Testing and Certification

TEST REPORT

Part 0 SAR Test for Characterization

APPLICANT

Samsung Electronics. Co., Ltd.

REPORT NO.

HCT-SR-2405-FC009

DATE OF ISSUE

May. 28, 2024

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TEST REPORT

PART 0 SAR Test for certification

REPORT NO.
HCT-SR-2405-FC009

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May 28, 2024

FCC ID
A3LSMF741JPN

Applicant	SAMSUNG Electronics Co., Ltd 129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677, Korea
Product Name	Mobile Phone
Model Name	SC-54E
Additional Model Name	SCG29
Date of Test	May. 01, 2024 ~ May. 24, 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

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	May 28, 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	SC-54E
Additional Model Name	SCG29
Equipment Type	Mobile Phone
FCC ID	A3LSMF741JPN
Application Type	Certification
Applicant	SAMSUNG Electronics Co., Ltd.

2. DEVICE UNDER TEST DESCRIPTION

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/WLAN/BT operations. Additionally, this device supports NFC technology, but the output power of this technology is not controlled by the Smart Transmit algorithm.

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

2.1 Time-Averaging for SAR

This device is enabled with Qualcomm® GEN 2 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 and WLAN/BT is incompliance with FCC requirements.

This Part 0 report shows SAR characterization of WWAN radios for 2G/3G/4G and 5G Sub-6 NR and WLAN/BT respectively. Characterization is achieved by determining Plimit for 2G/3G/4G and 5G Sub-6 NR and WLAN/BT 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 and WLAN/BT technologies are reported in Part 2 report.

2.3 Nomenclature for Part 0 Report

Technology	Term	Description
2G/3G/4G/5G Sub 6 NR /WLAN/BT	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 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.

Table 4-1 DSI and Corresponding Exposure Scenarios

Scenario	Description	SAR Test Cases
Head (DSI = 2)	Device positioned next to head	Head SAR per KDB Publication 648474 D04
BodyWorn Phablet,Earjack (DSI = 0,1,4)	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
Hotspot (DSI = 3)	Device transmits in hotspot mode near body	Hotspot SAR per KDB Publication 941225 D06

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/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
0,1,4	The worst-case SAR exposure is determined as maximum SAR normalized to the limit among: 1. Phablet SAR measured at 0 mm 2. Body-Worn SAR at 10mm 4. Earjack SAR at 0,10mm
2	Plimit is calculated based on 1g Head SAR
3	Plimit is calculated based on 1g Hotspot SAR at 10 mm for Folder Open configurations and at 5 mm for Folder Closed configurations

Table 4-3 *PLimit* Determination

Table 4-4 SAR Characterization

Plim values in green indicate Plimit < Pmax			Plim values in grey indicate Plimit > Pmax					
Plimit corresponding to 1 W/kg (1g) 2.5W/kg(10g) SAR_Design_target								Pmax
SAR Exposure Position			Body-worn	Phablet	Head (RCV ON)	Hotspot (Hotspot on)	Earjack	Maximum Tune-up Output Power (Frame Averaged Power) [dBm]
Averaging volume			1g	10g	1g	1g	1g/10g	
seperation Distance			10 mm	0mm	0 mm	10/5 mm	10/0 mm	
Mode	Band	Antenna	DSI=0	DSI=1	DSI=2	DSI=3	DSI=4	
GSM/GPRS/EDGE	850	ANT A	25.9		33.1	19.3	28.8	22.8
GSM/GPRS/EDGE	1900	ANT A	17.3		40.5	15.6	22.7	20.3
UMTS	5	ANT A	26.0		22.4	21.5	28.8	23.0
LTE FDD	2	ANT A	19.3		33.9	15.3	19.3	21.5
LTE FDD	2	ANT I	20.5		15.0	15.5	20.5	24.0
LTE FDD	66(4)	ANT A	19.3		35.6	16.8	19.3	22.0
LTE FDD	66(4)	ANT I	20.5		16.5	16.5	20.5	24.0
LTE FDD	12	ANT A	22.0		32.7	22.0	22.0	22.5
LTE FDD	13	ANT A	22.0		32.7	22.0	22.0	22.5
LTE FDD	5	ANT A	26.1		31.8	25.5	28.8	22.5
LTE TDD PC3	41	ANT B	21.1		42.8	15.0	21.1	19.0
LTE TDD PC3	41	ANT I	20.5		13.8	16.5	20.5	22.0
NR FDD	5	ANT A	26.4		30.5	24.5	28.1	22.5
NR TDD SRS 1 PC3	41	ANT I	21.0		14.3	17.0	21.0	24.5
NR TDD SRS 2	41	ANT B	19.5		33.9	15.0	19.5	21.0
NR FDD	66	ANT A	19.3		34.1	17.3	19.3	22.5
NR FDD	66	ANT I	21.0		17.0	17.0	21.0	24.5
WLAN	2.4	ANT F	21.6		19.5	20.3	21.6	18.0
WLAN	2.4	ANT H	23.7		19.8	23.3	23.7	18.0
WLAN	5	ANT F	20.2		17.1	21.3	20.3	15.0
WLAN	5	ANT H	20.6		18.4	19.7	21.0	15.0
WLAN	6	ANT F	21.9		15.7	N/A	22.4	10.0
WLAN	6	ANT H	23.0		18.3	N/A	23.0	10.0
BT	2.4	ANT F	24.6		20.8	21.1	25.7	18.0
BT	2.4	ANT H	24.6		19.8	N/A	24.6	17.0

Note:

1. Compared with the Plimt (Tune up Powers) declared in each DSI by the manufacturer and the plimt (calculation) calculated by the SAR measurement of each DSI, the lower power were applied to the EFS as the plimit at each DSI configurations.
2. When *Pmax* < *Plimit*, the DUT will operate at a power level up to *Pmax*.
3. 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, 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
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	CS8Cspeag-TX90	F12/5K9GA1/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	F08/5AJ0A1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX60L	F/20/0018446/C/001	N/A	N/A	N/A
Staubli	CS8Cspeag-TX60L	F10/5D1CA1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F13/5SD0A1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F07/55B8A1/C/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F11/5K3RA1/A/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F12/5K9GA1/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	F08/5AJ0A1/A/01	N/A	N/A	N/A
Staubli	TX60 Xlspeag	F/20/0018446/A/001	N/A	N/A	N/A
Staubli	TX60 Xlspeag	F10/5D1CA1/A/01	N/A	N/A	N/A
Staubli	TX90 Xl speag	F13/ 5SD0A1/A/01	N/A	N/A	N/A
Staubli	TX90 Xl speag	F07/55B8A1/A/01	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-1203 0309	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-1206 0513	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-0008	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	020885	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0123	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	001729	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0306	N/A	N/A	N/A
TESTO	175-H1/Thermometer	40331922309	12/26/2023	Annual	12/26/2024
TESTO	175-H1/Thermometer	40331939309	12/26/2023	Annual	12/26/2024
TESTO	175-H1/Thermometer	40331922309	12/26/2023	Annual	12/26/2024
TESTO	175-H1/Thermometer	40332651310	12/26/2023	Annual	12/26/2024
TESTO	175-H1/Thermometer	40331949309	12/26/2023	Annual	12/26/2024
TESTO	175-H1/Thermometer	44606611906	03/20/2024	Annual	03/20/2025
TESTO	175-H1/Thermometer	44606559906	03/20/2024	Annual	03/20/2025
TESTO	608-H1/Thermometer	83348029	03/20/2024	Annual	03/20/2025
TESTO	608-H1/Thermometer	83348021	03/20/2024	Annual	03/20/2025
SPEAG	DAE4	1720	04/19/2024	Annual	04/19/2025
SPEAG	DAE4	868	09/20/2023	Annual	09/20/2024
SPEAG	DAE4	780	07/04/2023	Annual	07/04/2024
SPEAG	DAE4	1417	02/16/2024	Annual	02/16/2025
SPEAG	DAE4	446	11/16/2023	Annual	11/16/2024
SPEAG	DAE4	504	01/30/2024	Annual	01/30/2025
SPEAG	DAE4	652	01/17/2024	Annual	01/17/2025
SPEAG	DAE4	1464	06/16/2023	Annual	06/16/2024
SPEAG	DAE4	1629	08/21/2023	Annual	08/21/2024

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	E-Field Probe EX3DV4	3968	09/27/2023	Annual	09/27/2024
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 EX3DV4	7654	05/24/2023	Annual	05/24/2024
SPEAG	E-Field Probe EX3DV4	7681	11/27/2023	Annual	11/27/2024
SPEAG	E-Field Probe EX3DV4	7370	08/24/2023	Annual	08/24/2024
SPEAG	E-Field Probe EX3DV4	3768	07/18/2023	Annual	07/18/2024
SPEAG	E-Field Probe EX3DV4	7751	10/06/2023	Annual	10/06/2024
SPEAG	E-Field Probe EX3DV4	7732	06/20/2023	Annual	06/20/2024
SPEAG	E-Field Probe EX3DV4	7309	06/19/2023	Annual	06/19/2024
SPEAG	E-Field Probe EX3DV4	7622	11/24/2023	Annual	11/24/2024
SPEAG	CLA13	1016	09/21/2023	Annual	09/21/2024
SPEAG	Dipole D750V3	1014	05/23/2023	Annual	05/23/2024
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	01/18/2025
SPEAG	Dipole D2450V2	743	03/14/2024	Annual	03/14/2025
SPEAG	Dipole D2600V2	1015	04/22/2024	Annual	04/22/2025
SPEAG	Dipole D5GHzV2	1107	04/19/2024	Annual	04/19/2025
Agilent	Power Meter E4419B	MY41291386	09/21/2023	Annual	09/21/2024
Agilent	Power Meter N1911A	MY45101406	05/26/2023	Annual	05/26/2024
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	DAKS VAN R140	0141013	01/11/2024	Annual	01/11/2025
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	05/26/2023	Annual	05/26/2024
EMPOWER	RF Power Amplifier	1041D/C0508	05/26/2023	Annual	05/26/2024
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
Narda	DIRECTIONAL COUPLER	07066	01/08/2024	Annual	01/08/2025

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
OSI	Power Divider	#1	05/26/2023	Annual	05/26/2024
OSI	Power Divider	#2	05/26/2023	Annual	05/26/2024
OSI	Power Divider	#3	05/26/2023	Annual	05/26/2024
OSI	Power Divider	#4	05/26/2023	Annual	05/26/2024
Agilent	MXA Signal Analyzer N9020A	MY50510407	06/07/2023	Annual	06/07/2024
HP	Dual Directional Coupler	16072	09/21/2023	Annual	09/21/2024
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	6201502997	05/26/2023	Annual	05/26/2024
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	05/26/2023	Annual	05/26/2024
ROHDE&SCHWARZ	BLUETOOTH TESTER CBT	100272	01/16/2024	Annual	01/16/2025

* 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 P limit CALCULATIONS

Table A-1 DSI = 2 *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 4Tx	A	23.06	Left Cheek	1:2.07	0.069	34.7	33.1
836.6	190	GSM 850		A	23.06	Left Tilt	1:2.07	0.039	37.1	
836.6	190	GSM 850		A	23.06	Right Cheek	1:2.07	0.099	33.1	
836.6	190	GSM 850		A	23.06	Right Tilt	1:2.07	0.039	37.1	
1 880	661	GSM 1900	GPRS 4Tx	A	20.52	Left Cheek	1:2.07	0.00964	40.5	40.5
1 880	661	GSM 1900		A	20.52	Left Tilt	1:2.07	0.010	40.5	
1 880	661	GSM 1900		A	20.52	Right Cheek	1:2.07	0	N/A	
1 880	661	GSM 1900		A	20.52	Right Tilt	1:2.07	0.00888	41.0	
836.6	4183	UMTS Band 5	RMC	A	22.22	Left Cheek	1:1	0.083	33.0	30.8
836.6	4183	UMTS Band 5	RMC	A	22.22	Left Tilt	1:1	0.046	35.6	
836.6	4183	UMTS Band 5	RMC	A	22.22	Right Cheek	1:1	0.139	30.8	
836.6	4183	UMTS Band 5	RMC	A	22.22	Right Tilt	1:1	0.041	36.1	

Table A-2 DSI = 2 *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	22.93	Left Cheek	0	1	24	1:1	0.100	32.9	32.7
707.5	23095	LTE Band 12	Mid	A	10	22.93	Left Tilt	0	1	24	1:1	0.062	35.0	
707.5	23095	LTE Band 12	Mid	A	10	22.93	Right Cheek	0	1	24	1:1	0.105	32.7	
707.5	23095	LTE Band 12	Mid	A	10	22.93	Right Tilt	0	1	24	1:1	0.057	35.4	
782	23230	LTE Band 13	Mid	A	10	22.57	Left Cheek	0	1	0	1:1	0.096	32.7	32.7
782	23230	LTE Band 13	Mid	A	10	22.57	Left Tilt	0	1	0	1:1	0.061	34.7	
782	23230	LTE Band 13	Mid	A	10	22.57	Right Cheek	0	1	0	1:1	0.098	32.7	
782	23230	LTE Band 13	Mid	A	10	22.57	Right Tilt	0	1	0	1:1	0.055	35.2	
1 860	18700	LTE Band 2	Low	A	20	22.00	Left Cheek	0	1	0	1:1	0.064	33.9	33.9
1 860	18700	LTE Band 2	Low	A	20	22.00	Left Tilt	0	1	0	1:1	0.017	39.7	
1 860	18700	LTE Band 2	Low	A	20	22.00	Right Cheek	0	1	0	1:1	0.025	38.0	
1 860	18700	LTE Band 2	Low	A	20	22.00	Right Tilt	0	1	0	1:1	0.010	42.0	
1 880	18900	LTE Band 2	Mid	I	20	15.42	Left Cheek	0	1	0	1:1	0.567	17.9	17.9
1 880	18900	LTE Band 2	Mid	I	20	15.42	Left Tilt	0	1	0	1:1	0.118	24.7	
1 880	18900	LTE Band 2	Mid	I	20	15.42	Right Cheek	0	1	0	1:1	0.224	21.9	
1 880	18900	LTE Band 2	Mid	I	20	15.42	Right Tilt	0	1	0	1:1	0.063	27.4	
836.5	20525	LTE Band 5	Mid	A	10	22.44	Left Cheek	0	1	0	1:1	0.110	32.0	31.8
836.5	20525	LTE Band 5	Mid	A	10	22.44	Left Tilt	0	1	0	1:1	0.065	34.3	
836.5	20525	LTE Band 5	Mid	A	10	22.44	Right Cheek	0	1	0	1:1	0.116	31.8	
836.5	20525	LTE Band 5	Mid	A	10	22.44	Right Tilt	0	1	0	1:1	0.079	33.5	
2 506	39750	LTE Band41(PC3)	Low	B	20	18.78	Left Cheek	0	1	0	1:1.58	0	N/A	42.8
2 506	39750	LTE Band41(PC3)	Low	B	20	18.78	Left Tilt	0	1	0	1:1.58	0	N/A	
2 506	39750	LTE Band41(PC3)	Low	B	20	18.78	Right Cheek	0	1	0	1:1.58	0	N/A	
2 506	39750	LTE Band41(PC3)	Low	B	20	18.78	Right Tilt	0	1	0	1:1.58	0.00435	42.8	
2 680	41490	LTE Band41(PC3)	High	I	20	13.59	Left Cheek	0	50	0	1:1.58	0.693	15.2	15.2
2 680	41490	LTE Band41(PC3)	High	I	20	13.62	Left Tilt	0	1	0	1:1.58	0.115	23.0	
2 680	41490	LTE Band41(PC3)	High	I	20	13.62	Right Cheek	0	1	0	1:1.58	0.213	20.3	
2 680	41490	LTE Band41(PC3)	High	I	20	13.62	Right Tilt	0	1	0	1:1.58	0.032	28.6	
1 770	132572	LTE Band 66	High	A	20	22.19	Left Cheek	0	1	49	1:1	0.043	35.9	35.6
1 770	132572	LTE Band 66	High	A	20	22.19	Left Tilt	0	1	49	1:1	0.024	38.4	
1 770	132572	LTE Band 66	High	A	20	22.19	Right Cheek	0	1	49	1:1	0.046	35.6	
1 770	132572	LTE Band 66	High	A	20	22.19	Right Tilt	0	1	49	1:1	0.024	38.4	
1 770	132572	LTE Band 66	High	I	20	16.60	Left Cheek	0	50	49	1:1	0.764	17.8	17.8
1 745	132322	LTE Band 66	Mid	I	20	16.88	Left Tilt	0	1	0	1:1	0.153	25.0	
1 745	132322	LTE Band 66	Mid	I	20	16.88	Right Cheek	0	1	0	1:1	0.346	21.5	
1 745	132322	LTE Band 66	Mid	I	20	16.88	Right Tilt	0	1	0	1:1	0.090	27.3	

Table A-3 DSI = 2 *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 all 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	22.75	Left Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.136	31.4	30.5
836.5	167300	NR Band n5	Mid	A	20	22.75	Left Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.078	33.8	
836.5	167300	NR Band n5	Mid	A	20	22.75	Right Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.166	30.5	
836.5	167300	NR Band n5	Mid	A	20	22.75	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.065	34.6	
2 592.99	518598	NR Band n41	Mid	I	100	14.76	Left Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.663	16.5	16.5
2 592.99	518598	NR Band n41	Mid	I	100	14.76	Left Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.112	24.3	
2 592.99	518598	NR Band n41	Mid	I	100	14.76	Right Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.150	23.0	
2 592.99	518598	NR Band n41	Mid	I	100	14.76	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.035	29.3	
2 592.99	518598	NR Band n41	Mid	B	100	21.40	Left Cheek	DFT-s-OFDM QPSK	0	1	271	1:1	0.056	33.9	33.9
2 592.99	518598	NR Band n41	Mid	B	100	21.40	Left Tilt	DFT-s-OFDM QPSK	0	1	271	1:1	0.028	36.9	
2 592.99	518598	NR Band n41	Mid	B	100	21.40	Right Cheek	DFT-s-OFDM QPSK	0	1	271	1:1	0.028	36.9	
2 592.99	518598	NR Band n41	Mid	B	100	21.40	Right Tilt	DFT-s-OFDM QPSK	0	1	271	1:1	0.049	34.5	
1 745	349000	NR Band 66	Mid	A	40	21.75	Left Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.067	34.1	34.1
1 745	349000	NR Band 66	Mid	A	40	21.75	Left Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.045	35.8	
1 745	349000	NR Band 66	Mid	A	40	21.75	Right Cheek	DFT-s-OFDM QPSK	0	1	1	1:1	0.045	35.8	
1 745	349000	NR Band 66	Mid	A	40	21.75	Right Tilt	DFT-s-OFDM QPSK	0	1	1	1:1	0.034	37.0	
1 745	349000	NR Band 66	Mid	I	40	17.32	Left Cheek	DFT-s-OFDM QPSK	0	216	0	1:1	0.763	18.5	18.5
1 745	349000	NR Band 66	Mid	I	40	17.26	Left Tilt	DFT-s-OFDM QPSK	0	108	0	1:1	0.175	24.8	
1 745	349000	NR Band 66	Mid	I	40	17.26	Right Cheek	DFT-s-OFDM QPSK	0	108	0	1:1	0.536	20.0	
1 745	349000	NR Band 66	Mid	I	40	17.26	Right Tilt	DFT-s-OFDM QPSK	0	108	0	1:1	0.094	27.5	

Table A-4 DSI = 2 *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
MHz	Ch.		(MHz)		(Mbps)	(dBm)				(W/kg)	(Duty)	(dBm)	(dBm)
2 412	1	802.11b	20	F	1	17.86	Left Cheek	WIFI1	98.9	0.150	1.011	26.1	19.5
2 412	1	802.11b	20	F	1	17.86	Left Tilt	WIFI1	98.9	0.087	1.011	28.5	
2 412	1	802.11b	20	F	1	17.86	Right Cheek	WIFI1	98.9	0.686	1.011	19.5	
2 412	1	802.11b	20	F	1	17.86	Right Tilt	WIFI1	98.9	0.390	1.011	21.9	
2 437	6	802.11b	20	H	1	17.59	Left Cheek	WIFI2	98.9	0.606	1.011	19.8	19.8
2 437	6	802.11b	20	H	1	17.59	Left Tilt	WIFI2	98.9	0.365	1.011	22.0	
2 437	6	802.11b	20	H	1	17.59	Right Cheek	WIFI2	98.9	0.317	1.011	22.6	
2 437	6	802.11b	20	H	1	17.59	Right Tilt	WIFI2	98.9	0.229	1.011	24.0	
5 280	52	802.11a	20	F	6	14.17	Left Cheek	WIFI1	93.4	0.130	1.071	23.0	17.1
5 280	52	802.11a	20	F	6	14.17	Left Tilt	WIFI1	93.4	0.125	1.071	23.2	
5 280	52	802.11a	20	F	6	14.17	Right Cheek	WIFI1	93.4	0.512	1.071	17.1	
5 280	52	802.11a	20	F	6	14.17	Right Tilt	WIFI1	93.4	0.341	1.071	18.8	
5 620	124	802.11a	20	H	6	15.98	Left Cheek	WIFI2	93.4	0.567	1.071	18.4	18.4
5 620	124	802.11a	20	H	6	15.98	Left Tilt	WIFI2	93.4	0.462	1.071	19.3	
5 745	149	802.11a	20	H	6	15.42	Right Cheek	WIFI2	93.4	0.197	1.071	22.5	
5 745	149	802.11a	20	H	6	15.42	Right Tilt	WIFI2	93.4	0.150	1.071	23.6	
6 525	115	802.11ax	40	F	MCS0	9.42	Left Cheek	WIFI1	99.1	0.040	1.009	23.4	15.7
6 525	115	802.11ax	40	F	MCS0	9.42	Left Tilt	WIFI1	99.1	0.036	1.009	23.9	
6 525	115	802.11ax	40	F	MCS0	9.42	Right Cheek	WIFI1	99.1	0.238	1.009	15.7	
6 525	115	802.11ax	40	F	MCS0	9.42	Right Tilt	WIFI1	99.1	0.093	1.009	19.7	
6 525	115	802.11ax	40	H	MCS0	9.64	Left Cheek	WIFI2	99.1	0.137	1.009	18.3	18.3
6 525	115	802.11ax	40	H	MCS0	9.64	Left Tilt	WIFI2	99.1	0.114	1.009	19.1	
6 525	115	802.11ax	40	H	MCS0	9.64	Right Cheek	WIFI2	99.1	0.062	1.009	21.7	
6 525	115	802.11ax	40	H	MCS0	9.64	Right Tilt	WIFI2	99.1	0.051	1.009	22.6	

MEASUREMENT RESULTS									
Frequency		Mode/ Band	Ant. No.	Frame Averaged Conducted Power	Test Position	Ant. Config.	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.			(dBm)			(W/kg)	(Duty)	(dBm)	(dBm)
2 402	0	DH-5	F	18.87	Left Cheek	Ant 1	0.151	1.010	27.1	20.8
2 402	0	DH-5	F	18.87	Left Tilt	Ant 1	0.104	1.010	28.7	
2 402	0	DH-5	F	18.87	Right Cheek	Ant 1	0.635	1.010	20.8	
2 402	0	DH-5	F	18.87	Right Tilt	Ant 1	0.342	1.010	23.5	
2 441	39	DH-5	H	17.59	Left Cheek	Ant 2	0.599	1.010	19.8	19.8
2 441	39	DH-5	H	17.59	Left Tilt	Ant 2	0.316	1.010	22.6	
2 441	39	DH-5	H	17.59	Right Cheek	Ant 2	0.272	1.010	23.2	
2 441	39	DH-5	H	17.59	Right Tilt	Ant 2	0.196	1.010	24.7	

Table A-5 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		Form Factor	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	GPRS4Tx	Open	A	23.06	Rear	10	1:2.07	0.304	28.2	25.9
836.6	190	GSM 850	GPRS4Tx	Open	A	23.06	Front	10	1:2.07	0.223	29.6	
836.6	190	GSM 850	GPRS4Tx	Close	A	23.06	Rear	10	1:2.07	0.522	25.9	
836.6	190	GSM 850	GPRS4Tx	Close	A	23.06	Front	10	1:2.07	0.211	29.8	
1 880.0	661	GSM 1900	GPRS4Tx	Open	A	17.09	Rear	10	1:2.07	0.506	20.0	20.0
1 880.0	661	GSM 1900	GPRS4Tx	Open	A	17.09	Front	10	1:2.07	0.325	22.0	
1 880.0	661	GSM 1900	GPRS4Tx	Close	A	17.09	Rear	10	1:2.07	0.421	20.8	
1 880.0	661	GSM 1900	GPRS4Tx	Close	A	17.09	Front	10	1:2.07	0.013	36.0	
836.6	4183	UMTS 850	RMC	Open	A	23.04	Rear	10	1:1	0.504	26.0	26.0
836.6	4183	UMTS 850	RMC	Open	A	23.04	Front	10	1:1	0.281	28.6	
836.6	4183	UMTS 850	RMC	Close	A	23.04	Rear	10	1:1	0.437	26.6	
836.6	4183	UMTS 850	RMC	Close	A	23.04	Front	10	1:1	0.214	29.7	

Table A-6 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		Form Factor	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	Open	A	10	22.28	Rear	10	0	1	24	1:1	0.199	29.3	28.3
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Front	10	0	1	24	1:1	0.114	31.7	
707.5	23095	LTE Band 12	Mid	Close	A	10	22.28	Rear	10	0	1	24	1:1	0.248	28.3	
707.5	23095	LTE Band 12	Mid	Close	A	10	22.28	Front	10	0	1	24	1:1	0.071	33.8	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Rear	10	0	1	0	1:1	0.287	27.1	26.5
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Front	10	0	1	0	1:1	0.142	30.2	
782	23230	LTE Band 13	Mid	Close	A	10	21.72	Rear	10	0	1	0	1:1	0.336	26.5	
782	23230	LTE Band 13	Mid	Close	A	10	21.72	Front	10	0	1	0	1:1	0.112	31.2	
1 900	19100	LTE Band 2	High	Open	A	20	19.32	Rear	10	0	1	99	1:1	0.886	19.8	19.8
1 860	18700	LTE Band 2	Low	Open	A	20	19.34	Front	10	0	50	25	1:1	0.538	22.0	
1 860	18700	LTE Band 2	Low	Close	A	20	19.34	Rear	10	0	50	25	1:1	0.618	21.4	
1 860	18700	LTE Band 2	Low	Close	A	20	19.34	Front	10	0	50	25	1:1	0.042	33.1	
1 860	18700	LTE Band 2	Low	Open	I	20	20.81	Rear	10	0	1	0	1:1	0.789	21.8	21.8
1 900	19100	LTE Band 2	High	Open	I	20	20.70	Front	10	0	50	25	1:1	0.515	23.6	
1 900	19100	LTE Band 2	High	Close	I	20	20.70	Rear	10	0	50	25	1:1	0.095	30.9	
1 900	19100	LTE Band 2	High	Close	I	20	20.70	Front	10	0	50	25	1:1	0.597	22.9	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Rear	10	0	1	0	1:1	0.426	26.1	26.1
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Front	10	0	1	0	1:1	0.081	33.4	
836.5	20525	LTE Band 5	Mid	Close	A	10	22.44	Rear	10	0	1	0	1:1	0.419	26.2	
836.5	20525	LTE Band 5	Mid	Close	A	10	22.44	Front	10	0	1	0	1:1	0.144	30.9	
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	18.78	Rear	10	0	1	0	1:1.58	0.472	22.0	22.0
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	18.78	Front	10	0	1	0	1:1.58	0.324	23.7	
2 506	39750	LTE Band 41(PC3)	Low	Close	B	20	18.78	Rear	10	0	1	0	1:1.58	0.298	24.0	
2 506	39750	LTE Band 41(PC3)	Low	Close	B	20	18.78	Front	10	0	1	0	1:1.58	0.033	33.6	
2 680.0	41490	LTE Band 41(PC3)	High	Open	I	20	20.63	Rear	10	0	100	0	1:1.58	0.687	22.3	22.3
2 680.0	41490	LTE Band 41(PC3)	High	Open	I	20	20.70	Front	10	0	50	0	1:1.58	0.417	24.5	
2 680.0	41490	LTE Band 41(PC3)	High	Close	I	20	20.70	Rear	10	0	50	0	1:1.58	0.173	28.3	
2 680.0	41490	LTE Band 41(PC3)	High	Close	I	20	20.70	Front	10	0	50	0	1:1.58	0.370	25.0	
1 770	132572	LTE Band 66	High	Open	A	20	19.30	Rear	10	0	1	49	1:1	0.821	20.2	20.2
1 770	132572	LTE Band 66	High	Open	A	20	19.30	Front	10	0	1	49	1:1	0.547	21.9	
1 770	132572	LTE Band 66	High	Close	A	20	19.30	Rear	10	0	1	49	1:1	0.248	25.4	
1 770	132572	LTE Band 66	High	Close	A	20	19.30	Front	10	0	1	49	1:1	0.108	29.0	
1 770	132572	LTE Band 66	High	Open	I	20	20.75	Rear	10	0	1	49	1:1	0.820	21.6	21.6
1 745	132322	LTE Band 66	Mid	Open	I	20	20.84	Front	10	0	1	0	1:1	0.590	23.1	
1 745	132322	LTE Band 66	Mid	Close	I	20	20.84	Rear	10	0	1	0	1:1	0.059	33.1	
1 745	132322	LTE Band 66	Mid	Close	I	20	20.84	Front	10	0	1	0	1:1	0.421	24.6	

Table A-7 DSI = 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 all NR bands were measured in FTM Mode.

MEASUREMENT RESULTS																	
Frequency		Mode		Form Factor	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimu Plimit
MHz	Ch.					MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
836.5	176500	NR Band n5	Mid	Open	A	20	22.74	Rear	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.427	26.4	26.4
836.5	176500	NR Band n5	Mid	Open	A	20	22.74	Front	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.252	28.7	
836.5	176500	NR Band n5	Mid	Close	A	20	22.74	Rear	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.411	26.6	
836.5	176500	NR Band n5	Mid	Close	A	20	22.74	Front	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.181	30.2	
1 745	349000	NR Band n66	Mid	Open	A	40	19.36	Rear	CP-OFDM QPSK	0	10	1	1	1:1	0.952	19.6	19.6
1 745	349000	NR Band n66	Mid	Open	A	40	19.38	Front	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.617	21.5	
1 745	349000	NR Band n66	Mid	Close	A	40	19.38	Rear	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.302	24.6	
1 745	349000	NR Band n66	Mid	Close	A	40	19.38	Front	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.112	27.1	
1 745	349000	NR Band n66	Mid	Open	I	40	21.22	Rear	CP-OFDM QPSK	0	10	1	1	1:1	0.936	21.4	21.4
1 745	349000	NR Band n66	Mid	Open	I	40	21.36	Front	DFT-s-OFDM QPSK	0	10	108	54	1:1	0.641	23.3	
1 745	349000	NR Band n66	Mid	Close	I	40	21.36	Rear	DFT-s-OFDM QPSK	0	10	108	54	1:1	0.054	34.0	
1 745	349000	NR Band n66	Mid	Close	I	40	21.36	Front	DFT-s-OFDM QPSK	0	10	108	54	1:1	0.595	23.6	
2 592.99	518598	NR Band n41	Mid	Open	I	100	21.67	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.577	24.1	23.8
2 592.99	518598	NR Band n41	Mid	Open	I	100	21.67	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.495	24.7	
2 592.99	518598	NR Band n41	Mid	Close	I	100	21.67	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.177	29.2	
2 592.99	518598	NR Band n41	Mid	Close	I	100	21.67	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.611	23.8	
2 592.99	518598	NR Band n41	Mid	Open	B	100	19.97	Rear	CP-OFDM QPSK	0	10	135	138	1:1	0.380	24.2	24.2
2 592.99	518598	NR Band n41	Mid	Open	B	100	19.97	Front	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.315	25.0	
2 592.99	518598	NR Band n41	Mid	Close	B	100	19.97	Rear	CP-OFDM QPSK	0	10	135	138	1:1	0.207	26.8	
2 592.99	518598	NR Band n41	Mid	Close	B	100	19.97	Front	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.020	37.0	

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

MEASUREMENT RESULTS														
Frequency		Mode/ Band	Band width	Form Factor	Ant. No.	Data Rate	Frame Averaged Conducted Power	Test Position	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	Open	F	1	17.86	Rear	WIFI1	98.9	0.158	1.012	25.9	25.4
2 412	1	802.11b	20	Open	F	1	17.86	Front	WIFI1	98.9	0.147	1.012	26.2	
2 412	1	802.11b	20	Close	F	1	17.86	Rear	WIFI1	98.9	0.026	1.012	33.7	
2 412	1	802.11b	20	Close	F	1	17.86	Front	WIFI1	98.9	0.178	1.012	25.4	
2 437	6	802.11b	20	Open	H	1	17.59	Rear	WIFI2	98.9	0.123	1.012	26.7	26.7
2 437	6	802.11b	20	Open	H	1	17.59	Front	WIFI2	98.9	0.085	1.012	28.3	
2 437	6	802.11b	20	Close	H	1	17.59	Rear	WIFI2	98.9	0.037	1.012	31.9	
2 437	6	802.11b	20	Close	H	1	17.59	Front	WIFI2	98.9	0.075	1.012	28.8	
5 720	144	802.11a	20	Open	F	6	15.42	Rear	WIFI1	93.4	0.214	1.067	22.1	20.2
5 720	144	802.11a	20	Open	F	6	15.42	Front	WIFI1	93.4	0.142	1.067	23.9	
5 720	144	802.11a	20	Close	F	6	15.42	Rear	WIFI1	93.4	0.032	1.067	30.4	
5 260	52	802.11a	20	Close	F	6	14.17	Front	WIFI1	93.4	0.249	1.067	20.2	
5 620	124	802.11a	20	Open	H	6	15.98	Rear	WIFI2	93.4	0.261	1.067	21.8	20.6
5 620	124	802.11a	20	Open	H	6	15.98	Front	WIFI2	93.4	0.096	1.067	26.2	
5 280	56	802.11a	20	Close	H	6	14.32	Rear	WIFI2	93.4	0.011	1.067	33.9	
5 280	56	802.11a	20	Close	H	6	14.32	Front	WIFI2	93.4	0.238	1.067	20.6	
6 525	115	802.11ax	40	Open	F	MCS0	9.42	Rear	WIFI1	99.1	0.056	1.009	21.9	21.9
6 525	115	802.11ax	40	Open	F	MCS0	9.42	Front	WIFI1	99.1	0.034	1.009	24.1	
6 525	115	802.11ax	40	Close	F	MCS0	9.42	Rear	WIFI1	99.1	0	1.009	N/A	
6 525	115	802.11ax	40	Close	F	MCS0	9.42	Front	WIFI1	99.1	0.021	1.009	26.2	
6 525	115	802.11ax	40	Open	H	MCS0	9.64	Rear	WIFI2	99.1	0.031	1.009	24.7	24.7
6 525	115	802.11ax	40	Open	H	MCS0	9.64	Front	WIFI2	99.1	0.028	1.009	25.2	
6 525	115	802.11ax	40	Close	H	MCS0	9.64	Rear	WIFI2	99.1	0.003	1.009	34.9	
6 525	115	802.11ax	40	Close	H	MCS0	9.64	Front	WIFI2	99.1	0.025	1.009	25.7	

MEASUREMENT RESULTS											
Frequency		Mode/ Band	Form Factor	Ant. No.	Frame Averaged Conducted Power	Test Position	Ant. Config.	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.				(dBm)			(W/kg)	(Duty)	(dBm)	(dBm)
2 402	0	DH5	Open	F	18.87	Rear	Ant 1	0.270	1.010	24.6	24.6
2 402	0	DH5	Open	F	18.87	Front	Ant 1	0.178	1.010	26.4	
2 402	0	DH5	Close	F	18.87	Rear	Ant 1	0.038	1.010	33.1	
2 402	0	DH5	Close	F	18.87	Front	Ant 1	0.143	1.010	27.3	
2 441	39	DH5	Open	H	17.59	Rear	Ant 2	0.121	1.010	26.8	26.8
2 441	39	DH5	Open	H	17.59	Front	Ant 2	0.086	1.010	28.2	
2 441	39	DH5	Close	H	17.59	Rear	Ant 2	0.031	1.010	32.7	
2 441	39	DH5	Close	H	17.59	Front	Ant 2	0.072	1.010	29.0	

Table A-9 DSI = 3 *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		Form Factor	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	GPRS4Tx	Open	A	19.59	Rear	10	1:2.07	0.142	28.1	24.5
836.6	190	GSM 850	GPRS4Tx	Open	A	19.59	Front	10	1:2.07	0.129	28.5	
836.6	190	GSM 850	GPRS4Tx	Open	A	19.59	Left	10	1:2.07	0.032	34.5	
836.6	190	GSM 850	GPRS4Tx	Open	A	19.59	Right	10	1:2.07	0.074	30.9	
836.6	190	GSM 850	GPRS4Tx	Open	A	19.59	Bottom	10	1:2.07	0.053	32.3	
836.6	190	GSM 850	GPRS4Tx	Close	A	19.59	Rear	5	1:2.07	0.326	**24.5**	
836.6	190	GSM 850	GPRS4Tx	Close	A	19.59	Front	5	1:2.07	0.100	29.6	
836.6	190	GSM 850	GPRS4Tx	Close	A	19.59	Left	5	1:2.07	0.093	29.9	
836.6	190	GSM 850	GPRS4Tx	Close	A	19.59	Right	5	1:2.07	0.060	31.8	
836.6	190	GSM 850	GPRS4Tx	Close	A	19.59	Bottom	5	1:2.07	0.092	30.0	
1 880.0	661	GSM 1900	GPRS3Tx	Open	A	16.12	Rear	10	1:2.77	0.357	20.6	18.0
1 880.0	661	GSM 1900	GPRS3Tx	Open	A	16.12	Front	10	1:2.77	0.217	22.8	
1 880.0	661	GSM 1900	GPRS3Tx	Open	A	16.12	Left	10	1:2.77	0.022	32.7	
1 880.0	661	GSM 1900	GPRS3Tx	Open	A	16.12	Right	10	1:2.77	0.022	32.7	
1 880.0	661	GSM 1900	GPRS3Tx	Open	A	16.12	Bottom	10	1:2.77	0.490	19.2	
1 880.0	661	GSM 1900	GPRS3Tx	Close	A	16.12	Rear	5	1:2.77	0.533	18.9	
1 880.0	661	GSM 1900	GPRS3Tx	Close	A	16.12	Front	5	1:2.77	0.018	33.6	
1 880.0	661	GSM 1900	GPRS3Tx	Close	A	16.12	Left	5	1:2.77	0.026	32.0	
1 880.0	661	GSM 1900	GPRS3Tx	Close	A	16.12	Right	5	1:2.77	0.020	33.1	
1 880.0	661	GSM 1900	GPRS3Tx	Close	A	16.12	Bottom	5	1:2.77	0.655	**18.0**	
836.6	4183	UMTS 850	RMC	Open	A	21.27	Rear	10	1:1	0.287	26.7	24.4
836.6	4183	UMTS 850	RMC	Open	A	21.27	Front	10	1:1	0.215	27.9	
836.6	4183	UMTS 850	RMC	Open	A	21.27	Left	10	1:1	0.133	30.0	
836.6	4183	UMTS 850	RMC	Open	A	21.27	Right	10	1:1	0.280	26.8	
836.6	4183	UMTS 850	RMC	Open	A	21.27	Bottom	10	1:1	0.231	27.6	
836.6	4183	UMTS 850	RMC	Close	A	21.27	Rear	5	1:1	0.488	**24.4**	
836.6	4183	UMTS 850	RMC	Close	A	21.27	Front	5	1:1	0.170	29.0	
836.6	4183	UMTS 850	RMC	Close	A	21.27	Left	5	1:1	0.095	31.5	
836.6	4183	UMTS 850	RMC	Close	A	21.27	Right	5	1:1	0.085	32.0	
836.6	4183	UMTS 850	RMC	Close	A	21.27	Bottom	5	1:1	0.252	27.3	

Table A-10 DSI = 3 *PLimit* Calculations – 4G Hotspot SAR

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

MEASUREMENT RESULTS																
Frequency		Mode		Form Factor	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	Open	A	10	22.28	Rear	10	0	1	0	1:1	0.199	29.3	27.6
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Front	10	0	1	0	1:1	0.114	31.7	
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Left	10	0	1	0	1:1	0.130	31.1	
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Right	10	0	1	0	1:1	0.177	29.8	
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Bottom	10	0	1	0	1:1	0.061	34.4	
707.5	23095	LTE Band 12	Mid	Close	A	10	22.28	Rear	5	0	1	0	1:1	0.295	**27.6**	
707.5	23095	LTE Band 12	Mid	Close	A	10	22.28	Front	5	0	1	0	1:1	0.089	32.8	
707.5	23095	LTE Band 12	Mid	Close	A	10	22.28	Left	5	0	1	0	1:1	0.128	31.2	
707.5	23095	LTE Band 12	Mid	Close	A	10	22.28	Right	5	0	1	0	1:1	0.045	35.7	
707.5	23095	LTE Band 12	Mid	Close	A	10	22.28	Bottom	5	0	1	0	1:1	0.122	31.4	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Rear	10	0	1	24	1:1	0.287	27.1	25.6
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Front	10	0	1	24	1:1	0.142	30.2	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Left	10	0	1	24	1:1	0.129	30.6	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Right	10	0	1	24	1:1	0.235	28.0	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Bottom	10	0	1	24	1:1	0.099	31.8	
782	23230	LTE Band 13	Mid	Close	A	10	21.72	Rear	5	0	1	24	1:1	0.410	**25.6**	
782	23230	LTE Band 13	Mid	Close	A	10	21.72	Front	5	0	1	24	1:1	0.152	29.9	
782	23230	LTE Band 13	Mid	Close	A	10	21.72	Left	5	0	1	24	1:1	0.145	30.1	
782	23230	LTE Band 13	Mid	Close	A	10	21.72	Right	5	0	1	24	1:1	0.079	32.7	
782	23230	LTE Band 13	Mid	Close	A	10	21.72	Bottom	5	0	1	24	1:1	0.200	28.7	
1 860	18700	LTE Band 2	Low	Open	A	20	15.58	Rear	10	0	50	25	1:1	0.406	19.5	15.5
1 860	18700	LTE Band 2	Low	Open	A	20	15.58	Front	10	0	50	25	1:1	0.250	21.6	
1 860	18700	LTE Band 2	Low	Open	A	20	15.58	Left	10	0	50	25	1:1	0.027	31.3	
1 860	18700	LTE Band 2	Low	Open	A	20	15.58	Right	10	0	50	25	1:1	0.021	32.4	
1 860	18700	LTE Band 2	Low	Open	A	20	15.58	Bottom	10	0	50	25	1:1	0.469	18.9	
1 860	18700	LTE Band 2	Low	Close	A	20	15.58	Rear	5	0	50	25	1:1	0.671	17.3	
1 860	18700	LTE Band 2	Low	Close	A	20	15.58	Front	5	0	50	25	1:1	0.036	30.0	
1 860	18700	LTE Band 2	Low	Close	A	20	15.58	Left	5	0	50	25	1:1	0.042	29.3	
1 860	18700	LTE Band 2	Low	Close	A	20	15.58	Right	5	0	50	25	1:1	0.024	31.8	
1 900	19100	LTE Band 2	High	Close	A	20	15.43	Bottom	5	0	50	0	1:1	0.979	**15.5**	
1 880	18900	LTE Band 2	Mid	Open	I	20	15.51	Rear	10	0	50	25	1:1	0.176	23.1	16.0
1 880	18900	LTE Band 2	Mid	Open	I	20	15.51	Front	10	0	50	25	1:1	0.155	23.6	
1 880	18900	LTE Band 2	Mid	Open	I	20	15.51	Right	10	0	50	25	1:1	0.458	18.9	
1 880	18900	LTE Band 2	Mid	Open	I	20	15.51	Top	10	0	50	25	1:1	0.054	28.2	
1 880	18900	LTE Band 2	Mid	Close	I	20	15.51	Rear	5	0	50	25	1:1	0.050	28.5	
1 880	18900	LTE Band 2	Mid	Close	I	20	15.51	Front	5	0	50	25	1:1	0.473	18.8	
1 900	19100	LTE Band 2	High	Close	I	20	15.51	Right	5	0	1	0	1:1	0.901	**16.0**	
1 880	18900	LTE Band 2	Mid	Close	I	20	15.51	Top	5	0	50	25	1:1	0.017	33.2	
1 880	18900	LTE Band 2	Mid	Close	I	20	15.51	Bottom	5	0	50	25	1:1	0.037	29.8	

MEASUREMENT RESULTS																
Frequency		Mode		Form Factor	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	Spacing (mm)	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.					MHz	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Rear	10	0	1	0	1:1	0.426	26.1	25.5
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Front	10	0	1	0	1:1	0.080	33.4	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Left	10	0	1	0	1:1	0.136	31.1	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Right	10	0	1	0	1:1	0.199	29.5	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Bottom	10	0	1	0	1:1	0.154	30.6	
836.5	20525	LTE Band 5	Mid	Close	A	10	22.44	Rear	5	0	1	0	1:1	0.490	**25.5**	
836.5	20525	LTE Band 5	Mid	Close	A	10	22.44	Front	5	0	1	0	1:1	0.223	29.0	
836.5	20525	LTE Band 5	Mid	Close	A	10	22.44	Left	5	0	1	0	1:1	0.208	29.3	
836.5	20525	LTE Band 5	Mid	Close	A	10	22.44	Right	5	0	1	0	1:1	0.192	29.6	
836.5	20525	LTE Band 5	Mid	Close	A	10	22.44	Bottom	5	0	1	0	1:1	0.281	28.0	
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	14.82	Rear	10	0	50	0	1:1.58	0.164	22.7	16.7
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	14.82	Front	10	0	50	0	1:1.58	0.119	24.1	
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	14.82	Left	10	0	50	0	1:1.58	0.026	30.7	
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	14.82	Bottom	10	0	50	0	1:1.58	0.346	19.4	
2 506	39750	LTE Band 41(PC3)	Low	Close	B	20	14.82	Rear	5	0	50	0	1:1.58	0.348	19.4	
2 506	39750	LTE Band 41(PC3)	Low	Close	B	20	14.82	Front	5	0	50	0	1:1.58	0.024	31.0	
2 506	39750	LTE Band 41(PC3)	Low	Close	B	20	14.82	Left	5	0	50	0	1:1.58	0.068	26.5	
2 506	39750	LTE Band 41(PC3)	Low	Close	B	20	14.72	Bottom	5	0	1	0	1:1.58	0.628	16.7	
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	16.60	Rear	10	0	50	0	1:1.58	0.220	23.2	17.1
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	16.60	Front	10	0	50	0	1:1.58	0.140	25.1	
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	16.60	Right	10	0	50	0	1:1.58	0.329	21.4	
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	16.60	Top	10	0	50	0	1:1.58	0.042	30.4	
2 680	41490	LTE Band 41(PC3)	High	Close	I	20	16.60	Rear	5	0	50	0	1:1.58	0.205	23.5	
2 680	41490	LTE Band 41(PC3)	High	Close	I	20	16.60	Front	5	0	50	0	1:1.58	0.444	20.1	
2 680	41490	LTE Band 41(PC3)	High	Close	I	20	16.49	Right	5	0	10	0	1:1.58	0.895	**17.0**	
2 680	41490	LTE Band 41(PC3)	High	Close	I	20	16.60	Top	5	0	50	0	1:1.58	0.037	30.9	
2 680	41490	LTE Band 41(PC3)	High	Close	I	20	16.60	Bottom	5	0	50	0	1:1.58	0.055	29.2	

MEASUREMENT RESULTS																
Frequency		Mode		Form Factor	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)
1745	132322	LTE Band 66	Mid	Open	A	20	16.73	Rear	10	0	50	49	1:1	0.539	19.4	19.1
1745	132322	LTE Band 66	Mid	Open	A	20	16.73	Front	10	0	50	49	1:1	0.320	21.7	
1745	132322	LTE Band 66	Mid	Open	A	20	16.73	Left	10	0	50	49	1:1	0.039	30.8	
1745	132322	LTE Band 66	Mid	Open	A	20	16.73	Right	10	0	50	49	1:1	0.038	30.9	
1745	132322	LTE Band 66	Mid	Open	A	20	16.73	Bottom	10	0	50	49	1:1	0.577	**19.1**	
1745	132322	LTE Band 66	Mid	Close	A	20	16.73	Rear	5	0	50	49	1:1	0.419	20.5	
1745	132322	LTE Band 66	Mid	Close	A	20	16.73	Front	5	0	50	49	1:1	0.167	24.5	
1745	132322	LTE Band 66	Mid	Close	A	20	16.73	Left	5	0	50	49	1:1	0.078	27.8	
1745	132322	LTE Band 66	Mid	Close	A	20	16.73	Right	5	0	50	49	1:1	0.010	36.7	
1745	132322	LTE Band 66	Mid	Close	A	20	16.73	Bottom	5	0	50	49	1:1	0.505	19.7	
1745	132322	LTE Band 66	Mid	Open	I	20	16.75	Rear	10	0	50	25	1:1	0.240	22.9	17.0
1745	132322	LTE Band 66	Mid	Open	I	20	16.75	Front	10	0	50	25	1:1	0.220	23.3	
1745	132322	LTE Band 66	Mid	Open	I	20	16.75	Right	10	0	50	25	1:1	0.501	19.8	
1745	132322	LTE Band 66	Mid	Open	I	20	16.75	Top	10	0	50	25	1:1	0.040	30.7	
1745	132322	LTE Band 66	Mid	Close	I	20	16.75	Rear	5	0	50	25	1:1	0.035	31.3	
1745	132322	LTE Band 66	Mid	Close	I	20	16.75	Front	5	0	50	25	1:1	0.409	20.6	
1770	132572	LTE Band 66	High	Close	I	20	16.60	Right	5	0	50	49	1:1	0.911	**17.0**	
1745	132322	LTE Band 66	Mid	Close	I	20	16.75	Top	5	0	50	25	1:1	0.00788	37.7	
1745	132322	LTE Band 66	Mid	Close	I	20	16.75	Bottom	5	0	50	25	1:1	0.047	30.0	

Table A-11 DSI = 3 *PLimit* Calculations – NR Hotspot SAR

For some bands/modes, a lower *PLimit* was selected as a more conservative evaluation.
NR TDD Bands : In the case of the NR TDD bands, the Plimit were calculated as the Frame average power to which the duty factor was applied to the burst power.0
SAR measurements of all NR bands were measured in FTM Mode.

MEASUREMENT RESULTS																	
Frequency		Mode		Form Factor	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimu Plimit
MHz	Ch.					MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	Open	A	20	22.74	Rear	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.427	26.4	
836.5	167300	NR Band n5	Mid	Open	A	20	22.74	Front	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.252	28.7	
836.5	167300	NR Band n5	Mid	Open	A	20	22.74	Left	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.140	31.3	
836.5	167300	NR Band n5	Mid	Open	A	20	22.74	Right	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.244	28.9	
836.5	167300	NR Band n5	Mid	Open	A	20	22.74	Bottom	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.089	33.2	24.5
836.5	167300	NR Band n5	Mid	Close	A	20	22.74	Rear	DFT-s-OFDM QPSK	0	5	50	28	1:1	0.670	**24.5**	
836.5	167300	NR Band n5	Mid	Close	A	20	22.74	Front	DFT-s-OFDM QPSK	0	5	50	28	1:1	0.236	29.0	
836.5	167300	NR Band n5	Mid	Close	A	20	22.74	Left	DFT-s-OFDM QPSK	0	5	50	28	1:1	0.229	29.1	
836.5	167300	NR Band n5	Mid	Close	A	20	22.74	Right	DFT-s-OFDM QPSK	0	5	50	28	1:1	0.171	30.4	
836.5	167300	NR Band n5	Mid	Close	A	20	22.74	Bottom	DFT-s-OFDM QPSK	0	5	50	28	1:1	0.228	29.2	
2 592.99	518598	NR Band n41	Mid	Open	I	100	17.21	Rear	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.213	23.9	
2 592.99	518598	NR Band n41	Mid	Open	I	100	17.21	Front	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.185	24.5	
2 592.99	518598	NR Band n41	Mid	Open	I	100	17.21	Right	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.301	22.4	
2 592.99	518598	NR Band n41	Mid	Open	I	100	17.21	Top	DFT-s-OFDM QPSK	0	10	1	1	1:1	0.067	28.9	
2 592.99	518598	NR Band n41	Mid	Close	I	100	17.21	Rear	DFT-s-OFDM QPSK	0	5	1	1	1:1	0.130	26.1	18.6
2 592.99	518598	NR Band n41	Mid	Close	I	100	17.21	Front	DFT-s-OFDM QPSK	0	5	1	1	1:1	0.556	19.8	
2 592.99	518598	NR Band n41	Mid	Close	I	100	17.21	Right	CP-OFDM QPSK	0	5	1	1	1:1	0.724	**18.6**	
2 592.99	518598	NR Band n41	Mid	Close	I	100	17.21	Top	DFT-s-OFDM QPSK	0	5	1	1	1:1	0.021	34.0	
2 592.99	518598	NR Band n41	Mid	Close	I	100	17.21	Bottom	DFT-s-OFDM QPSK	0	5	1	1	1:1	0.080	28.2	
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.54	Rear	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.126	24.5	
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.54	Front	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.108	25.2	
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.54	Left	DFT-s-OFDM QPSK	0	10	135	138	1:1	0.043	29.2	
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.47	Bottom	CP-OFDM QPSK	0	10	1	1	1:1	0.436	19.1	
2 592.99	518598	NR Band n41	Mid	Close	B	100	15.54	Rear	DFT-s-OFDM QPSK	0	5	135	138	1:1	0.189	22.8	17.9
2 592.99	518598	NR Band n41	Mid	Close	B	100	15.54	Front	DFT-s-OFDM QPSK	0	5	135	138	1:1	0.013	34.4	
2 592.99	518598	NR Band n41	Mid	Close	B	100	15.54	Left	DFT-s-OFDM QPSK	0	5	135	138	1:1	0.093	25.9	
2 592.99	518598	NR Band n41	Mid	Close	B	100	15.47	Bottom	CP-OFDM QPSK	0	5	1	1	1:1	0.568	**17.9**	

MEASUREMENT RESULTS																		
Frequency		Mode		Form Factor	Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	Plimit	Minimu Plimit
MHz	Ch.					MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
1 745	349000	NR Band n66	Mid	Open	A	40	17.09	Rear	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.527	19.9	19.1
1 745	349000	NR Band n66	Mid	Open	A	40	17.09	Front	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.357	21.6	
1 745	349000	NR Band n66	Mid	Open	A	40	17.09	Left	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.048	30.3	
1 745	349000	NR Band n66	Mid	Open	A	40	17.09	Right	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.045	30.6	
1 745	349000	NR Band n66	Mid	Open	A	40	17.15	Bottom	CP OFDM QPSK	0	10	1	1	1:1	0.639	**19.1**	
1 745	349000	NR Band n66	Mid	Close	A	40	17.09	Rear	DFT-s-OFDM QPSK	0	5	108	0	1:1	0.466	20.4	
1 745	349000	NR Band n66	Mid	Close	A	40	17.09	Front	DFT-s-OFDM QPSK	0	5	108	0	1:1	0.183	24.5	
1 745	349000	NR Band n66	Mid	Close	A	40	17.09	Left	DFT-s-OFDM QPSK	0	5	108	0	1:1	0.088	27.6	
1 745	349000	NR Band n66	Mid	Close	A	40	17.09	Right	DFT-s-OFDM QPSK	0	5	108	0	1:1	0.013	36.0	
1 745	349000	NR Band n66	Mid	Close	A	40	17.09	Bottom	DFT-s-OFDM QPSK	0	5	108	0	1:1	0.532	19.8	
1 745	349000	NR Band n66	Mid	Open	I	40	17.26	Rear	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.347	21.9	17.3
1 745	349000	NR Band n66	Mid	Open	I	40	17.26	Front	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.230	23.6	
1 745	349000	NR Band n66	Mid	Open	I	40	17.21	Right	DFT-s-OFDM QPSK	0	10	1	214	1:1	0.511	20.1	
1 745	349000	NR Band n66	Mid	Open	I	40	17.26	Top	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.054	29.9	
1 745	349000	NR Band n66	Mid	Close	I	40	17.21	Rear	DFT-s-OFDM QPSK	0	5	1	214	1:1	0.161	25.1	
1 745	349000	NR Band n66	Mid	Close	I	40	17.21	Front	DFT-s-OFDM QPSK	0	5	1	214	1:1	0.454	20.6	
1 745	349000	NR Band n66	Mid	Close	I	40	17.21	Right	DFT-s-OFDM QPSK	0	5	1	214	1:1	0.980	**17.3**	
1 745	349000	NR Band n66	Mid	Close	I	40	17.21	Top	DFT-s-OFDM QPSK	0	5	1	214	1:1	0.014	35.7	
1 745	349000	NR Band n66	Mid	Close	I	40	17.21	Bottom	DFT-s-OFDM QPSK	0	5	1	214	1:1	0.039	31.3	

Table A-12 DSI = 3 *PLimit* Calculations – WLAN Hotspot SAR

MEASUREMENT RESULTS															
Frequency		Mode/ Band	Band width	Form Factor	Ant. No.	Data Rate	Frame Averaged Conducted Power	Test Position	Ant. Config.	Spacing (mm)	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	Open	F	1	17.86	Rear	WIFI1	10	98.9	0.158	1.012	25.9	20.3
2 412	1	802.11b	20	Open	F	1	17.86	Front	WIFI1	10	98.9	0.147	1.012	26.2	
2 412	1	802.11b	20	Open	F	1	17.86	Left	WIFI1	10	98.9	0.220	1.012	24.4	
2 412	1	802.11b	20	Open	F	1	17.86	Top	WIFI1	10	98.9	0.066	1.012	29.7	
2 412	1	802.11b	20	Close	F	1	17.86	Rear	WIFI1	5	98.9	0.056	1.012	30.4	
2 412	1	802.11b	20	Close	F	1	17.86	Front	WIFI1	5	98.9	0.552	1.012	20.4	
2 412	1	802.11b	20	Close	F	1	17.86	Left	WIFI1	5	98.9	0.564	1.012	**20.3**	
2 412	1	802.11b	20	Close	F	1	17.86	Bottom	WIFI1	5	98.9	0.137	1.012	26.5	
2 437	6	802.11b	20	Open	H	1	17.59	Rear	WIFI2	10	98.9	0.123	1.012	26.7	23.3
2 437	6	802.11b	20	Open	H	1	17.59	Front	WIFI2	10	98.9	0.085	1.012	28.3	
2 437	6	802.11b	20	Open	H	1	17.59	Right	WIFI2	10	98.9	0.013	1.012	36.5	
2 437	6	802.11b	20	Open	H	1	17.59	Top	WIFI2	10	98.9	0.087	1.012	28.2	
2 437	6	802.11b	20	Close	H	1	17.59	Rear	WIFI2	5	98.9	0.059	1.012	29.9	
2 437	6	802.11b	20	Close	H	1	17.59	Front	WIFI2	5	98.9	0.266	1.012	23.3	
2 437	6	802.11b	20	Close	H	1	17.59	Right	WIFI2	5	98.9	0.058	1.012	30.0	
2 437	6	802.11b	20	Close	H	1	17.59	Bottom	WIFI2	5	98.9	0.099	1.012	27.6	
5 785	157	802.11a	20	Open	F	6	15.42	Rear	WIFI1	10	93.7	0.174	1.067	23.0	19.7
5 785	157	802.11a	20	Open	F	6	15.42	Front	WIFI1	10	93.7	0.105	1.067	25.2	
5 785	157	802.11a	20	Open	F	6	15.42	Left	WIFI1	10	93.7	0.046	1.067	28.8	
5 785	157	802.11a	20	Open	F	6	15.42	Top	WIFI1	10	93.7	0.077	1.067	26.6	
5 785	157	802.11a	20	Close	F	6	15.42	Rear	WIFI1	5	93.7	0.048	1.067	28.6	
5 785	157	802.11a	20	Close	F	6	15.42	Front	WIFI1	5	93.7	0.373	1.067	**19.7**	
5 785	157	802.11a	20	Close	F	6	15.42	Left	WIFI1	5	93.7	0.105	1.067	25.2	
5 785	157	802.11a	20	Close	F	6	15.42	Bottom	WIFI1	5	93.7	0.129	1.067	24.3	
5 785	157	802.11a	20	Open	H	6	18.87	Rear	WIFI2	10	93.7	0.270	1.067	24.6	21.1
5 785	157	802.11a	20	Open	H	6	18.87	Front	WIFI2	10	93.7	0.178	1.067	26.4	
5 785	157	802.11a	20	Open	H	6	18.87	Right	WIFI2	10	93.7	0.221	1.067	25.4	
5 785	157	802.11a	20	Open	H	6	18.87	Top	WIFI2	10	93.7	0.073	1.067	30.2	
5 785	157	802.11a	20	Close	H	6	18.87	Rear	WIFI2	5	93.7	0.061	1.067	31.0	
5 785	157	802.11a	20	Close	H	6	18.87	Front	WIFI2	5	93.7	0.516	1.067	21.7	
5 785	157	802.11a	20	Close	H	6	18.87	Right	WIFI2	5	93.7	0.604	1.067	**21.1**	
5 785	157	802.11a	20	Close	H	6	18.87	Bottom	WIFI2	5	93.7	0.140	1.067	27.4	

MEASUREMENT RESULTS												
Frequency		Mode/ Band	Form Factor	Ant. No.	Frame Averaged Conducted Power	Test Position	Ant. Config.	Spacing (mm)	Meas. SAR(1g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.				(dBm)				(W/kg)	(Duty)	(dBm)	(dBm)
2 402	0	DH5	Open	F	18.87	Rear	Ant 1	10	0.27	1.010	24.6	21.1
2 402	0	DH5	Open	F	18.87	Front	Ant 1	10	0.178	1.010	26.4	
2 402	0	DH5	Open	F	18.87	Left	Ant 1	10	0.221	1.010	25.4	
2 402	0	DH5	Open	F	18.87	Top	Ant 1	10	0.073	1.010	30.2	
2 402	0	DH5	Close	F	18.87	Rear	Ant 1	5	0.061	1.010	31.0	
2 402	0	DH5	Close	F	18.87	Front	Ant 1	5	0.516	1.010	21.7	
2 402	0	DH5	Close	F	18.87	Left	Ant 1	5	0.604	1.010	**21.1**	
2 402	0	DH5	Close	F	18.87	Bottom	Ant 1	5	0.140	1.010	27.4	

Table A-13 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/ Band		Form Factor	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	GPRS4Tx	Open	A	23.06	Rear	0	1:2.07	0.674	**28.8**	28.8
836.6	190	GSM 850	GPRS4Tx	Open	A	23.06	Front	0	1:2.07	0.583	29.4	
836.6	190	GSM 850	GPRS4Tx	Open	A	23.06	Left	0	1:2.07	0.423	30.8	
836.6	190	GSM 850	GPRS4Tx	Open	A	23.06	Right	0	1:2.07	0.379	31.3	
836.6	190	GSM 850	GPRS4Tx	Open	A	23.06	Bottom	0	1:2.07	0.387	31.2	
1 880.0	661	GSM 1900	GPRS4Tx	Open	A	17.09	Rear	0	1:2.07	0.527	23.9	22.7
1 880.0	661	GSM 1900	GPRS4Tx	Open	A	17.09	Front	0	1:2.07	0.690	**22.7**	
1 880.0	661	GSM 1900	GPRS4Tx	Open	A	17.09	Left	0	1:2.07	0.166	28.9	
1 880.0	661	GSM 1900	GPRS4Tx	Open	A	17.09	Right	0	1:2.07	0.075	32.3	
1 880.0	661	GSM 1900	GPRS4Tx	Open	A	17.09	Bottom	0	1:2.07	0.179	28.5	
836.6	4183	UMTS 850	RMC	Open	A	23.04	Rear	0	1:1	0.644	28.9	28.8
836.6	4183	UMTS 850	RMC	Open	A	23.04	Front	0	1:1	0.628	29.0	
836.6	4183	UMTS 850	RMC	Open	A	23.04	Left	0	1:1	0.663	**28.8**	
836.6	4183	UMTS 850	RMC	Open	A	23.04	Right	0	1:1	0.632	29.0	
836.6	4183	UMTS 850	RMC	Open	A	23.04	Bottom	0	1:1	0.327	31.9	

Table A-14 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		Form Factor	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	Open	A	10	22.28	Rear	0	0	1	24	1:1	0.475	29.5	28.2
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Front	0	0	1	24	1:1	0.372	30.6	
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Left	0	0	1	24	1:1	0.633	**28.2**	
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Right	0	0	1	24	1:1	0.306	31.4	
707.5	23095	LTE Band 12	Mid	Open	A	10	22.28	Bottom	0	0	1	24	1:1	0.294	31.6	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Rear	0	0	1	0	1:1	0.549	28.3	28.0
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Front	0	0	1	0	1:1	0.444	29.2	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Left	0	0	1	0	1:1	0.585	**28.0**	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Right	0	0	1	0	1:1	0.474	28.9	
782	23230	LTE Band 13	Mid	Open	A	10	21.72	Bottom	0	0	1	0	1:1	0.334	30.5	
1 860	18700	LTE Band 2	Low	Open	A	20	19.34	Rear	0	0	1	49	1:1	1.40	21.8	21.7
1 860	18700	LTE Band 2	Low	Open	A	20	19.34	Front	0	0	1	49	1:1	1.46	**21.7**	
1 860	18700	LTE Band 2	Low	Open	A	20	19.34	Left	0	0	1	49	1:1	0.218	29.9	
1 860	18700	LTE Band 2	Low	Open	A	20	19.34	Right	0	0	1	49	1:1	0.113	32.8	
1 860	18700	LTE Band 2	Low	Open	A	20	19.34	Bottom	0	0	1	49	1:1	1.100	21.8	
1 900	19100	LTE Band 2	High	Open	I	20	20.70	Rear	0	0	50	25	1:1	1.61	22.6	22.3
1 900	19100	LTE Band 2	High	Open	I	20	20.70	Front	0	0	50	25	1:1	1.36	23.3	
1 860	18700	LTE Band 2	Low	Open	I	20	20.69	Right	0	0	50	49	1:1	1.72	**22.3**	
1 900	19100	LTE Band 2	High	Open	I	20	20.70	Top	0	0	50	25	1:1	0.107	34.4	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Rear	0	0	1	0	1:1	0.516	29.3	28.8
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Front	0	0	1	0	1:1	0.573	**28.8**	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Left	0	0	1	0	1:1	0.552	29.0	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Right	0	0	1	0	1:1	0.472	29.7	
836.5	20525	LTE Band 5	Mid	Open	A	10	22.44	Bottom	0	0	1	0	1:1	0.328	31.3	
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	18.78	Rear	0	0	1	0	1:1.58	1.45	**21.1**	21.1
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	18.78	Front	0	0	1	0	1:1.58	0.707	24.3	
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	18.78	Left	0	0	1	0	1:1.58	0.360	27.2	
2 506	39750	LTE Band 41(PC3)	Low	Open	B	20	18.78	Bottom	0	0	1	0	1:1.58	1.02	22.7	
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	20.70	Rear	0	0	50	0	1:1.58	1.49	23.0	21.3
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	20.70	Front	0	0	50	0	1:1.58	1.96	21.8	
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	20.70	Right	0	0	50	0	1:1.58	2.16	21.3	
2 680	41490	LTE Band 41(PC3)	High	Open	I	20	20.70	Top	0	0	50	0	1:1.58	0.257	30.6	
1 770	132572	LTE Band 66	High	Open	A	20	19.11	Rear	0	0	50	49	1:1	1.73	**20.7**	20.7
1 770	132572	LTE Band 66	High	Open	A	20	19.30	Front	0	0	1	49	1:1	1.58	21.3	
1 770	132572	LTE Band 66	High	Open	A	20	19.30	Left	0	0	1	49	1:1	0.108	32.9	
1 770	132572	LTE Band 66	High	Open	A	20	19.30	Right	0	0	1	49	1:1	0.113	32.7	
1 770	132572	LTE Band 66	High	Open	A	20	19.30	Bottom	0	0	1	49	1:1	1.310	22.1	
1 745	132322	LTE Band 66	Mid	Open	I	20	21.00	Rear	0	0	1	0	1:1	1.70	22.7	20.9
1 745	132322	LTE Band 66	Mid	Open	I	20	21.00	Front	0	0	1	0	1:1	1.47	23.3	
1 720	132072	LTE Band 66	Low	Open	I	20	20.82	Right	0	0	100	0	1:1	2.43	**20.9**	
1 745	132322	LTE Band 66	Mid	Open	I	20	21.00	Top	0	0	1	0	1:1	0.123	34.1	

Table A-15 DSI = 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 all NR bands were measured in FTM Mode.

MEASUREMENT RESULTS																	
Frequency		Mode		Form Factor	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	Open	A	20	22.75	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.729	**28.1**	28.1
836.5	167300	NR Band n5	Mid	Open	A	20	22.75	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.502	29.7	
836.5	167300	NR Band n5	Mid	Open	A	20	22.75	Left	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.175	34.3	
836.5	167300	NR Band n5	Mid	Open	A	20	22.75	Right	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.304	31.9	
836.5	167300	NR Band n5	Mid	Open	A	20	22.75	Bottom	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.546	29.3	
2 592.99	518598	NR Band n41	Mid	Open	I	100	21.67	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.28	24.6	22.7
2 592.99	518598	NR Band n41	Mid	Open	I	100	21.67	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.46	24.0	
2 592.99	518598	NR Band n41	Mid	Open	I	100	21.67	Right	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.98	**22.7**	
2 592.99	518598	NR Band n41	Mid	Open	I	100	21.67	Top	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.165	33.5	
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.58	Rear	DFT-s-OFDM QPSK	0	0	1	271	1:1	0.828	20.4	20.4
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.58	Front	DFT-s-OFDM QPSK	0	0	1	271	1:1	0.428	23.2	
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.58	Left	DFT-s-OFDM QPSK	0	0	1	271	1:1	0.227	26.0	
2 592.99	518598	NR Band n41	Mid	Open	B	100	15.58	Bottom	DFT-s-OFDM QPSK	0	0	1	271	1:1	0.512	22.5	
1 745	349000	NR Band n66	Mid	Open	A	40	19.38	Rear	DFT-s-OFDM QPSK	0	0	1	1	1:1	2.02	**20.3**	20.3
1 745	349000	NR Band n66	Mid	Open	A	40	19.38	Front	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.47	21.7	
1 745	349000	NR Band n66	Mid	Open	A	40	19.38	Left	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.197	30.4	
1 745	349000	NR Band n66	Mid	Open	A	40	19.38	Right	DFT-s-OFDM QPSK	0	0	1	1	1:1	0.136	32.0	
1 745	349000	NR Band n66	Mid	Open	A	40	19.38	Bottom	DFT-s-OFDM QPSK	0	0	1	1	1:1	1.610	21.3	
1 745	349000	NR Band n66	Mid	Open	I	40	21.36	Rear	DFT-s-OFDM QPSK	0	0	108	54	1:1	1.62	23.2	21.9
1 745	349000	NR Band n66	Mid	Open	I	40	21.36	Front	DFT-s-OFDM QPSK	0	0	108	54	1:1	1.58	23.4	
1 745	349000	NR Band n66	Mid	Open	I	40	21.22	Right	CP-OFDM QPSK	0	0	1	1	1:1	2.15	**21.9**	
1 745	349000	NR Band n66	Mid	Open	I	40	21.36	Top	DFT-s-OFDM QPSK	0	0	108	54	1:1	0.12	34.5	

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	Form Factor	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	Open	F	1	17.86	Rear	WIFI1	98.9	0.457	1.011	25.2	21.6
2 412	1	802.11b	20	Open	F	1	17.86	Front	WIFI1	98.9	0.361	1.011	26.3	
2 412	1	802.11b	20	Open	F	1	17.86	Left	WIFI1	98.9	1.050	1.011	**21.6**	
2 412	1	802.11b	20	Open	F	1	17.86	Top	WIFI1	98.9	0.189	1.011	29.1	
2 437	6	802.11b	20	Open	H	1	17.59	Rear	WIFI2	98.9	0.336	1.011	26.3	23.7
2 437	6	802.11b	20	Open	H	1	17.59	Front	WIFI2	98.9	0.554	1.011	24.1	
2 437	6	802.11b	20	Open	H	1	17.59	Right	WIFI2	98.9	0.073	1.011	32.9	
2 437	6	802.11b	20	Open	H	1	17.59	Top	WIFI2	98.9	0.618	1.011	**23.7**	
5 825	165	802.11a	20	Open	F	6	15.24	Rear	WIFI1	93.7	0.322	1.067	24.1	20.3
5 825	165	802.11a	20	Open	F	6	15.24	Front	WIFI1	93.7	0.422	1.067	23.0	
5 280	52	802.11a	20	Open	F	6	14.17	Left	WIFI1	93.7	0.613	1.067	**20.3**	
5 825	165	802.11a	20	Open	F	6	15.24	Top	WIFI1	93.7	0.178	1.067	26.7	
5 280	52	802.11a	20	Open	H	6	14.32	Rear	WIFI2	93.7	0.537	1.067	**21.0**	21.0
5 745	149	802.11a	20	Open	H	6	15.42	Front	WIFI2	93.7	0.318	1.067	24.4	
5 745	149	802.11a	20	Open	H	6	15.42	Right	WIFI2	93.7	0.191	1.067	26.6	
5 745	149	802.11a	20	Open	H	6	15.42	Top	WIFI2	93.7	0.236	1.067	25.7	
6 525	115	802.11ax	40	Open	F	MCS0	9.42	Rear	WIFI1	99.1	0.127	1.009	**22.4**	22.4
6 525	115	802.11ax	40	Open	F	MCS0	9.42	Front	WIFI1	99.1	0.100	1.009	23.4	
6 525	115	802.11ax	40	Open	F	MCS0	9.42	Left	WIFI1	99.1	0.120	1.009	22.6	
6 525	115	802.11ax	40	Open	F	MCS0	9.42	Top	WIFI1	99.1	0.030	1.009	28.6	
6 525	115	802.11ax	40	Open	H	MCS0	9.64	Rear	WIFI2	99.1	0.059	1.009	25.9	23.0
6 525	115	802.11ax	40	Open	H	MCS0	9.64	Front	WIFI2	99.1	0.116	1.009	**23.0**	
6 525	115	802.11ax	40	Open	H	MCS0	9.64	Right	WIFI2	99.1	0.060	1.009	25.8	
6 525	115	802.11ax	40	Open	H	MCS0	9.64	Top	WIFI2	99.1	0.081	1.009	24.5	

MEASUREMENT RESULTS											
Frequency		Mode/ Band	Form Factor	Ant. No.	Frame Averaged Conducted Power	Test Position	Ant. Config.	Meas. SAR(10g)	Scaling Factor	Plimit	Minimum Plimit
MHz	Ch.				(dBm)			(W/kg)	(Duty)	(dBm)	(dBm)
2 402	0	DH5	Open	F	18.87	Rear	Ant 1	0.243	1.010	29.0	25.7
2 402	0	DH5	Open	F	18.87	Front	Ant 1	0.198	1.010	29.9	
2 402	0	DH5	Open	F	18.87	Left	Ant 1	0.523	1.010	**25.7**	
2 402	0	DH5	Open	F	18.87	Top	Ant 1	0.107	1.010	32.6	
2 441	39	DH5	Open	H	17.59	Rear	Ant 2	0.143	1.010	30.0	24.6
2 441	39	DH5	Open	H	17.59	Front	Ant 2	0.498	1.010	**24.6**	
2 441	39	DH5	Open	H	17.59	Right	Ant 2	0.475	1.010	24.8	
2 441	39	DH5	Open	H	17.59	Top	Ant 2	0.159	1.010	29.6	