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Part 0 TA-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:** Nov. 15, 2023 **Test Report No : HCT-SR-2311-FC003** **Test Site: HCT CO., LTD.**

FCC ID: A3LSMG556B

Standards	**FCC 47 CFR Part 2(2.1093)**
Equipment Type:	**Mobile Phone**
Model Name:	**SM-G556B**

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.

Tested By

Dong Seon, Kim
Test Engineer
SAR Team
Certification Division

Reviewed By

Yun-jeang, Heo
Technical Manager
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Certification Division

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	Nov. 15, 2023	Initial Release

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

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1. Test Location

1.1 Test Laboratory

Company Name	HCT Co., Ltd.
Address	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
Telephone	031-645-6300
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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 ㎒
UMTS Band 2	Voice / Data	1 852.4 ㎒ ~ 1 907.6 ㎒
UMTS Band 4	Voice / Data	1 712.4 ㎒ ~ 1 752.6 ㎒
UMTS Band 5	Voice / Data	826.4 ㎒ ~ 846.6 ㎒
LTE 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 12	Voice / Data	699.7 ㎒ ~ 715.3 ㎒
LTE Band 13	Voice / Data	779.5 ㎒ ~ 784.5 ㎒
LTE Band 17	Voice / Data	706.5 ㎒ ~ 713.5 ㎒
LTE Band 26	Voice / Data	814.7 ㎒ ~ 848.3 ㎒
LTE Band 41	Voice / Data	2 498.5 ㎒ ~ 2 687.5 ㎒
LTE Band 66 (AWS)	Voice / Data	1 710.7 ㎒ ~ 1 779.3 ㎒
NR FDD Band n5	Voice / Data	826.5 ㎒ ~ 846.5 ㎒
NR FDD Band n26	Voice / Data	816.5 ㎒ ~ 846.5 ㎒
NR TDD Band n41	Voice / Data	2 501.01 ㎒ ~ 2 685 ㎒
NR FDD Band n66	Voice / Data	1 712.5 ㎒ ~ 1 777.5 ㎒
NR FDD Band n71	Voice / Data	665.5 ㎒ ~ 695.5 ㎒
NR TDD Band n77	Voice / Data	3 705 ㎒ ~ 3 975 ㎒
NR TDD Band n77 DoD	Voice / Data	3 445.01 ㎒ ~ 3 544.98 ㎒
NR TDD Band n78	Voice / Data	3 705 ㎒ ~ 3 795 ㎒
NR TDD Band n78 DoD	Voice / Data	3 455.01 ㎒ ~ 3 544.98 ㎒
U-NII-1	Voice / Data	5 180 ㎒ ~ 5 240 ㎒
U-NII-2A	Voice / Data	5 260 ㎒ ~ 5 320 ㎒
U-NII-2C	Voice / Data	5 500 ㎒ ~ 5 720 ㎒
U-NII-3	Voice / Data	5 745 ㎒ ~ 5 825 ㎒
2.4 ㎓ WLAN	Voice / Data	2 412 ㎒ ~ 2 462 ㎒
Bluetooth	Data	2 402 ㎒ ~ 2 480 ㎒
NFC	Data	13.56 ㎒

This device uses the MediaTek T 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 operations. Additionally, this device supports NFC technology, but the output power of this technology is not controlled by the Smart Transmit algorithm.

2.2 Time-Averaged Specific Absorption Rate[TA-SAR] algorithm

This device is enabled with MediaTek Time-Averaged Specific Absorption Rate [TA-SAR] 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_design_Limit of WWAN radios for 2G/3G/4G and 5G Sub-6 NR respectively. Characterization is achieved by determining P_{Sub6_limit} for 2G/3G/4G and 5G Sub-6 NR correspond to the SAR_design_Limit after accounting for all device design related uncertainties, i.e. SAR_design_Limit (< FCC SAR limit) for sub-6 radio. The SAR_design_Limit is denoted as P_{Sub6_limit} 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 reporte d 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 TAS-SAR Report

Technology	Operating Parameter	the same meaning	Description
2G/3G/4G/5G Sub 6 NR	ECI		Exposure Condition Index to ensure the TA-SAR algorithm control.
	P_{Sub6_limit}	Plimit	The Time Averaged maximum power level limit for different bands for 2G/3G/4G/5G Sub 6 NR
	P_{UE_max}	Pmax	Maximum Tx power at which a UE can possibly transmit.
	$P_{LowThresh\_offset}$		To Calculate $P_{LowThresh}$ $P_{LowThresh} = P_{Sub6\_limit} - P_{LowThresh\_offset}$
	$P_{UE\_backoff\_offset}$		To Calculate $P_{UE\_backoff}$ $P_{UE\_backoff} = P_{Sub6\_limit} - P_{UE\_backoff\_offset}$
	SAR_design_Limit	SAR_Desigh_Trget	Target SAR as measured by the Measured-Power_Limit after accounting for all device design related uncertainties 1 dB.

3. SAR MEASUREMENTS

3.1 SAR Definition

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

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

SAR Mathematical Equation

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

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

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

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

3.2 SAR Measurement Procedure

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

1. The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 (see table 3-1) & IEEE 1528-2013.

2. Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.

3. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)

   a. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7 mm away from the tip of the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

   b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by more than 5 %, the SAR evaluation and drift measurements were repeated.

Table 3-1

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

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

4. SAR CHARACTERIZATION

4.1 ECI and SAR Determination

This device uses different Exposure Condition Index(ECI) 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 ECI. 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 Exposure Condition Index(ECI) conditions used in Table 4-1 represent different exposure scenarios.

Table 4-1 ECI and Corresponding Exposure Scenarios

Scenario	Description	SAR Test Cases
Head SAR (ECI = 1)	□ Device positioned next to head	Head SAR per KDB Publication 648474 D04
BodySAR /Hotspot Phablet (ECI =0,2,3)	□ Device being used with a body-worn accessory □ Device transmits in hotspot mode near body □ Device is held with hand	Body-worn SAR per KDB Publication 948474 D04 Hotspot SAR per KDB Publication 941225 D06 Phablet SAR per KDB Publication 648474 D04

Uncertainty :

Item	Uncertainty dB(k=2)
Sub 6 Radio TPC	1.0
Device to Device Variation	1.2
Total uncertainty	1.5

To account for total uncertainty, SAR_Design_limit should be determined as:

SAR_design_limit < SAR regulatory_limit X10^(-total uncertainty/10)

Table 4-2 SAR Characterization

Plim values in green indicate Plimit < Pmax			Plimit values in grey indicate Plimit > Pmax				
Plimit corresponding to 1 W/kg (1g) 2.5W/kg(10g) SAR_Design_target						Pmax	
SAR Exposure Position			Head (RCV ON)	Body Hotspot Phablet		Maximum Tune-up Output Power (Burst Average Power)	UL:DL Ratio
Averaging volume			1g	1g	10g		
seperation Distance			0 mm	10 mm	0 mm		
Mode	Band	Antenna	ECI = 1	ECI = 0,2,3			
GSM/GPRS/EDGE	850	MAIN 1	31.2	26.5		27.5	50.0%
GSM/GPRS/EDGE	1900	MAIN 2	29.4	24.9		25.0	50.0%
UMTS	2	MAIN 2	22.6	21.6		23.6	100%
UMTS	4	MAIN 2	27.4	20.0		23.0	100%
UMTS	5	MAIN 1	30.4	23.5		24.5	100%
LTE FDD	2 Lower	MAIN 2	28.4	20.0		23.0	100%
LTE FDD	2 Upper	Sub 1	16.5	16.5		22.0	100%
LTE FDD	66(4) Lower	MAIN 2	27.1	19.5		23.0	100%
LTE FDD	66(4) Upper	Sub 1	18.5	18.5		23.0	100%
LTE FDD	12	MAIN 1	31.3	29.8		24.5	100%
LTE FDD	13	MAIN 1	30.0	28.2		24.0	100%
LTE FDD	26	MAIN 1	30.7	27.7		24.5	100%
LTE TDD PC3	41	MAIN 2	27.1	23.9		23.0	63.3%
NR FDD	5	MAIN 1	30.2	26.7		24.0	100%
NR FDD	26	MAIN 1	30.2	26.8		24.0	100%
NR TDD	41	MAIN 2	17.0	17.0		23.0	100%
NR TDD SRS 1	41	Sub 1	14.0	14.0		16.5	100%
NR TDD SRS 2	41	Sub 3	15.0	15.0		19.0	100%
NR TDD SRS 3	41	Sub 5	17.0	17.0		21.0	100%
NR FDD	66	MAIN 2	27.3	20.5		23.0	100%
NR FDD	71	MAIN 1	31.2	29.4		23.0	100%
NR TDD	77	Sub 3	17.5	17.5		23.5	100%
NR TDD SRS 1	78	Sub 5	11.0	11.0		17.0	100%
NR TDD SRS 2	78	Main 2	17.0	17.0		22.0	100%
NR TDD SRS 3	78	Main 3	12.5	12.5		17.5	100%
NR TDD DoD	77	Sub 3	17.5	17.5		23.5	100%
NR TDD DoD SRS 1	78	Sub 5	11.0	11.0		17.0	100%
NR TDD DoD SRS 2	78	Main 2	17.0	17.0		22.0	100%
NR TDD DoD SRS 3	78	Main 3	12.5	12.5		17.5	100%

Note:

1. Compared with the PSub6_limit (Tune up Powers) declared in each ECI by the manufacturer and the PSub6_limit (calculation) calculated by the SAR measurement of each ECI, the lower power were applied to the NV as the PSub6_limit at each ECI configurations.
2. When *Pmax* < *PSub6_limit* , 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)
4. SAR_Design_Target is used in the same meaning as SAR_Design_Limit.

5. Equipment List

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	SAM Phantom	-	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/ 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	F08/5AJ0A1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F13/ 5SD0A1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX60L	F10/5FN3A1/C/01	N/A	N/A	N/A
Staubli	CS9spe-TX2-60	F/21/0029145/C/001	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F07/55B8A1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F07/56W9A1/C/01	N/A	N/A	N/A
Staubli	TX90 Lspeag	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/ 59CHA1/ A/ 01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F17/ 59RAA1/ A/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F08/5AJ0A1/C/01	N/A	N/A	N/A
Staubli	TX90 Xl speag	F13/ 5SD0A1/ A/ 01	N/A	N/A	N/A
Staubli	TX-60 L spe	F10/5FN3A1/A/01	N/A	N/A	N/A
Staubli	TX2-60 Lspe	F/21/0029145/A/001	N/A	N/A	N/A
Staubli	TX90 XL speag	F07/55B8A1/A/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F07/56W9A1/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)	010963	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	011578	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0008	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	001729	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21142602	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21144507C	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0306	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0602	N/A	N/A	N/A
TESTO	175-H1/Thermometer	40331936309	12/29/2022	Annual	12/29/2023
TESTO	175-H1/Thermometer	40331939309	12/29/2022	Annual	12/29/2023
TESTO	175-H1/Thermometer	40331915309	12/29/2022	Annual	12/29/2023
TESTO	175-H1/Thermometer	40331922309	12/29/2022	Annual	12/29/2023
TESTO	175-H1/Thermometer	40331949309	12/29/2022	Annual	12/29/2023
TESTO	608-H1/Thermometer	83348029	03/27/2023	Annual	03/27/2024
TESTO	608-H1/Thermometer	2183499992	11/29/2022	Annual	11/29/2023
TESTO	608-H1/Thermometer	2183499992	11/29/2022	Annual	11/29/2023
TESTO	608-H1/Thermometer	83348021	03/27/2023	Annual	03/27/2024
TESTO	608-H1/Thermometer	83406789	03/27/2023	Annual	03/27/2024
SPEAG	DAE4	466	04/25/2023	Annual	04/25/2024
SPEAG	DAE4	504	01/10/2023	Annual	01/10/2024
SPEAG	DAE4	648	04/25/2023	Annual	04/25/2024
SPEAG	DAE4	652	01/20/2023	Annual	01/20/2024
SPEAG	DAE4	780	07/04/2023	Annual	07/04/2024
SPEAG	DAE4	869	03/23/2023	Annual	03/23/2024
SPEAG	DAE4	1225	03/06/2023	Annual	03/06/2024
SPEAG	DAE4	1686	05/23/2023	Annual	05/23/2024
SPEAG	DAE4	1687	07/18/2023	Annual	07/18/2024
SPEAG	E-Field Probe ES3DV3	3076	07/18/2023	Annual	07/18/2024
SPEAG	E-Field Probe EX3DV4	3797	01/24/2023	Annual	01/24/2024
SPEAG	E-Field Probe EX3DV4	3903	07/19/2023	Annual	07/19/2024
SPEAG	E-Field Probe EX3DV4	7370	08/24/2023	Annual	08/24/2024
SPEAG	E-Field Probe EX3DV4	7654	05/24/2023	Annual	05/24/2024
SPEAG	E-Field Probe EX3DV4	7655	05/25/2023	Annual	05/25/2024

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	E-Field Probe EX3DV4	7702	01/26/2023	Annual	01/26/2024
SPEAG	E-Field Probe EX3DV4	7680	05/24/2023	Annual	05/24/2024
SPEAG	E-Field Probe EX3DV4	7732	06/20/2023	Annual	06/20/2024
SPEAG	E-Field Probe EX3DV4	7751	10/06/2023	Annual	10/06/2024
SPEAG	Dipole CLA13	1016	09/21/2023	Annual	09/21/2024
SPEAG	Dipole D750V3	1014	05/23/2023	Annual	05/23/2024
SPEAG	Dipole D835V2	4d165	05/23/2023	Annual	05/23/2024
SPEAG	Dipole D1800V2	2d015	05/17/2023	Annual	05/17/2024
SPEAG	Dipole D1900V2	5d061	01/23/2023	Annual	01/23/2024
SPEAG	Dipole D2450V2	1049	04/25/2023	Annual	04/25/2024
SPEAG	Dipole D2600V2	1106	05/24/2023	Annual	05/24/2024
SPEAG	Dipole D3300V2	1016	11/22/2022	Annual	11/22/2023
SPEAG	Dipole D3500V2	1040	01/22/2023	Annual	01/22/2024
SPEAG	Dipole D3700V2	1066	11/14/2022	Annual	11/14/2023
SPEAG	Dipole D5 GHz V2	1317	05/17/2023	Annual	05/17/2024
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	01/26/2023	Annual	01/26/2024
SPEAG	DAKS 3.5	1038	01/25/2023	Annual	01/25/2024
SPEAG	Vector Reflectometer	00141013	02/13/2023	Annual	02/13/2024
SPEAG	MXA Signal Analyzer	MY49100108	01/13/2023	Annual	01/13/2024
H.P	Network Analyzer /8753ES	JP39240221	01/02/2023	Annual	01/02/2024
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	03/23/2023	Annual	03/23/2024
Agilent	SIGNAL GENERATOR N5182A	MY47070230	03/23/2023	Annual	03/23/2024
EMPOWER	RF Power Amplifier	1084	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
Agilent	Directional Bridge 86205A	3140A04581	04/25/2023	Annual	04/25/2024
OSI	Power Divider	#3	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	6262036812	12/07/2022	Annual	12/07/2023
Anritsu	Radio Communication Tester MT8820C	6201074225	01/25/2023	Annual	01/25/2024
Anritsu	Radio Communication Tester MT8820C	6200695605	03/23/2023	Annual	03/23/2024
Anritsu	Radio Communication Tester MT8821C	6201502997	05/26/2023	Annual	05/26/2024
Anritsu	Radio Communication Tester MT8821C	6201664725	01/25/2023	Annual	01/25/2024
Agilent	WIRELESS COMMUNICATION E5515C	MY50260992	05/26/2023	Annual	05/26/2024
Anritsu	Radio Communication Test Station MT8000A	6262036812	12/07/2022	Annual	12/07/2023
Anritsu	Radio Communication Tester MT8820C	6201074225	01/25/2023	Annual	01/25/2024
Anritsu	Radio Communication Tester MT8820C	6200695605	03/23/2023	Annual	03/23/2024
Anritsu	Radio Communication Tester MT8821C	6201502997	05/26/2023	Annual	05/26/2024
Anritsu	Radio Communication Tester MT8821C	6262044720	12/07/2022	Annual	12/07/2023
Anritsu	Radio Communication Tester MT8821C	6201664725	01/25/2023	Annual	01/25/2024
ROHDE&SCHWARZ	BLUETOOTH TESTER CBT	100272	01/25/2023	Annual	01/25/2024

* 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_{Sub6_limit} CALCULATIONS

Table A-1 ECI = 1 P_{Sub6_limit} Calculations – 2G/3G Head SAR

MEASUREMENT RESULTS										
Frequency		Mode/ Band		Ant.	Frame Averaged Conducted Power	Test Position	Duty Cycle	Meas. SAR(1g)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				(dBm)			(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	GPRS 4Tx	Main 1	25.01	Left Cheek	1:2.07	0.229	31.4	31.2
836.6	190	GSM 850		Main 1	25.01	Left Tilt	1:2.07	0.110	34.6	
836.6	190	GSM 850		Main 1	25.01	Right Cheek	1:2.07	0.241	31.2	
836.6	190	GSM 850		Main 1	25.01	Right Tilt	1:2.07	0.118	34.3	
1 880	661	GSM 1900	GPRS 4Tx	Main 2	21.96	Left Cheek	1:2.07	0.182	29.2	29.2
1 880	661	GSM 1900		Main 2	21.96	Left Tilt	1:2.07	0.094	32.1	
1 880	661	GSM 1900		Main 2	21.96	Right Cheek	1:2.07	0.140	30.4	
1 880	661	GSM 1900		Main 2	21.96	Right Tilt	1:2.07	0.071	33.3	
826.4	4132	UMTS Band 5	RMC	Main 1	24.31	Left Cheek	1:1	0.236	30.6	30.4
826.4	4132	UMTS Band 5	RMC	Main 1	24.31	Left Tilt	1:1	0.119	33.6	
826.4	4132	UMTS Band 5	RMC	Main 1	24.31	Right Cheek	1:1	0.248	30.4	
826.4	4132	UMTS Band 5	RMC	Main 1	24.31	Right Tilt	1:1	0.127	33.3	
1 732.4	1412	UMTS Band 4	RMC	Main 2	23.84	Left Cheek	1:1	0.445	27.4	27.4
1 732.4	1412	UMTS Band 4	RMC	Main 2	23.84	Left Tilt	1:1	0.298	29.1	
1 732.4	1412	UMTS Band 4	RMC	Main 2	23.84	Right Cheek	1:1	0.363	28.2	
1 732.4	1412	UMTS Band 4	RMC	Main 2	23.84	Right Tilt	1:1	0.212	30.6	
1 880	9400	UMTS Band 2	RMC	Main 2	23.51	Left Cheek	1:1	0.301	28.7	28.7
1 880	9400	UMTS Band 2	RMC	Main 2	23.51	Left Tilt	1:1	0.241	29.7	
1 880	9400	UMTS Band 2	RMC	Main 2	23.51	Right Cheek	1:1	0.258	29.4	
1 880	9400	UMTS Band 2	RMC	Main 2	23.51	Right Tilt	1:1	0.136	32.2	

Table A-2 ECI = 1 *PSub6_limit* 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)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				(dBm)	(dBm)		(dB)				(W/kg)	(dBm)	(dBm)
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	22.97	Left Cheek	0	1	49	1:1	0.289	28.4	28.4
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	22.97	Left Tilt	0	1	49	1:1	0.178	30.5	
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	22.97	Right Cheek	0	1	49	1:1	0.220	29.5	
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	22.97	Right Tilt	0	1	49	1:1	0.121	32.1	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Left Cheek	0	1	0	1:1	0.767	17.7	17.7
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Left Tilt	0	1	0	1:1	0.600	18.8	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Right Cheek	0	1	0	1:1	0.473	19.8	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Right Tilt	0	1	0	1:1	0.382	20.7	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Left Cheek	0	1	0	1:1	0.174	31.3	31.3
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Left Tilt	0	1	0	1:1	0.083	34.5	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Right Cheek	0	1	0	1:1	0.173	31.3	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Right Tilt	0	1	0	1:1	0.116	33.1	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Left Cheek	0	1	49	1:1	0.206	30.6	30.0
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Left Tilt	0	1	49	1:1	0.094	34.0	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Right Cheek	0	1	49	1:1	0.236	30.0	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Right Tilt	0	1	49	1:1	0.159	31.7	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Left Cheek	0	1	36	1:1	0.221	30.7	30.7
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Left Tilt	0	1	36	1:1	0.123	33.3	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Right Cheek	0	1	36	1:1	0.136	32.8	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Right Tilt	0	1	36	1:1	0.156	32.2	
1 745	132322	LTE Band 66(4) Lower	Mid	Main 1	20	23.18	Left Cheek	0	1	99	1:1	0.407	27.1	27.1
1 745	132322	LTE Band 66(4) Lower	Mid	Main 1	20	23.18	Left Tilt	0	1	99	1:1	0.248	29.2	
1 745	132322	LTE Band 66(4) Lower	Mid	Main 1	20	23.18	Right Cheek	0	1	99	1:1	0.298	28.4	
1 745	132322	LTE Band 66(4) Lower	Mid	Main 1	20	23.18	Right Tilt	0	1	99	1:1	0.148	31.5	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Left Cheek	0	1	0	1:1	0.567	21.3	21.3
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Left Tilt	0	1	0	1:1	0.400	22.8	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Right Cheek	0	1	0	1:1	0.345	23.5	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Right Tilt	0	1	0	1:1	0.284	24.3	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Left Cheek	0	1	49	1:1.58	0.265	27.1	27.1
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Left Tilt	0	1	49	1:1.58	0.153	29.5	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Right Cheek	0	1	49	1:1.58	0.166	29.2	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Right Tilt	0	1	49	1:1.58	0.190	28.6	

Table A-3 ECI = 1 *PSub6_limit* Calculations – NR Head SAR

For some bands/modes, a lower *PSub6_limit* was selected as a more conservative evaluation.
NR TDD Bands : In the case of the NR TDD bands, the PSub6_limit 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)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				(dBm)	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Left Cheek	DFT-s-OFDM QPSK	0	1	104	1:1	0.162	31.3	30.2
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Left Tilt	DFT-s-OFDM QPSK	0	1	104	1:1	0.103	33.3	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Right Cheek	DFT-s-OFDM QPSK	0	1	104	1:1	0.208	30.2	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Right Tilt	DFT-s-OFDM QPSK	0	1	104	1:1	0.114	32.8	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Left Cheek	DFT-s-OFDM QPSK	0	50	28	1:1	0.160	31.4	30.2
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Left Tilt	DFT-s-OFDM QPSK	0	50	28	1:1	0.093	33.8	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Right Cheek	DFT-s-OFDM QPSK	0	50	28	1:1	0.213	30.2	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Right Tilt	CP OFDM QPSK	0	50	28	1:1	0.120	32.7	
1 745	349000	NR Band n66	Mid	Main 1	40	22.83	Left Cheek	DFT-s-OFDM QPSK	0	108	54	1:1	0.360	27.3	27.3
1 745	349000	NR Band n66	Mid	Main 1	40	22.83	Left Tilt	DFT-s-OFDM QPSK	0	108	54	1:1	0.165	30.7	
1 745	349000	NR Band n66	Mid	Main 1	40	22.83	Right Cheek	DFT-s-OFDM QPSK	0	108	54	1:1	0.283	28.3	
1 745	349000	NR Band n66	Mid	Main 1	40	22.83	Right Tilt	DFT-s-OFDM QPSK	0	108	54	1:1	0.112	32.3	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Left Cheek	DFT-s-OFDM QPSK	0	50	28	1:1	0.146	31.6	31.2
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Left Tilt	DFT-s-OFDM QPSK	0	50	28	1:1	0.062	35.3	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Right Cheek	DFT-s-OFDM QPSK	0	50	28	1:1	0.161	31.2	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Right Tilt	DFT-s-OFDM QPSK	0	50	28	1:1	0.066	35.1	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Left Cheek	DFT-s-OFDM QPSK	0	135	69	1:1	0.083	28.9	26.7
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Left Tilt	DFT-s-OFDM QPSK	0	135	69	1:1	0.064	30.0	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Right Cheek	DFT-s-OFDM QPSK	0	135	69	1:1	0.137	26.7	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Right Tilt	DFT-s-OFDM QPSK	0	135	69	1:1	0.106	27.8	
3 500.01	633334	NR Band n77 DoD	Mid	Sub 3	100	17.51	Right Touch	DFT-s-OFDM QPSK	0	1	1	1:1	0.219	24.1	24.1
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.172	18.9	18.1
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.208	18.1	
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Right Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.116	20.7	
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Right Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.118	20.6	
3 500.01	633334	NR Band 78 DoD SRS1	Mid	Sub 5	100	11.91	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.072	23.3	23.3
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.019	35.0	35.0
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.006	40.0	
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Right Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.006	40.0	
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Right Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.002	44.8	
3 500.01	633334	NR Band 78 DoD SRS2	Mid	Main2	100	17.83	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.133	26.6	26.6
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.001	43.3	43.3
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0	N/A	
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Right Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0	N/A	
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Right Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0	N/A	
3 500.01	633334	NR Band 78 DoD SRS3	Mid	Main 3	100	11.58	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.002	38.6	38.6
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.21	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.281	22.7	22.7
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.21	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.128	26.1	
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.21	Right Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.227	23.6	
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.21	Right Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.234	23.5	

MEASUREMENT RESULTS																
Frequency		Mode		Ant.	Band width	Frame Averaged Conducted Power	Test Configurations		MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				(dBm)	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0		40.5
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.002	40.5	
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Right Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0		
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Right Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0		
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.001	45.0	45.0
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Right Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Right Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Left Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.013	36.2	36.2
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Left Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.00463	40.3	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Right Cheek	DFT-s-OFDM QPSK	0	1	137	1:1	0.00526	40.3	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Right Tilt	DFT-s-OFDM QPSK	0	1	137	1:1	0.00207	44.3	

Table A-4 ECI = 0,2,3 *PSub6_limit* Calculations – 2G/3G Hotspot/Body SAR

For some bands/modes, a lower *PSub6_limit* was selected as a more conservative evaluation.

MEASUREMENT RESULTS											
Frequency		Mode/ Band		Ant. No.	Frame Averaged Conducted Power	Test Position	Spacing (mm)	Duty Cycle	Meas. SAR(1g)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				(dBm)				(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Rear	10	1:2.07	0.714	26.5	26.5
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Front	10	1:2.07	0.278	30.6	
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Left	10	1:2.07	0.109	34.6	
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Right	10	1:2.07	0.278	30.6	
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Bottom	10	1:2.07	0.410	28.9	
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Rear	10	1:2.07	0.371	26.3	26.3
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Front	10	1:2.07	0.344	26.6	
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Left	10	1:2.07	0.132	30.8	
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Bottom	10	1:2.07	0.324	26.9	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Rear	10	1:1	0.375	27.6	27.6
836.6	4183	UMTS 850	RMC	Main 1	23.38	Front	10	1:1	0.324	28.3	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Left	10	1:1	0.147	31.7	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Right	10	1:1	0.250	29.4	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Bottom	10	1:1	0.360	27.8	
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Rear	10	1:1	0.423	24.6	24.6
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Front	10	1:1	0.378	25.1	
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Left	10	1:1	0.214	27.5	
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Bottom	10	1:1	0.311	25.9	
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Rear	10	1:1	0.446	25.0	25.0
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Front	10	1:1	0.425	25.2	
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Left	10	1:1	0.193	28.6	
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Bottom	10	1:1	0.410	25.4	

Table A-5 ECI = 0,2,3 *PSub6_limit* Calculations – 4G Hotspot SAR

For some bands/modes, a lower *PSub6_limit* was selected as a more conservative evaluation.

MEASUREMENT RESULTS															
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	Spacing (mm)	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (1g)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				MHz	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Rear	10	0	1	49	1:1	0.240	27.0	26.2
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Front	10	0	1	49	1:1	0.267	26.5	
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Left	10	0	1	49	1:1	0.116	30.1	
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Bottom	10	0	1	49	1:1	0.284	26.2	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Rear	10	0	1	0	1:1	0.202	23.5	23.5
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Front	10	0	1	0	1:1	0.132	25.4	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Right	10	0	1	0	1:1	0.084	27.3	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Top	10	0	1	0	1:1	0.072	28.0	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Back	10	0	1	0	1:1	0.249	29.8	29.8
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Front	10	0	1	0	1:1	0.136	32.4	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Left	10	0	1	0	1:1	0.074	35.0	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Right	10	0	1	0	1:1	0.132	32.5	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Bottom	10	0	1	0	1:1	0.191	30.9	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Back	10	0	1	49	1:1	0.358	28.2	28.2
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Front	10	0	1	49	1:1	0.212	30.4	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Left	10	0	1	49	1:1	0.107	33.4	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Right	10	0	1	49	1:1	0.186	31.0	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Bottom	10	0	1	49	1:1	0.284	29.2	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Back	10	0	1	36	1:1	0.444	27.7	27.7
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Front	10	0	1	36	1:1	0.177	31.7	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Left	10	0	1	36	1:1	0.095	34.4	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Right	10	0	1	36	1:1	0.205	31.1	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Bottom	10	0	1	36	1:1	0.349	28.8	
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Back	10	0	1	0	1:1	0.264	25.9	24.9
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Front	10	0	1	0	1:1	0.290	25.5	
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Left	10	0	1	0	1:1	0.197	27.2	
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Bottom	10	0	1	0	1:1	0.337	24.9	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Back	10	0	1	0	1:1	0.204	25.8	25.8
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Front	10	0	1	0	1:1	0.108	28.5	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Right	10	0	1	0	1:1	0.085	29.6	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	20	18.86	Top	10	0	1	0	1:1	0.082	29.7	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Back	10	0	1	49	1:1.58	0.406	25.3	24.3
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Front	10	0	1	49	1:1.58	0.506	24.3	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Left	10	0	1	49	1:1.58	0.224	27.9	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Bottom	10	0	1	49	1:1.58	0.386	25.5	

Table A-6 ECI = 0,2,3 *PSub6_limit* Calculations – NR Hotspot SAR

For some bands/modes, a lower *PSub6_limit* was selected as a more conservative evaluation.
NR TDD Bands : In the case of the NR TDD bands, the PSub6_limit 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		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	P_{Sub6_limit}	Minimum P_{Sub6_lim}
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Rear	DFT-s-OFDM QPSK	0	10	1	104	1:1	0.413	27.2	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Front	DFT-s-OFDM QPSK	0	10	1	104	1:1	0.162	31.3	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Left	DFT-s-OFDM QPSK	0	10	1	104	1:1	0.095	33.6	27.2
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Right	DFT-s-OFDM QPSK	0	10	1	104	1:1	0.185	30.7	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Bottom	DFT-s-OFDM QPSK	0	10	1	104	1:1	0.300	28.6	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Rear	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.462	26.8	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Front	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.181	30.9	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Left	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.105	33.2	26.8
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Right	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.179	30.9	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Bottom	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.302	28.6	
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Rear	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.376	25.3	
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Front	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.482	24.2	
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Left	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.250	27.1	24.2
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Bottom	DFT-s-OFDM QPSK	0	10	108	0	1:1	0.326	25.9	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Rear	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.241	29.4	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Front	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.187	30.5	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Left	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.103	33.1	29.4
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Right	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.200	30.2	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Bottom	DFT-s-OFDM QPSK	0	10	50	28	1:1	0.124	32.3	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Rear	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.056	30.6	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Front	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.044	31.7	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Left	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.061	30.2	30.2
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Top	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.047	31.4	
3 500.01	633334	NR Band n77 DoD	Mid	Sub 3	100	17.51	Left	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.068	29.2	29.2
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.084	22.1	
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Front	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.035	26.6	
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Right	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.080	29.4	22.1
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Top	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.084	27.6	
3 500.01	633334	NR Band 78 DoD SRS1	Mid	Sub 5	100	11.91	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.099	22.0	22.0
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.287	23.3	
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Front	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.133	26.6	
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Left	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.070	29.4	23.3
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Bottom	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.106	27.6	
3 500.01	633334	NR Band 78 DoD SRS2	Mid	Main2	100	17.83	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.212	24.6	24.6

MEASUREMENT RESULTS																	
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(1g)	P_{Sub6_limit}	Minim $P_{Sub6\_}$
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.029	28.7	28.7
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Front	DFT-s-OFDM QPSK	0	10	1	137	1:1	0	N/A	
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Right	DFT-s-OFDM QPSK	0	10	1	137	1:1	0	N/A	
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Bottom	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.005	36.3	
3 500.01	633334	NR Band 78 DoD SRS3	Mid	Main 3	100	11.58	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.001	41.6	41.6
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Rear	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.117	26.6	24.3
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Front	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.195	24.3	
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Left	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.065	29.1	
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Bottom	DFT-s-OFDM QPSK	0	10	135	69	1:1	0.142	25.7.	
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.00308	38.7	38.7
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Front	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.00212	40.5	
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Right	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.000127	N/A	
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Top	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.000045 7	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.192	22.1	22.1
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Front	DFT-s-OFDM QPSK	0	10	1	137	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Right	DFT-s-OFDM QPSK	0	10	1	137	1:1	0	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Bottom	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.00445	38.9	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Rear	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.366	21.7	21.7
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Front	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.085	28.0	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Right	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.329	22.1	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Top	DFT-s-OFDM QPSK	0	10	1	137	1:1	0.067	29.0	

Table A-7 ECI = 0,2,3 *PSub6_limit* Calculations – 2G/3G Phablet SAR

For some bands/modes, a lower *PSub6_limit* was selected as a more conservative evaluation.

MEASUREMENT RESULTS											
Frequency		Mode/ Band		Ant. No.	Frame Averaged Conducted Power	Test Position	Spacing (mm)	Duty Cycle	Meas. SAR(10g)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				(dBm)				(W/kg)	(dBm)	(dBm)
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Rear	0	1:2.07	0.854	29.7	29.1
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Front	0	1:2.07	0.601	31.2	
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Left	0	1:2.07	0.099	39.0	
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Right	0	1:2.07	0.460	32.4	
836.6	190	GSM 850	GPRS4Tx	Main 1	25.01	Bottom	0	1:2.07	0.974	29.1	
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Rear	0	1:2.07	1.270	24.9	24.9
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Front	0	1:2.07	0.879	26.5	
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Left	0	1:2.07	0.508	28.9	
1 880.0	661	GSM 1900	GPRS4Tx	Main 2	21.97	Bottom	0	1:2.07	1.020	25.9	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Back	0	1:1	0.688	29.0	28.3
836.6	4183	UMTS 850	RMC	Main 1	23.38	Front	0	1:1	0.807	28.3	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Left	0	1:1	0.076	38.6	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Right	0	1:1	0.716	28.8	
836.6	4183	UMTS 850	RMC	Main 1	23.38	Bottom	0	1:1	0.687	29.0	
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Rear	0	1:1	1.920	22.0	22.0
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Front	0	1:1	1.600	22.8	
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Left	0	1:1	0.186	32.1	
1 732.4	1412	UMTS 1700	RMC	Main 2	20.83	Bottom	0	1:1	0.324	29.7	
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Rear	0	1:1	2.310	21.8	21.8
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Front	0	1:1	0.575	27.9	
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Left	0	1:1	0.881	26.0	
1 880	9400	UMTS 1900	RMC	Main 2	21.50	Bottom	0	1:1	1.710	23.1	

Table A-8 ECI = 0,2,3 *PSub6_limit* Calculations – 4G Phablet SAR

For some bands/modes, a lower *PSub6_limit* was selected as a more conservative evaluation.

MEASUREMENT RESULTS																
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position	Spacing (mm)	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR (10g)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				MHz	(dBm)			(dB)				(W/kg)	(dBm)	(dBm)
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Rear	0	0	1	49	1:1	0.979	24.8	24.8
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Front	0	0	1	49	1:1	0.759	25.9	
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Left	0	0	1	49	1:1	0.368	29.1	
1 860	18700	LTE Band 2 Lower	Low	Main 2	20	20.77	Bottom	0	0	1	49	1:1	0.736	26.1	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Rear	0	0	1	0	1:1	0.896	21.0	21.0
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Front	0	0	1	0	1:1	0.576	22.9	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Right	0	0	1	0	1:1	0.347	25.1	
1 900	19100	LTE Band 2 Upper	High	Sub 1	20	16.57	Top	0	0	1	0	1:1	0.323	25.5	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Back	0	0	1	0	1:1	0.549	30.3	30.3
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Front	0	0	1	0	1:1	0.481	30.9	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Left	0	0	1	0	1:1	0.000	N/A	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Right	0	0	1	0	1:1	0.378	31.9	
707.5	23095	LTE Band 12 (17)	Mid	Main 1	10	23.72	Bottom	0	0	1	0	1:1	0.421	31.5	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Back	0	0	1	49	1:1	0.791	28.7	28.7
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Front	0	0	1	49	1:1	0.619	29.8	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Left	0	0	1	49	1:1	0.029	43.1	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Right	0	0	1	49	1:1	0.540	30.4	
782	23230	LTE Band 13	Mid	Main 1	10	23.71	Bottom	0	0	1	49	1:1	0.793	28.7	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Back	0	0	1	36	1:1	0.728	29.5	29.5
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Front	0	0	1	36	1:1	0.565	30.6	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Left	0	0	1	36	1:1	0.000	N/A	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Right	0	0	1	36	1:1	0.398	32.2	
831.5	26865	LTE Band 26	Mid	Main 1	15	24.18	Bottom	0	0	1	36	1:1	0.735	29.5	
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Back	0	0	1	0	1:1	0.840	24.9	24.9
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Front	0	0	1	0	1:1	0.722	25.5	
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Left	0	0	1	0	1:1	0.307	29.2	
1 745	132322	LTE Band 66(4)Lower	Mid	Main 1	20	20.14	Bottom	0	0	1	0	1:1	0.528	26.9	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	10	18.86	Back	0	0	1	0	1:1	1.240	21.9	21.9
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	10	18.86	Front	0	0	1	0	1:1	0.348	27.4	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	10	18.86	Right	0	0	1	0	1:1	0.198	29.9	
1 720	132072	LTE Band 66(4) Upper	Low	Sub 1	10	18.86	Top	0	0	1	0	1:1	0.253	28.8	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Back	0	0	1	49	1:1.58	1.38	23.9	23.9
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Front	0	0	1	49	1:1.58	1.13	24.8	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Left	0	0	1	49	1:1.58	0.436	28.9	
2 593	40620	LTE Band41(PC3)	Mid	Main 2	20	21.35	Bottom	0	0	1	49	1:1.58	0.996	25.4	

Table A-9 ECI = 0,2,3 *PSub6_limit* Calculations – NR Phablet SAR

For some bands/modes, a lower PSub6_limit was selected as a more conservative evaluation.

NR TDD Bands : In the case of the NR TDD bands, the PSub6_limit 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		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR (10g)	P_{Sub6_limit}	Minimum P_{Sub6_limit}
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Rear	DFT-s-OFDM QPSK	0	0	1	104	1:1	1.160	26.7	26.7
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Front	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.747	28.6	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Left	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.100	37.4	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Right	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.833	28.2	
836.5	167300	NR Band n5	Mid	Main 1	20	23.39	Bottom	DFT-s-OFDM QPSK	0	0	1	104	1:1	0.915	27.8	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Rear	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.599	29.7	29.3
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Front	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.441	31.0	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Left	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.075	38.7	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Right	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.285	32.9	
831.5	166300	NR Band n26	Mid	Main 1	20	23.45	Bottom	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.648	29.3	
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Rear	DFT-s-OFDM QPSK	0	0	108	0	1:1	1.090	24.7	24.7
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Front	DFT-s-OFDM QPSK	0	0	108	0	1:1	0.948	25.3	
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Left	DFT-s-OFDM QPSK	0	0	108	0	1:1	0.392	29.1	
1 745	349000	NR Band n66	Mid	Main 2	40	21.06	Bottom	DFT-s-OFDM QPSK	0	0	108	0	1:1	0.546	27.7	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Rear	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.553	29.8	29.8
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Front	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.361	31.7	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Left	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.066	39.0	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Right	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.308	32.4	
680.5	136100	NR Band n71	Mid	Main 1	20	23.26	Bottom	DFT-s-OFDM QPSK	0	0	50	28	1:1	0.444	30.8	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Rear	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.651	23.9	23.9
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Front	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.436	25.7	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Left	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.321	27.0	
3 930	662000	NR Band n77	Mid	Sub 3	100	18.09	Top	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.141	30.6	
3 500.01	633334	NR Band n77 DoD	Mid	Sub 3	100	17.51	Left	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.452	24.9	24.9
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.268	21.0	21.0
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Front	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.075	26.5	
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Right	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.209	22.1	
3 750	650000	NR Band 78 SRS1	Mid	Sub 5	100	11.30	Top	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.076	26.5	
3 500.01	633334	NR Band 78 DoD SRS1	Mid	Sub 5	100	11.91	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.335	20.6	20.6

MEASUREMENT RESULTS																	
Frequency		Mode		Ant. No.	Band width	Frame Averaged Conducted Power	Test Position		MPR	Spacing (mm)	RB Size	RB offset	Duty Cycle	Meas. SAR(10g)	P_{Sub6_limit}	Minim $P_{Sub6\_}$
MHz	Ch.				MHz	(dBm)			(dB)					(W/kg)	(dBm)	(dBm)
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.677	23.5	23.5
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Front	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.318	26.8	
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Left	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.184	29.2	
3 750	650000	NR Band 78 SRS2	Mid	Main2	100	17.83	Bottom	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.300	27.0	
3 500.01	633334	NR Band 78 DoD SRS2	Mid	Main2	100	17.83	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.825	22.6	22.6
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.143	25.7	25.7
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Front	DFT-s-OFDM QPSK	0	0	1	137	1:1	0	N/A	
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Right	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.004	41.3	
3 750	650000	NR Band 78 SRS3	Mid	Main 3	100	13.31	Bottom	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.009	37.7	
3 500.01	633334	NR Band 78 DoD SRS3	Mid	Main 3	100	11.58	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.045	29.0	29.0
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Rear	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.516	24.1	24.1
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Front	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.397	25.2	
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Left	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.200	28.2	
2 592.99	518598	NR Band n41(PC3)	Mid	Main 2	100	17.25	Bottom	DFT-s-OFDM QPSK	0	0	135	69	1:1	0.359	25.7	
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.017	35.2	35.2
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Front	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.005	40.5	
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Right	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.000	N/A	
2 592.99	518598	NR Band n41 SRS1	Mid	Sub 1	100	13.5	Top	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.000	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.542	17.6	17.6
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Front	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.000	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Right	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.000	N/A	
2 592.99	518598	NR Band n41 SRS2	Mid	Main 3	100	14.97	Bottom	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.000	N/A	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Rear	DFT-s-OFDM QPSK	0	0	1	137	1:1	1.360	19.9	19.9
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Front	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.345	25.9	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Right	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.660	23.1	
2 592.99	518598	NR Band n41 SRS3	Mid	Sub 5	100	17.29	Top	DFT-s-OFDM QPSK	0	0	1	137	1:1	0.120	30.5	