SAR EVALUATION REPORT

For

DT Research Inc.

6F., NO.1, Ning-Po E. Street, Taipei 100, Taiwan.

FCC ID: YE3800I

Report Type:	**Product Type:**
Original Report	Mobile Tablet

Test Engineer: Rocky Xiao

Rocky Xiao

Report Number: RDG160608001-20

Report Date: 2016-07-14

Jerry Zhang

Reviewed By: Jerry Zhang
EMC Manager

Test Laboratory: Bay Area Compliance Laboratories Corp. (Dongguan)
No.69 Pulongcun, Puxinhu Industrial Zone,
Tangxia, Dongguan, Guangdong, China
Tel: +86-769-86858888
Fax: +86-769-86858891
www.baclcorp.com.cn

Attestation of Test Results

EUT Information	**Company Name**	DT Research Inc.
	EUT Description	Mobile Tablet
	FCC ID	YE3800I
	Model Number	DT301
	Serial Number:	160608001
	Test Date	2015-07-05,2016-07-06,2016-07-07,2016-07-08

MODE		**Max. SAR Level(s) Reported(W/Kg)**	**Limit(W/Kg)**
CDMA 850	1g Body SAR	**0.951**	**SAR Limit = 1. 6 W/Kg SPLSR Limit= 0.04**
CDMA 1900	1g Body SAR	0.659	
LTE Band 4	1g Body SAR	0.557	
LTE Band 13	1g Body SAR	0.562	
2.4GHz WLAN	1g Body SAR	0.903	
5GHz WLAN	1g Body SAR	0.213	
Simultaneous	1g Body SAR	**2.241** (SPLSR=0.039)	
Hotspot	1g Body SAR	**2.241** (SPLSR=0.039)	

Applicable Standards	**ANSI / IEEE C95.1 : 2005** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fileds,3 kHz to 300 GHz.
	ANSI / IEEE C95.3 : 2002 IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to SuchFields,100 kHz—300 GHz.
	FCC 47 CFR part 2.1093 Radiofrequency radiation exposure evaluation: portable devices
	IEEE1528:2013 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
	IEC 62209-2:2010 Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices-Human models, instrumentation, and procedures-Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)
	KDB procedures KDB 447498 D01 General RF Exposure Guidance v06 KDB 648474 D04 Handset SAR v01r03 KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04 KDB 865664 D02 RF Exposure Reporting v01r02 KDB 941225 D01 3G SAR Procedures v03r01 KDB 941225 D06 Hotspot Mode v02r01 KDB 616217 D04 SAR for laptop and tablets v01r02 KDB 248227 D01 802 11 Wi-Fi SAR v02r02 KDB 941225 D05 SAR for LTE Devices v02r05

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

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

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY **4**

EUT DESCRIPTION **5**

TECHNICAL SPECIFICATION 5

REFERENCE, STANDARDS, AND GUILDELINES **6**

SAR LIMITS 7

FACILITIES **8**

DESCRIPTION OF TEST SYSTEM **9**

EQUIPMENT LIST AND CALIBRATION **14**

EQUIPMENTS LIST & CALIBRATION INFORMATION 14

SAR MEASUREMENT SYSTEM VERIFICATION **15**

LIQUID VERIFICATION 15
SYSTEM ACCURACY VERIFICATION 17
SAR SYSTEM VALIDATION DATA 18

EUT TEST STRATEGY AND METHODOLOGY **23**

TEST POSITIONS FOR DEVICE OPERATING NEXT TO A PERSON'S EAR 23
CHEEK/TOUCH POSITION 24
EAR/TILT POSITION 24
TEST POSITIONS FOR BODY-WORN AND OTHER CONFIGURATIONS 25
SAR EVALUATION PROCEDURE 26
TEST METHODOLOGY 26

CONDUCTED OUTPUT POWER MEASUREMENT **27**

PROVISION APPLICABLE 27
TEST PROCEDURE 27
RADIO CONFIGURATION 27
MAXIMUM TARGET OUTPUT POWER 30
PROXIMITY SENSOR OPERATION 31
TEST RESULTS: 32

SAR MEASUREMENT RESULTS **42**

ANTENNA LOCATION 42
ANTENNA DISTANCE TO EDGE 42
STANDALONE SAR TEST EXCLUSION CONSIDERATIONS 42
SAR TEST EXCLUSION FOR THE EUT EDGE CONSIDERATIONS RESULT 43
SAR TEST DATA 46

SAR MEASUREMENT VARIABILITY **51**

SAR SIMULTANEOUS TRANSMISSION DESCRIPTION **52**

SAR PLOTS (SUMMARY OF THE HIGHEST SAR VALUES) **58**

APPENDIX A MEASUREMENT UNCERTAINTY **64**

APPENDIX B EUT TEST POSITION PHOTOS **66**

APPENDIX C –CALIBRATION DATA **67**

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RDG160608001-20	Original Report	2016-07-14

Note: For WLAN 5G band stand-alone SAR, please refer to the SAR report: RDG160608002-20, which was issued by Bay Area Compliance Laboratories Corp. (Shenzhen) on 2016-07-02.

EUT DESCRIPTION

This report has been prepared on behalf of *DT Research Inc.* and their product, Model: DT301, FCC ID: YE3800I or the EUT (Equipment under Test) as referred to in the rest of this report.

Technical Specification

Product Type	Portable
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	Internal Antenna
Body-Worn Accessories:	None
Operation Mode :	CDMA 1xRTT, 1xEVDO Rev.A, LTE, WLAN 2.4G/5G and Bluetooth
Frequency Band:	CDMA 850(BC0): 824-849 MHz(TX) ; 869-894 MHz(RX) CDMA 1900(BC1): 1850-1910 MHz(TX) ; 1930-1990 MHz(RX) LTE Band 4: 1710-1755 MHz(TX) ; 2110-2155 MHz(RX) LTE Band 13: 777-787 MHz(TX) ; 746-756 MHz(RX) WLAN 2.4G: 2412MHz-2462MHz WLAN 5G: 5150-5250 MHz/5250-5350 MHz/5470-5725 MHz/5725-5850 MHz Bluetooth : 2402MHz-2480MHz
Conducted RF Power:	CDMA 850 : 23.71 dBm CDMA 1900: 22.87 dBm LTE Band 4: 22.50 dBm LTE Band 13: 22.93 dBm WLAN 2.4G: 18.82 dBm WLAN 5G: 15.69 dBm Bluetooth BDR/EDR: 4.37 dBm Bluetooth LE: 0.29 dBm
Dimensions (L*W*H):	272 mm (L) × 190 mm (W) × 21.9 mm (H)
Power Source:	7.2 V_{DC} Rechargeable Battery
Normal Operation:	Body-worn

Note 1: The overall diagonal dimension of the EUT >200mm, so test procedures in KDB616217 should be applicable.
Note 2: For WLAN 5G band stand-alone SAR and related information, please refer to the SAR report: RDG160608002-20, which was issued by Bay Area Compliance Laboratories Corp. (Shenzhen) on 2016-07-02.

REFERENCE, STANDARDS, AND GUILDELINES

FCC:

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

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

CE:

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

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

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

SAR Limits

FCC Limit (1g Tissue)

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

CE Limit (10g Tissue)

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

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

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

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

FACILITIES

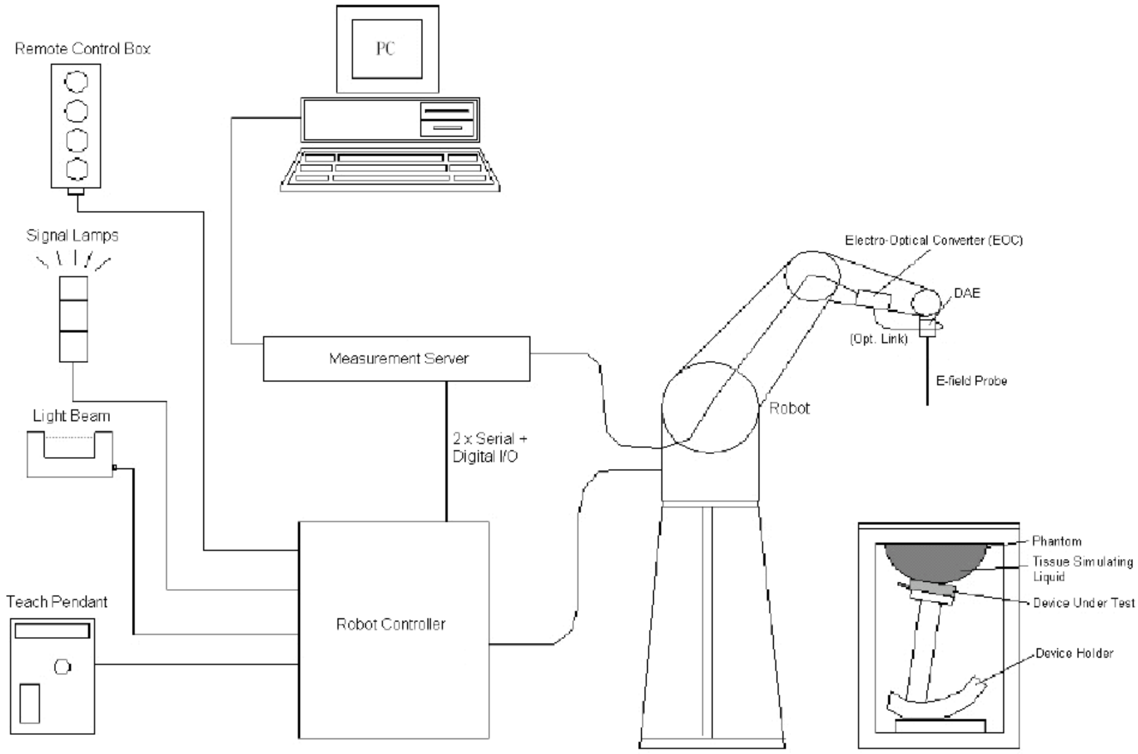
The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

DESCRIPTION OF TEST SYSTEM

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

DASY5 System Description

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



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

DASY5 Measurement Server

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

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

Data Acquisition Electronics

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

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

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

EX3DV4 E-Field Probes

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

SAM Twin Phantom

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

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

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

Robots

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

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

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

Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 15mm 2 step integral, with 1.5mm interpolation used to locate the peak SAR area used for zoom scan assessments.

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

Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m^3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm,with the side length of the 10g cube is 21.5mm.

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

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 7 x7 x 7 (5mmx5mmx5mm) providing a volume of 30 mm in the X & Y & Z axis.

Tissue Dielectric Parameters for Head and Body Phantoms

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 described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Recommended Tissue Dielectric Parameters for Head and Body

Frequency (MHz)	Head Tissue		Body Tissue	
	εr	Ơ (S/m)	εr	Ơ (S/m)
150	52.3	0.76	61.9	0.8
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.9	55.2	0.97
900	41.5	0.97	55	1.05
915	41.5	0.98	55	1.06
1450	40.5	1.2	54	1.3
1610	40.3	1.29	53.8	1.4
1800-2000	40	1.4	53.3	1.52
2450	39.2	1.8	52.7	1.95
3000	38.5	2.4	52	2.73
5800	35.3	5.27	48.2	6

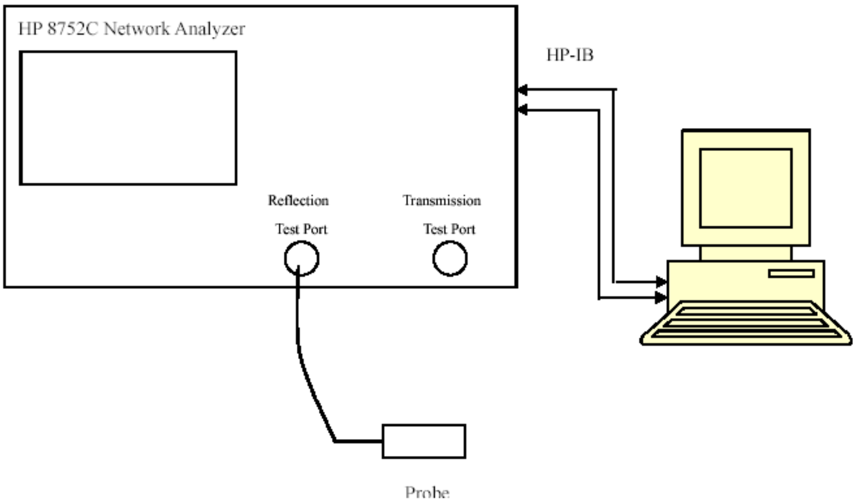
EQUIPMENT LIST AND CALIBRATION

Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
Robot	RX90	D03636	N/A	N/A
DASY5 Test Software	DASY52.8	N/A	N/A	N/A
DASY5 Measurement Server	DASY5 4.5.12	1470	N/A	N/A
Data Acquisition Electronics	DAE4	1459	2015/9/18	2016/9/18
E-Field Probe	EX3DV4	7329	2016/2/19	2017/2/19
Dipole, 750MHz	ALS-D-750-S-2	177-00505	2013/10/8	2016/10/8
Dipole, 900 MHz	D900V2	1d183	2015/7/14	2018/7/14
Dipole, 1750 MHz	D1750V2	1141	2015/7/9	2018/7/9
Dipole,1900MHz	D1900V2	5d206	2015/7/14	2018/7/14
Dipole,2450MHz	D2450V3	971	2015/7/8	2018/7/8
8960 Series 10 Wireless Communication Test Set	E5515C	MY50266471	2016/1/13	2017/1/13
Wideband Radio Communication Tester	CMW500	1201.0002K50	2015/8/16	2016/8/15
Mounting Device	MD4HHTV5	SD 000 H01 KA	N/A	N/A
Twin SAM	Twin SAM V5.0	1874	N/A	N/A
Simulated Tissue 750 MHz Body	TS-750-B	1512075002	Each Time	/
Simulated Tissue 835 MHz Body	TS-835-B	1512083502	Each Time	/
Simulated Tissue 1750 MHz Body	TS-1750-B	1512175002	Each Time	/
Simulated Tissue 1900 MHz Body	TS-1900-B	1512190002	Each Time	/
Simulated Tissue 2450 MHz Body	TS-2450-B	1512245002	Each Time	/
Network Analyzer	8752C	3140A02356	2016/6/5	2017/6/4
Dielectric probe kit	85070B	US33020324	2016/6/13	2017/6/13
Signal Generator	E4422B	MY41000355	2015/11/23	2016/11/22
Power Meter	EPM-441A	GB37481494	2015/11/3	2016/11/3
Power Meter Sensor	8481A	T-03-EM-127	2015/11/3	2016/11/3
Power Amplifier	5205PE	1015	N/A	N/A
Directional Coupler	488Z	N/A	N/A	N/A
Attenuator	20dB, 100W	N/A	N/A	N/A

SAR MEASUREMENT SYSTEM VERIFICATION

Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
1851.25	Simulated Tissue 1900 MHz Body	55.337	1.475	53.3	1.52	3.82	-2.96	±5
1880	Simulated Tissue 1900 MHz Body	53.743	1.544	53.3	1.52	0.83	1.58	±5
1900	Simulated Tissue 1900 MHz Body	54.154	1.512	53.3	1.52	1.6	-0.53	±5
1908.75	Simulated Tissue 1900 MHz Body	53.477	1.492	53.3	1.52	0.33	-1.84	±5

**Liquid Verification above was performed on 2016-07-05.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
1710	Simulated Tissue 1750 MHz Body	53.473	1.465	53.43	1.49	0.08	-1.68	±5
1732.5	Simulated Tissue 1750 MHz Body	53.433	1.482	53.43	1.49	0.01	-0.54	±5
1745	Simulated Tissue 1750 MHz Body	53.357	1.492	53.43	1.49	-0.14	0.13	±5
1750	Simulated Tissue 1750 MHz Body	53.363	1.491	53.43	1.49	-0.13	0.07	±5

**Liquid Verification above was performed on 2016-07-06.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	Ơ (S/m)	ε_r	Ơ (S/m)	$\Delta\varepsilon_r$	ΔƠ (S/m)	
750	Simulated Tissue 750 MHz Body	55.146	0.939	55.7	0.96	-0.99	-2.19	±5
782	Simulated Tissue 750 MHz Body	55.23	0.931	55.7	0.96	-0.84	-3.02	±5
824.7	Simulated Tissue 900 MHz Body	55.156	0.962	55.2	0.97	-0.08	-0.82	±5
833.49	Simulated Tissue 900 MHz Body	55.171	0.971	55.2	0.97	-0.05	0.1	±5
848.31	Simulated Tissue 900 MHz Body	54.989	0.988	55.2	0.97	-0.38	1.86	±5
900	Simulated Tissue 900 MHz Body	55.005	0.993	55.2	0.97	-0.19	0.31	±5

**Liquid Verification above was performed on 2016-07-07.*

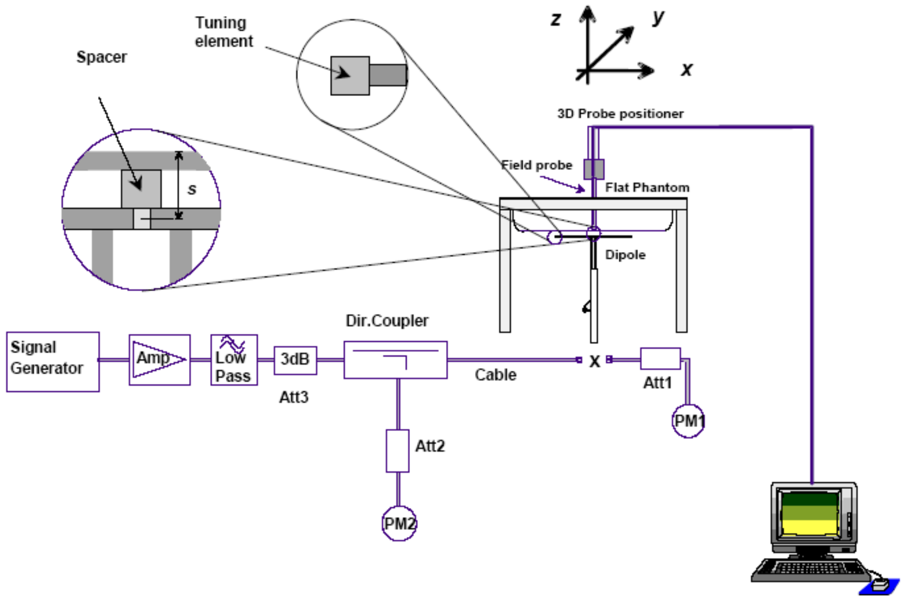
Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	Ơ (S/m)	ε_r	Ơ (S/m)	$\Delta\varepsilon_r$	ΔƠ (S/m)	
2412	Simulated Tissue 2450 MHz Body	53.205	1.939	52.7	1.95	0.96	-0.56	±5
2437	Simulated Tissue 2450 MHz Body	51.603	1.982	52.7	1.95	-2.08	1.64	±5
2450	Simulated Tissue 2450 MHz Body	52.257	2.026	52.7	1.95	-0.84	3.9	±5
2462	Simulated Tissue 2450 MHz Body	52.184	1.982	52.7	1.95	-0.98	1.64	±5

**Liquid Verification above was performed on 2016-07-08.*

System Accuracy Verification

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

System Verification Setup Block Diagram



System Accuracy Check Results

Date	Frequency Band	Liquid Type	Measured SAR (W/Kg)		Target Value (W/Kg)	Delta (%)	Tolerance (%)
2016-07-05	1900	1900MHz Body	1g	42.2	40.8	3.43	±10
2016-07-06	1750	1750MHz Body	1g	38.4	37.4	2.67	±10
2016-07-07	750	750MHz Body	1g	8.68	8.54	1.64	±10
	900	835MHz Body	1g	10.3	10.6	-2.83	±10
2016-07-08	2450	2450MHz Body	1g	52.1	50.6	2.96	±10

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

SAR SYSTEM VALIDATION DATA

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

System Performance 750 MHz Body

DUT: ALS-D-750-S-2; Type: 750 MHz; Serial: 177-00505

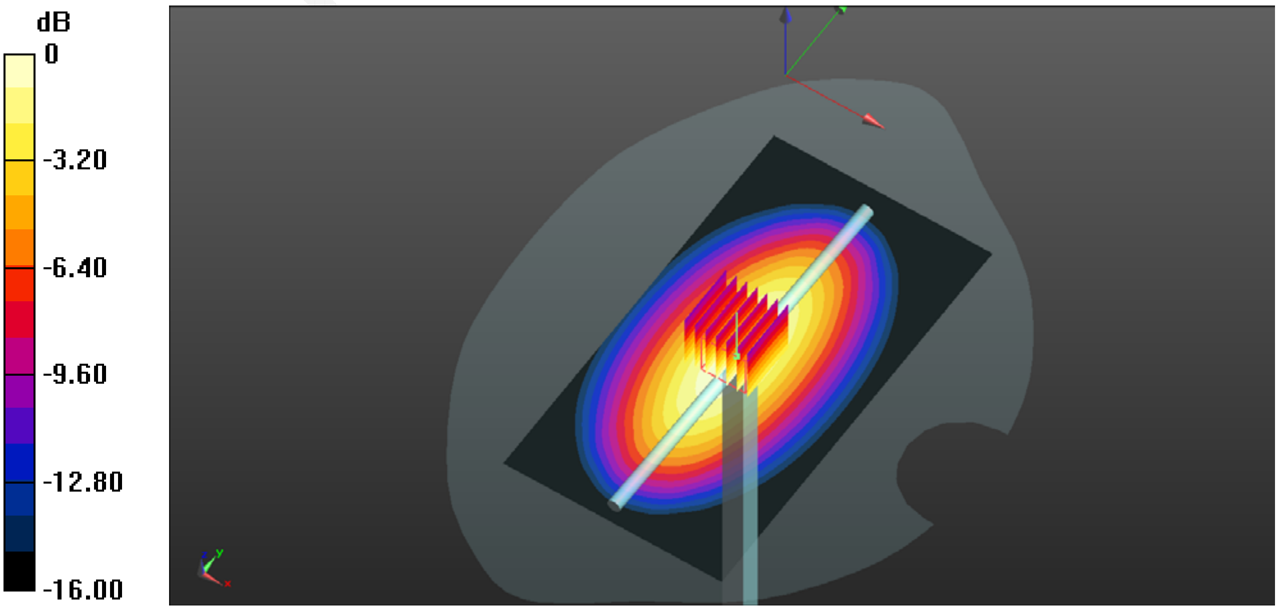
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.939 S/m; ε_r = 55.146; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.41, 9.41, 9.41); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 750 MHz Body/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 13.56 W/kg

System Performance 750 MHz Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.6 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 12.6 W/kg
SAR(1 g) = 8.68 W/kg; SAR(10 g) = 5.28 W/kg
Maximum value of SAR (measured) = 9.83 W/kg



0 dB = 9.83 W/kg = 9.93 dBW/kg

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

System Performance 900 MHz Body

DUT: D900V2; Type: 900 MHz; Serial: 1d183

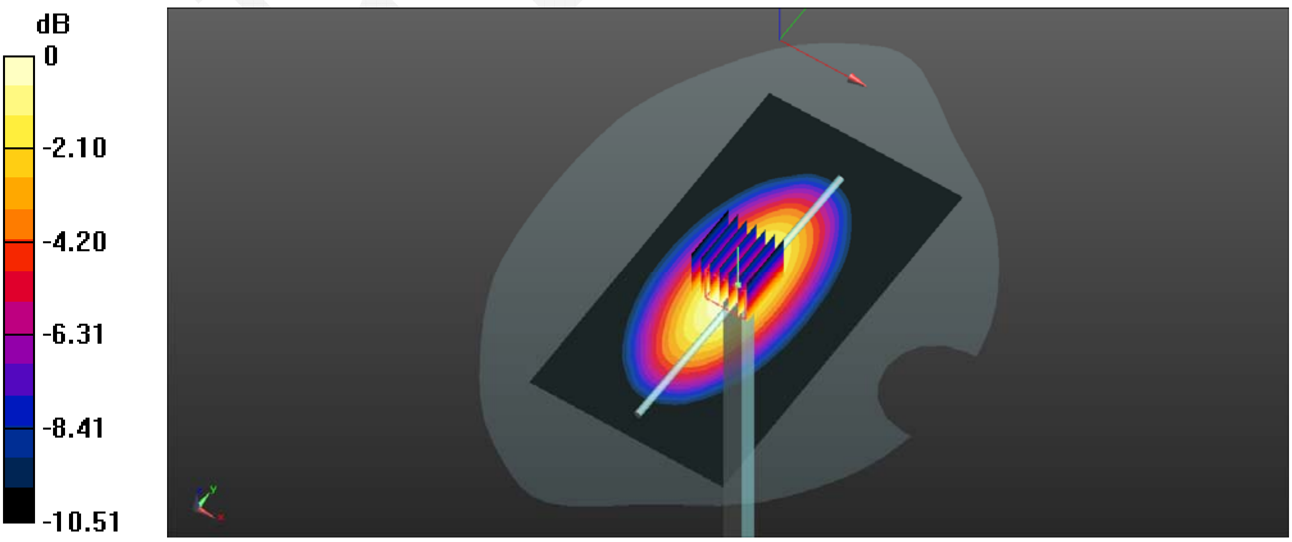
Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 0.993 S/m; ε_r = 55.005; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.42, 9.42, 9.42); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 900 MHz Body /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 17.4 W/kg

System Performance 900 MHz Body /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 106.4 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 15.9 W/kg
SAR(1 g) = 10.3 W/kg; SAR(10 g) = 6.69 W/kg
Maximum value of SAR (measured) = 13.5 W/kg



0 dB = 13.5 W/kg = 11.30 dBW/kg

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

System Performance 1750 MHz Body

DUT: D1750V2; Type: 1750 MHz; Serial: 1141

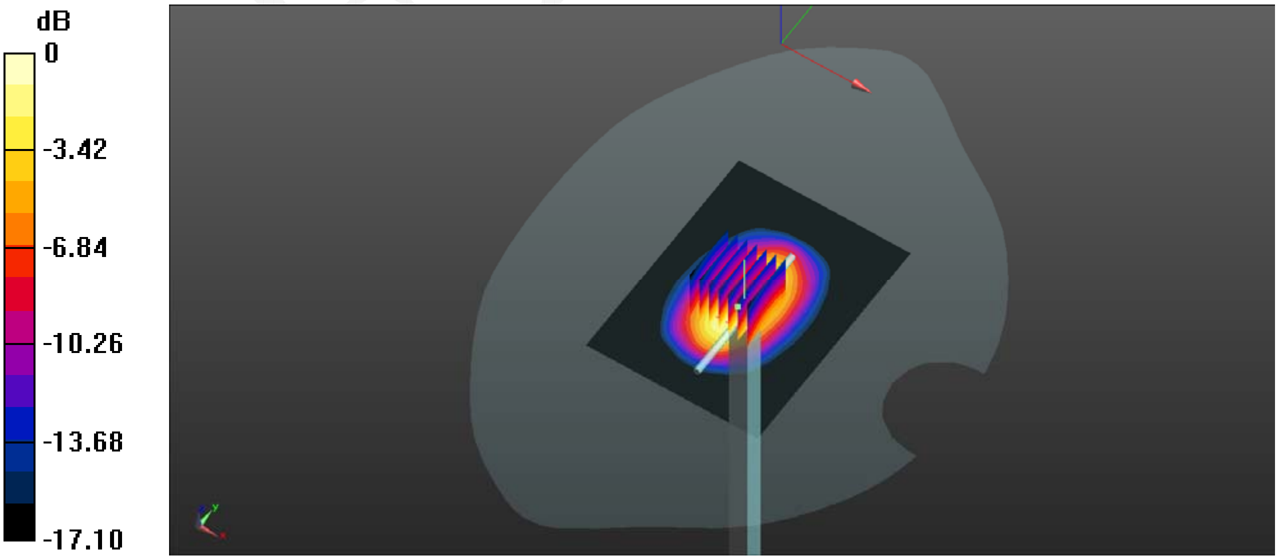
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.491 S/m; ε_r = 53.363; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.86, 7.86, 7.86); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 1750 MHz Body /Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 46.2 W/kg

System Performance 1750 MHz Body /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 163.5 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 61.4 W/kg
SAR(1 g) = 38.4 W/kg; SAR(10 g) = 21.7 W/kg
Maximum value of SAR (measured) = 42.5 W/kg



0 dB = 42.5 W/kg = 16.28 dBW/kg

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

System Performance 1900 MHz Body

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

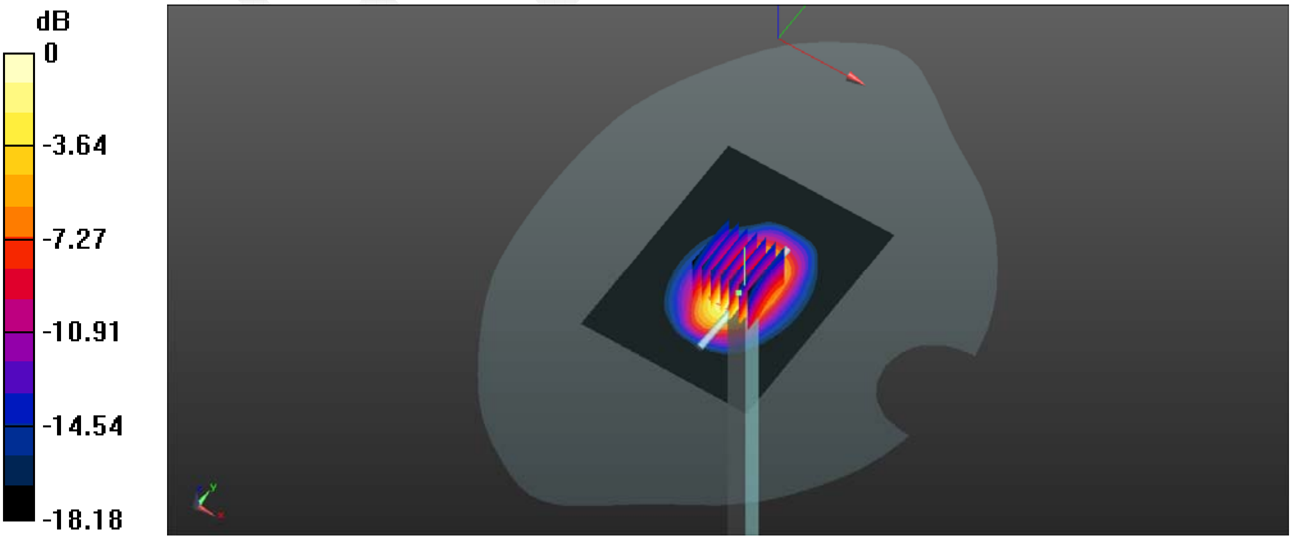
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.512 S/m; ε_r = 54.154; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.52, 7.52, 7.52); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 1900 MHz Body /Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 50.2 W/kg

System Performance 1900 MHz Body /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 172.5 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 72.7 W/kg
SAR(1 g) = 42.2 W/kg; SAR(10 g) = 22.5 W/kg
Maximum value of SAR (measured) = 49.6 W/kg



0 dB = 49.6W/kg = 16.95 dBW/kg

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

System Performance 2450 MHz Body

DUT: D2450V3; Type: 2450 MHz; Serial: 971

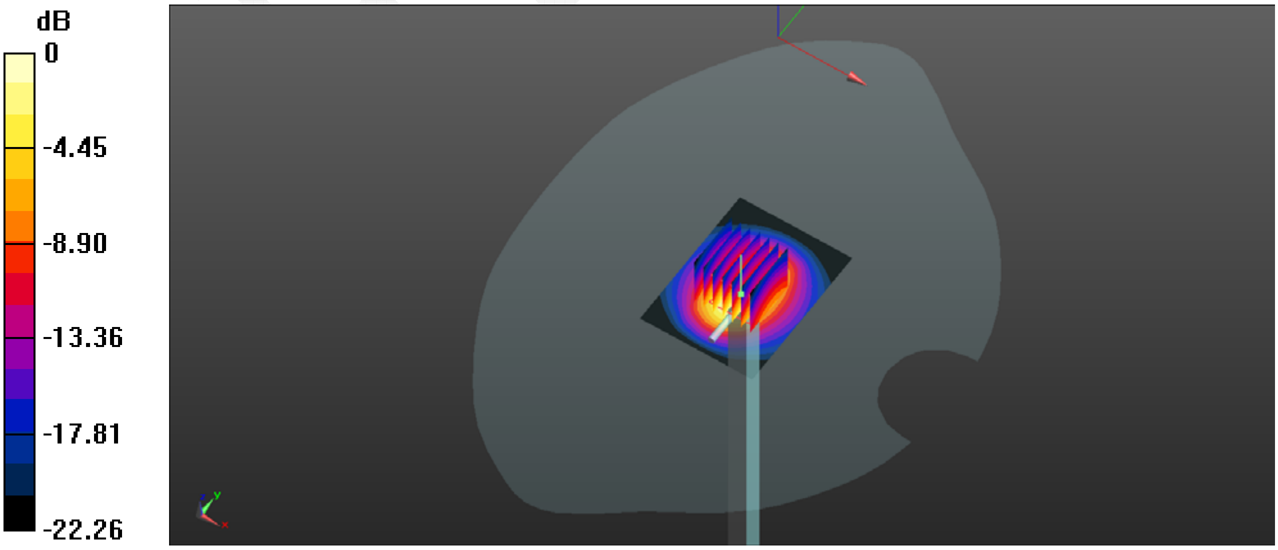
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 2.026 S/m; ε_r = 52.257; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.26, 7.6, 7.26); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

System Performance 2450 MHz Body /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 67.5 W/kg

System Performance 2450 MHz Body /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 186.4 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 110.8 W/kg
SAR(1 g) = 52.1 W/kg; SAR(10 g) = 24.9 W/kg
Maximum value of SAR (measured) = 60.3 W/kg



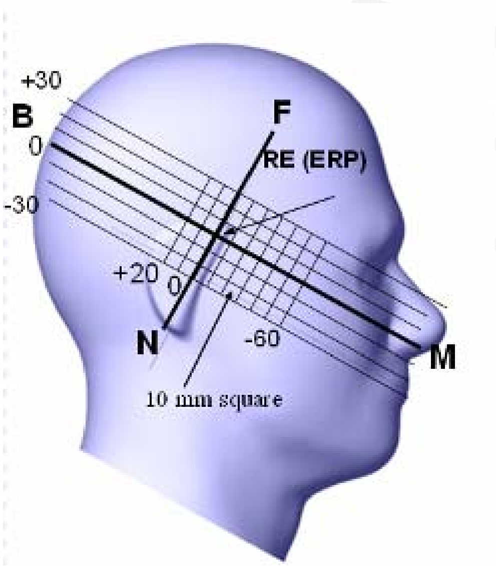
0 dB = 60.3 W/kg = 17.80 dBW/kg

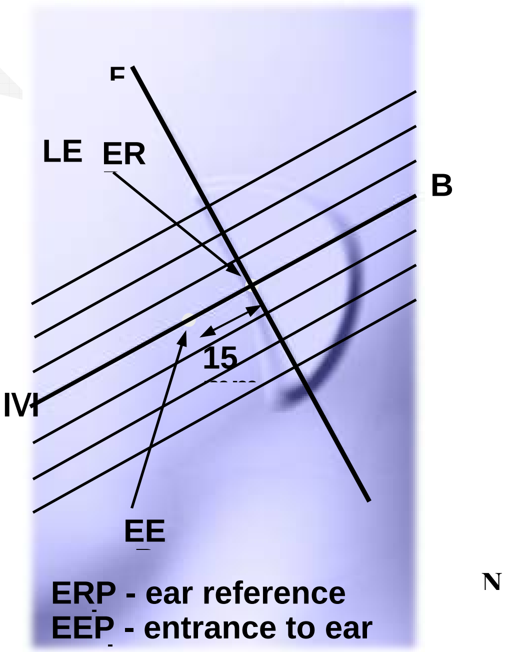
EUT TEST STRATEGY AND METHODOLOGY

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

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

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





Cheek/Touch Position

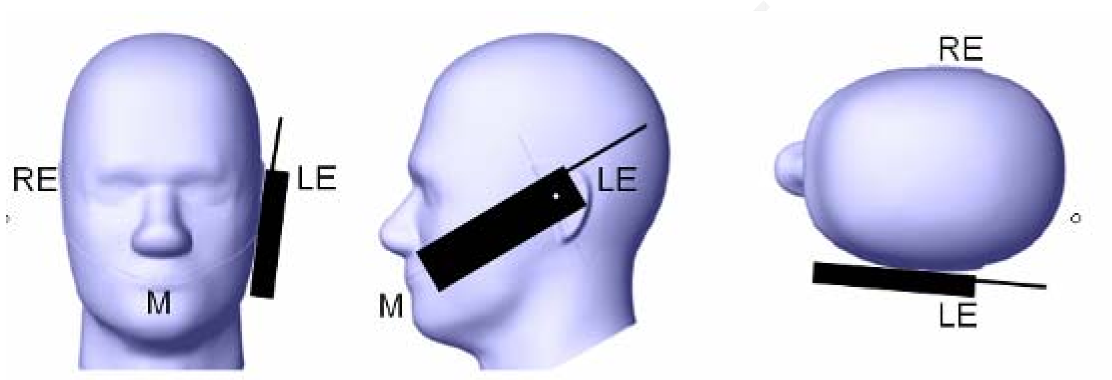
The device is brought toward the mouth of the head phantom by pivoting against the “ear reference point” or along the “N-F” line for the SCC-34/SC-2 head phantom.

This test position is established:

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

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

Cheek /Touch Position



Ear/Tilt Position

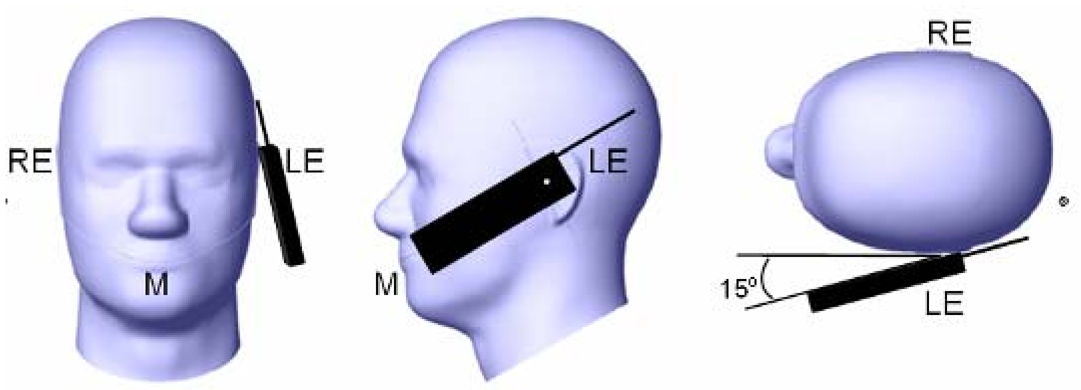
With the handset aligned in the “Cheek/Touch Position”:

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

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

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

Ear /Tilt 15° Position



Test positions for body-worn and other configurations

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

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

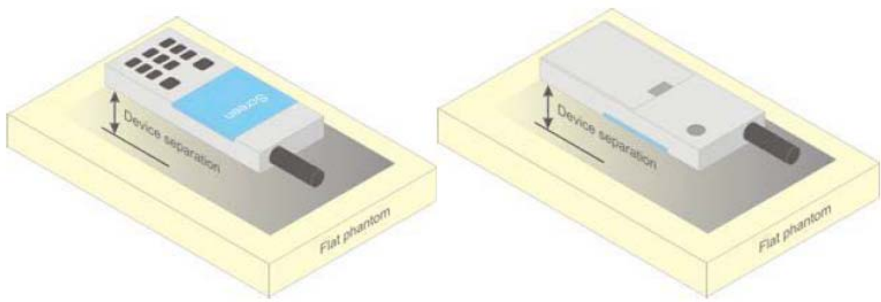


Figure 5 – Test positions for body-worn devices

SAR Evaluation Procedure

The evaluation was performed with the following procedure:

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

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

Step 3: Around this point, a volume of 35 mm x 35 mm x 35 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

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

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

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

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

Test methodology

KDB procedures:
KDB 447498 D01 General RF Exposure Guidance v06
KDB 648474 D04 Handset SAR v01r03
KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r02
KDB 941225 D01 3G SAR Procedures v03r01
KDB 941225 D06 Hotspot Mode v02r01
KDB 616217 D04 SAR for laptop and tablets v01r02
KDB 248227 D01 802 11 Wi-Fi SAR v02r02
KDB 941225 D05 SAR for LTE Devices v02r05

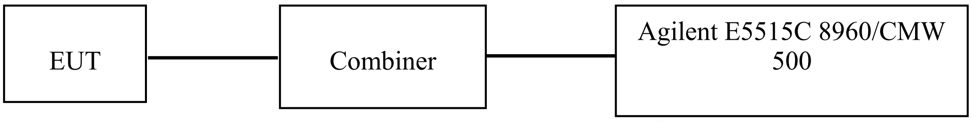
CONDUCTED OUTPUT POWER MEASUREMENT

Provision Applicable

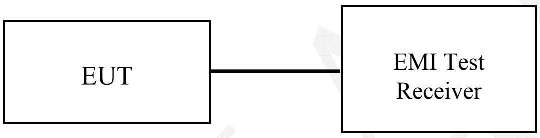
The measured peak output power should be greater and within 5% than EMI measurement.

Test Procedure

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



CDMA/ LTE



WLAN/Bluetooth

Radio Configuration

The power measurement was configured by the Wireless Communication Test Set E5515C for CDMA Band and Wideband Radio Communication Tester CMW500 for LTE Band.

CDMA 1x RTT

Maximum output power is verified on the high, middle and low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. Steps 3 and 4 are measured using Loopback Service Option SO55 with power control bits in “All Up” condition. Step 10 is measured using TDSO/SO32 with power control bits in the “Bits Hold” condition (i.e. alternative Up/Down Bits).

Table 4.4.5.2-1. Test Parameters for Maximum RF Output Power with a Single Traffic Code Channel, Spreading Rate 1

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table 4.4.5.2-2. Test Parameters for Maximum RF Output Power with Multiple Traffic Code Channels, Spreading Rate 1

Parameter	Units	Value
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

EVDO

Maximum output power is verified on the high, middle and low channels according to procedures in section 3.1.2.3.4 of 3GPP2 C.S0033-0/TIA-866 for Rev. 0, section 4.3.4 of 3GPP2 C.S0033-A for Rev. A.

Maximum output power is measured for Rev. 0 and Rev. A in Subtype 0/1 and Subtype 2 Physical Layer configurations, respectively.

LTE

For UE Power Class 1 and 3, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2-1due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1 and 3

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

For UE Power Class 1 and 3 the specific requirements and identified subclauses are specified in Table 6.2.4-1 along with the allowed A-MPR values that may be used to meet these requirements. The allowed A-MPR values specified below in Table 6.2.4.-1 to 6.2.4-15 are in addition to the allowed MPR requirements specified in sub-clause 6.2.3.

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (subclause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	N/A
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	N/A
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	
NS_11	6.6.2.2.1	23	1.4, 3, 5, 10, 15, 20	Table 6.2.4-5	
NS_12	6.6.3.3.5	26	1.4, 3, 5	Table 6.2.4-6	
NS_13	6.6.3.3.6	26	5	Table 6.2.4-7	
NS_14	6.6.3.3.7	26	10, 15	Table 6.2.4-8	
NS_15	6.6.3.3.8	26	1.4, 3, 5, 10, 15	Table 6.2.4-9 Table 6.2.4-10	
NS_16	6.6.3.3.9	27	3, 5, 10	Table 6.2.4-11, Table 6.2.4-12, Table 6.2.4-13	
NS_17	6.6.3.3.10	28	5, 10	Table 5.6-1	N/A
NS_18	6.6.3.3.11	28	5	≥ 2	≤ 1
			10, 15, 20	≥ 1	≤ 4
NS_19	6.6.3.3.12	44	10, 15, 20	Table 6.2.4-14	
NS_20	6.2.2 6.6.2.2.1 6.6.3.2	23	5, 10, 15, 20	Table 6.2.4-15	
...					
NS_32	-	-	-	-	-

Maximum Target Output Power

Maximum Target Output Power (dBm)			
Mode/Band	Low Channel	Middle Channel	High Channel
CDMA 850	23.8	23.8	23.8
CDMA 850 P-Sensor Triggered	19	19	19
CDMA 1900	23	23	23
CDMA 1900 P-Sensor Triggered	18.2	18.2	18.2
LTE Band 4	22.6	22.6	22.6
LTE Band 4 P-Sensor Triggered	17.8	17.8	17.8
LTE Band 13	23	23	23
LTE Band 13 P-Sensor Triggered	18.2	18.2	18.2
WLAN 2.4G Band SISO Chain 0(Main) 802.11b	16.6	16.6	16.6
WLAN 2.4G Band SISO Chain 0(Main) 802.11g	17.7	17.7	17.7
WLAN 2.4G Band SISO Chain 0(Main) 802.11n HT20	17.3	17.3	17.3
WLAN 2.4G Band SISO Chain 0(Main) 802.11n HT40	15.2	15.2	15.2
WLAN 2.4G Band SISO Chain 1(Aux) 802.11b	16.1	16.1	16.1
WLAN 2.4G Band SISO Chain 1(Aux) 802.11g	16.7	16.7	16.7
WLAN 2.4G Band SISO Chain 1(Aux) 802.11n HT20	17	17	17
WLAN 2.4G Band SISO Chain 1(Aux) 802.11n HT40	14.6	14.6	14.6
WLAN 2.4G Band MIMO 802.11n HT20	19	19	19
WLAN 2.4G Band MIMO 802.11n HT40	15.5	15.5	15.5
Bluetooth BDR/EDR	5	5	5
Bluetooth LE	3.5	3.5	3.5

Note: the device employed a proximity sensor for WWAN.

Proximity Sensor Operation

A Proximity sensor for power reduction is implemented in this device to address RF exposure compliance when the WWAN antenna is positioned close to the user's body. This design combines the antenna and proximity sensor into a single FPC (Flexible Printed Circuit). The sensor operation area is the back and top side of the device.

The minimum detection distances for Top side and back side determined as below:

Proximity Sensor Status Table

Top edge

Distance (mm)	15	16	17	18	19	20	21	22	23	24	25	26	27
Toward	on	on	on	on	on	on	on	off	off	off	off	off	off
Away	on	on	on	on	on	on	on	on	off	off	off	off	off

Back edge

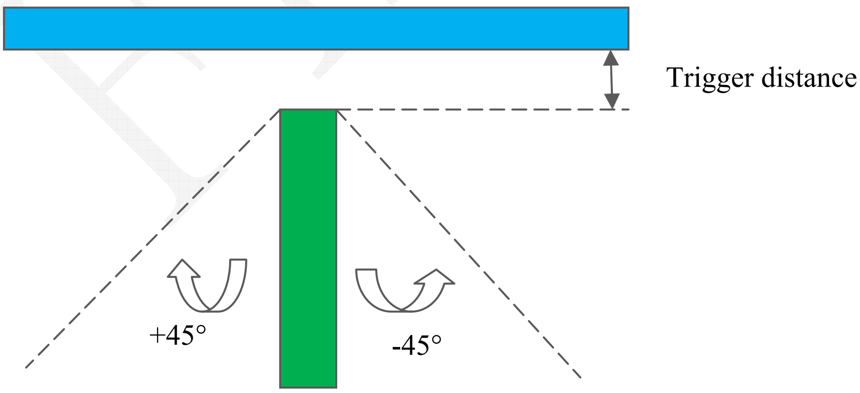
Distance (mm)	15	16	17	18	19	20	21	22	23	24	25	26	27
Toward	on	on	on	on	on	on	on	off	off	off	off	off	off
Away	on	on	on	on	on	on	on	on	off	off	off	off	off

Note: each side minimum detection distance was performed with below:
Toward: moving toward the phantom
Away: Moving away from the phantom

Tilt angle

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at 22mm separation.

Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°. And the maximum output power remains in the reduced mode.



Trigger Distance (mm)		
Position	Top Edge	Back Edge
Minimum	21	21

Power Reduction Values

The power reduction values in each edge are the same as below power table at the separation distance P-sensor triggering on, please refer to the below test results.

Base on the minimum separation triggering distance is 21mm for both back and top edge, a additional SAR measurements were required at 20cm for back and top edge.

Test Results:

CDMA 1x RTT P-Sensor Not Triggered

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			RC1+SO55	RC3+SO55	RC3+SO32 (FCH)	RC3+SO32 (SCH)
BC0	1013	824.7	23.45	23.61	23.52	23.04
	283	833.49	23.52	23.52	23.54	23.44
	777	848.31	23.45	23.71	23.48	23.52
BC1	25	1851.25	22.87	22.64	22.70	22.71
	600	1880	22.75	22.75	22.68	22.59
	1175	1908.75	22.73	22.61	22.59	22.61

EVDO P-Sensor Not Triggered

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)	
			RTAP 153.6kbps Subtype 0	RETAP 4096pbs Subtype 2
BC0	1013	824.7	23.12	23.26
	283	833.49	23.21	23.17
	777	848.31	23.15	23.16
BC1	25	1851.25	22.50	22.21
	600	1880	22.44	22.06
	1175	1908.75	22.33	22.14

CDMA 1x RTT P-Sensor Triggered

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			RC1+SO55	RC3+SO55	RC3+SO32 (FCH)	RC3+SO32 (SCH)
BC0	1013	824.7	18.65	18.86	18.61	18.69
	283	833.49	18.75	18.68	18.59	18.66
	777	848.31	18.68	18.9	18.34	18.43
BC1	25	1851.25	18.05	17.85	18.15	18.03
	600	1880	17.94	17.97	17.88	17.89
	1175	1908.75	17.93	17.84	17.61	17.63

EVDO P-Sensor Triggered

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)	
			RTAP 153.6kbps Subtype 0	RETAP 4096pbs Subtype 2
BC0	1013	824.7	18.36	18.50
	283	833.49	18.45	18.41
	777	848.31	18.39	18.40
BC1	25	1851.25	17.74	17.45
	600	1880	17.68	17.30
	1175	1908.75	17.57	17.38

LTE Band 4 P-Sensor NOT Triggered:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	22.45	22.47	22.46
		1#3	22.46	22.44	22.43
		1#5	22.43	22.41	22.41
		3#0	22.37	22.34	22.38
		3#1	22.30	22.31	22.32
		3#3	22.34	22.32	22.36
		6#0	21.39	21.41	21.40
	16-QAM	1#0	21.17	21.18	21.24
		1#3	21.13	21.12	21.14
		1#5	21.16	21.16	21.17
		3#0	21.22	21.20	21.23
		3#1	21.17	21.20	21.17
		3#3	21.14	21.19	21.12
		6#0	20.39	20.41	20.33
3M	QPSK	1#0	22.36	22.37	22.37
		1#7	22.39	22.39	22.34
		1#14	22.40	22.38	22.40
		8#0	21.38	21.41	21.40
		8#4	21.37	21.39	21.39
		8#7	21.36	21.38	21.31
		15#0	21.36	21.35	21.35
	16-QAM	1#0	21.58	21.58	21.58
		1#7	21.59	21.55	21.61

		1#14	21.56	21.55	21.58
		8#0	20.36	20.30	20.38
		8#4	20.32	20.33	20.32
		8#7	20.32	20.32	20.33
		15#0	20.45	20.43	20.48
5M	QPSK	1#0	22.48	22.48	22.42
		1#12	22.43	22.44	22.46
		1#24	22.39	22.41	22.42
		12#0	21.34	21.35	21.34
		12#6	21.38	21.40	21.34
		12#11	21.48	21.43	21.44
		25#0	21.34	21.33	21.37
	16-QAM	1#0	21.25	21.26	21.26
		1#12	21.25	21.27	21.24
		1#24	21.24	21.27	21.23
		12#0	20.40	20.40	20.42
		12#6	20.41	20.40	20.36
		12#11	20.39	20.36	20.32
		25#0	20.29	20.32	20.23
10M	QPSK	1#0	22.38	22.37	22.36
		1#24	22.36	22.35	22.37
		1#49	22.34	22.35	22.34
		25#0	21.31	21.30	21.29
		25#12	21.28	21.29	21.32
		25#24	21.30	21.29	21.25
		50#0	21.26	21.22	21.25
	16-QAM	1#0	21.53	21.55	21.54
		1#24	21.58	21.57	21.58
		1#49	21.60	21.58	21.59
		25#0	20.35	20.40	20.36
		25#12	20.34	20.34	20.29
		25#24	20.37	20.36	20.34
		50#0	20.20	20.18	20.18
15M	QPSK	1#0	22.41	22.43	22.37
		1#37	22.48	22.47	22.48
		1#74	22.47	22.48	**22.50**
		36#0	21.20	21.19	21.17
		36#17	21.19	21.24	21.18

		36#35	21.20	21.22	21.19
		75#0	21.12	21.17	21.14
	16-QAM	1#0	21.68	21.68	21.67
		1#37	21.67	21.70	21.67
		1#74	21.72	21.73	21.72
		36#0	20.48	20.48	20.43
		36#17	20.45	20.46	20.49
		36#35	20.47	20.50	20.48
		75#0	20.13	20.13	20.12
20M	QPSK	1#0	22.36	22.36	22.33
		1#49	22.33	22.35	22.37
		1#99	22.35	22.33	22.32
		50#0	21.29	21.27	21.31
		50#24	21.25	21.25	21.23
		50#49	21.28	21.28	21.29
		100#0	21.21	21.20	21.23
	16-QAM	1#0	21.90	21.88	21.90
		1#49	21.82	21.83	21.80
		1#99	21.85	21.85	21.85
		50#0	20.36	20.33	20.36
		50#24	20.37	20.34	20.35
		50#49	20.32	20.34	20.33
		100#0	20.27	20.25	20.30

LTE Band 4 P-Sensor Triggered:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	17.69	17.71	17.70
		1#3	17.70	17.68	17.67
		1#5	17.67	17.65	17.65
		3#0	17.61	17.58	17.62
		3#1	17.54	17.55	17.56
		3#3	17.58	17.56	17.60
		6#0	16.63	16.65	16.64
	16-QAM	1#0	16.41	16.42	16.48
		1#3	16.37	16.36	16.38
		1#5	16.40	16.40	16.41
		3#0	16.46	16.44	16.47
		3#1	16.41	16.44	16.41
		3#3	16.38	16.43	16.36
		6#0	15.63	15.65	15.57
3M	QPSK	1#0	17.60	17.61	17.61
		1#7	17.63	17.63	17.58
		1#14	17.64	17.62	17.64
		8#0	16.62	16.65	16.64
		8#4	16.61	16.63	16.63
		8#7	16.60	16.62	16.55
		15#0	16.60	16.59	16.59
	16-QAM	1#0	16.82	16.82	16.82
		1#7	16.83	16.79	16.85
		1#14	16.80	16.79	16.82
		8#0	15.60	15.54	15.62
		8#4	15.56	15.57	15.56
		8#7	15.56	15.56	15.57
		15#0	15.69	15.67	15.72
5M	QPSK	1#0	17.72	17.72	17.66
		1#12	17.67	17.68	17.70
		1#24	17.63	17.65	17.66
		12#0	16.58	16.59	16.58
		12#6	16.62	16.64	16.58
		12#11	16.72	16.67	16.68
		25#0	16.58	16.57	16.61
	16-QAM	1#0	16.49	16.50	16.50
		1#12	16.49	16.51	16.48
		1#24	16.48	16.51	16.47

		12#0	15.64	15.64	15.66
		12#6	15.65	15.64	15.60
		12#11	15.63	15.60	15.56
		25#0	15.53	15.56	15.47
10M	QPSK	1#0	17.62	17.61	17.60
		1#24	17.60	17.59	17.61
		1#49	17.58	17.59	17.58
		25#0	16.55	16.54	16.53
		25#12	16.52	16.53	16.56
		25#24	16.54	16.53	16.49
		50#0	16.50	16.46	16.49
	16-QAM	1#0	16.77	16.79	16.78
		1#24	16.82	16.81	16.82
		1#49	16.84	16.82	16.83
		25#0	15.59	15.64	15.60
		25#12	15.58	15.58	15.53
		25#24	15.61	15.60	15.58
		50#0	15.44	15.42	15.42
15M	QPSK	1#0	17.65	17.67	17.61
		1#37	17.72	17.71	17.72
		1#74	17.71	17.72	**17.74**
		36#0	16.44	16.43	16.41
		36#17	16.43	16.48	16.42
		36#35	16.44	16.46	16.43
		75#0	16.36	16.41	16.38
	16-QAM	1#0	16.92	16.92	16.91
		1#37	16.91	16.94	16.91
		1#74	16.96	16.97	16.96
		36#0	15.72	15.72	15.67
		36#17	15.69	15.70	15.73
		36#35	15.71	15.74	15.72
		75#0	15.37	15.37	15.36
20M	QPSK	1#0	17.60	17.60	17.57
		1#49	17.57	17.59	17.61
		1#99	17.59	17.57	17.56
		50#0	16.53	16.51	16.55
		50#24	16.49	16.49	16.47
		50#49	16.52	16.52	16.53
		100#0	16.45	16.44	16.47
	16-QAM	1#0	17.14	17.12	17.14
		1#49	17.06	17.07	17.04
		1#99	17.09	17.09	17.09

		50#0	15.60	15.57	15.60
		50#24	15.61	15.58	15.59
		50#49	15.56	15.58	15.57
		100#0	15.51	15.49	15.54

Note:
1.SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02.
2.The CMW500 Wideband Radio Communication tester is used for LTE output power measurements and SAR testing. Closed loop power control is used to keep the radio transmitters the max output power during the test.
3.KDB941225D05v02- SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg

LTE Band 13 P-Sensor NOT Triggered:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.26	22.58	22.56
		1#12	22.37	22.83	**22.93**
		1#24	22.47	22.64	22.54
		12#0	20.68	21.22	21.25
		12#6	21.51	21.66	21.79
		12#11	21.40	21.54	21.53
		25#0	21.11	21.60	21.00
	16-QAM	1#0	21.81	22.01	22.01
		1#12	22.04	21.66	21.43
		1#24	21.47	21.60	21.53
		12#0	21.44	21.38	21.57
		12#6	21.52	21.53	21.51
		12#11	21.28	21.48	21.33
		25#0	21.24	21.38	21.42
10M	QPSK	1#0	\	22.19	\
		1#24	\	22.59	\
		1#49	\	22.32	\
		25#0	\	21.39	\
		25#12	\	21.47	\
		25#24	\	21.38	\
		50#0	\	21.35	\
	16-QAM	1#0	\	21.83	\
		1#24	\	21.26	\
		1#49	\	22.18	\
		25#0	\	21.44	\
		25#12	\	21.40	\
		25#24	\	21.39	\
		50#0	\	21.38	\

LTE Band 13 P-Sensor Triggered:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	17.50	17.82	17.80
		1#12	17.61	18.07	**18.17**
		1#24	17.71	17.88	17.78
		12#0	15.92	16.46	16.49
		12#6	16.75	16.90	17.03
		12#11	16.64	16.78	16.77
		25#0	16.35	16.84	16.24
	16-QAM	1#0	17.05	17.25	17.25
		1#12	17.28	16.90	16.67
		1#24	16.71	16.84	16.77
		12#0	16.68	16.62	16.81
		12#6	16.76	16.77	16.75
		12#11	16.52	16.72	16.57
		25#0	16.48	16.62	16.66
10M	QPSK	1#0	\	17.43	\
		1#24	\	17.83	\
		1#49	\	17.56	\
		25#0	\	16.63	\
		25#12	\	16.71	\
		25#24	\	16.62	\
		50#0	\	16.59	\
	16-QAM	1#0	\	17.07	\
		1#24	\	16.50	\
		1#49	\	17.42	\
		25#0	\	16.68	\
		25#12	\	16.64	\
		25#24	\	16.63	\
		50#0	\	16.62	\

Note:
1.SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02.
2.The CMW500 Wideband Radio Communication tester is used for LTE output power measurements and SAR testing. Closed loop power control is used to keep the radio transmitters the max output power during the test.
3.KDB941225D05v02- SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg

Bluetooth:

Mode	Channel frequency (MHz)	RF Output Power (dBm)
BDR(GFSK)	2402	**4.37**
	2441	2.91
	2480	2.15
EDR(4-DQPSK)	2402	3.12
	2441	1.57
	2480	0.74
EDR-8DPSK	2402	2.33
	2441	0.65
	2480	-0.14
BLE	2402	0.29
	2440	-1.14
	2480	-1.79

WLAN 2.4G, SISO Mode:

Mode	Channel	Frequency (MHz)	Conducted Average Output Power (dBm)	
			Main(Chain 0)	Aux(Chain 1)
802.11 b	Low	2412	16.32	15.96
	Middle	2437	16.46	15.69
	High	2462	16.24	15.84
802.11 g	Low	2412	15.08	15.4
	Middle	2437	**17.56**	**16.58**
	High	2462	13.53	13.36
802.11 n20	Low	2412	14.83	15.39
	Middle	2437	17.24	16.9
	High	2462	14.04	13.19
802.11 n40	Low	2422	12.52	12.2
	Middle	2437	15.14	14.54
	High	2452	11.47	9.78

Note:
The output power was tested under data rate 1Mbps for 802.11b, 6Mbps for 802.11g, MCS0 for 802.11n HT20 and 802.11n HT40.

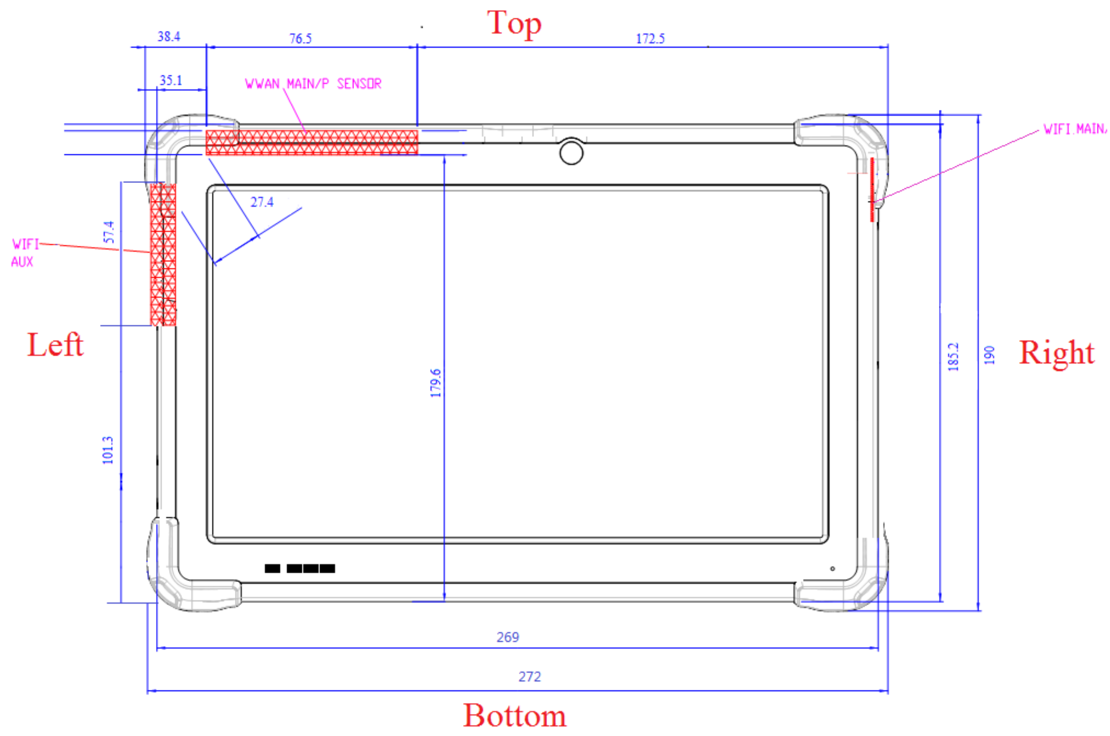
WLAN 2.4G, MIMO Mode:

Mode	Channel	Frequency (MHz)	Conducted Average Output Power (dBm)		
			Main(Chain 0)	Aux(Chain 1)	Total
802.11 n20	Low	2412	13.37	13.62	16.51
	Middle	2437	15.33	**16.24**	**18.82**
	High	2462	13.74	12.85	16.33
802.11 n40	Low	2422	9.1	8.56	11.85
	Middle	2437	12.68	11.92	15.33
	High	2452	9.26	8.37	11.85

Note:
The output power was tested under data rate MCS8 for 802.11n HT20 and 802.11n HT20.

SAR MEASUREMENT RESULTS

Antenna Location



Note: The Protective material on corners was removed during SAR test.

Antenna Distance To Edge

Antenna Distance To Edge (mm)					
Antenna	**Left Edge**	**Right Edge**	**Top Edge**	**Back Edge**	**Bottom Edge**
WWAN Main	38.4	172.5	2.84	1.8	179.6
Bluetooth/WLAN AUX	2.3	259.7	36.2	2.7	101.3
WLAN Main	269.6	2.5	11.3	4.7	158.4

Standalone SAR test exclusion considerations

Mode	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
WLAN 2.4G	2462	17.6	57.54	5	18.1	3	NO
Bluetooth	2480	4.5	2.82	5	0.9	3	YES
CDMA 850	849	23.3	213.8	5	39.4	3	NO
CDMA 1900	1910	22.6	181.97	5	50.3	3	NO
LTE Band 4	1755	22.6	181.97	5	48.2	3	NO
LTE Band 13	787	23	199.53	5	35.4	3	NO

NOTE:

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

SAR test exclusion for the EUT edge considerations Result

Mode	Back	Left Edge	Right Edge	Top Edge	Bottom Edge
WLAN Main	Required	Exclusion	Judge	Required	Judge
WLAN AUX	Required	Required	Exclusion	Judge	Judge
CDMA 850	Required	Judge	Judge	Required	Judge
CDMA 1900	Required	Judge	Judge	Required	Judge
LTE Band 4	Required	Judge	Judge	Required	Judge
LTE Band 13	Required	Judge	Judge	Required	Judge

Note:
Required: the distance is less than 5mm, the SAR test is required as Standalone SAR test exclusion considerations table.
Exclusion: the distance is more than 20cm to the edge, SAR test is not application.
Judge: Please refer the below table for detail.

SAR test exclusion for the EUT edge considerations detail:

Distance< 50mm

Mode	Edge	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test required
WLAN 2.4G Main	Top	2462	17.7	58.88	11.3	8.2	3	Yes
WLAN AUX	Top	2462	17	50.12	36.2	2.2	3	No
CDMA 850	Left	849	23.8	239.88	38.4	5.8	3	Yes
CDMA 1900	Left	1910	23	199.53	38.4	7.2	3	Yes
LTE Band 4	Left	1755	22.6	181.97	38.4	6.3	3	Yes
LTE Band 13	Left	787	23	199.53	38.4	4.6	3	Yes

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

Distance> 50mm

Mode	Edge	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Test exclusion Threshold (mW)	SAR Test required
CDMA 850	Right	849	23.8	239.88	172.5	845.9	No
CDMA 1900	Right	1910	23	199.53	172.5	1334	No
LTE Band 4	Right	1755	22.6	181.97	172.5	1334	No
LTE Band 13	Right	787	23	199.53	172.5	845.9	No
CDMA 850	Bottom	849	23.8	239.88	179.6	885.44	No
CDMA 1900	Bottom	1910	23	199.53	179.6	1405	No
LTE Band 4	Bottom	1755	22.6	181.97	179.6	1405	No
LTE Band 13	Bottom	787	23	199.53	179.6	885.44	No
WLAN 2.4G Main	Bottom	2462	17.7	58.88	158.4	1180	No
WLAN 2.4G AUX	Bottom	2462	17	50.12	101.3	609	No

At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following:

a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz

b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

Standalone SAR estimation:

Mode	Edge	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Estimated 1-g (W/kg)
Bluetooth	Back	2480	4.4	2.75	5.1	0.113
	Top	2480	4.4	2.75	11.3	0.051

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

0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the *test separation distances* is > 50 mm.

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion

Note: the maximum power was used for evaluation.

2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements

For WLAN 2.4G Band SISO Chain 0(Main):

Modulation Mode	Pavg (dBm)	Pavg (mW)	Measured SAR(W/kg)	Adjusted SAR(W/kg)	Limit(W/kg)	SAR Test Exclusion
802.11b(DSSS)	16.6	45.71	0.903	/	/	/
802.11g(OFDM)	17.7	58.88	/	1.163	1.2	Yes
802.11n HT20(OFDM)	17.3	53.7	/	1.061	1.2	Yes
802.11n HT40(OFDM)	15.2	33.11	/	0.654	1.2	Yes

For WLAN 2.4G Band SISO Chain 1(Aux):

Modulation Mode	Pavg (dBm)	Pavg (mW)	Measured SAR(W/kg)	Adjusted SAR(W/kg)	Limit(W/kg)	SAR Test Exclusion
802.11b(DSSS)	16.1	40.74	0.812	/	/	/
802.11g(OFDM)	16.7	46.77	/	0.932	1.2	Yes
802.11n HT20(OFDM)	17	50.12	/	0.999	1.2	Yes
802.11n HT40(OFDM)	14.6	28.84	/	0.575	1.2	Yes

Note:

KDB 248227 D01-SAR is not required for 2.4 GHz OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

SAR Test Data

Environmental Conditions

Temperature:	22.2-23.7 ℃	22.4-23.6 ℃	21.9-22.9 ℃	22.4-23.5 ℃
Relative Humidity:	26 %	27 %	28 %	27 %
ATM Pressure:	1001 mbar	1003 mbar	1000 mbar	997 mbar
Test Date:	2016-07-05	2016-07-06	2016-07-07	2016-07-08

Testing was performed by Rocky Xiao

CDMA 850 Band EUT with Power Reduction (P-Sensor Triggered):

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Worn-Back (0mm)	824.7	RTAP 153.6	0.04	18.36	19	1.159	0.781	0.905	/
	833.49	RTAP 153.6	-0.02	18.45	19	1.135	0.838	0.951	1#
	848.31	RTAP 153.6	0.17	18.39	19	1.151	0.788	0.907	/
Body-Worn-Top (0mm)	824.7	RTAP 153.6	0.07	18.36	19	1.159	0.59	0.684	/
	833.49	RTAP 153.6	-0.11	18.45	19	1.135	0.63	0.715	/
	848.31	RTAP 153.6	0.18	18.39	19	1.151	0.603	0.694	/

CDMA 850 Band EUT without Power Reduction (P-Sensor NOT Triggered):

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Worn-Back (20mm)	824.7	RTAP 153.6	0.19	23.12	23.8	1.169	0.065	0.076	/
	833.49	RTAP 153.6	-0.03	23.21	23.8	1.146	0.068	0.078	/
	848.31	RTAP 153.6	0.03	23.15	23.8	1.161	0.065	0.075	/
Body-Worn-Top (20mm)	824.7	RTAP 153.6	0.05	23.12	23.8	1.169	0.073	0.085	/
	833.49	RTAP 153.6	-0.05	23.21	23.8	1.146	0.077	0.088	/
	848.31	RTAP 153.6	0.19	23.15	23.8	1.161	0.073	0.085	/
Body- Back -Tilt	824.7	RTAP 153.6	0.15	23.12	23.8	1.169	0.165	0.193	/
	833.49	RTAP 153.6	0.03	23.21	23.8	1.146	0.175	0.201	/
	848.31	RTAP 153.6	0.09	23.15	23.8	1.161	0.165	0.192	
Body-Top-Tilt	824.7	RTAP 153.6	0.06	23.12	23.8	1.169	0.189	0.221	/
	833.49	RTAP 153.6	-0.14	23.21	23.8	1.146	0.202	0.231	/
	848.31	RTAP 153.6	0.03	23.15	23.8	1.161	0.193	0.224	/

CDMA 1900 Band EUT with Power Reduction (P-Sensor Triggered):

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Worn-Back (0mm)	1851.25	RTAP 153.6	-0.03	17.74	18.2	1.112	0.593	0.659	2#
	1880	RTAP 153.6	0.05	17.68	18.2	1.127	0.572	0.645	/
	1908.75	RTAP 153.6	0.13	17.57	18.2	1.156	0.543	0.628	/
Body-Worn-Top (0mm)	1851.25	RTAP 153.6	0.04	17.74	18.2	1.112	0.266	0.296	/
	1880	RTAP 153.6	0.03	17.68	18.2	1.127	0.255	0.287	/
	1908.75	RTAP 153.6	0.09	17.57	18.2	1.156	0.247	0.286	/

CDMA 1900 Band EUT without Power Reduction (P-Sensor NOT Triggered):

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Worn-Back (20mm)	1851.25	RTAP 153.6	0.08	22.5	23	1.122	0.015	0.017	/
	1880	RTAP 153.6	0.12	22.44	23	1.138	0.015	0.017	/
	1908.75	RTAP 153.6	0.03	22.33	23	1.167	0.014	0.016	/
Body-Worn-Top (20mm)	1851.25	RTAP 153.6	0.07	22.5	23	1.122	0.013	0.015	/
	1880	RTAP 153.6	0.15	22.44	23	1.138	0.013	0.015	/
	1908.75	RTAP 153.6	0.02	22.33	23	1.167	0.012	0.014	/
Body-Back-Tilt	1851.25	RTAP 153.6	0.06	22.5	23	1.122	0.019	0.021	/
	1880	RTAP 153.6	0.09	22.44	23	1.138	0.018	0.02	/
	1908.75	RTAP 153.6	0.01	22.33	23	1.167	0.017	0.02	
Body-Top-Tilt	1851.25	RTAP 153.6	0.13	22.5	23	1.122	0.016	0.018	/
	1880	RTAP 153.6	0.1	22.44	23	1.138	0.016	0.018	/
	1908.75	RTAP 153.6	0.01	22.33	23	1.167	0.015	0.018	/

1. When the 1-g SAR is≤ 0.8W/Kg, testing for other channels are optional.
2. The EUT transmit and receive through the same antenna while testing SAR.
4. KDB 941225 D01- SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55, the 3G SAR test reduction procedure is applied to RC1 with RC3 as the primary mode. Body-worn accessory and other body SAR are measured using Subtype 0/1 Physical Layer configurations for Rev. 0. The 3G SAR test reduction procedure is applied to Rev. A, Subtype 2 Physical layer configuration, with Rev. 0 as the primary mode;
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

LTE Band 4 EUT with Power Reduction (P-Sensor Triggered):

EUT Position	Frequency (MHz)	Bandwidth (Mhz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
							Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Back (0mm)	1710	20	1RB	0.18	17.57	17.8	1.054	0.51	0.538	/
	1732.5	20	1RB	0.09	17.59	17.8	1.05	0.52	0.546	/
	1754.9	20	1RB	-0.07	17.61	17.8	1.045	0.533	0.557	3#
	1710	20	50%RB	-0.06	16.55	17.8	1.334	0.355	0.474	/
Body-Top (0mm)	1710	20	1RB	0.02	17.57	17.8	1.054	0.512	0.54	/
	1732.5	20	1RB	0.11	17.59	17.8	1.05	0.509	0.534	/
	1754.9	20	1RB	-0.12	17.61	17.8	1.045	0.529	0.553	/
	1710	20	50%RB	0.13	16.55	17.8	1.334	0.356	0.475	/

LTE Band 4 EUT without Power Reduction (P-Sensor NOT Triggered):

EUT Position	Frequency (MHz)	Bandwidth (Mhz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
							Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Back (20mm)	1710	20	1RB	0.11	22.33	22.6	1.064	0.074	0.079	/
	1732.5	20	1RB	0.17	22.35	22.6	1.059	0.075	0.079	/
	1754.9	20	1RB	0.07	22.37	22.6	1.054	0.078	0.082	/
	1710	20	50%RB	-0.2	21.29	22.6	1.352	0.052	0.07	/
Body-Top (20mm)	1710	20	1RB	0.11	22.33	22.6	1.064	0.058	0.062	
	1732.5	20	1RB	0.15	22.35	22.6	1.059	0.06	0.064	
	1754.9	20	1RB	-0.06	22.37	22.6	1.054	0.062	0.065	/
	1710	20	50%RB	-0.12	21.29	22.6	1.352	0.041	0.055	/
Body-Back-Tilt	1710	20	1RB	0.13	22.33	22.6	1.064	0.064	0.068	/
	1732.5	20	1RB	0.11	22.35	22.6	1.059	0.065	0.069	
	1754.9	20	1RB	0.03	22.37	22.6	1.054	0.068	0.072	
	1710	20	50%RB	0.09	21.29	22.6	1.352	0.045	0.061	/
Body-Top-Tilt	1710	20	1RB	0.01	22.33	22.6	1.064	0.051	0.054	/
	1732.5	20	1RB	0.05	22.35	22.6	1.059	0.052	0.055	/
	1754.9	20	1RB	-0.04	22.37	22.6	1.054	0.054	0.057	/
	1710	20	50%RB	0.08	21.29	22.6	1.352	0.036	0.049	/

Note:
1. When the 1-g SAR is ≤ 0.8W/Kg, testing for other channels are optional.
2. SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02.
3. KDB941225D05- SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg
4. KDB941225 D05- For QPSK with 100% RB allocation, when the reported SAR measured for the Highest output power channel is <1.45 W/kg, tests for the remaining required test channels are optional.

5.KDB941225D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.
6. KDB941225D05- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offset the upper edge, middle and lower edge of each required test channel.
7. KDB941225D05- SAR for the other channel bandwidth is not necessary except the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.
8. Worst case SAR for 50% RB allocation is selected to be tested.

LTE Band 13 EUT with Power Reduction (P-Sensor Triggered):

EUT Position	Frequency (MHz)	Bandwidth (Mhz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
							Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Back (0mm)	782	10	1RB	0.12	17.83	18.2	1.089	0.516	0.562	**4#**
		10	50%RB	-0.03	16.71	18.2	1.409	0.342	0.482	/
Body-Top (0mm)	782	10	1RB	-0.02	17.83	18.2	1.089	0.512	0.558	/
		10	50%RB	-0.14	16.71	18.2	1.409	0.336	0.473	/

LTE Band 13 EUT without Power Reduction (P-Sensor NOT Triggered):

EUT Position	Frequency (MHz)	Bandwidth (Mhz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
							Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-Back (20mm)	782	10	1RB	0.05	22.59	23	1.099	0.091	0.1	/
		10	50%RB	-0.16	21.47	23	1.422	0.06	0.085	/
Body-Top (20mm)	782	10	1RB	0.03	22.59	23	1.099	0.074	0.081	/
		10	50%RB	0.16	21.47	23	1.422	0.048	0.068	/
Body-Back-Tilt	782	10	1RB	0.11	22.59	23	1.099	0.073	0.08	/
		10	50%RB	0.06	21.47	23	1.422	0.048	0.068	/
Body-Top-Tilt	782	10	1RB	0.04	22.59	23	1.099	0.068	0.075	/
		10	50%RB	-0.18	21.47	23	1.422	0.045	0.064	/

Note:
1. When the 1-g SAR is ≤ 0.8W/Kg, testing for other channels are optional.
2. SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02.
3. KDB941225D05- SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg
4. KDB941225D05- For QPSK with 100% RB allocation, when the reported SAR measured for the Highest output power channel is <1.45 W/kg, tests for the remaining required test channels are optional.
5.KDB941225D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.
6. KDB941225D05- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offset the upper edge, middle and lower edge of each required test channel.
7. KDB941225D05- SAR for the other channel bandwidth is not necessary except the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.
8. Worst case SAR for 50% RB allocation is selected to be tested.

WLAN 2.4G:

Antenna Chain 0:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-worn-Back (0mm)	2412	802.11b	0.02	16.32	16.6	1.067	0.438	0.467	/
	2437	802.11b	0.11	16.46	16.6	1.033	0.463	0.478	/
	2462	802.11b	0.05	16.24	16.6	1.086	0.43	0.467	/
Body-worn-Top (0mm)	2412	802.11b	0.03	16.32	16.6	1.067	0.227	0.242	/
	2437	802.11b	0.13	16.46	16.6	1.033	0.239	0.247	/
	2462	802.11b	0.03	16.24	16.6	1.086	0.222	0.241	/
Body-worn-Right (0mm)	2412	802.11b	0.04	16.32	16.6	1.067	0.792	0.845	/
	2437	802.11b	-0.13	16.46	16.6	1.033	0.874	0.903	**5#**
	2462	802.11b	0.17	16.24	16.6	1.086	0.759	0.824	/

Antenna Chain 1:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/Kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body-worn-Back (0mm)	2412	802.11b	0.09	15.96	16.1	1.033	0.786	0.812	**6#**
	2437	802.11b	0.14	15.69	16.1	1.099	0.687	0.755	/
	2462	802.11b	0.1	15.84	16.1	1.062	0.759	0.806	/
Body-worn-Top (0mm)	2412	802.11b	-0.04	15.96	16.1	1.033	0.216	0.223	/
	2437	802.11b	0.09	15.69	16.1	1.099	0.197	0.217	/
	2462	802.11b	0.13	15.84	16.1	1.062	0.201	0.213	/
Body-worn-Left (0mm)	2412	802.11b	-0.02	15.96	16.1	1.033	0.778	0.804	/
	2437	802.11b	0.15	15.69	16.1	1.099	0.7	0.769	/
	2462	802.11b	0.02	15.84	16.1	1.062	0.738	0.784	/

Note:

1. When the 1-g SAR is≤ 0.8W/Kg, testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. KDB 248227 D01-SAR is not required for 2.4 GHz OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

SAR Measurement Variability

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg;
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

The Highest Measured SAR Configuration in Each Frequency Band

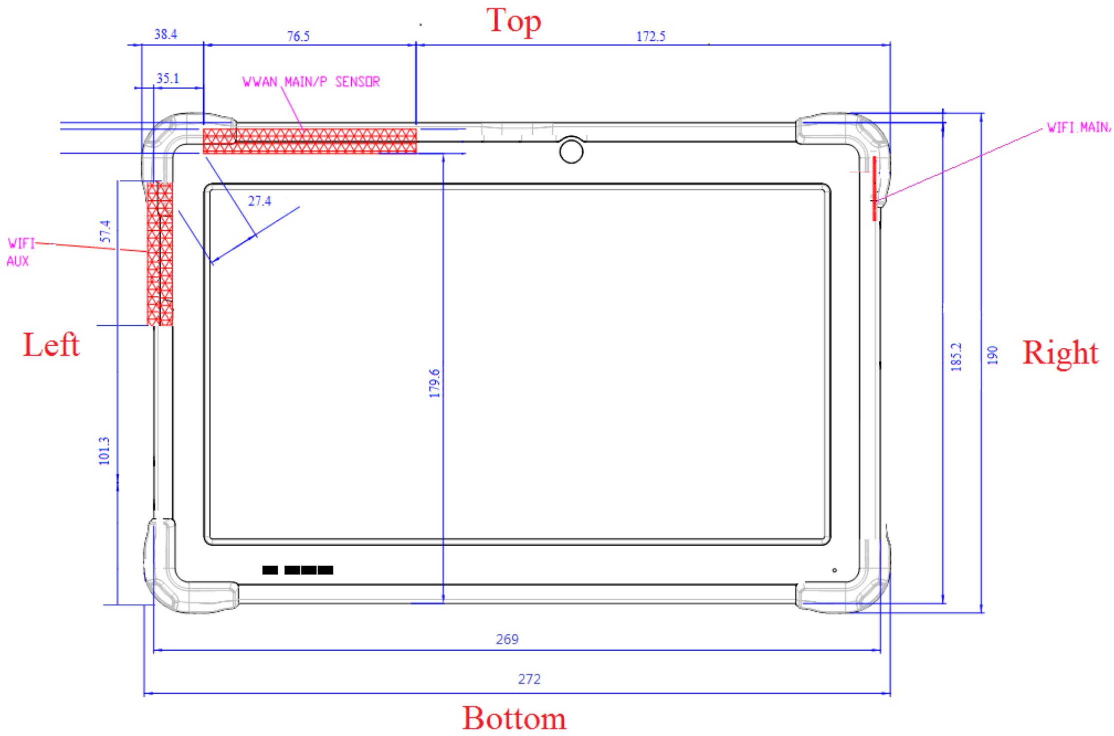
Body

Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
			Original	Repeated	
CDMA 850	833.49	Body-worn-Back	0.951	0.923	1.03
WLAN 2.4G main	2437	Body-worn-Right	0.903	0.881	1.02
WLAN 2.4G AUX	2412	Body-worn-Back	0.812	0.795	1.02

Note:
Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20.

SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

BT&WLAN 2.4G and CDMA&LTE Antennas Location:



Simultaneous Transmission:

Description of Simultaneous Transmit Capabilities			Antennas Distance (mm)
Transmitter Combination	Simultaneous?	Hotspot?	
CDMA + Bluetooth	√	×	172.5
CDMA + WLAN Main	√	√	172.5
LTE + Bluetooth	√	×	172.5
LTE + WLAN Main	√	√	172.5
CDMA + WLAN AUX	√	√	27.4
LTE+ WLAN AUX	√	√	27.4
Bluetooth+ WLAN Main	√	×	269
WLAN Main + WLAN AUX	√	×	269
CDMA+ Bluetooth +WLAN Main	√	√	/
LTE+ Bluetooth +WLAN Main	√	√	/
CDMA+ WLAN Main +WLAN AUX	√	√	/
LTE+ WLAN Main +WLAN AUX	√	√	/

Simultaneous SAR test exclusion considerations:

WWAN + Bluetooth:

Mode (SAR1+SAR2)	Position	Reported SAR (W/kg)		∑SAR < 1.6W/kg
		SAR1	SAR2	
CDMA 850+ Bluetooth	Body -Back	0.951	0.113	**1.064**
	Body -Top	0.715	0.051	0.766
CDMA1900+ Bluetooth	Body -Back	0.659	0.113	0.772
	Body -Top	0.296	0.051	0.347
LTE Band 4+ Bluetooth	Body -Back	0.557	0.113	0.67
	Body -Top	0.553	0.051	0.604
LTE Band 13+ Bluetooth	Body -Back	0.562	0.113	0.675
	Body -Top	0.558	0.051	0.609

Bluetooth + WLAN main:

Mode (SAR1+SAR2)	Position	Reported SAR (W/kg)		∑SAR < 1.6W/kg
		SAR1	SAR2	
Bluetooth+ WLAN main 2.4G Band	Body -Back	0.113	0.476	0.589
	Body -Top	0.051	0.903	**0.954**
Bluetooth+ WLAN main 5.2G Band	Body -Back	0.113	0.159	0.272
	Body -Top	0.051	0.169	0.22
Bluetooth+ WLAN main 5.3G Band	Body -Back	0.113	0.134	0.247
	Body -Top	0.051	0.129	0.18
Bluetooth+ WLAN main 5.6G Band	Body -Back	0.113	0.176	0.289
	Body -Top	0.051	0.139	0.19
Bluetooth+ WLAN main 5.8G Band	Body -Back	0.113	0.132	0.245
	Body -Top	0.051	0.098	0.149

WWAN + WLAN Main:

Mode (SAR1+SAR2)	Position	Reported SAR (W/kg)		∑ SAR < 1.6W/kg
		SAR1	SAR2	
CDMA 850+ WLAN Main 2.4G Band	Body -Back	0.951	0.478	**1.429**
	Body -Top	0.715	0.247	0.962
CDMA1900+ WLAN Main 2.4G Band	Body -Back	0.659	0.478	1.137
	Body -Top	0.296	0.247	0.543
LTE Band 4+ WLAN Main 2.4G Band	Body -Back	0.557	0.478	1.035
	Body -Top	0.553	0.247	0.8
LTE Band 13+ WLAN Main 2.4G Band	Body -Back	0.562	0.478	1.04
	Body -Top	0.558	0.247	0.805
CDMA 850+ WLAN Main 5.2G Band	Body -Back	0.951	0.159	1.11
	Body -Top	0.715	0.169	0.884
CDMA1900+ WLAN Main 5.2G Band	Body -Back	0.659	0.159	0.818
	Body -Top	0.296	0.169	0.465
LTE Band 4+ WLAN Main 5.2G Band	Body -Back	0.557	0.159	0.716
	Body -Top	0.553	0.169	0.722
LTE Band 13+ WLAN Main 5.2G Band	Body -Back	0.562	0.159	0.721
	Body -Top	0.558	0.169	0.727
CDMA 850+ WLAN Main 5.3G Band	Body -Back	0.951	0.134	1.085
	Body -Top	0.715	0.129	0.844
CDMA1900+ WLAN Main 5.3G Band	Body -Back	0.659	0.134	0.793
	Body -Top	0.296	0.129	0.425
LTE Band 4+ WLAN Main 5.3G Band	Body -Back	0.557	0.134	0.691
	Body -Top	0.553	0.129	0.682
LTE Band 13+ WLAN Main 5.3G Band	Body -Back	0.562	0.134	0.696
	Body -Top	0.558	0.129	0.687
CDMA 850+ WLAN Main 5.6G Band	Body -Back	0.951	0.176	1.127
	Body -Top	0.715	0.139	0.854
CDMA1900+ WLAN Main 5.6G Band	Body -Back	0.659	0.176	0.835
	Body -Top	0.296	0.139	0.435
LTE Band 4+ WLAN Main 5.6G Band	Body -Back	0.557	0.176	0.733
	Body -Top	0.553	0.139	0.692
LTE Band 13+ WLAN Main 5.6G Band	Body -Back	0.562	0.176	0.738
	Body -Top	0.558	0.139	0.697
CDMA 850+ WLAN Main 5.8G Band	Body -Back	0.951	0.132	1.083
	Body -Top	0.715	0.098	0.813
CDMA1900+ WLAN Main 5.8G Band	Body -Back	0.659	0.132	0.791
	Body -Top	0.296	0.098	0.394
LTE Band 4+ WLAN Main 5.8G Band	Body -Back	0.557	0.132	0.689
	Body -Top	0.553	0.098	0.651
LTE Band 13+ WLAN Main 5.8G Band	Body -Back	0.562	0.132	0.694
	Body -Top	0.558	0.098	0.656

WWAN + WLAN AUX:

Mode (SAR1+SAR2)	Position	Reported SAR (W/kg)		Σ SAR < 1.6W/kg
		SAR1	SAR2	
CDMA 850+ WLAN Aux 2.4G Band	Body -Back	0.951	0.812	**1.763** SPLSR1
	Body -Top	0.715	0.223	0.938
CDMA1900+ WLAN Aux 2.4G Band	Body -Back	0.659	0.812	1.471
	Body -Top	0.296	0.223	0.519
LTE Band 4+ WLAN Aux 2.4G Band	Body -Back	0.557	0.812	1.369
	Body -Top	0.553	0.223	0.776
LTE Band 13+ WLAN Aux 2.4G Band	Body -Back	0.562	0.812	1.374
	Body -Top	0.558	0.223	0.781
CDMA 850+ WLAN Aux 5.2G Band	Body -Back	0.951	0.213	1.164
	Body -Top	0.715	0.174	0.889
CDMA1900+ WLAN Aux 5.2G Band	Body -Back	0.659	0.213	0.872
	Body -Top	0.296	0.174	0.47
LTE Band 4+ WLAN Aux 5.2G Band	Body -Back	0.557	0.213	0.77
	Body -Top	0.553	0.174	0.727
LTE Band 13+ WLAN Aux 5.2G Band	Body -Back	0.562	0.213	0.775
	Body -Top	0.558	0.174	0.732
CDMA 850+ WLAN Aux 5.3G Band	Body -Back	0.951	0.16	1.111
	Body -Top	0.715	0.114	0.829
CDMA1900+ WLAN Aux 5.3G Band	Body -Back	0.659	0.16	0.819
	Body -Top	0.296	0.114	0.41
LTE Band 4+ WLAN Aux 5.3G Band	Body -Back	0.557	0.16	0.717
	Body -Top	0.553	0.114	0.667
LTE Band 13+ WLAN Aux 5.3G Band	Body -Back	0.562	0.16	0.722
	Body -Top	0.558	0.114	0.672
CDMA 850+ WLAN Aux 5.6G Band	Body -Back	0.951	0.121	1.072
	Body -Top	0.715	0.14	0.855
CDMA1900+ WLAN Aux 5.6G Band	Body -Back	0.659	0.121	0.78
	Body -Top	0.296	0.14	0.436
LTE Band 4+ WLAN Aux 5.6G Band	Body -Back	0.557	0.121	0.678
	Body -Top	0.553	0.14	0.693
LTE Band 13+ WLAN Aux 5.6G Band	Body -Back	0.562	0.121	0.683
	Body -Top	0.558	0.14	0.698
CDMA 850+ WLAN Aux 5.8G Band	Body -Back	0.951	0.113	1.064
	Body -Top	0.715	0.109	0.824
CDMA1900+ WLAN Aux 5.8G Band	Body -Back	0.659	0.113	0.772
	Body -Top	0.296	0.109	0.405
LTE Band 4+ WLAN Aux 5.8G Band	Body -Back	0.557	0.113	0.67
	Body -Top	0.553	0.109	0.662
LTE Band 13+ WLAN Aux 5.8G Band	Body -Back	0.562	0.113	0.675
	Body -Top	0.558	0.109	0.667

WLAN Main + WLAN AUX:

Mode (SAR1+SAR2)	Position	Reported SAR (W/kg)		ΣSAR < 1.6W/kg
		SAR1	SAR2	
WLAN Main + WLAN Aux 2.4G Band	Body -Back	0.478	0.812	**1.29**
	Body -Top	0.247	0.223	0.47
WLAN Main + WLAN Aux 5.2G Band	Body -Back	0.159	0.213	0.372
	Body -Top	0.169	0.174	0.343
WLAN Main + WLAN Aux 5.3G Band	Body -Back	0.134	0.16	0.294
	Body -Top	0.129	0.114	0.243
WLAN Main + WLAN Aux 5.6G Band	Body -Back	0.176	0.121	0.297
	Body -Top	0.139	0.14	0.279
WLAN Main + WLAN Aux 5.8G Band	Body -Back	0.132	0.113	0.245
	Body -Top	0.098	0.109	0.207

For MIMO mode, the output power per chain was less than SISO mode, the SISO SAR was used for evaluation.

CDMA+ Bluetooth +WLAN AUX:

Mode (SAR1+SAR2+SAR3)	Position	Reported SAR (W/kg)			ΣSAR < 1.6W/kg
		SAR1	SAR2	SAR3	
CDMA+ Bluetooth +WLAN Main	Body -Back	0.951	0.113	0.476	1.54
	Body -Top	0.715	0.051	0.903	**1.669** SPLSR2

LTE+ Bluetooth +WLAN AUX:

Mode (SAR1+SAR2+SAR3)	Position	Reported SAR (W/kg)			ΣSAR < 1.6W/kg
		SAR1	SAR2	SAR3	
LTE+ Bluetooth +WLAN Main	Body -Back	0.562	0.113	0.476	1.151
	Body -Top	0.558	0.051	0.903	1.512

CDMA+ WLAN Main +WLAN AUX:

Mode (SAR1+SAR2+SAR3)	Position	Reported SAR (W/kg)			ΣSAR < 1.6W/kg
		SAR1	SAR2	SAR3	
CDMA+ WLAN Main +WLAN AUX	Body -Back	0.951	0.478	0.812	**2.241** SPLSR3
	Body -Top	0.715	0.247	0.223	1.185

LTE+ WLAN Main +WLAN AUX:

Mode (SAR1+SAR2+SAR3)	Position	Reported SAR (W/kg)			ΣSAR < 1.6W/kg
		SAR1	SAR2	SAR3	
LTE+ WLAN Main +WLAN AUX	Body -Back	0.562	0.478	0.812	**1.852** SPLSR4
	Body -Top	0.558	0.247	0.223	1.028

SPLSR:

Distance(Ri) = $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]^{0.5}$=86 mm
SPLSR1= $(SAR1 + SAR2)^{1.5}/Ri=(1.763)^{1.5}/86 = 0.033 < 0.027$

Distance(Ri) = $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]^{0.5}$=86 mm
SPLSR2= $(SAR1 + SAR2)^{1.5}/Ri=(1.669)^{1.5}/86 = 0.025 < 0.04$
SPLSR3= $(SAR1 + SAR2+SAR3)^{1.5}/Ri=(2.241)^{1.5}/86 = 0.039 < 0.04$
SPLSR4= $(SAR1 + SAR2+SAR3)^{1.5}/Ri=(1.852)^{1.5}/86 = 0.029 < 0.04$

Conclusion:

Sum of SAR: Σ **SAR < 1.6 W/kg** or SAR to peak location separation ratio:**$(SAR1 + SAR2)^{1.5}/Ri < 0.04$,** therefore simultaneous transmission SAR with Volume Scans is **not required**.

Note:
1. Hotspot mode SAR is only required for the edges within 25mm from the transmitting antenna located.
2. When the sum is greater than the SAR limit, the SAR to peak location separation ratio(SPLSR) was applied to determine if simultaneous transmission SAR test exclusion applies.
3. Ri is the separation distance in mm between the peak SAR locations for the antennas.

SAR Plots (Summary of the Highest SAR Values)

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

Test Plot 1#: CDMA 850 Back with Power Reduction (P-Sensor NOT Triggered) Middle Channel

DUT: Mobile Tablet; Type: DT301;

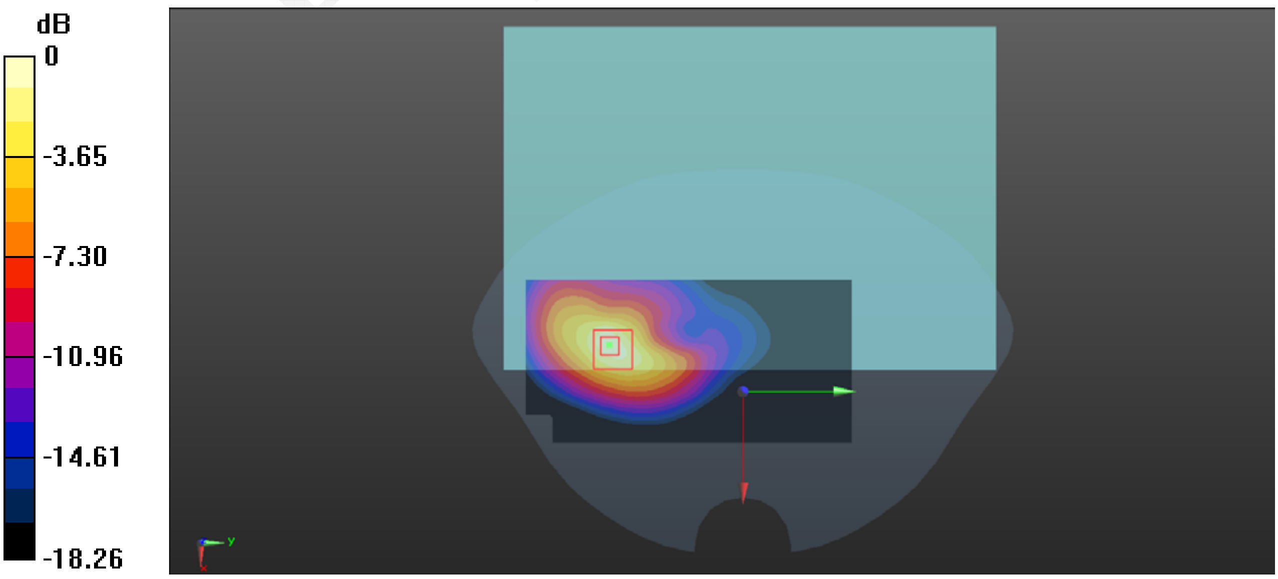
Communication System: Generic GSM-CDMA ; Frequency: 833.49 MHz; Duty Cycle: 1:1
Medium parameters used: f = 833.49 MHz; σ = 0.971 S/m; ε_r = 55.171; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.42, 9.42, 9.42); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/CDMA 850 Back /Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.947 W/kg

Body/CDMA 850 Back /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.725 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.34 W/kg
SAR(1 g) = 0.838 W/kg; SAR(10 g) = 0.456 W/kg
Maximum value of SAR (measured) = 1.06 W/kg



0 dB = 1.06 W/kg = 0.25 dBW/kg

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

Test Plot 2#: CDMA 1900 Back with Power Reduction (P-Sensor NOT Triggered) Low Channel

DUT: Mobile Tablet; Type: DT301;

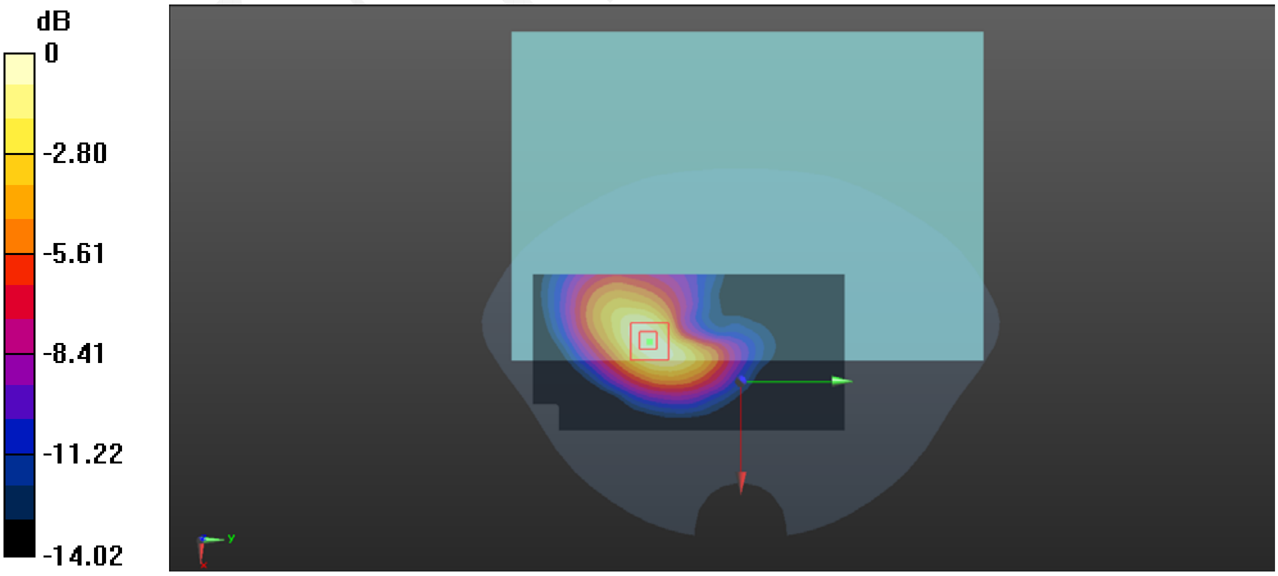
Communication System: Generic GSM-CDMA ; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1851.25 MHz; σ = 1.475 S/m; ε_r = 55.337; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.52, 7.52, 7.52); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/CDMA 1900 Back /Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.719 W/kg

Body/CDMA 1900 Back /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.481 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.593 W/kg; SAR(10 g) = 0.384 W/kg
Maximum value of SAR (measured) = 0.707 W/kg



0 dB = 0.707 W/kg = -1.51 dBW/kg

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

Test Plot 3#: LTE Band 4 Back with Power Reduction (P-Sensor NOT Triggered) High Channel

DUT: Mobile Tablet; Type: DT301;

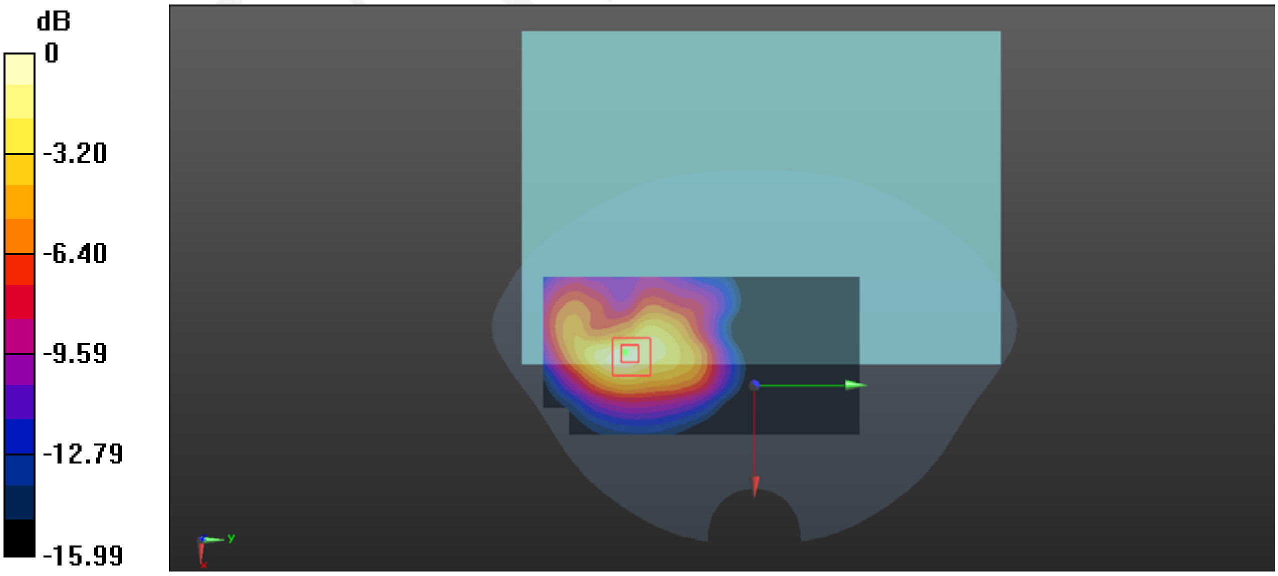
Communication System: Generic LTE ; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1745 MHz; σ = 1.492 S/m; ε_r = 53.357; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.86, 7.86, 7.86); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/LTE Band 4 Back /Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.641 W/kg

Body/LTE Band 4 Back /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.584 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.610 W/kg
SAR(1 g) = 0.533 W/kg; SAR(10 g) = 0.279 W/kg
Maximum value of SAR (measured) = 0.581 W/kg



0 dB = 0.581 W/kg = -2.36 dBW/kg

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

Test Plot 4#: LTE Band 13 Back with Power Reduction (P-Sensor NOT Triggered) Middle Channel

DUT: Mobile Tablet; Type: DT301;

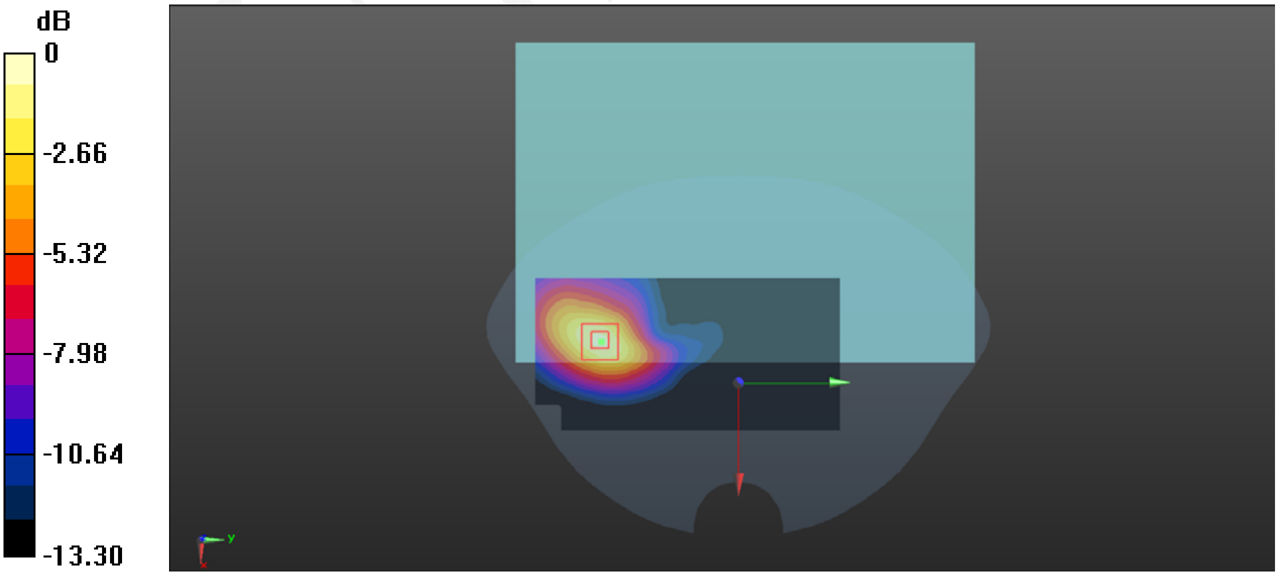
Communication System: Generic LTE ; Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.931 S/m; ε_r = 55.23; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(9.41, 9.41, 9.41); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/LTE Band 13 Back/Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.504 W/kg

Body/LTE Band 13 Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.775 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.516 W/kg; SAR(10 g) = 0.274 W/kg
Maximum value of SAR (measured) = 0.571 W/kg



0 dB = 0.571 W/kg = -2.43 dBW/kg

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

Test Plot 5#: WLAN Mode B Right Antenna Chain 0 Middle Channel

DUT: Mobile Tablet; Type: DT301;

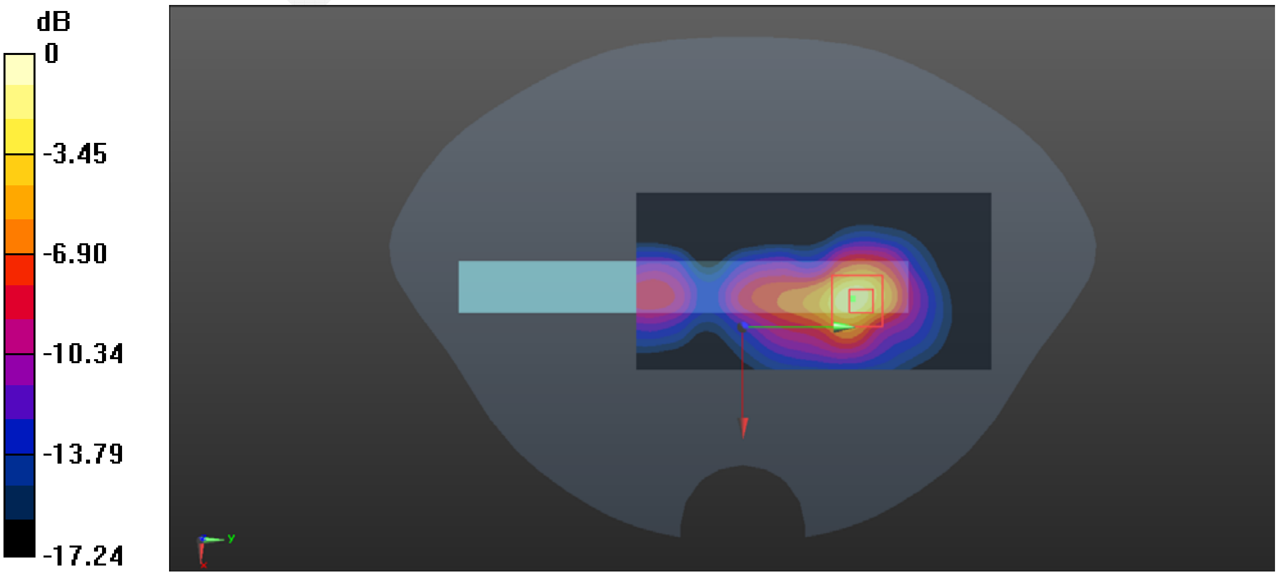
Communication System: CW ; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.982 S/m; ε_r = 51.603; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.26, 7.26, 7.26); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/WLAN Mode B Right Antenna Chain 0/Area Scan (81x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.904 W/kg

Body/WLAN Mode B Right Antenna Chain 0/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.047 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 2.25 W/kg
SAR(1 g) = 0.874 W/kg; SAR(10 g) = 0.479 W/kg
Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.22 W/kg = 0.86 dBW/kg

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

Test Plot 6#: WLAN Mode B Back Antenna Chain 1 Low Channel

DUT: Mobile Tablet; Type: DT301;

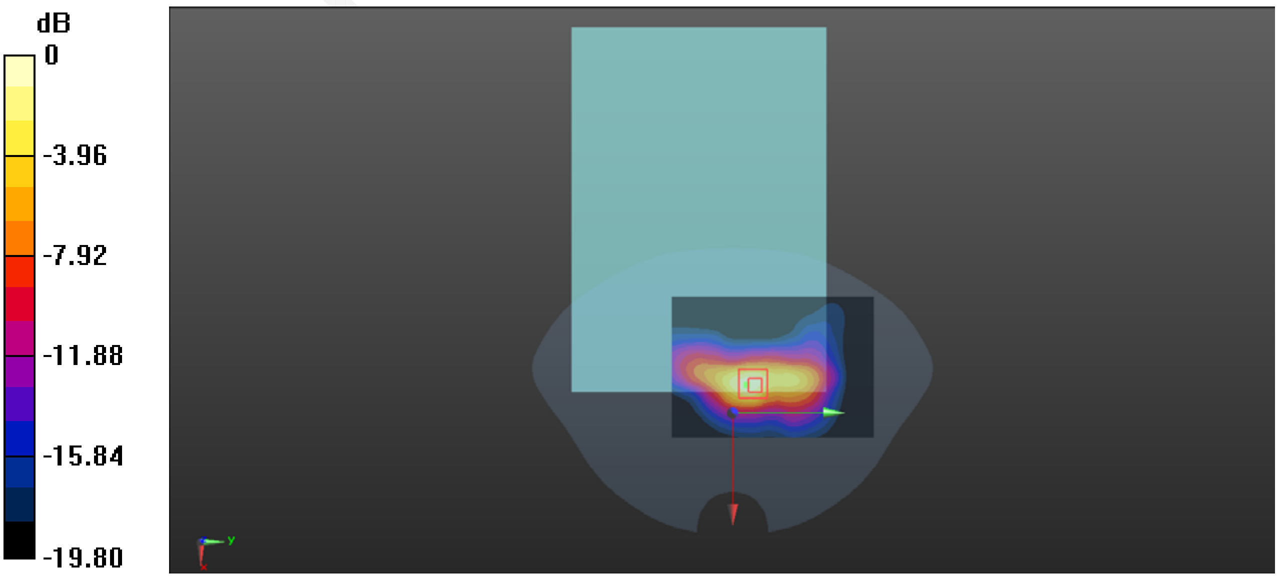
Communication System: CW ; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.939 S/m; ε_r = 53.205; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.26, 7.26, 7.26); Calibrated: 2016/2/19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1459; Calibrated: 2015/9/18
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.8 (8);

Body/WLAN Mode B Back Antenna Chain 1/Area Scan (101x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.19 W/kg

Body/WLAN Mode B Back Antenna Chain 1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.19 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 2.32 W/kg
SAR(1 g) = 0.786 W/kg; SAR(10 g) = 0.510 W/kg
Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.28 W/kg = 1.07 dBW/kg

APPENDIX A MEASUREMENT UNCERTAINTY

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

Measurement uncertainty evaluation for IEEE1528-2013 SAR test

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

Measurement uncertainty evaluation for IEC62209-2 SAR test

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

APPENDIX B EUT TEST POSITION PHOTOS

Please Refer to the Attachment.

APPENDIX C –CALIBRATION DATA

Please Refer to the Attachment.

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