BACL
Bay Area Compliance Labs Corp.

SAR EVALUATION REPORT

For

Posh Mobile Limited

1011A, 10/F., Harbour Centre Tower 1, No. 1 Hok Cheung St., Hung Hom, Kowloon, Hong Kong

FCC ID: 2ABN6C353

Report Type:	**Product Type:**
Original Report	Primo Plus

Test Engineer:	Rocky Xiao
Report Number:	RDG150828004-20
Report Date:	2015-09-08
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Attestation of Test Results

EUT Information	**Company Name**	Posh Mobile Limited
	EUT Description	Primo Plus
	FCC ID	2ABN6C353
	Tested Model:	C353A
	Multiple Model:	C353B
	Serial Number:	150828004
	Test Date	2015-09-04,2015-09-05

MODE		**Max. SAR Level(s) Reported(W/Kg)**	**Limit(W/Kg)**
GSM 850	1g Head SAR	0.313	**1. 6**
	1g Body SAR	0.833	
PCS 1900	1g Head SAR	0.359	
	1g Body SAR	0.436	
WCDMA 850	1g Head SAR	0.329	
	1g Body SAR	0.623	
WCDMA 1900	1g Head SAR	0.723	
	1g Body SAR	0.613	
Simultaneous	1g Head SAR	1.095	
	1g Body SAR	1.018	
Hotspot	1g Body SAR	1.018	

Applicable Standards	**ANSI / IEEE C95.1 : 2005** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fileds,3 kHz to 300 GHz.
	ANSI / IEEE C95.3 : 2002 IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to SuchFields,100 kHz—300 GHz.
	FCC 47 CFR part 2.1093 Radiofrequency radiation exposure evaluation: portable devices
	IEEE1528:2013 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
	IEC 62209-2:2010 Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices-Human models, instrumentation, and procedures-Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)
	KDB procedures KDB 447498 D01 General RF Exposure Guidance v05r02. KDB 648474 D04 Handset SAR v01r02. KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04 KDB 865664 D02 RF Exposure Reporting v01r01 KDB 941225 D01 3G SAR Procedures v03 KDB 941225 D06 Hotspot Mode v02

Note: This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for General Population/Uncontrolled Exposure limits specified in ANSI/IEEE Standards and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures.

The results and statements contained in this report pertain only to the device(s) evaluated.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RDG150828004-20	Original Report	2015-09-08

EUT DESCRIPTION

This report has been prepared on behalf of Posh Mobile Limited and their product, Model: C353A, FCC ID: 2ABN6C353 or the EUT (Equipment under Test) as referred to in the rest of this report.

Note: The series product, model C353A, C353B are electrically identical, the difference between them is just the model name, we selected C353A for fully testing, the detail was explained in the attached declaration letter.

Technical Specification

Product Type	Primo Plus
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	Internal Antenna
Body-Worn Accessories:	Portable
Face-Head Accessories:	Headset
Multi-slot Class:	Class12
Operation Mode :	GSM Voice, GPRS Data, WCDMA R99 (Voice+Data), HSUPA,HSDPA,DC-HSDPA,HSPA+ WLAN Bluetooth
Frequency Band:	GSM 850 : 824-849 MHz(TX) ; 869-894 MHz(RX) PCS 1900: 1850-1910 MHz(TX) ; 1930-1990 MHz(RX) WCDMA850: 824-849 MHz(TX) ; 869-894 MHz(RX) WCDMA1900: 1850-1910 MHz(TX) ; 1930-1990 MHz(RX) WLAN: 2412MHz-2462MHz Bluetooth : 2402MHz-2480MHz
Conducted RF Power:	GSM 850 : 32.5 dBm PCS 1900:29.3 dBm WCDMA 850: 23.69 dBm WCDMA 1900: 22.59 dBm WLAN: 9.37 dBm Bluetooth:2.71 dBm
Dimensions (L*W*H):	116 mm (L) × 62 mm (W) × 10 mm (H)
Power Source:	3.7 VDC Rechargeable Battery
Normal Operation:	Head and Body-worn

REFERENCE, STANDARDS, AND GUILDELINES

FCC:

The Report and Order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g as recommended by the ANSI/IEEE standard C95.1-1992 [6] for an uncontrolled environment (Paragraph 65). According to the Supplement C of OET Bulletin 65 “Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under “worst-case” conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in North America is 1.6 mW/g average over 1 gram of tissue mass.

CE:

The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 2 mW/g as recommended by EN62209-1 for an uncontrolled environment. According to the Standard, the device should be evaluated at maximum output power (radiated from the antenna) under “worst-case” conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in Europe is 2 mW/g average over 10 gram of tissue mass.

The test configurations were laid out on a specially designed test fixture to ensure the reproducibility of measurements. Each configuration was scanned for SAR. Analysis of each scan was carried out to characterize the above effects in the device.

SAR Limits

FCC Limit

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	1.60	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

CE Limit

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 10 g of tissue)	2.0	10
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

Population/Uncontrolled Environments are defined as locations where there is the exposure of individual who have no knowledge or control of their exposure.

Occupational/Controlled Environments are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure (i.e. as a result of employment or occupation).

General Population/Uncontrolled environments Spatial Peak limit 1.6W/kg (FCC) & 2 W/kg (CE) applied to the EUT.

FACILITIES

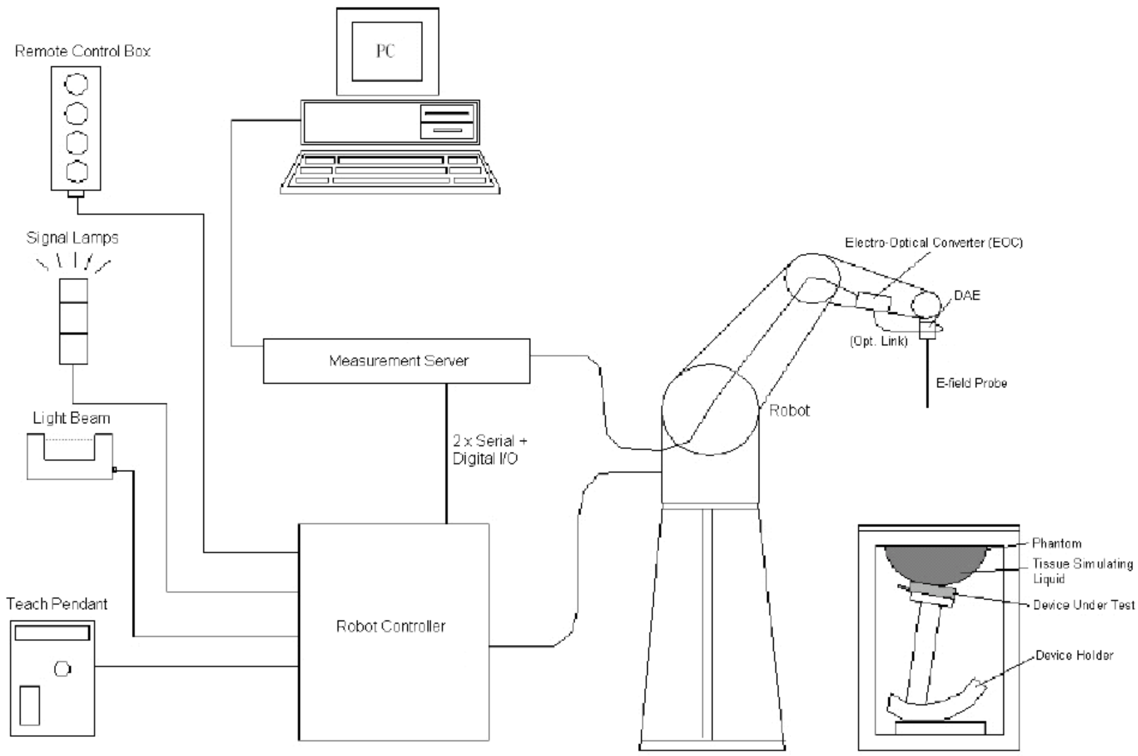
The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

DESCRIPTION OF TEST SYSTEM

These measurements were performed with the automated near-field scanning system DASY5 from Schmid & Partner Engineering AG (SPEAG) which is the Fifth generation of the system shown in the figure hereinafter:

DASY5 System Description

The DASY5 system for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot (Staubli TX=RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplication, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 profesional operating system and the DASY52 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

DASY5 Measurement Server

The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz intel ULV Celeron, 128MB chip-disk and 128MB RAM. The necessary circuits for communication with the DAE4 (or DAE3) electronics box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized point out, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.

Data Acquisition Electronics

The data acquisition electronics (DAE4) consist of a highly sensitive electrometer-grade preamplifer with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of both the DAE4 as well as of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

EX3DV4 E-Field Probes

Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region, where shell thickness increases to 6 mm). The phantom has three measurement areas:
_ Left hand
_ Right hand
_ Flat phantom

The phantom table for the DASY systems based on the TX90XL and RX160L robots have the size of 100 x 50 x 85 cm (L xWx H). The phantom table for the compact DASY systems based on the RX60L robot have the size of 100 x 75 x 91 cm (L xWx H); these tables are reinforced for mounting of the robot onto the table. For easy dislocation these tables have fork lift cut outs at the bottom. The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. Only one device holder is necessary if two phantoms are used (e.g., for different liquids)

A white cover is provided to cover the phantom during the periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.

Device Holder for SAM Twin Phantom

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source in 5mm distance, a positioning uncertainty of ±0.5 mm would produce a SAR uncertainty of ±20%. An accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions, in which the devices must be measured, are defined by the standards.

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centers for both scales are the ear reference point ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity "=3 and loss tangent _=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

Robots

The DASY5 system uses the high precision industrial robots TX90XL from Staubli SA (France). The TX robot family is the successor of the well known RX robot family and offers the same features important for our application:

- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchron motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

The above mentioned robots are controlled by the Staubli CS8c robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is contained on the CDs delivered along with the robot. Paper manuals are available upon request direct from Staubli.

Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 10mm2 step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

Where the system identifies multiple SAR peaks (which are within 25% of peak value) the system will provide the user with the option of assessing each peak location individually for zoom scan averaging.

Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1 g cube is 10mm,with the side length of the 10 g cube 21,5mm.

When the cube intersects with the surface of the phantom, it is oriented so that 3 vertices touch the surface of the shell or the center of a face is tangent to the surface. The face of the cube closest to the surface is modified in order to conform to the tangent surface.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 5x5x8 (8mmx8mmx5mm) providing a volume of 32mm in the X & Y axis, and 35mm in the Z axis.

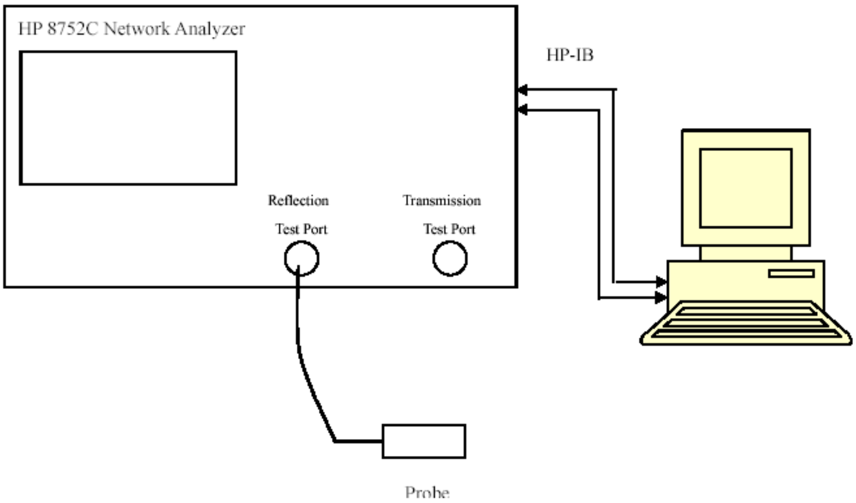
EQUIPMENT LIST AND CALIBRATION

Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
Robot	RX90	D03636	N/A	N/A
DASY5 Test Software	DASY52.8	N/A	N/A	N/A
DASY5 Measurement Server	DASY5 4.5.12	1470	N/A	N/A
Data Acquistion Electronics	DAE4	1459	2015-01-26	2016-01-26
E-Field Probe	EX3DV4	7329	2015-02-05	2016-02-05
Dipole, 835MHz	ALS-D-835-S-2	180-00558	2014-10-08	2017-10-08
Dipole,1900MHz	D1900V2	5d206	2015-07-14	2018-07-14
R&S, universal Radio Communication Tester	CMU200	105047	2014-11-20	2015-11-20
Mounting Device	MD4HHTV5	SD 000 H01 KA	N/A	N/A
Twin SAM	Twin SAM V5.0	1874	N/A	N/A
Simulated Tissue 835 MHz Head	TS-835-H	201504	Each Time	/
Simulated Tissue 835 MHz Body	TS-835-B	201505	Each Time	/
Simulated Tissue 1900 MHz Head	TS-1900-H	201506	Each Time	/
Simulated Tissue 1900 MHz Body	TS-1900-B	201507	Each Time	/
Network Analyzer	8752C	3140A02356	2015-06-03	2016-06-03
Dielectric probe kit	85070B	US33020324	2015-06-13	2016-06-13
Signal Generator	E4422B	MY41000355	2014-10-27	2015-10-27
Power Meter	EPM-441A	GB37481494	2014-11-03	2015-11-03
Power Meter Sensor	8481A	T-03-EM-127	2014-11-03	2015-11-03
Power Amplifier	5205PE	1015	N/A	N/A
Directional Coupler	488Z	N/A	N/A	N/A
Attenuator	20dB, 100W	N/A	N/A	N/A

SAR MEASUREMENT SYSTEM VERIFICATION

Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency	Liquid Type	Liquid Parameter		Target Value		Delta(%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
824.2	Head	42.936	0.878	41.5	0.9	3.46	-2.44	±5
	Body	55.149	0.963	55.2	0.97	-0.09	-0.72	±5
826.4	Head	42.873	0.88	41.5	0.9	3.31	-2.22	±5
	Body	55.138	0.967	55.2	0.97	-0.11	-0.31	±5
836.6	Head	42.88	0.891	41.5	0.9	3.33	-1	±5
	Body	55.132	0.975	55.2	0.97	-0.12	0.52	±5
846.6	Head	42.818	0.896	41.5	0.9	3.18	-0.44	±5
	Body	55.019	0.985	55.2	0.97	-0.33	1.55	±5
848.8	Head	42.695	0.896	41.5	0.9	2.88	-0.44	±5
	Body	54.987	0.987	55.2	0.97	-0.39	1.75	±5

**Liquid Verification above was performed on 2015-09-04.*

Frequency	Liquid Type	Liquid Parameter		Target Value		Delta(%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
1850.2	Head	39.848	1.36	40	1.4	-0.38	-2.86	±5
	Body	55.274	1.479	53.3	1.52	3.7	-2.7	±5
1852.4	Head	39.852	1.355	40	1.4	-0.37	-3.21	±5
	Body	55.217	1.474	53.3	1.52	3.6	-3.03	±5
1880	Head	39.744	1.385	40	1.4	-0.64	-1.07	±5
	Body	53.76	1.545	53.3	1.52	0.86	1.64	±5
1907.6	Head	39.569	1.41	40	1.4	-1.08	0.71	±5
	Body	53.579	1.491	53.3	1.52	0.52	-1.91	±5
1909.8	Head	39.584	1.412	40	1.4	-1.04	0.86	±5
	Body	53.397	1.492	53.3	1.52	0.18	-1.84	±5

**Liquid Verification above was performed on 2015-09-05.*

Please refer to the following tables.

835 MHz Head			835 MHz Body		
Frequency (MHz)	e'	e''	Frequency (MHz)	e'	e''
824	42.92	19.1596	824	55.1211	21.0405
824.5	42.9611	19.1455	824.5	55.1913	20.9503
825	42.958	19.1505	825	55.1659	21.0015
825.5	42.9192	19.1948	825.5	55.2206	20.9486
826	42.9122	19.1262	826	55.112	21.0568
826.5	42.8635	19.1468	826.5	55.1442	21.0361
827	42.8936	19.1427	827	55.0228	21.0016
827.5	42.8841	19.1929	827.5	55.1424	20.9515
828	42.9704	19.2318	828	55.1391	20.9954
828.5	42.9381	19.1608	828.5	55.1944	21.0107
829	42.9512	19.2493	829	55.122	20.9529
829.5	42.9362	19.1552	829.5	55.0737	20.9143
830	43.0052	19.1949	830	55.1268	20.9416
830.5	42.9586	19.1877	830.5	55.1146	20.9687
831	42.9265	19.2045	831	55.1322	20.9843
831.5	42.8614	19.1839	831.5	55.1558	20.9756
832	42.9693	19.1725	832	55.187	20.957
832.5	42.9187	19.2332	832.5	55.1195	20.9385
833	42.9964	19.1914	833	55.1196	20.9308
833.5	42.924	19.2127	833.5	55.1245	20.9793
834	42.92	19.1943	834	55.1685	21.0468
834.5	42.8869	19.1914	834.5	55.0979	20.9258
835	42.9635	19.2073	835	55.0742	20.9563
835.5	42.9181	19.1725	835.5	55.0736	20.9815
836	42.9054	19.1359	836	55.1197	21.0253
836.5	42.8921	19.1453	836.5	55.137	20.9632
837	42.8309	19.1727	837	55.1119	20.9896
837.5	42.8848	19.1638	837.5	55.0269	20.9452
838	42.8722	19.2403	838	55.089	20.9808
838.5	42.8942	19.183	838.5	55.1224	21.0109
839	42.9386	19.1875	839	55.07	20.9828
839.5	42.9115	19.145	839.5	55.0982	21.0156
840	42.926	19.1356	840	55.0558	21.0308
840.5	42.8637	19.0744	840.5	55.1514	20.9831
841	42.8932	19.1828	841	55.0534	20.9924
841.5	42.9113	19.146	841.5	55.0493	20.9877
842	42.8761	19.0982	842	55.0596	20.9693
842.5	42.8401	19.1326	842.5	54.9864	20.9922
843	42.8278	19.0868	843	55.0359	20.947
843.5	42.8143	19.1	843.5	55.0166	20.9284
844	42.8013	19.0562	844	55.0887	20.8973
844.5	42.8354	19.0388	844.5	55.0489	21.0203
845	42.7851	19.08	845	55.1183	20.9814
845.5	42.8239	19.085	845.5	55.033	20.8967
846	42.8317	19.0115	846	55.0094	20.9716
846.5	42.8294	19.0146	846.5	55.0196	20.9209
847	42.7738	19.0885	847	55.0177	20.9646
847.5	42.7416	18.9775	847.5	55.0366	20.9953
848	42.7841	19.0122	848	55.0068	20.9813
848.5	42.6988	19.018	848.5	54.9638	20.9212
849	42.693	18.9551	849	55.0026	20.9182

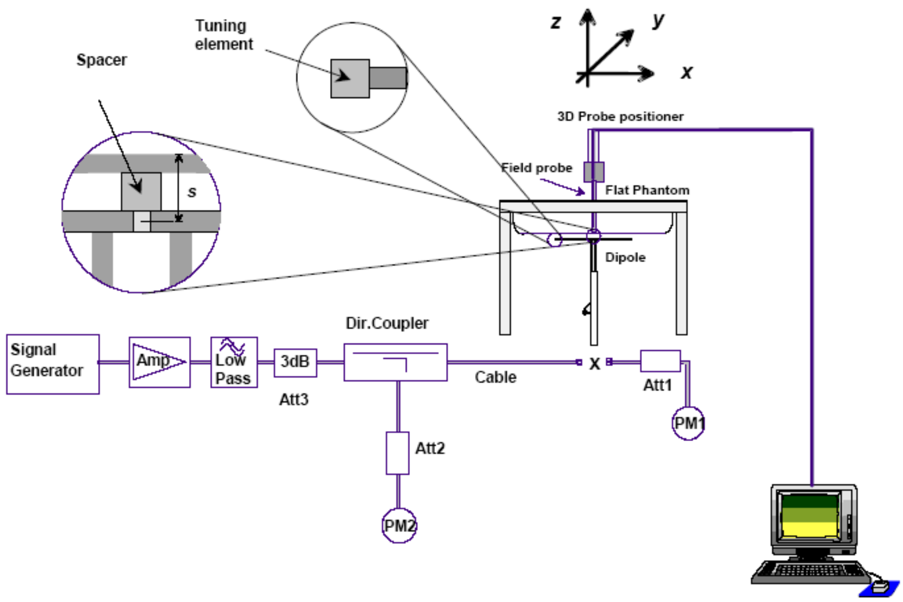
1900 MHz Head			1900 MHz Body		
Frequency (MHz)	e'	e''	Frequency (MHz)	e'	e''
1850	39.8407	13.2148	1850	55.2557	14.3848
1851	39.8763	13.2275	1851	55.3496	14.3333
1852	39.8519	13.1548	1852	55.2403	14.3349
1853	39.8522	13.1622	1853	55.1829	14.2798
1854	39.9002	13.1581	1854	55.0599	14.196
1855	39.848	13.2141	1855	55.0307	14.2325
1856	39.8616	13.1866	1856	54.8944	14.2589
1857	39.8994	13.2252	1857	54.743	14.1637
1858	39.8489	13.1735	1858	54.6295	14.1222
1859	39.8073	13.1967	1859	54.5726	14.072
1860	39.8329	13.2513	1860	54.4628	14.1577
1861	39.8464	13.2346	1861	54.4812	14.0858
1862	39.883	13.223	1862	54.3377	14.0881
1863	39.8191	13.1578	1863	54.2107	14.1174
1864	39.8113	13.2079	1864	54.1634	14.1412
1865	39.8744	13.229	1865	54.1108	14.1331
1866	39.8195	13.2338	1866	53.9954	14.1655
1867	39.8088	13.2051	1867	53.8794	14.1639
1868	39.7953	13.2353	1868	53.83	14.2388
1869	39.8643	13.2787	1869	53.7084	14.2159
1870	39.8411	13.2353	1870	53.6702	14.2879
1871	39.8093	13.1918	1871	53.6527	14.2975
1872	39.7812	13.1852	1872	53.6882	14.3483
1873	39.7897	13.2122	1873	53.6671	14.4636
1874	39.7023	13.2658	1874	53.6294	14.4461
1875	39.7677	13.228	1875	53.6203	14.4851
1876	39.7368	13.24	1876	53.6006	14.5486
1877	39.7838	13.2562	1877	53.6483	14.6347
1878	39.7619	13.2195	1878	53.5946	14.6973
1879	39.7331	13.2465	1879	53.6801	14.6558
1880	39.7435	13.2446	1880	53.76	14.7809
1881	39.7349	13.208	1881	53.7653	14.7711
1882	39.7339	13.2658	1882	53.7815	14.7847
1883	39.7525	13.2748	1883	53.7885	14.7891
1884	39.7567	13.2473	1884	53.874	14.7973
1885	39.7282	13.321	1885	53.9524	14.8355
1886	39.7154	13.33	1886	54.1063	14.772
1887	39.6834	13.3008	1887	54.177	14.7909
1888	39.6889	13.2558	1888	54.2687	14.8338
1889	39.7075	13.3411	1889	54.2501	14.7438
1890	39.6561	13.3388	1890	54.2563	14.7285
1891	39.6807	13.2973	1891	54.3485	14.7234
1892	39.6889	13.2655	1892	54.394	14.7009
1893	39.6478	13.2942	1893	54.3867	14.6828
1894	39.674	13.2982	1894	54.3457	14.6448
1895	39.6351	13.2793	1895	54.3231	14.5923
1896	39.6474	13.2924	1896	54.464	14.5222
1897	39.6601	13.2872	1897	54.4172	14.4621
1898	39.621	13.2815	1898	54.4271	14.4348
1899	39.664	13.2554	1899	54.2678	14.3896
1900	39.6703	13.3364	1900	54.189	14.3568

1900 MHz Head			1900 MHz Body		
Frequency (MHz)	**e'**	**e''**	**Frequency (MHz)**	**e'**	**e''**
1901	39.6748	13.3158	1901	54.1204	14.2735
1902	39.614	13.3424	1902	54.0728	14.2538
1903	39.6228	13.277	1903	53.9758	14.2275
1904	39.6251	13.3177	1904	53.8649	14.1214
1905	39.6382	13.3377	1905	53.7623	14.1638
1906	39.6068	13.3395	1906	53.7231	14.1404
1907	39.5395	13.3006	1907	53.6245	14.1029
1908	39.5889	13.2877	1908	53.5482	14.0194
1909	39.5975	13.3349	1909	53.4275	14.0214
1910	39.5804	13.2856	1910	53.3891	14.052

System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ±10%. The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

System Verification Setup Block Diagram



System Accuracy Check Results

Date	Frequency Band	Liquid Type	Measured SAR (W/Kg)		Target Value (W/Kg)	Delta (%)	Tolerance (%)
2015-09-04	835	Head	1g	9.61	9.773	-1.67	±10
		Body	1g	9.56	9.736	-1.81	±10
2015-09-05	1900	Head	1g	40.9	40.7	0.49	±10
		Body	1g	40.5	40.8	-0.74	±10

*All SAR values are normalized to 1 Watt forward power.

SAR SYSTEM VALIDATION DATA

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

System Performance 835MHz Head

DUT: ALS-D-835-S-2; Type: 835 MHz; Serial: 180-00558

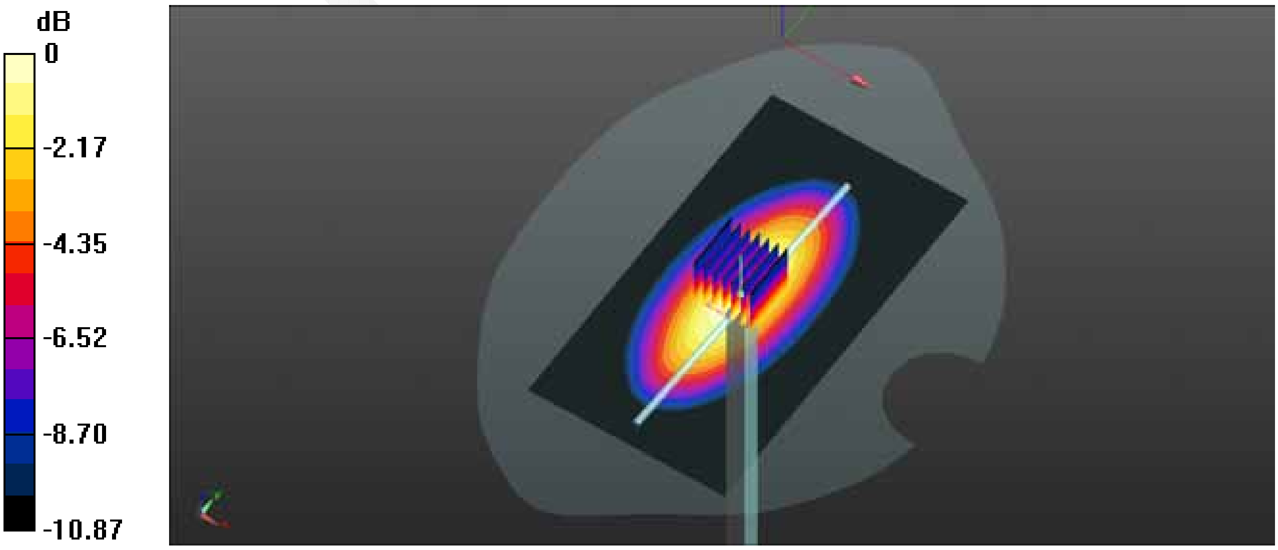
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.892 S/m; ε_r = 42.964; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.52, 9.52, 9.52); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 835MHz Head /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 9.97 W/kg

System Performance 835MHz Head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 106.3 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 14.8 W/kg
SAR(1 g) = 9.61 W/kg; SAR(10 g) = 6.21 W/kg
Maximum value of SAR (measured) = 10.3 W/kg



0 dB = 10.3 W/kg = 10.20 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

System Performance 835MHz Body

DUT: ALS-D-835-S-2; Type: 835 MHz; Serial: 180-00558

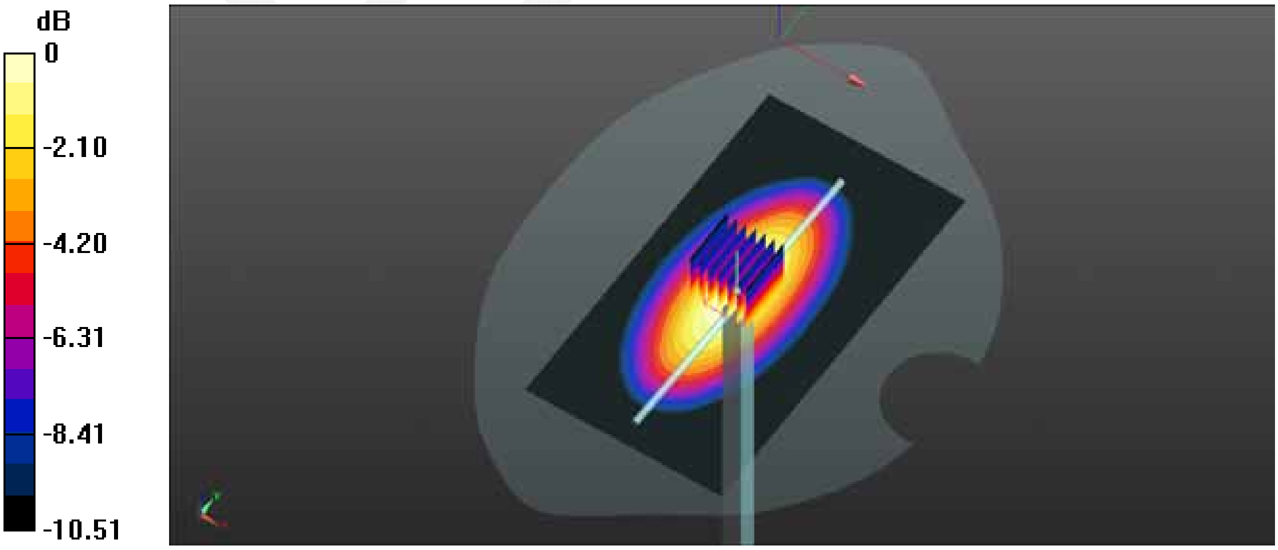
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.973 S/m; ε_r = 55.074; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.17, 9.17, 9.17); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 835MHz Body /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 10.17 W/kg

System Performance 835MHz Body /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 107.66 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 15.6 W/kg
SAR(1 g) = 9.56 W/kg; SAR(10 g) = 6.26 W/kg
Maximum value of SAR (measured) = 10.77 W/kg



0 dB = 10.77 W/kg = 10.32 dBW/kg

Test Laboratory:Bay Area Compliance Labs Corp.(Dongguan)

System Performance 1900MHz Head

DUT: D1900V2; Type: 1900 MHz; Serial: 5d206

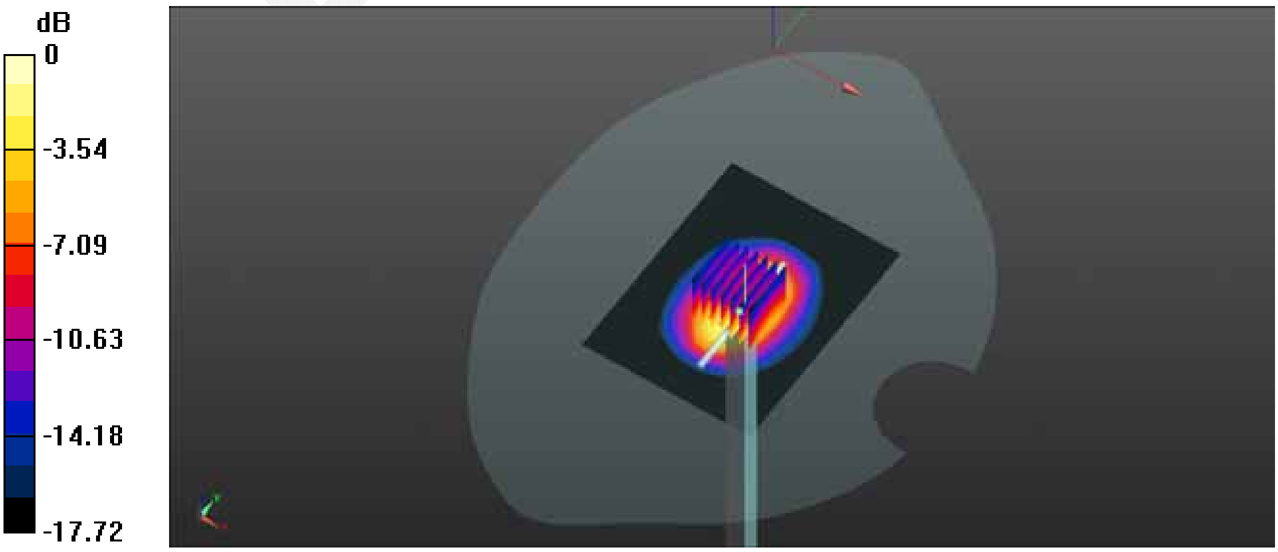
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.41 S/m; ε_r = 39.67; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.88, 7.88, 7.88); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 1900MHz Head /Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 48.3 W/kg

System Performance 1900MHz Head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 174.6 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 76.9 W/kg
SAR(1 g) = 40.9 W/kg; SAR(10 g) = 21.2 W/kg
Maximum value of SAR (measured) = 45.8 W/kg



0 dB = 45.8 W/kg = 16.61 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

System Performance 1900MHz Body

DUT: D1900V2; Type: 1900 MHz; Serial: 5d206

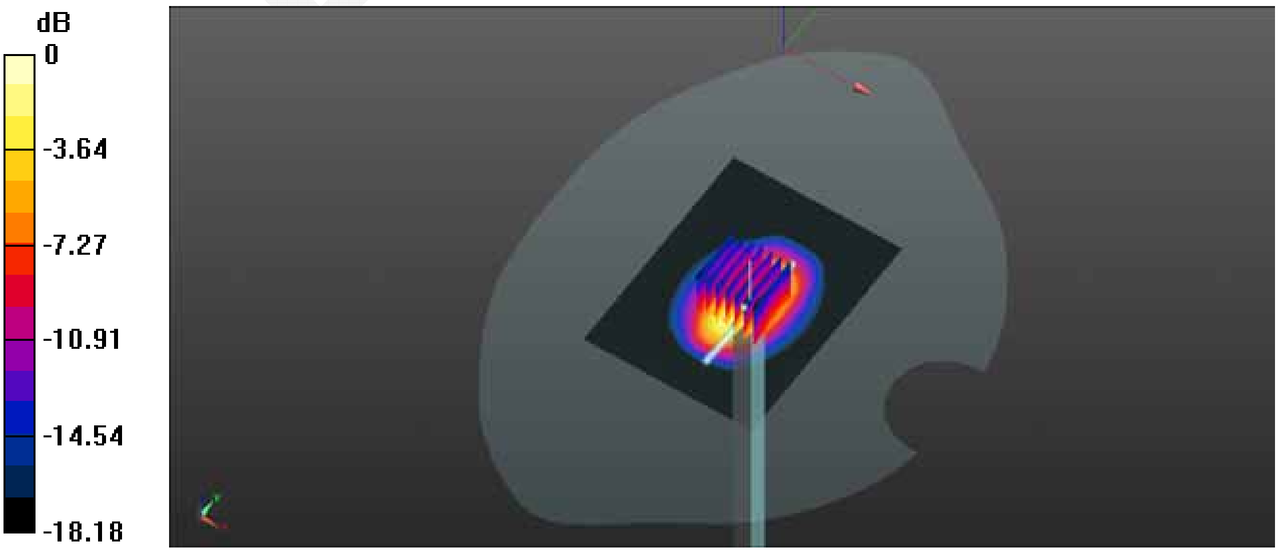
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; $\sigma = 1.518$ S/m; $\varepsilon_r = 54.189$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.56, 7.56, 7.56); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 1900MHz Body /Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 49.1 W/kg

System Performance 1900MHz Body /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 172.8 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 76.4 W/kg
SAR(1 g) = 40.5 W/kg; SAR(10 g) = 20.6 W/kg
Maximum value of SAR (measured) = 45.8 W/kg



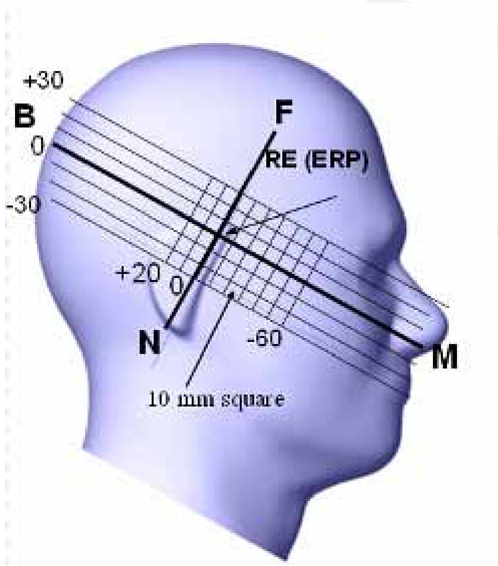
0 dB = 45.8 W/kg = 16.61 dBW/kg

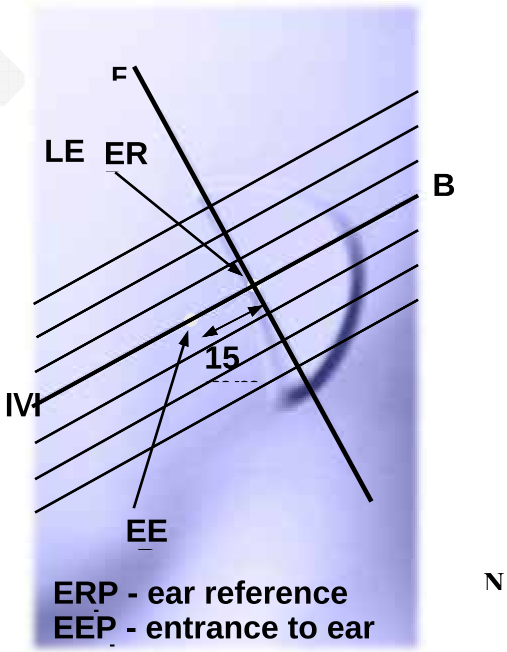
EUT TEST STRATEGY AND METHODOLOGY

Test Positions for Device Operating Next to a Person’s Ear

This category includes most wireless handsets with fixed, retractable or internal antennas located toward the top half of the device, with or without a foldout, sliding or similar keypad cover. The handset should have its earpiece located within the upper ¼ of the device, either along the centerline or off-centered, as perceived by its users. This type of handset should be positioned in a normal operating position with the “test device reference point” located along the “vertical centerline” on the front of the device aligned to the “ear reference point”. The “test device reference point” should be located at the same level as the center of the earpiece region. The “vertical centerline” should bisect the front surface of the handset at its top and bottom edges. A “ear reference point” is located on the outer surface of the head phantom on each ear spacer. It is located 1.5 cm above the center of the ear canal entrance in the “phantom reference plane” defined by the three lines joining the center of each “ear reference point” (left and right) and the tip of the mouth.

A handset should be initially positioned with the earpiece region pressed against the ear spacer of a head phantom. For the SCC-34/SC-2 head phantom, the device should be positioned parallel to the “N-F” line defined along the base of the ear spacer that contains the “ear reference point”. For interim head phantoms, the device should be positioned parallel to the cheek for maximum RF energy coupling. The “test device reference point” is aligned to the “ear reference point” on the head phantom and the “vertical centerline” is aligned to the “phantom reference plane”. This is called the “initial ear position”. While maintaining these three alignments, the body of the handset is gradually adjusted to each of the following positions for evaluating SAR:





Cheek/Touch Position

The device is brought toward the mouth of the head phantom by pivoting against the "ear reference point" or along the "N-F" line for the SCC-34/SC-2 head phantom.

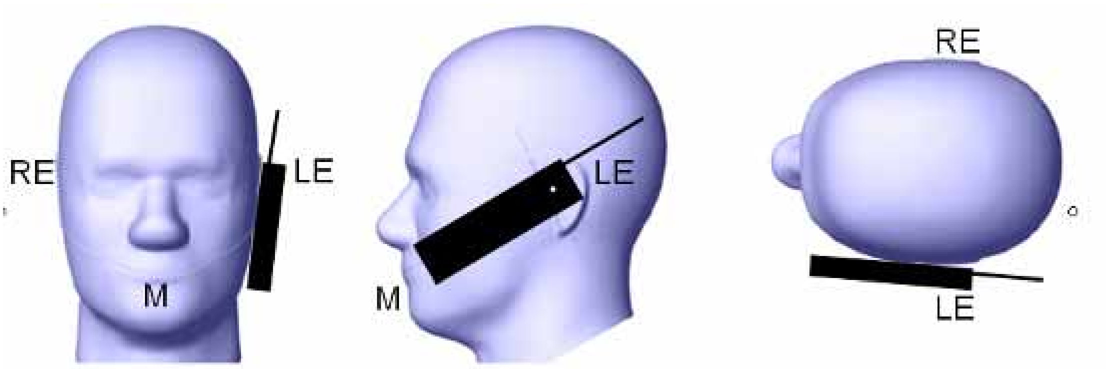
This test position is established:

When any point on the display, keypad or mouthpiece portions of the handset is in contact with the phantom.

(or) When any portion of a foldout, sliding or similar keypad cover opened to its intended self-adjusting normal use position is in contact with the cheek or mouth of the phantom.

For existing head phantoms – when the handset loses contact with the phantom at the pivoting point, rotation should continue until the device touches the cheek of the phantom or breaks its last contact from the ear spacer.

Cheek /Touch Position



Ear/Tilt Position

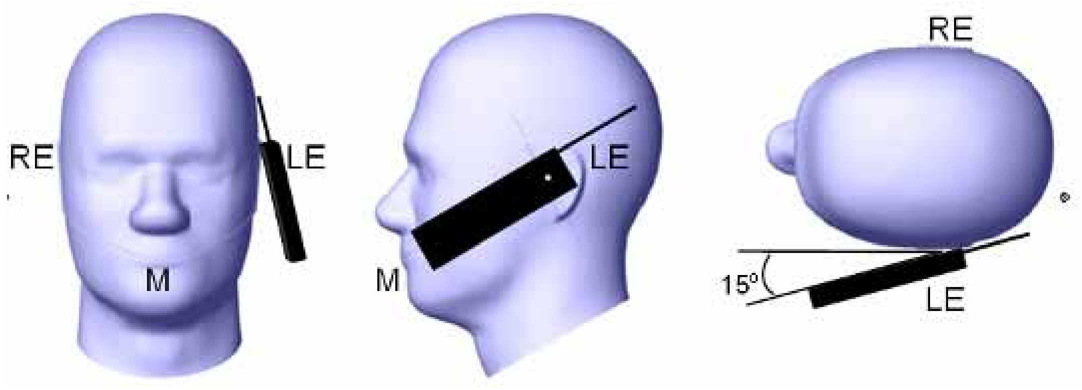
With the handset aligned in the "Cheek/Touch Position":

1) If the earpiece of the handset is not in full contact with the phantom's ear spacer (in the "Cheek/Touch position") and the peak SAR location for the "Cheek/Touch" position is located at the ear spacer region or corresponds to the earpiece region of the handset, the device should be returned to the "initial ear position" by rotating it away from the mouth until the earpiece is in full contact with the ear spacer.

2) (Otherwise)The handset should be moved (translated) away from the cheek perpendicular to the line passes through both "ear reference points" (note: one of these ear reference points may not physically exist on a split head model) for approximate 2-3 cm. While it is in this position, the device handset is tilted away from the mouth with respect to the "test device reference point" until the inside angle between the vertical centerline on the front surface of the phone and the horizontal line passing through the ear reference point isby 15 80°. After the tilt, it is then moved (translated) back toward the head perpendicular to the line passes through both "ear reference points" until the device touches the phantom or the ear spacer. If the antenna touches the head first, the positioning process should be repeated with a tilt angle less than 15° so that the device and its antenna would touch the phantom simultaneously. This test position may require a device holder or positioner to achieve the translation and tilting with acceptable positioning repeatability.

If a device is also designed to transmit with its keypad cover closed for operating in the head position, such positions should also be considered in the SAR evaluation. The device should be tested on the left and right side of the head phantom in the "Cheek/Touch" and "Ear/Tilt" positions. When applicable, each configuration should be tested with the antenna in its fully extended and fully retracted positions. These test configurations should be tested at the high, middle and low frequency channels of each operating mode; for example, AMPS, CDMA, and TDMA. If the SAR measured at the middle channel for each test configuration (left, right, Cheek/Touch, Tilt/Ear, extended and retracted) is at least 2.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s). If the transmission band of the test device is less than 10 MHz, testing at the high and low frequency channels is optional.

Ear /Tilt 15° Position



Test positions for body-worn and other configurations

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. When multiple accessories that do not contain metallic components are supplied with the device, the device may be tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the device, the device must be tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only the accessory that dictates the closest spacing to the body must be tested.

Body-worn accessories may not always be supplied or available as options for some devices that are intended to be authorized for body-worn use. A separation distance of 1.5 cm between the back of the device and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distances may be used, but they should not exceed 2.5 cm. In these cases, the device may use body-worn accessories that provide a separation distance greater than that tested for the device provided however that the accessory contains no metallic components.

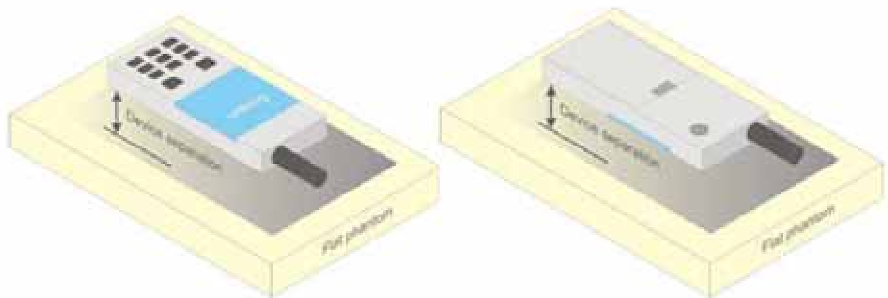


Figure 5 – Test positions for body-worn devices

SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop. The SAR at this point is measured at the start of the test and then again at the end of the testing.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head or EUT and the horizontal grid spacing was 10 mm x 10 mm. Based on these data, the area of the maximum absorption was determined by spline interpolation. The first Area Scan covers the entire dimension of the EUT to ensure that the hotspot was correctly identified.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

1) The data at the surface were extrapolated, since the center of the dipoles is 1.2 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one dimensional splines with the “Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the averages.

All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

Test methodology

KDB 447498 D01 General RF Exposure Guidance v05r02.
KDB 648474 D04 Handset SAR v01r02.
KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r01
KDB 941225 D01 3G SAR Procedures v03
KDB 941225 D06 Hotspot Mode v02

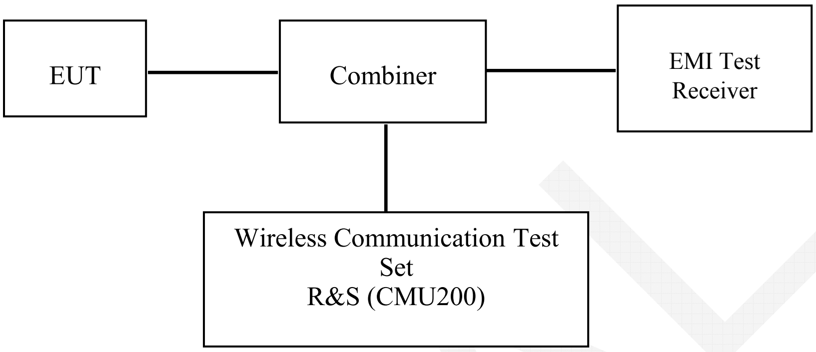
CONDUCTED OUTPUT POWER MEASUREMENT

Provision Applicable

The measured peak output power should be greater and within 5% than EMI measurement.

Test Procedure

The RF output of the transmitter was connected to the input of the EMI Test Receiver through sufficient attenuation.



GSM/WCDMA

Radio Configuration

The power measurement was configured by the Wireless Communication Test Set CMU200 for all Radio configurations except the HSPA+/DC-HSDPA configured by E5515C.

GSM

Function: Menu select > GSM Mobile Station > GSM 850/1900
Press Connection control to choose the different menus
Press RESET > choose all the reset all settings
Connection: Press Signal Off to turn off the signal and change settings
Network Support > GSM + only
MS Signal
 > 33 dBm for GSM 850
 > 30 dBm for GSM 1900
BS Signal:Enter the same channel number for TCH channel (test channel) and BCCH channel
Frequency Offset >+ 0 Hz
Mode > BCCH and TCH
BCCH Level > -85 dBm (May need to adjust if link is not stabe)
BCCH Channel >choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]
Channel Type > Off
P0 > 4 dB
TCH > choose desired test channel
Hopping >Off
AF/RF: Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input
Connection: Press Signal on to turn on the signal and change settings

GPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900
Press Connection control to choose the different menus
Press RESET > choose all the reset all settings
Connection:Press Signal Off to turn off the signal and change settings
Network Support > GSM + GPRS or GSM + EGSM
Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off
MS Signal:Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting
 > Slot configuration > Uplink/Gamma
 > 33 dBm for GPRS 850
 > 30 dBm for GPRS 1900
BS Signal: Enter the same channel number for TCH channel (test channel) and BCCH channel
Frequency Offset >+ 0 Hz
Mode >BCCH and TCH
BCCH Level >-85 dBm (May need to adjust if link is not stabe)
BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off
P0 > 4 dB
Slot Config > Unchanged (if already set under MS signal)
TCH > choose desired test channel
Hopping >Off
Main Timeslot >3
Network:Coding Scheme >CS4 (GPRS)
Bit Stream >2E9-1 PSR Bit Stream
AF/RF: Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input
Connection: Press Signal on to turn on the signal and change settings

WCDMA Release 99

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc / βd	8/15

HSDPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subset	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	$\beta c/\beta d$	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	$Ahs=\beta hs/\beta c$	30/15			

HSUPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	**HSUPA**	**HSUPA**	**HSUPA**	**HSUPA**	**HSUPA**
	Subset	**1**	**2**	**3**	**4**	**5**
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/ βd	11/15	6/15	15/9	2/15	-
	βhs	22/15	12/15	30/15	4/15	5/15
	CM(dB)	1.0	3.0	2.0	3.0	1.0
	MPR(dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	Ahs= βhs/ βc	30/15				
HSUPA Specific Settings	DE-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_FCls	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	

HSPA+

The following tests were conducted according to the test requirements in Table C.11.1.4 of 3GPP TS 34.121-1

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c .
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

DC-HSDPA

The following tests were conducted according to the test requirements in Table Table C.8.1.12 of 3GPP TS 34.121-1

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK

Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.

Maximum Target Output Power

Max Target Power (dBm)			
Mode/Band	Channel		
	Low	Middle	High
GSM 850	32.6	32.6	32.6
GPRS 1 TX Slot	32.7	32.7	32.7
GPRS 2 TX Slot	31	31	31
GPRS 3 TX Slot	29.1	29.1	29.1
GPRS 4 TX Slot	27.2	27.2	27.2
GSM 1900	29.4	29.4	29.4
GPRS 1 TX Slot	29.5	29.5	29.5
GPRS 2 TX Slot	27.3	27.3	27.3
GPRS 3 TX Slot	25.8	25.8	25.8
GPRS 4 TX Slot	23.8	23.8	23.8
WCDMA850	23.8	23.8	23.8
HSDPA	22.5	22.5	22.5
HSUPA	22	22	22
DC-HSDPA	22.3	22.3	22.3
HSPA+	21.6	21.6	21.6
WCDMA1900	22.7	22.7	22.7
HSDPA	20.9	20.9	20.9
HSUPA	20.5	20.5	20.5
DC-HSDPA	20.3	20.3	20.3
HSPA+	20.2	20.2	20.2
WLAN	9.5	9.5	9.5
Bluetooth BDR/EDR	2.8	2.8	2.8

Test Results:

GSM:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
GSM 850	128	824.2	32.4
	190	836.6	**32.5**
	251	848.8	32.5
PCS 1900	512	1850.2	**29.3**
	661	1880	29.1
	810	1909.8	29

GPRS:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	32.37	30.69	28.96	27.03
	190	836.6	32.51	30.81	29.01	27.07
	251	848.8	32.55	30.87	29.03	27.06
PCS 1900	512	1850.2	29.35	27.19	25.72	23.72
	661	1880	29.09	27.04	25.59	23.66
	810	1909.8	28.97	26.94	25.48	23.54

Number of Time slot	1	2	3	4
Duty Cycle	1:8	1:4	1:2.66	1:2
Time based Ave. power compared to slotted Ave. power	-9 dB	-6 dB	-4.25 dB	-3 dB
Crest Factor	8	4	2.66	2

The time based average power for GPRS

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slot	3 slots	4 slots
GSM 850	128	824.2	23.37	24.69	24.71	24.03
	190	836.6	23.51	24.81	24.76	24.07
	251	848.8	23.55	**24.87**	24.78	24.06
PCS 1900	512	1850.2	20.35	21.19	**21.47**	20.72
	661	1880	20.09	21.04	21.34	20.66
	810	1909.8	19.97	20.94	21.23	20.54

Note:
1.Rohde & Schwarz Radio Communication Tester (CMU200) was used for the measurement of GSM peak and average output power for active timeslots.
2.For GSM voice, 1 timeslot has been activated with power level 5 (850 MHz band) and 0 (1900 MHz band).
3.For GPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 3(850 MHz band) and 3(1900 MHz band).

WCDMA:

Results (12.2kbps RMC)

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
WCDMA 850	4132	826.4	23.41
	4183	836.6	**23.69**
	4233	846.6	23.17
WCDMA 1900	9262	1852.4	**22.59**
	9400	1880	22.24
	9538	1907.6	22.56

Results (HSDPA)

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			Subset 1	Subset 2	Subset 3	Subset 4
WCDMA 850	4132	826.4	21.19	21.2	21.66	21.63
	4183	836.6	21.67	22.02	21.47	21.39
	4233	846.6	22.09	22.07	21.71	22.44
WCDMA 1900	9262	1852.4	20.01	20.48	20.08	19.96
	9400	1880	20.19	19.74	20.25	20.53
	9538	1907.6	20.28	20.62	20.75	19.83

Results (HSUPA)

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)				
			Subset 1	Subset 2	Subset 3	Subset 4	Subset 5
WCDMA 850	4132	826.4	20.93	21.06	20.84	21.41	21.34
	4183	836.6	21.41	21.48	21.15	21.22	21.58
	4233	846.6	21.78	21.88	21.56	21.72	21.57
WCDMA 1900	9262	1852.4	19.81	19.66	19.76	20.03	20.12
	9400	1880	20	19.83	20.4	20.31	20.25
	9538	1907.6	20.14	19.67	19.99	19.87	20.15

Results (DC-HSDPA):

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			Subset 1	Subset 2	Subset 3	Subset 4
WCDMA 850	4132	826.4	20.59	21.06	20.79	20.56
	4183	836.6	21.73	21.4	21.58	21.36
	4233	846.6	21.79	21.57	21.32	22.21
WCDMA 1900	9262	1852.4	20.11	20.23	19.33	19.62
	9400	1880	20.15	19.85	20	19.94
	9538	1907.6	20.25	20.38	20.2	19.84

Results (HSPA+)

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
WCDMA 850	4132	826.4	21.23
	4183	836.6	21.13
	4233	846.6	21.48
WCDMA 1900	9262	1852.4	19.36
	9400	1880	20.05
	9538	1907.6	19.75

Note:
1. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model 1.
2. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/HSPA+/DC-HSDPA when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.

Bluetooth

Mode	Channel No.	Channel frequency (MHz)	RF Output Power (dBm)
BDR(GFSK)	0	2402	1.5
	39	2441	1.77
	78	2480	**2.71**
EDR(4-DQPSK)	0	2402	0.86
	39	2441	1.33
	78	2480	2.41
EDR-8DPSK	0	2402	0.89
	39	2441	1.35
	78	2480	2.32

WLAN

Mode	Channel No.	Channel frequency (MHz)	RF Output Power (dBm)
802.11b	1	2412	9.36
	6	2437	9.17
	11	2462	9.36
802.11g	1	2412	8.92
	6	2437	8.89
	11	2462	8.83
802.11n HT20	1	2412	9.06
	6	2437	9.18
	11	2462	**9.37**

Note:
The output power was tested under data rate 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n HT20.

SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

The EUT is capable of function as a WLAN to cellular mobile hotspot. Additional SAR test was performed according to KDB941225 D06. Test was performed with a separation of 1cm between the EUT and the flat phantom. The EUT was positioned for SAR tests with the front and back surfaces facing the edge. Each transmit band was utilized for SAR testing. The tested mode has been selected within each band that exhibits the highest time average output power.

SAR Test Data

Environmental Conditions

Temperature	23-24	23.5-24
Relative	33%	33-34 %
ATM	1000 mbar	1000 mbar
Test Date:	2015-09-04	2015-09-05

Testing was performed by Rocky Xiao

GSM 850:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Left Head Cheek	824.2	GSM	0.09	32.4	32.6	1.047	0.294	0.308	/
	836.6	GSM	-0.12	32.5	32.6	1.023	0.297	0.304	/
	848.8	GSM	-0.15	32.5	32.6	1.023	0.306	0.313	**1#**
Left Head Tilt	824.2	GSM	/	/	/	/	/	/	/
	836.6	GSM	-0.11	32.5	32.6	1.023	0.163	0.167	/
	848.8	GSM	/	/	/	/	/	/	/
Right Head Cheek	824.2	GSM	/	/	/	/	/	/	/
	836.6	GSM	-0.12	32.5	32.6	1.023	0.288	0.295	/
	848.8	GSM	/	/	/	/	/	/	/
Right Head Tilt	824.2	GSM	/	/	/	/	/	/	/
	836.6	GSM	-0.11	32.5	32.6	1.023	0.159	0.163	/
	848.8	GSM	/	/	/	/	/	/	/
Body Worm Headset (10mm)	824.2	GSM	/	/	/	/	/	/	/
	836.6	GSM	0.09	32.5	32.6	1.023	0.742	0.759	/
	848.8	GSM	/	/	/	/	/	/	/
Body Worm Bottom (10mm)	824.2	GPRS	/	/	/	/	/	/	/
	836.6	GPRS	0.16	30.81	31	1.045	0.224	0.234	/
	848.8	GPRS	/	/	/	/	/	/	/
Body Worm Left (10mm)	824.2	GPRS	/	/	/	/	/	/	/
	836.6	GPRS	-0.12	30.81	31	1.045	0.203	0.212	/
	848.8	GPRS	/	/	/	/	/	/	/
Body Worm Right (10mm)	824.2	GPRS	/	/	/	/	/	/	/
	836.6	GPRS	0.17	30.81	31	1.045	0.142	0.148	/
	848.8	GPRS	/	/	/	/	/	/	/
Body Worm Back (10mm)	824.2	GPRS	-0.14	30.69	31	1.074	0.752	0.808	/
	836.6	GPRS	0.12	30.81	31	1.045	0.776	0.811	/
	848.8	GPRS	-0.13	30.87	31	1.03	0.809	0.833	**2#**

Note:
1. When the 1-g SAR is ≤ 0.8W/Kg, testing for other channels are optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.
3. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
4. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.
5. The Multi-slot Classes of EUT is Class 12 which has maximum 4 Downlink slots and 4 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 3DL+2UL is the worst case.

PCS Band:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Left Head Cheek	1850.2	GSM	/	/	/	/	/	/	/
	1880	GSM	-0.10	29.1	29.4	1.072	0.305	0.327	/
	1909.8	GSM	/	/	/	/	/	/	/
Left Head Tilt	1850.2	GSM	/	/	/	/	/	/	/
	1880	GSM	-0.09	29.1	29.4	1.072	0.204	0.219	/
	1909.8	GSM	/	/	/	/	/	/	/
Right Head Cheek	1850.2	GSM	-0.10	29.3	29.4	1.023	0.351	0.359	**3#**
	1880	GSM	0.12	29.1	29.4	1.072	0.329	0.353	/
	1909.8	GSM	-0.14	29	29.4	1.096	0.313	0.343	/
Right Head Tilt	1850.2	GSM	/	/	/	/	/	/	/
	1880	GSM	-0.16	29.1	29.4	1.072	0.186	0.199	/
	1909.8	GSM	/	/	/	/	/	/	/
Body Worm Headset (10mm)	1850.2	GSM	/	/	/	/	/	/	/
	1880	GSM	-0.14	29.1	29.4	1.072	0.331	0.355	/
	1909.8	GSM	/	/	/	/	/	/	/
Body Worm Bottom (10mm)	1850.2	GPRS	/	/	/	/	/	/	/
	1880	GPRS	-0.09	25.59	25.8	1.05	0.166	0.174	/
	1909.8	GPRS	/	/	/	/	/	/	/
Body Worm Left (10mm)	1850.2	GPRS	/	/	/	/	/	/	/
	1880	GPRS	-0.12	25.59	25.8	1.05	0.173	0.182	/
	1909.8	GPRS	/	/	/	/	/	/	/
Body Worm Right (10mm)	1850.2	GPRS	/	/	/	/	/	/	/
	1880	GPRS	0.11	25.59	25.8	1.05	0.102	0.107	/
	1909.8	GPRS	/	/	/	/	/	/	/
Body Worm Back (10mm)	1850.2	GPRS	-0.02	25.72	25.8	1.019	0.428	0.436	**4#**
	1880	GPRS	-0.13	25.59	25.8	1.05	0.411	0.432	/
	1909.8	GPRS	-0.11	25.48	25.8	1.076	0.397	0.427	/

Note:
1. When the 1-g SAR is ≤ 0.8W/Kg, testing for other channels are optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.
3. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
4. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.
5. The Multi-slot Classes of EUT is Class 12 which has maximum 4 Downlink slots and 4 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 2DL+3UL is the worst case.

WCDMA 850 Band:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Left Head Cheek	826.4	RMC	0.15	23.41	23.8	1.094	0.288	0.315	/
	836.6	RMC	0.09	23.69	23.8	1.026	0.321	0.329	**5#**
	846.6	RMC	-0.04	23.17	23.8	1.156	0.282	0.326	/
Left Head Tilt	826.4	RMC	/	/	/	/	/	/	/
	836.6	RMC	0.11	23.69	23.8	1.026	0.177	0.182	/
	846.6	RMC	/	/	/	/	/	/	/
Right Head Cheek	826.4	RMC	/	/	/	/	/	/	/
	836.6	RMC	0.15	23.69	23.8	1.026	0.302	0.31	/
	846.6	RMC	/	/	/	/	/	/	/
Right Head Tilt	826.4	RMC	/	/	/	/	/	/	/
	836.6	RMC	0.09	23.69	23.8	1.026	0.165	0.169	/
	846.6	RMC	/	/	/	/	/	/	/
Body Worm Bottom (10mm)	826.4	RMC	/	/	/	/	/	/	/
	836.6	RMC	-0.04	23.69	23.8	1.026	0.188	0.193	/
	846.6	RMC	/	/	/	/	/	/	/
Body Worm Left (10mm)	826.4	RMC	/	/	/	/	/	/	/
	836.6	RMC	0.03	23.69	23.8	1.026	0.164	0.168	/
	846.6	RMC	/	/	/	/	/	/	/
Body Worm Right (10mm)	826.4	RMC	/	/	/	/	/	/	/
	836.6	RMC	0.06	23.69	23.8	1.026	0.153	0.157	/
	846.6	RMC	/	/	/	/	/	/	/
Body Worm Back (10mm)	826.4	RMC	0.05	23.41	23.8	1.094	0.557	0.609	/
	836.6	RMC	-0.11	23.69	23.8	1.026	0.607	0.623	**6#**
	846.6	RMC	-0.01	23.17	23.8	1.156	0.536	0.62	/

Note:

1. When the 1-g SAR is≤ 0.8W/Kg, testing for other channels are optional.
2. The EUT transmit and receive through the same antenna while testing SAR.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model.
4. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/HSPA+/DC-HSDPA when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

WCDMA 1900 Band:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Left Head Cheek	1852.4	RMC	0.02	22.59	22.7	1.026	0.658	0.675	/
	1880	RMC	/	/	/	/	/	/	/
	1907.6	RMC	/	/	/	/	/	/	/
Left Head Tilt	1852.4	RMC	-0.01	22.59	22.7	1.026	0.297	0.305	/
	1880	RMC	/	/	/	/	/	/	/
	1907.6	RMC	/	/	/	/	/	/	/
Right Head Cheek	1852.4	RMC	0.07	22.59	22.7	1.026	0.705	0.723	**7#**
	1880	RMC	-0.14	22.24	22.7	1.112	0.639	0.711	/
	1907.6	RMC	-0.16	22.56	22.7	1.033	0.663	0.685	/
Right Head Tilt	1852.4	RMC	0.12	22.59	22.7	1.026	0.286	0.293	/
	1880	RMC	/	/	/	/	/	/	/
	1907.6	RMC	/	/	/	/	/	/	/
Body Worm Bottom (10mm)	1852.4	RMC	0.02	22.59	22.7	1.026	0.416	0.427	/
	1880	RMC	/	/	/	/	/	/	/
	1907.6	RMC	/	/	/	/	/	/	/
Body Worm Left (10mm)	1852.4	RMC	-0.11	22.59	22.7	1.026	0.404	0.415	/
	1880	RMC	/	/	/	/	/	/	/
	1907.6	RMC	/	/	/	/	/	/	/
Body Worm Right (10mm)	1852.4	RMC	-0.02	22.59	22.7	1.026	0.103	0.106	/
	1880	RMC	/	/	/	/	/	/	/
	1907.6	RMC	/	/	/	/	/	/	/
Body Worm Back (10mm)	1852.4	RMC	0.14	22.59	22.7	1.026	0.597	0.613	**8#**
	1880	RMC	0.12	22.24	22.7	1.112	0.537	0.597	/
	1907.6	RMC	-0.10	22.56	22.7	1.033	0.582	0.601	/

Note:

1. When the 1-g SAR is≤ 0.8W/Kg, testing for other channels are optional.
2. The EUT transmit and receive through the same antenna while testing SAR.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model.
4. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/HSPA+/DC-HSDPA when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

BT&WLAN and GSM&3G Antennas Location:

Simultaneous Transmission:

Description of Simultaneous Transmit Capabilities			Antennas Distance (mm)
Transmitter Combination	Simultaneous?	Hotspot?	
GSM + WCDMA	×	×	0
GSM + Bluetooth	√	×	66
GSM + WLAN	√	√	66
WCDMA+Bluetooth	√	×	66
WCDMA + WLAN	√	√	66

Note:
Hotspot mode SAR is only required for the edges within 25mm from the transmitting antenna located.

Standalone SAR test exclusion considerations

Mode	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
WiFi	2450	9.5	8.91	0	2.79	3	YES
Bluetooth	2450	2.8	1.91	0	0.6	3	YES

NOTE:
The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤7.5 for 10-g extremity SAR, where
1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

Standalone SAR estimation:

Mode	Frequency (GHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Estimated 1-g (W/kg)
WiFi Head	2450	9.5	8.91	0	0.372
WiFi Body	2450	9.5	8.91	10	0.185
BT Head	2450	2.8	1.91	0	0.08
BT Body	2450	2.8	1.91	10	0.04

NOTE:
When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
[(max. power of channel, including tune-up tolerance , mW)/(min. test separation distance,mm)] · [√f(GHz)/x]
W/kg for test separation distances ≤50 mm;
where x = 7.5 for 1-g SAR.
When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion

Simultaneous and Hotspot SAR test exclusion considerations:

Mode (SAR1+SAR2)	Position	Reported SAR (W/kg)		Σ SAR Limit < 1.6W/kg
		SAR1	SAR2	
GSM 850 +BT	Left Head Cheek	0.313	0.08	0.393
	Left Head Tilt	0.167	0.08	0.247
	Right Head Cheek	0.295	0.08	0.375
	Right Head Tilt	0.163	0.08	0.243
	Body-Back-Headset	0.759	0.04	0.799
	Body-Bottom	0.234	0.04	0.274
	Body-Left	0.212	0.04	0.252
	Body-Right	0.148	0.04	0.188
	Body-Back	0.833	0.04	0.873
PCS 1900+BT	Left Head Cheek	0.327	0.08	0.407
	Left Head Tilt	0.219	0.08	0.299
	Right Head Cheek	0.359	0.08	0.439
	Right Head Tilt	0.199	0.08	0.279
	Body-Back-Headset	0.355	0.04	0.395
	Body-Bottom	0.174	0.04	0.214
	Body-Left	0.182	0.04	0.222
	Body-Right	0.107	0.04	0.147
	Body-Back	0.436	0.04	0.478
WCDMA 850 + BT	Left Head Cheek	0.329	0.08	0.409
	Left Head Tilt	0.182	0.08	0.262
	Right Head Cheek	0.31	0.08	0.39
	Right Head Tilt	0.169	0.08	0.249
	Body-Bottom	0.193	0.04	0.233
	Body-Left	0.168	0.04	0.208
	Body-Right	0.157	0.04	0.197
	Body-Back	0.623	0.04	0.663
WCDMA 1900 + BT	Left Head Cheek	0.675	0.08	0.755
	Left Head Tilt	0.305	0.08	0.385
	Right Head Cheek	0.723	0.08	0.803
	Right Head Tilt	0.293	0.08	0.373
	Body-Bottom	0.427	0.04	0.467
	Body-Left	0.415	0.04	0.455
	Body-Right	0.106	0.04	0.146
	Body-Back	0.613	0.04	0.653

Mode (SAR1+SAR2)	Position	Reported SAR (W/kg)		Σ SAR Limit< 1.6W/kg
		SAR1	SAR2	
GSM 850+ WLAN	Left Head Cheek	0.313	0.372	0.685
	Left Head Tilt	0.167	0.372	0.539
	Right Head Cheek	0.295	0.372	0.667
	Right Head Tilt	0.163	0.372	0.535
	Body Headset Back	0.759	0.185	0.944
	Body-Bottom	0.234	0.185	0.419
	Body-Left	0.212	0.185	0.397
	Body-Right	0.148	0.185	0.333
	Body-Back	0.833	0.185	1.018
PCS 1900 + WLAN	Left Head Cheek	0.327	0.372	0.699
	Left Head Tilt	0.219	0.372	0.591
	Right Head Cheek	0.359	0.372	0.731
	Right Head Tilt	0.199	0.372	0.571
	Body Headset Back	0.355	0.185	0.54
	Body-Bottom	0.174	0.185	0.359
	Body-Left	0.182	0.185	0.367
	Body-Right	0.107	0.185	0.292
	Body-Back	0.436	0.185	0.621
WCDMA 850 + WLAN	Left Head Cheek	0.329	0.372	0.701
	Left Head Tilt	0.182	0.372	0.554
	Right Head Cheek	0.31	0.372	0.682
	Right Head Tilt	0.169	0.372	0.541
WCDMA 850 + WLAN (Hotspot)	Body-Bottom	0.193	0.185	0.378
	Body-Left	0.168	0.185	0.353
	Body-Right	0.157	0.185	0.342
	Body-Back	0.623	0.185	0.808
WCDMA 1900 + WLAN	Left Head Cheek	0.675	0.372	1.047
	Left Head Tilt	0.305	0.372	0.677
	Right Head Cheek	0.723	0.372	1.095
	Right Head Tilt	0.293	0.372	0.665
WCDMA 1900 + WLAN (Hotspot)	Body-Bottom	0.427	0.185	0.612
	Body-Left	0.415	0.185	0.6
	Body-Right	0.106	0.185	0.291
	Body-Back	0.613	0.185	0.798

Note:
1.Hotspot mode SAR is only required for the edges within 25mm from the transmitting antenna located.

Conclusion:
Σ SAR < 1.6 W/kg therefore simultaneous transmission SAR with Volume Scans is **not** required.

SAR Plots (Summary of the Highest SAR Values)

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 1#: GSM 850 Left Cheek High Channel

DUT: Prrimo Plus; Type: C353A

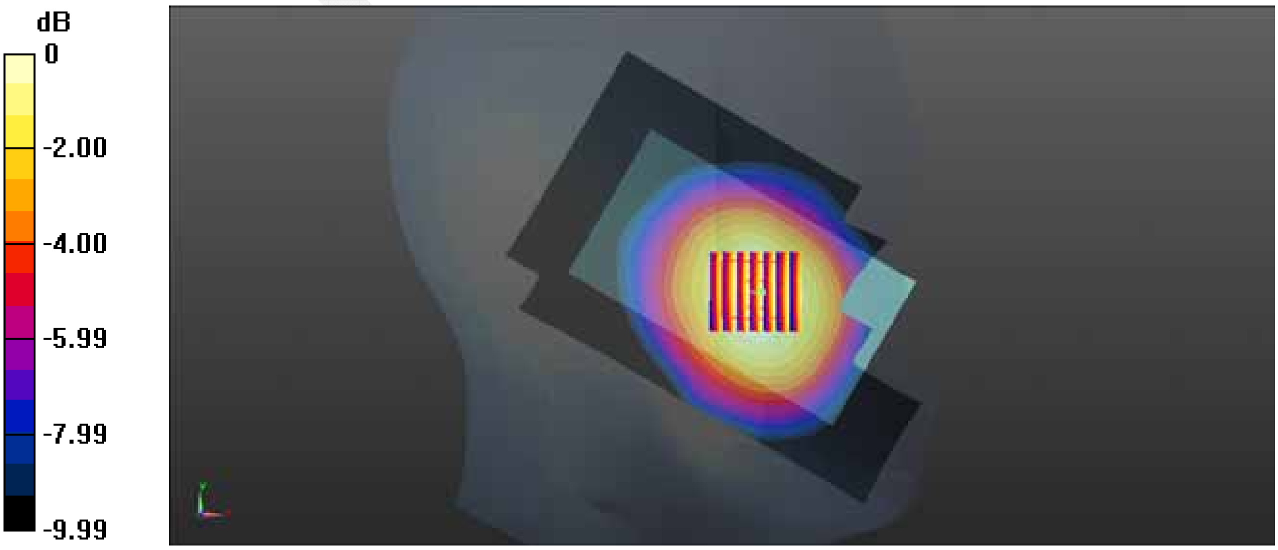
Communication System: Generic GSM; Frequency: 848.8 MHz;Duty Cycle: 1: 8
Medium parameters used: f = 848.8 MHz; σ = 0.896 S/m; ε_r = 42.695; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.52, 9.52, 9.52); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Head/GSM 850 Left Cheek/Area Scan (71x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.325 W/kg

Head/GSM 850 Left Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.129 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.393 W/kg
SAR(1 g) = 0.306 W/kg; SAR(10 g) = 0.225 W/kg
Maximum value of SAR (measured) = 0.323 W/kg



0 dB = 0.323 W/kg = -4.91 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 2#: GSM 850 Back High Channel

DUT: Prrimo Plus; Type: C353A

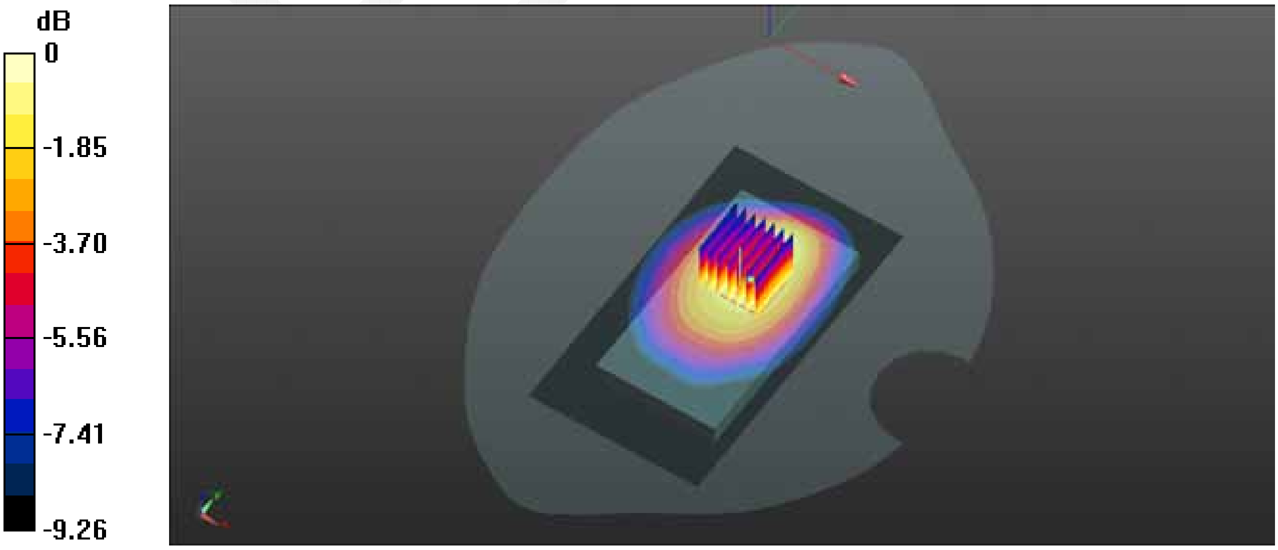
Communication System: Generic GPRS-2 SLOTS; Frequency: 848.8 MHz;Duty Cycle: 1: 4
Medium parameters used: f = 848.8 MHz; σ = 0.987 S/m; ε_r = 54.987; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.17, 9.17, 9.17); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/GSM 850 Back/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.876 W/kg

Body/GSM 850 Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.81 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.809 W/kg; SAR(10 g) = 0.604 W/kg
Maximum value of SAR (measured) = 0.850 W/kg



0 dB = 0.850 W/kg = -0.71 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 3#: PCS 1900 Right Cheek Low Channel

DUT: Prrimo Plus; Type: C353A

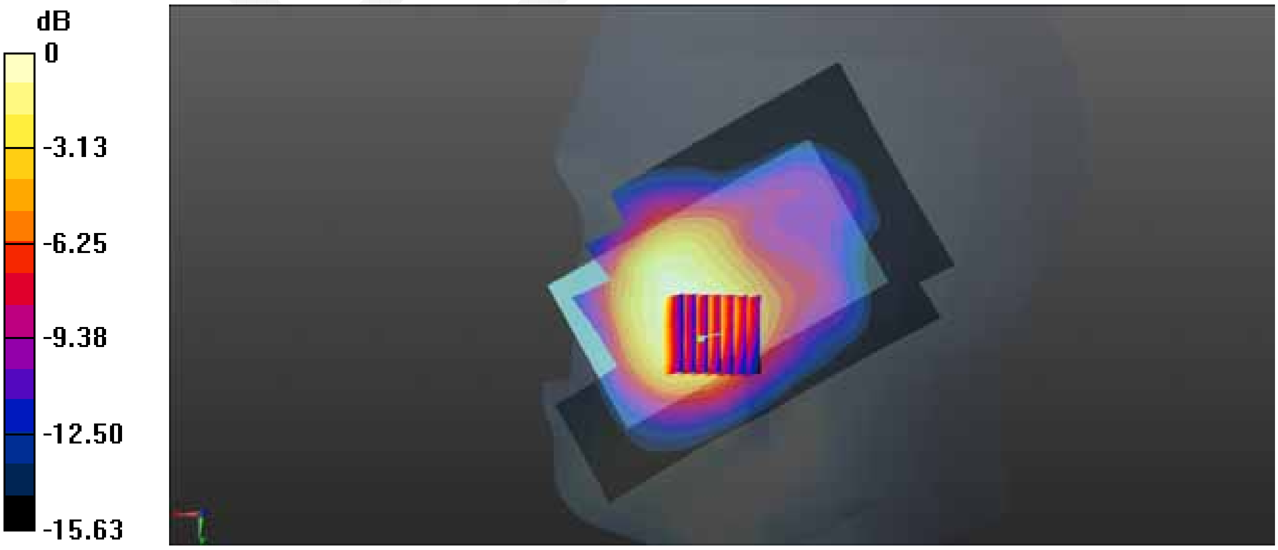
Communication System: Generic GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1850.2 MHz; σ = 1.36 S/m; ε_r = 39.848; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.88, 7.88, 7.88); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Head/PCS 1900 Right Cheek/Area Scan (71x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.373 W/kg

Head/PCS 1900 Right Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.933 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.545 W/kg
SAR(1 g) = 0.351 W/kg; SAR(10 g) = 0.223 W/kg
Maximum value of SAR (measured) = 0.378 W/kg



0 dB = 0.378 W/kg = -4.23 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 4#: PCS 1900 Back Low Channel

DUT: Prrimo Plus; Type: C353A

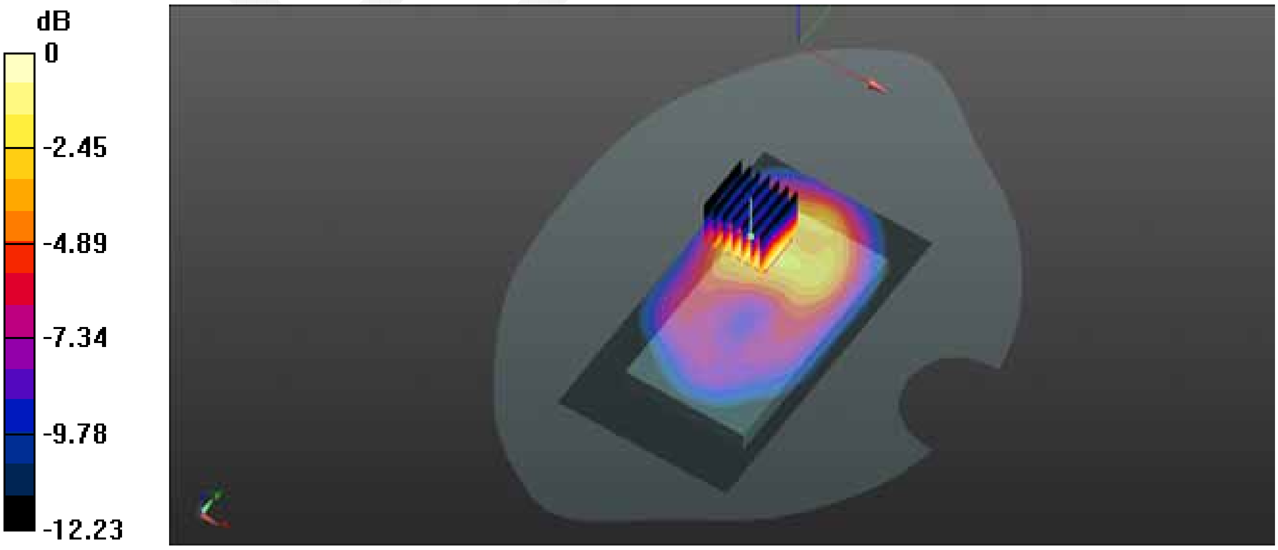
Communication System: Generic GPRS-3 SLOT; Frequency: 1850.2 MHz;Duty Cycle: 1:2.67
Medium parameters used: f = 1850.2 MHz; σ = 1.479 S/m; ε_r = 55.272; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.56, 7.56, 7.56); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/PCS 1900 Back/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.458 W/kg

Body/PCS 1900 Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.25 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.726 W/kg
SAR(1 g) = 0.428 W/kg; SAR(10 g) = 0.248 W/kg
Maximum value of SAR (measured) = 0.470 W/kg



0 dB = 0.470 W/kg = -3.28 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 5#: WCDMA 850 Left Cheek Middle Channel

DUT: Prrimo Plus; Type: C353A

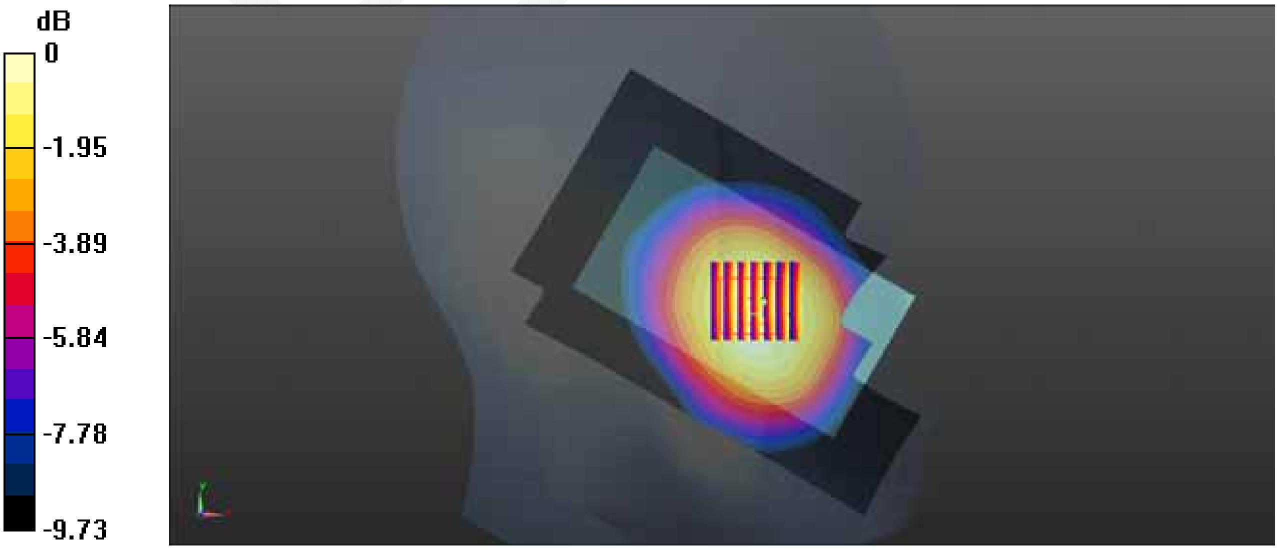
Communication System: BAND V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.6 MHz; σ = 0.891 S/m; ε_r = 42.88; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.52, 9.52, 9.52); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Head/WCDMA 850 Left Cheek/Area Scan (71x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.334 W/kg

Head/WCDMA 850 Left Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.828 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.409 W/kg
SAR(1 g) = 0.321 W/kg; SAR(10 g) = 0.238 W/kg
Maximum value of SAR (measured) = 0.339 W/kg



0 dB = 0.339 W/kg = -4.70 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 6#: WCDMA 850 Back Middle Channel

DUT: Prrimo Plus; Type: C353A

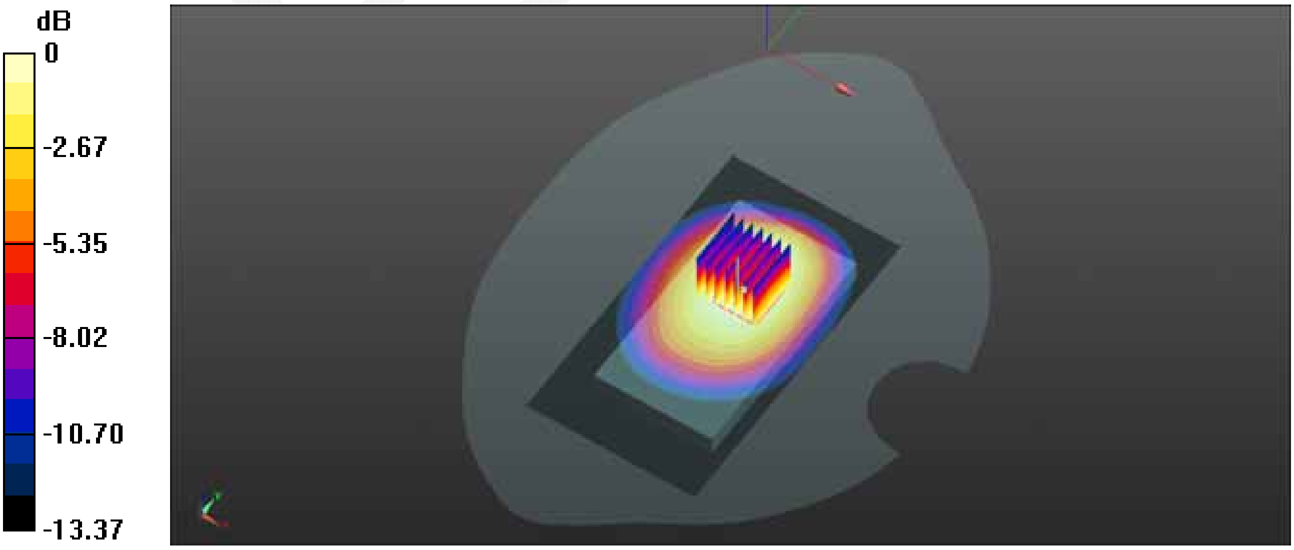
Communication System: BAND V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.6 MHz; σ = 0.975 S/m; ε_r = 55.132; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.17, 9.17, 9.17); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/WCDMA 850 Back/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.707 W/kg

Body/WCDMA 850 Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.51 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.943 W/kg
SAR(1 g) = 0.607 W/kg; SAR(10 g) = 0.425 W/kg
Maximum value of SAR (measured) = 0.655 W/kg



0 dB = 0.850 W/kg = -0.71 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 7#: WCDMA 1900 Right Cheek Low Channel

DUT: Prrimo Plus; Type: C353A

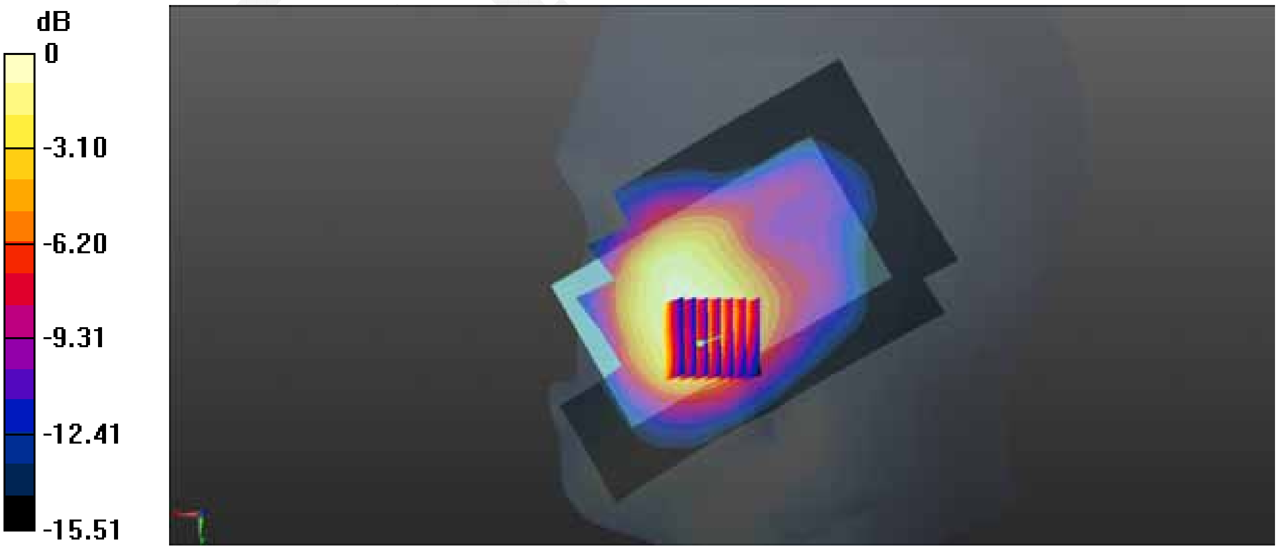
Communication System: BAND II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1852.4 MHz; σ = 1.36 S/m; ε_r = 39.848; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.88, 7.88, 7.88); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Head/WCDMA 1900 Right Cheek/Area Scan (71x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.745 W/kg

Head/WCDMA 1900 Right Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.690 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.705 W/kg; SAR(10 g) = 0.441 W/kg
Maximum value of SAR (measured) = 0.757 W/kg



0 dB = 0.757 W/kg = -1.21 dBW/kg

Test Laboratory: Bay Area Compliance Labs Corp.(Dongguan)

Test Plot 8#: WCDMA 1900 Back Low Channel

DUT: Prrimo Plus; Type: C353A

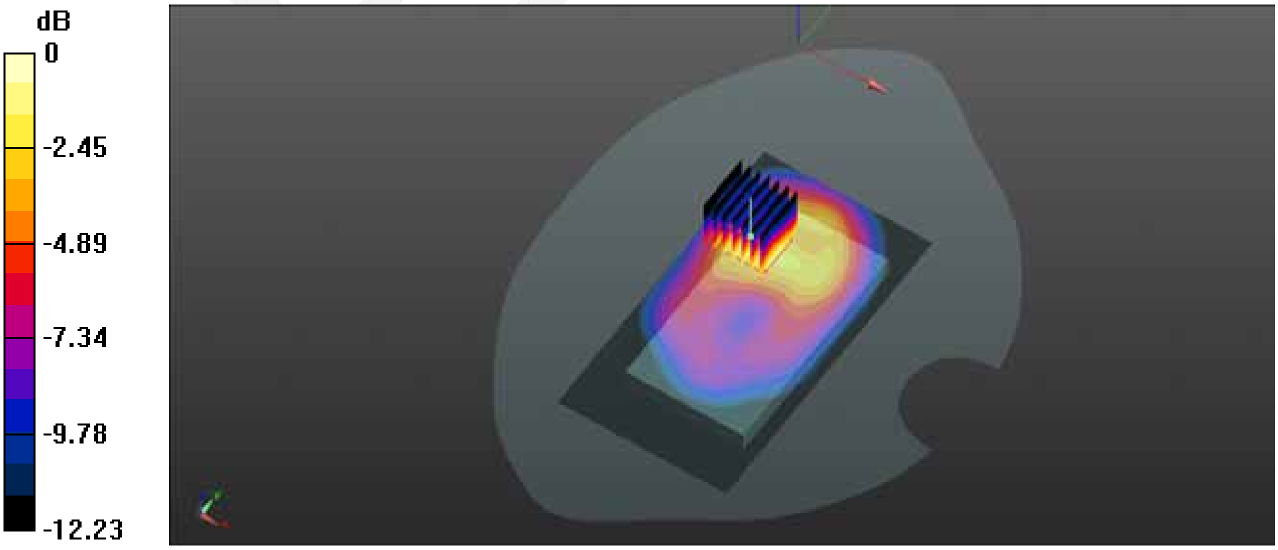
Communication System: BAND II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.474 S/m; ε_r = 53.217; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.56, 7.56, 7.56); Calibrated: 2015/2/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/1/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/WCDMA 1900 Back/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.638 W/kg

Body/WCDMA 1900 Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.14 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.597 W/kg; SAR(10 g) = 0.347 W/kg
Maximum value of SAR (measured) = 0.651 W/kg



0 dB = 0.651 W/kg = -1.86 dBW/kg

APPENDIX A MEASUREMENT UNCERTAINTY

The uncertainty budget has been determined for the measurement system and is given in the following Table.

Measurement uncertainty evaluation for IEEE1528-2013 SAR test

Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Disisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Linearity	4.7	R	√3	1	1	2.7	2.7
Detection limits	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambientconditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Device holder uncertainty	6.3	N	1	1	1	6.3	6.3
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Liquid conductivity target)	5.0	R	√3	0.64	0.43	1.8	1.2
Liquid conductivity meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity target)	5.0	R	√3	0.6	0.49	1.7	1.4
Liquid permittivity meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Combined standard uncertainty		RSS				12.2	12.0
Expanded uncertainty 95 % confidence interval)						24.3	23.9

Measurement uncertainty evaluation for IEC62209-2 SAR test

Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Disisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Linearity	4.7	R	√3	1	1	2.7	2.7
Modulation Response	0.0	R	√3	1	1	0.0	0.0
Detection limits	1.0	R	√3	1	1	0.6	0.6
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambientconditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Device holder Uncertainty	6.3	N	1	1	1	6.3	6.3
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Power scaling	4.5	R	√3	1	1	2.6	2.6
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Algorithm for correcting SAR for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.1	0.9
Liquid conductivity (meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity (meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Temp. unc. - Conductivity	1.7	R	√3	0.78	0.71	0.8	0.7
Temp. unc. - Permittivity	0.3	R	√3	0.23	0.26	0.0	0.0
Combined standard uncertainty		RSS				12.2	12.1
Expanded uncertainty 95 % confidence interval)						24.5	24.2

APPENDIX B – PROBE CALIBRATION CERTIFICATES

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

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

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

Accreditation No.: **SCS 0108**

Client **BACL China (Vitec)** Certificate No: **EX3-7329_Feb15**

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:7329

Calibration procedure(s): QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: February 5, 2015

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	03-Apr-14 (No. 217-01911)	Apr-15
Power sensor E4412A	MY41498087	03-Apr-14 (No. 217-01911)	Apr-15
Reference 3 dB Attenuator	SN: S5054 (3c)	03-Apr-14 (No. 217-01915)	Apr-15
Reference 20 dB Attenuator	SN: S5277 (20x)	03-Apr-14 (No. 217-01919)	Apr-15
Reference 30 dB Attenuator	SN: S5129 (30b)	03-Apr-14 (No. 217-01920)	Apr-15
Reference Probe ES3DV2	SN: 3013	30-Dec-14 (No. ES3-3013_Dec14)	Dec-15
DAE4	SN: 660	14-Jan-15 (No. DAE4-660_Jan15)	Jan-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

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

Issued: February 9, 2015

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

Certificate No: EX3-7329_Feb15 Page 1 of 11

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

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Accreditation No.: **SCS 0108**

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

Certificate No: EX3-7329_Feb15 Page 2 of 11

Probe EX3DV4

SN:7329

Manufactured: December 11, 2014
Calibrated: February 5, 2015

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

EX3DV4– SN:7329 February 5, 2015

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7329

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.48	0.43	0.46	± 10.1 %
DCP (mV)[B]	96.7	97.6	94.2	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	137.9	±3.0 %
		Y	0.0	0.0	1.0		147.0	
		Z	0.0	0.0	1.0		150.5	

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

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

Certificate No: EX3-7329_Feb15 Page 4 of 11

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7329

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
900	41.5	0.97	9.52	9.52	9.52	0.40	0.86	± 12.0 %
1750	40.1	1.37	8.12	8.12	8.12	0.29	0.90	± 12.0 %
1900	40.0	1.40	7.88	7.88	7.88	0.68	0.61	± 12.0 %
2450	39.2	1.80	7.06	7.06	7.06	0.33	0.84	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

EX3DV4– SN:7329 February 5, 2015

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7329

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
900	55.0	1.05	9.17	9.17	9.17	0.41	0.90	± 12.0 %
1750	53.4	1.49	7.85	7.85	7.85	0.70	0.64	± 12.0 %
1900	53.3	1.52	7.56	7.56	7.56	0.56	0.70	± 12.0 %
2450	52.7	1.95	7.20	7.20	7.20	0.78	0.59	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

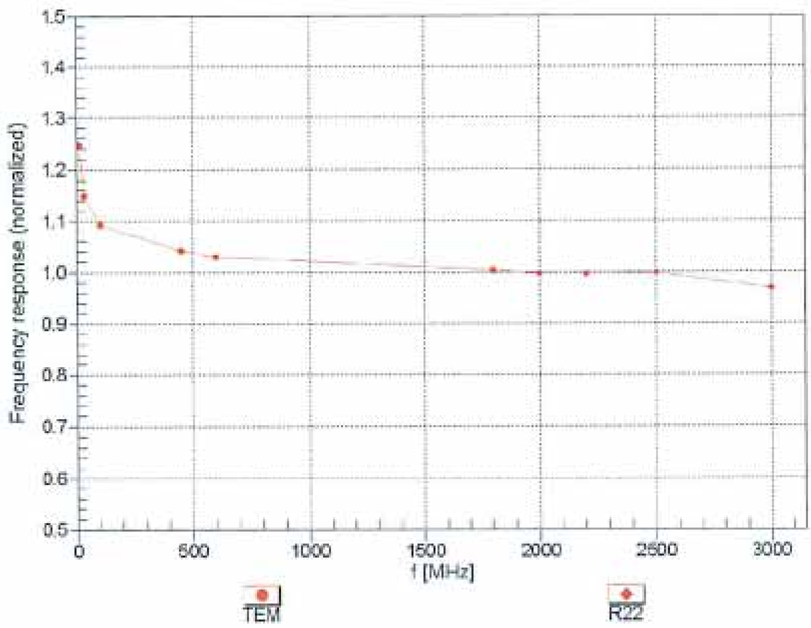
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Certificate No: EX3-7329_Feb15 Page 6 of 11

EX3DV4– SN:7329 February 5, 2015

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



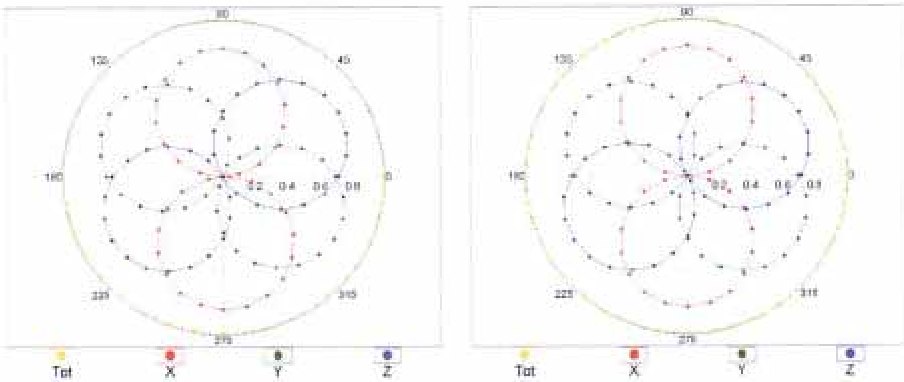
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

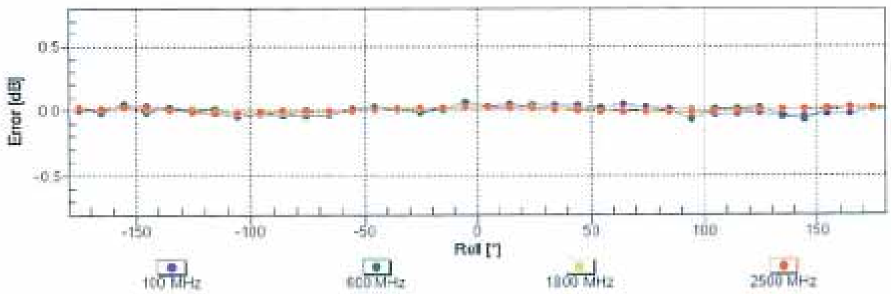
Certificate No: EX3-7329_Feb15 Page 7 of 11

EX3DV4– SN:7329 February 5, 2015

Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM f=1800 MHz,R22





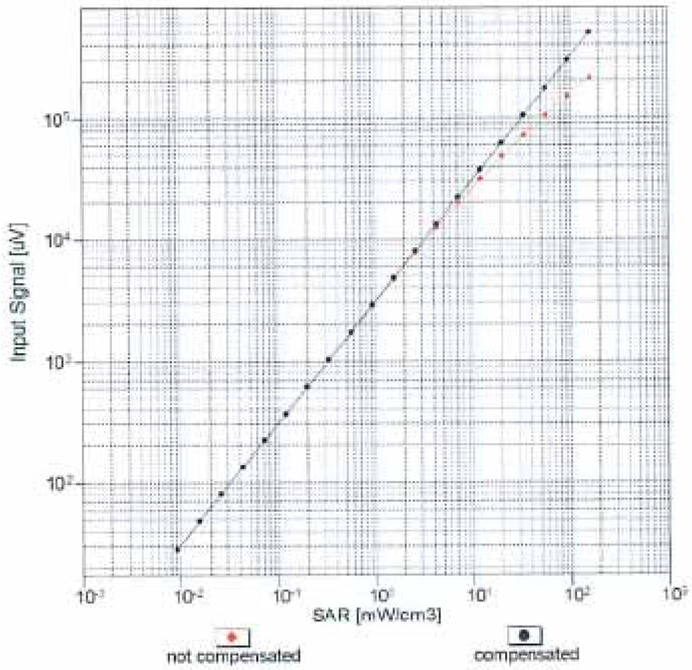
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

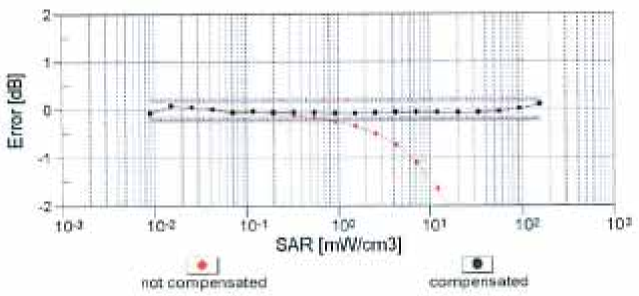
Certificate No: EX3-7329_Feb15 Page 8 of 11

EX3DV4– SN:7329 February 5, 2015

Dynamic Range f(SAR$_{head}$)

(TEM cell , f_{eval}= 1900 MHz)



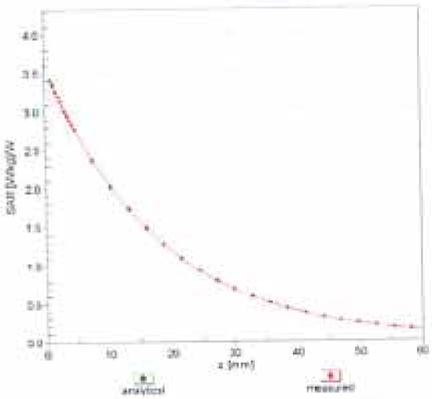


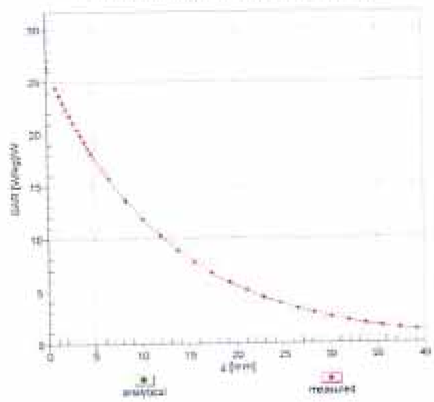
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Certificate No: EX3-7329_Feb15 Page 9 of 11

EX3DV4– SN:7329 February 5, 2015

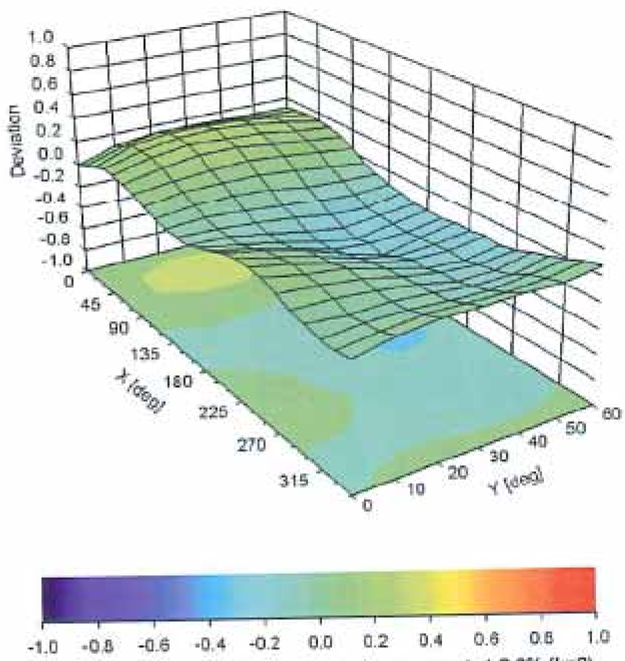
Conversion Factor Assessment





Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

Certificate No: EX3-7329_Feb15 Page 10 of 11

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7329

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	24.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

APPENDIX C DIPOLE CALIBRATION CERTIFICATES

NCL CALIBRATION LABORATORIES

Calibration File No: DC-1599
Project Number: BAC-dipole-cal-5779

CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated in the **NCL CALIBRATION LABORATORIES** by qualified personnel following recognized procedures and using transfer standards traceable to NRC/NIST.

Validation Dipole(Head and Body)

Manufacturer: APREL Laboratories
Part number: ALS-D-835-S-2
Frequency: 835 MHz
Serial No: 180-00558

Customer: Bay Area Compliance Laboratory (China)

Calibrated: 8th October 2014
Released on: 8th October 2014

This Calibration Certificate is Incomplete Unless Accompanied with the Calibration Results Summary

Released By: ______________________

Art Brennan, Quality Manager

NCL CALIBRATION LABORATORIES

Suite 102, 303 Terry Fox Dr.
Kanata, ONTARIO
CANADA K2K 3J1

Division of APREL Lab.
TEL: (613) 435-8300
FAX: (613)435-8306

NCL Calibration Laboratories

Division of APREL Laboratories.

Conditions

Dipole 180-00558 was received with a damaged connection for a re-calibration.

Ambient Temperature of the Laboratory:	22 °C +/- 0.5°C
Temperature of the Tissue:	21 °C +/- 0.5°C

Attestation

The below named signatories have conducted the calibration and review of the data which is presented in this calibration report.

We the undersigned attest that to the best of our knowledge the calibration of this subject has been accurately conducted and that all information contained within the results pages have been reviewed for accuracy.

Art Brennan, Quality Manager

Maryna Nesterova Calibration Engineer

Primary Measurement Standards

Instrument	Serial Number	Cal due date
Tektronix USB Power Meter	11C940	May 14, 2015
Network Analyzer Anritsu 37347C	002106	Feb. 20, 2015

This page has been reviewed for content and attested to by signature within this document.

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Division of APREL Laboratories.

Calibration Results Summary

The following results relate the Calibrated Dipole and should be used as a quick reference for the user.

Mechanical Dimensions

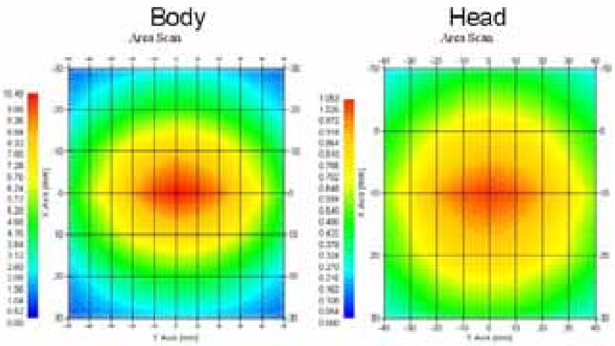
Length: 162.2 mm
Height: 89.4 mm

Electrical Specification

Tissue	Frequency	SWR:	Return Loss	Impedance
Head	835 MHz	1.066 U	-30.344 dB	49.001 Ω
Body	835 MHz	1.089 U	-28.118 dB	53.117 Ω

System Validation Results

Tissue	Frequency	1 Gram	10 Gram	Peak
Head	835 MHz	9.773	6.174	14.713
Body	835 MHz	9.736	6.297	14.513



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Introduction

This Calibration Report has been produced in line with the SSI Dipole Calibration Procedure SSI-TP-018-ALSAS. The results contained within this report are for Validation Dipole 180-00558. The calibration routine consisted of a three-step process. Step 1 was a mechanical verification of the dipole to ensure that it meets the mechanical specifications. Step 2 was an Electrical Calibration for the Validation Dipole, where the SWR, Impedance, and the Return loss were assessed. Step 3 involved a System Validation using the ALSAS-10U, along with APREL E-020 30 MHz to 6 GHz E-Field Probe Serial Number 225.

References

- IEC-62209 "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures"
- Part 2: "Procedure to determine the Specific Absorption Rate (SAR) for hand-held devices used in close proximity of the ear (frequency range of 30 MHz to 6 GHz)"
- TP-D01-032-E020-V2 E-Field probe calibration procedure
- D22-012-Tissue dielectric tissue calibration procedure
- D28-002-Dipole procedure for validation of SAR system using a dipole
- IEEE 1309 Draft Standard for Calibration of Electromagnetic Field Sensors and Probes, Excluding Antennas, from 9kHz to 40GHz

Conditions

Dipole 180-00558 was repaired prior to this calibration. The repair reliability depends upon correct usage of the dipole.

Ambient Temperature of the Laboratory: 22 °C +/- 0.5°C
Temperature of the Tissue: 20 °C +/- 0.5°C

Dipole Calibration uncertainty

The calibration uncertainty for the dipole is made up of various parameters presented below.

Mechanical	1%
Positioning Error	1.22%
Electrical	1.7%
Tissue	2.2%
Dipole Validation	2.2%
TOTAL	**8.32% (16.64% K=2)**

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Dipole Calibration Results

Mechanical Verification

APREL Length	APREL Height	Measured Length	Measured Height
161.0 mm	89.8 mm	162.2 mm	89.4 mm

Electrical Verification

Tissue Type	Return Loss:	SWR:	Impedance:
Head	-30.344 dB	1.066 U	49.001 Ω
Body	-28.118 dB	1.089 U	53.117 Ω □

Tissue Validation

	Dielectric constant, ε_r	Conductivity, σ [S/m]
Head Tissue 835MHz	43.42	0.94
Body Tissue 835MHz	55.77	1.01

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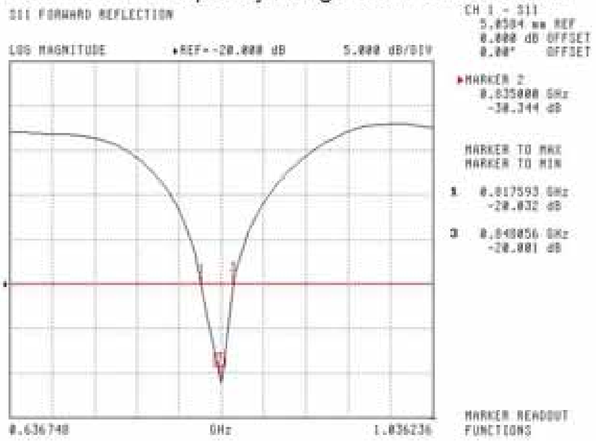
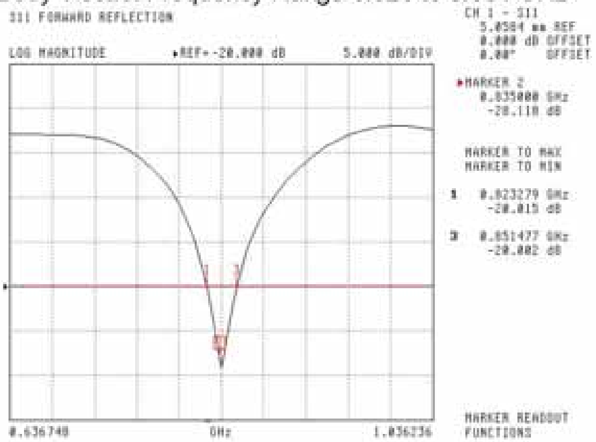
The Following Graphs are the results as displayed on the Vector Network Analyzer.

S11 Parameter Return Loss

Head Tissue: Frequency Range 0.817 to 0.848 GHz



Body Tissue: Frequency Range 0.823 to 0.851 GHz



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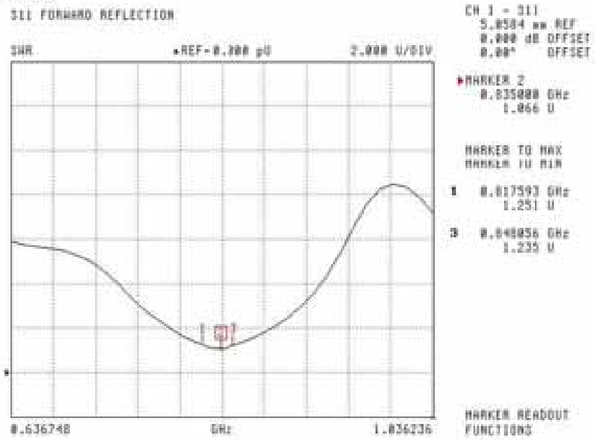
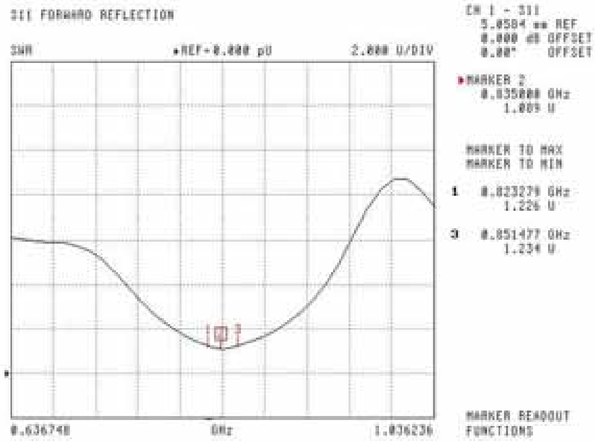
SWR

Head



Body



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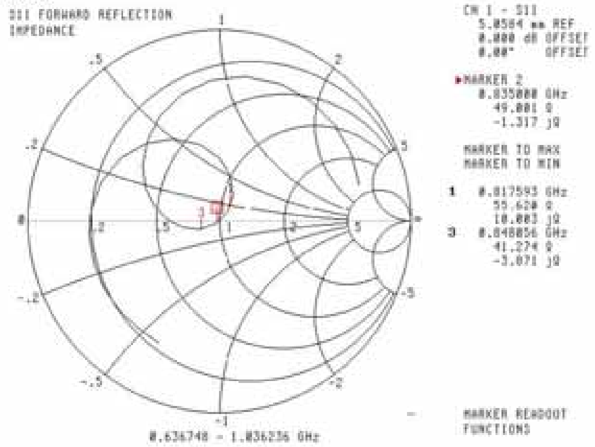
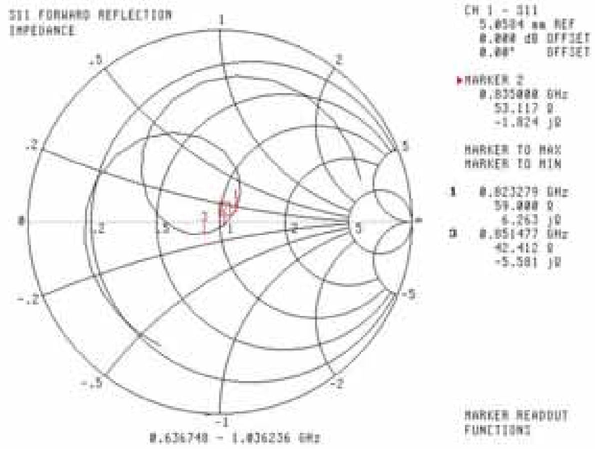
Smith Chart Dipole Impedance

Head



Body



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Test Equipment

The test equipment used during Probe Calibration, manufacturer, model number and, current calibration status are listed and located on the main APREL server R:\NCL\Calibration Equipment\Instrument List 2014.

Calibration Laboratory of
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Accreditation No.: **SCS 0108**

Client **BACL**

Certificate No: **D1900V2-5d206_Jul15**

CALIBRATION CERTIFICATE

Object: D1900V2 - SN:5d206

Calibration procedure(s): QA CAL-05.v9
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: July 14, 2015

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: July 14, 2015

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Certificate No: D1900V2-5d206_Jul15 Page 1 of 8

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.7 ± 6 %	1.38 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.1 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**40.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.35 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**21.5 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.7 ± 6 %	1.54 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.3 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**40.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.51 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.9 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.5 Ω + 6.5 jΩ
Return Loss	- 23.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.6 Ω + 7.1 jΩ
Return Loss	- 22.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.203 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	October 21, 2014

DASY5 Validation Report for Head TSL

Date: 14.07.2015

Test Laboratory: SPEAG, Zurich, Switzerland

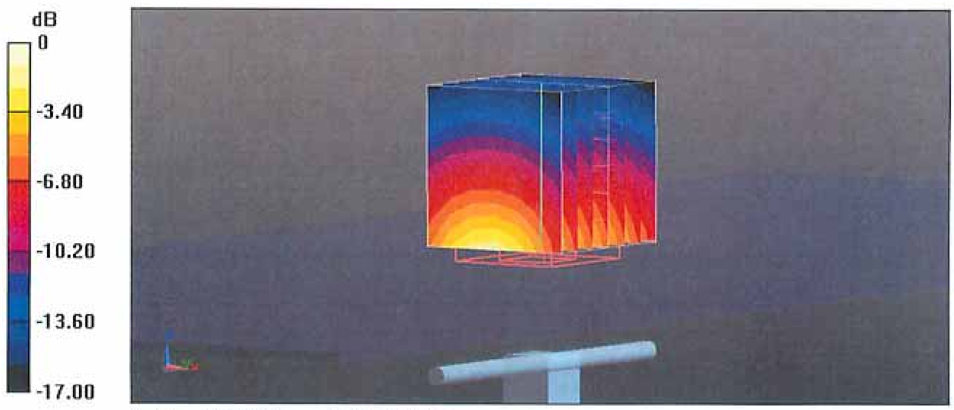
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d206

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.38 S/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5, 5, 5); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

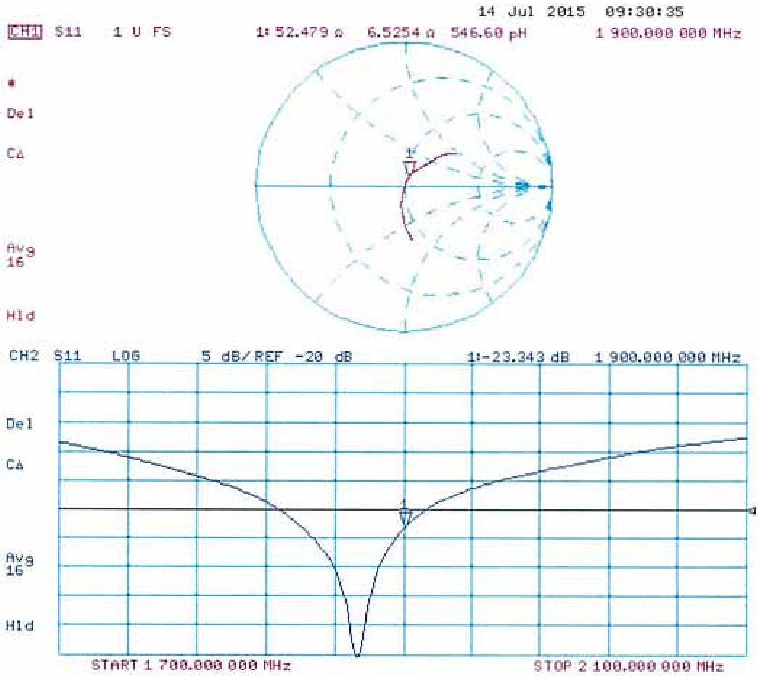
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.02 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 18.4 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.35 W/kg
Maximum value of SAR (measured) = 12.8 W/kg



0 dB = 12.8 W/kg = 11.07 dBW/kg

Certificate No: D1900V2-5d206_Jul15 Page 5 of 8

Impedance Measurement Plot for Head TSL



Certificate No: D1900V2-5d206_Jul15 Page 6 of 8

DASY5 Validation Report for Body TSL

Date: 14.07.2015

Test Laboratory: SPEAG, Zurich, Switzerland

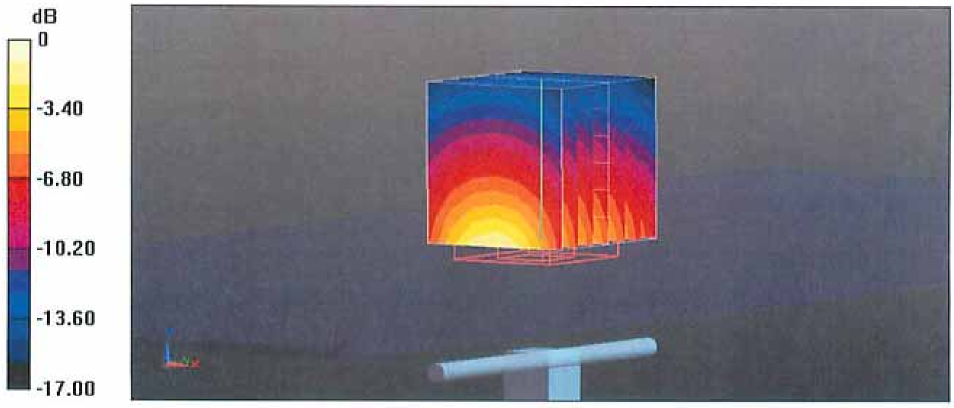
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d206

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.54 S/m; ε_r = 52.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.65, 4.65, 4.65); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

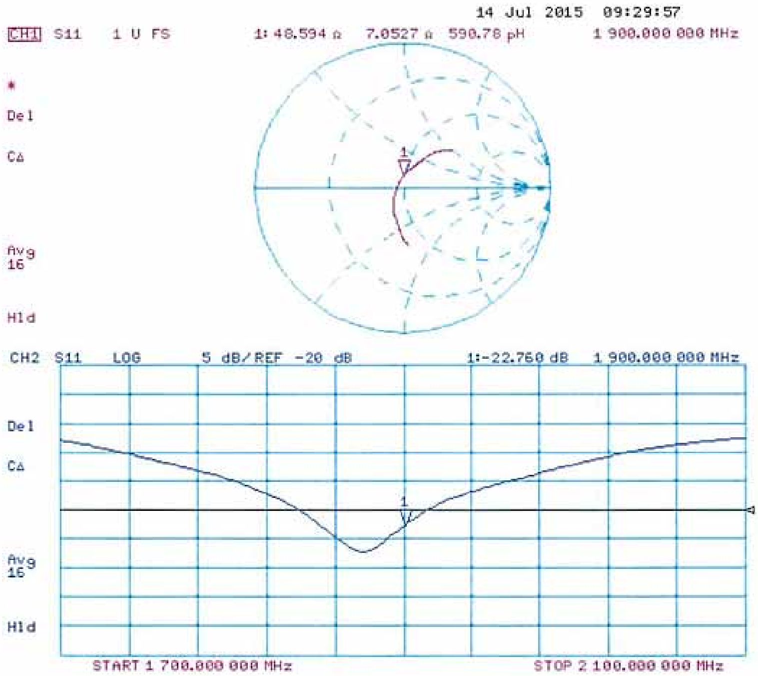
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.62 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.3 W/kg
SAR(1 g) = 10.3 W/kg; SAR(10 g) = 5.51 W/kg
Maximum value of SAR (measured) = 12.9 W/kg



0 dB = 12.9 W/kg = 11.11 dBW/kg

Certificate No: D1900V2-5d206_Jul15 Page 7 of 8

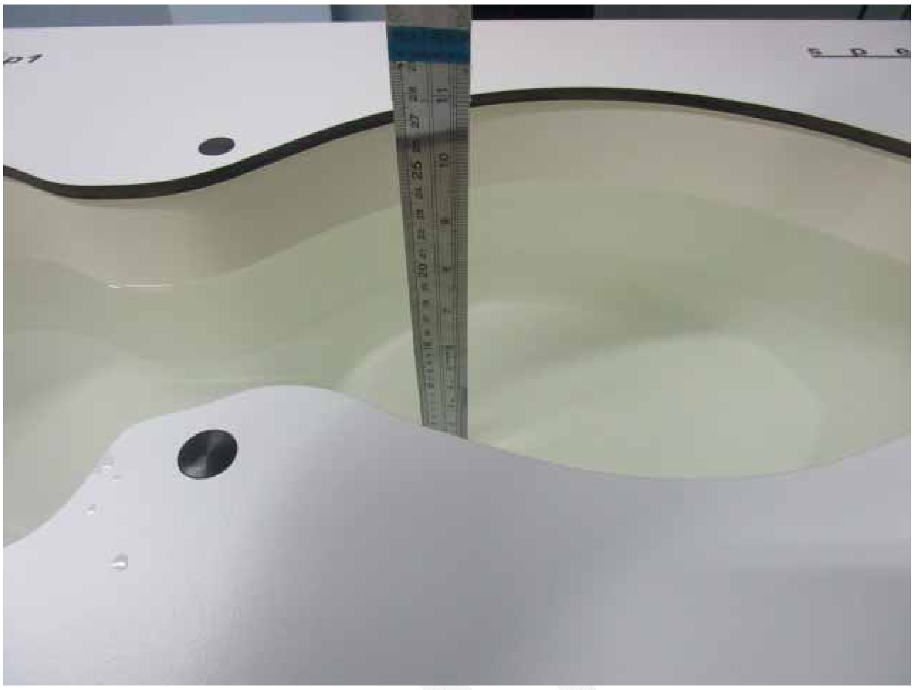
Impedance Measurement Plot for Body TSL



Certificate No: D1900V2-5d206_Jul15 Page 8 of 8

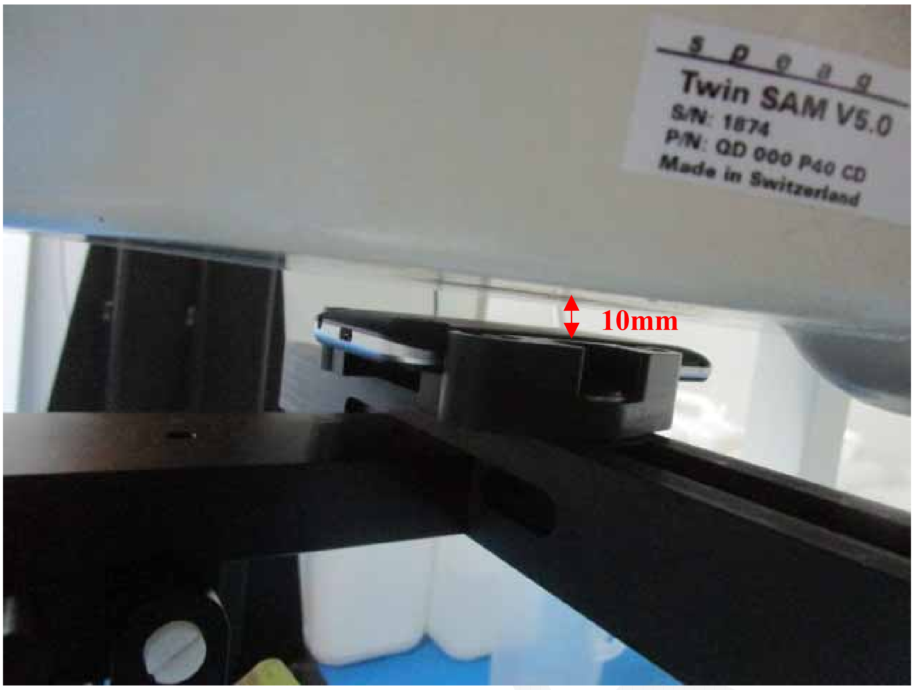
APPENDIX D EUT TEST POSITION PHOTOS

Liquid depth ≥15cm



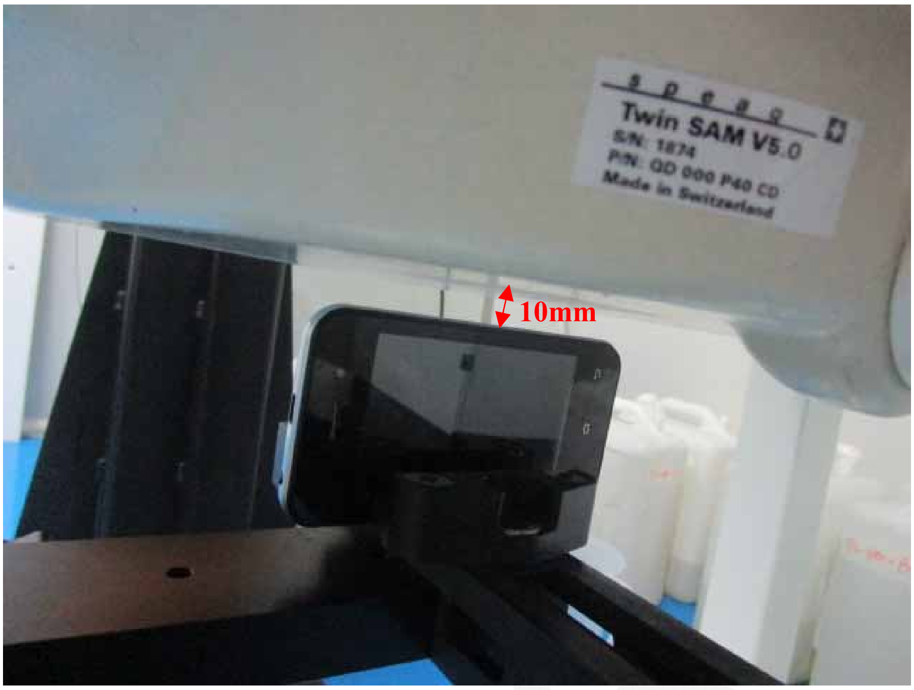
Body-worn Headset Setup Photo

Body-worn Back Setup Photo



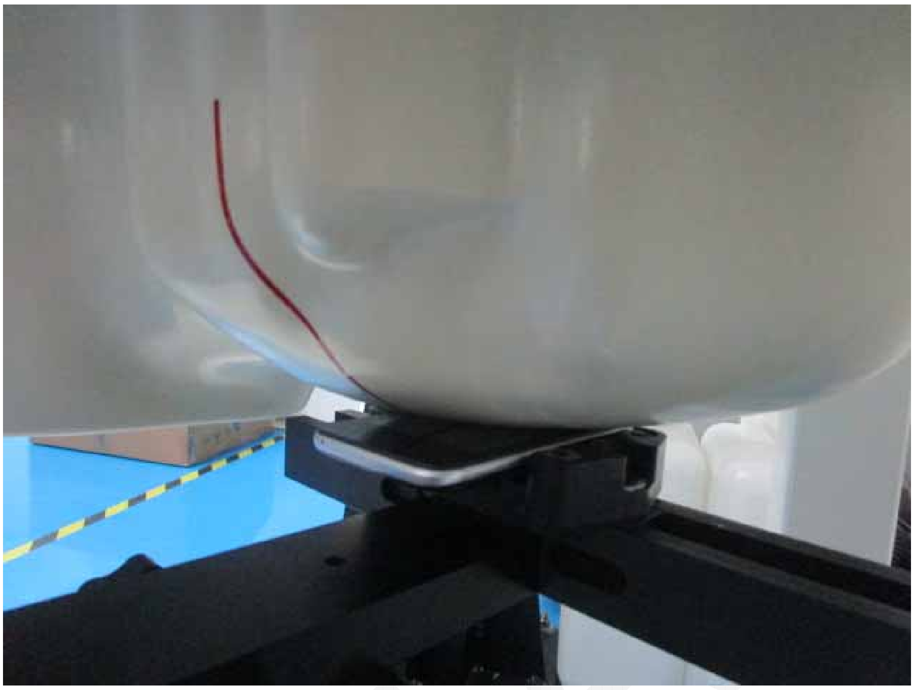
Body-worn Left Setup Photo

Body-worn Right Setup Photo

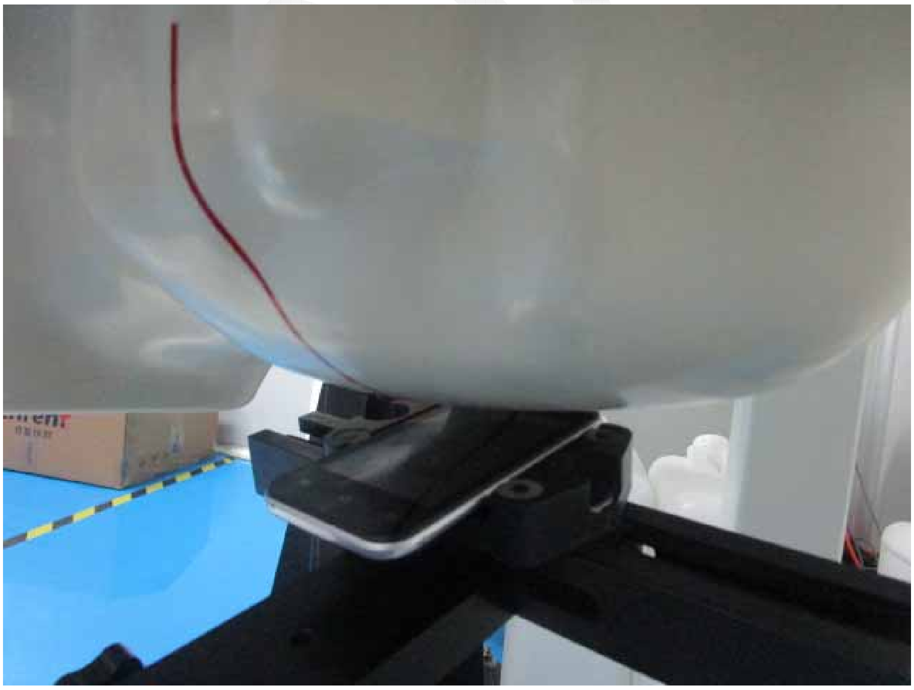


Body-worn Bottom Setup Photo

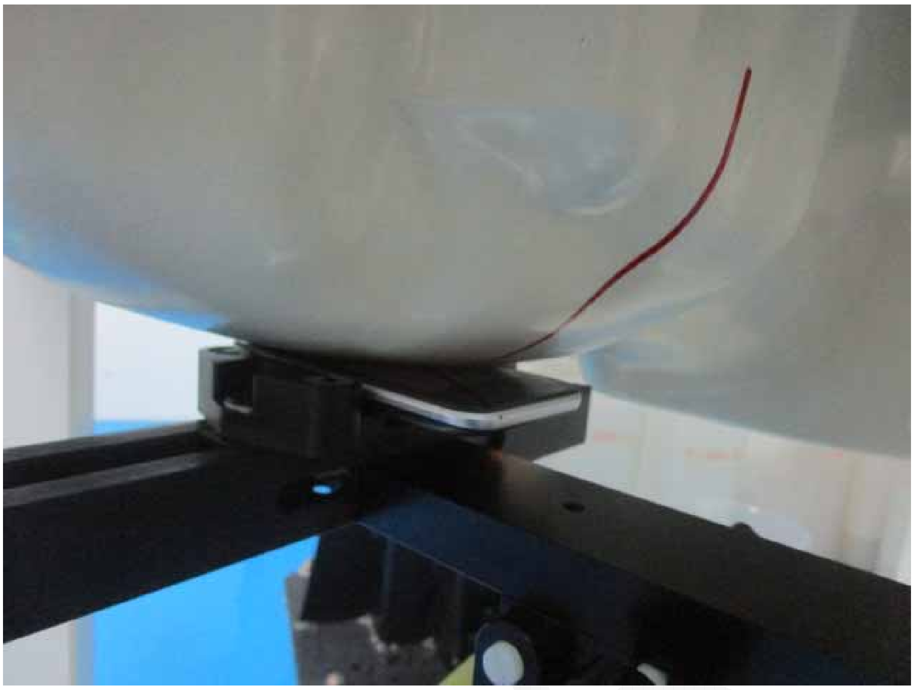
Left Head Touch Setup Photo



Left Head Tilt Setup Photo



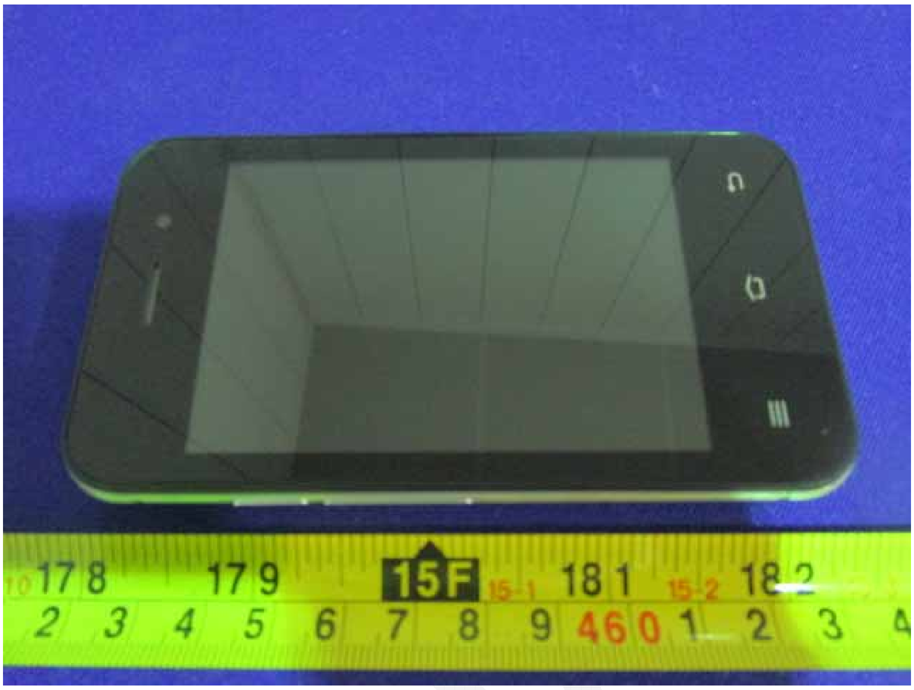
Right Head Touch Setup Photo



Right Head Tilt Setup Photo

APPENDIX E EUT PHOTOS

EUT – Front View



EUT –Back View

EUT – Side View-1

EUT – Side View-2

EUT – Cover off View

DECLARATION LETTER

Declaration of Alteration

To Whom It May Concern,

We, Posh Mobile Limited, hereby declare that there are some differences between our Multiple Models and testing products. Details as below:

(This is for your reference only.)

Products Description	Name	Primo Plus
	Brand	POSH
	Manufacturer	Shenzhen Posh Mobile Limited
	Project No.	RDG150828004, RDG150828004-20

Differences Description

Testing Products	Multiple Models	Differences Items	Details
C353A	C353B	Model name	They are same motherboard, and just have the different model name.

Notes: Testing products-the products tested by BACL
Multiple Model- have the same or similar appearance, structure, PCB, Material and function to the testing products

Besides the differences in the table above, we declare the products are identical
We guarantee all the information provided above is true, and notice that we'll bear all the consequences caused by any false information or concealing

Best Regards,

Signature:
Print Name: K.N. Chong
Title: Manager

Posh Mobile Limited

ADD: 1011A, 10/F., Harbour Centre Tower 1, No.1 Hok Cheung St., Hung Hom, Kowloon, Hong Kong Tel: (852) 31889834 Fax: (852) 39044979 Email:poshmobileltd@yahoo.com

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***** END OF REPORT *****