SAR EVALUATION REPORT

FCC 47 CFR § 2.1093
IEEE Std 1528-2013

For
Payment Terminal

FCC ID: XKB-IMP550BTCL
Model Name: IMP550-11T3104A

Report Number: 15U21940-S1V4
Issue Date: 10/30/2015

Prepared for
INGENICO
9 Avenue de la Gare Rovaltain TGV
BP 25156
Cedex 9
26958 Valence, France

Prepared by
UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888

NVLAP LAB CODE 200065-0

Revision History

Rev.	Date	Revisions	Revised By
V1	10/22/2015	Initial Issue	--
V2	10/26/2015	Report Revised based on reviewer's comments: 1. Sec. 2: Added remark for the KDB inquiry. 2. Sec. 6.2: Added RFID description/ 3. Sec. 10.1: Added note 3. 4. Appendix: Added Baseline SAR Test Plots.	Ray Su
V3	10/28/2015	1. Sec. 1: Updated Highest Reported SAR Values 2. Sec. 10.1: Updated Results tables per reviewer's comment 3. Sec 12.1: Updated Sum of SAR table 4. App. C and G: Corrected plots.	Coltyce Sanders
V4	10/30/2015	Corrected references to test report 14U17673-S1C to 14U17673-S1C	Dave Weaver

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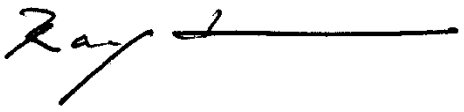
1. Attestation of Test Results

Applicant Name	INGENICO			
FCC ID	XKB-IMP550BTCL			
Model Name	IMP550-11T3104A			
Applicable Standards	FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
SAR Limits (W/Kg)				
Exposure Category	Peak spatial-average(1g of tissue)			
General population / Uncontrolled exposure	1.6			
The Highest Reported SAR (W/kg)				
RF Exposure Conditions	**Equipment Class**			
	Licensed	**DTS**	**U-NII**	**DSS (BT)**
Head	0.808	0.859	0.318	N/A
Body-worn	0.832	0.090	0.284	0.016
Hotspot	0.832	0.090	0.284	0.016
Simultaneous TX	1.163	1.163	1.132	1.132
Extremity	N/A	N/A	N/A	N/A
Date Tested	10/7/2015 to 10/22/2015			
Test Results	Pass			

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.

Approved & Released By:	Prepared By:
	
Dave Weaver Program Manager UL Verification Services Inc.	Ray Su Laboratory Engineer UL Verification Services Inc.

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE STD 1528-2013, the following FCC Published RF exposure KDB procedures:

- 248227 D01 802.11 Wi-Fi SAR v02r01
- 447498 D01 General RF Exposure Guidance v05r02
- 447498 D03 Supplement C Cross-Reference v01
- 648474 D04 Handset SAR v01r02
- 690783 D01 SAR Listings on Grants v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r01
- 941225 D01 3G SAR Procedures v03
- 941225 D05 SAR for LTE Devices v02r03
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r01
- 941225 D06 Hotspot Mode v02

In addition to the above, the following information was used:

- April 2014 TCB Workshop “Handset Sleeve & Accessory Guidance”
- Guidance provided in a KDB enquiry to support the testing.

3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at

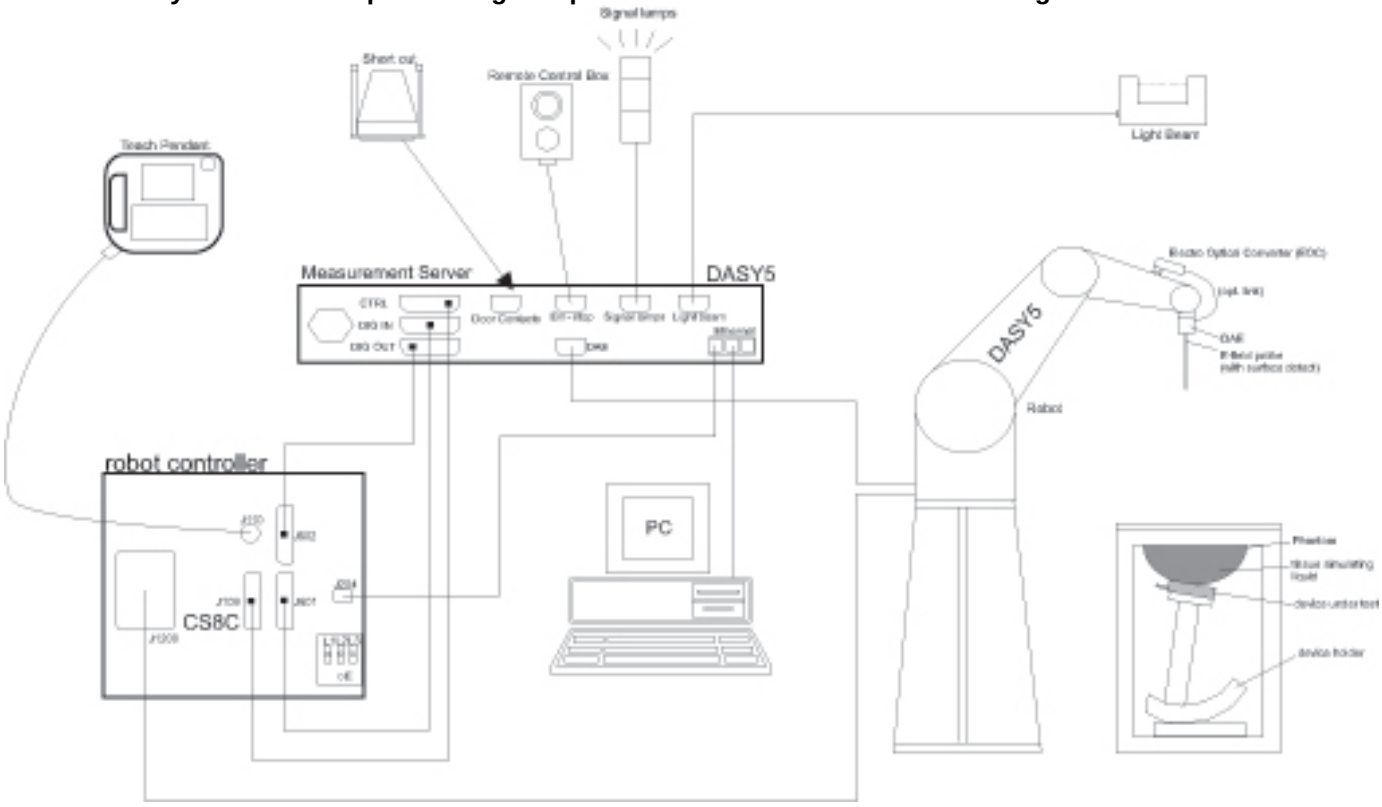
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	SAR Lab 5
SAR Lab F	
SAR Lab G	
SAR Lab H	

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

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



- A standard high precision 6-axis robot 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 amplification, 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 WinXP or Win7 and the DASY5 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.

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

Step 3: Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the area scan based *1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

Step 4: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

Step 5: Z-Scan (FCC only)

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation the extrapolated distance should not be larger than the step size in Z-direction.

4.3. Test Equipment

The measuring equipment used to perform the tests documented in this report has been calibrated in accordance with the manufacturers' recommendations, and is traceable to recognized national standards.

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	8753ES	MY40000980	4/17/2016
Dielectric Probe kit	SPEAG	DAK-3.5	1087	11/11/2015
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Traceable Calibration Control Co.	4242	140562250	8/24/2016

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	HP	8665B	3744A01084	5/8/2016
Power Meter	Keysight	N1912A	MY55196004	7/1/2016
Power Sensor	Agilent	E9323A	MY53070007	3/2/2016
Power Sensor	Agilent	E9323A	MY53070005	4/29/2016
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795093	N/A
Directional coupler	Werlatone	C8060-102	2149	N/A
DC Power Supply	AMETEK	XT 15-4	1319A02778	N/A
Synthesized Signal Generator	HP	8665B	3744A01155	3/18/2016
Power Meter	HP	437B	3125U16345	6/15/2016
Power Meter	HP	437B	3125U12345	7/31/2016
Power Sensor	HP	8481A	2702A76223	9/3/2016
Power Sensor	HP	8481A	1926A27048	8/3/2016
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8060-102	2141	N/A
DC Power Supply	BK PRECISION	1611	215-02292	N/A
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	3901	1/27/2016
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3772	2/23/2016
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	3929	4/22/2016
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	3991	5/19/2016
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	7335	3/13/2016
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1357	2/20/2016
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1439	7/30/2016
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1359	2/18/2016
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1433	3/12/2016
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1472	3/5/2016
System Validation Dipole	SPEAG	D750V3	1019	3/11/2016
System Validation Dipole	SPEAG	D835V2	4d002	11/13/2015
System Validation Dipole	SPEAG	D1750V2	1077	9/22/2016
System Validation Dipole	SPEAG	D1900V2	5d043	11/7/2015
System Validation Dipole	SPEAG	D2450V2	748	2/20/2016
System Validation Dipole	SPEAG	D2600V2	1006	9/21/2016
System Validation Dipole	SPEAG	D5GHzV2	1138	9/23/2016

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Power Meter	Agilent	N1911A	MY55196017	7/6/2016
Power Sensor	Agilent	N1921A	MY55200002	7/6/2016
Base Station Simulator	R & S	CMW500	135390-ws	4/6/2016
Base Station Simulator	R & S	CMW500	134853-ud	6/30/2016
Base Station Simulator	R & S	CMW500	134854-kj	4/28/2016
Base Station Simulator	R & S	CMW500	104245-jz	1/14/2016

5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

6. Device Under Test (DUT) Information

6.1. DUT Description

The IMP550-11T3104A is a small handheld secured payment terminal. This terminal is designed to operate with an iPhone 6 smartphone.	
Device Dimension	Overall (Length x Width x Depth): 165 mm x 75 mm x 26.9 mm Overall Diagonal: 178 mm Display Diagonal: 54 mm
Battery Options	Standard – Lithium-ion battery, Rating 3.7 Vdc, 1150 mAh

6.2. Wireless Technologies

IMP550-11T3104A Device

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing
Bluetooth	2.4 GHz	Version 2.1 + EDR Basic Rate	N/A
RFID	13.56 MHz	ASK Type A (100%) or ASK Type B (10%)	N/A

Host Device

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☒ Class 10 - 2 Up, 4 Down ☐ Class 12 - 4 Up, 4 Down ☐ Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
CDMA (CDMA2000)	BC0 BC1 BC10 BC15	1xRTT (Voice & Data) 1xEV-DO Rel. 0 1xEV-DO Rev. A 1xAdvanced		100%
	Does this device support SV-DO (1xRTT-1xEVDO)? ☐ Yes ☒ No			
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6) DC-HSDPA (Rel. 8) HSPA+ (Rel. 7)		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 FDD Band 27 FDD Band 30 TDD Band 41	QPSK 16QAM ☐ Rel. 10 Does not support Carrier Aggregation (CA) ☒ Rel. 10 Carrier Aggregation (1 Uplink and 2 Downlinks) ☐ Rel. 11 Carrier Aggregation (2 Uplink and 2 Downlinks)		100% (FDD) 63.3% (TDD)
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)		100%
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)		100%
	Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No			
	Does this device support Band gap channel(s)? ☒ Yes ☐ No			
Bluetooth	2.4 GHz	Version 4.2 LE		77.5% (DH5)

6.3. Maximum Output Power

IMP550-11T3104A Device

Upper limit (dB):	1.0	Max. RF Output Power (dBm)	
RF Air interface	Mode	Target	Max. tune-up tolerance limit
Bluetooth		4.0	**5.0**

Host Device

All nominal and maximum output power measurements for WWAN and WLAN are as documented in report **14U17673-S1C**.

7. RF Exposure Conditions (Test Configurations)

Baseline measurements are performed on the worse case positions for all bands on the host device and compared to the results reported in the original granted SAR report.

As per the interim sleeve procedure, the highest SAR configuration among the different wireless modes in each frequency band and any SAR configuration in the original report > 75% of the SAR limit; should be measured separately for head, body-worn accessories and hotspot modes when applicable on the host device. When the measured SAR values of the highest SAR configurations are identical (before rounding up), select the configuration with the highest maximum output power. The SAR results should be scaled with respect to the power level tested in order to determine compliance.

After completing the baseline measurements on the host device, the tests are repeated with the sleeve attached. Section 10 contains the SAR test results obtained with and without the sleeve attached, as well as, the deviation in the results with respect to the results in the original report 14U17673-S1C.

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized.
The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.
Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Dielectric Property Measurements Results:

SAR Lab A

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/14/2015	Head 2450	e'	38.3000	Relative Permittivity (ϵ_r):	38.30	39.20	-2.30	5
		e''	13.2800	Conductivity (σ):	1.81	1.80	0.51	5
	Head 2410	e'	39.0600	Relative Permittivity (ϵ_r):	39.06	39.28	-0.56	5
		e''	13.3400	Conductivity (σ):	1.79	1.76	1.54	5
	Head 2475	e'	38.1300	Relative Permittivity (ϵ_r):	38.13	39.17	-2.65	5
		e''	13.2700	Conductivity (σ):	1.83	1.83	-0.05	5
10/14/2015	Body 2450	e'	52.4700	Relative Permittivity (ϵ_r):	52.47	52.70	-0.44	5
		e''	14.0700	Conductivity (σ):	1.92	1.95	-1.71	5
	Body 2410	e'	52.9800	Relative Permittivity (ϵ_r):	52.98	52.76	0.42	5
		e''	14.0600	Conductivity (σ):	1.88	1.91	-1.23	5
	Body 2475	e'	52.3600	Relative Permittivity (ϵ_r):	52.36	52.67	-0.59	5
		e''	14.1000	Conductivity (σ):	1.94	1.99	-2.25	5
10/22/2015	Head 2450	e'	37.7700	Relative Permittivity (ϵ_r):	37.77	39.20	-3.65	5
		e''	13.5600	Conductivity (σ):	1.85	1.80	2.62	5
	Head 2410	e'	37.9500	Relative Permittivity (ϵ_r):	37.95	39.28	-3.38	5
		e''	13.4900	Conductivity (σ):	1.81	1.76	2.69	5
	Head 2475	e'	37.6800	Relative Permittivity (ϵ_r):	37.68	39.17	-3.80	5
		e''	13.6300	Conductivity (σ):	1.88	1.83	2.67	5

SAR Lab E

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/7/2015	Head 2450	e'	39.7900	Relative Permittivity (ϵ_r):	39.79	39.20	1.51	5
		e''	13.1900	Conductivity (σ):	1.80	1.80	-0.18	5
	Head 2410	e'	39.9200	Relative Permittivity (ϵ_r):	39.92	39.28	1.63	5
		e''	13.1000	Conductivity (σ):	1.76	1.76	-0.28	5
	Head 2475	e'	39.7000	Relative Permittivity (ϵ_r):	39.70	39.17	1.36	5
		e''	13.2500	Conductivity (σ):	1.82	1.83	-0.20	5
10/7/2015	Body 2450	e'	51.2200	Relative Permittivity (ϵ_r):	51.22	52.70	-2.81	5
		e''	14.4200	Conductivity (σ):	1.96	1.95	0.74	5
	Body 2410	e'	51.3100	Relative Permittivity (ϵ_r):	51.31	52.76	-2.75	5
		e''	14.3200	Conductivity (σ):	1.92	1.91	0.60	5
	Body 2475	e'	51.1400	Relative Permittivity (ϵ_r):	51.14	52.67	-2.90	5
		e''	14.4800	Conductivity (σ):	1.99	1.99	0.38	5
10/7/2015	Head 2600	e'	39.2654	Relative Permittivity (ϵ_r):	39.27	39.01	0.65	5
		e''	13.5013	Conductivity (σ):	1.95	1.96	-0.53	5
	Head 2500	e'	39.6133	Relative Permittivity (ϵ_r):	39.61	39.14	1.22	5
		e''	13.2927	Conductivity (σ):	1.85	1.85	-0.34	5
	Head 2700	e'	38.9186	Relative Permittivity (ϵ_r):	38.92	38.88	0.09	5
		e''	13.6898	Conductivity (σ):	2.06	2.07	-0.73	5
10/7/2015	Body 2600	e'	50.7783	Relative Permittivity (ϵ_r):	50.78	52.51	-3.30	5
		e''	14.7455	Conductivity (σ):	2.13	2.16	-1.35	5
	Body 2500	e'	51.0418	Relative Permittivity (ϵ_r):	51.04	52.64	-3.03	5
		e''	14.5262	Conductivity (σ):	2.02	2.02	-0.05	5
	Body 2700	e'	50.4845	Relative Permittivity (ϵ_r):	50.48	52.38	-3.63	5
		e''	14.9500	Conductivity (σ):	2.24	2.30	-2.47	5
10/7/2015	Body 750	e'	53.0100	Relative Permittivity (ϵ_r):	53.01	55.55	-4.57	5
		e''	23.4800	Conductivity (σ):	0.98	0.96	1.67	5
	Body 700	e'	53.6400	Relative Permittivity (ϵ_r):	53.64	55.74	-3.76	5
		e''	23.9800	Conductivity (σ):	0.93	0.96	-2.70	5
	Body 785	e'	52.8400	Relative Permittivity (ϵ_r):	52.84	55.41	-4.64	5
		e''	23.1100	Conductivity (σ):	1.01	0.97	4.45	5
10/8/2015	Head 750	e'	40.8300	Relative Permittivity (ϵ_r):	40.83	41.96	-2.70	5
		e''	21.6000	Conductivity (σ):	0.90	0.89	0.86	5
	Head 700	e'	41.5700	Relative Permittivity (ϵ_r):	41.57	42.22	-1.53	5
		e''	21.9800	Conductivity (σ):	0.86	0.89	-3.79	5
	Head 790	e'	40.2200	Relative Permittivity (ϵ_r):	40.22	41.76	-3.68	5
		e''	21.3500	Conductivity (σ):	0.94	0.90	4.65	5

SAR Lab E (continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/8/2015	Body 1900	e'	52.8100	Relative Permittivity (ϵ_r):	52.81	53.30	-0.92	5
		e''	14.2600	Conductivity (σ):	1.51	1.52	-0.89	5
	Body 1850	e'	53.0000	Relative Permittivity (ϵ_r):	53.00	53.30	-0.56	5
		e''	14.1800	Conductivity (σ):	1.46	1.52	-4.04	5
	Body 1910	e'	52.8000	Relative Permittivity (ϵ_r):	52.80	53.30	-0.94	5
		e''	14.2900	Conductivity (σ):	1.52	1.52	-0.16	5
10/8/2015	Head 1900	e'	38.8300	Relative Permittivity (ϵ_r):	38.83	40.00	-2.93	5
		e''	13.3700	Conductivity (σ):	1.41	1.40	0.89	5
	Head 1850	e'	39.0100	Relative Permittivity (ϵ_r):	39.01	40.00	-2.48	5
		e''	13.3400	Conductivity (σ):	1.37	1.40	-1.98	5
	Head 1910	e'	38.8100	Relative Permittivity (ϵ_r):	38.81	40.00	-2.97	5
		e''	13.3900	Conductivity (σ):	1.42	1.40	1.57	5
10/19/2015	Body 2450	e'	50.7300	Relative Permittivity (ϵ_r):	50.73	52.70	-3.74	5
		e''	14.4400	Conductivity (σ):	1.97	1.95	0.88	5
	Body 2410	e'	50.8800	Relative Permittivity (ϵ_r):	50.88	52.76	-3.56	5
		e''	14.3800	Conductivity (σ):	1.93	1.91	1.02	5
	Body 2475	e'	50.6500	Relative Permittivity (ϵ_r):	50.65	52.67	-3.83	5
		e''	14.5400	Conductivity (σ):	2.00	1.99	0.80	5
10/19/2015	Body 2600	e'	51.2300	Relative Permittivity (ϵ_r):	51.23	52.51	-2.44	5
		e''	14.7400	Conductivity (σ):	2.13	2.16	-1.38	5
	Body 2500	e'	51.5900	Relative Permittivity (ϵ_r):	51.59	52.64	-1.99	5
		e''	14.5600	Conductivity (σ):	2.02	2.02	0.18	5
	Body 2700	e'	50.9300	Relative Permittivity (ϵ_r):	50.93	52.38	-2.78	5
		e''	14.8600	Conductivity (σ):	2.23	2.30	-3.06	5

SAR Lab F

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/7/2015	Head 835	e'	41.8900	Relative Permittivity (ϵ_r):	41.89	41.50	0.94	5
		e''	20.2900	Conductivity (σ):	0.94	0.90	4.67	5
	Head 820	e'	42.0400	Relative Permittivity (ϵ_r):	42.04	41.60	1.05	5
		e''	20.3700	Conductivity (σ):	0.93	0.90	3.37	5
	Head 850	e'	41.7200	Relative Permittivity (ϵ_r):	41.72	41.50	0.53	5
		e''	20.2500	Conductivity (σ):	0.96	0.92	4.60	5
10/7/2015	Body 835	e'	52.9300	Relative Permittivity (ϵ_r):	52.93	55.20	-4.11	5
		e''	21.9300	Conductivity (σ):	1.02	0.97	4.97	5
	Body 820	e'	53.1100	Relative Permittivity (ϵ_r):	53.11	55.28	-3.92	5
		e''	21.8700	Conductivity (σ):	1.00	0.97	2.96	5
	Body 850	e'	52.6800	Relative Permittivity (ϵ_r):	52.68	55.16	-4.49	5
		e''	21.9100	Conductivity (σ):	1.04	0.99	4.90	5
10/19/2015	Body 835	e'	53.2700	Relative Permittivity (ϵ_r):	53.27	55.20	-3.50	5
		e''	21.5200	Conductivity (σ):	1.00	0.97	3.00	5
	Body 820	e'	53.2700	Relative Permittivity (ϵ_r):	53.27	55.28	-3.63	5
		e''	21.5200	Conductivity (σ):	0.98	0.97	1.31	5
	Body 850	e'	52.9400	Relative Permittivity (ϵ_r):	52.94	55.16	-4.02	5
		e''	21.3000	Conductivity (σ):	1.01	0.99	1.98	5

SAR Lab G

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/7/2015	Head 1750	e'	41.1500	Relative Permittivity (ϵ_r):	41.15	40.08	2.66	5
		e''	13.9900	Conductivity (σ):	1.36	1.37	-0.56	5
	Head 1710	e'	41.2700	Relative Permittivity (ϵ_r):	41.27	40.15	2.80	5
		e''	13.9100	Conductivity (σ):	1.32	1.35	-1.77	5
	Head 1755	e'	41.1400	Relative Permittivity (ϵ_r):	41.14	40.08	2.65	5
		e''	13.9900	Conductivity (σ):	1.37	1.37	-0.48	5
10/7/2015	Body 1750	e'	52.1300	Relative Permittivity (ϵ_r):	52.13	53.44	-2.45	5
		e''	14.9000	Conductivity (σ):	1.45	1.49	-2.44	5
	Body 1710	e'	52.1900	Relative Permittivity (ϵ_r):	52.19	53.54	-2.53	5
		e''	14.8600	Conductivity (σ):	1.41	1.46	-3.33	5
	Body 1755	e'	52.1000	Relative Permittivity (ϵ_r):	52.10	53.43	-2.49	5
		e''	14.9100	Conductivity (σ):	1.45	1.49	-2.30	5
10/7/2015	Body 1900	e'	53.6400	Relative Permittivity (ϵ_r):	53.64	53.30	0.64	5
		e''	14.7500	Conductivity (σ):	1.56	1.52	2.52	5
	Body 1850	e'	53.7800	Relative Permittivity (ϵ_r):	53.78	53.30	0.90	5
		e''	14.8000	Conductivity (σ):	1.52	1.52	0.16	5
	Body 1910	e'	53.5800	Relative Permittivity (ϵ_r):	53.58	53.30	0.53	5
		e''	14.7700	Conductivity (σ):	1.57	1.52	3.20	5
10/7/2015	Head 1900	e'	40.5300	Relative Permittivity (ϵ_r):	40.53	40.00	1.33	5
		e''	13.3700	Conductivity (σ):	1.41	1.40	0.89	5
	Head 1850	e'	40.7100	Relative Permittivity (ϵ_r):	40.71	40.00	1.78	5
		e''	13.3400	Conductivity (σ):	1.37	1.40	-1.98	5
	Head 1910	e'	40.4800	Relative Permittivity (ϵ_r):	40.48	40.00	1.20	5
		e''	13.3600	Conductivity (σ):	1.42	1.40	1.35	5
10/19/2015	Body 1900	e'	52.1800	Relative Permittivity (ϵ_r):	52.18	53.30	-2.10	5
		e''	14.5500	Conductivity (σ):	1.54	1.52	1.13	5
	Body 1850	e'	52.3600	Relative Permittivity (ϵ_r):	52.36	53.30	-1.76	5
		e''	14.6500	Conductivity (σ):	1.51	1.52	-0.86	5
	Body 1910	e'	52.1400	Relative Permittivity (ϵ_r):	52.14	53.30	-2.18	5
		e''	14.5500	Conductivity (σ):	1.55	1.52	1.66	5
10/19/2015	Body 1750	e'	52.5700	Relative Permittivity (ϵ_r):	52.57	53.44	-1.63	5
		e''	14.8200	Conductivity (σ):	1.44	1.49	-2.97	5
	Body 1710	e'	52.7500	Relative Permittivity (ϵ_r):	52.75	53.54	-1.48	5
		e''	14.8500	Conductivity (σ):	1.41	1.46	-3.39	5
	Body 1755	e'	52.5600	Relative Permittivity (ϵ_r):	52.56	53.43	-1.62	5
		e''	14.8100	Conductivity (σ):	1.45	1.49	-2.96	5

SAR Lab H

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/5/2015	Head 5180	e'	36.2000	Relative Permittivity (ϵ_r):	36.20	36.01	0.52	5
		e''	15.6700	Conductivity (σ):	4.51	4.63	-2.53	5
	Head 5200	e'	36.1400	Relative Permittivity (ϵ_r):	36.14	35.99	0.42	5
		e''	15.6900	Conductivity (σ):	4.54	4.65	-2.46	5
	Head 5600	e'	35.5700	Relative Permittivity (ϵ_r):	35.57	35.53	0.10	5
		e''	15.8300	Conductivity (σ):	4.93	5.06	-2.59	5
	Head 5800	e'	35.2800	Relative Permittivity (ϵ_r):	35.28	35.30	-0.06	5
		e''	15.9500	Conductivity (σ):	5.14	5.27	-2.39	5
	Head 5825	e'	35.2600	Relative Permittivity (ϵ_r):	35.26	35.30	-0.11	5
		e''	15.9300	Conductivity (σ):	5.16	5.27	-2.10	5
10/5/2015	Body 5180	e'	48.1700	Relative Permittivity (ϵ_r):	48.17	49.05	-1.79	5
		e''	18.1300	Conductivity (σ):	5.22	5.27	-0.94	5
	Body 5200	e'	48.1300	Relative Permittivity (ϵ_r):	48.13	49.02	-1.81	5
		e''	18.1700	Conductivity (σ):	5.25	5.29	-0.78	5
	Body 5600	e'	47.5900	Relative Permittivity (ϵ_r):	47.59	48.48	-1.83	5
		e''	18.4500	Conductivity (σ):	5.74	5.76	-0.28	5
	Body 5800	e'	47.2900	Relative Permittivity (ϵ_r):	47.29	48.20	-1.89	5
		e''	18.6000	Conductivity (σ):	6.00	6.00	-0.03	5
	Body 5825	e'	47.2600	Relative Permittivity (ϵ_r):	47.26	48.20	-1.95	5
		e''	18.6100	Conductivity (σ):	6.03	6.00	0.46	5
10/9/2015	Body 835	e'	54.3000	Relative Permittivity (ϵ_r):	54.30	55.20	-1.63	5
		e''	21.7700	Conductivity (σ):	1.01	0.97	4.20	5
	Body 820	e'	54.4400	Relative Permittivity (ϵ_r):	54.44	55.28	-1.51	5
		e''	21.8900	Conductivity (σ):	1.00	0.97	3.06	5
	Body 850	e'	54.1500	Relative Permittivity (ϵ_r):	54.15	55.16	-1.83	5
		e''	21.6900	Conductivity (σ):	1.03	0.99	3.85	5
10/19/2015	Body 5180	e'	47.8900	Relative Permittivity (ϵ_r):	47.89	49.05	-2.36	5
		e''	17.8100	Conductivity (σ):	5.13	5.27	-2.69	5
	Body 5200	e'	47.9100	Relative Permittivity (ϵ_r):	47.91	49.02	-2.26	5
		e''	17.8300	Conductivity (σ):	5.16	5.29	-2.63	5
	Body 5600	e'	47.2800	Relative Permittivity (ϵ_r):	47.28	48.48	-2.47	5
		e''	18.0500	Conductivity (σ):	5.62	5.76	-2.44	5
	Body 5800	e'	47.0600	Relative Permittivity (ϵ_r):	47.06	48.20	-2.37	5
		e''	18.2400	Conductivity (σ):	5.88	6.00	-1.96	5
	Body 5825	e'	47.0300	Relative Permittivity (ϵ_r):	47.03	48.20	-2.43	5
		e''	18.2300	Conductivity (σ):	5.90	6.00	-1.59	5

8.2. System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are re-measured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ±0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
  For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

Reference Target SAR Values

The reference SAR values can be obtained from the calibration certificate of system validation dipoles

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (W/kg)		
				1g/10g	Head	Body
D750V3	1019	3/11/2015	750	1g	8.44	8.53
				10g	5.50	5.68
D835V2	4d002	11/13/2014	835	1g	9.23	9.33
				10g	5.99	6.12
D1750V2	1077	9/22/2015	1750	1g	36.9	35.8
				10g	19.5	19.0
D1900V2	5d043	11/7/2014	1900	1g	40.6	40.0
				10g	21.1	23.1
D2450V2	748	2/20/2015	2450	1g	52.7	50.3
				10g	24.6	23.5
D2600V2	1006	9/21/2015	2600	1g	56.9	55.3
				10g	25.5	24.8
D5GHzV2	1138	9/23/2015	5200	1g	81.7	76.9
				10g	23.5	21.5
			5600	1g	84.7	81.6
				10g	24.2	22.8
			5800	1g	81.6	77.9
				10g	23.1	21.6

System Check Results

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within 10% of the manufacturer calibrated dipole SAR target.

SAR Lab A

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/14/2015	D2450V2	748	Head	1g	5.30	53.0	52.7	0.57	
				10g	2.42	24.2	24.6	-1.63	
10/14/2015	D2450V2	748	Body	1g	4.99	49.9	50.3	-0.80	
				10g	2.28	22.8	23.5	-2.98	
10/22/2015	D2450V2	748	Head	1g	5.52	55.2	52.7	4.74	1,2
				10g	2.47	24.7	24.6	0.41	

SAR Lab E

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/7/2015	D2450V2	748	Head	1g	5.30	53.00	52.70	0.57	
				10g	2.44	24.40	24.60	-0.81	
10/7/2015	D2450V2	748	Body	1g	5.37	53.70	50.30	6.76	3,4
				10g	2.48	24.80	23.50	5.53	
10/7/2015	D2600V2	1006	Head	1g	5.69	56.90	56.90	0.00	
				10g	2.52	25.20	25.50	-1.18	
10/7/2015	D2600V2	1006	Body	1g	5.75	57.50	55.30	3.98	5,6
				10g	2.53	25.30	24.80	2.02	
10/8/2015	D750V3	1019	Body	1g	0.81	8.11	8.53	-4.92	7,8
				10g	0.54	5.39	5.68	-5.11	
10/8/2015	D750V3	1019	Head	1g	0.84	8.39	8.44	-0.59	
				10g	0.55	5.51	5.50	0.18	
10/8/2015	D1900V2	5d043	Body	1g	3.91	39.10	40.00	-2.25	9,10
				10g	2.09	20.90	23.10	-9.52	
10/8/2015	D1900V2	5d043	Head	1g	4.02	40.20	40.60	-0.99	
				10g	2.14	21.40	21.10	1.42	
10/19/2015	D2450V2	748	Body	1g	5.06	50.6	50.30	0.60	
				10g	2.34	23.4	23.5	-0.43	
10/19/2015	D2600V2	1006	Body	1g	5.36	53.6	55.3	-3.07	
				10g	2.35	23.5	24.8	-5.24	

SAR Lab F

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/7/2015	D835V2	4d002	Head	1g	0.96	9.62	9.23	4.23	
				10g	0.63	6.31	5.99	5.34	
10/7/2015	D835V2	4d002	Body	1g	0.97	9.70	9.33	3.97	
				10g	0.64	6.39	6.12	4.41	
10/19/2015	D835V2	4d002	Body	1g	0.974	9.74	9.33	4.39	11,12
				10g	0.644	6.44	6.12	5.23	

SAR Lab G

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/7/2015	D1750V2	1077	Head	1g	3.57	35.70	36.90	-3.25	
				10g	1.91	19.10	19.50	-2.05	
10/7/2015	D1750V2	1077	Body	1g	3.26	32.60	35.80	-8.94	13,14
				10g	1.73	17.30	19.00	-8.95	
10/7/2015	D1900V2	5d043	Body	1g	4.09	40.90	40.00	2.25	
				10g	2.11	21.10	21.30	-0.94	
10/7/2015	D1900V2	5d043	Head	1g	3.92	39.20	40.60	-3.45	15,16
				10g	2.02	20.20	21.10	-4.27	
10/19/2105	D1900V2	5d043	Body	1g	4.05	40.5	40.00	1.25	
				10g	2.08	20.8	21.30	-2.35	
10/19/2105	D1750V2	1077	Body	1g	3.75	37.5	35.80	4.75	
				10g	1.99	19.9	19.00	4.74	

SAR Lab H

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/5/2015	D5.2GHzV2	1138	Head	1g	7.72	77.20	81.70	-5.51	17,18
				10g	2.21	22.10	23.50	-5.96	
10/5/2015	D5.6GHzV2	1138	Head	1g	8.24	82.40	84.70	-2.72	
				10g	2.34	23.40	24.20	-3.31	
10/5/2015	D5.8GHzV2	1138	Head	1g	7.82	78.20	81.60	-4.17	
				10g	2.23	22.30	23.10	-3.46	
10/5/2015	D5.2GHzV2	1138	Body	1g	7.95	79.50	76.90	3.38	
				10g	2.23	22.30	21.50	3.72	
10/5/2015	D5.6GHzV2	1138	Body	1g	8.33	83.30	81.60	2.08	
				10g	2.32	23.20	22.80	1.75	
10/5/2015	D5.8GHzV2	1138	Body	1g	7.82	78.20	77.90	0.39	
				10g	2.19	21.90	21.60	1.39	
10/9/2015	D835V2	4d002	Body	1g	0.94	9.42	9.33	0.96	19,20
				10g	0.62	6.22	6.12	1.63	

9. Conducted Output Power Measurements

Please refer to Sec. 10 for the measured output power results alongside SAR measurement results. Per the interim sleeve procedure, the WWAN output power measurement results were within +0.5 dB and -1.0 dB of the values in the original report, and the Wi-Fi maximum output power were within 1.5 dB of those reported in the original SAR report.

10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

KDB 447498 D01 General RF Exposure Guidance:
Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 648474 D04 Handset SAR:
With headset attached, when the reported SAR for body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

KDB 941225 D01 SAR test for 3G devices:
When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

KDB 941225 D05 SAR for LTE Devices:
SAR test reduction is applied using the following criteria:

- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
- Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
- Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

KDB 248227 D01 SAR meas for 802.11 v02r01:

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the *initial test position(s)* by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The *initial test position(s)* is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the *reported* SAR for the *initial test position* is:

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- > 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported* SAR is ≤ 0.8 W/kg or all required test positions are tested.
  - For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required test channels are considered.
  - The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.
- When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.
- When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

To determine the *initial test position*, Area Scans were performed to determine the position with the *Maximum Value of SAR (measured)*. The position that produced the highest *Maximum Value of SAR* is considered the worst case position; thus used as the *initial test position*.

10.1. Measured and Reported (Scaled) SAR Results

Technology / Band	Test Configuration		Mode	Antenna	Ch. No.	Freq. (MHz)	Original Values		Baseline with Host Device				Host Device + Sleeve		Final 1g SAR Reported (W/kg)*	Plot No.
							Tune-up Limit (dBm)	Highest 1g Reported SAR (W/kg)	Measured Power (dBm)	1g SAR Meas. (W/kg)	Scaled 1g SAR Reported (W/kg)	Scaled Baseline vs Orig. Reported SAR (W/kg)	1g SAR Meas. (W/kg)	Scaled 1g SAR Reported (W/kg)*		
GSM 850	Head	Left Touch	GPRS 2 Slots	UAT	190	836.6	32.20	0.803	32.20	0.776	0.776	-3.4%	0.591	0.591	0.612	1
	Body-worn	Rear (5 mm)	GSM Voice	LAT	190	836.6	33.50	0.374	33.50	0.411	0.411	9.9%				
		Rear (0 mm)	GSM Voice	LAT	190	836.6	33.50		33.50				0.002	0.002	0.002	2
	Hotspot	Edge 4 (5 mm)	GPRS 2 Slots	LAT	190	836.6	32.50	0.549	32.50	0.456	0.456	-16.9%	0.005	0.005	0.005	3
GSM 1900	Head	Right Touch	EGPRS 2 Slots	UAT	810	1909.8	27.40	0.907	27.20	0.731	0.765	-15.6%	0.572	0.599	0.710	4
	Body-worn	Rear (5 mm)	GSM Voice	LAT	810	1909.8	28.80	1.044	28.50	0.896	0.960	-8.0%				
		Rear (0 mm)	GSM Voice	LAT	810	1909.8	28.80		28.50				0.025	0.027	0.027	5
	Hotspot	Rear (5 mm)	EGPRS 2 Slots	LAT	810	1909.8	26.80	1.160	26.80	1.130	1.130	-2.6%	0.024	0.024	0.025	6
WCDMA Band V	Head	Left Touch	Release 99	UAT	4233	846.6	24.70	0.900	24.70	0.734	0.734	-18.4%	0.645	0.645	0.791	7
	Body-worn	Rear (5 mm)	Release 99	LAT	4183	836.6	25.00	0.518	25.00	0.494	0.494	-4.6%				
		Rear (0 mm)	Release 99	LAT	4183	836.6	25.00		25.00				0.005	0.005	0.005	8
	Hotspot	Edge 4 (5 mm)	Release 99	LAT	4183	836.6	25.00	0.859	25.00	0.988	0.988	15.0%	0.014	0.014	0.014	9
WCDMA Band IV	Head	Right Touch	Release 99	LAT	1413	1732.6	25.00	0.755	25.00	0.615	0.615	-18.5%	0.354	0.354	0.435	10
	Body-worn	Front (5 mm)	Release 99	UAT	1312	1712.4	23.10	0.977	23.00	1.010	1.034	5.8%	0.813	0.832	**0.832**	11
	Hotspot	Edge 1 (5 mm)	Release 99	UAT	1312	1712.4	23.10	0.999	23.00	0.948	0.970	-2.9%	0.339	0.347	0.357	12
WCDMA Band II	Head	Right Touch	Release 99	LAT	9400	1880.0	24.25	1.180	24.00	0.965	1.022	-13.4%	0.400	0.424	0.489	13
	Body-worn	Rear (5 mm)	Release 99	LAT	9538	1907.6	18.50	1.020	18.50	1.110	1.110	8.8%				
		Rear (0 mm)	Release 99	LAT	9538	1907.6	18.50		18.50				0.040	0.040	0.040	14
	Hotspot	Edge 1 (5 mm)	Release 99	UAT	9538	1907.6	23.30	0.955	23.00	0.849	0.910	-4.7%	0.094	0.100	0.105	15
CDMA BC0	Head	Left Touch	RC3 SO55	UAT	384	836.5	24.70	0.680	24.70	0.765	0.765	12.5%	0.656	0.656	0.656	16
	Body-worn	Front (5 mm)	RC3 SO32	LAT	384	836.5	25.00	0.533	25.00	0.518	0.518	-2.8%	0.067	0.067	0.068	17
	Hotspot	Edge 4 (5 mm)	RC3 SO32	LAT	777	848.3	25.00	0.940	25.00	0.970	0.970	3.2%	0.025	0.025	0.025	18
CDMA BC1	Head	Right Touch	RC3 SO55	LAT	1175	1908.8	24.25	1.180	24.25	1.030	1.030	-12.7%	0.433	0.433	0.496	19
	Body-worn	Front (5 mm)	RC3 SO32	UAT	1175	1908.8	23.30	0.993	23.30	1.040	1.040	4.7%	0.782	0.782	0.782	20
	Hotspot															
CDMA BC10	Head	Left Touch	RC3 SO55	UAT	580	820.5	24.70	0.631	24.70	0.694	0.694	10.0%	0.653	0.653	0.653	21
	Body-worn	Front (5 mm)	RC3 SO32	LAT	580	820.5	25.00	0.616	25.00	0.505	0.505	-18.0%	0.072	0.072	0.088	22
	Hotspot	Edge 4 (5 mm)	RC3 SO32	LAT	580	820.5	25.00	0.657	25.00	0.721	0.721	9.7%	0.025	0.025	0.025	23
CDMA BC15	Head	Right Touch	RC3 SO55	LAT	875	1753.8	25.00	0.930	24.90	0.909	0.930	0.0%	0.464	0.475	0.475	24
	Body-worn	Front (5 mm)	RC3 SO32	UAT	25	1711.3	23.10	0.997	23.10	0.990	0.990	-0.7%	0.581	0.581	0.585	25
	Hotspot	Edge 3 (5 mm)	RC3 SO32	LAT	875	1753.8	19.00	1.020	19.00	1.000	1.000	-2.0%	0.624	0.624	0.636	26
LTE Band 2	Head	Right Touch	QPSK RB 1,49	LAT	18900	1880.0	23.75	0.975	23.75	0.831	0.831	-14.8%	0.385	0.385	0.452	27
	Body-worn	Rear (5 mm)	QPSK RB 1,49	LAT	19100	1900.0	18.50	1.140	18.30	1.060	1.110	-2.6%				
		Rear (0 mm)	QPSK RB 1,49	LAT	19100	1900.0	18.50		18.30				0.024	0.025	0.025	28
	Hotspot															

Measured and Reported (Scaled) SAR Results, continued

Technology / Band	Test Configuration		Mode	Antenna	Ch. No.	Freq. (MHz)	Original Values		Baseline with Host Device				Host Device + Sleeve		Final 1g SAR Reported (W/kg)*	Plot No.
							Tune-up Limit (dBm)	Highest 1g Reported SAR (W/kg)	Measured Power (dBm)	1g SAR Meas. (W/kg)	Scaled 1g SAR Reported (W/kg)	Scaled Baseline vs Orig. Reported SAR (W/kg)	1g SAR Meas. (W/kg)	Scaled 1g SAR Reported (W/kg)*		
LTE Band 4	Head	Right Touch	QPSK RB 1,49	UAT	20050	1720.0	19.90	0.998	19.80	0.870	0.890	-10.8%	0.704	0.720	**0.808**	29
	Body-worn	Rear (5 mm)	QPSK RB 1,49	LAT	20300	1745.0	19.00	1.100	19.00	1.030	1.030	-6.4%				
		Rear (0 mm)	QPSK RB 1,49	LAT	20300	1745.0	19.00		19.00				0.103	0.103	0.103	30
	Hotspot															
LTE Band 5	Head	Right Touch	QPSK RB 1,24	UAT	20525	836.5	23.70	0.612	23.70	0.520	0.520	-15.0%	0.452	0.452	0.532	31
	Body-worn	Front (5 mm)	QPSK RB 1,24	LAT	20525	836.5	24.00	0.437	24.00	0.450	0.450	3.0%	0.043	0.043	0.043	32
	Hotspot	Edge 4 (5 mm)	QPSK RB 1,24	LAT	20525	836.5	24.00	0.638	24.00	0.650	0.650	1.9%	0.006	0.006	0.006	33
LTE Band 13	Head	Left Touch	QPSK RB 1,24	UAT	23230	782.0	23.70	0.543	23.70	0.439	0.439	-19.2%	0.287	0.287	0.355	34
	Body-worn	Front (5 mm)	QPSK RB 1,24	LAT	23230	782.0	24.00	0.528	24.00	0.485	0.485	-8.1%	0.033	0.033	0.036	35
	Hotspot	Edge 4 (5 mm)	QPSK RB 1,24	LAT	23230	782.0	24.00	0.696	24.00	0.563	0.563	-19.1%	0.012	0.012	0.015	36
LTE Band 17	Head	Right Tilt	QPSK RB 1,24	UAT	23790	710.0	23.70	0.473	23.70	0.401	0.401	-15.2%	0.388	0.388	0.458	37
	Body-worn	Front (5 mm)	QPSK RB 1,24	LAT	23790	710.0	24.00	0.368	24.00	0.353	0.353	-4.1%	0.047	0.047	0.049	38
	Hotspot	Edge 4 (5 mm)	QPSK RB 1,24	LAT	23790	710.0	24.00	0.516	24.00	0.475	0.475	-7.9%	0.005	0.005	0.005	39
LTE Band 25	Head	Right Touch	QPSK RB 1,49	UAT	26590	1905.0	20.10	0.970	20.10	0.996	0.996	2.7%	0.759	0.759	0.759	40
	Body-worn	Rear (5 mm)	QPSK RB 1,49	LAT	26365	1882.5	18.50	1.080	18.30	0.936	0.980	-9.2%				
		Rear (0 mm)	QPSK RB 1,49	LAT	26365	1882.5	18.50		18.30				0.032	0.034	0.034	41
	Hotspot															
LTE Band 26	Head	Right Touch	QPSK RB 1,24	UAT	26740	819.0	23.00	0.464	23.00	0.371	0.371	-20.0%	0.366	0.366	0.458	42
	Body-worn	Rear (5 mm)	QPSK RB 1,24	LAT	26740	819.0	23.00	0.227	23.00	0.247	0.247	8.8%				
		Rear (0 mm)	QPSK RB 1,24	LAT	26740	819.0	23.00		23.00				0.004	0.004	0.004	43
	Hotspot	Edge 4 (5 mm)	QPSK RB 1,24	LAT	26740	819.0	23.00	0.370	23.00	0.322	0.322	-13.0%	0.002	0.002	0.003	44
LTE Band 41	Head	Right Touch	QPSK RB 1,49	UAT	40620	2593.0	22.50	0.712	22.50	0.601	0.601	-15.6%	0.436	0.436	0.517	45
	Body-worn	Rear (5 mm)	QPSK RB 1,49	LAT	41490	2680.0	19.00	1.180	18.80	1.010	1.058	-10.4%				
		Rear (0 mm)	QPSK RB 1,49	LAT	41490	2680.0	19.00		18.80				0.009	0.009	0.009	46
	Hotspot															

Measured and Reported (Scaled) SAR Results, continued

Technology / Band	Test Configuration		Mode	Antenna	Ch. No.	Freq. (MHz)	Original Values		Baseline with Host Device				Host Device + Sleeve		Final 1g SAR Reported (W/kg)*	Plot No.
							Tune-up Limit (dBm)	Highest 1g Reported SAR (W/kg)	Measured Power (dBm)	1g SAR Meas. (W/kg)	Scaled 1g SAR Reported (W/kg)	Scaled Baseline vs Orig. Reported SAR (W/kg)	1g SAR Meas. (W/kg)	Scaled 1g SAR Reported (W/kg)*		
Wi-Fi 2.4 GHz	Head	Right Touch	802.11b	Cell Off	1	2412.0	18.00		18.00				0.812	0.812	0.812	
					6	2437.0	18.00		18.00				0.787	0.787	0.787	
					11	2462.0	18.00	1.150	18.00	1.16	1.16	0.9%	0.859	0.859	**0.859**	47
	Head	Right Touch	802.11b	Cell On	6	2437.0	15.00	0.510	15.00	0.494	0.494	-3.1%	0.344	0.344	0.355	48
	Body-worn	Rear (5 mm)	802.11b	Cell Off	6	2437.0	18.00	1.150	18.00	0.988	0.988	-14.1%				
		Rear (0 mm)	802.11b	Cell Off	6	2437.0	18.00		18.00				0.090	0.090	**0.090**	49
	Hotspot															
Wi-Fi 5 GHz	Head	Right Touch	802.11a	5.2	36	5180.0	12.00	0.458	12.00	0.476	0.476	3.9%	0.318	0.318	**0.318**	50
			802.11a	5.3	52	5260.0	11.00	0.403	11.00	0.455	0.455	12.9%	0.308	0.308	0.308	51
			802.11a	5.5	124	5620.0	9.00	0.478	9.00	0.403	0.403	-15.7%	0.242	0.242	0.287	52
		Right Tilt	802.11a	5.8	157	5785.0	11.50	0.490	11.50	0.458	0.458	-6.5%	0.100	0.100	0.106	53
	Body-worn	Front (5 mm)	802.11a	5.2	48	5240.0	18.00	0.376	18.00	0.42	0.42	11.7%	0.284	0.284	**0.284**	54
			802.11a	5.3	52	5260.0	17.00	0.404	17.00	0.389	0.389	-3.7%	0.205	0.205	0.213	55
			802.11a	5.5	124	5620.0	14.50	0.395	14.50	0.462	0.462	17.0%	0.228	0.228	0.228	56
			802.11a	5.8	157	5785.0	17.00	0.385	17.00	0.332	0.332	-13.8%	0.217	0.217	0.252	57
Bluetooth	Body-worn	Rear (5 mm)	GFSK	Bluetooth	39	2441.0	12.00	0.080	12.00	0.089	0.089	11.3%				
		Rear (0 mm)	GFSK	Bluetooth	39	2441.0	12.00		12.00				0.016	0.016	**0.016**	58

Note(s):

*Scaled 1g Reported SAR is calculated based on the following KDB inquiry response:

1. When the *reported* SAR of the test sample measured without accessory (sleeve) attached is equal to or higher than the *reported* SAR of the same test configuration in the original equipment certification filing, the measured SAR of the test sample with accessory (sleeve) attached is used as the reported SAR result of the test configuration.

2. When the *reported* SAR of the test sample measured without accessory (sleeve) attached is lower than the *reported* SAR of the same test configuration in the original equipment certification filing, adjust the *reported* SAR of the test sample with accessory (sleeve) attached by the ration of *reported* SAR in the original filing to the *reported* SAR of the test sample without the accessory (sleeve) attached as the SAR result of the test configuration.

3. When the original and baseline SAR values differ by more than 15% the SAR distribution and peak location were compared to ensure that they were similar. The baseline SAR plots for these situations are provided in Appendix G. The SAR distributions and peak locations were considered similar.

10.2. Bluetooth (Sleeve)

Standalone SAR Test Exclusion Considerations & Estimated SAR

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

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

When the standalone SAR test exclusion is applied 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, and x = 18.75 for 10-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.

Body-worn Accessory Exposure Conditions

Max. tune-up tolerance limit		Min. test separation distance (mm)	Frequency (GHz)	SAR test exclusion Result*	Test Configuration	Estimated 1-g SAR (W/kg)
(dBm)	(mW)					
5.0	3	10	2.480	0.5	Front/Rear	0.063

Conclusion:

*: The computed value is ≤ 3; therefore, Bluetooth qualifies for Standalone SAR test exclusion.

11. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. 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 <1.6 or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.8 or 2 W/kg (1-g or 10-g respectively), 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 3 (1-g or 10-g respectively) or when the original or repeated measurement is ≥ 1.45 or 3.6 W/kg (~ 10% from the 1-g or 10-g respective SAR limit).
4) Perform a third repeated measurement only if the original, first, or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 or 3 (1-g or 10-g respectively).

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated		Second Repeated		Third Repeated
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)
700	LTE Band 13	Head	Left Touch	No	0.287	N/A	N/A	N/A	N/A	N/A
	LTE Band 17	Head	Right Tilt	No	0.388	N/A	N/A	N/A	N/A	N/A
850	GSM 850	Head	Left Touch	No	0.591	N/A	N/A	N/A	N/A	N/A
	CDMA BC0	Head	Left Touch	No	0.656	N/A	N/A	N/A	N/A	N/A
	CDMA BC10	Head	Left Touch	No	0.653	N/A	N/A	N/A	N/A	N/A
	WCDMA Band V	Head	Left Touch	No	0.645	N/A	N/A	N/A	N/A	N/A
	LTE Band 5	Head	Right Touch	No	0.452	N/A	N/A	N/A	N/A	N/A
	LTE Band 26	Head	Right Touch	No	0.366	N/A	N/A	N/A	N/A	N/A
1900	GSM 1900	Head	Right Touch	No	0.572	N/A	N/A	N/A	N/A	N/A
	CDMA BC1	Body	Front	No	0.782	N/A	N/A	N/A	N/A	N/A
	WCDMA Band II	Head	Right Touch	No	0.400	N/A	N/A	N/A	N/A	N/A
	LTE Band 2	Head	Right Touch	No	0.385	N/A	N/A	N/A	N/A	N/A
	LTE Band 25	Head	Right Touch	No	0.759	N/A	N/A	N/A	N/A	N/A
1700	LTE Band 4	Head	Right Touch	No	0.704	N/A	N/A	N/A	N/A	N/A
	WCDMA Band IV	Body	Front	Yes	0.813	0.739	1.10	N/A	N/A	N/A
	CDMA BC15	Hotspot	Edge 3	No	0.624	N/A	N/A	N/A	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Head	Right Touch	Yes	0.859	0.729	1.18	N/A	N/A	N/A
	Bluetooth	Body	Rear	No	0.016	N/A	N/A	N/A	N/A	N/A
2600	LTE Band 41	Head	Right Touch	No	0.436	N/A	N/A	N/A	N/A	N/A
5200	Wi-Fi 802.11a/n/ac	Head	Right Touch	No	0.318	N/A	N/A	N/A	N/A	N/A
5300	Wi-Fi 802.11a/n/ac	Head	Right Touch	No	0.308	N/A	N/A	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Head	Right Touch	No	0.242	N/A	N/A	N/A	N/A	N/A

Note(s):

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 or 3 (1-g or 10-g respectively).

12. Simultaneous Transmission SAR Analysis

12.1. Sum of the SAR for WWAN & Wi-Fi & BT

RF Exposure conditions	Host Device with Sleeve Attached										Sleeve		
	① WWAN	② DTS	③ U-NII	④ BT	①+② WWAN +DTS		①+③ WWAN + U-NII		①+③+④ WWAN +U-NII +BT		⑤ BT	①+③+④+⑤ WWAN +U-NII +BT	
					∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)		∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	0.808	0.355	0.318		**1.163**	No	1.126	No					
Body-worn & Hotspot	0.832	0.090	0.284	0.016	0.922	No	1.116	No	**1.132**	No	0.063	1.195	No

Appendixes

Refer to separated files for the following appendixes.

15U21940-S1V1 SAR_App A Photos & Ant. Locations

15U21940-S1V1 SAR_App B System Check Plots

15U21940-S1V2 SAR_App C Highest Test Plots

15U21940-S1V1 SAR_App D Tissue Ingredients

15U21940-S1V1 SAR_App E Probe Cal. Certificates

15U21940-S1V1 SAR_App F Dipole Cal. Certificates

15U21940-S1V2 SAR_App G Baseline SAR Test Plots

END OF REPORT