RF TEST REPORT



Report No.: FCC/IC_SAR_SL15081301-SLX-018

Supersede Report No.:

Applicant Stryker Medical				
Host Product Name	Stryker Critical Care Bed System			
Host Model No.	Gateway 2.0			
Module Product Name	SDIO Wireless Module			
Module Model No.	SX-SDMAN			
Test Standard	47CFR 2.1093, IEEE C95.1-200			
rest Standard	RSS 102 Issue 5.0, IEEE 1528:			
	IEEE 1528: 2013, IEC 62209-2:			
	KDB 447498 D01 General RF E			
Test Method	KDB 248227 D01 802.11 Wi-Fi			
	KDB 865664 D01 SAR Measure			
	KDB 941225 D06 Hot Spot SAR	R v02r01		
FCC ID	Z7A-SDMAN			
IC ID	4919E-SDMAN			
Date of test	2/9/2016 - 2/25/2016			
Issue Date	3/28/2016			
Test Result	Pass Fail			
Equipment complied with the specification [x]				
Equipment did not comply with the specification []				
Danamach B3.				
Teody Manansala Arthur Tie				
Test Engineer Engineer Reviewer				
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Test re		is applicable to the tested sample only		

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Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless ,Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF , Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom , Safety
Israel	MOC, NIST	EMC, RF, Telecom, Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope	
USA	FCC TCB, NIST	EMC , RF , Telecom	
Canada	IC FCB , NIST	EMC , RF , Telecom	
Singapore	iDA, NIST	EMC , RF , Telecom	
EU	NB	EMC & R&TTE Directive	
Japan	MIC (RCB 208)	RF , Telecom	
Hong Kong	OFTA (US002)	RF , Telecom	

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Report Revision History

Report No.	Report Version	Description	Issue Date
FCC/IC_ SAR_SL15081301-SLX-018	Original	Original	3/28/2016





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2 **Executive Summary**

The purpose of this test program was to demonstrate compliance of following product

Company: Stryker Medical

Product: Stryker Critical Care Bed System

Model: Gateway 2.0

against the current Stipulated Standards. The specified model product stated above has demonstrated compliance as a spot check with the Stipulated Standard listed on 1st page. The derived result is summarized in following table,

Rated, Measured conducted RF output Power and SAR		Mode	Highest 1g SAR
	:	802.11b (2.4GHz)	0.962 w/kg(body)
		802.11n-40 (5 GHz)	1.337 w/kg(body)

3 Customer information

Applicant Name	Stryker Medical			
Applicant Address	3800 East Centre Ave, Portage, MI 49002 USA			
Manufacturer Name	Silex Technology, Inc			
Manufacturer Address	2-3-1 Hikaridai, Seika-cho Sourakugun, Kyoto 619-0237 Japan			

4 Test site information

Lab performing tests	SIEMIC Laboratories
Lab Address	775 Montague Expressway, Milpitas, CA 95035
FCC Test Site No.	881796
IC Test Site No.	4842D-2
VCCI Test Site No.	A0133

5 Modification

Index	Item	Description	Note
-	-	-	-

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EUT Information 6

<u>6.1</u> **EUT Description**

Host Product Name	Stryker Critical Care Bed System
Host Model No.	Gateway 2.0
Module Product Name	SDIO Wireless Module
Module Model No.	SX-SDMAN
Trade Name	Stryker
Serial No.	008092 721E00
Input Power	3.3VDC
Power Adapter Manu/Model	100-240VAC
Power Adapter SN	N/A
Hardware version	N/A
Software version	N/A
Date of EUT received	02/01/2016
Equipment Class/ Category	UNII
Clock Frequencies	N/A
Port/Connectors	N/A
Antenna Model	Ethertronics 1000418

Additional EUT Information		
Any variants of the primary device? ☐Yes ☒No		
If yes, please list the different models & differences:		
Accessories (Sold with device):		
Power adapter		
The device uses configuration: ☐ Handheld Device ☒ Body worn Device ☐ Held to ear ☐ Data Grip		
Is the device being sold with multiple antenna options? ☐Yes ☒No		
Power Adaptor: ☐ With DC Adaptor ☑ With AC Adaptor		
Battery Configuration: ☐Fixed Battery ☐Removable/Swappable		

Radio Description <u>6.2</u>

Radio Type	802.11b	802.11g	802.11a	802.11n-20M	802.11n-40M
Operating Frequency	2412-2462MHz	2412-2462MHz	5180-5240MHz 5260-5320MHz 5500-5700MHz 5725-5825MHz	2412-2462MHz 5180-5240MHz 5240-5320MHz 5500-5700MHz 5725-5825MHz	2422-2452MHz 5190-5230MHz 5270-5310MHz 5510-5670MHz 5755-5795MHz
Modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	5MHz	SMHz 5MHz 2		5MHz(2.4GHz), 20MHz(5GHz)	40MHz
Number of Channels	11	11	24	11(2.4GH) 24(5GHz)	11(5GHz)
Antenna Type	Embedded PCB				
Antenna Gain	2.5dBi (for 2.4GHz), 3.5dBi (for 5GHz)				
Antenna Connector Type	U.FL				
Note	EUT only has one Antenna and there is no simultaneous transmitting				

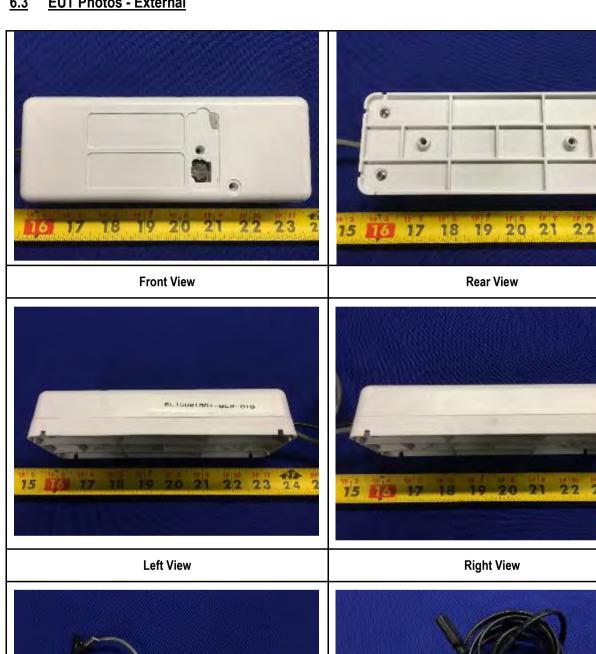
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6.3 **EUT Photos - External**





EUT with Cable View



Power Adapter View

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6.4 EUT Photos - Internal



16 17 18 19 20 21 22 23

Top view with EUT Opened

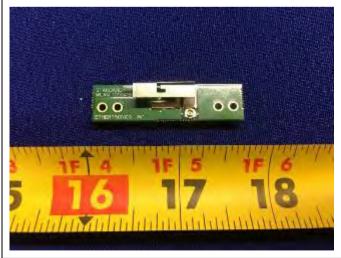
Antenna Inside EUT View





EUT- Board Top View

EUT-Board Bottom View





Antenna - Top View

Antenna - Bottom View



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6.5 EUT Test Setup Photos

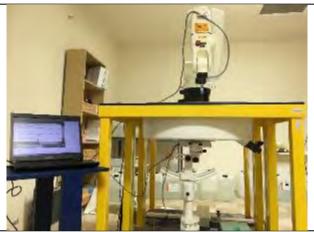


Front Side with 5mm Distance

Left Side with 0mm distance







SAR Test System



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7 Supporting Equipment/Software and cabling Description

7.1 Supporting Equipment

Item	Supporting Equipment Description	Model	Serial Number	Manufacturer	Note
1	Laptop	Latitude E6500	N/a	Dell	-

7.2 Test Software Description

Test Item	Software	Description
SAR Testing	Windows Mobile Device Center	Set the EUT to Connect with Laptop
SAR Testing	ActiveSync Remote Display	Set the EUT to transmit continuously in different test mode

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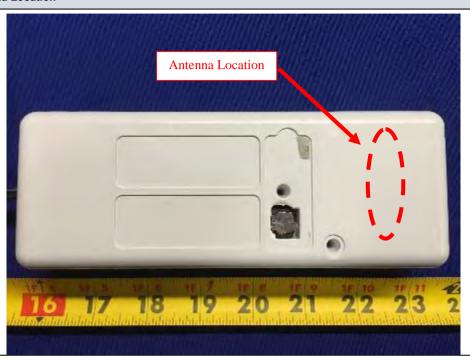


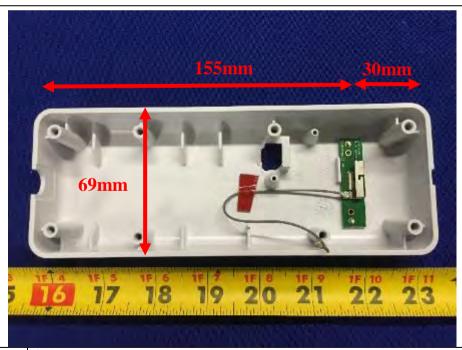


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8 Setup and Test Configuration Consideration

Radio & Antenna Location





Remark:

SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode SAR. So Top side and bottom side are not required.



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EUT Test Position for SAR





Test Position-1 (Right Side with 0mm distance)

Test Position-2 (Left Side with 0mm distance)



Test Position-3 (Front Side with 5mm distance)

Note: Test Position 1 and 2 were tested at 0mm distance to consider worse case as a normal usage.



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9 **Test Summary**

Test Item		Test standard		Test Method/Procedure	Pass	/ Fail
SAR	FCC	OET Bulletin 65 Supplement C	IEEE	Std 1528-2013, FCC KDBs	□ Pass	□ N/A





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10 SAR Introduction

Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field.

The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (p).

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dV} \right)$$

SAR is expressed in units of watts per kilogram (W/kg). SAR can be related to the electric field at a point by

$$SAR = \frac{\sigma \mid E \mid^2}{\rho}$$

Where:

 σ = conductivity of the tissue (S/m)

 ρ = mass density of the tissue (kg/m3)

E = RMS electric field strength (V/m)



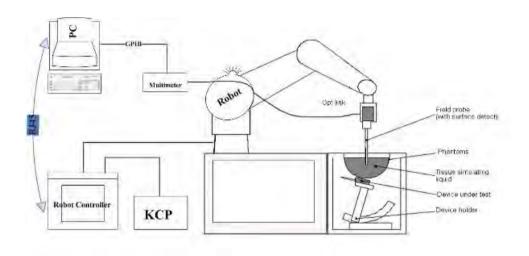
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11 SAR Measurement Setup

Dosimetric Assessment System

These measurements were performed with the automated near-field scanning system OPENSAR from SATIMO. The system is based on a high precision robot (working range: 850 mm), which positions the probes with a positional repeatability of better than \pm 0.02 mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines to the data acquisition unit.

Measurement System Diagram



The OPENSAR system for performing compliance tests consist of the following items:

- A standard high precision 6-axis robot (KUKA) with controller and software.
- KUKA Control Panel (KCP).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A computer operating Windows XP.
- OPENSAR software.
- Remote control with teaches pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM phantom enabling testing left-hand right-hand and body usage.
- The Position device for handheld EUT.
- Tissue simulating liquid mixed according to the given recipes.
- System validation dipoles to validate the proper functioning of the system.



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EPGO259 Probe

The SAR measurements were conducted with dosimetric probe (manufactured by SATIMO), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the procedure described in SAR standard with accuracy of better than $\pm 10\%$.





It is connected to the KRC box on the robot arm and provides an automatic detection of the phantom surface. The 3D file of the phantom is include in OpenSAR software. The Video Positioning System allow the system to take the automatic reference and to move the probe safely and accurately on the phantom.

Parameter	Description
Frequency Range	100 MHz to 6 GHz
Linearity	0.25 dB (100 MHz to 6 GHz)
Directivity	0.25 dB in brain tissue (rotation around probe axis)
Directivity	0.5 dB in brain tissue (rotation normal probe axis)
Dynamic	0.001W/kg to > 100W/kg
Range Linearity	0.25 dB
Surface	0.2 mm repeatability in air and liquids
Dimensions Overall length	330 mm
Tip length	16 mm
Body diameter	8 mm
Tip diameter	2.6 mm
Distance from probe tip to dipole centers	<1.5 mm

E-Field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure described in SAR standard with accuracy better than +/-10%. The spherical isotropy was evaluated with the procedure described in SAR standard and found to be better than +/-0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 0.8 GHz, and in a waveguide above 0.8 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. E-field correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue.

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SAM Phantom

The SAM Phantom SAM29 is constructed of a fiberglass shell Integrated in a wooden table. The shape of the shell is in compliance with the specification set in IEEE P1528 and CENELEC EN62209-1.

The phantom enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region.

A cover prevents the evaporation of the liquid.

Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

Shell Thickness: 0.2 mm Filling Volume: Approx. 25 liters

Dimensions (H x L x W): 810 x 1000 x 500 mm

Liquid is filled to at least 15mm from the bottom of Phantom.



Device Holder

In combination with the Generic Twin Phantom V3.0, the Mounting Device enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeatedly positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Note: A simulating human hand is not used due to the complex anatomical and geometrical structure of the hand that may produce infinite number of configurations [10]. To produce the worst-case condition. (the hand absorbs antenna output power), the hand is omitted during the tests.



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Data Evaluation

The OPENSAR software automatically executes the following procedure to calculate the field units from the microvolt readings at the probe connector. The parameters used in the valuation are stored in the configuration modules of the software:

	- Sensitivity	Norm _i
Probe Parameters	- Conversion factor	ConvFi
	- Diode compression point	Dcpi
Device Parameter	- Frequency	f
	- Crest factor	cf
Media Parameters	- Conductivity	σ
Media i arameters	- Density	ρ

These parameters must be set correctly in the software. They can either be found in the component documents or are imported into the software from the configuration files issued for the OPENSAR components.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as

$$V_i = U_i + U_i^2 \frac{d}{dxy_i}$$

Where V_i = Compensated signal of channel i ($i = x, y, z$)
 U_i = Input signal of channel i ($i = x, y, z$)
 cf = Crest factor of exciting field (DASY parameter)
 dcp_i = Diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:
$$E = \sqrt{\frac{V}{Norm.\ ConvF}}$$

H-field probes: $H_i = \sqrt{V_i} \frac{a_{ui} + a_{ui}f + a_{ui}f}{f}$

Where V_i = Compensated signal of channel i (i = x, y, z)

Norm $_i$ = Sensor sensitivity of channel i (i = x, y, z) $_{\mu}V/(V/m)/2$ for E0fleid Probes

ConvF = Sensitivity enhancement in solution a_{ij} = Sensor sensitivity factors for H-field probes

f = Carrier frequency (GHz) E_i = Electric field strength of channel i in V/m

H_i = Magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} - \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$SAR - E_{100}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

where SAR = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

 σ = conductivity in [mho/m] or [siemens/m]

 ρ = equivalent tissue density in g/cm3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid.

The power flow density is calculated assuming the excitation field as a free space field

$$P_{pec} = \frac{E_{se}^2}{3770}$$
 or $P_{pec} = H_{se}^2 \cdot 37.7$

where Ppwe = Equivalent power density of a plane wave in mW/cm2

 E_{tot} = total electric field strength in V/m H_{tot} = total magnetic field strength in A/m



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SAR Evaluation – Peak Spatial - Average

The procedure for assessing the peak spatial-average SAR value consists of the following steps

• <u>Power Reference Measurement</u>

The reference and drift jobs are useful jobs for monitoring the power drift of the device under test in the batch process.

The reference from the phantom surface. The Both jobs measure the field at a specified reference position, at a selectable distance from the phantom surface. The reference position can be either the selected section's grid reference point or a user point in this section. The reference job projects the selected point onto the phantom surface, orients the probe perpendicularly to the surface, and approaches the surface using the selected detection method.

Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a finer measurement around the hot spot. The sophisticated interpolation routines implemented in OPENSAR software can find the maximum locations even in relatively coarse grids. The scan area is defined by an editable grid. This grid is anchored at the grid reference point of the selected section in the phantom. When the area scan's property sheet is brought-up, grid was at to 15 mm by 15 mm and can be edited by a user.

Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default zoom scan measures 5 x 5 x 7 points within a cube whose base faces are centered on the maximum found in a preceding area scan job within the same procedure. If the preceding Area Scan job indicates more than one maximum, the number of Zoom Scans has to be enlarged accordingly (The default number inserted is 1).

Power Drift measurement

The drift job measures the field at the same location as the most recent reference job within the same procedure, and with the same settings. The drift measurement gives the field difference in dB from the reading conducted within the last reference measurement. Several drift measurements are possible for one reference measurement. This allows a user to monitor the power drift of the device under test within a batch process. In the properties of the Drift job, the user can specify a limit for the drift and have OPENSAR software stop the measurements if this limit is exceeded.

SAR Evaluation – Peak SAR

The procedure for spatial peak SAR evaluation has been implemented according to the IEEE1529 standard. It can be conducted for 1 g and 10 g. The OPENSAR system allows evaluations that combine measured data and robot positions, such as:

- · Maximum search
- Extrapolation
- Boundary correction
- · Peak search for averaged SAR

During a maximum search, global and local maximum searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.

Extrapolation

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation.

They are used in the Cube Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the fourth order least square polynomial method for extrapolation. For a grid using 5x5x7 measurement points with 5mm resolution amounting to 343 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1 g and 10 g cubes.

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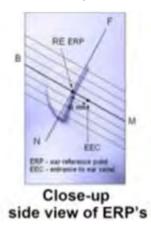
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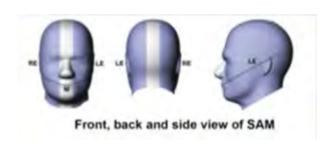
Device Reference Points

Definition of Reference Points

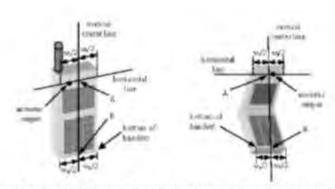
Ear Reference Point

Figure 6.2 shows the front, back and side views of the SAM Phantom. The point "M" is the reference point for the center of the mouth, "LE" is the left ear reference point (ERP), and "RE" is the right ERP. The ERPs are 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 6.1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front) is perpendicular to the reference plane and passing through the RE (or LE) is called the Reference Pivoting Line (see Figure 6.1). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning [5].





Two imaginary lines on the device need to be established: the vertical centerline and the horizontal line. The test device is placed 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" (See Fig. 6.3). The "test device reference point" is than located at the same level as the center of the ear reference point. The test device is positioned so that the "vertical centerline" is bisecting the front surface of the device at it's top and bottom edges, positioning the "ear reference point" on the outer surface of both the left and right head phantoms on the ear reference point.



Handset Vertical Center & Horizontal Line Reference Points

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Test Configuration – Positioning for Cheek / Touch

1. Position the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure below), such that the plane defined by the vertical center line and the horizontal line of the device is approximately parallel to the sagittal plane of the phantom

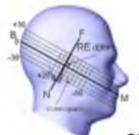






Front, Side and Top View of Cheek/Touch Position

- 2. Translate the device towards the phantom along the line passing through RE and LE until the device touches the ear.
- 3. While maintaining the device in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to MB-NF including the line MB (called the reference plane).
- 4. Rotate the device around the vertical centerline until the device (horizontal line) is symmetrical with respect to the line NF.
- 5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE and maintaining the device contact with the ear, rotate the device about the line NF until any point on the device is in contact with a phantom point below the ear (cheek). See Figure below.



Side view w/ relevant markings

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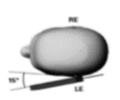
Test Configuration – Positioning for Ear / 15° Tilt

With the test device aligned in the Cheek/Touch Position":

- 1. While maintaining the orientation of the device, retracted the device parallel to the reference plane far enough to enable a rotation of the device by 15 degrees.
- 2. Rotate the device around the horizontal line by 15 degrees.
- 3. While maintaining the orientation of the device, move the device parallel to the reference plane until any part of the device touches the head. (In this position, point A is located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact is at any location other than the pinna, the angle of the device shall be reduced. The tilted position is obtained when any part of the device is in contact with the ear as well as a second part of the device is in contact with the head (see Figure below).







Test Body

Front, Side and Top View of Ear/15° Tilt Position

Position – Worn

Configurations

Body-worn operating configurations are tested with the accessories attached to the device and positioned against a flat phantom in a normal use configuration. A device with a headset output is tested with a headset connected to the device. Body dielectric parameters are used.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then, when multiple accessories that contain metallic components are supplied with the device, the device is tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (i.e. 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 is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration where a separation distance between the back of the device and the flat phantom is used. All test position spacing are documented.

Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessory(ies), including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

In all cases SAR measurements are performed to investigate the worst-case positioning. Worst-case positioning is then documented and used to perform Body SAR testing.



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12 Measurement Uncertainty

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience and specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in Table below:

Uncertainty Distribution	Normal	Rectangle	Triangular	U Shape	
Multi-plying Factor ^(a)	1/k ^(b)	1/√3	1/√6	1/√2	

- (a) Standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity
- (b) K is the coverage factor

Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type -sum-by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %.



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The COMOSAR Uncertainty Budget is show in below table:

Uncertainty Budget of COMOSAR for frequency range 300 MHz to 6 GHz

Uncertainty Component	Tolerances %	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Uncertainty 1g(%)	Uncertainty 10g(%)
Measurement System Related							
Probe Calibration	6	N	1	1	1	6	6
Axial Isotropy	3	R	√3	√ (1-Cp)	√ (1-Cp)	1.22474	1.22474
Hemispherical Isotropy	4	R	√3	√ Cp	√ Cp	1.63299	1.63299
Boundary Effect	1	R	√3	1	1	0.57735	0.57735
Linearity	5	R	√3	1	1	2.88675	2.88675
System Detection Limits	1	R	√3	1	1	0.57735	0.57735
Readout Electronics	0.5	N	1	1	1	0.5	0.5
Response Time	0.2	R	√3	1	1	0.11547	0.11547
Integration Time	2	R	√3	1	1	1.1547	1.1547
RF Ambient Conditions	3	R	√3	1	1	1.73205	1.73205
Probe Positioner Mechanical Tolerances	2	R	√3	1	1	1.1547	1.1547
Probe Positioning with respect to Phantom Shell	1	R	√3	1	1	0.57735	0.57735
Extrapolation, Interpolation and integration Algorithms for Max. SAR Evaluation.	1.5	R	√3	1	1	0.86603	0.86603
			ple Related				
Test Sample Positioning	1.5	N	1	1	1	1.5	1.5
Device Holder Uncertainty	5	N	1	1	1	5	5
Output Power Variation – SAR Drift measurement	3	R	√3	1	1	1.73205	1.73205
	Pha	ntom and Tissu	e Paramete	ers Related			
Phantom Uncertainty (Shape and thickness Tolerances)	4	R	√3	1	1	2.3094	2.394
Liquid Conductivity – deviation from target value	5	R	√3	0.64	0.43	1.84752	1.2413
Liquid Conductivity – Measurement Uncertainty	2.5	N	1	0.64	0.43	1.6	1.075
Liquid Permittivity – deviation from target value	3	R	√3	0.6	0.49	1.03923	0.8487
Liquid Permittivity – Measurement Uncertainty	2.5	N	1	0.6	0.49	1.5	1.225
		ndard Uncertainty				9.66051 %	9.52428 %
Expanded	Standard Uncert	ainty (K=2 , con	fidence 95%	(o)		18.9346 %	18.6676 %

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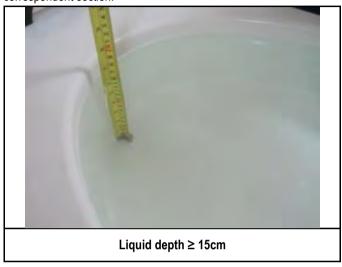


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13 Liquid Validation

Liquid Validation

The dielectric parameters were checked prior to assessment using the HP85070C dielectric probe kit. The dielectric parameters measured are reported in each correspondent section.



IEEE SCC-34/SC-2 P1528 recommended Tissue Dielectric Parameters

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in P1528

Target Frequency	Head		Во	ody	
MHz	εr	σ (S/m)	εr	σ (S/m)	
150	52.3	0.76	61.9	0.80	
300	45.3	0.87	58.2	0.92	
450	43.5	0.87	56.7	0.94	
835	41.5	0.90	53.19	0.97	
900	41.5	0.97	55.0	1.05	
915	41.5	0.98	55.0	1.06	
1450	40.5	1.20	54.0	1.30	
1610	40.3	1.29	53.8	1.40	
1800-2000	40.0	1.40	53.3	1.52	
2450	39.2	1.80	52.7	1.95	
3000	38.5	2.40	52.0	2.73	
5800	35.3	5.27	48.2	6.00	

Note: ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m³





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Liquid Validation Result:

Liquid type/Band(MHz)	Measured Date	Parameters	Measured	Target	Deviation (%)	Limit (%)
2450 Body	02/09/2016	Permittivity	51.47	52.70	-2.33	±5.00
2450 bouy	02/09/2010	Conductivity	1.94	1.95	-0.71	±5.00
5000 D. I	00/44/0046	Permittivity	48.78	49.01	-0.47	±5.00
5200 Body	02/11/2016	Conductivity	5.38	5.30	3.39	±5.00
ECOO Dedu	02/15/2016	Permittivity	48.79	48.47	0.66	±5.00
5600 Body		Conductivity	6.01	5.77	4.17	±5.00
5000 B. J	00/47/0040	Permittivity	47.96	48.20	-0.49	±5.00
5800 Body 02/17/2016		Conductivity	6.14	6.00	2.33	±5.00





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14 System Validation and System Verification

14.1 System Validation

The system validation procedure evaluates the system against reference SAR values and the performance of the probe, readout electronics, and software. The test setup utilizes a flat phantom and a reference dipole.

Thus, the system validation process does not include data scatter due to the use of anthropomorphic phantoms or uncertainty due to handset positioning variability. System validation should be performed annually, or when a new system is put into operation, or whenever modifications have been made to the system, such as a new software release, different readout electronics or different types of probes. The probe used in the test system to be validated should be properly calibrated.

System validation provides a means of system-level validation. The test system utilizes a flat phantom and a reference dipole. Thus, system validation verifies the system accuracy against its specifications but does not include the uncertainty due to the use of anthropomorphic phantoms, nor does it include the uncertainty due to handset positioning variability. This test is performed annually (e.g., after probe calibration), before measurements related to inter laboratory comparison and every time modifications have been made to the system, such as a new software release, different readout electronics, and for different types of probes.

System Validation procedure is at below,

- a) <u>SAR evaluation</u>: A complete 1 g or 10 g averaged SAR measurement is performed. The reference dipole input power is adjusted to produce a 1 g averaged SAR value falling in the range of 0.4–10 W/kg. The 1 g or 10 g averaged SAR is measured at frequencies in reference table within the range to be used in compliance tests. The results are normalized to 1 W forward input power and compared with the reference SAR values shown in reference value. The differences from the reference values should be less than the tolerance specified for the SAR measurement system by the manufacturer or designer, i.e., within the expanded uncertainty for the system validation.
- b) Extrapolation routine: Local SAR values are measured along a vertical axis directly above the reference dipole feed-point using the same test grid-point spacing as used for handset SAR evaluations. This measurement is repeated along another vertical axis with a 2 cm transverse offset from the reference dipole feed-point. SAR values at the phantom surface are extrapolated and compared with the numerical values given in reference table. The difference from the reference values should be less than the tolerance specified for the SAR measurement system by the manufacturer or designer, i.e., within the expanded uncertainty for system validation.
- c) Probe linearity: The measurement in step a) is repeated using different reference dipole input power levels. The power levels are selected for each frequency to produce 1 g averaged SAR values of approximately 10 W/kg, 2 W/kg, and 0.4 W/kg. The measured SAR values are normalized to 1 W forward input power and compared with the 1 W normalized value from step a). The difference between these values should be less than the tolerance specified for the SAR measurement system by the manufacturer or designer, i.e., within the expanded uncertainty for the linearity component.
- d) Modulation response: The measurements in step a) are repeated with pulse-modulated signals having a duty factor of 0.1 and pulse repetition rate of 10 Hz. The power is adjusted to produce a 1 g-averaged SAR of approximately 8 W/kg with the pulse modulated signal (corresponding to a peak spatial-average SAR of approximately 80 W/kg). The measured SAR values are normalized to 1 W forward input power and duty factor of 1, and compared with the 1 W normalized values from step a). The difference between these values should be less than the tolerance specified for the SAR measurement system by the manufacturer or designer, i.e., within the expanded uncertainty for system validation.
- e) System offset: The measurements in step a) are repeated with a reference dipole input forward power that produces a 1 g or 10 g averaged SAR of approximately 0.05 W/kg. The measured SAR values are normalized to 1 W forward input power and compared with the 1 W normalized values from step a). The difference between these values should be less than the tolerance specified for the SAR measurement system by the manufacturer or designer, i.e., within the expanded uncertainty for system validation.
- f) Probe axial isotropy: The center point of the probe's sensors is placed directly above the reference dipole center at a measurement distance of approximately 5–10 mm from the phantom inner surface. The probe (or reference dipole, if precise rotations are supported by the dipole fixture) is rotated around its axis ± 180° in steps no larger than 15°. The maximum and minimum SAR readings are recorded. The difference between these values should be less than the tolerance specified for the SAR measurement system by the manufacturer or designer, i.e., within the expanded uncertainty for the axial isotropy component.

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Numerical reference SAR values (W/kg) for reference dipole and flat phantom

Frequency (MHz)	1 g SAR	10 g SAR	Local SAR at surface (above feed-point)	Local SAR at surface (y = 2 cm offset from feed-point) ^a
300	3.0	2.0	4.4	2.1
450	4.9	3.3	7.2	3.2
835	9.5	6.2	4.1	4.9
900	10.8	6.9	16.4	5.4
1450	29.0	16.0	50.2	6.5
1800	38.1	19.8	69.5	6.8
1900	39.7	20.5	72.1	6.6
2000	41.1	21.1	74.6	6.5
2450	52.4	24.0	104.2	7.7
3000	63.8	25.7	140.2	9.5

System Validation Status

Frequency (MHz)	Temp (°C)	Humidity (%)	Validation Date	Probe SN	Validation Cycle	Validation Due
835	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
900	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
1800	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
1900	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
2000	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
2450	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
5200	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
5400	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
5600	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016
5800	22	58	Oct 23rd, 2015	27/14 EPGO259	1 year	Oct 23rd, 2016

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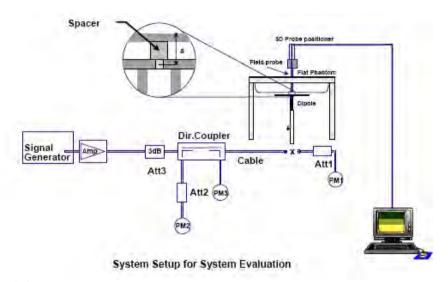


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14.2 System Verification

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



Note: Equipment description

1. Signal Generator. 2. Amplifier. 3. Directional Coupler. 4. Power Meter. 5. Calibrated Dipole.

System Verification Results

Test Date	Test C	ondition	Freq. (MHz)	Target (W/kg)	Input Power (dBm)	Measured (W/kg)	1W Normalized SAR1g (W/kg)	Delta (%)	Limit (%)
	Temp (°C)	21							
02/09/2016	Humidity (%)	48	2450	52.4	20	5.430	54.30	3.60	±10.00
	ATM (mbar)	1009							
	Temp (°C)	21	5200	159.00	20	15.886	158.86	-0.09	±10.00
02/11/2016	Humidity (%)	51							
	ATM (mbar)	1009							
	Temp (°C)	21	5400	0 166.40	20	16.776	167.76	0.82	±10.00
02/11/2016	Humidity (%)	51							
	ATM (mbar)	1009							
	Temp (°C)	21							
02/15/2016	Humidity (%)	51	5600	173.80	20	20 17.671	176.71	1.68	±10.00
	ATM (mbar)	1009							
	Temp (°C)	21					185.36		
02/17/2016	Humidity (%)	51	5800	181.20	20	18.536		2.30	±10.00
	ATM (mbar)	1009							

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15 Output Power Measurement Results

Requirement(s):

Spec	Item	Item Requirement Applica					
-	-	Time averaged conducted ou	ıtput power to be n	neasured	\boxtimes		
Test Setup		Communication Tester/ Spectrum analyzer		EUT			
Test Procedure	Measurement using an Average Power Meter (PM) Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. - Connect EUT's RF output power to power meter - Set EUT to be continuous transmission mode - Measurement the average output power using power meter and record the result Repeat above steps for different test channel and other modulation type.						
Test Date	02/09/	2016	Environmental condition	Temperature 22 Relative Humidity 55 Atmospheric Pressure 100			
Remark	-						
Result	⊠ Pa	ss 🗆 Fail					

Test Data	⊠ Yes	□ N/A





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Output Power measurement result

802.11b - 2.4GHz

Mode	Description	Measured Power (dBm)	Declared (dBm)	Tune-up Low (dBm)	Tune-up High (dBm)
11b	11b @ 2412 MHz, 1Mbps data rate	13.41	13	10.5	15
11b	11b @ 2437 MHz, 1Mbps data rate	13.65	13	10.5	15
11b	11b @ 2462 MHz, 1Mbps data rate	13.59	13	10.5	15

802.11g - 2.4GHz

Mode	Description	Measured Power (dBm)	Declared (dBm)	Tune-up Low (dBm)	Tune-up High (dBm)
11g	11g @ 2412 MHz, 6Mbps data rate	8.27	8.0	5.5	10
11g	11g @ 2437 MHz, 6Mbps data rate	11.27	11.0	8.5	13
11g	11g @ 2462 MHz, 6Mbps data rate	8.18	8.5	8.5	10.5

802.11HT20 - 2.4GHz

Mode	Description	Measured Power (dBm)	Declared (dBm)	Tune-up Low (dBm)	Tune-up High (dBm)
11n-20M	11n-20M @ 2412 MHz, MCS0 data rate	8.35	7	4.5	9
11n-20M	11n-20M @ 2437 MHz, MCS0 data rate	10.95	10	7.5	12
11n-20M	11n-20M @ 2462 MHz, MCS0 data rate	8.35	7.5	5	9.5

802.11na - 5.0GHz

Mode	Description	Measured Power (dBm)	Declared (dBm)	Tune-up Low (dBm)	Tune-up High (dBm)
11a	11n-20M @ 5180 MHz, MCS0 data rate	13.12	14	11.5	16
11a	11n-20M @ 5260 MHz, MCS0 data rate	13.72	14	11.5	16
11a	11n-20M @ 5320 MHz, MCS0 data rate	13.26	14	11.5	16
11a	11n-20M @ 5550 MHz, MCS0 data rate	13.03	14	11.5	16
11a	11n-20M @ 5580 MHz, MCS0 data rate	13.87	14	11.5	16
11a	11n-20M @ 5700 MHz, MCS0 data rate	13.24	14	11.5	16
11a	11n-20M @ 5745 MHz, MCS0 data rate	12.70	13	10.5	15
11a	11n-20M @ 5785 MHz, MCS0 data rate	12.43	13	10.5	15
11a	11n-20M @ 5825 MHz, MCS0 data rate	12.78	13	10.5	15

802.11HT20 - 5.0GHz

Mode	Description	Measured Power (dBm)	Declared (dBm)	Tune-up Low (dBm)	Tune-up High (dBm)
11n-20M	11n-20M @ 5180 MHz, MCS0 data rate	12.15	13	10.5	15
11n-20M	11n-20M @ 5260 MHz, MCS0 data rate	13.72	14	11.5	16
11n-20M	11n-20M @ 5320 MHz, MCS0 data rate	13.63	14	11.5	16
11n-20M	11n-20M @ 5500 MHz, MCS0 data rate	13.33	14	11.5	16
11n-20M	11n-20M @ 5580 MHz, MCS0 data rate	13.62	14	11.5	16
11n-20M	11n-20M @ 5700 MHz, MCS0 data rate	13.58	14	11.5	16
11n-20M	11n-20M @ 5745 MHz, MCS0 data rate	13.87	13	10.5	15
11n-20M	11n-20M @ 5785 MHz, MCS0 data rate	13.24	13	10.5	15
11n-20M	11n-20M @ 5825 MHz, MCS0 data rate	13.43	13	10.5	15

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802.11HT40 - 5.0GHz

Mode	Description	Measured Power (dBm)	Declared (dBm)	Tune-up Low (dBm)	Tune-up High (dBm)
11n-40M	11n-40M @ 5190 MHz, MCS0 data rate	9.68	9.5	7.0	11.5
11n-40M	11n-40M @ 5230 MHz, MCS0 data rate	13.77	14	11.5	16
11n-40M	11n-40M @ 5270 MHz, MCS0 data rate	13.03	14	11.5	16
11n-40M	11n-40M @ 5310 MHz, MCS0 data rate	12.03	11.5	9.00	13.5
11n-40M	11n-40M @ 5510 MHz, MCS0 data rate	13.77	14	11.5	16
11n-40M	11n-40M @ 5550 MHz, MCS0 data rate	13.03	14	11.5	16
11n-40M	11n-40M @ 5590 MHz, MCS0 data rate	13.68	14	11.5	16
11n-40M	11n-40M @ 5630 MHz, MCS0 data rate	13.77	14	11.5	16
11n-40M	11n-40M @ 5670 MHz, MCS0 data rate	13.03	14	11.5	16
11n-40M	11n-40M @ 5710 MHz, MCS0 data rate	13.77	14	11.5	16
11n-40M	11n-40M @ 5755 MHz, MCS0 data rate	13.03	13	10.5	15
11n-40M	11n-40M @ 5795 MHz, MCS0 data rate	13.77	13	10.5	15





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16 SAR Test Results

Requirement(s):

Spec	Item	Requirement			Applicable				
IEEE 4500, 0040	1	SAR limit for devices used by localized Head and Trunk is 1		c (Uncontrolled Environment)	in 🖂				
IEEE 1528: 2013	2	2 SAR limit for Controlled Use Devices (Controlled Environment) in localized Head and Trunk is 8 W/kg							
Test Method	IEC 62 44749 24822	IEEE 1528: 2013 IEC 62209-2: 2010 447498 D01 General RF Exposure Guidance v05r02 248227 SAR measurement procedures for 802.11 a/b/g v01r02 KDB 865664 SAR Measurement Requirements for 3 to 6 GHz v01r03							
Test Setup	Refer	Refer to Section 6: SAR Measurement Setup							
Test Procedure	Steps: 1. Use client test software to set EUT transmit RF power in cont-TX mode in the highest power channel 2. Measure output power through spectrum analyzer 3. Place the DUT in the positions selected 4. Set scan area, grid size and other setting on the SATIMO software 5. Make SAR measurement for the selected highest output power channel at each testing position 6. Find out the position with highest SAR result 7. Measure additional SAR for other modes at the highest SAR position SAR measurement system will proceed the following basic steps: 1. Initial power reference measurement 2. Area Scan 3. Zoom Scan 4. Power drift measurement								
Test Date	02/09/2016 - 02/25/2016 Environmental condition Temperature 22oC Relative Humidity 55% Atmospheric Pressure 1008mbar								
Remark		SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode SAR. So SAR is not required for Left, Top and Bottom sides.							
Result	⊠ Pa	ss 🗆 Fail							

rest Data	⊠ res	□ IN/A
Test Plot	⊠ Yes	□ N/A





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SAR Measurement for 2.4GHz result to determine the worst case position configuration

Freq Band	Freq (MHz)	Position	Distance	Rated Max Power (dBm)	Measured Output Power (dBm)	Raw SAR 1g(W/kg)	Crest factor	Power Drift (%)	Scaled SAR (Tune-up & Duty Cycle) (W/kg)	1g SAR Limit (W/kg)
	2412	Front	5mm	15	13.41	0.7682	1	1.17	0.959	1.6
	2437	Front	5mm	15	13.65	0.7984	1	-1.48	0.962	1.6
802.11-b	2462	Front	5mm	15	13.59	0.7582	1	-1.05	0.896	1.6
	2437	Left	0mm	15	13.65	0.0818	1	-1.01	0.026	1.6
	2437	Right	0mm	15	13.65	0.0216	1	-0.05	0.099	1.6
	2412	Front	5mm	15	6.27	0.3197	1	-0.81	0.391	1.6
	2437	Front	5mm	15	8.87	0.5462	1	-2.21	0.690	1.6
802.11-g	2462	Front	5mm	15	8.18	0.3131	1	-3.25	0.376	1.6
	2437	Left	0mm	15	8.87	0.0632	1	1.92	0.080	1.6
	2437	Right	0mm	15	8.87	0.0466	1	-0.87	0.059	1.6
	2412	Front	5mm	14.5	8.35	0.2664	1	3.88	0.335	1.6
000.44	2437	Front	5mm	14.5	10.95	0.4653	1	-0.57	0.608	1.6
802.11- HT20- 2.4G	2462	Front	5mm	14.5	8.35	0.2520	1	-0.97	0.317	1.6
2.46	2437	Left	0mm	14.5	10.95	0.0616	1	-0.10	0.076	1.6
	2437	Right	0mm	14.5	10.95	0.0465	1	3.08	0.058	1.6

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SAR Measurement for 5GHz result based on worse case position

Freq Band	Freq (MHz)	Position	Distance	Rated Max Power (dBm)	Measured Output Power (dBm)	Raw SAR 1g(W/kg)	Crest factor	Power Drift (%)	Scaled SAR (Tune-up & Duty Cycle) (W/kg)	1g SAR Limit (W/kg)
	5180	Front	5mm	16	13.12	0.5671	1	-1.31	0.69	1.6
	5200	Front	5mm	16	13.22	0.5658	1	-1.22	0.69	1.6
	5200	Left	0mm	16	13.27	0.2613	1	-3.01	0.32	1.6
	5200	Right	0mm	16	13.23	0.2232	1	4.67	0.27	1.6
	5240	Front	5mm	16	13.72	0.6198	1	-1.43	0.72	1.6
	5260	Front	5mm	16	13.72	0.5771	1	-4.22	0.67	1.6
	5300	Front	5mm	16	13.95	1.0830	1	-2.59	1.26	1.6
	5300	Left	0mm	16	13.71	0.4352	1	-4.39	0.51	1.6
	5300	Right	0mm	16	13.26	0.2568	1	1.83	0.31	1.6
000 44 -	5320	Front	5mm	16	13.26	0.6041	1	1.16	0.73	1.6
802.11a	5500	Front	5mm	16	13.26	0.5709	1	1.31	0.69	1.6
	5560	Front	5mm	16	13.24	0.6128	1	-0.41	0.74	1.6
	5560	Left	0mm	16	13.58	0.2814	1	-3.68	0.33	1.6
	5560	Right	0mm	16	13.58	0.2768	1	-2.8	0.33	1.6
	5700	Front	5mm	16	13.87	0.4806	1	-1.83	0.55	1.6
	5745	Front	5mm	15	13.87	0.4754	1	-2.32	0.55	1.6
	5785	Front	5mm	15	13.24	0.4699	1	-3.29	0.57	1.6
	5785	Left	0mm	15	13.24	0.3004	1	-4.11	0.34	1.6
	5785	Right	0mm	15	13.43	0.2609	1	-0.98	0.31	1.6
	5825	Front	5mm	15	13.43	0.5313	1	-4.61	0.64	1.6

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	5200	Frank	F 100 100	16	10.17	0.5630	4	2.04	0.74	1.6
	5200	Front	5mm	16	13.17	0.5638	1	2.94	0.74	1.6
	5200	Left	0mm	16	13.17	0.2368	1	-3.25	0.31	1.6
	5200	Right	0mm	16	13.19	0.2455	1	-1.19	0.30	1.6
	5300	Front	5mm	16	13.19	0.6482	1	-1.45	0.79	1.6
	5300	Left	0mm	16	13.62	0.2689	1	0.08	0.32	1.6
802.11-	5300	Right	0mm	16	13.62	0.2723	1	-1.25	0.32	1.6
HT20-5G	5560	Front	5mm	16	13.23	0.6267	1	0.08	0.77	1.6
	5560	Left	0mm	16	13.23	0.2940	1	-1.25	0.36	1.6
	5560	Right	0mm	16	13.77	0.3101	1	-1.19	0.36	1.6
	5785	Front	5mm	15	13.77	0.4593	1	-1.45	0.53	1.6
	5785	Left	0mm	15	13.03	0.2862	1	0.08	0.35	1.6
	5785	Right	0mm	15	13.03	0.2635	1	-1.25	0.32	1.6
	5190	Front	5mm	11.5	12.68	0.4599	1	-0.35	0.53	1.6
	5230	Front	5mm	16	13.77	1.0207	1	-3.28	1.19	1.6
	5230	Left	0mm	16	13.03	0.3260	1	-1.06	0.40	1.6
	5230	Right	0mm	16	13.03	0.2548	1	-1.8	0.31	1.6
	5270	Front	5mm	16	13.68	1.1433	1	-0.59	1.32	1.6
	5270	Left	0mm	16	13.68	0.3404	1	-1.39	0.39	1.6
802.11-	5270	Right	0mm	16	13.77	0.2645	1	0.28	0.31	1.6
HT40- 5.5G	5310	Front	5mm	13.5	13.77	0.7278	1	-3.28	0.85	1.6
	5510	Front	5mm	16	13.68	0.9953	1	-0.59	1.15	1.6
	5510	Left	0mm	16	13.68	0.3464	1	-1.39	0.40	1.6
	5510	Right	0mm	16	13.77	0.2755	1	0.28	0.32	1.6
	5550	Front	5mm	16	13.77	1.0045	1	-3.28	1.17	1.6
	5550	Left	0mm	16	13.03	0.3864	1	-1.06	0.47	1.6
	5550	Right	0mm	16	13.03	0.3082	1	-1.8	0.38	1.6

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5590	Front	5mm	16	13.68	1.0161	1	-0.59	1.17	1.6
5590	Left	0mm	16	13.68	0.3994	1	-1.39	0.46	1.6
5590	Right	0mm	16	13.77	0.3044	1	0.28	0.35	1.6
5630	Front	5mm	16	13.77	1.0578	1	-3.28	1.23	1.6
5630	Left	0mm	16	13.03	0.4519	1	-1.06	0.55	1.6
5630	Right	0mm	16	13.03	0.3056	1	-1.8	0.38	1.6
5670	Front	5mm	16	13.68	0.9498	1	-0.59	1.10	1.6
5670	Left	0mm	16	13.68	0.4576	1	-1.39	0.53	1.6
5670	Right	0mm	16	13.77	0.1872	1	0.28	0.22	1.6
5755	Front	5mm	15	13.77	0.7674	1	-3.28	0.89	1.6
5755	Left	0mm	15	13.03	0.4008	1	-1.06	0.49	1.6
5755	Right	0mm	15	13.03	0.2513	1	-1.8	0.31	1.6
5795	Front	5mm	15	13.68	0.7169	1	-0.59	0.83	1.6
5795	Left	0mm	15	13.68	0.3799	1	-1.39	0.44	1.6
5795	Right	0mm	15	13.77	0.2923	1	0.28	0.34	1.6

Note: Front position (Top side touch) was used as 5mm to consider worse position as normal usage.

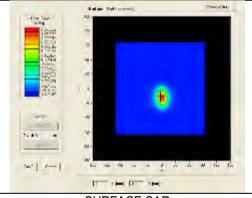


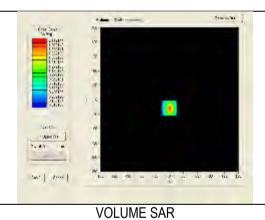
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17 System Performance Plots

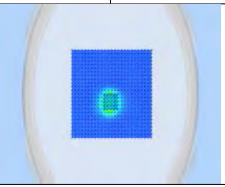
Test specification:	System Verification			
Environ Conditions:	Temp(oC):	23		
	Humidity (%):	58		
	Atmospheric(mPa): 1009		Result:	Pass
Mains Power:	N/A		Resuit.	F 455
Test Date:	02/09/2016			
Tested by:	Arthur Tie			
Remarks:	System Validation, dipole, 0	CW signal, duty cycle =	<u>-1</u>	_

Frequency (MHz)	2450.000000
Relative permittivity (real part)	51.48
Conductivity (S/m)	1.94
Transmission Duty Factor	1.00
Probe SN	2715_EPGO259
Conversion Factor (dB)	2.7
Area Scan Resolution	8 mm
Zoom Scan Resolution	dx=4mm, dy=4mm, dz=2mm
Zoom Scan Size	24x24x24 mm
Measurement Drifts (%)	2.84
Highest Extrapolated SAR (W/Kg)	3.242
SAR 1g (W/Kg)	5.43
Peak SAR Location	0mm(x),-18mm(y),4mm(z)





SURFACE SAR



3D View

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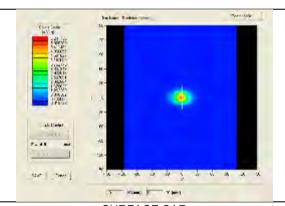


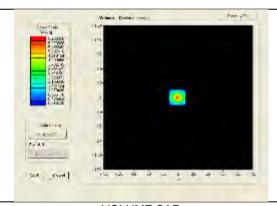


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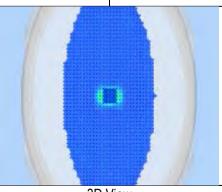
Test specification:	System Validation			
Environ Conditions:	Temp(oC):	23		
	Humidity (%):	58		
	Atmospheric(mPa):	1009	Result:	Pass
Mains Power:	N/A		Result.	Pass
Test Date:	02/11/2016			
Tested by:	Arthur Tie			
Remarks:	System Validation, dipole, CW signal, duty cycle =1			

	_	
Frequency (MHz)	5200.000000	
Relative permittivity (real part)	48.89	
Conductivity (S/m)	5.48	
Transmission Duty Factor	1.00	
Probe SN	2715_EPGO259	
Conversion Factor (dB)	2.39	
Area Scan Resolution	4 mm	
Zoom Scan Resolution	dx=4mm, dy=4mm, dz=2mm	
Zoom Scan Size	24x24x24 mm	
Measurement Drifts (%)	3.74	
Highest Extrapolated SAR (W/Kg)	9.41	
SAR 1g (W/Kg)	15.78	
Peak SAR Location	-2mm(x),0mm(y),4mm(z)	





VOLUME SAR



3D View

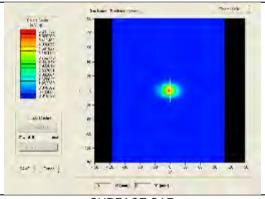


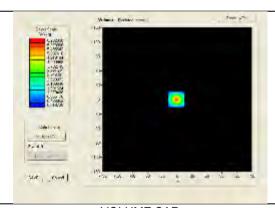


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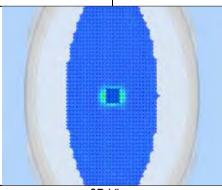
Test specification:	System Validation				
Environ Conditions:	Temp(oC):	23			
	Humidity (%):	58			
	Atmospheric(mPa):	neric(mPa): 1009		Door	
Mains Power:	N/A		Result:	Pass	
Test Date:	02/11/2016				
Tested by:	Arthur Tie				
Remarks:	System Validation, dipole, CW signal, duty cycle =1				

Frequency (MHz)	5400.000000	
Relative permittivity (real part)	48.65	
Conductivity (S/m)	5.58	
Transmission Duty Factor	1.00	
Probe SN	2715_EPGO259	
Conversion Factor (dB)	2.54	
Area Scan Resolution	4 mm	
Zoom Scan Resolution	dx=4mm, dy=4mm, dz=2mm	
Zoom Scan Size	24x24x24 mm	
Measurement Drifts (%)	1.74	
Highest Extrapolated SAR (W/Kg)	19.23	
SAR 1g (W/Kg)	16.62	
Peak SAR Location	-2mm(x),0mm(y),4mm(z)	
-		





VOLUME SAR



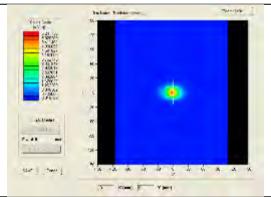
3D View

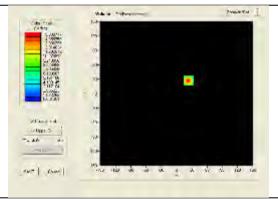


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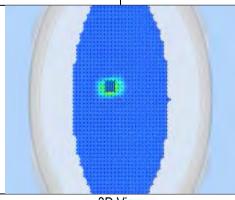
Test specification:	System Validation			
Environ Conditions:	Temp(oC):	23		
	Humidity (%):	58	Desult	
	Atmospheric(mPa):	1009		Dage
Mains Power:	N/A		Result:	Pass
Test Date:	02/11/2016			
Tested by:	Arthur Tie			
Remarks:	System Validation, dipole, 0	CW signal, duty cycle =1		

Frequency (MHz)	5600.000000	
Relative permittivity (real part)	48.59	
Conductivity (S/m)	6.01	
Transmission Duty Factor	1.00	
Probe SN	2715_EPGO259	
Conversion Factor (dB)	2.71	
Area Scan Resolution	4 mm	
Zoom Scan Resolution	dx=4mm, dy=4mm, dz=2mm	
Zoom Scan Size	24x24x24 mm	
Measurement Drifts (%)	-4.09	
Highest Extrapolated SAR (W/Kg)	28.621	
SAR 1g (W/Kg)	17.651	
Peak SAR Location	21mm(x),22mm(y),4mm(z)	





VOLUME SAR



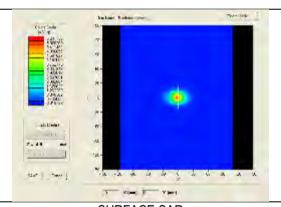
3D View

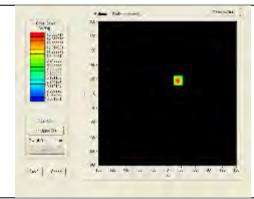


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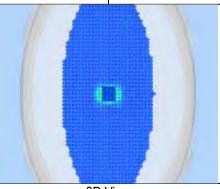
Test specification:	System Validation					
Environ Conditions:	Temp(oC):	Temp(oC): 23				
	Humidity (%):	58				
	Atmospheric(mPa):	1009	Deculti	D		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/11/2016					
Tested by:	Arthur Tie					
Remarks:	System Validation, dipole, CW signal, duty cycle =1					

Frequency (MHz)	5800.000000
Relative permittivity (real part)	48.00
Conductivity (S/m)	6.24
Transmission Duty Factor	1.00
Probe SN	2715_EPGO259
Conversion Factor (dB)	2.65
Area Scan Resolution	4 mm
Zoom Scan Resolution	dx=4mm, dy=4mm, dz=2mm
Zoom Scan Size	24x24x24 mm
Measurement Drifts (%)	2.93
Highest Extrapolated SAR (W/Kg)	33.182
SAR 1g (W/Kg)	18.52
Peak SAR Location	21mm(x),22mm(y),4mm(z)





VOLUME SAR



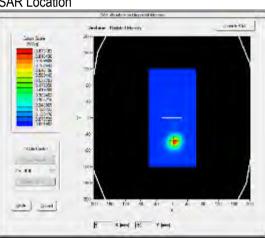
3D View

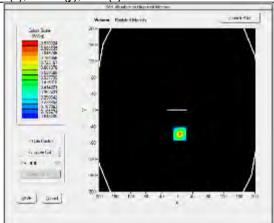


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18 SAR Test Plots

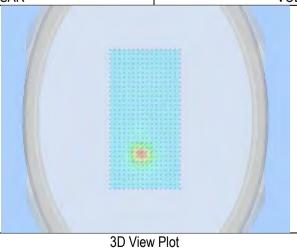
Test specification: Plane_Body_Low_802.11b_			Front_5mm				
Environ Conditions:	Temp(oC): 21.4 Humidity(%): 45 Atmospheric(mPa): 121	0.4					
Mains Power:	N/A	0.4		Result:	Pass		
Test Date:	02/09/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)	·	2412	2.000000 (Cha	nnel 1)			
Relative permittivity (real pa	art)	52.04	52.04				
Conductivity (S/m)		1.85	1.85				
Transmission Duty Factor		1.0					
Probe SN		2715	2715_EPGO259				
Conversion Factor (dB)		2.7					
Area Scan Resolution		8 mn	n				
Zoom Scan Resolution		dx=4	dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x2	24x24x24 mm				
Measurement Drifts (%)		4.10	4.10				
Highest Extrapolated SAR (W/Kg)		1.53	1.5394				
SAR 1g (W/Kg)		0.86	0.8682				
Peak SAR Location		8mm	8mm(x),-32mm(y),4mm(z)				
See about the participated informer		T C	SA disultan on they and between				





SURFACE SAR

VOLUME SAR



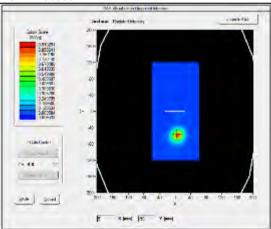
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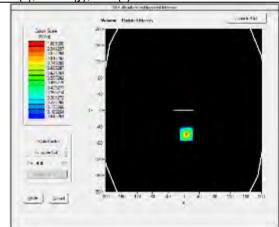




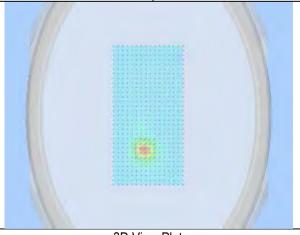
Test report No. FCC/IC_SAR_SL15081301-SLX-018 Page 45 of 159

Test specification:	Plane_Body_Middle_80	2.11b_243	37_Front_5mr	n		
	Temp(oC): 21.4	Temp(oC): 21.4			Desc	
Environ Conditions:	Humidity(%): 45	Humidity(%): 45				
	Atmospheric(mPa): 121	Atmospheric(mPa): 1210.4		Dogulto		
Mains Power:	N/A	1 \ /		Result:	Pass	
Test Date:	02/09/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		2437.000000 (Channel 6)				
Relative permittivity (real pa	art)	51.97				
Conductivity (S/m)		1.85				
Transmission Duty Factor		1.0				
Probe SN		2715_E	PGO259			
Conversion Factor (dB)		2.7				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		-4.30				
Highest Extrapolated SAR (W/Kg)		1.5965				
SAR 1g (W/Kg)		0.8984				
Peak SAR Location		8mm(x),-31mm(y),4mm(z)				
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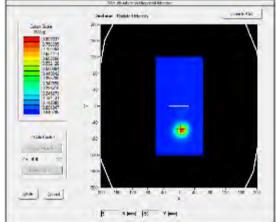
SURFACE SAR **VOLUME SAR**

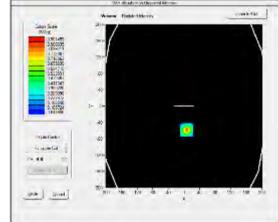




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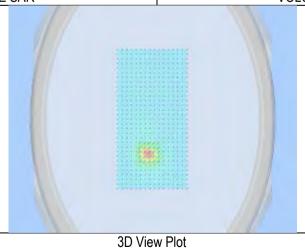
Test specification:	Plane_Body_High_80	2.11b_2462_F	ront_5mm				
	Temp(oC): 21.4						
Environ Conditions:	Humidity(%): 45						
	Atmospheric(mPa): 1	210.4		Danulti			
Mains Power:	N/A			Result:	Pass		
Test Date:	02/09/2016						
Tested by:	Arthur Tie						
Remarks:		1		•	-		
Frequency (MHz)	<u>.</u>	2462.000	000 (Chan	nel 11)			
Relative permittivity (real pa	art)	51.67					
Conductivity (S/m)	,	1.89	1.89				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715_EP	GO259				
Conversion Factor (dB)		2.7					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm,	dy=4mm,	dz=2mm			
Zoom Scan Size		24x24x24	24x24x24 mm				
Measurement Drifts (%)		2.91					
Highest Extrapolated SAR ((W/Kg)	1.5378					
SAR 1g (W/Kg)		0.8582	0.8582				
Peak SAR Location		11mm(x)	,-31mm(y),	4mm(z)			
1	to religional idente.			SAA allowance they will be to may	comb fail		
Salar Salar Word	killion and a	1 3	ion Scare 2	Wisne Belde Herory			
0.000.0000 0.000.0000 0.000.0000			0.901489 0.900000	/			





SURFACE SAR

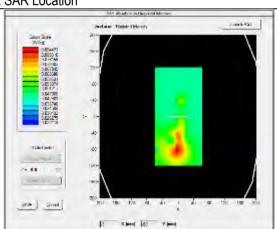
VOLUME SAR

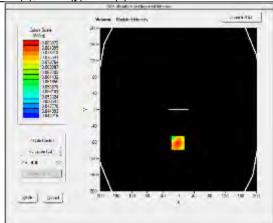




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Test specification:	.11b_243	7_Left_0mm					
	Temp(oC): 21.4	Temp(oC): 21.4					
Environ Conditions:	Humidity(%): 45	Humidity(%): 45		Result:			
	Atmospheric(mPa): 1210.	Atmospheric(mPa): 1210.4			Pass		
Mains Power:	N/A			i Nesuit.	Fass		
Test Date:	02/09/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		2437	7.000000 (Chann	el 6)			
Relative permittivity (real pa	rt)	51.97					
Conductivity (S/m)		1.85					
Transmission Duty Factor		1.0					
Probe SN		2715	2715_EPGO259				
Conversion Factor (dB)		2.7					
Area Scan Resolution		8 mn	n				
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		-2.86					
Highest Extrapolated SAR (W/Kg)		0.1064					
SAR 1g (W/Kg)		0.0818					
Peak SAR Location		-9mm(x),17mm(y),4mm(z)					
See Absolute on Department Internet Section 1 Problem (National Actions)		F	*	Str. deader orthogen litteree	Jumph 450		





SURFACE SAR

VOLUME SAR



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Test specification:	Plane_Body_Middle	802.11b 2437 Rio	ght Omm				
p	Temp(oC): 21.4		J == ····				
Environ Conditions:	Humidity(%): 45						
	Atmospheric(mPa):	1210.4			_		
Mains Power:	N/A	1210.1		Result:	Pass		
Test Date:	02/09/2016						
	Arthur Tie						
Tested by:	Arthur He						
Remarks:		0407.000	200 (0)	2)			
Frequency (MHz)			000 (Channel 6	o)			
Relative permittivity (real par	i)	51.97					
Conductivity (S/m)		1.85					
Transmission Duty Factor		1.0					
Probe SN		2715_EP0	GO259				
Conversion Factor (dB)		2.7					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm,	dy=4mm, dz=2	2mm			
Zoom Scan Size		24x24x24	mm				
Measurement Drifts (%)		0.00					
Highest Extrapolated SAR (V	V/Kg)	0.0216					
SAR 1g (W/Kg)	3 /	0.0216					
Peak SAR Location			-10mm(x),17mm(y),4mm(z)				
350 350	the de do 1 de the term on	700	1000mm		ত জা কে সা		
	ACE SAR		1//0	LUME SAR			
	3	D View Plot	1				
		D AICM I IOI					



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Test specification:	Plane_Body_Low_802.11g_	2412	Front 5mm		
. cc. opcomoudom	Temp(oC): 21.4	·· <u>-</u> _			
Environ Conditions:	Humidity(%): 45				
	Atmospheric(mPa): 1210.4				_
Mains Power:	N/A			Result:	Pass
Test Date:	02/09/2016				
Tested by:	Arthur Tie				
Remarks:	Altitul He				
Frequency (MHz)		2/12	.000000 (Channel	1)	
Relative permittivity (real part)		52.04		1)	
Conductivity (S/m)		1.85	T		
Transmission Duty Factor		1.00			
Probe SN			EPGO259		
		2.7	_EFGO259		
Conversion Factor (dB)					
Area Scan Resolution		8 mm		0	
Zoom Scan Resolution			mm, dy=4mm, dz=	ZIIIM	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)	1	-1.66			
Highest Extrapolated SAR (W/Kg)	0.544			
SAR 1g (W/Kg)		0.319		()	
Peak SAR Location		-9mn	n(x),18mm(y),4mm	(Z)	
	41 1 A 1 10 131 10 311		227 85 227 248 227 247 247 247 247 247 247 247 247 247	in to the second	- Sin 1 to 201
CUDEACE			\/OLL	IME CAD	
SURFACE	SAK		VOL	JME SAR	
	3D View Plo	ot	A STATE OF THE STA		



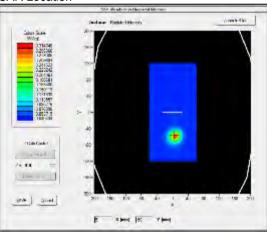
Test report No. FCC/IC_SAR_SL15081301-SLX-018 50 of 159 Page

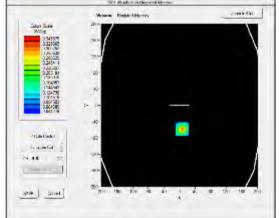
Test specification:	Plane_Body_Middle_802	2.11g_243	7_Front_5mm	 	
	Temp(oC): 21.4				
Environ Conditions:	Humidity(%): 45				
	Atmospheric(mPa): 1210	0.4		Result:	Pass
Mains Power:	N/A			Result.	F455
Test Date:	02/09/2016				
Tested by:	Arthur Tie				
Remarks:					
Frequency (MHz)		2437	.000000 (Chann	el 6)	
Relative permittivity (real part)		51.97	7		
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.0			
Probe SN			_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mn	າ		
Zoom Scan Resolution		dx=4	mm, dy=4mm, d	z=2mm	
Zoom Scan Size		24x2	4x24 mm		
Measurement Drifts (%)	surement Drifts (%)		}		
Highest Extrapolated SAR (W/K	(g)	0.959	92		
SAR 1g (W/Kg)		0.546	62		
Peak SAR Location		22mr	m(x),23mm(y),4n	nm(z)	
Color Scale	4 4 1 4 4 15 11 15 3/11		Sector States	Tredst-titlereis	# 151 18 311
F steet					
SLIBEAC	URFACE SAR VOLUME SAR				



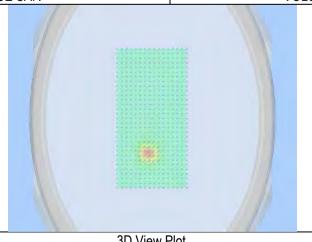
Test report No. FCC/IC_SAR_SL15081301-SLX-018 Page 51 of 159

Test specification:	Plane_Body_High_802.1	1g_2462_I	Front_5mm			
	Temp(oC): 21.4	Temp(oC): 21.4				
Environ Conditions:	Humidity(%): 45					
	Atmospheric(mPa): 1210	.4		Result:	Pass	
Mains Power:	N/A			Result.	Fa55	
Test Date:	02/10/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)	·	2462.	000000 (Channe	el 11)		
Relative permittivity (real part)		51.67				
Conductivity (S/m)		1.89	1.89			
Transmission Duty Factor		1.0	1.0			
Probe SN		2715_	_EPGO259			
Conversion Factor (dB)		2.7				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=4n	nm, dy=4mm, dz	z=2mm		
Zoom Scan Size		24x24	lx24 mm			
Measurement Drifts (%)		-4.84				
Highest Extrapolated SAR (W/	(Kg)	0.532	4			
SAR 1g (W/Kg)		0.313	1			
Peak SAR Location		-9mm(x),7mm(y),4mm(z)				





SURFACE SAR **VOLUME SAR**





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Test specification:	Plane_Body_Middle_802	2 11a 243	37 Left Omm		
1 oot opcomoduori.	Temp(oC): 20.7	y	77		
Environ Conditions:	Humidity(%): 43.9				
LITATION CONCINUINS.	Atmospheric(mPa): 1012	2.3		-	
Mains Power:	N/A	0		Result:	Pass
Test Date:	02/10/2016				
	Arthur Tie			_	
Tested by:	Arthur rie				
Remarks:		0427	7 000000 (Ob assess	1.0\	
Frequency (MHz)			7.000000 (Channe	10)	
Relative permittivity (real part)		51.9			
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.0			
Probe SN			5_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mr			
Zoom Scan Resolution			lmm, dy=4mm, dz	=2mm	
Zoom Scan Size			24x24 mm		
Measurement Drifts (%)		0.90			
Highest Extrapolated SAR (W/K	(g)	0.08			
SAR 1g (W/Kg)		0.06			
Peak SAR Location		10m	m(x),-32mm(y),4m	nm(z)	
			1000 00 00 00 00 00 00 00 00 00 00 00 00	the this do do 1 do	ক জো কে জন
SURFAC			\/	OLUME SAR	
	3D V	iew Plot			



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Toct enocification:	Plane_Body_Middle_802	2 110 2/3	7 Dight Omm		
Test specification:	Temp(oC): 20.7	z.11 <u>y_</u> 243	7_Right_omin		1
Environ Conditions	,				
Environ Conditions:	Humidity(%): 43.9	2 2			
M. D	Atmospheric(mPa): 1012	2.3		Result:	Pass
Mains Power:	N/A				
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:					
Frequency (MHz)		2437	'.000000 (Channel	6)	
Relative permittivity (real part)		51.9	7	,	
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.0			
Probe SN			5_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mr	n		
				-?mm	
Zoom Scan Resolution			mm, dy=4mm, dz=	-2111111	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)	.	5.07	40		
Highest Extrapolated SAR (W/Kg		0.07			
SAR 1g (W/Kg)		0.04			
Peak SAR Location		8mm	ı(x),-31mm(y),4mm	1(Z)	
100 100	A - 1 A - 2 - 2n - 10 - 2n		2005 200 000 000 000 000 000 000 000 000		- 150 - 150 - 250
			1/0	LUME CAR	
SURFACE	SAK		VO	LUME SAR	
	3D \/ia	ew Plot			



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Test specification:	Plane_Body_Low_HT20_	2/12 Er	ont Emm		
Test specification:		<u> </u>			1
Faring Conditions	Temp(oC): 20.7				
Environ Conditions:	Humidity(%): 43.9	2			
W: B	Atmospheric(mPa): 1012.	3		Result:	Pass
Mains Power:	N/A				
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:					
Frequency (MHz)		2412	2.000000 (Channel	1)	
Relative permittivity (real part)		52.0	4	,	
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.0			
Probe SN			5_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mr	n		
				2mm	
Zoom Scan Resolution			mm, dy=4mm, dz=	ZIIIII	
Zoom Scan Size			24x24 mm		
Measurement Drifts (%)	`	-2.06			
Highest Extrapolated SAR (W/Kg)	0.44			
SAR 1g (W/Kg)		0.26			
Peak SAR Location		11m	m(x),-31mm(y),4mı	n(z)	
20 1000 00 00 00 00 00 00 00 00 00 00 00	4 1 2 1 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1		231164 24164 1		5 15n 1tg 5n
SURFACE			1/0	LUME SAR	
	3D Viev	v Plot			



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Test enecification:	Dlana Dady Middla UTOO	2/27	Erant Emm		
Test specification:	Plane_Body_Middle_HT20 Temp(oC): 20.7	_2431_			
Facilities Conditions	,				
Environ Conditions:	Humidity(%): 43.9				
Maine Danier	Atmospheric(mPa): 1012.3			Result:	Pass
Mains Power:	N/A				
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:		1040-		0)	
Frequency (MHz)			<u>'.000000 (Channel</u>	6)	
Relative permittivity (real part)		51.9	<u> </u>		
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.0			
Probe SN			5_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mr			
Zoom Scan Resolution			mm, dy=4mm, dz=	=2mm	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)		0.31			
Highest Extrapolated SAR (W/Kg		0.80			
SAR 1g (W/Kg)		0.46			
Peak SAR Location		-9mr	n(x),17mm(y),4mn	n(z)	
3.27.36			202/06 202		F 150 10F 200
			1/0	LUME CAD	-
SURFACE	: SAK		VO	LUME SAR	
	3D View	Plot			



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Test enecification:	Dlana Dady High HT20 C	0/60 E	ant Emm		
Test specification:	Plane_Body_High_HT20_2	2402_FI	Ont_Smin		1
Facility of Oscalities	Temp(oC): 20.7				
Environ Conditions:	Humidity(%): 43.9				
	Atmospheric(mPa): 1012.3			Result:	Pass
Mains Power:	N/A				
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:					
Frequency (MHz)		2462	2.000000 (Channel	11)	
Relative permittivity (real part)		51.6	7		
Conductivity (S/m)		1.89			
Transmission Duty Factor		1.0			
Probe SN		2715	5_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mr	n		
Zoom Scan Resolution			mm, dy=4mm, dz=	-2mm	
Zoom Scan Size			4x24 mm	<u></u>	
Measurement Drifts (%)		2.18	4824 111111		
, ,	۸	0.80	47		
Highest Extrapolated SAR (W/Kg))				
SAR 1g (W/Kg)		0.46		()	
Peak SAR Location		-10m	nm(x),17mm(y),4m	m(z)	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Control of		# 15th 11# 3th
			1/0		
SURFACE	SAR		VO	LUME SAR	
	3D View	Plot			



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Test specification:	Plane_Body_Middle_HT2	0 2437	Left 0mm			
1000 opoomodion.	Temp(oC): 20.7	-V_£ TO1 _				
Environ Conditions:	Humidity(%): 43.9					
Environ Conditions.	Atmospheric(mPa): 1012.	3				
Mains Power:	N/A	.0		Result:	Pass	
Test Date:	02/10/2016					
Tested by:	Arthur Tie					
Remarks:	7 it trial 110					
Frequency (MHz)		2437	.000000 (Chan	nel 6)		
Relative permittivity (real part)		51.9				
Conductivity (S/m)		1.85				
Transmission Duty Factor		1.0				
Probe SN		2715	EPGO259			
Conversion Factor (dB)		2.7	_			
Area Scan Resolution		8 mn	n			
Zoom Scan Resolution		dx=4	mm, dy=4mm,	dz=2mm		
Zoom Scan Size			4x24 mm			
Measurement Drifts (%)		4.05				
Highest Extrapolated SAR (W/Kg		0.08				
SAR 1g (W/Kg)		0.06	16			
Peak SAR Location		-10m	m(x),17mm(y),	4mm(z)		
	A 1 A 10 15 10 10 10		10 mm 10 m		1 150 100 510	
CUDEACE		VOLUME CAD				
SURFACE	SAK			VOLUME SAR		



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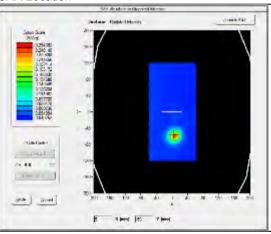
Test specification:	Plane_Body_Middle_HT20_	2437	Right Omm		
roct opcomoduom.	Temp(oC): 20.7	_ 101_	. ugiit_oiiiiii		
Environ Conditions:	Humidity(%): 43.9				
Environ Conditions.	Atmospheric(mPa): 1012.3				
Mains Power:	N/A			Result:	Pass
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:	Artiful Tie				
Frequency (MHz)		2/127	.000000 (Channel	6)	
Relative permittivity (real part)		51.9		0)	
		1.85	1		
Conductivity (S/m)		1.05			
Transmission Duty Factor			EDC0250		
Probe SN			_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mn		^	
Zoom Scan Resolution			mm, dy=4mm, dz=	zmm	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)		4.06	<u> </u>		
Highest Extrapolated SAR (W/Kg)		0.06			
SAR 1g (W/Kg)		0.040			
Peak SAR Location		-59m	m(x),-48mm(y),4m	nm(z)	
200 200 40 00 00 00 00 00 00 00 00 00 00 00 0			20000 00 00 00 00 00 00 00 00 00 00 00 0	the de de to de an	thin two orth
			VO	I LIME CAD	
SURFACE	JAK		٧٥	LUME SAR	
	3D View F	Plot			



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802.11-a 5G

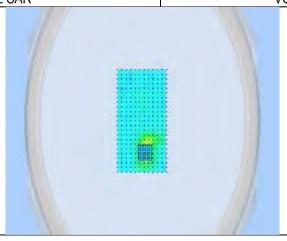
Test specification: Plane_Body_Middle_802.11a_5180_Front_5mm							
Test specification:		_		ľ	•		
	Temp(oC):		23				
Environ Conditions:	Humidity (%):	Humidity (%):					
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Nesuit.	F 455		
Test Date:	02/11/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5180.0	5180.000000 (Channel 36)				
Relative permittivity (real part	t)	46.27	46.27				
Conductivity (S/m)		5.55	5.55				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715_	2715_EPGO259				
Conversion Factor (dB)	onversion Factor (dB)						
Area Scan Resolution	rea Scan Resolution						
Zoom Scan Resolution	Zoom Scan Resolution		nm, dy=4mm,	dz=2mm			
Zoom Scan Size		24x24	x24 mm				
Measurement Drifts (%)	urement Drifts (%) -1.50		-1.50				
Highest Extrapolated SAR (V	d SAR (W/Kg)		7				
SAR 1g (W/Kg)		0.567	1				
Peak SAR Location		-11mn	n(x),16mm(y)	,4mm(z)			



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SURFACE SAR

VOLUME SAR

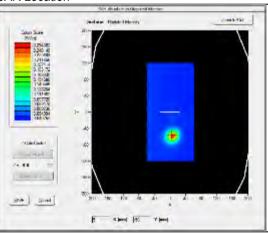


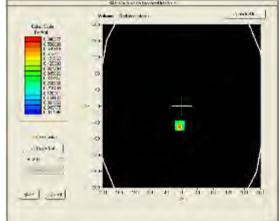


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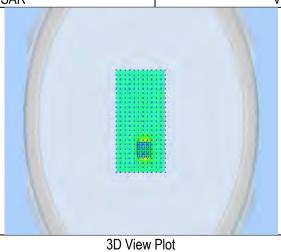
Test specification:	Plane_Body_Middle_802	Plane_Body_Middle_802.11a_5200_Front_5mm				
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Result.	F455		
Test Date:	02/11/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5200.000000 (CI	0.000000 (Channel 40)			
Relative permittivity (real pa	rt)	46.18				
Conductivity (S/m)		5.56	.56			
Transmission Duty Factor		1.0	1.0			
Probe SN		2715_EPGO259	2715_EPGO259			
Conversion Factor (dB)		2.39	2.39			
Area Scan Resolution	rea Scan Resolution					
Zoom Scan Resolution		dx=4mm, dy=4m	m, dz=2mm			
Zoom Scan Size		24x24x24 mm	24x24x24 mm			
Measurement Drifts (%)	Measurement Drifts (%) -2		-2.23			
Highest Extrapolated SAR (W/Kg)	1.2299				
SAR 1g (W/Kg)		0.5658				
Peak SAR Location		-5mm(x),-49mm(y),4mm(z)				
504 Min	adors on the point of the man		SE Sup of an Expendictor's	Amag. 1		





SURFACE SAR

VOLUME SAR





 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

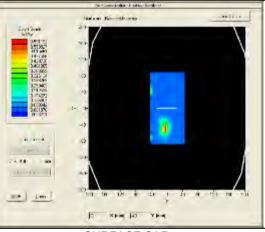
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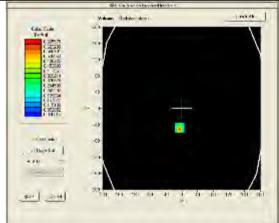
Test enecification:	Plane_Body_Middle_802.	112 520	O Left Omm			
Test specification:	Temp(oC):	110_520	23			
Environ Conditions:	Humidity (%):		58			
Environ Conditions.	Atmospheric(mPa):		1009	 		
Mains Power:	N/A		1009	Result:	Pass	
	02/11/2016					
Test Date:						
Tested by:	Arthur Tie					
Remarks:		T 5000	000000 (01			
Frequency (MHz)			.000000 (Char	inel 40)		
Relative permittivity (real part)		46.18	3			
Conductivity (S/m)		5.56				
Transmission Duty Factor		1.0				
Probe SN			_EPGO259			
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mn				
Zoom Scan Resolution			mm, dy=4mm,	dz=2mm		
Zoom Scan Size			4x24 mm			
Measurement Drifts (%)		4.71				
Highest Extrapolated SAR (W/Kg)		0.409				
SAR 1g (W/Kg)			0.2613			
Peak SAR Location		45mr	5mm(x),-48mm(y),4mm(z)			
1. 1862 1.			- 10 m sh	2 1 24 28 8 2 1 2 2	di 100 mla sali)	
SURFACE		VOLUME SAR				
	3D Viev	w Plot				



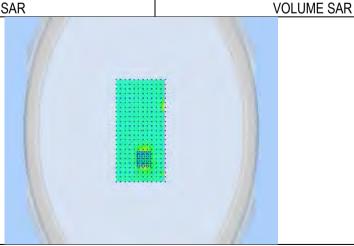
Test report No. FCC/IC_SAR_SL15081301-SLX-018 62 of 159 Page

Test specification:	Plane_Body_Middle_80	2.11a_5200_	_Right_0mm				
	Temp(oC):	2	23				
Environ Conditions:	Humidity (%):	5	58				
	Atmospheric(mPa):	1	1009	Result:	Pass		
Mains Power:	N/A			Result.	F d 5 5		
Test Date:	02/11/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5200.0	00000 (Chan	nel 40)			
Relative permittivity (real par	t)	46.18	46.18				
Conductivity (S/m)		5.56	5.56				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715_E	2715_EPGO259				
Conversion Factor (dB)		2.39	2.39				
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		-3.12					
Highest Extrapolated SAR (V	V/Kg)	0.3220					
SAR 1g (W/Kg)		0.2232					
Peak SAR Location		-5mm(x),-49mm(y),4mm(z)					
Court State Court	The Enths bedieve		Calculate of Calcu	With the control to tay partil bit day or (A days) To balan about	ma.		





SURFACE SAR





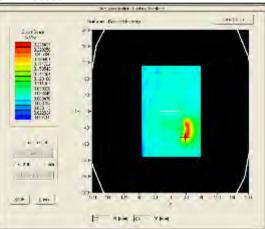
Test report No. FCC/IC_ SAR_SL15081301-SLX-018
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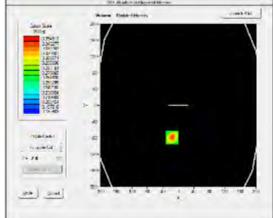
Test specification:	Plane Body Middle 8	02.11a_5240_Front_5mm		
	Temp(oC):	23		
Environ Conditions:	Humidity(%):	58		
	Atmospheric(mPa):	1009		_
Mains Power:	N/A		Result:	Pass
Test Date:	02/11/2016			
Tested by:	Arthur Tie			
Remarks:				
Frequency (MHz)		5240.000000 (Char	nnel 48)	
Relative permittivity (real part)		46.12	/	
Conductivity (S/m)		5.63		
Transmission Duty Factor		1.0		
Probe SN		2715 EPGO259		
Conversion Factor (dB)		2.39		
Area Scan Resolution		8 mm		
Zoom Scan Resolution		dx=4mm, dy=4mm,	dz=2mm	
Zoom Scan Size		24x24x24 mm		
Measurement Drifts (%)		3.29		
Highest Extrapolated SAR (W/	Kg)	1.3672		
SAR 1g (W/Kg)		0.6198		
Peak SAR Location		44mm(x),-55mm(y)	,4mm(z)	
1.15 (-0	0.05.48 (1.0	1-	
	4 - 21 - 1 - 21 - 14 - 151 - 14 - 211 142 - Yell			e on ter on
20 10 4 10 10 10 10 10 10 10 10 10 10 10 10 10		Control of	60 60 60 60	w -6n -1se -5m



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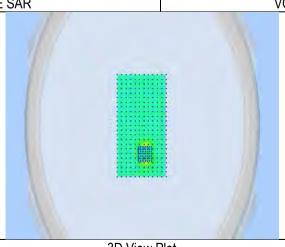
Test specification:	Plane_Body_Middle_802	2.11a_5260_Front_5mm				
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Nesuit.	F a 5 5		
Test Date:	02/12/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5260.000000 (Chan	5260.000000 (Channel 52)			
Relative permittivity (real pa	rt)	46.09				
Conductivity (S/m)		5.66				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		-4.54				
Highest Extrapolated SAR (W/Kg)		0.5771				
SAR 1g (W/Kg)		0.5771				
Peak SAR Location		39mm(x),-62mm(y),4mm(z)				
Series de	Virializa (Cardina Directiva) Selectiva (Cardina Directiva)		Str. Buden vettervind Money	constitution (





SURFACE SAR

VOLUME SAR





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Test specification:	Plane_Body_Middle_802.1	10 530	0 Front 5mm			
rest specification.		1a_550			T	
France Conditions	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
=	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A				. 466	
Test Date:	02/12/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5300	.000000 (Chani	nel 60)		
Relative permittivity (real part)		46.03	3	,		
Conductivity (S/m)		5.74				
Transmission Duty Factor		1.0				
Probe SN			_EPGO259			
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mn	n			
Zoom Scan Resolution		_		dz-2mm		
			mm, dy=4mm, o	uz-ZIIIII		
Zoom Scan Size			4x24 mm			
Measurement Drifts (%)		4.37	~~			
Highest Extrapolated SAR (W/Kg)		2.45				
SAR 1g (W/Kg)		1.1830				
Peak SAR Location		38mm(x),-63mm(y),4mm(z)				
200 () () () () () () () () () (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		COPPET CO		ái 14 7á sái	
SURFACE	The state of the s			VOLUME SAR		
	3D View	Plot	10/1			



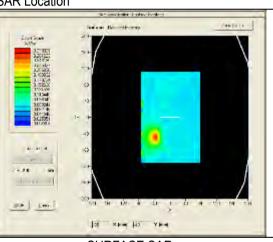
Test report No. FCC/IC_ SAR_SL15081301-SLX-018
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Test specification:	Plane_Body_Middle_802	.11a 530	0 Left 0mm		
	Temp(oC):		23		
Environ Conditions:	Humidity(%):		58	7	
	Atmospheric(mPa):		1009	†	
Mains Power:	N/A			Result:	Pass
Test Date:	02/12/2016				
Tested by:	Arthur Tie				
Remarks:	7 il tildi Tio				
Frequency (MHz)		5300	.000000 (Chann	al 60)	
Relative permittivity (real part)		46.03		01 00)	
Conductivity (S/m)		5.74	,		
Transmission Duty Factor		1.0			
Probe SN			_EPGO259		
Conversion Factor (dB)		2.39	_LF GO239		
Area Scan Resolution		8 mm	•		
				7-2mm	
Zoom Scan Resolution			mm, dy=4mm, d:	<u> </u>	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)	<u>,\</u>	3.87	-C		
Highest Extrapolated SAR (W/Kg	3)	0.275			
SAR 1g (W/Kg)		0.435		(-)	
Peak SAR Location	the locker	-5mn	n(x),-50mm(y),4n	nm(z)	- 1
E ×▶≠	The state of the s		22	1 164 - 191 - 81 - 21 - 1 - 21 - 3	di 100 visi 361
SURFACI	E SAR	VOLUME SAR			



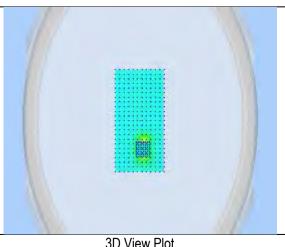
Test report No. FCC/IC_SAR_SL15081301-SLX-018 67 of 159 Page

Test specification:	Plane_Body_Middle_802	11a_530	0_Right_0mm				
	Temp(oC):	Temp(oC):					
Environ Conditions:	Humidity(%):	Humidity(%):					
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Nesuit.	F 455		
Test Date:	02/12/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5300	5300.000000 (Channel 60)				
Relative permittivity (real pa	urt)	46.03					
Conductivity (S/m)		5.74					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)	Measurement Drifts (%)		-1.07				
Highest Extrapolated SAR (W/Kg)		0.3995					
SAR 1g (W/Kg)		0.2568					
Peak SAR Location	Peak SAR Location		-36mm(x),-49mm(y),4mm(z)				
Sel constraint it when bendere Sel can Beneritherary (see by (s.				Site the part on temperal letters of Makeum Hadakon inkonis.	Amide		



SURFACE SAR

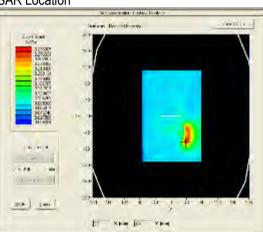
VOLUME SAR

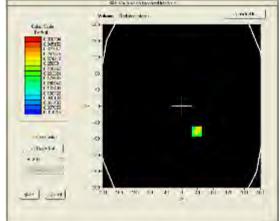




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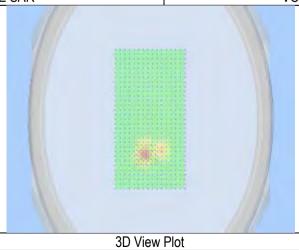
Test specification:	Plane_Body_Middle_802	.11a_5320_Front_5mm				
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Dooult	Door		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/15/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5320.000000 (Channel 64)				
Relative permittivity (real pa	art)	45.96				
Conductivity (S/m)		5.77				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.63				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)	Measurement Drifts (%)		2.28			
Highest Extrapolated SAR (W/Kg)		1.4699				
SAR 1g (W/Kg)		0.6041				
Peak SAR Location			39mm(x),-62mm(y),4mm(z)			
9449	morphise distribution for the control of the contro		St. Via year on increased laterty of			





SURFACE SAR

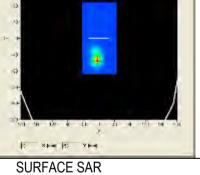
VOLUME SAR

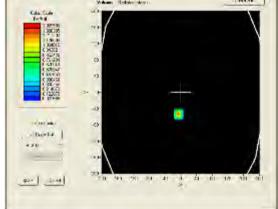




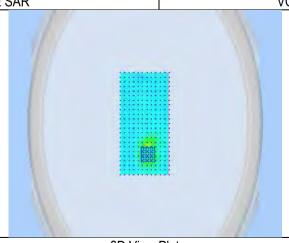
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Test specification:	Plane_Body_Middle_80	2.11a_5500_Front_5mm					
	Temp(oC):	23					
Environ Conditions:	Humidity (%):	58					
	Atmospheric(mPa):	1009	Decult	Desa			
Mains Power:	N/A		Result:	Pass			
Test Date:	02/15/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5500.000000 (Char	nnel 100)				
Relative permittivity (real pa	ırt)	45.16					
Conductivity (S/m)		6.04	6.04				
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.63					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		-0.46					
Highest Extrapolated SAR (W/Kg)	1.2337					
SAR 1g (W/Kg)		0.5709					
Peak SAR Location		-5mm(x),-54mm(y),4mm(z)					
-3.40	consideration and the second s	Cab. 7. de Period 1 20770. 1 2077	Site of the board on beginning the before in the board of	-\ma_1			





VOLUME SAR





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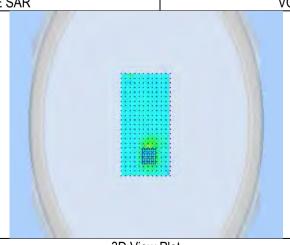
Test specification:	Plane_Body_Middle_80	2.11a 556	0 Front 5mm		
reat apcomoduom.	Temp(oC):	Z.114_000	23		
Environ Conditions:	1 \ /		58		
Environ Conditions.	Atmospheric(mPa):		1009		
Mains Power:	N/A		1009	Result:	Pass
	02/15/2016				
Test Date:					
Tested by:	Arthur Tie				
Remarks:		5500	000000 (01	-1.440\	
Frequency (MHz)			.000000 (Chann	iei 112)	
Relative permittivity (real part)		44.97	/		
Conductivity (S/m)		6.17			
Transmission Duty Factor		1.0	- ED00050		
Probe SN			_EPGO259		
Conversion Factor (dB)		2.71			
Area Scan Resolution		8 mn			
Zoom Scan Resolution			mm, dy=4mm, d	z=2mm	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)		3.09			
Highest Extrapolated SAR (W/Kg)	1.360			
SAR 1g (W/Kg)		0.612			
Peak SAR Location		38mr	m(x),-64mm(y),4	mm(z)	
100 to 10	41 1 21 14 121 14 1211 Yes		Table	11 291 291 81 41 1 21 21 3	di 10 visi vii
SURFACE	SAR		,	VOLUME SAR	



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Test specification:	Plane_Body_Middle_	802.11a_5560_Left_0mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result:	Pass			
Test Date:	02/15/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5560.000000 (Chan	nel 112)				
Relative permittivity (real part)		44.97					
Conductivity (S/m)		6.17					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.71	2.71				
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm,	dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		-1.20					
Highest Extrapolated SAR (Water SAR)	(Kg)	0.4338					
SAR 1g (W/Kg)		0.2814					
Peak SAR Location	e Broker Broker	-5mm(x),-55mm(y),4	-5mm(x),-55mm(y),4mm(z)				
Company Comp	4. 4 43 1 21 4 21 14 20 14 20	Catalogue 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Widow Hotolog Moori-	51 - 10 - 751 - 311			
SURFACE SAR			VOLUME SAR				

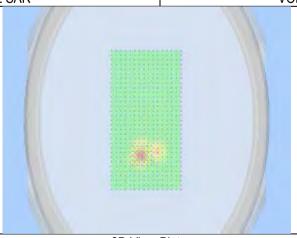




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Test specification:	Plane_Body_Middle_8	02.11a_5560_Right_0mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Pass			
Test Date:	02/15/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5560.000000 (Chan	nel 112)				
Relative permittivity (real part)		44.97					
Conductivity (S/m)		6.17					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.71	_				
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		2.37					
Highest Extrapolated SAR (W	/Kg)	0.4383					
SAR 1g (W/Kg)			0.2768				
Peak SAR Location	ter il subset livestone	-36mm(x),-53mm(y)	,4mm(z)				
35) 35,		Calc Cub From Fr		2) 1/A 731 361			
	e (S. Yee						
OLIDE	ACE SAR	1	VOLUME SAR				





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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_80	2.11a 5700 F	Front 5mm			
-	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):		009		_	
Mains Power:	N/A			Result:	Pass	
Test Date:	02/16/2016					
	Arthur Tie					
Tested by:	Attilui ile					
Remarks:		5700.00	0000 (01	1.4.40\		
Frequency (MHz)			0000 (Chan	inel 140)		
Relative permittivity (real part)		44.66				
Conductivity (S/m)		6.43				
Transmission Duty Factor		1.0				
Probe SN			PGO259			
Conversion Factor (dB)		2.71				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=4mm	n, dy=4mm,	dz=2mm		
Zoom Scan Size		24x24x2				
Measurement Drifts (%)		0.61				
Highest Extrapolated SAR (W/K	(a)	0.9971				
SAR 1g (W/Kg)	3)	0.4806				
Peak SAR Location),-55mm(y),4	1mm(z)		
10 70 10 10 10 10 10 10 10 10 10 10 10 10 10	4 - 21 - 1 - 21 - 14 - 01	**	Charles Charle	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	di 10 10 00	
		-		VOLUME SAR		
SURFAC	JE OAN			VOLUME SAR		
	3D V	iew Plot				



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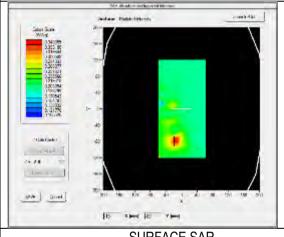
Test specification:	Plane_Body_Middle_802	11a 574	5 Front 5mm		
Test specification.	Temp(oC):	.11a_5/ 1	23		
Environ Conditions:	Humidity(%):		58		
LITATION CONGRESS.	Atmospheric(mPa):		1009	\dashv	
Mains Power:	N/A		1009	Result:	Pass
	02/16/2016				
Test Date:				_	
Tested by:	Arthur Tie				
Remarks:			. 000000 (01	-1.4.40\	
Frequency (MHz)			5.000000 (Chann	nel 149)	
Relative permittivity (real part)		44.50	J		
Conductivity (S/m)		6.43			
Transmission Duty Factor		1.0			
Probe SN			S_EPGO259		
Conversion Factor (dB)		2.65			
Area Scan Resolution		8 mn			
Zoom Scan Resolution			mm, dy=4mm, d	lz=2mm	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)		3.40			
Highest Extrapolated SAR (W/Kg		0.987			
SAR 1g (W/Kg)).4754		
Peak SAR Location		41mr	m(x),-35mm(y),4	·mm(z)	
10 10 10 10 10 10 10 10 10 10 10 10 10 1	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.0008 0.0019 0.		Si 14 3'0
SURFACE	200			VOLUME SAR	
	3D Vie	ew Plot	11.67		

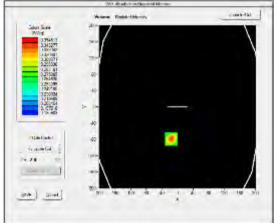


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 FCC/IC_ SAR_SL15081301-SLX-018

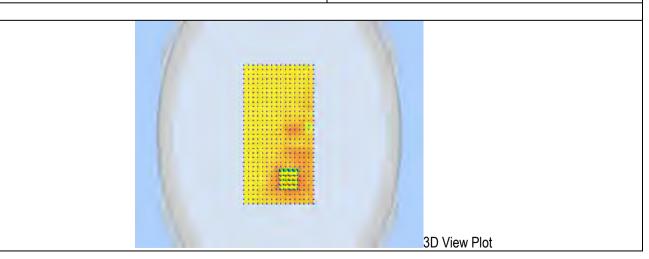
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Test specification:	Plane_Body_Middle_80	2.11a_5785_Front_5mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Pass			
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5785.000000 (Char	5785.000000 (Channel 157)				
Relative permittivity (real part)		44.36					
Conductivity (S/m)		6.43	6.43				
Transmission Duty Factor	Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.65					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		-4.98	-4.98				
Highest Extrapolated SAR (W/Kg)		0.9802	0.9802				
SAR 1g (W/Kg)		0.4699					
Peak SAR Location		41mm(x),-35mm(y),4mm(z)					
Site alteration out Reported Relevance			SA Abades on Beyond Money				





SURFACE SAR VOLUME SAR





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Test specification:	Plane_Body_Middle_8	02.11a 578	S5 Left 0mm				
	Temp(oC):		23				
Environ Conditions:			58				
	Atmospheric(mPa):		1009		_		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:	7 11 (11 11 11 11 11 11 11 11 11 11 11 11		1				
Frequency (MHz)		5785	5.000000 (Channe	el 157)			
Relative permittivity (real part)	j.	44.30		5. 10. /			
Conductivity (S/m)		6.43	<u> </u>				
Transmission Duty Factor		1.0					
Probe SN			5_EPGO259				
Conversion Factor (dB)		2.65					
Area Scan Resolution		8 mn					
Zoom Scan Resolution			mm, dy=4mm, dz	z=2mm			
Zoom Scan Size			4x24 mm				
Measurement Drifts (%)		-4.27					
Highest Extrapolated SAR (W	/Ka)	0.46					
SAR 1g (W/Kg)	- J /		0.3004				
Peak SAR Location		41mi	41mm(x),-35mm(y),4mm(z)				
		× 20	1900 100		\$1 to \$1		
SURFA	ACE SAR		VOLUME SAR				



 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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VOLUME SAR

Test specification:	Plane_Body_Middle_802	2.11a_5785 __	_Right_0mm			
	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A			Nesuit.	Pass	
Test Date:	02/16/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)			00000 (Chan	nel 157)		
Relative permittivity (real part)		44.36				
Conductivity (S/m)		6.43				
Transmission Duty Factor		1.0				
Probe SN			2715_EPGO259			
Conversion Factor (dB)		2.65				
Area Scan Resolution		8 mm				
Zoom Scan Resolution			dx=4mm, dy=4mm, dz=2mm			
Zoom Scan Size			k24 mm			
Measurement Drifts (%)		4.36				
Highest Extrapolated SAR (W/Kg)		0.3762				
SAR 1g (W/Kg)		0.2609				
Peak SAR Location		41mm((x),-35mm(y),	4mm(z)		
South Sealer State of	40 1 - In - a - et - ra - va		Calc. C. de De di Calc. V. de Calc. V. de	+	81 10 181 301	

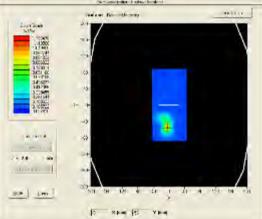
3D View Plot

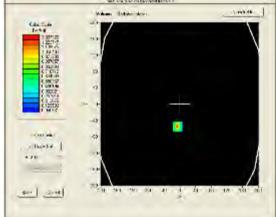
SURFACE SAR



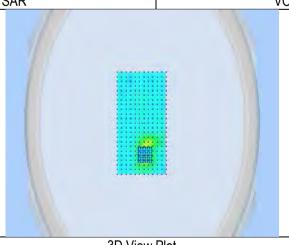
Test report No. FCC/IC_SAR_SL15081301-SLX-018 78 of 159 Page

Test specification:	Plane_Body_Middle_80	2.11a_5825	5_Front_5mm				
	Temp(oC):		23				
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Result.	Pass		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:				<u> </u>			
Frequency (MHz)		5825.	000000 (Char	nnel 165)			
Relative permittivity (real pa	art)	44.17	,	·			
Conductivity (S/m)		6.48	6.48				
Transmission Duty Factor	uty Factor		1.0				
Probe SN	·		_EPGO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm	8 mm				
Zoom Scan Resolution		dx=4r	dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24	24x24x24 mm				
Measurement Drifts (%)		4.610					
Highest Extrapolated SAR ((W/Kg)	1.154	1.1540				
SAR 1g (W/Kg)		0.531	0.5313				
Peak SAR Location		-15mr	-15mm(x),-45mm(y),4mm(z)				
F 3 4 5	eviraliza di estaç licelares contributares			Ste site and on beyond blockers When I obstact shorts	Arriva I		
Lour John 2/4			Calculate Control of the Calculate Control of	/			
112000 112000 12000 12000		7	12000 12000 11000	/			
100-100 100002 1300-1			CONFORT CONFORT				
11-73 11-73 14-73 14-73 14-74			CT (7)2 1 states 1 spring				





VOLUME SAR SURFACE SAR

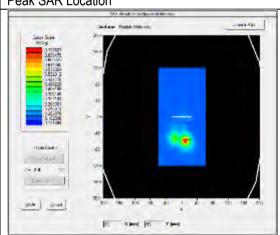




Test report No.	FCC/IC_ SAR_SL15081301-SLX-018
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802.11-HT20-5G

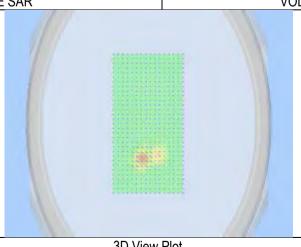
Test specification:	Plane_Body_Middle_HT20_5200_Front_5mm					
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Result:	Dees		
Mains Power:	N/A		Nesuit.	Pass		
Test Date:	02/16/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5200.000000 (Chan	5200.000000 (Channel 40)			
Relative permittivity (real part)		46.18	46.18			
Conductivity (S/m)	onductivity (S/m)		5.56			
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		3.31	3.31			
Highest Extrapolated SAR (W/Kg)		1.2261	1.2261			
SAR 1g (W/Kg)		0.5638				
Peak SAR Location		45mm(x),-47mm(y),4mm(z)				



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SURFACE SAR

VOLUME SAR





 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

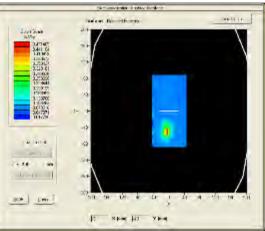
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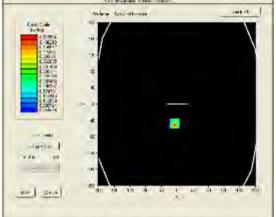
Test specification:	Plane_Body_Middle_HT20)_5200	Left_0mm				
•	Temp(oC):		23				
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):		1009	 	D		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5200	.000000 (Channe	el 40)			
Relative permittivity (real part)		46.18		/			
Conductivity (S/m)		5.56					
Transmission Duty Factor		1.0					
Probe SN		2715	_EPGO259				
Conversion Factor (dB)		2.39	_				
Area Scan Resolution		8 mn	n				
Zoom Scan Resolution		dx=4	mm, dy=4mm, dz	z=2mm			
Zoom Scan Size			4x24 mm				
Measurement Drifts (%)		-1.82					
Highest Extrapolated SAR (W/Kg)			0.3369				
SAR 1g (W/Kg)		0.236					
Peak SAR Location			n(x),-49mm(y),4n	nm(z)			
10 × mm 110			Cont. Code Total Code Code	Secondomery	St. 181 180 260		
SURFACE	SAR	VOLUME SAR					



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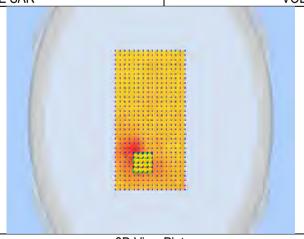
Test specification:	Plane_Body_Middle_HT	20_5200_Right_0mm					
	Temp(oC):	23					
Environ Conditions:	Humidity (%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Fass			
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5200.000000 (Chan	5200.000000 (Channel 40)				
Relative permittivity (real part)		46.18	46.18				
Conductivity (S/m)	Conductivity (S/m)		5.56				
Transmission Duty Factor		1.0	1.0				
Probe SN	Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		0.56					
Highest Extrapolated SAR (W/Kg)		0.3521					
SAR 1g (W/Kg)		0.2455	0.2455				
Peak SAR Location		-5mm(x),-49mm(y),4	-5mm(x),-49mm(y),4mm(z)				
-34	confidence of the conf		had made to the testion.	jack etc.			





SURFACE SAR

VOLUME SAR





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Test specification:	Plane_Body_Middle_HT20	5300	Front 5mm			
	Temp(oC):		23			
Environ Conditions:	Humidity (%):		58			
	Atmospheric(mPa):		1009	-	_	
Mains Power:	N/A		1000	Result:	Pass	
Test Date:	02/16/2016					
Tested by:	Arthur Tie					
Remarks:	7 Hardi 110					
Frequency (MHz)		5300	0.000000 (Channe	el 60)		
Relative permittivity (real part)		46.03		<u></u>		
Conductivity (S/m)		5.74				
Transmission Duty Factor		1.0				
Probe SN			_EPGO259			
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mn	 1			
Zoom Scan Resolution			mm, dy=4mm, d	z=2mm		
Zoom Scan Size		_	4x24 mm	·		
Measurement Drifts (%)		2.67				
Highest Extrapolated SAR (W/K	(a)	1.45	56			
SAR 1g (W/Kg)	3)		0.6482			
Peak SAR Location			39mm(x),-62mm(y),4mm(z)			
100 S	1 4 4 4 4 4 10 10 10 10 10 10 10 10 10 10 10 10 10	24	1 1 1 1 1 1 1 1 1 1		Sin tel 3n	
	and the same of th		1	/OLLIME CAD		
SURFAC	JAK	VOLUME SAR				



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Test specification:	Plane_Body_Middle_HT	20 5300 Left 0mm			
•	Temp(oC):	23			
Environ Conditions:	Humidity (%):	58			
	Atmospheric(mPa):	1009	Dogult	Doos	
Mains Power:	N/A		Result:	Pass	
Test Date:	02/16/2016				
Tested by:	Arthur Tie				
Remarks:		·			
Frequency (MHz)		5300.000000 (Chan	nel 60)		
Relative permittivity (real part)		46.03			
Conductivity (S/m)		5.74			
Transmission Duty Factor		1.0			
Probe SN		2715_EPGO259			
Conversion Factor (dB)		2.39			
Area Scan Resolution		8 mm			
Zoom Scan Resolution		dx=4mm, dy=4mm,	dz=2mm		
Zoom Scan Size		24x24x24 mm			
Measurement Drifts (%)		2.09			
Highest Extrapolated SAR (W/K	g)	0.4139			
SAR 1g (W/Kg)		0.2689			
Peak SAR Location		39mm(x),-62mm(y),4	39mm(x),-62mm(y),4mm(z)		
1.000 0 0 10 0 0 10 0 0 0 0 0 0 0 0 0 0	å di j di a di ia oni	Charles Char		51 - 12 - 13 - 340	
SURFAC	E SAR	VOLUME SAR			



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 FCC/IC_ SAR_SL15081301-SLX-018

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SURFAC			VOLUME	SAR	
SURFAC		VOLUME SAR			
	Control of the Contro	Col 2, and a col 2	78 - 78 - 78 - 78 - 78 - 78 - 78 - 78 -	N I I I	1 - 131 - 152 - 201
Peak SAR Location			-5mm(x),-50mm(y),4mm(z)		
Highest Extrapolated SAR (W/Kg SAR 1g (W/Kg)	9)		0.4286 0.2723		
Measurement Drifts (%)	~\	-3.09			
Zoom Scan Size		24x24x24 n	nm		
Zoom Scan Resolution			/=4mm, dz=2mm		
Area Scan Resolution		8 mm			
Conversion Factor (dB)		2.39	J239		
Transmission Duty Factor Probe SN		1.0 2715 EPG0	7250		
Conductivity (S/m)		5.74			
Relative permittivity (real part)		46.03			
Frequency (MHz)			0 (Channel 60)		
Remarks:		•	-	•	
Tested by:	Arthur Tie				
Test Date:	02/16/2016				
Mains Power:	N/A	1003	R	esult:	Pass
Environ Conditions.	Atmospheric(mPa):	1009			
Environ Conditions:	Humidity (%):	58			
	Temp(oC):	23			



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 FCC/IC_ SAR_SL15081301-SLX-018

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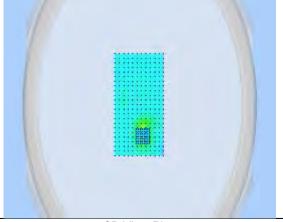
Test specification:	Plane_Body_Middle_HT20	5560	Front 5mm			
. oct opodinoation.	Temp(oC):	0000_	23			
Environ Conditions:	Humidity (%):		58			
Environ conditions.	Atmospheric(mPa):		1009			
Mains Power:	N/A		1000	Result:	Pass	
Test Date:	02/16/2016					
Tested by:	Arthur Tie					
Remarks:	Altilui IIC					
Frequency (MHz)		5560	0.000000 (Chann	ol 112\		
Relative permittivity (real part)		44.9		ei 112 <i>)</i>		
Conductivity (S/m)		6.17				
Transmission Duty Factor		1.0				
			5_EPGO259			
Probe SN						
Conversion Factor (dB)		2.71				
Area Scan Resolution		8 mr		•		
Zoom Scan Resolution			1mm, dy=4mm, d	z=2mm		
Zoom Scan Size			24x24 mm			
Measurement Drifts (%)	1	-2.38				
Highest Extrapolated SAR (W/Kg)	1.39				
SAR 1g (W/Kg)		0.6267				
Peak SAR Location		38mm(x),-64mm(y),4mm(z)				
100 100 100 100 100 100 100 100 100 100			CONTO CONT		31 13 13 30	
SURFACE	The same of the sa	VOLUME SAR				
	3D Viev	w Plot				



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 FCC/IC_ SAR_SL15081301-SLX-018

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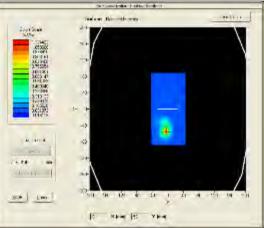
Test specification:	Plane_Body_Middle_I	HT20_5560_Left_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):		Result:	Pass		
Mains Power:	N/A		Result.	Pass		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)	·	5560.000000 (Chanr	nel 112)			
Relative permittivity (real part	t)	44.97	•			
Conductivity (S/m)		6.17				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.71				
Area Scan Resolution		8 mm	8 mm			
Zoom Scan Resolution		dx=4mm, dy=4mm, d	dx=4mm, dy=4mm, dz=2mm			
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		4.05				
Highest Extrapolated SAR (W/Kg)		0.4717				
SAR 1g (W/Kg)		0.2940				
Peak SAR Location	ridge it subtest literature	-5mm(x),-55mm(y),4	-5mm(x),-55mm(y),4mm(z)			
		Con-Code - 1975		्रेस महा वहा असे।		
	e IS Yes					
	ACE SAR	1	VOLUME SAR			

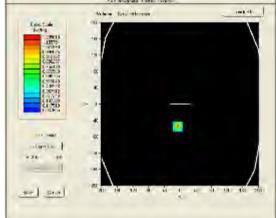




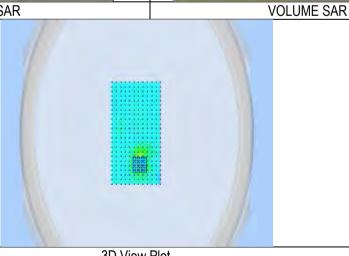
Test report No. FCC/IC_SAR_SL15081301-SLX-018 87 of 159 Page

Test specification:	Plane_Body_Middle_HT		t_0mm		T		
	Temp(oC):	23					
Environ Conditions:	Humidity (%):	58					
	Atmospheric(mPa):	100	09	Result:	Pass		
Mains Power:	N/A			Nesuit.	1 033		
Test Date:	02/17/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5560.000	5560.000000 (Channel 112)				
Relative permittivity (real pa	irt)	44.97	44.97				
Conductivity (S/m)		6.17	6.17				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715_EP	2715_EPGO259				
Conversion Factor (dB)		2.71					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		-1.95					
Highest Extrapolated SAR (W/Kg)		0.4981					
SAR 1g (W/Kg)		0.3101					
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)					
	continue i setes fontioni continues		.c.4 ≪	had broadwale factor toology. White Rook of Kroner	(mk-4)		





SURFACE SAR





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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_HT	20 5785	Front 5mm			
-	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	-		
Mains Power:	N/A			Result:	Pass	
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:	7 11 11 110					
Frequency (MHz)		5785	5.000000 (Channe	el 157)		
Relative permittivity (real part)		44.36	<u> </u>	01 101 /		
Conductivity (S/m)		6.43	<u> </u>			
Transmission Duty Factor		1.0				
Probe SN			_EPGO259			
Conversion Factor (dB)		2.65				
Area Scan Resolution		8 mn				
Zoom Scan Resolution			mm, dy=4mm, dz	z=2mm		
Zoom Scan Size			4x24 mm	<u></u>		
Measurement Drifts (%)		0.60	TA LT			
Highest Extrapolated SAR (W/k	(a)		28			
SAR 1g (W/Kg)	(<u>9)</u>	0.9528 0.4593				
Peak SAR Location		38mm(x),-64mm(y),4mm(z)				
100 mg 10	a di j di a chi sa chi		5.000 Sept. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Sin 198 Sin	
SURFAC	CE SAR	VOLUME SAR				



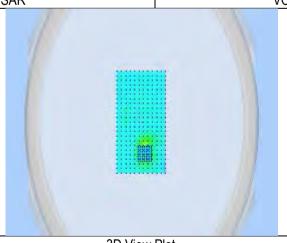
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Test specification:	Plane_Body_Middle_HT	^{20_5785_L}	_eft_0mm				
	Temp(oC):		23				
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):		1009	Desults	Dana		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/17/2016						
Tested by:	Arthur Tie						
Remarks:		•		•			
Frequency (MHz)		5785.	000000 (Chan	nel 157)			
Relative permittivity (real pa	art)	44.36		·			
Conductivity (S/m)	•	6.43	6.43				
Transmission Duty Factor		1.0					
Probe SN		2715_	2715_EPGO259				
Conversion Factor (dB)		2.65					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4r	dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24	24x24x24 mm				
Measurement Drifts (%)		-1.81					
Highest Extrapolated SAR	(W/Kg)	0.440	0.4404				
SAR 1g (W/Kg)		0.286	2				
Peak SAR Location		-5mm	-5mm(x),-55mm(y),4mm(z)				
The second secon	Record frames		Caba Cade (4)	And Considerate Leader Condition White Early Recognition K. K	int et		

VOLUME SAR SURFACE SAR

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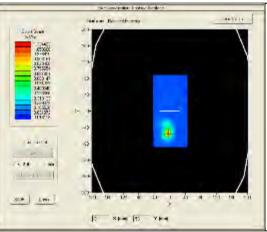
3D View Plot

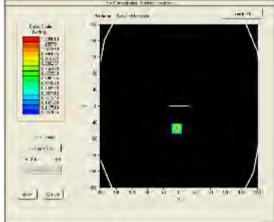
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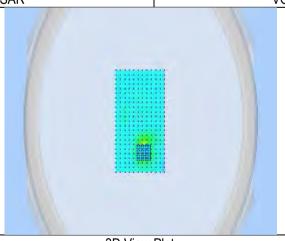
Test report No. FCC/IC_SAR_SL15081301-SLX-018 90 of 159 Page

Test specification:	Plane_Body_Middle_HT	20_5785_Right_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Nesuit.	F a 5 5		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5785.000000 (Chan	5785.000000 (Channel 157)			
Relative permittivity (real pa	art)	44.36	44.36			
Conductivity (S/m)		6.43				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.65				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		0.50				
Highest Extrapolated SAR (W/Kg)		0.3789				
SAR 1g (W/Kg)		0.2635				
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)				
100	more described for described for described for the described for t	Cales Code Foreign	Auf Verschalte Fester Frederich Walnum Beschaltermen Deutschaltermen	josh 48.		





VOLUME SAR SURFACE SAR

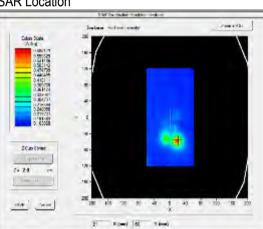


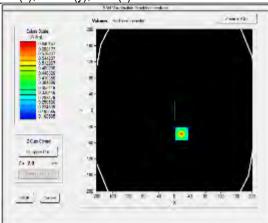


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802.11-HT40-5G

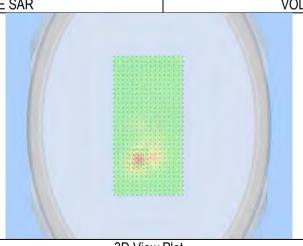
Test specification:	Plane_Body_Middle_HT40	_5190_	Front_5mm			
	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A			Result.	Fass	
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5190.000000 (Channel 38)				
Relative permittivity (real part)	Relative permittivity (real part)		46.22			
Conductivity (S/m)		5.55				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution	Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm			
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-0.35				
Highest Extrapolated SAR (W/Kg)		0.9222				
SAR 1g (W/Kg)		0.4599				
Peak SAR Location		45mm(x),-48mm(y),4mm(z)				





SURFACE SAR

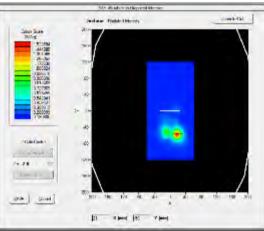
VOLUME SAR

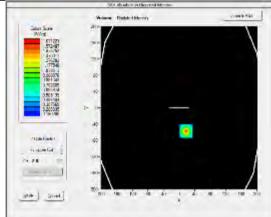




Test report No. FCC/IC_SAR_SL15081301-SLX-018 92 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5230_Front_5mm				
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Door		
Mains Power:	N/A		Result.	Pass		
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5230.000000 (Chan	5230.000000 (Channel 46)			
Relative permittivity (real pa	art)	46.13	46.13			
Conductivity (S/m)		5.61				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		2.67				
Highest Extrapolated SAR (W/Kg)		2.5868				
SAR 1g (W/Kg)		1.0207				
Peak SAR Location		45mm(x),-48mm(y),4mm(z)				
100	hadro valleyand blome		A disulate on they and blome.	- combital		
Section 10 Section 10 What	held-filterin combital	Salari Sarie 2004	Medic life on			





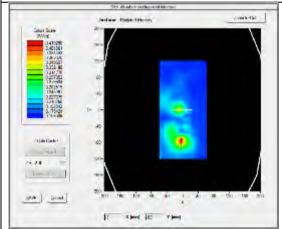
SURFACE SAR

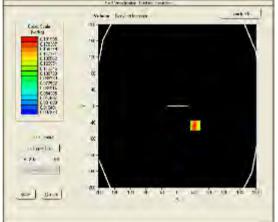
VOLUME SAR



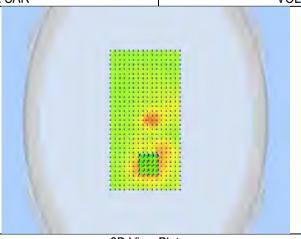
Test report No. FCC/IC_SAR_SL15081301-SLX-018 93 of 159 Page

Test specification:	Plane_Body_Middle_H7	Γ40_5230_Left_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Result.	Fa55		
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)	Frequency (MHz)		5230.000000 (Channel 46)			
Relative permittivity (real part)		46.13	46.13			
Conductivity (S/m)	Conductivity (S/m)		5.61			
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259	2715_EPGO259			
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-4.01	-4.01			
Highest Extrapolated SAR (W/Kg)		0.5688	0.5688			
SAR 1g (W/Kg)		0.3260	0.3260			
Peak SAR Location		45mm(x),-48mm(y)	45mm(x),-48mm(y),4mm(z)			
SA Absolute on Disposed Memory		had temperatural trades trades				





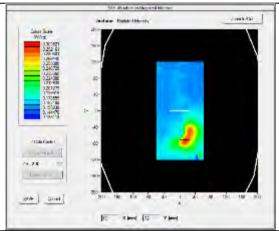
VOLUME SAR SURFACE SAR

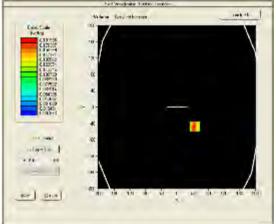




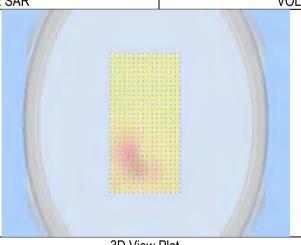
Test report No. FCC/IC_SAR_SL15081301-SLX-018 94 of 159 Page

Test specification:	Plane_Body_Middle_H	T40_5230_Right_0mm					
Environ Conditions:	Temp(oC):	23					
	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	F d 5 5			
Test Date:	02/18/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5230.000000 (Chai	5230.000000 (Channel 46)				
Relative permittivity (real part)		46.13					
Conductivity (S/m)		5.61					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-4.36					
Highest Extrapolated SAR (W/Kg)		0.4404					
SAR 1g (W/Kg)		0.2548					
Peak SAR Location		45mm(x),-48mm(y),4mm(z)					
Site all radio or at Represed informer Control of the Control of			Authorities I sales tooks	park +b.			





VOLUME SAR SURFACE SAR





Test report No. FCC/IC_ SAR_SL15081301-SLX-018
Page 95 of 159

Test specification:	Plane_Body_Middle_HT4	0 5270	Front 5mm			
-1	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009		_	
Mains Power:	N/A			Result:	Pass	
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:	7 11 11 11 110					
Frequency (MHz)	I	5270	.000000 (Chanı	nel 54)		
Relative permittivity (real part)		46.07		101 0 1)		
Conductivity (S/m)		5.68	'			
Transmission Duty Factor		1.0				
Probe SN			EPGO259			
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mn	า			
Zoom Scan Resolution			mm, dy=8mm, o	dz=5mm		
Zoom Scan Size			2x34 mm			
Measurement Drifts (%)		4.23				
Highest Extrapolated SAR (W/	(Ka)	2.643	36			
SAR 1g (W/Kg)	3/	1.1433				
Peak SAR Location			n(x),-48mm(y),4	lmm(z)		
200			Compage (Compage (Com		St - 181 - 181 - 1810	
SURFA	CE SAR			VOLUME SAR		



Test report No. FCC/IC_ SAR_SL15081301-SLX-018
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Test specification:	Plane_Body_Middle_HT40	5270	Left Omm			
. cot opocinoution.	Temp(oC):	0210_	23			
Environ Conditions:	Humidity(%):		58			
LITVITOTI COMUNICIIS.				_		
Maina Davien	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A					
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5270	0.000000 (Chani	nel 54)		
Relative permittivity (real part)		46.0	7			
Conductivity (S/m)		5.68				
Transmission Duty Factor		1.0				
Probe SN			5_EPGO259			
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mn				
				d=E		
Zoom Scan Resolution			8mm, dy=8mm, o	uz-0111111		
Zoom Scan Size			32x34 mm			
Measurement Drifts (%)		-0.19				
Highest Extrapolated SAR (W/Kg		0.60				
SAR 1g (W/Kg)		0.3404				
Peak SAR Location		45mi	m(x),-48mm(y),4	1mm(z)		
1 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1			Company of the compan		St - 18 - 18 - 180	
SURFACE				VOLUME SAR		
	3D Viev	w Plot				



 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

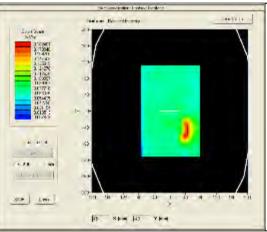
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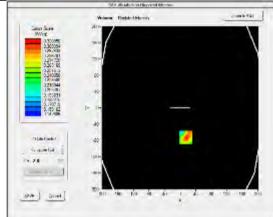
Test specification:	Plane_Body_Middle_HT	40 5270 Right 0mm				
'	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009		6		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:			l			
Frequency (MHz)		5270.000000 (Chan	nel 54)			
Relative permittivity (real part)		46.07				
Conductivity (S/m)		5.68				
Transmission Duty Factor		1.0				
Probe SN		2715 EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=8mm, dy=8mm,	dz=5mm			
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-3.33				
Highest Extrapolated SAR (W	/Kg)	0.4246				
SAR 1g (W/Kg)	G /	0.2645				
Peak SAR Location		45mm(x),-48mm(y),4	4mm(z)			
200	n d die j die de	Common of Common	•	3-13-13-10		
	ACE SAR		VOLUME SAR			



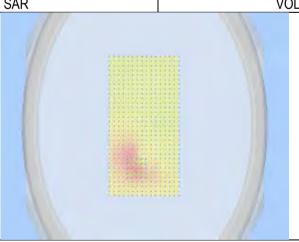
Test report No. FCC/IC_SAR_SL15081301-SLX-018 98 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5310_Front_5mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	F 455			
Test Date:	02/18/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5310.000000 (Char	nel 62)				
Relative permittivity (real par	t)	46.00	46.00				
Conductivity (S/m)		5.75					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-0.18					
Highest Extrapolated SAR (V	V/Kg)	1.6215					
SAR 1g (W/Kg)		0.7278					
Peak SAR Location		45mm(x),-48mm(y),4mm(z)					
Continue State Continue State Live State	edite il valuo fondoro editorno editorno editorno	Manus Scare (1) to 100	No. dis autor on Harpered Bitomor. Physical Bitomory	Viete descrip			





VOLUME SAR SURFACE SAR





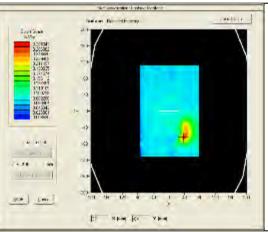
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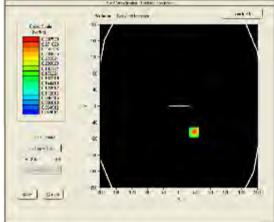
Test specification:	Plane_Body_Middle_HT4	0_5510_	Front_5mm		
·	Temp(oC):		23		
Environ Conditions:	Humidity(%):		58		
	Atmospheric(mPa):		1009	5 "	
Mains Power:	N/A			Result:	Pass
Test Date:	02/21/2016				
Tested by:	Arthur Tie			1	
Remarks:					
Frequency (MHz)	1	5510	0.000000 (Channe	l 102)	
Relative permittivity (real part)		45.12		,	
Conductivity (S/m)		6.06			
Transmission Duty Factor		1.0			
Probe SN		2715	5_EPGO259		
Conversion Factor (dB)		2.39	_		
Area Scan Resolution		8 mm	n		
Zoom Scan Resolution			8mm, dy=8mm, dz	=5mm	
Zoom Scan Size			2x34 mm		
Measurement Drifts (%)		-4.50)		
Highest Extrapolated SAR (W/Kg)	2.338	85		
SAR 1g (W/Kg)		0.995	53		
Peak SAR Location		38mr	m(x),-64mm(y),4m	nm(z)	
SURFACE			(27 G) (19 - 10 G)	OLUME SAR	da sa aka shiri



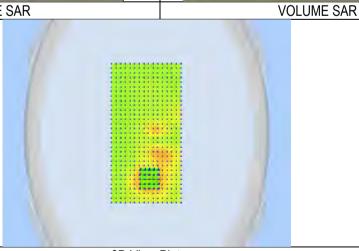
Test report No. FCC/IC_SAR_SL15081301-SLX-018 100 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5510_	Left_0mm				
	Temp(oC):	Temp(oC):					
Environ Conditions:	Humidity(%):	Humidity(%):					
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Result.	Fa55		
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5510	.000000 (Chan	nel 102)			
Relative permittivity (real pa	rt)	45.12	45.12				
Conductivity (S/m)		6.06	6.06				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-4.03					
Highest Extrapolated SAR (W/Kg)		0.6192					
SAR 1g (W/Kg)		0.3464					
Peak SAR Location		38mi	n(x),-64mm(y),	4mm(z)			
Surface the description of the latest the la			Columbia Selection	Not rendered trades trades			





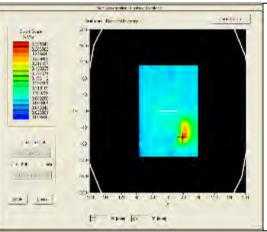
SURFACE SAR

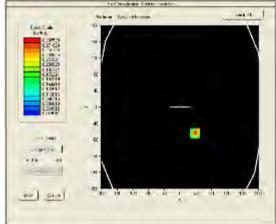




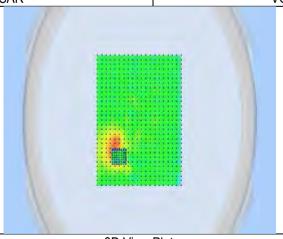
Test report No. FCC/IC_SAR_SL15081301-SLX-018 101 of 159 Page

Environ Conditions:	Temp(oC): Humidity(%):						
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Tresuit.	1 433		
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5510	.000000 (Chan	nel 102)			
Relative permittivity (real pa	art)	45.12	45.12				
Conductivity (S/m)		6.06	6.06				
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-4.16					
Highest Extrapolated SAR (W/Kg)		0.4483					
SAR 1g (W/Kg)		0.2755					
Peak SAR Location		38mm(x),-64mm(y),4mm(z)					





SURFACE SAR VOLUME SAR



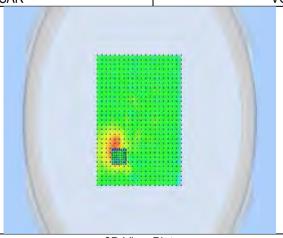


 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_HT	40_5550_Front_5mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Decult	Dana			
Mains Power:	N/A		Result:	Pass			
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:			•				
Frequency (MHz)		5550.000000 (Chan	nel 110)				
Relative permittivity (real part)		45.00	•				
Conductivity (S/m)		6.15					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm,	dz=5mm				
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		2.35					
Highest Extrapolated SAR (W/h	(g)	2.7855					
SAR 1g (W/Kg)	-	1.2045					
Peak SAR Location		38mm(x),-64mm(y),	4mm(z)				
Surface Recorded State of Part of State	Date of the later	Cost Code FAMIL COMPANI COM	x x x	100 to 100 Hill			

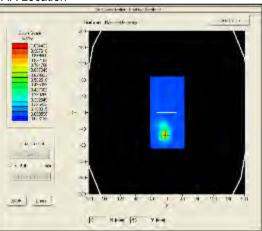
SURFACE SAR VOLUME SAR

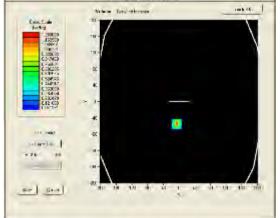




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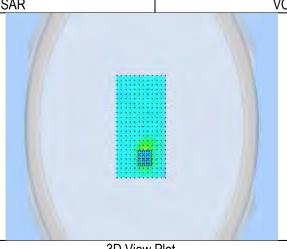
Environ Conditions:	Humidity(%):	Temp(oC): Humidity(%):					
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A	N/A		TCGuit.	1 433		
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5550	5550.000000 (Channel 110)				
Relative permittivity (real pa	art)	45.00	45.00				
Conductivity (S/m)		6.15	6.15				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715	2715_EPGO259				
Conversion Factor (dB)		2.39	2.39				
Area Scan Resolution		8 mn	8 mm				
Zoom Scan Resolution		dx=8	dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x3	32x32x34 mm				
Measurement Drifts (%)		-3.38	-3.38				
Highest Extrapolated SAR (W/Kg)		0.71	0.7153				
SAR 1g (W/Kg)		0.250	0.2504				
Peak SAR Location		-5mn	-5mm(x),-55mm(y),4mm(z)				





SURFACE SAR

VOLUME SAR





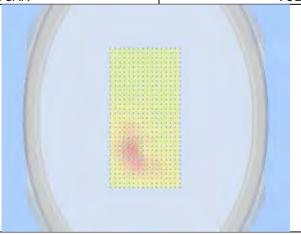
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Test specification:	Plane_Body_Middle_HT	40_5550_Right_0mm	1			
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Result.	Pass		
Test Date:	02/21/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5550.000000 (C	hannel 110)			
Relative permittivity (real part)		45.00				
Conductivity (S/m)		6.15				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=8mm, dy=8m	nm, dz=5mm			
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-0.61				
Highest Extrapolated SAR (W/Kg	g)	0.5184				
SAR 1g (W/Kg)		0.3082				
Peak SAR Location		-5mm(x),-55mm				
9-Conventor III Statem Records on	Control of the Contro		And Versidendal Treates (socio-	mik etc.		
Loss touch After TOURTS TOU	•	Color (1 de 1 d	100 - 100 -			

SURFACE SAR VOLUME SAR

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 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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33.1.710				3.11	
SURFAC	E SAR		V	OLUME SAR	
Continue Continue	21 1 21 4 201 to 201		Control Cont	the day of the second s	(m) 18 2n
SAR 1g (W/Kg) Peak SAR Location		1.016 69mr	51 m(x),32mm(y),4mr	n(z)	
Highest Extrapolated SAR (W/Kg	g)	2.387			
Measurement Drifts (%)		-1.91			
Zoom Scan Size			2x34 mm	-5111111	
Zoom Scan Resolution			nm, dy=8mm, dz=	=5mm	
Conversion Factor (dB) Area Scan Resolution		2.39 8 mm	າ		
Probe SN			_EPGO259		
Transmission Duty Factor		1.0			
Conductivity (S/m)		6.24			
Relative permittivity (real part)		44.88		,	
Frequency (MHz)		5590	.000000 (Channel	118)	
Remarks:	7 it				
Tested by:	Arthur Tie				
Test Date:	02/22/2016				
Mains Power:	Atmospheric(mPa): N/A		1009	Result:	Pass
Environ Conditions:	Humidity(%):		58		
	Temp(oC):		23		
Test specification:	Plane_Body_Middle_HT4			I	



 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

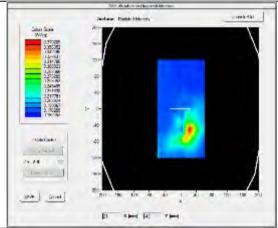
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Test specification:	Plane_Body_Middle_HT40	5590	Left Omm			
1 det e promoduori.	Temp(oC):	_0000_	23			
Environ Conditions:	Humidity(%):		58	1		
Environ conditions.	Atmospheric(mPa):		1009			
Mains Power:	N/A		1000	Result:	Pass	
Test Date:	02/22/2016					
Tested by:	Arthur Tie					
Remarks:	Aithui Tic		<u> </u>			
Frequency (MHz)		5500).000000 (Chann	ol 118\		
Relative permittivity (real part)		44.8		6 1 110 <i>)</i>		
Conductivity (S/m)		6.24				
Transmission Duty Factor		1.0				
Probe SN			5 EPGO259			
		2.39	_			
Conversion Factor (dB)						
Area Scan Resolution		8 mr				
Zoom Scan Resolution			8mm, dy=8mm, d:	z=omm		
Zoom Scan Size			32x34 mm			
Measurement Drifts (%)	1	-3.70				
Highest Extrapolated SAR (W/Kg		0.75				
SAR 1g (W/Kg) Peak SAR Location		0.3994 69mm(x),32mm(y),4mm(z)				
Continue Reconstruction And Co	41 1 21 4 21 14 21		Section Sect		51 1to 310	
SURFACE	The state of the s	VOLUME SAR				
	3D View	/ Plot				



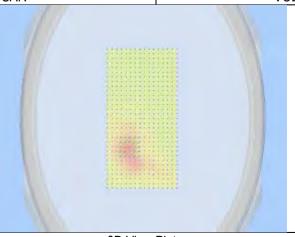
Test report No. FCC/IC_SAR_SL15081301-SLX-018 107 of 159 Page

Test specification:	Plane_Body_Middle_HT	Plane_Body_Middle_HT40_5590_Right_0mm				
Environ Conditions:	Temp(oC):	23				
	Humidity(%):	58			Pass	
	Atmospheric(mPa):	100)9	Result:		
Mains Power:	N/A			Nesuit.	F a 5 5	
Test Date:	02/22/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5590.000000 (Channel 118)				
Relative permittivity (real part)		44.88				
Conductivity (S/m)		6.24				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-4.18				
Highest Extrapolated SAR (W/Kg)		0.5071				
SAR 1g (W/Kg)		0.3044				
Peak SAR Location		69mm(x),32mm(y),4mm(z)				
See All and the see Dispersed Internet See Land Bright Children's Committed Internet		SA Abulan on Neprond Remon Writing District Hermin (cont.)				



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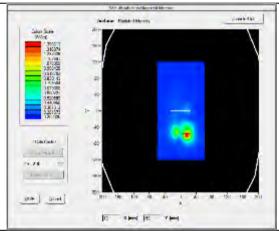
VOLUME SAR SURFACE SAR





Test report No. FCC/IC_SAR_SL15081301-SLX-018 108 of 159 Page

Test specification:	Plane_Body_Middle_HT40_5630_Front_5mm						
Environ Conditions:	Temp(oC):	23					
	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	F d 5 5			
Test Date:	02/22/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)	equency (MHz)		5630.000000 (Channel 126)				
Relative permittivity (real part)		44.79					
Conductivity (S/m)		6.31					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-2.49					
Highest Extrapolated SAR (W/Kg)		2.5398					
SAR 1g (W/Kg)		1.0578					
Peak SAR Location		69mm(x),32mm(y),4mm(z)					
SAN alterative on the point	d Microsco		SAA allowed to they and letomer	1 1 1 1 1 1			



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VOLUME SAR SURFACE SAR



 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

 Page
 109 of 159

Test specification:	Plane_Body_Middle_HT	Γ40_5630_L	_eft_0mm				
	Temp(oC):		23				
Environ Conditions:	Humidity(%):		58				
	Atmospheric(mPa):	1009		Descrite	Door		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/22/2016						
Tested by:	Arthur Tie						
Remarks:					-		
Frequency (MHz)	•	5630.	000000 (Chann	el 126)			
Relative permittivity (real part)		44.79	,	,			
Conductivity (S/m)		6.31					
Transmission Duty Factor		1.0					
Probe SN		2715_	_EPGO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size			32x32x34 mm				
Measurement Drifts (%)		-2.70					
Highest Extrapolated SAR (W/K	(g)	0.880	5				
SAR 1g (W/Kg)	<u> </u>	0.451	9				
Peak SAR Location		-5mm	-5mm(x),-55mm(y),4mm(z)				
Southern Recombined After South State of the Southern So			Constraint Con	have forcettlement.	31 - 131 - 101 - 3/8)		
SURFAC	and the same of th		VOLUME SAR				
SURFAC	L OAN			VOLUIVIE SAR			

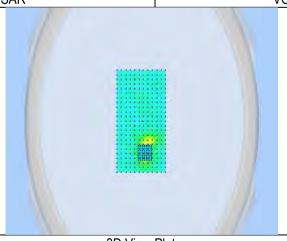
Visit us at: www.siemic.com; Follow us at:



Test report No. FCC/IC_SAR_SL15081301-SLX-018 110 of 159 Page

Test specification:	Plane_Body_Middle_H						
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Pass			
Test Date:	02/22/2016						
Tested by:	Arthur Tie						
Remarks:							
requency (MHz)		5630.000000 (Char	nnel 126)				
Relative permittivity (real part)		44.79					
Conductivity (S/m)		6.31					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259	2715_EPGO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution			dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-3.12					
Highest Extrapolated SAR (W	/Kg)	0.4991					
SAR 1g (W/Kg)		0.3056					
Peak SAR Location		-5mm(x),-55mm(y),	-5mm(x),-55mm(y),4mm(z)				
On Constitution State on Bosonia	forms (2007)		National Resources	mak etc.			
200 feath 201		Cabe Cade CONTROL C	# 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				

SURFACE SAR VOLUME SAR



3D View Plot

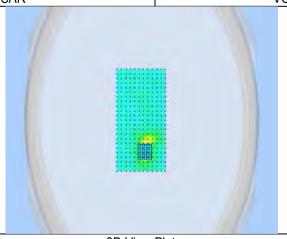
D *F# (5 YF#



Test report No. FCC/IC_ SAR_SL15081301-SLX-018
Page 111 of 159

Test specification:	Plane_Body_Middle_H1						
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Nesuit.	Fass			
Test Date:	02/23/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5670.000000 (Cha	nnel 134)				
Relative permittivity (real part)		44.72					
Conductivity (S/m)		6.38					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39	2.39				
Area Scan Resolution		8 mm					
Zoom Scan Resolution			dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-4.12					
Highest Extrapolated SAR (W/Kg		2.2698					
SAR 1g (W/Kg)		0.9498					
Peak SAR Location		-5mm(x),-55mm(y)	,4mm(z)				
Lost design to the control of the co	40 1 20 A 25 14 On	Color Code For Year Color Color Color Col	Where Recombinations 31- 45 45 47 47 47 48 48 48 48 48 48 48	(m) -11			

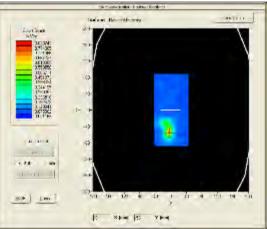
SURFACE SAR VOLUME SAR

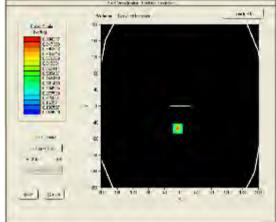




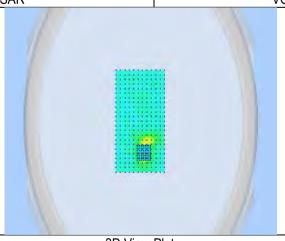
Test report No. FCC/IC_SAR_SL15081301-SLX-018 112 of 159 Page

Test specification:	Plane_Body_Middle_HT4	40_5670_L	eft_0mm			
	Temp(oC):	Temp(oC):				
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A			Nesuit.	F a 5 5	
Test Date:	02/23/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5670.000000 (Channel 134)				
Relative permittivity (real par	rt)	44.72				
Conductivity (S/m)		6.38				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-3.59				
Highest Extrapolated SAR (W/Kg)		0.8988				
SAR 1g (W/Kg)		0.4576				
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)				
Section (editor) editor (editor) Seef ear (Bernethorne)				And Amelinda Control Condition Williams - Book of Records	park (C.	





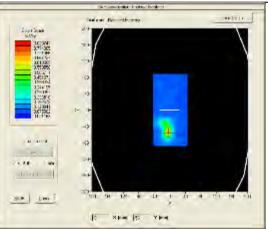
VOLUME SAR SURFACE SAR

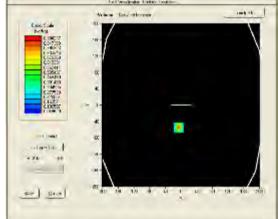




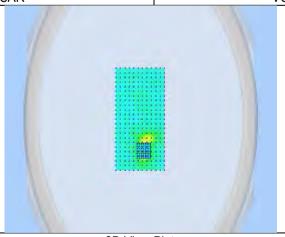
Test report No. FCC/IC_SAR_SL15081301-SLX-018 113 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5670_Right_0mm				
·	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Result.	F 455		
Test Date:	02/23/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5670.000000 (Chan	nel 134)			
Relative permittivity (real pa	irt)	44.72				
Conductivity (S/m)		6.38				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-1.93				
Highest Extrapolated SAR (W/Kg)		0.2504				
SAR 1g (W/Kg)		0.1872				
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)				
	original and other houses	Colonicada (d)	Notice Resemblement			





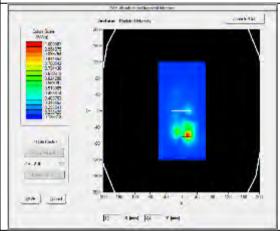
VOLUME SAR SURFACE SAR

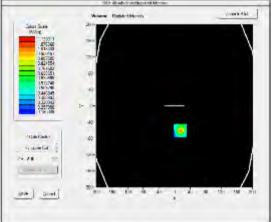




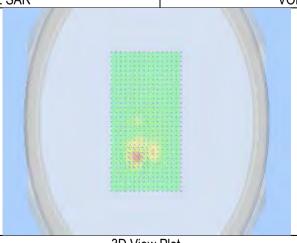
Test report No. FCC/IC_SAR_SL15081301-SLX-018 114 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5755_Front_5mm					
·	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58		Dana			
	Atmospheric(mPa):	1009	Result:				
Mains Power:	N/A		Result.	Pass			
Test Date:	02/23/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5755.000000 (Channel 151)					
Relative permittivity (real pa	Relative permittivity (real part)		44.47				
Conductivity (S/m)		6.43					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-2.96					
Highest Extrapolated SAR (W/Kg)		1.7778					
SAR 1g (W/Kg)		0.7674					
Peak SAR Location	Peak SAR Location		-6mm(x),32mm(y),4mm(z)				
SA deader or Reprint Monte.		Site distalles in they and libraries					





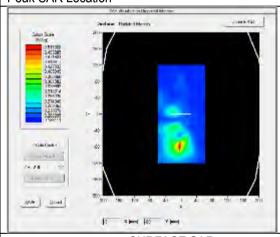
VOLUME SAR SURFACE SAR

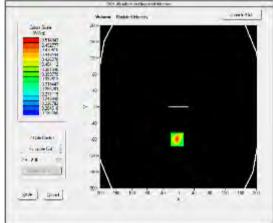




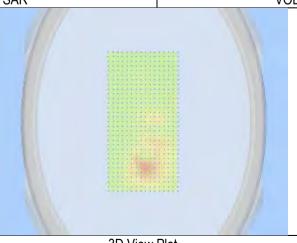
Test report No. FCC/IC_SAR_SL15081301-SLX-018 115 of 159 Page

Test specification:	Plane_Body_Middle_H7	T40_5755_Le	eft_0mm				
•	Temp(oC):	1	23				
Environ Conditions:	Humidity(%):	!	58				
	Atmospheric(mPa):	,	1009	Dooult	Door		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/23/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5755.000000 (Channel 151)					
Relative permittivity (real pa	rt)	44.47					
Conductivity (S/m)	Conductivity (S/m)		6.43				
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-1.11					
Highest Extrapolated SAR (W/Kg)		0.7447					
SAR 1g (W/Kg)		0.4008					
Peak SAR Location		69mm(x),32mm(y),4mm(z)					
See dead on the see See See See See See See See See Se	d Marine			Site absolute on Reprint Microsco. Witness: Prefetch Microsco.	down below		





VOLUME SAR SURFACE SAR

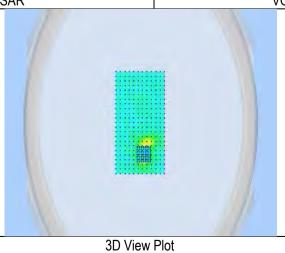




 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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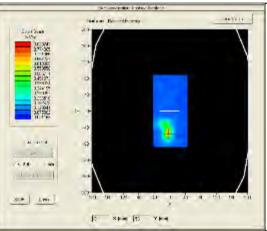
Test specification:	Plane_Body_Middle_H	IT40_5755_Right_0mm				
•	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Result.	Pass		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		02/23/2016				
Relative permittivity (real part)		44.47				
Conductivity (S/m)		6.43				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm				
Zoom Scan Resolution			dx=8mm, dy=8mm, dz=5mm			
Zoom Scan Size		32x32x34 mm				
Measurement Drifts (%)		-1.72				
Highest Extrapolated SAR (W	/Kg)	0.3619				
SAR 1g (W/Kg)		0.2513				
Peak SAR Location	ter i otto i indice	-5mm(x),-55mm(y),4	·mm(z)			
		Control (1) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4		जी पत्र की जी।		
	e IS YES	VOLUME OAR				
SURFA	ACE SAR		VOLUME SAR			

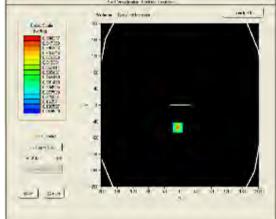




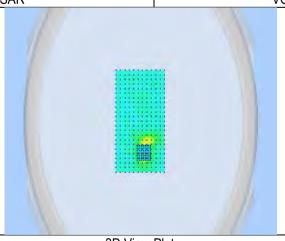
Test report No. FCC/IC_SAR_SL15081301-SLX-018 117 of 159 Page

Test specification:	Plane_Body_Middle_HT4	0_5795_	Front_5mm				
	Temp(oC):	Temp(oC):					
Environ Conditions:	Humidity(%):	Humidity(%):					
	Atmospheric(mPa):		1009	Result:	Door		
Mains Power:	N/A			ixesuit.	Pass		
Test Date:	02/17/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5795.000000 (Channel 159)					
Relative permittivity (real pa	art)	44.32					
Conductivity (S/m)		6.43	6.43				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715_EPGO259					
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8mm, dy=8mm, dz=5mm					
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-4.10					
Highest Extrapolated SAR (W/Kg)		1.6488					
SAR 1g (W/Kg)		0.7169					
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)					
Section in the Control of the Contro			Columbia	And Versidendal Control Condition We have a Residual Residual Control Contr	rock 46.		





VOLUME SAR SURFACE SAR





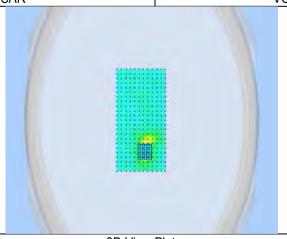
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Test report No. FCC/IC_SAR_SL15081301-SLX-018 118 of 159 Page

Test specification:	Plane_Body_Middle_H	T40_5795_Left_0mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Pass			
Test Date:	02/24/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5795.000000 (C	Channel 159)				
Relative permittivity (real pa	art)	44.32					
Conductivity (S/m)		6.43					
Transmission Duty Factor		1.0					
Probe SN			2715_EPGO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution			dx=8mm, dy=8mm, dz=5mm				
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		3.45					
Highest Extrapolated SAR (W/Kg)	0.6963					
SAR 1g (W/Kg)		0.3799					
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)					
-3.0	posentificants	Constitute Profits CONSTITUTE CON	And Considerable Trades Condition White are Trades with consens 100 100 400 400 400 400 400 40	park et			

SURFACE SAR VOLUME SAR

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3D View Plot

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 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_HT40	5795	Right 0mm			
•	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	٦	5	
Mains Power:	N/A			Result:	Pass	
Test Date:	02/24/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5795	5.000000 (Channe	el 159)		
Relative permittivity (real part)		44.32		,		
Conductivity (S/m)		6.43				
Transmission Duty Factor		1.0				
Probe SN		2715	_EPGO259			
Conversion Factor (dB)		2.39	_			
Area Scan Resolution		8 mn	n			
Zoom Scan Resolution		dx=8	mm, dy=8mm, da	z=5mm		
Zoom Scan Size			2x34 mm			
Measurement Drifts (%)		-0.80				
Highest Extrapolated SAR (W/Kg)		0.4476				
SAR 1g (W/Kg)		0.292	23			
Peak SAR Location		-5mn	n(x),-55mm(y),4n	nm(z)		
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SURFACE SAR		VOLUME SAR				



Test repo	ort No. F	FCC/IC_ SAR_SL15081301-SLX-018
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Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
SAR						
P C	PV 3.06GHz	375052-AA1	N/A	N/A	N/A	~
MXG Vector Signal Generator	N5182A	MY47071065	04/06/2015	1 Year	04/06/2017	~
Multi-meter	Multi-meter 2000	1259033	09/18/2015	1 Year	09/18/2016	>
S-Parameter Network Analyzer	8753ES	US38161019	08/17/2015	1 Year	08/17/2016	Y
E-field PROBE	EPGO 259	SN 27/15 EPGO259	07/08/2015	1 Year	07/08/2016	V
E-field PROBE	EP 204	SN 07/14 EP204	10/06/2015	1 Year	10/06/2016	V
DIPOLE 900	DIPOLE 900MHz	SN 31/10 DIPD134	10/06/2015	1 Year	10/06/2016	
DIPOLE 1800	DIPOLE 2450MHz	SN 31/10 DIPF135	10/06/2015	1 Year	10/06/2016	
DIPOLE 2000	DIPOLE 2000MHz	SN 31/10 DIPI137	10/06/2015	1 Year	10/06/2016	V
DIPOLE 2450	DIPOLE 2450MHz	SN 31/10 DIPJ138	10/06/2015	1 Year	10/06/2016	V
Wave Guide 5/6 GHz	Wave Guide 5/6GHz	SN 31/10 DIPWGA13	07/08/2015	1 Year	07/08/2016	V
COMOSAR Open Coaxial Probe	OCP36	SN 31/10 OCP36	07/08/2015	1 Year	07/08/2016	V
Communication Antenna	ANTA30	SN 31/10 ANTA30	N/A	N/A	N/A	
Laptop POSITIONING DEVICE	LSH63	SN 31/10 LSH13	N/A	N/A	N/A	V
Mobile Phone POSITIONING	MSH63	SN 31/10 MSH63	N/A	N/A	N/A	V
DUMMY PROBE	None	SN 31/10	N/A	N/A	N/A	
SAM PHANTOM	SAM77	SN 31/10 SAM77	N/A	N/A	N/A	
Elliptic Phantom	ELLI17	SN 31-10 ELLI17	N/A	N/A	N/A	V
PHANTOM TABLE	N/A	N/A	N/A	N/A	N/A	V
6 AXIS ROBOT	KR5	949319	N/A	N/A	N/A	V
Medium Power Solid State Amplifier (0.8~4.2GHz)	S41-25	M629-0408	N/A	N/A	N/A	





Test report No.	FCC/IC_ SAR_SL15081301-SLX-018
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Annex B. SIEMIC Accreditation

Accreditations	Document	Scope / Remark	
ISO 17025 (A2LA)	<i>_</i>	Please see the documents for the detailed scope	
ISO Guide 65 (A2LA)	7	Please see the documents for the detailed scope	
TCB Designation		A1, A2, A3, A4, B1, B2, B3, B4, C	
FCC DoC Accreditation	7	FCC Declaration of Conformity Accreditation	
FCC Site Registration	1	3 meter site	
FCC Site Registration	1	10 meter site	
IC Site Registration	2	3 meter site	
IC Site Registration	2	10 meter site	
		Radio & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025	
EU NB		Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025	
Singapore iDA CB(Certification Body)	因因	Phase I, Phase II	
Vietnam MIC CAB Accreditation	Z	Please see the document for the detailed scope	
, of 0.4	1	(Phase II) OFCA Foreign Certification Body for Radio and Telecom	
Hong Kong OFCA	2	(Phase I) Conformity Assessment Body for Radio and Telecom	
	2	Radio: Scope A – All Radio Standard Specification in Category I	
Industry Canada CAB	7	Telecom: CS-03 Part I, II, V, VI, VII, VIII	





Test report No. FCC/IC_SAR_SL15081301-SLX-018 122 of 159 Page

Japan Recognized Certification Body Designation	因因	Radio: A1. Terminal equipment for purpose of calling Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law
		EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMIEMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS
Korea CAB Accreditation		Radio: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68
		Telecom: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4
Taiwan NCC CAB Recognition	A	LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition	7	CNS 13438
Japan VCCI		R-3083: Radiation 3 meter site C-3421: Main Ports Conducted Interference Measurement T-1597: Telecommunication Ports Conducted Interference Measurement
		EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4
Australia CAB Recognition	73	Radio communications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771
		Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06 AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043:2:06, AS/ACIF S60950.1
Australia NATA Recognition		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016,AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2



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Annex C. Probe Calibration Report

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 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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COMOSAR E-Field Probe Calibration Report

Ref : ACR, 190.1.15.SATU.B

SIEMIC TESTING AND CERTIFICATION SERVICES

775 MONTAGUE EXPRESSWAY MILPITAS, CA 95035, USA

MVG COMOSAR DOSIMETRIC E-FIELD PROBE

SERIAL NO.: SN 27/15 EPGO259

Calibrated at MVG US 2105 Barrett Park Dr. - Kennesaw, GA 30144





Calibration Date: 07/08/2015

Summary:

This document presents the method one results from an accredited COMOSAR Documente B-Field Probe calibration performed in MVG USA using the CALISAR / CALIBAIR test bench, for use with a COMOSAR system only. All calibration results are traceable to national metrology institutions.

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COMOSAR IGFRELO PROBICCALIBRATION REPORT

Ref ACK DOLLARSATION

	Name	Direction	Date	Signature
Prepared by:	Jérôme LUC	Product Manager	7/9/2015	23
Checked by :	Jérôme LUC	Product Manager	7/9/2015	25
Approved by:	Kim RUTKOWSKI	Quality Manager	7/9/2015	& 20 Jan 11 11 11 11 11 11 11 11 11 11 11 11 11

Unstomer Name
SILMIC Testing
and Certification
Services

Issue	Date	Μοάιπεριτιονικ
1/2	7/9/2015	Initial release
В	6/10/2015	Add 750MHz factor
		1,11

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COMOSAR #-FIELD PROBE CALIBRATION REPORT

Ref. ACR. DXCLIA XATLL B

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COMOSAR 6-FIELD PROBE CALIBRATION REPORT

Ref ACR EXCLASSATION

1 DEVICE UNDER TEST

Device Under Test		
Device Type	COMOSAR DOSIMETRIC E FIELD PROBE	
Manufacturer	MVG	
Model	SSE2	
Serial Number	8N 27/15 EPGO259	
Product Condition (new / used)	New	
Frequency Range of Probe	+ 0.7 GHz-6GHz	
Resistance of Three Dipoles at Connector	Dipote 1: R1=0.230 MΩ	
	Dipole 2: R2=0.211 MΩ	
	Dipole 3: R3=0,216 MΩ	

A yearly calibration interval is recommended.

2 PRODUCT DESCRIPTION

2.1 GENERAL INFORMATION

MVG's COMOSAR E field Probes are built in accordance to the IEEE 1528, OET 65 Bulletin C and CEI/IEC 62209 standards.



Figure 1 MPG COMOSAR Dostmerric E field Dipole

Probe Length	330 mm	
Length of Individual Dipoles	2 mm	
Maximum external diameter	8 mm	
Probe Tip External Diameter	2.5 mm	
Distance between dipoles / probe extremity	1 mm	

3 MEASUREMENT METHOD

The IEEE 1528, OET 65 Bulletin C, CENELEC EN50361 and CEUIEC 62209 standards provide recommended practices for the probe calibrations, including the performance characteristics of interest and methods by which to assess their affect. All calibrations / measurements performed meet the fore mentioned standards.

3.1 LINEARITY

The evaluation of the linearity was done in free space using the waveguide, performing a power sweep to cover the SAR range 0.01 W/kg to 100W/kg.

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COMOSAR 6-FILLO PROBE CALIBRATION REPORT

Ref ACR. DOLANGA I.L. H.

3.2 SENSITIVITY

The sensitivity factors of the three dipoles were determined using a two step calibration method (arrand tissue simulating liquid) using waveguides as outlined in the standards.

3.3 LOWER DETECTION LIMIT

The lower detection limit was assessed using the same measurement set up as used for the linearity measurement. The required lower detection limit is 10 mW/kg.

3.4 ISOTROPY

The axial isotropy was evaluated by exposing the probe to a reference wave from a standard dipole with the dipole mounted under the flat phantom in the test configuration suggested for system validations and checks. The probe was rotated along its main axis from 0 - 360 degrees in 15 degree steps. The hemispherical isotropy is determined by inserting the probe in a thin plastic box filled with tissue-equivalent liquid, with the plastic box illuminated with the fields from a half wave dipole. The dipole is rotated about its axis $(0^{\circ}-180^{\circ})$ in 15° increments. At each step the probe is rotated about its axis $(0^{\circ}-360^{\circ})$.

3.5 BOUNDARY REFECT

The boundary effect is defined as the deviation between the SAR measured data and the expected exponential decay in the liquid when the probe is oriented normal to the interface. To evaluate this effect, the liquid filled flat phantom is exposed to fields from either a reference dipole or waveguide. With the probe normal to the phantom surface, the peak spatial average SAR is measured and compared to the analytical value at the sturface.

4 MEASUREMENT UNCERTAINTY

The guidelines outlined in the IEEE 1528, OET 65 Bulletin C, CENELEC FN50361 and CEUEC 62200 standards were followed to generate the measurement uncertainty associated with an E-field probe calibration using the waveguide technique. All uncertainties listed below represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k-2, traceable to the Internationally Accepted Guides to Measurement Uncertainty.

ERROR SOURCES	Uncertainty value (%)	Probability Distribution	Divisor	ri	Standard Tucertainty (%)
Insident or forward power	3 (105 m	Recoggular	√3	1	1 732%
Reflected power	3,00%	Rectangular	— /3 —		1,732%
Liquid conductivity	5/00%	Rectangular	— √3 —	10	2,687%
Liquid permittivity	4.00Fp	Rectangular	- 13-	-	2,300%
Field homogeneity	3,00%	Rectangular	— √ 3—	1	1.732%
Field probe positioning	5,00%	Rectingular	-3	1	2,887%

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COMOSAR 6-FIELD PROBECTALIBRATION REPORT

Ref. ACR. DOLLARATE B

Field probe linearity	3,00%	Rectangular	√3 j	- I	1.732%
Combined standard uncertainty			_		5.831%
Expanded uncertainty 95% confidence level X = 2			= 1		12,0%

5 CALIBRATION MEASUREMENT RESULTS

Calibration Parameters				
Liquid Temperature	21"C			
Lab Temperature	21°C			
Lab Humidity	45 %			

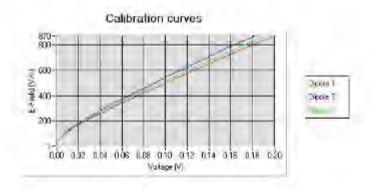
5.1 SENSITIVITY IN AIR

	Normy dipole	
$1 \left(\mu V/(V/m)^2 \right)$	$2 (\mu V/(V/m)^2)$	$3 (\mu V/(V/m)^2)$
0.83	0.71	0.75

DCP dipole 1	DCP dipole 2	DCP dipole 3
(mV)	(mV)	(mV)
93	92	90

Calibration curves ei-f(V) (i-1,2,3) allow to obtain II-field value using the formula:

$$E = \sqrt{E_1^2 + E_2^2 - E_3^2}$$



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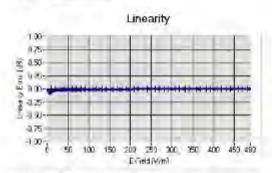
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COMOSAR IGFIELD PROBICCALIBRATION REPORT

Ref. ACR. DXC(153A11) B

5.2 LINEARITY



Linearity.E+A-1.72% (44-0.08dB)

5.3 SENSITIVITY IN LIQUID

laquid	Frequency (MHz ±4- 100ML2)	Permitt viry	Eps (on (S/m)	CenvE
HL750	750	42.24	0.90	1.89
E1,750	750	5685	0.99	1.97
IIL850	835	42.59	0.90	2.15
BL850	835	53.10	0.97	2.21
HL900	900	42.05	0.98	1.96
BL909	900	56.41	1.08	2:03
HL1800	1800	41.82	1.38	2.33
BL1800	1800	53.00	1.52	3,42
III.1900	1900	40.38	1.41	2.59
DL1900	1900	53.93	1.55	2,67
HL2000	2000	40,12	1.43	2,48
BL2000	2000	53.65	1.54	2.53
IIL2450	2450	38,34	1.80	2,62
BL2450	2450	52.70	1.94	2,70
III.3500	3500	37.20	287	262
BL3500	3500	52.65	3.21	2.72
HL3200	5200	36,44	4.79	2.31
TH 5200	5200	50.70	2.0	2.39
IIL5400	5400	35.99	4.91	2.94
BL5490	54(0)	30.01	5.64	2,63
III,5600	5600	35.22	5.18	2.55
BL5600	5690	49.34	5.85	2.71
HE5800	5800	34.95	5.42	2.33
BLSSOC	5800	48.54	622	2,65

LOWER DETECTION LIMIT: 7mW/kg

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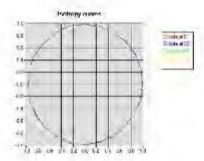
COMOSAR IGFIELD PROBE CALIBRATION REPORT

Ref. ACR. DOLLARSATUR

5.4 ISOTROPY

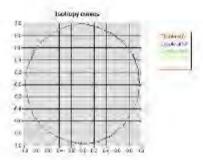
HL900 MHz

- Axial isotropy: 0.04 dB - Hemispherical isotropy: 0.06 dB



HL1800 VIIIz

- Axial isotropy: 0.04 dB - Hemispherical isotropy: 0.07 dB



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COMOSAR #-FIELD PROBE CALIBRATION REPORT

Ref ACRIBOTIA SATUR

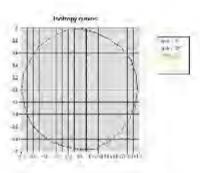
HL5600 MHz

- Axial isotropy:

 $0.06~\mathrm{dB}$

- Hemispherical isotropy:

0.09 dB



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COMOSAR E-FIGLD PROBE-CALIBRATION REPORT

Ref: ACR. DUIT 1: SA U.E.

6 LIST OF EQUIPMENT

	Equi	pment Summary S	iheet	
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date
Flat Phanroim	MVG	SN-20/09-SAM71	Validated, No cal requirec	Validated No ca required.
COMOSAR Test Bench	Version 3	NA	Validated, No cal required,	Validated, No ca required.
Network Analyzer	Rhode & Schwarz 7VA	SN100132	.02/2013	02/2016
Reference Proce	MVG	EP 94.SN 37/08	10/2014	10/2015
Multimete:	Keithley 2000	1198658	12/2013	12/2016
Signal Generator	Aglient E4438C	MY49070581	12/2013	12/2016
Amplifler	Aethercomm	SN 048		Characterized prior to test. No cal required
Power Meter	HP E4418Å	U\$38261498	12/2013	12/2016
Power Sensor	HP ECP-E26A	US37181460	12/2013	12/2016
Directional Coupler	Narda 4216 20	01386	Characterized prior to test. No call recuired	Characterized prior to test. No gal required
Waveguide	Mega Industries	089Y7-158-13-712	Validated, No.cal required,	Validated: No ca required.
Waveguide Transition	Maga Industries	089Y7 158 13 701	Validated. No cal requires	Validated, No ca required.
Waveguide (ermination	Mega Industries	089Y7-158-13-701	Validated, No.cal required.	Validated, No ca required.
Temperature / Humidity Sensor	Control Company	11-661-5.	8/2012	9/2016

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Annex D. Dipoles Calibration Repor



SAR Reference Dipole Calibration Report

Ref : ACR.279.7.15.SATULA

SIEMIC TESTING AND CERTIFICATION SERVICES

775 MONTAGUE EXPRESSWAY MILPITAS, CA 95035, USA

MVG COMOSAR REFERENCE DIPOLE

FREQUENCY: 2450 MHZ SERIAL NO.: SN 31/10 DIPJ138

Calibrated at MVG US 2105 Barrett Park Dr. - Kennesaw, GA 30144



Calibration Date: 10/06/2015

Summary:

This decument presents the method and results from an accrecited SAR reference dipole callbration performed in MVG USA using the COMOSAR test bench. All calibration results are traceable to national rectrology institutions.

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Test report No.	FCC/IC_ SAR_SL15081301-SLX-018
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SAR REFERENCE DIPOLE CALIBRATION REPORT

Ref: ACM 259 - SSATULA

	Wome	Function	Date	Signature
Prepared by:	Jerome LUC	Product Manager	10/6/2015	15
Checked by :	Jérôme LUC	Product Manager	10/6/2015	25
Approved by :	Kim RUTKOWSKI	Quality Manager	10/6/2015	plan to the graph

	Customer Nume
Distribution :	SIEMIC Testing and Certification Services

īssne -	Date	Modifications
A	10/6/2015	Initial release
	-	

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SAR REFERENCE DIPOLE CALIBRATION REPORT

Ref: ACM 2597 (18,SATULA

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SAR REPERENCE DIPOLE CALIBRATION REPORT

Ref: ACM 259 STA SATULA

1 INTRODUCTION

This document contains a summary of the requirements set forth by the IEEE 1528, FCC KDBs and CEI/IEC 62209 standards for reference dipoles used for SAR measurement system validations and the measurements that were performed to verify that the product complies with the fore mentioned standards.

2 DEVICE UNDER TEST

D	evice Under Test
Device Type	COMOSAR 2450 MHz REFERENCE DIPOLE
Manufacturer	MVG
Model	SID2450
Serial Number	SN 31/10 DIPJ138
Product Condition (new / used)	Used

A yearly calibration interval is recommended.

3 PRODUCT DESCRIPTION

3.1 GENERAL INFORMATION

MVG's COMOSAR Validation Dipoles are built in accordance to the IEEE 1528, FCC KDBs and CEL/IEC 62209 standards. The product is designed for use with the COMOSAR test bench only.



Figure 1 MVG COMOSAR Volidation Dipole

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SAR REPERENCE DIPOLE CALIBRATION REPORT

Ref: ACM, 289 - 1.8 VIVI X

4 MEASUREMENT METHOD

The IEEE 1528, FCC KDBs and CEE/IEC 62209 standards provide requirements for reference dipoles used for system validation measurements. The following measurements were performed to verify that the product complies with the fore mentioned standards.

4.1 RETURN LOSS REQUIREMENTS

The dipole used for SAR system validation measurements and checks must have a return loss of -20 dB or better. The return loss measurement shall be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards.

4.3 MECHANICAL REQUIREMENTS

The IEEE Std. 1528 and CECTEC 62209 standards specify the mechanical components and dimensions of the validation dipoles, with the dimensions frequency and phantom shell thickness dependent. The COMOSAR test bench employs a 2 mm phantom shell thickness therefore the dipoles sold for use with the COMOSAR test bench comply with the requirements set forth for a 2 mm phantom shell thickness.

5 MEASUREMENT UNCERTAINTY

All uncertainties listed below represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k-2, traceable to the Internationally Accepted Guides to Measurement Uncertainty.

5.1 RETURN LOSS

The following uncertainties apply to the return loss measurement:

Frequency band	Expanded Uncertainty on Return Loss
400-6000MHz	0.1 dB

5.2 DIMENSION MEASUREMENT

The following uncertainties apply to the dimension measurements:

Length (nm)	Expanded Uncertainty on Length
3 - 300	0.05 mni

5.3 VALIDATION MEASUREMENT

The guidelines outlined in the IEEE 1528, FCC KDBs, CENEUEC EN50361 and CEEEEC 62209 standards were followed to generate the measurement uncertainty for validation measurements.

Scan Volume	Expanded Uncertainty
1 g	20,3 %

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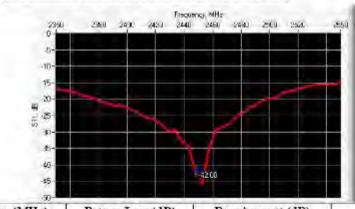
SAR REFERENCE DIPOLE CALIBRATION REPORT

Kef: ACR,2797715,SATULA

10 g	20.1.%	

6 CALIBRATION MEASUREMENT RESULTS

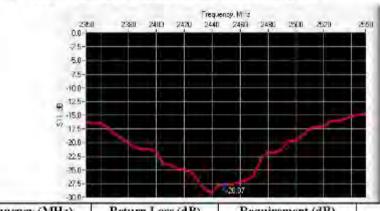
6.1 RETURN LOSS AND IMPEDANCE IN HEAD LIQUID



 Frequency (MILz)
 Return Loss (dB)
 Requirement (dB)
 Impedance

 2450
 -42.00
 -20
 49.5 Ω 0.6 jΩ

6.2 RETURN LOSS AND IMPEDANCE IN BODY LIQUID



Frequency (MHz)	Return Loss (dB)	Requirement (dB)	Impedance
2450	-28.07	-20	54.1 Ω - 0.5 jΩ

6.3 MECHANICAL DIMENSIONS

Frequency MHz Lmm hmm)m	d I	70		
	required	measured	required	measured	required	measured
300	420.0±1 %		250.0±1 %		6.35 ±1 56	

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SAR REPERENCE DIPOLE CALIBRATION REPORT

Ref: ACH.259 - 13/A/DJ X

450	290.0±1%		166.7 ±1 %.		6.35 ±2 %.	
750	176 C ±1 %		100.0 ±1 %.		6.35 ±1 %	
835	161.0 ±1 %		89.8 ±1 %.		3.6 ±1 %.	
900	149 C t1 %		83.3 (1%)		3.6 ±1.%.	
1450	89.1 ±1 %.		51.7 ±1 %.		3.6 21 %.	
1500	80.5 t1 %.		50.0 ±1%.		3.6 :1 %.	
1640	79.0 (4 %).		45.7±1%.		3.6-1%.	
1750	75.2±1%.		7/2,9 ±1 %.		3.5 ±1 %.	
1800	72.0 ±1 ½.	Property and	41.7 ±1 %.	11 0 00 00	3.6 ±1 %.	
1900	68.0 t1 %.		39.5 t1 %.	4-3-3	3.6 ±1 %.	
1950	66.5 ±1 %.		38.5 ±1 %.		3.6:1%.	
2000	64.5 ±1 %.		37.5 ±1 %.		3.6 :1 %	
2100	61.0 ±1 %,		35.7 £1 %,		3.5 ±1 %.	
2300	55.5 ±1 %.		32,6 ±1%.		3,6 ±1 %.	
2450	51.5 ±1 %	PASS	507 #1%,	PASS	3.8 ±1 %.	PAS
2600	48.5 ±1 %.		28.8 ±1 %.		3,5 ±1 %.	
3000	41.5 (1.9)		35.041%		3.6 ±1 %.	
3500	37.0±1%.		26.4 ±1 %,		3.6 ±1 %	
3700	34.7±1 %.		26/411%.	10	3.6 ±1 %,	

7 VALIDATION MEASUREMENT

The IEEE Std. 1528, FCC KDBs and CEVIEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

7.1 HEAD LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (c/)		Conductivity	ity (a) S/m
	required	measured	required	measured
300	45,3 ±5 %		0.87 ±5 %	
450	43,5 ±5 %		0.87±556	
750	419±5%		0.89 ±5 %	
835	41.5.±5 %		0.90 ±5 1/4	
900	41.5 (5 %		0.97 15%	1
2450	40.5 ±5 %		1.20 ±5 %	
1500	40.4 ±5 %		1.23 ±5%	
15401	40.2 25 %		1,81 14 %	
1750	40.1 ±5 %		1.37 ±5 ½	

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SAR REFERENCE DIPOLE CALIBRATION REPORT

Kef: 409.259 - 13.000 A

	1.40 ±5 %		40.0 ±5 %	1800
-	1.40 ±5 %		40,0 ±5,30	2500
	1.40 ±5 %		40.0 ±5 %	1950
	1.40 (5%		40 0 15 %	2000
	1.49 ±5 %		39.8 ±5 %	2100
	1,67 15 %		39.5.15 %	2300
PASS	1.80 ±5 %	PASS	39.2 25 30	2450
	1,96 ±5 %		39,0 15 %	2500
	2.40 ±5 %		38 5 ±5 %	3000
	2.91 ±5 %		37 9 ±5 %	3500

7.2 SAR MEASUREMENT RESULT WITH HEAD LIQUID

The BLE Std. 1528 and CEI/BC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Software	OPINSAR V4		
Phantem	SN 20709 SAM71		
Probe	SW 18/11 E3/9122		
Laguid	Tlead Liquid Values ops: 38 Zargma 181		
Distance between dipole wenter and liquid	10.0 mm		
Area sean resolution	ds=Som/dy=Som		
Zuen Seen Resolution	dx Smaydy Smm/dz Smm		
Frequency:	2450 MHz		
In pur power	20 dPm		
Liquid Temperature	12170		
Lab Temperature	21 °C		
ash Hurndity	45 %		

Frequency MHz	1 g 5AR (W/kg/W)		10 g SAR	(W/kg/W)
	required	measured	regulred	measured
300-	2.85	-	1.86	
452	4.58		3.06	
750	8,49		5,59	
835	9,56		6.22	
900	10.9		6.99	
2450	29		26	
£500	30,5		16.8	
1840	34.2		18.4	
1750	36.4		19,1	
1800	384		20,1,	

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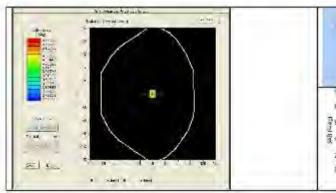
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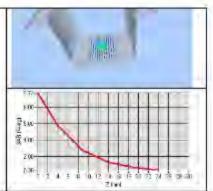


SAR REFERENCE DIPOLE CALIBRATION REPORT

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2300	39.7		20.5	
1950	10.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7		23.3	
2450	52.4	54.09 (5.41)	24	24.39 (2.44)
2500	55.3		24.6	
3000	63.8		25.7	
3500	67.1		25	





7.3 BODY LIQUID MEASUREMENT

Frequency MH7	Relative permittivity (s.')		Conductivity (a) S/m	
	required	measured	required	measured
150	61.9.±5 %		0.80 ±5 %	
300	58.2 ±5 %		0.92 ±5 %	
450	56.7.15 %		0.94 (5%	
750	55.5 ±5 %		0.96 ±5 1%	
835	55.2 ±5 %		0.97 ±5 %	-
900	55.0 ±5 %		1.05 ±5 %	
915	55.0 ±5 %		1.06 ±5 %	1 1 1 1
1450	54.0 15 %		1.30 +5%	-
1616	53.8 ±5 %		1,40 ±5 %	
1800	53.3 ±5.%		1.52 ±5 %.	
1900	53,3 ±5 W		1.52 ±5 %	
2000	53.3 ±5%		1.52 ±5 %	
2100	53 2 ±5 %		1.62 ±5 %	
2450	527±5%	PA55	1.95 ±5 %	PA55

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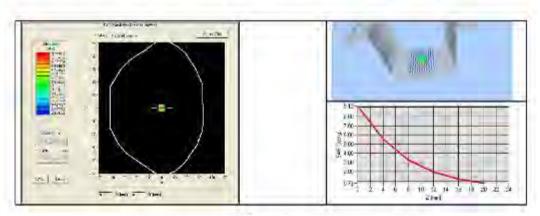
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2600	52.5 ±5 %	2.16 ±5 %
3000	52.0 ±5.%	2.73 ±5 %
3500	51,345%	3.31 ±5 %
5200	49.0 £10 %	5.30 £10%
5300	48.9±10%	5.42 ±10 %
5400	48.7 ±10 %	5.53 110%
5500	48,5±10%	5.65 ±10 %
5600	48.5 ±10 %	5.77 ±10 %
5800	48.2 ±10 %	6.00±10%

7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

Software	OPENSAR V4	
Phantom	SN 20/09 SAM71	
Proho	SN 18/11 EPG122	
Liquid	Body Liquid Values; eps' : 53.2 sigma : 1.96	
Distance between dipole center and liquid	19,0 mm	
Area sean resolution	dx=8mm/dy=8mm	
Zeen Sean Resolution	dx-5mm/dy-3mm/dz-5mm	
Frequency	2430 MHz	
Input power	20 dFam	
Liquid Temperature	21°C	
Lab Temperature	21 °C	
Lab Humidity	45 %	

Frequency MHz	1 g SAR (W/kg/W)	10 g SAR (W/kg/W)
	measured	measured
2450	50,78 (5,08)	23.64 (2.36)



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SAR REPERENCE DIPOLE CALIBRATION REPORT

Ref: ACM, 259 2 13 SATULY

8 LIST OF EQUIPMENT

Equipment	Manufacturer /	State of the land	Current	Next Calibration	
Description	Model	Identification No.	Calibration Date	Date	
SAV Phantom	MVG	SN-20/09-SAM71	Validated No cal required,	Validated No ca required.	
COMOSAR Test Bench	Version 3	NA-	Validated, No sa required.	Validated, No cal required	
Network Analyzer	Rhode & Selwarz ZVA	SN100132	02/2013	02/2016	
Calipers	Carrera	CALIPER-01	12/2013	12/2016	
Reference Probe	MVG	EPG122 SN 16/11	10/2015	10/2016	
Multimeter	Keithley 2000	1198656	12/2013	12/2016	
Signal Generator	Agilent E4438C	MY49070581	12/2013	12/2016	
Amplifier	Aetheropmm	SN D46	Characterized prior to test. No call required.	Characterized prior to test. No cal required.	
Power Meter	HP E4418A	US38261498	12/2013	12/2016	
Power Sensor	HP ECP-E26A	US37181460	12/2013	12/2016	
Directional Coupler	Narda 4216-20	01386		Characterized prior to test. No cal required.	

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Annex E. Waveguide Calibration Report

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SAR Reference Waveguide Calibration Report

Ref: ACR.190.2.15.SATU.A

SIEMIC TESTING AND CERTIFICATION SERVICES

775 MONTAGUE EXPRESSWAY MILPITAS, CA 95035, USA MVG COMOSAR REFERENCE WAVEGUIDE

> FREQUENCY: 5000-6000 MHZ SERIAL NO.: SN 31/10 WGA13

Calibrated at MVG US 2105 Barrett Park Dr. Kennesaw, GA 30144





07/08/2015

Summary:

This document presents the method and results from an accredited SAR reference waveguide calibration performed in MVG USA using the COMOSAR test bench. All calibration results are traceable to national methology institutions.

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Ber ACK 1905 LASATO A

	Nome	Function	Date	Signature
Prepared by:	Jerome LUC	Product Manager	7/9/2015	25
Checked by :	Jérôme LUC	Product Manager	7/9/2015	25
Approved by :	Kim RUTKOWSKI	Quality Manager	7/9/2015	Man Access media

	Customer Name
Distribution :	SIEMIC Testing and Certification Services

Issue	L)ate	Modifications
A	7/9/2015	Initial release
		1107

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SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

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1 INTRODUCTION

This document contains a summary of the requirements set forth by the IEEE 1528 and Clifffic 62209 standards for reference waveguides used for SAR measurement system validations and the measurements that were performed to verify that the product complies with the fore mentioned standards.

2 DEVICE UNDER TEST

	Device Under Test
Device Type	COMOSAR 5000-6000 MIL REFERENCE WAVEGUER
Manofacturer	MVG
Model	SWG5500
Serial Number	SN 31/10 WGA13
Product Condition (new / used)	New

A yearly calibration interval is recommended

3 PRODUCT DESCRIPTION

3.1 GENERAL INFORMATION

MVG's COMOSAR Validation Waveguides are built in accordance to the IEEE 1528 and CLUTEC 62209 standards.

4 MEASUREMENT METHOD

The IEEE 1528 and CELIEC 62209 standards provide requirements for reference waveguides used for system validation measurements. The following measurements were performed to verify that the product complies with the fore mentioned standards.

4.1 RETURN LOSS REQUIREMENTS

The waveguide used for SAR system validation measurements and checks must have a return loss of -8 dB or better. The return loss measurement shall be performed with matching layer placed in the open and of the waveguide, with the waveguide and matching layer in direct contact with the phantom shall as outlined in the fore mentioned standards.

4.2 MECHANICAL REQUIREMENTS

The IEEE 1528 and CEI/IEC 62209 standards specify the mechanical dimensions of the validation waveguide, the specified dimensions are as shown in Section 6.2. Figure 1 shows how the dimensions relate to the physical construction of the waveguide.

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Ber ACM 1905 LS SAIRLA

MEASUREMENT UNCERTAINTY

All uncertainties listed below represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2, traccable to the Internationally Accepted Guides to Measurement Uncertainty.

5.1 RETURN LOSS

The following uncertainties apply to the return loss measurement:

Frequency hand	Expanded Uncertainty on Return Loss
400-6000MHz	0.1 dB

DIMENSION MEASUREMENT

The following uncertainties apply to the dimension measurements:

Length (mm)	Expanded Uncertainty on Length
3 - 300	0.05 mm

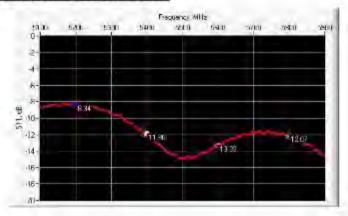
5.3 VALIDATION MEASUREMENT

The guidelines outlined in the IEEE 1528 and CEL/IEC 62209 standards were followed to generate the measurement uncertainty for validation measurements.

Scan Volume	Expanded Uncertainty
lg	20,3 %
10 g	20.1 %

CALIBRATION MEASUREMENT RESULTS

RETURN LOSS IN HEAD LIQUID



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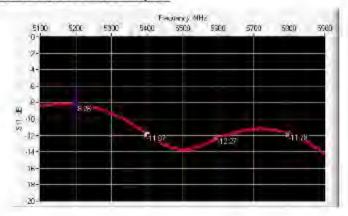


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Frequency (MHz)	Return Loss (dB)	Requirement (dB)	Impedance
5200	-8.34	-8	22.88 Ω - 7.83 jΩ
5400	-11.90	-8	49.72 Ω 26.23 jΩ
5600	-13.33	-8	42.04 Ω - 18.94 jΩ
5800	-12.07	-8	32.11 Ω - 10.39 jΩ

6.2 RETURN LOSS IN BODY LIQUID



Frequency (MHz)	Return Loss (dB)	Requirement (dB)	Impedance
5200	-8.26	-8	20.85 (2 - 7.88)(2
5400	-11.87	-8	$52.62 \Omega = 29.88 j\Omega$
5600	-12,27	-8	38.27 Ω - 21.30 jΩ
5800	-11,78	-8	30.88 \(\omega \) 13.05 \(\omega \)

6.3 MECHANICAL DIMENSIONS

Marson areas	1.0	mm)	Wi	mm)	140	mm)	Will	mm)	T de	nm)
Prespector § (3411);	Require	Moasure	Require	Measure d	Require d	Messure d	Require d	Measure d	Require d	Mesun:
5260	40 39 - 0.13	PASS	20.19 - 0.13	PASS	81.03 - 0.13	PASS	61.98 +	PASS	53*	PASS
5800	40.39 ± 0.13	PASS	20.19=	PASS	81.03 ≘ 0.13	PASS	61,98 +	PASS	43*	PASS.

² The tolerance for the matching layer is included in the return loss measurement.

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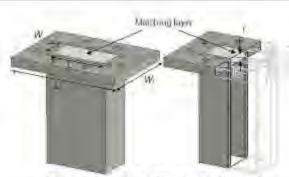


Figure 1: Validation Waveguide Dimensions

7 VALIDATION MEASUREMENT

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference waveguide meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed with the matching layer placed in the open end of the waveguide, with the waveguide and matching layer in direct contact with the phantom shell.

7.1 HEAD LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (6/)		Conductivity (c	ty (c) 5/m
	required	measured	required	measured
5000	36.2 ±10 %		4,45 ±10 %	
5100	36,1±10%		0.56±10/X	
5200	86.0 ±10 %	PASS	4.66 ±10 %	PASS
5300	35.9 ±10 %		4.76±10 %	
5400	35.8 (10%	PASS	4.86 :10 %	PASS
5500	35.6±10%		4.97 ±10 %	
5500	35.5 (10%	PASS	5.07 10 %	PASS
5700	35.4 ±10 %		5.17 = 10 %	-
5500	35,3740%	PASS	5.27 ±10 %	PASS
5900	35,2 ±10 %		5,38 = 10 %	
5000	35,1 110 %		5.48 :10%	

7.2 SAR MEASUREMENT RESULT WITH HEAD LIQUID

At those frequencies, the target SAR value can not be generic. Hereunder is the target SAR value defined by MVG, within the uncertainty for the system validation. All SAR values are normalized to 1 W net power. In bracket, the measured SAR is given with the used input power.

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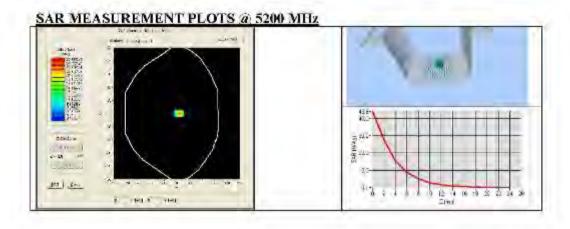
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Refractional assault a

Software	OPENSAR V4
Phantom	SN 20/09/SAM71
Probe	SN 18/11 EPG 122
Liquid	Head Liquid Values 5200 MHz; eps. 36, 44 sigma; 4,70 Head Liquid Values 5400 MHz; eps. 35,00 sigma; 4,90 Head Liquid Values 5600 MHz; eps. 35,22 sigma; 5,18 Head Liquid Values 5800 MHz; eps. 34,25 sigma; 5,42
Distance between dipole waveguide and liquid	Orant
Area scan resolution	dx=8mmdy=8mm
Zoon Scan Resolution	ds=dram/dy=dm/dz=2mm
Frequency	5200 MHz 5400 MHz 5600 MHz 5800 MHz
Input power	20 dBm
Liquid Temperature	21°C
Lab Temperature	21 °C
Lab Humidity	45 %

Frequency (MHz)	1 g SAR (W/kg)		10 g SAR (W/kg	
	required	measured	required	measured
5200	1.59.00	158.86 (15.89)	56.90	55.60 (5.56)
5400	166.40	167.76 (16.78)	58.43	58.22 (5.82)
5600	173.80	176.71 (17.67)	59.97	60.69 (6.07)
5800	181.20	185.36 (18.54)	61.50	62.25 (6.22)



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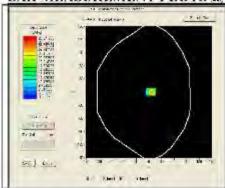
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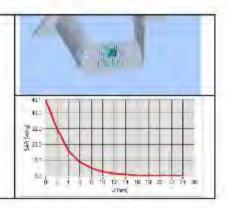


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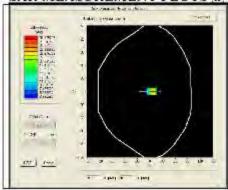
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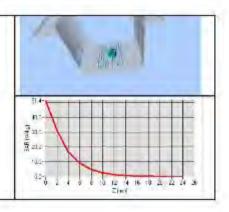
SAR MEASUREMENT PLOTS @ 5400 MHz



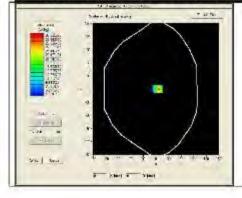


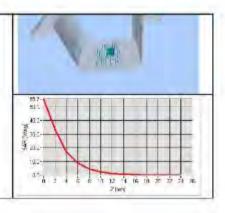
SAR MEASUREMENT PLOTS @ 5600 MHz





SAR MEASUREMENT PLOTS (a) 5800 MHz





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SAR REFERENCE WAVEGUIDE CAUBRATION REPORT

10et 400 (195) (150 (197)) A

7.3 BODY LIQUID MEASUREMENT

Frequency MHz	Relative per	mittivity (s/)	Conductiv	ity (d) 5/m
	required	measured	required	measured
5200	49.0 ±10 %	PASS	5.30 ±10 %	PA55
5300	48.9110%		5.42 110 %	
5400	48,7±1055	PASS	5,52 ±10 %	PASS
3500	48,6 ±10 %		5.65 ±10 %	
5600	48.5 ±10 %	PASE.	5.77 ±10%	PA55
5800	48.2 ±10 %	PASS	5.00 (10%	PASS

7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

Software	OPENSAR V4
Phantom	SN 20/09 SAM71
Probe	SN 18/11 ERG122
Liquid	Body Liquid Values 5200 MHz; eps! 50,70 sigma - 5,11 Body Liquid Values 5400 MHz; eps! 50,01 sigma : 3,64 Body Liquid Values 5600 MHz, eps! 49,34 sigma - 3,55 Body Liquid Values 5800 MHz, eps! 48,54 sigma - 6,52
Distance between dipole waveguide and liquid	C intra
Area scan resolution	dx-8mm/dy-8mm
Zoon Scan Resolution	dx=drom/dy=lm/dz=2mm
Frequency	5200 MHz 5400 MHz 5600 MHz 5800 MHz
Input power	20 d/3m
Liquid Temperature	14.0
Laly Temperature	21°C
Lab Humidity	45.%

Frequency (MHz)	I g SAR (W/kg)	10 g SAR (W kg
	measured	measured
5200	153.22 (15.32)	54.43 (5.44)
5400	164,37 (16,44)	57.80 (5.78)
5600	168.24 (16.82)	58.67 (5.87)
5800	173.65 (17.37)	59.92 (5.99)

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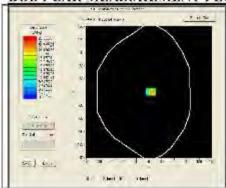
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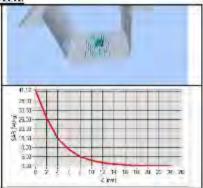


SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

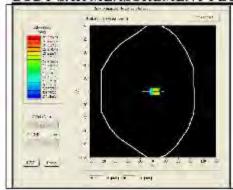
Refr ACR 190 fills SATU A

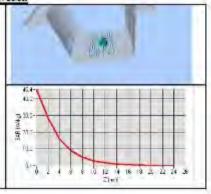




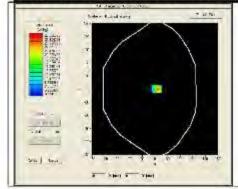


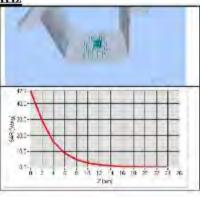
BODY SAR MEASUREMENT PLOTS @ 5400 MHz





BODY SAR MEASUREMENT PLOTS @ 5600 MHz





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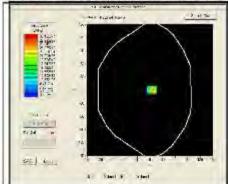


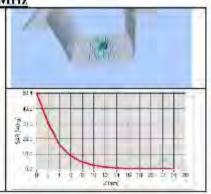
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Refr ACR 190 513 SATULA

BODY SAR MEASUREMENT PLOTS @ 5800 MHz





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SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

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8 LIST OF EQUIPMENT

Equipment Description	Manufacturer / Model	Identification No.	Calibration Date	Next Calibration Date
COMOSAR Test Berigh	Version 3	NA .	C AM WOOD STORY THE CANAL	Validated No ca required
Netwerk Analyzer	Rhode & Schwarz ZVA	SN100132	02/2013	02/2016
Calipers	Carrera	CALIPER-01	12/2013	12/2016
Reference Probe	MVG	EPG122 SN 18/11	10/2014	10/2015
Multimeter	Keithley 2000	1188656	12/2013	12/2016
Signal Generator	Agrient E4438C	MY49070581	12/2013	12/2016
Amplifier	Aethercomm	SN 046	Characterized prior to test. No cal required.	Charasterized prior to test. No cal required.
Power Meter	HR EAMINA	US38261498	12/2013	12/2016
Power Sensor	HP ECP-E26A	US37181460	12/2013	12/2016
Directional Coupler	Narda 4216-20	01386	Characterized prior to test. No cal required.	
Temperature and Humidity Sensor	Control Company	11-661-9	8/2012	8/2015

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