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 C95.1-2005			
rest Standard	RSS 102 Issue 5.0, IEEE 1528: 2	013, IEC 62209-2: 2010		
	IEEE 1528: 2013, IEC 62209-2: 2	010		
	KDB 447498 D01 General RF Ex			
Test Method	KDB 248227 D01 802.11 Wi-Fi S	AR v02r02		
	KDB 865664 D01 SAR Measurem	ent 100MHz to 6 GHz v01r04		
	KDB 941225 D06 Hot Spot SAR v	/02r01		
FCC ID	Z7A-SDMAN	Z7A-SDMAN		
IC ID	4919E-SDMAN			
Date of test	2/9/2016 - 2/25/2016	2/9/2016 - 2/25/2016		
Issue Date	3/28/2016			
Test Result	Pass Fail			
Equipment complied with th	ne specification	[x]		
Equipment did not comply with the specification []				
Dananach B3.				
Teody Manansala Arthur Tie				
Test Engineer Engineer Reviewer				
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Test result presented in this test report is applicable to the tested sample only				

Issued By: **SIEMIC Laboratories** 775 Montague Expressway, Milpitas, 95035 CA





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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	ong Kong OFTA , NIST RF/Wireless ,T		
Australia	Australia NATA, NIST EMC, RF,		
Korea	Korea KCC/RRA, NIST EMI, EMS, RF,		
Japan	Japan VCCI, JATE, TELEC, RFT EMI, RF/Wireless, Teleco		
Mexico	Mexico NOM, COFETEL, Caniety Safety, EMC , RF/Wireless, Tele		
Europe	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	IST 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

EUT Description <u>6.1</u>

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	5MHz	20MHz	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				

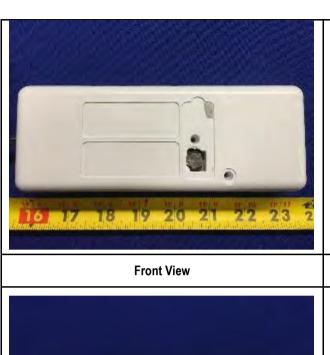
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6.3 **EUT Photos - External**





Rear View





Left View Right View





EUT with Cable View Power Adapter View



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6.4 EUT Photos - Internal



6 17 18 19 20 21 22 23

Top view with EUT Opened

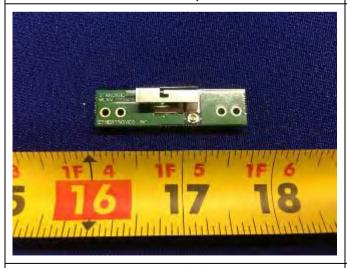
Antenna Inside EUT View





EUT- Board Top View

EUT-Board Bottom View





Antenna - Top View

Antenna - Bottom View



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6.5 EUT Test Setup Photos



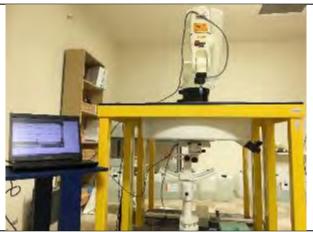
Front Side with 5mm Distance



Left Side with 0mm distance



Right Side with 0mm distance



SAR Test System



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Supporting Equipment/Software and cabling Description 7

Supporting Equipment 7.1

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	esting 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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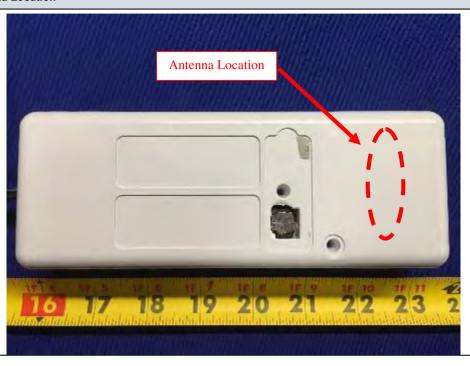


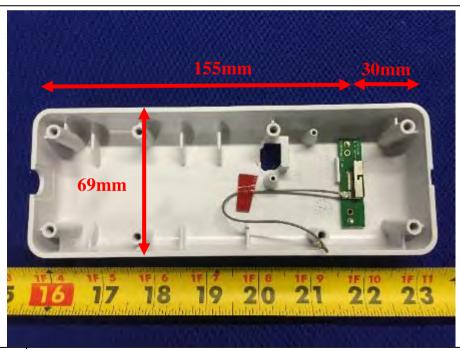


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8 Setup and Test Configuration Consideration

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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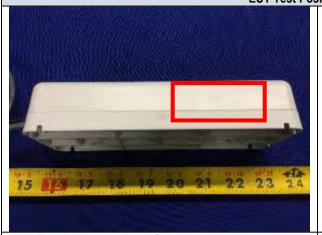




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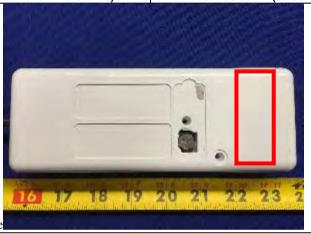
EUT Test Position for SAR





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)



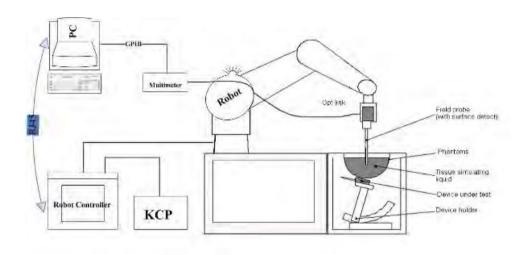
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11 SAR Measurement Setup

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
Davisa Parameter	- Frequency	f
Device Parameter	- Crest factor	cf
Media Parameters	- Conductivity	σ
iviedia Farailleteis	- 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 ($i = x, y, z$)
of = 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:
$$E = \sqrt{\frac{Y}{Norm. ConvF}}$$

H-field probes: $H = \sqrt{Y} \frac{a_{ni} + a_{ni}f + a_{ni}f}{f}$

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_0 = 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):

$$E_{tot} = \sqrt{E_x^2 + E_x^2 + E_x^2}$$

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

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

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

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

where P_{pwe} = 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.





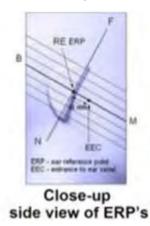
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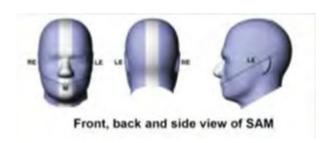
Device Reference Points

Definition of Reference Points

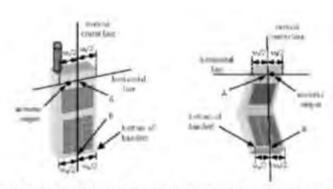
Ear Reference Point

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.



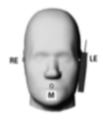
Handset Vertical Center & Horizontal Line Reference Points



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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

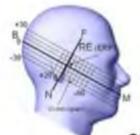






Front, Side and Top View of Cheek/Touch Position

- 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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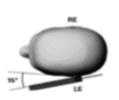
Test Configuration - Positioning for Ear / 15° Tilt

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

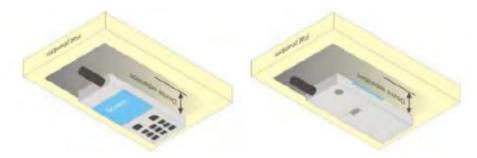
Body-worn operating configurations are tested with the accessories attached to the device and positioned against a flat phantom in a normal use configuration. A device with a headset output is tested with a headset connected to the device. Body dielectric parameters are used.

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 bodyworn 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
	T		ple Related		,		T
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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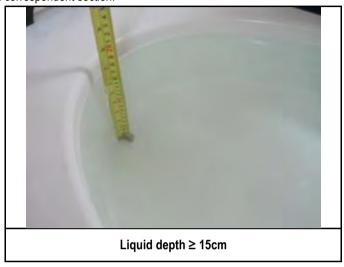


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13 Liquid Validation

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 Dady	02/11/2016	Permittivity	48.78	49.01	-0.47	±5.00
5200 Body		Conductivity	5.38	5.30	3.39	±5.00
ECOO Dady	02/15/2016	Permittivity	48.79	48.47	0.66	±5.00
5600 Body		Conductivity	6.01	5.77	4.17	±5.00
5000 D. J	00/47/0040	Permittivity	47.96	48.20	-0.49	±5.00
Sour Body	5800 Body 02/17/2016		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	2.0 4.4	
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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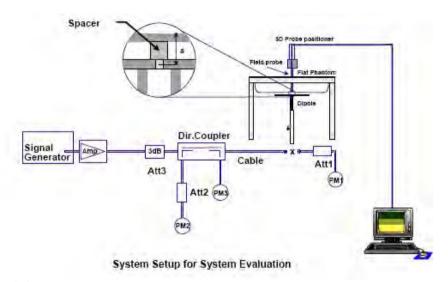


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14.2 System Verification

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							
02/11/2016	Temp (°C)	21	5200	159.00	20	15.886	158.86	-0.09	±10.00
	Humidity (%)	51							
	ATM (mbar)	1009							
	Temp (°C)	21	5400	166.40	20	16.776	167.76	0.82	±10.00
02/11/2016	Humidity (%)	51							
	ATM (mbar)	1009							
	Temp (°C)	21				17.671	176.71	1.68	
02/15/2016	Humidity (%)	51	5600	173.80	20				±10.00
	ATM (mbar)	1009							
	Temp (°C)	21				18.536	185.36		
02/17/2016	Humidity (%)	51	5800	181.20	20			2.30	±10.00
	ATM (mbar)	1009							

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15 Output Power Measurement Results

Requirement(s):

Spec	Item Requirement			Applicable	
-	-	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 parar are adjusted such that the power is measured only when the EUT is transmitting at its maximum power of 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 Relative Humidity 55					PC % 08mbar
Remark					
Result					

Test Data	⊠ Yes	□ N/A
i coi Dala	∠ 1 € 5	IN/∧



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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)
Ī	11n-20M	11n-20M @ 2412 MHz, MCS0 data rate	8.35	7	4.5	9
Ī	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 1528: 2013	1	localized Head and Trunk is 1.6 W/kg						
IEEE 1520. 2013	2	and Trunk is 8 W/kg	Devices (Controlle	d Environment) in localized Head				
Test Method	IEC 62 44749 24822	EEE 1528: 2013 EC 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	1 2 3	 Use client test software to schannel Measure output power throi Place the DUT in the positio Set scan area, grid size and Make SAR measurement for Find out the position with hi Measure additional SAR for measurement system will proceed 	ugh spectrum analons selected dother setting on to the selected high ghest SAR result other modes at the following ba	he SATIMO software nest output power channel at each le highest SAR position lsic steps:	testing position			
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						

Test Data	⊠ Yes	□ N/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
2.40	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	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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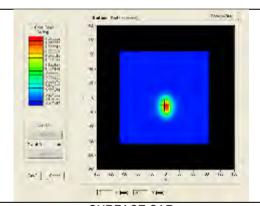


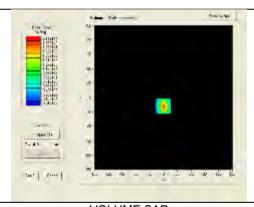
Test report No.	FCC/IC_ SAR_SL15081301-SLX-018
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17 System Performance Plots

Test specification:	System Verification			
Environ Conditions:	Temp(oC):	23		
	Humidity (%):	58		
	Atmospheric(mPa): 1009		Dogult	Door
Mains Power:	N/A		Result:	Pass
Test Date:	02/09/2016			
Tested by:	Arthur Tie			
Remarks:	System Validation, dipole, CW signal, duty cycle =1			

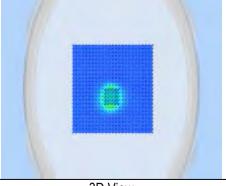
Frequency (MHz)	2450.000000
Relative permittivity (real part)	51.48
Conductivity (S/m)	1.94
Transmission Duty Factor	1.00
Probe SN	2715_EPGO259
Conversion Factor (dB)	2.7
Area Scan Resolution	8 mm
Zoom Scan Resolution	dx=4mm, dy=4mm, dz=2mm
Zoom Scan Size	24x24x24 mm
Measurement Drifts (%)	2.84
Highest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





SURFACE SAR

VOLUME SAR

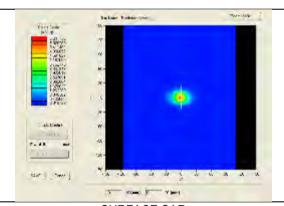


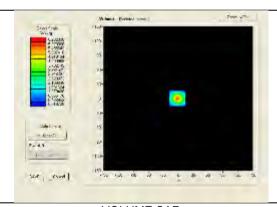


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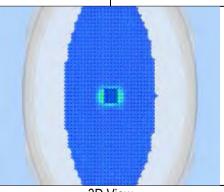
Test specification:	System Validation			
Environ Conditions:	Temp(oC):	23		
	Humidity (%):	58		
	Atmospheric(mPa):	Atmospheric(mPa): 1009 Result:		Door
Mains Power:	N/A		Result.	Pass
Test Date:	02/11/2016			
Tested by:	Arthur Tie			
Remarks:	System Validation, dipole, CW signal, duty cycle =1			

Frequency (MHz)	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

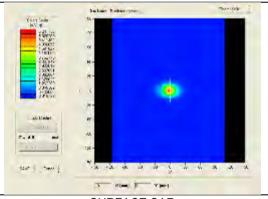


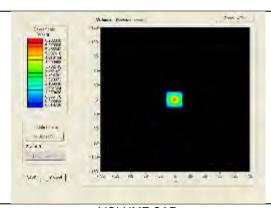


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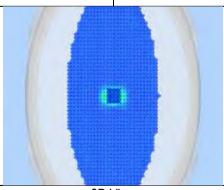
Test specification:	System Validation			
Environ Conditions:	Temp(oC):	23		
	Humidity (%):	58		
	Atmospheric(mPa): 1009		Dogult	Door
Mains Power:	N/A		Result:	Pass
Test Date:	02/11/2016			
Tested by:	Arthur Tie			
Remarks:	System Validation, dipole, 0	CW signal, duty cycle:	=1	

Frequency (MHz)	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

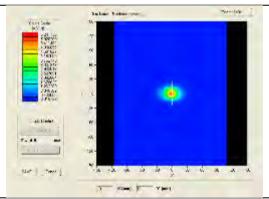


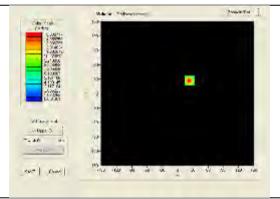


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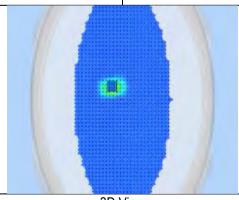
Test specification:	System Validation					
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Deculti	Dage		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/11/2016					
Tested by:	Arthur Tie					
Remarks:	System Validation, dipole, CW signal, duty cycle =1					

Frequency (MHz)	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

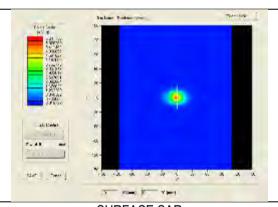


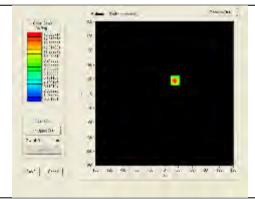


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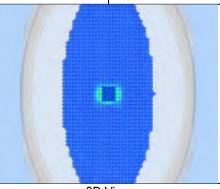
Test specification:	System Validation					
Environ Conditions:	Temp(oC):	23				
	Humidity (%):	58				
	Atmospheric(mPa):	1009	Dogult	Desa		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/11/2016					
Tested by:	Arthur Tie					
Remarks:	System Validation, dipole, CW signal, duty cycle =1					

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

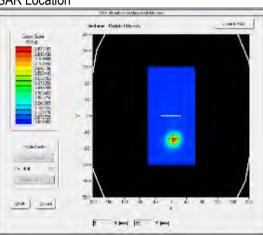


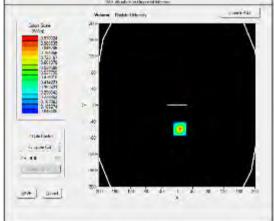


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18 SAR Test Plots

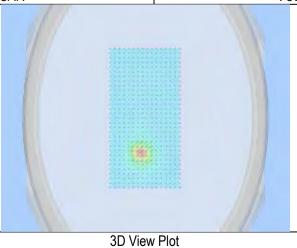
Test specification: Plane_Body_Low_802.11b_2			ront_5mm				
Environ Conditions:	Temp(oC): 21.4 Humidity(%): 45 Atmospheric(mPa): 12	210.4					
Mains Power:	N/A	210.4		Result:	Pass		
Test Date:	02/09/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		2412.0	000000 (Chan	inel 1)			
Relative permittivity (real p	Relative permittivity (real part)		52.04				
Conductivity (S/m)		1.85	1.85				
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=4m	dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24	24x24x24 mm				
Measurement Drifts (%)		4.10	4.10				
Highest Extrapolated SAR (W/Kg)		1.5394	1.5394				
SAR 1g (W/Kg)		0.8682	0.8682				
Peak SAR Location		8mm()	8mm(x),-32mm(y),4mm(z)				
Side allowed Reported Internet			SAN disable to a Disposal bit mass				





SURFACE SAR

VOLUME SAR

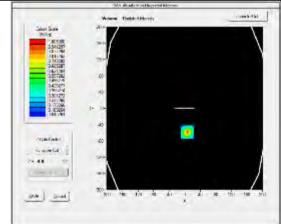




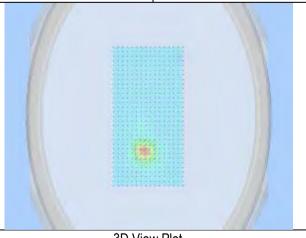
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Test specification:	Plane_Body_Middle_80	2.11b_243	37_Front_5mr	n			
Environ Conditions:	Temp(oC): 21.4	Temp(oC): 21.4			Pass		
	Humidity(%): 45	Humidity(%): 45					
	Atmospheric(mPa): 121	Atmospheric(mPa): 1210.4		Dooulte			
Mains Power:	N/A	. \ /		Result:			
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_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 (%)		-4.30					
Highest Extrapolated SAR (W/Kg)		1.5965					
SAR 1g (W/Kg)		0.8984					
Peak SAR Location		8mm(x),-31mm(y),4mm(z)					
Str. And	for an Hayward Informer			SAN Albanda work they would believe to			

Judes HeldelHeets E 4 - 150 Y --



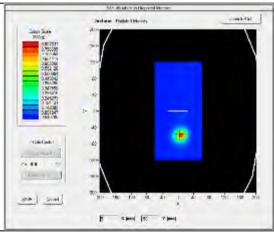
SURFACE SAR **VOLUME SAR**

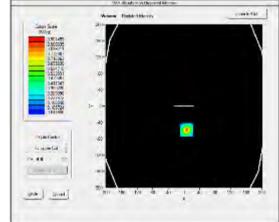




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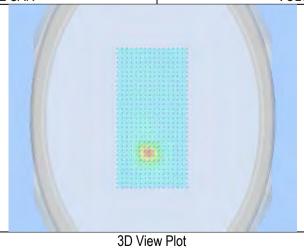
Test specification:	Plane_Body_High_80	Plane_Body_High_802.11b_2462					
Environ Conditions:	Temp(oC): 21.4	Temp(oC): 21.4					
	Humidity(%): 45	Humidity(%): 45					
	Atmospheric(mPa): 1	210.4		Result:	Pass		
Mains Power:	N/A			Nesuit.			
Test Date:	02/09/2016	02/09/2016					
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		2462.0	00000 (Chan	nel 11)			
Relative permittivity (real pa	irt)	51.67	51.67				
Conductivity (S/m)		1.89	1.89				
Transmission Duty Factor		1.0					
Probe SN			PGO259				
Conversion Factor (dB)		2.7					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mı	dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x	24x24x24 mm				
Measurement Drifts (%)		2.91					
Highest Extrapolated SAR (W/Kg)		1.5378	1.5378				
SAR 1g (W/Kg)		0.8582	0.8582				
Peak SAR Location		11mm(11mm(x),-31mm(y),4mm(z)				
Site dead State Section Photo	or on Mary and Marinese ed Microsiy		Salan State Wing	Site about the provide blocks. Writers: Fielder blocks	-contribit		





SURFACE SAR

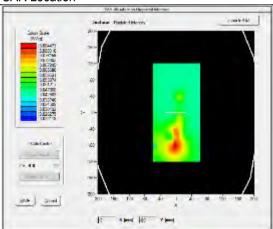
VOLUME SAR

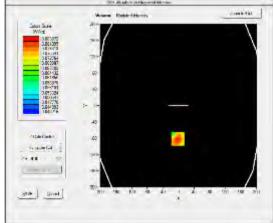




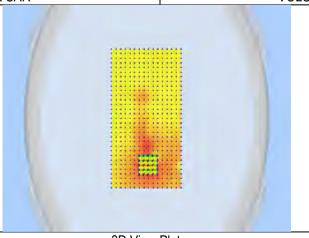
Test report No. FCC/IC_SAR_SL15081301-SLX-018 47 of 159 Page

Test specification:	Plane_Body_Middle_802		7_Left_0mm				
	Temp(oC): 21.4	Temp(oC): 21.4		Result:	Pass		
Environ Conditions:	Humidity(%): 45	Humidity(%): 45					
	Atmospheric(mPa): 1210.	Atmospheric(mPa): 1210.4					
Mains Power:	N/A	N/A					
Test Date:	02/09/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		2437	.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 mm					
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)					
SAN Albada va Navorná laterane Santana Plotate (Heren) com le (Albada)		F		Str. deader in Report Microsco	comb 451		





SURFACE SAR **VOLUME SAR**





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Tomp/oC): 21.4				
Plane_Body_Middle_802.11b_2437_Right_0mm Temp(oC): 21.4				
Humidity(%): 45			1	
	10.4		D	D
N/A			Result:	Pass
02/09/2016			1	
Arthur Tie				
			1	ı
	2437	.000000 (Channe	l 6)	
			1	
	1.85			
	1.0			
	2715	EPGO259		
	2.7	_		
		1		
			=2mm	
	0.00			
(a)	0.02	16		
-3/				
			nm(z)	
*		22) 23	*	ৰ জা কে সা
CE SAR		V	OLUME SAR	
	Atmospheric(mPa): 12 N/A 02/09/2016 Arthur Tie	Atmospheric(mPa): 1210.4 N/A 02/09/2016 Arthur Tie 2437 51.9 1.85 1.0 2715 2.7 8 mm dx=4 24x2 0.00 (g) 0.02 -10m	Atmospheric(mPa): 1210.4 N/A 02/09/2016 Arthur Tie 2437.000000 (Channe 51.97 1.85 1.0 2715_EPGO259 2.7 8 mm dx=4mm, dy=4mm, dz 24x24x24 mm 0.00 (Q) 0.0216 -10mm(x),17mm(y),4m	Atmospheric(mPa): 1210.4 N/A 02/09/2016 Arthur Tie 2437.000000 (Channel 6) 51.97 1.85 1.0 2715_EPGO259 2.7 8 mm dx=4mm, dy=4mm, dz=2mm 24x24x24 mm 0.00 0.0216 -10mm(x),17mm(y),4mm(z)



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

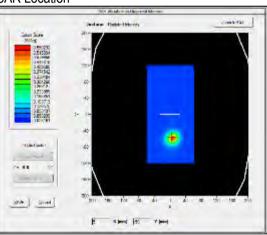
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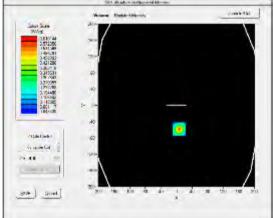
Test specification:	Plane_Body_Low_802.11	g_2412_	Front_5mm		
•	Temp(oC): 21.4	<u> </u>	_		
Environ Conditions:	Humidity(%): 45				
	Atmospheric(mPa): 1210.	4		D- "	
Mains Power:	N/A			Result:	Pass
Test Date:	02/09/2016				
Tested by:	Arthur Tie				
Remarks:	7				-1
Frequency (MHz)		2412	2.000000 (Channel	1)	
Relative permittivity (real part)		52.0		/	
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.00			
Probe SN			EPGO259		
Conversion Factor (dB)		2.7	J_LI 00233		
Area Scan Resolution		8 mr	<u> </u>		
				:?mm	
Zoom Scan Resolution			mm, dy=4mm, dz=	·ZIIIII	
Zoom Scan Size		-1.66	24x24 mm		
Measurement Drifts (%)	~\	0.54			
Highest Extrapolated SAR (W/Kg	3)	0.54			
SAR 1g (W/Kg) Peak SAR Location			m(x),18mm(y),4mm	(-)	
200 Call Call Call Call Call Call Call Ca	**		200 mil	Ya 4 4 4 4 4 4	Sin - ter Sin
E see 5					- 15
SURFAC	E SAR		VOL	JME SAR	
	3D View	Plot	1000		



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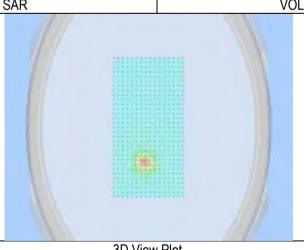
Test specification:	Plane_Body_Middle_8	302.11g_2437	7_Front_5mm					
	Temp(oC): 21.4							
Environ Conditions:	Humidity(%): 45							
	Atmospheric(mPa): 12	210.4		Desults	Daga			
Mains Power:	N/A			Result:	Pass			
Test Date:	02/09/2016							
Tested by:	Arthur Tie							
Remarks:								
Frequency (MHz)		2437.	000000 (Chann	el 6)				
Relative permittivity (real pa	Relative permittivity (real part)		51.97					
Conductivity (S/m)		1.85						
Transmission Duty Factor		1.0						
Probe SN			2715_EPGO259					
Conversion Factor (dB)		2.7						
Area Scan Resolution		8 mm						
Zoom Scan Resolution		dx=4r	dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm						
Measurement Drifts (%)		-3.08						
Highest Extrapolated SAR	(W/Kg)	0.959	0.9592					
SAR 1g (W/Kg)		0.546						
Peak SAR Location		22mm	n(x),23mm(y),4r	nm(z)				
-	hade to perform and literate to the second se		2001 State A 900-st 1000/44	Winner Streicherfeltereit	comb 450			





SURFACE SAR

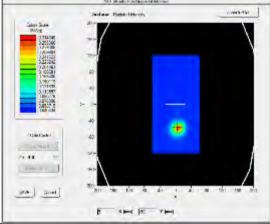
VOLUME SAR





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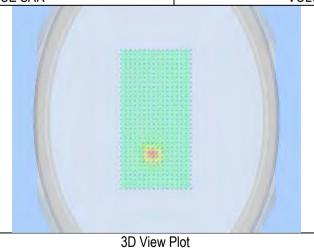
Test specification:	Plane_Body_High_802.11	1g_2462_F	ront_5mm				
	Temp(oC): 21.4						
Environ Conditions:	Humidity(%): 45						
	Atmospheric(mPa): 1210.	4		Descrite	Daga		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/10/2016						
Tested by:	Arthur Tie						
Remarks:		•					
Frequency (MHz)	·	2462.0	00000 (Chanr	nel 11)			
Relative permittivity (real par	t)	51.67					
Conductivity (S/m)		1.89	1.89				
Transmission Duty Factor		1.0					
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		24x24	x24 mm				
Measurement Drifts (%)		-4.84					
Highest Extrapolated SAR (V	V/Kg)	0.5324					
SAR 1g (W/Kg)		0.3131					
Peak SAR Location		-9mm(x),7mm(y),4mm(z)					
Strategy Sedan Rets	to the continue of the control of th			SA Abademon Reprint Monte.	comb 451		
School State Office 17 14 Oct 27 14 Oct 28			Salar Scare Aller- Word 134507 Term	/			



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SURFACE SAR

VOLUME SAR



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ne_Body_Middle_802 pp(oC): 20.7 nidity(%): 43.9 ospheric(mPa): 1012 0/2016 ur Tie	.3	0000 (Channel	Result:	Pass		
ospheric(mPa): 1012	2437.000 51.97 1.85 1.0 2715_EF	`		Pass		
ospheric(mPa): 1012 0/2016	2437.000 51.97 1.85 1.0 2715_EF	`		Pass		
0/2016	2437.000 51.97 1.85 1.0 2715_EF	`		Pass		
	51.97 1.85 1.0 2715_EF	`	6)			
ur Tie	51.97 1.85 1.0 2715_EF	`	6)			
	51.97 1.85 1.0 2715_EF	`	6)			
	51.97 1.85 1.0 2715_EF	`	6)			
	1.85 1.0 2715_EF	20050				
	1.0 2715_EF	200050				
	2715_EF	200050				
		200050				
	2.7	GO259				
	8 mm					
	dx=4mm	, dy=4mm, dz=	=2mm			
	24x24x2					
	0.90	0.90				
	0.0874					
	0.0632					
	10mm(x)),-32mm(y),4m	m(z)			
A) W Sil W Sil		Annual		e til te til		
SURFACE SAR		VOLUME SAR				
	(create 4.5)	0.0632 10mm(x)	0.0632 10mm(x),-32mm(y),4m	0.0632 10mm(x),-32mm(y),4mm(z)		



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Test specification:	Plane_Body_Middle_802.1	1a 2/3	77 Dight Omm		
Test specification:	Temp(oC): 20.7	1 <u>y_</u> 243	n_ragnt_onnn		
Environ Conditions:					
Environ Conditions.	Humidity(%): 43.9				
Maina Davier	Atmospheric(mPa): 1012.3			Result:	Pass
Mains Power:	N/A				
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:		1			
Frequency (MHz)			7.000000 (Channel	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			lmm, dy=4mm, dz=	=2mm	
Zoom Scan Size			24x24 mm		
Measurement Drifts (%)		5.07			
Highest Extrapolated SAR (W/Kg		0.07			
SAR 1g (W/Kg)		0.04			
Peak SAR Location		8mm	n(x),-31mm(y),4mn	1(Z)	
			100 mm (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	in the de di - 1 di - a	e - da - ter - da
[6 * ► [0]			\ <u>'</u>	NILLINAE OAD	
SURFACE	SAK		VC	LUME SAR	
	3D View	Plot			



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Test specification:	Plane_Body_Low_HT20_24	10 Er	ant Emm			
rest specification.	Temp(oC): 20.7	12) [_3 		1	
Environ Conditions:	Humidity(%): 43.9					
Environ Conditions.	Atmospheric(mPa): 1012.3				Pass	
Mains Power:	N/A			Result:		
Test Date:	02/10/2016					
Tested by:	Arthur Tie	Arthur rie				
Remarks:		0440		4)		
Frequency (MHz)			2.000000 (Channel	1)		
Relative permittivity (real part)		52.04	4			
Conductivity (S/m)		1.85				
Transmission Duty Factor		1.0	- FD00050			
Probe SN			_EPGO259			
Conversion Factor (dB)		2.7				
Area Scan Resolution		8 mn				
Zoom Scan Resolution			mm, dy=4mm, dz=	2mm		
Zoom Scan Size			4x24 mm			
Measurement Drifts (%)	,	-2.06				
Highest Extrapolated SAR (W/Kg		0.44				
SAR 1g (W/Kg)		0.266				
Peak SAR Location		11mi	m(x),-31mm(y),4mr	n(z)		
100 miles			100 100		# 15t1 14# 35t0	
			1/0	LIME OAD	15	
SURFACE	SAK		VO	LUME SAR		
	3D View F	Plot				



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Test specification:	Plane_Body_Middle_HT20	_2437_F	ront_5mm		
•	Temp(oC): 20.7		_		
Environ Conditions:	Humidity(%): 43.9				
	Atmospheric(mPa): 1012.3			Б. //	
Mains Power:	N/A			Result:	Pass
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:	7 I II I I I I				
Frequency (MHz)		2/37	.000000 (Channel	6)	
Relative permittivity (real part)		51.97		0)	
Conductivity (S/m)		1.85			
		1.00			
Transmission Duty Factor			EDCO250		
Probe SN			_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mm		•	
Zoom Scan Resolution			mm, dy=4mm, dz=	:2mm	
Zoom Scan Size			1x24 mm		
Measurement Drifts (%)		0.31			
Highest Extrapolated SAR (W/Kg		0.804			
SAR 1g (W/Kg)		0.465			
Peak SAR Location		-9mm	n(x),17mm(y),4mm	(Z)	
2000 00 00 00 00 00 00 00 00 00 00 00 00			1,200 10 10 10 10 10 10 10		r the two years
SURFACE	SAR		VO	LUME SAR	



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Test specification:	Plane_Body_High_HT20_	_2462_Fr	ont_5mm				
•	Temp(oC): 20.7						
Environ Conditions:	Humidity(%): 43.9						
	Atmospheric(mPa): 1012.	.3		Result:	Door		
Mains Power:	N/A			Result.	Pass		
Test Date:	02/10/2016						
Tested by:	Arthur Tie	Arthur Tie					
Remarks:							
Frequency (MHz)		2462	.000000 (Channel	11)			
Relative permittivity (real part)		51.67	7	•			
Conductivity (S/m)		1.89					
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 (%)		2.18					
Highest Extrapolated SAR (W/Kg	g)	0.804					
SAR 1g (W/Kg)			.4653				
Peak SAR Location		-10m	m(x),17mm(y),4mr	n(z)			
1 (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4			2.50 N		# 150 14F 260		
SURFACI			\/OI	LUME SAR			



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Test specification:	Plane_Body_Middle_H	T20 2437 I	_eft_0mm		
1000 opcomoducin	Temp(oC): 20.7	.20_2.07_2			
Environ Conditions:	Humidity(%): 43.9				
	Atmospheric(mPa): 101	2.3		† <u> </u>	_
Mains Power:	N/A			Result:	Pass
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:	7.4.16.1.16				
Frequency (MHz)		2437	000000 (Channe	16)	
Relative permittivity (real part)		51.97		. 0)	
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.0			
Probe SN			_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mm			
Zoom Scan Resolution			nm, dy=4mm, dz	=2mm	
Zoom Scan Size			1x24 mm	<u> </u>	
Measurement Drifts (%)		4.05			
Highest Extrapolated SAR (W/Kg)	0.085	6		
SAR 1g (W/Kg)	<u> </u>	0.061			
Peak SAR Location			m(x),17mm(y),4n	nm(z)	
10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			10 10 10 10 10 10 10 10	the first the day of the	e Sin tee Sin
SURFACE			V	DLUME SAR	



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Tost specification:	Diana Rody Middla UT20 (2/27	Dight Omm		
Test specification:	Plane_Body_Middle_HT20_2 Temp(oC): 20.7	<u> </u>	Ngn_omili		
Environ Conditions:					
Environ Conditions.	Humidity(%): 43.9 Atmospheric(mPa): 1012.3				
Mains Power:	N/A			Result:	Pass
	II.				
Test Date:	02/10/2016				
Tested by:	Arthur Tie				
Remarks:		0.407	2000000 (0)	3 \	
Frequency (MHz)			.000000 (Channel 6	D)	
Relative permittivity (real part)		51.97	/		
Conductivity (S/m)		1.85			
Transmission Duty Factor		1.0	ED00050		
Probe SN			_EPGO259		
Conversion Factor (dB)		2.7			
Area Scan Resolution		8 mn			
Zoom Scan Resolution			mm, dy=4mm, dz=2	2mm	
Zoom Scan Size			4x24 mm		
Measurement Drifts (%)	,	4.06			
Highest Extrapolated SAR (W/Kg)	0.068			
SAR 1g (W/Kg)		0.046			
Peak SAR Location		-59m	m(x),-48mm(y),4mi	n(z)	
			Section Sect		Sit to 3n
(5) × (40)			1/01	LIME OAD	
SURFACE	SAR		VOL	UME SAR	
	3D View P	lot			

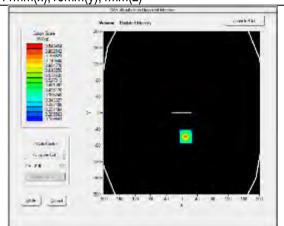


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802.11-a 5G

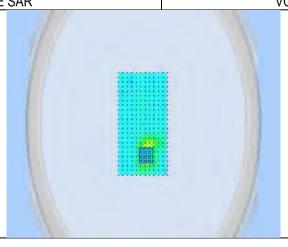
Test specification:	Plane_Body_Middle_802.11a_5180_Front_5mm							
•	Temp(oC):	Temp(oC):						
Environ Conditions:	Humidity (%):	Humidity (%):						
	Atmospheric(mPa):		1009	Result:	Pass			
Mains Power:	N/A			Nesuit.	F 455			
Test Date:	02/11/2016							
Tested by:	Arthur Tie							
Remarks:								
Frequency (MHz)		5180.	5180.000000 (Channel 36)					
Relative permittivity (real pa	art)	46.27	46.27					
Conductivity (S/m)		5.55						
Transmission Duty Factor		1.0						
Probe SN		2715_	2715_EPGO259					
Conversion Factor (dB)		2.39	2.39					
Area Scan Resolution		8 mm	8 mm					
Zoom Scan Resolution		dx=4n	dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24	24x24x24 mm					
Measurement Drifts (%)		-1.50	-1.50					
Highest Extrapolated SAR	(W/Kg)	1.227	7					
SAR 1g (W/Kg)		0.567	0.5671					
Peak SAR Location		-11mr	-11mm(x),16mm(y),4mm(z)					

Star Shell E x 100 (50 Y 100)



SURFACE SAR

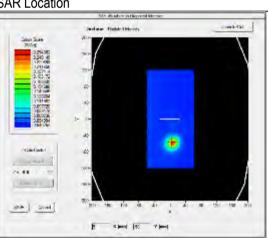
VOLUME SAR

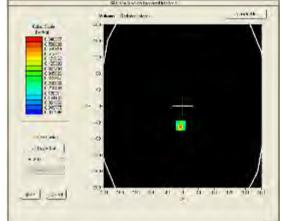




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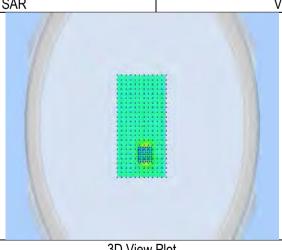
Test specification:	ion: Plane_Body_Middle_802.11a_5200_Front_5mm						
	Temp(oC):		23				
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Result.	F455		
Test Date:	02/11/2016						
Tested by:	Arthur Tie						
Remarks:			<u> </u>		<u> </u>		
Frequency (MHz)		5200.000000 (Channel 40)					
Relative permittivity (real part)		46.18	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 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x24 mm					
Measurement Drifts (%)		-2.23					
Highest Extrapolated SAR (W/Kg)		1.2299					
SAR 1g (W/Kg)		0.5658					
Peak SAR Location		-5mn	n(x),-49mm(y),				
SAN desident on the print before		SEE Visit on temperal laterier s					





SURFACE SAR

VOLUME SAR





Test report No. FCC/IC_ SAR_SL15081301-SLX-018
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Mains Power: N/A Test Date: 02/11/2016 Tested by: Arthur Tie Remarks: 5200.000000 (Channel 40) Frequency (MHz) 5200.000000 (Channel 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 mm Zoom Scan Resolution dx=4mm, dy=4mm, dz=2mm Zoom Scan Size 24x24x24 mm Measurement Drifts (%) 4.71 Highest Extrapolated SAR (W/Kg) 0.4094 SAR 1g (W/Kg) 0.2613 Peak SAR Location 45mm(x), -48mm(y),4mm(z)	Pass
Humidity (%): 58	
Atmospheric (mPa): 1009 Result: P	
Mains Power: N/A Test Date: 02/11/2016 Tested by: Arthur Tie Remarks: 5200.000000 (Channel 40) Relative permittivity (real part) 46.18 Conductivity (S/m) 5.56 Transmission Duty Factor 1.0 Probe SN 2715_EPG0259 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 (%) 4.71 Highest Extrapolated SAR (W/Kg) 0.4094 SAR 1g (W/Kg) 0.2613 Peak SAR Location 45mm(x),-48mm(y),4mm(z)	
Test Date: 02/11/2016 Tested by: Arthur Tie Remarks: Frequency (MHz) 5200.000000 (Channel 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 mm Zoom Scan Resolution dx=4mm, dy=4mm, dz=2mm Zoom Scan Size 24x24x24 mm Measurement Drifts (%) 4.71 Highest Extrapolated SAR (W/Kg) 0.4094 SAR 1g (W/Kg) 0.2613 Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mids.
Tested by: Remarks: Frequency (MHz) Relative permittivity (real part) Conductivity (S/m) Transmission Duty Factor Probe SN Conversion Factor (dB) Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location Athur Tie 5200.000000 (Channel 40) 46.18 5.56 Transmission Duty Factor 1.0 2715_EPGO259 2715_EPGO259 2.39 Area Scan Resolution 48 mm 4x=4mm, dy=4mm, dz=2mm 2om Scan Size 24x24x24 mm 4x=4mm, dy=4mm, dz=2mm 2om Scan Size 24x24x24 mm 4.71 Highest Extrapolated SAR (W/Kg) 0.2613 Peak SAR Location 45mm(x), 48mm(y), 4mm(z)	mix da _
Remarks: Frequency (MHz) Relative permittivity (real part) Conductivity (S/m) Transmission Duty Factor Probe SN Conversion Factor (dB) Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location S200.000000 (Channel 40) 46.18 5200.000000 (Channel 40) 46.18 5200.000000 (Channel 40) 46.18 62.39 2715_EPG0259 2.39 Area Scan Resolution 4x=4mm, dy=4mm, dz=2mm 2x=2mm 24x24x24 mm 4.71 Highest Extrapolated SAR (W/Kg) 9.4094 SAR 1g (W/Kg) Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mids
Frequency (MHz) 5200.000000 (Channel 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 mm Zoom Scan Resolution dx=4mm, dy=4mm, dz=2mm Zoom Scan Size 24x24x24 mm Measurement Drifts (%) 4.71 Highest Extrapolated SAR (W/Kg) 0.4094 SAR 1g (W/Kg) 0.2613 Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mids.
Relative permittivity (real part) Conductivity (S/m) Transmission Duty Factor Probe SN Conversion Factor (dB) Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 46.18 5.56 1.0 2715_EPGO259 2.39 8 mm 2.39 4 x-4mm, dy=4mm, dz=2mm 24x24x24 mm 4x-4mm, dy=4mm, dz=2mm 24x24x24 mm 4.71 Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 45mm(x),-48mm(y),4mm(z)	nv4
Conductivity (S/m) Transmission Duty Factor Probe SN Conversion Factor (dB) Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 5.56 1.0 2715_EPGO259 2.39 8 mm 4x=4mm, dy=4mm, dz=2mm 24x=24x=24 mm 4x=2mm 4x=24x=24 mm 4.71 Highest Extrapolated SAR (W/Kg) 0.4094 SAR 1g (W/Kg) Peak SAR Location 45mm(x),-48mm(y),4mm(z)	riv di
Transmission Duty Factor Probe SN Conversion Factor (dB) Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 1.0 2715_EPGO259 2.39 8 mm dx=4mm, dy=4mm, dz=2mm 24x24x24 mm 4.71 0.4094 0.2613 Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mid.
Probe SN Conversion Factor (dB) Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Description Zoom Scan Size Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Area Scan Resolution Zoom Scan Resolutio	mids.
Conversion Factor (dB) Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 2.39 8 mm dx=4mm, dy=4mm, dz=2mm 24x24x24 mm 4.71 0.4094 0.2613 45mm(x),-48mm(y),4mm(z)	nv4
Area Scan Resolution Zoom Scan Resolution Zoom Scan Size Zexzexzex mm Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 8 mm dx=4mm, dy=4mm, dz=2mm 24x24x24 mm 0.4094 0.2613 45mm(x),-48mm(y),4mm(z)	rev ds.
Zoom Scan Resolution Zoom Scan Size 24x24x24 mm Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mid.
Zoom Scan Size Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 24x24x24 mm 4.71 0.4094 0.2613 45mm(x),-48mm(y),4mm(z)	mids.
Measurement Drifts (%) Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mv4.
Highest Extrapolated SAR (W/Kg) SAR 1g (W/Kg) Peak SAR Location 45mm(x),-48mm(y),4mm(z)	yek dk
SAR 1g (W/Kg) Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mid.
Peak SAR Location 45mm(x),-48mm(y),4mm(z)	mid.
Site Case State of St	mid
Contract	mids J
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SURFACE SAR VOLUME SAR	
3D View Plot	



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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_80	02.11a_5200_Right_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Result:	Door		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/11/2016					
Tested by:	Arthur Tie					
Remarks:		·	·			
Frequency (MHz)		5200.000000 (Chan	nel 40)			
Relative permittivity (real par	t)	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 mm				
Zoom Scan Resolution		dx=4mm, dy=4mm,	dz=2mm			
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		-3.12				
Highest Extrapolated SAR (\	V/Kg)	0.3220				
SAR 1g (W/Kg)		0.2232				
Peak SAR Location		-5mm(x),-49mm(y),4				
Send over No. Send o		Can		ही १४ वहा थी।		
5 ×	F= H2 YF=					
	ACE SAR	VOLUME SAR				

SAR

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3D View Plot

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

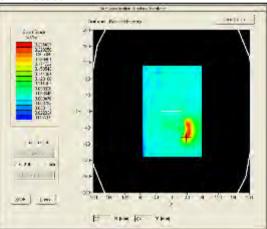
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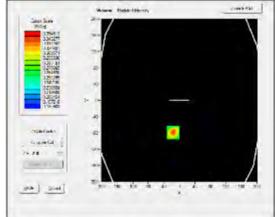
Test specification:	Plane_Body_Middle_802	.11a 524	0 Front 5mm			
1	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	5	_	
Mains Power:	N/A			Result:	Pass	
Test Date:	02/11/2016					
Tested by:	Arthur Tie					
Remarks:			•	-		
Frequency (MHz)		5240	.000000 (Chann	el 48)		
Relative permittivity (real part)		46.12	2	·		
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			mm, dy=4mm, d	z=2mm		
Zoom Scan Size			4x24 mm			
Measurement Drifts (%)		3.29				
Highest Extrapolated SAR (W/Kg		1.3672				
SAR 1g (W/Kg)		0.619				
Peak SAR Location		44mr	m(x),-55mm(y),4	mm(z)		
12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		100 100	m his fire day do 1 d	A - 150 - 140 - 501	
SURFACE	SAR	VOLUME SAR				



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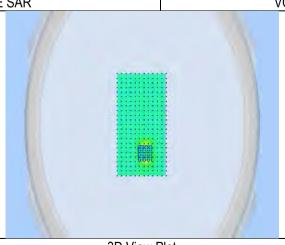
Test specification:	Plane_Body_Middle_802	2.11a_526	0_Front_5mm			
	Temp(oC):	Temp(oC):				
Environ Conditions:	Humidity(%):	Humidity(%):				
	Atmospheric(mPa):	Atmospheric(mPa):		Result:	Door	
Mains Power:	N/A			Result.	Pass	
Test Date:	02/12/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5260.000000 (Channel 52)				
Relative permittivity (real part)		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 Series	e Under Control			Strukture orthogen likerne.	comb 451	





SURFACE SAR

VOLUME SAR

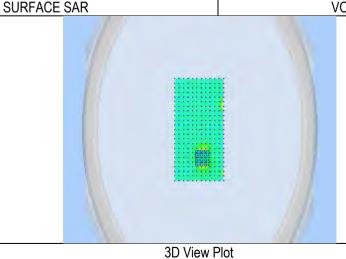




 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:		02.11a_5300_Front_5m	m			
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		i Nesuit.	Pass		
Test Date:	02/12/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5300.000000 (Ch	annel 60)			
Relative permittivity (real pa	rt)	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=4m	m, dz=2mm			
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		4.37				
Highest Extrapolated SAR (W/Kg)	2.4527				
SAR 1g (W/Kg)		1.1830				
Peak SAR Location		38mm(x),-63mm(y),4mm(z)			
Control Cont	1/21 4 20 1 20 4 1/21 14 200	Calc. Calc. To had To had Calc. Calc. Ca	Size of a print appropriate to the second se	di na na sail		
	SHE KO YHE		\/OLLUME			
SHR.	FACE SAR	VOLUME SAR				



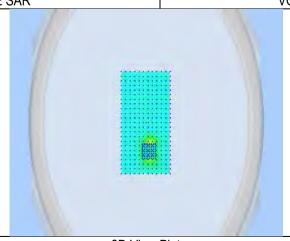


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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_80	2.11a_5300_Left_0mm				
•	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Decult	Desa		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/12/2016					
Tested by:	Arthur Tie					
Remarks:			<u>.</u>			
Frequency (MHz)		5300.000000 (Cha	nnel 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 (%)		3.87				
Highest Extrapolated SAR (W	^r /Kg)	0.2756				
SAR 1g (W/Kg)		0.4352				
Peak SAR Location		-5mm(x),-50mm(y)				
Sadam Room	to 1 stacked and a second and a		St. Carpet on Expand Metrics : Wilson Florido More:	Amide		
200 (See 1) 100 (S		Calc. Calc. Portal 1900 A. 1 Calc. Calc. 1 Calc	20 00 00 00 00 00 00 00 00 00 00 00 00 0			

SURFACE SAR VOLUME SAR



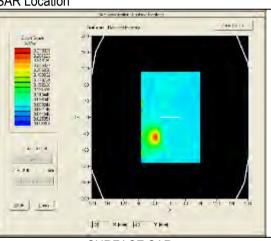
3D View Plot

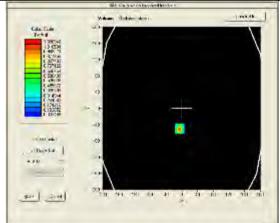
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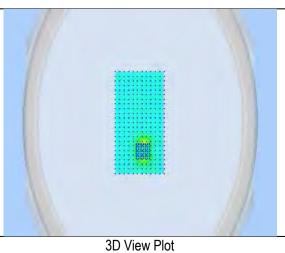
Test specification:	Plane_Body_Middle_802	.11a_5300_Right_	0mm			
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Do	sult:	Door	
Mains Power:	N/A		Ke	Suit.	Pass	
Test Date:	02/12/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)	•	5300.000000	(Channel 60)			
Relative permittivity (real par	t)	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 (%)		-1.07				
Highest Extrapolated SAR (W/Kg)		0.3995				
SAR 1g (W/Kg)		0.2568				
Peak SAR Location		-36mm(x),-49mm(y),4mm(z)				
Series Series	india di phasilionidosi colificamia (1900)		SEE STAIR SHAFT ON BASIS ON A	Heledon	- Amit di-	





SURFACE SAR

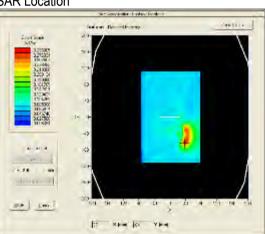
VOLUME SAR

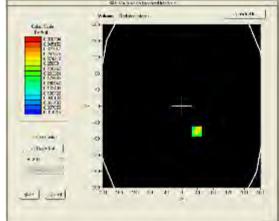




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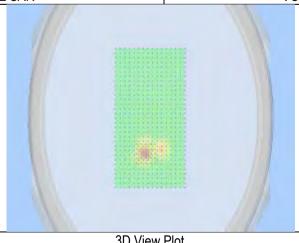
Test specification:	Plane_Body_Middle_802	2.11a_5320_Front_5mr	m				
	Temp(oC):	23					
Environ Conditions:	Humidity (%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	F d 5 5			
Test Date:	02/15/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5320.000000 (Channel 64)					
Relative permittivity (real part)		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 (%)		2.28					
Highest Extrapolated SAR (W/Kg)		1.4699					
SAR 1g (W/Kg)		0.6041					
Peak SAR Location		39mm(x),-62mm(y	39mm(x),-62mm(y),4mm(z)				
Ser Service	the United by the Section 1		St. Ca. and on Expendication 1				





SURFACE SAR

VOLUME SAR





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

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Test specification:	Plane_Body_Middle_8			T			
	Temp(oC):		23				
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):	1	1009	Result:	Pass		
Mains Power:	N/A			rvesuit.	1 033		
Test Date:	02/15/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5500.00	5500.000000 (Channel 100)				
Relative permittivity (real part)		45.16					
Conductivity (S/m)		6.04					
Transmission Duty Factor		1.0					
Probe SN		2715_E	EPGO259				
Conversion Factor (dB)		2.63					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mm, dy=4mm, dz=2mm					
Zoom Scan Size		24x24x	:24 mm				
Measurement Drifts (%)		-0.46					
Highest Extrapolated SAR (W/K	g)	1.2337					
SAR 1g (W/Kg)	σ ,	0.5709					
Peak SAR Location		-5mm(x	-5mm(x),-54mm(y),4mm(z)				
South State So			Can And Can	Man (Solution door).	(i) 1/1 1/2 (ii)		
SURFAC				VOLUME SAR	_		
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 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

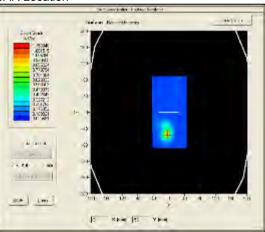
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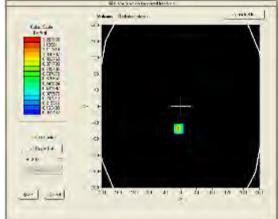
Test specification:	Plane_Body_Middle_80	02.11a_5560 _. Fi	ront_5mm		
1	Temp(oC):	23	_		
Environ Conditions:	Humidity(%):	58			
	Atmospheric(mPa):	10	09	Decult	Door
Mains Power:	N/A			Result:	Pass
Test Date:	02/15/2016				
Tested by:	Arthur Tie				
Remarks:		•		1	1
Frequency (MHz)		5560.000	000 (Chann	el 112)	
Relative permittivity (real part		44.97		- /	
Conductivity (S/m)		6.17			
Transmission Duty Factor		1.0			
Probe SN		2715_EP	GO259		
Conversion Factor (dB)		2.71			
Area Scan Resolution		8 mm			
Zoom Scan Resolution			dy=4mm, d	z=2mm	
Zoom Scan Size		24x24x24	_	·	
Measurement Drifts (%)		3.09			
Highest Extrapolated SAR (W	//Ka)	1.3604			
SAR 1g (W/Kg)	· J /	0.6128			
Peak SAR Location			,-64mm(y),4	mm(z)	
		, ./N +20	CMSS 00 1500 0		हों का पड़ेंग औं।
100	ACE SAR		\	VOLUME SAR	



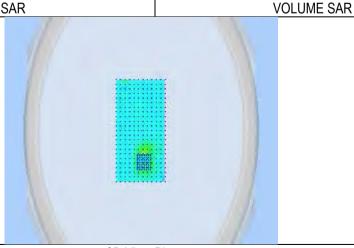
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Test specification:	Plane_Body_Middle_8	02.11a_5560_	_Left_0mm				
	Temp(oC):	2	23				
Environ Conditions:	Humidity(%):	5	58				
	Atmospheric(mPa):	1	1009	Result:	Pass		
Mains Power:	N/A			Result.	Fa55		
Test Date:	02/15/2016	02/15/2016					
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5560.00	00000 (Chan	nel 112)			
Relative permittivity (real pa	art)	44.97	44.97				
Conductivity (S/m)		6.17	6.17				
Transmission Duty Factor		1.0					
Probe SN		2715_E	PGO259				
Conversion Factor (dB)		2.71					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=4mr	dx=4mm, dy=4mm, dz=2mm				
Zoom Scan Size		24x24x	24x24x24 mm				
Measurement Drifts (%)		-1.20	-1.20				
Highest Extrapolated SAR	(W/Kg)	0.4338					
SAR 1g (W/Kg)		0.2814					
Peak SAR Location		-5mm(x	-5mm(x),-55mm(y),4mm(z)				
200,000	more than to the control of the cont		Cala Sub 18 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sile das a set on large and binder of			





SURFACE SAR

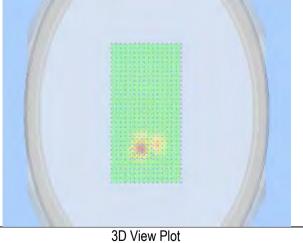




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Test specification:	Plane_Body_Middle_80	02.11a_5 5 66				
	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A			Result.	Fass	
Test Date:	02/15/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5560	.000000 (Chanr	nel 112)		
Relative permittivity (real part)		44.97	,			
Conductivity (S/m)		6.17				
Transmission Duty Factor		1.0				
Probe SN			_EPGO259			
Conversion Factor (dB)		2.71	_			
Area Scan Resolution		8 mm				
Zoom Scan Resolution			mm, dy=4mm, d	dz=2mm		
Zoom Scan Size			4x24 mm			
Measurement Drifts (%) 2.		2.37				
Highest Extrapolated SAR (W/Kg) 0.4		0.438				
	SAR 1g (W/Kg) 0.2					
Peak SAR Location		-36m	m(x),-53mm(y),	4mm(z)		
Section Sect	40 - 1 - 20 - 40 - 101 - 140 -		Carcina 200 1 1 200 1 1 200 1 1 200		ती का पंत को।	
SURFACE	The state of the s			VOLUME SAR		
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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_802	.11a 570	0 Front 5mm				
	Temp(oC):		23				
Environ Conditions:			58				
	Atmospheric(mPa):		1009	Descrit	D		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:			•		ı		
Frequency (MHz)	I	5700	.000000 (Chanr	nel 140)			
Relative permittivity (real part)		44.66		,			
Conductivity (S/m)		6.43					
Transmission Duty Factor		1.0					
Probe SN			_EPGO259				
Conversion Factor (dB)		2.71					
Area Scan Resolution		8 mn	n				
Zoom Scan Resolution			mm, dy=4mm, c	lz=2mm			
Zoom Scan Size			4x24 mm				
Measurement Drifts (%)		0.61	1/2 1 111111				
Highest Extrapolated SAR (W/Kg	1)	0.997	71				
SAR 1g (W/Kg)	1/	0.480					
Peak SAR Location			-5mm(x),-55mm(y),4mm(z)				
E *F# E	100		20 20	11 194 1981 84 41 1 21 21 21 21 21 21 21 21 21 21 21 21	की 10 प्रदेश की।		
SURFACI	SAR			VOLUME SAR			



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

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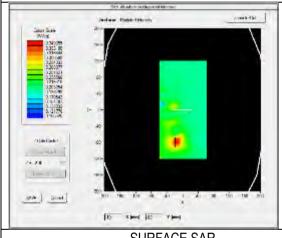
Test specification:	Plane_Body_Middle_802	2 11a 5745	Front 5mm		
rest specification.	Temp(oC):				
Environ Conditions:	1 \ /		58		
Environ conditions.	Atmospheric(mPa):		1009		
Mains Power:	N/A		1003	Result:	Pass
Test Date:	02/16/2016				
Tested by:	Arthur Tie				
Remarks:	Artiful He				
		E74E 0	100000 (Channal	140)	
Frequency (MHz)			00000 (Channel	149)	
Relative permittivity (real part)		44.50			
Conductivity (S/m)		6.43 1.0			
Transmission Duty Factor			EDCO250		
Probe SN			EPGO259		
Conversion Factor (dB)		2.65			
Area Scan Resolution		8 mm	1 4 1	0	
Zoom Scan Resolution			m, dy=4mm, dz=	=∠mm	
Zoom Scan Size			k24 mm		
Measurement Drifts (%)	<u> </u>	3.40	1		
Highest Extrapolated SAR (W/Kg		0.9872			
SAR 1g (W/Kg) Peak SAR Location		0.4754	41mm(x),-35mm(y),4mm(z)		
# *•* E		712			56 18 20
SURFACE	SAR	VOLUME SAR			

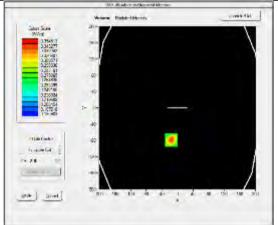


 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

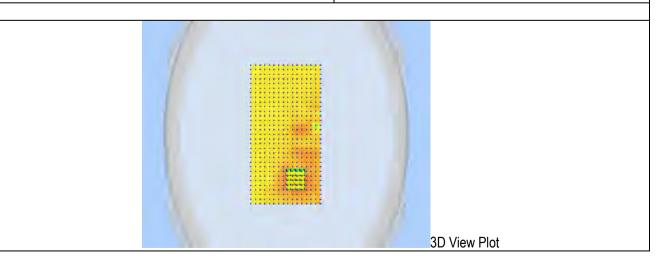
 Page
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Test specification:	Plane_Body_Middle_80	2.11a_5785_Front_5mm	1a_5785_Front_5mm				
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Fass			
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5785.000000 (Char	5785.000000 (Channel 157)				
Relative permittivity (real part)		44.36					
Conductivity (S/m)	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	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)					
We dealer outliere	nd lide-mer-		SAN distallant year they would be to may	444			





SURFACE SAR VOLUME SAR





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Test specification:	Plane_Body_Middle_80)2.11a_578	5_Left_0mm				
	Temp(oC):		23				
Environ Conditions:	Humidity(%):		58				
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			rtesuit.	rass		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5785	5.000000 (Channel	157)			
Relative permittivity (real part)		44.36	<u> </u>				
Conductivity (S/m)		6.43					
Transmission Duty Factor		1.0					
Probe SN		2715	EPGO259				
Conversion Factor (dB)		2.65					
Area Scan Resolution		8 mn	n				
Zoom Scan Resolution		dx=4	mm, dy=4mm, dz=	2mm			
Zoom Scan Size		24x2	4x24 mm				
Measurement Drifts (%)		-4.27	,				
Highest Extrapolated SAR (W/k	(g)	0.468					
SAR 1g (W/Kg)		0.300	04				
Peak SAR Location		41mr	41mm(x),-35mm(y),4mm(z)				
	4 41 1 4 10 14 0n		100 100		St. 187 201		
SURFAC	CE SAR	VOLUME SAR					



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

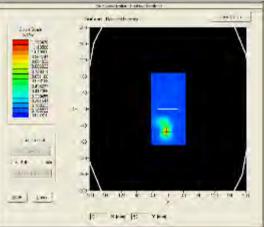
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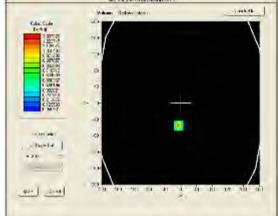
Test specification:	Plane_Body_Middle_80	2.11a 578	5 Right 0mm				
	Temp(oC):		23				
Environ Conditions:	Humidity(%):		58				
	Atmospheric(mPa):		1009				
Mains Power:	N/A			Result:	Pass		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)	<u> </u>	5785.	.000000 (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	1				
Zoom Scan Resolution		dx=4ı	mm, dy=4mm,	dz=2mm			
Zoom Scan Size			4x24 mm				
Measurement Drifts (%)		4.36					
Highest Extrapolated SAR (W/Kg	g)	0.376					
SAR 1g (W/Kg)		0.260	0.2609				
Peak SAR Location		41mn	n(x),-35mm(y),4	4mm(z)			
17.300	4 - 21 - 21 - 21 - 12 - 211 - YP-4		Control Cont	+	di 10 vis di		
SURFAC	F SAR	VOLUME SAR					



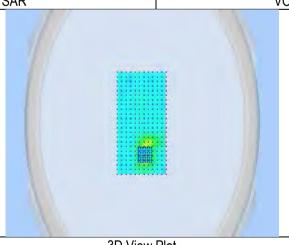
Test report No. FCC/IC_SAR_SL15081301-SLX-018 78 of 159 Page

Test specification:	Plane_Body_Middle_802	2.11a_5825_Front_5mm					
	Temp(oC):	23					
Environ Conditions:	Humidity (%):	58					
	Atmospheric(mPa):	1009	Desults	Dana			
Mains Power:	N/A		Result:	Pass			
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:		-		•			
Frequency (MHz)	·	5825.000000 (Chan	nel 165)				
Relative permittivity (real par	t)	44.17	,				
Conductivity (S/m)			6.48				
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 (%)		4.610					
Highest Extrapolated SAR (V	V/Kg)	1.1540					
SAR 1g (W/Kg)		0.5313					
Peak SAR Location		-15mm(x),-45mm(y),4mm(z)					
Statement Statement	The Property Control of the Pr		Sit the part on temperal letters	-/-mide_			
1 1 200 1 200 1 1 1 1 1 1 1 1 1 1 1 1 1		Cala Cala 12-94 2 200 20 2 2 2 2					





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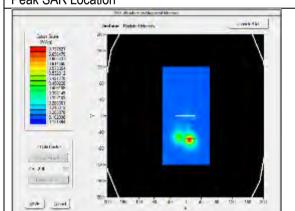




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802.11-HT20-5G

Test specification:	Plane_Body_Middle_HT20_5200_Front_5mm						
<u>.</u>	Temp(oC):	23					
Environ Conditions:	Humidity (%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Fa55			
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5200.000000 (Channel 40)					
Relative permittivity (real pa	Relative permittivity (real part)		46.18				
Conductivity (S/m)		5.56	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	24x24x24 mm				
Measurement Drifts (%)		3.31	3.31				
Highest Extrapolated SAR (W/Kg)		1.2261					
SAR 1g (W/Kg)		0.5638					
Peak SAR Location		45mm(x)47mm(y).4mm(z)					

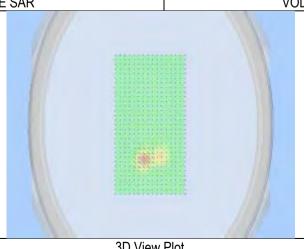


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 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

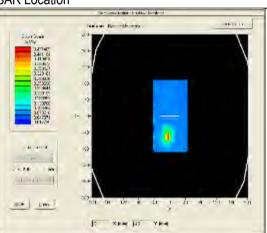
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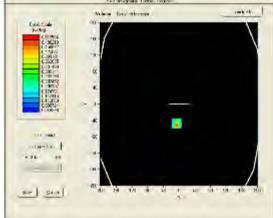
Test specification:	Plane_Body_Middle_HT2	20_5200_	Left_0mm				
	Temp(oC):		23				
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):		1009	Dogult	Door		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:			•		1		
Frequency (MHz)		5200	0.000000 (Chanr	nel 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	1				
Zoom Scan Resolution			mm, dy=4mm, c	lz=2mm			
Zoom Scan Size			4x24 mm				
Measurement Drifts (%)		-1.82					
Highest Extrapolated SAR (W/Kg)	<u> </u>	0.336					
SAR 1g (W/Kg)			0.2368				
Peak SAR Location			n(x),-49mm(y),4	mm(z)			
12-74			CONT. (CONT.)		S1 - 14 - 15 - 26)		
				VOLUME CAD			
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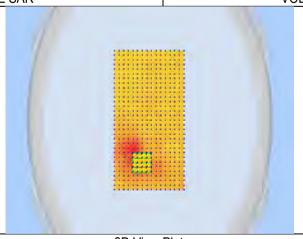
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Test specification:	Plane_Body_Middle_HT2	20_5200_	Right_0mm				
	Temp(oC):	Temp(oC):					
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Result.	F a 5 5		
Test Date:	02/16/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5200	.000000 (Chan	nel 40)			
Relative permittivity (real pa	rt)	46.18	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 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					
Peak SAR Location			-5mm(x),-49mm(y),4mm(z)				
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VOLUME SAR SURFACE SAR





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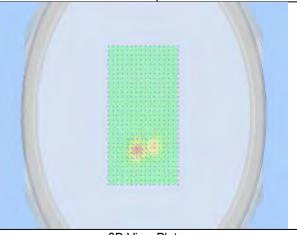
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Test specification:	Plane_Body_Middle_F	Plane_Body_Middle_HT20_5300_Front_5mm					
	Temp(oC):		23				
Environ Conditions:	Humidity (%):		58				
	Atmospheric(mPa):		1009	Result:	Door		
Mains Power:	N/A			Result.	Pass		
Test Date:	02/16/2016						
Tested 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	1.0				
Probe SN		2715_	2715_EPGO259				
Conversion Factor (dB)		2.39	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 (%)		2.67	2.67				
Highest Extrapolated SAR (W/k	(g)	1.455					
SAR 1g (W/Kg)		0.648					
Peak SAR Location		39mm	39mm(x),-62mm(y),4mm(z)				
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VOLUME SAR SURFACE SAR

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Test specification:	Plane_Body_Middle_HT20	5300	Left Omm		
Tool opositionation.	Temp(oC):	_0000_	23		
Environ Conditions:	Humidity (%):		58	 	
Environ Conditions.			1009		
Maina Danna	Atmospheric(mPa):		1009	Result:	Pass
Mains Power:	N/A				
Test Date:	02/16/2016				
Tested by:	Arthur Tie				
Remarks:					
Frequency (MHz)		5300	.000000 (Chai	nnel 60)	
Relative permittivity (real part)		46.03	3		
Conductivity (S/m)		5.74			
Transmission Duty Factor		1.0			
Probe SN		2715	EPGO259		
Conversion Factor (dB)		2.39			
Area Scan Resolution		8 mn	n		
Zoom Scan Resolution			mm, dy=4mm,	dz=2mm	
			4x24 mm	, uz-ZIIIII	
Zoom Scan Size			4XZ4 [[[[]]		
Measurement Drifts (%)		2.09	20		
Highest Extrapolated SAR (W/Kg)		0.413			
SAR 1g (W/Kg)		0.268			
Peak SAR Location		39mr	m(x),-62mm(y)	,4mm(z)	
11 5 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5			(n-)x- 	CS 4. II. II. III. II. II. II. II. II. II.	St. 18 48 30
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Test specification:	Plane_Body_Middle_H	Γ20 5300 Right 0mm				
•	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009		_		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/16/2016					
Tested by:	Arthur Tie					
Remarks:			I			
Frequency (MHz)	I	5300.000000 (Chani	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, d	dz=2mm			
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)		-3.09				
Highest Extrapolated SAR (W/	Kg)	0.4286				
SAR 1g (W/Kg)	- 5/	0.2723				
Peak SAR Location		-5mm(x),-50mm(y),4	mm(z)			
	4 - 2r g - 2r a - 15) ra - 50	CONTROL (CONTROL (CON		St. 16. 16. 360		
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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_HT20_	5560	Front 5mm			
	Temp(oC):		23			
Environ Conditions:	Humidity (%):		58			
	Atmospheric(mPa):		1009		_	
Mains Power:	N/A			Result:	Pass	
Test Date:	02/16/2016					
Tested by:	Arthur Tie					
Remarks:			<u> </u>		1	
Frequency (MHz)	<u> </u>	5560	.000000 (Chann	el 112)		
Relative permittivity (real part)		44.97		<u> </u>		
Conductivity (S/m)		6.17				
Transmission Duty Factor		1.0				
Probe SN			EPGO259			
Conversion Factor (dB)		2.71				
Area Scan Resolution		8 mn	n			
Zoom Scan Resolution			mm, dy=4mm, d	z=2mm		
Zoom Scan Size			4x24 mm			
Measurement Drifts (%)		-2.38				
Highest Extrapolated SAR (W/Kg)	1.3900				
SAR 1g (W/Kg)	I	0.6267				
Peak SAR Location			m(x),-64mm(y),4i	mm(z)		
200000 00 00 00 00 00 00 00 00 00 00 00	11 1 21 4 01 14 011 Yes		C2805 18-16-16-16-16-16-16-16-16-16-16-16-16-16-	N W A W I W	Sa na na man	
SURFACE	SAR	VOLUME SAR				



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Test specification:	Plane_Body_Middle_HT	20_5560_Left_0mm				
•	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Nesuit.	F 455		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5560.000000 (Chann	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, d	iz=2mm			
Zoom Scan Size		24x24x24 mm				
Measurement Drifts (%)	///a\	4.05				
Highest Extrapolated SAR (W SAR 1g (W/Kg)	rry)	0.4717 0.2940				
Peak SAR Location		-5mm(x),-55mm(y),4i	mm/7)			
	21	1		St 181 - 360 - 360)		
SURF	ACE SAR		VOLUME SAR			



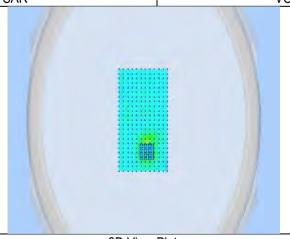
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Test specification:	Plane_Body_Middle_HT	20_5560_Right_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Desulti	D		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)	·	5560.000000 (Chai	nnel 112)			
Relative permittivity (real pa	rt)	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 (%)		-1.95				
Highest Extrapolated SAR (W/Kg)	0.4981				
SAR 1g (W/Kg)		0.3101				
Peak SAR Location		-5mm(x),-55mm(y),	· /			
Contract More Contract Contract	visitation is stated to retain the contract of	Cab. Cab. Porting (200.0) (10	And Venderste Tretter London. Where Erick of Recognity 197 197 107 107 107 107 107 107	(mit) 45		

SURFACE SAR VOLUME SAR

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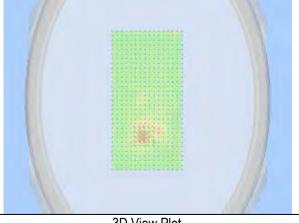
3D View Plot

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Test specification:		20_5785_Front_5mm		T		
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		i Nesuit.	1 033		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5785.000000 (Char	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		24x24x24 mm				
Measurement Drifts (%)		0.60				
Highest Extrapolated SAR (W/k	(g)	0.9528				
SAR 1g (W/Kg)	<u> </u>	0.4593				
Peak SAR Location		38mm(x),-64mm(y)	4mm(z)			
350	# 4 4 4 4 4 4 A	Salari Salari Salari Salar	the the de di i di e	- See - See - See		
DIDEA(at the same of the		VOLUME SAR			
SURFACE SAR			VULUME SAR			



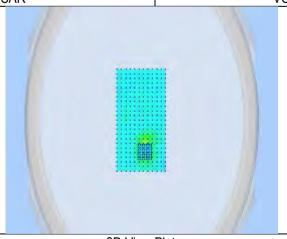


 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_	HT20_5785_	Left_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)		5785	5.000000 (Chann	nel 157)		
Relative permittivity (real par	t)	44.30	6	•		
Conductivity (S/m)		6.43				
Transmission Duty Factor		1.0				
Probe SN		2715	2715_EPGO259			
Conversion Factor (dB)		2.65	2.65			
Area Scan Resolution		8 mn	8 mm			
Zoom Scan Resolution			lmm, dy=4mm, d	lz=2mm		
Zoom Scan Size			24x24 mm			
Measurement Drifts (%)		-1.81				
Highest Extrapolated SAR (V	V/Kg)	0.44				
SAR 1g (W/Kg)		0.28				
Peak SAR Location		-5mr	n(x),-55mm(y),4			
Onlean Box	refer to the foreign	F	-	And Vendinder Lieber Looks	(mb etc.	
200 Seals 200 Se	4 de 4 de 1 de 61 m en		Case Cash (And Cash		31 101 451 361	

SURFACE SAR VOLUME SAR



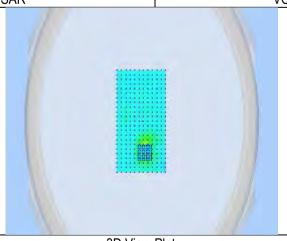


 Test report No.
 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_H1	Γ20_5785_Right_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity (%):	58				
	Atmospheric(mPa):	1009	Desult	Pass		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5785.000000 (Char	nnel 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		24x24x24 mm				
Measurement Drifts (%)		0.50				
Highest Extrapolated SAR (W/k	(g)	0.3789				
SAR 1g (W/Kg)		0.2635				
Peak SAR Location		-5mm(x),-55mm(y),				
Comparison Com	A CONTRACT PROPERTY	Color C. Mar. Porting 2001 15	And Production Lightness Condenses Where Sixth of thermany 21 22 23 24 25 26 27 28 20 20 20 20 20 20 20 20 20	31. 53. 18. 261		

SURFACE SAR VOLUME SAR

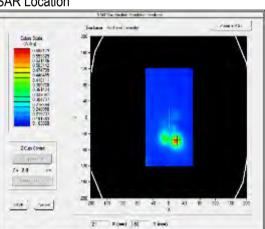


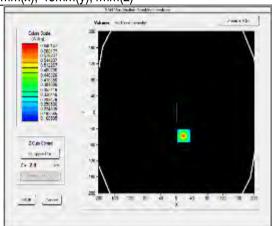


Test report No.	FCC/IC_ SAR_SL15081301-SLX-018
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802.11-HT40-5G

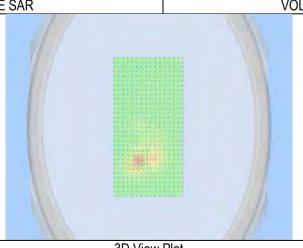
Test specification:	Plane_Body_Middle_HT	T40_5190_Front_5mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Nesuit.	F a 5 5			
Test Date:	02/18/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5190.000000 (Channel 38)					
Relative permittivity (real part)		46.22					
Conductivity (S/m)	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		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	·	45 mm(x), -48 mm(y)	45mm(x),-48mm(y),4mm(z)				





SURFACE SAR

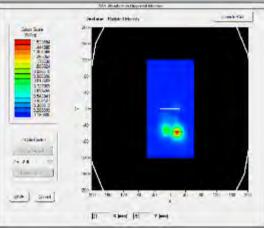
VOLUME SAR

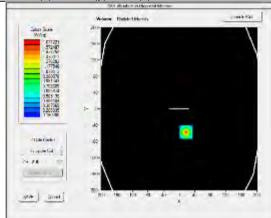




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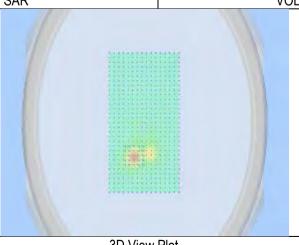
Mains Power:	N/A 02/18/2016			_	Pass	
Test Date: Tested by:	Arthur Tie					
Remarks:	Aithui fie					
Frequency (MHz)	I	5230.000000 (Channel 46)				
Relative permittivity (real pa	rt)	46.13				
Conductivity (S/m)		5.61				
Transmission Duty Factor		1.0				
Probe SN		2715_EPGO259				
Conversion Factor (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)				





SURFACE SAR

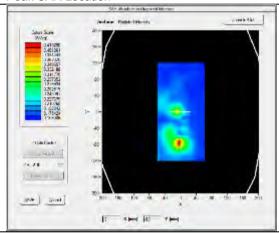
VOLUME SAR

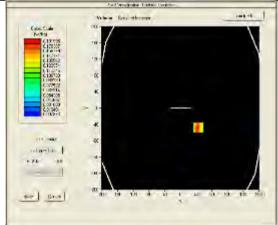




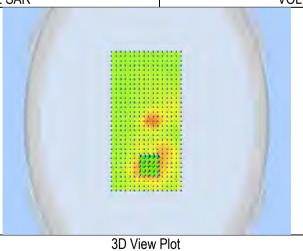
Test report No. FCC/IC_ SAR_SL15081301-SLX-018
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Test specification:	Plane_Body_Middle_HT	40_5230_Left_0mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Dogult	Door			
Mains Power:	N/A		Result:	Pass			
Test Date:	02/18/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)	Frequency (MHz)		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 (%)		-4.01					
Highest Extrapolated SAR (W/Kg)		0.5688					
SAR 1g (W/Kg)		0.3260					
Peak SAR Location		45mm(x),-48mm(y),4mm(z)					
Str. death outliege	See all and the participant blowner		Aut Verschalte Textor London				





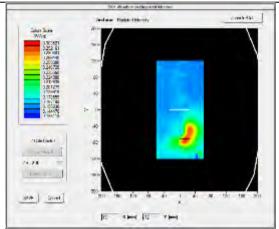
SURFACE SAR VOLUME SAR

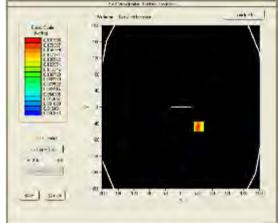




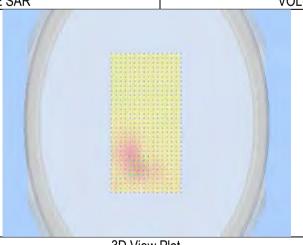
Test report No. FCC/IC_SAR_SL15081301-SLX-018 94 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5230_Right_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Nesuit.	F 455		
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		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 disable velicines Sanitate Highlight Morely	ed Milemon		And Sendential France Localism Volume Residentiament	imb-t-		





VOLUME SAR SURFACE SAR





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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_HT4	0 5270	Front 5mm			
	Temp(oC):	<u></u>	23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009		_	
Mains Power:	N/A		1000	Result:	Pass	
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:	7 it tildi 110					
Frequency (MHz)		5270	.000000 (Chanr	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	_Li 00200			
Area Scan Resolution		8 mm	1			
Zoom Scan Resolution			mm, dy=8mm, o	1z=5mm		
Zoom Scan Size			2x34 mm	12-JIIIII		
Measurement Drifts (%)		4.23	ZXO+ IIIII			
Highest Extrapolated SAR (W/Kg	1	2.643	36			
SAR 1g (W/Kg)]	1.143				
Peak SAR Location		45mm(x),-48mm(y),4mm(z)				
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	di j di a chi mi chi		100 100		St. 18 18 26)	
SURFACE	SAR	VOLUME SAR				



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Test specification:	Plane_Body_Middle_HT	40_5270_	Left_0mm			
	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	Dogult	Door	
Mains Power:	N/A			Result:	Pass	
Test Date:	02/18/2016					
Tested by:	Arthur Tie					
Remarks:			•	-	-	
Frequency (MHz)		5270	.000000 (Channe	el 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	n			
Zoom Scan Resolution		dx=8	mm, dy=8mm, dz	z=5mm		
Zoom Scan Size		32x3	2x34 mm			
Measurement Drifts (%)		-0.19				
Highest Extrapolated SAR (W/	(g)	0.607	75			
SAR 1g (W/Kg)		0.340	04			
Peak SAR Location		45mm(x),-48mm(y),4mm(z)				
Some Becombe			Conclude (0) - 1 - 1 - 1 - 2 - 1 - 2 - 2 - 2 - 2 - 2	the the de de to	St 13 12 200	
SURFACE SAR		VOLUME SAR				



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

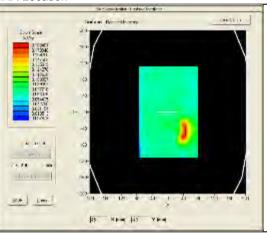
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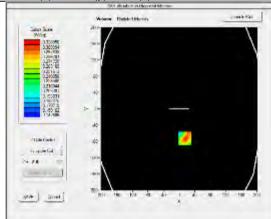
Test specification:	Plane_Body_Middle_H	T40 5270 Right	0mm				
100,00000000000000000000000000000000000	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	100	9		_		
Mains Power:	N/A	100		Result:	Pass		
Test Date:	02/18/2016						
Tested by:	Arthur Tie						
Remarks:		I			<u> </u>		
Frequency (MHz)	l	5270.0000	000 (Channel 5	4)			
Relative permittivity (real part)		46.07	(0110	.,			
Conductivity (S/m)		5.68					
Transmission Duty Factor		1.0					
Probe SN		2715_EPG	GO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution			dy=8mm, dz=5	mm			
Zoom Scan Size		32x32x34					
Measurement Drifts (%)		-3.33					
Highest Extrapolated SAR (W/h	(g)	0.4246					
SAR 1g (W/Kg)		0.2645					
Peak SAR Location		45mm(x),-	48mm(y),4mm	(z)			
300			1 1 1 1 1 1 1 1 1 1	W 4 V I V	Si 10 10 Mil		
SURFAC	CF SAR	VOLUME SAR					



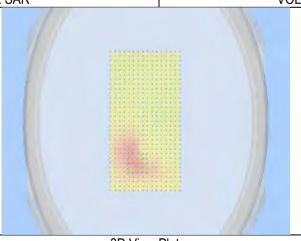
Test report No. FCC/IC_SAR_SL15081301-SLX-018 98 of 159 Page

Test specification:	Plane_Body_Middle_H	T40_5310_	Front_5mm				
	Temp(oC):	Temp(oC):					
Environ Conditions:	Humidity(%):		58				
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Nesuit.	F 455		
Test Date:	02/18/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5310	5310.000000 (Channel 62)				
Relative permittivity (real pa	rt)	46.00	46.00				
Conductivity (S/m)		5.75	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 (W/Kg)		1.6215					
SAR 1g (W/Kg)	SAR 1g (W/Kg)		0.7278				
Peak SAR Location		45mm(x),-48mm(y),4mm(z)					
States to	Statement for the Control of the Con		204 deaders yn Regned Monace Webern Hedde Officerry Joseph 45a				





VOLUME SAR SURFACE SAR





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Test specification:	Plane_Body_Middle_HT	Γ40 5510	Front 5mm				
	Temp(oC):		23				
Environ Conditions:	Humidity(%):		58				
	Atmospheric(mPa):		1009				
Mains Power:	N/A			Result:	Pass		
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5510	.000000 (Chann	el 102)			
Relative permittivity (real part)		45.12		0. 102)			
Conductivity (S/m)		6.06					
Transmission Duty Factor		1.0					
Probe SN			_EPGO259				
Conversion Factor (dB)		2.39	_Li 00200				
Area Scan Resolution		8 mm	า				
Zoom Scan Resolution			mm, dy=8mm, d	7=5mm			
Zoom Scan Size			2x34 mm	<u> - </u>			
Measurement Drifts (%)		-4.50					
Highest Extrapolated SAR (W/Kg)		2.338					
SAR 1g (W/Kg)	1		0.9953				
Peak SAR Location			n(x),-64mm(y),4	mm(z)			
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SURFACE	SAR	VOLUME SAR					

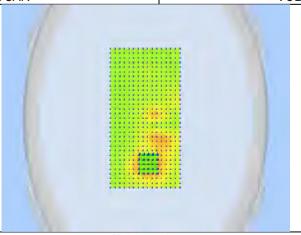


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Test specification:	Plane_Body_Middle_H	Plane_Body_Middle_HT40_5510_Left_0mm					
	Temp(oC):		23				
Environ Conditions:	Humidity(%):		58				
	Atmospheric(mPa):		1009	Desulti	Dana		
Mains Power:	N/A			Result:	Pass		
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:		•			•		
Frequency (MHz)	<u> </u>	5510.0	000000 (Chanr	nel 102)			
Relative permittivity (real part)		45.12	•	,			
Conductivity (S/m)		6.06					
Transmission Duty Factor		1.0					
Probe SN		2715_	2715_EPGO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8m	nm, dy=8mm, d	dz=5mm			
Zoom Scan Size		32x32	x34 mm				
Measurement Drifts (%)		-4.03					
Highest Extrapolated SAR (W/	Kg)	0.6192	2				
SAR 1g (W/Kg)		0.3464	1				
Peak SAR Location		38mm	(x),-64mm(y),4	lmm(z)			
Service de	districtivates — control —			And Secularities Trades (southern A facility (Southerney)	int d		
1.00 1.00	4		Conclusion	_			

SURFACE SAR VOLUME SAR



3D View Plot

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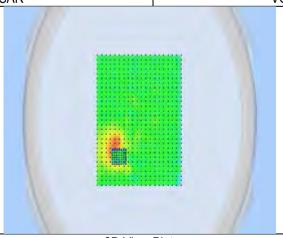


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Test specification:	Plane_Body_Middle_HT	40_5510_Right_0mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Pass			
Mains Power:	N/A		Result.	Pass			
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5510.000000 (Ch	annel 102)				
Relative permittivity (real part)		45.12	•				
Conductivity (S/m)		6.06					
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=8mi	m, dz=5mm				
Zoom Scan Size		32x32x34 mm					
Measurement Drifts (%)		-4.16					
Highest Extrapolated SAR (W/Kg	g)	0.4483					
SAR 1g (W/Kg)		0.2755					
Peak SAR Location		38mm(x),-64mm(y),4mm(z)				
Series and Series Serie	Control of the Contro		And American Product Conference	park+t.			
1.00 1.00	4 21 1 21 N 151 14 011	Cook Cash Defts C.275 C.275 C.275 C.275 C.205 C.205	*** *** *** *** *** ** ** ** *	St (st 46) 360)			

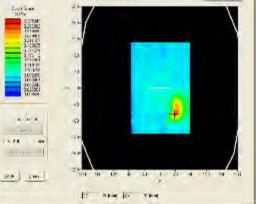
SURFACE SAR VOLUME SAR

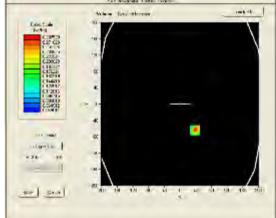




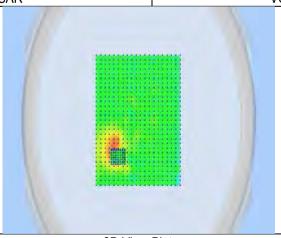
Test report No. FCC/IC_SAR_SL15081301-SLX-018 102 of 159 Page

Test specification:	Plane_Body_Middle_HT4	40_5550_Front_5mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Desult	Desa			
Mains Power:	N/A		Result:	Pass			
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:		<u>.</u>					
Frequency (MHz)		5550.000000 (Chani	nel 110)				
Relative permittivity (real part)		45.00					
Conductivity (S/m)		6.15					
Transmission Duty Factor		1.0					
Probe SN		2715_EPGO259	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 (%)		2.35					
Highest Extrapolated SAR (W.	/Kg)	2.7855					
SAR 1g (W/Kg)		1.2045					
Peak SAR Location		38mm(x),-64mm(y),4mm(z)					
Ser constraint in the Conference Serious Reconflictures (Ambie Conference)		National Index to the Control of the					
1.00 () calls		Cata Cada 1-2-2 Cata Cada Cata					





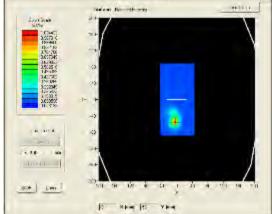
SURFACE SAR VOLUME SAR

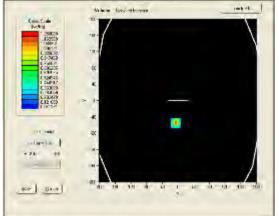




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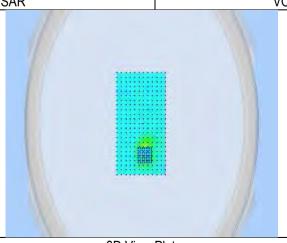
Test specification:	Plane_Body_Middle_HT4	40_5550_Left_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Deault	Daga		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/21/2016					
Tested by:	Arthur Tie					
Remarks:		·				
Frequency (MHz)		5550.000000 (Cha	annel 110)			
Relative permittivity (real pa	art)	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 (%)		-3.38				
Highest Extrapolated SAR	(W/Kg)	0.7153				
SAR 1g (W/Kg)		0.2504				
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)				
The second secon	Monthly and Artificial Conference (Manager Lands)	Caba C. da porting 1,2000 1,2000 1,2000 1,2000 1,00	And Security Hotels Continued White and Early otherwise 1914 65 45	(m) 45		





SURFACE SAR

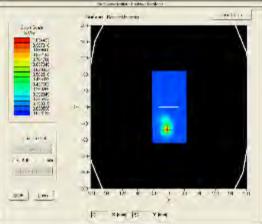
VOLUME SAR

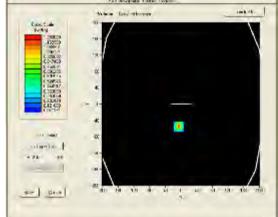




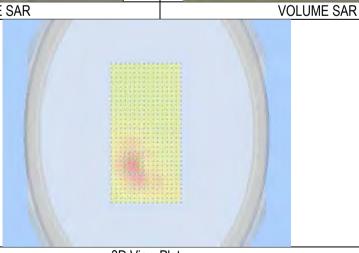
Test report No. FCC/IC_SAR_SL15081301-SLX-018 104 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5550_Right_0mm					
	Temp(oC):	23					
Environ Conditions:	Humidity(%):	58					
	Atmospheric(mPa):	1009	Result:	Doos			
Mains Power:	N/A		Resuit.	Pass			
Test Date:	02/21/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5550.000000 (Chan	nel 110)				
Relative permittivity (real pa	rt)	45.00	45.00				
Conductivity (S/m)		6.15					
Transmission Duty Factor		1.0	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 (%)		-0.61					
Highest Extrapolated SAR (W/Kg)	0.5184					
SAR 1g (W/Kg)		0.3082					
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)					
	The second secon		And Seculation France Condition	(m) 45 - 1			
Loss Sants Add Add Add Add Add Add Add Add Add Ad	No. of the contract of the con	Color Color Fe-943	Name Resolutions				
100-00 100-700 100-700 100-700		100 / 100 / 17 CONCO 17	/				





SURFACE SAR





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

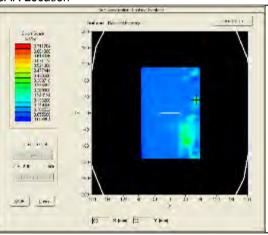
 Page
 105 of 159

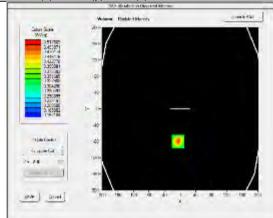
Test specification:	Plane_Body_Middle_HT4	40 5590	Front 5mm			
	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009		_	
Mains Power:	N/A			Result:	Pass	
Test Date:	02/22/2016					
Tested by:	Arthur Tie					
Remarks:	7 II					
Frequency (MHz)		5500	.000000 (Chann	nal 118\		
Relative permittivity (real part)		44.88		101 110)		
Conductivity (S/m)		6.24	<u> </u>			
Transmission Duty Factor		1.0				
Probe SN			_EPGO259			
Conversion Factor (dB)		2.39	_LF GO233			
Area Scan Resolution		8 mm	2			
				1Emm		
Zoom Scan Resolution			mm, dy=8mm, d	12-311111		
Zoom Scan Size			2x34 mm			
Measurement Drifts (%)	~\	-1.91				
Highest Extrapolated SAR (W/K	9)	2.387				
SAR 1g (W/Kg)		1.016		(-)		
Peak SAR Location	added for all and	69mm(x),32mm(y),4mm(z)				
62 ×+≠ (The state of the s			*	tin ter on	
SURFAC	E SAR	VOLUME SAR				



Test report No. FCC/IC_SAR_SL15081301-SLX-018 106 of 159 Page

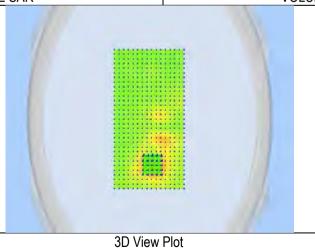
Test specification:	Plane_Body_Middle_H	Γ40_5590_	Left_0mm				
	Temp(oC):	Temp(oC):					
Environ Conditions:	Humidity(%):		58				
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A	1 1 1		Nesuit.	rass		
Test Date:	02/22/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5590	.000000 (Chan	nel 118)			
Relative permittivity (real pa	rt)	44.88	44.88				
Conductivity (S/m)		6.24	6.24				
Transmission Duty Factor		1.0	1.0				
Probe SN		2715	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 (%)		-3.70					
Highest Extrapolated SAR (W/Kg)		0.7538					
SAR 1g (W/Kg)		0.3994					
Peak SAR Location	Peak SAR Location		69mm(x),32mm(y),4mm(z)				
Services 20 to 100 to 1	ordinary (Market India)			Control of the contro	combidat		





SURFACE SAR

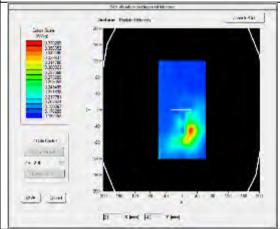
VOLUME SAR

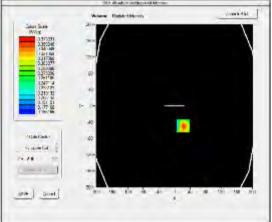




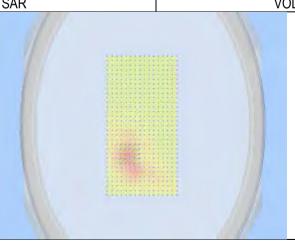
Test report No. FCC/IC_SAR_SL15081301-SLX-018 107 of 159 Page

Test specification:	Plane_Body_Middle_H	Plane_Body_Middle_HT40_5590_Right_0mm					
Environ Conditions:	Temp(oC):	Temp(oC):					
	Humidity(%):	Humidity(%):			Pass		
	Atmospheric(mPa):	Atmospheric(mPa):		Result:			
Mains Power:	N/A			Result.	Fass		
Test Date:	02/22/2016						
Tested by:	Arthur Tie			7			
Remarks:							
Frequency (MHz)		5590	5590.000000 (Channel 118)				
Relative permittivity (real part)		44.88					
Conductivity (S/m)		6.24	6.24				
Transmission Duty Factor		1.0					
Probe SN		2715	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)		0.50	0.5071				
SAR 1g (W/Kg)		0.3044					
Peak SAR Location		69mm(x),32mm(y),4mm(z)					
Site disables on they of	nd Moreon	F		SAA disalism yn Heysend Money	market I		





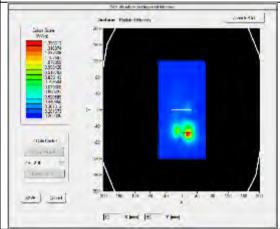
VOLUME SAR SURFACE SAR





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

Test specification:	Plane_Body_Middle_HT	Plane_Body_Middle_HT40_5630_Front_5mm				
Environ Conditions:	Temp(oC):	23				
	Humidity(%):	58	7			
	Atmospheric(mPa):	1009	Deculti	Daga		
Mains Power:	N/A		Result:	Pass		
Test Date:	02/22/2016		7			
Tested by:	Arthur Tie					
Remarks:						
Frequency (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 Months on they	rad Morraco		50 Made velloyed bloom	100 march 100 m		



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VOLUME SAR SURFACE SAR 3D View Plot



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Page 109 of 159

Test specification:	Plane_Body_Middle_H	T40_5630_I				
	Temp(oC):		23			
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A			Nesuit.	F 455	
Test Date:	02/22/2016					
Tested by:	Arthur Tie	Arthur Tie				
Remarks:						
Frequency (MHz)		5630	.000000 (Chan	nel 126)		
Relative permittivity (real part)		44.79)			
Conductivity (S/m)		6.31				
Transmission Duty Factor		1.0				
Probe SN			_EPGO259			
Conversion Factor (dB)		2.39				
Area Scan Resolution		8 mm	8 mm			
Zoom Scan Resolution		dx=8i	dx=8mm, dy=8mm, dz=5mm			
Zoom Scan Size			32x32x34 mm			
Measurement Drifts (%)		-2.70	-2.70			
Highest Extrapolated SAR (W/k	(g)	0.880	0.8805			
		0.451	19			
Peak SAR Location		-5mm	-5mm(x),-55mm(y),4mm(z)			
South Control South Contro			Con f. 4		St. 151 151 2dil	
(CUDEAC	and the same of th	<u> </u>	VOLUME CAD			
SURFACE SAR				VOLUME SAR		



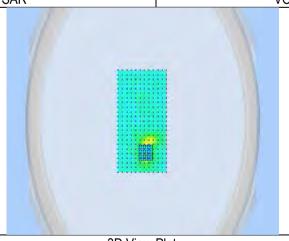
See Levil

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

Test specification:	Plane_Body_Middle_H	T40_5630_Right_0mm					
	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:							
Frequency (MHz)		5630.000000 (Char	nel 126)				
Relative permittivity (real par	rt)	44.79					
Conductivity (S/m)		6.31					
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 (%)		-3.12					
Highest Extrapolated SAR (\	N/Kg)	0.4991					
SAR 1g (W/Kg)		0.3056					
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)					
Loss Seales Selection (Selection	desired to the characters of t	Bolled.	And Constitution I section	(mb-4)			

SURFACE SAR VOLUME SAR

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3D View Plot

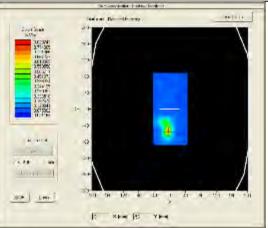
00 00 0 0 0 1 A 0 0 0

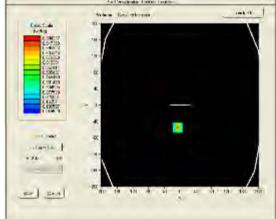
D *** D ***



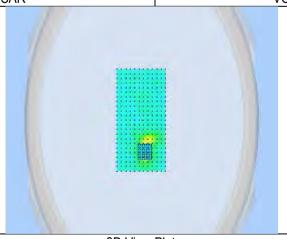
Test report No. FCC/IC_SAR_SL15081301-SLX-018 111 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5670_Front_5mm				
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Result.	F d 5 5		
Test Date:	02/23/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5670.000000 (Char	670.000000 (Channel 134)			
Relative permittivity (real pa	rt)	44.72	44.72			
Conductivity (S/m)		6.38	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 (%)		-4.12				
Highest Extrapolated SAR (W/Kg)		2.2698				
SAR 1g (W/Kg)		0.9498				
Peak SAR Location		-5mm(x),-55mm(y),4mm(z)				
	continue tratectionism continues continues	Dick 1	And woulded Festive Control Maken Rescuttorers			





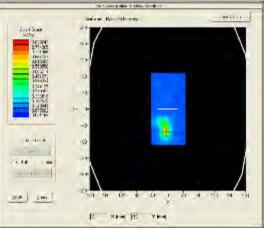
VOLUME SAR SURFACE SAR

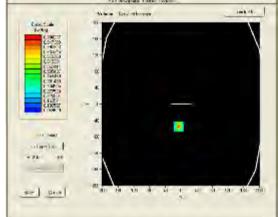




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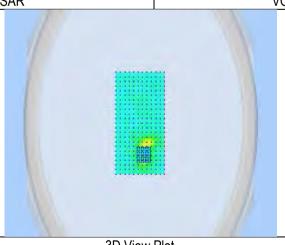
Test specification:	Plane_Body_Middle_HT	40_5670_	Left_0mm				
	Temp(oC):	Temp(oC):					
Environ Conditions:	Humidity(%):	Humidity(%):					
	Atmospheric(mPa):		1009	Result:	Pass		
Mains Power:	N/A			Result.	F 455		
Test Date:	02/23/2016						
Tested by:	Arthur Tie						
Remarks:							
Frequency (MHz)		5670	5670.000000 (Channel 134)				
Relative permittivity (real pa	rt)	44.72	4.72				
Conductivity (S/m)		6.38					
Transmission Duty Factor		1.0					
Probe SN		2715	2715_EPGO259				
Conversion Factor (dB)		2.39					
Area Scan Resolution		8 mm					
Zoom Scan Resolution		dx=8	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)					
State of the State	visitor l'attachement conficerno		Calculate 19	Ad Vandadas France codes			





SURFACE SAR

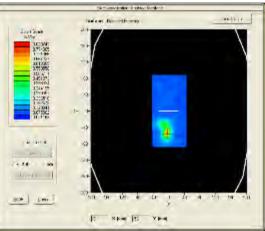
VOLUME SAR

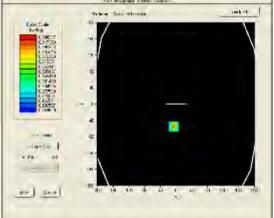




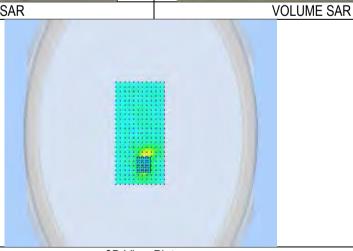
Test report No. FCC/IC_SAR_SL15081301-SLX-018 113 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5670_Right_0mm				
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58		I		
	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 pa	rt)	44.72	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)				
Los Sons African Bo	continue tradectional	ColorCode (5 Fe/4ts)	Note that there is a second			





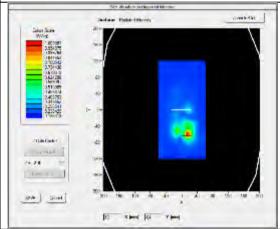
SURFACE SAR

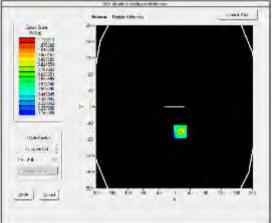




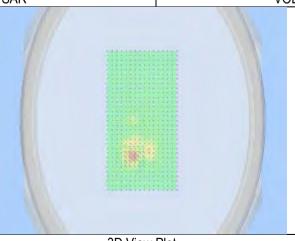
Test report No. FCC/IC_SAR_SL15081301-SLX-018 114 of 159 Page

Test specification:	Plane_Body_Middle_HT	40_5755_Front_5mm				
·	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	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 (Char	5755.000000 (Channel 151)			
Relative permittivity (real pa	Relative permittivity (real part)		44.47			
Conductivity (S/m)		6.43	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		-6mm(x),32mm(y),4mm(z)				
Sign disaline valdeger	and Morney		No dealer without differen	500 F 100		





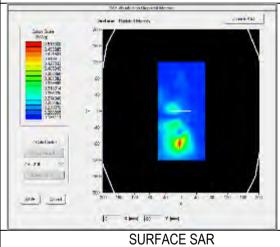
VOLUME SAR SURFACE SAR





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

Test specification:	Plane_Body_Middle_H7	Γ40_5755_Left_0mm				
·	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		Result.	Fa55		
Test Date:	02/23/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz) 575		5755.000000 (Char	5755.000000 (Channel 151)			
Relative permittivity (real part)		44.47				
Conductivity (S/m)		6.43	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)				
SA dealer willow	Control of the Contro		SAN Albandary on Elegational Relations	complete:		



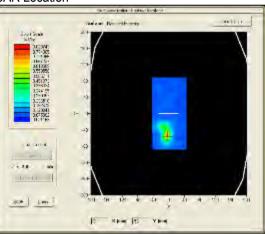
Star Street

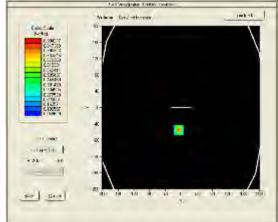
VOLUME SAR



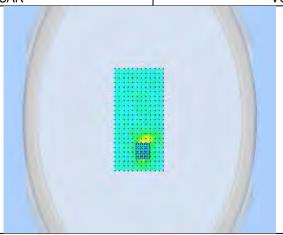
Test report No. FCC/IC_SAR_SL15081301-SLX-018 116 of 159 Page

Test specification:	Plane_Body_Middle_HT					
	Temp(oC):	23				
Environ Conditions:	Humidity(%):	58				
	Atmospheric(mPa):	1009	Result:	Pass		
Mains Power:	N/A		ixesuit.	F 433		
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)	·	02/23/2016	2/23/2016			
Relative permittivity (real pa	art)	44.47	44.47			
Conductivity (S/m)		6.43	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		-5mm(x),-55mm(y),4mm(z)				
1000000	enclades I ratio, localizat Second comp. (46.) V (4.)		And American Control Control Walter Resolutions on Control	imb 48		





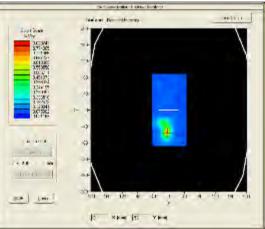
VOLUME SAR SURFACE SAR

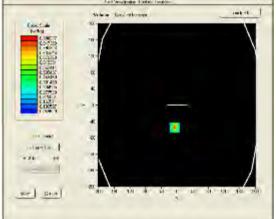




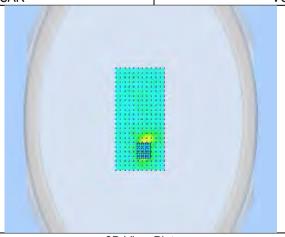
Test report No. FCC/IC_SAR_SL15081301-SLX-018 117 of 159 Page

Test specification:	Plane_Body_Middle_HT4	10_5795_	Front_5mm 23		1	
	Temp(oC):	- ' ' '				
Environ Conditions:	Humidity(%):		58			
	Atmospheric(mPa):		1009	Result:	Pass	
Mains Power:	N/A	N/A		Tresuit.	1 433	
Test Date:	02/17/2016					
Tested by:	Arthur Tie					
Remarks:						
Frequency (MHz)		5795	.000000 (Chan	nel 159)		
Relative permittivity (real par	t)	44.32	4.32			
Conductivity (S/m)		6.43	6.43			
Transmission Duty Factor		1.0	1.0			
Probe SN		2715	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 for the control of the contr				Full Versional and Full Conference of the Confer	100 A C	
See our Recombination (1997) 1				Name Resolutioner		





VOLUME SAR SURFACE SAR





Test report No. FCC/IC_ SAR_SL15081301-SLX-018
Page 118 of 159

Test specification:	Plane_Body_Middle_HT4	40_5795_	Left_0mm		
	Temp(oC):		23		
Environ Conditions:	Humidity(%):		58		
	Atmospheric(mPa):		1009	Result:	Pass
Mains Power:	N/A			Result.	F455
Test Date:	02/24/2016				
Tested by:	Arthur Tie				
Remarks:					
Frequency (MHz)		5795	5.000000 (Channe	el 159)	
Relative permittivity (real part)		44.32	2		
Conductivity (S/m)		6.43			
Transmission Duty Factor		1.0			
Probe SN		2715	5_EPGO259		
Conversion Factor (dB)		2.39			
Area Scan Resolution		8 mn	n		
Zoom Scan Resolution		dx=8	mm, dy=8mm, dz	z=5mm	
Zoom Scan Size		32x3	32x32x34 mm		
Measurement Drifts (%)		3.4	3.45		
Highest Extrapolated SAR (W/Kg)		0.696	63		
SAR 1g (W/Kg)			99		
Peak SAR Location			n(x),-55mm(y),4n	nm(z)	
E ×++ E			Control (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	in the desirence	31 131 130 230
SURFACE	SAR		\	OLUME SAR	



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 FCC/IC_ SAR_SL15081301-SLX-018

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Test specification:	Plane_Body_Middle_h	HT40_5795_	Right_0mm		_
	Temp(oC):		23		
Environ Conditions:	Humidity(%):	Humidity(%):			
	Atmospheric(mPa):		1009	Result:	Pass
Mains Power:	N/A			Result.	Fass
Test Date:	02/24/2016				
Tested by:	Arthur Tie				
Remarks:				<u>.</u>	
Frequency (MHz)		5795	.000000 (Chan	nel 159)	
Relative permittivity (real part)		44.32	2	•	
Conductivity (S/m)		6.43			
Transmission Duty Factor		1.0			
Probe SN		2715	_EPGO259		
Conversion Factor (dB)		2.39	_		
Area Scan Resolution		8 mm	า		
Zoom Scan Resolution		dx=8	dx=8mm, dy=8mm, dz=5mm		
Zoom Scan Size			32x32x34 mm		
Measurement Drifts (%)		-0.80	-0.80		
Highest Extrapolated SAR (W/	Kg)	0.447			
SAR 1g (W/Kg)	J/		0.2923		
Peak SAR Location		-5mn	n(x),-55mm(y),4	lmm(z)	
	43 41 41 40 151 140 511 140 511 140 511 140 511		Salar Sala		- Chi 188 - 241
SURFACE SAR		<u></u>	VOLUME SAR		



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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	Ŋ
S-Parameter Network Analyzer	8753ES	US38161019	08/17/2015	1 Year	08/17/2016	>
E-field PROBE	EPGO 259	SN 27/15 EPGO259	07/08/2015	1 Year	07/08/2016	>
E-field PROBE	EP 204	SN 07/14 EP204	10/06/2015	1 Year	10/06/2016	>
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	>
DIPOLE 2450	DIPOLE 2450MHz	SN 31/10 DIPJ138	10/06/2015	1 Year	10/06/2016	>
Wave Guide 5/6 GHz	Wave Guide 5/6GHz	SN 31/10 DIPWGA13	07/08/2015	1 Year	07/08/2016	>
COMOSAR Open Coaxial Probe	OCP36	SN 31/10 OCP36	07/08/2015	1 Year	07/08/2016	>
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	>
Mobile Phone POSITIONING	MSH63	SN 31/10 MSH63	N/A	N/A	N/A	>
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	>
PHANTOM TABLE	N/A	N/A	N/A	N/A	N/A	>
6 AXIS ROBOT	KR5	949319	N/A	N/A	N/A	>
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)	7	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
	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





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Japan Recognized Certification Body Designation		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	Z	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	7	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	Z	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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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 ICPIELO PROBICCALIBRATION REPORT

Ref ACK DOC TAXALL R

	Name	Dinetion	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	San Marian

	Unstomer Name
Eistributton :	SILMIC Testing and Certification Services

Issue	Date	Modifications
A	7/9/2015	Initial release
B	6/10/2015	Add 750MHz factor
		I to the second

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COMOSAR #-FIELD PROBE CALIBRATION REPORT

Ref. ACR. DXCLIA XALLER

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2 Pro	oduct Description	
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3 Ma	easurement Method	
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3.2	Sensitivity	5
3.3	Lower Detection Limit	5
3.4	Isotropy	5
3.5	Boundary Effect	5
4 M	easurement Uncortainty	
5 Ca	libration Measurement Results	
5.1	Sensitivity in air	6
5.2	Linearity	7
5.3	Sensitivity in liquid	7
5.4	Isotropy	8
6 Lis	d of Equipment	

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COMOSAR 6-FIELD PROBE CALIBRATION REPORT

Ref ACR. EXCLASSATILE

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 HEEL 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. DOLLARRALL HO

3.2 SENSITIVITY

The sensitivity factors of the three dipoles were determined using a two step calibration method (air and 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 attermined 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 $(0^{\circ}-180^{\circ})$.

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	rd	Standard Tocertainty (%)
Incident or forward power	3 (10%)	Recoggular	√3	ī	1 732%
Reflected power	3,00%	Rectangular	- \bar{3}-		1,752%
Liquid conductivity	5/(0)%	Rectangular	— √3 —	1.5	2,587%
Liquid permittivity	4,00%	Rectangular	- 13-	-	2.309%
right homogeneity	3,00%	Rectangular	— √ 3—	4	1./32%
Pickl probe positioning	5,00%	Rectingular	-3	1	2,887%

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COMOSAR IGFRELD PROBICCALIBRATION REPORT

Ref. ACR. DOLLARATION

Field probe linearity	3,00%	Rectangular	√3 j	 1,732%
Combined standard uncertainty			-	5.831%
Expanded uncertainty 95% confidence level x = 2				12,0%

5 CALIBRATION MEASUREMENT RESULTS

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

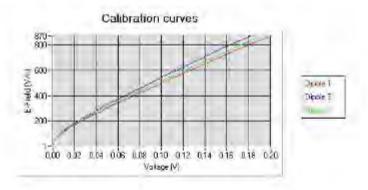
5.1 SENSITIVITY IN AIR

Normx dipole		
$1 \left(\mu V/(V/m)^2 \right)$	$2 (\mu V^{\mu}(V/m)^{2})$	3 (µV/(V/m)*)
0.83	0.71	0.75

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

Calibration curves einf(V) (in 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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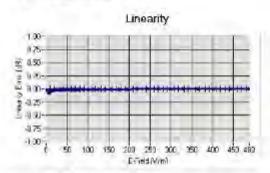
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COMOSAR IGFIELD PROBICCALIBRATION REPORT

Ref. ACR. DOM ANNAULE

5.2 LINEARITY



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

5.3 SENSITIVITY IN LIQUID

laquid	Frequency (MHz +/- 100ML2)	Permittivity	Eps ion (S/m)	CenvE
HL750	750	42.24	0.20	1.89
E1,750	750	56.85	0.99	1.97
IIL850	835	42.59	0.90	2.15
BL850	835	53.19	0.97	2.21
HT.900	900	42.05	0.98	1.96
BL909	980	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
BL1900	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	2.87	262
BL3500	3500	52.65	3.21	2.72
HL3200	5200	36,44	4.79	2.31
Tst.5200	5200	50.70	5.11	2.39
IIL5400	5400	35.99	4.91	2.54
DL5490	5400	50.01	5.64	2.63
III,5000	5600	35.22	5.18	2.85
BL5600	5600	49.34	5.85	2.71
HL5800	5800	34.95	5,42	2.53
BLS800	5800	48.54	622	2.65

LOWER DETECTION LIMIT: 7mW/kg

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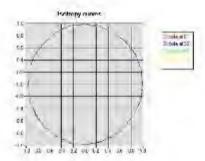
COMOSAR IGFIELD PROBECCALIBRATION REPORT

Ref ACRIBOTASSATUR

5.4 ISOTROPY

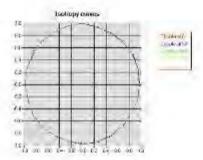
HL900 MHz

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



HI 1800 VIIIz

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



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COMOSAR #-FIELD PROBE CALIBRATION REPORT

Ref ACRIBOTIANATUR

HL5600 MHz

- Axial isotropy:

0.06 dB 0.09 dB

- Hemispherical isotropy:

Jeshropy granes

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COMOSAR E-FIGLD PROBE-CALIBRATION REPORT

Ref ACR TOUT IS SAULE

6 LIST OF EQUIPMENT

	-40	pment Summary 5		
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date
Flat Phanrom	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	1198656	12/2013	12/2016
Signal Generator	Agliert E4436C	MY49070581	12/2013	12/2016
Amplifier	Aethercomm	SN 046	Characterized prior to test. No call required	Characterized prior to test. No cal required
Power/Meter	HP E4418Å	U\$38261498	12/2013	12/2016
Power Sensor	HP ECP-E26A	US371B1460	12/2013	12/2016
Directional Coupler	Narda 4216 20	01386	Characterized prior to test. No call recuired	Characterized prior to test. No gal required
₩aveguide	Mega Industries	089Y7-158-13-712	Validated, No cal required,	Validated: No cal required.
Waveguide Transition	Maga Industries	089Y7 158 13 701	Validated. No cal requires	Validated, No ca required.
Waveguide Fermination	Mega Industries	069Y7-159-13-701	Validated, No.cal required,	Valleated, 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.SATU.A

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

Summory:

This document 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 restrology 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 - \$ SATULY

	Wame	Function	Date	Signature
Prepared by:	Jerome LUC	Product Manager	10/6/2015	35
Checked by :	Jérôme LUC	Product Manager	10/6/2015	25
Approved by :	Kim RUTKOWSKI	Quality Manager	10/6/2015	part for the market

	Customer Nume
Distribution :	SIEMIC Testing and Certification Services

Tssite .	Date	Modifications
A	10/6/2015	Initial release

Page: 211

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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 SATSLA

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.

PRODUCT DESCRIPTION

GENERAL INFORMATION

MVG's COMOSAR Validation Dipoles are built in accordance to the IEEE 1528, FCC KDBs and CELHEC 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 REPERIENCE DIPOLE CALIBRATION REPORT

Ref: ACH. ESS: CALVINDA

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 constituted as outlined in the fore mentioned standards.

4.3 MECHANICAL REQUIREMENTS

The IEEE Std. 1528 and CECTIC 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 mm

5.3 VALIDATION MEASUREMENT

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

Sean Volume	Expanded Uncertainty
1g	20,3 %

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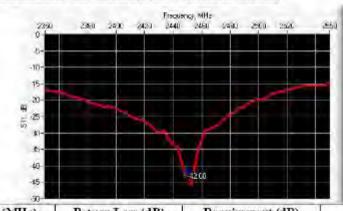
SAR REFERENCE DIPOLE CALIBRATION REPORT

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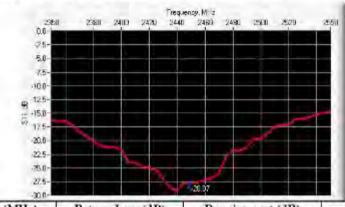
6 CALIBRATION MEASUREMENT RESULTS

6.1 RETURN LOSS AND IMPEDANCE IN HEAD LIQUID



| Frequency (MILz) | Return Loss (dB) | Requirement (dB) | Impedance | 2450 | -42.00 | -20 | 49.5 \(\)2 | 0.6 \(\)32

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	, ti	nn	here)m	dı	7(0)
	required	measured	required	measured	required	measured
300	420.0±1 %		250.0 ±1 %		6.35 ±1 56	

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SAR REPERINCE DIPOLE CALIBRATION REPORT

Ref: 4090.299 - 1.00/00/03

450	290,0±1%		166.7 ±1 %.		6.35 12 %.	
750	176 C ±1 %		100.0 ±1 %.		6.35 ±1 %	
835	161.0 z1 %		89.8 ±1 %.		3.6 ±1 %.	
900	149 C ±1 %.		83.3 (1%)		3.6 ±1 %.	
1450	89.1 ±1 %.		51.7 ±1 %.		3.6 21 %.	
1500	80.5 ±1 %.		50.0 ±1%.	7-	3.6 21 %.	
1640	79.0 (4 %.		45.7±1%.		3.6-1%.	
1750	75.2±1%.		7/2.9 ±1 %.		3.5 ±1 %.	
1500	72.0 ±1 ½.		41.7±1%.	11 0 00 00	3.6 ±1 %.	
1960	68.0 t1 %.		39.5 t1 %.	(d= 1	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 %.	100
2450	31.5 ±1 %	PASS	504 11%	PASS	3.8 £1 %.	PAS
2600	48.5 £1 %.		28.8 ±1 %.		3.5 ±1 %.	
3000	41.5 (1 %).		35.011%		3.6 =1 %.	
3500	37.0±1 %.		26.4 ±1 %.		3.6 ±1 %	
3700	34.7±1 %.		26/ ±1 1/2.	14	3.6 ±1 %,	

7 VALIDATION MEASUREMENT

The IEEE Std. 1528, FCC KDBs and CEUTEC 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 (a) S/m	
	required	measured	required	measured
300	45,3 ±5 %		0.87 ±5 %.	
450	43,5 ±5 %		0.87±559	
750	419±5%		0.89 ±5 %	
835	41.5.15 %		0.90 ±5 1/4	
900	41.5 (5 %		0.97 15%	
2450	40.5 25 %		1.20 ±5 %	
1500	40.4 ±5 %		1.23 ±5 %	
15401	40.2.25%		1,81 15%	
1750	40.1±5%		1.37 ±5 %	

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SAR REPERIENCE DIPOLE CALIBRATION REPORT

Kef: 409.239 1.64/1013

1900	40.0 ±5 %		1.40 ±5 %	
2500	40,0±5.%		1.40 ±5 %	
1350	40.0 ±5 %		1.40 ±5 %	
2000	40 0 tS %		1.40 (5%)	
2100	39.8 ±5 %		1.49 ±5 1/4	
2300	39.5.15 %		1,67 ±5 %	
2450	39.2 15 %	PASS .	1.50 ±5 %	PASS
2500	39,0 ±5 %		1,96 ±5 %	
3000	38.5 ±5.50		2.40 ±5 %	
3500	37 9 ±5 %		2.91 ±5 %	

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	
Phantom	SN 20/09 SAR(7)	
Probe	SW 18/11 E7G122	
Laquid	Tlead Liquid Values ops: 38 Tergmn 181	
Distance between dipole center and liquid	100 mm	
Area sean resolution	dx Smm/dy Nmm	
Zuen Seen Resolution	dx 5mm/dy 5mm/dz 5mm	
Frequency:	24%0 MHz	
Input power	20/dPm	
Liquid Temperature	2170	
Lab Temperature	21°C	
as Hurodity	45 %	

Frequency MHz	1 g 5AR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	regulred	measured
300-	2.85		1.84	
45,5	4.58		3.06	
750	8,49		5,59	
835	9,56		6.22	
900	10.9		699	
2450	29		16	
2500	30.5		16.8	
1840	34.2		18.4	
1750	36.4		19.1	
1800	384		20,1	

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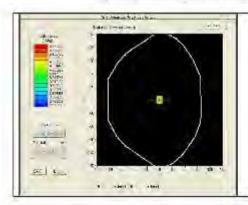
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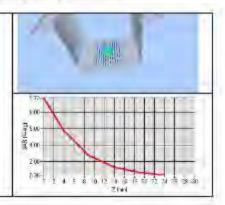


SAR REPERINCE DIPOLE CALIBRATION REPORT

Kef: ACR,27970 \$38400 A

2500	39.7		20.5	
1950	10.5		20.9	
2000	22.2		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) 5/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 %	
1450	54.0 15 %		1.30 15%	
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 %	PASS-

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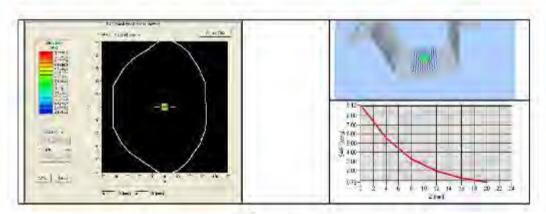
Keft ACM 229 TO SISATULA

2600	52.5 ±5 %	2.16 ±5 %
3000	52.0 ±5.%	2.73 ±5 %
3500	51,3 ±5 %	3.31 ±5 %
\$200	49.0 £10 %	5.30,410%
5300	48,9 ±10 %	5.42 ±10%
5400	48.7 ±10 %	5.53 110%
5500	48,6 ±10 %	5.65 ±10 %
5600	48.5 ±10 %	5.77 ±10 (%
5800	48.2 ±10 %	5.00±10%

7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

Software	OPENSAR V4	
Phantom	SN 20/09 SAM71	
Profic	SN 18/17 EPG122	
Liquid	Body Liquid Values; ers' : 53.2 sigma : 1.96	
Distance between dipole center and liquid	19,0 mm	
Area scan resolution	dx=8mm/dy=8mm	
Zeen Sean Resolution	dx=5mm/dy=5mm/dz=5mm	
Frequency	2430 MHz	
Input power	20 dFan	
Liquid Temperature	21 °C	
Lab Temperature	21 20	
Lab Humidity	45 %	

Frequency MHz	i g SAR (W/kg/W)	10 g SAR (W/kg/W)
	measured	measured
2450	50,78 (5,08)	23.64 (2.35)



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SAR REFERENCE DIPOLE CALIBRATION REPORT

Ref: ACM, 259 2 18 SATULY

8 LIST OF EQUIPMENT

Equipment	Manufacturer/	Identification No.	Current	Next Calibration
Description	Model	inesitancation (vo.	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 ca required
Network Analyzer	Rhode & Selfwarz ZVA	SN100132	02/2013	02/2016
Calipers	Carrera	CALIPER-01	12/2013	12/2016
Reference Probe	MVG	EPG122 SN 18/11	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 (est. No cal required.
Power Meter	HP E4418A	US38261498	12/2013	12/2016
Power Sensor	HP ECF-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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Test report No. FCC/IC_ SAR_SL15081301-SLX-018
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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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	Nome	Function	Date	Signature
Prepared by:	Jerome LUC	Product Manager	7/9/2015	25
Checked by :	Jérôme LLC	Product Manager	7/9/2015	25
Approved by :	Kim RUTKOWSKI	Quality Manager	7/9/2015	Man Jacon melis

	Customer Name
Distribution :	STEMIC Testing and Certification Services

Issue	1)ate	Modifications
A	7/9/2015	Initial release

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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 CEE/IEC 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 WAVEGUES
Manufacturer	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 CDFIEC 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 shell 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 SATULA

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

5.2 DIMENSION MEASUREMENT

The following uncertainties apply to the dimension measurements:

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

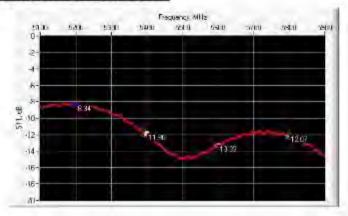
5.3 VALIDATION MEASUREMENT

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

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

6 CALIBRATION MEASUREMENT RESULTS

6.1 RETURN LOSS IN HEAD LIQUID



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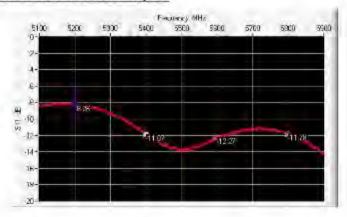


SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

Refr ACM 1905 LASARDIA

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 j(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 Ω 13.05 jΩ

6.3 MECHANICAL DIMENSIONS

Market Street	1.0	L (mm)		W (mm)		ta (mm)		W: (mm)		f (mm)
h (341) his	Require	Monsure	Require	Measure d	Require d	Messure d	Require d	Measure d	Require d	Messine
5260	40 39 - 0.13	PASS	20.19 - 0.13	PASS	81.03 - 0.13	PASS	61.98 + 0.13	PASS	53*	PASS
5800	40.39 ± 0.13	PASS	20.19=	PASS	81.03 ≘ 0.13	PASS	61,98 +	PASS	13*	PASS.

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

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SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

Ref ACK 1905 LS SATULA

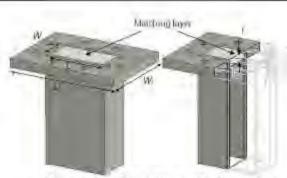


Figure 1: Validation Waveguide Dimensions

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')		Conductiv	ity (c) S/m
	required	measured	required	measured
5000	36.2 ±10 %		4,45 ±10 %	
5100	36.1±10%		0.56±10 W	
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	35,3 (10%	PASS	5.27 ±10 %	PASS
5900	35,2 ±10 %		5,38 ±10 %	
6000	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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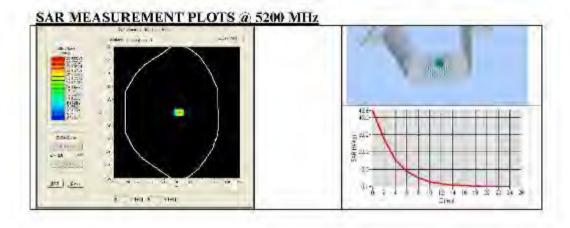
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Software	OPENSAR V4
Phantom	SN 20/09/SAM71
Probe	SN 18/11 EPG 122
Liquid	Head Liquid Values 5200 MHz; eps. 36, 44 sigma; 4,70 Head Liquid Values 5400 MHz; eps. 35,00 sigma; 4,90 Head Liquid Values 5600 MHz; eps. 35,22 sigma; 5,18 Head Liquid Values 5800 MHz; eps. 34,25 sigma; 5,42
Distance between dipole waveguide and liquid	Orant
Area scan resolution	dx=8mm/dy=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	159.00	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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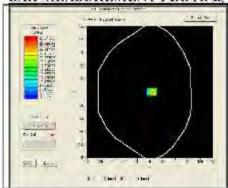
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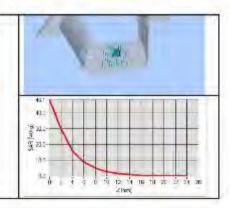


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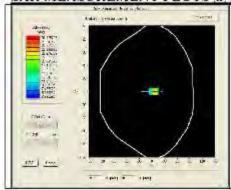
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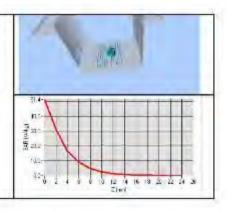




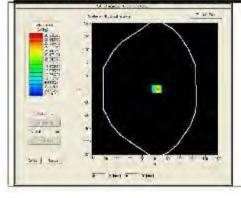


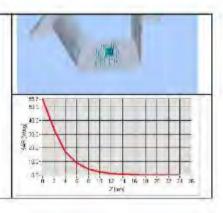
SAR MEASUREMENT PLOTS @ 5600 MHz





SAR MEASUREMENT PLOTS (a) 5800 MHz





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7.3 RODY LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (s/)		Conductiv	ity (d) 5/m
	required	measured	required	measured
5200	49.0 ±10 %	PASS	5.30 ±10 %	PA55
5300	48.9 110 %		5.42 110%	
5400	48,7±1055	PASS	5,53,510%	PASS
3500	48,6 ±10 %		5.65 ±10 %	
5600	48.5 ±10 %	PASE	5.77±20%	PASS
5800	48.2 ±10 %	PASS	5.00 (10%	PASS

7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

Software	OPENSAR V4
Phantom	SN 2009 SAN71
Probe	SN 18/11 E/X 1 122
Liquid	Body Liquid Values 5000 MHz; epsl 50,70 sigma - 5,11 Body Liquid Values 5400 MHz; epsl 50,01 sigma : 564 Body Liquid Values 5600 MHz; epsl 49,34 sigma - 5,65 Body Liquid Values 5800 MHz; epsl 48,54 sigma - 6,32
Distance between dipole waveguide and liquid	Umm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	ds dram/dy lan/dz 2mm
Frequency	5200 MHz 5400 MHz 5600 MHz 5800 MHz
Input power	20 dBm
Liquid Temperature	11.0
Lab Temperature	21°C
Lab Humidity	45.96

Frequency (MHz)	I g SAR (W/kg)	10 g SAR (W/kg)
	measured	ineasured
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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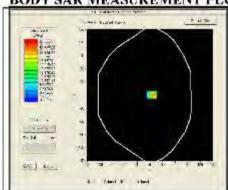
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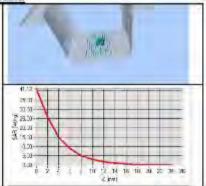


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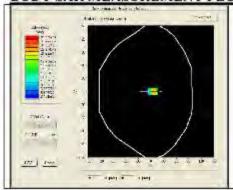
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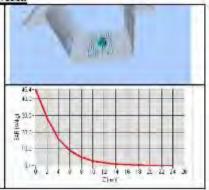




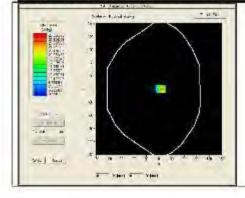


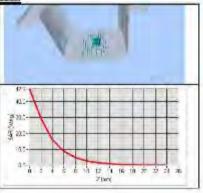
BODY SAR MEASUREMENT PLOTS @ 5400 MHz





BODY SAR MEASUREMENT PLOTS @ 5600 MHz





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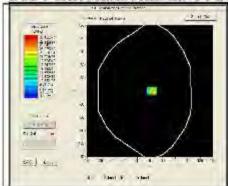


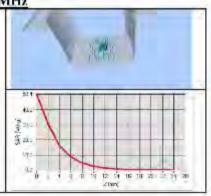
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BODY SAR MEASUREMENT PLOTS @ 5800 MHz





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SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

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8 LIST OF EQUIPMENT

Equipment Description	Manufacturer/ Model	Identification No.	Current Calibration Date	Next Calibration Date
COMOSAR Test Bench	Version 3	NA .	M. W. W. W. J. W.	Validated No ca required
Network Analyzer	Rhode & Schwarz ZVA	SV100132	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	Agricut E4438C	MY49070581	12/2013	12/2016
Amplifier	Aethercomm	SN 046	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Power Meter	HR E6018A	US38261498	12/2013	12/2016
Power Sensor	HP ECF-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	11-661-3	8/2012	8/2015

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