

TEST REPORT

FCC SAR Part 0 Test for SM-S731B
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-SR-2507-FC009-R1

DATE OF ISSUE
July 22, 2025

Tested by
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**TEST
REPORT**SAR PART 0 Test
for certification**REPORT NO.**

HCT-SR-2507-FC009-R1

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FCC ID

A3LSMS731B

Applicant

SAMSUNG Electronics Co., Ltd

129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677, Korea

Product Name

Mobile Phone

Model Name

SM-S731B/DS

Additional Model Name

SM-S731B

Date of Test

Jun 10, 2024~ Jul. 17, 2025

Location of Test☒ Permanent Testing Lab ☐ On Site Testing Lab(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si,
Gyeonggi-do, 17383 KOREA)**FCC Rule Part(s)**

CFR § 2.1093

Test Results

PASS (SAR Limit : 1.6 W/kg)

Refer to the clause 3.2 Attestation of test result

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	Jul. 17, 2025	Initial Release
1	Jul. 22, 2025	Revised page 6

Notice

Content

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

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1. Test Location

1.1 Test Laboratory

Company Name	HCT Co., Ltd.
Address	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
Telephone	031-645-6300
Fax.	031-645-6401

1.2 Test Facilities

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

Korea	National Radio Research Agency (Designation No. KR0032)
	KOLAS (Testing No. KT197)

1.3 General Information of the EUT

Model Name	SM-S731B/DS
Additional Model Name	SM-S731B
Equipment Type	Mobile Phone
FCC ID	A3LSMS731B
Application Type	Certification
Applicant	SAMSUNG Electronics Co., Ltd.

2. Device Under Test Description

Device Wireless specification overview		
Band & Mode	Operating Mode	Tx Frequency
GSM850	Voice / Data	824.2 MHz ~ 848.8 MHz
GSM1900	Voice / Data	1 850.2 MHz ~ 1 909.8 MHz
UMTS Band 2	Voice / Data	1 852.4 MHz ~ 1 907.6 MHz
UMTS Band 4	Voice / Data	1 712.4 MHz ~ 1 752.6 MHz
UMTS Band 5	Voice / Data	826.4 MHz ~ 846.6 MHz
LTE FDD Band 2 (PCS)	Voice / Data	1 850.7 MHz ~ 1 909.3 MHz
LTE FDD Band 4 (AWS)	Voice / Data	1 710.7 MHz ~ 1 754.3 MHz
LTE FDD Band 5 (Cell)	Voice / Data	824.7 MHz ~ 848.3 MHz
LTE FDD Band 12	Voice / Data	699.7 MHz ~ 715.3 MHz
LTE FDD Band 13	Voice / Data	779.5 MHz ~ 784.5 MHz
LTE FDD Band 17	Voice / Data	706.5 MHz ~ 713.5 MHz
LTE FDD Band 25	Voice / Data	1 850.7 MHz ~ 1 914.3 MHz
LTE FDD Band 26	Voice / Data	814.7 MHz ~ 848.3 MHz
LTE TDD Band 41	Voice / Data	2 498.5 MHz ~ 2 687.5 MHz
LTE FDD Band 66 (AWS)	Voice / Data	1 710.7 MHz ~ 1 779.3 MHz
NR FDD Band n2 (PCS)	Voice / Data	1 852.5 MHz ~ 1 907.5 MHz
NR FDD Band n5	Voice / Data	826.5 MHz ~ 846.5 MHz
NR FDD Band n25 (PCS)	Voice / Data	1 852.5 MHz ~ 1 912.5 MHz
NR TDD Band n41	Voice / Data	2 501.01 MHz ~ 2 685 MHz
NR FDD Band n66	Voice / Data	1 712.5 MHz ~ 1 777.5 MHz
NR TDD Band n77	Voice / Data	3 705 MHz ~ 3 975 MHz
NR TDD Band n77 DoD	Voice / Data	3 445.01 MHz ~ 3 544.98 MHz
U-NII-1	Voice / Data	5 180 MHz ~ 5 240 MHz
U-NII-2A	Voice / Data	5 260 MHz ~ 5 320 MHz
U-NII-2C	Voice / Data	5 500 MHz ~ 5 720 MHz
U-NII-3	Voice / Data	5 745 MHz ~ 5 825 MHz
U-NII-4	Voice / Data	5 845 MHz ~ 5 885 MHz
U-NII-5	Voice / Data	5 925 MHz ~ 6 425 MHz
U-NII-6	Voice / Data	6 425 MHz ~ 6 525 MHz
U-NII-7	Voice / Data	6 525 MHz ~ 6 865 MHz
U-NII-8	Voice / Data	6 865 MHz ~ 7 115 MHz
2.4 GHz WLAN	Voice / Data	2 412 MHz ~ 2 472 MHz
Bluetooth / LE	Data	2 402 MHz ~ 2 480 MHz
NFC	Data	13.56 MHz
WPC	Data	110 kHz ~ 148 kHz
Device Description		
Device Serial Numbers	Mode	Serial Number
	GSM850, GSM1900, UMTS Band 2,4,5 LTE Band 5,12,13,25,26,41,66 NR Band n2,5,41,66,77 NR Band n41 SRS 1,2,3 NR Band n77 SRS 1,2,3	YF51825M, YF51696M, YF51840M, YF51534M, YF51496M, YF51655M, YF51547M
	WLAN 2.4G, 5G, 6E, Bluetooth, NFC	YF51392M, YF51591M
	The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics are within operational tolerances expected for production units.	

2.1 Time-Averaging for SAR

This WWAN/WLAN/BT Mode of DUT is equipped with an S.LSI chipset to which the Samsung S.LSI proprietary TAS (Time Average SAR) algorithm is applied.

This DUT is enabled with the Samsung S.LSI proprietary TAS (Time Average SAR) algorithm for WWAN/WLAN/BT Mode and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is in compliance with the FCC requirement

This model applies S.LSI's WWAN band -TAS algorithm, S.LSI's WLAN/BT -TAS algorithm, and C-TAS, a TAS manager that controls these two algorithms to comply with FCC Limits.

FCC RF exposure limit is based on time averaged RF exposure. The SAR regulatory specification is defined over certain measurement duration allowing for time-averaging. The Samsung S.LSI proprietary TAS (Time Average SAR) algorithm has been designed to meet the compliance limits over the required duration, while still allowing dynamic control of transmit power to satisfy the performance of the system.

This feature performs time averaging SAR algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time.

The WLAN mode are not controlled by The Samsung S.LSI proprietary TAS (Time Average SAR) algorithm. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. DUT contains BDF File configured for the WLAN TAS algorithm. Only the NFC mode of the device did not apply the time averaged SAR algorithm.

The Samsung S.LSI TAS algorithm allow the device to transmit at higher power instantaneously, as high as P_{max}, when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit}. Below table shows P_{limit} NV settings and maximum tune up output power P_{max} configured for this DUT for various transmit conditions(Radio SAR indicator RSI for Head/Non-Head SAR of WWAN/WLAN/BT Mode).

The purpose of this report is to demonstrate that the DUT meets FCC SAR limits when transmitting in static transmission configurations at P_{limit} specified by manufacturer.

SAR Characterization confirms that P_{limit} in the 2G/3G/4G/5G/WLAN/WLAN/BT communication mode declared by the manufacturer satisfies SAR_Design_target.

The compliance test under the static transmission scenario and simultaneous transmission analysis are reported in SAR report for WWAN/WLAN/BT. The validation of The Samsung S.LSI proprietary TAS (Time Average SAR) algorithm and compliance under the time-varying transmission scenario for WWAN technologies are reported in A3LSMS731B_SAR Part 2 Report.

2.2 Nomenclature for Part 0 Report

Technology	Term	Description
2G/3G/4G/5G Sub 6 NR/WLAN	Plimit	Power level that corresponds to the exposure design target (SAR_design_target) after accounting for all device design related uncertainties
	Pmax	Maximum tune up output power
	SAR_design_target	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties.
	SAR Char	Table containing Plimit for all technologies and bands

3. SAR MEASUREMENTS

3.1 SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative of the incremental electromagnetic energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body

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

SAR Mathematical Equation

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \sigma E^2 / \rho$$

Where:

σ = conductivity of the tissue-simulant material (S/m)
 ρ = mass density of the tissue-simulant material (kg/m³)
 E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

3.2 SAR Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 (see table 3-1) & IEEE 1528-2013.
2. Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.
3. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)
 - a. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7 mm away from the tip of the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
 - b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
 - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by more than 5 %, the SAR evaluation and drift measurements were repeated.

Table 3-1

Frequency	Maximum Area Scan Resolution(mm) (Δxarea, Δyarea)	Maximum Zoom Scan Resolution (mm) (Δxzoom, Δyzoom)	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid Δzzoom(n)	Graded Grid		
				Δz zoom(1)*	Δz zoom(n>1)*	
≤2 GHz	≤15	≤8	≤5	≤4	≤1.5* Δzzoom(n-1)	≥30
2-3 GHz	≤12	≤5	≤5	≤4	≤1.5* Δzzoom(n-1)	≥30
3-4 GHz	≤12	≤5	≤4	≤3	≤1.5* Δzzoom(n-1)	≥28
4-5 GHz	≤10	≤4	≤3	≤2.5	≤1.5* Δzzoom(n-1)	≥25
5-6 GHz	≤10	≤4	≤2	≤2	≤1.5* Δzzoom(n-1)	≥22

Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

4. SAR CHARACTERIZATION

4.1 RSI and SAR Determination

This device uses different Radio SAR Index (RSI) to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the smartphone, the worst-case SAR was determined by measurements for the relevant exposure conditions for that RSI. Detailed descriptions of the detection mechanisms are included in the operational description.

When 1g SAR and 10g SAR exposure comparison is needed, the worst-case was determined from SAR normalized to 1g or 10g SAR limit.

The Radio SAR Index (RSI) conditions used in Table 4-1 represent different exposure scenarios.

Table 4-1 RSI and Corresponding Exposure Scenarios

Scenario		Description	SAR Test Cases
Head	RSI = 1	Device positioned next to head When RCV is activated for voice call	Head SAR per KDB Publication 648474 D04
Non – Head	RSI = 0 (Body)	Device is held with hand Device transmits in hotspot mode near body Device being used with a body-worn accessory Device being used with a Earjack	Phablet SAR per KDB Publication 648474 D04 Hotspot SAR per KDB Publication 941225 D06 Body-worn SAR per KDB Publication 648474 D04

4.2 SAR Design Target

SAR_design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer (see Table 4-2).

<i>SAR_design_target</i>			
$SAR_design_target < SAR_regulatory_limit \times 10^{Total\ Uncertainty/10}$			
1g SAR (W/kg)		10g SAR (W/kg)	
<i>Total Uncertainty</i>	1.0 dB	<i>Total Uncertainty</i>	1.0 dB
<i>SAR_regulatory_limit</i>	1.6 W/kg	<i>SAR_regulatory_limit</i>	4.0 W/kg
<i>SAR_design_target</i>	1.0 W/kg	<i>SAR_design_target</i>	2.5 W/kg

Table 4-2.1 *SAR_design_target* Calculations for WWAN Bands

<i>SAR_design_target</i>			
$SAR_design_target < SAR_regulatory_limit \times 10^{Total\ Uncertainty/10}$			
WLAN 1g SAR (W/kg)		10g SAR (W/kg)	
<i>Total Uncertainty</i>	1.0 dB	<i>Total Uncertainty</i>	1.0 dB
<i>SAR_regulatory_limit</i>	1.6 W/kg	<i>SAR_regulatory_limit</i>	4.0 W/kg
<i>SAR_design_target</i>	0.8 W/kg	<i>SAR_design_target</i>	2.0 W/kg

Table 4-2.2 *SAR_design_target* Calculations for WLAN/BT

4.3 SAR Characterization

SAR test results corresponding to Pmax for each antenna/technology/band/RSI can be found in Appendix A. Plimit is calculated by linearly scaling with the measured SAR at the Pmax to correspond to the SAR_design_target. Plimit determination for each exposure scenario corresponding to SAR_design_target are shown in Table 4-3.

Plim values in green indicate Plimit < Pmax			Plim values in grey indicate Plim > Pmax		
Plimit corresponding to 1 W/kg (1g) 2.5W/kg(10g) SAR_Design_target			Pmax		
SAR Exposure Position			Body (Non-Head)	Head (RCV ON)	UL/DL Ratio
Averaging volume			1g	1g	
Separation Distance			5 mm	0 mm	
Mode	Band	Antenna	RSI=0	RSI=1	
GSM/GPRS/EDGE	850	A	19.6	19.6	48.2%
GSM/GPRS/EDGE	850	E	19.6	19.6	48.2%
GSM/GPRS/EDGE	1900	A	14.8	32.2	36.1%
UMTS	2	A	14.0	32.5	100%
UMTS	4	A	14.0	31.6	100%
UMTS	5	A	23.0	32.5	100%
UMTS	5	E	19.0	20.0	100%
LTE FDD	25(2)	A	15.0	31.5	100%
LTE FDD	25(2)	F	18.0	18.0	100%
LTE FDD	66(4)	A	14.0	31.0	100%
LTE FDD	66(4)	F	17.0	17.0	100%
LTE FDD	12(17)	A	22.0	32.5	100%
LTE FDD	12	E	21.5	21.5	100%
LTE FDD	17	E	20.0	20.0	100%
LTE FDD	13	A	22.0	32.0	100%
LTE FDD	13	E	21.0	21.0	100%
LTE FDD	5	A	22.0	32.9	100%
LTE FDD	5	E	20.0	20.0	100%
LTE FDD	26	A	22.0	32.8	100%
LTE FDD	26	E	20.0	20.0	100%
LTE TDD PC3	41	B	18.0	18.0	63.3%
LTE TDD PC3	41	F	16.5	16.5	63.3%
LTE TDD PC2	41	B	18.4	18.4	43.3%
LTE TDD PC2	41	F	16.9	16.9	43.3%
NR FDD	25(2)	A	14.0	31.9	100%
NR FDD	25(2)	F	18.0	18.0	100%
NR FDD	5	A	22.0	33.1	100%
NR FDD	5	E	20.0	20.0	100%
NR TDD	41	B	14.0	14.0	100%
NR TDD SRS 1	41	F	12.0	12.0	100%
NR TDD SRS 2	41	D	13.0	13.0	100%
NR TDD SRS 3	41	E	12.0	12.0	100%
NR TDD Hopping	41	F	17.0	17.0	100%
NR TDD Hopping SRS 1	41	B	13.0	13.0	100%
NR TDD Hopping SRS 2	41	E	16.0	16.0	100%
NR TDD Hopping SRS 3	41	D	10.0	10.0	100%
NR FDD	66	A	14.0	31.4	100%
NR FDD	66	F	17.0	17.0	100%
NR TDD (PC3)	77	F	14.5	13.5	100%
NR TDD (PC3) SRS 1	77	C	17.0	16.0	100%
NR TDD (PC3) SRS 2	77	I	14.5	13.5	100%
NR TDD (PC3) SRS 3	77	D	14.5	13.5	100%
NR TDD (PC2)	77	F	14.5	13.5	100%
NR TDD (PC2) SRS 1	77	C	17.0	16.0	100%
NR TDD (PC2) SRS 2	77	I	14.5	13.5	100%
NR TDD (PC2) SRS 3	77	D	14.5	13.5	100%
NR TDD (PC3)	77 DoD	F	14.5	13.5	100%
NR TDD (PC3) SRS 1	77 DoD	C	15.0	14.0	100%
NR TDD (PC3) SRS 2	77 DoD	I	14.5	13.5	100%
NR TDD (PC3) SRS 3	77 DoD	D	16.0	15.0	100%
NR TDD (PC2)	77 DoD	F	14.5	13.5	100%
NR TDD (PC2) SRS 1	77 DoD	C	15.0	14.0	100%
NR TDD (PC2) SRS 2	77 DoD	I	14.5	13.5	100%
NR TDD (PC2) SRS 3	77 DoD	D	16.0	15.0	100%
WLAN	2.4	H	17.0	17.0	100%
WLAN	2.4	J	17.0	17.0	100%
WLAN	2.4	H+J	17.0	17.0	100%
WLAN	5	H	14.0	14.0	100%
WLAN	5	E	14.0	14.0	100%
WLAN	5	H+E	14.0	14.0	100%
WLAN	6	H	8.0	8.0	100%
WLAN	6	E	8.0	8.0	100%
WLAN	6	H+E	8.0	8.0	100%

Table 4-3 SAR Characterization

Note

1. all Plimit and maximum tune up output power Pmax levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD modulation schemes (for e.g., GSM, LTE TDD).
2. The maximum time-averaged output power (dBm) for any 2G/3G/4G/5G WWAN and WLAN technology, band, and SAR Exposure condition=minimum of “Plimit” and “Maximum tune up output power: “Pmax” + 1dB device uncertainty.
3. The maximum time averaged output power means Plimit for each modes SAR values in this report were scaled to the maximum allowed output power to determine compliance per KDB Publication 447498 D01v06.

5. Equipment List

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	SAM Phantom	-	N/A	N/A	N/A
SPEAG	ELI Phantom	-	N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli 1-R	CS8Cspeag-TX90	F12/ 5K9GA1/ C/ 01	N/A	N/A	N/A
Staubli 2	CS8Cspeag-TX90	F13/ 5R4XF1/ C/ 01	N/A	N/A	N/A
Staubli 4	CS8Cspeag-TX90	F17/ 59CHA1/ C/ 01	N/A	N/A	N/A
Staubli 8	CS8Cspeag-TX90	F/20/0018446/C/001	N/A	N/A	N/A
Staubli 1-R	TX90 XLSpeag	F12/ 5K9GA1/ A/ 01	N/A	N/A	N/A
Staubli 2	TX90 XLSpeag	F13/ 5R4XF1/ A/ 01	N/A	N/A	N/A
Staubli 4	TX90 XLSpeag	F17/ 59CHA1/ A/ 01	N/A	N/A	N/A
Staubli 8	TX60 Lspeag	F/20/0018446/A/001	N/A	N/A	N/A
Staubli 1-R	Teach Pendant (Joystick)	S-1206 0513	N/A	N/A	N/A
Staubli 2	Teach Pendant (Joystick)	S-1338 1332	N/A	N/A	N/A
Staubli 4	Teach Pendant (Joystick)	010963	N/A	N/A	N/A
Staubli 8	Teach Pendant (Joystick)	020885	N/A	N/A	N/A
TESTO 1-R	175-H1/Thermometer	40331936309	12/26/2025	Annual	12/26/2026
TESTO 2	175-H1/Thermometer	40331953309	01/16/2025	Annual	01/16/2026
TESTO 4	175-H1/Thermometer	40331915309	12/26/2025	Annual	12/26/2026
TESTO 8	175-H1/Thermometer	44606611906	03/20/2025	Annual	03/20/2026
SPEAG	DAE4	1687	07/12/2024	Annual	07/12/2025
SPEAG	DAE4	868	09/19/2024	Annual	09/19/2025
SPEAG	DAE4	1750	09/13/2024	Annual	09/13/2025
SPEAG	DAE4	1254	05/21/2025	Annual	05/21/2026
SPEAG	E-Field Probe EX3DV4	7679	08/22/2024	Annual	08/22/2025
SPEAG	E-Field Probe EX3DV4	3768	10/07/2024	Annual	10/07/2025
SPEAG	E-Field Probe EX3DV4	7370	08/22/2024	Annual	08/22/2025
SPEAG	E-Field Probe ES3DV3	3076	07/17/2024	Annual	07/17/2025
SPEAG	E-Field Probe EUmmWV4	9464	02/24/2025	Annual	02/24/2026
SPEAG	CLA13	1016	11/19/2024	Annual	11/19/2025
SPEAG	Dipole D750V3	1014	05/20/2025	Annual	05/20/2026
SPEAG	Dipole D835V2	441	04/18/2024	Biennial	04/18/2026
SPEAG	Dipole D1800V2	2d007	04/15/2024	Biennial	04/15/2026
SPEAG	Dipole D1900V2	5d061	01/20/2025	Annual	01/20/2026
SPEAG	Dipole D2300V2	1010	07/19/2023	Biennial	07/19/2025
SPEAG	Dipole D2450V2	743	03/14/2024	Annual	03/14/2026
SPEAG	Dipole D2600V2	1015	04/22/2024	Biennial	04/22/2026
SPEAG	Dipole D3500V2	1040	01/16/2025	Annual	01/16/2026
SPEAG	Dipole D3700V2	1105	09/18/2024	Annual	09/18/2025
SPEAG	Dipole D3900V2	1019	05/21/2025	Annual	05/21/2026
SPEAG	Dipole D5GHzV2	1107	04/19/2024	Biennial	04/19/2026
SPEAG	Dipole D6.5GHzV2	1012	09/17/2024	Annual	09/17/2025
SPEAG	5G Power Verification Source 10GHz	1018	04/11/2025	Annual	04/11/2026
Agilent	Power Meter E4419B	MY41291386	09/11/2024	Annual	09/11/2025
Agilent	Power Meter N1911A	MY45101406	05/19/2025	Annual	05/19/2026
Agilent	Power Sensor 8481A	SG1091286	09/12/2024	Annual	09/12/2025
H.P	Power Sensor 8481A	MY41090675	09/12/2024	Annual	09/12/2025
Agilent	Power Meter E4419B	MY41291386	09/11/2024	Annual	09/11/2025
Agilent	Wideband Power Sensor N1921A	MY55220026	07/30/2024	Annual	07/30/2025
Agilent	11636B/Power Divider	58698	01/13/2025	Annual	01/13/2026
SPEAG	DAKS 3.5	1038	01/20/2025	Annual	01/20/2026
SPEAG	Vector Reflectometer	0141013	01/13/2025	Annual	01/13/2026

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	MXA Signal Analyzer	MY49100108	01/07/2025	Annual	01/07/2026
H.P	Network Analyzer /8753E	JP38451384	08/20/2024	Annual	08/20/2025
Protek	NETWORK ANALYZER	X11-15305	02/10/2025	Annual	02/10/2026
Agilent	WIRELESS COMMUNICATION E5515C	MY48361100	09/11/2024	Annual	09/11/2025
Agilent	WIRELESS COMMUNICATION E5515C	MY48360252	07/29/2024	Annual	07/29/2025
R&S	Wireless Communication Test Set CMW500	115733	03/20/2025	Annual	03/20/2026
R&S	Wireless Communication Test Set CMW500	139333	12/09/2024	Annual	12/09/2025
Agilent	SIGNAL GENERATOR N5182A	MY47070230	03/18/2025	Annual	03/18/2026
Agilent	SIGNAL GENERATOR N5182A	MY47070230	03/18/2025	Annual	03/18/2026
Keysight	PSG Vector Signal Generator	MY50350097	03/05/2025	Annual	03/05/2026
EMPOWER	RF Power Amplifier	1084	05/20/2025	Annual	05/20/2026
EMPOWER	RF Power Amplifier	1041D/C0508	05/20/2025	Annual	05/20/2026
EMPOWER	RF Power Amplifier	1011	09/11/2024	Annual	09/11/2025
MICRO LAB	LP Filter / LA-15N	10453	09/11/2024	Annual	09/11/2025
MICRO LAB	LP Filter / LA-30N	-	09/11/2024	Annual	09/11/2025
MICRO LAB	LP Filter / LA-60N	32011	09/11/2024	Annual	09/11/2025
Agilent	Attenuator (3dB) 8693B	MY39260298	08/20/2024	Annual	08/20/2025
HP	Attenuator (20dB) 8493C	09271	08/21/2024	Annual	08/21/2025
Agilent	Directional Bridge 86205A	3140A04581	04/18/2025	Annual	04/18/2026
Agilent	Directional Bridge 86205A	3140A04581	04/18/2025	Annual	04/18/2026
OSI	Power Divider	#1	05/20/2025	Annual	05/20/2026
OSI	Power Divider	#2	05/20/2025	Annual	05/20/2026
OSI	Power Divider	#3	05/20/2025	Annual	05/20/2026
OSI	Power Divider	#4	05/20/2025	Annual	05/20/2026
Agilent	MXA Signal Analyzer N9020A	MY50510407	06/09/2025	Annual	06/09/2026
HP	Dual Directional Coupler	16072	09/11/2024	Annual	09/11/2025
Anritsu	Radio Communication Test Station MT8000A	6262036812	11/27/2024	Annual	11/27/2025
Anritsu	Radio Communication Test Station MT8000A	6262148305	12/23/2024	Annual	12/23/2025
Anritsu	Radio Communication Tester MT8820C	6201074225	01/13/2025	Annual	01/13/2026
Anritsu	Radio Communication Tester MT8820C	6200695605	03/21/2025	Annual	03/21/2026
Anritsu	Radio Communication Tester MT8821C	6201502997	05/21/2025	Annual	05/21/2026
Anritsu	Radio Communication Tester MT8821C	6262044720	11/27/2024	Annual	11/27/2025
Anritsu	Radio Communication Tester MT8821C	6201664725	01/13/2025	Annual	01/13/2026
Agilent	WIRELESS COMMUNICATION E5515C	MY50260992	05/20/2025	Annual	05/20/2026
ROHDE&SCHWARZ	BLUETOOTH TESTER CBT	100272	01/13/2025	Annual	01/13/2026
Keysight	PSG Vector Signal Generator	MY50350097	03/05/2025	Annual	03/05/2026

Note: All measurements were performed within the valid calibration period of the specific equipment.

* The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Verification measurement is performed by HCT Lab. before each test. The brain/body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity (dielectric constant) of the brain/body-equivalent material.

6. Measurement Uncertainty

The measured SAR was <1.5 W/Kg for 1g SAR and <3.75 W/Kg, for 10g SAR for all frequency Bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE1528-2013 was not required.

Appendix A: SAR Test Results For P limit CALCULATIONS

Table A-1 RSI = 1 *PLimit* Calculations – 2G/3G Head SAR

MEASUREMENT RESULTS									
Frequency		Mode/ Band	Ant.	Frame Averaged	Test Position	Duty Cycle	Meas.	Plimit	Minimum
MHz	Ch.			Conducted Power			SAR(1g)	(dBm)	Plimit
				(dBm)			(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	A	20.78	Left Cheek	1:8.3	0.043	34.4	33.1
836.6	190	GSM 850	A	20.78	Left Tilt	1:8.3	0.024	37.0	
836.6	190	GSM 850	A	20.78	Right Cheek	1:8.3	0.058	33.1	
836.6	190	GSM 850	A	20.78	Right Tilt	1:8.3	0.023	37.2	
836.6	190	GSM 850	E	20.58	Left Cheek	1:8.3	0.520	23.4	23.4
836.6	190	GSM 850	E	20.58	Left Tilt	1:8.3	0.409	24.5	
836.6	190	GSM 850	E	20.58	Right Cheek	1:8.3	0.350	25.1	
836.6	190	GSM 850	E	20.58	Right Tilt	1:8.3	0.312	25.6	
1 880	661	GSM 1900	A	23.06	Left Cheek	1:2.77	0.096	33.2	33.2
1 880	661	GSM 1900	A	23.06	Left Tilt	1:2.77	0.059	35.4	
1 880	661	GSM 1900	A	23.06	Right Cheek	1:2.77	0.045	36.5	
1 880	661	GSM 1900	A	23.06	Right Tilt	1:2.77	0.048	36.2	
836.6	4183	UMTS Band 5	A	24.62	Left Cheek	1:1	0.12	33.8	32.5
836.6	4183	UMTS Band 5	A	24.62	Left Tilt	1:1	0.077	35.8	
836.6	4183	UMTS Band 5	A	24.62	Right Cheek	1:1	0.162	32.5	
836.6	4183	UMTS Band 5	A	24.62	Right Tilt	1:1	0.075	35.9	
836.6	4183	UMTS Band 5	E	19.76	Left Cheek	1:1	0.368	24.1	24.1
836.6	4183	UMTS Band 5	E	19.76	Left Tilt	1:1	0.362	24.2	
836.6	4183	UMTS Band 5	E	19.76	Right Cheek	1:1	0.328	24.6	
836.6	4183	UMTS Band 5	E	19.76	Right Tilt	1:1	0.303	24.9	
1 732.4	1412	UMTS Band 4	A	23.46	Left Cheek	1:1	0.154	31.6	31.6
1 732.4	1412	UMTS Band 4	A	23.46	Left Tilt	1:1	0.093	33.8	
1 732.4	1412	UMTS Band 4	A	23.46	Right Cheek	1:1	0.059	35.8	
1 732.4	1412	UMTS Band 4	A	23.46	Right Tilt	1:1	0.116	32.8	
1 880	9400	UMTS Band 2	A	24.07	Left Cheek	1:1	0.144	32.5	32.5
1 880	9400	UMTS Band 2	A	24.07	Left Tilt	1:1	0.067	35.8	
1 880	9400	UMTS Band 2	A	24.07	Right Cheek	1:1	0.067	35.8	
1 880	9400	UMTS Band 2	A	24.07	Right Tilt	1:1	0.072	35.5	

Table A-2 RSI = 1 PLimit Calculations – 4G Head SAR

MEASUREMENT RESULTS													
Frequency		Mode	Ant.	Band width	Frame Averaged Conducted Power	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)		(dB)				(W/kg)	(dBm)	(dBm)
1882.5	26365	LTE Band 25	A	20	24.88	Left Cheek	0	1	49	1:1	0.216	31.5	31.5
1882.5	26365	LTE Band 25	A	20	24.88	Left Tilt	0	1	49	1:1	0.1	34.9	
1882.5	26365	LTE Band 25	A	20	24.88	Right Cheek	0	1	49	1:1	0.126	33.9	
1882.5	26365	LTE Band 25	A	20	24.88	Right Tilt	0	1	49	1:1	0.086	35.5	
1860.0	26140	LTE Band 25	F	20	17.65	Left Cheek	0	1	49	1:1	0.249	23.7	20.8
1860.0	26140	LTE Band 25	F	20	17.65	Left Tilt	0	1	49	1:1	0.358	22.1	
1860.0	26140	LTE Band 25	F	20	17.65	Right Cheek	0	1	49	1:1	0.466	21.0	
1860.0	26140	LTE Band 25	F	20	17.65	Right Tilt	0	1	49	1:1	0.481	20.8	
1720	132072	LTE Band 66	A	20	24.86	Left Cheek	0	1	49	1:1	0.241	31.0	31.0
1720	132072	LTE Band 66	A	20	24.86	Left Tilt	0	1	49	1:1	0.119	34.1	
1720	132072	LTE Band 66	A	20	24.86	Right Cheek	0	1	49	1:1	0.155	33.0	
1720	132072	LTE Band 66	A	20	24.86	Right Tilt	0	1	49	1:1	0.078	35.9	
1720	132072	LTE Band 66	F	20	17.30	Left Cheek	0	1	49	1:1	0.293	22.6	20.5
1720	132072	LTE Band 66	F	20	17.30	Left Tilt	0	1	49	1:1	0.364	21.7	
1720	132072	LTE Band 66	F	20	17.30	Right Cheek	0	1	49	1:1	0.475	20.5	
1720	132072	LTE Band 66	F	20	17.30	Right Tilt	0	1	49	1:1	0.478	20.5	
707.5	23095	LTE Band 12	A	10	25.20	Left Cheek	0	1	24	1:1	0.158	33.2	32.5
707.5	23095	LTE Band 12	A	10	25.20	Left Tilt	0	1	24	1:1	0.067	36.9	
707.5	23095	LTE Band 12	A	10	25.20	Right Cheek	0	1	24	1:1	0.186	32.5	
707.5	23095	LTE Band 12	A	10	25.20	Right Tilt	0	1	24	1:1	0.061	37.3	
707.5	23095	LTE Band 12	E	10	22.48	Left Cheek	0	1	24	1:1	0.869	23.1	23.1
707.5	23095	LTE Band 12	E	10	22.48	Left Tilt	0	1	24	1:1	0.759	23.7	
707.5	23095	LTE Band 12	E	10	22.48	Right Cheek	0	1	24	1:1	0.641	24.4	
707.5	23095	LTE Band 12	E	10	22.48	Right Tilt	0	1	24	1:1	0.57	24.9	
782	23230	LTE Band 13	A	10	24.62	Left Cheek	0	1	24	1:1	0.152	32.8	32.0
782	23230	LTE Band 13	A	10	24.62	Left Tilt	0	1	24	1:1	0.094	34.9	
782	23230	LTE Band 13	A	10	24.62	Right Cheek	0	1	24	1:1	0.181	32.0	
782	23230	LTE Band 13	A	10	24.62	Right Tilt	0	1	24	1:1	0.091	35.0	
782	23230	LTE Band 13	E	10	20.57	Left Cheek	0	1	49	1:1	0.507	23.5	23.5
782	23230	LTE Band 13	E	10	20.57	Left Tilt	0	1	49	1:1	0.486	23.7	
782	23230	LTE Band 13	E	10	20.57	Right Cheek	0	1	49	1:1	0.429	24.2	
782	23230	LTE Band 13	E	10	20.57	Right Tilt	0	1	49	1:1	0.426	24.3	
836.5	20525	LTE Band 5	A	10	25.00	Left Cheek	0	1	24	1:1	0.074	36.3	32.9
836.5	20525	LTE Band 5	A	10	25.00	Left Tilt	0	1	24	1:1	0.081	35.9	
836.5	20525	LTE Band 5	A	10	25.00	Right Cheek	0	1	24	1:1	0.162	32.9	
836.5	20525	LTE Band 5	A	10	25.00	Right Tilt	0	1	24	1:1	0.084	35.8	
836.5	20525	LTE Band 5	E	10	19.96	Left Cheek	0	1	24	1:1	0.394	24.0	22.8
836.5	20525	LTE Band 5	E	10	19.96	Left Tilt	0	1	24	1:1	0.517	22.8	
836.5	20525	LTE Band 5	E	10	19.96	Right Cheek	0	1	24	1:1	0.149	28.2	
836.5	20525	LTE Band 5	E	10	19.96	Right Tilt	0	1	24	1:1	0.155	28.1	

MEASUREMENT RESULTS													
Frequency		Mode	Ant.	Band width	Frame Averaged Conducted Power	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)		(dB)				(W/kg)	(dBm)	(dBm)
831.5	26865	LTE Band 26	A	15	24.98	Left Cheek	0	1	74	1:1	0.108	34.6	32.8
831.5	26865	LTE Band 26	A	15	24.98	Left Tilt	0	1	74	1:1	0.069	36.6	
831.5	26865	LTE Band 26	A	15	24.98	Right Cheek	0	1	74	1:1	0.167	32.8	
831.5	26865	LTE Band 26	A	15	24.98	Right Tilt	0	1	74	1:1	0.075	36.2	
831.5	26865	LTE Band 26	E	15	19.86	Left Cheek	0	1	74	1:1	0.357	24.3	24.2
831.5	26865	LTE Band 26	E	15	19.86	Left Tilt	0	1	74	1:1	0.37	24.2	
831.5	26865	LTE Band 26	E	15	19.86	Right Cheek	0	1	74	1:1	0.337	24.6	
831.5	26865	LTE Band 26	E	15	19.86	Right Tilt	0	1	74	1:1	0.325	24.7	
2 680	41490	LTE Band 41 PC3	B	20	18.86	Left Cheek	0	1	49	1:1.58	0.016	36.8	36.8
2 680	41490	LTE Band 41 PC3	B	20	18.86	Left Tilt	0	1	49	1:1.58	0.0067	40.4	
2 680	41490	LTE Band 41 PC3	B	20	18.86	Right Cheek	0	1	49	1:1.58	0.0099	38.9	
2 680	41490	LTE Band 41 PC3	B	20	18.86	Right Tilt	0	1	49	1:1.58	0.0065	40.4	
2 680	41490	LTE Band 41 PC2	B	20	19.02	Left Cheek	0	1	49	1:2.31	0.013	37.9	37.9
2 506	39750	LTE Band 41 PC3	F	20	16.53	Left Cheek	0	1	0	1:1.58	0.301	21.7	19.8
2 506	39750	LTE Band 41 PC3	F	20	16.53	Left Tilt	0	1	0	1:1.58	0.324	21.4	
2 506	39750	LTE Band 41 PC3	F	20	16.53	Right Cheek	0	1	0	1:1.58	0.475	19.8	
2 506	39750	LTE Band 41 PC3	F	20	16.53	Right Tilt	0	1	0	1:1.58	0.445	20.1	
2 506	39750	LTE Band 41 PC2	F	20	16.46	Left Cheek	0	1	0	1:2.31	0.392	20.5	20.5

Table A-3 P_{SI} = 1 P_{Limit} Calculations – NR Head SAR

For some bands/modes, a lower *P_{Limit}* was selected as a more conservative evaluation.

NR TDD Bands : In the case of the NR TDD bands, the P_{Limit} were calculated as the Frame average power to which the duty factor was applied to the burst power.

SAR measurements of all NR TDD bands were measured in FTM Mode.

MEASUREMENT RESULTS														
Frequency		Mode	Ant.	Band width	Frame Averaged Conducted Power	Test Position	OFDM Mode	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)			(dB)	(W/kg)	(dBm)	(dBm)			
1882.5	376500	NR n25	A	40	24.98	Left Cheek	DFT-s- QPSK	0	1	108	1:1	0.204	31.9	31.9
1882.5	376500	NR n25	A	40	24.98	Left Tilt	DFT-s- QPSK	0	1	108	1:1	0.07	36.5	
1882.5	376500	NR n25	A	40	24.98	Right Cheek	DFT-s- QPSK	0	1	108	1:1	0.079	36.0	
1882.5	376500	NR n25	A	40	24.98	Right Tilt	DFT-s- QPSK	0	1	108	1:1	0.076	36.2	
1882.5	376500	NR n25	F	40	18.09	Left Cheek	DFT-s- QPSK	0	1	108	1:1	0.271	23.8	21.4
1882.5	376500	NR n25	F	40	18.09	Left Tilt	DFT-s- QPSK	0	1	108	1:1	0.415	21.9	
1882.5	376500	NR n25	F	40	18.09	Right Cheek	DFT-s- QPSK	0	1	108	1:1	0.418	21.9	
1882.5	376500	NR n25	F	40	18.09	Right Tilt	DFT-s- QPSK	0	1	108	1:1	0.462	21.4	
836.5	167300	NR n5	A	20	25.43	Left Cheek	DFT-s- QPSK	0	1	1	1:1	0.142	33.9	33.1
836.5	167300	NR n5	A	20	25.43	Left Tilt	DFT-s- QPSK	0	1	1	1:1	0.083	36.2	
836.5	167300	NR n5	A	20	25.43	Right Cheek	DFT-s- QPSK	0	1	1	1:1	0.172	33.1	
836.5	167300	NR n5	A	20	25.43	Right Tilt	DFT-s- QPSK	0	1	1	1:1	0.082	36.3	
836.5	167300	NR n5	E	20	20.35	Left Cheek	DFT-s- QPSK	0	1	1	1:1	0.518	23.2	23.2
836.5	167300	NR n5	E	20	20.35	Left Tilt	DFT-s- QPSK	0	1	1	1:1	0.495	23.4	
836.5	167300	NR n5	E	20	20.35	Right Cheek	DFT-s- QPSK	0	1	1	1:1	0.406	24.3	
836.5	167300	NR n5	E	20	20.35	Right Tilt	DFT-s- QPSK	0	1	1	1:1	0.334	25.1	
2592.99	518598	NR n41	B	100	14.45	Left Cheek	DFT-s- QPSK	0	1	271	1:1	0.001	44.4	44.4
2592.99	518598	NR n41	B	100	14.45	Left Tilt	DFT-s- QPSK	0	1	271	1:1	0	N/A	
2592.99	518598	NR n41	B	100	14.45	Right Cheek	DFT-s- QPSK	0	1	271	1:1	0	N/A	
2592.99	518598	NR n41	B	100	14.45	Right Tilt	DFT-s- QPSK	0	1	271	1:1	0	N/A	
2592.99	518598	NR n41 SRS 1	F	100	12.90	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.134	21.6	17.7
2592.99	518598	NR n41 SRS 1	F	100	12.90	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.134	21.6	
2592.99	518598	NR n41 SRS 1	F	100	12.90	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.271	18.6	
2592.99	518598	NR n41 SRS 1	F	100	12.90	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.332	17.7	
2592.99	518598	NR n41 SRS 2	D	100	13.30	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.002	40.3	40.3
2592.99	518598	NR n41 SRS 2	D	100	13.30	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41 SRS 2	D	100	13.30	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41 SRS 2	D	100	13.30	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41 SRS 3	E	100	12.08	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.659	13.9	13.9
2592.99	518598	NR n41 SRS 3	E	100	12.08	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.617	14.2	
2592.99	518598	NR n41 SRS 3	E	100	12.08	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.209	18.9	
2592.99	518598	NR n41 SRS 3	E	100	12.08	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.208	18.9	
2592.99	518598	NR n41_Hopping	F	100	17.96	Left Cheek	DFT-s- QPSK	0	1	271	1:1	0.414	21.8	18.8
2592.99	518598	NR n41_Hopping	F	100	17.96	Left Tilt	DFT-s- QPSK	0	1	271	1:1	0.464	21.3	
2592.99	518598	NR n41_Hopping	F	100	17.96	Right Cheek	DFT-s- QPSK	0	1	271	1:1	0.805	18.9	
2592.99	518598	NR n41_Hopping	F	100	17.96	Right Tilt	DFT-s- QPSK	0	1	271	1:1	0.829	18.8	

MEASUREMENT RESULTS														
Frequency		Mode	Ant.	Band width	Frame Averaged Conducted Power	Test Position	OFDM Mode	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.001	43.3	43.3
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.659	18.3	18.3
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.617	18.5	
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.209	23.2	
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.208	23.3	
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.001	40.6	40.6
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0	N/A	
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0	N/A	
1 745	349000	NR n66	B	40	24.76	Left Cheek	DFT-s- QPSK	0	1	1	1:1	0.218	31.4	31.4
1 745	349000	NR n66	B	40	24.76	Left Tilt	DFT-s- QPSK	0	1	1	1:1	0.119	34.0	
1 745	349000	NR n66	B	40	24.76	Right Cheek	DFT-s- QPSK	0	1	1	1:1	0.108	34.4	
1 745	349000	NR n66	B	40	24.76	Right Tilt	DFT-s- QPSK	0	1	1	1:1	0.112	34.3	
1 745	349000	NR n66	F	40	17.62	Left Cheek	DFT-s- QPSK	0	1	1	1:1	0.341	22.3	20.0
1 745	349000	NR n66	F	40	17.62	Left Tilt	DFT-s- QPSK	0	1	1	1:1	0.45	21.1	
1 745	349000	NR n66	F	40	17.62	Right Cheek	DFT-s- QPSK	0	1	1	1:1	0.482	20.8	
1 745	349000	NR n66	F	40	17.62	Right Tilt	DFT-s- QPSK	0	1	1	1:1	0.578	20.0	
3 930	662000	NR n77	F	100	14.05	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.257	20.0	15.4
3 930	662000	NR n77	F	100	14.05	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.282	19.5	
3 930	662000	NR n77	F	100	14.05	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.601	16.3	
3 930	662000	NR n77	F	100	14.05	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.735	15.4	
3 500.01	633334	NR n77 DoD	F	100	14.35	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.661	16.1	16.1
3 930	662000	NR n77 SRS 1	C	100	16.64	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.031	31.7	31.7
3 930	662000	NR n77 SRS 1	C	100	16.64	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.017	34.3	
3 930	662000	NR n77 SRS 1	C	100	16.64	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.005	39.7	
3 930	662000	NR n77 SRS 1	C	100	16.64	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.013	35.5	
3 500.01	633334	NR n77 SRS 1 DoD	C	100	14.60	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.028	30.1	30.1
3 930	662000	NR n77 SRS 2	I	100	14.20	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.294	19.5	18.1
3 930	662000	NR n77 SRS 2	I	100	14.20	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.031	29.3	
3 930	662000	NR n77 SRS 2	I	100	14.20	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.41	18.1	
3 930	662000	NR n77 SRS 2	I	100	14.20	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.023	30.6	
3 500.01	633334	NR n77 SRS 2 DoD	I	100	13.38	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.462	16.7	16.7
3 930	662000	NR n77 SRS 3	D	100	13.72	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0	-	40.7
3 930	662000	NR n77 SRS 3	D	100	13.72	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.002	40.7	
3 930	662000	NR n77 SRS 3	D	100	13.72	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0	-	
3 930	662000	NR n77 SRS 3	D	100	13.72	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0	-	
3 500.01	633334	NR n77 SRS 3 DOD	D	100	15.84	Left Cheek	DFT-s- QPSK	0	1	137	1:1	0.006	38.1	36.8
3 500.01	633334	NR n77 SRS 3 DOD	D	100	15.84	Left Tilt	DFT-s- QPSK	0	1	137	1:1	0.001	45.8	
3 500.01	633334	NR n77 SRS 3 DOD	D	100	15.84	Right Cheek	DFT-s- QPSK	0	1	137	1:1	0.008	36.8	
3 500.01	633334	NR n77 SRS 3 DOD	D	100	15.84	Right Tilt	DFT-s- QPSK	0	1	137	1:1	0.004	39.8	

Table A-4 RSI = 1 *PLimit* Calculations – WLAN/BT Head SAR

MEASUREMENT RESULTS													
Frequency		Mode/ Band	Band width	Ant. No.	Data Rate	Frame Averaged	Test Position	Ant. Config.	Duty Cycle	Meas.	Scaling	Plimit	Minimum
MHz	Ch.				(Mbps)	Conducted Power				SAR(1g)	Factor	(dBm)	Plimit
			(MHz)			(dBm)				(W/kg)	(Duty)		(dBm)
2 462	11	802.11b	20	H	1	17.55	Left Cheek	WIFI1	99	0.086	1.011	27.2	20.3
2 462	11	802.11b	20	H	1	17.55	Left Tilt	WIFI1	99	0.056	1.011	29.1	
2 462	11	802.11b	20	H	1	17.55	Right Cheek	WIFI1	99	0.421	1.011	20.3	
2 462	11	802.11b	20	H	1	17.55	Right Tilt	WIFI1	99	0.21	1.011	23.4	
2 462	11	802.11b	20	J	1	17.53	Left Cheek	WIFI2	99	0.353	1.011	21.1	21.1
2 462	11	802.11b	20	J	1	17.53	Left Tilt	WIFI2	99	0.038	1.011	30.8	
2 462	11	802.11b	20	J	1	17.53	Right Cheek	WIFI2	99	0.136	1.011	25.2	
2 462	11	802.11b	20	J	1	17.53	Right Tilt	WIFI2	99	0.028	1.011	32.1	
2 462	11	802.11b	20	H+J	1	17.53	Left Cheek	MIMO	99	0.261	1.011	22.4	21.4
2 462	11	802.11b	20	H+J	1	17.53	Left Tilt	MIMO	99	0.074	1.011	27.9	
2 462	11	802.11b	20	H+J	1	17.53	Right Cheek	MIMO	99	0.325	1.011	21.4	
2 462	11	802.11b	20	H+J	1	17.53	Right Tilt	MIMO	99	0.252	1.011	22.5	
5 290	58	802.11ac	80	H	MCS0	13.87	Left Cheek	WIFI1	85.9	0.116	1.164	22.3	15.7
5 290	58	802.11ac	80	H	MCS0	13.87	Left Tilt	WIFI1	85.9	0.101	1.164	22.9	
5 290	58	802.11ac	80	H	MCS0	13.87	Right Cheek	WIFI1	85.9	0.524	1.164	15.7	
5 290	58	802.11ac	80	H	MCS0	13.87	Right Tilt	WIFI1	85.9	0.321	1.164	17.8	
5 290	58	802.11ac	80	E	MCS0	13.91	Left Cheek	WIFI2	85.9	0.273	1.164	18.6	18.6
5 290	58	802.11ac	80	E	MCS0	13.91	Left Tilt	WIFI2	85.9	0.235	1.164	19.2	
5 290	58	802.11ac	80	E	MCS0	13.91	Right Cheek	WIFI2	85.9	0.082	1.164	23.8	
5 290	58	802.11ac	80	E	MCS0	13.91	Right Tilt	WIFI2	85.9	0.084	1.164	23.7	
5 290	58	802.11ac	80	H+E	MCS0	13.87	Left Cheek	MIMO	85.9	0.202	1.164	19.8	16.6
5 290	58	802.11ac	80	H+E	MCS0	13.87	Left Tilt	MIMO	85.9	0.171	1.164	20.6	
5 690	138	802.11ac	80	H+E	MCS0	13.93	Right Cheek	MIMO	85.9	0.437	1.164	16.6	
5 290	58	802.11ac	80	H+E	MCS0	13.87	Right Tilt	MIMO	85.9	0.235	1.164	19.2	
6 185	47	802.11ax	160	H	MCS0	8.86	Left Cheek	WIFI1	99.6	0.009	1.004	28.3	19.4
6 185	47	802.11ax	160	H	MCS0	8.86	Left Tilt	WIFI1	99.6	0.011	1.004	27.5	
6 185	47	802.11ax	160	H	MCS0	8.86	Right Cheek	WIFI1	99.6	0.07	1.004	19.4	
6 185	47	802.11ax	160	H	MCS0	8.86	Right Tilt	WIFI1	99.6	0.033	1.004	22.7	
6 505	111	802.11ax	160	E	MCS0	8.75	Left Cheek	WIFI2	99.6	0.006	1.004	30.0	28.8
6 505	111	802.11ax	160	E	MCS0	8.75	Left Tilt	WIFI2	99.6	0.008	1.004	28.8	
6 505	111	802.11ax	160	E	MCS0	8.75	Right Cheek	WIFI2	99.6	0.001	1.004	37.8	
6 505	111	802.11ax	160	E	MCS0	8.75	Right Tilt	WIFI2	99.6	0.005	1.004	30.8	
6 185	47	802.11ax	160	H+E	MCS0	8.75	Left Cheek	MIMO	99.6	0.015	1.004	26.0	19.3
6 185	47	802.11ax	160	H+E	MCS0	8.75	Left Tilt	MIMO	99.6	0.019	1.004	25.0	
6 185	47	802.11ax	160	H+E	MCS0	8.75	Right Cheek	MIMO	99.6	0.071	1.004	19.3	
6 185	47	802.11ax	160	H+E	MCS0	8.75	Right Tilt	MIMO	99.6	0.038	1.004	22.0	

MEASUREMENT RESULTS										
Frequency		Mode/ Band	Ant. No.	Frame Averaged	Test Position	Ant. Config.	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.			Conducted Power (dBm)			(W/kg)	(Duty)	(dBm)	(dBm)
2 402	0	DH-5	H	11.60	Left Cheek	Ant 1	0.047	1.010	23.9	21.0
2 402	0	DH-5	H	11.60	Left Tilt	Ant 1	0.03	1.010	25.9	
2 402	0	DH-5	H	11.60	Right Cheek	Ant 1	0.091	1.010	21.0	
2 402	0	DH-5	H	11.60	Right Tilt	Ant 1	0.048	1.010	23.8	
2 441	39	DH-5	J	13.68	Left Cheek	Ant 2	0.073	1.010	24.1	24.1
2 441	39	DH-5	J	13.68	Left Tilt	Ant 2	0.01	1.010	32.7	
2 441	39	DH-5	J	13.68	Right Cheek	Ant 2	0.038	1.010	26.9	
2 441	39	DH-5	J	13.68	Right Tilt	Ant 2	0.003	1.010	37.9	
2 441	39	DH-5	H+J	15.62	Left Cheek	Dual	0.141	1.010	23.2	21.9
2 441	39	DH-5	H+J	15.62	Left Tilt	Dual	0.043	1.010	28.3	
2 441	39	DH-5	H+J	15.62	Right Cheek	Dual	0.189	1.010	21.9	
2 441	39	DH-5	H+J	15.62	Right Tilt	Dual	0.155	1.010	22.7	
2 402	37	LE 1M	H	12.45	Left Cheek	Ant 1	0.024	1.010	27.7	18.2
2 402	37	LE 1M	H	12.45	Left Tilt	Ant 1	0.015	1.010	29.7	
2 402	37	LE 1M	H	12.45	Right Cheek	Ant 1	0.215	1.010	18.2	
2 402	37	LE 1M	H	12.45	Right Tilt	Ant 1	0.05	1.010	24.5	
2 440	17	LE 1M	J	13.85	Left Cheek	Ant 2	0.177	1.010	20.4	20.4
2 440	17	LE 1M	J	13.85	Left Tilt	Ant 2	0.016	1.010	30.8	
2 440	17	LE 1M	J	13.85	Right Cheek	Ant 2	0.046	1.010	26.3	
2 440	17	LE 1M	J	13.85	Right Tilt	Ant 2	0.00598	1.010	35.1	
2 440	17	LE 1M	H+J	15.98	Left Cheek	Dual	0.033	1.010	29.8	29.1
2 440	17	LE 1M	H+J	15.98	Left Tilt	Dual	0	1.010	N/A	
2 440	17	LE 1M	H+J	15.98	Right Cheek	Dual	0.039	1.010	29.1	
2 440	17	LE 1M	H+J	15.98	Right Tilt	Dual	0.031	1.010	30.1	

Table A-5 RSI = 0 P_{Limit} Calculations – 2G Body-Worn SAR

For some bands/modes, a lower P_{Limit} was selected as a more conservative evaluation.

MEASUREMENT RESULTS										
Frequency		Mode/ Band	Ant. No.	Frame Averaged Conducted Power	Test Position	Spacing (mm)	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.			(dBm)				(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	A	20.74	Rear	5	1:8.3	0.538	23.4	23.4
836.6	190	GSM 850	A	20.74	Front	5	1:8.3	0.371	25.0	
836.6	190	GSM 850	E	20.47	Rear	5	1:8.3	0.167	28.2	24.4
836.6	190	GSM 850	E	20.47	Front	5	1:8.3	0.405	24.4	
1 880	661	GSM 1900	A	15.75	Rear	5	1:8.3	0.536	18.5	18.5
1 880	661	GSM 1900	A	15.75	Front	5	1:8.3	0.459	19.1	

Note

1. This device uses a single Power level (RSI 0) for both Body and Hotspot test. In addition, the test distance for both conditions is 5mm. Therefore, the Body-Worn test results are identical to the Hotspot test results. Please refer to sections A-6 through A-9.

Table A-6 RSI = 0 P_{Limit} Calculations – 2G/3G Hotspot SAR

For some bands/modes, a lower P_{Limit} was selected as a more conservative evaluation.

MEASUREMENT RESULTS										
Frequency		Mode/ Band	Ant. No.	Frame Averaged Conducted Power	Test Position	Spacing (mm)	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.			(dBm)				(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	A	20.78	Rear	5	1:8.3	0.573	23.2	23.2
836.6	190	GSM 850	A	20.78	Front	5	1:8.3	0.364	25.2	
836.6	190	GSM 850	A	20.78	Left	5	1:8.3	0.057	33.2	
836.6	190	GSM 850	A	20.78	Right	5	1:8.3	0.126	29.8	
836.6	190	GSM 850	A	20.78	Bottom	5	1:8.3	0.261	26.6	
836.6	190	GSM 850	E	20.58	Rear	5	1:8.3	0.168	28.3	25.0
836.6	190	GSM 850	E	20.58	Front	5	1:8.3	0.358	25.0	
836.6	190	GSM 850	E	20.58	Right	5	1:8.3	0.221	27.1	
836.6	190	GSM 850	E	20.58	Top	5	1:8.3	0.326	25.4	
1 880	661	GSM 1900	A	15.78	Rear	5	1:2.07	0.502	18.8	16.6
1 880	661	GSM 1900	A	15.78	Front	5	1:2.07	0.408	19.7	
1 880	661	GSM 1900	A	15.78	Left	5	1:2.07	0.021	32.6	
1 880	661	GSM 1900	A	15.78	Right	5	1:2.07	0.061	27.9	
1 880	661	GSM 1900	A	15.78	Bottom	5	1:2.07	0.829	16.6	
836.6	4183	UMTS Band 5	A	23.26	Rear	5	1:1	0.895	23.7	23.7
836.6	4183	UMTS Band 5	A	23.26	Front	5	1:1	0.528	26.0	
836.6	4183	UMTS Band 5	A	23.26	Left	5	1:1	0.093	33.6	
836.6	4183	UMTS Band 5	A	23.26	Right	5	1:1	0.316	28.3	
836.6	4183	UMTS Band 5	A	23.26	Bottom	5	1:1	0.408	27.2	
836.6	4183	UMTS Band 5	E	18.88	Rear	5	1:1	0.079	29.9	24.3
836.6	4183	UMTS Band 5	E	18.88	Front	5	1:1	0.229	25.3	
836.6	4183	UMTS Band 5	E	18.88	Right	5	1:1	0.166	26.7	
836.6	4183	UMTS Band 5	E	18.88	Top	5	1:1	0.288	24.3	
1732.4	1412	UMTS Band 4	A	14.29	Rear	5	1:1	0.411	18.2	15.7
1732.4	1412	UMTS Band 4	A	14.29	Front	5	1:1	0.209	21.1	
1732.4	1412	UMTS Band 4	A	14.29	Left	5	1:1	0.087	24.9	
1732.4	1412	UMTS Band 4	A	14.29	Right	5	1:1	0.035	28.8	
1732.4	1412	UMTS Band 4	A	14.29	Bottom	5	1:1	0.730	15.7	
1 880	9400	UMTS Band 2	A	14.64	Rear	5	1:1	0.632	16.6	14.7
1 880	9400	UMTS Band 2	A	14.64	Front	5	1:1	0.488	17.8	
1 880	9400	UMTS Band 2	A	14.64	Left	5	1:1	0.03	29.9	
1 880	9400	UMTS Band 2	A	14.64	Right	5	1:1	0.069	26.3	
1 880	9400	UMTS Band 2	A	14.64	Bottom	5	1:1	0.975	14.7	

Table A-7 RSI = 0 P_{Limit} Calculations – 4G Hotspot SAR

For some bands/modes, a lower P_{Limit} was selected as a more conservative evaluation.

MEASUREMENT RESULTS														
Frequency		Mode	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	Spacing (mm)	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
1882.5	26365	LTE Band 25	A	20	15.56	Rear	5	0	1	49	1:1	0.667	17.3	15.7
1882.5	26365	LTE Band 25	A	20	15.56	Front	5	0	1	49	1:1	0.53	18.3	
1882.5	26365	LTE Band 25	A	20	15.56	Left	5	0	1	49	1:1	0.051	28.5	
1882.5	26365	LTE Band 25	A	20	15.56	Right	5	0	1	49	1:1	0.081	26.5	
1882.5	26365	LTE Band 25	A	20	15.56	Bottom	5	0	1	49	1:1	0.960	15.7	
1860	26140	LTE Band 25	F	20	17.65	Rear	5	0	1	49	1:1	0.304	22.8	20.3
1860	26140	LTE Band 25	F	20	17.65	Front	5	0	1	49	1:1	0.21	24.4	
1860	26140	LTE Band 25	F	20	17.65	Left	5	0	1	49	1:1	0.033	32.5	
1860	26140	LTE Band 25	F	20	17.65	Top	5	0	1	49	1:1	0.54	20.3	
1720	132072	LTE Band 66	A	20	14.56	Rear	5	0	1	49	1:1	0.443	18.1	16.2
1720	132072	LTE Band 66	A	20	14.56	Front	5	0	1	49	1:1	0.396	18.6	
1720	132072	LTE Band 66	A	20	14.56	Left	5	0	1	49	1:1	0.097	24.7	
1720	132072	LTE Band 66	A	20	14.56	Right	5	0	1	49	1:1	0.088	25.1	
1720	132072	LTE Band 66	A	20	14.56	Bottom	5	0	1	49	1:1	0.679	16.2	
1720	132072	LTE Band 66	F	20	17.30	Rear	5	0	1	49	1:1	0.258	23.2	19.5
1720	132072	LTE Band 66	F	20	17.30	Front	5	0	1	49	1:1	0.207	24.1	
1720	132072	LTE Band 66	F	20	17.30	Left	5	0	1	49	1:1	0.113	26.8	
1720	132072	LTE Band 66	F	20	17.30	Top	5	0	1	49	1:1	0.605	19.5	
707.5	23095	LTE Band 12	A	10	22.32	Rear	5	0	1	24	1:1	0.913	22.7	22.7
707.5	23095	LTE Band 12	A	10	22.32	Front	5	0	1	24	1:1	0.703	23.9	
707.5	23095	LTE Band 12	A	10	22.32	Left	5	0	1	24	1:1	0.085	33.0	
707.5	23095	LTE Band 12	A	10	22.32	Right	5	0	1	24	1:1	0.111	31.9	
707.5	23095	LTE Band 12	A	10	22.32	Bottom	5	0	1	24	1:1	0.436	25.9	
707.5	23095	LTE Band 12	E	10	22.48	Rear	5	0	1	24	1:1	0.817	23.4	23.4
707.5	23095	LTE Band 12	E	10	22.48	Front	5	0	1	24	1:1	0.621	24.5	
707.5	23095	LTE Band 12	E	10	22.48	Right	5	0	1	24	1:1	0.355	27.0	
707.5	23095	LTE Band 12	E	10	22.48	Top	5	0	1	24	1:1	0.591	24.8	
782	23230	LTE Band 13	A	10	22.01	Rear	5	0	1	24	1:1	0.695	23.6	23.6
782	23230	LTE Band 13	A	10	22.01	Front	5	0	1	24	1:1	0.349	26.6	
782	23230	LTE Band 13	A	10	22.01	Left	5	0	1	24	1:1	0.11	31.6	
782	23230	LTE Band 13	A	10	22.01	Right	5	0	1	24	1:1	0.245	28.1	
782	23230	LTE Band 13	A	10	22.01	Bottom	5	0	1	24	1:1	0.290	27.4	
782	23230	LTE Band 13	E	10	20.57	Rear	5	0	1	49	1:1	0.414	24.4	23.6
782	23230	LTE Band 13	E	10	20.57	Front	5	0	1	49	1:1	0.122	29.7	
782	23230	LTE Band 13	E	10	20.57	Right	5	0	1	49	1:1	0.325	25.5	
782	23230	LTE Band 13	E	10	20.57	Top	5	0	1	49	1:1	0.501	23.6	

MEASUREMENT RESULTS

Frequency		Mode	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	Spacing (mm)	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.													
				(MHz)	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
836.5	20525	LTE Band 5	A	10	22.39	Rear	5	0	1	24	1:1	0.647	24.3	24.3
836.5	20525	LTE Band 5	A	10	22.39	Front	5	0	1	24	1:1	0.273	28.0	
836.5	20525	LTE Band 5	A	10	22.39	Left	5	0	1	24	1:1	0.056	34.9	
836.5	20525	LTE Band 5	A	10	22.39	Right	5	0	1	24	1:1	0.109	32.0	
836.5	20525	LTE Band 5	A	10	22.39	Bottom	5	0	1	24	1:1	0.362	26.8	
836.5	20525	LTE Band 5	E	10	19.96	Rear	5	0	1	24	1:1	0.162	27.9	24.7
836.5	20525	LTE Band 5	E	10	19.96	Front	5	0	1	24	1:1	0.335	24.7	
836.5	20525	LTE Band 5	E	10	19.96	Right	5	0	1	24	1:1	0.244	26.1	
836.5	20525	LTE Band 5	E	10	19.96	Top	5	0	1	24	1:1	0.177	27.5	
831.5	26865	LTE Band 26	A	15	22.45	Rear	5	0	1	74	1:1	0.359	26.9	26.9
831.5	26865	LTE Band 26	A	15	22.45	Front	5	0	1	74	1:1	0.26	28.3	
831.5	26865	LTE Band 26	A	15	22.45	Left	5	0	1	74	1:1	0.064	34.4	
831.5	26865	LTE Band 26	A	15	22.45	Right	5	0	1	74	1:1	0.134	31.2	
831.5	26865	LTE Band 26	A	15	22.45	Bottom	5	0	1	74	1:1	0.330	27.3	
831.5	26865	LTE Band 26	E	15	19.86	Rear	5	0	1	74	1:1	0.393	23.9	23.9
831.5	26865	LTE Band 26	E	15	19.86	Front	5	0	1	74	1:1	0.32	24.8	
831.5	26865	LTE Band 26	E	15	19.86	Right	5	0	1	74	1:1	0.21	26.6	
831.5	26865	LTE Band 26	E	15	19.86	Top	5	0	1	74	1:1	0.348	24.4	
2 680	41490	LTE Band 41 PC3	B	20	18.86	Rear	5	0	1	49	1:1.58	0.702	20.4	19.7
2 680	41490	LTE Band 41 PC3	B	20	18.86	Front	5	0	1	49	1:1.58	0.430	22.5	
2 680	41490	LTE Band 41 PC3	B	20	18.86	Left	5	0	1	49	1:1.58	0.574	21.3	
2 680	41490	LTE Band 41 PC3	B	20	18.86	Bottom	5	0	1	49	1:1.58	0.834	19.7	
2 593	40620	LTE Band 41 PC2	B	20	18.62	Bottom	5	0	1	49	1:2.31	0.739	19.9	19.9
2 506	39750	LTE Band 41 PC3	F	20	16.53	Rear	5	0	1	0	1:1.58	0.258	22.4	21.4
2 506	39750	LTE Band 41 PC3	F	20	16.53	Front	5	0	1	0	1:1.58	0.155	24.6	
2 506	39750	LTE Band 41 PC3	F	20	16.53	Left	5	0	1	0	1:1.58	0.024	32.7	
2 506	39750	LTE Band 41 PC3	F	20	16.53	Top	5	0	1	0	1:1.58	0.325	21.4	
2 506	39750	LTE Band 41 PC2	F	20	16.60	Top	5	0	50	0	1:2.31	0.333	21.4	21.4

Table A-8 RSI = 0 *PLimit* Calculations – NR Hotspot SAR

For some bands/modes, a lower *PLimit* was selected as a more conservative evaluation.

NR TDD Bands : In the case of the NR TDD bands, the *PLimit* were calculated as the Frame average power to which the duty factor was applied to the burst power.0

SAR measurements of all NR TDD bands were measured in FTM Mode.

MEASUREMENT RESULTS															
Frequency		Mode	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	OFDM Mode	MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minim Plimit
MHz	Ch.			(MHz)	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
1 882.5	376500	NR n25	A	40	14.88	Rear	DFT-s QPSK	0	5	1	108	1:1	0.495	17.9	15.6
1 882.5	376500	NR n25	A	40	14.88	Front	DFT-s QPSK	0	5	1	108	1:1	0.38	19.1	
1 882.5	376500	NR n25	A	40	14.88	Left	DFT-s QPSK	0	5	1	108	1:1	0.034	29.6	
1 882.5	376500	NR n25	A	40	14.88	Right	DFT-s QPSK	0	5	1	108	1:1	0.013	33.7	
1 882.5	376500	NR n25	A	40	14.88	Bottom	DFT-s QPSK	0	5	1	108	1:1	0.850	15.6	
1 882.5	376500	NR n25	F	40	18.09	Rear	DFT-s QPSK	0	5	1	108	1:1	0.298	23.3	20.7
1 882.5	376500	NR n25	F	40	18.09	Front	DFT-s QPSK	0	5	1	108	1:1	0.188	25.3	
1 882.5	376500	NR n25	F	40	18.09	Left	DFT-s QPSK	0	5	1	108	1:1	0.04	32.1	
1 882.5	376500	NR n25	F	40	18.09	Top	DFT-s QPSK	0	5	1	108	1:1	0.547	20.7	
836.5	167300	NR n5	A	10	22.60	Rear	DFT-s QPSK	0	5	1	1	1:1	0.779	23.7	23.7
836.5	167300	NR n5	A	10	22.60	Front	DFT-s QPSK	0	5	1	1	1:1	0.223	29.1	
836.5	167300	NR n5	A	10	22.60	Left	DFT-s QPSK	0	5	1	1	1:1	0.085	33.3	
836.5	167300	NR n5	A	10	22.60	Right	DFT-s QPSK	0	5	1	1	1:1	0.209	29.4	
836.5	167300	NR n5	A	10	22.60	Bottom	DFT-s QPSK	0	5	1	1	1:1	0.215	29.3	
836.5	167300	NR n5	E	10	20.35	Rear	DFT-s QPSK	0	5	1	1	1:1	0.177	27.9	24.1
836.5	167300	NR n5	E	10	20.35	Front	DFT-s QPSK	0	5	1	1	1:1	0.379	24.6	
836.5	167300	NR n5	E	10	20.35	Right	DFT-s QPSK	0	5	1	1	1:1	0.253	26.3	
836.5	167300	NR n5	E	10	20.35	Top	DFT-s QPSK	0	5	1	1	1:1	0.420	24.1	
2592.99	518598	NR n41	B	100	14.45	Rear	DFT-s QPSK	0	5	1	271	1:1	0.237	20.7	19.4
2592.99	518598	NR n41	B	100	14.45	Front	DFT-s QPSK	0	5	1	271	1:1	0.160	22.4	
2592.99	518598	NR n41	B	100	14.45	Left	DFT-s QPSK	0	5	1	271	1:1	0.168	22.2	
2592.99	518598	NR n41	B	100	14.45	Bottom	DFT-s QPSK	0	5	1	271	1:1	0.321	19.4	
2592.99	518598	NR n41 SRS 1	F	100	12.90	Rear	DFT-s QPSK	0	5	1	137	1:1	0.213	19.6	19.5
2592.99	518598	NR n41 SRS 1	F	100	12.90	Front	DFT-s QPSK	0	5	1	137	1:1	0.129	21.8	
2592.99	518598	NR n41 SRS 1	F	100	12.90	Left	DFT-s QPSK	0	5	1	137	1:1	0.015	31.1	
2592.99	518598	NR n41 SRS 1	F	100	12.90	Top	DFT-s QPSK	0	5	1	137	1:1	0.217	19.5	
2592.99	518598	NR n41 SRS 2	D	100	13.30	Rear	DFT-s QPSK	0	5	1	137	1:1	0.540	16.0	16.0
2592.99	518598	NR n41 SRS 2	D	100	13.30	Front	DFT-s QPSK	0	5	1	137	1:1	0.008	34.3	
2592.99	518598	NR n41 SRS 2	D	100	13.30	Right	DFT-s QPSK	0	5	1	137	1:1	0.014	31.8	
2592.99	518598	NR n41 SRS 2	D	100	13.30	Bottom	DFT-s QPSK	0	5	1	137	1:1	0.03	28.5	
2592.99	518598	NR n41 SRS 3	E	100	12.08	Rear	DFT-s QPSK	0	5	1	137	1:1	0.583	14.4	14.4
2592.99	518598	NR n41 SRS 3	E	100	12.08	Front	DFT-s QPSK	0	5	1	137	1:1	0.318	17.1	
2592.99	518598	NR n41 SRS 3	E	100	12.08	Right	DFT-s QPSK	0	5	1	137	1:1	0.144	20.5	
2592.99	518598	NR n41 SRS 3	E	100	12.08	Top	DFT-s QPSK	0	5	1	137	1:1	0.406	16.0	

MEASUREMENT RESULTS

Frequency		Mode	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	OFDM Mode	MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.												(W/kg)	(dBm)	(dBm)
2592.99	518598	NR n41_Hopping	F	100	17.96	Rear	DFT-s-QPSK	0	5	1	271	1:1	0.561	20.5	20.5
2592.99	518598	NR n41_Hopping	F	100	17.96	Front	DFT-s-QPSK	0	5	1	271	1:1	0.378	22.2	
2592.99	518598	NR n41_Hopping	F	100	17.96	Left	DFT-s-QPSK	0	5	1	271	1:1	0.062	30.0	
2592.99	518598	NR n41_Hopping	F	100	17.96	Top	DFT-s-QPSK	0	5	1	271	1:1	0.546	20.6	
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Rear	DFT-s-QPSK	0	5	1	137	1:1	0.243	19.5	18.9
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Front	DFT-s-QPSK	0	5	1	137	1:1	0.129	22.2	
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Left	DFT-s-QPSK	0	5	1	137	1:1	0.181	20.8	
2592.99	518598	NR n41_Hopping SRS1	B	100	13.33	Bottom	DFT-s-QPSK	0	5	1	137	1:1	0.277	18.9	
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Rear	DFT-s-QPSK	0	5	1	137	1:1	0.583	18.8	18.8
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Front	DFT-s-QPSK	0	5	1	137	1:1	0.318	21.4	
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Right	DFT-s-QPSK	0	5	1	137	1:1	0.144	24.9	
2592.99	518598	NR n41_Hopping SRS2	E	100	16.45	Top	DFT-s-QPSK	0	5	1	137	1:1	0.406	20.4	
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Rear	DFT-s-QPSK	0	5	1	137	1:1	0.540	13.3	13.3
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Front	DFT-s-QPSK	0	5	1	137	1:1	0.008	31.6	
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Right	DFT-s-QPSK	0	5	1	137	1:1	0.014	29.1	
2592.99	518598	NR n41_Hopping SRS3	D	100	10.59	Bottom	DFT-s-QPSK	0	5	1	137	1:1	0.03	25.8	
1745.0	349000	NR n66	A	40	14.67	Rear	DFT-s-QPSK	0	5	1	1	1:1	0.36	19.1	16.4
1745.0	349000	NR n66	A	40	14.67	Front	DFT-s-QPSK	0	5	1	1	1:1	0.102	24.6	
1745.0	349000	NR n66	A	40	14.67	Left	DFT-s-QPSK	0	5	1	1	1:1	0.045	28.1	
1745.0	349000	NR n66	A	40	14.67	Right	DFT-s-QPSK	0	5	1	1	1:1	0.028	30.2	
1745.0	349000	NR n66	A	40	14.67	Bottom	DFT-s-QPSK	0	5	1	1	1:1	0.670	16.4	
1745.0	349000	NR n66	F	40	17.62	Rear	DFT-s-QPSK	0	5	1	1	1:1	0.352	22.2	20.4
1745.0	349000	NR n66	F	40	17.62	Front	DFT-s-QPSK	0	5	1	1	1:1	0.226	24.1	
1745.0	349000	NR n66	F	40	17.62	Left	DFT-s-QPSK	0	5	1	1	1:1	0.103	27.5	
1745.0	349000	NR n66	F	40	17.62	Top	DFT-s-QPSK	0	5	1	1	1:1	0.533	20.4	
3 930	662000	NR n77	F	100	15.45	Rear	DFT-s-QPSK	0	5	1	137	1:1	0.299	20.7	20.5
3 930	662000	NR n77	F	100	15.45	Front	DFT-s-QPSK	0	5	1	137	1:1	0.281	21.0	
3 930	662000	NR n77	F	100	15.45	Left	DFT-s-QPSK	0	5	1	137	1:1	0.011	35.0	
3 930	662000	NR n77	F	100	15.45	Top	DFT-s-QPSK	0	5	1	137	1:1	0.313	20.5	
3 500.01	633334	NR n77 DoD	F	100	15.31	Top	DFT-s-QPSK	0	5	1	137	1:1	0.601	17.5	17.5
3 930	662000	NR n77 SRS 1	C	100	17.81	Rear	DFT-s-QPSK	0	5	1	137	1:1	0.352	22.3	19.1
3 930	662000	NR n77 SRS 1	C	100	17.81	Front	DFT-s-QPSK	0	5	1	137	1:1	0.310	22.9	
3 930	662000	NR n77 SRS 1	C	100	17.81	Left	DFT-s-QPSK	0	5	1	137	1:1	0.75	19.1	
3 930	662000	NR n77 SRS 1	C	100	17.81	Bottom	DFT-s-QPSK	0	5	1	137	1:1	0.168	25.6	
3 500.01	633334	NR n77 SRS 1 DoD	C	100	15.54	Left	DFT-s-QPSK	0	5	1	137	1:1	0.51	18.5	18.5
3 930	662000	NR n77 SRS 2	I	100	15.17	Rear	DFT-s-QPSK	0	5	1	137	1:1	0.167	22.9	22.9
3 930	662000	NR n77 SRS 2	I	100	15.17	Front	DFT-s-QPSK	0	5	1	137	1:1	0.135	23.9	
3 930	662000	NR n77 SRS 2	I	100	15.17	Left	DFT-s-QPSK	0	5	1	137	1:1	0.063	27.2	
3 930	662000	NR n77 SRS 2	I	100	15.17	Top	DFT-s-QPSK	0	5	1	137	1:1	0.002	42.2	
3 500.01	633334	NR n77 SRS 2 DoD	I	100	14.23	Rear	DFT-s-QPSK	0	5	1	137	1:1	0.285	19.7	19.7

MEASUREMENT RESULTS															
Frequency		Mode	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	OFDM Mode	MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
3 930	662000	NR n77 SRS 3	D	100	14.77	Rear	DFT-s QPSK	0	5	1	137	1:1	0.572	17.2	17.2
3 930	662000	NR n77 SRS 3	D	100	14.77	Front	DFT-s QPSK	0	5	1	137	1:1	0.041	28.6	
3 930	662000	NR n77 SRS 3	D	100	14.77	Right	DFT-s QPSK	0	5	1	137	1:1	0.03	30.0	
3 930	662000	NR n77 SRS 3	D	100	14.77	Bottom	DFT-s QPSK	0	5	1	137	1:1	0.096	24.9	
3 500.01	633334	NR n77 SRS 3 DoD	D	100	16.83	Rear	DFT-s QPSK	0	5	1	137	1:1	0.815	17.7	17.7
3 500.01	633334	NR n77 SRS 3 DoD	D	100	16.83	Front	DFT-s QPSK	0	5	1	137	1:1	0.042	30.6	
3 500.01	633334	NR n77 SRS 3 DoD	D	100	16.83	Right	DFT-s QPSK	0	5	1	137	1:1	0.046	30.2	
3 500.01	633334	NR n77 SRS 3 DoD	D	100	16.83	Bottom	DFT-s QPSK	0	5	1	137	1:1	0.117	26.1	

Table A-9 RSI = 0 *PLimit* Calculations – WLAN/BT Hotspot SAR

MEASUREMENT RESULTS													
Frequency		Mode/ Band	Band width	Ant. No.	Data Rate	Frame Averaged Conducted Power	Test Position	Ant. Config.	Duty Cycle	Meas.	Scaling	Plimit	Minimum Plin
MHz	Ch.									SAR(1g) (W/kg)	Factor (Duty)	(dBm)	(dBm)
2 462	11	802.11b	20	H	1	17.55	Rear	WIFI1	99	0.435	1.011	20.2	19.3
2 462	11	802.11b	20	H	1	17.55	Front	WIFI1	99	0.318	1.011	21.6	
2 462	11	802.11b	20	H	1	17.55	Left	WIFI1	99	0.537	1.011	19.3	
2 462	11	802.11b	20	H	1	17.55	Top	WIFI1	99	0.203	1.011	23.5	
2 462	11	802.11b	20	J	1	17.53	Rear	WIFI2	99	0.085	1.011	27.3	25.8
2 462	11	802.11b	20	J	1	17.53	Front	WIFI2	99	0.119	1.011	25.8	
2 462	11	802.11b	20	J	1	17.53	Right	WIFI2	99	0.053	1.011	29.3	
2 462	11	802.11b	20	J	1	17.53	Top	WIFI2	99	0.005	1.011	39.6	
2 462	11	802.11b	20	H+J	1	17.53	Rear	MIMO	99	0.216	1.011	23.2	21.4
2 462	11	802.11b	20	H+J	1	17.53	Front	MIMO	99	0.127	1.011	25.5	
2 462	11	802.11b	20	H+J	1	17.53	Left	MIMO	99	0.325	1.011	21.4	
2 462	11	802.11b	20	H+J	1	17.53	Right	MIMO	99	0.051	1.011	29.5	
2 462	11	802.11b	20	H+J	1	17.53	Top	MIMO	99	0.113	1.011	26.0	
5 290	58	802.11ac	80	H	MCS0	13.87	Rear	WIFI1	85.9	0.306	1.164	18.0	16.7
5 290	58	802.11ac	80	H	MCS0	13.87	Front	WIFI1	85.9	0.168	1.164	20.6	
5 855	171	802.11ac	80	H	MCS0	14.26	Left	WIFI1	85.9	0.455	1.164	16.7	
5 290	58	802.11ac	80	H	MCS0	13.87	Top	WIFI1	85.9	0.113	1.164	22.4	
5 610	122	802.11ac	80	E	MCS0	13.90	Rear	WIFI2	85.9	0.545	1.164	15.6	15.6
5 855	171	802.11ac	80	E	MCS0	13.26	Front	WIFI2	85.9	0.106	1.164	22.0	
5 290	58	802.11ac	80	E	MCS0	13.91	Right	WIFI2	85.9	0.106	1.164	22.7	
5 290	58	802.11ac	80	E	MCS0	13.91	Top	WIFI2	85.9	0.133	1.164	21.7	
5 290	58	802.11ac	80	H+E	MCS0	13.80	Rear	MIMO	85.9	0.331	1.164	17.7	16.7
5 855	171	802.11ac	80	H+E	MCS0	13.26	Front	MIMO	85.9	0.107	1.164	22.0	
5 690	138	802.11ac	80	H+E	MCS0	13.93	Left	MIMO	85.9	0.425	1.164	16.7	
5 290	58	802.11ac	80	H+E	MCS0	13.87	Right	MIMO	85.9	0.066	1.164	24.7	
5 290	58	802.11ac	80	H+E	MCS0	13.87	Top	MIMO	85.9	0.162	1.164	20.8	
6 185	47	802.11ax	160	H	MCS0	8.86	Rear	WIFI1	99.6	0.059	1.004	20.2	17.9
6 185	47	802.11ax	160	H	MCS0	8.86	Front	WIFI1	99.6	0.027	1.004	23.6	
6 185	47	802.11ax	160	H	MCS0	8.86	Left	WIFI1	99.6	0.1	1.004	17.9	
6 185	47	802.11ax	160	H	MCS0	8.86	Top	WIFI1	99.6	0.019	1.004	25.1	
6 505	111	802.11ax	160	E	MCS0	8.75	Rear	WIFI2	99.6	0.005	1.004	30.8	28.2
6 505	111	802.11ax	160	E	MCS0	8.75	Front	WIFI2	99.6	0.009	1.004	28.2	
6 505	111	802.11ax	160	E	MCS0	8.75	Right	WIFI2	99.6	0	1.004	N/A	
6 505	111	802.11ax	160	E	MCS0	8.75	Top	WIFI2	99.6	0.004	1.004	31.8	
6 185	47	802.11ax	160	H+E	MCS0	8.75	Rear	MIMO	99.6	0.064	1.004	19.7	17.8
6 185	47	802.11ax	160	H+E	MCS0	8.75	Front	MIMO	99.6	0.036	1.004	22.2	
6 185	47	802.11ax	160	H+E	MCS0	8.75	Left	MIMO	99.6	0.100	1.004	17.8	
6 185	47	802.11ax	160	H+E	MCS0	8.75	Right	MIMO	99.6	0.000	1.004	N/A	
6 185	47	802.11ax	160	H+E	MCS0	8.75	Top	MIMO	99.6	0.023	1.004	24.2	

MEASUREMENT RESULTS

Frequency		Mode/ Band	Ant. No.	Frame Averaged Conducted Power	Test Position	Ant. Config.	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.			(dBm)			(W/kg)	(Duty)	(dBm)	(dBm)
2 402	0	DH5	H	11.60	Rear	Ant 1	0.115	1.010	20.0	20.0
2 402	0	DH5	H	11.60	Front	Ant 1	0.071	1.010	22.1	
2 402	0	DH5	H	11.60	Left	Ant 1	0.116	1.010	20.0	
2 402	0	DH5	H	11.60	Top	Ant 1	0.053	1.010	23.4	
2 441	39	DH5	J	13.68	Rear	Ant 2	0.013	1.010	31.6	26.3
2 441	39	DH5	J	13.68	Front	Ant 2	0.044	1.010	26.3	
2 441	39	DH5	J	13.68	Right	Ant 2	0.012	1.010	31.9	
2 441	39	DH5	J	13.68	Top	Ant 2	0	1.010	N/A	
2 441	39	DH5	H+J	15.62	Rear	Dual	0.052	1.010	27.5	23.7
2 441	39	DH5	H+J	15.62	Front	Dual	0.043	1.010	28.3	
2 441	39	DH5	H+J	15.62	Left	Dual	0.125	1.010	23.7	
2 441	39	DH5	H+J	15.62	Right	Dual	0.032	1.010	29.6	
2 441	39	DH5	H+J	15.62	Top	Dual	0.033	1.010	29.5	
2 402	37	LE 1M	H	12.45	Rear	Ant 1	0.066	1.010	23.3	20.9
2 402	37	LE 1M	H	12.45	Front	Ant 1	0.114	1.010	20.9	
2 402	37	LE 1M	H	12.45	Left	Ant 1	0.111	1.010	21.0	
2 402	37	LE 1M	H	12.45	Top	Ant 1	0.076	1.010	22.7	
2 440	17	LE 1M	J	13.85	Rear	Ant 2	0.034	1.010	27.6	25.9
2 440	17	LE 1M	J	13.85	Front	Ant 2	0.050	1.010	25.9	
2 440	17	LE 1M	J	13.85	Right	Ant 2	0.031	1.010	28.0	
2 440	17	LE 1M	J	13.85	Top	Ant 2	0.00526	1.010	35.9	
2 440	17	LE 1M	H+J	15.98	Rear	Dual	0.066	1.010	26.8	26.1
2 440	17	LE 1M	H+J	15.98	Front	Dual	0.075	1.010	26.3	
2 440	17	LE 1M	H+J	15.98	Left	Dual	0.077	1.010	26.1	
2 440	17	LE 1M	H+J	15.98	Right	Dual	0.021	1.010	31.8	
2 440	17	LE 1M	H+J	15.98	Top	Dual	0.043	1.010	28.7	