M4	0.036 M4	0.032 M4

MEASUREMENT DATA WCDMA1900, CHANNEL HIGH (1907.6MHZ)																			
Date/Time: 2010-07-29 09:18:54 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8	Date/Time: 2010-07-29 12:28:21 Test Laboratory: TCC Nokia Type: RM-659; Serial: 004401/01/985984/8																		
Communication System: WCDMA1900 (ER3DV6) Frequency: 1907.6 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m ³ Phantom section: E Device Section	Communication System: WCDMA1900 (H3DV6) Frequency: 1907.6 MHz; Duty Cycle: 1:1 Medium: Air; Medium Notes: - Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m ³ Phantom section: H Device Section																		
DASY4 Configuration: - Probe: ER3DV6 - SN2309 - ConvF(1, 1, 1); Calibrated: 2009-10-27 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184	DASY4 Configuration: - Probe: H3DV6 - SN6143 - ; Calibrated: 2009-10-23 - Sensor-Surface: (Fix Surface) - Electronics: DAE4 Sn1213; Calibrated: 2009-11-16 - Phantom: HAC Test Arch; Type: SD HAC P01 BA; Serial: - - Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 184																		
E Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 19.4 V/m Probe Modulation Factor = 0.600 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 29.6 V/m; Power Drift = -0.230 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)	H Scan - High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm Maximum value of peak Total field = 0.048 A/m Probe Modulation Factor = 0.520 Device Reference Point: 0.000, 0.000, 353.7 mm Reference Value = 0.088 A/m; Power Drift = -0.115 dB Hearing Aid Near-Field Category: M4 (AWF 0 dB)																		
 <table><tr><td>Grid 1 17.8 M4</td><td>Grid 2 18.0 M4</td><td>Grid 3 19.6 M4</td></tr><tr><td>Grid 4 11.3 M4</td><td>Grid 5 18.2 M4</td><td>Grid 6 19.4 M4</td></tr><tr><td>Grid 7 11.4 M4</td><td>Grid 8 17.2 M4</td><td>Grid 9 17.3 M4</td></tr></table>	Grid 1 17.8 M4	Grid 2 18.0 M4	Grid 3 19.6 M4	Grid 4 11.3 M4	Grid 5 18.2 M4	Grid 6 19.4 M4	Grid 7 11.4 M4	Grid 8 17.2 M4	Grid 9 17.3 M4	 <table><tr><td>Grid 1 0.055 M4</td><td>Grid 2 0.057 M4</td><td>Grid 3 0.056 M4</td></tr><tr><td>Grid 4 0.047 M4</td><td>Grid 5 0.048 M4</td><td>Grid 6 0.045 M4</td></tr><tr><td>Grid 7 0.041 M4</td><td>Grid 8 0.041 M4</td><td>Grid 9 0.035 M4</td></tr></table>	Grid 1 0.055 M4	Grid 2 0.057 M4	Grid 3 0.056 M4	Grid 4 0.047 M4	Grid 5 0.048 M4	Grid 6 0.045 M4	Grid 7 0.041 M4	Grid 8 0.041 M4	Grid 9 0.035 M4
Grid 1 17.8 M4	Grid 2 18.0 M4	Grid 3 19.6 M4																	
Grid 4 11.3 M4	Grid 5 18.2 M4	Grid 6 19.4 M4																	
Grid 7 11.4 M4	Grid 8 17.2 M4	Grid 9 17.3 M4																	
Grid 1 0.055 M4	Grid 2 0.057 M4	Grid 3 0.056 M4																	
Grid 4 0.047 M4	Grid 5 0.048 M4	Grid 6 0.045 M4																	
Grid 7 0.041 M4	Grid 8 0.041 M4	Grid 9 0.035 M4																	

APPENDIX D: RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S)



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 Salo TCC**

Certificate No: **ER3-2309_Oct09**

CALIBRATION CERTIFICATE

Object **ER3DV6 - SN:2309**

Calibration procedure(s) **QA CAL-02.v5 and QA CAL-25.v2**
Calibration procedure for E-field probes optimized for close near field evaluations in air

Calibration date: **October 27, 2009**

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 E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ER3DV6	SN: 2328	3-Oct-09 (No. ER3-2328_Oct09)	Oct-10
DAE4	SN: 789	19-Dec-08 (No. DAE4-789_Dec08)	Dec-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	

Approved by:	Katja Pokovic	Technical Manager	
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Issued: October 27, 2009

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



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: **H3-6143_Oct09**

CALIBRATION CERTIFICATE

Object

H3DV6 - SN:6143

Calibration procedure(s)

QA CAL-03.v5 and QA CAL-25.v2
Calibration procedure for H-field probes optimized for close near field
evaluations in air

Calibration date:

October 23, 2009

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 E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe H3DV6	SN: 6182	3-Oct-09 (No. H3-6182_Oct09)	Oct-10
DAE4	SN: 789	19-Dec-08 (No. DAE4-789_Dec08)	Dec-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	

Approved by:	Katja Pokovic	Technical Manager	
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Issued: October 27, 2009

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

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



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 Salo TCC**

Certificate No: **CD835V3-1005_Nov08**

CALIBRATION CERTIFICATE

Object	CD835V3 - SN: 1005
Calibration procedure(s)	QA CAL-20.v4 Calibration procedure for dipoles in air
Calibration date:	November 11, 2008
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI)
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	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Probe ER3DV6	SN: 2336	31-Dec-07 (No. ER3-2336_Dec07)	Dec-08
Probe H3DV6	SN: 6065	31-Dec-07 (No. H3-6065_-Dec07)	Dec-08
DAE4	SN: 781	03-Oct-08 (No. DAE4-781_Oct08)	Oct-09
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-4419B	GB42420191	11-May-05 (in house check Oct-07)	In house check: Oct-09
Power sensor HP 8482A	US37295597	11-May-05 (in house check Oct-07)	In house check: Oct-09
Power sensor HP 8482H	3318A09450	08-Jan-02 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-08)	In house check: Oct-09
RF generator E4433B	MY 41310391	03-Nov-04 (in house check Oct-07)	In house check: Oct-09

Calibrated by:	Name Claudio Leubler	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	

Issued: November 13, 2008

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

3.3.2 DASY4 H-field result

Date/Time: 11.11.2008 08:45:34

Test Laboratory: SPEAG Lab 2

H_CD835_1005_081111

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1005

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: H3DV6 - SN6065; ; Calibrated: 31.12.2007
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 03.10.2008
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):

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

Maximum value of peak Total field = 0.441 A/m

Probe Modulation Factor = 1.00

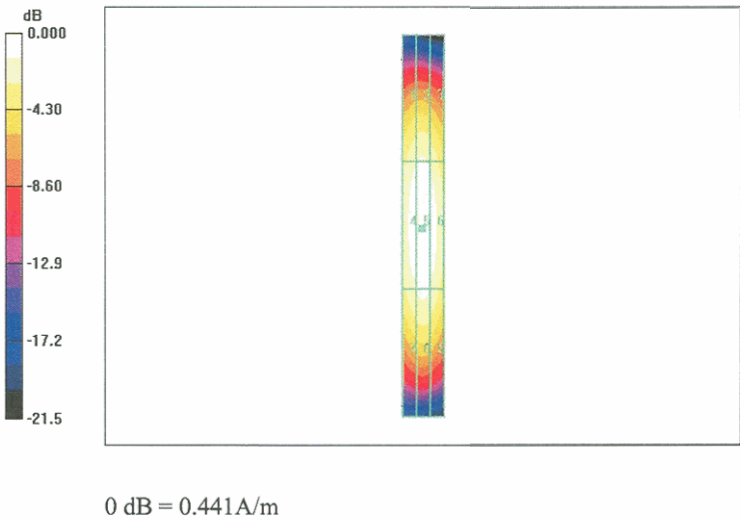
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.467 A/m; Power Drift = 0.006 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.370 M4	Grid 2 0.385 M4	Grid 3 0.358 M4
Grid 4 0.423 M4	Grid 5 0.441 M4	Grid 6 0.412 M4
Grid 7 0.376 M4	Grid 8 0.394 M4	Grid 9 0.368 M4



Test Laboratory: SPEAG Lab 2

E_CD835_1005_081111

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1005

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ER3DV6 - SN2336; ConvF(1, 1, 1); Calibrated: 31.12.2007
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 03.10.2008
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):

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

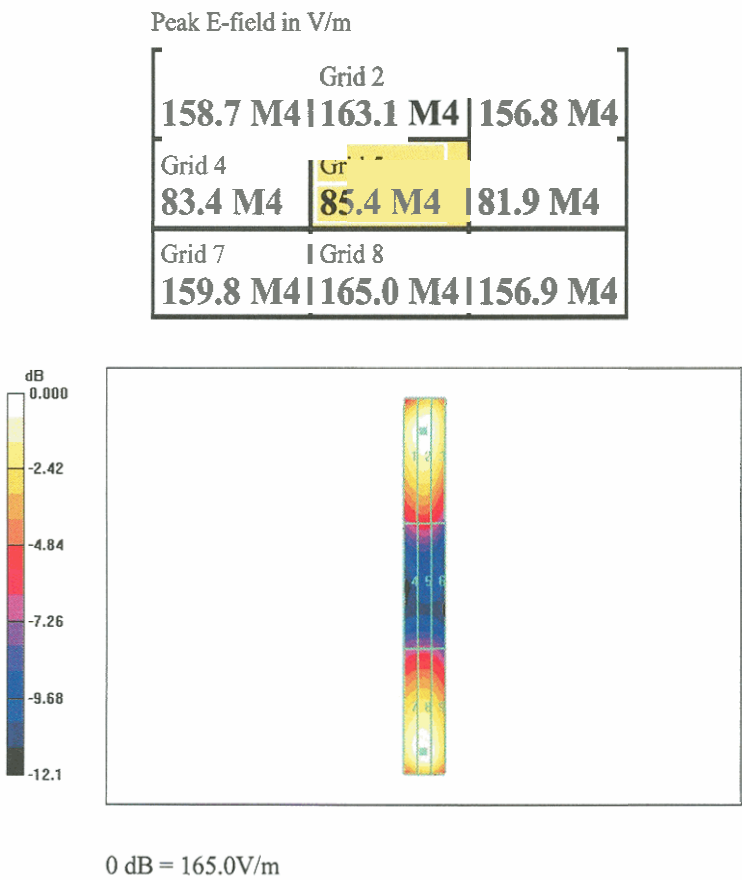
Maximum value of peak Total field = 165.0 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 107.1 V/m; Power Drift = -0.020 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)





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 Salo TCC**

Certificate No: **CD1880V3-1004_Nov08**

CALIBRATION CERTIFICATE

Object	CD1880V3 - SN: 1004
Calibration procedure(s)	QA CAL-20.v4 Calibration procedure for dipoles in air
Calibration date:	November 11, 2008
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Probe ER3DV6	SN: 2336	31-Dec-07 (No. ER3-2336_Dec07)	Dec-08
Probe H3DV6	SN: 6065	31-Dec-07 (No. H3-6065_-Dec07)	Dec-08
DAE4	SN 781	03-Oct-08 (No. DAE4-781_Oct08)	Oct-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-4419B	GB42420191	11-May-05 (in house check Oct-07)	In house check: Oct-09
Power sensor HP 8482A	US37295597	11-May-05 (in house check Oct-07)	In house check: Oct-09
Power sensor HP 8482H	3318A09450	08-Jan-02 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-08)	In house check: Oct-09
RF generator E4433B	MY 41310391	22-Nov-04 (in house check Oct-07)	In house check: Oct-09

Calibrated by:	Name	Function	Signature
	Claudio Leubler	Laboratory Technician	
Approved by:	Name	Function	Signature
	Katja Pokovic	Technical Manager	

Issued: November 13, 2008

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

Test Laboratory: SPEAG Lab 2

H_CD1880_1004_081111

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1004

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: H3DV6 - SN6065; ; Calibrated: 31.12.2007
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 03.10.2008
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm 2/Hearing Aid

Compatibility Test (41x181x1):

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

Maximum value of peak Total field = 0.461 A/m

Probe Modulation Factor = 1.00

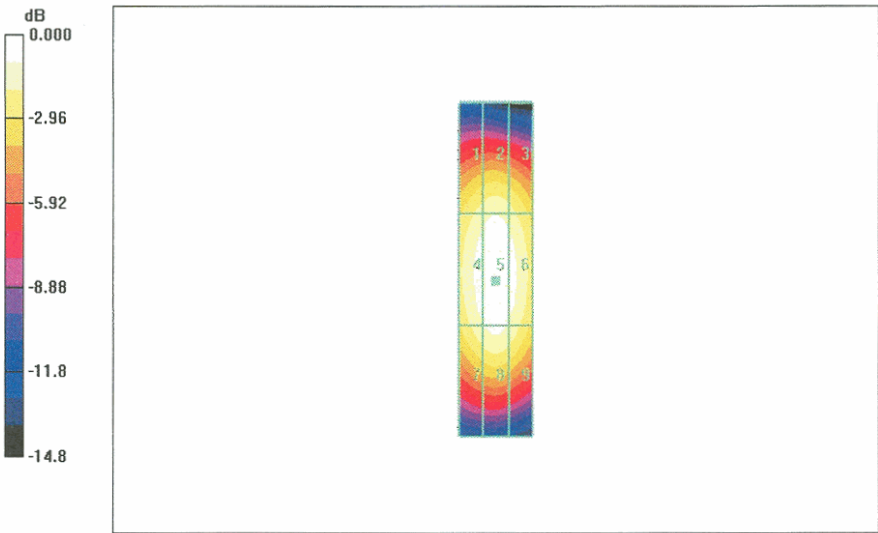
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.488 A/m; Power Drift = -0.018 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.394 M2	Grid 2 0.410 M2	Grid 3 0.390 M2
Grid 4 0.442 M2	Grid 5 0.461 M2	Grid 6 0.438 M2
Grid 7 0.409 M2	Grid 8 0.430 M2	Grid 9 0.406 M2



0 dB = 0.461A/m

3.3.2 DASY4 E-Field Result

Date/Time: 11.11.2008 12:54:31

Test Laboratory: SPEAG Lab 2

E_CD1880_1004_081111

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1004

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ER3DV6 - SN2336; ConvF(1, 1, 1); Calibrated: 31.12.2007
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 03.10.2008
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

E Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of peak Total field = 138.8 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 157.2 V/m; Power Drift = -0.005 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

131.1 M2 136.9 M2 133.9 M2		
Grid 4 89.6 M3	5 92.1 M3	Grid 6 88.3 M3
Grid 7 133.8 M2	Grid 8 138.8 M2	Grid 9 133.2 M2

