HCT Co., Ltd.
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
Tel. +82 31 634 6300 Fax. +82 31 645 6401

PART 0 SAR CHAR REPORT

Applicant Name: **SAMSUNG Electronics Co., Ltd.** 129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677 Rep. of Korea	**Date of Issue:** Jun. 25, 2020 **Test Report No.:** HCT-SR-2006-FC008-R1 **Test Site: HCT CO., LTD.**

FCC ID: **A3LSMA516V**

Report Type:	**Part 0 SAR Characterization**
Equipment Type:	**Mobile Phone**
Model Name:	**SM-A516V**

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.
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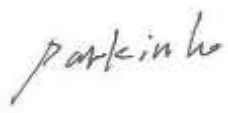
Tested By



In-Ho Park
Test Engineer
SAR Team
Certification Division

Reviewed By

Yun-jeang, Heo
Technical Manager
SAR Team
Certification Division

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	Jun. 22, 2020	Initial Release
R1	Jun. 25, 2020	Revised the unit of Power

This test results were applied only to the test methods required by the standard.

The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

Table of 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)

2. DEVICE UNDER TEST

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 ㎒
WCDMA 850	Voice / Data	826.4 ㎒ ~ 846.6 ㎒
WCDMA 1900	Voice / Data	1 852.4 ㎒ ~ 1 907.6 ㎒
LTE Band 2 (PCS)	Voice / Data	1 850.7 ㎒ ~ 1 909.3 ㎒
LTE Band 4 (AWS)	Voice / Data	1 710.7 ㎒ ~ 1 754.3 ㎒
LTE Band 5 (Cell)	Voice / Data	824.7 ㎒ ~ 848.3 ㎒
LTE Band 7	Voice / Data	2 502.5 ㎒ ~ 2 567.5 ㎒
LTE Band 12	Voice / Data	699.7 ㎒ ~ 715.3 ㎒
LTE Band 13	Voice / Data	779.5 ㎒ ~ 784.5 ㎒
LTE Band 66 (AWS)	Voice / Data	1 710.7 ㎒ ~ 1 779.3 ㎒
NR Band n2 (PCS)	Data	1 852.5 ㎒ ~ 1 907.5 ㎒
NR Band n5 (Cell)	Data	826.5 ㎒ ~ 846.5 ㎒
NR Band n66	Data	1 712.5 ㎒ ~ 1 777.5 ㎒
NR band n260	Data	37000 ~ 40000 ㎒
NR band n261	Data	27500 ~ 28350 ㎒
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 ㎒
2.4 ㎓ WLAN	Voice / Data	2 412 ㎒ ~ 2 462 ㎒
Bluetooth / LE 5.0	Data	2 402 ㎒ ~ 2 480 ㎒
NFC	Data	13.56 ㎒
MST	Data	555 ㎐ ~ 8.33 ㎑
ANT+	Data	2402 ~ 2480 ㎒

This device uses the Qualcomm® Smart Transmit feature to control and manage transmitting power in real time and to ensure the time-averaged RF exposure is in compliance with the FCC requirement at all times for 2G/3G/4G/5G WWAN operations. Additionally, this device supports WLAN/BT/NFC /MST technologies, but the output power of these modems is not controlled by the Smart Transmit algorithm

2.2 Time-Averaging for SAR

This device is enabled with Qualcomm® Smart Transmit algorithm to control and manage transmitting power in real time and to ensure that the time-averaged RF exposure from 2G/3G/4G/5G NR WWAN is in compliance with FCC requirements.
This Part 0 report shows SAR and Power Density characterization of WWAN radios for 2G/3G/4G and 5G Sub-6 NR respectively. Characterization is achieved by determining PLimit for 2G/3G/4G and 5G Sub-6 NR correspond to the exposure design targets after accounting for all device design related uncertainties,i.e., SAR_design_target (< FCC SAR limit) for sub-6 radio
The SAR characterization is denoted as SAR Char in this report. Section 2.3 includes a nomenclature of the specific terms used in this report.

The compliance test under the static transmission scenario and simultaneous transmission analysis are reported in Part 1 report. The validation of the time-averaging algorithm and compliance under the dynamic (time- varying) transmission scenario for WWAN technologies are reported in Part 2 report

2.3 Nomenclature for Part 0 Report

Technology	Term	Description
2G/3G/4G/5G Sub 6 NR	*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

2.4 Report Description

Frequency	Report description	Report Number
Freq. < 6 GHz.	Part 1 SAR Test Report	HCT-SR-2006-FC007
Freq. > 6 GHz.	Power Density Simulation Report	Power Density Simulation Report Revision A
	Part 0 Power Density Test Report	HCT-SR-2006-FC009-R1
	Part 1 Power Density Test Report	HCT-SR-2006-FC010-R1
Freq. > 6 GHz.& Freq.< 6 GHz.	RF Exposure Compliance Summary	HCT-SR-2006-FC011
	Part 2 Power Density Test Report	HCT-SR-2006-FC012

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

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

Figure 1. 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 measuredat a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device head and body interface andthe horizontal grid resolution was determined per FCC KDB Publication865664 D01v01r04 (See .Table 3-1) and IEEE 1528-2013.

2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.

3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (SeeTable 3-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with: the following procedure (see references or the DASY manual online for more details)

a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in
b. Table 3-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
c. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 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 then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
d. 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-easured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

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

Table 3-1

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

4. SAR CHARAC TERIZATION

4.1 DSI and SAR Determination

This device uses different Device State Index (DSI) 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 DSI. 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 device state index (DSI) conditions used in Table 4-1 represent different exposure scenarios.

Scenario	Description	SAR Test Cases
Head (DSI = 1)	▪ Device positioned next to head ▪ Receiver Active	*Head SAR per KDB Publication 648474 D04*
Hotspot mode (DSI = 2)	▪ Device transmits in hotspot mode near body ▪ Hotspot Mode Active	*Hotspot SAR per KDB Publication 941225 D06*
Phablet Grip (DSI=3 or 4)	▪ Device is held with hand and grip sensor is triggered ▪ Grip sensor triggered or earjack is active	*Phablet SAR per KDB Publication 648474 D04 & KDB Publication 616217 D04*
Phablet (DSI = 0)	▪ Device is held with hand and grip sensor is not triggered ▪ Distance grip sensor not triggered	*Phablet SAR per KDB Publication 648474 D04 & KDB Publication 616217 D04*
Body-worn (DSI = 0)	▪ Device being used with a body-worn accessory	*Body-worn SAR per KDB Publication 648474 D04*

Table 4-1 DSI and Corresponding Exposure Scenarios

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			
$SAR\_design\_target < SAR\_regulatory\_limit \times 10^{-Total\ Uncertainty/10}$			
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/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. Body Worn SAR 2. Extremity SAR measured at 8, 6 and 11 mm spacing for back, front, bottom respectively 3. Extremity SAR measured at 0 mm for left and right surfaces
1	P_{limit} is calculated based on 1g Head SAR
2	P_{limit} is calculated based on 1g Hotspot SAR at 10 mm
3	P_{limit} is calculated based on 10g Extremity SAR at 0 mm for back, front, and bottom surfaces

Table 4-3 *PLimit* Determination

Note:
For DSI=0,*Plimit* is calculated by :
Plimit = min{ *Plimit* cooresponding to 1g Body Worn SAR evaluation at 15mm spacing,
Plimit cooresponding to 10g Extremity SAR evaluation at 6(Front), 9(rear) and 11mm(bottom) spacing,
Plimit cooresponding to 10g Extremity SAR evaluation at 0mm for Left and right surfaces}

Table 4-4 SAR Characterization

Device State Index (DSI)	0		1	2	3,4	Maximum Tune up Power
Exposure Scenario	Body-Worn	Phablet	Head	Hotspot	Phablet	
Averaging Volume Spacing	1g SAR 15mm	10g SAR 6,9,11mm	1g SAR 0mm	1g SAR 10mm	10g SAR 0mm	
Mode/Band	P_{Limit} (dBm)					Pmax (dBm)
GSM/GPRS/EDGE 850 MHz	31.1	33.9	30.3	27.8	29.9	25.5
GSM/GPRS/EDGE 1900 MHz	25.3	26.7	30.3	19.7	21.0	22.5
UMTS B5	30	25.9	32.3	27	27.9	24
UMTS B2	26	25.8	31	18	20.3	23.5
LTE FDD B12	31.5	29.7	33.8	28.5	28.5	24
LTE FDD B13	29.7	33.7	32	27.9	28.3	24
LTE FDD B5	29.9	31.7	31.7	27.6	27.8	24
LTE FDD B4/66	25.6	27.7	31.6	19	20.7	24
LTE FDD B2	24.4	26.2	30	18.7	21.2	24
LTE FDD B7	31.8	27.4	38.1	26.3	27.1	23
NR FDD n5	30	34.2	32.9	26.7	31.3	24
NR FDD n2	25.1	25.5	30.9	19.1	21.3	24
NR FDD n66	26.2	27.4	30.8	21.3	21.2	24

Note:

1. when Hotspot Mode (DSI=2) and Extremity sensor (DSI=3) are triggered at the same time, DSI=2 takes priority, thus the *Plimit* for DSI=2 is set to be less or equal to *Plimit* for DSI=3.
2. When *Pmax* < *Plimit*, the DUT will operate at a power level up to *Pmax*.
3. *Plimit* for DSI=3 and DSI =4 are the same.
4. Maximum Tune up Power,P*max*. 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

5. Equipment List

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	Triple Modular Phantom	-	N/A	N/A	N/A
SPEAG	SAM Phantom	-	N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F12/5K9GA1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F17/59CHA1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F17/59RAA1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F13/5R4XF1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F11/5K3RA1/C/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F12/5K9GA1/A/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F17/59CHA1/A/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F17/59RAA1/A/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F13/5R4XF1/A/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-1206 0513	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	010963	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	011578	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-1338 1332	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-1203 0309	N/A	N/A	N/A
SPEAG	DAE4	1225	11/18/2019	Annual	11/18/2020
SPEAG	DAE3	446	07/18/2019	Annual	07/18/2020
SPEAG	DAE4	1417	02/26/2020	Annual	02/26/2021
SPEAG	DAE4	868	09/04/2019	Annual	09/04/2020
SPEAG	DAE4	869	09/19/2019	Annual	09/19/2020
SPEAG	DAE4	652	02/03/2020	Annual	02/03/2021
SPEAG	E-Field Probe EX3DV4	3797	11/28/2019	Annual	11/28/2020
SPEAG	E-Field Probe EX3DV4	7370	08/29/2019	Annual	08/29/2020
SPEAG	E-Field Probe EX3DV4	3863	05/27/2020	Annual	05/27/2021
SPEAG	E-Field Probe EX3DV4	3968	09/27/2019	Annual	09/27/2020
SPEAG	E-Field Probe EX3DV4	3967	02/25/2020	Annual	02/25/2021
SPEAG	E-Field Probe ES3DV3	3076	07/23/2019	Annual	07/23/2020
SPEAG	Dipole D750V3	1014	05/19/2020	Annual	05/19/2021
SPEAG	Dipole D835V2	441	08/23/2019	Annual	08/23/2020
SPEAG	Dipole D1800V2	2d015	09/19/2019	Annual	09/19/2020
SPEAG	Dipole D1900V2	5d061	01/21/2020	Annual	01/21/2021
SPEAG	Dipole D2300V2	1010	08/26/2019	Annual	08/26/2020
SPEAG	Dipole D2450V2	743	02/20/2020	Annual	02/20/2021
SPEAG	Dipole D2600V2	1106	09/19/2019	Annual	09/19/2020
SPEAG	Dipole D5GHzV2	1107	09/26/2019	Annual	09/26/2020
Agilent	Power Meter E4419B	MY41291386	10/07/2019	Annual	10/07/2020
Agilent	Power Meter N1911A	MY45101406	09/10/2019	Annual	09/10/2020
Agilent	Power Sensor 8481A	SG1091286	10/07/2019	Annual	10/07/2020
Agilent	Power Sensor 8481A	MY41090873	10/07/2019	Annual	10/07/2020
Agilent	Power Sensor N1921A	MY55220026	09/06/2019	Annual	09/06/2020
SPEAG	DAKS 3.5	1038	03/24/2020	Annual	03/24/2021
H.P	Network Analyzer /8753ES	JP39240221	01/28/2020	Annual	01/28/2021
Agilent	WIRELESS COMMUNICATION E5515C	MY48361100	10/07/2019	Annual	10/07/2020

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
Agilent	Signal Generator N5182A	MY47070230	05/08/2019	Annual	05/08/2020
Agilent	Signal Generator N5182A	MY47070230	05/06/2020	Annual	05/06/2021
Agilent	11636B/Power Divider	58698	02/28/2020	Annual	02/28/2021
TESTO	175-H1/Thermometer	40331915309	01/29/2020	Annual	01/29/2021
TESTO	175-H1/Thermometer	40331922309	01/29/2020	Annual	01/29/2021
TESTO	175-H1/Thermometer	40332651310	01/29/2020	Annual	01/29/2021
TESTO	175-H1/Thermometer	40331949309	01/29/2020	Annual	01/29/2021
TESTO	175-H1/Thermometer	40331939309	01/29/2020	Annual	01/29/2021
EMPOWER	RF Power Amplifier	1084	07/23/2019	Annual	07/23/2020
EMPOWER	RF Power Amplifier	1011	10/08/2019	Annual	10/08/2020
MICRO LAB	LP Filter / LA-15N	10453	10/07/2019	Annual	10/07/2020
MICRO LAB	LP Filter / LA-30N	-	10/07/2019	Annual	10/07/2020
MICRO LAB	LP Filter / LA-60N	32011	10/07/2019	Annual	10/07/2020
Agilent	Attenuator (3dB) 8693B	MY39260298	09/18/2019	Annual	09/18/2020
HP	Attenuator (20dB) 8493C	09271	09/18/2019	Annual	09/18/2020
Agilent	Directional Bridge	3140A03878	06/08/2020	Annual	06/08/2021
Agilent	MXA Signal Analyzer N9020A	MY50510407	10/29/2019	Annual	10/29/2020
HP	Dual Directional Coupler	16072	10/07/2019	Annual	10/07/2020
Anritsu	Radio Communication Tester MT8820C	6201074225	03/02/2020	Annual	03/02/2021
Anritsu	Radio Communication Tester MT8821C	6201502997	08/09/2019	Annual	08/09/2020
R&S	Bluetooth CBT	100272	03/02/2020	Annual	03/02/2021

* 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 DSI = 1 *PLimit* Calculations – 2G/3G Head SAR

MEASUREMENT RESULTS									
Frequency		Mode/ Band		Conducted Power	Test Position	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
MHz	Ch.			(dBm)			(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	GSM	32.89	Left Cheek	1:8.3	0.141	37.1	32.2
836.6	190	GSM 850	GSM	32.89	Left Tilt	1:8.3	0.063	36.0	
836.6	190	GSM 850	GSM	32.89	Right Cheek	1:8.3	0.091	32.2	
836.6	190	GSM 850	GSM	32.89	Right Tilt	1:8.3	0.059	35.7	
824.2	128	GPRS 2 TX	GSM	31.94	Left Cheek	1:4.15	0.141	34.3	30.1
824.2	128	GPRS 2 TX	GSM	31.94	Left Tilt	1:4.15	0.114	32.2	
824.2	128	GPRS 2 TX	GSM	31.94	Right Cheek	1:4.15	0.183	30.1	
824.2	128	GPRS 2 TX	GSM	31.94	Right Tilt	1:4.15	0.096	32.9	
1 880	661	GSM 1900	GSM	29.38	Left Cheek	1:8.3	0.052	30.3	30.3
1 880	661	GSM 1900	GSM	29.38	Left Tilt	1:8.3	0.055	34.4	
1 880	661	GSM 1900	GSM	29.38	Right Cheek	1:8.3	0.101	33.2	
1 880	661	GSM 1900	GSM	29.38	Right Tilt	1:8.3	0.039	32.9	
1 880	661	GPRS 2Tx	GSM	28.20	Left Cheek	1:4.15	0.069	33.8	30.7
1 880	661	GPRS 2Tx	GSM	28.20	Left Tilt	1:4.15	0.077	33.3	
1 880	661	GPRS 2Tx	GSM	28.20	Right Cheek	1:4.15	0.140	30.7	
1 880	661	GPRS 2Tx	GSM	28.20	Right Tilt	1:4.15	0.053	34.9	
826.4	4132	UMTS 850	RMC	23.79	Left Cheek	1:1	0.140	32.3	32.3
826.4	4132	UMTS 850	RMC	23.79	Left Tilt	1:1	0.073	35.2	
826.4	4132	UMTS 850	RMC	23.79	Right Cheek	1:1	0.105	33.6	
826.4	4132	UMTS 850	RMC	23.79	Right Tilt	1:1	0.080	34.8	
1 880	9400	UMTS 1900	RMC	23.64	Left Cheek	1:1	0.136	32.3	31.0
1 880	9400	UMTS 1900	RMC	23.64	Left Tilt	1:1	0.069	35.3	
1 880	9400	UMTS 1900	RMC	23.64	Right Cheek	1:1	0.183	31.0	
1 880	9400	UMTS 1900	RMC	23.64	Right Tilt	1:1	0.085	34.3	

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

MEASUREMENT RESULTS													
Frequency		Mode		Band width	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)
707.5	23095	LTE Band 12	Mid	10	24.62	Right Cheek	0	1	24	1:1	0.120	33.8	33.8
707.5	23095	LTE Band 12	Mid	10	24.62	Right Tilt	0	1	24	1:1	0.075	35.9	
707.5	23095	LTE Band 12	Mid	10	24.62	Left Cheek	0	1	24	1:1	0.077	35.8	
707.5	23095	LTE Band 12	Mid	10	24.62	Left Tilt	0	1	24	1:1	0.068	36.3	
782	23230	LTE Band 13	Mid	10	24.15	Right Cheek	0	1	24	1:1	0.163	32.0	32.0
782	23230	LTE Band 13	Mid	10	24.15	Right Tilt	0	1	24	1:1	0.074	35.5	
782	23230	LTE Band 13	Mid	10	24.15	Left Cheek	0	1	24	1:1	0.119	33.4	
782	23230	LTE Band 13	Mid	10	24.15	Left Tilt	0	1	24	1:1	0.071	35.6	
836.5	20525	LTE Band 5	Mid	10	24.26	Right Cheek	0	1	0	1:1	0.179	31.7	31.7
836.5	20525	LTE Band 5	Mid	10	24.26	Right Tilt	0	1	0	1:1	0.079	35.3	
836.5	20525	LTE Band 5	Mid	10	24.26	Left Cheek	0	1	0	1:1	0.126	33.3	
836.5	20525	LTE Band 5	Mid	10	24.26	Left Tilt	0	1	0	1:1	0.085	33.2	
1 770	132572	LTE Band 66	High	20	24.31	Right Cheek	0	1	0	1:1	0.121	33.5	31.6
1 770	132572	LTE Band 66	High	20	24.31	Right Tilt	0	1	0	1:1	0.078	35.4	
1 770	132572	LTE Band 66	High	20	24.31	Left Cheek	0	1	0	1:1	0.188	31.6	
1 770	132572	LTE Band 66	High	20	24.31	Left Tilt	0	1	0	1:1	0.095	34.5	
1 860	18700	LTE Band 2	Low	20	24.15	Right Cheek	0	1	0	1:1	0.148	32.4	30.0
1 860	18700	LTE Band 2	Low	20	24.15	Right Tilt	0	1	0	1:1	0.158	32.2	
1 860	18700	LTE Band 2	Low	20	24.15	Left Cheek	0	1	0	1:1	0.259	30.0	
1 860	18700	LTE Band 2	Low	20	24.15	Left Tilt	0	1	0	1:1	0.134	32.9	
2 560	21350	LTE Band 7	High	20	23.41	Right Cheek	0	1	49	1:1	0.024	39.6	38.1
2 560	21350	LTE Band 7	High	20	23.41	Right Tilt	0	1	49	1:1	0.026	39.3	
2 560	21350	LTE Band 7	High	20	23.41	Left Cheek	0	1	49	1:1	0.034	38.1	
2 560	21350	LTE Band 7	High	20	23.41	Left Tilt	0	1	49	1:1	0.012	42.6	

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

Table A-3 DSI = 1 *PLimit* Calculations – NR Head SAR

MEASUREMENT RESULTS														
Frequency		Mode		Band width	Conducted Power	Test Configurations		MPR	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	High	20	24.59	Left Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.149	32.9	32.9
836.5	167300	NR Band n5	High	20	24.59	Left Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.076	35.8	
836.5	167300	NR Band n5	High	20	24.59	Right Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.127	33.6	
836.5	167300	NR Band n5	High	20	24.59	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.063	36.6	
1860	372000	NR Band n2	High	20	24.77	Left Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.149	30.9	30.9
1860	372000	NR Band n2	High	20	24.77	Left Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.137	33.9	
1860	372000	NR Band n2	High	20	24.77	Right Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.246	33.0	
1860	372000	NR Band n2	High	20	24.77	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.123	33.4	
1 745	349000	NR Band n66	High	20	24.84	Left Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.251	30.8	30.8
1 745	349000	NR Band n66	High	20	24.84	Left Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.097	35.0	
1 745	349000	NR Band n66	High	20	24.84	Right Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.135	33.5	
1 745	349000	NR Band n66	High	20	24.84	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.090	35.3	

Table A-4 DSI = 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		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	GSM	32.89	Back	15	1:8.3	0.217	33.3	31.1
836.6	190	GSM 850	GSM	32.89	Front	15	1:8.3	0.184	31.1	
824.2	128	GPRS 2Tx	GSM	31.94	Back	15	1:4.15	0.336	30.5	28.4
824.2	128	GPRS 2Tx	GSM	31.94	Front	15	1:4.15	0.270	28.4	
1 880	661	GSM 1900	GSM	29.38	Back	15	1:8.3	0.264	26.1	25.3
1 880	661	GSM 1900	GSM	29.38	Front	15	1:8.3	0.319	25.3	
1 880	661	GPRS 2Tx	GSM	28.20	Front	15	1:4.15	0.409	26.1	25.5
1 880	661	GPRS 2Tx	GSM	28.20	Front	15	1:4.15	0.469	25.5	
826.4	4132	UMTS 850	RMC	23.79	Back	15	1:1	0.241	30.0	30.0
826.4	4132	UMTS 850	RMC	23.79	Front	15	1:1	0.195	30.9	
1 880	9400	UMTS 1900	RMC	23.64	Back	15	1:1	0.473	26.9	26.0
1 880	9400	UMTS 1900	RMC	23.64	Front	15	1:1	0.579	26.0	

Table A-5 DSI = 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		Band width	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	10	24.62	Back	15	0	1	24	1:1	0.205	31.5	31.5
707.5	23095	LTE Band 12	Mid	10	24.62	Front	15	0	1	24	1:1	0.182	32.0	
782	23230	LTE Band 13	Mid	10	24.15	Back	15	0	1	24	1:1	0.281	29.7	29.7
782	23230	LTE Band 13	Mid	10	24.15	Front	15	0	1	24	1:1	0.257	30.1	
836.5	20525	LTE Band 5	Mid	10	24.26	Back	15	0	1	0	1:1	0.274	29.9	29.9
836.5	20525	LTE Band 5	Mid	10	24.26	Front	15	0	1	0	1:1	0.232	30.6	
1 770	132572	LTE Band 66	High	20	24.31	Back	15	0	1	0	1:1	0.706	25.8	25.6
1 770	132572	LTE Band 66	High	20	24.31	Front	15	0	1	0	1:1	0.751	25.6	
1 860	18700	LTE Band 2	Low	20	24.15	Back	15	0	1	0	1:1	0.441	27.7	24.4
1 860	18700	LTE Band 2	Low	20	24.15	Front	15	0	1	0	1:1	0.935	24.4	
2 560	21350	LTE Band 7	High	20	23.41	Back	15	0	1	49	1:1	0.145	31.8	31.8
2 560	21350	LTE Band 7	High	20	23.41	Front	15	0	1	49	1:1	0.111	33.0	

Table A-6 DSI = 0 *PLimit* Calculations - NR Body-Worn SAR

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

MEASUREMENT RESULTS															
Frequency		Mode		Band width	Conducted Power	Test Configurations		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	High	20	24.59	Back	DFT-s-OFDM QPSK	0	15	1	1	1:1	0.288	30.0	30.0
836.5	167300	NR Band n5	High	20	24.59	Front	DFT-s-OFDM QPSK	0	15	1	1	1:1	0.204	31.5	
1 900	380000	NR Band n2	High	20	24.77	Back	DFT-s-OFDM QPSK	0	15	1	1	1:1	0.764	25.9	25.1
1 900	380000	NR Band n2	High	20	24.77	Front	DFT-s-OFDM QPSK	0	15	1	1	1:1	0.931	25.1	
1 745	34900	NR Band n66	High	20	24.84	Back	DFT-s-OFDM QPSK	0	15	1	1	1:1	0.727	26.2	26.2
1 745	34900	NR Band n66	High	20	24.84	Front	DFT-s-OFDM QPSK	0	15	1	1	1:1	0.723	26.2	

Table A-7 DSI = 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		Conducted Power	Test Position	Spacing (mm)	Duty Cycle	Meas. SAR(1g)	Plimit	Minimum Plimit
Mhz	Ch.			(dBm)				(W/kg)	(dBm)	(dBm)
824.2	128	GSM 850	GPRS2Tx	31.94	Back	10	1:4.15	0.632	27.8	27.8
824.2	128	GSM 850	GPRS2Tx	31.94	Front	10	1:4.15	0.524	28.6	
824.2	128	GSM 850	GPRS2Tx	31.94	Bottom	10	1:4.15	0.344	30.4	
824.2	128	GSM 850	GPRS2Tx	31.94	Right	10	1:4.15	0.187	33.0	
824.2	128	GSM 850	GPRS2Tx	31.94	Left	10	1:4.15	0.089	36.3	
1 880.0	661	GSM 1900	GPRS2Tx	24.06	Back	10	1:4.15	0.441	23.6	19.7
1 880.0	661	GSM 1900	GPRS2Tx	24.06	Front	10	1:4.15	0.595	22.3	
1 880.0	661	GSM 1900	GPRS2Tx	24.06	Bottom	10	1:4.15	1.07	19.7	
1 880.0	661	GSM 1900	GPRS2Tx	24.06	Right	10	1:4.15	0.095	30.3	
1 880.0	661	GSM 1900	GPRS2Tx	24.06	Left	10	1:4.15	0.061	23.6	
826.4	4132	UMTS 850	RMC	23.79	Back	10	1:1	0.476	27.0	27.0
826.4	4132	UMTS 850	RMC	23.79	Front	10	1:1	0.399	27.8	
826.4	4132	UMTS 850	RMC	23.79	Bottom	10	1:1	0.274	29.4	
826.4	4132	UMTS 850	RMC	23.79	Right	10	1:1	0.143	32.2	
826.4	4132	UMTS 850	RMC	23.79	Left	10	1:1	0.058	36.2	
1 880	9400	UMTS 1900	RMC	19.33	Back	10	1:1	0.516	22.2	18.6
1 880	9400	UMTS 1900	RMC	19.33	Front	10	1:1	0.661	21.1	
1 880	9400	UMTS 1900	RMC	19.33	Bottom	10	1:1	1.170	18.6	
1 880	9400	UMTS 1900	RMC	19.33	Right	10	1:1	0.112	28.8	
1 880	9400	UMTS 1900	RMC	19.33	Left	10	1:1	0.092	29.7	

Table A-8 DSI = 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		Band width	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	10	24.62	Back	10	0	1	24	1:1	0.421	28.4	28.4
707.5	23095	LTE Band 12	Mid	10	24.62	Front	10	0	1	24	1:1	0.290	30.0	
707.5	23095	LTE Band 12	Mid	10	24.62	Bottom	10	0	1	24	1:1	0.257	30.5	
707.5	23095	LTE Band 12	Mid	10	24.62	Right	10	0	1	24	1:1	0.168	32.4	
707.5	23095	LTE Band 12	Mid	10	24.62	Left	10	0	1	24	1:1	0.086	35.3	
782	23230	LTE Band 13	Mid	10	24.15	Back	10	0	1	24	1:1	0.491	27.2	27.2
782	23230	LTE Band 13	Mid	10	24.15	Front	10	0	1	24	1:1	0.379	28.4	
782	23230	LTE Band 13	Mid	10	24.15	Bottom	10	0	1	24	1:1	0.295	29.5	
782	23230	LTE Band 13	Mid	10	24.15	Right	10	0	1	24	1:1	0.374	28.4	
782	23230	LTE Band 13	Mid	10	24.15	Left	10	0	1	24	1:1	0.144	32.6	
836.5	20525	LTE Band 5	Mid	10	24.26	Back	10	0	1	0	1:1	0.536	27.0	27.0
836.5	20525	LTE Band 5	Mid	10	24.26	Front	10	0	1	0	1:1	0.426	28.0	
836.5	20525	LTE Band 5	Mid	10	24.26	Bottom	10	0	1	0	1:1	0.305	29.4	
836.5	20525	LTE Band 5	Mid	10	24.26	Right	10	0	1	0	1:1	0.217	30.9	
836.5	20525	LTE Band 5	Mid	10	24.26	Left	10	0	1	0	1:1	0.074	35.6	
1 770	132572	LTE Band 66	High	20	20.50	Back	10	0	1	0	1:1	0.578	22.9	19.8
1 770	132572	LTE Band 66	High	20	20.50	Front	10	0	1	0	1:1	0.650	22.4	
1 770	132572	LTE Band 66	High	20	20.50	Bottom	10	0	1	0	1:1	1.180	19.8	
1 770	132572	LTE Band 66	High	20	20.50	Right	10	0	1	0	1:1	0.126	29.5	
1 770	132572	LTE Band 66	High	20	20.50	Left	10	0	1	0	1:1	0.133	29.3	
1 880	18900	LTE Band 2	Mid	20	19.49	Back	10	0	1	49	1:1	0.510	22.4	18.7
1 880	18900	LTE Band 2	Mid	20	19.49	Front	10	0	1	49	1:1	0.576	21.9	
1 880	18900	LTE Band 2	Mid	20	19.49	Bottom	10	0	1	49	1:1	1.170	18.7	
1 880	18900	LTE Band 2	Mid	20	19.49	Right	10	0	1	49	1:1	0.089	30.0	
1 880	18900	LTE Band 2	Mid	20	19.49	Left	10	0	1	49	1:1	0.071	31.0	
2 560	21350	LTE Band 7	High	20	21.28	Back	10	0	1	49	1:1	0.124	30.3	28.9
2 560	21350	LTE Band 7	High	20	21.28	Front	10	0	1	49	1:1	0.101	31.2	
2 560	21350	LTE Band 7	High	20	21.28	Bottom	10	0	1	49	1:1	0.174	28.9	
2 560	21350	LTE Band 7	High	20	21.28	Right	10	0	1	49	1:1	0.017	39.0	
2 560	21350	LTE Band 7	High	20	21.28	Left	10	0	1	49	1:1	0.100	31.3	

Table A-9 DSI = 2 *PLimit* Calculations - – NR Hotspot SAR

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

MEASUREMENT RESULTS															
Frequency		Mode		Band width	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	High	20	24.59	Back	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.621	26.7	26.7
836.5	167300	NR Band n5	High	20	24.59	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.507	27.5	
836.5	167300	NR Band n5	High	20	24.59	Bottom	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.304	29.8	
836.5	167300	NR Band n5	High	20	24.59	Right	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.174	32.2	
836.5	167300	NR Band n5	High	20	24.59	Left	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.084	35.3	
1860	372000	NR Band n2	High	20	19.51	Back	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.436	23.1	19.1
1860	372000	NR Band n2	High	20	19.51	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.544	22.2	
1860	372000	NR Band n2	High	20	19.51	Bottom	DFT-s-OFDM QPSK	0	10	1	1	1:1	1.100	19.1	
1860	372000	NR Band n2	High	20	19.51	Right	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.089	30.0	
1860	372000	NR Band n2	High	20	19.51	Left	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.070	31.1	
1745	349000	NR Band n66	High	20	21.64	Back	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.549	24.2	21.3
1745	349000	NR Band n66	High	20	21.64	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.600	23.9	
1745	349000	NR Band n66	High	20	21.64	Bottom	DFT-s-OFDM QPSK	0	10	1	1	1:1	1.070	21.3	
1745	349000	NR Band n66	High	20	21.64	Right	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.109	31.3	
1745	349000	NR Band n66	High	20	21.64	Left	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.124	30.7	

Table A-10 DSI = 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		Conducted Power	Test Position	Distance	Duty Cycle	Meas. SAR(10g)	Plimit	Minimum Plimit
MHz	Ch.			(dBm)		(mm)		(W/kg)	(dBm)	(dBm)
824.2	128	GSM 850	GPRS2Tx	31.94	Rear	9	1:4.15	0.112	39.4	33.9
824.2	128	GSM 850	GPRS2Tx	31.94	Front	6	1:4.15	0.401	33.9	
824.2	128	GSM 850	GPRS2Tx	31.94	Bottom	11	1:4.15	0.117	39.2	
824.2	128	GSM 850	GPRS2Tx	31.94	Left	0	1:4.15	0.270	35.6	
824.2	128	GSM 850	GPRS2Tx	31.94	Right	0	1:4.15	0.242	36.1	
1 880	661	GSM 1900	GPRS2Tx	28.20	Rear	9	1:4.15	0.468	29.5	26.7
1 880	661	GSM 1900	GPRS2Tx	28.20	Front	6	1:4.15	0.874	26.7	
1 880	661	GSM 1900	GPRS2Tx	28.20	Bottom	11	1:4.15	0.771	27.3	
1 880	661	GSM 1900	GPRS2Tx	28.20	Left	0	1:4.15	0.257	32.1	
1 880	661	GSM 1900	GPRS2Tx	28.20	Right	0	1:4.15	0.237	29.0	
826.4	4132	UMTS 850	RMC	23.79	Rear	9	1:1	0.295	28.2	25.9
826.4	4132	UMTS 850	RMC	23.79	Front	6	1:1	0.358	26.8	
826.4	4132	UMTS 850	RMC	23.79	Bottom	11	1:1	0.121	25.9	
826.4	4132	UMTS 850	RMC	23.79	Left	0	1:1	0.388	33.2	
826.4	4132	UMTS 850	RMC	23.79	Right	0	1:1	0.643	32.1	
1 880	9400	UMTS 1900	RMC	23.64	Rear	9	1:1	0.874	28.5	25.8
1 880	9400	UMTS 1900	RMC	23.64	Front	6	1:1	1.2	26.2	
1 880	9400	UMTS 1900	RMC	23.64	Bottom	11	1:1	1.48	26.3	
1 880	9400	UMTS 1900	RMC	23.64	Left	0	1:1	0.274	25.8	
1 880	9400	UMTS 1900	RMC	23.64	Right	0	1:1	0.360	26.4	

Table A-11 DSI = 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		Band width	Conducted Power	Test Position	Distance	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR(10g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)		(mm)	(dB)				(W/kg)	(dBm)	(dBm)
707.5	23095	LTE Band 12	Mid	10	24.62	Rear	9	0	1	0	1:1	0.295	33.1	29.7
707.5	23095	LTE Band 12	Mid	10	24.62	Front	6	0	1	0	1:1	0.309	32.2	
707.5	23095	LTE Band 12	Mid	10	24.62	Bottom	11	0	1	0	1:1	0.099	36.9	
707.5	23095	LTE Band 12	Mid	10	24.62	Right	0	0	1	0	1:1	0.173	31.9	
707.5	23095	LTE Band 12	Mid	10	24.62	Left	0	0	1	0	1:1	0.140	29.7	
782	23230	LTE Band 13	Mid	10	24.15	Rear	9	0	1	0	1:1	0.312	33.9	33.7
782	23230	LTE Band 13	Mid	10	24.15	Front	6	0	1	0	1:1	0.389	33.7	
782	23230	LTE Band 13	Mid	10	24.15	Bottom	11	0	1	0	1:1	0.117	38.6	
782	23230	LTE Band 13	Mid	10	24.15	Right	0	0	1	0	1:1	0.254	36.2	
782	23230	LTE Band 13	Mid	10	24.15	Left	0	0	1	0	1:1	0.166	37.1	
836.5	20525	LTE Band 5	Mid	10	24.26	Rear	9	0	1	0	1:1	0.331	31.7	31.7
836.5	20525	LTE Band 5	Mid	10	24.26	Front	6	0	1	0	1:1	0.455	37.0	
836.5	20525	LTE Band 5	Mid	10	24.26	Bottom	11	0	1	0	1:1	0.132	35.4	
836.5	20525	LTE Band 5	Mid	10	24.26	Right	0	0	1	0	1:1	0.194	33.7	
836.5	20525	LTE Band 5	Mid	10	24.26	Left	0	0	1	0	1:1	0.283	31.7	
1 770	132572	LTE Band 66	High	20	24.31	Rear	9	0	1	0	1:1	0.909	28.7	27.7
1 770	132572	LTE Band 66	High	20	24.31	Front	6	0	1	0	1:1	0.751	29.5	
1 770	132572	LTE Band 66	High	20	24.31	Bottom	11	0	1	0	1:1	1.150	27.7	
1 770	132572	LTE Band 66	High	20	24.31	Right	0	0	1	0	1:1	0.466	31.6	
1 770	132572	LTE Band 66	High	20	24.31	Left	0	0	1	0	1:1	0.515	31.2	
1860	18700	LTE Band 2	Low	20	24.15	Rear	9	0	1	0	1:1	0.906	28.6	26.2
1860	18700	LTE Band 2	Low	20	24.15	Front	6	0	1	0	1:1	0.917	28.5	
1860	18700	LTE Band 2	Low	20	24.15	Bottom	11	0	1	0	1:1	1.550	26.2	
1860	18700	LTE Band 2	Low	20	24.15	Right	0	0	1	0	1:1	0.575	30.5	
1860	18700	LTE Band 2	Low	20	24.15	Left	0	0	1	0	1:1	0.485	31.3	
2 560	21350	LTE Band 7	High	20	23.41	Rear	9	0	1	49	1:1	0.080	38.4	27.4
2 560	21350	LTE Band 7	High	20	23.41	Front	6	0	1	49	1:1	0.141	35.9	
2 560	21350	LTE Band 7	High	20	23.41	Bottom	11	0	1	49	1:1	0.124	36.5	
2 560	21350	LTE Band 7	High	20	23.41	Right	0	0	1	49	1:1	0.060	37.5	
2 560	21350	LTE Band 7	High	20	23.41	Left	0	0	1	49	1:1	0.590	27.4	

Table A-11 DSI = 0 *PLimit* Calculations - – NR Phablet SAR

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

MEASUREMENT RESULTS															
Frequency		Mode		Band width	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	High	20	24.59	Back	DFT-s-OFDM QPSK	0	9	1	1	1:1	0.233	34.9	34.2
836.5	167300	NR Band n5	High	20	24.59	Front	DFT-s-OFDM QPSK	0	6	1	1	1:1	0.275	34.2	
836.5	167300	NR Band n5	High	20	24.59	Bottom	DFT-s-OFDM QPSK	0	11	1	1	1:1	0.085	39.3	
836.5	167300	NR Band n5	High	20	24.59	Right	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.178	36.1	
836.5	167300	NR Band n5	High	20	24.59	Left	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.172	36.2	
1860	372000	NR Band n2	High	20	24.77	Back	DFT-s-OFDM QPSK	0	9	1	1	1:1	1.05	28.5	25.5
1860	372000	NR Band n2	High	20	24.77	Front	DFT-s-OFDM QPSK	0	6	1	1	1:1	2.13	25.5	
1860	372000	NR Band n2	High	20	24.77	Bottom	DFT-s-OFDM QPSK	0	11	1	1	1:1	2.13	25.5	
1860	372000	NR Band n2	High	20	24.77	Right	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.694	32.7	
1860	372000	NR Band n2	High	20	24.77	Left	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.641	33.2	
1 745	349000	NR Band n66	High	20	24.84	Back	DFT-s-OFDM QPSK	0	9	1	1	1:1	0.826	29.6	27.4
1 745	349000	NR Band n66	High	20	24.84	Front	DFT-s-OFDM QPSK	0	6	1	1	1:1	1.39	27.4	
1 745	349000	NR Band n66	High	20	24.84	Bottom	DFT-s-OFDM QPSK	0	11	1	1	1:1	1.15	28.2	
1 745	349000	NR Band n66	High	20	24.84	Right	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.435	32.4	
1 745	349000	NR Band n66	High	20	24.84	Left	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.471	32.1	

Table A-11 DSI = 3 P_{Limit} Calculations - – 2G/3G Phablet SAR

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

MEASUREMENT RESULTS										
Frequency		Mode		Conducted Power	Test Position	Distance	Duty Cycle	Meas. SAR(10g)	Plimit	Minimum Plimit
MHz	Ch.			(dBm)		(mm)		(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	GPRS2Tx	31.94	Rear	0	1:4.15	1.010	29.9	29.9
836.6	190	GSM 850	GPRS2Tx	31.94	Front	0	1:4.15	0.787	30.9	
836.6	190	GSM 850	GPRS2Tx	31.94	Bottom	0	1:4.15	0.398	33.9	
836.6	190	GSM 850	GPRS2Tx	31.94	Right	0	1:4.15	0.270	35.6	
836.6	190	GSM 850	GPRS2Tx	31.94	Left	0	1:4.15	0.242	36.1	
1 880	661	GSM 1900	GPRS2Tx	25.18	Rear	0	1:4.15	1.230	22.2	21.0
1 880	661	GSM 1900	GPRS2Tx	25.18	Front	0	1:4.15	1.580	21.2	
1 880	661	GSM 1900	GPRS2Tx	25.18	Bottom	0	1:4.15	1.620	21.0	
1 880	661	GSM 1900	GPRS2Tx	25.18	Right	0	1:4.15	0.237	29.4	
1 880	661	GSM 1900	GPRS2Tx	25.18	Left	0	1:4.15	0.257	29.0	
826.4	4132	UMTS 850	RMC	23.79	Rear	0	1:1	0.913	28.2	27.9
826.4	4132	UMTS 850	RMC	23.79	Front	0	1:1	0.973	27.9	
826.4	4132	UMTS 850	RMC	23.79	Bottom	0	1:1	0.432	31.4	
826.4	4132	UMTS 850	RMC	23.79	Right	0	1:1	0.388	31.9	
826.4	4132	UMTS 850	RMC	23.79	Left	0	1:1	0.643	29.7	
1 880	9400	UMTS 1900	RMC	19.33	Rear	0	1:1	1.540	21.4	20.3
1 880	9400	UMTS 1900	RMC	19.33	Front	0	1:1	1.990	20.3	
1 880	9400	UMTS 1900	RMC	19.33	Bottom	0	1:1	1.880	20.6	
1 880	9400	UMTS 1900	RMC	19.33	Right	0	1:1	0.565	25.8	
1 880	9400	UMTS 1900	RMC	19.33	Left	0	1:1	0.493	26.4	

Table A-13 DSI = 3 *PLimit* Calculations - – 4G Phablet SAR

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

MEASUREMENT RESULTS														
Frequency		Mode		Band width	Conducted Power	Test Position	Distance	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR(10g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)		(mm)	(dB)				(W/kg)	(dBm)	(dBm)
707.5	23095	LTE Band 12	Mid	10	24.62	Rear	0	0	1	0	1:1	1.020	28.5	28.5
707.5	23095	LTE Band 12	Mid	10	24.62	Front	0	0	1	0	1:1	1.010	28.6	
707.5	23095	LTE Band 12	Mid	10	24.62	Bottom	0	0	1	0	1:1	0.712	30.1	
782	23230	LTE Band 13	Mid	10	24.15	Rear	0	0	1	0	1:1	1.05	27.9	27.9
782	23230	LTE Band 13	Mid	10	24.15	Front	0	0	1	0	1:1	0.955	28.3	
782	23230	LTE Band 13	Mid	10	24.15	Bottom	0	0	1	0	1:1	0.579	30.5	
836.5	20525	LTE Band 5	Mid	10	24.26	Rear	0	0	1	0	1:1	1.100	27.8	27.6
836.5	20525	LTE Band 5	Mid	10	24.26	Front	0	0	1	0	1:1	1.170	27.6	
836.5	20525	LTE Band 5	Mid	10	24.26	Bottom	0	0	1	0	1:1	0.506	31.2	
1 770	132572	LTE Band 66	High	20	20.50	Rear	0	0	1	0	1:1	1.000	24.5	20.7
1 770	132572	LTE Band 66	High	20	20.50	Front	0	0	1	0	1:1	1.580	22.5	
1 770	132572	LTE Band 66	High	20	20.50	Bottom	0	0	1	0	1:1	2.270	20.7	
1860	18700	LTE Band 2	Low	20	19.49	Rear	0	0	1	49	1:1	1.43	21.9	21.2
1860	18700	LTE Band 2	Low	20	19.49	Front	0	0	1	49	1:1	1.67	21.2	
1860	18700	LTE Band 2	Low	20	19.49	Bottom	0	0	1	49	1:1	1.41	21.6	
2 560	21350	LTE Band 7	High	20	21.23	Rear	0	0	1	99	1:1	0.433	28.8	27.1
2 560	21350	LTE Band 7	High	20	21.23	Front	0	0	1	99	1:1	0.391	29.3	
2 560	21350	LTE Band 7	High	20	21.23	Bottom	0	0	1	99	1:1	0.650	27.1	

Table A-15 DSI = 3 *PLimit* Calculations - – NR Phablet SAR

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

MEASUREMENT RESULTS															
Frequency		Mode		Band width	Conducted Power	Test Position		MPR	Distance	RB Size	RB offset	Duty Cycle	Meas. SAR(10g)	Plimit	Minimum Plimit
MHz	Ch.			(MHz)	(dBm)			(dB)	(mm)				(W/Kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	20	24.59	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.533	31.3	31.3
836.5	167300	NR Band n5	Mid	20	24.59	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.500	31.6	
836.5	167300	NR Band n5	Mid	20	24.59	Bottom	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.204	35.5	
1 860	372000	NR Band n2	Low	20	19.51	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.130	23.0	21.3
1 860	372000	NR Band n2	Low	20	19.51	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.670	21.3	
1 860	372000	NR Band n2	Low	20	19.51	Bottom	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.190	22.7	
1 745	349000	NR Band n66	High	20	21.64	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.400	24.2	21.2
1 745	349000	NR Band n66	High	20	21.64	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.820	23.0	
1 745	349000	NR Band n66	High	20	21.64	Bottom	DFT-s-OFDM QPSK	0	0	1	1	1:1	2.790	21.2	