Testing and Certification

TEST REPORT

PART 0 SAR Test for certification of A3LSMS721B

APPLICANT

Samsung Electronics. Co., Ltd.

REPORT NO.

HCT-SR-2407-FC016

DATE OF ISSUE

Jul. 24, 2024

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TEST REPORT

PART 0 RF Exposure Test for certification

REPORT NO.
HCT-SR-2407-FC016

DATE OF ISSUE
Jul. 24, 2024

FCC ID
A3LSMS721B

Applicant	**SAMSUNG Electronics Co., Ltd** **129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677, Korea**
Product Name	Mobile Phone
Model Name	SM-S721B/DS
Additional Model	SM-S721B
Date of Test	Jun. 11, 2024 ~ Jul. 15, 2024
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)

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	Jul. 24, 2024	Initial Release

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).

CONTENTS

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-S721B/DS
Additional Model Name	SM-S721B
Equipment Type	Mobile Phone
FCC ID	A3LSMS721B
Application Type	Certification
Applicant	SAMSUNG Electronics Co., Ltd.

2. DEVICE UNDER TEST DESCRIPTION

2.1 General Information of the EUT

Device Wireless specification overview		
Band & Mode	Operating Mode	Tx Frequency
GSM850	Voice / Data	824.2 ㎒ ~ 848.8 ㎒
GSM1900	Voice / Data	1 850.2 ㎒ ~ 1 909.8 ㎒
UMTS Band 2	Voice / Data	1 852.4 ㎒ ~ 1 907.6 ㎒
UMTS Band 4	Voice / Data	1 712.4 ㎒ ~ 1 752.6 ㎒
UMTS Band 5	Voice / Data	826.4 ㎒ ~ 846.6 ㎒
LTE FDD Band 2 (PCS)	Voice / Data	1 850.7 ㎒ ~ 1 909.3 ㎒
LTE FDD Band 4 (AWS)	Voice / Data	1 710.7 ㎒ ~ 1 754.3 ㎒
LTE FDD Band 5 (Cell)	Voice / Data	824.7 ㎒ ~ 848.3 ㎒
LTE FDD Band 12	Voice / Data	699.7 ㎒ ~ 715.3 ㎒
LTE FDD Band 13	Voice / Data	779.5 ㎒ ~ 784.5 ㎒
LTE FDD Band 17	Voice / Data	706.5 ㎒ ~ 713.5 ㎒
LTE FDD Band 25	Voice / Data	1 850.7 ㎒ ~ 1 914.3 ㎒
LTE FDD Band 26	Voice / Data	814.7 ㎒ ~ 848.3 ㎒
LTE TDD Band 41	Voice / Data	2 498.5 ㎒ ~ 2 687.5 ㎒
LTE FDD Band 66 (AWS)	Voice / Data	1 710.7 ㎒ ~ 1 779.3 ㎒
NR FDD Band n2 (PCS)	Voice / Data	1 852.5 ㎒ ~ 1 907.5 ㎒
NR FDD Band n5	Voice / Data	826.5 ㎒ ~ 846.5 ㎒
NR FDD Band n25 (PCS)	Voice / Data	1 852.5 ㎒ ~ 1 912.5 ㎒
NR TDD Band n41	Voice / Data	2 501.01 ㎒ ~ 2 685 ㎒
NR FDD Band n66	Voice / Data	1 712.5 ㎒ ~ 1 777.5 ㎒
NR TDD Band n77	Voice / Data	3 705 ㎒ ~ 3 975 ㎒
NR TDD Band n77 DoD	Voice / Data	3 445.01 ㎒ ~ 3 544.98 ㎒
U-NII-1	Voice / Data	5 180 ㎒ ~ 5 240 ㎒
U-NII-2A	Voice / Data	5 260 ㎒ ~ 5 320 ㎒
U-NII-2C	Voice / Data	5 500 ㎒ ~ 5 720 ㎒
U-NII-3	Voice / Data	5 745 ㎒ ~ 5 825 ㎒
U-NII-4	Voice / Data	5 845 ㎒ ~ 5 885 ㎒
U-NII-5	Voice / Data	5 925 ㎒ – 6 425 ㎒
U-NII-6	Voice / Data	6 425 ㎒ – 6 525 ㎒
U-NII-7	Voice / Data	6 525 ㎒ – 6 865 ㎒
U-NII-8	Voice / Data	6 865 ㎒ – 7 115 ㎒
2.4 ㎓ WLAN	Voice / Data	2 412 ㎒ ~ 2 462 ㎒
Bluetooth / LE 5.3	Data	2 402 ㎒ ~ 2 480 ㎒
NFC	Data	13.56 ㎒
WPC	Data	110 ㎑ ~ 148 ㎑

2.2 Time-Averaging for SAR

This WWAN Mode of DUT is equipped with an S.LSI chipset to which the Samsung S.LSI proprietary TAS (Time Average SAR) algorithm is applied. and also This equipment contains the Qualcomm modem supporting WLAN Fast connect TAS operations.
This DUT is enabled with the Samsung S.LSI proprietary TAS (Time Average SAR) algorithm for WWAN Mode and also Qualcomm Fast connect TAS feature for WLAN Mode to control 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

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 equipment contains the Qualcomm modem supporting WLAN Fast connect TAS algorithm for TAS operations This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is incompliance with FCC requirements all the time. DUT contains BDF File configured for the WLAN Fast connect TAS algorithm. Only the BT, NFC mode of the device did not apply the time averaged SAR algorithm.

The Samsung S.LSI TAS algorithm and Qualcomm Fast connect TAS algorithm allow the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit NV settings and maximum tune up output power Pmax configured for this DUT for various transmit conditions (Radio SAR indicator RSI for Head /Body SAR of WWAN Mode, Device State Index DSI for WLAN mode).
The purpose of this report is to demonstrate that the DUT meets FCC SAR limits when transmitting in static transmission configurations at Plimit specified by manufacturer.

SAR Characterization confirms that Plimit in the 4G/5G/WLAN 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. 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 A3LSMS721B_SAR Part 2 Report_Main report.

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The validation of The Qualcomm Fast connect TAS algorithm and compliance under the time-varying transmission scenario for WLAN technologies are reported in A3LSMS721B_SAR Part 2 Report_WLAN report.

2.3 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 (d*W*) absorbed by (dissipated in) an incremental mass (d*m*) contained in a volume element (d*V*) of a given density (*r*). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body

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

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/㎥)
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	Graded Grid		
			Δzzoom(n)	Δzzoom(1)*	Δzzoom(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 Exposure Index 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 (Free) (Body/Phablet)	Device is held with hand Device being used with a body-worn accessory Device being used with a Earjack	Phablet SAR per KDB Publication 648474 D04 Body-worn SAR per KDB Publication 648474 D04
	RSI = 2 (Hotspot On)	Device transmits in hotspot mode near body	Hotspot SAR per KDB Publication 941225 D06

The output power for SAR test in WWAN mode of this device is characterized as Head [RSI=1] and Non-Head [RSI=0,2], and the output power of non-Head condition RSI=0 and RSI=2 is the same.

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).

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

Table 4-2 *SAR_design_target* Calculations

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.

Radio State Index (RSI)	Plimit Determination Scenarios
0	The worst-case SAR exposure is determined as maximum SAR normalized to the limit among: 1. Extremity SAR measured at 0 mm 2. Body-Worn SAR at 10mm 3. Earjack SAR at 0,10mm
1	Plimit is calculated based on 1g Head SAR
2	Plimit is calculated based on 1g Hotspot SAR at 10mm

Table 4-3 *PLimit* Determination

4.4 WLAN SAR Characterization

SAR test results corresponding to Pmax for each antenna/technology/band/DSI 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.

Device State Index (DSI)	Plimit Determination Scenarios
0	The worst-case SAR exposure is determined as maximum SAR normalized to the limit among: 1. Extremity SAR measured at 0 mm 2. Body-Worn, Hotspot SAR at 10mm
1	Plimit is calculated based on 1g Head SAR RCV is activated
(8)	NR Band is activated
(9)	NR band and RCV are activated

The output power of the WLAN is defined as a reduced power mode and a maximum power mode. DSI=0 (Body, Phablet) is the maximum power condition, DSI=1 (RCV-ON), DSI=8 (NR mode active) and DSI=9 (NR mode RCV active) are specified as the reduced power condition, and DSI1,8.9 modes are all reduced to the same output power. [DSI=1=8=9]

Table 4-3 *PLimit* Determination

SAR_design_target			
$SAR\_design\_target < SAR\_regulatory\_limit \times 10^{-Total\ Uncertainty/10}$			
WLAN 1g SAR (W/kg)		**10g SAR (W/kg)**	
Total Uncertainty	1.0 dB	*Total Uncertainty*	1.0 dB
SAR_regulatory_limit	1.6 W/kg	*SAR_regulatory_limit*	4.0 W/kg
SAR_design_target	1.0 W/kg	*SAR_design_target*	2.5 W/kg

Table 4-3-1 *WLAN SAR_design_target* Calculations

Table 4-4 SAR Characterization

Plim values in green indicate Plimit < Pmax			Plimit values in grey indicate Plimit > Pmax				
Plimit corresponding to 1 W/kg (1g) 2.5W/kg(10g) SAR_Design_target						Pmax	
SAR Exposure Position			Head (RCV ON)	Body Phablet		Maximum Tune-up Output Power (Burst Average Power)	UL:DL Ratio
Averaging volume			1g	1g	10g		
seperation Distance			0 mm	10 mm	0 mm		
Mode	Band	Antenna	RSI = 1	RSI =0,2			
GSM/GPRS/EDGE	850	ANT A	22.6	22.6		29.0	36.1%
GSM/GPRS/EDGE	1900	ANT A	32.4	19.5		28.5	24.1%
UMTS	2	ANT A	33.7	20.0		23.5	100%
UMTS	4	ANT A	32.8	20.0		23.5	100%
UMTS	5	ANT A	33.8	26.8		24.8	100%
LTE FDD	25(2) Lower	ANT A	33.2	17.0		23.0	100%
LTE FDD	25(2) Upper	ANT F	16.0	18.0		23.5	100%
LTE FDD	66(4) Lower	ANT A	31.7	17.0		23.0	100%
LTE FDD	66(4) Upper	ANT F	16.0	18.0		23.5	100%
LTE FDD	12(17)	ANT A	32.6	27.4		24.0	100%
LTE FDD	13	ANT A	32.4	26.8		24.0	100%
LTE FDD	5	ANT A	33.0	25.7		24.5	100%
LTE FDD	26	ANT A	32.1	25.8		24.0	100%
LTE TDD PC3	41	ANT B	32.1	19.0		24.0	63.3%
LTE TDD PC2	41	ANT B	32.1	19.0		25.0	43.3%
LTE TDD PC3	41	ANT F	14.5	17.5		23.5	63.3%
LTE TDD PC2	41	ANT F	14.4	17.4		24.2	43.3%
NR FDD	5	ANT A	32.4	26.8		24.5	100%
NR FDD	25(2) Lower	ANT A	33.9	17.0		23.0	100%
NR FDD	25(2) Upper	ANT F	16.0	20.0		23.0	100%
NR FDD	66 Lower	ANT A	33.2	17.0		23.5	100%
NR FDD	66 Upper	ANT F	18.0	19.0		23.0	100%
NR TDD	41 SRS0	ANT B	18.0	17.0		24.0	100%
NR TDD	41 SRS1	ANT F	13.0	12.0		19.0	100%
NR TDD	41 SRS2	ANT D	14.5	13.5		20.5	100%
NR TDD	41 SRS3	ANT E	13.5	12.5		19.5	100%
NR TDD	77 SRS0	ANT F	14.0	15.0		24.0	100%
NR TDD	77DoD SRS0	ANT F	14.0	15.0		24.0	100%
NR TDD	77 SRS1	ANT C	10.5	11.5		20.5	100%
NR TDD	77DoD SRS1	ANT C	10.5	11.5		20.5	100%
NR TDD	77 SRS2	ANT I	13.5	14.5		23.5	100%
NR TDD	77DoD SRS2	ANT I	13.5	14.5		23.5	100%
NR TDD	77 SRS3	ANT D	10.5	11.5		20.5	100%
NR TDD	77DoD SRS3	ANT D	10.5	11.5		20.5	100%

Plim values in green indicate Plimit < Pmax			Plimit values in grey indicate Plimit > Pmax				
Plimit corresponding to 1 W/kg (1g) 2.5W/kg(10g) SAR_Design_target						Pmax	
SAR Exposure Position			Head (RCV ON)	Body Phablet		Maximum Tune-up Output Power (Burst Average Power) [dBm]	UL:DL Ratio
Averaging volume			1g	1g	10g		
seperation Distance			0 mm	10 mm	0 mm		
Mode	Band	Antenna	DSI = 1	DSI =0			
WLAN	2.4	ANT H	13.0	18.2		17.0	100%
WLAN	2.4	ANT J	13.0	19.8		17.0	100%
WLAN	2.4	ANT H+J	13.0	18.3		17.0	100%
WLAN	5	ANT G	12.0	21.9		15.0	100%
WLAN	5	ANT E	12.0	23.0		15.0	100%
WLAN	5	ANT G+E	12.0	19.1		15.0	100%
WLAN	6	ANT G	16.6	21.6		8.0	100%
WLAN	6	ANT E	19.0	23.6		8.0	100%
WLAN	6	ANT G+E	17.0	21.9		8.0	100%

Note:

1. Compared with the Plimit(Tune up Powers) declared in each RSI/DSI by manufacturer and the plimit(calculation) calculated by the SAR measurement of each RSI/DSI, the lower power were applied to the plimit at each RSI/DSI configurations.
2. When *Pmax*< *Plimit*, the DUT will operate at a power level up to *Pmax*.
3. Maximum Tune up Power, Pmax is configured in Nv settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV setting for TDD schemes. (GPRS, LTE TDD and WLAN/BT

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
SPEAG	cDASY6 5G Module Phantom		N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F11/ 5K3RA1/ C/ 01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F11/ 5K3RA1/ A/ 01	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-1203 0309	N/A	N/A	N/A
TESTO	175-H1/Thermometer	40331936309	12/26/2023	Annual	12/26/2024
Staubli	CS8Cspeag-TX90	F08/5AJ0A1/C/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F08/5AJ0A1/A/01	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0008	N/A	N/A	N/A
TESTO	175-H1/Thermometer	40331949309	12/26/2023	Annual	12/26/2024
Staubli	CS8Cspeag-TX90	F13/ 5SD0A1/ C/ 01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F13/ 5SD0A1/ A/ 01	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	001729	N/A	N/A	N/A
TESTO	608-H1/Thermometer	83348029	03/20/2024	Annual	03/20/2025
Staubli	CS9spe-TX2-60	F/21/0029002/C/001	N/A	N/A	N/A
Staubli	TX2-60 Lspeag	F/21/0029002/A/001	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21144507C	N/A	N/A	N/A
TESTO	608-H1/Thermometer	83239085	10/24/2023	Annual	10/24/2024
Staubli	CS8Cspeag-TX90	F07/55B8A1/C/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F07/55B8A1/A/01	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0306	N/A	N/A	N/A
TESTO	608-H1/Thermometer	83348021	03/20/2024	Annual	03/20/2025
SPEAG	DAE4	1720	04/19/2024	Annual	04/19/2025
SPEAG	DAE4	1629	08/21/2023	Annual	08/21/2024
SPEAG	DAE4	1417	02/16/2024	Annual	02/16/2025
SPEAG	DAE4	504	01/30/2024	Annual	01/30/2025
SPEAG	DAE4	1464	06/19/2024	Annual	06/19/2025
SPEAG	E-Field Probe EX3DV4	7681	11/27/2023	Annual	11/27/2024
SPEAG	E-Field Probe EX3DV4	7622	11/24/2023	Annual	11/24/2024
SPEAG	E-Field Probe EX3DV4	3903	07/19/2023	Annual	07/19/2024
SPEAG	E-Field Probe ES3DV3	3076	07/18/2023	Annual	07/18/2024
SPEAG	E-Field Probe EUmmWV4	9464	02/19/2024	Annual	02/19/2025
SPEAG	CLA13	1016	09/21/2023	Annual	09/21/2024
SPEAG	Dipole D750V3	1014	05/20/2024	Annual	05/20/2025
SPEAG	Dipole D835V2	441	04/18/2024	Annual	04/18/2025
SPEAG	Dipole D1800V2	2d007	04/15/2024	Annual	04/15/2025
SPEAG	Dipole D1900V2	5d032	01/18/2024	Annual	01/23/2025
SPEAG	Dipole D2450V2	743	03/14/2024	Annual	03/14/2025
SPEAG	Dipole D2600V2	1015	04/22/2024	Annual	04/22/2025
SPEAG	Dipole D3500V2	1132	01/23/2024	Annual	01/23/2025
SPEAG	Dipole D3700V2	1105	11/20/2023	Annual	11/20/2024
SPEAG	Dipole D3900V2	1086	05/21/2024	Annual	05/21/2025
SPEAG	Dipole D5GHzV2	1107	04/19/2024	Annual	05/17/2025
SPEAG	Dipole D6.5GHzV2	1012	09/21/2023	Annual	09/21/2024
SPEAG	5G Verification source 10GHz	1018	04/17/2024	Annual	04/17/2025

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
Agilent	Power Meter E4419B	MY41291386	09/21/2023	Annual	09/21/2024
Agilent	Power Meter N1911A	MY45101406	05/21/2024	Annual	05/21/2025
Agilent	Power Sensor 8481A	SG1091286	09/21/2023	Annual	09/21/2024
H.P	Power Sensor 8481A	MY41090675	09/21/2023	Annual	09/21/2024
Agilent	Wideband Power Sensor N1921A	MY55220026	07/28/2023	Annual	07/28/2024
Agilent	11636B/Power Divider	58698	01/15/2024	Annual	01/15/2025
SPEAG	DAKS 3.5	1038	01/22/2024	Annual	01/22/2025
SPEAG	Vector Reflectometer	0141013	01/11/2024	Annual	01/11/2025
SPEAG	DAKS 12	1048	03/20/2024	Annual	03/20/2025
SPEAG	Vector Reflectometer	21393001	03/21/2024	Annual	03/21/2025
SPEAG	MXA Signal Analyzer	MY49100108	01/09/2024	Annual	01/09/2025
H.P	Network Analyzer /8753ES	JP39240221	12/26/2023	Annual	12/26/2024
Protek	NETWORK ANALYZER	X11-15305	02/15/2024	Annual	02/15/2025
Agilent	WIRELESS COMMUNICATION E5515C	MY48361100	09/21/2023	Annual	09/21/2024
Agilent	WIRELESS COMMUNICATION E5515C	MY48360252	07/27/2023	Annual	07/27/2024
R&S	Wireless Communication Test Set CMW500	115733	03/19/2024	Annual	03/19/2025
R&S	Wireless Communication Test Set CMW500	139333	12/13/2023	Annual	12/13/2024
Agilent	SIGNAL GENERATOR N5182A	MY47070230	03/19/2024	Annual	03/19/2025
Keysight	PSG Vector Signal Generator	MY50350097	03/05/2024	Annual	03/05/2025
EMPOWER	RF Power Amplifier	1084	05/21/2024	Annual	05/21/2025
EMPOWER	RF Power Amplifier	1041D/C0508	05/21/2024	Annual	05/21/2025
EMPOWER	RF Power Amplifier	1011	09/21/2023	Annual	09/21/2024
MICRO LAB	LP Filter / LA-15N	10453	09/21/2023	Annual	09/21/2024
MICRO LAB	LP Filter / LA-30N	-	09/21/2023	Annual	09/21/2024
MICRO LAB	LP Filter / LA-60N	32011	09/21/2023	Annual	09/21/2024
Agilent	Attenuator (3dB) 8693B	MY39260298	08/22/2023	Annual	08/22/2024
HP	Attenuator (3dB) 33340A	02427	08/22/2023	Annual	08/22/2024
HP	Attenuator (20dB) 8493C	09271	08/22/2023	Annual	08/22/2024
Agilent	Directional Bridge 86205A	3140A04581	04/22/2024	Annual	04/22/2026
OSI	Power Divider	#1	05/21/2024	Annual	05/21/2025
OSI	Power Divider	#2	05/21/2024	Annual	05/21/2025
OSI	Power Divider	#3	05/21/2024	Annual	05/21/2025
OSI	Power Divider	#4	05/21/2024	Annual	05/21/2025
OSI	Power Divider	#5	05/21/2024	Annual	05/21/2025
OSI	Power Divider	#6	05/21/2024	Annual	05/21/2025
OSI	Power Divider	#7	05/21/2024	Annual	05/21/2025
OSI	Power Divider	#8	05/21/2024	Annual	05/21/2025
Agilent	MXA Signal Analyzer N9020A	MY50510407	06/04/2024	Annual	06/04/2025
KEYSIGHT	EXG Vector Signal Generator	MY50350097	03/05/2024	Annual	03/05/2025
HP	Dual Directional Coupler	16072	09/21/2023	Annual	09/21/2024
Narda	DIRECTIONAL COUPLER	07066	01/08/2024	Annual	01/08/2025

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
Anritsu	Radio Communication Test Station MT8000A	6261987928	01/18/2024	Annual	01/18/2025
Anritsu	Radio Communication Test Station MT8000A	6262036812	11/28/2023	Annual	11/28/2024
Anritsu	Radio Communication Test Station MT8000A	6262148305	12/21/2023	Annual	12/21/2024
Anritsu	Radio Communication Tester MT8820C	6201074225	01/17/2024	Annual	01/17/2025
Anritsu	Radio Communication Tester MT8820C	6200695605	03/19/2024	Annual	03/19/2025
Anritsu	Radio Communication Tester MT8821C	6262044720	11/28/2023	Annual	11/28/2024
Anritsu	Radio Communication Tester MT8821C	6201664725	01/17/2024	Annual	01/17/2025
Agilent	WIRELESS COMMUNICATION E5515C	MY50260992	05/22/2024	Annual	05/22/2025

* 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 Plimit CALCULATIONS

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

MEASUREMENT RESULTS										
Frequency		Mode/ Band		Ant.	Frame Averaged Conducted Power	Test Position	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.				(dBm)			(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Left Cheek	1:2.77	0.087	32.9	31.6
836.6	190	GSM 850		A	22.26	Left Tilt	1:2.77	0.058	34.6	
836.6	190	GSM 850		A	22.26	Right Cheek	1:2.77	0.116	31.6	
836.6	190	GSM 850		A	22.26	Right Tilt	1:2.77	0.056	34.8	
1 880	661	GSM 1900	GPRS 4Tx	A	21.66	Left Cheek	1:2.07	0.084	32.4	32.4
1 880	661	GSM 1900		A	21.66	Left Tilt	1:2.07	0.027	37.3	
1 880	661	GSM 1900		A	21.66	Right Cheek	1:2.07	0.044	35.2	
1 880	661	GSM 1900		A	21.66	Right Tilt	1:2.07	0.036	36.1	
836.6	4183	UMTS Band 5	RMC	A	24.42	Left Cheek	1:1	0.071	35.9	33.8
836.6	4183	UMTS Band 5	RMC	A	24.42	Left Tilt	1:1	0.046	37.8	
836.6	4183	UMTS Band 5	RMC	A	24.42	Right Cheek	1:1	0.116	33.8	
836.6	4183	UMTS Band 5	RMC	A	24.42	Right Tilt	1:1	0.047	37.7	
1 732.4	1412	UMTS Band 4	RMC	A	21.91	Left Cheek	1:1	0.081	32.8	32.8
1 732.4	1412	UMTS Band 4	RMC	A	21.91	Left Tilt	1:1	0.024	38.1	
1 732.4	1412	UMTS Band 4	RMC	A	21.91	Right Cheek	1:1	0.047	35.2	
1 732.4	1412	UMTS Band 4	RMC	A	21.91	Right Tilt	1:1	0.034	36.6	
1 880	9400	UMTS Band 2	RMC	A	21.38	Left Cheek	1:1	0.059	33.7	33.7
1 880	9400	UMTS Band 2	RMC	A	21.38	Left Tilt	1:1	0.038	35.6	
1 880	9400	UMTS Band 2	RMC	A	21.38	Right Cheek	1:1	0.034	36.1	
1 880	9400	UMTS Band 2	RMC	A	21.38	Right Tilt	1:1	0.049	34.5	

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.				(dBm)	(dBm)		(dB)				(W/kg)	(dBm)	(dBm)
707.5	23095	LTE Band 12	Mid	A	10	23.76	Left Cheek	0	1	0	1:1	0.112	33.3	32.6
707.5	23095	LTE Band 12	Mid	A	10	23.76	Left Tilt	0	1	0	1:1	0.063	35.8	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Right Cheek	0	1	0	1:1	0.132	32.6	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Right Tilt	0	1	0	1:1	0.058	36.1	
782	23230	LTE Band 13	Mid	A	10	23.86	Left Cheek	0	1	0	1:1	0.098	33.9	32.4
782	23230	LTE Band 13	Mid	A	10	23.86	Left Tilt	0	1	0	1:1	0.059	36.2	
782	23230	LTE Band 13	Mid	A	10	23.86	Right Cheek	0	1	0	1:1	0.141	32.4	
782	23230	LTE Band 13	Mid	A	10	23.86	Right Tilt	0	1	0	1:1	0.062	35.9	
1 905	26590	LTE Band 25	Mid	A	20	22.64	Left Cheek	0	1	0	1:1	0.088	33.2	33.2
1 905	26590	LTE Band 25	Mid	A	20	22.64	Left Tilt	0	1	0	1:1	0.044	36.2	
1 905	26590	LTE Band 25	Mid	A	20	22.64	Right Cheek	0	1	0	1:1	0.064	34.6	
1 905	26590	LTE Band 25	Mid	A	20	22.64	Right Tilt	0	1	0	1:1	0.055	35.2	
1 860	26140	LTE Band 25	Low	F	20	15.87	Left Cheek	0	1	0	1:1	0.213	22.6	19.7
1 860	26140	LTE Band 25	Low	F	20	15.87	Left Tilt	0	1	0	1:1	0.261	21.7	
1 860	26140	LTE Band 25	Low	F	20	15.87	Right Cheek	0	1	0	1:1	0.412	19.7	
1 860	26140	LTE Band 25	Low	F	20	15.87	Right Tilt	0	1	0	1:1	0.393	19.9	
831.5	26865	LTE Band 26(5)	Mid	A	15	23.77	Left Cheek	0	1	0	1:1	0.109	33.4	32.1
831.5	26865	LTE Band 26(5)	Mid	A	15	23.77	Left Tilt	0	1	0	1:1	0.050	36.8	
831.5	26865	LTE Band 26(5)	Mid	A	15	23.77	Right Cheek	0	1	0	1:1	0.148	32.1	
831.5	26865	LTE Band 26(5)	Mid	A	15	23.77	Right Tilt	0	1	0	1:1	0.070	35.3	
2 549.5	40185	LTE Band41(PC3)	Low-Mid	B	20	21.37	Left Cheek	0	1	0	1:1.58	0.078	32.5	32.5
2 549.5	40185	LTE Band41(PC3)	Low-Mid	B	20	21.37	Left Tilt	0	1	0	1:1.58	0.038	35.6	
2 549.5	40185	LTE Band41(PC3)	Low-Mid	B	20	21.37	Right Cheek	0	1	0	1:1.58	0.027	37.1	
2 549.5	40185	LTE Band41(PC3)	Low-Mid	B	20	21.37	Right Tilt	0	1	0	1:1.58	0.024	37.6	
2 549.5	40185	LTE Band41(PC2)	Low-Mid	B	20	20.79	Right Cheek	0	1	0	1:2.31	0.074	32.1	32.1
2 549.5	40185	LTE Band41(PC3)	Low-Mid	F	20	14.71	Left Cheek	0	1	0	1:1.58	0.159	22.7	18.6
2 549.5	40185	LTE Band41(PC3)	Low-Mid	F	20	14.71	Left Tilt	0	1	0	1:1.58	0.181	22.1	
2 549.5	40185	LTE Band41(PC3)	Low-Mid	F	20	14.71	Right Cheek	0	1	0	1:1.58	0.370	19.0	
2 549.5	40185	LTE Band41(PC3)	Low-Mid	F	20	14.71	Right Tilt	0	1	0	1:1.58	0.405	18.6	
2 549.5	40185	LTE Band41(PC2)	Low-Mid	F	20	14.64	Right Tilt	0	1	0	1:2.31	0.430	18.3	18.3
1 720	132072	LTE Band 66	Low	A	20	22.68	Left Cheek	0	1	49	1:1	0.124	31.7	31.7
1 720	132072	LTE Band 66	Low	A	20	22.68	Left Tilt	0	1	49	1:1	0.049	35.8	
1 720	132072	LTE Band 66	Low	A	20	22.68	Right Cheek	0	1	49	1:1	0.079	33.7	
1 720	132072	LTE Band 66	Low	A	20	22.68	Right Tilt	0	1	49	1:1	0.057	35.1	
1 720	132072	LTE Band 66	Low	F	20	16.11	Left Cheek	0	50	49	1:1	0.310	21.2	18.4
1 720	132072	LTE Band 66	Low	F	20	16.11	Left Tilt	0	50	49	1:1	0.381	20.3	
1 720	132072	LTE Band 66	Low	F	20	16.11	Right Cheek	0	50	49	1:1	0.561	18.6	
1 720	132072	LTE Band 66	Low	F	20	16.11	Right Tilt	0	50	49	1:1	0.589	18.4	

Table A-3 RSI = 1 *PLimit* Calculations – NR Head 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.

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

MEASUREMENT RESULTS																
Frequency		Mode		Ant.	Band width	Frame Averaged Conducted Power	Test Configurations		MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.				(dBm)	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	A	20	24.18	Left Cheek	DFT-s-OFDM QPSK	0	1	104	1:1	0.121	33.4	32.4
836.5	167300	NR Band n5	Mid	A	20	24.18	Left Tilt	DFT-s-OFDM QPSK	0	1	104	1:1	0.063	36.2	
836.5	167300	NR Band n5	Mid	A	20	24.18	Right Cheek	DFT-s-OFDM QPSK	0	1	104	1:1	0.149	32.4	
836.5	167300	NR Band n5	Mid	A	20	24.18	Right Tilt	DFT-s-OFDM QPSK	0	1	104	1:1	0.063	36.2	
1 882.5	376500	NR Band n25	High	A	20	22.83	Left Cheek	DFT-s-OFDM QPSK	0	1	53	1:1	0.078	33.9	33.9
1 882.5	376500	NR Band n25	High	A	20	22.83	Left Tilt	DFT-s-OFDM QPSK	0	1	53	1:1	0.056	35.3	
1 882.5	376500	NR Band n25	High	A	20	22.83	Right Cheek	DFT-s-OFDM QPSK	0	1	53	1:1	0.047	36.1	
1 882.5	376500	NR Band n25	High	A	20	22.83	Right Tilt	DFT-s-OFDM QPSK	0	1	53	1:1	0.043	36.5	
1 882.5	376500	NR Band n25	Mid	F	20	16.24	Left Cheek	DFT-s-OFDM QPSK	0	50	56	1:1	0.209	23.0	20.0
1 882.5	376500	NR Band n25	Mid	F	20	16.24	Left Tilt	DFT-s-OFDM QPSK	0	50	56	1:1	0.281	21.8	
1 882.5	376500	NR Band n25	Mid	F	20	16.24	Right Cheek	DFT-s-OFDM QPSK	0	50	56	1:1	0.373	20.5	
1 882.5	376500	NR Band n25	Mid	F	20	16.24	Right Tilt	DFT-s-OFDM QPSK	0	50	56	1:1	0.418	20.0	
2 592.99	518598	NR Band n41	Mid	B	100	18.79	Left Cheek	DFT-s-OFDM QPSK	0	1	271	1:1	0.025	34.8	34.8
2 592.99	518598	NR Band n41	Mid	B	100	18.79	Left Tilt	DFT-s-OFDM QPSK	0	1	271	1:1	0.013	37.7	
2 592.99	518598	NR Band n41	Mid	B	100	18.79	Right Cheek	DFT-s-OFDM QPSK	0	1	271	1:1	0.023	35.2	
2 592.99	518598	NR Band n41	Mid	B	100	18.79	Right Tilt	DFT-s-OFDM QPSK	0	1	271	1:1	0.001	48.8	
2 592.99	518598	NR Band n41 SRS1	Mid	F	100	13.52	Left Cheek	CW	0	-	-	1:1	0.129	22.4	18.6
2 592.99	518598	NR Band n41 SRS1	Mid	F	100	13.52	Left Tilt	CW	0	-	-	1:1	0.155	21.6	
2 592.99	518598	NR Band n41 SRS1	Mid	F	100	13.52	Right Cheek	CW	0	-	-	1:1	0.306	18.7	
2 592.99	518598	NR Band n41 SRS1	Mid	F	100	13.52	Right Tilt	CW	0	-	-	1:1	0.311	18.6	
2 592.99	518598	NR Band n41 SRS2	Mid	D	100	15.48	Left Cheek	CW	0	-	-	1:1	0	N/A	N/A
2 592.99	518598	NR Band n41 SRS2	Mid	D	100	15.48	Left Tilt	CW	0	-	-	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	D	100	15.48	Right Cheek	CW	0	-	-	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	D	100	15.48	Right Tilt	CW	0	-	-	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS3	Mid	E	100	14.09	Left Cheek	CW	0	-	-	1:1	0	N/A	N/A
2 592.99	518598	NR Band n41 SRS3	Mid	E	100	14.09	Left Tilt	CW	0	-	-	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS3	Mid	E	100	14.09	Right Cheek	CW	0	-	-	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS3	Mid	E	100	14.09	Right Tilt	CW	0	-	-	1:1	0	N/A	
1 720	344000	NR Band 66	Low	A	20	23.02	Left Cheek	DFT-s-OFDM QPSK	0	50	28	1:1	0.096	33.2	33.2
1 720	344000	NR Band 66	Low	A	20	23.02	Left Tilt	DFT-s-OFDM QPSK	0	50	28	1:1	0.049	36.1	
1 720	344000	NR Band 66	Low	A	20	23.02	Right Cheek	DFT-s-OFDM QPSK	0	50	28	1:1	0.053	35.8	
1 720	344000	NR Band 66	Low	A	20	23.02	Right Tilt	DFT-s-OFDM QPSK	0	50	28	1:1	0.041	36.9	
1 720	344000	NR Band 66	Low	F	20	18.53	Left Cheek	DFT-s-OFDM QPSK	0	1	53	1:1	0.418	22.3	19.7
1 720	344000	NR Band 66	Low	F	20	18.53	Left Tilt	DFT-s-OFDM QPSK	0	1	53	1:1	0.472	21.8	
1 720	344000	NR Band 66	Low	F	20	18.53	Right Cheek	DFT-s-OFDM QPSK	0	1	53	1:1	0.698	20.1	
1 720	344000	NR Band 66	Low	F	20	18.53	Right Tilt	DFT-s-OFDM QPSK	0	1	53	1:1	0.757	19.7	

MEASUREMENT RESULTS																
Frequency		Mode		Ant.	Band width	Frame Averaged Conducted Power	Test Configurations		MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.				(dBm)	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
3 750	650000	NR Band 77	Low	F	100	13.57	Left Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.131	22.4	18.3
3 750	650000	NR Band 77	Low	F	100	13.57	Left Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.166	21.4	
3 750	650000	NR Band 77	Low	F	100	13.57	Right Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.272	19.2	
3 750	650000	NR Band 77	Low	F	100	13.57	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.337	18.3	
3 500.01	633334	NR Band 77 DoD	Mid	F	100	13.97	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.279	19.5	19.5
3 930	662000	NR Band 77 SRS1	High	C	100	11.28	Left Cheek	CW	0	-	-	1:1	0	N/A	N/A
3 930	662000	NR Band 77 SRS1	High	C	100	11.28	Left Tilt	CW	0	-	-	1:1	0	N/A	
3 930	662000	NR Band 77 SRS1	High	C	100	11.28	Right Cheek	CW	0	-	-	1:1	0	N/A	
3 930	662000	NR Band 77 SRS1	High	C	100	11.28	Right Tilt	CW	0	-	-	1:1	0	N/A	
3 500.01	633334	NR Band 77DoD SRS2	Mid	C	100	9.71	Left Cheek	CW	0	-	-	1:1	0	N/A	N/A
3 930	662000	NR Band 77 SRS3	High	I	100	14.43	Left Cheek	CW	0	-	-	1:1	0.151	22.6	21.3
3 930	662000	NR Band 77 SRS3	High	I	100	14.43	Left Tilt	CW	0	-	-	1:1	0.016	32.4	
3 930	662000	NR Band 77 SRS3	High	I	100	14.43	Right Cheek	CW	0	-	-	1:1	0.204	21.3	
3 930	662000	NR Band 77 SRS3	High	I	100	14.43	Right Tilt	CW	0	-	-	1:1	0.024	30.6	
3 500.01	633334	NR Band 77DoD SRS3	Mid	I	100	13.50	Left Cheek	CW	0	-	-	1:1	0.073	24.9	24.9
3 750	650000	NR Band 77 SRS4	Low	D	100	11.42	Left Cheek	CW	0	-	-	1:1	0	N/A	N/A
3 750	650000	NR Band 77 SRS4	Low	D	100	11.42	Left Tilt	CW	0	-	-	1:1	0	N/A	
3 750	650000	NR Band 77 SRS4	Low	D	100	11.42	Right Cheek	CW	0	-	-	1:1	0	N/A	
3 750	650000	NR Band 77 SRS4	Low	D	100	11.42	Right Tilt	CW	0	-	-	1:1	0	N/A	
3 500.01	633334	NR Band 77DoD SRS4	Mid	D	100	10.33	Left Cheek	CW	0	-	-	1:1	0	N/A	N/A

Table A-4 DSI = 1 *PLimit* Calculations – WLAN Head SAR

MEASUREMENT RESULTS													
Frequency		Mode/ Band	Band width	Ant. No.	Data Rate	Frame Averaged Conducted Power	Test Position	Ant. Config.	Duty Cycle	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
㎒	Ch.		(㎒)		(Mbps)	(dBm)				(W/kg)	(Duty)	(dBm)	(dBm)
2 412	1	802.11b	20	H	1	13.75	Left Cheek	WIFI1	98.7	0.072	1.013	25.2	18.0
2 412	1	802.11b	20	H	1	13.75	Left Tilt	WIFI1	98.7	0.076	1.013	24.9	
2 412	1	802.11b	20	H	1	13.75	Right Cheek	WIFI1	98.7	0.376	1.013	18.0	
2 412	1	802.11b	20	H	1	13.75	Right Tilt	WIFI1	98.7	0.287	1.013	19.2	
2 462	11	802.11b	20	J	1	13.44	Left Cheek	WIFI2	98.7	0.529	1.013	16.2	16.2
2 462	11	802.11b	20	J	1	13.44	Left Tilt	WIFI2	98.7	0.069	1.013	25.1	
2 462	11	802.11b	20	J	1	13.44	Right Cheek	WIFI2	98.7	0.449	1.013	16.9	
2 462	11	802.11b	20	J	1	13.44	Right Tilt	WIFI2	98.7	0.058	1.013	25.8	
2 462	11	802.11b	20	H+J	1	13.44	Left Cheek	MIMO	98.7	0.313	1.013	18.5	16.9
2 462	11	802.11b	20	H+J	1	13.44	Left Tilt	MIMO	98.7	0.068	1.013	25.1	
2 462	11	802.11b	20	H+J	1	13.44	Right Cheek	MIMO	98.7	0.446	1.013	16.9	
2 462	11	802.11b	20	H+J	1	13.44	Right Tilt	MIMO	98.7	0.277	1.013	19.0	
5 775	155	802.11ac	80	G	MCS0	12.81	Left Cheek	WIFI1	85.8	0.024	1.166	29.0	18.4
5 775	155	802.11ac	80	G	MCS0	12.81	Left Tilt	WIFI1	85.8	0.020	1.166	29.8	
5 775	155	802.11ac	80	G	MCS0	12.81	Right Cheek	WIFI1	85.8	0.278	1.166	18.4	
5 775	155	802.11ac	80	G	MCS0	12.81	Right Tilt	WIFI1	85.8	0.066	1.166	24.6	
5 775	155	802.11ac	80	E	MCS0	11.92	Left Cheek	WIFI2	85.8	0.123	1.166	21.0	21.0
5 775	155	802.11ac	80	E	MCS0	11.92	Left Tilt	WIFI2	85.8	0.079	1.166	22.9	
5 775	155	802.11ac	80	E	MCS0	11.92	Right Cheek	WIFI2	85.8	0.059	1.166	24.2	
5 775	155	802.11ac	80	E	MCS0	11.92	Right Tilt	WIFI2	85.8	0.054	1.166	24.6	
5 530	106	802.11ac	80	G+E	MCS0	12.56	Left Cheek	MIMO	85.8	0.129	1.166	21.5	16.4
5 530	106	802.11ac	80	G+E	MCS0	12.56	Left Tilt	MIMO	85.8	0.075	1.166	23.8	
5 530	106	802.11ac	80	G+E	MCS0	12.56	Right Cheek	MIMO	85.8	0.415	1.166	16.4	
5 530	106	802.11ac	80	G+E	MCS0	12.56	Right Tilt	MIMO	85.8	0.246	1.166	18.7	
6 505	111	802.11ax	160	G	MCS0	7.14	Left Cheek	WIFI1	99.6	0.015	1.004	25.4	16.6
6 505	111	802.11ax	160	G	MCS0	7.14	Left Tilt	WIFI1	99.6	0.014	1.004	25.7	
6 505	111	802.11ax	160	G	MCS0	7.14	Right Cheek	WIFI1	99.6	0.114	1.004	16.6	
6 505	111	802.11ax	160	G	MCS0	7.14	Right Tilt	WIFI1	99.6	0.040	1.004	21.1	
6 025	15	802.11ax	160	E	MCS0	8.06	Left Cheek	WIFI2	99.6	0.081	1.004	19.0	19.0
6 505	111	802.11ax	160	E	MCS0	7.13	Left Tilt	WIFI2	99.6	0.039	1.004	21.2	
6 505	111	802.11ax	160	E	MCS0	7.13	Right Cheek	WIFI2	99.6	0.036	1.004	21.6	
6 505	111	802.11ax	160	E	MCS0	7.13	Right Tilt	WIFI2	99.6	0.029	1.004	22.5	
6 505	111	802.11ax	160	G+E	MCS0	7.13	Left Cheek	MIMO	99.6	0.042	1.004	20.9	17.0
6 505	111	802.11ax	160	G+E	MCS0	7.13	Left Tilt	MIMO	99.6	0.028	1.004	22.7	
6 505	111	802.11ax	160	G+E	MCS0	7.13	Right Cheek	MIMO	99.6	0.104	1.004	17.0	
6 505	111	802.11ax	160	G+E	MCS0	7.13	Right Tilt	MIMO	99.6	0.023	1.004	23.5	

Table A-5 RSI = 0 *PLimit* Calculations – 2G/3G 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	Voice	A	22.00	Back	10	1:8.3	0.426	25.7	25.7
836.6	190	GSM 850	Voice	A	22.00	Front	10	1:8.3	0.296	27.3	
1 880.0	661	GSM 1900	Voice	A	19.68	Rear	10	1:8.3	0.384	23.8	23.8
1 880.0	661	GSM 1900	Voice	A	19.68	Front	10	1:8.3	0.385	23.8	
836.6	4183	UMTS 850	RMC	A	24.42	Rear	10	1:1	0.581	26.8	26.8
836.6	4183	UMTS 850	RMC	A	24.42	Front	10	1:1	0.402	28.4	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Rear	10	1:1	0.312	23.9	23.9
1 732.4	1412	UMTS 1700	RMC	A	18.89	Front	10	1:1	0.275	24.5	
1 880	9400	UMTS 1900	RMC	A	18.36	Rear	10	1:1	0.280	23.9	23.9
1 880	9400	UMTS 1900	RMC	A	18.36	Front	10	1:1	0.251	24.4	

Table A-6 RSI = 0 *PLimit* Calculations – 4G Body-Worn 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)
707.5	23095	LTE Band 12	Mid	A	10	23.76	Rear	10	0	1	0	1:1	0.432	27.4	27.4
707.5	23095	LTE Band 12	Mid	A	10	23.76	Front	10	0	1	0	1:1	0.266	29.5	
782	23230	LTE Band 13	Mid	A	10	23.86	Rear	10	0	1	0	1:1	0.514	26.8	26.8
782	23230	LTE Band 13	Mid	A	10	23.86	Front	10	0	1	0	1:1	0.330	28.7	
1 905	26590	LTE Band 25	High	A	20	16.55	Rear	10	0	1	0	1:1	0.241	22.7	22.7
1 905	26590	LTE Band 25	High	A	20	16.55	Front	10	0	1	0	1:1	0.214	23.2	
1 905	26590	LTE Band 25	High	F	20	18.81	Rear	10	0	1	0	1:1	0.148	27.1	27.1
1 905	26590	LTE Band 25	High	F	20	18.81	Front	10	0	1	0	1:1	0.138	27.4	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Rear	10	0	1	0	1:1	0.627	25.8	25.8
831.5	26865	LTE Band 26	Mid	A	15	23.77	Front	10	0	1	0	1:1	0.408	27.7	
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Rear	10	0	1	0	1:1.58	0.349	23.7	23.7
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Front	10	0	1	0	1:1.58	0.211	25.9	
2 593	40620	LTE Band 41(PC2)	Mid	B	20	19.42	Rear	10	0	1	0	1:2.31	0.374	23.7	23.7
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Rear	10	0	1	0	1:1.58	0.150	26.0	26.0
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Front	10	0	1	0	1:1.58	0.141	26.3	
2 549.5	40185	LTE Band 41(PC2)	Low-Mid	F	20	17.97	Front	10	0	1	0	1:2.31	0.221	24.5	24.5
1 720	132072	LTE Band 66	Low	A	20	16.58	Rear	10	0	50	49	1:1	0.232	22.9	22.9
1 720	132072	LTE Band 66	Low	A	20	16.58	Front	10	0	50	49	1:1	0.207	23.4	
1 720	132072	LTE Band 66	Low	F	20	17.81	Rear	10	0	1	0	1:1	0.263	23.6	23.6
1 720	132072	LTE Band 66	Low	F	20	17.81	Front	10	0	1	0	1:1	0.219	24.4	

Table A-7 RSI = 0 *PLimit* Calculations – NR Body-Worn 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 TDD NR bands were measured in FTM Mode.

MEASUREMENT RESULTS																
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	A	20	24.18	Rear	DFT-s-OFDM QPSK	0	10	1	104	1:1	0.544	26.8	26.8
836.5	167300	NR Band n5	Mid	A	20	24.18	Front	DFT-s-OFDM QPSK	0	10	1	104	1:1	0.393	28.2	
1 905	381000	NR Band n25	High	A	20	17.28	Rear	DFT-s-OFDM QPSK	0	10	50	56	1:1	0.258	23.2	23.2
1 905	381000	NR Band n25	High	A	20	17.28	Front	DFT-s-OFDM QPSK	0	10	50	56	1:1	0.249	23.3	
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Rear	DFT-s-OFDM QPSK	0	10	1	53	1:1	0.151	27.7	27.7
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Front	DFT-s-OFDM QPSK	0	10	1	53	1:1	0.128	28.4	
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.295	23.1	23.1
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.213	24.5	
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Rear	CW	0	10	-	-	1:1	0.049	25.6	25.6
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Front	CW	0	10	-	-	1:1	0.032	27.4	
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Rear	CW	0	10	-	-	1:1	0.00719	36.0	36.0
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Front	CW	0	10	-	-	1:1	0	N/A	
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Rear	CW	0	10	-	-	1:1	0	N/A	N/A
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Front	CW	0	10	-	-	1:1	0	N/A	
1 745	349000	NR Band n66	Mid	A	20	17.13	Rear	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.199	24.1	24.0
1 745	349000	NR Band n66	Mid	A	20	17.13	Front	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.206	24.0	
1 745	349000	NR Band n66	Mid	F	20	18.67	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.262	24.5	24.5
1 745	349000	NR Band n66	Mid	F	20	18.67	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.205	25.6	
3 750	650000	NR Band n77	Low	F	100	14.90	Rear	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.168	22.6	22.6
3 750	650000	NR Band n77	Low	F	100	14.90	Front	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.039	29.0	
3 500.01	633334	NR Band n77 DoD	Mid	F	100	15.18	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.117	24.5	24.5
3 930	662000	NR n77 SRS1	High	C	100	12.20	Rear	CW	0	10	-	-	1:1	0.016	30.2	30.2
3 930	662000	NR n77 SRS1	High	C	100	12.20	Front	CW	0	10	-	-	1:1	0.012	31.4	
3 500.01	633334	NR n77 DoD SRS1	Mid	C	100	10.62	Rear	CW	0	10	-	-	1:1	0.010	30.6	30.6
3 930	662000	NR n77 SRS2	High	I	100	15.40	Rear	CW	0	10	-	-	1:1	0.092	25.8	25.8
3 930	662000	NR n77 SRS2	High	I	100	15.40	Front	CW	0	10	-	-	1:1	0.066	27.2	
3 500.01	633334	NR n77 DoD SRS2	Mid	I	100	14.42	Rear	CW	0	10	-	-	1:1	0.068	27.1	27.1
3 750	650000	NR n77 SRS3	Low	E	100	12.47	Rear	CW	0	10	-	-	1:1	0	N/A	N/A
3 750	650000	NR n77 SRS3	Low	E	100	12.47	Front	CW	0	10	-	-	1:1	0	N/A	
3 500.01	633334	NR n77 DoD SRS3	Mid	E	100	11.35	Rear	CW	0	10	-	-	1:1	0	N/A	N/A

Table A-8 DSI = 0 *PLimit* Calculations – WLAN Body-Worn SAR

MEASUREMENT RESULTS														
Frequency		Mode/ Band	Band width	Ant. No.	Data Rate	Frame Averaged Conducted Power	Test Position	Spacing (mm)	Ant. Config.	Duty Cycle	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.		(MHz)		(Mbps)	(dBm)					(W/kg)	(Duty)	(dBm)	(dBm)
2 412	1	802.11b	20	H	1	16.96	Rear	10	WIFI1	98.7	0.305	1.013	22.1	22.1
2 412	1	802.11b	20	H	1	16.96	Front	10	WIFI1	98.7	0.263	1.013	22.8	
2 462	11	802.11b	20	J	1	17.44	Rear	10	WIFI2	98.7	0.575	1.013	19.8	19.8
2 462	11	802.11b	20	J	1	17.44	Front	10	WIFI2	98.7	0.333	1.013	22.2	
5 620	124	802.11a	20	G	6	15.70	Rear	10	WIFI1	93.7	0.177	1.067	23.2	23.2
5 620	124	802.11a	20	G	6	15.70	Front	10	WIFI1	93.7	0.048	1.067	28.9	
5 885	177	802.11a	20	E	6	15.27	Rear	10	WIFI2	93.7	0.258	1.067	21.2	21.2
5 885	177	802.11a	20	E	6	15.27	Front	10	WIFI2	93.7	0.064	1.067	27.2	
6 505	111	802.11ax	160	G	MCS0	7.14	Rear	10	WIFI1	99.6	0.040	1.004	21.1	21.1
6 505	111	802.11ax	160	G	MCS0	7.14	Front	10	WIFI1	99.6	0	1.004	N/A	
6 505	111	802.11ax	160	E	MCS0	7.13	Rear	10	WIFI2	99.6	0	1.004	N/A	N/A
6 505	111	802.11ax	160	E	MCS0	7.13	Front	10	WIFI2	99.6	0	1.004	N/A	

Table A-9 RSI = 2 *PLimit* 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	GPRS 3Tx	A	22.26	Rear	10	1:2.77	0.378	26.5	26.5
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Front	10	1:2.77	0.273	27.9	
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Left	10	1:2.77	0.052	35.1	
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Right	10	1:2.77	0.221	28.8	
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Bottom	10	1:2.77	0.213	29.0	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Rear	10	1:4.15	0.246	27.8	24.1
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Front	10	1:4.15	0.246	27.8	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Left	10	1:4.15	0.071	33.1	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Right	10	1:4.15	0.058	34.0	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Bottom	10	1:4.15	0.576	24.1	
836.6	4183	UMTS 850	RMC	A	24.42	Rear	10	1:1	0.581	26.8	26.8
836.6	4183	UMTS 850	RMC	A	24.42	Front	10	1:1	0.402	28.4	
836.6	4183	UMTS 850	RMC	A	24.42	Left	10	1:1	0.088	35.0	
836.6	4183	UMTS 850	RMC	A	24.42	Right	10	1:1	0.234	30.7	
836.6	4183	UMTS 850	RMC	A	24.42	Bottom	10	1:1	0.268	30.1	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Rear	10	1:1	0.312	23.9	19.9
1 732.4	1412	UMTS 1700	RMC	A	18.89	Front	10	1:1	0.275	24.5	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Left	10	1:1	0.083	29.7	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Right	10	1:1	0.037	33.2	
1 732.4	1412	UMTS 1700	RMC	A	18.95	Bottom	10	1:1	0.796	19.9	
1 880	9400	UMTS 1900	RMC	A	18.36	Rear	10	1:1	0.280	23.9	19.4
1 880	9400	UMTS 1900	RMC	A	18.36	Front	10	1:1	0.251	24.4	
1 880	9400	UMTS 1900	RMC	A	18.36	Left	10	1:1	0.061	30.5	
1 880	9400	UMTS 1900	RMC	A	18.36	Right	10	1:1	0.032	33.3	
1 880	9400	UMTS 1900	RMC	A	18.36	Bottom	10	1:1	0.781	19.4	

Table A-10 RSI = 2 *PLimit* 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)
707.5	23095	LTE Band 12	Mid	A	10	23.76	Rear	10	0	1	0	1:1	0.432	27.4	27.4
707.5	23095	LTE Band 12	Mid	A	10	23.76	Front	10	0	1	0	1:1	0.266	29.5	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Left	10	0	1	0	1:1	0.134	32.5	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Right	10	0	1	0	1:1	0.105	33.5	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Bottom	10	0	1	0	1:1	0.153	31.9	
782	23230	LTE Band 13	Mid	A	10	23.86	Rear	10	0	1	0	1:1	0.514	26.8	26.8
782	23230	LTE Band 13	Mid	A	10	23.86	Front	10	0	1	0	1:1	0.33	28.7	
782	23230	LTE Band 13	Mid	A	10	23.86	Left	10	0	1	0	1:1	0.092	34.2	
782	23230	LTE Band 13	Mid	A	10	23.86	Right	10	0	1	0	1:1	0.219	30.5	
782	23230	LTE Band 13	Mid	A	10	23.86	Bottom	10	0	1	0	1:1	0.236	30.1	
1 905	26590	LTE Band 25	High	A	20	16.55	Rear	10	0	1	0	1:1	0.241	22.7	20.5
1 905	26590	LTE Band 25	High	A	20	16.55	Front	10	0	1	0	1:1	0.214	23.2	
1 905	26590	LTE Band 25	High	A	20	16.55	Left	10	0	1	0	1:1	0.023	32.9	
1 905	26590	LTE Band 25	High	A	20	16.55	Right	10	0	1	0	1:1	0.032	31.5	
1 905	26590	LTE Band 25	High	A	20	16.55	Bottom	10	0	1	0	1:1	0.403	20.5	
1 905	26590	LTE Band 25	High	F	20	18.81	Rear	10	0	1	0	1:1	0.148	27.1	23.7
1 905	26590	LTE Band 25	High	F	20	18.81	Front	10	0	1	0	1:1	0.138	27.4	
1 905	26590	LTE Band 25	High	F	20	18.81	Left	10	0	1	0	1:1	0.055	31.4	
1 905	26590	LTE Band 25	High	F	20	18.81	Top	10	0	1	0	1:1	0.323	23.7	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Rear	10	0	1	0	1:1	0.627	25.8	25.8
831.5	26865	LTE Band 26	Mid	A	15	23.77	Front	10	0	1	0	1:1	0.408	27.7	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Left	10	0	1	0	1:1	0.105	33.6	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Right	10	0	1	0	1:1	0.156	31.8	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Bottom	10	0	1	0	1:1	0.222	30.3	
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Rear	10	0	1	0	1:1.58	0.349	23.7	23.7
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Front	10	0	1	0	1:1.58	0.211	25.9	
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Left	10	0	1	0	1:1.58	0.201	26.1	
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Bottom	10	0	1	0	1:1.58	0.322	24.1	
2 593	40620	LTE Band 41(PC2)	Mid	B	20	19.42	Bottom	10	0	1	0	1:2.31	0.374	23.7	23.7
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Rear	10	0	1	0	1:1.58	0.150	26.0	21.8
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Front	10	0	1	0	1:1.58	0.141	26.3	
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Left	10	0	1	0	1:1.58	0.028	33.3	
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Top	10	0	1	0	1:1.58	0.400	21.8	
2 549.5	40185	LTE Band 41(PC2)	Low-Mid	F	20	17.97	Top	10	0	1	0	1:2.31	0.438	21.6	21.6

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)
1 720	132072	LTE Band 66	Low	A	20	16.58	Rear	10	0	50	49	1:1	0.232	22.9	20.3
1 720	132072	LTE Band 66	Low	A	20	16.58	Front	10	0	50	49	1:1	0.207	23.4	
1 720	132072	LTE Band 66	Low	A	20	16.58	Left	10	0	50	49	1:1	0.060	28.8	
1 720	132072	LTE Band 66	Low	A	20	16.58	Right	10	0	50	49	1:1	0.026	32.4	
1 720	132072	LTE Band 66	Low	A	20	16.58	Bottom	10	0	50	49	1:1	0.422	20.3	
1 720	132072	LTE Band 66	Low	F	20	17.81	Rear	10	0	1	0	1:1	0.263	23.6	21.0
1 720	132072	LTE Band 66	Low	F	20	17.81	Front	10	0	1	0	1:1	0.219	24.4	
1 720	132072	LTE Band 66	Low	F	20	17.81	Left	10	0	1	0	1:1	0.073	29.2	
1 720	132072	LTE Band 66	Low	F	20	17.81	Top	10	0	1	0	1:1	0.480	21.0	

Table A-11 RSI = 2 *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 TDD NR bands were measured in FTM Mode.

MEASUREMENT RESULTS																
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	A	20	24.18	Rear	DFT-s OFDM QPSK	0	10	1	104	1:1	0.544	26.8	26.8
836.5	167300	NR Band n5	Mid	A	20	24.18	Front	DFT-s OFDM QPSK	0	10	1	104	1:1	0.393	28.2	
836.5	167300	NR Band n5	Mid	A	20	24.18	Left	DFT-s OFDM QPSK	0	10	1	104	1:1	0.092	34.5	
836.5	167300	NR Band n5	Mid	A	20	24.18	Right	DFT-s OFDM QPSK	0	10	1	104	1:1	0.251	30.2	
836.5	167300	NR Band n5	Mid	A	20	24.18	Bottom	DFT-s OFDM QPSK	0	10	1	104	1:1	0.325	29.1	
1 905	381000	NR Band n25	High	A	20	17.28	Rear	DFT-s OFDM QPSK	0	10	1	53	1:1	0.258	23.2	20.1
1 905	381000	NR Band n25	High	A	20	17.28	Front	DFT-s OFDM QPSK	0	10	1	53	1:1	0.249	23.3	
1 905	381000	NR Band n25	High	A	20	17.28	Left	DFT-s OFDM QPSK	0	10	1	53	1:1	0.018	34.7	
1 905	381000	NR Band n25	High	A	20	17.28	Right	DFT-s OFDM QPSK	0	10	1	53	1:1	0.03	32.5	
1 905	381000	NR Band n25	High	A	20	17.28	Bottom	DFT-s OFDM QPSK	0	10	1	53	1:1	0.517	20.1	
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Rear	DFT-s OFDM QPSK	0	10	1	53	1:1	0.151	27.7	24.6
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Front	DFT-s OFDM QPSK	0	10	1	53	1:1	0.128	28.4	
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Left	DFT-s OFDM QPSK	0	10	1	53	1:1	0.052	32.3	
1 882.5	376500	NR Band n25	Mid	F	20	19.39	Top	DFT-s OFDM QPSK	0	10	1	53	1:1	0.303	24.6	
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Rear	DFT-s-OFDM QPSK	0	10	1	271	1:1	0.295	23.1	22.2
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Front	DFT-s-OFDM QPSK	0	10	1	271	1:1	0.213	24.5	
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Left	DFT-s-OFDM QPSK	0	10	1	271	1:1	0.159	25.7	
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Bottom	DFT-s-OFDM QPSK	0	10	1	271	1:1	0.360	22.2	
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Rear	CW	0	10	-	-	1:1	0.049	25.6	24.2
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Front	CW	0	10	-	-	1:1	0.032	27.4	
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Left	CW	0	10	-	-	1:1	0.017	30.2	
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Top	CW	0	10	-	-	1:1	0.068	24.2	
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Rear	CW	0	10	-	-	1:1	0.00719	36.0	36.0
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Front	CW	0	10	-	-	1:1	0	N/A	
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Right	CW	0	10	-	-	1:1	0.00326	39.7	
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Bottom	CW	0	10	-	-	1:1	0.00191	41.4	
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Rear	CW	0	10	-	-	1:1	0	N/A	27.3
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Front	CW	0	10	-	-	1:1	0	N/A	
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Right	CW	0	10	-	-	1:1	0.038	27.3	
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Top	CW	0	10	-	-	1:1	0.000803	43.1	

MEASUREMENT RESULTS																
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
1 745	349000	NR Band n66	Mid	A	20	17.13	Rear	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.199	24.1	20.3
1 745	349000	NR Band n66	Mid	A	20	17.13	Front	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.206	24.0	
1 745	349000	NR Band n66	Mid	A	20	17.13	Left	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.058	29.5	
1 745	349000	NR Band n66	Mid	A	20	17.13	Right	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.030	32.4	
1 745	349000	NR Band n66	Mid	A	20	17.13	Bottom	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.486	20.3	
1 720	344000	NR Band n66	Low	F	20	18.67	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.262	24.5	21.9
1 720	344000	NR Band n66	Low	F	20	18.67	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.205	25.6	
1 720	344000	NR Band n66	Low	F	20	18.67	Left	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.058	31.0	
1 720	344000	NR Band n66	Low	F	20	18.65	Top	CP-OFDM QPSK	0	10	1	1	1:1	0.469	21.9	
3 750	650000	NR Band n77	Low	F	100	14.90	Rear	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.168	22.6	22.6
3 750	650000	NR Band n77	Low	F	100	14.90	Front	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.039	29.0	
3 750	650000	NR Band n77	Low	F	100	14.90	Left	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.004	38.9	
3 750	650000	NR Band n77	Low	F	100	14.90	Top	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.076	26.1	
3 500.01	633334	NR Band n77	Mid	F	100	15.18	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.117	24.5	24.5
3 930	662000	NR n77 SRS1	High	C	100	12.20	Rear	CW	0	10	-	-	1:1	0.016	30.2	26.4
3 930	662000	NR n77 SRS1	High	C	100	12.20	Front	CW	0	10	-	-	1:1	0.012	31.4	
3 930	662000	NR n77 SRS1	High	C	100	12.20	Left	CW	0	10	-	-	1:1	0.038	26.4	
3 930	662000	NR n77 SRS1	High	C	100	12.20	Bottom	CW	0	10	-	-	1:1	0.00967	32.2	
3 500.01	633334	NR n77 DoD SRS1	Mid	C	100	10.62	Left	CW	0	10	-	-	1:1	0.046	24.0	24.0
3 930	662000	NR n77 SRS2	High	I	100	15.40	Rear	CW	0	10	-	-	1:1	0.092	25.8	25.8
3 930	662000	NR n77 SRS2	High	I	100	15.40	Front	CW	0	10	-	-	1:1	0.066	27.2	
3 930	662000	NR n77 SRS2	High	I	100	15.40	Left	CW	0	10	-	-	1:1	0.023	31.8	
3 500.01	633334	NR n77 DoD SRS2	Mid	I	100	15.42	Rear	CW	0	10	-	-	1:1	0.068	27.1	27.1
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Rear	CW	0	10	-	-	1:1	0	N/A	N/A
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Front	CW	0	10	-	-	1:1	0	N/A	
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Right	CW	0	10	-	-	1:1	0	N/A	
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Bottom	CW	0	10	-	-	1:1	0	N/A	
3 500.01	633334	NR n77 DoD SRS4	Mid	D	100	11.35	Rear	CW	0	10	-	-	1:1	0	N/A	N/A

Table A-12 DSI = 0 *PLimit* Calculations – WLAN Hotspot SAR

MEASUREMENT RESULTS														
Frequency		Mode/ Band	Band width	Ant. No.	Data Rate	Frame Averaged Conducted Power	Test Position	Spacing (mm)	Ant. Config.	Duty Cycle	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.		(MHz)		(Mbps)	(dBm)					(W/kg)	(Duty)	(dBm)	(dBm)
2 412	1	802.11b	20	H	1	16.96	Rear	10	WIFI1	98.7	0.482	1.013	20.1	18.2
2 412	1	802.11b	20	H	1	16.96	Front	10	WIFI1	98.7	0.454	1.013	20.4	
2 412	1	802.11b	20	H	1	16.96	Left	10	WIFI1	98.7	0.759	1.013	18.2	
2 412	1	802.11b	20	H	1	16.96	Top	10	WIFI1	98.7	0.252	1.013	22.9	
2 462	11	802.11b	20	J	1	17.44	Rear	10	WIFI2	98.7	0.575	1.013	19.8	19.8
2 462	11	802.11b	20	J	1	17.44	Front	10	WIFI2	98.7	0.333	1.013	22.2	
2 462	11	802.11b	20	J	1	17.44	Right	10	WIFI2	98.7	0.145	1.013	25.8	
2 462	11	802.11b	20	J	1	17.44	Top	10	WIFI2	98.7	0.010	1.013	37.4	
2 462	11	802.11b	20	H+J	1	16.81	Rear	10	MIMO	98.7	0.703	1.013	18.3	18.3
2 462	11	802.11b	20	H+J	1	16.81	Front	10	MIMO	98.7	0.3	1.013	22.0	
2 462	11	802.11b	20	H+J	1	16.81	Left	10	MIMO	98.7	0.375	1.013	21.1	
2 462	11	802.11b	20	H+J	1	16.81	Right	10	MIMO	98.7	0.0000000891	1.013	46.8	
2 462	11	802.11b	20	H+J	1	16.81	Top	10	MIMO	98.7	0.146	1.013	25.2	
5 785	157	802.11a	20	G	6	14.90	Rear	10	WIFI1	93.7	0.120	1.067	24.1	21.9
5 785	157	802.11a	20	G	6	14.90	Front	10	WIFI1	93.7	0.079	1.067	25.9	
5 785	157	802.11a	20	G	6	14.90	Left	10	WIFI1	93.7	0.198	1.067	21.9	
5 785	157	802.11a	20	G	6	14.90	Top	10	WIFI1	93.7	0.025	1.067	30.9	
5 745	149	802.11a	20	E	6	15.11	Rear	10	WIFI2	93.7	0.163	1.067	23.0	23.0
5 745	149	802.11a	20	E	6	15.11	Front	10	WIFI2	93.7	0.042	1.067	28.9	
5 745	149	802.11a	20	E	6	15.11	Right	10	WIFI2	93.7	0.000863	1.067	45.1	
5 745	149	802.11a	20	E	6	15.11	Top	10	WIFI2	93.7	0.055	1.067	27.7	
5 785	157	802.11a	20	G+E	6	14.90	Rear	10	MIMO	93.7	0.163	1.067	22.8	
5 785	157	802.11a	20	G+E	6	14.90	Front	10	MIMO	93.7	0.038	1.067	29.1	
5 785	157	802.11a	20	G+E	6	14.90	Left	10	MIMO	93.7	0.221	1.067	21.5	
5 785	157	802.11a	20	G+E	6	14.90	Right	10	MIMO	93.7	0.018	1.067	32.3	
5 785	157	802.11a	20	G+E	6	14.90	Top	10	MIMO	93.7	0.089	1.067	25.4	

Table A-13 RSI = 0 *PLimit* Calculations – 2G/3G Phablet 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(10g)	Plimit	Minimum Plimit
MHz	Ch.				(dBm)				(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Back	0	1:2.77	0.940	26.5	26.5
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Front	0	1:2.77	0.856	26.9	
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Left	0	1:2.77	0.724	27.6	
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Right	0	1:2.77	0.212	33.0	
836.6	190	GSM 850	GPRS 3Tx	A	22.26	Bottom	0	1:2.77	0.639	28.2	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Back	0	1:4.15	0.483	28.8	28.3
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Front	0	1:4.15	0.542	28.3	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Left	0	1:4.15	0.184	33.0	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Right	0	1:4.15	0.084	36.4	
1 880.0	661	GSM 1900	GPRS 2Tx	A	21.66	Bottom	0	1:4.15	0.254	31.6	
836.6	4183	UMTS 850	RMC	A	24.42	Back	0	1:1	0.971	28.5	28.5
836.6	4183	UMTS 850	RMC	A	24.42	Front	0	1:1	0.925	28.7	
836.6	4183	UMTS 850	RMC	A	24.42	Left	0	1:1	0.748	29.7	
836.6	4183	UMTS 850	RMC	A	24.42	Right	0	1:1	0.182	35.8	
836.6	4183	UMTS 850	RMC	A	24.42	Bottom	0	1:1	0.602	30.6	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Back	0	1:1	0.622	24.9	24.0
1 732.4	1412	UMTS 1700	RMC	A	18.89	Front	0	1:1	0.730	24.2	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Left	0	1:1	0.286	28.3	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Right	0	1:1	0.086	33.5	
1 732.4	1412	UMTS 1700	RMC	A	18.89	Bottom	0	1:1	0.767	24.0	
1 880	9400	UMTS 1900	RMC	A	18.36	Back	0	1:1	0.613	24.5	23.5
1 880	9400	UMTS 1900	RMC	A	18.36	Front	0	1:1	0.705	23.9	
1 880	9400	UMTS 1900	RMC	A	18.36	Left	0	1:1	0.282	27.8	
1 880	9400	UMTS 1900	RMC	A	18.36	Right	0	1:1	0.075	33.6	
1 880	9400	UMTS 1900	RMC	A	18.36	Bottom	0	1:1	0.758	23.5	

Table A-14 RSI = 0 *PLimit* Calculations – 4G Phablet 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 (10g)	Plimit	Minimum Plimit
MHz	Ch.				MHz	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
707.5	23095	LTE Band 12	Mid	A	10	23.76	Rear	0	0	1	0	1:1	0.848	28.5	2.85
707.5	23095	LTE Band 12	Mid	A	10	23.76	Front	0	0	1	0	1:1	0.710	29.2	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Left	0	0	1	0	1:1	0.840	28.5	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Right	0	0	1	0	1:1	0.161	35.7	
707.5	23095	LTE Band 12	Mid	A	10	23.76	Bottom	0	0	1	0	1:1	0.688	29.4	
782	23230	LTE Band 13	Mid	A	10	23.86	Rear	0	0	1	0	1:1	0.810	28.8	28.8
782	23230	LTE Band 13	Mid	A	10	23.86	Front	0	0	1	0	1:1	0.718	29.3	
782	23230	LTE Band 13	Mid	A	10	23.86	Left	0	0	1	0	1:1	0.362	32.3	
782	23230	LTE Band 13	Mid	A	10	23.86	Right	0	0	1	0	1:1	0.184	35.2	
782	23230	LTE Band 13	Mid	A	10	23.86	Bottom	0	0	1	0	1:1	0.527	30.6	
1905	26590	LTE Band 25	High	A	20	16.55	Rear	0	0	1	0	1:1	0.389	24.6	23.7
1905	26590	LTE Band 25	High	A	20	16.55	Front	0	0	1	0	1:1	0.450	24.0	
1905	26590	LTE Band 25	High	A	20	16.55	Left	0	0	1	0	1:1	0.183	27.9	
1905	26590	LTE Band 25	High	A	20	16.55	Right	0	0	1	0	1:1	0.045	34.0	
1905	26590	LTE Band 25	High	A	20	16.55	Bottom	0	0	1	0	1:1	0.486	23.7	
1905	26590	LTE Band 25	High	F	20	18.81	Rear	0	0	1	0	1:1	0.456	26.2	22.9
1905	26590	LTE Band 25	High	F	20	18.81	Front	0	0	1	0	1:1	0.605	25.0	
1905	26590	LTE Band 25	High	F	20	18.81	Right	0	0	1	0	1:1	0.202	29.7	
1905	26590	LTE Band 25	High	F	20	18.81	Top	0	0	1	0	1:1	0.980	22.9	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Rear	0	0	1	0	1:1	0.959	27.9	27.8
831.5	26865	LTE Band 26	Mid	A	15	23.77	Front	0	0	1	0	1:1	0.991	27.8	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Left	0	0	1	0	1:1	0.690	29.4	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Right	0	0	1	0	1:1	0.250	33.8	
831.5	26865	LTE Band 26	Mid	A	15	23.77	Bottom	0	0	1	0	1:1	0.651	29.6	

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 (10g)	Plimit	Minimum Plimit
MHz	Ch.				MHz	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Rear	0	0	1	0	1:1.58	1.56	21.2	21.2
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Front	0	0	1	0	1:1.58	1.29	22.0	
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Left	0	0	1	0	1:1.58	0.516	26.0	
2 593	40620	LTE Band 41(PC3)	Mid	B	20	19.16	Bottom	0	0	1	0	1:1.58	1.3	22.0	
2 593	40620	LTE Band 41(PC2)	Mid	B	20	19.42	Rear	0	0	1	0	1:2.31	1.51	21.6	21.6
2 593	40620	LTE Band 41(PC2)	Mid	B	20	19.42	Front	0	0	1	0	1:2.31	1.35	22.1	
2 593	40620	LTE Band 41(PC2)	Mid	B	20	19.42	Left	0	0	1	0	1:2.31	0.552	26.0	
2 593	40620	LTE Band 41(PC2)	Mid	B	20	19.42	Bottom	0	0	1	0	1:2.31	1.34	22.1	
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Rear	0	0	1	0	1:1.58	0.602	24.0	20.1
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Front	0	0	1	0	1:1.58	0.604	24.0	
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Left	0	0	1	0	1:1.58	0.076	33.0	
2 549.5	40185	LTE Band 41(PC3)	Low-Mid	F	20	17.80	Top	0	0	1	0	1:1.58	1.49	20.1	
2 549.5	40185	LTE Band 41(PC2)	Low-Mid	F	20	17.97	Rear	0	0	1	0	1:2.31	0.569	24.4	19.8
2 549.5	40185	LTE Band 41(PC2)	Low-Mid	F	20	17.97	Front	0	0	1	0	1:2.31	0.661	23.8	
2 549.5	40185	LTE Band 41(PC2)	Low-Mid	F	20	17.97	Left	0	0	1	0	1:2.31	0.079	33.0	
2 549.5	40185	LTE Band 41(PC2)	Low-Mid	F	20	17.97	Top	0	0	1	0	1:2.31	1.63	19.8	
1 720	132072	LTE Band 66	Low	A	20	16.58	Rear	0	0	50	49	1:1	0.376	24.8	23.9
1 720	132072	LTE Band 66	Low	A	20	16.58	Front	0	0	50	49	1:1	0.455	24.0	
1 720	132072	LTE Band 66	Low	A	20	16.58	Left	0	0	50	49	1:1	0.160	28.5	
1 720	132072	LTE Band 66	Low	A	20	16.58	Right	0	0	50	49	1:1	0.053	33.3	
1 720	132072	LTE Band 66	Low	A	20	16.58	Bottom	0	0	50	49	1:1	0.461	23.9	
1 720	132072	LTE Band 66	Low	F	20	17.81	Rear	0	0	1	0	1:1	0.637	23.7	21.5
1 720	132072	LTE Band 66	Low	F	20	17.81	Front	0	0	1	0	1:1	0.762	23.0	
1 720	132072	LTE Band 66	Low	F	20	17.81	Right	0	0	1	0	1:1	0.170	29.5	
1 720	132072	LTE Band 66	Low	F	20	17.81	Top	0	0	1	0	1:1	1.08	21.5	

Table A-15 RSI = 0 *PLimit* Calculations – NR Phablet 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 TDD NR bands were measured in FTM Mode.

MEASUREMENT RESULTS																	
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(10g)	Plimit	Minimum Plimit
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	A	20	24.18	Rear	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.922	28.5	28.2
836.5	167300	NR Band n5	Mid	A	20	24.18	Front	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.989	28.2	
836.5	167300	NR Band n5	Mid	A	20	24.18	Left	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.829	29.0	
836.5	167300	NR Band n5	Mid	A	20	24.18	Right	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.213	34.9	
836.5	167300	NR Band n5	Mid	A	20	24.18	Bottom	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.592	30.4	
1 905	381000	NR Band n25	High	A	20	17.28	Rear	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.486	24.3	23.8
1 905	381000	NR Band n25	High	A	20	17.28	Front	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.455	24.6	
1 905	381000	NR Band n25	High	A	20	17.28	Left	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.206	28.1	
1 905	381000	NR Band n25	High	A	20	17.28	Right	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.044	34.8	
1 905	381000	NR Band n25	High	A	20	17.28	Bottom	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.553	23.8	
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Rear	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.460	26.9	23.5
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Front	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.584	25.8	
1 882.5	376500	NR Band n25	Mid	F	20	19.50	Right	DFT-s-OFDM QPSK	0	0	1	53	1:1	0.221	30.0	
1 882.5	376500	NR Band n25	Mid	F	20	19.39	Top	DFT-s-OFDM QPSK	0	0	1	53	1:1	1.000	23.5	
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Rear	DFT-s-OFDM QPSK	0	0	1	271	1:1	1.82	18.9	18.9
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Front	DFT-s-OFDM QPSK	0	0	1	271	1:1	1.71	19.2	
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Left	DFT-s-OFDM QPSK	0	0	1	271	1:1	0.587	23.8	
2 592.99	518598	NR Band n41	Mid	B	100	17.76	Bottom	DFT-s-OFDM QPSK	0	0	1	271	1:1	1.80	19.0	
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Rear	CW	0	0	-	-	1:1	0.187	23.8	20.2
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Front	CW	0	0	-	-	1:1	0.222	23.0	
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Left	CW	0	0	-	-	1:1	0.042	30.2	
2 592.99	518598	NR n41 SRS1	Mid	F	100	12.50	Top	CW	0	0	-	-	1:1	0.428	20.2	
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Rear	CW	0	0	-	-	1:1	0.280	24.0	24.0
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Front	CW	0	0	-	-	1:1	0.039	32.5	
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Right	CW	0	0	-	-	1:1	0	N/A	
2 592.99	518598	NR n41 SRS2	Mid	D	100	14.46	Bottom	CW	0	0	-	-	1:1	0.052	31.3	
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Rear	CW	0	0	-	-	1:1	0.099	27.1	25.0
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Front	CW	0	0	-	-	1:1	0.161	25.0	
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Right	CW	0	0	-	-	1:1	0.125	26.1	
2 592.99	518598	NR n41 SRS3	Mid	E	100	13.08	Top	CW	0	0	-	-	1:1	0.051	30.0	

MEASUREMENT RESULTS																
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(10g)	Plimit	Minimum Plimit
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
1 745	349000	NR Band n66	Mid	A	20	17.13	Rear	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.398	25.2	23.8
1 745	349000	NR Band n66	Mid	A	20	17.13	Front	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.506	24.1	
1 745	349000	NR Band n66	Mid	A	20	17.13	Left	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.170	28.8	
1 745	349000	NR Band n66	Mid	A	20	17.13	Right	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.057	33.6	
1 745	349000	NR Band n66	Mid	A	20	17.13	Bottom	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.549	23.8	
1 720	344000	NR Band n66	Low	F	20	18.67	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.662	24.4	22.2
1 720	344000	NR Band n66	Low	F	20	18.67	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.768	23.8	
1 720	344000	NR Band n66	Low	F	20	18.67	Left	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.173	30.3	
1 720	344000	NR Band n66	Low	F	20	18.65	Top	CP-OFDM QPSK	0	0	1	1	1:1	1.120	22.2	
3 750	650000	NR Band n77	Low	F	100	14.90	Rear	DFT-s-OFDM QPSK	0	0	135	138	1:1	0.443	22.4	22.0
3 750	650000	NR Band n77	Low	F	100	14.90	Front	DFT-s-OFDM QPSK	0	0	135	138	1:1	0.488	22.0	
3 750	650000	NR Band n77	Low	F	100	14.90	Left	DFT-s-OFDM QPSK	0	0	135	138	1:1	0.071	30.4	
3 750	650000	NR Band n77	Low	F	100	14.90	Top	DFT-s-OFDM QPSK	0	0	135	138	1:1	0.357	23.4	
3 500.01	633334	NR Band DoD n77	Mid	F	100	15.18	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.528	21.9	21.9
3 500.01	633334	NR Band DoD n77	Mid	F	100	15.18	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.278	24.7	
3 500.01	633334	NR Band DoD n77	Mid	F	100	15.18	Left	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.045	32.6	
3 500.01	633334	NR Band DoD n77	Mid	F	100	15.18	Top	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.521	22.0	
3 930	662000	NR n77 SRS1	High	C	100	12.20	Rear	CW	0	10	-	-	1:1	0.106	25.9	24.4
3 930	662000	NR n77 SRS1	High	C	100	12.20	Front	CW	0	10	-	-	1:1	0.119	25.4	
3 930	662000	NR n77 SRS1	High	C	100	12.20	Left	CW	0	10	-	-	1:1	0.150	24.4	
3 930	662000	NR n77 SRS1	High	C	100	12.20	Bottom	CW	0	10	-	-	1:1	0.024	32.4	
3 500.01	633334	NR n77 DoD SRS1	Mid	C	100	10.62	Rear	CW	0	0	-	-	1:1	0.174	22.2	20.3
3 500.01	633334	NR n77 DoD SRS1	Mid	C	100	10.62	Front	CW	0	0	-	-	1:1	0.161	22.5	
3 500.01	633334	NR n77 DoD SRS1	Mid	C	100	10.62	Left	CW	0	0	-	-	1:1	0.270	20.3	
3 500.01	633334	NR n77 DoD SRS1	Mid	C	100	10.62	Bottom	CW	0	0	-	-	1:1	0.048	27.8	
3 930	662000	NR n77 SRS2	High	I	100	15.40	Rear	CW	0	0	-	-	1:1	0.479	22.6	21.5
3 930	662000	NR n77 SRS2	High	I	100	15.40	Front	CW	0	0	-	-	1:1	0.613	21.5	
3 930	662000	NR n77 SRS2	High	I	100	15.40	Left	CW	0	0	-	-	1:1	0.157	27.4	
3 500.01	633334	NR n77 SRS2	Mid	I	100	15.42	Rear	CW	0	0	-	-	1:1	0.395	23.4	22.5
3 500.01	633334	NR n77 SRS2	Mid	I	100	15.42	Front	CW	0	0	-	-	1:1	0.495	22.5	
3 500.01	633334	NR n77 SRS2	Mid	I	100	15.42	Left	CW	0	0	-	-	1:1	0.084	30.2	
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Rear	CW	0	0	-	-	1:1	0.011	36.0	35.7
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Front	CW	0	0	-	-	1:1	0.009	36.9	
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Right	CW	0	0	-	-	1:1	0.012	35.7	
3 750	650000	NR n77 SRS3	Low	D	100	12.47	Bottom	CW	0	0	-	-	1:1	0.011	36.0	
3 500.01	633334	NR n77 DoD SRS4	Mid	D	100	11.35	Rear	CW	0	0	-	-	1:1	0.009	35.8	34.5
3 500.01	633334	NR n77 DoD SRS4	Mid	D	100	11.35	Front	CW	0	0	-	-	1:1	0.012	34.5	
3 500.01	633334	NR n77 DoD SRS4	Mid	D	100	11.35	Right	CW	0	0	-	-	1:1	0.008	36.3	
3 500.01	633334	NR n77 DoD SRS4	Mid	D	100	11.35	Bottom	CW	0	0	-	-	1:1	0.011	34.9	

Table A-16 DSI = 0 *PLimit* Calculations – WLAN Phablet SAR

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

MEASUREMENT RESULTS													
Frequency		Mode/ Band	Band width	Ant. No.	Data Rate	Frame Averaged Conducted Power	Test Position	Ant. Config.	Duty Cycle	Meas. SAR(10g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.		(MHz)		(Mbps)	(dBm)				(W/kg)	(Duty)	(dBm)	(dBm)
2 412	1	802.11b	20	H	1	16.96	Rear	WIFI1	98.7	1.15	1.013	20.3	19.6
2 412	1	802.11b	20	H	1	16.96	Front	WIFI1	98.7	0.956	1.013	21.1	
2 412	1	802.11b	20	H	1	16.96	Left	WIFI1	98.7	1.37	1.013	19.6	
2 412	1	802.11b	20	H	1	16.96	Top	WIFI1	98.7	0.432	1.013	24.6	
2 462	11	802.11b	20	J	1	17.44	Rear	WIFI2	98.7	0.431	1.013	25.1	20.9
2 462	11	802.11b	20	J	1	17.44	Front	WIFI2	98.7	1.13	1.013	20.9	
2 462	11	802.11b	20	J	1	17.44	Right	WIFI2	98.7	0.238	1.013	27.7	
2 462	11	802.11b	20	J	1	17.44	Top	WIFI2	98.7	0	1.013	N/A	
2 462	11	802.11b	20	H+J	1	16.81	Rear	MIMO	98.7	1.14	1.013	20.2	19.5
2 462	11	802.11b	20	H+J	1	16.81	Front	MIMO	98.7	1.34	1.013	19.5	
2 462	11	802.11b	20	H+J	1	16.81	Left	MIMO	98.7	0.983	1.013	20.9	
2 462	11	802.11b	20	H+J	1	16.81	Right	MIMO	98.7	0.166	1.013	28.6	
2 462	11	802.11b	20	H+J	1	16.81	Top	MIMO	98.7	0.351	1.013	25.3	
5 280	56	802.11a	20	G	6	15.48	Rear	WIFI1	93.7	0.551	1.067	22.0	20.1
5 280	56	802.11a	20	G	6	15.48	Front	WIFI1	93.7	0.555	1.067	22.0	
5 280	56	802.11a	20	G	6	15.48	Left	WIFI1	93.7	0.870	1.067	20.1	
5 280	56	802.11a	20	G	6	15.48	Top	WIFI1	93.7	0.106	1.067	29.2	
5 280	56	802.11a	20	E	6	15.93	Rear	WIFI2	93.7	0.318	1.067	24.9	24.9
5 280	56	802.11a	20	E	6	15.93	Front	WIFI2	93.7	0.107	1.067	29.6	
5 280	56	802.11a	20	E	6	15.93	Right	WIFI2	93.7	0.027	1.067	35.6	
5 280	56	802.11a	20	E	6	15.93	Top	WIFI2	93.7	0.117	1.067	29.2	
5 280	56	802.11a	20	G+E	6	15.48	Rear	MIMO	93.7	0.573	1.067	21.9	18.9
5 280	56	802.11a	20	G+E	6	15.48	Front	MIMO	93.7	0.546	1.067	22.1	
5 280	56	802.11a	20	G+E	6	15.48	Left	MIMO	93.7	1.15	1.067	18.9	
5 280	56	802.11a	20	G+E	6	15.48	Right	MIMO	93.7	0.079	1.067	30.5	
5 280	56	802.11a	20	G+E	6	15.48	Top	MIMO	93.7	0.211	1.067	26.2	
6 525	115	802.11ax	160	G	MCS0	7.14	Rear	WIFI1	99.6	0.026	1.004	27.0	21.6
6 525	115	802.11ax	160	G	MCS0	7.14	Front	WIFI1	99.6	0.089	1.004	21.6	
6 525	115	802.11ax	160	G	MCS0	7.14	Left	WIFI1	99.6	0.044	1.004	24.7	
6 525	115	802.11ax	160	G	MCS0	7.14	Top	WIFI1	99.6	0.003	1.004	36.3	
6 525	115	802.11ax	160	E	MCS0	7.13	Rear	WIFI2	99.6	0.021	1.004	27.9	24.7
6 525	115	802.11ax	160	E	MCS0	7.13	Front	WIFI2	99.6	0.044	1.004	24.7	
6 525	115	802.11ax	160	E	MCS0	7.13	Right	WIFI2	99.6	0	1.004	N/A	
6 525	115	802.11ax	160	E	MCS0	7.13	Top	WIFI2	99.6	0.002	1.004	38.1	
6 525	115	802.11ax	160	G+E	MCS0	7.13	Rear	MIMO	99.6	0.053	1.004	23.9	21.9
6 525	115	802.11ax	160	G+E	MCS0	7.13	Front	MIMO	99.6	0.098	1.004	21.9	
6 525	115	802.11ax	160	G+E	MCS0	7.13	Left	MIMO	99.6	0.045	1.004	24.6	
6 525	115	802.11ax	160	G+E	MCS0	7.13	Right	MIMO	99.6	0	1.004	N/A	
6 525	115	802.11ax	160	G+E	MCS0	7.13	Top	MIMO	99.6	0.005	1.004	34.1	