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PART 0 SAR CHAR REPORT

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PCTEST Lab, Columbia, MD, USA
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FCC ID:	**A3LSMG981V**
APPLICANT:	**SAMSUNG ELECTRONICS CO., LTD**

Report Type:	Part 0 SAR Characterization
DUT Type:	Portable Handset
Model(s):	SM-G981V

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.

Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

ACCREDITED
TESTING CERT#2041.01

REV 1.0
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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
Cell. CDMA/EVDO	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
NR Band n5	Data	826.5 - 846.5 MHz
NR Band n66	Data	1712.5 - 1777.5 MHz
NR Band n2	Data	1852.5 - 1907.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 kHz
NR Band n260	Data	37000 - 40000 MHz
NR Band n261	Data	27500 - 28350 MHz

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

1.2 Time-Averaging for SAR and Power Density

This device is enabled with Qualcomm® Smart Transmit algorithm to control and manage transmitting power in real time and to ensure that the time-averaged RF exposure from 2G/3G/4G/5G Sub-6 NR WWAN is in compliance with FCC requirements. This Part 0 report shows SAR characterization of WWAN radios for 2G/3G/4G/5G Sub-6 NR. Characterization is achieved by determining P_{Limit} for 2G/3G/4G/5G Sub-6 NR that corresponds 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 1.3 includes a nomenclature of the specific terms used in this report.

The compliance test under the static transmission scenario and simultaneous transmission analysis are reported in Part 1 report. The validation of the time-averaging algorithm and compliance under the dynamic (time- varying) transmission scenario for WWAN technologies are reported in Part 2 report (report SN could be found in Section 1.4 – Bibliography).

1.3 Nomenclature for Part 0 Report

Technology	Term	Description
2G/3G/4G/5G Sub-6 NR	P_{limit}	Power level that corresponds to the exposure design target (*SAR_design_target)* after accounting for all device design related uncertainties
	P_{max}	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

1.4 Bibliography

Report Type	Report Serial Number
FCC Part 0 PD Characterization Report	Revision A
FCC SAR Evaluation Report (Part 1)	1M2003090034-20-R1.A3L
FCC PD Evaluation Report (Part 1)	1M2003090034-27-R1.A3L
RF Exposure Part 2 Test Report	1M2003090034-22.A3L
RF Exposure Compliance Summary	1M2003090034-28.A3L

2 SAR AND POWER DENSITY MEASUREMENTS

2.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 2-1).

Equation 2-1
SAR Mathematical Equation

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

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

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

σ	=	conductivity of the tissue-simulating material (S/m)
ρ	=	mass density of the tissue-simulating material (kg/m^3)
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 relation 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.[6]

2.2 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 greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See
2. Table 2-1) and IEEE 1528-2013.
3. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.

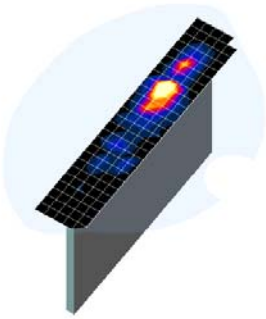

Figure 2-1
Sample SAR Area Scan

4. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See
5. Table 2-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):
    a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in
    b. Table 2-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

    c. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

    d. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
6. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 2-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

3 SAR CHARACTERIZATION

3.1 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 3-1 represent different exposure scenarios.

Table 3-1
DSI and Corresponding Exposure Scenarios

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

3.2 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 3-2).

Table 3-2
***SAR_design_target* Calculations**

SAR_design_target			
$SAR\_design\_target < SAR\_regulatory\_limit \times 10^{\frac{-Total\ Uncertainty}{10}}$			
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

3.3 SAR Char

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 3-3.

Table 3-3
***PLimit* Determination**

Device State Index (DSI)	*PLimit* Determination Scenarios
0	The worst-case SAR exposure is determined as maximum SAR normalized to the limit among: 1. Body Worn SAR 2. Extremity SAR measured at 8, 6 and 11 mm spacing for back, front, bottom respectively 3. Extremity SAR measured at 0 mm for left and right surfaces
1 or 4	P_{limit} is calculated based on 10g Extremity SAR at 0 mm for back, front, and bottom surfaces
2	P_{limit} is calculated based on 1g Head SAR
3	P_{limit} is calculated based on 1g Hotspot SAR at 10 mm

Note:

For DSI = 0, P_{limit} is calculated by:

$$P_{limit} = \min\{ P_{limit} \text{ corresponding to 1g Body Worn SAR evaluation at 15 mm spacing},$$
$$P_{limit} \text{ corresponding to 10g Extremity SAR evaluation at 6}\sim\text{11 mm spacing},$$
$$P_{limit} \text{ corresponding to 10g Extremity SAR evaluation at 0 mm for left and right surfaces}\}$$

Table 3-4
SAR Characterizations

Exposure Scenario:	Body-Worn	Phablet	Phablet	Head	Hotspot	Earjack	Maximum Tune-up Output Power*
Averaging Volume:	1g	10g	10g	1g	1g	10g	
Spacing:	15 mm	8, 6, 11 mm	0 mm	0 mm	10 mm	0 mm	
DSI:	0	0	1	2	3	4	
Technology/Band	**Plimit corresponding to 1mW/g (SAR_design_target)**						Pmax
CDMA/EVDO BC0	28.6		27.0	30.4	27.0	27.0	24.8
CDMA/EVDO BC1	26.1		19.5	31.4	18.5	19.5	23.5
GSM/GPRS/EDGE 850 MHz	30.4		29.7	30.9	28.3	29.7	24.8
GSM/GPRS/EDGE 1900 MHz	26.8		20.1	30.8	18.8	20.1	21.8
UMTS B5	29.7		26.8	30.4	26.8	26.8	23.0
UMTS B2	25.0		18.5	30.8	17.5	18.5	23.0
LTE FDD B12	30.7		27.3	33.3	27.3	27.3	24.0
LTE FDD B13	29.1		26.8	31.2	26.8	26.8	24.8
LTE FDD B14	29.8		27.3	31.7	27.3	27.3	24.0
LTE FDD B26	29.9		26.9	31.0	26.9	26.9	24.8
LTE FDD B5	29.4		26.9	30.5	26.9	26.9	24.8
LTE FDD B66	24.3		20.0	29.8	18.5	20.0	23.8
LTE FDD B4	24.3		20.0	29.8	18.5	20.0	23.8
LTE FDD B2	25.1		19.5	30.2	18.0	19.5	23.5
LTE FDD B7	28.4		20.0	37.1	19.5	20.0	23.0
LTE TDD B48	21.9		21.9	16.0	21.9	21.9	21.5
LTE TDD B41	28.0		24.0	36.5	19.0	24.0	21.0
LTE TDD B38	28.0		24.0	36.5	19.0	24.0	21.0
NR FDD n5	29.8		27.2	30.3	27.2	27.2	24.8
NR FDD n66	25.9		20.0	30.8	18.5	20.0	23.8
NR FDD n2	25.8		19.5	31.4	18.0	19.5	23.5

Notes:

1. For all modes/bands, when Hotspot Mode (DSI=3) and Extremity sensor (DSI=1) are triggered at the same time, DSI=3 takes priority, thus the P_{limit} for DSI=3 is set to be less or equal to P_{limit} for DSI=1.
2. When $P_{max} < P_{limit}$, the DUT will operate at a power level up to P_{max}.
3. P_{limit} for DSI=1 and DSI =4 are the same.
4. For LTE Band 48, when RCV is active, DSI=2 takes priority over all levels.

4 EQUIPMENT LIST

For SAR measurements

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8753ES	S-Parameter Network Analyzer	1/16/2020	Annual	1/16/2021	US39170118
Agilent	8753ES	S-Parameter Network Analyzer	12/31/2019	Annual	12/31/2020	US39170122
Agilent	E4438C	ESG Vector Signal Generator	9/13/2019	Annual	9/13/2020	MY42081752
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E5515C	Wireless Communications Test Set	5/22/2018	Biennial	5/22/2020	GB43193563
Agilent	E5515C	Wireless Communications Test Set	9/25/2019	Annual	9/25/2020	GB43304278
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Agilent	N5182A	MXG Vector Signal Generator	2/19/2020	Annual	2/19/2021	MY47420651
Agilent	N5182A	MXG Vector Signal Generator	7/10/2019	Annual	7/10/2020	MY47420800
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343971
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353317
Anritsu	MA24106A	USB Power Sensor	8/5/2019	Annual	8/5/2020	1827527
Anritsu	MA24106A	USB Power Sensor	5/22/2019	Annual	5/22/2020	1231535
Anritsu	MA24106A	USB Power Sensor	7/12/2019	Annual	7/12/2020	1244512
Anritsu	MA24106A	USB Power Sensor	6/21/2019	Annual	6/21/2020	1244515
Anritsu	MA24106A	USB Power Sensor	2/27/2020	Annual	2/27/2021	1244524
Anritsu	MA24106A	USB Power Sensor	7/8/2019	Annual	7/8/2020	1248508
Anritsu	MA2411B	Pulse Power Sensor	12/4/2019	Annual	12/4/2020	1126066
Anritsu	MA2411B	Pulse Power Sensor	6/11/2019	Annual	6/11/2020	1207364
Anritsu	ML2495A	Power Meter	11/15/2019	Annual	11/15/2020	1039008
Anritsu	ML2496A	Power Meter	12/17/2019	Annual	12/17/2020	1138001
Anritsu	MT8820C	Radio Communication Analyzer	7/25/2019	Annual	7/25/2020	6201240328
Anritsu	MT8821C	Radio Communication Analyzer	3/10/2020	Annual	3/10/2021	6200901190
Anritsu	MT8821C	Radio Communication Analyzer	8/16/2019	Annual	8/16/2020	6201144418
Anritsu	MT8821C	Radio Communication Analyzer	10/2/2019	Annual	10/2/2020	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	2/22/2020	Annual	2/22/2021	6261895213
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
COMTech	AR85729-S	Solid State Amplifier	CBT	N/A	CBT	M15SA00-009
COMTECH	AR85729-S/57598	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647802
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647811
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647812
Control Company	4352	Ultra Long Stem Thermometer	8/2/2018	Biennial	8/2/2020	181292000
Control Company	4352	Ultra Long Stem Thermometer	8/2/2018	Biennial	8/2/2020	181292054
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282744
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	7/2/2019	Annual	7/2/2020	MY53401181
Keysight Technologies	AT/N6705B	DC Power Supply	CBT	N/A	CBT	MY53001315
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	5/23/2018	Biennial	5/23/2020	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	8/26/2019	Annual	8/26/2020	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	6/24/2019	Annual	6/24/2020	101699
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Seekonk	NC-100	Torque Wrench	7/18/2019	Annual	7/18/2020	N/A
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/7/2019	Annual	5/7/2020	1070
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/22/2019	Annual	10/22/2020	1091
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	1161
SPEAG	D835V2	835 MHz SAR Dipole	1/13/2020	Annual	1/13/2021	4d132
SPEAG	D1750V2	1750 MHz SAR Dipole	5/15/2019	Annual	5/15/2020	1148
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Biennial	10/22/2020	1150
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Biennial	2/21/2021	5d148
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	797
SPEAG	D2450V2	2450 MHz SAR Dipole	8/14/2019	Annual	8/14/2020	719
SPEAG	D3500V2	3500 MHz SAR Dipole	1/21/2020	Annual	1/21/2021	1097
SPEAG	D3700V2	3700 MHz SAR Dipole	1/21/2020	Annual	1/21/2021	1067
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/17/2019	Annual	9/17/2020	1191
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	4d133
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d080
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Annual	6/14/2020	1064
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/16/2018	Triennial	1/16/2021	1057
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	7488
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX3DV4	SAR Probe	5/16/2019	Annual	5/16/2020	7406
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	3589
SPEAG	EX3DV4	SAR Probe	6/19/2019	Annual	6/19/2020	7409
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7552
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
SPEAG	EX3DV4	SAR Probe	3/18/2019	Annual	3/18/2020	7527
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7571
SPEAG	EX3DV4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/17/2019	Annual	9/17/2020	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/20/2019	Annual	6/20/2020	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/12/2019	Annual	9/12/2020	1449
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/9/2019	Annual	5/9/2020	1368
SPEAG	DAE4	Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1323

Note:

1. CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
2. Each equipment item was used solely within its respective calibration period.

5 MEASUREMENT UNCERTAINTIES

For SAR Measurements

a	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i 1gm**	**c_i 10 gms**	**1gm u_i (± %)**	**10gms u_i (± %)**	**v_i**
Measurement System								
Probe Calibration	6.55	N	1	1.0	1.0	6.6	6.6	∞
Axial Isotropy	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	2.0	R	1.73	1.0	1.0	1.2	1.2	∞
Linearity	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	0.25	R	1.73	1.0	1.0	0.1	0.1	∞
Readout Electronics	0.3	N	1	1.0	1.0	0.3	0.3	∞
Response Time	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions - Noise	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
RF Ambient Conditions - Reflections	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	6.7	R	1.73	1.0	1.0	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	2.7	N	1	1.0	1.0	2.7	2.7	35
Device Holder Uncertainty	1.67	N	1	1.0	1.0	1.7	1.7	5
Output Power Variation - SAR drift measurement	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
SAR Scaling	0.0	R	1.73	1.0	1.0	0.0	0.0	∞
Phantom & Tissue Parameters								
Phantom Uncertainty (Shape & Thickness tolerances)	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	4.2	N	1	0.78	0.71	3.3	3.0	10
Liquid Permittivity - measurement uncertainty	4.1	N	1	0.23	0.26	1.0	1.1	10
Liquid Conductivity - Temperature Uncertainty	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)		RSS				11.5	11.3	60
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2				23.0	22.6	

APPENDIX A: SAR TEST RESULTS FOR P_{LIMIT} CALCULATIONS

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

MEASUREMENT RESULTS										
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Side	Test Position	Duty Cycle	SAR (1g)	Plimit	Minimum Plimit
MHz	Ch.							(W/kg)	[dBm]	[dBm]
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	24.97	Right	Cheek	1:1	0.267	30.70	30.37
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	24.97	Right	Tilt	1:1	0.120	34.18	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	24.97	Left	Cheek	1:1	0.205	31.85	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	24.97	Left	Tilt	1:1	0.119	34.21	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.11	Right	Cheek	1:1	0.298	30.37	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.11	Right	Tilt	1:1	0.123	34.21	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.11	Left	Cheek	1:1	0.190	32.32	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.11	Left	Tilt	1:1	0.123	34.21	
1880.00	600	PCS CDMA	RC3 / SO55	23.21	Right	Cheek	1:1	0.079	34.23	31.39
1880.00	600	PCS CDMA	RC3 / SO55	23.21	Right	Tilt	1:1	0.042	36.98	
1880.00	600	PCS CDMA	RC3 / SO55	23.21	Left	Cheek	1:1	0.149	31.48	
1880.00	600	PCS CDMA	RC3 / SO55	23.21	Left	Tilt	1:1	0.035	37.77	
1880.00	600	PCS CDMA	EVDO Rev. A	23.18	Right	Cheek	1:1	0.102	33.09	
1880.00	600	PCS CDMA	EVDO Rev. A	23.18	Right	Tilt	1:1	0.066	34.98	
1880.00	600	PCS CDMA	EVDO Rev. A	23.18	Left	Cheek	1:1	0.151	31.39	
1880.00	600	PCS CDMA	EVDO Rev. A	23.18	Left	Tilt	1:1	0.040	37.16	
836.60	190	GSM 850	GSM	32.35	Right	Cheek	1:8.3	0.168	30.90	30.90
836.60	190	GSM 850	GSM	32.35	Right	Tilt	1:8.3	0.065	35.02	
836.60	190	GSM 850	GSM	32.35	Left	Cheek	1:8.3	0.112	32.66	
836.60	190	GSM 850	GSM	32.35	Left	Tilt	1:8.3	0.053	35.91	
1880.00	661	GSM 1900	GSM	28.99	Right	Cheek	1:8.3	0.036	34.23	30.76
1880.00	661	GSM 1900	GSM	28.99	Right	Tilt	1:8.3	0.019	37.00	
1880.00	661	GSM 1900	GSM	28.99	Left	Cheek	1:8.3	0.080	30.76	
1880.00	661	GSM 1900	GSM	28.99	Left	Tilt	1:8.3	0.015	38.03	
836.60	4183	UMTS 850	RMC	23.17	Right	Cheek	1:1	0.189	30.41	30.41
836.60	4183	UMTS 850	RMC	23.17	Right	Tilt	1:1	0.072	34.60	
836.60	4183	UMTS 850	RMC	23.17	Left	Cheek	1:1	0.128	32.10	
836.60	4183	UMTS 850	RMC	23.17	Left	Tilt	1:1	0.068	34.84	
1880.00	9400	UMTS 1900	RMC	23.06	Right	Cheek	1:1	0.096	33.24	30.78
1880.00	9400	UMTS 1900	RMC	23.06	Right	Tilt	1:1	0.050	36.07	
1880.00	9400	UMTS 1900	RMC	23.06	Left	Cheek	1:1	0.169	30.78	
1880.00	9400	UMTS 1900	RMC	23.06	Left	Tilt	1:1	0.031	38.15	

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

Table A-2
DSI = 2 P_{Limit} Calculations – 4G Head SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
707.5	23095	Mid	LTE Band 12	10	23.84	0	Right	Cheek	QPSK	1	0	1:1	0.113	33.31	33.26
707.5	23095	Mid	LTE Band 12	10	22.99	1	Right	Cheek	QPSK	25	12	1:1	0.094	33.26	
707.5	23095	Mid	LTE Band 12	10	23.84	0	Right	Tilt	QPSK	1	0	1:1	0.058	36.21	
707.5	23095	Mid	LTE Band 12	10	22.99	1	Right	Tilt	QPSK	25	12	1:1	0.049	36.09	
707.5	23095	Mid	LTE Band 12	10	23.84	0	Left	Cheek	QPSK	1	0	1:1	0.100	33.84	
707.5	23095	Mid	LTE Band 12	10	22.99	1	Left	Cheek	QPSK	25	12	1:1	0.085	33.70	
707.5	23095	Mid	LTE Band 12	10	23.84	0	Left	Tilt	QPSK	1	0	1:1	0.048	37.03	
707.5	23095	Mid	LTE Band 12	10	22.99	1	Left	Tilt	QPSK	25	12	1:1	0.037	37.31	
782.0	23230	Mid	LTE Band 13	10	24.83	0	Right	Cheek	QPSK	1	49	1:1	0.216	31.49	31.21
782.0	23230	Mid	LTE Band 13	10	23.88	1	Right	Cheek	QPSK	25	25	1:1	0.185	31.21	
782.0	23230	Mid	LTE Band 13	10	24.83	0	Right	Tilt	QPSK	1	49	1:1	0.125	33.86	
782.0	23230	Mid	LTE Band 13	10	23.88	1	Right	Tilt	QPSK	25	25	1:1	0.099	33.92	
782.0	23230	Mid	LTE Band 13	10	24.83	0	Left	Cheek	QPSK	1	49	1:1	0.192	32.00	
782.0	23230	Mid	LTE Band 13	10	23.88	1	Left	Cheek	QPSK	25	25	1:1	0.155	31.98	
782.0	23230	Mid	LTE Band 13	10	24.83	0	Left	Tilt	QPSK	1	49	1:1	0.142	33.31	
782.0	23230	Mid	LTE Band 13	10	23.88	1	Left	Tilt	QPSK	25	25	1:1	0.110	33.47	
793.0	23330	Mid	LTE Band 14	10	24.41	0	Right	Cheek	QPSK	1	0	1:1	0.188	31.67	31.67
793.0	23330	Mid	LTE Band 14	10	23.46	1	Right	Cheek	QPSK	25	12	1:1	0.146	31.82	
793.0	23330	Mid	LTE Band 14	10	24.41	0	Right	Tilt	QPSK	1	0	1:1	0.101	34.37	
793.0	23330	Mid	LTE Band 14	10	23.46	1	Right	Tilt	QPSK	25	12	1:1	0.078	34.54	
793.0	23330	Mid	LTE Band 14	10	24.41	0	Left	Cheek	QPSK	1	0	1:1	0.140	32.95	
793.0	23330	Mid	LTE Band 14	10	23.46	1	Left	Cheek	QPSK	25	12	1:1	0.106	33.21	
793.0	23330	Mid	LTE Band 14	10	24.41	0	Left	Tilt	QPSK	1	0	1:1	0.102	34.32	
793.0	23330	Mid	LTE Band 14	10	23.46	1	Left	Tilt	QPSK	25	12	1:1	0.073	34.83	
831.5	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	Right	Cheek	QPSK	1	36	1:1	0.223	31.03	30.96
831.5	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	Right	Cheek	QPSK	36	18	1:1	0.182	30.96	
831.5	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	Right	Tilt	QPSK	1	36	1:1	0.100	34.51	
831.5	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	Right	Tilt	QPSK	36	18	1:1	0.080	34.53	
831.5	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	Left	Cheek	QPSK	1	36	1:1	0.165	32.34	
831.5	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	Left	Cheek	QPSK	36	18	1:1	0.141	32.07	
831.5	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	Left	Tilt	QPSK	1	36	1:1	0.102	34.42	
831.5	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	Left	Tilt	QPSK	36	18	1:1	0.076	34.75	
836.5	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	Right	Cheek	QPSK	1	0	1:1	0.244	30.84	30.49
836.5	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	Right	Cheek	QPSK	25	25	1:1	0.217	30.49	
836.5	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	Right	Tilt	QPSK	1	0	1:1	0.102	34.62	
836.5	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	Right	Tilt	QPSK	25	25	1:1	0.096	34.03	
836.5	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	Left	Cheek	QPSK	1	0	1:1	0.199	31.72	
836.5	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	Left	Cheek	QPSK	25	25	1:1	0.152	32.03	
836.5	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	Left	Tilt	QPSK	1	0	1:1	0.126	33.71	
836.5	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	Left	Tilt	QPSK	25	25	1:1	0.093	34.17	

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

Table A-3
DSI = 2 P_{Limit} Calculations – 4G Head SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.96	0	Right	Cheek	QPSK	1	50	1:1	0.155	32.06	29.78
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.16	1	Right	Cheek	QPSK	50	0	1:1	0.128	32.09	
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.96	0	Right	Tilt	QPSK	1	50	1:1	0.098	34.05	
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.16	1	Right	Tilt	QPSK	50	0	1:1	0.089	33.67	
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.96	0	Left	Cheek	QPSK	1	50	1:1	0.262	29.78	
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.16	1	Left	Cheek	QPSK	50	0	1:1	0.201	30.13	
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.96	0	Left	Tilt	QPSK	1	50	1:1	0.090	34.42	
1720.0	132072	Low	LTE Band 66 (AWS)	20	23.16	1	Left	Tilt	QPSK	50	0	1:1	0.072	34.59	
1900.0	19100	High	LTE Band 2 (PCS)	20	23.61	0	Right	Cheek	QPSK	1	99	1:1	0.146	31.97	30.23
1900.0	19100	High	LTE Band 2 (PCS)	20	22.64	1	Right	Cheek	QPSK	50	50	1:1	0.119	31.88	
1900.0	19100	High	LTE Band 2 (PCS)	20	23.61	0	Right	Tilt	QPSK	1	99	1:1	0.100	33.61	
1900.0	19100	High	LTE Band 2 (PCS)	20	22.64	1	Right	Tilt	QPSK	50	50	1:1	0.076	33.83	
1900.0	19100	High	LTE Band 2 (PCS)	20	23.61	0	Left	Cheek	QPSK	1	99	1:1	0.218	30.23	
1900.0	19100	High	LTE Band 2 (PCS)	20	22.64	1	Left	Cheek	QPSK	50	50	1:1	0.166	30.44	
1900.0	19100	High	LTE Band 2 (PCS)	20	23.61	0	Left	Tilt	QPSK	1	99	1:1	0.053	36.37	
1900.0	19100	High	LTE Band 2 (PCS)	20	22.64	1	Left	Tilt	QPSK	50	50	1:1	0.051	35.56	
2510.0	20850	Low	LTE Band 7	20	23.20	0	Right	Cheek	QPSK	1	0	1:1	0.035	37.76	37.13
2510.0	20850	Low	LTE Band 7	20	22.32	1	Right	Cheek	QPSK	50	25	1:1	0.033	37.13	
2510.0	20850	Low	LTE Band 7	20	23.20	0	Right	Tilt	QPSK	1	0	1:1	0.017	40.90	
2510.0	20850	Low	LTE Band 7	20	22.32	1	Right	Tilt	QPSK	50	25	1:1	0.016	40.28	
2510.0	20850	Low	LTE Band 7	20	23.20	0	Left	Cheek	QPSK	1	0	1:1	0.024	39.40	
2510.0	20850	Low	LTE Band 7	20	22.32	1	Left	Cheek	QPSK	50	25	1:1	0.024	38.52	
2510.0	20850	Low	LTE Band 7	20	23.20	0	Left	Tilt	QPSK	1	0	1:1	0.012	42.41	
2510.0	20850	Low	LTE Band 7	20	22.32	1	Left	Tilt	QPSK	50	25	1:1	0.008	43.29	
3646.7	56207	Mid-High	LTE Band 48	20	24.19	0	Right	Cheek	QPSK	1	0	1:1.58	2.430	18.35	17.81
3646.7	56207	Mid-High	LTE Band 48	20	24.19	0	Right	Tilt	QPSK	1	0	1:1.58	2.750	17.81	
3646.7	56207	Mid-High	LTE Band 48	20	24.19	0	Left	Cheek	QPSK	1	0	1:1.58	0.645	24.11	
3646.7	56207	Mid-High	LTE Band 48	20	24.19	0	Left	Tilt	QPSK	1	0	1:1.58	0.935	22.50	
2506.0	39750	Low	LTE Band 41	20	23.52	0	Right	Cheek	QPSK	1	0	1:1.58	0.022	38.11	36.45
2506.0	39750	Low	LTE Band 41	20	22.59	1	Right	Cheek	QPSK	50	0	1:1.58	0.016	38.56	
2506.0	39750	Low	LTE Band 41	20	23.52	0	Right	Tilt	QPSK	1	0	1:1.58	0.019	38.75	
2506.0	39750	Low	LTE Band 41	20	22.59	1	Right	Tilt	QPSK	50	0	1:1.58	0.018	38.05	
2506.0	39750	Low	LTE Band 41	20	23.52	0	Left	Cheek	QPSK	1	0	1:1.58	0.030	36.76	
2506.0	39750	Low	LTE Band 41	20	22.59	1	Left	Cheek	QPSK	50	0	1:1.58	0.026	36.45	
2506.0	39750	Low	LTE Band 41	20	23.52	0	Left	Tilt	QPSK	1	0	1:1.58	0.015	39.77	
2506.0	39750	Low	LTE Band 41	20	22.59	1	Left	Tilt	QPSK	50	0	1:1.58	0.011	40.19	

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

Table A-4
DSI = 2 P_{Limit} Calculations – 5G Head SAR

MEASUREMENT RESULTS														
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
836.50	167300	Mid	NR Band n5	20	25.33	0	Right	Cheek	DFT-s-OFDM QPSK	1	1	1:1	0.317	30.32	
836.50	167300	Mid	NR Band n5	20	25.16	0	Right	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.297	30.43	
836.50	167300	Mid	NR Band n5	20	25.33	0	Right	Tilt	DFT-s-OFDM QPSK	1	1	1:1	0.145	33.72	
836.50	167300	Mid	NR Band n5	20	25.16	0	Right	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.129	34.05	
836.50	167300	Mid	NR Band n5	20	25.33	0	Left	Cheek	DFT-s-OFDM QPSK	1	1	1:1	0.252	31.32	30.32
836.50	167300	Mid	NR Band n5	20	25.16	0	Left	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.173	32.78	
836.50	167300	Mid	NR Band n5	20	25.33	0	Left	Tilt	DFT-s-OFDM QPSK	1	1	1:1	0.145	33.72	
836.50	167300	Mid	NR Band n5	20	25.16	0	Left	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.106	34.91	
836.50	167300	Mid	NR Band n5	20	23.71	1.5	Right	Cheek	CP-OFDM QPSK	1	1	1:1	0.209	30.51	
1745.00	349000	Mid	NR Band n66	20	24.20	0	Right	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.164	32.05	
1745.00	349000	Mid	NR Band n66	20	24.13	0	Right	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.172	31.77	
1745.00	349000	Mid	NR Band n66	20	24.20	0	Right	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.106	33.95	
1745.00	349000	Mid	NR Band n66	20	24.13	0	Right	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.107	33.84	
1745.00	349000	Mid	NR Band n66	20	24.20	0	Left	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.218	30.82	30.82
1745.00	349000	Mid	NR Band n66	20	24.13	0	Left	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.208	30.95	
1745.00	349000	Mid	NR Band n66	20	24.20	0	Left	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.067	35.94	
1745.00	349000	Mid	NR Band n66	20	24.13	0	Left	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.070	35.68	
1720.00	344000	Low	NR Band n66	20	22.48	1.5	Left	Cheek	CP-OFDM QPSK	1	1	1:1	0.101	32.44	
1880.00	376000	Mid	NR Band n2	20	23.95	0	Right	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.112	33.46	
1860.00	372000	Low	NR Band n2	20	23.67	0	Right	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.105	33.46	
1880.00	376000	Mid	NR Band n2	20	23.95	0	Right	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.069	35.56	
1860.00	372000	Low	NR Band n2	20	23.67	0	Right	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.062	35.75	
1880.00	376000	Mid	NR Band n2	20	23.95	0	Left	Cheek	DFT-s-OFDM QPSK	1	53	1:1	0.175	31.52	31.44
1860.00	372000	Low	NR Band n2	20	23.67	0	Left	Cheek	DFT-s-OFDM QPSK	50	28	1:1	0.167	31.44	
1880.00	376000	Mid	NR Band n2	20	23.95	0	Left	Tilt	DFT-s-OFDM QPSK	1	53	1:1	0.065	35.82	
1860.00	372000	Low	NR Band n2	20	23.67	0	Left	Tilt	DFT-s-OFDM QPSK	50	28	1:1	0.062	35.75	
1880.00	376000	Mid	NR Band n2	20	22.05	1.5	Left	Cheek	CP-OFDM QPSK	1	1	1:1	0.030	37.28	

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

Table A-5
DSI = 0 P_{Limit} Calculations – 2G/3G Body-Worn SAR

MEASUREMENT RESULTS										
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing (mm)	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.							(W/kg)	[dBm]	[dBm]
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	24.95	15	Back	1:1	0.324	29.84	29.84
1908.75	1175	PCS CDMA	TDSO / SO32	23.43	15	Back	1:1	0.546	26.06	26.06
836.60	190	GSM 850	GSM	32.35	15	Back	1:8.3	0.190	30.36	30.36
1880.00	661	GSM 1900	GSM	28.99	15	Back	1:8.3	0.213	26.50	26.50
836.60	4183	UMTS 850	RMC	23.17	15	Back	1:1	0.225	29.65	29.65
1907.60	9538	UMTS 1900	RMC	23.31	15	Back	1:1	0.675	25.02	25.02

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

Table A-6
DSI = 0 P_{Limit} Calculations – 4G Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	15	Back	1:1	0.203	30.77	30.71
707.50	23095	Mid	LTE Band 12	10	22.99	1	QPSK	25	12	15	Back	1:1	0.169	30.71	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	15	Back	1:1	0.369	29.16	29.14
782.00	23230	Mid	LTE Band 13	10	23.88	1	QPSK	25	25	15	Back	1:1	0.298	29.14	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	15	Back	1:1	0.292	29.76	29.76
793.00	23330	Mid	LTE Band 14	10	23.46	1	QPSK	25	12	15	Back	1:1	0.226	29.92	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	15	Back	1:1	0.285	29.96	29.91
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	QPSK	36	18	15	Back	1:1	0.232	29.91	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	15	Back	1:1	0.343	29.36	29.36
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	QPSK	25	25	15	Back	1:1	0.279	29.39	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.80	0	QPSK	1	50	15	Back	1:1	0.832	24.60	24.60
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.16	1	QPSK	50	0	15	Back	1:1	0.640	25.10	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.02	1	QPSK	100	0	15	Back	1:1	0.633	25.01	
1860.00	18700	Low	LTE Band 2 (PCS)	20	23.42	0	QPSK	1	0	15	Back	1:1	0.679	25.10	25.10
1900.00	19100	High	LTE Band 2 (PCS)	20	22.64	1	QPSK	50	50	15	Back	1:1	0.522	25.46	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.58	1	QPSK	100	0	15	Back	1:1	0.490	25.68	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	15	Back	1:1	0.280	28.73	28.41
2510.00	20850	Low	LTE Band 7	20	22.32	1	QPSK	50	25	15	Back	1:1	0.246	28.41	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	15	Back	1:1.58	0.261	28.04	28.04
3646.70	56207	Mid-High	LTE Band 48	20	23.28	1	QPSK	50	25	15	Back	1:1.58	0.210	28.07	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	15	Back	1:1.58	0.226	27.99	27.99
2506.00	39750	Low	LTE Band 41	20	22.59	1	QPSK	50	0	15	Back	1:1.58	0.181	28.03	

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

Table A-7
DSI = 0 P_{Limit} Calculations – 5G Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	15	Back	1:1	0.347	29.93	29.77
836.50	167300	Mid	NR Band n5	20	25.16	0	DFT-s-OFDM QPSK	50	28	15	Back	1:1	0.294	30.48	
836.50	167300	Mid	NR Band n5	20	23.71	1.5	CP-OFDM QPSK	1	1	15	Back	1:1	0.248	29.77	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	15	Back	1:1	0.795	25.20	24.97
1745.00	349000	Mid	NR Band n66	20	24.13	0	DFT-s-OFDM QPSK	50	28	15	Back	1:1	0.825	24.97	
1720.00	344000	Low	NR Band n66	20	22.48	1.5	CP-OFDM QPSK	1	1	15	Back	1:1	0.379	26.69	
1860.00	372000	Low	NR Band n2	20	23.88	0	DFT-s-OFDM QPSK	1	53	15	Back	1:1	0.646	25.78	25.78
1860.00	372000	Low	NR Band n2	20	23.67	0	DFT-s-OFDM QPSK	50	28	15	Back	1:1	0.514	26.56	
1880.00	376000	Mid	NR Band n2	20	22.05	1.5	CP-OFDM QPSK	1	1	15	Back	1:1	0.385	26.20	

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

Table A-8
DSI = 3 P_{Limit} Calculations – 2G/3G Hotspot SAR

MEASUREMENT RESULTS											
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing (mm)	Side	# of GPRS Slots	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.								(W/kg)	[dBm]	[dBm]
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	10	Back	N/A	1:1	0.468	28.40	28.40
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	10	Front	N/A	1:1	0.407	29.00	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	10	Bottom	N/A	1:1	0.311	30.17	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	10	Right	N/A	1:1	0.326	29.97	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	10	Left	N/A	1:1	0.157	33.14	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	10	Back	N/A	1:1	1.250	22.25	19.64
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	10	Front	N/A	1:1	1.140	22.65	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	10	Bottom	N/A	1:1	2.280	19.64	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	10	Right	N/A	1:1	0.150	31.46	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	10	Left	N/A	1:1	0.234	29.53	
836.60	190	GSM 850	GPRS	29.66	10	Back	3	1:2.76	0.494	28.29	28.29
836.60	190	GSM 850	GPRS	29.66	10	Front	3	1:2.76	0.415	29.05	
836.60	190	GSM 850	GPRS	29.66	10	Bottom	3	1:2.76	0.283	30.71	
836.60	190	GSM 850	GPRS	29.66	10	Right	3	1:2.76	0.351	29.78	
836.60	190	GSM 850	GPRS	29.66	10	Left	3	1:2.76	0.121	34.40	
1880.00	661	GSM 1900	GPRS	25.88	10	Back	3	1:2.76	0.700	23.00	20.34
1880.00	661	GSM 1900	GPRS	25.88	10	Front	3	1:2.76	0.535	24.17	
1880.00	661	GSM 1900	GPRS	25.88	10	Bottom	3	1:2.76	1.290	20.34	
1880.00	661	GSM 1900	GPRS	25.88	10	Right	3	1:2.76	0.093	31.77	
1880.00	661	GSM 1900	GPRS	25.88	10	Left	3	1:2.76	0.114	30.88	
836.60	4183	UMTS 850	RMC	23.17	10	Back	N/A	1:1	0.342	27.83	27.83
836.60	4183	UMTS 850	RMC	23.17	10	Front	N/A	1:1	0.320	28.12	
836.60	4183	UMTS 850	RMC	23.17	10	Bottom	N/A	1:1	0.215	29.85	
836.60	4183	UMTS 850	RMC	23.17	10	Right	N/A	1:1	0.194	30.29	
836.60	4183	UMTS 850	RMC	23.17	10	Left	N/A	1:1	0.093	33.49	
1880.00	9400	UMTS 1900	RMC	23.06	10	Back	N/A	1:1	1.200	22.27	19.50
1880.00	9400	UMTS 1900	RMC	23.06	10	Front	N/A	1:1	1.150	22.45	
1880.00	9400	UMTS 1900	RMC	23.06	10	Bottom	N/A	1:1	2.270	19.50	
1880.00	9400	UMTS 1900	RMC	23.06	10	Right	N/A	1:1	0.151	31.27	
1880.00	9400	UMTS 1900	RMC	23.06	10	Left	N/A	1:1	0.184	30.41	

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

Table A-9
DSI = 3 P_{Limit} Calculations – 4G Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	10	Back	1:1	0.270	29.53	29.53
707.50	23095	Mid	LTE Band 12	10	22.99	1	QPSK	25	12	10	Back	1:1	0.222	29.53	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	10	Front	1:1	0.259	29.71	
707.50	23095	Mid	LTE Band 12	10	22.99	1	QPSK	25	12	10	Front	1:1	0.216	29.65	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	10	Bottom	1:1	0.180	31.29	
707.50	23095	Mid	LTE Band 12	10	22.99	1	QPSK	25	12	10	Bottom	1:1	0.144	31.41	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	10	Right	1:1	0.183	31.22	
707.50	23095	Mid	LTE Band 12	10	22.99	1	QPSK	25	12	10	Right	1:1	0.155	31.09	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	10	Left	1:1	0.177	31.36	
707.50	23095	Mid	LTE Band 12	10	22.99	1	QPSK	25	12	10	Left	1:1	0.146	31.35	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	10	Back	1:1	0.463	28.17	28.08
782.00	23230	Mid	LTE Band 13	10	23.88	1	QPSK	25	25	10	Back	1:1	0.380	28.08	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	10	Front	1:1	0.407	28.73	
782.00	23230	Mid	LTE Band 13	10	23.88	1	QPSK	25	25	10	Front	1:1	0.332	28.67	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	10	Bottom	1:1	0.308	29.94	
782.00	23230	Mid	LTE Band 13	10	23.88	1	QPSK	25	25	10	Bottom	1:1	0.247	29.95	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	10	Right	1:1	0.386	28.96	
782.00	23230	Mid	LTE Band 13	10	23.88	1	QPSK	25	25	10	Right	1:1	0.313	28.92	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	10	Left	1:1	0.194	31.95	
782.00	23230	Mid	LTE Band 13	10	23.88	1	QPSK	25	25	10	Left	1:1	0.156	31.95	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	10	Back	1:1	0.360	28.85	28.85
793.00	23330	Mid	LTE Band 14	10	23.46	1	QPSK	25	12	10	Back	1:1	0.273	29.10	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	10	Front	1:1	0.345	29.03	
793.00	23330	Mid	LTE Band 14	10	23.46	1	QPSK	25	12	10	Front	1:1	0.262	29.28	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	10	Bottom	1:1	0.250	30.43	
793.00	23330	Mid	LTE Band 14	10	23.46	1	QPSK	25	12	10	Bottom	1:1	0.185	30.79	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	10	Right	1:1	0.291	29.77	
793.00	23330	Mid	LTE Band 14	10	23.46	1	QPSK	25	12	10	Right	1:1	0.262	29.28	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	10	Left	1:1	0.182	31.81	
793.00	23330	Mid	LTE Band 14	10	23.46	1	QPSK	25	12	10	Left	1:1	0.134	32.19	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	10	Back	1:1	0.404	28.45	28.45
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	QPSK	36	18	10	Back	1:1	0.323	28.47	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	10	Front	1:1	0.336	29.25	
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	QPSK	36	18	10	Front	1:1	0.274	29.18	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	10	Bottom	1:1	0.287	29.93	
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	QPSK	36	18	10	Bottom	1:1	0.232	29.91	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	10	Right	1:1	0.349	29.08	
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	QPSK	36	18	10	Right	1:1	0.289	28.95	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	10	Left	1:1	0.147	32.84	
831.50	26865	Mid	LTE Band 26 (Cell)	15	23.56	1	QPSK	36	18	10	Left	1:1	0.121	32.73	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	10	Back	1:1	0.495	27.76	27.63
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	QPSK	25	25	10	Back	1:1	0.419	27.63	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	10	Front	1:1	0.374	28.98	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	QPSK	25	25	10	Front	1:1	0.317	28.84	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	10	Bottom	1:1	0.313	29.75	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	QPSK	25	25	10	Bottom	1:1	0.260	29.70	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	10	Right	1:1	0.382	28.89	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	QPSK	25	25	10	Right	1:1	0.305	29.01	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	10	Left	1:1	0.169	32.43	
836.50	20525	Mid	LTE Band 5 (Cell)	10	23.85	1	QPSK	25	25	10	Left	1:1	0.121	33.02	

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

Table A-10
DSI = 3 P_{Limit} Calculations – 4G Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	10	Back	1:1	1.310	22.79	19.91
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	10	Front	1:1	1.340	22.69	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	10	Bottom	1:1	2.540	19.91	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	10	Right	1:1	0.316	28.96	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	10	Left	1:1	0.171	31.63	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	10	Back	1:1	1.320	22.40	18.74
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	10	Front	1:1	1.070	23.32	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	10	Bottom	1:1	3.070	18.74	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	10	Right	1:1	0.220	30.19	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	10	Left	1:1	0.210	30.39	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	10	Back	1:1	0.584	25.54	19.76
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	10	Front	1:1	0.584	25.54	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	10	Bottom	1:1	2.210	19.76	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	10	Right	1:1	0.043	36.87	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	10	Left	1:1	0.072	34.63	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	10	Back	1:1.58	0.473	25.46	23.44
3646.70	56207	Mid-High	LTE Band 48	20	23.28	1	QPSK	50	25	10	Back	1:1.58	0.394	25.34	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	10	Front	1:1.58	0.261	28.04	
3646.70	56207	Mid-High	LTE Band 48	20	23.28	1	QPSK	50	25	10	Front	1:1.58	0.212	28.03	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	10	Top	1:1.58	0.736	23.54	
3690.00	56640	High	LTE Band 48	20	22.90	1	QPSK	50	25	10	Top	1:1.58	0.559	23.44	
3646.70	56207	Mid-High	LTE Band 48	20	23.21	1	QPSK	100	0	10	Top	1:1.58	0.583	23.57	
3690.00	56640	High	LTE Band 48	20	23.91	0	QPSK	1	0	10	Left	1:1.58	0.650	23.79	
3646.70	56207	Mid-High	LTE Band 48	20	23.28	1	QPSK	50	25	10	Left	1:1.58	0.536	24.00	
3646.70	56207	Mid-High	LTE Band 48	20	23.21	1	QPSK	100	0	10	Left	1:1.58	0.519	24.07	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	10	Back	1:1.58	0.458	24.93	20.23
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	10	Front	1:1.58	0.448	25.02	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	10	Bottom	1:1.58	1.350	20.23	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	10	Right	1:1.58	0.043	35.20	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	10	Left	1:1.58	0.080	32.50	

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

Table A-11
DSI = 3 P_{Limit} Calculations – 5G Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (1g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	10	Back	1:1	0.478	28.54	
836.50	167300	Mid	NR Band n5	20	25.16	0	DFT-s-OFDM QPSK	50	28	10	Back	1:1	0.466	28.48	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	10	Front	1:1	0.398	29.33	
836.50	167300	Mid	NR Band n5	20	25.16	0	DFT-s-OFDM QPSK	50	28	10	Front	1:1	0.448	28.65	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	10	Bottom	1:1	0.285	30.78	
836.50	167300	Mid	NR Band n5	20	25.16	0	DFT-s-OFDM QPSK	50	28	10	Bottom	1:1	0.278	30.72	28.45
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	10	Right	1:1	0.474	28.57	
836.50	167300	Mid	NR Band n5	20	25.16	0	DFT-s-OFDM QPSK	50	28	10	Right	1:1	0.464	28.49	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	10	Left	1:1	0.219	31.93	
836.50	167300	Mid	NR Band n5	20	25.16	0	DFT-s-OFDM QPSK	50	28	10	Left	1:1	0.175	32.73	
836.50	167300	Mid	NR Band n5	20	23.71	1.5	CP-OFDM QPSK	1	1	10	Back	1:1	0.336	28.45	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	10	Back	1:1	1.270	23.16	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	10	Front	1:1	1.160	23.56	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	10	Bottom	1:1	2.450	20.31	20.31
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	10	Right	1:1	0.235	30.49	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	10	Left	1:1	0.189	31.44	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	10	Back	1:1	1.070	23.66	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	10	Front	1:1	1.050	23.74	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	10	Bottom	1:1	3.220	18.87	18.87
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	10	Right	1:1	0.183	31.33	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	10	Left	1:1	0.260	29.80	

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

Table A-12
DSI = 0 P_{Limit} Calculations – 2G/3G Phablet SAR

MEASUREMENT RESULTS											
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing (mm)	Side	# of GPRS Slots	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.								(W/kg)	[dBm]	[dBm]
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	8	Back	N/A	1:1	0.413	32.92	31.79
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	6	Front	N/A	1:1	0.536	31.79	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	11	Bottom	N/A	1:1	0.151	37.29	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	0	Right	N/A	1:1	0.244	35.21	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	0	Left	N/A	1:1	0.293	34.41	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	8	Back	N/A	1:1	0.759	28.40	26.55
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	6	Front	N/A	1:1	0.961	27.37	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	11	Bottom	N/A	1:1	1.160	26.55	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	0	Right	N/A	1:1	0.306	32.34	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	0	Left	N/A	1:1	0.507	30.15	
836.60	190	GSM 850	GPRS	29.66	8	Back	3	1:2.76	0.380	33.41	32.02
836.60	190	GSM 850	GPRS	29.66	6	Front	3	1:2.76	0.523	32.02	
836.60	190	GSM 850	GPRS	29.66	11	Bottom	3	1:2.76	0.124	38.28	
836.60	190	GSM 850	GPRS	29.66	0	Right	3	1:2.76	0.252	35.20	
836.60	190	GSM 850	GPRS	29.66	0	Left	3	1:2.76	0.205	36.09	
1880.00	661	GSM 1900	GPRS	25.88	8	Back	3	1:2.76	0.419	29.21	27.18
1880.00	661	GSM 1900	GPRS	25.88	6	Front	3	1:2.76	0.669	27.18	
1880.00	661	GSM 1900	GPRS	25.88	11	Bottom	3	1:2.76	0.656	27.26	
1880.00	661	GSM 1900	GPRS	25.88	0	Right	3	1:2.76	0.189	32.66	
1880.00	661	GSM 1900	GPRS	25.88	0	Left	3	1:2.76	0.312	30.49	
836.60	4183	UMTS 850	RMC	23.17	8	Back	N/A	1:1	0.259	33.02	31.76
836.60	4183	UMTS 850	RMC	23.17	6	Front	N/A	1:1	0.346	31.76	
836.60	4183	UMTS 850	RMC	23.17	11	Bottom	N/A	1:1	0.099	37.19	
836.60	4183	UMTS 850	RMC	23.17	0	Right	N/A	1:1	0.192	34.32	
836.60	4183	UMTS 850	RMC	23.17	0	Left	N/A	1:1	0.198	34.18	
1880.00	9400	UMTS 1900	RMC	23.06	8	Back	N/A	1:1	0.892	27.54	26.47
1880.00	9400	UMTS 1900	RMC	23.06	6	Front	N/A	1:1	1.140	26.47	
1880.00	9400	UMTS 1900	RMC	23.06	11	Bottom	N/A	1:1	1.060	26.79	
1880.00	9400	UMTS 1900	RMC	23.06	0	Right	N/A	1:1	0.370	31.36	
1880.00	9400	UMTS 1900	RMC	23.06	0	Left	N/A	1:1	0.592	29.32	

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

Table A-13
DSI = 1 P_{Limit} Calculations – 2G/3G Phablet SAR

MEASUREMENT RESULTS											
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Spacing (mm)	Side	# of GPRS Slots	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.								(W/kg)	[dBm]	[dBm]
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	0	Back	N/A	1:1	1.560	27.15	27.04
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	0	Front	N/A	1:1	1.600	27.04	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	0	Bottom	N/A	1:1	0.849	29.79	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	0	Right	N/A	1:1	0.244	35.21	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.10	0	Left	N/A	1:1	0.293	34.41	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	0	Back	N/A	1:1	3.620	21.61	19.92
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	0	Front	N/A	1:1	3.350	21.95	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	0	Bottom	N/A	1:1	5.340	19.92	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	0	Right	N/A	1:1	0.306	32.34	
1880.00	600	PCS CDMA	EVDO Rev. 0	23.22	0	Left	N/A	1:1	0.507	30.15	
836.60	190	GSM 850	GPRS	29.66	0	Back	3	1:2.76	0.758	30.41	29.73
836.60	190	GSM 850	GPRS	29.66	0	Front	3	1:2.76	0.888	29.73	
836.60	190	GSM 850	GPRS	29.66	0	Bottom	3	1:2.76	0.289	34.60	
836.60	190	GSM 850	GPRS	29.66	0	Right	3	1:2.76	0.252	35.20	
836.60	190	GSM 850	GPRS	29.66	0	Left	3	1:2.76	0.205	36.09	
1880.00	661	GSM 1900	GPRS	25.88	0	Back	3	1:2.76	2.240	21.93	20.35
1880.00	661	GSM 1900	GPRS	25.88	0	Front	3	1:2.76	1.840	22.78	
1880.00	661	GSM 1900	GPRS	25.88	0	Bottom	3	1:2.76	3.220	20.35	
1880.00	661	GSM 1900	GPRS	25.88	0	Right	3	1:2.76	0.189	32.66	
1880.00	661	GSM 1900	GPRS	25.88	0	Left	3	1:2.76	0.312	30.49	
836.60	4183	UMTS 850	RMC	23.17	0	Back	N/A	1:1	0.972	27.27	26.82
836.60	4183	UMTS 850	RMC	23.17	0	Front	N/A	1:1	1.080	26.82	
836.60	4183	UMTS 850	RMC	23.17	0	Bottom	N/A	1:1	0.404	31.09	
836.60	4183	UMTS 850	RMC	23.17	0	Right	N/A	1:1	0.192	34.32	
836.60	4183	UMTS 850	RMC	23.17	0	Left	N/A	1:1	0.198	34.18	
1880.00	9400	UMTS 1900	RMC	23.06	0	Back	N/A	1:1	3.770	21.28	19.65
1880.00	9400	UMTS 1900	RMC	23.06	0	Front	N/A	1:1	3.710	21.35	
1880.00	9400	UMTS 1900	RMC	23.06	0	Bottom	N/A	1:1	5.480	19.65	
1880.00	9400	UMTS 1900	RMC	23.06	0	Right	N/A	1:1	0.370	31.36	
1880.00	9400	UMTS 1900	RMC	23.06	0	Left	N/A	1:1	0.592	29.32	

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

Table A-14
DSI = 0 P_{Limit} Calculations – 4G Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	8	Back	1:1	0.223	34.34	34.34
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	6	Front	1:1	0.207	34.66	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	11	Bottom	1:1	0.067	39.56	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	0	Right	1:1	0.174	35.41	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	0	Left	1:1	0.080	38.79	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	8	Back	1:1	0.362	33.22	33.22
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	6	Front	1:1	0.318	33.79	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	11	Bottom	1:1	0.130	37.67	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	0	Right	1:1	0.253	34.78	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	0	Left	1:1	0.212	35.55	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	8	Back	1:1	0.292	33.74	33.20
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	6	Front	1:1	0.330	33.20	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	11	Bottom	1:1	0.111	37.94	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	0	Right	1:1	0.193	35.53	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	0	Left	1:1	0.183	35.76	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	8	Back	1:1	0.441	32.05	31.29
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	6	Front	1:1	0.525	31.29	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	11	Bottom	1:1	0.134	37.22	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	0	Right	1:1	0.252	34.48	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	0	Left	1:1	0.243	34.63	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	8	Back	1:1	0.440	32.25	31.68
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	6	Front	1:1	0.502	31.68	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	11	Bottom	1:1	0.129	37.58	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	0	Right	1:1	0.250	34.71	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	0	Left	1:1	0.238	34.92	

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

Table A-15
DSI = 0 P_{Limit} Calculations – 4G Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	8	Back	1:1	0.913	28.33	27.05
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.16	1	QPSK	50	0	8	Back	1:1	0.778	28.23	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	6	Front	1:1	1.210	27.11	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.16	1	QPSK	50	0	6	Front	1:1	1.020	27.05	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	11	Bottom	1:1	1.080	27.61	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.16	1	QPSK	50	0	11	Bottom	1:1	0.917	27.52	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	0	Right	1:1	0.532	30.68	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.16	1	QPSK	50	0	0	Right	1:1	0.434	30.76	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	0	Left	1:1	0.476	31.16	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.16	1	QPSK	50	0	0	Left	1:1	0.403	31.09	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	8	Back	1:1	0.827	28.41	26.45
1900.00	19100	High	LTE Band 2 (PCS)	20	22.64	1	QPSK	50	50	8	Back	1:1	0.702	28.16	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	6	Front	1:1	0.926	27.92	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.64	1	QPSK	50	50	6	Front	1:1	0.784	27.68	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	11	Bottom	1:1	1.290	26.48	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.64	1	QPSK	50	50	11	Bottom	1:1	1.040	26.45	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	0	Right	1:1	0.417	31.39	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.64	1	QPSK	50	50	0	Right	1:1	0.353	31.14	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	0	Left	1:1	0.567	30.05	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.64	1	QPSK	50	50	0	Left	1:1	0.479	29.82	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	8	Back	1:1	0.354	31.69	29.36
2510.00	20850	Low	LTE Band 7	20	22.32	1	QPSK	50	25	8	Back	1:1	0.311	31.37	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	6	Front	1:1	0.502	30.17	
2510.00	20850	Low	LTE Band 7	20	22.32	1	QPSK	50	25	6	Front	1:1	0.450	29.77	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	11	Bottom	1:1	0.557	29.72	
2510.00	20850	Low	LTE Band 7	20	22.32	1	QPSK	50	25	11	Bottom	1:1	0.494	29.36	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	0	Right	1:1	0.089	37.69	
2510.00	20850	Low	LTE Band 7	20	22.32	1	QPSK	50	25	0	Right	1:1	0.083	37.11	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	0	Left	1:1	0.202	34.13	
2510.00	20850	Low	LTE Band 7	20	22.32	1	QPSK	50	25	0	Left	1:1	0.170	33.99	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Back	1:1.58	1.640	24.03	21.89
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Front	1:1.58	1.180	25.46	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Top	1:1.58	2.250	22.66	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Left	1:1.58	2.690	21.89	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	8	Back	1:1.58	0.242	31.68	28.89
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	6	Front	1:1.58	0.302	30.71	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	11	Bottom	1:1.58	0.460	28.89	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	0	Right	1:1.58	0.083	36.32	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	0	Left	1:1.58	0.257	31.41	

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

Table A-16
DSI = 1 P_{Limit} Calculations – 4G Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	0	Back	1:1	1.130	27.29	27.29
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	0	Front	1:1	1.010	27.78	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	0	Bottom	1:1	0.532	30.56	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	0	Right	1:1	0.174	35.41	
707.50	23095	Mid	LTE Band 12	10	23.84	0	QPSK	1	0	0	Left	1:1	0.080	38.79	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	0	Back	1:1	1.600	26.77	26.77
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	0	Front	1:1	1.400	27.35	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	0	Bottom	1:1	0.656	30.64	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	0	Right	1:1	0.253	34.78	
782.00	23230	Mid	LTE Band 13	10	24.83	0	QPSK	1	49	0	Left	1:1	0.212	35.55	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	0	Back	1:1	1.280	27.32	27.32
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	0	Front	1:1	1.270	27.35	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	0	Bottom	1:1	0.522	31.21	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	0	Right	1:1	0.193	35.53	
793.00	23330	Mid	LTE Band 14	10	24.41	0	QPSK	1	0	0	Left	1:1	0.183	35.76	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	0	Back	1:1	1.440	26.91	26.91
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	0	Front	1:1	1.430	26.94	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	0	Bottom	1:1	0.562	30.99	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	0	Right	1:1	0.252	34.48	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.51	0	QPSK	1	36	0	Left	1:1	0.243	34.63	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	0	Back	1:1	1.480	26.99	26.93
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	0	Front	1:1	1.500	26.93	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	0	Bottom	1:1	0.562	31.19	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	0	Right	1:1	0.250	34.71	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.71	0	QPSK	1	0	0	Left	1:1	0.238	34.92	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	0	Back	1:1	4.110	21.80	20.41
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	0	Front	1:1	4.560	21.35	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	0	Bottom	1:1	5.660	20.41	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	0	Right	1:1	0.532	30.68	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.96	0	QPSK	1	50	0	Left	1:1	0.476	31.16	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	0	Back	1:1	3.530	22.11	20.15
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	0	Front	1:1	3.260	22.46	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	0	Bottom	1:1	5.550	20.15	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	0	Right	1:1	0.417	31.39	
1900.00	19100	High	LTE Band 2 (PCS)	20	23.61	0	QPSK	1	99	0	Left	1:1	0.567	30.05	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	0	Back	1:1	2.290	23.58	22.91
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	0	Front	1:1	2.670	22.91	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	0	Bottom	1:1	1.660	24.98	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	0	Right	1:1	0.089	37.69	
2510.00	20850	Low	LTE Band 7	20	23.20	0	QPSK	1	0	0	Left	1:1	0.202	34.13	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Back	1:1.58	1.640	24.03	21.89
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Front	1:1.58	1.180	25.46	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Top	1:1.58	2.250	22.66	
3646.70	56207	Mid-High	LTE Band 48	20	24.19	0	QPSK	1	0	0	Left	1:1.58	2.690	21.89	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	0	Back	1:1.58	1.430	23.96	23.96
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	0	Front	1:1.58	1.240	24.58	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	0	Bottom	1:1.58	1.090	25.14	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	0	Right	1:1.58	0.083	36.32	
2506.00	39750	Low	LTE Band 41	20	23.52	0	QPSK	1	0	0	Left	1:1.58	0.257	31.41	

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

Table A-17
DSI = 0 P_{Limit} Calculations – 5G Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	8	Back	1:1	0.369	33.64	33.34
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	6	Front	1:1	0.395	33.34	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	11	Bottom	1:1	0.081	40.22	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	0	Right	1:1	0.309	34.41	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	0	Left	1:1	0.172	36.95	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	8	Back	1:1	1.050	27.97	26.94
1745.00	349000	Mid	NR Band n66	20	24.13	0	DFT-s-OFDM QPSK	50	28	8	Back	1:1	1.020	28.02	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	6	Front	1:1	1.330	26.94	
1745.00	349000	Mid	NR Band n66	20	24.13	0	DFT-s-OFDM QPSK	50	28	6	Front	1:1	1.310	26.94	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	11	Bottom	1:1	1.080	27.85	
1745.00	349000	Mid	NR Band n66	20	24.13	0	DFT-s-OFDM QPSK	50	28	11	Bottom	1:1	1.080	27.78	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	0	Right	1:1	0.453	31.62	
1745.00	349000	Mid	NR Band n66	20	24.13	0	DFT-s-OFDM QPSK	50	28	0	Right	1:1	0.454	31.54	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	0	Left	1:1	0.452	31.63	
1745.00	349000	Mid	NR Band n66	20	24.13	0	DFT-s-OFDM QPSK	50	28	0	Left	1:1	0.445	31.63	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	8	Back	1:1	0.754	29.16	26.50
1860.00	372000	Low	NR Band n2	20	23.67	0	DFT-s-OFDM QPSK	50	28	8	Back	1:1	0.760	28.84	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	6	Front	1:1	0.944	28.18	
1860.00	372000	Low	NR Band n2	20	23.67	0	DFT-s-OFDM QPSK	50	28	6	Front	1:1	0.888	28.17	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	11	Bottom	1:1	1.390	26.50	
1860.00	372000	Low	NR Band n2	20	23.67	0	DFT-s-OFDM QPSK	50	28	11	Bottom	1:1	1.300	26.51	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	0	Right	1:1	0.342	32.59	
1860.00	372000	Low	NR Band n2	20	23.67	0	DFT-s-OFDM QPSK	50	28	0	Right	1:1	0.311	32.72	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	0	Left	1:1	0.625	29.97	
1860.00	372000	Low	NR Band n2	20	23.67	0	DFT-s-OFDM QPSK	50	28	0	Left	1:1	0.594	29.91	

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

Table A-18
DSI = 1 P_{Limit} Calculations – 5G Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	MPR [dB]	Modulation	RB Size	RB Offset	Spacing (mm)	Side	Duty Cycle	SAR (10g)	PLimit	Minimum PLimit
MHz	Ch.												(W/kg)	[dBm]	[dBm]
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	0	Back	1:1	1.630	27.19	27.16
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	0	Front	1:1	1.640	27.16	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	0	Bottom	1:1	0.674	31.02	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	0	Right	1:1	0.309	34.41	
836.50	167300	Mid	NR Band n5	20	25.33	0	DFT-s-OFDM QPSK	1	1	0	Left	1:1	0.172	36.95	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	0	Back	1:1	4.590	21.56	20.99
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	0	Front	1:1	4.150	22.00	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	0	Bottom	1:1	5.240	20.99	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	0	Right	1:1	0.453	31.62	
1745.00	349000	Mid	NR Band n66	20	24.20	0	DFT-s-OFDM QPSK	1	53	0	Left	1:1	0.452	31.63	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	0	Back	1:1	3.620	22.34	19.85
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	0	Front	1:1	3.320	22.72	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	0	Bottom	1:1	6.430	19.85	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	0	Right	1:1	0.342	32.59	
1880.00	376000	Mid	NR Band n2	20	23.95	0	DFT-s-OFDM QPSK	1	53	0	Left	1:1	0.625	29.97	

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