FCC 47 CFR Parts 1 & 2
Published RF Exposure KDB Procedures
IEEE Std 1528-2003 and IEEE Std 1528a-2005

SAR EVALUATION REPORT

For
iPhone

Model: A1530

FCC ID: BCG-E2643A

Report Number: 13U14987-22A
Issue Date: 9/5/2013

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	7/20/2013	Initial Issue	--
A	9/5/13	Made the following changes based on reviewer's comments: 1. Removed OET 65 supplement C from cover page, Sec. 1, 2 and 10 2. Sec. 7.1: Added description of detect mode 3. Sec. 7.3 & 7.4: Corrected some typo 4. Sec. 8.2: Added explanation on selected test separation distance for Body-worn accessory test configurations. 5. Sec. 8.3: Added justification for testing at 5 mm to cover hotspot operation. 6. Sec. 9.4: Added WLAN channels 12 and 13 and added justification (note 2) why channels 12 and 13 were not tested. 7. Sec. 12.3.2. and 12.4.2.: Added justification for SAR test exclusion for HSPA 8. Updated project no. from 13U15037-8A to 13U15037-22A 9. Sec. 7.1: Added flowchart and descriptions. 10. Sec. 9: Added note	Sunny Shih

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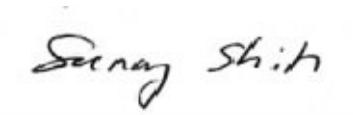
1. Attestation of Test Results

Applicant	Apple Inc.			
DUT description	iPhone			
Model	A1530			
Test device is	An identical prototype			
Device category	Portable			
Exposure category	General Population/Uncontrolled Exposure			
Date tested	6/3/2013 – 7/17/2013			
The highest reported SAR values	RF exposure conditions	Licensed	DTS	UNII
	Head	1.180 W/kg	0.588 W/kg	0.595 W/kg
	Body-worn Accessory	1.090 W/kg	0.577 W/kg	0.521 W/kg
	Wireless Router (Hotspot)	1.090 W/kg	0.462 W/kg	N/A
	Simultaneous Transmission	1.577 W/kg	1.570 W/kg	1.577 W/kg
Applicable Standards	FCC 47 CFR Parts 1 & 2 Published RF Exposure KDB Procedures, and TCB workshop updates IEEE Std 1528-2003 and IEEE Std 1528a-2005			
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.

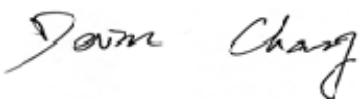
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. 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:



Sunny Shih
WiSE Operations Manager
UL Verification Services Inc.

Prepared By:



Devin Chang
WiSE Engineer
UL Verification Services Inc.

2. Test Methodology

The tests documented in this report were performed in accordance with FCC 47 CFR Parts 1 & 2, IEEE STD 1528-2003, IEEE Std 1528a-2005, the following FCC Published RF exposure KDB procedures, and TCB workshop updates:

- 447498 D01 General RF Exposure Guidance v05r01
- 648474 D04 SAR Handsets Multi Xmiter and Ant v01r01
- 941225 D01 SAR test for 3G devices v02
- 941225 D02 HSPA and 1x Advanced v02r02
- 941225 D03 SAR Test Reduction GSM GPRS EDGE v01
- 941225 D04 SAR for GSM E GPRS Dual Xfer Mode v01
- 941225 D05 SAR for LTE Devices v02r02
- 941225 D06 Hot Spot SAR v01r01
- 248227 D01 SAR Meas for 802 11abg v01r02
- 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r01
- 865664 D02 SAR Reporting v01r01
- 690783 D01 SAR Listings on Grants v01r02

3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. Calibration and Uncertainty

4.1. Measuring Instrument Calibration

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.

Tissue Dielectric Properties

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	E5071B	MY42100131	2/21/2014
Dielectronic Probe kit	SPEAG	DAK-3.5	1087	10/16/2013
Dielectronic Probe kit	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Control Company	4242	122529163	9/19/2013

System Performance Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	HP	8665B	3546A00784	3/26/2014
Power Meter	HP	438A	3513U04320	9/24/2013
Power Sensor	HP	8481A	2237A31744	9/24/2013
Power Sensor	HP	8481A	2702A76223	8/21/2013
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795093	N/A
Directional coupler	Werlatone	C8060-102	2711	N/A
DC Power Supply	AMETEK	XHR60-18	1308A01935	N/A
Synthesized Signal Generator	HP	8665B	3744A01155	3/6/2014
Power Meter	HP	438A	2822A05684	10/7/2013
Power Sensor	HP	8481A	2702A66876	9/24/2013
Power Sensor	HP	8482A	2349A08568	9/26/2013
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1622052	N/A
Directional coupler	Werlatone	C8060-102	2149	N/A
DC Power Supply	EKNWOOD	PA36-3A	7060074	N/A
Thermometer	TRACEABLE	4242	122529162	9/19/2013
E-Field Probe	SPEAG	EX3DV4	3749	1/15/2014
E-Field Probe	SPEAG	EX3DV4	3751	12/15/2013
E-Field Probe	SPEAG	EX3DV4	3772	2/20/2014
E-Field Probe	SPEAG	EX3DV4	3686	3/12/2014
E-Field Probe	SPEAG	EX3DV4	3901	2/13/2014
E-Field Probe	SPEAG	EX3DV4	3885	10/9/2013
Data Acquisition Electronics	SPEAG	DAE4	1343	8/20/2013
Data Acquisition Electronics	SPEAG	DAE3	427	1/9/2014
Data Acquisition Electronics	SPEAG	DAE4	1258	3/6/2014
Data Acquisition Electronics	SPEAG	DAE4	1257	8/28/2013
Data Acquisition Electronics	SPEAG	DAE4	1357	2/5/2014
Data Acquisition Electronics	SPEAG	DAE4	1352	10/8/2013
Data Acquisition Electronics	SPEAG	DAE4	1360	2/7/2014
System Validation Dipole	SPEAG	D835V2	4d002	10/24/2013
System Validation Dipole	SPEAG	D835V2	4d142	10/4/2013
System Validation Dipole	SPEAG	D1900V2	5d043	11/6/2013
System Validation Dipole	SPEAG	D1900V2	5d163	10/4/2013
System Validation Dipole	SPEAG	D2450V2	899	10/5/2013
System Validation Dipole	SPEAG	D5GHzV2	1138	10/9/2013
System Validation Dipole	SPEAG	D5GHzV2	1003	9/18/2013

Others

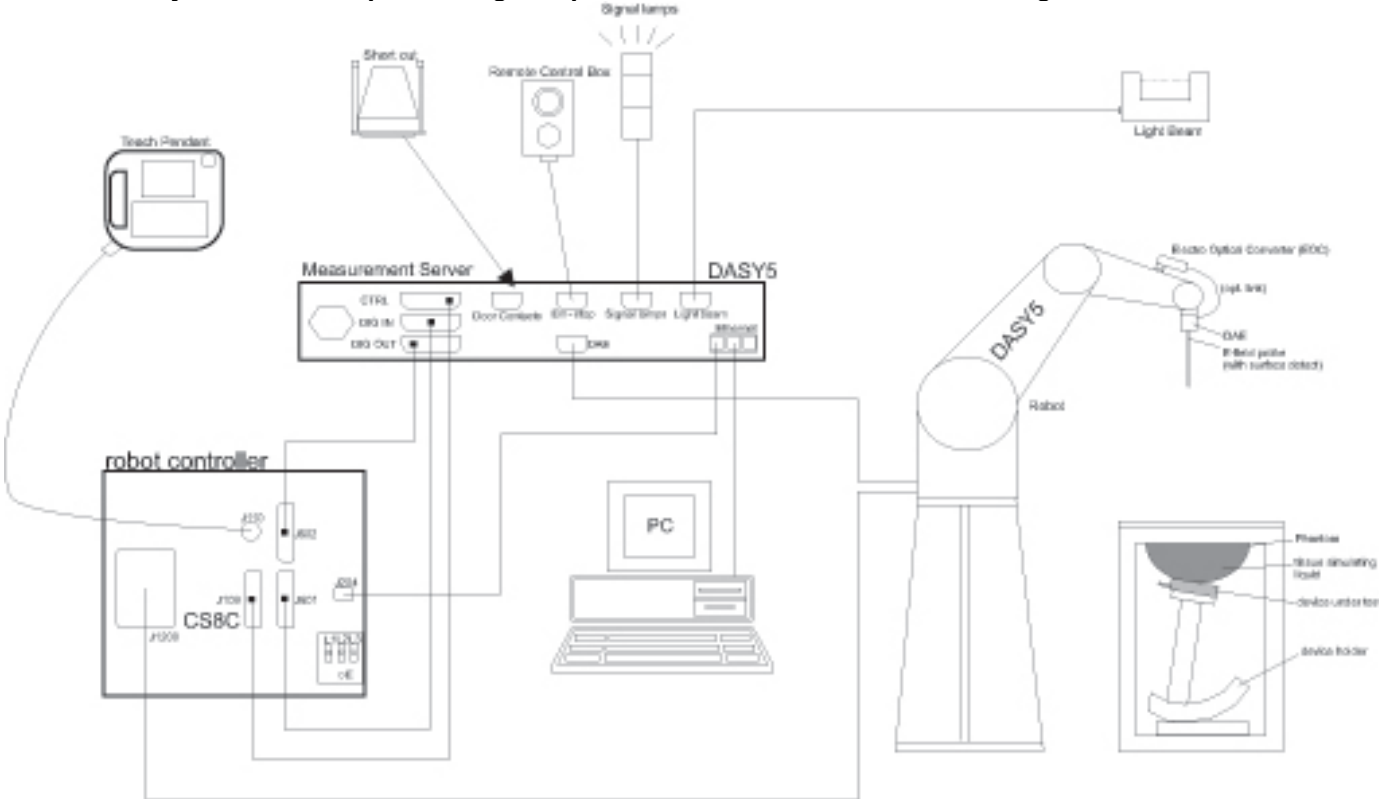
Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Base Station Simulator	Agilent	8960	MY48360200	3/20/2014
Base Station Simulator	R & S	CMU200	106291	8/8/2013
Base Station Simulator	R & S	CMU200	117455	5/20/2014
Base Station Simulator	R & S	CMU200	118715	5/20/2014
Base Station Simulator	R & S	CMW500	132910-cp	2/19/2014
Base Station Simulator	R & S	CMW500	132909-bp	2/19/2014
Base Station Simulator	R & S	CMW500	103764-dn	8/16/2014
Base Station Simulator	R & S	CMW500	103766-ly	8/19/2014
Base Station Simulator	R & S	CMW500	107513-be	7/26/2014
Power Meter	Agilent	N1912A	MY50001018	8/10/2013
Power Sensor	Agilent	N1921A	MY52020011	5/13/2014
Power Sensor	Agilent	N1921A	MY52200012	7/24/2013

4.2. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r01 Section 2.8.1., 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 1528-2003 is not required in SAR reports submitted for equipment approval.

5. Measurement System Description and Setup

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.

6. SAR Measurement Procedure

6.1. Normal SAR Measurement Procedure

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 v01r01

	≤ 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 v01r01

			≤ 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.

6.2. Volume Scan Procedures

Step 1: Repeat Step 1-4 in Section 6.1

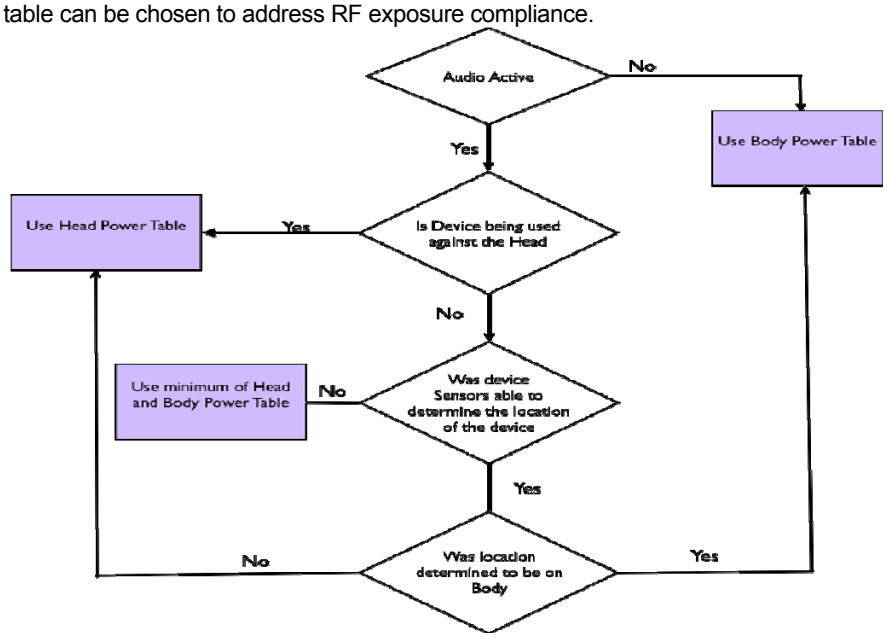
Step 2: Volume Scan
Volume Scans are used to assess peak SAR and averaged SAR measurements in largely extended 3-dimensional volumes within any phantom. This measurement does not need any previous area scan. The grid can be anchored to a user specific point or to the current probe location.

Step 3: 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.

7. Device Under Test

7.1. General Information

iPhone
Model: A1530 The FCC ID: BCG-E2643A device uses sensors present in it to determine if the device is against the user's body so that the correct power table can be chosen to address RF exposure compliance.



Device uses 2 different power tables to meet RF exposure compliance:
- Head Power Table: Head Power Table is used when device is used against the head.
- Body Power Table: Body Power Table is used when device is used against the body. Device uses sensors to determine if the device is against the user's body or not.

The sensors used for this detection are a part of the device. The measurements from the sensors are processed to produce a metric. The device is declared to be on the body if the computed metric exceeds a priori specified threshold. When the device is identified to be on the body, the "body power table" is used. When the device is identified as not on the body, the "head power table" is used.

Operating Configuration(s)	Held to head and Body-worn (Voice call)
Mobile Hotspot	WiFi Hotspot mode permits the device to share its cellular data connection with other WiFi-enabled devices. ☒ Mobile Hotspot (WiFi 2.4 GHz) ☐ Mobile Hotspot (WiFi 5 GHz)
SV-LTE & SV-DO	Not Supported
AirPlay	AirPlay mode enabled devices transfer data directly between each other ☒ AirPlay (WiFi 2.4 GHz) ☒ AirPlay (WiFi 5 GHz)
RF Exposure Condition(s)	Head, Body-worn Accessory, Hotspot (wireless router)
Device dimension	Overall (Length x Width): 124.0 mm x 58.5 mm Overall Diagonal: 130.4 mm Display Diagonal: 103.0 mm
Accessory	Headset
Battery Options	☒ Standard – Lithium-ion battery, Rating 3.8 Vdc, 5.96 Wh ☐ Extended (large capacity)

7.2. Wireless Technologies

Wireless Technology and Frequency Bands	GSM: 850 /1900 W-CDMA Band: 2 / 5 LTE Band 2 / 5 WiFi: 2.4 / 5 GHz Bluetooth: 2.4 GHz.
Mode	GSM - ☒ Voice (GMSK) - ☒ GPRS (GMSK) - ☒ EGPRS (8PSK) W-CDMA - ☒ UMTS Rel. 99 (Voice & Data) - ☒ HSDPA (Rel. 7, CAT 14) - ☒ HSUPA (Rel. 6, CAT 6) - ☒ DC-HSDPA (Rel. 8, CAT 24) - ☒ HSPA+ (Rel. 6, CAT 6) LTE - ☒ QPSK - ☒ 16QAM WiFi 2.4GHz (802.11b/g/n) - ☒ 802.11b - ☒ 802.11g - ☒ 802.11n (20MHz) - ☐ 802.11n (40MHz) - ☐ 802.11ac (20MHz) WiFi 5GHz - ☒ 802.11a - ☒ 802.11n (20MHz) - ☒ 802.11n (40MHz) - ☐ 802.11ac (80MHz) Bluetooth Ver. 4.0 (LE)
Duty Cycle	GSM Voice: 12.5%; GPRS 1 Slot: 12.5%; 2 Slots: 25% W-CDMA: 100% LTE: 100% WiFi 802.11a/b/g/n: 100% Bluetooth: 32.25% (DH1), 66.68% (DH3), 77.52% (DH5)
GPRS Multi-Slot Class	☐ Class 8 - One Up ☒ Class 10 - Two Up ☐ Class 12 - Four Up
Mobile Phone Capability	☐ Class A - Mobile phones can be connected to both GPRS and GSM services simultaneously. ☒ Class B - Mobile phones can be attached to both GPRS and GSM services, using one service at a time. ☐ Class C - Mobile phones are attached to either GPRS or GSM voice service. You need to switch manually between services
DTM (Dual Transfer Mode)	Not Supported
VoIP (GPRS)	Supported

7.3. Simultaneous Transmission Condition

RF Exposure Condition	Capable Transmit Configurations
Head	1. GSM 850/1900 Voice + WiFi 2.4/5GHz 2. GSM 850/1900 (GPRS/EDGE) + WiFi 2.4/5GHz 3. WCDMA Band 2/5 + WiFi 2.4/5GHz 4. LTE B2/B5 + WiFi 2.4/5GHz
Body-worn Accessory	1. GSM 850/1900 Voice + WiFi 2.4/5GHz 2. GSM 850/1900 Voice + BT 3. GSM 850/1900 (GPRS/EDGE) + WiFi 2.4/5GHz 4. GSM 850/1900 (GPRS/EDGE) + BT 5. WCDMA Band 2/5 + WiFi 2.4/5GHz 6. WCDMA Band 2/5 + BT 7. LTE B2/B5 + WiFi 2.4/5GHz 8. LTE B2/B5 + BT
Wireless Router (Hotspot)	1. GSM 850/1900 (GPRS/EDGE) + WiFi 2.4GHz 2. WCDMA Band 2/5 + WiFi 2.4GHz 3. LTE B2/B5 + WiFi 2.4GHz
Notes: 1. WiFi only 2.4GHz supports Hotspot. 2. GPRS/EDGE, CDMA, WCDMA and LTE support Hotspot. 3. VoIP is supported in CDMA, LTE, WCDMA and GPRS. 4. WiFi 2.4 GHz Radio cannot transmit simultaneously with Bluetooth Radio.	

7.4. General LTE SAR Test and Reporting Considerations

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Frequency range, Channel Bandwidth, Numbers and Frequencies</td><td>
<table>
<tr><td rowspan="3">Band 2</td><td colspan="6">Frequency range: 1850 - 1910 MHz</td></tr>
<tr><td colspan="6">Channel Bandwidth</td></tr>
<tr><td>20 MHz</td><td>15 MHz</td><td>10 MHz</td><td>5 MHz</td><td>3 MHz</td><td>1.4 MHz</td></tr>
<tr><td>Low</td><td>18700 /1860</td><td>18675/ 1857.5</td><td>18650/ 1855</td><td>18625/ 1852.5</td><td>18615/ 1851.5</td><td>18607/ 1850.7</td></tr>
<tr><td>Mid</td><td>18900/ 1880</td><td>18900/ 1880</td><td>18900/ 1880</td><td>18900/ 1880</td><td>18900/ 1880</td><td>18900/ 1880</td></tr>
<tr><td>High</td><td>19100/ 1900</td><td>19125/ 1902.5</td><td>19150/ 1905</td><td>19175/ 1907.5</td><td>19185/ 1908.5</td><td>19193/ 1909.3</td></tr>
<tr><td rowspan="3">Band 5</td><td colspan="6">Frequency range: 824 - 849 MHz</td></tr>
<tr><td colspan="6">Channel Bandwidth</td></tr>
<tr><td>20 MHz</td><td>15 MHz</td><td>10 MHz</td><td>5 MHz</td><td>3 MHz</td><td>1.4 MHz</td></tr>
<tr><td>Low</td><td></td><td></td><td>20450/ 829</td><td>20425/ 826.5</td><td>20415/ 825.5</td><td>20407/ 824.7</td></tr>
<tr><td>Mid</td><td></td><td></td><td>20525/ 836.5</td><td>20525/ 836.5</td><td>20525/ 836.5</td><td>20525/ 836.5</td></tr>
<tr><td>High</td><td></td><td></td><td>20600/ 844</td><td>20625/ 846.5</td><td>20635/ 847.5</td><td>20643/ 848.3</td></tr>
</table>
</td></tr>
<tr><td>LTE transmitter and antenna implementation</td><td>LTE can transmit from either UAT (Secondary Antenna) or LAT (Primary Antenna). The antenna switching is implemented with a physical, “break-before-make” switch such that only one antenna can be used for LTE transmission at a time.</td></tr>
<tr><td>Maximum power reduction (MPR)</td><td>
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
</table>
MPR Built-in by design
A-MPR (additional MPR) was disabled during SAR testing
</td></tr>
<tr><td>Power reduction</td><td>No</td></tr>
<tr><td>Spectrum plots for RB configurations</td><td>When a properly configured basestation simulator is not used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration should be included in the SAR report to demonstrate that the tested RB allocations have been correctly established at the maximum output power conditions.</td></tr>
</table>

8. RF Exposure Conditions

Refer to Section 17 “Antenna Locations and Separation Distances” for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

8.1. Head Exposure Conditions

For GSM, W-CDMA, CDMA, LTE and WiFi

Test Configurations	SAR Required	Note
Left Touch	Yes	
Left Tilt (15°)	Yes	
Right Touch	Yes	
Right Tilt (15°)	Yes	

8.2. Body-worn Accessory Exposure Conditions

The Body-worn accessory test configurations were tested using a conservative minimum test separation distance of 5 mm.

For WWAN and LTE (LAT/Primary Antenna)

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	<25 mm	Yes	
Front	<25 mm	Yes	

For WWAN and LTE (UAT/Secondary Antenna)

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	<25 mm	Yes	
Front	<25 mm	Yes	

For WiFi

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	<25 mm	Yes	
Front	<25 mm	Yes	

8.3. Hotspot Exposure Conditions

Per Section 4 of test plan submitted in the manufacturer KDB titled Detect Mode Feature, hotspot operation SAR test cases are covered by worse-cases in Body-worn SAR at 5 mm separation distance.

For WWAN and LTE (LAT/Primary Antenna)

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	<25 mm	Yes	
Front	<25 mm	Yes	
Edge 1 (Top)	0 mm	Yes	
Edge 2 (Right)	0 mm	Yes	
Edge 3 (Bottom)	>25 mm	No	SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR v01r01
Edge 4 (Left)	0 mm	Yes	

For WWAN and LTE (UAT/Secondary Antenna)

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	<25 mm	Yes	
Front	<25 mm	Yes	
Edge 1 (Top)	>25 mm	No	SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR v01r01
Edge 2 (Right)	0 mm	Yes	
Edge 3 (Bottom)	0 mm	Yes	
Edge 4 (Left)	0 mm	Yes	

For WiFi

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	<25 mm	Yes	
Front	<25 mm	Yes	
Edge 1 (Top)	4.7 mm	Yes	
Edge 2 (Right)	35.2 mm	Yes	
Edge 3 (Bottom)	115.4 mm	No	SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR v01r01
Edge 4 (Left)	10.5 mm	Yes	

9. RF Output Power Measurement

The proprietary logic is used to determine when head/body power table is used.

9.1. GSM

GSM (GMSK) - Voice Mode

Band	Ch No.	Freq. (MHz)	Avg Power (dBm)			
			HEAD		BODY	
			UAT	LAT	UAT	LAT
850	128	824.2	33.1	33.5	33.2	33.5
	190	836.6	33.2	33.3	33.2	33.5
	251	848.8	33.2	33.5	33.2	33.5

GPRS (GMSK) - Coding Scheme: CS1

Band	Ch No.	Freq. (MHz)	HEAD				BODY			
			UAT		LAT		UAT		LAT	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850	128	824.2	33.1	**31.0**	33.5	**32.5**	33.2	**32.1**	33.5	**31.0**
	190	836.6	33.2	**31.0**	33.3	**32.5**	33.2	**32.1**	33.5	**31.0**
	251	848.8	33.2	**31.0**	33.5	**32.3**	33.2	**31.8**	33.5	**31.0**
Frame Power (dBm)										
850	128	824.2	24.1	**25.0**	24.5	**26.5**	24.2	**26.1**	24.5	**25.0**
	190	836.6	24.2	**25.0**	24.3	**26.5**	24.2	**26.1**	24.5	**25.0**
	251	848.8	24.2	**25.0**	24.5	**26.3**	24.2	**25.8**	24.5	**25.0**

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	HEAD				BODY			
			UAT		LAT		UAT		LAT	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850	128	824.2	28.7	28.7	29.0	28.6	28.7	28.7	29.0	28.6
	190	836.6	28.7	28.7	29.0	28.9	28.7	28.7	29.0	28.9
	251	848.8	28.6	28.7	28.9	28.9	28.6	28.7	28.9	28.9
Frame Power (dBm)										
850	128	824.2	19.7	22.7	20.0	22.6	19.7	22.7	20.0	22.6
	190	836.6	19.6	22.7	20.0	22.9	19.6	22.7	20.0	22.9
	251	848.8	19.6	22.7	19.9	22.8	19.6	22.7	19.9	22.8

Notes:

The worst-case configuration and mode for SAR testing is determined to be as follows:

- Head & Body-worn Accessory: GMSK Voice Mode
- Hotspot mode: GMSK (GPRS) mode with 2 time slots, based on the output power measurements above
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

GSM (GMSK) - Voice Mode

Band	Ch No.	Freq. (MHz)	Avg Power (dBm)			
			HEAD		BODY	
			UAT	LAT	UAT	LAT
1900	512	1850.2	30.3	30.5	28.70	28.9
	661	1880.0	30.5	30.5	28.75	29.0
	810	1909.8	30.4	30.5	28.75	28.9

GPRS (GMSK) - Coding Scheme: CS1

Band	Ch No.	Freq. (MHz)	HEAD				BODY			
			UAT		LAT		UAT		LAT	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
			Burst Power (dBm)				Burst Power (dBm)			
1900	512	1850.2	30.3	**27.5**	30.5	**28.0**	28.70	**28.75**	28.9	**26.0**
	661	1880.0	30.5	**27.5**	30.5	**28.0**	28.75	**28.75**	29.0	**26.0**
	810	1909.8	30.4	**27.5**	30.5	**28.0**	28.75	**28.75**	28.9	**26.0**
			Frame Power (dBm)				Frame Power (dBm)			
1900	512	1850.2	21.3	21.5	21.5	22.0	19.7	22.73	19.9	20.0
	661	1880.0	21.5	21.5	21.5	22.0	19.7	22.73	20.0	20.0
	810	1909.8	21.4	21.5	21.5	22.0	19.7	22.73	19.9	20.0

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	HEAD				BODY			
			UAT		LAT		UAT		LAT	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
			Burst Power (dBm)				Burst Power (dBm)			
1900	512	1850.2	27.4	27.3	28.0	27.7	27.4	27.3	28.0	**27.0**
	661	1880.0	27.4	27.3	27.9	27.7	27.4	27.3	27.9	**27.0**
	810	1909.8	27.4	27.4	28.0	27.8	27.4	27.4	28.0	**27.0**
			Frame Power (dBm)				Frame Power (dBm)			
1900	512	1850.2	18.4	21.3	19.0	21.7	18.4	21.3	19.0	21.0
	661	1880.0	18.4	21.3	18.9	21.7	18.4	21.3	18.9	21.0
	810	1909.8	18.4	21.3	19.0	21.8	18.4	21.3	19.0	21.0

Notes:

The worst-case configuration and mode for SAR testing is determined to be as follows:

- Head & Body-worn Accessory: GMSK Voice Mode
- Hotspot mode: GMSK (GPRS) mode with 2 time slots, and EGPRS 2 time slots (LAT) based on the output power measurements above

9.2. W-CDMA

Release 99

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

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

Measured Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)			
				HEAD		BODY	
				UAT	LAT	UAT	LAT
W-CDMA Band 2	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.5	22.8	22.5	20.0
		9400	1880.0	22.5	23.0	22.5	20.0
		9538	1907.6	22.5	23.0	22.5	20.0
W-CDMA Band 5	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.8	24.5	24.2	24.25
		4183	836.6	23.9	24.5	24.2	24.25
		4233	846.6	23.9	24.3	24.1	24.10

HSDPA

The following 4 Sub-tests were completed according to Release 7 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	1	1.5	1.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs =βhs/βc	30/15			

Measured Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)			
				HEAD		BODY	
				UAT	LAT	UAT	LAT
W-CDMA Band 2	Subtest 1	9262	1852.4	22.4	22.0	21.32	19.9
		9400	1880.0	22.4	22.2	21.60	20.0
		9538	1907.6	22.3	22.1	21.40	19.9
	Subtest 2	9262	1852.4	21.4	22.0	21.30	19.1
		9400	1880.0	21.5	22.1	21.60	19.0
		9538	1907.6	21.4	22.1	21.30	19.0
	Subtest 3	9262	1852.4	21.1	21.9	21.40	18.5
		9400	1880.0	21.0	22.0	21.50	18.4
		9538	1907.6	21.0	22.0	21.40	18.6
	Subtest 4	9262	1852.4	21.1	22.0	21.36	18.6
		9400	1880.0	21.0	22.1	21.50	18.4
		9538	1907.6	21.1	22.1	21.32	18.4
W-CDMA Band 5	Subtest 1	4132	826.4	23.7	23.4	23.4	24.20
		4183	836.6	23.7	23.6	23.5	24.20
		4233	846.6	23.6	23.3	23.3	24.10
	Subtest 2	4132	826.4	22.6	23.6	23.4	23.20
		4183	836.6	22.7	23.7	23.5	23.10
		4233	846.6	22.7	23.2	23.3	23.10
	Subtest 3	4132	826.4	22.4	23.1	23.4	22.60
		4183	836.6	22.4	23.1	23.4	22.70
		4233	846.6	22.5	23.1	23.3	22.70
	Subtest 4	4132	826.4	22.4	23.0	23.4	22.60
		4183	836.6	22.5	23.0	23.5	22.60
		4233	846.6	22.3	22.9	23.3	22.70

Maximum output power levels that are possible for all subtests reported.

HSPA (HSDPA & HSUPA)

The following 5 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSPA	HSPA	HSPA	HSPA	HSPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	15/15
	βec	209/225	12/15	30/15	2/15	24/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	βhs	22/15	12/15	30/15	4/15	30/15
	βed	1309/225	94/75	47/15 47/15	56/75	134/15
	CM (dB)	1.0	3.0	2.0	3.0	1.0
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27	

Measured Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)			
				HEAD		BODY	
				UAT	LAT	UAT	LAT
W-CDMA Band 2	Subtest 1	9262	1852.4	22.4	22.2	21.00	19.9
		9400	1880.0	22.4	22.0	21.60	19.8
		9538	1907.6	22.3	21.9	21.30	19.8
	Subtest 2	9262	1852.4	20.3	21.0	20.41	18.1
		9400	1880.0	20.3	21.2	20.20	18.1
		9538	1907.6	20.4	21.5	20.10	18.0
	Subtest 3	9262	1852.4	21.4	20.5	20.71	19.0
		9400	1880.0	21.5	20.8	20.30	19.1
		9538	1907.6	21.4	21.0	20.50	19.0
	Subtest 4	9262	1852.4	20.4	21.8	20.41	18.1
		9400	1880.0	20.4	22.0	21.20	18.0
		9538	1907.6	20.3	22.0	21.30	18.0
	Subtest 5	9262	1852.4	22.4	22.1	21.60	19.9
		9400	1880.0	22.4	22.0	21.50	19.9
		9538	1907.6	22.4	22.1	21.10	19.8
W-CDMA Band 5	Subtest 1	4132	826.4	23.7	23.2	23.0	24.20
		4183	836.6	23.7	23.0	22.8	24.10
		4233	846.6	23.8	23.3	23.0	24.10
	Subtest 2	4132	826.4	21.8	22.4	22.0	22.20
		4183	836.6	21.8	22.5	22.0	22.20
		4233	846.6	21.9	22.2	22.0	22.10
	Subtest 3	4132	826.4	22.8	22.3	22.4	23.00
		4183	836.6	22.9	22.1	21.7	23.10
		4233	846.6	22.9	22.5	22.0	23.20
	Subtest 4	4132	826.4	21.8	22.9	22.4	22.10
		4183	836.6	21.9	22.9	22.5	22.10
		4233	846.6	21.8	22.5	22.3	22.00
	Subtest 5	4132	826.4	23.8	23.1	23.0	24.20
		4183	836.6	23.7	22.8	22.7	24.25
		4233	846.6	23.7	22.9	22.9	24.20

DC-HSDPA

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table E.5.0: Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH _Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

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

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

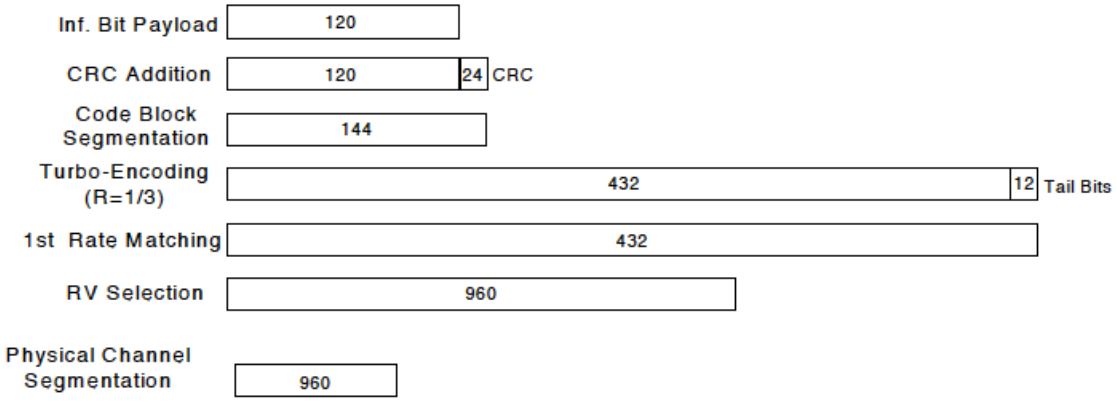


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

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

Up commands are set continuously to set the UE to Max power.

Measured Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)			
				HEAD		BODY	
				UAT	LAT	UAT	LAT
W-CDMA Band 2	Subtest 1	9262	1852.4	22.4	22.0	21.32	19.9
		9400	1880.0	22.4	22.0	21.58	20.0
		9538	1907.6	22.3	22.0	21.42	20.0
	Subtest 2	9262	1852.4	22.3	22.0	21.32	19.9
		9400	1880.0	22.3	22.0	21.55	19.9
		9538	1907.6	22.4	22.1	21.34	20.0
	Subtest 3	9262	1852.4	19.9	21.4	21.42	19.4
		9400	1880.0	20.0	21.6	21.50	19.6
		9538	1907.6	20.0	21.5	21.42	19.5
	Subtest 4	9262	1852.4	20.0	21.4	21.40	19.5
		9400	1880.0	20.0	21.6	21.50	19.4
		9538	1907.6	19.9	21.5	21.35	19.4
W-CDMA Band 5	Subtest 1	4132	826.4	23.7	23.5	23.4	24.20
		4183	836.6	23.8	23.3	23.2	24.20
		4233	846.6	23.8	23.4	23.3	24.20
	Subtest 2	4132	826.4	23.6	23.5	23.5	24.10
		4183	836.6	23.7	23.3	23.2	24.10
		4233	846.6	23.7	23.4	23.3	24.20
	Subtest 3	4132	826.4	23.2	23.0	23.0	23.70
		4183	836.6	23.3	22.8	22.7	23.80
		4233	846.6	23.4	22.9	22.8	23.80
	Subtest 4	4132	826.4	23.3	23.1	23.0	23.60
		4183	836.6	23.4	22.8	22.7	23.70
		4233	846.6	23.4	22.9	22.8	23.80

HSPA+

Since 16QAM is not used for uplink, the uplink Category and release is same as HSUPA, i.e., CAT 6 Rel 6. Therefore, the RF conducted power is not measured.

9.3. LTE

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

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

Modulation	Channel bandwidth / Transmission bandwidth (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

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signalling Value of “NS_01”.3

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

Network Signalling value	Requirements (sub-clause)	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	NA
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	See 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	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	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

9.3.1. LTE Band 2

Measured Results

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
20	18700	1860.0	QPSK	1	0	0	22.5	23.0	22.25	19.3
				1	49	0	22.5	23.0	22.25	19.3
				1	99	0	22.5	23.0	22.20	19.3
				50	0	1	21.9	22.3	21.25	18.3
				50	24	1	21.7	22.3	21.20	18.3
				50	49	1	21.6	22.3	21.10	18.2
				100	0	1	21.8	22.3	21.10	18.2
			16QAM	1	0	1	21.5	22.1	21.20	18.2
				1	49	1	21.6	22.1	21.10	18.3
				1	99	1	21.5	22.0	21.20	18.1
				50	0	2	21.0	21.2	20.20	17.3
				50	24	2	20.7	21.3	20.20	17.3
				50	49	2	20.8	21.4	20.10	17.2
				100	0	2	21.0	21.3	20.10	17.2
	18900	1880.0	QPSK	1	0	0	22.5	23.0	22.20	19.3
				1	49	0	22.5	23.0	22.25	19.3
				1	99	0	22.5	23.0	22.25	19.2
				50	0	1	21.5	22.4	21.20	18.2
				50	24	1	21.7	22.2	21.20	18.2
				50	49	1	21.6	22.1	21.20	18.2
				100	0	1	21.5	22.1	21.25	18.2
			16QAM	1	0	1	21.5	22.0	21.10	18.1
				1	49	1	21.5	22.0	21.20	18.3
				1	99	1	21.6	22.0	21.20	18.2
				50	0	2	20.9	21.5	20.30	17.3
				50	24	2	20.7	21.5	20.25	17.3
				50	49	2	20.6	21.3	20.20	17.2
				100	0	2	20.7	21.3	20.10	17.2
	19100	1900.0	QPSK	1	0	0	22.4	23.0	22.25	19.3
				1	49	0	22.5	23.0	22.25	19.3
				1	99	0	22.5	23.0	22.25	19.3
				50	0	1	21.8	22.4	21.25	18.3
				50	24	1	21.9	22.9	21.25	18.3
				50	49	1	21.8	22.6	21.20	18.3
				100	0	1	21.7	22.7	21.25	18.3
			16QAM	1	0	1	21.5	22.2	21.10	18.1
				1	49	1	21.5	22.1	21.20	18.2
				1	99	1	21.5	22.0	21.10	18.2
				50	0	2	21.1	21.5	20.20	17.2
				50	24	2	21.2	21.9	20.30	17.2
				50	49	2	20.8	21.2	20.25	17.2
				100	0	2	20.9	21.6	20.10	17.1

LTE Band 2 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
15	18675	1857.5	QPSK	1	0	0	22.5	23.0	22.25	19.2
				1	37	0	22.5	23.0	22.25	19.1
				1	74	0	22.3	23.0	22.20	19.2
				36	0	1	21.9	22.2	21.25	18.2
				36	16	1	21.7	22.2	21.20	18.2
				36	35	1	21.7	22.3	21.10	18.1
				75	0	1	21.8	22.2	21.10	18.1
			16QAM	1	0	1	21.5	22.1	21.20	18.2
				1	37	1	21.6	22.1	21.10	18.1
				1	74	1	21.5	22.0	21.20	18.1
				36	0	2	21.2	21.6	20.20	17.1
				36	16	2	20.9	21.3	20.20	17.2
				36	35	2	20.9	21.3	20.10	17.1
				75	0	2	21.0	21.3	20.10	17.2
	18900	1880.0	QPSK	1	0	0	22.2	23.0	22.20	19.2
				1	37	0	22.5	22.9	22.25	19.1
				1	74	0	22.4	22.9	22.25	19.1
				36	0	1	21.6	22.3	21.20	18.1
				36	16	1	21.7	22.3	21.20	18.2
				36	35	1	21.5	22.1	21.20	18.2
				75	0	1	21.5	22.1	21.25	18.2
			16QAM	1	0	1	21.5	22.2	21.10	18.1
				1	37	1	21.6	22.1	21.20	18.1
				1	74	1	21.5	22.1	21.20	18.1
				36	0	2	20.8	21.6	20.30	17.0
				36	16	2	21.0	21.4	20.25	17.1
				36	35	2	20.6	21.2	20.20	17.0
				75	0	2	20.8	21.4	20.10	17.0
	19125	1902.5	QPSK	1	0	0	22.5	23.0	22.25	19.1
				1	37	0	22.4	23.0	22.25	19.1
				1	74	0	22.5	23.0	22.25	19.1
				36	0	1	21.9	22.5	21.25	18.2
				36	16	1	21.8	22.7	21.25	18.1
				36	35	1	21.8	22.4	21.20	18.1
				75	0	1	21.9	22.5	21.25	18.1
			16QAM	1	0	1	21.5	22.2	21.10	18.1
				1	37	1	21.5	22.2	21.20	18.2
				1	74	1	21.4	22.1	21.10	18.2
				36	0	2	21.0	21.6	20.20	17.1
				36	16	2	20.9	21.8	20.30	17.3
				36	35	2	20.9	21.5	20.25	17.3
				75	0	2	20.5	21.6	20.10	17.3

LTE Band 2 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
10	18650	1855.0	QPSK	1	0	0	22.4	23.0	22.10	19.2
				1	24	0	22.5	23.0	22.10	19.1
				1	49	0	22.4	23.0	22.10	19.2
				25	0	1	21.9	22.2	21.20	18.2
				25	12	1	21.9	22.2	21.20	18.2
				25	24	1	21.7	22.2	21.10	18.2
				50	0	1	21.7	22.2	21.00	18.1
			16QAM	1	0	1	21.5	22.2	21.20	18.3
				1	24	1	21.5	22.1	21.20	18.2
				1	49	1	21.4	22.1	21.10	18.2
				25	0	2	21.2	21.2	20.10	17.2
				25	12	2	20.9	21.3	20.10	17.2
				25	24	2	20.8	21.2	20.10	17.1
				50	0	2	20.9	21.1	20.00	17.2
	18900	1880.0	QPSK	1	0	0	22.3	23.0	22.20	19.1
				1	24	0	22.4	23.0	22.20	19.3
				1	49	0	22.3	22.9	22.10	19.2
				25	0	1	21.7	22.5	21.10	18.2
				25	12	1	21.8	22.2	21.10	18.2
				25	24	1	21.7	22.2	21.10	18.2
				50	0	1	21.7	22.3	21.20	18.1
			16QAM	1	0	1	21.4	22.1	21.20	18.2
				1	24	1	21.5	22.1	21.20	18.2
				1	49	1	21.3	22.2	21.20	18.1
				25	0	2	20.9	21.6	20.20	17.1
				25	12	2	20.9	21.4	20.25	17.2
				25	24	2	20.8	21.3	20.10	17.1
				50	0	2	20.7	21.3	20.10	17.1
	19150	1905.0	QPSK	1	0	0	22.4	23.0	22.10	19.1
				1	24	0	22.5	23.0	22.10	19.2
				1	49	0	22.5	22.9	22.20	19.1
				25	0	1	21.8	22.9	21.10	18.1
				25	12	1	21.8	22.5	21.30	18.2
				25	24	1	21.7	22.3	21.20	18.2
				50	0	1	21.9	22.1	21.20	18.1
			16QAM	1	0	1	21.5	22.1	21.10	18.2
				1	24	1	21.5	22.1	21.10	18.1
				1	49	1	21.6	22.0	21.10	18.3
				25	0	2	20.9	21.9	20.10	17.2
				25	12	2	21.0	21.6	20.10	17.2
				25	24	2	20.9	21.4	20.10	17.3
				50	0	2	20.9	21.4	20.20	17.1

LTE Band 2 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
5	18625	1855.0	QPSK	1	0	0	22.4	23.0	22.10	19.2
				1	12	0	22.5	23.0	22.10	19.1
				1	24	0	22.5	22.9	22.10	19.2
				12	0	1	22.0	22.1	21.20	18.2
				12	6	1	22.1	22.3	21.20	18.2
				12	11	1	22.0	22.2	21.10	18.2
				25	0	1	21.9	22.2	21.00	18.1
			16QAM	1	0	1	21.5	21.9	21.20	18.3
				1	12	1	21.5	22.0	21.20	18.2
				1	24	1	21.3	22.0	21.10	18.2
				12	0	2	21.0	21.2	20.10	17.2
				12	6	2	21.2	21.3	20.10	17.2
				12	11	2	21.1	21.3	20.10	17.1
				25	0	2	20.9	21.2	20.00	17.2
	18900	1880.0	QPSK	1	0	0	22.4	23.0	22.20	19.1
				1	12	0	22.5	23.0	22.20	19.3
				1	24	0	22.2	22.9	22.10	19.2
				12	0	1	21.9	22.5	21.10	18.2
				12	6	1	21.8	22.4	21.10	18.2
				12	11	1	21.9	22.4	21.10	18.2
				25	0	1	21.8	22.3	21.20	18.1
			16QAM	1	0	1	21.5	22.4	21.20	18.2
				1	12	1	21.4	22.2	21.20	18.2
				1	24	1	21.2	21.9	21.20	18.1
				12	0	2	21.0	21.5	20.20	17.1
				12	6	2	20.9	21.6	20.25	17.2
				12	11	2	20.9	21.4	20.10	17.1
				25	0	2	20.8	21.4	20.10	17.1
	19175	1907.5	QPSK	1	0	0	22.5	23.0	22.10	19.1
				1	12	0	22.4	23.0	22.10	19.2
				1	24	0	22.4	22.9	22.20	19.1
				12	0	1	21.8	22.9	21.10	18.1
				12	6	1	21.9	22.6	21.30	18.2
				12	11	1	22.0	22.4	21.20	18.2
				25	0	1	21.7	22.6	21.20	18.1
			16QAM	1	0	1	21.5	22.4	21.10	18.2
				1	12	1	21.4	22.1	21.10	18.1
				1	24	1	21.3	22.0	21.10	18.3
				12	0	2	20.9	22.0	20.10	17.2
				12	6	2	20.9	21.8	20.10	17.2
				12	11	2	20.9	21.6	20.10	17.3
				25	0	2	20.8	21.6	20.20	17.1

LTE Band 2 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
3	18615	1851.5	QPSK	1	0	0	22.4	23.0	22.20	19.2
				1	7	0	22.5	22.9	22.10	19.2
				1	14	0	22.5	23.0	22.20	19.2
				8	0	1	21.9	22.2	21.10	18.1
				8	4	1	22.0	22.2	21.20	18.2
				8	7	1	22.0	22.3	21.00	18.0
				15	0	1	21.9	22.2	21.10	18.1
			16QAM	1	0	1	21.5	22.0	21.20	18.1
				1	7	1	21.5	22.0	21.10	18.1
				1	14	1	21.2	22.0	21.10	18.2
				8	0	2	20.8	21.2	20.20	17.1
				8	4	2	21.0	21.4	20.20	17.2
				8	7	2	21.0	21.5	20.10	17.1
				15	0	2	21.0	21.2	20.10	17.1
	18900	1880.0	QPSK	1	0	0	22.5	23.0	22.10	19.1
				1	7	0	22.4	22.9	22.20	19.2
				1	14	0	22.2	22.9	22.10	19.2
				8	0	1	21.9	22.3	21.20	18.1
				8	4	1	21.9	22.4	21.20	18.1
				8	7	1	21.9	22.4	21.20	18.2
				15	0	1	21.5	22.4	21.20	18.2
			16QAM	1	0	1	21.5	22.1	21.10	18.1
				1	7	1	21.4	22.0	21.20	18.1
				1	14	1	21.3	22.0	21.10	18.2
				8	0	2	20.9	21.3	20.10	17.2
				8	4	2	20.8	21.5	20.20	17.1
				8	7	2	20.8	21.3	20.20	17.1
				15	0	2	20.9	21.5	20.10	17.1
	19185	1908.5	QPSK	1	0	0	22.5	23.0	22.20	19.2
				1	7	0	22.5	23.0	22.20	19.1
				1	14	0	22.5	22.9	22.10	19.2
				8	0	1	22.0	22.4	21.20	18.3
				8	4	1	22.0	22.4	21.20	18.1
				8	7	1	22.1	22.4	21.10	18.2
				15	0	1	21.5	22.4	21.20	18.1
			16QAM	1	0	1	21.5	22.1	21.10	18.0
				1	7	1	21.4	22.1	21.10	18.2
				1	14	1	21.2	22.1	21.10	18.2
				8	0	2	21.3	21.4	20.20	17.1
				8	4	2	21.0	21.4	20.20	17.2
				8	7	2	21.0	21.4	20.10	17.1
				15	0	2	21.2	21.5	20.20	17.1

LTE Band 2 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
1.4	18607	1850.7	QPSK	1	0	0	22.4	23.0	22.20	19.2
				1	2	0	22.4	23.0	22.10	19.2
				1	5	0	22.5	23.0	22.20	19.2
				3	0	0	22.4	23.0	22.10	19.1
				3	1	0	22.4	22.9	22.20	19.2
				3	2	0	22.4	22.0	22.10	19.2
				6	0	1	21.9	21.7	21.10	18.2
			16QAM	1	0	1	21.5	22.0	21.10	18.1
				1	2	1	21.5	22.0	21.20	18.2
				1	5	1	21.1	22.0	21.10	18.2
				3	0	1	20.9	22.1	21.10	18.1
				3	1	1	21.1	21.1	21.10	18.1
				3	2	1	21.1	21.0	21.20	18.0
				6	0	2	20.8	21.2	20.10	17.0
	18900	1880.0	QPSK	1	0	0	22.5	23.0	22.10	19.1
				1	2	0	22.4	23.0	22.20	19.2
				1	5	0	22.4	23.0	22.10	19.2
				3	0	0	22.4	23.0	22.00	19.1
				3	1	0	22.4	22.0	22.10	19.0
				3	2	0	22.4	22.0	22.10	19.1
				6	0	1	21.6	22.1	21.20	18.2
			16QAM	1	0	1	21.5	22.0	21.10	18.1
				1	2	1	21.5	22.0	21.20	18.1
				1	5	1	21.5	22.0	21.20	18.2
				3	0	1	21.4	21.6	21.20	18.1
				3	1	1	21.2	21.5	21.00	18.0
				3	2	1	20.9	21.0	21.10	18.0
				6	0	2	20.8	21.1	20.20	17.1
	19193	1909.3	QPSK	1	0	0	22.5	23.0	22.20	19.2
				1	2	0	22.5	22.9	22.20	19.1
				1	5	0	22.5	22.9	22.10	19.2
				3	0	0	22.5	23.0	22.10	19.1
				3	1	0	22.5	23.0	22.00	19.0
				3	2	0	22.5	23.0	22.00	19.0
				6	0	1	22.2	22.1	21.00	18.1
			16QAM	1	0	1	21.5	22.0	21.00	18.1
				1	2	1	21.4	22.0	21.20	18.1
				1	5	1	21.2	22.0	21.10	18.2
				3	0	1	21.3	21.6	21.10	18.0
				3	1	1	21.0	21.2	21.10	18.0
				3	2	1	21.0	21.2	21.00	18.1
				6	0	2	20.4	21.0	20.00	17.0

9.3.2. LTE Band 5

Measured Results

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
10	20450	829.0	QPSK	1	0	0	23.7	24.0	23.6	24.0
				1	24	0	23.7	24.0	23.7	24.0
				1	49	0	23.7	24.0	23.6	23.9
				25	0	1	22.6	22.9	22.4	22.9
				25	12	1	22.9	23.0	22.5	22.9
				25	24	1	22.7	23.0	22.5	22.9
				50	0	1	22.8	22.9	22.5	22.8
			16QAM	1	0	1	22.7	23.2	22.6	23.1
				1	24	1	22.7	23.3	22.5	23.0
				1	49	1	22.6	23.2	22.7	23.2
				25	0	2	21.6	22.1	21.5	22.1
				25	12	2	22.0	22.1	21.5	22.2
				25	24	2	21.8	22.0	21.5	22.0
				50	0	2	21.6	21.9	21.5	22.0
	20525	836.5	QPSK	1	0	0	23.7	24.0	23.6	24.0
				1	24	0	23.7	24.0	23.7	24.0
				1	49	0	23.7	24.0	23.6	24.0
				25	0	1	22.8	22.8	22.5	22.9
				25	12	1	22.9	22.9	22.5	23.0
				25	24	1	22.8	22.9	22.5	23.0
				50	0	1	22.8	22.8	22.5	23.0
			16QAM	1	0	1	22.1	23.0	22.5	23.1
				1	24	1	22.8	23.2	22.6	23.1
				1	49	1	22.6	23.0	22.7	23.0
				25	0	2	21.8	21.9	21.6	22.1
				25	12	2	22.0	21.9	21.6	22.0
				25	24	2	21.4	21.9	21.7	22.1
				50	0	2	21.3	21.7	21.6	22.1
	20600	844.0	QPSK	1	0	0	23.7	23.9	23.6	24.0
				1	24	0	23.7	24.0	23.6	24.0
				1	49	0	23.7	24.0	23.6	24.0
				25	0	1	22.8	22.8	22.5	23.0
				25	12	1	22.7	22.9	22.6	23.0
				25	24	1	23.1	23.2	22.6	23.0
				50	0	1	22.7	22.9	22.6	23.0
			16QAM	1	0	1	22.8	23.3	22.6	23.1
				1	24	1	22.7	23.2	22.7	23.1
				1	49	1	22.7	23.0	22.5	23.0
				25	0	2	21.6	21.9	21.7	22.2
				25	12	2	21.6	22.0	21.6	22.1
				25	24	2	21.2	22.3	21.6	22.0
				50	0	2	21.1	21.9	21.6	22.0

LTE Band 5 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
5	20425	826.5	QPSK	1	0	0	23.7	24.0	23.6	23.9
				1	12	0	23.7	24.0	23.6	23.8
				1	24	0	23.7	24.0	23.5	23.9
				12	0	1	22.6	23.2	22.3	22.8
				12	6	1	22.7	23.3	22.4	22.7
				12	11	1	22.9	23.0	22.5	22.7
				25	0	1	22.6	23.2	22.3	22.8
			16QAM	1	0	1	22.8	23.3	22.5	22.9
				1	12	1	22.8	23.3	22.5	23.0
				1	24	1	22.7	23.0	22.7	23.1
				12	0	2	21.7	22.3	21.5	22.1
				12	6	2	21.8	22.5	21.4	22.1
				12	11	2	22.0	22.5	21.4	22.0
				25	0	2	21.7	22.3	21.4	22.1
	20525	836.5	QPSK	1	0	0	23.6	24.0	23.5	23.9
				1	12	0	23.6	23.9	23.5	23.9
				1	24	0	23.6	23.9	23.6	23.8
				12	0	1	23.1	23.1	22.5	22.9
				12	6	1	23.0	23.1	22.6	22.9
				12	11	1	22.9	23.1	22.5	23.0
				25	0	1	21.8	23.0	22.7	23.1
			16QAM	1	0	1	22.7	23.0	22.6	23.0
				1	12	1	22.8	23.2	22.6	23.0
				1	24	1	22.7	23.1	22.7	23.0
				12	0	2	22.0	22.2	21.5	22.0
				12	6	2	22.1	22.3	21.6	22.1
				12	11	2	22.0	22.2	21.5	22.0
				25	0	2	21.8	22.0	21.5	22.1
	20625	846.5	QPSK	1	0	0	23.6	24.0	23.5	23.8
				1	12	0	23.6	23.9	23.5	23.8
				1	24	0	23.4	23.9	23.6	23.8
				12	0	1	22.9	23.2	22.5	22.9
				12	6	1	23.2	23.0	22.6	22.8
				12	11	1	22.9	23.3	22.5	22.7
				25	0	1	23.1	23.0	22.6	22.7
			16QAM	1	0	1	22.8	23.2	22.6	23.0
				1	12	1	22.7	23.3	22.5	23.2
				1	24	1	22.7	23.4	22.5	23.0
				12	0	2	22.0	22.3	21.6	22.1
				12	6	2	22.4	22.2	21.6	22.1
				12	11	2	21.4	22.5	21.5	22.0
				25	0	2	21.4	22.0	21.6	22.1

LTE Band 5 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
3	20415	825.5	QPSK	1	0	0	23.7	24.0	23.6	23.8
				1	7	0	23.3	24.0	23.5	23.8
				1	14	0	23.7	24.0	23.5	23.7
				8	0	1	23.0	23.2	22.4	22.7
				8	4	1	22.9	23.2	22.4	22.7
				8	7	1	22.9	23.3	22.3	22.7
				15	0	1	22.8	23.2	22.4	22.8
			16QAM	1	0	1	22.6	23.1	22.6	23.0
				1	7	1	22.6	23.3	22.8	23.0
				1	14	1	22.6	23.4	22.7	23.0
				8	0	2	21.9	22.2	21.5	22.0
				8	4	2	21.8	22.5	21.4	22.1
				8	7	2	21.8	22.4	21.3	22.0
				15	0	2	21.7	22.3	21.4	22.0
	20525	836.5	QPSK	1	0	0	23.7	24.0	23.5	23.8
				1	7	0	23.6	24.0	23.6	23.8
				1	14	0	23.7	24.0	23.6	23.8
				8	0	1	23.1	23.2	22.4	22.8
				8	4	1	22.9	23.2	22.6	22.9
				8	7	1	22.9	23.2	22.5	22.9
				15	0	1	22.9	23.0	22.6	23.0
			16QAM	1	0	1	22.8	23.1	22.5	23.0
				1	7	1	22.8	23.1	22.7	23.1
				1	14	1	22.7	23.1	22.5	23.0
				8	0	2	22.0	22.4	21.5	22.0
				8	4	2	21.9	22.1	21.6	22.1
				8	7	2	21.8	22.0	21.5	22.1
				15	0	2	22.1	22.3	21.5	22.1
	20635	847.5	QPSK	1	0	0	23.6	24.0	23.6	23.7
				1	7	0	23.7	23.9	23.5	23.7
				1	14	0	23.2	23.8	23.6	23.8
				8	0	1	23.1	23.4	22.5	22.8
				8	4	1	22.9	23.3	22.7	22.8
				8	7	1	22.7	23.1	22.5	22.7
				15	0	1	22.8	23.4	22.5	22.6
			16QAM	1	0	1	22.8	23.1	22.6	23.1
				1	7	1	22.7	23.0	22.6	23.2
				1	14	1	22.7	23.0	22.5	23.0
				8	0	2	22.1	22.1	21.6	22.1
				8	4	2	22.0	22.3	21.5	22.2
				8	7	2	21.8	22.3	21.5	22.0
				15	0	2	21.9	22.5	21.5	22.1

LTE Band 5 Measured Results (continued)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)			
							HEAD		BODY	
							UAT	LAT	UAT	LAT
1.4	20407	824.7	QPSK	1	0	0	23.7	24.0	23.6	23.8
				1	2	0	23.6	24.0	23.7	23.8
				1	5	0	23.7	23.9	23.5	23.7
				3	0	0	23.7	24.0	23.6	23.7
				3	1	0	23.6	24.0	23.5	23.7
				3	2	0	23.6	23.9	23.6	23.6
				6	0	1	22.8	23.1	21.7	22.9
			16QAM	1	0	1	22.8	23.1	21.6	22.9
				1	2	1	22.7	23.1	21.7	22.8
				1	5	1	22.7	23.0	21.7	22.7
				3	0	1	22.5	23.0	21.6	22.7
				3	1	1	22.6	22.8	21.6	22.7
				3	2	1	21.9	22.9	21.5	22.7
				6	0	2	21.8	22.1	20.7	21.8
	20525	836.5	QPSK	1	0	0	23.6	24.0	23.6	23.8
				1	2	0	23.6	23.8	23.5	23.8
				1	5	0	23.5	24.0	23.5	23.7
				3	0	0	23.5	23.8	23.5	23.7
				3	1	0	23.5	23.8	23.7	23.8
				3	2	0	23.5	23.9	23.6	23.7
				6	0	1	22.9	23.1	21.7	22.9
			16QAM	1	0	1	22.7	23.1	21.8	22.9
				1	2	1	22.7	23.1	21.8	22.8
				1	5	1	22.7	23.1	21.7	22.8
				3	0	1	22.6	22.8	21.7	22.7
				3	1	1	22.5	22.9	21.7	22.8
				3	2	1	22.3	23.0	21.6	22.7
				6	0	2	21.9	22.1	21.6	21.8
	20643	848.3	QPSK	1	0	0	23.6	24.0	23.6	23.8
				1	2	0	23.5	24.0	23.5	23.8
				1	5	0	23.3	23.9	23.5	23.7
				3	0	0	23.5	23.9	23.5	23.7
				3	1	0	23.5	23.9	23.6	23.7
				3	2	0	23.4	23.9	23.6	23.8
				6	0	1	22.7	23.4	22.7	22.8
			16QAM	1	0	1	22.8	23.3	22.7	22.8
				1	2	1	22.7	23.1	22.8	22.8
				1	5	1	22.7	23.1	22.7	22.7
				3	0	1	22.6	23.0	22.7	22.7
				3	1	1	22.4	23.0	22.6	22.7
				3	2	1	22.5	22.9	22.8	22.8
				6	0	2	21.6	22.1	21.7	22.7

9.4. WiFi (2.4 GHz Band)

Required Test Channels per KDB 248227 D01

Mode	Band	GHz	Channel	"Default Test Channels"	
				802.11b	802.11g
802.11b/g	2.4 GHz	**2.412**	1#	√	∇
		2.437	6	√	∇
		2.462	11#	√	∇

Notes:
√ = "default test channels"
∇ = possible 802.11g channels with maximum average output ¼ dB ≥ the "default test channels"
= when output power is reduced for channel 1 and /or 11 to meet restricted band requirements the highest output channels closest to each of these channels should be tested.

Measured Results

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)		
				Vendor A	Vendor B	Vendor C
2.4 (DTS)	802.11b	1	2412	14.5	14.4	14.5
		6	2437	14.5	14.5	14.5
		11	2462	14.5	14.5	14.5
		12	2467	14.5	14.5	14.5
		13	2472	14.5	14.5	14.5
	802.11g	1	2412	14.4	14.5	14.4
		6	2437	14.5	14.5	14.5
		11	2462	14.4	14.3	14.5
		12	2467	12.0	12.0	12.0
		13	2472	5.0	5.0	5.0
	802.11n (HT20)	1	2412	14.5	14.5	14.4
		6	2437	14.5	14.4	14.5
		11	2462	14.4	14.5	14.3
		12	2467	12.0	12.0	12.0
		13	2472	5.0	5.0	5.0

Note(s):

1. Per KDB 248227 D01, SAR is not required for 802.11g/HT20 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.
2. Additionally, SAR is not required for Channels 12 and 13 because the tune-up limit and the measured output power for these two channels are no greater than those for the default test channels.

9.5. WiFi (5 GHz Bands)

Required Test Channels per KDB 248227 D01

Mode		Band	GHz	Channel	"Default Test Channels"	
					802.11a	
802.11a	UNII (15.407)	5.2 GHz	5.180	36	√	
			5.200	40		*
			2.220	44		*
			5.240	48	√	
		5.3 GHz	5.260	52	√	
			5.280	56		*
			5.300	60		*
			5.320	64	√	
		5.5 GHz	5.500	100		
			5.520	104	√	
			5.540	108		*
			5.560	112		*
			5.580	116	√	
			5.600	120		*
			5.620	124	√	
			5.640	128		*
			5.660	132		*
			5.680	136	√	
			5.700	140		*
	DTS (15.247)	5.8 GHz	5.745	149	√	
			5.765	153		*
			5.785	157	√	
			5.805	161		*
			5.825	165	√	

√ = "default test channels"

* = possible 802.11a channels with maximum average output > the "default test channels"

= when output power is reduced for channel 1 and /or 11 to meet restricted band requirements the highest output channels closest to each of these channels should be tested.

Measured Results

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)		
				Vendor A	Vendor B	Vendor C
5.2 (UNII)	802.11a	36	5180	14.0	14.0	14.0
		40	5200	13.9	14.0	13.9
		44	5220	13.9	13.9	14.0
		48	5240	14.0	14.0	14.0
	802.11n (HT20)	36	5180	14.0	13.9	14.0
		40	5200	14.0	14.0	13.9
		48	5240	13.5	13.7	13.8
	802.11n (HT40)	38	5190	14.0	14.0	14.0
		46	5230	13.9	14.0	13.8
5.3 (UNII)	802.11a	52	5260	15.0	15.0	15.0
		56	5280	15.0	15.0	14.9
		60	5300	15.0	14.9	14.9
		64	5320	14.9	14.9	14.9
	802.11n (HT20)	52	5260	15.0	15.0	15.0
		60	5300	15.0	14.9	15.0
		64	5320	14.9	14.9	14.9
	802.11n (HT40)	54	5270	15.0	15.0	15.0
		62	5310	15.0	15.0	15.0
5.5 (UNII)	802.11a	100	5500	15.5	15.4	15.5
		104	5520	15.5	15.5	15.5
		108	5540	15.5	15.5	15.4
		112	5560	15.5	15.4	15.5
		116	5580	15.5	15.5	15.5
		120	5600	15.4	15.4	15.4
		124	5620	15.5	15.5	15.5
		128	5640	15.4	15.4	15.5
		132	5660	15.4	15.4	15.4
		136	5680	15.5	15.5	15.5
		140	5700	15.5	15.5	15.5
	802.11n (HT20)	100	5500	15.5	15.5	15.3
		116	5580	15.5	15.3	15.5
		140	5700	15.5	15.5	15.4
	802.11n (HT40)	102	5510	15.4	15.4	15.5
		118	5590	15.5	15.3	15.3
		134	5670	15.5	15.5	15.5
5.8 (DTS)	802.11a	149	5745	16.0	16.0	15.9
		153	5765	16.0	15.9	16.0
		157	5785	16.0	16.0	16.0
		161	5805	15.9	15.9	15.9
		165	5825	15.9	15.9	16.0
	802.11n (HT20)	149	5745	16.0	16.0	15.9
		157	5785	15.8	15.8	16.0
		165	5825	15.6	15.8	15.6
	802.11n (HT40)	151	5755	16.0	16.0	15.8
		159	5795	15.9	15.9	16.0

Note(s):

1. SAR is not required for 802.11n HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels. As per KDB 248227

9.6. Bluetooth

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)		
				Vendor A	Vendor B	Vendor C
2.4	V3.0 + EDR, GFSK	0	2402	11.3	11.5	11.7
		39	2441	12.8	12.9	13.0
		78	2480	11.8	11.7	11.5
	V3.0 + EDR, 8-DPSK	0	2402	10.3	10.3	10.5
		39	2441	12.2	12.0	12.1
		78	2480	10.3	10.3	10.4
	V4.0 LE, GFSK	0	2402	7.5	7.6	7.8
		19	2440	7.9	7.8	7.8
		39	2480	7.5	7.6	7.6

10. Tissue Dielectric Properties

IEEE Std 1528-2003 Table 2

Target Frequency (MHz)	Head	
	ε_r	σ (S/m)
300	45.3	0.87
450	43.5	0.87
835	41.5	0.90
900	41.5	0.97
1450	40.5	1.20
1800 – 2000	40.0	1.40
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r01

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

10.1. Composition of Ingredients for the Tissue Material Used in the SAR Tests

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

Salt: 99+% Pure Sodium Chloride Sugar: 98+% Pure Sucrose
Water: De-ionized, 16 MΩ+ resistivity HEC: Hydroxyethyl Cellulose
DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1, 3, 3-tetramethylbutyl)phenyl]ether

MSL/HSL750 (Body and Head liquids for 700 – 800 MHz)

Item	Head Tissue Simulation Liquids HSL750 Muscle (body) Tissue Simulation Liquids MSL750
Type No	SL AAH 075
Manufacturer	SPEAG
The item is composed of the following ingredients:	
H^2O	Water, 35 – 58%
Sucrese	Sugar, white, refined, 40-60%
NaCl	Sodium Chloride, 0-6%
Hydroxyethel-cellulsoe	Medium Viscosity (CAS# 9004-62-0), <0.3%
Preventol-D7	Preservative: aqueous preparation, (CAS# 55965-84-9), containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone, 0.1-0.7%

MSL/HSL1750 (Body and Head liquids for 1700 – 1800 MHz)

Item	Head Tissue Simulation Liquids HSL1750 Muscle (body) Tissue Simulation Liquids MSL1750
Type No	SL AAM 175
Manufacturer	SPEAG
-The item is composed of the following ingredients:	
H^2O	Water, 52 – 75%
C8H18O3	Diethylene glycol monobutyl ether (DGBE), 25-48%
NaCl	Sodium Chloride, <1.0%

Simulating Liquids for 5 GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	78
Mineral oil	11
Emulsifiers	9
Additives and Salt	2

10.2. Tissue Dielectric Parameter Check Results

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.

SAR Room A

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/17/2013	Head 2450	e'	38.6900	Relative Permittivity (ε_r):	38.69	39.20	-1.30	5
		e"	13.0300	Conductivity (σ):	1.78	1.80	-1.39	5
	Head 2410	e'	38.8300	Relative Permittivity (ε_r):	38.83	39.28	-1.14	5
		e"	12.9000	Conductivity (σ):	1.73	1.76	-1.81	5
	Head 2475	e'	38.5800	Relative Permittivity (ε_r):	38.58	39.17	-1.50	5
		e"	13.0900	Conductivity (σ):	1.80	1.83	-1.40	5
6/17/2013	Body 2450	e'	51.2300	Relative Permittivity (ε_r):	51.23	52.70	-2.79	5
		e"	14.8200	Conductivity (σ):	2.02	1.95	3.53	5
	Body 2410	e'	51.3100	Relative Permittivity (ε_r):	51.31	52.76	-2.75	5
		e"	14.7100	Conductivity (σ):	1.97	1.91	3.34	5
	Body 2475	e'	51.1500	Relative Permittivity (ε_r):	51.15	52.67	-2.88	5
		e"	14.8800	Conductivity (σ):	2.05	1.99	3.15	5
6/20/2013	Head 2450	e'	38.2200	Relative Permittivity (ε_r):	38.22	39.20	-2.50	5
		e"	13.4000	Conductivity (σ):	1.83	1.80	1.41	5
	Head 2410	e'	38.3800	Relative Permittivity (ε_r):	38.38	39.28	-2.29	5
		e"	13.3500	Conductivity (σ):	1.79	1.76	1.62	5
	Head 2475	e'	38.1200	Relative Permittivity (ε_r):	38.12	39.17	-2.68	5
		e"	13.4800	Conductivity (σ):	1.86	1.83	1.54	5
6/20/2013	Body 2450	e'	51.3600	Relative Permittivity (ε_r):	51.36	52.70	-2.54	5
		e"	13.7200	Conductivity (σ):	1.87	1.95	-4.15	5
	Body 2410	e'	51.5100	Relative Permittivity (ε_r):	51.51	52.76	-2.37	5
		e"	13.6500	Conductivity (σ):	1.83	1.91	-4.11	5
	Body 2475	e'	51.2700	Relative Permittivity (ε_r):	51.27	52.67	-2.66	5
		e"	13.8400	Conductivity (σ):	1.90	1.99	-4.06	5
7/6/2013	Head 835	e'	41.0300	Relative Permittivity (ε_r):	41.03	41.50	-1.13	5
		e"	19.8800	Conductivity (σ):	0.92	0.90	2.56	5
	Head 820	e'	41.2000	Relative Permittivity (ε_r):	41.20	41.60	-0.97	5
		e"	19.9700	Conductivity (σ):	0.91	0.90	1.34	5
	Head 850	e'	40.8900	Relative Permittivity (ε_r):	40.89	41.50	-1.47	5
		e"	19.8100	Conductivity (σ):	0.94	0.92	2.32	5
7/9/2013	Head 835	e'	40.1100	Relative Permittivity (ε_r):	40.11	41.50	-3.35	5
		e"	19.3300	Conductivity (σ):	0.90	0.90	-0.28	5
	Head 820	e'	40.2900	Relative Permittivity (ε_r):	40.29	41.60	-3.16	5
		e"	19.3800	Conductivity (σ):	0.88	0.90	-1.65	5
	Head 850	e'	39.9400	Relative Permittivity (ε_r):	39.94	41.50	-3.76	5
		e"	19.3000	Conductivity (σ):	0.91	0.92	-0.31	5

SAR Room B

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/1/2013	Head 1900	e'	38.5400	Relative Permittivity (ε_r):	38.54	40.00	-3.65	5
		e"	13.2600	Conductivity (σ):	1.40	1.40	0.06	5
	Head 1850	e'	38.3200	Relative Permittivity (ε_r):	38.32	40.00	-4.20	5
		e"	13.3500	Conductivity (σ):	1.37	1.40	-1.91	5
	Head 1910	e'	38.2600	Relative Permittivity (ε_r):	38.26	40.00	-4.35	5
		e"	13.3800	Conductivity (σ):	1.42	1.40	1.50	5
7/1/2013	Body 1900	e'	51.9300	Relative Permittivity (ε_r):	51.93	53.30	-2.57	5
		e"	14.1600	Conductivity (σ):	1.50	1.52	-1.58	5
	Body 1850	e'	52.1100	Relative Permittivity (ε_r):	52.11	53.30	-2.23	5
		e"	14.0500	Conductivity (σ):	1.45	1.52	-4.92	5
	Body 1910	e'	51.8800	Relative Permittivity (ε_r):	51.88	53.30	-2.66	5
		e"	14.1900	Conductivity (σ):	1.51	1.52	-0.85	5
7/5/2013	Head 1900	e'	38.1100	Relative Permittivity (ε_r):	38.11	40.00	-4.73	5
		e"	13.5900	Conductivity (σ):	1.44	1.40	2.55	5
	Head 1850	e'	38.3500	Relative Permittivity (ε_r):	38.35	40.00	-4.13	5
		e"	13.4900	Conductivity (σ):	1.39	1.40	-0.88	5
	Head 1910	e'	38.0600	Relative Permittivity (ε_r):	38.06	40.00	-4.85	5
		e"	13.6000	Conductivity (σ):	1.44	1.40	3.17	5
7/5/2013	Body 1900	e'	51.3300	Relative Permittivity (ε_r):	51.33	53.30	-3.70	5
		e"	14.6000	Conductivity (σ):	1.54	1.52	1.48	5
	Body 1850	e'	51.5400	Relative Permittivity (ε_r):	51.54	53.30	-3.30	5
		e"	14.4800	Conductivity (σ):	1.49	1.52	-2.01	5
	Body 1910	e'	51.2900	Relative Permittivity (ε_r):	51.29	53.30	-3.77	5
		e"	14.6200	Conductivity (σ):	1.55	1.52	2.15	5
7/9/2013	Head 1900	e'	38.5800	Relative Permittivity (ε_r):	38.58	40.00	-3.55	5
		e"	13.3600	Conductivity (σ):	1.41	1.40	0.82	5
	Head 1850	e'	38.8000	Relative Permittivity (ε_r):	38.80	40.00	-3.00	5
		e"	13.2600	Conductivity (σ):	1.36	1.40	-2.57	5
	Head 1910	e'	38.5300	Relative Permittivity (ε_r):	38.53	40.00	-3.68	5
		e"	13.3800	Conductivity (σ):	1.42	1.40	1.50	5
7/12/2013	Head 1900	e'	41.1800	Relative Permittivity (ε_r):	41.18	40.00	2.95	5
		e"	13.3100	Conductivity (σ):	1.41	1.40	0.44	5
	Head 1850	e'	41.3800	Relative Permittivity (ε_r):	41.38	40.00	3.45	5
		e"	13.2100	Conductivity (σ):	1.36	1.40	-2.94	5
	Head 1910	e'	41.1400	Relative Permittivity (ε_r):	41.14	40.00	2.85	5
		e"	13.3300	Conductivity (σ):	1.42	1.40	1.12	5

SAR Room C

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/6/2013	Head 5180	e'	35.6200	Relative Permittivity (ε_r):	35.62	36.01	-1.09	5
		e"	15.5400	Conductivity (σ):	4.48	4.63	-3.34	5
	Head 5200	e'	35.5900	Relative Permittivity (ε_r):	35.59	35.99	-1.11	5
		e"	15.5500	Conductivity (σ):	4.50	4.65	-3.33	5
	Head 5600	e'	35.0600	Relative Permittivity (ε_r):	35.06	35.53	-1.33	5
		e"	15.7600	Conductivity (σ):	4.91	5.06	-3.02	5
	Head 5800	e'	34.8100	Relative Permittivity (ε_r):	34.81	35.30	-1.39	5
		e"	15.8400	Conductivity (σ):	5.11	5.27	-3.07	5
	Head 5825	e'	34.7400	Relative Permittivity (ε_r):	34.74	35.30	-1.59	5
		e"	15.9100	Conductivity (σ):	5.15	5.27	-2.22	5
6/6/2013	Body 5180	e'	49.2700	Relative Permittivity (ε_r):	49.27	49.05	0.46	5
		e"	18.5900	Conductivity (σ):	5.35	5.27	1.57	5
	Body 5200	e'	49.2800	Relative Permittivity (ε_r):	49.28	49.02	0.53	5
		e"	18.6500	Conductivity (σ):	5.39	5.29	1.84	5
	Body 5600	e'	48.6400	Relative Permittivity (ε_r):	48.64	48.48	0.33	5
		e"	18.9900	Conductivity (σ):	5.91	5.76	2.64	5
	Body 5800	e'	48.3900	Relative Permittivity (ε_r):	48.39	48.20	0.39	5
		e"	19.1800	Conductivity (σ):	6.19	6.00	3.09	5
	Body 5825	e'	48.3000	Relative Permittivity (ε_r):	48.30	48.20	0.21	5
		e"	19.2800	Conductivity (σ):	6.24	6.00	4.08	5
6/10/2013	Head 5180	e'	36.6100	Relative Permittivity (ε_r):	36.61	36.01	1.66	5
		e"	15.7800	Conductivity (σ):	4.55	4.63	-1.85	5
	Head 5200	e'	36.6100	Relative Permittivity (ε_r):	36.61	35.99	1.72	5
		e"	15.6400	Conductivity (σ):	4.52	4.65	-2.77	5
	Head 5600	e'	35.7800	Relative Permittivity (ε_r):	35.78	35.53	0.69	5
		e"	15.6100	Conductivity (σ):	4.86	5.06	-3.95	5
	Head 5800	e'	35.8500	Relative Permittivity (ε_r):	35.85	35.30	1.56	5
		e"	16.0500	Conductivity (σ):	5.18	5.27	-1.78	5
	Head 5825	e'	35.6800	Relative Permittivity (ε_r):	35.68	35.30	1.08	5
		e"	15.7800	Conductivity (σ):	5.11	5.27	-3.02	5
6/10/2013	Body 5180	e'	47.2000	Relative Permittivity (ε_r):	47.20	49.05	-3.77	5
		e"	18.6700	Conductivity (σ):	5.38	5.27	2.01	5
	Body 5200	e'	47.1400	Relative Permittivity (ε_r):	47.14	49.02	-3.83	5
		e"	18.4400	Conductivity (σ):	5.33	5.29	0.70	5
	Body 5600	e'	46.1100	Relative Permittivity (ε_r):	46.11	48.48	-4.88	5
		e"	18.5300	Conductivity (σ):	5.77	5.76	0.15	5
	Body 5800	e'	46.2900	Relative Permittivity (ε_r):	46.29	48.20	-3.96	5
		e"	19.1600	Conductivity (σ):	6.18	6.00	2.98	5
	Body 5825	e'	45.9800	Relative Permittivity (ε_r):	45.98	48.20	-4.61	5
		e"	18.7700	Conductivity (σ):	6.08	6.00	1.32	5

Tissue Dielectric Parameter Check Results (SAR Room C continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/13/2013	Head 5180	e'	37.2400	Relative Permittivity (ϵ_r):	37.24	36.01	3.41	5
		e"	16.1300	Conductivity (σ):	4.65	4.63	0.33	5
	Head 5200	e'	37.2100	Relative Permittivity (ϵ_r):	37.21	35.99	3.39	5
		e"	16.1400	Conductivity (σ):	4.67	4.65	0.34	5
	Head 5600	e'	36.6300	Relative Permittivity (ϵ_r):	36.63	35.53	3.08	5
		e"	16.3400	Conductivity (σ):	5.09	5.06	0.55	5
	Head 5800	e'	36.3300	Relative Permittivity (ϵ_r):	36.33	35.30	2.92	5
		e"	16.4900	Conductivity (σ):	5.32	5.27	0.91	5
	Head 5825	e'	36.3300	Relative Permittivity (ϵ_r):	36.33	35.30	2.92	5
		e"	16.4700	Conductivity (σ):	5.33	5.27	1.22	5
6/13/2013	Body 5180	e'	48.4500	Relative Permittivity (ϵ_r):	48.45	49.05	-1.22	5
		e"	18.4200	Conductivity (σ):	5.31	5.27	0.65	5
	Body 5200	e'	48.4100	Relative Permittivity (ϵ_r):	48.41	49.02	-1.24	5
		e"	18.4100	Conductivity (σ):	5.32	5.29	0.53	5
	Body 5600	e'	47.7700	Relative Permittivity (ϵ_r):	47.77	48.48	-1.46	5
		e"	18.8100	Conductivity (σ):	5.86	5.76	1.67	5
	Body 5800	e'	47.4400	Relative Permittivity (ϵ_r):	47.44	48.20	-1.58	5
		e"	19.0700	Conductivity (σ):	6.15	6.00	2.50	5
	Body 5825	e'	47.4000	Relative Permittivity (ϵ_r):	47.40	48.20	-1.66	5
		e"	19.0500	Conductivity (σ):	6.17	6.00	2.83	5
6/17/2013	Head 5180	e'	36.7800	Relative Permittivity (ϵ_r):	36.78	36.01	2.13	5
		e"	15.3400	Conductivity (σ):	4.42	4.63	-4.58	5
	Head 5200	e'	36.7200	Relative Permittivity (ϵ_r):	36.72	35.99	2.03	5
		e"	15.3400	Conductivity (σ):	4.44	4.65	-4.64	5
	Head 5600	e'	36.2000	Relative Permittivity (ϵ_r):	36.20	35.53	1.87	5
		e"	15.5500	Conductivity (σ):	4.84	5.06	-4.31	5
	Head 5800	e'	35.9300	Relative Permittivity (ϵ_r):	35.93	35.30	1.78	5
		e"	15.6600	Conductivity (σ):	5.05	5.27	-4.17	5
	Head 5825	e'	35.9100	Relative Permittivity (ϵ_r):	35.91	35.30	1.73	5
		e"	15.6700	Conductivity (σ):	5.08	5.27	-3.69	5
6/17/2013	Body 5180	e'	48.3900	Relative Permittivity (ϵ_r):	48.39	49.05	-1.34	5
		e"	18.3500	Conductivity (σ):	5.29	5.27	0.26	5
	Body 5200	e'	48.3500	Relative Permittivity (ϵ_r):	48.35	49.02	-1.37	5
		e"	18.3500	Conductivity (σ):	5.31	5.29	0.21	5
	Body 5600	e'	47.7300	Relative Permittivity (ϵ_r):	47.73	48.48	-1.54	5
		e"	18.7600	Conductivity (σ):	5.84	5.76	1.40	5
	Body 5800	e'	47.3800	Relative Permittivity (ϵ_r):	47.38	48.20	-1.70	5
		e"	18.9800	Conductivity (σ):	6.12	6.00	2.02	5
	Body 5825	e'	47.3200	Relative Permittivity (ϵ_r):	47.32	48.20	-1.83	5
		e"	18.9700	Conductivity (σ):	6.14	6.00	2.40	5
6/20/2013	Head 5180	e'	34.8200	Relative Permittivity (ϵ_r):	34.82	36.01	-3.31	5
		e"	15.5200	Conductivity (σ):	4.47	4.63	-3.46	5
	Head 5200	e'	34.7600	Relative Permittivity (ϵ_r):	34.76	35.99	-3.42	5
		e"	15.4700	Conductivity (σ):	4.47	4.65	-3.83	5
	Head 5600	e'	34.2200	Relative Permittivity (ϵ_r):	34.22	35.53	-3.70	5
		e"	15.6000	Conductivity (σ):	4.86	5.06	-4.01	5
	Head 5800	e'	33.8500	Relative Permittivity (ϵ_r):	33.85	35.30	-4.11	5
		e"	15.7700	Conductivity (σ):	5.09	5.27	-3.50	5
	Head 5825	e'	33.8100	Relative Permittivity (ϵ_r):	33.81	35.30	-4.22	5
		e"	15.7200	Conductivity (σ):	5.09	5.27	-3.39	5

Tissue Dielectric Parameter Check Results (SAR Room C continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/20/2013	Body 5180	e'	48.2200	Relative Permittivity (ϵ_r):	48.22	49.05	-1.69	5
		e"	18.0000	Conductivity (σ):	5.18	5.27	-1.65	5
	Body 5200	e'	48.1700	Relative Permittivity (ϵ_r):	48.17	49.02	-1.73	5
		e"	17.9700	Conductivity (σ):	5.20	5.29	-1.87	5
	Body 5600	e'	47.5300	Relative Permittivity (ϵ_r):	47.53	48.48	-1.95	5
		e"	18.1800	Conductivity (σ):	5.66	5.76	-1.74	5
	Body 5800	e'	47.1300	Relative Permittivity (ϵ_r):	47.13	48.20	-2.22	5
		e"	18.5200	Conductivity (σ):	5.97	6.00	-0.46	5
	Body 5825	e'	47.0800	Relative Permittivity (ϵ_r):	47.08	48.20	-2.32	5
		e"	18.4600	Conductivity (σ):	5.98	6.00	-0.35	5
6/24/2013	Head 5180	e'	36.7400	Relative Permittivity (ϵ_r):	36.74	36.01	2.02	5
		e"	15.5300	Conductivity (σ):	4.47	4.63	-3.40	5
	Head 5200	e'	36.7100	Relative Permittivity (ϵ_r):	36.71	35.99	2.00	5
		e"	15.5200	Conductivity (σ):	4.49	4.65	-3.52	5
	Head 5600	e'	36.1400	Relative Permittivity (ϵ_r):	36.14	35.53	1.71	5
		e"	15.7400	Conductivity (σ):	4.90	5.06	-3.15	5
	Head 5800	e'	35.8800	Relative Permittivity (ϵ_r):	35.88	35.30	1.64	5
		e"	15.8500	Conductivity (σ):	5.11	5.27	-3.01	5
	Head 5825	e'	35.8700	Relative Permittivity (ϵ_r):	35.87	35.30	1.61	5
		e"	15.8600	Conductivity (σ):	5.14	5.27	-2.53	5
6/24/2013	Body 5180	e'	49.0500	Relative Permittivity (ϵ_r):	49.05	49.05	0.01	5
		e"	18.8100	Conductivity (σ):	5.42	5.27	2.78	5
	Body 5200	e'	49.0400	Relative Permittivity (ϵ_r):	49.04	49.02	0.04	5
		e"	18.8400	Conductivity (σ):	5.45	5.29	2.88	5
	Body 5600	e'	48.3300	Relative Permittivity (ϵ_r):	48.33	48.48	-0.30	5
		e"	19.2000	Conductivity (σ):	5.98	5.76	3.77	5
	Body 5800	e'	48.0200	Relative Permittivity (ϵ_r):	48.02	48.20	-0.37	5
		e"	19.4400	Conductivity (σ):	6.27	6.00	4.49	5
	Body 5825	e'	47.9700	Relative Permittivity (ϵ_r):	47.97	48.20	-0.48	5
		e"	19.4200	Conductivity (σ):	6.29	6.00	4.83	5
6/27/2013	Body 5180	e'	47.7700	Relative Permittivity (ϵ_r):	47.77	49.05	-2.60	5
		e"	18.3800	Conductivity (σ):	5.29	5.27	0.43	5
	Body 5200	e'	47.7200	Relative Permittivity (ϵ_r):	47.72	49.02	-2.65	5
		e"	18.4300	Conductivity (σ):	5.33	5.29	0.64	5
	Body 5600	e'	47.1000	Relative Permittivity (ϵ_r):	47.10	48.48	-2.84	5
		e"	18.7700	Conductivity (σ):	5.84	5.76	1.45	5
	Body 5800	e'	46.8100	Relative Permittivity (ϵ_r):	46.81	48.20	-2.88	5
		e"	19.0100	Conductivity (σ):	6.13	6.00	2.18	5
	Body 5825	e'	46.7400	Relative Permittivity (ϵ_r):	46.74	48.20	-3.03	5
		e"	18.9800	Conductivity (σ):	6.15	6.00	2.46	5
6/28/2013	Head 5180	e'	35.5000	Relative Permittivity (ϵ_r):	35.50	36.01	-1.42	5
		e"	16.3900	Conductivity (σ):	4.72	4.63	1.95	5
	Head 5200	e'	35.4600	Relative Permittivity (ϵ_r):	35.46	35.99	-1.47	5
		e"	16.4000	Conductivity (σ):	4.74	4.65	1.95	5
	Head 5600	e'	34.7700	Relative Permittivity (ϵ_r):	34.77	35.53	-2.15	5
		e"	16.5800	Conductivity (σ):	5.16	5.06	2.02	5
	Head 5800	e'	34.4600	Relative Permittivity (ϵ_r):	34.46	35.30	-2.38	5
		e"	16.6800	Conductivity (σ):	5.38	5.27	2.07	5
	Head 5825	e'	34.4200	Relative Permittivity (ϵ_r):	34.42	35.30	-2.49	5
		e"	16.6900	Conductivity (σ):	5.41	5.27	2.57	5

Tissue Dielectric Parameter Check Results (SAR Room C continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/1/2013	Head 5180	e'	37.0000	Relative Permittivity (ϵ_r):	37.00	36.01	2.74	5
		e"	15.9900	Conductivity (σ):	4.61	4.63	-0.54	5
	Head 5200	e'	36.9300	Relative Permittivity (ϵ_r):	36.93	35.99	2.61	5
		e"	16.0000	Conductivity (σ):	4.63	4.65	-0.53	5
	Head 5600	e'	36.3100	Relative Permittivity (ϵ_r):	36.31	35.53	2.18	5
		e"	16.2800	Conductivity (σ):	5.07	5.06	0.18	5
	Head 5800	e'	36.0200	Relative Permittivity (ϵ_r):	36.02	35.30	2.04	5
		e"	16.3700	Conductivity (σ):	5.28	5.27	0.18	5
	Head 5825	e'	35.9600	Relative Permittivity (ϵ_r):	35.96	35.30	1.87	5
		e"	16.3900	Conductivity (σ):	5.31	5.27	0.73	5
7/1/2013	Body 5180	e'	47.3100	Relative Permittivity (εr):	47.31	49.05	-3.54	5
		e"	18.2300	Conductivity (σ):	5.25	5.27	-0.39	5
	Body 5200	e'	47.2700	Relative Permittivity (εr):	47.27	49.02	-3.57	5
		e"	18.2600	Conductivity (σ):	5.28	5.29	-0.28	5
	Body 5600	e'	46.6300	Relative Permittivity (εr):	46.63	48.48	-3.81	5
		e"	18.5800	Conductivity (σ):	5.79	5.76	0.42	5
	Body 5800	e'	46.3000	Relative Permittivity (εr):	46.30	48.20	-3.94	5
		e"	18.7400	Conductivity (σ):	6.04	6.00	0.73	5
	Body 5825	e'	46.2700	Relative Permittivity (εr):	46.27	48.20	-4.00	5
		e"	18.7900	Conductivity (σ):	6.09	6.00	1.43	5

SAR Room D

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/5/2013	Body 835	e'	52.6600	Relative Permittivity (ϵ_r):	52.66	55.20	-4.60	5
		e"	21.6800	Conductivity (σ):	1.01	0.97	3.77	5
	Body 820	e'	52.8100	Relative Permittivity (ϵ_r):	52.81	55.28	-4.46	5
		e"	21.7800	Conductivity (σ):	0.99	0.97	2.54	5
	Body 850	e'	52.5500	Relative Permittivity (ϵ_r):	52.55	55.16	-4.73	5
		e"	21.6000	Conductivity (σ):	1.02	0.99	3.42	5
7/9/2013	Body 835	e'	53.7700	Relative Permittivity (ϵ_r):	53.77	55.20	-2.59	5
		e"	21.2600	Conductivity (σ):	0.99	0.97	1.76	5
	Body 820	e'	53.9200	Relative Permittivity (ϵ_r):	53.92	55.28	-2.45	5
		e"	21.3200	Conductivity (σ):	0.97	0.97	0.37	5
	Body 850	e'	53.6200	Relative Permittivity (ϵ_r):	53.62	55.16	-2.79	5
		e"	21.2100	Conductivity (σ):	1.00	0.99	1.55	5
7/12/2013	Body 835	e'	53.3200	Relative Permittivity (ϵ_r):	53.32	55.20	-3.41	5
		e"	21.8300	Conductivity (σ):	1.01	0.97	4.49	5
	Body 820	e'	53.4800	Relative Permittivity (ϵ_r):	53.48	55.28	-3.25	5
		e"	21.9000	Conductivity (σ):	1.00	0.97	3.10	5
	Body 850	e'	53.1400	Relative Permittivity (ϵ_r):	53.14	55.16	-3.66	5
		e"	21.7500	Conductivity (σ):	1.03	0.99	4.14	5
7/12/2013	Head 835	e'	40.7400	Relative Permittivity (ϵ_r):	40.74	41.50	-1.83	5
		e"	19.9200	Conductivity (σ):	0.92	0.90	2.76	5
	Head 820	e'	40.9500	Relative Permittivity (ϵ_r):	40.95	41.60	-1.57	5
		e"	19.9800	Conductivity (σ):	0.91	0.90	1.39	5
	Head 850	e'	40.5400	Relative Permittivity (ϵ_r):	40.54	41.50	-2.31	5
		e"	19.8700	Conductivity (σ):	0.94	0.92	2.63	5

SAR Room E

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/3/2013	Head 5180	e'	35.5700	Relative Permittivity (ε_r):	35.57	36.01	-1.23	5
		e"	15.3300	Conductivity (σ):	4.42	4.63	-4.65	5
	Head 5200	e'	35.5300	Relative Permittivity (ε_r):	35.53	35.99	-1.28	5
		e"	15.3200	Conductivity (σ):	4.43	4.65	-4.76	5
	Head 5600	e'	35.0400	Relative Permittivity (ε_r):	35.04	35.53	-1.39	5
		e"	15.5700	Conductivity (σ):	4.85	5.06	-4.19	5
	Head 5800	e'	34.7400	Relative Permittivity (ε_r):	34.74	35.30	-1.59	5
		e"	15.6400	Conductivity (σ):	5.04	5.27	-4.29	5
	Head 5825	e'	34.6800	Relative Permittivity (ε_r):	34.68	35.30	-1.76	5
		e"	15.6600	Conductivity (σ):	5.07	5.27	-3.76	5
6/3/2013	Body 5180	e'	47.9600	Relative Permittivity (ε_r):	47.96	49.05	-2.22	5
		e"	18.3500	Conductivity (σ):	5.29	5.27	0.26	5
	Body 5200	e'	47.9200	Relative Permittivity (ε_r):	47.92	49.02	-2.24	5
		e"	18.3700	Conductivity (σ):	5.31	5.29	0.32	5
	Body 5600	e'	47.2900	Relative Permittivity (ε_r):	47.29	48.48	-2.45	5
		e"	18.8100	Conductivity (σ):	5.86	5.76	1.67	5
	Body 5800	e'	46.9000	Relative Permittivity (ε_r):	46.90	48.20	-2.70	5
		e"	18.9800	Conductivity (σ):	6.12	6.00	2.02	5
	Body 5825	e'	46.8900	Relative Permittivity (ε_r):	46.89	48.20	-2.72	5
		e"	19.0000	Conductivity (σ):	6.15	6.00	2.56	5
6/6/2013	Head 5180	e'	34.9000	Relative Permittivity (ε_r):	34.90	36.01	-3.09	5
		e"	16.0100	Conductivity (σ):	4.61	4.63	-0.42	5
	Head 5200	e'	34.8700	Relative Permittivity (ε_r):	34.87	35.99	-3.11	5
		e"	16.0200	Conductivity (σ):	4.63	4.65	-0.41	5
	Head 5600	e'	34.2900	Relative Permittivity (ε_r):	34.29	35.53	-3.50	5
		e"	16.2300	Conductivity (σ):	5.05	5.06	-0.13	5
	Head 5800	e'	33.9700	Relative Permittivity (ε_r):	33.97	35.30	-3.77	5
		e"	16.3300	Conductivity (σ):	5.27	5.27	-0.07	5
	Head 5825	e'	33.9400	Relative Permittivity (ε_r):	33.94	35.30	-3.85	5
		e"	16.3600	Conductivity (σ):	5.30	5.27	0.55	5
6/6/2013	Body 5180	e'	47.6100	Relative Permittivity (ε_r):	47.61	49.05	-2.93	5
		e"	18.1900	Conductivity (σ):	5.24	5.27	-0.61	5
	Body 5200	e'	47.5500	Relative Permittivity (ε_r):	47.55	49.02	-3.00	5
		e"	18.2300	Conductivity (σ):	5.27	5.29	-0.45	5
	Body 5600	e'	46.9800	Relative Permittivity (ε_r):	46.98	48.48	-3.09	5
		e"	18.5900	Conductivity (σ):	5.79	5.76	0.48	5
	Body 5800	e'	46.6900	Relative Permittivity (ε_r):	46.69	48.20	-3.13	5
		e"	18.7900	Conductivity (σ):	6.06	6.00	1.00	5
	Body 5825	e'	46.6500	Relative Permittivity (ε_r):	46.65	48.20	-3.22	5
		e"	18.8100	Conductivity (σ):	6.09	6.00	1.54	5

Tissue Dielectric Parameter Check Results (SAR Room E continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/10/2013	Head 5180	e'	37.2600	Relative Permittivity (ϵ_r):	37.26	36.01	3.46	5
		e"	15.9500	Conductivity (σ):	4.59	4.63	-0.79	5
	Head 5200	e'	37.2500	Relative Permittivity (ϵ_r):	37.25	35.99	3.50	5
		e"	15.7900	Conductivity (σ):	4.57	4.65	-1.84	5
	Head 5600	e'	36.4200	Relative Permittivity (ϵ_r):	36.42	35.53	2.49	5
		e"	15.7300	Conductivity (σ):	4.90	5.06	-3.21	5
	Head 5800	e'	36.4900	Relative Permittivity (ϵ_r):	36.49	35.30	3.37	5
		e"	16.2100	Conductivity (σ):	5.23	5.27	-0.80	5
	Head 5825	e'	36.3100	Relative Permittivity (ϵ_r):	36.31	35.30	2.86	5
		e"	15.9200	Conductivity (σ):	5.16	5.27	-2.16	5
6/10/2013	Body 5180	e'	48.5400	Relative Permittivity (ϵ_r):	48.54	49.05	-1.03	5
		e"	18.6900	Conductivity (σ):	5.38	5.27	2.12	5
	Body 5200	e'	48.5000	Relative Permittivity (ϵ_r):	48.50	49.02	-1.06	5
		e"	18.4500	Conductivity (σ):	5.33	5.29	0.75	5
	Body 5600	e'	47.4500	Relative Permittivity (ϵ_r):	47.45	48.48	-2.12	5
		e"	18.5300	Conductivity (σ):	5.77	5.76	0.15	5
	Body 5800	e'	47.6400	Relative Permittivity (ϵ_r):	47.64	48.20	-1.16	5
		e"	19.1800	Conductivity (σ):	6.19	6.00	3.09	5
	Body 5825	e'	47.3200	Relative Permittivity (ϵ_r):	47.32	48.20	-1.83	5
		e"	18.7900	Conductivity (σ):	6.09	6.00	1.43	5
6/13/2013	Head 5180	e'	37.6400	Relative Permittivity (ϵ_r):	37.64	36.01	4.52	5
		e"	16.2400	Conductivity (σ):	4.68	4.63	1.01	5
	Head 5200	e'	37.6000	Relative Permittivity (ϵ_r):	37.60	35.99	4.47	5
		e"	16.2400	Conductivity (σ):	4.70	4.65	0.96	5
	Head 5600	e'	37.1000	Relative Permittivity (ϵ_r):	37.10	35.53	4.41	5
		e"	16.4100	Conductivity (σ):	5.11	5.06	0.98	5
	Head 5800	e'	36.8100	Relative Permittivity (ϵ_r):	36.81	35.30	4.28	5
		e"	16.5500	Conductivity (σ):	5.34	5.27	1.28	5
	Head 5825	e'	36.7900	Relative Permittivity (ϵ_r):	36.79	35.30	4.22	5
		e"	16.5000	Conductivity (σ):	5.34	5.27	1.41	5
6/13/2013	Body 5180	e'	49.5900	Relative Permittivity (ϵ_r):	49.59	49.05	1.11	5
		e"	18.6600	Conductivity (σ):	5.37	5.27	1.96	5
	Body 5200	e'	49.5300	Relative Permittivity (ϵ_r):	49.53	49.02	1.04	5
		e"	18.6900	Conductivity (σ):	5.40	5.29	2.06	5
	Body 5600	e'	48.8900	Relative Permittivity (ϵ_r):	48.89	48.48	0.85	5
		e"	19.0800	Conductivity (σ):	5.94	5.76	3.13	5
	Body 5800	e'	48.5500	Relative Permittivity (ϵ_r):	48.55	48.20	0.73	5
		e"	19.3700	Conductivity (σ):	6.25	6.00	4.11	5
	Body 5825	e'	48.5100	Relative Permittivity (ϵ_r):	48.51	48.20	0.64	5
		e"	19.3100	Conductivity (σ):	6.25	6.00	4.24	5
6/17/2013	Head 5180	e'	36.2200	Relative Permittivity (ϵ_r):	36.22	36.01	0.57	5
		e"	16.5100	Conductivity (σ):	4.76	4.63	2.69	5
	Head 5200	e'	36.1600	Relative Permittivity (ϵ_r):	36.16	35.99	0.47	5
		e"	16.5200	Conductivity (σ):	4.78	4.65	2.70	5
	Head 5600	e'	35.5600	Relative Permittivity (ϵ_r):	35.56	35.53	0.07	5
		e"	16.7100	Conductivity (σ):	5.20	5.06	2.82	5
	Head 5800	e'	35.2500	Relative Permittivity (ϵ_r):	35.25	35.30	-0.14	5
		e"	16.7900	Conductivity (σ):	5.41	5.27	2.75	5
	Head 5825	e'	35.2300	Relative Permittivity (ϵ_r):	35.23	35.30	-0.20	5
		e"	16.8000	Conductivity (σ):	5.44	5.27	3.25	5

Tissue Dielectric Parameter Check Results (SAR Room E continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/17/2013	Body 5180	e'	47.2800	Relative Permittivity (ϵ_r):	47.28	49.05	-3.60	5
		e"	18.2600	Conductivity (σ):	5.26	5.27	-0.23	5
	Body 5200	e'	47.2500	Relative Permittivity (ϵ_r):	47.25	49.02	-3.61	5
		e"	18.2900	Conductivity (σ):	5.29	5.29	-0.12	5
	Body 5600	e'	46.6300	Relative Permittivity (ϵ_r):	46.63	48.48	-3.81	5
		e"	18.6100	Conductivity (σ):	5.79	5.76	0.59	5
	Body 5800	e'	46.3400	Relative Permittivity (ϵ_r):	46.34	48.20	-3.86	5
		e"	18.7700	Conductivity (σ):	6.05	6.00	0.89	5
	Body 5825	e'	46.2900	Relative Permittivity (ϵ_r):	46.29	48.20	-3.96	5
		e"	18.7800	Conductivity (σ):	6.08	6.00	1.38	5
6/20/2013	Head 5180	e'	35.9400	Relative Permittivity (ϵ_r):	35.94	36.01	-0.20	5
		e"	16.3000	Conductivity (σ):	4.69	4.63	1.39	5
	Head 5200	e'	35.8900	Relative Permittivity (ϵ_r):	35.89	35.99	-0.28	5
		e"	16.3000	Conductivity (σ):	4.71	4.65	1.33	5
	Head 5600	e'	35.2700	Relative Permittivity (ϵ_r):	35.27	35.53	-0.74	5
		e"	16.5400	Conductivity (σ):	5.15	5.06	1.78	5
	Head 5800	e'	34.9900	Relative Permittivity (ϵ_r):	34.99	35.30	-0.88	5
		e"	16.6400	Conductivity (σ):	5.37	5.27	1.83	5
	Head 5825	e'	34.9100	Relative Permittivity (ϵ_r):	34.91	35.30	-1.10	5
		e"	16.6400	Conductivity (σ):	5.39	5.27	2.27	5
6/20/2013	Body 5180	e'	48.1000	Relative Permittivity (ϵ_r):	48.10	49.05	-1.93	5
		e"	18.4800	Conductivity (σ):	5.32	5.27	0.97	5
	Body 5200	e'	48.0200	Relative Permittivity (ϵ_r):	48.02	49.02	-2.04	5
		e"	18.4900	Conductivity (σ):	5.35	5.29	0.97	5
	Body 5600	e'	47.4200	Relative Permittivity (ϵ_r):	47.42	48.48	-2.18	5
		e"	18.9200	Conductivity (σ):	5.89	5.76	2.26	5
	Body 5800	e'	47.1000	Relative Permittivity (ϵ_r):	47.10	48.20	-2.28	5
		e"	19.1000	Conductivity (σ):	6.16	6.00	2.66	5
	Body 5825	e'	47.0100	Relative Permittivity (ϵ_r):	47.01	48.20	-2.47	5
		e"	19.1100	Conductivity (σ):	6.19	6.00	3.16	5
6/24/2013	Head 5180	e'	36.9900	Relative Permittivity (ϵ_r):	36.99	36.01	2.71	5
		e"	15.8500	Conductivity (σ):	4.57	4.63	-1.41	5
	Head 5200	e'	36.9700	Relative Permittivity (ϵ_r):	36.97	35.99	2.72	5
		e"	15.8600	Conductivity (σ):	4.59	4.65	-1.40	5
	Head 5600	e'	36.4100	Relative Permittivity (ϵ_r):	36.41	35.53	2.47	5
		e"	16.0400	Conductivity (σ):	4.99	5.06	-1.30	5
	Head 5800	e'	36.1300	Relative Permittivity (ϵ_r):	36.13	35.30	2.35	5
		e"	16.1500	Conductivity (σ):	5.21	5.27	-1.17	5
	Head 5825	e'	36.1100	Relative Permittivity (ϵ_r):	36.11	35.30	2.29	5
		e"	16.1500	Conductivity (σ):	5.23	5.27	-0.74	5
6/24/2013	Body 5180	e'	47.6900	Relative Permittivity (ϵ_r):	47.69	49.05	-2.77	5
		e"	18.6000	Conductivity (σ):	5.36	5.27	1.63	5
	Body 5200	e'	47.6900	Relative Permittivity (ϵ_r):	47.69	49.02	-2.71	5
		e"	18.6100	Conductivity (σ):	5.38	5.29	1.63	5
	Body 5600	e'	47.0000	Relative Permittivity (ϵ_r):	47.00	48.48	-3.05	5
		e"	18.9500	Conductivity (σ):	5.90	5.76	2.42	5
	Body 5800	e'	46.6800	Relative Permittivity (ϵ_r):	46.68	48.20	-3.15	5
		e"	19.1200	Conductivity (σ):	6.17	6.00	2.77	5
	Body 5825	e'	46.6800	Relative Permittivity (ϵ_r):	46.68	48.20	-3.15	5
		e"	19.1400	Conductivity (σ):	6.20	6.00	3.32	5

Tissue Dielectric Parameter Check Results (SAR Room E continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/9/2013	Body 1900	e'	52.5000	Relative Permittivity (ϵ_r):	52.50	53.30	-1.50	5
		e"	14.5500	Conductivity (σ):	1.54	1.52	1.13	5
	Body 1850	e'	52.6700	Relative Permittivity (ϵ_r):	52.67	53.30	-1.18	5
		e"	14.4200	Conductivity (σ):	1.48	1.52	-2.41	5
	Body 1910	e'	52.4600	Relative Permittivity (ϵ_r):	52.46	53.30	-1.58	5
		e"	14.5600	Conductivity (σ):	1.55	1.52	1.73	5
7/12/2013	Body 1900	e'	51.7100	Relative Permittivity (ϵ_r):	51.71	53.30	-2.98	5
		e"	14.7300	Conductivity (σ):	1.56	1.52	2.38	5
	Body 1850	e'	51.8700	Relative Permittivity (ϵ_r):	51.87	53.30	-2.68	5
		e"	14.6700	Conductivity (σ):	1.51	1.52	-0.72	5
	Body 1910	e'	51.6800	Relative Permittivity (ϵ_r):	51.68	53.30	-3.04	5
		e"	14.7600	Conductivity (σ):	1.57	1.52	3.13	5
7/15/2013	Body 1900	e'	52.4200	Relative Permittivity (ϵ_r):	52.42	53.30	-1.65	5
		e"	14.6500	Conductivity (σ):	1.55	1.52	1.82	5
	Body 1850	e'	52.5800	Relative Permittivity (ϵ_r):	52.58	53.30	-1.35	5
		e"	14.5400	Conductivity (σ):	1.50	1.52	-1.60	5
	Body 1910	e'	52.3900	Relative Permittivity (ϵ_r):	52.39	53.30	-1.71	5
		e"	14.6700	Conductivity (σ):	1.56	1.52	2.50	5

SAR Room F

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/6/2013	Head 5180	e'	35.3200	Relative Permittivity (εr):	35.32	36.01	-1.92	5
		e"	16.2200	Conductivity (σ):	4.67	4.63	0.89	5
	Head 5200	e'	35.2800	Relative Permittivity (εr):	35.28	35.99	-1.97	5
		e"	16.2100	Conductivity (σ):	4.69	4.65	0.77	5
	Head 5600	e'	34.6200	Relative Permittivity (εr):	34.62	35.53	-2.57	5
		e"	16.4500	Conductivity (σ):	5.12	5.06	1.22	5
	Head 5800	e'	34.2700	Relative Permittivity (εr):	34.27	35.30	-2.92	5
		e"	16.5400	Conductivity (σ):	5.33	5.27	1.22	5
	Head 5825	e'	34.2000	Relative Permittivity (εr):	34.20	35.30	-3.12	5
		e"	16.5800	Conductivity (σ):	5.37	5.27	1.90	5
6/6/2013	Body 5180	e'	46.8000	Relative Permittivity (ϵ_r):	46.80	49.05	-4.58	5
		e"	18.1100	Conductivity (σ):	5.22	5.27	-1.05	5
	Body 5200	e'	46.7200	Relative Permittivity (ϵ_r):	46.72	49.02	-4.69	5
		e"	18.2900	Conductivity (σ):	5.29	5.29	-0.12	5
	Body 5600	e'	46.4000	Relative Permittivity (ϵ_r):	46.40	48.48	-4.29	5
		e"	19.0600	Conductivity (σ):	5.93	5.76	3.02	5
	Body 5800	e'	45.8800	Relative Permittivity (ϵ_r):	45.88	48.20	-4.81	5
		e"	18.9200	Conductivity (σ):	6.10	6.00	1.69	5
	Body 5825	e'	46.1000	Relative Permittivity (ϵ_r):	46.10	48.20	-4.36	5
		e"	19.2000	Conductivity (σ):	6.22	6.00	3.64	5
6/10/2013	Head 5180	e'	37.0700	Relative Permittivity (ϵ_r):	37.07	36.01	2.94	5
		e"	15.7000	Conductivity (σ):	4.52	4.63	-2.34	5
	Head 5200	e'	37.0600	Relative Permittivity (ϵ_r):	37.06	35.99	2.97	5
		e"	15.5700	Conductivity (σ):	4.50	4.65	-3.21	5
	Head 5600	e'	36.2300	Relative Permittivity (ϵ_r):	36.23	35.53	1.96	5
		e"	15.5700	Conductivity (σ):	4.85	5.06	-4.19	5
	Head 5800	e'	36.3400	Relative Permittivity (ϵ_r):	36.34	35.30	2.95	5
		e"	16.0000	Conductivity (σ):	5.16	5.27	-2.09	5
	Head 5825	e'	36.1400	Relative Permittivity (ϵ_r):	36.14	35.30	2.38	5
		e"	15.7500	Conductivity (σ):	5.10	5.27	-3.20	5
6/10/2013	Body 5180	e'	47.7900	Relative Permittivity (ϵ_r):	47.79	49.05	-2.56	5
		e"	19.0100	Conductivity (σ):	5.48	5.27	3.87	5
	Body 5200	e'	47.6900	Relative Permittivity (ϵ_r):	47.69	49.02	-2.71	5
		e"	18.7900	Conductivity (σ):	5.43	5.29	2.61	5
	Body 5600	e'	46.6000	Relative Permittivity (ϵ_r):	46.60	48.48	-3.87	5
		e"	18.9900	Conductivity (σ):	5.91	5.76	2.64	5
	Body 5800	e'	46.8200	Relative Permittivity (ϵ_r):	46.82	48.20	-2.86	5
		e"	19.4800	Conductivity (σ):	6.28	6.00	4.70	5
	Body 5825	e'	46.4400	Relative Permittivity (ϵ_r):	46.44	48.20	-3.65	5
		e"	19.2000	Conductivity (σ):	6.22	6.00	3.64	5
6/13/2013	Head 5180	e'	35.4000	Relative Permittivity (ϵ_r):	35.40	36.01	-1.70	5
		e"	15.8600	Conductivity (σ):	4.57	4.63	-1.35	5
	Head 5200	e'	35.3500	Relative Permittivity (ϵ_r):	35.35	35.99	-1.78	5
		e"	15.8600	Conductivity (σ):	4.59	4.65	-1.40	5
	Head 5600	e'	34.7500	Relative Permittivity (ϵ_r):	34.75	35.53	-2.21	5
		e"	16.0500	Conductivity (σ):	5.00	5.06	-1.24	5
	Head 5800	e'	34.4300	Relative Permittivity (ϵ_r):	34.43	35.30	-2.46	5
		e"	16.1900	Conductivity (σ):	5.22	5.27	-0.93	5
	Head 5825	e'	34.4000	Relative Permittivity (ϵ_r):	34.40	35.30	-2.55	5
		e"	16.1600	Conductivity (σ):	5.23	5.27	-0.68	5

Tissue Dielectric Parameter Check Results (SAR Room F continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
6/13/2013	Body 5180	e'	47.5400	Relative Permittivity (ϵ_r):	47.54	49.05	-3.07	5
		e"	18.4300	Conductivity (σ):	5.31	5.27	0.70	5
	Body 5200	e'	47.4900	Relative Permittivity (ϵ_r):	47.49	49.02	-3.12	5
		e"	18.4200	Conductivity (σ):	5.33	5.29	0.59	5
	Body 5600	e'	46.9000	Relative Permittivity (ϵ_r):	46.90	48.48	-3.25	5
		e"	18.7600	Conductivity (σ):	5.84	5.76	1.40	5
	Body 5800	e'	46.5500	Relative Permittivity (ϵ_r):	46.55	48.20	-3.42	5
		e"	18.9800	Conductivity (σ):	6.12	6.00	2.02	5
	Body 5825	e'	46.5200	Relative Permittivity (ϵ_r):	46.52	48.20	-3.49	5
		e"	18.9500	Conductivity (σ):	6.14	6.00	2.29	5
6/17/2013	Head 5180	e'	36.7700	Relative Permittivity (ϵ_r):	36.77	36.01	2.10	5
		e"	15.4000	Conductivity (σ):	4.44	4.63	-4.21	5
	Head 5200	e'	36.7300	Relative Permittivity (ϵ_r):	36.73	35.99	2.06	5
		e"	15.3700	Conductivity (σ):	4.44	4.65	-4.45	5
	Head 5600	e'	36.1900	Relative Permittivity (ϵ_r):	36.19	35.53	1.85	5
		e"	15.5900	Conductivity (σ):	4.85	5.06	-4.07	5
	Head 5800	e'	35.9200	Relative Permittivity (ϵ_r):	35.92	35.30	1.76	5
		e"	15.6900	Conductivity (σ):	5.06	5.27	-3.98	5
	Head 5825	e'	35.8900	Relative Permittivity (ϵ_r):	35.89	35.30	1.67	5
		e"	15.6700	Conductivity (σ):	5.08	5.27	-3.69	5
6/17/2013	Body 5180	e'	48.5000	Relative Permittivity (ϵ_r):	48.50	49.05	-1.11	5
		e"	18.4100	Conductivity (σ):	5.30	5.27	0.59	5
	Body 5200	e'	48.4600	Relative Permittivity (ϵ_r):	48.46	49.02	-1.14	5
		e"	18.3900	Conductivity (σ):	5.32	5.29	0.43	5
	Body 5600	e'	47.8300	Relative Permittivity (ϵ_r):	47.83	48.48	-1.34	5
		e"	18.8000	Conductivity (σ):	5.85	5.76	1.61	5
	Body 5800	e'	47.4900	Relative Permittivity (ϵ_r):	47.49	48.20	-1.47	5
		e"	19.0100	Conductivity (σ):	6.13	6.00	2.18	5
	Body 5825	e'	47.4400	Relative Permittivity (ϵ_r):	47.44	48.20	-1.58	5
		e"	19.0100	Conductivity (σ):	6.16	6.00	2.62	5
6/20/2013	Head 5180	e'	36.2700	Relative Permittivity (ϵ_r):	36.27	36.01	0.71	5
		e"	16.0400	Conductivity (σ):	4.62	4.63	-0.23	5
	Head 5200	e'	36.2400	Relative Permittivity (ϵ_r):	36.24	35.99	0.69	5
		e"	16.0000	Conductivity (σ):	4.63	4.65	-0.53	5
	Head 5600	e'	35.6400	Relative Permittivity (ϵ_r):	35.64	35.53	0.30	5
		e"	16.1400	Conductivity (σ):	5.03	5.06	-0.68	5
	Head 5800	e'	35.2600	Relative Permittivity (ϵ_r):	35.26	35.30	-0.11	5
		e"	16.3300	Conductivity (σ):	5.27	5.27	-0.07	5
	Head 5825	e'	35.2200	Relative Permittivity (ϵ_r):	35.22	35.30	-0.23	5
		e"	16.2800	Conductivity (σ):	5.27	5.27	0.06	5
6/20/2013	Body 5180	e'	48.0000	Relative Permittivity (ϵ_r):	48.00	49.05	-2.13	5
		e"	18.2100	Conductivity (σ):	5.24	5.27	-0.50	5
	Body 5200	e'	47.9500	Relative Permittivity (ϵ_r):	47.95	49.02	-2.18	5
		e"	18.1400	Conductivity (σ):	5.24	5.29	-0.94	5
	Body 5600	e'	47.2800	Relative Permittivity (ϵ_r):	47.28	48.48	-2.47	5
		e"	18.3500	Conductivity (σ):	5.71	5.76	-0.82	5
	Body 5800	e'	46.8700	Relative Permittivity (ϵ_r):	46.87	48.20	-2.76	5
		e"	18.6900	Conductivity (σ):	6.03	6.00	0.46	5
	Body 5825	e'	46.8200	Relative Permittivity (ϵ_r):	46.82	48.20	-2.86	5
		e"	18.6000	Conductivity (σ):	6.02	6.00	0.41	5

Tissue Dielectric Parameter Check Results (SAR Room F continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/5/2013	Head 5180	e'	36.8100	Relative Permittivity (ϵ_r):	36.81	36.01	2.21	5
		e"	15.6400	Conductivity (σ):	4.50	4.63	-2.72	5
	Head 5200	e'	36.7700	Relative Permittivity (ϵ_r):	36.77	35.99	2.17	5
		e"	15.6500	Conductivity (σ):	4.52	4.65	-2.71	5
	Head 5600	e'	36.1600	Relative Permittivity (ϵ_r):	36.16	35.53	1.76	5
		e"	15.8500	Conductivity (σ):	4.94	5.06	-2.47	5
	Head 5800	e'	35.8800	Relative Permittivity (ϵ_r):	35.88	35.30	1.64	5
		e"	15.9400	Conductivity (σ):	5.14	5.27	-2.46	5
	Head 5825	e'	35.8500	Relative Permittivity (ϵ_r):	35.85	35.30	1.56	5
		e"	15.9500	Conductivity (σ):	5.17	5.27	-1.97	5
7/5/2013	Body 5180	e'	49.4100	Relative Permittivity (ϵ_r):	49.41	49.05	0.74	5
		e"	18.2500	Conductivity (σ):	5.26	5.27	-0.28	5
	Body 5200	e'	49.3700	Relative Permittivity (ϵ_r):	49.37	49.02	0.71	5
		e"	18.2600	Conductivity (σ):	5.28	5.29	-0.28	5
	Body 5600	e'	48.7200	Relative Permittivity (ϵ_r):	48.72	48.48	0.50	5
		e"	18.6500	Conductivity (σ):	5.81	5.76	0.80	5
	Body 5800	e'	48.4100	Relative Permittivity (ϵ_r):	48.41	48.20	0.44	5
		e"	18.8700	Conductivity (σ):	6.09	6.00	1.43	5
	Body 5825	e'	48.3800	Relative Permittivity (ϵ_r):	48.38	48.20	0.37	5
		e"	18.9000	Conductivity (σ):	6.12	6.00	2.02	5

11. System Performance 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 remeasured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

11.1. 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 ± 0.5 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm ± 0.5 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.

11.2. Reference SAR Values for System Performance Check

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 (mW/g)		
				1g/10g	Head	Body
D835V2	4d142	10/04/2012	835	1g	9.45	9.5
				10g	6.23	6.29
D835V2	4d002	10/24/2012	835	1g	9.58	9.48
				10g	6.28	6.26
D1900V2	5d043	11/06/2012	1900	1g	39.9	40.9
				10g	20.9	21.6
D1900V2	5d163	10/04/2012	1900	1g	39.4	39.6
				10g	20.7	21.1
D2450V2	899	10/5/12	2450	1g	53.6	51.7
				10g	25.0	24.3
D5GHV2	1138	10/9/2012	5200	1g	79.5	73.2
				10g	22.8	20.4
			5500	1g	83.6	77.9
				10g	23.8	21.7
			5800	1g	78.7	72.8
				10g	22.4	20.1
D5GHV2	1003	9/18/2012	5200	1g	76.5	74.8
				10g	21.9	20.9
			5600	1g	82.8	79.0
				10g	23.6	22.0
			5800	1g	76.9	77.0
				10g	22.0	21.4

11.3. System Performance 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 Room A

Date Tested	System Dipole		T.S. Liquid		Measured Results			Target (Ref. Value)	Delta ±10 %	Est./Zoom Ratio ±3 %	Plot No.
	Type	Serial #			Area Scan	Zoom Scan	Normalize to 1 W				
6/17/2013	D2450V2	899	Head	1g	5.52	5.43	54.30	53.60	1.31	1.63	
				10g	2.38	2.47	24.70	25.00	-1.20		
6/17/2013	D2450V2	899	Body	1g	5.26	5.36	53.60	51.70	3.68	-1.90	1,2
				10g	2.27	2.47	24.70	24.30	1.65		
6/20/2013	D2450V2	899	Head	1g	5.41	5.41	54.10	53.60	0.93	0.00	
				10g	2.35	2.44	24.40	25.00	-2.40		
6/20/2013	D2450V2	899	Body	1g	5.28	5.20	52.00	51.70	0.58	1.52	
				10g	2.31	2.36	23.60	24.30	-2.88		
7/6/2013	D835V2	4d142	Head	1g	1.04	1.02	10.20	9.45	7.94	1.92	3,4
				10g	0.70	0.67	6.65	6.23	6.74		
7/9/2013	D835V2	4d142	Head	1g	1.01	0.97	9.66	9.45	2.22	4.36	
				10g	0.68	0.63	6.33	6.23	1.61		

SAR Room B

Date Tested	System Dipole		T.S. Liquid		Measured Results			Target (Ref. Value)	Delta ±10 %	Est./Zoom Ratio ±3 %	Plot No.
	Type	Serial #			Area Scan	Zoom Scan	Normalize to 1 W				
7/1/2013	D1900V2	5d163	Head	1g	4.03	4.00	40.00	39.4	1.52	0.74	
				10g	2.13	2.06	20.60	20.7	-0.48		
7/1/2013	D1900V2	5d163	Body	1g	4.11	4.05	40.50	39.6	2.27	1.46	
				10g	2.08	2.09	20.90	21.1	-0.95		
7/5/2013	D1900V2	5d163	Head	1g	4.26	4.16	41.60	39.4	5.58	2.35	5,6
				10g	2.25	2.13	21.30	20.7	2.90		
7/5/2013	D1900V2	5d163	Body	1g	4.18	4.14	41.40	39.6	4.55	0.96	
				10g	2.17	2.14	21.40	21.1	1.42		
7/9/2013	D1900V2	5d163	Head	1g	4.10	4.06	40.60	39.40	3.05	0.98	
				10g	2.17	2.10	21.00	21.10	-0.47		
7/12/2013	D1900V2	5d163	Head	1g	4.35	4.13	41.30	39.40	4.82	5.06	
				10g	2.29	2.14	21.40	21.10	1.42		

SAR Room C

Date Tested	System Dipole		T.S. Liquid		Measured Results			Target (Ref. Value)	Delta ±10 %	Est./Zoom Ratio ±3 %	Plot No.
	Type	Serial #			Area Scan	Zoom Scan	Normalize to 1 W				
6/6/2013	D5GHzV2 (5.8GHz)	1138	Head	1g	7.19	7.50	75.00	78.70	-4.70	-4.31	
				10g	2.03	2.14	21.40	22.40	-4.46		
6/6/2013	D5GHzV2 (5.8GHz)	1138	Body	1g	6.49	6.95	69.50	72.80	-4.53	-7.09	
				10g	1.77	1.94	19.40	20.10	-3.48		
6/10/2013	D5GHzV2 (5.8GHz)	1138	Head	1g	6.83	7.84	78.40	78.70	-0.38	-14.79	
				10g	1.95	2.24	22.40	22.40	0.00		
6/10/2013	D5GHzV2 (5.8GHz)	1138	Body	1g	6.36	7.07	70.70	72.80	-2.88	-11.16	
				10g	1.72	1.96	19.60	20.10	-2.49		
6/13/2013	D5GHzV2 (5.8GHz)	1138	Head	1g	7.52	8.13	81.30	78.70	3.30	-8.11	
				10g	2.08	2.32	23.20	22.40	3.57		
6/13/2013	D5GHzV2 (5.8GHz)	1138	Body	1g	6.24	6.83	68.30	72.80	-6.18	-9.46	7,8
				10g	1.71	1.90	19.00	20.10	-5.47		
6/17/2013	D5GHzV2 (5.8GHz)	1003	Head	1g	7.09	7.68	76.80	76.90	-0.13	-8.32	
				10g	1.97	2.21	22.10	22.00	0.45		
6/17/2013	D5GHzV2 (5.8GHz)	1003	Body	1g	7.03	7.62	76.20	77.00	-1.04	-8.39	
				10g	1.90	2.13	21.30	21.40	-0.47		
6/20/2013	D5GHzV2 (5.8GHz)	1003	Head	1g	6.35	7.66	76.60	76.90	-0.39	-20.63	
				10g	1.81	2.20	22.00	22.00	0.00		
6/20/2013	D5GHzV2 (5.8GHz)	1003	Body	1g	6.77	7.30	73.00	77.00	-5.19	-7.83	
				10g	1.82	2.03	20.30	21.40	-5.14		
6/24/2013	D5GHzV2 (5.8GHz)	1003	Head	1g	6.63	7.17	71.70	76.90	-6.76	-8.14	9,10
				10g	1.88	2.06	20.60	22.00	-6.36		
6/24/2013	D5GHzV2 (5.8GHz)	1003	Body	1g	7.27	7.82	78.20	77.00	1.56	-7.57	
				10g	1.95	2.18	21.80	21.40	1.87		
6/27/2013	D5GHzV2 (5.8GHz)	1138	Body	1g	6.75	7.36	73.60	72.80	1.10	-9.04	
				10g	1.84	2.06	20.60	20.10	2.49		
6/28/2013	D5GHzV2 (5.8GHz)	1138	Head	1g	7.00	7.62	76.20	78.70	-3.18	-8.86	
				10g	2.00	2.18	21.80	22.40	-2.68		
7/1/2013	D5GHzV2 (5.8GHz)	1003	Head	1g	7.16	7.95	79.50	76.90	3.38	-11.03	
				10g	2.04	2.28	22.80	22.00	3.64		
7/1/2013	D5GHzV2 (5.8GHz)	1003	Body	1g	6.67	7.48	74.80	77.00	-2.86	-12.14	
				10g	1.86	2.10	21.00	21.40	-1.87		

SAR Room D

Date Tested	System Dipole		T.S. Liquid		Measured Results			Target (Ref. Value)	Delta ±10 %	Est./Zoom Ratio ±3 %	Plots No.
	Type	Serial #			Area Scan	Zoom Scan	Normalize to 1 W				
7/5/2013	D835V2	4d142	Body	1g	1.01	1.00	10.00	9.50	5.26	0.99	11,12
				10g	0.68	0.66	6.57	6.29	4.45		
7/9/2013	D835V2	4d142	Body	1g	0.96	0.95	9.45	9.50	-0.53	1.15	
				10g	0.64	0.62	6.22	6.29	-1.11		
7/12/2013	D835V2	4d002	Body	1g	0.97	0.95	9.48	9.48	0.00	1.96	
				10g	0.65	0.62	6.24	6.26	-0.32		
7/12/2013	D835V2	4d002	Head	1g	0.93	0.91	9.14	9.48	-3.59	1.93	13,14
				10g	0.63	0.60	5.99	6.26	-4.31		

SAR Room E

Date Tested	System Dipole		T.S. Liquid		Measured Results			Target (Ref. Value)	Delta ±10 %	Est./Zoom Ratio ±3 %	Plot No.
	Type	Serial #			Area Scan	Zoom Scan	Normalize to 1 W				
6/3/2013	D5GHV2 (5.2GHz)	1138	Head	1g	7.32	7.38	73.80	79.5	-7.17	-0.82	
				10g	2.00	2.09	20.90	22.8	-8.33		
6/3/2013	D5GHV2 (5.2GHz)	1138	Body	1g	7.14	7.46	74.60	73.2	1.91	-4.48	
				10g	1.97	2.13	21.30	20.4	4.41		
6/6/2013	D5GHV2 (5.2GHz)	1138	Head	1g	7.87	8.15	81.50	79.5	2.52	-3.56	
				10g	2.17	2.31	23.10	22.8	1.32		
6/6/2013	D5GHV2 (5.2GHz)	1138	Body	1g	7.54	7.69	76.90	73.2	5.05	-1.99	
				10g	2.08	2.18	21.80	20.4	6.86		
6/10/2013	D5GHV2 (5.2GHz)	1138	Head	1g	6.97	7.34	73.40	79.5	-7.67	-5.31	
				10g	1.91	2.08	20.80	22.8	-8.77		
6/10/2013	D5GHV2 (5.2GHz)	1138	Body	1g	7.22	7.65	76.50	73.2	4.51	-5.96	
				10g	2.00	2.18	21.80	20.4	6.86		
6/13/2013	D5GHV2 (5.2GHz)	1138	Head	1g	7.80	7.48	74.80	79.5	-5.91	4.10	
				10g	2.15	2.12	21.20	22.8	-7.02		
6/13/2013	D5GHV2 (5.2GHz)	1138	Body	1g	7.41	7.70	77.00	73.2	5.19	-3.91	
				10g	2.03	2.19	21.90	20.4	7.35		
6/17/2013	D5GHV2 (5.2GHz)	1138	Head	1g	7.33	7.81	78.10	79.5	-1.76	-6.55	
				10g	2.00	2.22	22.20	22.8	-2.63		
6/17/2013	D5GHV2 (5.2GHz)	1138	Body	1g	7.59	7.62	76.20	73.2	4.10	-0.40	
				10g	2.12	2.18	21.80	20.4	6.86		
6/20/2013	D5GHV2 (5.2GHz)	1138	Head	1g	8.24	8.02	80.20	79.5	0.88	2.67	
				10g	2.25	2.28	22.80	22.8	0.00		
6/20/2013	D5GHV2 (5.2GHz)	1138	Body	1g	6.85	7.34	73.40	73.2	0.27	-7.15	
				10g	1.89	2.09	20.90	20.4	2.45		
6/24/2013	D5GHV2 (5.2GHz)	1138	Head	1g	7.06	7.31	73.10	79.5	-8.05	-3.54	15,16
				10g	1.94	2.07	20.70	22.8	-9.21		
6/24/2013	D5GHV2 (5.2GHz)	1138	Body	1g	7.34	7.68	76.80	73.2	4.92	-4.63	
				10g	2.04	2.19	21.90	20.4	7.35		
7/9/2013	D1900V2	5d043	Body	1g	3.84	3.85	38.50	40.90	-5.87	-0.26	17,18
				10g	1.94	2.04	20.40	21.60	-5.56		
7/12/2013	D1900V2	5d043	Body	1g	4.01	3.98	39.80	40.90	-2.69	0.75	19,20
				10g	2.00	2.09	20.90	21.60	-3.24		
7/15/2013	D1900V2	5d163	Body	1g	4.09	4.05	40.50	39.60	2.27	0.98	
				10g	2.04	2.12	21.20	21.10	0.47		

SAR Room F

Date Tested	System Dipole		T.S. Liquid		Measured Results			Target (Ref. Value)	Delta ±10 %	Est./Zoom Ratio ±3 %	Plot No.
	Type	Serial #			Area Scan	Zoom Scan	Normalize to 1 W				
6/6/2013	5.5GHz	1138	Head	1g	9.20	8.70	87.00	83.6	4.07	5.43	
				10g	2.57	2.52	25.20	23.8	5.88		
6/6/2013	5.6GHz	1138	Head	1g	7.68	8.13	81.30	83.6	-2.75	-5.86	
				10g	2.13	2.34	23.40	23.8	-1.68		
6/6/2013	5.5GHz	1138	Body	1g	7.63	7.74	77.40	77.9	-0.64	-1.44	
				10g	2.09	2.21	22.10	21.7	1.84		
6/6/2013	5.6 GHz	1138	Body	1g	7.96	8.03	80.30	77.9	3.08	-0.88	
				10g	2.16	2.27	22.70	21.7	4.61		
6/10/2013	D5GHV2 (5.5GHz)	1138	Head	1g	7.67	8.25	82.50	83.6	-1.32	-7.56	
				10g	2.13	2.36	23.60	23.8	-0.84		
6/10/2013	D5GHV2 (5.6GHz)	1138	Head	1g	7.55	8.01	80.10	83.6	-4.19	-6.09	21,22
				10g	2.09	2.27	22.70	23.8	-4.62		
6/10/2013	D5GHV2 (5.5GHz)	1138	Body	1g	8.00	8.07	80.70	77.9	3.59	-0.88	23,24
				10g	2.19	2.29	22.90	21.7	5.53		
6/10/2013	D5GHV2 (5.6GHz)	1138	Body	1g	8.05	7.96	79.60	77.9	2.18	1.12	
				10g	2.19	2.24	22.40	21.7	3.23		
6/10/2013	D5GHV2 (5.5GHz)	1138	Head	1g	8.37	8.55	85.50	83.6	2.27	-2.15	
				10g	2.35	2.45	24.50	23.8	2.94		
6/10/2013	D5GHV2 (5.6GHz)	1138	Head	1g	8.44	8.71	87.10	83.6	4.19	-3.20	
				10g	2.29	2.48	24.80	23.8	4.20		
6/10/2013	D5GHV2 (5.5GHz)	1138	Body	1g	7.77	7.90	79.00	77.9	1.41	-1.67	
				10g	2.12	2.23	22.30	21.7	2.76		
6/10/2013	D5GHV2 (5.6GHz)	1138	Body	1g	7.96	8.03	80.30	77.9	3.08	-0.88	
				10g	2.15	2.26	22.60	21.7	4.15		
6/17/2013	D5GHV2 (5.6GHz)	1003	Head	1g	7.87	8.53	85.30	82.8	3.02	-8.39	
				10g	2.16	2.44	24.40	23.6	3.39		
6/17/2013	D5GHV2 (5.6GHz)	1003	Body	1g	7.69	7.78	77.80	79.0	-1.52	-1.17	
				10g	2.09	2.18	21.80	22.0	-0.91		
6/20/2013	D5GHV2 (5.6GHz)	1003	Head	1g	8.17	8.73	87.30	82.8	5.43	-6.85	25,26
				10g	2.24	2.51	25.10	23.6	6.36		
6/20/2013	D5GHV2 (5.6GHz)	1003	Body	1g	7.65	7.65	76.50	79.0	-3.16	0.00	
				10g	2.08	2.15	21.50	22.0	-2.27		
7/5/2013	D5GHV2 (5.8GHz)	1003	Head	1g	7.46	7.83	78.30	76.9	1.82	-4.96	
				10g	2.05	2.27	22.70	22.0	3.18		
7/5/2013	D5GHV2 (5.8GHz)	1003	Body	1g	8.28	7.96	79.60	77.0	3.38	3.86	
				10g	2.29	2.25	22.50	21.4	5.14		

12. SAR Test Results

12.1. GSM850

12.1.1. Head Exposure Conditions

Test Position	Antenna	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Left Touch	UAT	Voice	190	836.6	33.2	33.2	0.551	0.551	0.397	0.397	
Left Tilt	UAT	Voice	190	836.6	33.2	33.2	0.358	0.358	0.217	0.217	
Right Touch	UAT	Voice	190	836.6	33.2	33.2	0.395	0.395	0.251	0.251	
Right Tilt	UAT	Voice	190	836.6	33.2	33.2	0.329	0.329	0.194	0.194	
Left Touch	UAT	GPRS 2 slots	190	836.6	31.0	31.0	0.775	0.775	0.567	0.567	1
Left Tilt	UAT	GPRS 2 slots	190	836.6	31.0	31.0	0.541	0.541	0.329	0.329	
Right Touch	UAT	GPRS 2 slots	190	836.6	31.0	31.0	0.633	0.633	0.465	0.465	
Right Tilt	UAT	GPRS 2 slots	190	836.6	31.0	31.0	0.496	0.496	0.293	0.293	
Left Touch	LAT	Voice	190	836.6	33.5	33.3	0.428	0.448	0.324	0.339	
Left Tilt	LAT	Voice	190	836.6	33.5	33.3	0.235	0.246	0.178	0.186	
Right Touch	LAT	Voice	190	836.6	33.5	33.3	0.430	0.450	0.321	0.336	
Right Tilt	LAT	Voice	190	836.6	33.5	33.3	0.263	0.275	0.202	0.212	
Left Touch	LAT	GPRS 2 slots	190	836.6	32.5	32.5	0.705	0.705	0.535	0.535	
Left Tilt	LAT	GPRS 2 slots	190	836.6	32.5	32.5	0.401	0.401	0.303	0.303	
Right Touch	LAT	GPRS 2 slots	190	836.6	32.5	32.5	0.695	0.695	0.521	0.521	
Right Tilt	LAT	GPRS 2 slots	190	836.6	32.5	32.5	0.413	0.413	0.316	0.316	

12.1.2. Body-worn Accessory Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Rear	UAT	Voice	5	190	836.6	33.2	33.2	0.297	0.297	0.180	0.180	
Front	UAT	Voice	5	190	836.6	33.2	33.2	0.248	0.248	0.145	0.145	
Rear	LAT	Voice	5	190	836.6	33.5	33.5	0.737	0.737	0.505	0.505	2
Front	LAT	Voice	5	190	836.6	33.5	33.5	0.660	0.660	0.504	0.504	

12.1.3. Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Rear	UAT	GPRS 2 slots	5	190	836.6	32.2	32.1	0.487	0.498	0.296	0.303	
Front	UAT	GPRS 2 slots	5	190	836.6	32.2	32.1	0.410	0.420	0.283	0.290	
Edge 1	UAT	GPRS 2 slots	5	190	836.6	32.2	32.1	0.293	0.300	0.141	0.144	
Edge 2	UAT	GPRS 2 slots	5	190	836.6	32.2	32.1	0.558	0.571	0.367	0.376	
Edge 4	UAT	GPRS 2 slots	5	190	836.6	32.2	32.1	0.216	0.221	0.139	0.142	
Rear	LAT	GPRS 2 slots	5	128	824.2	31.0	31.0	0.757	0.757	0.523	0.523	
Rear	LAT	GPRS 2 slots	5	190	836.6	31.0	31.0	0.807	0.807	0.555	0.555	
Rear	LAT	GPRS 2 slots	5	251	848.8	31.0	31.0	0.910	0.910	0.611	0.611	3
Front	LAT	GPRS 2 slots	5	190	836.6	31.0	31.0	0.733	0.733	0.559	0.559	
Edge 2	LAT	GPRS 2 slots	5	190	836.6	31.0	31.0	0.749	0.749	0.493	0.493	
Edge 3	LAT	GPRS 2 slots	5	190	836.6	31.0	31.0	0.222	0.222	0.111	0.111	
Edge 4	LAT	GPRS 2 slots	5	190	836.6	31.0	31.0	0.490	0.490	0.316	0.316	

Note(s):

1. 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
2. With headset attached. According to KDB 648474 Section 2.3, 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.

12.2. GSM1900

12.2.1. Head Exposure Conditions

Test Position	Antenna	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Left Touch	UAT	Voice	661	1880.0	30.5	30.5	0.527	0.527	0.272	0.272	
Left Tilt	UAT	Voice	661	1880.0	30.5	30.5	0.573	0.573	0.292	0.292	
Right Touch	UAT	Voice	512	1850.2	30.5	30.3	0.800	0.838	0.413	0.432	
Right Touch	UAT	Voice	661	1880.0	30.5	30.5	0.821	0.821	0.422	0.422	
Right Touch	UAT	Voice	810	1909.8	30.5	30.4	0.847	0.867	0.431	0.441	
Right Tilt	UAT	Voice	661	1880.0	30.5	30.5	0.682	0.682	0.348	0.348	
Left Touch	UAT	GPRS 2 slots	661	1880.0	27.5	27.5	0.535	0.535	0.274	0.274	
Left Tilt	UAT	GPRS 2 slots	661	1880.0	27.5	27.5	0.601	0.601	0.307	0.307	
Right Touch	UAT	GPRS 2 slots	512	1850.2	27.5	27.5	0.830	0.830	0.426	0.426	
Right Touch	UAT	GPRS 2 slots	661	1880.0	27.5	27.5	0.842	0.842	0.427	0.427	
Right Touch	UAT	GPRS 2 slots	810	1909.8	27.5	27.5	0.856	0.856	0.431	0.431	
Right Tilt	UAT	GPRS 2 slots	661	1880.0	27.5	27.5	0.717	0.717	0.367	0.367	
Left Touch	LAT	Voice	661	1880.0	30.5	30.5	0.363	0.363	0.244	0.244	
Left Tilt	LAT	Voice	661	1880.0	30.5	30.5	0.284	0.284	0.166	0.166	
Right Touch	LAT	Voice	661	1880.0	30.5	30.5	0.769	0.769	0.466	0.466	
Right Tilt	LAT	Voice	661	1880.0	30.5	30.5	0.239	0.239	0.150	0.150	
Left Touch	LAT	GPRS 2 slots	661	1880.0	28.0	28.0	0.590	0.590	0.376	0.376	
Left Tilt	LAT	GPRS 2 slots	661	1880.0	28.0	28.0	0.349	0.349	0.205	0.205	
Right Touch	LAT	GPRS 2 slots	512	1850.2	28.0	28.0	1.100	1.100	0.669	0.669	4
Right Touch	LAT	GPRS 2 slots	661	1880.0	28.0	28.0	1.040	1.040	0.625	0.625	
Right Touch	LAT	GPRS 2 slots	810	1909.8	28.0	28.0	1.030	1.030	0.614	0.614	
Right Tilt	LAT	GPRS 2 slots	661	1880.0	28.0	28.0	0.318	0.318	0.200	0.200	

12.2.2. Body-worn Accessory Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Rear	UAT	Voice	5	661	1880.0	28.75	28.75	0.669	0.669	0.347	0.347	
Front	UAT	Voice	5	661	1880.0	28.75	28.75	0.414	0.414	0.225	0.225	
Rear	LAT	Voice	5	512	1850.2	29.0	28.9	0.925	0.947	0.468	0.479	5
Rear	LAT	Voice	5	661	1880.0	29.0	29.0	0.887	0.887	0.443	0.443	
Rear	LAT	Voice	5	810	1909.8	29.0	28.9	0.843	0.863	0.416	0.426	
Front	LAT	Voice	5	661	1880.0	29.0	29.0	0.646	0.646	0.358	0.358	

12.2.3. Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Rear	UAT	GPRS 2 slots	5	512	1850.2	28.75	28.75	0.784	0.784	0.429	0.429	
Rear	UAT	GPRS 2 slots	5	661	1880.0	28.75	28.75	0.854	0.854	0.456	0.456	
Rear	UAT	GPRS 2 slots	5	810	1909.8	28.75	28.75	0.938	0.938	0.487	0.487	
Front	UAT	GPRS 2 slots	5	661	1880.0	28.75	28.75	0.573	0.573	0.311	0.311	
Edge 1	UAT	GPRS 2 slots	5	661	1880.0	28.75	28.75	0.343	0.343	0.144	0.144	
Edge 2	UAT	GPRS 2 slots	5	661	1880.0	28.75	28.75	0.180	0.180	0.094	0.094	
Edge 4	UAT	GPRS 2 slots	5	661	1880.0	28.75	28.75	0.417	0.417	0.222	0.222	
Rear	LAT	GPRS 2 slots	5	512	1850.2	26.0	26.0	1.060	1.060	0.534	0.534	
Rear	LAT	GPRS 2 slots	5	661	1880.0	26.0	26.0	1.040	1.040	0.517	0.517	
Rear	LAT	GPRS 2 slots	5	810	1909.8	26.0	26.0	1.040	1.040	0.514	0.514	
Front	LAT	GPRS 2 slots	5	661	1880.0	26.0	26.0	0.726	0.726	0.401	0.401	
Edge 2	LAT	GPRS 2 slots	5	661	1880.0	26.0	26.0	0.443	0.443	0.244	0.244	
Edge 3	LAT	GPRS 2 slots	5	512	1850.2	26.0	26.0	0.825	0.825	0.407	0.407	
Edge 3	LAT	GPRS 2 slots	5	661	1880.0	26.0	26.0	0.809	0.809	0.394	0.394	
Edge 3	LAT	GPRS 2 slots	5	810	1909.8	26.0	26.0	0.814	0.814	0.389	0.389	
Edge 4	LAT	GPRS 2 slots	5	661	1880.0	26.0	26.0	0.076	0.076	0.041	0.041	
Rear	LAT	EGPRS 2 slots	5	512	1850.2	27.0	27.0	1.050	1.050	0.522	0.522	
Rear	LAT	EGPRS 2 slots	5	661	1880.0	27.0	27.0	1.000	1.000	0.491	0.491	
Rear	LAT	EGPRS 2 slots	5	810	1909.8	27.0	27.0	1.120	1.120	0.543	0.543	6
Front	LAT	EGPRS 2 slots	5	661	1880.0	27.0	27.0	0.669	0.669	0.364	0.364	
Edge 2	LAT	EGPRS 2 slots	5	661	1850.2	27.0	27.0	0.746	0.746	0.398	0.398	
Edge 2	LAT	EGPRS 2 slots	5	661	1880.0	27.0	27.0	0.795	0.795	0.421	0.421	
Edge 2	LAT	EGPRS 2 slots	5	661	1909.8	27.0	27.0	0.848	0.848	0.451	0.451	
Edge 3	LAT	EGPRS 2 slots	5	512	1850.2	27.0	27.0	0.843	0.843	0.418	0.418	
Edge 3	LAT	EGPRS 2 slots	5	661	1880.0	27.0	27.0	0.821	0.821	0.405	0.405	
Edge 3	LAT	EGPRS 2 slots	5	810	1909.8	27.0	27.0	0.823	0.823	0.399	0.399	
Edge 4	LAT	EGPRS 2 slots	5	661	1880.0	27.0	27.0	0.053	0.053	0.027	0.027	

Note(s):

1. 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
2. With headset attached. According to KDB 648474 Section 2.3, 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.

12.3. W-CDMA Band 2

12.3.1. Head Exposure Conditions

Test Position	Antenna	Mode	Ch #	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Left Touch	UAT	Rel. 99 RMC	9400	1880.0	22.5	22.5	0.749	0.749	0.387	0.387	
Left Tilt	UAT	Rel. 99 RMC	9400	1880.0	22.5	22.5	0.786	0.786	0.398	0.398	
Right Touch	UAT	Rel. 99 RMC	9262	1852.4	22.5	22.5	0.949	0.949	0.499	0.499	
Right Touch	UAT	Rel. 99 RMC	9400	1880.0	22.5	22.5	0.944	0.944	0.489	0.489	
Right Touch	UAT	Rel. 99 RMC	9538	1907.6	22.5	22.5	0.921	0.921	0.472	0.472	
Right Tilt	UAT	Rel. 99 RMC	9262	1852.4	22.5	22.5	0.883	0.883	0.468	0.468	
Right Tilt	UAT	Rel. 99 RMC	9400	1880.0	22.5	22.5	0.896	0.896	0.464	0.464	
Right Tilt	UAT	Rel. 99 RMC	9538	1907.6	22.5	22.5	0.874	0.874	0.442	0.442	
Left Touch	LAT	Rel. 99 RMC	9400	1880.0	23.0	23.0	0.673	0.673	0.446	0.446	
Left Tilt	LAT	Rel. 99 RMC	9400	1880.0	23.0	23.0	0.426	0.426	0.255	0.255	
Right Touch	LAT	Rel. 99 RMC	9262	1852.4	23.0	22.8	1.060	1.110	0.641	0.671	
Right Touch	LAT	Rel. 99 RMC	9400	1880.0	23.0	23.0	1.180	**1.180**	0.709	0.709	7
Right Touch	LAT	Rel. 99 RMC	9538	1907.6	23.0	23.0	1.090	1.090	0.653	0.653	
Right Tilt	LAT	Rel. 99 RMC	9400	1880.0	23.0	23.0	0.423	0.423	0.263	0.263	

Note(s):

1. 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
2. With headset attached. According to KDB 648474 Section 2.3, 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.

12.3.2. Body-worn Accessory & Hotspot Exposure Conditions

KDB 941225 D01 – Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit. (pg.12)

Body-worn Accessory & Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Rear	UAT	Rel. 99 RMC	5	9262	1852.4	22.5	22.5	0.951	0.951	0.488	0.488	
Rear	UAT	Rel. 99 RMC	5	9400	1880.0	22.5	22.5	0.964	0.964	0.483	0.483	
Rear	UAT	Rel. 99 RMC	5	9538	1907.6	22.5	22.5	0.978	0.978	0.489	0.489	8
Front	UAT	Rel. 99 RMC	5	9400	1880.0	22.5	22.5	0.766	0.766	0.416	0.416	
Rear	LAT	Rel. 99 RMC	5	9400	1880.0	20.0	20.0	0.736	0.736	0.396	0.396	
Front	LAT	Rel. 99 RMC	5	9400	1880.0	20.0	20.0	0.644	0.644	0.363	0.363	

Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Edge 1	UAT	Rel. 99 RMC	5	9400	1880.0	22.5	22.5	0.472	0.472	0.188	0.188	
Edge 2	UAT	Rel. 99 RMC	5	9400	1880.0	22.5	22.5	0.259	0.259	0.139	0.139	
Edge 4	UAT	Rel. 99 RMC	5	9400	1880.0	22.5	22.5	0.603	0.603	0.232	0.232	
Edge 2	LAT	Rel. 99 RMC	5	9400	1880.0	20.0	20.0	0.576	0.576	0.313	0.313	
Edge 3	LAT	Rel. 99 RMC	5	9400	1880.0	20.0	20.0	0.684	0.684	0.321	0.321	
Edge 4	LAT	Rel. 99 RMC	5	9400	1880.0	20.0	20.0	0.247	0.247	0.134	0.134	

Note(s):

1. 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
2. With headset attached. According to KDB 648474 Section 2.3, 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.

12.4. W-CDMA Band 5

12.4.1. Head Exposure Conditions

Test Position	Antenna	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Left Touch	UAT	Rel. 99 RMC	4183	836.6	23.9	23.9	0.565	0.565	0.407	0.407	9
Left Tilt	UAT	Rel. 99 RMC	4183	836.6	23.9	23.9	0.386	0.386	0.238	0.238	
Right Touch	UAT	Rel. 99 RMC	4183	836.6	23.9	23.9	0.433	0.433	0.271	0.271	
Right Tilt	UAT	Rel. 99 RMC	4183	836.6	23.9	23.9	0.342	0.342	0.200	0.200	
Left Touch	LAT	Rel. 99 RMC	4183	836.6	24.5	24.5	0.552	0.552	0.409	0.409	
Left Tilt	LAT	Rel. 99 RMC	4183	836.6	24.5	24.5	0.265	0.265	0.201	0.201	
Right Touch	LAT	Rel. 99 RMC	4183	836.6	24.5	24.5	0.551	0.551	0.403	0.403	
Right Tilt	LAT	Rel. 99 RMC	4183	836.6	24.5	24.5	0.247	0.247	0.189	0.189	

12.4.2. Body-worn Accessory & Hotspot Exposure Conditions

KDB 941225 D01 – Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit. (pg.12)

Body-worn Accessory & Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Rear	UAT	Rel. 99 RMC	5	4183	836.6	24.2	24.2	0.322	0.322	0.188	0.188	
Front	UAT	Rel. 99 RMC	5	4183	836.6	24.2	24.2	0.275	0.275	0.158	0.158	
Rear	LAT	Rel. 99 RMC	5	4132	826.4	24.25	24.25	0.873	0.873	0.598	0.598	
Rear	LAT	Rel. 99 RMC	5	4183	836.6	24.25	24.25	0.814	0.814	0.558	0.558	
Rear	LAT	Rel. 99 RMC	5	4233	846.6	24.25	24.10	0.864	0.894	0.586	0.607	10
Front	LAT	Rel. 99 RMC	5	4183	836.6	24.25	24.25	0.728	0.728	0.553	0.553	

Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Edge 1	UAT	Rel. 99 RMC	5	4183	836.6	24.2	24.2	0.194	0.194	0.092	0.092	
Edge 2	UAT	Rel. 99 RMC	5	4183	836.6	24.2	24.2	0.361	0.361	0.238	0.238	
Edge 4	UAT	Rel. 99 RMC	5	4183	836.6	24.2	24.2	0.115	0.115	0.073	0.073	
Edge 2	LAT	Rel. 99 RMC	5	4183	836.6	24.25	24.25	0.483	0.483	0.311	0.311	
Edge 3	LAT	Rel. 99 RMC	5	4183	836.6	24.25	24.25	0.212	0.212	0.105	0.105	
Edge 4	LAT	Rel. 99 RMC	5	4183	836.6	24.25	24.25	0.693	0.693	0.458	0.458	

Note(s):

1. 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
2. With headset attached. According to KDB 648474 Section 2.3, 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.

12.5. LTE Band 2 (20MHz Bandwidth)

12.5.1. Head Exposure Conditions

Test Position	Antenna	Mode	UL Ch #	Freq. (MHz)	UL RB Allocation	UL RB Start	Meas. Pwr (dBm)	1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Meas.	Scaled	Meas.	Scaled	
Left Touch	UAT	QPSK	18900	1880.0	1	49	22.5	0.704	0.704	0.359	0.359	
					50	24	21.7	0.571	0.571	0.293	0.293	
Left Tilt	UAT	QPSK	18900	1880.0	1	49	22.5	0.718	0.718	0.362	0.362	
					50	24	21.7	0.559	0.559	0.282	0.282	
Right Touch	UAT	QPSK	18700	1860.0	1	49	22.5	0.973	0.973	0.518	0.518	
			18900	1880.0	1	49	22.5	0.982	0.982	0.516	0.516	
					50	24	21.7	0.752	0.752	0.397	0.397	
					100	0	21.5	0.766	0.766	0.401	0.401	
			19100	1900.0	1	49	22.5	0.956	0.956	0.496	0.496	
Right Tilt	UAT	QPSK	18700	1860.0	1	49	22.5	0.822	0.822	0.439	0.439	
			18900	1880.0	1	49	22.5	0.816	0.816	0.432	0.432	
					50	24	21.7	0.638	0.638	0.338	0.338	
					100	0	21.5	0.525	0.525	0.284	0.284	
			19100	1900.0	1	49	22.5	0.794	0.794	0.413	0.413	
Left Touch	LAT	QPSK	18700	1860.0	1	49	23.0	0.651	0.651	0.422	0.422	
			18900	1880.0	1	49	23.0	0.846	0.846	0.556	0.556	
					50	24	22.2	0.640	0.640	0.420	0.420	
					100	0	22.0	0.631	0.631	0.403	0.403	
			19100	1900.0	1	49	23.0	0.772	0.772	0.492	0.492	
Left Tilt	LAT	QPSK	18900	1880.0	1	49	23.0	0.534	0.534	0.316	0.316	
					50	24	22.2	0.403	0.403	0.239	0.239	
Right Touch	LAT	QPSK	18700	1860.0	1	49	23.0	1.090	1.090	0.663	0.663	
					50	24	22.3	0.854	0.854	0.518	0.518	
			18900	1880.0	1	49	23.0	1.180	**1.180**	0.719	0.719	11
					50	24	22.2	0.898	0.898	0.546	0.546	
					100	0	22.1	0.885	0.885	0.538	0.538	
			19100	1900.0	1	49	23.0	1.030	1.030	0.613	0.613	
					50	24	22.9	0.900	0.900	0.541	0.541	
Right Tilt	LAT	QPSK	18900	1880.0	1	49	23.0	0.447	0.447	0.277	0.277	
					50	24	22.2	0.337	0.337	0.210	0.210	

12.5.2. Body-worn Accessory & Hotspot Exposure Conditions

Body-worn Accessory & Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	UL Ch #	Freq. (MHz)	UL RB Allocation	UL RB Start	Meas. Pwr (dBm)	1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
									Meas.	Scaled	Meas.	Scaled	
Rear	UAT	QPSK	5	18900	1880.0	1	49	22.25	0.740	0.740	0.389	0.389	
						50	24	21.20	0.569	0.569	0.299	0.299	
Front	UAT	QPSK	5	18900	1880.0	1	49	22.25	0.572	0.572	0.314	0.314	
						50	24	21.20	0.439	0.439	0.240	0.240	
Rear	LAT	QPSK	5	18700	1860.0	1	49	19.25	1.000	1.000	0.491	0.491	
						50	24	18.25	0.803	0.803	0.392	0.392	
				18900	1880.0	1	49	19.25	1.080	1.080	0.532	0.532	
						50	24	18.20	0.837	0.837	0.410	0.410	
						100	0	18.20	0.828	0.828	0.404	0.404	
				19100	1900.0	1	49	19.25	1.090	**1.090**	0.517	0.517	12
						50	24	18.25	0.877	0.877	0.416	0.416	
Front	LAT	QPSK	5	18900	1880.0	1	49	19.25	0.773	0.773	0.418	0.418	
						50	24	18.20	0.591	0.591	0.321	0.321	

Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Meas. Pwr (dBm)	1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
									Meas.	Scaled	Meas.	Scaled	
Edge 1	UAT	QPSK	5	18900	1880.0	1	49	22.25	0.433	0.433	0.184	0.184	
						50	24	21.20	0.334	0.334	0.140	0.140	
Edge 2	UAT	QPSK	5	18900	1880.0	1	49	22.25	0.138	0.138	0.074	0.074	
						50	24	21.20	0.113	0.113	0.060	0.060	
Edge 4	UAT	QPSK	5	18900	1880.0	1	49	22.25	0.369	0.369	0.199	0.199	
						50	24	21.20	0.283	0.283	0.153	0.153	
Edge 2	LAT	QPSK	5	18900	1880.0	1	49	19.25	0.510	0.510	0.276	0.276	
						50	24	18.20	0.396	0.396	0.213	0.213	
Edge 3	LAT	QPSK	5	18900	1880.0	1	49	19.25	0.771	0.771	0.375	0.375	
						50	24	18.20	0.590	0.590	0.285	0.285	
Edge 4	LAT	QPSK	5	18900	1880.0	1	49	19.25	0.077	0.077	0.041	0.041	
						50	24	18.20	0.060	0.060	0.032	0.032	

Note(s):

1. 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
2. Per KDB 941225 D05 SAR for LTE Devices, SAR test reduction is applied using the following criteria:
   - Testing for Low and High Channel 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.
3. With headset attached. According to KDB 648474 Section 2.3, 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.

12.6. LTE Band 5 (10MHz Bandwidth)

12.6.1. Head Exposure Conditions

Test Position	Antenna	Mode	UL Ch #	Freq. (MHz)	UL RB Allocation	UL RB Start	Meas. Pwr (dBm)	1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Meas.	Scaled	Meas.	Scaled	
Left Touch	UAT	QPSK	20525	836.6	1	24	23.7	0.556	0.556	0.396	0.396	13
					25	12	22.9	0.405	0.405	0.291	0.291	
Left Tilt	UAT	QPSK	20525	836.6	1	24	23.7	0.365	0.365	0.215	0.215	
					25	12	22.9	0.269	0.269	0.160	0.160	
Right Touch	UAT	QPSK	20525	836.6	1	24	23.7	0.452	0.452	0.295	0.295	
					25	12	22.9	0.345	0.345	0.224	0.224	
Right Tilt	UAT	QPSK	20525	836.6	1	24	23.7	0.364	0.364	0.210	0.210	
					25	12	22.9	0.281	0.281	0.156	0.156	
Left Touch	LAT	QPSK	20525	836.6	1	24	24.0	0.517	0.517	0.390	0.390	
					25	12	22.9	0.398	0.398	0.300	0.300	
Left Tilt	LAT	QPSK	20525	836.6	1	24	24.0	0.236	0.236	0.179	0.179	
					25	12	22.9	0.201	0.201	0.153	0.153	
Right Touch	LAT	QPSK	20525	836.6	1	24	24.0	0.511	0.511	0.378	0.378	
					25	12	22.9	0.392	0.392	0.290	0.290	
Right Tilt	LAT	QPSK	20525	836.6	1	24	24.0	0.250	0.250	0.191	0.191	
					25	12	22.9	0.186	0.186	0.142	0.142	

12.6.2. Body-worn Accessory & Hotspot Exposure Conditions

Body-worn Accessory & Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	UL Ch #	Freq. (MHz)	UL RB Allocation	UL RB Start	Meas. Pwr (dBm)	1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
									Meas.	Scaled	Meas.	Scaled	
Rear	UAT	QPSK	5	20525	836.6	1	24	23.7	0.266	0.266	0.148	0.148	
						25	12	22.5	0.231	0.231	0.132	0.132	
Front	UAT	QPSK	5	20525	836.6	1	24	23.7	0.184	0.184	0.105	0.105	
						25	12	22.5	0.162	0.162	0.091	0.091	
Rear	LAT	QPSK	5	20450	829.0	1	24	24.0	0.702	0.702	0.479	0.479	
				20525	836.6	1	24	24.0	0.863	0.863	0.579	0.579	14
						25	12	23.0	0.722	0.722	0.484	0.484	
						50	0	23.0	0.732	0.732	0.490	0.490	
				20600	844.0	1	24	24.0	0.824	0.824	0.550	0.550	
Front	LAT	QPSK	5	20525	836.6	1	24	24.0	0.773	0.773	0.578	0.578	
						25	12	23.0	0.642	0.642	0.479	0.479	

Hotspot Exposure Conditions

Test Position	Antenna	Mode	Dist. (mm)	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Meas. Pwr (dBm)	1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
									Meas.	Scaled	Meas.	Scaled	
Edge 1	UAT	QPSK	5	20525	836.6	1	24	23.7	0.175	0.175	0.081	0.081	
						25	12	22.5	0.132	0.132	0.061	0.061	
Edge 2	UAT	QPSK	5	20525	836.6	1	24	23.7	0.423	0.423	0.277	0.277	
						25	12	22.5	0.326	0.326	0.213	0.213	
Edge 4	UAT	QPSK	5	20525	836.6	1	24	23.7	0.109	0.109	0.071	0.071	
						25	12	22.5	0.086	0.086	0.056	0.056	
Edge 2	LAT	QPSK	5	20525	836.6	1	24	24.0	0.481	0.481	0.310	0.310	
						25	12	23.0	0.406	0.406	0.261	0.261	
Edge 3	LAT	QPSK	5	20525	836.6	1	24	24.0	0.211	0.211	0.105	0.105	
						25	12	23.0	0.176	0.176	0.088	0.088	
Edge 4	LAT	QPSK	5	20525	836.6	1	24	24.0	0.787	0.787	0.517	0.517	
						25	12	23.0	0.650	0.650	0.426	0.426	

Note(s):

1. 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
2. Per KDB 941225 D05 SAR for LTE Devices, SAR test reduction is applied using the following criteria:
   - Testing for Low and High Channel 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 $\geq$ 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.
3. With headset attached. According to KDB 648474 Section 2.3, 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.

12.7. Wi-Fi (DTS Band)

12.7.1. Head Exposure Conditions

WiFi Vendor	Band	Test Position	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor A	2.4GHz	Left Touch	802.11b	6	2437	14.5	14.5	0.229	0.229	0.119	0.119	
		Left Tilt	802.11b	6	2437	14.5	14.5	0.156	0.156	0.074	0.074	
		Right Touch	802.11b	6	2437	14.5	14.5	0.588	**0.588**	0.273	0.273	15
		Right Tilt	802.11b	6	2437	14.5	14.5	0.413	0.413	0.183	0.183	
Vendor B	2.4GHz	Left Touch	802.11b	6	2437	14.5	14.5	0.154	0.154	0.080	0.080	
		Left Tilt	802.11b	6	2437	14.5	14.5	0.111	0.111	0.053	0.053	
		Right Touch	802.11b	6	2437	14.5	14.5	0.375	0.375	0.173	0.173	
		Right Tilt	802.11b	6	2437	14.5	14.5	0.280	0.280	0.125	0.125	
Vendor C	2.4GHz	Left Touch	802.11b	6	2437	14.5	14.5	0.135	0.135	0.069	0.069	
		Left Tilt	802.11b	6	2437	14.5	14.5	0.096	0.096	0.044	0.044	
		Right Touch	802.11b	6	2437	14.5	14.5	0.349	0.349	0.164	0.164	
		Right Tilt	802.11b	6	2437	14.5	14.5	0.228	0.228	0.099	0.099	
Vendor A	5.8GHz	Left Touch	802.11a	157	5785	16.0	16.0	0.376	0.376	0.098	0.098	
		Left Tilt	802.11a	157	5785	16.0	16.0	0.488	0.488	0.145	0.145	
		Right Touch	802.11a	157	5785	16.0	16.0	0.375	0.375	0.102	0.102	
		Right Tilt	802.11a	157	5785	16.0	16.0	0.327	0.327	0.088	0.088	
Vendor B	5.8GHz	Left Touch	802.11a	157	5785	16.0	16.0	0.297	0.297	0.074	0.074	
		Left Tilt	802.11a	157	5785	16.0	16.0	0.306	0.306	0.073	0.073	
		Right Touch	802.11a	157	5785	16.0	16.0	0.320	0.320	0.083	0.083	
		Right Tilt	802.11a	157	5785	16.0	16.0	0.196	0.196	0.046	0.046	
Vendor C	5.8GHz	Left Touch	802.11a	157	5785	16.0	16.0	0.352	0.352	0.096	0.096	
		Left Tilt	802.11a	157	5785	16.0	16.0	0.316	0.316	0.085	0.085	
		Right Touch	802.11a	157	5785	16.0	16.0	0.569	0.569	0.120	0.120	16
		Right Tilt	802.11a	157	5785	16.0	16.0	0.543	0.543	0.112	0.112	

12.7.2. Body-worn Accessory & Hotspot Mode Exposure Conditions

Body-worn Accessory & Hotspot Mode Exposure Conditions

WiFi Vendor	Band	Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor A	2.4GHz	Rear	802.11b	5	6	2437	14.5	14.5	0.462	**0.462**	0.205	0.205	17
		Front	802.11b	5	6	2437	14.5	14.5	0.217	0.217	0.111	0.111	
Vendor B	2.4GHz	Rear	802.11b	5	6	2437	14.5	14.5	0.316	0.316	0.132	0.132	
		Front	802.11b	5	6	2437	14.5	14.5	0.124	0.124	0.060	0.060	
Vendor C	2.4GHz	Rear	802.11b	5	6	2437	14.5	14.5	0.284	0.284	0.120	0.120	
		Front	802.11b	5	6	2437	14.5	14.5	0.137	0.137	0.067	0.067	

Body-worn Accessory Exposure Conditions

WiFi Vendor	Band	Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor A	5.8GHz	Rear	802.11a	5	157	5785	16.0	16.0	0.577	**0.577**	0.149	0.149	18
		Front	802.11a	5	157	5785	16.0	16.0	0.163	0.163	0.046	0.046	
Vendor B	5.8GHz	Rear	802.11a	5	157	5785	16.0	16.0	0.415	0.415	0.104	0.104	
		Front	802.11a	5	157	5785	16.0	16.0	0.141	0.141	0.033	0.033	
Vendor C	5.8GHz	Rear	802.11a	5	157	5785	16.0	16.0	0.560	0.560	0.144	0.144	
		Front	802.11a	5	157	5785	16.0	16.0	0.139	0.139	0.034	0.034	

Hotspot Mode Exposure Conditions

WiFi Vendor	Band	Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor A	2.4GHz	Edge 1	802.11b	5	6	2437	14.5	14.5	0.103	0.103	0.047	0.047	
		Edge 2	802.11b	5	6	2437	14.5	14.5	0.015	0.015	0.004	0.004	
		Edge 4	802.11b	5	6	2437	14.5	14.5	0.255	0.255	0.123	0.123	
Vendor B	2.4GHz	Edge 1	802.11b	5	6	2437	14.5	14.5	0.078	0.078	0.034	0.034	
		Edge 2	802.11b	5	6	2437	14.5	14.5	0.011	0.011	0.003	0.003	
		Edge 4	802.11b	5	6	2437	14.5	14.5	0.217	0.217	0.102	0.102	
Vendor C	2.4GHz	Edge 1	802.11b	5	6	2437	14.5	14.5	0.091	0.091	0.038	0.038	
		Edge 2	802.11b	5	6	2437	14.5	14.5	0.015	0.015	0.004	0.004	
		Edge 4	802.11b	5	6	2437	14.5	14.5	0.226	0.226	0.105	0.105	

Note(s):

1. 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

12.8. Wi-Fi (UNII Bands)

12.8.1. Head Exposure Conditions

WiFi Vendor	Band	Test Position	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor A	5.2GHz	Left Touch	802.11a	48	5240	14.0	14.0	0.133	0.133	0.036	0.036	
		Left Tilt	802.11a	48	5240	14.0	14.0	0.090	0.090	0.024	0.024	
		Right Touch	802.11a	48	5240	14.0	14.0	0.403	0.403	0.094	0.094	19
		Right Tilt	802.11a	48	5240	14.0	14.0	0.279	0.279	0.061	0.061	
	5.3GHz	Left Touch	802.11a	52	5260	15.0	15.0	0.162	0.162	0.046	0.046	
		Left Tilt	802.11a	52	5260	15.0	15.0	0.087	0.087	0.023	0.023	
		Right Touch	802.11a	52	5260	15.0	15.0	0.435	0.435	0.107	0.107	20
		Right Tilt	802.11a	52	5260	15.0	15.0	0.265	0.265	0.063	0.063	
	5.5GHz	Left Touch	802.11a	104	5520	15.5	15.5	0.296	0.296	0.096	0.096	
				116	5580	15.5	15.5	0.276	0.276	0.085	0.085	
				124	5620	15.5	15.5	0.373	0.373	0.110	0.110	
				136	5680	15.5	15.5	0.367	0.367	0.107	0.107	
		Left Tilt	802.11a	104	5520	15.5	15.5	0.361	0.361	0.110	0.110	
				116	5580	15.5	15.5	0.272	0.272	0.077	0.077	
				124	5620	15.5	15.5	0.352	0.352	0.109	0.109	
				136	5680	15.5	15.5	0.347	0.347	0.102	0.102	
		Right Touch	802.11a	104	5520	15.5	15.5	0.504	0.504	0.124	0.124	
				116	5580	15.5	15.5	0.446	0.446	0.120	0.120	
				124	5620	15.5	15.5	0.595	**0.595**	0.156	0.156	21
				136	5680	15.5	15.5	0.503	0.503	0.135	0.135	
		Right Tilt	802.11a	104	5520	15.5	15.5	0.406	0.406	0.110	0.110	
				116	5580	15.5	15.5	0.407	0.407	0.108	0.108	
				124	5620	15.5	15.5	0.511	0.511	0.127	0.127	
				136	5680	15.5	15.5	0.422	0.422	0.113	0.113	

WiFi Vendor	Band	Test Position	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor B	5.2GHz	Left Touch	802.11a	48	5240	14.0	14.0	0.217	0.217	0.055	0.055	
		Left Tilt	802.11a	48	5240	14.0	14.0	0.163	0.163	0.040	0.040	
		Right Touch	802.11a	48	5240	14.0	14.0	0.266	0.266	0.074	0.074	
		Right Tilt	802.11a	48	5240	14.0	14.0	0.137	0.137	0.037	0.037	
	5.3GHz	Left Touch	802.11a	52	5260	15.0	15.0	0.222	0.222	0.059	0.059	
		Left Tilt	802.11a	52	5260	15.0	15.0	0.161	0.161	0.042	0.042	
		Right Touch	802.11a	52	5260	15.0	15.0	0.331	0.331	0.094	0.094	
		Right Tilt	802.11a	52	5260	15.0	15.0	0.257	0.257	0.071	0.071	
	5.5GHz	Left Touch	802.11a	104	5520	15.5	15.5	0.272	0.272	0.079	0.079	
				116	5580	15.5	15.5	0.351	0.351	0.094	0.094	
				124	5620	15.5	15.5	0.243	0.243	0.072	0.072	
				136	5680	15.5	15.5	0.333	0.333	0.081	0.081	
		Left Tilt	802.11a	104	5520	15.5	15.5	0.229	0.229	0.064	0.064	
				116	5580	15.5	15.5	0.328	0.328	0.088	0.088	
				124	5620	15.5	15.5	0.260	0.260	0.062	0.062	
				136	5680	15.5	15.5	0.241	0.241	0.072	0.072	
		Right Touch	802.11a	104	5520	15.5	15.5	0.563	0.563	0.123	0.123	
				116	5580	15.5	15.5	0.536	0.536	0.120	0.120	
				124	5620	15.5	15.5	0.443	0.443	0.117	0.117	
				136	5680	15.5	15.5	0.497	0.497	0.130	0.130	
		Right Tilt	802.11a	104	5520	15.5	15.5	0.536	0.536	0.115	0.115	
				116	5580	15.5	15.5	0.493	0.493	0.112	0.112	
				124	5620	15.5	15.5	0.324	0.324	0.088	0.088	
				136	5680	15.5	15.5	0.293	0.293	0.078	0.078	

WiFi Vendor	Band	Test Position	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor C	5.2GHz	Left Touch	802.11a	48	5240	14.0	14.0	0.129	0.129	0.029	0.029	
		Left Tilt	802.11a	48	5240	14.0	14.0	0.093	0.093	0.020	0.020	
		Right Touch	802.11a	48	5240	14.0	14.0	0.147	0.147	0.035	0.035	
		Right Tilt	802.11a	48	5240	14.0	14.0	0.110	0.110	0.026	0.026	
	5.3GHz	Left Touch	802.11a	52	5260	15.0	15.0	0.252	0.252	0.061	0.061	
		Left Tilt	802.11a	52	5260	15.0	15.0	0.147	0.147	0.034	0.034	
		Right Touch	802.11a	52	5260	15.0	15.0	0.231	0.231	0.063	0.063	
		Right Tilt	802.11a	52	5260	15.0	15.0	0.213	0.213	0.052	0.052	
	5.5GHz	Left Touch	802.11a	104	5520	15.5	15.5	0.294	0.294	0.078	0.078	
				116	5580	15.5	15.5	0.262	0.262	0.067	0.067	
				124	5620	15.5	15.5	0.322	0.322	0.083	0.083	
				136	5680	15.5	15.5	0.375	0.375	0.098	0.098	
		Left Tilt	802.11a	104	5520	15.5	15.5	0.277	0.277	0.081	0.081	
				116	5580	15.5	15.5	0.324	0.324	0.085	0.085	
				124	5620	15.5	15.5	0.291	0.291	0.069	0.069	
				136	5680	15.5	15.5	0.330	0.330	0.092	0.092	
		Right Touch	802.11a	104	5520	15.5	15.5	0.455	0.455	0.099	0.099	
				116	5580	15.5	15.5	0.361	0.361	0.089	0.089	
				124	5620	15.5	15.5	0.478	0.478	0.111	0.111	
				136	5680	15.5	15.5	0.431	0.431	0.102	0.102	
		Right Tilt	802.11a	104	5520	15.5	15.5	0.476	0.476	0.107	0.107	
				116	5580	15.5	15.5	0.298	0.298	0.080	0.080	
				124	5620	15.5	15.5	0.334	0.334	0.088	0.088	
				136	5680	15.5	15.5	0.395	0.395	0.105	0.105	

12.8.2. Body-worn Accessory Exposure Conditions

WiFi Vendor	Band	Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor A	5.2GHz	Rear	802.11a	5	48	5240	14.0	14.0	0.370	0.370	0.097	0.097	22
		Front	802.11a	5	48	5240	14.0	14.0	0.095	0.095	0.021	0.021	
	5.3GHz	Rear	802.11a	5	52	5260	15.0	15.0	0.443	0.443	0.122	0.122	
		Front	802.11a	5	52	5260	15.0	15.0	0.119	0.119	0.029	0.029	
	5.5GHz	Rear	802.11a	5	104	5520	15.5	15.5	0.512	0.512	0.154	0.154	
					116	5580	15.5	15.5	0.386	0.386	0.124	0.124	
					124	5620	15.5	15.5	0.426	0.426	0.138	0.138	
					136	5680	15.5	15.5	0.521	**0.521**	0.153	0.153	23
		Front	802.11a	5	124	5620	15.5	15.5	0.320	0.320	0.107	0.107	
Vendor B	5.2GHz	Rear	802.11a	5	48	5240	14.0	14.0	0.261	0.261	0.068	0.068	
		Front	802.11a	5	48	5240	14.0	14.0	0.066	0.066	0.021	0.021	
	5.3GHz	Rear	802.11a	5	52	5260	15.0	15.0	0.338	0.338	0.087	0.087	
		Front	802.11a	5	52	5260	15.0	15.0	0.153	0.153	0.042	0.042	
	5.5GHz	Rear	802.11a	5	104	5520	15.5	15.5	0.477	0.477	0.148	0.148	
					116	5580	15.5	15.5	0.450	0.450	0.135	0.135	
					124	5620	15.5	15.5	0.399	0.399	0.126	0.126	
					136	5680	15.5	15.5	0.405	0.405	0.123	0.123	
		Front	802.11a	5	124	5620	15.5	15.5	0.190	0.190	0.070	0.070	
Vendor C	5.2GHz	Rear	802.11a	5	48	5240	14.0	14.0	0.344	0.344	0.083	0.083	
		Front	802.11a	5	48	5240	14.0	14.0	0.059	0.059	0.013	0.013	
	5.3GHz	Rear	802.11a	5	52	5260	15.0	15.0	0.479	0.479	0.116	0.116	24
		Front	802.11a	5	52	5260	15.0	15.0	0.105	0.105	0.026	0.026	
	5.5GHz	Rear	802.11a	5	104	5520	15.5	15.5	0.257	0.257	0.090	0.090	
					116	5580	15.5	15.5	0.385	0.385	0.121	0.121	
					124	5620	15.5	15.5	0.367	0.367	0.122	0.122	
					136	5680	15.5	15.5	0.357	0.357	0.117	0.117	
		Front	802.11a	5	124	5620	15.5	15.5	0.192	0.192	0.072	0.072	

12.9. Bluetooth

12.9.1. Body-worn Accessory Exposure Considerations

WiFi Vendor	Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Vendor A	Rear	GFSK	5	39	2441	13.0	12.8	0.015	0.016	0.004	0.004	
	Front	GFSK	5	39	2441	13.0	12.8	0.012	0.013	0.004	0.004	
Vendor B	Rear	GFSK	5	39	2441	13.0	12.9	0.015	0.015	0.005	0.005	
	Front	GFSK	5	39	2441	13.0	12.9	0.012	0.012	0.004	0.004	
Vendor C	Rear	GFSK	5	39	2441	13.0	13.0	0.016	0.016	0.004	0.004	25
	Front	GFSK	5	39	2441	13.0	13.0	0.013	0.013	0.004	0.004	

Note(s):

1. 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

13. 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; steps 2) through 4) do not apply.
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.

13.1. The Highest Measured SAR Configuration in Each Frequency Band

Freq. Band (MHz)	Air Interface	Head	Body-worn Accessory	Hotspot
850	GSM 850			0.910 W/kg
	W-CDMA Band 5			
	LTE Band 5			
1900	GSM 1900			
	W-CDMA Band 2	1.180 W/kg		
	LTE Band 2	1.180 W/kg		
2400	WiFi 802.11b/g/n	< 0.80 W/kg	< 0.80 W/kg	< 0.80 W/kg
	Bluetooth	< 0.80 W/kg	< 0.80 W/kg	< 0.80 W/kg
5000	WiFi 802.11a/n	< 0.80 W/kg	< 0.80 W/kg	< 0.80 W/kg

13.2. Repeated Measurement Results

Head Exposure Condition

Frequency band	Test Position	Antenna	Mode	Ch #.	Freq. (MHz)	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio	Note
						Original	Repeated		
WCDMA Band 2	Right Touch	LAT	Rel. 99 RMC	9400	1880.0	1.180	1.150	1.03	1
LTE Band 2	Right Touch	LAT	QPSK RB1/49	18900	1880.0	1.180	1.160	1.02	1

Body-worn Accessory Exposure Condition

N/A

Hotspot Exposure Conditions

Frequency band	Test Position	Antenna	Mode	Ch #.	Freq. (MHz)	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio	Note
						Original	Repeated		
GSM850	Rear	LAT	GPRS 2slots	251	848.8	0.910	0.896	1.02	1

Note(s):

1. 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.

14. Simultaneous Transmission SAR Analysis

KDB 447498 D01 General RF Exposure Guidance v05, introduces a new formula for calculating the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR = (SAR_1 + SAR_2)^{1.5} / Ri$$

Where:

SAR_1 is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR_2 is the highest measured or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

Ri is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$

A new threshold of 0.04 is also introduced in the draft KDB. Thus, in order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / Ri < 0.04$$

14.1. Sum of the SAR for GSM850 (UAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		GSM 850	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.775	0.376			1.151	No
		0.775		0.375		1.150	No
	Left Tilt	0.541	0.488			1.029	No
		0.541		0.361		0.902	No
	Right Touch	0.633	0.588			1.221	No
		0.633		0.595		1.228	No
	Right Tilt	0.496	0.543			1.039	No
		0.496		0.536		1.032	No
Body-worn Accessory & Hotspot	Rear	0.498	0.577			1.075	No
		0.498		0.521		1.019	No
		0.498			0.016	0.514	No
	Front	0.420	0.217			0.637	No
		0.420		0.320		0.740	No
		0.420			0.013	0.433	No
Hotspot	Edge 1	0.300	0.103			0.403	No
	Edge 2	0.571	0.015			0.586	No
	Edge 3	0	0			0	No
	Edge 4	0.221	0.255			0.476	No

SAR to Peak Location Separation Ratio (SPLSR)
As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.2. Sum of the SAR for GSM850 (LAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		GSM 850	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.705	0.376			1.081	No
		0.705		0.375		1.080	No
	Left Tilt	0.401	0.488			0.889	No
		0.401		0.361		0.762	No
	Right Touch	0.695	0.588			1.283	No
		0.695		0.595		1.290	No
	Right Tilt	0.413	0.543			0.956	No
		0.413		0.536		0.949	No
Body-worn Accessory & Hotspot	Rear	0.910	0.577			1.487	No
		0.910		0.521		1.431	No
		0.910			0.016	0.926	No
	Front	0.733	0.217			0.950	No
		0.733		0.320		1.053	No
		0.733			0.013	0.746	No
Hotspot	Edge 1	0	0.103			0.103	No
	Edge 2	0.749	0.015			0.764	No
	Edge 3	0.222	0			0.222	No
	Edge 4	0.490	0.255			0.745	No

SAR to Peak Location Separation Ratio (SPLSR)
As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.3. Sum of the SAR for GSM1900 (UAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		GSM 1900	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.535	0.376			0.911	No
		0.535		0.375		0.910	No
	Left Tilt	0.601	0.488			1.089	No
		0.601		0.361		0.962	No
	Right Touch	0.867	0.588			1.455	No
		0.867		0.595		1.462	No
	Right Tilt	0.717	0.543			1.260	No
		0.717		0.536		1.253	No
Body-worn Accessory & Hotspot	Rear	0.938	0.577			1.515	No
		0.938		0.521		1.459	No
		0.938			0.016	0.954	No
	Front	0.573	0.217			0.790	No
		0.573		0.320		0.893	No
		0.573			0.013	0.586	No
Hotspot	Edge 1	0.343	0.103			0.446	No
	Edge 2	0.180	0.015			0.195	No
	Edge 3	0	0			0	No
	Edge 4	0.417	0.255			0.672	No

SAR to Peak Location Separation Ratio (SPLSR)

As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.4. Sum of the SAR for GSM1900 (LAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		GSM 1900	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.590	0.376			0.966	No
		0.590		0.375		0.965	No
	Left Tilt	0.349	0.488			0.837	No
		0.349		0.361		0.710	No
	Right Touch	1.100	0.588			1.688	**Yes**
		1.100		0.595		1.695	**Yes**
	Right Tilt	0.318	0.543			0.861	No
		0.318		0.536		0.854	No
Body-worn Accessory & Hotspot	Rear	1.120	0.577			1.697	**Yes**
		1.120		0.521		1.641	**Yes**
		1.120			0.016	1.136	No
	Front	0.726	0.217			0.943	No
		0.726		0.320		1.046	No
		0.726			0.013	0.739	No
Hotspot	Edge 1	0	0.103			0.103	No
	Edge 2	0.848	0.015			0.863	No
	Edge 3	0.843	0			0.843	No
	Edge 4	0.076	0.255			0.331	No

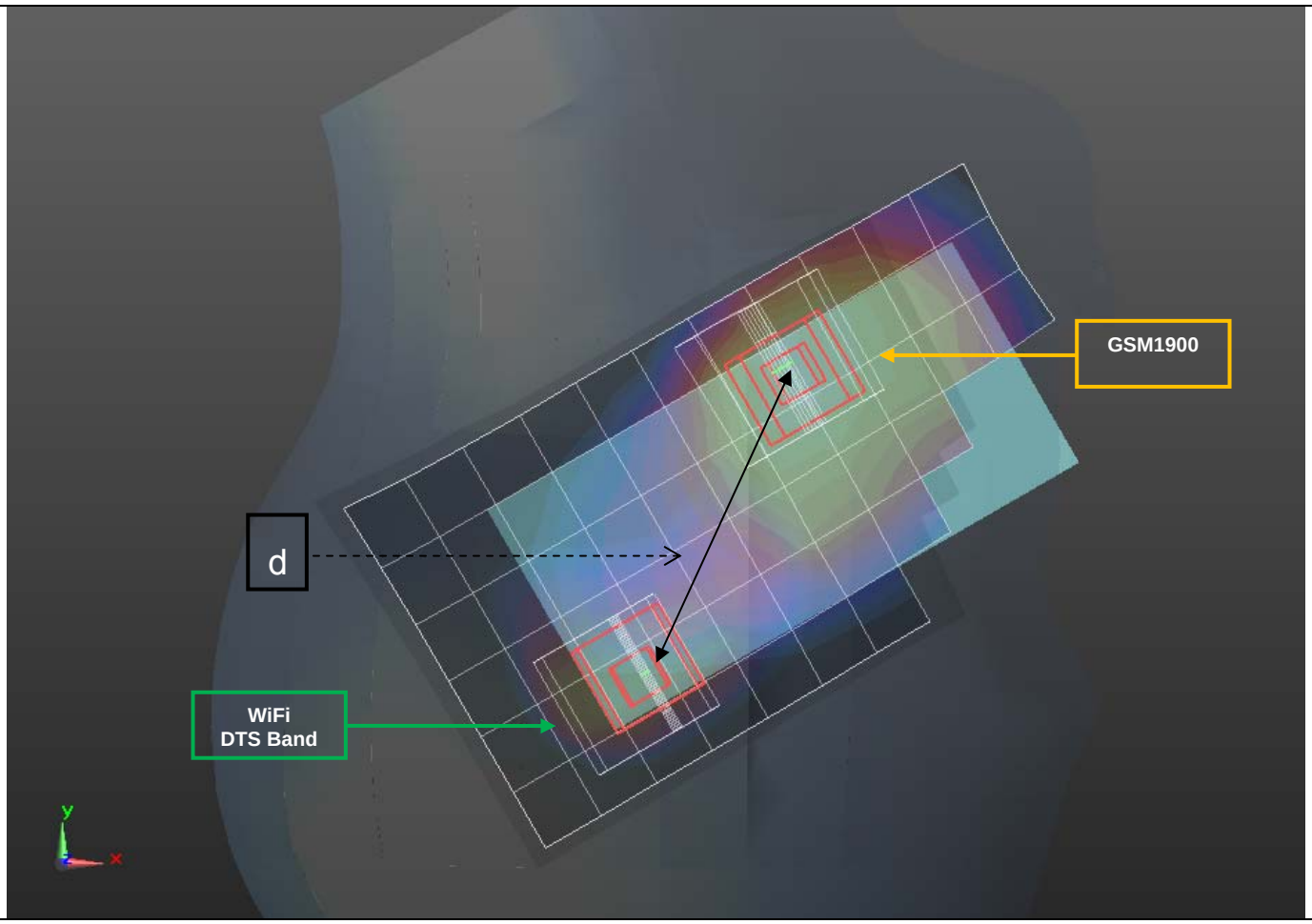
SAR to Peak Location Separation Ratio (SPLSR)

Case #	RF Exposure conditions	Test Position	Worst-case combination			∑ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
			GSM 1900	WiFi DTS Band	WiFi UNII Band					
1	Head	Right Touch	1.100	0.588		1.688	89.9	0.024	No	1
			1.100		0.595	1.695	83.8	0.026	No	2
	Body-worn Accessory & Hotspot	Rear	1.120	0.577		1.697	119.8	0.018	No	3
			1.120		0.521	1.641	120.7	0.017	No	4

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

Figure (1)



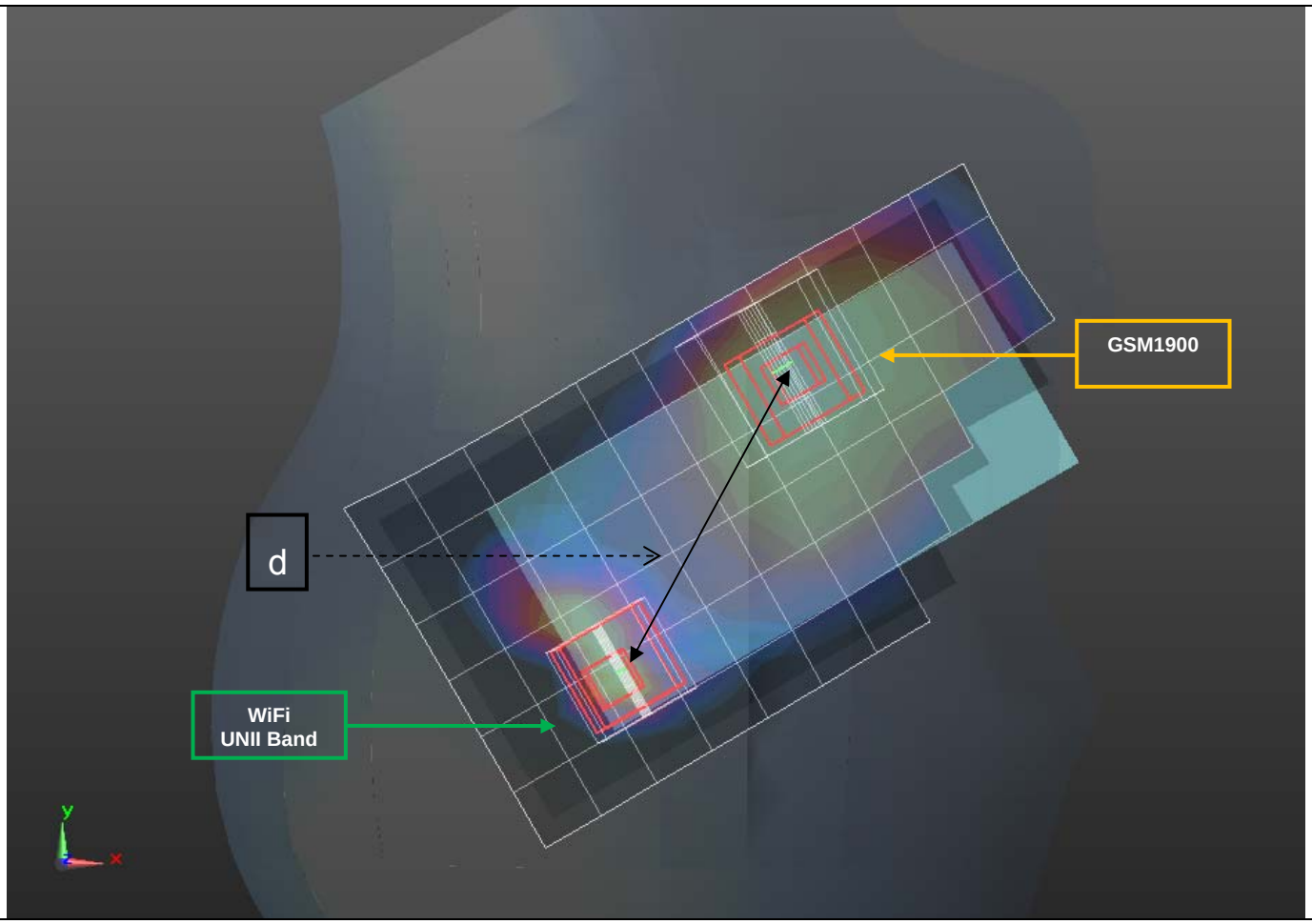
Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
GSM1900	1.7	0.0591	-0.256	-0.175
WiFi DTS Band	1.31	0.018	-0.336	-0.174

d: Calculated distance (mm)
89.9

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (2)



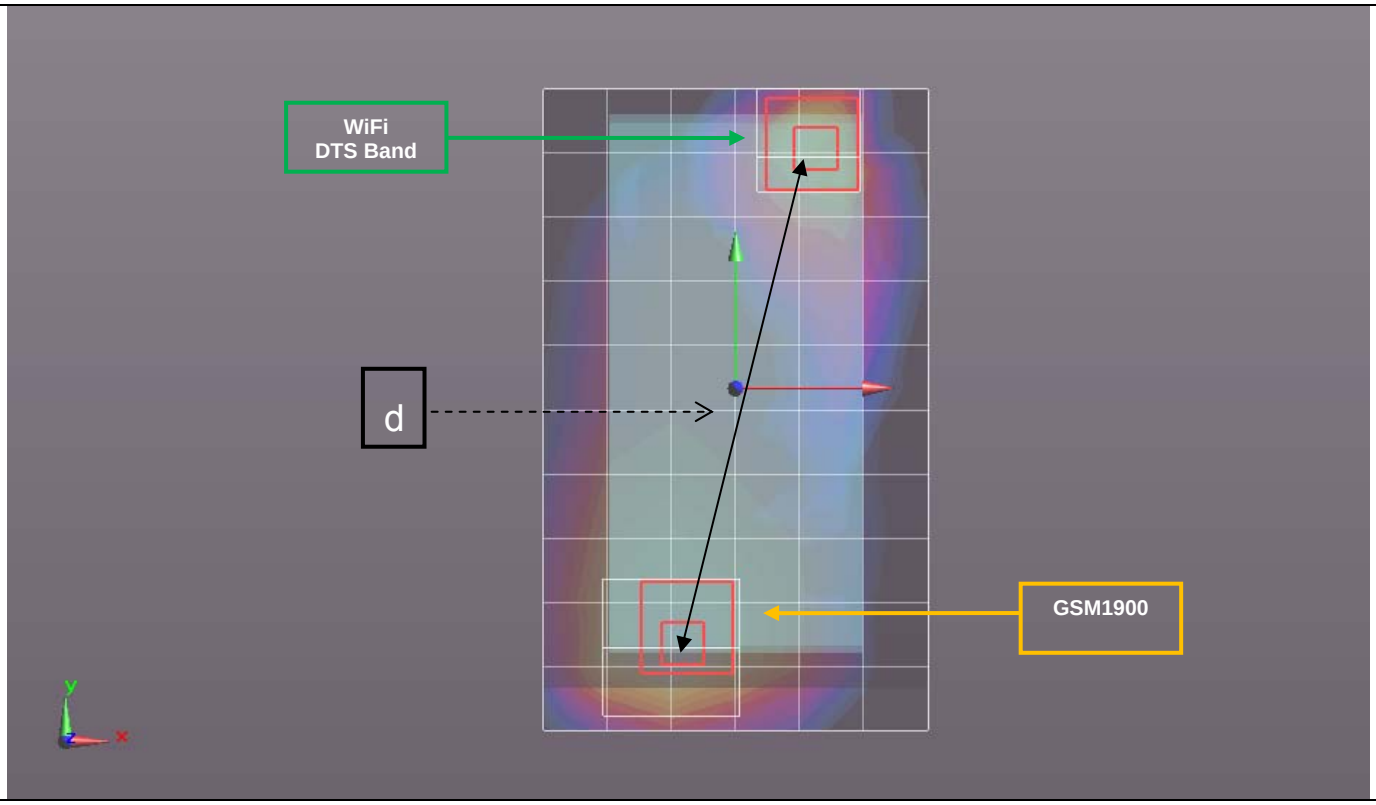
Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
GSM1900	1.7	0.0591	-0.256	-0.175
WiFi UNII Band	3.39	0.0179	-0.329	-0.174

d: Calculated distance (mm)
83.8

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (3)

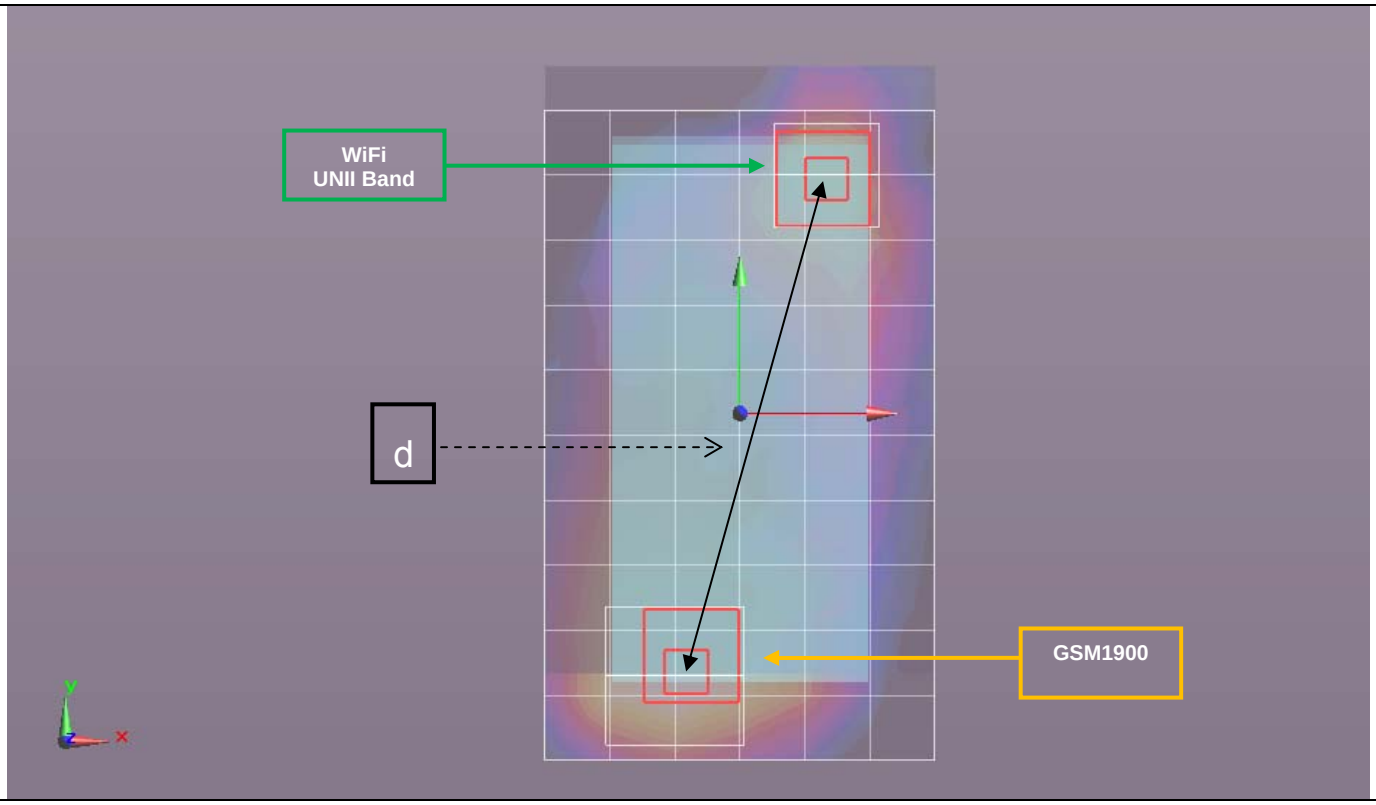


Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
GSM1900	1.66	-0.015	-0.0605	-0.183
WiFi DTS Band	3.01	0.0202	0.054	-0.184

d: Calculated distance (mm)
119.8

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (4)



Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
GSM1900	1.66	-0.015	-0.0605	-0.183
WiFi UNII Band	3.24	0.02	0.055	-0.184

d: Calculated distance (mm)
120.7

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

14.5. Sum of the SAR for W-CDMA Band 2 (UAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		W-CDMA Band 2	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.749	0.376			1.125	No
		0.749		0.375		1.124	No
	Left Tilt	0.786	0.488			1.274	No
		0.786		0.361		1.147	No
	Right Touch	0.949	0.588			1.537	No
		0.949		0.595		1.544	No
	Right Tilt	0.896	0.543			1.439	No
		0.896		0.536		1.432	No
Body-worn Accessory & Hotspot	Rear	0.978	0.577			1.555	No
		0.978		0.521		1.499	No
		0.978			0.016	0.994	No
	Front	0.766	0.217			0.983	No
		0.766		0.320		1.086	No
		0.766			0.013	0.779	No
Hotspot	Edge 1	0.472	0.103			0.575	No
	Edge 2	0.259	0.015			0.274	No
	Edge 3	0	0			0.000	No
	Edge 4	0.603	0.255			0.858	No

SAR to Peak Location Separation Ratio (SPLSR)

As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.6. Sum of the SAR for W-CDMA Band 2 (LAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		W-CDMA Band 2	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.673	0.376			1.049	No
		0.673		0.375		1.048	No
	Left Tilt	0.426	0.488			0.914	No
		0.426		0.361		0.787	No
	Right Touch	1.180	0.588			1.768	**Yes**
		1.180		0.595		1.775	**Yes**
	Right Tilt	0.423	0.543			0.966	No
		0.423		0.536		0.959	No
Body-worn Accessory & Hotspot	Rear	0.736	0.577			1.313	No
		0.736		0.521		1.257	No
		0.736			0.016	0.752	No
	Front	0.644	0.217			0.861	No
		0.644		0.320		0.964	No
		0.644			0.013	0.657	No
Hotspot	Edge 1	0	0.103			0.103	No
	Edge 2	0.576	0.015			0.591	No
	Edge 3	0.684	0			0.684	No
	Edge 4	0.247	0.255			0.502	No

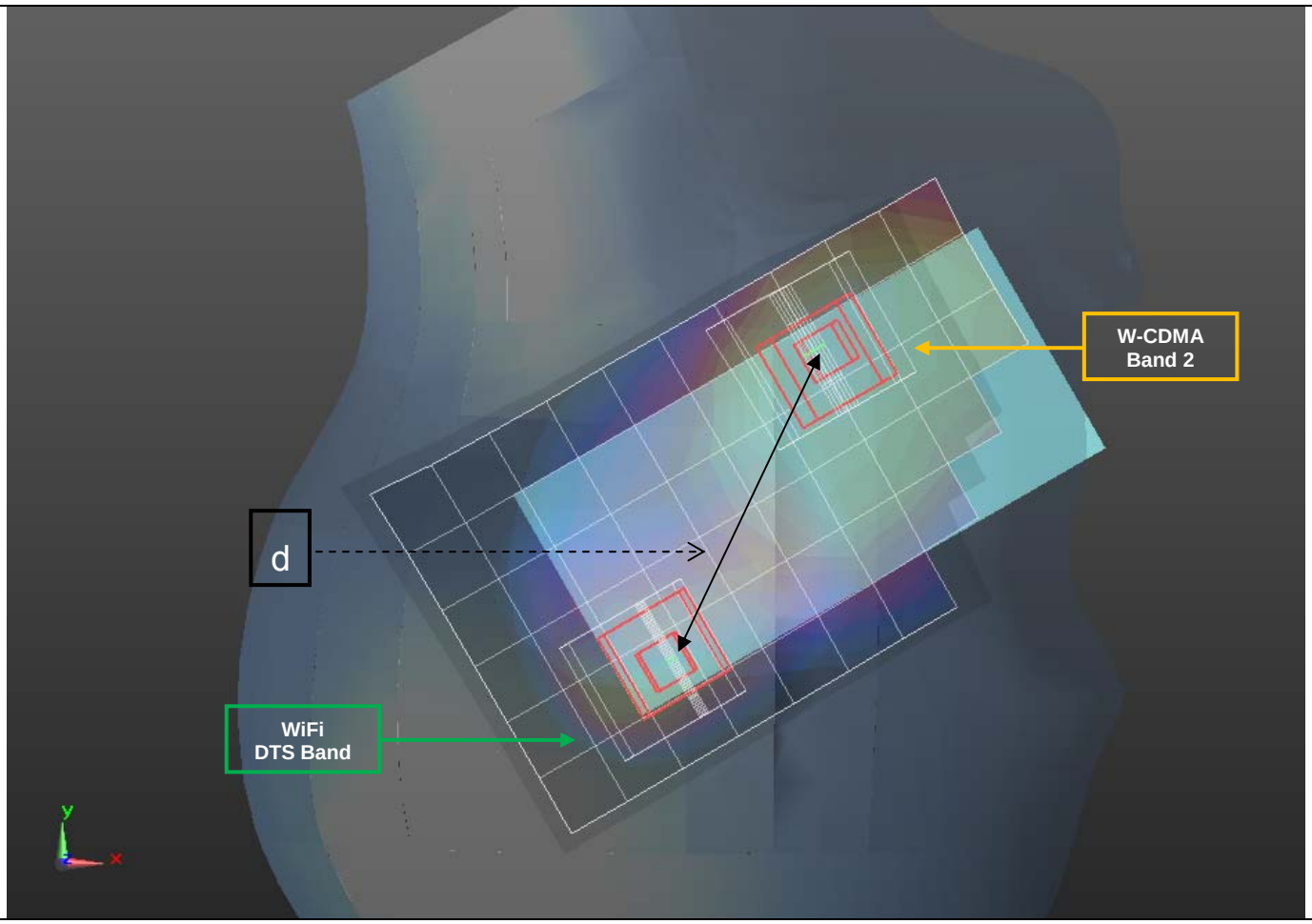
SAR to Peak Location Separation Ratio (SPLSR)

Case #	RF Exposure conditions	Test Position	Worst-case combination			∑ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
			W-CDMA Band 2	WiFi DTS Band	WiFi UNII Band					
2	Head	Right Touch	1.180	0.588		1.768	93	0.025	No	1
			1.180		0.595	1.775	86.9	0.027	No	2

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

Figure (1)

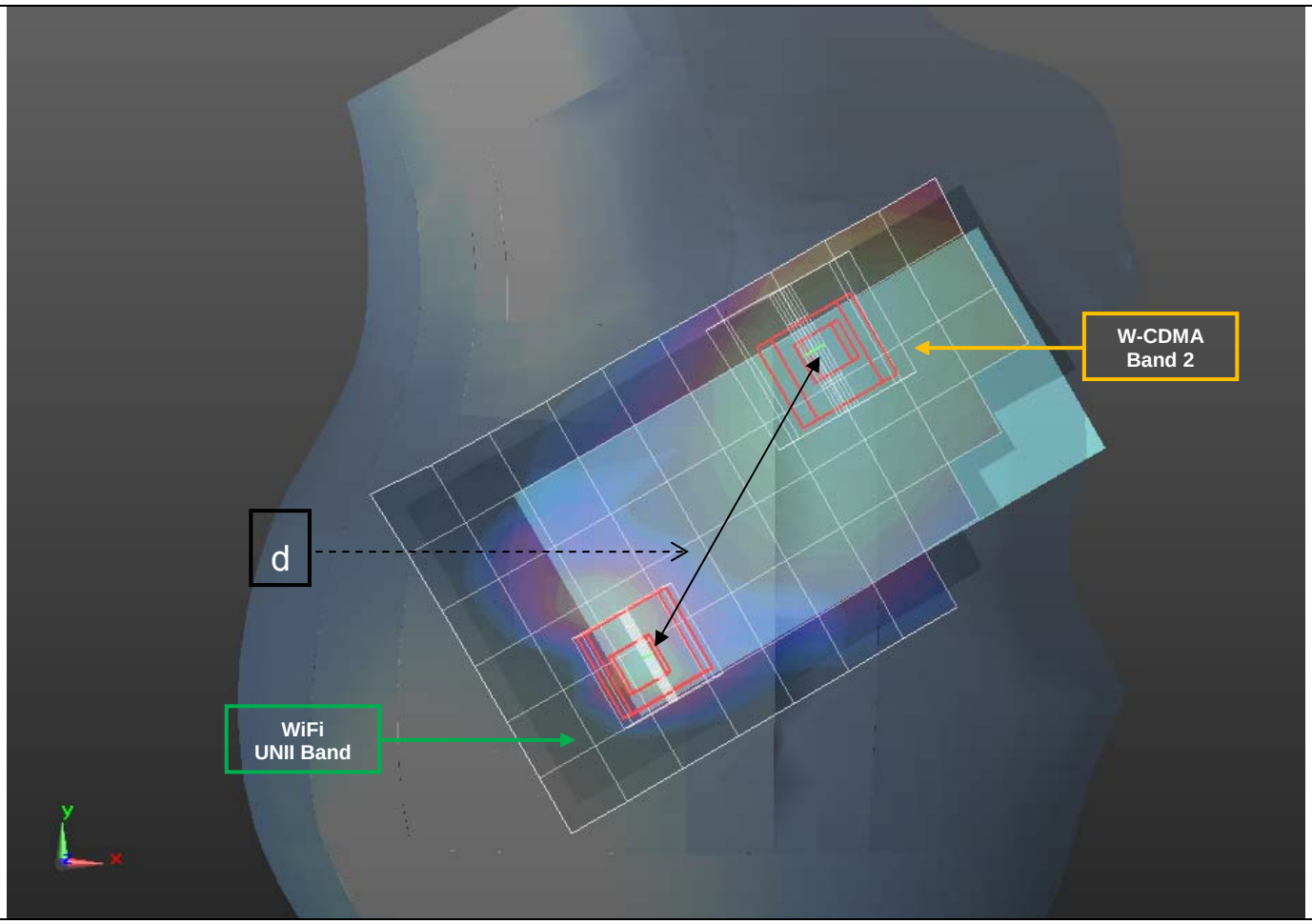


Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
W-CDMA Band 2	1.86	0.0618	-0.254	-0.174
WiFi DTS Band	1.31	0.018	-0.336	-0.174

d: Calculated distance (mm)
93.0

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (2)



Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
W-CDMA Band 2	1.86	0.0618	-0.254	-0.174
WiFi UNII Band	3.39	0.0179	-0.329	-0.174

d: Calculated distance (mm)
86.9

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

14.7. Sum of the SAR for W-CDMA Band 5 (UAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		W-CDMA Band 5	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.565	0.376			0.941	No
		0.565		0.375		0.940	No
	Left Tilt	0.386	0.488			0.874	No
		0.386		0.361		0.747	No
	Right Touch	0.433	0.588			1.021	No
		0.433		0.595		1.028	No
	Right Tilt	0.342	0.543			0.885	No
		0.342		0.536		0.878	No
Body-worn Accessory & Hotspot	Rear	0.322	0.577			0.899	No
		0.322		0.521		0.843	No
		0.322			0.016	0.338	No
	Front	0.275	0.217			0.492	No
		0.275		0.320		0.595	No
		0.275			0.013	0.288	No
Hotspot	Edge 1	0.194	0.103			0.297	No
	Edge 2	0.361	0.015			0.376	No
	Edge 3	0	0			0.000	No
	Edge 4	0.115	0.255			0.370	No

SAR to Peak Location Separation Ratio (SPLSR)
As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.8. Sum of the SAR for W-CDMA Band 5 (LAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		W-CDMA Band 5	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.552	0.376			0.928	No
		0.552		0.375		0.927	No
	Left Tilt	0.265	0.488			0.753	No
		0.265		0.361		0.626	No
	Right Touch	0.551	0.588			1.139	No
		0.551		0.595		1.146	No
	Right Tilt	0.247	0.543			0.790	No
		0.247		0.536		0.783	No
Body-worn Accessory & Hotspot	Rear	0.894	0.577			1.471	No
		0.894		0.521		1.415	No
		0.894			0.016	0.910	No
	Front	0.728	0.217			0.945	No
		0.728		0.320		1.048	No
		0.728			0.013	0.741	No
Hotspot	Edge 1	0	0.103			0.103	No
	Edge 2	0.483	0.015			0.498	No
	Edge 3	0.212	0			0.212	No
	Edge 4	0.693	0.255			0.948	No

SAR to Peak Location Separation Ratio (SPLSR)
As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.9. Sum of the SAR for LTE Band 2 (UAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		LTE Band 2	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.704	0.376			1.080	No
		0.704		0.375		1.079	No
	Left Tilt	0.718	0.488			1.206	No
		0.718		0.361		1.079	No
	Right Touch	0.982	0.588			**1.570**	No
		0.982		0.595		**1.577**	No
	Right Tilt	0.822	0.543			1.365	No
		0.822		0.536		1.358	No
Body-worn Accessory & Hotspot	Rear	0.740	0.577			1.317	No
		0.740		0.521		1.261	No
		0.740			0.016	0.756	No
	Front	0.572	0.217			0.789	No
		0.572		0.320		0.892	No
		0.572			0.013	0.585	No
Hotspot	Edge 1	0.433	0.103			0.536	No
	Edge 2	0.138	0.015			0.153	No
	Edge 3	0	0			0	No
	Edge 4	0.369	0.255			0.624	No

SAR to Peak Location Separation Ratio (SPLSR)

As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.10. Sum of the SAR for LTE Band 2 (LAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		LTE Band 2	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.846	0.376			1.222	No
		0.846		0.375		1.221	No
	Left Tilt	0.534	0.488			1.022	No
		0.534		0.361		0.895	No
	Right Touch	1.180	0.588			1.768	**Yes**
		1.180		0.595		1.775	**Yes**
	Right Tilt	0.447	0.543			0.990	No
		0.447		0.536		0.983	No
Body-worn Accessory & Hotspot	Rear	1.090	0.577			1.667	**Yes**
		1.090		0.521		1.611	**Yes**
		1.090			0.016	1.106	No
	Front	0.773	0.217			0.990	No
		0.773		0.320		1.093	No
		0.773			0.013	0.786	No
Hotspot	Edge 1	0	0.103			0.103	No
	Edge 2	0.510	0.015			0.525	No
	Edge 3	0.771	0			0.771	No
	Edge 4	0.077	0.255			0.332	No

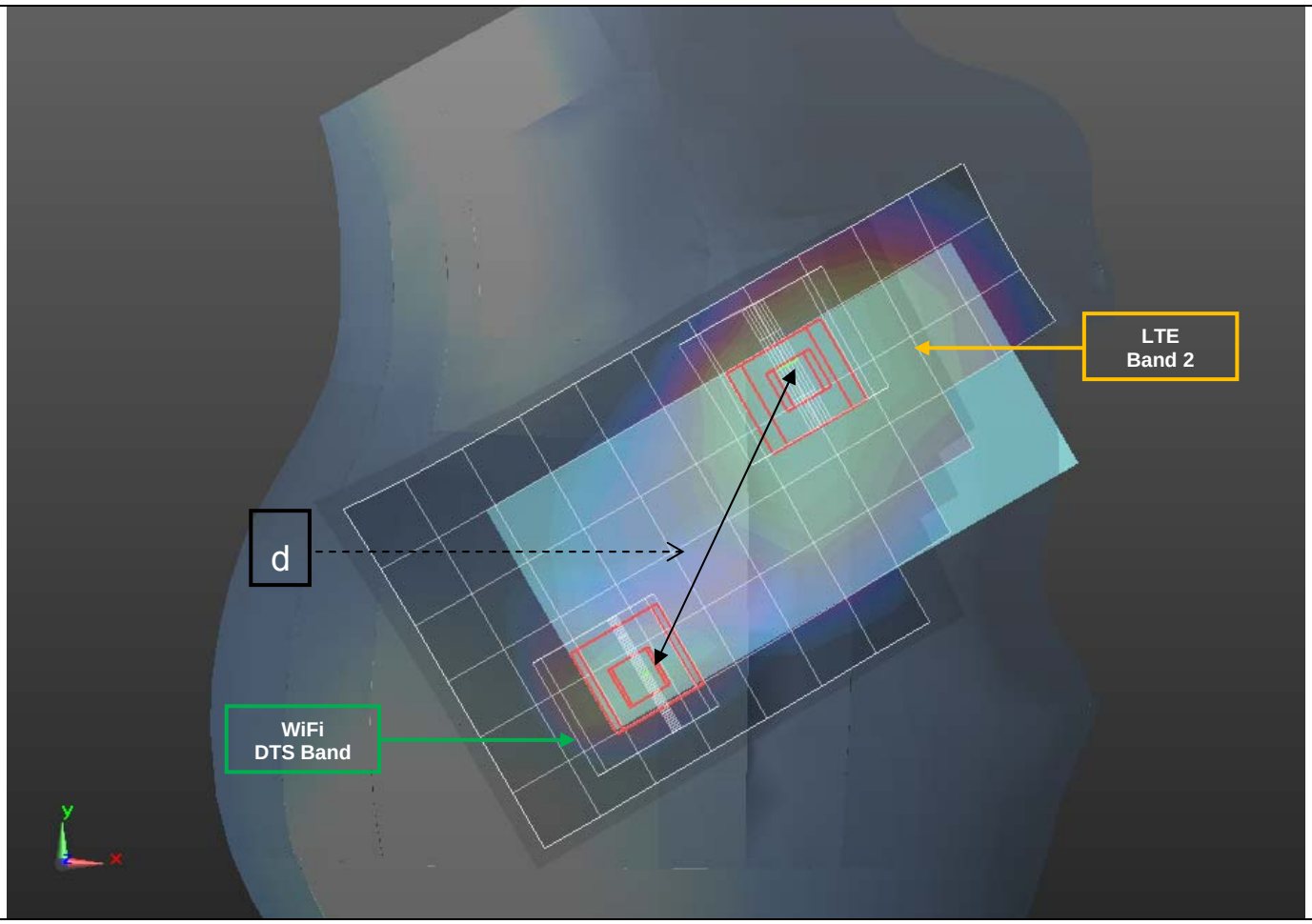
SAR to Peak Location Separation Ratio (SPLSR)

Case #	RF Exposure conditions	Test Position	Worst-case combination			∑ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
			LTE Band 2	WiFi DTS Band	WiFi UNII Band					
3	Head	Right Touch	1.180	0.588		1.768	90.9	0.026	No	1
			1.180		0.595	1.775	84.9	0.028	No	2
	Body-worn Accessory & Hotspot	Rear	1.090	0.577		1.667	119.3	0.018	No	3
			1.090		0.521	1.611	120.2	0.017	No	4

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

Figure (1)

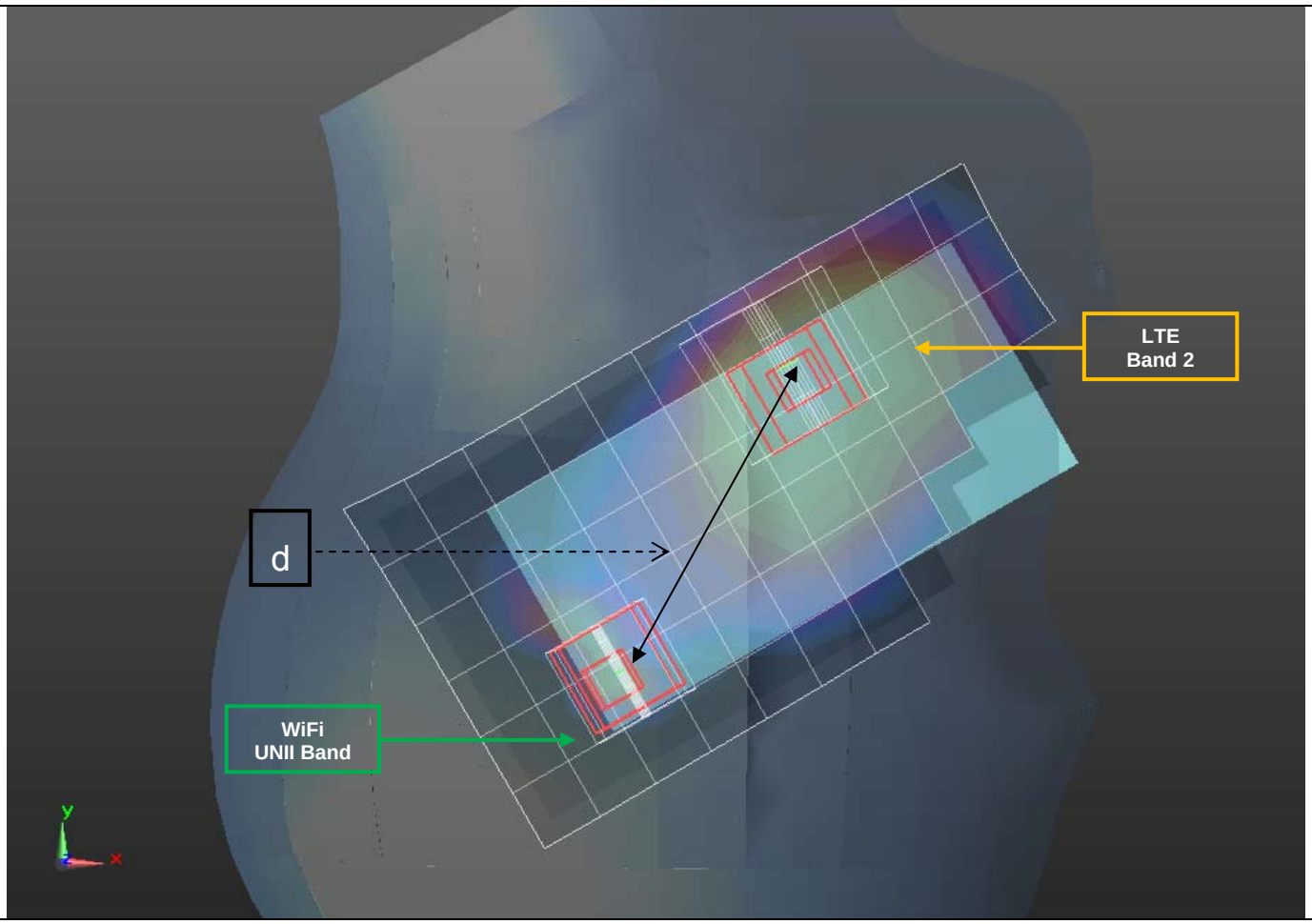


Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
LTE Band 2	1.85	0.0612	-0.256	-0.175
WiFi DTS Band	1.31	0.018	-0.336	-0.174

d: Calculated distance (mm)
90.9

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (2)

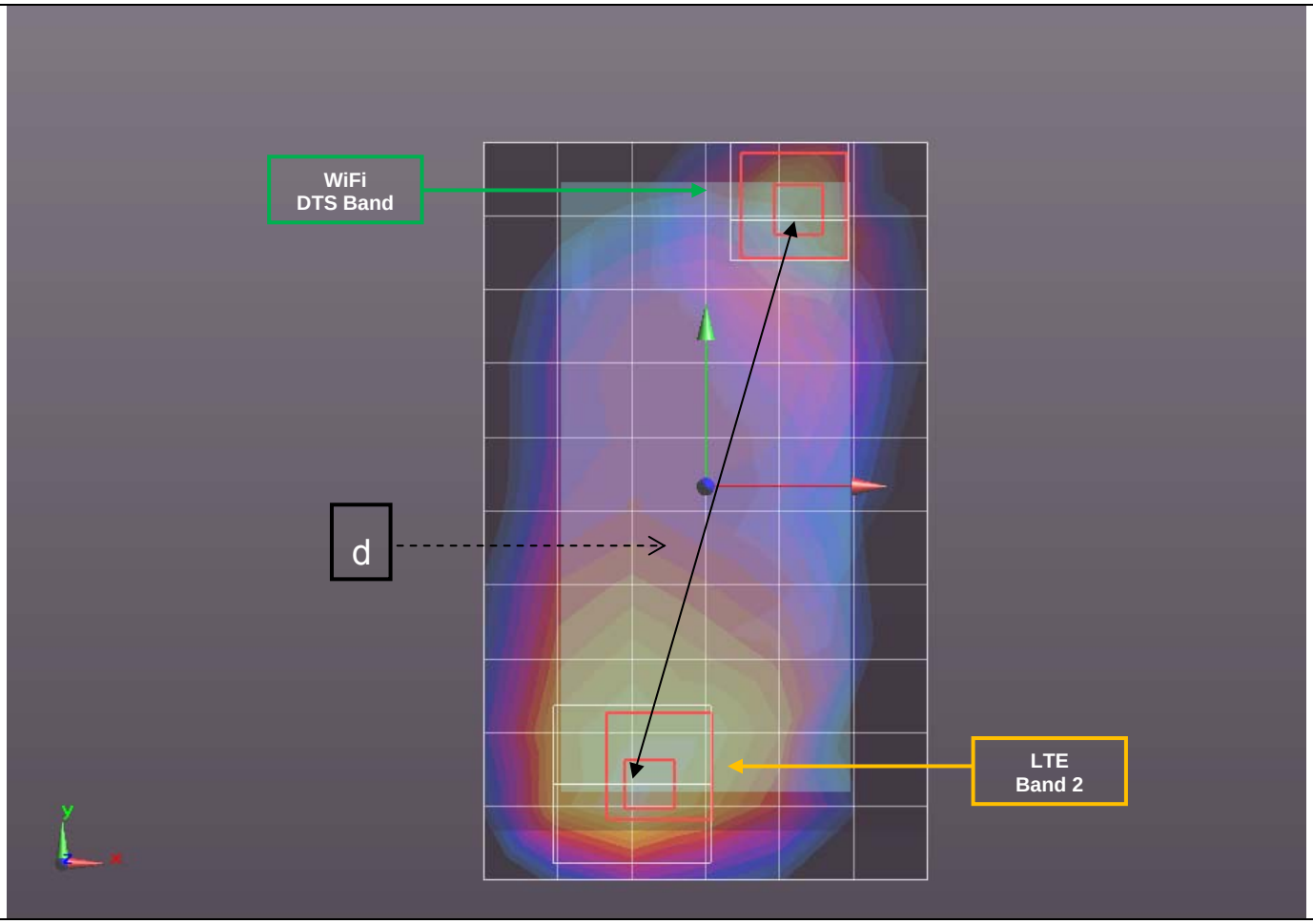


Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
LTE Band 2	1.85	0.0612	-0.256	-0.175
WiFi UNII Band	3.39	0.0179	-0.329	-0.174

d: Calculated distance (mm)
84.9

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (3)

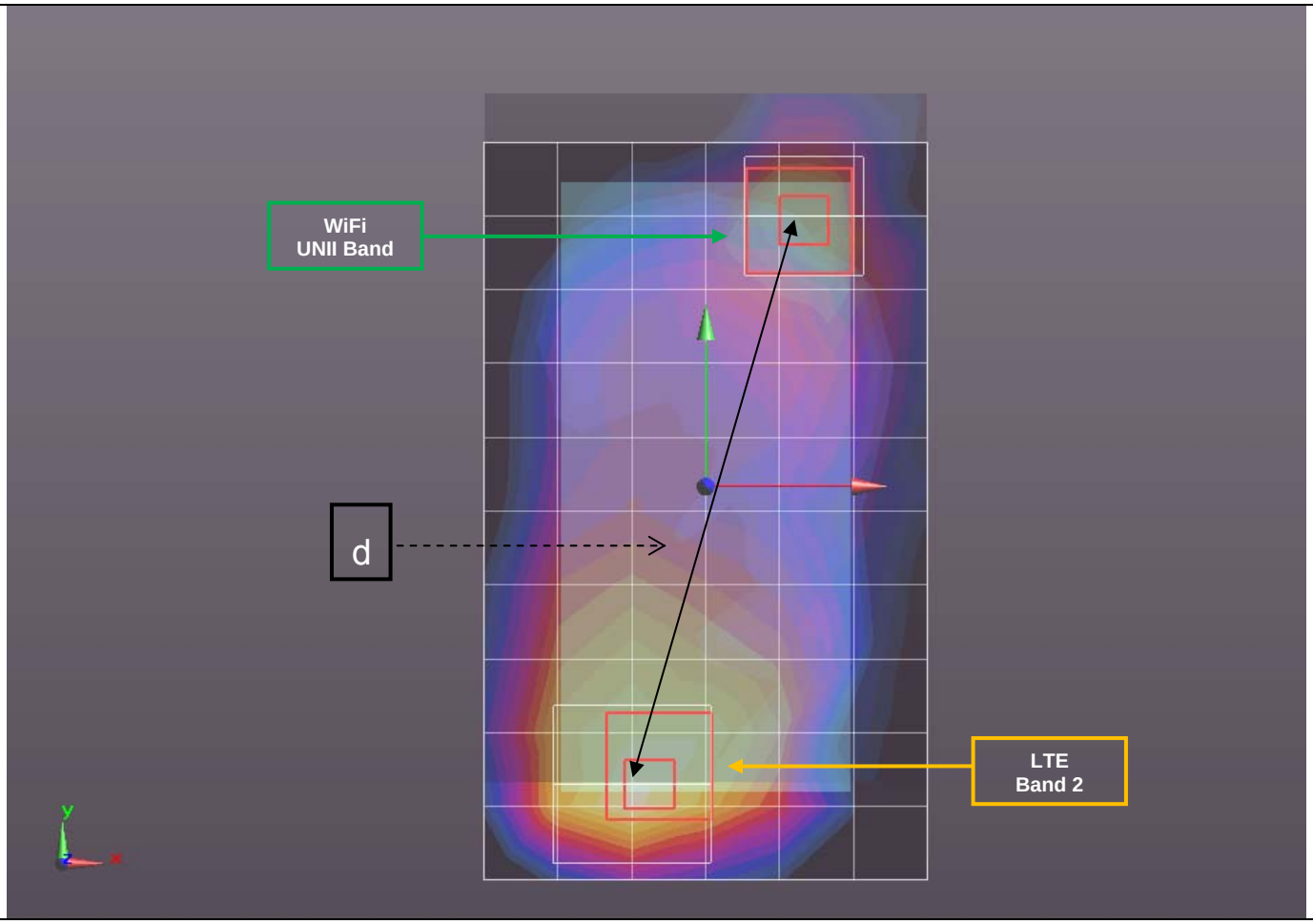


Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
LTE Band 2	2.3	-0.0134	-0.0605	-0.185
WiFi DTS Band	3.01	0.0202	0.054	-0.184

d: Calculated distance (mm)
119.3

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (4)



Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
LTE Band 2	2.3	-0.0134	-0.0605	-0.185
WiFi UNII Band	3.24	0.02	0.055	-0.184

d: Calculated distance (mm)
120.2

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

14.11. Sum of the SAR for LTE Band 5 (UAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		LTE Band 5	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.556	0.376			0.932	No
		0.556		0.375		0.931	No
	Left Tilt	0.365	0.488			0.853	No
		0.365		0.361		0.726	No
	Right Touch	0.452	0.588			1.040	No
		0.452		0.595		1.047	No
	Right Tilt	0.364	0.543			0.907	No
		0.364		0.536		0.900	No
Body-worn Accessory & Hotspot	Rear	0.266	0.577			0.843	No
		0.266		0.521		0.787	No
		0.266			0.016	0.282	No
	Front	0.184	0.217			0.401	No
		0.184		0.320		0.504	No
		0.184			0.013	0.197	No
Hotspot	Edge 1	0.175	0.103			0.278	No
	Edge 2	0.423	0.015			0.438	No
	Edge 3	0	0			0.000	No
	Edge 4	0.109	0.255			0.364	No

SAR to Peak Location Separation Ratio (SPLSR)
As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

14.12. Sum of the SAR for LTE Band 5 (LAT) + WiFi DTS & UNII Band & BT

RF Exposure conditions	Test Position	Simultaneous Transmission Scenario				∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
		LTE Band 5	WiFi DTS Band	WiFi UNII Band	Bluetooth		
Head	Left Touch	0.517	0.376			0.893	No
		0.517		0.375		0.892	No
	Left Tilt	0.236	0.488			0.724	No
		0.511		0.361		0.872	No
	Right Touch	0.511	0.588			1.099	No
		0.511		0.595		1.106	No
	Right Tilt	0.250	0.543			0.793	No
		0.250		0.536		0.786	No
Body-worn Accessory & Hotspot	Rear	0.863	0.577			1.440	No
		0.863		0.521		1.384	No
		0.863			0.016	0.879	No
	Front	0.773	0.217			0.990	No
		0.773		0.320		1.093	No
		0.773			0.013	0.786	No
Hotspot	Edge 1	0	0.103			0.103	No
	Edge 2	0.481	0.015			0.496	No
	Edge 3	0.211	0			0.211	No
	Edge 4	0.787	0.255			1.042	No

SAR to Peak Location Separation Ratio (SPLSR)
As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required.

15. Appendixes

Refer to separated files for the following appendixes.

15.1. System Performance Check Plots

15.2. Highest SAR Test Plots

15.3. Calibration Certificate for E-Field Probe EX3DV4 - SN 3749

15.4. Calibration Certificate for E-Field Probe EX3DV4 - SN 3751

15.5. Calibration Certificate for E-Field Probe EX3DV4 - SN 3772

15.6. Calibration Certificate for E-Field Probe EX3DV4 - SN 3686

15.7. Calibration Certificate for E-Field Probe EX3DV4 - SN 3901

15.8. Calibration Certificate for E-Field Probe EX3DV4 - SN 3885

15.9. Calibration Certificate for D835V2 - SN 4d002

15.10. Calibration Certificate for D835V2 - SN 4d142

15.11. Calibration Certificate for D1900V2- SN 5d043

15.12. Calibration Certificate for D1900V2- SN 5d163

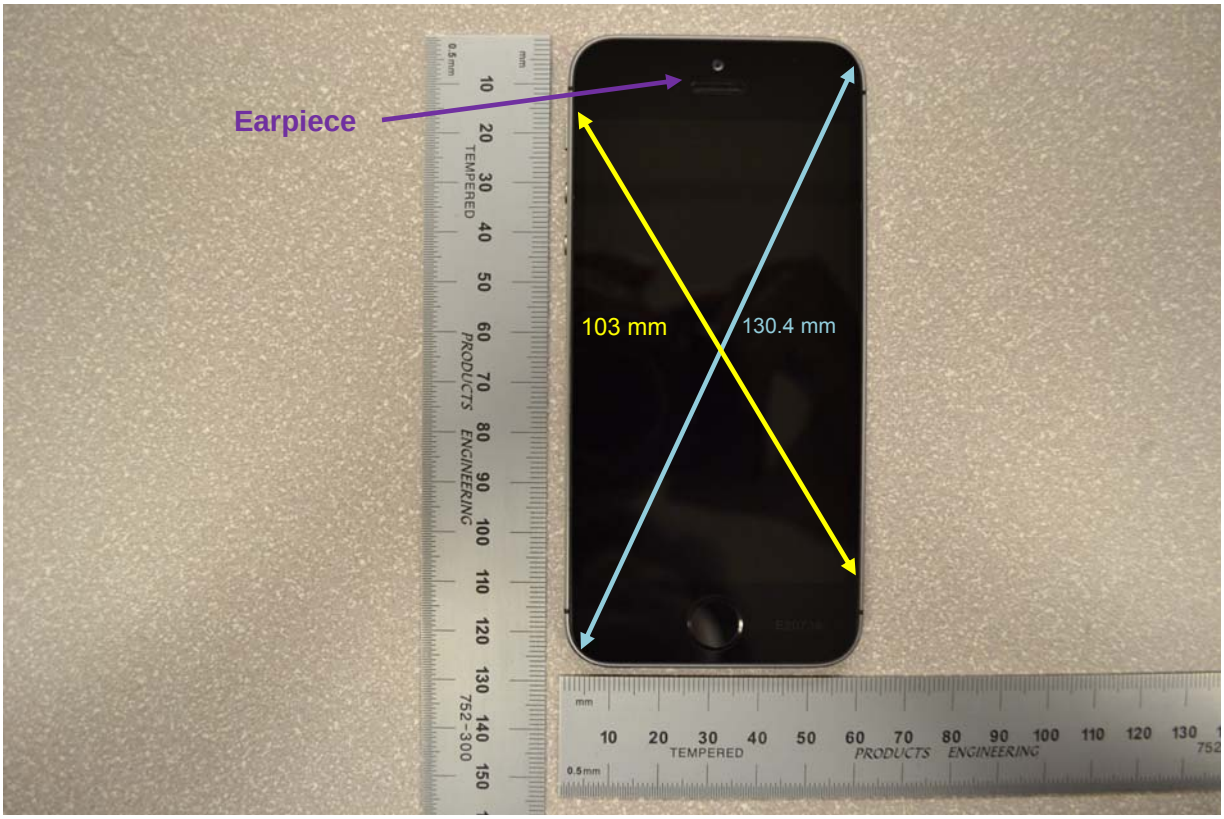
15.13. Calibration Certificate for D2450V2 - SN 899

15.14. Calibration Certificate for D5GHzV2 - SN 1003

15.15. Calibration Certificate for D5GHzV2 - SN 1138

16. External Photos

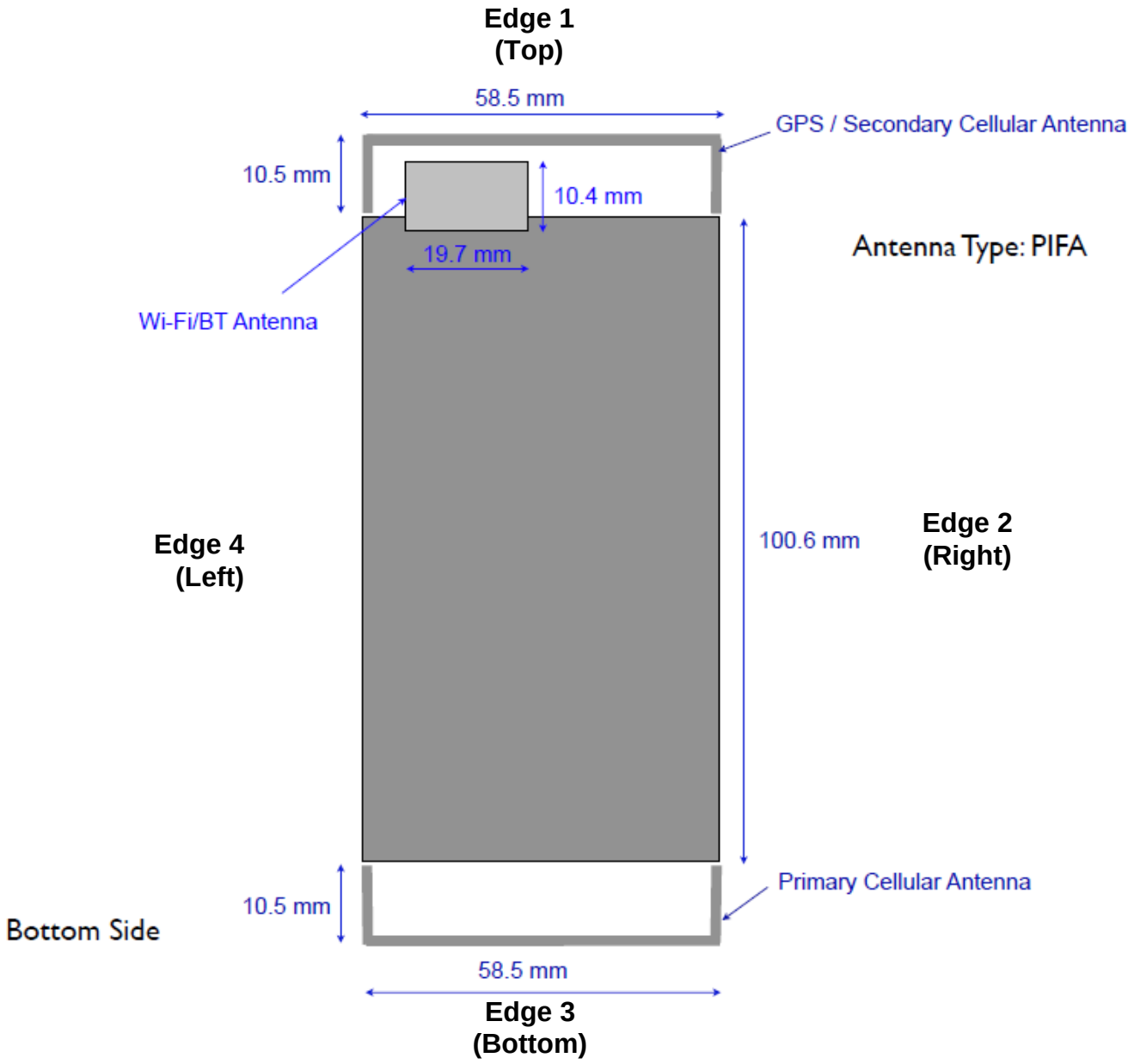
Overall Dimensions



Front View of the DUT

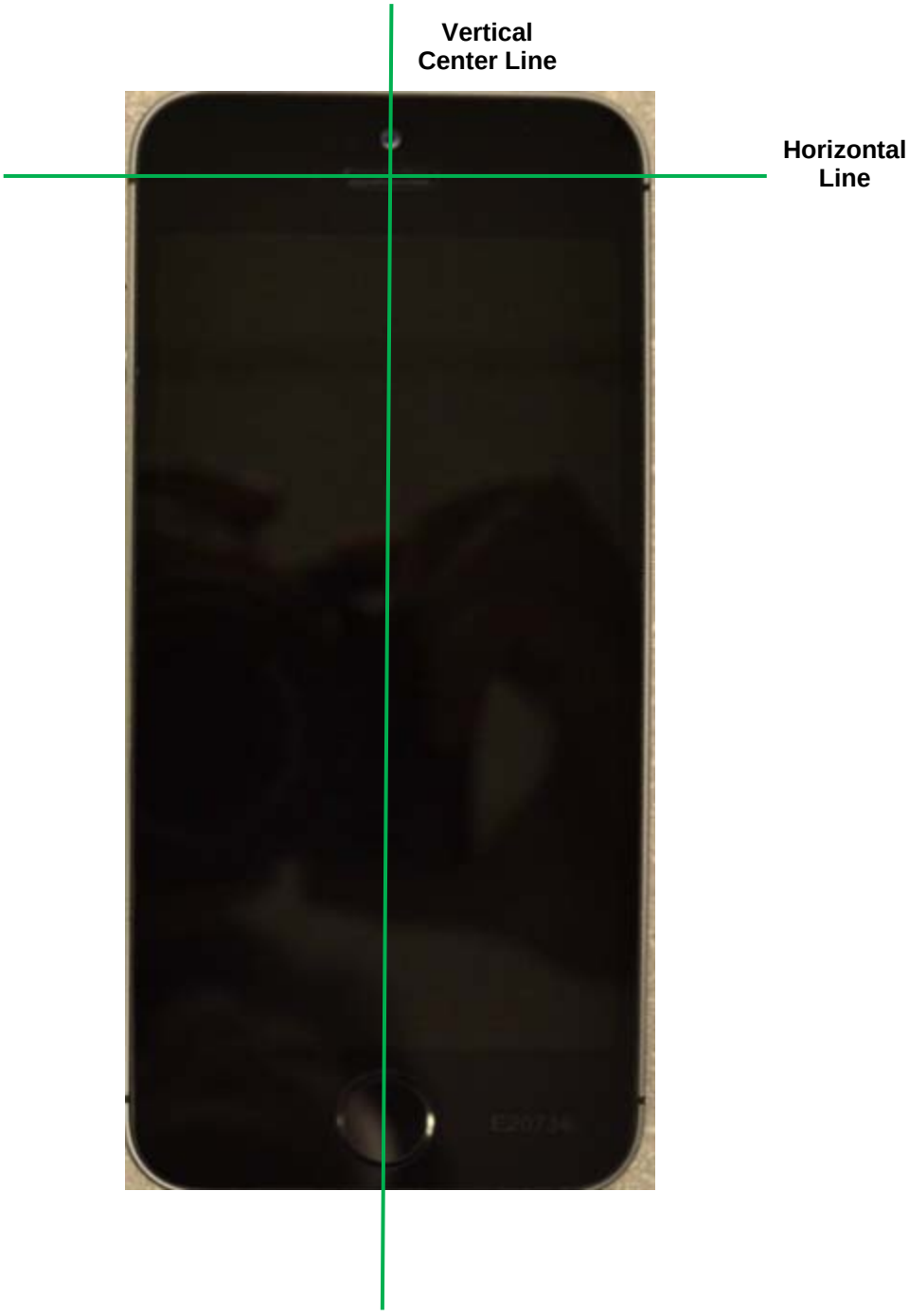
Rear View of the DUT

17. Antenna Locations & Separation Distances



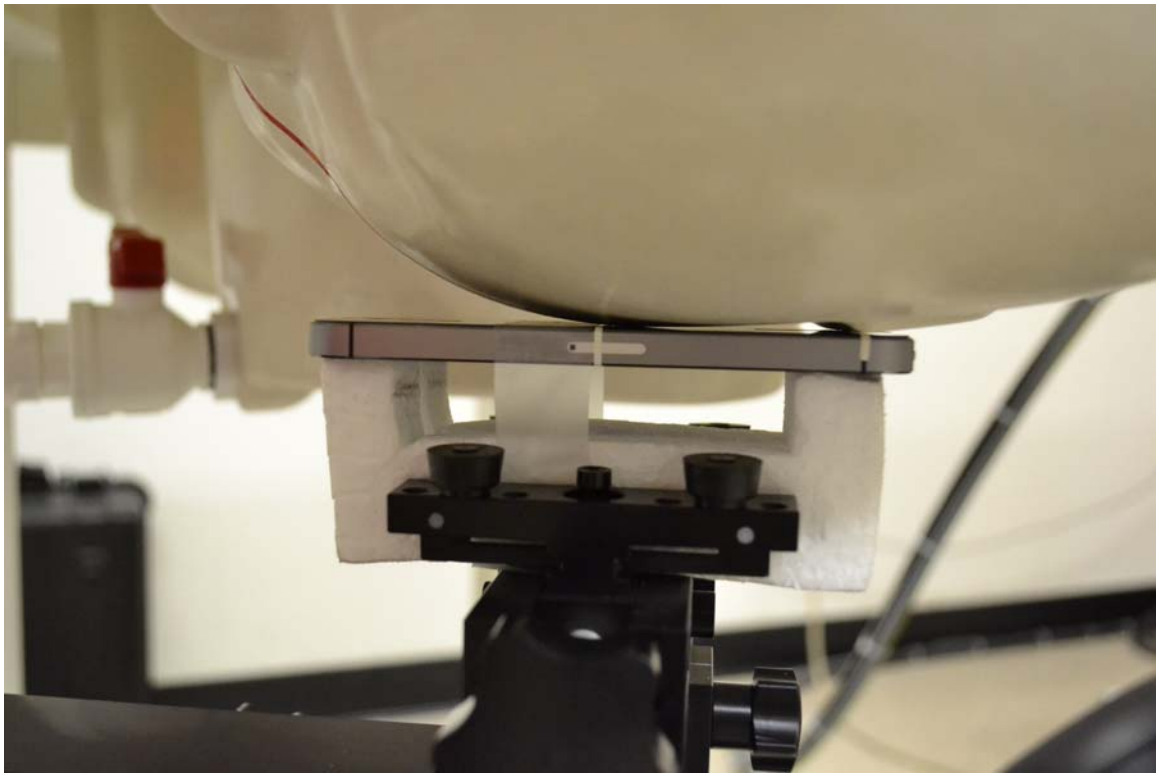
18. Setup Photos

Handset Vertical and Horizontal Reference Lines

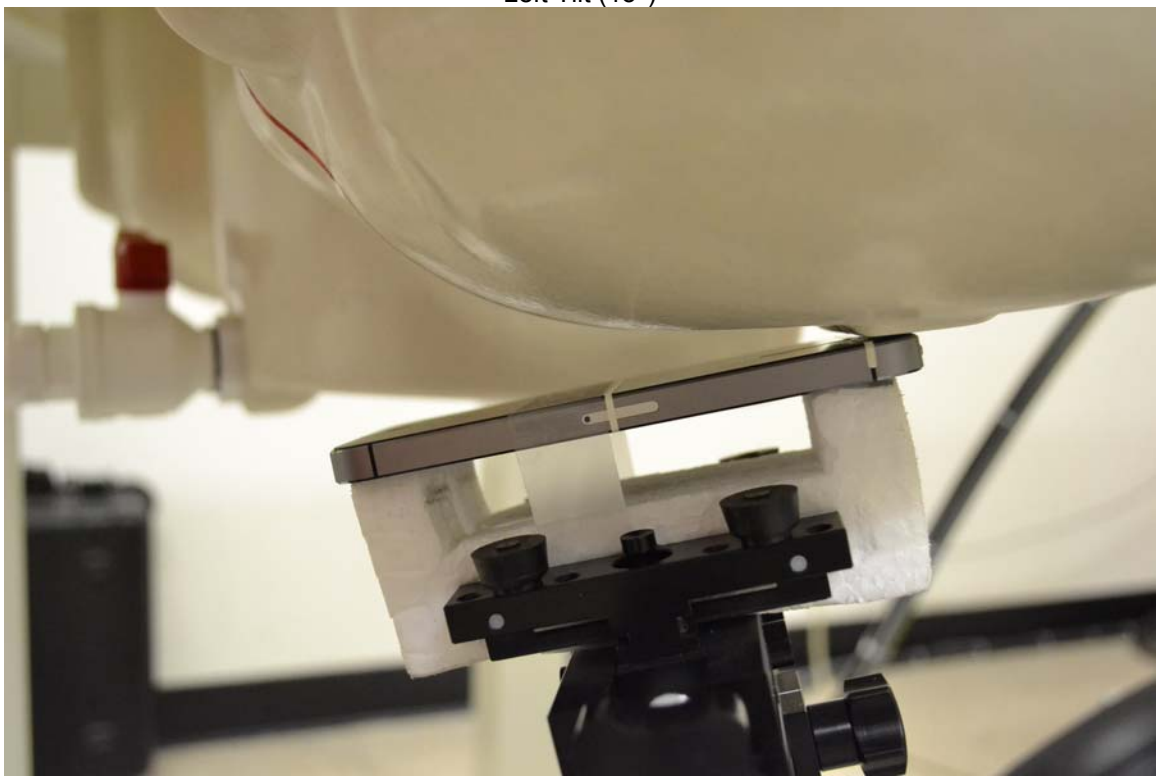


18.1. Head Exposure Conditions

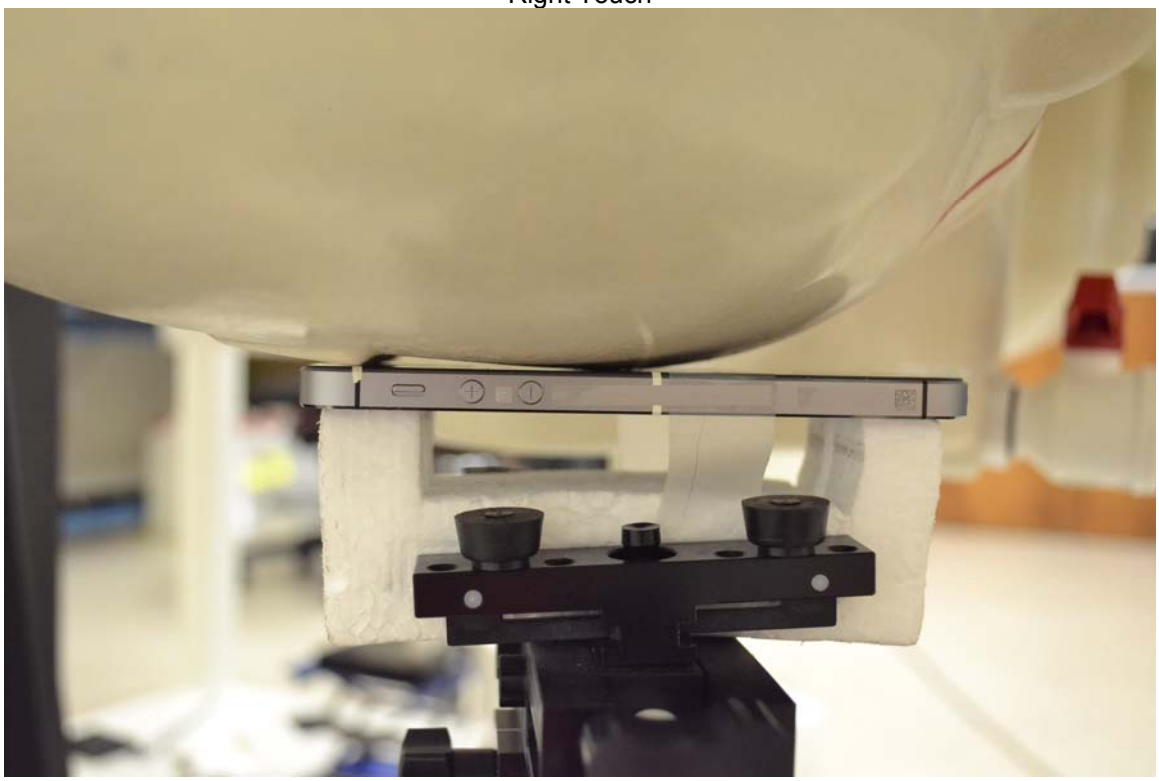
Left Touch



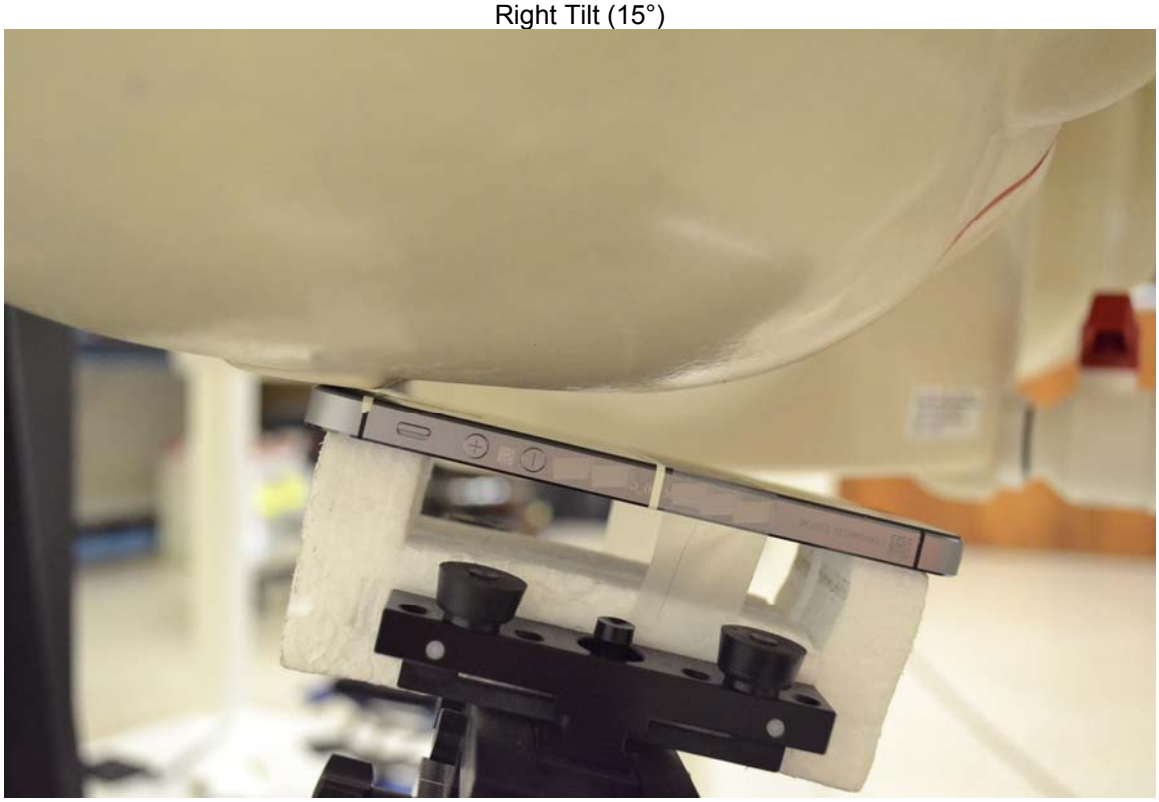
Left Tilt (15°)



Right Touch

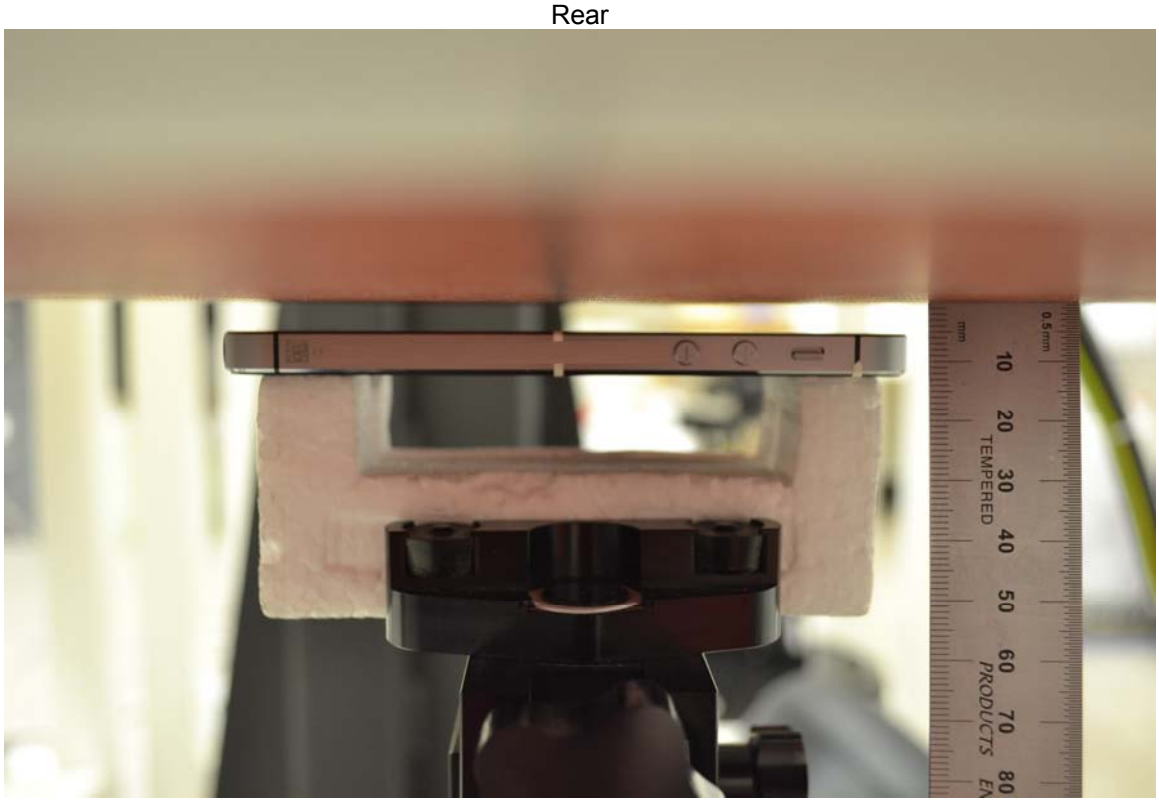


Right Tilt (15°)

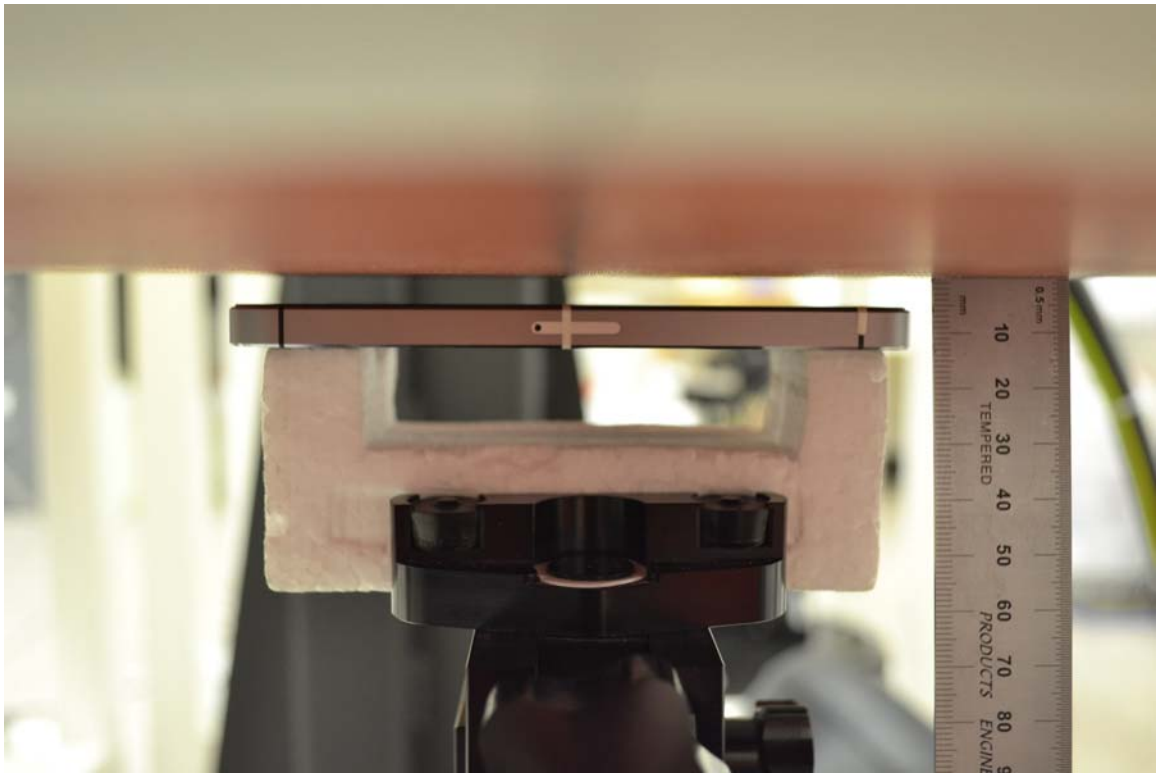


18.2. Body-worn Accessory & Hotspot mode Exposure Conditions

Rear

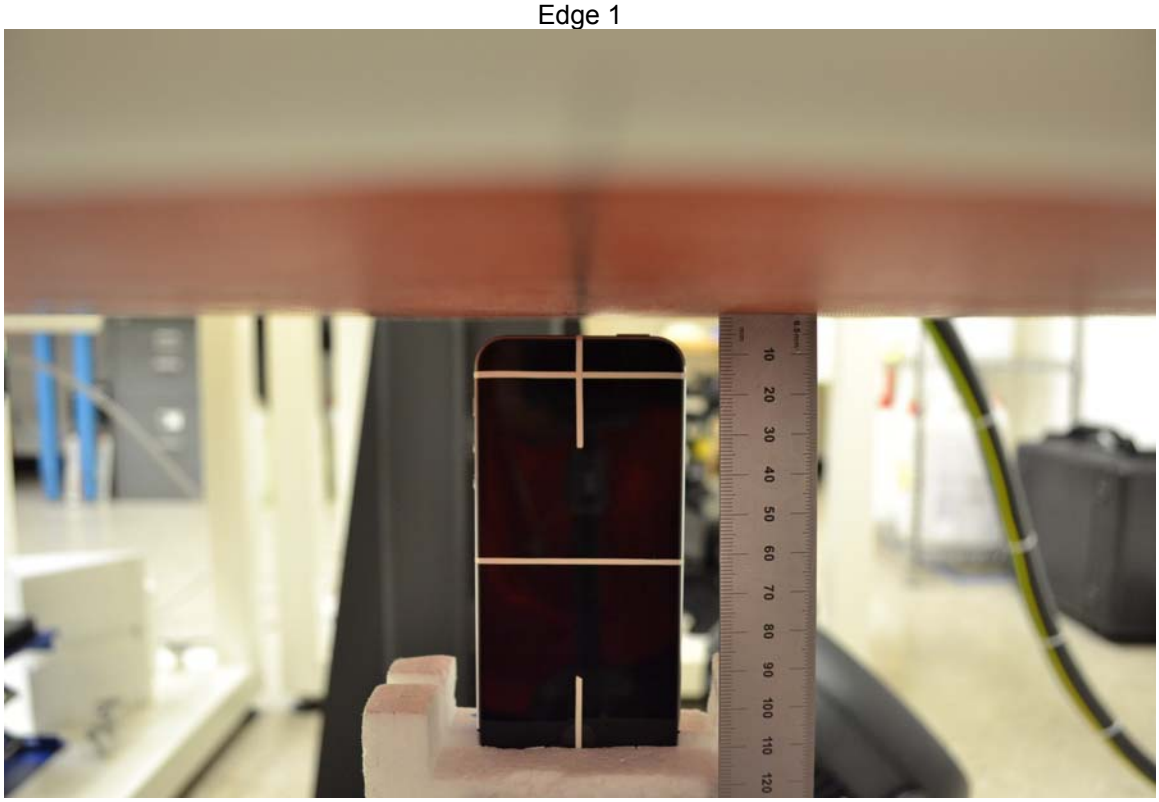


Front

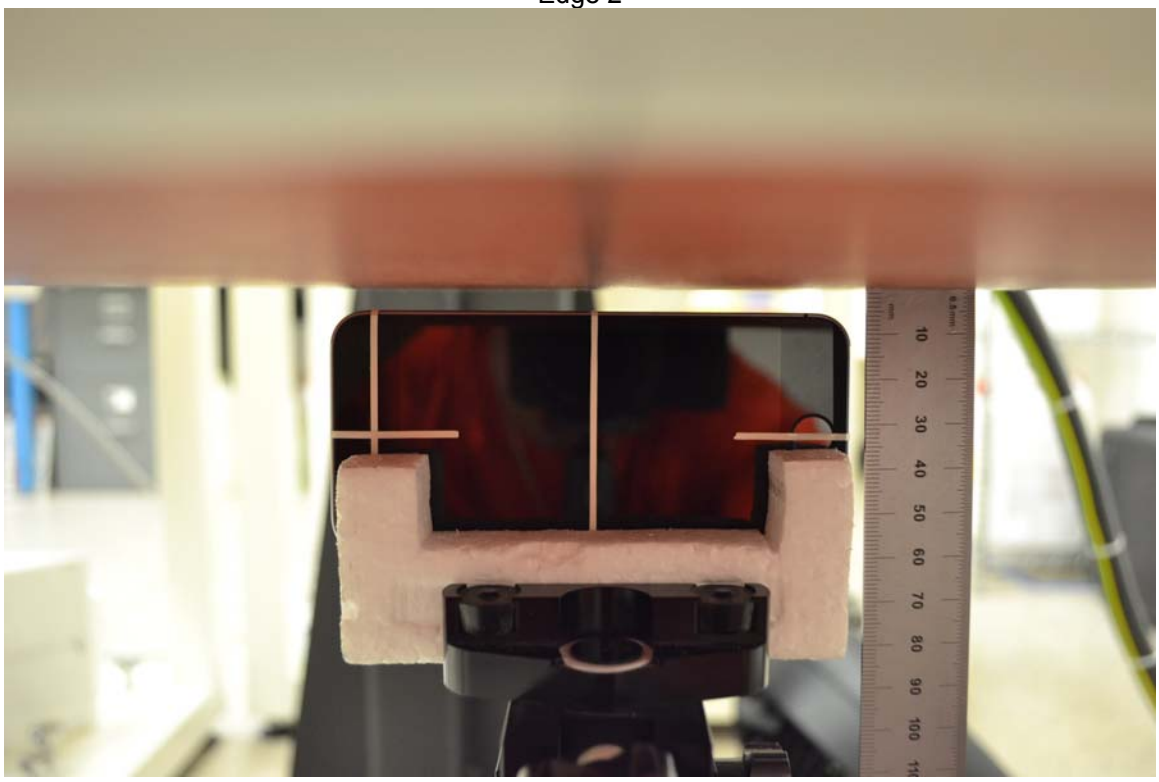


18.3. Hotspot Exposure Conditions

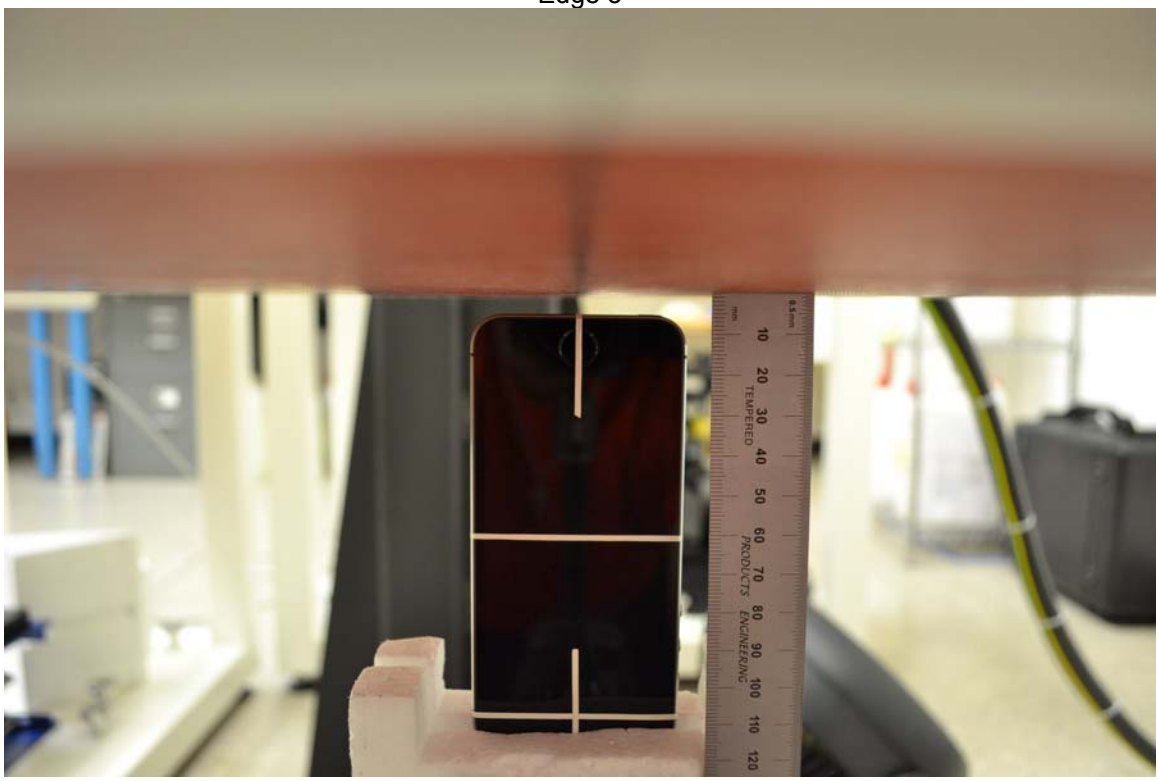
Edge 1



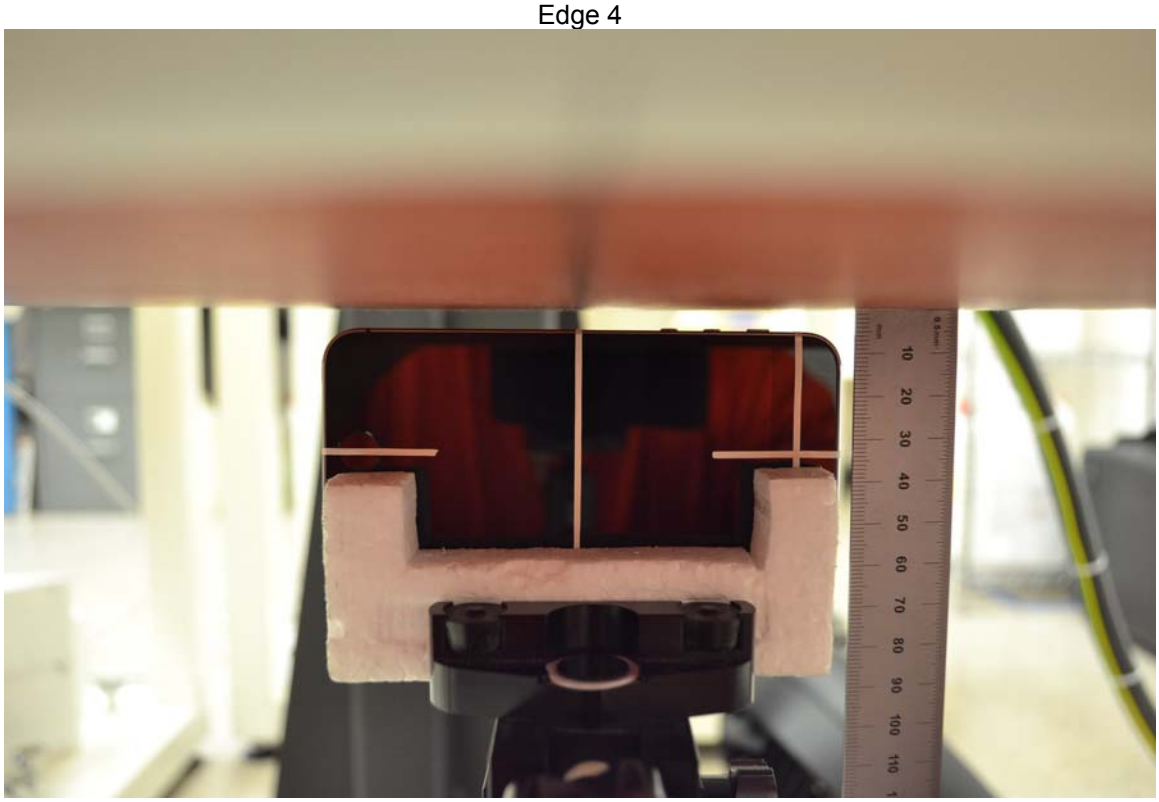
Edge 2



Edge 3



Edge 4



END OF REPORT